

ELECTRICAL SYSTEM

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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"

NAEL0001

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 composition which is available to NISSAN MODEL R50 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, warning lamp, wiring harness and spiral cable.
- For a side collision
The Supplemental Restraint System consists of side air bag module (located in the outer side of front seat), side curtain air bag module (located in the headliner side of front and rear 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).

WARNING:

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

Precautions for SRS "AIR BAG" and "SEAT BELT PRE-TENSIONER" Service

NAEL0485

- Do not use electrical test equipment to check SRS circuits unless instructed to in this Service Manual.
- Before servicing the SRS, turn ignition switch "OFF", disconnect battery ground cable and wait at least 3 minutes.
For approximately 3 minutes after the cables are removed, it is still possible for the air bag and seat belt pre-tensioner to deploy. Therefore, do not work on any SRS connectors or wires until at least 3 minutes have passed.
- Diagnosis sensor unit must always be installed with their arrow marks "⇐" pointing towards the front of the vehicle for proper operation. Also check diagnosis sensor unit for cracks, deformities or rust before installation and replace as required.
- The spiral cable must be aligned with the neutral position since its rotations are limited. Do not attempt to turn steering wheel or column after removal of steering gear.
- Handle air bag module carefully. Always place driver and passenger air bag modules with the pad side facing upward and side air bag module standing with the stud bolt side setting bottom.
- Conduct self-diagnosis to check entire SRS for proper function after replacing any components.
- After air bag inflates, the front instrument panel assembly should be replaced if damaged.

Precautions for Trouble Diagnosis CAN SYSTEM

NAEL0458

NAEL0458S01

- Do not apply voltage of 7.0V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0V or less.

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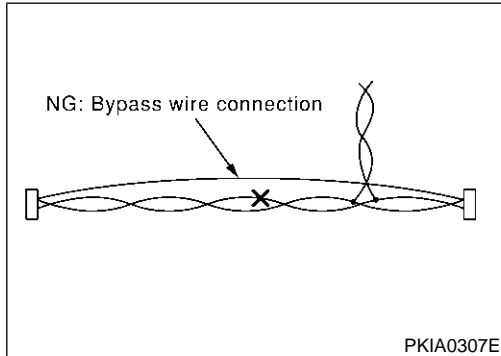
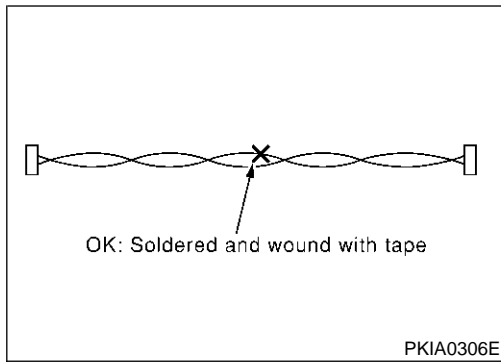
SC

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IDX

PRECAUTIONS

Precautions for Harness Repair



Precautions for Harness Repair

NAEL0459

CAN SYSTEM

NAEL0459S01

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in)]
- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

Wiring Diagrams and Trouble Diagnosis

NAEL0002

When you read wiring diagrams, refer to the following:

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

When you perform trouble diagnosis, refer to the following:

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

Check for any Service bulletins before servicing the vehicle.

Description

HARNESS CONNECTOR (TAB-LOCKING TYPE)

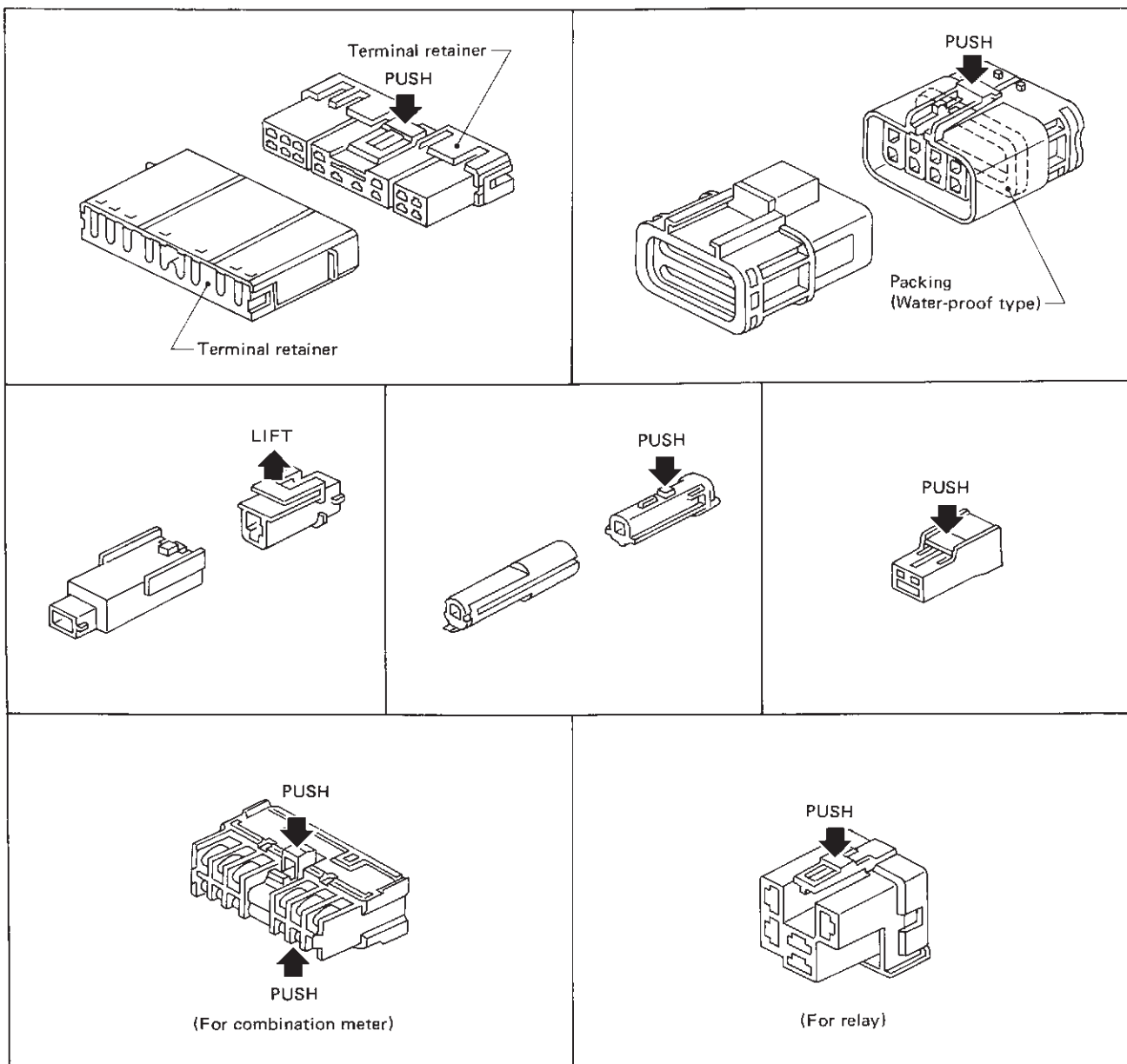
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

CAUTION:

Do not pull the harness when disconnecting the connector.

[Example]



HARNESS CONNECTOR

Description (Cont'd)

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

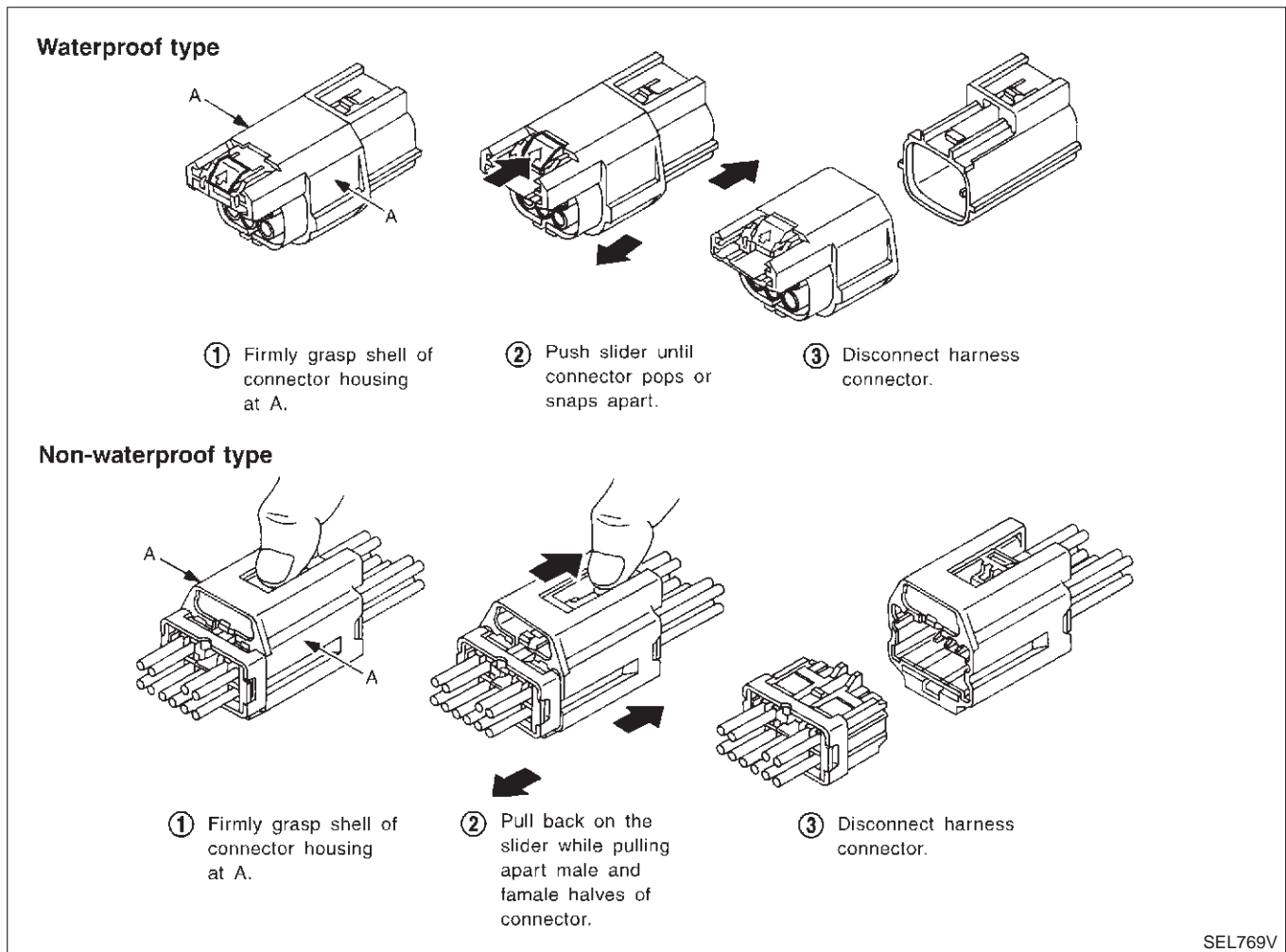
=NAEL0003S02

- 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]



STANDARDIZED RELAY

Description

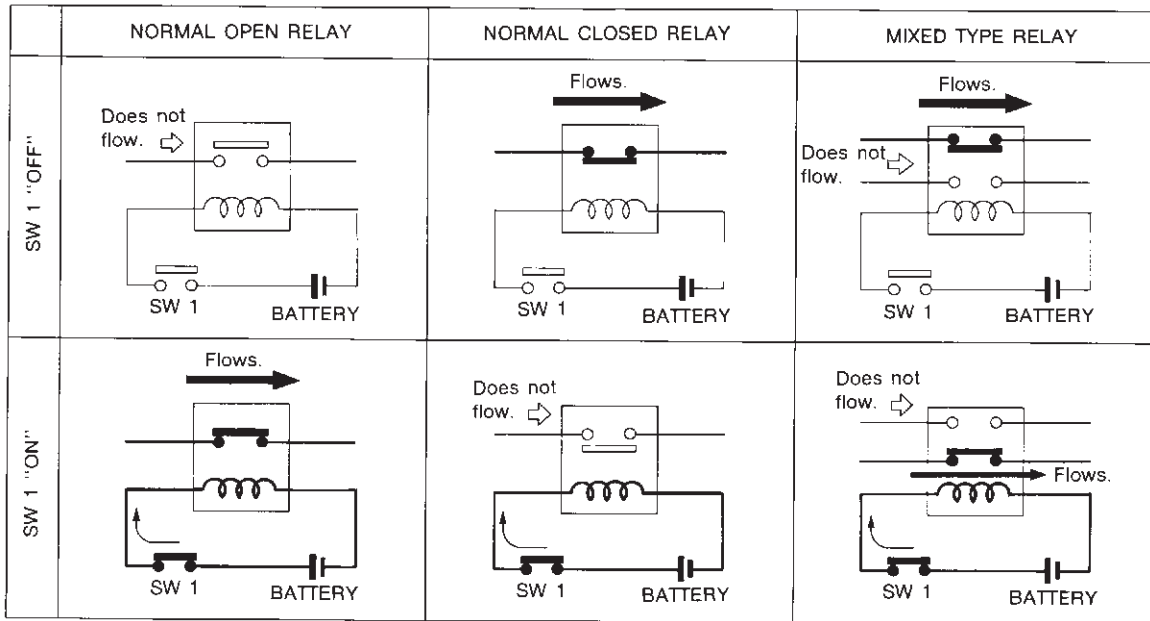
Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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

NAEL0004

NAEL0004S01

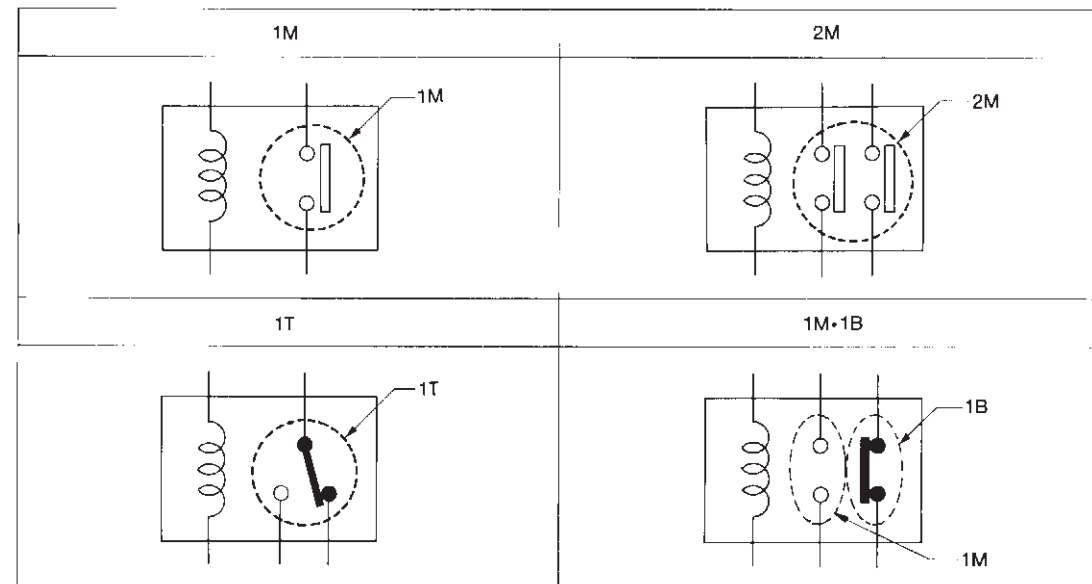


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TYPE OF STANDARDIZED RELAYS

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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 connector | 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.

GEL264

POWER SUPPLY ROUTING

Wiring Diagram — POWER —

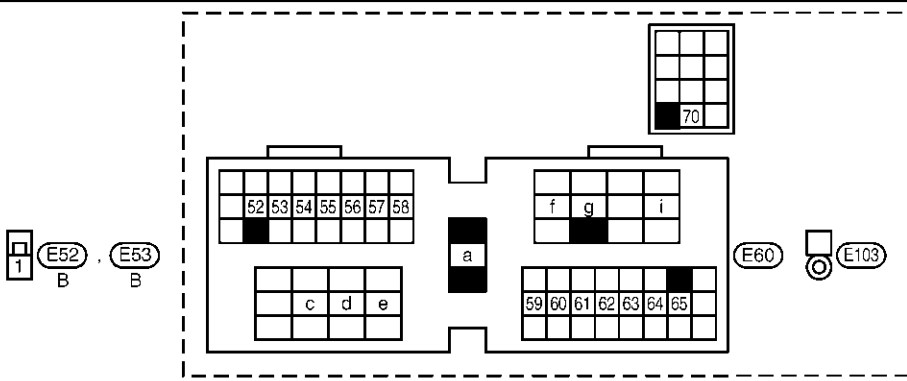
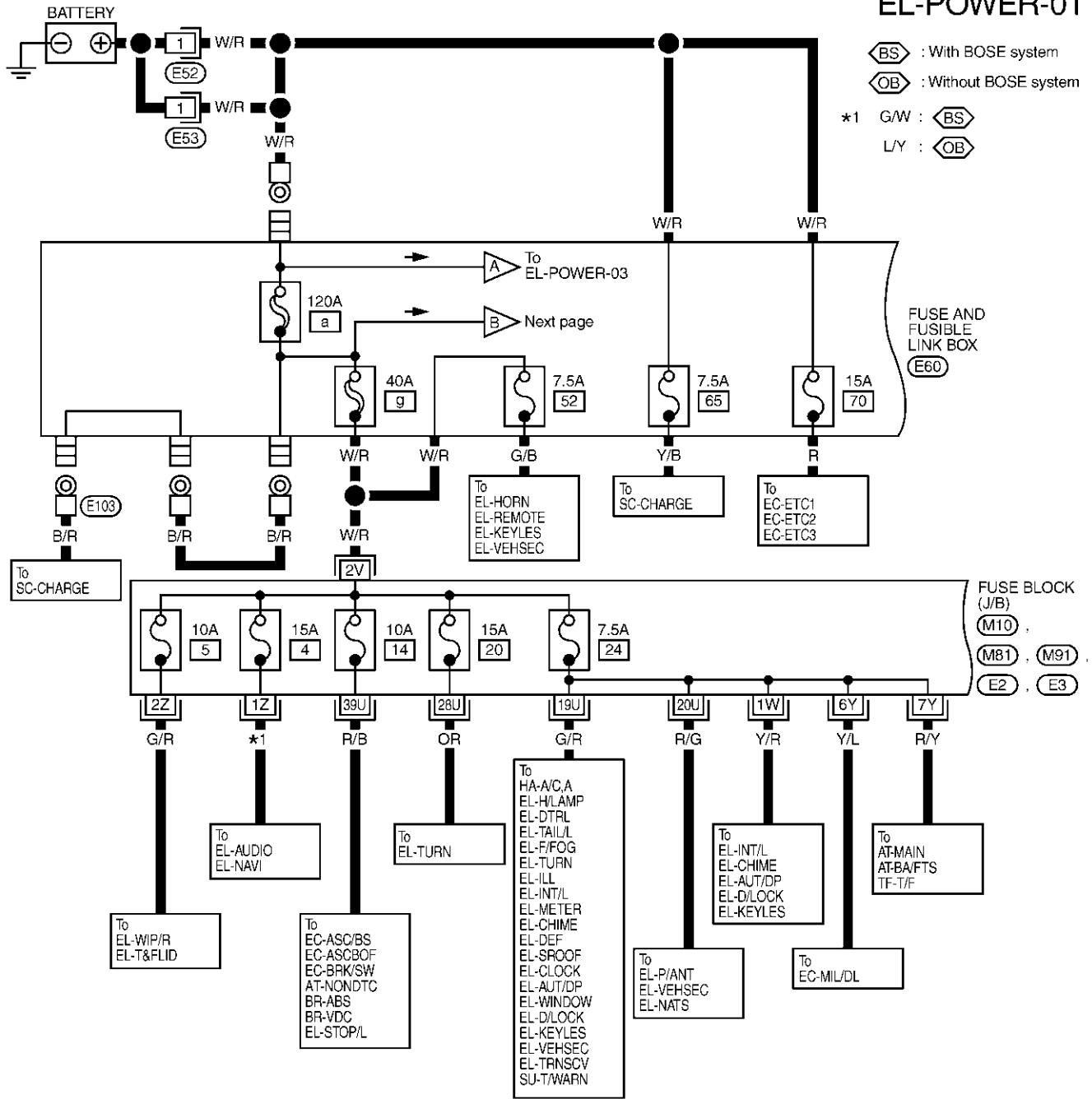
Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

NAEL0248

NAEL0248S01

EL-POWER-01



REFER TO THE FOLLOWING.

(M10) (M81) (M91)
 (E2) (E3)

-FUSE BLOCK-
 JUNCTION BOX (J/B)

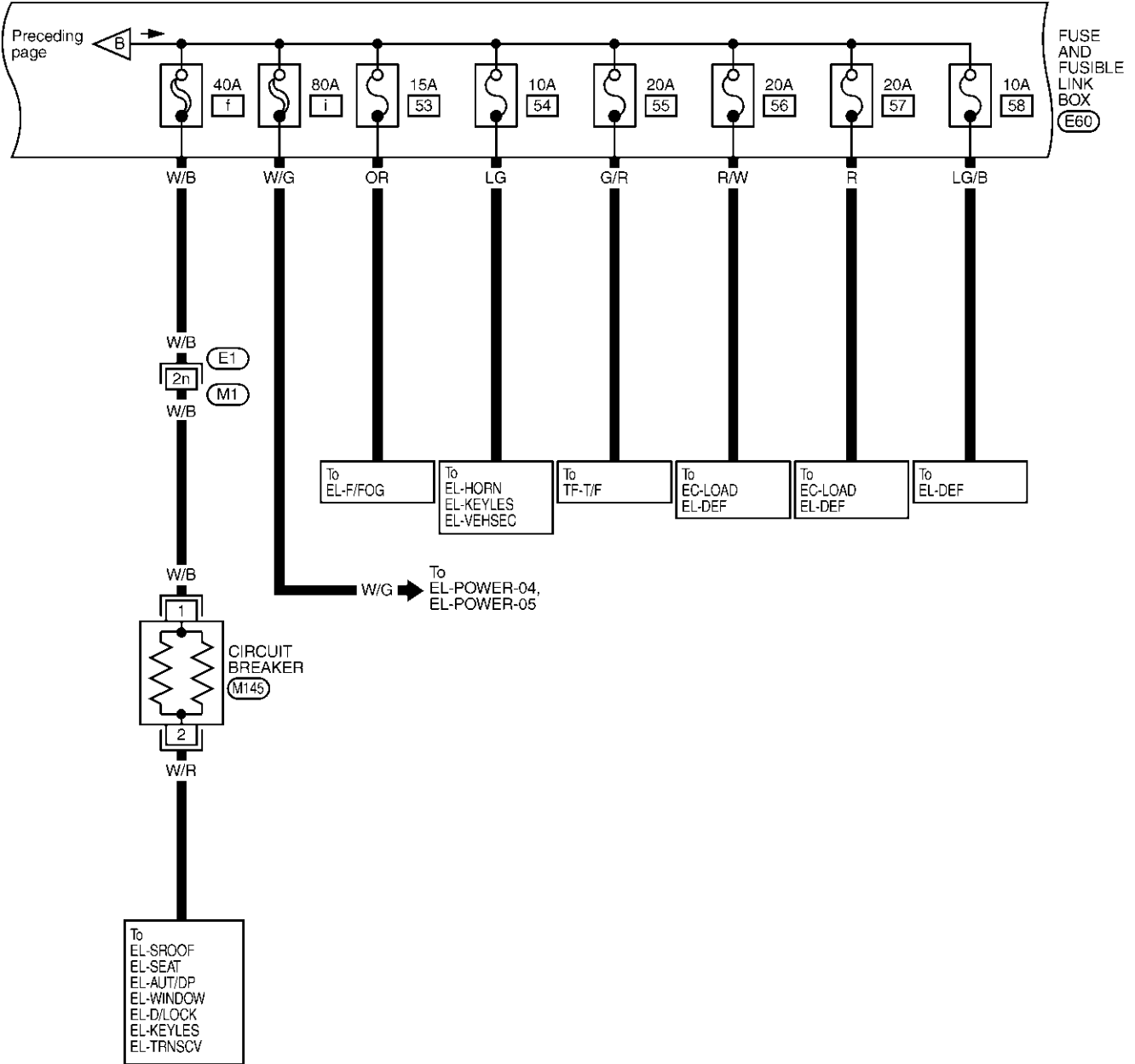
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MEL940P

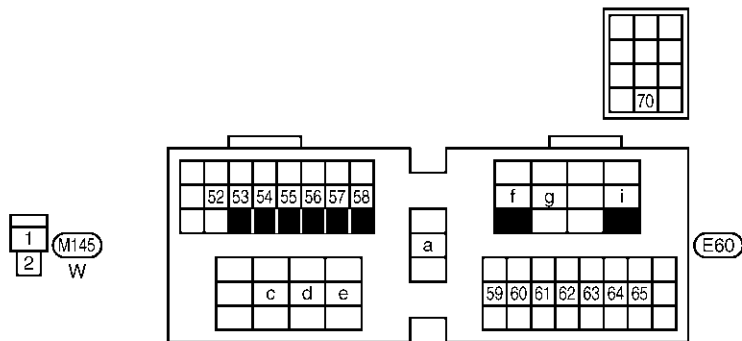
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-02



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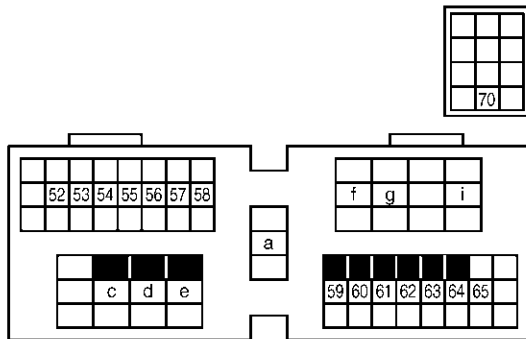
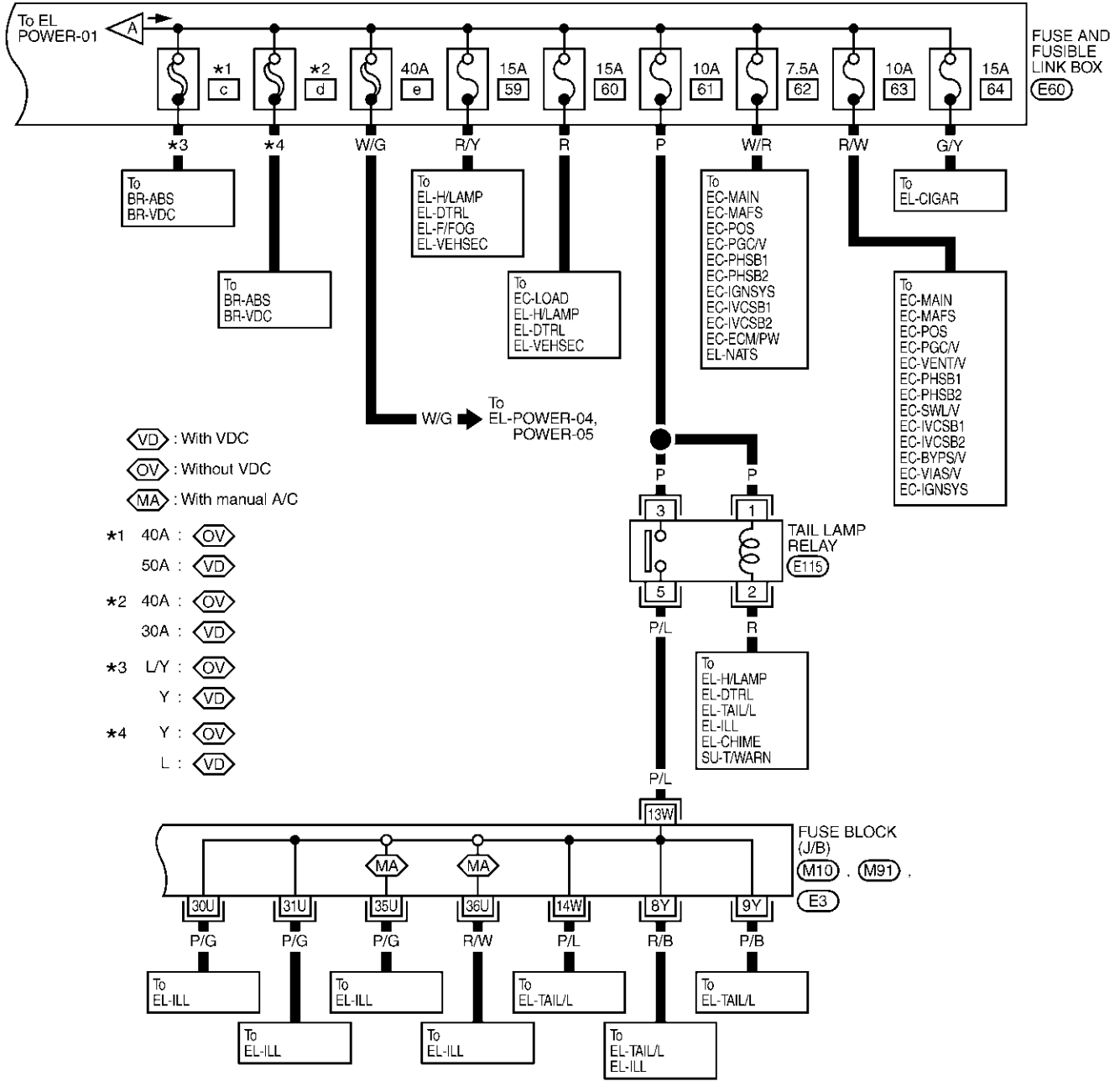


REFER TO THE FOLLOWING.
 (E1) -SUPER MULTIPLE JUNCTION (SMJ)

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03



REFER TO THE FOLLOWING.

(M10), (M91), (E3)

- FUSE BLOCK - JUNCTION BOX (J/B)

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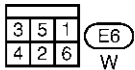
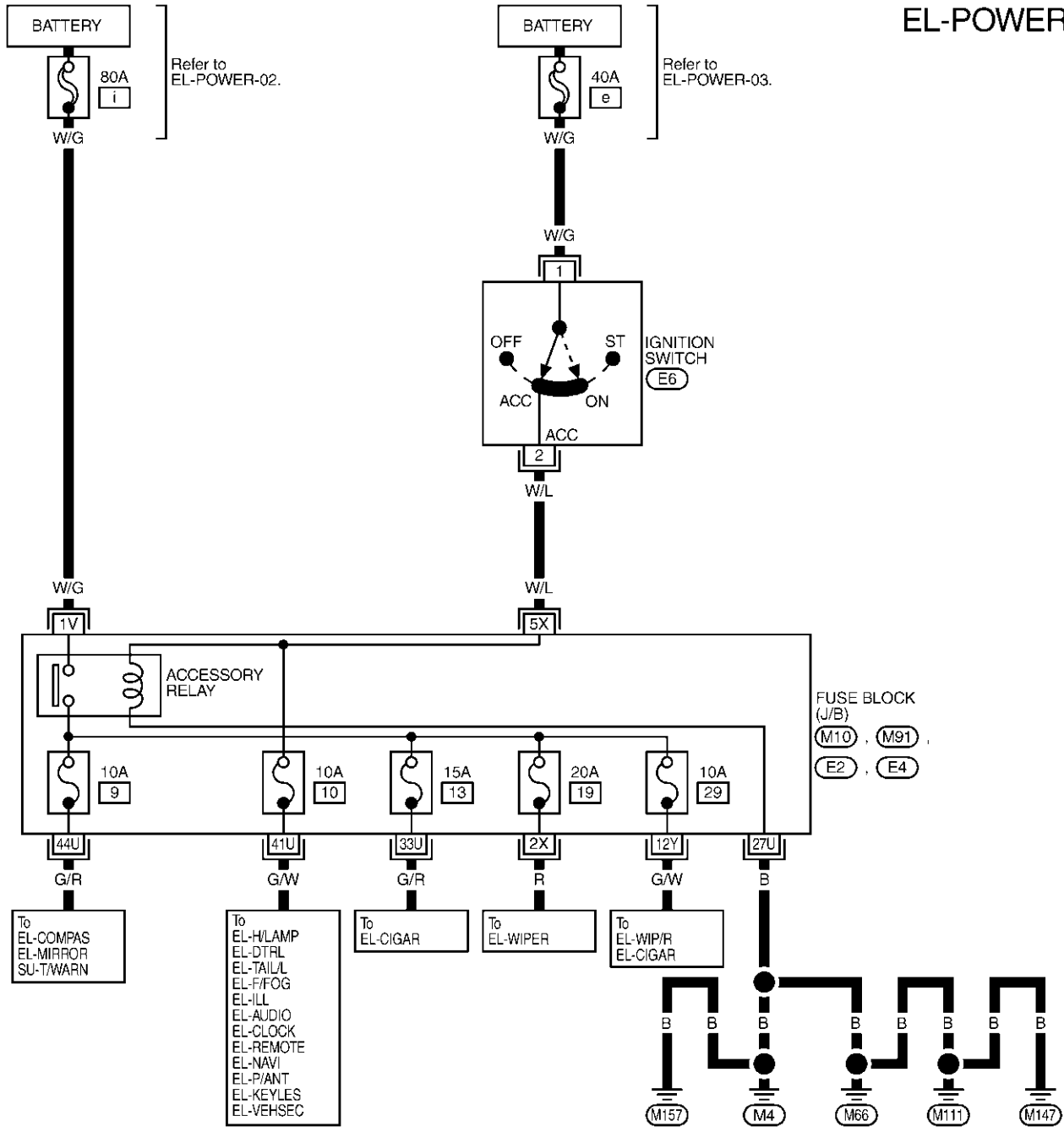
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

ACCESSORY POWER SUPPLY — IGNITION SW. IN “ACC” OR “ON”

NAEL0248S02

EL-POWER-04



REFER TO THE FOLLOWING.

M10, M91, E2, E4

- FUSE BLOCK -
JUNCTION BOX (J/B)

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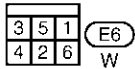
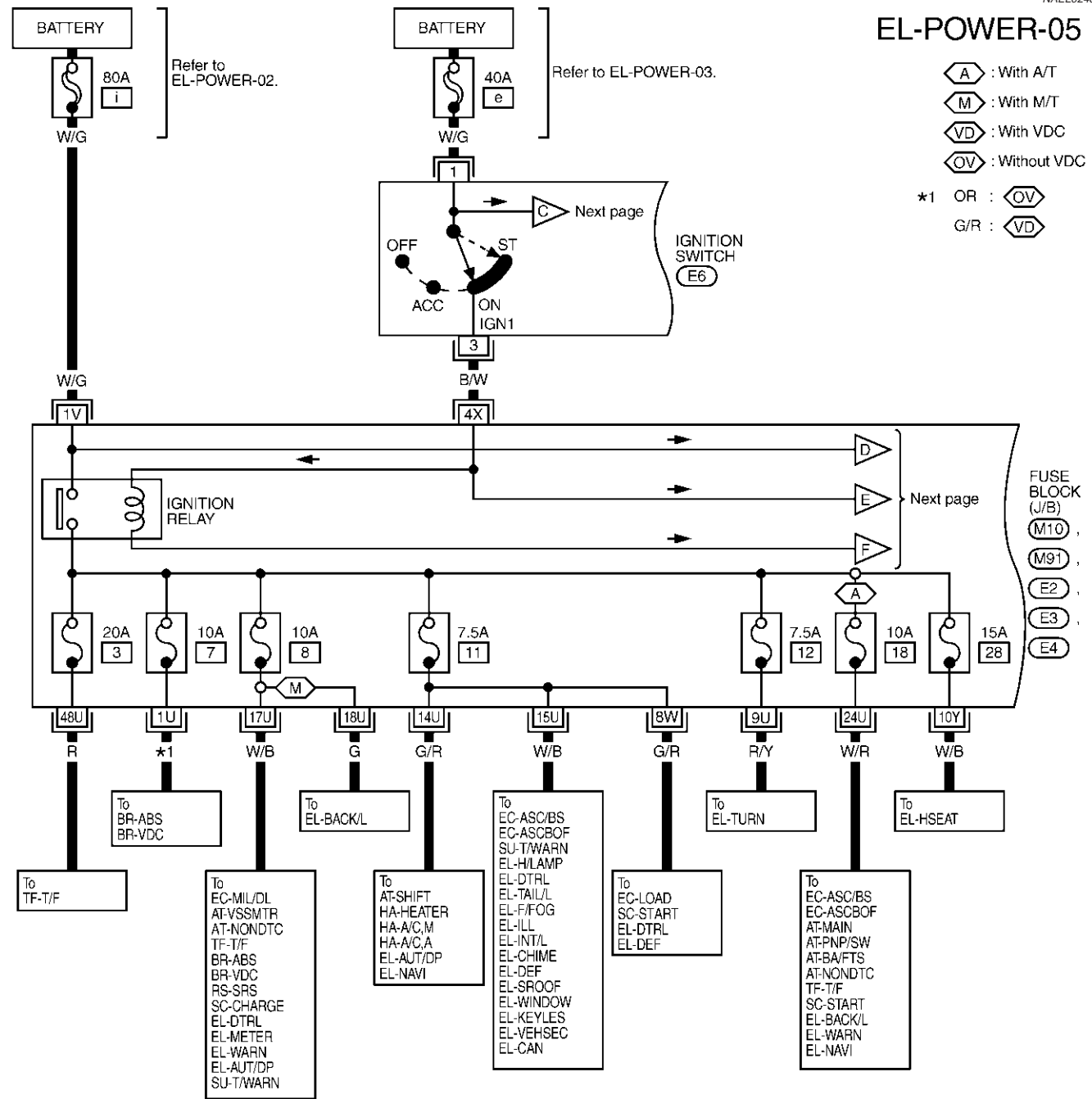
MEL943P

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

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

NAEL0248S03



REFER TO THE FOLLOWING.



- FUSE BLOCK- JUNCTION BOX (J/B)

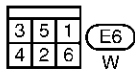
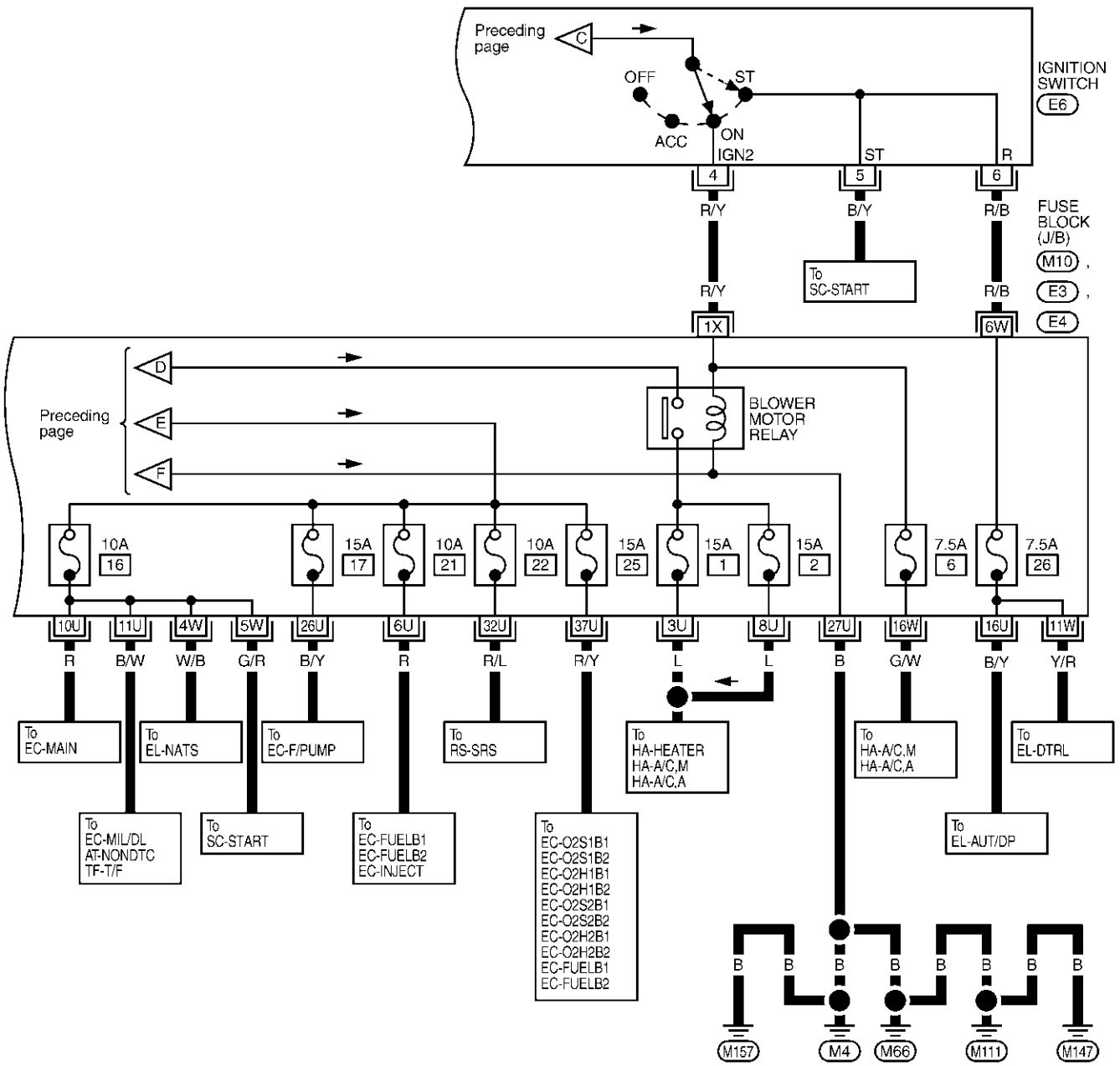
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| 24 | 25 | 26 | | |
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MEL411R

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-06



REFER TO THE FOLLOWING.

(M10), (E3), (E4)

- FUSE BLOCK-
JUNCTION BOX (J/B)

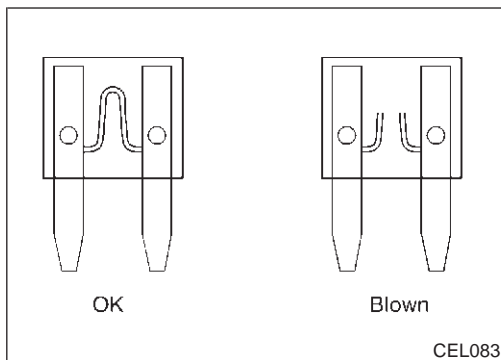
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POWER SUPPLY ROUTING

Inspection



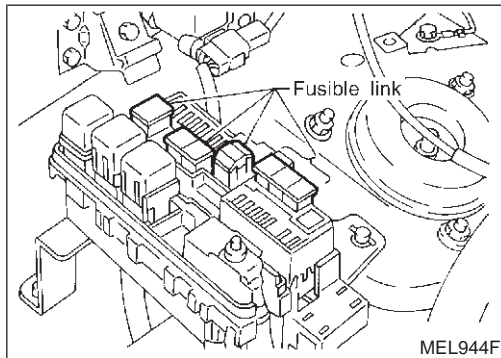
Inspection

NAEL0249

FUSE

NAEL0249S01

- 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.



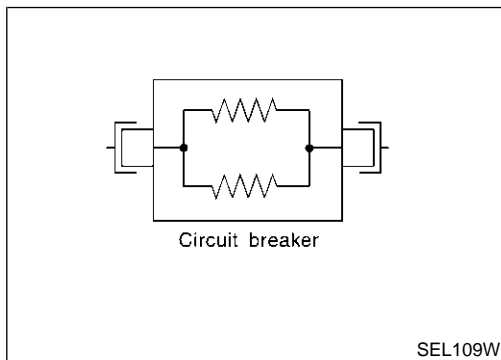
FUSIBLE LINK

NAEL0249S02

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)

NAEL0249S03

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

NAEL0250

NAEL0250S01

MAIN HARNESS

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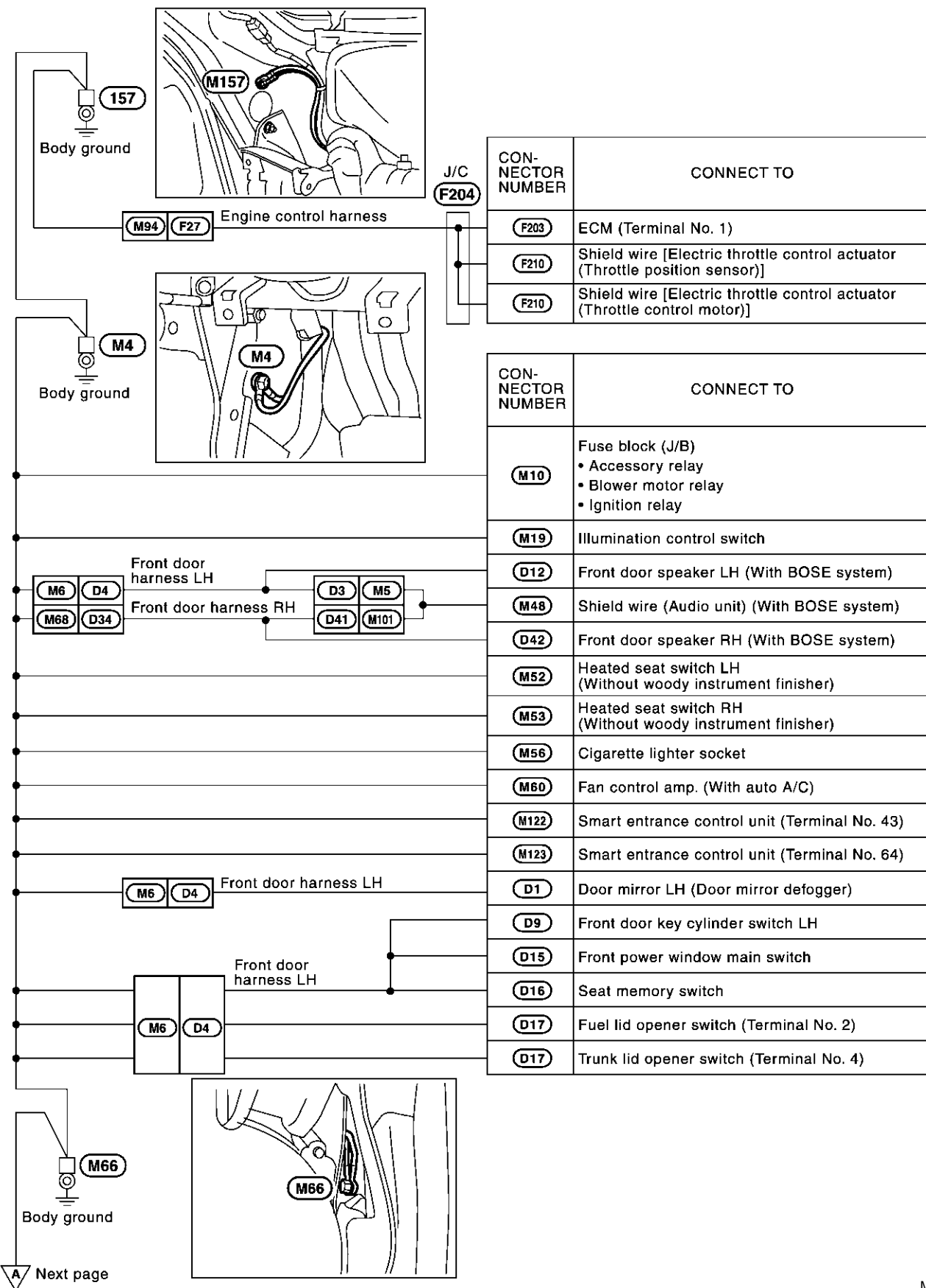
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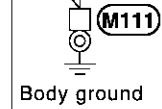
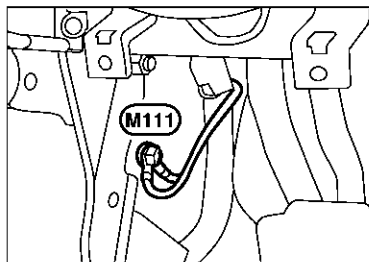
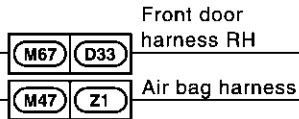
MEL074Q

GROUND

Ground Distribution (Cont'd)

A Preceding page

| CON- NECTOR NUMBER | CONNECT TO |
|--------------------------|--|
| (M15) | Combination flasher unit |
| (M23) | Power window relay |
| (M36) | Rear window defogger switch (Terminal No. 1) (With auto A/C and NAVI, with manual A/C) |
| (M36) | Rear window defogger switch (Terminal No. 4) (With auto A/C and NAVI, with manual A/C) |
| (M38) | Mode door motor (With auto A/C) |
| (M55) | Air mix door motor (With auto A/C) |
| (M42) | Recirculation switch (With manual A/C) |
| (M43) | Fan switch (With manual A/C) |
| (M69) | Power antenna |
| (M140) | Door mirror remote control switch |
| (M144) | Power socket relay |
| (M148) | Rear TV switch (Without woody instrument finisher, with rear TV) |
| (D31) | Door mirror RH (Door mirror defogger) |
| (Z5) | Air bag diagnosis sensor unit |



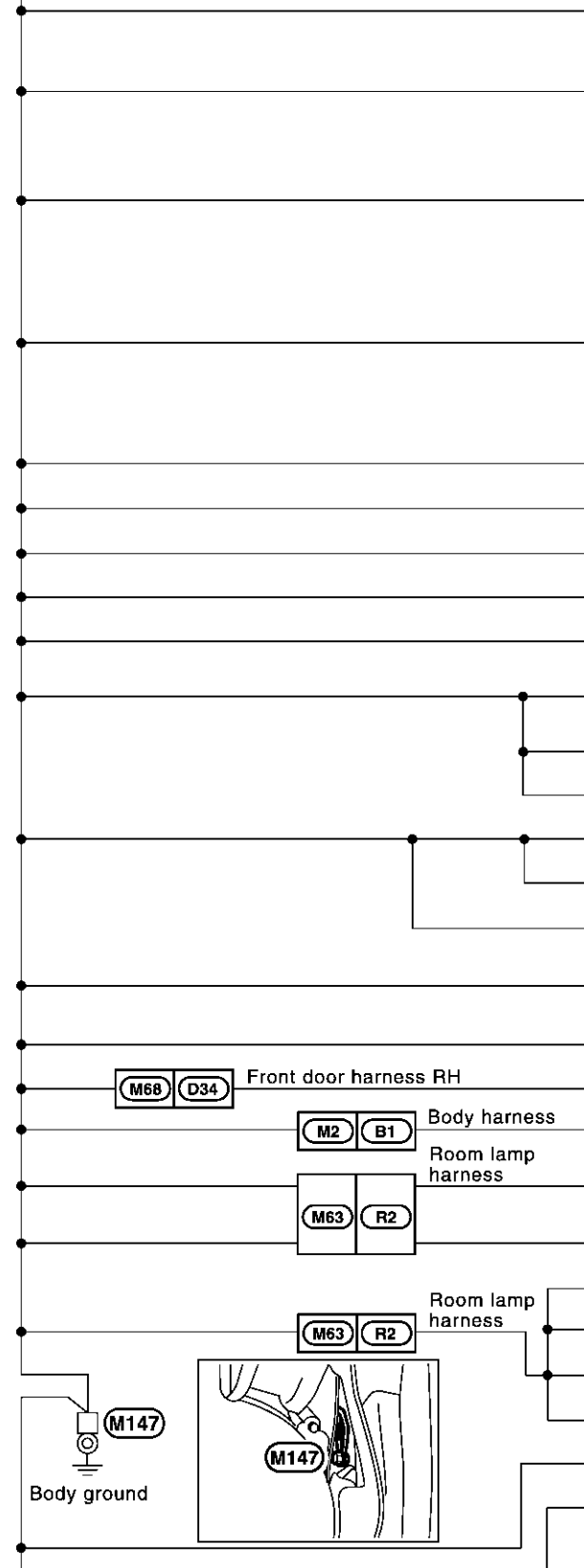
B Next page

MEL075Q

GROUND

Ground Distribution (Cont'd)

B Preceding page



| CON-NECTOR NUMBER | CONNECT TO |
|-------------------|---|
| M17 | Memory seat cancel switch |
| M25 | Combination meter (Terminal No. 30) • Turn signal RH • Turn signal LH • Unified meter control unit |
| M26 | Combination meter (Terminal No. 53) • 4WD warning lamp (With part-time 4-wheel drive) |
| M26 | Combination meter (Terminal No. 59) • SET INDICATOR LAMP • MALFUNCTION INDICATOR LAMP • O/D OFF (With A/T) • Fuel gauge • Air bag warning lamp • Unified meter control unit |
| M28 | Clutch interlock switch (With M/T) |
| M30 | Glove box lamp |
| M40 | Clock |
| M41 | Steering wheel receiver control switch |
| M59 | Intake door motor (With auto A/C) |
| M102 | A/C auto amp. (With auto A/C) (With auto A/C and without NAVI) |
| M103 | A/C auto amp. (For Canada) (Without NAVI) |
| M105 | A/C auto amp. (With auto A/C) (With MAVI) |
| M117 | Display and NAVI control unit (Terminal No. 3) |
| M117 | Display and NAVI control unit (Terminal No. 4) |
| M11B | Display and NAVI control unit |
| M142 | Transfer control unit (Terminal No. 3) (With all-mode 4-wheel drive) |
| M155 | Ashtray illumination (With woody instrument finisher) |
| D44 | Front power window switch RH |
| B47 | Audio amp. relay (With BOSE system) |
| R4 | Compass and thermometer (With compass and thermometer) |
| R5 | Home link universal transceiver |
| R3 | Vanity mirror RH illumination |
| R5 | Vanity mirror LH illumination |
| R6 | Spot lamp |
| R11 | Sunroof motor |
| M151 | VDC off switch (With VDC) |
| M156 | Tire pressure warning control unit |

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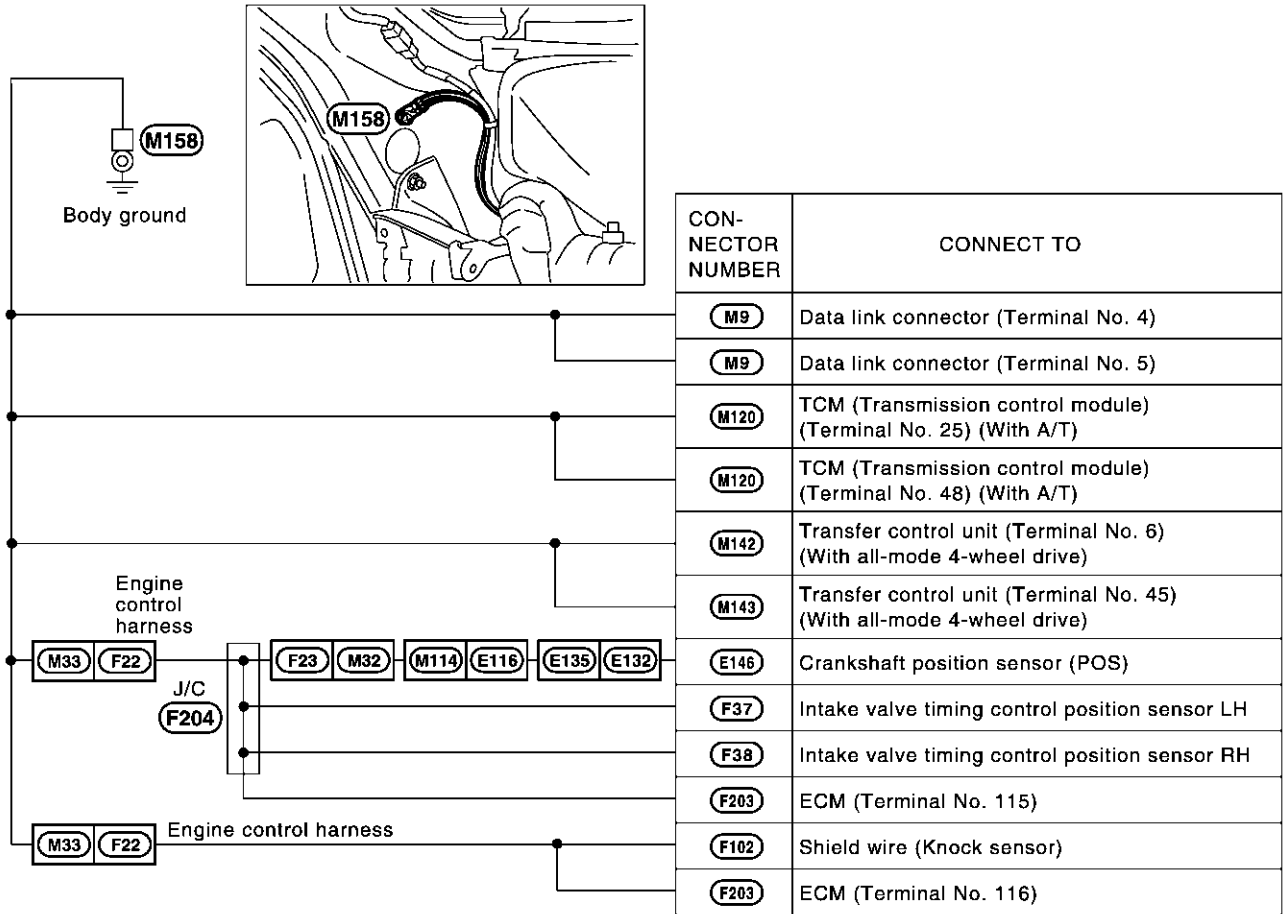
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MEL076Q

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GROUND

Ground Distribution (Cont'd)



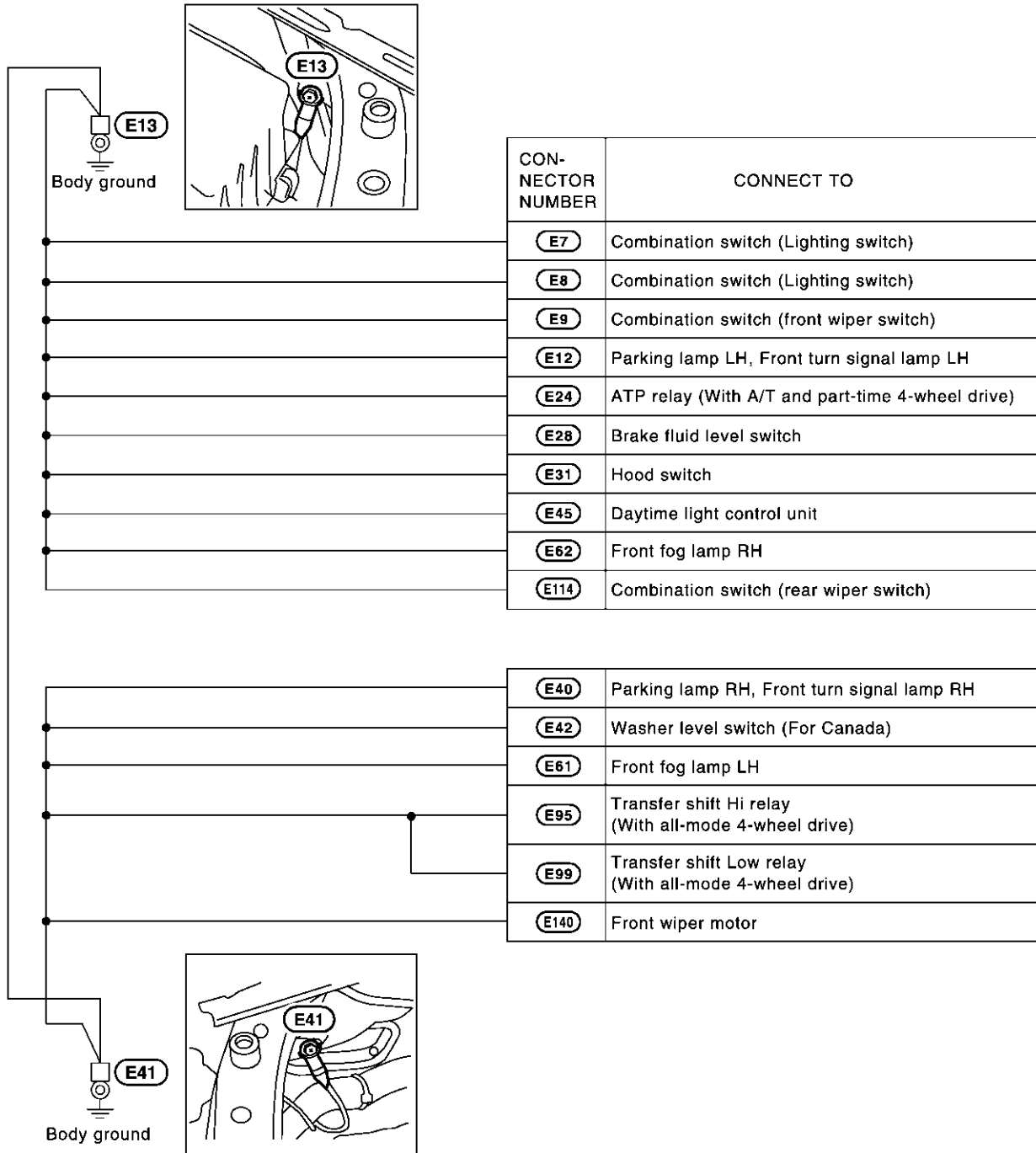
MEL087Q

GROUND

Ground Distribution (Cont'd)

ENGINE ROOM HARNESS

NAEL0250S02



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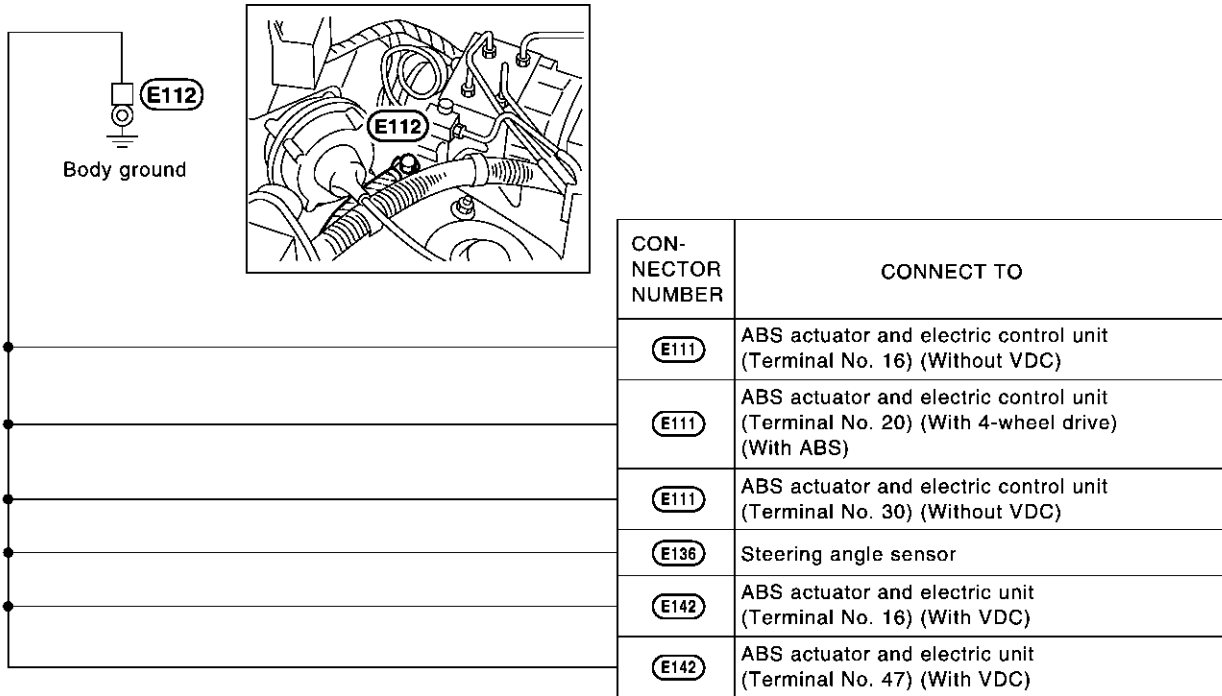
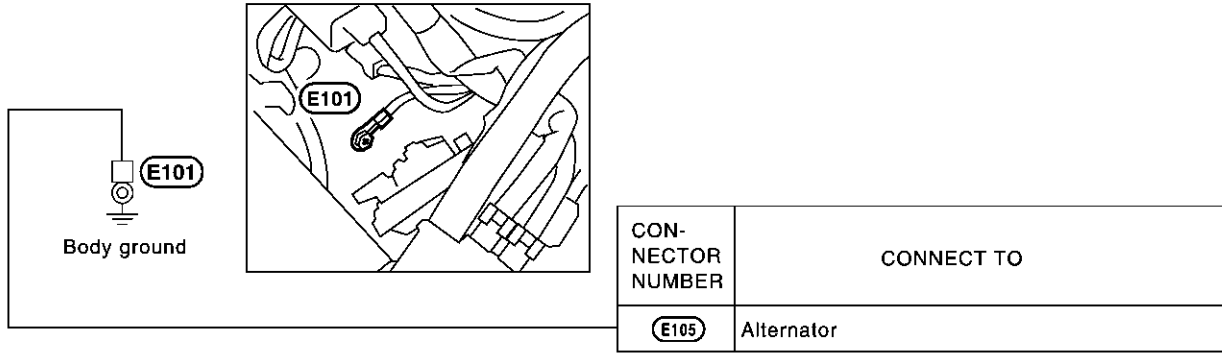
EL

MEL077Q

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GROUND

Ground Distribution (Cont'd)



MEL078Q

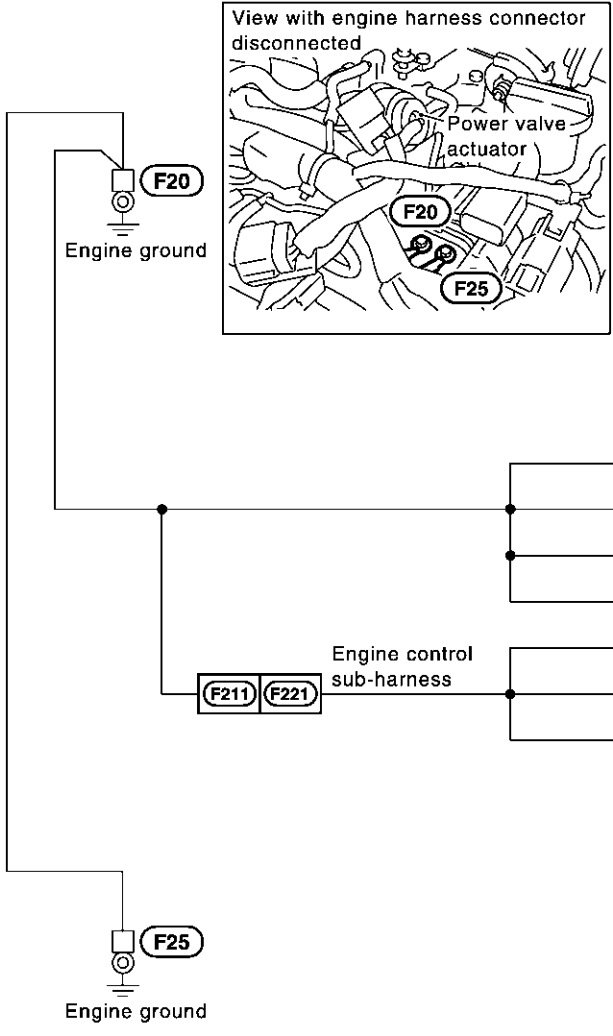
ENGINE CONTROL HARNESS

NAEL0250S03

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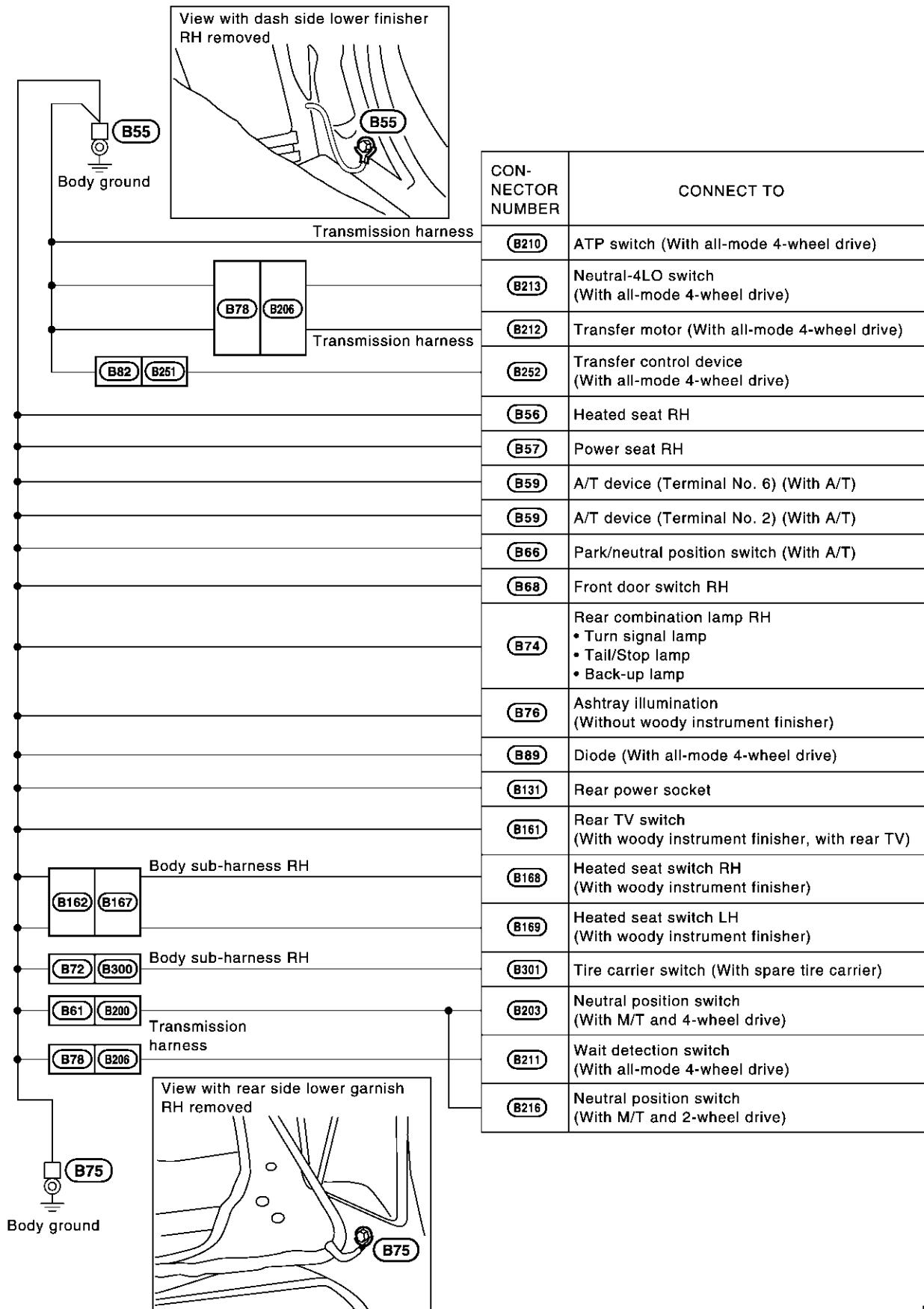
| CON-NECTOR NUMBER | CONNECT TO |
|-------------------|---------------------|
| F29 | Condenser |
| F30 | Ignition coil No. 1 |
| F31 | Ignition coil No. 3 |
| F32 | Ignition coil No. 5 |
| F118 | Ignition coil No. 2 |
| F119 | Ignition coil No. 4 |
| F120 | Ignition coil No. 6 |

GROUND

Ground Distribution (Cont'd)

BODY HARNESS RH

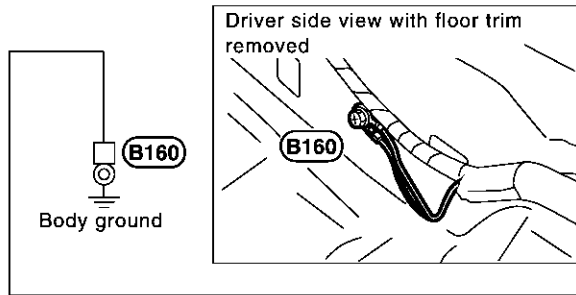
NAEL0250S04



MEL081Q

GROUND

Ground Distribution (Cont'd)



| CON-NECTOR NUMBER | CONNECT TO |
|-------------------|--|
| B129 | Shield wire (Air bag diagnosis sensor unit) (With side air bag) |

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MEL082Q

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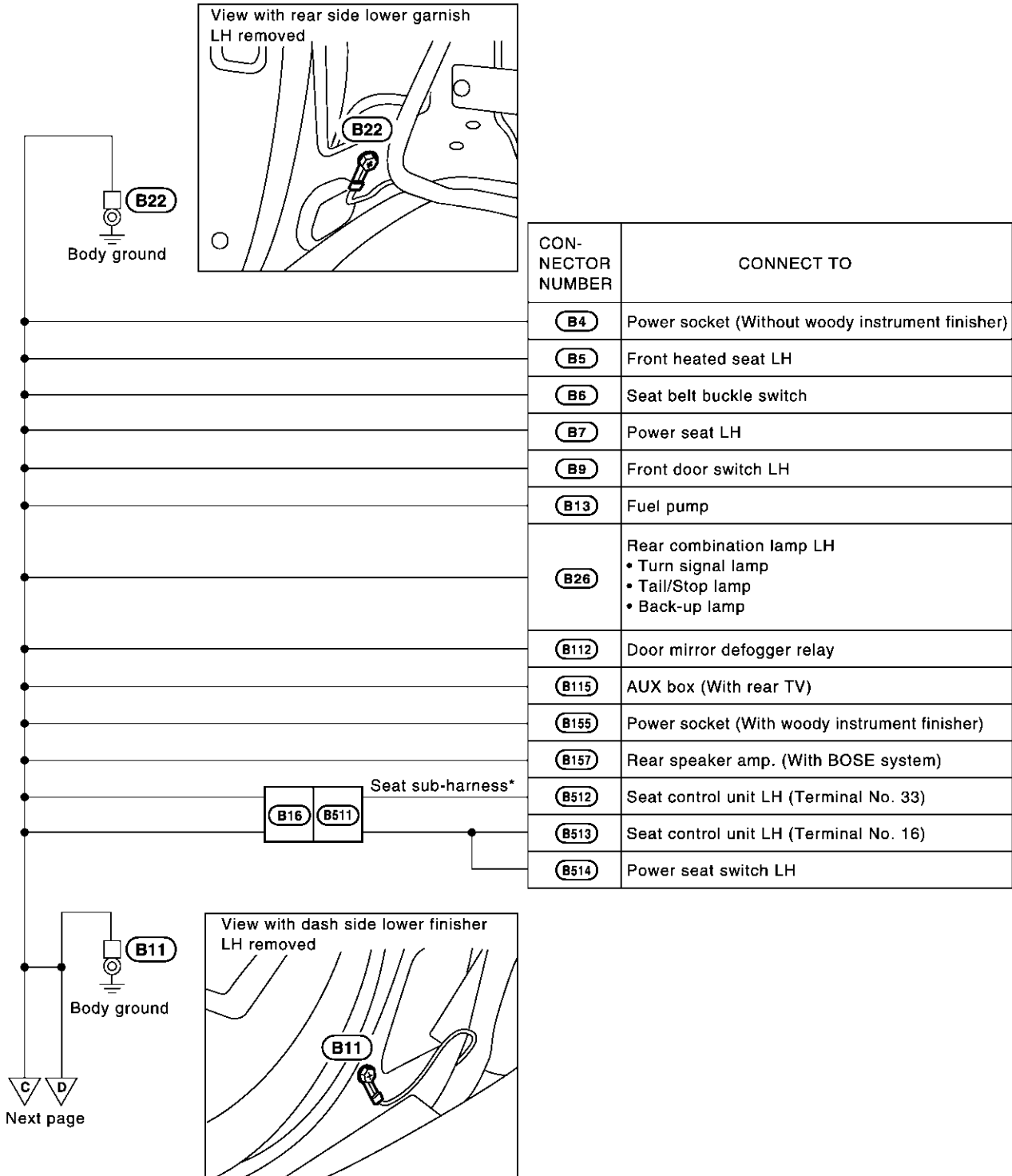
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GROUND

Ground Distribution (Cont'd)

NAEL0250S05

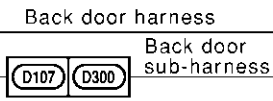
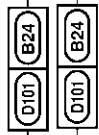
BODY HARNESS LH



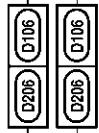
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MEL083Q

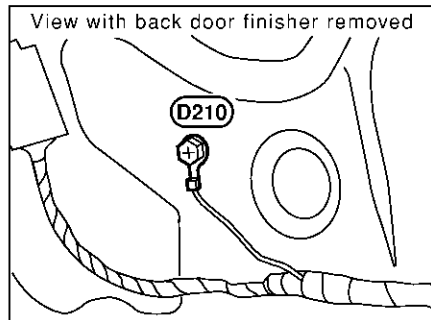
△ C △ D Preceding page



| CON-NECTOR NUMBER | CONNECT TO |
|-------------------|------------------------|
| D103 | Luggage room lamp |
| D302 | High-mounted stop lamp |



| | |
|------|---|
| D201 | Back door key cylinder switch |
| D202 | License plate lamp (Without spare tire carrier) |
| D203 | License plate lamp (With spare tire carrier) |
| D208 | Back door switch |
| D209 | Glass hatch switch |
| D212 | Rear wiper motor |



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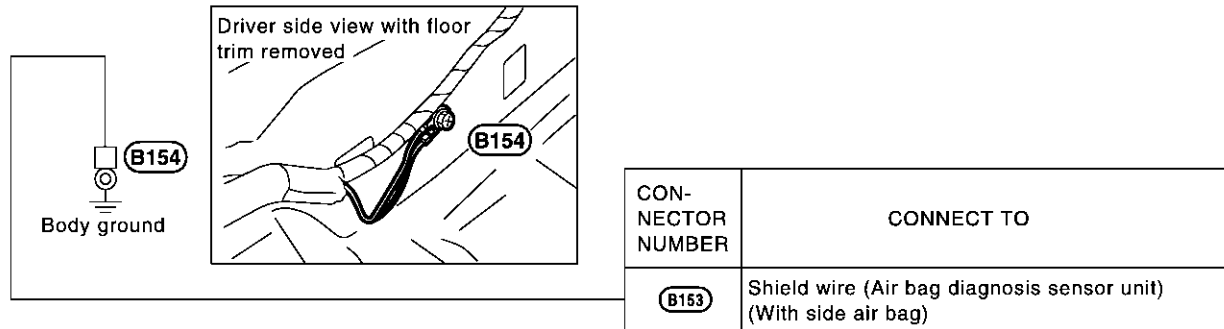
EL

MEL911N

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GROUND

Ground Distribution (Cont'd)



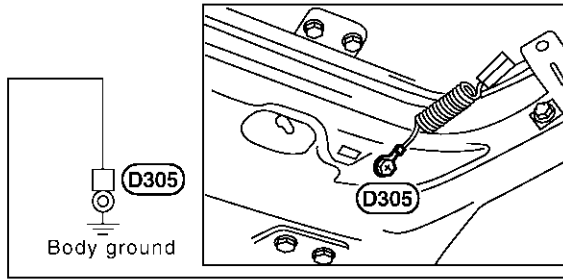
MEL084Q

GROUND

Ground Distribution (Cont'd)

BODY HARNESS

=NAEL0250S06



| CON-NECTOR NUMBER | CONNECT TO |
|-------------------|----------------------|
| D304 | Rear window defogger |

MEL152M

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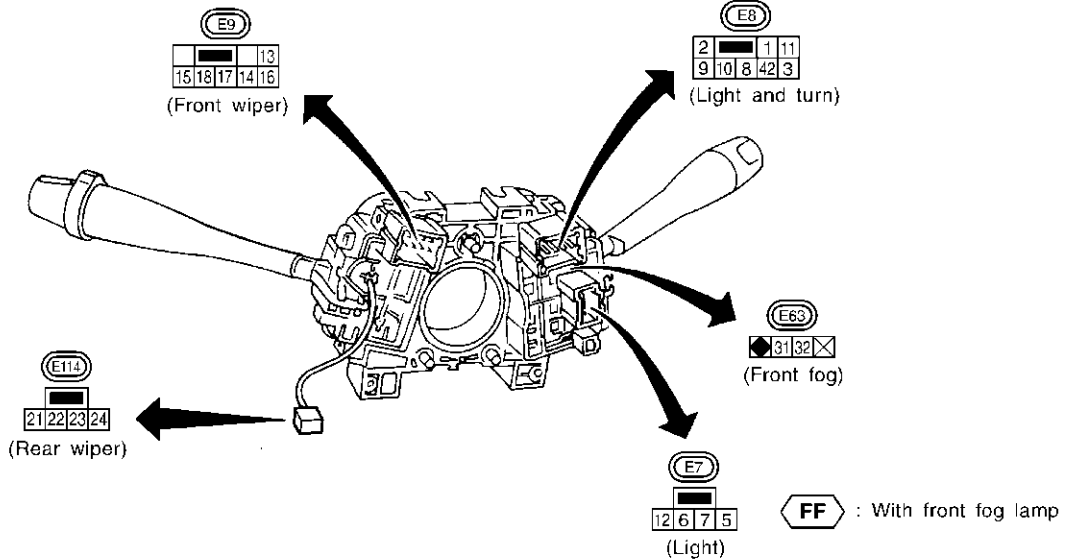
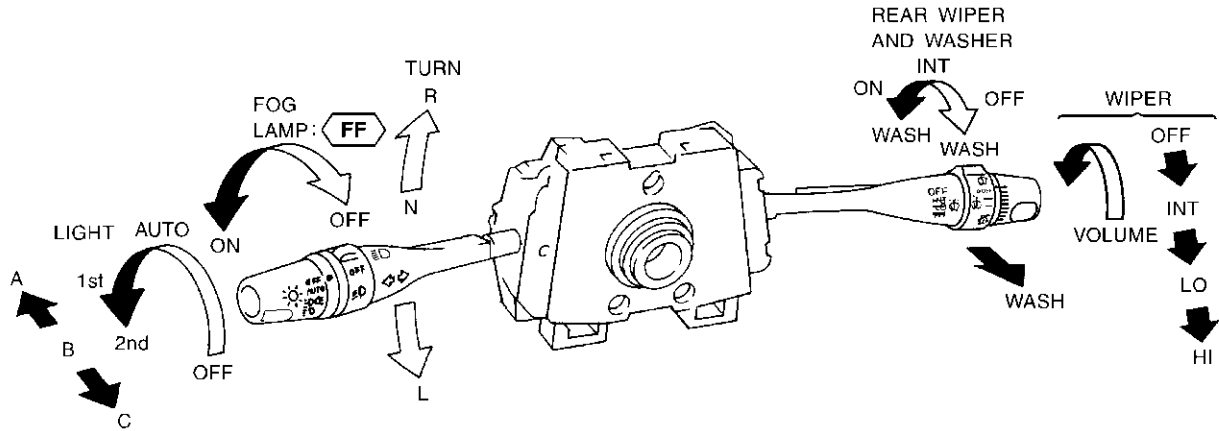
IDX

COMBINATION SWITCH

Check

Check

NAEL0251



LIGHTING SWITCH

| | OFF | AUTO | 1ST | 2ND |
|-----|-----|--------------------------|--------------------------|--------------------------|
| 5 | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | | | <input type="checkbox"/> |
| 12 | | | | <input type="checkbox"/> |
| 42 | | <input type="checkbox"/> | | |
| (8) | | <input type="checkbox"/> | | |

| | A | B | C |
|------|--------------------------|--------------------------|--------------------------|
| (5) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (8) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (12) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

FRONT WIPER AND WASHER SWITCH

| | LO | AUTO STOP | AMP | WASH | HI | EARTH |
|------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| OFF | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| INT | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| LO | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| HI | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| WASH | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

WIPER AMP. terminals: 14, 15, 13, 16, 17, 18

VARIABLE INTERMITTENT WIPER VOLUME



FOG LAMP SWITCH

| | OFF | ON |
|----|--------------------------|--------------------------|
| 31 | <input type="checkbox"/> | <input type="checkbox"/> |
| 32 | <input type="checkbox"/> | <input type="checkbox"/> |

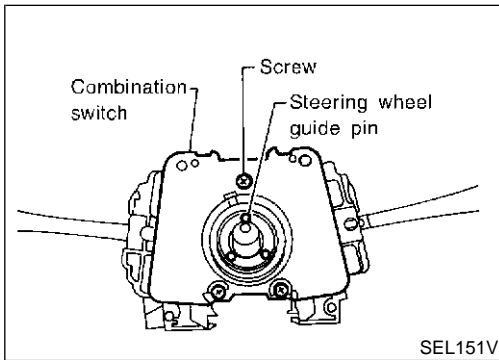
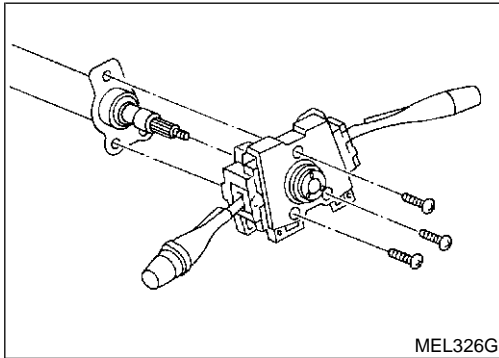
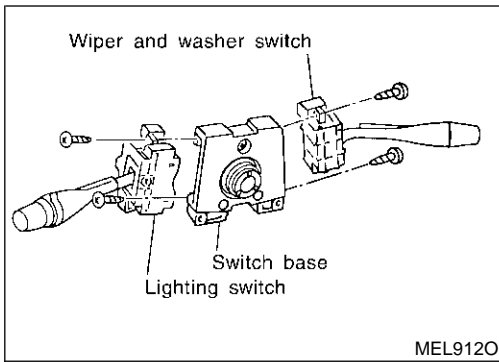
TURN SIGNAL LAMP SWITCH

| | L | N | R |
|---|--------------------------|--------------------------|--------------------------|
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

REAR WIPER AND WASHER SWITCH

| | WASH | OFF | INT | ON | WASH |
|----|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 21 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

MEL070Q



Replacement

For removal and installation of spiral cable, refer to RS-20, ^{NAEL0252} "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.

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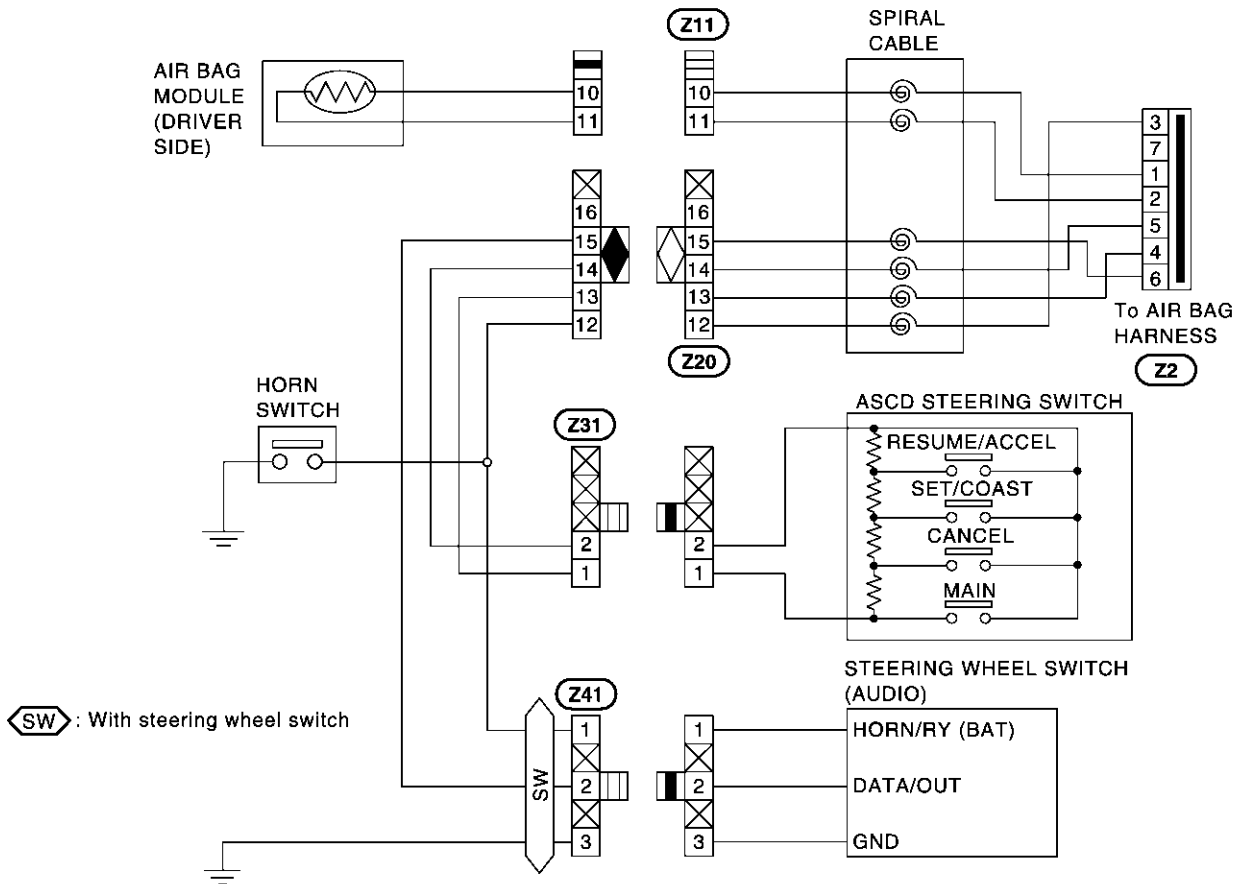
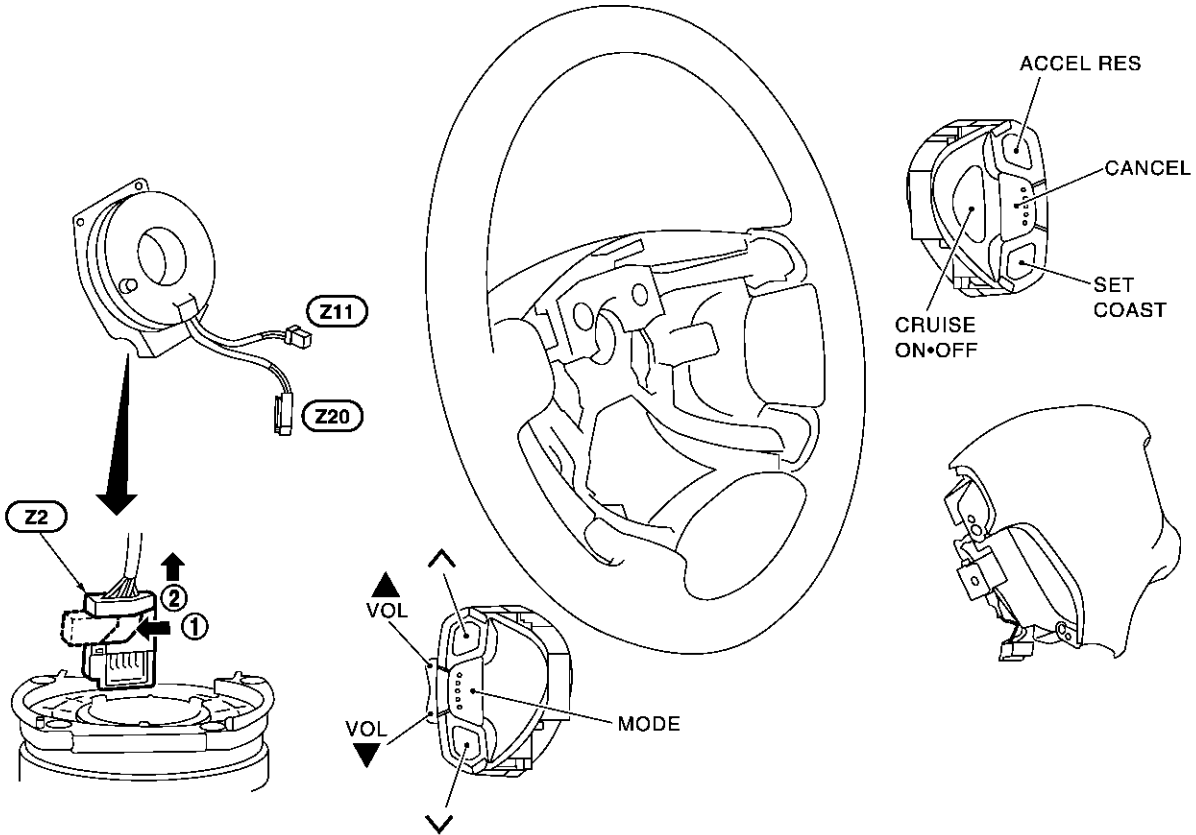
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STEERING SWITCH

Check

NAEL0253

Check



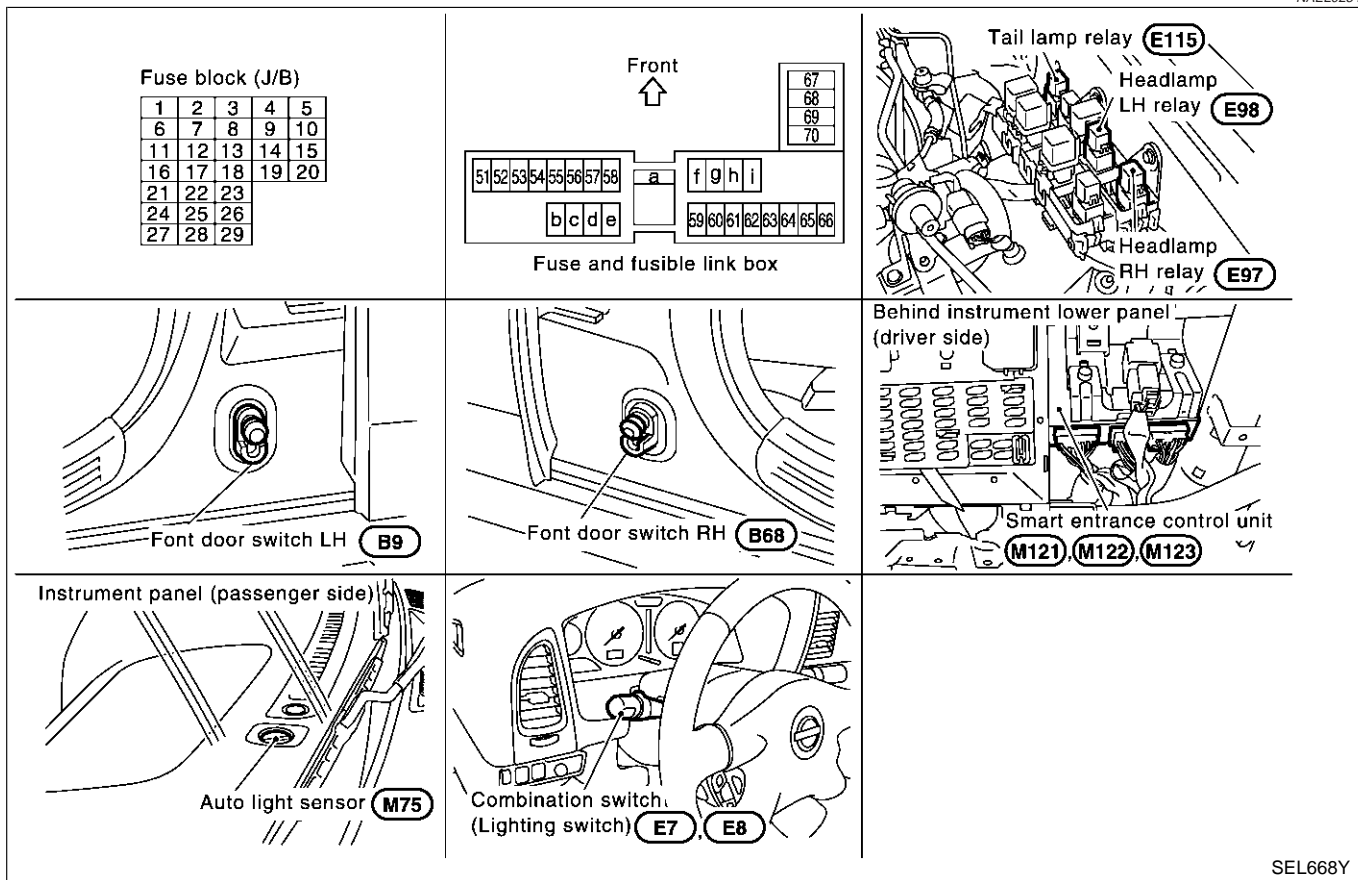
MEL071Q

HEADLAMP (FOR USA)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0254



SEL668Y

System Description

NAEL0255

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

NAEL0255S01

Power is supplied at all times

- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 60, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 59, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 7.5A fuse [No. 24, 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 7.5A fuse [No. 11, 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. 10, located in the fuse block (J/B)]

Ground is supplied

- to smart entrance control unit terminals 43 and 64
- through body grounds M4, M66, M111, M147 and M157.

POWER SUPPLY TO LOW BEAM AND HIGH BEAM

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

- to headlamp relay (LH and RH) terminal 2 from smart entrance control unit terminals 21 and 59

NAEL0255S02

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HEADLAMP (FOR USA)

System Description (Cont'd)

- through smart entrance control unit terminals 22 and 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 NAEL0255S03

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

Ground is supplied

- to headlamp LH terminal 2
- through lighting switch terminals 7 and 5
- through body grounds E13 and E41, and
- to headlamp RH terminal 2
- through lighting switch terminal 10 and 8
- through body grounds E13 and E41.

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 NAEL0255S04

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

Ground is supplied

- to headlamp LH terminal 1, and
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 6 and 5
- through body grounds E13 and E41, and
- to headlamp RH terminal 1
- through lighting switch terminals 9 and 8
- through body grounds E13 and E41.

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

EXTERIOR LAMP BATTERY SAVER CONTROL

Except for Auto Light Control Operation

Headlamps will remain on for a short while after the ignition switch is turned from ON (or ACC) to OFF. NAEL0255S05

Continuity between terminals 21 and 22, and between terminals 59 and 60 of smart entrance control unit will be disturbed after 5 minutes, then the headlamps will be turned off. NAEL0255S0501

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the exterior lamp 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 control operation

While the headlamps are turned ON by “AUTO” operation, the exterior lamp battery saver is activated for 5 minutes when the ignition switch is turned from ON (or ACC) to OFF, and either LH or RH front door switch is opened. NAEL0255S0502

The smart entrance control unit controls exterior lamp battery saver activation as follows:

- When the door switch signal changes from ON to OFF while the exterior lamp battery saver is activated, the operation is discontinued, and restarts and lasts for 45 seconds, then the headlamps will be turned off.
- When the door switch signal changes from OFF to ON while the exterior lamp battery saver is activated, the operation discontinued, restarts and lasts for 45 seconds, then the headlamps will be turned off.

HEADLAMP (FOR USA)

System Description (Cont'd)

- When the one of four door switch signals changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 5 minutes, then the headlamps will be turned off. GI
- When all the door switch ON signals are input while the exterior lamp battery saver is activated, the saver is discontinued and restarts and lasts for 45 seconds, then the headlamps will be turned off. MA

Exterior lamp battery saver control time can be changed using “WORK SUPPORT” mode in “HEAD-LAMP”. EM

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

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

Then headlamps illuminate again. FE

AUTO LIGHT OPERATION

The auto light control system has an auto light sensor inside instrument mask that detects outside brightness. ^{NAEL0255S06} CL

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

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

- Outside brightness is darker than prescribed level. MT

After 3 seconds delay, outside brightness becomes darker than prescribed level.

Ground is supplied

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

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

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

- Outside brightness is brighter than prescribed level, or
- After 5 seconds delay, outside brightness is brighter than prescribed level. AX
- Ignition switch is turned to “OFF” position. (Headlamp will be turned OFF by exterior lamp battery saver control system. Refer to EL-36.) SU

NOTE:

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

For parking license and tail lamp auto operation, refer to “PARKING, LICENSE AND TAIL LAMPS” (EL-66). BR

VEHICLE SECURITY SYSTEM

The vehicle security system will flash the high beams if the system is triggered. Refer to “VEHICLE SECURITY (THEFT WARNING) SYSTEM” (EL-331). ^{NAEL0255S07} ST

EL

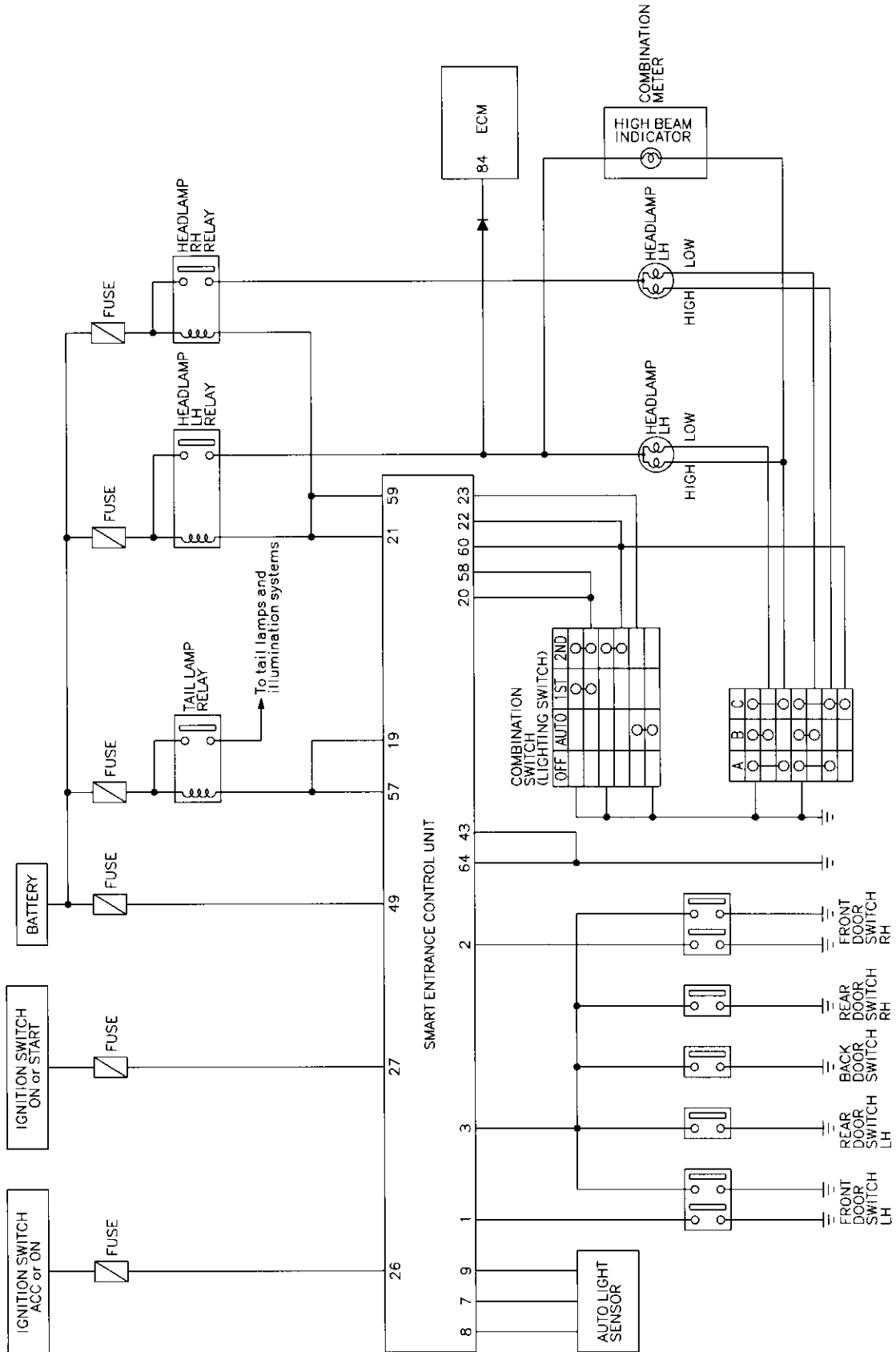
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HEADLAMP (FOR USA)

Schematic

Schematic

NAEL0256



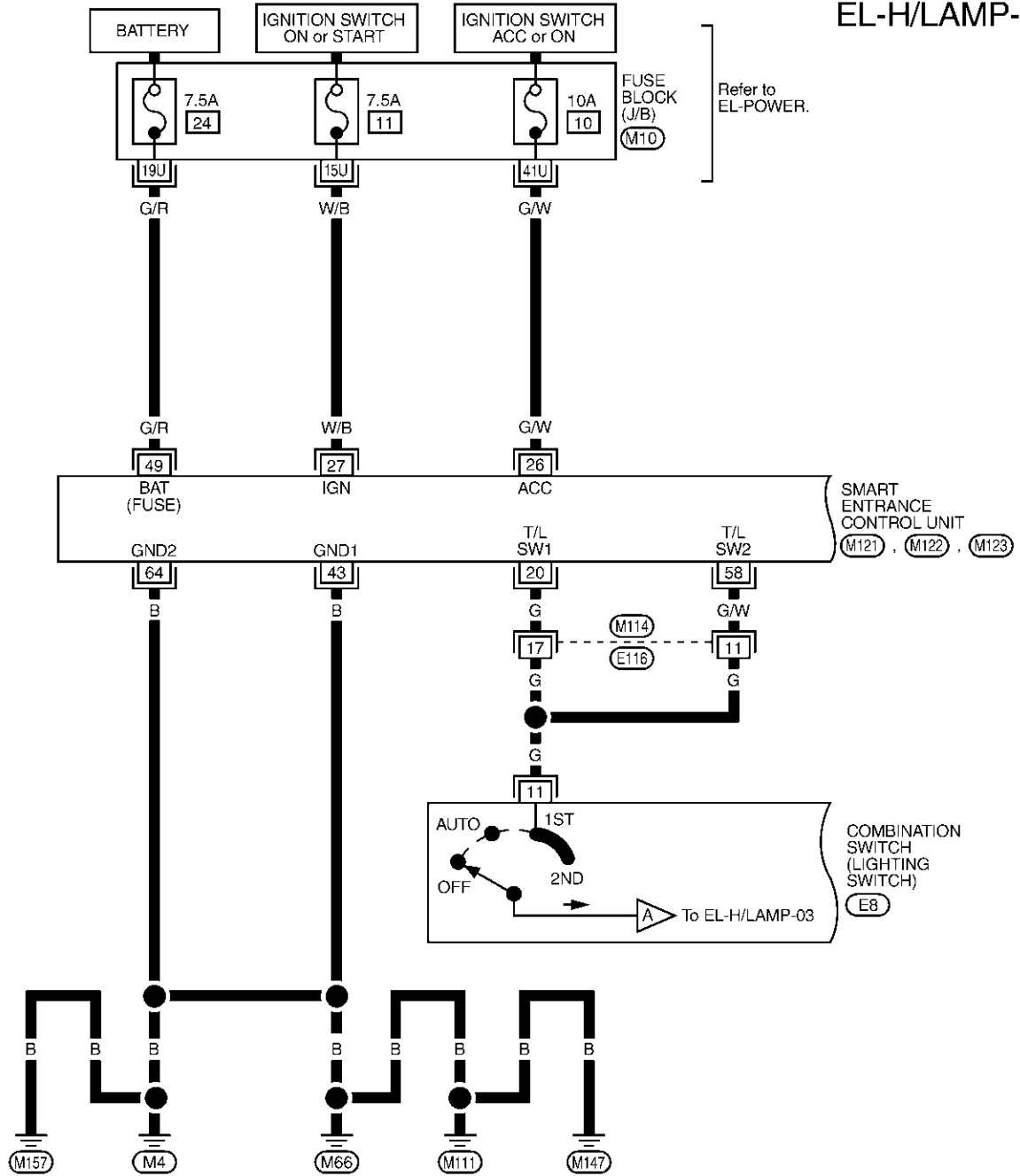
HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP —

Wiring Diagram — H/LAMP —

NAEL0257

EL-H/LAMP-01



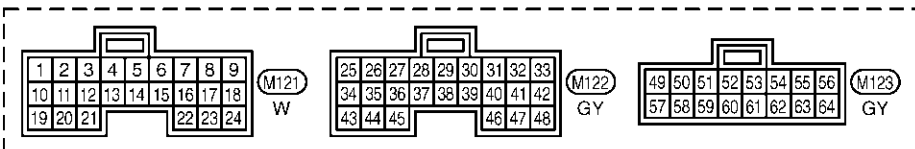
Refer to EL-POWER.

SMART ENTRANCE CONTROL UNIT (M121, M122, M123)

COMBINATION SWITCH (LIGHTING SWITCH) (E8)

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

(M114) W



| | | | |
|----|----|---|----|
| 11 | 1 | 2 | |
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(E8) W

REFER TO THE FOLLOWING.

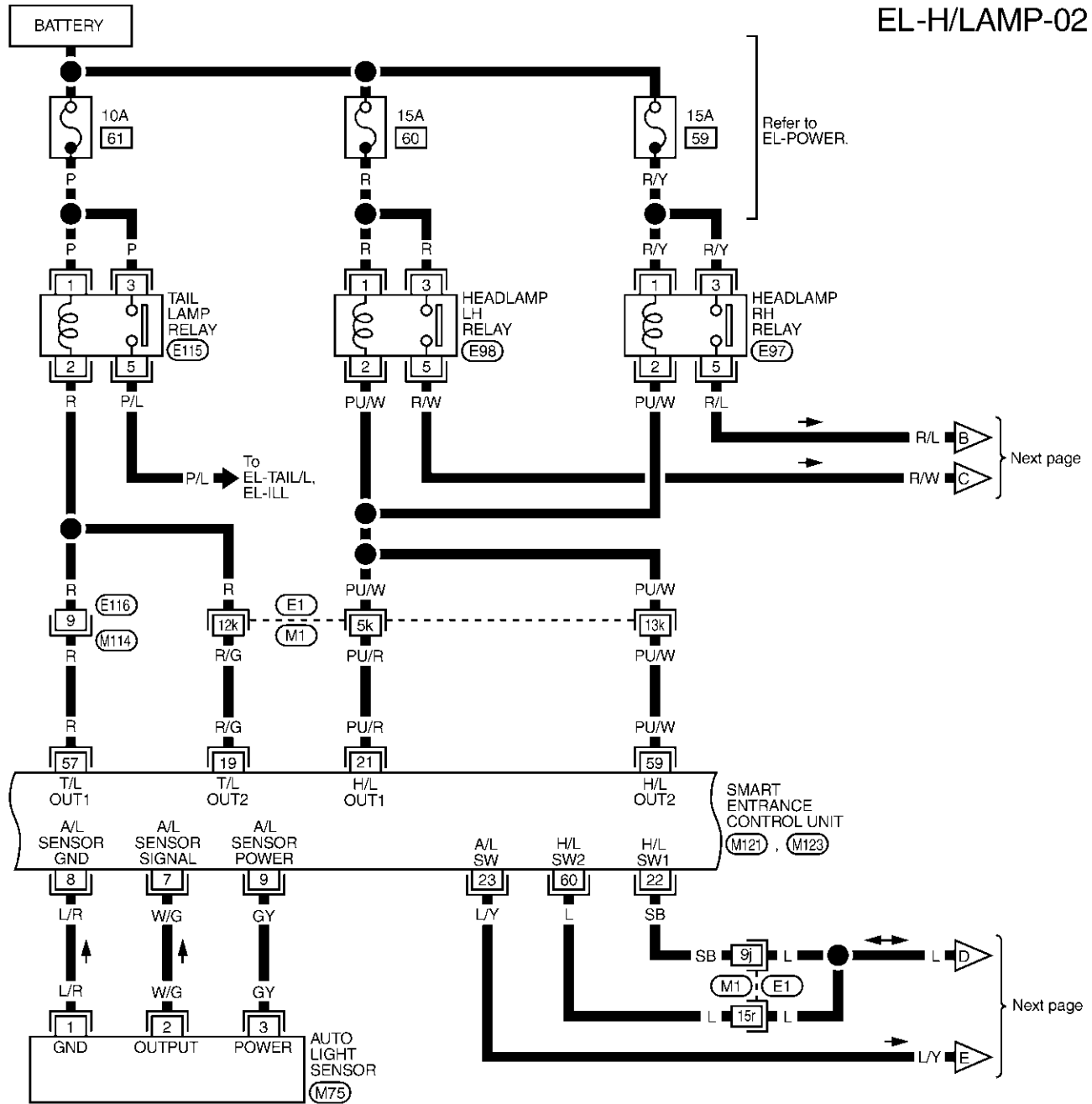
(M10) - FUSE BLOCK - JUNCTION BOX (J/B)

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HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP — (Cont'd)

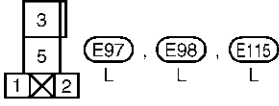
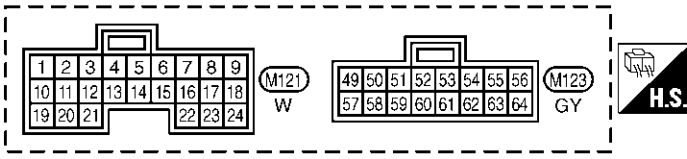
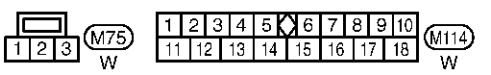
EL-H/LAMP-02



Refer to EL-POWER.

Next page

Next page



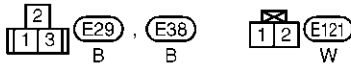
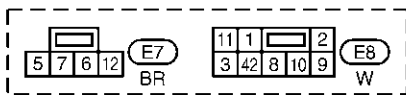
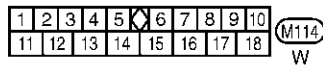
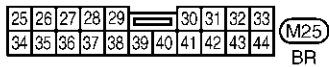
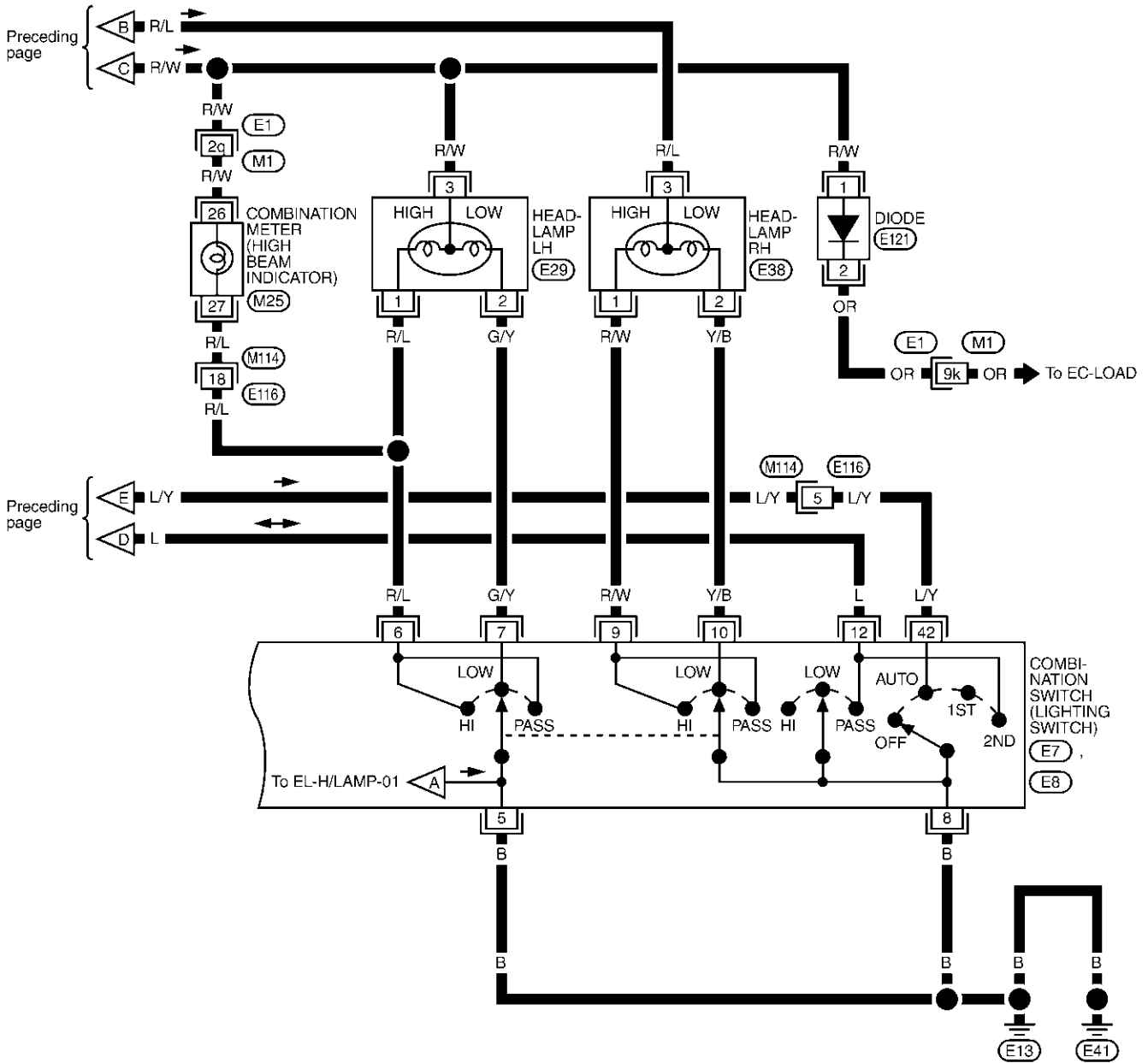
REFER TO THE FOLLOWING.
 (E1) -SUPER MULTIPLE JUNCTION (SMJ)

MEL948P

HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-03



REFER TO THE FOLLOWING.

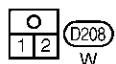
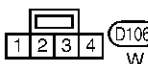
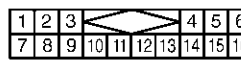
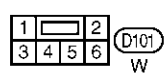
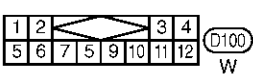
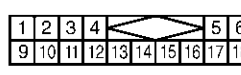
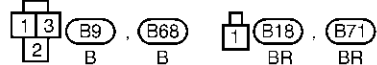
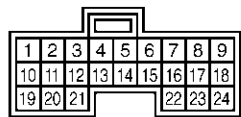
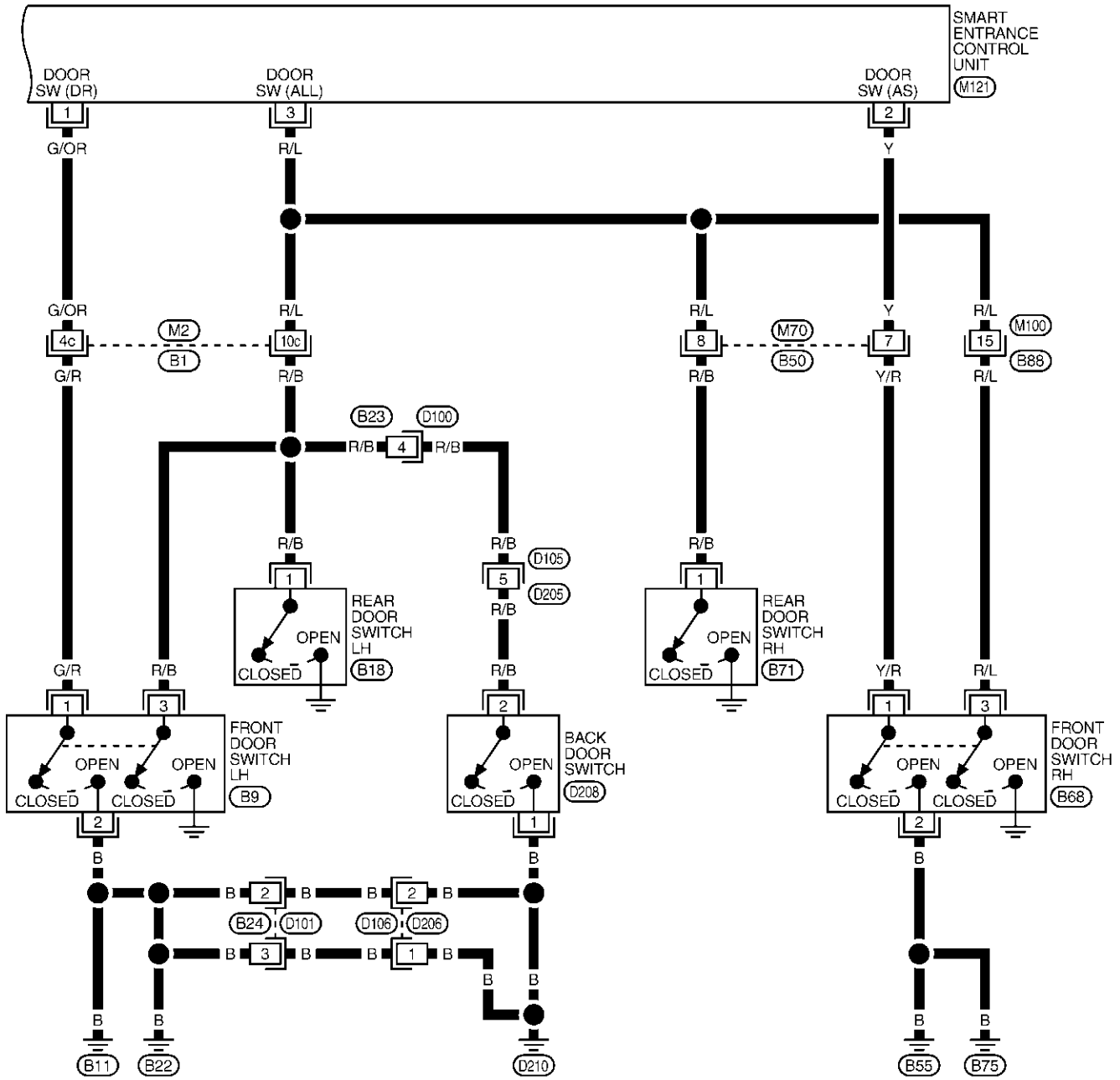
(E1) -SUPER MULTIPLE
JUNCTION (SMJ)

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HEADLAMP (FOR USA)

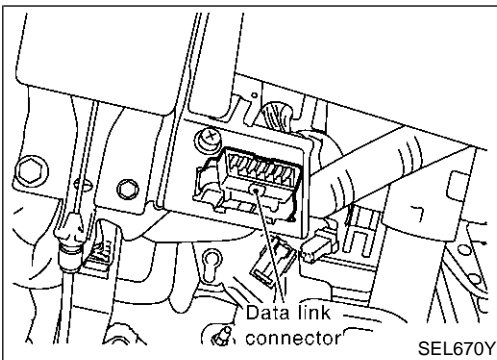
Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-04



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

MEL950P



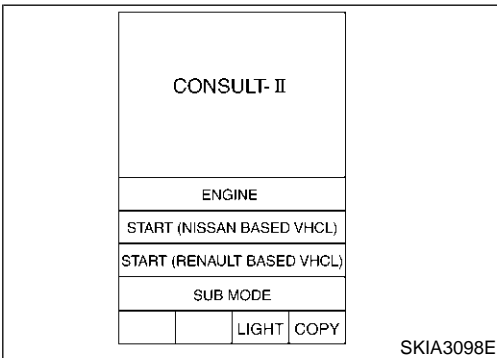
CONSULT-II Inspection Procedure

NAEL0258

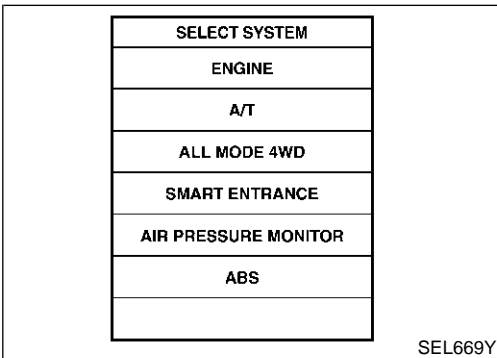
NAEL0258S01

“HEADLAMP”

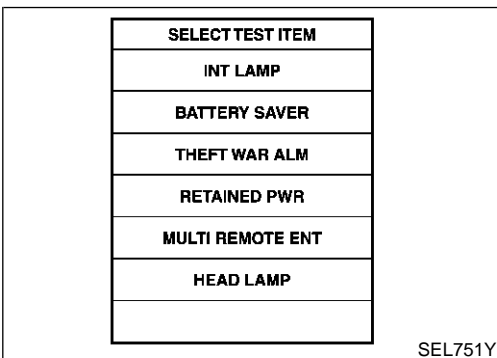
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector.



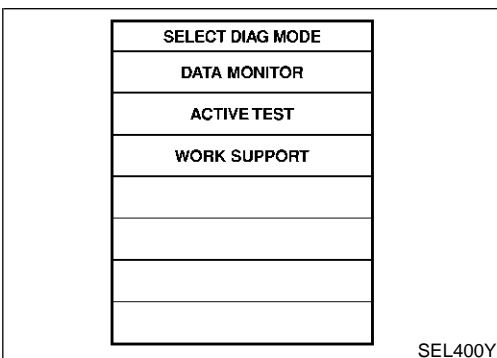
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



5. Touch “SMART ENTRANCE”.
If “SMART ENTRANCE” is not indicated, go to GI-41, “CONSULT-II Data Link Connector (DLC) Circuit”.



6. Touch “HEADLAMP”.



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

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HEADLAMP (FOR USA)

CONSULT-II Application Items

CONSULT-II Application Items

NAEL0453

NAEL0453S01

NAEL0453S0101

“HEAD LAMP” Data Monitor

| Monitored Item | Description |
|----------------|---|
| IGN ON SW | Indicates [ON/OFF] condition of ignition switch in ON position. |
| ACC ON SW | Indicates [ON/OFF] condition of ignition switch in ACC position. |
| AUTO LIGT SW | Displays status of the lighting switch as judged from the lighting switch signal. (AUTO position: ON/Other than AUTO position: OFF) |
| AUTO LIGT SENS | Displays “Illumination outside of the vehicle (close to 5V when light/close to 0V when dark)” as judged from the auto light sensor signal. |
| LIGHT SW 1ST | Displays status of the lighting switch as judged from the lighting switch signal. (1ST or 2ND position: ON/Other than 1ST and 2ND position: OFF) |
| LIGHT SW 2ND | Displays status of the lighting switch as judged from the lighting switch signal. (2ND position: ON/Other than 2ND position: OFF) |
| DOOR SW-DR | Indicates [ON/OFF] condition of front door switch LH. |
| DOOR SW-AS | Indicates [ON/OFF] condition of door switch RH. |
| DOOR SW-RR | Indicates [ON/OFF] condition of rear door switch. |

Active Test

NAEL0453S0102

| Test Item | Description |
|------------|---|
| TAIL LAMP | Tail lamp relay can be operated by on-off operation of the tail lamp. |
| HEAD LAMP | Headlamp relay can be operated by on-off operation of the headlamp. |
| AUTO LIGHT | Night time dimming signal can be operated by on-off operation. |

Work Support

NAEL0453S0103

| Work Item | Description |
|-------------------|--|
| AUTO LIGHT SET | Auto light sensitivity can be changed in this mode. Sensitivity can be adjusted in four modes. ● NORMAL/MODE 2 (Sensitive)/MODE 3 (Desensitized)/MODE 4 (Insensitive) |
| BATTERY SAVER SET | Exterior lamp battery saver control mode can be changed in this mode. Selects exterior lamp battery saver control mode between two modes. ● MODE 1 (ON)/MODE 2 (OFF) |
| ILL DELAY SET | Exterior lamp battery saver control time can be changed in this mode. Selects exterior lamp battery saver control time among eight modes. ● MODE 1 (45 sec.)/MODE 2 (OFF)/MODE 3 (30 sec.)/MODE 4 (60 sec.)/ MODE 5 (90 sec.)/ MODE 6 (120 sec.)/MODE 7 (150 sec.)/MODE 8 (180 sec.) |

Trouble Diagnoses

NAEL0260

| Symptom | Possible cause | Repair order |
|----------------------------|---|---|
| Neither headlamp operates. | <ol style="list-style-type: none"> 7.5A fuse Headlamp relay circuit Lighting switch Smart entrance control unit | <ol style="list-style-type: none"> Check 7.5A fuse [No. 24, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 49 of smart entrance control unit. Check between smart entrance control unit and headlamp relays (LH and RH). Check Lighting switch. Check smart entrance control unit. (EL-368) |

HEADLAMP (FOR USA)

Trouble Diagnoses (Cont'd)

| Symptom | Possible cause | Repair order | |
|---|--|---|----------------------------|
| Headlamp LH (low and high beam) does not operate, but headlamp RH (low and high beam) does operate. | <ol style="list-style-type: none"> 15A fuse Headlamp LH relay Headlamp LH relay circuit Lighting switch ground circuit | <ol style="list-style-type: none"> Check 15A fuse (No. 60, 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. <ul 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 lighting switch and ground. | GI MA EM LC |
| Headlamp RH (low and high beam) does not operate, but headlamp LH (low and high beam) does operate. | <ol style="list-style-type: none"> 15A fuse Headlamp RH relay Headlamp RH relay circuit | <ol style="list-style-type: none"> Check 15A fuse (No. 59, 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. <ul 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 lighting switch and ground. | EC FE CL MT |
| LH high beam does not operate, but LH low beam operates. | <ol style="list-style-type: none"> Bulb Open in the LH high beam circuit Lighting switch | <ol style="list-style-type: none"> Check bulb. Check harness between headlamp LH and lighting switch for open circuit. Check lighting switch. | AT |
| LH low beam does not operate, but LH high beam operates. | <ol style="list-style-type: none"> Bulb Open in LH low beam circuit Lighting switch | <ol style="list-style-type: none"> Check bulb. Check harness between headlamp LH and lighting switch for open circuit. Check lighting switch. | TF |
| RH high beam does not operate, but RH low beam operates. | <ol style="list-style-type: none"> Bulb Open in the RH high beam circuit Lighting switch | <ol style="list-style-type: none"> Check bulb. Check harness between headlamp RH and lighting switch for open circuit. Check lighting switch. | PD AX |
| RH low beam does not operate, but RH high beam operates. | <ol style="list-style-type: none"> Bulb Open in RH low beam circuit Lighting switch | <ol style="list-style-type: none"> Check bulb. Check harness between headlamp RH and lighting switch for open circuit. Check lighting switch. | SU |
| 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 LH relay and combination meter for an open circuit Harness between high beam indicator and lighting switch | BR ST |
| Battery saver control does not operate properly. | <ol style="list-style-type: none"> Door switch LH or RH circuit Lighting switch 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 the following. <ol style="list-style-type: none"> Harness between smart entrance control unit terminals 20 or 58 and lighting switch terminal 11 for open or short circuit Harness between lighting switch terminal 5 and ground Lighting switch Check smart entrance control unit. (EL-368) | RS BT HA SC EL |

EL

IDX

HEADLAMP (FOR USA)

Trouble Diagnoses (Cont'd)

| Symptom | Possible cause | Repair order |
|--|--|---|
| When outside is dark, neither tail lamp nor headlamp turn on by auto light operation. | <ol style="list-style-type: none"> 1. 7.5A fuse 2. Lighting switch "AUTO" check 3. Lighting switch circuit check 4. Lighting switch ground circuit check 5. Auto light sensor check 6. Auto light sensor circuit check | <ol style="list-style-type: none"> 1. Check 7.5A fuse [NO. 11 located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 27 of smart entrance control unit. 2. Check lighting switch (AUTO) input signal with "CONSULT-II" in "DATA MONITOR" mode. When lighting switch is in AUTO: AUTO LIGHT SWITCH ON When lighting switch is in OFF: AUTO LIGHT SWITCH OFF 3. Check harness for open or short between smart entrance control unit and lighting switch. 4. Check harness for lighting switch and ground. 5. Check auto light sensor input signal. (With CONSULT-II) See "AUTO LIGHT SENSOR" in DATA MONITOR mode. When auto light sensor is stuck by light: More than 3V When auto light sensor is not stuck by light: Approx. 0.5V (Without CONSULT-II) Check voltage between smart entrance control unit terminal 7 and ground. Refer to smart entrance control unit. (EL-368) 6. Check the following. <ol style="list-style-type: none"> a. Harness for open or short between smart entrance control unit terminal 8 and auto light sensor terminal 1 b. Harness for open or short between smart entrance control unit terminal 7 and auto light sensor terminal 2 c. Harness for open or short between smart entrance control unit terminal 9 and auto light sensor terminal 3 |
| When outside is dark, tail lamp turns on but headlamp does not turn on by auto light operation. | Auto light output check | <p>Check auto light output. (With CONSULT-II) See "HEADLAMP" and "TAIL LAMP" in ACTIVE TEST mode, and headlamp switch to AUTO position. Headlamp and tail lamp should turn on. (Without CONSULT-II) Check voltage between smart entrance control unit terminals 19, 21, 57, 59 and ground. Refer to smart entrance control unit. (EL-368)</p> |
| When outside is dark, headlamp turns on but tail lamp does not turn on by auto light operation. | Auto light output check | <p>Check auto light output. (With CONSULT-II) See "HEADLAMP" and "TAIL LAMP" in ACTIVE TEST mode, and headlamp switch to AUTO position. Headlamp and tail lamp should turn on. (Without CONSULT-II) Check voltage between smart entrance control unit terminals 19, 21, 57, 59 and ground. Refer to smart entrance control unit. (EL-368)</p> |
| Light does not turn off when ignition key switch is turned to "OFF" (exterior lamp battery saver control is canceled). | <ol style="list-style-type: none"> 1. 7.5A fuse 2. IGN switch circuit | <ol style="list-style-type: none"> 1. Check 7.5A fuse [NO. 11 located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 27 of smart entrance control unit. 2. Check harness for open or short between smart entrance control unit and fuse. |

| Symptom | Possible cause | Repair order |
|--|-------------------------|---|
| When outside is bright, neither tail lamps nor headlamps turn off by auto light operation. | Auto light sensor check | Check auto light sensor input signal. (With CONSULT-II) See "AUTO LIGHT SENSOR" in DATA MONITOR mode. When auto light sensor is stuck by light: More than 3V When auto light sensor is not stuck by light: Approx. 0.5V (Without CONSULT-II) Check voltage between smart entrance control unit terminal 7 (W/G) and ground. Refer to smart entrance control unit. (EL-368) |

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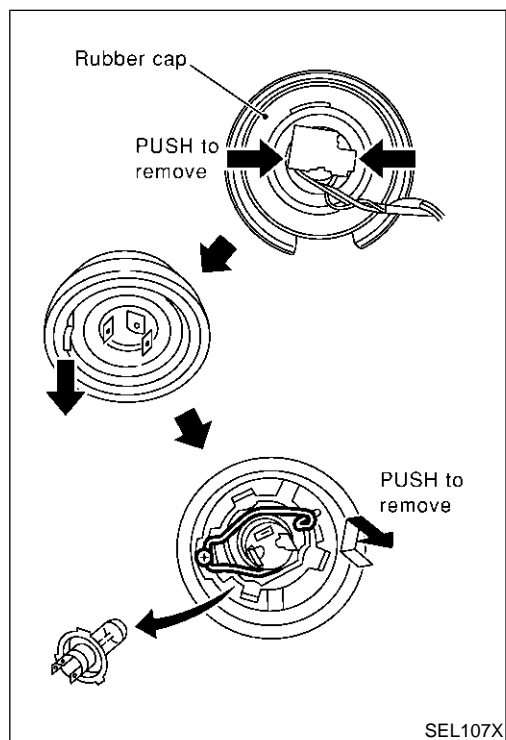
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Bulb Replacement

NAEL0261

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. Pull off the rubber cap.
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.

TF

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Aiming Adjustment

NAEL0262

Before performing aiming adjustment, check the following.

For details, refer to the regulations in your own country.

- 1) Keep all tires inflated to correct pressures.
- 2) Place vehicle 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).

HA

SC

EL

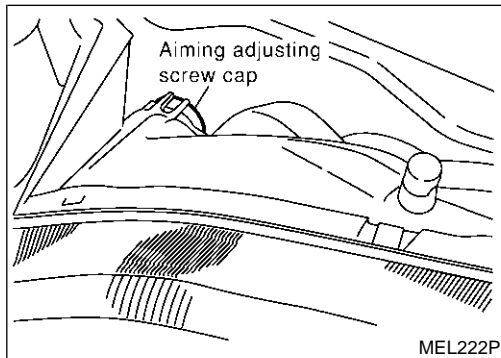
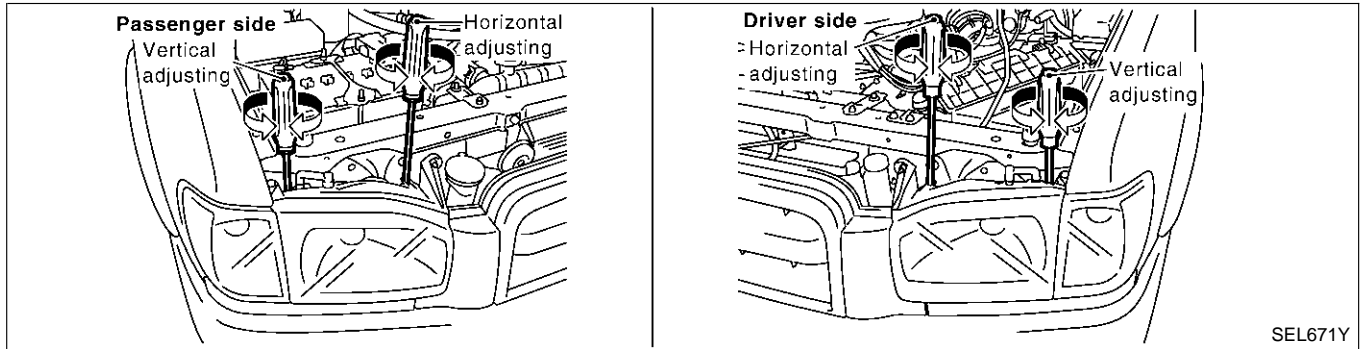
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HEADLAMP (FOR USA)

Aiming Adjustment (Cont'd)

LOW BEAM

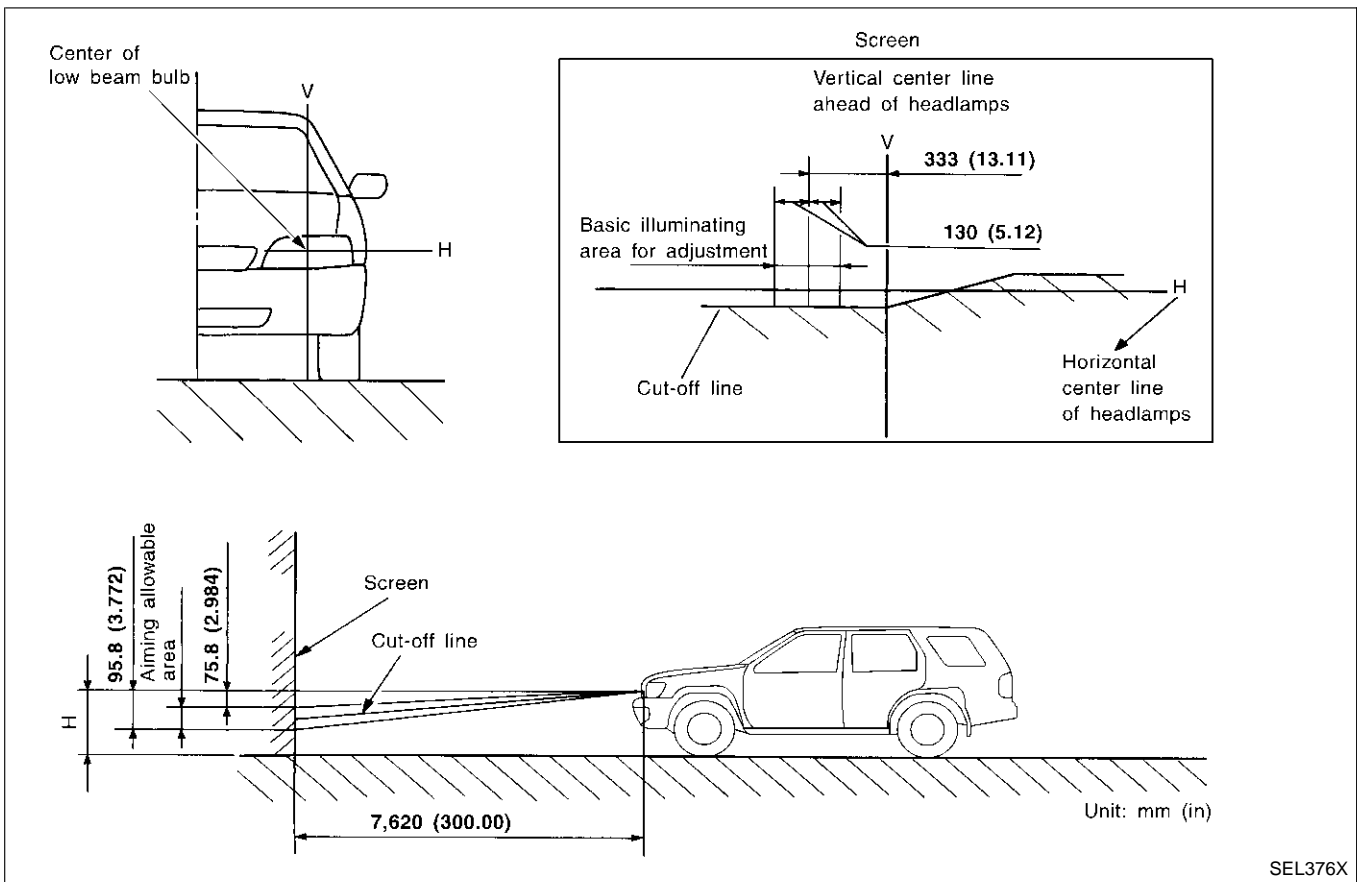
NAEL0262S01



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

HEADLAMP (FOR USA)

Aiming Adjustment (Cont'd)



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.**

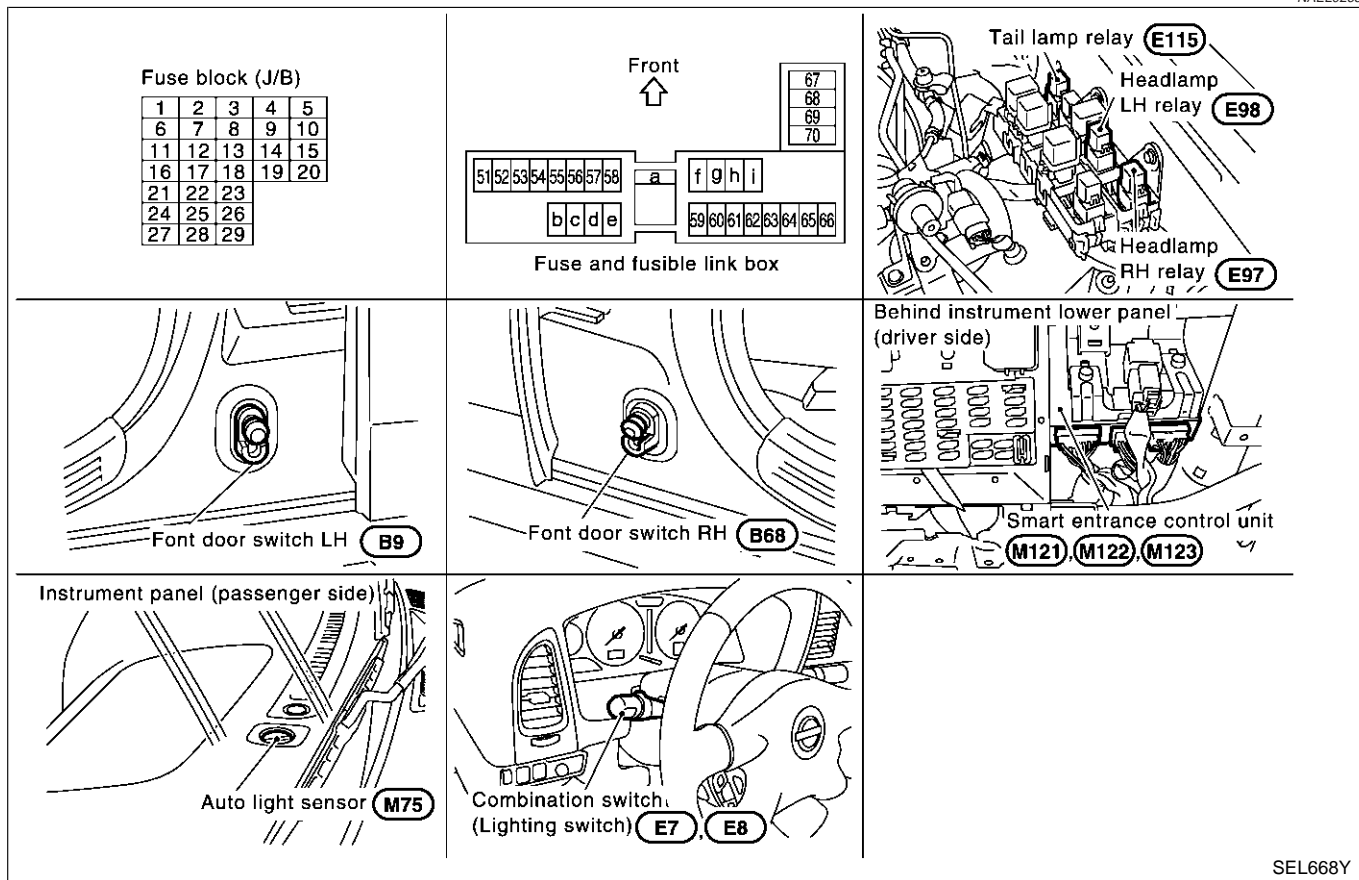
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HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0263



SEL668Y

System Description

NAEL0264

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. 60, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 59, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 7.5A fuse [No. 24, 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
- through body grounds M4, M66, M111, M147 and M157.

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

- to daytime light control unit terminal 3, and
- to smart entrance control unit terminal 27
- through 7.5A fuse [No. 11, 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. 10, 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 7.5A fuse [No. 26, located in the fuse block (J/B)].

GI

HEADLAMP OPERATION

Power Supply to Low Beam and High Beam

NAEL0264S01

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

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

MA

EM

LC

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

EC

Low Beam Operation

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

NAEL0264S0102

- to terminal 2 of the headlamp LH
- through daytime light control unit terminals 11 and 15
- through lighting switch terminals 7 and 5
- through body grounds E13 and E41.

FE

Ground is also supplied

- to terminal 2 of the headlamp RH
- through daytime light control unit terminals 8 and 12
- through lighting switch terminals 10 and 8
- through body grounds E13 and E41.

MT

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

AT

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

NAEL0264S0103

- to terminal 1 of headlamp LH
- through daytime light control unit terminals 10 and 13, and
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 6 and 5
- through body grounds E13 and E41.

TF

PD

Ground is also supplied

- to terminal 1 of headlamp RH
- through daytime light control unit terminals 9 and 14
- through lighting switch terminals 9 and 8
- through body grounds E13 and E41.

AX

SU

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

BR

ST

EXTERIOR LAMP BATTERY SAVER CONTROL

Except for Auto Light Control Operation

NAEL0264S02

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

Continuity between terminals 21 and 22, and between terminals 59 and 60 of smart entrance control unit will be disturbed after 5 minutes, then the headlamps will be turned off.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the exterior lamp 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.

BT

HA

Then headlamps illuminate again.

SC

EL

IDX

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

System Description (Cont'd)

Auto light control operation

NAEL0264S0202

While the headlamps are turned ON by “AUTO” operation, the exterior lamp battery saver is activated for 5 minutes when the ignition switch is turned from ON (or ACC) to OFF, and either LH or RH front door switch is opened.

The smart entrance control unit controls exterior lamp battery saver activation as follows:

- When the door switch signal changes from ON to OFF while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the headlamps will be turned off.
- When the door switch signal changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the headlamps will be turned off.
- When the one of four door switch signals changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 5 minutes, then the headlamps will be turned off.
- When all the door switch ON signals are input while the exterior lamp battery saver is activated, the saver is discontinued and restarts and lasts for 45 seconds, then the headlamps will be turned off.

Exterior lamp battery saver control time can be changed using “WORK SUPPORT” mode in “HEAD-LAMP”.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the exterior lamp 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

NAEL0264S03

For auto light operation, refer to “HEADLAMP” (EL-37).

DAYTIME LIGHT OPERATION

NAEL0264S04

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
- to terminal 3 of headlamp RH
- through terminal 1 of headlamp RH
- to daytime light control unit terminal 9
- through daytime light control unit terminal 6
- to terminal 3 of headlamp LH.

Ground is supplied to terminal 1 of headlamp LH.

- through daytime light control unit terminals 10 and 16
- through body grounds E13 and E41.

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

OPERATION

NAEL0264S05

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 | | |
| 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 |

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

System Description (Cont'd)

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.

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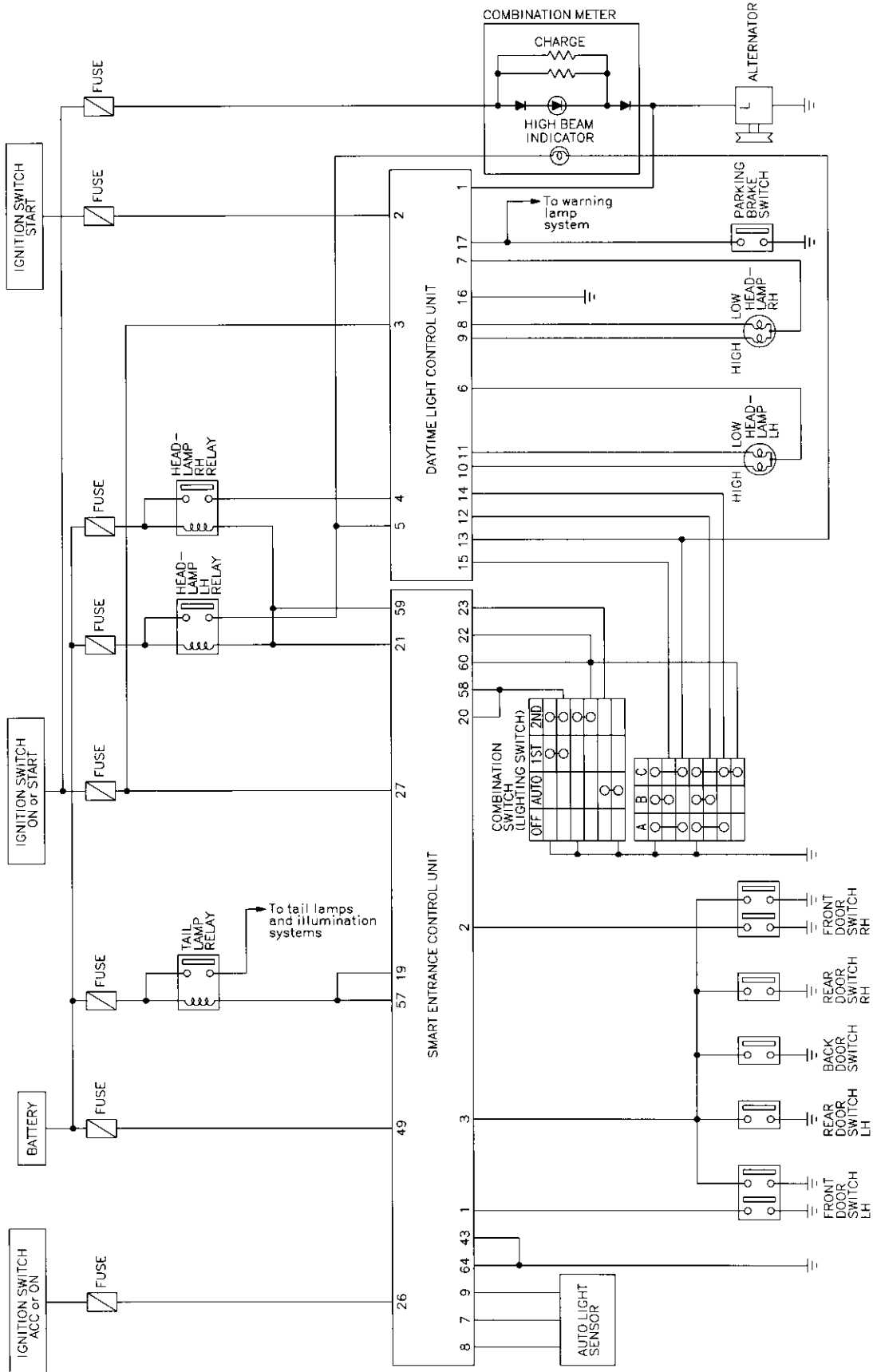
IDX

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Schematic

Schematic

NAEL0265



MEL951P

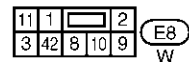
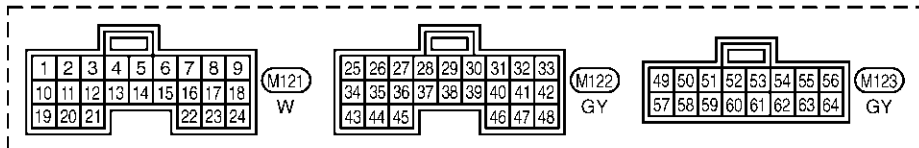
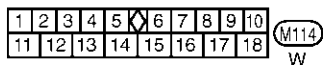
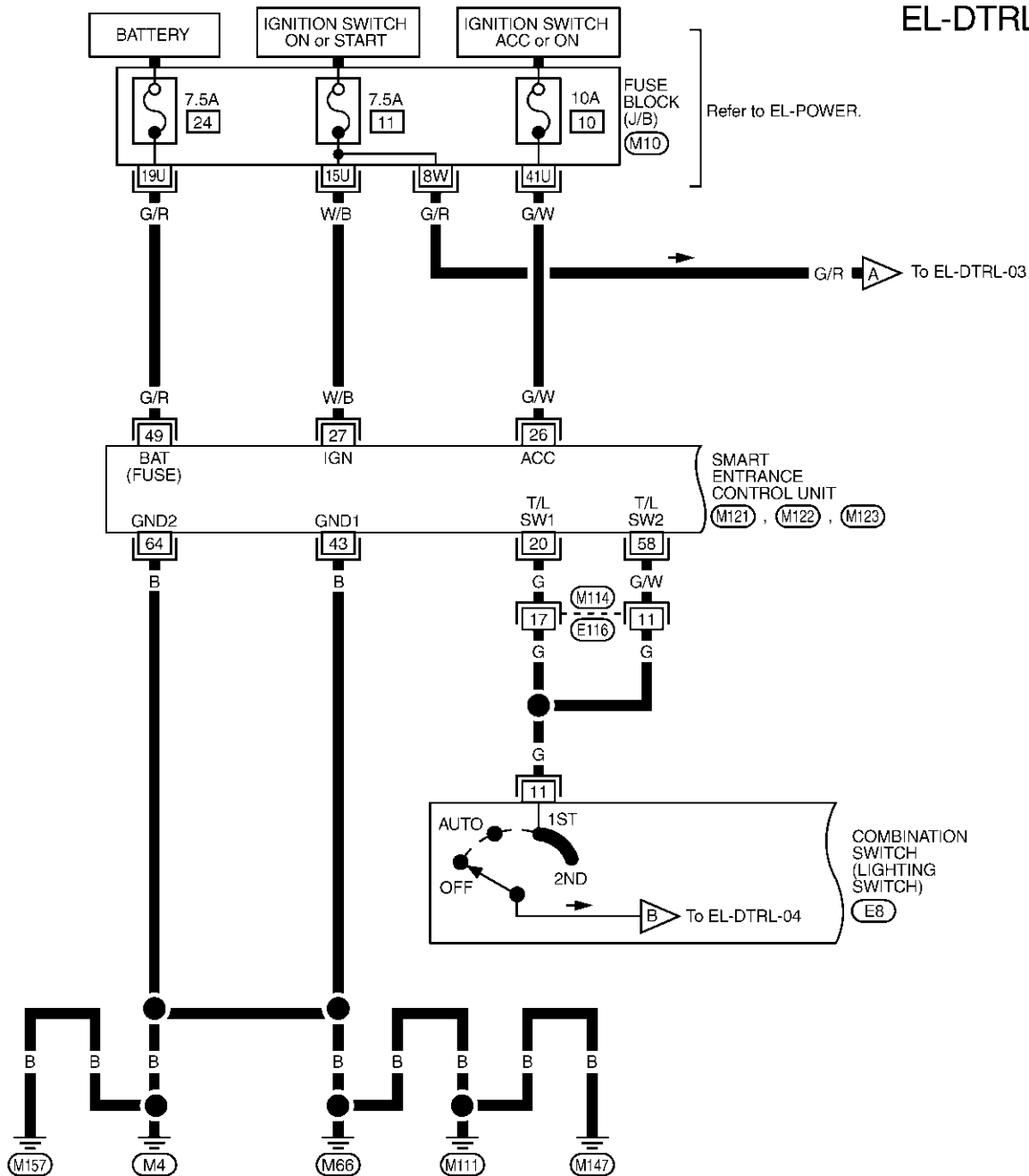
HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL —

Wiring Diagram — DTRL —

NAEL0266

EL-DTRL-01



REFER TO THE FOLLOWING.

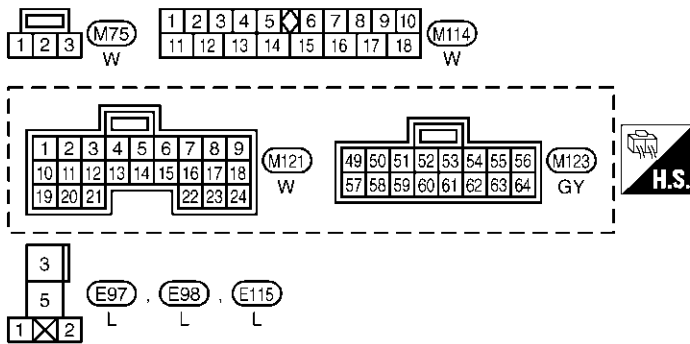
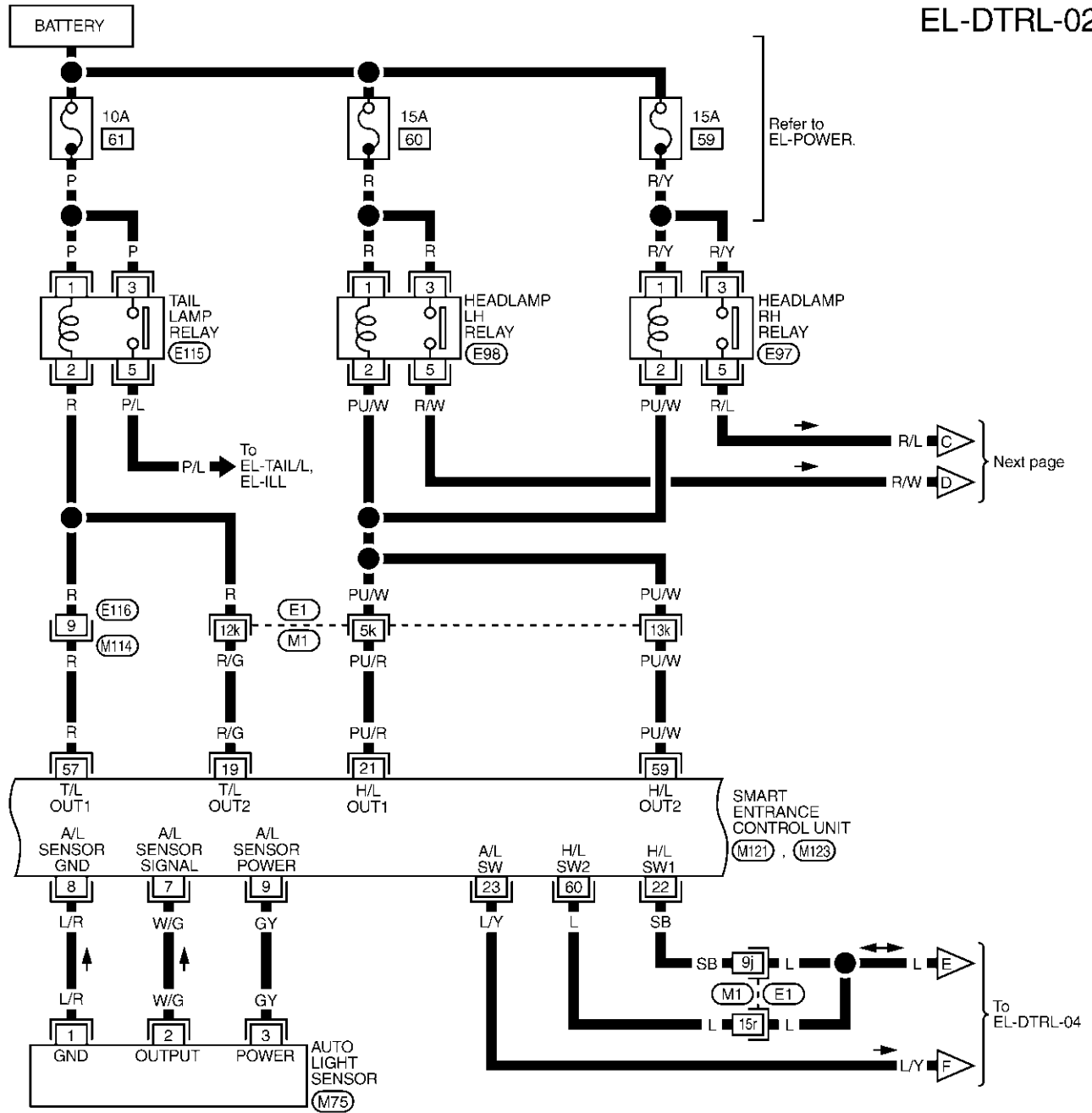
(M10) - FUSE BLOCK-
JUNCTION BOX (J/B)

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HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02



REFER TO THE FOLLOWING.

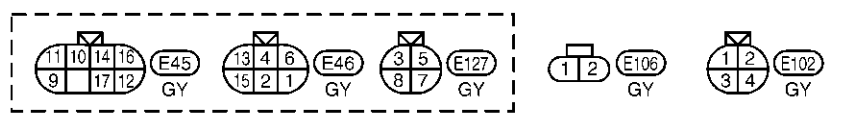
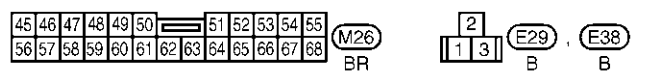
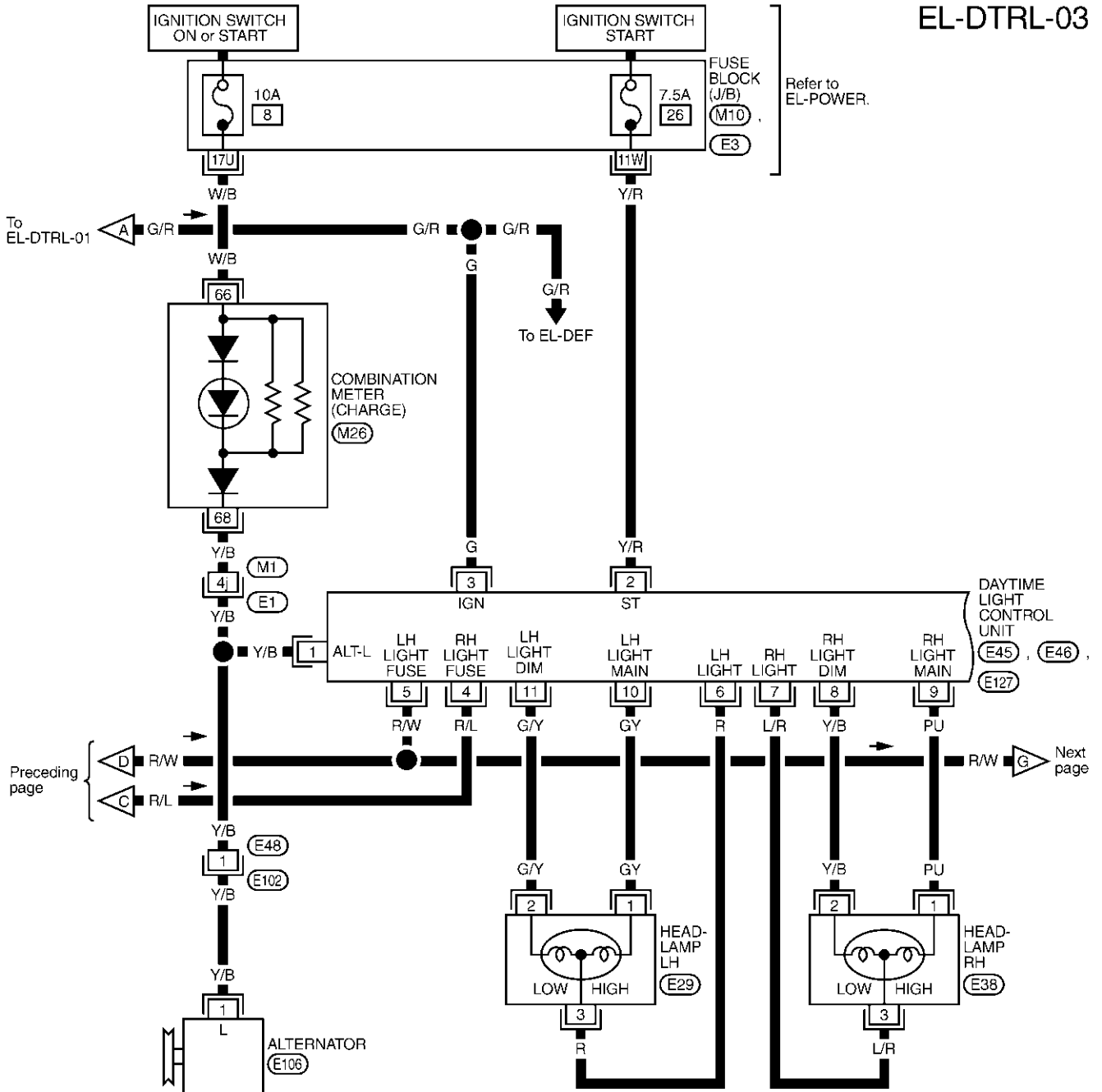
(E1) - SUPER MULTIPLE JUNCTION (SMJ)

MEL953P

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-03



REFER TO THE FOLLOWING.

(E1) -SUPER MULTIPLE JUNCTION (SMJ)

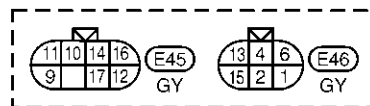
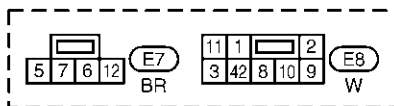
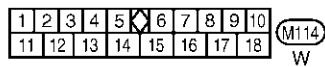
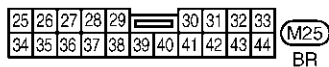
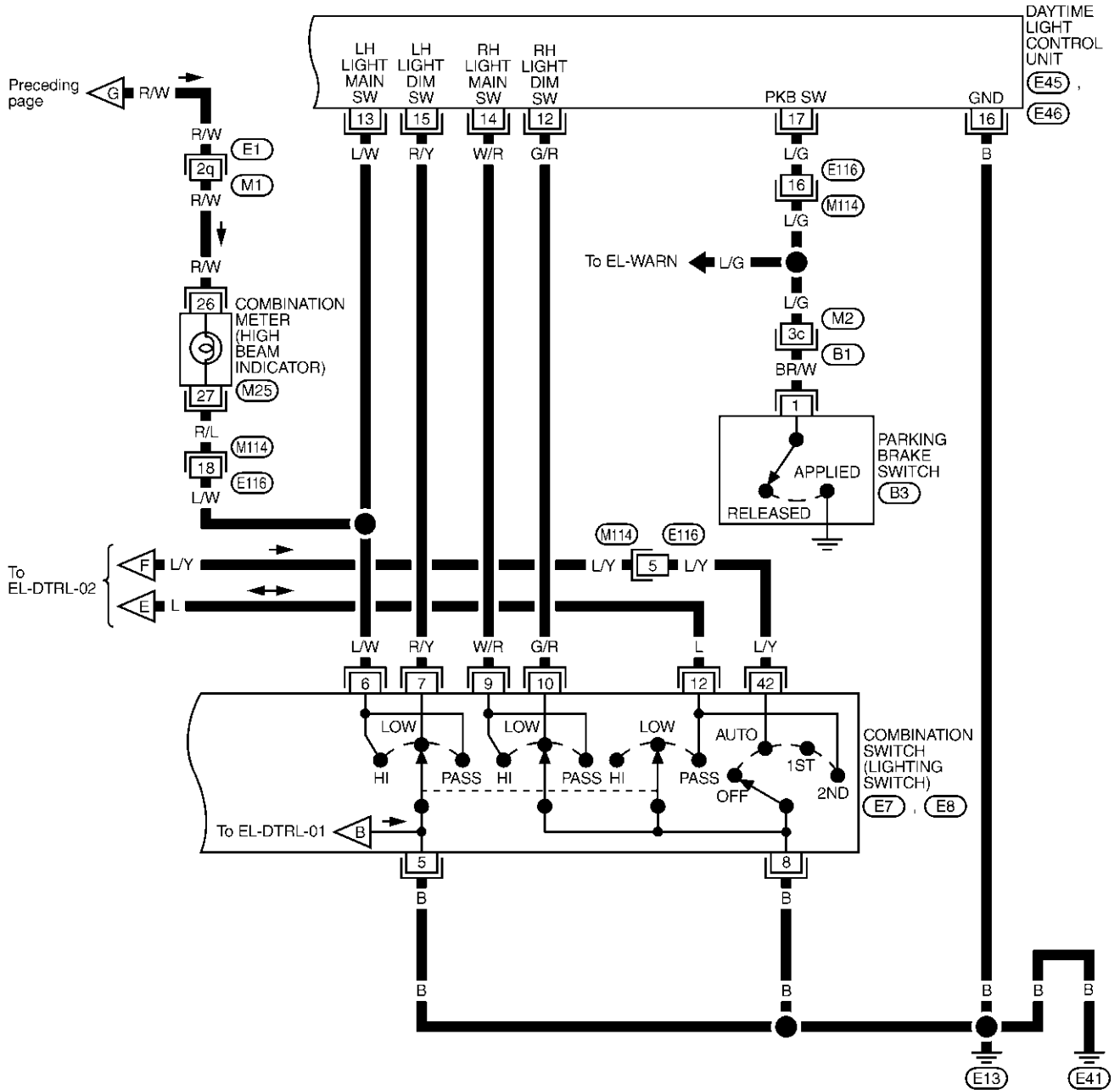
(M10), (E3) -FUSE BLOCK-JUNCTION (J/B)

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HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-04



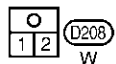
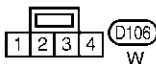
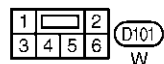
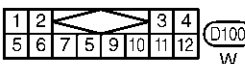
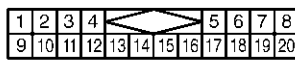
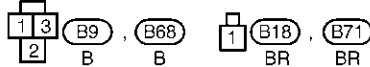
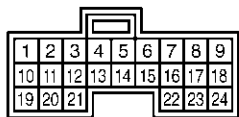
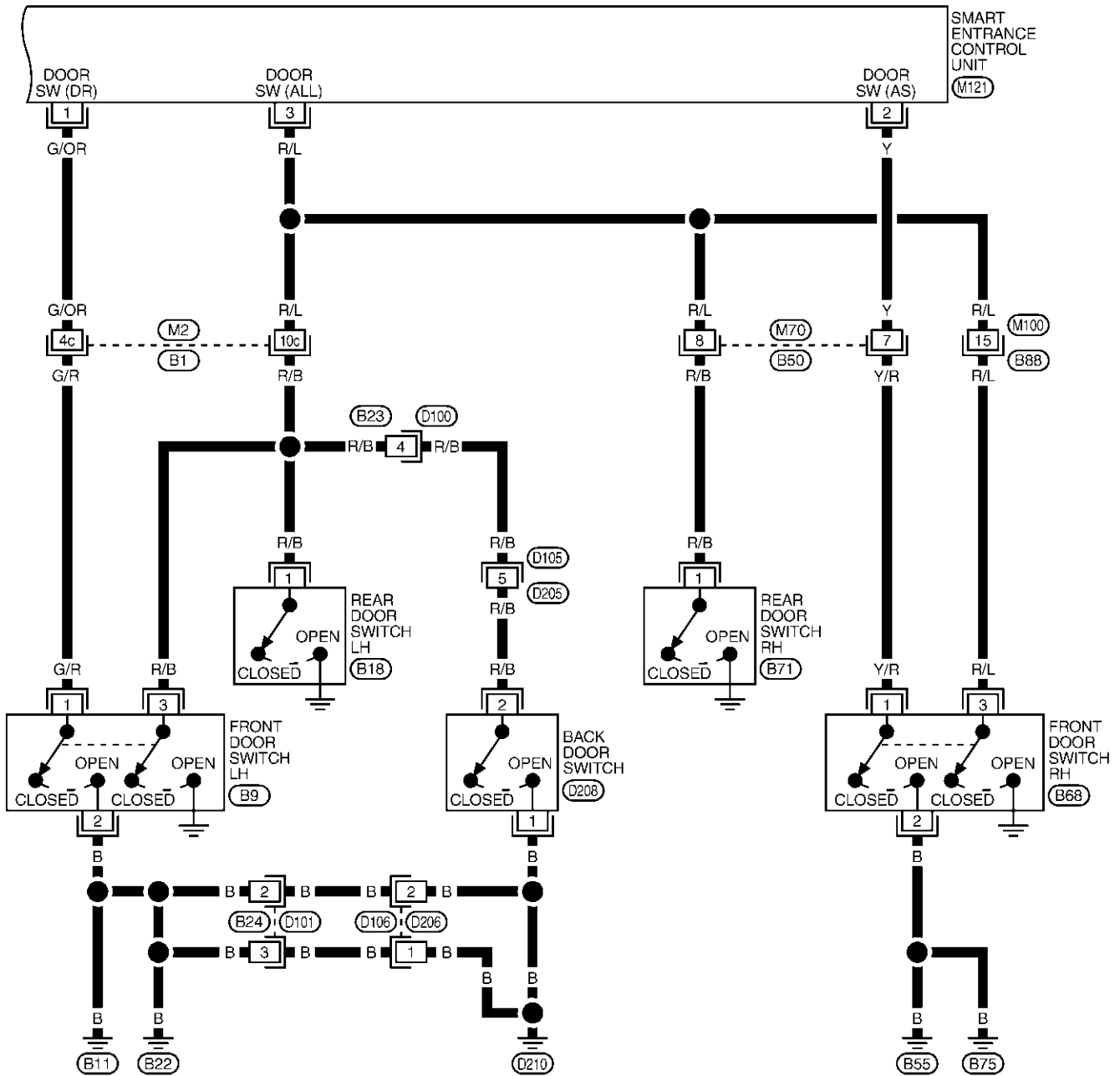
REFER TO THE FOLLOWING.
 (E1), (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL955P

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-05



REFER TO THE FOLLOWING.

(B1) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL956P

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HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

CONSULT-II Inspection Procedure

CONSULT-II Inspection Procedure

“HEADLAMP”

Refer to “HEADLAMP (FOR USA)” (EL-43).

NAEL0267

NAEL0267S01

CONSULT-II Application Items

“HEADLAMP”

Refer to “HEADLAMP (FOR USA)” (EL-44).

NAEL0268

NAEL0268S01

Trouble Diagnoses

NAEL0269

| Symptom | Possible cause | Repair order |
|---|---|--|
| Neither headlamp operates. | <ol style="list-style-type: none"> 1. 7.5A fuse 2. Lighting switch 3. Daytime light control unit 4. Smart entrance control unit | <ol style="list-style-type: none"> 1. Check the following. <ol style="list-style-type: none"> a. 7.5A fuse [No. 24, located in fuse block (J/B)] Verify battery positive voltage is present at terminal 49 of smart entrance control unit. b. 7.5A fuse [No. 11, located in fuse block (J/B)] Verify battery positive voltage is present at terminal 3 of daytime light control unit. 2. Check lighting switch. 3. Check daytime light control unit (EL-63). 4. Check smart entrance control unit. (EL-368) |
| 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. Headlamp LH ground circuit 5. Lighting switch circuit 6. Daytime light control unit 7. Smart entrance control unit | <ol style="list-style-type: none"> 1. Check 15A fuse (No. 60, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 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 daytime light control unit b. Harness between headlamp LH relay and smart entrance control unit 4. Check harness between headlamp LH and daytime light control unit. 5. Check harness between smart entrance control unit and lighting switch. 6. Check daytime light control unit. (EL-63) 7. Check smart entrance control unit. (EL-368) |

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

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"> 15A fuse Headlamp RH relay Headlamp RH relay circuit Headlamp RH ground circuit Lighting switch circuit Daytime light control unit Smart entrance control unit | <ol style="list-style-type: none"> Check 15A fuse (No. 59, 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 daytime light control unit Harness between headlamp RH relay and smart entrance control unit Check harness between headlamp RH and daytime light control unit. Check harness between smart entrance control unit and lighting switch. Check daytime light control unit. (EL-63) Check smart entrance control unit. (EL-368) | <p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p> <p>EC</p> <p>FE</p> |
| LH high beam does not operate, but LH low beam operates. | <ol style="list-style-type: none"> Bulb Headlamp LH high beams circuit Lighting switch Lighting switch circuit Daytime light control unit | <ol style="list-style-type: none"> Check bulb. Check harness between LH headlamp and daytime light control unit. Check lighting switch. Check harness between daytime light control unit and lighting switch. Check daytime light control unit. (EL-63) | <p>CL</p> <p>MT</p> |
| LH low beam does not operate, but LH high beam operates. | <ol style="list-style-type: none"> Bulb Headlamp LH high beams circuit Lighting switch Lighting switch circuit Daytime light control unit | <ol style="list-style-type: none"> Check bulb. Check harness between LH headlamp and daytime light control unit. Check lighting switch. Check harness between daytime light control unit and lighting switch. Check daytime light control unit. (EL-63) | <p>AT</p> <p>TF</p> <p>PD</p> |
| RH high beam does not operate, but RH low beam operates. | <ol style="list-style-type: none"> Bulb Open in the RH high beams circuit Lighting switch Lighting switch circuit Daytime light control unit | <ol style="list-style-type: none"> Check bulb. Check harness between RH headlamp and daytime light control unit. Check lighting switch. Check harness between daytime light control unit and lighting switch. Check daytime light control unit. (EL-63) | <p>AX</p> <p>SU</p> |
| RH low beam does not operate, but RH high beam operates. | <ol style="list-style-type: none"> Bulb Open in the RH high beams circuit Lighting switch Lighting switch circuit Daytime light control unit | <ol style="list-style-type: none"> Check bulb. Check harness between RH headlamp and daytime light control unit. Check lighting switch. Check harness between daytime light control unit and lighting switch. Check daytime light control unit. (EL-63) | <p>BR</p> <p>ST</p> |
| 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 LH relay and combination meter for an open circuit Harness between high beam indicator and lighting switch | <p>RS</p> <p>BT</p> |
| 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-368) | <p>HA</p> <p>SC</p> |

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HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Trouble Diagnoses (Cont'd)

| Symptom | Possible cause | Repair order |
|---|--|---|
| Daytime light control does not operate properly. | <ol style="list-style-type: none"> 1. Fuse check 2. Parking brake switch 3. Parking brake switch circuit 4. Alternator circuit 5. Daytime light control unit | <ol style="list-style-type: none"> 1. Check the following. <ol style="list-style-type: none"> a. 7.5A fuse [No. 11, located in fuse block (J/B)] Verify battery positive voltage is present at terminal 3 of daytime light control unit. b. 7.5A fuse [No. 26, located in fuse block (J/B)] Verify battery positive voltage is present at terminal 2 of daytime light control unit. 2. Check parking brake switch. 3. Check harness between parking brake switch and daytime light control unit. 4. Check harness between alternator and daytime light control unit. 5. Check daytime light control unit. (EL-63) |
| When outside is dark, neither tail lamp nor headlamp turn on by auto light operation. | <ol style="list-style-type: none"> 1. 7.5A fuse 2. Lighting switch "AUTO" check 3. Lighting switch circuit check 4. Lighting switch ground circuit check 5. Auto light sensor check 6. Auto light sensor circuit check | <ol style="list-style-type: none"> 1. Check 7.5A fuse [NO. 11 located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 27 of smart entrance control unit. 2. Check lighting switch (AUTO) input signal with "CONSULT-II" in "DATA MONITOR" mode. When lighting switch is in AUTO: AUTO LIGHT SWITCH ON When lighting switch is in OFF: AUTO LIGHT SWITCH OFF 3. Check harness for open or short between smart entrance control unit and lighting switch. 4. Check harness for lighting switch and ground. 5. Check auto light sensor input signal. (With CONSULT-II) See "AUTO LIGHT SENSOR" in DATA MONITOR mode. When auto light sensor is stuck by light: More than 3V When auto light sensor is not stuck by light: Approx. 0.5V (Without CONSULT-II) Check voltage between smart entrance control unit terminal 7 and ground. Refer to smart entrance control unit. (EL-368) 6. Check the following. <ol style="list-style-type: none"> a. Harness for open or short between smart entrance control unit terminal 8 and auto light sensor terminal 1 b. Harness for open or short between smart entrance control unit terminal 7 and auto light sensor terminal 2 c. Harness for open or short between smart entrance control unit terminal 9 and auto light sensor terminal 3 |
| When outside is dark, tail lamp turns on but headlamp does not turn on by auto light operation. | Auto light output check | <p>Check auto light output. (With CONSULT-II) See "HEADLAMP" and "TAIL LAMP" in ACTIVE TEST mode, and headlamp switch to AUTO position. Headlamp and tail lamp should turn on. (Without CONSULT-II) Check voltage between smart entrance control unit terminals 19, 21, 57, 59 and ground. Refer to smart entrance control unit. (EL-368)</p> |










HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Trouble Diagnoses (Cont'd)

| Symptom | Possible cause | Repair order | |
|--|---------------------------------------|---|----------------------|
| When outside is dark, headlamp turns on but tail lamp does not turn on by auto light operation. | Auto light output check | Check auto light output. (With CONSULT-II) See "HEADLAMP" and "TAIL LAMP" in ACTIVE TEST mode, and headlamp switch to AUTO position. Headlamp and tail lamp should turn on. (Without CONSULT-II) Check voltage between smart entrance control unit terminals 19, 57 and ground. Refer to smart entrance control unit. (EL-368) | GI MA EM LC |
| Light does not turn off when ignition key switch is turned to "OFF" (exterior lamp battery saver control is canceled). | 1. 7.5A fuse 2. IGN switch circuit | 1. Check 7.5A fuse [NO. 11 located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 27 of smart entrance control unit. 2. Check harness for open or short between smart entrance control unit and fuse. | EC FE |
| When outside is bright, neither tail lamps nor headlamps turn off by auto light operation. | Auto light sensor check | Check auto light sensor input signal. (With CONSULT-II) See "AUTO LIGHT SENSOR" in DATA MONITOR mode. When auto light sensor is stuck by light: More than 3V When auto light sensor is not stuck by light: Approx. 0.5V (Without CONSULT-II) Check voltage between smart entrance control unit terminal 7 (W/G) and ground. Refer to smart entrance control unit. (EL-368) | CL MT AT |














DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

NAEL0269S01

| Terminal No. | Wire color | Item | Condition | Voltage (Approximate values) | |
|--------------|------------|--------------|--|------------------------------|----------|
| 1 | Y/B | Alternator |  When turning ignition switch to "ON" | Less than 1V | PD AX |
| | | |  When engine is running | Battery voltage | SU |
| | | |  When turning ignition switch to "OFF" | Less than 1V | BR |
| 2 | Y/R | Start signal |  When turning ignition switch to "ST" | Battery voltage | ST |
| | | |  When turning ignition switch to "ON" from "ST" | Less than 1V | RS |
| | | |  When turning ignition switch to "OFF" | Less than 1V | BT |
| 3 | G | Power source |  When turning ignition switch to "ON" | Battery voltage | HA |
| | | |  When turning ignition switch to "ST" | Battery voltage | SC |
| | | |  When turning ignition switch to "OFF" | Less than 1V | EL |

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Trouble Diagnoses (Cont'd)

| Terminal No. | Wire color | Item | Condition | | Voltage (Approximate values) |
|--------------|------------|---------------------------|--|---|------------------------------|
| 4 | R/L | Power source |  | When turning ignition switch to "ON" | Battery voltage |
| | | |  | When turning ignition switch to "OFF" | Battery voltage |
| 5 | R/W | Power source |  | When turning ignition switch to "ON" | Battery voltage |
| | | |  | When turning ignition switch to "OFF" | Battery voltage |
| 6 | R | 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 | L/R | 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. | Battery voltage |
| 9 | PU | 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 |
| 10 | GY | 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. | Less than 1V |
| 13 | L/W | Lighting switch (Hi beam) | | When turning lighting switch to "HI BEAM" | Less than 1V |
| 14 | W/R | | | When turning lighting switch to "FLASH TO PASS" | Less than 1V |
| 16 | B | Ground | — | | — |
| 17 | L/G | Parking brake switch |  | When parking brake is released | Battery voltage |
| | | | | When parking brake is set | Less than 1.5V |

Bulb Replacement

Refer to “HEADLAMP (FOR USA)” (EL-47).

NAEL0270 **GI**

MA

EM

LC

Aiming Adjustment

Refer to “HEADLAMP (FOR USA)” (EL-47).

NAEL0271 **EC**

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BR

ST

RS

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HA

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EL

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PARKING, LICENSE AND TAIL LAMPS

System Description

System Description

NAEL0272

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. 61, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 7.5A fuse [No. 24, 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 7.5A fuse [No. 11, 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. 10, located in the fuse block (J/B)].

Ground is supplied

- to smart entrance control unit terminals 43 and 64
- through body grounds M4, M66, M111, M147 and M157.

LIGHTING OPERATION BY LIGHTING SWITCH

NAEL0272S01

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 E13 and E41.

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

LIGHTING OPERATION BY AUTO LIGHT CONTROL SYSTEM

NAEL0272S02

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 M4, M66, M111, M147 and M157.

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

EXTERIOR LAMP BATTERY SAVER CONTROL

NAEL0272S03

Except for Auto Light Control Operation

NAEL0272S0301

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

Continuity between terminals 19 and 20, and between terminals 57 and 58 of smart entrance control unit will be disturbed after 5 minutes, then the parking, license and tail lamps will be turned off.

When the lighting switch is turned from OFF to 2ND after parking, license and tail lamps are turned to off by the exterior lamp battery saver control, ground is supplied

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

Then parking, license and tail lamps illuminate again.

Auto light control operation

NAEL0272S0302

While the parking, license and tail lamps are turned ON by "AUTO" operation, the exterior lamp battery saver is activated for 5 minutes when the ignition switch is turned from ON (or ACC) to OFF, and either LH or RH front door switch is opened.

The smart entrance control unit controls exterior lamp battery saver activation as follows:

- When the door switch signal changes from ON to OFF while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the parking, license and tail lamps will be turned off.
- When the door switch signal changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the parking, license and tail lamps will be turned off.

PARKING, LICENSE AND TAIL LAMPS

System Description (Cont'd)

- When the one of four door switch signals changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 5 minutes seconds, then the parking, license and tail lamps will be turned off. GI
- When all the door switch ON signals are input while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the parking, license and tail lamps will be turned off. MA

Exterior lamp battery saver control time can be changed using “WORK SUPPORT” mode in “HEAD-LAMP”. EM

When the lighting switch is turned from OFF to 2ND after parking, license and tail lamps are turned to off by the exterior lamp battery saver control, ground is supplied LC

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

Then parking, license and tail lamps illuminate again. FE

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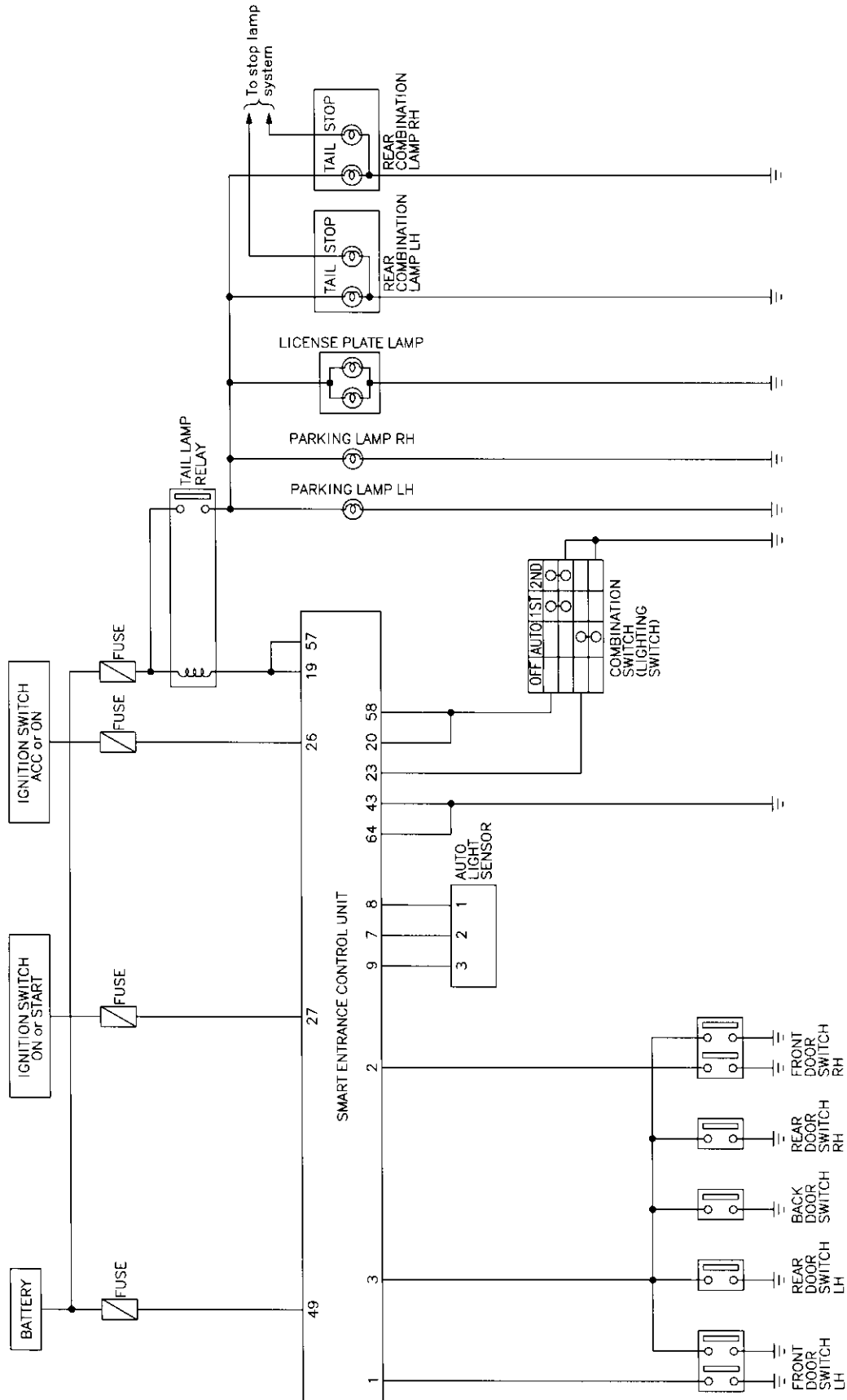
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PARKING, LICENSE AND TAIL LAMPS

Schematic

Schematic

NAEL0273



MEL515P

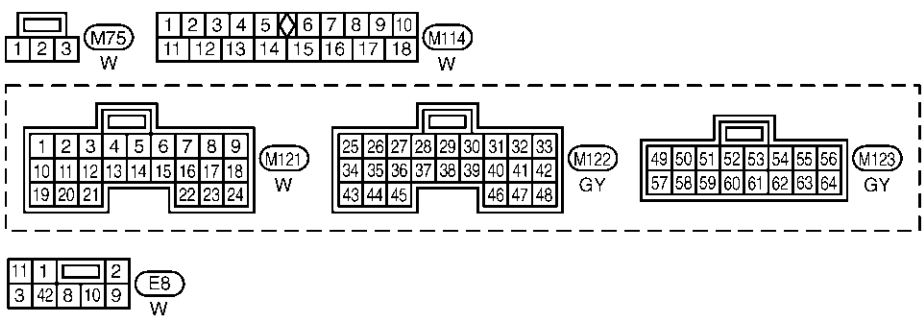
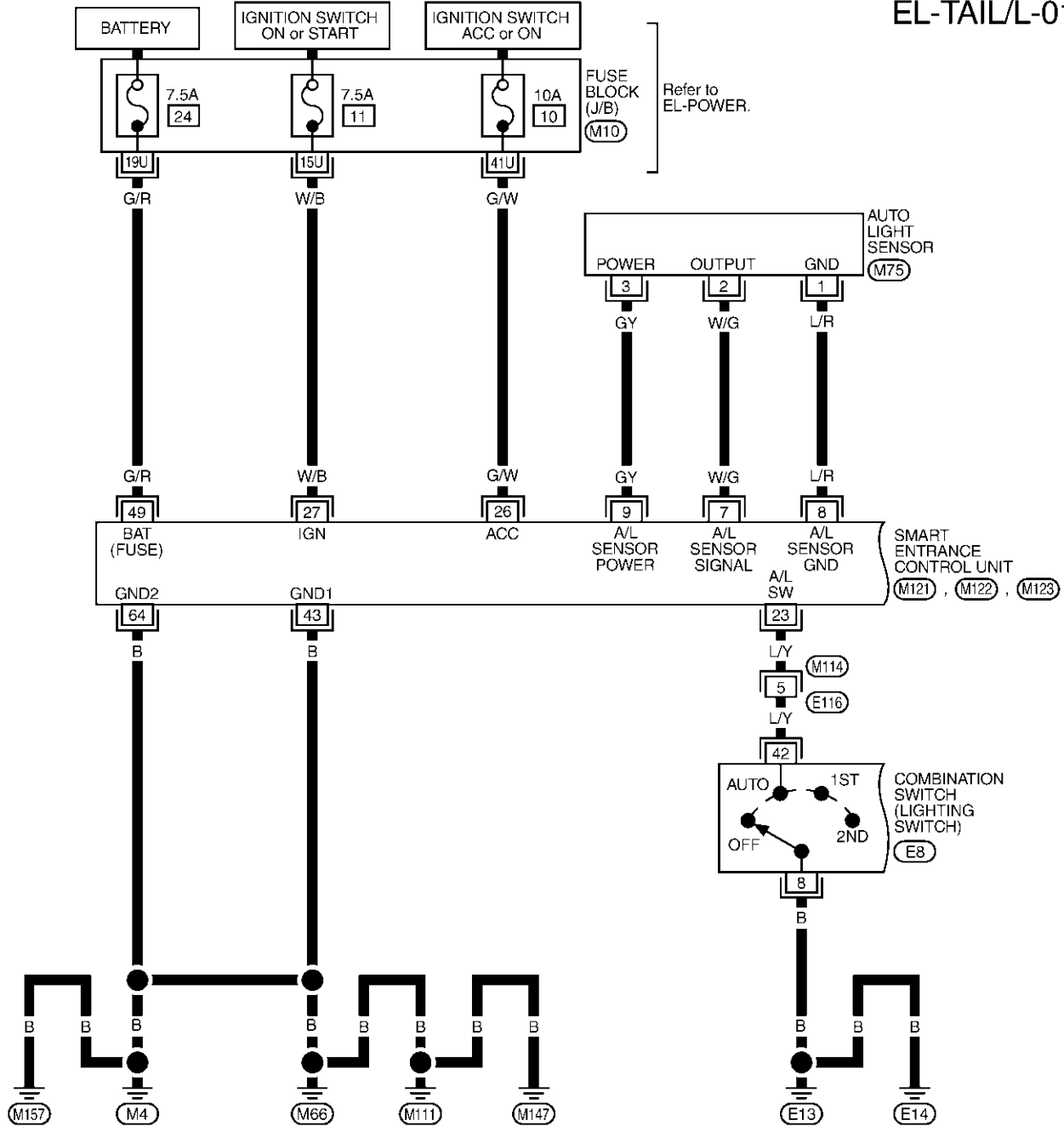
PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —

Wiring Diagram — TAIL/L —

NAEL0274

EL-TAIL/L-01



REFER TO THE FOLLOWING.
 (M10) - FUSE BLOCK-
 JUNCTION BOX (J/B)

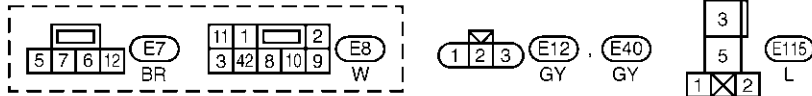
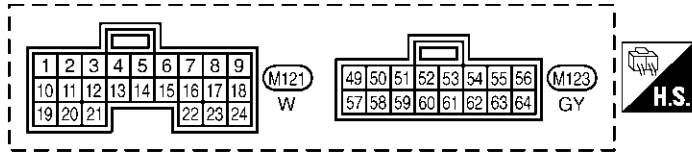
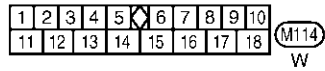
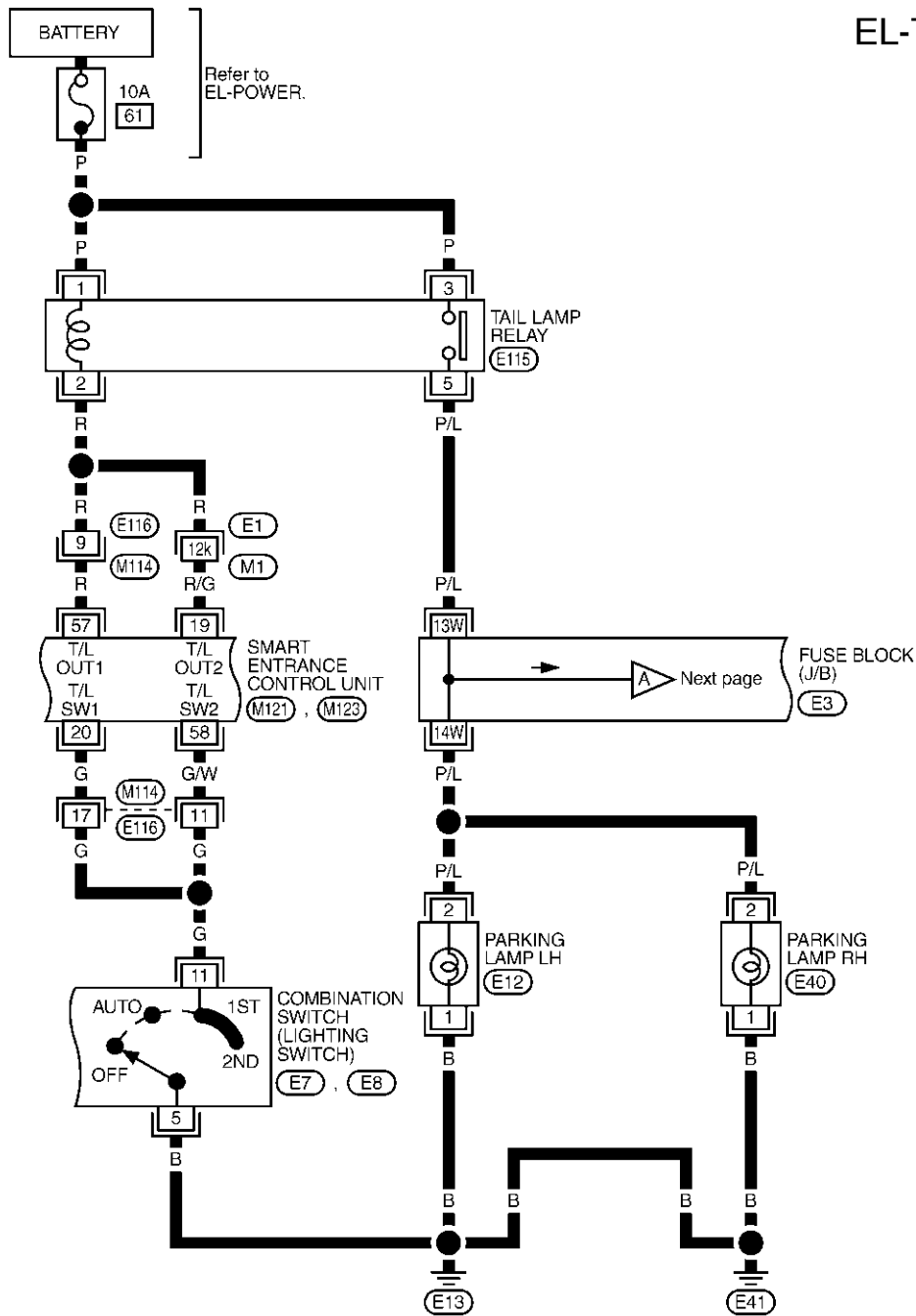


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PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-02

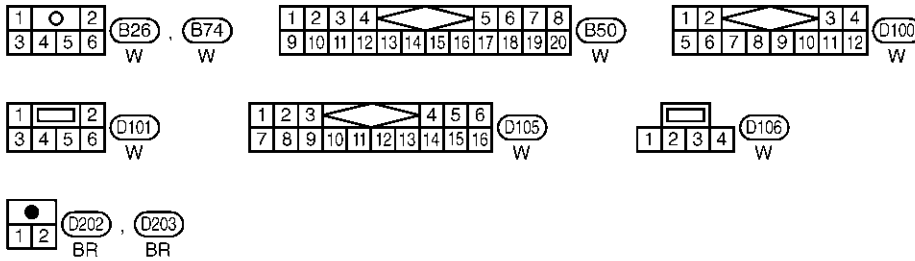
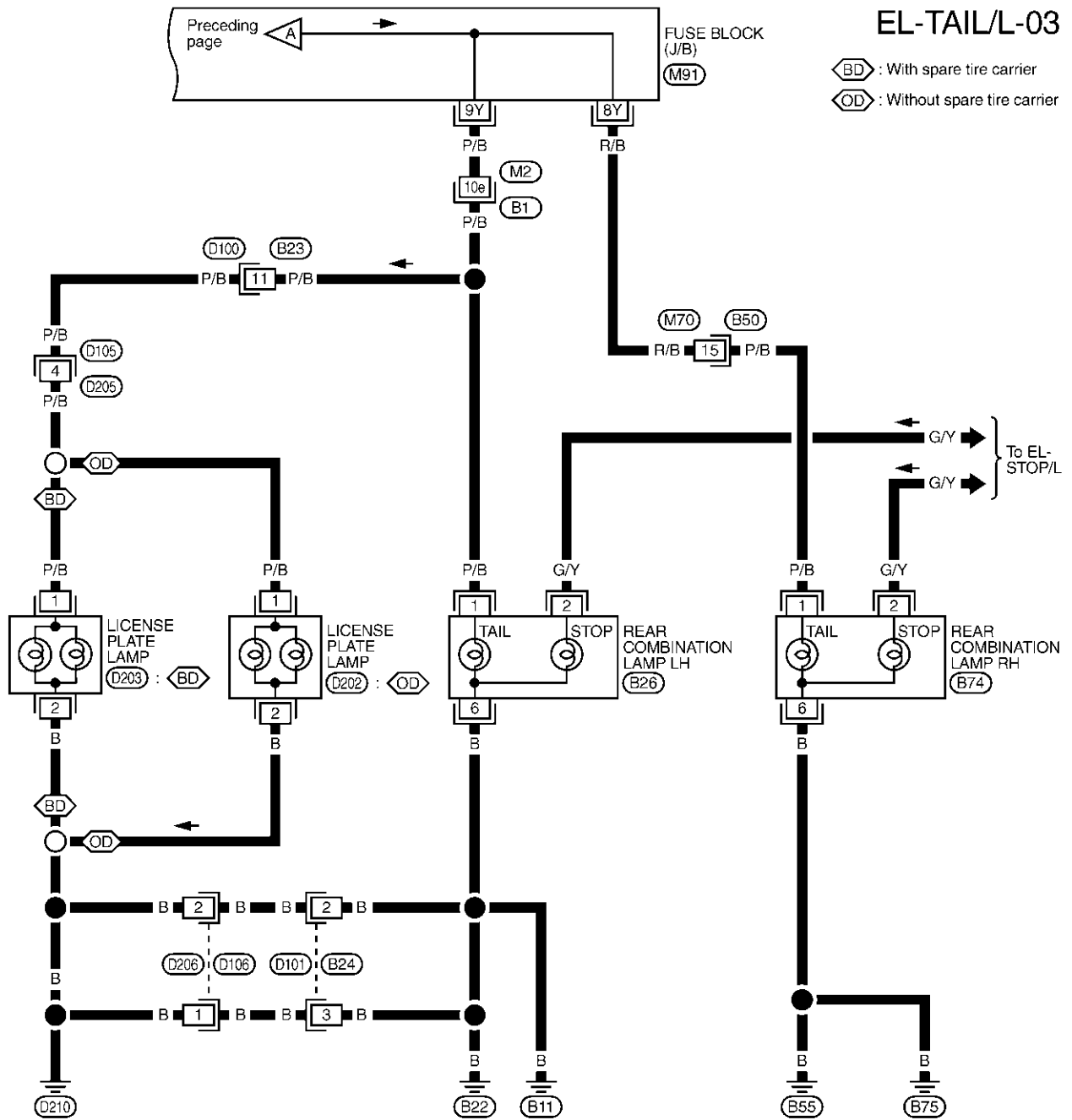


REFER TO THE FOLLOWING.

- (E1) -SUPER MULTIPLE JUNCTION (SMJ)
- (E3) -FUSE BLOCK-JUNCTION BOX (J/B)

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)



REFER TO THE FOLLOWING.

- (B1) -SUPER MULTIPLE
- JUNCTION (SMJ)
- (M91) -FUSE BLOCK-
- JUNCTION BOX (J/B)

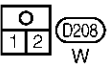
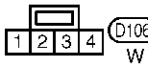
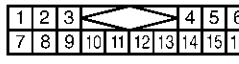
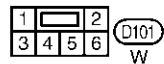
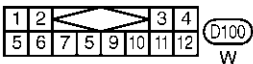
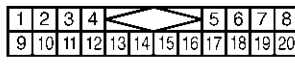
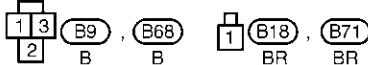
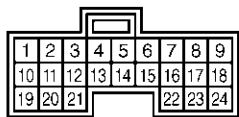
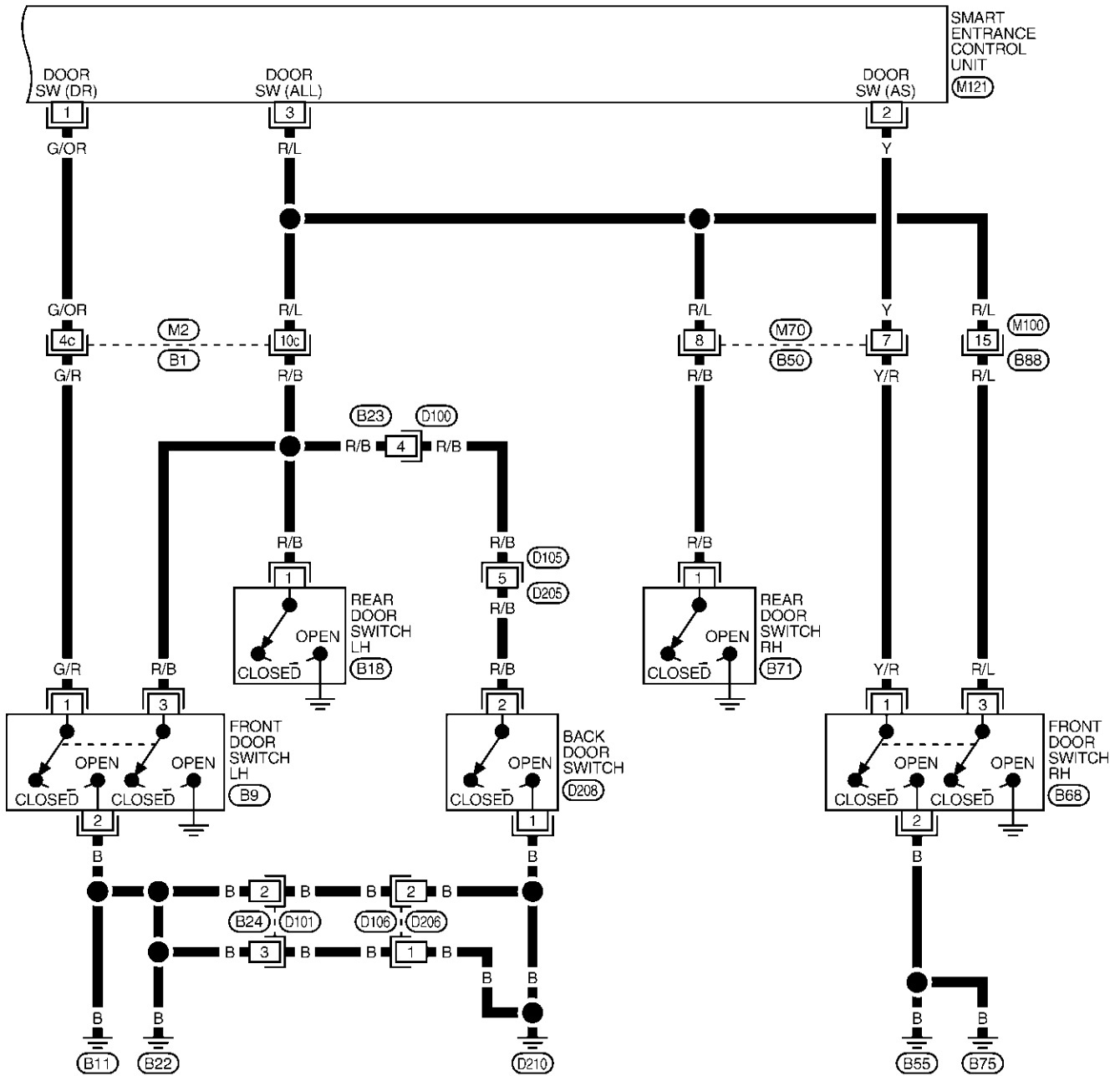
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MEL959P

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

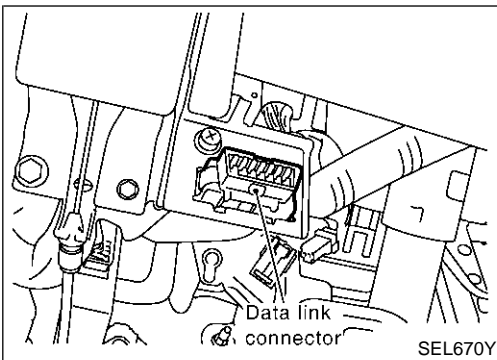
EL-TAIL/L-04



REFER TO THE FOLLOWING.

(B1) -SUPER MULTIPLE JUNCTION (SMJ)

MEL960P



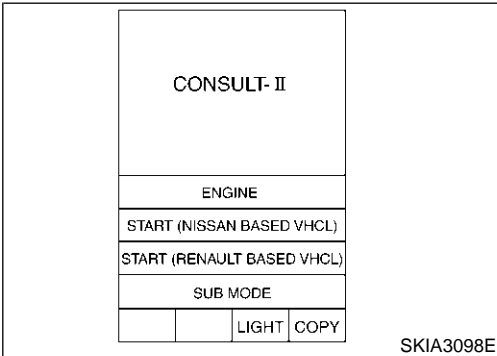
CONSULT-II Inspection Procedure

NAEL0275

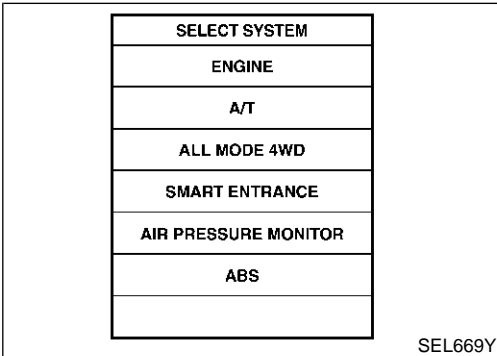
NAEL0275S01

“HEADLAMP”

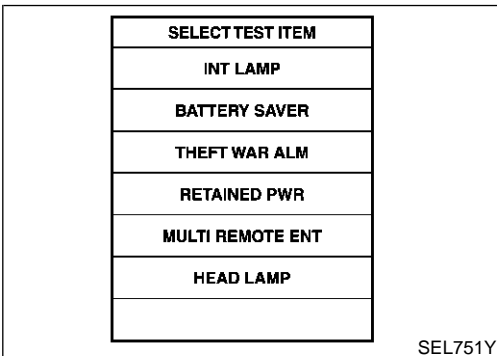
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector.



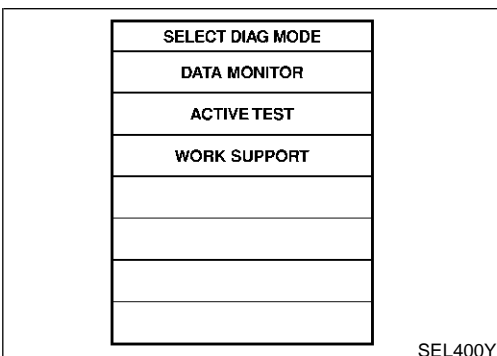
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



5. Touch “SMART ENTRANCE”.
If “SMART ENTRANCE” is not indicated, go to GI-41, “CONSULT-II Data Link Connector (DLC) Circuit”.



6. Touch “HEADLAMP”.



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

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PARKING, LICENSE AND TAIL LAMPS

CONSULT-II Application Items

CONSULT-II Application Items

NAEL0454

NAEL0454S01

NAEL0454S0101

“HEAD LAMP”

Data Monitor

| Monitored Item | Description |
|----------------|---|
| IGN ON SW | Indicates [ON/OFF] condition of ignition switch in ON position. |
| ACC ON SW | Indicates [ON/OFF] condition of ignition switch in ACC position. |
| AUTO LIGT SW | Displays status of the lighting switch as judged from the lighting switch signal. (AUTO position: ON/Other than AUTO position: OFF) |
| AUTO LIGT SENS | Displays “Illumination outside of the vehicle (close to 5V when light/close to 0V when dark)” as judged from the optical sensor signal. |
| LIGHT SW 1ST | Displays status of the lighting switch as judged from the lighting switch signal. (1ST or 2ND position: ON/Other than 1ST and 2ND position: OFF) |
| LIGHT SW 2ND | Displays status of the lighting switch as judged from the lighting switch signal. (2ND position: ON/Other than 2ND position: OFF) |
| DOOR SW-DR | Indicates [ON/OFF] condition of front door switch LH. |
| DOOR SW-AS | Indicates [ON/OFF] condition of door switch RH. |
| DOOR SW-RR | Indicates [ON/OFF] condition of rear door switch. |

Active Test

NAEL0454S0102

| Test Item | Description |
|------------|---|
| TAIL LAMP | Tail lamp relay can be operated by on-off operation of the tail lamp. |
| HEAD LAMP | Headlamp relay can be operated by on-off operation of the headlamp. |
| AUTO LIGHT | Night time dimming signal can be operated by on-off operation. |

Work Support

NAEL0454S0103

| Work Item | Description |
|-------------------|--|
| AUTO LIGHT SET | Auto light sensitivity can be changed in this mode. Sensitivity can be adjusted in four modes. ● NORMAL/MODE 2 (Sensitive)/MODE 3 (Desensitized)/MODE 4 (Insensitive) |
| BATTERY SAVER SET | Exterior lamp battery saver control mode can be changed in this mode. Selects exterior lamp battery saver control mode between two modes. ● MODE 1 (ON)/MODE 2 (OFF) |
| ILL DELAY SET | Auto light delay off timer period can be changed in this mode. Selects auto light delay off timer period among eight modes. ● MODE 1 (45 sec.)/MODE 2 (OFF)/MODE 3 (30 sec.)/MODE 4 (60 sec.)/ MODE 5 (90 sec.)/ MODE 6 (120 sec.)/MODE 7 (150 sec.)/MODE 8 (180 sec.) |

Trouble Diagnoses

NAEL0277

| Symptom | Possible cause | Repair order |
|--|---|---|
| No lamps operate (including head-lamps). | <ol style="list-style-type: none"> 7.5A fuse Lighting switch Smart entrance control unit | <ol style="list-style-type: none"> Check 7.5A fuse [No. 24, 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-368) |

PARKING, LICENSE AND TAIL LAMPS

Trouble Diagnoses (Cont'd)

| Symptom | Possible cause | Repair order | |
|---|---|---|----------------------------------|
| No parking, 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. 61, 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 the following. <ol style="list-style-type: none"> a. Harness between smart entrance control unit terminals 19 and 57 and tail lamp relay terminal 2 b. Harness between tail lamp relay terminal 5 and fuse block 4. Check lighting switch. 5. Check the following. <ol style="list-style-type: none"> a. Harness between lighting switch terminal 11 and smart entrance control unit terminals 20 and 58 b. Harness between lighting switch terminal 5 and ground 6. Check smart entrance control unit. (EL-368) | GI MA EM LC EC FE |
| Exterior lamp battery saver control does not operate properly. | <ol style="list-style-type: none"> 1. Driver, passenger or rear door switch 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 driver, passenger or rear door switch for open or short circuit b. Driver passenger or rear door switch ground circuit c. Driver, passenger or rear door switch 2. Check smart entrance control unit. (EL-368) | CL MT |
| Auto light malfunctioning | — | Refer to trouble diagnosis in "HEADLAMP". (EL-44) | AT |

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STOP LAMP

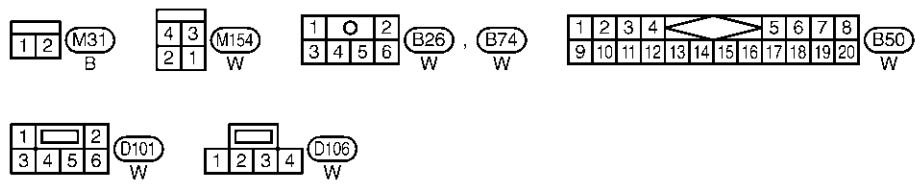
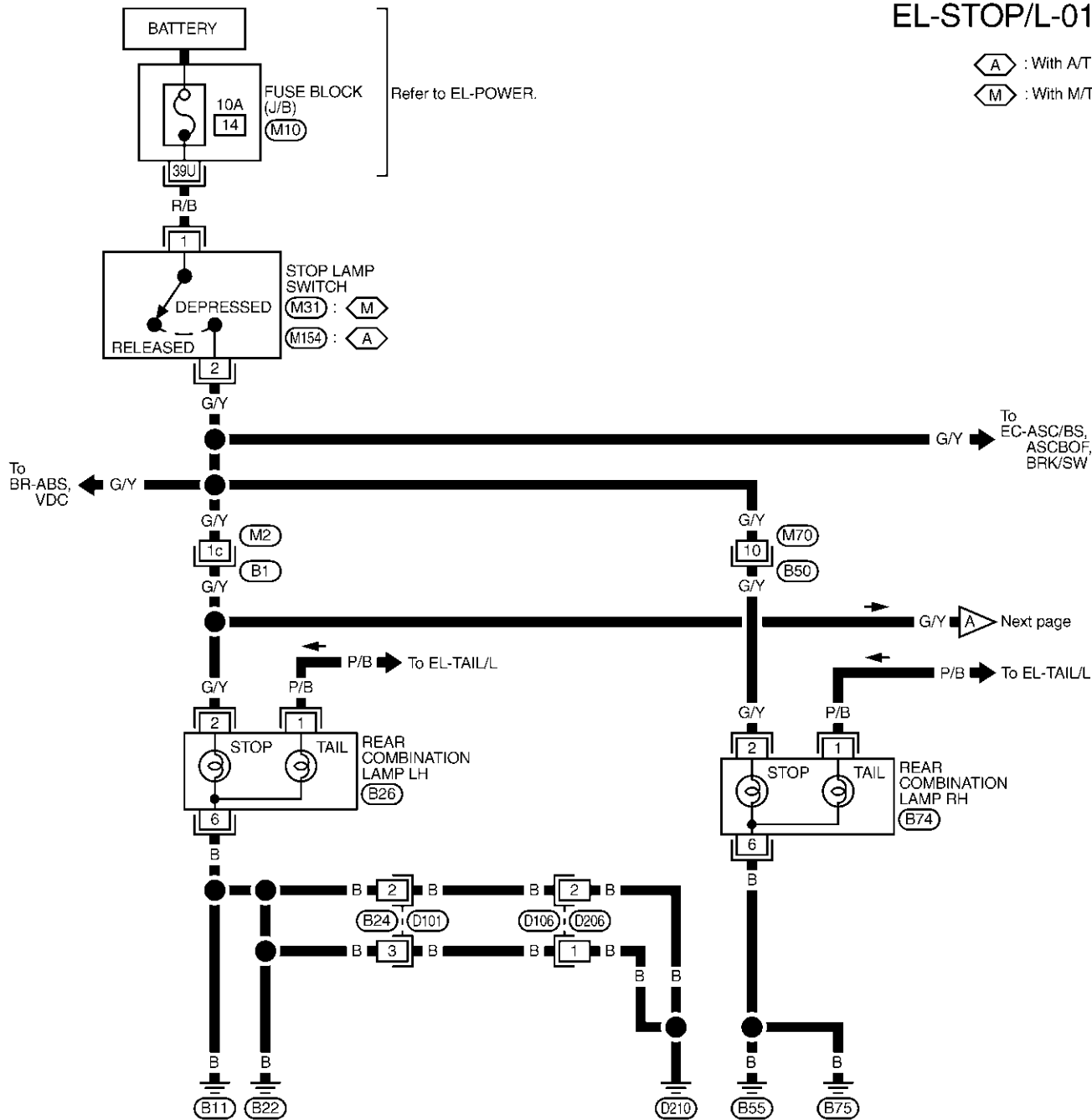
Wiring Diagram — STOP/L —

Wiring Diagram — STOP/L —

NAEL0278

EL-STOP/L-01

⬡ : With A/T
⬡ : With M/T



REFER TO THE FOLLOWING.

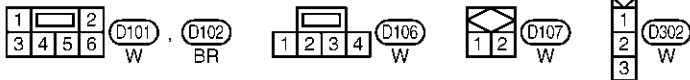
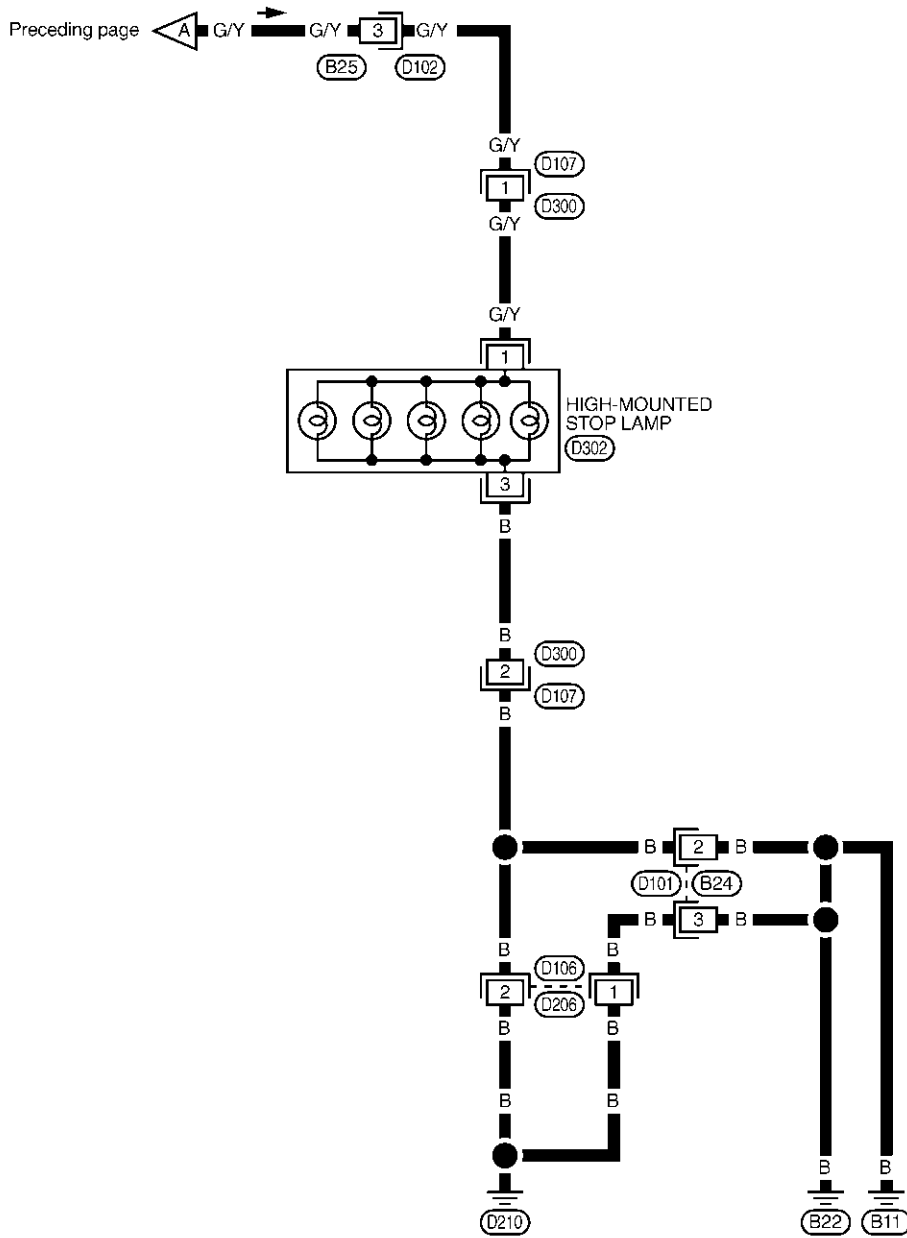
⬡ -SUPER MULTIPLE
JUNCTION (SMJ)
⬡ -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL961P

STOP LAMP

Wiring Diagram — STOP/L — (Cont'd)

EL-STOP/L-02



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BACK-UP LAMP

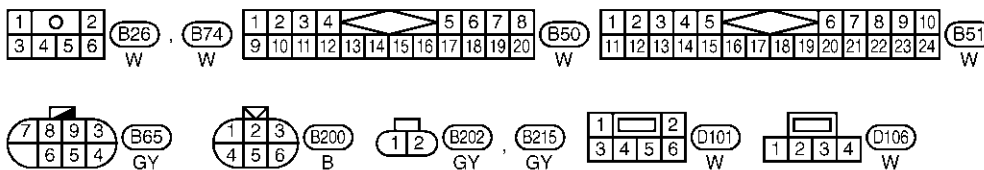
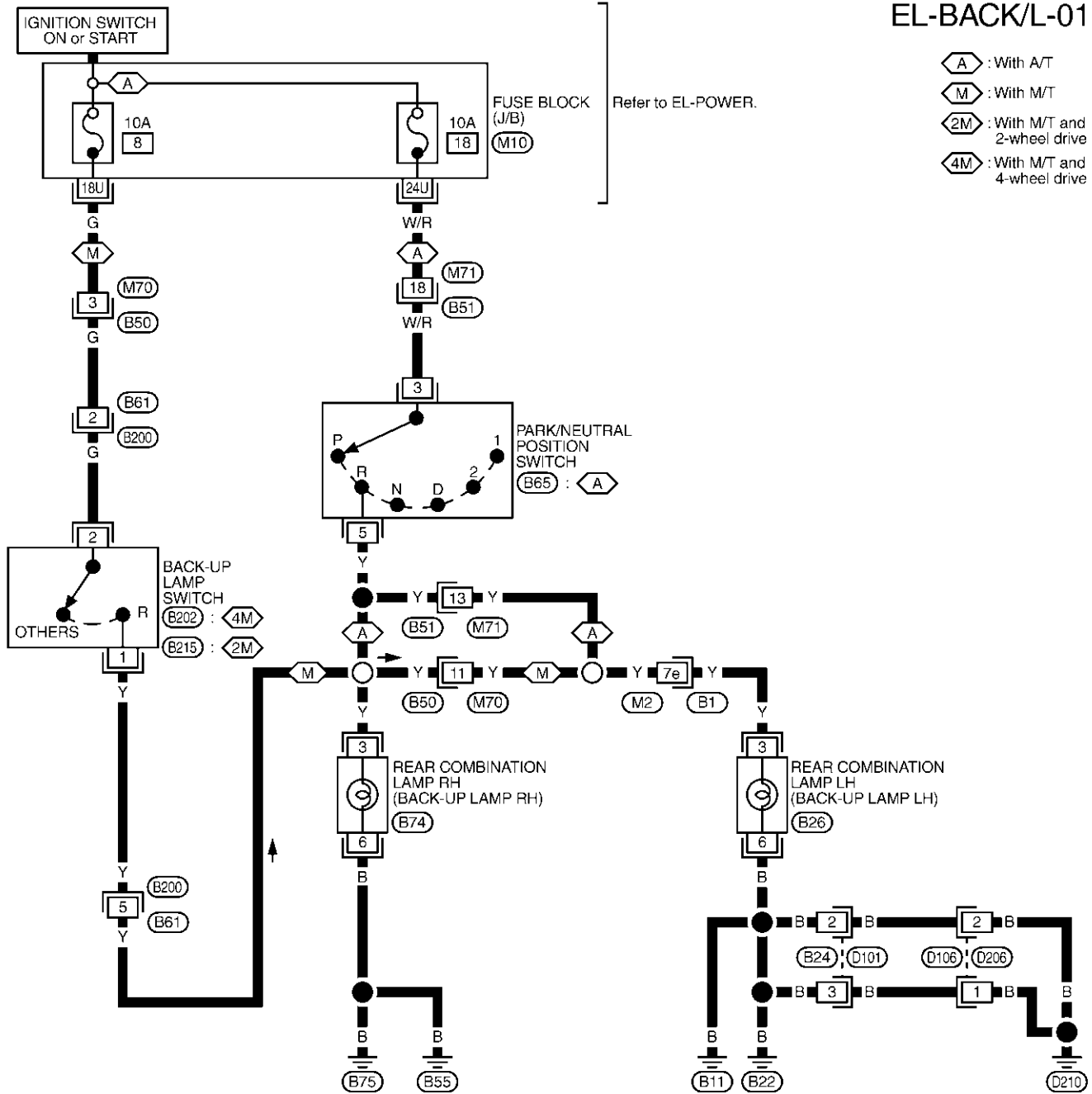
Wiring Diagram — BACK/L —

Wiring Diagram — BACK/L —

NAEL0279

EL-BACK/L-01

- A : With A/T
- M : With M/T
- 2M : With M/T and 2-wheel drive
- 4M : With M/T and 4-wheel drive



REFER TO THE FOLLOWING.

- B1 -SUPER MULTIPLE JUNCTION (SMJ)
- M10 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL085Q

System Description

NAELO280

NAELO280S01

OUTLINE

Power is supplied at all times

- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 59, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 7.5A fuse [No. 24, located in the fuse block (J/B)], and
- to front fog lamp relay terminal 3
- through 15A fuse (No. 53, 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 7.5A fuse [No. 11, 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. 10, located in the fuse block (J/B)].

Ground is supplied

- to smart entrance control unit terminals 43 and 64
- through body grounds M4, M66, M111, M147 and M157.

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

- to headlamp RH relay terminal 2 from smart entrance control unit terminals 21 and 59.
- through smart entrance control unit terminals 22 and 60,
- through lighting switch terminal 12, and
- through body grounds E13 and E41.

Headlamp RH relay is then energized.

FOG LAMP OPERATION

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

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

- to front fog lamp relay terminal 1
- through the front fog lamp switch, lighting switch and body grounds E13 and E41.

The front fog lamp relay is energized and power is supplied

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

Ground is supplied to terminal 2 of each front fog lamp through body grounds E13 and E41.

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

EXTERIOR LAMP BATTERY SAVER CONTROL

Front fog lamps will remain on for a short while after the ignition switch is turned from ON (or ACC) to OFF. Continuity between terminals 21 and 22, and between terminals 59 and 60 of smart entrance control unit will be disturbed after 5 minutes, then the front fog lamps will be turned off.

When the lighting switch is turned from OFF to 2ND after front 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 RH relay terminal 2 from smart entrance control unit terminal 21 and 59
- through smart entrance control unit terminal 22 and 60 from lighting switch terminal 12.

Then the front fog lamps illuminate again.

NOTE:

For Trouble Diagnoses for battery saver control, refer to "HEADLAMP (FOR USA)", EL-44.

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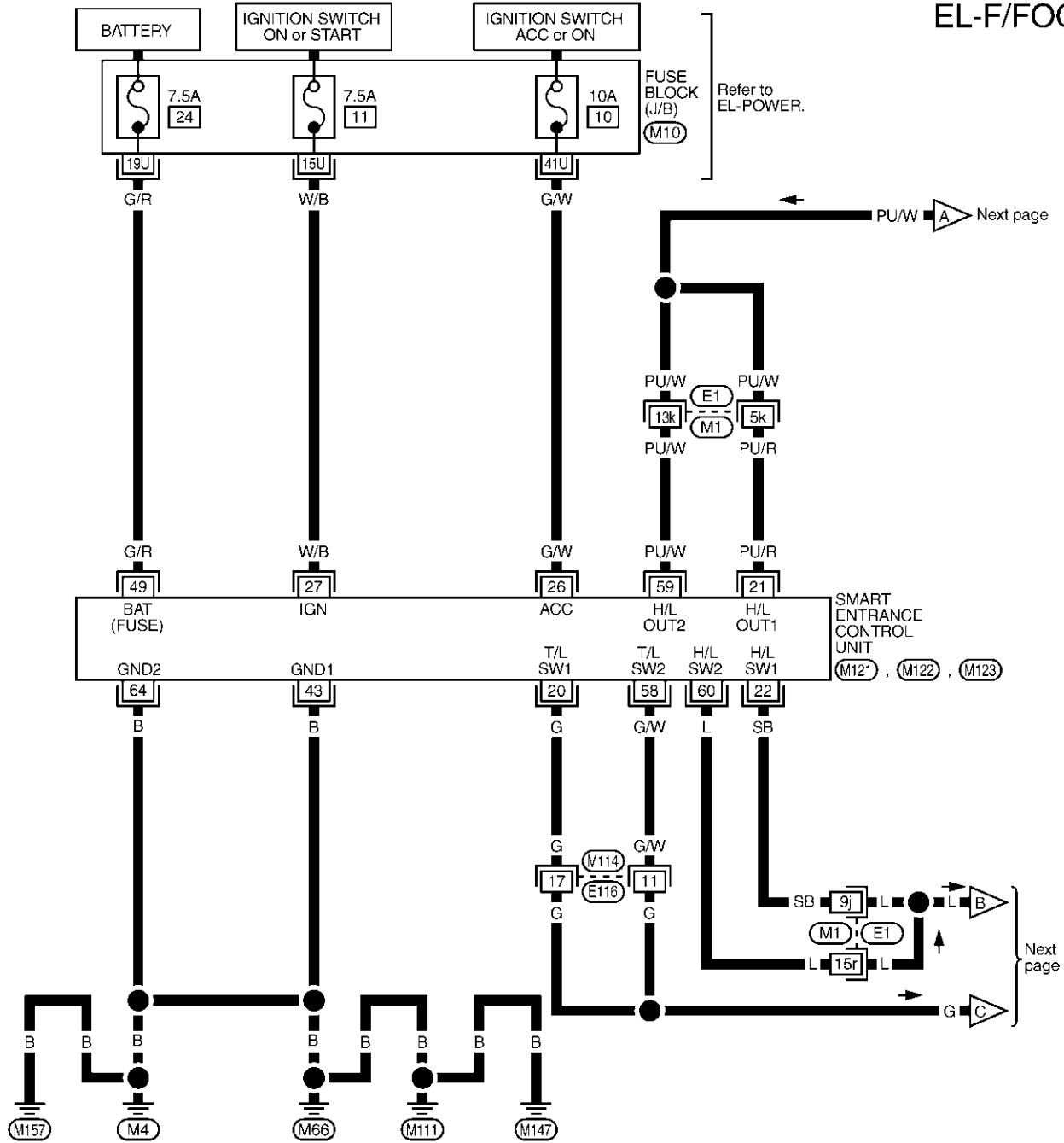
FRONT FOG LAMP

Wiring Diagram — F/FOG —

Wiring Diagram — F/FOG —

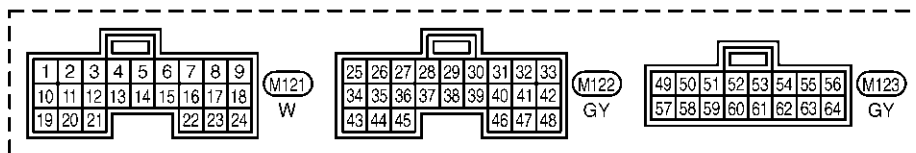
NAEL0281

EL-F/FOG-01



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

(M114) W



REFER TO THE FOLLOWING.

(E1) -SUPER MULTIPLE

JUNCTION (SMJ)

(M10) -FUSE BLOCK-

JUNCTION BOX (J/B)

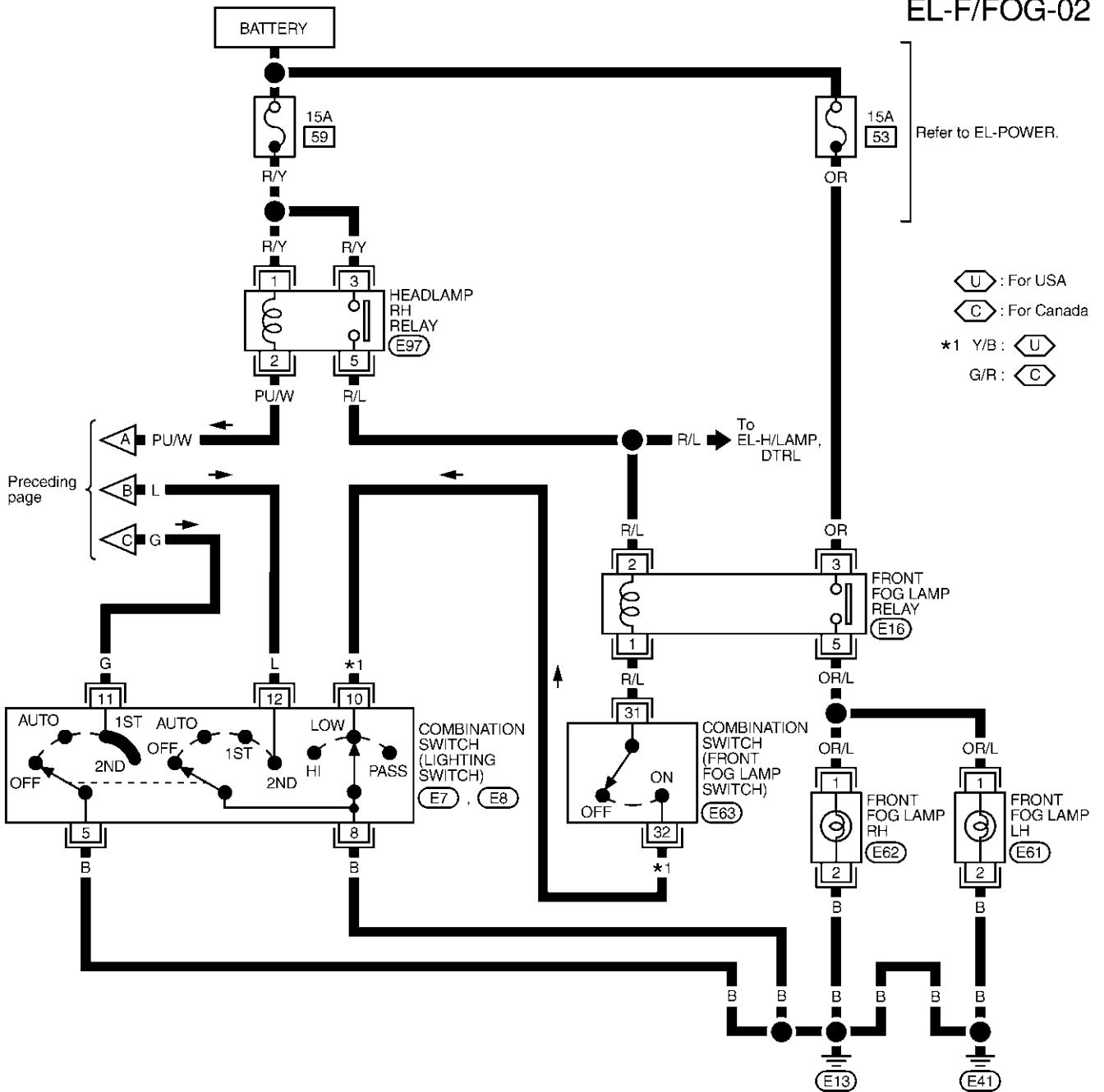


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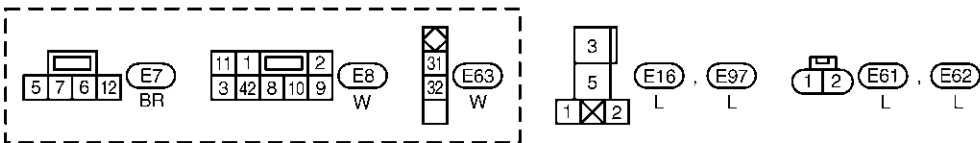
FRONT FOG LAMP

Wiring Diagram — F/FOG — (Cont'd)

EL-F/FOG-02



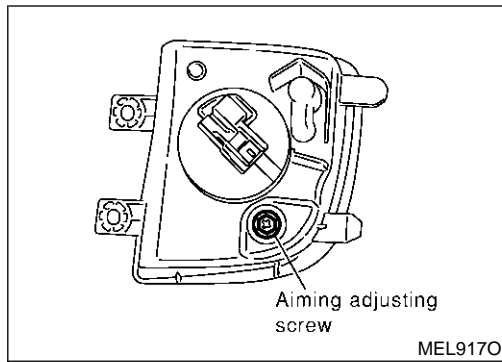
U : For USA
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FRONT FOG LAMP

Aiming Adjustment



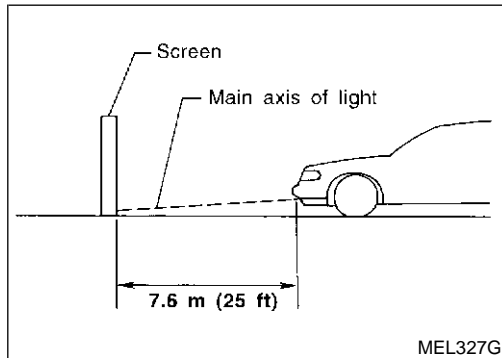
Aiming Adjustment

NAEL0282

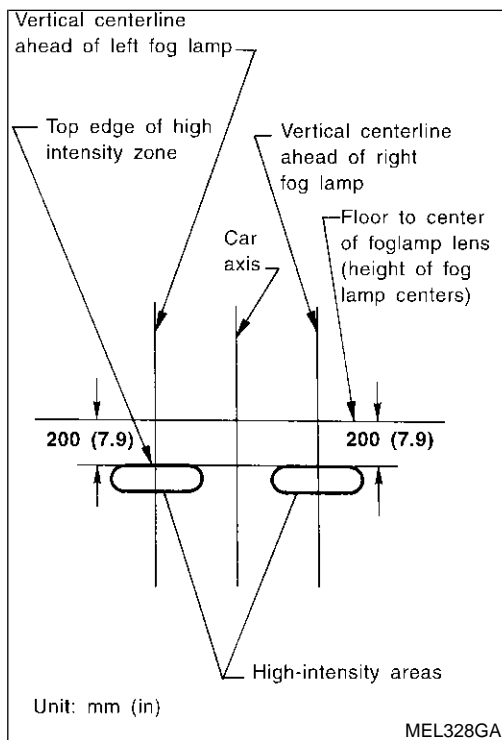
Before performing aiming adjustment, make sure of the following.

- 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. Turn front fog lamps ON.



3. Adjust front fog lamps so that the top edge of the high intensity zone is 200 mm (7.9 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

TURN SIGNAL OPERATION

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

- through 7.5A fuse [No. 12, 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 M4, M66, M111, M147 and M157.

LH Turn

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 3
- combination meter terminal 25
- rear combination lamp LH terminal 5.

Ground is supplied to the front turn signal lamp LH terminal 1 through body grounds E13 and E41.
 Ground is supplied to the rear combination lamp LH terminal 6 through body grounds B11, B22 and D210.
 Ground is supplied to combination meter terminal 30 through body grounds M4, M66, M111, M147 and M157.
 With power and ground supplied, the combination flasher unit controls the flashing of the LH turn signal lamps.

RH Turn

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 3
- combination meter terminal 29
- rear combination lamp RH terminal 5.

Ground is supplied to the front turn signal lamp RH terminal 1 through body grounds E13 and E41.
 Ground is supplied to the rear combination lamp RH terminal 6 through body grounds B55 and B75.
 Ground is supplied to combination meter terminal 30 through body grounds M4, M66, M111, M147 and M157.
 With power and ground supplied, the combination flasher unit controls the flashing of the RH turn signal lamps.

HAZARD LAMP OPERATION

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

- 15A fuse [No. 20, 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 M4, M66, M111, M147 and M157.

Power is supplied through terminal 5 of the hazard switch to

- front turn signal lamp LH terminal 3
- combination meter terminal 25
- rear combination lamp LH terminal 5.

Power is supplied through terminal 6 of the hazard switch to

- front turn signal lamp RH terminal 3
- combination meter terminal 29
- rear combination lamp RH terminal 5.

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TURN SIGNAL AND HAZARD WARNING LAMPS

System Description (Cont'd)

Ground is supplied to terminal 1 of each front turn signal lamp through body grounds E13 and E41.

Ground is supplied to terminal 6 of the rear combination lamp LH through body grounds B11, B22 and D210.

Ground is supplied to terminal 6 of the rear combination lamp RH through body grounds B55 and B75.

Ground is supplied to combination meter terminal 30 through body grounds M4, M66, M111, M147 and M157.

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

REMOTE KEYLESS ENTRY SYSTEM OPERATION

NAEL0283S03

Power is supplied at all times

- to smart entrance control unit terminal 49
- through 7.5A fuse [No. 24, located in the fuse block (J/B)].

Ground is supplied

- to smart entrance control unit terminal 43 and 64
- through body ground M4, M66, M111, M147 and M157.

Refer to "REMOTE KEYLESS ENTRY SYSTEM", EL-299.

When smart entrance control unit receives LOCK or UNLOCK signal from keyfob with all doors closed, power is supplied

- through terminal 47 of smart entrance control unit
- to front turn signal lamp LH terminal 3
- to combination meter terminal 25
- to rear combination lamp LH terminal 5, and
- through terminal 48 of smart entrance control unit
- to front turn signal lamp RH terminal 3
- to combination meter terminal 29
- to rear combination lamp RH terminal 5.

Ground is supplied to terminal 1 of each front turn signal lamp through body grounds E13 and E41.

Ground is supplied to terminal 6 of the rear combination lamp LH through body grounds B11, B22 and D210.

Ground is supplied to terminal 6 of the rear combination lamp RH through body grounds B55 and B75.

Ground is supplied to combination meter terminal 30 through body grounds M4, M66, M111, M147 and M157.

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

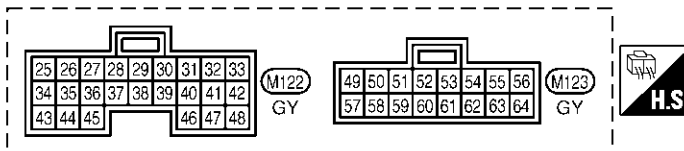
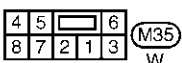
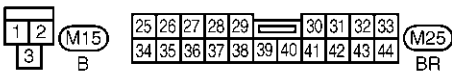
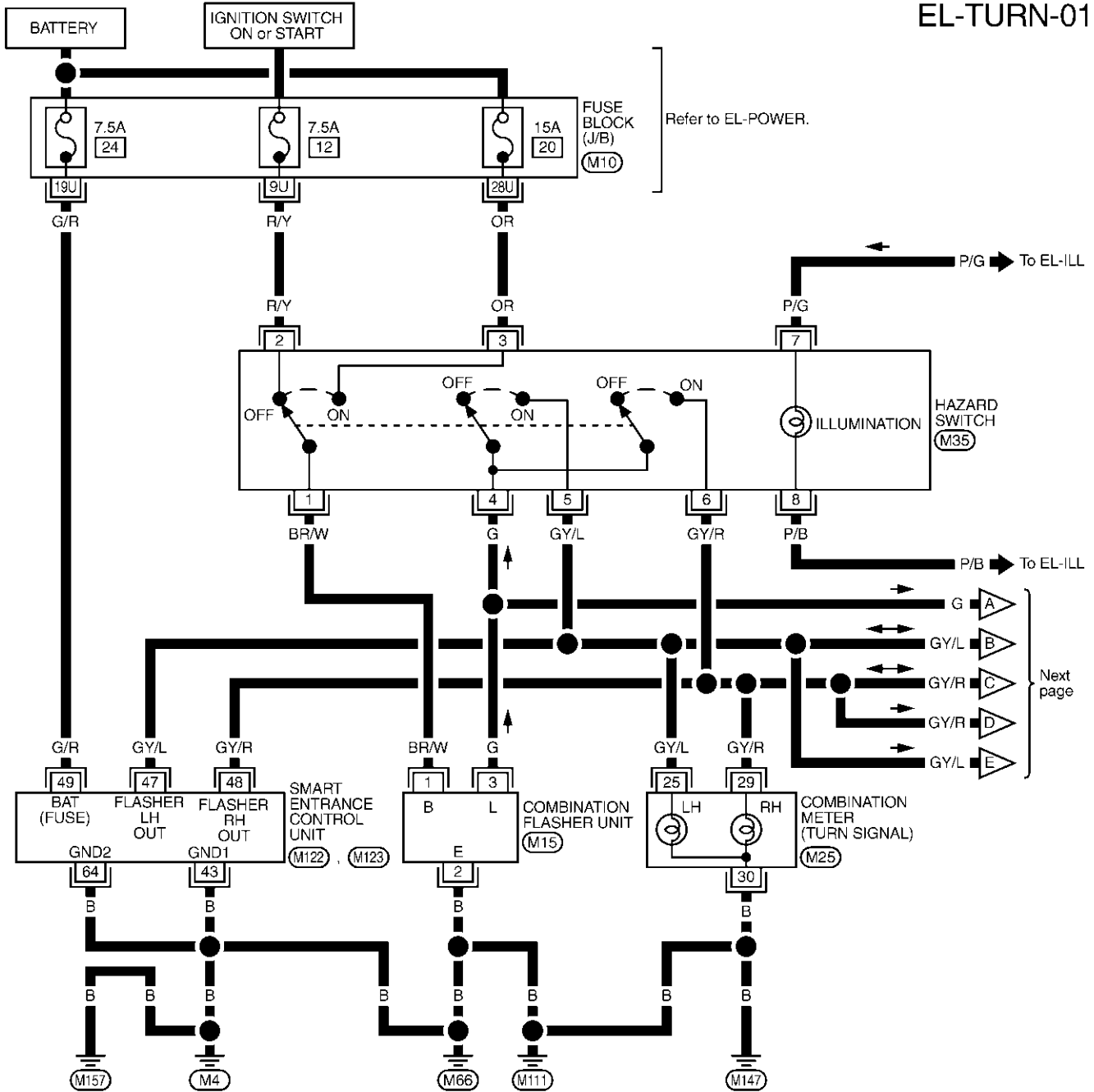
TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —

Wiring Diagram — TURN —

NAEL0284

EL-TURN-01



REFER TO THE FOLLOWING.

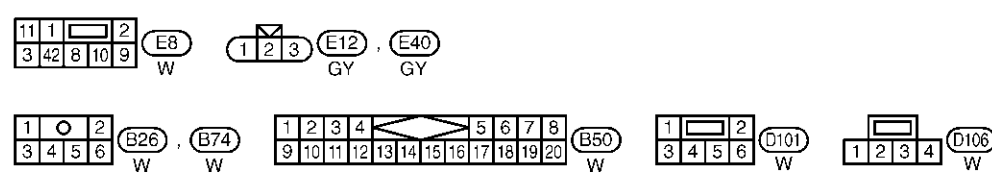
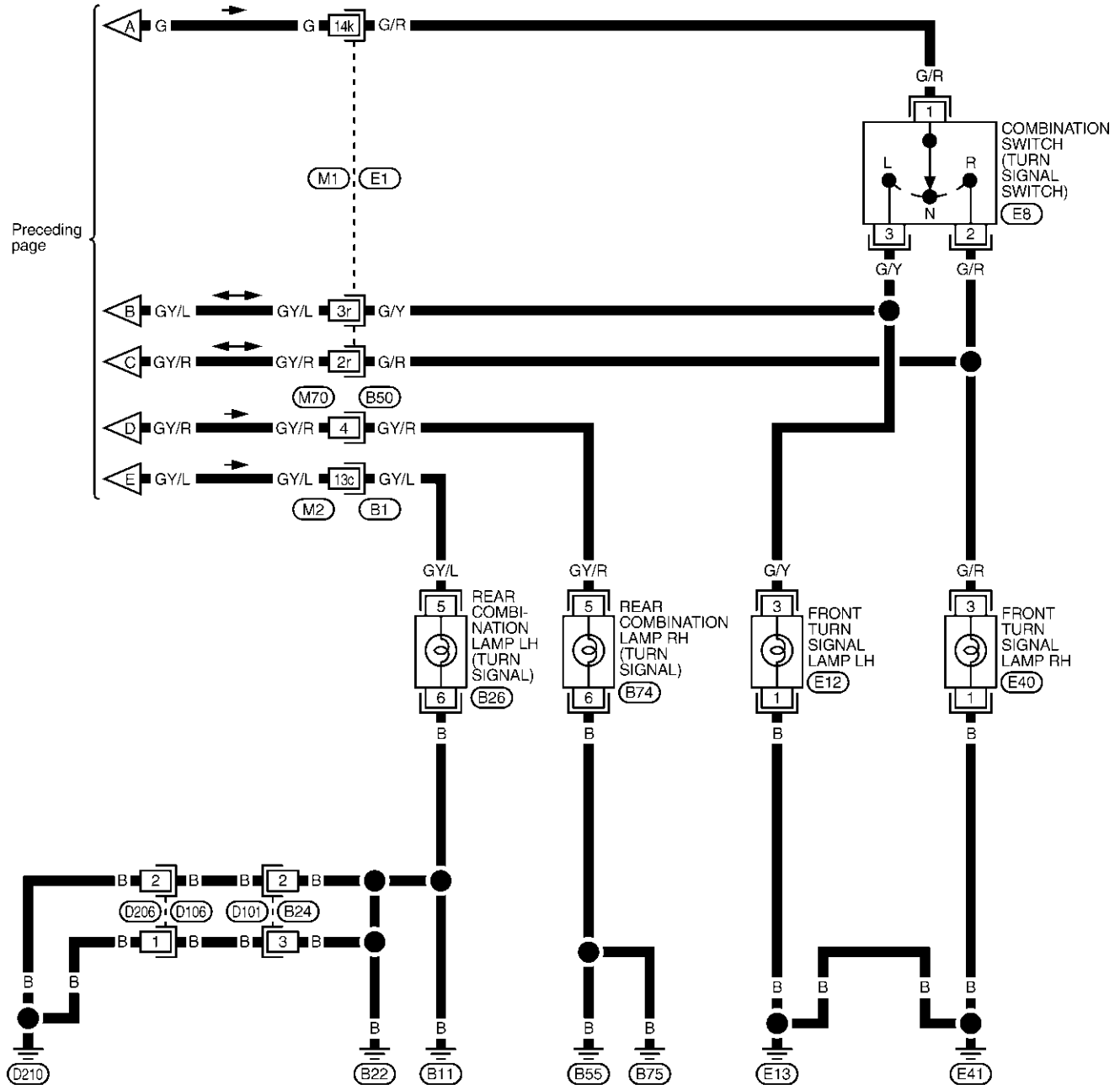
(M10) - FUSE BLOCK - JUNCTION BOX (J/B)

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TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-02



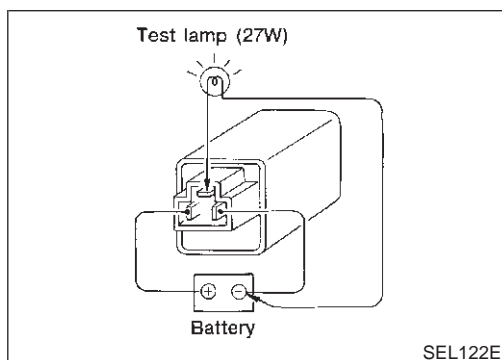
REFER TO THE FOLLOWING.
 (E1) , (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL965P

Trouble Diagnoses

NAEL0285

| 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. 7.5A fuse 2. Hazard switch 3. Combination switch (turn signal) 4. Open in combination switch (turn signal) circuit | <ol style="list-style-type: none"> 1. Check 7.5A fuse [No. 12, 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 combination switch (turn signal). 4. Check the wire between combination flasher unit terminal 3 and combination switch (turn signal) 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. 20, 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 E13 and E41 3. Open in front turn signal lamp circuit | <ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds E13 and E41. 3. Check harness between front turn signal lamp and combination switch. |
| Rear combination lamp LH does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Grounds B11, B22 and D210 3. Open in rear combination lamp LH circuit | <ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds B11, B22 and D210. 3. Check harness between rear combination lamp LH and hazard switch. |
| Rear combination lamp RH does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Grounds B55 and B75 3. Open in rear combination lamp RH circuit | <ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds B55 and B75. 3. Check harness between rear combination lamp RH and hazard switch. |
| LH and RH turn indicators do not operate. | <ol style="list-style-type: none"> 1. Grounds M4, M66, M111, M147 and M157 | <ol style="list-style-type: none"> 1. Check grounds M4, M66, M111, M147 and M157. |
| LH or RH turn indicator does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Open in turn indicator circuit | <ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check harness between combination meter and hazard switch. |



Electrical Components Inspection COMBINATION FLASHER UNIT CHECK

NAEL0286

NAEL0286S01

- 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.

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ILLUMINATION

System Description

System Description

NAEL0287

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. 61, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 7.5A fuse [No. 24, 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 7.5A fuse [No. 11, located in the fuse block (J/B)].

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

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

Ground is supplied

- to smart entrance control unit terminals 43 and 64
- through body grounds M4, M66, M111, M147 and M157.

LIGHTING OPERATION BY LIGHTING SWITCH

NAEL0287S01

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 E13 and E41.

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 grove box lamp, ashtray and compass and thermometer are controlled through terminals 2 and 3 of the illumination control switch and body grounds M4, M66, M111, M145 and M157.

LIGHTING OPERATION BY AUTO LIGHT CONTROL SYSTEM

NAEL0287S02

When auto light operation is operated, 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 M4, M66, M111, M147 and M157.

Tail lamp relay is then energized and the illumination lamps illuminate.

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 following chart shows the power and ground connector terminals for the components included in the illumination system.

| Component | Connector No. | Power terminal | Ground terminal |
|---|---------------|----------------|-----------------|
| Illumination control switch | M19 | 1 | 3 |
| 4WD shift switch | M141 | 7 | 8 |
| Ashtray (without woody instrument finisher) | B76 | 1 | 2 |
| Ashtray (with woody instrument finisher) | M155 | | |
| A/T device | B59 | 3 | 4 |
| Cigarette lighter | M57 | 3 | 4 |
| Audio unit | M48 | 8 | 7 |
| Compass and thermometer | R4 | 5 | 2 |
| Hazard switch | M35 | 7 | 8 |

ILLUMINATION

System Description (Cont'd)

| Component | Connector No. | Power terminal | Ground terminal |
|-----------------------------|---------------|----------------|-----------------|
| Rear window defogger switch | M36 | 5 | 6 |
| CD player | M92, M93 | 3 | 5 |
| CD auto changer | M125 | 2 | 9 |
| A/C switch illumination | M45 | 2 | 1 |
| Display & NAVI control unit | M117, M118 | 8 | 24 |
| A/C auto amp. | M102 | 24 | 25 |
| Clock | M40 | 3 | 4 |
| Globe box lamp | M30 | 1 | 2 |
| Combination meter | M26 | 64 | 65 |
| VDC off switch | M151 | 4 | 5 |

The ground for all of the components except for compass and thermometer, glove box lamp and ashtray are controlled through terminals 2 and 3 of the illumination control switch and body grounds M4, M66, M111, M147 and M157.

EXTERIOR LAMP BATTERY SAVER CONTROL

Except for Auto Light Control Operation

Illumination lamps will remain on for a short while after the ignition switch is turned from ON (or ACC) to OFF. Continuity between terminals 19 and 20, and between terminals 57 and 58 of smart entrance control unit will be disturbed after 5 minutes, then the illumination lamp will be turned off.

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.

Auto light control operation

While the illumination lamps are turned ON by "AUTO" operation, the exterior lamp battery saver is activated for 5 minutes when the ignition switch is turned from ON (or ACC) to OFF, and either LH or RH front door switch is opened.

The smart entrance control unit controls exterior lamp battery saver activation as follows:

- When the door switch signal changes from ON to OFF while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the illumination lamps will be turned off.
- When the door switch signal changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the illumination lamps will be turned off.
- When the one of four door switch signals changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 5 minutes seconds, then the illumination lamps will be turned off.
- When all the door switch ON signals are input while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the illumination lamps will be turned off.

Exterior lamp battery saver control time can be changed using "WORK SUPPORT" mode in "HEAD-LAMP".

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

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

Then illumination lamps illuminate again.

NOTE:

For Trouble Diagnoses for battery saver control, refer to "PARKING, LICENSE AND TAIL LAMPS" (EL-74).

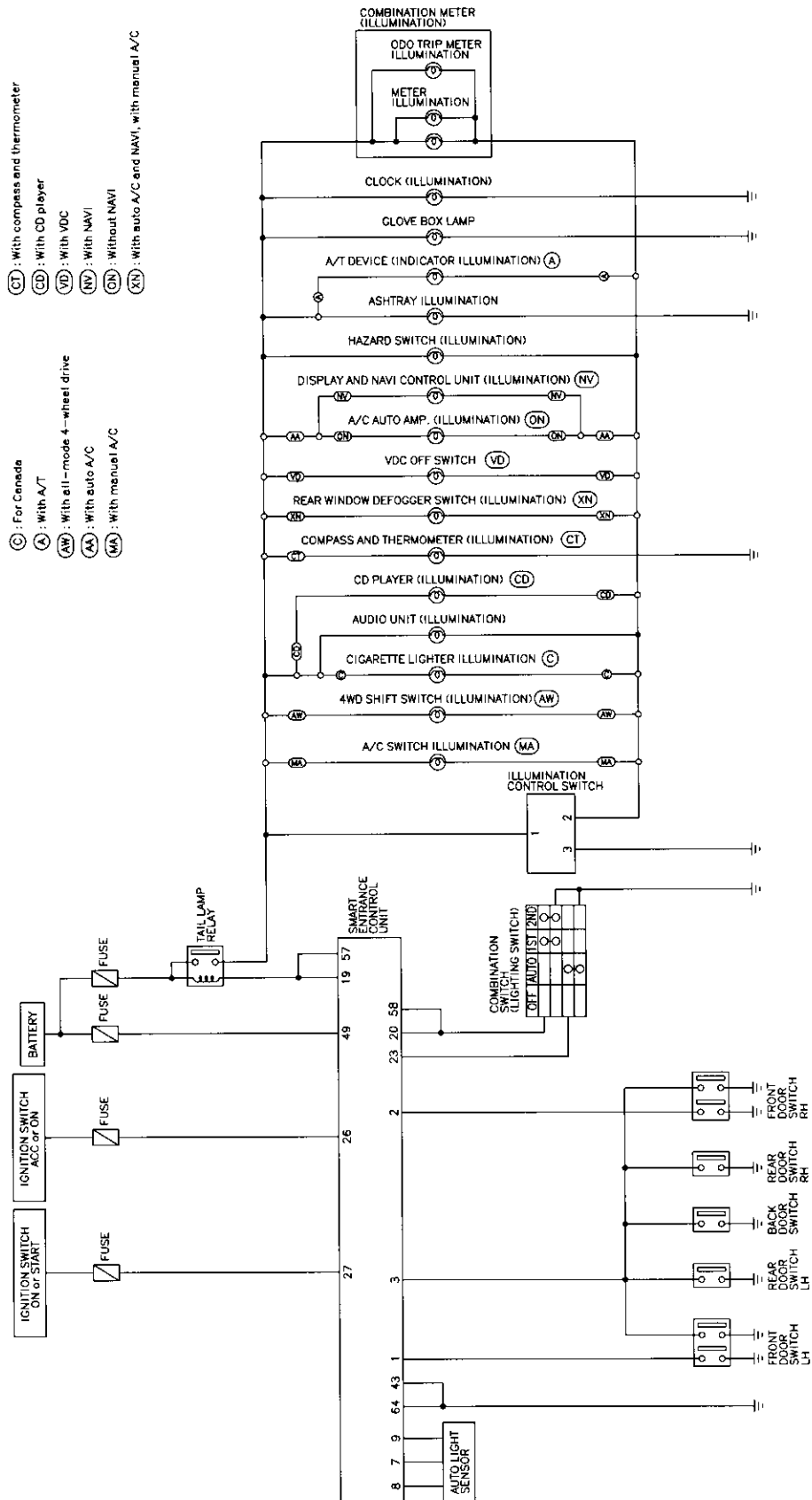
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ILLUMINATION

Schematic

NAEL0288

Schematic



ILLUMINATION

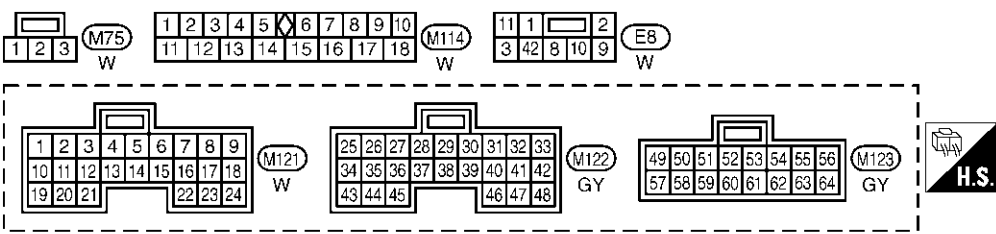
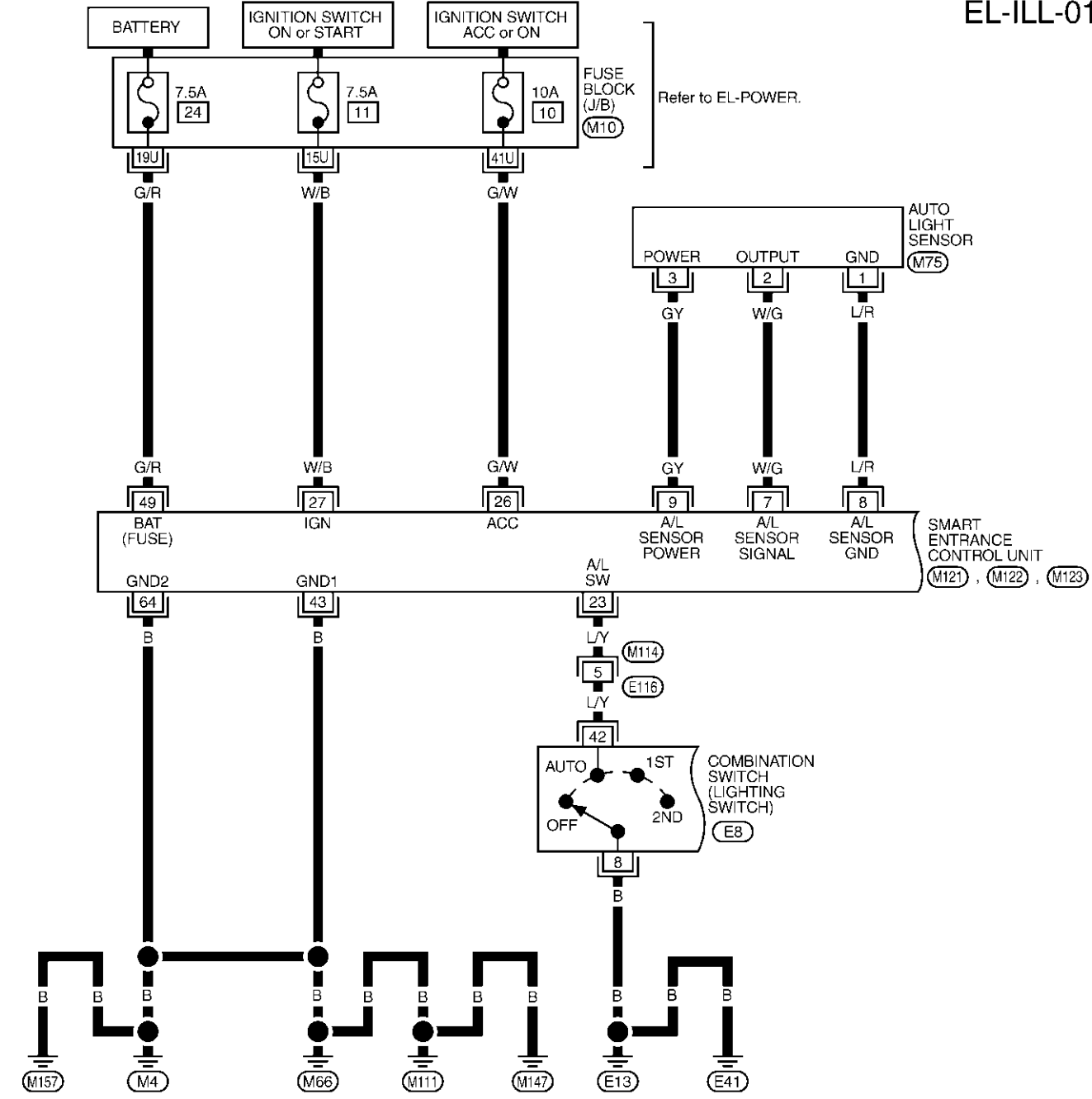
Wiring Diagram — ILL —

Wiring Diagram — ILL —

NAEL0289

EL-ILL-01

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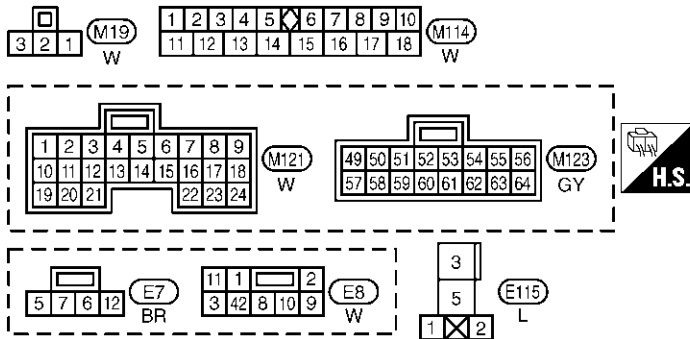
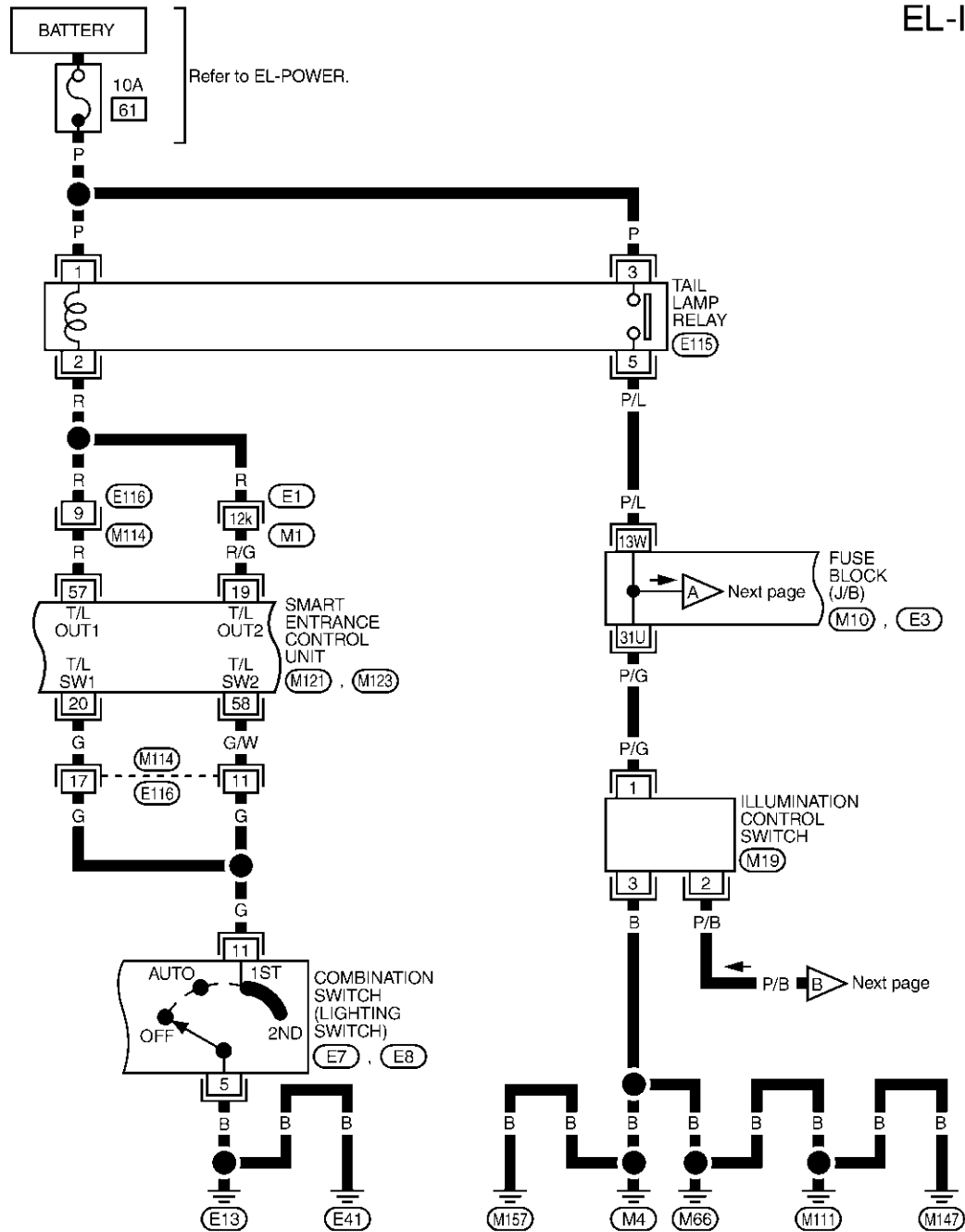
REFER TO THE FOLLOWING.
 (M10) - FUSE BLOCK-
 JUNCTION BOX (J/B)



ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02



REFER TO THE FOLLOWING.

(E1) -SUPER MULTIPLE JUNCTION (SMJ)

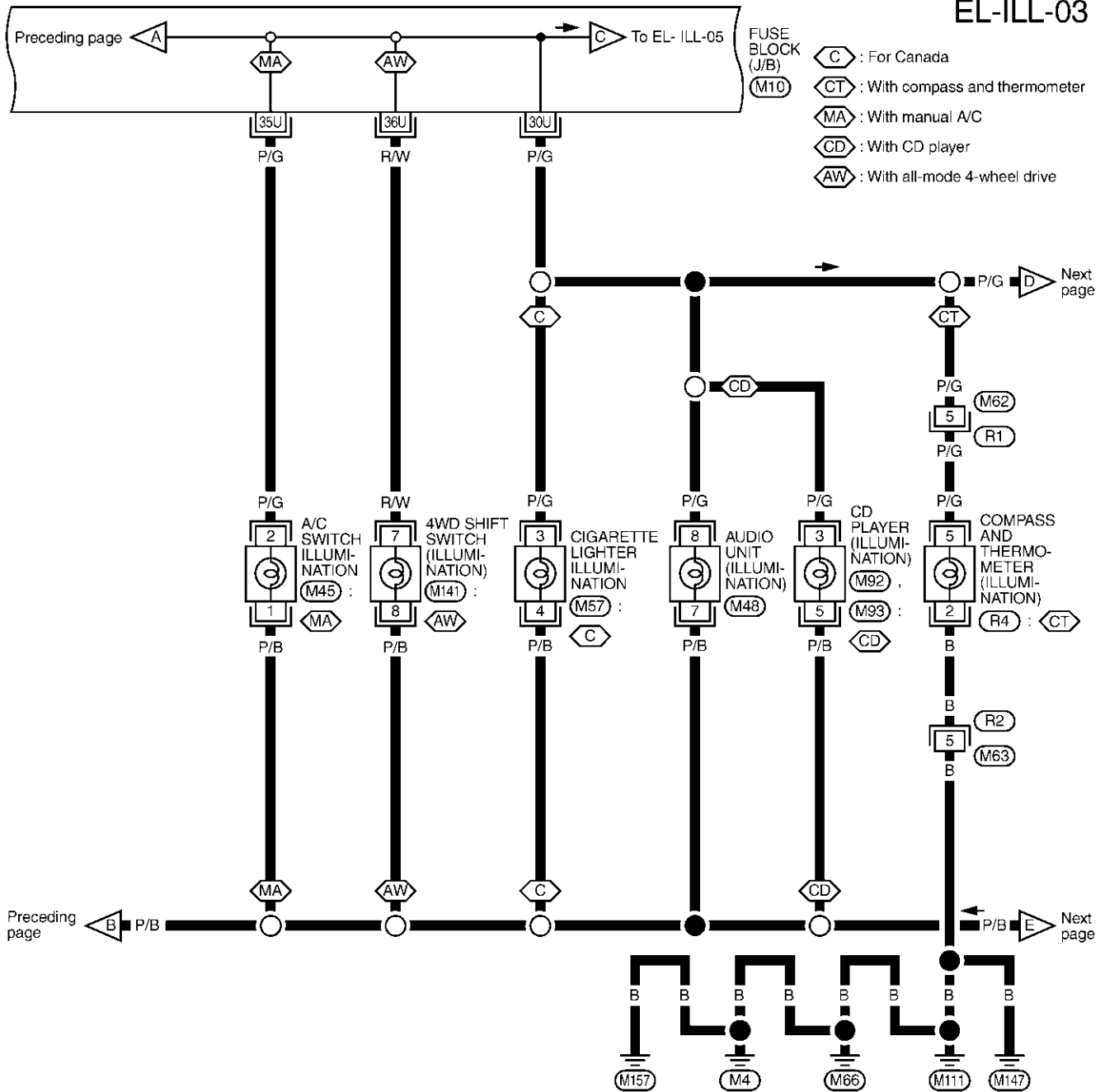
(M10) , (E3) -FUSE BLOCK-JUNCTION BOX (J/B)

MEL968P

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

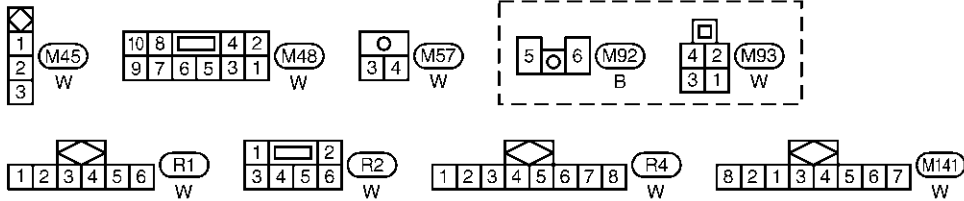
EL-ILL-03



- FUSE BLOCK (J/B) (M10)
- (C) : For Canada
- (CT) : With compass and thermometer
- (MA) : With manual A/C
- (CD) : With CD player
- (AW) : With all-mode 4-wheel drive

Preceding page ← B P/B P/B → E Next page

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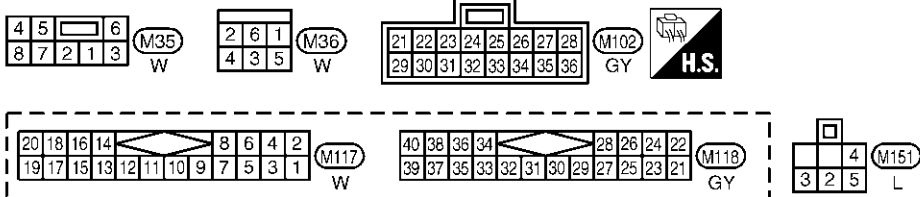
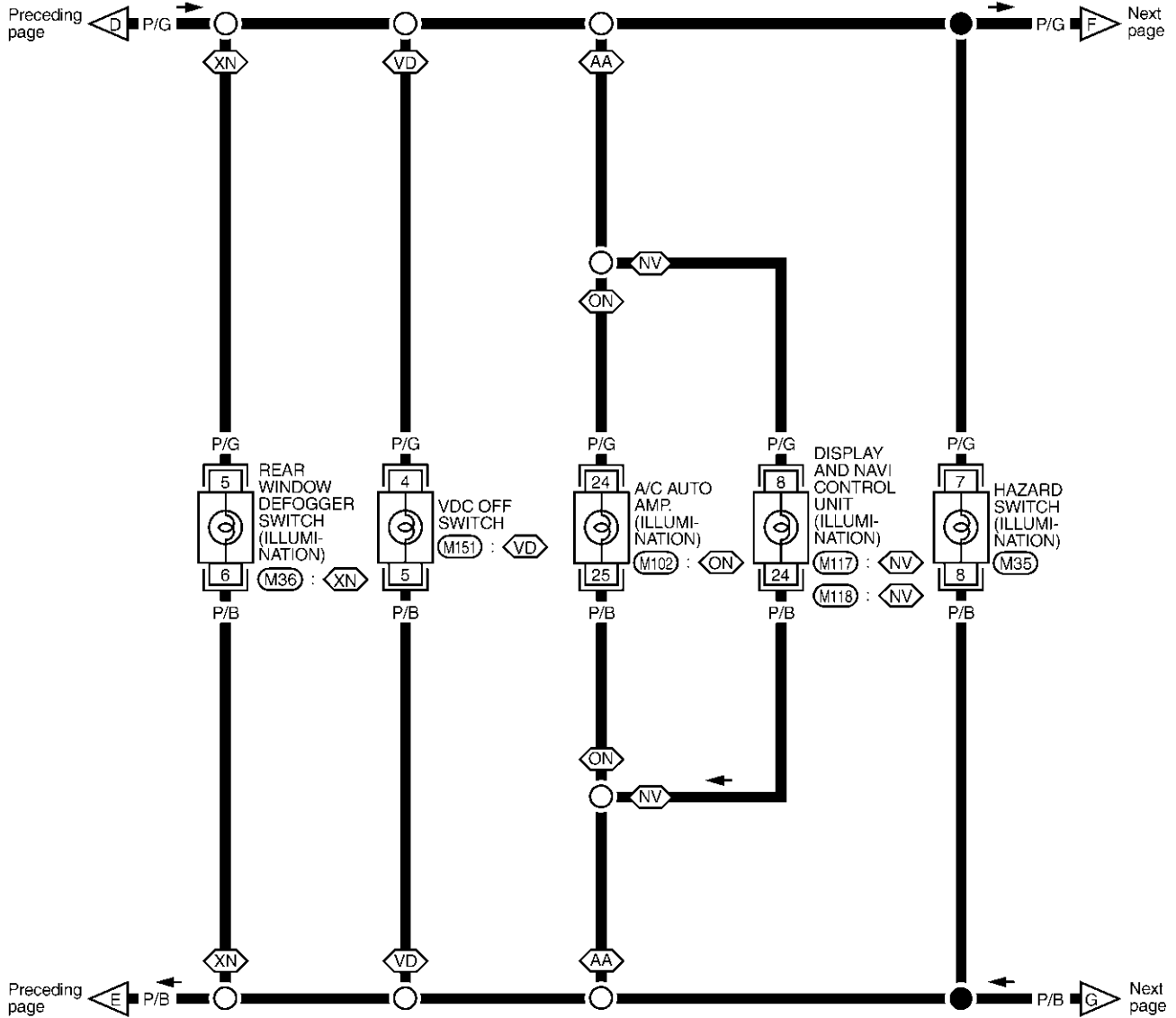
REFER TO THE FOLLOWING.
 (M10) - FUSE BLOCK-
 JUNCTION BOX (J/B)

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-04

- AA : With auto A/C
- NV : With NAVI
- ON : Without NAVI
- VD : With VDC
- XN : With auto A/C and NAVI, with manual A/C



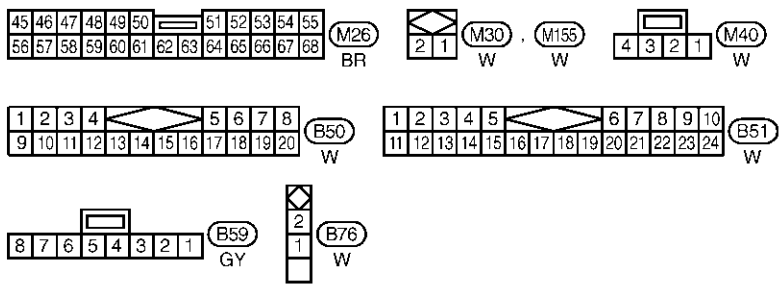
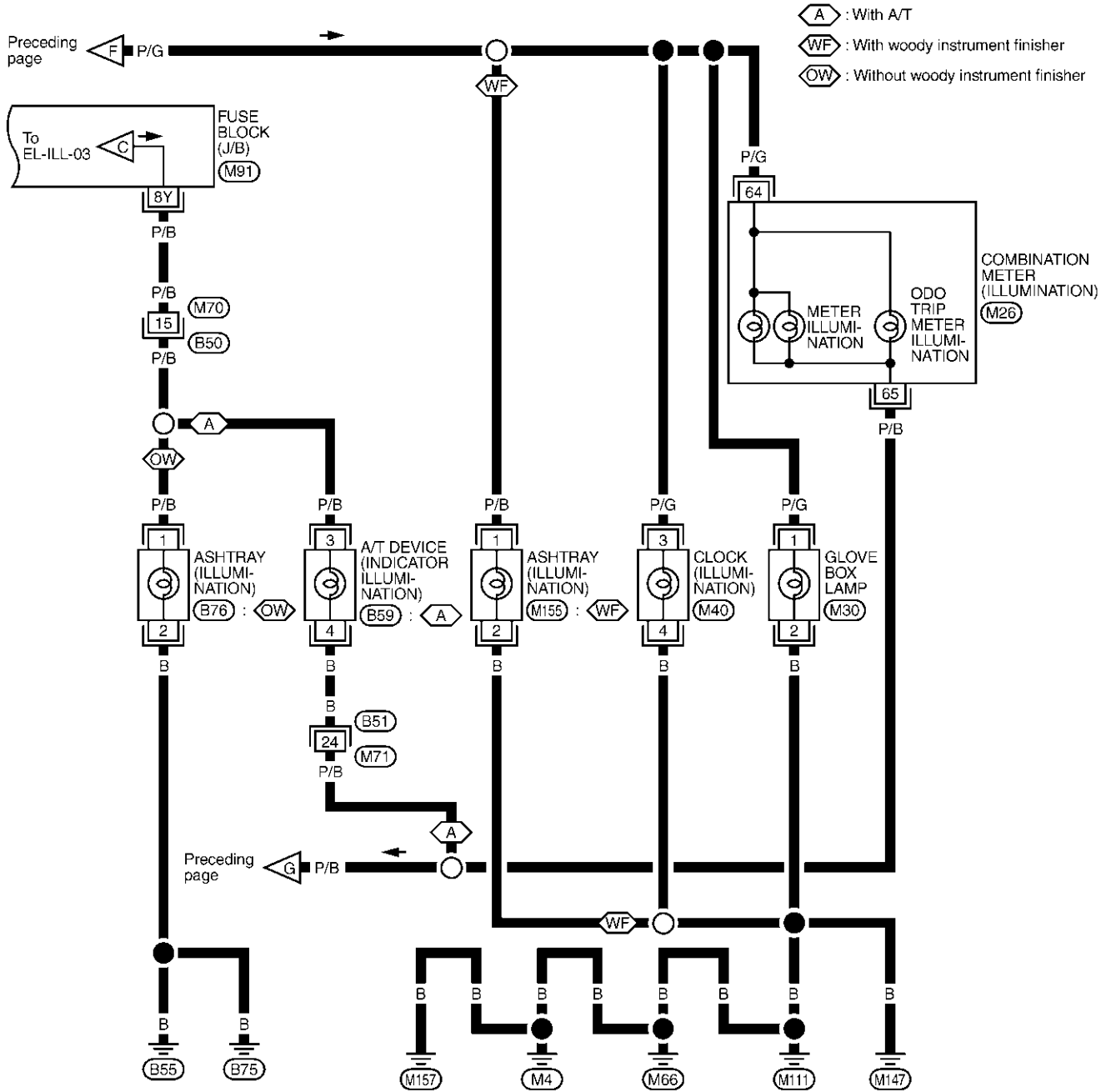
MEL970P

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-05

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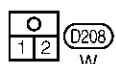
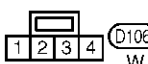
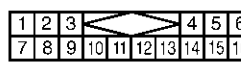
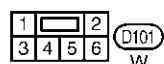
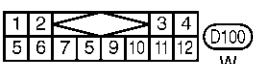
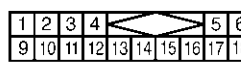
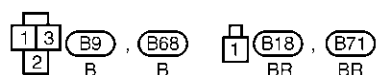
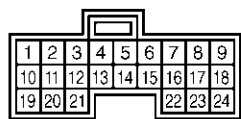
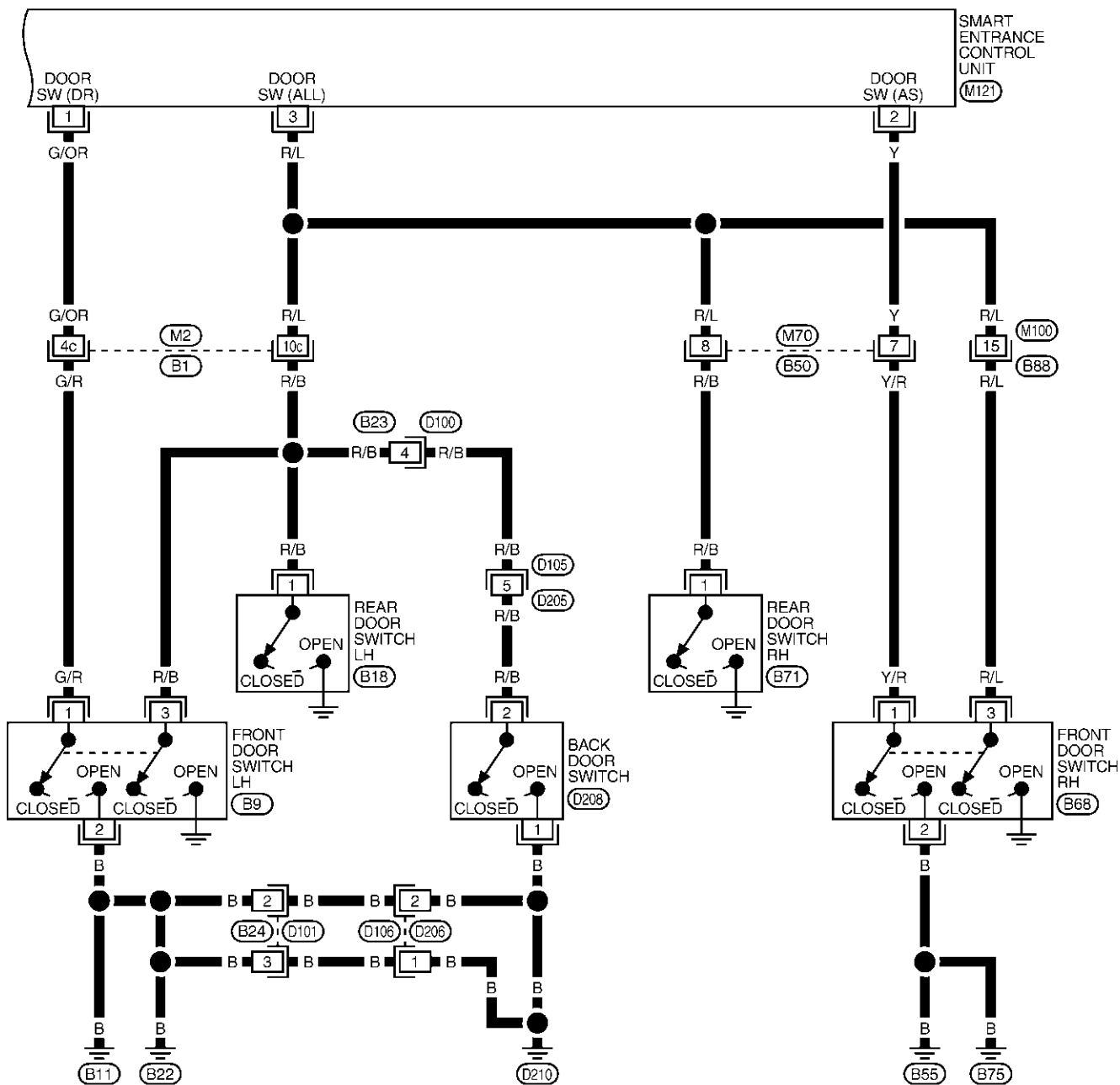


REFER TO THE FOLLOWING.
 (M91) - FUSE BLOCK-
 JUNCTION BOX (J/B)

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-06



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

MEL972P

System Description

POWER SUPPLY AND GROUND

Power is supplied at all times:

- through 7.5A fuse [No. 24, 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 key switch in the ON or START position, power is supplied:

- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to smart entrance control unit terminal 27.

Ground is supplied:

- to smart entrance control unit terminals 43 and 64
- through body grounds M4, M66, M111, M147 and M157.

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

- through body grounds B11, B22 and D210
- to front door switch (LH) terminal 2
- from front door switch (LH) terminal 1
- to smart entrance control unit terminal 1.

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

- through body grounds terminals B55 and B75
- to front door switch (RH) terminal 2
- from front door switch (RH) terminal 1
- 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 LH door is unlocked by front door key cylinder switch, ground is supplied

- through body grounds M4, M66, M111, M147 and M157
- to front door key cylinder switch terminal 2
- through front key cylinder switch terminal 1
- to power window main switch terminal 6.

Power window main switch terminal 14 send unlock signal to smart entrance control unit terminal 33 with serial link communication line.

When back door is unlocked by back door key cylinder switch, ground is supplied

- through body grounds B11, B22 and D210
- to back door key cylinder switch terminal 4
- from back door key cylinder terminal 2
- 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:

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INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

System Description (Cont'd)

- through body grounds M4, M66, M111, M147 and M157
- 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 M4, M66, M111 and M147
- 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.

With power and ground supplied, interior lamps turn ON.

INTERIOR LAMP TIMER OPERATION

NAEL0290S03

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 keyfob 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.)

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.

ON-OFF CONTROL

NAEL0290S04

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.

INTERIOR LAMP BATTERY SAVER

NAEL0290S05

The lamp turns off automatically when interior lamp, luggage 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 30 minutes.

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

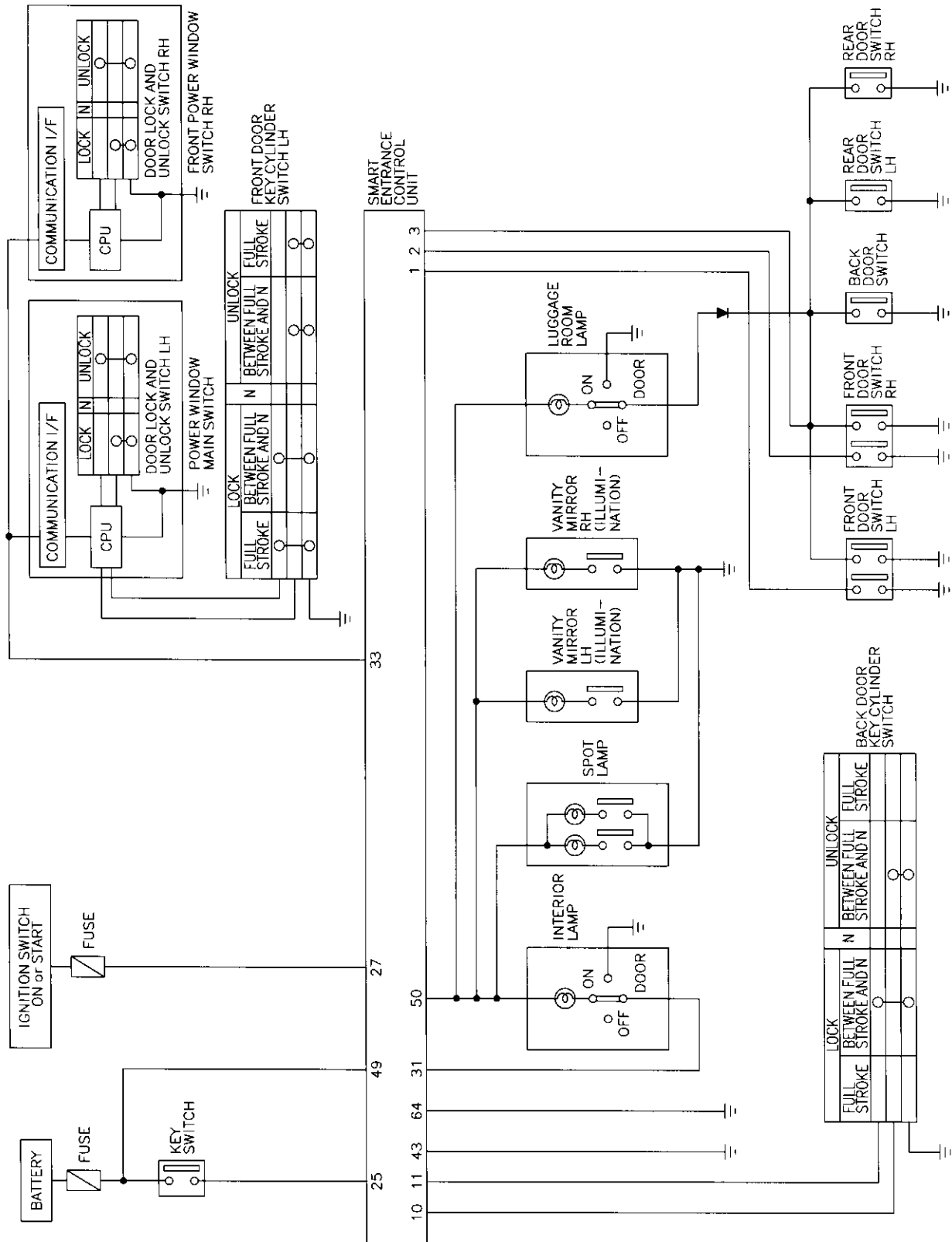
- driver's door is locked or unlocked,
- door is opened or closed,
- key is removed from ignition key cylinder or inserted in ignition key cylinder.

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Schematic

Schematic

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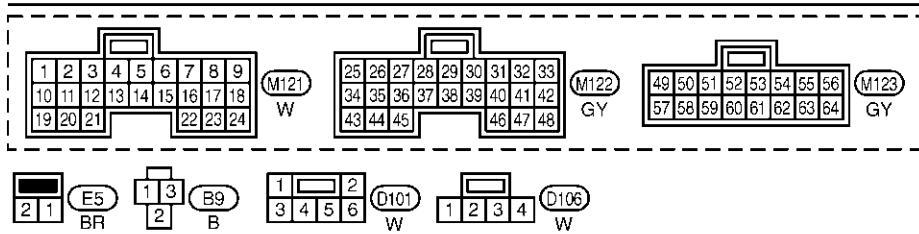
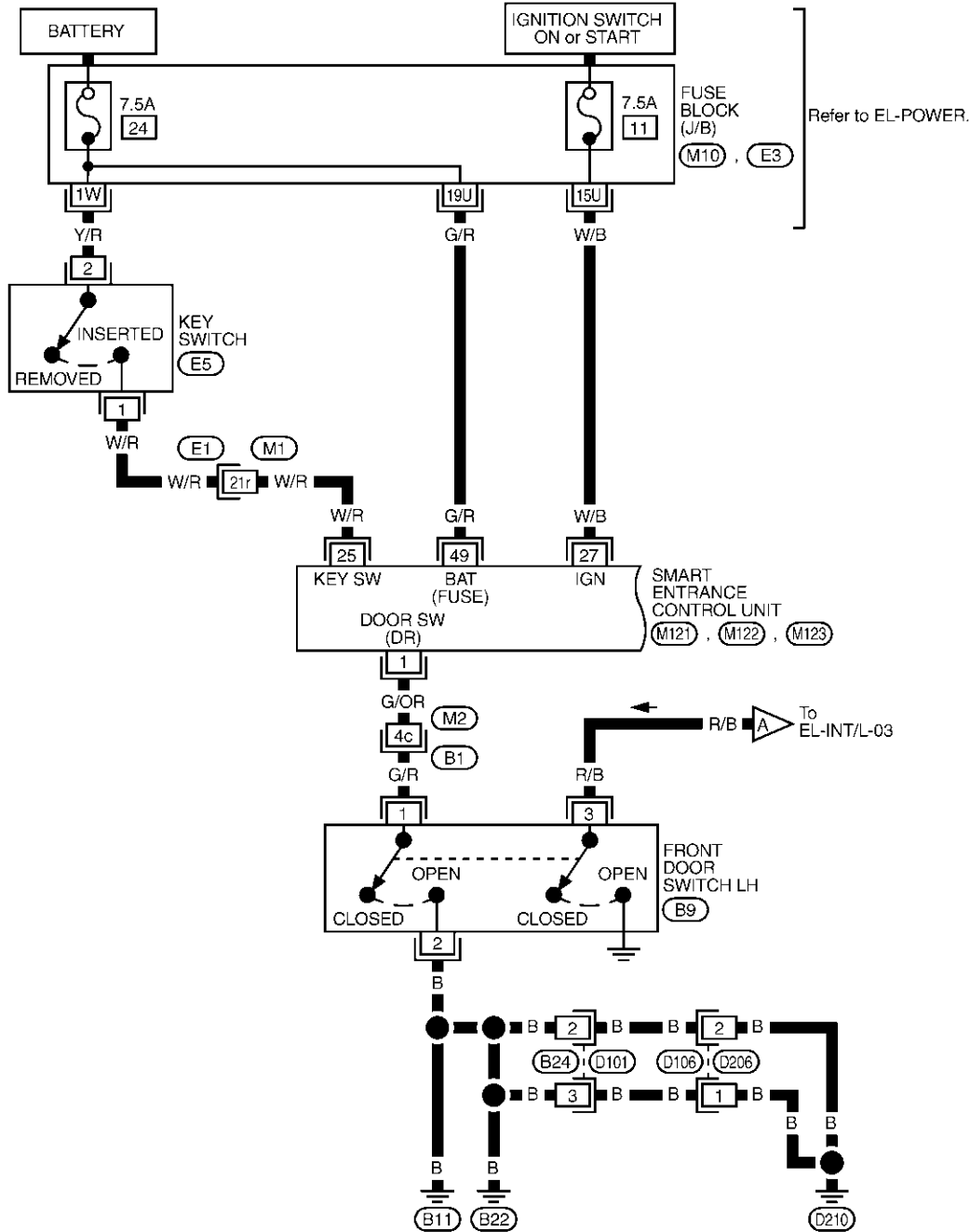
INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L —

Wiring Diagram — INT/L —

NAEL0292

EL-INT/L-01



REFER TO THE FOLLOWING.
 (E1), (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M10), (E3) -FUSE BLOCK-
 JUNCTION BOX (J/B)

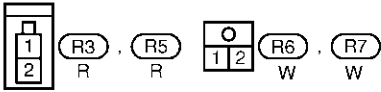
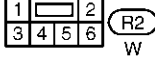
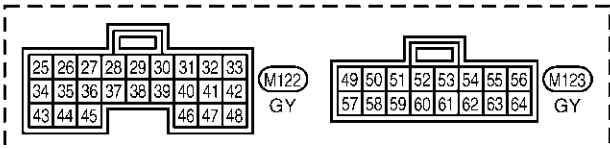
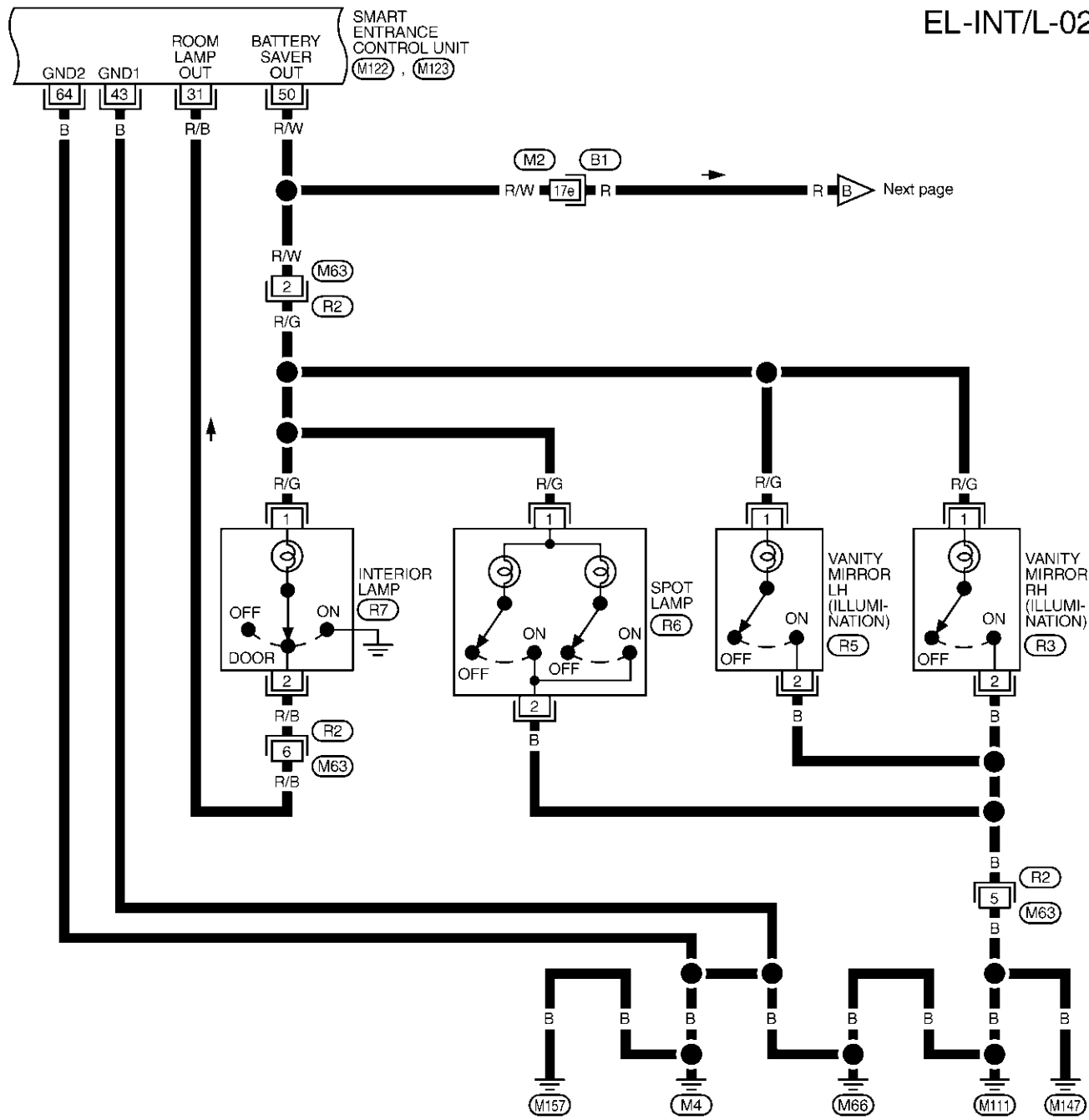


MEL973P

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-02



REFER TO THE FOLLOWING.

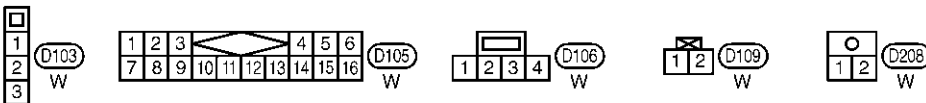
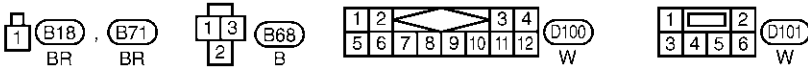
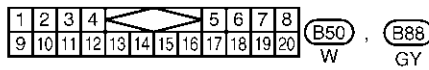
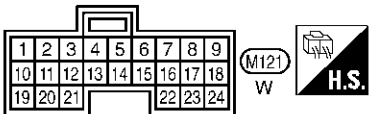
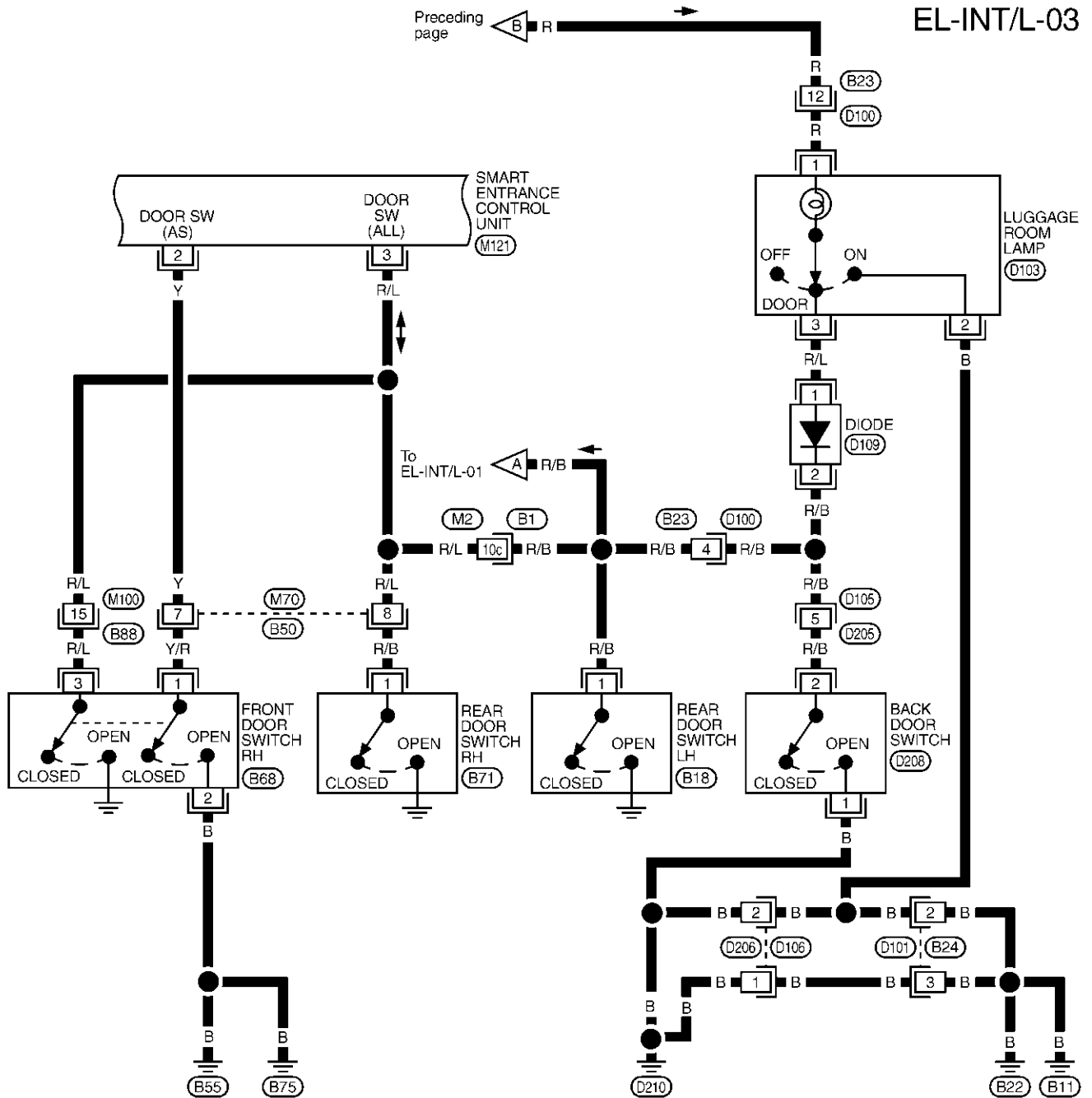
(B1) -SUPER MULTIPLE JUNCTION (SMJ)

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INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-03



REFER TO THE FOLLOWING.

(B1) -SUPER MULTIPLE
JUNCTION (SMJ)

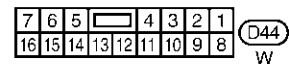
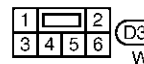
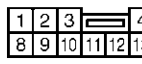
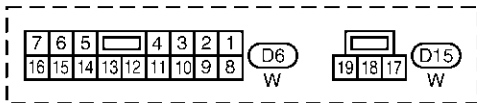
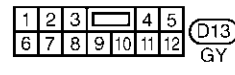
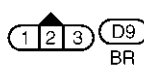
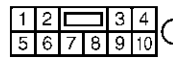
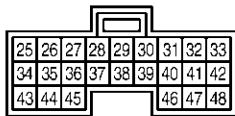
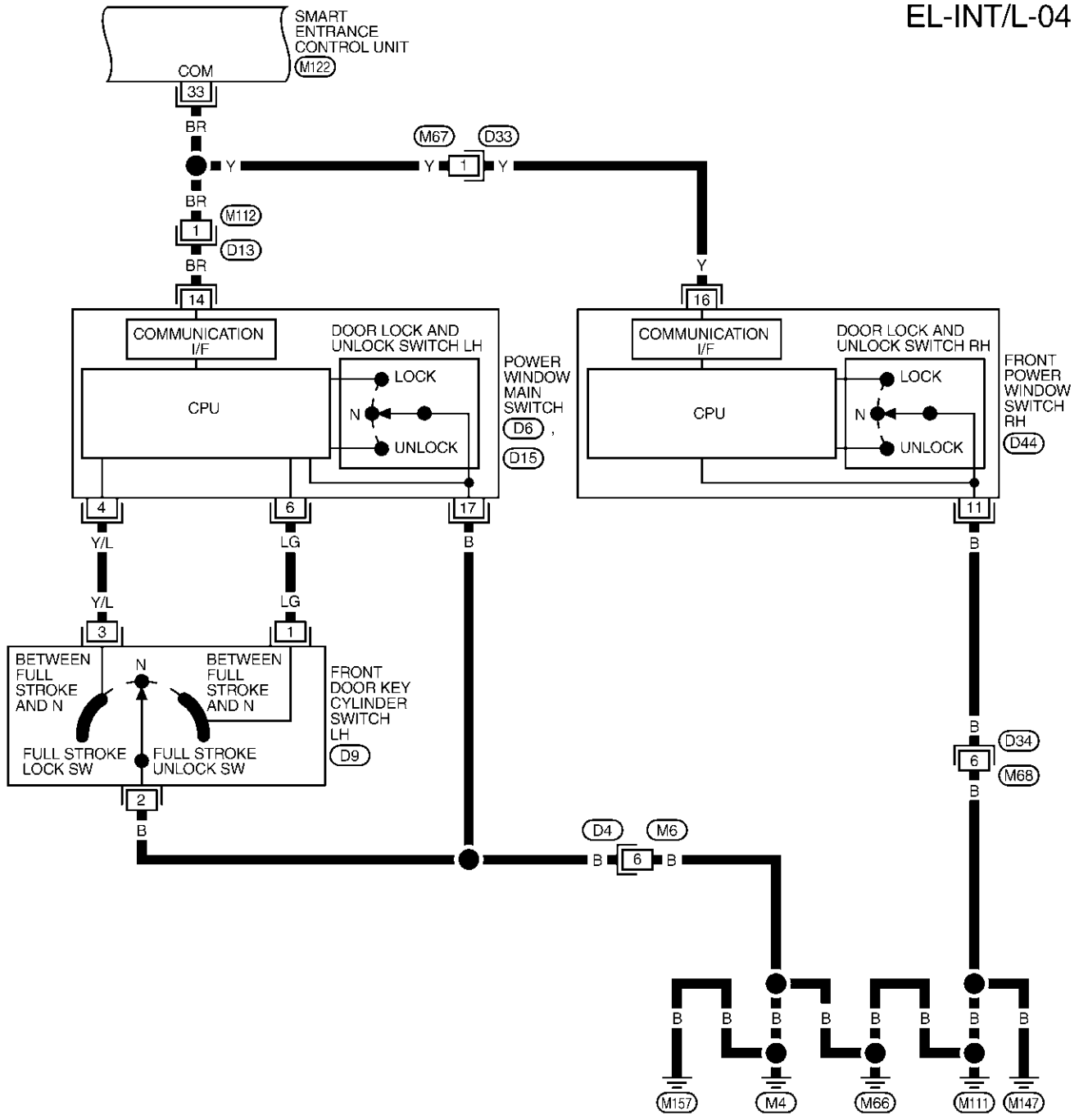
MEL975P

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-04

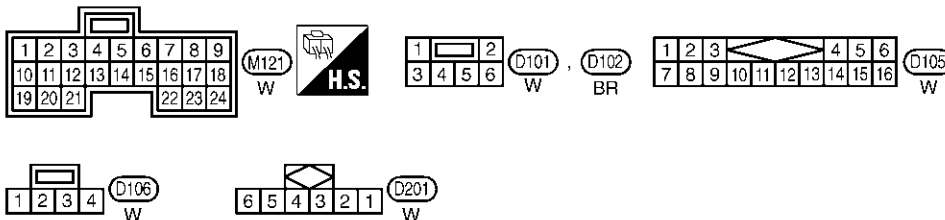
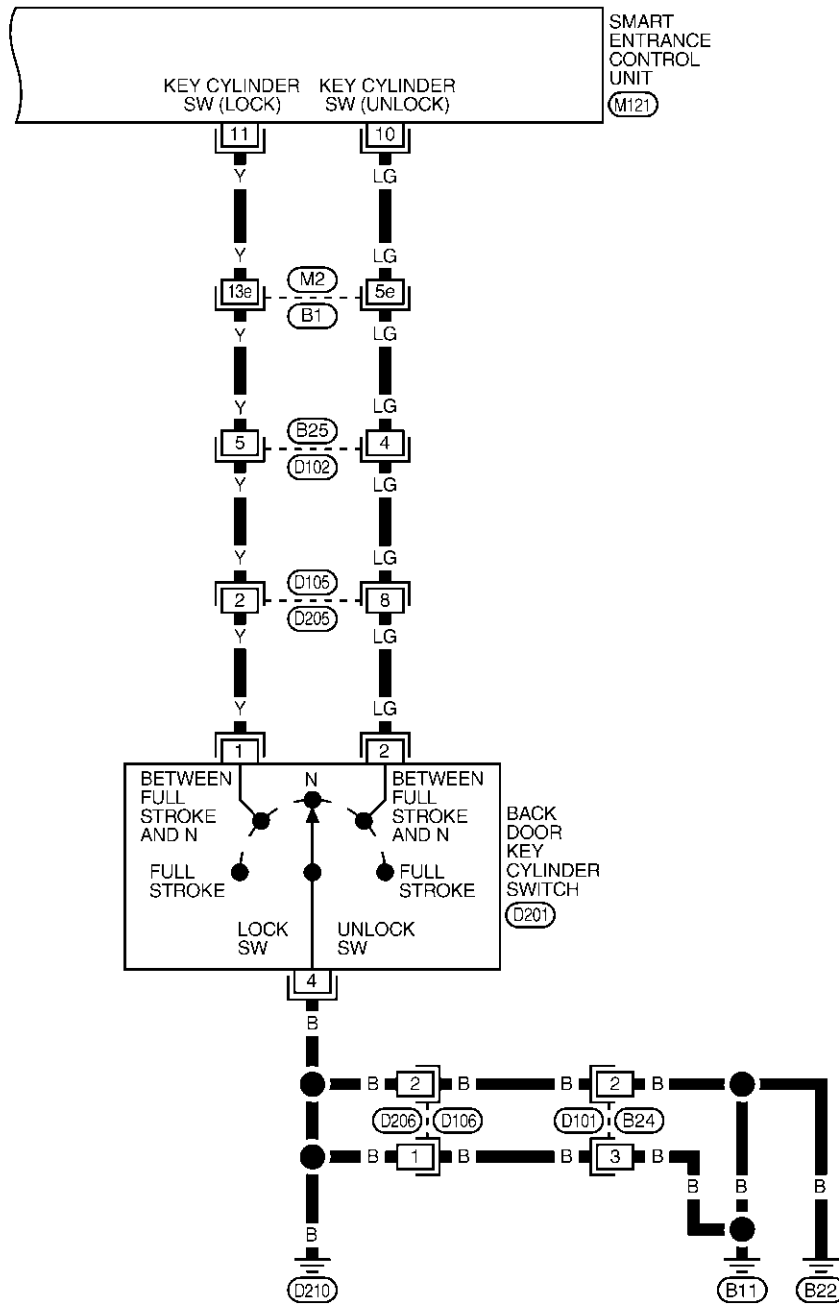
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INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

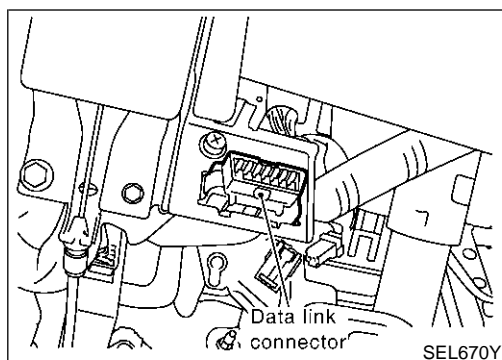
EL-INT/L-05



REFER TO THE FOLLOWING.

(B1) - SUPER MULTIPLE JUNCTION (SMJ)

MEL977P



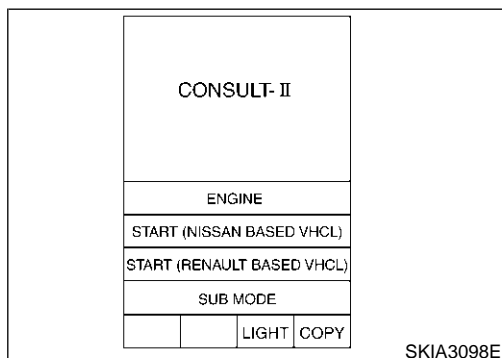
CONSULT-II Inspection Procedure

=NAEL0293

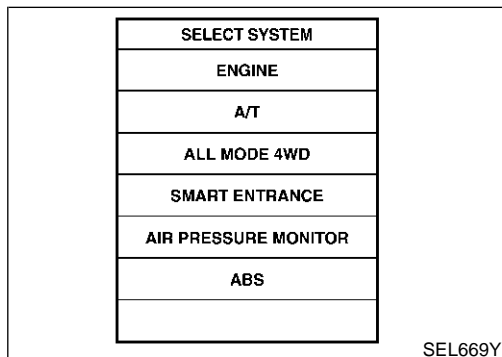
“INT LAMP”/“BATTERY SAVER”

NAEL0293S01

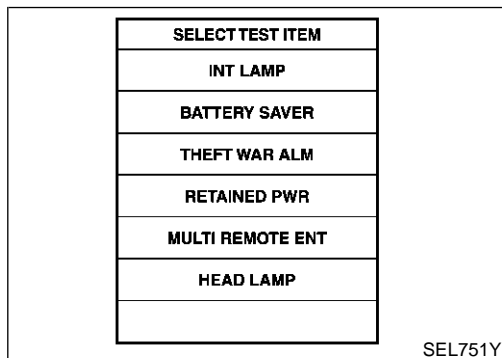
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector.



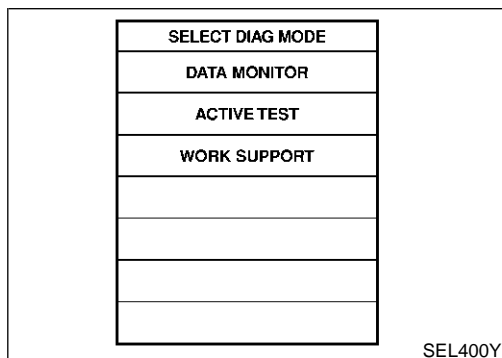
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



5. Touch “SMART ENTRANCE”.
If “SMART ENTRANCE” is not indicated, go to GI-41, “CONSULT-II Data Link Connector (DLC) Circuit”.



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



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

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INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

CONSULT-II Application Items

CONSULT-II Application Items

NAEL0294

NAEL0294S01

NAEL0294S0101

“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 keyfob. |
| UN BUTTON/SIG | Indicates [ON/OFF] condition of unlock signal from keyfob. |

Active Test

NAEL0294S0102

| 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. |

NOTE:

Even though ignition key hole illumination and step lamp are actually displayed on the CONSULT-II screen, those are not equipped, therefore, they cannot be activated.

Work Support

NAEL0294S0103

| Work Item | Description |
|---------------------|---|
| ROOM LAMP TIMER SET | Interior lamp timer mode can be changed by mode setting. Selects ON-OFF of the room lamp illumination at the time the driver door is unlocked. <ul style="list-style-type: none"> MODE 1 (ON)/MODE 2 (OFF) NOTE: Even though ignition keyhole illumination and step lamp are actually displayed on the CONSULT-II screen, those are not equipped, therefore, they cannot be activated. |

“BATTERY SAVER” Data Monitor

NAEL0294S02

NAEL0294S0201

| 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. |

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

CONSULT-II Application Items (Cont'd)

| Monitored Item | Description | |
|----------------|---|----|
| DOOR SW-AS | Indicates [ON/OFF] condition of front door switch RH. | GI |
| LOCK SW DR/AS | Indicates [ON/OFF] condition of front door lock switch. | MA |
| UNLK SW DR/AS | Indicates [ON/OFF] condition of front door lock switch. | EM |
| KEY CYL LK-SW | Indicates [ON/OFF] condition of front door key cylinder switch. | EM |
| KEY CYL UN-SW | Indicates [ON/OFF] condition of front door key cylinder switch. | LC |
| LK BUTTON/SIG | Indicates [ON/OFF] condition of unlock signal from keyfob. | LC |
| UN BUTTON/SIG | Indicates [ON/OFF] condition of unlock signal from keyfob. | EC |

Active Test

NAEL0294S0202

| Test Item | Description | |
|---------------|---|----------------|
| BATTERY SAVER | <p>This test enables to check interior lamp and spot lamp and vanity mirror illuminations 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.) Spot lamp and vanity mirror illuminations turn on when the switch is in ON. (Smart entrance control unit supplies power to spot lamp, and vanity mirror illuminations.) | FE CL MT |

Work Support

NAEL0294S0203

| Work Item | Description | |
|-----------------------|---|----------------|
| ROOM LAMP BAT SAV SET | <p>Interior lamp battery saver control period can be changed by mode setting. Selects interior lamp battery saver control period between two modes.</p> <ul style="list-style-type: none"> MODE 1 (30 minutes)/MODE 2 (60 minutes) | AT TF PD |

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INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer

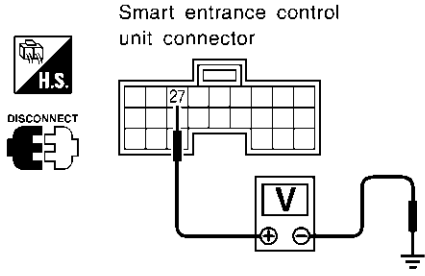
Trouble Diagnoses for Interior Lamp Timer

=NAEL0295

DIAGNOSTIC PROCEDURE 1

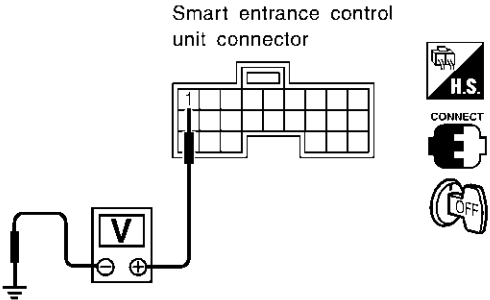


NAEL0295S01

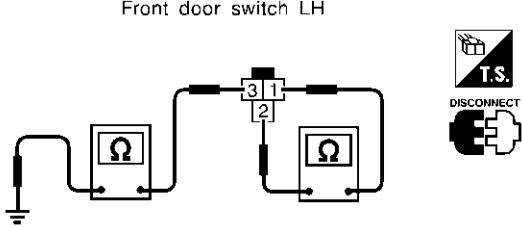

SYMPTOM: Interior lamp timer does not operate.

| 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> <div style="display: flex; justify-content: space-around; 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>IGN ON SW</td> <td>ON</td> </tr> </tbody> </table> <div style="margin-left: 20px;"> <p>When ignition switch is ON: IGN ON SW ON</p> <p>When ignition switch is OFF: IGN ON SW OFF</p> </div> </div> | | | DATA MONITOR | | MONITOR | | IGN ON SW | ON | | | | | | | | | |
| DATA MONITOR | | | | | | | | | | | | | | | | | |
| MONITOR | | | | | | | | | | | | | | | | | |
| IGN ON SW | ON | | | | | | | | | | | | | | | | |
| SEL318W | | | | | | | | | | | | | | | | | |
| <p>⊗ Without CONSULT-II Check voltage between smart entrance control unit harness connector M122 terminal 27 (W/B) 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> <table border="1" style="border-collapse: collapse; text-align: center;"> <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 | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 11, located in fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse | | | | | | | | | | | | | | | |

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

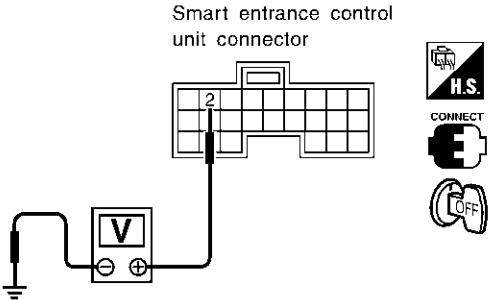
| 2 | CHECK FRONT DOOR SWITCH LH INPUT SIGNAL | | | | | | |
|---|--|--------------|--|---------|--|------------|-----|
| <p>E With CONSULT-II Check front door switch LH signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II.</p> | | | | | | | |
| <table border="1" style="margin: auto;"> <tr><th 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 door LH is open: DOOR SW-DR ON</p> <p>When front door LH is closed: DOOR SW-DR OFF</p> | | | | | | | |
| SEL319WB | | | | | | | |
| <p>X Without CONSULT-II Check voltage between smart entrance control unit harness connector M121 terminal 1 (G/OR) 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 door LH: CLOSED Approx. 5 Condition of front door LH: OPENED 0</p> </div> </div> | | | | | | | |
| SEL004YD | | | | | | | |
| OK or NG | | | | | | | |
| OK | ▶ | GO TO 4. | | | | | |
| NG | ▶ | GO TO 3. | | | | | |

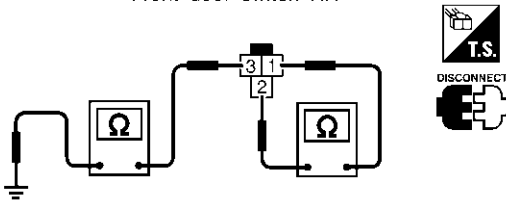
| | | |
|---|-----------------------------------|--|
| 3 | CHECK FRONT DOOR SWITCH LH | |
| <p>Check the following.</p> <ul style="list-style-type: none"> ● Continuity between front door switch LH connector B9 terminals 1 and 2 ● Continuity between front door switch LH connector B9 terminal 3 and ground | | |
| <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p style="text-align: center;">Front door switch LH</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> | | |
| SEL277Y | | |
| OK or NG | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Front door switch LH ground circuit and condition ● Harness for open or short between smart entrance control unit and front door switch LH |
| NG | ▶ | Replace front door switch LH. |

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INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

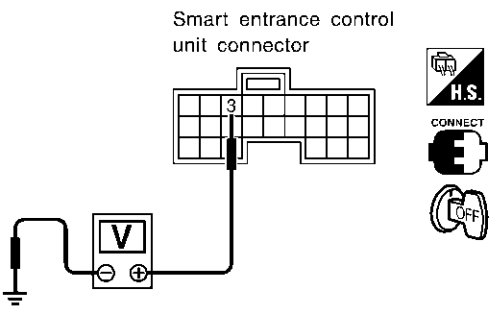
Trouble Diagnoses for Interior Lamp Timer (Cont'd)

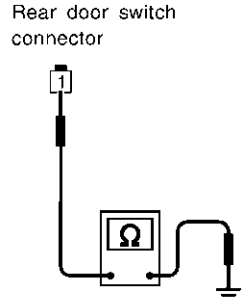
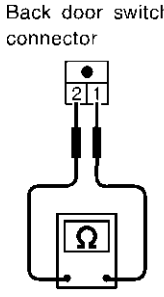
| 4 | CHECK FRONT DOOR SWITCH RH INPUT SIGNAL | | | | | | |
|--|--|--------------|--|---------|--|------------|-----|
| <p>E With CONSULT-II Check front door switch RH signal ("DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-II.</p> | | | | | | | |
| <table border="1" style="margin: auto;"> <tr><th 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 door RH is open: DOOR SW-AS ON</p> <p>When front door RH is closed: DOOR SW-AS OFF</p> | | | | | | | |
| SEL153YA | | | | | | | |
| <p>X Without CONSULT-II Check voltage between smart entrance control unit harness connector M121 terminal 2 (Y) and ground.</p> | | | | | | | |
| <p>Smart entrance control unit connector</p>  | | | | | | | |
| <p>Voltage [V]: Condition of front door RH: CLOSED Approx. 5 Condition of front door RH: OPENED 0</p> | | | | | | | |
| SEL152YB | | | | | | | |
| OK or NG | | | | | | | |
| OK | ▶ GO TO 6. | | | | | | |
| NG | ▶ GO TO 5. | | | | | | |

| | |
|--|---|
| 5 | CHECK FRONT DOOR SWITCH RH |
| <p>Check the following.</p> <ul style="list-style-type: none"> ● Continuity between front door switch RH connector B68 terminals 1 and 2 ● Continuity between front door switch RH connector B68 terminal 3 and ground | |
| <p>Front door switch RH</p>  | |
| <p>Continuity: Door switch is pushed. No Door switch is released. Yes</p> | |
| SEL278Y | |
| OK or NG | |
| OK | ▶ Check the following. <ul style="list-style-type: none"> ● Front door switch RH ground circuit and condition ● Harness for open or short between smart entrance control unit and front door switch RH |
| NG | ▶ Replace front door switch RH. |

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

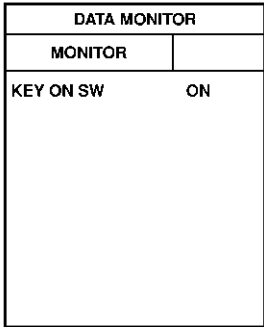
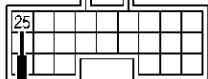
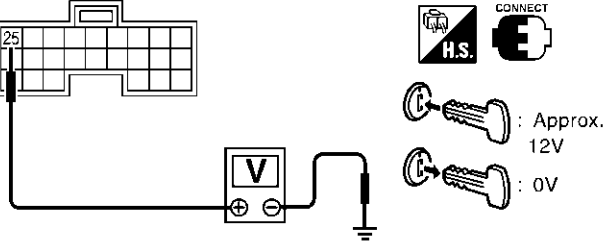
| 6 | CHECK REAR AND BACK DOOR SWITCHES INPUT SIGNAL | | | | | | |
|--|---|--------------|--|---------|--|------------|-----|
| <p>E With CONSULT-II Check door switches ("DOOR SW-RR") in "DATA MONITOR" mode with CONSULT-II.</p> | | | | | | | |
| <table border="1" style="margin: auto;"> <tr><th colspan="2">DATA 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, RH and/or back door is open: DOOR SW-RR ON</p> <p>When rear door LH, RH and/or back door is closed: DOOR SW-RR OFF</p> | | | | | | | |
| SEL154YB | | | | | | | |
| <p>X Without CONSULT-II Check voltage between smart entrance control unit harness connector M121 terminal 3 (R/L) and ground.</p> | | | | | | | |
| <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>Smart entrance control unit connector</p>  </div> <div style="flex: 1;"> <p>H.S. CONNECT</p> <p>V</p> <p>OFF</p> </div> <div style="flex: 1;"> <p>Voltage [V]: Condition of rear door LH, RH and/or back door: CLOSED Approx. 5 Condition of rear door LH, RH and/or back door: OPENED 0</p> </div> </div> | | | | | | | |
| SEL155YB | | | | | | | |
| OK or NG | | | | | | | |
| OK | ▶ GO TO 8. | | | | | | |
| NG | ▶ GO TO 7. | | | | | | |

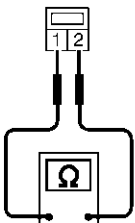
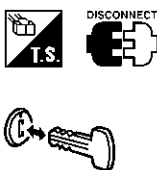
| | |
|---|--|
| 7 | CHECK REAR AND BACK DOOR SWITCHES |
| <p>1. Disconnect door switch harness connector. 2. Check the following.</p> <ul style="list-style-type: none"> ● Continuity between rear door switches connector B18 and B71 terminal 1 and ground ● Continuity between back door switch connector D208 terminals 1 and 2 | |
| <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>Rear door switch connector</p>  </div> <div style="flex: 1;"> <p>Back door switch connector</p>  </div> <div style="flex: 1;"> <p>T.S. DISCONNECT</p> <p>Ω</p> </div> <div style="flex: 1;"> <p>Continuity: Door switch is pushed. No Door switch is released. Yes</p> </div> </div> | |
| SEL279Y | |
| OK or NG | |
| OK | ▶ Check the following. |
| <ul style="list-style-type: none"> ● Rear LH, RH and/or back door switch ground circuit or door switch ground condition ● Harness for open or short between smart entrance control unit and rear LH, RH and/or back door switch | |
| NG | ▶ Replace rear LH, RH and/or back door switch. |

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INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

| | | | |
|---|--------------------------------------|--|--|
| 8 | CHECK KEY SWITCH INPUT SIGNAL | | |
| <p>E With CONSULT-II Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.</p> | | | |
|  | | <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> | |
| SEL315W | | | |
| <p>X Without CONSULT-II Check voltage between smart entrance control unit harness connector M122 terminal 25 (W/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> | |
| SEL011Y | | | |
| OK or NG | | | |
| OK | ▶ | GO TO 10. | |
| NG | ▶ | GO TO 9. | |

| | | | |
|---|----------------------------------|---|--|
| 9 | CHECK KEY SWITCH (INSERT) | | |
| <p>Check continuity between terminals 1 and 2.</p> | | | |
| <p>Key switch connector E5</p>  | |  | |
| | | <p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p> | |
| SEL308X | | | |
| OK or NG | | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 24, 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, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

10 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

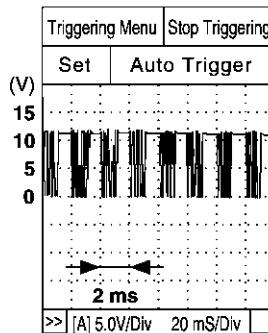
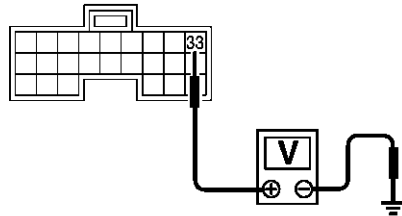
When lock/unlock switch is turned to UNLOCK:

UNLK SW DR/AS ON

SEL341W

⊗ Without CONSULT-II

1. Remove key from ignition key cylinder.
2. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with oscilloscope when door lock/unlock switch is turned "LOCK" or "UNLOCK".
3. Make sure signals which are shown in the figure below can be detected during 10 sec. just after door lock/unlock switch is turned "LOCK" or "UNLOCK".



Voltage:

12V → 9V (10 sec.) measurement by analog circuit tester.

SEL699Y

OK or NG

OK



Door lock/unlock switch is OK.

NG



Check the following.

- Ground circuit for each front power window switch
- Harness for open or short between each front power window switch and smart entrance control unit connector

If above systems are normal, replace the power window main switch.

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INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

| 11 | CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL) | | | | | | | | |
|--|---|--------------|--|---------|--|---------------|-----|---------------|-----|
| <p>E With CONSULT-II Check front door key cylinder switch ("KEY CYL LK-SW"/"KEY CYL UN-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 CYL LK-SW</td><td>OFF</td></tr> <tr><td>KEY CYL UN-SW</td><td>OFF</td></tr> </table> | | DATA MONITOR | | MONITOR | | KEY CYL LK-SW | OFF | KEY CYL UN-SW | OFF |
| DATA MONITOR | | | | | | | | | |
| MONITOR | | | | | | | | | |
| KEY CYL LK-SW | OFF | | | | | | | | |
| KEY CYL UN-SW | OFF | | | | | | | | |
| <p>When key inserted in front key cylinder is turned to LOCK: KEY CYL LK-SW ON</p> <p>When key inserted in front key cylinder is turned to UNLOCK: KEY CYL UN-SW ON</p> | | | | | | | | | |
| SEL342W | | | | | | | | | |
| <p>X Without CONSULT-II</p> <p>1. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with oscilloscope when key inserted in front key cylinder is turned "LOCK" or "UNLOCK".</p> <p>2. Make sure signals which are shown in the figure below can be detected during 10 sec. just after key is turned "LOCK" or "UNLOCK".</p> | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| <p>Voltage: 12V → 9V (10 sec.) measurement by analog circuit tester.</p> | | | | | | | | | |
| SEL700Y | | | | | | | | | |
| OK or NG | | | | | | | | | |
| OK | ▶ Door key cylinder switch LH is OK. | | | | | | | | |
| NG | ▶ GO TO 12. | | | | | | | | |

| 12 | CHECK FRONT DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL) | | | | | | | | | | | | | | | | | | | | |
|--|---|--------|----------------|-----------|--------------|-----------|-----|-----|---------------|---|--------|----------------|-----------|------|---|---|--------|--------------|-----------|--------|---|
| <p>Check voltage between power window main switch harness connector D6 terminals 4 (Y/L) or 6 (LG) and ground.</p> | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="margin: auto;"> <thead> <tr> <th rowspan="2">Door</th> <th colspan="2">Terminals</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="4">Front door LH</td> <td rowspan="2">4</td> <td rowspan="2">Ground</td> <td>Neutral/Unlock</td> <td>Approx. 5</td> </tr> <tr> <td>Lock</td> <td>0</td> </tr> <tr> <td rowspan="2">6</td> <td rowspan="2">Ground</td> <td>Neutral/Lock</td> <td>Approx. 5</td> </tr> <tr> <td>Unlock</td> <td>0</td> </tr> </tbody> </table> | | Door | Terminals | | Key position | Voltage V | (+) | (-) | Front door LH | 4 | Ground | Neutral/Unlock | Approx. 5 | Lock | 0 | 6 | Ground | Neutral/Lock | Approx. 5 | Unlock | 0 |
| Door | Terminals | | Key position | Voltage V | | | | | | | | | | | | | | | | | |
| | (+) | (-) | | | | | | | | | | | | | | | | | | | |
| Front door LH | 4 | Ground | Neutral/Unlock | Approx. 5 | | | | | | | | | | | | | | | | | |
| | | | Lock | 0 | | | | | | | | | | | | | | | | | |
| | 6 | Ground | Neutral/Lock | Approx. 5 | | | | | | | | | | | | | | | | | |
| | | | Unlock | 0 | | | | | | | | | | | | | | | | | |
| SEL792Y | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ Replace smart entrance control unit. | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ GO TO 13. | | | | | | | | | | | | | | | | | | | | |

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

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13 CHECK BACK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

Ⓔ With CONSULT-II

Check back 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 |

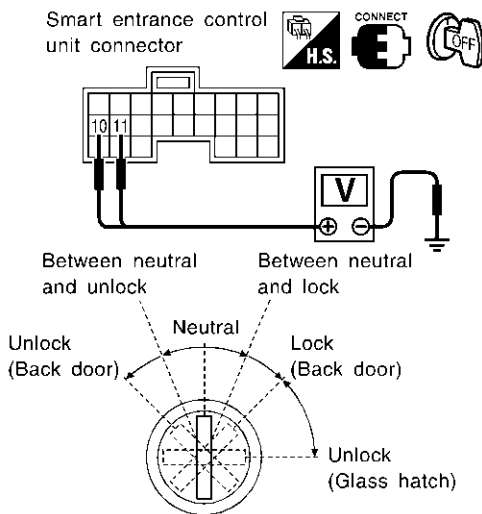
When key inserted in back key cylinder is turned to LOCK:
KEY CYL LK-SW ON

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

SEL342WB

ⓧ Without CONSULT-II

Check voltage between smart entrance control unit harness connector M121 terminals 10 (LG), 11 (Y) and ground.



| | Terminals | | Key position | Voltage [V] |
|-----------|-----------|--------|----------------------------|-------------|
| | (+) | (-) | | |
| Back door | 11 | Ground | Between neutral and lock | 0 |
| | | | Other positions | Approx. 5 |
| | 10 | Ground | Between neutral and unlock | 0 |
| | | | Other positions | Approx. 5 |

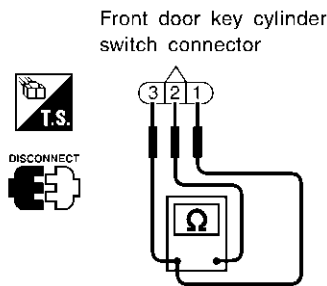
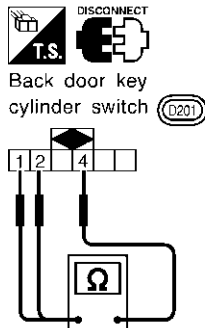
SEL680Y

OK or NG

| | | |
|----|---|--------------------------------------|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | GO TO 14. |

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

| 14 | CHECK DOOR KEY CYLINDER SWITCH | | | | | | | | | | | | | | | |
|---|--|--------------|--------------|------------|-------|----------------|----|------|--------------------------------------|-------|--------------|----|--|-----|---|---|
| 1. Disconnect door key cylinder switch harness connector. 2. Check continuity between each key cylinder switch terminals. ● Front door key cylinder switch LH harness connector D9 | | | | | | | | | | | | | | | | |
|  <p>Front door key cylinder switch connector</p> | ① : Door unlock switch terminal ② : Ground terminal ③ : Door lock switch terminal | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Terminals</th> <th>Key position</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">③ - ②</td> <td>Neutral/Unlock</td> <td>No</td> </tr> <tr> <td>Lock</td> <td>Yes</td> </tr> <tr> <td rowspan="2">① - ②</td> <td>Neutral/Lock</td> <td>No</td> </tr> <tr> <td>Unlock</td> <td>Yes</td> </tr> </tbody> </table> | | Terminals | Key position | Continuity | ③ - ② | Neutral/Unlock | No | Lock | Yes | ① - ② | Neutral/Lock | No | Unlock | Yes | | |
| Terminals | Key position | Continuity | | | | | | | | | | | | | | |
| ③ - ② | Neutral/Unlock | No | | | | | | | | | | | | | | |
| | Lock | Yes | | | | | | | | | | | | | | |
| ① - ② | Neutral/Lock | No | | | | | | | | | | | | | | |
| | Unlock | Yes | | | | | | | | | | | | | | |
| SEL793Y | | | | | | | | | | | | | | | | |
| ● Back door key cylinder switch harness connector D201 | | | | | | | | | | | | | | | | |
|  <p>Back door key cylinder switch (D201)</p> | <table border="1"> <thead> <tr> <th rowspan="2">Key position</th> <th colspan="3">Terminals</th> </tr> <tr> <th>1</th> <th>2</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Between neutral and lock (Back door)</td> <td style="text-align: center;">○</td> <td style="text-align: center;">—</td> <td style="text-align: center;">○</td> </tr> <tr> <td>Between neutral and unlock (Back door)</td> <td></td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> </tr> </tbody> </table> | Key position | Terminals | | | 1 | 2 | 4 | Between neutral and lock (Back door) | ○ | — | ○ | Between neutral and unlock (Back door) | | ○ | ○ |
| Key position | Terminals | | | | | | | | | | | | | | | |
| | 1 | 2 | 4 | | | | | | | | | | | | | |
| Between neutral and lock (Back door) | ○ | — | ○ | | | | | | | | | | | | | |
| Between neutral and unlock (Back door) | | ○ | ○ | | | | | | | | | | | | | |
| SEL315X | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | |
| OK | ► Check the following. <ul style="list-style-type: none"> ● Front or back door key cylinder switch ground circuit ● Harness for open or short between back door key cylinder switch and smart entrance control unit connector ● Harness for open or short between front door key cylinder switch LH and power window main switch | | | | | | | | | | | | | | | |
| NG | ► Replace front or back door key cylinder switch. | | | | | | | | | | | | | | | |


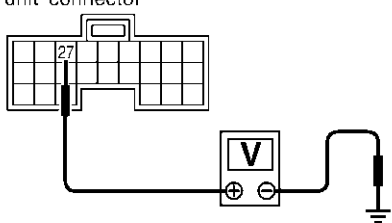
INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

DIAGNOSTIC PROCEDURE 2

=NAEL0295S02

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-left: auto; margin-right: 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> <p style="margin-left: 200px;">When ignition switch is ON: IGN ON SW ON</p> <p style="margin-left: 200px;">When ignition switch is OFF: IGN ON SW OFF</p> | DATA MONITOR | | MONITOR | | IGN ON SW | ON | SEL318W | | | | | | | | | |
| DATA MONITOR | | | | | | | | | | | | | | | | | | |
| MONITOR | | | | | | | | | | | | | | | | | | |
| IGN ON SW | ON | | | | | | | | | | | | | | | | | |
| | | <p>ⓧ Without CONSULT-II Check voltage between smart entrance control unit harness connector M122 terminal 27 (W/B) 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: 20px;"> <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 | SEL995X |
| Terminals | | Ignition switch position | | | | | | | | | | | | | | | | |
| (+) | (-) | OFF | ACC | ON | | | | | | | | | | | | | | |
| 27 | Ground | 0V | 0V | Battery voltage | | | | | | | | | | | | | | |
| | | OK or NG | | | | | | | | | | | | | | | | |
| OK | ▶ | GO TO 2. | | | | | | | | | | | | | | | | |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 11, located in fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse | | | | | | | | | | | | | | | | |

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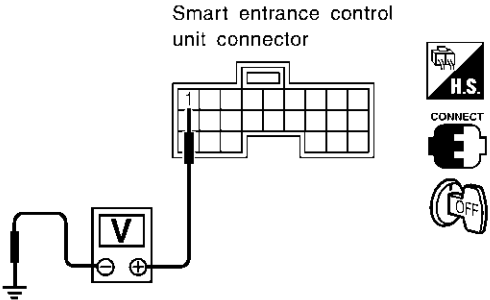
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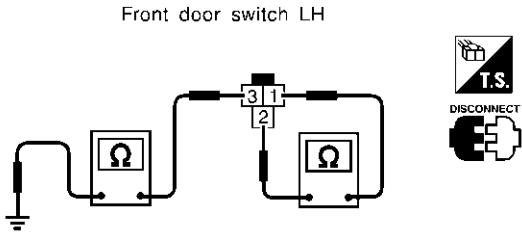
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IDX

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

| 2 | CHECK FRONT LH DOOR SWITCH INPUT SIGNAL | | | | | | |
|--|--|--------------|--|---------|--|------------|-----|
| <p>E 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>MONITOR</th><th></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 door LH is open: DOOR SW-DR ON</p> <p>When front door LH is closed: DOOR SW-DR OFF</p> | | | | | | | |
| SEL319WB | | | | | | | |
| <p>X Without CONSULT-II Check voltage between smart entrance control unit harness connector M121 terminal 1 (G/OR) and ground.</p> | | | | | | | |
| <p>Smart entrance control unit connector</p>  | | | | | | | |
| <p>Voltage [V]: Condition of front door LH: CLOSED Approx. 5 Condition of front door LH: OPENED 0</p> | | | | | | | |
| SEL004YD | | | | | | | |
| OK or NG | | | | | | | |
| OK | ▶ GO TO 4. | | | | | | |
| NG | ▶ GO TO 3. | | | | | | |

| | |
|--|-----------------------------------|
| 3 | CHECK FRONT DOOR SWITCH LH |
| <p>Check the following.</p> <ul style="list-style-type: none"> ● Continuity between front door switch LH connector B9 terminals 1 and 2 ● Continuity between front door switch LH connector B9 terminal 3 and ground | |
| <p>Front door switch LH</p>  | |
| <p>Continuity: Door switch is pushed. No Door switch is released. Yes</p> | |
| SEL277Y | |
| OK or NG | |
| OK | ▶ Check the following. |
| <ul style="list-style-type: none"> ● Front door switch LH ground circuit and condition ● Harness for open or short between smart entrance control unit and front door switch LH | |
| NG | ▶ Replace front door switch LH. |

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

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4 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

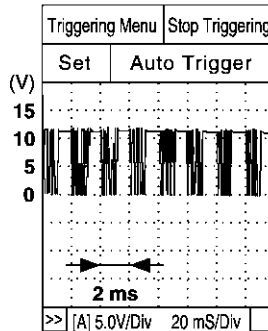
When lock/unlock switch is turned to UNLOCK:

UNLK SW DR/AS ON

SEL341W

⊗ Without CONSULT-II

1. Remove key from ignition key cylinder.
2. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with oscilloscope when door lock/unlock switch is turned "LOCK" or "UNLOCK".
3. Make sure signals which are shown in the figure below can be detected during 10 sec. just after door lock/unlock switch is turned "LOCK" or "UNLOCK".



Voltage:
12V → 9V (10 sec.) measurement
by analog circuit tester.

SEL699Y

OK or NG

OK ► Door lock/unlock switch is OK.

NG ► **Check the following.**

- Ground circuit for each front power window switch
- Harness for open or short between each front power window switch and smart entrance control unit connector

If above systems are normal, replace the front power window switch.

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

5 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

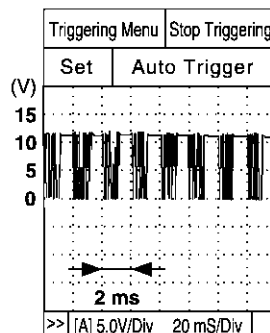
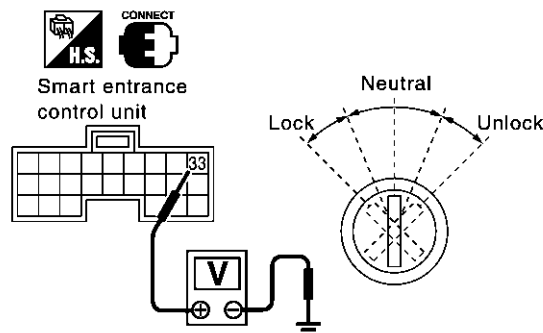
When key inserted in front key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342W

ⓧ Without CONSULT-II

1. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with oscilloscope when key inserted in front key cylinder is turned "LOCK" or "UNLOCK".
2. Make sure signals which are shown in the figure below can be detected during 10 sec. just after key is turned "LOCK" or "UNLOCK".



Voltage:
12V → 9V (10 sec.)
measurement by analog
circuit tester.

SEL700Y

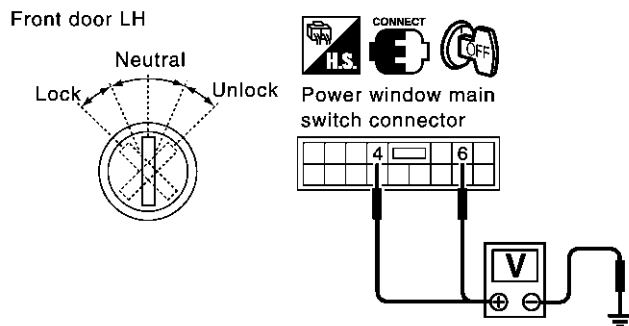
OK or NG

OK ► Door key cylinder switch LH is OK.

NG ► GO TO 6.

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

Check voltage between power window main switch harness connector D6 terminals 4 (Y/L) or 6 (LG) and ground.



| Door | Terminals | | Key position | Voltage V |
|---------------|-----------|--------|----------------|-----------|
| | (+) | (-) | | |
| Front door LH | 4 | Ground | Neutral/Unlock | Approx. 5 |
| | | | Lock | 0 |
| | 6 | Ground | Neutral/Lock | Approx. 5 |
| | | | Unlock | 0 |

SEL792Y

OK or NG

OK ► Replace smart entrance control unit.

NG ► GO TO 7.

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

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7 CHECK BACK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

Ⓔ With CONSULT-II

Check back 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 back key cylinder is turned to LOCK:

KEY CYL LK-SW ON

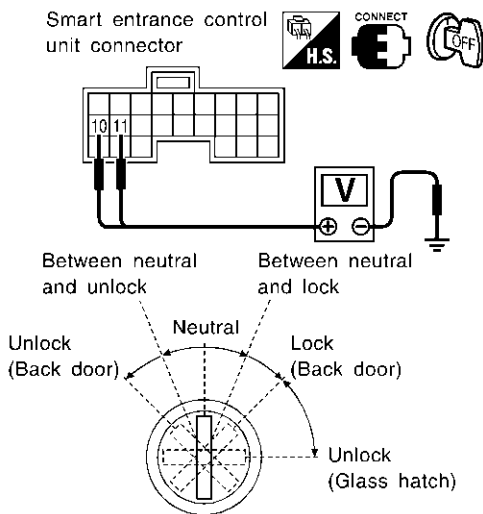
When key inserted in back key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342WB

ⓧ Without CONSULT-II

Check voltage between smart entrance control unit harness connector M121 terminals 10 (LG), 11 (Y) and ground.



| | Terminals | | Key position | Voltage [V] |
|-----------|-----------|--------|----------------------------|-------------|
| | (+) | (-) | | |
| Back door | 11 | Ground | Between neutral and lock | 0 |
| | | | Other positions | Approx. 5 |
| | 10 | Ground | Between neutral and unlock | 0 |
| | | | Other positions | Approx. 5 |

SEL680Y

OK or NG

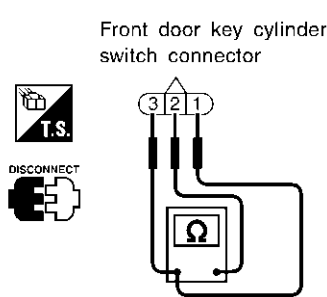
| | | |
|----|---|--------------------------------------|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | GO TO 8. |

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

8 CHECK DOOR KEY CYLINDER SWITCH

1. Disconnect door key cylinder switch harness connector.
 2. Check continuity between each key cylinder switch terminals.
- Front door key cylinder switch harness connector D9

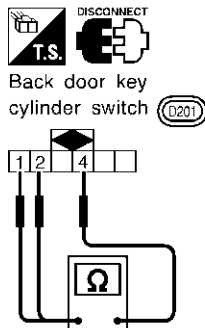


- ① : Door unlock switch terminal
- ② : Ground terminal
- ③ : Door lock switch terminal

| Terminals | Key position | Continuity |
|-----------|----------------|------------|
| ③ - ② | Neutral/Unlock | No |
| | Lock | Yes |
| ① - ② | Neutral/Lock | No |
| | Unlock | Yes |

SEL793Y

- Back door key cylinder switch harness connector D201



| Key position | Terminals | | |
|---|-----------|---|---|
| | 1 | 2 | 4 |
| Between neutral and lock (Back door) | ○ | — | ○ |
| Between neutral and unlock (Back door) | | ○ | ○ |

SEL315X

OK or NG

OK



Check the following.

- Front or back door key cylinder switch ground circuit
- Harness for open or short between back door key cylinder switch and smart entrance control unit connector
- Harness for open or short between front door key cylinder switch and power window main switch

NG



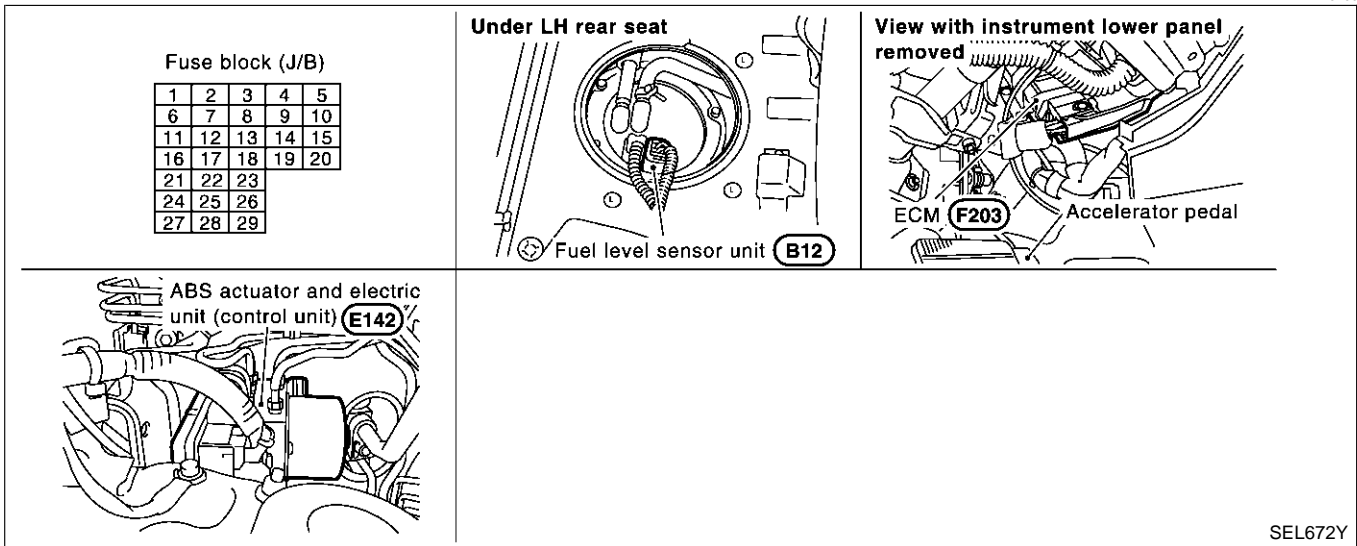
Replace front or back door key cylinder switch.

METERS AND GAUGES

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0296



System Description

NAEL0297

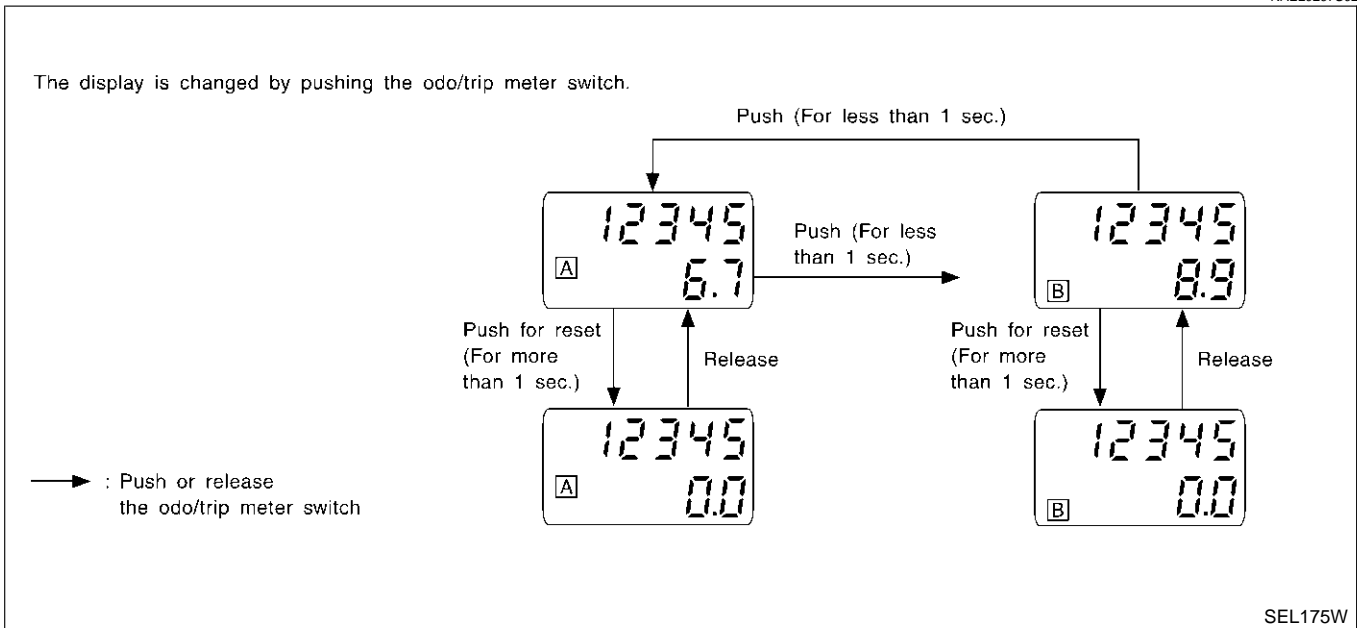
UNIFIED CONTROL METER

NAEL0297S01

- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by control unit.
- 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 segment can be checked in diagnosis mode.
- Meter/gauge can be checked in diagnosis mode.

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

NAEL0297S02



NOTE:

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

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METERS AND GAUGES

System Description (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT

NAEL0297S03

Power is supplied at all times

- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to combination meter terminal 62.

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to combination meter terminal 66.

Ground is supplied

- to combination meter terminal 59
- through body grounds M4, M66, M111, M147 and M157.

WATER TEMPERATURE GAUGE

NAEL0297S04

The water temperature gauge indicates the engine coolant temperature. ECM provides an engine coolant temperature signal to the combination meter for the water temperature gauge with CAN communication line. The needle on the gauge moves from "C" to "H".

TACHOMETER

NAEL0297S05

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

ECM provides an engine speed signal to the combination meter for the tachometer with CAN communication line.

FUEL GAUGE

NAEL0297S06

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 3 of the fuel level sensor unit
- through terminal 2 of the fuel level sensor unit and
- through combination meter terminal 23.

SPEEDOMETER

NAEL0297S07

Without VDC

The ABS actuator and electric unit (control unit) provides a voltage signal to the combination meter for the speedometer.

The voltage is supplied

- from combination meter terminal 15 for the speedometer
- to terminal 19 of the ABS actuator and electric unit (control unit).

The speedometer converts the voltage into the vehicle speed displayed.

With VDC

NAEL0297S0702

The ABS actuator and electric unit (control unit) provides a vehicle speed signal to the combination meter for the speedometer with CAN communication line.

CAN COMMUNICATION SYSTEM

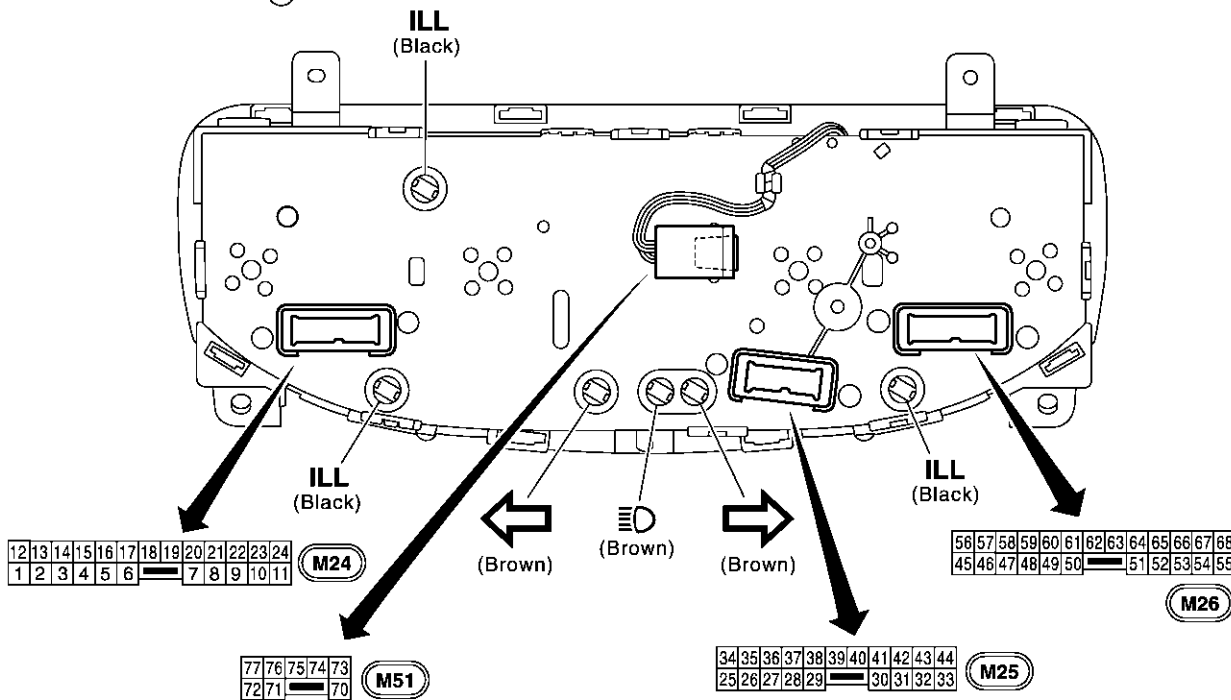
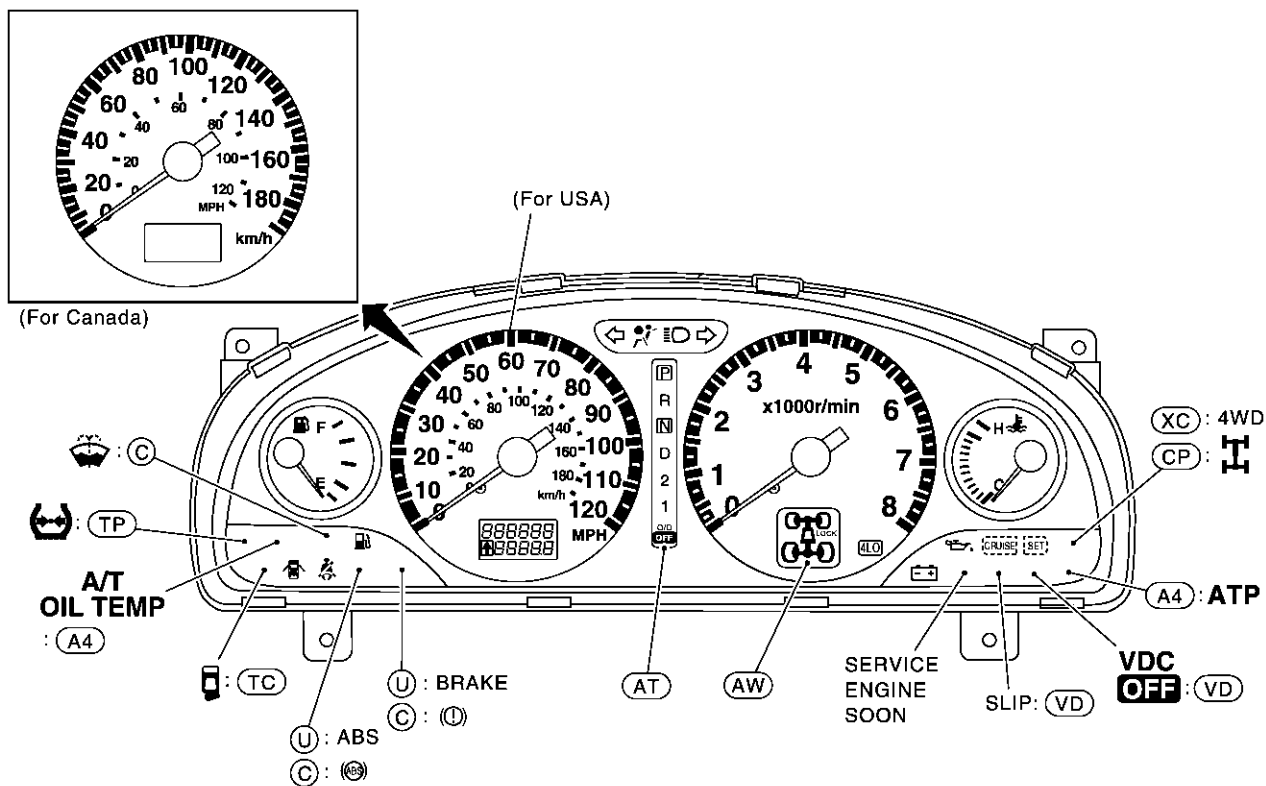
NAEL0297S09

Combination meter receives vehicle speed signal and engine coolant temperature signal etc. from some control units with can communication line. Refer to "CAN COMMUNICATION" (EL-447).

Combination Meter CHECK

NAEL0298

NAEL0298S01



| Bulb socket color | Bulb wattage |
|-------------------|--------------|
| Brown | 1.4W |
| Black | 3.0W |

() : Bulb socket color

- U : For USA
- C : For Canada
- AW : With all-mode 4-wheel drive
- CP : For Canada with A/T and part-time 4-wheel drive, with M/T and part-time 4-wheel drive
- XC : Except CP
- A4 : With A/T and 4-wheel drive
- TC : With spare tire carrier
- TP : With tire air pressure warning
- AT : With A/T
- VD : With VDC

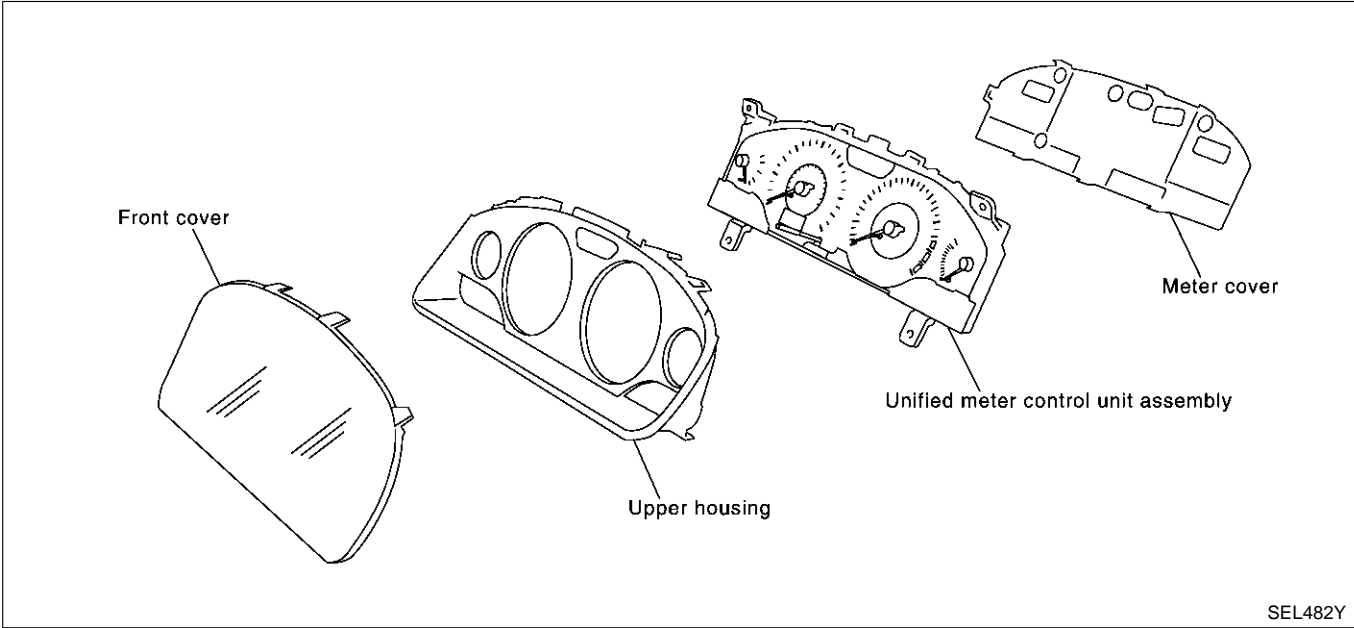
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METERS AND GAUGES

Combination Meter (Cont'd)

CONSTRUCTION

NAEL0298S02



SEL482Y

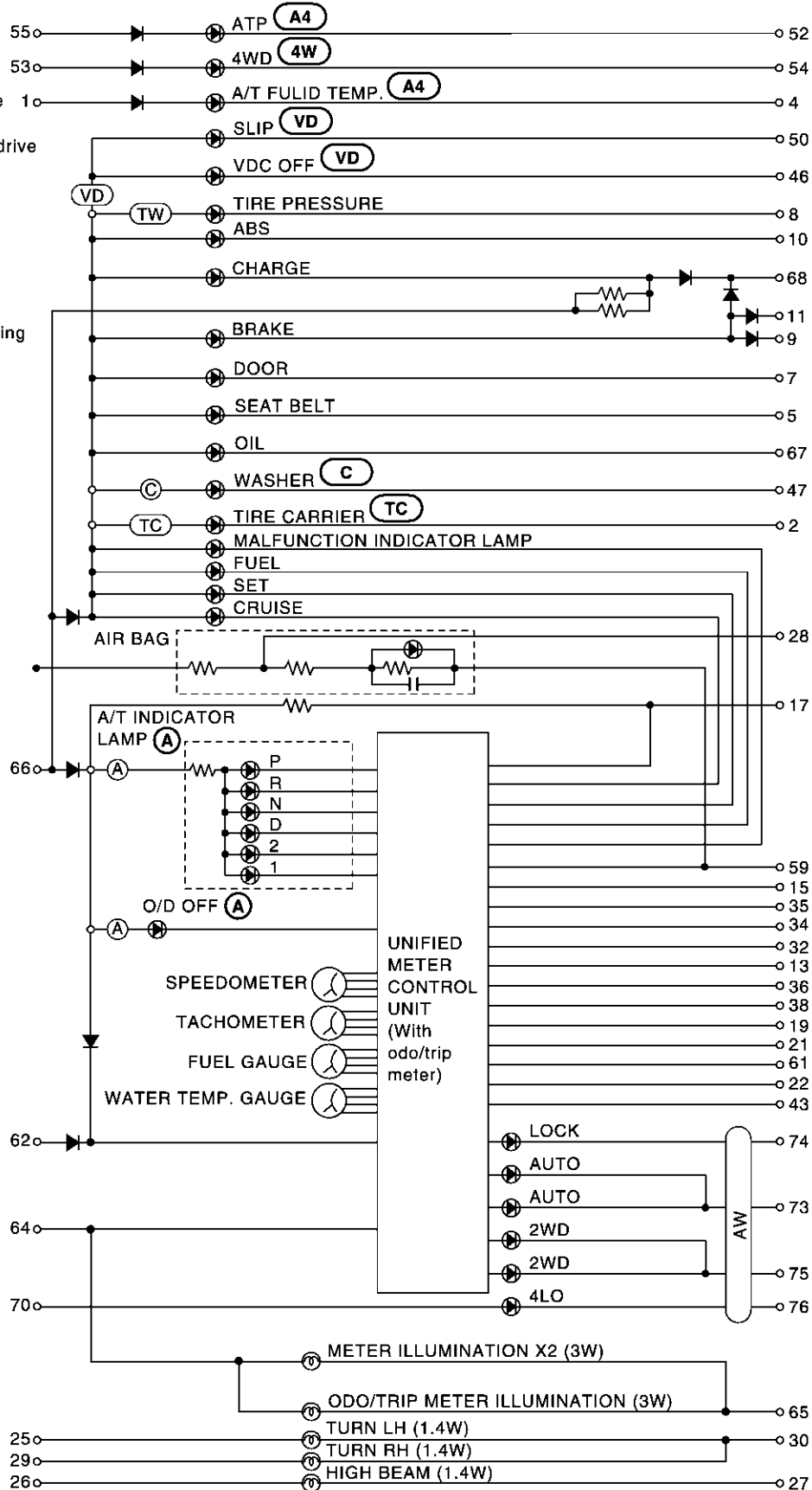
METERS AND GAUGES

Schematic

NAEL0299

Schematic

- (A)** : With A/T
- (C)** : For Canada
- (TC)** : With spare tire carrier
- (4W)** : With 4-wheel drive
- (AW)** : With all-mode 4-wheel drive
- (A4)** : With A/T and 4-wheel drive
- (VD)** : With VDC
- (TW)** : With tire pressure warning system



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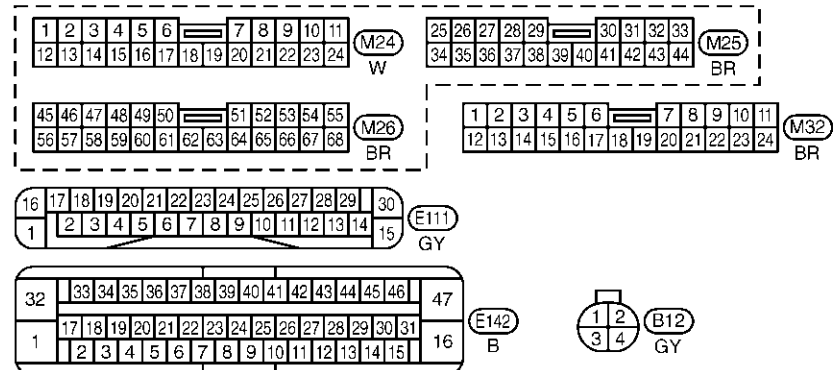
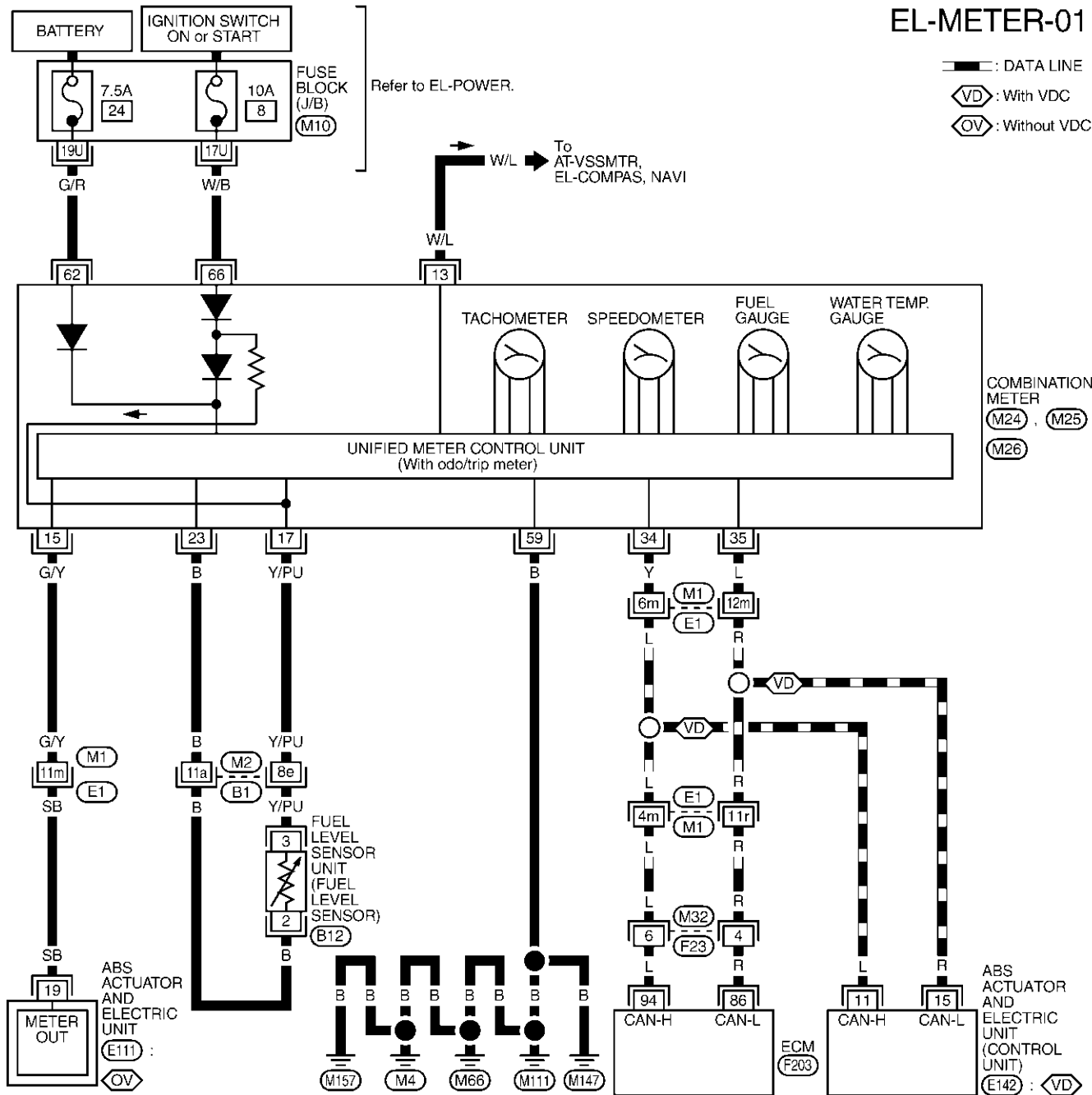
METERS AND GAUGES

Wiring Diagram — METER —

Wiring Diagram — METER —

NAEL0300

EL-METER-01



REFER TO THE FOLLOWING.

(E1), (B1) -SUPER
MULTIPLE JUNCTION (SMJ)

(M10) -FUSE BLOCK-
JUNCTION BOX (J/B)

(F42), (F203) -ELECTRICAL UNITS

MEL978P

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

NAEL0301

DIAGNOSIS FUNCTION

NAEL0301S01

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

HOW TO ALTERNATE DIAGNOSIS MODE

NAEL0301S02

1. Turn ignition switch to ON and change odo/trip meter to "TRIP A" or "TRIP B".
2. Turn ignition switch to OFF.
3. Turn ignition switch to ON when pushing odo/trip meter switch.
4. Push odo/trip meter switch 1 second.
5. Release odo/trip meter switch.
6. Push odo/trip meter switch more than three times within 7 seconds.

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

NOTE:

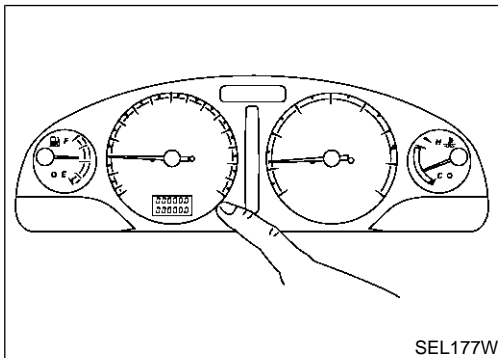
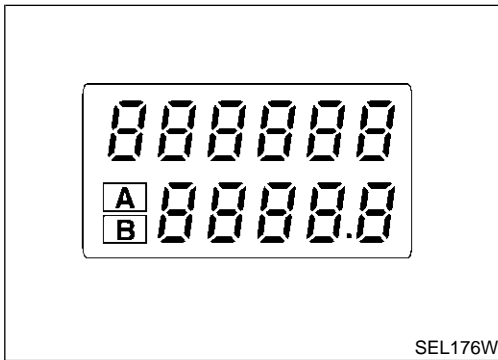
If some segments are not turned on, unified meter control unit with odo/trip meter should be replaced.

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

8. 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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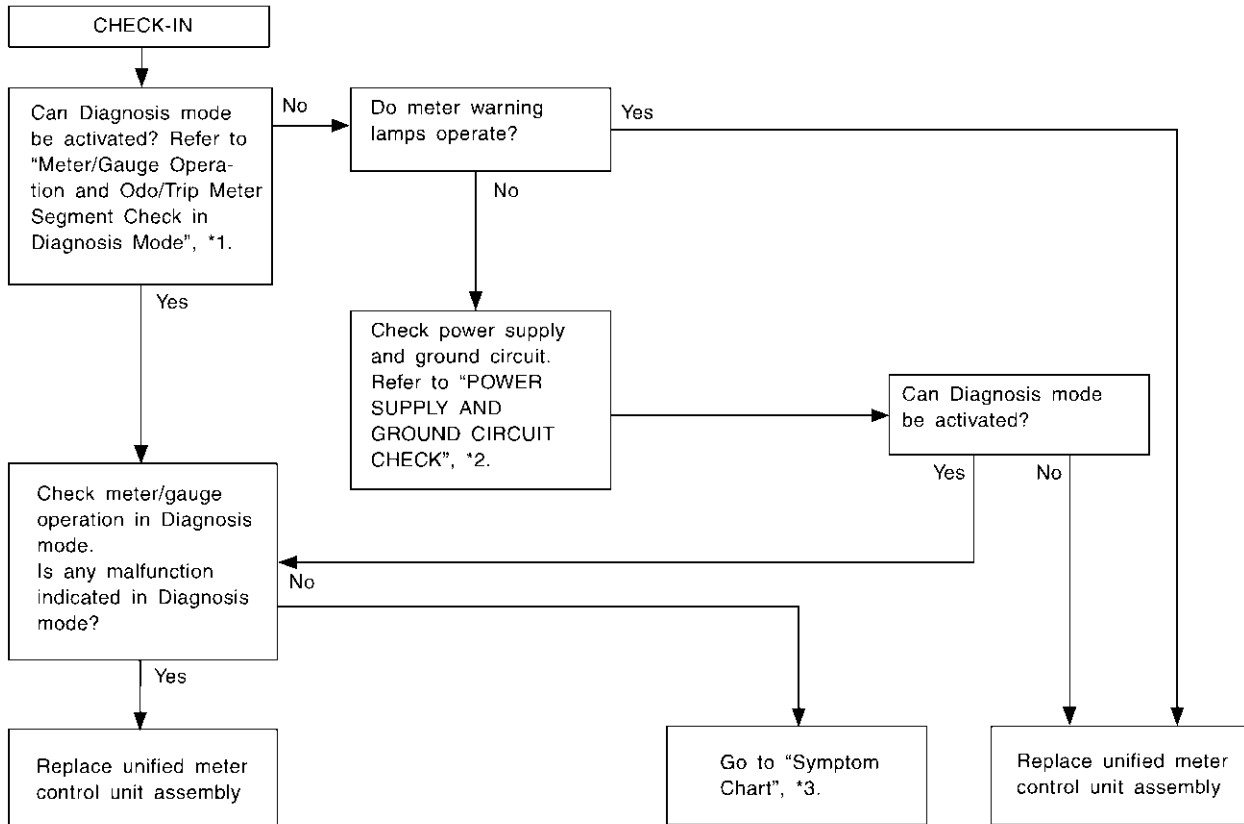
METERS AND GAUGES

Trouble Diagnoses

Trouble Diagnoses PRELIMINARY CHECK

NAEL0302

NAEL0302S01



SEL494Y

*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-129)

*2: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-131)

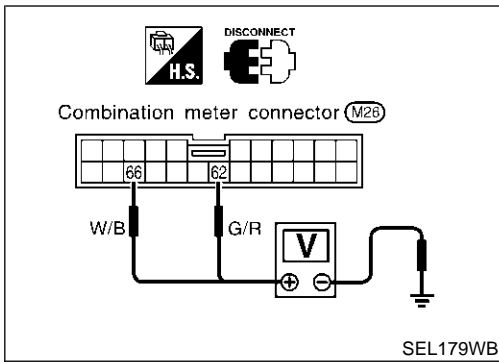
*3: Symptom Chart (EL-130)

SYMPTOM CHART

NAEL0302S02

| Symptom | Possible causes | Repair order |
|---|---|---|
| One of speedometer/tachometer/fuel gauge/water temp. gauge is malfunctioning. | 1. Sensor signal - Vehicle speed signal - Engine speed signal - Fuel gauge - Water temp. gauge 2. Unified meter control unit | 1. Check the sensor for malfunctioning meter/gauge. INSPECTION/VEHICLE SPEED SIGNAL WITH VDC (Refer to EL-131.) INSPECTION/VEHICLE SPEED SIGNAL WITHOUT VDC (Refer to EL-132.) INSPECTION/ENGINE SPEED SIGNAL (Refer to EL-132.) INSPECTION/FUEL LEVEL SENSOR UNIT (Refer to EL-133.) INSPECTION/WATER TEMPERATURE SIGNAL (Refer to EL-134.) |
| Multiple meter/gauge are malfunctioning. (except odo/trip meter) | Unified meter control unit | 2. Replace unified meter control unit assembly. |

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-130.



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NAEL0302S03

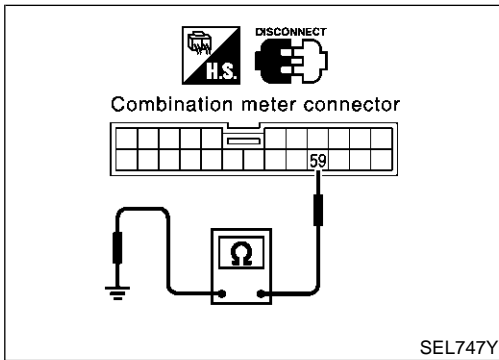
Power Supply Circuit Check

NAEL0302S0301

| 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.

- 7.5A fuse [No. 24, located in fuse block (J/B)]
- 10A fuse [No. 8, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter



Ground Circuit Check

NAEL0302S0302

| Terminals | | Continuity |
|-----------|-----------------------|------------|
| (+) | (-) | |
| Connector | Terminal (wire color) | |
| M26 | 59 (B) | Ground |
| | | Yes |

INSPECTION/VEHICLE SPEED SIGNAL WITH VDC

NAEL0302S11

| | | |
|--|---|---|
| 1 | CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) OUTPUT | |
| Perform ABS actuator and electric unit (control unit) self-diagnosis. Refer to BR-106, "CONSULT-II Functions". | | |
| OK or NG | | |
| OK | ▶ | Replace combination meter. |
| NG | ▶ | Check ABS actuator and electric unit (control unit). Refer to BR-94, "Trouble Diagnosis". |

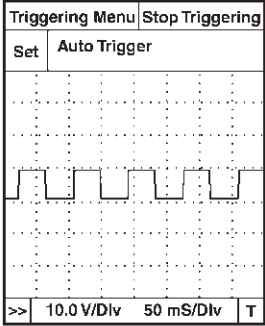
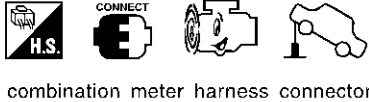
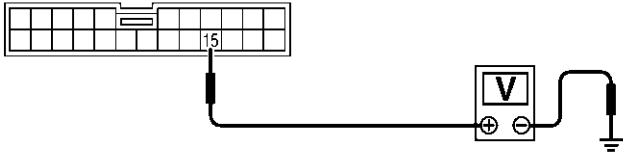
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METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/VEHICLE SPEED SIGNAL WITHOUT VDC

=NAEL0302S04

| | | |
|--|--|--|
| 1 | CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) OUTPUT SIGNAL | |
| <p>Ⓔ With CONSULT-II</p> <ol style="list-style-type: none"> Lift up drive wheels. Start engine and drive vehicle at more than 20 km/h (12 MPH). Check signal between combination meter harness connector M24 terminal 15 (G/Y) and ground when rotating wheels with engine at idle. (Use "SIMPLE OSCILLOSCOPE" in "SUB MODE" with CONSULT-II.) | | |
|  | | |
| SEL938W | | |
| <p>⊗ Without CONSULT-II</p> <ol style="list-style-type: none"> Lift up drive wheels. Start engine and drive vehicle at more than 20 km/h (12 MPH). Check voltage between combination meter harness connector M24 terminal 15 (G/Y) and ground when rotating wheels with engine at idle. | | |
|  | | |
| Voltage: Approx. 0 - 5V | | |
|  | | |
| OK or NG | | |
| OK | ▶ | ABS actuator and electric unit (control unit) is OK. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> Harness for open or short between ABS actuator and electric unit (control unit) and combination meter. ABS actuator and electric unit (control unit). Refer to BR-56, "Wheel Sensor or Rotor". |

SEL939WA

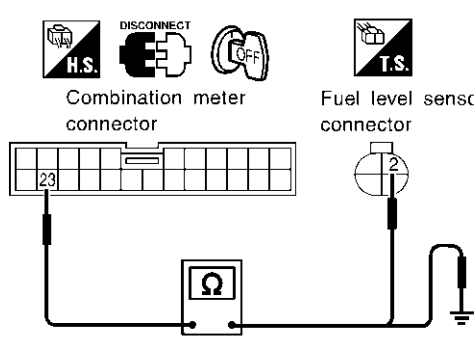
INSPECTION/ENGINE SPEED SIGNAL

NAEL0302S05

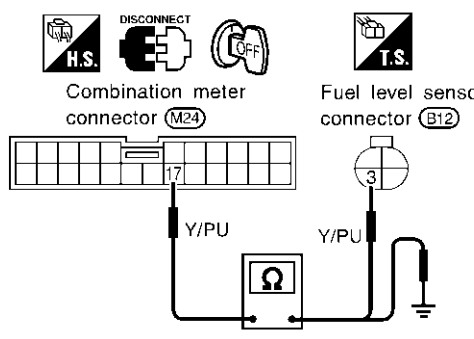
| | | |
|--|---------------------------------|---|
| 1 | CHECK ECM SELF-DIAGNOSIS | |
| Perform ECM self-diagnosis. Refer to EC-86, "Emission-related Diagnostic Information". | | |
| OK or NG | | |
| OK | ▶ | Replace combination meter. |
| NG | ▶ | Perform "Diagnostic Procedure" for displayed DTC. |

INSPECTION/FUEL LEVEL SENSOR UNIT

=NAEL0302S06

| | | |
|---|--|------------------------------|
| 1 | CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT | |
| <ol style="list-style-type: none"> 1. Turn ignition switch to OFF position. 2. Disconnect combination meter connector and fuel level sensor connector. 3. Check continuity between combination meter harness connector M24 terminal 23 (B) and fuel level sensor unit harness connector B12 terminal 2 (B). 4. Check continuity between combination meter harness connector M24 terminal 23 and ground. | | |
|  | | |
| <p>Continuity:</p> <p>Combination meter terminal 23 and fuel level sensor unit terminal 2</p> <p style="padding-left: 20px;">Yes</p> <p>Combination meter terminal 23 and ground</p> <p style="padding-left: 20px;">No</p> | | |
| SEL794Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair harness or connector. |

| | | |
|---|-------------------------------------|---------------------------------|
| 2 | CHECK FUEL LEVEL SENSOR UNIT | |
| Refer to "FUEL LEVEL SENSOR UNIT CHECK" (EL-134). | | |
| 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"> 1. Disconnect combination meter connector and fuel level sensor unit connector. 2. Check continuity between combination meter terminal 17 and fuel level sensor unit terminal 3. 3. Check continuity between combination meter terminal 17 and ground. | | |
|  | | |
| <p>Continuity:</p> <p>Combination meter terminal 17 and fuel level sensor unit terminal 3</p> <p style="padding-left: 20px;">Yes</p> <p>Combination meter terminal 17 and ground</p> <p style="padding-left: 20px;">No</p> | | |
| SEL300X | | |
| OK or NG | | |
| OK | ▶ | Fuel level sensor unit is OK. |
| NG | ▶ | Repair harness or connector. |

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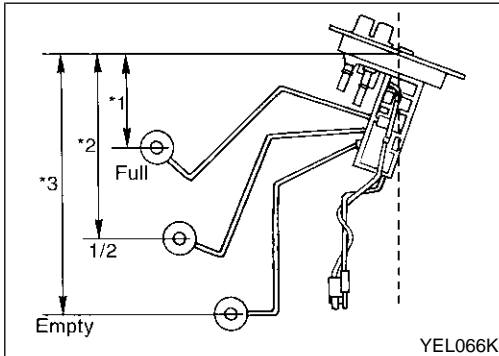
METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/WATER TEMPERATURE SIGNAL

NAEL0302S07

| | | |
|--|---------------------------------|---|
| 1 | CHECK ECM SELF-DIAGNOSIS | |
| Perform ECM self-diagnosis. Refer to EC-86, "Emission-related Diagnostic Information". | | |
| OK or NG | | |
| OK | ▶ | Replace combination meter. |
| NG | ▶ | Perform "Diagnostic Procedure" for display DTC. |



Electrical Components Inspection

NAEL0303

FUEL LEVEL SENSOR UNIT CHECK

NAEL0303S02

- For removal, refer to FE-4, "FUEL SYSTEM".

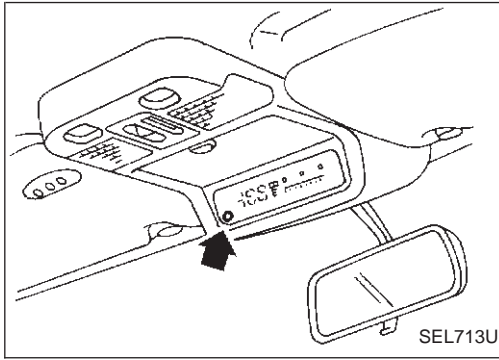
Check the resistance between terminals 3 and 2.

| Ohmmeter | | Float position | | mm (in) | Resistance value Ω |
|----------|-----|----------------|-------|-------------|--------------------|
| (+) | (-) | | | | |
| 3 | 2 | *1 | Full | 95 (3.74) | Approx. 4 - 6 |
| | | *2 | 1/2 | 184 (7.24) | |
| | | *3 | Empty | 265 (10.43) | |

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

System Description

GI
NAEL0304



This unit displays following items:

- Earth magnetism and heading direction of vehicle.
- Outside air temperature.
- Caution for frozen road surfaces.

OUTSIDE TEMPERATURE DISPLAY

Push the switch when the ignition key is in the “ACC” or “ON” position. The outside temperature will be displayed in “°F”. NAEL0304S01

- Selecting the indication range
Push the switch to change from “°F” to “°C”.
- When the outside temperature drops below freezing point, ICE is displayed on the unit.
- When the outside temperature is between 55°C (130°F) and 70°C (158°F), the display shows 55°C (130°F).
- When the outside temperature is lower than -30°C (-20°F) or higher than 70°C (158°F), the display shows only “---” though it is operating. This is not a problem.
- The indicated temperature on the thermometer is not readily affected by engine heat. It changes only when one of the following conditions is present.
 - a) The temperature detected by the ambient air temperature sensor is lower than the indicated temperature on the thermometer.
 - b) The difference in temperature detected during a period of 40 seconds is less than 1°C (1.8°F) when vehicle speed has been greater than 24 km/h (15 MPH) for more than 100 seconds. (This is to prevent the indicated temperature from being affected by engine heat or cooling fan operation during low-speed driving.)
 - c) The ignition key has been turned to the “OFF” position for more than 4 hours. (The engine is cold.)

DIRECTION DISPLAY

Push the switch when the ignition key is in the “ACC” or “ON” position. The direction will be displayed. NAEL0304S02

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COMPASS AND THERMOMETER

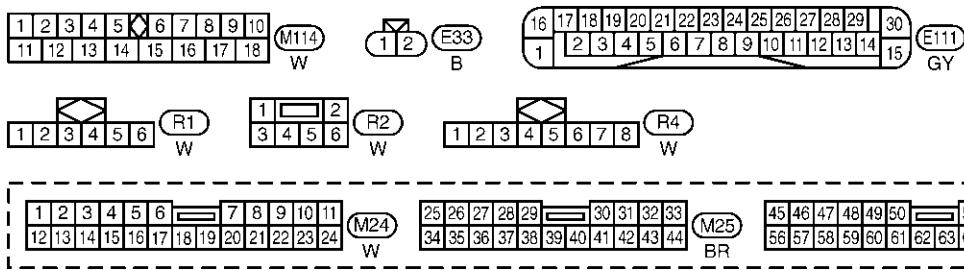
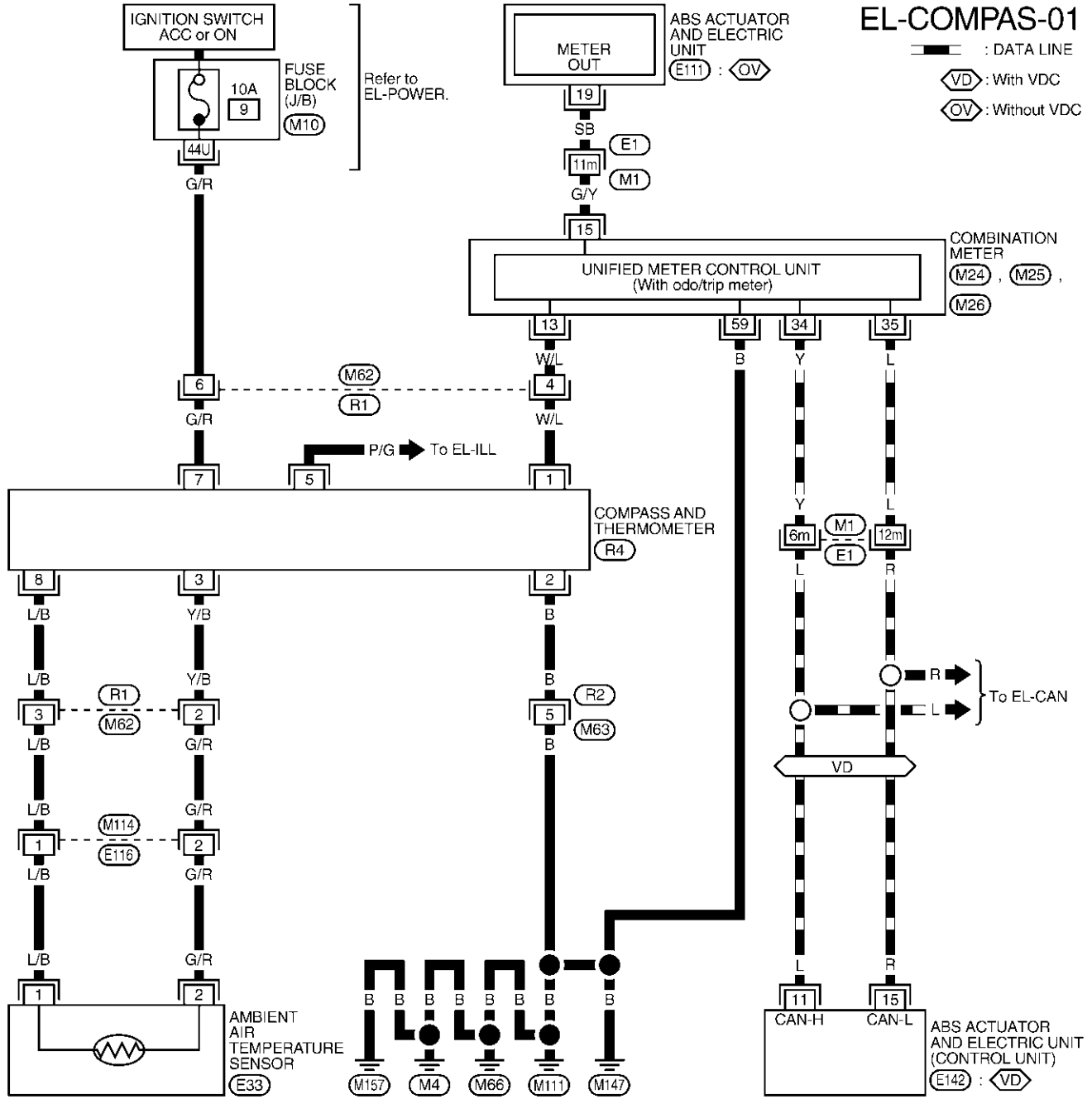
Wiring Diagram — COMPAS —

Wiring Diagram — COMPAS —

NAEL0305

EL-COMPAS-01

— : DATA LINE
 ◊VD : With VDC
 ◊OV : Without VDC



REFER TO THE FOLLOWING.

- ◊E1 -SUPER MULTIPLE JUNCTION (SMJ)
- ◊M10 -FUSE BLOCK-JUNCTION BOX (J/B)
- ◊E142 -ELECTRICAL UNITS

MEL979P

Trouble Diagnoses

NAEL0306

NAEL0306S01

PRELIMINARY CHECK FOR THERMOMETER

| | | |
|---|------------------------|--|
| 1 | COOL DOWN CHECK | |
| 1. Turn the ignition key switch to the "ACC" position. 2. Cool down the ambient air temperature sensor with water or ice, so that the indicated temperature falls. | | |
| Does the indicated temperature fall? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | The system is malfunctioning. Check the system following "INSPECTION/COMPASS AND THERMOMETER". |

| | | |
|---|----------------------|--|
| 2 | WARM UP CHECK | |
| 1. Leave the vehicle for 10 minutes, so that the indicated temperature rises. 2. With the ignition key in the "ACC" position, disconnect and reconnect the ambient air temperature sensor connector. | | |
| Does the indicated temperature rise? | | |
| Yes | ▶ | The system is OK. |
| No | ▶ | The system is malfunctioning. Check the system following "INSPECTION/COMPASS AND THERMOMETER". |

NOTE:

- When the outside temperature is between 55°C (130°F) and 70°C (158°F), the display shows 55°C (130°F). When the outside temperature is lower than -30°C (-20°F) or higher than 70°C (158°F), the display shows only "---".
- The indicated temperature on the thermometer is not readily affected by engine heat. It changes only when one of the following conditions is present.
 - a) The temperature detected by the ambient air temperature sensor is lower than the indicated temperature on the thermometer.
 - b) The difference in temperature detected during a period of 40 seconds is less than 1°C (1.8°F) when vehicle speed has been greater than 24 km/h (15 MPH) for more than 100 seconds. (This is to prevent the indicated temperature from being affected by engine heat or cooling fan operation during low-speed driving.)
 - c) The ignition key has been turned to the "OFF" position for more than 4 hours. (The engine is cold.)

INSPECTION/COMPASS AND THERMOMETER

NAEL0306S02

| Symptom | Possible causes | Repair order |
|--|---|--|
| No display at all | 1. 10A fuse 2. Ground circuit 3. Compass and thermometer | 1. Check 10A fuse [No. 9, located in fuse block (J/B)]. Turn the ignition switch ON and verify that battery positive voltage is at terminal 7 of compass and thermometer. 2. Check ground circuit for compass and thermometer. 3. Replace compass and thermometer. |
| Forward direction indication slips off the mark or incorrect. | 1. In manual correction mode (Bar and display vanish.) 2. Zone variation change is not done. | 1. Drive the vehicle and turn at an angle of 90°. 2. Perform the zone variation change. |
| Compass reading remains unchanged. | 1. Vehicle speed signal is not entered. 2. Compass and thermometer | 1. Check harness for open or short between combination meter terminal 13 and compass and thermometer terminal 1. 2. Replace compass and thermometer. |
| Displays wrong temperature when ambient temperature is between -30°C (-20°F) and 55°C (130°F). (See NOTE above.) | 1. Check operation 2. Ambient air temperature sensor circuit 3. Vehicle speed signal is not entered. 4. Ambient air temperature sensor 5. Compass and thermometer | 1. Perform preliminary check shown above. 2. Check harness for open or short between ambient air temperature sensor and compass and thermometer. 3. Check harness for open or short between combination meter terminal 13 and compass and thermometer terminal 1. 4. Replace ambient air temperature sensor. 5. Replace compass and thermometer. |

COMPASS AND THERMOMETER

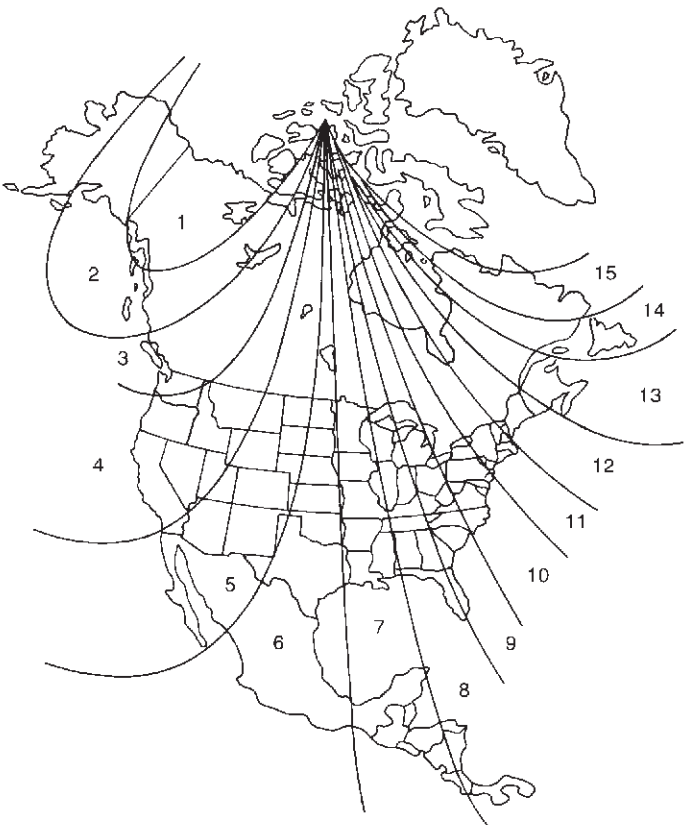
Calibration Procedure for Compass

Calibration Procedure for Compass

NAEL0307

The difference between magnetic North and geographical North can sometimes be great enough to cause false compass readings. In order for the compass to operate accurately in a particular zone, it must be calibrated using the following procedure.

Zone Variation Chart



1. Determine your location on the zone map. Record your zone number.

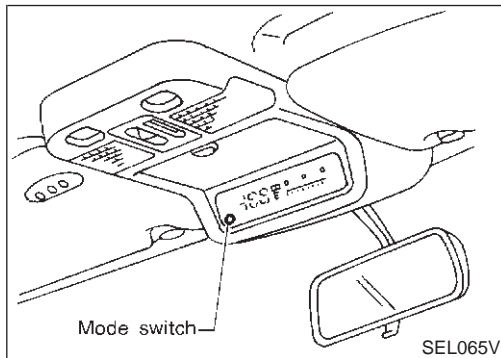
2. Turn the ignition switch to ACC or ON position.

3. Push the "Mode" switch continuously for five seconds until the current zone entry number is displayed.

4. Press the "Mode" switch repeatedly until the desired zone number is displayed.

Once the desired zone number is displayed, stop pressing the "Mode" switch and the display will show compass direction after a few seconds.

SEL738UA



CORRECTION FUNCTIONS OF COMPASS

NAEL0307S01

The direction display is equipped with automatic correction function. If the direction is not shown correctly, carry out initial correction.

INITIAL CORRECTION PROCEDURE FOR COMPASS

NAEL0307S02

1. Pushing the "Mode" switch for about 10 seconds will enter the initial correction mode. The direction bar starts blinking.
2. Turn the vehicle slowly in an open, safe place. The initial correction is completed in one or two turns.

NOTE:

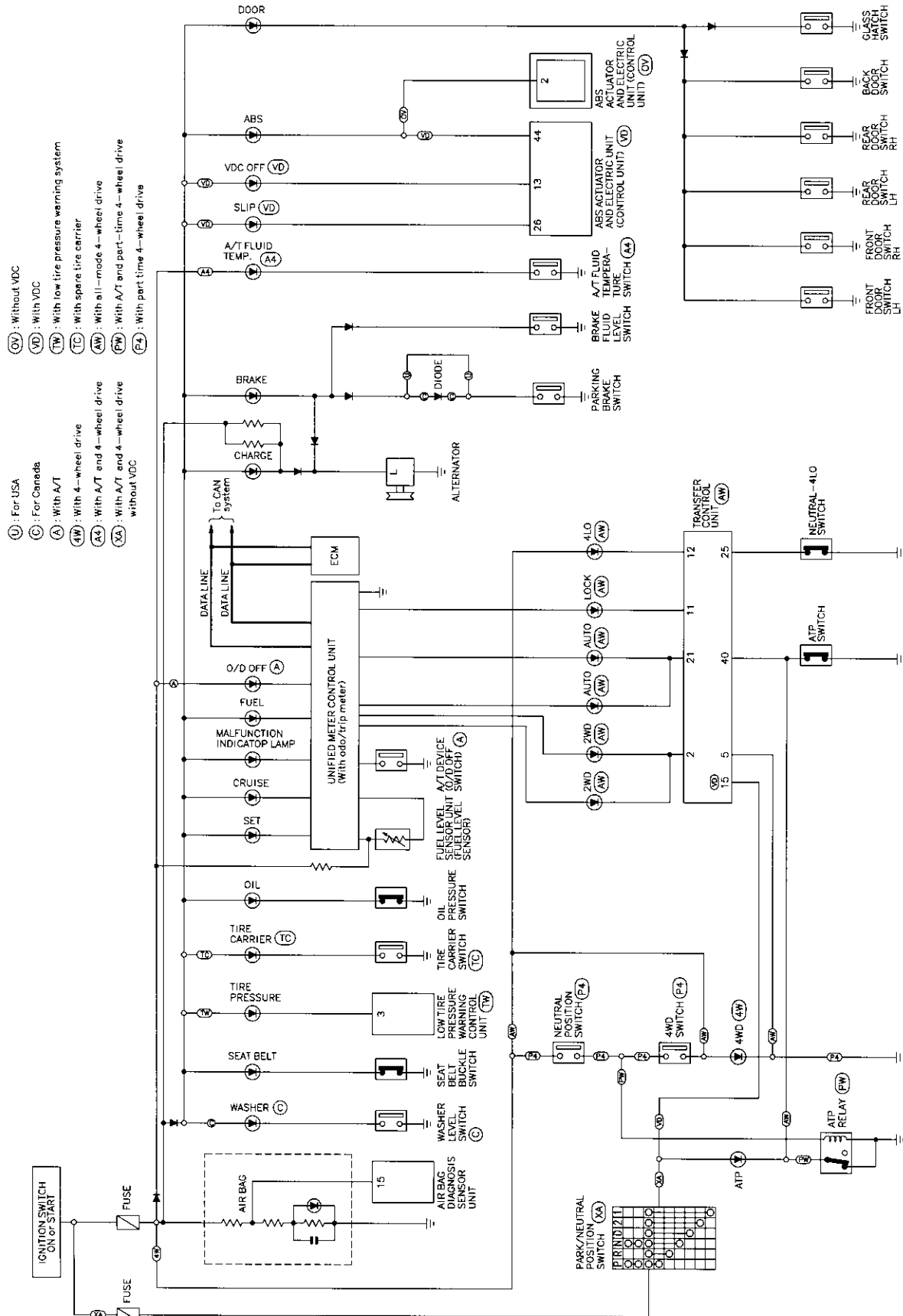
In places where the terrestrial magnetism is extremely disturbed, the initial correction may start automatically.

WARNING LAMPS

Schematic

NAEL0308

Schematic



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WARNING LAMPS

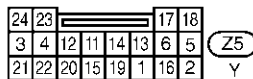
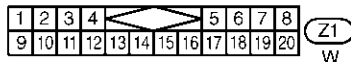
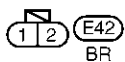
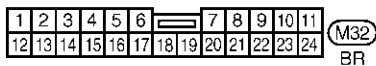
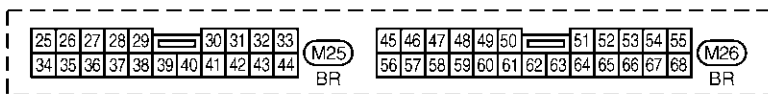
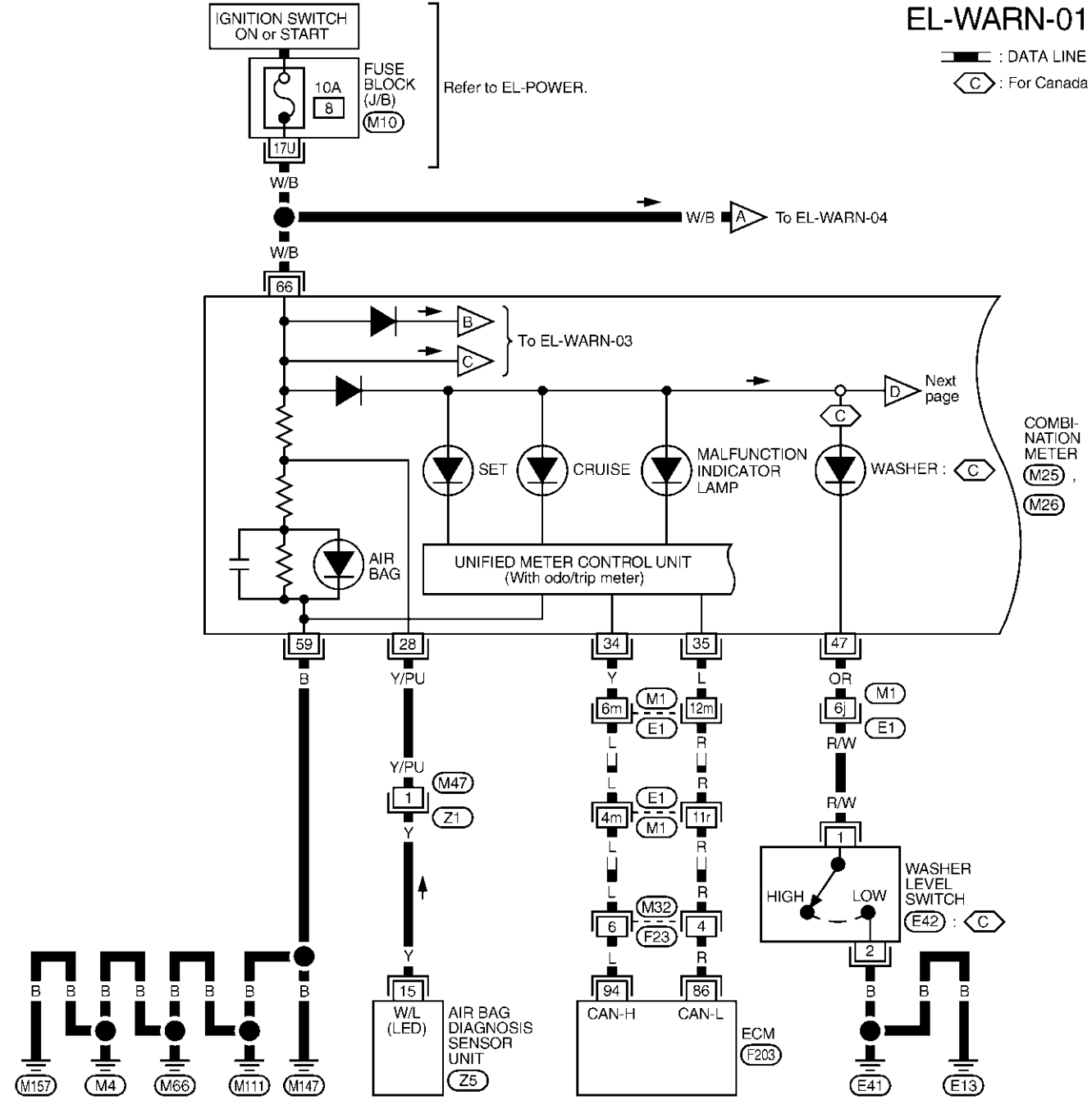
Wiring Diagram — WARN —

Wiring Diagram — WARN —

NAEL0309

EL-WARN-01

— : DATA LINE
 ◻ : For Canada



REFER TO THE FOLLOWING.

- (E1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M10) -FUSE BLOCK-JUNCTION BOX (J/B)
- (F203) -ELECTRICAL UNITS

MEL981P

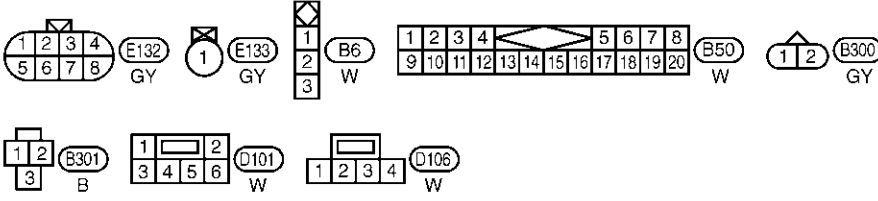
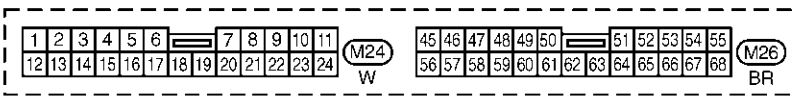
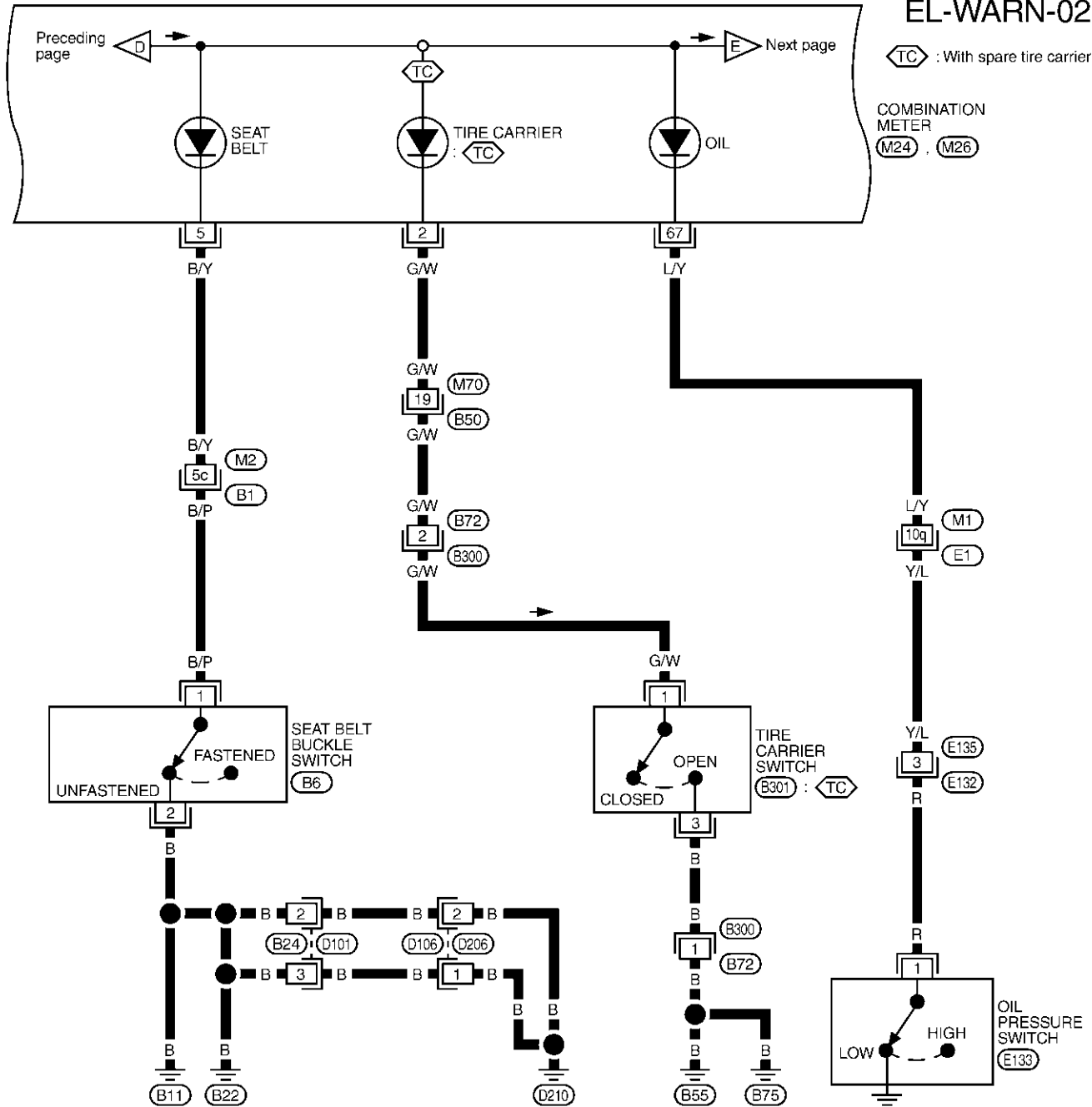
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-02

TC : With spare tire carrier

COMBINATION METER
M24 : M26



REFER TO THE FOLLOWING.

E1, B1 -SUPER
MULTIPLE JUNCTION (SMJ)

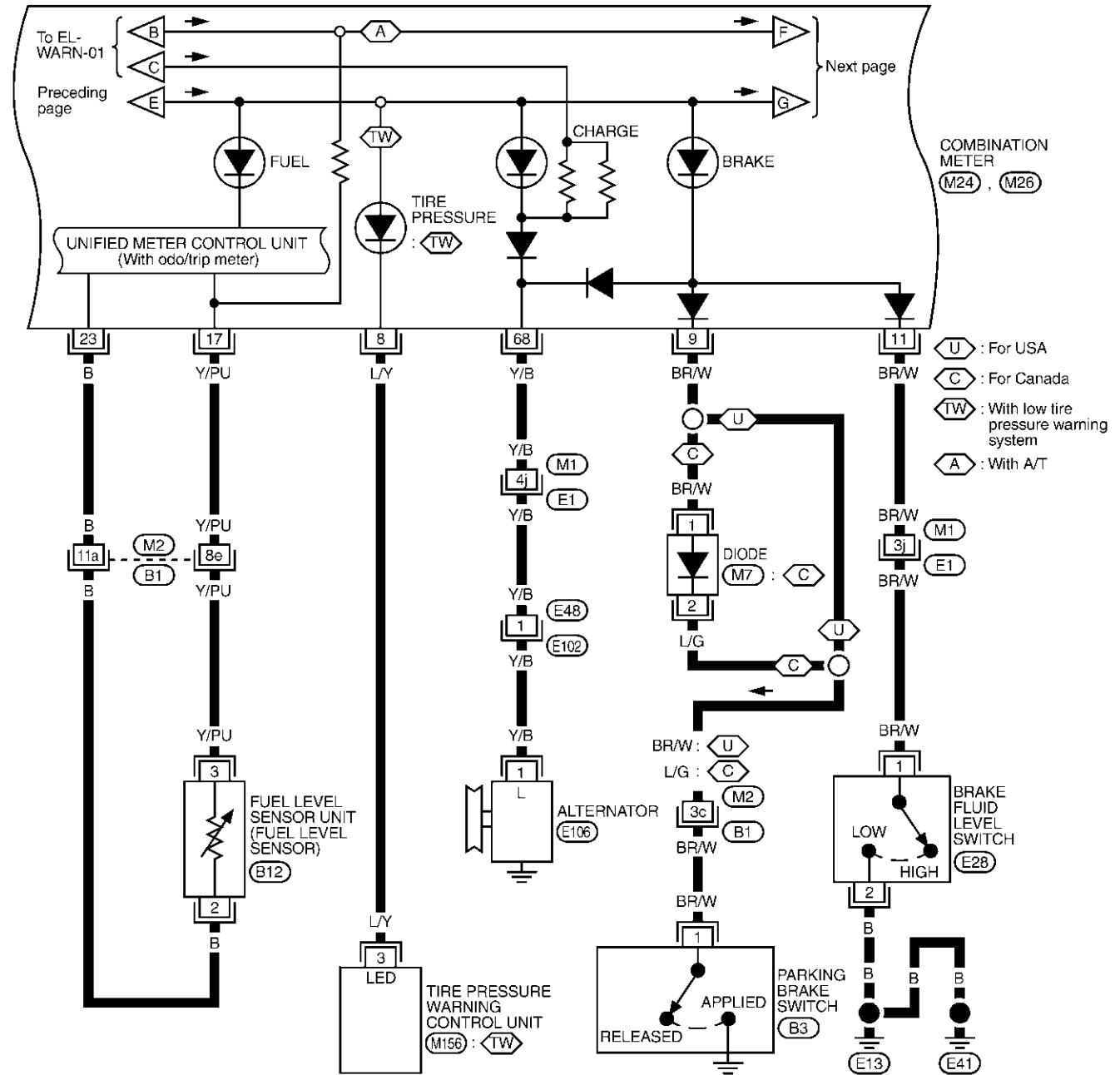
MEL982P

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WARNING LAMPS

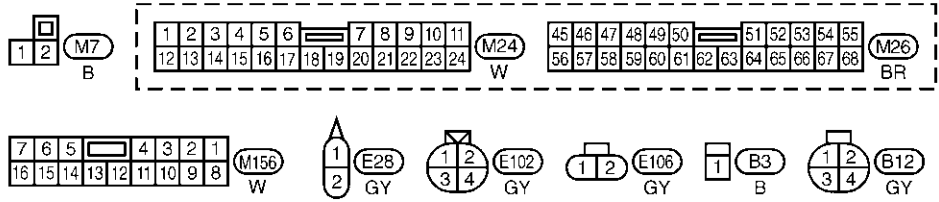
Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



COMBINATION METER (M24), (M26)

- U : For USA
- C : For Canada
- TW : With low tire pressure warning system
- A : With A/T



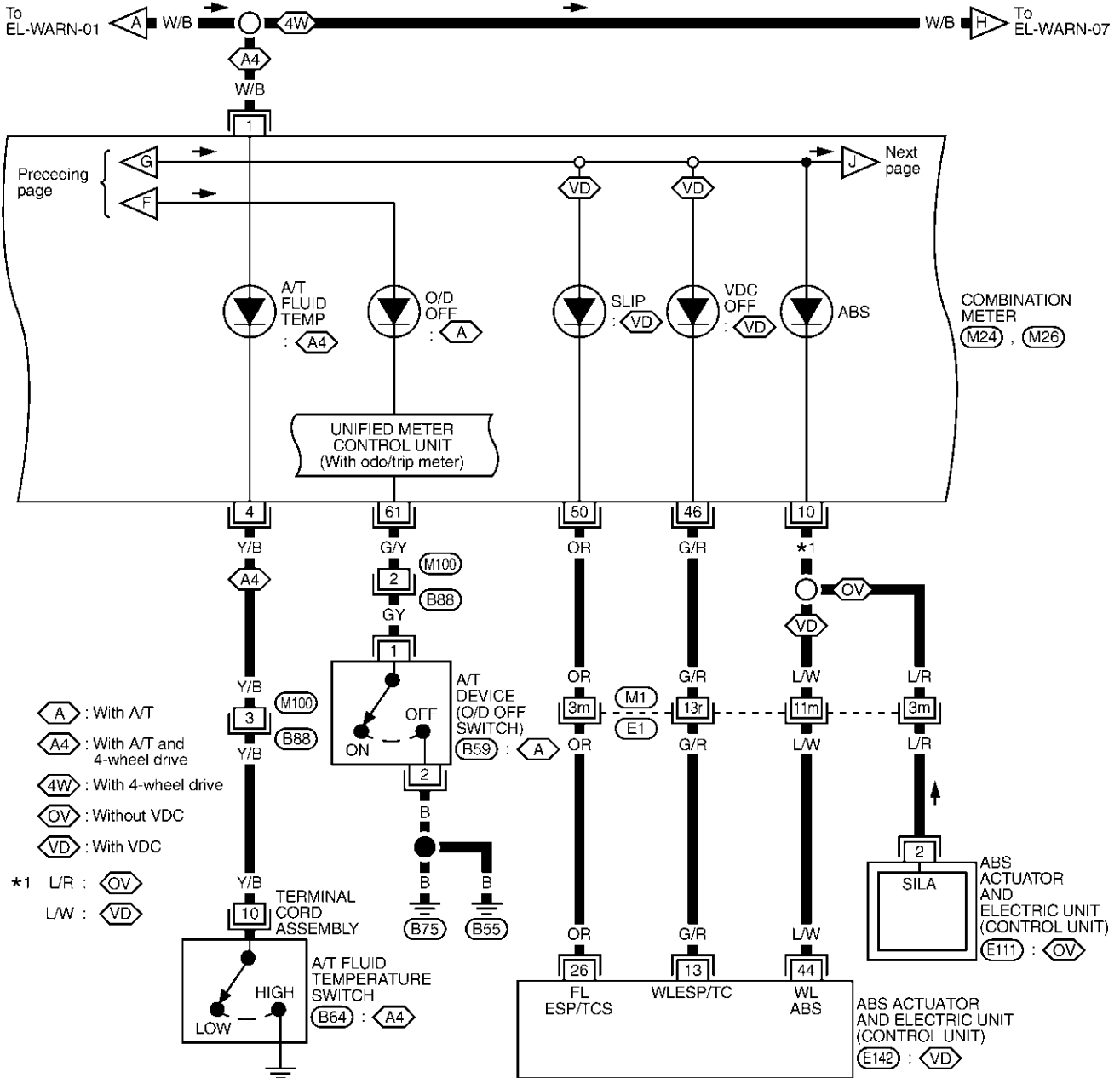
REFER TO THE FOLLOWING.
 (E1), (B1) - SUPER
 MULTIPLE JUNCTION (SMJ)

MEL983P

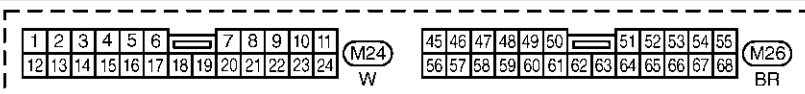
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

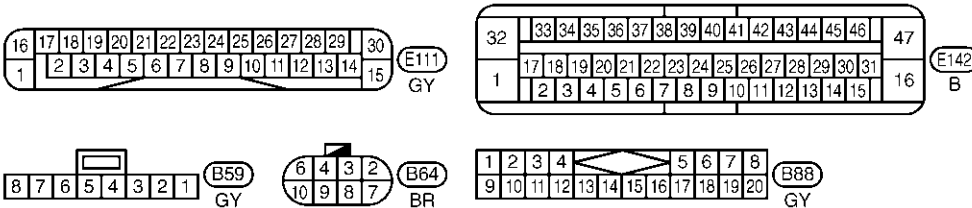
EL-WARN-04



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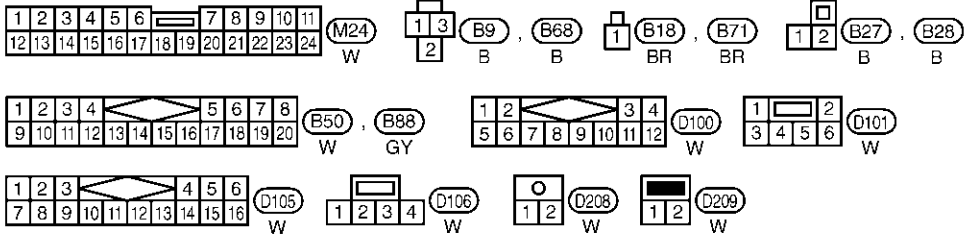
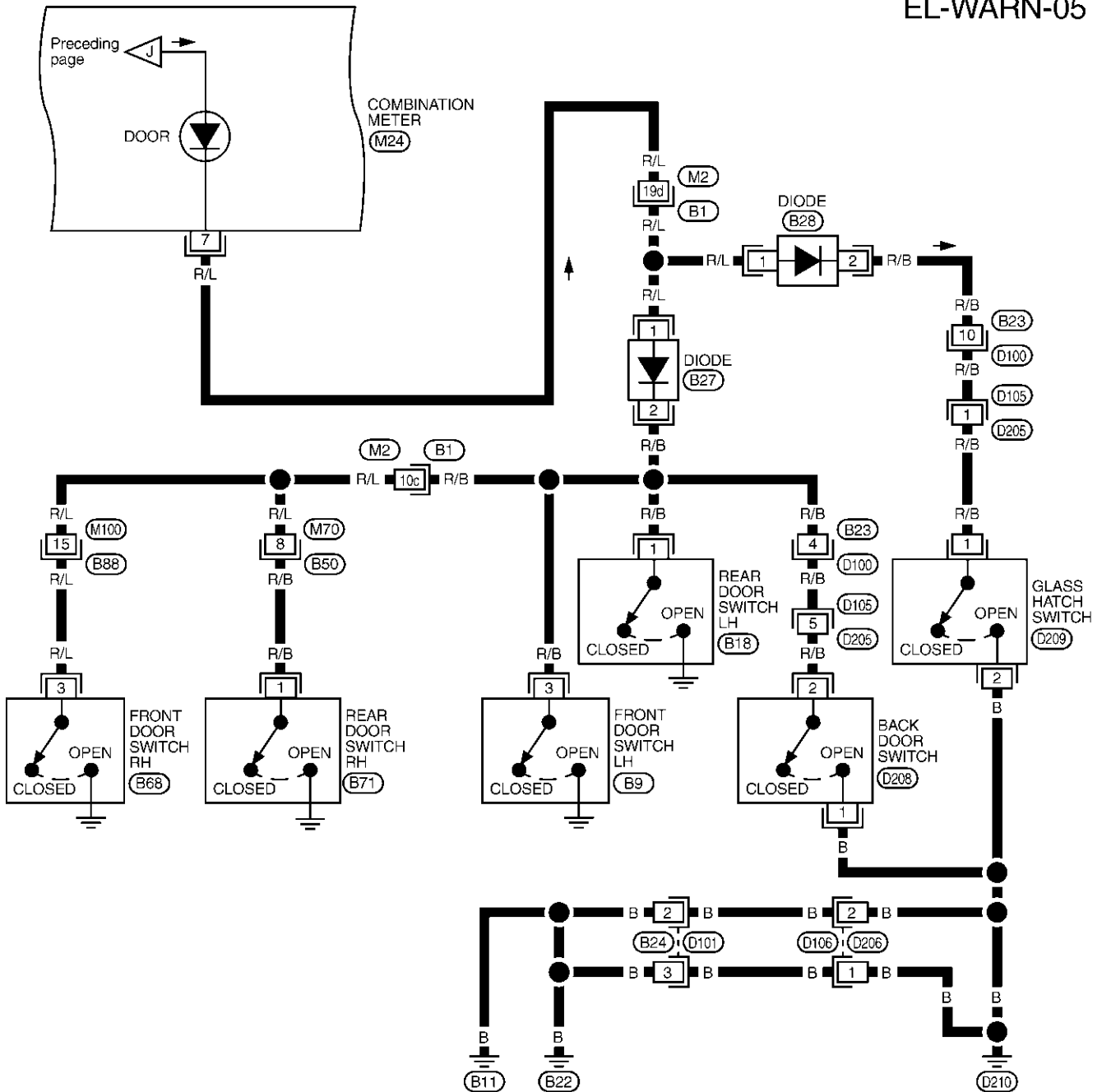
REFER TO THE FOLLOWING.
E1 - SUPER MULTIPLE JUNCTION (SMJ)



WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-05



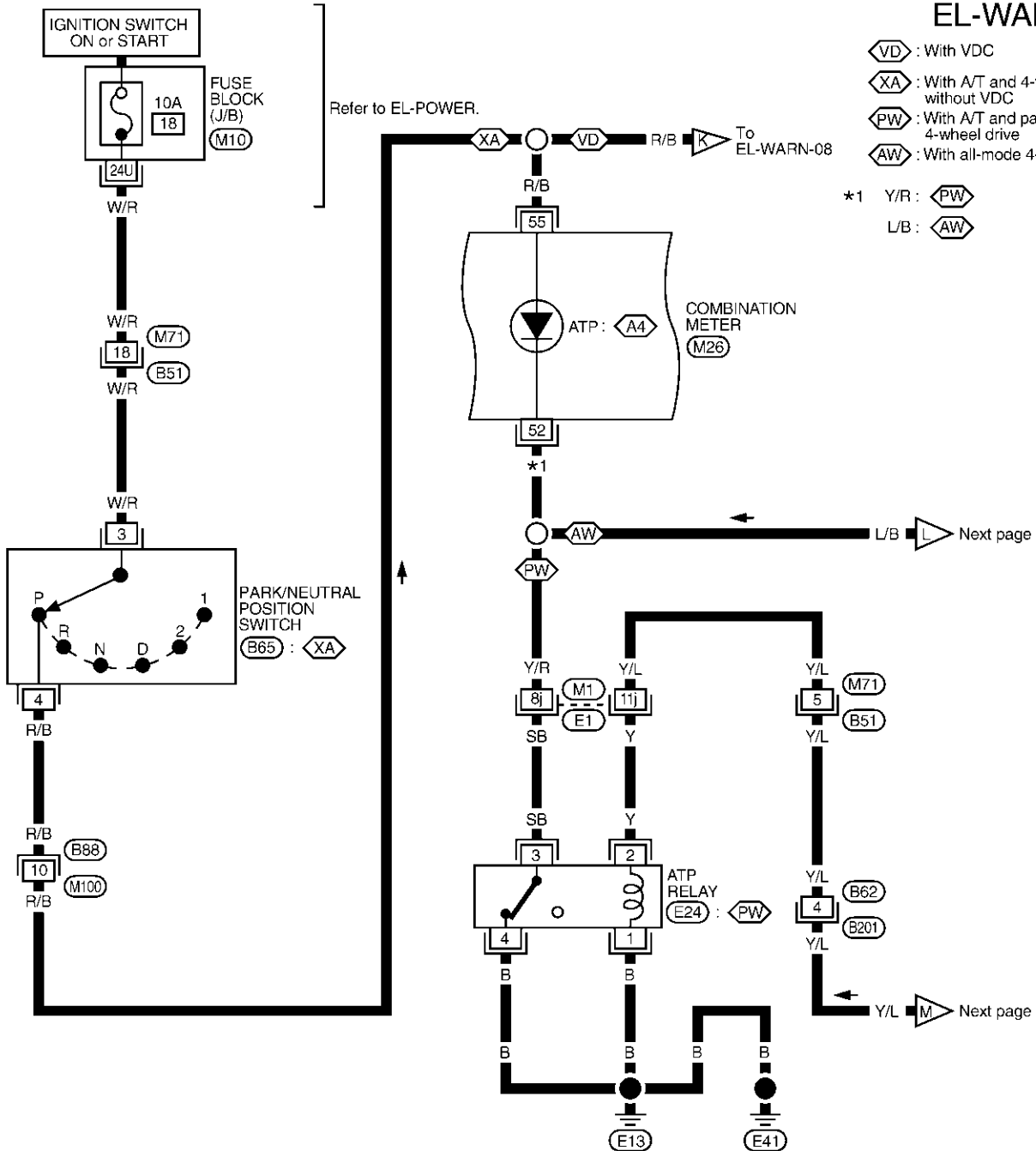
REFER TO THE FOLLOWING.
 (B1) -SUPER MULTIPLE JUNCTION (SMJ)

MEL985P

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

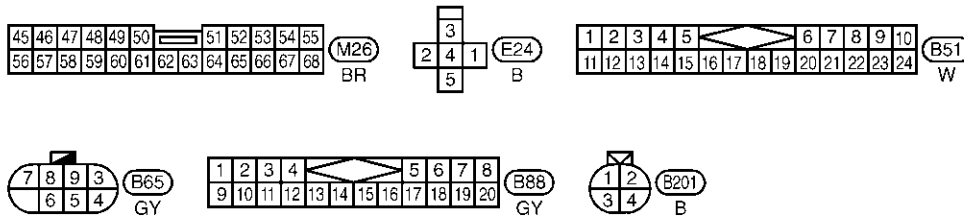
EL-WARN-06



- (VD) : With VDC
- (XA) : With A/T and 4-wheel drive without VDC
- (PW) : With A/T and part-time 4-wheel drive
- (AW) : With all-mode 4-wheel drive

- *1 Y/R: (PW)
- L/B: (AW)

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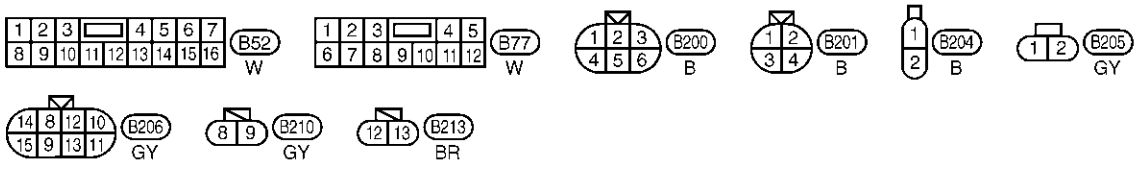
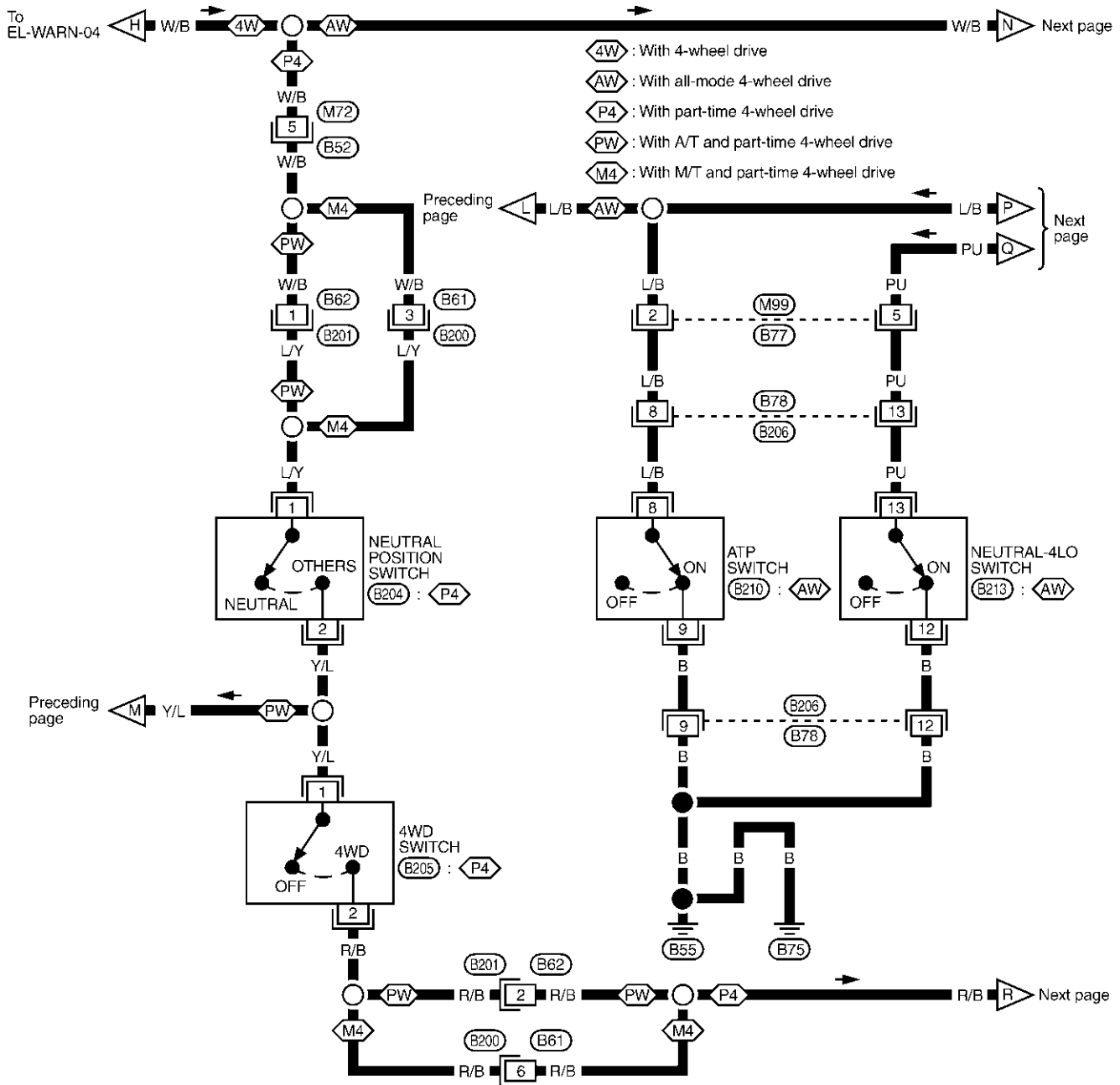
REFER TO THE FOLLOWING.
 (E1) -SUPER MULTIPLE JUNCTION (SMJ)
 (M10) -FUSE BLOCK-JUNCTION BOX (J/B)

MEL986P

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

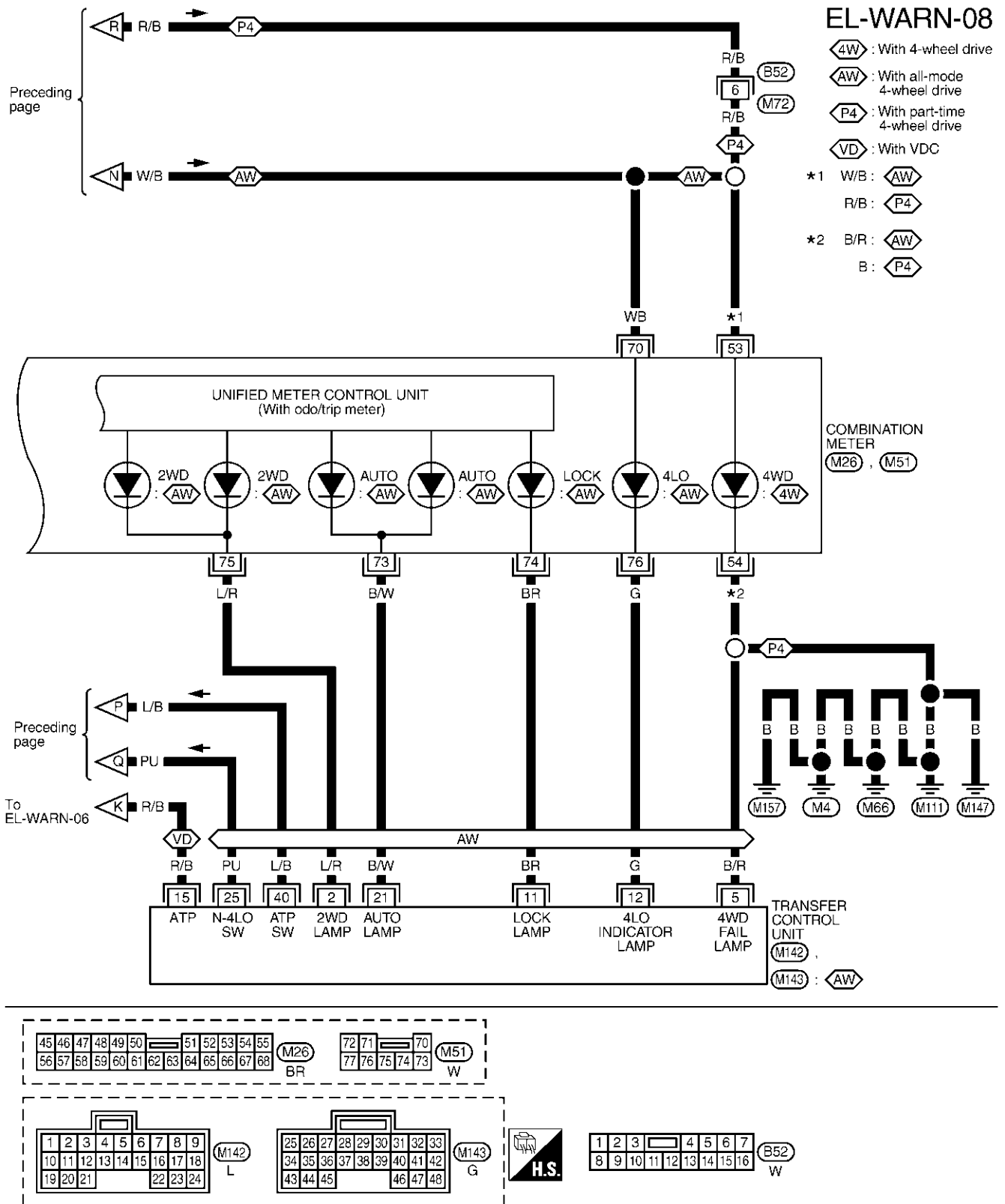
EL-WARN-07



MEL987P

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

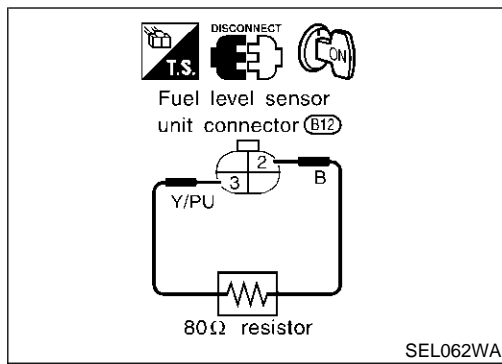


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MEL988P

WARNING LAMPS

Fuel Warning Lamp Sensor Check



Fuel Warning Lamp Sensor Check

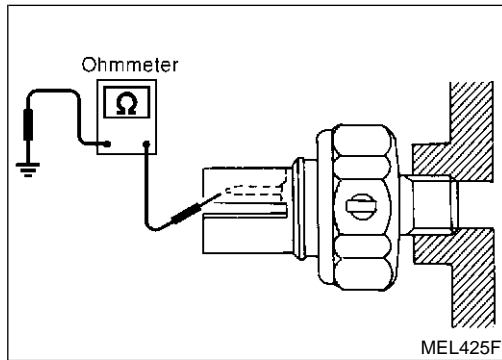
NAEL0310

1. Turn ignition switch "OFF".
2. Disconnect fuel level sensor unit harness connector B12.
3. Connect a resistor (80Ω) between fuel tank gauge unit harness connector terminals 2 and 3.
4. Turn ignition switch "ON".

The fuel warning lamp should come on.

NOTE:

ECM might store the 1st trip DTC P0180 during this inspection. If the DTC is stored in ECM memory, erase the DTC after reconnecting fuel tank gauge unit harness connector. Refer to EC-86, "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION".



Electrical Components Inspection

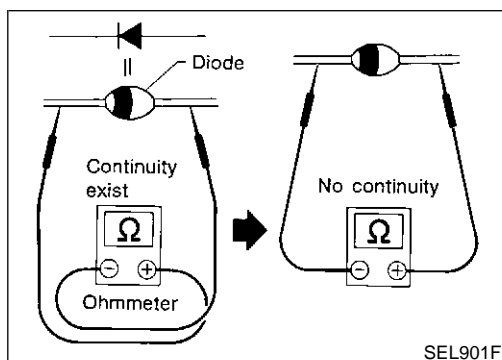
NAEL0311

OIL PRESSURE SWITCH CHECK

NAEL0311S01

| | Oil pressure kPa (kg/cm ² , psi) | Continuity |
|--------------|--|------------|
| Engine start | More than 10 - 20 (0.1 - 0.2, 1 - 3) | NO |
| Engine stop | 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

NAEL0311S02

- 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 checking them on the combination meter assembly. Refer to EL-140, "WARNING LAMP" wiring diagrams.

NOTE:

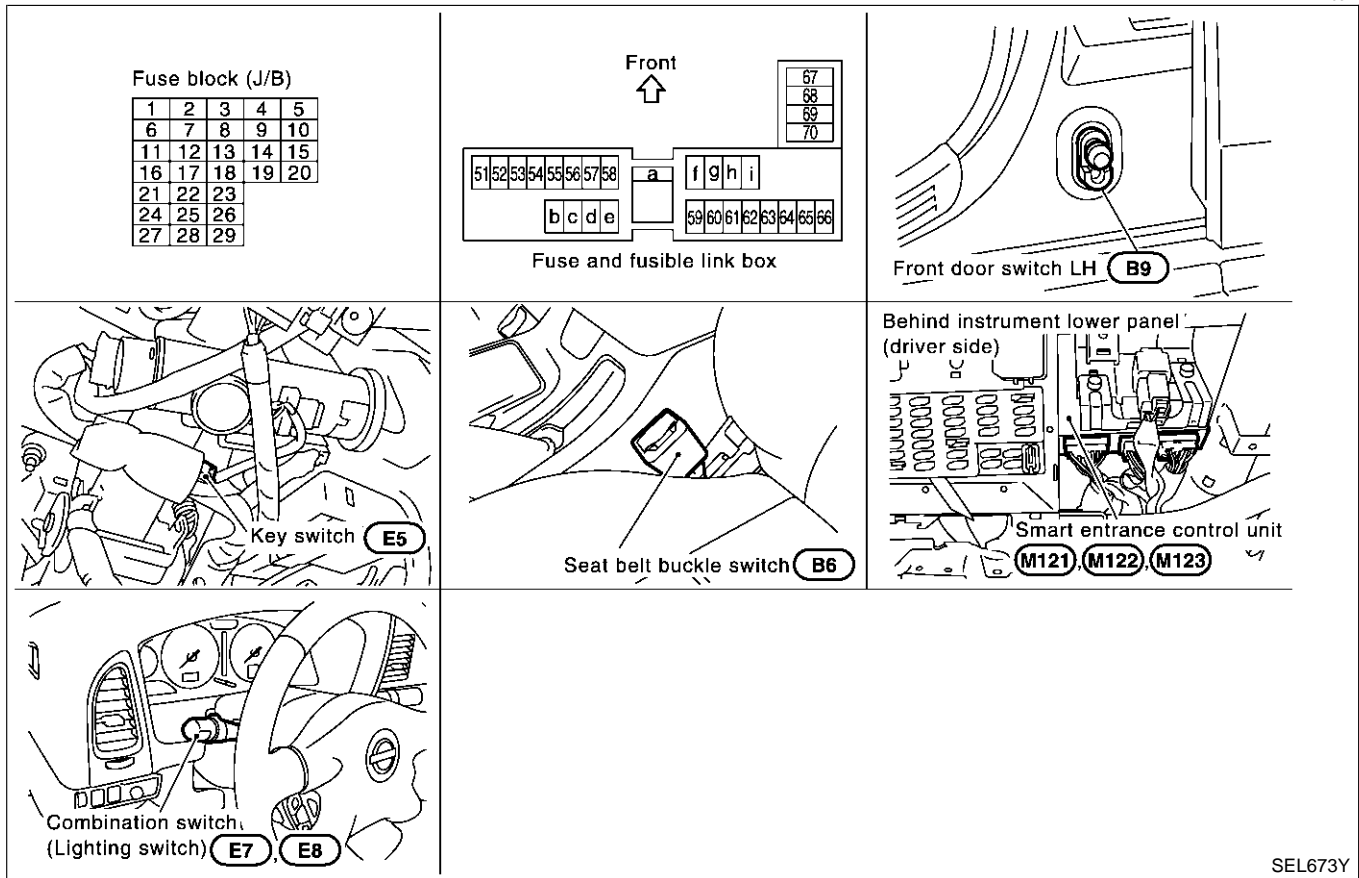
Specification may vary depending on the type of tester. Before performing this inspection, be sure to refer to the instruction manual for the tester to be used.

WARNING CHIME

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0312



System Description

NAEL0313

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 7.5A fuse [No. 24, located in fuse block (J/B)]
- to smart entrance control unit terminal 49 and
- to key switch terminal 2,
- through 10A fuse (No. 61, located in the fuse and fusible link box
- to tail lamp relay terminals 1 and 3.

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

- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to smart entrance control unit terminal 27.

Ground is supplied

- to smart entrance control unit terminals 43 and 64
- through body grounds M4, M66, M111, M147 and M157.

When a signal, or combination of signals, is received by the smart entrance control unit, the warning chime will sound.

IGNITION KEY WARNING CHIME

When the key in the ignition switch in the OFF position, and the driver's door open, the warning chime will sound. Power is supplied

NAEL0313S01

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WARNING CHIME

System Description (Cont'd)

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

Ground is supplied

- from front door switch LH terminal 1
- to smart entrance control unit terminal 1.

Front door switch LH terminal 2 is grounded through body grounds B11, B22 and D210.

LIGHT WARNING CHIME

When ignition switch OFF, driver's door open, and lighting switch in 1ST or 2ND position, warning chime will sound. Power is supplied. NAEL0313S02

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

Ground is supplied

- from front door switch LH terminal 1
- to smart entrance control unit terminal 1.

Front door switch LH terminal 2 is grounded through body grounds B11, B22 and D210.

SEAT BELT WARNING CHIME

With ignition switch turned ON and seat belt unfastened (seat belt buckle switch ON), warning chime will sound for approximately 6 seconds. NAEL0313S03

Ground is supplied

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

Seat belt switch terminal 2 is grounded through body grounds B11, B22 and D210.

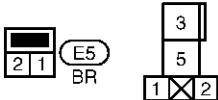
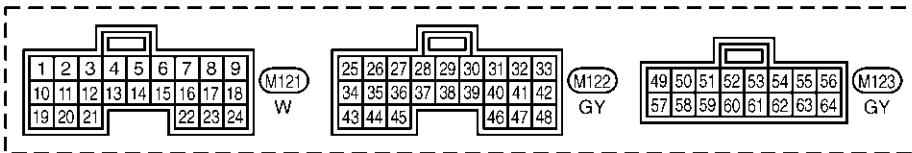
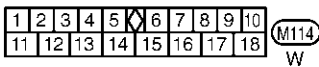
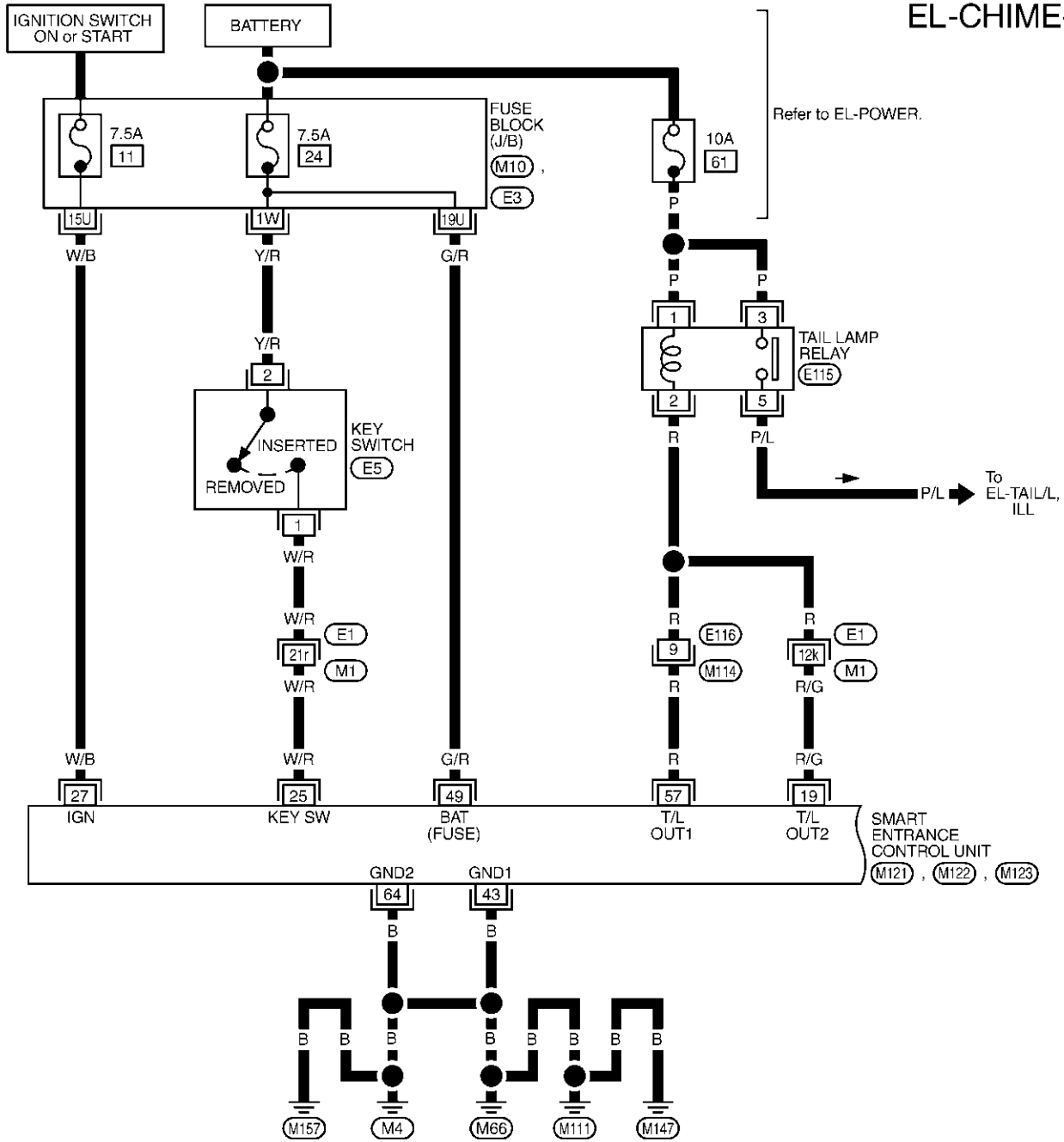
WARNING CHIME

Wiring Diagram — CHIME —

Wiring Diagram — CHIME —

NAEL0314

EL-CHIME-01



REFER TO THE FOLLOWING.
 (E1) - SUPER MULTIPLE JUNCTION (SMJ)
 (M10), (E3) - FUSE BLOCK - JUNCTION BOX (J/B)



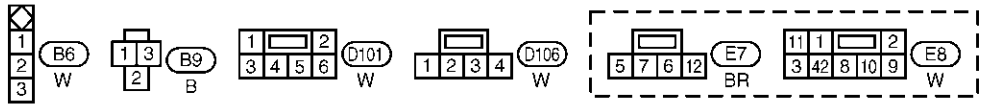
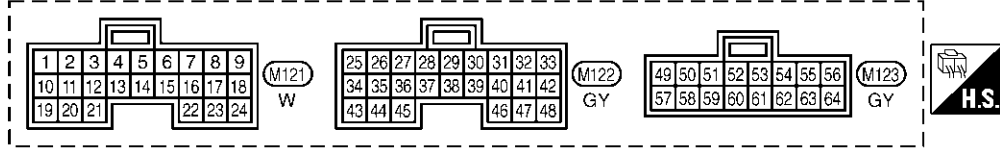
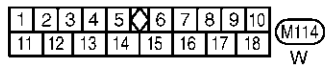
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MEL989P

WARNING CHIME

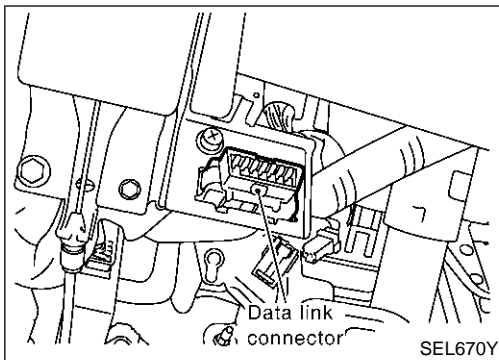
Wiring Diagram — CHIME — (Cont'd)

EL-CHIME-02



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

MEL990P

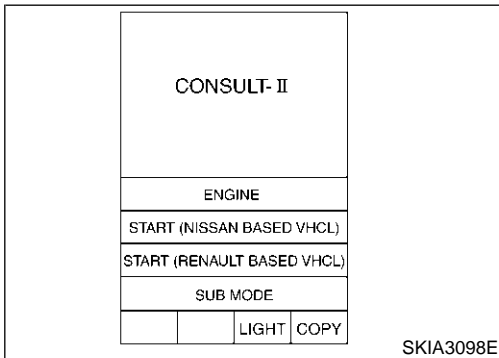


CONSULT-II Inspection Procedure “KEY WARN ALM”/“LIGHT WARN ALM”/“SEAT BELT ALM”

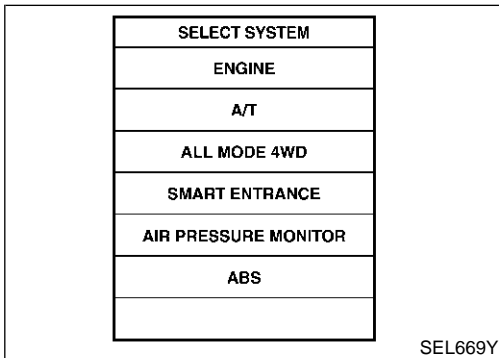
=NAEL0315

NAEL0315S01

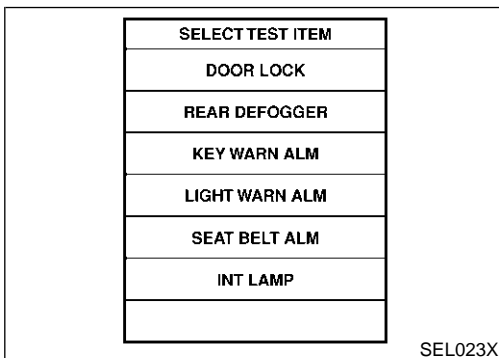
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector.



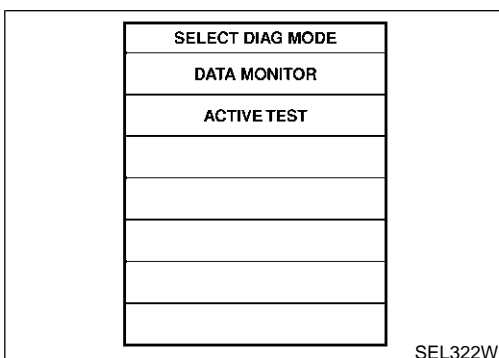
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



5. Touch “SMART ENTRANCE”.
If “SMART ENTRANCE” is not indicated, go to GI-41, “CONSULT-II Data Link Connector (DLC) Circuit”.



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



7. Select diagnosis mode.
“DATA MONITOR” and “ACTIVE TEST” are available for the warning chime.

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WARNING CHIME

CONSULT-II Application Items

CONSULT-II Application Items

NAEL0316

“KEY WARNING ALARM”

NAEL0316S01

Data Monitor

NAEL0316S0101

| 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. |

Active Test

NAEL0316S0102

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

“LIGHT WARN ALM”

NAEL0316S02

Data Monitor

NAEL0316S0201

| 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. |

Active Test

NAEL0316S0202

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

“SEAT BELT WARM ALM”

NAEL0316S03

Data Monitor

NAEL0316S0301

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

Active Test

NAEL0316S0302

| Test Item | Description |
|-----------|--|
| CHIME | This test is able to check seat belt warning chime operation. Seat belt warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen. |

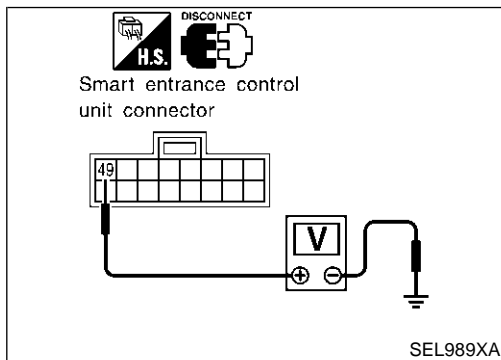
Trouble Diagnoses SYMPTOM CHART

NAEL0317

NAEL0317S01

| REFERENCE PAGE (EL-) | 155 | 157 | 158 | 159 | 160 |
|---|--|---|---|--|------------------------|
| 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 |

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POWER SUPPLY AND GROUND CIRCUIT CHECK Power Supply Circuit Check

NAEL0317S02

NAEL0317S0201

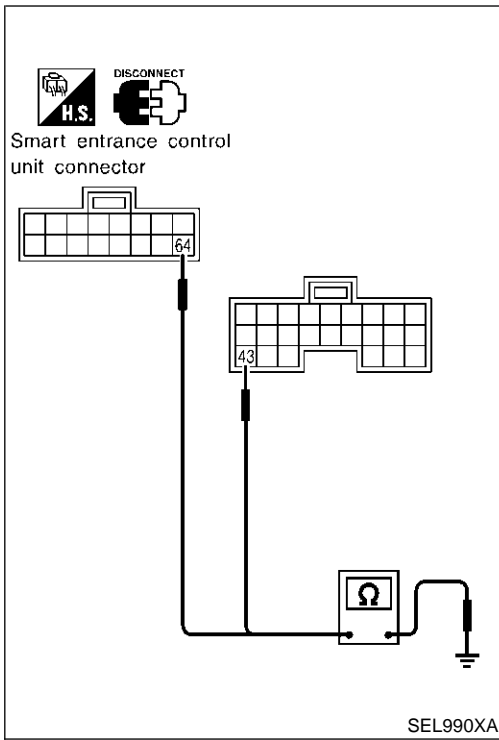
| Terminals | | | Voltage |
|-----------|--------------------------|--------|-----------------|
| (+) | | (-) | |
| Connector | Terminal (Wire color) | | |
| M123 | 49 (G/R) | Ground | Battery voltage |

If NG, check the following.

- 7.5A fuse [No. 24, located in fuse block (J/B)]
- Harness for open or short between smart entrance control unit and fuse

WARNING CHIME

Trouble Diagnoses (Cont'd)



Ground Circuit Check

NAEL0317S0202

| Terminals | | (-) | Continuity |
|-----------|-----------------------|--------|------------|
| (+) | | | |
| Connector | Terminal (Wire color) | Ground | Yes |
| M122 | 43 (B) | | |
| M123 | 64 (B) | | |

WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK)

-NAEL0317S03

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1 CHECK LIGHTING SWITCH INPUT SIGNAL

With CONSULT-II

Check lighting switch ("LIGHT SW 1ST") in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|--------------|-----|
| MONITOR | |
| LIGHT SW 1ST | OFF |

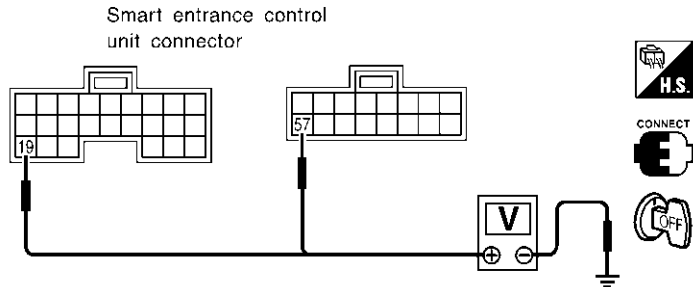
When lighting switch is in 1st or 2nd position:
LIGHT SW 1ST ON

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

SEL991X

Without CONSULT-II

Check voltage between smart entrance control unit harness connector M121 terminal 19 (R/G), connector M123 terminal 57 (R) and ground.



Voltage [V]:

Condition of lighting switch: 1ST or 2ND
0

Condition of lighting switch: OFF
Approx. 12

SEL992XA

OK or NG

OK ► Replace smart entrance control unit.

NG ► **Check the following.**

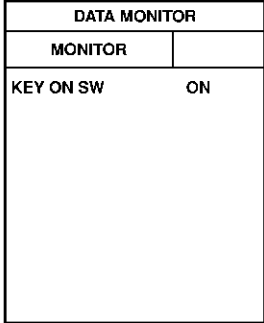
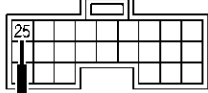
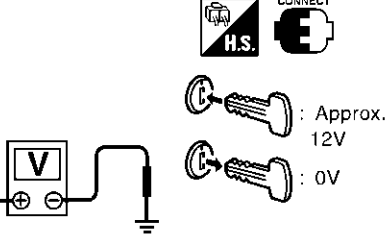
- 10A fuse (No. 61, located in the fuse and fusible link box)
- Harness for open or short between smart entrance control unit and tail lamp relay

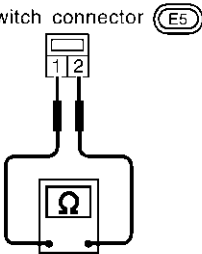
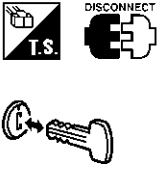
WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK)

-NAEL0317S04

| | | | |
|--|--------------------------------------|---|---------|
| 1 | CHECK KEY SWITCH INPUT SIGNAL | | |
| <p>Ⓔ With CONSULT-II Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.</p> | | | |
|  | | <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> | SEL315W |
| <p>ⓧ Without CONSULT-II Check voltage between smart entrance control unit harness connector M122 terminal 25 (W/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> | SEL011Y |
| OK or NG | | | |
| OK | ▶ | Replace smart entrance control unit. | |
| NG | ▶ | GO TO 2. | |

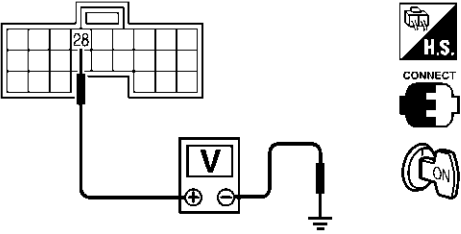
| | | | |
|--|----------------------------------|---|---------|
| 2 | CHECK KEY SWITCH (INSERT) | | |
| <p>Check continuity between terminals 1 and 2.</p> | | | |
| <p>Key switch connector (E5)</p>  | |  <p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p> | SEL308X |
| OK or NG | | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 24, 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. | |

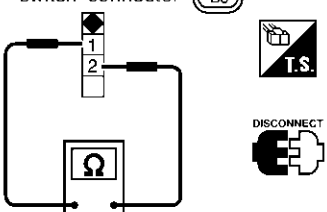
WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3 (SEAT BELT BUCKLE SWITCH CHECK)

-NAEL0317S05

| 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: center;"> <table border="1" style="margin-right: 20px;"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th>MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>SEAT BELT SW</td> <td>ON</td> </tr> </tbody> </table> <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> <p style="text-align: right;">SEL317W</p> | | DATA MONITOR | | MONITOR | | SEAT BELT SW | ON |
| DATA MONITOR | | | | | | | |
| MONITOR | | | | | | | |
| SEAT BELT SW | ON | | | | | | |
| <p>ⓧ Without CONSULT-II</p> <ol style="list-style-type: none"> Turn ignition switch "ON". Check voltage between smart entrance control unit harness connector M122 terminal 28 (B/Y) and ground. <div style="display: flex; align-items: center;"> <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> <p style="text-align: right;">SEL994X</p> <p style="text-align: center;">OK or NG</p> | | | | | | | |
| OK | ▶ Replace smart entrance control unit. | | | | | | |
| 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: center;"> <div style="margin-right: 20px;"> <p>Seat belt buckle switch connector (B6)</p>  </div> <div> <p>Continuity:</p> <p>Seat belt is fastened. No</p> <p>Seat belt is unfastened. Yes</p> </div> </div> <p style="text-align: right;">SEL381X</p> <p style="text-align: center;">OK or NG</p> | |
| 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. |

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WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

NAEL0317S06

| | |
|----------|---------------------------------|
| 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 |

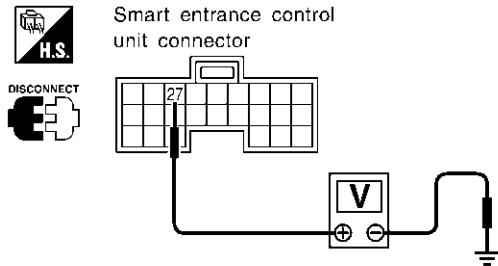
When ignition switch is ON:
IGN ON SW ON

When ignition switch is OFF:
IGN ON SW OFF

SEL318W

ⓧ Without CONSULT-II

Check voltage between smart entrance control unit harness connector M122 terminal 27 (W/B) and ground.



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

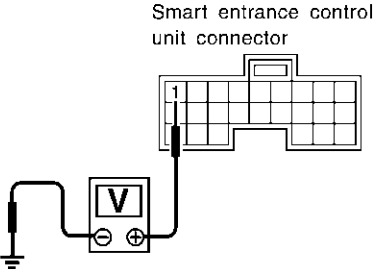

SEL995X

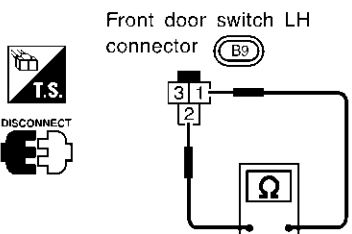
OK or NG

| | | |
|----|---|--|
| OK | ▶ | GO TO 2. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 11, located in fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse |

WARNING CHIME

Trouble Diagnoses (Cont'd)

| 2 | CHECK DOOR SWITCH INPUT SIGNAL | <p>E With CONSULT-II Check driver door switch signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II.</p> <div style="display: flex; align-items: center; justify-content: space-between;"> <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>DOOR SW-DR</td> <td>OFF</td> </tr> </tbody> </table> <div style="width: 30%;"> <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> <p style="text-align: right; font-size: small;">SEL319W</p> | DATA MONITOR | | MONITOR | | DOOR SW-DR | OFF | GI MA EM LC EC FE |
|--|---------------------------------------|---|--------------|--|---------|--|------------|-----|----------------------------------|
| DATA MONITOR | | | | | | | | | |
| MONITOR | | | | | | | | | |
| DOOR SW-DR | OFF | | | | | | | | |
| <p>X Without CONSULT-II Check voltage between smart entrance control unit harness connector M121 terminal 1 (G/OR) 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;">  </div> <div style="width: 30%;"> <p>Voltage [V]: Condition of driver's door: CLOSED Approx. 5 Condition of driver's door: OPENED 0</p> </div> </div> <p style="text-align: center; font-weight: bold;">OK or NG</p> <p style="text-align: right; font-size: small;">SEL996X</p> | | CL MT AT TF PD | | | | | | | |
| OK | ▶ | GO TO 4. | | | | | | | |
| NG | ▶ | GO TO 3. | AX | | | | | | |

| | | | |
|----------|--------------------------------------|--|----------------------------------|
| 3 | CHECK DRIVER SIDE DOOR SWITCH | <p>Check continuity between terminals 1 and 2.</p> <div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <p>Front door switch LH connector (B9)</p>  </div> <div style="width: 30%;"> <p>Continuity: Door switch is pushed. No Door switch is released. Yes</p> </div> </div> <p style="text-align: center; font-weight: bold;">OK or NG</p> <p style="text-align: right; font-size: small;">SEL383X</p> | SU BR ST RS BT HA |
| 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 front door switch LH | SC |
| NG | ▶ | Replace front door switch LH. | EL |

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WARNING CHIME

Trouble Diagnoses (Cont'd)

| 4 | CHECK WARNING CHIME | | | | | | |
|--|--|-------------|--|-------|-----|----|--|
| <p>E With CONSULT-II</p> <p>Perform "CHIME" in "ACTIVE TEST" mode with CONSULT-II.</p> <div style="border: 1px solid black; padding: 5px; margin: 20px auto; width: fit-content;"><table border="1" style="width: 100%; text-align: center;"><thead><tr><th colspan="2">ACTIVE TEST</th></tr></thead><tbody><tr><td>CHIME</td><td>OFF</td></tr><tr><td>ON</td><td></td></tr></tbody></table></div> <p style="text-align: center;">Warning chime should operate.</p> <p style="text-align: right;">SEL320W</p> <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. | | | | | | |

System Description

WIPER OPERATION

The front 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 ACC or ON position, power is supplied

- through 20A fuse [No. 19, located in the fuse block (J/B)]
- to front wiper motor terminal 1, and
- to front wiper switch terminal 15.

Low and High Speed Wiper Operation

Ground is supplied to front wiper switch terminal 17 through body grounds E13 and E41.

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

- through terminal 14 of the front wiper switch
- to front wiper motor terminal 5.

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

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

- through terminal 16 of the front wiper switch
- to front wiper motor terminal 3.

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

Auto Stop Operation

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

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

- from terminal 14 of the front wiper switch
- to front wiper motor terminal 5, in order to continue front wiper motor operation at low speed.

Ground is also supplied

- to terminal 13 of the front wiper switch
- through front wiper motor terminal 4
- through terminal 6 of the front wiper motor, and
- through body grounds E13 and E41.

When wiper arms reach base of windshield, front wiper motor terminals 1 and 4 are connected instead of terminals 4 and 6. Wiper motor will then stop wiper arms at the PARK position.

Intermittent Operation

The front wiper motor operates the wiper arms one time at low speed at a set interval of approximately 2 to 13 seconds. This feature is controlled by the wiper amplifier built in the front wiper switch.

When the front wiper switch is placed in the INT position, ground is supplied

- to wiper amplifier (INT SW)
- from front wiper switch terminal 17
- through body grounds E13 and E41,
- to front wiper motor terminal 5
- through the front wiper switch terminal 14 and
- through wiper amplifier (OUTPUT).

WASHER OPERATION

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

- through 20A fuse [No. 19, located in the fuse block (J/B)]
- to front washer motor terminal 1.

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

- to front washer motor terminal 2
- through terminal 18 of the front wiper switch

NAEL0318

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NAEL0318S01

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FRONT WIPER AND WASHER

System Description (Cont'd)

- through terminal 17 of the front wiper switch, and
- through body grounds E13 and E41.

With power and ground supplied, the front washer motor operates.

When the lever is pulled to the WASH position for one second or more, the front 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.

FRONT WIPER AND WASHER

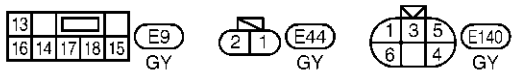
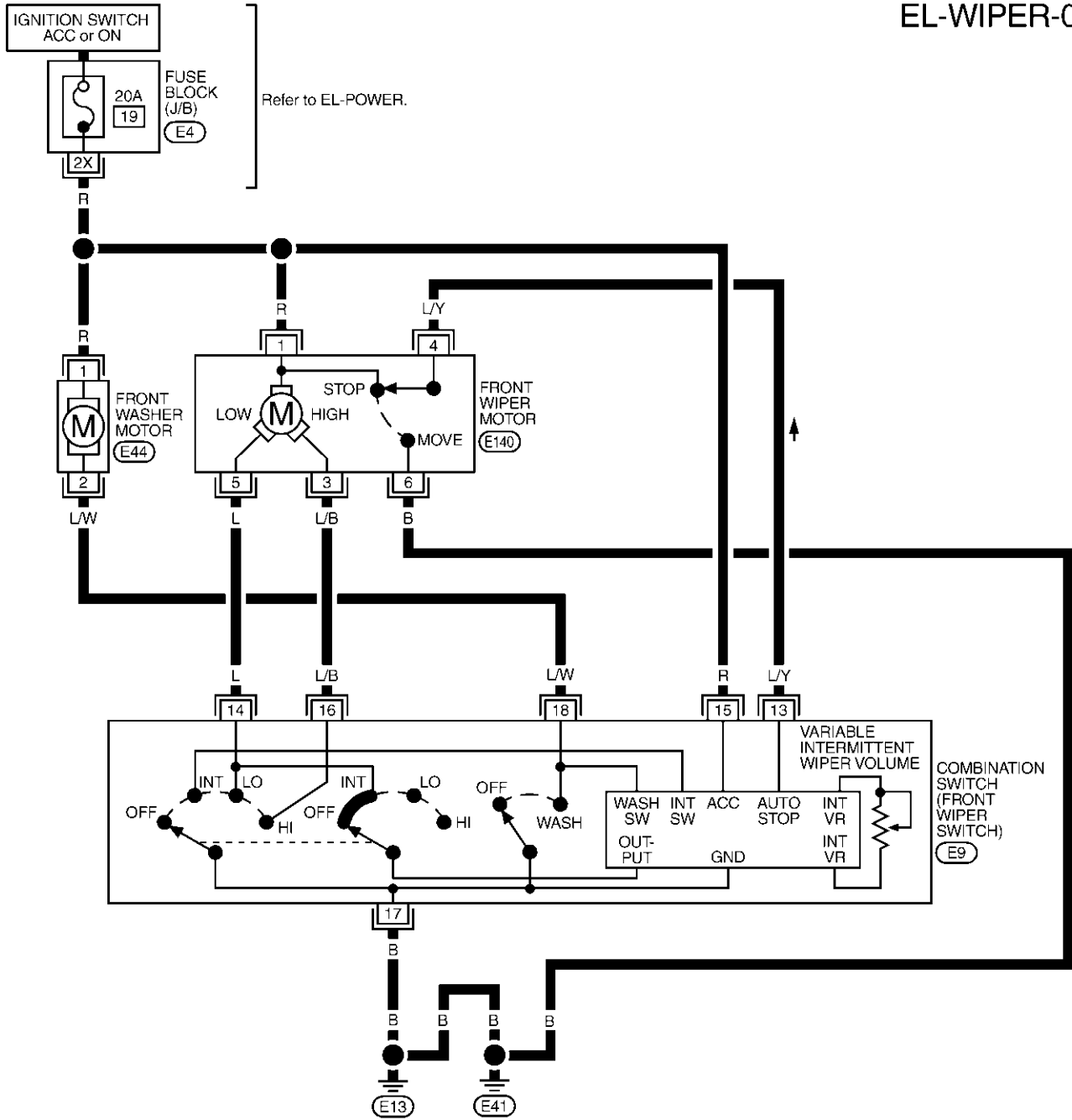
Wiring Diagram — WIPER —

Wiring Diagram — WIPER —

NAEL0319

EL-WIPER-01

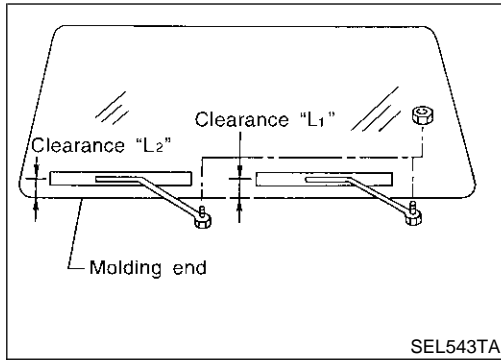
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REFER TO THE FOLLOWING.
 (E4) - FUSE BLOCK -
 JUNCTION BOX (J/B)

FRONT WIPER AND WASHER

Removal and Installation



Removal and Installation

NAEL0320

WIPER ARMS

NAEL0320S01

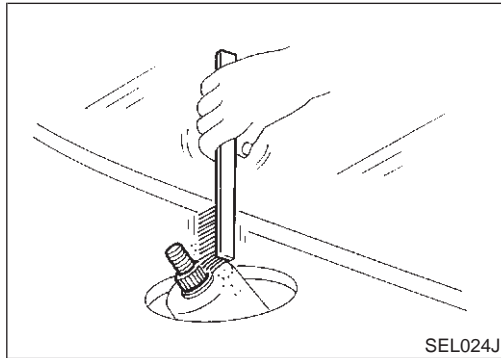
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L₁" & "L₂" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch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

Clearance "L₁": 29 - 39 mm (1.14 - 1.54 in)

Clearance "L₂": 32 - 42 mm (1.26 - 1.65 in)

- Tighten wiper arm nuts to specified torque.

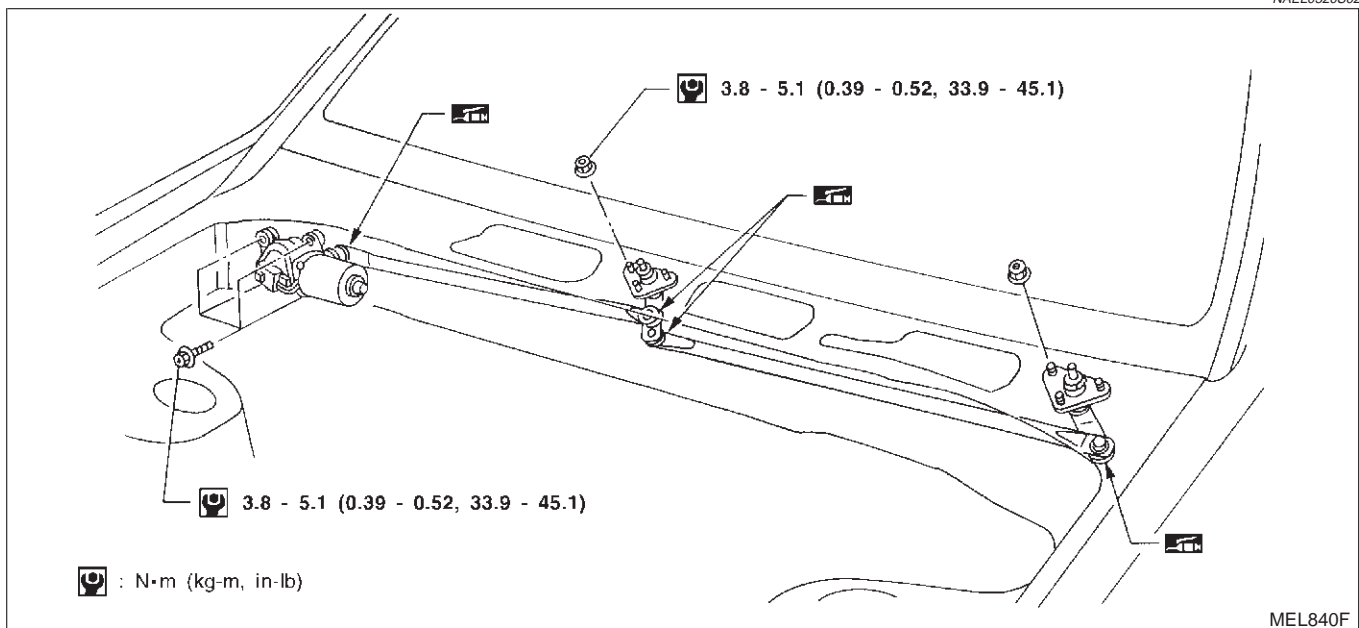
Front wiper: 21 - 26 N·m (2.1 - 2.7 kg·m, 15 - 20 ft·lb)



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

WIPER LINKAGE

NAEL0320S02



FRONT WIPER AND WASHER

Removal and Installation (Cont'd)

Removal

NAEL0320S0201

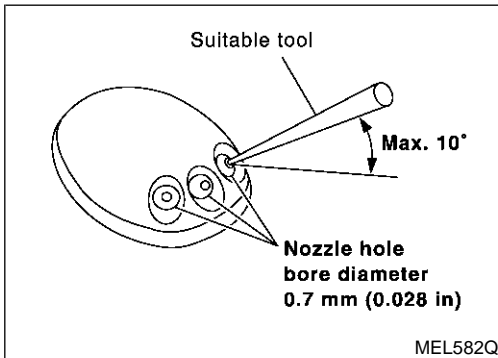
1. Remove 4 bolts that secure wiper motor.
2. Detach wiper motor from wiper linkage at ball joint.
3. Remove wiper linkage.

Be careful not to break ball joint rubber boot.

Installation

NAEL0320S0202

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

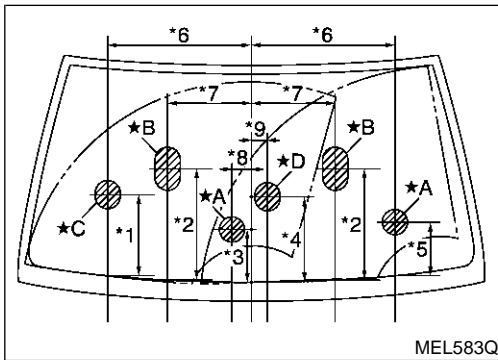


Washer Nozzle Adjustment

NAEL0321

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

Adjustable range: ±10°



Unit: mm (in)

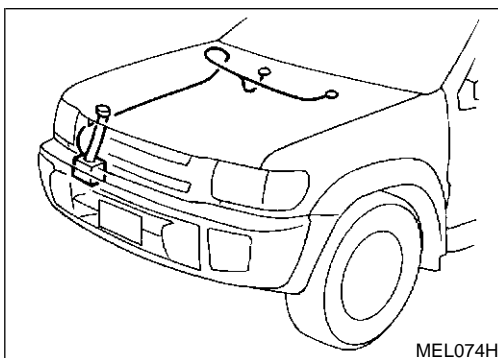
| | | | |
|----|-------------|----|-------------|
| *1 | 251 (9.88) | *6 | 459 (18.07) |
| *2 | 351 (13.82) | *7 | 256 (10.08) |
| *3 | 165 (6.50) | *8 | 67 (2.64) |
| *4 | 269 (10.59) | *9 | 42 (1.65) |
| *5 | 167 (6.57) | | |

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

*B: The diameters of these circles are less than 138 × 80 mm (5.43 × 3.15 in).

*C: The diameters of these circles are less than 96 × 80 mm (3.78 × 3.15 in).

*D: The diameters of these circles are less than 90 × 80 mm (3.54 × 3.15 in).



Washer Tube Layout

NAEL0322

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REAR WIPER AND WASHER

System Description

System Description

NAEL0323

WIPER OPERATION

Power Supply and Ground

NAEL0323S01

Power is supplied at all times

NAEL0323S0101

- through 10A fuse [No. 5, located in fuse block (J/B)]
- to rear wiper motor terminal 1.

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

- through 10A fuse [No. 29, located in the fuse block (J/B)]
- to rear wiper motor terminal 4.

When the glass hatch switch is OPEN, ground is supplied

- to rear wiper motor terminal 6
- through glass hatch switch terminals 1 and 2
- through body grounds B11, B22 and D210.

Ground is supplied

- to rear wiper motor terminal 8
- through body grounds B11, B22 and D210.

Wiper Operation

NAEL0323S0102

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

- to rear wiper motor terminal 2
- through combination switch terminals 22 and 24
- through body grounds E13 and E41.

Then, power is supplied

- to rear wiper motor terminal 4.

Ground is supplied

- to rear wiper motor terminal 8
- through body grounds B11, B22 and D210.

With power and ground supplied, the wiper motor operates.

Auto Stop Operation

NAEL0323S0103

With rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arm reaches rear wiper stopper.

Then wiper motor turns the other way and wiper arm moves once until wiper arm reaches stopper.

Intermittent Operation

NAEL0323S0104

The rear wiper motor operates the wiper arms at low speed approximately every 7 seconds.

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

- to rear wiper motor terminal 3
- through rear wiper switch terminals 21 and 24
- through body grounds E13 and E41.

Then, power is supplied

- to rear wiper motor terminal 4.

Ground is supplied

- to rear wiper motor terminal 8
- through body grounds B11, B22 and D210.

With power and ground supplied, rear wiper operates at intermittent.

WIPER OPERATION PROHIBIT CONTROL

NAEL0323S02

When glass hatch is open with back door key cylinder while rear wiper is operated, wiper operation is stopped. (Wiper operation prohibit control)

When glass hatch is closed and rear wiper switch turns from OFF and then rear wiper switch is turned to ON, wiper operation prohibit control is canceled.

WASHER OPERATION

NAEL0323S03

When the rear wiper switch is turned to WASH position, ground is supplied

REAR WIPER AND WASHER

System Description (Cont'd)

- to rear wiper motor terminal 5
- through terminals 23 and 24
- through body grounds E13 and E41.

Then, power is supplied

- to rear washer motor terminal 2
- through 10 A fuse [No. 29, located in the fuse block (J/B)].

Ground is supplied

- to rear washer motor terminal 1
- through rear wiper switch terminals 23 and 24
- through body grounds E13 and E41.

With power and ground supplied, the rear washer motor operates.

When the rear wiper switch is turned to WASH position for 0.4 seconds or more, the rear wiper motor operates approximately 3 times after the rear wiper switch is released.

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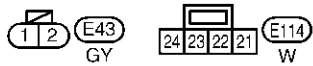
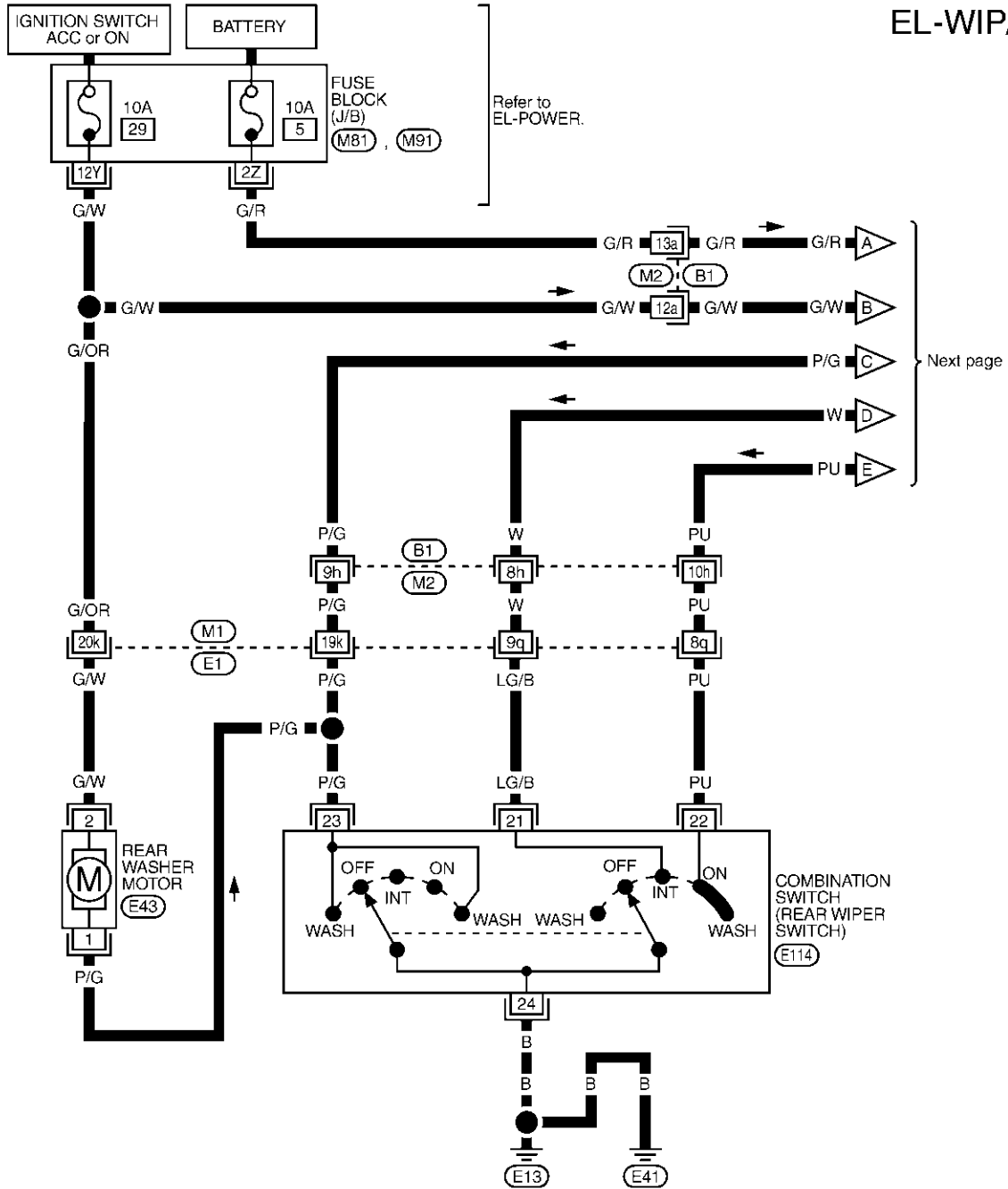
REAR WIPER AND WASHER

Wiring Diagram — WIP/R —

Wiring Diagram — WIP/R —

NAEL0324

EL-WIP/R-01



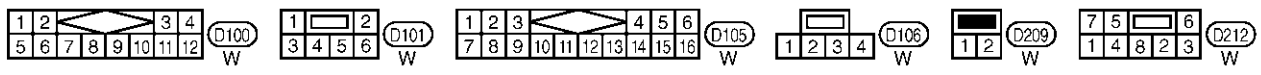
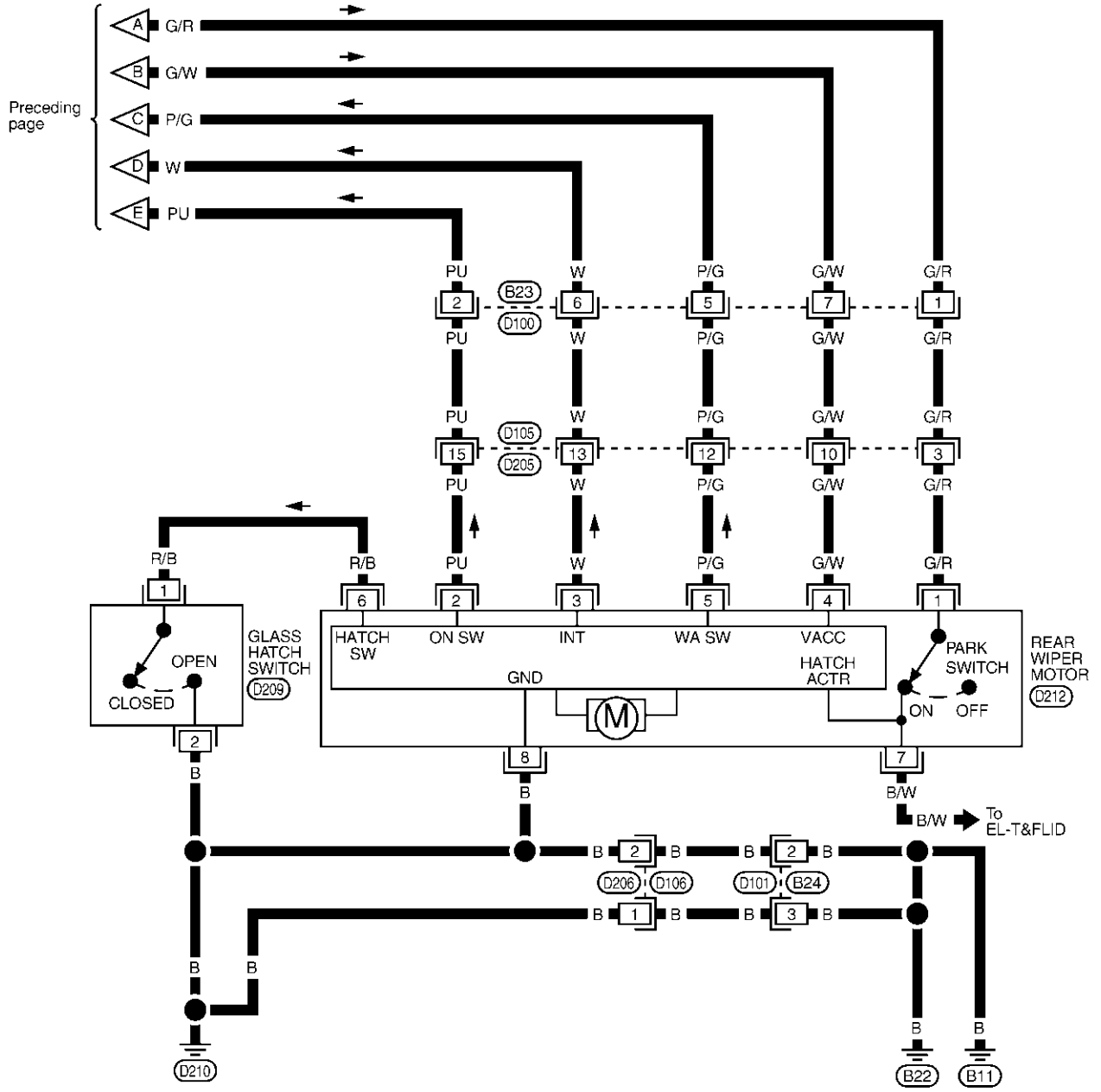
REFER TO THE FOLLOWING.
 (E1), (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M81), (M91) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL992P

REAR WIPER AND WASHER

Wiring Diagram — WIP/R — (Cont'd)

EL-WIP/R-02



REAR WIPER AND WASHER

Trouble Diagnoses








Trouble Diagnoses

NAEL0325

NAEL0325S01

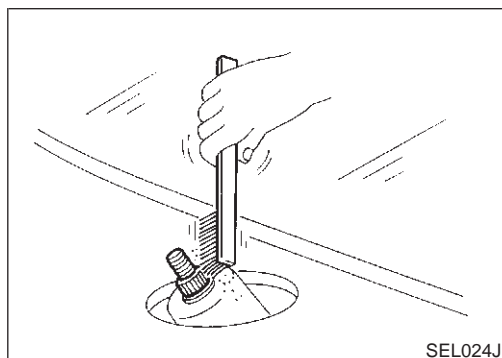
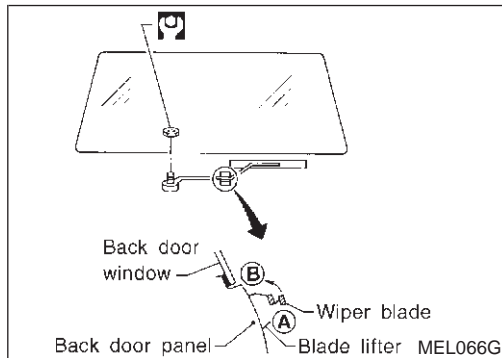
REAR WIPER MOTOR INSPECTION TABLE

(Data are reference values.)

| Terminal No. | Item | Condition | | Voltage (Approximate value) | |
|--------------|---------------------|---|-------------------------|--------------------------------|-----------------|
| 1 | Power supply (BAT) |  | — | Battery voltage | |
| 2 | ON switch |  | Rear wiper switch | ON | Less than 1V |
| | | | | OFF or INT | Battery voltage |
| 3 | Intermittent switch |  | Rear wiper switch | INT | Less than 1V |
| | | | | OFF, ON or WASH | Battery voltage |
| 4 | Power supply (ACC) |  | — | Battery voltage | |
| 5 | Washer switch |  | Rear wiper switch | WASH | Less than 1V |
| | | | | OFF, ON or INT | Battery voltage |
| 6 | Glass hatch switch |  | Glass hatch | Open | Less than 1V |
| | | | | Closed | 5V |
| 7 | Park switch |  | Trunk lid opener switch | ON | 11.5V |
| | | | | OFF | Battery voltage |
| 8 | Ground | | — | — | |

NOTE:

Power to the rear wiper motor will be interrupted when the rear glass hatch is opened. In that case, conduct the inspection of the rear wiper motor with the rear glass hatch closed, unless otherwise indicated.



Removal and Installation

NAEL0326

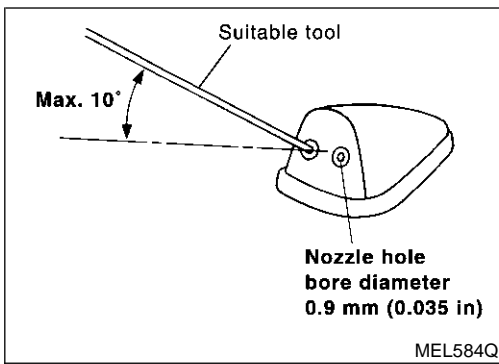
WIPER ARMS

NAEL0326S01

1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Install wiper arm to portion A as in figure below and tighten wiper arm nut to specification.
3. Then, set wiper arm to portion B.

 : 13 - 18 N·m (1.3 - 1.8 kg·m, 9 - 13 ft·lb)

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

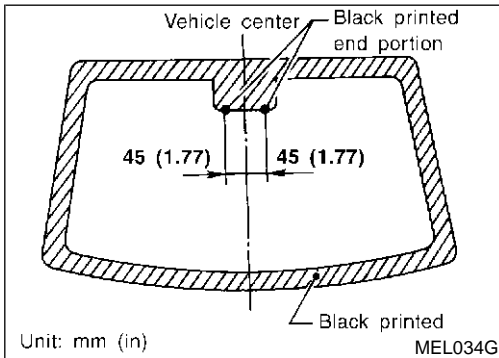


Washer Nozzle Adjustment

NAEL0327

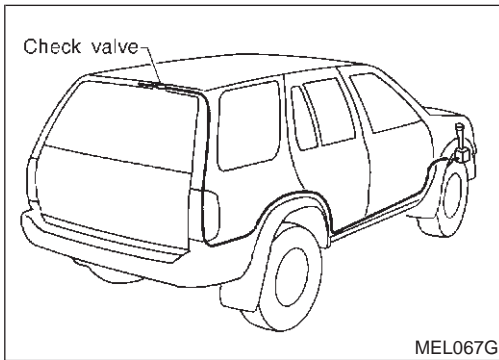
- Adjust washer nozzle with suitable tool as shown in the figure at left.

Adjustable range: ±10° (In any direction)



Washer Tube Layout

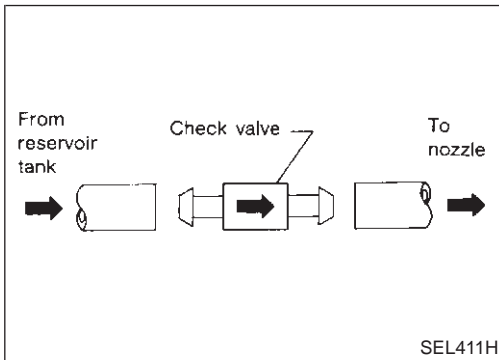
NAEL0328



Check Valve

NAEL0329

- A check valve is provided in the washer fluid line. Be careful not to connect check valve to washer tube in the wrong direction.



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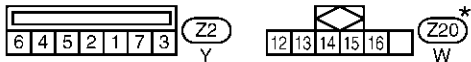
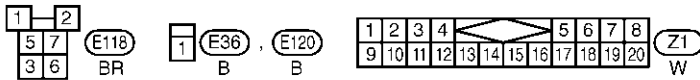
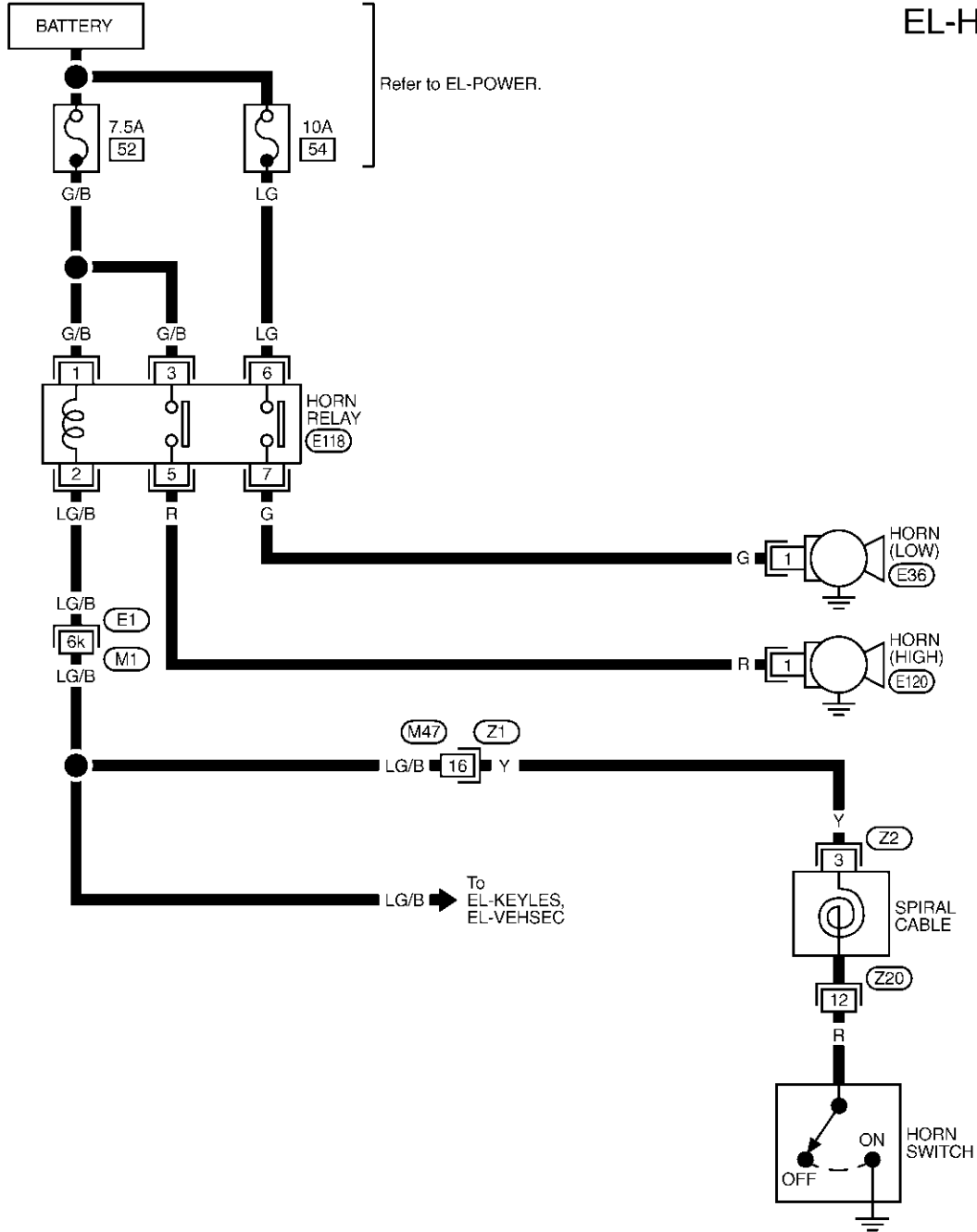
HORN

Wiring Diagram — HORN —

Wiring Diagram — HORN —

NAEL0330

EL-HORN-01



* : This connector is not shown in "HARNES LAYOUT", EL section.

REFER TO THE FOLLOWING.

(E1) -SUPER MULTIPLE JUNCTION (SMJ)

MEL994P

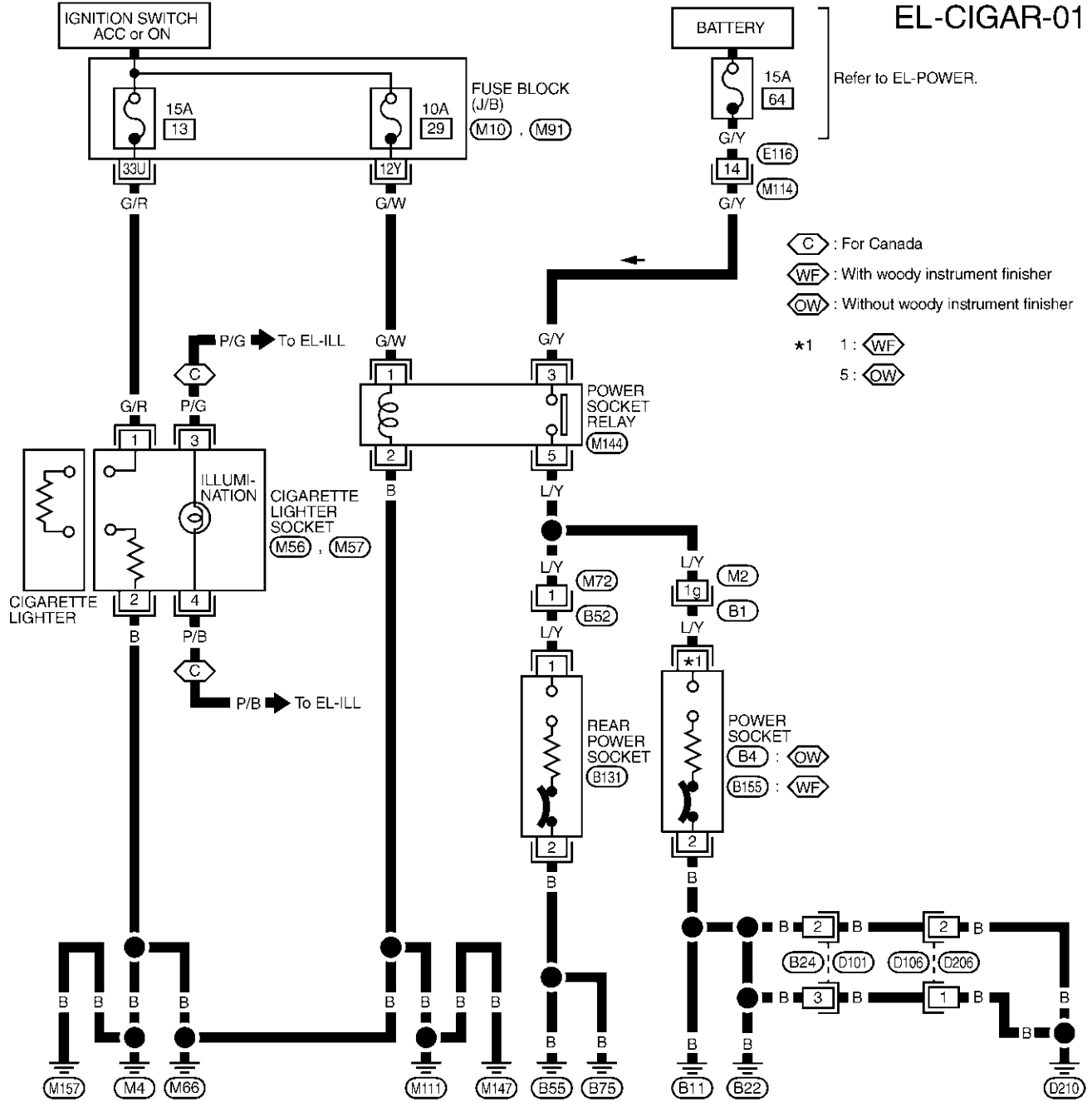
CIGARETTE LIGHTER

Wiring Diagram — CIGAR —

Wiring Diagram — CIGAR —

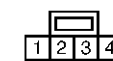
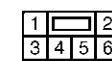
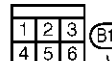
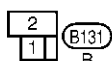
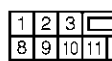
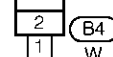
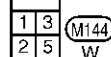
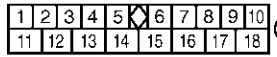
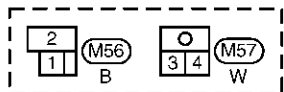
NAEL0331

EL-CIGAR-01



Refer to EL-POWER.

- : For Canada
- : With woody instrument finisher
- : Without woody instrument finisher
- *1 1:
- 5:



REFER TO THE FOLLOWING.

- SUPER MULTIPLE JUNCTION (SMJ)
- FUSE BLOCK - JUNCTION BOX (J/B)

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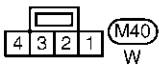
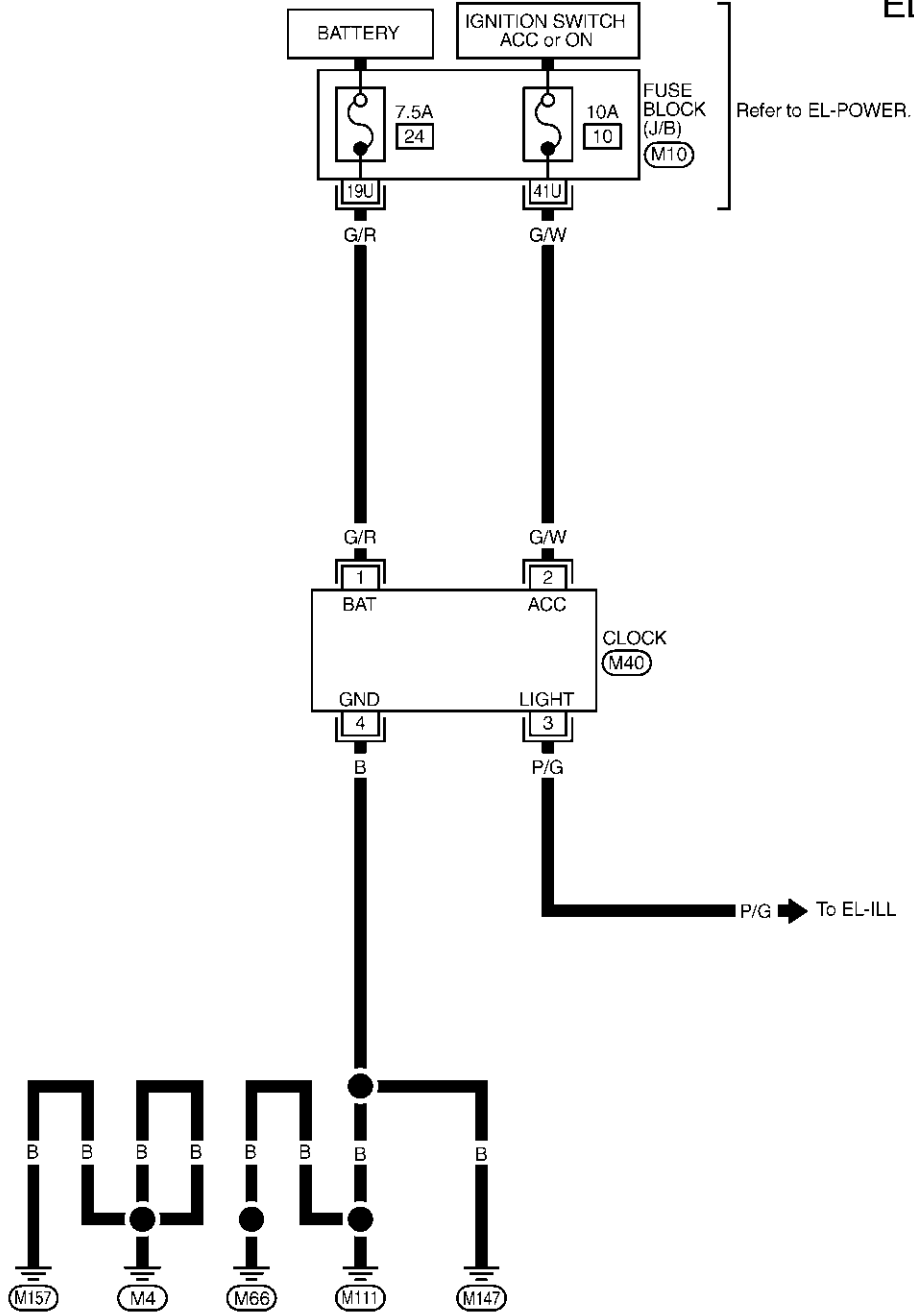
CLOCK

Wiring Diagram — CLOCK —

Wiring Diagram — CLOCK —

NAEL0332

EL-CLOCK-01



REFER TO THE FOLLOWING.

(M10) -FUZE BLOCK-
JUNCTION BOX (J/B)

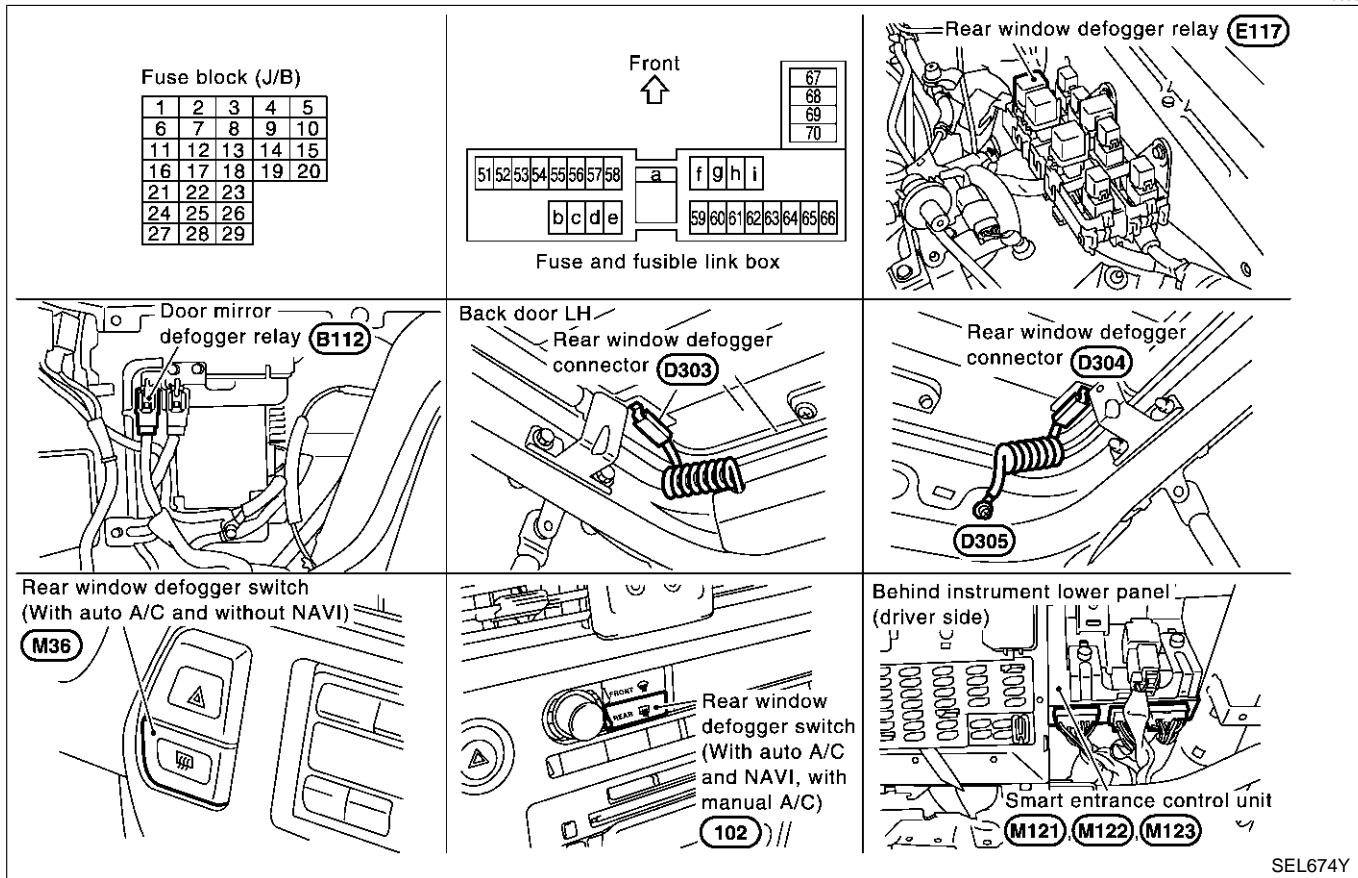
MEL996P

REAR WINDOW DEFOGGER

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0333



System Description

NAEL0334

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. 56, located in the fuse and fusible link box) and
- to rear window defogger relay terminal 6
- through 20A fuse (No. 57, located in the fuse and fusible link box)
- to smart entrance control unit terminal 49
- through 7.5A [No. 24, located in fuse block (J/B)].

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

- through 7.5A fuse [No. 11, 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 1 of the rear window defogger switch (with auto A/C and NAVI, with manual A/C) or
- to terminal 32 of A/C auto amp. (with auto A/C and without NAVI) and
- to smart entrance control unit terminals 43 and 64
- through body grounds M4, M66, M111, M147 and M157.

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

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REAR WINDOW DEFOGGER

System Description (Cont'd)

- through terminal 2 of the rear window defogger switch (without A/C and NAVI, with manual A/C) or
- through terminal 31 of A/C auto amp. (with auto A/C and without NAVI)
- 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.

Power is supplied

- to terminal 3 of the rear window defogger switch (with auto A/C and NAVI, with manual A/C) or
- to terminal 30 of A/C auto amp. (with auto A/C and without NAVI)
- from terminal 7 of the rear window defogger relay.

Terminal 4 of the rear window defogger switch (with auto A/C and NAVI, with manual A/C) or terminal 32 of A/C auto amp. (with auto A/C and without NAVI) is grounded through body grounds M4, M66, M111, M147 and M157.

REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

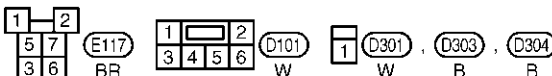
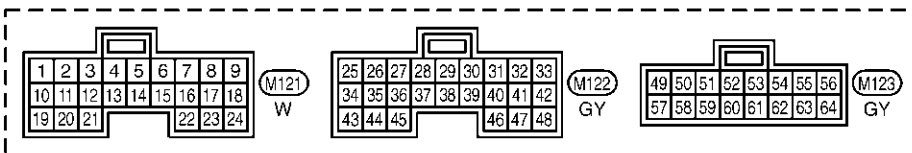
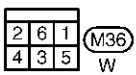
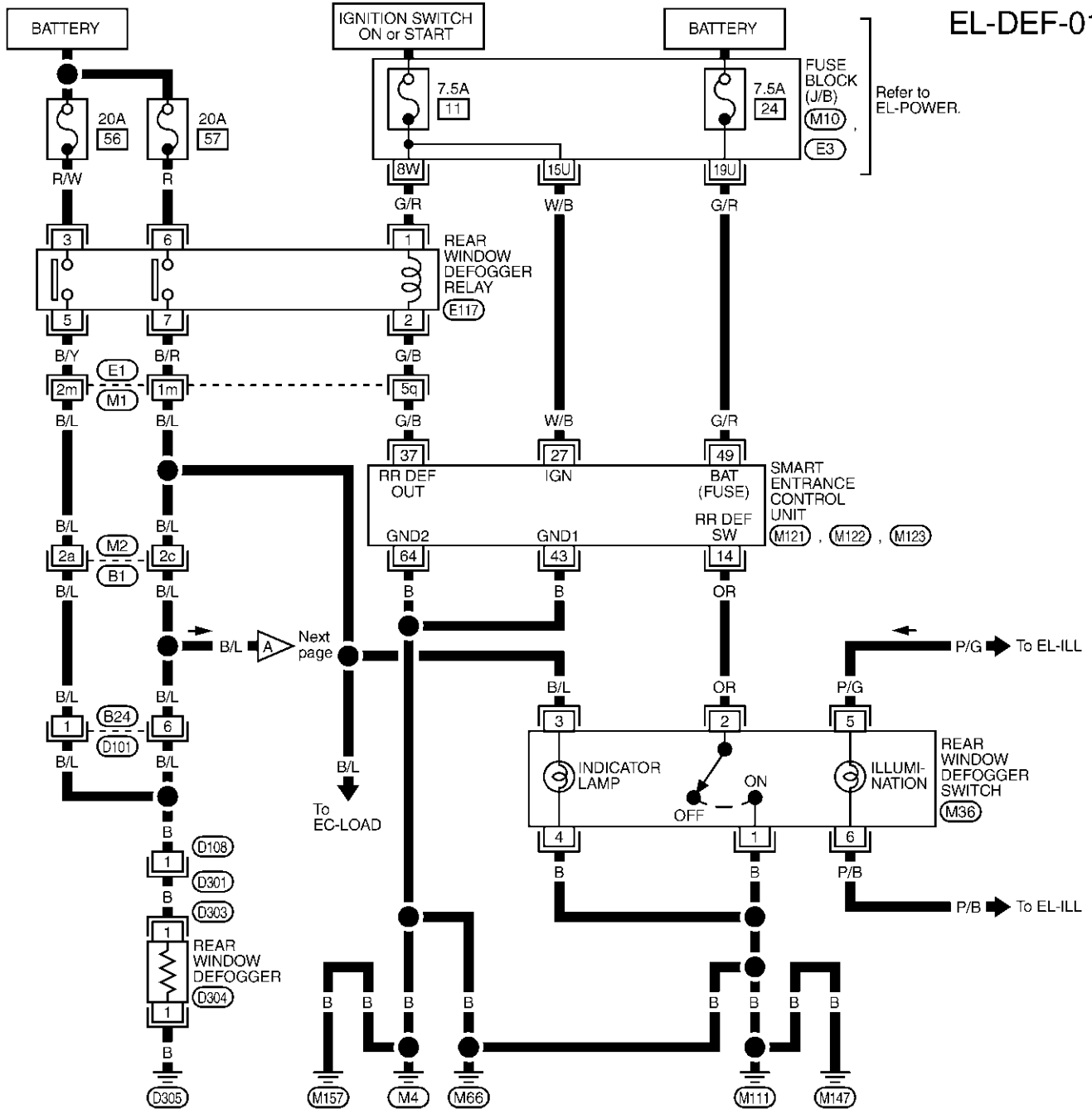
Wiring Diagram — DEF —

NAEL0335

NAEL0335S01

WITH AUTO A/C AND NAVI, WITH MANUAL A/C

EL-DEF-01



REFER TO THE FOLLOWING.
 (E1), (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M10), (E3) -FUSE BLOCK-
 JUNCTION BOX (J/B)

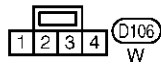
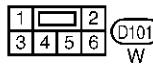
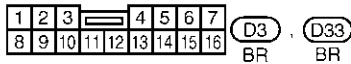
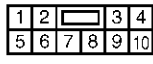
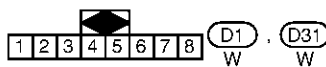
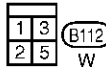
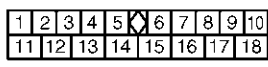
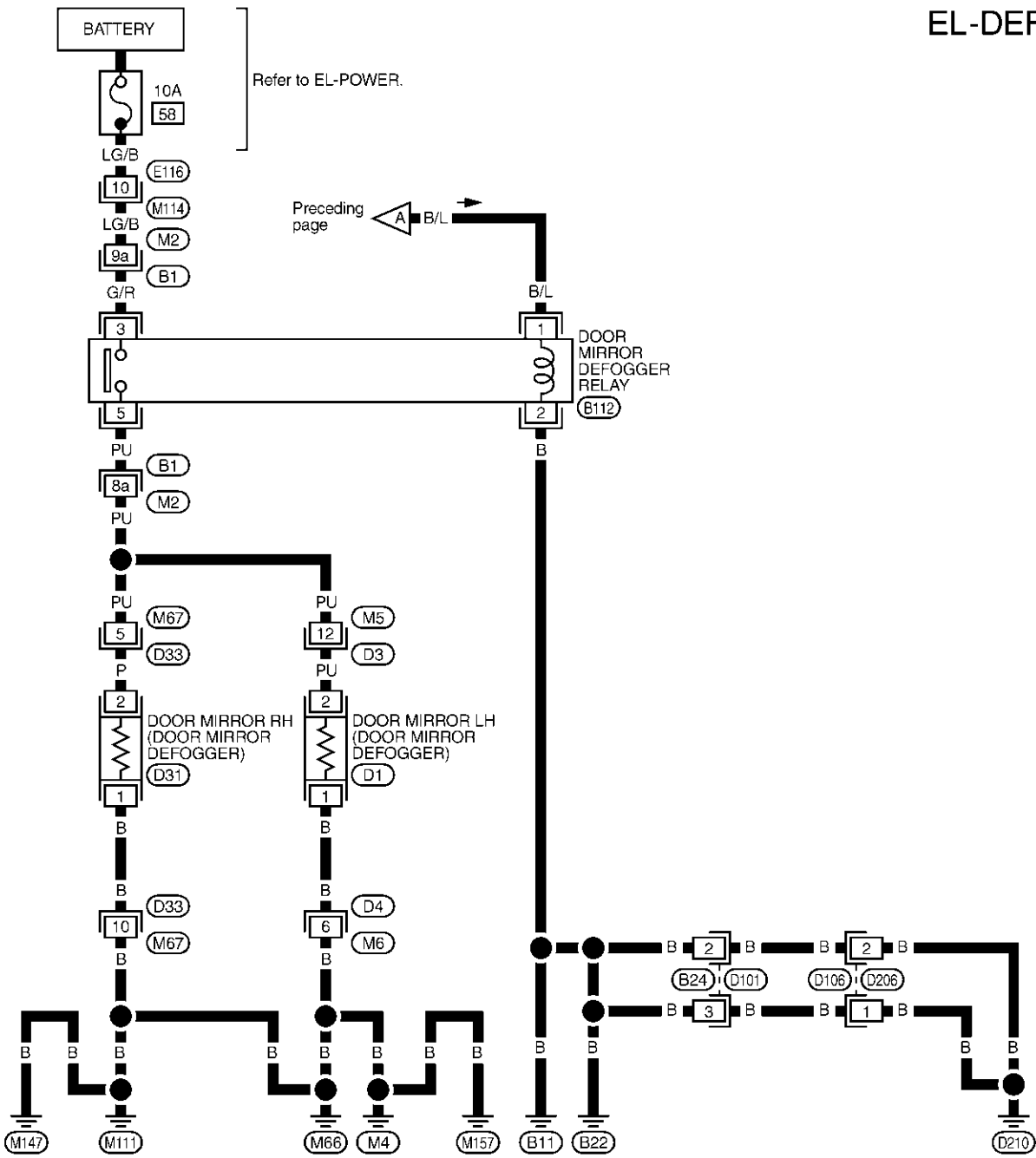
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MEL997P

REAR WINDOW DEFOGGER

Wiring Diagram — DEF — (Cont'd)

EL-DEF-02



REFER TO THE FOLLOWING.

(B1) - SUPER MULTIPLE JUNCTION (SMJ)

MEL998P

REAR WINDOW DEFOGGER

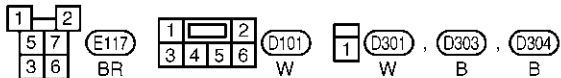
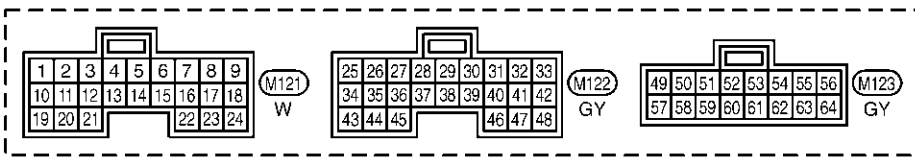
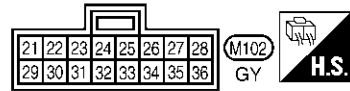
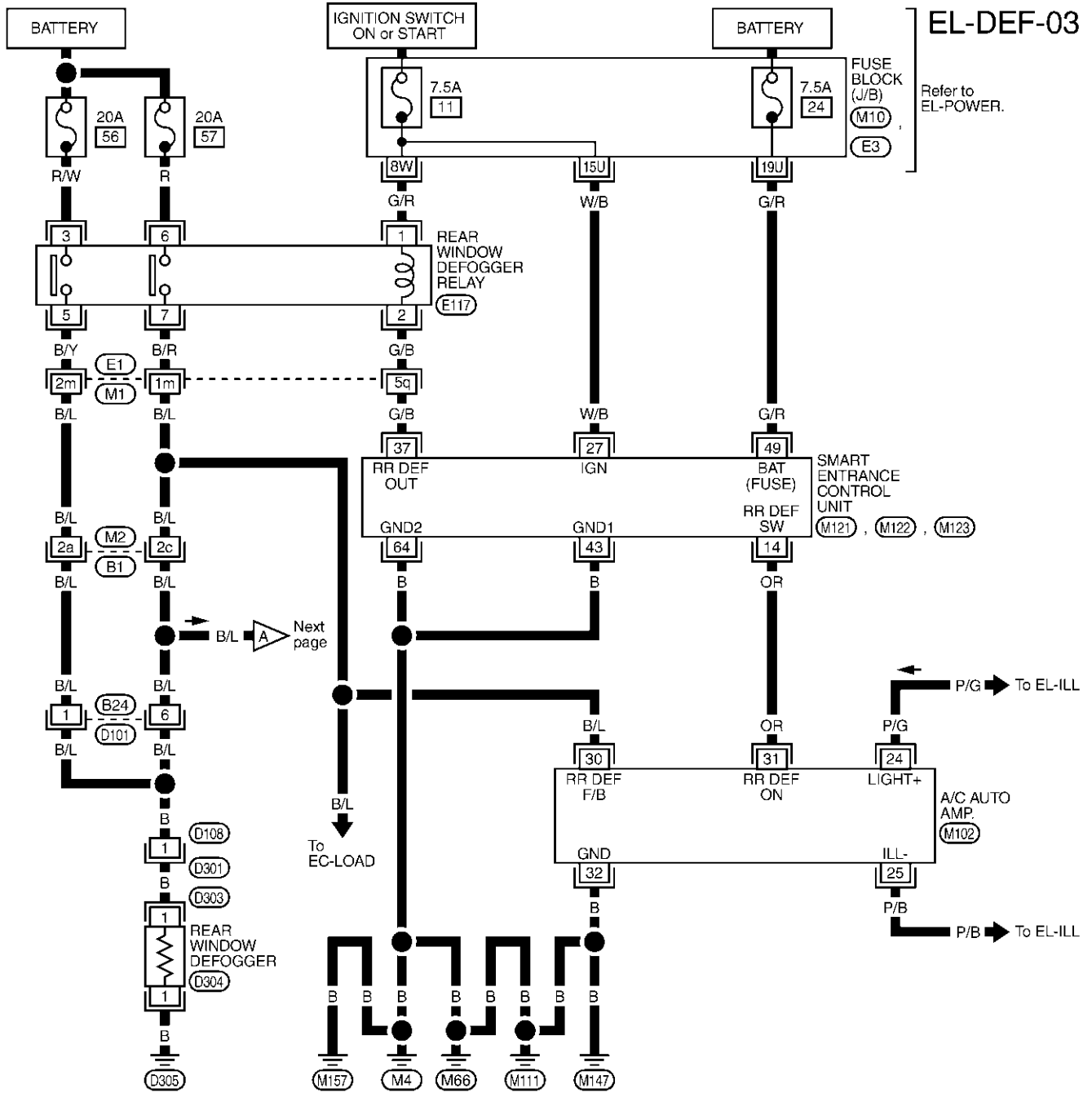
Wiring Diagram — DEF — (Cont'd)

WITH AUTO A/C AND WITHOUT NAVI

NAEL0335S02

EL-DEF-03

Refer to EL-POWER.



REFER TO THE FOLLOWING.

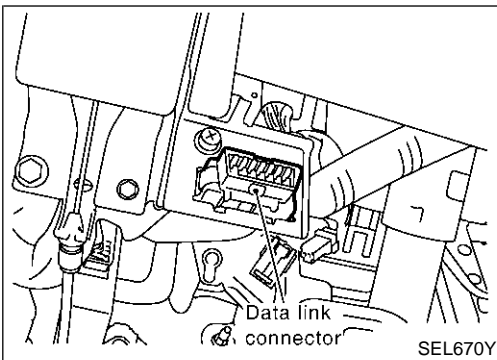
(E1), (B1) -SUPER
MULTIPLE JUNCTION (SMJ)
(M10), (E3) -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL999P

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REAR WINDOW DEFOGGER

CONSULT-II Inspection Procedure



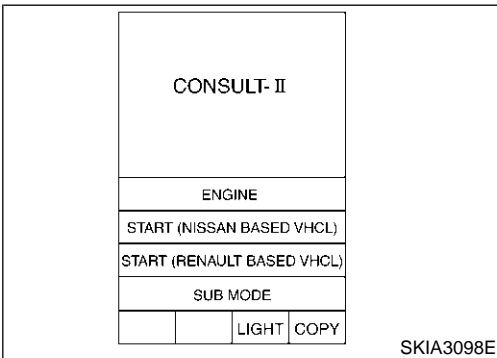
CONSULT-II Inspection Procedure

NAEL0336

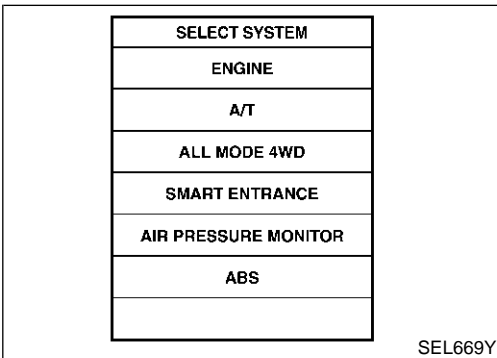
NAEL0336S01

“REAR DEFOGGER”

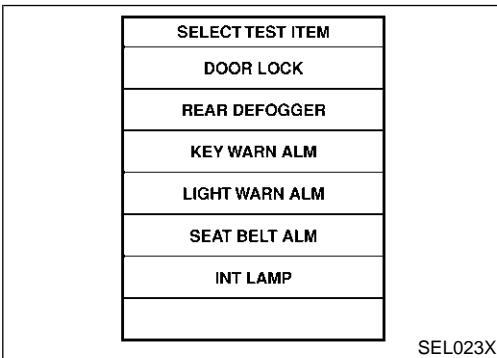
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector.



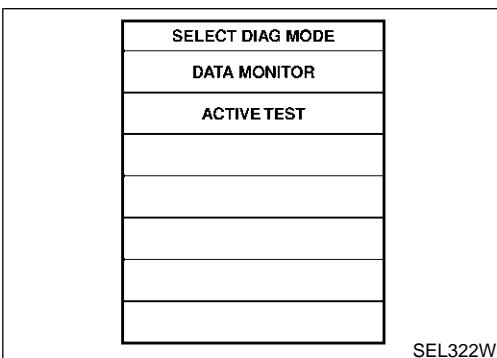
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



5. Touch “SMART ENTRANCE”.
If “SMART ENTRANCE” is not indicated, go to GI-41, “CONSULT-II Data Link Connector (DLC) Circuit”.



6. Touch “REAR DEFOGGER”.



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

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REAR WINDOW DEFOGGER

CONSULT-II Application Items

CONSULT-II Application Items

NAEL0337

“REAR DEFOGGER”

NAEL0337S01

Data Monitor

NAEL0337S0101

| 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

NAEL0337S0102

| 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

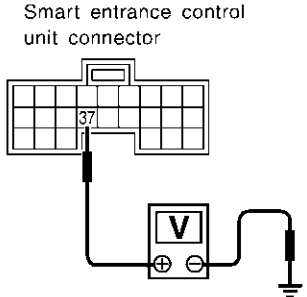

Trouble Diagnoses DIAGNOSTIC PROCEDURE

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

NAEL0338

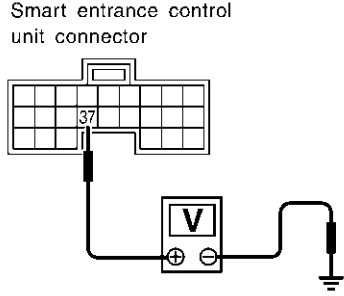

NAEL0338S01

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|---|--|---------------|-----|--|--|-----------|--|
| 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; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;"> <p style="text-align: center; margin: 0;">ACTIVE TEST</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%; padding: 2px;">REAR DEFOGGER</td> <td style="width: 20%; padding: 2px;">OFF</td> </tr> <tr> <td colspan="2" style="height: 100px;"></td> </tr> <tr> <td style="text-align: center; background-color: black; color: white; padding: 2px;">ON</td> <td style="padding: 2px;"></td> </tr> </table> </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 | | | ON | |
| REAR DEFOGGER | OFF | | | | | | |
| | | | | | | | |
| ON | | | | | | | |
| <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 M122 terminal 37 (G/B) and ground. <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 20px;"> <p>Smart entrance control unit connector</p>  </div> <div style="margin-right: 20px;">  </div> <div> <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-188.) ● Rear window defogger circuit ● Rear window defogger filament (Refer to EL-189.) | | | | | | |
| NG | <p>▶ GO TO 2.</p> | | | | | | |

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

| 2 | CHECK DEFOGGER RELAY COIL SIDE CIRCUIT | |
|--|--|---|
| <ol style="list-style-type: none"> 1. Disconnect smart entrance control unit connector. 2. Turn ignition switch to ON position. 3. Check voltage between smart entrance control unit harness connector M122 terminal 37 (G/B) and ground. | | |
| <div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right; margin-top: 20px;">SEL998X</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p> | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 11, located in the fuse block (J/B)] ● Rear window defogger relay ● Harness for open or short between fuse 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

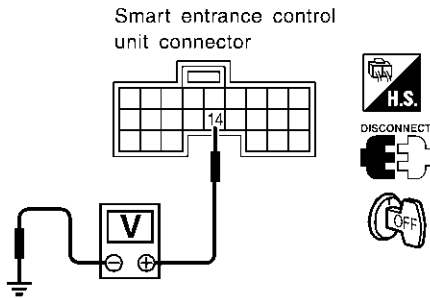
With CONSULT-II
Select "REAR DEF SW" in "DATA MONITOR" mode with CONSULT-II.

| 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 voltage between smart entrance control unit harness connector M121 terminal 14 (OR) and ground.



Voltage [V]:
Rear window defogger switch is pushed.
Approx. 5
Rear window defogger switch is released.
0

SEL685Y

OK or NG

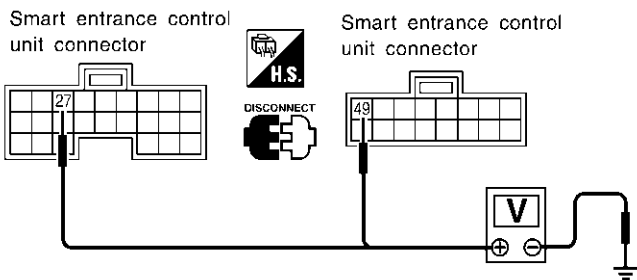
OK ► GO TO 4.

NG ► **Check the following.**

- Rear window defogger switch (Refer to EL-188.)
- 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 harness connector M122 terminal 27 (W/B), M123 terminal 49 (G/R) 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.**

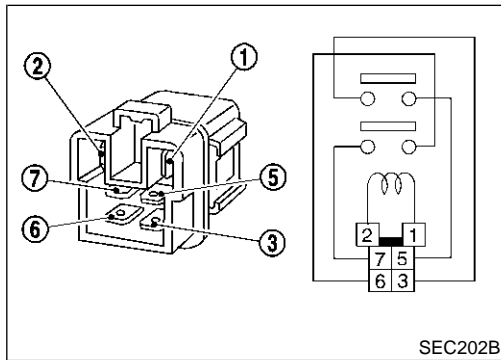
- 7.5A fuse [No. 11 or No. 24, located in the fuse block (J/B)]
- Harness for open or short between smart entrance control unit and fuse

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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 M122 terminal 43 (B), M123 terminal 64 (B) and ground.</p> | | |
| | | |
| Continuity should exist. | | |
| SEL002Y | | |
| Yes | ▶ | Replace smart entrance control unit. |
| No | ▶ | Repair harness or connectors. |



Electrical Components Inspection

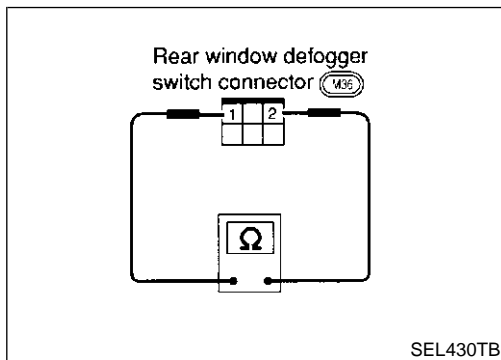
NAEL0339

REAR WINDOW DEFOGGER RELAY

NAEL0339S01

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

NAEL0339S02

Auto A/C and NAVI, and With Manual A/C

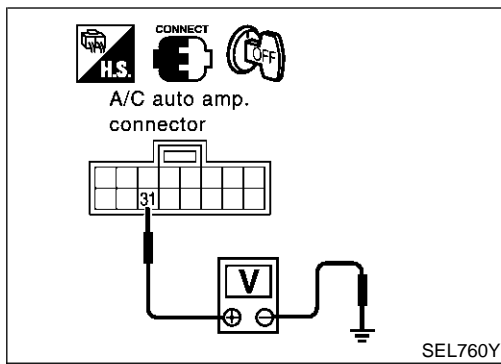
NAEL0339S0201

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

| Terminals | Condition | Continuity |
|-----------|---|------------|
| 1 - 2 | Rear window defogger switch is pushed | Yes |
| | Rear window defogger switch is released | No |

REAR WINDOW DEFOGGER

Electrical Components Inspection (Cont'd)

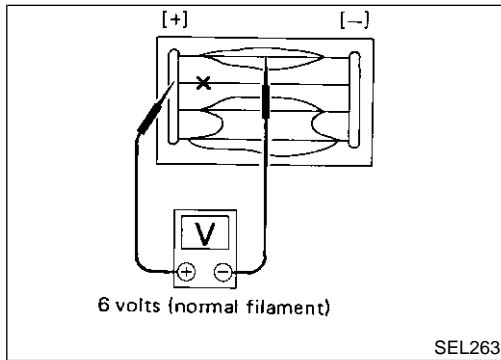


With Auto A/C and Without NAVI

=NAEL0339S0202

Check voltage between A/C auto amp. and ground, when rear window switch is pushed and released.

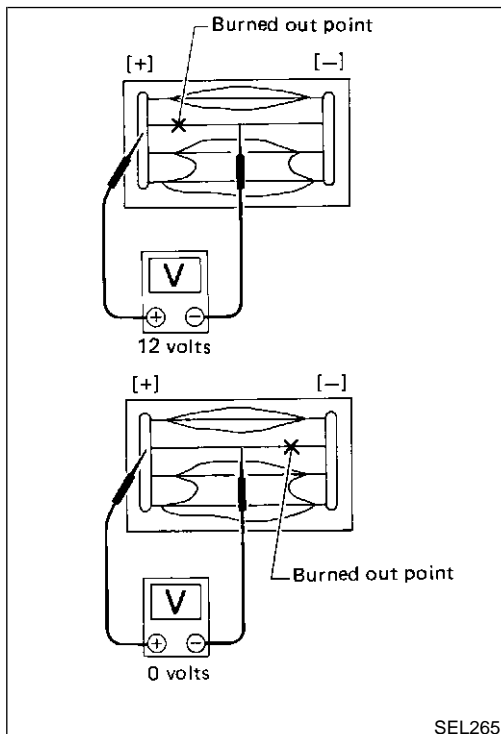
| Terminals | | Condition | Voltage (V) |
|-----------|-----------------------|---------------------------------------|-----------------|
| (+) | (-) | | |
| Connector | Terminal (Wire color) | | |
| M102 | 31 (OR) | Ground | 0 |
| | | Rear window defogger switch is pushed | Battery voltage |



Filament Check

NAEL0340

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

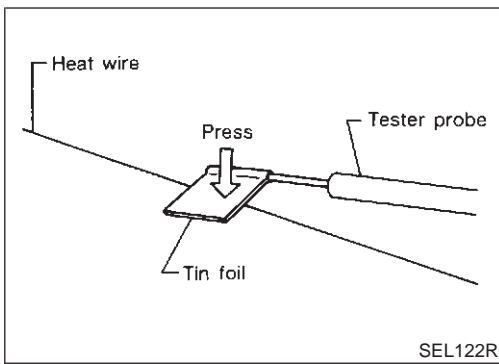


2. If a filament is burned out, circuit tester registers 0 or 12 volts.
3. To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.

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REAR WINDOW DEFOGGER

Filament Check (Cont'd)



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

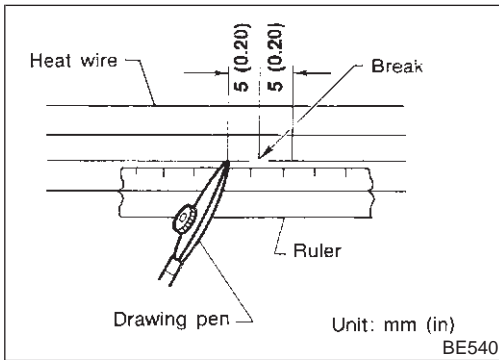
Filament Repair

REPAIR EQUIPMENT

NAEL0341

NAEL0341S01

- 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



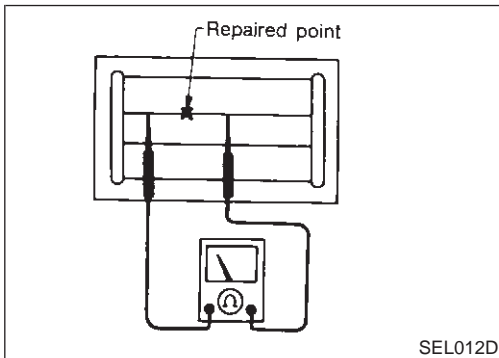
REPAIRING PROCEDURE

NAEL0341S02

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.

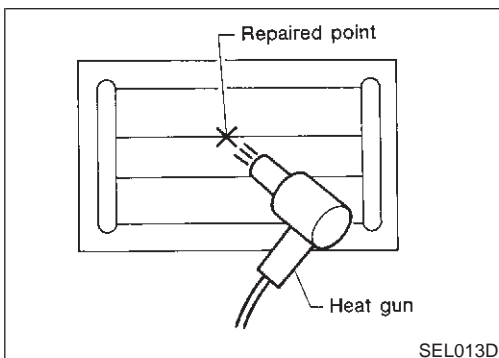
Shake silver composition container before use.

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

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

NAEL0342

GI

BASE SYSTEM

NAEL0342S01

MA

Power is supplied at all times

- through 15A fuse [No. 4, located in the fuse block (J/B)]
- to audio unit terminal 6, and
- to CD player terminal 4 (with CD player).

EM

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to audio unit terminal 10, and
- to CD player terminal 1 (with CD player).

LC

Ground is supplied through the case of the audio unit.

When the audio unit power knob is pushed to the ON position, audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to the front and rear speakers.

FE

BOSE SYSTEM

NAEL0342S02

CL

Power is supplied at all times

- through 15A fuse [No. 4, located in the fuse block (J/B)]
- to audio unit terminal 6,
- to audio amp. relay terminal 3,
- to rear speaker amp. terminal 11 and
- to AUX box terminal 7 (with rear TV).

MT

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to audio unit terminal 10,
- to AUX box terminal 6 (with rear TV).

AT

Ground is supplied through the case of the audio unit.

Ground is supplied

- to audio amp. relay terminal 2,
- to front door speaker LH terminal 5 and
- to front door speaker RH terminal 5
- through body grounds M4, M66, M111, M147 and M157
- to rear speaker amp. terminal 24 and
- to AUX box terminal 8 (with rear TV)
- through body grounds B11, B22 and D210
- to rear TV switch terminal 3
- through body grounds M4, M66, M111, M147 and M157.

TF

PD

AX

When the audio unit POWER button is pressed, power is supplied to rear speaker amp. terminal 9 and audio amp. relay terminal 1 from audio unit terminal 12. Then audio amp. relay is energized and power is supplied

- to front door speaker LH terminal 4 and
- to front door speaker RH terminal 4.

SU

BR

ST

RS

Audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to terminals 2 and 6 of the LH and RH front speakers and terminals 5, 7, 18 and 20 of the rear speaker amp.
- to LH and RH tweeters through terminals 1 and 3 of the front door speakers
- to rear LH and RH speakers through terminals 1, 2, 25 and 26 of the rear speaker amp.

BT

HA

SC

EL

IDX

AUDIO

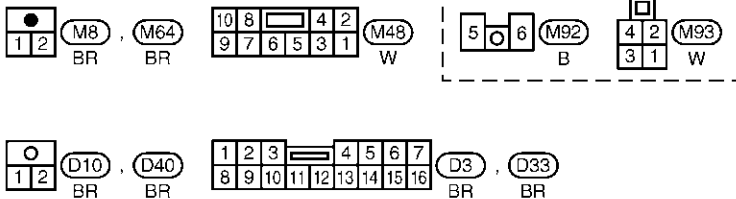
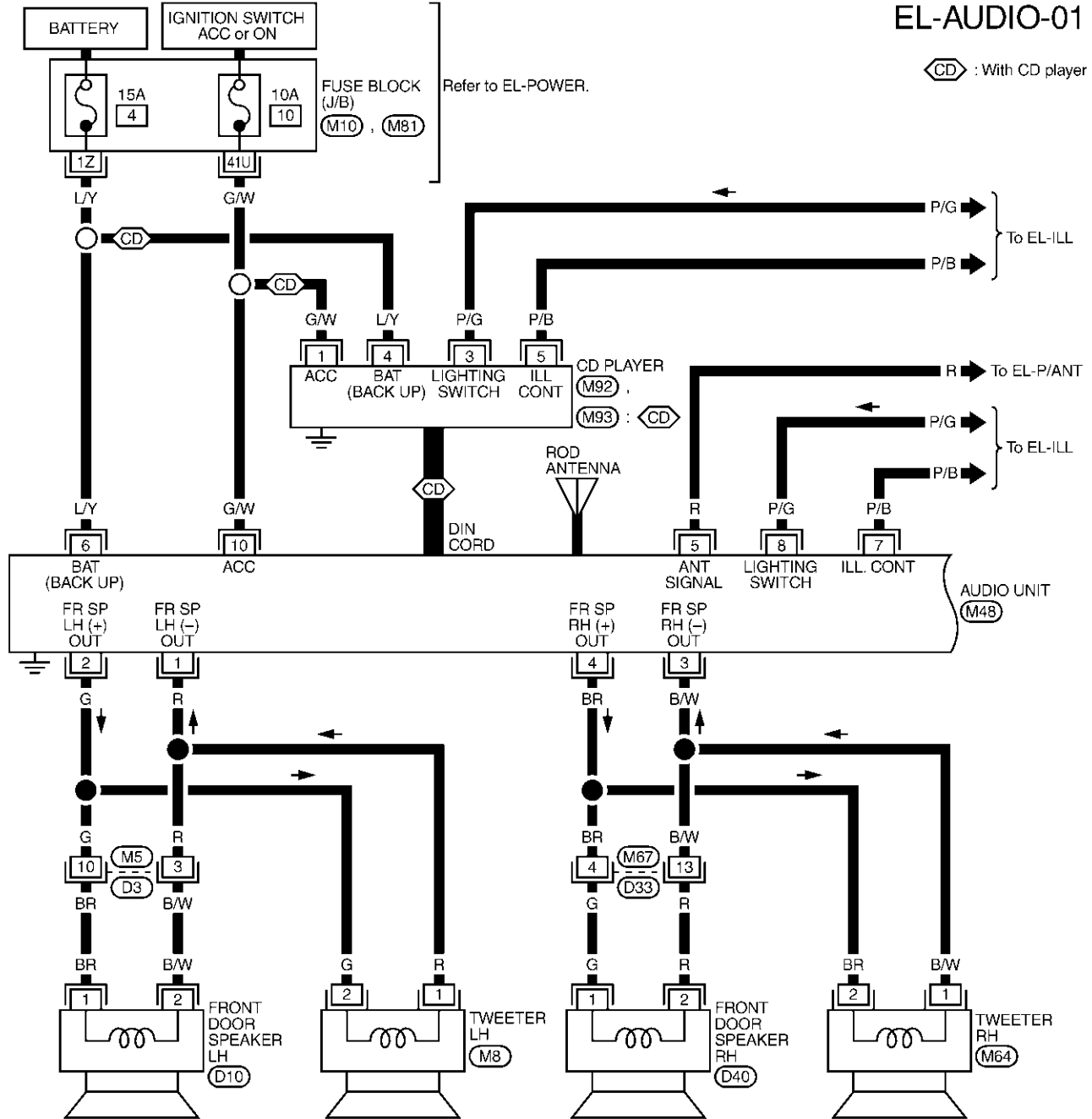
Wiring Diagram — AUDIO —/Base System

Wiring Diagram — AUDIO —/Base System

NAEL0343

EL-AUDIO-01

Ⓢ : With CD player



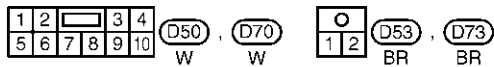
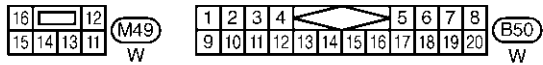
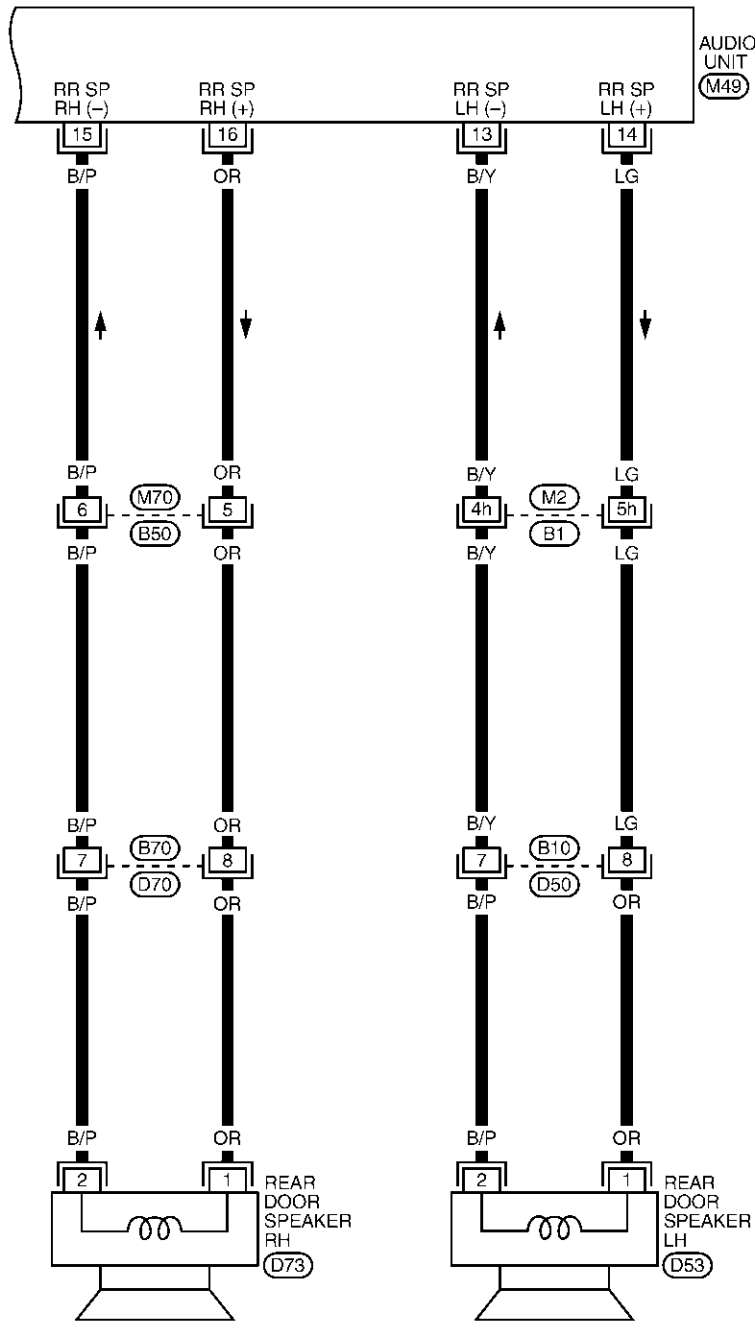
REFER TO THE FOLLOWING.
 (M10), (M81) - FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL355N

AUDIO

Wiring Diagram — AUDIO —/Base System (Cont'd)

EL-AUDIO-02



REFER TO THE FOLLOWING.

(B1) -SUPER
MULTIPLE JUNCTION (SMJ)

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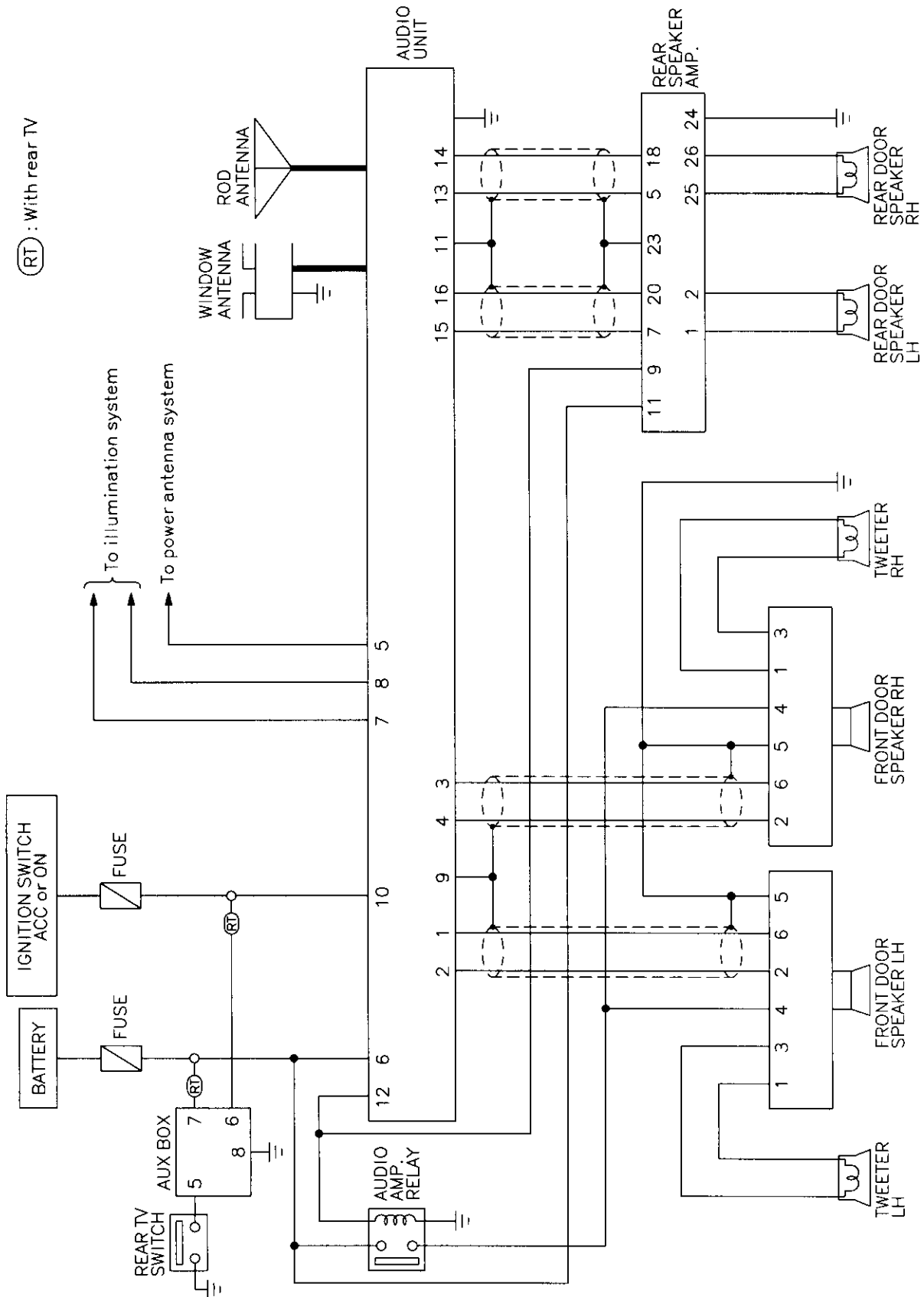
MEL038M

AUDIO

Schematic/BOSE System

Schematic/BOSE System

NAEL0344



MEL002Q

AUDIO

Wiring Diagram — AUDIO —/BOSE System

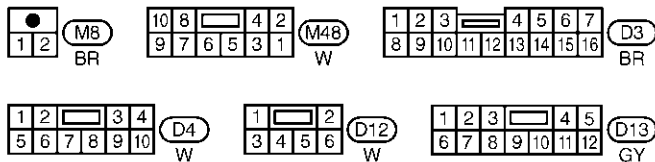
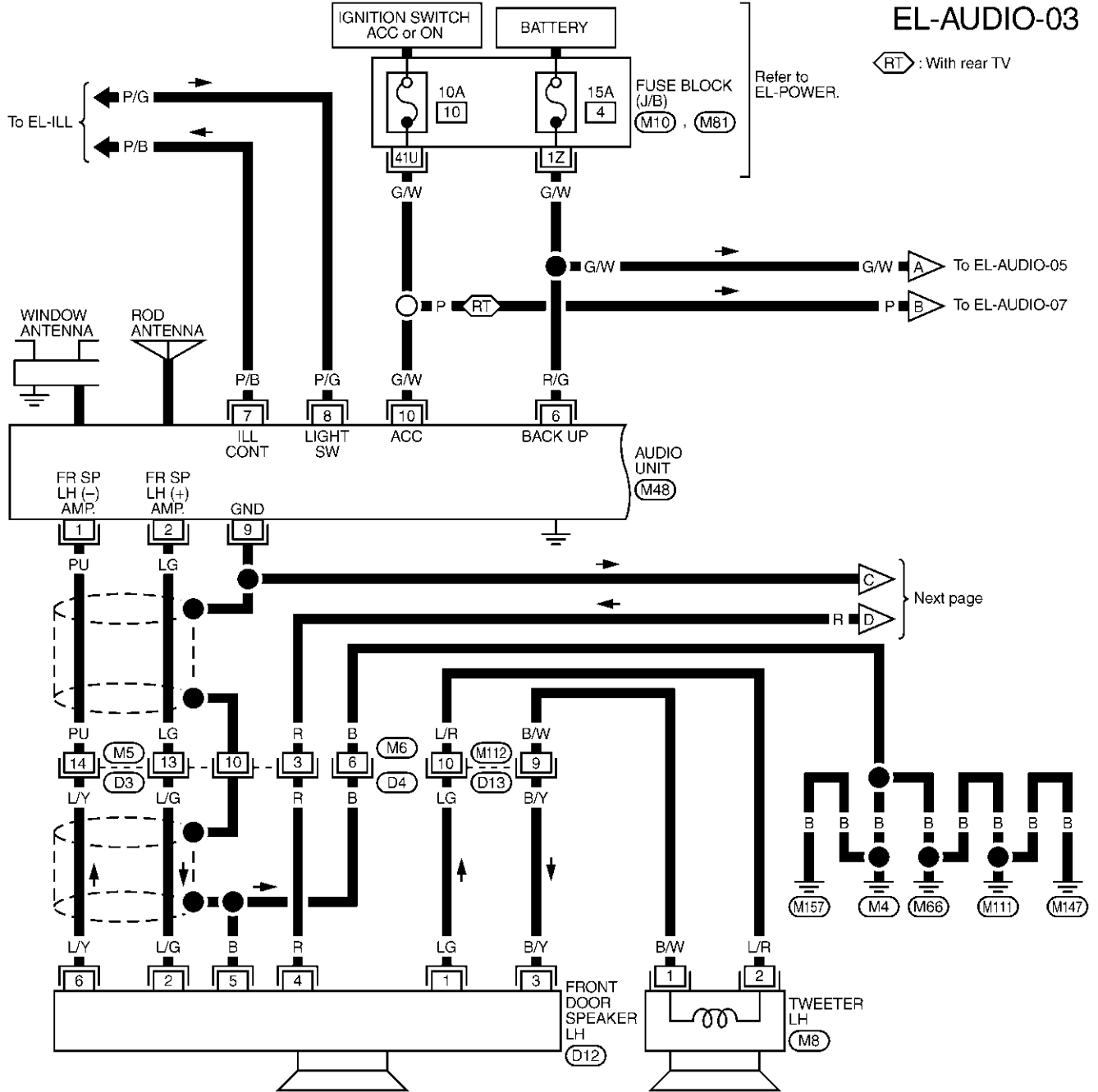
Wiring Diagram — AUDIO —/BOSE System

NAEL0345

EL-AUDIO-03

RT : With rear TV

Refer to EL-POWER.



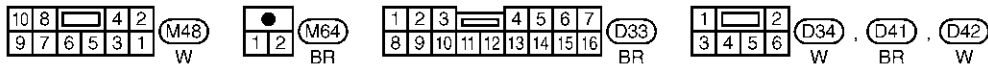
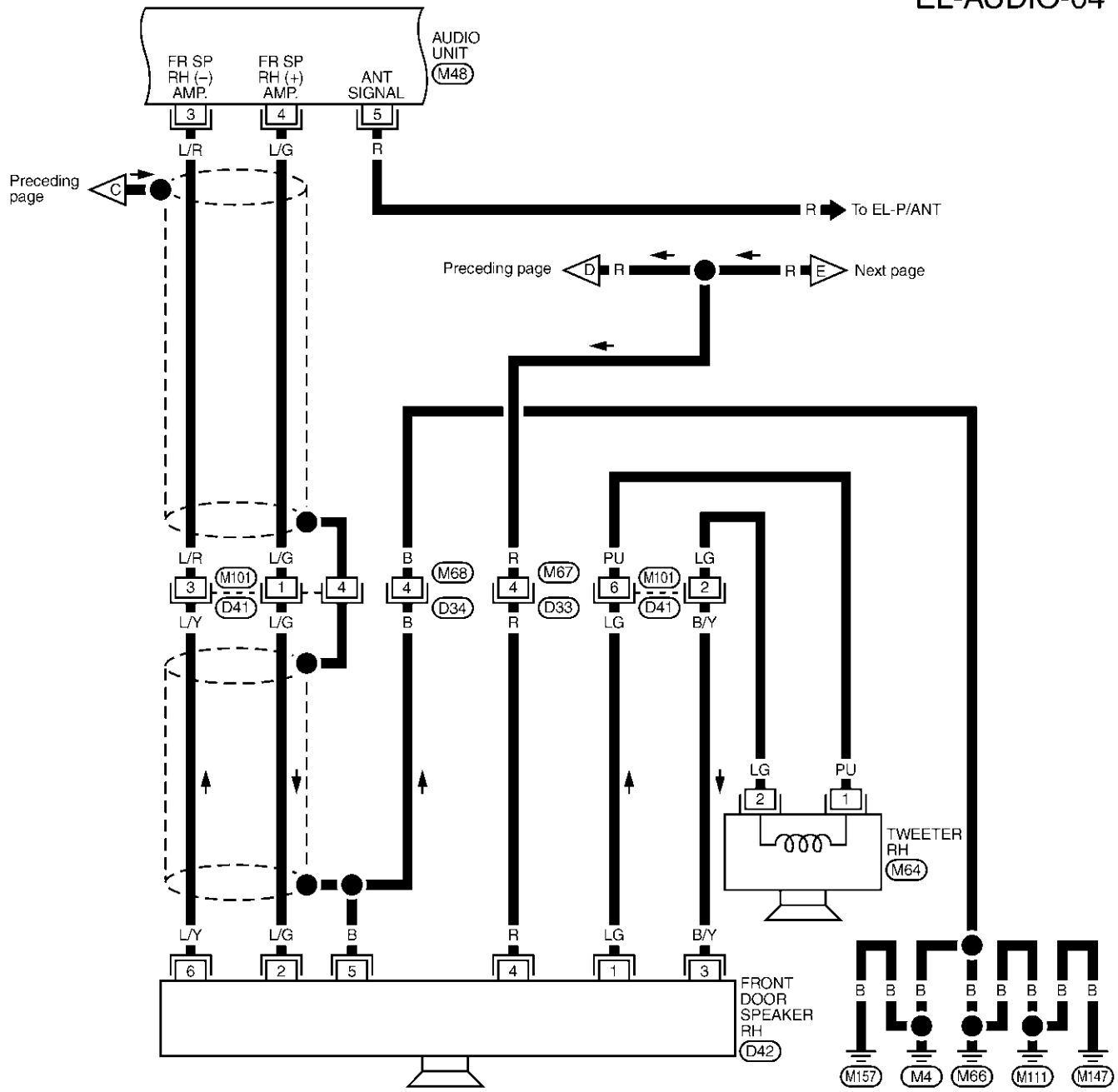
REFER TO THE FOLLOWING.
 (M10), (M81) - FUSE BLOCK-
 JUNCTION BOX (J/B)

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AUDIO

Wiring Diagram — AUDIO —/BOSE System (Cont'd)

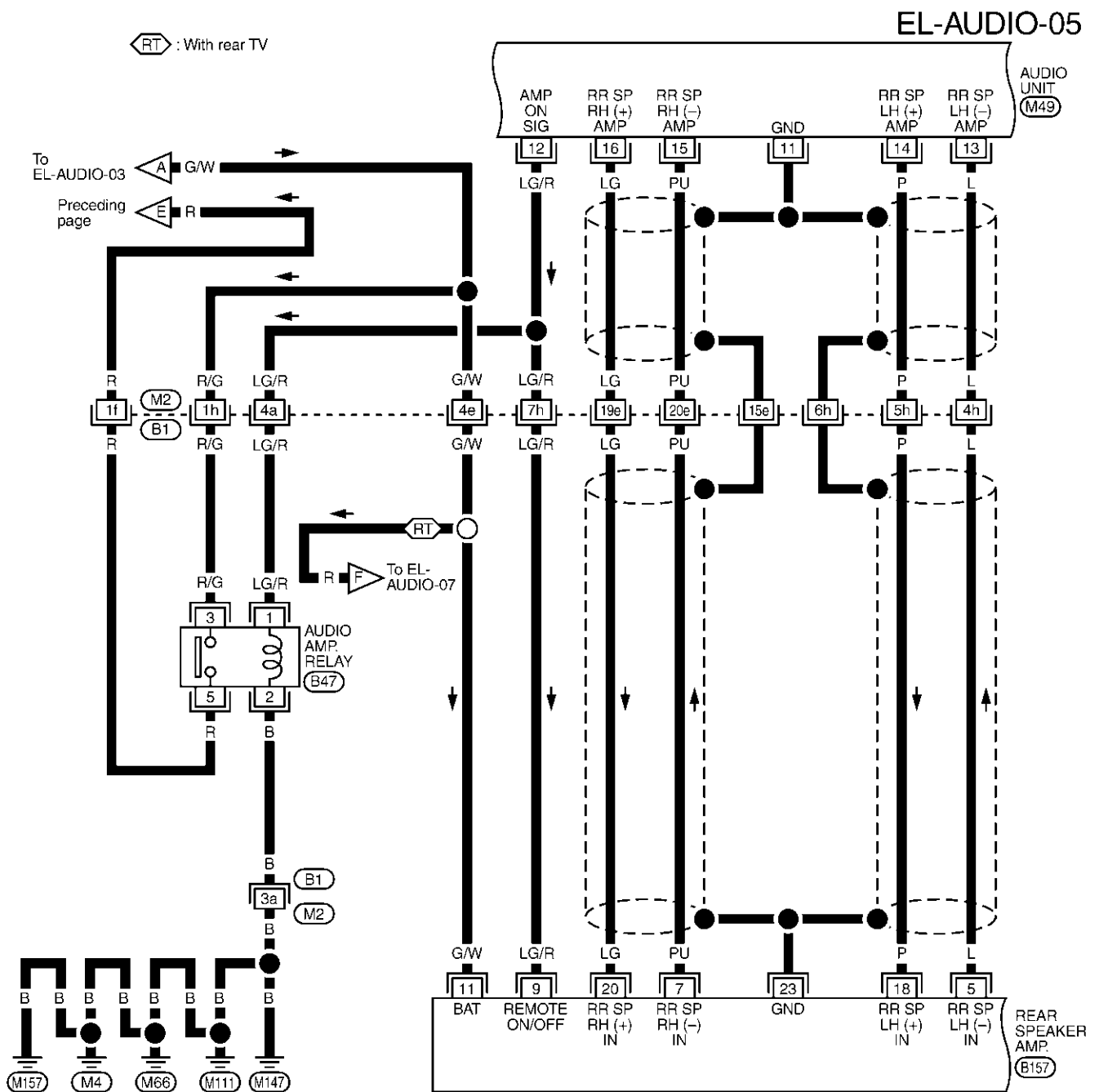
EL-AUDIO-04



MEL004Q

AUDIO

Wiring Diagram — AUDIO —/BOSE System (Cont'd)



REFER TO THE FOLLOWING.

(B1) - SUPER MULTIPLE JUNCTION (SMJ)

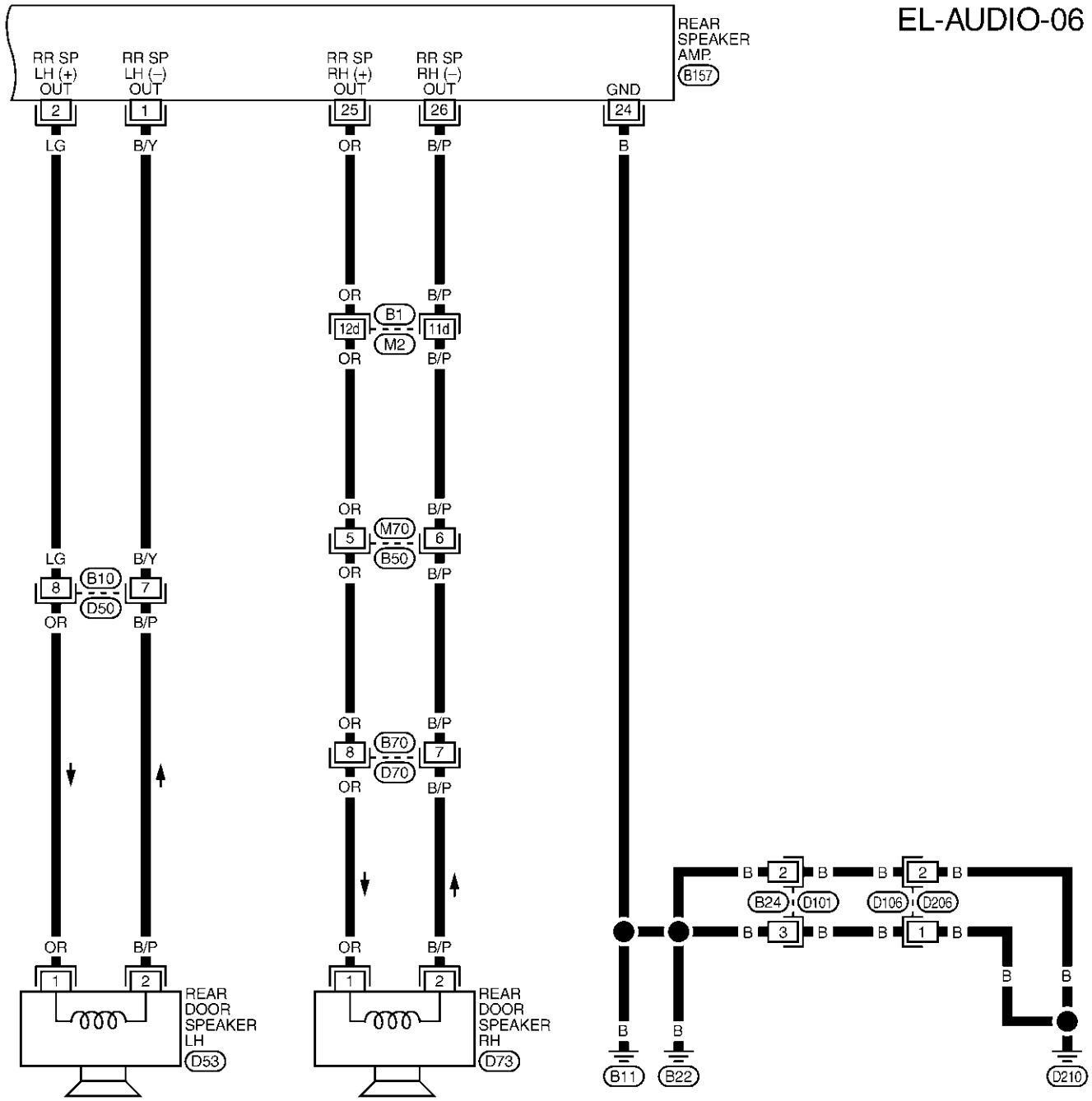
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MEL005Q

AUDIO

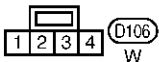
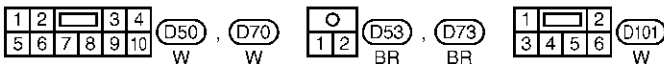
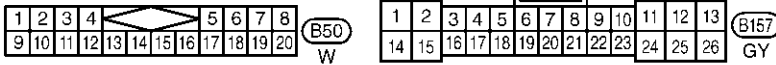
Wiring Diagram — AUDIO —/BOSE System (Cont'd)

EL-AUDIO-06



REFER TO THE FOLLOWING.

(B1) - SUPER MULTIPLE JUNCTION (SMJ)

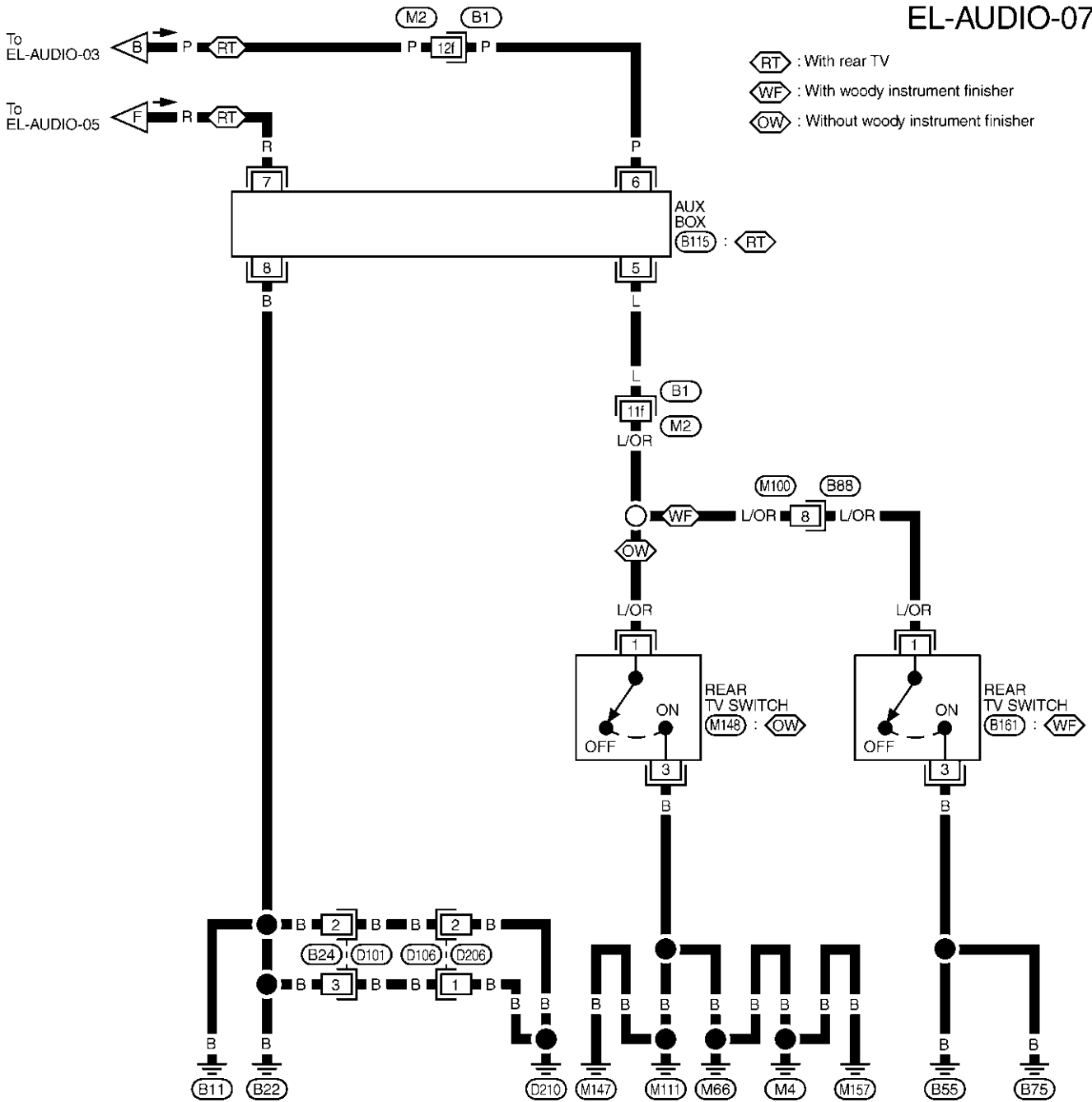


MEL006Q

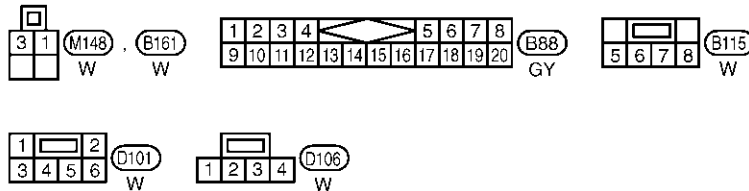
AUDIO

Wiring Diagram — AUDIO —/BOSE System (Cont'd)

EL-AUDIO-07



- : With rear TV
- : With woody instrument finisher
- : Without woody instrument finisher



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

MEL007Q

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AUDIO

Trouble Diagnoses

Trouble Diagnoses

NAEL0346

NAEL0346S01

AUDIO UNIT

| Symptom | Possible causes | Repair order |
|--|--|---|
| Audio unit inoperative (no digital display and no sound from speakers). | <ol style="list-style-type: none"> 10A fuse Poor audio unit case ground Audio unit | <ol style="list-style-type: none"> Check 10A fuse [No. 10, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of audio unit. Check audio unit case ground. Remove audio unit for repair. |
| Audio unit presets are lost when ignition switch is turned OFF. | <ol style="list-style-type: none"> 15A fuse Audio unit | <ol style="list-style-type: none"> Check 15A fuse [No. 4, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of audio unit. Remove audio unit for repair. |
| AM stations are weak or noisy (FM stations OK). | <ol style="list-style-type: none"> Antenna Poor audio unit ground Audio unit | <ol style="list-style-type: none"> Check antenna. Check audio unit ground. Remove audio unit for repair. |
| FM stations are weak or noisy (AM stations OK). | <ol style="list-style-type: none"> Window antenna Audio unit | <ol style="list-style-type: none"> Check window antenna. Remove audio unit for repair. |
| Audio unit generates noise in AM and FM modes with engine running. | <ol style="list-style-type: none"> Poor audio unit ground Loose or missing ground bonding straps Ignition condenser or rear window defogger noise suppressor condenser Alternator Ignition coil or secondary wiring Audio unit | <ol style="list-style-type: none"> Check audio unit ground. Check ground bonding straps. Replace ignition condenser or rear window defogger noise suppressor condenser. Check alternator. Check ignition coil and secondary wiring. 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"> Poor audio unit ground Antenna Accessory ground Faulty accessory | <ol style="list-style-type: none"> Check audio unit ground. Check antenna. Check accessory ground. Replace accessory. |

BASE SYSTEM

NAEL0346S02

| Symptom | Possible causes | Repair order |
|---|---|---|
| Individual speaker is noisy or inoperative. | <ol style="list-style-type: none"> Speaker Audio unit output Speaker circuit Audio unit | <ol style="list-style-type: none"> Check speaker. Check audio unit output voltages. Check wires for open or short between audio unit and speaker. Remove audio unit for repair. |

BOSE SYSTEM

NAEL0346S03

| Symptom | Possible causes | Repair order |
|--|--|---|
| Audio unit controls are operational, but no sound is heard from any speaker. | <ol style="list-style-type: none"> 15A fuse Audio unit output Audio unit | <ol style="list-style-type: none"> Check 15A fuse [No. 4, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of audio amp. relay. Check audio unit output voltage (Terminal 12). Remove audio unit for repair. |
| All front speakers are inoperative. | <ol style="list-style-type: none"> Audio amp. relay Audio amp. relay ground Amp. ON signal | <ol style="list-style-type: none"> Check audio amp. relay. Check audio amp. relay ground (Terminal 2). Turn ignition switch ACC and audio unit ON. Verify battery positive voltage is present at terminal 1 of audio amp. relay. |
| Individual front speaker is noisy or inoperative. | <ol style="list-style-type: none"> Speaker ground Power supply Audio unit output Speaker | <ol style="list-style-type: none"> Check speaker ground (Terminal 5). Check power supply for speaker (Terminal 4). Check audio unit output voltage for speaker. Replace speaker. |

AUDIO

Trouble Diagnoses (Cont'd)

| Symptom | Possible causes | Repair order |
|--|--|---|
| Both rear speakers are inoperative. | <ol style="list-style-type: none"> Poor rear speaker amp. ground Power supply Amp. ON signal Rear speaker amp. | <ol style="list-style-type: none"> Check rear speaker amp. ground circuit. Check power supply for rear speaker amp. (Terminal 11). Turn ignition switch ACC and audio unit ON. Verify battery positive voltage is present at terminal 9 of rear speaker amp. Remove rear speaker amp. for repair. |
| Individual rear speaker is noisy or inoperative. | <ol style="list-style-type: none"> Speaker Audio unit/amp. output Speaker circuit Audio unit | <ol style="list-style-type: none"> Check speaker. Check audio unit/amp. output. Check wires for open or short between audio unit/amp. and speakers. Remove audio unit for repair. |

Inspection

AUDIO UNIT AND AMP.

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

- 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 Unit Removal and Installation

- Lock the CD changer unit mechanism (if so equipped) prior to removing a malfunctioning CD changer unit. Refer to "LOCKING CD CHANGER UNIT MECHANISM", EL-201.
- Remove CD changer unit. Refer to BT-22, "INSTRUMENT PANEL ASSEMBLY".

LOCKING CD CHANGER UNIT MECHANISM

CAUTION:

- Prior to removing a malfunctioning CD changer unit that will be shipped for repair, the changer mechanism **MUST BE LOCKED** to prevent the mechanism from being damaged during shipping.
- If a CD is jammed or unable to be removed from the unit, do **NOT** lock the changer mechanism. If the unit is to be shipped for repair, carefully package the unit to prevent vibration and shock.

- Eject and remove any CDs from the CD changer unit.
- Turn ignition switch OFF. Wait until CD changer unit display is off and mechanism stops moving (mechanism sound stops).
- Press any one of the disc selection buttons once. When a display shows on the CD changer unit, press the same disc selection button again within 5 seconds.
 - The changer mechanism will lock itself within 10 seconds.
- After mechanism stops moving (mechanism sound stops), disconnect the CD changer unit connectors.

NOTE:

After installing a new or remanufactured CD changer unit, switching the CD changer unit ON will automatically unlock the mechanism. A special unlocking procedure is not required.

GI

MA

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LC

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NAEL0347

NAEL0347S01

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NAEL0347S02

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NAEL0348

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NAEL0348S01

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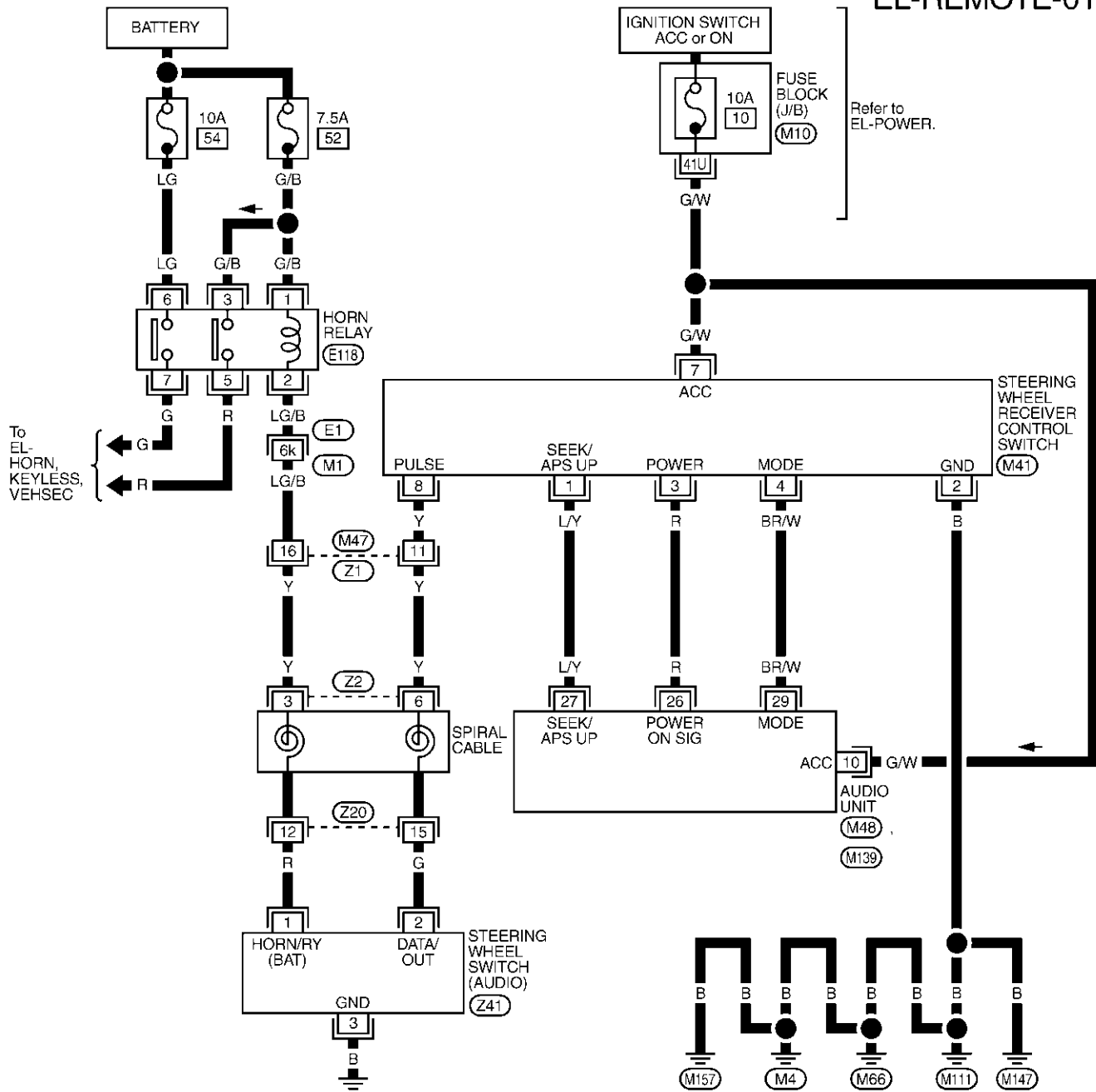
AUDIO

Wiring Diagram — REMOTE —

Wiring Diagram — REMOTE —

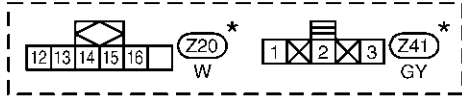
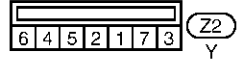
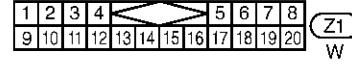
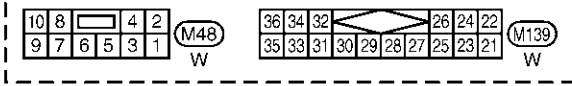
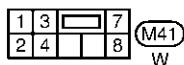
NAEL0349

EL-REMOTE-01



Refer to EL-POWER.

To EL-HORN, KEYLESS, VEHSEC



* : This connector is not shown in "HARNESS LAYOUT", EL section.

REFER TO THE FOLLOWING.
 (E1) - SUPER MULTIPLE JUNCTION (SMJ)
 (M10) - FUSE BLOCK-JUNCTION BOX (J/B)

MEL008Q

System Description

GI
NAEL0350

Power is supplied at all times

- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to power antenna terminal 6.

Ground is supplied to the power antenna terminal 2 through body grounds M4, M66, M111, M147 and M157. When the audio unit is turned to the ON position, battery positive voltage is supplied

- through audio unit terminal 5
- to power antenna terminal 4.

The antenna raises and is held in the extended position.

When the audio unit is turned to the OFF position, battery positive voltage is interrupted

- from audio unit terminal 5
- to power antenna terminal 4.

The antenna retracts.

MA

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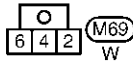
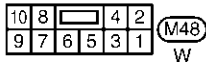
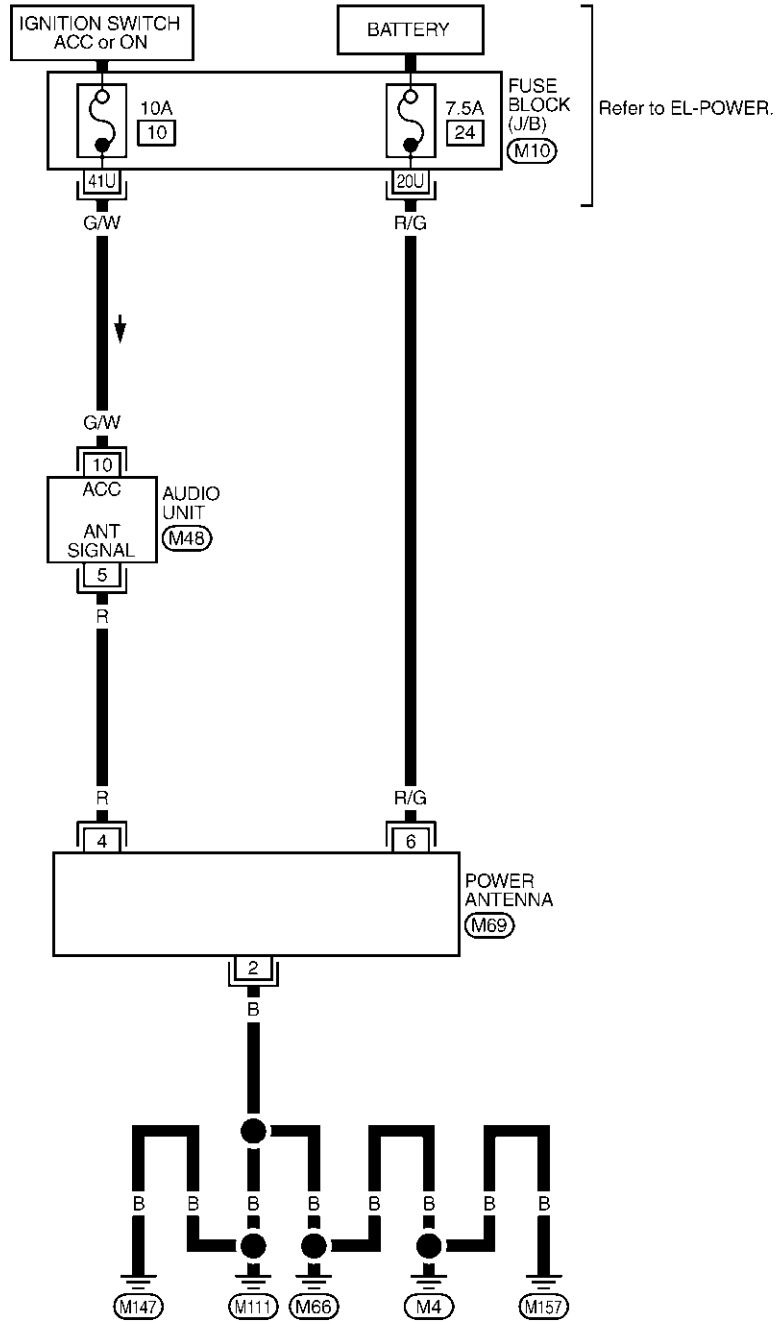
AUDIO ANTENNA

Wiring Diagram — P/ANT —

Wiring Diagram — P/ANT —

NAEL0351

EL-P/ANT-01



REFER TO THE FOLLOWING.

(M10) - FUSE BLOCK -
JUNCTION BOX (J/B)

MEL009Q

Trouble Diagnoses

NAEL0352

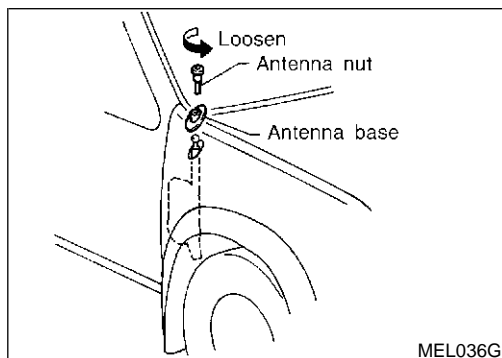
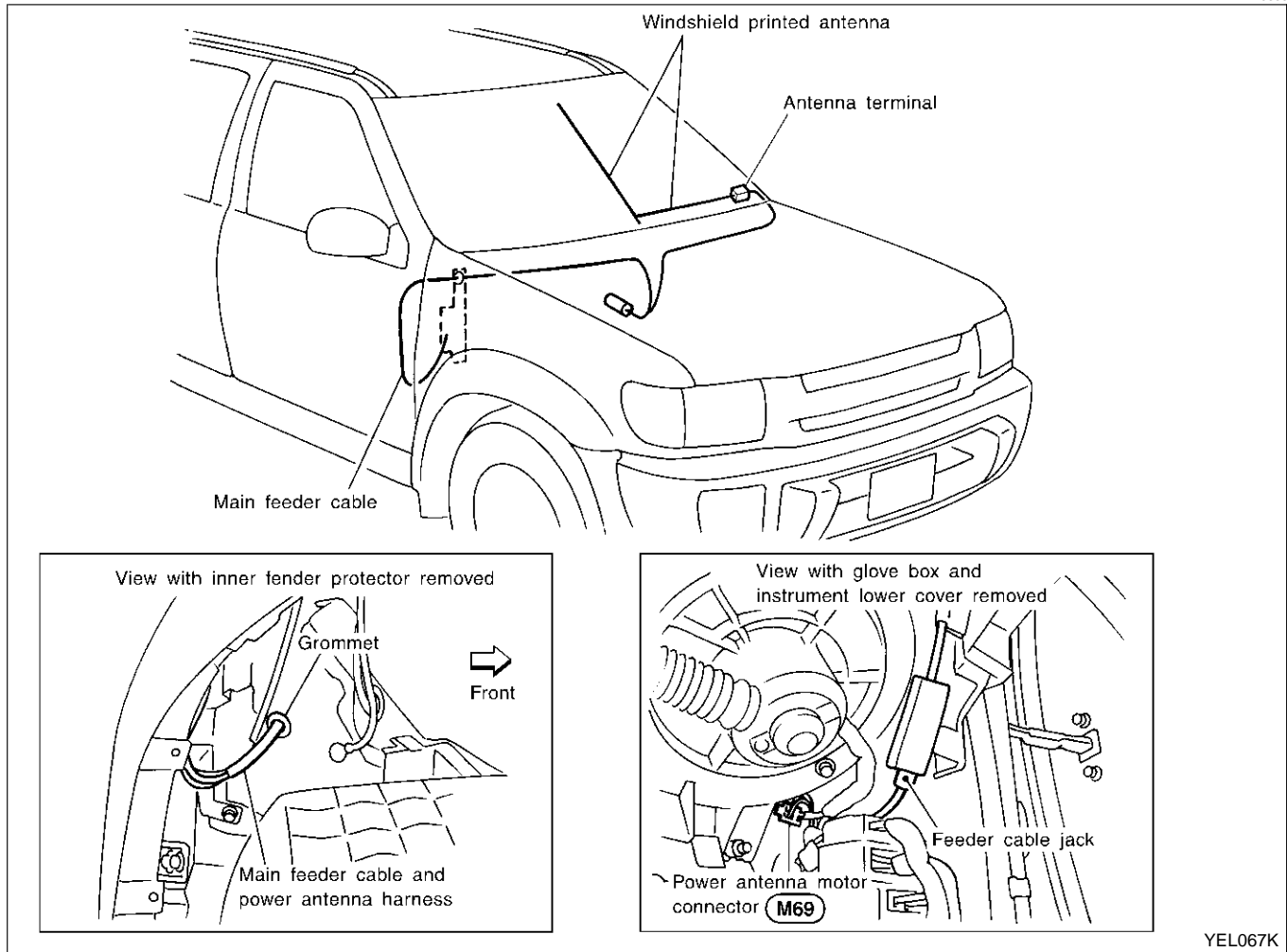
NAEL0352S01

POWER ANTENNA

| Symptom | Possible causes | Repair order |
|---------------------------------|--|--|
| Power antenna does not operate. | <ol style="list-style-type: none"> 7.5A fuse Audio unit signal Grounds M4, M66, M111, M147 and M157 | <ol style="list-style-type: none"> Check 7.5A fuse [No. 24, located in fuse block (J/B)]. Verify that battery positive voltage is present at terminal 6 of power antenna. Turn ignition switch and audio unit ON. Verify that battery positive voltage is present at terminal 4 of power antenna. Check grounds M4, M66, M111, M147 and M157. |

Location of Antenna

NAEL0353



Antenna Rod Replacement REMOVAL

NAEL0354

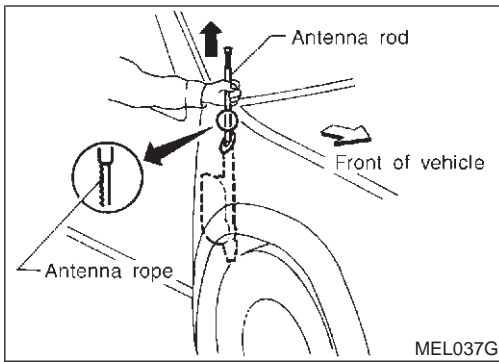
NAEL0354S01

- Remove antenna nut and antenna base.

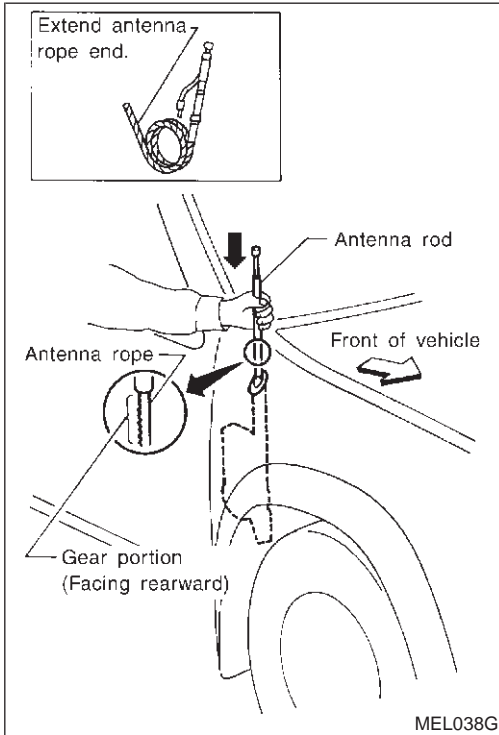
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AUDIO ANTENNA

Antenna Rod Replacement (Cont'd)



2. Withdraw antenna rod while raising it by operating antenna motor.



INSTALLATION

NAEL0354S02

1. Lower antenna rod by operating antenna motor.
2. Insert gear section of antenna rope into place with it facing toward antenna motor.
3. As soon as antenna rope is wound on antenna motor, stop antenna motor. Insert antenna rod lower end into antenna motor pipe.
4. Retract antenna rod completely by operating antenna motor.
5. Install antenna nut and base.

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 tilted up or down with the tilt switch.

The sunroof can be opened or closed automatically with the sunroof switch.

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
- through body grounds M4, M66, M111, M147 and M157.

When power and ground are supplied, power window relay continues to be energized, and the electrical sunroof can be operated.

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.

RAP signal period can be changed by CONSULT-II. (EL-211)

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).

GI
NAEL0355
NAEL0355S01
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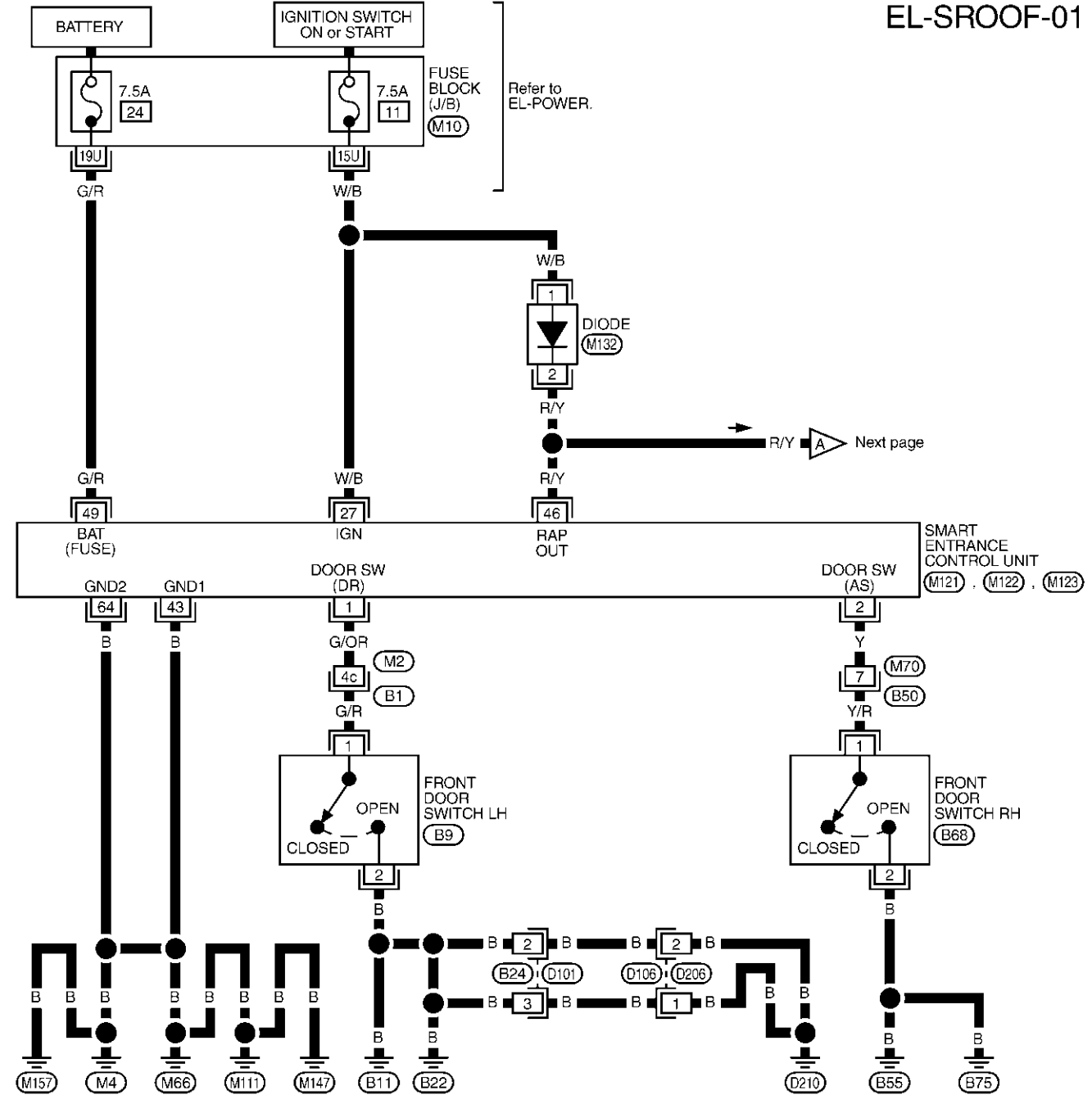
POWER SUNROOF

Wiring Diagram — SROOF —

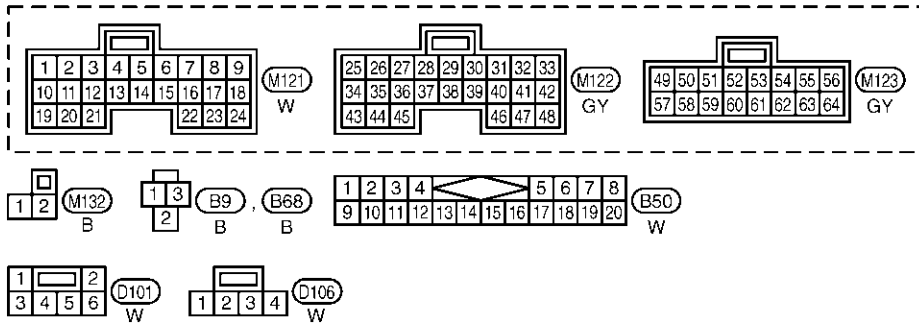
Wiring Diagram — SROOF —

NAEL0356

EL-SROOF-01



Next page



REFER TO THE FOLLOWING.

- (B1) - SUPER MULTIPLE JUNCTION (SMJ)
- (M10) - FUSE BLOCK - JUNCTION BOX (J/B)

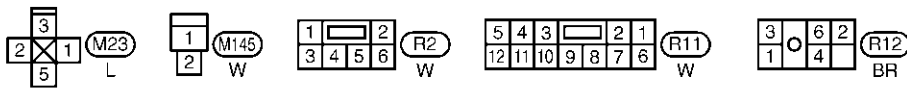
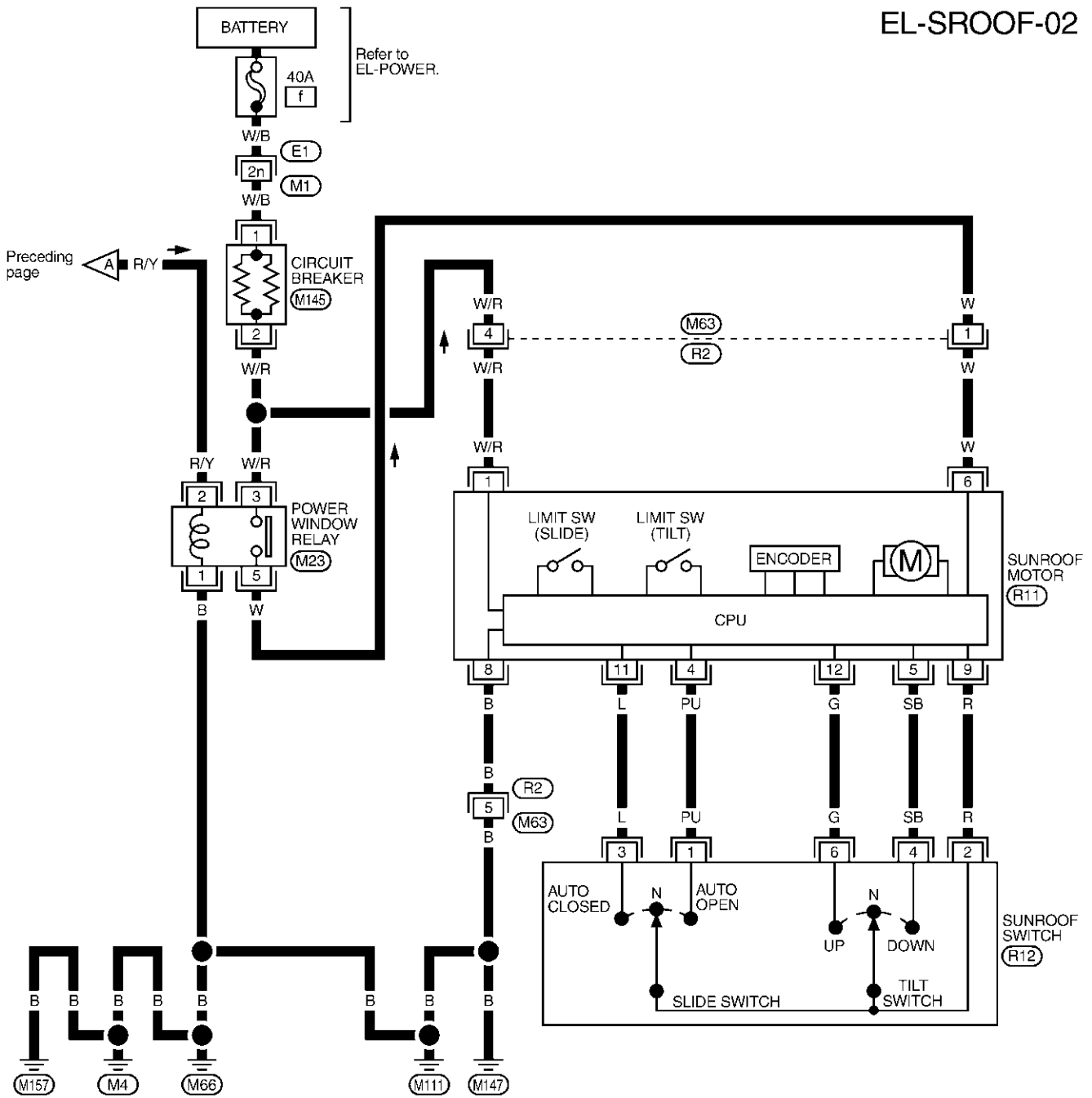


MEL010Q

POWER SUNROOF

Wiring Diagram — SROOF — (Cont'd)

EL-SROOF-02



REFER TO THE FOLLOWING.

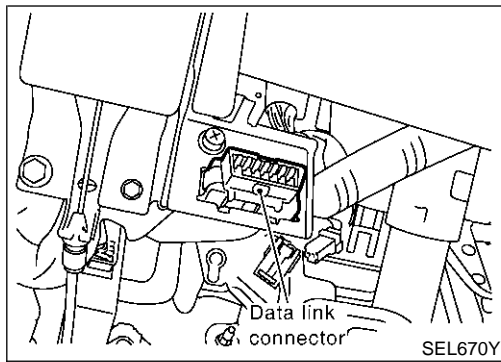
(E1) -SUPER MULTIPLE JUNCTION (SMJ)

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MEL011Q

POWER SUNROOF

CONSULT-II Inspection Procedure



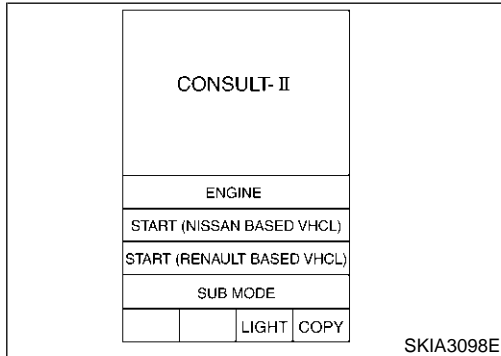
CONSULT-II Inspection Procedure

=NAEL0357

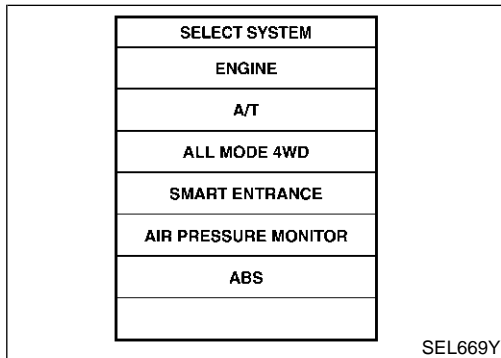
NAEL0357S01

"RETAINED PWR"

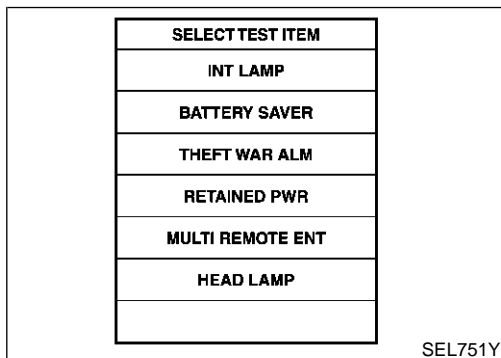
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



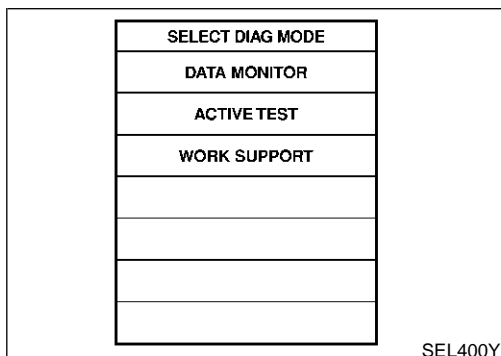
3. Turn ignition switch "ON".
4. Touch "START (NISSAN BASED VHCL)".



5. Touch "SMART ENTRANCE".
If "SMART ENTRANCE" is not indicated, go to GI-41, "CONSULT-II Data Link Connector (DLC) Circuit".



6. Touch "RETAINED PWR".



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

POWER SUNROOF

CONSULT-II Application Items

CONSULT-II Application Items

NAEL0455

NAEL0455S01

NAEL0455S0101

“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

NAEL0455S0102

| 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> |

Work Support

NAEL0455S0103

| Work Item | Description |
|------------------|---|
| RETAINED PWR SET | <p>RAP signal's power supply period can be changed by mode setting. Selects RAP signal's power supply period between three steps.</p> <ul style="list-style-type: none"> ● MODE 1 (45 sec.)/MODE 2 (OFF)/MODE 3 (2 min.) |

Trouble Diagnoses

NAEL0456

| Symptom | Possible cause | Repair order |
|---|---|---|
| Power sunroof cannot be operated using any switch. | <ol style="list-style-type: none"> 1. 7.5A fuse, 40A fusible link and M145 circuit breaker 2. Power window relay ground circuit 3. Sunroof motor ground circuit 4. Power window relay 5. Sunroof motor circuit 6. Sunroof switch 7. Sunroof switch circuit 8. Sunroof motor | <ol style="list-style-type: none"> 1. Check 7.5A fuse [No. 11, located in fuse block (J/B)], 40A fusible link (letter f, located in fuse and fusible link box) and M145 circuit breaker. Turn ignition switch “ON” and verify battery positive voltage is present at terminals 2 and 3 of power window relay and terminal 1 of sunroof motor. 2. Check power window relay ground circuit. 3. Check sunroof motor ground circuit. 4. Check power window relay. 5. Check the wire between power window relay and sunroof motor. 6. Check sunroof switch. 7. Check harness between sunroof switch and sunroof motor. 8. Check sunroof motor. |
| Power sunroof cannot be operated using one of the sunroof switches. | <ol style="list-style-type: none"> 1. Sunroof switch 2. Sunroof switch circuit | <ol style="list-style-type: none"> 1. Check sunroof switch. 2. Check the harness between sunroof motor and sunroof switch. |

POWER SUNROOF

Trouble Diagnoses (Cont'd)

| Symptom | Possible cause | Repair order |
|---|---|---|
| Power sunroof cannot be opened or closed fully. | <ol style="list-style-type: none"> 1. Full closed position not initialized 2. Sunroof slide mechanism 3. Sunroof switch 4. Sunroof switch circuit 5. Sunroof motor | <ol style="list-style-type: none"> 1. Initialize full closed position. 2. Check the following. <ol style="list-style-type: none"> a. Check obstacles in sunroof, etc. b. Check worn or deformed sunroof. c. Check sunroof sash tilted too far inward or outward. 3. Check sunroof switch. 4. Check harness between sunroof motor and sunroof switch. 5. Replace sunroof motor. |
| 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-211.) 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. Check driver or passenger side door switch. 3. Check smart entrance control unit. (EL-368) |

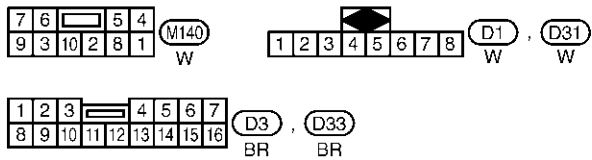
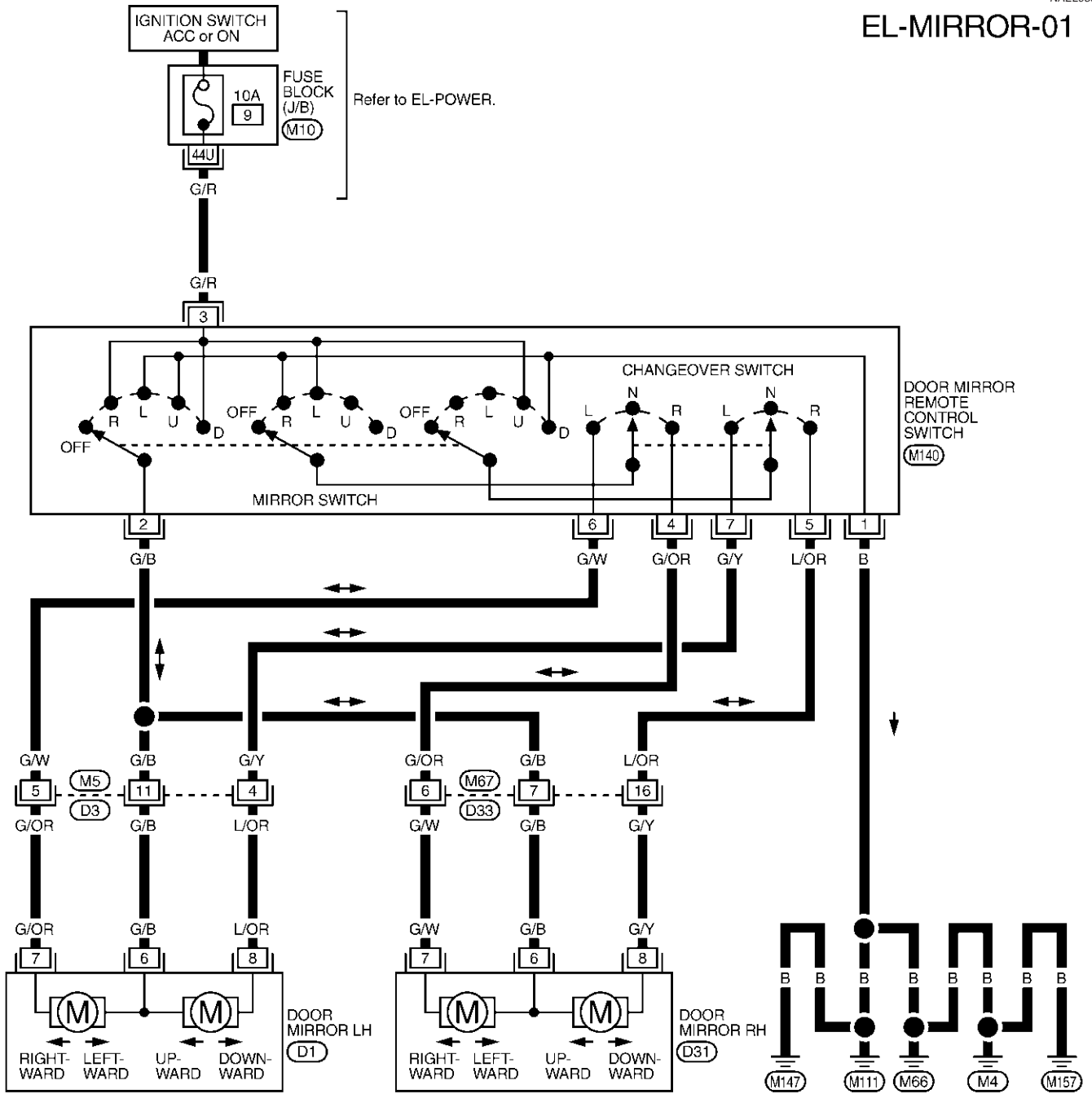
DOOR MIRROR

Wiring Diagram — MIRROR —

Wiring Diagram — MIRROR —

NAEL0360

EL-MIRROR-01



REFER TO THE FOLLOWING.

(M10) - FUSE BLOCK -
JUNCTION BOX (J/B)

GI
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MEL012Q

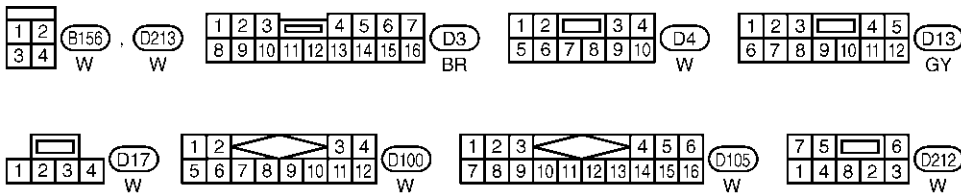
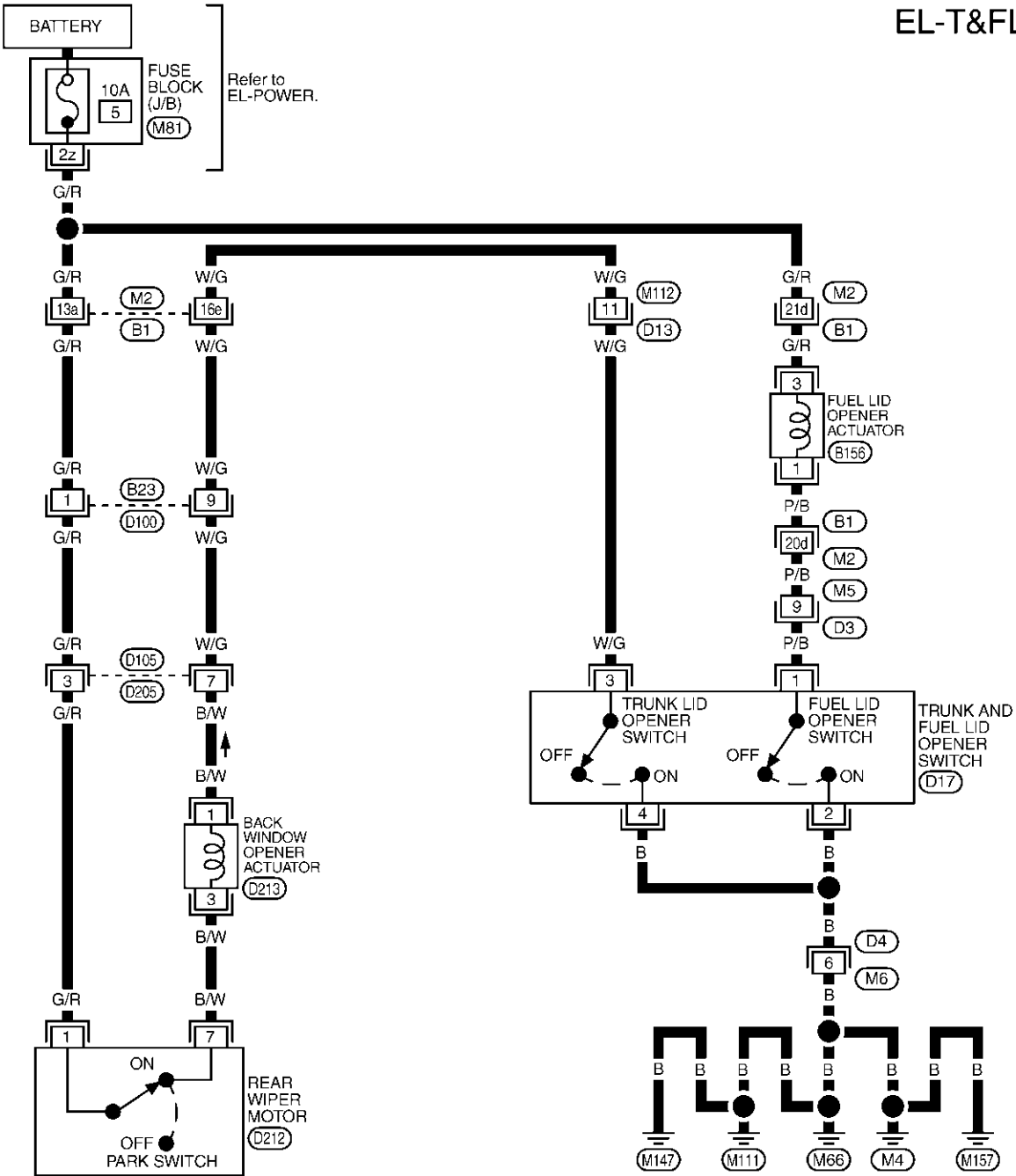
GLASS HATCH OPENER

Wiring Diagram — T&FLID —

Wiring Diagram — T&FLID —

NAEL0460

EL-T&FLID-01



REFER TO THE FOLLOWING.

- (B1) - SUPER MULTIPLE JUNCTION (SMJ)
- (M81) - FUSE BLOCK-JUNCTION BOX (J/B)

MEL048Q

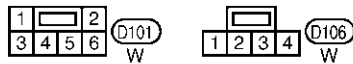
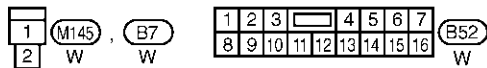
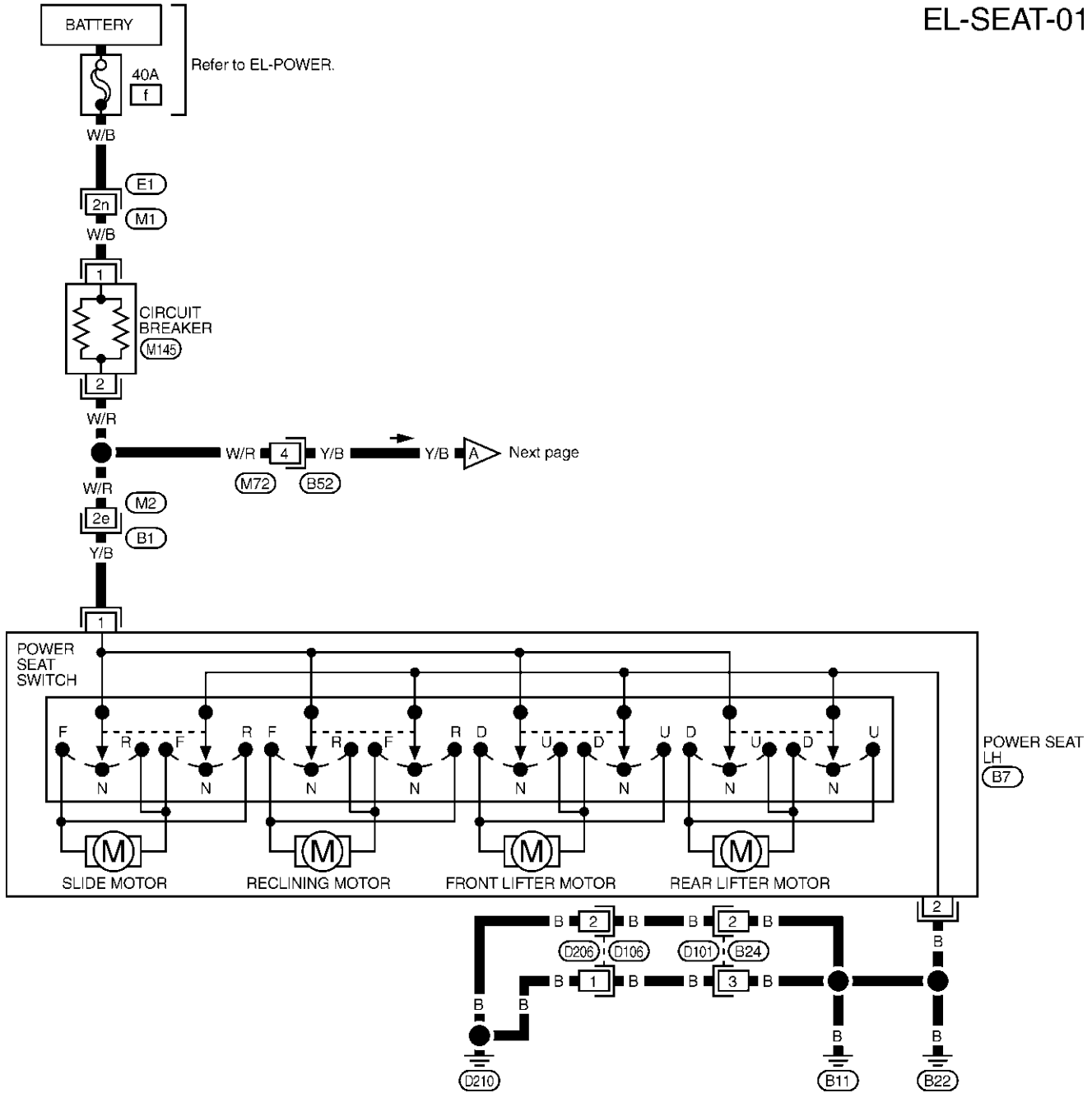
POWER SEAT

Wiring Diagram — SEAT —

Wiring Diagram — SEAT —

NAEL0361

EL-SEAT-01



REFER TO THE FOLLOWING.

(E1), (B1) - SUPER
MULTIPLE JUNCTION (SMJ)

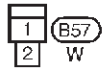
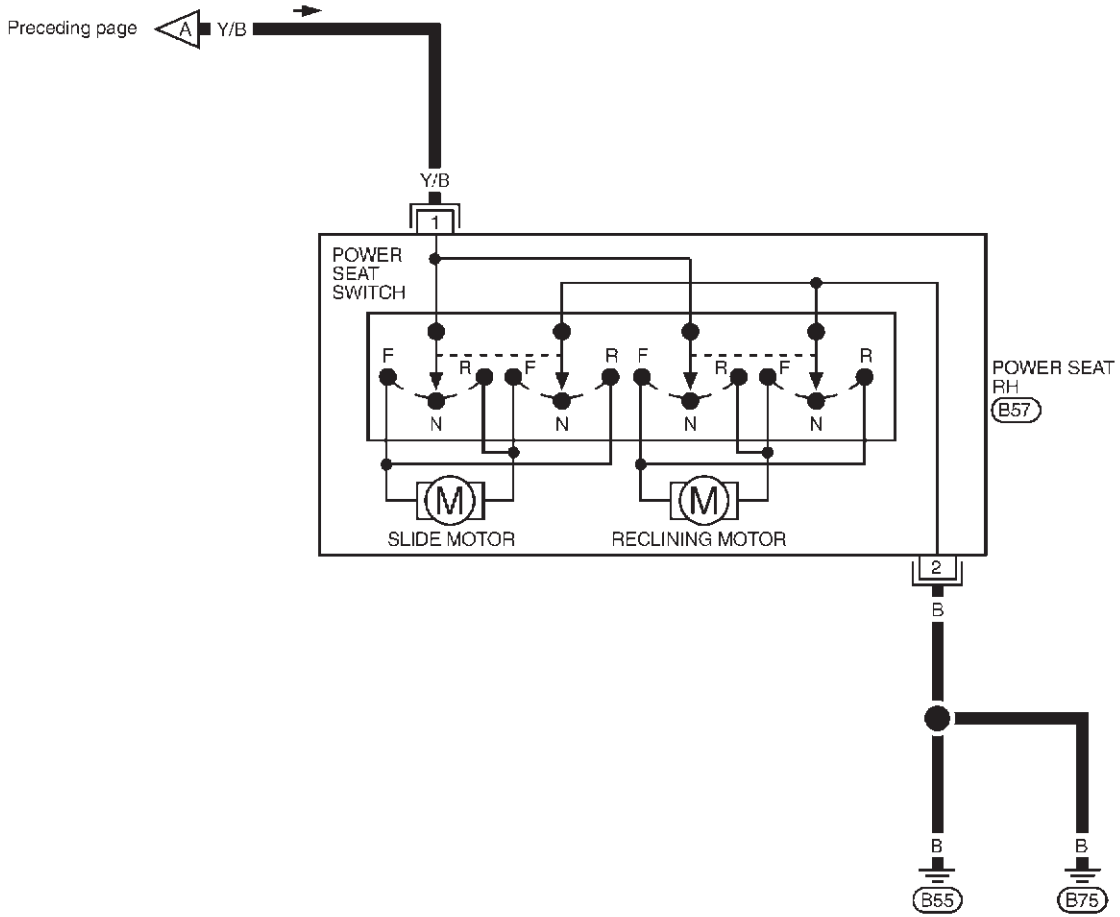
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POWER SEAT

Wiring Diagram — SEAT — (Cont'd)

EL-SEAT-02



MEL601F

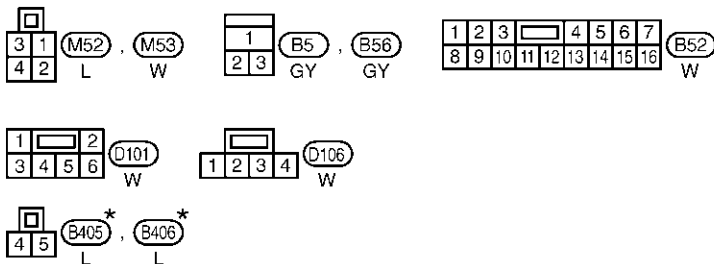
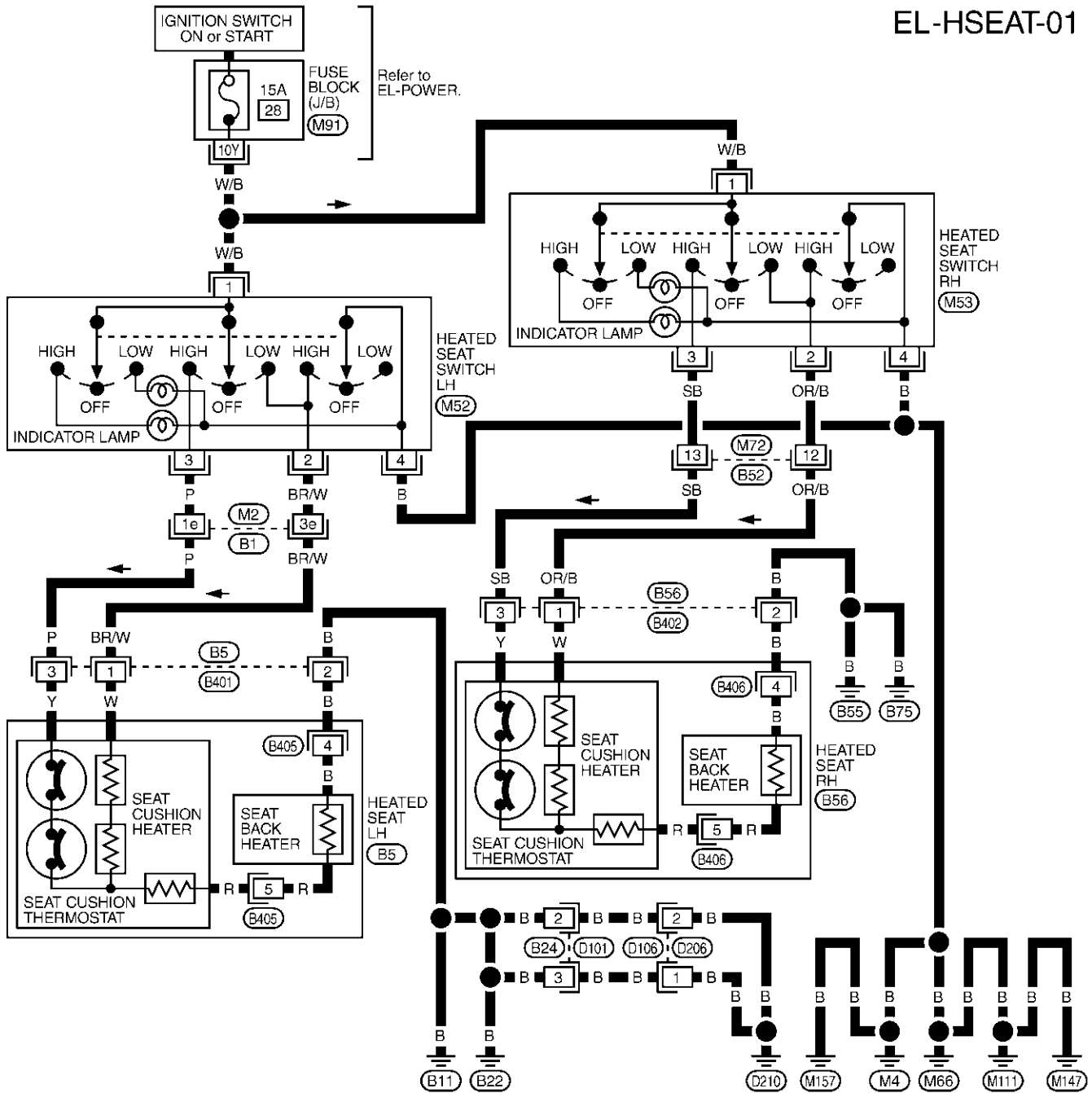
HEATED SEAT

Wiring Diagram — HSEAT —

Wiring Diagram — HSEAT —

NAEL0362

EL-HSEAT-01



* : This connector is not shown in "HARNESS LAYOUT", EL section.

REFER TO THE FOLLOWING.

- (B1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M91) -FUSE BLOCK-JUNCTION BOX (J/B)

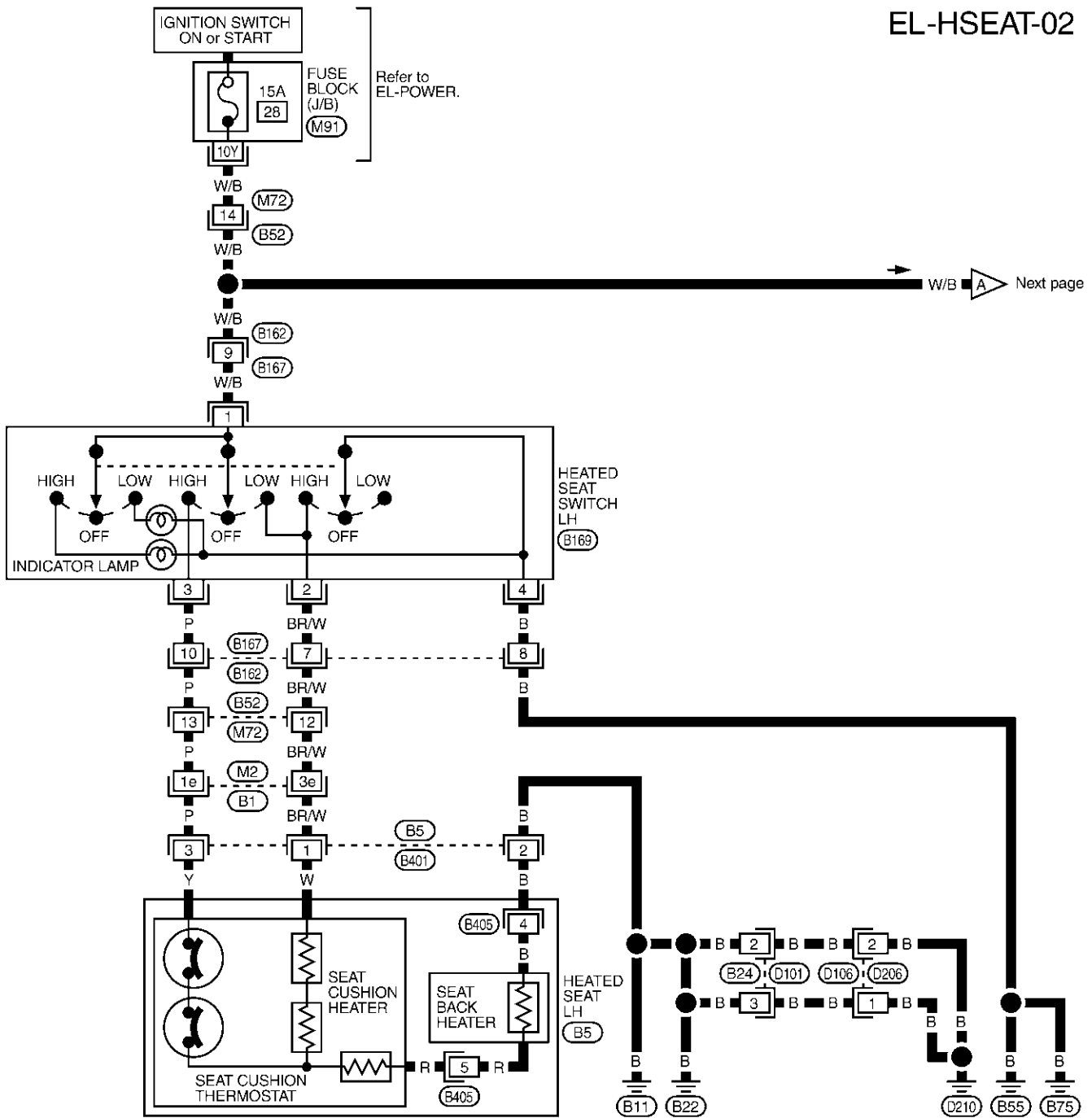
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MEL013Q

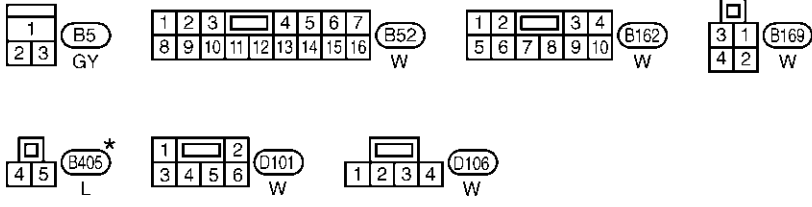
HEATED SEAT

Wiring Diagram — HSEAT — (Cont'd)

EL-HSEAT-02



W/B A Next page



REFER TO THE FOLLOWING.
 (B1) - SUPER MULTIPLE
 JUNCTION (SMJ)
 (M91) - FUSE BLOCK-
 JUNCTION BOX (J/B)

* : This connector is not shown in "HARNES LAYOUT", EL section.

MEL014Q

HEATED SEAT

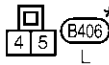
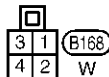
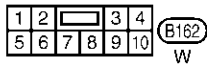
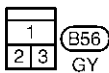
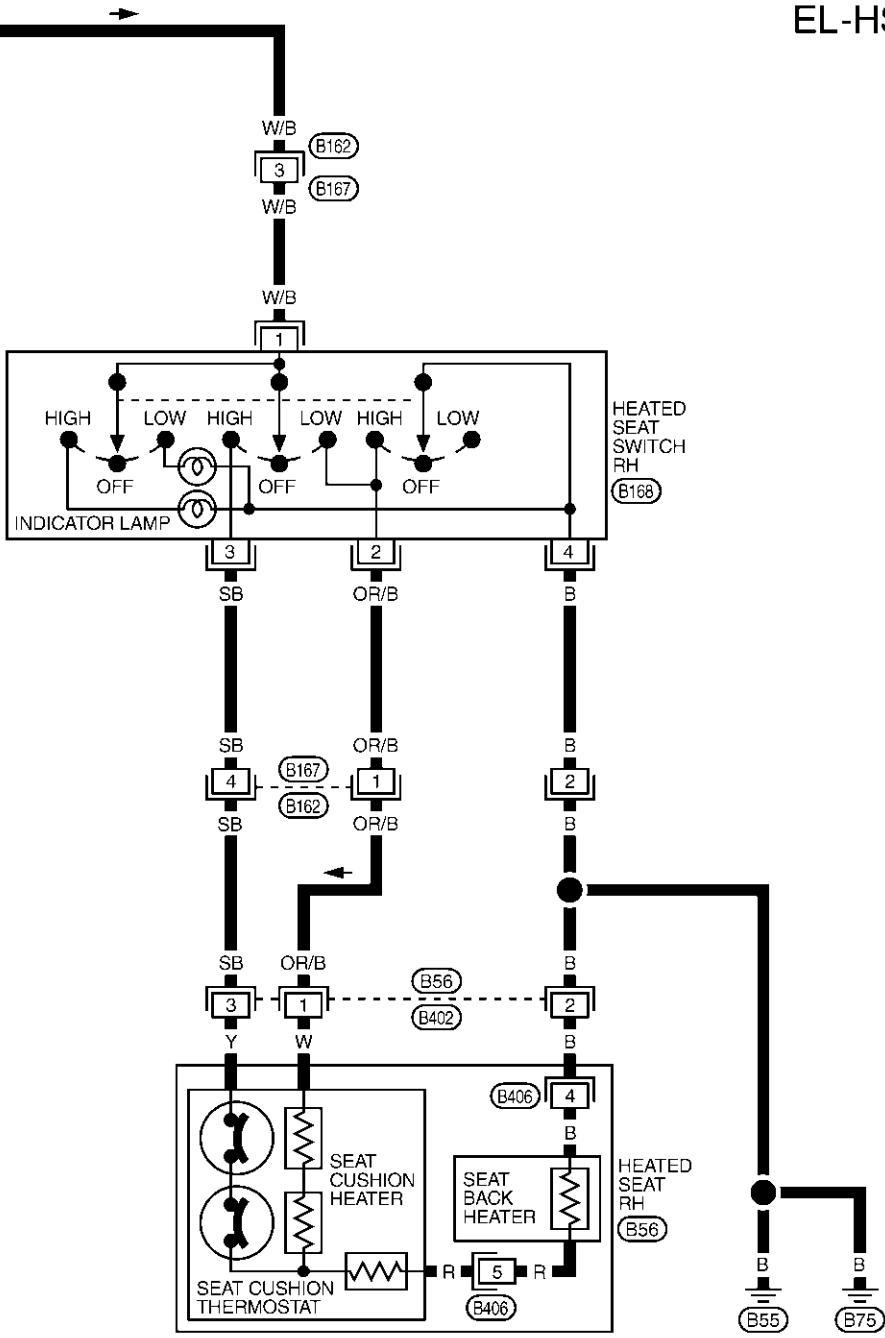
Wiring Diagram — HSEAT — (Cont'd)

EL-HSEAT-03

Preceding page



W/B



* : This connector is not shown in "HARNES LAYOUT", EL section.

MEL015Q

EL

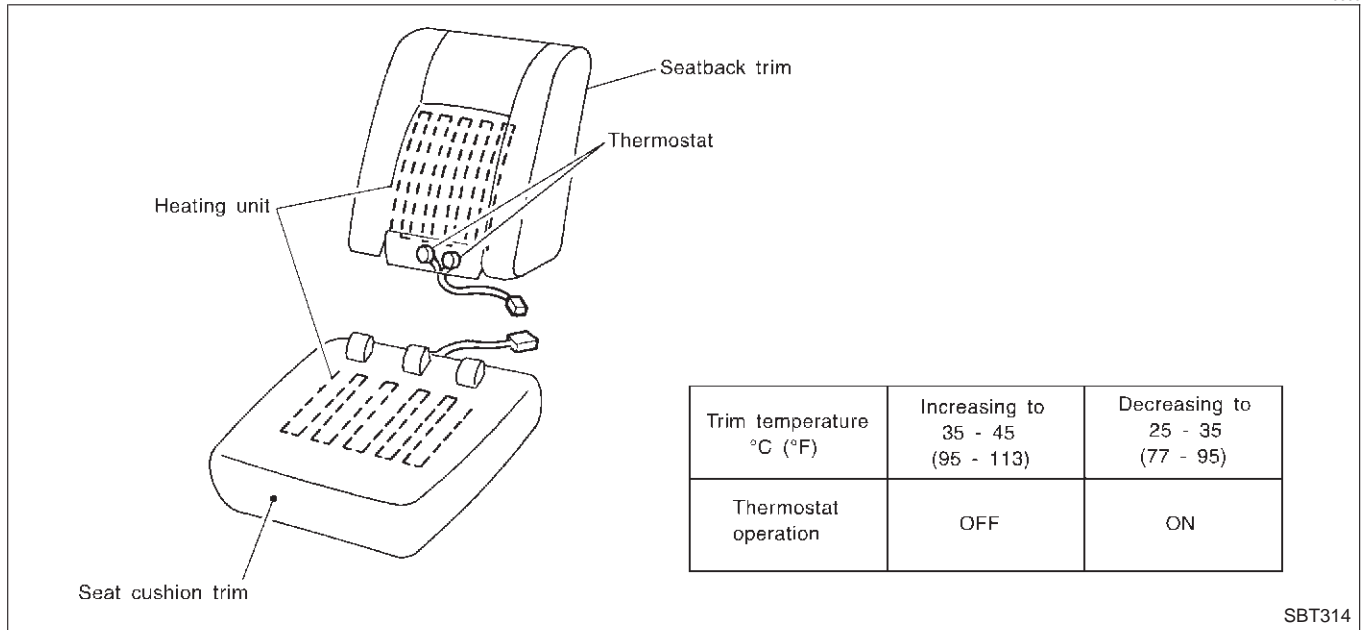
IDX

HEATED SEAT

Seatback Heating Unit

Seatback Heating Unit

NAEL0363



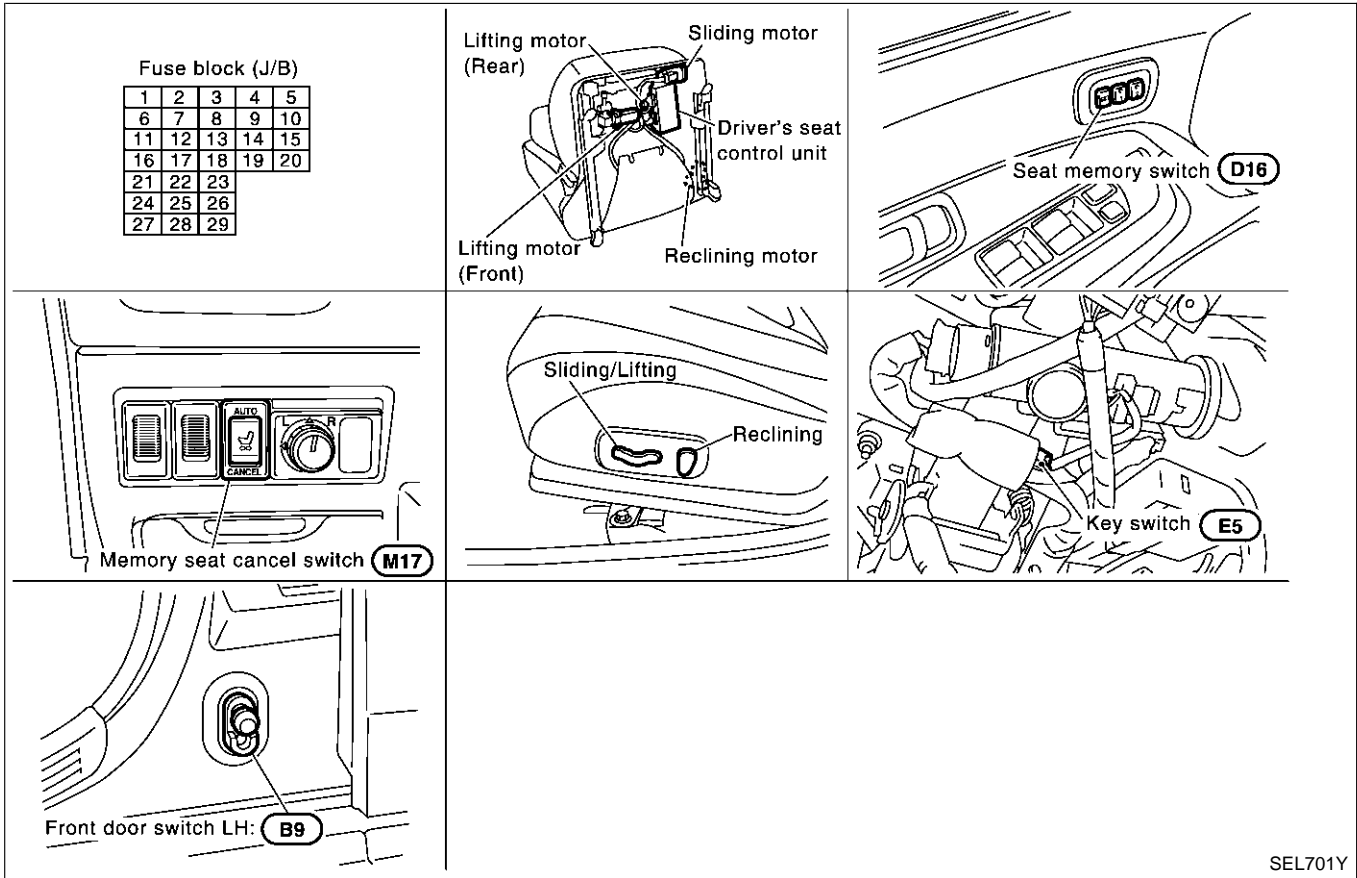
SBT314

AUTOMATIC DRIVE POSITIONER

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0364



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AUTOMATIC DRIVE POSITIONER

System Description

System Description

=NAEL0365

OPERATIVE CONDITION

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

NAEL0365S01

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.

NAEL0365S0101

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)

NAEL0365S0102

CONDITIONS INHIBITING AUTOMATIC OPERATION

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

NAEL0365S02

- 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.)

NAEL0365S03

NAEL0365S0301

| 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.

NAEL0365S0302

INITIALIZATION

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

NAEL0365S04

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

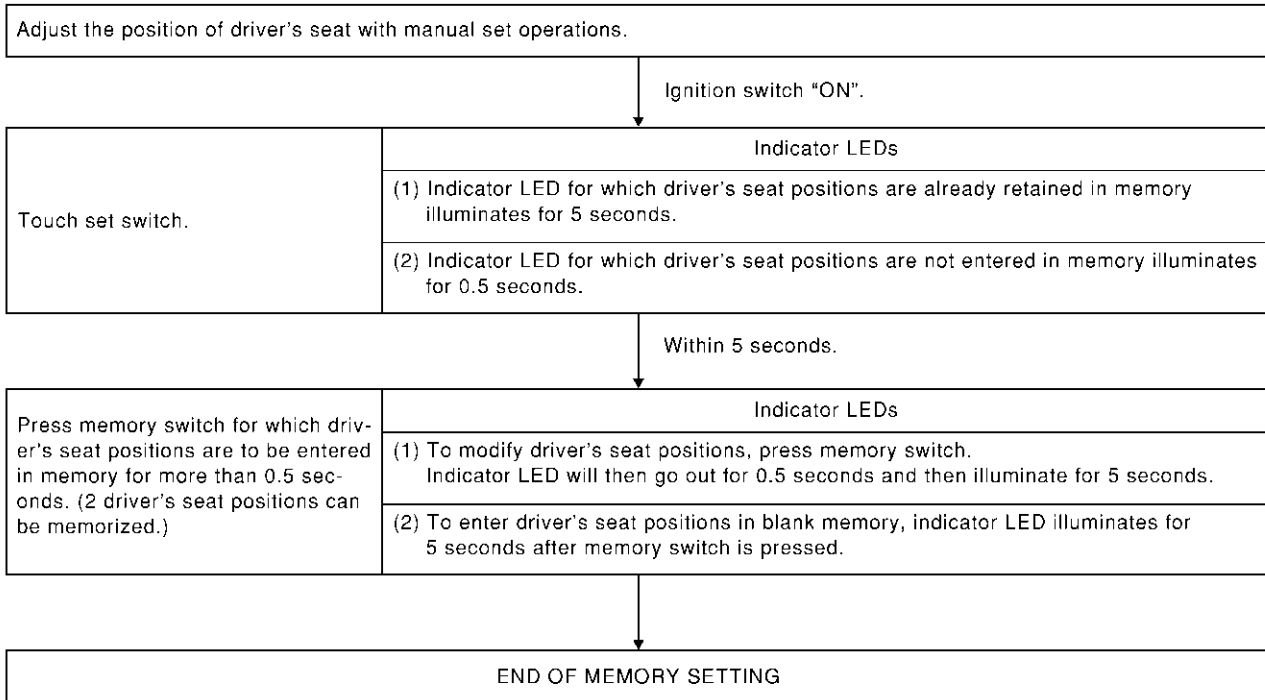
MEMORY AUTOMATIC SET

=NAEL0365S05

Two drive positions can be retained in the memory. Press memory switch to set driver's seat to preset position.

GI
MA
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LC
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PROCEDURE FOR STORING MEMORY

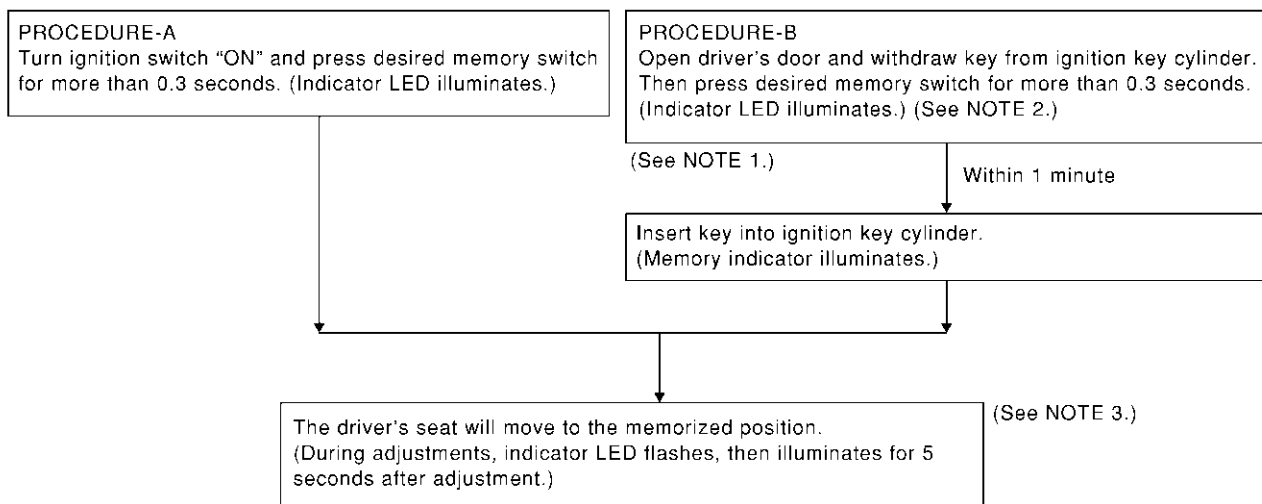


SEL592W

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.

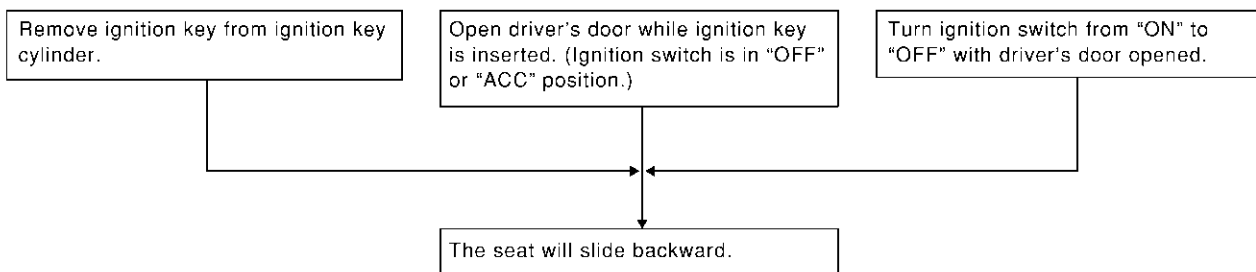
| The order of priority | Operated portion |
|-----------------------|--------------------|
| 1 | Seat sliding |
| 2 | Seat reclining |
| 3 | Seat front lifting |
| 4 | Seat rear lifting |

AUTOMATIC EXITING SETTING

NAEL0365S06

“Exiting” positions:

Driver's seat ... Slides about 40 mm (1.57 in) rear from normal sitting position.

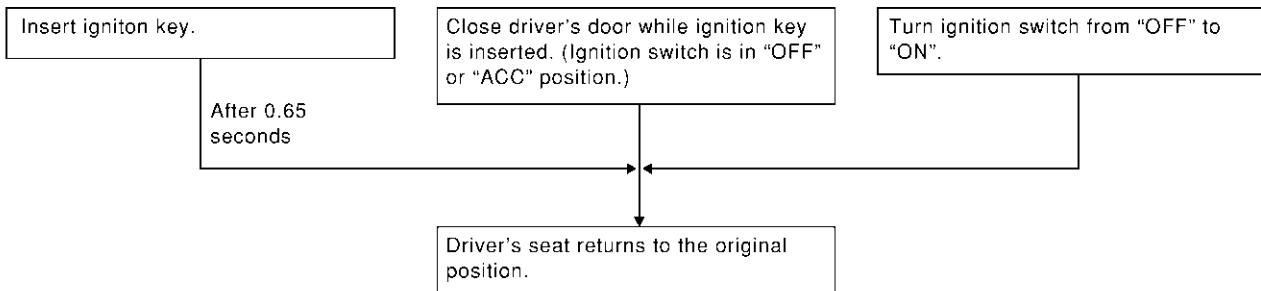


SEL594W

AUTOMATIC SET RETURN

NAEL0365S07

With driver's seat set to the “exiting” position, operating one of the following procedures moves it to the position previously retained in memory.



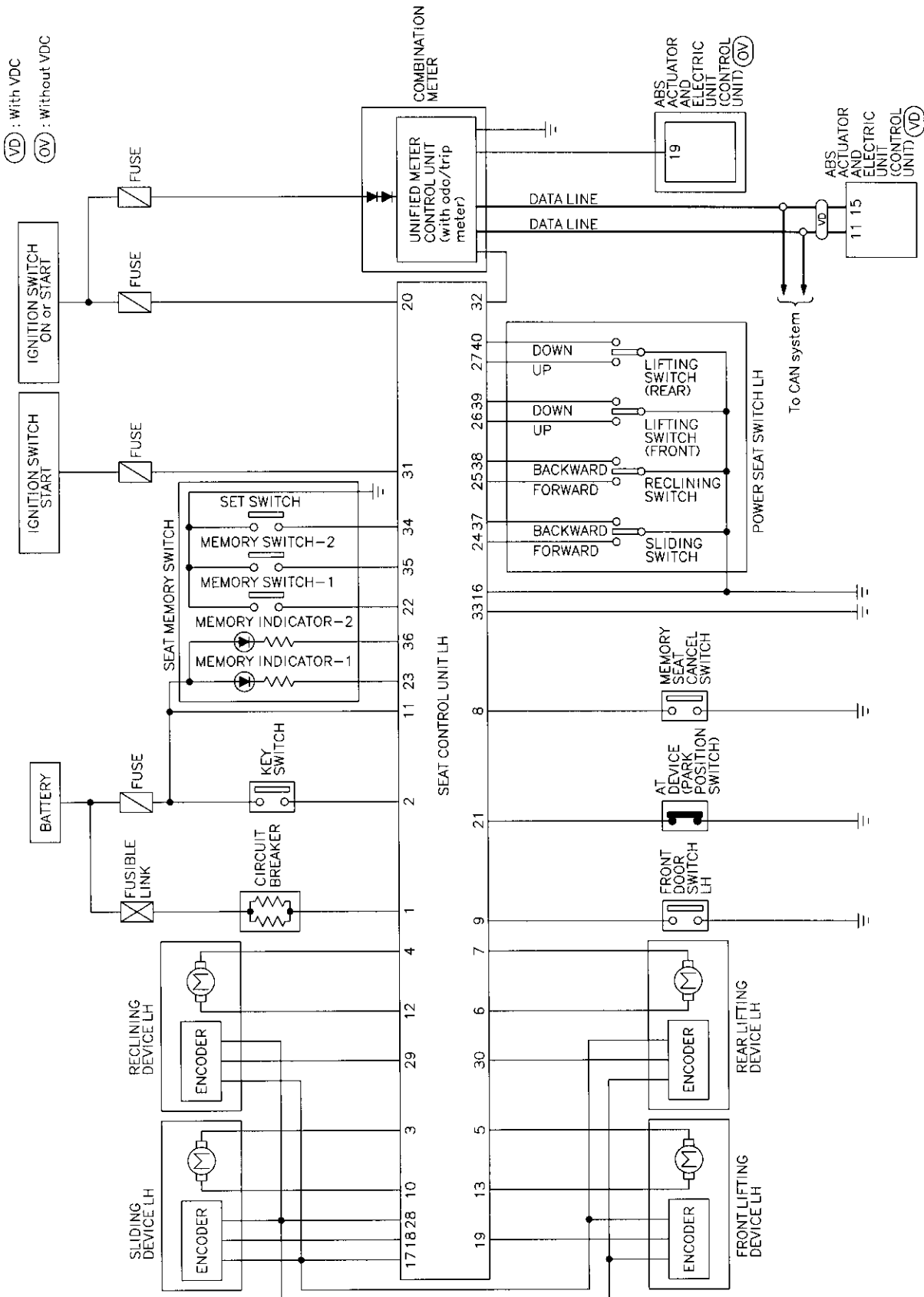
SEL595W

AUTOMATIC DRIVE POSITIONER

Schematic

Schematic

NAEL0366



GI
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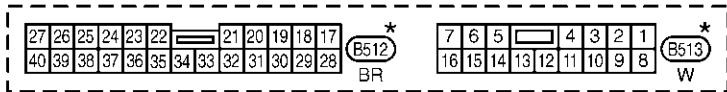
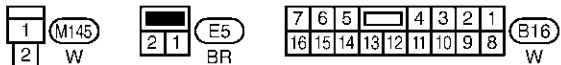
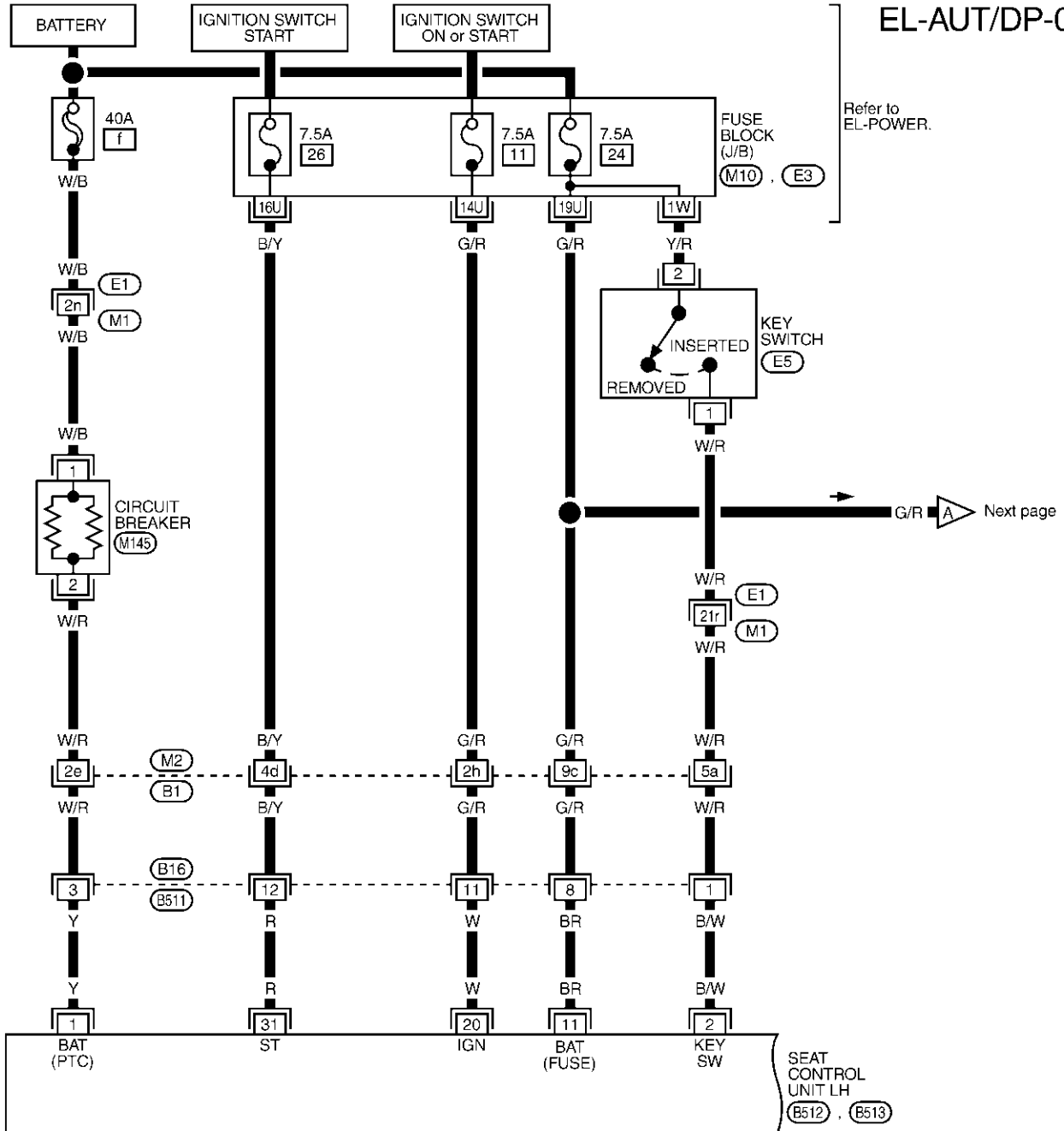
AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP —

Wiring Diagram — AUT/DP —

NAEL0367

EL-AUT/DP-01



* : This connector is not shown in "HARNES LAYOUT", EL section.

REFER TO THE FOLLOWING.
 (E1), (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M10), (E3) -FUSE BLOCK-
 JUNCTION BOX (J/B)

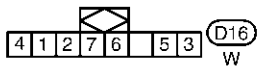
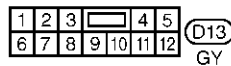
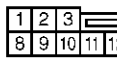
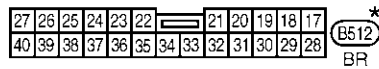
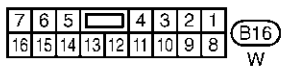
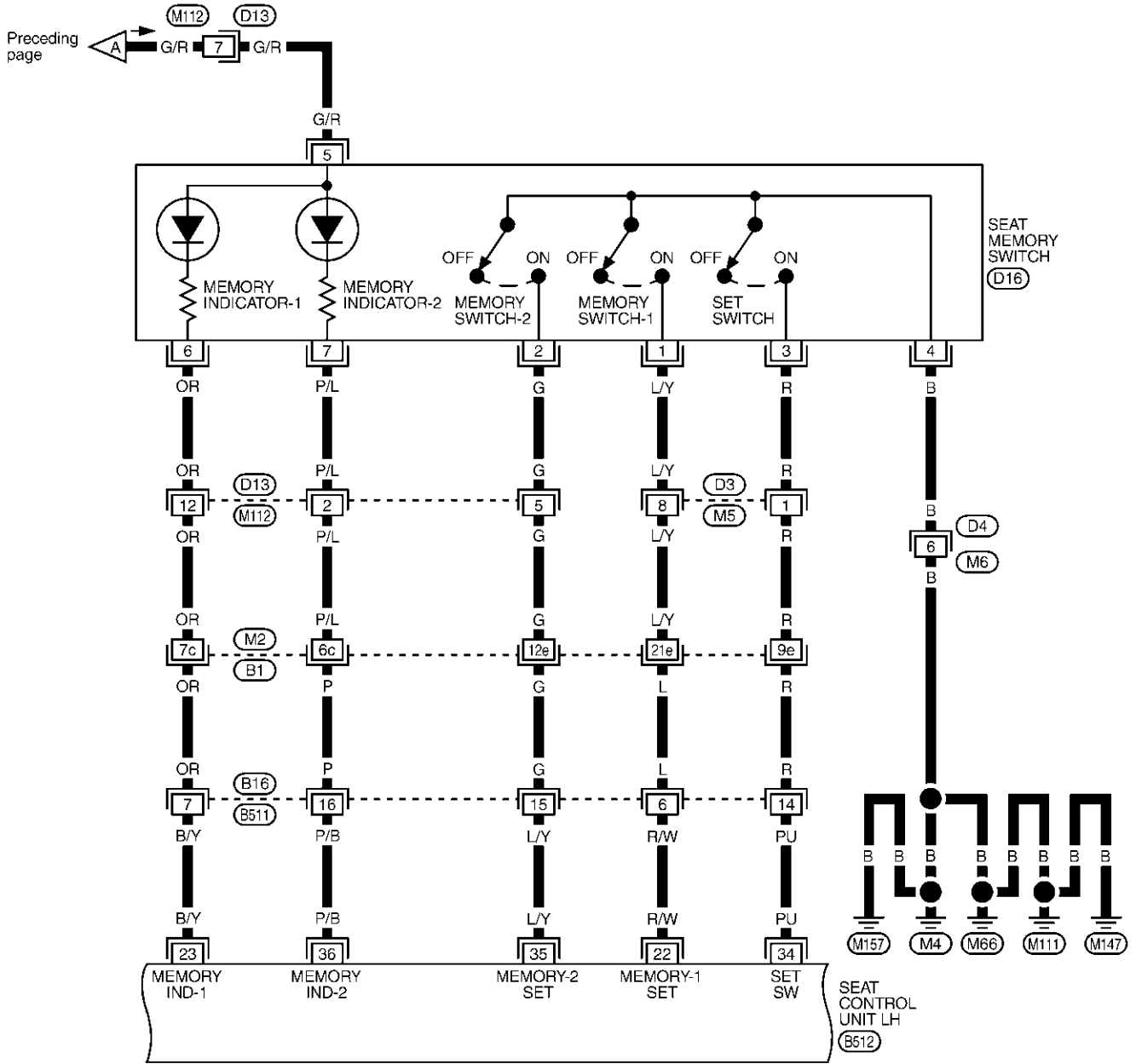
MEL017Q

AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-02

GI
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* : This connector is not shown in "HARNES LAYOUT", EL section.

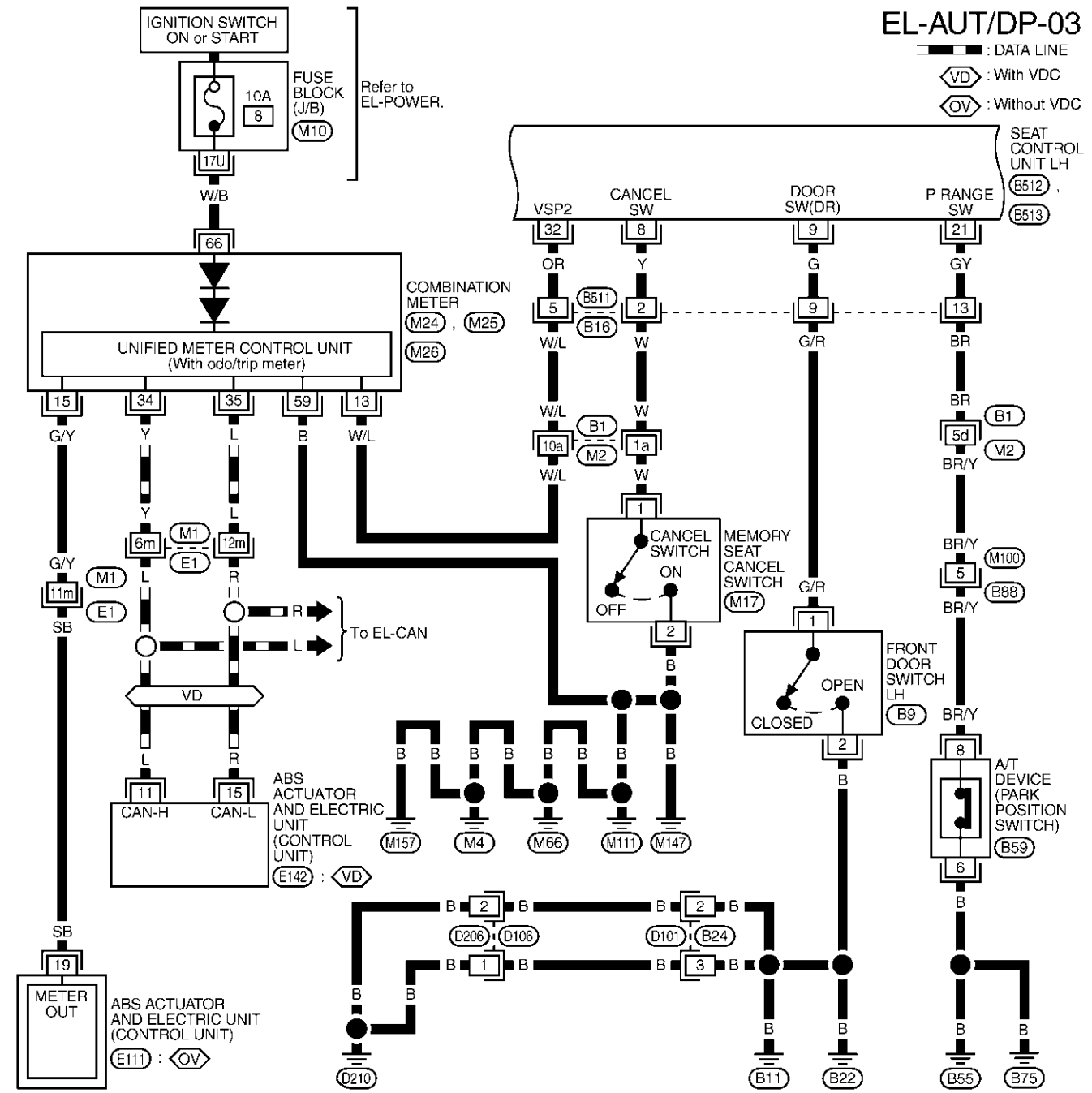
REFER TO THE FOLLOWING.

(B1) -SUPER MULTIPLE JUNCTION (SMJ)

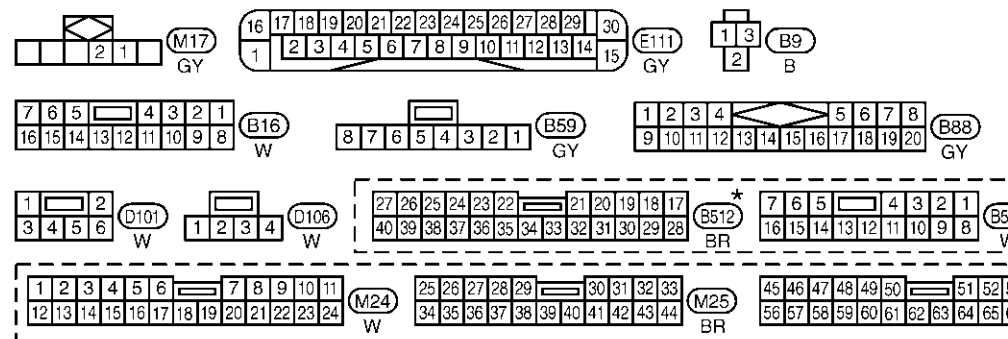
AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-03



: DATA LINE
 VD : With VDC
 OV : Without VDC



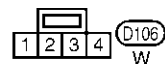
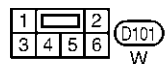
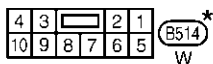
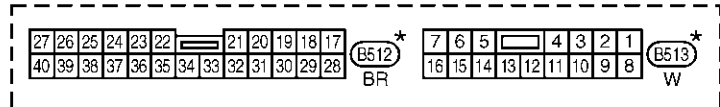
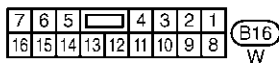
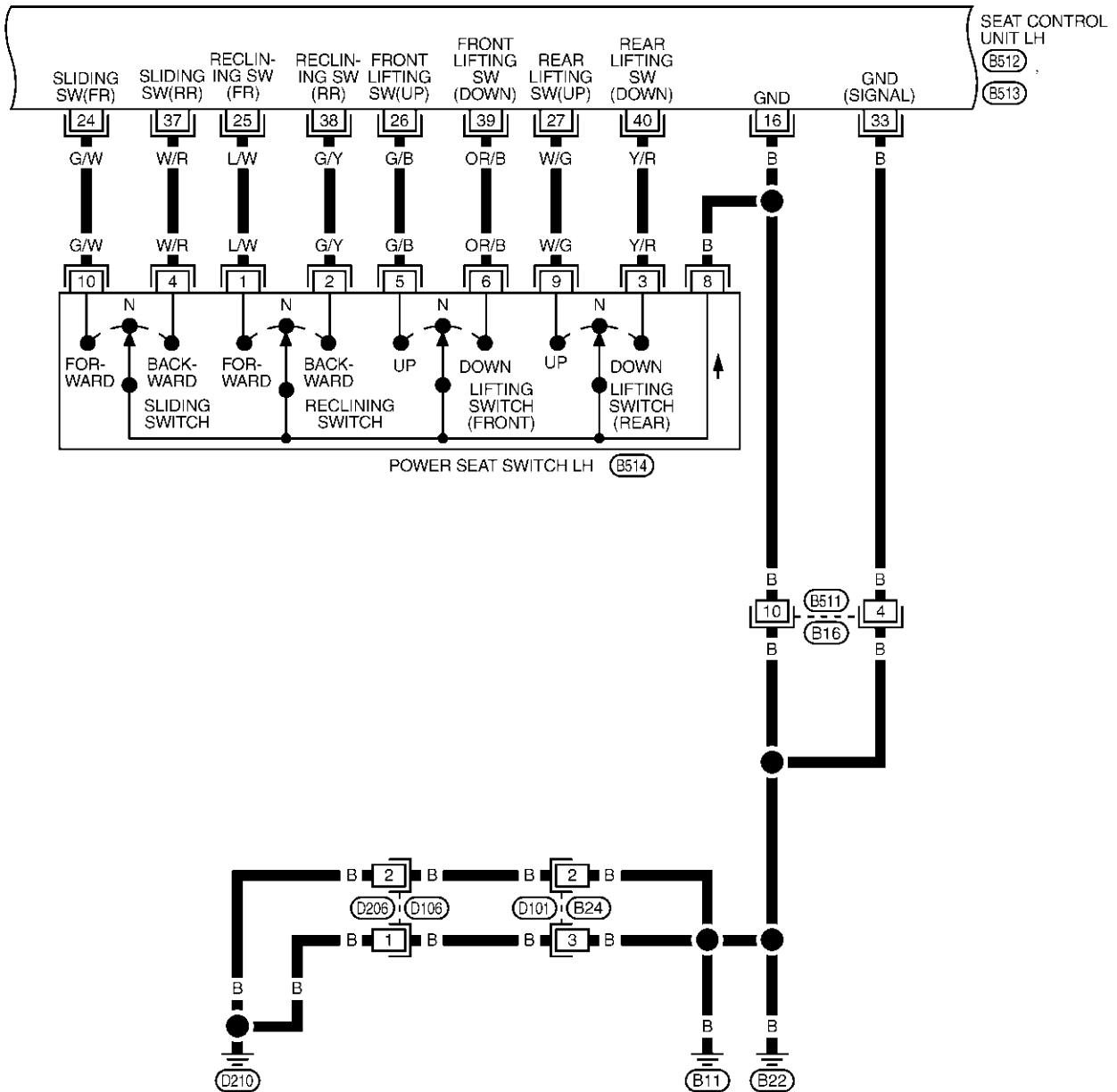
REFER TO THE FOLLOWING.
 (E1), (B1) - SUPER
 MULTIPLE JUNCTION (SMJ)
 (M10) - FUSE BLOCK -
 JUNCTION BOX (J/B)
 (E142) - ELECTRICAL UNITS

* : This connector is not shown in "HARNESS LAYOUT", EL section.

AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-04

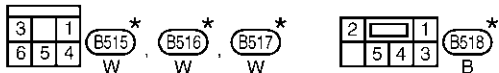
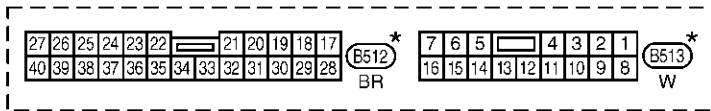
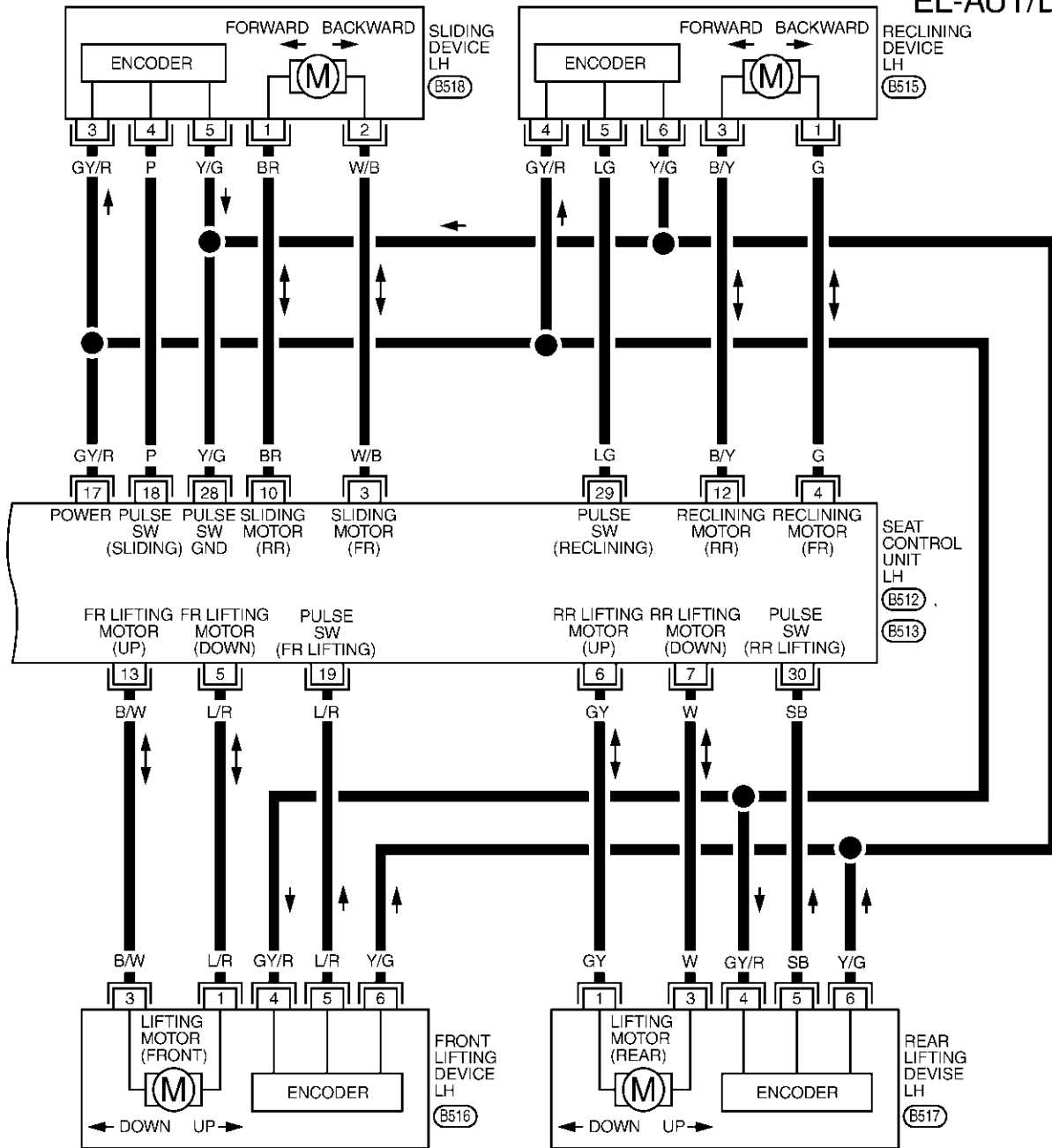


* : This connector is not shown in "HARNESS LAYOUT", EL section.

AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-05

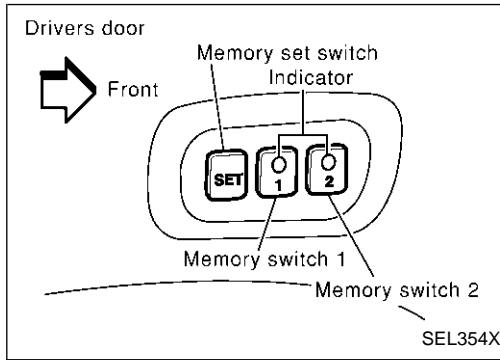


* : This connector is not shown in "HARNESS LAYOUT", EL section.

MEL187M

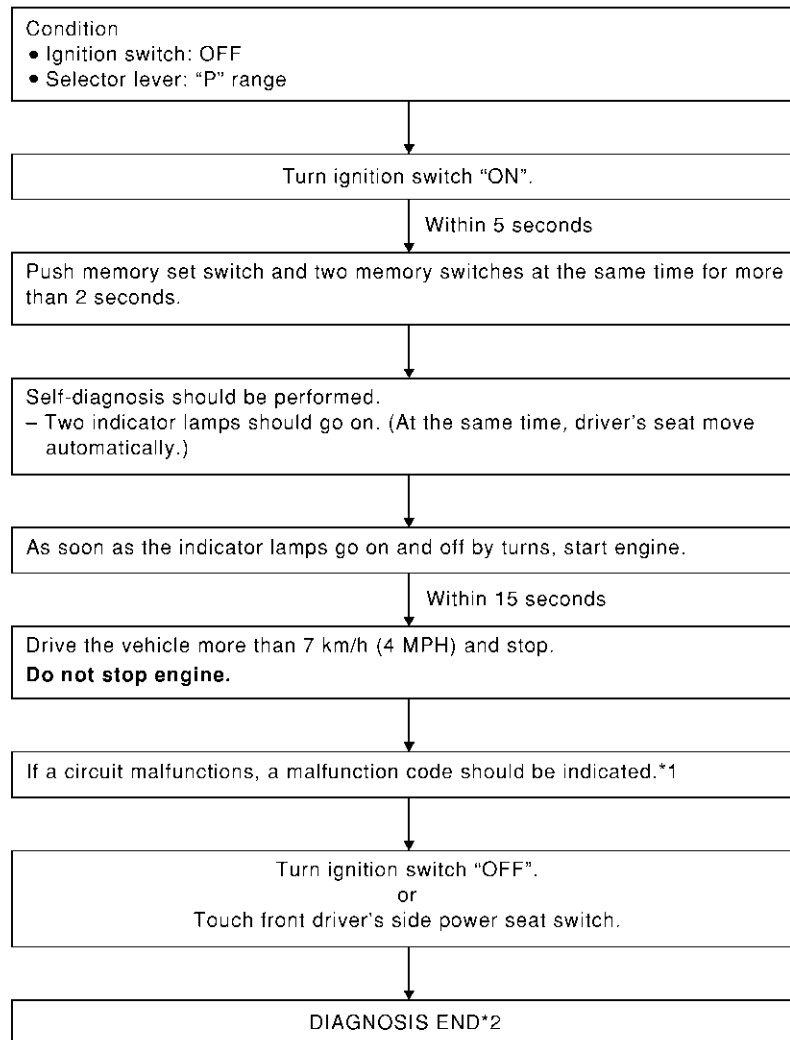
On Board Diagnosis

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HOW TO PERFORM SELF-DIAGNOSIS

NAEL0368S01



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.

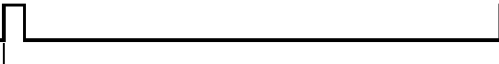
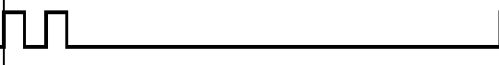
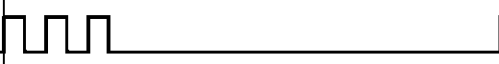
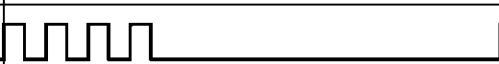
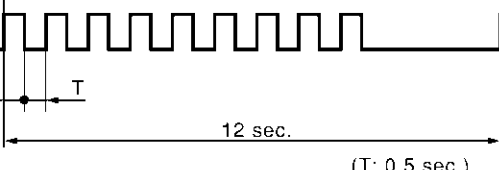
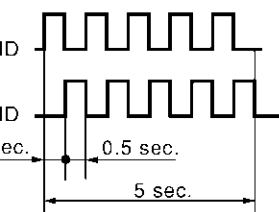
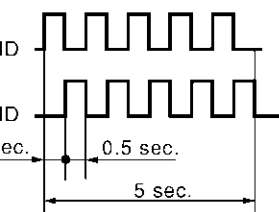
AUTOMATIC DRIVE POSITIONER

On Board Diagnosis (Cont'd)

MALFUNCTION CODE TABLE

=NAEL0368S02

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 signal circuit | IND1, IND2  | If the vehicle speed signal output of less than 7 km/h (4 MPH) is detected, the ABS actuator and electric unit is determined to be malfunctioning. |
| - | No malfunction in the above items | SW1 IND  SW2 IND  0.5 sec. 0.5 sec. 5 sec. | — |

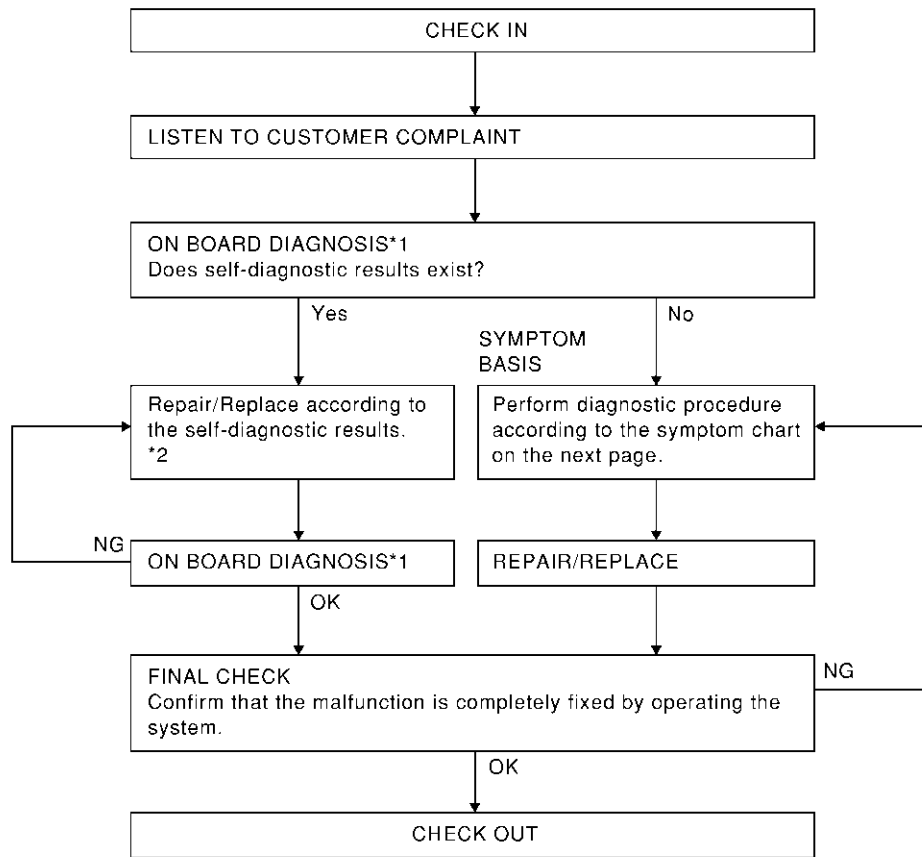
SEL597WA

| 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-238 EL-246 | 4 | Seat lifting rear | PROCEDURE 5 [Lifting encoder (rear) check] PROCEDURE 9 [Lifting motor (rear) check] | EL-244 EL-249 |
| 2 | Seat reclining | PROCEDURE 3 (Reclining encoder check) PROCEDURE 7 (Reclining motor check) | EL-240 EL-247 | 9 | Vehicle speed sensor | PROCEDURE 12 (Vehicle speed sensor check) | EL-252 |
| 3 | Seat lifting front | PROCEDURE 4 [Lifting encoder (front) check] PROCEDURE 8 [Lifting motor (front) check] | EL-242 EL-248 | | | | |

Trouble Diagnoses WORK FLOW

NAEL0369

NAEL0369S01



*1 EL-231

*2 EL-232

SEL599W

GI

MA

EM

LC

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FE

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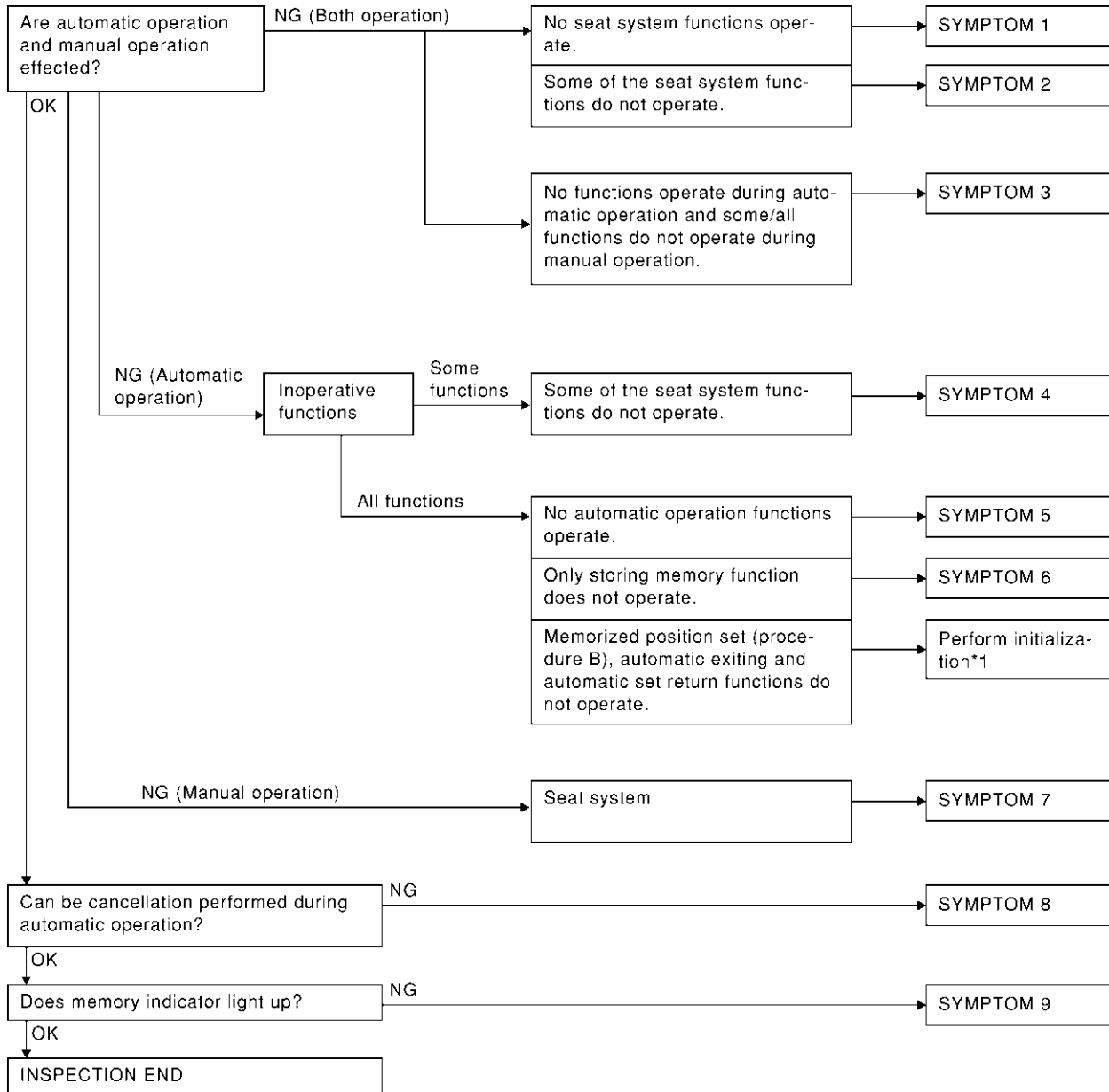
IDX

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

PRELIMINARY CHECK

NAEL0369S02



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 30 km/h (19 MPH).

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-234. Symptom numbers in the symptom chart correspond with those of preliminary check.

SYMPTOM CHART

NAEL0369S03

| PROCEDURE | | Diagnostic procedure | | | | | | | |
|-----------------------|---|--|---|---|---|--|---|---|--|
| REFERENCE PAGE (EL-) | | 237 | 238 | 240 | 242 | 244 | 246 | 247 | |
| 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. | | | | | | | | |

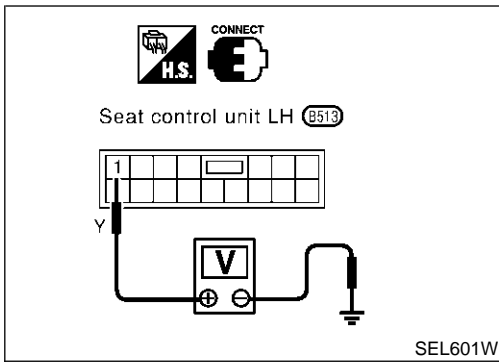
X : Applicable

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

| PROCEDURE | | Diagnostic procedure | | | | | | |
|-----------------------|---|---|--|--|--|--|---|---|
| REFERENCE PAGE (EL-) | | 248 | 249 | 250 | 251 | 252 | 255 | 255 |
| 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



DIAGNOSTIC PROCEDURE 1

(Power supply and ground circuit for driver's seat control unit) =NAEL0369S04

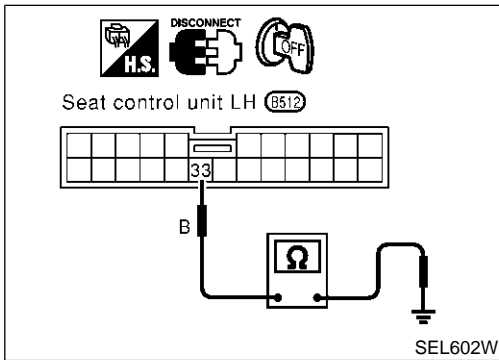
Power Supply Circuit Check

Check voltage between seat control unit LH terminal 1 and ground. NAEL0369S0401

| Terminals | Ignition switch position | | | |
|------------|--------------------------|-----|----|-------|
| | OFF | ACC | ON | START |
| 1 - Ground | Battery voltage | | | |

If NG, check the following.

- 40A fusible link (letter f, located in the fuse and fusible link box)
- 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. NAEL0369S0402

| Terminals | Continuity |
|-------------|------------|
| 33 - Ground | Yes |


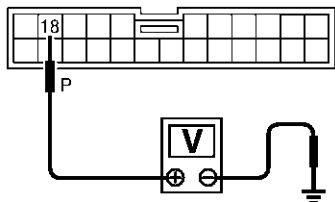
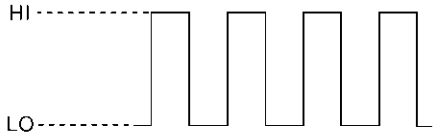
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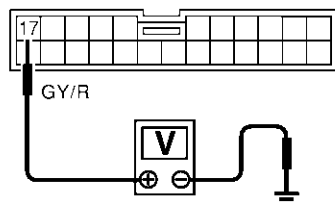
AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2 (Sliding encoder check)

=NAEL0369S05

| | | | | | | | | | |
|----------|--|--|--|----|---|------------------------|----|---|----------|
| 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> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Seat control unit LH (8512)</p>  </div> <div style="text-align: center;">  <p>HI: Approx. 5V LO: Approx. 0V</p> </div> </div> <p style="text-align: right;">SEL603W</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>Sliding encoder is OK.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>GO TO 2.</td> </tr> </table> | | OK | ▶ | Sliding encoder is OK. | NG | ▶ | GO TO 2. |
| 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> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Seat control unit LH (8512)</p>  </div> <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL604W</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">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. | | | | | | | |

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> | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| <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>Sliding device LH (Sliding encoder)</th> </tr> </thead> <tbody> <tr> <td>17</td> <td>3</td> <td rowspan="3" style="text-align: center;">Yes</td> </tr> <tr> <td>18</td> <td>4</td> </tr> <tr> <td>28</td> <td>5</td> </tr> </tbody> </table> | | Terminals | | Continuity | Seat control unit LH | Sliding device LH (Sliding encoder) | 17 | 3 | Yes | 18 | 4 | 28 | 5 | |
| Terminals | | Continuity | | | | | | | | | | | | |
| Seat control unit LH | Sliding device LH (Sliding encoder) | | | | | | | | | | | | | |
| 17 | 3 | Yes | | | | | | | | | | | | |
| 18 | 4 | | | | | | | | | | | | | |
| 28 | 5 | | | | | | | | | | | | | |
| SEL605WA | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | |
| OK | ▶ | GO TO 4. | | | | | | | | | | | | |
| NG | ▶ | Repair harness. | | | | | | | | | | | | |

| 4 | CHECK SLIDING 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>18 - Ground</td> </tr> <tr> <td>28 - Ground</td> </tr> </tbody> </table> | | Terminals | Continuity | 17 - Ground | No | 18 - Ground | 28 - Ground | |
| Terminals | Continuity | | | | | | | |
| 17 - Ground | No | | | | | | | |
| 18 - Ground | | | | | | | | |
| 28 - Ground | | | | | | | | |
| SEL606W | | | | | | | | |
| OK or NG | | | | | | | | |
| OK | ▶ | Replace sliding encoder. | | | | | | |
| NG | ▶ | Repair harness. | | | | | | |


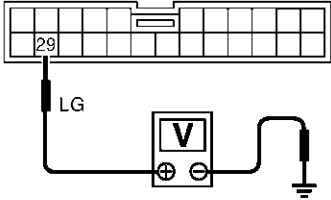
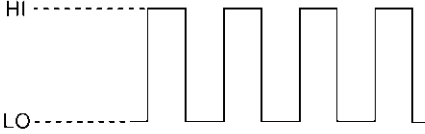
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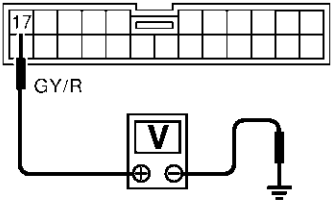
AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3 (Reclining encoder check)

=NAEL0369S06

| | | | | | | | | | | | | |
|----------|--|---|--|--|----|---|--------------------------|--|----|---|----------|--|
| 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> <div style="display: flex; justify-content: space-between; 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;">SEL607W</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 style="width: 15%;">Reclining encoder is OK.</td> <td style="width: 65%;"></td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>GO TO 2.</td> <td></td> </tr> </table> | | | OK | ▶ | Reclining encoder is OK. | | NG | ▶ | GO TO 2. | |
| 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> <div style="display: flex; justify-content: space-between; 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;">SEL608W</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 style="width: 15%;">GO TO 3.</td> <td style="width: 65%;"></td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>Replace seat control unit LH.</td> <td></td> </tr> </table> | | | OK | ▶ | GO TO 3. | | NG | ▶ | Replace seat control unit LH. | |
| OK | ▶ | GO TO 3. | | | | | | | | | | |
| NG | ▶ | Replace seat control unit LH. | | | | | | | | | | |

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> | | |
| | | |
| | | SEL609WA |
| 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> | | |
| | | |
| | | SEL610W |
| OK or NG | | |
| OK | ▶ | Replace reclining encoder. |
| NG | ▶ | Repair harness. |

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AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

[Lifting encoder (front) check]

=NAEL0369S07

| | | |
|---|--|--------------------------------|
| 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> | | |
| | | |
| SEL611W | | |
| OK or NG | | |
| 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> | | |
| | | |
| SEL612W | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace seat control unit LH. |

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

3 CHECK LIFTING ENCODER (FRONT) OPEN CIRCUIT

1. Disconnect seat control unit LH connector and front lifting device LH connector.
 2. Check harness continuity between seat control unit LH connector and front lifting device LH connector.

| Terminals | | Continuity |
|----------------------|---|------------|
| Seat control unit LH | Front lifting device LH Lifting encoder (front) | |
| 17 | 4 | Yes |
| 19 | 5 | |
| 28 | 6 | |

SEL613WA

OK or NG

| | | |
|----|---|-----------------|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Repair harness. |

4 CHECK LIFTING ENCODER (FRONT) SHORT CIRCUIT

Check harness continuity between seat control unit LH connector and ground.

| Terminals | Continuity |
|-------------|------------|
| 17 - Ground | No |
| 19 - Ground | |
| 28 - Ground | |

SEL614W

OK or NG

| | | |
|----|---|----------------------------------|
| OK | ▶ | Replace lifting encoder (front). |
| NG | ▶ | Repair harness. |

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AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5 [Lifting encoder (rear) check]

=NAEL0369S08

| | | | |
|----------|---|---|--|
| 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> <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;">SEL615W</p> <p style="text-align: center;">OK or NG</p> | |
| 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> <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;">SEL616W</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ | GO TO 3. | |
| NG | ▶ | Replace seat control unit LH. | |

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> | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| <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>Rear lifting device LH Lifting encoder (rear)</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>30</td> <td>5</td> </tr> </tbody> </table> | | Terminals | | Continuity | Seat control unit LH | Rear lifting device LH Lifting encoder (rear) | 17 | 4 | Yes | 28 | 6 | 30 | 5 | |
| Terminals | | Continuity | | | | | | | | | | | | |
| Seat control unit LH | Rear lifting device LH Lifting encoder (rear) | | | | | | | | | | | | | |
| 17 | 4 | Yes | | | | | | | | | | | | |
| 28 | 6 | | | | | | | | | | | | | |
| 30 | 5 | | | | | | | | | | | | | |
| SEL617WA | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | |
| OK | ▶ | GO TO 4. | | | | | | | | | | | | |
| NG | ▶ | Repair harness. | | | | | | | | | | | | |

| 4 | CHECK LIFTING ENCODER (REAR) SHORT CIRCUIT | | | | | | | |
|--|---|---------------------------------|------------|-------------|----|-------------|-------------|--|
| Check harness continuity between seat control unit LH connector and ground. | | | | | | | | |
| | | | | | | | | |
| <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>30 - Ground</td> </tr> </tbody> </table> | | Terminals | Continuity | 17 - Ground | No | 28 - Ground | 30 - Ground | |
| Terminals | Continuity | | | | | | | |
| 17 - Ground | No | | | | | | | |
| 28 - Ground | | | | | | | | |
| 30 - Ground | | | | | | | | |
| SEL618W | | | | | | | | |
| OK or NG | | | | | | | | |
| OK | ▶ | Replace lifting encoder (rear). | | | | | | |
| NG | ▶ | Repair harness. | | | | | | |




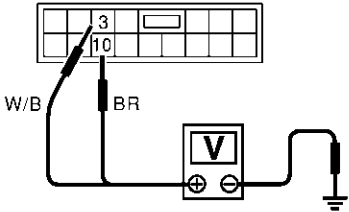
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
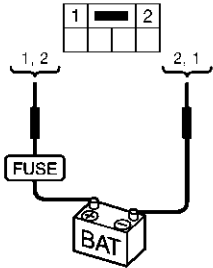
AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6 (Sliding motor check)

=NAEL0369S09

| 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-around; align-items: center;"> <div style="text-align: center;">  <p>CONNECT</p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>Seat control unit LH (8513)</p>  | | | | | | | | | | | | | | | |
|-----------------------------|---|---|--|-----------------------------|-----------|--|-------------|---|---|---------|---|--------|------------|----------|----|--------|------------|
| | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <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> | 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. | | | | | | | | | | | | | | | |

| 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-around; align-items: center;"> <div style="text-align: center;">  <p>DISCONNECT</p> </div> <div style="text-align: center;">  </div> </div> <p>Sliding device LH (8518)</p>  | | | | | | | | | | | | |
|-----------------|----------------------------|---|--|-----------|--|-----------|---|---|---|---|---------|---|---|----------|
| | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <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> | Terminals | | Operation | + | - | 2 | 1 | Forward | 1 | 2 | Backward |
| Terminals | | Operation | | | | | | | | | | | | |
| + | - | | | | | | | | | | | | | |
| 2 | 1 | Forward | | | | | | | | | | | | |
| 1 | 2 | Backward | | | | | | | | | | | | |
| | | SEL620WA | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | |
| OK | ▶ | Check harness for operation between seat control unit LH and sliding motor. | | | | | | | | | | | | |
| NG | ▶ | Replace sliding motor. | | | | | | | | | | | | |

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

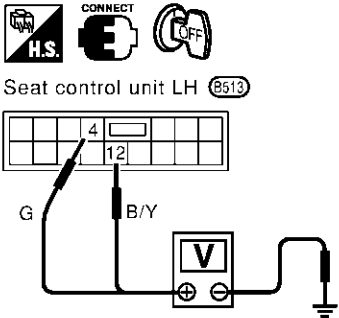
DIAGNOSTIC PROCEDURE 7 (Reclining motor check)

=NAEL0369S10

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1 CHECK OUTPUT SIGNAL TO RECLINING MOTOR

Check voltage between seat control unit LH terminals 4 or 12 and ground.



| Condition of reclining switch | Terminals | | Voltage [V] |
|-------------------------------|-----------|--------|-------------|
| | + | - | |
| Forward | 4 | Ground | Approx. 12 |
| Backward | 12 | Ground | Approx. 12 |

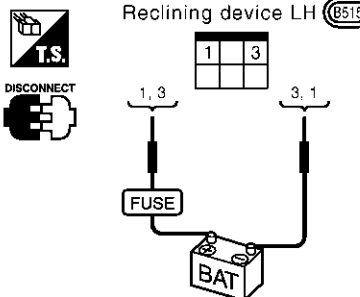
SEL621W

OK or NG

| | | |
|----|---|-------------------------------|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace seat control unit LH. |

2 CHECK RECLINING MOTOR

1. Disconnect reclining device LH connector.
2. Apply 12V DC direct current to motor and check operation.



| Terminals | | Operation |
|-----------|---|-----------|
| + | - | |
| 1 | 3 | Forward |
| 3 | 1 | Backward |

SEL622WA

OK or NG

| | | |
|----|---|---|
| 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]

=NAEL0369S11

| | | |
|---|---|-------------------------------|
| 1 | CHECK OUTPUT SIGNAL TO LIFTING MOTOR (FRONT) | |
| <p>Check voltage between seat control unit LH terminals 5 or 13 and ground.</p> | | |
| | | |
| SEL623W | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace seat control unit LH. |

| Condition of lifting switch (front) | Terminals | | Voltage [V] |
|-------------------------------------|-----------|--------|-------------|
| | + | - | |
| Up | 13 | Ground | Approx. 12 |
| Down | 5 | Ground | Approx. 12 |

| | | |
|--|------------------------------------|---|
| 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> | | |
| | | |
| SEL624WA | | |
| OK or NG | | |
| OK | ▶ | Check harness for operation between seat control unit LH and lifting motor (front). |
| NG | ▶ | Replace lifting motor (front). |

| Terminals | | Operation |
|-----------|---|-----------|
| + | - | |
| 3 | 1 | Up |
| 1 | 3 | Down |

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 9

[Lifting motor (rear) check]

=NAEL0369S12

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1 CHECK OUTPUT SIGNAL TO LIFTING MOTOR (REAR)

Check voltage between seat control unit LH terminals 6 or 7 and ground.

| 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)

1. Disconnect rear lifting device LH connector.
2. Apply 12V DC direct current to motor and check operation.

| Terminals | | Operation |
|-----------|---|-----------|
| + | - | |
| 1 | 3 | Up |
| 3 | 1 | Down |

SEL626WA

OK or NG

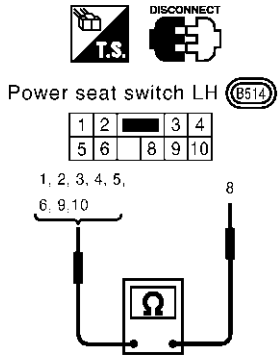
| | | |
|----|---|--|
| OK | ▶ | Check harness for operation between seat control unit LH and lifting motor (rear). |
| NG | ▶ | Replace lifting motor (rear). |

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 10 (Power seat switch check)

=NAEL0369S13

| 1 | CHECK POWER SEAT SWITCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------------------|---|--------|-----------|-----------|---|---|---|---|----|--|--|---|---|---|---|---|---|---|---|---|---|----|---------|---------|---|--|--|--|--|--|--|--|--|--|--|--|---|----------|---|--|--|--|--|---|--|--|--|--|--|--|--|-----------|---------|---|---|--|--|--|--|--|--|--|--|--|--|--|----------|---|--|---|--|--|--|--|--|--|--|--|--|--|-----------------|----|---|--|--|--|--|--|--|--|---|--|--|--|--|------|---|--|--|--|--|--|--|--|--|--|--|---|--|----------------|----|---|--|--|--|--|--|--|--|--|--|--|--|---|------|---|--|--|--|---|--|--|--|--|--|--|--|--|
| <p>1. Disconnect power seat switch LH connector. 2. Check continuity between power seat switch terminals.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Switch</th> <th rowspan="2">Condition</th> <th colspan="10">Terminals</th> </tr> <tr> <th>8</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>9</th> <th>10</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Sliding</td> <td>Forward</td> <td style="text-align: center;">○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">○</td> </tr> <tr> <td>Backward</td> <td style="text-align: center;">○</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">○</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 style="text-align: center;">○</td> <td style="text-align: center;">○</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 style="text-align: center;">○</td> <td></td> <td style="text-align: center;">○</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 style="text-align: center;">○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">○</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Down</td> <td style="text-align: center;">○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">○</td> <td></td> </tr> <tr> <td rowspan="2">Lifting (Rear)</td> <td>Up</td> <td style="text-align: center;">○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">○</td> </tr> <tr> <td>Down</td> <td style="text-align: center;">○</td> <td></td> <td></td> <td></td> <td style="text-align: center;">○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | Switch | Condition | Terminals | | | | | | | | | | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 9 | 10 | Sliding | Forward | ○ | | | | | | | | | | | | ○ | Backward | ○ | | | | | ○ | | | | | | | | Reclining | Forward | ○ | ○ | | | | | | | | | | | | Backward | ○ | | ○ | | | | | | | | | | | Lifting (Front) | Up | ○ | | | | | | | | ○ | | | | | Down | ○ | | | | | | | | | | | ○ | | Lifting (Rear) | Up | ○ | | | | | | | | | | | | ○ | Down | ○ | | | | ○ | | | | | | | | |
| Switch | Condition | Terminals | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 9 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sliding | Forward | ○ | | | | | | | | | | | | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Backward | ○ | | | | | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reclining | Forward | ○ | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Backward | ○ | | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lifting (Front) | Up | ○ | | | | | | | | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Down | ○ | | | | | | | | | | | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lifting (Rear) | Up | ○ | | | | | | | | | | | | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Down | ○ | | | | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SEL569X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 11 (Cancel switch check)

=NAEL0369S14

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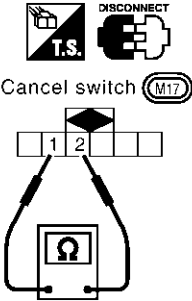
BT

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SC

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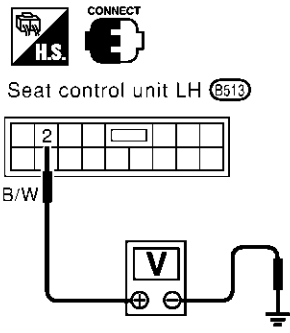
| 1 | | CHECK CANCEL SWITCH | | | | | | | | |
|--|-------------------------|---|-----------|-------------------------|------------|-----|----|-----|-----|----|
| <p>1. Disconnect cancel switch connector. 2. Check continuity between cancel switch terminals.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1"> <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> </div> </div> <p style="text-align: right;">SEL628WA</p> | | | Terminals | Cancel switch condition | Continuity | 1-2 | ON | Yes | OFF | No |
| Terminals | Cancel switch condition | Continuity | | | | | | | | |
| 1-2 | ON | Yes | | | | | | | | |
| | OFF | No | | | | | | | | |
| 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. | | | | | | | | |

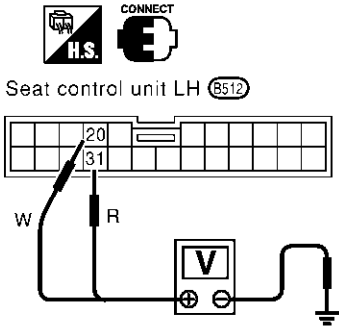
AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 12

(Key, detention, door switch and vehicle speed signal check) =NAEL0369S15

| 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 (8513)</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> | | | Condition | Voltage [V] | Key is inserted | Approx. 12 | Key is removed | 0 |
| Condition | Voltage [V] | | | | | | | |
| Key is inserted | Approx. 12 | | | | | | | |
| Key is removed | 0 | | | | | | | |
| SEL629W | | | | | | | | |
| OK or NG | | | | | | | | |
| OK | ▶ | GO TO 2. | | | | | | |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 24, 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 (8512)</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> | | | 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 | | | | | | | | | | | | | | | | | | |
| SEL630W | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | GO TO 3. | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 11, located in fuse block (J/B)] ● 7.5A fuse [No. 26, 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 |

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| | | |
|---|--|--|
| 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 |

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| | | |
|------------------------------------|-----------------------------------|--|
| 5 | CHECK VEHICLE SPEED SIGNAL | |
| Does speedometer operate normally? | | |
| Yes or No | | |
| OK | ▶ | GO TO 6. |
| NG | ▶ | Check speedometer and ABS actuator and electric unit circuit. Refer to EL-132. |

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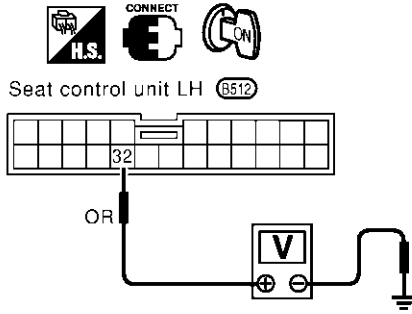
IDX

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

6 CHECK VEHICLE SPEED SIGNAL PULL UP VOLTAGE

1. Turn ignition switch "ON".
2. Check voltage between seat control unit LH terminal 32 and ground.



Approx. 5V should exist.

SEL633W

OK or NG

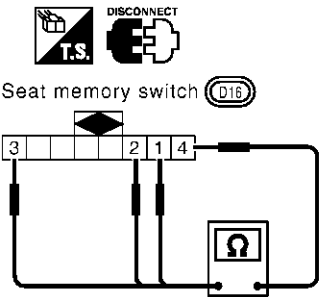
| | | |
|----|---|---|
| OK | ▶ | Harness for open or short between seat control unit LH and combination meter. |
| NG | ▶ | Repair harness. |

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 13 (Seat memory switch check)

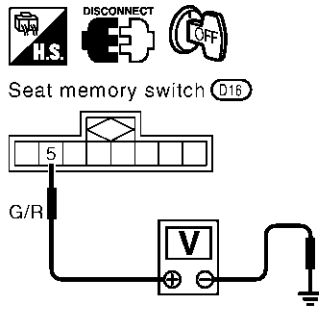
=NAEL0369S16

| 1 | CHECK SEAT MEMORY SWITCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------------|---|--------|-----------|-----------|--|--|--|---|---|---|---|----------|----|---|--|--|---|----------|----|--|---|--|---|-----|----|--|--|---|---|
| <p>1. Disconnect seat memory switch connector. 2. Check continuity between seat memory switch terminals.</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 | | | ○ | ○ | | | | | | | | | | | | | | | | | | | | | | | | | |
| SEL634WA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | <p>Check the following.</p> <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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

DIAGNOSTIC PROCEDURE 14 (Memory indicator check)

NAEL0369S17

| | | |
|------------------------------------|-----------------------------|--|
| 1 | CHECK INDICATOR LAMP | |
| Check indicator lamp illumination. | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace seat memory switch (indicator lamp). |

| | | |
|---|--|--|
| 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> | | |
|  | | |
| Battery voltage should exist. | | |
| SEL635WA | | |
| 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"> ● 7.5A fuse [No. 24 located in the fuse block (J/B)] ● Harness for open or short between fuse and indicator lamp |

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description

System Description

Refer to EC-81, "Automatic Speed Control Device (ASCD) System" in "ENGINE AND EMISSION BASIC DESCRIPTION CONTROL SYSTEM". ^{NAEL0461}

System Description

GI
NAEL0378

Power is supplied at all times

- from 40A fusible link (letter f, 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 power window main switch terminal 19, and
- to front power window switch RH terminal 10.

MA

EM

LC

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

- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to smart entrance control unit terminal 27
- to smart entrance control unit terminal 46 and
- to power window relay terminal 2.

EC

FE

Ground is supplied to power window relay terminal 1

- through body grounds M4, M66, M111, M147 and M157.

CL

The power window relay is energized and power is supplied

- through power window relay terminal 5
- to power window main switch terminal 10,
- to front power window switch RH terminal 14 and
- to rear power window switch LH and RH terminals 4.

MT

AT

MANUAL OPERATION

Front Door LH

NAEL0378S01

Ground is supplied

- to power window main switch terminal 17
- through body grounds M4, M66, M111, M147 and M157.

TF

PD

WINDOW UP

When the front LH switch in the power window main switch is pressed in the up position, power is supplied

- to front power window regulator LH terminal 1
- through power window main switch terminal 8.

AX

Ground is supplied

- to front power window regulator LH terminal 3
- through power window main switch terminal 11.

SU

Then, the motor raises the window until the switch is released.

BR

WINDOW DOWN

When the LH switch in the power window main switch is pressed in the down position, power is supplied

- to front power window regulator LH terminal 3
- through power window main switch terminal 11.

ST

Ground is supplied

- to front power window regulator LH terminal 1
- through power window main switch terminal 8.

RS

Then, the motor lowers the window until the switch is released.

BT

Front Door RH

NAEL0378S0102

Ground is supplied

- to power window main switch terminal 17
- through body grounds M4, M66, M111, M147 and M157.

HA

SC

NOTE:

Numbers in parentheses are terminal numbers, when power window switch is pressed in the UP and DOWN positions respectively.

EL

IDX

POWER WINDOW

System Description (Cont'd)

POWER WINDOW MAIN SWITCH OPERATION

When front RH switch in the power window main switch is pressed UP or DOWN, power window main switch sends window up or down signal to front power window switch RH with power window serial link communication line. Refer to "POWER WINDOW SERIAL LINK" (EL-259). Signals are supplied

- through power window main switch terminal 14
- to front power window switch RH terminal 16.

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 (8, 9)
- 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 (9, 8)
- to front power window RH terminal 11
- through body grounds M4, M66, M111, M147 and M157.

Then, the motor raises or lowers the window until the switch is released.

Rear Door LH

Ground is supplied

NAEL0378S0103

- to power window main switch terminal 17
- through body grounds the M4, M66, M111, M147 and M157.

NOTE:

Numbers in parentheses are terminal numbers, when the power window switch is pressed in the UP and DOWN positions.

POWER WINDOW MAIN SWITCH OPERATION

Power is supplied

- through power window main switch terminal (1, 3)
- to rear power window switch LH terminal (5, 2)

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, 3)
- 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 (3, 1)
- to rear power window switch LH terminal (2, 5)
- through power window main switch terminal (3, 1)

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 rear door LH window.

NAEL0378S0104

AUTO OPERATION

The power window AUTO feature enables the driver or front passenger to open or close the driver's and front passenger's window without holding the window switch in the up or down position.

The AUTO feature only operates on the driver's and front passenger's window upward and downward movement.

NAEL0378S02

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, the ground of the front and rear power window switches, in the power window main switch, is disconnected. This prevents the power window motors from operating.

NAEL0378S03

RETAINED POWER OPERATION

NAEL0378S04

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
- through body grounds M4, M66, M111, M147 and M157.

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.

RAP signal's period can be changed by CONSULT-II. (EL-267)

INTERRUPTION DETECTION FUNCTION

NAEL0378S05

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 LH or RH.

When power window main switch or front power window switch RH detects interruption during the following close operation in the driver's or front passenger's side door,

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

Power window main switch or front power window switch RH controls driver's or front passenger's power window regulator motor for open and the power window will be lowered about 150 mm (5.91 in).

POWER WINDOW OPENED/CLOSED OPERATION WITH KEY CYLINDER

NAEL0378S06

When ignition key switch is OFF, front power window can be opened or closed by turning the front door key cylinder LH to UNLOCK/LOCK position.

- Power window can be opened as the door key cylinder is kept fully turning to the UNLOCK position.
- Power window can be closed as the door key cylinder is kept fully turning to the LOCK position.

The power window opening stops when the following operations are carried out:

- While performing open/close the window, power window is stopped at the position as the door key cylinder is placed on Neutral.
- When the ignition switch is turned ON while the power window opening is operated.

POWER WINDOW SERIAL LINK

NAEL0378S07

Power window main switch, front power window switch RH and smart entrance control unit transmit and receive the signal by power window serial link.

The under-mentioned signal is transmitted from smart entrance control unit to power window main switch or front power window switch RH.

- Door lock or unlock signal (remote keyless entry system)
- Power window down signal (remote keyless entry system)

The under-mentioned signal is transmitted from power window main switch to front power window switch RH.

- Door lock or unlock signal (remote keyless entry system)
- Power window open/closed operation signal by key cylinder
- Power window lock signal

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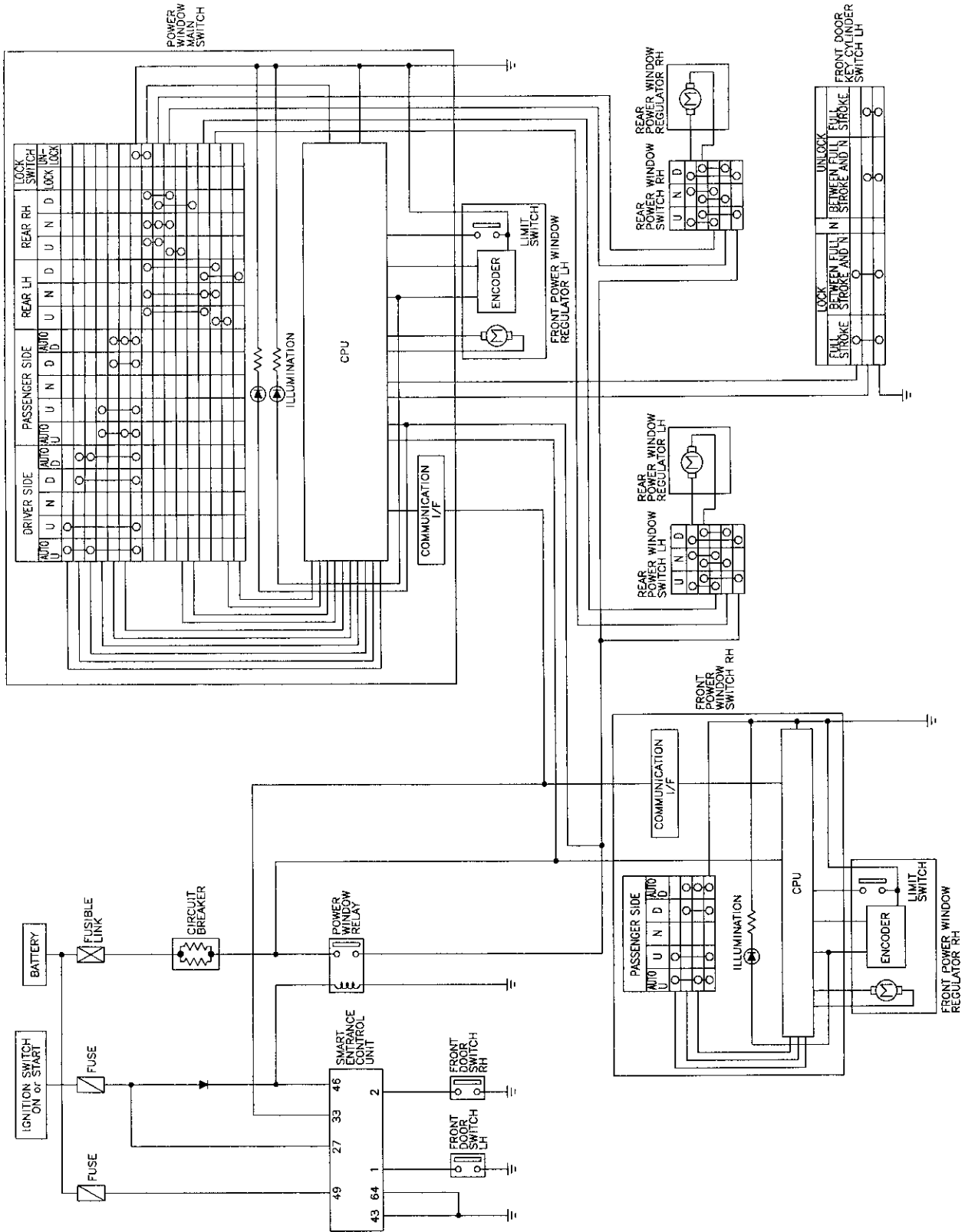
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POWER WINDOW

Schematic

Schematic

NAEL0379



MEL020Q

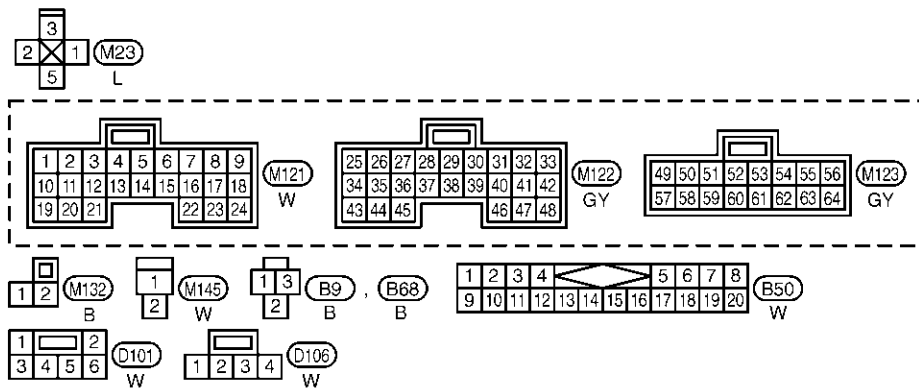
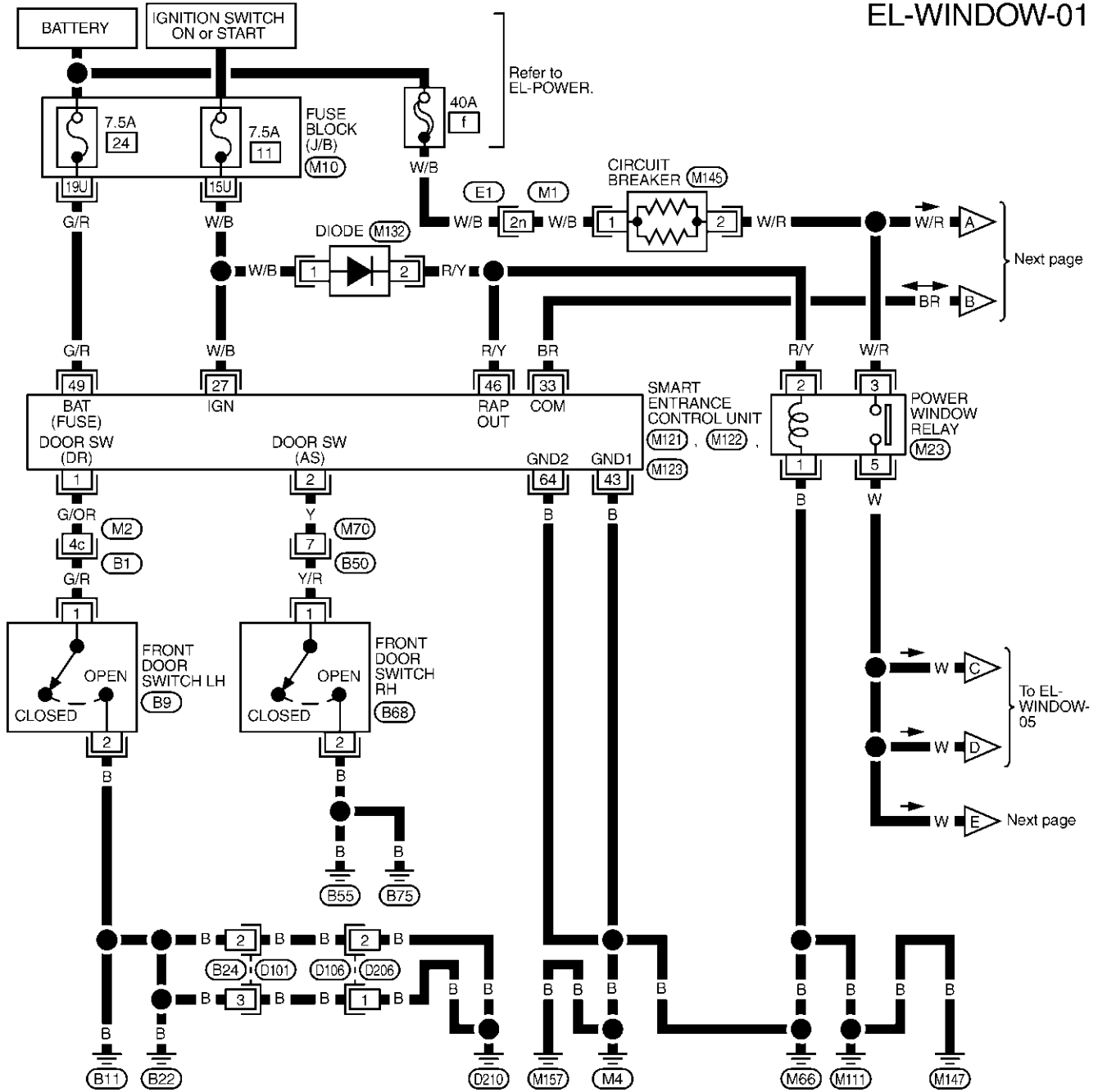
POWER WINDOW

Wiring Diagram — WINDOW —

Wiring Diagram — WINDOW —

NAEL0380

EL-WINDOW-01



REFER TO THE FOLLOWING.

- (E1) , (B1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M10) - FUSE BLOCK - JUNCTION BOX (J/B)



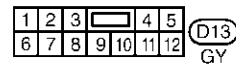
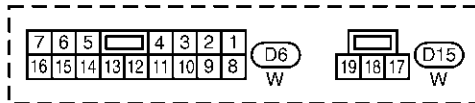
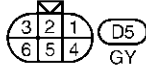
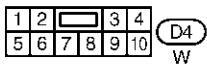
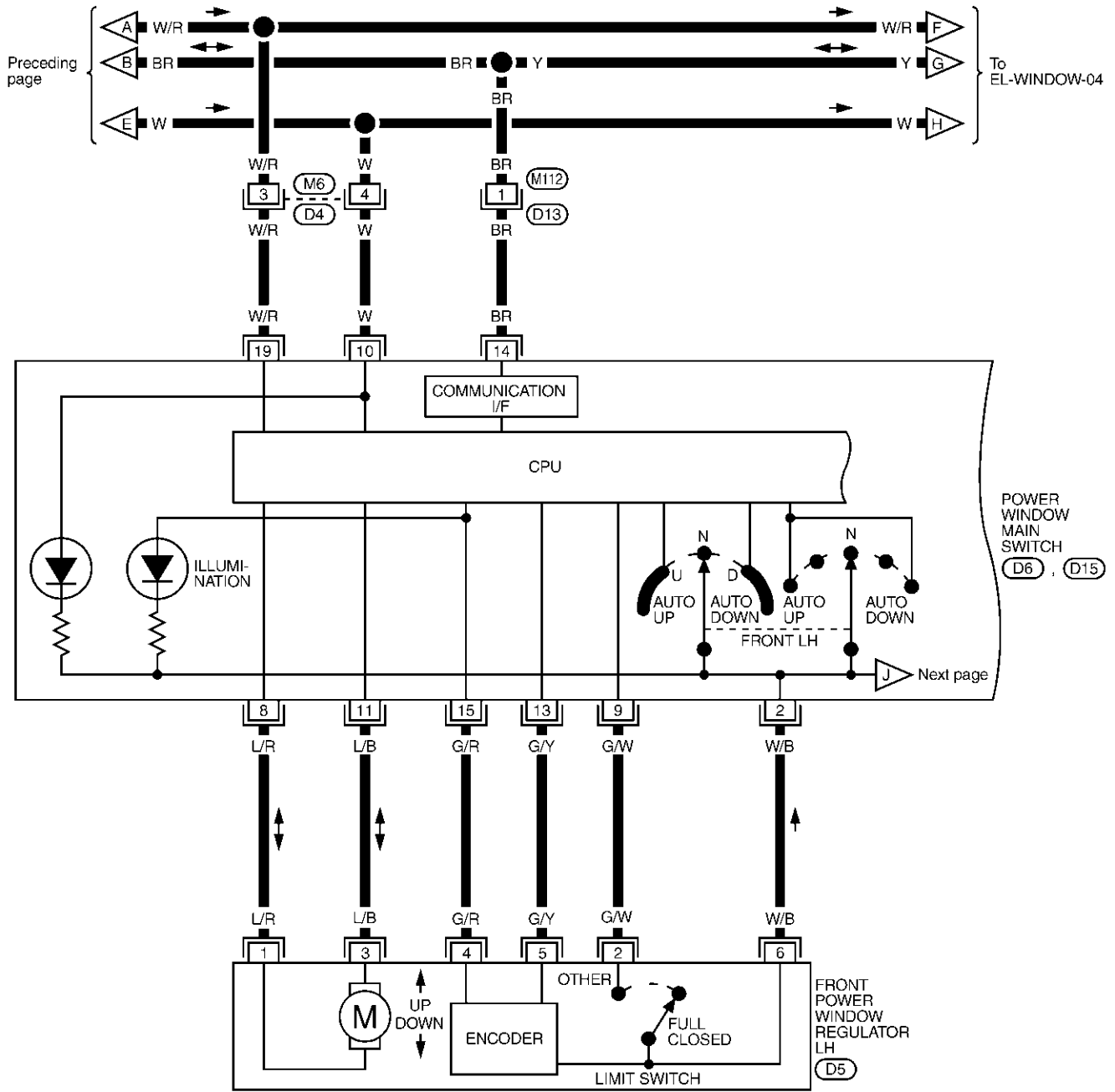
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POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02

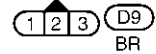
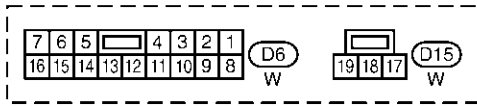
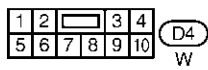
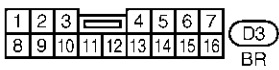
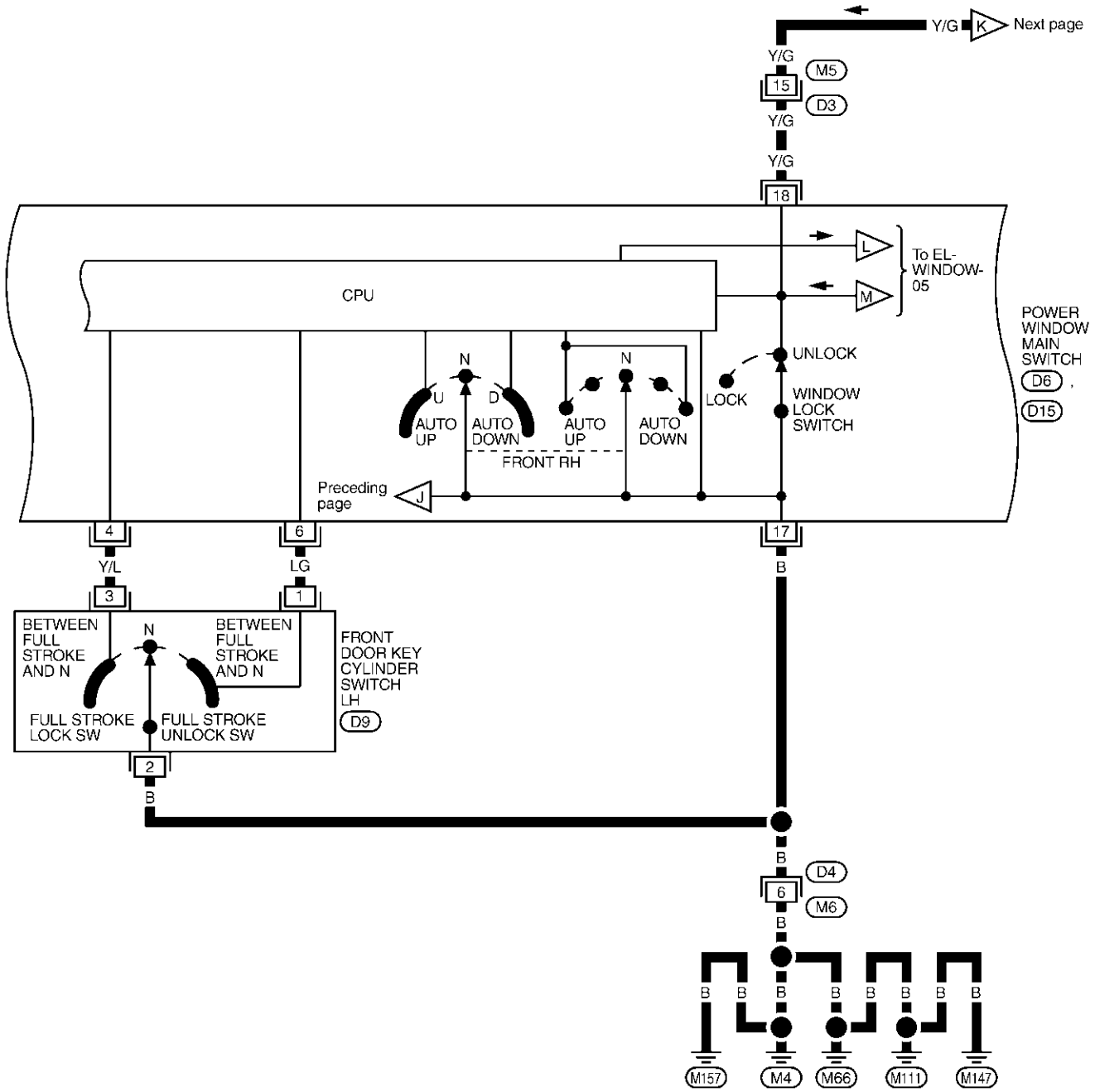


MEL022Q

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03

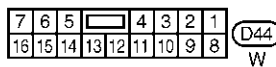
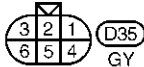
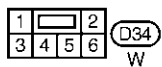
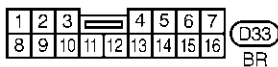
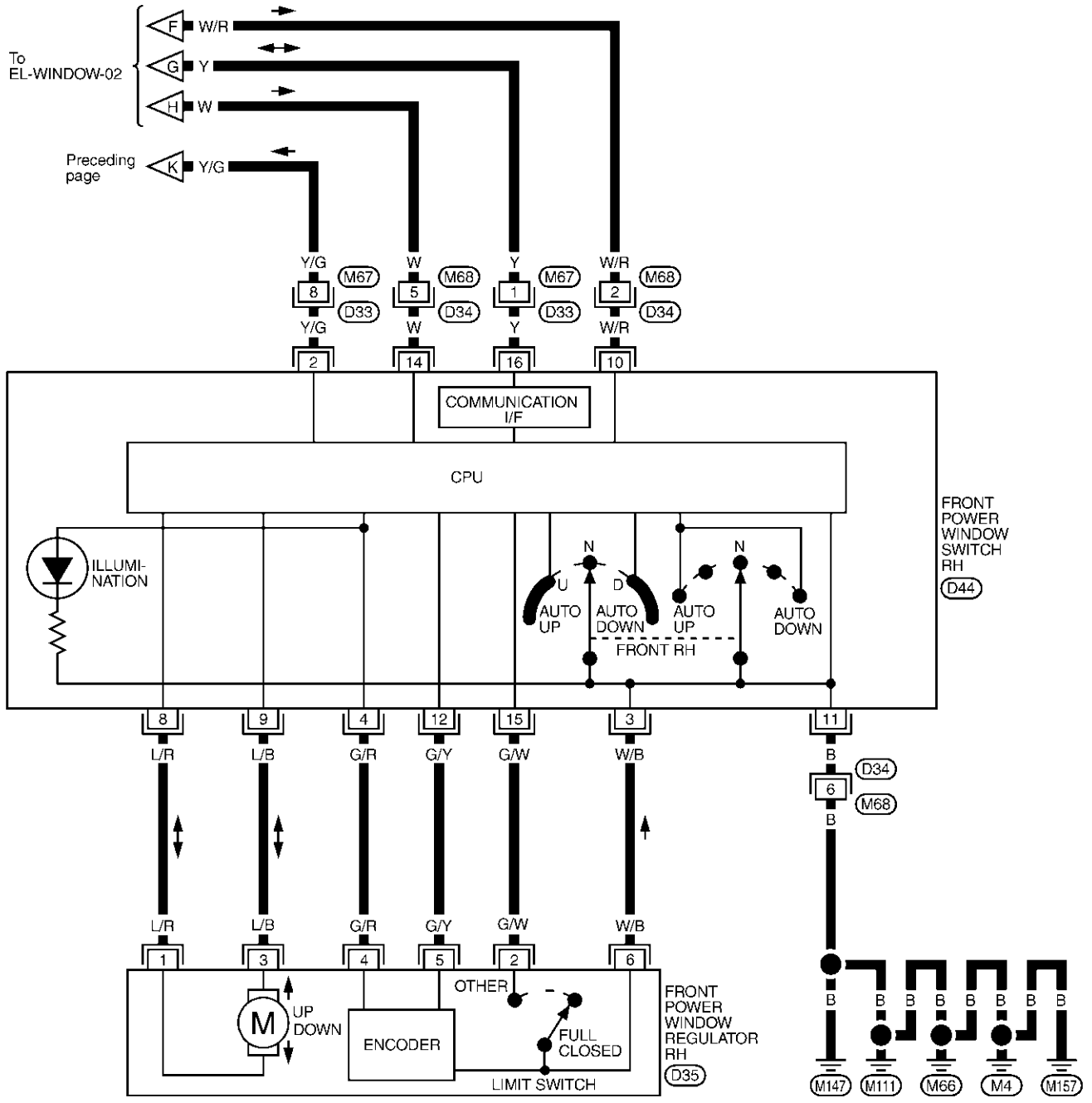


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POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-04

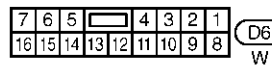
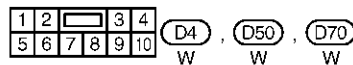
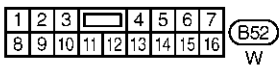
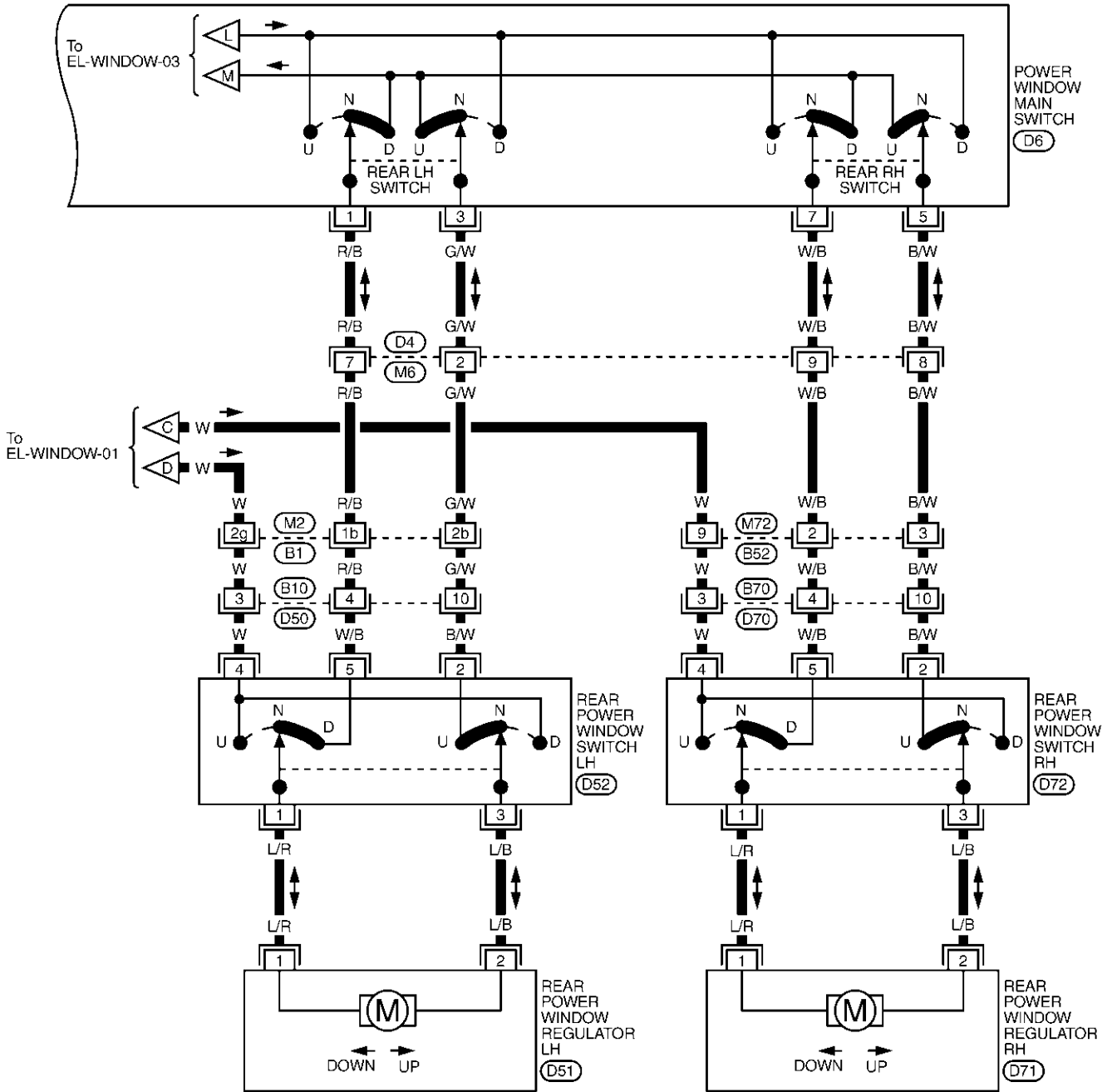


MEL024Q

POWER WINDOW

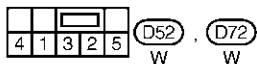
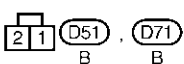
Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-05



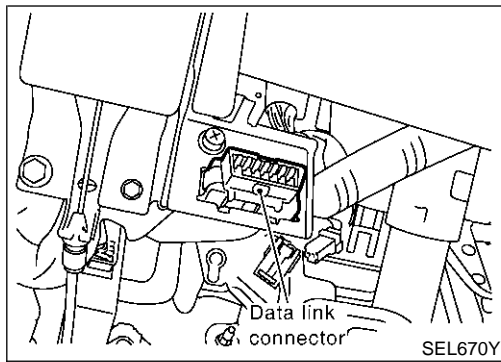
REFER TO THE FOLLOWING.

(B1) - SUPER MULTIPLE JUNCTION (SMJ)



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POWER WINDOW



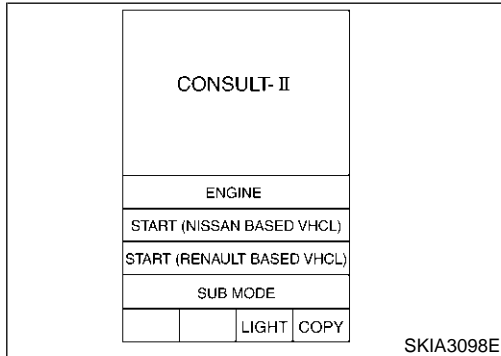
CONSULT-II Inspection Procedure

NAEL0381

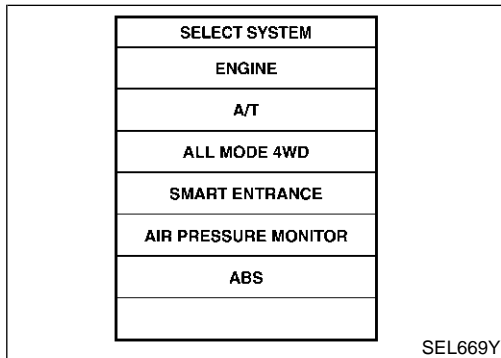
"RETAINED PWR"

NAEL0381S01

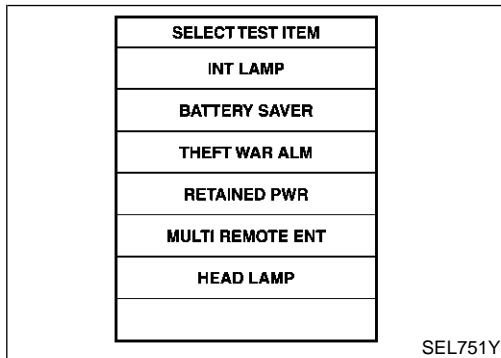
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



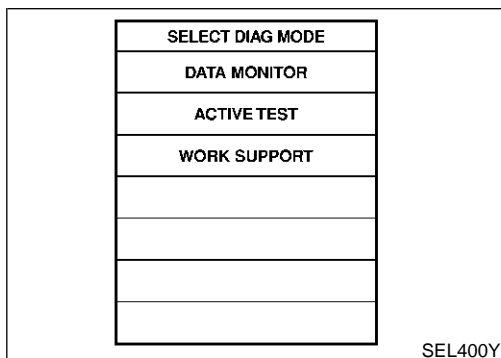
3. Turn ignition switch "ON".
4. Touch "START (NISSAN BASED VHCL)".



5. Touch "SMART ENTRANCE".
If "SMART ENTRANCE" is not indicated, go to GI-41, "CONSULT-II Data Link Connector (DLC) Circuit".



6. Touch "RETAINED PWR".



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

CONSULT-II Application Items

NAEL0382

“RETAINED PWR”

Data Monitor

NAEL0382S01

NAEL0382S0101

| 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

NAEL0382S0102

| 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 battery saver control unit. 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 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> |

Work Support

NAEL0382S0103

| Work Item | Description |
|------------------|---|
| RETAINED PWR SET | <p>Rap signal's power supply period can be changed by mode setting. Selects rap signal's power supply period between three steps.</p> <ul style="list-style-type: none"> ● MODE 1 (45 sec.)/MODE 2 (OFF)/MODE 3 (2 min.) |

Trouble Diagnoses

NAEL0383

| Symptom | Possible cause | Repair order |
|---|--|---|
| None of the power windows can be operated using any switch. | <ol style="list-style-type: none"> 1. 7.5A fuse, 40A fusible link 2. M145 circuit breaker 3. Power window relay 4. M145 circuit breaker circuit 5. Power window relay circuit 6. Ground circuit 7. Power window main switch | <ol style="list-style-type: none"> 1. Check 7.5A fuse [No. 11, located in fuse block (J/B)], 40A fusible link (letter f, located in fuse and fusible link box). 2. Check M145 circuit breaker. 3. Check power window relay. 4. Check the following. <ol style="list-style-type: none"> a. Harness between M145 circuit breaker and 40A fusible link b. Harness between M145 circuit breaker and power window main switch 5. Check the following. <ol style="list-style-type: none"> a. Harness between 7.5A fuse and power window relay b. Harness between M145 circuit breaker and power window relay 6. Check the following. <ol style="list-style-type: none"> a. Ground circuit of power window main switch terminal 17 b. Power window relay ground circuit 7. Check power window main switch. |

POWER WINDOW

Trouble Diagnoses (Cont'd)

| Symptom | Possible cause | Repair order |
|---|---|---|
| Driver side power window cannot be operated but other windows can be operated. | <ol style="list-style-type: none"> 1. Front power window regulator LH circuit 2. Front power window regulator LH 3. Power window main switch | <ol style="list-style-type: none"> 1. Check harness between power window main switch and front power window regulator LH for open or short circuit. 2. Check front power window regulator LH. 3. Check power window main switch. |
| Passenger side power window cannot be operated but other window can be operated. | <ol style="list-style-type: none"> 1. Power supply for front power window switch RH 2. Front power window switch RH ground circuit 3. Front power window switch RH circuit 4. Front power window regulator RH circuit 5. Front power window regulator RH 6. Power window main switch 7. Front power window switch RH | <ol style="list-style-type: none"> 1. Check power supply for front power window switch RH terminals 10 and 14. 2. Check front power window switch RH ground circuit. 3. Check harness between front power window switch RH and power window main switch. 4. Check harness between front power window switch RH and front power window regulator RH for open or short circuit. 5. Check front power window regulator RH. 6. Check power window main switch. 7. Check front power window switch RH. |
| One or more rear power windows except front window 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 switches. 2. Check rear power window regulator. 3. Check power window main switch. 4. Check the following. <ol style="list-style-type: none"> a. Harness between the rear power window switches (LH and RH) terminal 5 and power window relay terminal 4 b. Harnesses between power window main switch and rear power window switches for open/short circuit c. Harnesses between rear power window switches and rear power window regulator for open/short circuit |
| Power windows except driver's side window cannot be operated using power window main switch but can be operated by power window switches. | <ol style="list-style-type: none"> 1. Power window main switch | <ol style="list-style-type: none"> 1. Check power window main switch. |
| Driver side power window automatic operation does not function properly. | <ol style="list-style-type: none"> 1. Power window main switch 2. Encoder and limit switch | <ol style="list-style-type: none"> 1. Check power window main switch. 2. Check encoder and limit switch. (EL-270) |
| Front passenger side power window automatic operation does not function properly. | <ol style="list-style-type: none"> 1. Front power window switch RH 2. Encoder and limit switch | <ol style="list-style-type: none"> 1. Check front power window switch RH. 2. Check encoder and limit switch. (EL-270) |

POWER WINDOW

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) <ul style="list-style-type: none"> ● Check RAP signal with CONSULT-II. Use "WORK SUPPORT" mode, "RETAINED PWR" in "SMART ENTRANCE". (Refer to EL-267.) ● Check RAP signal with CONSULT-II. Use "ACTIVE TEST" mode, "RETAINED PWR" in "SMART ENTRANCE". (Refer to EL-266.) If NG, go to the step b. below. b. Verify 12 positive voltage from smart entrance control unit terminal 46 is present at terminal 2 of power window relay: <ul style="list-style-type: none"> ● Within 45 seconds after ignition switch turns off.*1 ● When front door LH and RH is closed. 2. Check the following. <ol style="list-style-type: none"> a. Harness between smart entrance control unit and driver or passenger side door switch for short circuit b. Driver or passenger side door switch ground circuit c. Driver or passenger side door switch 3. Check smart entrance control unit. (EL-368) | GI MA EM LC EC FE CL MT |
| 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. Power window main switch 2. Power window main switch circuit | <ol style="list-style-type: none"> 1. Check power window main switch. (EL-272) 2. Check harness for open or short circuit between power window main switch terminal 14 and front power window switch RH terminal 16. | AT TF |
| 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. Power window main switch | <ol style="list-style-type: none"> 1. Check power window main switch. (EL-272) | PD |
| 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. Power window main switch | <ol style="list-style-type: none"> 1. Check power window main switch. (EL-272) | AX SU |
| Power window open/close operation with key cylinder does not operate properly. | <ol style="list-style-type: none"> 1. Front door key cylinder switch LH 2. Front door key cylinder switch LH circuit 3. Power window main switch | <ol style="list-style-type: none"> 1. Check front door key cylinder switch LH. 2. Check harness for open or short circuit between front door key cylinder switch LH and power window main switch. 3. Check power window main switch. | BR ST |

*1: RAP signal's period can be changed by CONSULT-II. (EL-267)

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POWER WINDOW

Trouble Diagnoses (Cont'd)

ENCODER AND LIMIT SWITCH CHECK

=NAEL0383S01

| | | |
|--|--|---|
| 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 power window main switch harness connector D6 terminal 9 (G/W) or front power window switch RH harness connector D44 terminal 15 (G/W) 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;">SEL686Y</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. |

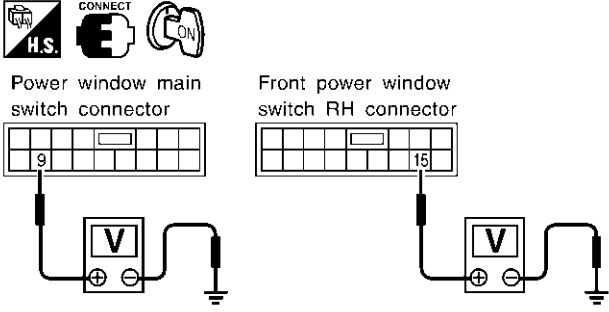
| 3 | CHECK LIMIT SWITCH OPERATION | | | | | | | | | |
|---|--|---------------|--------------|-----------|---------------|---|--|-----------|-----------------|-----------|
| <p>1. Connect front power window regulator LH or RH harness connector. 2. Check voltage between power window main switch harness connector D6 terminal 9 (G/W) or front power window switch RH harness connector D44 terminal 15 (G/W) and ground during power window closing operation.</p> | | | | | | | | | | |
| <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Terminal No.</th> <th>Condition</th> <th>Voltage (DCV)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Power window main switch: 9 Front power window switch RH: 15</td> <td>Approx. 15 mm (0.59 in) below the full closed position to full closed position</td> <td>Approx. 5</td> </tr> <tr> <td>Other positions</td> <td>Approx. 0</td> </tr> </tbody> </table> <p style="text-align: right;">SEL687Y</p> <p style="text-align: center;">OK or NG</p> | | | Terminal No. | Condition | Voltage (DCV) | Power window main switch: 9 Front power window switch RH: 15 | 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) | | | | | | | | |
| Power window main switch: 9 Front power window switch RH: 15 | 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-20, "Front Door Glass Limit Switch Reset". Then check voltage between power window main switch harness connector D6 terminal 9 (G/W) or front power window switch RH harness connector D44 terminal 15 (G/W) and ground during power window closing operation at least ten times.



| Terminal No. | Condition | Voltage (DCV) |
|---|--|---------------|
| Power window main switch: 9 Front power window switch RH: 15 | Approx. 15 mm (0.59 in) below the full closed position to full closed position | Approx. 5 |
| | Other positions | Approx. 0 |

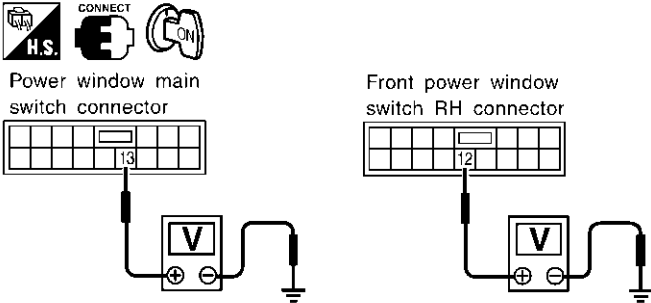
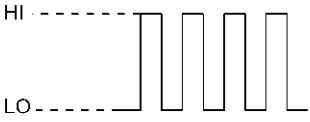
SEL687Y

OK or NG

| | | |
|----|---|---------------------------------------|
| OK | ▶ | GO TO 5. |
| NG | ▶ | Replace power window regulator motor. |

5 CHECK ENCODER

Measure voltage between power window main switch harness connector D6 terminal 13 (G/Y) or front power window switch RH harness connector D44 terminal 12 (G/Y) and ground with oscilloscope when power window is in automatic closing operation.

HI: Approx. 5V
LO: Approx. 0V

SEL688Y

OK or NG

| | | |
|----|---|---------------------------------------|
| OK | ▶ | Replace power window main switch. |
| NG | ▶ | Replace power window regulator motor. |

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POWER WINDOW

Trouble Diagnoses (Cont'd)

MAIN SWITCH OPERATION CHECK Passenger Side Operation

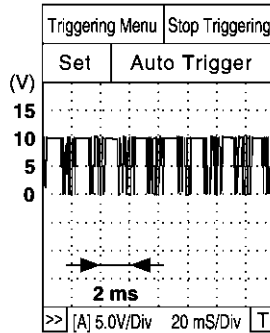
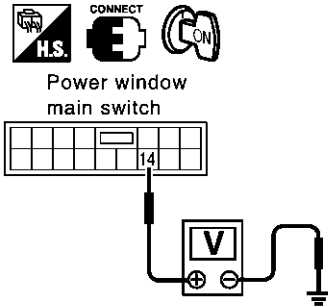
NAEL0383S02

NAEL0383S0201

1 CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

With CONSULT-II

1. Turn ignition switch to ON position.
2. Turn power window main switch to ON (UP or DOWN).
3. Check signal between power window main switch harness connector D6 terminal 14 (BR) and ground when power window is in open or close operation. (Use "SIMPLE OSCILLOSCOPE" in "SUB MODE" with CONSULT-II.)

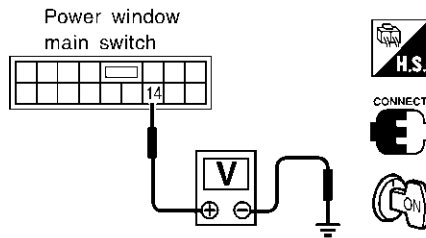


Voltage:
12V → 9V (10 sec.)
measurement by analog circuit tester.

SEL689Y

Without CONSULT-II

1. Turn ignition switch to ON position.
2. Turn power window main switch to ON (UP or DOWN).
3. Check signal between power window main switch harness connector D6 terminal 14 (BR) and ground when power window is in open or close operation.



Voltage:
12V → 9V (10 sec.)
measurement by analog circuit tester.

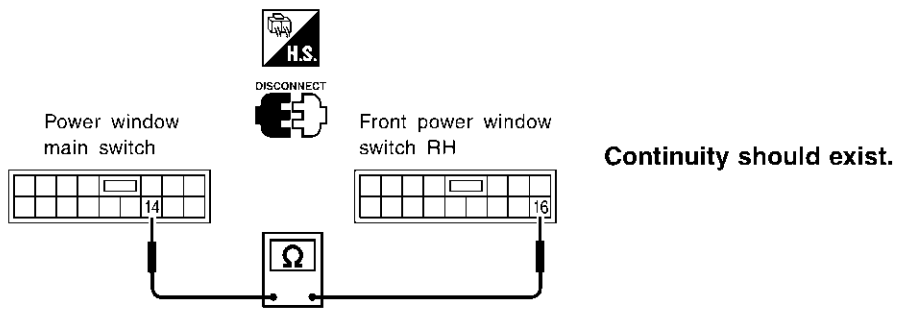
SEL690Y

OK or NG

| | | |
|----|---|-----------------------------------|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace power window main switch. |

POWER WINDOW

Trouble Diagnoses (Cont'd)

| | |
|--|---------------------------------|
| 2 | CHECK SIGNAL CIRCUIT |
| <p>1. Check continuity between power window switch harness connector D6 terminal 14 (BR) and front power window switch RH harness connector D44 terminal 16 (Y).</p> <div style="text-align: center;">  <p>Continuity should exist.</p> </div> <p style="text-align: right;">SEL691Y</p> <p style="text-align: center;">Yes or No</p> | |
| Yes | ▶ INSPECTION END |
| No | ▶ Repair harness or connectors. |

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POWER WINDOW

Trouble Diagnoses (Cont'd)

Rear LH Side Window Operation

=NAEL0383S0202

| 1 | CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL | | | | | | | | | | | | | | | | |
|---|---|-----------------------------------|-------|-----------------------|--|-----|-----|------|-------|---|--------|----|-----|---|--------|----|-----|
| <p>1. Turn ignition switch to ON position. 2. Check voltage between power window main switch harness connector D6 terminal 1 (R/B) or 3 (G/W) and ground when rear power window LH side is in open or close operation.</p> | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| <table border="1" style="margin-left: auto; margin-right: 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>1</td> <td>Ground</td> <td>0V</td> <td>12V</td> </tr> <tr> <td>3</td> <td>Ground</td> <td>0V</td> <td>12V</td> </tr> </tbody> </table> | | Terminals | | Main switch condition | | (+) | (-) | Open | Close | 1 | Ground | 0V | 12V | 3 | Ground | 0V | 12V |
| Terminals | | Main switch condition | | | | | | | | | | | | | | | |
| (+) | (-) | Open | Close | | | | | | | | | | | | | | |
| 1 | Ground | 0V | 12V | | | | | | | | | | | | | | |
| 3 | Ground | 0V | 12V | | | | | | | | | | | | | | |
| SEL692Y | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | |
| OK | ▶ | GO TO 2. | | | | | | | | | | | | | | | |
| NG | ▶ | Replace power window main switch. | | | | | | | | | | | | | | | |

| | | |
|--|-----------------------------|-------------------------------|
| 2 | CHECK SIGNAL CIRCUIT | |
| <p>1. Turn ignition switch to OFF position. 2. Disconnect power window main switch connector and rear power window switch LH connector. 3. Check continuity between power window main switch harness connector D6 terminal 3 (G/W) and rear power window switch LH harness connector D52 terminal 2 (B/W). 4. Check continuity between power window main switch harness connector D6 terminal 1 (R/B) and rear power window switch LH harness connector D52 terminal 5 (W/B).</p> | | |
| | | |
| Continuity should exist. | | |
| Yes or No | | |
| Yes | ▶ | INSPECTION END |
| No | ▶ | Repair harness or connectors. |

POWER WINDOW

Trouble Diagnoses (Cont'd)

Rear RH Side Window Operation

=NAEL0383S0203

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1 CHECK POWER WINDOW MAIN SWITCH OUTPUT

- Turn ignition switch to ON position.
- Check voltage between power window main switch harness connector D6 terminal 5 (B/W) or 7 (W/B) and ground when rear power window RH side is in open or close operation.

Power window main switch

| Terminals | | Main switch condition | |
|-----------|--------|-----------------------|-------|
| (+) | (-) | Open | Close |
| 5 | Ground | 0V | 12V |
| 7 | Ground | 0V | 12V |

SEL694Y

OK or NG

| | | |
|----|---|-----------------------------------|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace power window main switch. |

2 CHECK SIGNAL CIRCUIT

- Turn ignition switch to OFF position.
- Disconnect power window main switch connector and rear power window switch RH connector.
- Check continuity between power window main switch harness connector D6 terminal 7 (W/B) and rear power window switch RH harness connector D72 terminal 5 (W/B).
- Check continuity between power window main switch harness connector D6 terminal 5 (B/W) and rear power window switch RH harness connector D72 terminal 2 (B/W).

Power window main switch

Rear power window switch RH

Continuity should exist.

SEL795Y

Yes or No

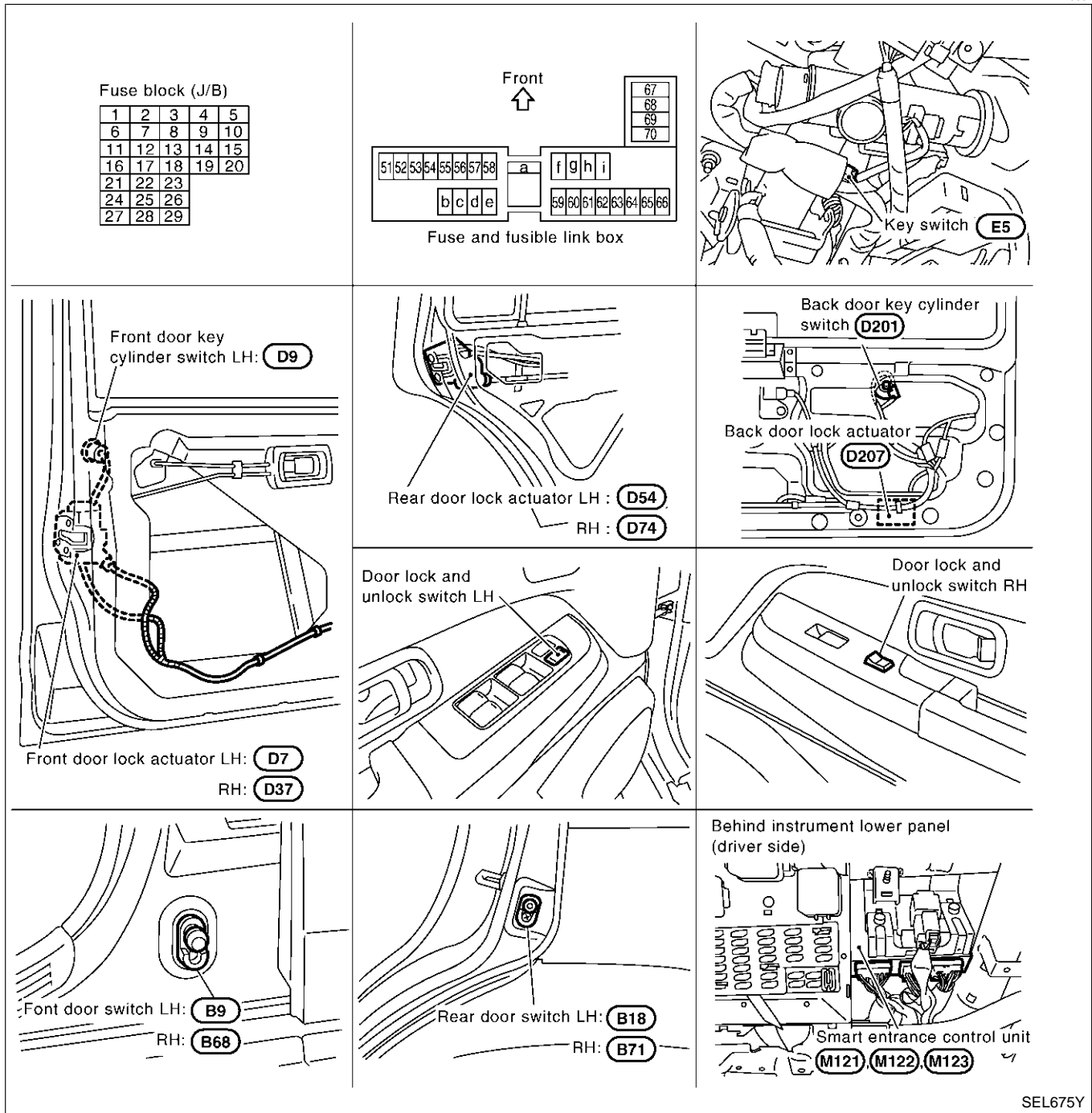
| | | |
|-----|---|-------------------------------|
| Yes | ▶ | INSPECTION END |
| No | ▶ | Repair harness or connectors. |

POWER DOOR LOCK

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0384



System Description

NAEL0385

OPERATION

NAEL0385S01

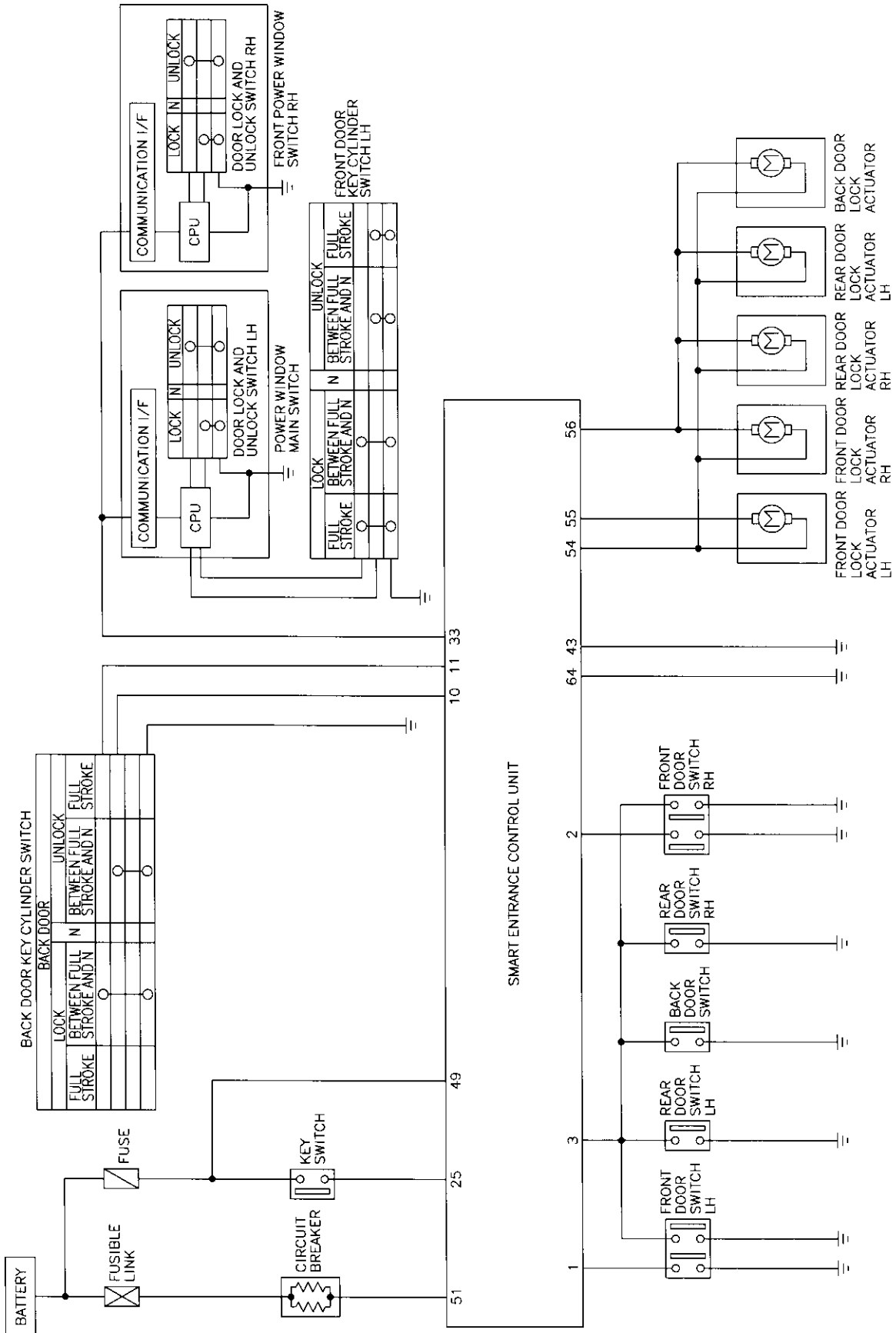
- The lock/unlock switch (LH and RH) on door trim can lock and unlock all doors.
- With the door key inserted in the key cylinder on front LH or back door, turning it to "LOCK", will lock all doors; turning it to "UNLOCK" once unlocks the corresponding door; turning it to "UNLOCK" again within 5 seconds 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 doors are open, setting the lock/unlock switch to "LOCK" locks the doors once but then immediately unlock them. (Combination signals from key switch and door switches) - (KEY REMINDER DOOR SYSTEM)

POWER DOOR LOCK

Schematic

Schematic

NAEL0386



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MEL431P

POWER DOOR LOCK

Wiring Diagram — D/LOCK —

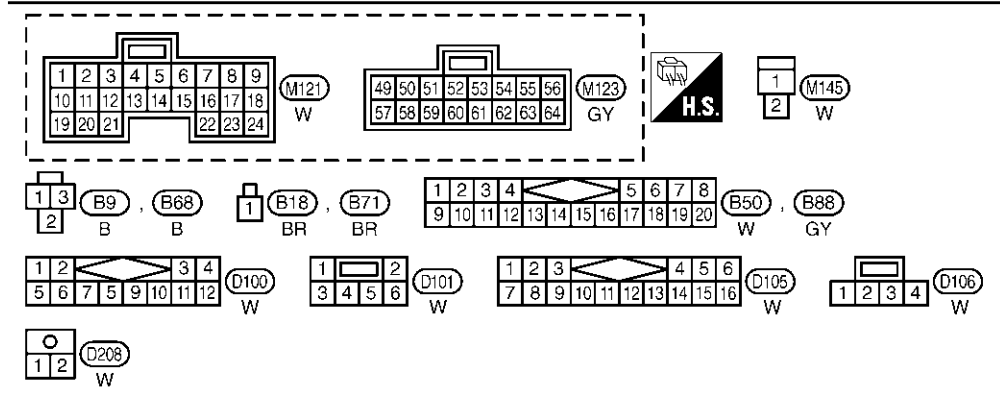
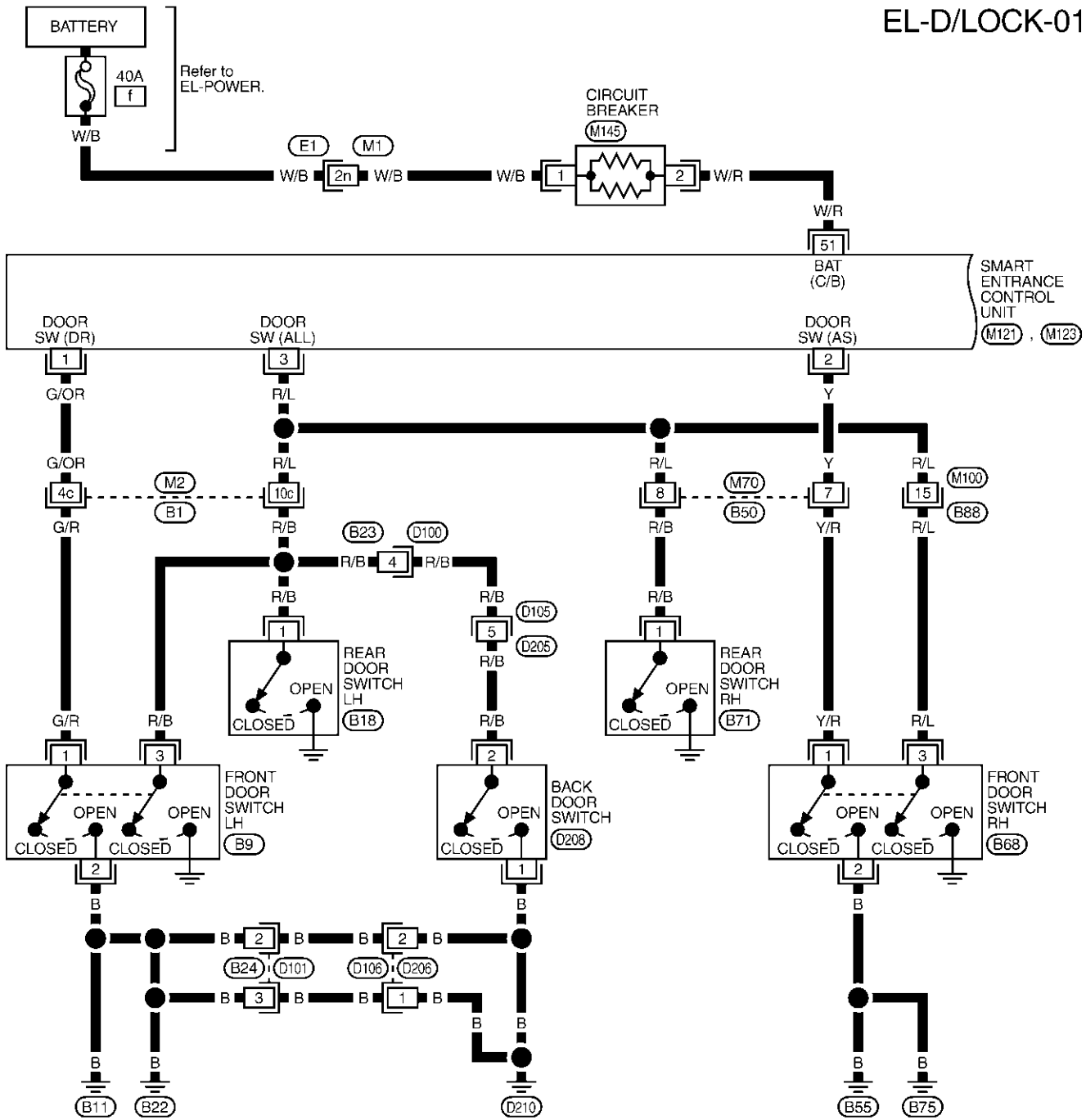
Wiring Diagram — D/LOCK —

NAEL0387

NAEL0387S01

FIG. 1

EL-D/LOCK-01



REFER TO THE FOLLOWING.
 (E1), (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL026Q

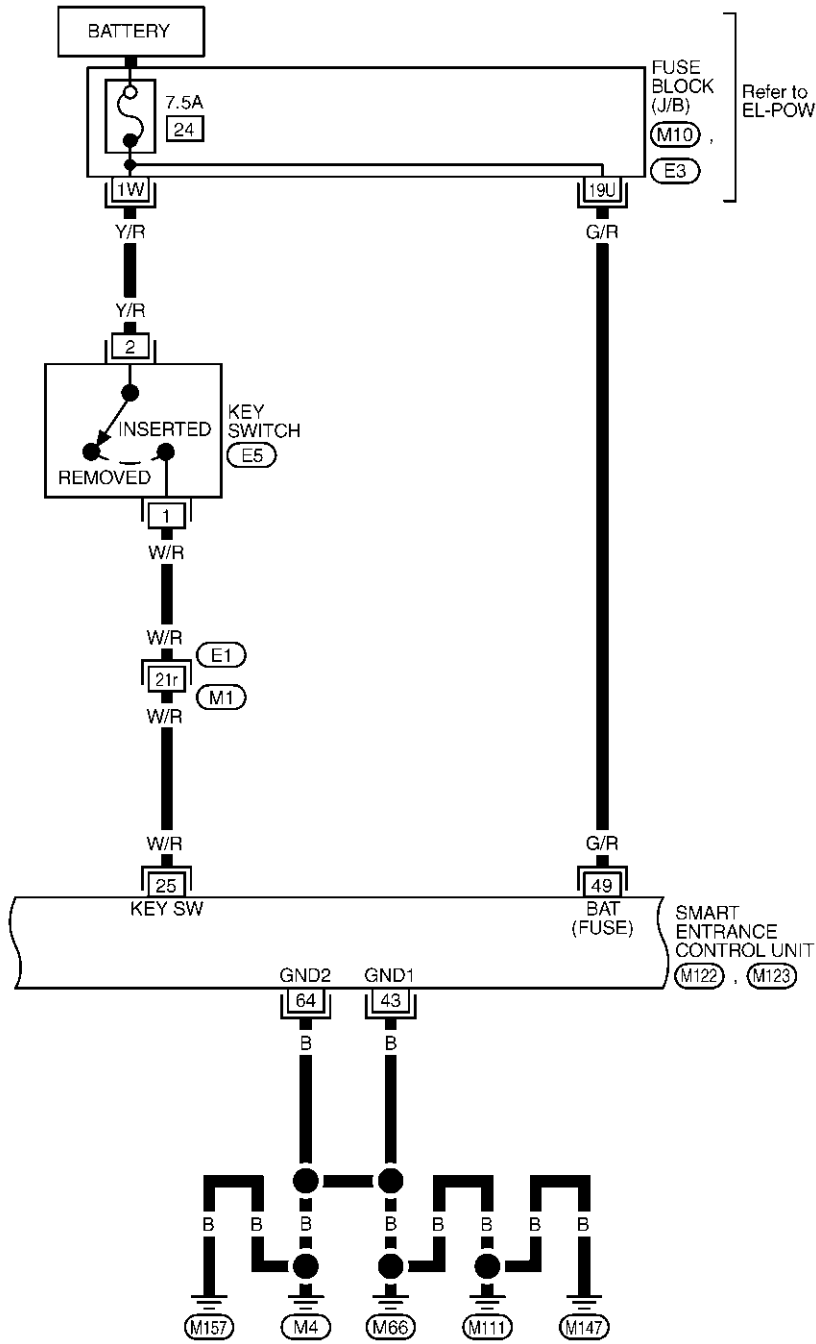
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

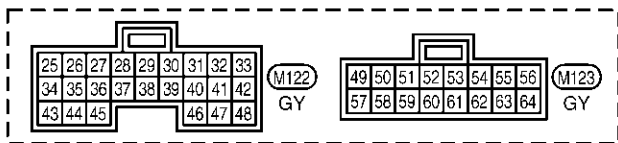
FIG. 2

NAEL0387S02

EL-D/LOCK-02



Refer to EL-POWER.



REFER TO THE FOLLOWING.

- (E1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M10) , (E3) -FUSE BLOCK-JUNCTION BOX (J/B)

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MEL027Q

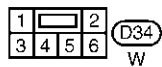
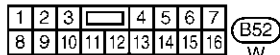
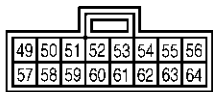
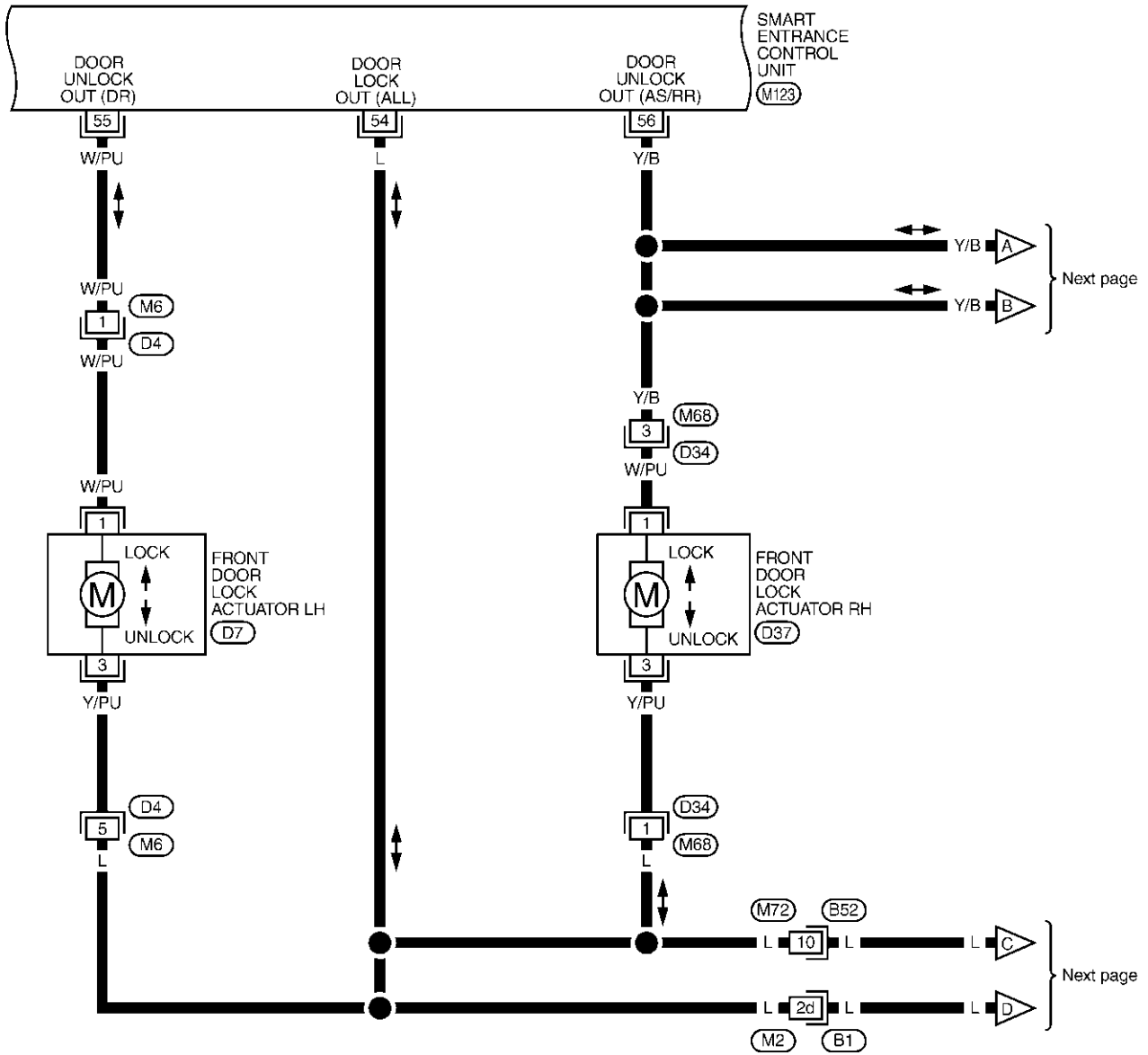
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 4

NAEL0387S04

EL-D/LOCK-04



REFER TO THE FOLLOWING.

(B1) - SUPER MULTIPLE JUNCTION (SMJ)

MEL434P

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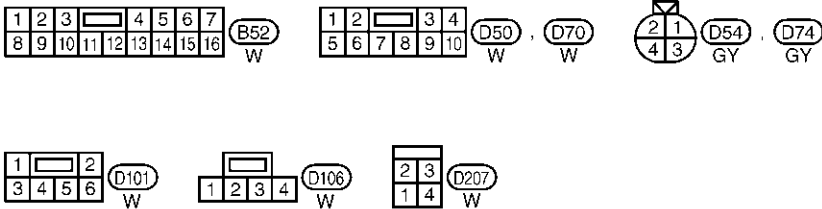
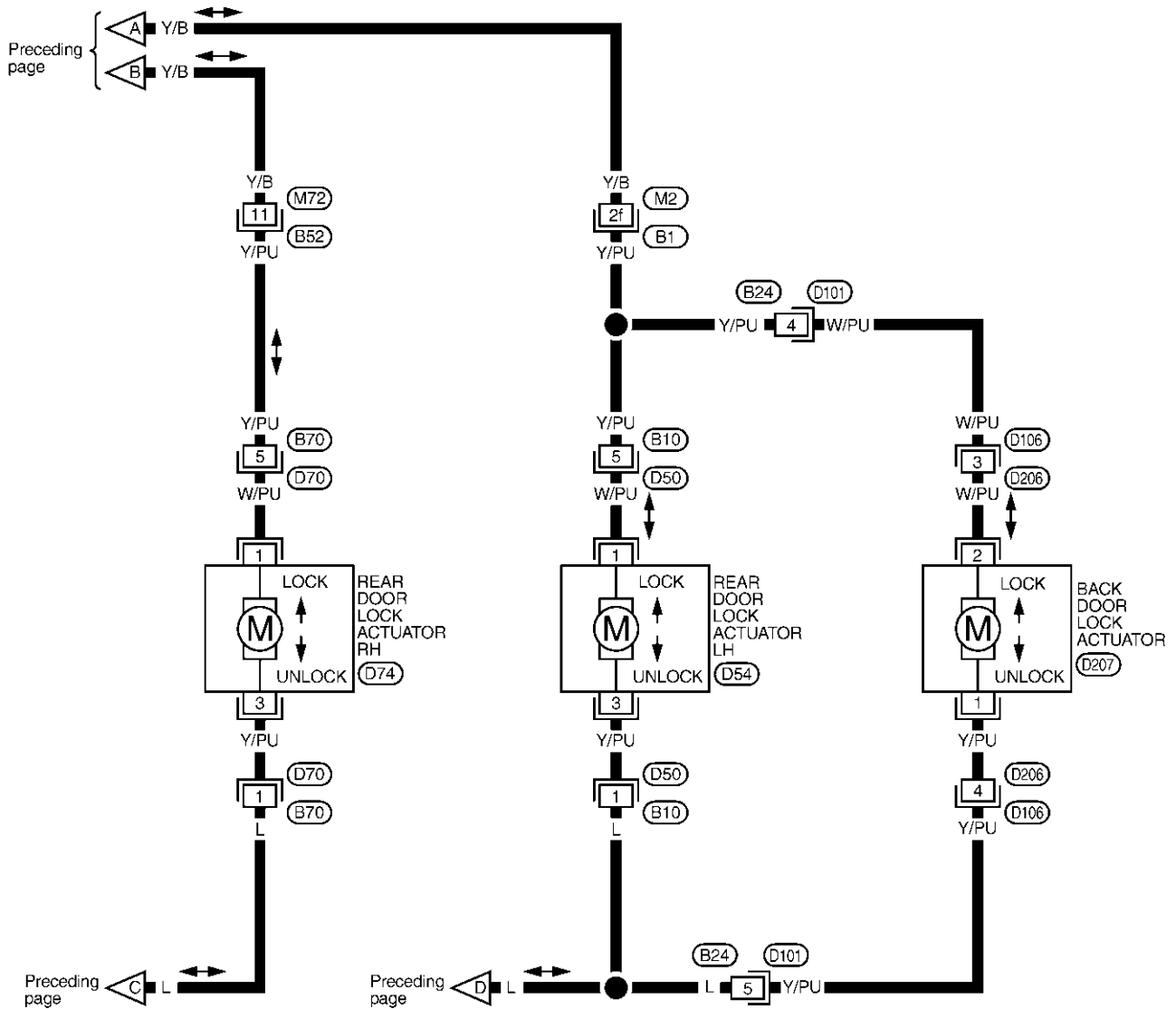
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

NAEL0387S05

FIG. 5

EL-D/LOCK-05



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

MEL852L

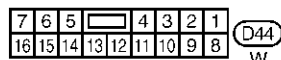
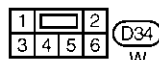
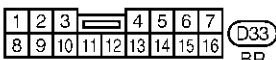
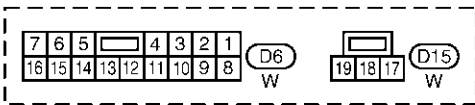
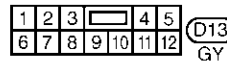
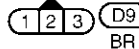
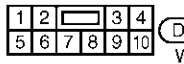
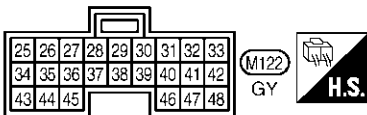
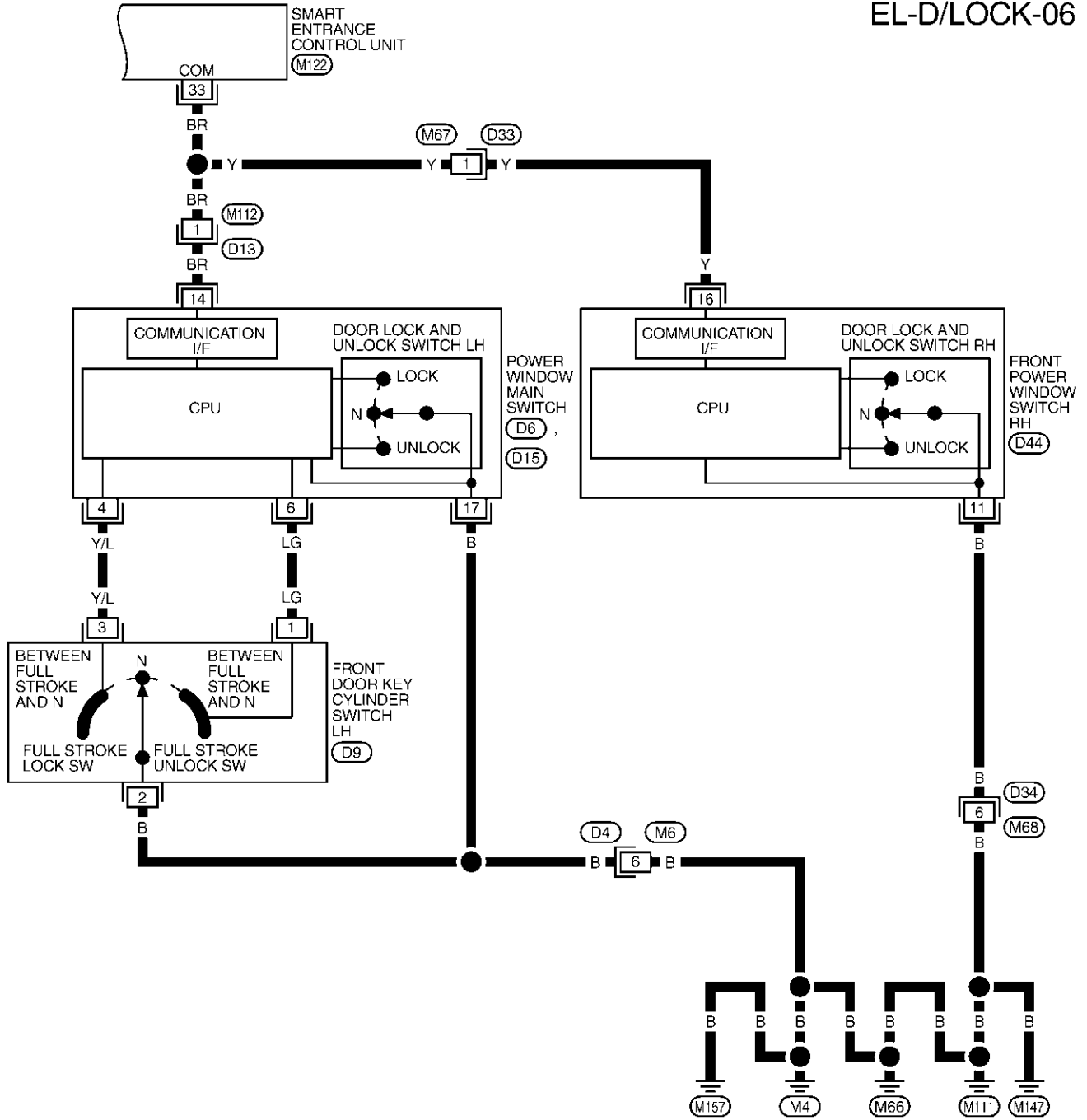
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 6

NAEL0387S06

EL-D/LOCK-06

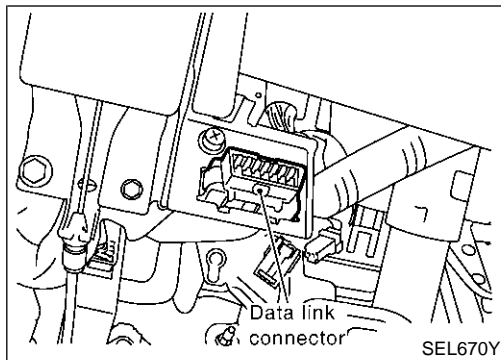


MEL029Q

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POWER DOOR LOCK

CONSULT-II Inspection Procedure



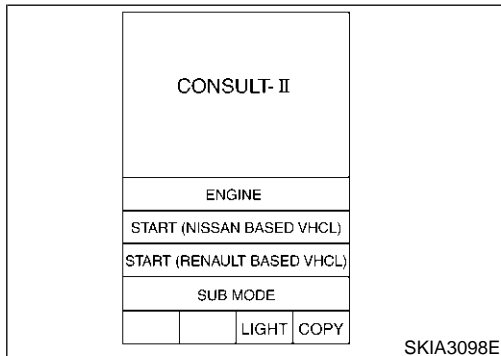
CONSULT-II Inspection Procedure

=NAEL0388

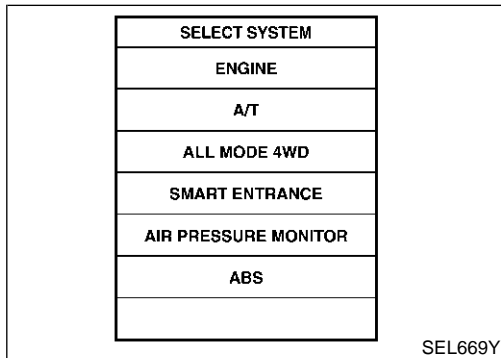
NAEL0388S01

“DOOR LOCK”

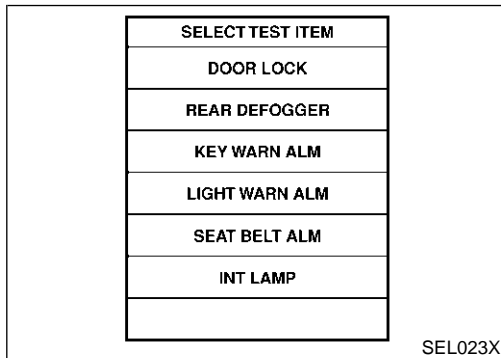
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector.



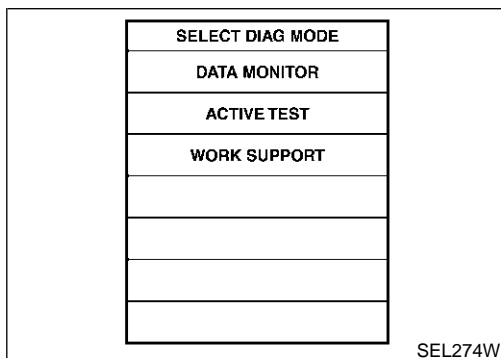
3. Turn ignition switch “ON”.
4. Turn “START (NISSAN BASED VHCL)”.



5. Touch “SMART ENTRANCE”.
If “SMART ENTRANCE” is not indicated, go to GI-41, “CONSULT-II Data Link Connector (DLC) Circuit”.



6. Touch “DOOR LOCK”.



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

POWER DOOR LOCK

CONSULT-II Application Items

CONSULT-II Application Items “DOOR LOCK” Data Monitor

NAEL0389

NAEL0389S01

NAEL0389S0101

| Monitored Item | Description | |
|----------------|--|----|
| KEY ON SW | Indicates [ON/OFF] condition of key switch. | GI |
| LOCK SW DR/AS | Indicates [ON/OFF] condition of lock signal from lock/unlock switch LH and RH. | EM |
| DOOR SW-RR | Indicates [ON/OFF] condition of door switch (Rear). | LC |
| UNLK SW DR/AS | Indicates [ON/OFF] condition of unlock signal from lock/unlock switch LH and RH. | EC |
| KEY CYL LK-SW | Indicates [ON/OFF] condition of lock signal from key cylinder. | FE |
| KEY CYL UN-SW | Indicates [ON/OFF] condition of unlock signal from key cylinder. | FE |
| LK BUTTON/SIG | Indicates [ON/OFF] condition of lock signal from keyfob. | CL |
| UN BUTTON/SIG | Indicates [ON/OFF] condition of unlock signal from keyfob. | CL |
| IGN ON SW | Indicates [ON/OFF] condition of ignition switch. | |
| DOOR SW-DR | Indicates [ON/OFF] condition of front door switch LH. | MT |
| DOOR SW-AS | Indicates [ON/OFF] condition of front door switch RH. | MT |

Active Test

NAEL0389S0102

| 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. | TF |
| 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. | PD |
| 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. | AX |

Work Support

NAEL0389S0103

| Work Item | Description | |
|----------------------|---|----|
| DOOR LOCK-UNLOCK SET | Select unlock mode can be changed in this mode. Selects ON-OFF of select unlock mode. ● MODE 1 (ON)/MODE 2 (OFF) | BR |
| ANTI-LOCK OUT SET | Key reminder door mode can be changed in this mode. Selects ON-OFF of key reminder door mode. ● MODE 1 (ON)/MODE 2 (OFF) | ST |

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POWER DOOR LOCK

Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

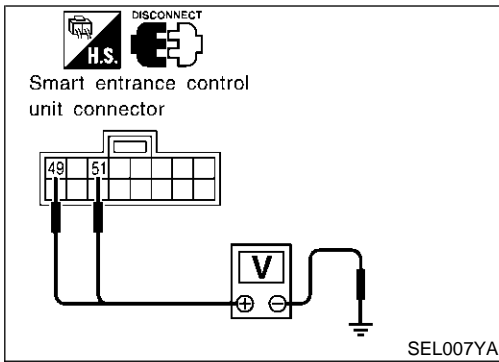
NAEL0390

NAEL0390S01

| REFERENCE PAGE (EL-) | 287 | 288 | 290 | 291 | 292 | 294 | 296 |
|---|--|-------------------|---------------------------|-------------------------------|--------------------------------------|-------------------------------------|--------------------------|
| 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 | BACK DOOR KEY CYLINDER SWITCH CHECK | DOOR LOCK ACTUATOR CHECK |
| Key reminder door system does not operate properly. | X | X | X | | | | X |
| Specific door lock actuator does not operate. | X | | | | | | X |
| Power door lock does not operate with door lock and unlock switch (LH and RH) on door trim. | X | | | X | | | |
| Power door lock does not operate with front door key cylinder operation. | X | | | | X | | |
| Power door lock does not operate with back door key cylinder operation. | X | | | | | X | |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)



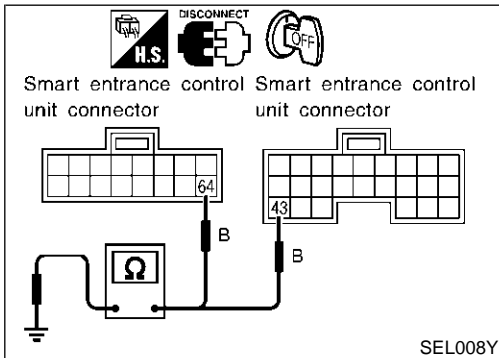
MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

=NAEL0390S02

Main Power Supply Circuit Check

NAEL0390S0201

| Terminals | | Ignition switch | | | |
|-----------|-----------------------|-----------------|-----------------|-----------------|-----------------|
| (+) | | (-) | OFF | ACC | ON |
| Connector | Terminal (Wire color) | | | | |
| M123 | 49 (G/R) | Ground | Battery voltage | Battery voltage | Battery voltage |
| | 51 (W/R) | | | | |



Ground Circuit Check

NAEL0390S0202

| Terminals | | (-) | Continuity |
|-----------|-----------------------|--------|------------|
| (+) | | | |
| Connector | Terminal (Wire color) | | |
| M122 | 43 (B) | Ground | Yes |
| M123 | 64 (B) | | |

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DOOR SWITCH CHECK

=NAEL0390S03

1 CHECK DOOR SWITCH 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:

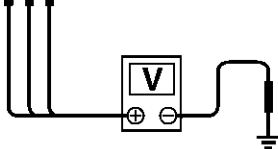
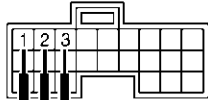
DOOR SW-DR OFF
DOOR SW-AS OFF
DOOR SW-RR OFF

SEL009Y

Without CONSULT-II

Check voltage between smart entrance control unit harness connector M121 terminals 1 (G/OR), 2 (Y) or 3 (R/L) 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-278.

OK or NG



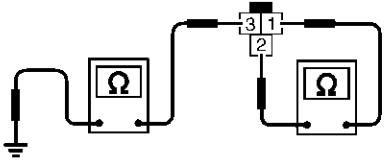
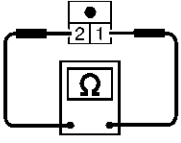

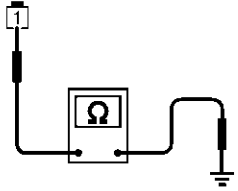
OK ► Door switch is OK.

NG ► GO TO 2.

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

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| 2 | CHECK DOOR SWITCH | <p>1. Disconnect door switch connector.</p> <p>2. Check the following.</p> <ul style="list-style-type: none"> ● Continuity between front door switch harness connector B9 (LH) or B68 (RH) terminals 1 and 2 ● Continuity between front door switch harness connector B9 (LH) or B68 (RH) terminal 3 and ground ● Continuity between back door switch harness connector D208 terminals 1 and 2 ● Continuity between rear door switch harness connector B18 (LH) or B71 (RH) terminal 1 and ground | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------------|--|------------|-----------|-----------|------------|---------------------|-------|--------|----|------------|------|-----|------------------|-------|--------|----|------|-----|--------------------|------------|--------|----|------|-----|
| <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Front door switch connector</p> </div> <div style="text-align: center;">  <p>Back door switch</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="text-align: center;">  <p>Rear door switch connector</p> </div> <div style="text-align: center;">  </div> </div> | | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Terminals</th> <th>Condition</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front door switches</td> <td>1 - 2</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>3 - Ground</td> <td>Open</td> <td>Yes</td> </tr> <tr> <td rowspan="2">Back door switch</td> <td rowspan="2">1 - 2</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>Open</td> <td>Yes</td> </tr> <tr> <td rowspan="2">Rear door switches</td> <td rowspan="2">1 - Ground</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>Open</td> <td>Yes</td> </tr> </tbody> </table> | | Terminals | Condition | Continuity | Front door switches | 1 - 2 | Closed | No | 3 - Ground | Open | Yes | Back door switch | 1 - 2 | Closed | No | Open | Yes | Rear door switches | 1 - Ground | Closed | No | Open | Yes |
| | Terminals | Condition | Continuity | | | | | | | | | | | | | | | | | | | | | | |
| Front door switches | 1 - 2 | Closed | No | | | | | | | | | | | | | | | | | | | | | | |
| | 3 - Ground | Open | Yes | | | | | | | | | | | | | | | | | | | | | | |
| Back door switch | 1 - 2 | Closed | No | | | | | | | | | | | | | | | | | | | | | | |
| | | Open | Yes | | | | | | | | | | | | | | | | | | | | | | |
| Rear door switches | 1 - Ground | Closed | No | | | | | | | | | | | | | | | | | | | | | | |
| | | Open | Yes | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Door switches ground circuit (Front or back door) or rear door switches ground condition ● Harness for open or short between smart entrance control unit and door switch | | | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ | Replace door switch. | | | | | | | | | | | | | | | | | | | | | | | |

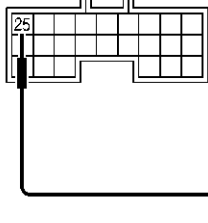




SEL287Y

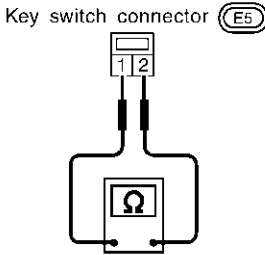



POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

KEY SWITCH (INSERT) CHECK

=NAEL0390S04

| 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;"> <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> | 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 smart entrance control unit harness connector M122 terminal 25 (W/R) and ground.</p> | | | | | | | | | |
| <p>Smart entrance control unit connector</p>  | |  <p>CONNECT</p>  <p>T.S.</p>  <p>: Approx. 12V</p>  <p>: 0V</p> | <p>Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is removed. 0</p> | | | | | | |
| <p>Refer to wiring diagram in EL-279.</p> | | SEL011Y | | | | | | | |
| | | OK or NG | | | | | | | |
| OK | ▶ | Key switch is OK. | | | | | | | |
| NG | ▶ | GO TO 2. | | | | | | | |

| | | | |
|--|----------------------------------|---|---|
| 2 | CHECK KEY SWITCH (INSERT) | | |
| <p>Check continuity between terminals 1 and 2.</p> | | | |
| <p>Key switch connector (E5)</p>  | |  <p>DISCONNECT</p>  <p>T.S.</p>  | <p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p> |
| | | SEL308X | |
| | | OK or NG | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 24, 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. | |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

=NAEL0390S05

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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

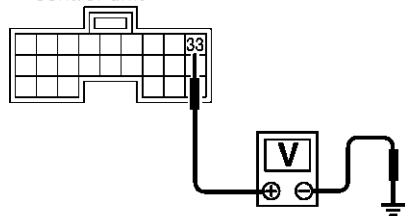
SEL341W

ⓧ Without CONSULT-II

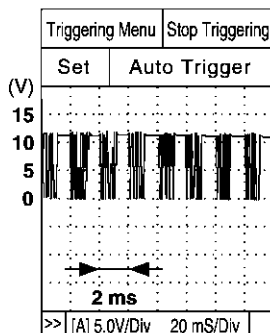
1. Remove key from ignition key cylinder.
2. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with oscilloscope when door lock/unlock switch is turned "LOCK" or "UNLOCK".
3. Make sure signals which are shown in the figure below can be detected during 10 sec. just after door lock/unlock switch is turned "LOCK" or "UNLOCK".



Smart entrance control unit



Refer to wiring diagram in EL-283.



Voltage:
12V → 9V (10 sec.) measurement
by analog circuit tester.

SEL699Y

OK or NG

OK ► Door lock/unlock switch is OK.

NG ► **Check the following.**

- Ground circuit for each front power window switch
- Harness for open or short between each front power window switch and smart entrance control unit connector

If above systems are normal, replace the front power window switch.

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

FRONT DOOR KEY CYLINDER SWITCH CHECK

=NAEL0390S06

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

Ⓔ With CONSULT-II

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

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

When key inserted in front door key cylinder is turned to LOCK:

KEY CYL LK-SW ON

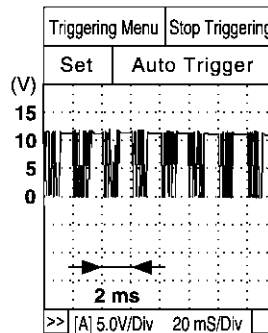
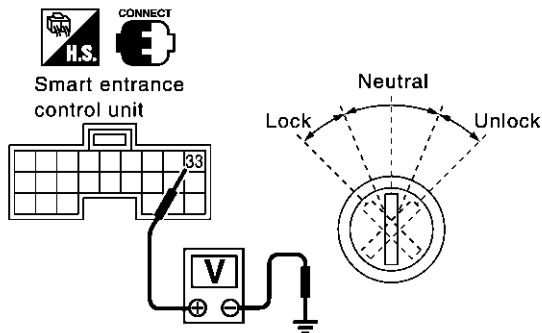
When key inserted in front door key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342WF

ⓧ Without CONSULT-II

1. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with oscilloscope when key inserted in front door key cylinder is turned "LOCK" or "UNLOCK".
2. Make sure signals which are shown in the figure below can be detected during 10 sec. just after key is turned "LOCK" or "UNLOCK".



Voltage:
12V → 9V (10 sec.)
measurement by analog
circuit tester.

SEL700Y


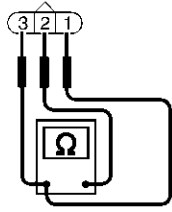
Refer to wiring diagram in EL-283.

OK or NG

| | | |
|----|---|--|
| OK | ▶ | Front door key cylinder switch LH is OK. |
| NG | ▶ | GO TO 2. |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

| 2 | CHECK FRONT DOOR KEY CYLINDER SWITCH | | | | | | | | | | | | | | |
|--|---|------------|-----------|--------------|------------|-----------|----------------|----|------|-----|-----------|--------------|----|--------|-----|
| 1. Disconnect front door key cylinder switch connector. 2. Check continuity between front door key cylinder switch terminals. | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;">  <p>Front door key cylinder switch LH connector (D9)</p>  </div> <div style="width: 45%;"> <p>① : Door unlock switch terminal ② : Ground terminal ③ : Door lock switch terminal</p> <table border="1"> <thead> <tr> <th>Terminals</th> <th>Key position</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">LH: 3 - 2</td> <td>Neutral/Unlock</td> <td>No</td> </tr> <tr> <td>Lock</td> <td>Yes</td> </tr> <tr> <td rowspan="2">LH: 1 - 2</td> <td>Neutral/Lock</td> <td>No</td> </tr> <tr> <td>Unlock</td> <td>Yes</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL313XB</p> <p style="text-align: center;">OK or NG</p> | | | Terminals | Key position | Continuity | LH: 3 - 2 | Neutral/Unlock | No | Lock | Yes | LH: 1 - 2 | Neutral/Lock | No | Unlock | Yes |
| Terminals | Key position | Continuity | | | | | | | | | | | | | |
| LH: 3 - 2 | Neutral/Unlock | No | | | | | | | | | | | | | |
| | Lock | Yes | | | | | | | | | | | | | |
| LH: 1 - 2 | Neutral/Lock | No | | | | | | | | | | | | | |
| | Unlock | Yes | | | | | | | | | | | | | |
| OK | <p>▶ Check the following.</p> <ul style="list-style-type: none"> ● Front door key cylinder switch LH ground circuit ● Harness for open or short between smart entrance control unit and power window main switch ● Harness for open or short between power window main switch and front door key cylinder switch LH | | | | | | | | | | | | | | |
| NG | <p>▶ Replace front door key cylinder switch LH.</p> | | | | | | | | | | | | | | |

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

BACK DOOR KEY CYLINDER SWITCH CHECK

=NAEL0390S07

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

Ⓔ With CONSULT-II

Check back 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 back door key cylinder is turned to LOCK:

KEY CYL LK-SW ON

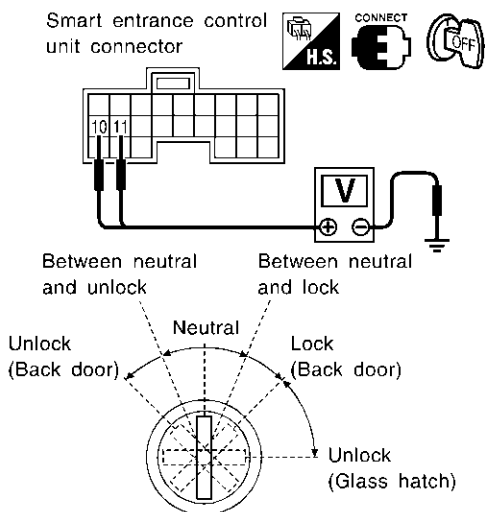
When key inserted in back door key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342WG

ⓧ Without CONSULT-II

Check voltage between smart entrance control unit harness connector M121 terminals 10 (LG) or 11 (Y) and ground.



| | Terminals | | Key position | Voltage [V] |
|-----------|-----------|--------|----------------------------|-------------|
| | (+) | (-) | | |
| Back door | 11 | Ground | Between neutral and lock | 0 |
| | | | Other positions | Approx. 5 |
| Back door | 10 | Ground | Between neutral and unlock | 0 |
| | | | Other positions | Approx. 5 |

SEL286Y

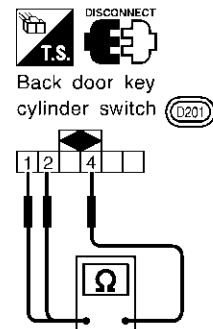
Refer to wiring diagram in EL-280.

OK or NG

| | | |
|----|---|--------------------------------------|
| OK | ▶ | Back door key cylinder switch is OK. |
| NG | ▶ | GO TO 2. |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

| 2 | CHECK BACK DOOR KEY CYLINDER SWITCH | | | | | | | | | | | | | | | | |
|--|-------------------------------------|---|--------------|-----------|--|--|---|---|---|--------------------------------------|---|---|---|--|--|---|---|
| 1. Disconnect back door key cylinder switch connector. 2. Check continuity between back door key cylinder switch terminals. | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 30%;">  <p>Back door key cylinder switch (D201)</p> </div> <div style="width: 60%;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Key position</th> <th colspan="3">Terminals</th> </tr> <tr> <th>1</th> <th>2</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Between neutral and lock (Back door)</td> <td>○</td> <td>—</td> <td>○</td> </tr> <tr> <td>Between neutral and unlock (Back door)</td> <td></td> <td>○</td> <td>○</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right; margin-top: 20px;">SEL315X</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p> | | | Key position | Terminals | | | 1 | 2 | 4 | Between neutral and lock (Back door) | ○ | — | ○ | Between neutral and unlock (Back door) | | ○ | ○ |
| Key position | Terminals | | | | | | | | | | | | | | | | |
| | 1 | 2 | 4 | | | | | | | | | | | | | | |
| Between neutral and lock (Back door) | ○ | — | ○ | | | | | | | | | | | | | | |
| Between neutral and unlock (Back door) | | ○ | ○ | | | | | | | | | | | | | | |
| OK | ▶ | Check the following. <ul style="list-style-type: none"> ● Back door key cylinder switch ground circuit ● Harness for open or short between smart entrance control unit and back door key cylinder switch | | | | | | | | | | | | | | | |
| NG | ▶ | Replace back door key cylinder switch. | | | | | | | | | | | | | | | |

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DOOR LOCK ACTUATOR CHECK

=NAEL0390S08

1 CHECK DOOR LOCK ACTUATOR OPERATION

Ⓔ With CONSULT-II

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

| 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

NOTE:

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

OK or NG

OK ► Door lock actuator is OK.

NG ► GO TO 2.

POWER DOOR LOCK

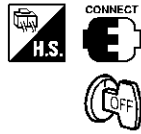
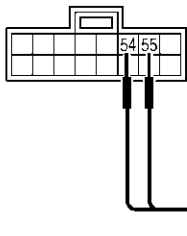
Trouble Diagnoses (Cont'd)

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2 CHECK DOOR LOCK ACTUATOR CIRCUIT

- Door lock actuator front LH
Check voltage between smart entrance control unit harness connector M123 terminal 54 (L), 55 (W/PU) and ground.

Smart entrance control unit connector

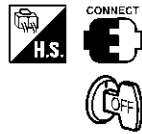
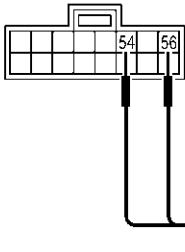


| Door lock/unlock switch condition | Terminal No. | | Voltage V |
|-----------------------------------|--------------|--------|------------|
| | (+) | (-) | |
| Lock | 54 | Ground | Approx. 12 |
| Unlock | 55 | Ground | |

SEL014Y

- Door lock actuator front RH and rear
Check voltage between smart entrance control unit harness connector M123 terminal 54 (L), 56 (Y/B) and ground.

Smart entrance control unit connector



| Door lock/unlock switch condition | Terminal No. | | Voltage V |
|-----------------------------------|--------------|--------|------------|
| | (+) | (-) | |
| Lock | 54 | Ground | Approx. 12 |
| Unlock | 56 | Ground | |

SEL015Y

Refer to wiring diagram in EL-281.

OK or NG

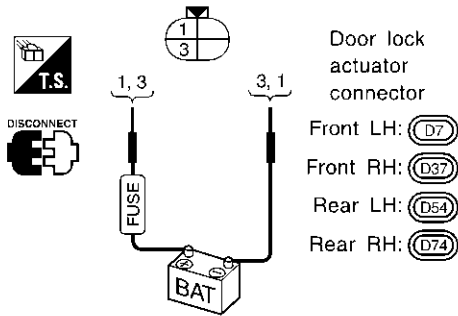
| | | |
|----|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace smart entrance control unit. (Before replacing smart entrance control unit, perform "DOOR LOCK/UNLOCK SWITCH CHECK".) |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

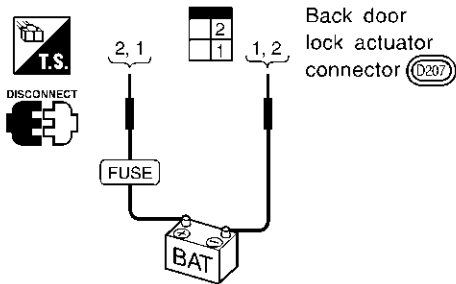
3 CHECK DOOR LOCK ACTUATOR

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



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

SEL318X



- **Back door lock actuator operation:**
Terminals between (+): 1 and (-): 2
Unlocked → Locked
Terminals between (+): 2 and (-): 1
Locked → Unlocked

SEL319X

OK or NG

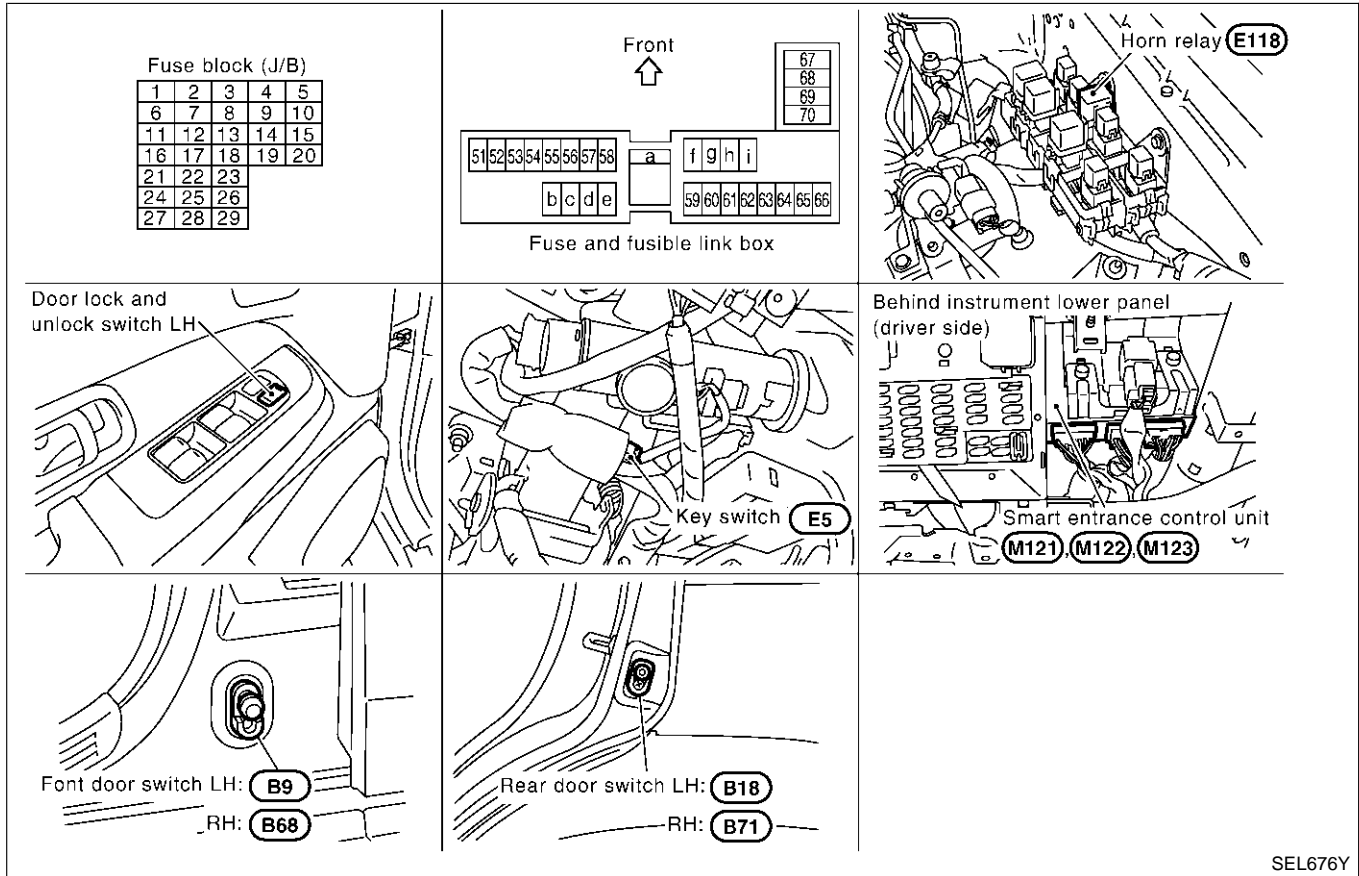
| | | |
|----|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit connector and door lock actuator. |
| NG | ▶ | Replace door lock actuator. |

REMOTE KEYLESS ENTRY SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0391



SEL676Y

System Description

NAEL0392

NAEL0392S01

INPUTS

Power is supplied at all times

- to smart entrance control unit terminal 49 and
- to key switch terminal 2
- through 7.5A fuse [No. 24, located in the fuse block (J/B)], and
- to smart entrance control unit terminal 51
- through circuit breaker terminals 2 and 1 and
- through 40A fusible link (letter f, located in fuse and fusible link box).

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 1
- to front door switch LH terminal 2
- through body grounds B11, B22 and D210.

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 1

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REMOTE KEYLESS ENTRY SYSTEM

System Description (Cont'd)

- to front door switch RH terminal 2
- through body grounds B55 and B75.

When the all doors switches are ON (door is OPEN), ground is supplied

- to smart entrance control unit terminal 3
- through front door switches terminal 3
- to front door switches case grounds, and
- through rear door switches terminal 1
- to rear door switches case grounds, and
- through back door switch terminal 2
- to back door switch terminal 1
- through body grounds B11, B22 and D210.

When lock/unlock switch LH is LOCK/UNLOCK, ground is supplied

- to power window main switch terminal 17
- through body grounds M4, M66, M111, M147 and M157.

Door lock or unlock operation signal is supplied

- through power window main switch terminal 14
- to smart entrance control unit terminal 33.

When lock/unlock switch RH is LOCK/UNLOCK, ground is supplied

- to front power window switch RH terminal 11
- through body grounds M4, M66, M111, M147 and M157.

Door lock or unlock operation signal is supplied

- through power window main switch terminal 14
- to smart entrance control unit terminal 33.

Remote controller signal is inputted to smart entrance control unit (The antenna of the system is combined with smart entrance control unit).

Smart entrance control unit is connected to power window main switch (door lock and unlock switch) and front power window switch RH (door lock and unlock switch) as serial link communication line. Refer to "POWER WINDOW SERIAL LINK" (EL-259).

OPERATION

The remote keyless entry system controls operation of the

- power door lock
- auto door lock
- interior lamp
- panic alarm
- hazard and horn reminder
- power window opener

NAEL0392S02

OPERATED PROCEDURE

Power Door Lock Operation

Smart entrance control unit receives a LOCK signal from keyfob. Smart entrance control unit locks all doors with input of LOCK signal from keyfob.

When an UNLOCK signal is sent from keyfob once, driver's door will be unlocked.

Then, if an UNLOCK signal is sent from keyfob again within 5 seconds, all other door will be unlocked.

Select unlock mode can be changed by CONSULT-II (EL-309).

Auto Door Lock Operation

Auto lock function signal is sent for operation when any of the following signals are not sent within 5 minutes after the unlock signal is sent from the keyfob:

- when door switch is turned ON for open.
- when the ignition switch is turned ON.
- when the lock signal is sent from the keyfob.

Auto door lock mode can be changed by CONSULT-II (EL-309).

NAEL0392S03

NAEL0392S0301

NAEL0392S0308

Hazard and Horn Reminder

NAEL0392S0302

Power is supplied at all times

- to horn relay terminals 1 and 3
- through 7.5A fuse (No. 52, located in the fusible link and fuse box), and
- to horn relay terminal 6
- through 10A fuse (No. 54, located in the fusible link and fuse box)

When smart entrance control unit receives LOCK or UNLOCK signal from keyfob with all doors closed, ground is supplied

- to horn relay terminal 2
- through smart entrance control unit terminal 42, and
- to smart entrance control unit terminals 47 and 48 from hazard warning lamp system.

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

| | Lock | | Unlock | |
|--------|---------------------------|------------|---------------------------|------------|
| | Hazard warning lamp flash | Horn sound | Hazard warning lamp flash | Horn sound |
| C MODE | Twice | Once | Once | — |
| S MODE | Twice | — | — | — |
| MODE 3 | — | — | — | — |
| MODE 4 | Twice | — | Once | — |
| MODE 5 | Twice | Once | — | — |
| MODE 6 | — | Once | Once | — |

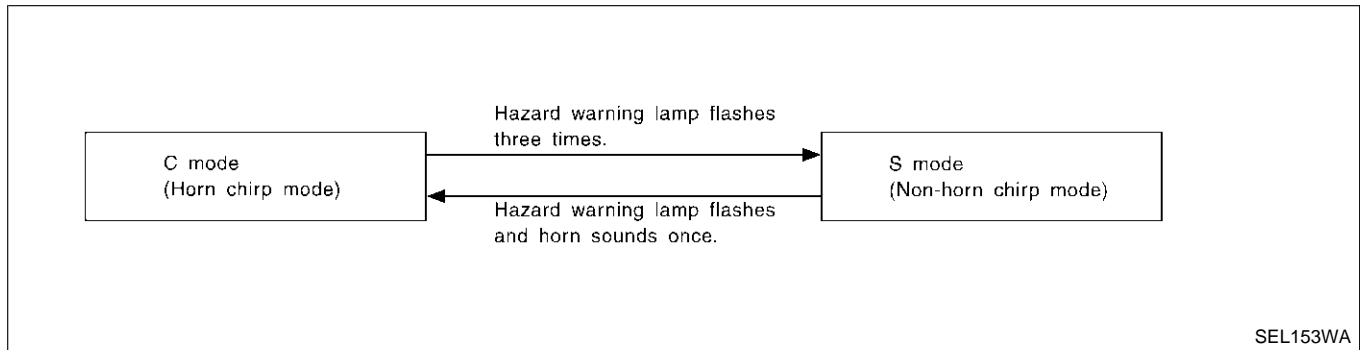
How to change hazard and horn reminder mode

Ⓔ With CONSULT-II

Hazard and horn reminder can be changed by CONSULT-II (EL-309).

ⓧ Without CONSULT-II

When LOCK and UNLOCK signals are sent from the keyfob for more than 2 seconds at the same time, the hazard and horn reminder mode is changed and hazard warning lamp flashes and horn sounds as follows:



NOTE:

Reminder mode setting cannot be changed without CONSULT-II for MODES 3, 4, 5, and 6. However, C and S MODES can be changed without CONSULT-II.

Interior Lamp Operation

NAEL0392S0303

When the following input signals are both supplied:

- door switch CLOSED (when all the doors are closed);
- driver's door LOCKED;

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REMOTE KEYLESS ENTRY SYSTEM

System Description (Cont'd)

remote keyless entry system turns on interior lamp and (for 30 seconds) with input of UNLOCK signal from keyfob.

For detailed description, refer to "INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS" (EL-97).

Panic Alarm Operation

When key switch is OFF (when ignition key is not inserted in key cylinder), remote keyless entry system turns horn and headlamp on and off intermittently with input of PANIC ALARM signal from keyfob.

The alarm automatically turns off after 25 seconds or when smart entrance control unit receives any signal from keyfob.

For detailed description, refer to "VEHICLE SECURITY SYSTEM" (EL-332).

The panic alarm button's pressing time on keyfob can be changed with CONSULT-II (EL-309).

Power Window Opener Operation

The front power windows open when the unlock button on keyfob is activated and kept pressed for more than 3 seconds with the ignition key OFF. The windows keep opening if the unlock button is continuously pressed. The power window opening stops when the following operations are carried out:

- When the unlock button is kept pressed more than 15 seconds.
- When the ignition switch is turned ON while the power window opening is operated.
- When the unlock button is released.

The unlock button's pressing time can be changed with CONSULT-II (EL-309).

Door Lock/Unlock and front power window down signal is sent from smart entrance control unit to power window main switch with power window serial link communication link. Refer to "POWER WINDOW SERIAL LINK" (EL-259). Signals are supplied

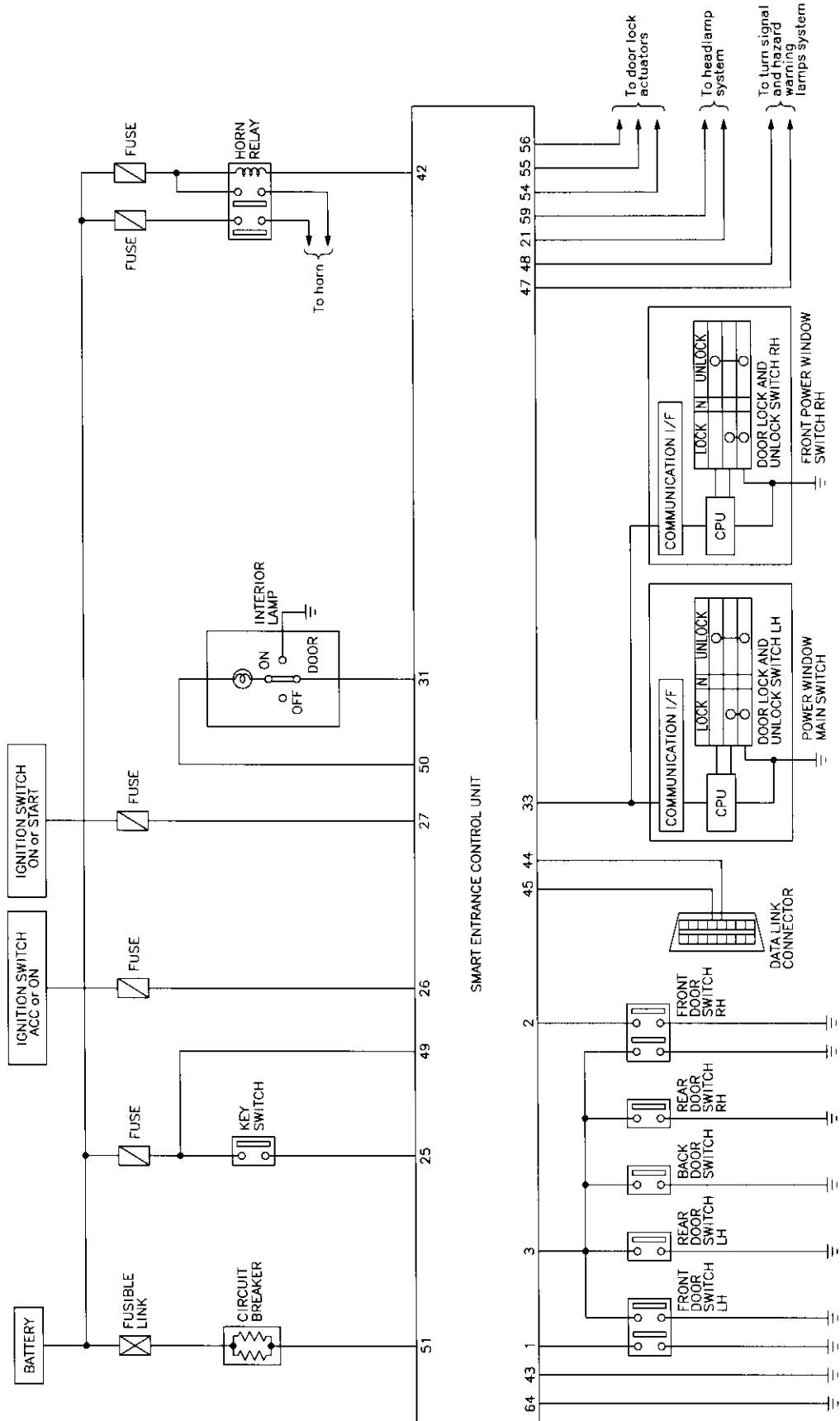
- through smart entrance control unit terminal 33
- to power window main switch terminal 14 and
- to front power window switch RH terminal 16.

REMOTE KEYLESS ENTRY SYSTEM

Schematic

Schematic

NAEL0393



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REMOTE KEYLESS ENTRY SYSTEM

Wiring Diagram — KEYLESS —

Wiring Diagram — KEYLESS —

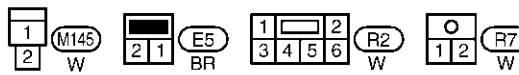
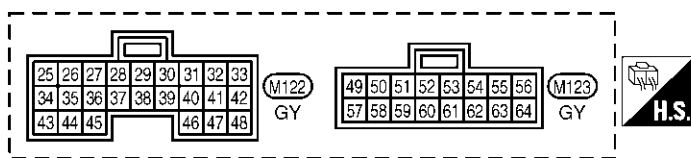
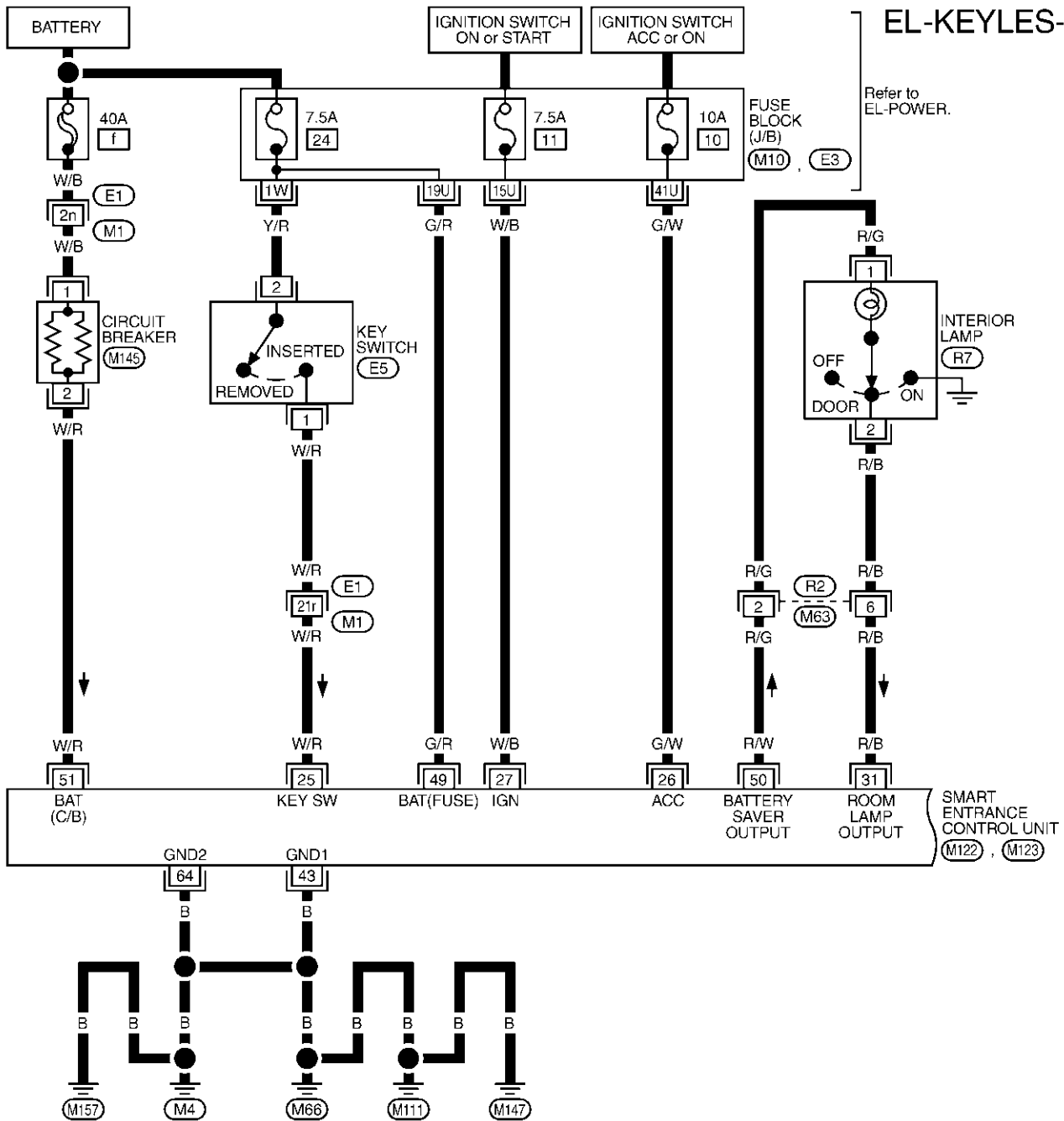
NAEL0394

NAEL0394S01

FIG. 1

EL-KEYLES-01

Refer to EL-POWER.



REFER TO THE FOLLOWING.
 (E1) - SUPER MULTIPLE JUNCTION (SMJ)
 (M10), (E3) - FUSE BLOCK - JUNCTION BOX (J/B)

MEL030Q

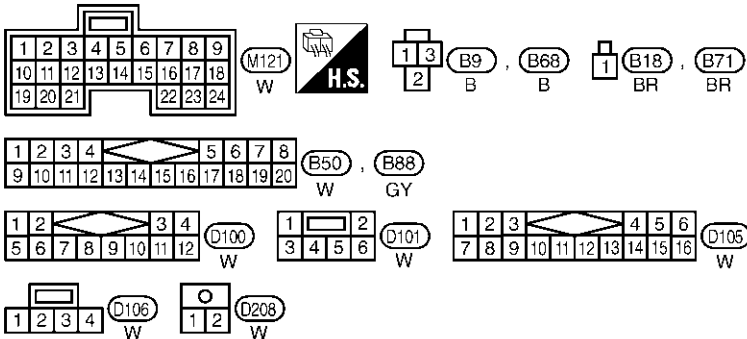
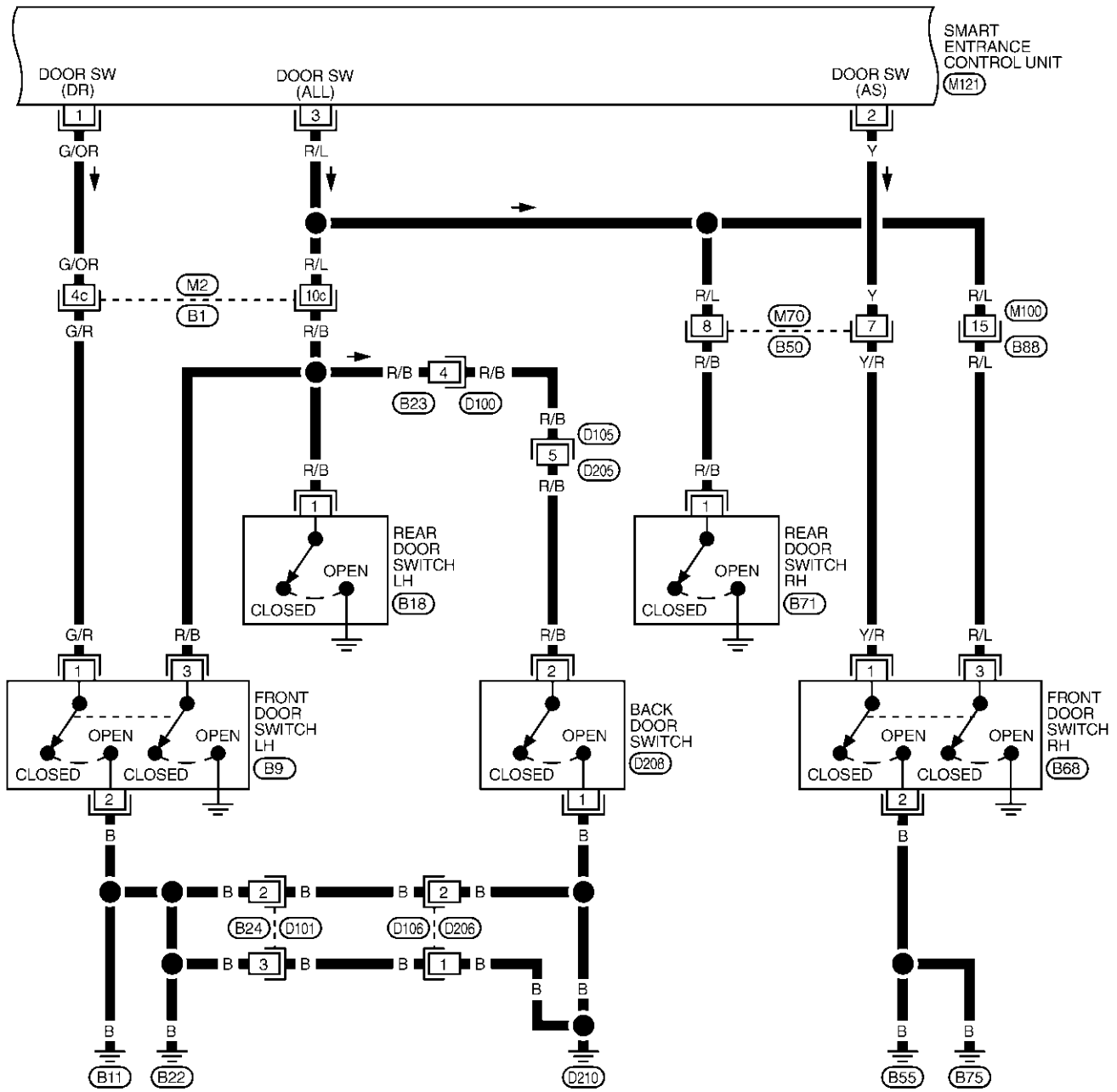
REMOTE KEYLESS ENTRY SYSTEM

Wiring Diagram — KEYLESS — (Cont'd)

FIG. 2

NAEL0394S02

EL-KEYLES-02



REFER TO THE FOLLOWING.

(B1) -SUPER MULTIPLE JUNCTION (SMJ)

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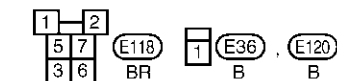
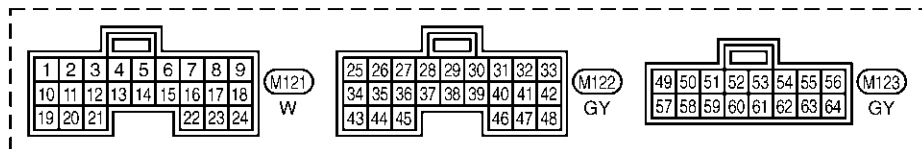
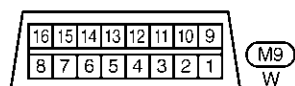
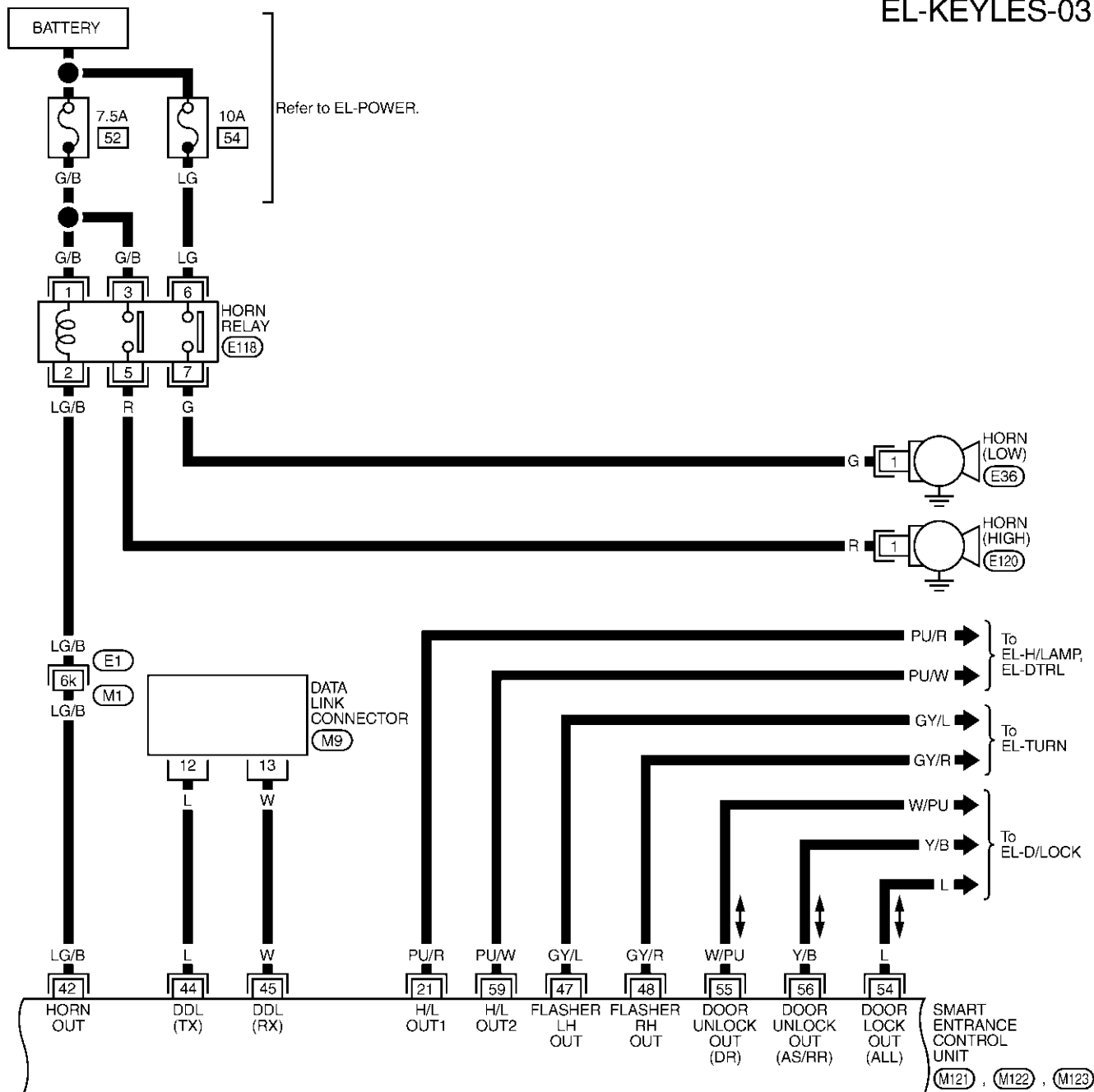
REMOTE KEYLESS ENTRY SYSTEM

Wiring Diagram — KEYLESS — (Cont'd)

NAEL0394S03

FIG. 3

EL-KEYLES-03



REFER TO THE FOLLOWING.

(E1) - SUPER MULTIPLE JUNCTION (SMJ)



MEL4130

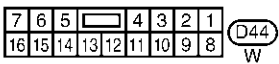
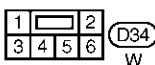
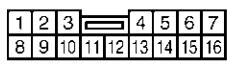
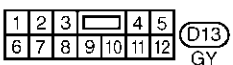
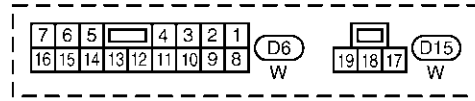
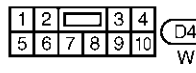
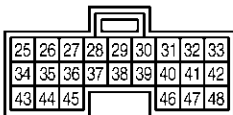
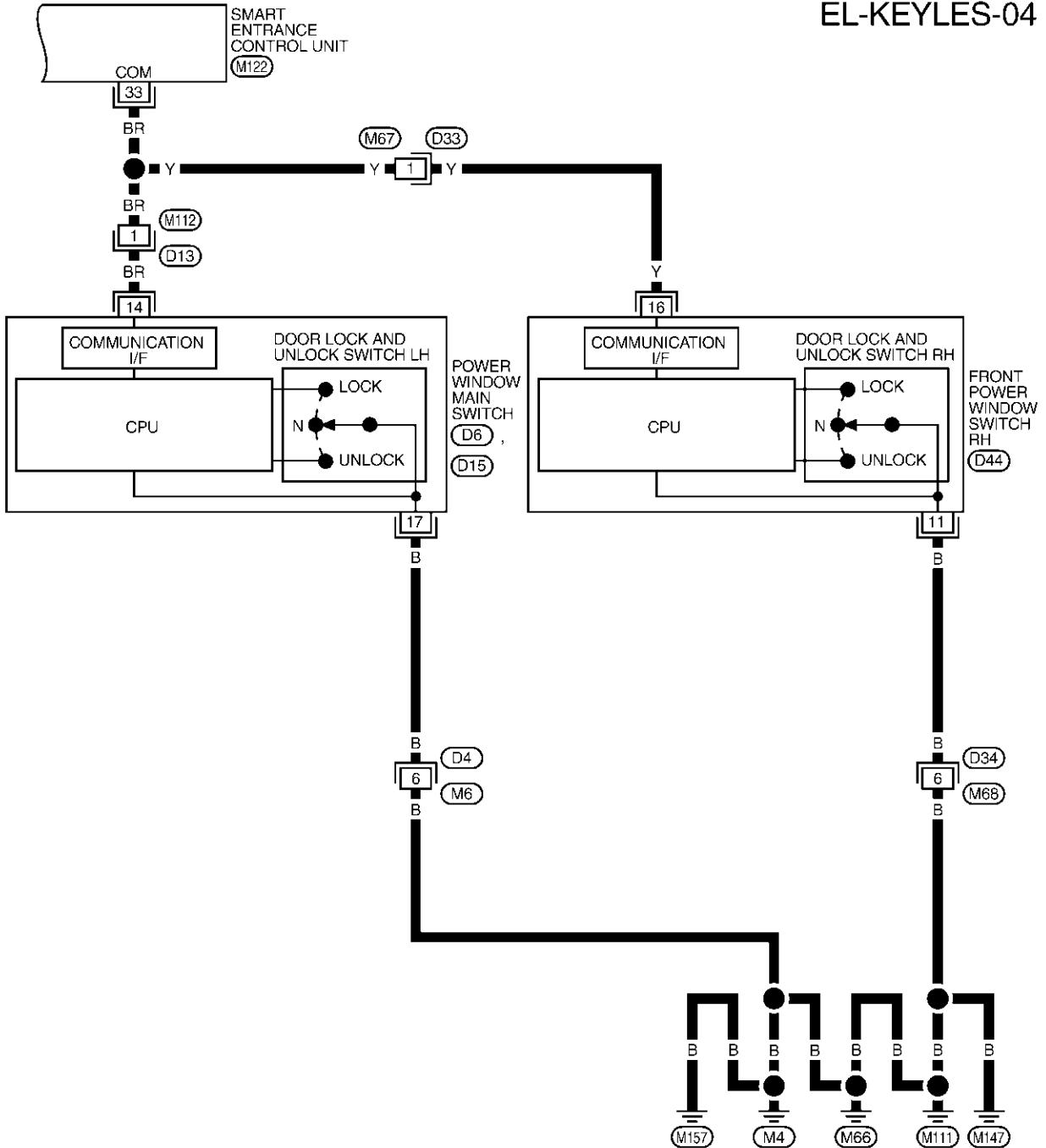
REMOTE KEYLESS ENTRY SYSTEM

Wiring Diagram — KEYLESS — (Cont'd)

FIG. 4

NAEL0394S05

EL-KEYLES-04

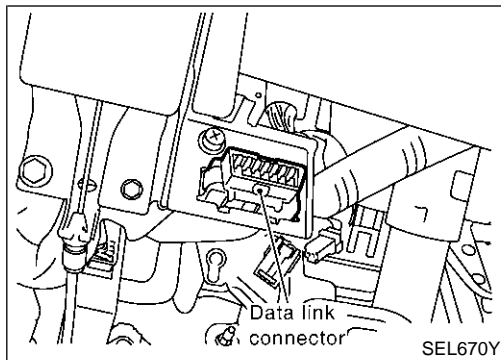


MEL032Q

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REMOTE KEYLESS ENTRY SYSTEM

CONSULT-II Inspection Procedure



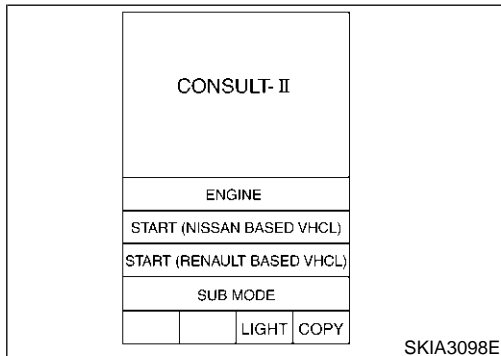
CONSULT-II Inspection Procedure

NAEL0395

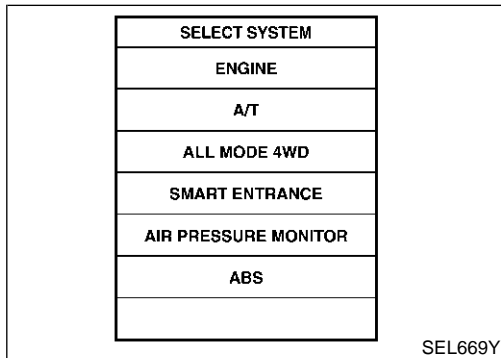
"MULTI REMOTE ENT"

NAEL0395S01

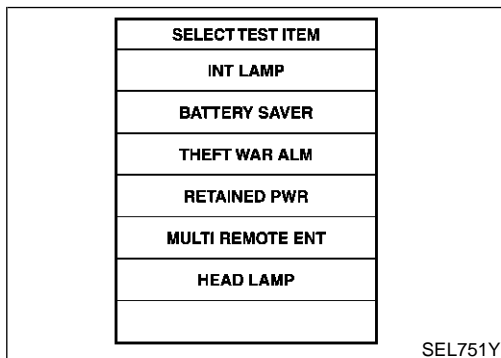
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



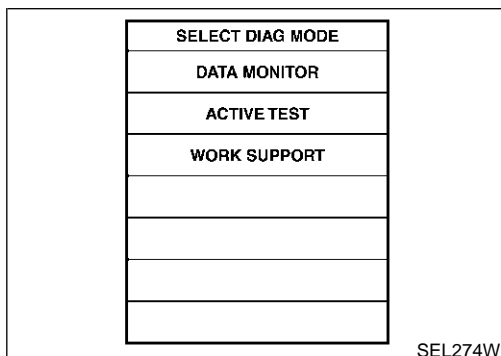
3. Turn ignition switch "ON".
4. Touch "START (NISSAN BASED VHCL)".



5. Touch "SMART ENTRANCE".
If "SMART ENTRANCE" is not indicated, go to GI-41, "CONSULT-II Data Link Connector (DLC) Circuit".



6. Touch "MULTI REMOTE ENT".



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

REMOTE KEYLESS ENTRY SYSTEM

CONSULT-II Application Items

CONSULT-II Application Items

“MULTI REMOTE ENT” Data Monitor

NAEL0457

NAEL0457S01

NAEL0457S0101

| Monitored Item | Description |
|----------------|--|
| IGN ON SW | Indicates [ON/OFF] condition of ignition switch in ON position. |
| ACC ON SW | Indicates [ON/OFF] condition of ignition switch in ACC position. |
| DOOR SW-RR | Indicates [ON/OFF] condition of rear door 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 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 keyfob. |
| UN BUTTON/SIG | Indicates [ON/OFF] condition of unlock signal from keyfob. |
| TRUNK BTN/SIG | Indicates [ON/OFF] condition of trunk open signal from keyfob. |
| PANIC BTN | Indicates [ON/OFF] condition of panic signal from keyfob. |
| UN BUTTON ON | Indicates [ON/OFF] condition of unlock switch form keyfob. |
| LK/UN BTN ON | Indicates [ON/OFF] condition of lock/unlock signal at the same time from keyfob. |

NOTE:

Even though TRUNK BTN/SIG is actually displayed on the CONSULT-II screen, it is not equipped, therefore, they cannot be activated.

Active Test

NAEL0457S0102

| 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. |
| 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. |
| 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. |
| PW REMOTE DOWN SET | This test is able to check power window open operation. The front power windows activate for 10 seconds after “ON” on CONSULT-II screen is touched. |

NOTE:

Even though TRUNK OUTPUT is actually displayed on the CONSULT-II screen, it is not equipped, therefore, they cannot be activated.

Work Support

NAEL0457S0103

| Test Item | Description |
|---------------------|---|
| REMO CONT ID CONFIR | It can be checked whether keyfob ID code is registered or not in this mode. |
| REMO CONT ID REGIST | Keyfob ID code can be registered. |
| REMO CONT ID ERASUR | Keyfob ID code can be erased. |

REMOTE KEYLESS ENTRY SYSTEM

CONSULT-II Application Items (Cont'd)

| Test Item | Description |
|-----------------------|---|
| MULTI ANSWER BACK SET | Hazard and horn reminder mode can be changed with this mode. Selects hazard and horn reminder mode among six steps (EL-301). |
| AUTO LOCK SET | Auto door lock mode can be selected among the following periods: <ul style="list-style-type: none"> ● MODE 1 (5 min.)/MODE 2 (OFF-Mode)/MODE 3 (1 min.) |
| PANIC ALARM SET | The panic alarm button's pressing time on keyfob can be selected among the following periods: <ul style="list-style-type: none"> ● MODE 1 (0.5 sec.)/MODE 2 (OFF-Mode)/MODE 3 (1.5 sec.) |
| TRUNK OPENER | The trunk lid opener button's pressing time on keyfob can be selected among the following periods: <ul style="list-style-type: none"> ● MODE 1 (0.5 sec.)/MODE 2 (OFF-Mode)/MODE 3 (1.5 sec.) |
| PW DOWN SET | The unlock button's pressing time on keyfob can be selected among the following periods: <ul style="list-style-type: none"> ● MODE 1 (3 sec.)/MODE 2 (OFF-Mode)/MODE 3 (5 sec.) |

NOTE:

Even though TRUNK OPENER is actually displayed on the CONSULT-II screen, it is not equipped, therefore, they cannot be activated.

Trouble Diagnoses

SYMPTOM CHART

NAEL0397

NAEL0397S01

NOTE:

- Always check keyfob battery before replacing keyfob.
- The panic alarm operation of remote keyless entry system does not activate with the ignition key inserted in the ignition key cylinder.

| Symptom | Diagnoses/service procedure | Reference page (EL-) |
|--|---|-----------------------|
| All functions of remote keyless entry system do not operate. | 1. Keyfob battery and function check | 312 |
| | 2. Power supply and ground circuit for smart entrance control unit check | 313 |
| | 3. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. | 325 |
| The new ID of keyfob cannot be entered. | 1. Keyfob battery and function check | 312 |
| | 2. Key switch (insert) check | 317 |
| | 3. Door switch check | 315 |
| | 4. Door lock/unlock switch LH check | 318 |
| | 5. Power supply and ground circuit for smart entrance control unit check | 313 |
| | 6. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. | 325 |
| 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-286) | 1. Keyfob battery and function check | 312 |
| | 2. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. | 325 |

REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

| Symptom | Diagnoses/service procedure | Reference page (EL-) | |
|--|--|-----------------------|----|
| Hazard and horn reminder does not activate properly when pressing lock or unlock button of keyfob. | 1. Keyfob battery and function check | 312 | GI |
| | 2. Hazard reminder check | 319 | MA |
| | 3. Horn reminder check* *: Horn chirp can be activated or deactivated. First check the horn chirp setting. Refer to "System Description", EL-301. | 320 | EM |
| | 4. Door switch check | 315 | LC |
| | 5. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. | 325 | EC |
| Interior room lamp operation do not activate properly. | 1. Interior room lamp operation check | 322 | FE |
| | 2. Door switch check | 315 | CL |
| Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed. | 1. Keyfob battery and function check | 312 | |
| | 2. Theft warning operation check. Refer to "PRELIMINARY CHECK" in "VEHICLE SECURITY SYSTEM". | 344 | MT |
| | 3. Key switch (insert) check | 317 | AT |
| | 4. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. | 325 | TF |

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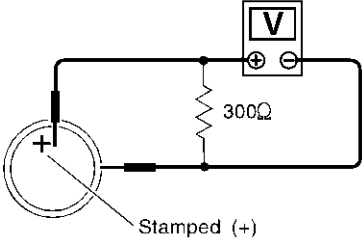
IDX

REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

REMOTE CONTROLLER BATTERY AND FUNCTION CHECK

-NAEL0397S02

| | | |
|--|--|------------------|
| 1 | CHECK REMOTE CONTROLLER BATTERY | |
| <p>Remove battery (refer to EL-327) and measure voltage across battery positive and negative terminals, (+) and (-).</p> <p>Voltage [V]: 2.5 - 3.0</p> <p>NOTE: Keyfob does not function if battery is not set correctly.</p> | | |
|  | | |
| SEL237W | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace battery. |

| 2 | CHECK REMOTE CONTROLLER FUNCTION | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|--------------|--------------|---------|--------------|---------------|----|----------------|---------------|---------------|---------------|---------------|----|---------------|---------------|--------------|----------------|--------------|----|--|--------------|----|
| <p>E With CONSULT-II Check keyfob function ("LK BUTTON/SIG", "UN BUTTON/SIG", "PANIC BTN", "UN BUTTON ON" 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" style="text-align: center;">DATA MONITOR</th> </tr> <tr> <th style="text-align: center;">MONITOR</th> <th style="text-align: center;"></th> </tr> </thead> <tbody> <tr> <td>LK BUTTON/SIG</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>UN BUTTON/SIG</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>TRUNK BTN/SIG</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>PANIC BTN</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>UN BUTTON ON</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>LK/UN BTN ON</td> <td style="text-align: center;">ON</td> </tr> </tbody> </table> | | | DATA MONITOR | | MONITOR | | LK BUTTON/SIG | ON | UN BUTTON/SIG | ON | TRUNK BTN/SIG | ON | PANIC BTN | ON | UN BUTTON ON | ON | LK/UN BTN ON | ON | | | | | |
| DATA MONITOR | | | | | | | | | | | | | | | | | | | | | | | |
| MONITOR | | | | | | | | | | | | | | | | | | | | | | | |
| LK BUTTON/SIG | ON | | | | | | | | | | | | | | | | | | | | | | |
| UN BUTTON/SIG | ON | | | | | | | | | | | | | | | | | | | | | | |
| TRUNK BTN/SIG | ON | | | | | | | | | | | | | | | | | | | | | | |
| PANIC BTN | ON | | | | | | | | | | | | | | | | | | | | | | |
| UN BUTTON ON | ON | | | | | | | | | | | | | | | | | | | | | | |
| LK/UN BTN ON | ON | | | | | | | | | | | | | | | | | | | | | | |
| <p>When pushing each button of keyfob, the corresponding monitor item should be turned as follows.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Condition</th> <th colspan="2" style="text-align: center;">Monitor item</th> </tr> </thead> <tbody> <tr> <td>Pushing LOCK</td> <td>LK BUTTON/SIG</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>Pushing UNLOCK</td> <td>UN BUTTON/SIG</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>Pushing TRUNK</td> <td>TRUNK BTN/SIG</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>Pushing PANIC</td> <td>PANIC BTN/SIG</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>Pushing UNLOCK</td> <td>UN BUTTON ON</td> <td style="text-align: center;">ON</td> </tr> <tr> <td>Pushing LOCK and UNLOCK at the same time</td> <td>LK/UN BTN ON</td> <td style="text-align: center;">ON</td> </tr> </tbody> </table> | | | Condition | Monitor item | | Pushing LOCK | LK BUTTON/SIG | ON | Pushing UNLOCK | UN BUTTON/SIG | ON | Pushing TRUNK | TRUNK BTN/SIG | ON | Pushing PANIC | PANIC BTN/SIG | ON | Pushing UNLOCK | UN BUTTON ON | ON | Pushing LOCK and UNLOCK at the same time | 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 UNLOCK | UN BUTTON ON | ON | | | | | | | | | | | | | | | | | | | | | |
| Pushing LOCK and UNLOCK at the same time | LK/UN BTN ON | ON | | | | | | | | | | | | | | | | | | | | | |
| SEL423Y | | | | | | | | | | | | | | | | | | | | | | | |
| NOTE: Even though TRUNK BTN/SIG is actually displayed on the CONSULT-II screen, it is not equipped, therefore, they cannot be activated. | | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | Keyfob is OK. Further inspection is necessary. Refer to "SYMPTOM CHART", EL-310. | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ | Replace keyfob. Refer to ID Code Entry Procedure. | | | | | | | | | | | | | | | | | | | | | |

REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NAEL0397S03

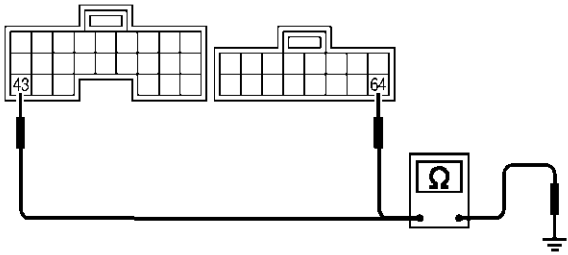

| | | |
|----------|---|---|
| 1 | CHECK MAIN POWER SUPPLY CIRCUIT FOR SMART ENTRANCE CONTROL UNIT | |
| | <p>1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector M123 terminal 49 (G/R) or 51 (W/R) and ground.</p> | |
| | <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>Smart entrance control unit connector</p> </div> <div style="flex: 1; text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p>Refer to wiring diagram in EL-304.</p> <p style="text-align: right;">SEL018Y</p> | |
| | OK or NG | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 40A fusible link (letter f, located in fuse and fusible link box) ● 7.5A fuse [No. 24, located in fuse block (J/B)] ● M145 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 M122 terminal 26 (G/W) and ground while ignition switch is “ACC”.</p> | |
| | <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>Smart entrance control unit connector</p> </div> <div style="flex: 1; text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p>Refer to wiring diagram in EL-304.</p> <p style="text-align: right;">SEL019Y</p> | |
| | 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)] ● Harness for open or short between smart entrance control unit and fuse |

GI
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REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

| | | |
|--|---|--|
| 3 | CHECK GROUND CIRCUIT FOR SMART ENTRANCE CONTROL UNIT | |
| <p>Check continuity between smart entrance control unit harness connector M122 terminal 43 (B) or M123 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> | | |
| <p>Refer to wiring diagram in EL-304. SEL020Y</p> | | |
| OK or NG | | |
| OK | ▶ | Power supply and ground circuits are OK. |
| NG | ▶ | Check ground harness. |

REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

DOOR SWITCH CHECK

=NAEL0397S04

GI
MA
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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 |

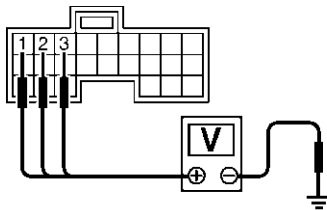
| | Monitor item | Condition | Condition |
|------------|-------------------|-----------|-----------|
| DOOR SW-RR | Rear doors switch | Open | ON |
| | | Closed | OFF |
| DOOR SW-DR | Door switch LH | Open | ON |
| | | Closed | OFF |
| DOOR SW-AS | Door switch RH | Open | ON |
| | | Closed | OFF |

SEL024Y

Without CONSULT-II

Check voltage between smart entrance control unit harness connector M121 terminals 1 (G/OR), 2 (Y) or 3 (R/L) and ground.

Smart entrance control unit connector



| | Terminals | | Condition | Voltage [V] |
|-----------------------------|-----------|--------|-----------|-------------|
| | (+) | (-) | | |
| Front door switch LH | 1 | Ground | Open | 0 |
| | | | Closed | Approx. 12 |
| Front door switch RH | 2 | Ground | Open | 0 |
| | | | Closed | Approx. 5 |
| Rear and back door switches | 3 | Ground | Open | 0 |
| | | | Closed | Approx. 5 |

SEL021YD



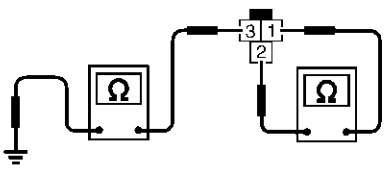
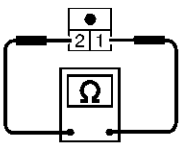

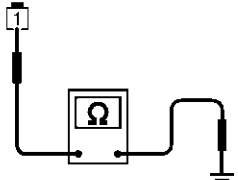
Refer to wiring diagram in EL-305.

OK or NG

| | | |
|----|---|--------------------|
| OK | ▶ | Door switch is OK. |
| NG | ▶ | GO TO 2. |

REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

| 2 | CHECK DOOR SWITCH | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------------|--|------------|-----------|-----------|------------|---------------------|-------|--------|----|------------|------|-----|------------------|-------|--------|----|------|-----|--------------------|------------|--------|----|------|-----|
| 1. Disconnect door switch harness connector. 2. Check the following. | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> ● Continuity between front door switch harness connector B9 (LH) or B68 (RH) terminals 1 and 2 ● Continuity between front door switch harness connector B9 (LH) or B68 (RH) terminal 3 and ground ● Continuity between back door switch harness connector D208 terminals 1 and 2 ● Continuity between rear door switch harness connector B18 (LH) or B71 (RH) terminal 1 and ground | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Front door switch connector</p> </div> <div style="text-align: center;">  <p>Back door switch</p> </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1"> <thead> <tr> <th></th> <th>Terminals</th> <th>Condition</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front door switches</td> <td>1 - 2</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>3 - Ground</td> <td>Open</td> <td>Yes</td> </tr> <tr> <td rowspan="2">Back door switch</td> <td rowspan="2">1 - 2</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>Open</td> <td>Yes</td> </tr> <tr> <td rowspan="2">Rear door switches</td> <td rowspan="2">1 - Ground</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>Open</td> <td>Yes</td> </tr> </tbody> </table> </div> </div> | | | | Terminals | Condition | Continuity | Front door switches | 1 - 2 | Closed | No | 3 - Ground | Open | Yes | Back door switch | 1 - 2 | Closed | No | Open | Yes | Rear door switches | 1 - Ground | Closed | No | Open | Yes |
| | Terminals | Condition | Continuity | | | | | | | | | | | | | | | | | | | | | | |
| Front door switches | 1 - 2 | Closed | No | | | | | | | | | | | | | | | | | | | | | | |
| | 3 - Ground | Open | Yes | | | | | | | | | | | | | | | | | | | | | | |
| Back door switch | 1 - 2 | Closed | No | | | | | | | | | | | | | | | | | | | | | | |
| | | Open | Yes | | | | | | | | | | | | | | | | | | | | | | |
| Rear door switches | 1 - Ground | Closed | No | | | | | | | | | | | | | | | | | | | | | | |
| | | Open | Yes | | | | | | | | | | | | | | | | | | | | | | |
| <div style="text-align: center;">  <p>Rear door switch connector</p>  </div> | | | | | | | | | | | | | | | | | | | | | | | | | |
| SEL287Y | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | Check the following. <ul style="list-style-type: none"> ● Door switch ground circuit (Front or back door) or door switch ground condition (Rear door) ● Harness for open or short between smart entrance control unit and door switch | | | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ | Replace door switch. | | | | | | | | | | | | | | | | | | | | | | | |

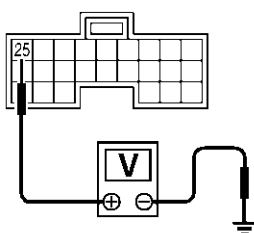
REMOTE KEYLESS ENTRY SYSTEM

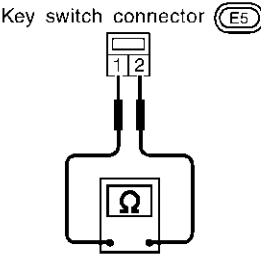
Trouble Diagnoses (Cont'd)

KEY SWITCH (INSERT) CHECK

=NAEL0397S05

GI
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| 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;"> <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>MONITOR</th> <th></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; margin-top: 10px;">SEL315W</p> | | DATA MONITOR | | MONITOR | | KEY ON SW | ON |
| DATA MONITOR | | | | | | | |
| MONITOR | | | | | | | |
| KEY ON SW | ON | | | | | | |
| <p>ⓧ Without CONSULT-II Check voltage between control unit harness connector M122 terminal 25 (W/R) 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;"> <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; margin-top: 10px;">SEL022Y</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p> | | | | | | | |
| OK | ▶ Key switch is OK. | | | | | | |
| NG | ▶ GO TO 2. | | | | | | |

| | |
|--|--|
| 2 | CHECK KEY SWITCH (INSERT) |
| <p>Check continuity between key switch terminals 1 and 2.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> <p>Key switch connector (E5)</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: right; margin-top: 10px;">SEL308X</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p> | |
| OK | ▶ Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 24, 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. |

REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH LH CHECK

=NAEL0397S06

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

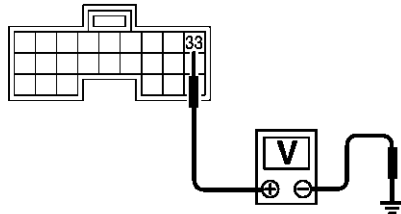
When lock/unlock switch is turned to UNLOCK:

UNLK SW DR/AS ON

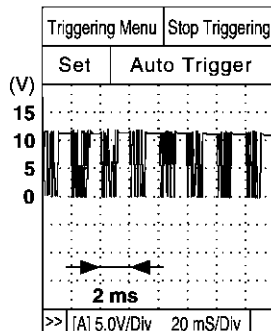
SEL341W

Without CONSULT-II

1. Remove key from ignition key cylinder.
2. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with an oscilloscope when door lock/unlock switch is turned "LOCK" or "UNLOCK".
3. Make sure signals shown in the figure below can be detected during the first 10 sec. just after door lock/unlock switch is turned to "LOCK" or "UNLOCK".



Refer to wiring diagram in EL-304.



Voltage:

**12V → 9V (10 sec.) measurement
by analog circuit tester.**

SEL699Y

OK or NG

OK ► Door lock/unlock switch is OK.

NG ► **Check the following.**

- Ground circuit for each front power window switch
- Harness for open or short between each front power window switch and smart entrance control unit connector

If above systems are normal, replace the front power window switch.

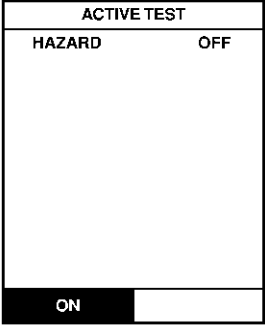
REMOTE KEYLESS ENTRY SYSTEM

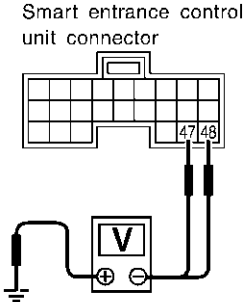

Trouble Diagnoses (Cont'd)

HAZARD REMINDER CHECK

=NAEL0397S07

| | | |
|---|-------------------------------|-----------------------------------|
| 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.</p> <p>2. Select "HAZARD" and touch "ON".</p> | | |
|  | | |
| Hazard indicator should illuminate. | | |
| <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 | ▶ | 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>Apply ground to smart entrance control unit harness connector M122 terminal 47 (GY/L) and 48 (GY/R).</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: 2; margin-left: 20px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <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 | | | | | | | |
| <p>Refer to wiring diagram in EL-306.</p> <p style="text-align: center;">OK or NG</p> | | | | | | | | |
| OK | ▶ | System is OK. | | | | | | |
| NG | ▶ | Replace smart entrance control unit. | | | | | | |

GI

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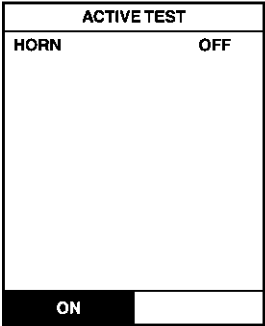
REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

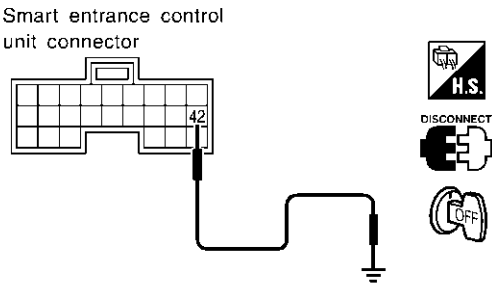
HORN REMINDER CHECK

=NAEL0397S08

| | | |
|--|-------------------|---------------------|
| 1 | CHECK HORN | |
| Check if horn sounds with horn switch. | | |
| Does horn operate? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check horn circuit. |

| | | |
|---|--|--------------------------------|
| 2 | CHECK HORN REMINDER OPERATION WITH CONSULT-II | |
| <p>ⓔ With CONSULT-II</p> <p>1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II.</p> <p>2. Select "HORN" and touch "ON".</p> | | |
|  | | |
| Horn should sound. | | |
| <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 | ▶ | Horn reminder operation is OK. |
| NG | ▶ | GO TO 4. |

SEL451Y

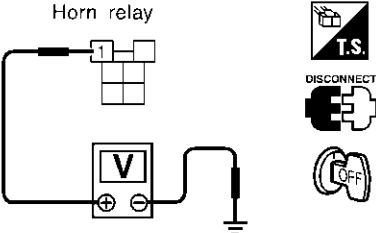
| | | |
|---|---|--------------------------------------|
| 3 | CHECK HORN REMINDER OPERATION WITHOUT CONSULT-II | |
| <p>ⓧ Without CONSULT-II</p> <p>1. Disconnect smart entrance control unit harness connector.</p> <p>2. Apply ground to smart entrance control unit harness connector M122 terminal 42 (LG/B).</p> | | |
|  | | |
| <p>Refer to wiring diagram in EL-306.</p> <p style="text-align: center;">Does horn sound?</p> | | |
| Yes | ▶ | Replace smart entrance control unit. |
| No | ▶ | GO TO 4. |

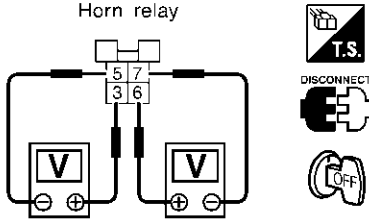
SEL028Y

REMOTE KEYLESS ENTRY SYSTEM

Trouble Diagnoses (Cont'd)

| | | |
|-------------------|-------------------------|---------------------|
| 4 | CHECK HORN RELAY | |
| Check horn relay. | | |
| OK or NG | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | Replace horn relay. |

| | | |
|--|--|--|
| 5 | CHECK POWER SUPPLY FOR HORN RELAY | |
| <ol style="list-style-type: none"> 1. Disconnect horn relay harness connector. 2. Check voltage between horn relay harness connector E118 terminal 1 (G/B) and ground. | | |
|  | | |
| Battery voltage should exist. | | |
| SEL326XA | | |
| OK or NG | | |
| OK | ▶ | GO TO 6. |
| NG | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 52, located in fuse block (J/B)] ● Harness for open or short between horn relay and fuse |

| | | |
|--|---------------------------------|---|
| 6 | CHECK HORN RELAY CIRCUIT | |
| <ol style="list-style-type: none"> 1. Disconnect horn relay harness connector. 2. Check voltage between horn relay harness connector E118 terminals 3 (G/B) and 5 (R). 3. Check voltage between horn relay harness connector E118 terminals 6 (LG) and 7 (G). | | |
|  | | |
| Battery voltage should exist. | | |
| SEL327XA | | |
| OK or NG | | |
| OK | ▶ | Check harness for open or short between smart entrance control unit and horn relay. |
| NG | ▶ | Check the following. <ul style="list-style-type: none"> ● Harness for open or short between horn relay and fuse ● Harness for open or short between horn relay and horns |

GI

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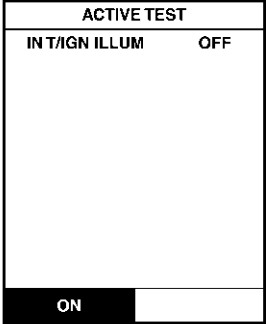
REMOTE KEYLESS ENTRY SYSTEM

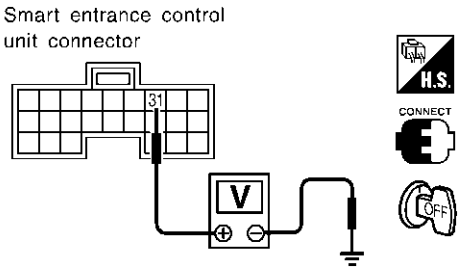
Trouble Diagnoses (Cont'd)

INTERIOR ROOM LAMP OPERATION CHECK

=NAEL0397S09

| | | |
|--|---------------------------------|--|
| 1 | CHECK ROOM INTERIOR LAMP | |
| Check if the interior room lamp switch is in the "ON" position and the lamp illuminates. | | |
| Does interior room 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 room lamp ● Interior room lamp |

| | | |
|---|---|--|
| 2 | CHECK INTERIOR ROOM LAMP OPERATION | |
| <p>E With CONSULT-II</p> <p>1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II.</p> <p>2. Select "INT/IGN ILLUM" and touch "ON".</p> | | |
|  | | |
| Interior room lamp should illuminate. | | |
| SEL312Y | | |

| | | |
|--|---|---|
| <p>X Without CONSULT-II</p> <p>Push unlock button of keyfob with all doors closed and driver's door locked, and check voltage between smart entrance control unit harness connector M122 terminal 31 (R/B) and ground.</p> | | |
|  | | |
| <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 | | |
| Refer to wiring diagram in EL-304. | | |
| OK or NG | | |
| OK | ▶ | System is OK. |
| NG | ▶ | Check harness for open or short between smart entrance control unit and interior room lamp. |

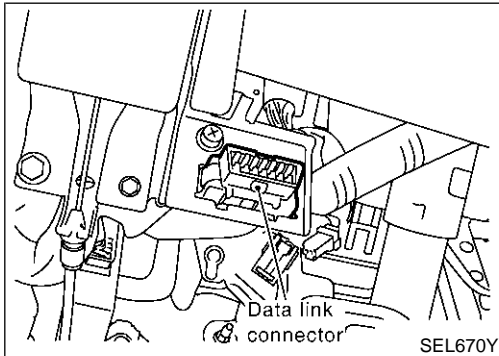
ID Code Entry Procedure KEYFOB ID SET UP WITH CONSULT-II

=NAEL0398

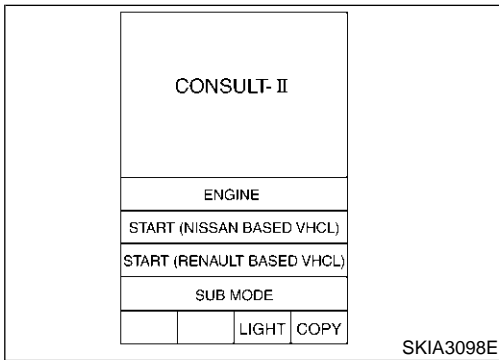
NAEL0398S01

NOTE:

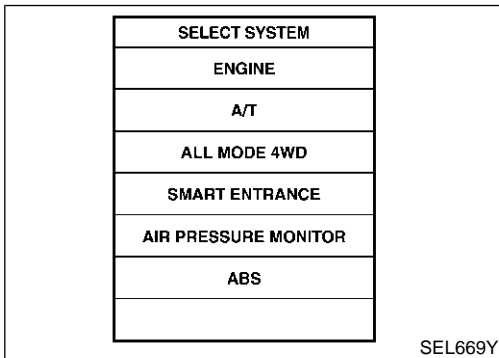
If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. When the ID code of a lost keyfob is not known, all keyfob ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfob must be re-registered.



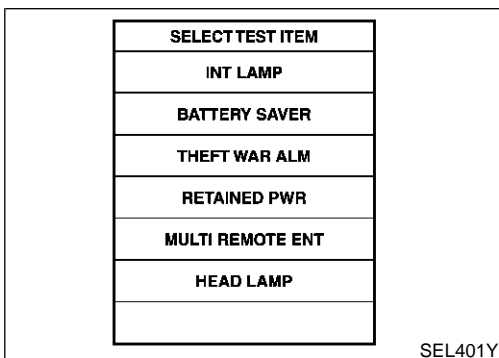
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



3. Turn ignition switch "ON".
4. Touch "START (NISSAN BASED VHCL)".



5. Touch "SMART ENTRANCE".
If "SMART ENTRANCE" is not indicated, go to GI-41, "CONSULT-II Data Link Connector (DLC) Circuit".

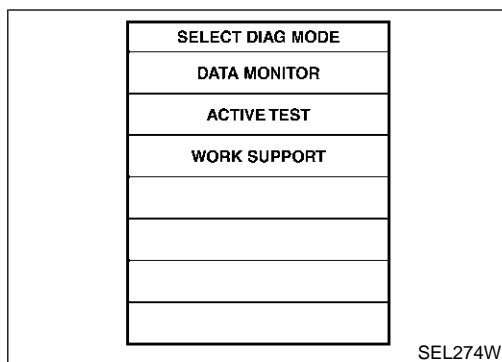


6. Touch "MULTI REMOTE ENT".

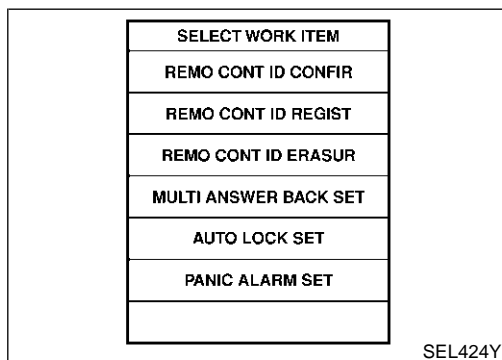
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IDX

REMOTE KEYLESS ENTRY SYSTEM

ID Code Entry Procedure (Cont'd)



7. Touch "WORK SUPPORT".



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 keyfob ID code is registered or not.
- "REMO CONT ID REGIST"
Use this mode to register a keyfob ID code.

NOTE:

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

- "REMO CONT ID ERASUR"
Use this mode to erase a keyfob ID code.

Refer to the EL-309, "WORK SUPPORT" in "CONSULT-II Application Items" for the following items.

- "MULTI ANSWER BACK SET"
- "AUTO LOCK SET"
- "PANIC ALARM SET"
- "TRUNK OPENER"
- "PW DOWN SET"

NOTE:

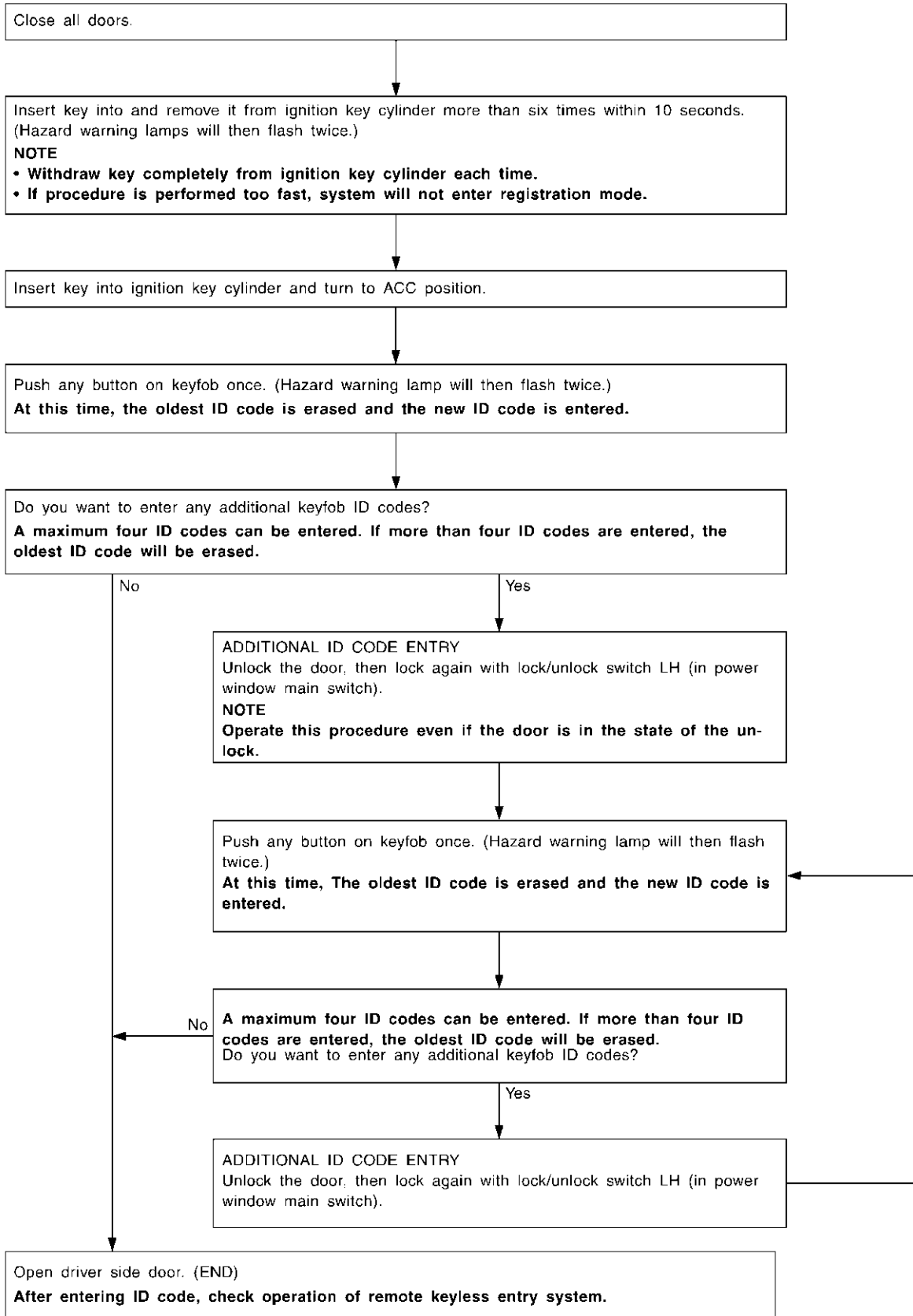
Even though TRUNK OPENER is actually displayed on the CONSULT-II screen, it is not equipped, therefore, they cannot be activated.

REMOTE KEYLESS ENTRY SYSTEM

ID Code Entry Procedure (Cont'd)

KEYFOB ID SET UP WITHOUT CONSULT-II

NAEL0398S02



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IDX

REMOTE KEYLESS ENTRY SYSTEM

ID Code Entry Procedure (Cont'd)

NOTE:

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

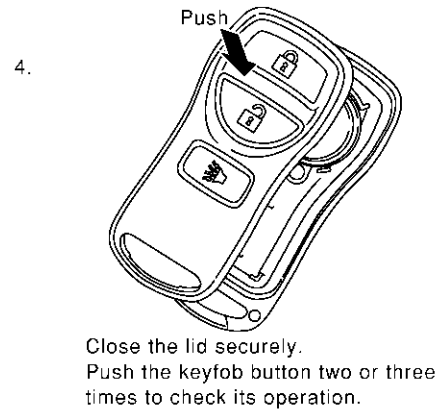
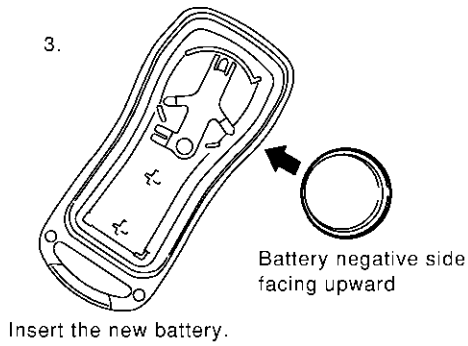
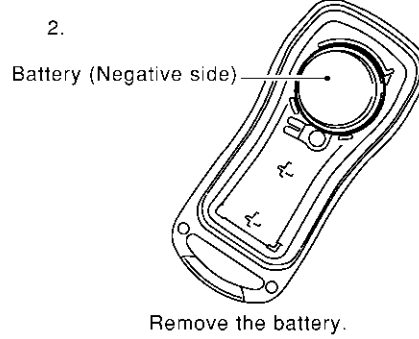
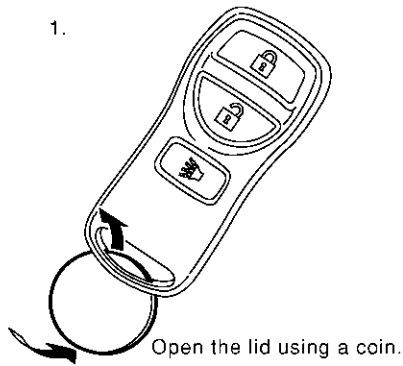
Keyfob Battery Replacement

NAEL0399

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NOTE:

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



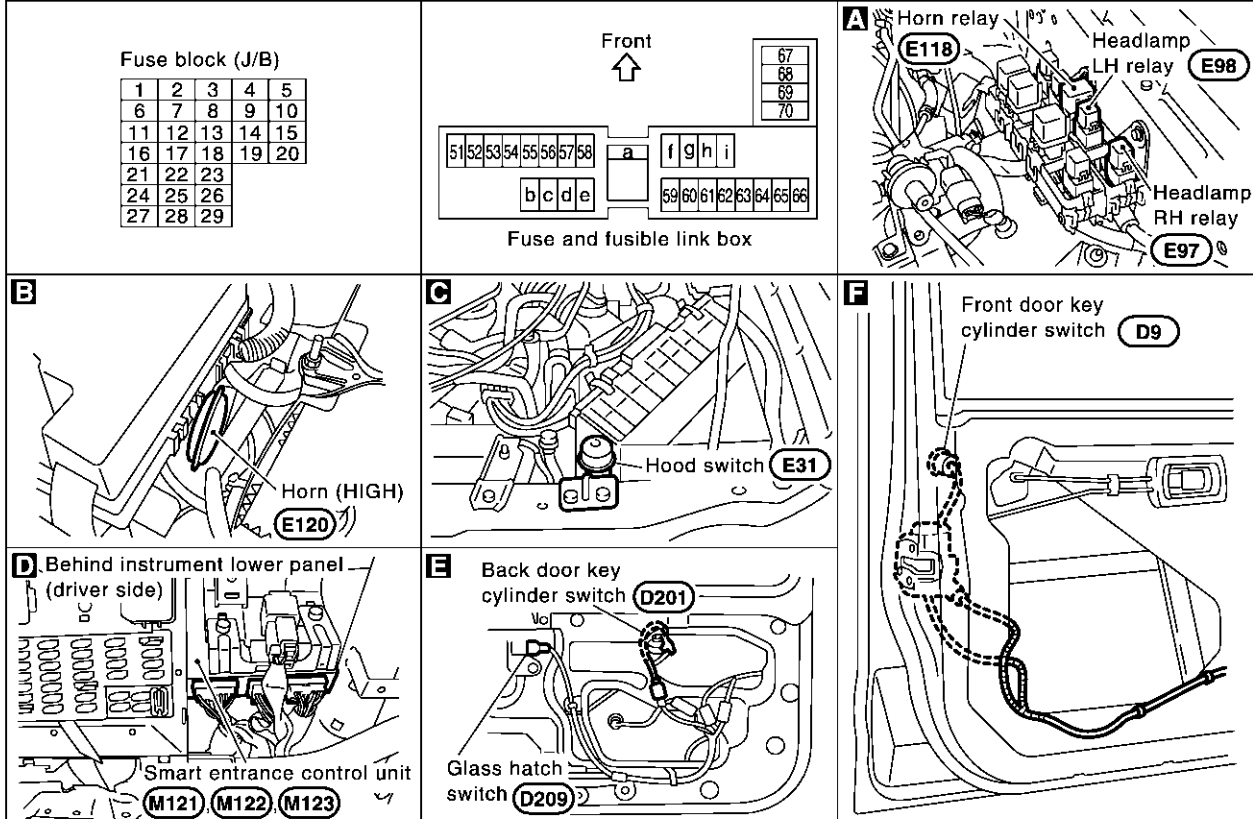
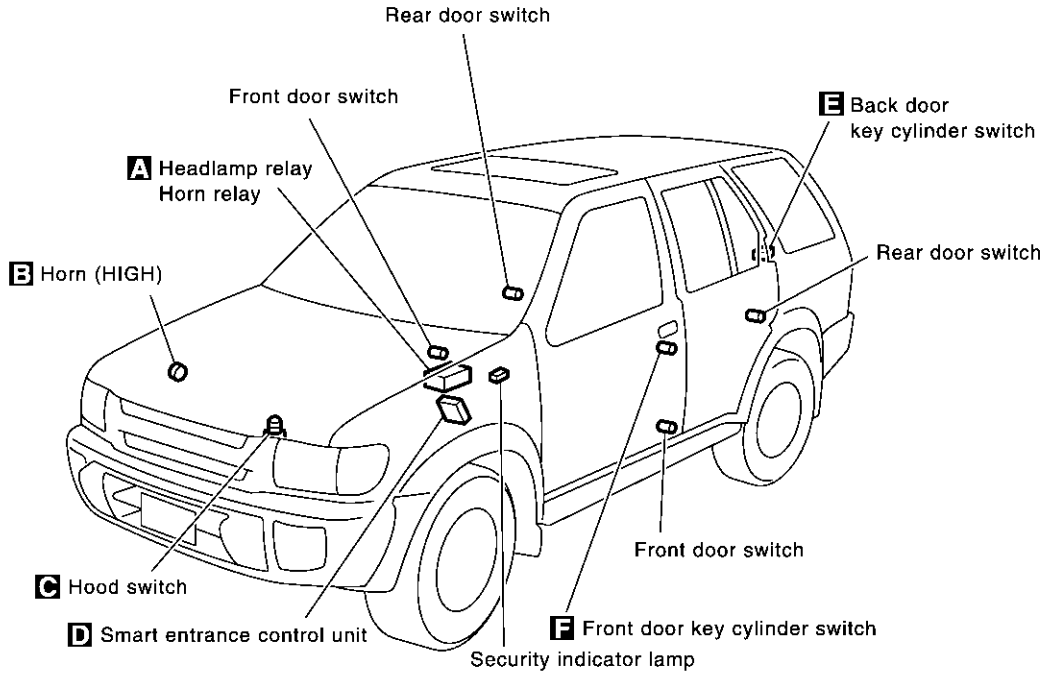
SEL485Y

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0400

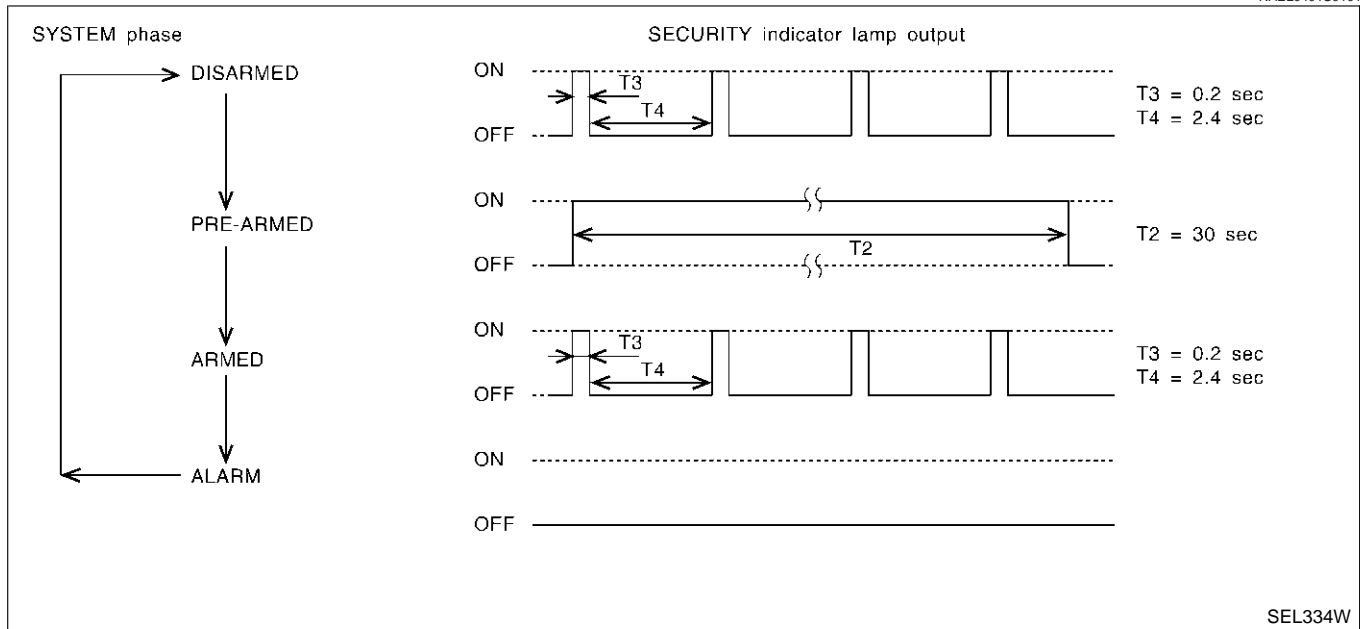


SEL677Y

System Description

DESCRIPTION

1. Operation Flow



2. Setting The Vehicle Security System

Initial condition

- 1) Ignition switch is in OFF position.

Disarmed phase

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

Pre-armed phase and armed phase

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

- 1) Smart entrance control unit receives LOCK signal from key cylinder switch or keyfob after hood, glass hatch and all doors are closed.
- 2) Hood, glass hatch 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

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

- 1) Unlock the doors with the key or keyfob.
- 2) Open the glass hatch with the key or keyfob.

4. Activating The Alarm Operation of The Vehicle Security System

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.6 seconds.)

When the following operation 1) or 2) is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

- 1) Engine hood, glass hatch or any door is opened during armed phase.
- 2) Disconnecting and connecting the battery connector before canceling armed phase.

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to security indicator lamp terminal 1, and
- to smart entrance control unit terminal 49.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

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

- through 7.5A fuse [No. 11, 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. 10, 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 M4, M66, M111, M147 and M157.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

NAEL0401S03

The operation of the vehicle security system is controlled by the doors, hood and glass hatch.

Pattern A

NAEL0401S0301

To activate the vehicle security system, the smart entrance control unit must receive signals indicating the doors, hood and glass hatch are closed.

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 E13 and E41.

When the glass hatch is open, smart entrance control unit terminal 13 receives a ground signal

- from terminal 1 of the glass hatch switch
- through body grounds B11, B22 and D210.

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

Pattern B

NAEL0401S0302

To activate the vehicle security system, the smart entrance control unit must receive signal indicating any door (including hood and glass hatch) is opened.

When the front doors are locked with key, lock/unlock switch or keyfob and then all doors are closed, the vehicle security system will automatically shift to armed mode.

VEHICLE SECURITY SYSTEM ACTIVATION

NAEL0401S04

Pattern A

NAEL0401S0401

With all doors (including hood and glass hatch) closed, if the key is used to lock doors, smart entrance control unit terminal 33 receives a signal from power window main switch terminal 14.

When key cylinder switch is in LOCK position, ground is supplied

- to power window main switch terminal 6
- from terminal 3 of the front door key cylinder switch LH
- through terminal 2 of front door key cylinder switch LH
- through body grounds M4, M66, M111, M147 and M157 or

smart entrance control unit terminal 11 receives a ground signal

- from terminal 1 of the back door key cylinder switch
- through body grounds B11, B22 and D210.

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

NOTE:

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

Pattern B

NAEL0401S0402

With any door (including hood and glass hatch) open, if lock/unlock switch is used to lock doors, smart entrance control unit terminal 33 receives a LOCK signal

- from terminal 14 of lock/unlock switch LH or
- from terminal 16 of lock/unlock switch RH, or

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

With any door (including hood and glass hatch) open if the key is used to lock doors, smart entrance control unit terminal 33 receives a LOCK signal from power window main front switch terminal 14. Refer to power window serial link (EL-259). GI

When key cylinder switch LOCK signal ground is supplied MA

- to power window main switch terminal 4
- from terminal 3 of the front door key cylinder switch LH
- through terminal 2 of front door key cylinder switch LH
- through body grounds M4, M66, M111, M147 and M157, or

smart entrance control unit terminal 11 receives a ground signal EM

- from terminal 1 of the back door key cylinder switch
- through body grounds B11, B22 and D210. LC

If these signals and lock signal from keyfob 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. EC

NOTE:

Vehicle security system can be set even though the rear door is not locked. FE

Once the vehicle security system has been activated, smart entrance control unit terminal 38 supplies ground to terminal 2 of the security indicator lamp. CL

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. MT

VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by AT

- opening a door
- opening the hood or the glass hatch
- detection of battery disconnect and connect. TF

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 (glass hatch switch) or 6 (hood switch), the vehicle security system will be triggered. The headlamps flash and the horn sounds intermittently. PD

Power is supplied at all times

- through 7.5A fuse (No. 52, located in fuse and fusible link box) AX
- to horn relay terminals 1 and 3.
- through 10A fuse (No. 54, located in fuse and fusible link box) SU
- to horn relay terminal 6.
- through 15A fuse (No. 60, located in fuse and fusible link box) BR
- to headlamp LH relay terminals 1 and 3,
- through 15A fuse (No. 59, located in fuse and fusible link box) ST
- to headlamp RH relay terminals 1 and 3.

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

- to headlamp (LH and RH) relay terminal 2 from smart entrance control unit terminals 21 and 59 RS
- 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. BT

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

- from smart entrance control unit terminal 42
- to horn relay terminal 2. HA

When horn relay are energized, then power is supplied to horn.

The horn sounds intermittently.

The alarm automatically turns off after 50 seconds but will reactivate if the vehicle is tampered with again. SC

VEHICLE SECURITY SYSTEM DEACTIVATION

To deactivate the vehicle security system, a door or glass hatch must be unlocked with the key or keyfob. EL
When the key is used to unlock the door, smart entrance control unit terminal 33 receives an UNLOCK signal from power window main switch terminal 14. Refer to "POWER WINDOW SERIAL LINK" (EL-259). IDX

When key cylinder switch is in UNLOCK position, the ground is supplied

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

- to power window main switch terminal 6
- from the front door key cylinder switch LH terminal 1
- through front door key cylinder switch terminal 2,
- through body grounds M4, M66, M111, M147 and M157.

When the key is used to open the glass hatch, smart entrance control unit terminal 12 receives a ground signal from terminal 3 of the back door key cylinder switch.

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

PANIC ALARM OPERATION

Remote keyless entry system may or may not operate vehicle security system (horn and headlamps) as required. NAEL0401S07

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

- from smart entrance control unit terminals 21 and 59
- to headlamp (LH and RH) relay terminal 2, and
- from smart entrance control unit terminal 42
- to horn relay terminal 2.

The headlamp flashes and the horn sounds intermittently.

The alarm automatically turns off after 25 seconds or when smart entrance control unit receives any signal from keyfob.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

NOTE:

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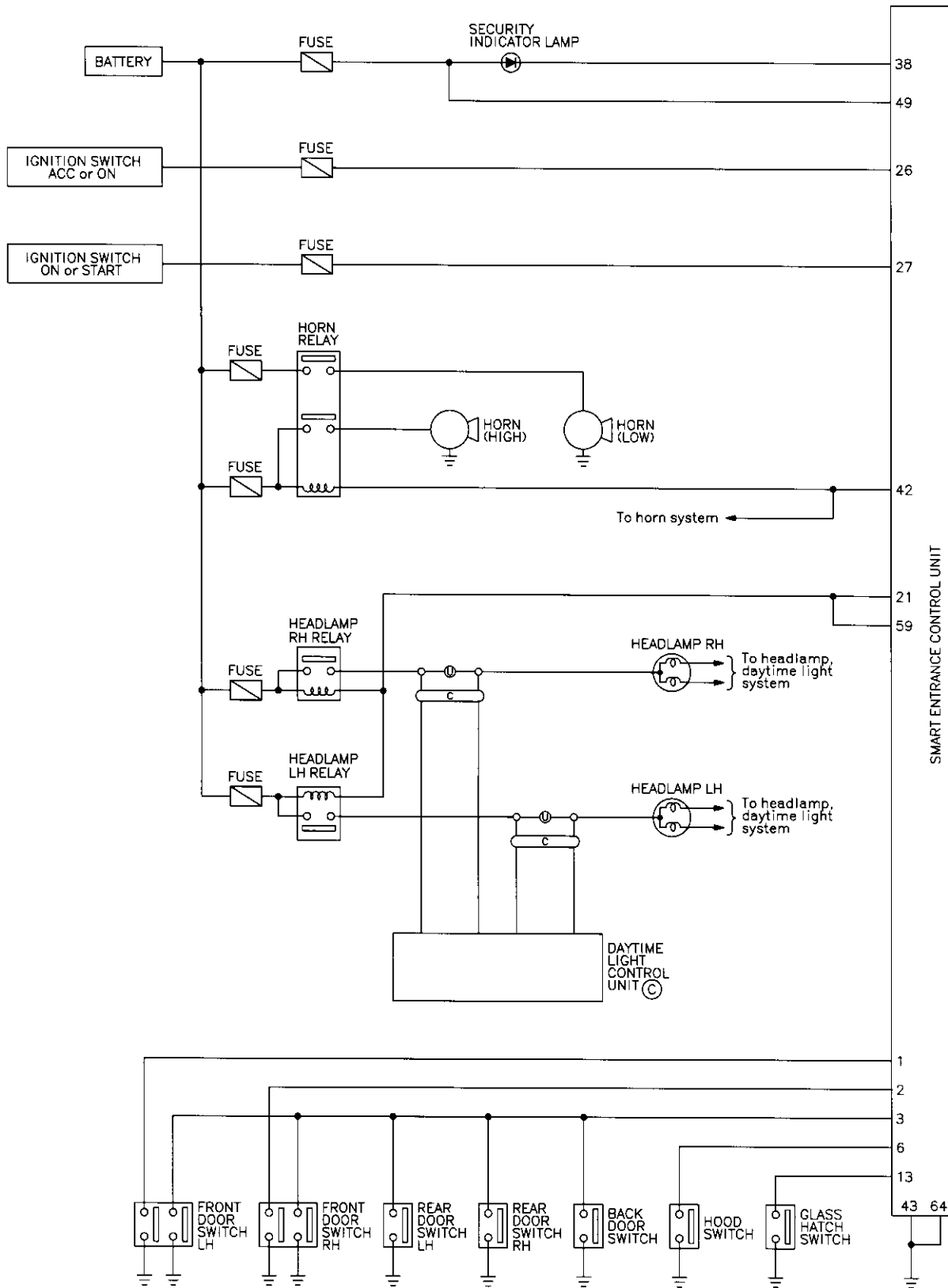
IDX

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Schematic

Schematic

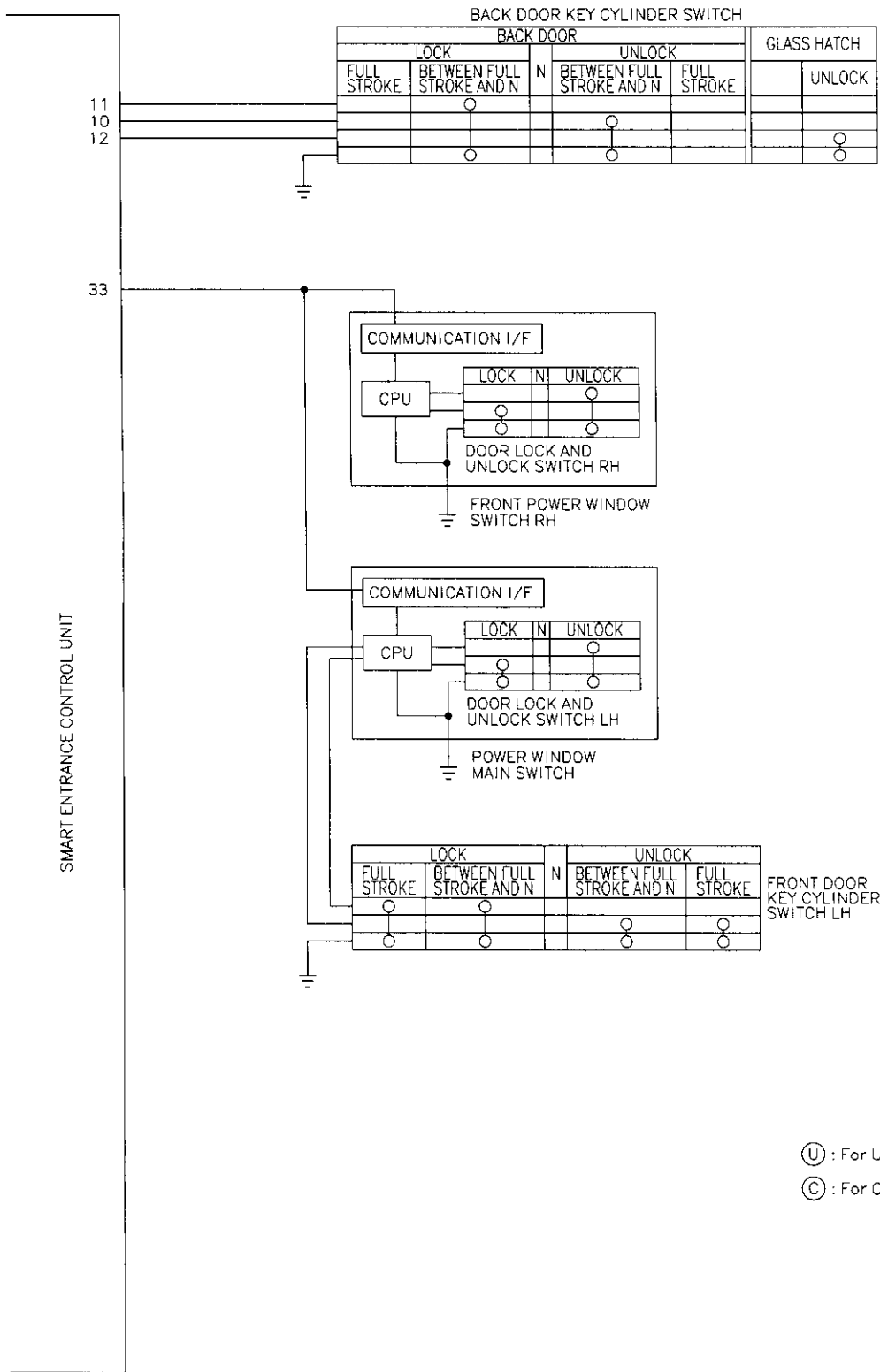
NAEL0402



MEL873N

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Schematic (Cont'd)



Ⓢ : For U.S.A.

Ⓒ : For Canada

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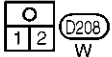
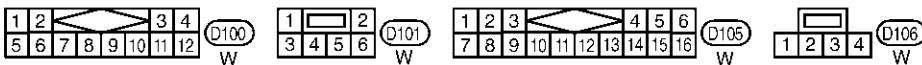
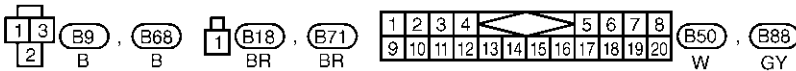
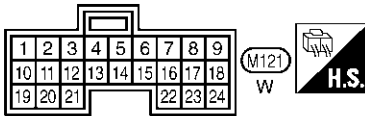
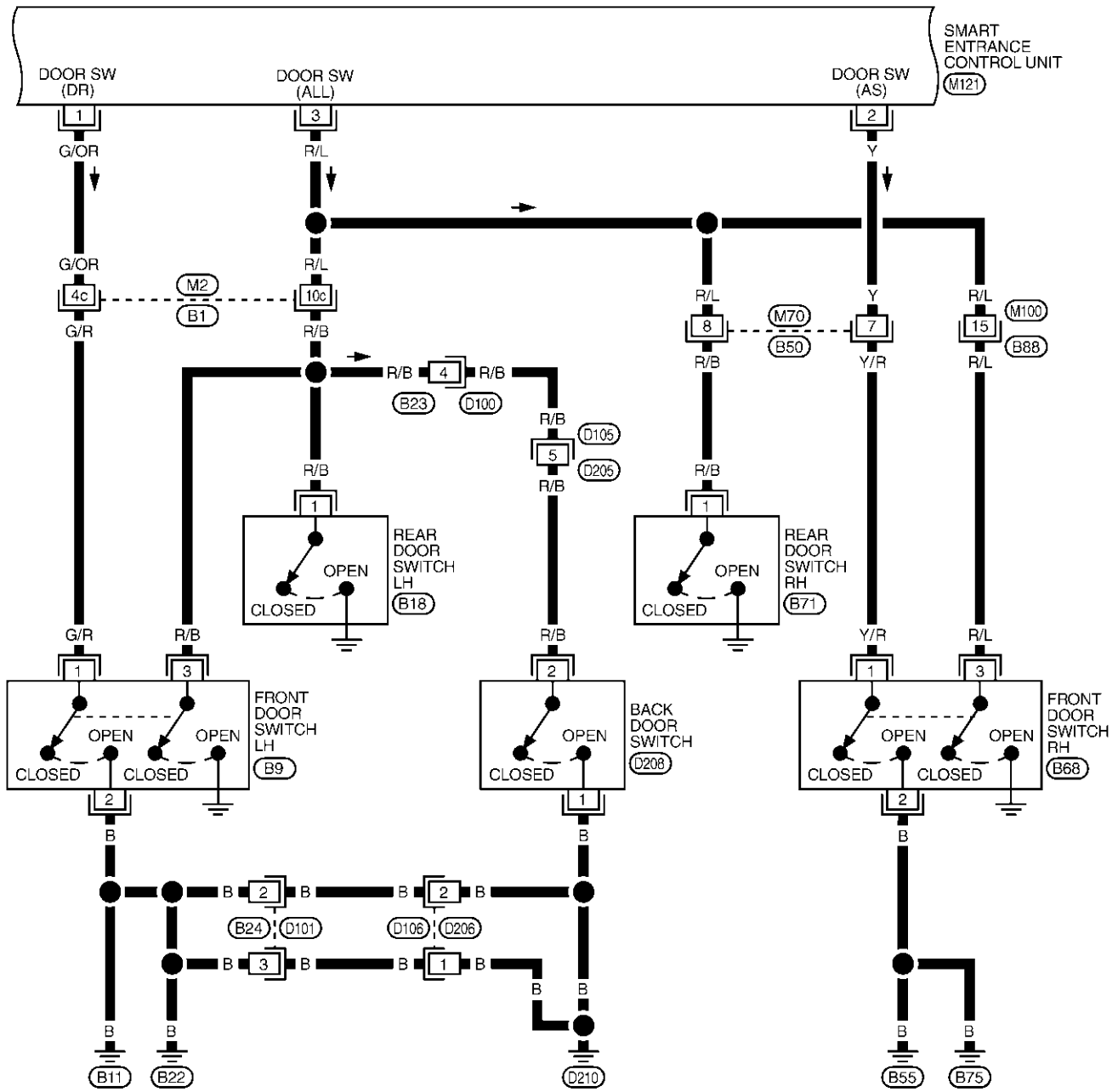
VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

FIG. 2

NAEL0403S02

EL-VEHSEC-02



REFER TO THE FOLLOWING.

(B1) - SUPER MULTIPLE JUNCTION (SMJ)

GI
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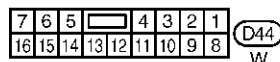
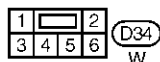
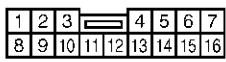
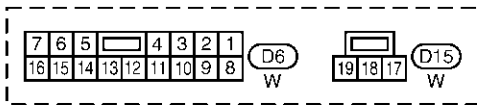
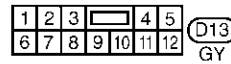
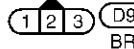
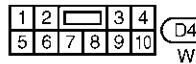
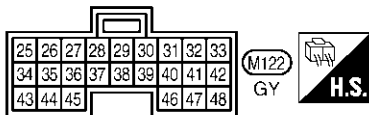
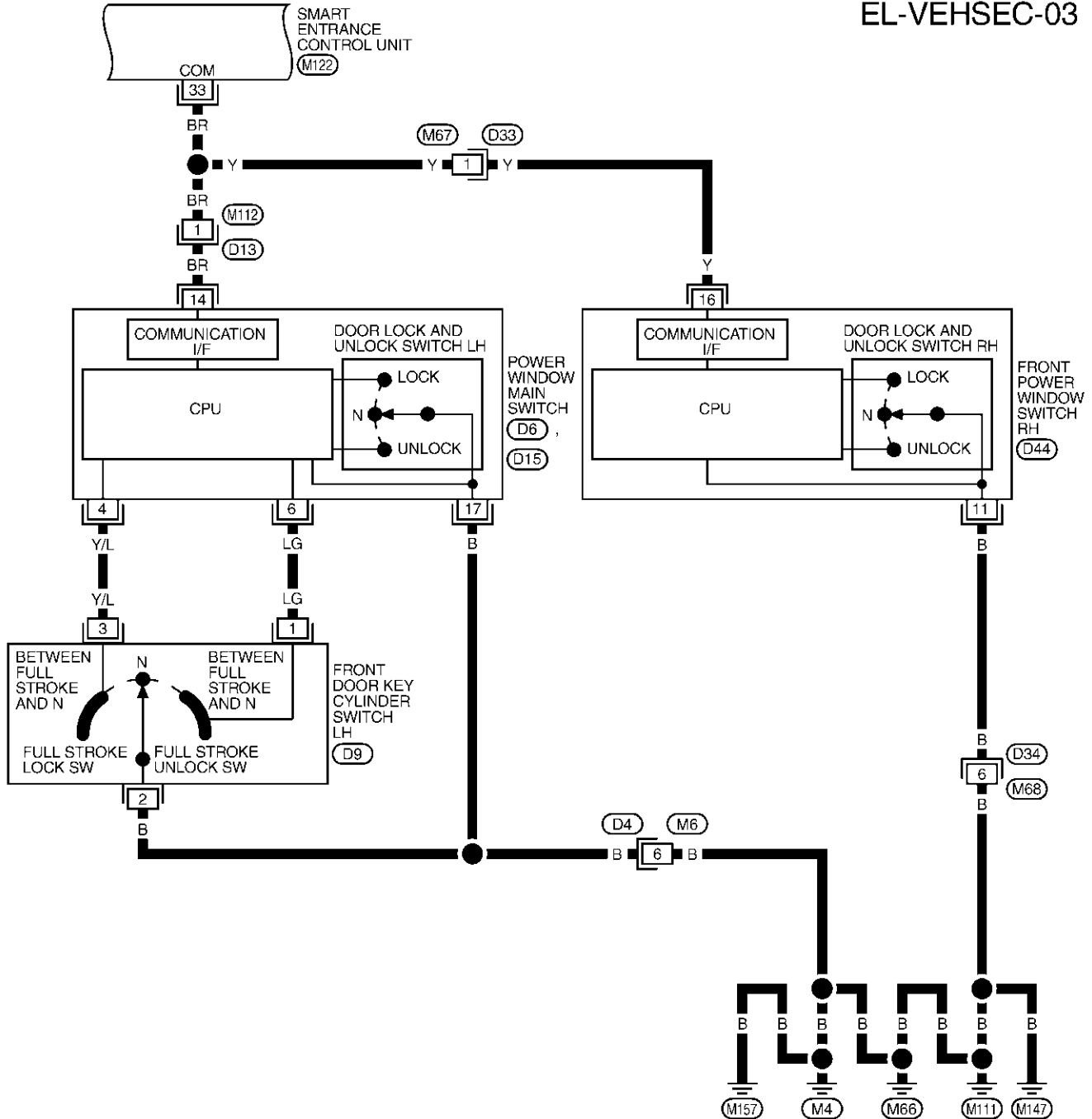
VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

FIG. 3

NAEL0403S03

EL-VEHSEC-03



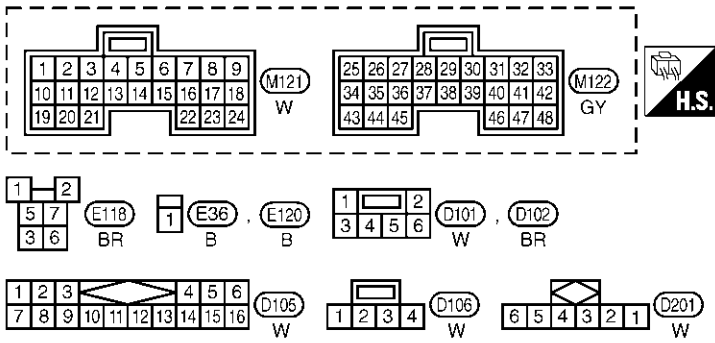
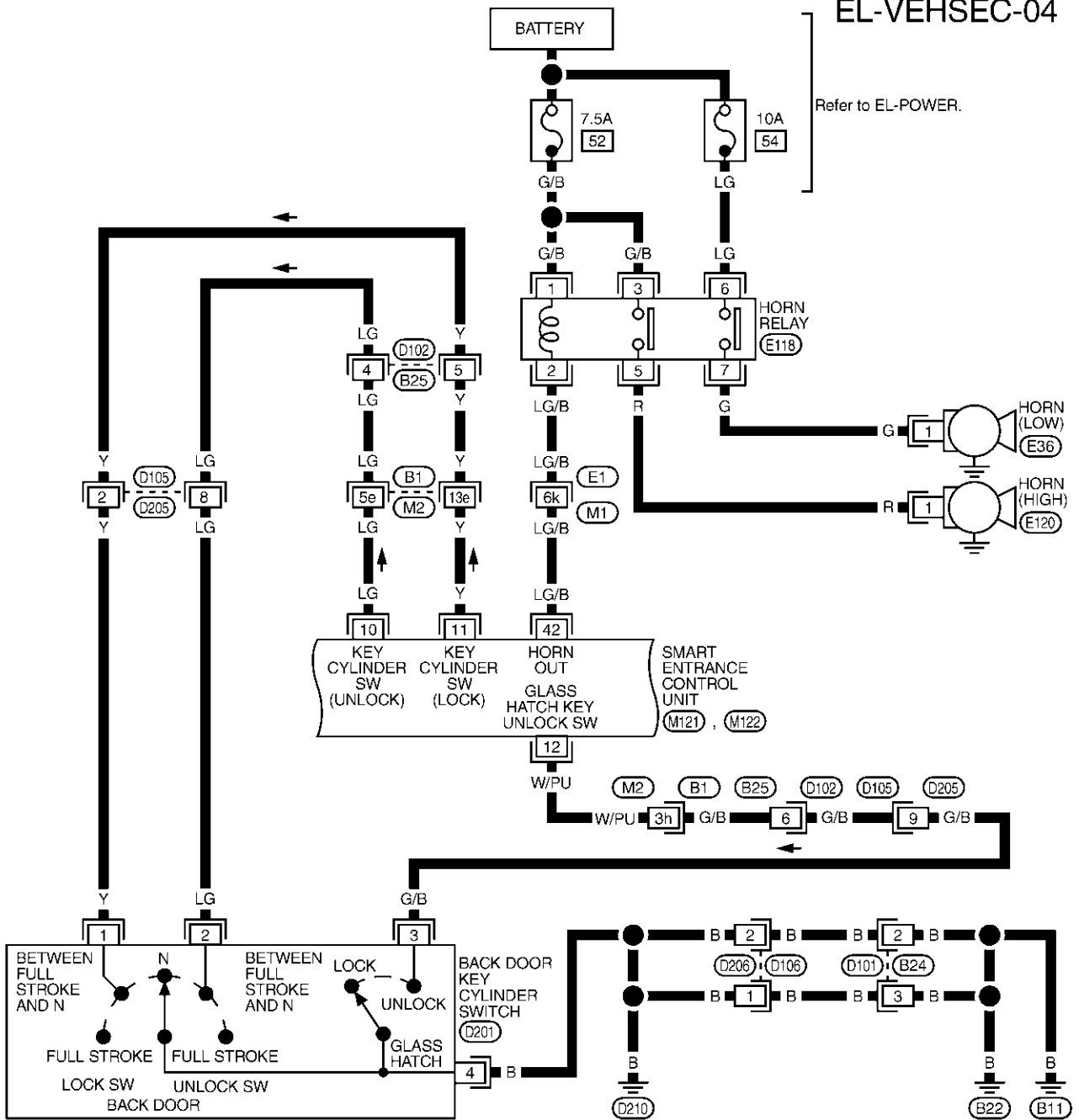
MEL035Q

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

FIG. 4

NAEL0403S04



REFER TO THE FOLLOWING.
 (E1), (B1) - SUPER
 MULTIPLE JUNCTION (SMJ)

MEL036Q

GI
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 EM
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VEHICLE SECURITY (THEFT WARNING) SYSTEM

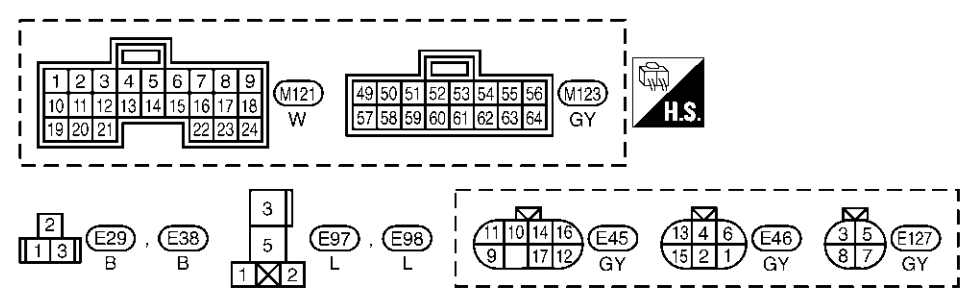
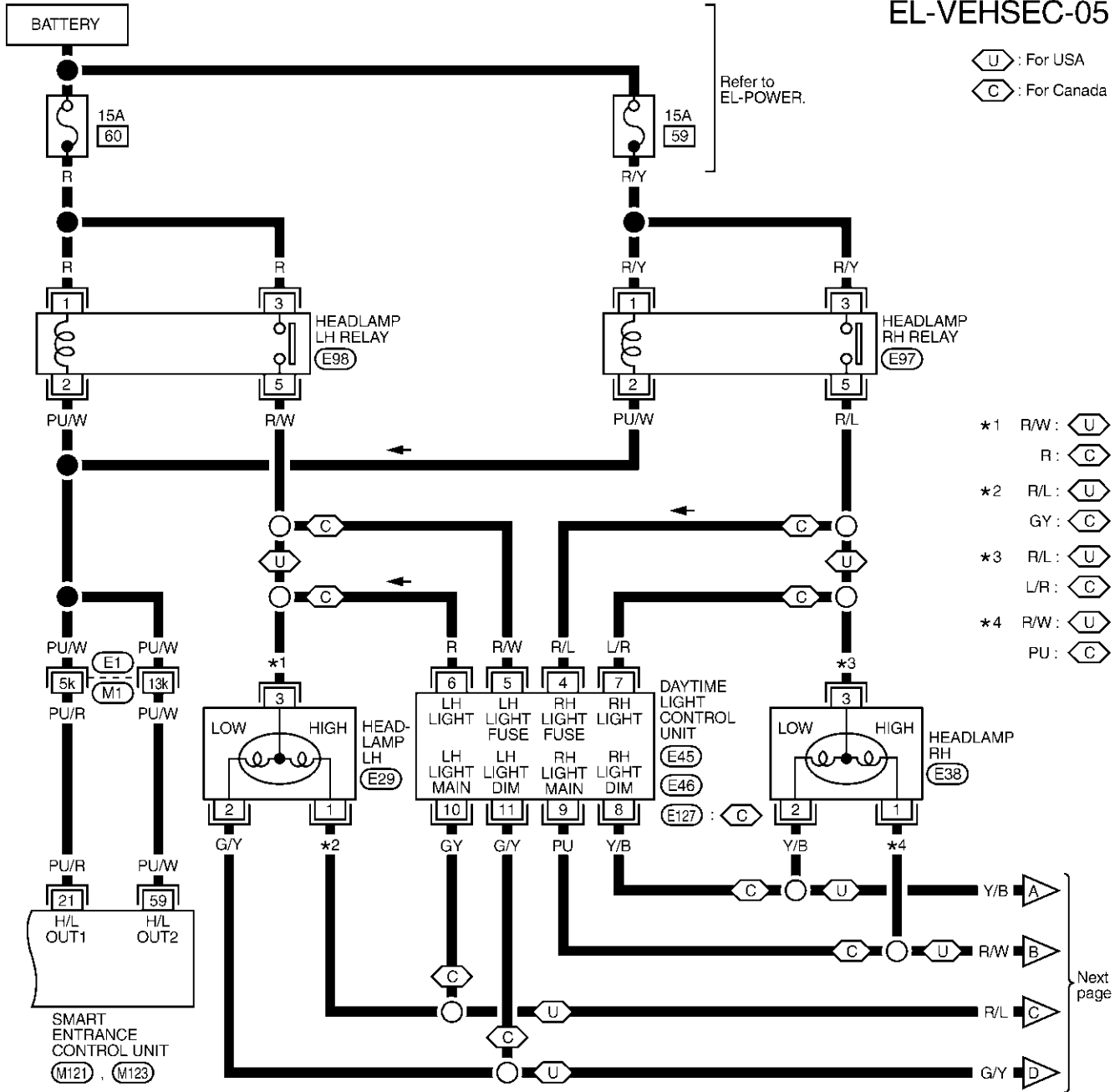
Wiring Diagram — VEHSEC — (Cont'd)

NAEL0403S05

FIG. 5

EL-VEHSEC-05

U : For USA
C : For Canada



REFER TO THE FOLLOWING.
E1 - SUPER MULTIPLE
JUNCTION (SMJ)

MEL037Q

VEHICLE SECURITY (THEFT WARNING) SYSTEM

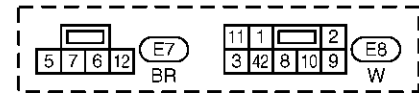
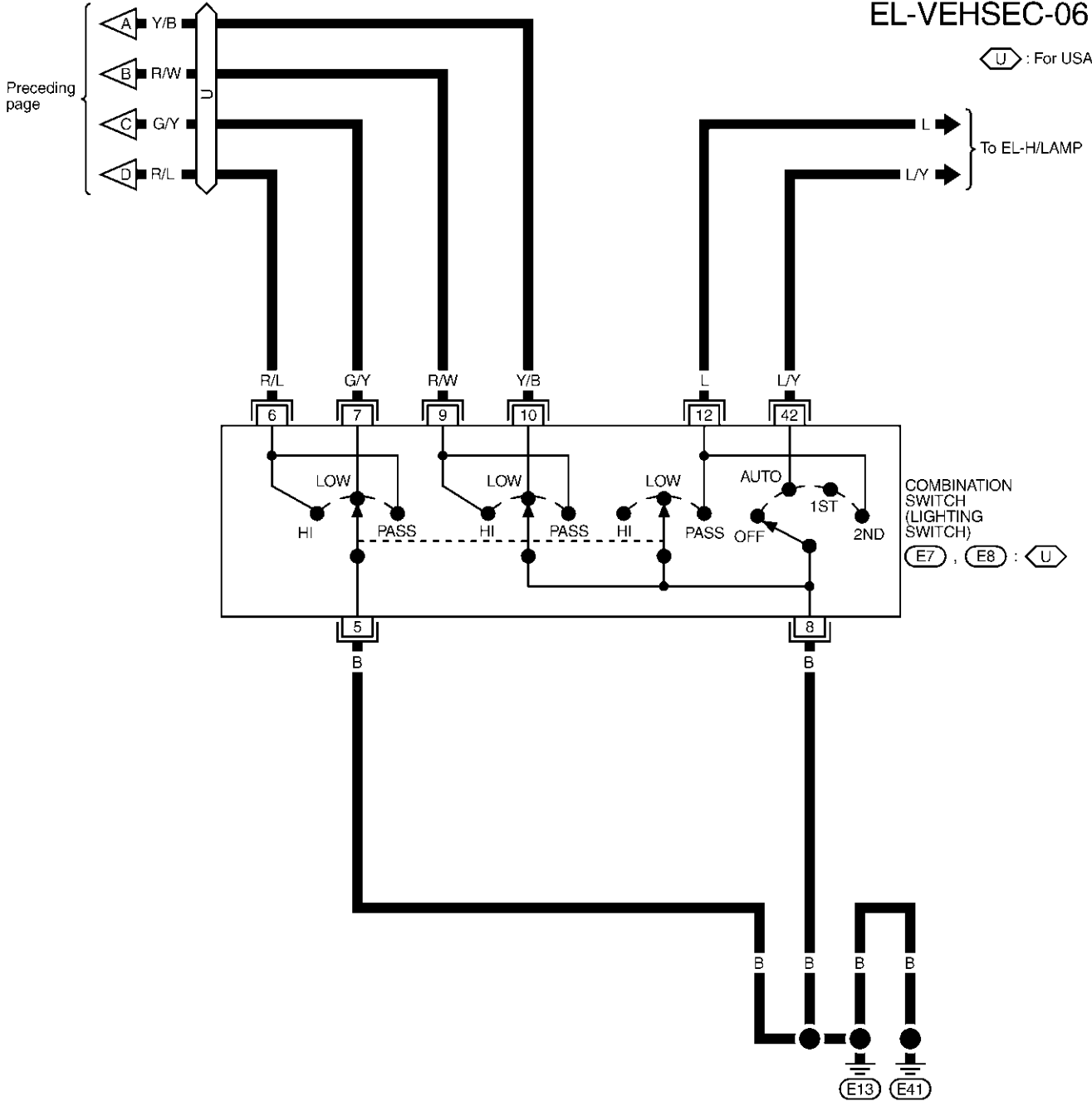
Wiring Diagram — VEHSEC — (Cont'd)

FIG. 6

NAEL0403S06

EL-VEHSEC-06

⬡ U : For USA

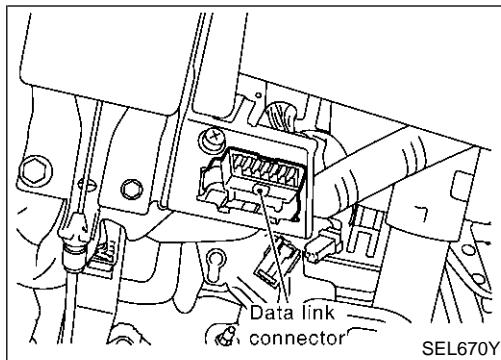


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MEL038Q

VEHICLE SECURITY (THEFT WARNING) SYSTEM

CONSULT-II Inspection Procedure



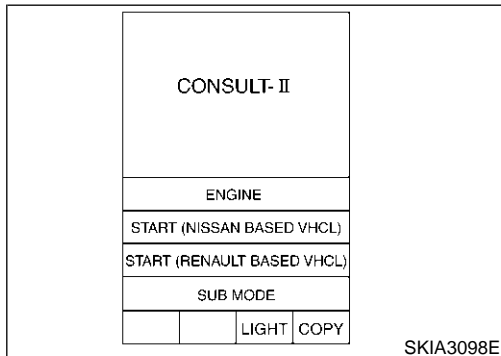
CONSULT-II Inspection Procedure

=NAEL0404

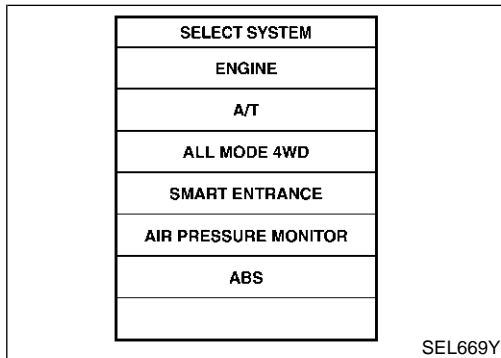
NAEL0404S01

“THEFT WAR ALM”

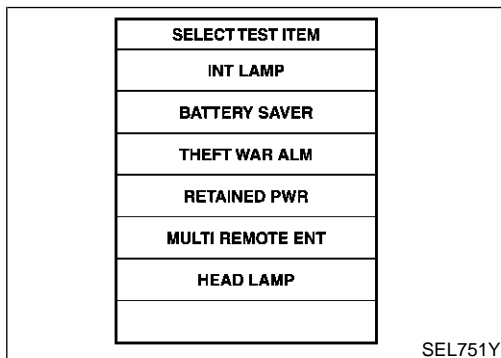
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector.



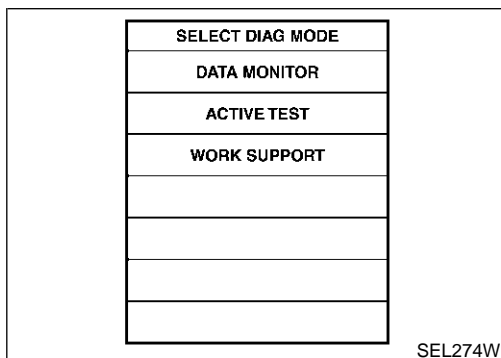
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



5. Touch “SMART ENTRANCE”.
If “SMART ENTRANCE” is not indicated, go to GI-41, “CONSULT-II Data Link Connector (DLC) Circuit”.



6. Touch “THEFT WAR ALM”.



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

VEHICLE SECURITY (THEFT WARNING) SYSTEM

CONSULT-II Application Item

CONSULT-II Application Item

“THEFT WAR ALM” Data Monitor

NAEL0405

NAEL0405S01

NAEL0405S0101

| 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. |
| DOOR SW-RR | Indicates [ON/OFF] condition of rear door switch. |
| TRNK OPNR SW | Indicates [ON/OFF] condition of back door switch. |
| 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-DR | Indicates [ON/OFF] condition of front door switch LH. |
| DOOR SW-AS | Indicates [ON/OFF] condition of front door switch RH. |
| TRNK OPN MNTR | Indicates [ON/OFF] condition of back door switch. |
| TRUNK KEY SW | Indicates [ON/OFF] condition of back door 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 keyfob. |
| UN BUTTON/SIG | Indicates [ON/OFF] condition of unlock signal from keyfob. |
| TRUNK BTN/SIG | Indicates [ON/OFF] condition of trunk open signal from keyfob. |

NOTE:

Even though TRUNK BTN/SIG is actually displayed on the CONSULT-II screen, it is not equipped, therefore, they cannot be activated.

Active Test

NAEL0405S0102

| 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. |
| HEAD LAMP | 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

NAEL0405S0103

| Test Item | Description |
|--------------------|--|
| THEFT ALM TRG | The switch which triggered theft warning alarm is recorded. This mode is able to confirm and erase the record of theft warning alarm. The trigger data can be erased by touching “CLEAR” on CONSULT-II screen. |
| SECURITY ALARM SET | Theft warning alarm mode can be changed in this mode. Selects ON-OFF of theft warning alarm mode. <ul style="list-style-type: none"> ● MODE 1 (ON)/MODE 2 (OFF) |

GI

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

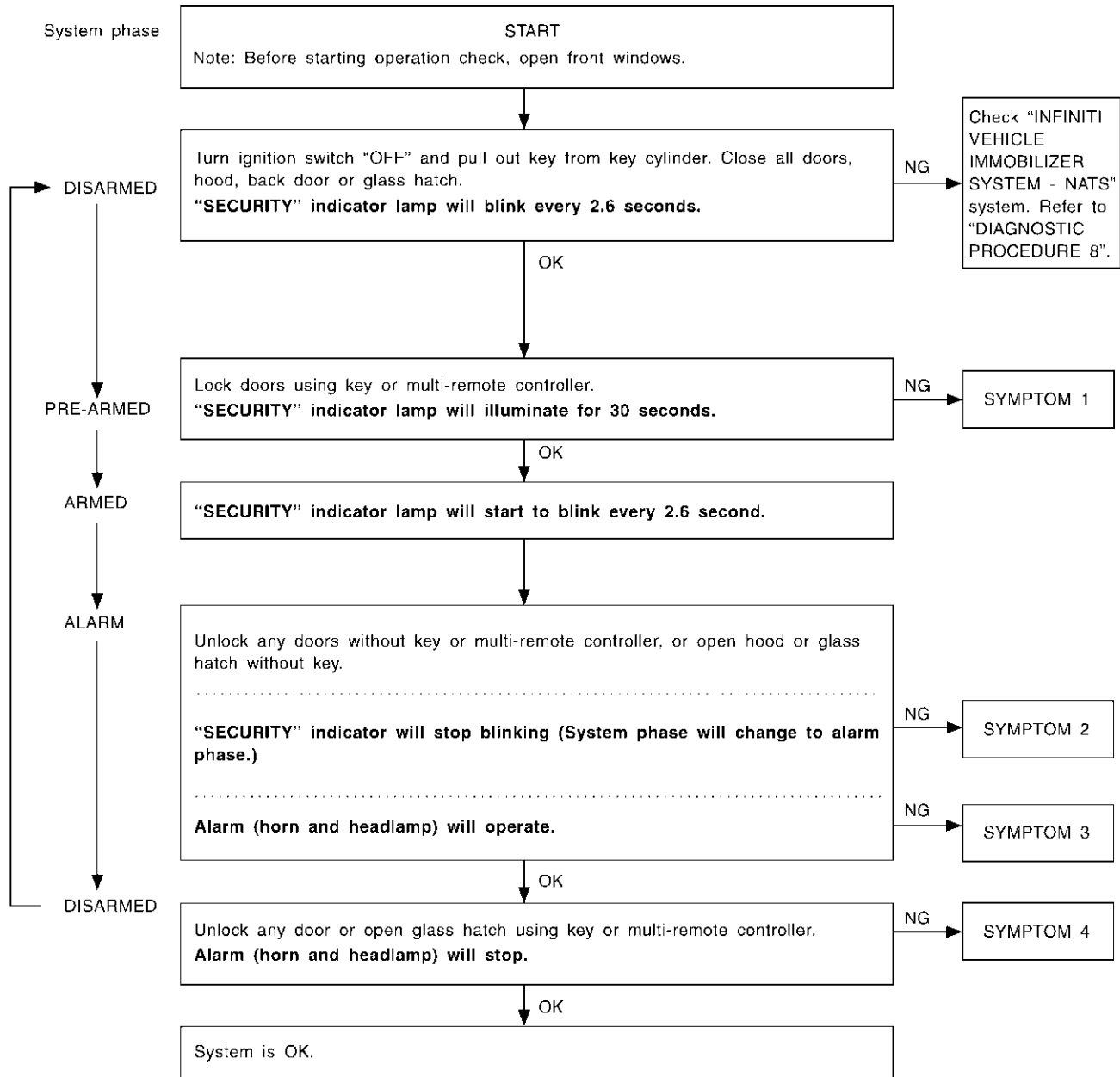
Trouble Diagnoses

=NAEL0406

PRELIMINARY CHECK

NAEL0406S01

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



SEL733W

After performing preliminary check, go to symptom chart below.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

NAEL0406S02

| REFERENCE PAGE (EL-) | 344 | 346 | 347 | 352 | 354 | 356 | 359 | 361 | 310 |
|-----------------------|---|---------------------------------------|---|-------------------------------|--------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|
| SYMPTOM | PRELIMINARY CHECK | POWER SUPPLY AND GROUND CIRCUIT CHECK | DOOR, HOOD AND GLASS HATCH SWITCH CHECK | SECURITY INDICATOR LAMP CHECK | DOOR KEY CYLINDER SWITCH CHECK | BACK DOOR KEY CYLINDER SWITCH CHECK | VEHICLE SECURITY HORN ALARM CHECK | VEHICLE SECURITY HEADLAMP ALARM CHECK | Check "MULTI-REMOTE CONTROL" system. |
| 1 | Vehicle security indicator does not illuminate for 30 seconds. | X | X | X | X | | | | |
| | Vehicle security system cannot be set by ... | | | | | | | | |
| | All items | X | X | X | | | | | |
| | Door outside key | X | | | | X | | | |
| 2 | Back door key | X | | | | X | | | |
| | Multi-remote control | X | | | | | | | X |
| | *1 Vehicle security system does not alarm when ... | | | | | | | | |
| 3 | Any door is opened. | X | | X | | | | | |
| | Any door is unlocked without using key or multi-remote controller | X | | | | | | | |
| 4 | Vehicle security alarm does not activate. | | | | | | | | |
| | All function | X | | X | | | | | |
| | Horn alarm | X | | | | | X | | |
| 5 | Headlamp alarm | X | | | | | | X | |
| | Vehicle security system cannot be canceled by ... | | | | | | | | |
| | Door outside key | X | | | | X | | | |
| 6 | Back door key | X | | | | X | | | |
| | Multi-remote control | X | | | | | | | X |

X : Applicable

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

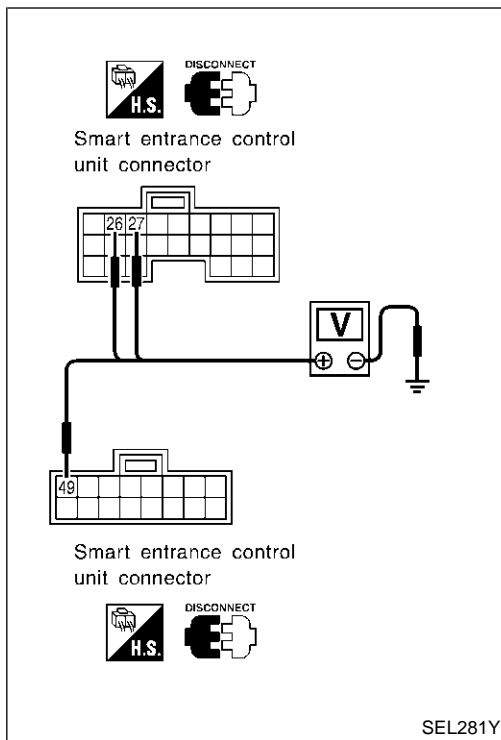
Before starting trouble diagnoses above, perform preliminary check, EL-344.

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

GI
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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)



POWER SUPPLY AND GROUND CIRCUIT CHECK

NAEL0406S03

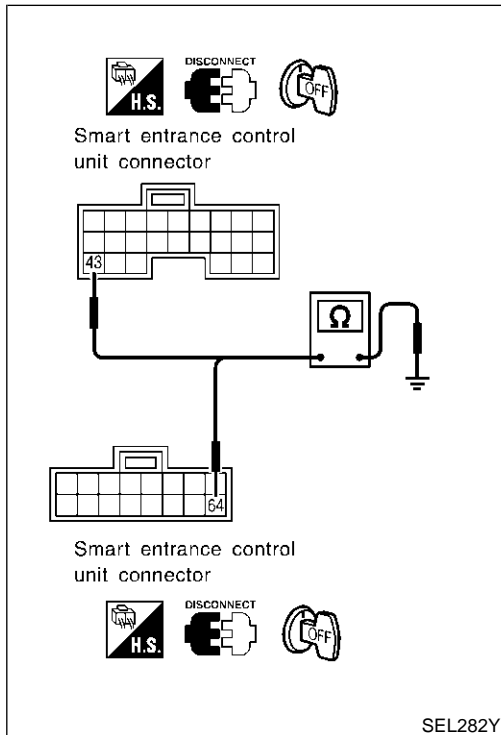
Power Supply Circuit Check

NAEL0406S0301

| Terminals | | Ignition switch position | | | |
|-----------|-----------------------|--------------------------|-----------------|-----------------|-----------------|
| Connector | Terminal (Wire color) | (-) | (+) | | |
| | | | OFF | ACC | ON |
| M123 | 49 (G/R) | Ground | Battery voltage | Battery voltage | Battery voltage |
| M122 | 26 (G/W) | Ground | 0V | Battery voltage | Battery voltage |
| M122 | 27 (W/B) | Ground | 0V | 0V | Battery voltage |

If NG, check the following.

- 7.5A fuse [No. 24, located in fuse block (J/B)]
- 7.5A fuse [No. 11, located in fuse block (J/B)]
- 10A fuse [No. 10, located in fuse block (J/B)]
- Harness for open or short between smart entrance control unit and fuse.



Ground Circuit Check

NAEL0406S0302

| Terminals | | (-) | Continuity |
|-----------|-----------------------|------|------------|
| Connector | Terminal (Wire color) | | |
| | | M122 | 43 (B) |
| M123 | 64 (B) | | |

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)


DOOR, HOOD AND GLASS HATCH SWITCH CHECK


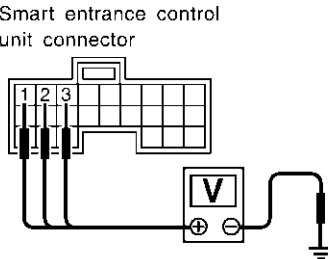



=NAEL0406S04

Door Switch Check

NAEL0406S0401

| | | |
|--|--------------------------|---|
| 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 glass hatch.</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-bottom: 20px;"> <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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| <p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M121 terminals 1 (G/OR), 2 (Y) or 3 (R/L) and ground.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|---|--------|-----------|-------------|-----------|-------------|-----|-----|----------------------|---|--------|------|---|--------|-----------|----------------------|---|--------|------|---|--------|-----------|-----------------------------|---|--------|------|---|--------|-----------|
| <div style="display: flex; align-items: center;"> <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 and back 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 and back 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 and back door switches | 3 | Ground | Open | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Closed | Approx. 5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SEL021YA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | Door switch is OK, and go to hood switch check. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ | GO TO 3. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Refer to wiring diagram in EL-337.

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

3 CHECK DOOR SWITCH

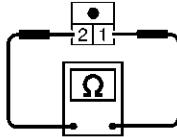
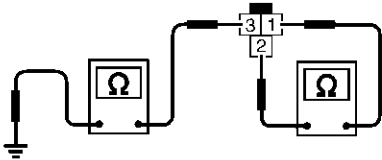
1. Disconnect door switch connector.
2. Check the following.
 - Continuity between front door switch harness connector B9 (LH) or B68 (RH) terminals 1 and 2
 - Continuity between front door switch harness connector B9 (LH) or B68 (RH) terminals 3 and ground
 - Continuity between back door switch harness connector D208 terminals 1 and 2
 - Continuity between rear door switch harness connector B18 (LH) or B71 (RH) terminal 1 and ground



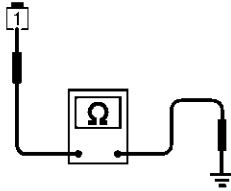
Front door switch connector



Back door switch



Rear door switch connector



| | Terminals | Condition | Continuity |
|---------------------|------------|-----------|------------|
| Front door switches | 1 - 2 | Closed | No |
| | 3 - Ground | Open | Yes |
| Back door switch | 1 - 2 | Closed | No |
| | | Open | Yes |
| Rear door switches | 1 - Ground | Closed | No |
| | | Open | Yes |

SEL287Y

OK or NG

OK



Check the following.

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

NG



Replace door switch.

VEHICLE SECURITY (THEFT WARNING) SYSTEM


Trouble Diagnoses (Cont'd)


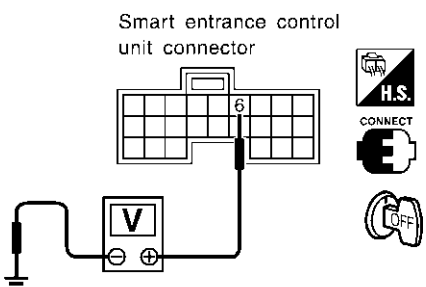
Hood Switch Check

=NAEL0406S0402

| | | |
|---|--------------------------|--|
| 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. |

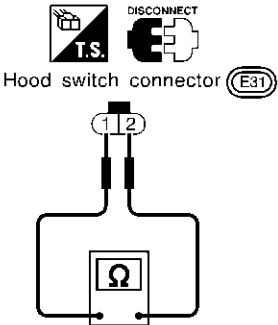
| 3 | CHECK HOOD SWITCH INPUT SIGNAL | | | | | | | |
|--|---------------------------------------|--|--------------|--|---------|--|-------------|-----|
| <p> With CONSULT-II Check hood switch (“HOOD SWITCH”) in “DATA MONITOR” mode with CONSULT-II.</p> | | | | | | | | |
| <table border="1" style="margin: 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 M121 terminal 6 (Y/B) and ground.</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 glass hatch switch check. |
| NG | ▶ | GO TO 4. |

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

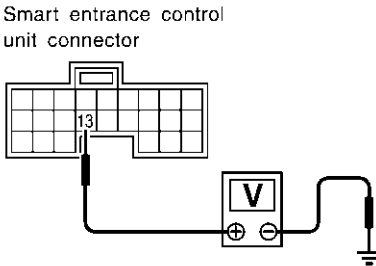

| 4 | CHECK HOOD SWITCH | |
|----|---|--|
| | <p>1. Disconnect hood switch connector.</p> <p>2. Check continuity between hood switch terminals 1 and 2.</p> | <div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 20px;"> <p>Continuity: Condition: Pushed No Condition: Released Yes</p> </div> <div style="text-align: right; margin-top: 20px;"> <p>SEL338X</p> </div> |
| 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 | ▶ | <p>Replace hood switch.</p> |


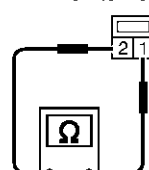
VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

Glass Hatch Switch Check

=NAEL0406S0403

| | | |
|---|--|---------------------------|
| 1 | CHECK GLASS HATCH SWITCH INPUT SIGNAL | |
| <p>Check voltage between smart entrance control unit harness connector M121 terminal 13 (L/W) 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="text-align: center;">  </div> <div style="text-align: left;"> <p>Voltage [V]: Glass hatch is open. Approx. 5 Glass hatch is closed. Approx. 0</p> </div> </div> | | |
| SEL326YA | | |
| OK or NG | | |
| OK | ▶ | Glass hatch switch is OK. |
| NG | ▶ | GO TO 2. |

| | | |
|---|---------------------------------|--|
| 2 | CHECK GLASS HATCH SWITCH | |
| <p>1. Disconnect glass hatch switch connector. 2. Check continuity between glass hatch switch terminals 1 and 2.</p> | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  <p>Glass hatch switch connector (D299)</p>  </div> <div style="text-align: left;"> <p>Continuity: Condition: Closed No Condition: Open Yes</p> </div> </div> | | |
| SEL340X | | |
| OK or NG | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Glass hatch switch ground circuit ● Harness for open or short between smart entrance control unit and glass hatch switch |
| NG | ▶ | Replace glass hatch switch. |

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

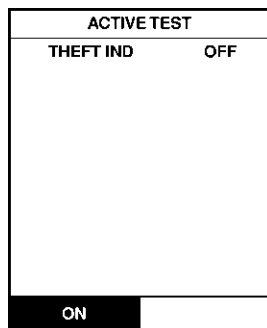
SECURITY INDICATOR LAMP CHECK

=NAEL0406S05

1 CHECK INDICATOR LAMP OPERATION

Ⓔ With CONSULT-II

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

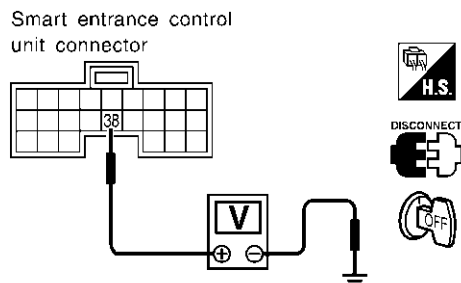


Security indicator lamp should illuminate.

SEL356W

ⓧ Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check voltage between smart entrance control unit harness connector M122 terminal 38 (BR/Y) and ground.



Battery voltage should exist.

Refer to wiring diagram in EL-336.

SEL037Y

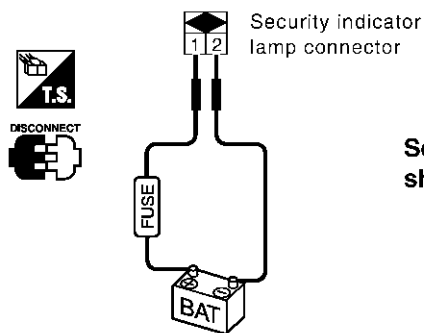
OK or NG

OK ► Security indicator lamp is OK.

NG ► GO TO 2.

2 CHECK SECURITY INDICATOR LAMP

1. Disconnect security indicator lamp connector.
2. Apply 12V direct current to security indicator lamp harness connector M20 terminals 1 and 2.



Security indicator lamp should illuminate.

SEL696Y

OK or NG

OK ► GO TO 3.

NG ► Replace security indicator lamp.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

| | | |
|--|---|--|
| 3 | CHECK POWER SUPPLY CIRCUIT FOR SECURITY INDICATOR LAMP | |
| <p>1. Disconnect security indicator lamp connector. 2. Check voltage between security indicator lamp harness connector M20 terminal 1 (R/G) and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div> <p>Security indicator lamp connector</p> </div> <div> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL697Y</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"> ● 7.5A fuse [No. 24, 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)

FRONT DOOR KEY CYLINDER SWITCH CHECK

=NAEL0406S06

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

Ⓔ With CONSULT-II

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

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

When key inserted in front door key cylinder is turned to LOCK:

KEY CYL LK-SW ON

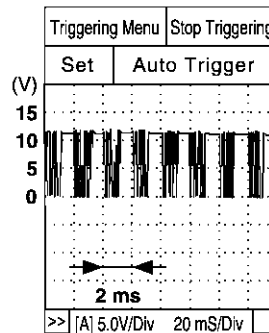
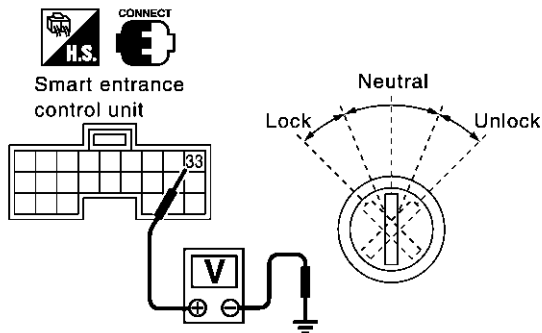
When key inserted in front door key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342WF

ⓧ Without CONSULT-II

1. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with oscilloscope when key inserted in front key cylinder is turned "LOCK" or "UNLOCK".
2. Make sure signals which are shown in the figure below can be detected during 10 sec. just after key is turned "LOCK" or "UNLOCK".



Voltage:
12V → 9V (10 sec.)
measurement by analog
circuit tester.

SEL700Y


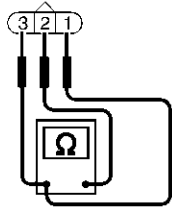
Refer to wiring diagram in EL-338.

OK or NG

| | | |
|----|---|--|
| OK | ▶ | Front door key cylinder switch LH is OK. |
| NG | ▶ | GO TO 2. |

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

| 2 | CHECK FRONT DOOR KEY CYLINDER SWITCH | | | | | | | | | | | | | | |
|-----------|---|---|-----------|--------------|------------|-----------|----------------|----|------|-----|-----------|--------------|----|--------|-----|
| | <p>1. Disconnect front door key cylinder switch LH connector. 2. Check continuity between front door key cylinder switch LH terminals.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;">  <p>Front door key cylinder switch LH connector (D9)</p>  </div> <div style="width: 45%;"> <p>① : Door unlock switch terminal ② : Ground terminal ③ : Door lock switch terminal</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Terminals</th> <th>Key position</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">LH: 3 - 2</td> <td>Neutral/Unlock</td> <td>No</td> </tr> <tr> <td>Lock</td> <td>Yes</td> </tr> <tr> <td rowspan="2">LH: 1 - 2</td> <td>Neutral/Lock</td> <td>No</td> </tr> <tr> <td>Unlock</td> <td>Yes</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL313XB</p> <p style="text-align: center;">OK or NG</p> | | Terminals | Key position | Continuity | LH: 3 - 2 | Neutral/Unlock | No | Lock | Yes | LH: 1 - 2 | Neutral/Lock | No | Unlock | Yes |
| Terminals | Key position | Continuity | | | | | | | | | | | | | |
| LH: 3 - 2 | Neutral/Unlock | No | | | | | | | | | | | | | |
| | Lock | Yes | | | | | | | | | | | | | |
| LH: 1 - 2 | Neutral/Lock | No | | | | | | | | | | | | | |
| | Unlock | Yes | | | | | | | | | | | | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Front door key cylinder switch LH ground circuit ● Harness for open or short between power window main switch and front door key cylinder switch LH | | | | | | | | | | | | | |
| NG | ▶ | Replace front door key cylinder switch LH. | | | | | | | | | | | | | |

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

BACK DOOR KEY CYLINDER SWITCH CHECK

=NAEL0406S07

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

Ⓔ With CONSULT-II

Check back 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 back door key cylinder is turned to LOCK:

KEY CYL LK-SW ON

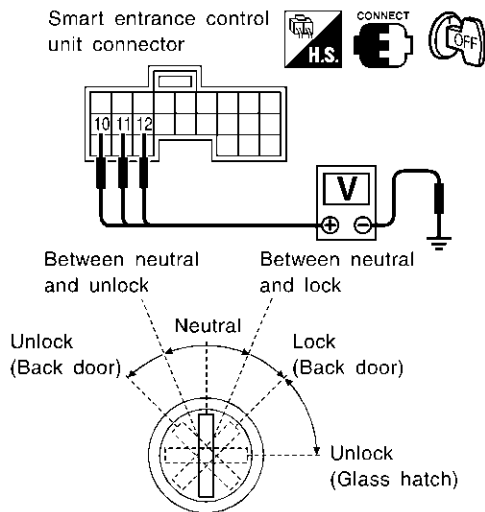
When key inserted in back door key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342WG

ⓧ Without CONSULT-II

Check voltage between smart entrance control unit terminals 10 (LG), 11 (Y) or 12 (W/PU) and ground.



| | Terminals | | Key position | Voltage [V] |
|-------------|-----------|--------|----------------------------|-------------|
| | (+) | (-) | | |
| Back door | 11 | Ground | Between neutral and lock | 0 |
| | | | Other positions | Approx. 5 |
| Back door | 10 | Ground | Between neutral and unlock | 0 |
| | | | Other positions | Approx. 5 |
| Glass hatch | 12 | Ground | Unlock | 0 |
| | | | Other positions | Approx. 5 |

SEL698Y

Refer to wiring diagram in EL-339.

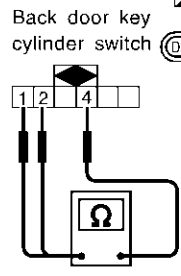
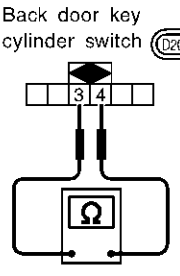

OK or NG

OK ► Back door key cylinder switch is OK.

NG ► GO TO 2.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

| 2 | CHECK BACK DOOR KEY CYLINDER SWITCH | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|--------------|-----------|--|--|--|---|---|---|---|--------------------------------------|---|--|--|---|--|--|---|--|---|---|--|--|---|---|
| 1. Disconnect back door key cylinder switch connector. 2. Check continuity between back door key cylinder switch terminals. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Back door key cylinder switch (D201)</p> </div> <div style="text-align: center;">  <p>Back door key cylinder switch (D201)</p> </div> </div> <div style="text-align: center; margin-top: 10px;">  </div> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="padding: 5px;">Key position</th> <th colspan="4" style="padding: 5px;">Terminals</th> </tr> <tr> <th style="padding: 5px;">1</th> <th style="padding: 5px;">2</th> <th style="padding: 5px;">3</th> <th style="padding: 5px;">4</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Between neutral and lock (Back door)</td> <td style="text-align: center; padding: 5px;">○</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="text-align: center; padding: 5px;">○</td> </tr> <tr> <td style="padding: 5px;">Between neutral and unlock (Back door)</td> <td style="padding: 5px;"></td> <td style="text-align: center; padding: 5px;">○</td> <td style="padding: 5px;"></td> <td style="text-align: center; padding: 5px;">○</td> </tr> <tr> <td style="padding: 5px;">Between lock (Back door) and unlock (glass hatch)</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="text-align: center; padding: 5px;">○</td> <td style="text-align: center; padding: 5px;">○</td> </tr> </tbody> </table> <p style="text-align: right; margin-top: 10px;">SEL345X</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p> | | | Key position | Terminals | | | | 1 | 2 | 3 | 4 | Between neutral and lock (Back door) | ○ | | | ○ | Between neutral and unlock (Back door) | | ○ | | ○ | Between lock (Back door) and unlock (glass hatch) | | | ○ | ○ |
| Key position | Terminals | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | | | | | | | | | | | | | | | | | | | | | | |
| Between neutral and lock (Back door) | ○ | | | ○ | | | | | | | | | | | | | | | | | | | | | | |
| Between neutral and unlock (Back door) | | ○ | | ○ | | | | | | | | | | | | | | | | | | | | | | |
| Between lock (Back door) and unlock (glass hatch) | | | ○ | ○ | | | | | | | | | | | | | | | | | | | | | | |
| OK | ► Check the following. <ul style="list-style-type: none"> ● Back door key cylinder switch ground circuit ● Harness for open or short between smart entrance control unit and back door key cylinder switch | | | | | | | | | | | | | | | | | | | | | | | | | |
| NG | ► Replace back door key cylinder switch. | | | | | | | | | | | | | | | | | | | | | | | | | |

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

=NAEL0406S08

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

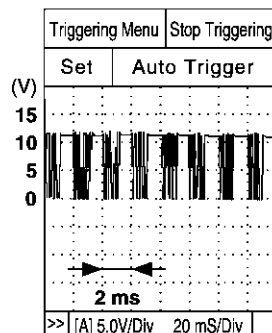
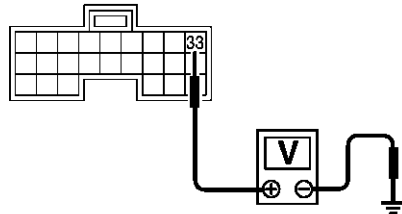
When lock/unlock switch is turned to UNLOCK:

UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Remove key from ignition key cylinder.
2. Check the signal between smart entrance control unit harness connector M122 terminal 33 (BR) and ground with oscilloscope when door lock/unlock switch is turned "LOCK" or "UNLOCK".
3. Make sure signals which are shown in the figure below can be detected during 10 sec. just after door lock/unlock switch is turned "LOCK" or "UNLOCK".



Voltage:

**12V → 9V (10 sec.) measurement
by analog circuit tester.**

SEL699Y

Refer to wiring diagram in EL-338.

OK or NG

OK



Door lock/unlock switch is OK.

NG



Check the following.

- Ground circuit for each front power window switch
- Harness for open or short between each front power window switch and smart entrance control unit connector

If above systems are normal, replace the front power window switch.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

VEHICLE SECURITY HORN ALARM CHECK

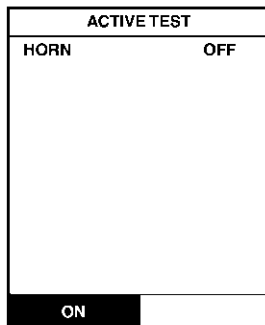
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1 CHECK VEHICLE SECURITY HORN

Ⓔ With CONSULT-II

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

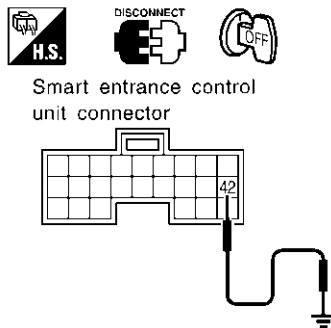


Vehicle security horn alarm should operate.

SEL041Y

⊗ Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector M122 terminal 42 (LG/B).



Vehicle security horn alarm should operate.

SEL043YC

Refer to wiring diagram in EL-339.

OK or NG

| | | |
|----|---|-------------------|
| OK | ▶ | Horn alarm is OK. |
| NG | ▶ | GO TO 2. |

2 CHECK HORN RELAY

Check horn relay.

OK or NG

| | | |
|----|---|---------------------|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace horn relay. |

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

| | | |
|----------|--|--|
| 3 | CHECK POWER SUPPLY FOR HORN RELAY | <p>1. Disconnect horn relay connector.</p> <p>2. Check voltage between horn relay connector E118 terminal 1 (G/B) and ground.</p> |
| | | <p>Battery voltage should exist.</p> |
| SEL326XA | | <p>OK or NG</p> |
| OK | ▶ | GO TO 4. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse (No. 52, located in the fuse and fusible link box) ● Harness for open or short between horn relay and fuse |

| | | |
|----------|---------------------------------|---|
| 4 | CHECK HORN RELAY CIRCUIT | <p>1. Disconnect horn relay connector.</p> <p>2. Check voltage between terminals 3 and 5.</p> <p>3. Check voltage between terminals 6 and 7.</p> |
| | | <p>Battery voltage should exist.</p> |
| SEL348X | | <p>OK or NG</p> |
| OK | ▶ | Check harness for open or short between horn relay and smart entrance control unit. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Harness for open or short between horn relay and fuse ● 7.5A fuse (No. 52, located in the fuse and fusible link box) ● 10A fuse (No. 54, located in the fuse and fusible link box) |

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

VEHICLE SECURITY HEADLAMP ALARM CHECK

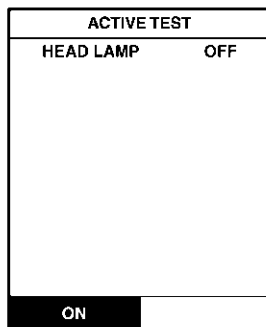
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1 CHECK VEHICLE SECURITY HEADLAMP ALARM OPERATION

Ⓔ With CONSULT-II

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

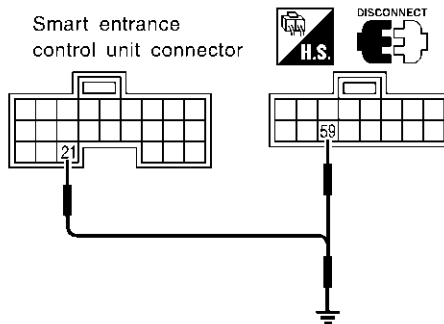


Vehicle security headlamp alarm should operate.

SEL042Y

⊗ Without CONSULT-II

1. Disconnect smart entrance control unit connector.
2. Apply ground to smart entrance control unit harness connector M121, M123 terminals 21 (PU/R) and 59 (PU/W).



Vehicle security headlamp alarm should operate.

SEL198Y

Refer to wiring diagram in EL-340.

OK or NG

| | | |
|----|---|-----------------|
| OK | ▶ | Headlamp is OK. |
| NG | ▶ | GO TO 2. |

2 CHECK HEADLAMP OPERATION

Does headlamp come on when turning lighting switch "ON"?

| | | |
|-----|---|---|
| Yes | ▶ | Check harness for open or short between headlamp relay and smart entrance control unit. |
| No | ▶ | Check headlamp system. Refer to "HEADLAMP". |

SMART ENTRANCE CONTROL UNIT

Description

Description

NAEL0407

NAEL0407S01

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 timer
- Power door lock
- Remote keyless entry 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

NAEL0407S02

Headlamps/Parking Lamps/License Lamps/Tail Lamps/Fog Lamps/Illumination Lamps

NAEL0407S0201

While the headlamps (including parking, license, tail, fog and illumination lamps) are turned ON by "1ST" or "2ND" of lighting switch, the exterior lamp battery saver control is activated when the ignition switch signal changes from ON (or ACC) to OFF, and either one of LH or RH front door switch ON signal is received. The headlamps (including parking, license, tail, fog and illumination lamps) are turned off after 5 minutes.

While the headlamps are turned ON by "AUTO" operation, the exterior lamp battery saver control is activated when the ignition switch is turned from ON (or ACC) to OFF, and either LH or RH front door switch ON signal is input.

The smart entrance control unit controls timer activation as follows:

- When the door switch signal changes from ON to OFF while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the headlamps (including parking, license, tail, fog and illumination lamps) will be turned off.
- When the door switch signal changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the headlamps will be turned off.
- When the one of four door switch signals changes from OFF to ON while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 5 minutes, then the headlamps (including parking, license, tail, fog and illumination lamps) will be turned off.
- When all the door switch ON signals are input while the exterior lamp battery saver is activated, the operation is discontinued, restarts and lasts for 45 seconds, then the headlamps (including parking, license, tail, fog and illumination lamps) will be turned off.

The "45" second timer's duration can be changed with the function setting mode of CONSULT-II.

Interior Lamp/Luggage Room Lamp/Spot Lamp/Vanity Mirror Illumination

NAEL0407S0202

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 keyfob or door lock/unlock switch or door key cylinder.
- Ignition switch ON.
- Door is opened or closed,
- Key is inserted or removed into ignition key cylinder.

Rear Window Defogger/Door Mirror Defogger

NAEL0407S0203

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

NAEL0407S03

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.

SMART ENTRANCE CONTROL UNIT

Description (Cont'd)

INPUT/OUTPUT

NAEL0407S04

| 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 |
| Remote keyless entry | Key switch (Insert) Ignition switch (ACC) Door switches Keyfob signal Door lock/unlock switch LH | Horn relay Headlamp relay (LH and RH) Hazard warning lamp Interior lamp Power window main switch Door lock actuator Opener actuator |
| Warning chime | Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt switch (driver's seat) Front door switch LH | Warning chime (located in smart entrance control unit) |
| Rear window defogger and door mirror defogger | Ignition switch (ON) Rear window defogger switch | Rear window defogger relay |
| Vehicle security | Ignition switch (ACC, ON) Door switches Hood switch Back door switch Glass hatch switch Door lock/unlock switches Door key cylinder switches (lock/unlock) | Horn relay Headlamp relay Security indicator |
| Interior lamp | Door switches Keyfob signal (lock/unlock) Door lock/unlock switches (lock/unlock) Door key cylinder switch (lock/unlock) Ignition switch (ON) Key switch (Insert) | Interior lamp Step lamp Door indicator |
| Battery saver control for headlamps/parking lamps/licence lamps/tail lamps/fog lamps/illumination lamps | Ignition switch (ON) Lighting switches | Headlamps Parking lamps Licence lamps Tail lamps Fog lamps Illumination lamps |
| Battery saver control for interior lamp/spot lamp/vanity mirror illumination | Ignition switch (ON) Front door switches Lamp switches | Interior lamp Step lamp Spot lamp Vanity mirror illumination |
| Battery saver control for rear window defogger and door mirror defogger | Ignition switch (ON) Rear window defogger switch | Rear window defogger relay |
| Retained power control for electric sunroof | Ignition switch (ON) Front door switches | Sunroof motor |
| Retained power control for power window | Ignition switch (ON) Front door switches | Power window relay |
| Headlamp auto light control | Auto light sensor Lighting switches | Headlamp relay Tail lamp relay |

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SMART ENTRANCE CONTROL UNIT

CONSULT-II

CONSULT-II DIAGNOSTIC ITEMS APPLICATION

NAEL0408

NAEL0408S01

| Item (CONSULT-II screen terms) | Diagnosed system | DATA MONITOR | ACTIVE TEST | WORK SUPPORT |
|--------------------------------|---|--------------|-------------|--------------|
| DOOR LOCK | Power door lock | X | 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 | X |
| BATTERY SAVER | Battery saver control for interior lamp | X | X | X |
| THEFT WAR ALM | Vehicle security system | X | X | X |
| RETAINED PWR | Retained power control | X | X | X |
| MULTI REMOTE ENT | Remote keyless entry system | X | X | X |
| HEAD LAMP | Headlamp | X | X | X |

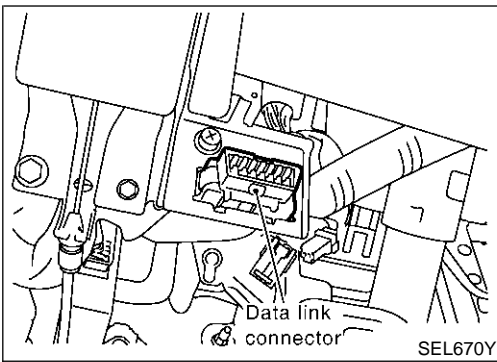
X: Applicable

For diagnostic item in each control system, refer to the relevant pages for each system.

DIAGNOSTIC ITEM DESCRIPTION

NAEL0408S02

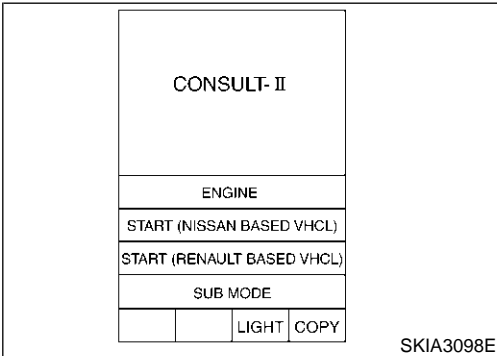
| MODE | Description |
|-----------------------------------|--|
| DATA MONITOR | Input/output data in the smart entrance control unit can be read. |
| ACTIVE TEST | Diagnostic Test Mode in which CONSULT-II drives some systems apart from the smart entrance control unit. |
| WORK SUPPORT for DOOR LOCK | <ul style="list-style-type: none"> ● Select unlock mode ON-OFF setting can be changed. ● Key reminder door mode ON-OFF setting can be changed. |
| WORK SUPPORT for INT LAMP | Interior lamp timer mode ON-OFF setting can be changed. |
| WORK SUPPORT for BATTERY SAVER | Interior lamp battery saver period can be changed. |
| WORK SUPPORT for THEFT WAR ALM | <ul style="list-style-type: none"> ● The recorded trigger signal when vehicle security system was activated can be checked. ● Security alarm ON-OFF setting can be changed. |
| WORK SUPPORT for RETAINED PWR SET | RAP signal's power supply period can be changed. |
| WORK SUPPORT for MULTI REMOTE ENT | <ul style="list-style-type: none"> ● ID code of keyfob can be registered and erased. ● Keyless answer back mode can be changed. ● Pressing time of panic alarm, trunk lid opener and door unlock (for power window down operation) buttons on keyfob can be changed. ● Auto lock operation starting time can be changed. |
| WORK SUPPORT for HEADLAMP | <ul style="list-style-type: none"> ● Auto light sensitivity can be changed. ● Exterior lamp battery saver control ON-OFF setting can be changed. ● Auto light delay off time can be changed. |



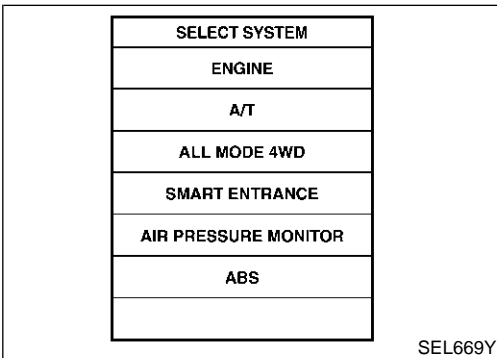
CONSULT-II INSPECTION PROCEDURE

NAEL0408S03

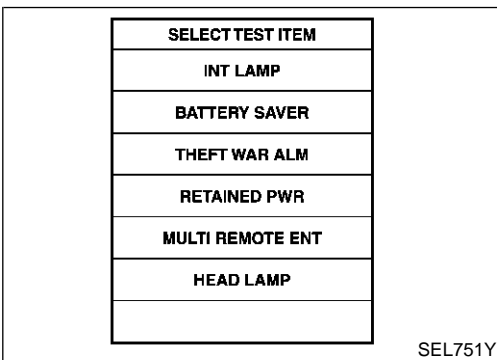
1. Turn the ignition switch "OFF".
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



3. Turn ignition switch "ON".
4. Touch "START (NISSAN BASED VHCL)".



5. Touch "SMART ENTRANCE".
If "SMART ENTRANCE" is not indicated, go to GI-41, "CONSULT-II Data Link Connector (DLC) Circuit".



6. Perform each diagnostic item according to "DIAGNOSTIC ITEMS APPLICATION". Refer to EL-364.

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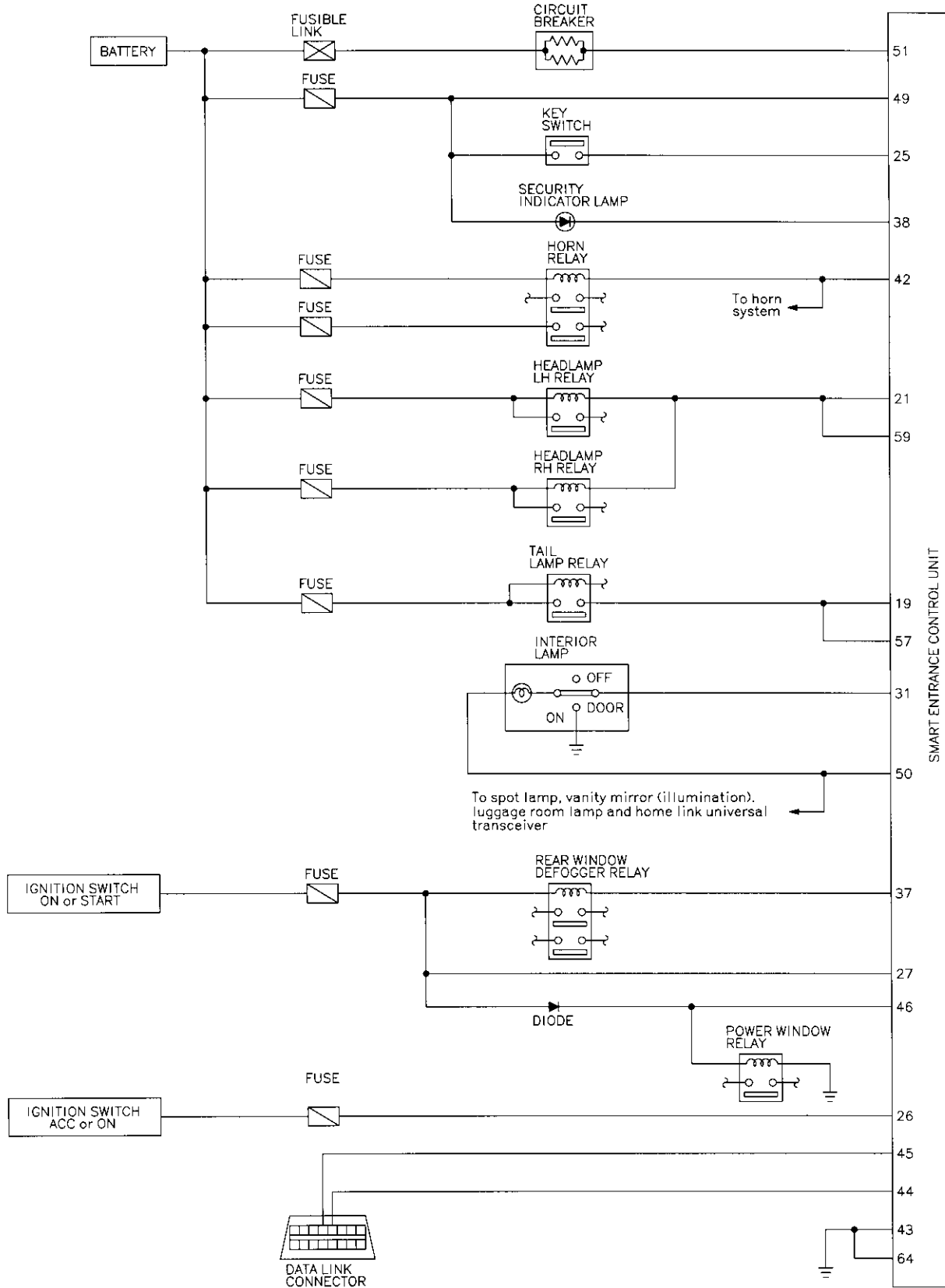
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SMART ENTRANCE CONTROL UNIT

Schematic

NAEL0409

Schematic



MEL086Q

SMART ENTRANCE CONTROL UNIT

Schematic (Cont'd)

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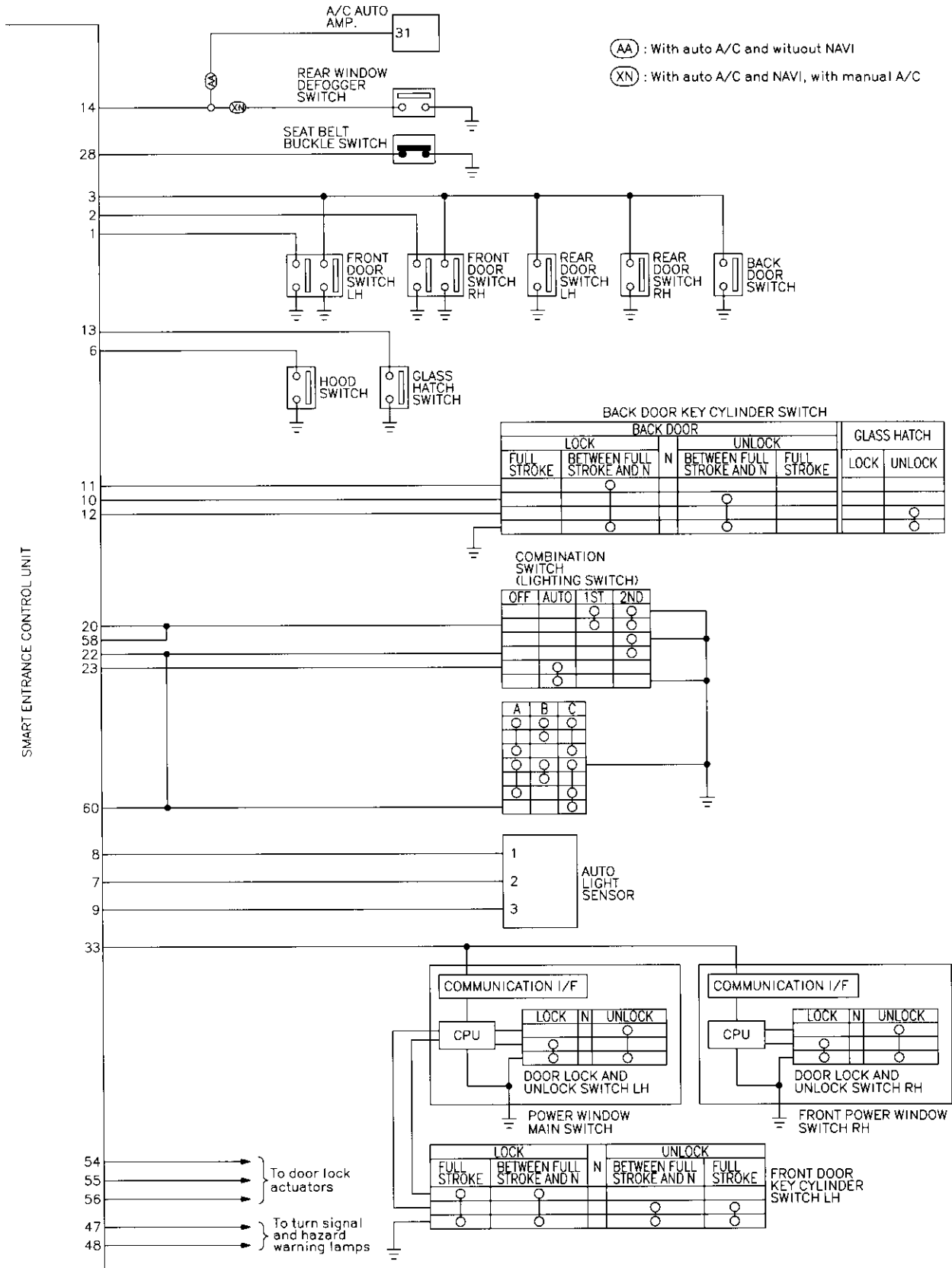
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SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table

Smart Entrance Control Unit Inspection Table

NAEL0410

| Terminal No. | Wire color | Connections | Operated condition | | Voltage (Approximate values) | |
|--------------|------------|--------------------------------------|---|---|---|--------------------|
| 1 | G/OR | Driver door switch | OFF (Closed) → ON (Open) | | 12V → 0V | |
| 2 | Y | Passenger door switch | OFF (Closed) → ON (Open) | | 5V → 0V | |
| 3 | R/L | Rear door switch | OFF (Closed) → ON (Open) | | 5V → 0V | |
| 6 | Y/B | Hood switch | ON (Open) → OFF (Closed) | | 0V → 12V | |
| 7 | W/G | Auto light sensor (Signal) | Ignition switch ON position | Light is applied to auto light sensor. | 1 to 5V | |
| | | | | Light is not applied to auto light sensor. | Less than 1V | |
| 8 | L/R | Auto light sensor (GND) | — | | — | |
| 9 | GY | Auto light sensor (Power) | Ignition switch (OFF → ON) | | 0V → 5V | |
| 10 | LG | Back door key cylinder unlock switch | OFF (Neutral) → ON (Unlocked) | | 5V → 0V | |
| 11 | Y | Back door key cylinder lock switch | OFF (Neutral) → ON (Locked) | | 5V → 0V | |
| 12 | W/PU | Back door key cylinder switch | OFF (Neutral) → ON (Unlock) | | 5V → 0V | |
| 13 | L/W | Glass hatch switch | ON (Open) → OFF (Closed) | | 5V → 0V | |
| 14 | OR | Rear window defogger switch | OFF → ON (Only when pushed) | | 5V → 0V | |
| 19 | R/G | Tail lamp relay (Output) | Ignition switch (with lighting switch 1ST or 2ND) | ON or START → OFF position | More than 5 minutes after ignition switch is turned to OFF position | 12V |
| | | | | | Within 5 minutes 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 1V → 12V |
| 20 | G | Tail lamp switch | Light switch (OFF or AUTO → 1ST or 2ND position) | | 12V → 0V | |
| 21 | PU/R | Headlamp LH relay | Ignition switch (with lighting switch 2ND) | ON or START → OFF position | More than 5 minutes after ignition switch is turned to OFF position | 12V |
| | | | | | Within 5 minutes 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 1V → 12V |

SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table (Cont'd)

| Terminal No. | Wire color | Connections | Operated condition | | Voltage (Approximate values) |
|--------------|------------|--|---|---|------------------------------|
| 22 | SB | Headlamp switch | Lighting switch | Except PASS or 2ND position | 12V |
| | | | | PASS or 2ND position | 0V |
| | | | Headlamps illuminate by auto light control. (Operate → Not operate) | | |
| 23 | L/Y | Headlamp switch | Ignition switch "ON" position | Lighting switch (Except AUTO → AUTO position) | 12V → 0V |
| 25 | W/R | Ignition key switch (Insert) | Key inserted → Key removed from IGN key cylinder | | 12V → 0V |
| 26 | G/W | Ignition switch (ACC) | "ACC" position | | 12V |
| 27 | W/B | Ignition switch (ON) | Ignition key is in "ON" position | | 12V |
| 28 | B/Y | Seat belt buckle switch | Unfastened → Fastened (Ignition key is in "ON" position) | | 0V → 12V |
| 31 | R/B | Interior lamp | When doors are locked using keyfob (Lamp switch in "DOOR" position) | | 0V → 12V |
| 33 | BR | Communication interface | Door lock and unlock switches (Neutral → Lock/unlock) | | Refer to EL-370. |
| | | | Front door key cylinder switch LH (Neutral → Lock/unlock) | | |
| 37 | G/B | Rear window defogger relay | OFF → ON (Ignition key is in "ON" position) | | 12V → 0V |
| 38 | BR/Y | Security indicator | Goes off → Illuminates | | 12V → 0V |
| 42 | LG/B | Horn relay | When panic alarm is operated using keyfob (ON → OFF) | | 12V → 0V |
| 43 | B | Ground | — | | — |
| 46 | R/Y | Power window relay | Retained power operation is operated (ON → OFF) | | 12V → 0V |
| 47 | GY/L | LH turn signal lamp | When door lock or unlock is operated using keyfob (ON → OFF) | | 12V → 0V |
| 48 | GY/R | RH turn signal lamp | When door lock or unlock is operated using keyfob (ON → OFF) | | 12V → 0V |
| 49 | G/R | Power source (Fuse) | — | | 12V |
| 50 | R/W | Battery saver (Interior lamp) | Battery saver operates → Does not operate (ON → OFF) | | 12V → 0V |
| 51 | W/R | Power source (PTC) | — | | 12V |
| 54 | L | Door lock actuators | Door lock & unlock switch (Free → Lock) | | 0V → 12V |
| 55 | W/PU | Driver door lock actuator | Door lock & unlock switch (Free → Unlock) | | 0V → 12V |
| 56 | Y/B | Passenger, rear and back doors lock actuator | Door lock & unlock switch (Free → Unlock) | | 0V → 12V |

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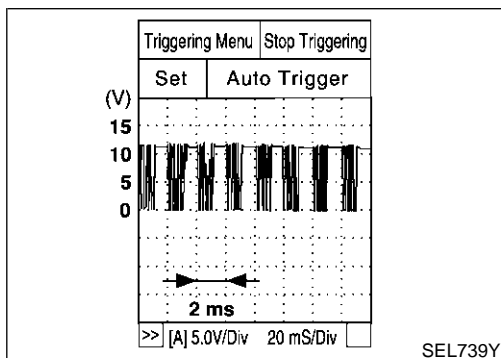
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SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table (Cont'd)

| Terminal No. | Wire color | Connections | Operated condition | | | Voltage (Approximate values) |
|--------------|------------|-------------------|---|-------------------------------|---|------------------------------|
| 57 | R | Tail lamp relay | Ignition switch (with lighting switch 1ST or 2ND) | ON or START → OFF position | More than 5 minutes after ignition switch is turned to OFF position | 12V |
| | | | | | Within 5 minutes after ignition switch is turned to OFF position | 0V |
| | | | | ON or START position | | |
| | | | Headlamps illuminate by auto light control. (Operate → Not operate) | | | Less than 1V → 12V |
| 58 | G/W | Tail lamp switch | Lighting switch OFF or AUTO → 1ST or 2ND | | | 12V → 0V |
| 59 | PU/W | Headlamp RH relay | Ignition switch (with lighting switch OFF or 1ST) | ON or START → OFF position | More than 5 minutes after ignition switch is turned to OFF position | 12V |
| | | | | | Within 5 minutes after ignition switch is turned to OFF position | 0V |
| | | | | ON or START position | | |
| | | | Headlamps illuminate by auto light control. (Operate → Not operate) | | | Less than 1V → 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) | | | 10V → 12V |
| 64 | B | Ground | — | | | — |



COMMUNICATION INTERFACE SIGNAL

NAEL0410S02

Voltage:

12 V → 9V (10 sec.) measurement by analog circuit tester.

HOMELINK UNIVERSAL TRANSCEIVER

Trouble Diagnoses

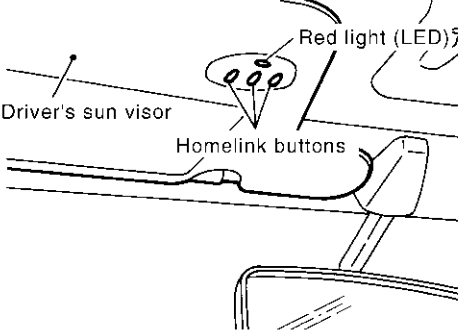
Trouble Diagnoses DIAGNOSTIC PROCEDURE

NAEL0412

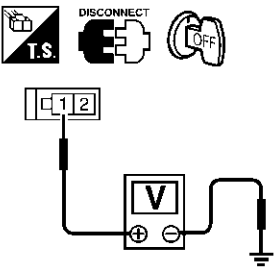
NAEL0412S01

SYMPTOM: Homelink universal transceiver 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.

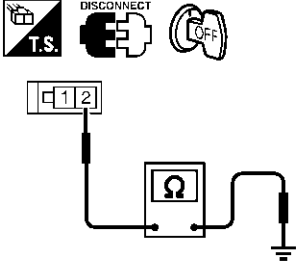
| | | |
|--|--------------------------|----------|
| 1 | PRELIMINARY CHECK | |
| <p>1. Turn ignition switch "OFF". 2. Does red light (LED) of homelink universal transceiver illuminate when any button is pressed?</p> | | |
|  | | |
| SEL442UA | | |
| Yes or No | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO 3. |

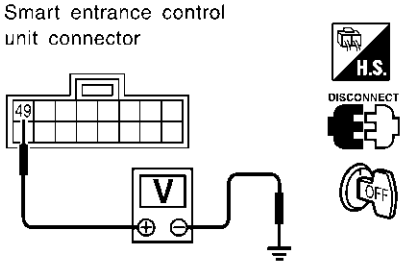
| | | |
|--|--|---|
| 2 | CHECK HOMELINK UNIVERSAL TRANSCEIVER FUNCTION | |
| <p>Check homelink universal transceiver with Tool. For details, refer to Technical Service Bulletin.</p> | | |
| OK or NG | | |
| OK | ▶ | Receiver or handheld transmitter fault, not vehicle related. |
| NG | ▶ | Replace homelink universal transceiver with sun visor assembly. |

| | | |
|---|---------------------------|----------|
| 3 | CHECK POWER SUPPLY | |
| <p>1. Disconnect homelink universal transceiver connector. 2. Turn ignition switch "OFF". 3. Check voltage between homelink universal transceiver harness connector R5 terminal 1 (R/G) and ground.</p> | | |
|  | | |
| Battery voltage should exist. | | |
| SEL358X | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | GO TO 5. |

HOMELINK UNIVERSAL TRANSCEIVER

Trouble Diagnoses (Cont'd)

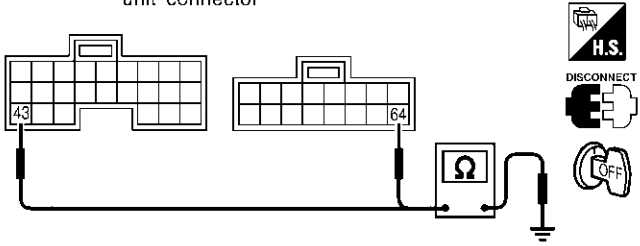
| | | | |
|----------|-----------------------------|---|---------------------------------|
| 4 | CHECK GROUND CIRCUIT | | |
| | | Check continuity between homelink universal transceiver harness connector R5 terminal 2 (B) and ground. | |
| | |  | Continuity should exist. |
| | | OK or NG | SEL359X |
| OK | ▶ | Replace homelink universal transceiver with sun visor assembly. | |
| NG | ▶ | Repair harness. | |

| | | | |
|----------|--|---|--------------------------------------|
| 5 | CHECK MAIN POWER SUPPLY FOR SMART ENTRANCE CONTROL UNIT | | |
| | | 1. Disconnect smart entrance control unit. 2. Check voltage between smart entrance control unit harness connector M123 terminal 49 (G/R) and ground. | |
| | |  | Battery voltage should exist. |
| | | OK or NG | SEL284Y |
| OK | ▶ | GO TO 6. | |
| NG | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse No. 24, located in fuse block (J/B) | |

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HOMELINK UNIVERSAL TRANSCEIVER

Trouble Diagnoses (Cont'd)

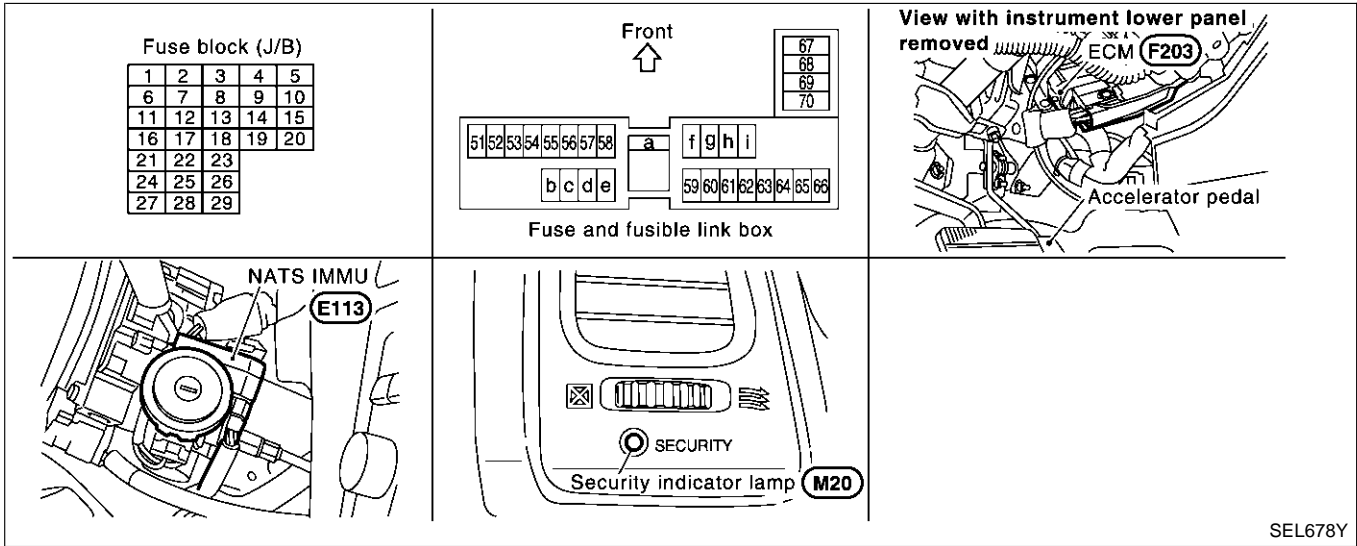
| 6 | CHECK GROUND CIRCUIT FOR SMART ENTRANCE CONTROL UNIT |
|---|---|
| <p>Check continuity between smart entrance control unit harness connector M122 terminal 43 (B) or M123 terminal 64 (B) and ground.</p> | |
| <p>Smart entrance control unit connector</p>  <p>Continuity should exist.</p> <p>SEL285Y</p> <p>OK or NG</p> | |
| OK | ▶ Power supply and ground circuits are OK. |
| NG | ▶ Check ground harness. |

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0413



NOTE:

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

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

System Description

System Description

=NAEL0414

NATS (Nissan Anti-Theft System) has the following immobilizer functions:

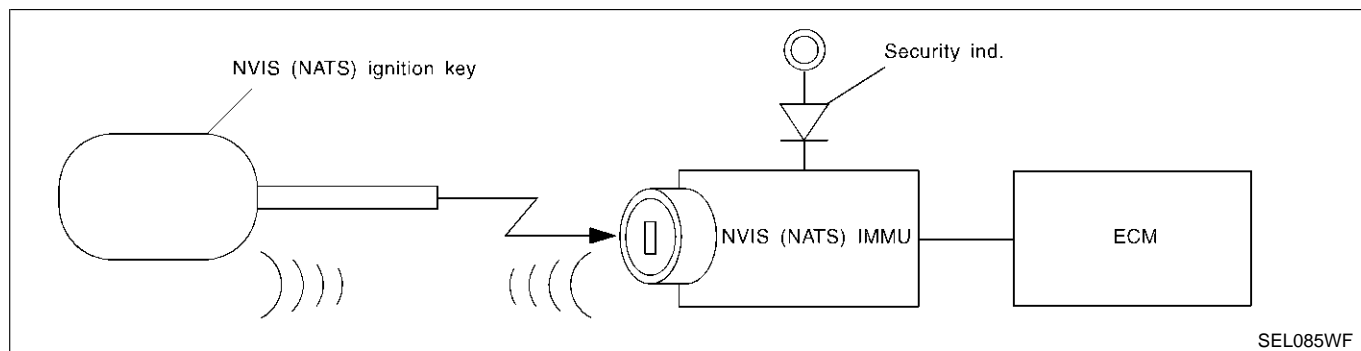
- Since only NVIS (NATS) ignition keys, whose ID nos. have been registered into the ECM and IMMU of NVIS (NATS), allow the engine to run, operation of a stolen vehicle without an NVIS (NATS) registered key is prevented by NVIS (NATS).
That is to say, NVIS (NATS) will immobilise the engine if someone tries to start it without the registered key of NVIS (NATS).
- All of the originally supplied ignition key IDs (except for card plate key) have been NVIS (NATS) registered.
If requested by the vehicle owner, a maximum of five key IDs can be registered into the NVIS (NATS) components.
- The security indicator blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, NVIS (NATS) warns outsiders that the vehicle is equipped with the anti-theft system.
- When NVIS (NATS) detects trouble, the security indicator lamp lights up while ignition key is in the “ON” position.
- NVIS (NATS) trouble diagnoses, system initialization and additional registration of other NVIS (NATS) ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NVIS (NATS) software. When NVIS (NATS) initialization has been completed, the ID of the inserted ignition key is automatically NVIS (NATS) registered. Then, if necessary, additional registration of other NVIS (NATS) ignition key IDs can be carried out.
Regarding the procedures of NVIS (NATS) initialization and NVIS (NATS) ignition key ID registration, refer to CONSULT-II operation manual, IVIS/NVIS.
- **When servicing a malfunction of the NVIS (NATS) (indicated by lighting up of Security Indicator Lamp) or registering another NVIS (NATS) 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

NAEL0415

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

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



NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

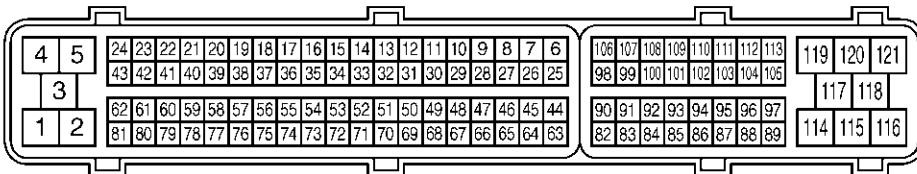
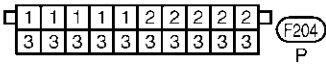
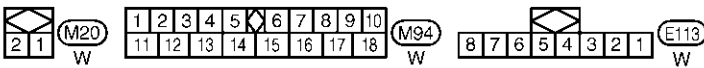
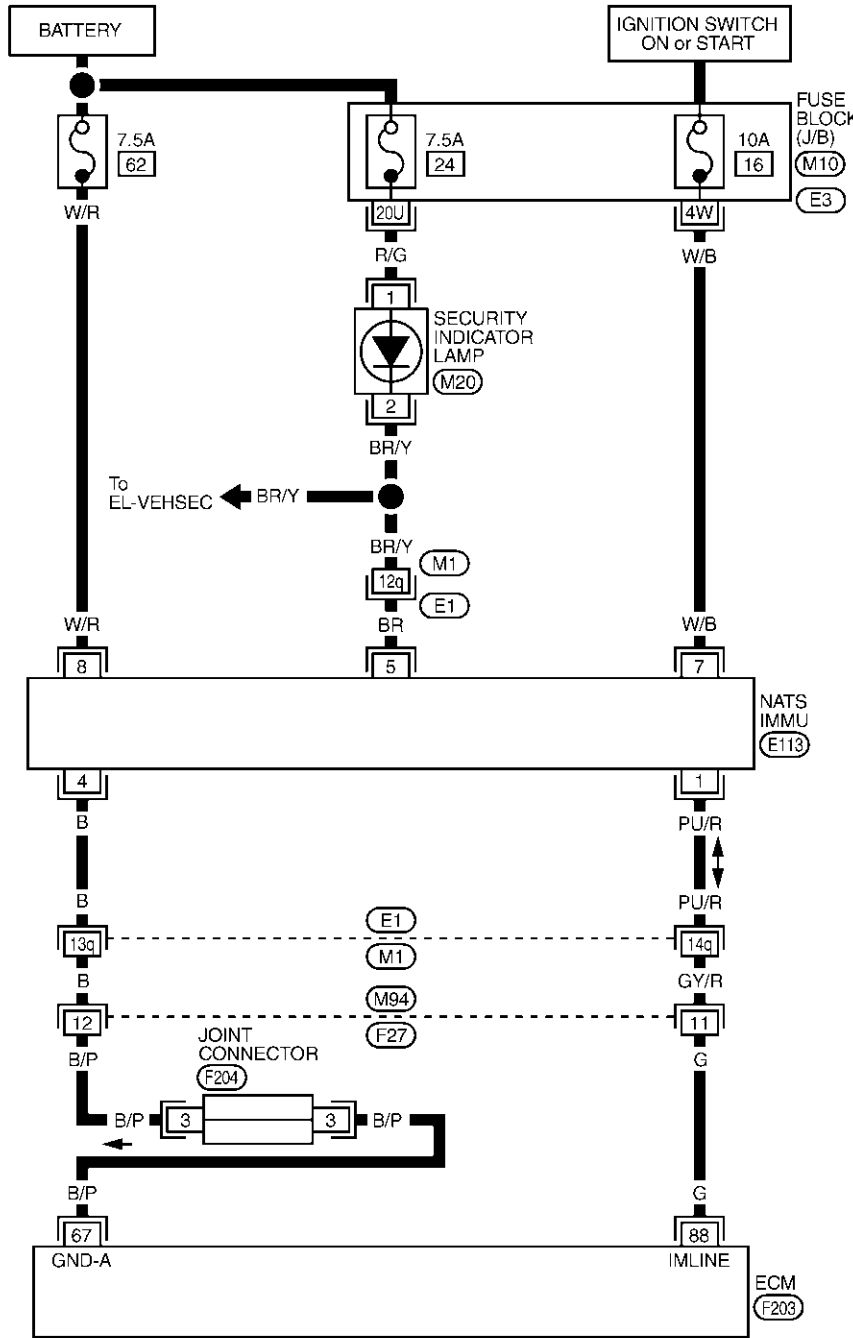
Wiring Diagram — NATS —

Wiring Diagram — NATS —

NAEL0416

EL-NATS-01

Refer to EL-POWER.



REFER TO THE FOLLOWING.

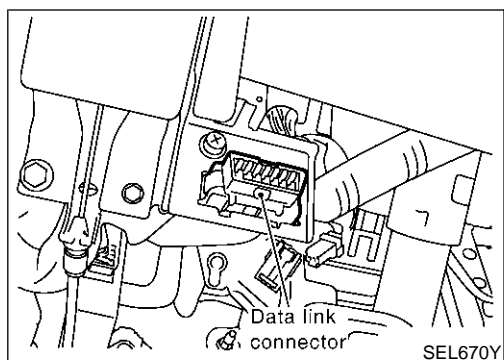
- (E1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M10), (E3) -FUSE BLOCK-JUNCTION BOX (J/B)

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MEL041Q

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

CONSULT-II



CONSULT-II

CONSULT-II INSPECTION PROCEDURE

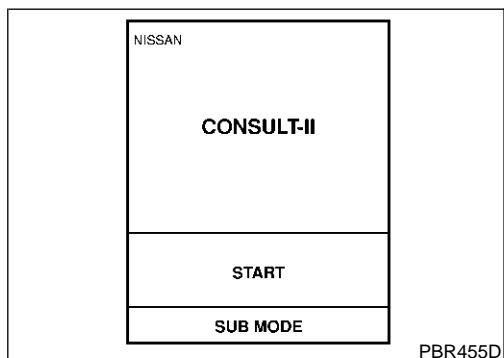
NAEL0417

NAEL0417S01

1. Turn ignition switch OFF.
2. Insert NVIS (NATS) program card into CONSULT-II.

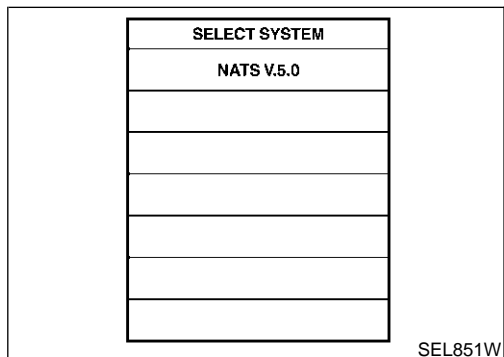
Program card NATS (AEN02C)

3. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to data link connector.
4. Turn ignition switch ON.
5. Touch "START".



PBR455D

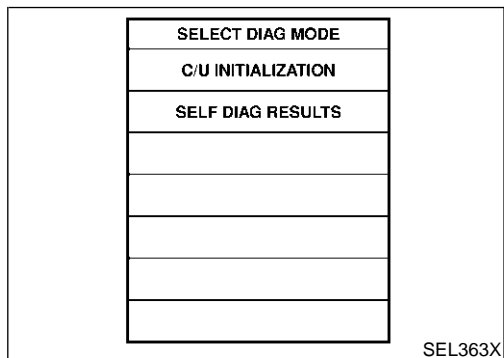
6. Select "NATS V.5.0".



SEL851W

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

For further information, see the CONSULT-II Operation Manual, IVIS/NVIS.



SEL363X

CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

NAEL0417S02

| 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 NVIS (NATS) ignition keys are necessary. [NVIS (NATS) ignition key/IMMU/ECM] |
| SELF-DIAG RESULTS | Detected items (screen terms) are as shown in the chart EL-379. |

NOTE:

- When any initialization is performed, all ID previously registered will be erased and all NVIS (NATS) ignition keys must be registered again.
- The engine cannot be started with an unregistered key. In this case, the system 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

NAEL0417S03

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

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”.

← When touched, the results are printed out.

SEL364X

NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART

NAEL0417S04

| 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-383 |
| 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-384 |
| 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-388 |
| CHAIN OF IMMU-KEY | NATS MAL-FUNCTION P1614 | IMMU cannot receive the key ID signal. | EL-389 |
| ID DISCORD, IMM-ECM | NATS MAL-FUNCTION P1611 | The result of ID verification between IMMU and ECM is NG. System initialization is required. | EL-390 |

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

CONSULT-II (Cont'd)

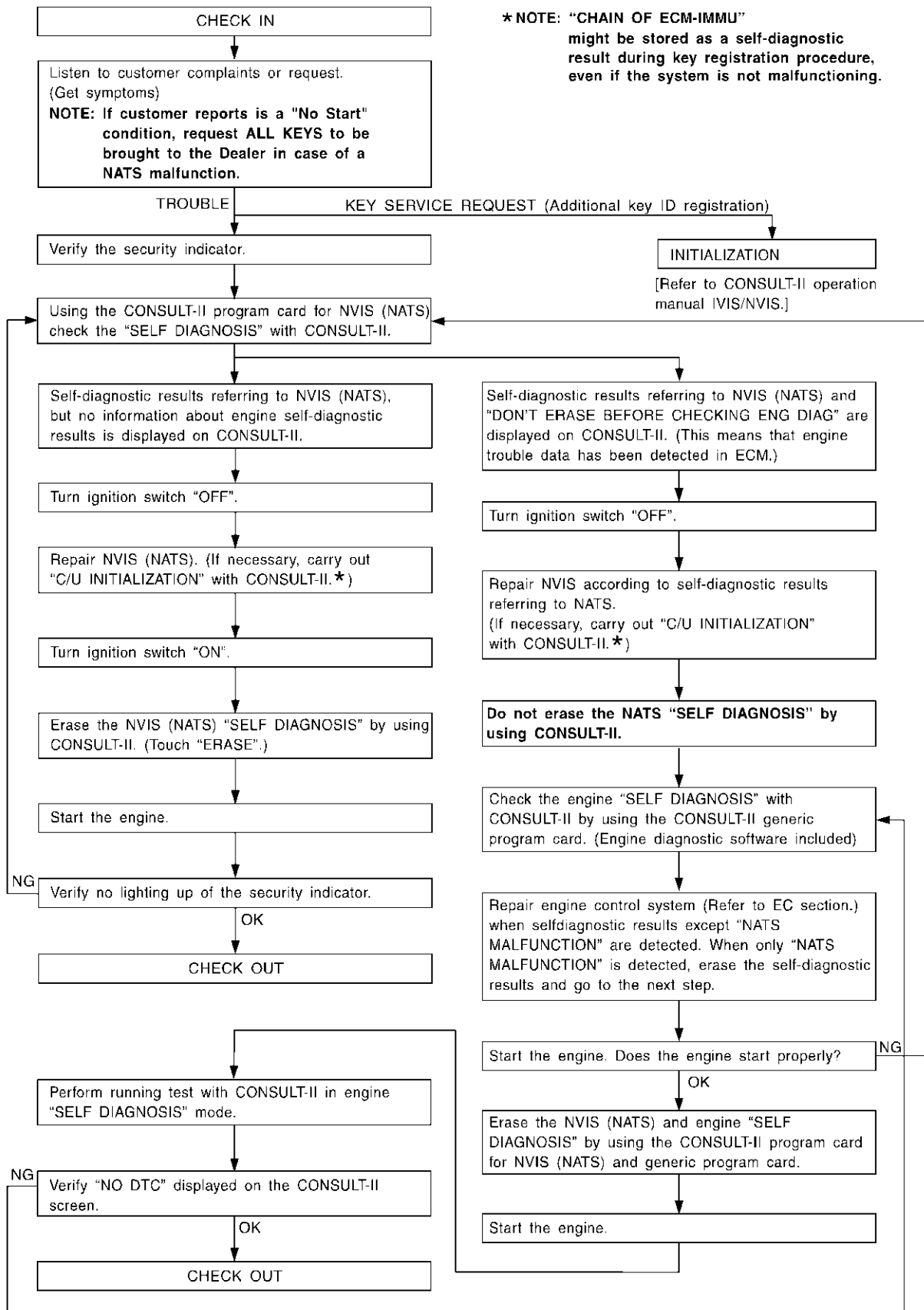
| Detected items (NATS program card screen terms) | P No. Code (Self-diagnostic result of "ENGINE") | Malfunction is detected when | Reference page |
|---|---|---|----------------|
| LOCK MODE | NATS MALFUNCTION P1610 | When the starting operation is carried out five or more times consecutively under the following conditions, NVIS (NATS) will shift the mode to one which prevents the engine from being started. <ul style="list-style-type: none">● Unregistered ignition key is used.● IMMU or ECM's malfunctioning. | EL-393 |
| DON'T ERASE BEFORE CHECKING ENG DIAG | — | All engine trouble codes except NVIS (NATS) trouble code has been detected in ECM. | EL-381 |

Trouble Diagnoses WORK FLOW

NAEL0418

NAEL0418S01

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

SYMPTOM MATRIX CHART 1 (Self-diagnosis related item)

NAEL0418S02

| 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 cannot be started. | ECM INT CIRC-IMMU | PROCEDURE 1 (EL-383) | ECM | B |
| | CHAIN OF ECM-IMMU | PROCEDURE 2 (EL-384) | In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning. | — |
| | | | Open circuit in battery voltage line of IMMU circuit | C1 |
| | | | Open circuit in ignition line of IMMU circuit | C2 |
| | | | Open circuit in ground line of IMMU circuit | C3 |
| | | | Open circuit in communication line between IMMU and ECM | C4 |
| | | | Short circuit between IMMU and ECM communication line and battery voltage line | C4 |
| | | | Short circuit between IMMU and ECM communication line and ground line | C4 |
| | | | ECM | B |
| | | | IMMU | A |
| | DIFFERENCE OF KEY | PROCEDURE 3 (EL-388) | Unregistered key | D |
| | | | IMMU | A |
| | CHAIN OF IMMU-KEY | PROCEDURE 4 (EL-389) | Malfunction of key ID chip | E |
| | | | IMMU | A |
| | ID DISCORD, IMM-ECM | PROCEDURE 5 (EL-390) | System initialization has not yet been completed. | F |
| ECM | | | F | |
| LOCK MODE | PROCEDURE 7 (EL-393) | LOCK MODE | D | |
| <ul style="list-style-type: none"> ● MIL staying ON ● Security indicator lighting up* | DON'T ERASE BEFORE CHECKING ENG DIAG | WORK FLOW (EL-381) | Engine trouble data and NVIS (NATS) trouble data have been detected in ECM | — |

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

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

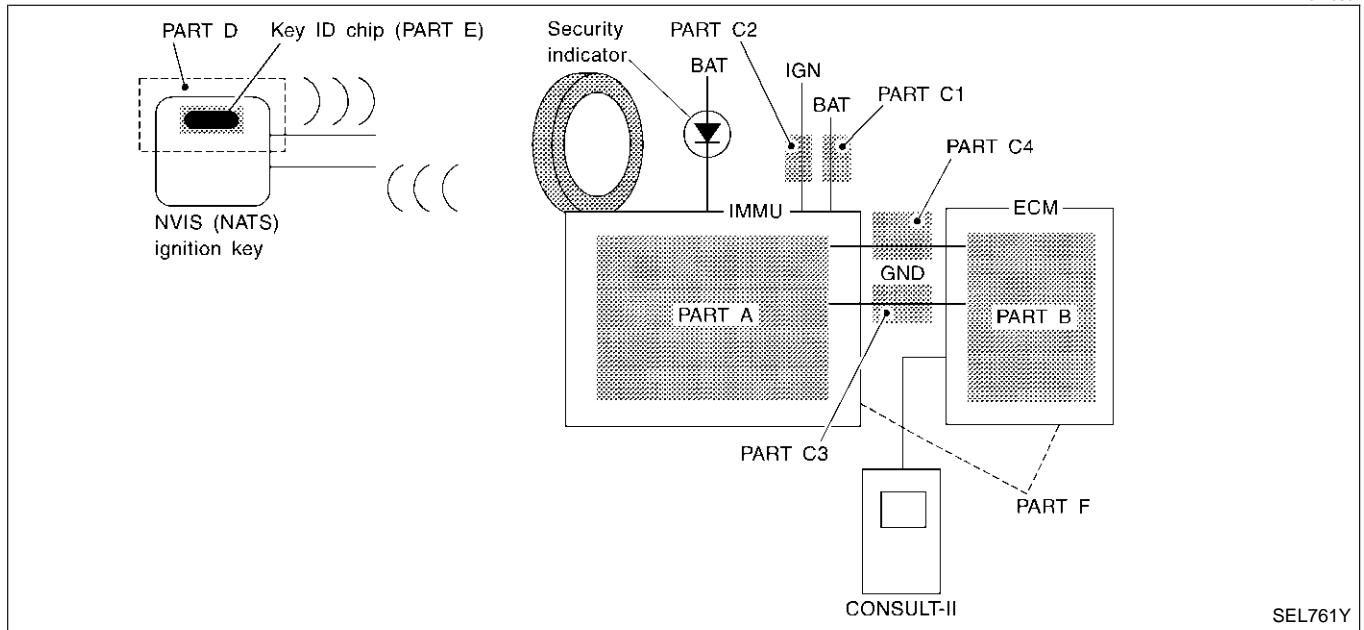
SYMPTOM MATRIX CHART 2 (Non self-diagnosis related item)

NAEL0418S03

| SYMPTOM | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) |
|----------------------------------|--|---|
| Security ind. does not light up. | PROCEDURE 6 (EL-391) | Security ind. |
| | | Open circuit between Fuse and IMMU |
| | | Continuation of initialization mode |
| | | IMMU |

DIAGNOSTIC SYSTEM DIAGRAM

NAEL0418S04



| SELF DIAG RESULTS | |
|-------------------|------|
| DTC RESULTS | TIME |
| ECM INT CIRC-IMMU | 0 |
| | |
| | |

SEL365X

DIAGNOSTIC PROCEDURE 1

NAEL0418S05

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”.

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

=NAEL0418S06

Self-diagnostic results:

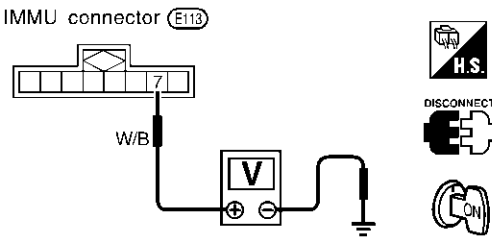
“CHAIN OF ECM-IMMU” displayed on CONSULT-II screen

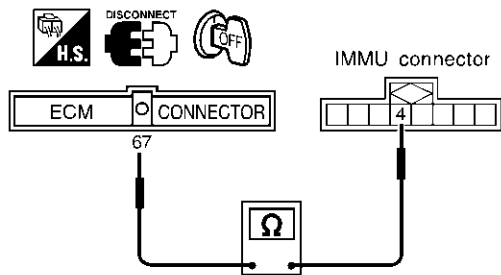
| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS | | | | | | | | | | | |
|--|--|-------------------------------|-------------------|--|-------------|------|-------------------|---|--|--|--|--|
| <p>Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF ECM-IMMU” displayed on CONSULT-II screen.</p> <p>NOTE: In rare case, “CHAIN 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 DIAG RESULTS</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 DIAG RESULTS | | DTC RESULTS | TIME | CHAIN OF ECM-IMMU | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| CHAIN OF ECM-IMMU | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL366X | | | | | | | | | | | | |
| 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> | | |
| | | |
| SEL302WD | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | <p>Check the following</p> <ul style="list-style-type: none"> ● 7.5A fuse (No. 62, located in the fuse and fusible link box) ● Harness for open or short between fuse and IMMU connector <p>Ref. Part No. C1</p> |

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

| | | | |
|--|--------------------------------|--|----|
| 3 | CHECK IGN SW. ON SIGNAL | | GI |
| <ol style="list-style-type: none"> Turn ignition switch ON. Check voltage between terminal 7 of IMMU and ground with CONSULT-II or tester. | | MA | |
|  <p style="text-align: center;">IMMU connector (E113)</p> <p style="text-align: center;">W/B</p> <p style="text-align: center;">V</p> <p style="text-align: center;">H.S.</p> <p style="text-align: center;">DISCONNECT</p> <p style="text-align: center;">ON</p> | | EM | |
| | | Battery voltage should exist. | LC |
| | | EC | |
| | | FE | |
| | | CL | |
| | | MT | |
| | | AT | |
| | | TF | |
| | | PD | |
| | | AX | |
| | | SU | |
| | | BR | |
| | | ST | |
| | | RS | |
| | | BT | |
| | | HA | |
| | | SC | |
| | | EL | |
| | | IDX | |
| | | SEL303WF | |
| OK or NG | | | |
| OK | ▶ | GO TO 4. | |
| NG | ▶ | Check the following <ul style="list-style-type: none"> 10A fuse [No. 16, located in the fuse block (J/B)] Harness for open or short between fuse and IMMU connector Ref. part No. C2 | |

| | | | |
|---|--------------------------------------|---|----|
| 4 | CHECK GROUND CIRCUIT FOR IMMU | | GI |
| <ol style="list-style-type: none"> Turn ignition OFF. Check harness continuity between IMMU connector E113 terminal 4 (B) and ECM connector F203 terminal 67 (B/P). | | MA | |
|  <p style="text-align: center;">ECM CONNECTOR</p> <p style="text-align: center;">67</p> <p style="text-align: center;">IMMU connector</p> <p style="text-align: center;">4</p> <p style="text-align: center;">Ω</p> <p style="text-align: center;">H.S.</p> <p style="text-align: center;">DISCONNECT</p> <p style="text-align: center;">OFF</p> | | EM | |
| | | Continuity should exist. | LC |
| | | EC | |
| | | FE | |
| | | CL | |
| | | MT | |
| | | AT | |
| | | TF | |
| | | PD | |
| | | AX | |
| | | SU | |
| | | BR | |
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| | | RS | |
| | | BT | |
| | | HA | |
| | | SC | |
| | | EL | |
| | | IDX | |
| | | SEL762Y | |
| OK or NG | | | |
| OK | ▶ | GO TO 5. | |
| NG | ▶ | Repair harness. Ref. part No. C3 | |

NVIS (NISSAN 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 88 and IMMU terminal 1.</p> | | |
| | | |
| Continuity should exist. | | |
| SEL740Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 6. |
| NG | ▶ | Repair harness or connector. Ref. part No. C4 |

| | | |
|---|---|---|
| 6 | CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT | |
| <p>1. Turn ignition ON. 2. Check voltage between ECM terminal 88 or IMMU terminal 1 and ground.</p> | | |
| | | |
| Voltage: 0V | | |
| SEL741Y | | |
| 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 |

NVIS (NISSAN 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 88 or IMMU terminal 1 and ground.</p> | | |
| | | |
| SEL742Y | | |
| 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 harness connector F203 terminal 88 (G) 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". |

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

=NAEL0418S07

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"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>DIFFERENCE OF KEY</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> | | | SELF DIAG RESULTS | | DTC RESULTS | TIME | DIFFERENCE OF KEY | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| DIFFERENCE OF KEY | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL367X | | | | | | | | | | | | |
| Is CONSULT-II screen displayed as above? | | | | | | | | | | | | |
| Yes | ▶ | GO TO 2. | | | | | | | | | | |
| No | ▶ | GO TO SYMPTOM MATRIX CHART 1. | | | | | | | | | | |

| 2 | PERFORM INITIALIZATION WITH CONSULT-II | | | | |
|--|---|---|---------------------|------------------------|--|
| Perform initialization with CONSULT-II. Re-register all NVIS (NATS) ignition key IDs. For initialization and registration of NVIS (NATS) ignition key IDs, refer to “CONSULT-II operation manual NVIS/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 | | | | | |
| 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 NVIS (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”. | | | |

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

=NAEL0418S08

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" style="margin: auto;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</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 DIAG RESULTS | | DTC RESULTS | TIME | CHAIN OF IMMU-KEY | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| CHAIN OF IMMU-KEY | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL368X | | | | | | | | | | | | |
| Is CONSULT-II screen displayed as above? | | | | | | | | | | | | |
| Yes | ▶ | GO TO 2. | | | | | | | | | | |
| No | ▶ | GO TO SYMPTOM MATRIX CHART 1. | | | | | | | | | | |

| | | |
|--|---|--|
| 2 | CHECK NVIS (NATS) IGNITION KEY ID CHIP | |
| Start engine with another registered NVIS (NATS) ignition key. | | |
| Does the engine start? | | |
| Yes | ▶ | Ignition key ID chip is malfunctioning. Replace the ignition key. Ref. part No. E Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II Operation Manual IVIS/NVIS". |
| No | ▶ | GO TO 3. |

| | | |
|---|--------------------------------|---|
| 3 | CHECK IMMU INSTALLATION | |
| Check IMMU installation. Refer to "How to Replace IMMU" in EL-394. | | |
| 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. |

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

=NAEL0418S09

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 DIAG RESULTS</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 DIAG RESULTS | | DTC RESULTS | TIME | ID DISCORD, IMM-ECM | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| ID DISCORD, IMM-ECM | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL369X | | | | | | | | | | | | |
| <p>NOTE: “ID DISCORD IMM-ECM”: Registered ID of IMMU 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. | | | | | | | | | | |

| 2 | PERFORM INITIALIZATION WITH CONSULT-II | | | | |
|--|---|---|---------------------|------------------------|--|
| Perform initialization with CONSULT-II. Re-register all NVIS (NATS) ignition key IDs. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”. | | | | | |
| <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”. | | | |

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

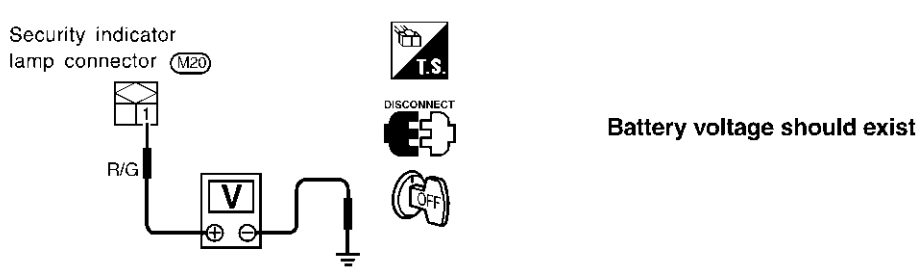
DIAGNOSTIC PROCEDURE 6

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

=NAEL0418S10

| | | |
|---|-------------------|---------------|
| 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. <p>Security indicator lamp should be blinking.</p> | | |
| 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. | | |
|  | | |
| SEL370XA | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Check harness for open or short between fuse and security indicator lamp. |

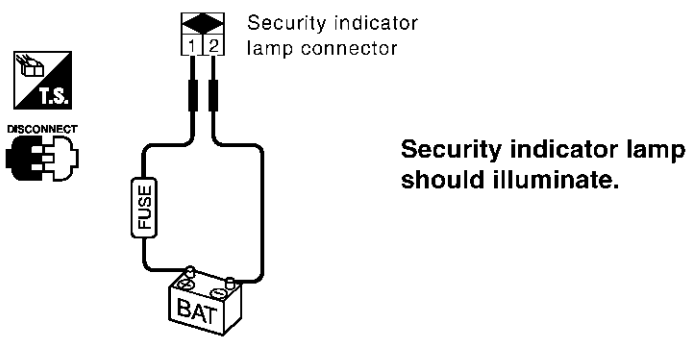
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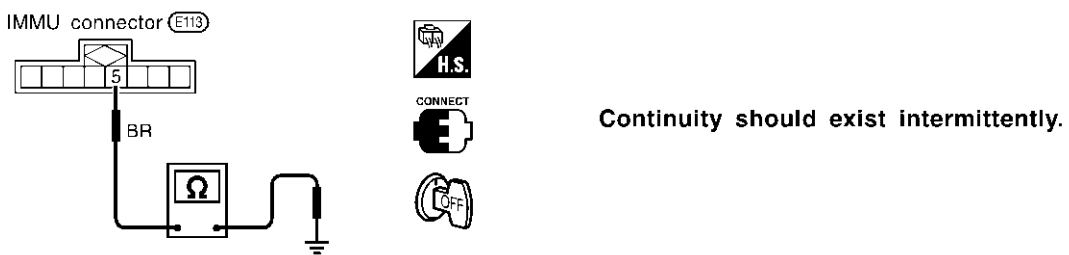
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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

| 4 | | CHECK SECURITY INDICATOR LAMP |
|--|---|----------------------------------|
| <p>1. Disconnect security indicator lamp connector. 2. Apply 12V direct current to security indicator lamp harness connector M20 terminals 1 and 2.</p> | | |
|  <p style="text-align: right;">Security indicator lamp should illuminate.</p> | | |
| SEL696Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | Replace security indicator lamp. |

| 5 | | CHECK IMMU FUNCTION |
|--|---|--|
| <p>1. Connect IMMU connector. 2. Disconnect security indicator lamp connector. 3. Check continuity between IMMU terminal 5 and ground.</p> | | |
|  <p style="text-align: right;">Continuity should exist intermittently.</p> | | |
| SEL300WC | | |
| OK or NG | | |
| 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". |

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

=NAEL0418S11

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" style="margin: auto;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</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 DIAG RESULTS | | DTC RESULTS | TIME | LOCK MODE | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| LOCK MODE | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL371X | | | | | | | | | | | | |
| 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. |

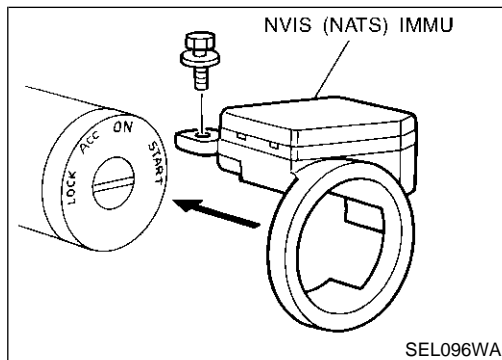
| | | |
|--|--------------------------------|---------------------------|
| 3 | CHECK IMMU ILLUSTRATION | |
| Check IMMU installation. Refer to “How to Replace IMMU” in EL-394. | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Reinstall IMMU correctly. |

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

| | | | | | |
|---|---|---|----------------------------|------------------------|--|
| 4 | PERFORM INITIALIZATION WITH CONSULT-II | | | | |
| <p>Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".</p> | | | | | |
| <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. | | | | | |
| SEL297W | | | | | |
| <p>NOTE: If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.</p> | | | | | |
| Can the system be initialized? | | | | | |
| Yes | ▶ | System is OK. | | | |
| No | ▶ | GO TO DIAGNOSTIC PROCEDURE 4 to check "CHAIN OF IMMU-KEY", refer to EL-389. | | | |



How to Replace NVIS (NATS) IMMU

NAEL0419

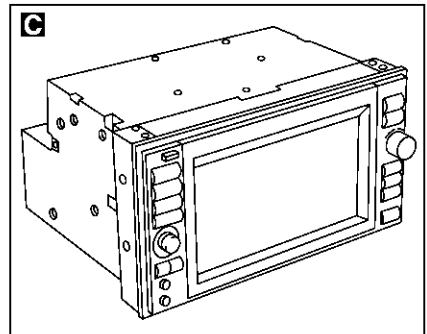
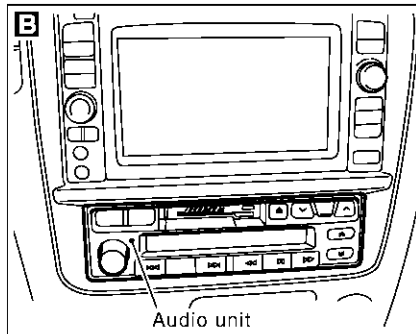
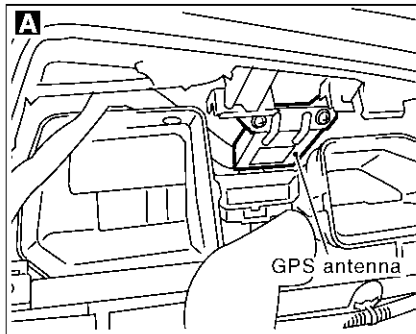
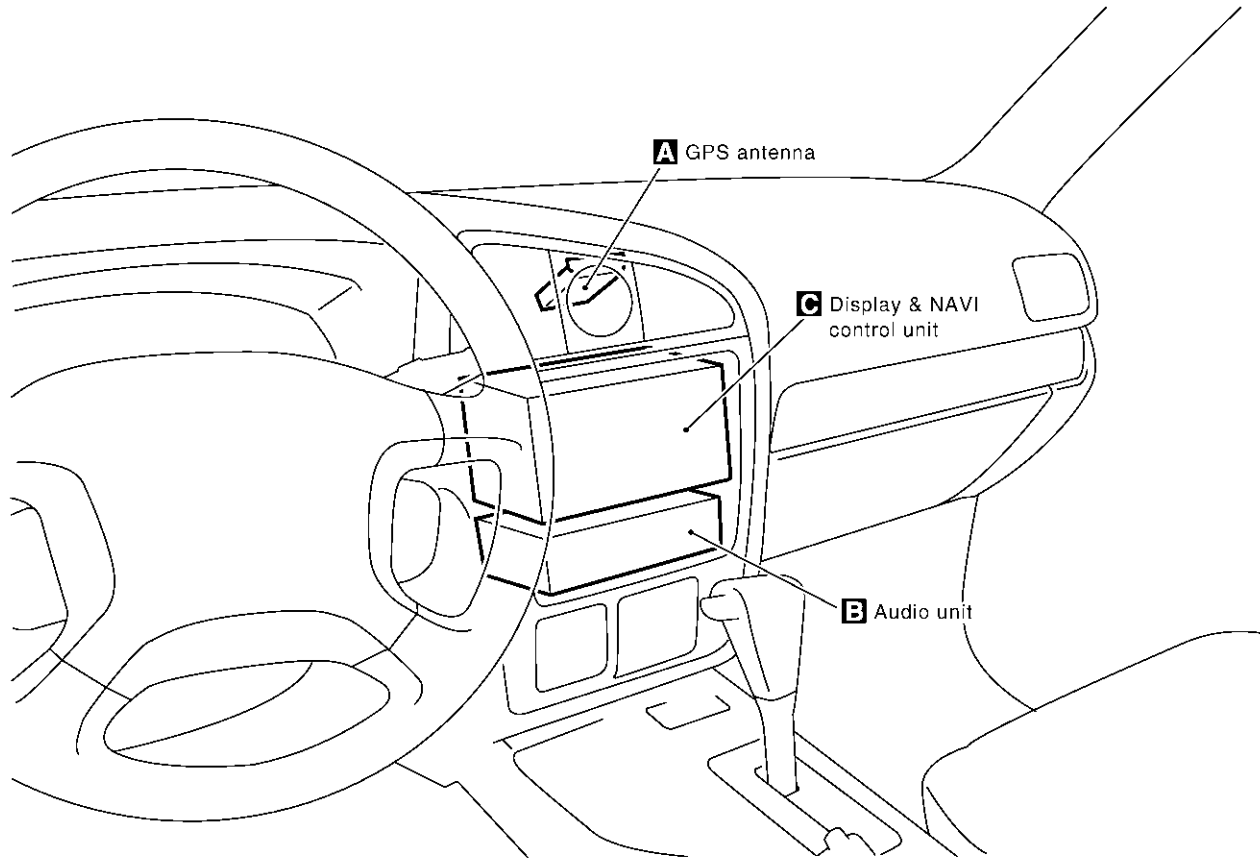
NOTE:

- If NVIS (NATS) IMMU is not installed correctly, NVIS (NATS) system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show "LOCK MODE".

Component Parts Location

NAEL0420

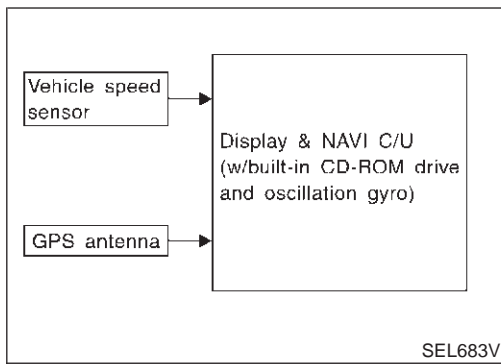
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SEL508X

NAVIGATION SYSTEM

System Description



System Description

=NAEL0421

OUTLINE

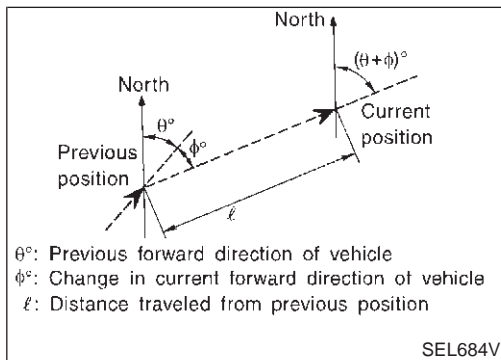
NAEL0421S01

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.

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.

This comparison of GPS data (vehicle position sensing) and map matching permits precise determination of vehicle location.



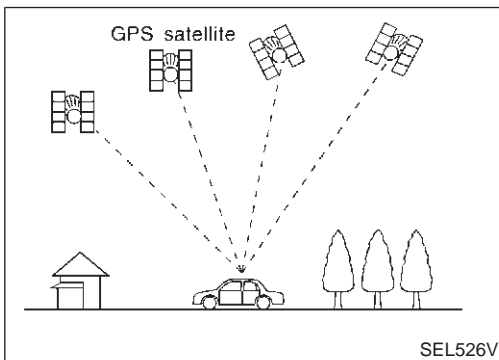
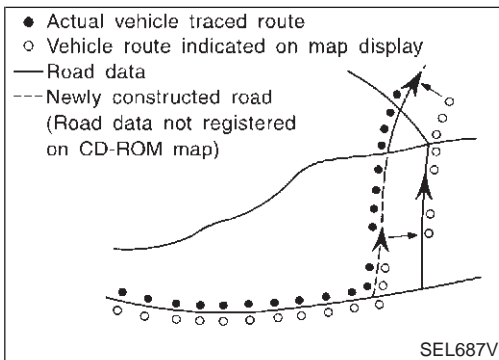
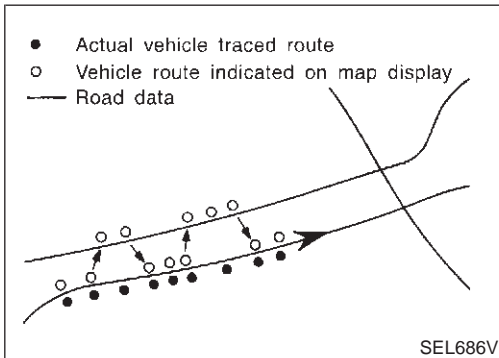
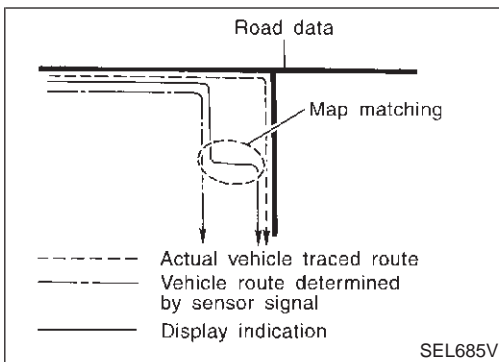
Position Sensor Operating Principles

NAEL0421S0101

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 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

NAEL0421S0102

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)

NAEL0421S0103

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.

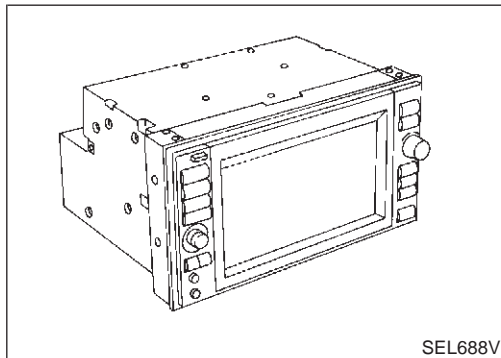
- In two-dimensional positioning, when the vehicle's altitude from the sea level changes, the precision becomes lower.
- The location detection performance can have an error of about 100 m (300 ft) even in three-dimensional positioning with high precision. Because the precision is influenced by the location 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,

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NAVIGATION SYSTEM

System Description (Cont'd)

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.



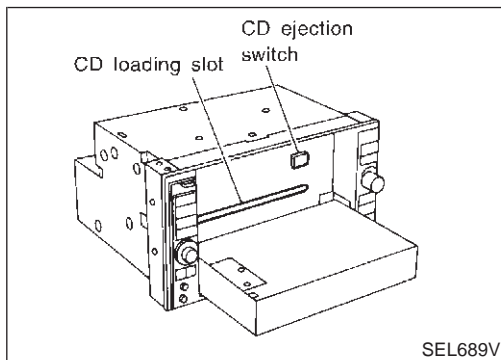
COMPONENT DESCRIPTION

Display & NAVI Control Unit

NAEL0421S02

NAEL0421S0201

- 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.
- Finger-operated touch switches are positioned on the liquid crystal display panel for easy operation.
- The touch switches used to control the equipment are beneath a glass sheet and two resistance membranes at the top of the liquid crystal display panel. The switches are sensitive to resistance value where touched with your finger to detect operating status.



CD-ROM Driver

NAEL0421S0202

Maps, traffic control regulations, and other pertinent information can be easily read from the CD-ROM disc.

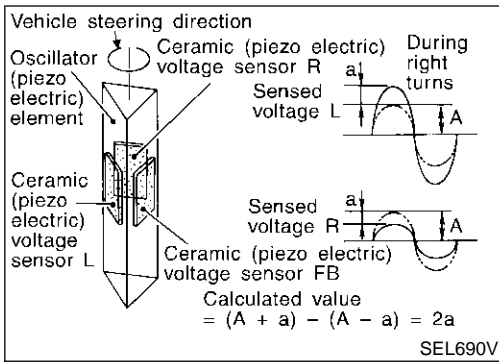
NOTE:

- When removing the CD-ROM, allow it to remain open until the liquid crystal display locks.
- The liquid crystal display must be closed when the vehicle is running.
- Do not place cups, cans or other containers containing liquids on top of the liquid crystal display.

Map CD-ROM

NAEL0421S0203

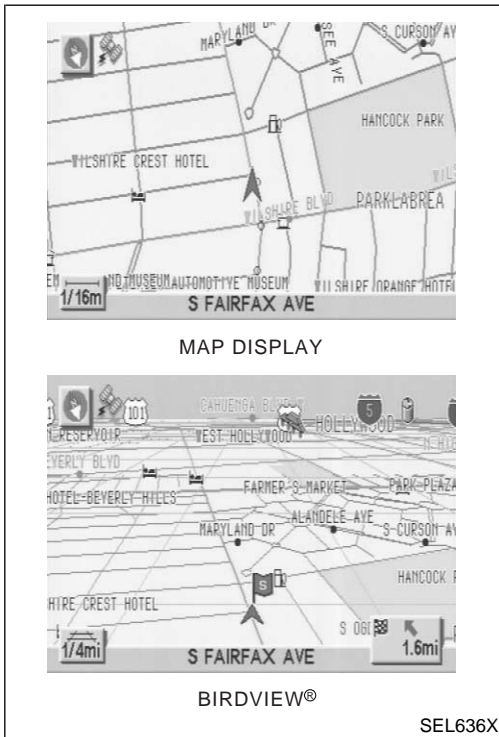
- The map CD-ROM has maps, traffic control regulations, and other pertinent information.
- To improve CD-ROM map matching and route determination functions, the CD-ROM uses an exclusive Nissan format. Therefore, the use of a CD-ROM provided by other manufacturers cannot be used.



Gyro (Angular Speed Sensor)

NAEL0421S0204

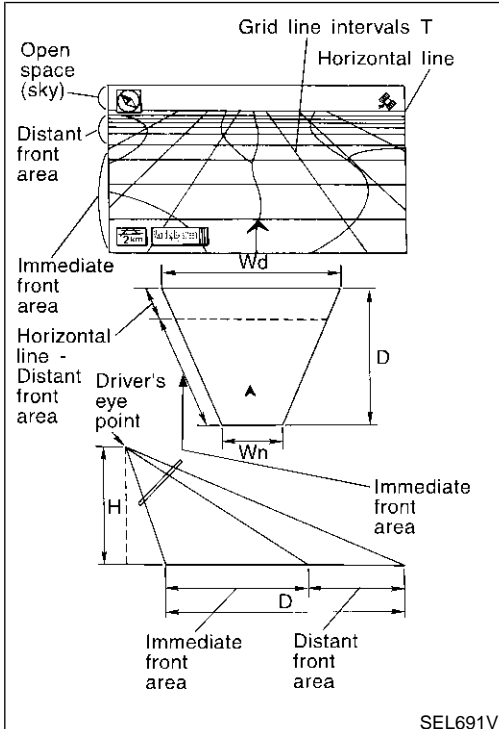
- The oscillator gyro sensor is used to detect changes in vehicle steering angle.
- The oscillator gyro periodically senses oscillatory variation at the oscillation terminals. This variation is caused by changes in the vehicle angular velocity. Voltage variations are sensed by ceramic voltage sensors 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 display & navigation (NAVI) control unit.



BIRDVIEW®

NAEL0421S0205

The BIRDVIEW® provides a detailed and easily seen display of road conditions covering the vehicle's immediate to distant area.



Description

NAEL0421S0206

- 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.
- When the "ZM-" button is pushed, the view point height is increased. Pushing the "ZM+" button decreases the height. Pushing the "ZM-" button or the "ZM+" button during operation indicates the scale change and the view point height at the left-hand side of the screen.

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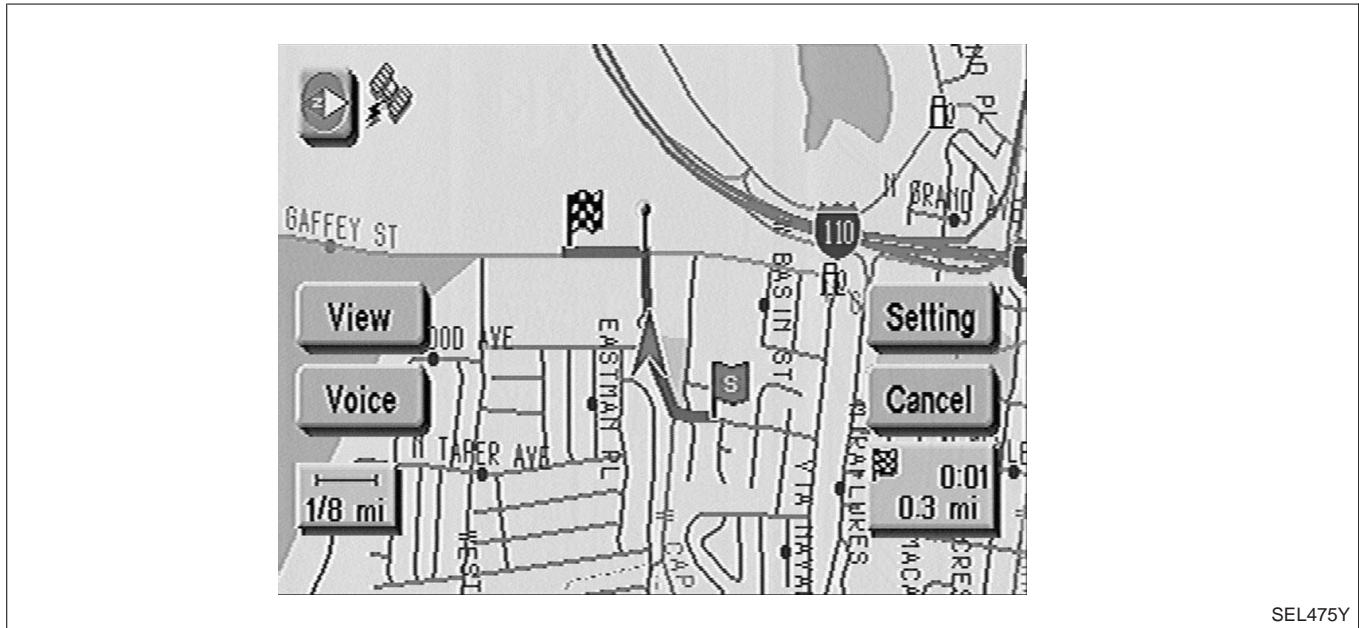
NAVIGATION SYSTEM

System Description (Cont'd)

FUNCTION OF TOUCH SWITCH (SUMMARY) Display with Pushed "MAP" Switch

=NAEL0421S03

NAEL0421S0301

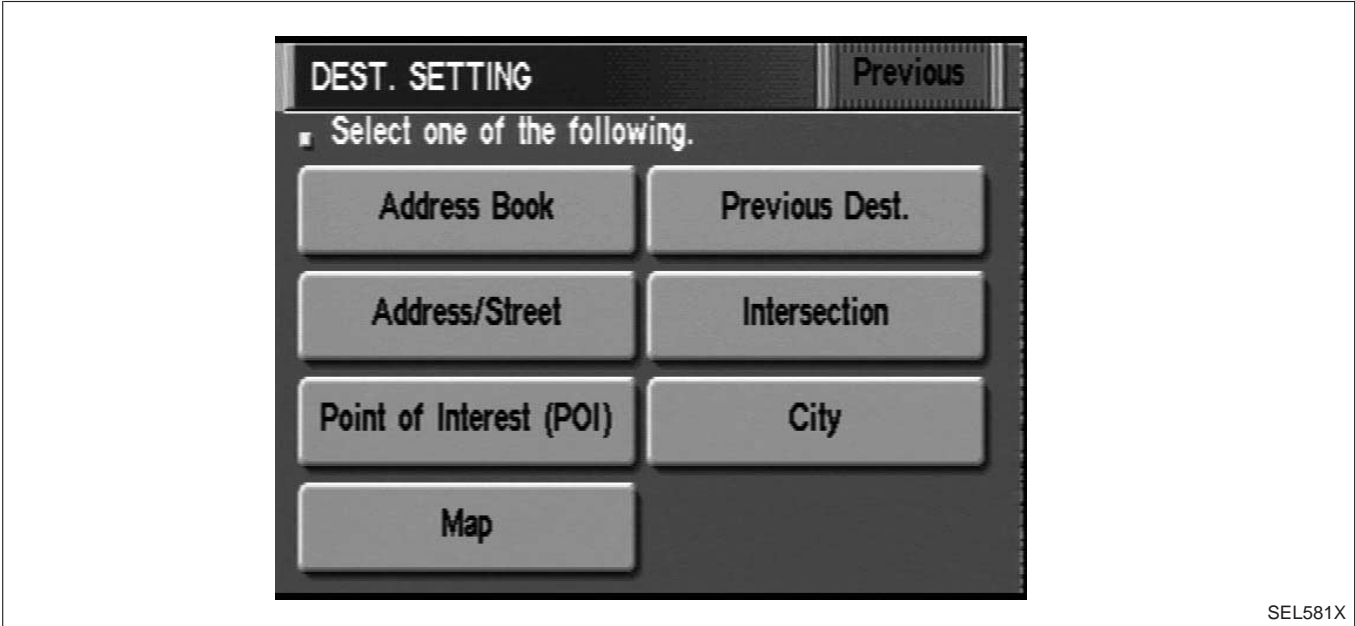


The function of each touch switch is as follows:

- 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)
- 5) Current location voice information
(this information is available when the route guide is being activated and the designated route is being traveled.)
- 6) Switch display from map screen to BIRDVIEW[®] screen
(change to map screen on display when the BIRDVIEW[®] is being used.)
- 7) The following items can be set.
 - Save Current Location
 - Edit Address Book
 - Guide Volume
 - System Setting
- 8) The route guide operation can be canceled.

Display with Pushed "DEST" Switch

=NAEL0421S0302



SEL581X

The function of each touch switch is as follows:

| Icon | Description |
|-------------------------|---|
| Address Book | Favorite place can be saved to memory. The destination can be selected from the memory. |
| Address/Street | The destination can be searched from the address. |
| Point of Interest (POI) | The destination of favorite facility can be searched. |
| Previous Dest. | The previous ten destinations stored in memory are displayed. |
| Intersection | The destination from the intersection name can be retrieved. |
| City | The destination can be searched from city name. |
| Map | The destination can be searched from the map. |

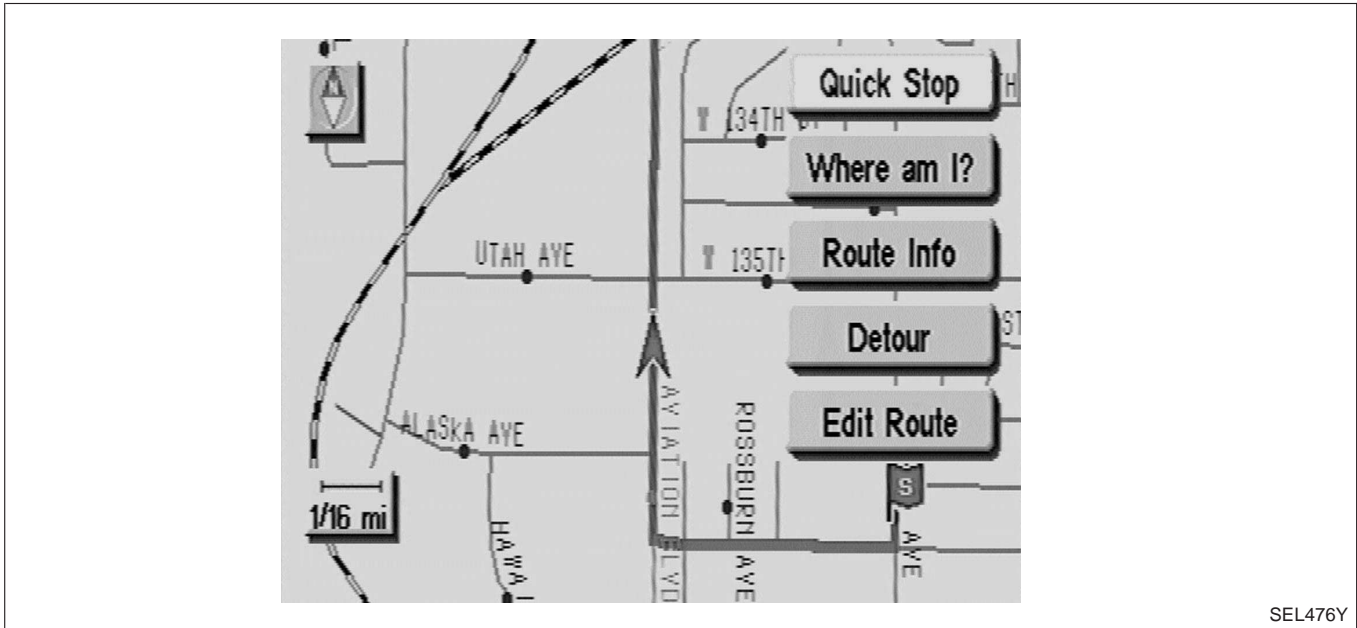
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NAVIGATION SYSTEM

System Description (Cont'd)

Display with Touch Screen

NAEL0421S0303



SEL476Y

The function of each touch switch 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 has been turned OFF or destination has been reached, "Route Info.", "Detour" and "Edit Route" are not displayed.

NAVIGATION SYSTEM

Schematic

NAEL0422

Schematic

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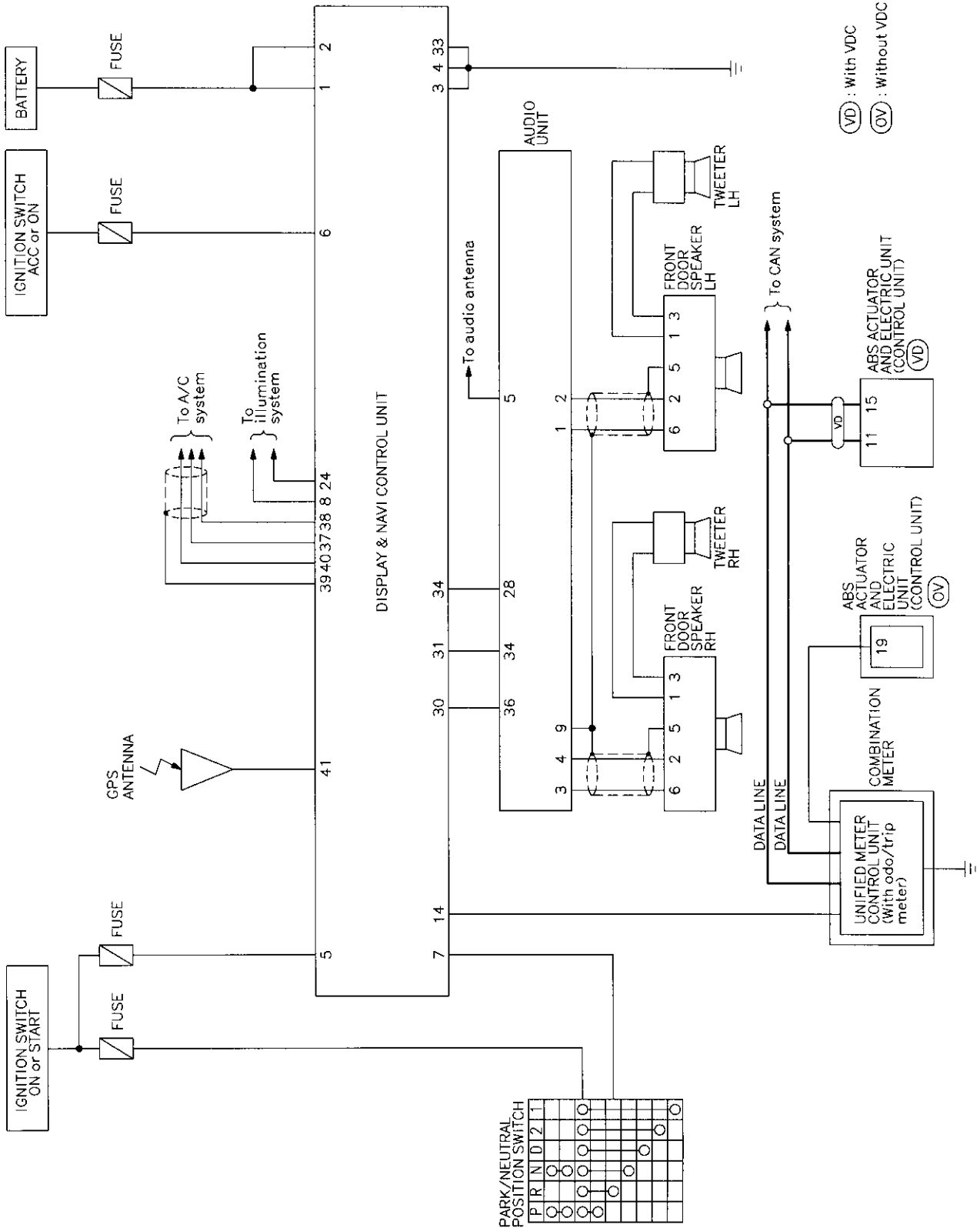
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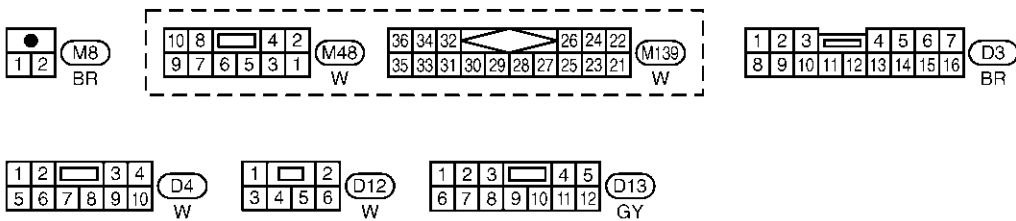
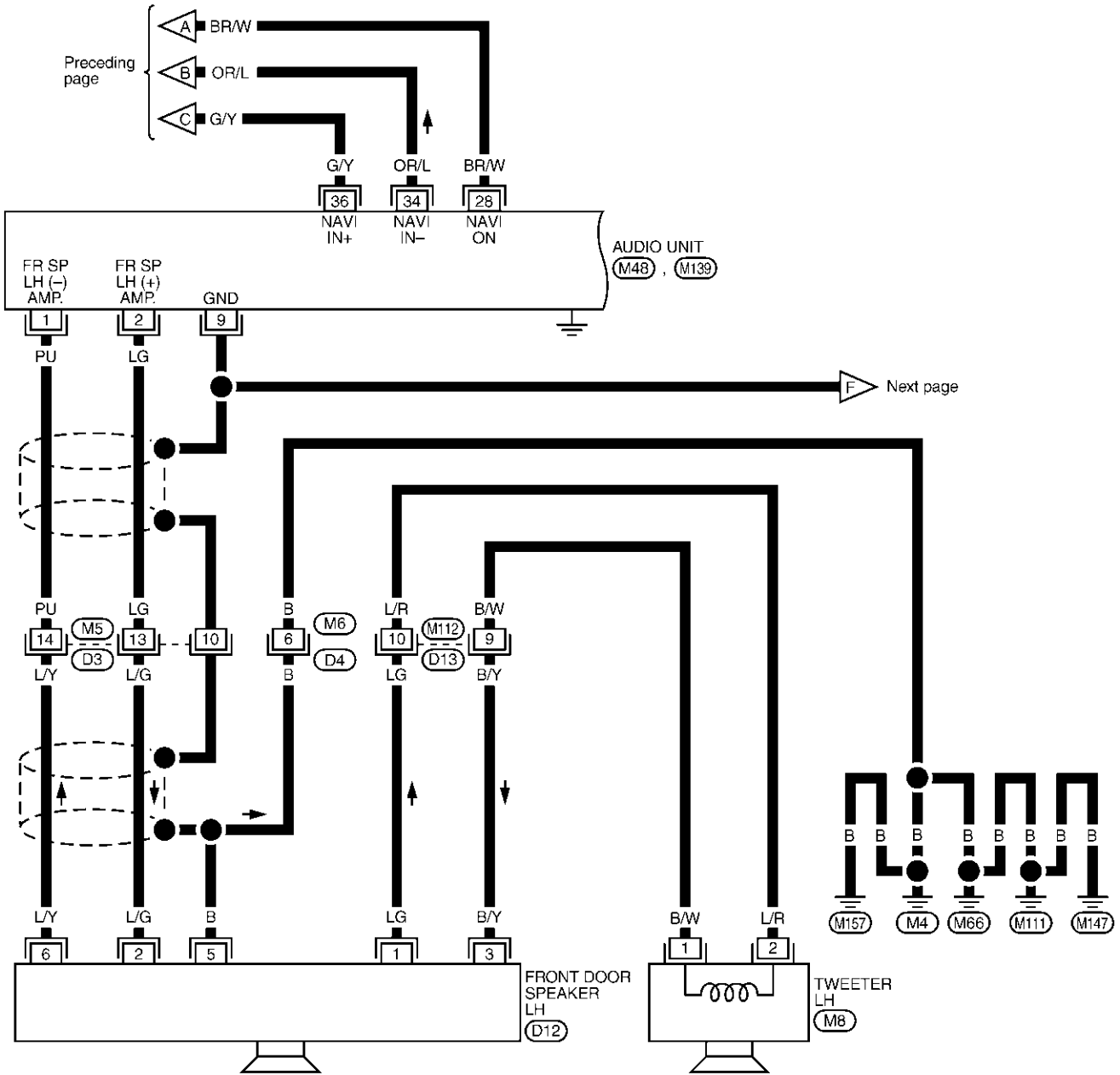


NAVIGATION SYSTEM

Wiring Diagram — NAVI — (Cont'd)

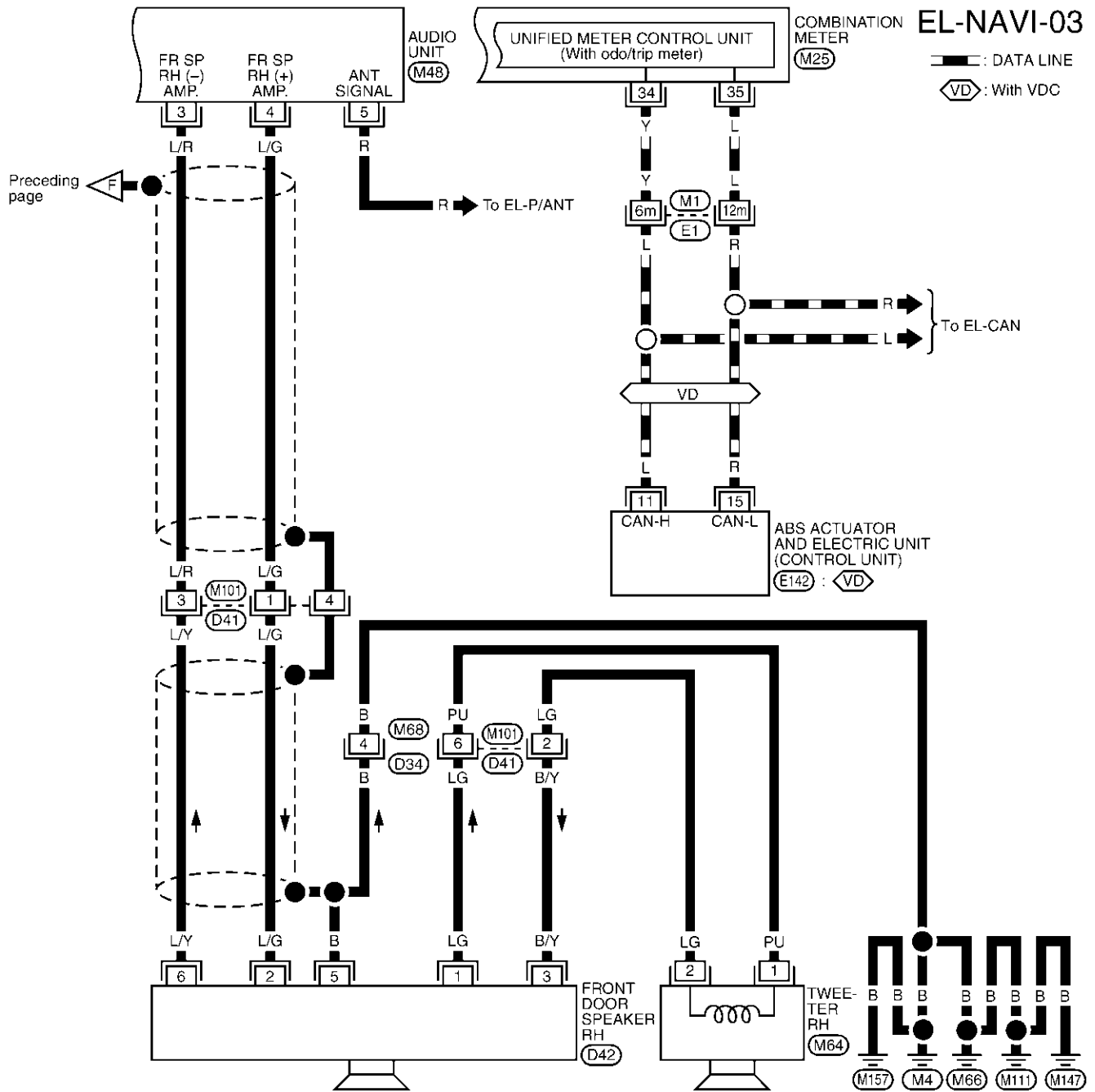
EL-NAVI-02

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NAVIGATION SYSTEM

Wiring Diagram — NAVI — (Cont'd)



| | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----------|----|
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | M25 BR | |
| 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | | 43 |

| | | | | | |
|----|---|---|---|----------|---|
| 10 | 8 | 4 | 2 | M48 W | |
| 9 | 7 | 6 | 5 | | 3 |

| | | |
|---|---|-----------|
| 1 | 2 | M64 BR |
| 1 | 2 | |

| | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----|
| 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | E142 B | |
| 1 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | 16 |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | |

| | | | | |
|---|---|----------|-----------|----------|
| 1 | 2 | D34 W | D41 BR | D42 W |
| 3 | 4 | | | |

REFER TO THE FOLLOWING.
 (E1) - SUPER MULTIPLE JUNCTION (SMJ)

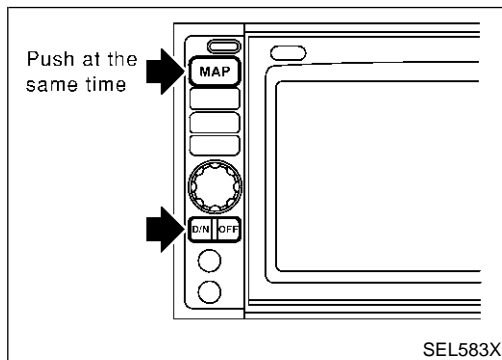
MEL045Q

Self-diagnosis Mode APPLICATION ITEMS

NAEL0424

NAEL0424S01

| Mode | Description | Reference page | |
|-----------------------------|--|--|---|
| Self Diagnosis | Self-diagnosis for display & NAVI control unit, CD-ROM and GPS antenna connection. | EL-408 | |
| Confirmation/ adjustment | Display Diagnosis | Color and gray gradation of display can be checked in this mode. | |
| | Diagnostic Signals from the Car | Several input signals to display & NAVI control unit, can be monitored in this mode. | |
| | Navigation | Check the map CD-ROM version | The version (parts number) of inserted CD-ROM can be checked in this mode. |
| | | History of errors | 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. |
| | | Longitude & Latitude | Display the map. Use the joystick to adjust position. Longitude and latitude will be displayed. |
| | | Adjust the angle | Turning angle of the vehicle on the display can be adjusted in this mode. |
| | | 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. |
| Initialize Location | This mode is for initializing the current location. Use when the vehicle is transported a long distance on a trailer, etc. | | |



HOW TO PERFORM SELF-DIAGNOSIS MODE

NAEL0424S02

1. Start the engine.
2. Push both of "MAP" and "D/N" switches at the same time for more than 5 seconds.



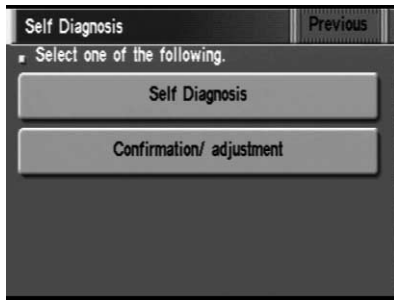
3. Touch "Self Diagnosis" or "Confirmation/ adjustment".
 - For further procedure, refer to the following pages which describe each application item of the self-diagnosis mode.

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NAVIGATION SYSTEM

Self-diagnosis Mode (Cont'd)

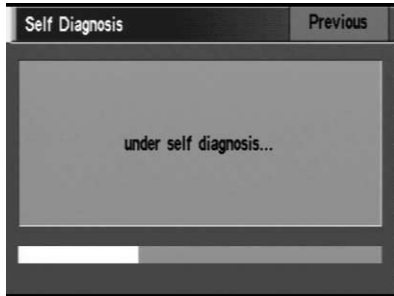
NAEL0424S0201



SEL584X

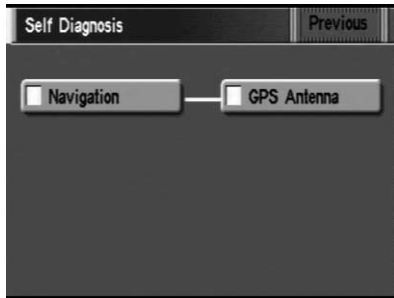
“Self Diagnosis”

1. Start the engine.
2. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
3. Touch “Self Diagnosis”.



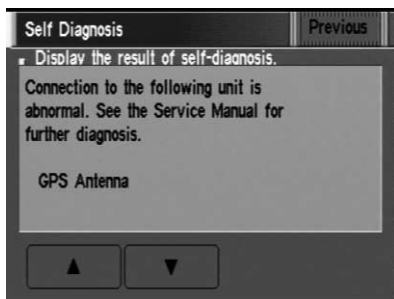
SEL585X

4. Self-diagnosis will be performed.



SEL586X

5. Diagnosis results will be displayed. Diagnosis results are indicated by display color. For details refer to “SELF-DIAGNOSIS RESULTS”.



SEL587X

To obtain detailed diagnosis results on the screen, touch “Navigation” or “GPS Antenna”.

NAVIGATION SYSTEM

Self-diagnosis Mode (Cont'd)

SELF-DIAGNOSIS RESULTS

=NAEL0424S03

| 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 display & 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 display & NAVI control unit. 2. Visually check GPS antenna feeder cable. If NG, replace GPS antenna assembly. 3. Replace GPS antenna. |
| “Navigation” (Display & NAVI control unit) | Green | — | No failure is detected. | — |
| | Red | [*** is abnormal.] | Display & NAVI control unit is malfunctioning. | Replace display & NAVI control unit. |
| | Gray | Self-diagnosis for CD-ROM DRIVER of DISP & NAVI was not conducted due to no insertion of CD-ROM. | Any CD-ROM is not inserted or display & NAVI control unit is malfunctioning. | <ol style="list-style-type: none"> 1. Confirm that map CD-ROM is not inserted into display & NAVI control unit. 2. Replace display & NAVI control unit. |
| | Yellow | CD-ROM or CD-ROM DRIVER of DISP & NAVI is abnormal. See the Service Manual for further diagnosis. | Display & 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 disk is installed correctly (not up side down.) 2. Perform “CHECK THE MAP CD-ROM VERSION” in EL-415 to confirm whether correct CD-ROM is inserted or not. 3. Check the disk surface. Are there any scratches, abrasions or pits on the surface? 4. Replace the CD-ROM. 5. Replace display & 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. | <ol style="list-style-type: none"> 1. Check GPS antenna feeder cable connection at display & NAVI control unit. 2. Visually check GPS antenna feeder cable. If NG, replace GPS antenna assembly. 3. Replace GPS antenna. |

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Confirmation/Adjustment Mode

=NAEL0425

“HISTORY OF ERRORS” MODE

NAEL0425S01

Description

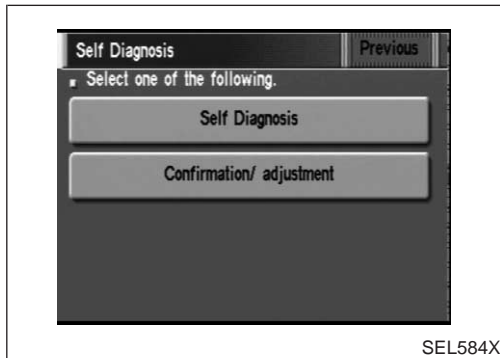
NAEL0425S0101

In this mode, historical errors of the system are displayed with the following data.

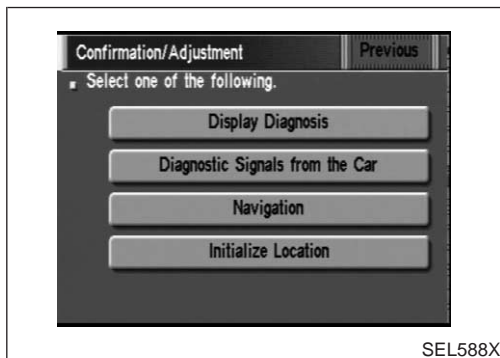
- How many times the error was detected
- The last time data when the error was detected
- The last place where the error was detected

NOTE:

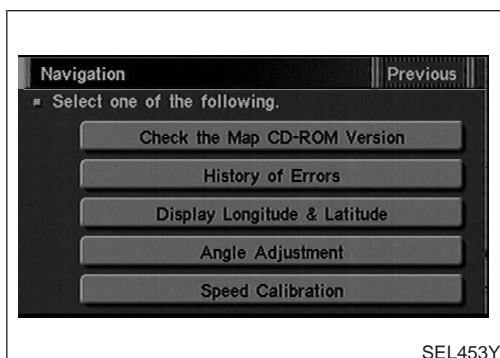
- The number of errors can be counted up to 50 times. More than 51 times will be indicated as 50 times.
- Malfunction of the GPS board (inside the display & NAVI control unit) will result in the display of incorrect time data.
- When an error occurs, an incorrect position marker appears on the display. The accuracy of the display data (position marker) will be affected.



SEL584X



SEL588X



SEL453Y

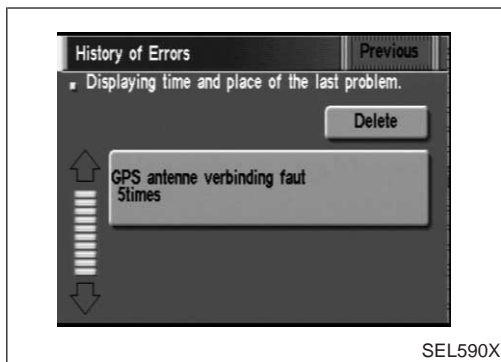
How to Perform

NAEL0425S0102

1. Start the engine.
2. Push both “MAP” and “D/N” switch at the same time for more than 5 seconds.
3. Touch “Confirmation/ adjustment”.
4. Touch “Navigation”.
5. Touch “Error history”.

NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)



6. If trouble items are displayed with time count, repair/replace the system according to "HISTORY OF ERRORS" TABLE, EL-412. GI
7. If necessary, touch error item to display the time when the error was detected and the place where the error was detected. MA
8. After repairing the system, erase the diagnosis memory. EM

NOTE:

When the display & NAVI control unit must be replaced, do not erase the diagnosis memory for further inspection of malfunctions. LC

- a. Start the engine. EC
- b. Push both "Map" and "D/N" switches at the same time for more than 5 seconds. EC
- c. Touch "Confirmation/ adjustment". FE
- d. Touch "Navigation". FE
- e. Touch "Error history". CL
- f. Touch "Delete". CL
- g. Touch "Yes". MT

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NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)

“HISTORY OF ERRORS” TABLE

=NAEL0425S02

| Detected items | Description | Diagnosis/service procedure | Reference page |
|------------------------------------|---|---|----------------|
| Gyro sensor disconnected | Communications malfunction between display & NAVI control unit and internal gyro | Perform self-diagnosis to confirm whether the display & 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-407 |
| Connection problem of speed sensor | Input malfunction of display & NAVI control unit and speed sensor | Check vehicle speed sensor signal in “DIAGNOSTIC SIGNALS FROM THE CAR” mode. If the input signal is not detected correctly, check harness for open or short between combination meter and display & NAVI control unit. | EL-414 |
| GPS disconnected | Communications malfunction between display & NAVI control unit and GPS board | Perform self-diagnosis to confirm whether the display & 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-407 |
| GPS transmission cable malfunction | | | |
| GPS input line connection error | | | |
| GPS TCXO over | The transmission circuit of the GPS board frequency synchronization oscillator (inside the display & 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. | — |
| GPS TCXO under | | | |
| GPS ROM malfunction | Internal malfunction of GPS board RAM or ROM inside the display & NAVI control unit. | Perform self-diagnosis to confirm whether the display & 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-407 |
| GPS RAM malfunction | | | |
| GPS RTC malfunction | Malfunction of GPS board clock IC inside the display & NAVI control unit. | | |
| 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-415 |
| Low voltage of GPS | Power supply voltage for GPS board inside the display & NAVI control unit is low. | 1. Check power supply circuits for display & NAVI control unit. | EL-428 |
| | | 2. Perform self-diagnosis to confirm GPS antenna connection. | EL-407 |
| | | 3. If above diagnosis results are OK, a momentary and/or temporary malfunction may have been caused by a strong impact. | — |
| CD-ROM communication error | CD-ROM driver malfunction (inside the display & NAVI control unit) | Perform self-diagnosis to confirm whether the display & 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-407 |

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 & display 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-407 |
| 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-407 |

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NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)

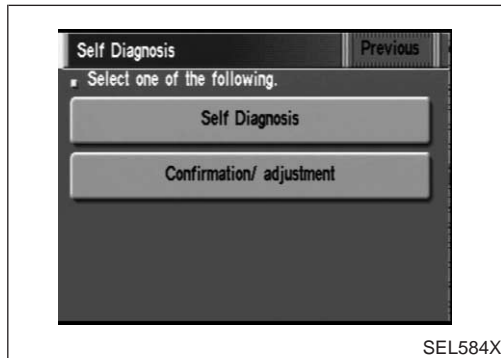
“DIAGNOSTIC SIGNALS FROM THE CAR” MODE =NAEL0425S03

Description NAEL0425S0301

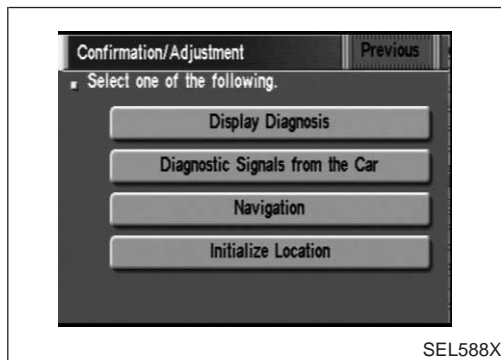
In “Diagnostic Signals From the Car” mode, following input signals to the display & NAVI control unit can be checked on the display.

| 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. |

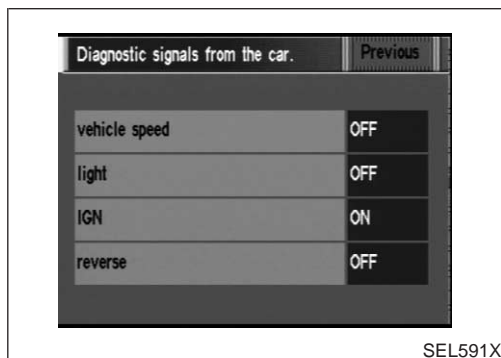
*: When ignition switch is in “ACC” position, indication will be changed to “-”.



SEL584X



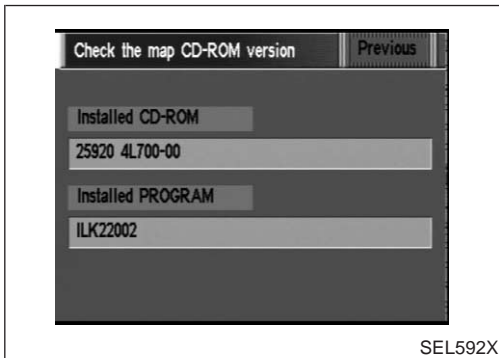
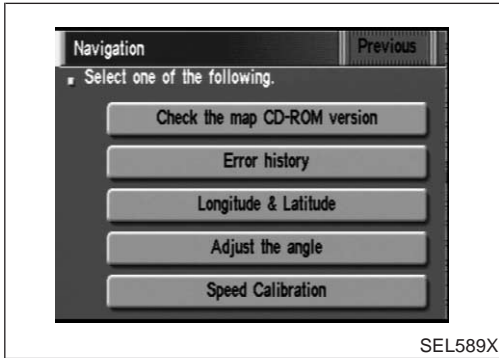
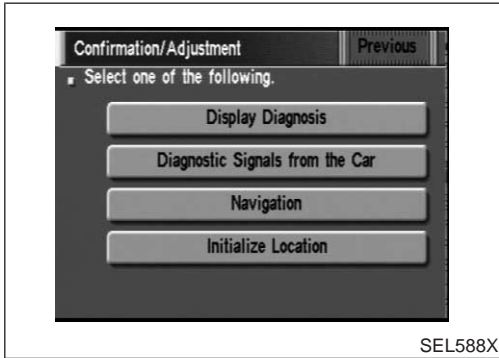
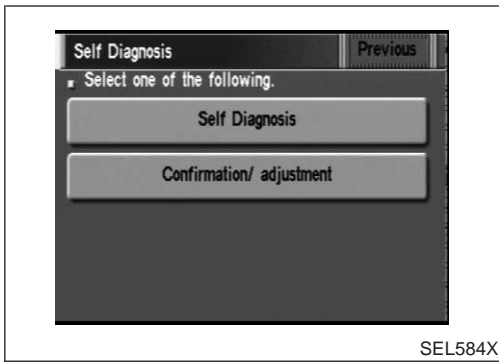
SEL588X



SEL591X

How to Perform NAEL0425S0302

1. Start the engine.
2. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
3. Touch “Confirmation/ adjustment”.
4. Touch “Diagnostic Signals from the Car”.
5. Then “Diagnostic Signals from the Car” mode is performed.



“CHECK THE MAP CD-ROM VERSION” MODE

=NAEL0425S04

NAEL0425S0401

How to Perform

1. Start the engine.
2. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
3. Touch “Confirmation/ adjustment”.
4. Touch “Navigation”.
5. Touch “Check the map CD-ROM version”.
6. The version (parts number) of CD-ROM loaded to the display and NAVI control unit will be displayed.

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NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)

“DISPLAY DIAGNOSIS” MODE

=NAEL0425S05

Description

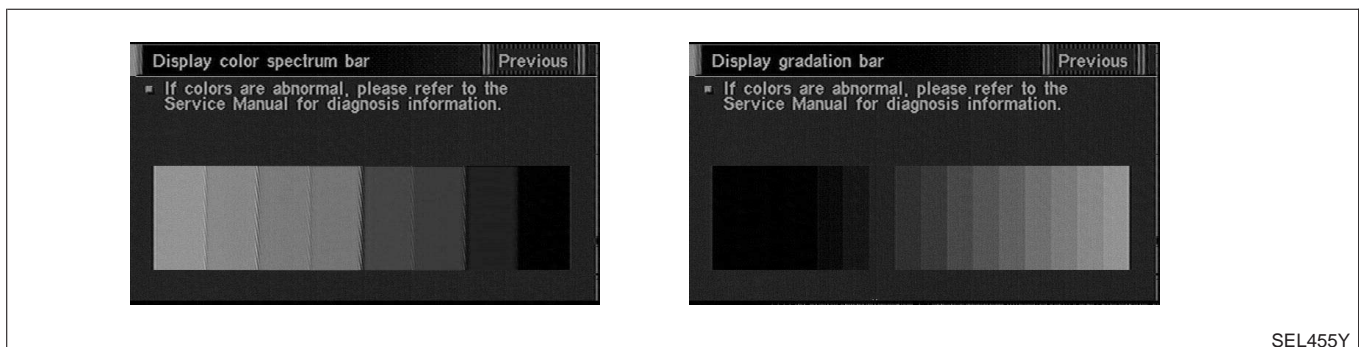
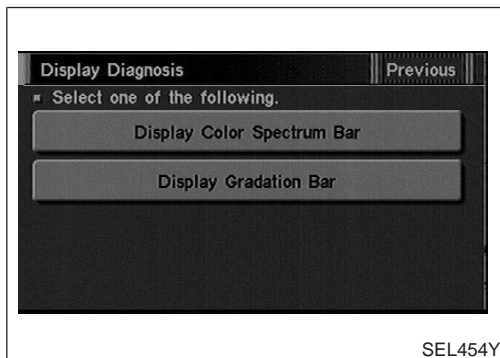
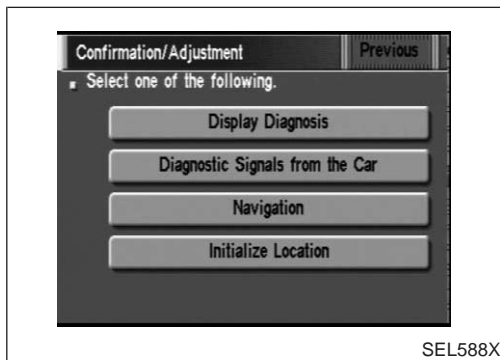
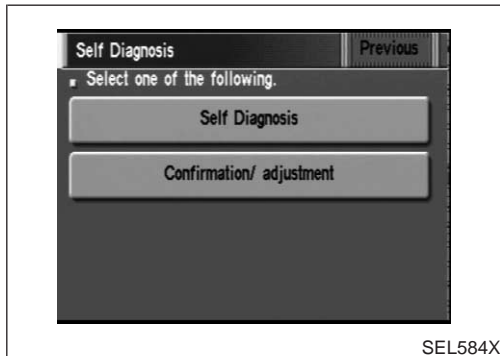
NAEL0425S0501

Use the “Diagnosis Display” mode to check the display color brightness and shading. The display & NAVI control unit must be replaced if the color brightness and shading are abnormal.

How to Perform

NAEL0425S0502

1. Start the engine.
2. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
3. Touch “Confirmation/ adjustment”.
4. Touch “Display Diagnosis”.
5. Touch “Display color spectrum bar” or “Display gradation bar”.
6. Then color bar/gray scale will be displayed.



“LONGITUDE & LATITUDE” MODE

NAEL0425S06

Description

NAEL0425S0601

The “Longitude & Latitude” is used to confirm the longitude and latitude of some optional area point.

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NAEL0425S0602

How to Perform

1. Start the engine.
2. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
3. Touch “Confirmation/ adjustment”.

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4. Touch “Navigation”.

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5. Touch “Longitude & Latitude”.

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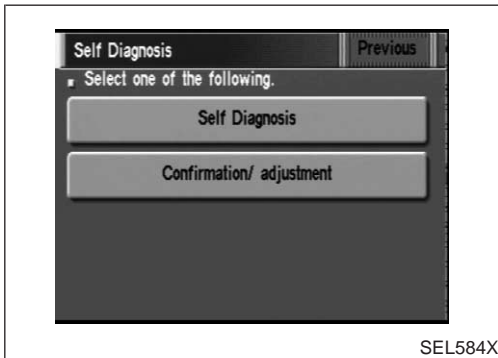
6. Adjust the pointer with using the joystick and touch “Set”.
7. The longitude and latitude are displayed.

HA

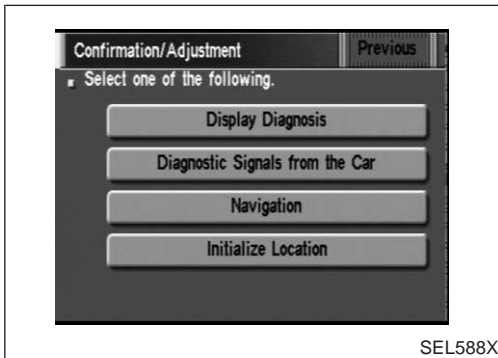
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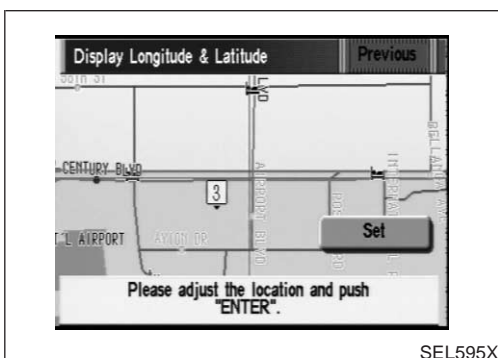
SEL584X



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SEL589X



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NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)

“ADJUST THE ANGLE” MODE

=NAEL0425S07

Description

NAEL0425S0701

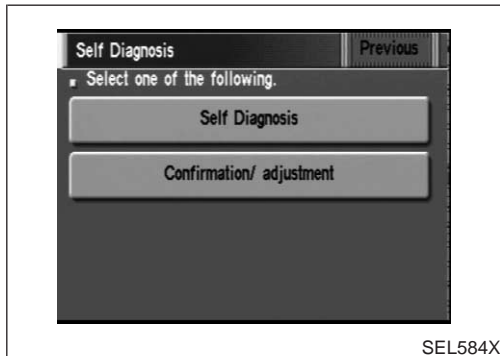
If the display indicates a larger or smaller turning angle than the actual turning angle, the gyro (angular speed sensor) sensing values must be checked.

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 “+”.

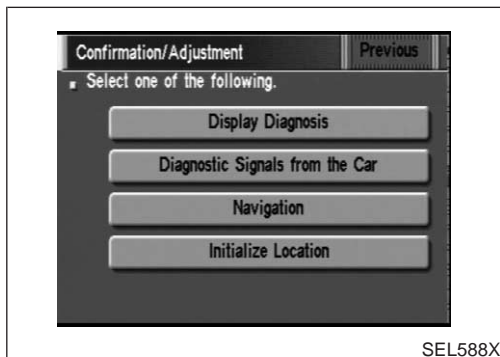
How to Perform

NAEL0425S0702

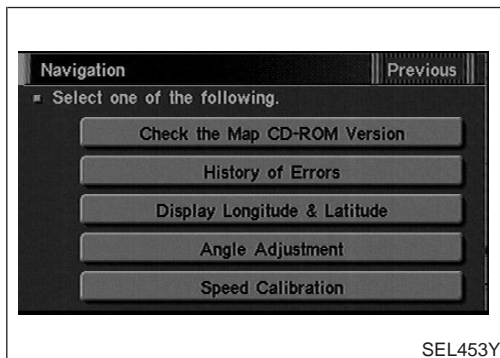
1. Start the engine.
2. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
3. Touch “Confirmation/ adjustment”.



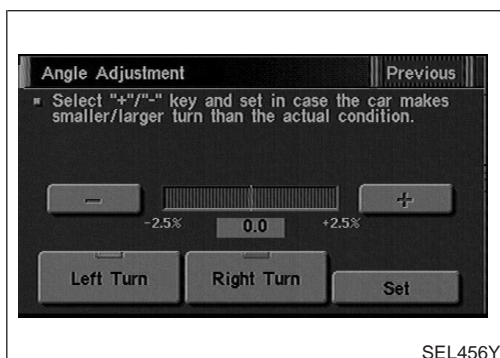
SEL584X



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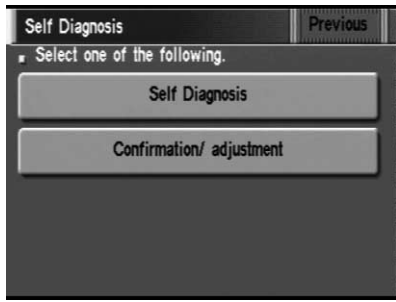
SEL453Y



SEL456Y

4. Touch “Navigation”.
5. Touch “Adjust the angle”.
6. Touch “Left Turn” to adjust the angle to the left. Touch “Right Turn” to adjust the angle to the right.
7. Touch “+” to increase the angle change coefficient or “-” to reduce the angle change coefficient.
8. Touch “Set” to save the changed values in memory.
9. Then the vehicle turning angle on the display has adjusted.

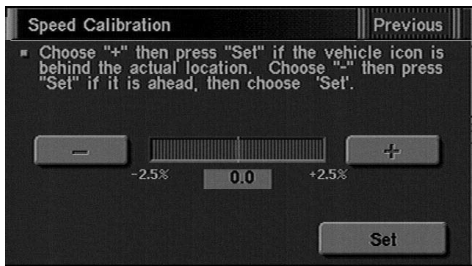
=NAEL0425S08



SEL584X



SEL453Y



SEL457Y

SPEED CALIBRATION

1. Start the engine.
2. Push both "MAP" and "D/N" switches at the same time for more than 5 seconds.
3. Touch "Confirmation/ adjustment".
4. Touch "Navigation".
5. Touch "Speed Calibration".
6. Touch "+" or "-" to adjust the distance change coefficient.
 - To make the distance change coefficient smaller, touch "-".
 - To make the distance change coefficient larger, touch "+".
7. Touch "Set".

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NAVIGATION SYSTEM

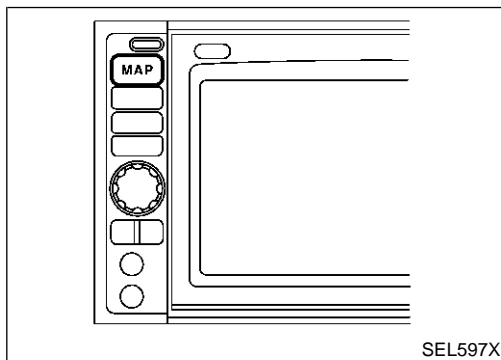
Setting Mode

Setting Mode APPLICATION ITEMS

=NAEL0426

NAEL0426S01

| Mode | Description | Reference page |
|-----------------------------|---|----------------|
| GPS Information | The GPS 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-420 |
| Quick Stop Customer Setting | One facility of your selection can be added to your Quick Stop. | EL-423 |
| Route Priorities | Priorities of search request and automatic re-searching can be set for route search. | EL-424 |
| Tracking | Tracking to the present vehicle position can be displayed. | EL-425 |
| 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-422 |
| Heading | Heading of the map display can be customized for either north heading or the actual driving direction of the vehicle. | EL-425 |
| Nearby Display Icons | Icons of facilities can be displayed. Facilities to be displayed can be selected from the variety of selections. | EL-426 |
| 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-421 |
| Avoid Area Setting | Particular area can be avoided when routing. | — |
| Beep On/Off | Beep sounds which correspond to the system operation can be activated/deactivated. | EL-422 |
| Clear Memory | Address book, Previous destination or Avoid area can be deleted. | EL-426 |

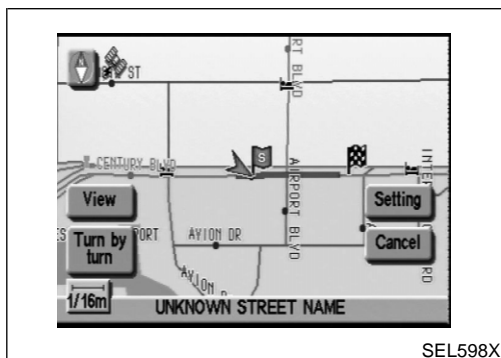


SEL597X

HOW TO PERFORM CONTROL PANEL MODE

NAEL0426S02

1. Start the engine.
2. Push "MAP" switch.
 - For further procedures, refer to the following pages which describe each application item of the control panel mode.

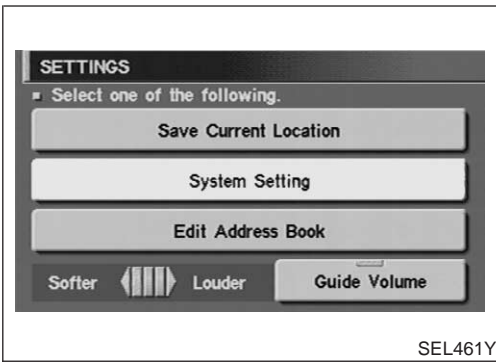


SEL598X

"GPS INFORMATION" SETTING

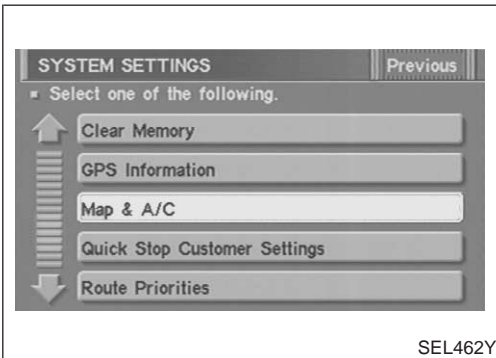
NAEL0426S03

1. Start the engine.
2. Push "MAP" switch.
3. Touch "Setting".



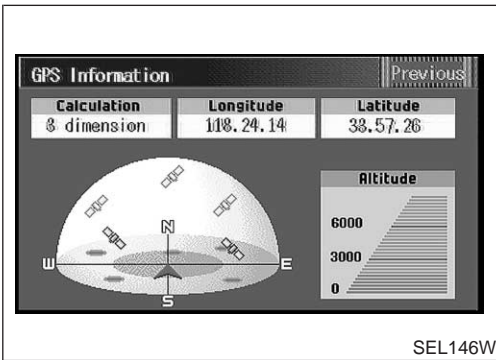
SEL461Y

4. Touch "System Setting".



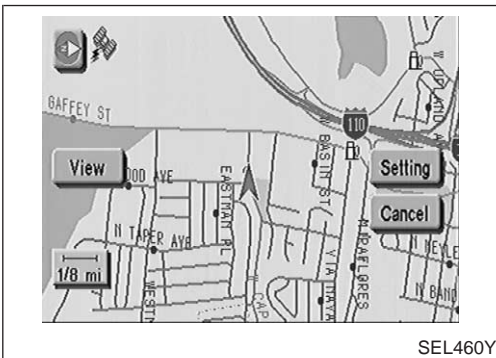
SEL462Y

5. Touch "GPS Information".



SEL146W

6. Then GPS information will be displayed.

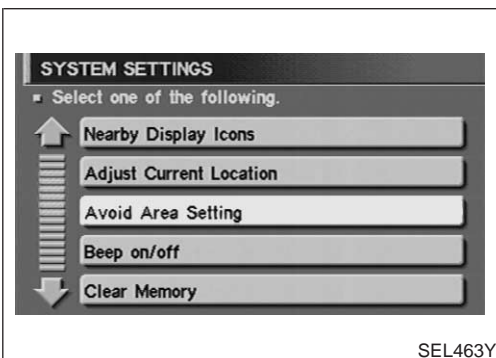


SEL460Y

"ADJUST CURRENT LOCATION" SETTING

NAEL0426S04

1. Start the engine.
2. Push "MAP" switch.
3. Touch "Setting".
4. Touch "System Setting".



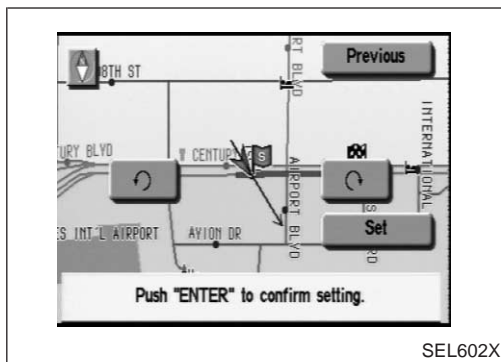
SEL463Y

5. Touch "Adjust Current Location".

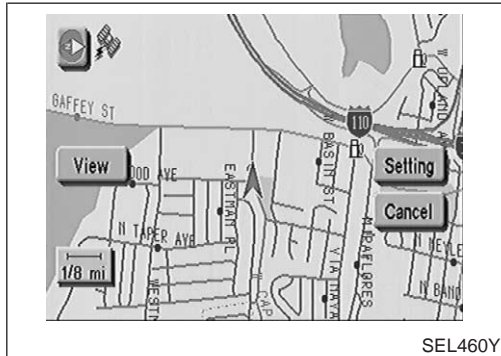
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NAVIGATION SYSTEM

Setting Mode (Cont'd)



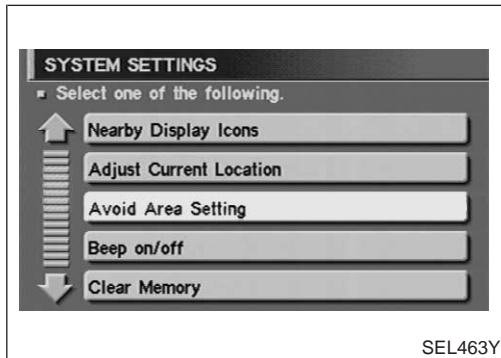
6. Touch “↶” or “↷” to calibrate the heading direction. (Arrow marks will rotate corresponding to the calibration key.)
7. Touch “Set”. Then the vehicle mark will be matched to the arrow mark.
8. Display will show “Heading direction has been calibrated” and then go back to the current location map.



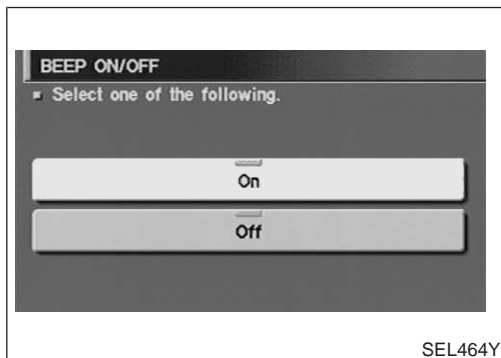
BEEP ON/OFF SETTING

NAEL0426S05

1. Start the engine.
2. Push “MAP” switch.
3. Touch “Setting”.
4. Touch “System Setting”.



5. Touch “Beep on/off”.



6. Touch “On” or “Off” icon.
 - If you want the beep sound, select “ON”.
 - If you do not want the beep sound, select “OFF”.
7. Push “MAP” switch, then the display will go back to the current location map.

DISPLAY SETTING

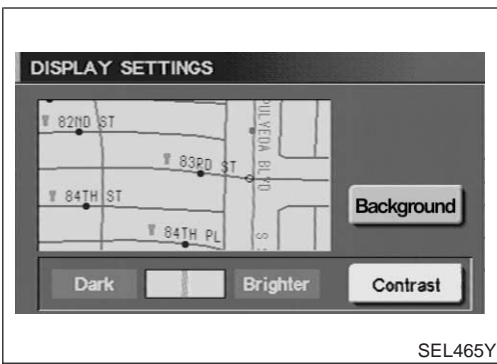
NAEL0426S06

Description

NAEL0426S0601

The following display setting can be changed in this mode.

- Dimmer operation (when lighting switch is turned on.)
- Display color (Day mode or Night mode)
- Brightness of display



SEL465Y

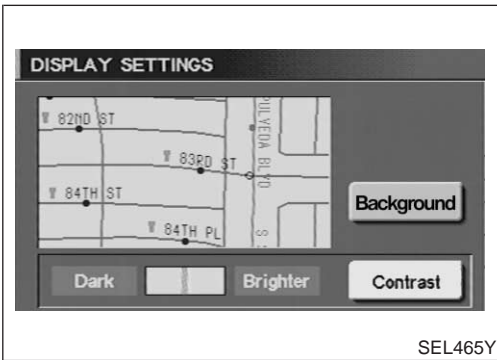
DISPLAY COLOR SETTING

NAEL0426S07

1. Start the engine.
2. Push "MAP" switch.
3. Touch "Setting".
4. Touch "System Setting".
5. Touch "Color". Display color will change to Day mode/Night mode.
6. Touch "Previous".

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
 Day mode: White background
 Night mode: Black background



SEL465Y

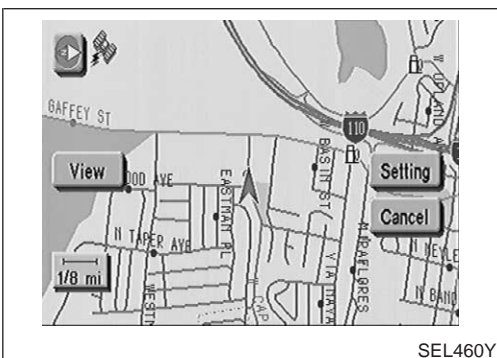
BRIGHTNESS SETTING

NAEL0426S08

1. Start the engine.
2. Push "MAP" switch.
3. Touch "Setting".
4. Touch "System Setting".
5. Touch "Display Setting".
6. Touch "Bright" or "Dark" to adjust the brightness of display.
7. Touch "Previous".

NOTE:

Display brightness can be adjusted independently when lighting switch is turned on and off.



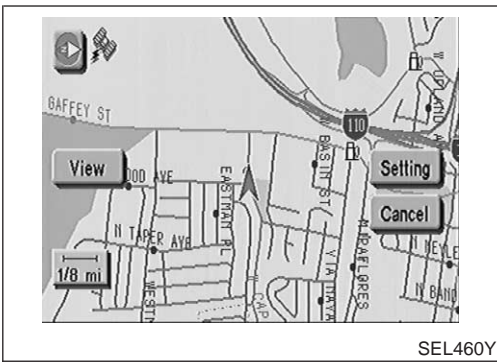
SEL460Y

"QUICK STOP CUSTOMER SETTING" MODE

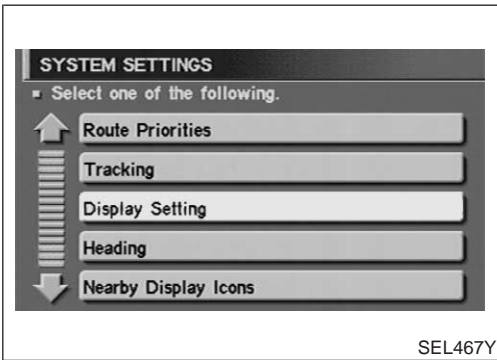
NAEL0426S09

1. Start the engine.
2. Push the "MAP" switch.
3. Touch "Setting".
4. Touch "System Setting".

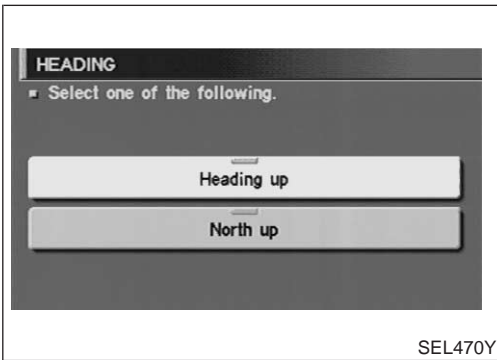
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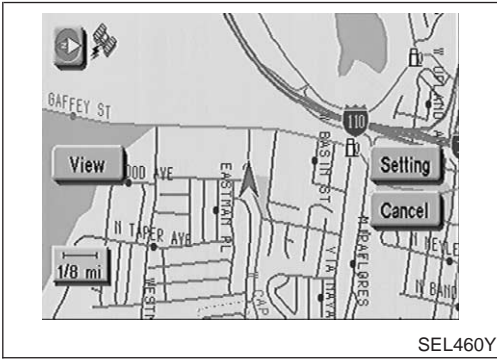
SEL460Y



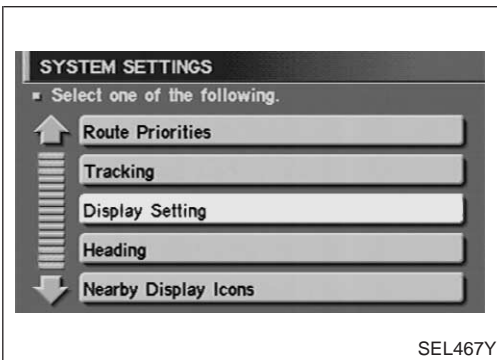
SEL467Y



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“TRACKING” MODE

NAEL0426S11

1. Start the engine.
2. Push the “MAP” switch.
3. Touch “Setting”.
4. Touch “System Setting”.
5. Touch “Tracking”.

6. Touch the “On” or “Off” icon.
 - If you don’t need a trail on the map, select “Off”.
 - If you need a trail on the map, select “On”.
7. Push the “MAP” switch to return the display to the current location map.

NOTE:

When a trail display is turned OFF, trail data is erased from the memory.

“HEADING” MODE

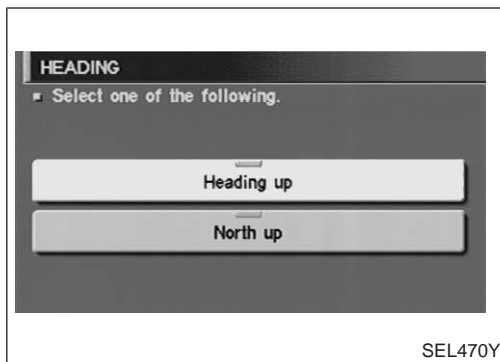
NAEL0426S12

1. Start the engine.
2. Push the “MAP” switch.
3. Touch “Setting”.
4. Touch “System Setting”.
5. Touch “Heading”.

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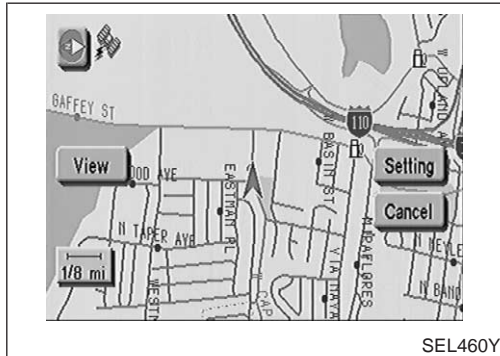
NAVIGATION SYSTEM

Setting Mode (Cont'd)



SEL470Y

6. Touch the "Heading up" or "North up" icon.
 - To display North up, select "North up".
 - To display the car heading up, select "Heading up".
7. Push the "MAP" switch, then the display will go back to the current location map.

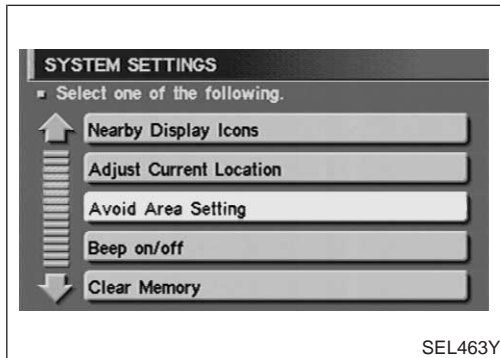


SEL460Y

"NEARBY DISPLAY ICONS" MODE

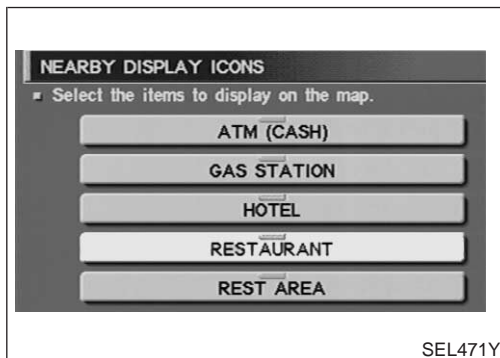
NAEL0426S13

1. Start the engine.
2. Push the "MAP" switch.
3. Touch "Setting".
4. Touch "System Setting".



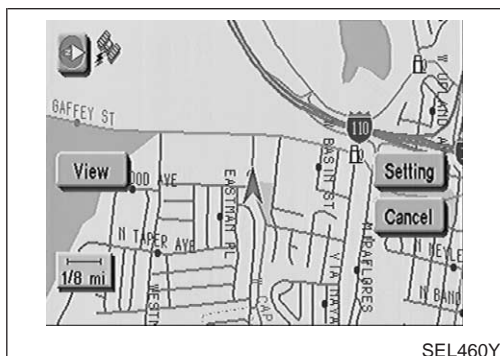
SEL463Y

5. Touch "Nearby Display Icons".



SEL471Y

6. Select and touch the itemized list.
7. Push the "MAP" switch to return the display to the current location map.



SEL460Y

"CLEAR MEMORY" MODE

NAEL0426S14

1. Start the engine.
2. Push the "MAP" switch.
3. Touch "Setting".
4. Touch "System Setting".

NAVIGATION SYSTEM

Trouble diagnoses

Trouble diagnoses SYMPTOM CHART

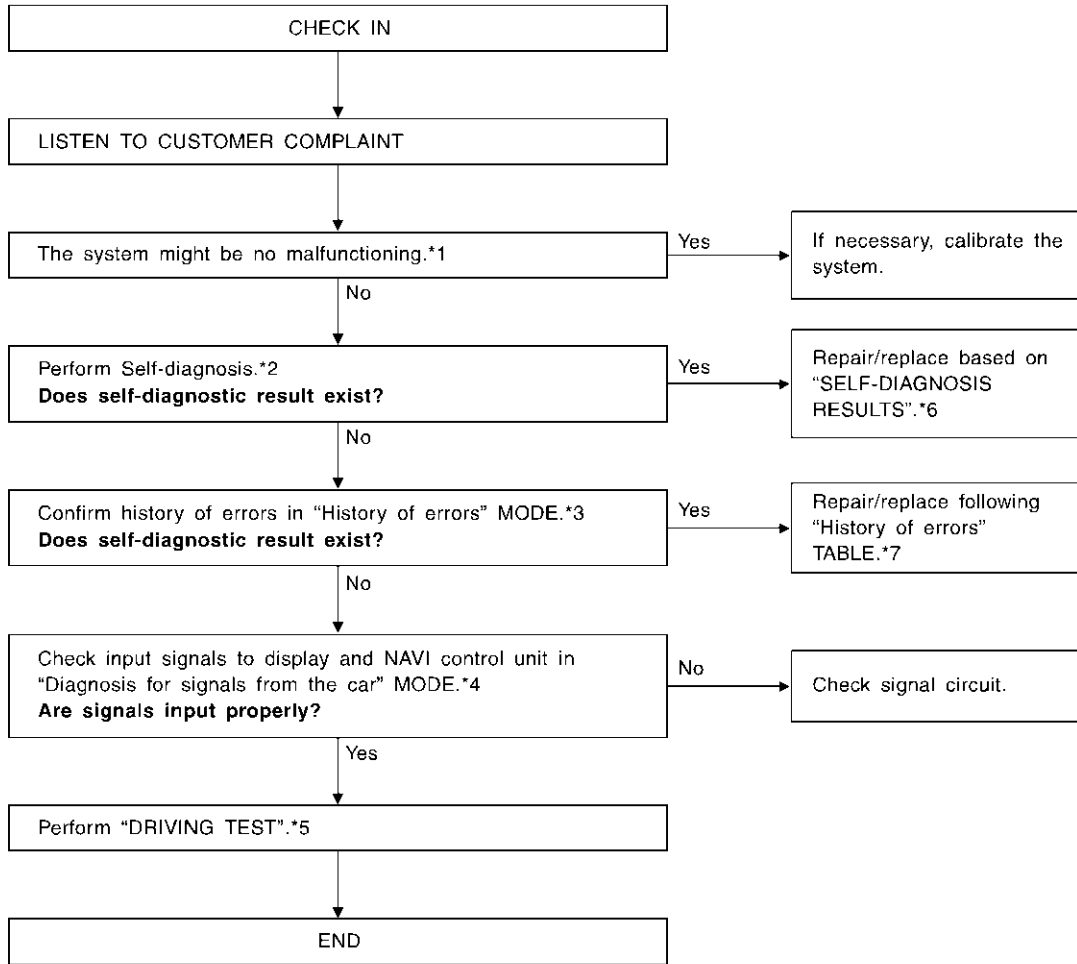
NAEL0427

NAEL0427S01

| Symptom | Diagnoses/service procedure | Reference page |
|---|---|----------------|
| Any function of the system does not operate. | Check power supply and ground circuit for display & NAVI control unit. | EL-431 |
| Strange screen color or unusual screen brightness. | 1. Check "DISPLAY SETTING". | EL-422 |
| | 2. Check display in "Diagnosis of Display" MODE. | — |
| The display is not dimmed when turning lighting switch to ON. | 1. Check "DISPLAY SETTING". | EL-422 |
| | 2. Check lighting switch signal input to display & NAVI control unit correctly in "DIAGNOSTIC SIGNAL FROM THE CAR" MODE. | EL-414 |
| No navigation guide voice are heard from both front speakers. | 1. Check "Voice Guidance Setting". | — |
| | 2. Check voice guide operation. | EL-432 |
| Beep does not sound when the system guides route. | Check "BEEP ON/OFF SETTING". | EL-422 |
| Position marker does not trace along the route being traveled. | Go to "WORK FLOW FOR NAVIGATION INSPECTION". | EL-429 |
| Position marker does not indicate forward or backward movement. | Check reverse signal input to display & NAVI control unit correctly by "DIAGNOSTIC SIGNAL FROM THE CAR" MODE. | EL-414 |
| 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 SETTING". | EL-420 |
| | 3. Check GPS antenna in "Self Diagnosis". | EL-407 |
| Heading direction of position marker does not match vehicle direction. | 1. Perform "ADJUST CURRENT LOCATION" SETTING. | EL-421 |
| | 2. Go to "WORK FLOW FOR NAVIGATION INSPECTION". | EL-429 |
| 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". | EL-444 |

WORK FLOW FOR NAVIGATION INSPECTION

NAEL0427S02



*1: EL-434
*2: EL-407
*3: EL-410

*4: EL-414
*5: EL-430

*6: EL-409
*7: EL-412

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DRIVING TEST

=NAEL0427S03

During the driving test, diagnose the system by checking the difference of symptoms with each sensor ON or OFF.

Test pattern 1

Test method in which current position adjustment is not made according to GPS data.

- Remove the GPS antenna connector from the display & NAVI control unit. Drive the vehicle.
Before driving the vehicle, perform "ADJUST CURRENT LOCATION" (EL-421).

Test pattern 2

Test procedure in which map matching is not used.

- Before driving the vehicle, perform "ADJUST CURRENT LOCATION" (EL-421). With the ignition switch OFF and the map CD-ROM removed from the display & 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.>

→ Perform test pattern 1.

<To verify the accuracy of the road configuration shown on the display>

→ Perform test patterns 1 and 2.

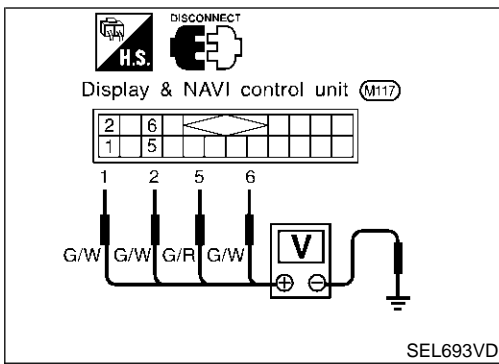
- Compare the map and the saved driving tracks. The precision of the saved driving tracks is within several hundred meters.

<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 DISPLAY & NAVI CONTROL UNIT

=NAEL0427S04

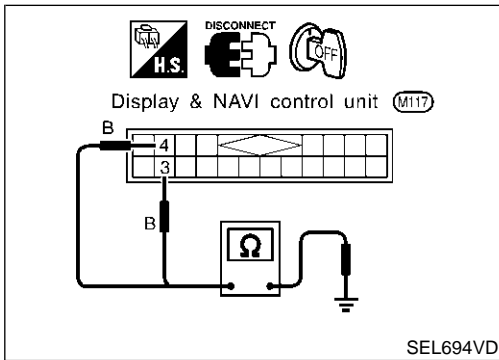
Power Supply Circuit Check

NAEL0427S0401

| 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.

- 7.5A fuse [No. 11, located in the fuse block (J/B)]
- 10A fuse [No. 10, located in the fuse block (J/B)]
- 15A fuse [No. 4, located in the fuse block (J/B)]
- Harness for open or short between fuse and display & NAVI control unit



Ground Circuit Check

NAEL0427S0402

| Terminals | Continuity |
|------------|------------|
| 3 - Ground | Yes |
| 4 - Ground | Yes |

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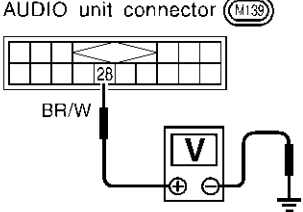
NAVIGATION SYSTEM



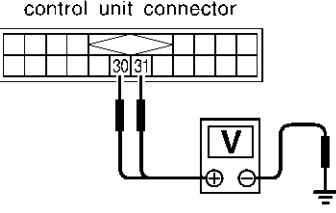
Trouble diagnoses (Cont'd)


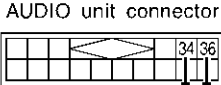
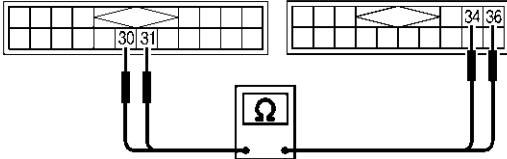
VOICE GUIDE OPERATION CHECK

=NAEL0427S05

| 1 PRELIMINARY CHECK | |
|---|--|
| 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 style="text-align: right;">Yes or No</p> | |
| Yes | ▶ GO TO 2. |
| No | ▶ Repair or replace audio system. Refer to "AUDIO", EL-173. |

| 2 CHECK NAVI OPERATION ON SIGNAL | |
|---|---|
| 1. Disconnect audio unit connector. 2. Push "VOICE" button. 3. Check voltage between terminal 28 and ground. | |
| <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">    </div> <div style="margin-right: 20px;"> <p>AUDIO unit connector (M139)</p>  </div> <div> <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;">SEL645XA</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 CIRCUIT | |
|---|--|
| 1. Push "VOICE" button. 2. Check voltage between display and NAVI control unit harness connector M118 terminal 30 (G/Y) or 31 (OR/L) and ground. | |
| <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">   </div> <div style="margin-right: 20px;"> <p>Display and NAVI control unit connector</p>  </div> <div> <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;">SEL797Y</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 display and NAVI control unit connector and AUDIO unit connector. 3. Check continuity between display and NAVI control unit harness connector M118 terminal 30 (G/Y) and AUDIO unit harness connector M139 terminal 36 (G/Y). 4. Check continuity between display and NAVI control unit harness connector M118 terminal 31 (OR/L) and AUDIO unit harness connector M139 terminal 34 (OR/L).</p> <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;">  <p>Display and NAVI control unit connector</p> </div> <div style="text-align: center;">  <p>AUDIO unit connector</p> </div> <div style="text-align: center;"> <p>Does continuity exist?</p> </div> </div>  <div style="text-align: right; margin-top: 10px;">SEL798Y</div> | |
| Yes or No | |
| Yes | ▶ Repair or replace audio system. Refer to "AUDIO", EL-173. |
| No | ▶ Repair or replace harness or connector. |

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NAVIGATION SYSTEM

This Condition is Not Abnormal

This Condition is Not Abnormal

=NAEL0428

EXAMPLE OF BASIC OPERATIONAL ERRORS

NAEL0428S01

| 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.

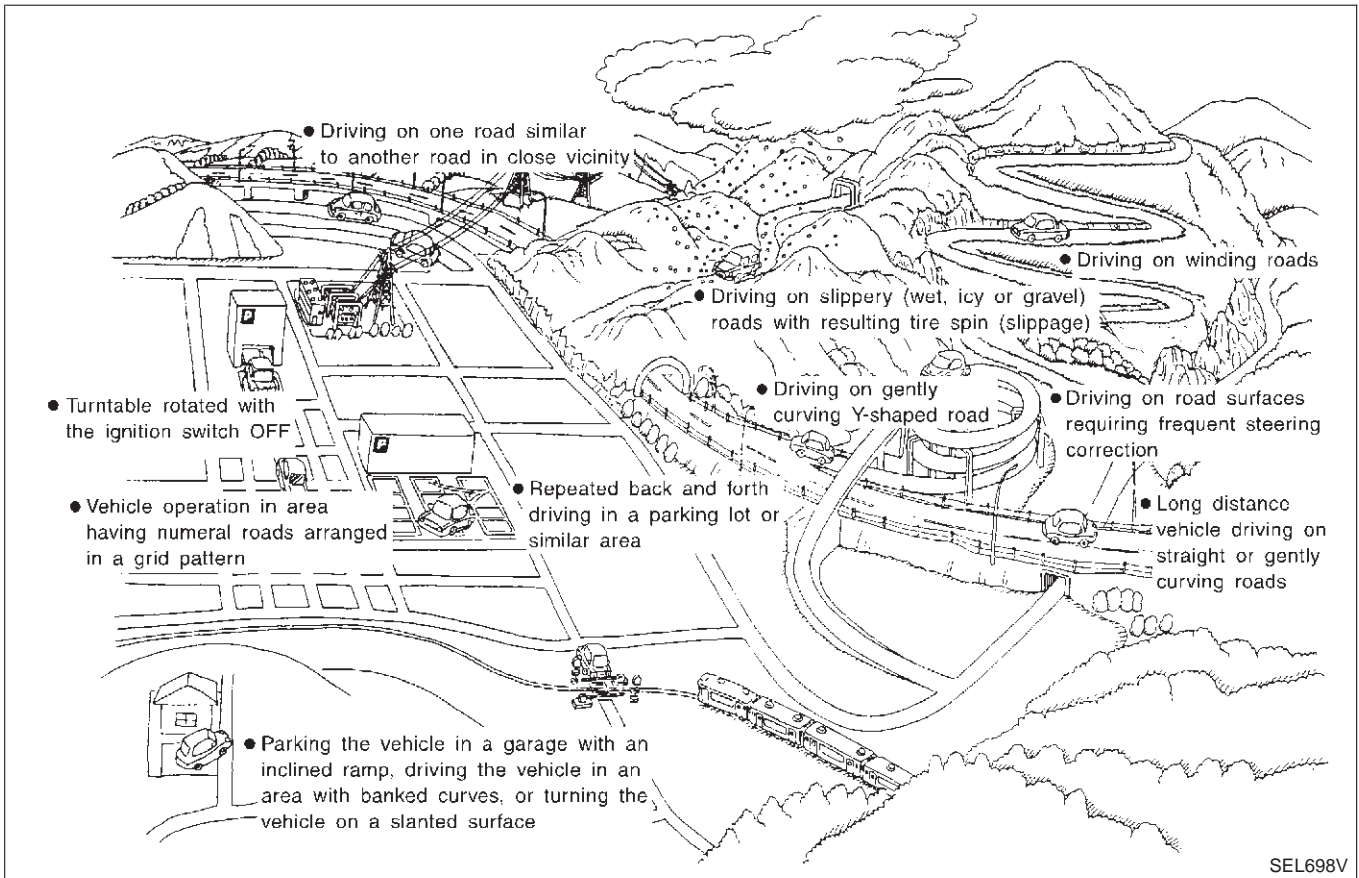
NAVIGATION SYSTEM

This Condition is Not Abnormal (Cont'd)

EXAMPLE OF CURRENT VEHICLE POSITION MARKER ERROR

=NAEL0428S02

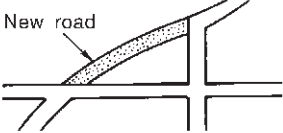

The navigation system reads the vehicle distance and steering angle data. Because the vehicle is moving, there will be an error in the current position indication. After the error appears, drive the vehicle for a short distance. Stop the vehicle. If the position marker does not return to its original position, perform "ADJUST CURRENT LOCATION" (EL-421).



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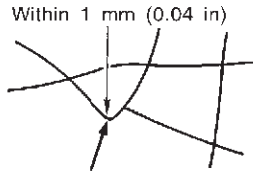
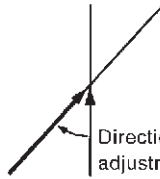
NAVIGATION SYSTEM

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" (EL-421). If necessary, perform "SPEED CALIBRATION" (EL-419). |
| | 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-419). After removing the tire chains, sensing accuracy may recover by itself. |

NAVIGATION SYSTEM

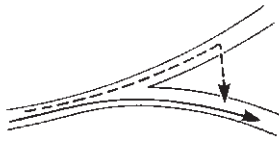
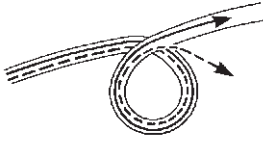
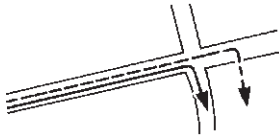
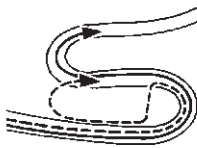

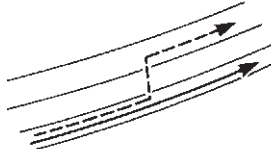
This Condition is Not Abnormal (Cont'd)

| | 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-419). |
| | 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" (EL-421). |
| 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" (EL-421) 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  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", refer to EL-421. |

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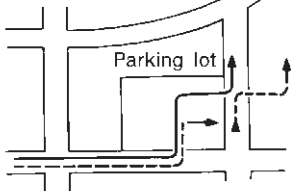
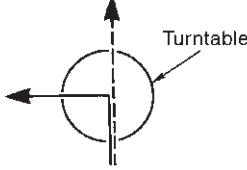
NAVIGATION SYSTEM

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" (EL-421).</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 | <p>Parking lot or similar area</p>  <p>SEL709V</p> | <p>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.</p> | |
| | <p>Turntable</p>  <p>SEL710V</p> | <p>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.</p> | |

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" (EL-421).

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.

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.

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.

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.

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.

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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-422.]

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-419). 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

NAEL0428S03

- 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

NAEL0428S0301

| 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

NAEL0428S0302

| 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

NAEL0428S0303

| 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

NAEL0428S04

- 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

NAEL0428S05

- 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

NAEL0428S06

- 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 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

NAEL0428S07

- 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

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NAEL0429

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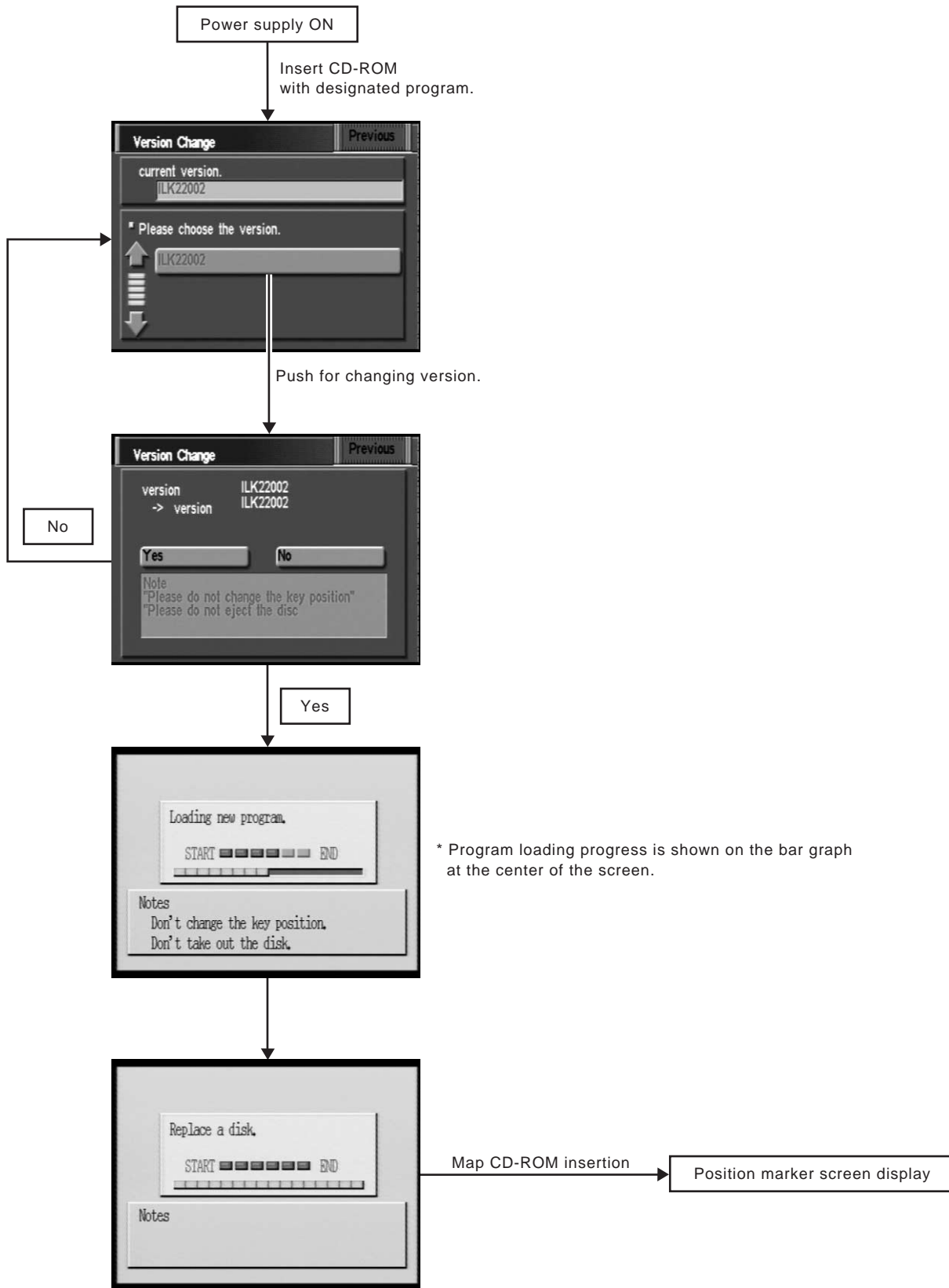
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* Program loading progress is shown on the bar graph at the center of the screen.

Note: Load the program only after the engine has been started.

SEL612X

Initialization

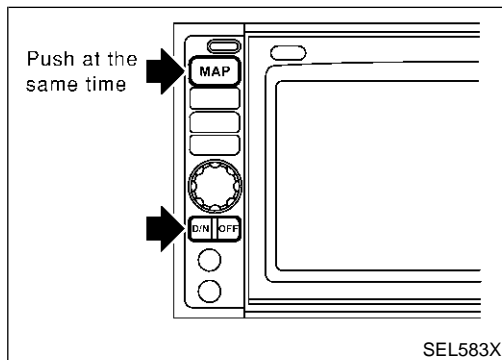
This procedure is for initializing the current location. Perform "Initialize Location" when the vehicle is transported a long distance by trailer, etc. NAELO430

Map with grey background appears and the vehicle location cannot 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.

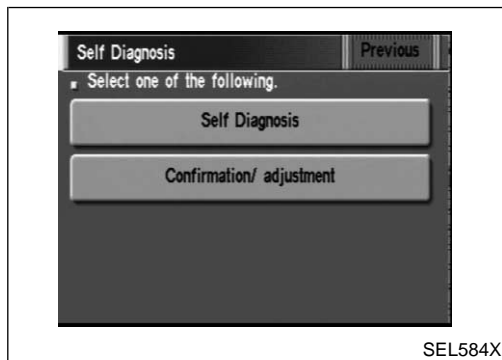
NOTE:

- Only initialize the system when the display & 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.

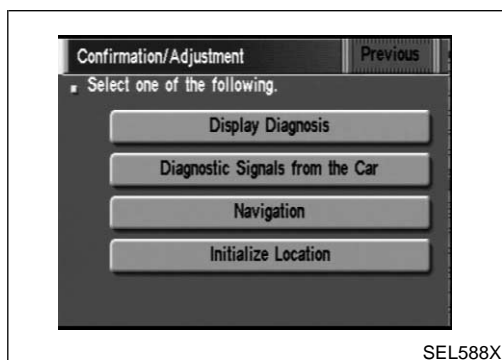


HOW TO PERFORM

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. NAELO430S01



2. Touch "Confirmation/ adjustment".

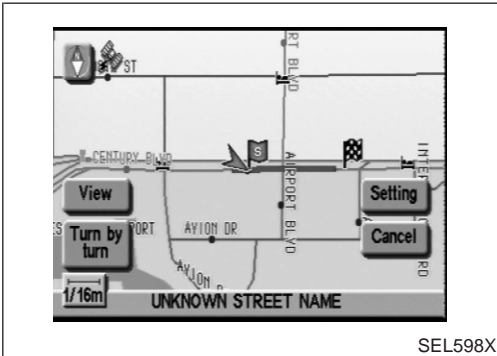


3. Touch "Initialize Location". Then the previous screen is displayed.



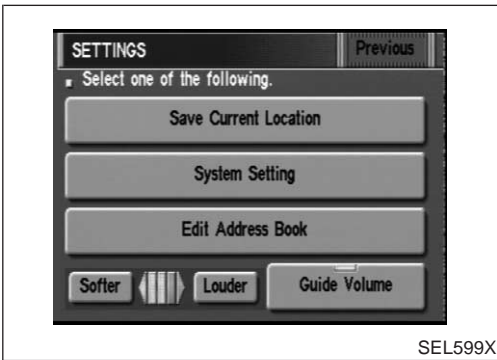
SEL584X

4. Push "Previous" switch.



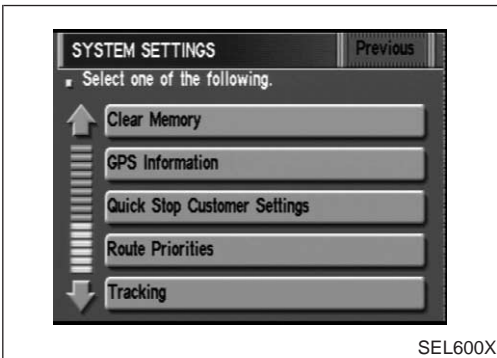
SEL598X

5. Push the "MAP" switch.
6. Touch "Setting".



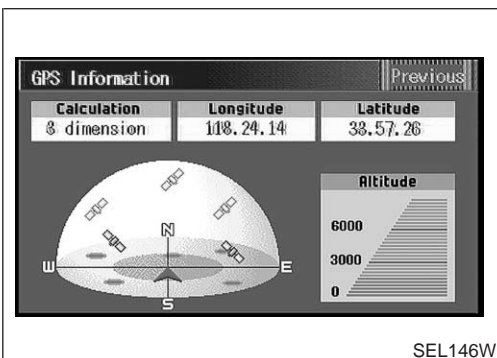
SEL599X

7. Touch "System Setting".



SEL600X

8. Touch "GPS Information".



SEL146W

9. More than one GPS satellite icon turns green. (It may take 1 to 15 minutes.)

NOTE:

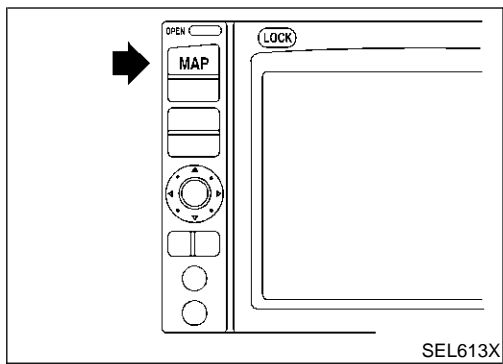
Drive the vehicle for a while* in order to change the receiving condition of the radio wave from the GPS satellite if the GPS icon does not turn green.

* The driving distance which is necessary depends on the receiving condition of the radio wave from the GPS satellite.

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NAVIGATION SYSTEM

Initialization (Cont'd)



10. 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.
11. Initialization is completed.

System Description

NAEL0462

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

CAN Communication Unit

NAEL0463

Go to CAN system, when selecting your CAN system type from the following table.

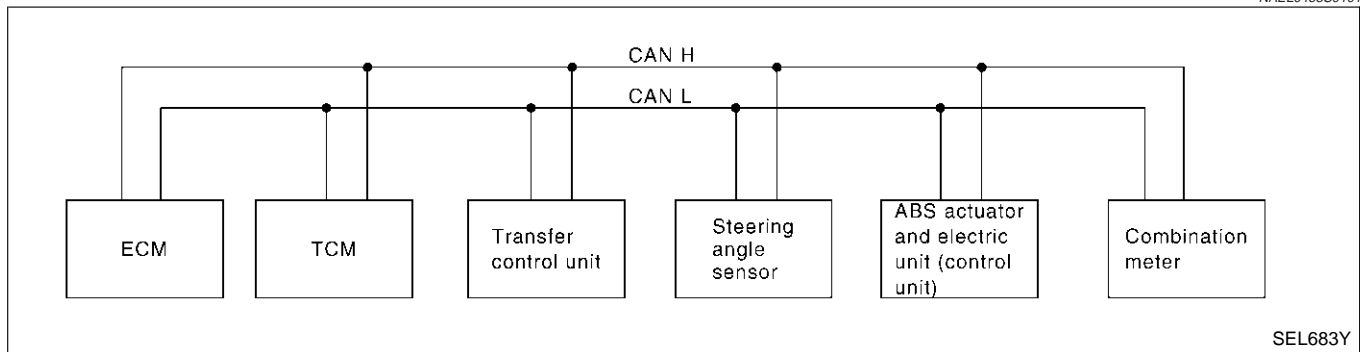
| | | | | | | | |
|------------------------------|-------------------|--------------------|-----|-------------------|--------------------|-----|--------------------|
| Body type | Wide/Wagon | | | | | | |
| Engine | VQ35DE | | | | | | |
| Transmission | A/T | | | | | | M/T |
| Brake control | VDC | | | ABS | | | |
| Axle | 4WD (All-mode) | 4WD (Part time) | 2WD | 4WD (All-mode) | 4WD (Part time) | 2WD | 4WD (Part time) |
| CAN system type | 1 | 2 | | 3 | | | 4 |
| CAN system trouble diagnosis | (EL-452) | (EL-476) | | (EL-498) | | | (EL-511) |

TYPE 1

System Diagram

NAEL0463S01

NAEL0463S0101



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CAN COMMUNICATION

CAN Communication Unit (Cont'd)

Input/Output Signal Chart

=NAEL0463S0102
T: Transmit R: Receive

| Signals | ECM | TCM | Transfer control unit | Steering angle sensor | ABS actuator and electric unit (control unit) | Combination meter |
|------------------------------------|-----|-----|-----------------------|-----------------------|---|-------------------|
| Engine speed signal | T | | R | | R | R |
| Accelerator pedal position signal | T | | R | | R | |
| Closed throttle position signal | T | R | | | | |
| Wide open throttle position signal | T | R | | | | |
| VDC operation signal | R | | R | | T | |
| TCS operation signal | R | | R | | T | |
| ABS operation signal | R | | R | | T | |
| Output shaft revolution signal | R | T | R | | | |
| ETC fail signal | T | | R | | | |
| During shifting signal | R | T | R | | R | |
| Steering wheel angle sensor signal | | | | T | R | |
| Wheel speed sensor signal | | | R | | T | |
| Stop lamp switch signal | | R | | | | T |
| MIL signal | T | | | | | R |
| Engine coolant temperature signal | T | | | | | R |
| Fuel consumption signal | T | | | | | R |
| Vehicle speed signal | | | | | T | R |
| | R | | | | | T |
| Lock-up prohibition signal | T | R | | | | |
| Lock-up signal | R | T | | | | |
| Neutral range switch signal | | R | | | | T |
| Parking range switch signal | | R | | | | T |
| Overdrive control switch signal | | R | | | | T |
| A/C compressor feedback signal | T | | | | | R |
| Fuel level sensor signal | R | | | | | T |
| A/T position indicator signal | | T | | | | R |
| O/D OFF indicator signal | | T | | | | R |

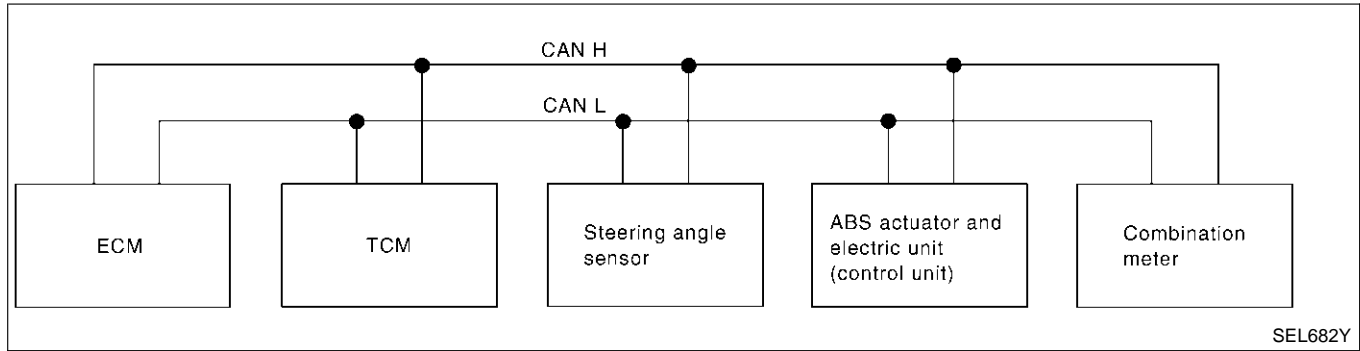
CAN COMMUNICATION

CAN Communication Unit (Cont'd)

TYPE 2 System Diagram

=NAEL0463S02

NAEL0463S0201



Input/Output Signal Chart

NAEL0463S0202

T: Transmit R: Receive

| Signals | ECM | TCM | Steering angle sensor | ABS actuator and electric unit (control unit) | Combination meter |
|------------------------------------|-----|-----|-----------------------|---|-------------------|
| Engine speed signal | T | | | R | R |
| Accelerator pedal position signal | T | | | R | |
| Closed throttle position signal | T | R | | | |
| Wide open throttle position signal | T | R | | | |
| VDC operation signal | R | | | T | |
| TCS operation signal | R | | | T | |
| ABS operation signal | R | | | T | |
| Steering wheel angle sensor signal | | | T | R | |
| MIL signal | T | | | | R |
| Engine coolant temperature signal | T | | | | R |
| Fuel consumption signal | T | | | | R |
| Vehicle speed signal | | | | T | R |
| | R | | | | T |
| Stop lamp switch signal | | R | | | T |
| Lock-up prohibition signal | T | R | | | |
| Lock-up signal | R | T | | | |
| Neutral range switch signal | | R | | | T |
| Parking range switch signal | | R | | | T |
| Overdrive control switch signal | | R | | | T |
| A/C compressor feedback signal | T | | | | R |
| Fuel level sensor signal | R | | | | T |
| A/T position indicator signal | | T | | | R |
| O/D OFF indicator signal | | T | | | R |

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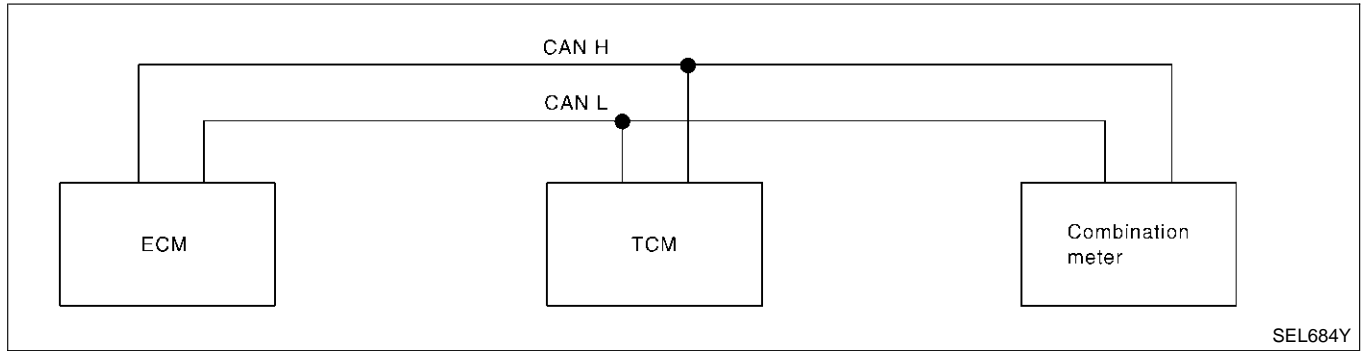
CAN COMMUNICATION

CAN Communication Unit (Cont'd)

TYPE 3 System Diagram

=NAEL0463S03

NAEL0463S0301



SEL684Y

Input/Output Signal Chart

NAEL0463S0302

T: Transmit R: Receive

| Signals | ECM | TCM | Combination meter |
|------------------------------------|-----|-----|-------------------|
| Engine speed signal | T | | R |
| Closed throttle position signal | T | R | |
| Wide open throttle position signal | T | R | |
| Stop lamp switch signal | | R | T |
| Lock-up prohibition signal | T | R | |
| Lock-up signal | R | T | |
| Neutral range switch signal | | R | T |
| Parking range switch signal | | R | T |
| Overdrive control switch signal | | R | T |
| MIL signal | T | | R |
| Engine coolant temperature signal | T | | R |
| Fuel consumption signal | T | | R |
| Vehicle speed signal | R | | T |
| A/C compressor feedback signal | T | | R |
| Fuel level sensor signal | R | | T |
| A/T position indicator signal | | T | R |
| O/D OFF indicator signal | | T | R |

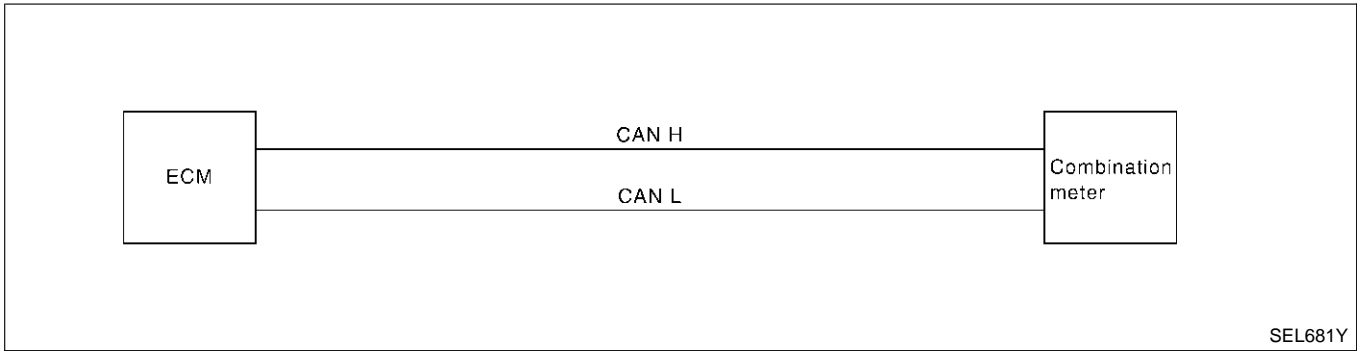
CAN COMMUNICATION

CAN Communication Unit (Cont'd)

TYPE 4 System Diagram

=NAEL0463S04

NAEL0463S0401



SEL681Y

Input/Output Signal Chart

NAEL0463S0402

T: Transmit R: Receive

| Signals | ECM | Combination meter |
|-----------------------------------|-----|-------------------|
| Engine speed signal | T | R |
| MIL signal | T | R |
| Engine coolant temperature signal | T | R |
| Fuel consumption signal | T | R |
| Vehicle speed signal | R | T |
| A/C compressor feedback signal | T | R |
| Fuel level sensor signal | R | T |

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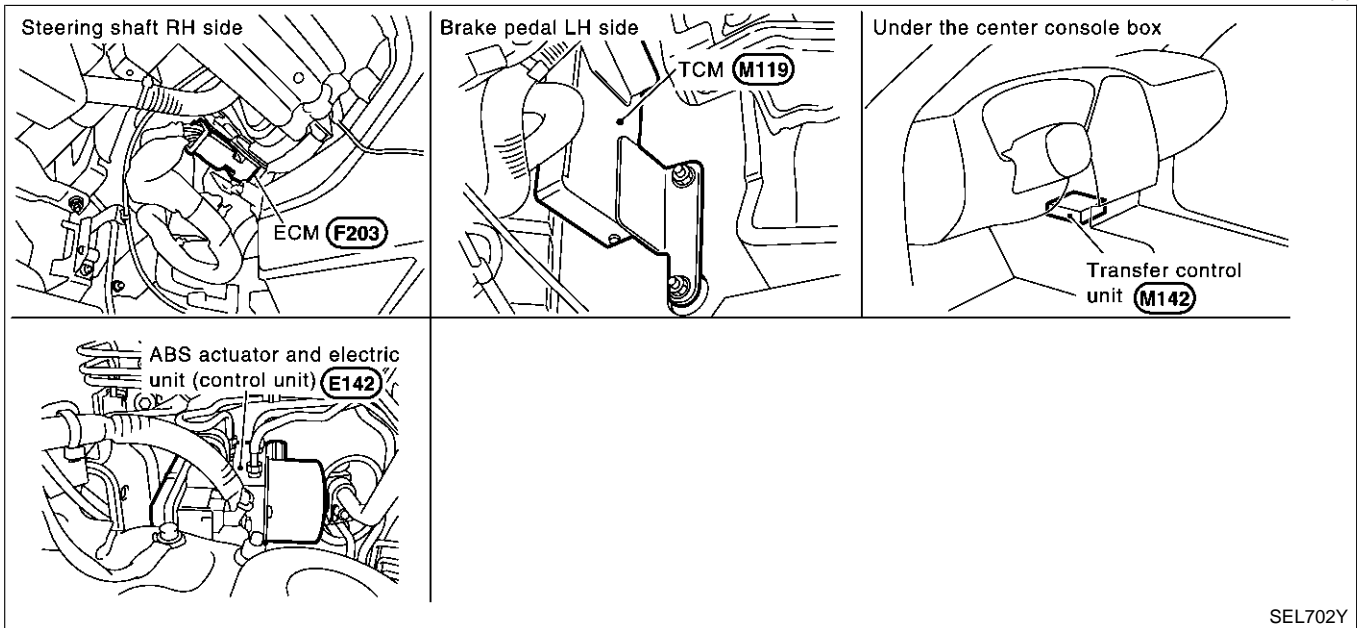
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CAN SYSTEM (TYPE 1)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0464



System Description

NAEL0465

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

CAN SYSTEM (TYPE 1)

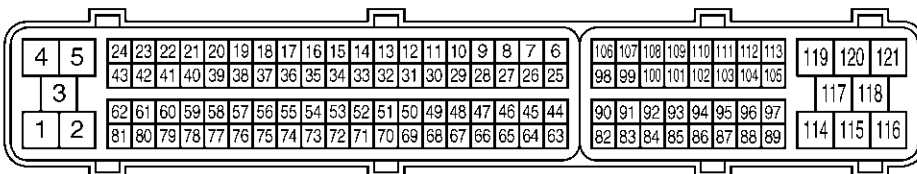
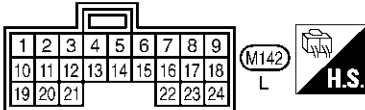
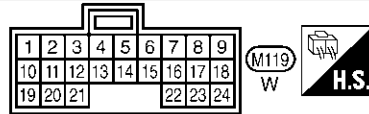
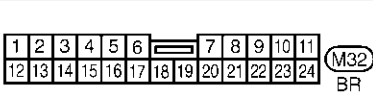
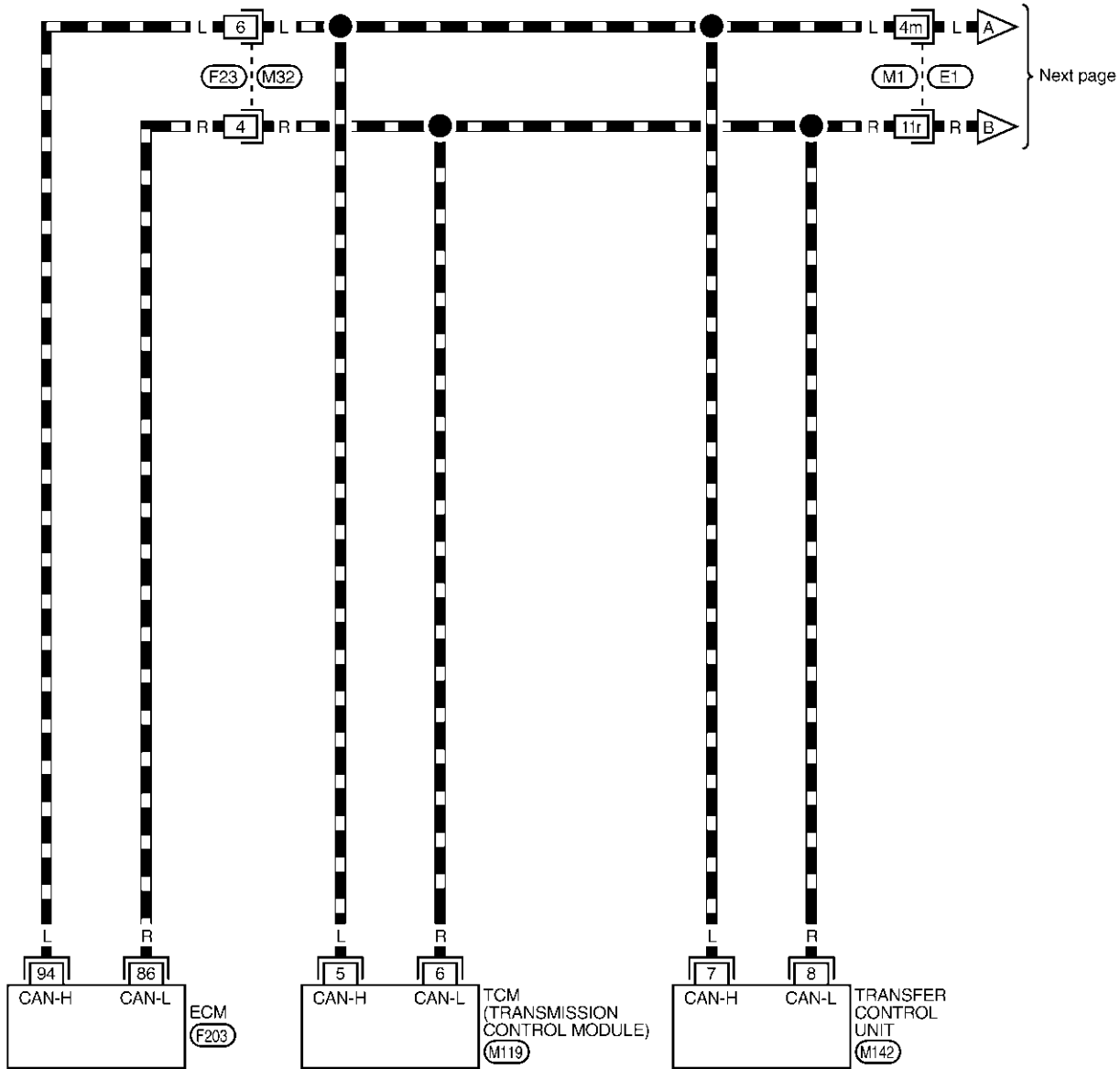
Wiring Diagram — CAN —

Wiring Diagram — CAN —

NAEL0466

EL-CAN-01

— — — — — : DATA LINE



REFER TO THE FOLLOWING.

(E1) - SUPER MULTIPLE JUNCTION (SMJ)

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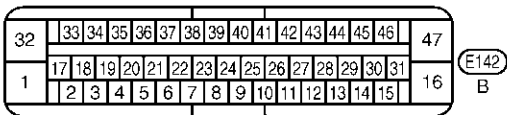
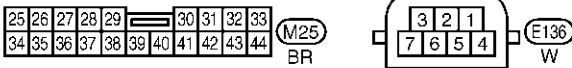
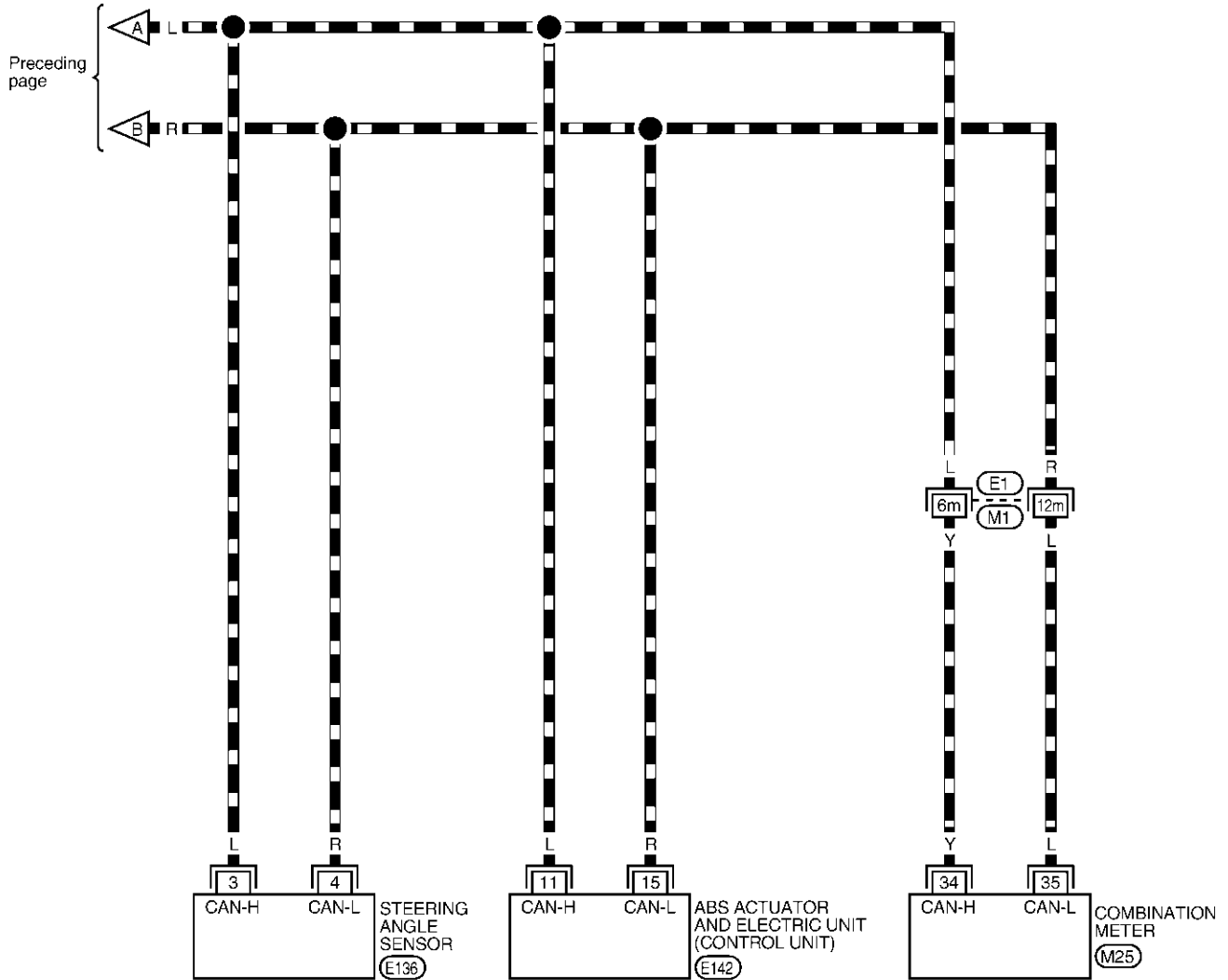
MEL578Q

CAN SYSTEM (TYPE 1)

Wiring Diagram — CAN — (Cont'd)

EL-CAN-02

▬ : DATA LINE



REFER TO THE FOLLOWING.

(E1) -SUPER MULTIPLE JUNCTION (SMJ)

MEL579Q

Trouble Diagnoses

NAEL0467

NAEL0467S01

WORK FLOW

1. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.

(Example)

| SELECT DIAG MODE | | | |
|-----------------------|-------|------|-------------|
| WORK SUPPORT | | | |
| SELF-DIAG RESULTS | | | |
| DATA MONITOR | | | |
| DATA MONITOR (SPEC) | | | |
| CAN DIAG SUPPORT MNTR | | | |
| ACTIVE TEST | | | |
| | | | Scroll Down |
| BACK | LIGHT | COPY | |

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| SELF-DIAG RESULTS | | | |
|--------------------------|------|-------|------|
| DTC RESULTS | TIME | | |
| CAN COMM CIRCUIT (U1000) | 0 | | |
| | | | |
| | | | |
| F.F.DATA | | | |
| ERASE PRINT | | | |
| MODE | BACK | LIGHT | COPY |

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2. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.

(Example)

| SELECT DIAG MODE | | | |
|-----------------------|-------|------|-------------|
| WORK SUPPORT | | | |
| SELF-DIAG RESULTS | | | |
| DATA MONITOR | | | |
| DATA MONITOR (SPEC) | | | |
| CAN DIAG SUPPORT MNTR | | | |
| ACTIVE TEST | | | |
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| CAN DIAG SUPPORT MNTR | | | |
|-----------------------|-------|-------|---------------------|
| ENGINE | | | |
| | PRNT | | |
| INITIAL DIAG | OK | | |
| TRANSMIT DIAG | OK | | |
| TCM | OK | | |
| VDC/TCS/ABS | OK | | |
| METER/M&A | OK | | |
| ICC | UNKWN | | |
| BCM/SEC | OK | | |
| IPDM E/R | OK | | |
| AWD/4WD/e4WD | UNKWN | | |
| PRINT | | | |
| MODE | BACK | LIGHT | Scroll Down COPY |

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3. Attach the printed sheet of "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to "CHECK SHEET" (EL-456).
4. Based on the "CAN DIAG SUPPORT MNTR" results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to "CHECK SHEET" (EL-456).

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

5. According to the check sheet results (example), start inspection. Refer to "CHECK SHEET RESULTS (EXAMPLE)" (EL-457).

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CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

CHECK SHEET

=NAEL0467S02

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

Check sheet table

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | VDC/TCS/ABS | METER/M&A |
| | | | ECM | TCM | AWD/4WD | STRG | | | |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN | |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN | |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - | |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN | |

Symptoms:

| | | | |
|---|--|---|--|
| Attach copy of ENGINE SELF-DIAG RESULTS | Attach copy of A/T SELF-DIAG RESULTS | Attach copy of ALL MODE AWD/4WD SELF-DIAG RESULTS | Attach copy of ABS SELF-DIAG RESULTS |
|---|--|---|--|

| | | | |
|---|--|---|--|
| Attach copy of ENGINE CAN DIAG SUPPORT MNTR | Attach copy of A/T CAN DIAG SUPPORT MNTR | Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR | Attach copy of ABS CAN DIAG SUPPORT MNTR |
|---|--|---|--|

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CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

CHECK SHEET RESULTS (EXAMPLE)

=NAEL0467S03

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

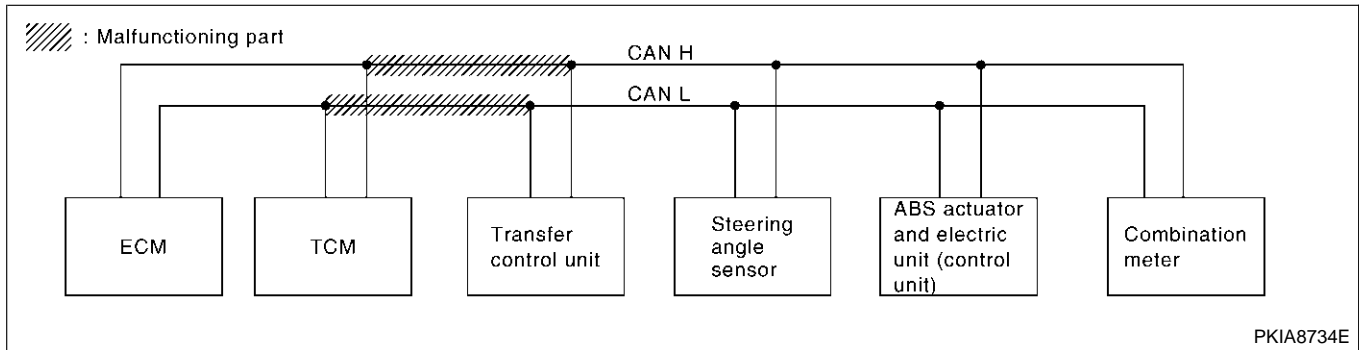
Case 1

NAEL0467S0301

Check harness between TCM and transfer control unit. Refer to "CIRCUIT CHECK BETWEEN TCM AND TRANSFER CONTROL UNIT" (EL-462).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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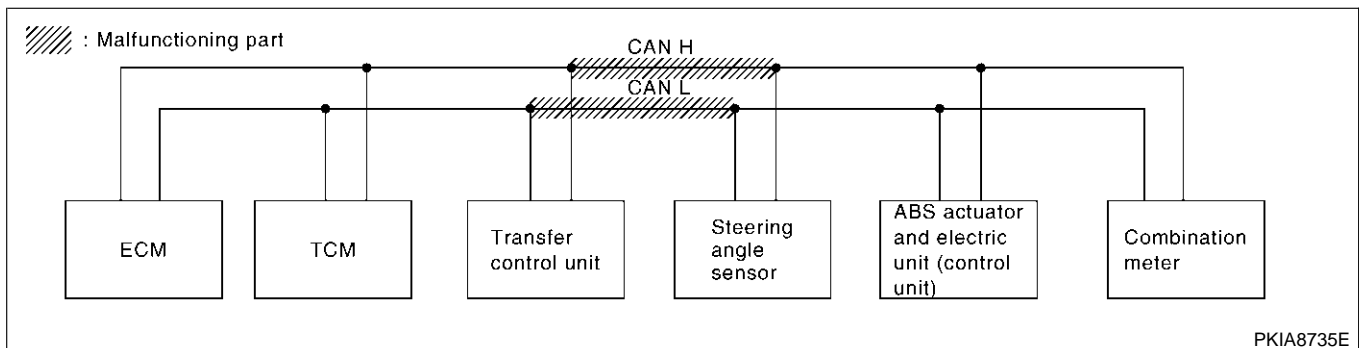
Case 2

NAEL0467S0302

Check harness between transfer control unit and steering angle sensor. Refer to "CIRCUIT CHECK BETWEEN TRANSFER CONTROL UNIT AND STEERING ANGLE SENSOR" (EL-463).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

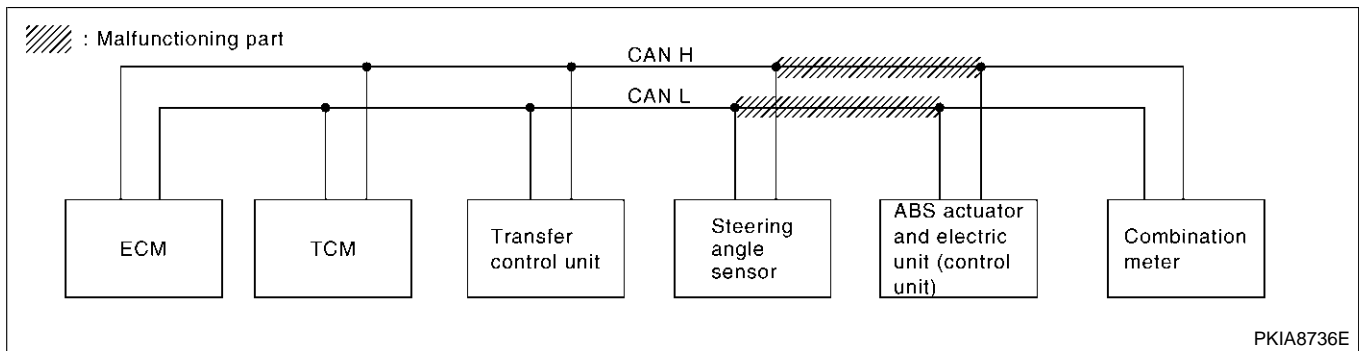
Case 3

NAEL0467S0303

Check harness between steering angle sensor and ABS actuator and electric unit (control unit). Refer to "CIRCUIT CHECK BETWEEN STEERING ANGLE SENSOR AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)" (EL-464).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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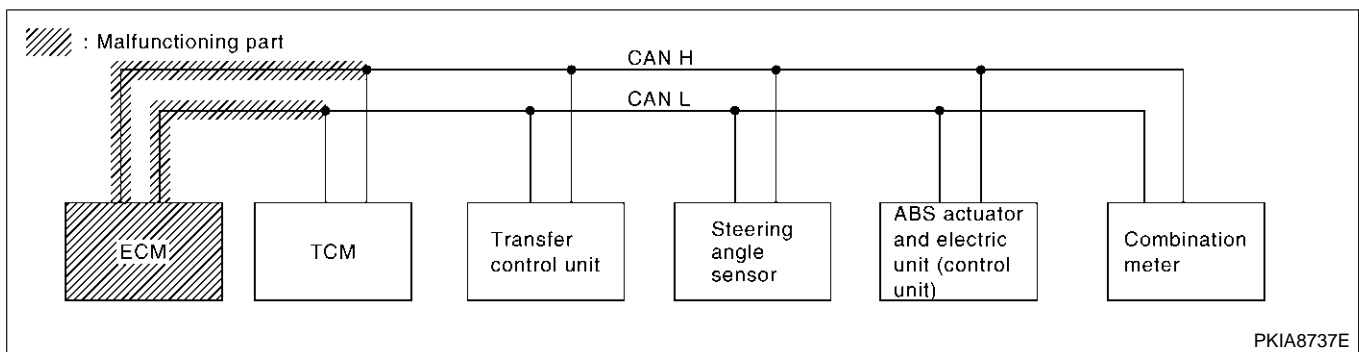
Case 4

NAEL0467S0304

Check ECM circuit. Refer to "ECM CIRCUIT CHECK" (EL-465).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

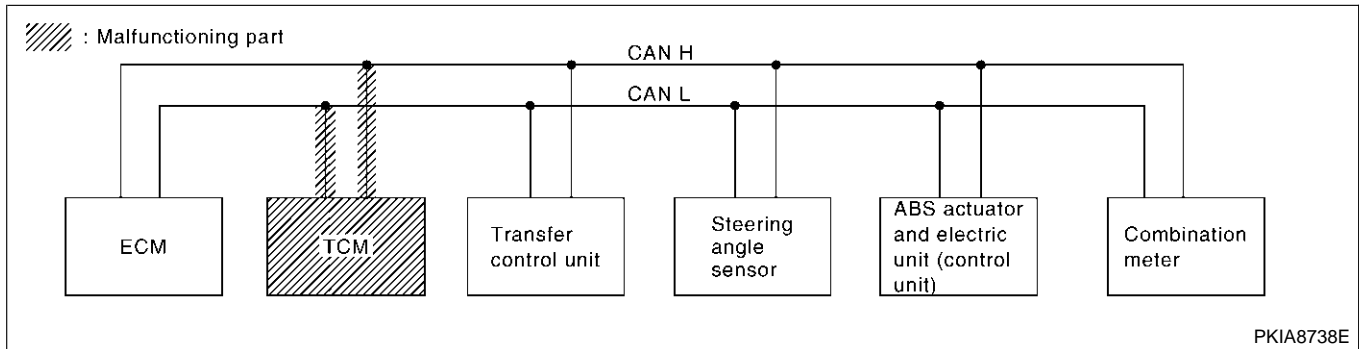
Case 5

Check TCM circuit. Refer to "TCM CIRCUIT CHECK" (EL-466).

=NAEL0467S0305

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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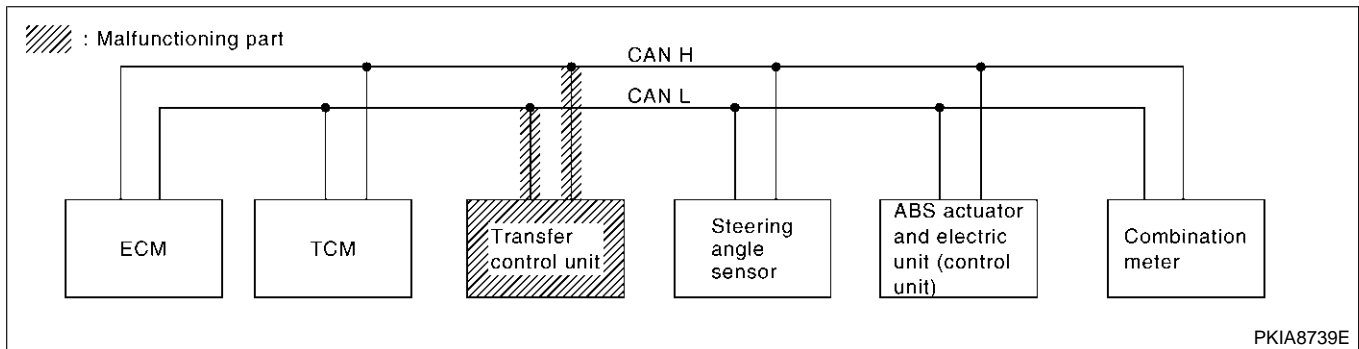
Case 6

Check transfer control unit circuit. Refer to "TRANSFER CONTROL UNIT CIRCUIT CHECK" (EL-467).

NAEL0467S0306

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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CAN SYSTEM (TYPE 1)

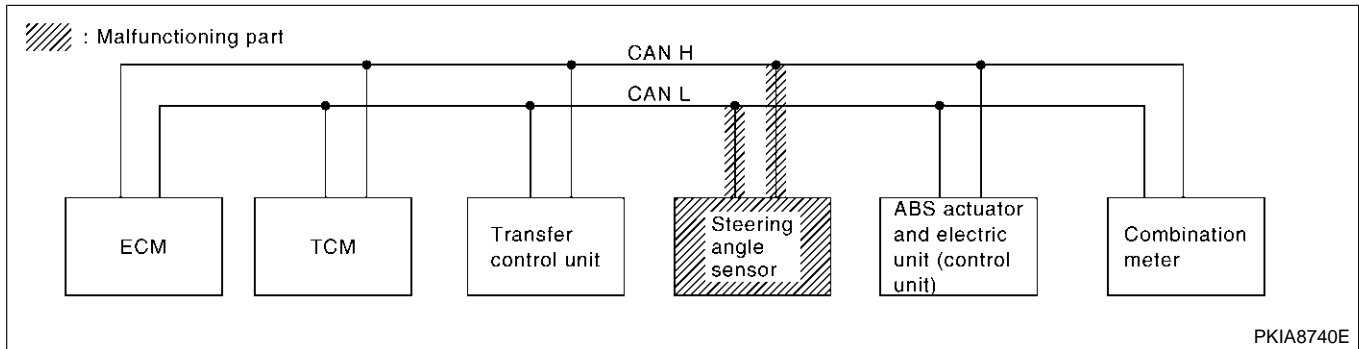
Trouble Diagnoses (Cont'd)

Case 7

Check steering angle sensor circuit. Refer to "STEERING ANGLE SENSOR CIRCUIT CHECK" (EL-468). =NAEL0467S0307

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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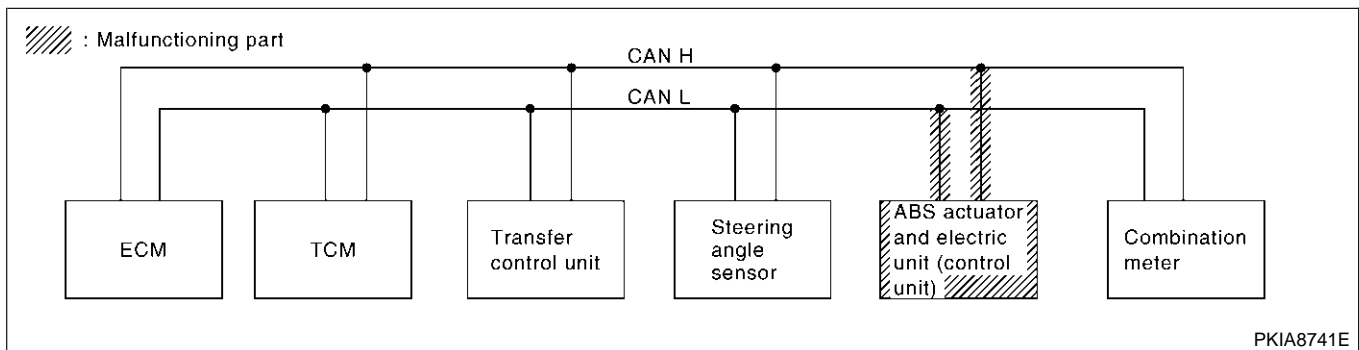


Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to "ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) CIRCUIT CHECK" (EL-469). =NAEL0467S0308

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

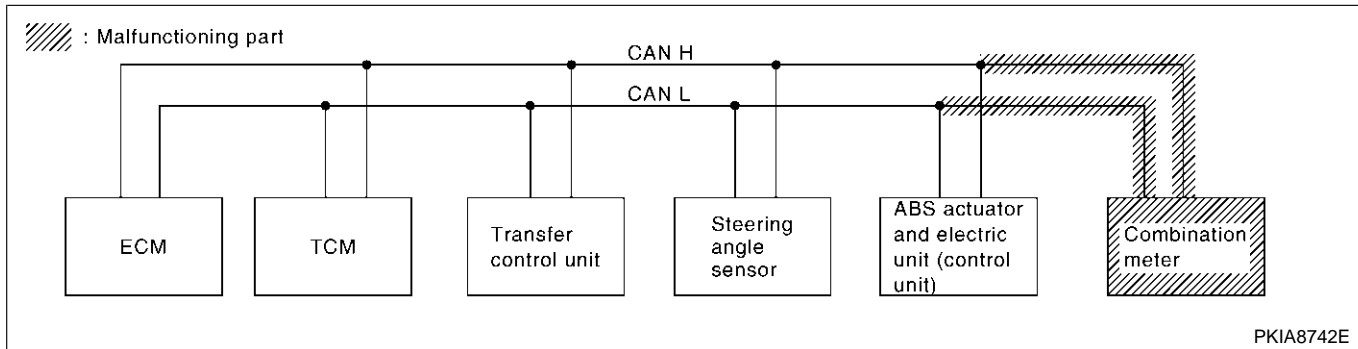
Case 9

Check combination meter circuit. Refer to "COMBINATION METER CIRCUIT CHECK" (EL-470).

=NAEL0467S0309

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | - | UNKWN | UNKWN ✓ |
| A/T | NG | UNKWN | UNKWN | - | - | - | UNKWN | UNKWN ✓ |
| ALL MODE AWD/4WD | NG | UNKWN | UNKWN | UNKWN | - | UNKWN | UNKWN | - |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN ✓ |

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Case 10

Check CAN communication circuit. Refer to "CAN COMMUNICATION CIRCUIT CHECK" (EL-471).

NAEL0467S0310

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|---------|---------|---------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | | |
| | | | ECM | TCM | AWD/4WD | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN ✓ | - | UNKWN ✓ | - | - | UNKWN ✓ | UNKWN ✓ |
| A/T | NG | UNKWN ✓ | UNKWN ✓ | - | - | - | UNKWN ✓ | UNKWN ✓ |
| ALL MODE AWD/4WD | NG | UNKWN ✓ | UNKWN ✓ | UNKWN ✓ | - | UNKWN ✓ | UNKWN ✓ | - |
| ABS | NG | UNKWN ✓ | UNKWN ✓ | UNKWN ✓ | UNKWN ✓ | UNKWN ✓ | - | UNKWN ✓ |

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CAN SYSTEM (TYPE 1)

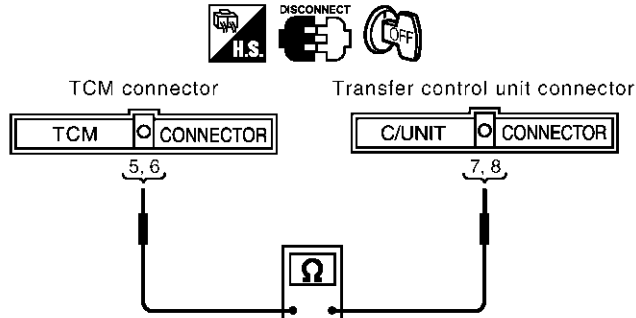
Trouble Diagnoses (Cont'd)

CIRCUIT CHECK BETWEEN TCM AND TRANSFER CONTROL UNIT

NAEL0467S05

1 CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector, transfer control unit connector and combination meter connector.
2. Check continuity between TCM harness connector M119 terminals 5 (L), 6 (R) and transfer control unit harness connector M142 terminals 7 (L), 8 (R).



SEL707Y

OK or NG

| | | |
|----|---|---|
| OK | ▶ | Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-455). |
| NG | ▶ | Repair harness. |

CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

CIRCUIT CHECK BETWEEN TRANSFER CONTROL UNIT AND STEERING ANGLE SENSOR

=NAEL0467S06

| | | |
|--|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| <p>1. Turn ignition switch OFF.</p> <p>2. Check following terminals and connector for damage, bend and loose connection (connector-side and harness-side).</p> <ul style="list-style-type: none"> ● Harness connector M1 ● Harness connector E1 <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|---|---------------------------------------|-----------------|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>1. Disconnect transfer control unit connector and harness connector M1.</p> <p>2. Check continuity between transfer control unit harness connector M142 terminals 7 (L), 8 (R) and harness connector M1 terminals 4m (L), 11r (R).</p> | | |
| | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair harness. |

| | | |
|--|---------------------------------------|---|
| 3 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>1. Disconnect steering angle sensor connector.</p> <p>2. Check continuity between harness connector E1 terminals 4m (L), 11r (R) and steering angle sensor harness connector E136 terminals 3 (L), 4 (R).</p> | | |
| | | |
| OK or NG | | |
| OK | ▶ | Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-455). |
| NG | ▶ | Repair harness. |

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CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

CIRCUIT CHECK BETWEEN STEERING ANGLE SENSOR AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

=NAEL0467S07

| | |
|--|---|
| 1 | CHECK HARNESS FOR OPEN CIRCUIT |
| <p>1. Disconnect steering angle sensor connector, ABS actuator and electric unit (control unit) connector and combination meter connector.</p> <p>2. Check continuity between steering angle sensor harness connector E136 terminals 3 (L), 4 (R) and ABS actuator and electric unit (control unit) harness connector E142 terminals 11 (L), 15 (R).</p> | |
| | |
| <p>Steering angle sensor connector ABS actuator and electric unit (control unit) connector</p> <p style="margin-left: 150px;">Continuity should exist.</p> | |
| <p>OK or NG</p> | |
| OK | ▶ Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-455). |
| NG | ▶ Repair harness. |

SEL710Y

CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

=NAEL0467S08

ECM CIRCUIT CHECK

| | | |
|----------|--|-------------------------------|
| 1 | CHECK CONNECTOR | |
| | <p>1. Turn ignition switch OFF.</p> <p>2. Check following terminals and connector for damage, bend and loose connection (control module-side and harness-side).</p> <ul style="list-style-type: none"> ● ECM ● Harness connector F23 ● Harness connector M32 <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|----------|--|-------------------------------------|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| | <p>1. Disconnect ECM connector.</p> <p>2. Check resistance between ECM harness connector F203 terminals 94 (L) and 86 (R).</p> <div style="text-align: center;"> <p>ECM connector</p> <p>ECM CONNECTOR</p> <p>94 86</p> <p>Approx. 108 - 132 Ω</p> <p>SEL711Y</p> </div> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ | Replace ECM. |
| NG | ▶ | Repair harness between ECM and TCM. |

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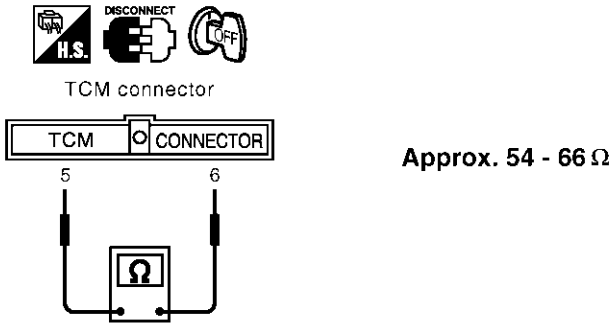
CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

=NAEL0467S09

TCM CIRCUIT CHECK

| | |
|---|---------------------------------|
| 1 | CHECK CONNECTOR |
| 1. Turn ignition switch OFF. 2. Check the terminals and connector of TCM for damage, bend and loose connection (control module-side and harness-side). | |
| OK or NG | |
| OK | ▶ GO TO 2. |
| NG | ▶ Repair terminal or connector. |

| | |
|---|---|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT |
| 1. Disconnect TCM connector. 2. Check resistance between TCM harness connector M119 terminals 5 (L) and 6 (R). | |
|  | |
| Approx. 54 - 66 Ω | |
| OK or NG | |
| OK | ▶ Replace ECM. |
| NG | ▶ Repair harness between TCM and transfer control unit. |

SEL712Y

CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

TRANSFER CONTROL UNIT CIRCUIT CHECK

=NAEL0467S10

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| 1. Turn ignition switch OFF. 2. Check the terminals and connector of transfer control unit for damage, bend and loose connection (control unit-side and harness-side). | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|---|---------------------------------------|--|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| 1. Disconnect transfer control unit connector. 2. Check resistance between transfer control unit harness connector M142 terminals 7 (L) and 8 (R). | | |
| <p style="text-align: center;">Transfer control unit connector</p> <p style="text-align: center;">Approx. 54 - 66 Ω</p> | | |
| OK or NG | | |
| OK | ▶ | Replace transfer control unit. |
| NG | ▶ | Repair harness between transfer control unit and harness connector M1. |

SEL713Y

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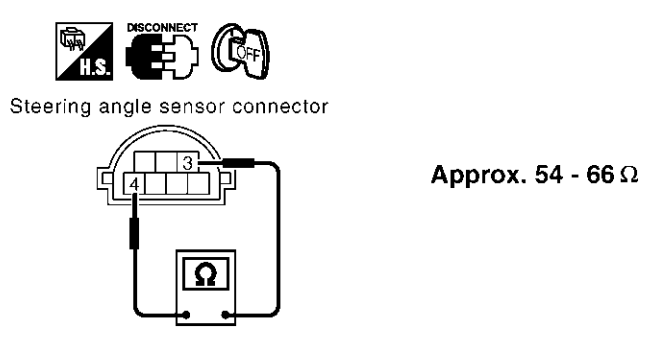
CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

STEERING ANGLE SENSOR CIRCUIT CHECK

=NAEL0467S11

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| 1. Turn ignition switch OFF. 2. Check the terminals and connector of steering angle sensor for damage, bend and loose connection (sensor-side and harness-side). | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|--|---------------------------------------|---|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| 1. Disconnect steering angle sensor connector. 2. Check resistance between steering angle sensor harness connector E136 terminals 3 (L) and 4 (R). | | |
|  <p style="text-align: center;">Steering angle sensor connector</p> <p style="text-align: right;">Approx. 54 - 66 Ω</p> | | |
| OK or NG | | |
| OK | ▶ | Replace steering angle sensor. |
| NG | ▶ | Repair harness between steering angle sensor and ABS actuator and electric unit (control unit). |

SEL714Y


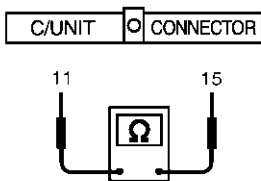
CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) CIRCUIT CHECK

=NAEL0467S12

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| 1. Turn ignition switch OFF. 2. Check the terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit-side and harness-side). | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|---|---------------------------------------|--|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| 1. Disconnect ABS actuator and electric unit (control unit) connector. 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E142 terminals 11 (L) and 15 (R). | | |
|  <p>ABS actuator and electric unit (control unit) connector</p>  <p style="text-align: right;">Approx. 54 - 66 Ω</p> | | |
| SEL715Y | | |
| OK or NG | | |
| OK | ▶ | Replace ABS actuator and electric unit (control unit). |
| NG | ▶ | Repair harness between ABS actuator and electric unit (control unit) and harness connector E1. |

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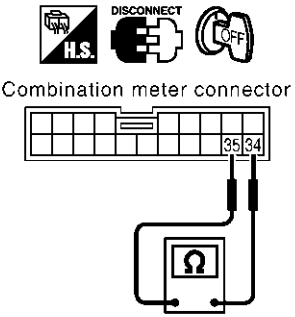
CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

COMBINATION METER CIRCUIT CHECK

=NAEL0467S13

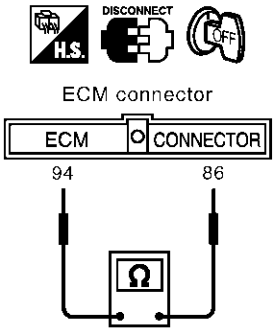
| | | |
|--|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| <p>1. Turn ignition switch OFF. 2. Check following terminals and connector for damage, bend and loose connection (meter-side and harness-side).</p> <ul style="list-style-type: none"> ● Combination meter. ● Harness connector M1. ● Harness connector E1. <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

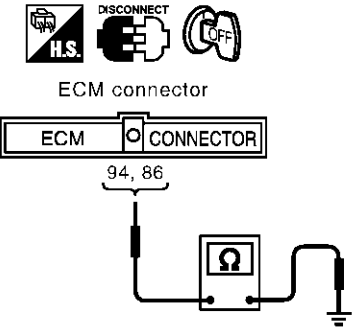
| | | |
|--|---------------------------------------|---|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>1. Disconnect combination meter connector. 2. Check resistance between combination meter harness connector M25 terminals 34 (Y) and 35 (L).</p> <div style="text-align: center;">  <p>Combination meter connector</p> <p>Approx. 108 - 132 Ω</p> </div> <p style="text-align: right;">SEL716Y</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Replace combination meter. |
| NG | ▶ | Repair harness between combination meter and ABS actuator and electric unit (control unit). |

CAN COMMUNICATION CIRCUIT CHECK

=NAEL0467S14

| | | | |
|---|------------------------|-------------------------------|--|
| 1 | CHECK CONNECTOR | | |
| <p>1. Turn ignition switch OFF.</p> <p>2. Check following terminals and connector for damage, bend and loose connection (meter-side, control unit-side, sensor-side, control module-side and harness-side).</p> <ul style="list-style-type: none"> ● Combination meter ● ABS actuator and electric unit (control unit) ● Steering angle sensor ● Transfer control unit ● TCM ● ECM ● Between combination meter and ECM | | | |
| OK or NG | | | |
| OK | ▶ | GO TO 2. | |
| NG | ▶ | Repair terminal or connector. | |

| | | | |
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| 2 | CHECK HARNESS FOR SHORT CIRCUIT | | |
| <p>1. Disconnect ECM connector and harness connector F23.</p> <p>2. Check continuity between ECM harness connector F203 terminals 94 (L) and 86 (R).</p> | | | |
|  | | | |
| Continuity should not exist. | | | |
| OK or NG | | | |
| OK | ▶ | GO TO 3. | |
| NG | ▶ | Repair harness between ECM and harness connector F23. | |

| | | | |
|---|--|---|--|
| 3 | CHECK HARNESS FOR SHORT CIRCUIT | | |
| <p>Check continuity between ECM harness connector F203 terminals 94 (L), 86 (R) and ground.</p> | | | |
|  | | | |
| Continuity should not exist. | | | |
| OK or NG | | | |
| OK | ▶ | GO TO 4. | |
| NG | ▶ | Repair harness between ECM and harness connector F23. | |

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CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

| | | |
|--|--|--|
| 4 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>1. Disconnect TCM connector, transfer control unit connector and harness connector M1. 2. Check continuity between TCM harness connector M119 terminals 5 (L) and 6 (R).</p> | | |
| <p style="text-align: center;">TCM connector</p> <p style="text-align: center;">Continuity should not exist.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | <ul style="list-style-type: none"> ● Repair harness between TCM and harness connector M1. ● Repair harness between TCM and harness connector M32. ● Repair harness between TCM and transfer control unit. |


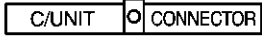
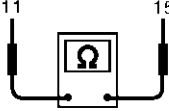
SEL440Y


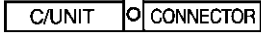
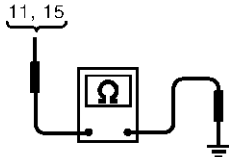
| | | |
|--|--|--|
| 5 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>Check continuity between TCM harness connector M119 terminals 5 (L), 6 (R) and ground.</p> | | |
| <p style="text-align: center;">TCM connector</p> <p style="text-align: center;">Continuity should not exist.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 6. |
| NG | ▶ | <ul style="list-style-type: none"> ● Repair harness between TCM and harness connector M1. ● Repair harness between TCM and harness connector M32. ● Repair harness between TCM and transfer control unit. |

SEL441Y

CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

| | | |
|--|--|---|
| 6 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>1. Disconnect steering angle sensor connector and ABS actuator and electric unit (control unit) connector. 2. Check continuity between ABS actuator and electric unit (control unit) harness connector E142 terminals 11 (L) and 15 (R).</p> | | |
|  <p>ABS actuator and electric unit (control unit) connector</p>  | | |
|  <p style="text-align: right;">Continuity should not exist.</p> | | |
| SEL719Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 7. |
| NG | ▶ | <ul style="list-style-type: none"> ● Repair harness between ABS actuator and electric unit (control unit) and harness connector E1. ● Repair harness between ABS actuator and electric unit (control unit) and steering angle sensor. |

| | | |
|--|--|---|
| 7 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>Check continuity between ABS actuator and electric unit (control unit) harness connector E142 terminals 11 (L), 15 (R) and ground.</p> | | |
|  <p>ABS actuator and electric unit (control unit) connector</p>  | | |
|  <p style="text-align: right;">Continuity should not exist.</p> | | |
| SEL720Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 8. |
| NG | ▶ | <ul style="list-style-type: none"> ● Repair harness between ABS actuator and electric unit (control unit) and harness connector E1. ● Repair harness between ABS actuator and electric unit (control unit) and steering angle sensor. |

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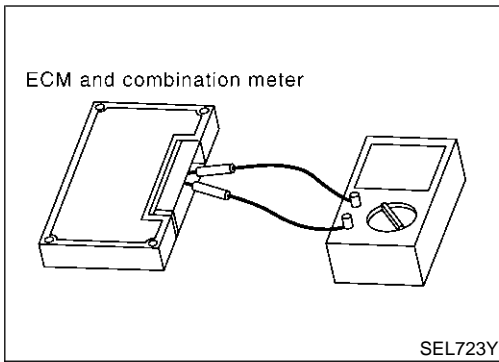
CAN SYSTEM (TYPE 1)

Trouble Diagnoses (Cont'd)

| | | |
|---|--|--|
| 8 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>1. Disconnect combination meter connector. 2. Check continuity between combination meter harness connector M25 terminals 34 (Y) and 35 (L).</p> | | |
| <p>Continuity should not exist.</p> <p style="text-align: right;">SEL721Y</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 9. |
| NG | ▶ | Repair harness between combination meter and harness connector M1. |

| | | |
|--|--|--|
| 9 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>Check continuity between combination meter harness connector M25 terminals 34 (Y), 35 (L) and ground.</p> | | |
| <p>Continuity should not exist.</p> <p style="text-align: right;">SEL722Y</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 10. |
| NG | ▶ | Repair harness between combination meter and harness connector M1. |

| | | |
|---|--|---|
| 10 | ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION | |
| <p>Check components inspection. Refer to "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION" (EL-475).</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-455). |
| NG | ▶ | Replace ECM and/or combination meter. |



Component Inspection ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

NAEL0468

=NAEL0468S01

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between combination meter terminals 34 and 35.

| Unit | Terminal | Resistance value (Ω) |
|-------------------|----------|-------------------------------|
| ECM | 94 - 86 | Approx. 108 - 132 |
| Combination meter | 34 - 35 | |

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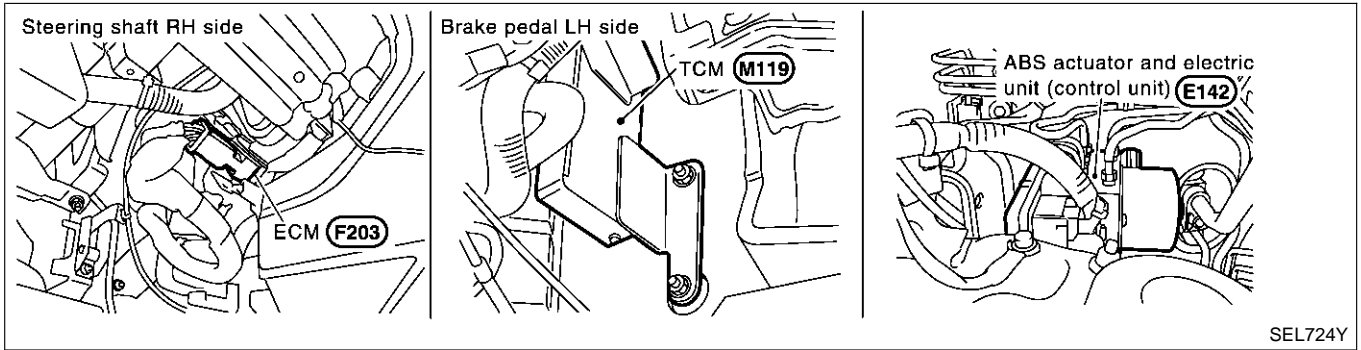
IDX

CAN SYSTEM (TYPE 2)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0469



System Description

NAEL0470

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

CAN SYSTEM (TYPE 2)

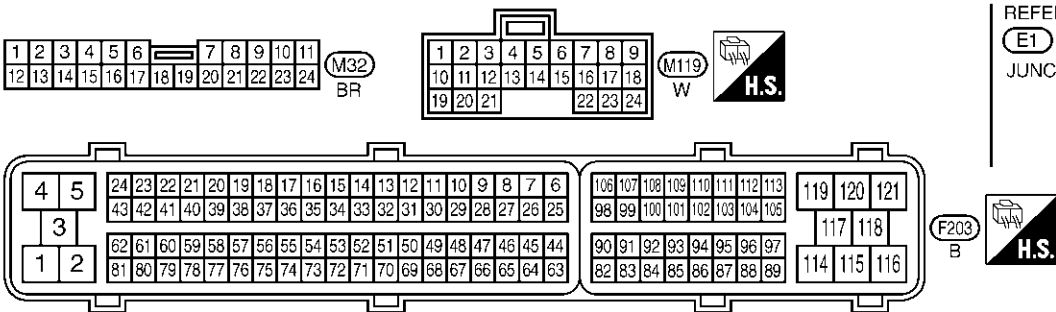
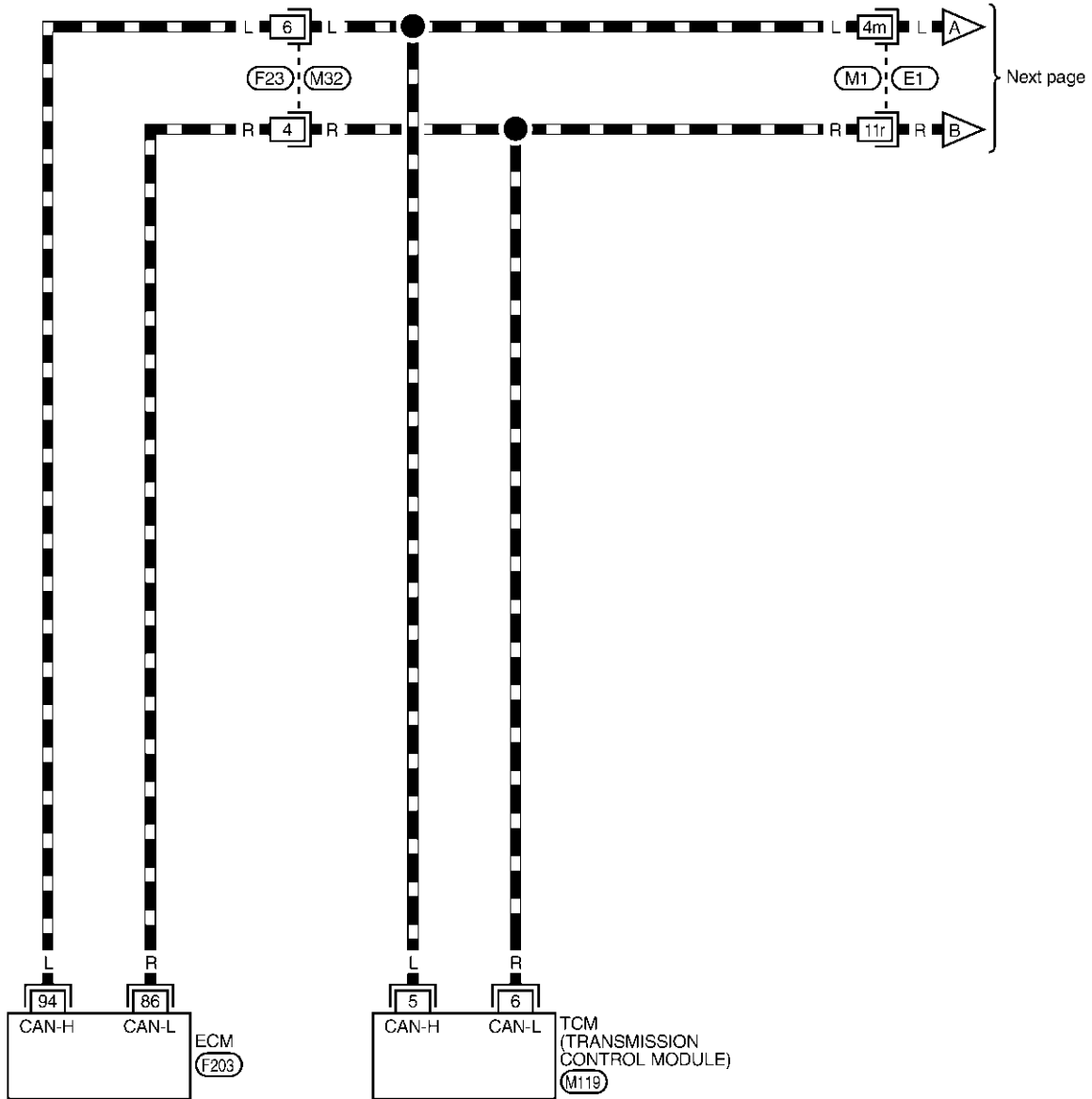
Wiring Diagram — CAN —

Wiring Diagram — CAN —

NAEL0471

EL-CAN-03

— — — — — : DATA LINE



REFER TO THE FOLLOWING.
(E1) - SUPER MULTIPLE JUNCTION (SMJ)

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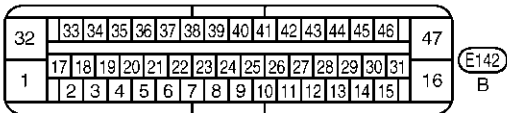
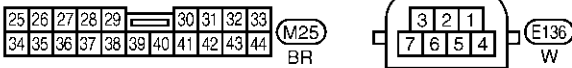
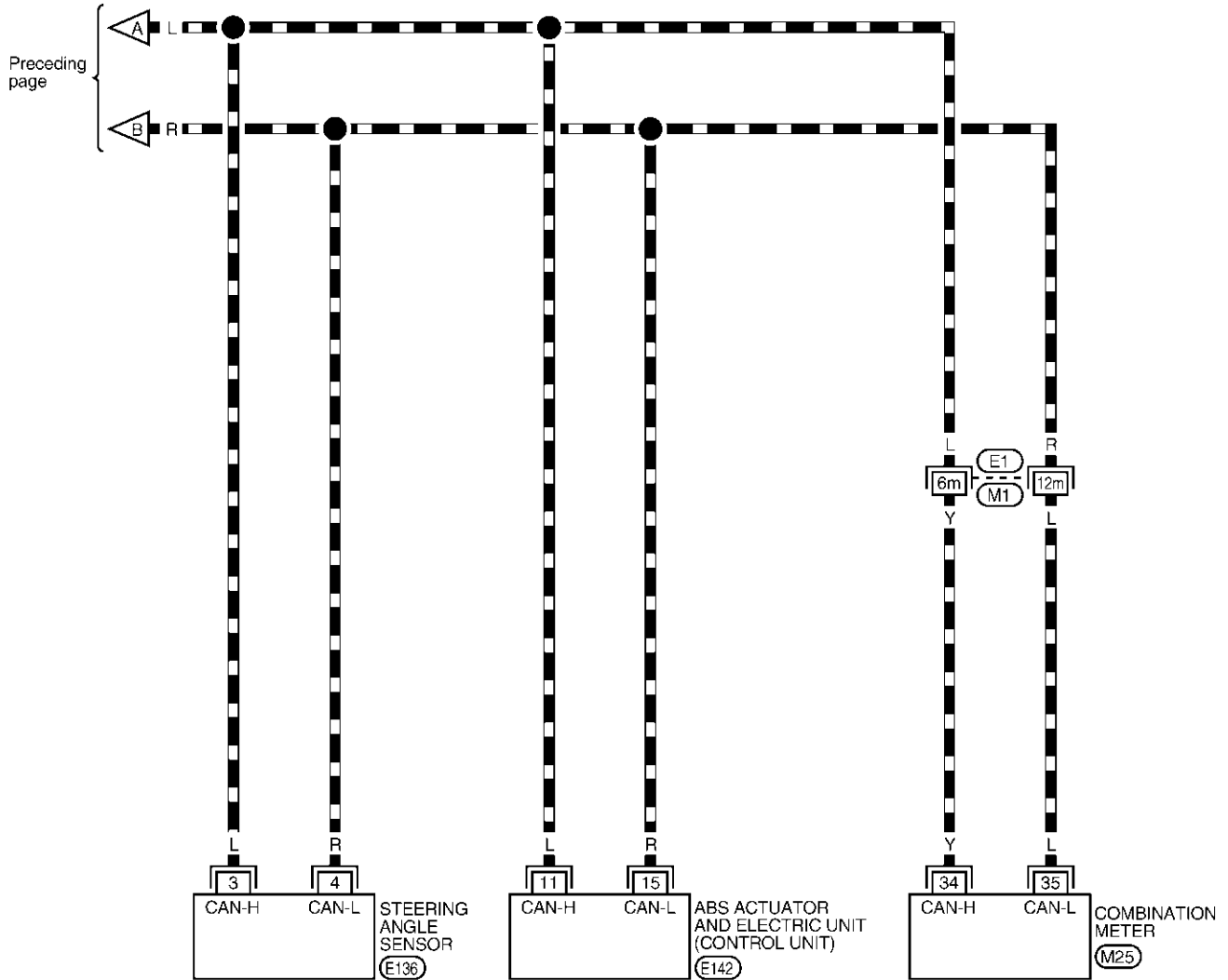
MEL576Q

CAN SYSTEM (TYPE 2)

Wiring Diagram — CAN — (Cont'd)

EL-CAN-04

▬ : DATA LINE



REFER TO THE FOLLOWING.
 (E1) -SUPER MULTIPLE JUNCTION (SMJ)

MEL577Q

Trouble Diagnoses

NAEL0472

NAEL0472S01

WORK FLOW

1. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T" and "ABS" displayed on CONSULT-II.

(Example)

| | | | |
|-----------------------|-------|------|-------------|
| SELECT DIAG MODE | | | |
| WORK SUPPORT | | | |
| SELF-DIAG RESULTS | | | |
| DATA MONITOR | | | |
| DATA MONITOR (SPEC) | | | |
| CAN DIAG SUPPORT MNTR | | | |
| ACTIVE TEST | | | |
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| | |
|--------------------------|-------|
| SELF-DIAG RESULTS | |
| DTC RESULTS | |
| TIME | |
| CAN COMM CIRCUIT (U1000) | 0 |
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| | |
| FF.DATA | |
| ERASE | PRINT |
| MODE | BACK |
| LIGHT | COPY |

PKIA8260E

2. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T" and "ABS" displayed on CONSULT-II.

(Example)

| | | | |
|-----------------------|-------|------|-------------|
| SELECT DIAG MODE | | | |
| WORK SUPPORT | | | |
| SELF-DIAG RESULTS | | | |
| DATA MONITOR | | | |
| DATA MONITOR (SPEC) | | | |
| CAN DIAG SUPPORT MNTR | | | |
| ACTIVE TEST | | | |
| | | | Scroll Down |
| BACK | LIGHT | COPY | |

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| | |
|-----------------------|-------------|
| CAN DIAG SUPPORT MNTR | |
| ENGINE | |
| | PRSN |
| INITIAL DIAG | OK |
| TRANSMIT DIAG | OK |
| TCM | OK |
| VDC/TCS/ABS | OK |
| METER/M&A | OK |
| ICC | UNKWN |
| BCM/SEC | OK |
| IPDM E/R | OK |
| AWD/4WD/e4WD | UNKWN |
| PRINT | Scroll Down |
| MODE | BACK |
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PKIA8343E

3. Attach the printed sheet of "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to "CHECK SHEET" (EL-480).
4. Based on the "CAN DIAG SUPPORT MNTR" results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to "CHECK SHEET" (EL-480).

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

5. According to the check sheet results (example), start inspection. Refer to "CHECK SHEET RESULTS (EXAMPLE)" (EL-481).

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CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

CHECK SHEET

=NAEL0472S02

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

Check sheet table

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | UNKWN | UNKWN |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT MNTR

Attach copy of
A/T
CAN DIAG SUPPORT MNTR

Attach copy of
ABS
CAN DIAG SUPPORT MNTR

PKIA8708E

CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

CHECK SHEET RESULTS (EXAMPLE)

=NAEL0472S03

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

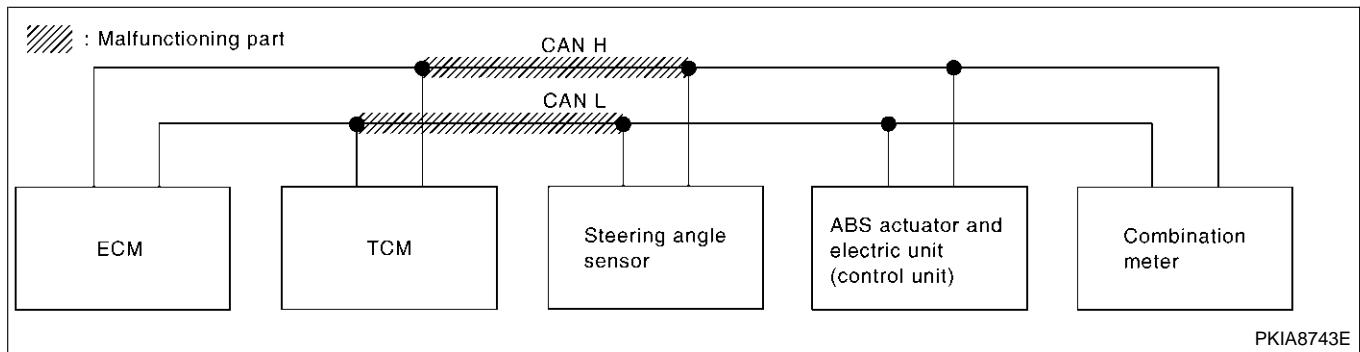
Case 1

NAEL0472S0301

Check harness between TCM and steering angle sensor. Refer to "CIRCUIT CHECK BETWEEN TCM AND STEERING ANGLE SENSOR" (EL-486).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|---------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | UNKWN ✓ | UNKWN ✓ |
| A/T | NG | UNKWN | UNKWN | - | - | UNKWN ✓ | UNKWN ✓ |
| ABS | NG | UNKWN | UNKWN ✓ | UNKWN ✓ | UNKWN | - | UNKWN |

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CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

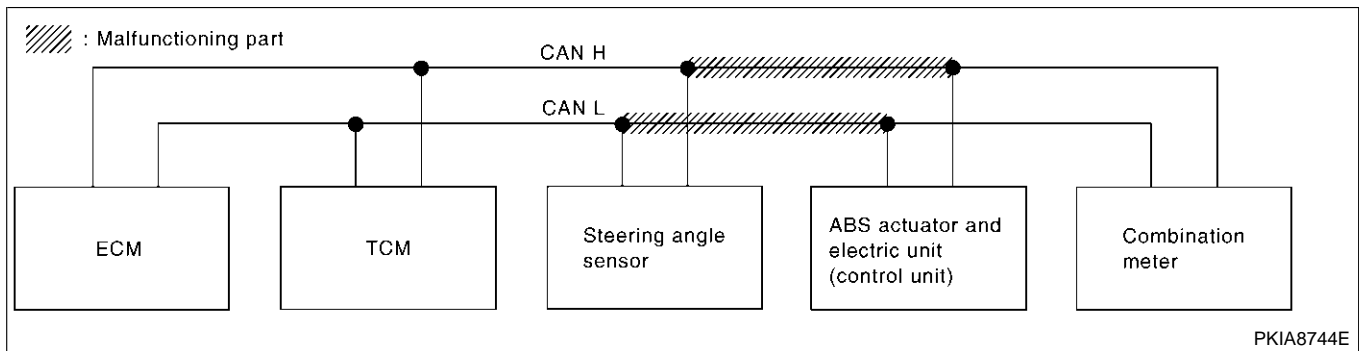
Case 2

=NAEL0472S0302

Check harness between steering angle sensor and ABS actuator and electric unit (control unit). Refer to "CIRCUIT CHECK BETWEEN STEERING ANGLE SENSOR AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)" (EL-487).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | UNKWN | UNKWN |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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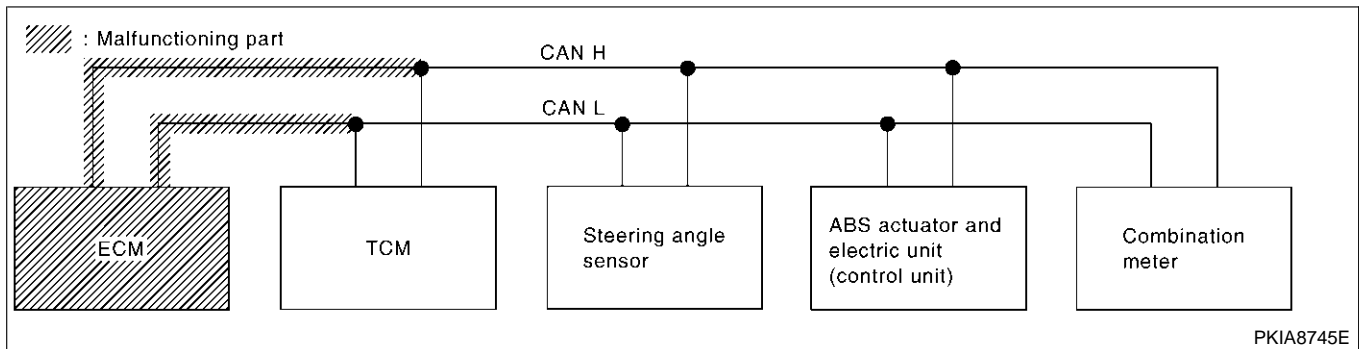
Case 3

NAEL0472S0303

Check ECM circuit. Refer to "ECM CIRCUIT CHECK" (EL-488).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | UNKWN | UNKWN |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

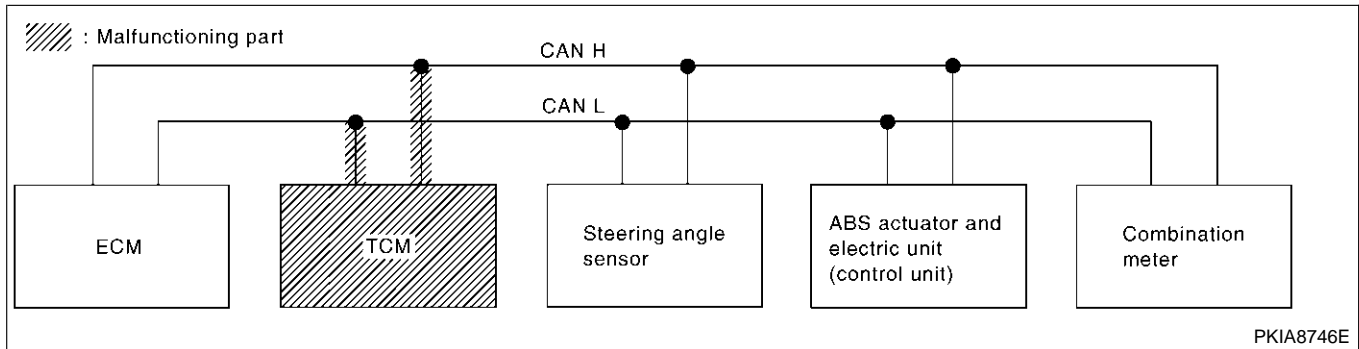
Case 4

Check TCM circuit. Refer to "TCM CIRCUIT CHECK" (EL-489).

=NAEL0472S0304

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | UNKWN | UNKWN |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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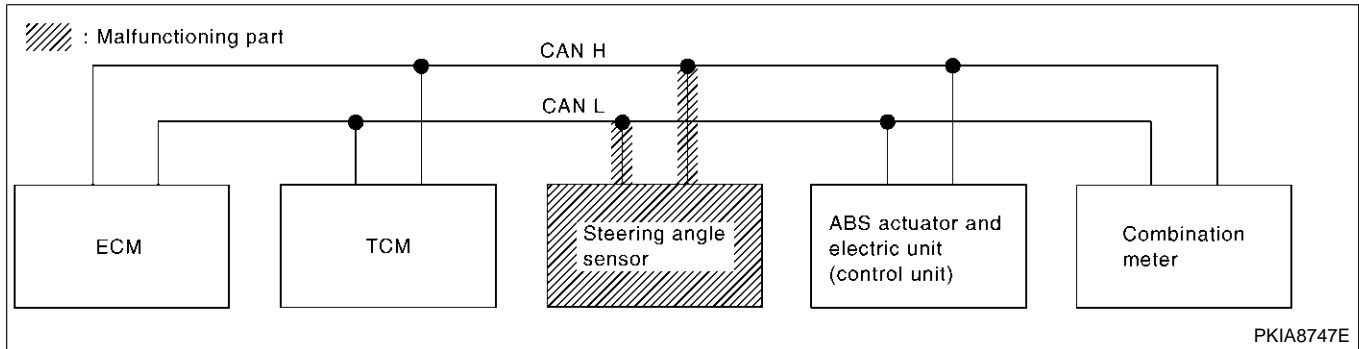
Case 5

Check steering angle sensor circuit. Refer to "STEERING ANGLE SENSOR CIRCUIT CHECK" (EL-490).

NAEL0472S0305

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | UNKWN | UNKWN |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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CAN SYSTEM (TYPE 2)

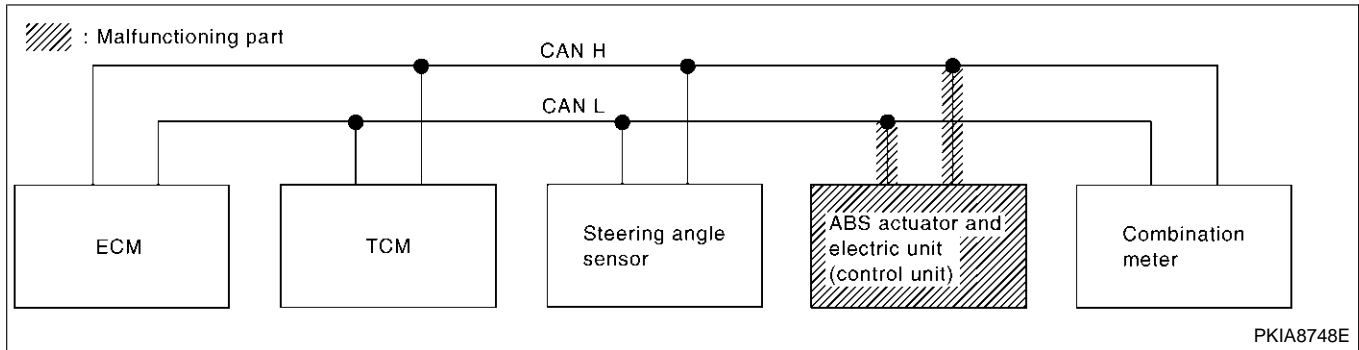
Trouble Diagnoses (Cont'd)

Case 6

Check ABS actuator and electric unit (control unit) circuit. Refer to "ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) CIRCUIT CHECK" (EL-491). =NAEL0472S0306

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | UNKWN | UNKWN |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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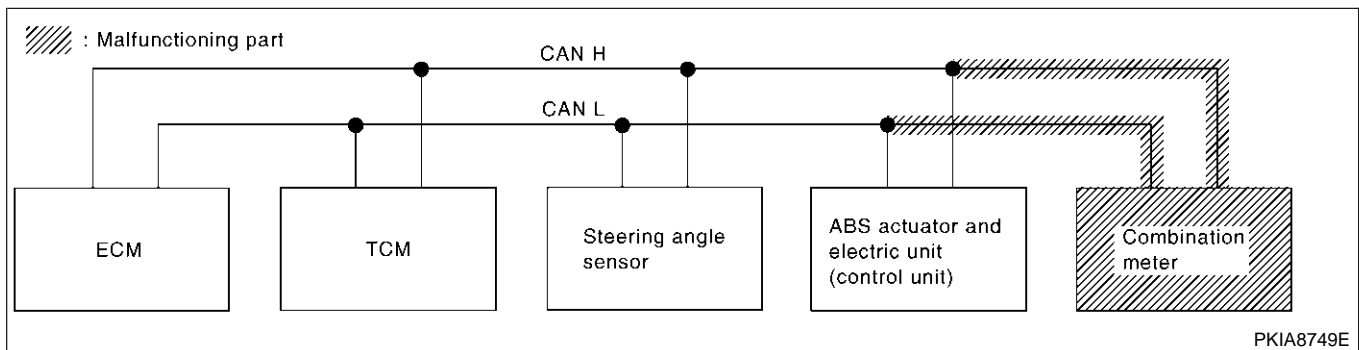
PKIA8748E

Case 7

Check combination meter circuit. Refer to "COMBINATION METER CIRCUIT CHECK" (EL-492). =NAEL0472S0307

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-------|-------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ABS | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | - | UNKWN | UNKWN |
| ABS | NG | UNKWN | UNKWN | UNKWN | UNKWN | - | UNKWN |

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CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

Case 8

Check CAN communication circuit. Refer to "CAN COMMUNICATION CIRCUIT CHECK" (EL-493).

=NAEL0472S0308

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | | | |
|-------------------------|-----------------------|-----------------------|-------------------|------|------|-----------------|---------------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | | | |
| | | | ECM | TCM | STRG | VDC/TCS/ ABS | METER/ M&A |
| ENGINE | NG | UNKN | - | UNKN | - | UNKN | UNKN |
| A/T | NG | UNKN | UNKN | - | - | UNKN | UNKN |
| ABS | NG | UNKN | UNKN | UNKN | UNKN | - | UNKN |

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CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

CIRCUIT CHECK BETWEEN TCM AND STEERING ANGLE SENSOR

=NAEL0472S06

| | | |
|----------|------------------------|--|
| 1 | CHECK CONNECTOR | <p>1. Turn ignition switch OFF.</p> <p>2. Check following terminals and connector for damage, bend and loose connection (connector-side and harness-side).</p> <ul style="list-style-type: none"> ● Harness connector M1 ● Harness connector E1 <p style="text-align: center;">OK or NG</p> |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|----------|---------------------------------------|--|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | <p>1. Disconnect TCM connector and harness connector M1.</p> <p>2. Check continuity between TCM harness connector M119 terminals 5 (L), 6 (R) and harness connector M1 terminals 4m (L), 11r (R).</p> <div style="text-align: center;"> <p style="text-align: center;">Continuity should exist.</p> <p style="text-align: center;">OK or NG</p> </div> <p style="text-align: right;">SEL728Y</p> |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair harness. |

| | | |
|----------|---------------------------------------|---|
| 3 | CHECK HARNESS FOR OPEN CIRCUIT | <p>1. Disconnect steering angle sensor connector.</p> <p>2. Check continuity between harness connector E1 terminals 4m (L), 11r (R) and steering angle sensor harness connector E136 terminals 3 (L), 4 (R).</p> <div style="text-align: center;"> <p style="text-align: center;">Continuity should exist.</p> <p style="text-align: center;">OK or NG</p> </div> <p style="text-align: right;">SEL709Y</p> |
| OK | ▶ | Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-479). |
| NG | ▶ | Repair harness. |

CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

CIRCUIT CHECK BETWEEN STEERING ANGLE SENSOR AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

=NAEL0472S07

| | | |
|--|---------------------------------------|---|
| 1 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>1. Disconnect steering angle sensor connector, ABS actuator and electric unit (control unit) connector and combination meter connector.</p> <p>2. Check continuity between steering angle sensor harness connector E136 terminals 3 (L), 4 (R) and ABS actuator and electric unit (control unit) harness connector E142 terminals 11 (L), 15 (R).</p> | | |
| | | |
| Continuity should exist. | | SEL710Y |
| OK or NG | | |
| OK | ▶ | Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-479). |
| NG | ▶ | Repair harness. |

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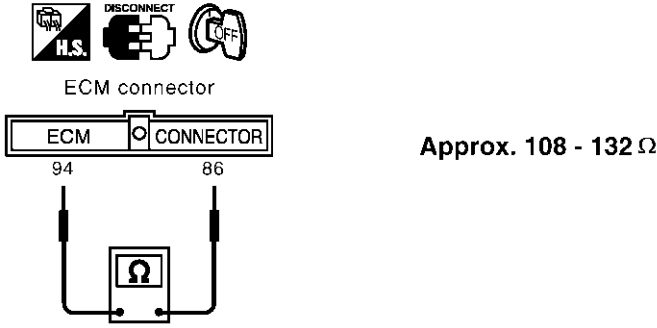
CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

ECM CIRCUIT CHECK

=NAEL0472S08

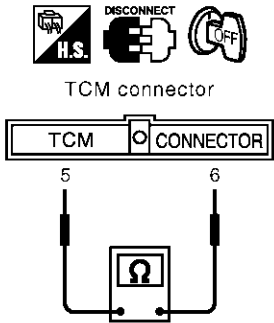
| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| <p>1. Turn ignition switch OFF. 2. Check following terminals and connector for damage, bend and loose connection (control module-side and harness-side).</p> <ul style="list-style-type: none"> ● ECM ● Harness connector F23 ● Harness connector M32 | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|--|---------------------------------------|-------------------------------------|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>1. Disconnect ECM connector. 2. Check resistance between ECM harness connector F203 terminals 94 (L) and 86 (R).</p> | | |
|  | | |
| SEL711Y | | |
| OK or NG | | |
| OK | ▶ | Replace ECM. |
| NG | ▶ | Repair harness between ECM and TCM. |

TCM CIRCUIT CHECK

=NAEL0472S09

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| 1. Turn ignition switch OFF. 2. Check the terminals and connector of TCM for damage, bend and loose connection (control module-side and harness-side). | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|---|---------------------------------------|--|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| 1. Disconnect TCM connector. 2. Check resistance between TCM harness connector M119 terminals 5 (L) and 6 (R). | | |
|  | | |
| Approx. 54 - 66 Ω | | |
| OK or NG | | |
| OK | ▶ | Replace TCM. |
| NG | ▶ | Repair harness between TCM and harness connector M1. |

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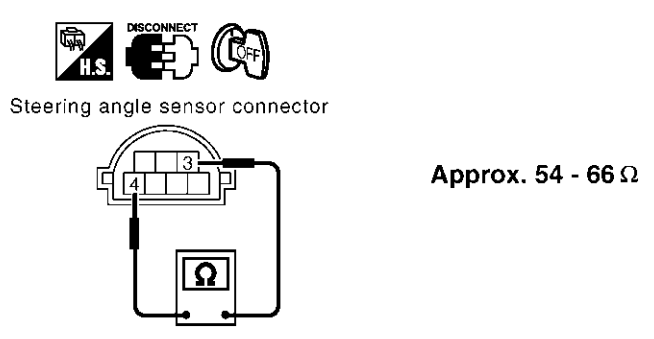
CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

STEERING ANGLE SENSOR CIRCUIT CHECK

=NAEL0472S11

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| 1. Turn ignition switch OFF. 2. Check the terminals and connector of steering angle sensor for damage, bend and loose connection (sensor-side and harness-side). | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|--|---------------------------------------|---|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| 1. Disconnect steering angle sensor connector. 2. Check resistance between steering angle sensor harness connector E136 terminals 3 (L) and 4 (R). | | |
|  <p style="text-align: center;">Steering angle sensor connector</p> <p style="text-align: right;">Approx. 54 - 66 Ω</p> | | |
| OK or NG | | |
| OK | ▶ | Replace steering angle sensor. |
| NG | ▶ | Repair harness between steering angle sensor and ABS actuator and electric unit (control unit). |

SEL714Y


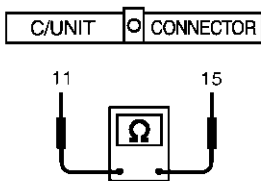
CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) CIRCUIT CHECK

=NAEL0472S12

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| 1. Turn ignition switch OFF. 2. Check the terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit-side and harness-side). | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|---|---------------------------------------|--|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| 1. Disconnect ABS actuator and electric unit (control unit) connector. 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E142 terminals 11 (L) and 15 (R). | | |
|  <p>ABS actuator and electric unit (control unit) connector</p>  <p style="text-align: right;">Approx. 54 - 66 Ω</p> | | |
| SEL715Y | | |
| OK or NG | | |
| OK | ▶ | Replace ABS actuator and electric unit (control unit). |
| NG | ▶ | Repair harness between ABS actuator and electric unit (control unit) and harness connector E1. |

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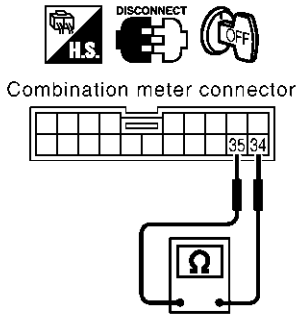
CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

COMBINATION METER CIRCUIT CHECK

=NAEL0472S13

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| <p>1. Turn ignition switch OFF. 2. Check following terminals and connector for damage, bend and loose connection (meter-side and harness-side).</p> <ul style="list-style-type: none"> ● Combination meter. ● Harness connector M1. ● Harness connector E1. | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|---|---------------------------------------|---|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>1. Disconnect combination meter connector. 2. Check resistance between combination meter harness connector M25 terminals 34 (Y) and 35 (L).</p> | | |
|  <p style="text-align: center;">Combination meter connector</p> | | |
| Approx. 108 - 132 Ω | | |
| SEL716Y | | |
| OK or NG | | |
| OK | ▶ | Replace combination meter. |
| NG | ▶ | Repair harness between combination meter and ABS actuator and electric unit (control unit). |

CAN COMMUNICATION CIRCUIT CHECK

=NAEL0472S14

| | | |
|--|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| <p>1. Turn ignition switch OFF.</p> <p>2. Check following terminals and connector for damage, bend and loose connection (meter-side, control unit-side, sensor-side, control module-side and harness-side).</p> <ul style="list-style-type: none"> ● Combination meter ● ABS actuator and electric unit (control unit) ● Steering angle sensor ● TCM ● ECM ● Between combination meter and ECM | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

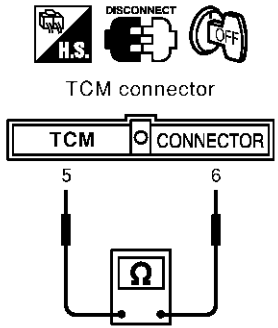
| | | |
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| 2 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>1. Disconnect ECM connector and harness connector F23.</p> <p>2. Check continuity between ECM harness connector F203 terminals 94 (L) and 86 (R).</p> | | |
| | | |
| Continuity should not exist. | | |
| SEL717Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair harness between ECM and harness connector F23. |

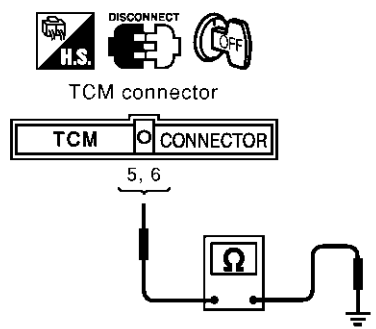
| | | |
|---|--|---|
| 3 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>Check continuity between ECM harness connector F203 terminals 94 (L), 86 (R) and ground.</p> | | |
| | | |
| Continuity should not exist. | | |
| SEL718Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Repair harness between ECM and harness connector F23. |

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CAN SYSTEM (TYPE 2)


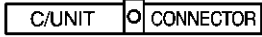
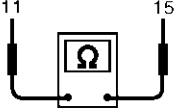
Trouble Diagnoses (Cont'd)


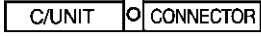
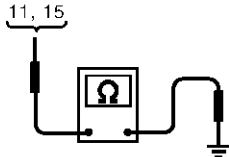
| 4 | CHECK HARNESS FOR SHORT CIRCUIT | | |
|---|--|---|--|
| <p>1. Disconnect TCM connector and harness connector M1. 2. Check continuity between TCM harness connector M119 terminals 5 (L) and 6 (R).</p> | | | |
|  | | | |
| | | Continuity should not exist. | |
| | | SEL440Y | |
| OK or NG | | | |
| OK | ▶ | GO TO 5. | |
| NG | ▶ | <ul style="list-style-type: none"> ● Repair harness between TCM and harness connector M1. ● Repair harness between TCM and harness connector M32. | |

| 5 | CHECK HARNESS FOR SHORT CIRCUIT | | |
|--|--|---|--|
| Check continuity between TCM harness connector M119 terminals 5 (L), 6 (R) and ground. | | | |
|  | | | |
| | | Continuity should not exist. | |
| | | SEL441Y | |
| OK or NG | | | |
| OK | ▶ | GO TO 6. | |
| NG | ▶ | <ul style="list-style-type: none"> ● Repair harness between TCM and harness connector M1. ● Repair harness between TCM and harness connector M32. | |

CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

| | | |
|--|--|---|
| 6 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>1. Disconnect steering angle sensor connector and ABS actuator and electric unit (control unit) connector.</p> <p>2. Check continuity between ABS actuator and electric unit (control unit) harness connector E142 terminals 11 (L) and 15 (R).</p> | | |
|  <p>ABS actuator and electric unit (control unit) connector</p>   | | |
| Continuity should not exist. | | |
| SEL719Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 7. |
| NG | ▶ | <ul style="list-style-type: none"> Repair harness between ABS actuator and electric unit (control unit) and harness connector E1. Repair harness between ABS actuator and electric unit (control unit) and steering angle sensor. |

| | | |
|--|--|---|
| 7 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>Check continuity between ABS actuator and electric unit (control unit) harness connector E142 terminals 11 (L), 15 (R) and ground.</p> | | |
|  <p>ABS actuator and electric unit (control unit) connector</p>   | | |
| Continuity should not exist. | | |
| SEL720Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 8. |
| NG | ▶ | <ul style="list-style-type: none"> Repair harness between ABS actuator and electric unit (control unit) and harness connector E1. Repair harness between ABS actuator and electric unit (control unit) and steering angle sensor. |

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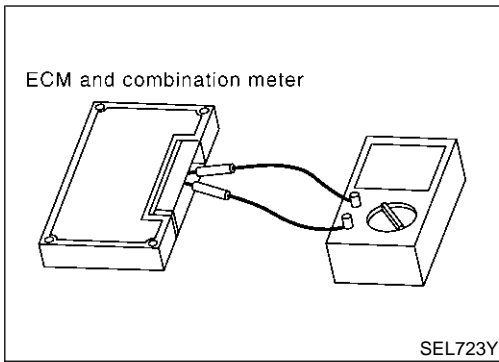
CAN SYSTEM (TYPE 2)

Trouble Diagnoses (Cont'd)

| | | |
|---|--|--|
| 8 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>1. Disconnect combination meter connector. 2. Check continuity between combination meter harness connector M25 terminals 34 (Y) and 35 (L).</p> | | |
| <p>Continuity should not exist.</p> | | |
| SEL721Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 9. |
| NG | ▶ | Repair harness between combination meter and harness connector M1. |

| | | |
|--|--|--|
| 9 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>Check continuity between combination meter harness connector M25 terminals 34 (Y), 35 (L) and ground.</p> | | |
| <p>Continuity should not exist.</p> | | |
| SEL722Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 10. |
| NG | ▶ | Repair harness between combination meter and harness connector M1. |

| | | |
|--|--|---|
| 10 | ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION | |
| <p>Check components inspection. Refer to "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION" (EL-497).</p> | | |
| OK or NG | | |
| OK | ▶ | Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-479). |
| NG | ▶ | Replace ECM and/or combination meter. |



Component Inspection ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

=NAEL0473

NAEL0473S01

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between combination meter terminals 34 and 35.

| Unit | Terminal | Resistance value (Ω) |
|-------------------|----------|-------------------------------|
| ECM | 94 - 86 | Approx. 108 - 132 |
| Combination meter | 34 - 35 | |

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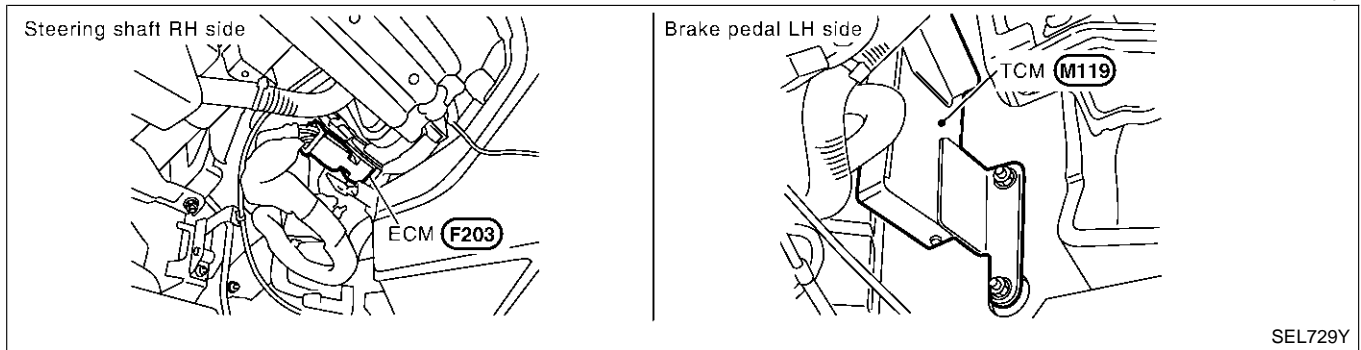
IDX

CAN SYSTEM (TYPE 3)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NAEL0474



SEL729Y

System Description

NAEL0475

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

CAN SYSTEM (TYPE 3)

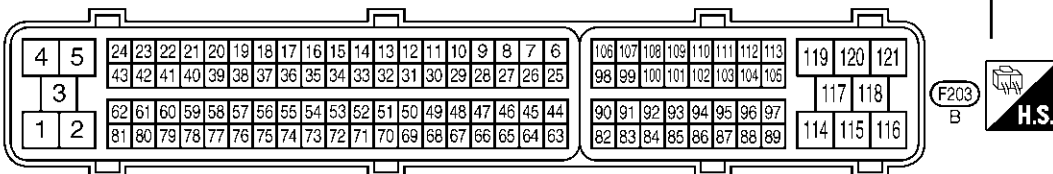
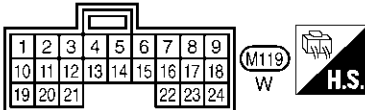
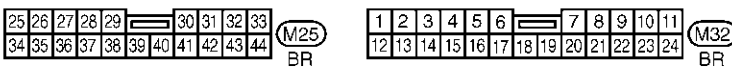
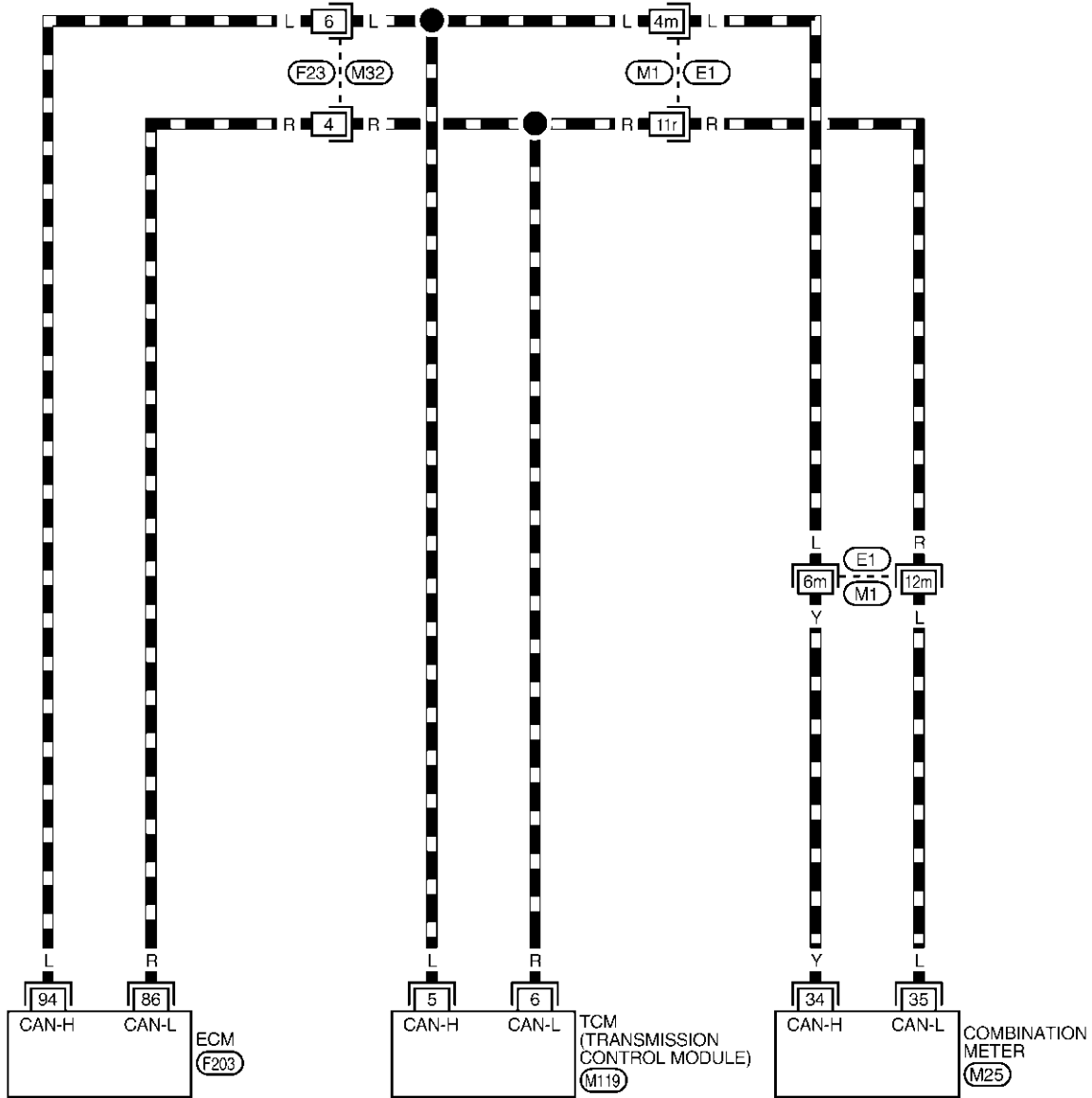
Wiring Diagram — CAN —

Wiring Diagram — CAN —

NAEL0476

EL-CAN-05

— — — — — : DATA LINE



REFER TO THE FOLLOWING.

(E1) - SUPER MULTIPLE JUNCTION (SMJ)

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MEL580Q

CAN SYSTEM (TYPE 3)

Trouble Diagnoses

WORK FLOW

1. Print all the data of "SELF-DIAG RESULTS" for "ENGINE" and "A/T" displayed on CONSULT-II.

(Example)

| | | | |
|-----------------------|-------|------|-------------|
| SELECT DIAG MODE | | | |
| WORK SUPPORT | | | |
| SELF-DIAG RESULTS | | | |
| DATA MONITOR | | | |
| DATA MONITOR (SPEC) | | | |
| CAN DIAG SUPPORT MNTR | | | |
| ACTIVE TEST | | | |
| | | | Scroll Down |
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➔

| | |
|--------------------------|-----------------|
| SELF-DIAG RESULTS | |
| DTC RESULTS | |
| TIME | |
| CAN COMM CIRCUIT (U1000) | 0 |
| | |
| | |
| | |
| FF DATA | |
| ERASE PRINT | |
| MODE | BACK LIGHT COPY |

PKIA8260E

2. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE" and "A/T" displayed on CONSULT-II.

(Example)

| | | | |
|-----------------------|-------|------|-------------|
| SELECT DIAG MODE | | | |
| WORK SUPPORT | | | |
| SELF-DIAG RESULTS | | | |
| DATA MONITOR | | | |
| DATA MONITOR (SPEC) | | | |
| CAN DIAG SUPPORT MNTR | | | |
| ACTIVE TEST | | | |
| | | | Scroll Down |
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| | |
|-----------------------|-----------------|
| CAN DIAG SUPPORT MNTR | |
| ENGINE | |
| PRSN | |
| INITIAL DIAG | OK |
| TRANSMIT DIAG | OK |
| TCM | OK |
| VDC/TCS/ABS | OK |
| METER/M&A | OK |
| ICC | UNKWN |
| BCM/SEC | OK |
| IPDM E/R | OK |
| AWD/4WD/e4WD | UNKWN |
| PRINT | |
| MODE | BACK LIGHT COPY |
| Scroll Down | |

PKIA8343E

3. Attach the printed sheet of "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to "CHECK SHEET" (EL-501).
4. Based on the "CAN DIAG SUPPORT MNTR" results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to "CHECK SHEET" (EL-501).

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
5. According to the check sheet results (example), start inspection. Refer to "CHECK SHEET RESULTS (EXAMPLE)" (EL-502).

CAN SYSTEM (TYPE 3)

Trouble Diagnoses (Cont'd)

=NAEL0477S02

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

Check sheet table

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | |
| | | | ECM | TCM | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | UNKWN |

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT MNTR

Attach copy of
A/T
CAN DIAG SUPPORT MNTR

PKIA8709E

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CAN SYSTEM (TYPE 3)

Trouble Diagnoses (Cont'd)

CHECK SHEET RESULTS (EXAMPLE)

=NAEL0477S03

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

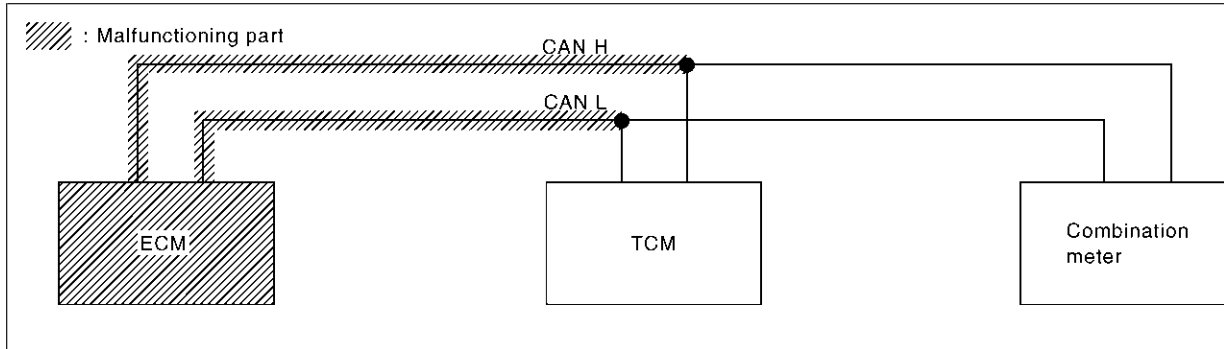
Case 1

NAEL0477S0301

Check ECM circuit. Refer to "ECM CIRCUIT CHECK" (EL-504).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | |
|----------------------|-----------------------|--------------------|-------------------|---------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | |
| | | | ECM | TCM | METER/M&A |
| ENGINE | NG | UNKWN ✓ | - | UNKWN ✓ | UNKWN ✓ |
| A/T | NG | UNKWN | UNKWN ✓ | - | UNKWN |

PKIA8729E



PKIA8750E

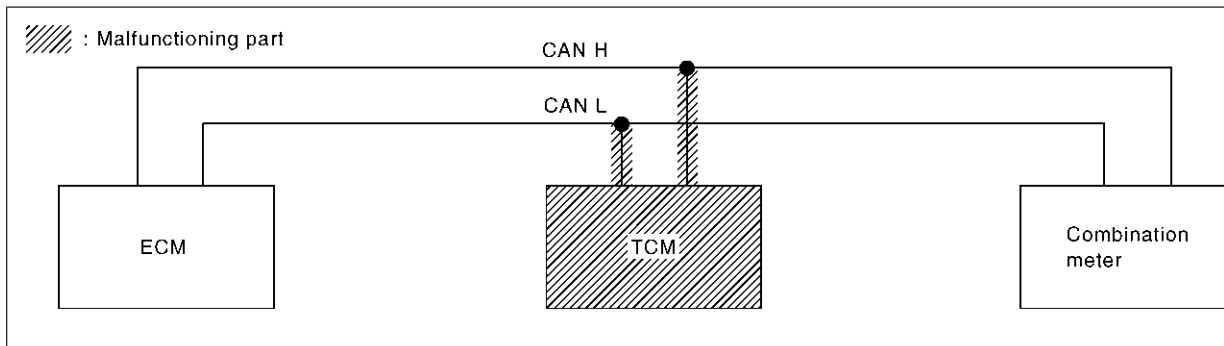
Case 2

NAEL0477S0302

Check TCM circuit. Refer to "TCM CIRCUIT CHECK" (EL-505).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | |
|----------------------|-----------------------|--------------------|-------------------|---------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | |
| | | | ECM | TCM | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN ✓ | UNKWN |
| A/T | NG | UNKWN ✓ | UNKWN ✓ | - | UNKWN ✓ |

PKIA8730E



PKIA8751E

CAN SYSTEM (TYPE 3)

Trouble Diagnoses (Cont'd)

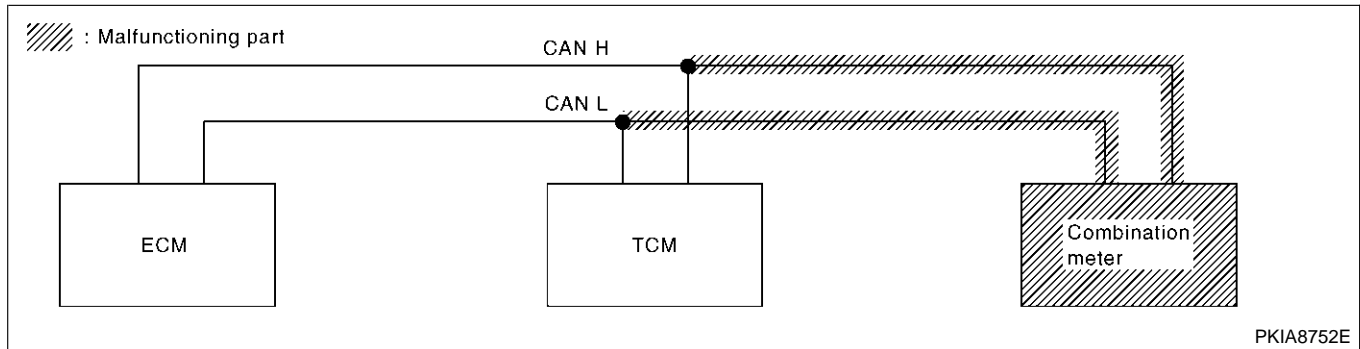
Case 3

Check combination meter circuit. Refer to "COMBINATION METER CIRCUIT CHECK" (EL-506).

NAEL0477S0303

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | |
| | | | ECM | TCM | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | UNKWN |

PKIA8731E



PKIA8752E

Case 4

Check CAN communication circuit. Refer to "CAN COMMUNICATION CIRCUIT CHECK" (EL-507).

NAEL0477S0304

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | | |
|----------------------|-----------------------|--------------------|-------------------|-------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | | |
| | | | ECM | TCM | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN | UNKWN |
| A/T | NG | UNKWN | UNKWN | - | UNKWN |

PKIA8732E

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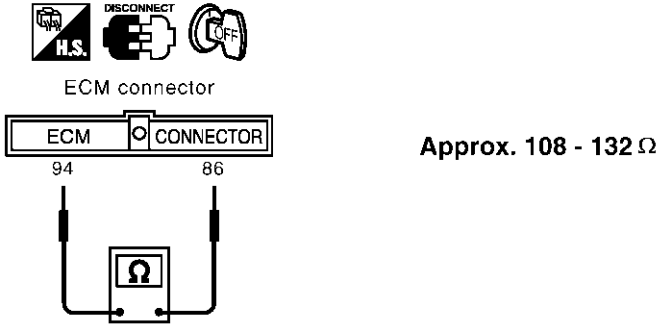
CAN SYSTEM (TYPE 3)

Trouble Diagnoses (Cont'd)

ECM CIRCUIT CHECK

=NAEL0477S07

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| <p>1. Turn ignition switch OFF.</p> <p>2. Check following terminals and connector for damage, bend and loose connection (control module-side and harness-side).</p> <ul style="list-style-type: none"> ● ECM ● Harness connector F23 ● Harness connector M32 | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

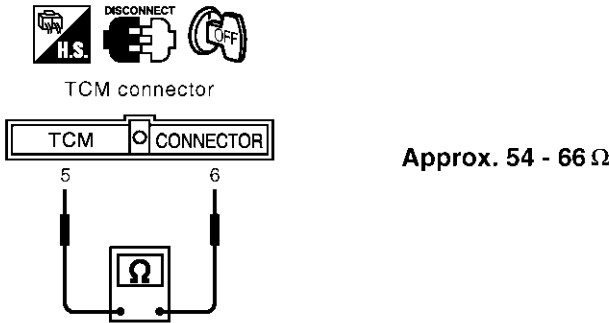
| | | |
|--|---------------------------------------|-------------------------------------|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>1. Disconnect ECM connector.</p> <p>2. Check resistance between ECM harness connector F203 terminals 94 (L) and 86 (R).</p> | | |
|  | | |
| OK or NG | | |
| OK | ▶ | Replace ECM. |
| NG | ▶ | Repair harness between ECM and TCM. |

SEL711Y

TCM CIRCUIT CHECK

=NAEL0477S08

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| 1. Turn ignition switch OFF. 2. Check the terminals and connector of TCM for damage, bend and loose connection (control module-side and harness-side). | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|---|---------------------------------------|--|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| 1. Disconnect TCM connector. 2. Check resistance between TCM harness connector M119 terminals 5 (L) and 6 (R). | | |
|  | | |
| OK or NG | | |
| OK | ▶ | Replace TCM. |
| NG | ▶ | Repair harness between TCM and harness connector M1. |

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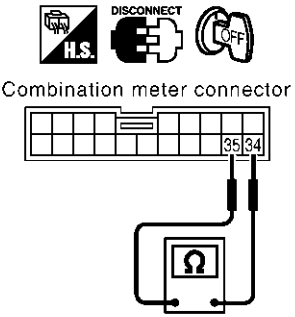
CAN SYSTEM (TYPE 3)

Trouble Diagnoses (Cont'd)

COMBINATION METER CIRCUIT CHECK

=NAEL0477S11

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| <p>1. Turn ignition switch OFF. 2. Check following terminals and connector for damage, bend and loose connection (meter-side and harness-side).</p> <ul style="list-style-type: none"> ● Combination meter ● Harness connector M1 ● Harness connector E1 <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|--|---------------------------------------|---|
| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>1. Disconnect combination meter connector. 2. Check resistance between combination meter harness connector M25 terminals 34 (Y) and 35 (L).</p> <div style="text-align: center;">  <p>Combination meter connector</p> <p>Approx. 108 - 132 Ω</p> </div> <p style="text-align: right;">SEL716Y</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Replace combination meter. |
| NG | ▶ | Repair harness between combination meter and TCM. |

CAN COMMUNICATION CIRCUIT CHECK

=NAEL0477S12

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| <p>1. Turn ignition switch OFF.</p> <p>2. Check following terminals and connector for damage, bend and loose connection (meter-side, control module-side and harness-side).</p> <ul style="list-style-type: none"> ● Combination meter ● TCM ● ECM ● Between combination meter and ECM <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

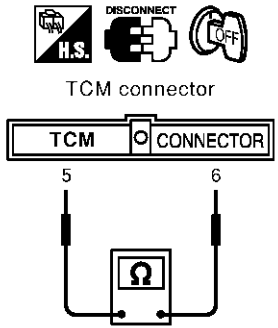
| | | |
|--|--|---|
| 2 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>1. Disconnect ECM connector and harness connector F23.</p> <p>2. Check continuity between ECM harness connector F203 terminals 94 (L) and 86 (R).</p> <div style="text-align: center;"> <p style="text-align: center;">ECM connector</p> <p style="text-align: center;">ECM CONNECTOR</p> <p style="text-align: center;">94 86</p> <p style="text-align: center;">Continuity should not exist.</p> <p style="text-align: right;">SEL717Y</p> <p style="text-align: center;">OK or NG</p> </div> | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair harness between ECM and harness connector F23. |

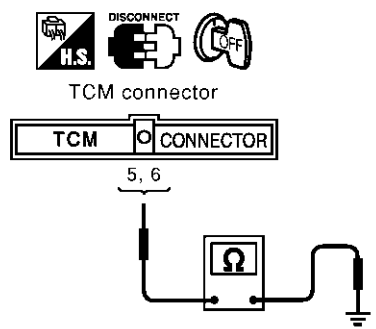
| | | |
|---|--|---|
| 3 | CHECK HARNESS FOR SHORT CIRCUIT | |
| <p>Check continuity between ECM harness connector F203 terminals 94 (L), 86 (R) and ground.</p> <div style="text-align: center;"> <p style="text-align: center;">ECM connector</p> <p style="text-align: center;">ECM CONNECTOR</p> <p style="text-align: center;">94, 86</p> <p style="text-align: center;">Continuity should not exist.</p> <p style="text-align: right;">SEL718Y</p> <p style="text-align: center;">OK or NG</p> </div> | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Repair harness between ECM and harness connector F23. |

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CAN SYSTEM (TYPE 3)


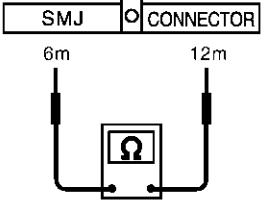
Trouble Diagnoses (Cont'd)

| 4 | CHECK HARNESS FOR SHORT CIRCUIT | | |
|---|--|---|--|
| <p>1. Disconnect TCM connector and harness connector M1. 2. Check continuity between TCM harness connector M119 terminals 5 (L) and 6 (R).</p> | | | |
|  | | | |
| | | Continuity should not exist. | |
| | | SEL440Y | |
| OK or NG | | | |
| OK | ▶ | GO TO 5. | |
| NG | ▶ | <ul style="list-style-type: none"> ● Repair harness between TCM and harness connector M1. ● Repair harness between TCM and harness connector M32. | |


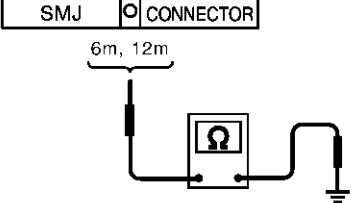
| 5 | CHECK HARNESS FOR SHORT CIRCUIT | | |
|---|--|---|--|
| <p>Check continuity between TCM harness connector M119 terminals 5 (L), 6 (R) and ground.</p> | | | |
|  | | | |
| | | Continuity should not exist. | |
| | | SEL441Y | |
| OK or NG | | | |
| OK | ▶ | GO TO 6. | |
| NG | ▶ | <ul style="list-style-type: none"> ● Repair harness between TCM and harness connector M1. ● Repair harness between TCM and harness connector M32. | |

CAN SYSTEM (TYPE 3)


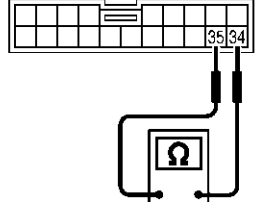
Trouble Diagnoses (Cont'd)

| | | | |
|---|--|---|--|
| 6 | CHECK HARNESS FOR SHORT CIRCUIT | | |
| <p>Check continuity between harness connector E1 terminals 6m (L) and 12m (R).</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>SMJ harness connector</p>  </div> <div style="text-align: center;"> <p>Continuity should not exist.</p> </div> </div> <p style="text-align: right;">SEL732Y</p> <p style="text-align: center;">OK or NG</p> | | | |
| OK | ▶ | GO TO 7. | |
| NG | ▶ | Repair harness between harness connector E1 and harness connector E1. | |

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| 7 | CHECK HARNESS FOR SHORT CIRCUIT | | |
| <p>Check continuity between harness connector E1 terminals 6m (L), 12m (R) and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>SMJ harness connector</p>  </div> <div style="text-align: center;"> <p>Continuity should not exist.</p> </div> </div> <p style="text-align: right;">SEL733Y</p> <p style="text-align: center;">OK or NG</p> | | | |
| OK | ▶ | GO TO 8. | |
| NG | ▶ | Repair harness between harness connector E1 and harness connector E1. | |

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|---|--|--|--|
| 8 | CHECK HARNESS FOR SHORT CIRCUIT | | |
| <p>1. Disconnect combination meter connector. 2. Check continuity between combination meter harness connector M25 terminals 34 (Y) and 35 (L).</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Combination meter connector</p>  </div> <div style="text-align: center;"> <p>Continuity should not exist.</p> </div> </div> <p style="text-align: right;">SEL721Y</p> <p style="text-align: center;">OK or NG</p> | | | |
| OK | ▶ | GO TO 9. | |
| NG | ▶ | Repair harness between combination meter and harness connector M1. | |

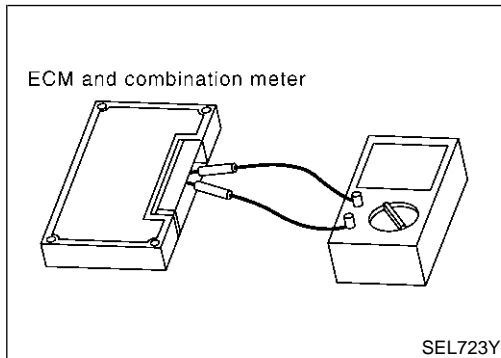
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CAN SYSTEM (TYPE 3)

Trouble Diagnoses (Cont'd)

| | |
|--|--|
| 9 | CHECK HARNESS FOR SHORT CIRCUIT |
| <p>Check continuity between combination meter harness connector M25 terminals 34 (Y), 35 (L) and ground.</p> <div style="text-align: center;"> <p>Continuity should not exist.</p> <p style="text-align: right;">SEL722Y</p> </div> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ GO TO 10. |
| NG | ▶ Repair harness between combination meter and harness connector M1. |

| | |
|---|---|
| 10 | ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION |
| <p>Check components inspection. Refer to "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION" (EL-510).</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-500). |
| NG | ▶ Replace ECM and/or combination meter. |



Component Inspection

ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

NAEL0478

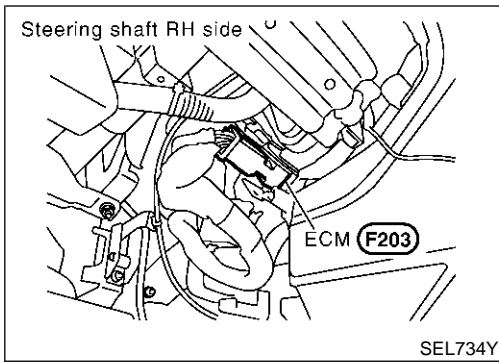
NAEL0478S01

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between combination meter terminals 34 and 35.

| Unit | Terminal | Resistance value (Ω) |
|-------------------|----------|----------------------|
| ECM | 94 - 86 | Approx. 108 - 132 |
| Combination meter | 34 - 35 | |

CAN SYSTEM (TYPE 4)

Component Parts and Harness Connector Location



Component Parts and Harness Connector Location

NAEL0479

System Description

NAEL0480

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

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Trouble Diagnoses

NAEL0482

NAEL0482S01

WORK FLOW

1. Print all the data of "SELF-DIAG RESULTS" for "ENGINE" displayed on CONSULT-II.

(Example)

| SELECT DIAG MODE | | | |
|-----------------------|-------|------|-------------|
| WORK SUPPORT | | | |
| SELF-DIAG RESULTS | | | |
| DATA MONITOR | | | |
| DATA MONITOR (SPEC) | | | |
| CAN DIAG SUPPORT MNTR | | | |
| ACTIVE TEST | | | |
| | | | Scroll Down |
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| SELF-DIAG RESULTS | |
|--------------------------|-----------------|
| DTC RESULTS | |
| TIME | |
| CAN COMM CIRCUIT (U1000) | 0 |
| | |
| | |
| FF DATA | |
| ERASE PRINT | |
| MODE | BACK LIGHT COPY |

PKIA8260E

2. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE" displayed on CONSULT-II.

(Example)

| SELECT DIAG MODE | | | |
|-----------------------|-------|------|-------------|
| WORK SUPPORT | | | |
| SELF-DIAG RESULTS | | | |
| DATA MONITOR | | | |
| DATA MONITOR (SPEC) | | | |
| CAN DIAG SUPPORT MNTR | | | |
| ACTIVE TEST | | | |
| | | | Scroll Down |
| BACK | LIGHT | COPY | |

| CAN DIAG SUPPORT MNTR | |
|-----------------------|-----------------|
| ENGINE | |
| | PRSN |
| INITIAL DIAG | OK |
| TRANSMIT DIAG | OK |
| TCM | OK |
| VDC/TCS/ABS | OK |
| METER/M&A | OK |
| ICC | UNKWN |
| BCM/SEC | OK |
| IPDM E/R | OK |
| AWD/4WD/e4WD | UNKWN |
| PRINT | |
| MODE | BACK LIGHT COPY |
| Scroll Down | |

PKIA8343E

3. Attach the printed sheet of "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to "CHECK SHEET" (EL-514).
4. Based on the "CAN DIAG SUPPORT MNTR" results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to "CHECK SHEET" (EL-514).

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
5. According to the check sheet results (example), start inspection. Refer to "CHECK SHEET RESULTS (EXAMPLE)" (EL-514).

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CAN SYSTEM (TYPE 4)

Trouble Diagnoses (Cont'd)

CHECK SHEET

=NAEL0482S02

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

Check sheet table

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | |
|-------------------------|-----------------------|-----------------------|-------------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | |
| | | | ECM | METER/M&A |
| ENGINE | NG | UNKWN | - | UNKWN |

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT MNTR

PKIA8710E

CHECK SHEET RESULTS (EXAMPLE)

NAEL0482S03

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

Case 1

NAEL0482S0301

Check CAN communication circuit. Refer to "CAN COMMUNICATION CIRCUIT CHECK" (EL-515).

| SELECT SYSTEM screen | CAN DIAG SUPPORT MNTR | | | |
|-------------------------|-----------------------|-----------------------|-------------------|-----------|
| | Initial diagnosis | Transmit diagnosis | Receive diagnosis | |
| | | | ECM | METER/M&A |
| ENGINE | NG | UNKWN ✓ | - | UNKWN ✓ |

PKIA8733E

CAN COMMUNICATION CIRCUIT CHECK

NAEL0482S08

| | | |
|---|------------------------|-------------------------------|
| 1 | CHECK CONNECTOR | |
| 1. Turn ignition switch OFF. 2. Check following terminals and connector for damage, bend and loose connection (meter-side, control module-side and harness-side) <ul style="list-style-type: none"> ● Combination meter ● ECM ● Between combination meter and ECM | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| | | |
|---|--|---|
| 2 | CHECK HARNESS FOR SHORT CIRCUIT | |
| 1. Disconnect ECM connector and combination meter connector. 2. Check continuity between ECM harness connector F203 terminals 94 (L) and 86 (R). | | |
| | | |
| Continuity should not exist. | | |
| SEL717Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair harness between ECM and combination meter. |

| | | |
|--|--|---|
| 3 | CHECK HARNESS FOR SHORT CIRCUIT | |
| Check continuity between ECM harness connector F203 terminals 94 (L), 86 (R) and ground. | | |
| | | |
| Continuity should not exist. | | |
| SEL718Y | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Repair harness between ECM and combination meter. |

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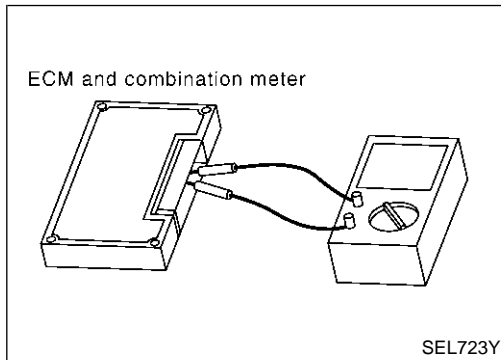
CAN SYSTEM (TYPE 4)

Trouble Diagnoses (Cont'd)

| | | |
|---|---------------------------------------|-----------------|
| 4 | CHECK HARNESS FOR OPEN CIRCUIT | |
| <p>Check continuity between ECM harness connector F203 terminals 94 (L), 86 (R) and combination meter harness connector M25 terminals 34 (Y), 35 (L).</p> | | |
| | | |
| <p>OK or NG</p> | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | Repair harness. |

SEL737Y

| | | |
|--|--|---|
| 5 | ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION | |
| <p>Check components inspection. Refer to "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION" (EL-516).</p> | | |
| <p>OK or NG</p> | | |
| OK | ▶ | Connect all the connectors and diagnose again. Refer to "Work Flow" (EL-513). |
| NG | ▶ | Replace ECM and/or combination meter. |



Component Inspection

ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

NAEL0483

NAEL0483S01

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between combination meter terminals 34 and 35.

| Unit | Terminal | Resistance value (Ω) |
|-------------------|----------|----------------------|
| ECM | 94 - 86 | Approx. 108 - 132 |
| Combination meter | 34 - 35 | |

ELECTRICAL UNITS LOCATION

Engine Compartment

Engine Compartment

NAEL0431

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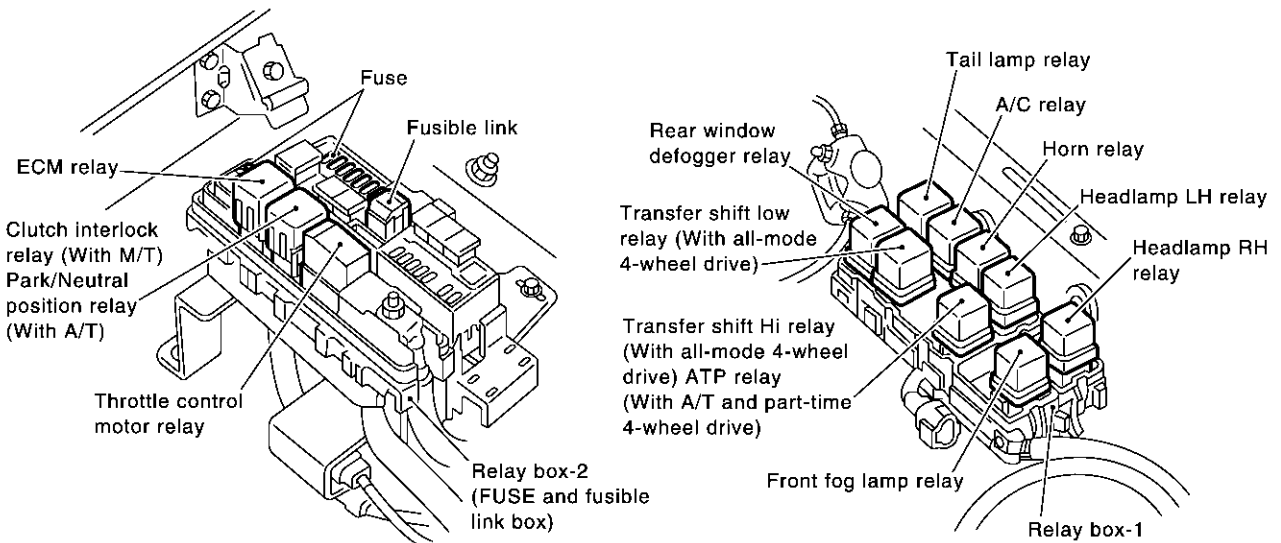
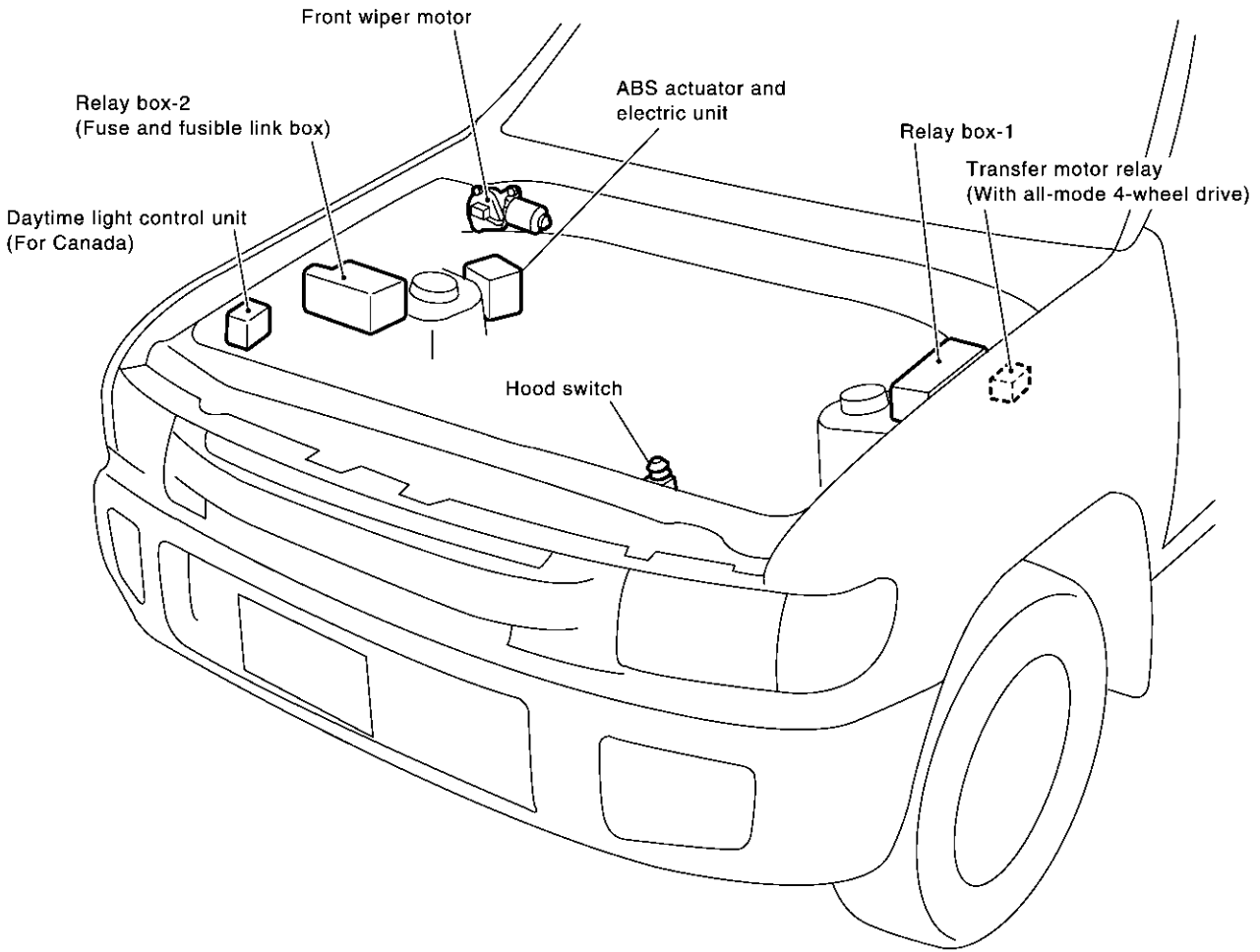
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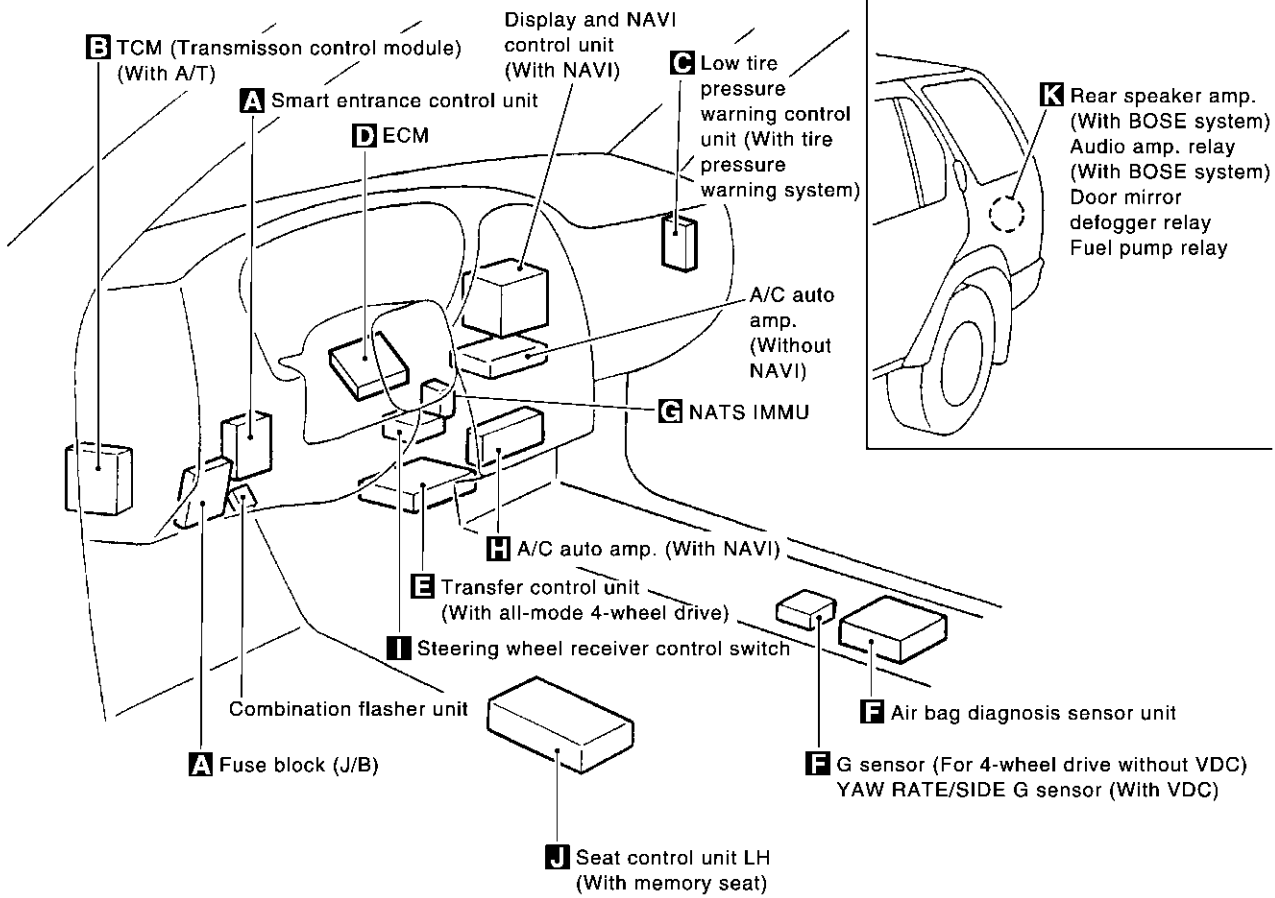
MEL063Q

ELECTRICAL UNITS LOCATION

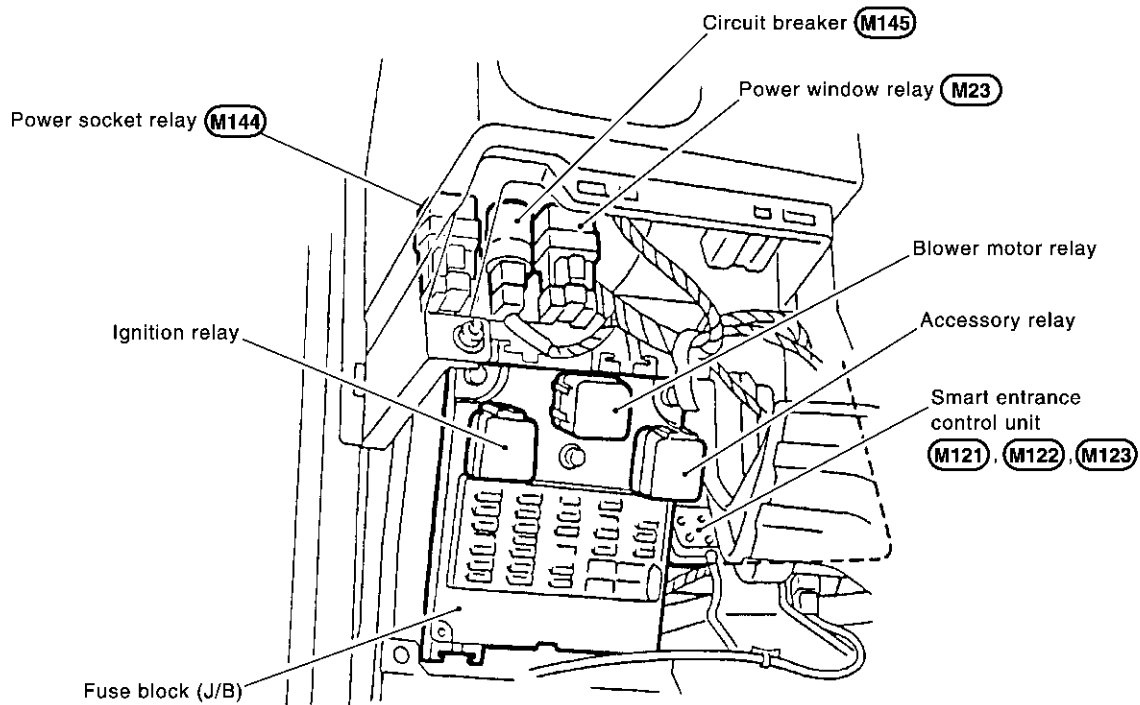
Passenger Compartment

Passenger Compartment

NAEL0432



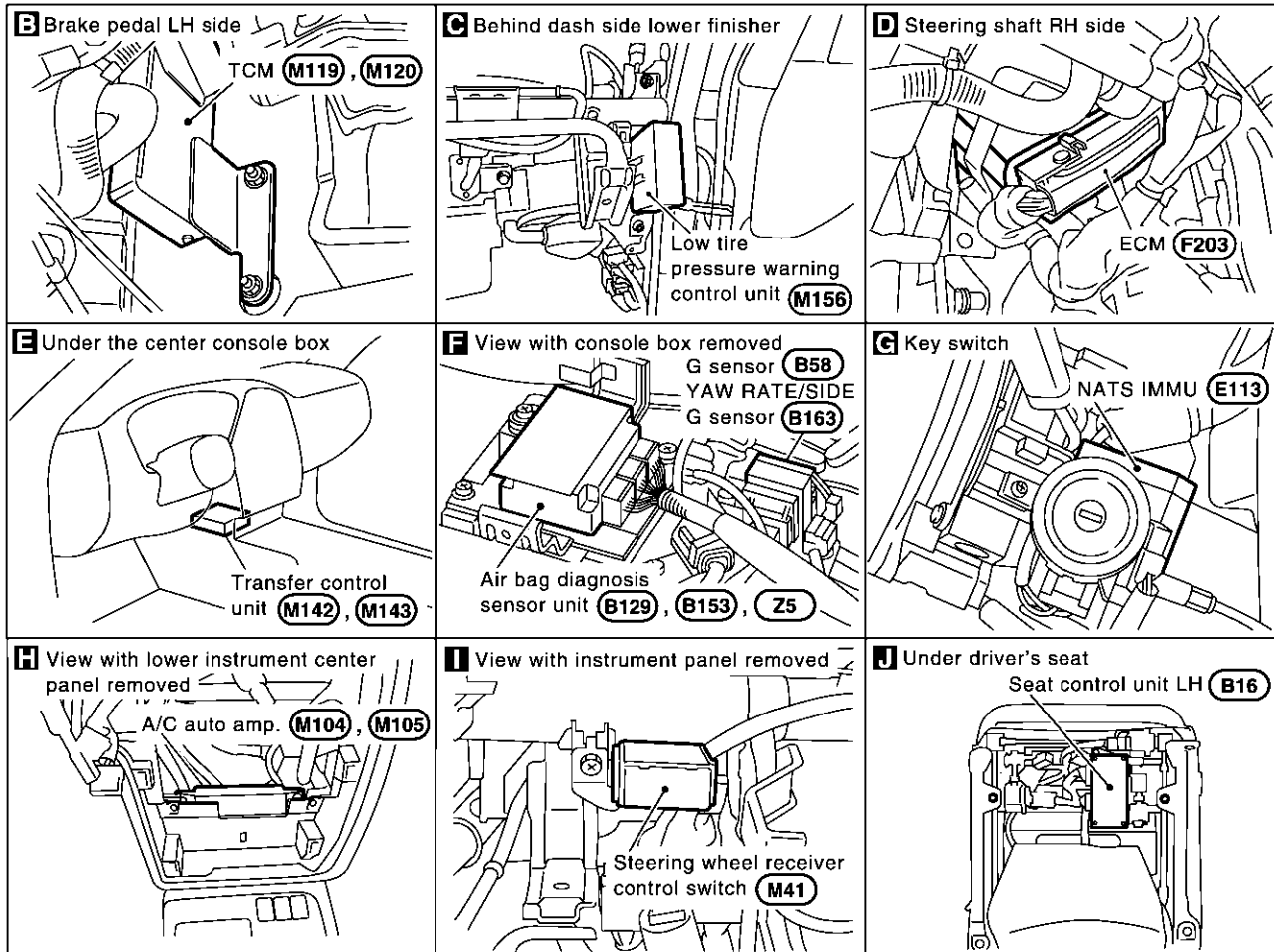
A Instrument panel LH side



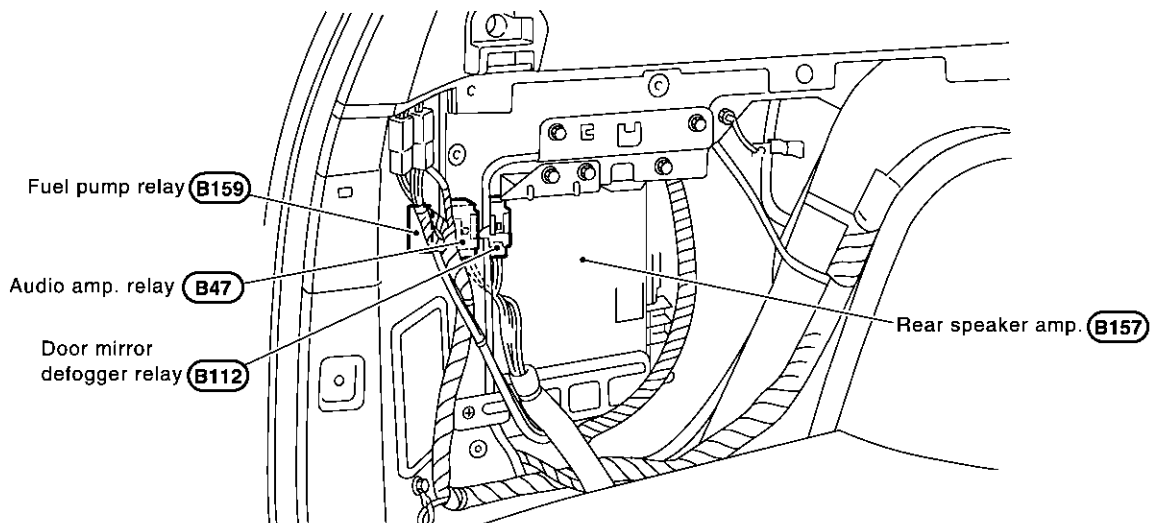
MEL064Q

ELECTRICAL UNITS LOCATION

Passenger Compartment (Cont'd)



K Behind the luggage room trim LH side



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MEL065Q

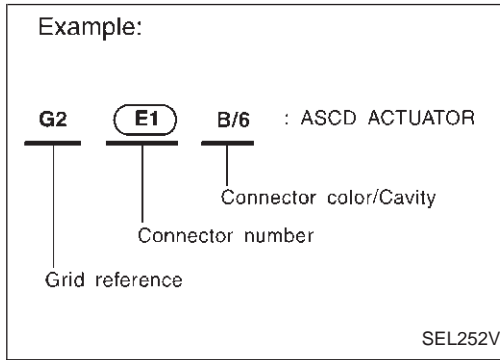
IDX

HARNESS LAYOUT

How to Read Harness Layout

How to Read Harness Layout

NAEL0433



The following Harness Layouts use a map style grid to help locate connectors on the drawings:

- Main Harness
- Engine Room Harness (Engine Compartment)
- Engine Control Harness

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.

NAEL0433S01

CONNECTOR SYMBOL

Main symbols of connector (in Harness Layout) are indicated in the below.

NAEL0433S02

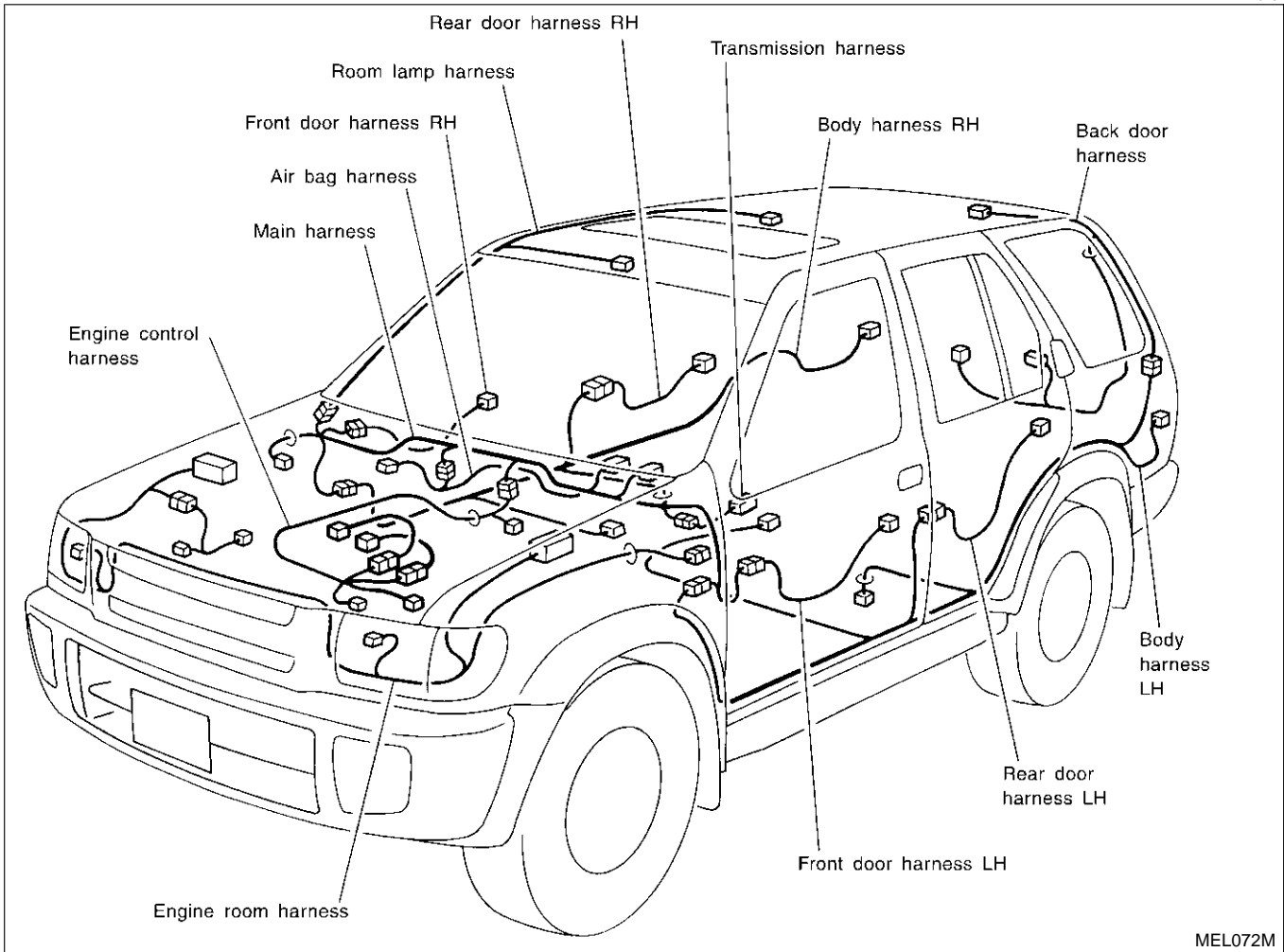
| Connector type | Water proof type | | Standard type | |
|--|------------------|--------|---------------|--------|
| | Male | Female | Male | Female |
| <ul style="list-style-type: none"> • Cavity: Less than 4 • Relay connector | | | | |
| <ul style="list-style-type: none"> • Cavity: From 5 to 8 | | | | |
| <ul style="list-style-type: none"> • Cavity: More than 9 | — | — | | |
| <ul style="list-style-type: none"> • Ground terminal etc. | — | | | |

HARNES LAYOUT

Outline

Outline

NAEL0434



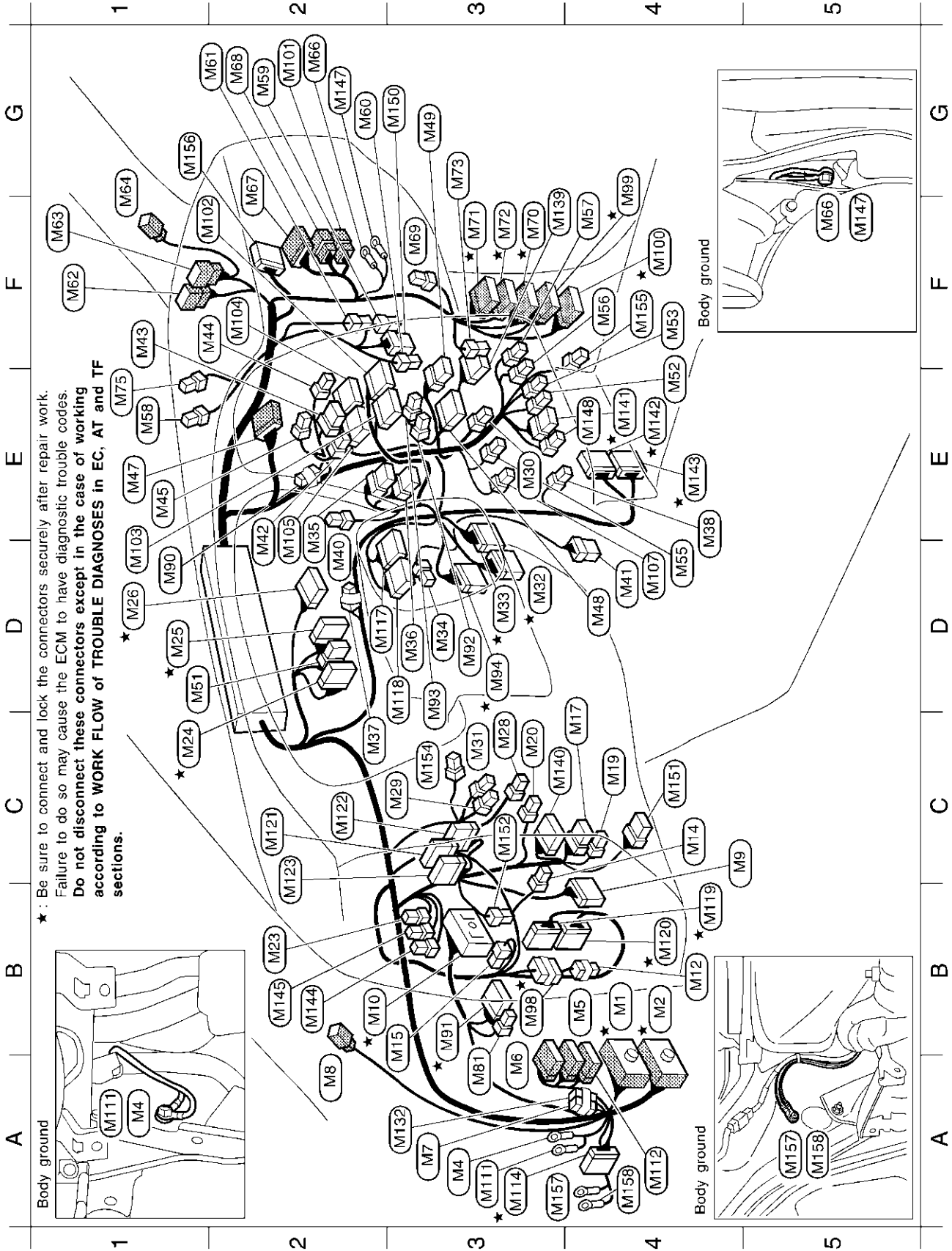
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HARNESS LAYOUT

Main Harness

Main Harness

NAEL0435

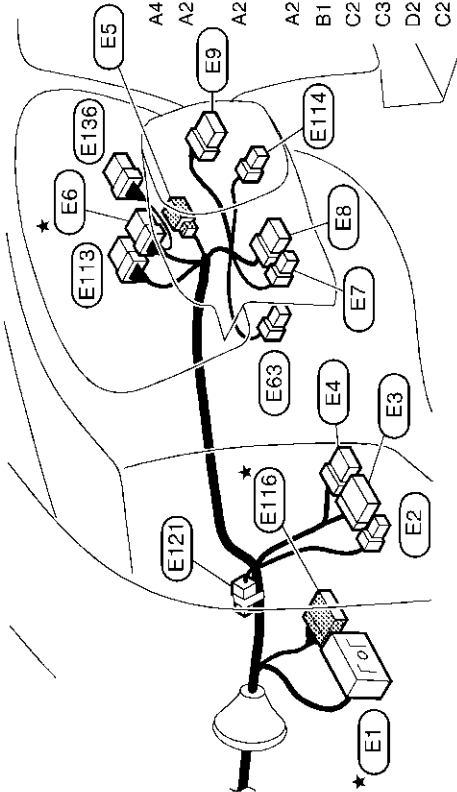


HARNESS LAYOUT

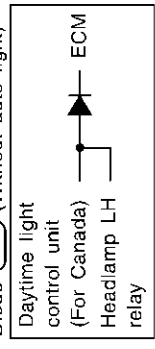
Engine Room Harness (Cont'd)

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HA
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EL
IDX

★: 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, AT and TF sections.



| | | | |
|------|--------|--|--|
| A4 | ★ E116 | W/18 | To M114 |
| A2 | E117 | BR/6 | Rear window defogger relay (Relay box-1) |
| A2 | E118 | BR/6 | Horn relay |
| A2★ | E120 | B/1 | Horn (High) |
| B1 | E121 | W/2 | Diode |
| C2 | ★ E123 | SB/2 | Swirl control valve control vacuum check switch |
| C3 | ★ E125 | B/3 | Refrigerant pressure sensor |
| D2 | E127 | GY/4 | Daytime light control unit (For Canada) |
| C2 | E135 | GY/8 | To E132 |
| A1 | E136 | W/7 | Steering angle sensor (With VDC) |
| B1★ | E137 | —/3 | VDC pressure sensor |
| C1 | E138 | L/4 | Throttle control motor relay (Relay box-2) |
| D5 | E140 | GY/6 | Front wiper motor |
| A4 | E142 | SMJ | ABS actuator and electric unit (With VDC) |
| A4 | E148 | L/4 | Park/Neutral position relay (With A/T) (Relay box-2) |
| B2★ | E91 | GY/2 | Transfer motor relay (With all-mode 4-wheel drive) |
| F2★ | E92 | W/1 | Transfer motor relay (With all-mode 4-wheel drive) |
| F2★ | E93 | W/1 | Transfer motor relay (With all-mode 4-wheel drive) |
| G2★ | E94 | G/2 | Transfer motor relay (With all-mode 4-wheel drive) |
| D1★ | E95 | B/5 | Transfer shift Hi relay (With all-mode 4-wheel drive) (Relay box-1) |
| D1 | E97 | L/4 | Headlamp RH relay (Relay box-1) |
| E1 | E98 | L/4 | Headlamp LH relay (Relay box-1) |
| F1★ | E99 | B/5 | Transfer shift Low relay (With all-mode 4-wheel drive) (Relay box-1) |
| D2★ | E111 | SMJ | ABS actuator and electric unit (Without VDC) |
| D3 | E112 | — | Body ground |
| F1 | E113 | W/8 | NATS IMMU |
| F1 | E114 | W/4 | Combination switch (Rear wiper switch) |
| F1 | E115 | L/4 | Tail lamp relay (Relay box-2) |
| ★ E1 | SMJ | To M1 | |
| ★ E2 | B/2 | Fuse block (J/B) | |
| E3 | W/16 | Fuse block (J/B) | |
| E4 | W/4 | Fuse block (J/B) | |
| E5 | BR/2 | Key switch | |
| ★ E6 | W/6 | Ignition switch | |
| E7 | BR/4 | Combination switch (Lighting switch) | |
| E8 | W/8 | Combination switch (Lighting and turn signal switch) | |
| E9 | GY/8 | Combination switch (Front wiper switch) | |
| E4 | E12 | GY/3 | Front turn signal and parking lamp LH |
| E3★ | E13 | — | Body ground |
| F4 | E14 | BR/2 | Front wheel sensor LH |
| D1 | E16 | L/4 | Front fog lamp relay (Relay box-1) |
| D1 | E24 | B/5 | ATP relay (With A/T and part-time 4-wheel drive) (Relay box-1) |
| F1 | E26 | L/4 | A/C relay (Relay box-1) |
| E2 | E28 | GY/2 | Brake fluid level switch |
| D4 | E29 | B/3 | Headlamp LH |
| D3 | E31 | GY/2 | Hood switch |
| C3 | E32 | B/2 | Ambient sensor (With auto A/C) |
| C4 | E33 | B/2 | Ambient air temperature sensor (For thermometer) |
| B3 | E36 | B/1 | Horn (Low) |
| A3 | E38 | B/3 | Headlamp RH |
| A3 | E40 | GY/3 | Front turn signal and parking lamp RH |
| A2★ | E41 | — | Body ground |
| B4 | E42 | BR/2 | Washer level switch (For Canada) |
| B4 | E43 | GY/2 | Rear washer motor |

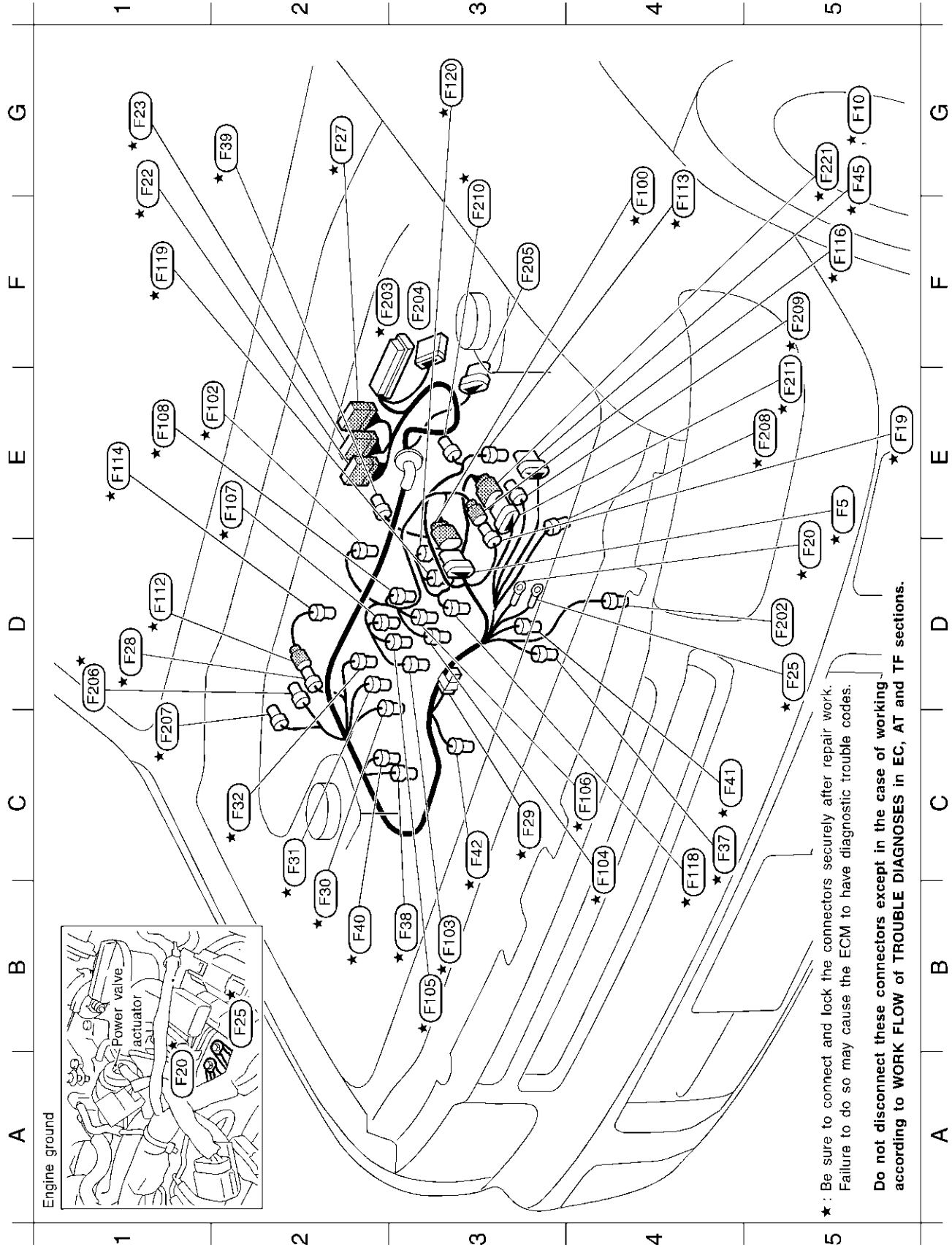


HARNESS LAYOUT

Engine Control Harness

Engine Control Harness

NAEL0437



★: 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, AT and TF sections.

HARNES LAYOUT

Engine Control Harness (Cont'd)

| | | | | | | | |
|-----|------|-------|---|-----|--------|------|-----------------------------------|
| E5★ | F5 | L/8 | To (F100) | F5★ | (F116) | SB/2 | To (F19) |
| G5★ | F10 | GY/5 | Mass air flow sensor | C4★ | (F11B) | GY/3 | Ignition coil No. 2 |
| E5★ | F19 | SB/2 | To (F116) | F1★ | (F119) | GY/3 | Ignition coil No. 4 |
| D5★ | F20 | — | Engine ground | G3★ | (F120) | GY/3 | Ignition coil No. 6 |
| G1★ | F22 | GY/16 | To (M33) | D5 | (F202) | B/1 | Compressor (Air conditioner) |
| G1★ | F23 | BR/24 | To (M32) | F2 | (F203) | SMJ | ECM |
| D5 | F25 | — | Engine ground | F3 | (F204) | P/20 | Joint connector |
| G2★ | F27 | W/18 | To (M94) | F3 | (F205) | GY/6 | Accelerator pedal position sensor |
| D1★ | F28 | SB/3 | To (F112) | D1 | (F206) | L/4 | Heated oxygen sensor 2 (BANK 1) |
| C3★ | F29 | W/2 | Condenser | C1 | (F207) | G/4 | Heated oxygen sensor 1 (BANK 1) |
| B2★ | F30 | GY/3 | Ignition coil No. 1 | E5 | (F208) | L/4 | Heated oxygen sensor 2 (BANK 2) |
| C2★ | F31 | GY/3 | Ignition coil No. 3 | F5 | (F209) | G/4 | Heated oxygen sensor 1 (BANK 2) |
| C2★ | F32 | GY/3 | Ignition coil No. 5 | G3 | (F210) | G/6 | Heated oxygen sensor 1 (BANK 2) |
| C4★ | F37 | B/3 | Camshaft position sensor (PHASE) (BANK 2) | E5 | (F211) | G/6 | To (F221) |
| B3★ | F38 | B/3 | Camshaft position sensor (PHASE) (BANK 1) | G5 | (F221) | G/6 | To (F211) |
| G2★ | F39 | G/2 | Intake valve timing control solenoid valve (BANK 1) | | | | |
| B2★ | F40 | SB/2 | Intake valve timing control solenoid valve (BANK 2) | | | | |
| C4★ | F41 | G/2 | Swirl control valve control solenoid valve | | | | |
| C3★ | F42 | BR/2 | VIAS control solenoid valve (With A/T) | | | | |
| G5★ | F45 | B/6 | Mass air flow sensor | | | | |
| G4★ | F100 | L/8 | To (F5) | | | | |
| E2★ | F102 | L/2 | Knock sensor | | | | |
| B3★ | F103 | GY/2 | Injector No. 1 | | | | |
| C4★ | F104 | GY/2 | Injector No. 2 | | | | |
| B3★ | F105 | GY/2 | Injector No. 3 | | | | |
| C4★ | F106 | GY/2 | Injector No. 4 | | | | |
| E2★ | F107 | GY/2 | Injector No. 5 | | | | |
| E1★ | F108 | GY/2 | Injector No. 6 | | | | |
| D1★ | F112 | SB/3 | To (F28) | | | | |
| G4★ | F113 | L/2 | EVAP canister purge volume control solenoid valve | | | | |
| E1★ | F114 | GY/2 | Engine coolant temperature sensor | | | | |

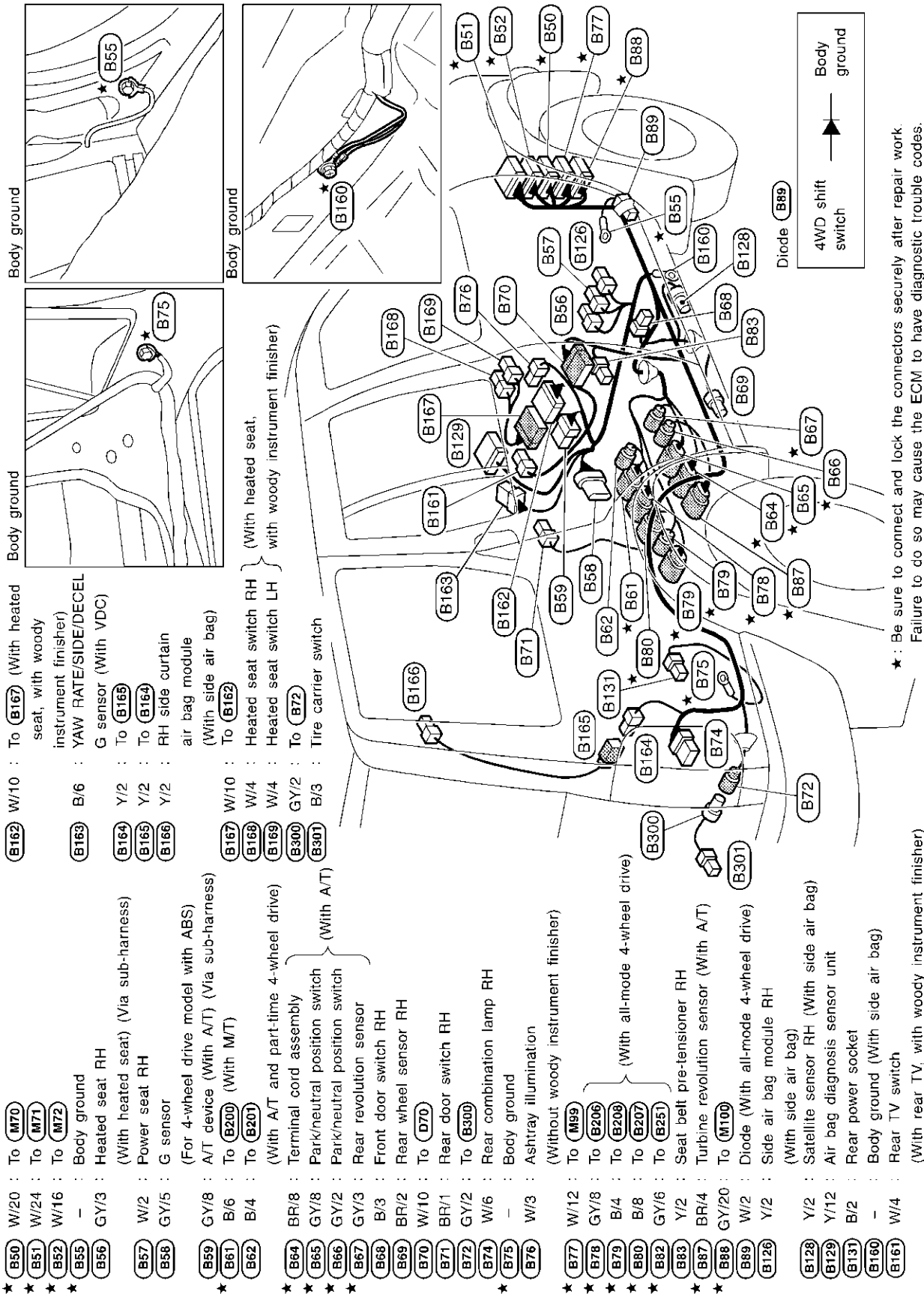
- ★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
- ★ : Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC, AT and TF sections.

| | Vehicle serial number |
|----------------------|------------------------------------|
| Mass air flow sensor | 700001~712114 (2WD) |
| (F10) | 800001~826013, 826016~834317 (4WD) |
| Mass air flow sensor | 712115~ (2WD) |
| (F45) | 826014, 826015, 834318~ (4WD) |

MEL414R

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Body Harness RH



- W/20 : To (M70)
- W/24 : To (M71)
- W/16 : To (M72)
- : Body ground
- GY/3 : Heated seat RH (With heated seat) (Via sub-harness)
- W/2 : Power seat RH (With heated seat)
- GY/5 : G sensor (For 4-wheel drive model with ABS)
- GY/8 : A/T device (With A/T) (Via sub-harness)
- B/6 : To (B200) (With M/T)
- B/4 : To (B201)
- BR/8 : Terminal cord assembly (With A/T and part-time 4-wheel drive)
- GY/8 : Park/neutral position switch (With A/T)
- GY/2 : Park/neutral position switch (With A/T)
- GY/3 : Rear revolution sensor
- B/3 : Front door switch RH
- BR/2 : Rear wheel sensor RH
- W/10 : To (D70)
- BR/1 : Rear door switch RH
- GY/2 : To (B300)
- W/6 : Rear combination lamp RH
- : Body ground
- W/3 : Ashtray illumination (Without woody instrument finisher)
- W/12 : To (M99)
- GY/8 : To (B206)
- B/4 : To (B208)
- B/8 : To (B207)
- GY/6 : To (B251)
- Y/2 : Seat belt pre-tensioner RH
- BR/4 : Turbine revolution sensor (With A/T)
- GY/20 : To (M100)
- W/2 : Diode (With all-mode 4-wheel drive)
- Y/2 : Side air bag module RH (With side air bag)
- Y/2 : Satellite sensor RH (With side air bag)
- Y/12 : Air bag diagnosis sensor unit
- B/2 : Rear power socket
- : Body ground (With side air bag)
- W/4 : Rear TV switch (With rear TV, with woody instrument finisher)

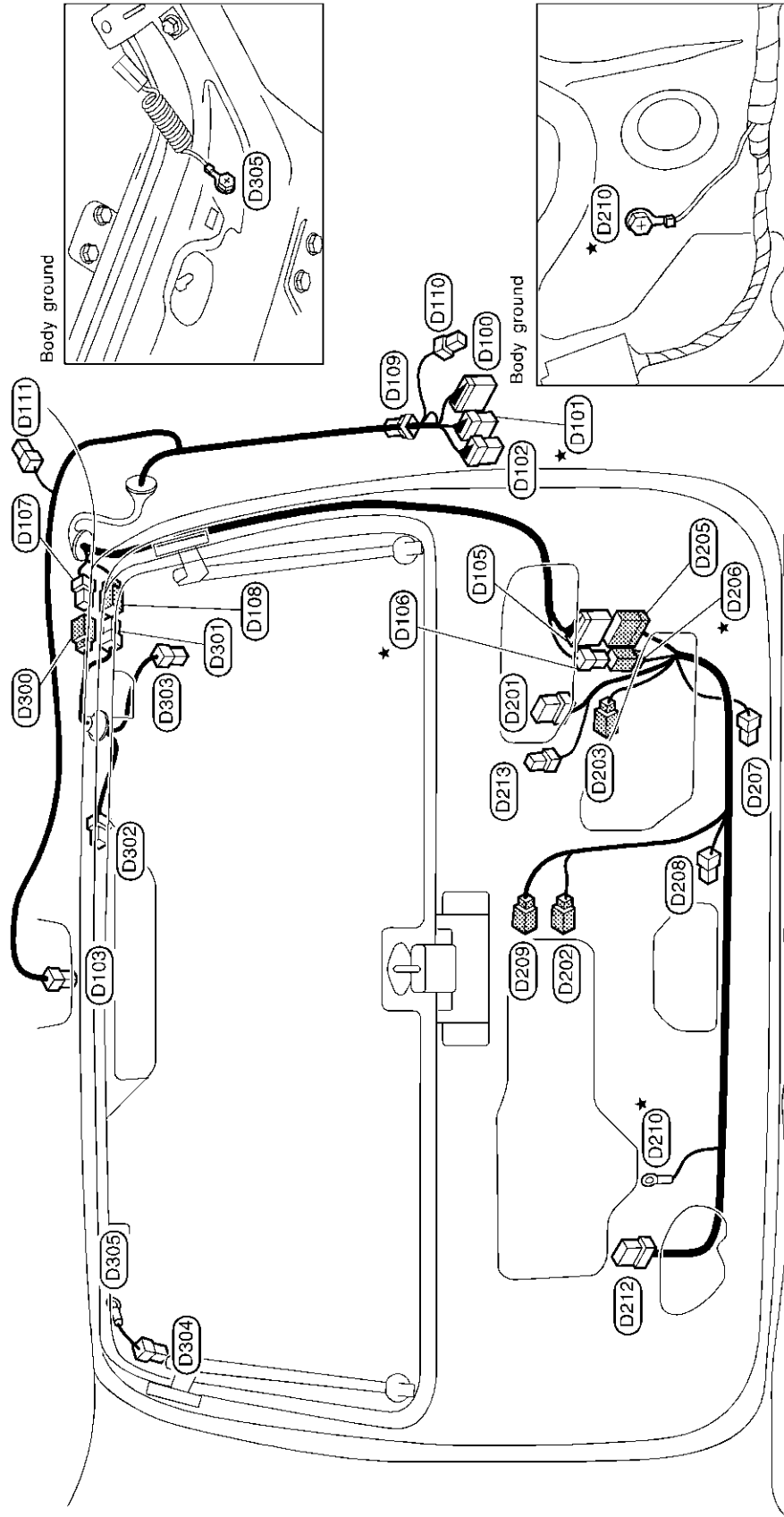
- W/10 : To (B167) (With heated seat, with woody instrument finisher)
- B/6 : YAW RATE/SIDE/DECEL G sensor (With VDC)
- Y/2 : To (B165)
- Y/2 : To (B164)
- Y/2 : RH side curtain air bag module (With side air bag)
- W/10 : To (B162)
- W/4 : Heated seat switch RH (With heated seat, with woody instrument finisher)
- W/4 : Heated seat switch LH (With heated seat, with woody instrument finisher)
- GY/2 : To (B72)
- B/3 : Tire carrier switch
- B/162
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- B/168
- B/169
- B/300
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HARNESS LAYOUT

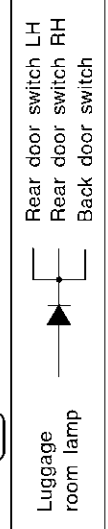
Back Door Harness

Back Door Harness

NAEL0440



- | | | | | | | | | | | | |
|---------|------|---|--------------------------------|---------|------|---|------------------------------|--------------|-----|---|------------------------|
| (D100) | W/12 | : | To (B23) | (D202) | BR/2 | : | License plate lamp | (D301) | W/1 | : | To (D108) |
| ★(D101) | W/6 | : | To (B24) | (D203) | BR/2 | : | (Without spare tire carrier) | (D302) | W/3 | : | High-mounted stop lamp |
| (D102) | BR/6 | : | To (B25) | (D205) | W/16 | : | License plate lamp | (D303) | B/1 | : | Rear window defogger |
| (D103) | W/3 | : | Luggage room lamp | (D206) | W/4 | : | (With spare tire carrier) | (D304) | B/1 | : | Rear window defogger |
| (D105) | W/16 | : | To (D205) | ★(D207) | W/4 | : | To (D105) | (D305) | — | : | Body ground |
| ★(D106) | W/4 | : | To (D206) | (D208) | W/2 | : | To (D106) | Diode (D109) | | | |
| (D107) | W/2 | : | To (D300) | (D209) | W/2 | : | Back door lock actuator | | | | |
| (D108) | W/1 | : | To (D301) | ★(D210) | — | : | Back door switch | | | | |
| (D109) | W/2 | : | Diode | (D212) | W/8 | : | Glass hatch switch | | | | |
| (D110) | Y/2 | : | To (B158) | (D213) | W/4 | : | Body ground | | | | |
| (D111) | OR/2 | : | LH side curtain air bag module | (D300) | W/2 | : | Rear wiper motor | | | | |
| | | | (with side air bag) | | | | Back window opener actuator | | | | |
| (D201) | W/6 | : | Back door key cylinder switch | | | | To (D107) | | | | |



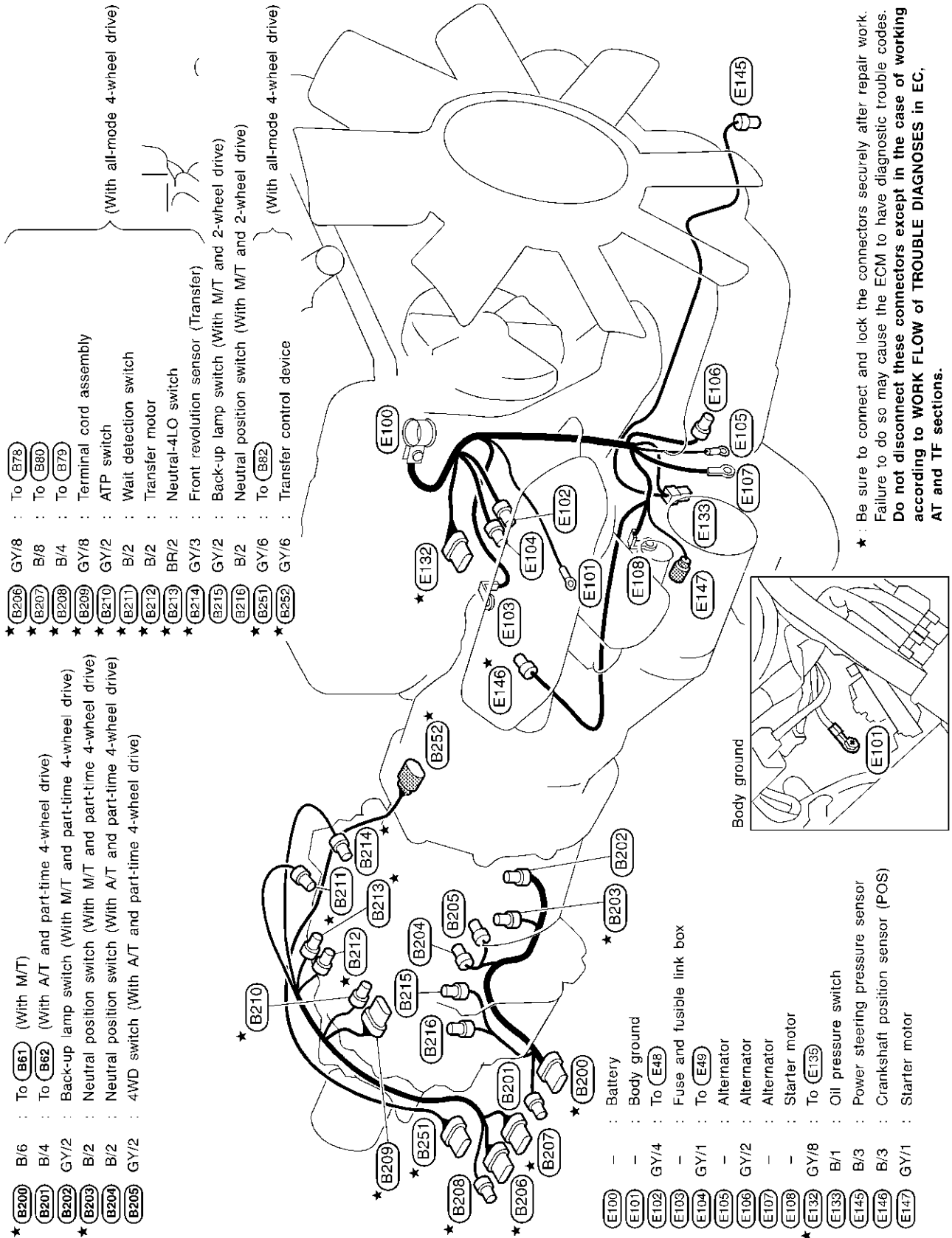
★ : Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC, AT and TF sections.

HARNESS LAYOUT

Engine and Transmission Harness

Engine and Transmission Harness

NAEL0441



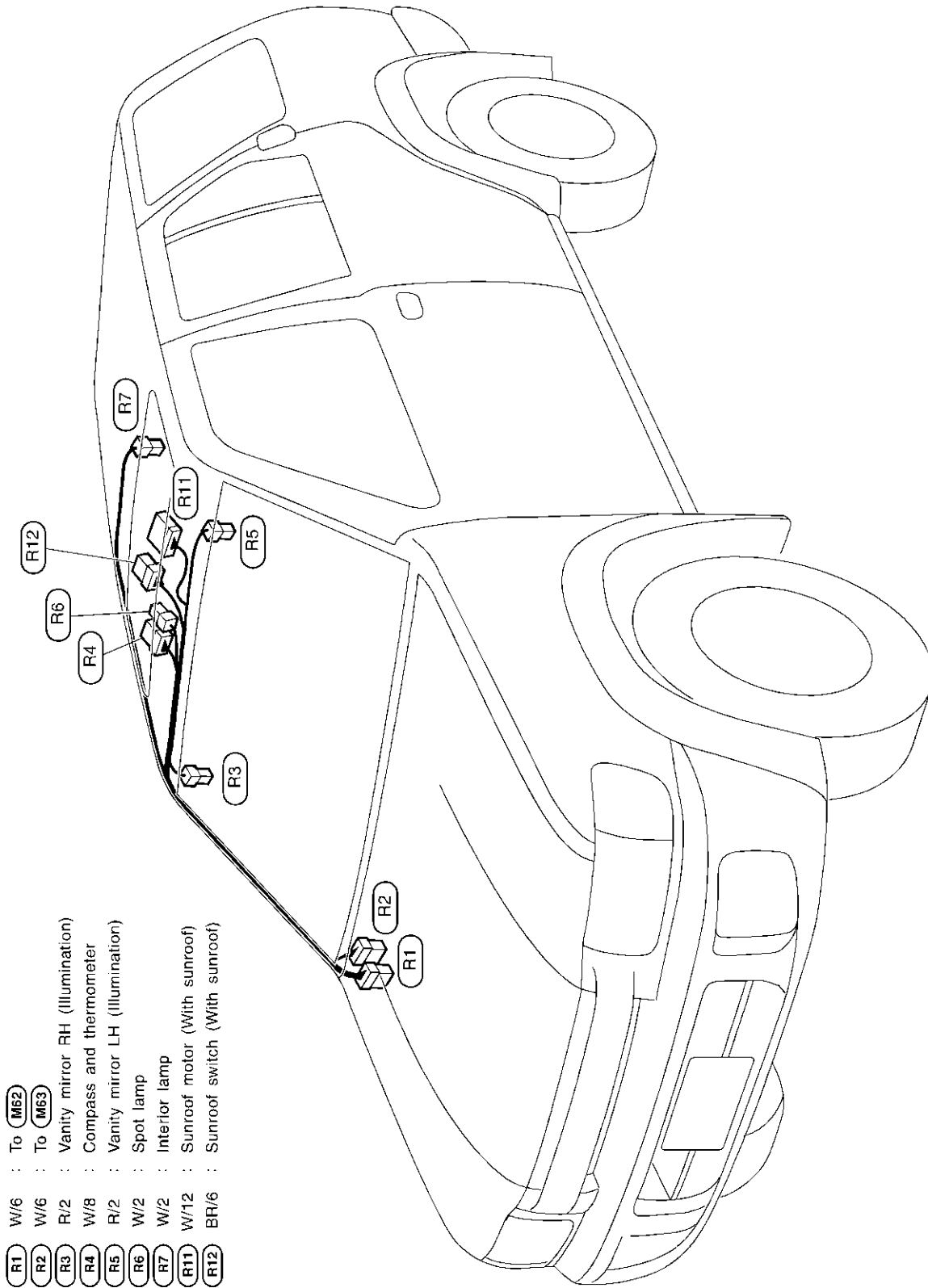
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HARNESS LAYOUT

Room Lamp Harness

Room Lamp Harness

NAEL0442



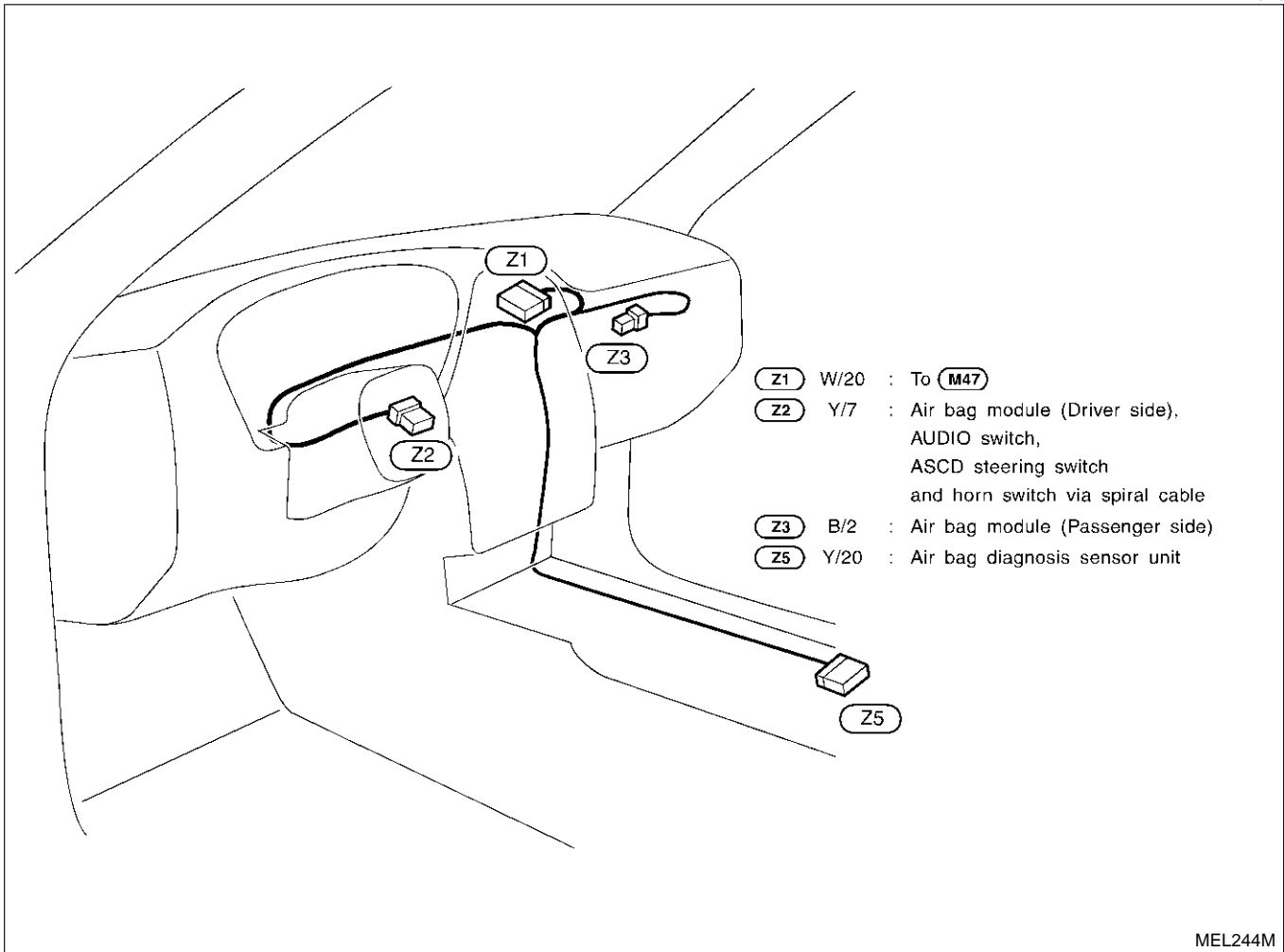
MEL061Q

HARNESS LAYOUT

Air Bag Harness

Air Bag Harness

NAEL0443



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HARNESS LAYOUT

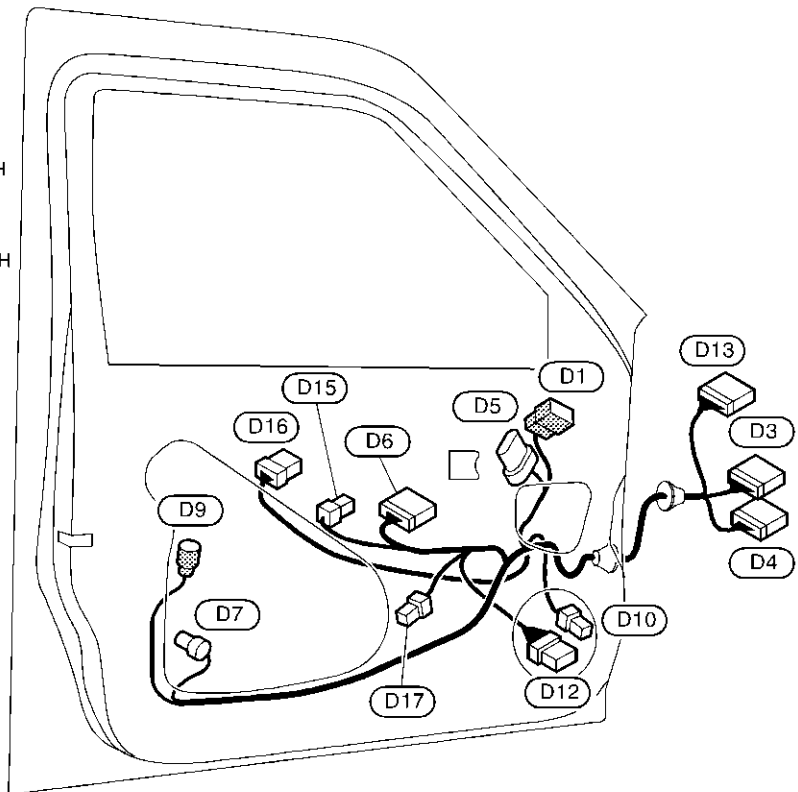
Front Door Harness

Front Door Harness

NAEL0444

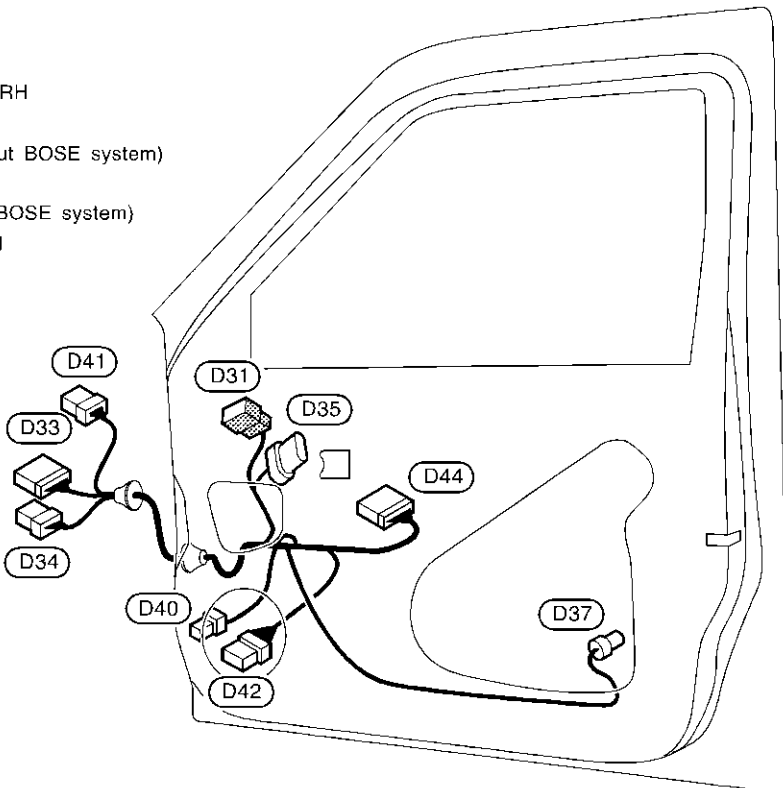
LH side

- D1** W/8 : Door mirror LH
- D3** BR/16 : To **M5**
- D4** W/10 : To **M6**
- D5** GY/6 : Front power window regulator LH
- D6** W/16 : Power window main switch
- D7** GY/4 : Front door lock actuator LH
- D9** BR/3 : Front door key cylinder switch LH
- D10** BR/2 : Front door speaker LH
(Without BOSE system)
- D12** W/6 : Front door speaker LH
(With BOSE system)
- D13** GY/12 : To **M112**
- D15** W/3 : Power window main switch
- D16** W/8 : Seat memory switch
(With seat memory)
- D17** W/4 : Trunk and fuel lid opener switch



RH side

- D31** W/8 : Door mirror RH
- D33** BR/16 : To **M67**
- D34** W/6 : To **M68**
- D35** GY/6 : Front power window regulator RH
- D37** GY/4 : Front door lock actuator RH
- D40** BR/2 : Front door speaker RH (Without BOSE system)
- D41** BR/6 : To **M101** (With BOSE system)
- D42** W/6 : Front door speaker RH (With BOSE system)
- D44** W/16 : Front power window switch RH



MEL062Q

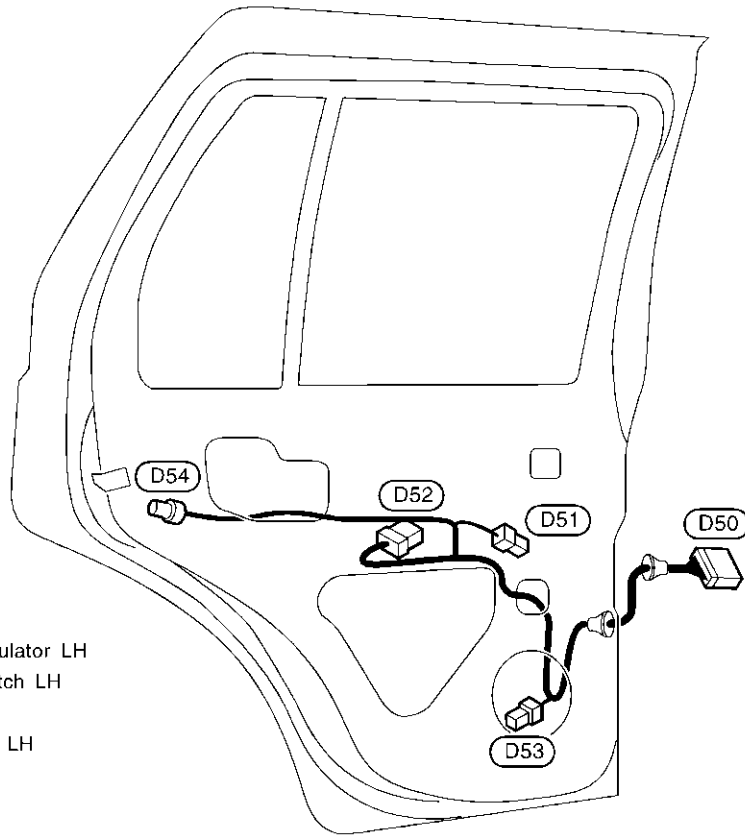
HARNESS LAYOUT

Rear Door Harness

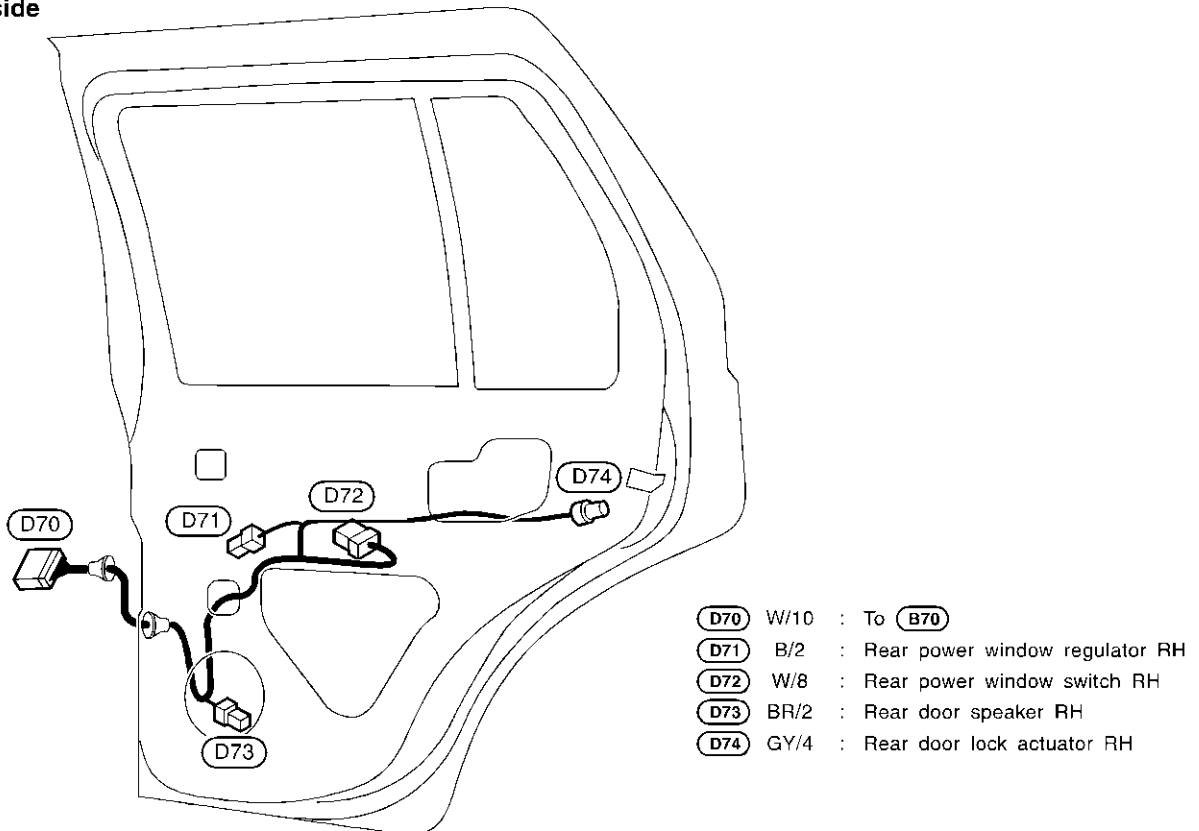
Rear Door Harness

NAEL0445

LH side



RH side



MEL261M

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BULB SPECIFICATIONS*Headlamp***Headlamp**

NAEL0446S01

| Item | Wattage W |
|-----------------------------|-------------|
| High/Low (Semi-sealed beam) | 60/55 (HB2) |

Exterior Lamp

NAEL0446S02

| Item | Wattage W | |
|------------------------|------------------|------|
| Front fog lamp | 55 | |
| Front turn signal lamp | 21 | |
| Parking lamp | 5 | |
| Rear combination lamp | Turn signal lamp | 27 |
| | Stop/Tail lamp | 21/5 |
| | Back-up lamp | 18 |
| License plate lamp | 5 | |
| High-mounted stop lamp | 5 | |

Interior Lamp

NAEL0446S03

| Item | Wattage W |
|--------------------|-----------|
| Interior lamp | 10 |
| Vanity mirror lamp | 1.4 |
| Spot lamp | 8 |
| Luggage room lamp | 10 |

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 |
| A/C, A | HA | Auto Air Conditioner |
| A/C, M | HA | Manual Air Conditioner |
| ABS | BR | Anti-lock Brake System |
| APPS1 | EC | Accelerator Pedal Position Sensor 1 |
| APPS2 | EC | Accelerator Pedal Position Sensor 2 |
| APPS | EC | Accelerator Pedal Position Sensor |
| ASC/BS | EC | Automatic Speed Control Device Brake Switch |
| ASC/SW | EC | Automatic Speed Control Device Steering Switch |
| ASCIND | EC | Automatic Speed Control Device Indicator |
| ASCBOF | EC | Automatic Speed Control Device Brake Switch (Off) |
| AUDIO | EL | Audio |
| AUT/DP | EL | Automatic Drive Positioner |
| BA/FTS | AT | A/T Fluid Temperature Sensor and TCM Power Supply |
| BACK/L | EL | Back-up Lamp |
| BRK/SW | EC | Brake Switch |
| BYPS/V | EC | Vacuum Cut Valve Bypass Valve |
| CAN | AT | CAN Communication Line |
| CAN | EC | CAN Communication Line |
| CAN | EL | CAN System |
| CHARGE | SC | Charging System |
| CHIME | EL | Warning Chime |
| CIGAR | EL | Cigarette Lighter |
| CLOCK | EL | Clock |
| COMPAS | EL | Compass and Thermometer |
| D/LOCK | EL | Power Door Lock |
| DEF | EL | Rear Window Defogger |

| Code | Section | Wiring Diagram Name |
|--------|---------|---|
| DTRL | EL | Headlamp — With Daytime Light System — |
| ECM/PW | EC | ECM Power supply (Back-up) |
| ECTS | EC | Engine Coolant Temperature Sensor |
| ENGSS | AT | Engine Speed Signal |
| ETC1 | EC | Electric Throttle Control Function |
| ETC2 | EC | Electric Throttle Control Motor Relay |
| ETC3 | EC | Electric Throttle Control Motor |
| F/FOG | EL | Front Fog Lamp |
| F/PUMP | EC | Fuel Pump Control |
| FTS | AT | A/T Fluid Temperature Sensor |
| FTTS | EC | Fuel Tank Temperature Sensor |
| FUELB1 | EC | Fuel Injection System Function (Bank 1) |
| FUELB2 | EC | Fuel Injection System Function (Bank 2) |
| H/LAMP | EL | Headlamp |
| HEATER | HA | Heater |
| HORN | EL | Horn |
| HSEAT | EL | Heated Seat |
| IATS | EC | Intake Air Temperature Sensor |
| IGNSYS | EC | Ignition Signal |
| ILL | EL | Illumination |
| INJECT | EC | Injector |
| INT/L | EL | Interior, Spot, Vanity Mirror, and Luggage Room Lamps |
| IVCB1 | EC | Intake Valve Timing Control Solenoid Valve Bank 1 |
| IVCB2 | EC | Intake Valve Timing Control Solenoid Valve Bank 2 |
| KEYLES | EL | Remote Keyless Entry System |
| KS | EC | Knock Sensor |
| LOAD | EC | Electrical Load Signal |
| LPSV | AT | Line Pressure Solenoid Valve |
| MAFS | EC | Mass Air Flow Sensor |
| MAIN | AT | Main Power Supply and Ground Circuit |
| MAIN | EC | Main Power Supply and Ground Circuit |

GI

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WIRING DIAGRAM CODES (CELL CODES)

| Code | Section | Wiring Diagram Name | Code | Section | Wiring Diagram Name |
|--------|---------|--|---------|---------|---|
| METER | EL | Speedometer, Tachometer, Temp., Oil, and Fuel Gauges | SEAT | EL | Power Seat |
| MIL/DL | EC | MIL and Data Link Connectors | SEN/PW | EC | Sensor Power Supply |
| MIRROR | EL | Door Mirror | SHIFT | AT | A/T Shift Lock System |
| NATS | EL | NVIS (NISSAN Vehicle Immobilizer System) | SROOF | EL | Sunroof |
| NAVI | EL | Navigation System | SRS | RS | Supplemental Restraint System |
| NONDTC | AT | Non-detectable Items | SSV/A | AT | Shift Solenoid Valve A |
| O2H1B1 | EC | Heated Oxygen Sensor 1 Heater (Bank 1) | SSV/B | AT | Shift Solenoid Valve B |
| O2H1B2 | EC | Heated Oxygen Sensor 1 Heater (Bank 2) | START | SC | Starting System |
| O2H2B1 | EC | Heated Oxygen Sensor 2 Heater (Bank 1) | STOP/L | EL | Stop lamp |
| O2H2B2 | EC | Heated Oxygen Sensor 2 Heater (Bank 2) | SWL/V | EC | Swirl Control Valve Control Solenoid Valve |
| O2S1B1 | EC | Heated Oxygen Sensor 1 (Bank 1) | T&FIELD | EL | Trunk Lid and Fuel Lid Opener |
| O2S1B2 | EC | Heated Oxygen Sensor 1 (Bank 2) | T/F | TF | Transfer |
| O2S2B1 | EC | Heated Oxygen Sensor 2 (Bank 1) | T/WARN | SU | Low Tire Pressure Warning |
| O2S2B2 | EC | Heated Oxygen Sensor 2 (Bank 2) | TAIL/L | EL | Parking, License and Tail Lamps |
| OVRCSV | AT | Overrun Clutch Solenoid Valve | TCCSIG | AT | A/T TCC Signal (Lock up) |
| P/ANT | EL | Power Antenna | TCV | AT | Torque Converter Clutch Solenoid Valve |
| PHSB1 | EC | Camshaft Position Sensor (PHASE) Bank 1 | TPS | AT | Throttle Position Sensor |
| PHSB2 | EC | Camshaft Position Sensor (PHASE) Bank 2 | TPS1 | EC | Electric Throttle Control Actuator (Throttle Position Sensor 1) |
| PGC/V | EC | EVAP Canister Purge Volume Control Solenoid Valve | TPS2 | EC | Electric Throttle Control Actuator (Throttle Position Sensor 2) |
| PNP/SW | EC | Park/Neutral Position PNP Switch | TPS3 | EC | Electric Throttle Control Actuator (Throttle Position Sensor) |
| PNP/SW | AT | Park/Neutral Position PNP Switch | TRNSCV | EL | Homelink Universal Transceiver |
| POS | EC | Crankshaft Position Sensor (CKPS) (POS) | TRSA/T | AT | Turbine Revolution Sensor |
| POWER | EL | Power Supply Routing | TURN | EL | Turn Signal and Hazard Warning Lamps |
| PRE/SE | EC | EVAP Control System Pressure Sensor | VDC | BR | Vehicle Dynamics control System |
| PS/SEN | EC | Power Steering Pressure Sensor | VEHSEC | EL | Vehicle Security System |
| REMOTE | EL | Audio (Remote Control Switch) | VENT/V | EC | EVAP Canister Vent Control Valve |
| RP/SEN | EC | Refrigerant Pressure | VIAS/V | EC | Variable Induction Air Control System |
| S/VCSW | EC | Swirl Control Valve Control Vacuum Check Switch | VSS | EC | Vehicle Speed Sensor |
| | | | VSSA/T | AT | Vehicle Speed Sensor A/T (Revolution Sensor) |
| | | | VSSMTR | AT | Vehicle Speed Sensor MTR |
| | | | WARN | EL | Warning Lamps |
| | | | WINDOW | EL | Power Window |
| | | | WIP/R | EL | Rear Wiper and Washer |

WIRING DIAGRAM CODES (CELL CODES)

| Code | Section | Wiring Diagram Name |
|-------|---------|------------------------|
| WIPER | EL | Front Wiper and Washer |

GI

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LC

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NOTES