

ELECTRICAL SYSTEM

SECTION **EL**

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WIRING DIAGRAM CODES (CELL CODES).....286

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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"

NGEL0001

The Supplemental Restraint System "AIR BAG" and "SEAT BELT PRE-TENSIONER" used along with a seat belt, helps to reduce the risk of severe injury to the driver and front passenger in certain types of collisions. The Supplemental Restraint System consists of a driver air bag module (located in the center of the steering wheel), a front passenger air bag module (located on the instrument panel on the passenger side), seat belt pre-tensioners, a diagnosis sensor unit, a crash zone sensor (4WD models), a warning lamp, wiring harness and spiral cable.

Information necessary to service the system safely is included in the **RS section** of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance should be performed by an authorized NISSAN dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see RS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses (except "SEAT BELT PRE-TENSIONER") covered with yellow insulation, either just before the harness connectors or for the complete harness, are related to the SRS.

Wiring Diagrams and Trouble Diagnosis

NGEL0002

When you read wiring diagrams, refer to the following:

- **GI-10**, "HOW TO READ WIRING DIAGRAMS"
- EL-9, "POWER SUPPLY ROUTING" for power distribution circuit.

When you perform trouble diagnosis, refer to the following:

- **GI-34**, "HOW TO FOLLOW TEST GROUP IN TROUBLE DIAGNOSIS".
- **GI-23**, "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT".

Check for any Service bulletins before servicing the vehicle.

Description

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NGEL0003S01

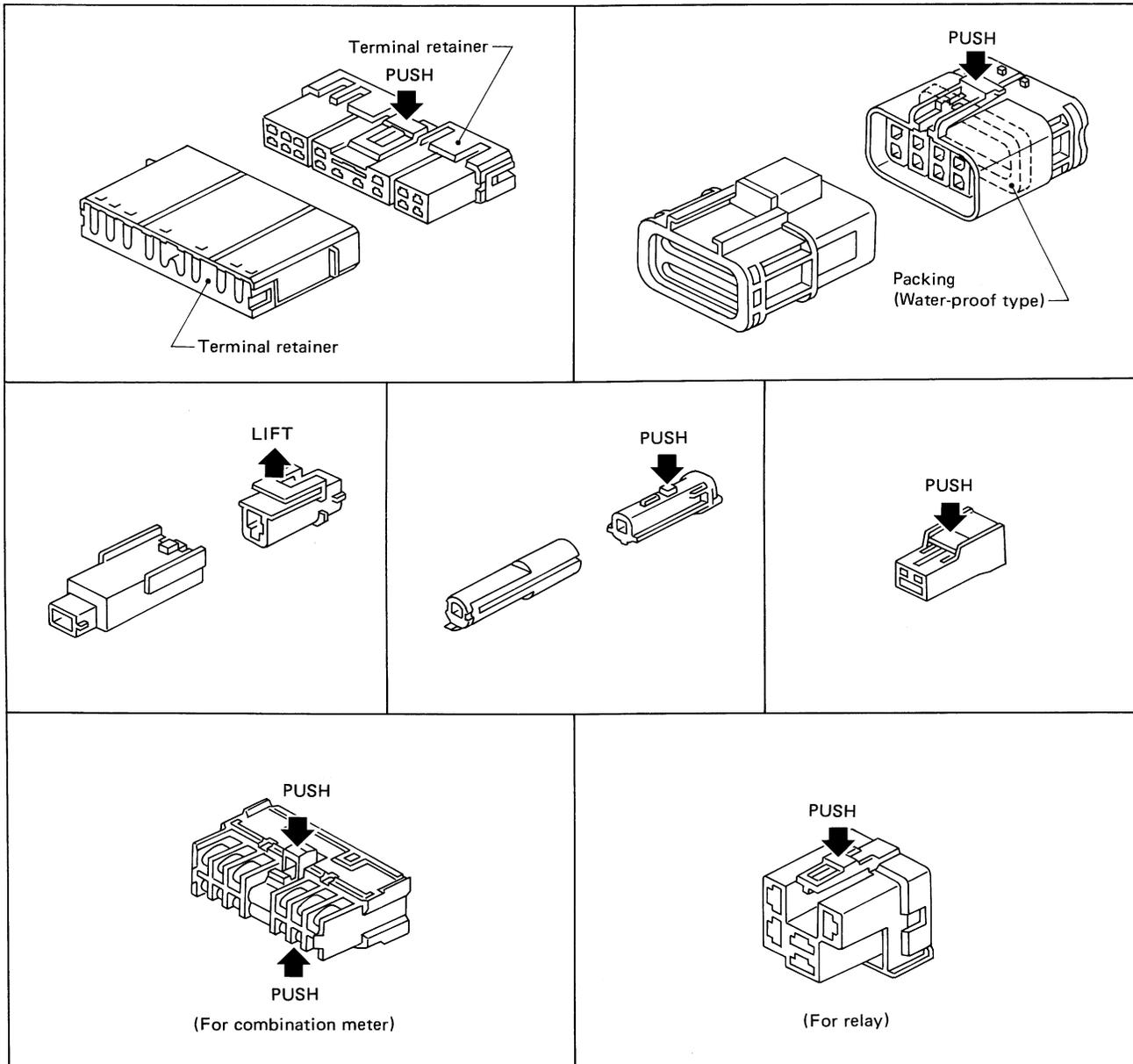
HARNESS CONNECTOR (TAB-LOCKING TYPE)

- 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 EL-6 for description of the slide-locking type connector.

CAUTION:

Do not pull the harness when disconnecting the connector.

[Example]



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HARNESS CONNECTOR

Description (Cont'd)

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

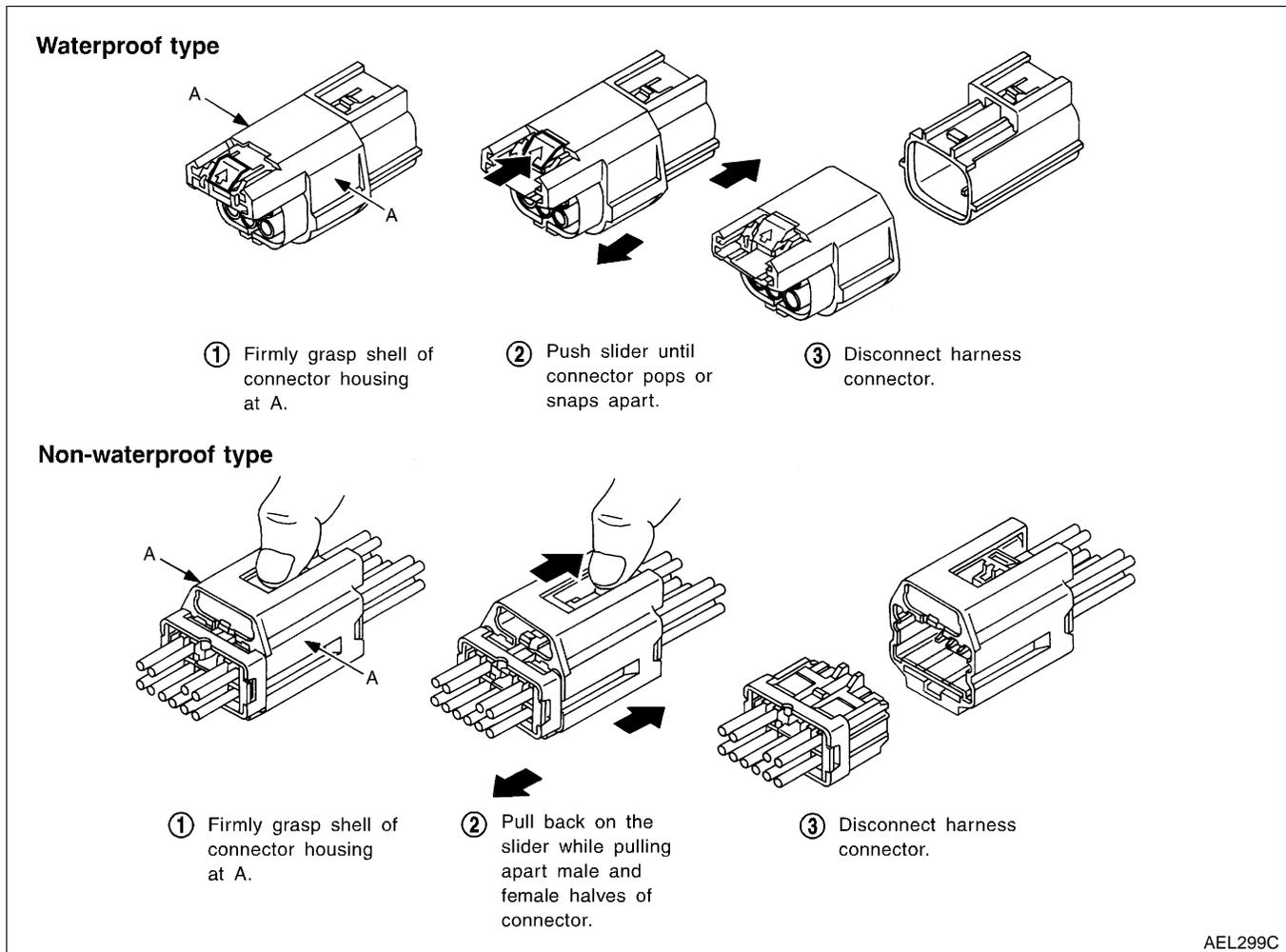
-NGEL0003S02

- A new style slide-locking 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.



STANDARDIZED RELAY

Description

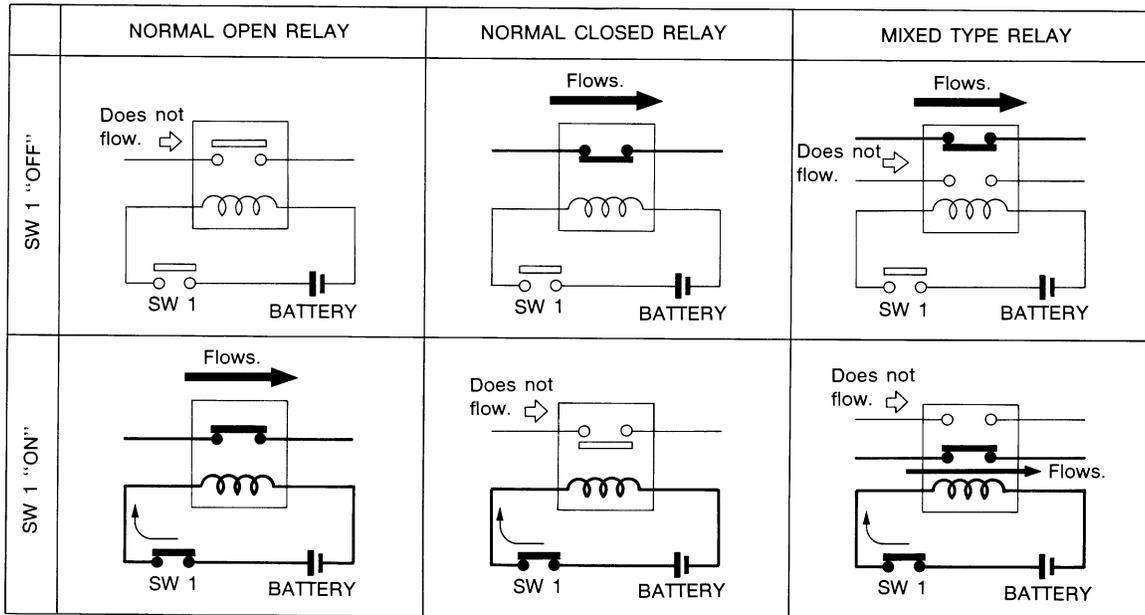
Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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

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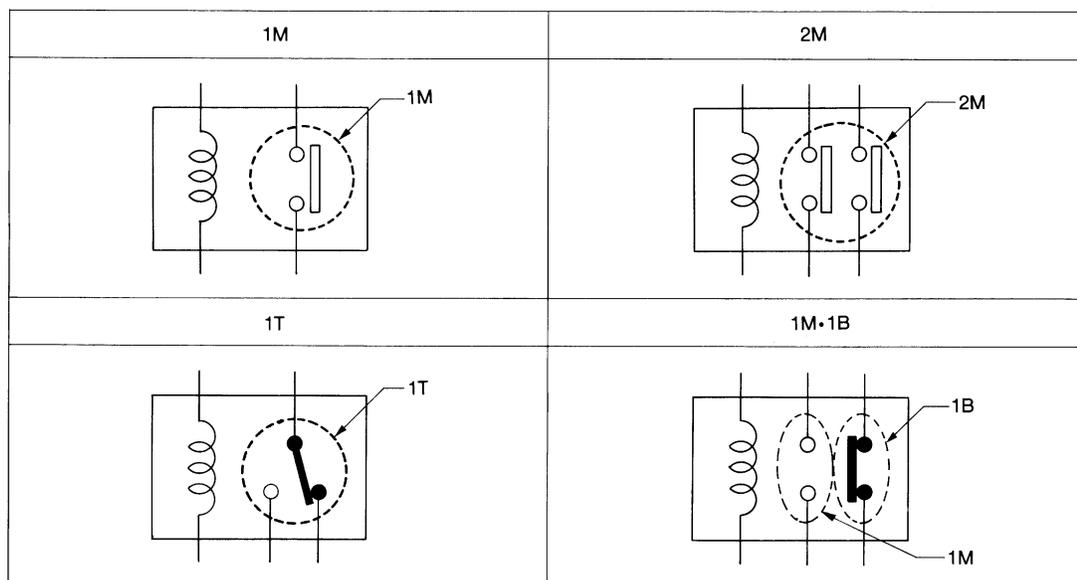


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TYPE OF STANDARDIZED RELAYS

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



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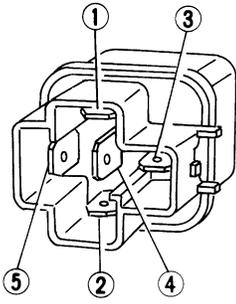
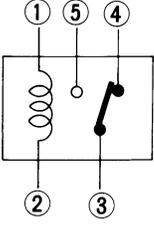
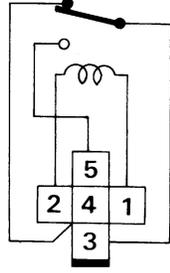
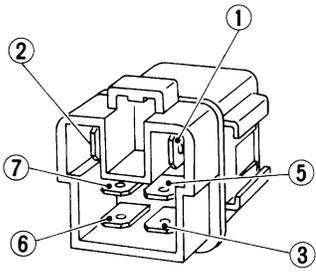
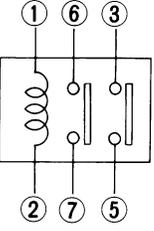
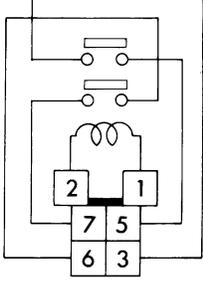
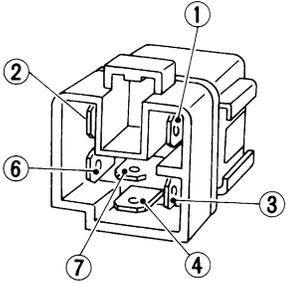
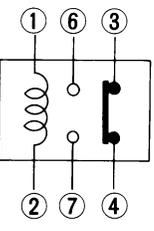
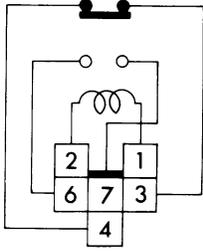
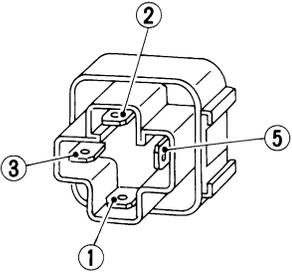
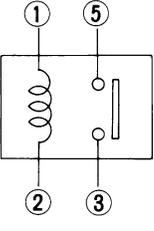
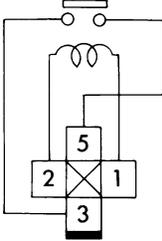
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STANDARDIZED RELAY

Description (Cont'd)

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

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

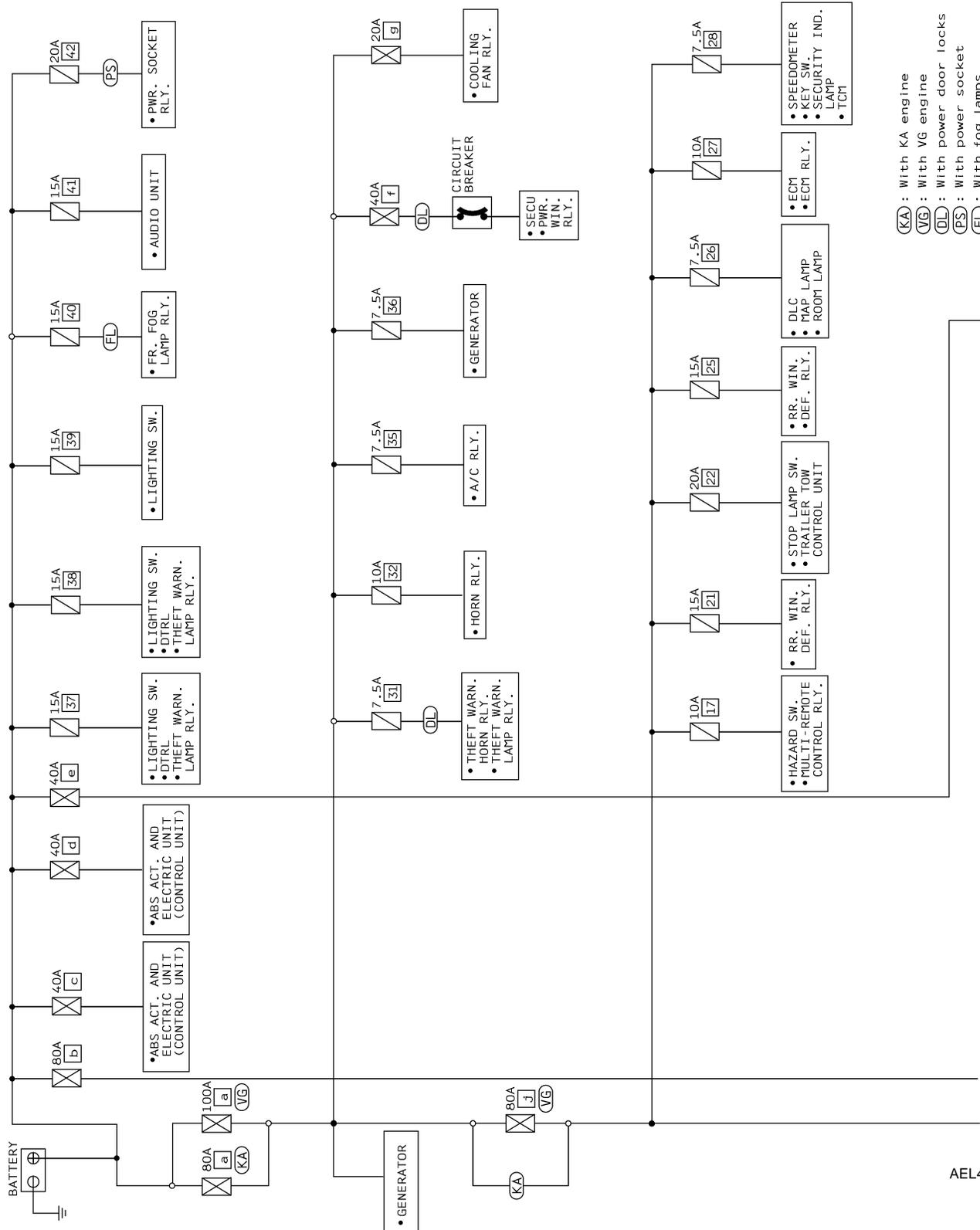
SEL661TA

Circuit Diagram

NGEL0005

NOTE:

For detailed ground distribution information, refer to "GROUND DISTRIBUTION", EL-17.



- (KA) : With KA engine
- (VG) : With YG engine
- (DL) : With power door locks
- (PS) : With power socket
- (FL) : With fog lamps

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POWER SUPPLY ROUTING

Wiring Diagram — POWER —

Wiring Diagram — POWER —

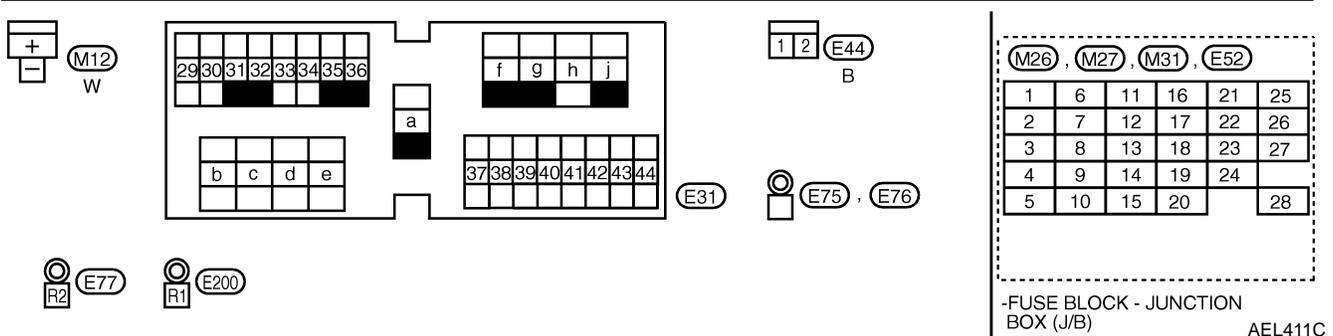
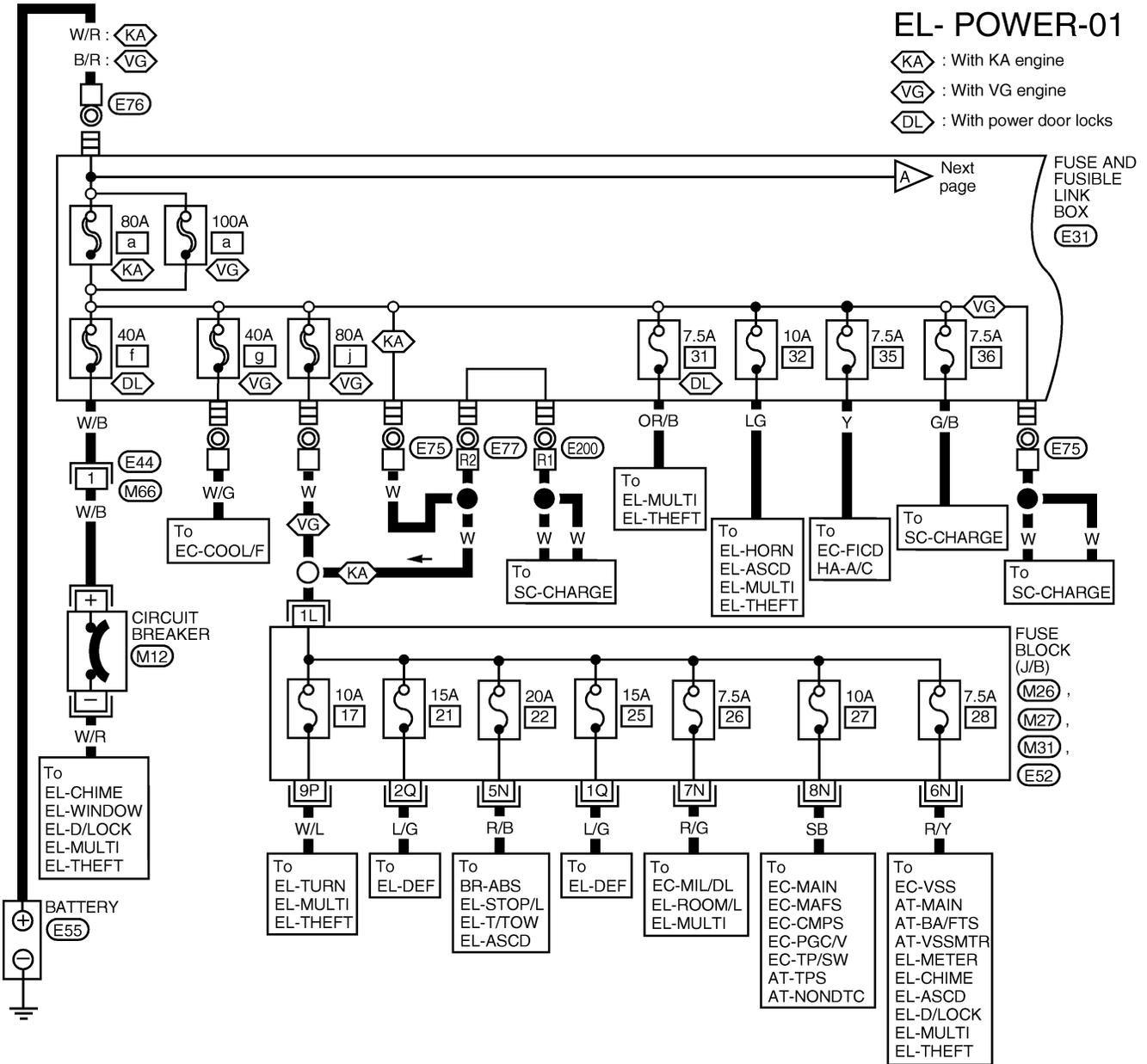
BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

=NGEL0006

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NOTE:

For detailed ground distribution information, refer to "GROUND DISTRIBUTION", EL-17.



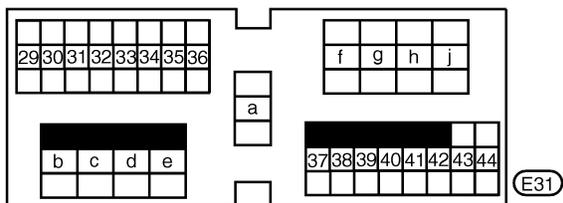
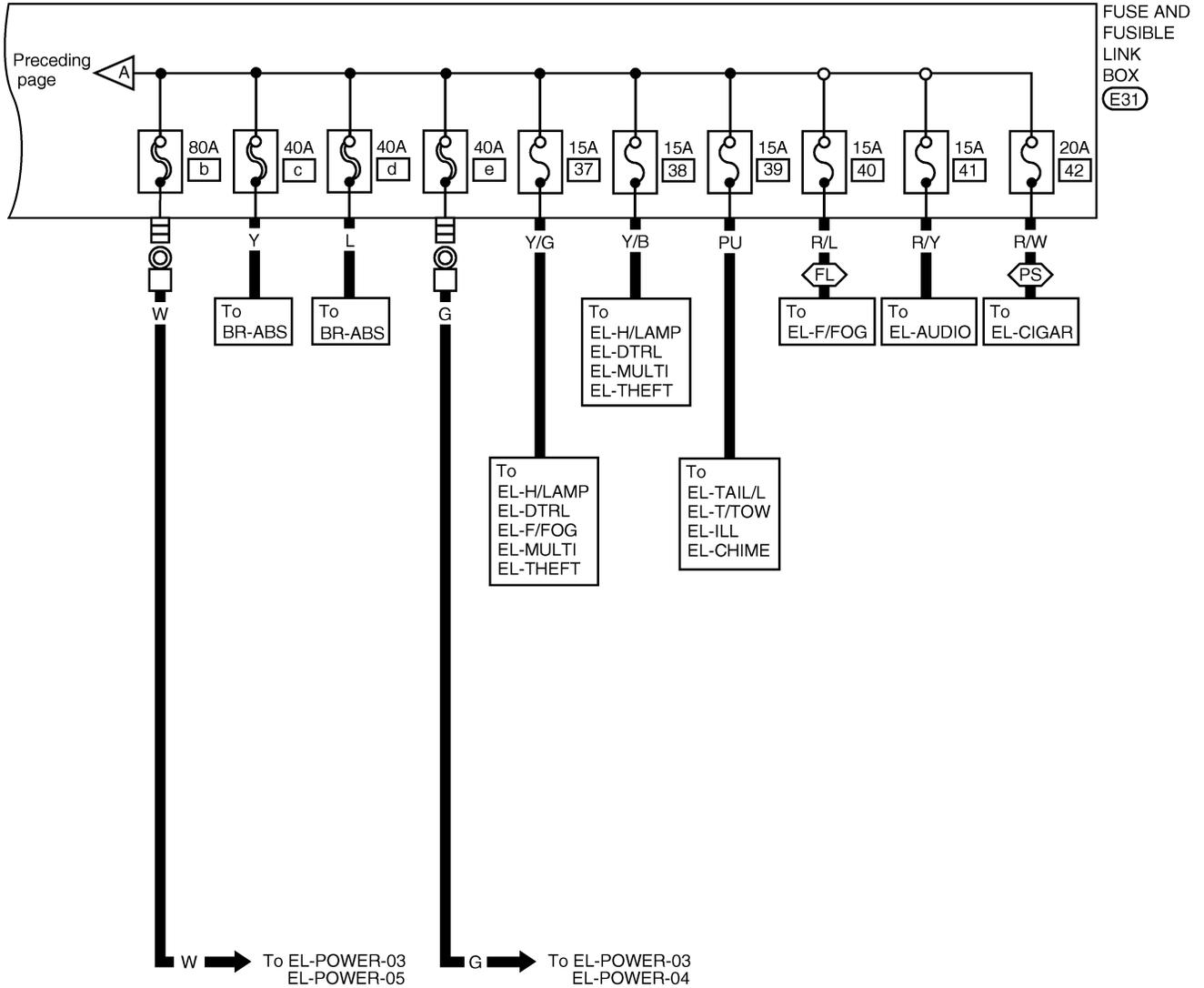
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-02

PS : With power socket
FL : With fog lamps



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POWER SUPPLY ROUTING

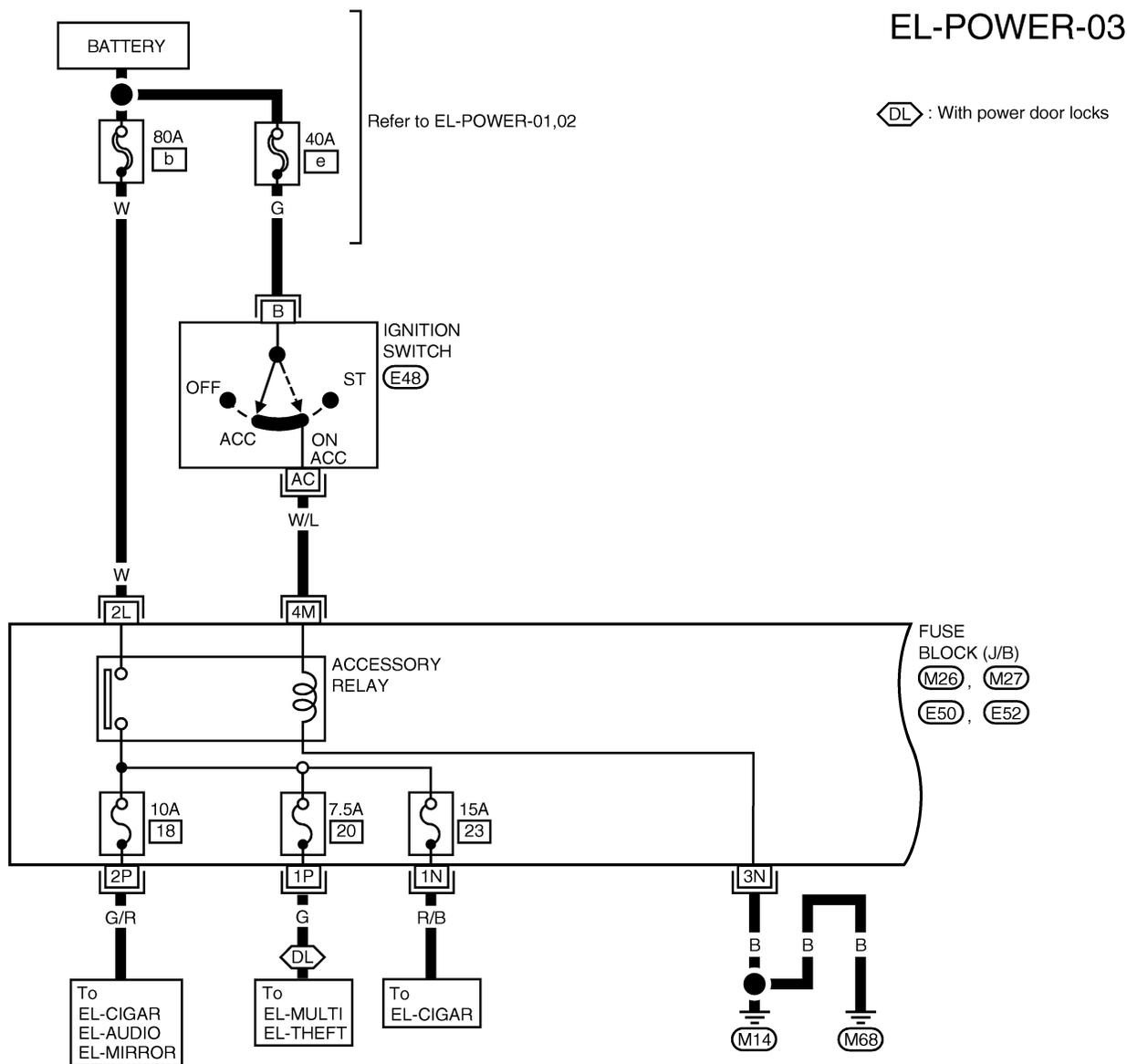
Wiring Diagram — POWER — (Cont'd)

ACCESSORY POWER SUPPLY — IGNITION SW. IN ACC OR ON

-NGEL0006S02

NOTE:

For detailed ground distribution information, refer to "GROUND DISTRIBUTION", EL-17.



| | | | | | |
|--------------------|----|----|----|----|----|
| M26, M27, E50, E52 | | | | | |
| 1 | 6 | 11 | 16 | 21 | 25 |
| 2 | 7 | 12 | 17 | 22 | 26 |
| 3 | 8 | 13 | 18 | 23 | 27 |
| 4 | 9 | 14 | 19 | 24 | |
| 5 | 10 | 15 | 20 | | 28 |

-FUSE BLOCK - JUNCTION BOX (J/B)

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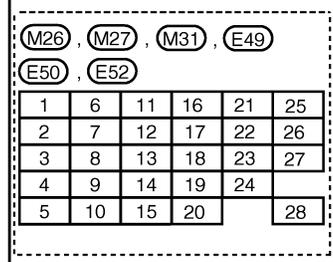
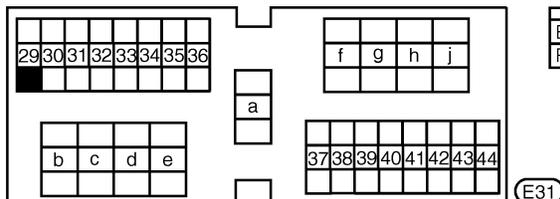
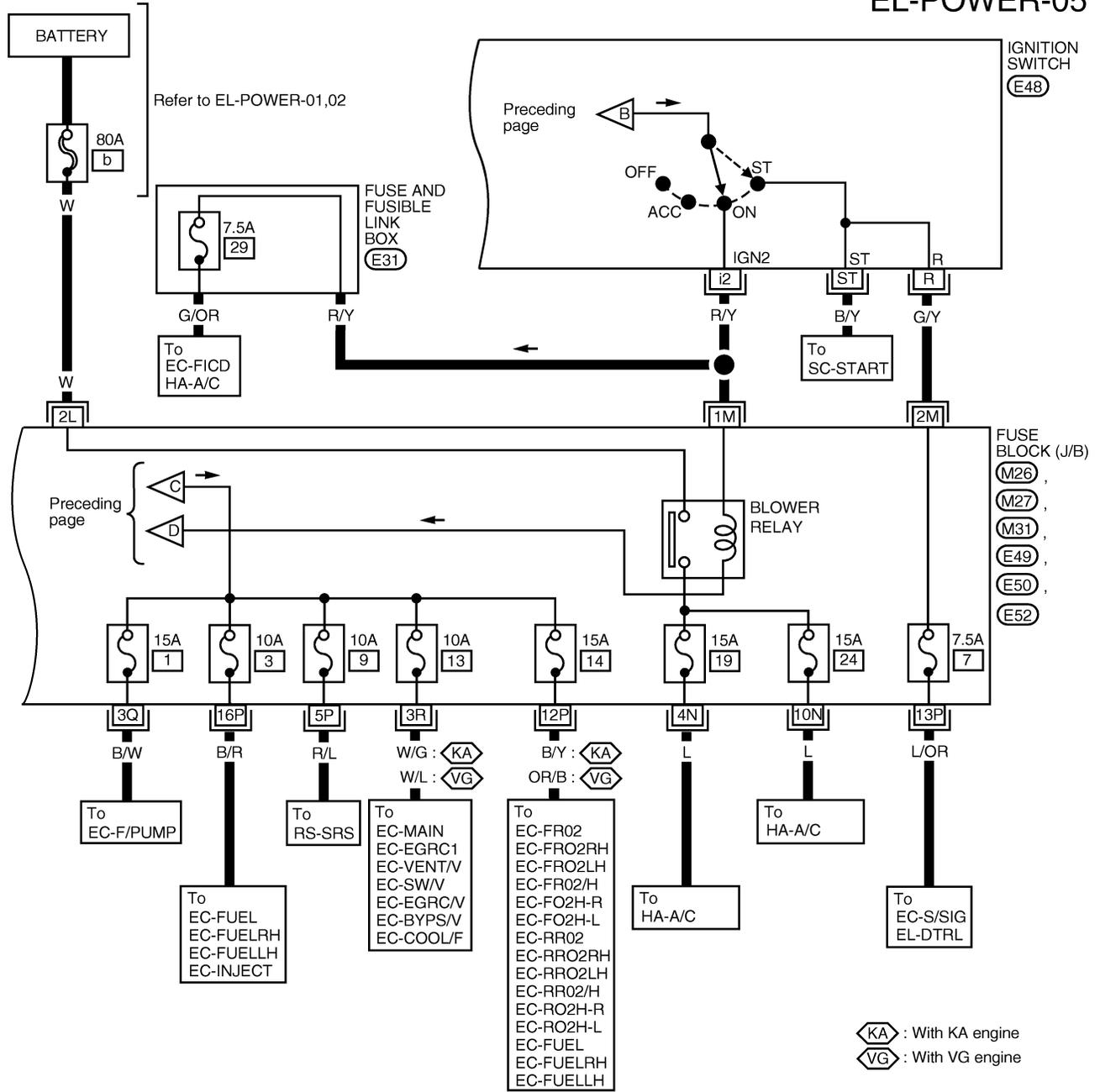
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-05



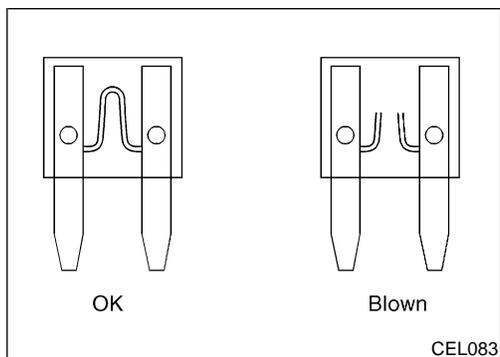
- FUSE BLOCK - JUNCTION BOX (J/B)

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POWER SUPPLY ROUTING

Inspection



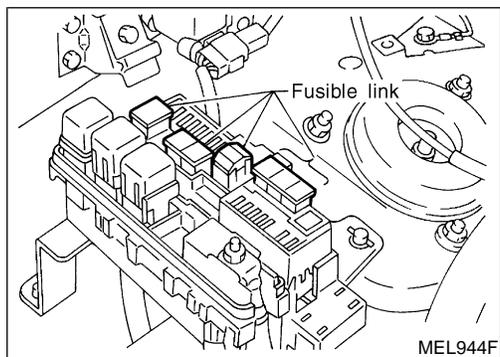
Inspection

FUSE

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- 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.



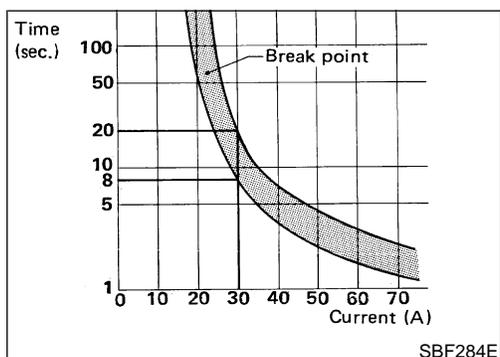
FUSIBLE LINK

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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

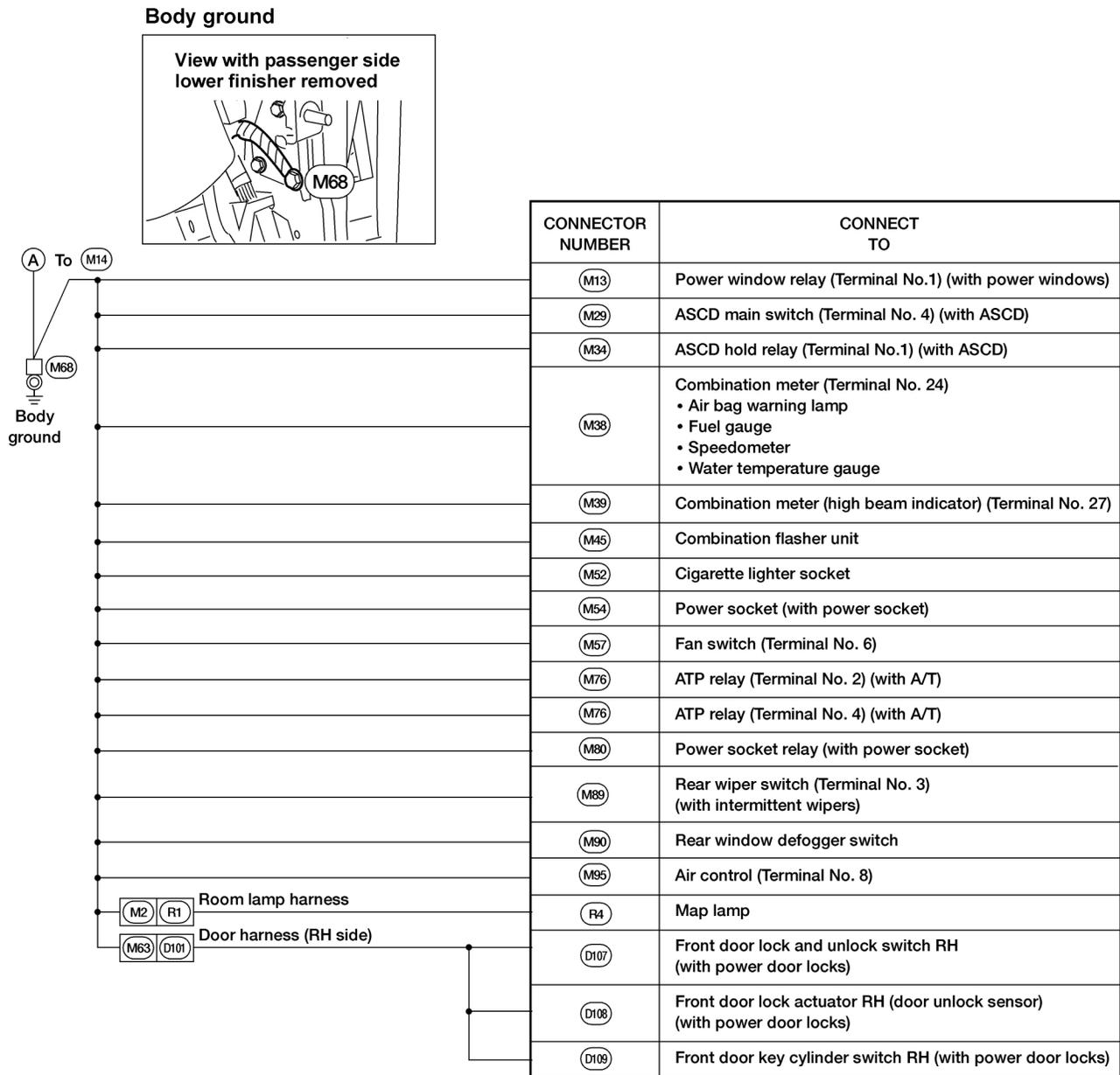
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For example, when current is 30A, the circuit is broken within 8 to 20 seconds.

Circuit breakers are used in the following systems.

GROUND

Ground Distribution (Cont'd)



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GROUND

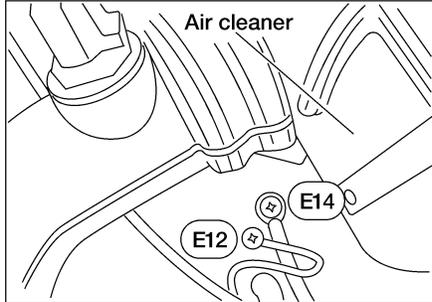
Ground Distribution (Cont'd)

ENGINE ROOM HARNESS KA24DE

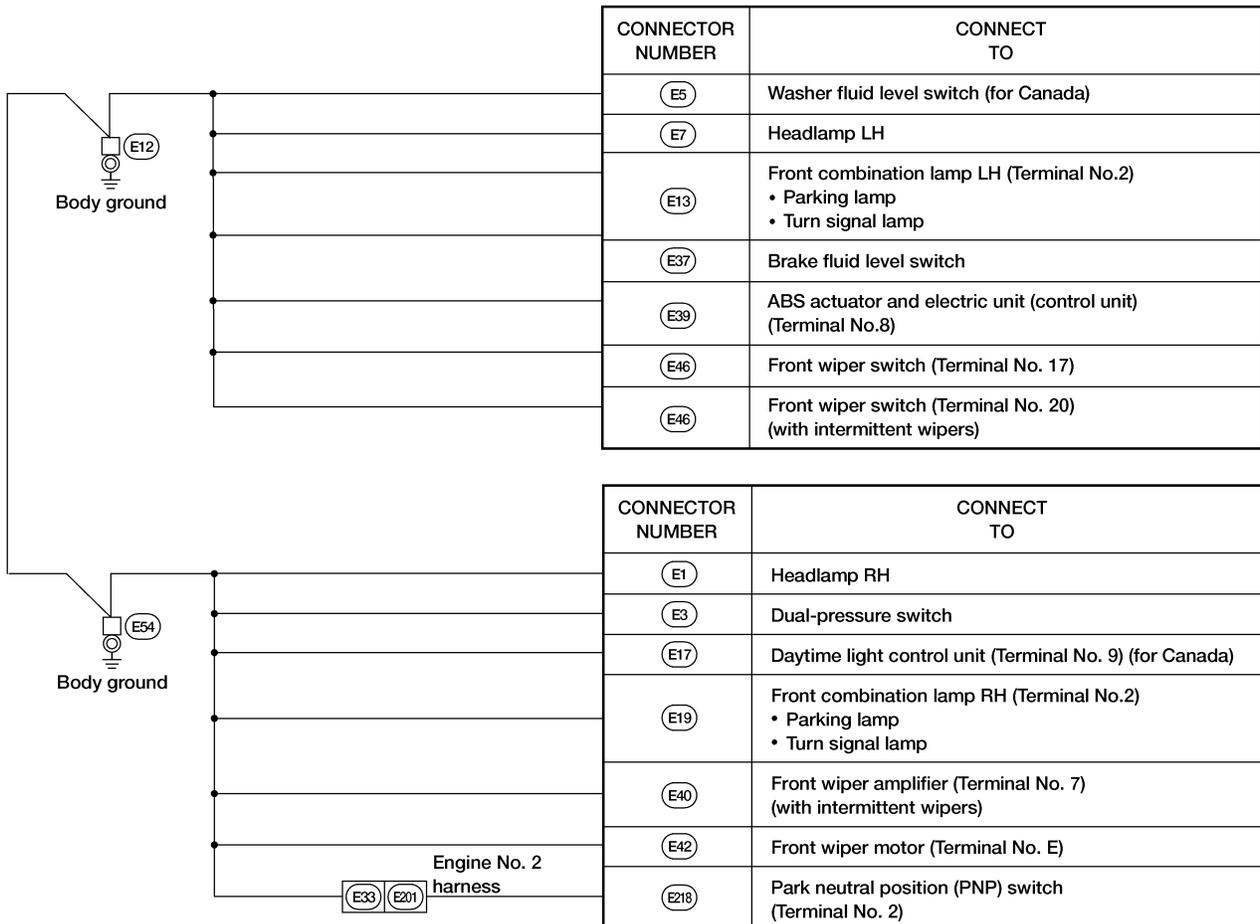
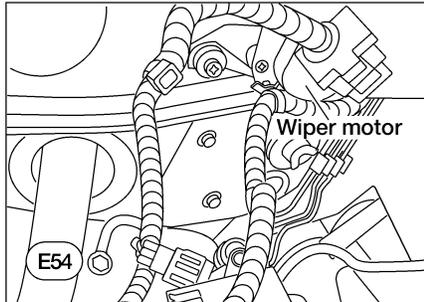
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Body ground



Body ground



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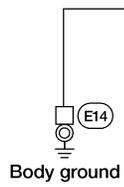
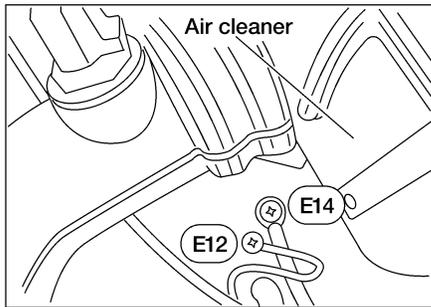
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GROUND

Ground Distribution (Cont'd)

Body ground



| CONNECTOR NUMBER | CONNECT TO |
|------------------|---|
| E39 | ABS actuator and electric unit (control unit) (Terminal No. 24) |

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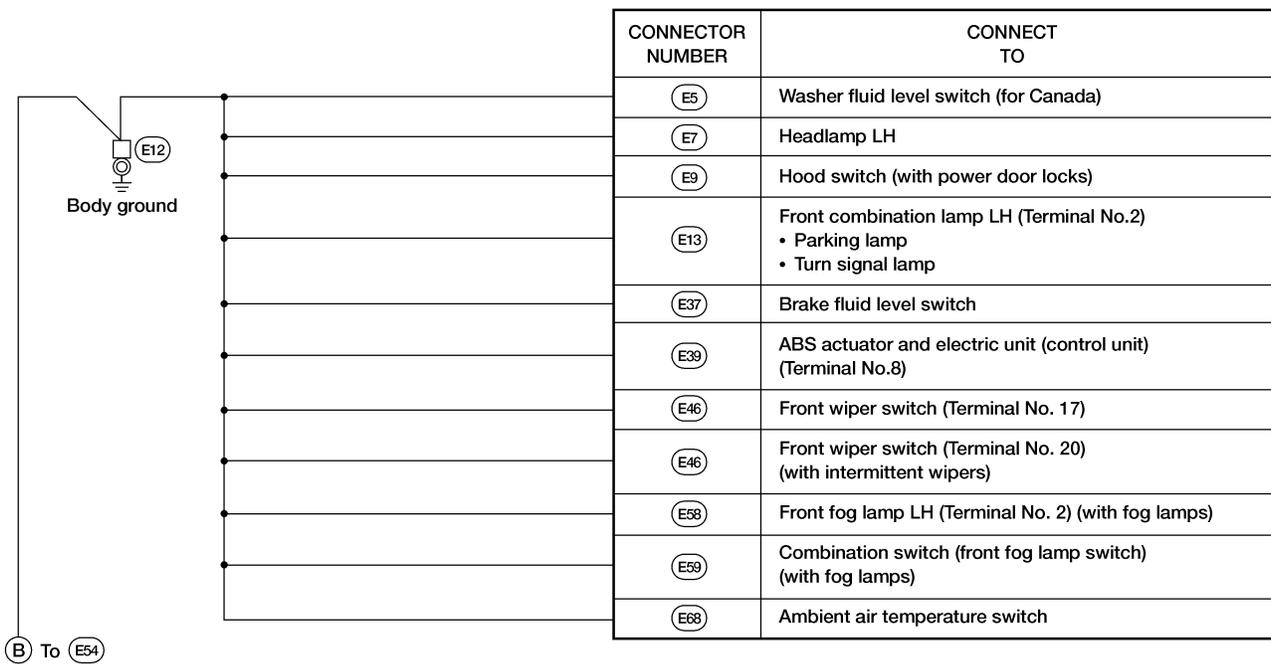
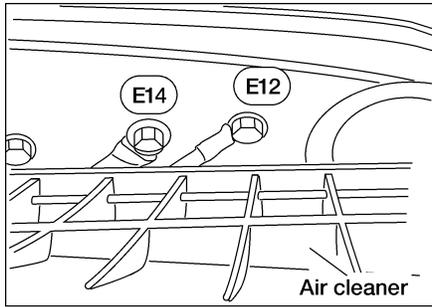
GROUND

Ground Distribution (Cont'd)

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Body ground



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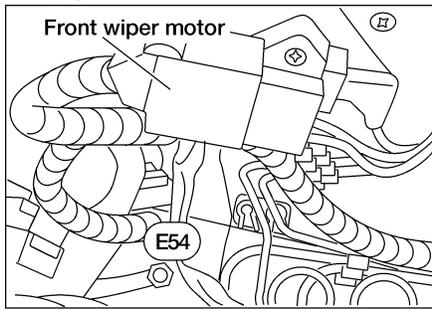
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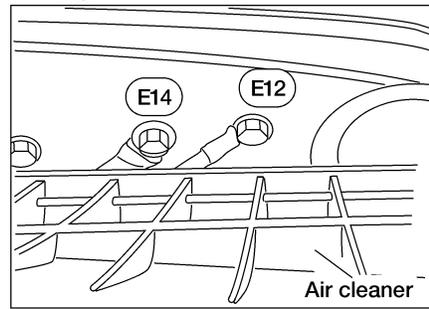
GROUND

Ground Distribution (Cont'd)

Body ground



Body ground



(B) To (E12)

(E54)
Body ground

| CONNECTOR NUMBER | CONNECT TO |
|------------------|---|
| (M6) | Theft warning relay (Terminal No. 4) (with power door locks) |
| (E1) | Headlamp RH |
| (E3) | Triple-pressure switch |
| (E17) | Daytime light control unit (Terminal No. 9) (for Canada) |
| (E19) | Front combination lamp RH (Terminal No.2) • Parking lamp • Turn signal lamp |
| (E20) | Theft warning horn relay (Terminal No. 3) (with power door locks) |
| (E21) | ASCD relay (Terminal No. 2) (with A/T and ASCD) |
| (E27) | Park/neutral position (PNP) relay (Terminal No. 1) (with A/T) |
| (E27) | Park/neutral position (PNP) relay (Terminal No. 6) (with A/T) |
| (E40) | Front wiper amplifier (Terminal No. 7) (with intermittent wipers) |
| (E42) | Front wiper motor (Terminal No. E) |
| (E57) | Front fog lamp RH (Terminal No. 2) (with fog lamps) |
| (E69) | Cooling fan motor (Terminal No. 3) |
| (E69) | Cooling fan motor (Terminal No. 4) |

| CONNECTOR NUMBER | CONNECT TO |
|------------------|---|
| (E39) | ABS actuator and electric unit (control unit) (Terminal No. 24) |

(E14)
Body ground

AEL712C

GROUND

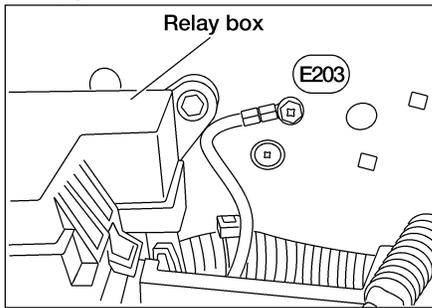
Ground Distribution (Cont'd)

ENGINE NO. 2 HARNESS KA24DE

NGEL0171S08

NGEL0171S0801

Body ground



| CONNECTOR NUMBER | CONNECT TO |
|------------------|------------|
| E206 | Generator |



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GROUND

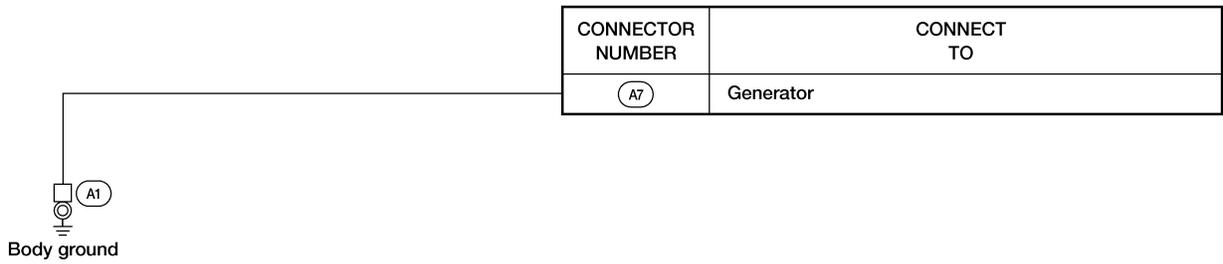
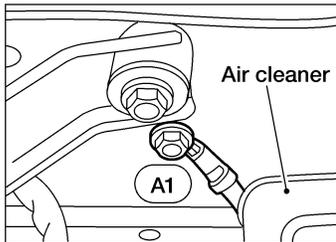
Ground Distribution (Cont'd)

GENERATOR HARNESS VG33E

NGEL0171S03

NGEL0171S0301

Body ground



AEL697C

GROUND

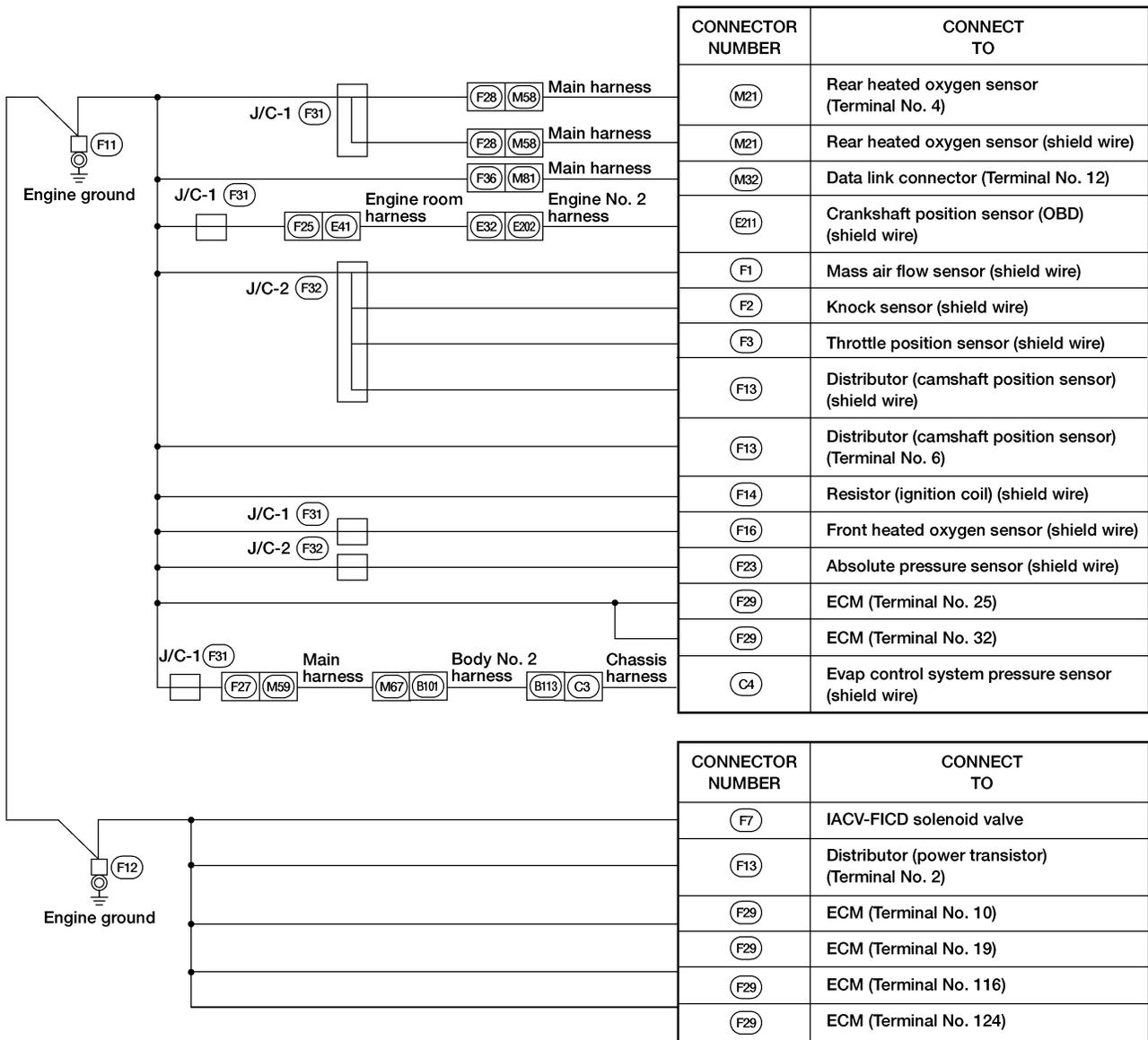
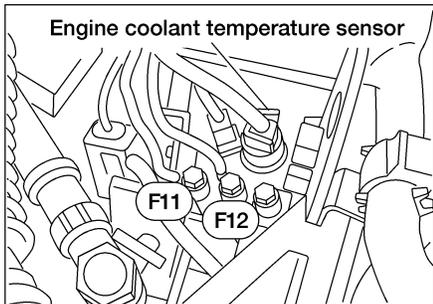
Ground Distribution (Cont'd)

ENGINE CONTROL HARNESS KA24DE

NGEL0171S04

NGEL0171S0401

Engine ground



AEL713C

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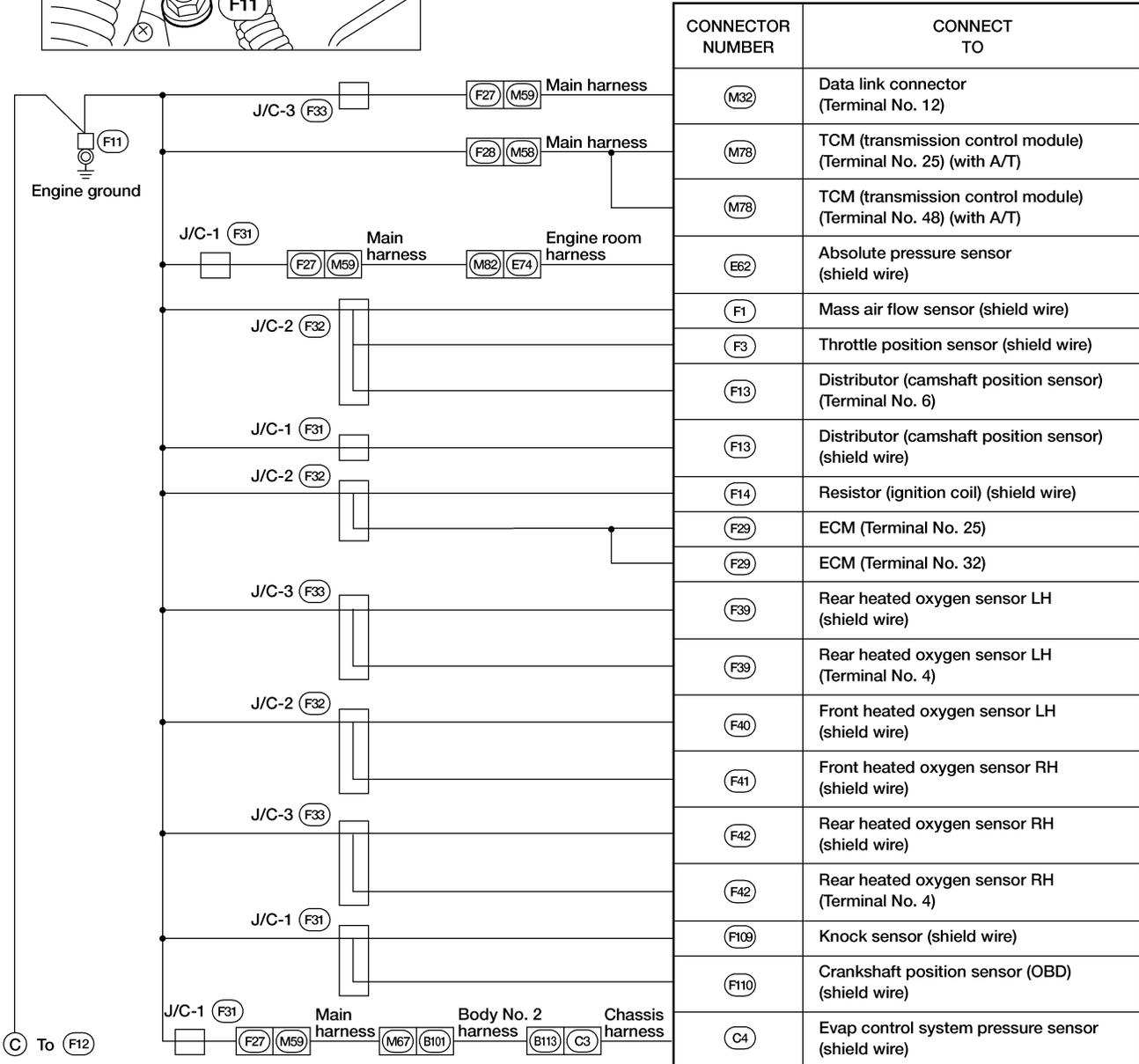
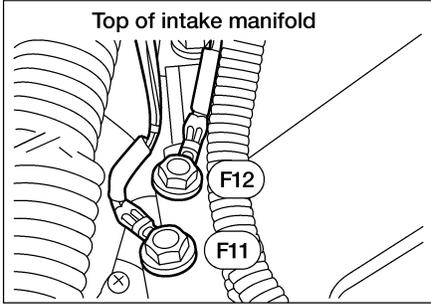
GROUND

Ground Distribution (Cont'd)

VG33E

NGEL0171S0402

Engine ground

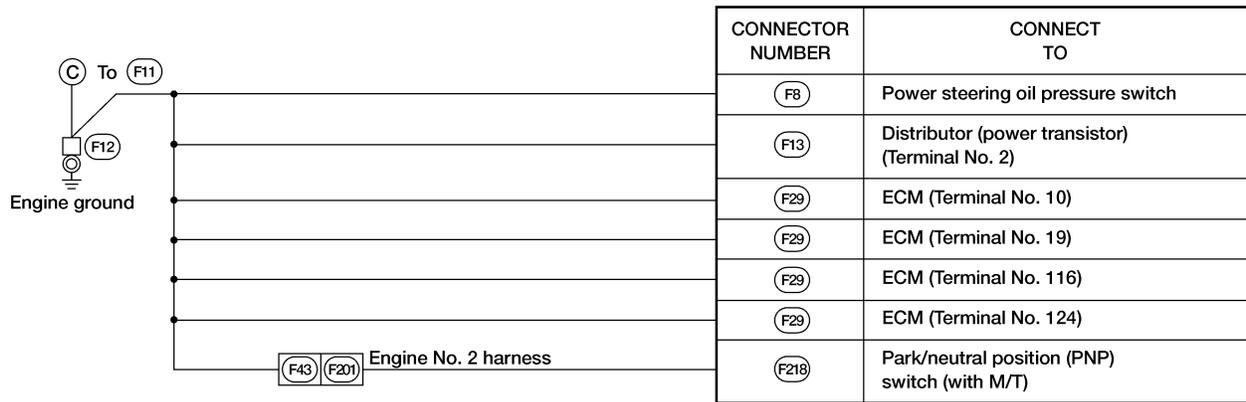
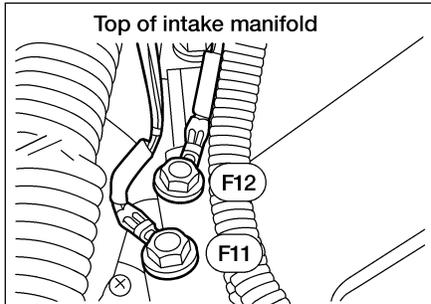


AEL714C

GROUND

Ground Distribution (Cont'd)

Engine ground



AEL715C

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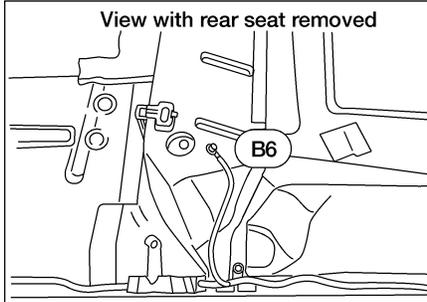
GROUND

Ground Distribution (Cont'd)

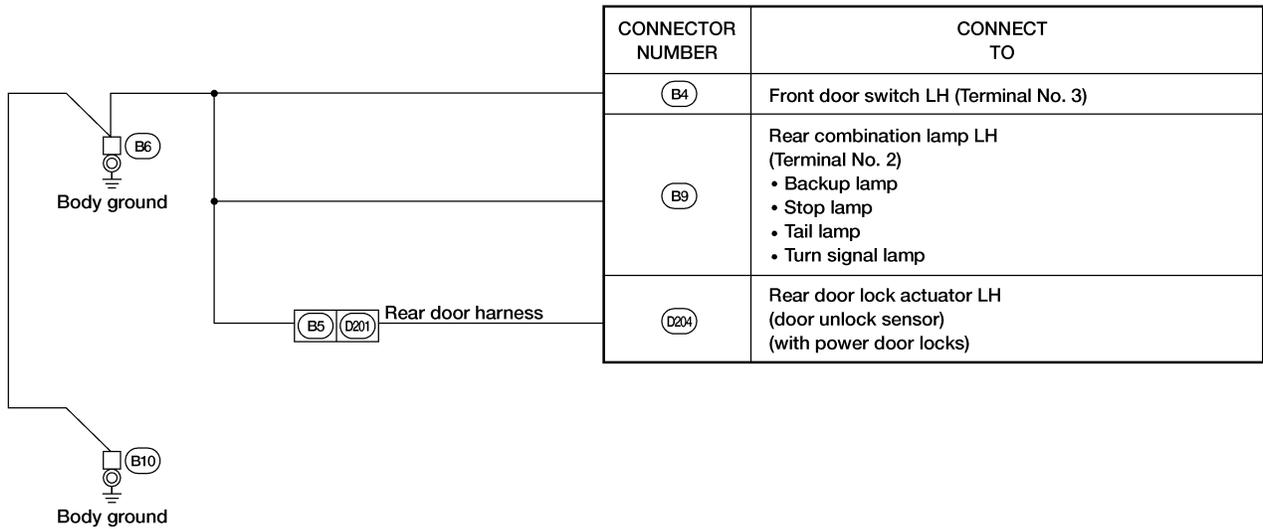
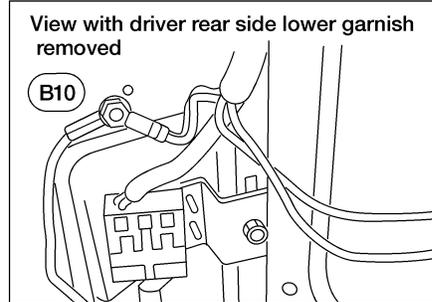
BODY HARNESS

NGEL0171S05

Body ground



Body ground



AEL716C

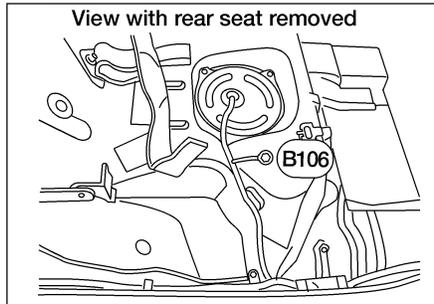
GROUND

Ground Distribution (Cont'd)

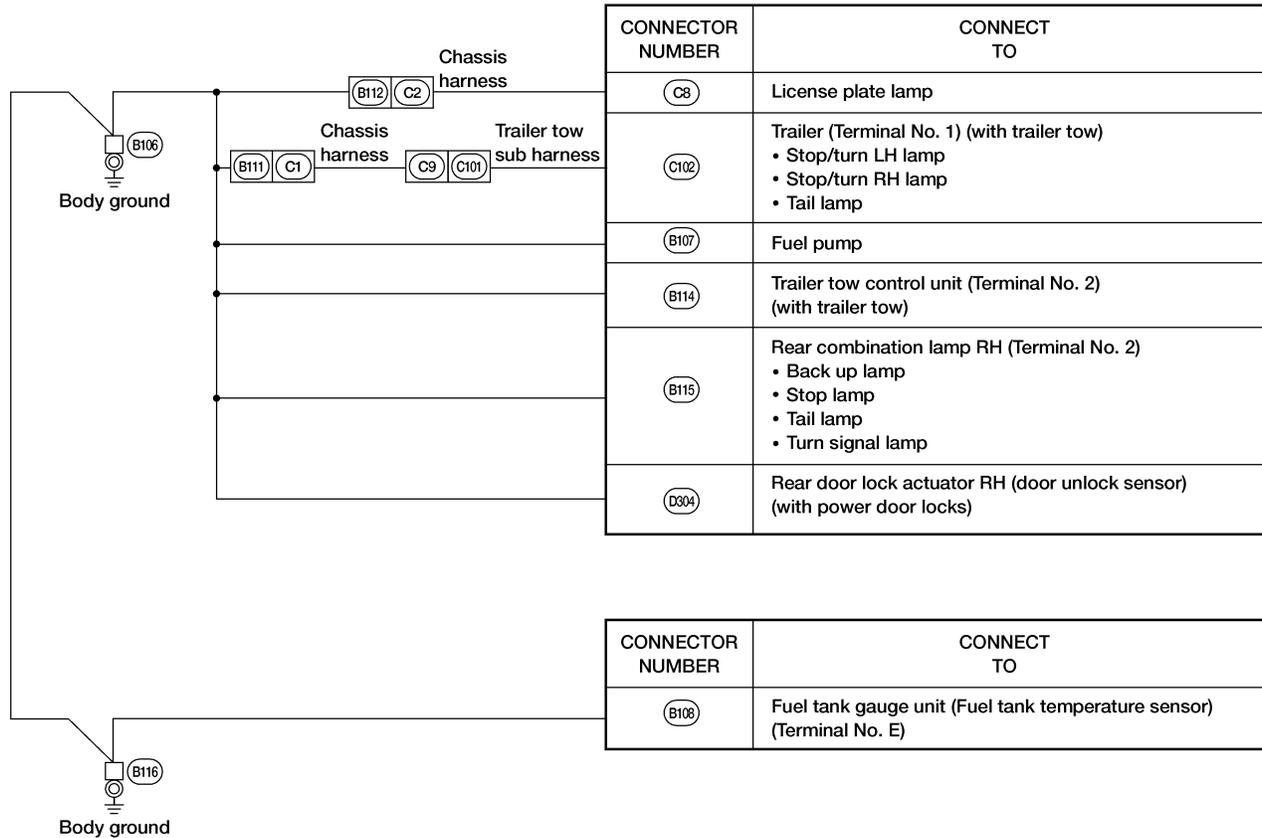
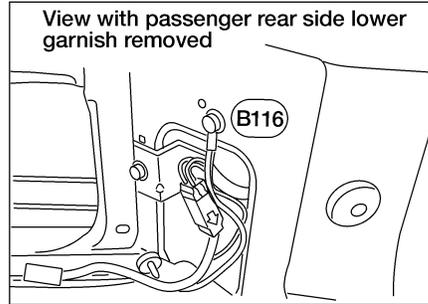
BODY NO. 2 HARNESS

NGEL0171S06

Body ground



Body ground



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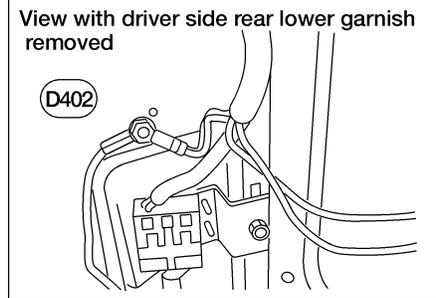
GROUND

Ground Distribution (Cont'd)

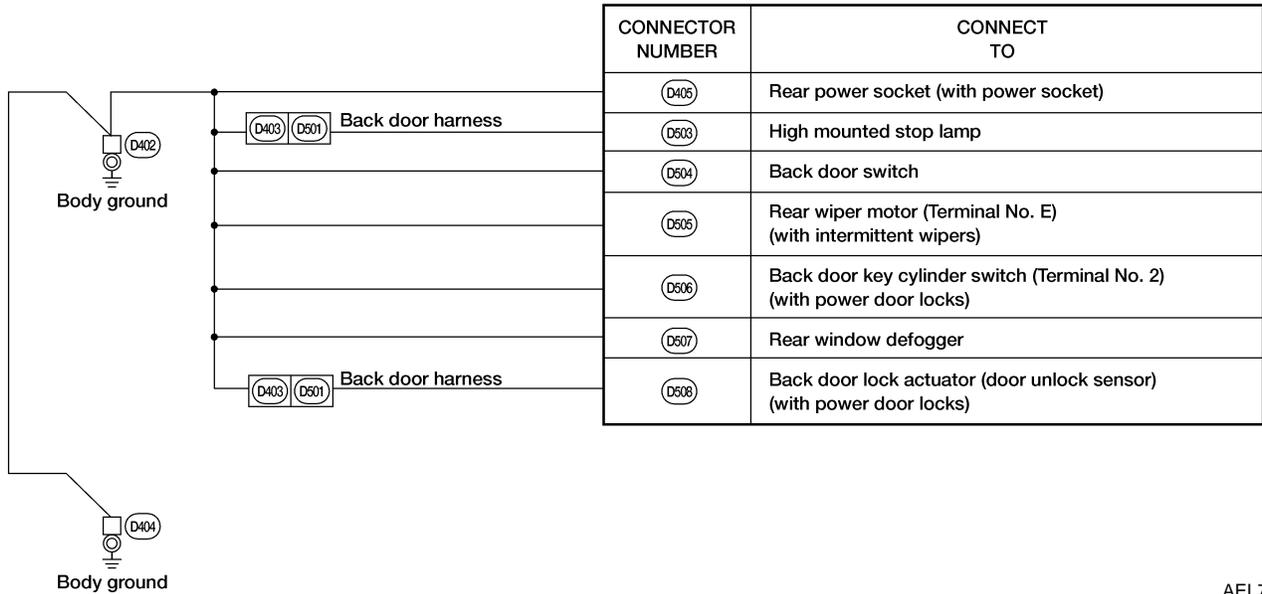
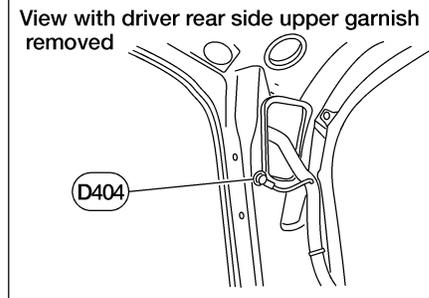
BACK DOOR NO. 2 HARNESS

NGEL0171S07

Body ground



Body ground



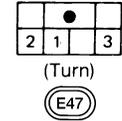
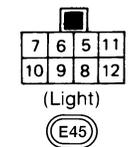
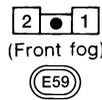
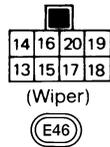
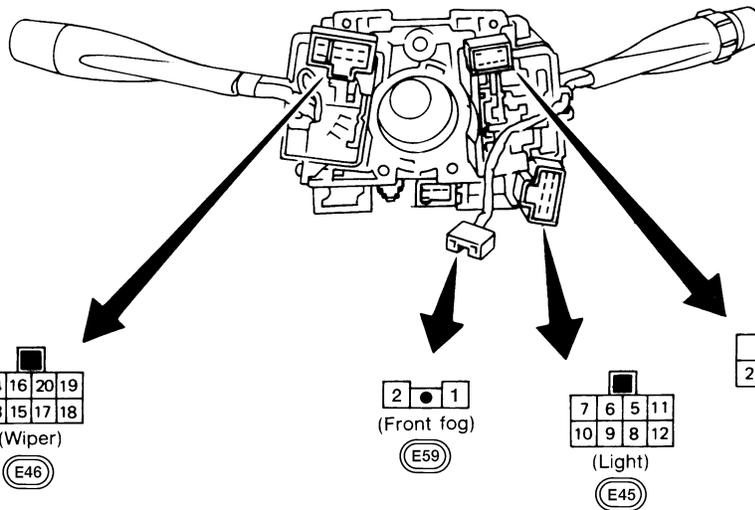
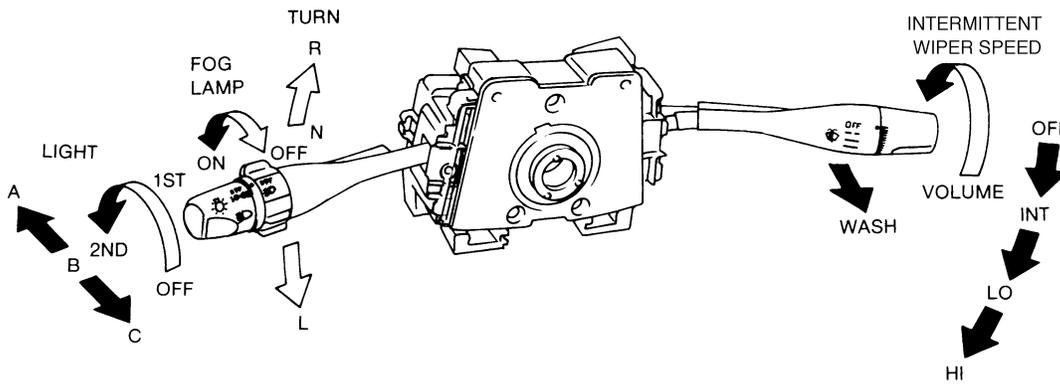
AEL718C

COMBINATION SWITCH

Check

Check

NGEL0009



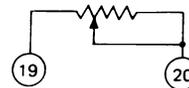
LIGHTING SWITCH

| | OFF | | | 1ST | | | 2ND | | |
|----|-----|---|---|-----|---|---|-----|---|---|
| | A | B | C | A | B | C | A | B | C |
| 5 | | | ○ | | | ○ | ○ | ○ | ○ |
| 6 | | | ○ | | | ○ | ○ | ○ | ○ |
| 7 | | | | | | | ○ | | |
| 8 | | ○ | | | ○ | ○ | ○ | ○ | |
| 9 | | ○ | | | ○ | ○ | ○ | ○ | |
| 10 | | | | | | | ○ | | |
| 11 | | | | ○ | ○ | ○ | ○ | ○ | ○ |
| 12 | | | | ○ | ○ | ○ | ○ | ○ | ○ |

WIPER SWITCH

| | OFF | INT | LO | HI | WASH |
|----|-----|-----|----|----|------|
| | 13 | ○ | ○ | | |
| 14 | ○ | ○ | ○ | | |
| 15 | | ○ | | | |
| 16 | | | | ○ | |
| 17 | | ○ | ○ | ○ | ○ |
| 18 | | | | | ○ |

INTERMITTENT WIPER VOLUME



TURN SIGNAL SWITCH

| | R | N | L |
|---|---|---|---|
| | 1 | ○ | |
| 2 | ○ | | |
| 3 | | | ○ |

FRONT FOG LAMP SWITCH

| | OFF | ON |
|---|-----|----|
| | 1 | |
| 2 | | ○ |

AEL122C

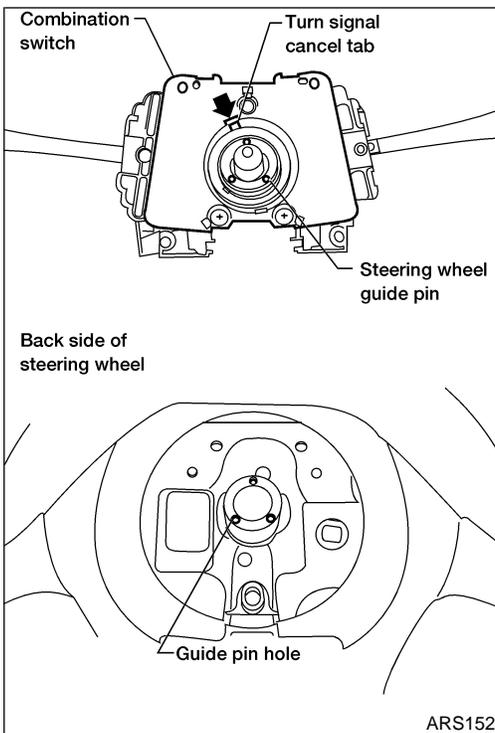
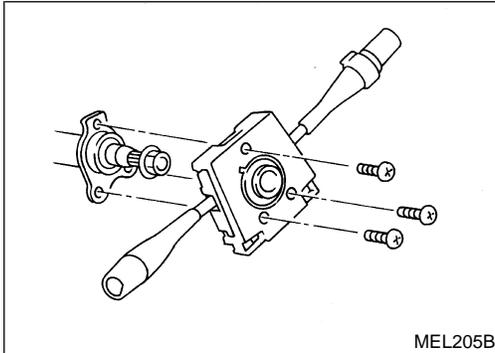
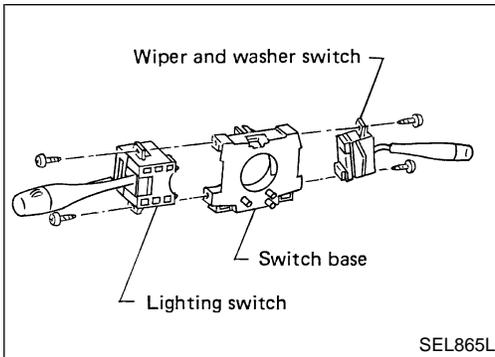
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COMBINATION SWITCH

Replacement



Replacement

For removal and installation of spiral cable, refer to ^{NGEL0010}RS-16, ["Driver Air Bag Module and Spiral Cable", "SUPPLEMENTAL RESTRAINT SYSTEM (SRS)"].

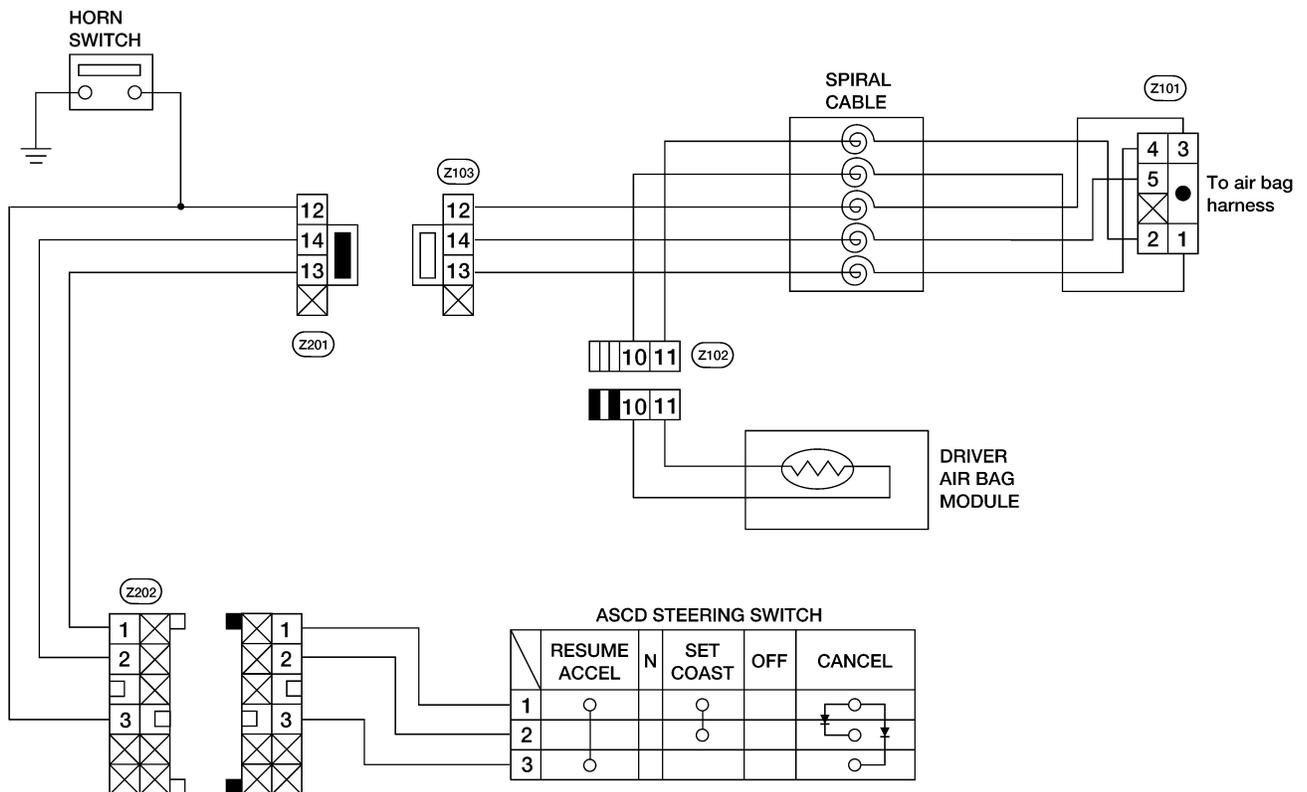
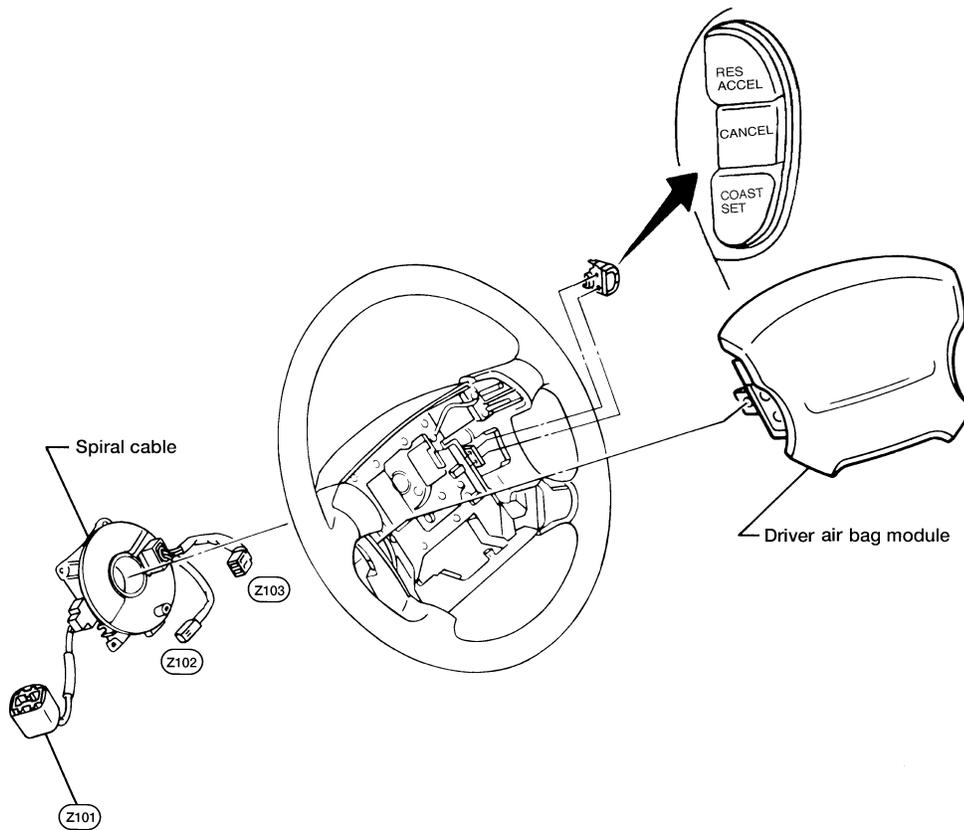
- Each switch can be replaced without removing combination switch base.
- To remove combination switch base, remove base attaching screws.
- Before installing the steering wheel, align the turn signal cancel tab with the notch of the combination switch. Refer to RS **RS-16**, ["Driver Air Bag Module and Spiral Cable", "SUPPLEMENTAL RESTRAINT SYSTEM (SRS)"].

STEERING SWITCH

Check

Check

NGEL0011



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AEL603B

HEADLAMP (FOR USA)

System Description

System Description

NGEL0012

The headlamps are controlled by the lighting switch which is built into the combination switch. Power is supplied at all times

- through 15A fuse (No. 37, located in the fuse and fusible link box)
- to lighting switch terminal 5 and
- through 15A fuse (No. 38, located in the fuse and fusible link box)
- to lighting switch terminal 8.

LOW BEAM OPERATION

With the lighting switch in the headlamp ON (2ND) position and LOW BEAM (B) position, power is supplied

NGEL0012S01

- from lighting switch terminal 10
- to headlamp LH terminal D and
- from lighting switch terminal 7
- to headlamp RH terminal D.

Ground is supplied to headlamp LH/RH terminal E through body grounds E12 and E54. With power and ground supplied, the low beams illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the lighting switch in the FLASH TO PASS (C) position or the headlamp ON (2ND) position and HIGH BEAM (A) position, power is supplied

NGEL0012S02

- from lighting switch terminal 6
- to headlamp RH terminal M and
- from lighting switch terminal 9
- to headlamp LH terminal M and
- to combination meter terminal 26 for the high beam indicator.

Ground is supplied to terminal 27 of the combination meter through body grounds M14 and M68. Ground is supplied to headlamp LH/RH terminal E through body grounds E12 and E54. With power and ground supplied, the high beams and the high beam indicator illuminate.

THEFT WARNING SYSTEM

The theft warning system will flash the high beams if the system is triggered. Refer to "System Description", "THEFT WARNING SYSTEM", EL-227.

NGEL0012S03

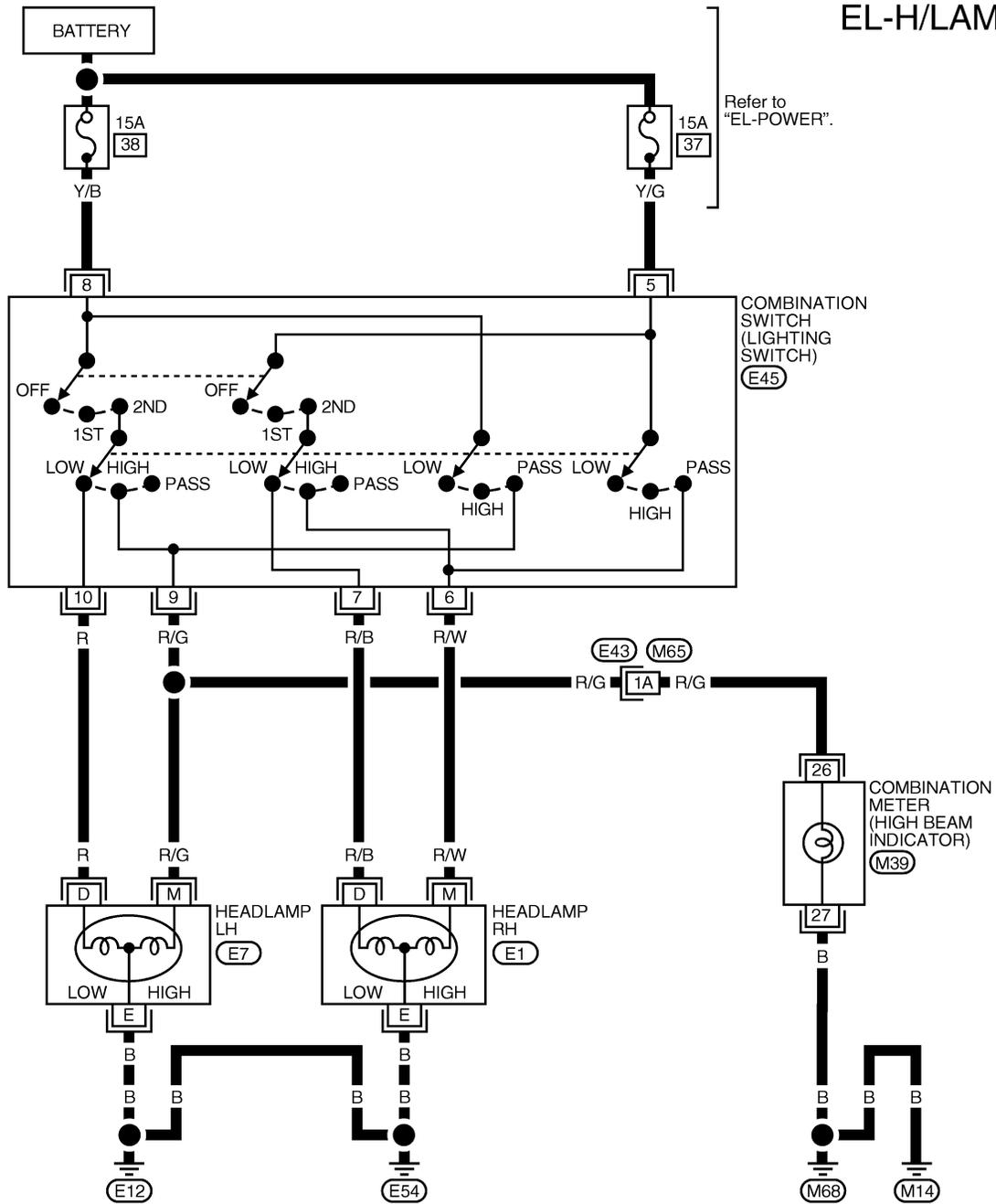
HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP —

Wiring Diagram — H/LAMP —

NGEL0013

EL-H/LAMP-01



| | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|-------|----|----|
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | (M39) | | |
| 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | BR |



| | | | | |
|----|---|---|----|-------|
| 11 | 5 | 6 | 7 | (E45) |
| 12 | 8 | 9 | 10 | W |

Refer to the following.
 (M65), (E43) - SUPER
 MULTIPLE JUNCTION (SMJ)

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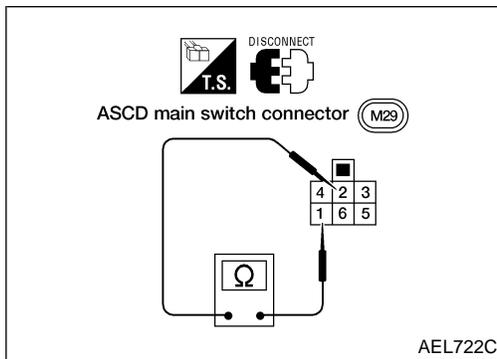
HEADLAMP (FOR USA)

Trouble Diagnoses

Trouble Diagnoses

NGEL0014

| Symptom | Possible cause | Repair order |
|--|--|--|
| Neither headlamp LH nor headlamp RH operate. | 1. Lighting switch | 1. Check lighting switch. |
| Headlamp LH does not operate, but headlamp RH operates properly. | 1. Bulb 2. Headlamp LH ground circuit 3. 15A fuse 4. Lighting switch | 1. Check bulb. 2. Check continuity between headlamp LH terminal E and grounds E12 and E54. 3. Check 15A fuse (No. 38, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 8 of lighting switch. 4. Check lighting switch. |
| Headlamp RH does not operate, but headlamp LH operates properly. | 1. Bulb 2. Headlamp RH ground circuit 3. 15A fuse 4. Lighting switch | 1. Check bulb. 2. Check continuity between headlamp RH terminal E and grounds E12 and E54. 3. Check 15A fuse (No. 37, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of lighting switch. 4. Check lighting switch. |
| High beam LH does not operate, but low beam LH operates. | 1. Bulb 2. Open in high beam LH circuit 3. Lighting switch | 1. Check bulb. 2. Check R/G wire between lighting switch and headlamp LH for an open circuit. 3. Check lighting switch. |
| Low beam LH does not operate, but high beam LH operates. | 1. Bulb 2. Open in low beam LH circuit 3. Lighting switch | 1. Check bulb. 2. Check R wire between lighting switch and headlamp LH for an open circuit. 3. Check lighting switch. |
| High beam RH does not operate, but low beam RH operates. | 1. Bulb 2. Open in high beam RH circuit 3. Lighting switch | 1. Check bulb. 2. Check R/W wire between lighting switch and headlamp RH for an open circuit. 3. Check lighting switch. |
| Low beam RH does not operate, but high beam RH operates. | 1. Bulb 2. Open in low beam RH circuit 3. Lighting switch | 1. Check bulb. 2. Check R/B wire between lighting switch and headlamp RH for an open circuit. 3. Check lighting switch. |
| High beam indicator does not work. | 1. Bulb 2. High beam indicator ground circuit 3. Open in high beam circuit | 1. Check bulb in combination meter. 2. Check continuity between combination meter terminal 27 and grounds M14 and M68. 3. Check R/G wire between lighting switch and combination meter for an open circuit. |



Bulb Replacement

=NGEL0015

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. Unclip the bulb retaining clip, and then remove it.
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.

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HEADLAMP (FOR USA)

Aiming Adjustment

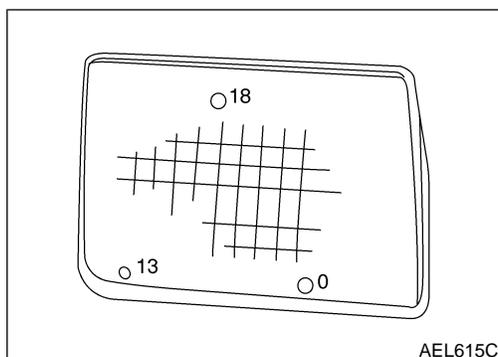
=NGEL0016

When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. Aimers should be in good repair, calibrated and operated in accordance with respective operation manuals.

If any aimer is not available, aiming adjustment can be done as follows:

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

- 1) **Keep all tires inflated to correct pressures.**
- 2) **Place vehicle and tester on one and same 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).**



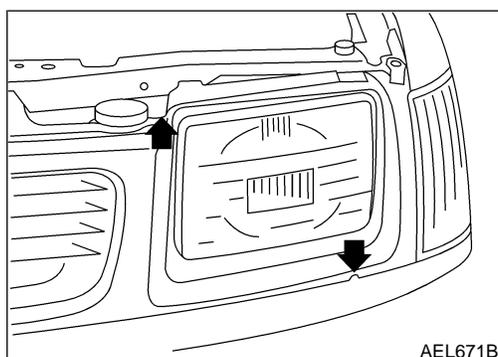
AIMER ADJUSTMENT MARK

NGEL0016S01

When using a mechanical aimer, adjust adapter legs to the data marked on the headlamps.

Adjustment value for mechanical aimer

| | Mechanical aimer level |
|-----------------|------------------------|
| Horizontal side | -4 to 4 |
| Vertical side | -4 to 4 |



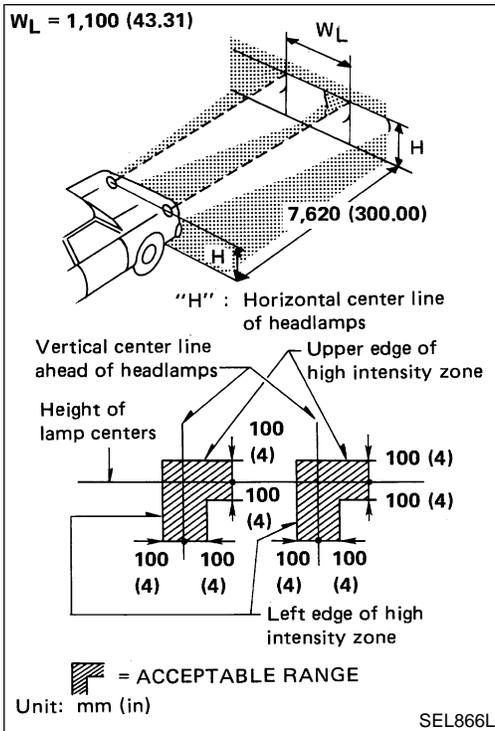
LOW BEAM

NGEL0016S02

1. Turn headlamp low beam on.
 2. Use a #2 cross-recessed screwdriver to adjust the aim of the lamp.
- **Cover the opposite lamp.**

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.

- **Upper edge and left edge of high intensity zone should be within the range shown at left. Adjust headlamps accordingly.**
- **Dotted lines in illustration show center of headlamp.**

"H": Horizontal center line of headlamps

"W_L": Distance between each headlamp center

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HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

System Description (For Canada)

System Description (For Canada)

NGEL0017

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. If the daytime light control unit receives a ground signal from the generator, the daytime lights will not be illuminated. The daytime lights will illuminate once a battery positive voltage signal is sent to the daytime light control unit from the generator.

Power is supplied at all times

- through 15A fuse (No. 38, located in the fuse and fusible link box)
- to daytime light control unit terminal 3 and
- to lighting switch terminal 8.

Power is also supplied at all times

- through 15A fuse (No. 37, located in the fuse and fusible link box)
- to daytime light control unit terminal 2 and
- to lighting switch terminal 5.

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to daytime light control unit terminal 12.

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

- through 7.5A fuse [No. 7, located in the fuse block (J/B)]
- to daytime light control unit terminal 1.

Ground is supplied to daytime light control unit terminal 9 through body grounds E12 and E54.

HEADLAMP OPERATION

NGEL0017S01

Low Beam Operation

NGEL0017S0101

When the lighting switch is turned to the headlamp ON (2ND) position, LOW BEAM (B), power is supplied

- from lighting switch terminal 7
- to headlamp RH terminal D and
- to daytime light control unit terminal 4.

Ground is supplied to headlamp RH terminal E through body grounds E12 and E54.

Also, when the lighting switch is turned to the headlamp ON (2ND) position, LOW BEAM (B), power is supplied

- from lighting switch terminal 10
- to headlamp LH terminal D.

Ground is supplied

- to headlamp LH terminal E
- from daytime light control unit terminal 7
- through daytime light control unit terminal 9
- through body grounds E12 and E54.

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

High Beam Operation/Flash-to-pass Operation

NGEL0017S0102

When the lighting switch is turned to the headlamp ON (2ND) position, HIGH BEAM (A) or FLASH TO PASS (C) position, power is supplied

- from lighting switch terminal 6
- to headlamp RH terminal M and
- to daytime light control unit terminal 8.

Also, when the lighting switch is turned to the headlamp ON (2ND) position, HIGH BEAM (A) or FLASH TO PASS (C) position, power is supplied

- from lighting switch terminal 9
- to combination meter terminal 26 for the high beam indicator and
- to daytime light control unit terminal 5
- through daytime light control unit terminal 6

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

System Description (For Canada) (Cont'd)

- to headlamp LH terminal M.

Ground is supplied in the same manner as low beam operation.

Ground is supplied to combination meter terminal 27 through body grounds M14 and M68.

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

DAYTIME LIGHT OPERATION

NGEL0017S02

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

- to daytime light control unit terminal 3
- through daytime light control unit terminal 6
- to headlamp LH terminal M
- through headlamp LH terminal E
- to daytime light control unit terminal 7
- through daytime light control unit terminal 8
- to headlamp RH terminal M.

Ground is supplied to headlamp RH terminal E through body grounds E12 and E54.

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

OPERATION (FOR CANADA)

NGEL0017S03

After starting the engine with the lighting switch in the OFF or parking lamp (1ST) position, the headlamp high beams automatically turn on. Lighting switch operations other than the above are the same as conventional light systems.

| Engine | | With engine stopped | | | | | | | | | With engine running | | | | | | | | |
|--|-----------|---------------------|---|---|-----|---|---|-----|---|---|---------------------|----|---|-----|----|---|-----|---|---|
| Lighting switch | | OFF | | | 1ST | | | 2ND | | | OFF | | | 1ST | | | 2ND | | |
| | | 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 | X | O |
| | Low beam | X | X | X | X | X | X | X | O | X | X | X | X | X | X | X | X | O | X |
| Clearance and tail lamp | | X | X | X | O | O | O | O | O | O | X | X | X | O | O | O | O | O | O |
| License and instrument illumination lamp | | X | X | X | O | O | O | O | O | O | X | X | X | O | O | O | O | O | O |

A: HIGH BEAM position

B: LOW BEAM position

C: FLASH TO PASS position

O : Lamp ON

X : Lamp OFF

△ : Lamp dims. (Added functions)

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

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

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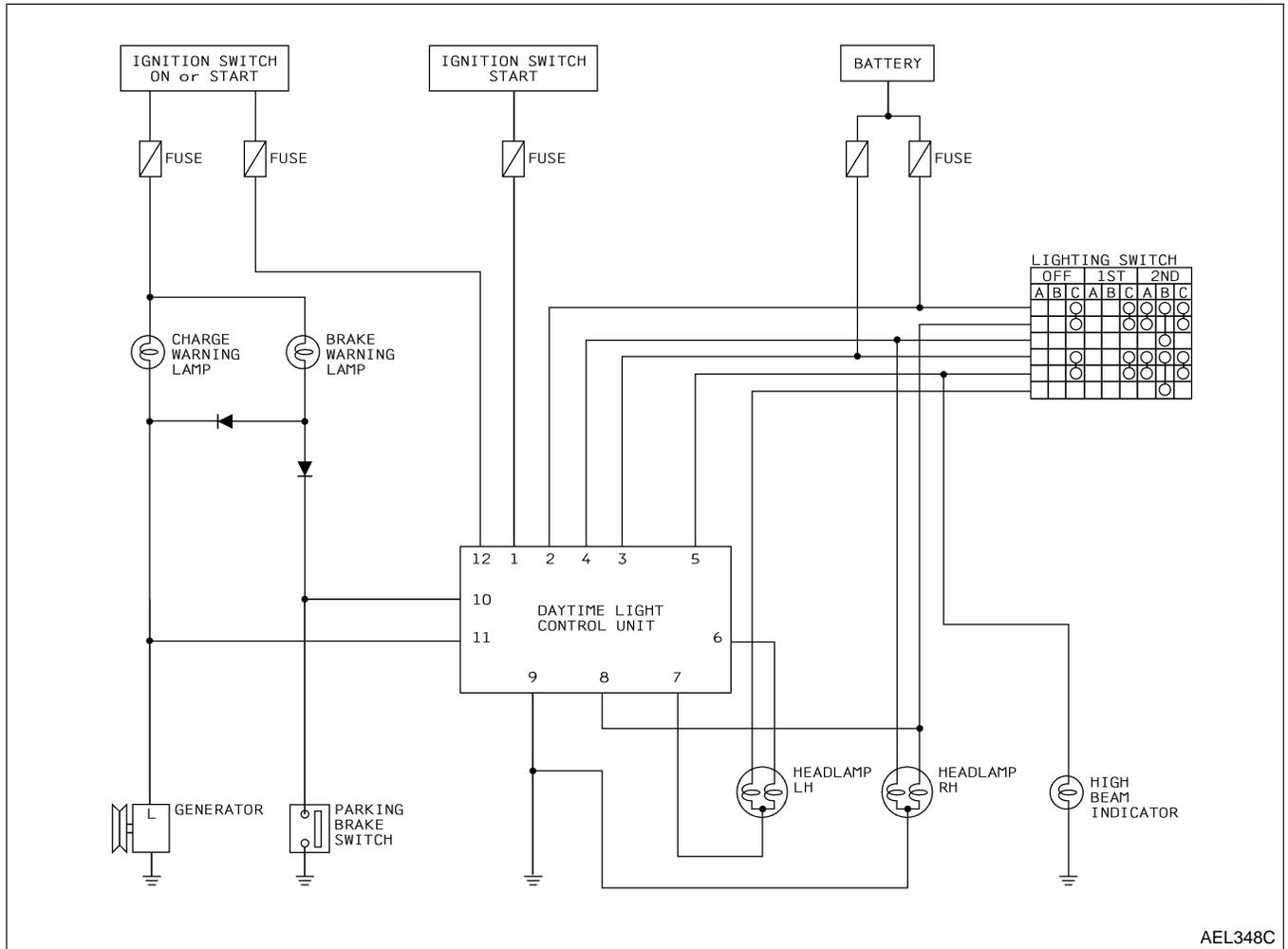
IDX

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Circuit Diagram

Circuit Diagram

NGEL0019



AEL348C

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL —

Wiring Diagram — DTRL —

NGEL0020

EL-DTRL-01

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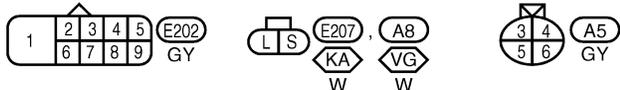
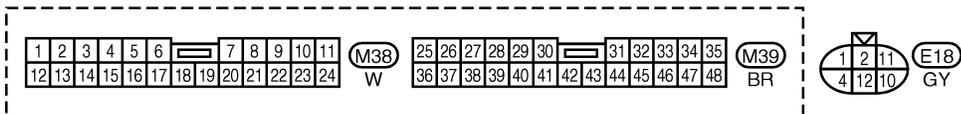
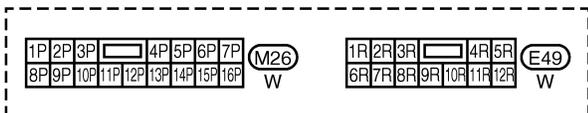
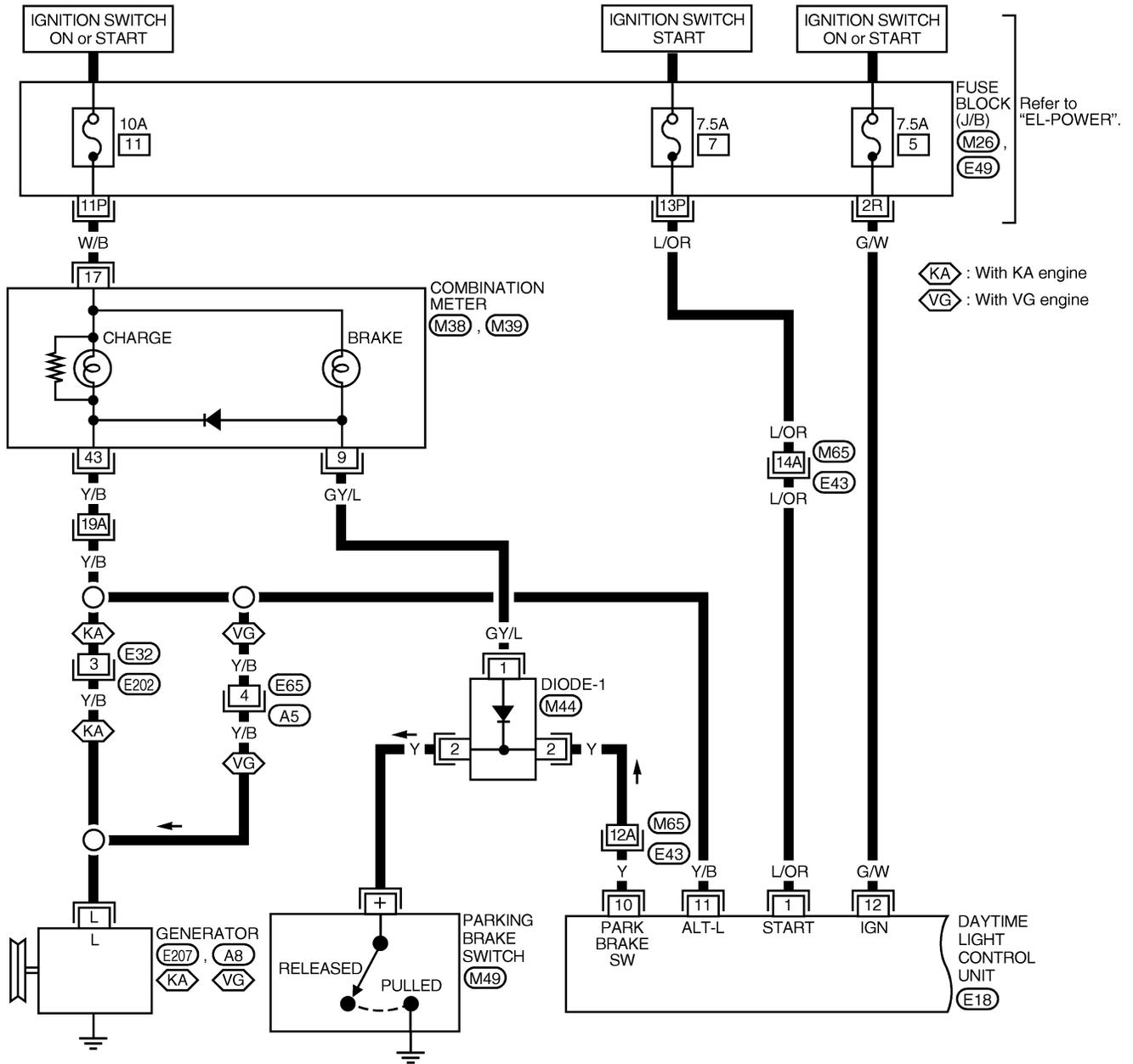
BT

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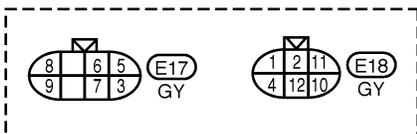
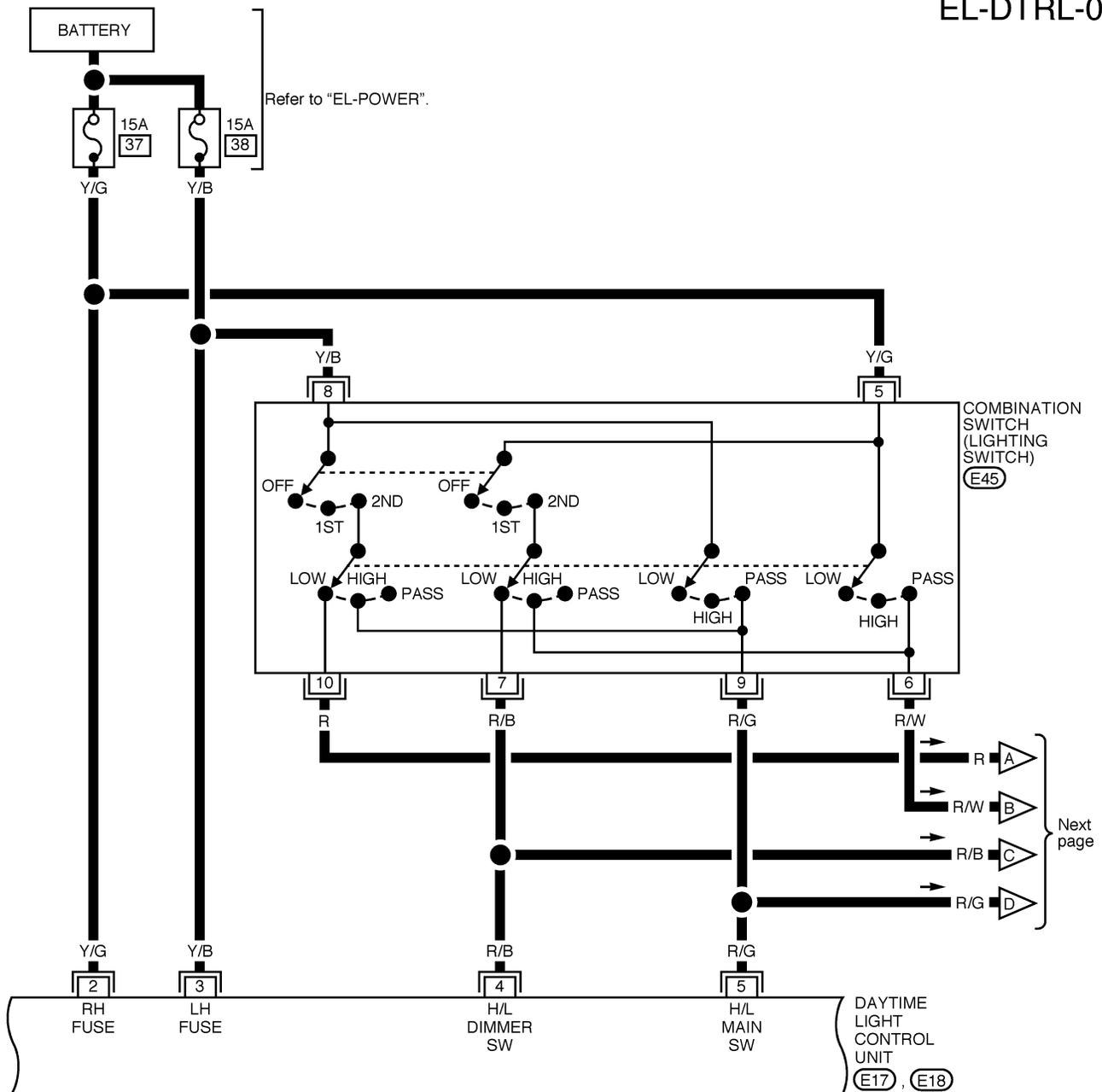
Refer to the following.
 M65, E43 - SUPER
 MULTIPLE JUNCTION (SMJ)

AEL349C

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02

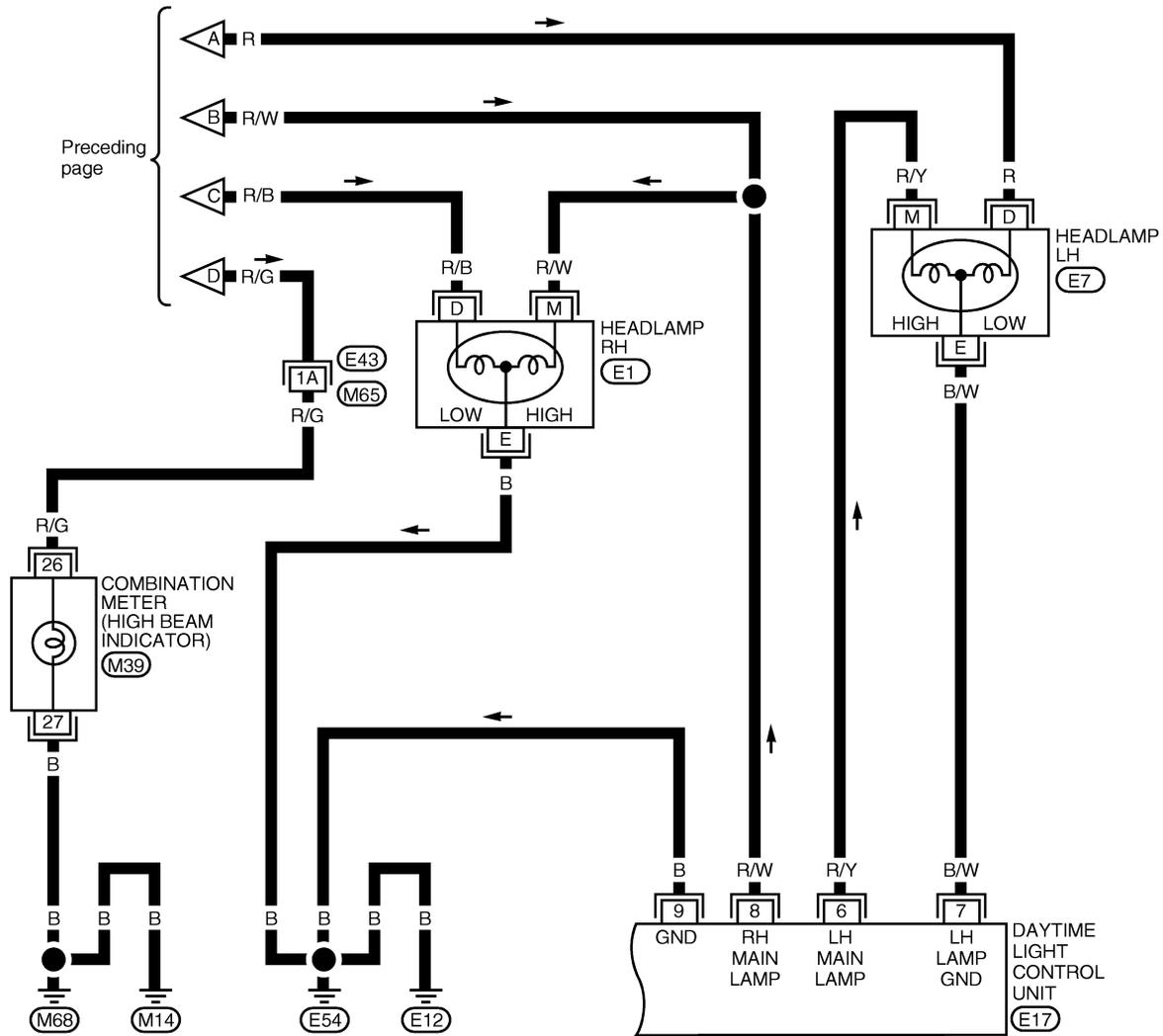


AEL350C

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-03



Refer to the following.
 (M65), (E43) - SUPER
 MULTIPLE JUNCTION (SMJ)

AEL351C

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HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Trouble Diagnoses

Trouble Diagnoses

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

NGEL0021

NGEL0021S01

| Terminal No. | Wire color | Item | Condition | Voltage (Approximate value) |
|--------------|------------|--|---|-----------------------------|
| 1 | L/OR | Ignition switch start signal | Ignition switch in START position | 12 |
| | | | All other conditions | 0 |
| 2 | Y/G | Power source for head-lamp RH | — | 12 |
| 3 | Y/B | Power source for head-lamp LH | — | 12 |
| 4 | R/B | Lighting switch headlamp RH low beam output | Lighting switch in the headlamp ON (2ND) position and LOW BEAM (B) position | 12 |
| | | | All other conditions | 0 |
| 5 | R/G | Lighting switch headlamp LH high beam output | Lighting switch in the FLASH TO PASS (C) position or headlamp ON (2ND) position and HIGH BEAM (A) position | 12 |
| | | | All other conditions | 0 |
| 6 | R/Y | Headlamp LH high beam | Lighting switch in the FLASH TO PASS (C) position or headlamp ON (2ND) position and HIGH BEAM (A) position | 12 |
| | | | With parking brake released, engine running and lighting switch in OFF or parking and tail lamp ON (1ST) positions CAUTION: Block wheels and ensure selector lever is in P or N position. | 12 |
| | | | All other conditions | 0 |
| 7 | B/W | Headlamp LH control (ground) | Lighting switch in the FLASH TO PASS (C) position or headlamp ON (2ND) position | 0 |
| | | | All other conditions | 6 |
| 8 | R/W | Lighting switch headlamp RH high beam output | Lighting switch in the FLASH TO PASS (C) position or headlamp ON (2ND) position and HIGH BEAM (A) position | 12 |
| | | | With parking brake released, engine running and lighting switch in OFF or parking and tail lamp ON (1ST) positions CAUTION: Block wheels and ensure selector lever is in P or N position. | 6 |
| | | | All other conditions | 0 |
| 9 | B | Ground | — | — |
| 10 | Y | Parking brake switch | Parking brake released | 12 |
| | | | Parking brake set | 0 |
| 11 | Y/B | Generator (L terminal) | When engine is running | 12 |
| | | | All other conditions | 0 |

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Trouble Diagnoses (Cont'd)

| | | | | | |
|----|-----|---------------------------|-------------------------------------|----|----|
| 12 | G/W | Ignition switch on signal | Ignition switch OFF, ACC positions | 0 | GI |
| | | | Ignition switch ON, START positions | 12 | |

MA

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Bulb Replacement

Refer to "HEADLAMP (FOR USA)", EL-37.

NGEL0022

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Aiming Adjustment

Refer to "HEADLAMP (FOR USA)", EL-38.

NGEL0023

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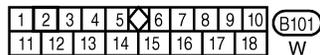
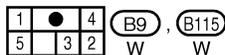
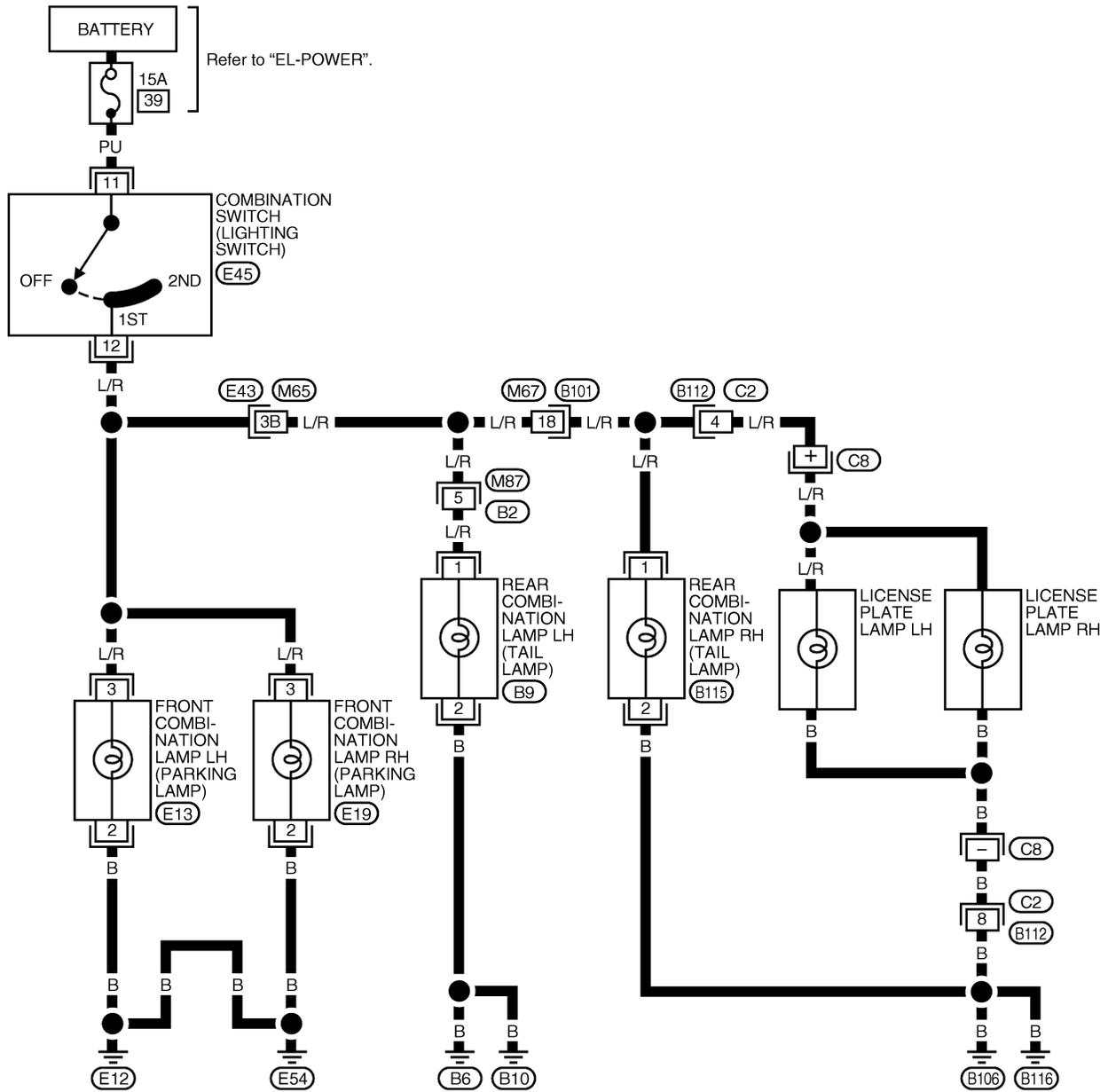
PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —

Wiring Diagram — TAIL/L —

NGEL0024

EL-TAIL/L-01



Refer to the following.
 (M65), (E43) - SUPER
 MULTIPLE JUNCTION (SMJ)

AEL352C

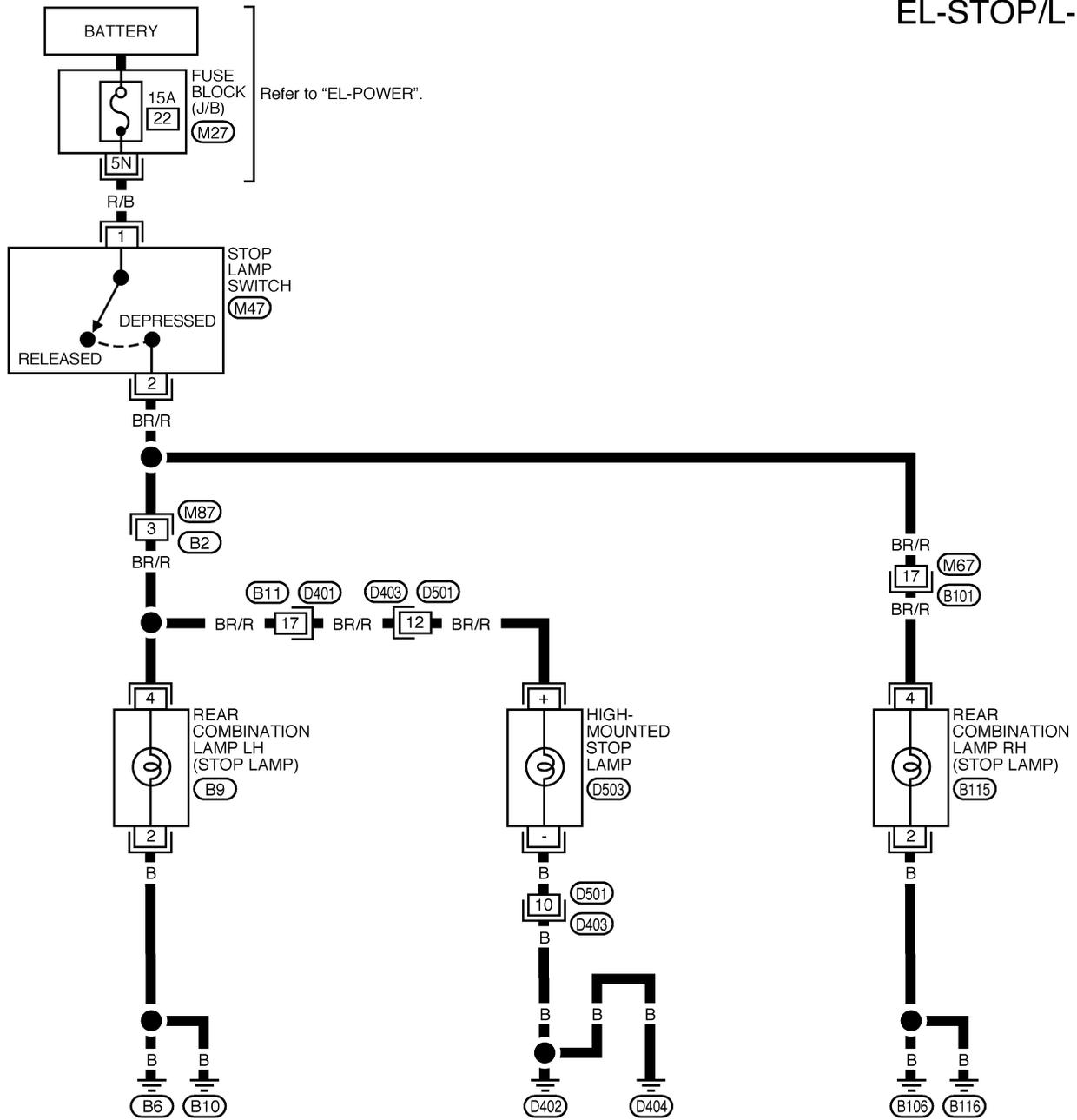
STOP LAMP

Wiring Diagram — STOP/L —

Wiring Diagram — STOP/L —

NGEL0025

EL-STOP/L-01



AEL353C

EL

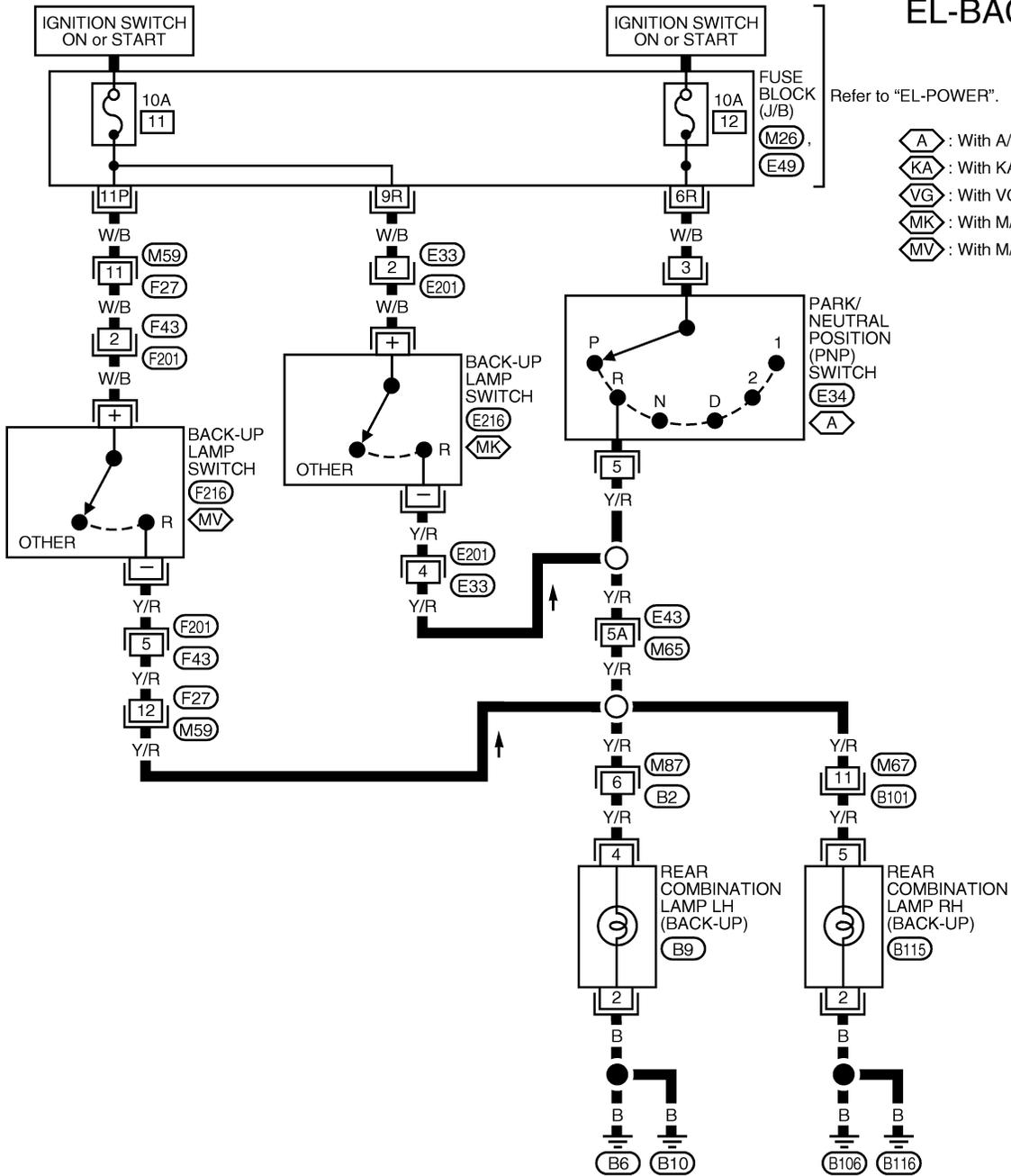
BACK-UP LAMP

Wiring Diagram — BACK/L —

Wiring Diagram — BACK/L —

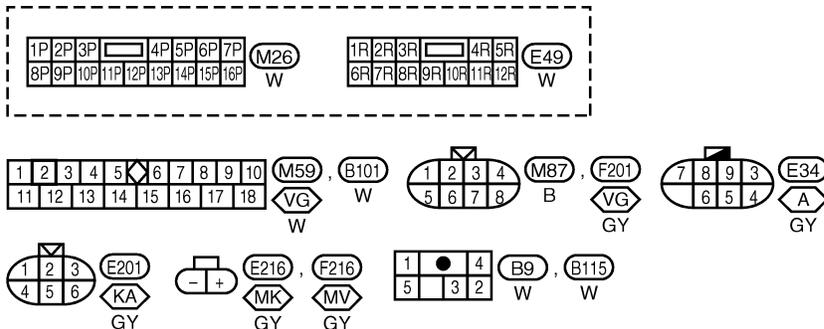
NGEL0026

EL-BACK/L-01



Refer to "EL-POWER".

- ⬡ A : With A/T
- ⬡ KA : With KA engine
- ⬡ VG : With VG engine
- ⬡ MK : With M/T and KA engine
- ⬡ MV : With M/T and VG engine



Refer to the following.
 M65, E43 - SUPER
 MULTIPLE JUNCTION (SMJ)

AEL354C

System Description

NGEL0027

Power is supplied at all times

- through 15A fuse (No. 40, located in the fuse and fusible link box)
- to front fog lamp relay terminal 5 and
- through 15A fuse (No. 37, located in the fuse and fusible link box)
- to lighting switch terminal 5.

With the lighting switch in the headlamp ON (2ND) position and LOW BEAM (B) position, power is supplied

- through lighting switch terminal 7
- to front fog lamp relay terminal 2.

FRONT FOG LAMP OPERATION

NGEL0027S01

The front fog lamp switch is built into the combination switch. The lighting switch must be in the headlamp ON (2ND) position and LOW BEAM (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 front fog lamp switch terminal 2
- through front fog lamp switch terminal 1
- through body grounds E12 and E54.

The front fog lamp relay is energized and power is supplied

- through front fog lamp relay terminal 3
- to front fog lamp LH/RH terminal 1.

Ground is supplied to front fog lamp LH/RH terminal 2 through body grounds E12 and E54.

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

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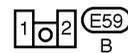
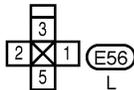
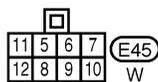
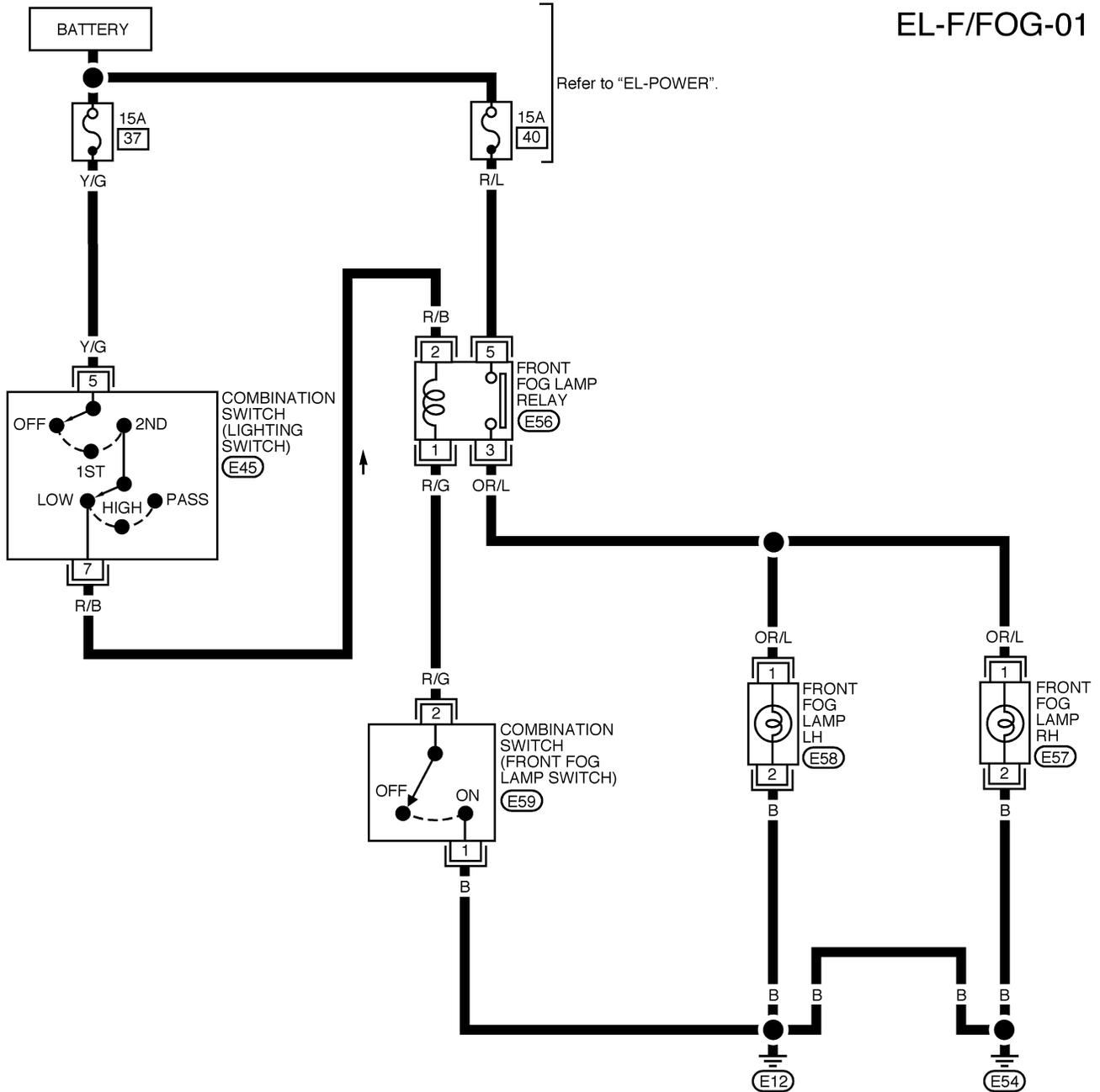
FRONT FOG LAMP

Wiring Diagram — F/FOG —

Wiring Diagram — F/FOG —

NGEL0028

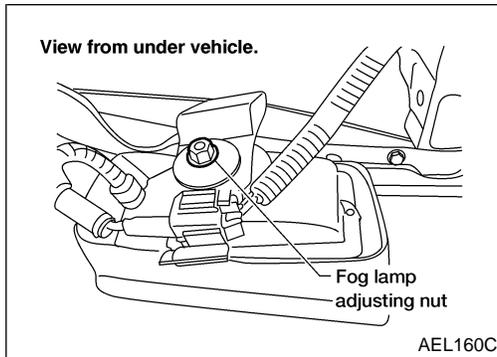
EL-F/FOG-01



AEL355C

FRONT FOG LAMP

Aiming Adjustment

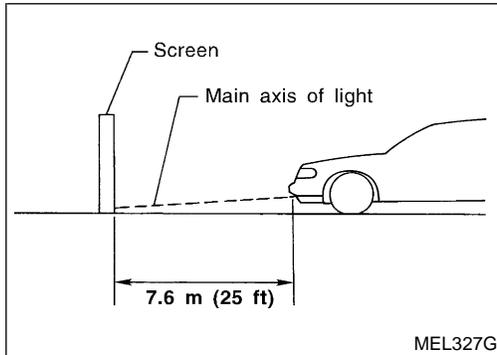


Aiming Adjustment

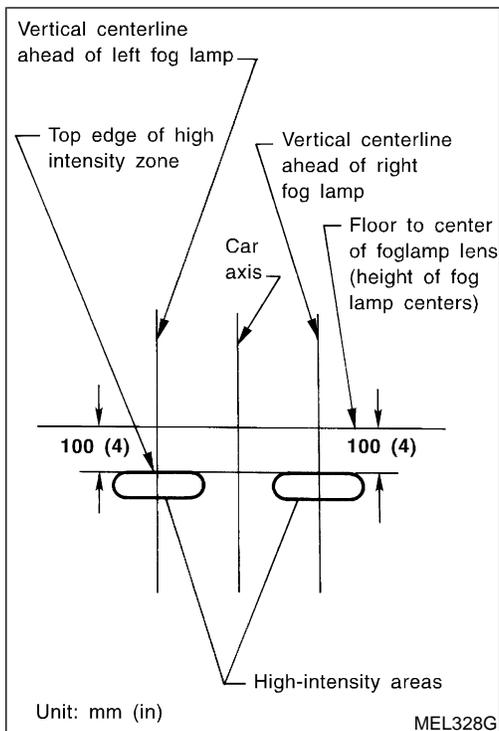
Before performing aiming adjustment, make sure of the following. ^{NGEL0029}

- 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.

Loosen front fog lamp adjusting nuts and adjust aiming by moving front fog lamps.



1. Set the distance between the screen and the center of the front 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 100 mm (4 in) below the height of the fog lamp centers as shown at left.

● **When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.**

4. Tighten the front fog lamp adjusting nuts.

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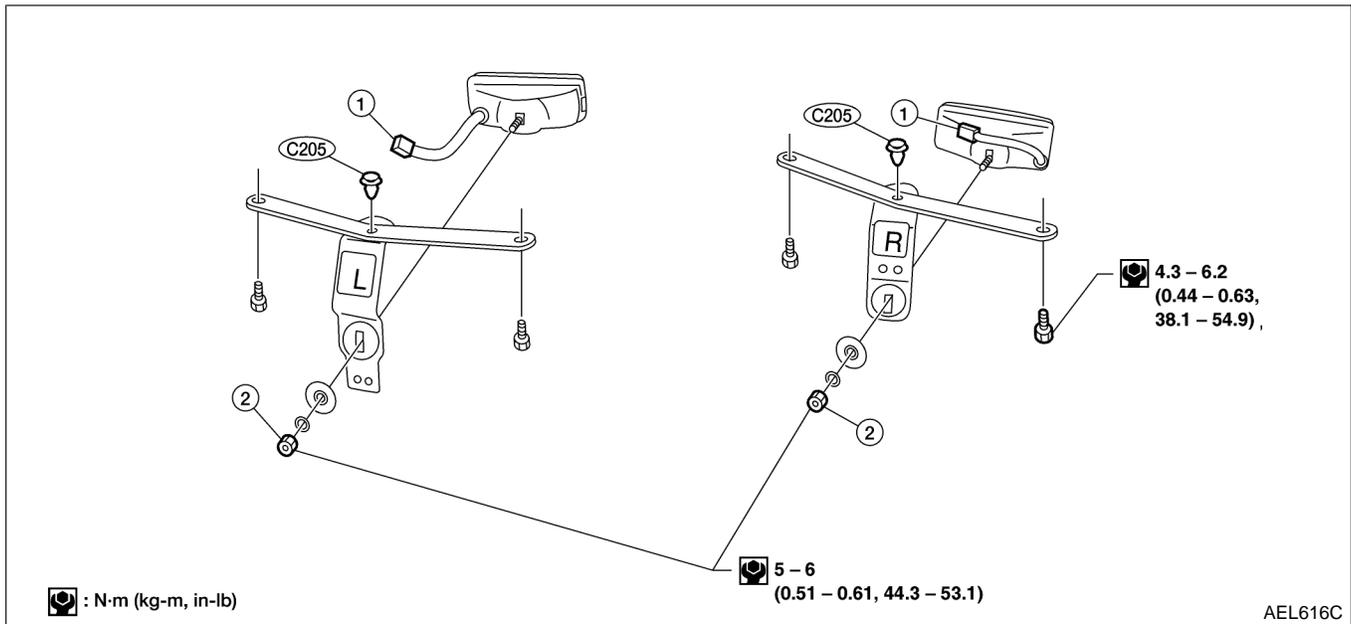
FRONT FOG LAMP

Removal and Installation

Removal and Installation

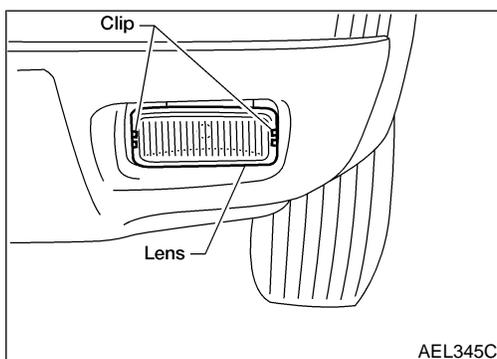
=NGEL0184

1. Disconnect front fog lamp harness connector and separate front fog lamp connector from front fog lamp bracket.



2. remove mounting nut and remove lens and housing assembly from front fog lamp bracket.
3. Install in reverse order of removal. Ensure top of lens faces up.
4. Tighten mounting nut.

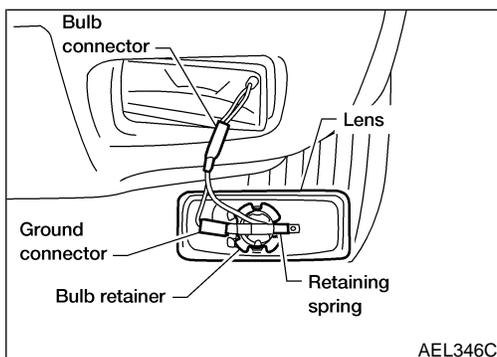
: 5 - 6 N·m (0.51 - 0.61 kg-m, 44.3 - 53.1 in-lb)



Bulb and Lens Replacement

NGEL0185

1. Remove the two metal clips on sides of fog lamp.
2. Pull out and support fog lamp lens.
3. Disconnect fog lamp bulb connector.



4. Lift retaining spring.
5. Remove fog lamp bulb.
 - Fog lamp bulb cannot be separated from wire and is serviced as an assembly.
6. For lens replacement, disconnect ground connector from bulb retainer and remove lens.
7. Install in reverse order of removal. Ensure top of lens faces up.
DO NOT TOUCH BULB.

System Description

NGEL0030

TURN SIGNAL OPERATION

NGEL0030S01

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. 2, located in the fuse block (J/B)]
- to hazard switch terminal 2
- through the hazard switch terminal 1
- to combination flasher unit terminal B
- through combination flasher unit terminal L
- to turn signal switch terminal 1.

Ground is supplied to combination flasher unit terminal E through body grounds M14 and M68.

LH Turn

NGEL0030S0101

With the turn signal switch in the LH position, power is supplied from turn signal switch terminal 3 to

- front combination lamp LH terminal 1
- combination meter terminal 11 and
- rear combination lamp LH terminal 3.

Ground is supplied to front combination lamp LH terminal 2 through body grounds E12 and E54.

Ground is supplied to rear combination lamp LH terminal 2 through body grounds B6 and B10.

Ground is supplied to combination meter terminal 36 through body grounds M14 and M68.

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

RH Turn

NGEL0030S0102

With the turn signal switch in the RH position, power is supplied from turn signal switch terminal 2 to

- front combination lamp RH terminal 1
- combination meter terminal 28 and
- rear combination lamp RH terminal 3.

Ground is supplied to the front combination lamp RH terminal 2 through body grounds E12 and E54.

Ground is supplied to the rear combination lamp RH terminal 2 through body grounds B106 and B116.

Ground is supplied to combination meter terminal 36 through body grounds M14 and M68.

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

HAZARD LAMP OPERATION

NGEL0030S02

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

- 10A fuse [No. 17, located in the fuse block (J/B)].

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

- through hazard switch terminal 1
- to combination flasher unit terminal B
- through combination flasher unit terminal L
- to hazard switch terminal 4.

Ground is supplied to combination flasher unit terminal E through body grounds M14 and M68.

Power is supplied through hazard switch terminal 5 to

- front combination lamp LH terminal 1
- combination meter terminal 11 and
- rear combination lamp LH terminal 3.

Power is supplied through hazard switch terminal 6 to

- front combination lamp RH terminal 1
- combination meter terminal 28 and
- rear combination lamp RH terminal 3.

Ground is supplied to front combination lamp LH/RH terminal 2 through body grounds E12 and E54.

Ground is supplied to rear combination lamp LH terminal 2 through body grounds B6 and B10.

Ground is supplied to rear combination lamp RH terminal 2 through body grounds B106 and B116.

Ground is supplied to combination meter terminal 36 through body grounds M14 and M68.

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

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TURN SIGNAL AND HAZARD WARNING LAMPS

System Description (Cont'd)

MULTI-REMOTE CONTROL SYSTEM OPERATION

NGEL0030S03

Power is supplied at all times

- through 10A fuse [No. 17, located in the fuse block (J/B)]
- to multi-remote control relay terminals 2, 5 and 7.

Ground is supplied to multi-remote control relay terminal 1 through smart entrance control unit terminal 7, when the multi-remote control system is triggered through the smart entrance control unit.

Refer to "MULTI-REMOTE CONTROL SYSTEM", EL-202.

The multi-remote control relay is energized.

Power is supplied through multi-remote control relay terminal 3 to

- front combination lamp LH terminal 1
- combination meter terminal 11 and
- rear combination lamp LH terminal 3.

Power is supplied through multi-remote control relay terminal 6 to

- front combination lamp RH terminal 1
- combination meter terminal 28 and
- rear combination lamp RH terminal 3.

Ground is supplied to front combination lamp LH/RH terminal 2 through body grounds E12 and E54.

Ground is supplied to rear combination lamp LH terminal 2 through body grounds B6 and B10.

Ground is supplied to rear combination lamp RH terminal 2 through body grounds B106 and B116.

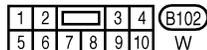
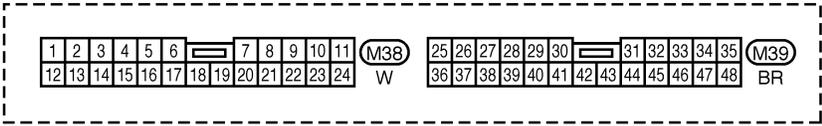
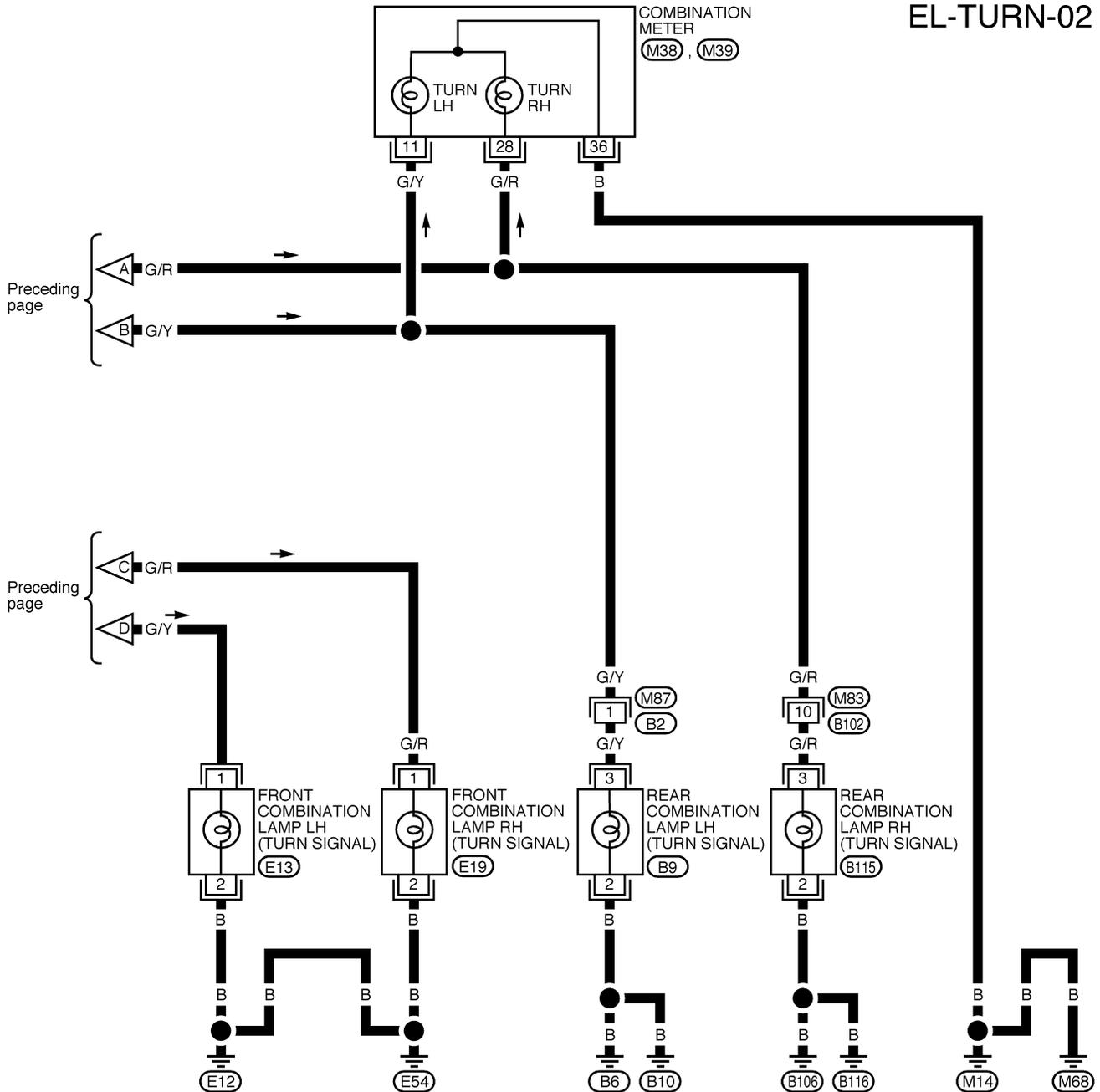
Ground is supplied to combination meter terminal 36 through body grounds M14 and M68.

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 — (Cont'd)

EL-TURN-02



AEL357C

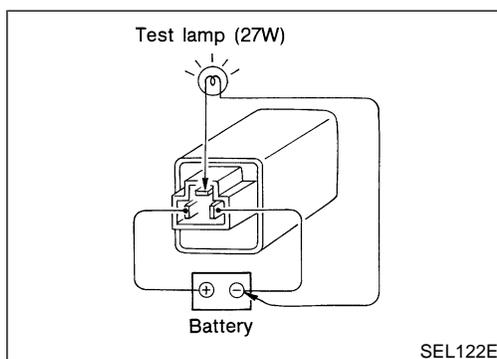
TURN SIGNAL AND HAZARD WARNING LAMPS

Trouble Diagnoses

Trouble Diagnoses

NGEL0033

| 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. Turn signal switch 4. Open in turn signal switch circuit | <ol style="list-style-type: none"> 1. Check 7.5A fuse [No. 2, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check G wire between combination flasher unit and turn signal switch for open circuit. |
| Hazard warning lamps do not operate but turn signal lamps operate. | <ol style="list-style-type: none"> 1. 10A fuse 2. Hazard switch 3. Open in hazard switch circuit | <ol style="list-style-type: none"> 1. Check 10A fuse [No. 17, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check G wire between combination flasher unit and hazard switch for open circuit. |
| Front turn signal lamp LH or RH does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Front turn signal lamp ground circuit | <ol style="list-style-type: none"> 1. Check bulb. 2. Check front turn signal lamp ground circuit. |
| Rear turn signal lamp LH does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Rear turn signal lamp LH ground circuit | <ol style="list-style-type: none"> 1. Check bulb. 2. Check rear turn signal lamp LH ground circuit. |
| Rear turn signal lamp RH does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Rear turn signal lamp RH ground circuit | <ol style="list-style-type: none"> 1. Check bulb. 2. Check rear turn signal lamp RH ground circuit. |
| LH and RH turn indicators do not operate. | <ol style="list-style-type: none"> 1. Ground circuit | <ol style="list-style-type: none"> 1. Check ground circuit. |
| LH or RH turn indicator does not operate. | <ol style="list-style-type: none"> 1. Bulb | <ol style="list-style-type: none"> 1. Check bulb in combination meter. |



Electrical Components Inspection COMBINATION FLASHER UNIT CHECK

NGEL0034

NGEL0034S01

- 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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TRAILER TOW

System Description

NGEL0161

Power is supplied at all times

- through 15A fuse [No. 22, located in the fuse block (J/B)]
- to trailer tow control unit terminals 3 and 4.

Ground is supplied

- to trailer tow control unit terminal 2 and
- to trailer harness connector terminal 1
- through body grounds B106 and B116.

TRAILER TAIL LAMP OPERATION

NGEL0161S01

With the lighting switch in the parking and tail lamp ON (1ST) or headlamp ON (2ND) position, power is supplied

- from lighting switch terminal 12
- to trailer harness connector terminal 2.

TRAILER STOP, TURN SIGNAL AND HAZARD LAMP OPERATION

NGEL0161S02

The trailer stop, turn signal and hazard lamps are all controlled by the trailer tow control unit. The trailer tow control unit regulates the amount of voltage supplied to the trailer lamps. If either turn signal or the hazard lamps are turned on and the trailer tow control unit gets a brake lamp input, the trailer tow control unit supplies more voltage to the trailer lamps to make them illuminate brighter.

Power is supplied to trailer tow control unit terminals 3 and 4 through 15A fuse (No. 22, located in the fuse block) at all times.

Stop lamp input is supplied to trailer tow control unit terminal 1.

Left turn signal and hazard lamp input is supplied to trailer tow control unit terminal 6.

Right turn signal and hazard lamp input is supplied to trailer tow control unit terminal 5.

Based on the stop lamp, turn signal lamp and hazard lamp inputs to the trailer tow control unit, power is supplied to trailer stop/turn lamp LH

- from trailer tow control unit terminal 7
- to trailer harness connector terminal 3.

Power is also supplied to trailer stop/turn lamp RH

- from trailer tow control unit terminal 8
- to trailer harness connector terminal 4.

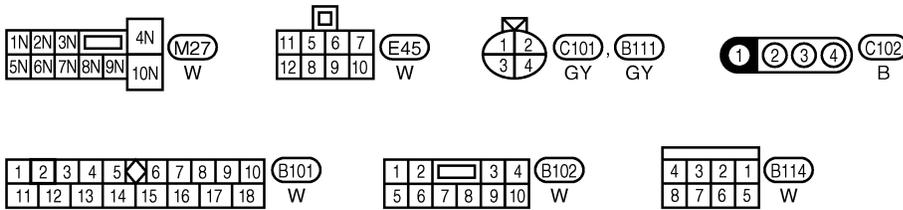
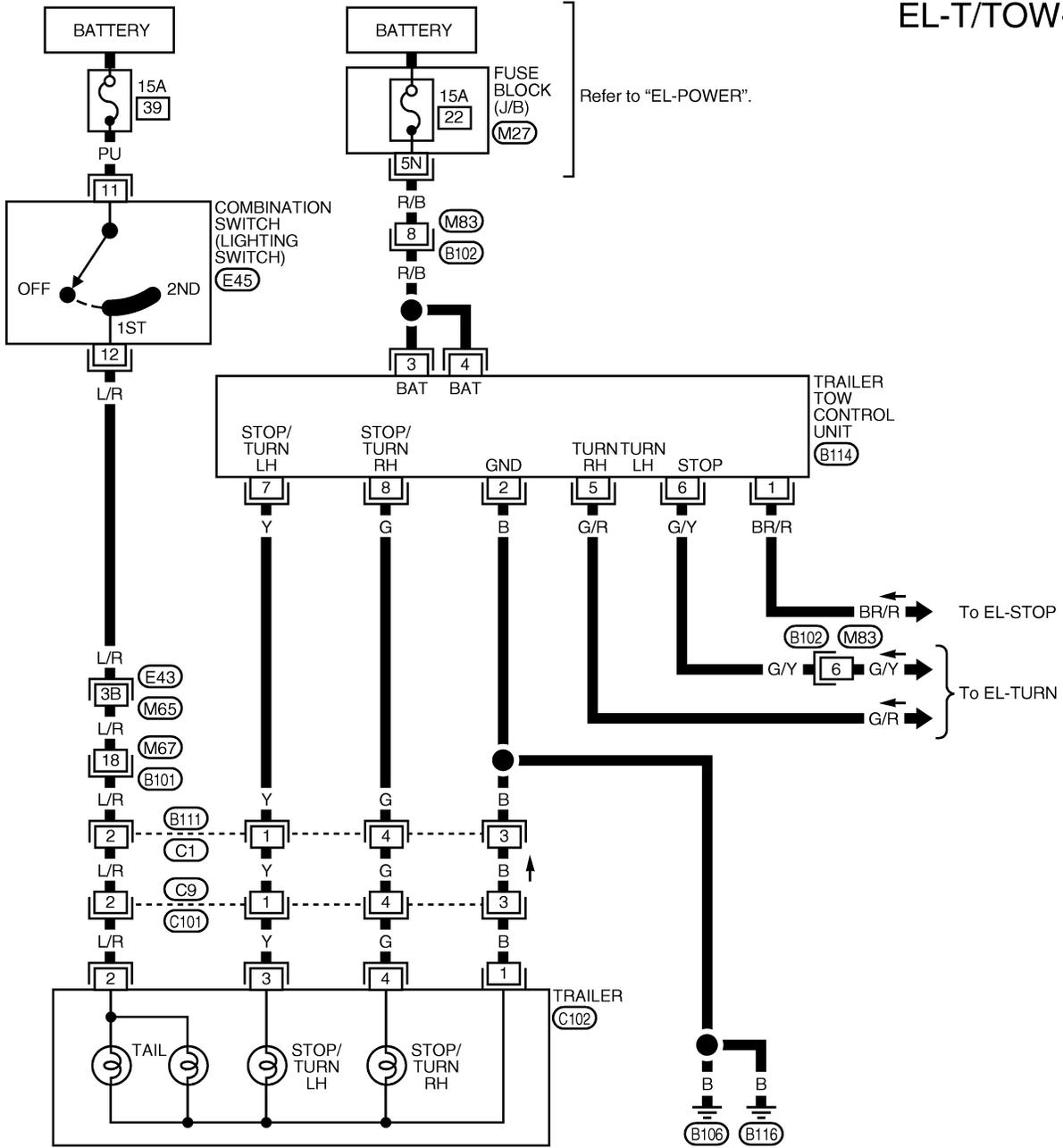
TRAILER TOW

Wiring Diagram — T/TOW —

Wiring Diagram — T/TOW —

NGEL0162

EL-T/TOW-01



Refer to the following.
 (M65), (E43) - SUPER
 MULTIPLE JUNCTION (SMJ)

AEL358C

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TRAILER TOW

Trouble Diagnoses

Trouble Diagnoses

TRAILER TOW CONTROL UNIT INSPECTION TABLE

NGEL0163

NGEL0163S01

| Terminal No. | Wire color | Item | Condition | Voltage (Approximate value) |
|--------------|------------|----------------------------|--|-----------------------------|
| 1 | BR/R | Stop lamps signal | When brake pedal is depressed | 12 |
| | | | When brake pedal is released | 0 |
| 2 | B | Ground | — | — |
| 3 | R/B | Power supply | — | 12 |
| 4 | R/B | Power supply | — | 12 |
| 5 | G/R | RH turn lamps | When RH turn lamps or hazard lamps operate | 12 (intermittently) |
| | | | All other conditions | 0 |
| 6 | G/Y | LH turn lamps | When LH turn lamps or hazard lamps operate | 12 (intermittently) |
| | | | All other conditions | 0 |
| 7 | Y | Stop/LH turn lamp (output) | When brake pedal is depressed | 12 |
| | | | When LH turn lamps or hazard lamps operate | 12 (intermittently) |
| | | | All other conditions | 0 |
| 8 | G | Stop/RH turn lamp (output) | When brake pedal is depressed | 12 |
| | | | When RH turn lamps or hazard lamps operate | 12 (intermittently) |
| | | | All other conditions | 0 |

ILLUMINATION

System Description

System Description

NGEL0035

Power is supplied at all times

- through 15A fuse (No. 39, located in the fuse and fusible link box)
- to lighting switch terminal 11.

The lighting switch must be in the parking and tail lamps ON (1ST) or headlamps ON (2ND) position for illumination.

The illumination control switch 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 | M28 | 1 | 5 |
| Air control | M56 | 2 | 1 |
| Audio unit | M51 | 8 | 7 |
| Hazard switch | M53 | 7 | 8 |
| Rear wiper switch | M89 | 4 | 5 |
| Rear window defogger switch | M90 | 5 | 6 |
| Combination meter | M39 | 40 | 41 |
| Main power window and door lock/unlock switch | D7 | 3 | 8 |
| ASCD main switch | M29 | 5 | 6 |
| A/T device | M35 | 4 | 3 |

The ground for all of the components are controlled through terminals 4 and 5 of the illumination control switch and body grounds M14 and M68.

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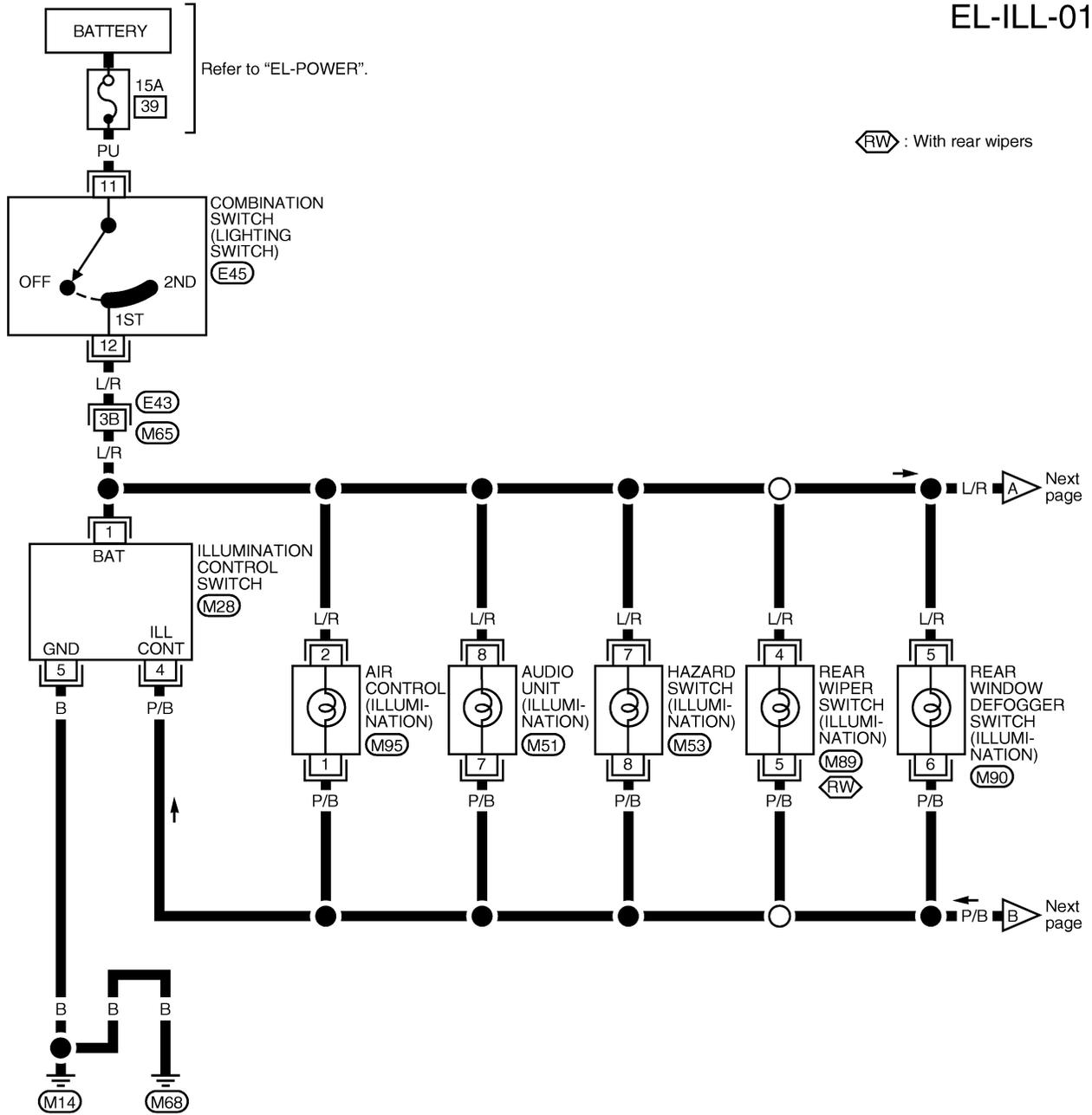
ILLUMINATION

Wiring Diagram — ILL —

Wiring Diagram — ILL —

NGEL0037

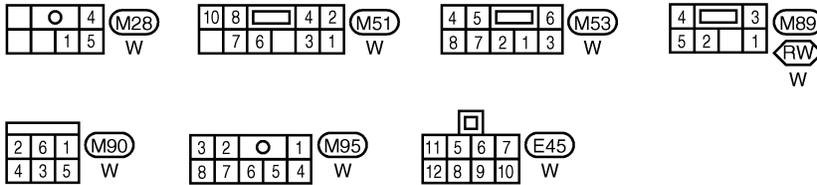
EL-ILL-01



: With rear wipers

Next page

Next page



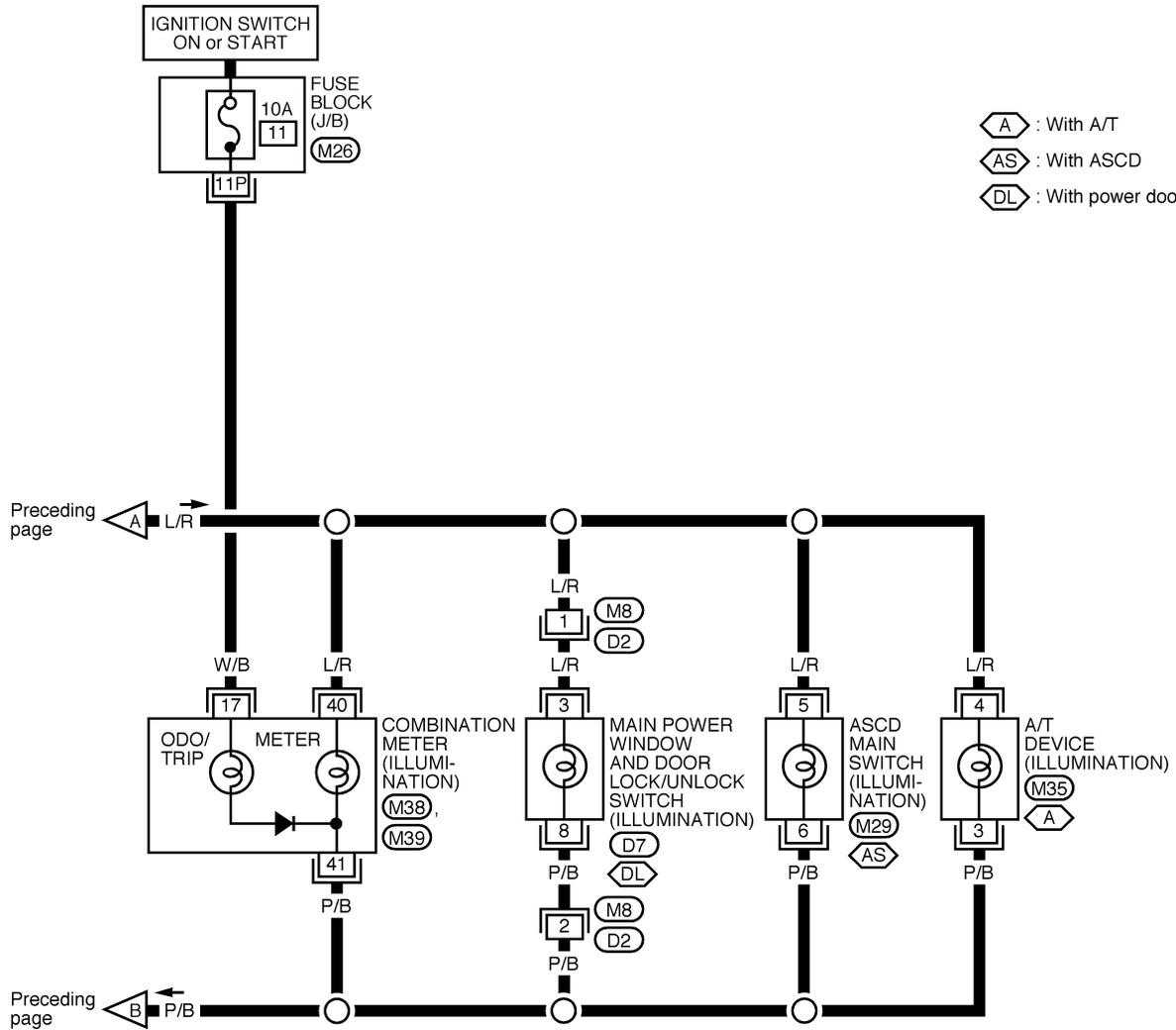
Refer to the following.
 , - SUPER
 MULTIPLE JUNCTION (SMJ)

AEL359C

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02



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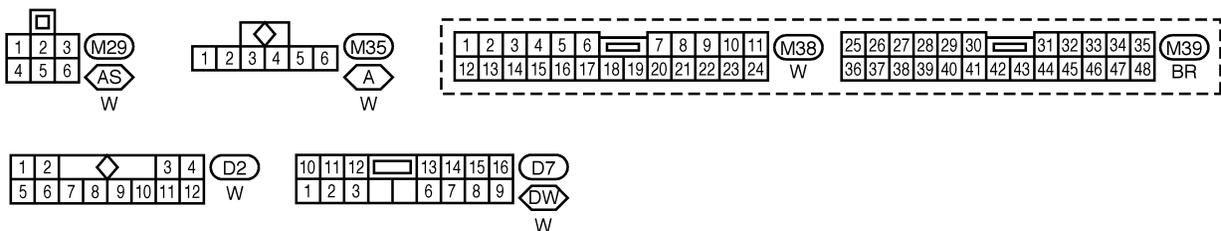
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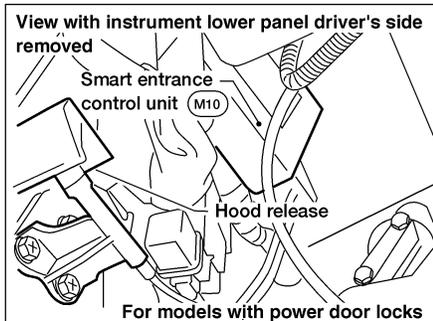
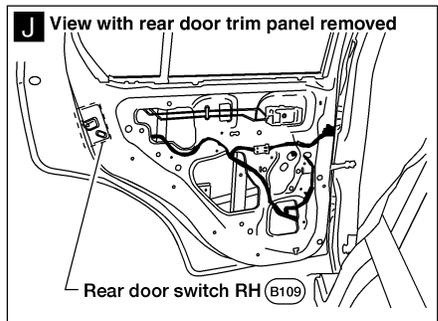
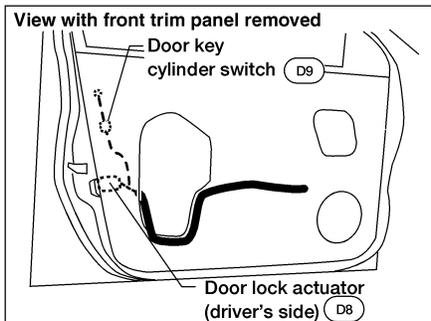
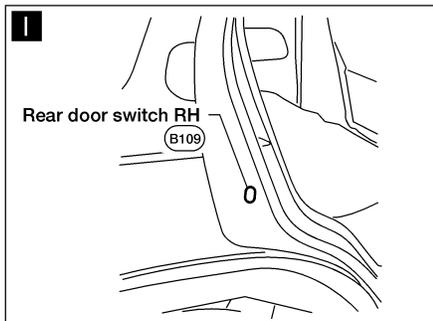
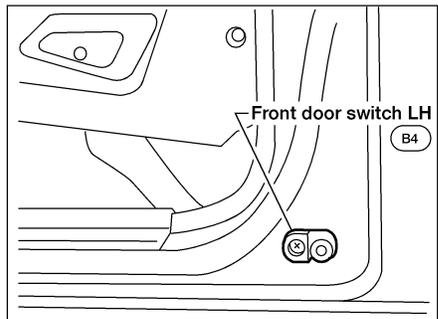
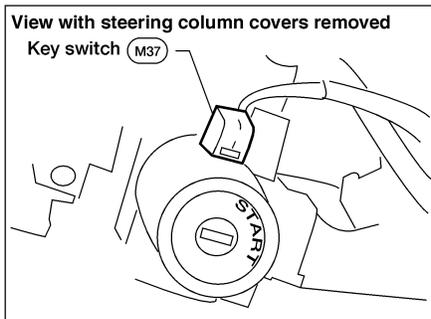
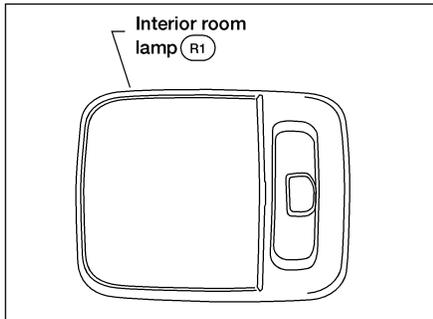
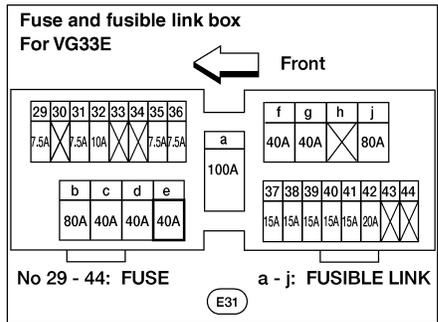
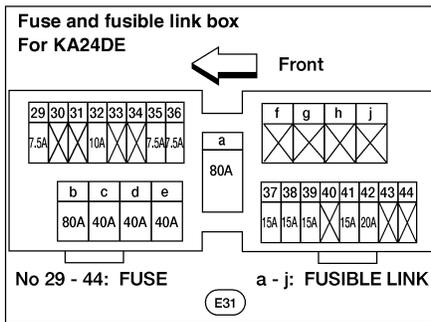
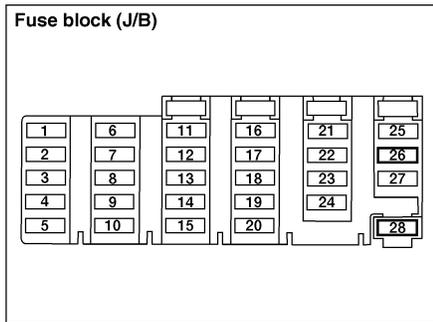
AEL360C

INTERIOR ROOM LAMP

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NGEL0194



AEL428C

System Description

MODELS WITHOUT POWER DOOR LOCKS

NGEL0038

Room Lamp

NGEL0038S01

NGEL0038S0106

Power is supplied at all times

- through 7.5A fuse [No. 26, located in the fuse block (J/B)]
- to front room lamp terminal + and
- to rear room lamp terminal +.

With the front/rear room lamp switch in the ON position, ground is supplied through the case of the front/rear room lamp.

With one or more doors open, with the front/rear room lamp switch in the DOOR position, ground is supplied

- to front/rear room lamp terminal DR
- through front door switch LH terminal 1 and/or
- through front door switch RH, rear door switch LH/RH and/or back door switch terminal +.

Ground is supplied to back door switch terminal – through body grounds D402 and D404.

MODELS WITH POWER DOOR LOCKS

NGEL0038S06

Room Lamp

NGEL0038S0601

Power is supplied at all times

- through 7.5A fuse [No. 26, located in the fuse block (J/B)]
- to front room lamp terminal + and
- to rear room lamp terminal +.

With the front/rear room lamp switch in the ON position, ground is supplied through the case of the front/rear room lamp.

With the front door LH open and the front/rear room lamp switch in the DOOR position, ground is supplied

- to front/rear room lamp terminal DR
- through front door switch LH terminal 1.

With the front door RH open and the front/rear room lamp switch in the DOOR position, ground is supplied

- to smart entrance control unit terminal 35
- through front door switch RH terminal + and
- to front/rear room lamp terminal DR
- through smart entrance control unit terminal 9
- through smart entrance control unit terminal 10
- through body grounds M14 and M68.

With rear door LH/RH and/or back door open and the front/rear room lamp switch in the DOOR position, ground is supplied

- to smart entrance control unit terminal 16
- through rear door switch LH/RH and/or back door switch terminal + and
- to front/rear room lamp terminal DR
- through smart entrance control unit terminal 9
- through smart entrance control unit terminal 10
- through body grounds M14 and M68.

Room Lamp Timer Operation

NGEL0038S0603

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

- unlock signal is supplied from multi-remote controller
- key is removed from ignition key cylinder while front door LH is closed
- driver's door is opened and then closed while ignition switch is not in the ON position.

The timer is canceled and room lamp turns off when:

- front door LH is locked with multi-remote controller, or
- ignition switch is turned ON.

The smart entrance control unit turns off the room lamp if it is left on for 30 minutes.

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INTERIOR ROOM LAMP

System Description (Cont'd)

Map Lamp

NGEL0038S0602

Power is supplied at all times

- through 7.5A fuse [No. 26, located in the fuse block (J/B)]
- to map lamp terminal +

Ground is supplied

- to map lamp terminal –
- through body grounds M14 and M68.

With map lamp switch in ON position, lamp illuminates.

INTERIOR ROOM LAMP

Wiring Diagram — ROOM/L —

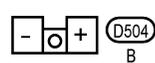
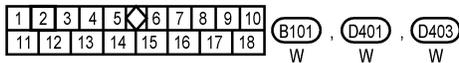
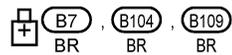
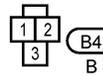
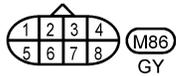
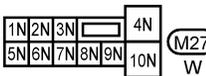
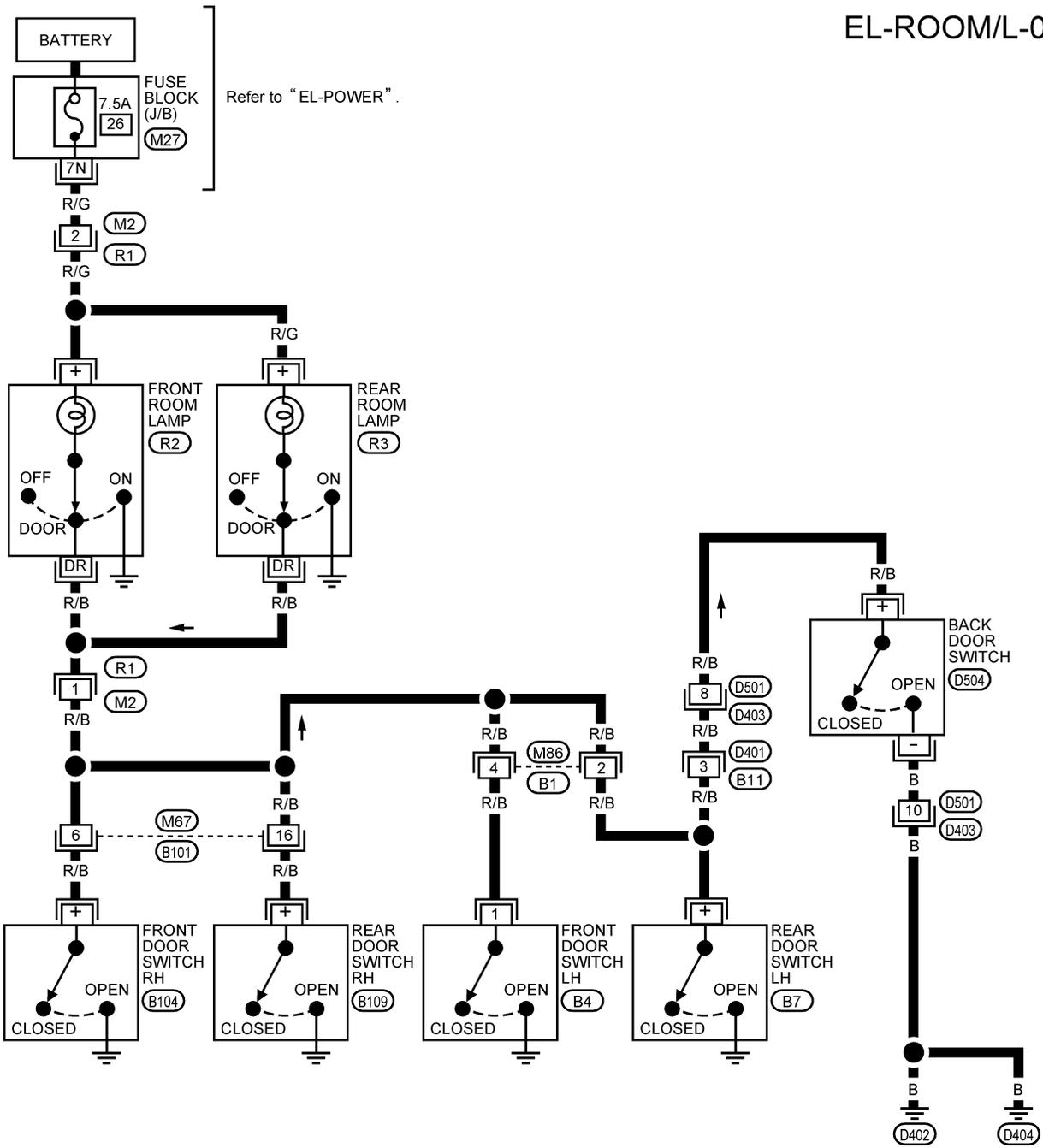
Wiring Diagram — ROOM/L —

MODELS WITHOUT POWER DOOR LOCKS

NGEL0040

NGEL0040S01

EL-ROOM/L-01



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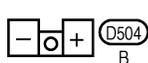
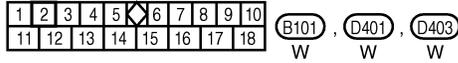
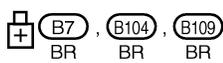
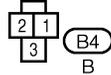
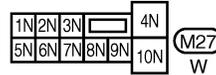
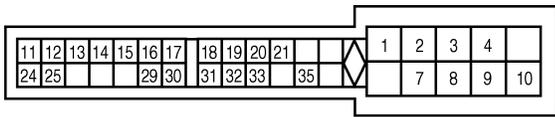
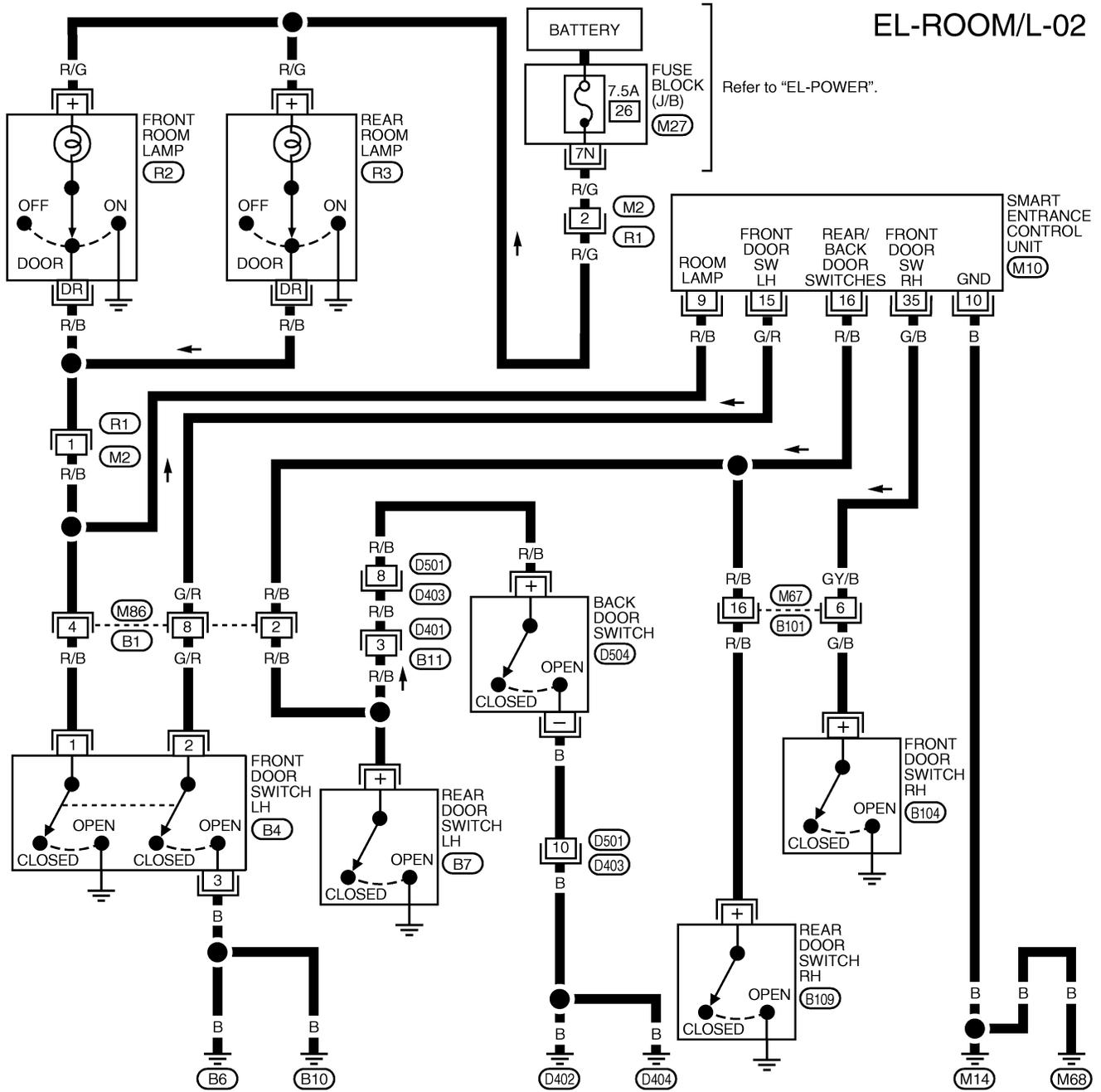
INTERIOR ROOM LAMP

Wiring Diagram — ROOM/L — (Cont'd)

MODELS WITH POWER DOOR LOCKS

NGEL0040S02

EL-ROOM/L-02

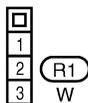
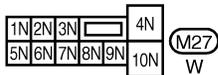
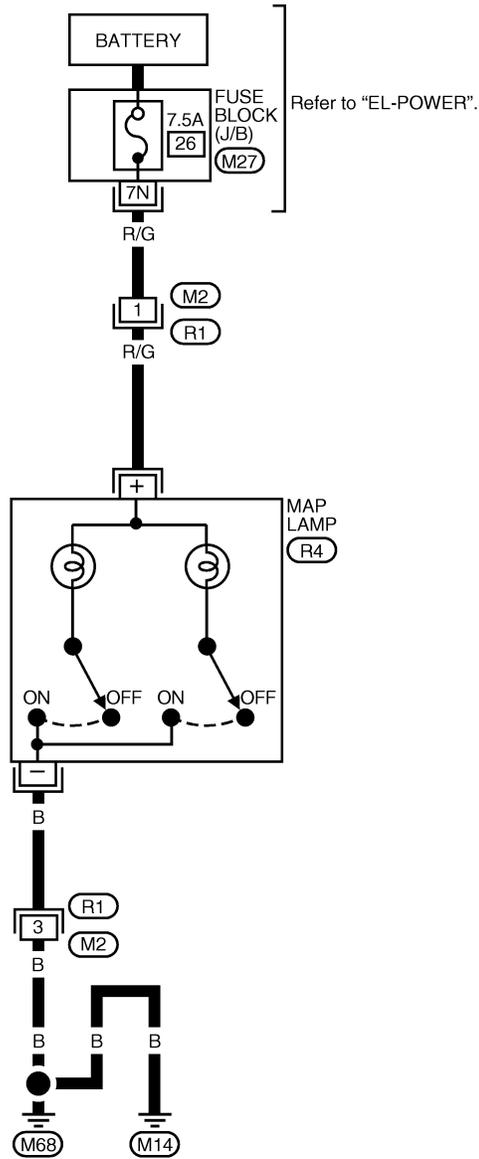


AEL386C

INTERIOR ROOM LAMP

Wiring Diagram — ROOM/L — (Cont'd)

EL-ROOM/L-03



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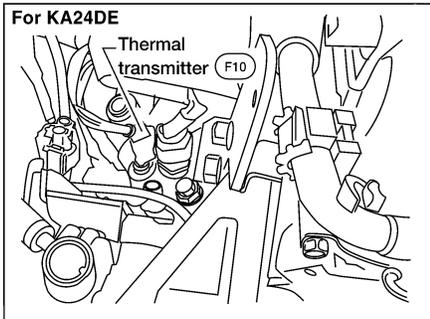
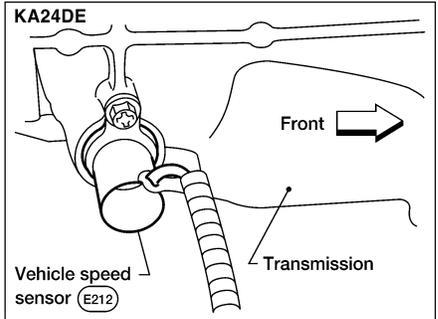
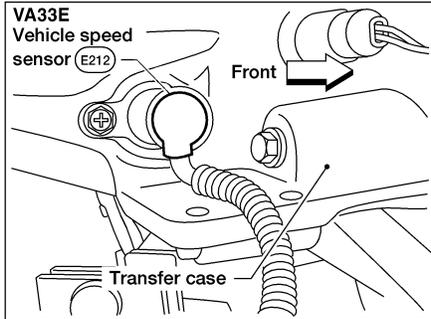
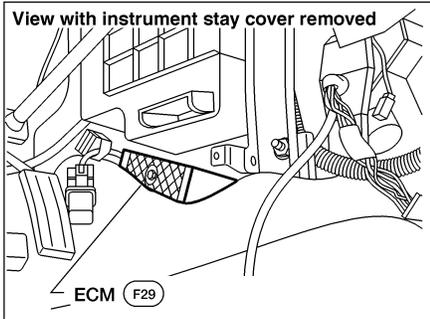
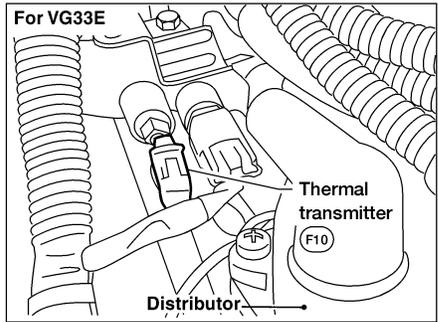
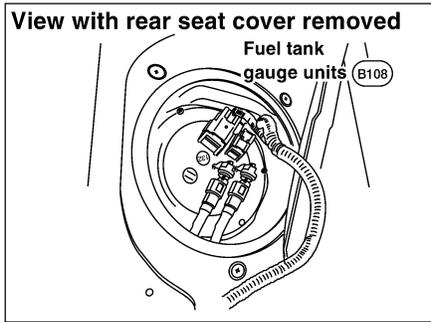
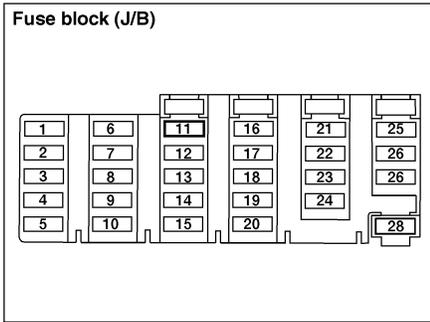
IDX

METERS AND GAUGES

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NGEL0041



AEL429C

System Description

NGEL0042

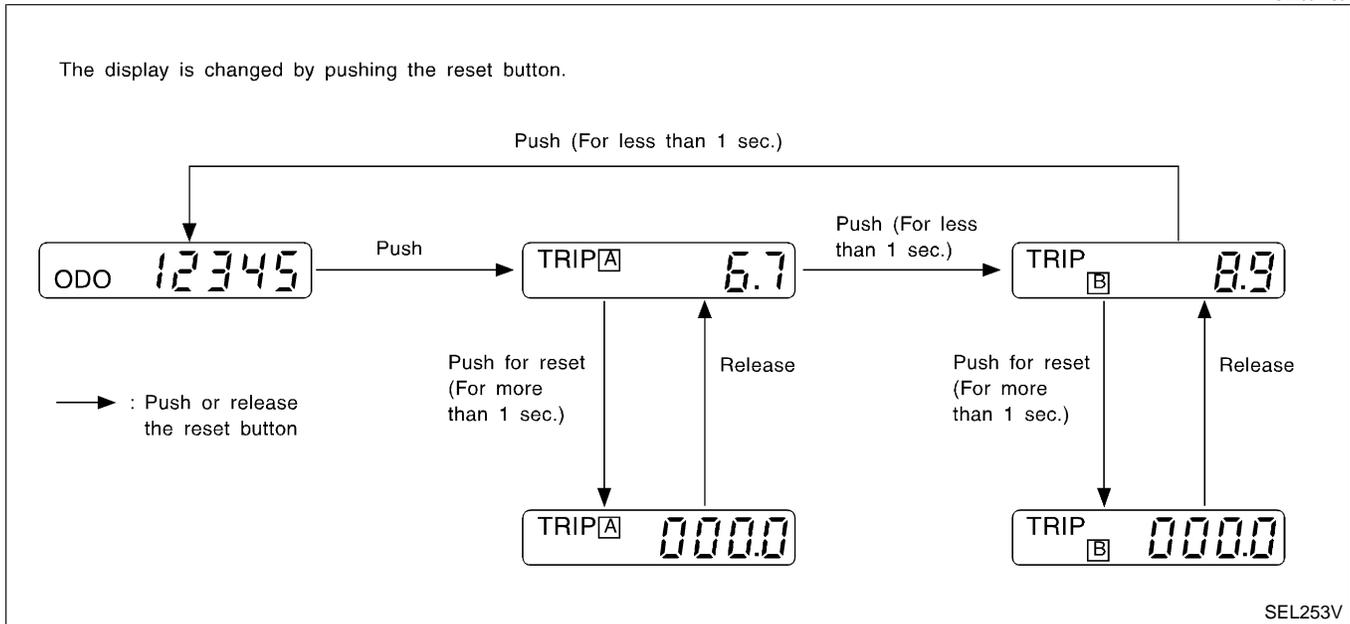
UNIFIED CONTROL METER

NGEL0042S06

- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by unified meter control unit combined with speedometer and odo/trip meter.
- Digital meter is adopted for odo/trip meter.*
*The record of the odo meter is kept even if the battery cable is disconnected. The record of the trip meter is erased when the battery cable is disconnected.
- Odo/trip meter segment can be checked in diagnosis mode.
- Meter/gauge can be checked in diagnosis mode.

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

NGEL0042S07



NOTE:

Turn ignition switch ON to operate odo/trip meter.

POWER SUPPLY AND GROUND CIRCUIT

NGEL0042S08

Power is supplied at all times

- through 7.5A fuse [No. 28, located in the fuse block (J/B)]
- to combination meter terminal 18.

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

- through 10A fuse [No. 11, located in the fuse block (J/B)]
- to combination meter terminal 17.

Ground is supplied

- to combination meter terminal 24
- through body grounds M14 and M68.

FUEL GAUGE

NGEL0042S03

The fuel gauge indicates the approximate fuel level in the fuel tank. The reading on the gauge is based on the resistance of the fuel tank gauge unit.

The fuel gauge is regulated by a variable ground signal supplied

- to combination meter terminal 20 for the fuel gauge
- through fuel tank gauge unit terminal G
- through fuel tank gauge unit terminal E
- through body grounds B106 and B116.

METERS AND GAUGES

System Description (Cont'd)

WATER TEMPERATURE GAUGE

NGEL0042S01

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

The water temperature gauge is regulated by a variable ground signal supplied

- to combination meter terminal 19
- through thermal transmitter terminal 1.

As the temperature of the coolant increases, the resistance of the thermal transmitter decreases and the needle on the gauge moves from C to H.

TACHOMETER

NGEL0042S02

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

The tachometer is regulated by a signal

- to combination meter terminal 21 for the tachometer
- from ECM terminal 3.

SPEEDOMETER

NGEL0042S04

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

The voltage is supplied

- to combination meter terminals 22 and 23 for the speedometer
- from vehicle speed sensor terminals 1 and 2.

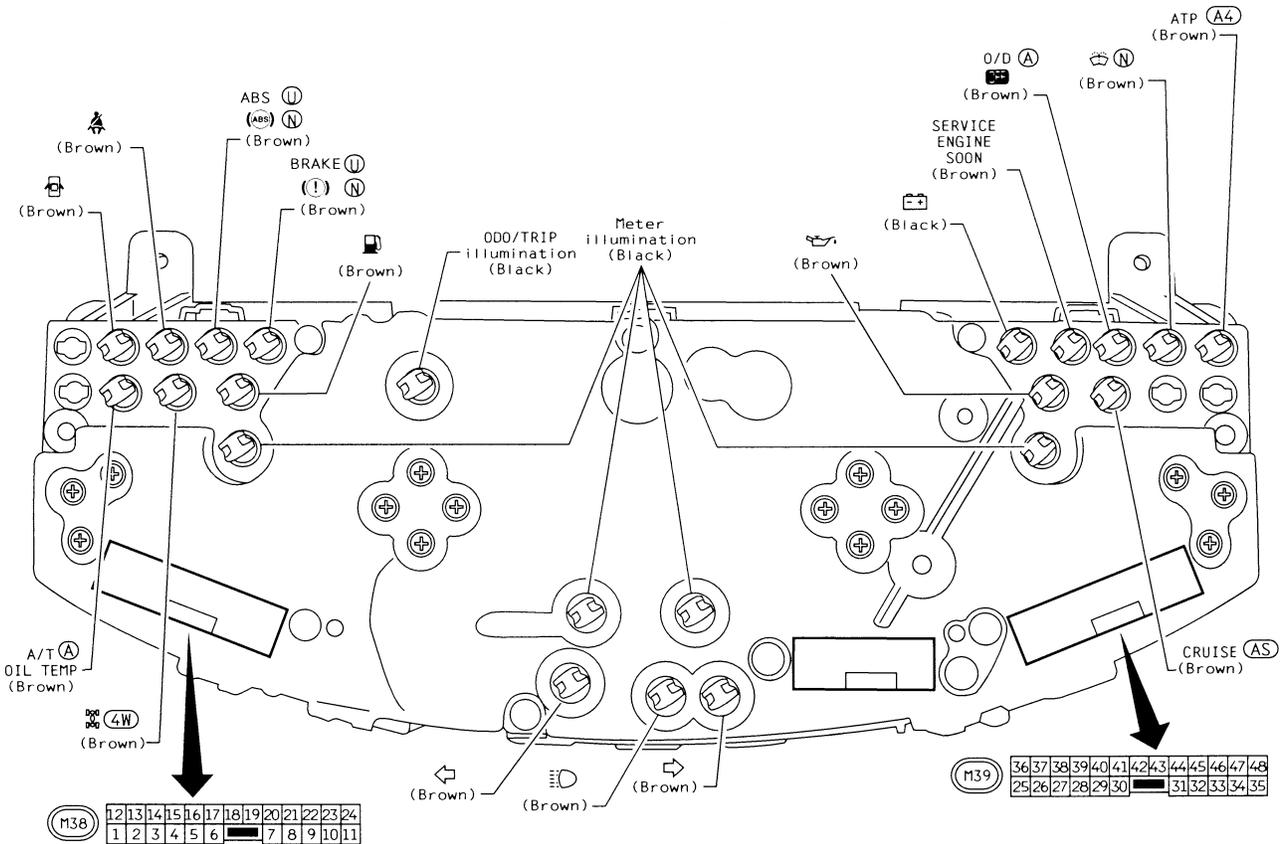
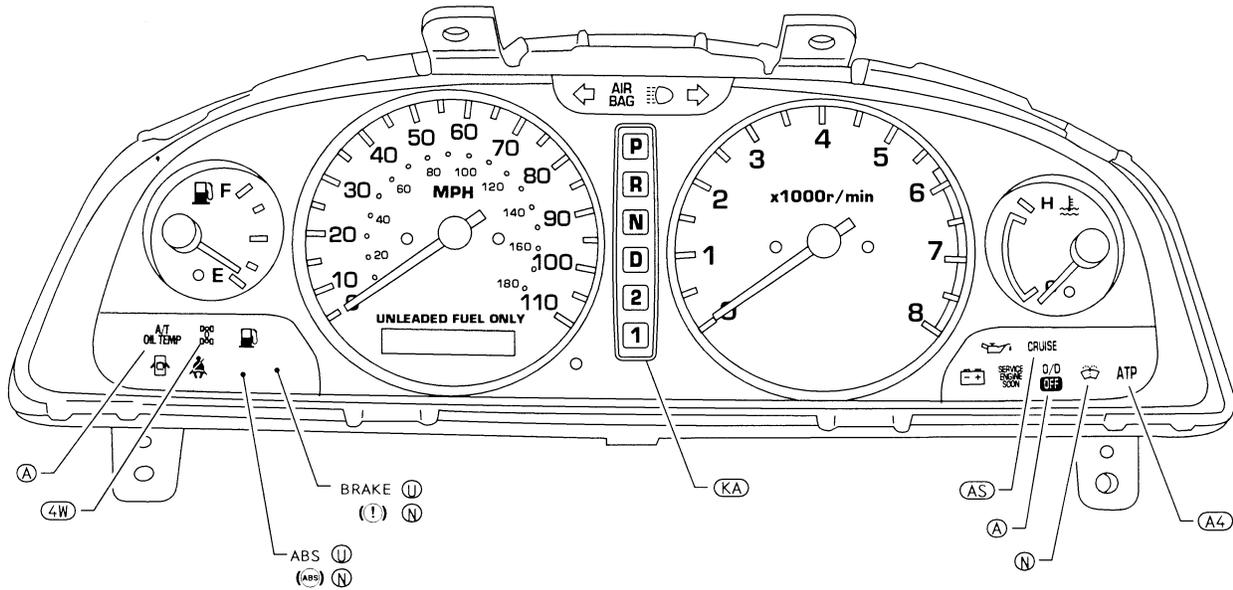
The unified meter control unit converts the voltage to the vehicle speed and displays it on the speedometer.

METERS AND GAUGES

Combination Meter

Combination Meter

NGEL0043



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

() : Bulb socket color

- A4 : With A/T and 4-wheel drive
- A : With A/T
- N : For Canada
- AS : With ASCD
- 4W : With 4-wheel drive

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METERS AND GAUGES

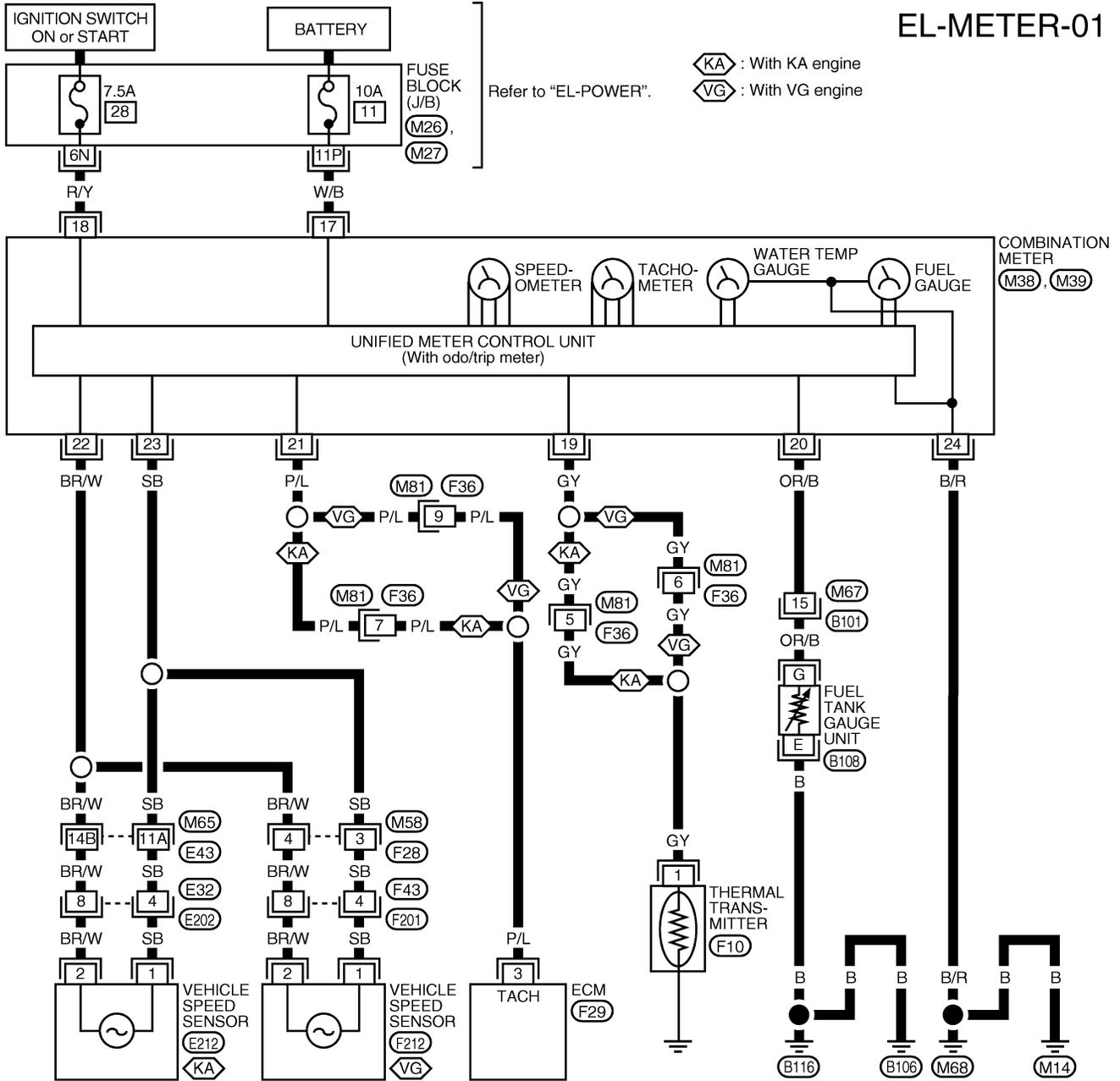
Wiring Diagram — METER —

Wiring Diagram — METER —

NGEL0045

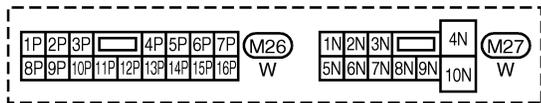
EL-METER-01

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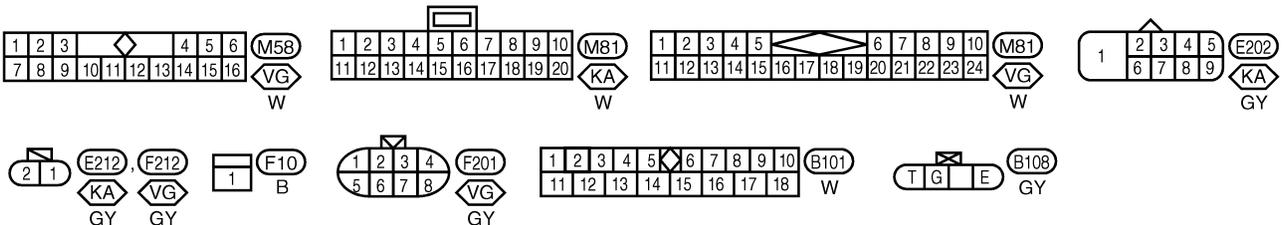


⬡KA : With KA engine
⬡VG : With VG engine

Refer to "EL-POWER".



Refer to the following.
⬡M65, ⬡E43 - SUPER
MULTIPLE JUNCTION (SMJ)
⬡F29 - ELECTRICAL UNITS



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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

NGEL0151

DIAGNOSIS FUNCTION

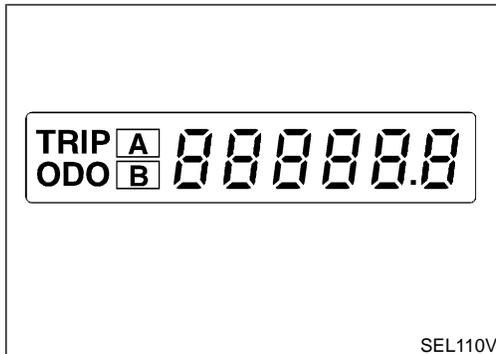
NGEL0151S01

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

HOW TO ALTERNATE DIAGNOSIS MODE

NGEL0151S02

1. Turn ignition switch ON and change odo/trip meter to TRIP A or TRIP B.
2. Turn ignition switch OFF.
3. Turn ignition switch ON while pressing and holding odo/trip meter switch.
4. Confirm that trip meter indicates "000.0".
5. Push odo/trip meter switch more than 3 times within 5 seconds.

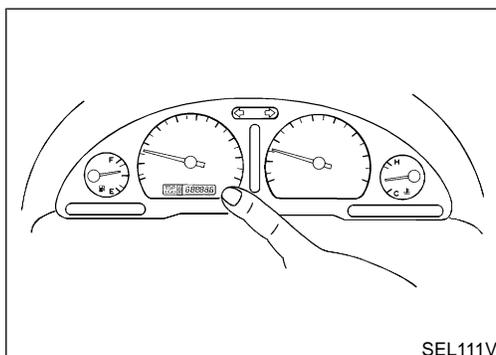


6. All odo/trip meter segments should be turned on.

NOTE:

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

At this point, the unified meter control unit is in diagnosis mode.



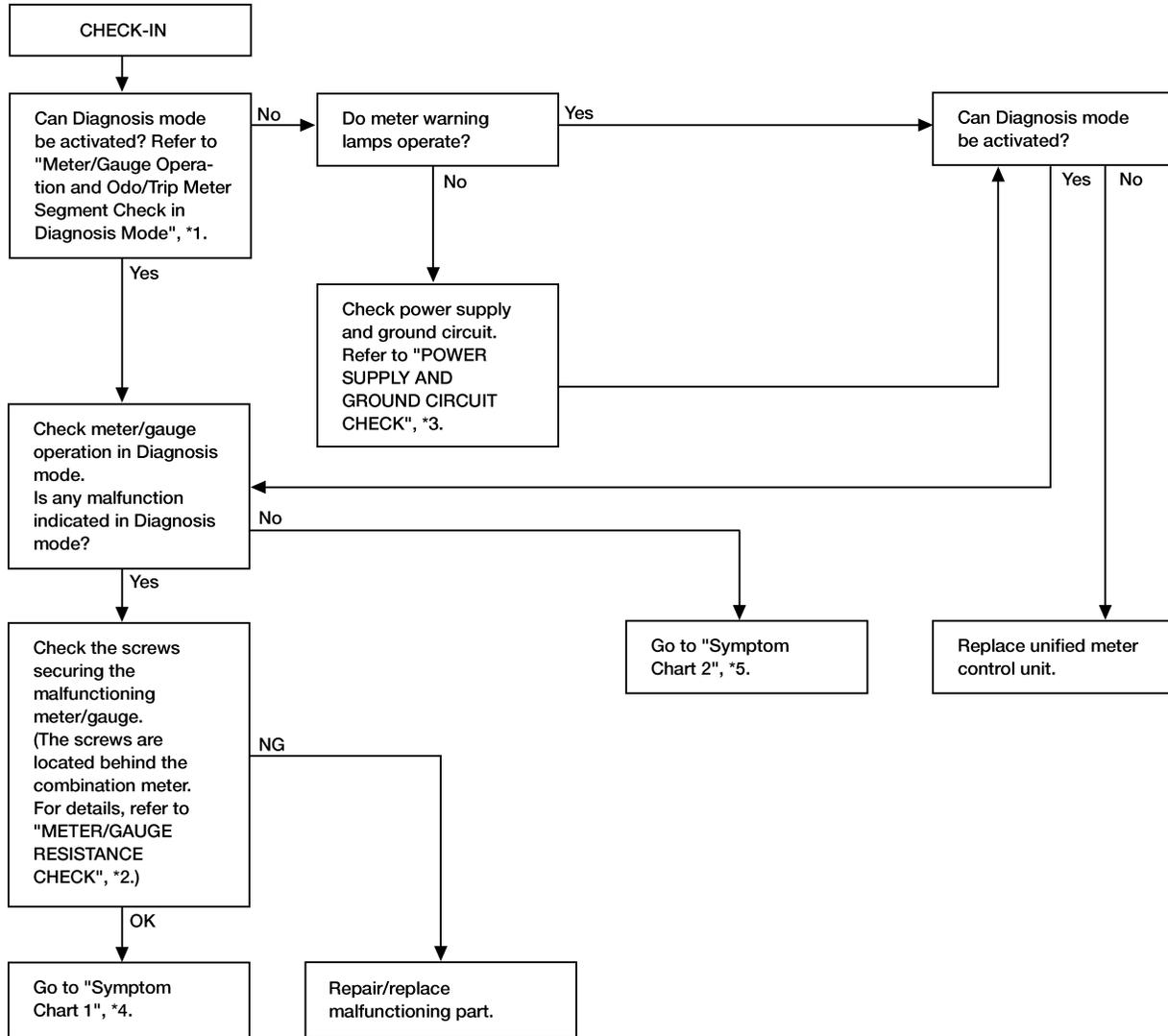
7. Push odo/trip meter switch. Indication of each meter/gauge should be as shown in figure at left while pushing odo/trip meter switch if it is not malfunctioning.

NOTE:

It takes about 1 minute for indication of fuel gauge to become stable.

Trouble Diagnoses PRELIMINARY CHECK

NGEL0046
NGEL0046S04



*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-78)
*2: METER/GAUGE RESISTANCE CHECK (EL-85)

*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-81)
*4: Symptom Chart 1 (EL-80)

*5: Symptom Chart 2 (EL-80)

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METERS AND GAUGES

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NGEL0046S05

NGEL0046S0501

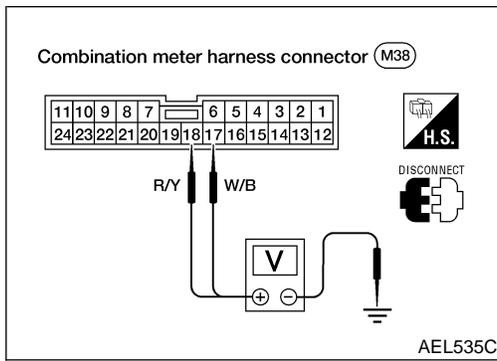
| Symptom | Possible causes | Repair order |
|--|---|---|
| Speedometer and/or odo/trip meter indicate(s) malfunction in Diagnosis mode. | <ul style="list-style-type: none"> ● Speedometer (unified meter control unit) | <ul style="list-style-type: none"> ● Replace speedometer (unified meter control unit). |
| Multiple meters/gauges indicate malfunction in Diagnosis mode. | | |
| Tachometer, fuel gauge or water temp. gauge indicates malfunction in Diagnosis mode. | <ul style="list-style-type: none"> ● Meter/Gauge ● Speedometer (unified meter control unit) | <ol style="list-style-type: none"> 1. Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-85. 2. If the resistance is OK, replace speedometer (unified meter control unit). |

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

NGEL0046S0502

| Symptom | Possible causes | Repair order |
|---|--|---|
| Speedometer and odo/trip meter are malfunctioning. | <ul style="list-style-type: none"> ● Sensor <ul style="list-style-type: none"> - Speedometer, Odo/Trip meter ● Speedometer (unified meter control unit) | <ol style="list-style-type: none"> 1. Check vehicle speed sensor. Refer to INSPECTION/VEHICLE SPEED SENSOR, EL-82. 2. Replace speedometer (unified meter control unit). |
| Multiple meters/gauges are malfunctioning (except speedometer, odo/trip meter). | <ul style="list-style-type: none"> ● Speedometer (unified meter control unit) | <ul style="list-style-type: none"> ● Replace speedometer (unified meter control unit). |
| Tachometer, fuel gauge or water temp. gauge is malfunctioning. | <ul style="list-style-type: none"> ● Sensor/Engine revolution signal <ul style="list-style-type: none"> - Tachometer - Fuel gauge - Water temp. gauge ● Speedometer (unified meter control unit) | <ol style="list-style-type: none"> 1. Check the sensor for malfunctioning meter/gauge. Refer to INSPECTION/ENGINE REVOLUTION SIGNAL, EL-83. Refer to INSPECTION/FUEL TANK GAUGE UNIT, EL-84. Refer to INSPECTION/THERMAL TRANSMITTER, EL-85. 2. Replace speedometer (unified meter control unit). |

Before starting trouble diagnoses above, perform PRELIMINARY CHECK, EL-79.



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NGEL0046S07

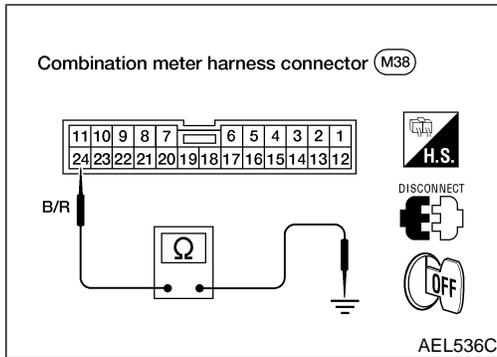
Power Supply Circuit Check

NGEL0046S0701

| Terminals | | Ignition switch position | | |
|-----------|--------|--------------------------|----------------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 18 | Ground | Battery volt- age | Battery volt- age | Battery voltage |
| 17 | Ground | 0V | 0V | Battery voltage |

If NG, check the following.

- 7.5A fuse [No. 28, located in fuse block (J/B)]
- 10A fuse [No. 11, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter



Ground Circuit Check

NGEL0046S0702

| Terminals | Continuity |
|-------------|------------|
| 24 - Ground | Yes |

GI

MA

EM

LC

EC

FE

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MT

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METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/VEHICLE SPEED SENSOR

=NGEL0046S03

| | | | | |
|--|--|---|-----------------------------|--|
| 1 | CHECK VEHICLE SPEED SENSOR OUTPUT | <p>1. Remove vehicle speed sensor from transmission. 2. Check voltage between combination meter terminals 22 and 23 while quickly turning speed sensor pinion.</p> | | |
| | | | | |
| <p>Voltage: Approx. 0.5V</p> <p>OK or NG</p> | | | | |
| OK | | ▶ | Vehicle speed sensor is OK. | |
| NG | | ▶ | GO TO 2. | |

| | | | | |
|---|-----------------------------------|---|---|--|
| 2 | CHECK VEHICLE SPEED SENSOR | <p>Check resistance between vehicle speed sensor terminals 1 and 2.</p> | | |
| | | | | |
| <p>Resistance: Approx. 285Ω</p> <p>OK or NG</p> | | | | |
| OK | | ▶ | Check harness and connector between speedometer and vehicle speed sensor. | |
| NG | | ▶ | Replace vehicle speed sensor. | |

METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/ENGINE REVOLUTION SIGNAL

NGEL0046S02

| | | | |
|----------|-------------------------|--|---|
| 1 | CHECK ECM OUTPUT | <p>1. Start engine. 2. Check voltage between combination meter terminals 21 and 24 at idle and 2,000 rpm.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">AEL539C</p> <p style="color: blue; margin-top: 10px;"> Higher rpm = Higher voltage Lower rpm = Lower voltage Voltage should change with rpm. </p> <p style="text-align: center; margin-top: 10px;">OK or NG</p> | <p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p> <p>EC</p> <p>FE</p> <p>CL</p> |
| OK | ▶ | Engine revolution signal is OK. | |
| NG | ▶ | Harness for open or short between ECM and combination meter | |

GI

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EM

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METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/FUEL TANK GAUGE UNIT

=NGEL0046S08

| | | | | |
|-------------------------------|--|---|--|--|
| 1 | CHECK GROUND CIRCUIT FOR FUEL TANK GAUGE UNIT | <p>Check harness continuity between fuel tank gauge unit harness connector terminal E and ground.</p> <div style="text-align: center;"> <p>Fuel tank gauge unit harness connector (B108)</p> </div> <p style="text-align: right;">AEL625C</p> | | |
| Does continuity exist? | | | | |
| Yes | ▶ | GO TO 2. | | |
| No | ▶ | Repair harness or connector. | | |

| | | | | |
|----------|--------------------------|---|--|--|
| 2 | CHECK GAUGE UNITS | <p>Refer to "FUEL TANK GAUGE UNIT CHECK", EL-86.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 3. | | |
| NG | ▶ | Replace fuel tank gauge unit. | | |

| | | | | |
|-----------------|--|--|--|--|
| 3 | CHECK HARNESS FOR OPEN OR SHORT | <p>1. Disconnect combination meter harness connector M38 and fuel tank gauge unit harness connector.</p> <p>2. Check continuity between combination meter harness connector terminal 20 and fuel tank gauge unit harness connector terminal G. Continuity should exist.</p> <p>3. Check continuity between combination meter harness connector terminal 20 and ground. Continuity should not exist.</p> <div style="text-align: center;"> <p>Combination meter harness connector (M38)</p> <p>Fuel tank gauge unit harness connector (B108)</p> </div> <p style="text-align: right;">AEL626C</p> | | |
| OK or NG | | | | |
| OK | ▶ | Fuel tank gauge unit is OK. | | |
| NG | ▶ | Repair harness or connector. | | |

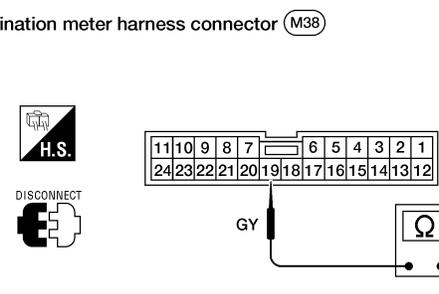
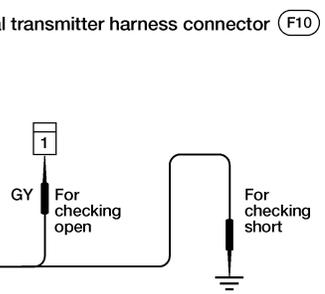
METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/THERMAL TRANSMITTER

NGEL0046S09

| | | |
|--|----------------------------------|------------------------------|
| 1 | CHECK THERMAL TRANSMITTER | |
| Refer to "THERMAL TRANSMITTER CHECK", EL-86. | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace thermal transmitter. |

| | | |
|---|--|------------------------------|
| 2 | CHECK HARNESS FOR OPEN OR SHORT | |
| <p>1. Disconnect combination meter harness connector M38 and thermal transmitter harness connector.</p> <p>2. Check continuity between combination meter harness connector terminal 19 and thermal transmitter harness connector terminal 1. Continuity should exist.</p> <p>3. Check continuity between combination meter harness connector terminal 19 and ground. Continuity should not exist.</p> | | |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Combination meter harness connector (M38)</p>  </div> <div style="text-align: center;"> <p>Thermal transmitter harness connector (F10)</p>  </div> </div> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Thermal transmitter is OK. |
| NG | ▶ | Repair harness or connector. |

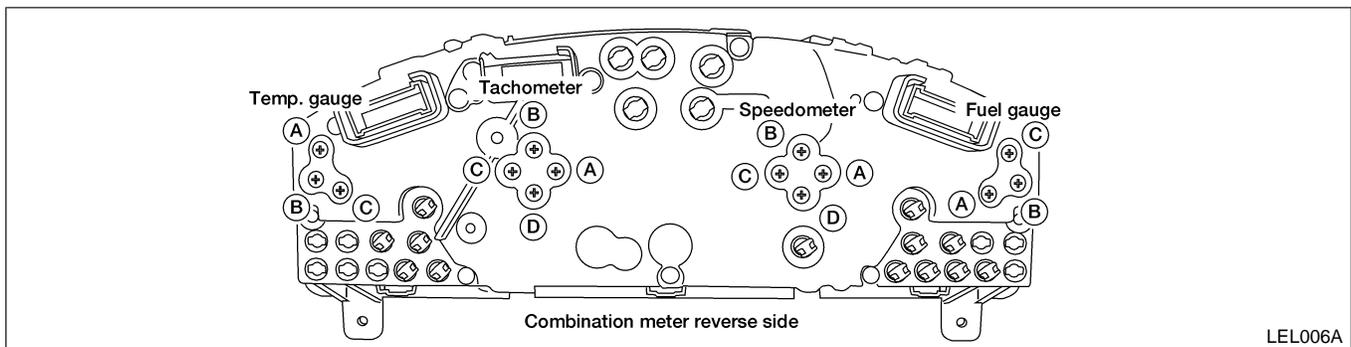
Electrical Components Inspection METER/GAUGE RESISTANCE CHECK

NGEL0047

NGEL0047S04

- Check resistance between meter/gauge installation screws.

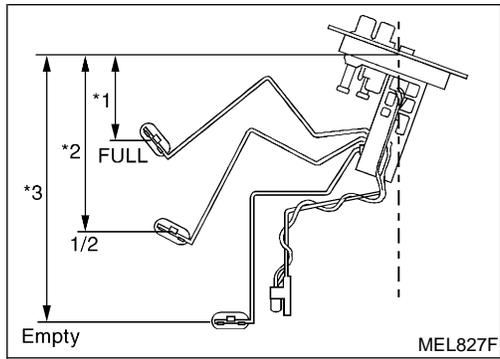
| Screws | | Resistance (Approx.) Ω |
|------------|------------------|-------------------------------------|
| Tachometer | Fuel/Temp. gauge | |
| A - C | A - C | 190 - 260 |
| B - D | B - C | 230 - 310 |



LEL006A

METERS AND GAUGES

Electrical Components Inspection (Cont'd)



FUEL TANK GAUGE UNIT CHECK

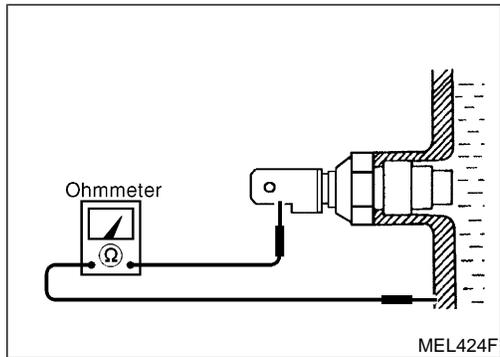
NGEL0047S01

- For removal, refer to **FE-4**.

Check the resistance between fuel tank gauge unit terminals G and E.

| Ohmmeter | | Float position mm (in) | | | Resistance value (Ω) |
|----------|-----|------------------------|-------|-------------|----------------------|
| (+) | (-) | | | | |
| G | E | *1 | Full | 96 (3.78) | Approx. 4 - 6 |
| | | *2 | 1/2 | 188 (7.40) | 30 - 34 |
| | | *3 | Empty | 257 (10.12) | 80 - 83 |

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

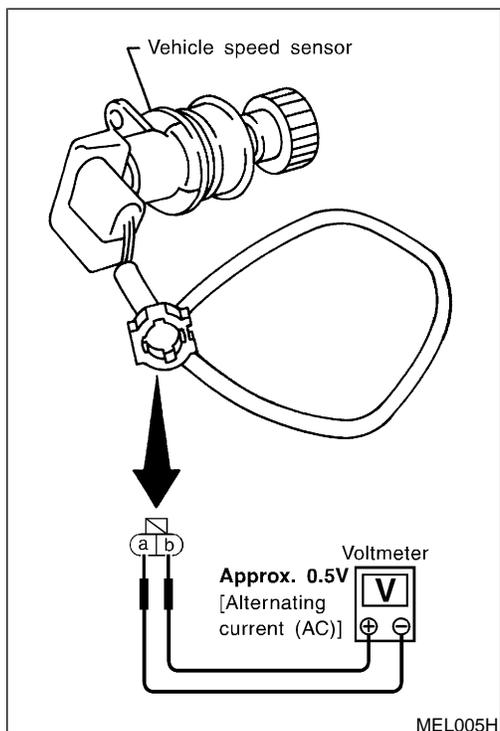


THERMAL TRANSMITTER CHECK

NGEL0047S02

Check the resistance between thermal transmitter terminal 1 and body ground.

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



VEHICLE SPEED SENSOR SIGNAL CHECK

NGEL0047S03

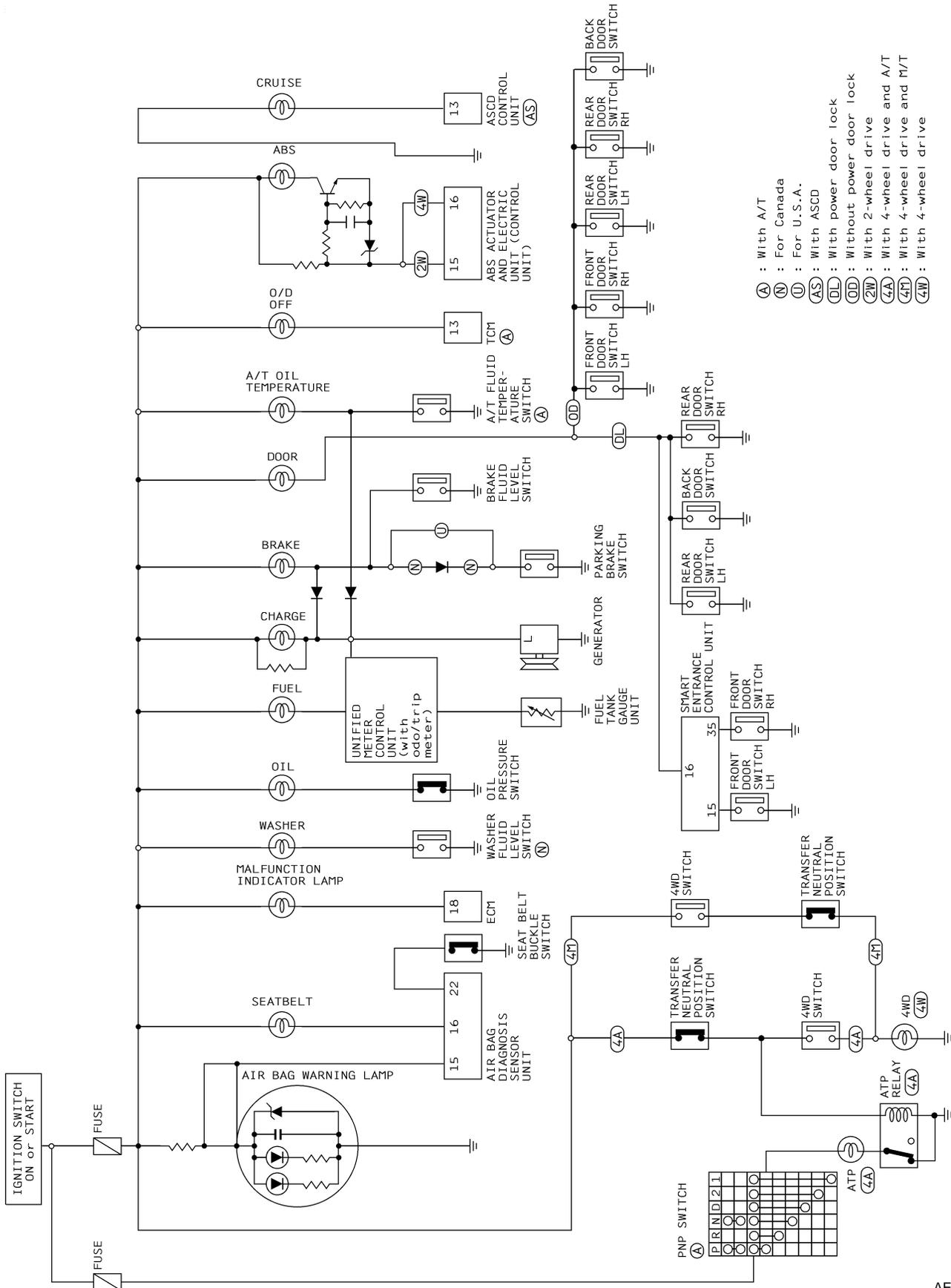
- Remove vehicle speed sensor from transmission.
- Turn vehicle speed sensor pinion quickly and measure voltage across a and b.

WARNING LAMPS

Circuit Diagram

Circuit Diagram

NGEL0049



GI
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AEL782C

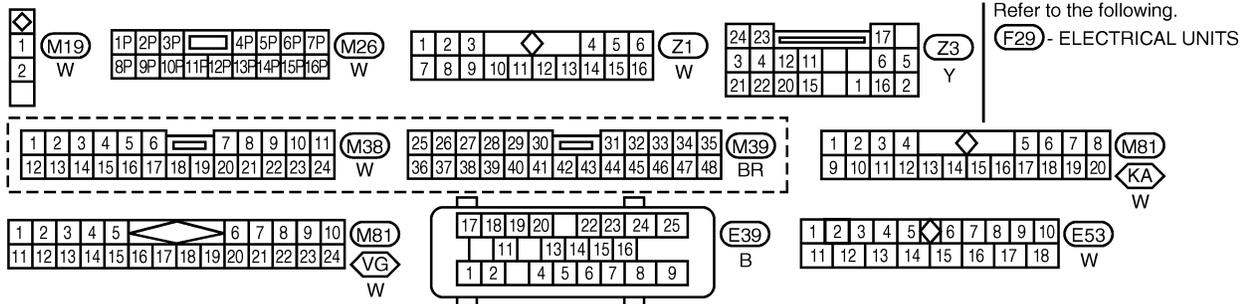
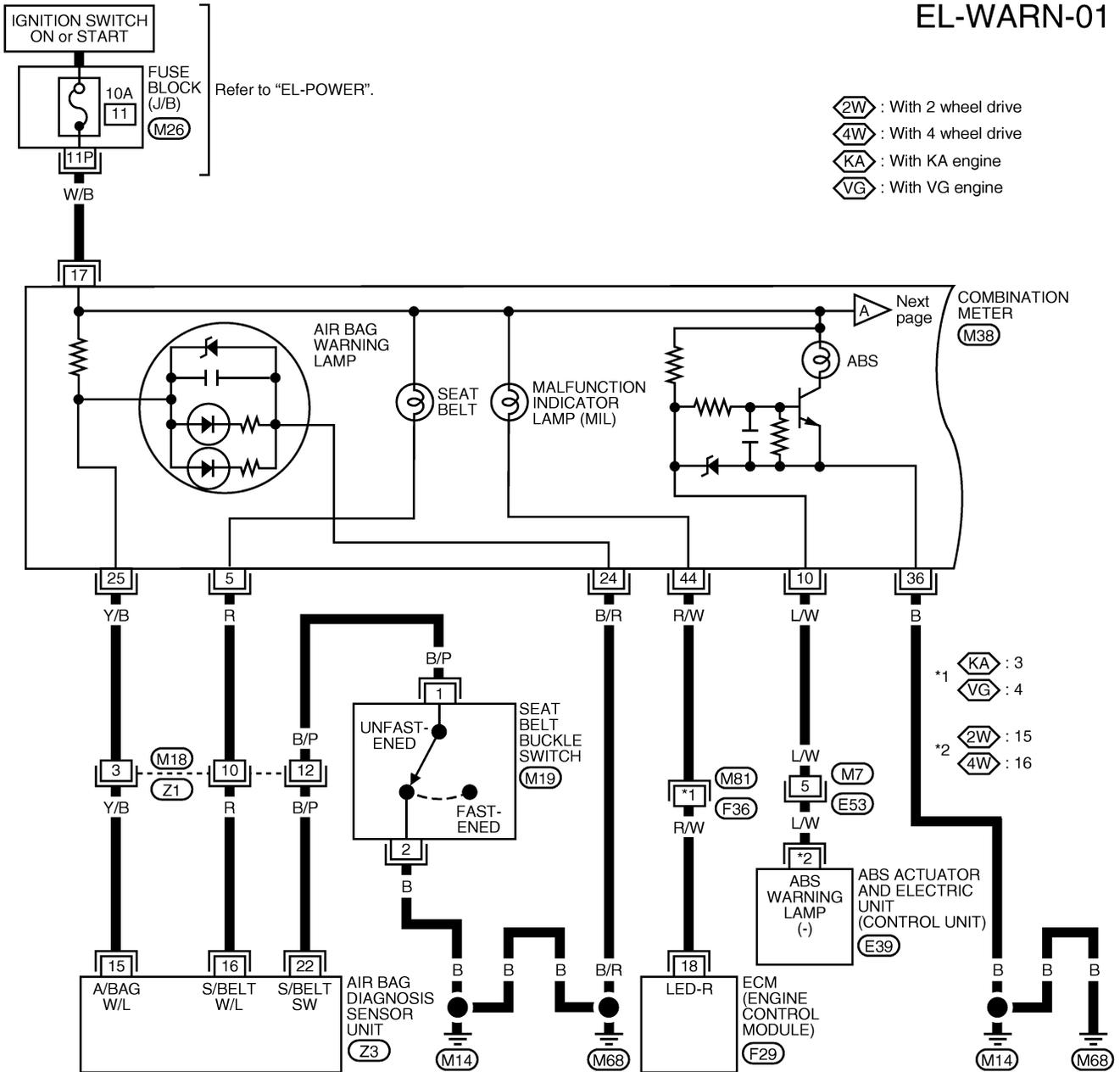
WARNING LAMPS

Wiring Diagram — WARN —

Wiring Diagram — WARN —

NGEL0050

EL-WARN-01



AEL364C

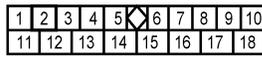
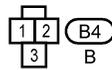
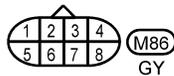
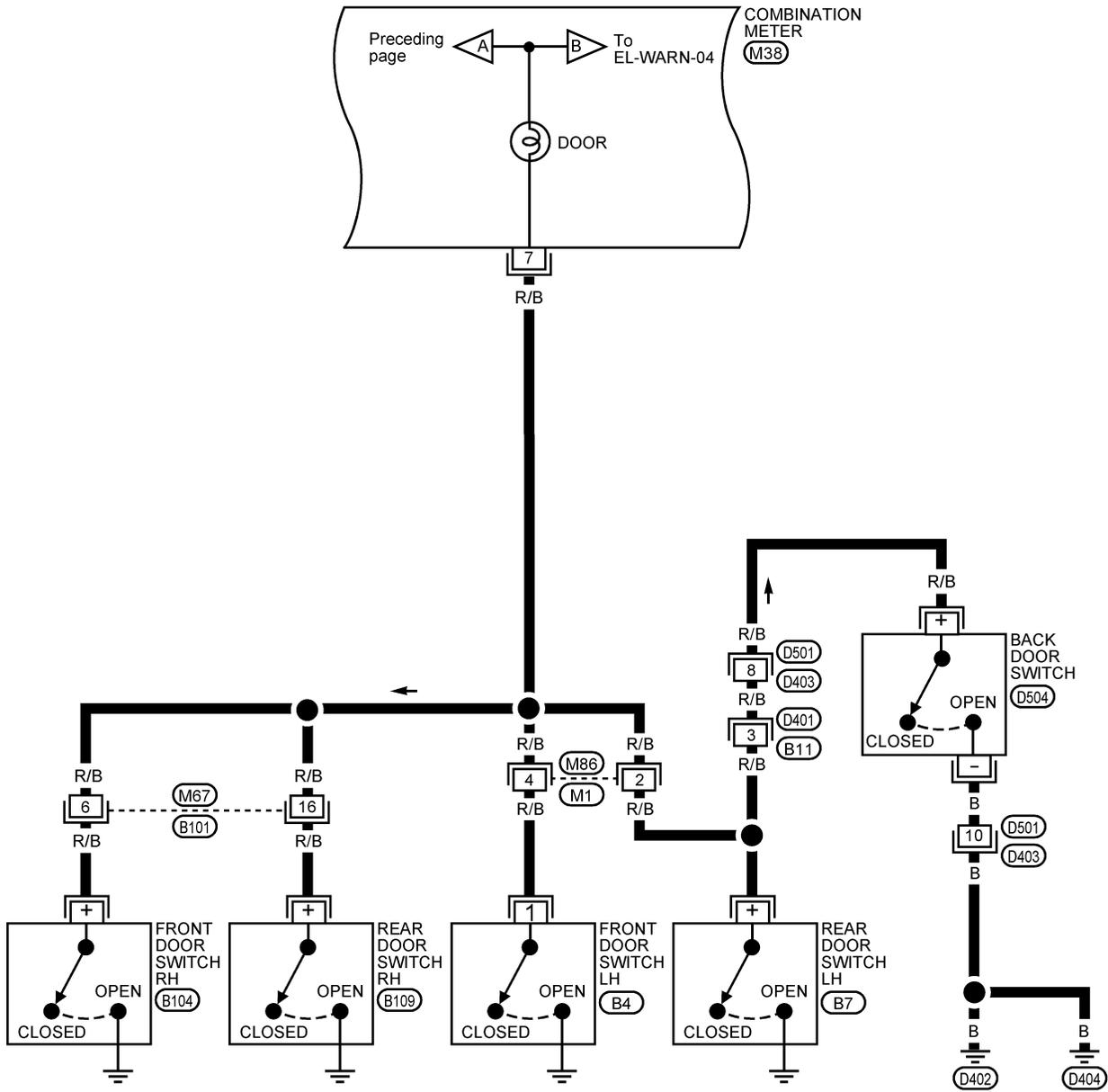
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

MODELS WITHOUT POWER DOOR LOCKS

NGEL0050S01

EL-WARN-02



AEL776C

GI

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EM

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EC

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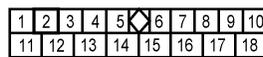
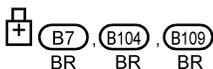
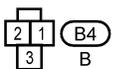
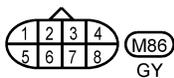
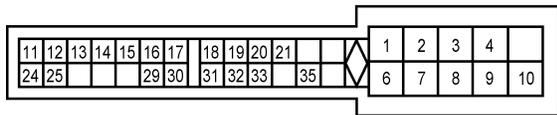
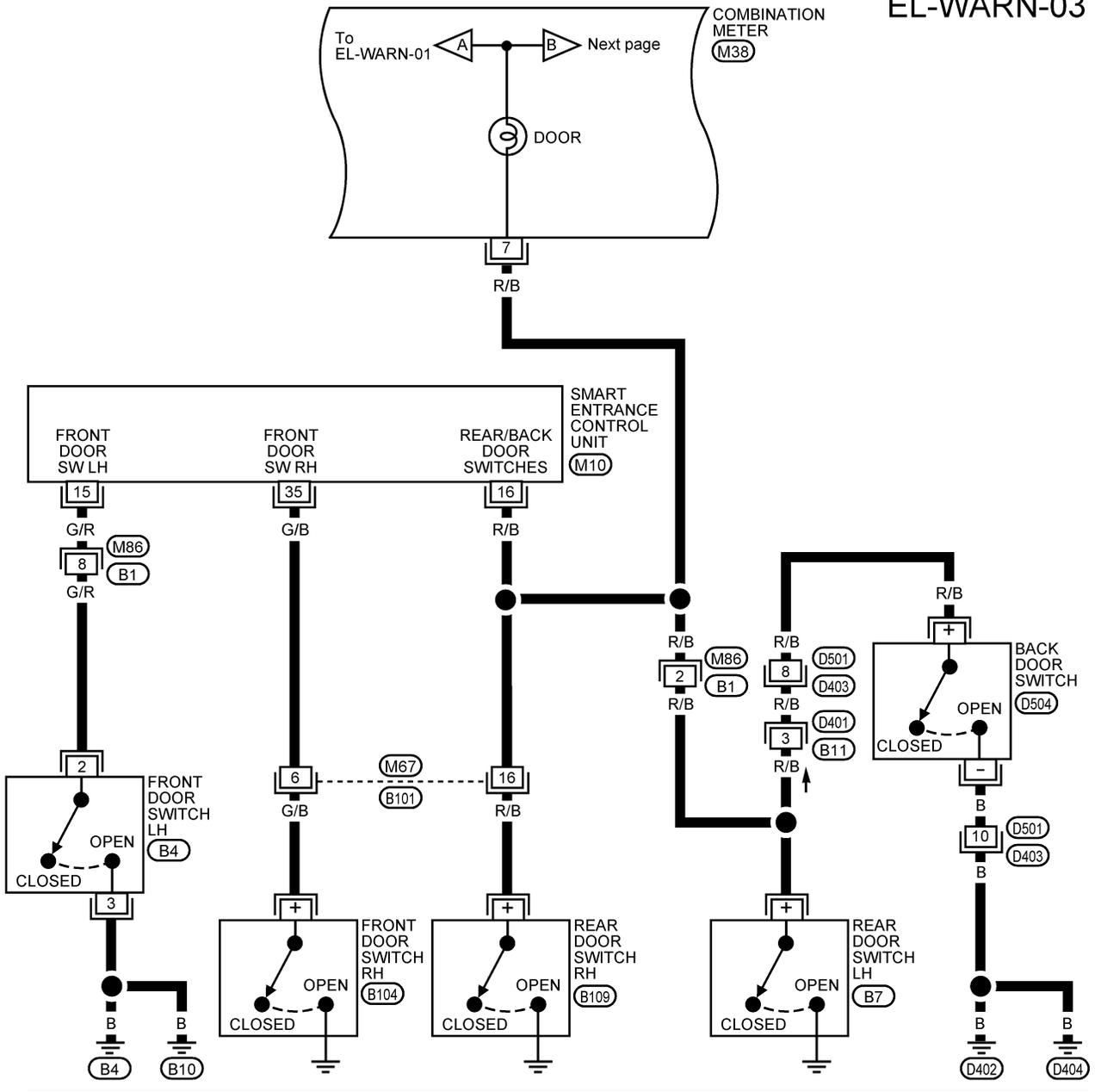
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

MODELS WITH POWER DOOR LOCKS

NGEL0050S02

EL-WARN-03



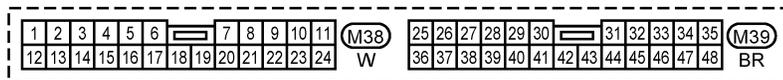
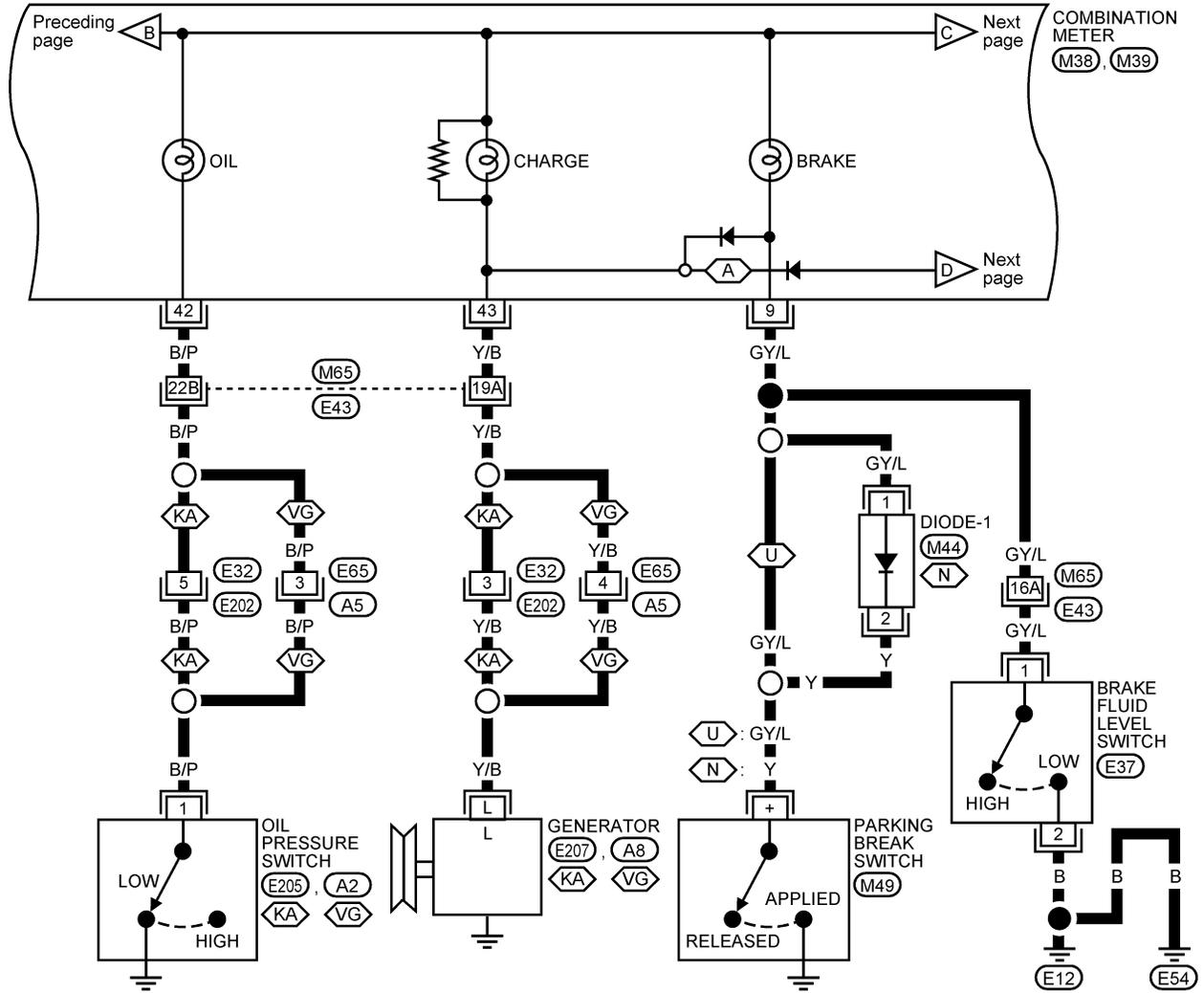
AEL777C

WARNING LAMPS

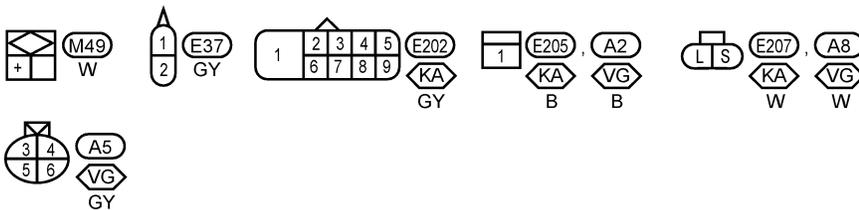
Wiring Diagram — WARN — (Cont'd)

EL-WARN-04

- : With A/T
- : For U.S.A.
- : For Canada
- : With KA engine
- : With VG engine



Refer to the following.
 - SUPER
 MULTIPLE JUNCTION (SMJ)



GI
MA
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AEL778C

EL

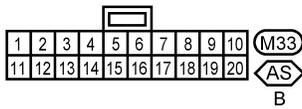
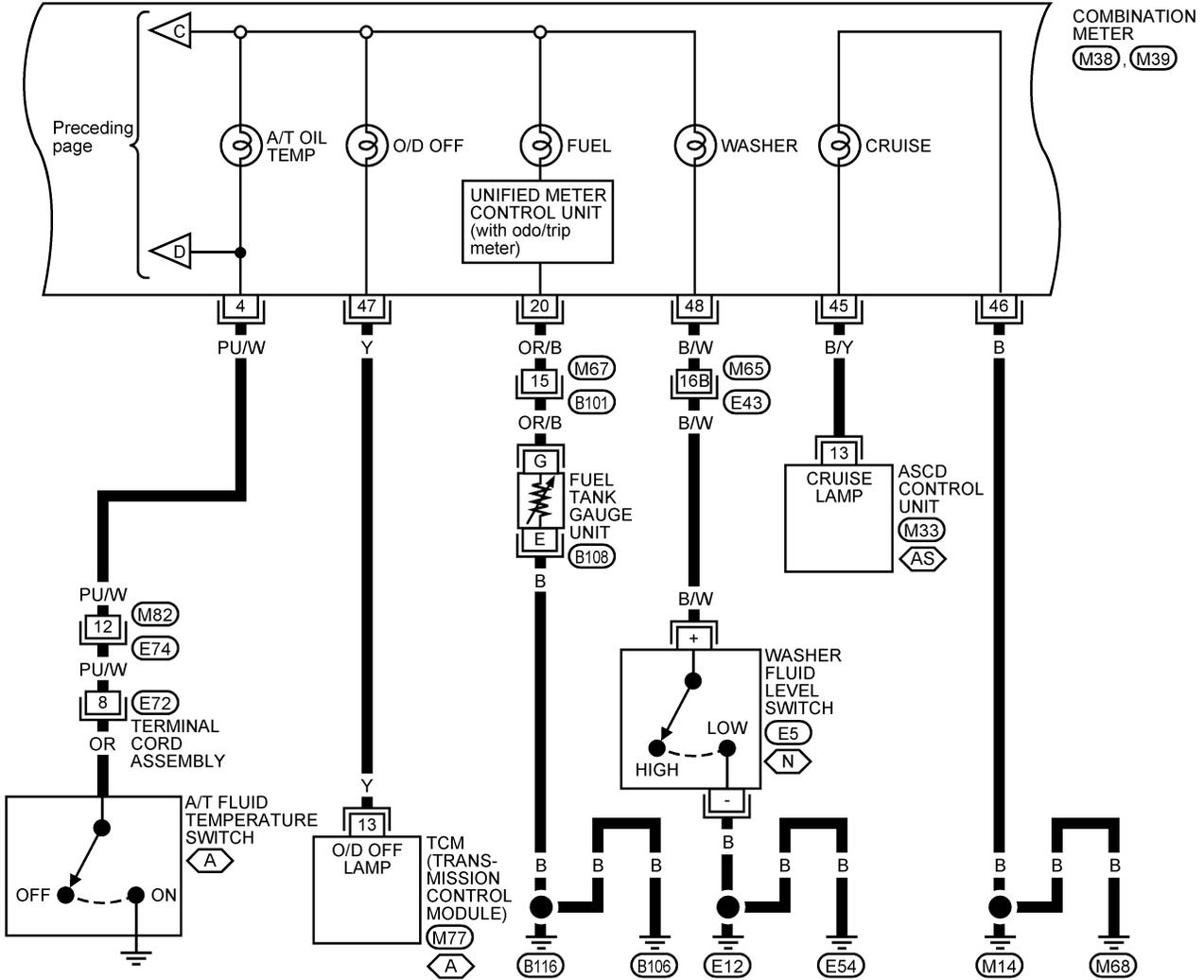
IDX

WARNING LAMPS

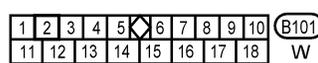
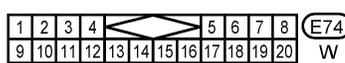
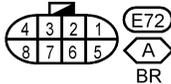
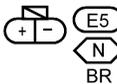
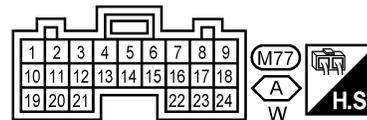
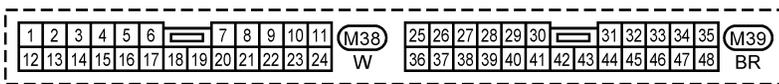
Wiring Diagram — WARN — (Cont'd)

EL-WARN-05

- A : With A/T
- N : For Canada
- AS : With ASCD



Refer to the following.
M65, E43 - SUPER
 MULTIPLE JUNCTION (SMJ)

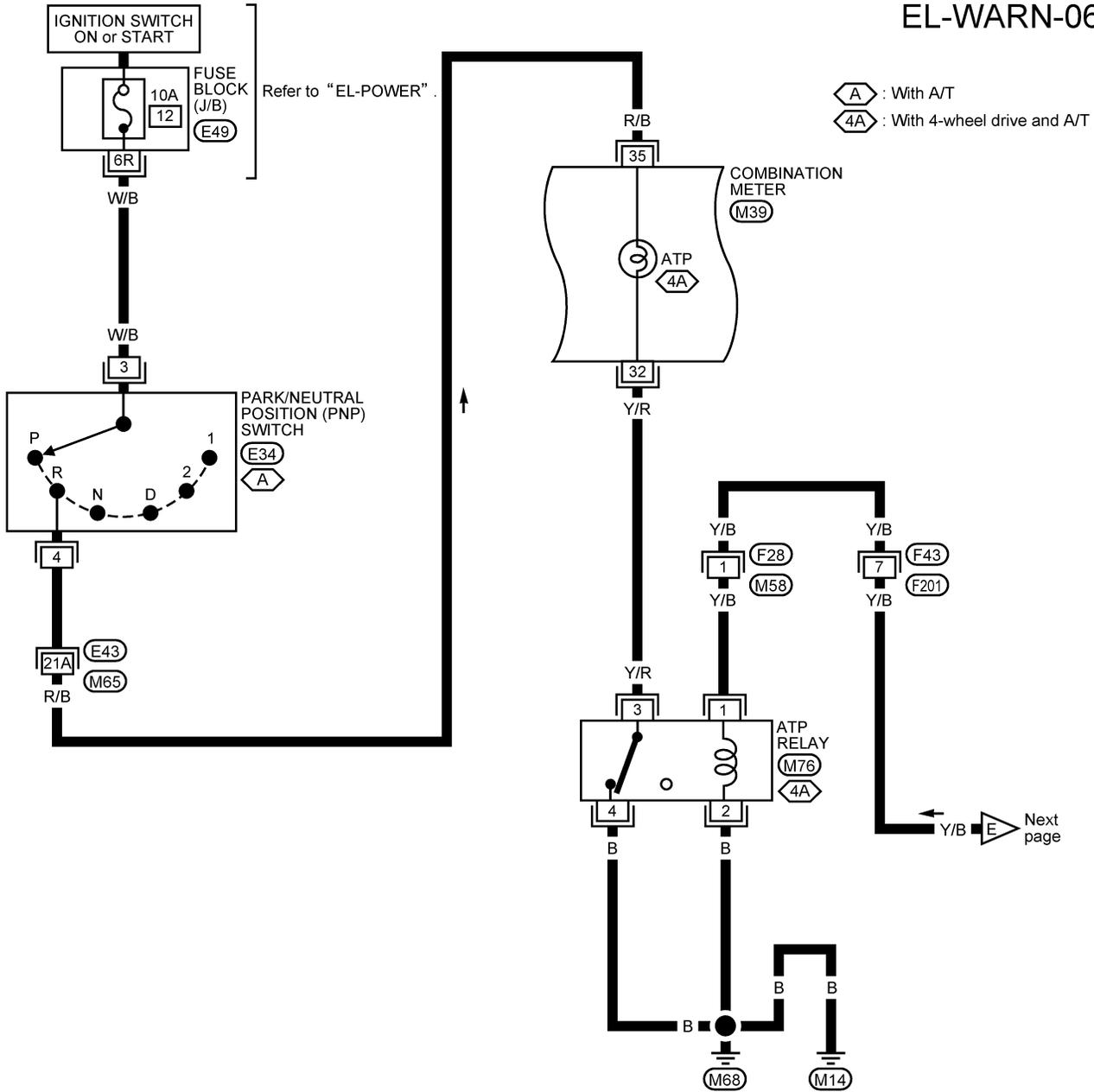


AEL779C

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-06



GI

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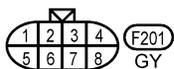
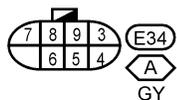
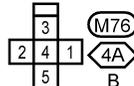
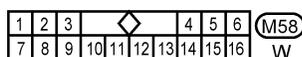
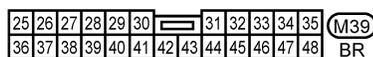
BT

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Refer to last page (Foldout page).

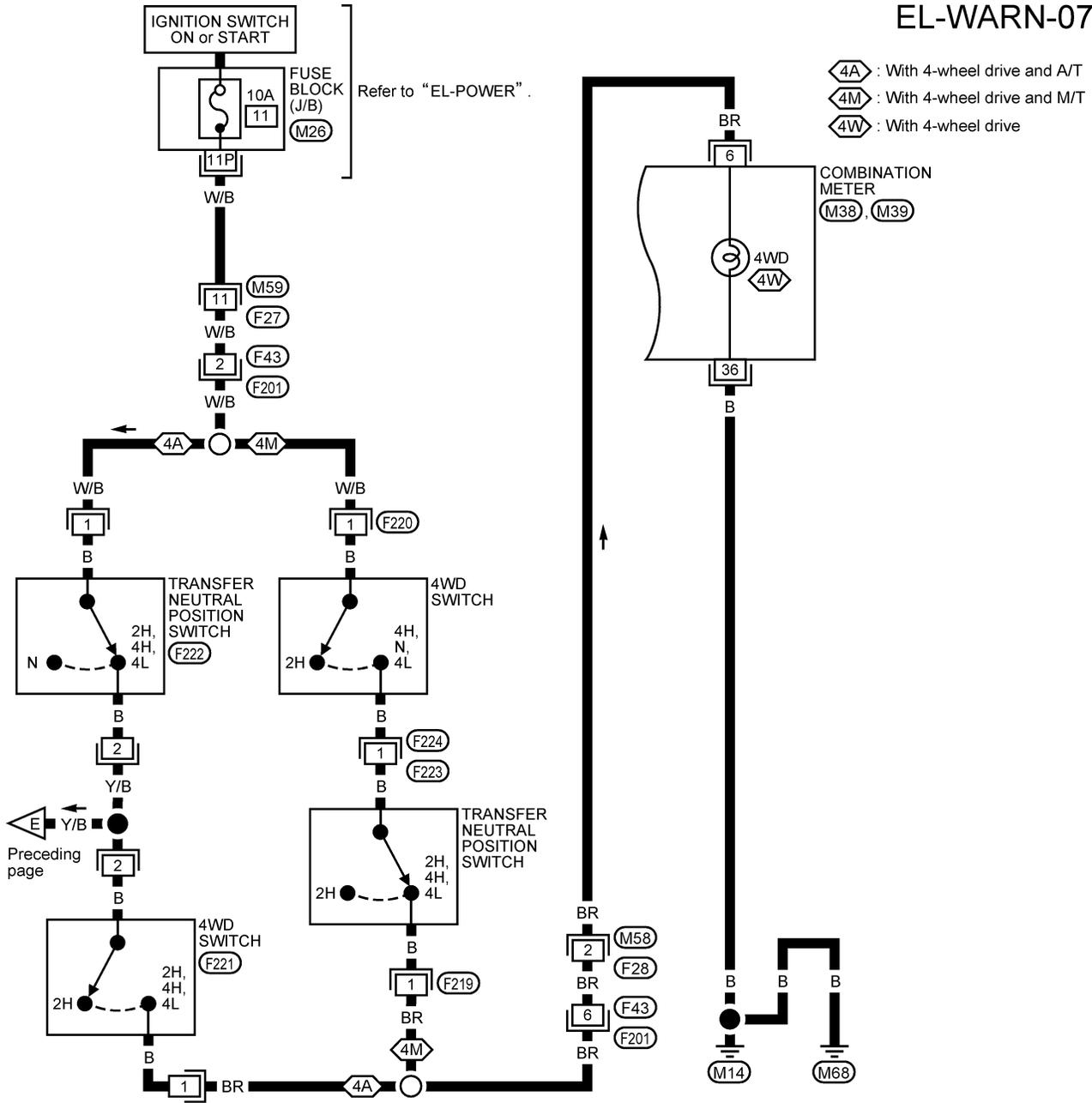
M65, E43

AEL780C

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-07



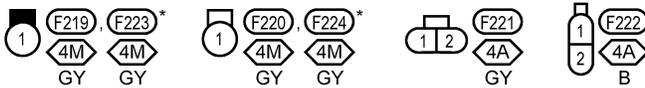
| | | | | | | | | | |
|----|----|-----|-----|-----|-----|-----|-----|-----|---|
| 1P | 2P | 3P | 4P | 5P | 6P | 7P | M26 | | |
| 8P | 9P | 10P | 11P | 12P | 13P | 14P | 15P | 16P | W |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | M38 | 25 | 26 | 27 | 28 | 29 | 30 | M39 | | | | | | | | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | W | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | BR |

| | | | | | | | | | | |
|---|---|---|----|----|----|-----|----|----|----|---|
| 1 | 2 | 3 | 4 | 5 | 6 | M58 | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | W |

| | | | | | | | | | | |
|----|----|----|----|----|----|----|----|---|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | M59 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | W | | |

| | | | | |
|---|---|---|---|------|
| 1 | 2 | 3 | 1 | F201 |
| 5 | 6 | 7 | 8 | GY |



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

AEL781C

WARNING LAMPS

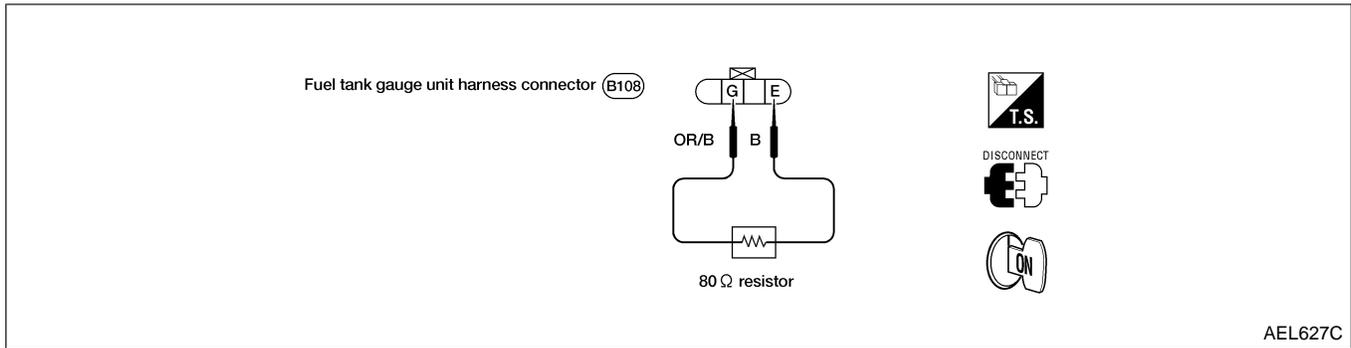
Electrical Components Inspection

Electrical Components Inspection FUEL WARNING LAMP SENSOR CHECK

NGEL0051

NGEL0051S01

- 1) Turn ignition switch OFF.



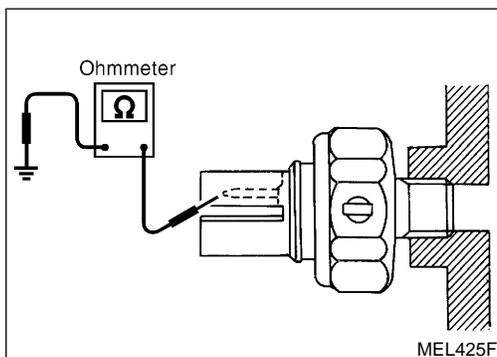
- 2) Disconnect fuel tank gauge unit harness connector B108.
- 3) Connect a resistor (80 Ω) between fuel tank gauge unit harness connector terminals G and E.
- 4) Turn ignition switch ON.

The fuel warning lamp should come on.

NOTE:

ECM might store the 1st tip DTC P0180 during this inspection. If the DTC is stored in ECM memory, erase the DTC after reconnecting the fuel tank gauge unit harness connector.

Refer to **EC-640**, "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION", "Emission-related Diagnostic Information", "ON BOARD DIAGNOSTIC SYSTEM DESCRIPTION".

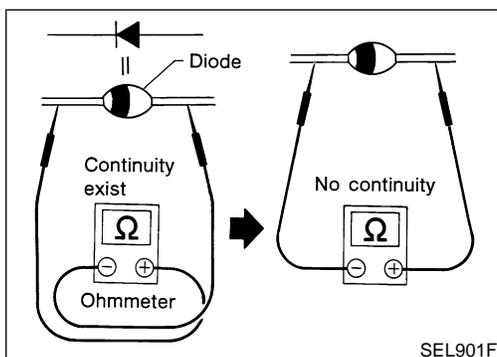


OIL PRESSURE SWITCH CHECK

NGEL0051S02

| | 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 oil pressure switch terminal 1 and body ground.



DIODE CHECK

NGEL0051S03

- 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 the combination meter assembly. Refer to "WARNING LAMP" wiring diagrams, EL-88.

NOTE:

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

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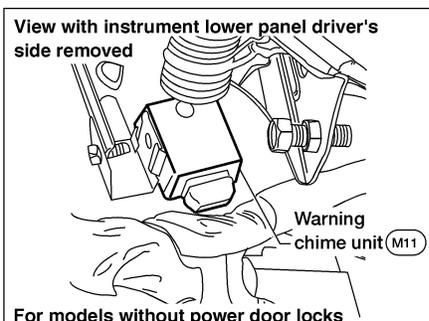
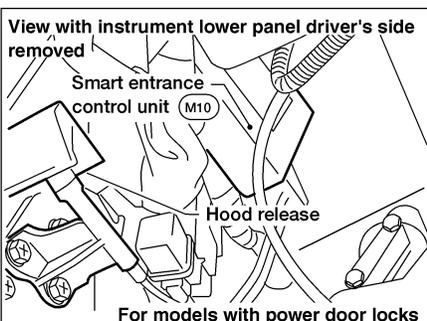
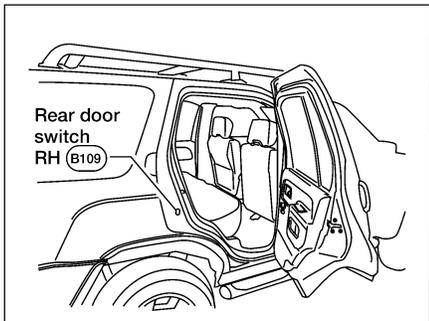
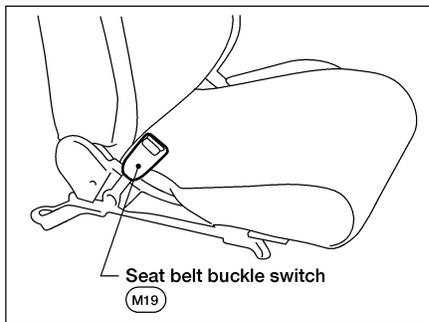
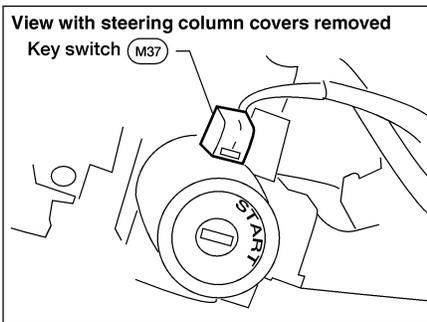
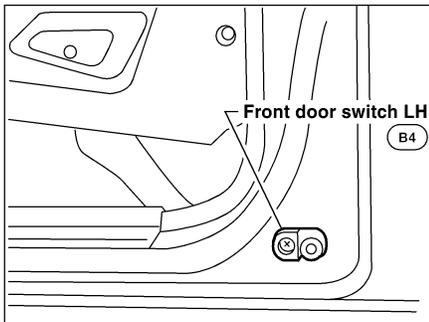
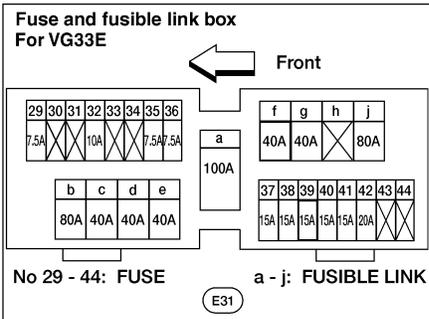
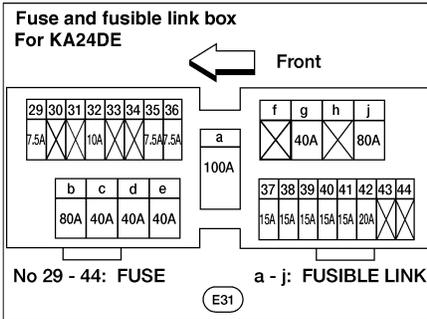
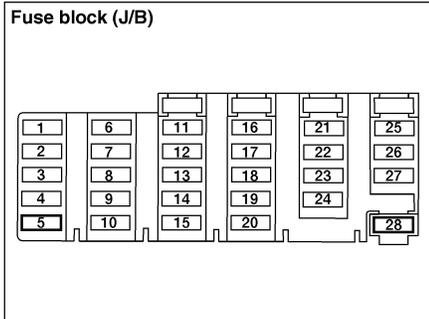
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WARNING CHIME

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NGEL0052



LEL531A

System Description

MODELS WITHOUT POWER DOOR LOCKS

NGEL0053

NGEL0053S04

The warning chime is integral with the warning chime unit, which controls its operation. Power is supplied at all times

- through 7.5A fuse [No. 28, located in the fuse block (J/B)]
- to key switch terminal 1.

Power is supplied at all times

- through 15A fuse (No. 39, located in the fuse and fusible link box)
- to lighting switch terminal 11.

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to warning chime unit terminal 1.

Ground is supplied to warning chime unit terminal 8 through body grounds M14 and M68.

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

Ignition Key Warning Chime

NGEL0053S0401

With the key switch in the INSERTED (key is in the ignition key cylinder) position, the ignition switch in the OFF or ACC position and the front door LH open, the warning chime will sound. A battery positive voltage is supplied

- from key switch terminal 2
- to warning chime unit terminal 5.

Ground is supplied

- to warning chime unit terminal 7
- through front door switch LH terminal 2.

Front door switch LH terminal 3 is grounded through body grounds B6 and B10.

Light Warning Chime

NGEL0053S0402

With the ignition switch in the OFF or ACC position, front door LH open and lighting switch in the parking and tail lamps ON (1ST) or headlamps ON (2ND) position, the warning chime will sound. A battery positive voltage is supplied

- from lighting switch terminal 12
- to warning chime unit terminal 4.

Ground is supplied

- to warning chime unit terminal 7
- through front door switch LH terminal 2.

Front door switch LH terminal 3 is grounded through body grounds B6 and B10.

Seat Belt Warning Chime

NGEL0053S0403

The warning chime will sound for approximately 6 seconds when the ignition switch is turned from OFF to ON with the driver's seat belt unfastened (seat belt buckle switch ON).

Ground is supplied

- to warning chime unit terminal 2
- through seat belt buckle switch terminal 1.

Seat belt buckle switch terminal 2 is grounded through body grounds M14 and M68.

MODELS WITH POWER DOOR LOCKS

NGEL0053S05

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

Power is supplied at all times

- through 7.5A fuse [No. 28, located in the fuse block (J/B)]
- to key switch terminal 1.

Power is supplied at all times

- through 15A fuse (No. 39, located in the fuse and fusible link box)
- to lighting switch terminal 11.

Power is supplied at all times

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

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WARNING CHIME

System Description (Cont'd)

- to circuit breaker terminal +
- through circuit breaker terminal –
- to smart entrance control unit terminal 1.

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to smart entrance control unit terminal 11.

Ground is supplied to smart entrance control unit terminal 10 through body grounds M14 and M68.

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

Ignition Key Warning Chime

NGEL0053S0501

With the key switch in the INSERTED (key is in the ignition key cylinder) position, the ignition switch in the OFF or ACC position and the front door LH open, the warning chime will sound. A battery positive voltage is supplied

- from key switch terminal 2
- to smart entrance control unit terminal 24.

Ground is supplied

- to smart entrance control unit terminal 15
- through front door switch LH terminal 2.

Front door switch LH terminal 3 is grounded through body grounds B6 and B10.

Light Warning Chime

NGEL0053S0502

With the ignition switch the OFF or ACC position, front door LH open and lighting switch in parking and tail lamps ON (1ST) or headlamps ON (2ND) position, the warning chime will sound. A battery positive voltage is supplied

- from lighting switch terminal 12
- to smart entrance control unit terminal 25.

Ground is supplied

- to smart entrance control unit terminal 15
- through front door switch LH terminal 2.

Front door switch LH terminal 3 is grounded through body grounds B6 and B10.

Seat Belt Warning Chime

NGEL0053S0503

The warning chime will sound for approximately 6 seconds when the ignition switch is turned from OFF to ON with the driver's seat belt unfastened (seat belt buckle switch ON).

Ground is supplied

- to smart entrance control unit terminal 21
- through seat belt buckle switch terminal 1.

Seat belt buckle switch terminal 2 is grounded through body grounds B6 and B10.

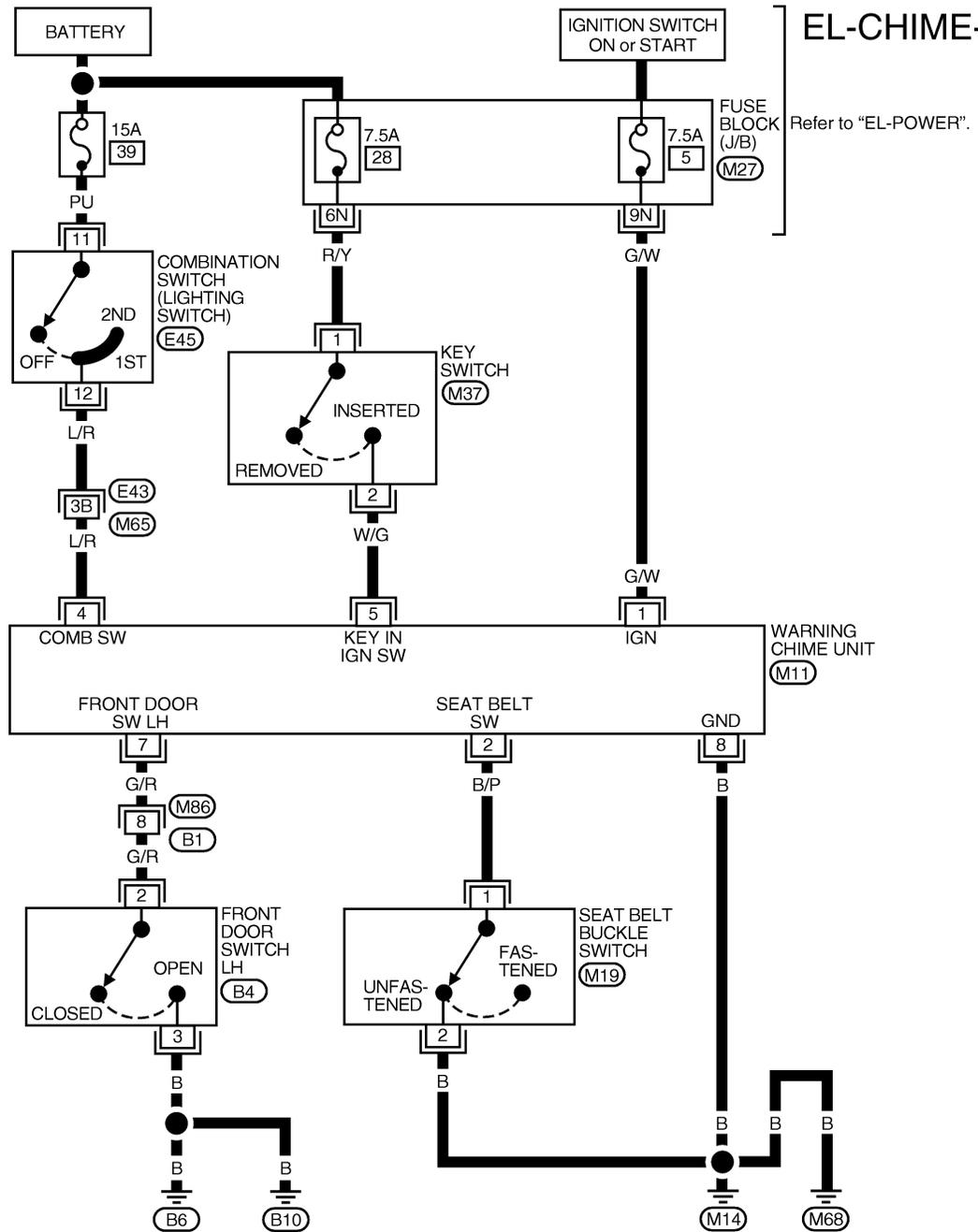
WARNING CHIME

Wiring Diagram — CHIME —

Wiring Diagram — CHIME — MODELS WITHOUT POWER DOOR LOCKS

NGEL0054

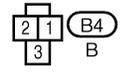
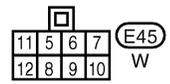
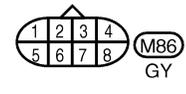
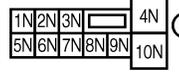
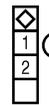
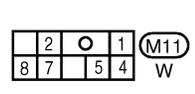
NGEL0054S01



EL-CHIME-01

Refer to "EL-POWER".

Refer to the following.
(M65), (E43) - SUPER
MULTIPLE JUNCTION (SMJ)



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WARNING CHIME

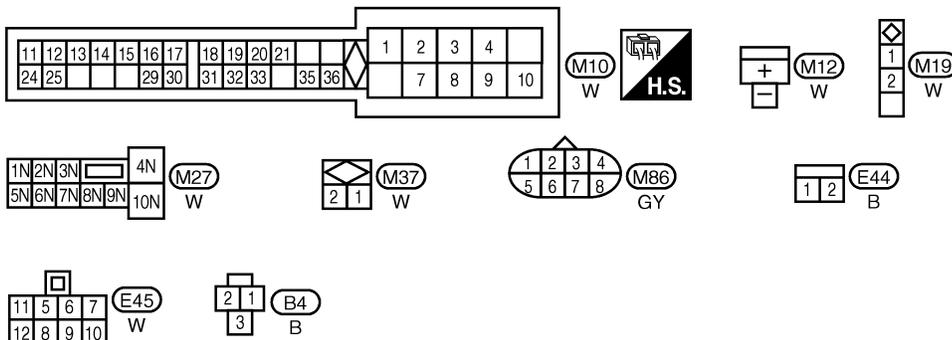
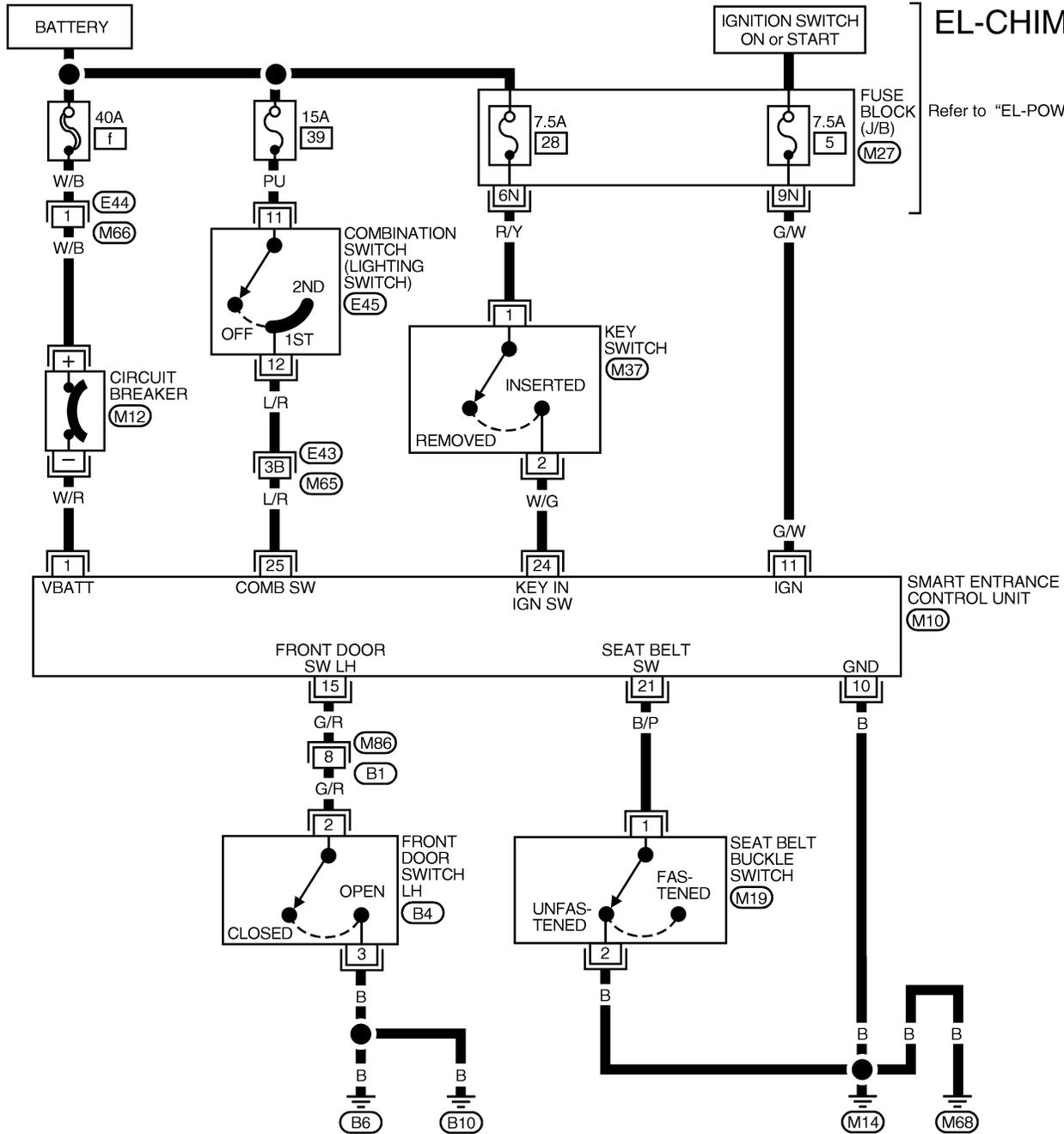
Wiring Diagram — CHIME — (Cont'd)

MODELS WITH POWER DOOR LOCKS

NGEL0054S02

EL-CHIME-02

Refer to "EL-POWER".



Refer to the following.
 (M65), (E43) - SUPER
 MULTIPLE JUNCTION (SMJ)

AEL388C

WARNING CHIME

Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

NGEL0055

NGEL0055S01

| REFERENCE PAGE (EL-) | Without power door locks | 102 | 103 | 104 | 106 | 108 |
|---|---------------------------------------|------------------------------------|-----------------------------|-------------------------------|----------------------------|-----|
| | With power door locks | 102 | 103 | 105 | 107 | 109 |
| SYMPTOM | POWER SUPPLY AND GROUND CIRCUIT CHECK | LIGHTING SWITCH INPUT SIGNAL CHECK | KEY SWITCH (INSERTED) CHECK | SEAT BELT BUCKLE SWITCH CHECK | FRONT DOOR SWITCH LH CHECK | |
| 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 | | |
| All warning chimes do not activate. | X | | | | | |

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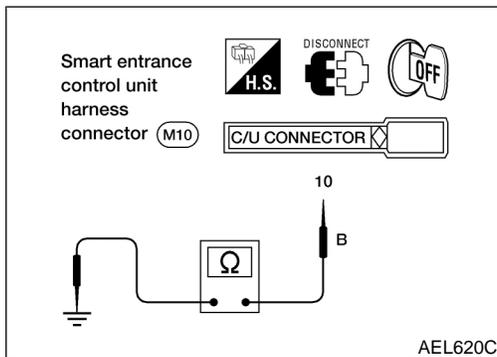
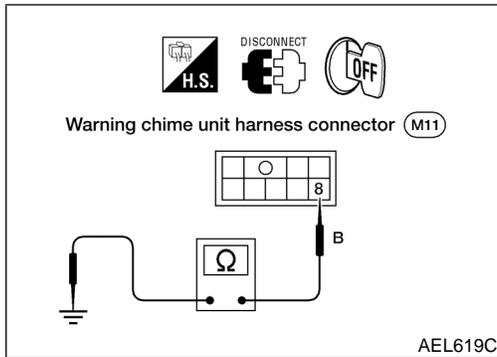
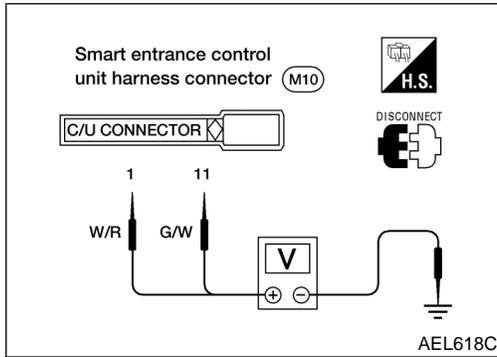
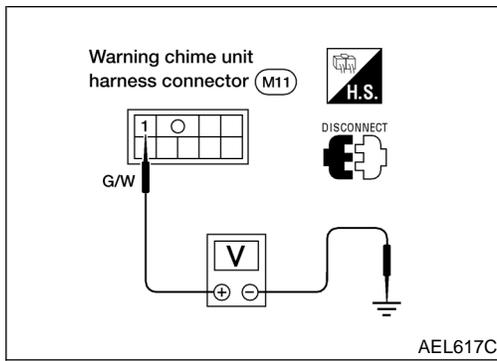
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WARNING CHIME

Trouble Diagnoses (Cont'd)



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NGEL0055S02

Main Power Supply Circuit Check

NGEL0055S0201

● Models without power door locks

| Terminals | | Ignition switch position | | |
|-----------|--------|--------------------------|-----|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 1 | Ground | 0V | 0V | Battery voltage |

● Models with power door locks

| Terminals | | Ignition switch position | | |
|-----------|--------|--------------------------|-----------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 1 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 11 | Ground | 0V | 0V | Battery voltage |

Ground Circuit Check

NGEL0055S0202

● Models without power door locks

| Terminals | Continuity |
|------------|------------|
| 8 - Ground | Yes |

● Models with power door locks

| Terminals | Continuity |
|-------------|------------|
| 10 - Ground | Yes |

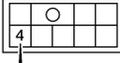
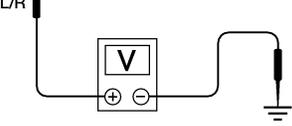
WARNING CHIME

Trouble Diagnoses (Cont'd)

LIGHTING SWITCH INPUT SIGNAL CHECK Models without Power Door Locks

-NGEL0055S03

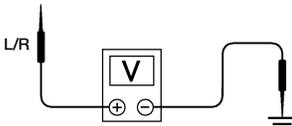
NGEL0055S0301

| | | |
|---|---|--|
| 1 | CHECK LIGHTING SWITCH INPUT SIGNAL | |
| <p>Check voltage between warning chime unit terminal 4 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Warning chime unit connector (M11)</p>  </div> <div style="text-align: center;">    </div> </div> <div style="text-align: center; margin-top: 10px;">  </div> <p>Voltage [V]: Condition of lighting switch: 1ST or 2ND Approx. 12 Condition of lighting switch: OFF 0</p> <p style="text-align: right;">AEL372B</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Lighting switch is OK. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 15A fuse (No. 39, located in the fuse and fusible link box) ● Harness for open or short between warning chime unit and lighting switch |

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Models with Power Door Locks

NGEL0055S0302

| | | |
|--|---|---|
| 1 | CHECK LIGHTING SWITCH INPUT SIGNAL | |
| <p>Check voltage between smart entrance control unit terminal 25 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Smart entrance control unit connector (M10)</p>  </div> <div style="text-align: center;">    </div> </div> <div style="text-align: center; margin-top: 10px;">  </div> <p>Voltage [V]: Condition of lighting switch: 1ST or 2ND Approx. 12 Condition of lighting switch: OFF 0</p> <p style="text-align: right;">AEL371B</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Lighting switch is OK. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 15A fuse (No. 39, located in the fuse and fusible link box) ● Harness for open or short between smart entrance control unit and lighting switch |

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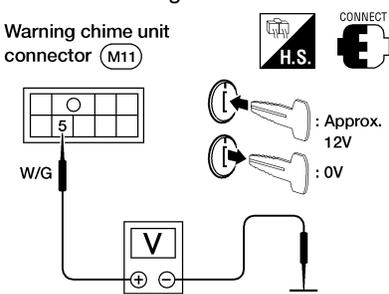
WARNING CHIME

Trouble Diagnoses (Cont'd)

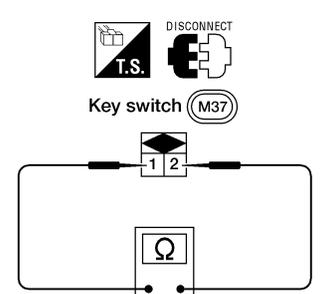
KEY SWITCH (INSERTED) CHECK Models without Power Door Locks

NGEL0055S04

NGEL0055S0401

| 1 | CHECK KEY SWITCH INPUT SIGNAL |
|--|-------------------------------|
| <p>Check voltage between warning chime unit terminal 5 and ground.</p> <div style="text-align: center;">  </div> <p>Voltage [V]: Condition of key switch: Key is INSERTED. Approx. 12 Condition of key switch: Key is REMOVED. 0</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ Key switch is OK. |
| NG | ▶ GO TO 2. |

AEL374B

| 2 | CHECK KEY SWITCH (INSERTED) |
|--|--|
| <p>Check continuity between terminals 1 and 2.</p> <div style="text-align: center;">  </div> <p>Continuity: Condition of key switch: Key is INSERTED. Yes Condition of key switch: Key is REMOVED. No</p> <p style="text-align: center;">OK or NG</p> | |
| OK | <p>▶ Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 28, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between warning chime unit and key switch |
| NG | ▶ Replace key switch. |

AEL416B

WARNING CHIME

Trouble Diagnoses (Cont'd)

Models with Power Door Locks

NGEL0055S0402

| | | |
|--|--------------------------------------|-------------------|
| 1 | CHECK KEY SWITCH INPUT SIGNAL | |
| <p>Check voltage between smart entrance control unit terminal 24 and ground.</p> <div style="text-align: center;"> </div> <p>Voltage [V]: Condition of key switch: Key is INSERTED. Approx. 12 Condition of key switch: Key is REMOVED. 0</p> <p style="text-align: right;">AEL373B</p> | | |
| OK or NG | | |
| OK | ▶ | Key switch is OK. |
| NG | ▶ | GO TO 2. |

| | | |
|---|------------------------------------|--|
| 2 | CHECK KEY SWITCH (INSERTED) | |
| <p>Check continuity between terminals 1 and 2.</p> <div style="text-align: center;"> </div> <p>Continuity: Condition of key switch: Key is INSERTED. Yes Condition of key switch: Key is REMOVED. No</p> <p style="text-align: right;">AEL416B</p> | | |
| OK or NG | | |
| OK | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 28, 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. |

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WARNING CHIME

Trouble Diagnoses (Cont'd)

SEAT BELT BUCKLE SWITCH CHECK Models without Power Door Locks

=NGEL0055S05

NGEL0055S0501

| | | |
|--|---|--------------------------------|
| 1 | CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL | |
| <p>1. Turn ignition switch ON. 2. Check voltage between warning chime unit terminal 2 and ground.</p> <div style="text-align: center;"> <p>Warning chime unit connector (M11)</p> <p>B/P</p> <p>V</p> <p>H.S.</p> <p>CONNECT</p> <p>ON</p> </div> <p>Voltage [V]: Condition of seat belt buckle switch: FASTENED Approx. 12 Condition of seat belt buckle switch: UNFASTENED 0</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Seat belt buckle switch is OK. |
| NG | ▶ | GO TO 2. |

AEL376B

| | | |
|---|--------------------------------------|---|
| 2 | CHECK SEAT BELT BUCKLE SWITCH | |
| <p>Check continuity between terminals 1 and 2 when seat belt is fastened and unfastened.</p> <div style="text-align: center;"> <p>DISCONNECT</p> <p>H.S.</p> <p>Seat belt buckle switch connector (M19)</p> <p>1</p> <p>2</p> <p>Ω</p> </div> <p>Continuity: Seat belt is fastened. No Seat belt is unfastened. Yes</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Seat belt buckle switch ground circuit ● Harness for open or short between warning chime unit and seat belt buckle switch |
| NG | ▶ | Replace seat belt buckle switch. |

AEL381B

WARNING CHIME

Trouble Diagnoses (Cont'd)

Models with Power Door Locks

NGEL0055S0502

| | | |
|---|---|--------------------------------|
| 1 | CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL | |
| <p>1. Turn ignition switch ON. 2. Check voltage between smart entrance control unit terminal 21 and ground.</p> <div style="text-align: center;"> </div> <p>Voltage [V]: Condition of seat belt buckle switch: FASTENED Approx. 12 Condition of seat belt buckle switch: UNFASTENED 0</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Seat belt buckle switch is OK. |
| NG | ▶ | GO TO 2. |

| | | |
|---|--------------------------------------|--|
| 2 | CHECK SEAT BELT BUCKLE SWITCH | |
| <p>Check continuity between terminals 1 and 2 when seat belt is fastened and unfastened.</p> <div style="text-align: center;"> </div> <p>Continuity: Seat belt is fastened. No Seat belt is unfastened. Yes</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | <p>Check the following.</p> <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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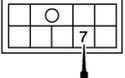
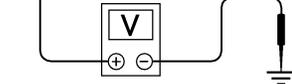
WARNING CHIME

Trouble Diagnoses (Cont'd)

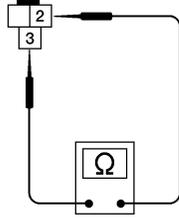
FRONT DOOR SWITCH LH CHECK Models without Power Door Locks

NGEL0055S06

NGEL0055S0601

| | | |
|--|--|-----------------------------|
| 1 | CHECK FRONT DOOR SWITCH LH INPUT SIGNAL | |
| <p>Check voltage between warning chime unit terminal 7 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Warning chime unit connector (M11)</p>  <p>G/R</p> </div> <div style="text-align: center;">  <p>CONNECT</p>  </div> </div> <div style="text-align: center; margin-top: 10px;">  </div> <p>Voltage [V]: Condition of front door LH: CLOSED Approx. 12 Condition of front door LH: OPEN 0</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Front door switch LH is OK. |
| NG | ▶ | GO TO 2. |

AEL378B

| | | |
|--|-----------------------------------|---|
| 2 | CHECK FRONT DOOR SWITCH LH | |
| <p>Check continuity between front door switch LH terminals 2 and 3.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Front door switch LH connector (M20)</p>  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>DISCONNECT</p>  </div> </div> <p>Continuity: Front door switch LH is pressed. No Front door switch LH is released. Yes</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Front door switch LH ground circuit ● Harness for open or short between warning chime unit and front door switch LH |
| NG | ▶ | Replace front door switch LH. |

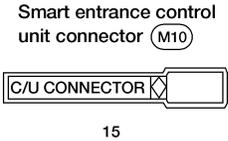
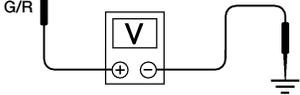
AEL543C

WARNING CHIME

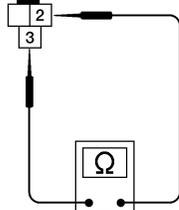
Trouble Diagnoses (Cont'd)

Models with Power Door Locks

NGEL0055S0602

| | | |
|---|--|-----------------------------|
| 1 | CHECK FRONT DOOR SWITCH LH INPUT SIGNAL | |
| <p>Check voltage between smart entrance control unit terminal 15 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Smart entrance control unit connector (M10)</p>  <p>15</p> </div> <div style="text-align: center;">  <p>CONNECT</p>  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;"> <p>C/U CONNECTOR</p>  </div> <div style="text-align: center;">  </div> </div> <div style="text-align: center; margin-top: 20px;">  </div> <div style="text-align: right; margin-top: 20px;"> <p>AEL377B</p> </div> | | |
| <p>Voltage [V]: Condition of front door LH: CLOSED Approx. 12 Condition of front door LH: OPEN 0</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Front door switch LH is OK. |
| NG | ▶ | GO TO 2. |

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| 2 | CHECK FRONT DOOR SWITCH LH | |
| <p>Check continuity between front door switch LH terminals 2 and 3.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Front door switch LH connector (M20)</p>  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>DISCONNECT</p>  </div> </div> <div style="text-align: right; margin-top: 20px;"> <p>AEL543C</p> </div> | | |
| <p>Continuity: Front door switch LH is pressed. No Front door switch LH is released. Yes</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Front door switch LH ground circuit ● 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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FRONT WIPER AND WASHER

System Description

System Description

NGEL0057

NGEL0057S01

NGEL0057S0104

WIPER OPERATION

Models without Intermittent Wipers

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

- LO speed
- HI speed

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

- through 20A fuse [No. 6, located in the fuse block (J/B)]
- to front wiper motor terminal B.

Low and High Speed Wiper Operation

Ground is supplied to front wiper switch terminal 17 through body grounds E12 and E54.

With the front wiper switch in the LO position, ground is supplied

- to front wiper motor terminal L
- through front wiper switch terminal 14.

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

With the front wiper switch in the HI position, ground is supplied

- to front wiper motor terminal H
- through front wiper switch terminal 16.

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

Auto Stop Operation

When the front wiper switch is turned OFF, the front wiper motor will continue to operate at low speed until wiper blades reach windshield base.

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

- to front wiper motor terminal L
- through front wiper switch terminal 14
- through front wiper switch terminal 13
- through front wiper motor terminal P

Ground is supplied to front wiper motor terminal E through body grounds E12 and E54.

Models with Intermittent Wipers

The front wiper switch is controlled by a lever built into the combination switch.

There are three front wiper switch positions:

- LO speed
- HI speed
- INT (Intermittent)

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

- through 20A fuse [No. 6, located in the fuse block (J/B)]
- to front wiper motor terminal B and
- to front wiper amplifier terminal 6.

Low and High Speed Wiper Operation

Ground is supplied to front wiper switch terminal 17 through body grounds E12 and E54

With the front wiper switch in the LO position, ground is supplied

- to front wiper motor terminal L
- through front wiper switch terminal 14.

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

With the front wiper switch in the HI position, ground is supplied

- to front wiper motor terminal H
- through front wiper switch terminal 16.

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

Auto Stop Operation

When the front wiper switch is turned OFF, the front wiper motor will continue to operate at low speed until wiper blades reach windshield base.

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

NGEL0057S0105

FRONT WIPER AND WASHER

System Description (Cont'd)

- to front wiper motor terminal L
- through front wiper switch terminal 14
- through front wiper switch terminal 13
- through front wiper amplifier terminal 4
- through front wiper amplifier terminal 7
- through body grounds E12 and E54.

Ground is also supplied

- to front wiper amplifier terminal 8
- through front wiper motor terminal P
- through front wiper motor terminal E
- through body grounds E12 and E54.

When wiper blades reach base of windshield, front wiper motor terminals B and P are connected instead of terminals P and E.

Battery power is then supplied

- through front wiper motor terminal P
- to front wiper amplifier terminal 8.

With battery voltage supplied to front wiper amplifier terminal 8, the front wiper amplifier will stop the front wiper motor with the wiper blades at the PARK position.

Intermittent Operation

The wiper blades perform a single wiping operation, followed by a delay interval which is adjustable from approximately 3 to 13 seconds, after which the cycle repeats. This feature is controlled by the front wiper amplifier.

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

- to front wiper amplifier terminal 1
- through front wiper switch terminal 15
- through front wiper switch terminal 17
- through body grounds E12 and E54.

Ground is supplied intermittently

- to front wiper motor terminal L
- through front wiper switch terminal 14
- through front wiper switch terminal 13
- through front wiper amplifier terminal 4
- through front wiper amplifier terminal 7
- through body grounds E12 and E54.

The delay interval time is input

- to front wiper amplifier terminal 2
- from front wiper switch terminal 19.

Ground is supplied to front wiper switch terminal 20 through body grounds E12 and E54.

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

WASHER OPERATION

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

- through 20A fuse [No. 6, located in the fuse block (J/B)]
- to front washer motor terminal +.

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

- to front washer motor terminal – and
- to front wiper amplifier terminal 5 (models with intermittent wipers)
- through front wiper switch terminal 18
- through front wiper switch terminal 17
- through body grounds E12 and E54.

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

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NGEL0057S02

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FRONT WIPER AND WASHER

System Description (Cont'd)

Models with Intermittent Wipers

NGEL0057S0201

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

FRONT WIPER AND WASHER

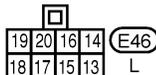
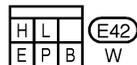
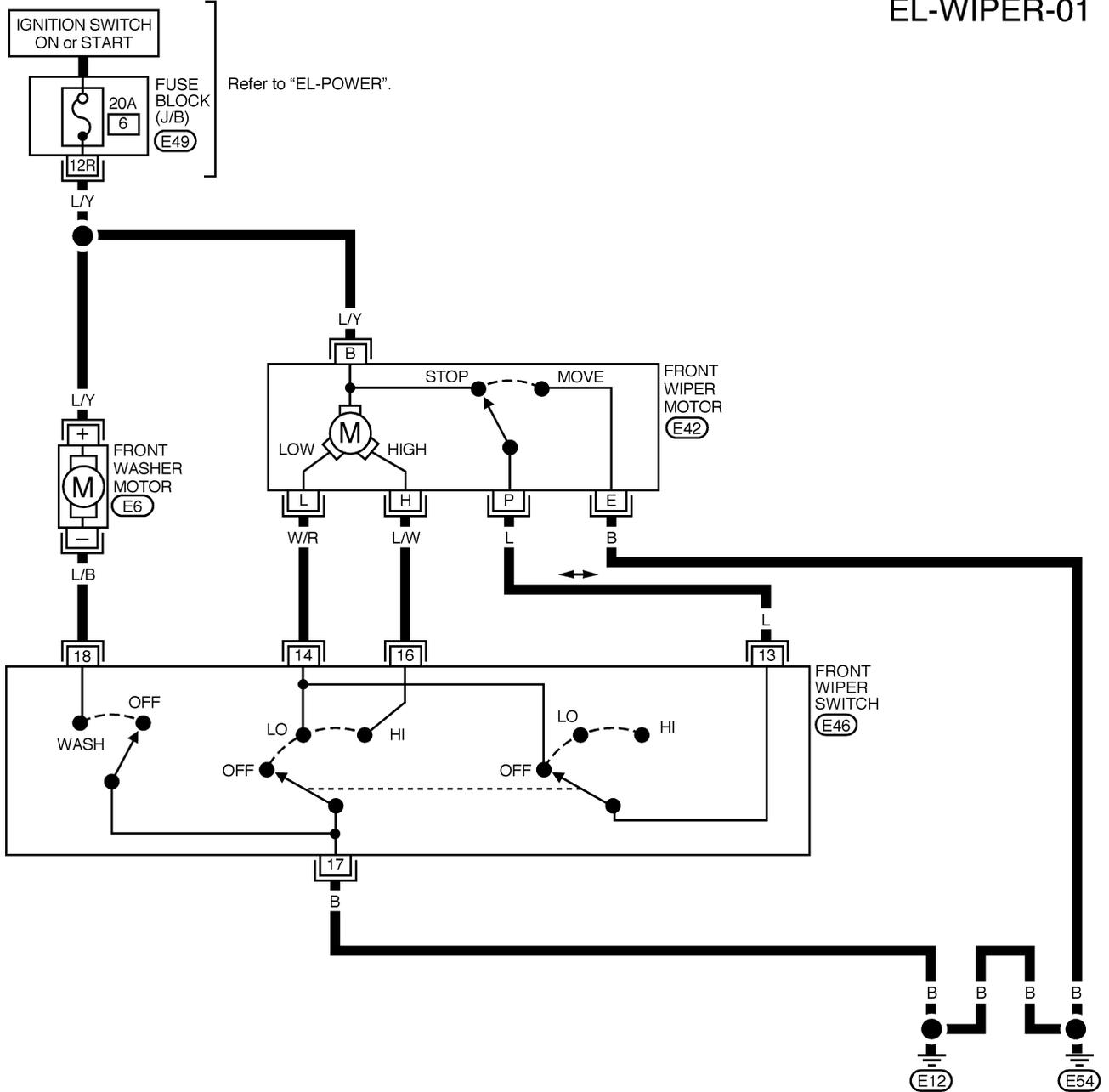
Wiring Diagram — WIPER —

Wiring Diagram — WIPER — MODELS WITHOUT INTERMITTENT WIPERS

NGEL0058

NGEL0058S01

EL-WIPER-01



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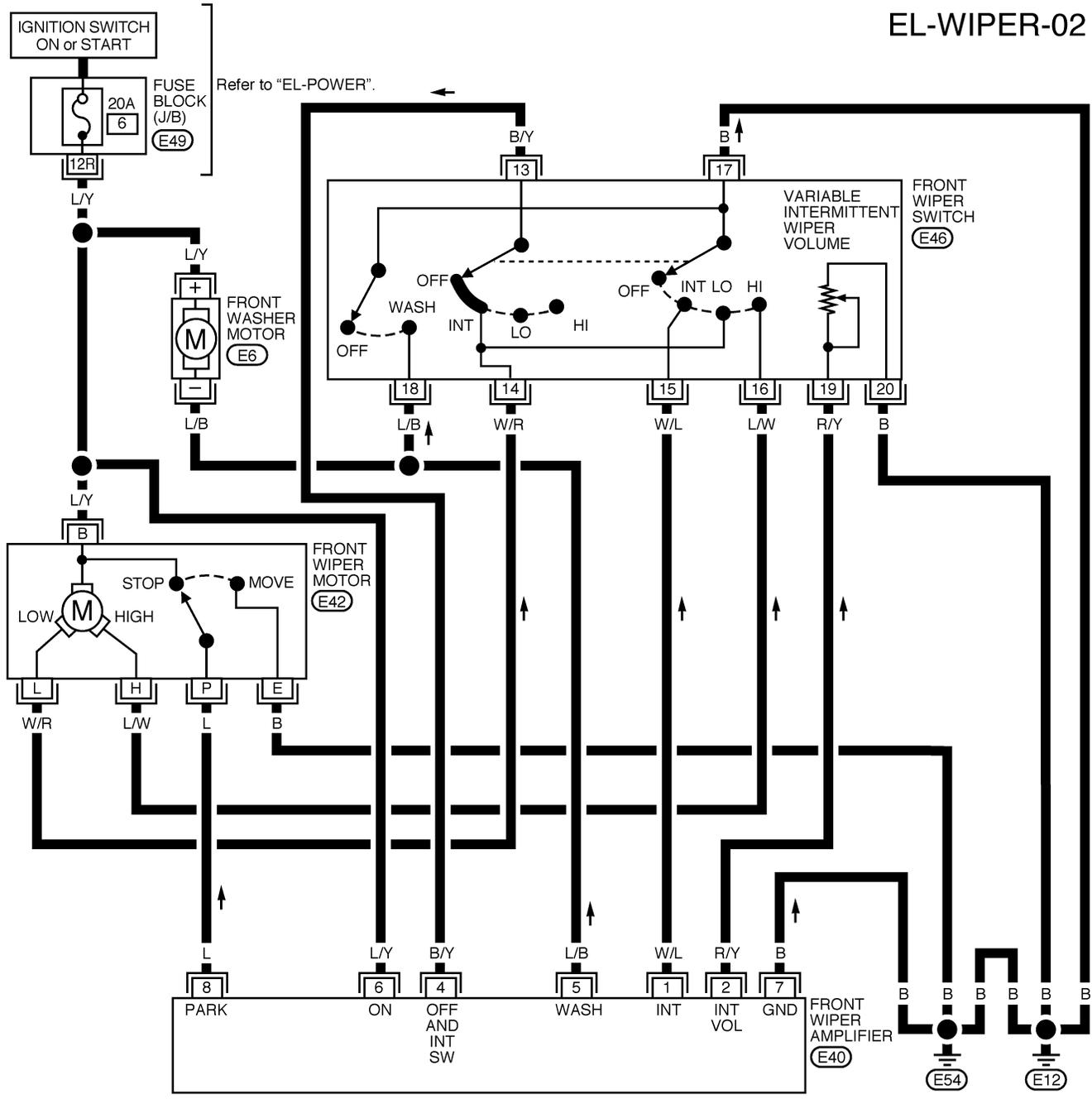
FRONT WIPER AND WASHER

Wiring Diagram — WIPER — (Cont'd)

MODELS WITH INTERMITTENT WIPERS

NGEL0058S02

EL-WIPER-02



AEL370C

FRONT WIPER AND WASHER

Trouble Diagnoses (With intermittent wipers)

Trouble Diagnoses (With intermittent wipers)

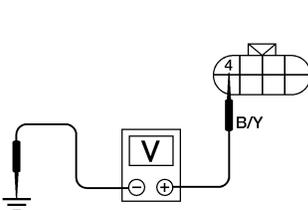
NGEL0059

DIAGNOSTIC PROCEDURE 1

NGEL0059S01

SYMPTOM: Intermittent wipers do not operate.

| | | |
|--|------------------------------|---|
| 1 | CHECK WIPER OPERATION | |
| Check whether wipers operate with the front wiper switch at LO position. | | |
| Do wipers operate at LO speed? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check the following. <ul style="list-style-type: none"> ● 20A fuse [No. 6, located in fuse block (J/B)] ● Front wiper motor ● Front wiper switch ● Harness for open or short |

| | | |
|--|---|---|
| 2 | CHECK FRONT WIPER AMPLIFIER OUTPUT | |
| <ol style="list-style-type: none"> 1. Turn front wiper switch OFF. 2. Disconnect front wiper amplifier connector. 3. Check voltage between front wiper amplifier terminal 4 and ground. | | |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: left;"> <p>Front wiper amplifier harness connector (E40)</p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p style="text-align: right;">AEL544C</p> | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | Check the following. <ul style="list-style-type: none"> ● Wiper switch ● Harness for open or short between front wiper amplifier terminal 4 and front wiper switch terminal 13 |

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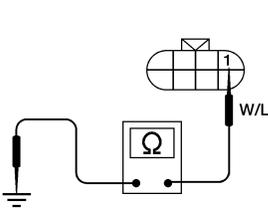
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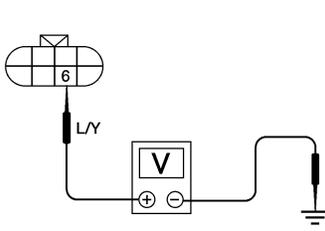
EL

IDX

FRONT WIPER AND WASHER

Trouble Diagnoses (With intermittent wipers) (Cont'd)

| | | |
|---|---|---|
| 3 | CHECK INTERMITTENT SWITCH INPUT SIGNAL | |
| <p>Check harness continuity between front wiper amplifier terminal 1 and ground.</p> | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: left;"> <p>Front wiper amplifier harness connector (E40)</p> </div> <div style="text-align: center;">  </div> <div style="text-align: right;">    </div> </div> | | |
| AEL545C | | |
| <p>Continuity: Condition of front wiper switch: OFF No Condition of front wiper switch: INT Yes</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Front wiper switch ● Harness for open or short between front wiper amplifier terminal 1 and front wiper switch terminal 15 ● Ground circuit for front wiper switch terminal 17 |

| | | |
|---|---|--|
| 4 | CHECK FRONT WIPER AMPLIFIER POWER SUPPLY CIRCUIT | |
| <p>Check voltage between front wiper amplifier terminal 6 and ground with ignition switch in the ON position.</p> | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: left;"> <p>Front wiper amplifier harness connector (E40)</p> </div> <div style="text-align: center;">  </div> <div style="text-align: right;">    </div> </div> | | |
| AEL546C | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 5. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 20A fuse [No. 6, located in fuse block (J/B)] ● Harness for open or short between front wiper amplifier and fuse |

FRONT WIPER AND WASHER

Trouble Diagnoses (With intermittent wipers) (Cont'd)

| | | |
|--|---|--------------------------------|
| 5 | CHECK FRONT WIPER AMPLIFIER GROUND CIRCUIT | |
| <p>Check harness continuity between front wiper amplifier terminal 7 and body ground.</p> | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: left;"> <p>Front wiper amplifier harness connector (E40)</p> </div> <div style="text-align: center;"> </div> <div style="text-align: right;"> <p>T.S. DISCONNECT OFF</p> </div> </div> | | |
| AEL547C | | |
| Does continuity exist? | | |
| Yes | ▶ | Replace front wiper amplifier. |
| No | ▶ | Repair harness or connector. |

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Intermittent time of wiper cannot be adjusted.

NGEL0059S02

| | | |
|--|---|--|
| 1 | CHECK INTERMITTENT WIPER VOLUME INPUT SIGNAL | |
| <p>1. Disconnect front wiper amplifier connector. 2. Measure resistance between front wiper amplifier terminals 2 and 7 while turning intermittent wiper volume knob.</p> | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: left;"> <p>Front wiper amplifier harness connector (E40)</p> </div> <div style="text-align: center;"> </div> <div style="text-align: right;"> <p>T.S. DISCONNECT OFF</p> </div> </div> | | |
| AEL548C | | |
| <p>Resistance [Ω]: Position of intermittent wiper volume knob: S 0 Position of intermittent wiper volume knob: L Approx. 1 k</p> | | |
| OK or NG | | |
| OK | ▶ | Replace front wiper amplifier. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Intermittent wiper volume ● Harness for open or short between front wiper amplifier terminal 2 and front wiper switch terminal 19 ● Ground circuit for front wiper switch terminal 20 |

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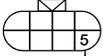
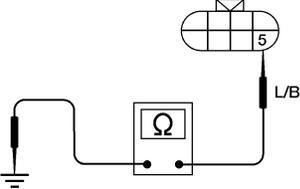
FRONT WIPER AND WASHER

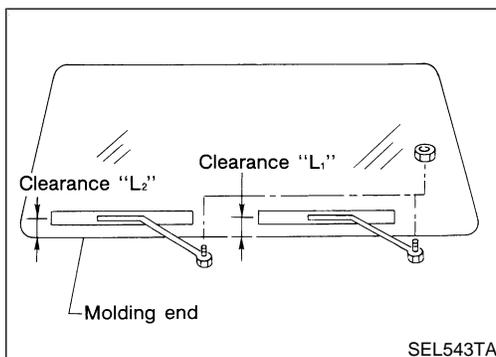
Trouble Diagnoses (With intermittent wipers) (Cont'd)

DIAGNOSTIC PROCEDURE 3

-NGEL0059S03

SYMPTOM: Wiper and washer activate individually but not in combination.

| | |
|--|--|
| 1 | CHECK FRONT WASHER SWITCH INPUT SIGNAL |
| <p>1. Turn ignition switch OFF. 2. Disconnect front wiper amplifier connector. 3. Check harness continuity between front wiper amplifier terminal 5 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Front wiper amplifier harness connector (E40)</p>  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="text-align: center; margin-top: 10px;">  </div> <p style="text-align: right;">AEL549C</p> <p>Continuity: Condition of front washer switch: OFF No Condition of front washer switch: ON Yes</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ Go to DIAGNOSTIC PROCEDURE 1. |
| NG | ▶ Check harness for open or short between front wiper amplifier terminal 5 and front wiper switch terminal 18. |



Removal and Installation

NGEL0060

WIPER ARMS

NGEL0060S01

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": 25 mm (.98 in)

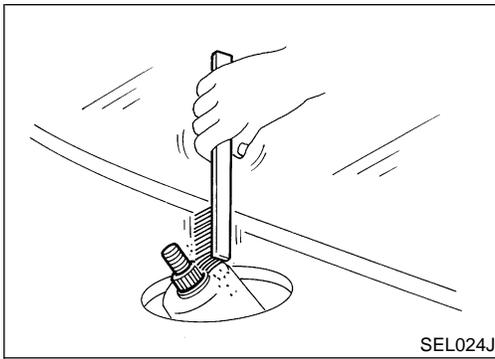
Clearance "L₂": 25 mm (.98 in)

- Tighten wiper arm nuts to specified torque.

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

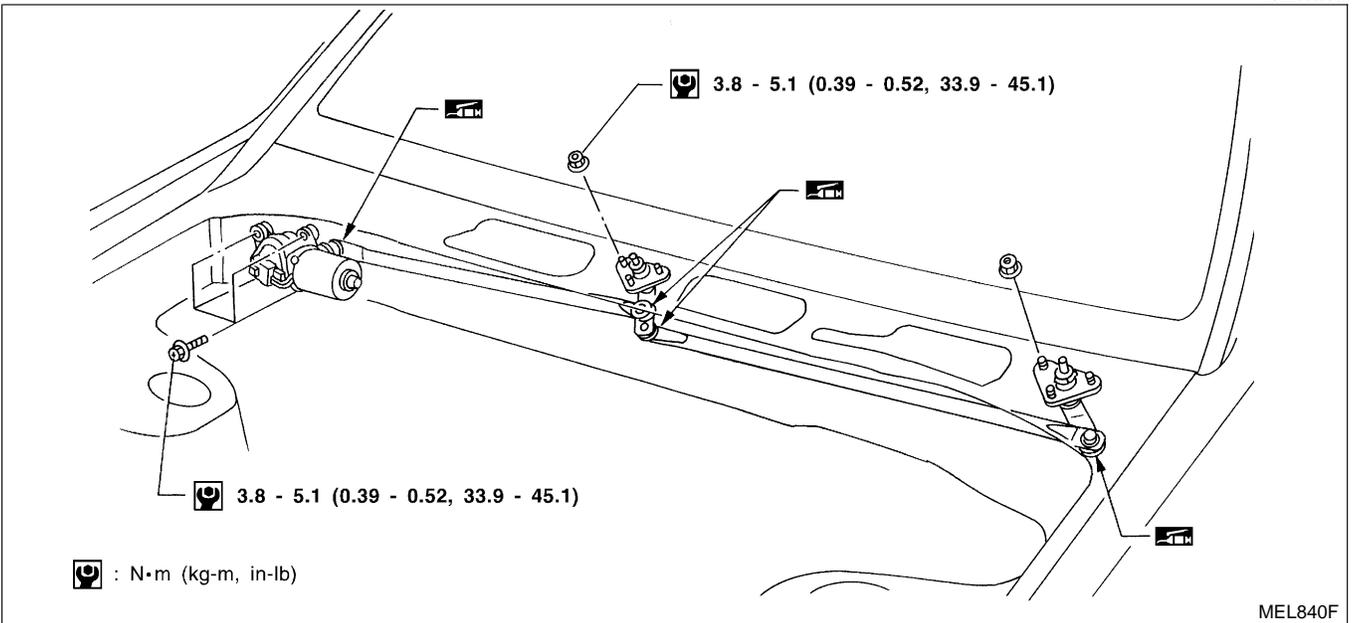
FRONT WIPER AND WASHER

Removal and Installation (Cont'd)



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

WIPER LINKAGE



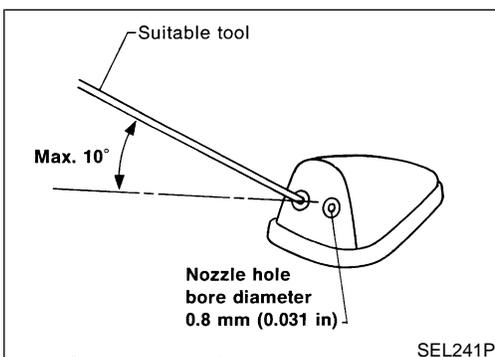
Removal

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

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



Washer Nozzle Adjustment

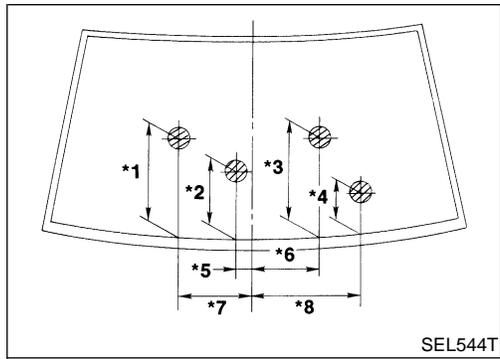
- Adjust washer nozzle with suitable tool as shown in the figure at left.

Adjustable range: ±10°

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FRONT WIPER AND WASHER

Washer Nozzle Adjustment (Cont'd)

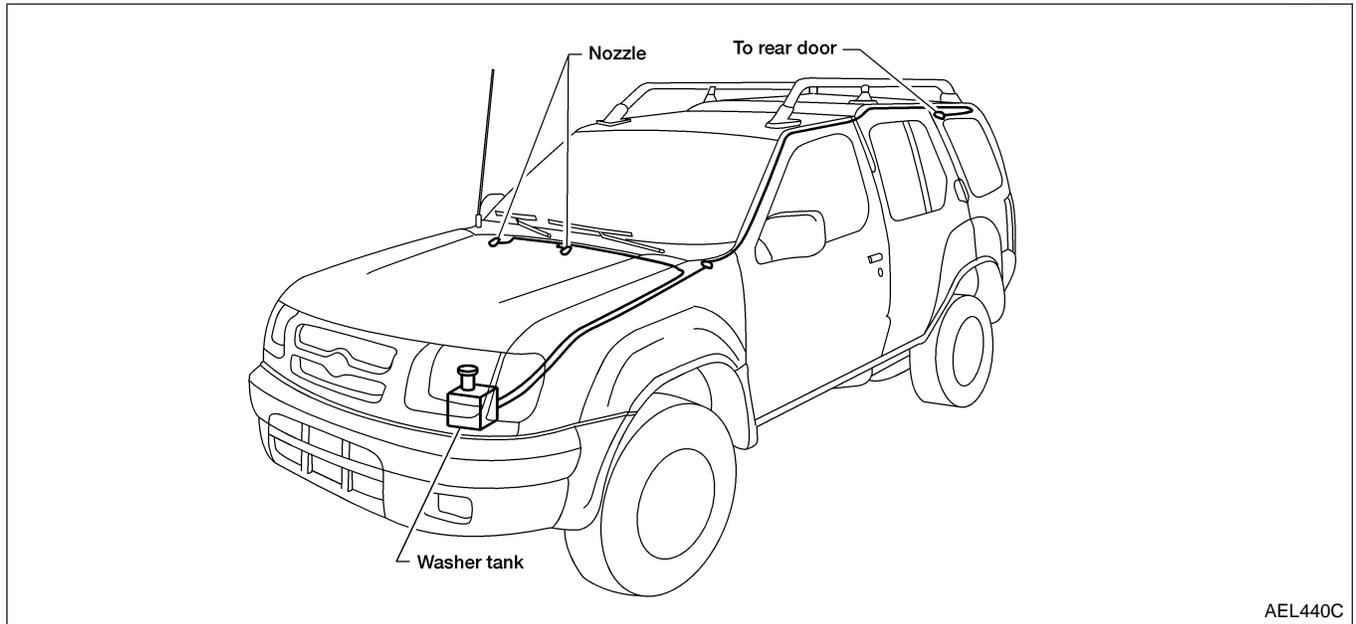


| Unit: mm (in) | | | |
|---------------|-------------|----|-------------|
| *1 | 390 (15.35) | *5 | 145 (5.71) |
| *2 | 160 (6.30) | *6 | 143 (5.63) |
| *3 | 379 (14.92) | *7 | 225 (8.86) |
| *4 | 140 (5.51) | *8 | 535 (21.06) |

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

Washer Tube Layout

NGEL0062



System Description

POWER SUPPLY AND GROUND

NGEL0063

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

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

NGEL0063S03

GI

Ground is supplied

- to rear wiper switch terminal 3
- through body grounds M14 and M68.

MA

Ground is also supplied

- to rear wiper motor terminal E
- through body grounds D402 and D404.

EM

LC

EC

WIPER OPERATION

NGEL0063S01

With the rear wiper switch WIPER in the ON position, ground is supplied

- to rear wiper motor terminal I
- through rear wiper switch terminal 1.

FE

WASHER OPERATION

NGEL0063S02

With the rear wiper switch WASHER in the ON position, ground is supplied

- to rear washer motor terminal – and
- to rear wiper motor terminal W
- through rear wiper switch terminal 2.

CL

MT

With power and ground supplied, the rear wiper motor and rear washer motor operate until the rear wiper switch WASHER is released from the ON position. If the switch is pressed momentarily, the rear wiper motor will cycle 2 times.

AT

TF

AUTO STOP OPERATION

NGEL0063S04

When the rear wiper switch is placed in the OFF position, the rear wiper motor will continue to operate until the rear wiper blade reaches the park position.

The ground is supplied through rear wiper motor terminal E. This allows the rear wiper motor to operate until the rear wiper blade reaches the park position. When the rear wiper blade reaches the park position, the rear wiper motor ground is interrupted and the rear wiper motor stops.

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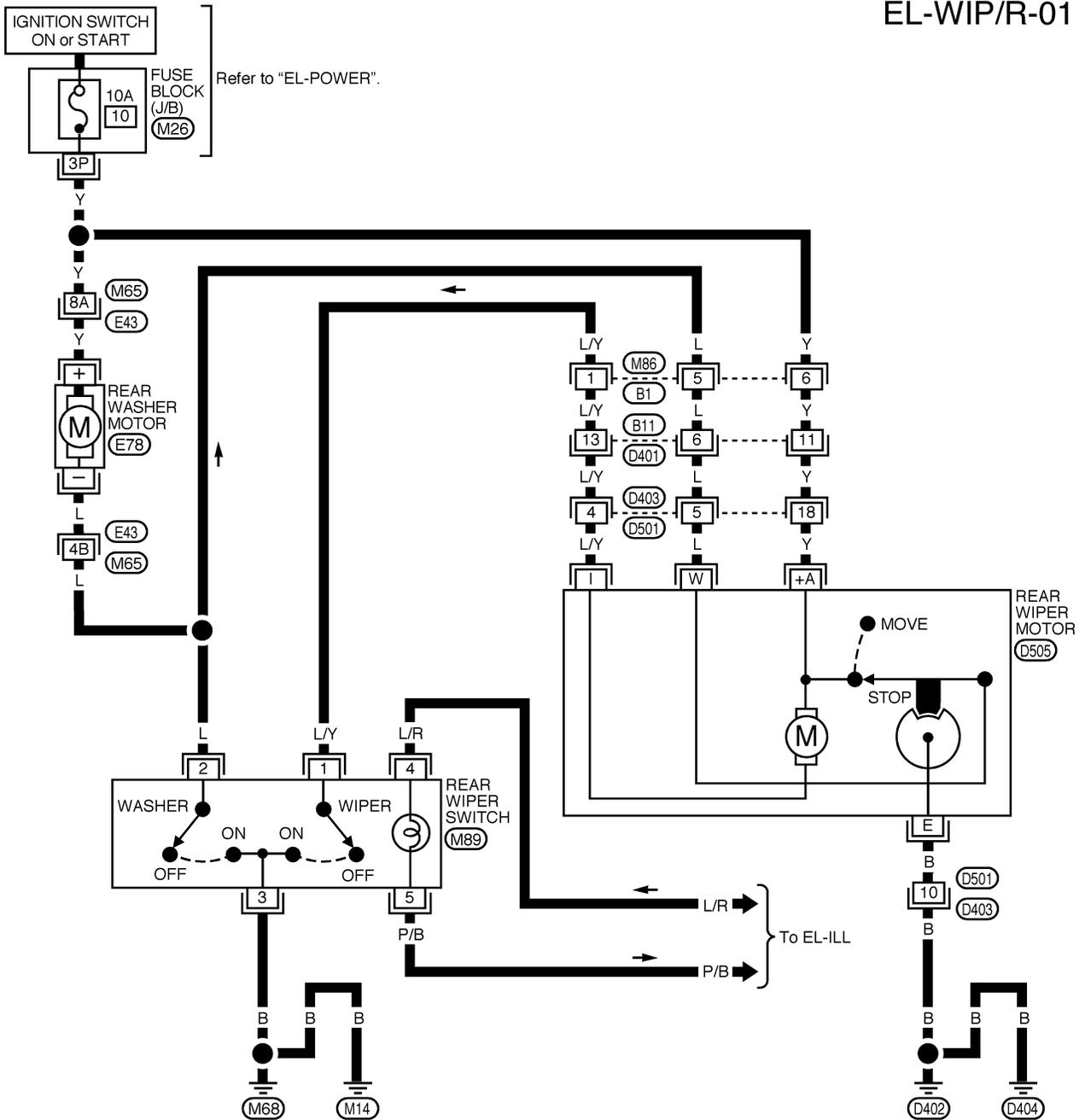
REAR WIPER AND WASHER

Wiring Diagram — WIP/R —

Wiring Diagram — WIP/R —

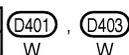
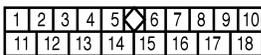
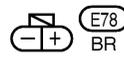
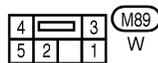
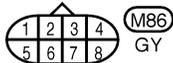
NGEL0065

EL-WIP/R-01



Refer to last page (Foldout page).

(M65), (E43)



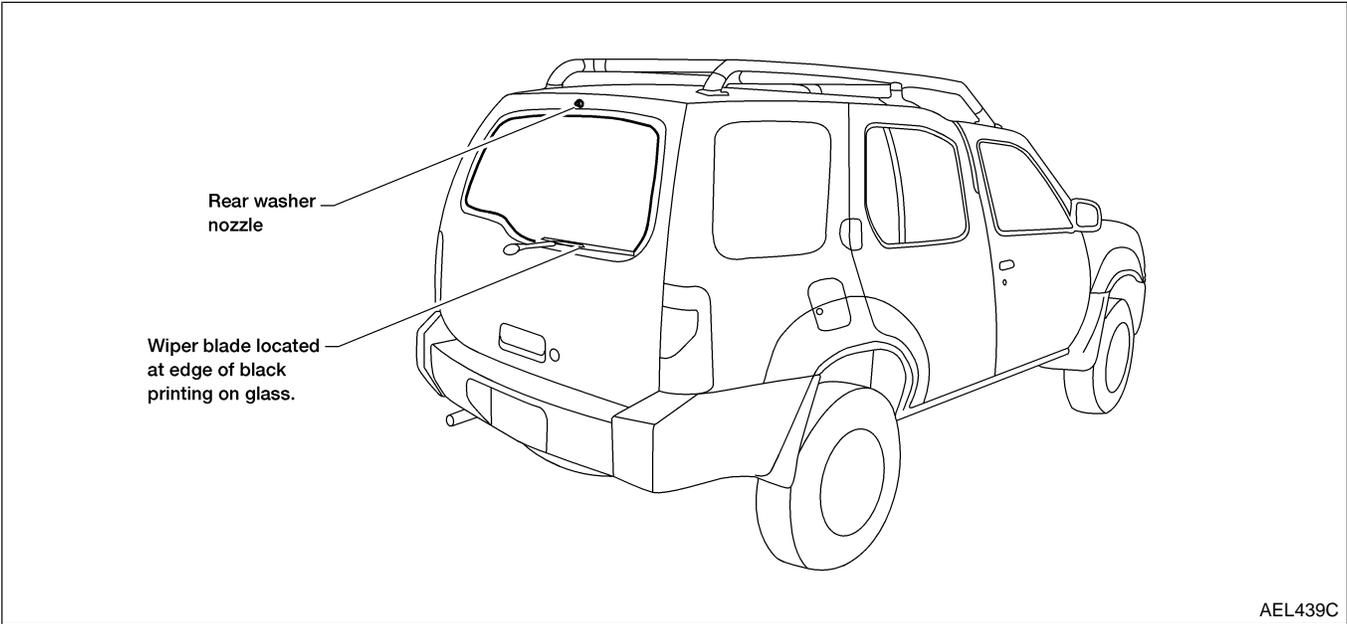
AEL371C

REAR WIPER AND WASHER

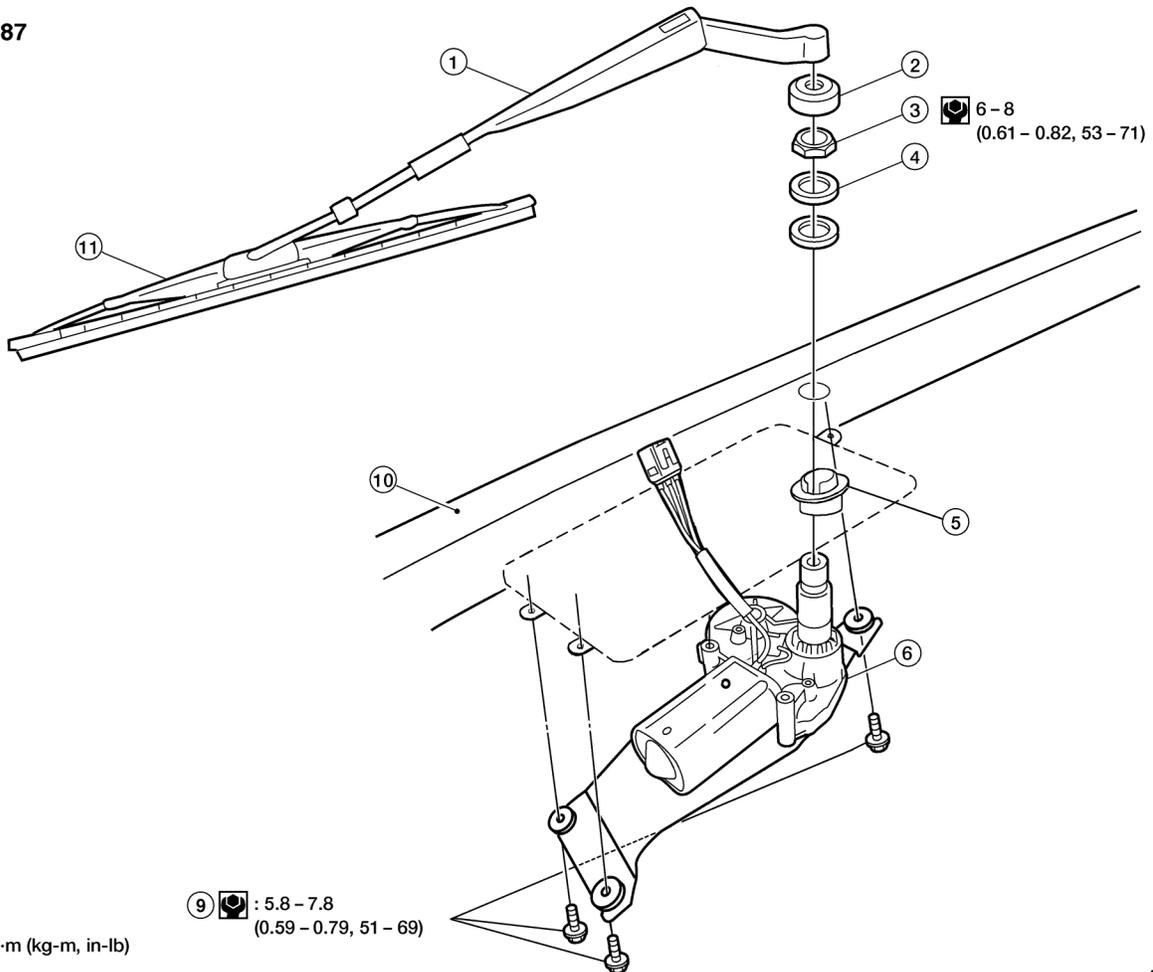
Removal and Installation

Removal and Installation

NGEL0067



SEC. 287



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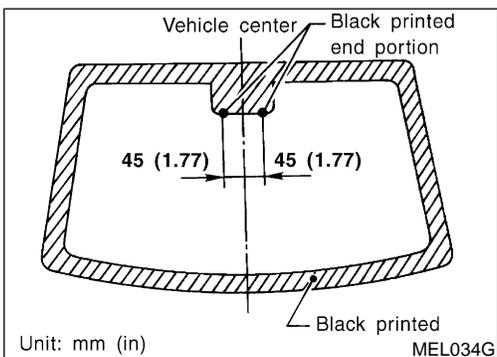
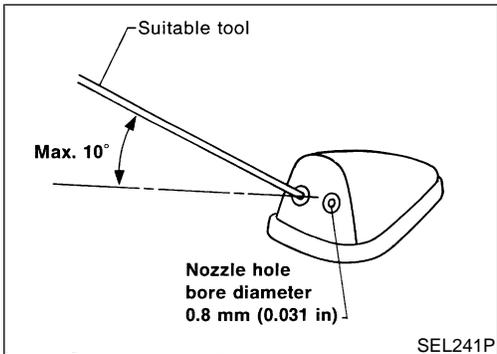
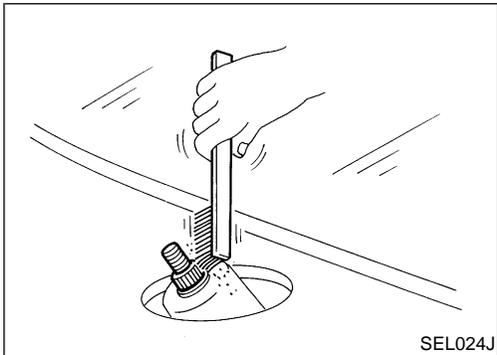
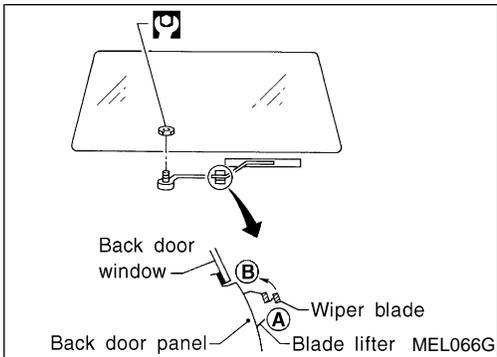
SC

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REAR WIPER AND WASHER

Removal and Installation (Cont'd)



WIPER ARMS

NGEL0067S01

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

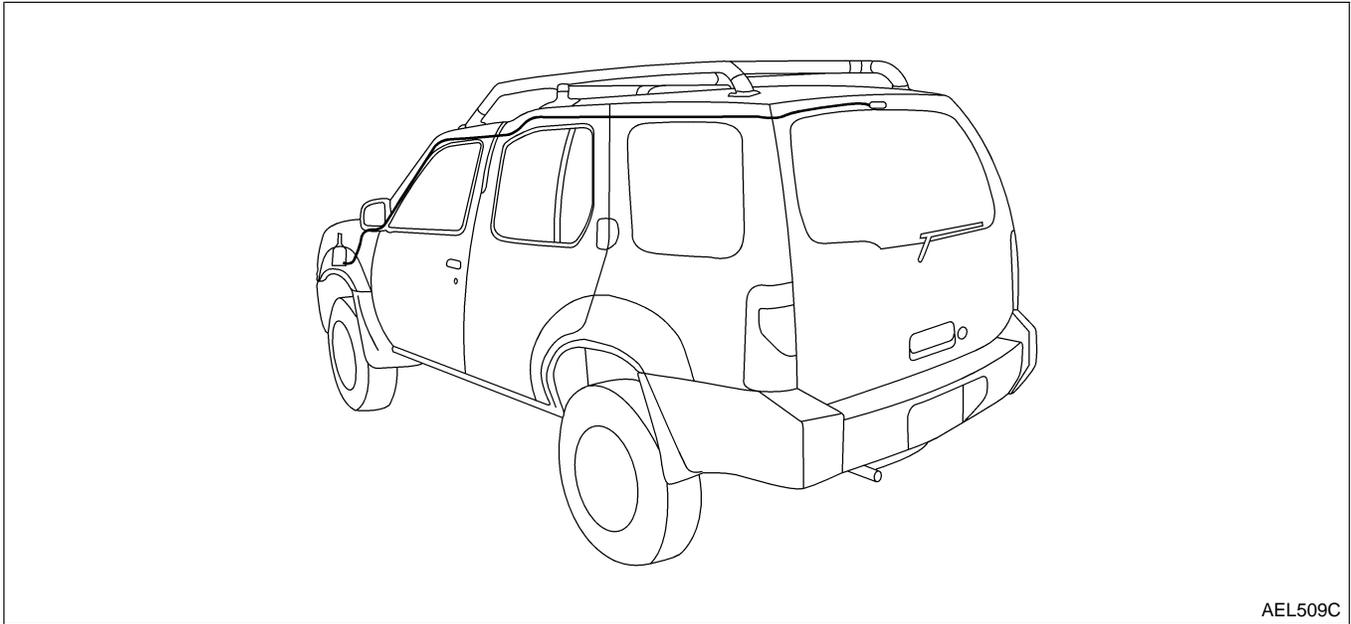
NGEL0068

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

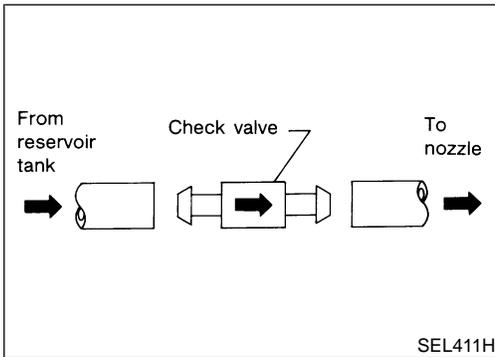
Adjustable range: $\pm 10^\circ$ (In any direction)

Washer Tube Layout

NGEL0069



AEL509C



SEL411H

Check Valve

- A check valve is provided in the washer fluid line. Be careful not to connect check valve to washer tube in the wrong direction. NGEL0070

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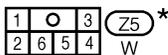
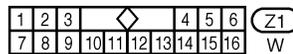
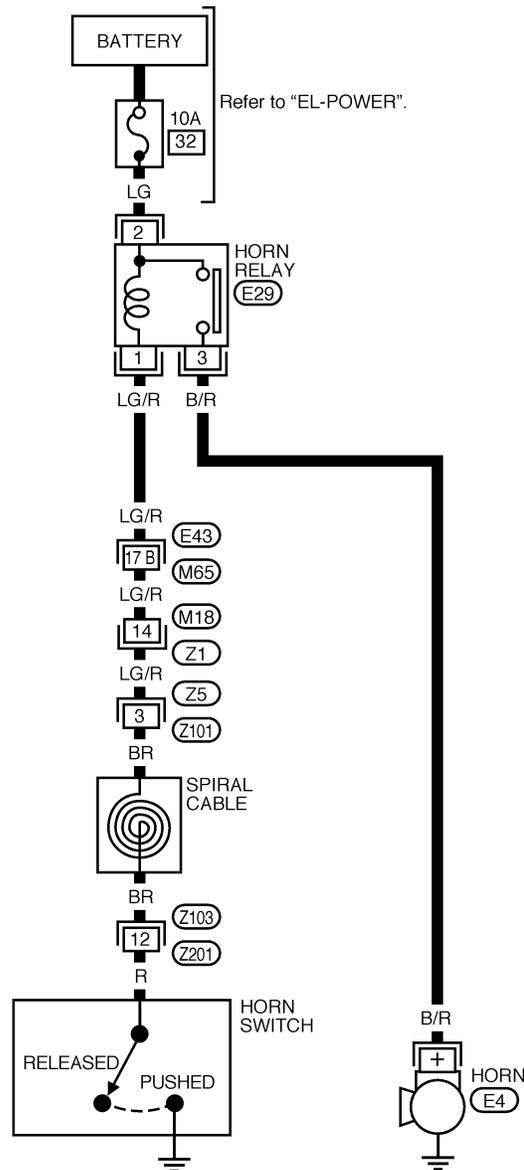
HORN

Wiring Diagram — HORN —

Wiring Diagram — HORN —

NGEL0071

EL-HORN-01



Refer to last page (Foldout page).

M65, E43

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

AEL372C

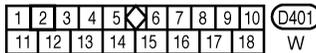
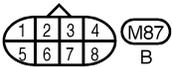
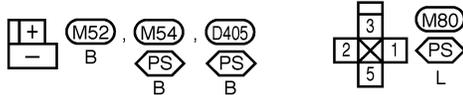
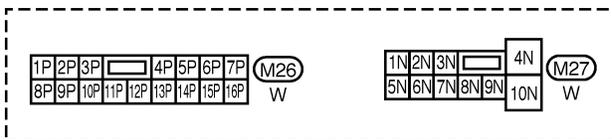
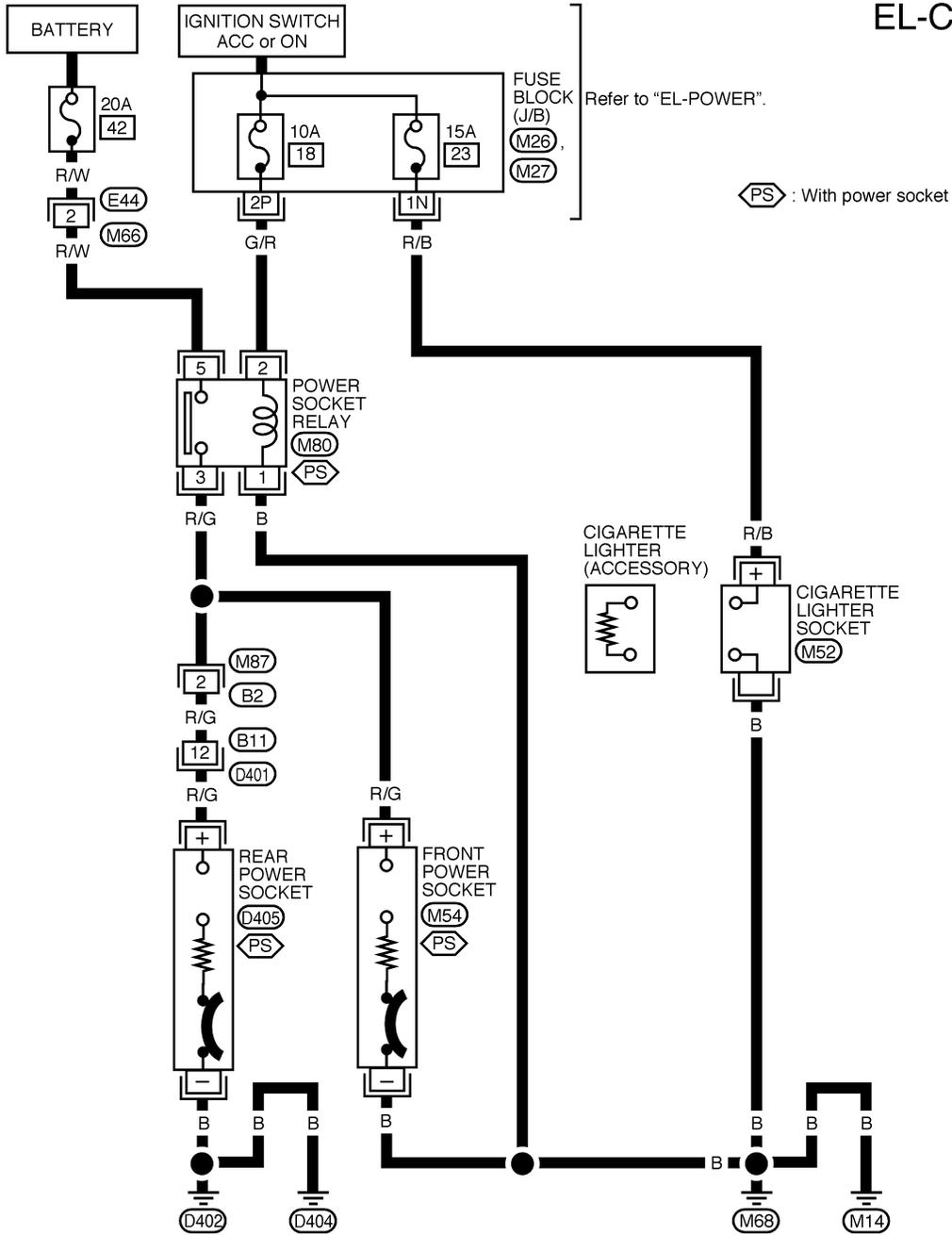
CIGARETTE LIGHTER

Wiring Diagram — CIGAR —

Wiring Diagram — CIGAR —

NGEL0156

EL-CIGAR-01



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AUDIO

System Description

System Description

NGEL0079

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

Power is supplied at all times

- through 15A fuse (No. 41, located in the fuse and fusible link box)
- to audio unit terminal 6.

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

- through 10A fuse [No. 18, located in the fuse block (J/B)]
- to audio unit terminal 10.

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 door speakers, door tweeters (models with premium audio system) and rear speakers.

AUDIO

Wiring Diagram — AUDIO —

Wiring Diagram — AUDIO —

NGEL0157

EL-AUDIO-01

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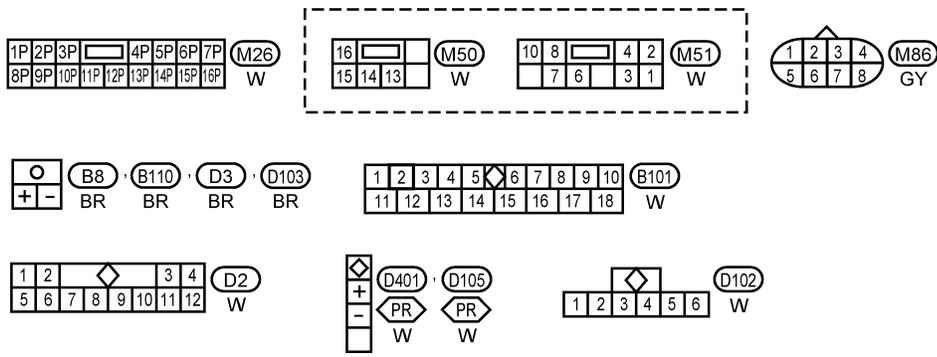
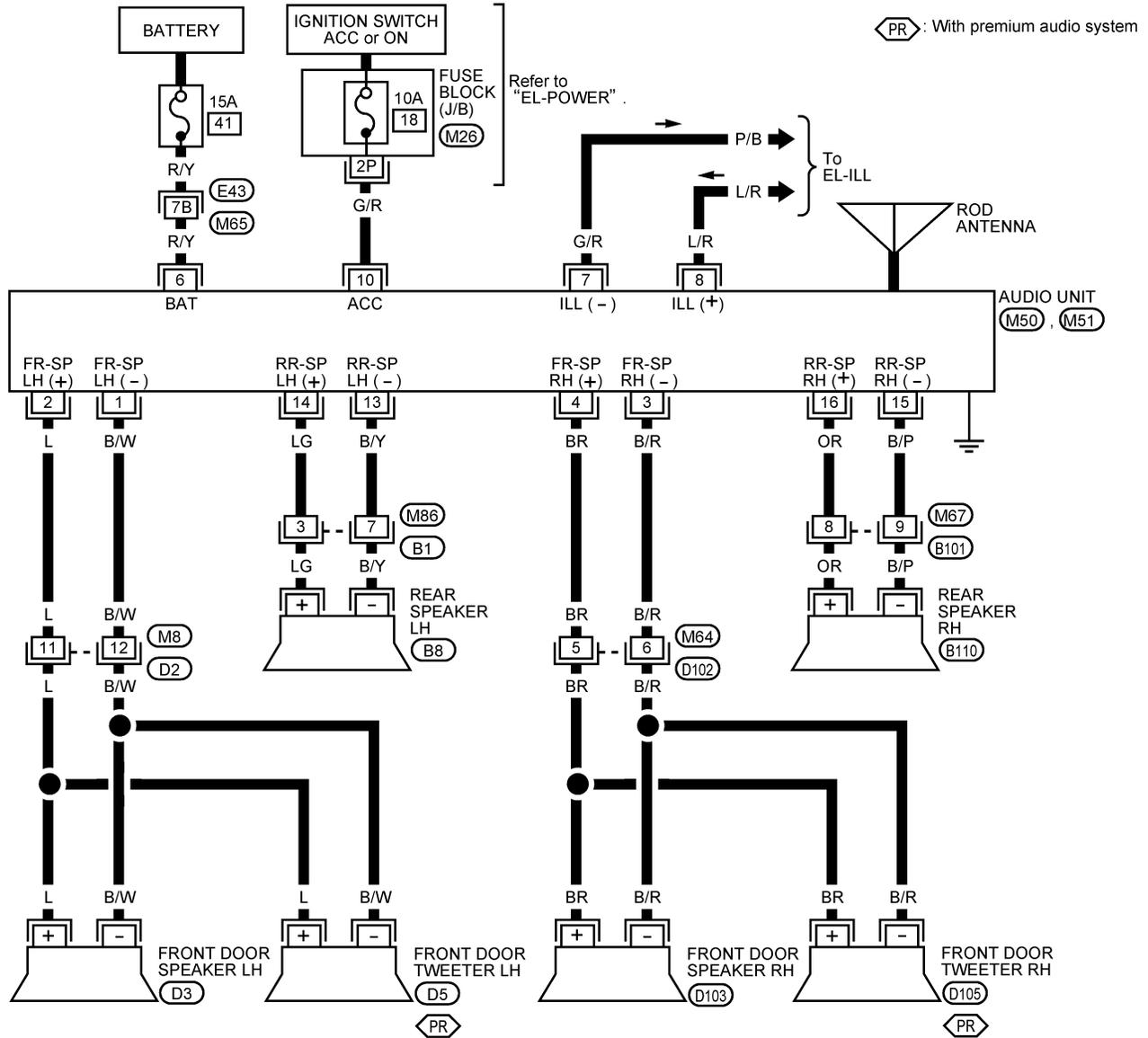
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Refer to last page (Foldout page).
M65, E43

AEL762C

AUDIO

Trouble Diagnoses

Trouble Diagnoses

NGEL0082

NGEL0082S01

AUDIO UNIT

| Symptom | Possible causes | Repair order |
|--|--|---|
| Audio unit inoperative (no digital display and no sound from speakers). | 1. 10A fuse 2. Poor audio unit case ground 3. Audio unit | 1. Check 10A fuse [No. 18, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of audio unit. 2. Check audio unit case ground. 3. Remove audio unit for repair. |
| Audio unit controls are operational, but no sound is heard from any speaker. | 1. Audio unit output 2. Audio unit | 1. Check audio unit output voltages. 2. Remove audio unit for repair. |
| Audio unit presets are lost when ignition switch is turned OFF. | 1. 15A fuse 2. Audio unit | 1. Check 15A fuse (No. 41, located in fuse and fusible link box) and verify that battery positive voltage is present at terminal 6 of audio unit. 2. Remove audio unit for repair. |
| Individual speaker is noisy or inoperative. | 1. Speaker 2. Audio unit output 3. Speaker circuit 4. Audio unit | 1. Check speaker. 2. Check audio unit output voltages. 3. Check wires for open or short between audio unit and speaker. 4. Remove audio unit for repair. |
| Audio unit stations are weak or noisy. | 1. Antenna 2. Poor audio unit ground 3. Audio unit | 1. Check antenna. 2. Check audio unit ground. 3. Remove audio unit for repair. |
| Audio unit generates noise in AM and FM modes with engine running. | 1. Poor audio unit ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Alternator 5. Ignition coil or secondary wiring 6. Audio unit | 1. Check audio unit ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check alternator. 5. Check ignition coil and secondary wiring. 6. Remove audio unit for repair. |
| Audio unit generates noise in AM and FM modes with accessories on (switch pops and motor noise). | 1. Poor audio unit ground 2. Antenna 3. Accessory ground 4. Faulty accessory | 1. Check audio unit ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory. |

Inspection

NGEL0083

NGEL0083S03

SPEAKER

1. Disconnect speaker harness connector.
2. Measure the resistance between speaker terminals + and –.
 - The resistance should be 2 - 4Ω.
3. Using jumper wires, momentarily connect a 9V battery between speaker terminals + and –.
 - A momentary hum or pop should be heard.

ANTENNA

NGEL0083S02

1. 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

NGEL0083S01

All voltage inspections are made with:

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

AUDIO

Inspection (Cont'd)

AUDIO UNIT VOLTAGES

NGEL0083S04

| Terminal | Wire color | Voltage (V) | | Terminal | Wire color | Voltage (V) | |
|----------|------------|-----------------------|-----------------------|----------|------------|-------------------|----------------------|
| | | Base Audio System | Premium Audio System | | | Base Audio System | Premium Audio System |
| 1 | B/W | 5 - 7.5 | 5 - 7.5 | 9 | — | — | — |
| 2 | L | 5 - 7.5 | 5 - 7.5 | 10 | G/R | 10.8 - 15.6 | 10.8 - 15.6 |
| 3 | B/R | 5 - 7.5 | 5 - 7.5 | 11 | — | — | — |
| 4 | BR | 5 - 7.5 | 5 - 7.5 | 12 | — | — | — |
| 5 | — | — | — | 13 | B/Y | 5 - 7.5 | 5 - 7.5 |
| 6 | R/Y | 10.8 - 15.6 | 10.8 - 15.6 | 14 | LG | 5 - 7.5 | 5 - 7.5 |
| 7 | P/B | 0 - 12 (Illumination) | 0 - 12 (Illumination) | 15 | B/P | 5 - 7.5 | 5 - 7.5 |
| 8 | L/R | 0 (Illumination) | 0 (Illumination) | 16 | OR | 5 - 7.5 | 5 - 7.5 |

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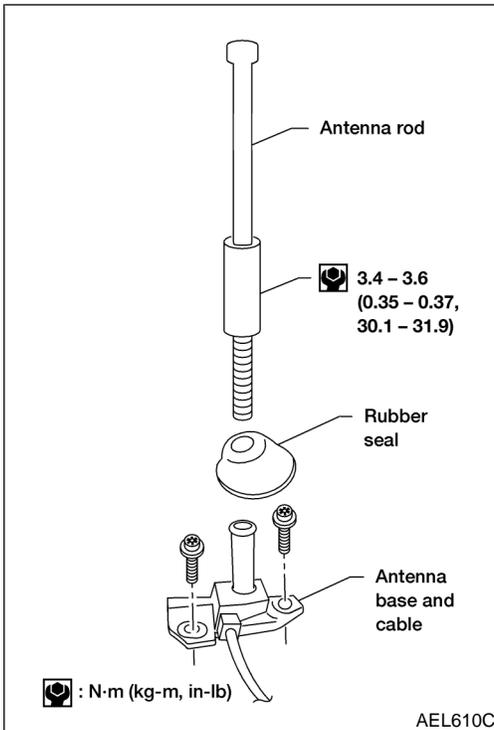
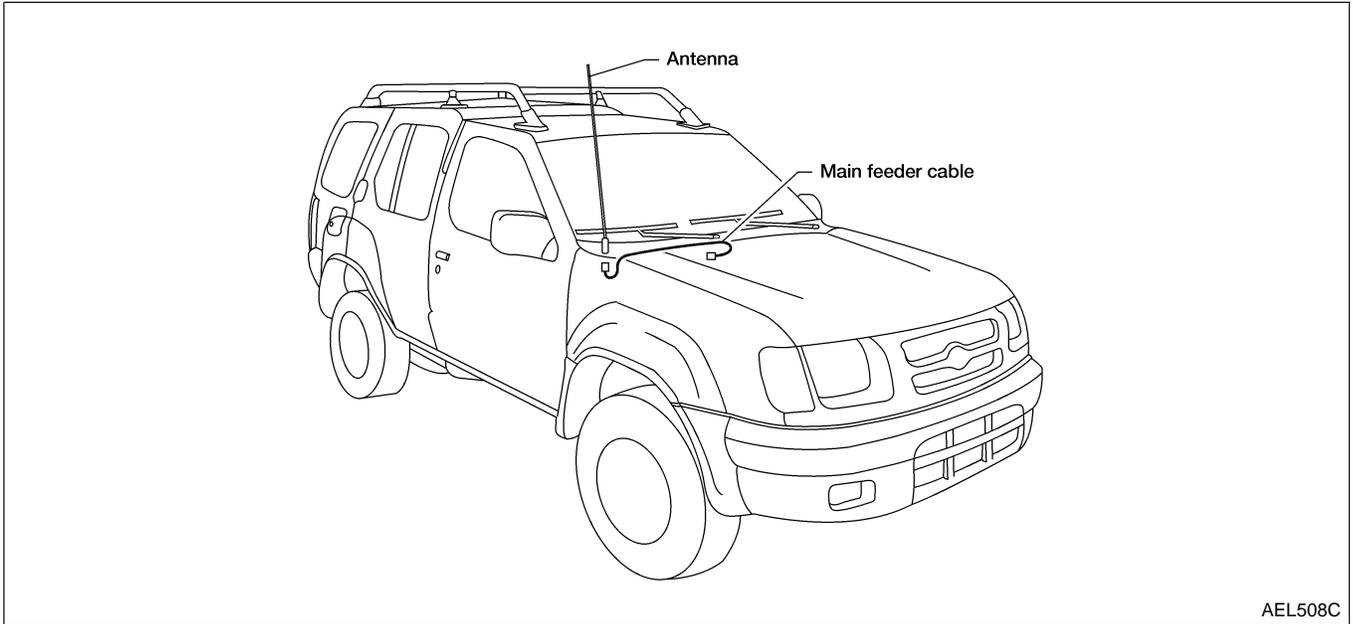
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AUDIO ANTENNA

Location of Antenna

Location of Antenna

NGEL0196



Fixed Antenna Rod Replacement REMOVAL

NGEL0192

NGEL0192S01

1. Remove antenna rod.
2. Remove rubber seal.
3. Remove cowl screen top seal.
4. Remove right wiper arm.
5. Remove right cowl to grille.
6. Remove antenna base bolts.
7. Remove right fender splash shield.
8. Remove audio unit.
9. Disconnect antenna cable from audio unit.
10. Remove attachment clip from fender apron.
11. Remove antenna base and cable.

INSTALLATION

NGEL0192S02

Install in reverse order of removal.

CAUTION:

Always properly tighten the antenna rod during installation or the antenna rod may bend or break during vehicle operation.

REAR WINDOW DEFOGGER

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NGEL0072

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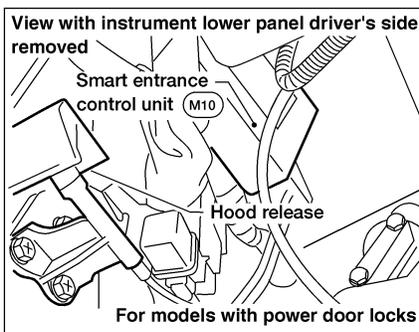
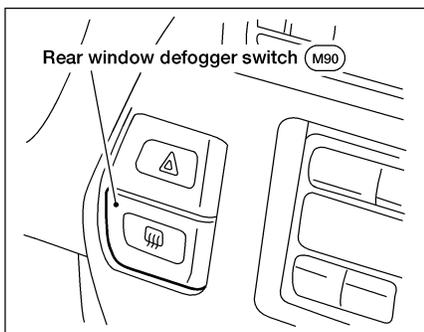
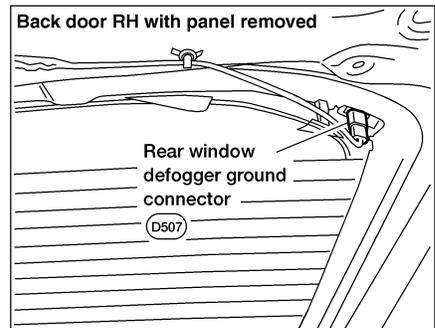
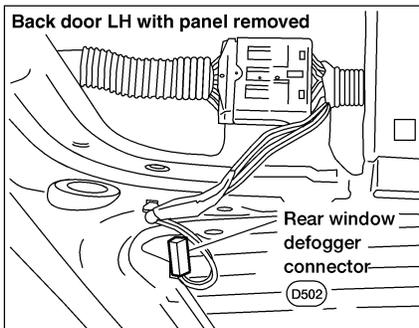
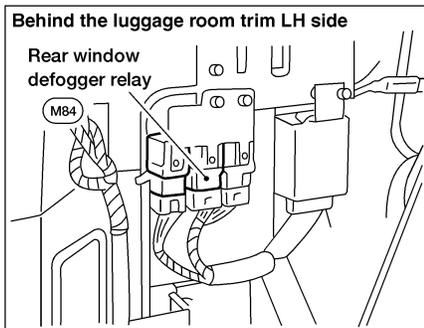
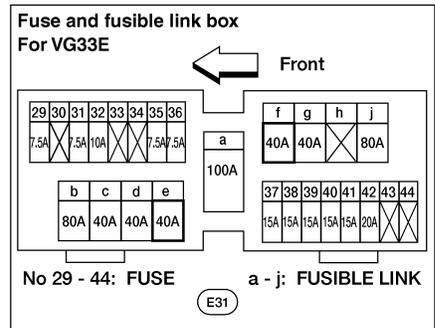
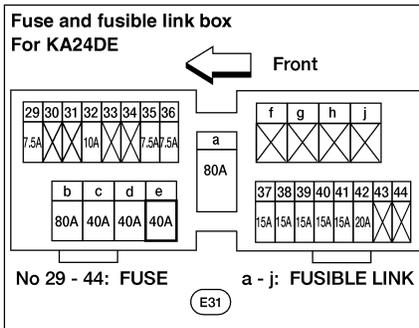
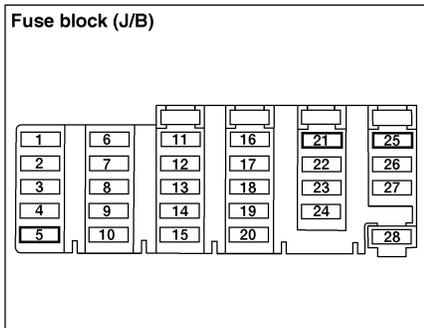
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REAR WINDOW DEFOGGER

System Description

System Description

NGEL0073

MODELS WITHOUT POWER DOOR LOCKS

NGEL0073S01

The rear window defogger system is controlled by the rear window defogger timer. The rear window defogger operates only for approximately 15 minutes.

Power is supplied at all times

- to rear window defogger relay terminal 3
- through 15A fuse [No. 25, located in the fuse block (J/B)] and
- to rear window defogger relay terminal 6
- through 15A fuse [No. 21, located in the fuse block (J/B)].

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to rear window defogger relay terminal 1 and
- to rear window defogger timer terminal 1.

Ground is supplied to rear window defogger switch terminal 2 and warning chime unit terminal 4 through body grounds M14 and M68.

With the rear window defogger switch ON, ground is supplied

- to rear window defogger timer terminal 3
- through rear window defogger switch terminal 1.

Rear window defogger timer terminal 2 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 rear window defogger terminal +.

Rear window defogger terminal – is grounded through body grounds D402 and D404.

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

- from rear window defogger relay terminal 5
- to rear window defogger switch terminal 3.

Rear window defogger switch terminal 4 is grounded through body grounds M14 and M68.

MODELS WITH POWER DOOR LOCKS

NGEL0073S02

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 15A fuse [No. 25, located in the fuse block (J/B)] and
- to rear window defogger relay terminal 6
- through 15A fuse [No. 21, located in the fuse block (J/B)].

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to rear window defogger relay terminal 1 and
- to smart entrance control unit terminal 11.

Ground is supplied to rear window defogger switch terminal 2 and smart entrance control unit terminal 10 through body grounds M14 and M68.

With the rear window defogger switch ON, ground is supplied

- to smart entrance control unit terminal 20
- through rear window defogger switch terminal 1.

Smart entrance control unit terminal 36 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 rear window defogger terminal +.

REAR WINDOW DEFOGGER

System Description (Cont'd)

Rear window defogger terminal – is grounded through body grounds D402 and D404.

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

- from rear window defogger relay terminal 5
- to rear window defogger switch terminal 3.

Rear window defogger switch terminal 4 is grounded through body grounds M14 and M68.

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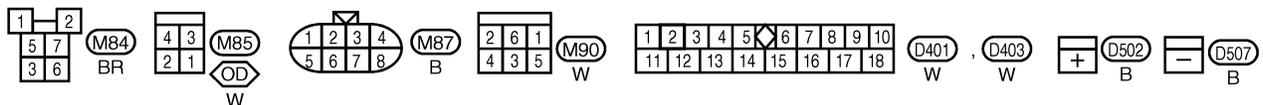
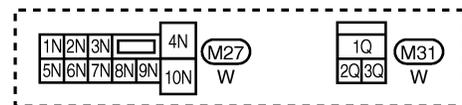
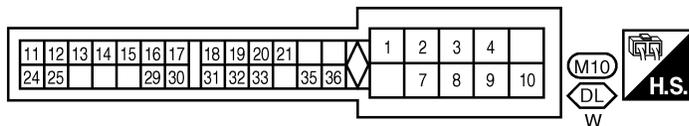
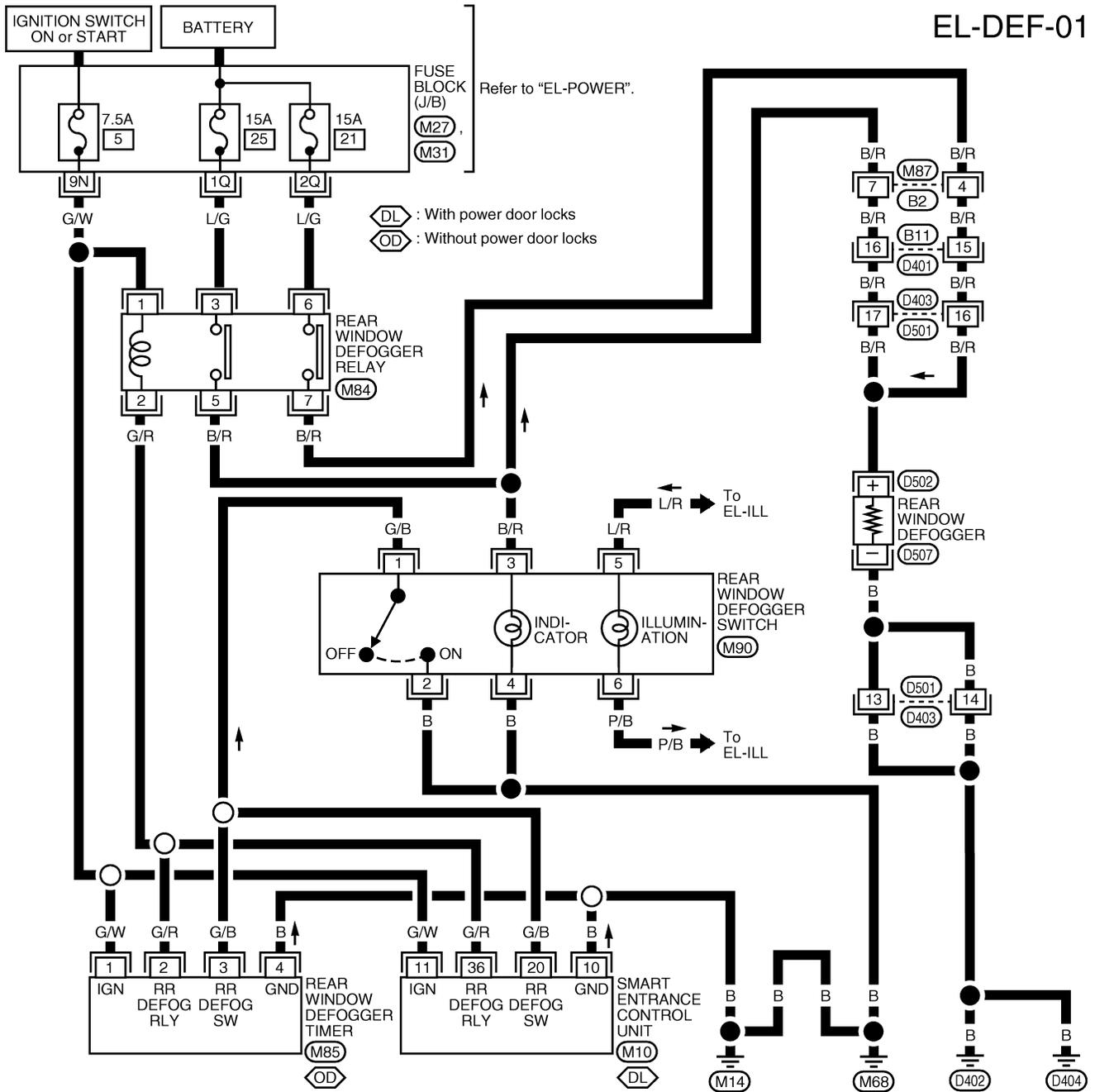
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REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

Wiring Diagram — DEF —

NGEL0074



AEL389C

REAR WINDOW DEFOGGER

Trouble Diagnoses

Trouble Diagnoses

NGEL0075

NGEL0075S01

DIAGNOSTIC PROCEDURE

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

Models without Power Door Locks

NGEL0075S0101

| | | |
|---|---|--|
| 1 | CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL | |
| <p>1. Turn ignition switch ON. 2. Check voltage between rear window defogger timer harness connector terminal 2 and ground.</p> | | |
| | | |
| <p>Voltage [V]: Rear window defogger switch is OFF. Approx. 12 Rear window defogger switch is ON. 0</p> | | |
| OK or NG | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> • Rear window defogger relay (Refer to EL-141) • Rear window defogger circuit • Rear window defogger filament (Refer to EL-142) |
| NG | ▶ | GO TO 2. |

| | | |
|---|---|---|
| 2 | CHECK DEFOGGER RELAY COIL SIDE CIRCUIT | |
| <p>1. Disconnect rear window defogger timer harness connector. 2. Turn ignition switch ON. 3. Check voltage between rear window defogger timer harness connector terminal 2 and ground.</p> | | |
| | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> • 7.5A fuse [No. 5, located in the fuse block (J/B)] • Rear window defogger relay • Harness for open or short between rear window defogger relay and rear window defogger timer • Harness for open or short between rear window defogger relay and fuse |

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REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

| | | |
|---|---|--|
| 3 | CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL | |
| <p>Check continuity between rear window defogger timer harness connector terminal 3 and ground.</p> | | |
| | | |
| AEL631C | | |
| <p>Continuity: Rear window defogger switch is pressed. Yes Rear window defogger switch is released. No</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Rear window defogger switch (Refer to EL-142) ● Harness for open or short between rear window defogger timer and rear window defogger switch ● Rear window defogger switch ground circuit |

| | | |
|--|------------------------------------|--|
| 4 | CHECK IGNITION INPUT SIGNAL | |
| <p>Check voltage between rear window defogger timer harness connector terminal 1 and ground.</p> | | |
| | | |
| AEL632C | | |
| <p>Voltage [V]: Ignition switch is ON. Approx. 12 Ignition switch is OFF. 0</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in the fuse block (J/B)] ● Harness for open or short between rear window defogger timer and fuse |

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

| | | |
|--|--|-------------------------------------|
| 5 | CHECK CONTROL UNIT GROUND CIRCUIT | |
| Check continuity between rear window defogger timer harness connector terminal 4 and ground. | | |
| | | |
| AEL633C | | |
| Does continuity exist? | | |
| Yes | ▶ | Replace rear window defogger timer. |
| No | ▶ | Repair harness or connectors. |

Models with Power Door Locks

NGEL0075S0102

| | | |
|---|---|---|
| 1 | CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL | |
| 1. Turn ignition switch ON. 2. Check voltage between smart entrance control unit harness connector terminal 36 and ground. | | |
| | | |
| AEL634C | | |
| Voltage [V]: Rear window defogger switch is OFF. Approx. 12 Rear window defogger switch is ON. 0 | | |
| OK or NG | | |
| OK | ▶ | Check the following. <ul style="list-style-type: none"> ● Rear window defogger relay (Refer to EL-141) ● Rear window defogger circuit ● Rear window defogger filament (Refer to EL-142) |
| NG | ▶ | GO TO 2. |

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REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

| | | |
|--|---|--|
| 2 | CHECK DEFOGGER RELAY COIL SIDE CIRCUIT | |
| <p>1. Disconnect smart entrance control unit harness connector. 2. Turn ignition switch ON. 3. Check voltage between smart entrance control unit harness connector terminal 36 and ground.</p> | | |
| | | |
| AEL635C | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in the fuse block (J/B)] ● Rear window defogger relay ● Harness for open or short between rear window defogger relay and smart entrance control unit ● Harness for open or short between rear window defogger relay and fuse |

| | | |
|---|---|---|
| 3 | CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL | |
| <p>Check continuity between smart entrance control unit harness connector terminal 20 and ground.</p> | | |
| | | |
| AEL636C | | |
| Continuity: | | |
| <p>Rear window defogger switch is pressed. Yes</p> <p>Rear window defogger switch is released. No</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Rear window defogger switch (Refer to EL-142) ● Harness for open or short between smart entrance control unit and rear window defogger switch ● Rear window defogger switch ground circuit |

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

| | | |
|--|------------------------------------|--|
| 4 | CHECK IGNITION INPUT SIGNAL | |
| <p>Check voltage between smart entrance control unit harness connector terminal 11 and ground.</p> | | |
| | | |
| <p>Voltage [V]: Ignition switch is ON. Approx. 12 Ignition switch is OFF. 0</p> | | |
| AEL637C | | |
| OK or NG | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in the fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse |

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|---|--|--------------------------------------|
| 5 | CHECK CONTROL UNIT GROUND CIRCUIT | |
| <p>Check continuity between smart entrance control unit harness connector terminal 10 and ground.</p> | | |
| | | |
| Does continuity exist? | | |
| Yes | ▶ | Replace smart entrance control unit. |
| No | ▶ | Repair harness or connectors. |

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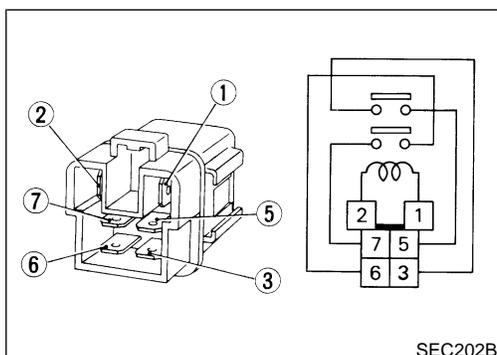
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Electrical Components Inspection REAR WINDOW DEFOGGER RELAY

NGEL0076

NGEL0076S01

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 |

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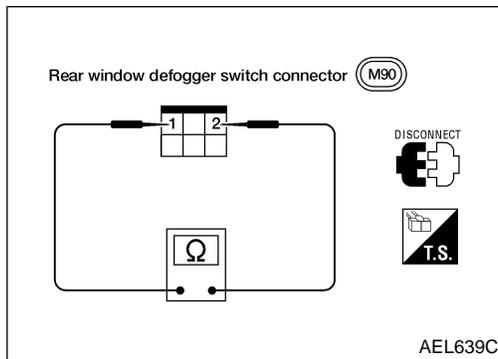
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REAR WINDOW DEFOGGER

Electrical Components Inspection (Cont'd)

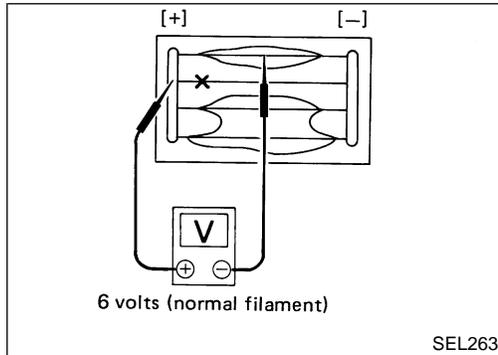


REAR WINDOW DEFOGGER SWITCH

NGEL0076S02

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

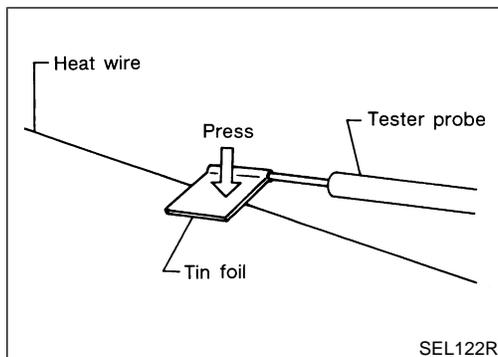
| Terminals | Condition | Continuity |
|-----------|---|------------|
| 1 - 2 | Rear window defogger switch is pushed | Yes |
| | Rear window defogger switch is released | No |



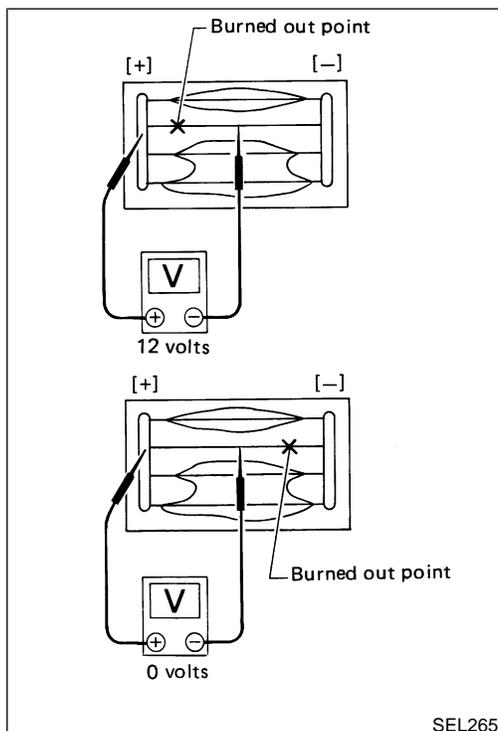
Filament Check

NGEL0077

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



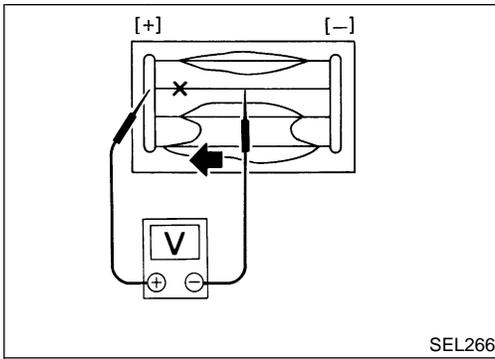
- When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



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

REAR WINDOW DEFOGGER

Filament Check (Cont'd)



SEL266

- 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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Filament Repair

REPAIR EQUIPMENT

NGEL0078

NGEL0078S01

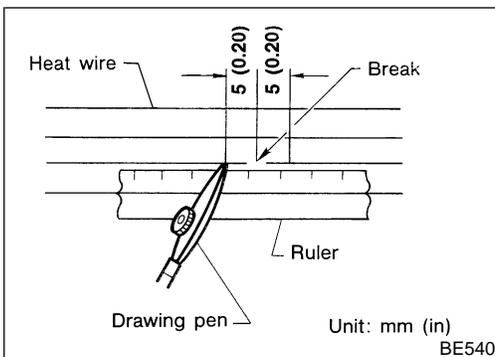
- Conductive silver composition (Dupont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

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REPAIRING PROCEDURE

NGEL0078S02

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

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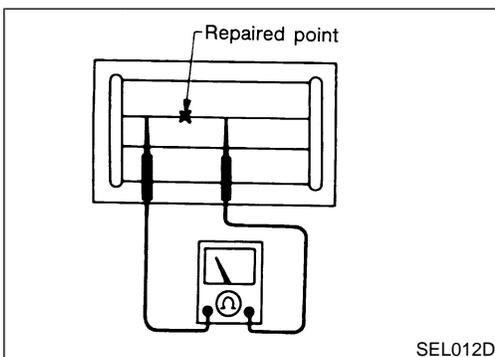
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Shake silver composition container before use.

- 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.

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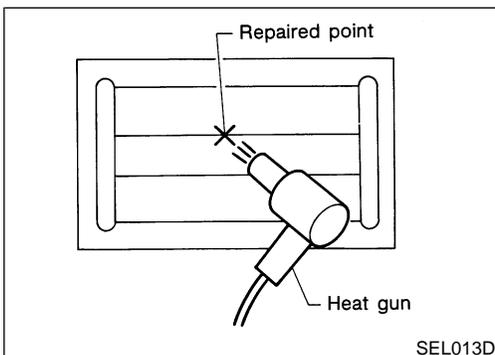
- After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

SU

Do not touch repaired area while test is being conducted.

BR

ST



SEL013D

- 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.

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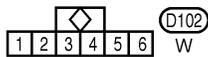
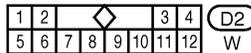
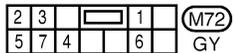
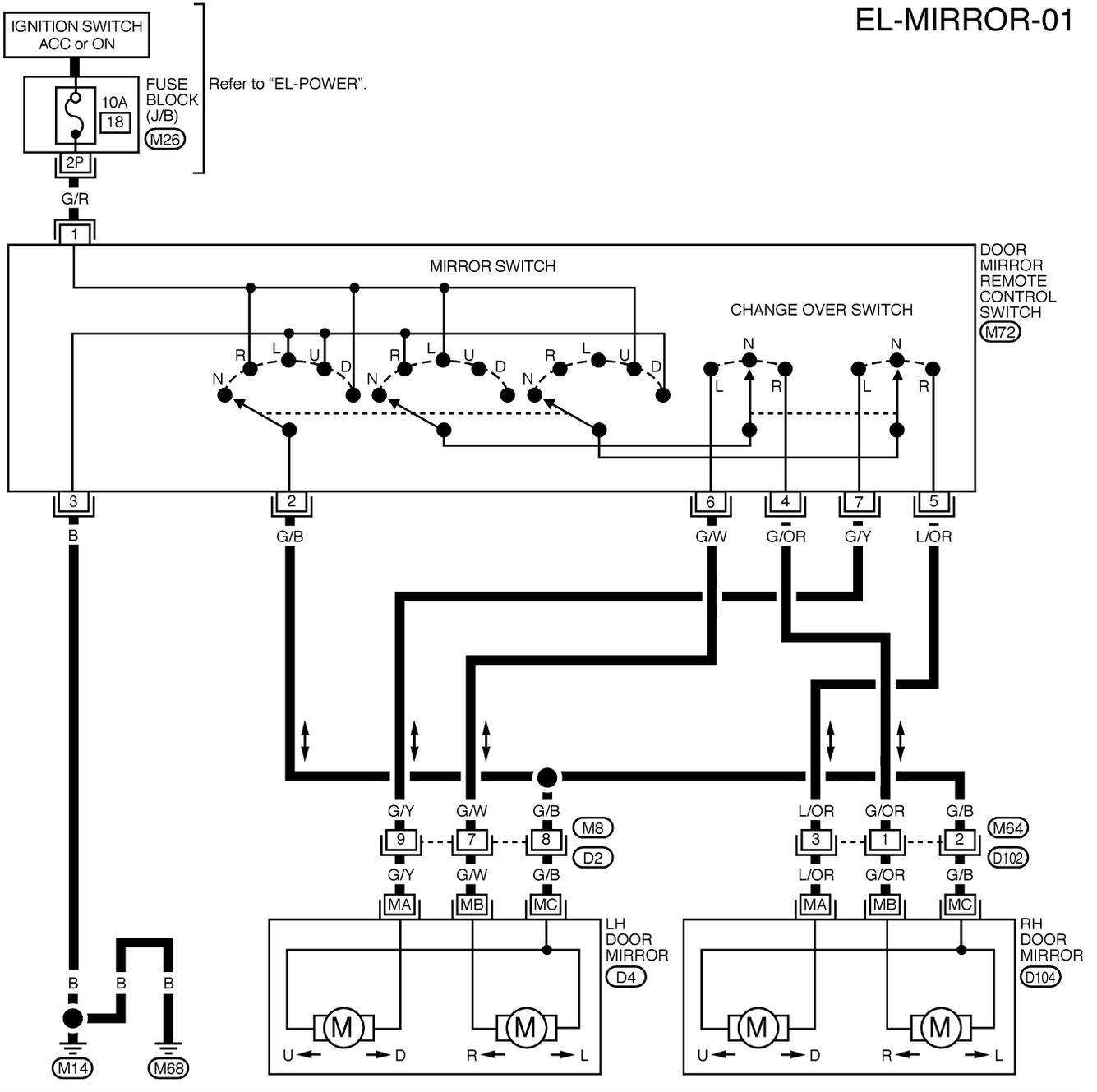
DOOR MIRROR

Wiring Diagram — MIRROR —

Wiring Diagram — MIRROR —

NGEL0090

EL-MIRROR-01



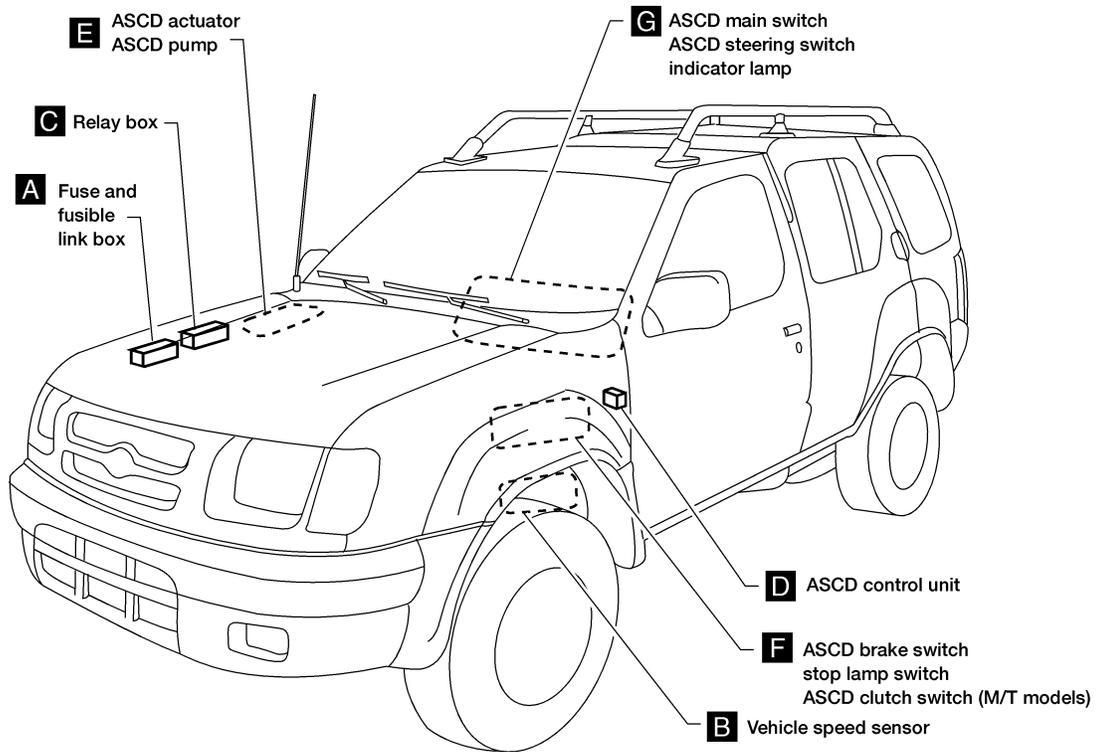
AEL375C

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NGEL0094



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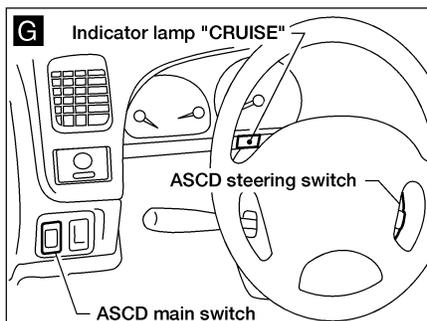
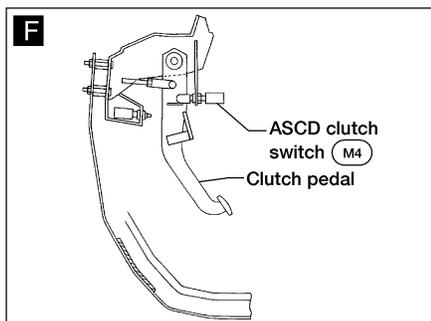
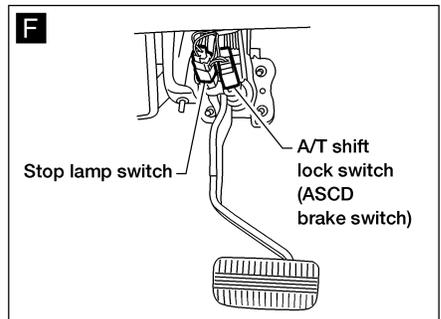
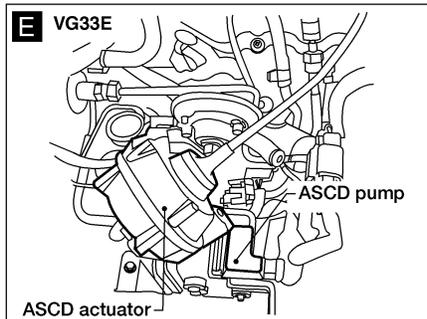
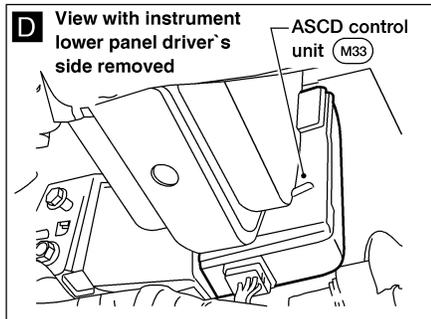
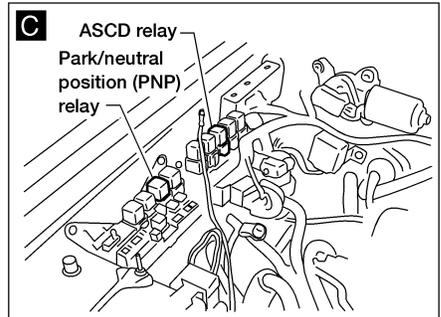
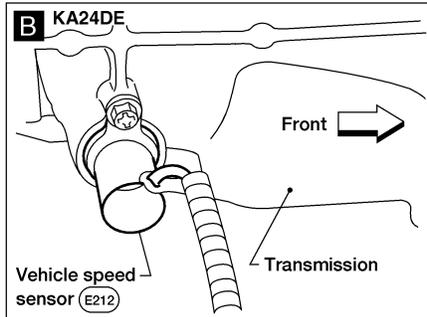
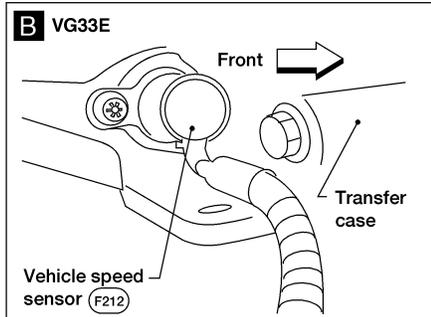
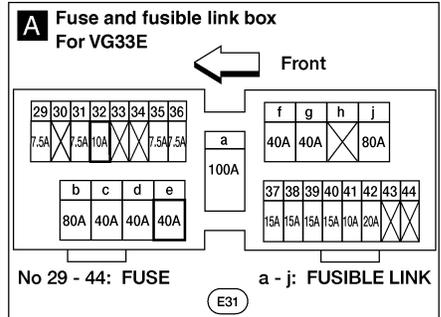
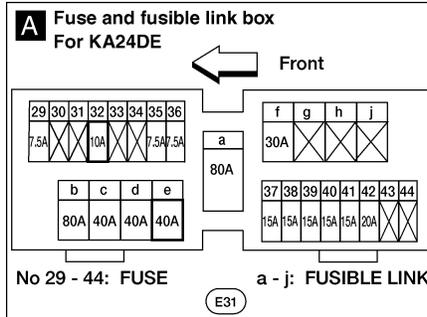
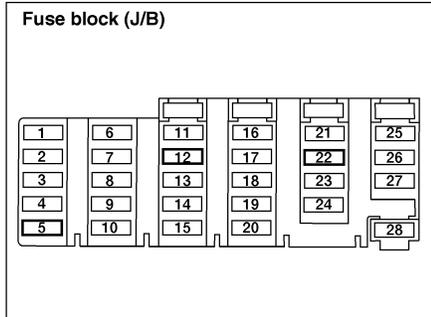
SC

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AEL446C

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location (Cont'd)



AEL431C

System Description

POWER SUPPLY AND GROUND CIRCUIT

NGEL0095

NGEL0095S07

Refer to Owner's Manual for ASCD operating instructions.

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to ASCD main switch terminal 1,
- to ASCD hold relay terminal 5 and
- to ASCD brake switch terminal 1.

With ASCD main switch pressed to ON position, power is supplied

- from ASCD main switch terminal 3
- to ASCD hold relay terminal 2.

Ground is supplied

- to ASCD hold relay terminal 1, and
- through body grounds M14 and M68.

With power and ground supplied, ASCD hold relay is energized. Then power is supplied

- from ASCD hold relay terminal 3
- to ASCD control unit terminal 4 and
- to ASCD main switch terminal 2.

After the ASCD main switch is released, power remains supplied

- to the ASCD hold relay coil circuit
- through ASCD main switch terminals 2 and 3.

This power supply continues until one of the following conditions exists.

- Ignition switch is turned to ACC or OFF.
- ASCD main switch is pressed to OFF position.

While ASCD hold relay is energized, power is also supplied to ASCD control unit terminal 5

- through ASCD brake switch, ASCD hold relay and ASCD clutch switch (M/T models), or
- through ASCD brake switch, ASCD hold relay and ASCD relay (A/T models).

Ground is supplied

- to ASCD control unit terminal 3
- through body grounds M14 and M68.

OPERATION

Set Operation

NGEL0095S04

NGEL0095S0401

To activate the ASCD, all of the following conditions must exist:

- Power supply to ASCD control unit terminal 4 (ASCD main switch is or has been pressed to the ON position while ignition switch is ON)
- Power supply to ASCD control unit terminal 5 [Brake and clutch pedals are released (M/T models), or brake pedal is released and A/T selector lever is in a position other than P or N (A/T models).]
- Vehicle speed is greater than 48 km/h (30 MPH) (vehicle speed signal output from combination meter)

When the SET/COAST switch is depressed, power is supplied

- from ASCD steering switch terminal 2
- to ASCD control unit 2.

Then the ASCD actuator is activated to control throttle wire and ASCD control unit terminal 13 supplies power

- to combination meter terminal 45 to illuminate CRUISE indicator.

A/T Overdrive Control During Cruise Control Driving (A/T Models)

NGEL0095S0402

When the vehicle speed is approximately 8 km/h (5 MPH) below set speed, a signal is sent

- from ASCD control unit terminal 12
- to TCM (Transmission control module) terminal 24.

When this occurs, the TCM cancels overdrive.

After vehicle speed is approximately 3 km/h (2 MPH) above set speed, overdrive is reactivated.

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description (Cont'd)

Coast Operation

NGEL0095S0403

When the SET/COAST switch is depressed during cruise control driving, ASCD actuator returns the throttle cable to decrease vehicle set speed until the switch is released. Then the ASCD system will maintain the new set speed.

Accel Operation

NGEL0095S0404

When the RESUME/ACCEL switch is depressed, power is supplied

- from ASCD steering switch terminal 1
- to ASCD control unit terminal 1.

If the RESUME/ACCEL switch is depressed during cruise control driving, the ASCD actuator pulls the throttle cable to increase the vehicle speed until the switch is released or vehicle speed has reached the maximum controlled speed by the system. Then the ASCD system will maintain the new set speed.

Cancel Operation

NGEL0095S0405

When any of the following conditions exists, cruise operation will be cancelled (ASCD main switch indicator will remain illuminated.)

- CANCEL switch is depressed (Power is supplied to ASCD control unit terminals 1 and 2.)
- Brake pedal is depressed (Power is supplied to ASCD control unit terminal 11 from stop lamp switch and power to ASCD control unit terminal 5 is interrupted.)
- Clutch pedal is depressed (Power to ASCD control unit terminal 5 is interrupted.) (M/T models)
- A/T selector lever is shifted to P or N position (Power to ASCD control unit terminal 5 is interrupted.) (A/T models)

If ASCD main switch is pressed to OFF position while the ASCD is activated, all ASCD operation will be canceled and vehicle speed memory will be erased.

Resume Operation

NGEL0095S0406

When the RESUME/ACCEL switch is depressed after cancelling operation (other than pressing ASCD main switch to OFF position), vehicle speed will return to the last set speed. To resume vehicle set speed, vehicle conditions must meet the following:

- Brake pedal is released
- Clutch pedal is released (M/T models)
- A/T selector lever is in a position other than P or N (A/T models)
- Vehicle speed is greater than 48 km/h (30 MPH)..

ASCD PUMP OPERATION

NGEL0095S05

The ASCD pump consists of a vacuum motor, an air valve, and a release valve.

When the ASCD system activates, power is supplied

- through ASCD control unit terminal 8
- to ASCD pump terminal 1.

Ground is supplied to the vacuum motor, air valve, and release valve through the ASCD control unit depending on the operating condition as shown in the following table.

When the vacuum motor operates, vacuum is applied to the diaphragm of the ASCD actuator.

| | | Air valve* | Release valve* | Vacuum motor** | Actuator inner pressure |
|--------------------|---------------------------|------------|----------------|----------------|-------------------------|
| ASCD not operating | | Open | Open | Stopped | Atmosphere |
| ASCD operating | Releasing throttle cable | Open | Closed | Stopped | Vacuum (decrease) |
| | Holding throttle position | Closed | Closed | Stopped | Vacuum (hold) |
| | Pulling throttle cable | Closed | Closed | Operating | Vacuum (increase) |

*: With power and ground supplied, valve is closed.

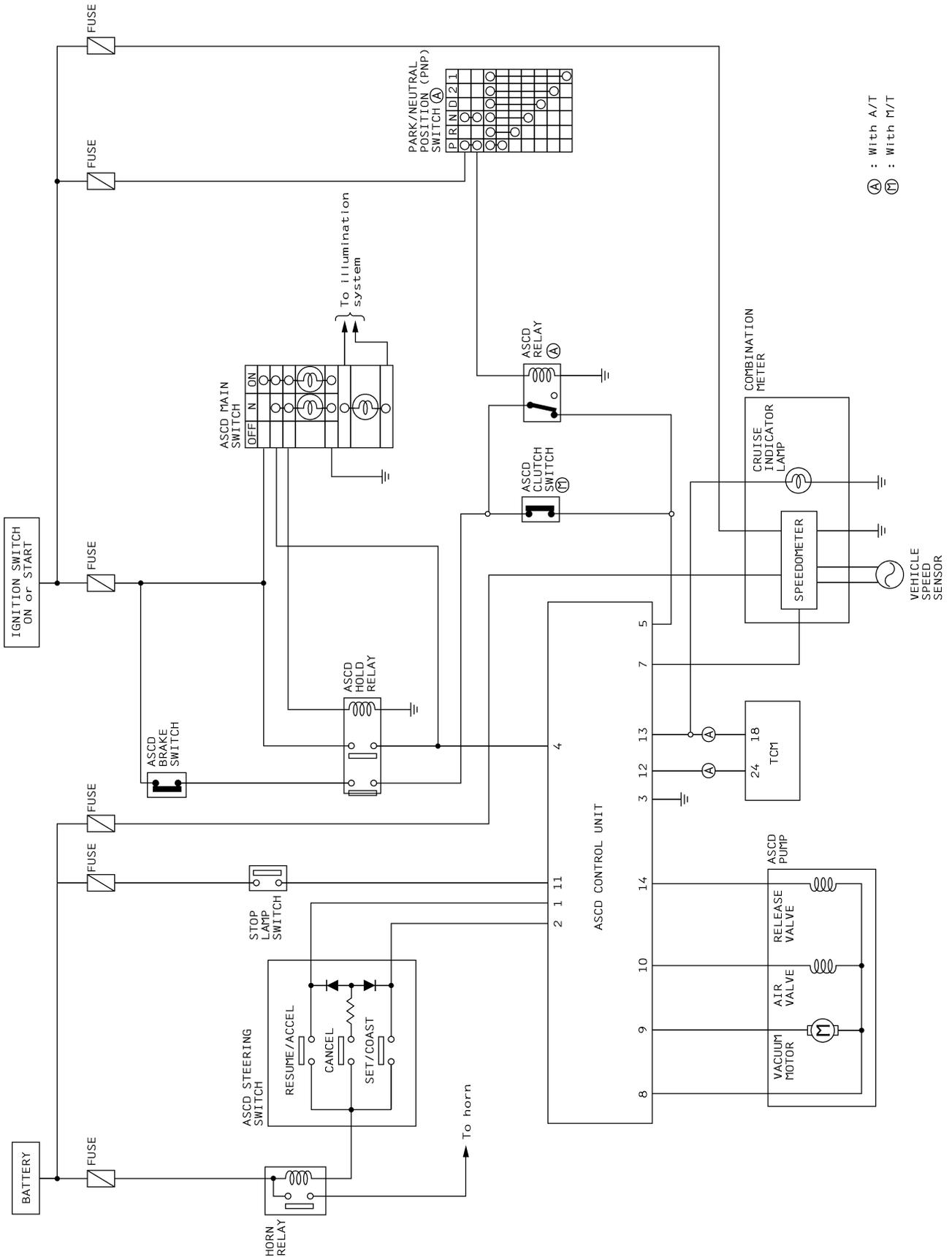
** : With power and ground supplied, motor operates.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Circuit Diagram

Circuit Diagram

NGEL0096



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AEL376C

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD —

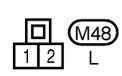
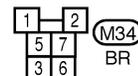
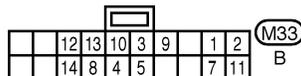
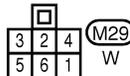
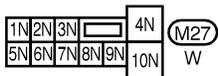
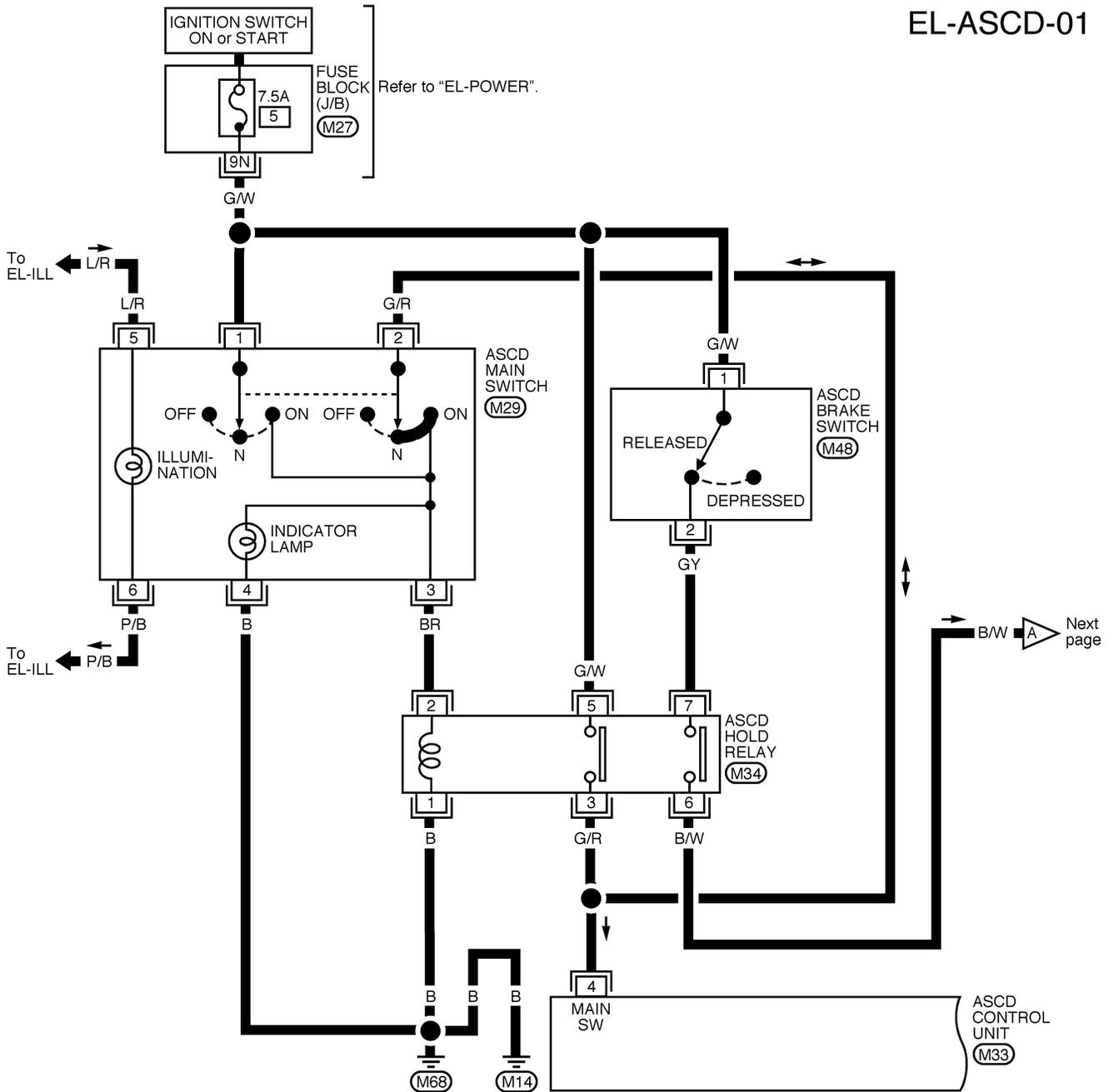
Wiring Diagram — ASCD —

NGEL0097

NGEL0097S01

FIG. 1

EL-ASCD-01



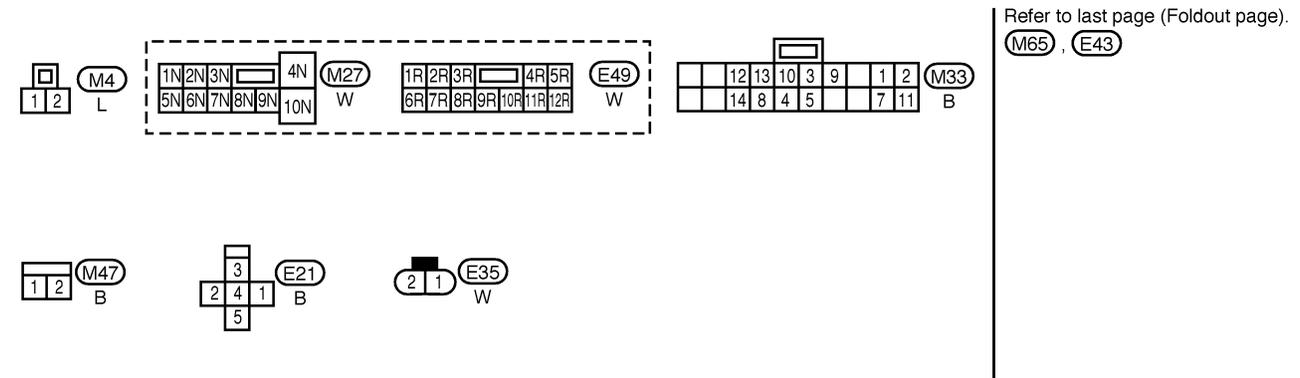
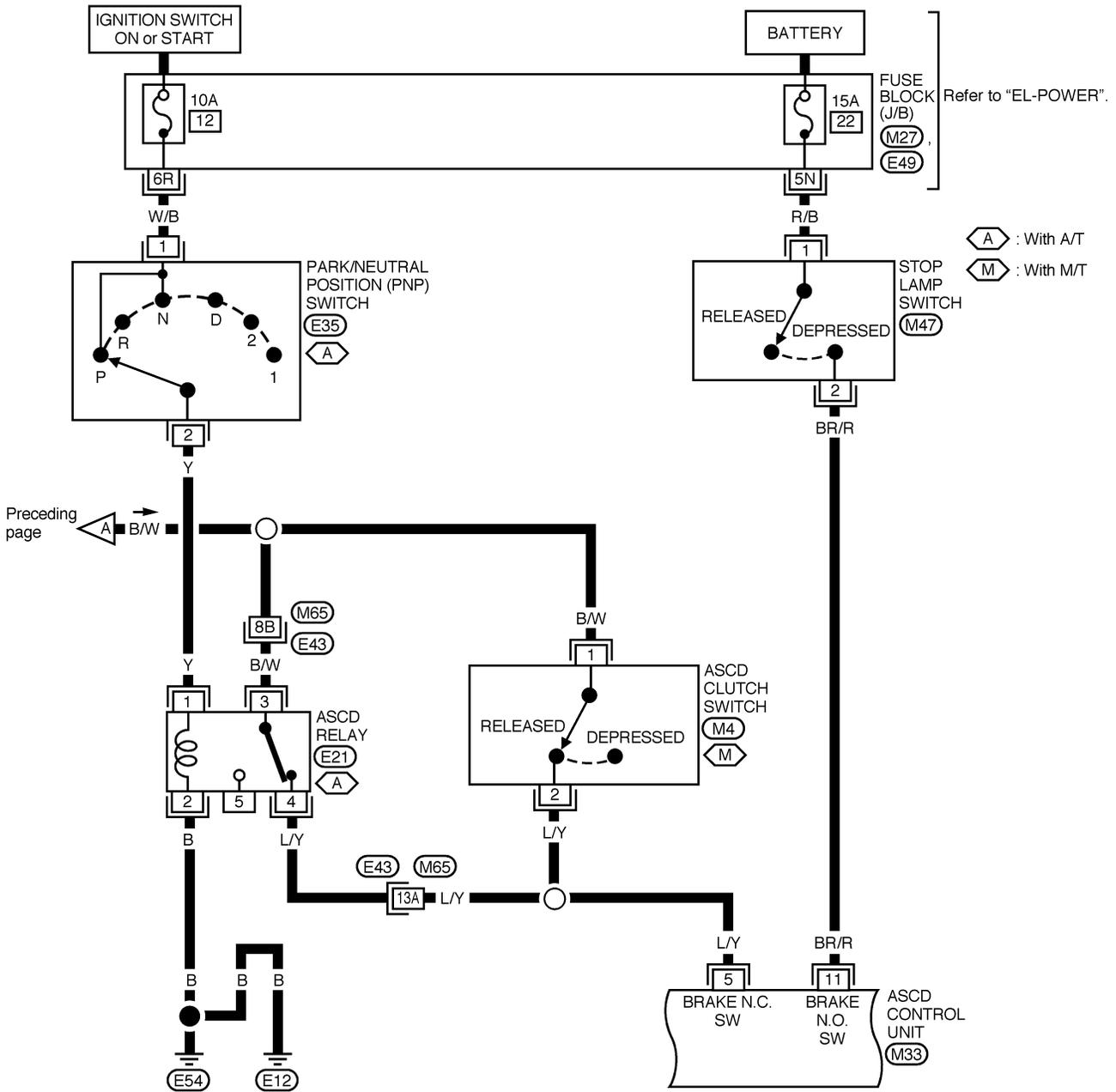
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

FIG. 2

NGEL0097S02

EL-ASCD-02



AEL378C

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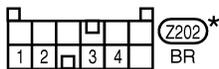
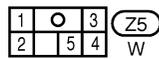
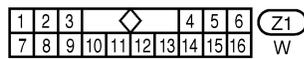
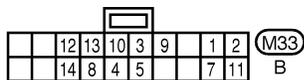
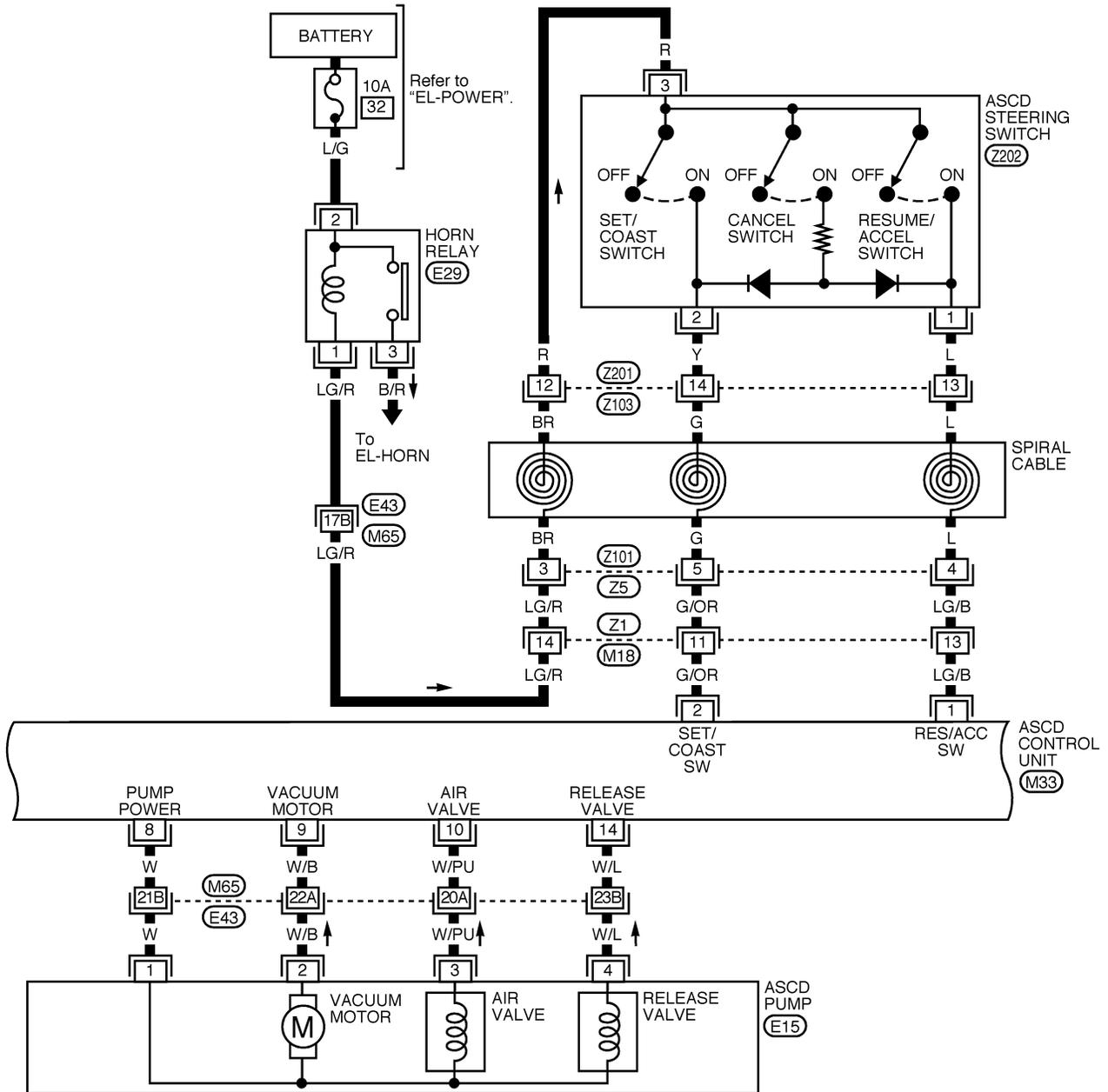
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

FIG. 3

NGEL0097S03

EL-ASCD-03



Refer to last page (Foldout page).

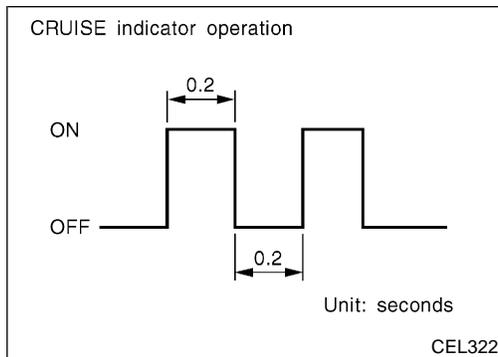
(M65), (E43)

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

AEL379C

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Fail-safe System



Fail-safe System

DESCRIPTION

When the fail-safe system senses a malfunction, it deactivates ASCD operation. The CRUISE indicator in the combination meter will then flash.

NGEL0098

NGEL0098S01

MALFUNCTION DETECTION CONDITIONS

NGEL0098S02

| Detection conditions | ASCD operation during malfunction detection |
|--|---|
| <ul style="list-style-type: none"> ● ASCD steering (RESUME/ACCEL, CANCEL, SET/COAST) switch is stuck. ● Vacuum motor ground circuit or power circuit is open or shorted. ● Air valve ground circuit or power circuit is open or shorted. ● Release valve ground circuit or power circuit is open or shorted. ● Vehicle speed sensor is faulty. ● ASCD control unit internal circuit is malfunctioning. | <ul style="list-style-type: none"> ● ASCD is deactivated. ● Vehicle speed memory is canceled. |
| <ul style="list-style-type: none"> ● ASCD brake switch or stop lamp switch is faulty. | <ul style="list-style-type: none"> ● ASCD is deactivated. ● Vehicle speed memory is not canceled. |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

NGEL0099

NGEL0099S01

| REFERENCE PAGE (EL-) | 156 | 157 | 158 | 159 | 161 | 163 | 165 | 166 | 167 |
|--|------------------------|---------------------------------------|------------------------|-----------------------|-----------------------------------|----------------------------|----------------------------|-------------------------|--------------------------|
| SYMPTOM | FAIL-SAFE SYSTEM CHECK | POWER SUPPLY AND GROUND CIRCUIT CHECK | ASCD MAIN SWITCH CHECK | ASCD HOLD RELAY CHECK | ASCD BRAKE/STOP LAMP SWITCH CHECK | ASCD STEERING SWITCH CHECK | VEHICLE SPEED SENSOR CHECK | ASCD PUMP CIRCUIT CHECK | ASCD ACTUATOR/PUMP CHECK |
| ASCD cannot be set. (CRUISE indicator lamp does not blink.) | | X | X | X | | X | X | | |
| ASCD cannot be set. (CRUISE indicator lamp blinks.★1) | X | | | | X | X | X | X | |
| Vehicle speed does not decrease after SET/COAST switch has been pressed. | | | | | | X | | | X |
| Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.★2 | | | | | | X | | | X |
| Vehicle speed does not increase after RESUME/ACCEL switch has been pressed. | | | | | | X | | | X |
| System is not released after CANCEL switch (steering) has been pressed. | | | | | | X | | | X |
| Large difference between set speed and actual vehicle speed. | | | | | | | | | X |
| Deceleration is greatest immediately after ASCD has been set. | | | | | | | | | X |

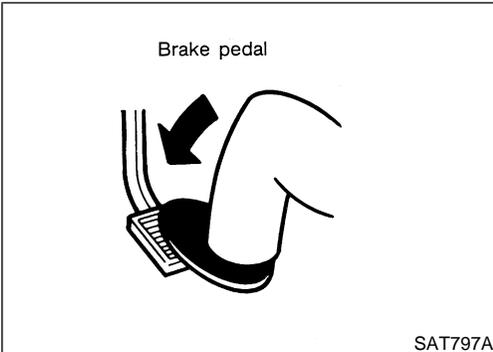
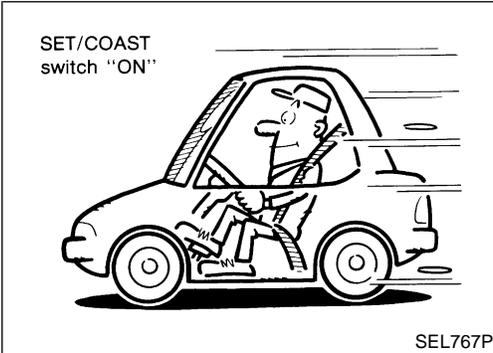
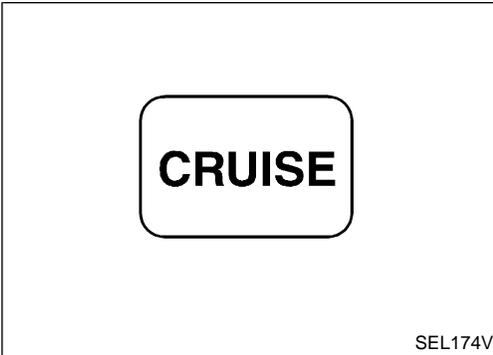
★1: It indicates that system is in fail-safe. After completing diagnostic procedures, perform "FAIL-SAFE SYSTEM CHECK", EL-156, to verify repairs.

★2: If vehicle speed is greater than 48 km/h (30 MPH) after system has been canceled, pressing RESUME/ACCEL switch returns vehicle speed to the set speed previously achieved. However, doing so when the ASCD main switch is OFF, vehicle speed will not return to the set speed since the memory is canceled.

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)



FAIL-SAFE SYSTEM CHECK

=NGEL0099S02

1. Turn ignition switch ON.
2. Press ASCD main switch to ON position and check if the CRUISE indicator lamp blinks.
If the CRUISE indicator lamp blinks, check the following.
 - ASCD STEERING SWITCH CHECK. Refer to EL-163.
3. Drive the vehicle at more than 48 km/h (30 MPH) and press SET/COAST switch.
If the CRUISE indicator lamp blinks, check the following.
 - VEHICLE SPEED SENSOR CHECK. Refer to EL-165.
 - ASCD PUMP CIRCUIT CHECK. Refer to EL-166.
 - Replace ASCD control unit.
4. Depress brake pedal slowly. (Brake pedal should be depressed longer than 5 seconds.)
If the CRUISE indicator lamp blinks, check the following.
 - ASCD BRAKE/STOP LAMP SWITCH CHECK. Refer to EL-161.
5. END. (System is OK.)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NGEL0099S03

| | | |
|---|------------------------|--|
| 1 | OPERATION CHECK | |
| 1. Turn ignition switch ON. 2. Turn ASCD main switch ON. | | |
| Does ASCD indicator illuminate? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Go to ASCD MAIN SWITCH CHECK. Refer to EL-158. |

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| | | |
|--|---|---|
| 2 | CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT | |
| 1. Disconnect ASCD control unit harness connector. 2. Turn ignition switch ON. 3. Turn ASCD main switch ON. 4. Check voltage between ASCD control unit harness connector terminal 4 and ground. | | |
| | | |
| Refer to wiring diagram on EL-150. | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | Go to ASCD HOLD RELAY CHECK. Refer to EL-159. |

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| 3 | CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT | |
| Check continuity between ASCD control unit harness connector terminal 3 and body ground. | | |
| | | |
| Refer to wiring diagram on EL-153. | | |
| Does continuity exist? | | |
| Yes | ▶ | Power supply and ground circuit are OK. |
| No | ▶ | Repair harness. |

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD MAIN SWITCH CHECK

=NGEL0099S04

| | | |
|---|--|---|
| 1 | CHECK POWER SUPPLY FOR ASCD MAIN SWITCH | |
| <p>1. Disconnect ASCD main switch harness connector.</p> <p>2. Check voltage between ASCD main switch harness connector terminals 1 and 4.</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram on EL-150.</p> <p style="text-align: right;">AEL266B</p> <p style="text-align: center;">Does battery voltage exist?</p> | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in the fuse block (J/B)] ● Harness for open or short between fuse and ASCD main switch ● Ground circuit for ASCD main switch |

| | | |
|---|-------------------------------|---|
| 2 | CHECK ASCD MAIN SWITCH | |
| Refer to "Electrical Component Inspection", EL-168. | | |
| OK or NG | | |
| OK | ▶ | Go to ASCD HOLD RELAY CHECK. Refer to EL-159. |
| NG | ▶ | Replace ASCD main switch. |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD HOLD RELAY CHECK

=NGEL0099S05

| | | |
|---|---|--|
| 1 | CHECK POWER SUPPLY CIRCUIT FOR ASCD HOLD RELAY | |
| <p>1. Disconnect ASCD hold relay. 2. Check voltage between ASCD hold relay harness connector terminal 5 and body ground.</p> <div style="text-align: center;"> <p>ASCD hold relay connector (M34)</p> <p>5</p> <p>G/W</p> <p>V</p> <p>+</p> <p>-</p> <p>T.S.</p> <p>DISCONNECT</p> <p>ON</p> </div> <p>Refer to wiring diagram on EL-150.</p> <p style="text-align: right;">AEL267B</p> | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in the fuse block (J/B)] ● Harness for open or short between fuse and ASCD hold relay |

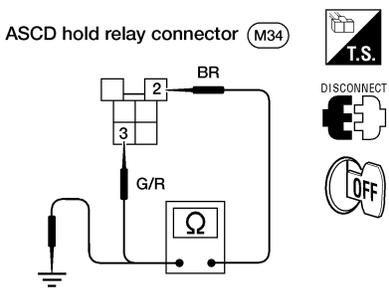
| | | |
|--|---|-----------------|
| 2 | CHECK GROUND CIRCUIT FOR ASCD HOLD RELAY | |
| <p>Check continuity between ASCD hold relay harness connector terminal 1 and ground.</p> <div style="text-align: center;"> <p>ASCD hold relay connector (M34)</p> <p>1</p> <p>B</p> <p>Ω</p> <p>T.S.</p> <p>DISCONNECT</p> <p>OFF</p> </div> <p style="text-align: right;">AEL268B</p> | | |
| Does continuity exist? | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | Repair harness. |

| | | |
|---|-------------------------------|---------------------------|
| 3 | CHECK ASCD MAIN SWITCH | |
| <p>Refer to "Electrical Component Inspection", EL-168.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Replace ASCD main switch. |

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

| | | |
|---|--------------------------------------|-----------------|
| 4 | CHECK ASCD HOLD RELAY CIRCUIT | |
| <p>1. Connect ASCD main switch. 2. Check continuity between ASCD hold relay harness connector terminals 2 and 3. Continuity should exist. 3. Check continuity between ASCD hold relay harness connector terminal 2 and ground. Continuity should not exist.</p> | | |
|  | | |
| OK or NG | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | Repair harness. |

AEL269B

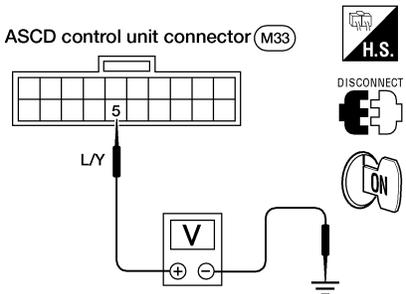
| | | |
|------------------------|------------------------------|--------------------------------|
| 5 | CHECK ASCD HOLD RELAY | |
| Check ASCD hold relay. | | |
| OK or NG | | |
| OK | ▶ | ASCD hold relay circuit is OK. |
| NG | ▶ | Replace ASCD hold relay. |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD BRAKE/STOP LAMP SWITCH CHECK

-NGEL0099S06

| | | | |
|-----------------|--|--|--|
| 1 | CHECK ASCD BRAKE SWITCH CIRCUIT | <p>1. Disconnect ASCD control unit harness connector.</p> <p>2. Turn ignition switch ON.</p> <p>3. Turn ASCD main switch ON.</p> <p>4. Check voltage between ASCD control unit harness connector terminal 5 and ground. When brake pedal is depressed, clutch pedal is depressed (M/T models) or A/T selector lever is in P or N position (A/T models): Approx. 0V When brake pedal is released and clutch pedal is released (M/T models) or A/T selector lever is not in P or N position (A/T models): Battery voltage should exist.</p> <div style="text-align: center;">  </div> <p>Refer to wiring diagram on EL-150, 151.</p> <p style="text-align: right;">AEL270B</p> | GI MA EM LC EC FE CL MT |
| OK or NG | | | |
| OK | ▶▶ | GO TO 2. | AT |
| NG | ▶▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● ASCD brake switch, ASCD clutch switch (M/T models), park/neutral position (PNP) switch (A/T models), ASCD relay (A/T models) Refer to "Electrical Component Inspection", EL-169. ● ASCD hold relay ● Harness for open or short | TF PD |

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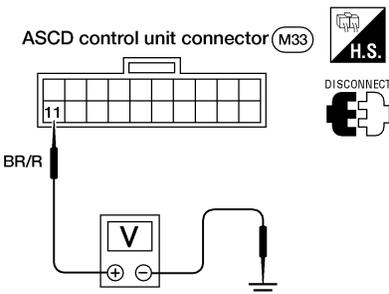
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

| | | | |
|----------|---------------------------------------|---|---------|
| 2 | CHECK STOP LAMP SWITCH CIRCUIT | <p>1. Disconnect ASCD control unit harness connector.</p> <p>2. Check voltage between ASCD control unit harness connector terminal 11 and ground.</p> <div style="text-align: center;">  </div> <p>Voltage [V]: Stop lamp switch: Depressed Approx. 12 Stop lamp switch: Released 0</p> <p>Refer to wiring diagram on EL-151.</p> <p style="text-align: center;">OK or NG</p> | AEL271B |
| OK | ▶ | ASCD brake/stop lamp switch is OK. | |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 15A fuse [No. 22, located in the fuse block (J/B)] ● Harness for open or short between ASCD control unit and stop lamp switch ● Harness for open or short between stop lamp switch and fuse ● Stop lamp switch <p>Refer to "Electrical Component Inspection", EL-169.</p> | |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD STEERING SWITCH CHECK

=NGEL0099S07

| 1 | CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|-----------------------------|------------------|----------|------------------|--|-----|-----|---------|----------|--------------|---|--------|-----|----|---------------|---|--------|-----|----|-----------|---|--------|-----|----|---|--------|-----|----|
| <p>1. Disconnect ASCD control unit harness connector. 2. Check voltage between ASCD control unit harness connector terminals and ground.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AEL272B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminal No.</th> <th colspan="2">Switch condition</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>Pressed</th> <th>Released</th> </tr> </thead> <tbody> <tr> <td>SET/COAST SW</td> <td>2</td> <td>ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td>RESUME/ACC SW</td> <td>1</td> <td>ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td rowspan="2">CANCEL SW</td> <td>2</td> <td>ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td>1</td> <td>ground</td> <td>12V</td> <td>0V</td> </tr> </tbody> </table> | | | Terminal No. | | Switch condition | | (+) | (-) | Pressed | Released | SET/COAST SW | 2 | ground | 12V | 0V | RESUME/ACC SW | 1 | ground | 12V | 0V | CANCEL SW | 2 | ground | 12V | 0V | 1 | ground | 12V | 0V |
| | Terminal No. | | Switch condition | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (+) | (-) | Pressed | Released | | | | | | | | | | | | | | | | | | | | | | | | | |
| SET/COAST SW | 2 | ground | 12V | 0V | | | | | | | | | | | | | | | | | | | | | | | | | |
| RESUME/ACC SW | 1 | ground | 12V | 0V | | | | | | | | | | | | | | | | | | | | | | | | | |
| CANCEL SW | 2 | ground | 12V | 0V | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | ground | 12V | 0V | | | | | | | | | | | | | | | | | | | | | | | | | |
| MTBL0002 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Refer to wiring diagram on EL-152. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | ASCD steering switch is OK. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ | GO TO 2. | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|------------------------|--|---|
| 2 | CHECK POWER SUPPLY FOR ASCD STEERING SWITCH | |
| Does horn work? | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 32, located in the fuse and fusible link box) ● Horn relay ● Harness for open or short between horn and fuse |

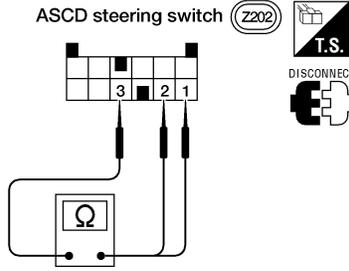
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

3 CHECK ASCD STEERING SWITCH

1. Disconnect ASCD steering switch.
2. Check continuity between terminals by pressing each switch.



AEL126B

| Switch | Terminals | | |
|--------------|-----------|---|---|
| | 3 | 2 | 1 |
| RESUME/ACCEL | ○ | ○ | ○ |
| SET/COAST | ○ | ○ | ○ |
| CANCEL | ○ | ▶ | ○ |
| | ○ | ▶ | ○ |

AEL550C

OK or NG

OK



Check the following.

- Harness for open or short between ASCD steering switch and ASCD control unit
- Harness for open or short between ASCD steering switch and horn relay

NG



Replace ASCD steering switch.

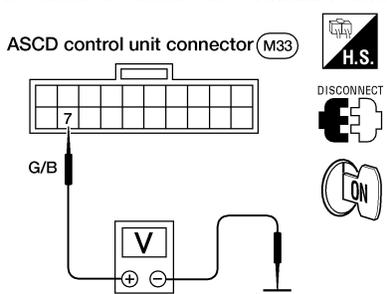
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

VEHICLE SPEED SENSOR CHECK

=NGEL0099S08

| | | |
|---|------------------------------------|---|
| 1 | CHECK SPEEDOMETER OPERATION | |
| Refer to wiring diagram on EL-153. | | |
| Does speedometer operate normally? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check speedometer and vehicle speed sensor circuit. Refer to EL-79. |

| | | |
|---|----------------------------------|---|
| 2 | CHECK VEHICLE SPEED INPUT | |
| <p>1. Apply wheel chocks and jack up drive wheels. 2. Disconnect ASCD control unit harness connector. 3. Check voltage between ASCD control unit harness connector terminal 7 and ground while turning drive wheels slowly.</p> | | |
|  <p style="text-align: right;">AEL273B</p> | | |
| Does voltmeter pointer deflect? | | |
| Yes | ▶ | Vehicle speed sensor is OK. |
| No | ▶ | Check harness for open or short between ASCD control unit terminal 7 and combination meter terminal 37. |

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

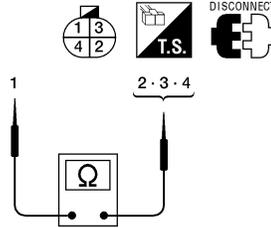
ASCD PUMP CIRCUIT CHECK

NGEL0099S09

1 CHECK ASCD PUMP

1. Disconnect ASCD pump harness connector.
2. Measure resistance between ASCD pump terminals 1 and 2, 3, 4.

ASCD pump connector (E15)



AEL274B

| Terminals | | Resistance [Ω] |
|-----------|---|----------------|
| 1 | 2 | Approx. 18.2 |
| | 3 | Approx. 65.5 |
| | 4 | Approx. 65.5 |

AEL551C

Refer to wiring diagram on EL-152.

OK or NG

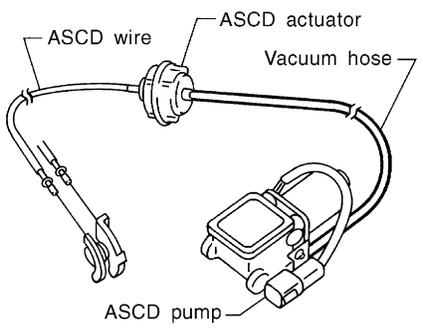
| | | |
|----|---|--|
| OK | ▶ | Check harness for open or short between ASCD pump and ASCD control unit. |
| NG | ▶ | Replace ASCD pump. |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

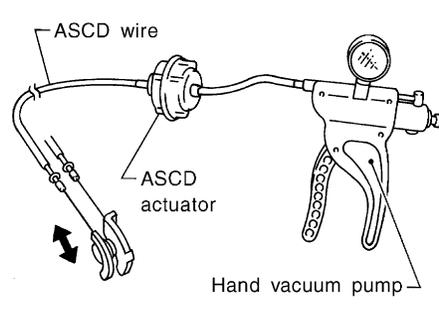
Trouble Diagnoses (Cont'd)

ASCD ACTUATOR/PUMP CHECK

-NGEL0099S10

| | | | |
|----------|--------------------------|--|---------|
| 1 | CHECK VACUUM HOSE | | |
| | | Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks and fracture. | |
| | |  <p>Labels: ASCD wire, ASCD actuator, Vacuum hose, ASCD pump</p> | MEL402G |
| | | OK or NG | |
| OK | ▶ | GO TO 2. | |
| NG | ▶ | Repair or replace hose. | |

| | | | |
|----------|------------------------|--|--|
| 2 | CHECK ASCD WIRE | | |
| | | Check wire for improper installation, rust formation and breaks. | |
| | | OK or NG | |
| OK | ▶ | GO TO 3. | |
| NG | ▶ | Repair or replace wire. Refer to "ASCD Wire Adjustment", EL-170. | |

| | | | |
|----------|----------------------------|---|---------|
| 3 | CHECK ASCD ACTUATOR | | |
| | | <ol style="list-style-type: none"> 1. Disconnect vacuum hose from ASCD actuator. 2. Apply -40 kPa (-0.41 kg/cm², -5.8 psi) vacuum to ASCD actuator with hand vacuum pump. ASCD wire should move to pull throttle drum. 3. Wait 10 seconds and check for decrease in vacuum pressure. Vacuum pressure decrease: Less than 2.7 kPa (0.028 kg/cm², 0.39 psi) | |
| | |  <p>Labels: ASCD wire, ASCD actuator, Hand vacuum pump</p> | MEL403G |
| | | OK or NG | |
| OK | ▶ | GO TO 4. | |
| NG | ▶ | Replace ASCD actuator. | |

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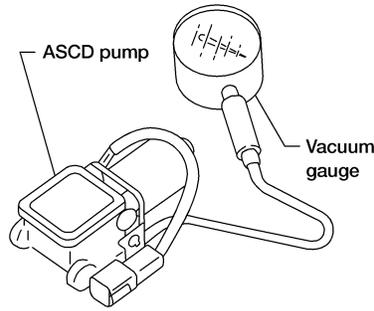
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

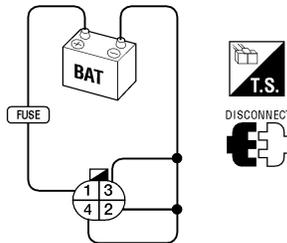
Trouble Diagnoses (Cont'd)

4 CHECK ASCD PUMP

1. Disconnect vacuum hose from ASCD pump and ASCD pump connector.
2. If necessary, remove ASCD pump.
3. Connect vacuum gauge to ASCD pump.
4. Apply 12V direct current to ASCD pump and check operation.



ASC pump connector (E15)



AEL275B

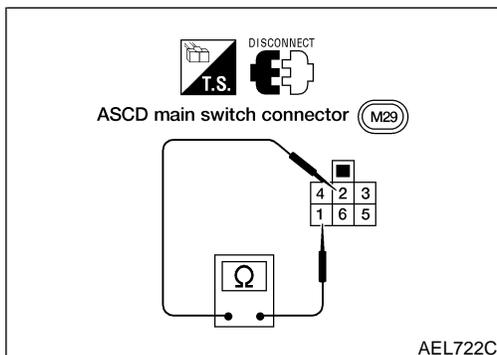
| | 12V direct current supply terminals | | Operation |
|---------------|-------------------------------------|-----|-----------|
| | (+) | (-) | |
| Air valve | 1 | 3 | Close |
| Release valve | | 4 | Close |
| Vacuum motor | | 2 | Operate |

MTBL0004

A vacuum pressure of at least -35 kPa (-0.36 kg/cm^2 , -5.1 psi) should be generated.

OK or NG

| | | |
|----|---|-------------------------------|
| OK | ▶ | ASC pump actuator/pump is OK. |
| NG | ▶ | Replace ASC pump. |



AEL722C

Electrical Component Inspection

NGEL0100

ASC MAIN SWITCH

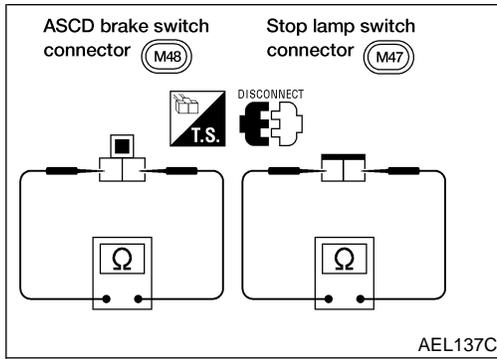
NGEL0100S01

Check continuity between terminals by pushing switch to each position.

| Switch position | Terminals | Illumination |
|-----------------|---------------|--------------|
| ON | 1 - 2 - 3 - 4 | 5 - 6 |
| N | 2 - 3 - 4 | |
| OFF | | |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Electrical Component Inspection (Cont'd)

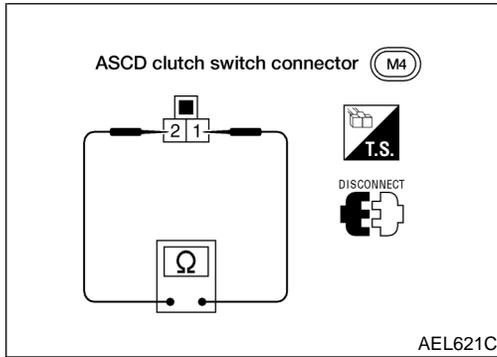


ASCD BRAKE SWITCH AND STOP LAMP SWITCH

NGEL0100S02

| Condition | Continuity | |
|-------------------------------|-------------------|------------------|
| | ASCD brake switch | Stop lamp switch |
| When brake pedal is depressed | No | Yes |
| When brake pedal is released | Yes | No |

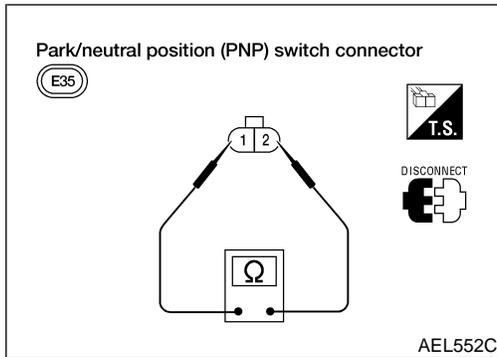
Check each switch after adjusting brake pedal — refer to BR section.



ASCD CLUTCH SWITCH (M/T MODELS)

NGEL0100S04

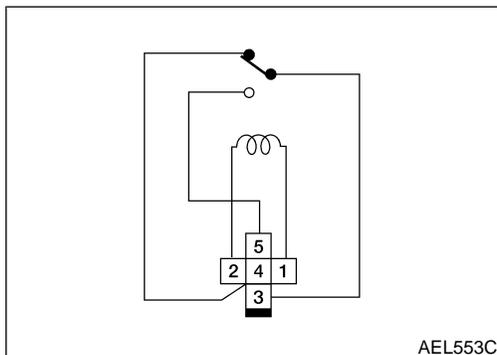
| Condition | Continuity |
|--------------------------------|------------|
| When clutch pedal is depressed | No |
| When clutch pedal is released | Yes |



PARK/NEUTRAL POSITION (PNP) SWITCH (A/T MODELS)

NGEL0100S03

| Selector lever position | Continuity |
|-------------------------|---------------------------|
| | Between terminals 1 and 2 |
| P | Yes |
| N | Yes |
| Except P and N | No |



ASCD RELAY (A/T MODELS)

NGEL0100S05

Check continuity with ignition switch ON.

| Selector lever position | Continuity |
|-------------------------|---------------------------|
| | Between terminals 3 and 4 |
| P | No |
| N | No |
| Except P and N | Yes |

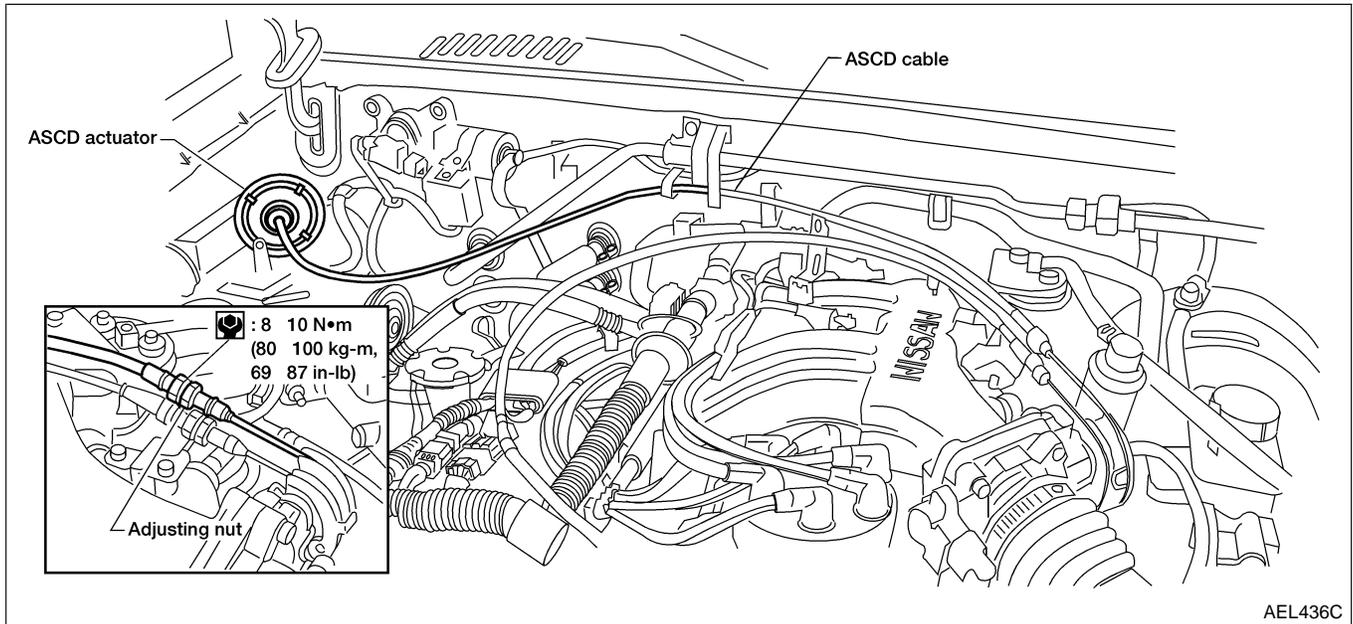
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

ASCD Wire Adjustment

ASCD Wire Adjustment

NGEL0101



CAUTION:

- Be careful not to twist ASCD wire when removing it.
- Do not tense ASCD wire excessively during adjustment.

Adjust the tension of ASCD wire in the following manner.

1. Loosen lock nut and adjusting nut.
2. Make sure that accelerator wire is properly adjusted. Refer to "Adjusting Accelerator Wire", **FE-3**.
3. Tighten adjusting nut just until throttle drum starts to move.
4. Loosen adjusting nut again 1/2 to 1 turn.
5. Tighten lock nut.

System Description

NGEL0102

Power is supplied at all times

- from 40A fusible link (letter f, located in the fuse and fusible link box)
- to circuit breaker terminal +
- through circuit breaker terminal –
- to power window relay terminal 3.

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to power window relay terminal 2.

Ground is supplied to power window relay terminal 1

- through body grounds M14 and M68.

The power window relay is energized and power is supplied

- through power window relay terminal 5
- to main power window and door lock/unlock switch terminal 2
- to front power window switch RH terminal 4
- to rear power window switch LH terminal 2
- to rear power window switch RH terminal 2

Ground is supplied

- to main power window and door lock/unlock switch terminal 10
- through body grounds M14 and M68.

MANUAL OPERATION

NOTE:

Numbers in parentheses are terminal numbers which apply with switch pressed in the UP and DOWN positions respectively.

Front Door LH

Power is supplied

- through main power window and door lock/unlock switch terminal (12, 16)
- to front power window motor LH terminal (UP, DN).

Ground is supplied

- to front power window motor LH terminal (DN, UP)
- through main power window and door lock/unlock switch terminal (16, 12).

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

Front Door RH

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OPERATION

With front RH switch pressed, power is supplied

- through main power window and door lock/unlock switch (14, 13)
- to front power window switch RH (5, 2).

The following description is the same as the front power window switch RH description.

FRONT POWER WINDOW SWITCH RH OPERATION

Power is supplied

- through front power window switch RH (6, 3)
- to front power window motor RH (UP, DN).

Ground is supplied

- to front power window motor RH (DN, UP)
- through front power window switch RH (3, 6)
- to front power window switch RH (2, 5)
- through main power window and door lock/unlock switch (13, 14).

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

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POWER WINDOW

System Description (Cont'd)

Rear Door LH

NGEL0102S0103

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OPERATION

With rear LH switch pressed, power is supplied

- through main power window and door lock/unlock switch (1, 6)
- to rear power window switch LH (3, 1).

The following description is the same as the rear power window switch LH description.

REAR POWER WINDOW SWITCH LH OPERATION

Power is supplied

- through rear power window switch LH (4, 6)
- to rear power window motor LH (UP, DN).

Ground is supplied

- to rear power window motor LH (DN, UP)
- through rear power window switch LH (6, 4)
- to rear power window switch LH (1, 3)
- through main power window and door lock/unlock switch (6, 1).

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

Rear Door RH

NGEL0102S0104

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OPERATION

With rear RH switch pressed, power is supplied

- through main power window and door lock/unlock switch (7, 9)
- to rear power window switch RH (3, 1).

The following description is the same as the rear power window switch RH description.

REAR POWER WINDOW SWITCH RH OPERATION

Power is supplied

- through rear power window switch RH (4, 6)
- to rear power window motor RH (UP, DN).

Ground is supplied

- to rear power window motor RH (DN, UP)
- through rear power window switch RH (6, 4)
- to rear power window switch RH (1, 3)
- through main power window and door lock/unlock switch (9, 7).

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

AUTO OPERATION

NGEL0102S02

The power window AUTO feature enables the driver to lower the driver's window without holding the switch in the DOWN position.

The AUTO feature is activated by pressing the switch beyond the DOWN position to the AUTO position.

The AUTO feature only operates on the downward movement of the driver's window.

The window can be stopped before it is fully open by pressing the window switch to the UP position.

POWER WINDOW LOCK

NGEL0102S03

The power window lock prevents operation of all windows except the driver's window.

When the lock switch is pressed to lock position, ground of the front power window switch RH and the rear power window switch LH and RH is disconnected in the main power window and door lock/unlock switch. This prevents the front power window motor RH and the rear power window motor LH and RH from operating.

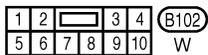
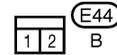
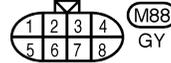
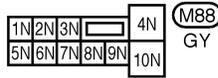
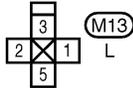
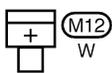
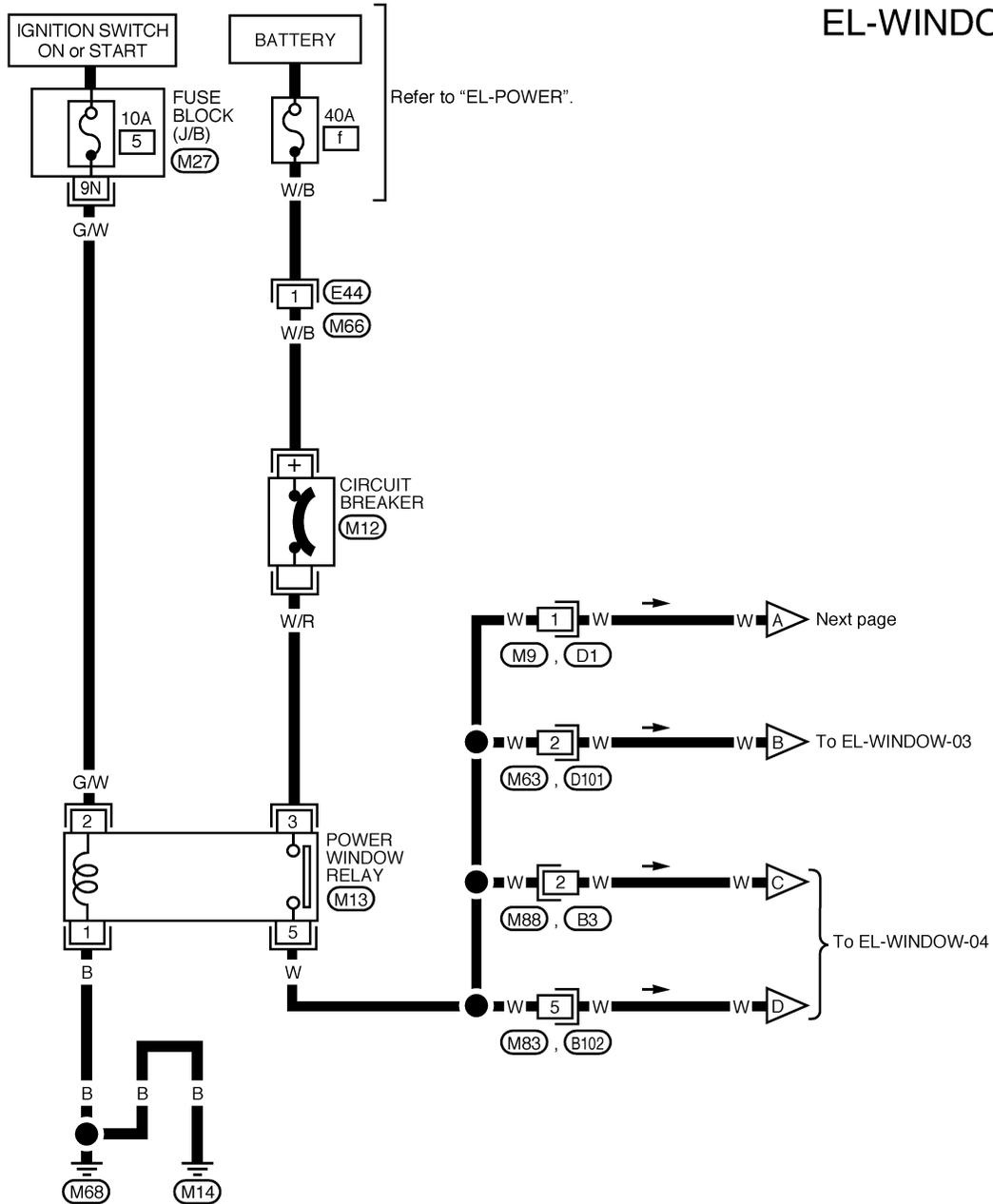
POWER WINDOW

Wiring Diagram — WINDOW —

Wiring Diagram — WINDOW —

NGEL0104

EL-WINDOW-01



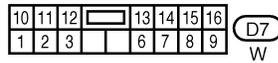
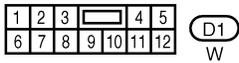
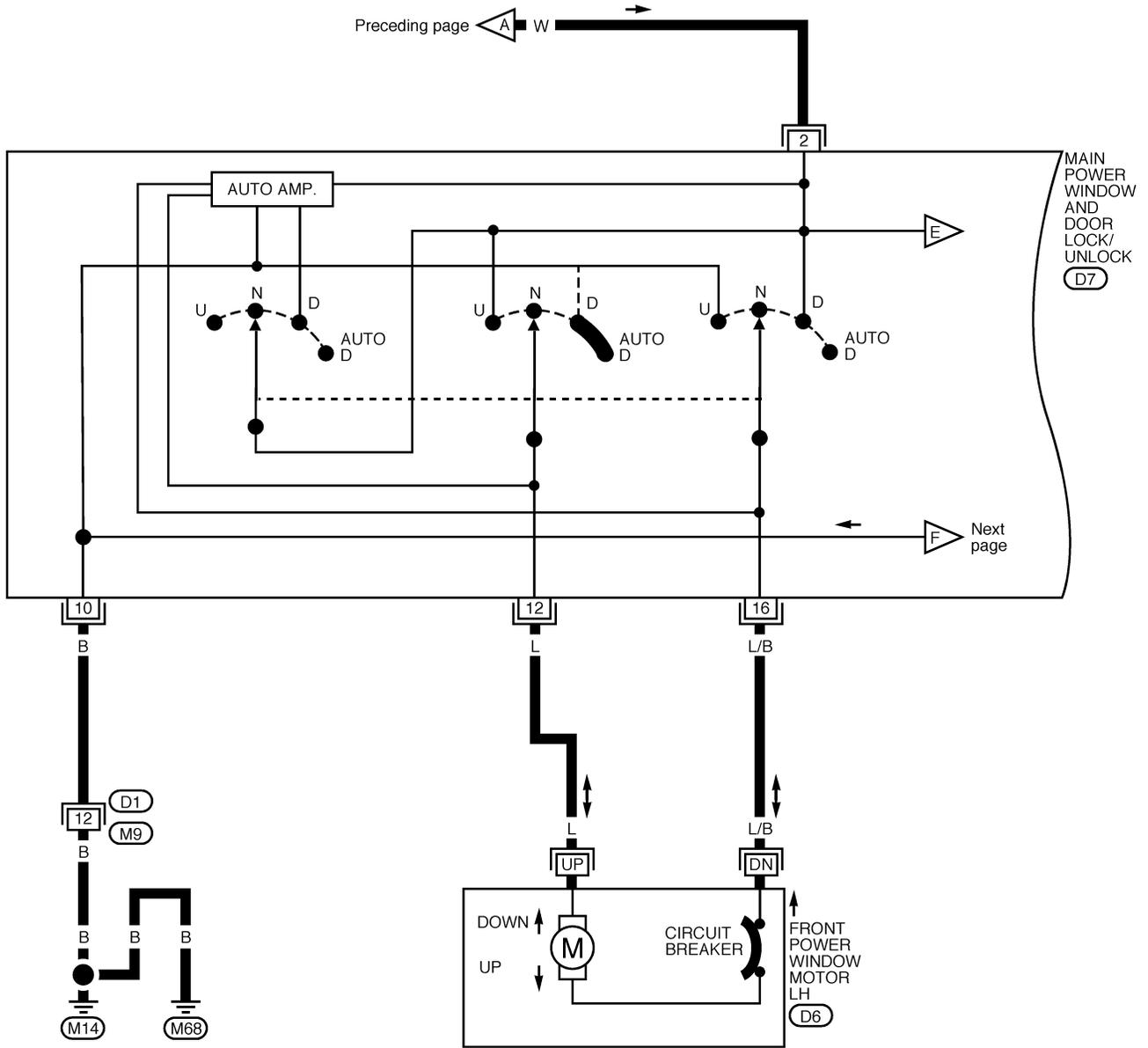
AEL381C

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POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02

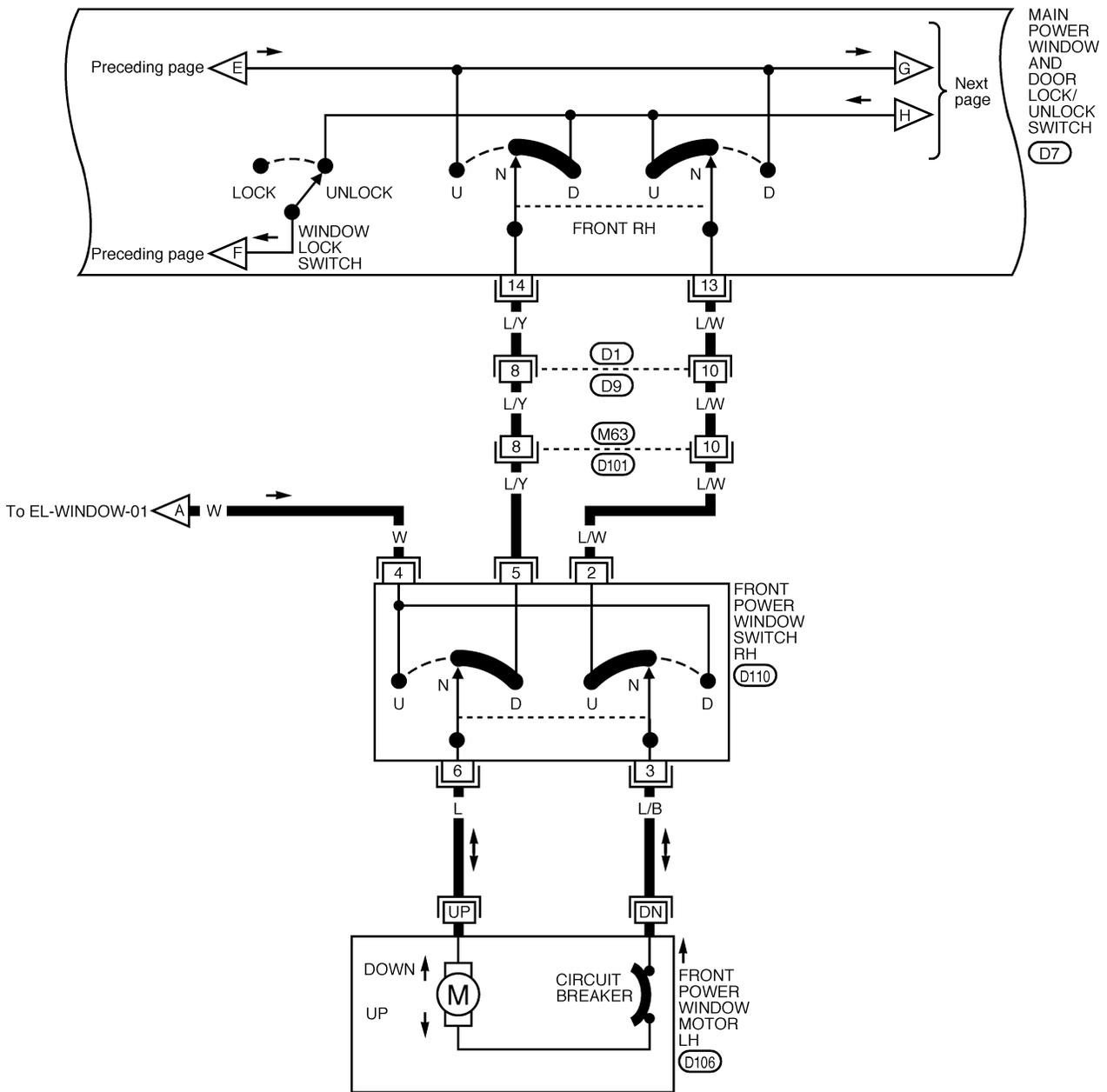


AEL382C

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03



GI
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AX
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BR
ST
RS
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HA
SC
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IDX

| | | | | |
|----|----|---|---|----|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | | | |

(D1) W
(D101) W

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

(D7) W

(DN) UP
(D106) B

| | |
|---|---|
| 6 | 5 |
| 2 | 3 |
| 4 | |

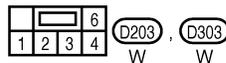
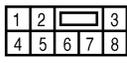
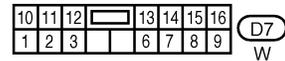
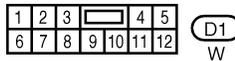
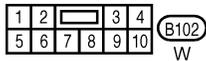
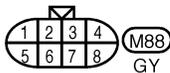
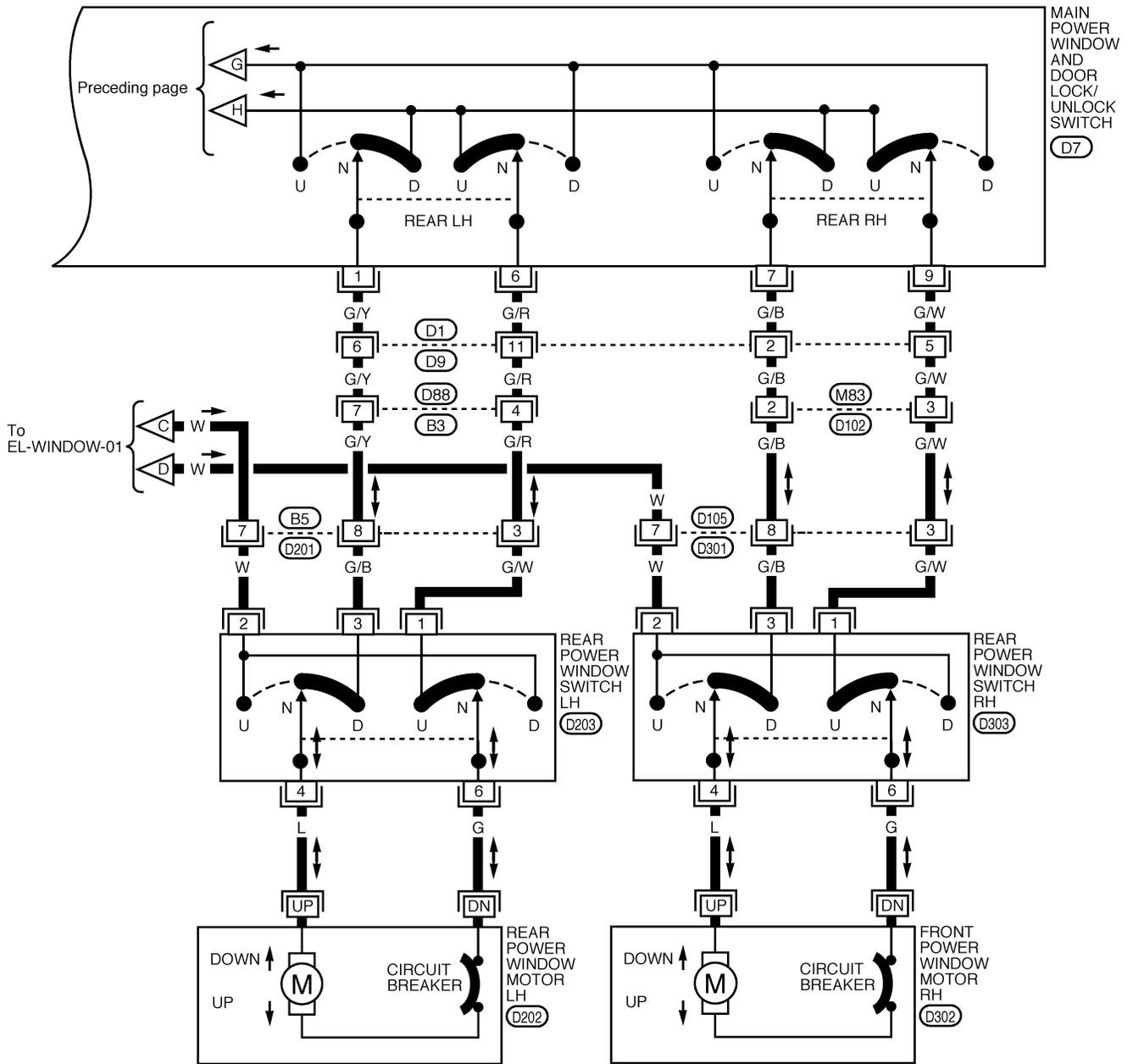
(D110) W

AEL444C

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-04



AEL445C

POWER WINDOW

Trouble Diagnoses

Trouble Diagnoses

NGEL0105

| Symptom | Possible cause | Repair order |
|---|---|---|
| None of the power windows can be operated using any switch. | <ol style="list-style-type: none"> 7.5A fuse, 40A fusible link and M12 circuit breaker Power window relay ground circuit Power window relay Open/short in main power window and door lock/unlock switch circuit | <ol style="list-style-type: none"> Check 7.5A fuse (No. 5, located in fuse block [J/B]), 40A fusible link (letter f, located in fuse and fusible link box) and M12 circuit breaker. Turn ignition switch ON and verify battery positive voltage is present at main power window and door lock/unlock switch terminal 2, front power window switch RH terminal 4 and rear power window switch LH and RH terminal 2. Check power window relay ground circuit. Check power window relay. Check W wire between power window relay and main power window and door lock/unlock switch for open/short circuit. |
| Front power window LH cannot be operated but other windows can be operated. | <ol style="list-style-type: none"> Front power window motor LH circuit Front power window motor LH circuit Main power window and door lock/unlock switch | <ol style="list-style-type: none"> Check harness between main power window and door lock/unlock switch and front power window motor LH for open or short circuit. Check front power window motor LH. Check main power window and door lock/unlock switch. |
| Passenger power window cannot be operated. | <ol style="list-style-type: none"> Passenger power window switch Passenger power window motor Main power window and door lock/unlock switch Power window circuit | <ol style="list-style-type: none"> Check passenger power window switch. Check passenger power window motor. Check main power window and door lock/unlock switch. Check the following. <ol style="list-style-type: none"> Check harnesses between main power window and door lock/unlock switch and passenger power window switch for open/short circuit. Check harnesses between passenger power window switch and passenger power window motor for open/short circuit. |
| Passenger power window cannot be operated using main power window and door lock/unlock switch but can be operated by passenger power window switch. | <ol style="list-style-type: none"> Main power window and door lock/unlock switch | <ol style="list-style-type: none"> Check main power window and door lock/unlock switch. |
| Driver's window AUTO function cannot be operated using main power window and door lock/unlock switch. | <ol style="list-style-type: none"> Main power window and door lock/unlock switch | <ol style="list-style-type: none"> Check main power window and door lock/unlock switch. |

GI

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EL

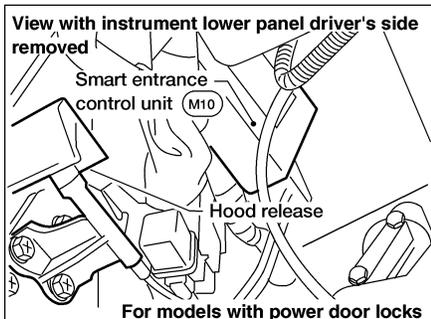
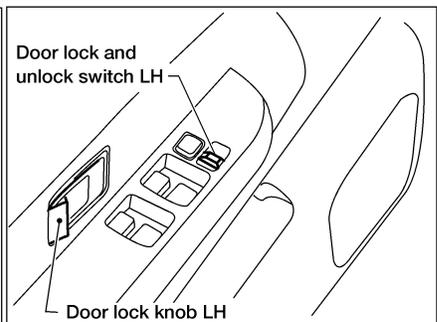
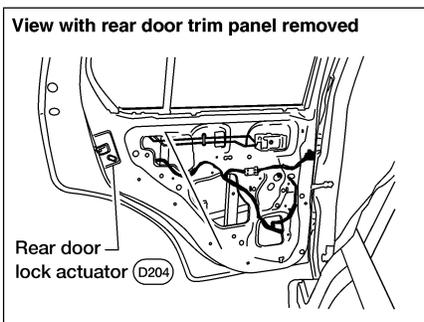
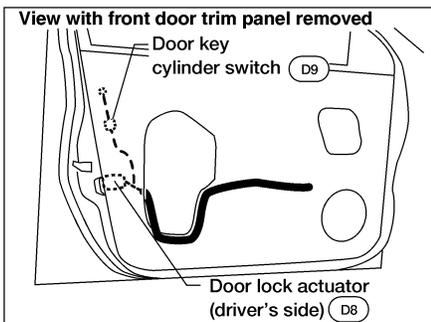
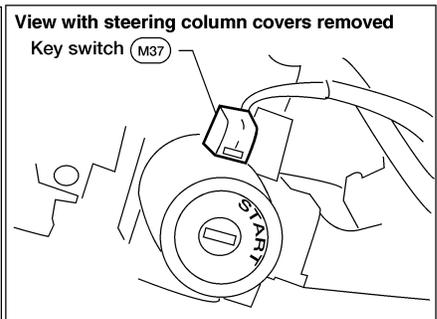
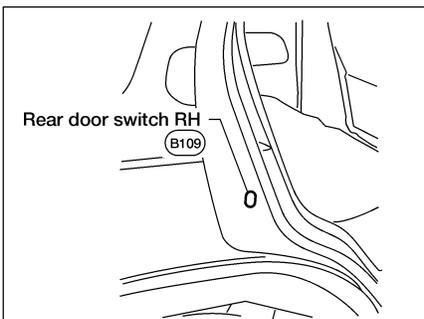
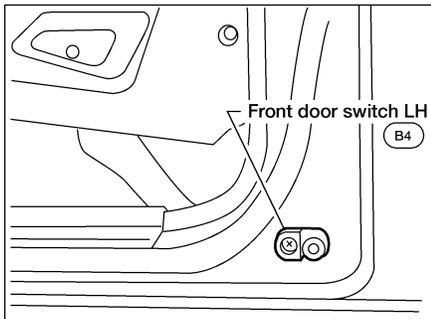
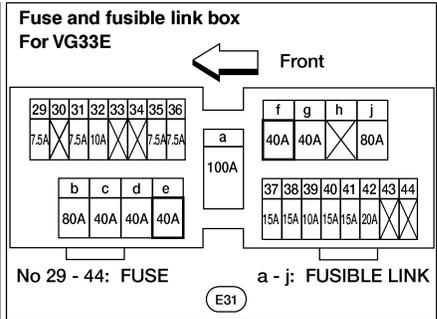
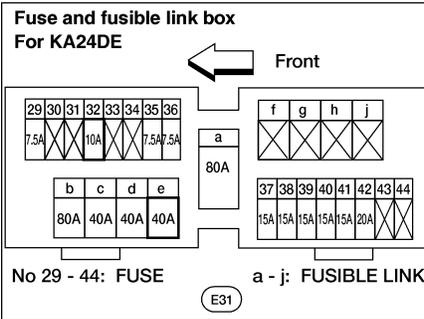
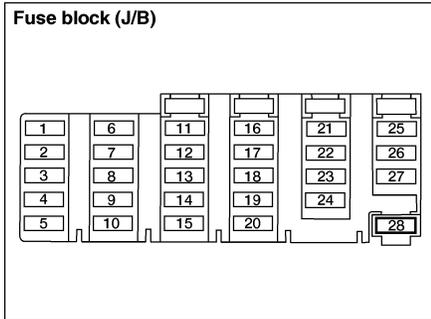
IDX

POWER DOOR LOCK

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NGEL0106



AEL432C

System Description

NGEL0107

Power is supplied at all times

- through 40A fusible link (letter f, located in the fuse and fusible link box)
- to circuit breaker terminal +
- through circuit breaker terminal –
- to smart entrance control unit terminal 1.

GI

Power is supplied at all times

- through 7.5A fuse [No. 28, located in the fuse block (J/B)]
- to key switch terminal 1.

MA

EM

Ground is supplied

- to smart entrance control unit terminal 10
- through body grounds M14 and M68.

LC

EC

INPUT

NGEL0107S01

With the key in the ignition key cylinder, power is supplied

- through key switch terminal 2
- to smart entrance control unit terminal 24.

FE

With front door LH open, ground is supplied

- to smart entrance control unit terminal 15
- through front door switch LH terminal 2
- through front door switch LH terminal 3
- through body grounds B6 and B10.

CL

MT

With front door RH open, ground is supplied

- to smart entrance control unit terminal 35
- through front door switch RH terminal +.

AT

TF

With the key inserted in the front door key cylinder switch LH or RH and turned to LOCK, ground is supplied

- to smart entrance control unit terminal 30
- through front door key cylinder switch LH terminal 1 or front door key cylinder switch RH terminal 3
- through front door key cylinder switch LH or RH terminal 2
- through body grounds M14 and M68.

PD

AX

With the key inserted in the back door key cylinder switch and turned to LOCK, ground is supplied

- to smart entrance control unit terminal 30
- through back door key cylinder switch terminal 1
- through back door key cylinder switch terminal 2
- through body grounds D402 and D404.

SU

BR

With the key inserted in the front door key cylinder switch LH or RH and turned to UNLOCK, ground is supplied

- to smart entrance control unit terminal 31
- through front door key cylinder switch LH terminal 3 or front door key cylinder switch RH terminal 1
- through front door key cylinder switch LH or RH terminal 2
- through body grounds M14 and M68.

ST

RS

With the key inserted in the back door key cylinder switch and turned to UNLOCK, ground is supplied

- to smart entrance control unit terminal 31
- through back door key cylinder switch terminal 3
- through back door key cylinder switch terminal 2
- through body grounds D402 and D404.

BT

HA

With the front door lock actuator LH (door unlock sensor) in the UNLOCKED position, ground is supplied

- to smart entrance control unit terminal 12
- through front door lock actuator LH (door unlock sensor) terminal 2
- through front door lock actuator LH (door unlock sensor) terminal 4
- through body grounds M14 and M68.

SC

EL

IDX

POWER DOOR LOCK

System Description (Cont'd)

With front door lock actuator RH (door unlock sensor) (early production models) in the UNLOCKED position, ground is supplied

- To smart entrance control unit terminal 13
- through front door lock actuator RH (door unlock sensor) terminal 2
- through front door lock actuator RH (door unlock sensor) terminal 4
- through body grounds M14 and M68.

With the rear door lock actuator LH (door unlock sensor) (early production models) in the UNLOCKED position, ground is supplied

- To smart entrance control unit terminal 14
- through rear door lock actuator LH (door unlock sensor) terminal 3
- through rear door lock actuator LH (door unlock sensor) terminal 1
- through body grounds B6 and B10.

With the rear door lock actuator RH (door unlock sensor) (early production models) in the UNLOCKED position, ground is supplied

- To smart entrance control unit terminal 14
- through rear door lock actuator RH (door unlock sensor) terminal 3
- through rear door lock actuator RH (door unlock sensor) terminal 1
- through body grounds B106 and B116.

With the back door lock actuator (door unlock sensor) (early production models) in the UNLOCKED position, ground is supplied

- To smart entrance control unit terminal 14
- through back door lock actuator (door unlock sensor) terminal 2
- through back door lock actuator (door unlock sensor) terminal 4
- through body grounds D402 and D404.

With the main power window and door lock/unlock switch pressed to LOCK, ground is supplied

- to smart entrance control unit terminal 18
- through main power window and door lock/unlock switch terminal 15
- through main power window and door lock/unlock switch terminal 10
- through body grounds M14 and M68.

With the door lock/unlock switch RH pressed to LOCK, ground is supplied

- to smart entrance control unit terminal 18
- through door lock/unlock switch RH terminal 6
- through door lock/unlock switch RH terminal 4
- through body grounds M14 and M68.

With the main power window and door lock/unlock switch pressed to UNLOCK, ground is supplied

- to smart entrance control unit terminal 19
- through main power window and door lock/unlock switch terminal 11
- through main power window and door lock/unlock switch terminal 10
- through body grounds M14 and M68.

With the door lock/unlock switch RH pressed to UNLOCK, ground is supplied

- to smart entrance control unit terminal 19
- through door lock/unlock switch RH terminal 3
- through door lock/unlock switch RH terminal 4
- through body grounds M14 and M68.

OUTPUT

Unlock

Ground is supplied

- to front door lock actuator LH terminal 3
- to front door lock actuator RH terminal 3
- to rear door lock actuator LH terminal 4
- to rear door lock actuator RH terminal 4 and
- to back door lock actuator terminal 1

NGEL0107S02

NGEL0107S0201

POWER DOOR LOCK

System Description (Cont'd)

- through smart entrance control unit terminal 4.

FRONT DOOR LH

Power is supplied

- to front door lock actuator LH terminal 1
- through smart entrance control unit terminal 3.

FRONT DOOR RH

Power is supplied

- to front door lock actuator RH terminal 1
- through smart entrance control unit terminal 2.

REAR DOOR LH

Power is supplied

- to rear door lock actuator LH terminal 2
- through smart entrance control unit terminal 2.

REAR DOOR RH

Power is supplied

- to rear door lock actuator RH terminal 2
- through smart entrance control unit terminal 2.

BACK DOOR

Power is supplied

- to back door lock actuator terminal 3
- through smart entrance control unit terminal 2.

Then, the doors are unlocked.

Lock

Ground is supplied

- to front door lock actuator LH terminal 1
- through smart entrance control unit terminal 3 and
- to front door lock actuator RH terminal 1
- to rear door lock actuator LH terminal 2
- to rear door lock actuator RH terminal 2 and
- to back door lock actuator 3
- through smart entrance control unit terminal 2.

Power is supplied

- to front door lock actuator LH terminal 3
- to front door lock actuator RH terminal 3
- to rear door lock actuator LH terminal 4
- to rear door lock actuator RH terminal 4 and
- to back door lock terminal 1
- through smart entrance control unit terminal 4.

Then, the doors are locked.

OPERATION

- The main power window and door lock/unlock switch and the door lock/unlock switch RH can lock and unlock all doors.
- With the front door LH or RH lock knob pressed to LOCK, all doors are locked (signal from door unlock sensor).
- With the key inserted in the front door key cylinder LH or RH or the back door key cylinder, turning it to LOCK locks all doors; turning it to UNLOCK once unlocks the corresponding door; turning it to UNLOCK again within 5 seconds of the first unlock operation unlocks all other doors (signal from door key cylinder switch).

GI

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LC

EC

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NGEL0107S0202

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AX

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BR

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RS

NGEL0107S03

BT

HA

SC

EL

IDX

POWER DOOR LOCK

System Description (Cont'd)

Key Reminder

=NGEL0107S0301

When performing a door locking operation (early production models) using either the main power window and door lock/unlock switch, the door lock/unlock switch RH, the front door LH lock knob or a multi-remote controller, all the doors will lock and then will immediately unlock if the

- key switch is in INSERTED position (key is inserted into ignition key cylinder) and
- ignition switch is in the OFF position and
- either front door switch LH or RH is in OPEN position (door is open).

When performing a door locking operation (late production models) using either the main power window and door lock/unlock switch, the door lock/unlock switch RH, the front door LH lock knob or a multi-remote controller, all the doors will lock and then the front door LH will immediately unlock if the

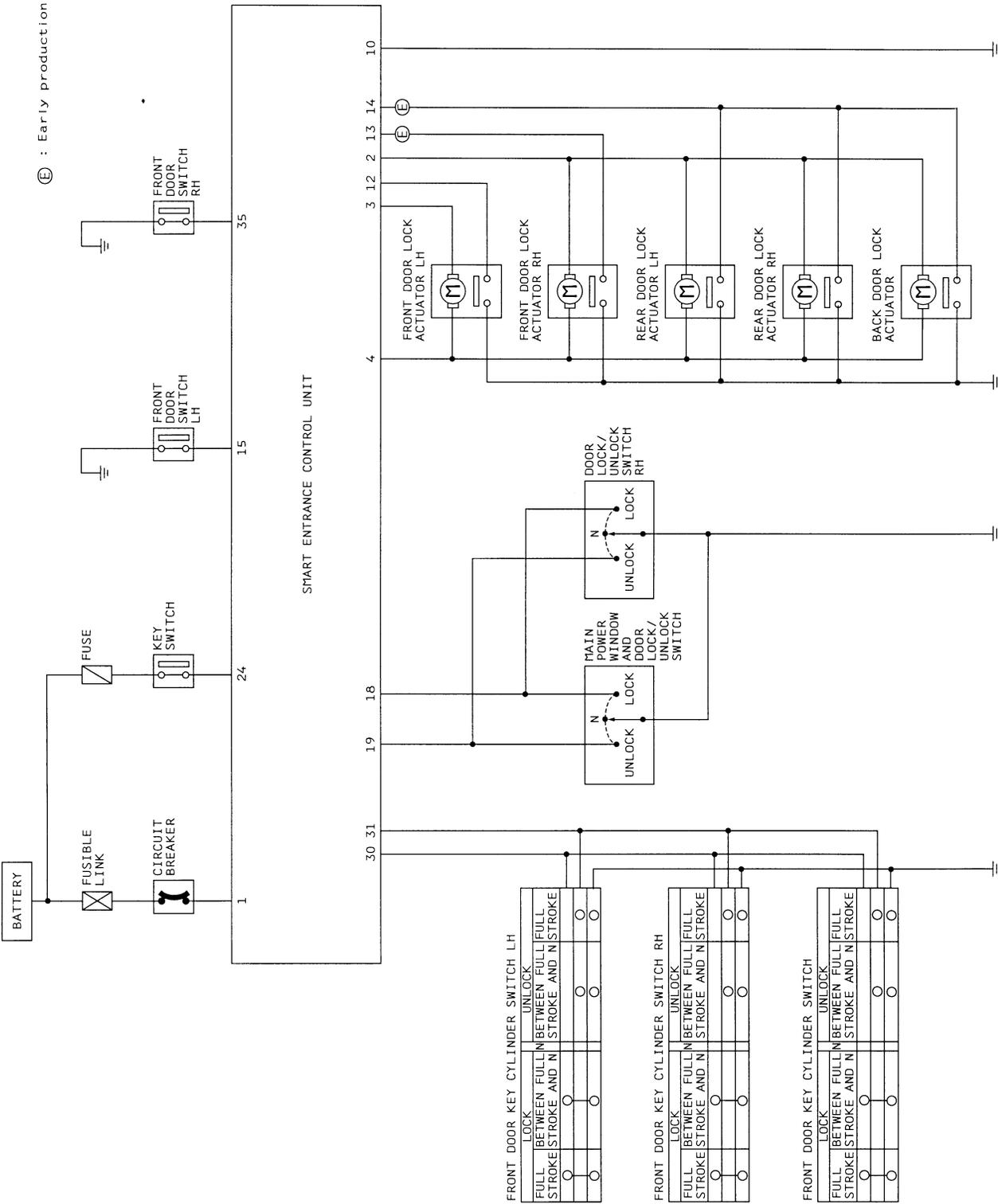
- key switch is in INSERTED position (key is inserted into ignition key cylinder) and
- ignition switch is in the OFF position and
- either front door switch LH or RH is in OPEN position (door is open).

POWER DOOR LOCK

Circuit Diagram

NGEL0108

Circuit Diagram



GI
MA
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HA
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AEL390C

EL

IDX

POWER DOOR LOCK

Wiring Diagram — D/LOCK —

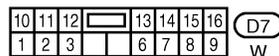
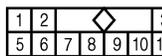
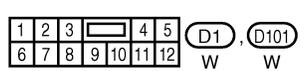
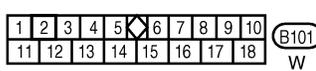
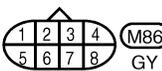
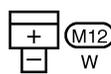
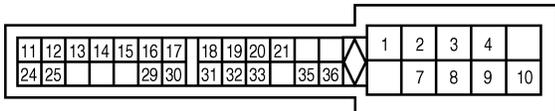
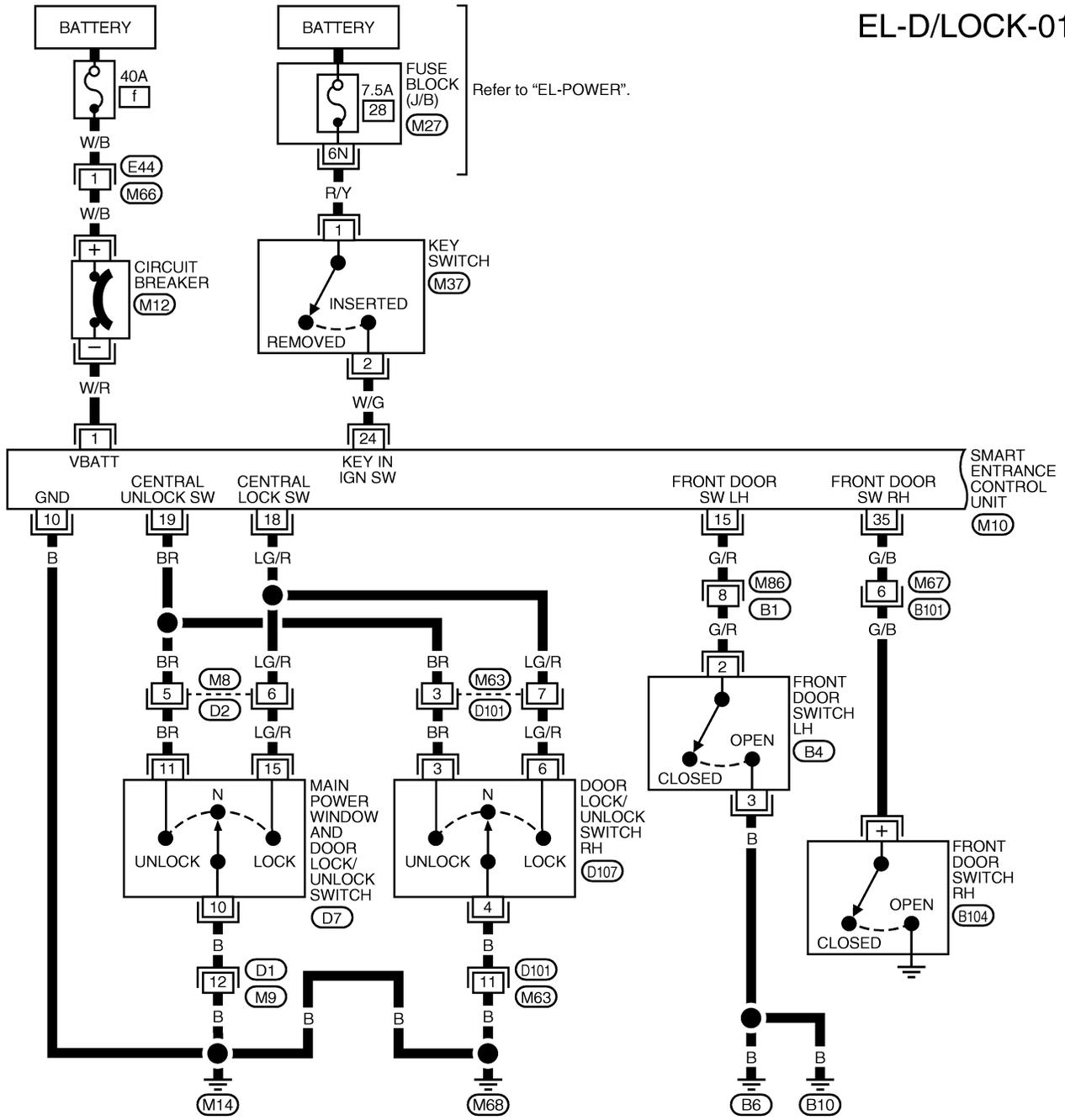
Wiring Diagram — D/LOCK —

NGEL0109

NGEL0109S01

FIG. 1

EL-D/LOCK-01



AEL391C

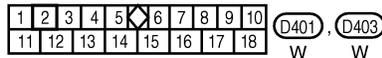
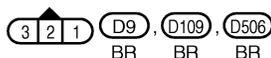
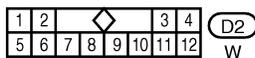
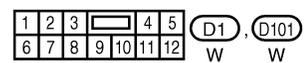
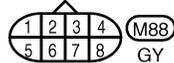
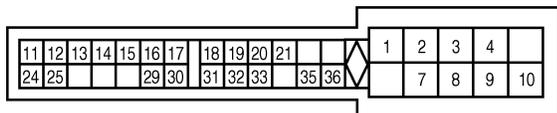
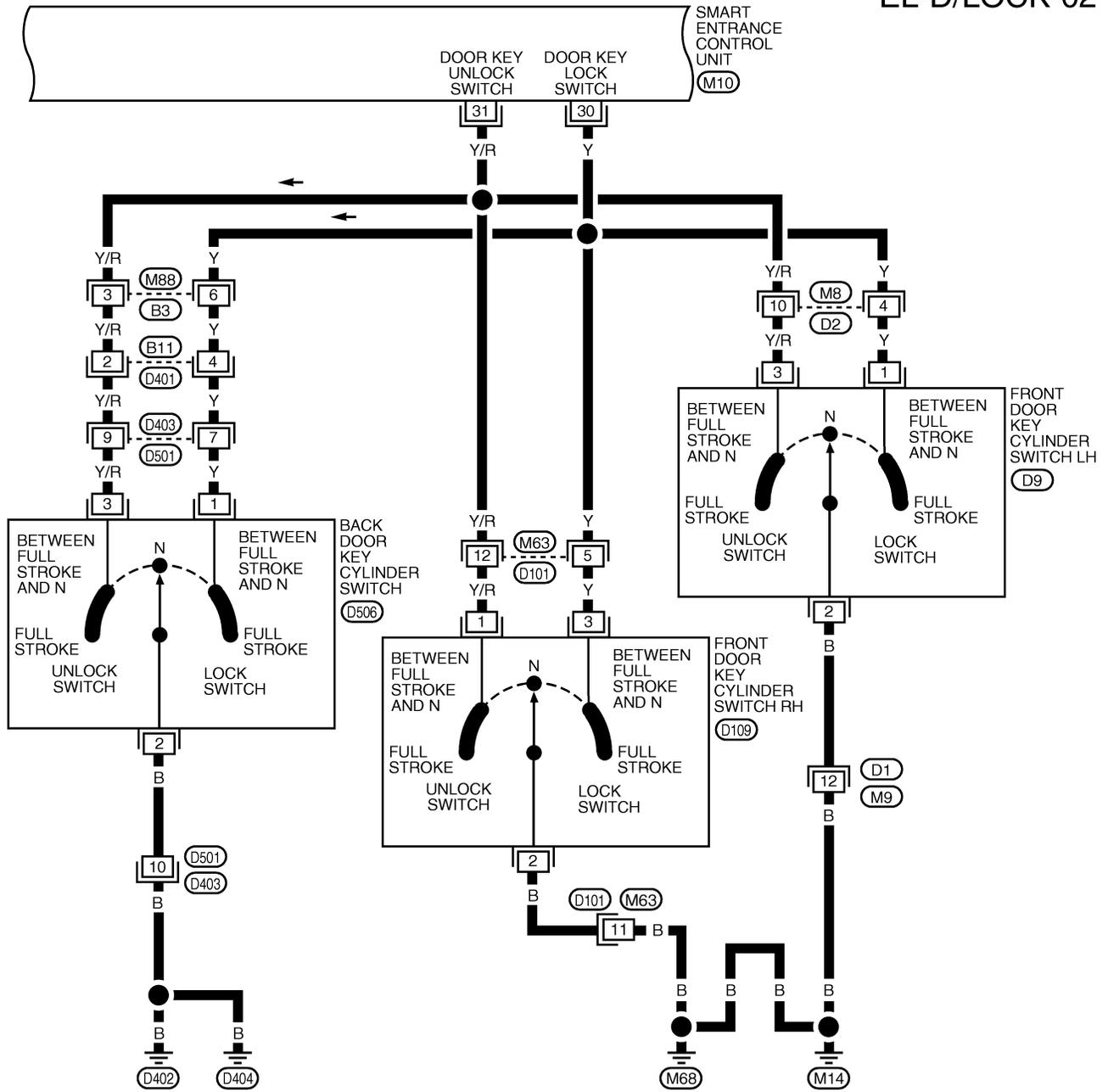
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 2

NGEL0109S02

EL-D/LOCK-02



AEL393C

EL

POWER DOOR LOCK

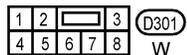
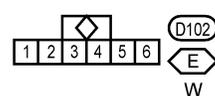
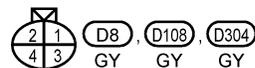
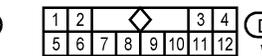
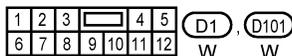
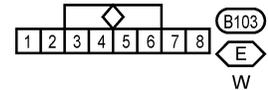
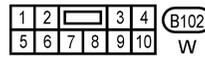
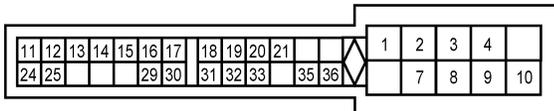
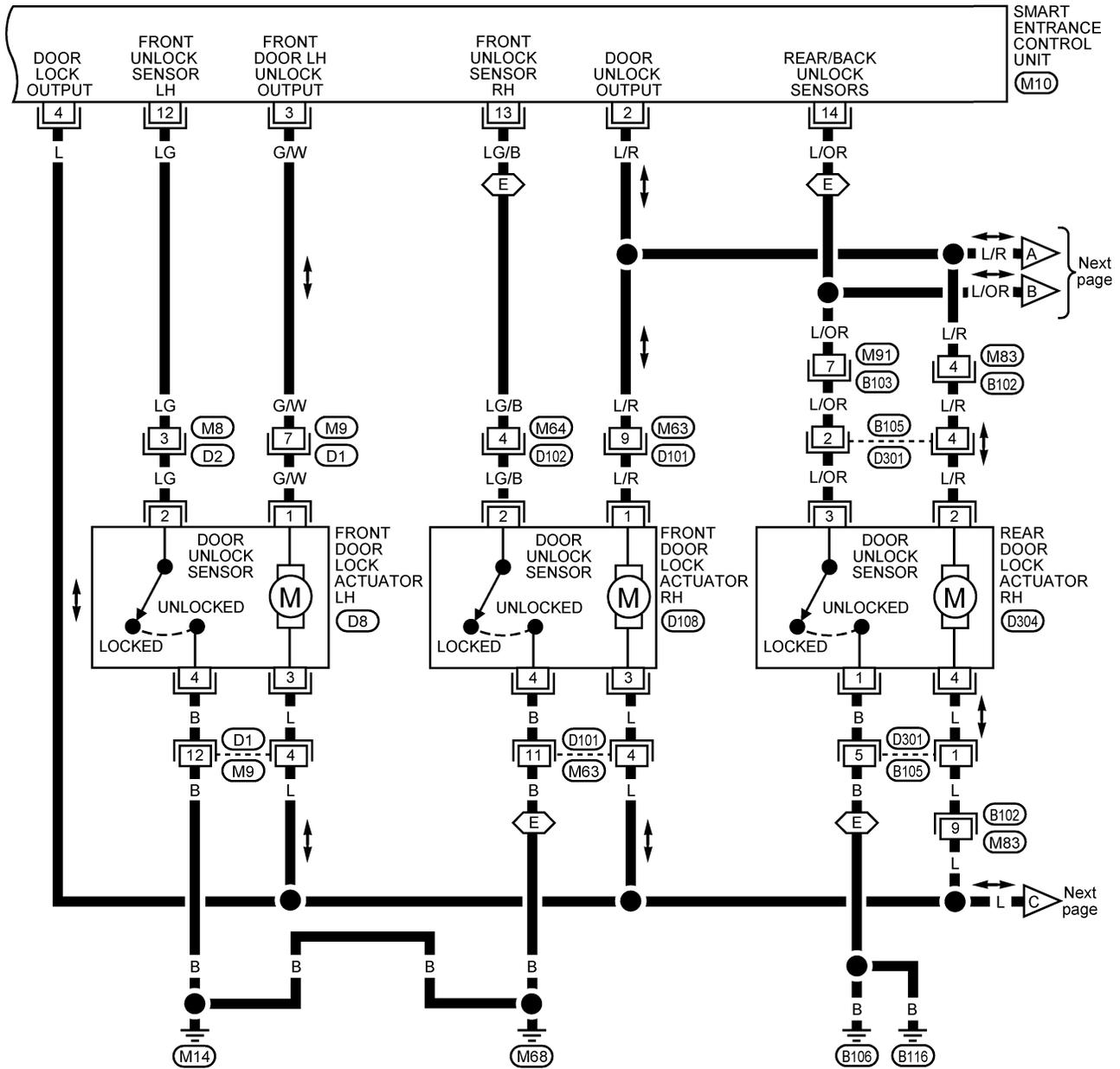
Wiring Diagram — D/LOCK — (Cont'd)

FIG. 3

NGEL0109S03

EL-D/LOCK-03

 : Early production



AEL394C

POWER DOOR LOCK

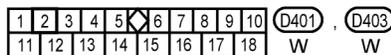
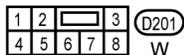
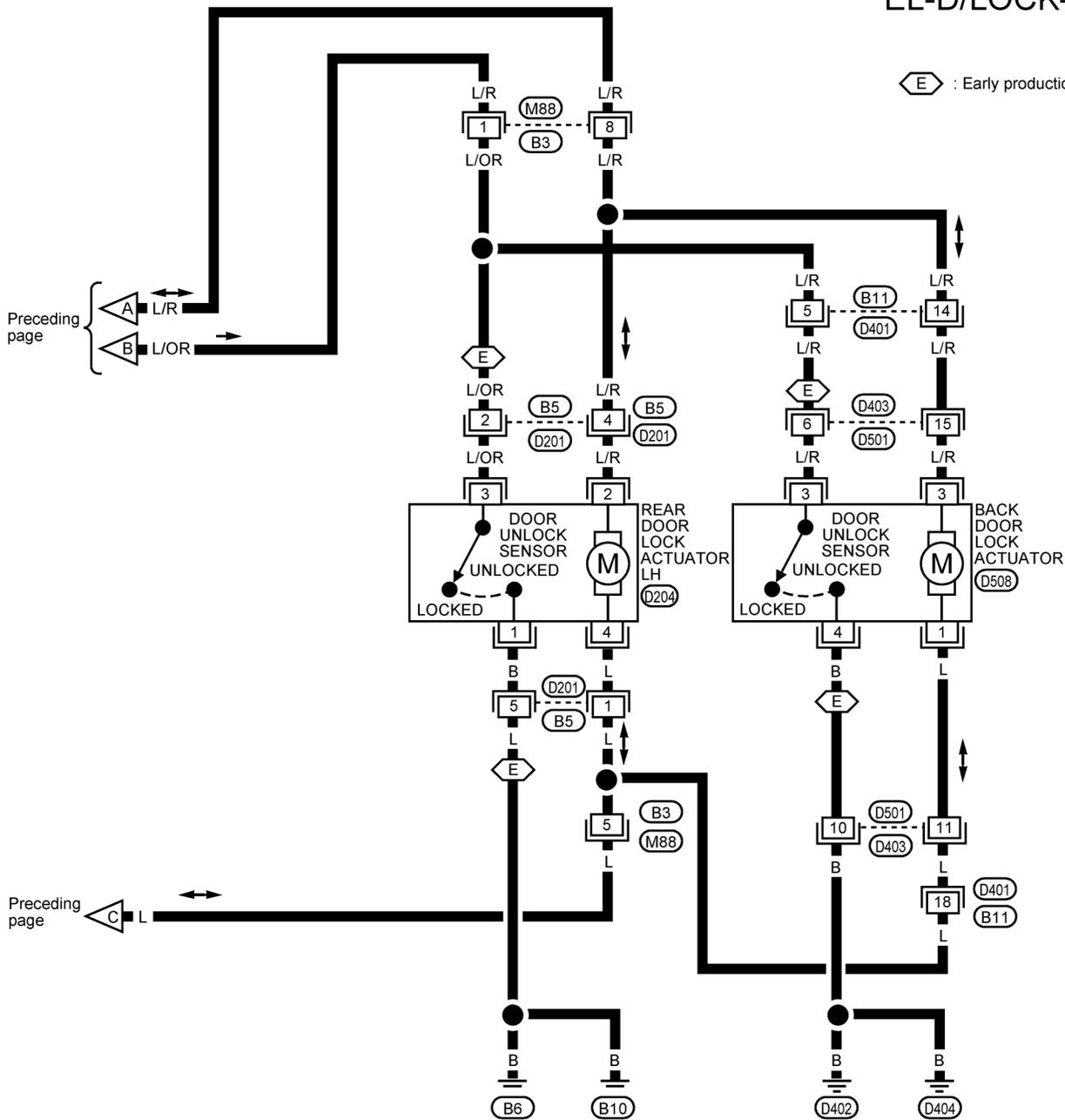
Wiring Diagram — D/LOCK — (Cont'd)

FIG. 4

NGEL0109S04

EL-D/LOCK-04

⬡ : Early production



AEL395C

EL

POWER DOOR LOCK

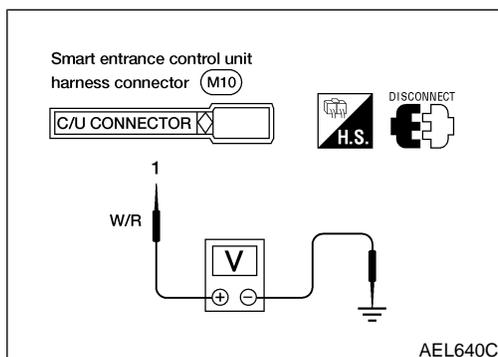
Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

NGEL0110

NGEL0110S01

| PROCEDURE | MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK | | Diagnostic procedure | | | | | | |
|--|--|----------------------|----------------------|-----------------------------|-------------------------------|--------------------------------|-------------------------------------|--------------------------|--------------------------|
| | 188 | 189 | 189 | 190 | 192 | 194 | EL-196 | 198 | 200 |
| REFERENCE PAGE (EL-) | | | | | | | | | |
| SYMPTOM | Main power supply circuit check | Ground circuit check | DOOR SWITCH CHECK | KEY SWITCH (INSERTED) CHECK | DOOR LOCK/UNLOCK SWITCH CHECK | DOOR KEY CYLINDER SWITCH CHECK | BACK DOOR KEY CYLINDER SWITCH CHECK | DOOR UNLOCK SENSOR CHECK | DOOR LOCK ACTUATOR CHECK |
| Key reminder door system does not operate properly. | X | X | X | X | | | | X | X |
| One or more doors are not locked and/or unlocked. | X | X | | | | | | X | X |
| Lock/unlock switch does not operate. | X | X | | | X | | | | |
| None of the doors lock/unlock when operating door key cylinder switch. | X | X | | | | X | X | | |
| None of the doors lock when operating the door knob lock switch. | X | X | | | | | | X | |



MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

NGEL0110S02

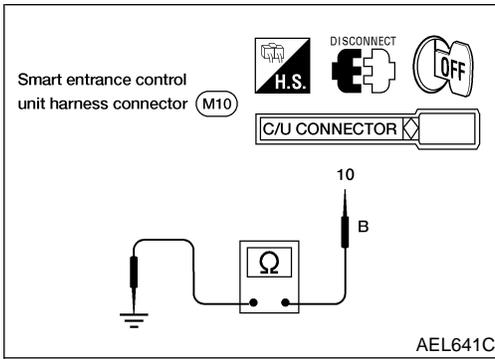
Main Power Supply Circuit Check

NGEL0110S0201

| Terminal | | Ignition switch | | |
|----------|--------|-----------------|-----------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 1 | Ground | Battery voltage | Battery voltage | Battery voltage |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)



Ground Circuit Check

NGEL0110S0202

| Terminals | Continuity |
|-------------|------------|
| 10 - Ground | Yes |

GI

MA

EM

LC

DOOR SWITCH CHECK

NGEL0110S005

| 1 | CHECK FRONT DOOR SWITCH INPUT SIGNAL |
|---|--------------------------------------|
| <p>Check voltage between smart entrance control unit harness connector terminal 15 or 35 and ground.</p> <p>Smart entrance control unit connector (M10)</p> <p>C/U CONNECTOR</p> <p>15 35</p> <p>G/R G/B</p> <p>V</p> <p>AEL398B</p> <p>Voltage [V]: Door is closed - Approx. 12 Door is open - 0</p> <p>Refer to wiring diagram on EL-184.</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ Door switch is OK. |
| NG | ▶ GO TO 2. |

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

| 2 CHECK FRONT DOOR SWITCH | |
|--|---|
| <p>1. Disconnect door switch harness connector. 2. Check continuity between door switch terminals.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Front door switch LH (M20)</p> </div> <div style="text-align: center;"> <p>Front door switch RH (M71)</p> </div> </div> <p style="text-align: right;">AEL554C</p> <p>Continuity: Front door switch LH terminals 2 - 3 Door switch is pressed - No Door switch is released - Yes Front door switch RH terminal + - ground Door switch is pressed - No Door switch is released - Yes</p> <p style="text-align: center;">OK or NG</p> | |
| OK | <p>▶ Check the following</p> <ul style="list-style-type: none"> ● Front door switch LH ground circuit or front door switch RH ground condition ● Harness for open or short between smart entrance control unit and door switch |
| NG | <p>▶ Replace door switch.</p> |

KEY SWITCH (INSERTED) CHECK

NGEL0110S06

| 1 CHECK KEY SWITCH INPUT SIGNAL | |
|--|----------------------------|
| <p>1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector terminal 24 and ground.</p> <div style="text-align: center;"> <p>Smart entrance control unit connector (M10)</p> </div> <p style="text-align: right;">AEL414B</p> <p>Voltage [V]: Key is inserted - Approx. 12 Key is removed - 0 Refer to wiring diagram on EL-184.</p> <p style="text-align: center;">OK or NG</p> | |
| OK | <p>▶ Key switch is OK.</p> |
| NG | <p>▶ GO TO 2.</p> |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

| | | |
|---|--------------------------------------|--|
| 2 | CHECK KEY SWITCH POWER SUPPLY | |
| <p>1. Disconnect key switch harness connector. 2. Check voltage between key switch harness connector terminal 1 and ground.</p> <div style="text-align: center;"> <p>Key switch connector (M37)</p> </div> <p>Battery voltage should exist. Refer to wiring diagram on EL-184.</p> <p style="text-align: right;">AEL415B</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Check the following: <ul style="list-style-type: none"> ● 7.5A fuse [No. 28, located in the fuse block (J/B)] ● Harness for open or short between key switch and fuse |

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|---|-------------------------|---|
| 3 | CHECK KEY SWITCH | |
| <p>Check continuity between key switch terminals 1 and 2.</p> <div style="text-align: center;"> <p>Key switch (M37)</p> </div> <p style="text-align: right;">AEL416B</p> | | |
| <p>Continuity Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Check harness for open or short between smart entrance control unit and key switch. |
| NG | ▶ | Replace key switch. |

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POWER DOOR LOCK

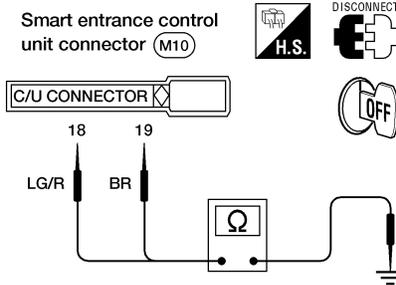
Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

=NGEL0110S03

1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 18 or 19 and ground.



AEL417B

| Terminals | Door lock/unlock switch (LH or RH) condition | Continuity |
|-------------|--|------------|
| 18 - ground | Lock | Yes |
| | N and Unlock | No |
| 19 - ground | Unlock | Yes |
| | N and Lock | No |

MTBL0005

Refer to wiring diagram on EL-184.

OK or NG

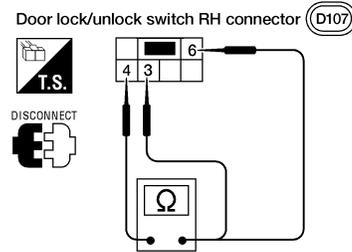
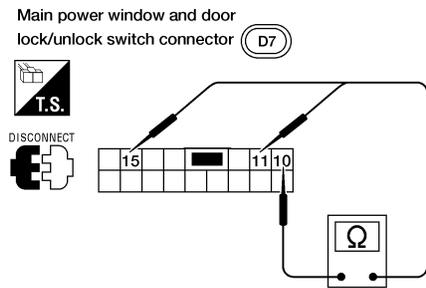
| | | |
|----|---|--------------------------------|
| OK | ▶ | Door lock/unlock switch is OK. |
| NG | ▶ | GO TO 2. |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

2 CHECK DOOR LOCK/UNLOCK SWITCH

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



AEL642C

Main power window and door lock/unlock switch

| Condition | Terminals | | |
|-----------|---------------|----|----|
| | 10 | 11 | 15 |
| Lock | ○ | — | ○ |
| N | No continuity | | |
| Unlock | ○ | ○ | |

Door lock/unlock switch RH

| Condition | Terminals | | |
|-----------|---------------|---|---|
| | 3 | 4 | 6 |
| Lock | | ○ | ○ |
| N | No continuity | | |
| Unlock | ○ | ○ | |

AEL556C

OK or NG

| | | |
|----|---|--|
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Ground circuit for door lock/unlock switch ● Harness for open or short between door lock/unlock switch and smart entrance control unit |
| NG | ▶ | Replace door lock/unlock switch. |

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

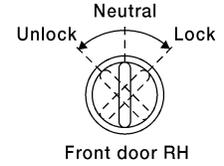
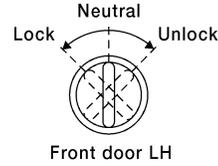
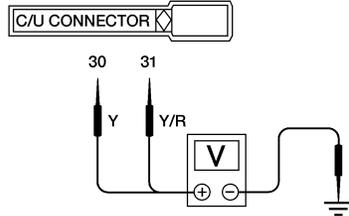
DOOR KEY CYLINDER SWITCH CHECK

NGEL0110S07

1 CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check voltage between smart entrance control unit harness connector terminal 30 or 31 and ground.

Smart entrance control unit harness connector (M10)



AEL557C

| Terminals | | Key position | Voltage [V] |
|-----------|--------|--------------|-------------|
| + | - | | |
| 30 | Ground | Neutral | Approx. 12 |
| | | Lock | 0 |
| 31 | Ground | Neutral | Approx. 12 |
| | | Unlock | 0 |

AEL559C

Refer to wiring diagram on EL-185.

OK or NG

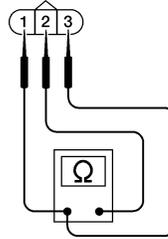
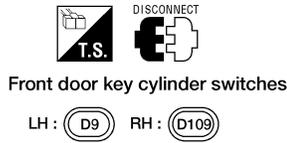
| | | |
|----|---|---------------------------------|
| OK | ▶ | Door key cylinder switch is OK. |
| NG | ▶ | GO TO 2. |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

2 CHECK DOOR KEY CYLINDER SWITCH

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



- ① : Door unlock switch terminal (RH)
Door lock switch terminal (LH)
- ② : Ground terminal
- ③ : Door lock switch terminal (RH)
Door unlock switch terminal (LH)

AEL558C

| Terminals | Key position | Continuity |
|-----------|--------------|------------|
| LH: 1 - 2 | Neutral | No |
| RH: 3 - 2 | Lock | Yes |
| LH: 3 - 2 | Neutral | No |
| RH: 1 - 2 | Unlock | Yes |

AEL560C

OK or NG

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

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POWER DOOR LOCK

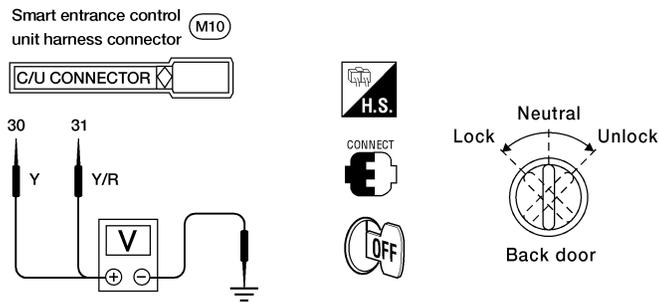
Trouble Diagnoses (Cont'd)

BACK DOOR KEY CYLINDER SWITCH CHECK

NGEL0110S09

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

Check voltage between smart entrance control unit terminal 30 or 31 and ground.



AEL652C

| Terminals | | Key position | Voltage [V] |
|-----------|--------|--------------|-------------|
| + | - | | |
| 30 | Ground | Neutral | Approx. 12 |
| | | Lock | 0 |
| 31 | Ground | Neutral | Approx. 12 |
| | | Unlock | 0 |

AEL559C

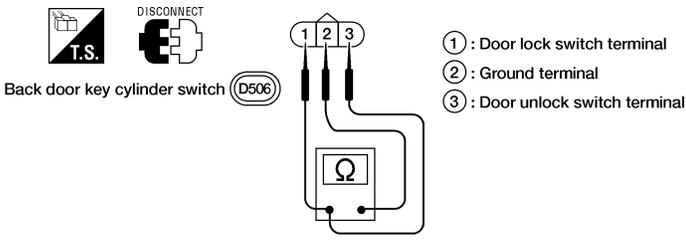
Refer to wiring diagram on EL-181.

OK or NG

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

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

| | | |
|----|--|---|
| 2 | <h2>CHECK BACK DOOR KEY CYLINDER SWITCH</h2> <p>1. Disconnect back door key cylinder switch harness connector. 2. Check continuity between back door key cylinder switch terminals.</p> <div style="text-align: center;">  <p>① : Door lock switch terminal ② : Ground terminal ③ : Door unlock switch terminal</p> </div> <p>Continuity Between terminals 1 and 2 Key in neutral position - No Key in lock position - Yes Between terminals 2 and 3 Key in neutral position - No Key in unlock position - Yes</p> <p style="text-align: center;">OK or NG</p> | <p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p> <p>EC</p> <p>FE</p> <p>CL</p> <p>MT</p> <p>AT</p> <p>TF</p> <p>PD</p> <p>AX</p> <p>SU</p> <p>BR</p> <p>ST</p> <p>RS</p> <p>BT</p> <p>HA</p> <p>SC</p> |
| OK | <p>▶ Check the following.</p> <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 | <p>▶ Replace back door key cylinder switch.</p> | |

AEL653C

EL

POWER DOOR LOCK

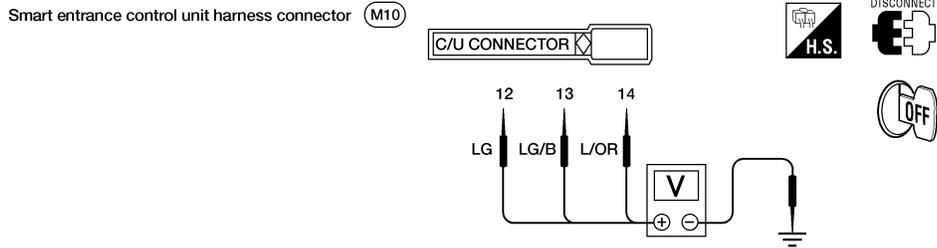
Trouble Diagnoses (Cont'd)

DOOR UNLOCK SENSOR CHECK

NGEL0110S08

1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between smart entrance control unit connector M10 terminal 12, 13 or 14 and ground. (Terminals 13 and 14 apply to early production models)



AEL643C

| | Terminals | | Condition | Voltage [V] |
|---------------|-----------|--------|-----------|-------------|
| | + | - | | |
| Front door LH | 12 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |
| Front door RH | 13 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |
| Rear door LH | 14 | Ground | Locked | Approx. 12 |
| Rear door RH | | | Unlocked | 0 |
| Back door | | | | |

AEL644C

NOTE:

Smart entrance control unit connector M10, terminals 13 and 14 above, apply to early production models. Refer to wiring diagram on EL-186, 187.

OK or NG

| | | |
|----|---|---------------------------|
| OK | ▶ | Door unlock sensor is OK. |
| NG | ▶ | GO TO 2. |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

| 2 | CHECK DOOR UNLOCK SENSOR |
|---|---|
| <p>1. Disconnect door lock actuator (door unlock sensor) harness connector. 2. Check continuity between door unlock sensor terminals.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Door lock actuator connector</p> <p>Front LH : (D8)</p> <p>Front RH : (D108)</p> </div> <div style="text-align: center;"> <p>Rear LH : (D204)</p> <p>Rear RH : (D304)</p> </div> <div style="text-align: center;"> <p>Back : (D508)</p> </div> <div style="text-align: right;"> <p>AEL645C</p> </div> </div> <p>NOTE: Door lock actuator (door unlock sensor) Front RH, Rear LH, Rear RH, and Back apply to early production models.</p> <p>Continuity: Condition: Locked No Condition: Unlocked Yes</p> <p style="text-align: center;">OK or NG</p> | |
| OK | <p>▶ Check the following</p> <ul style="list-style-type: none"> ● Door unlock sensor ground circuit ● Harness for open or short between smart entrance control unit and door unlock sensor |
| NG | <p>▶ Replace door unlock sensor.</p> |

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POWER DOOR LOCK

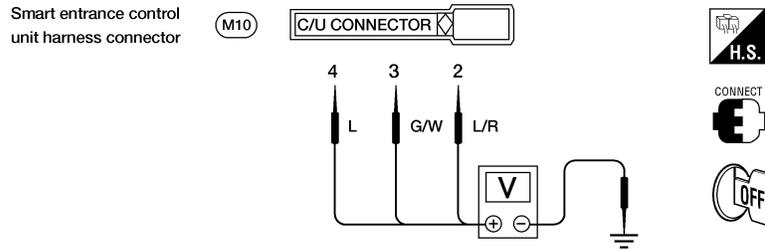
Trouble Diagnoses (Cont'd)

DOOR LOCK ACTUATOR CHECK

=NGEL0110S04

1 CHECK DOOR LOCK ACTUATOR CIRCUIT

Check voltage for door lock actuator.



AEL646C

| Door lock/unlock switch condition | Terminals | | Voltage [V] |
|--|-----------|--------|-------------|
| | + | - | |
| Lock | 4 | Ground | Approx. 12 |
| Unlock (front door LH) | 3 | Ground | |
| Unlock (front door RH, rear door LH and RH, back door) | 2 | Ground | |

AEL647C

Refer to wiring diagram on EL-186.

OK or NG

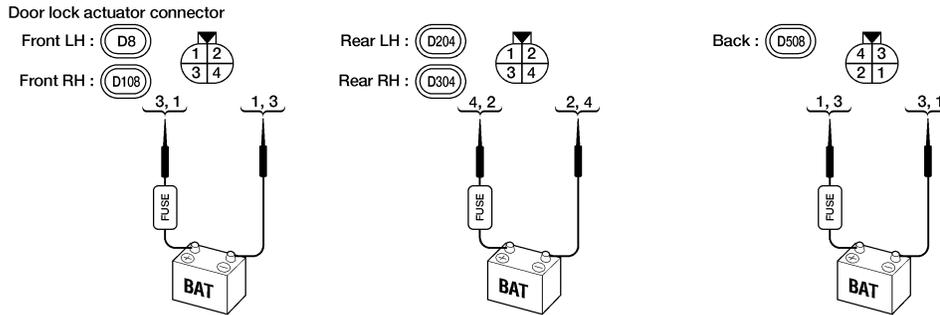
| | | |
|----|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace smart entrance control unit. (Before replacing smart entrance control unit, perform other procedures indicated in "SYMPTOM CHART".) |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

2 CHECK DOOR LOCK ACTUATOR

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



| Door lock actuator | Operation | Terminals | |
|--------------------|---------------|-----------|---|
| | | + | - |
| Front LH | Unlock → Lock | 3 | 1 |
| Front RH | Lock → Unlock | 1 | 3 |
| Rear LH | Unlock → Lock | 4 | 2 |
| Rear RH | Lock → Unlock | 2 | 4 |
| Back | Unlock → Lock | 1 | 3 |
| | Lock → Unlock | 3 | 1 |

AEL648C

AEL649C

OK or NG

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

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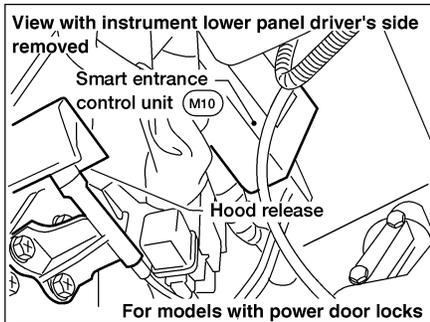
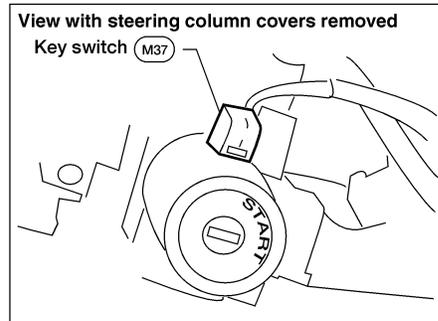
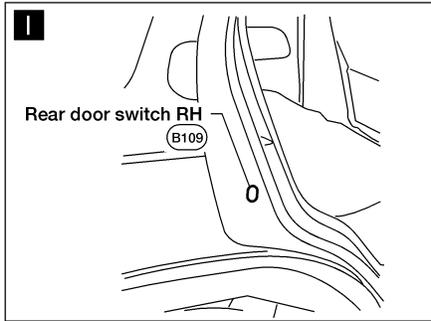
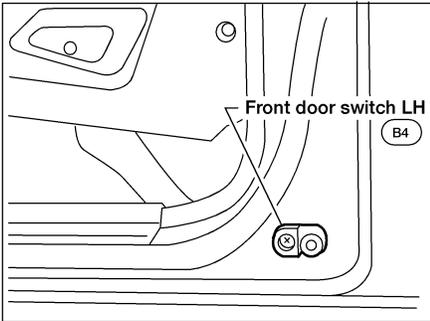
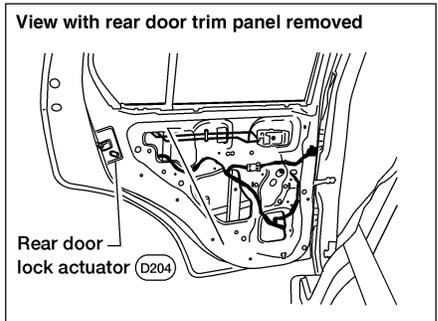
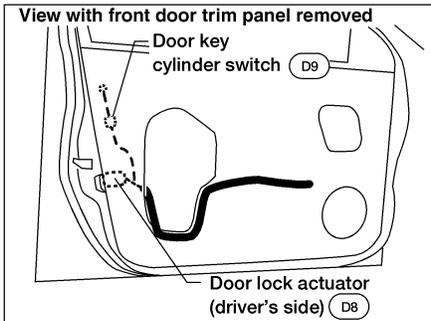
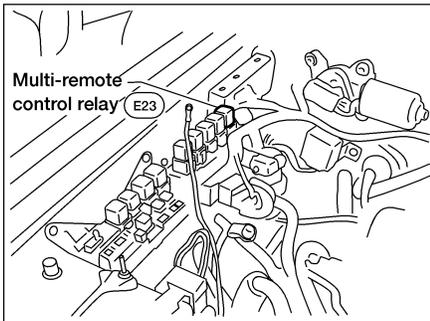
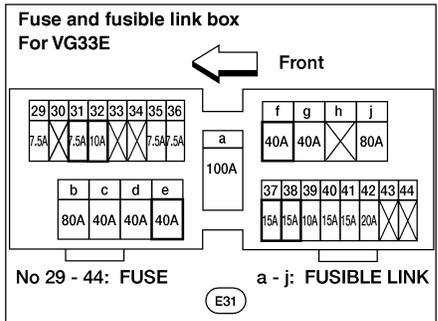
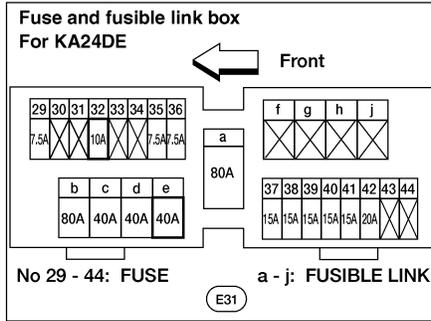
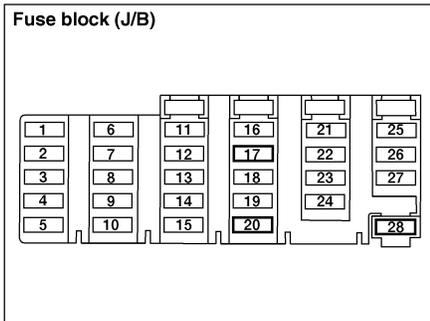
IDX

MULTI-REMOTE CONTROL SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NGEL0111



AEL433C

System Description

POWER SUPPLY AND GROUND

NGEL0112

NGEL0112S03

Power is supplied at all times

- through 40A fusible link (letter f, located in the fuse and fusible link box)
- to circuit breaker terminal +
- through circuit breaker terminal –
- to smart entrance control unit terminal 1.

GI

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EM

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

- through 7.5A fuse [No. 20, located in the fuse block (J/B)]
- to smart entrance control unit terminal 17.

LC

Power is supplied at all times

- through 7.5A fuse [No. 28, located in the fuse block (J/B)]
- to key switch terminal 1.

EC

Power is supplied at all times

- through 10A fuse [No. 17, located in the fuse block (J/B)]
- to multi-remote control relay terminals 2, 5 and 7.

FE

Power is supplied at all times

- through 15A fuse (No. 37, located in the fuse and fusible link box)
- to theft warning lamp relay terminal 7.

CL

Power is supplied at all times

- through 15A fuse (No. 38, located in the fuse and fusible link box)
- to theft warning lamp relay terminal 5.

MT

AT

Power is supplied at all times

- through 7.5A fuse (No. 31, located in the fuse and fusible link box)
- to theft warning lamp relay terminal 2 and
- to theft warning horn relay terminals 2 and 7.

TF

Power is supplied at all times

- through 10A fuse (No. 32, located in the fuse and fusible link box)
- to horn relay terminal 2
- through horn relay terminal 1
- to theft warning horn relay terminal 5.

PD

AX

Ground is supplied

- to smart entrance control unit terminal 10
- through body grounds M14 and M68.

SU

BR

INPUTS

NGEL0112S01

With the key switch in the INSERTED (key is in ignition key cylinder) position, power is supplied

- through key switch terminal 2
- to smart entrance control unit terminal 24.

ST

With front door LH open, ground is supplied

- to smart entrance control unit terminal 15
- through front door switch LH terminal 2
- through front door switch LH terminal 3
- through body grounds B6 and B10.

RS

BT

With front door RH open, ground is supplied

- to smart entrance control unit terminal 35
- through front door switch RH terminal +.

HA

SC

With rear door LH or RH open, ground is supplied

- to smart entrance control unit terminal 16
- through rear door switch LH or RH terminal +.

EL

With the back door open, ground is supplied

IDX

MULTI-REMOTE CONTROL SYSTEM

System Description (Cont'd)

- to smart entrance control unit terminal 16
- through back door switch terminal +
- through back door switch terminal –
- through body grounds D402 and D404.

With the front door lock actuator LH (door unlock sensor) in the UNLOCKED position, ground is supplied

- to smart entrance control unit terminal 12
- through front door lock actuator LH (door unlock sensor) terminal 2
- through front door lock actuator LH (door unlock sensor) terminal 4
- through body grounds M14 and M68.

With front door lock actuator RH (door unlock sensor) (early production models) in the UNLOCKED position, ground is supplied

- To smart entrance control unit terminal 13
- through front door lock actuator RH (door unlock sensor) terminal 2
- through front door lock actuator LH (door unlock sensor) terminal 4
- through body grounds M14 and M68.

With the rear door lock actuator LH (door unlock sensor) (early production models) in the UNLOCKED position, ground is supplied

- To smart entrance control unit terminal 14
- through rear door lock actuator LH (door unlock sensor) terminal 3
- through rear door lock actuator LH (door unlock sensor) terminal 1
- through body grounds B6 and B10.

With the rear door lock actuator RH (door unlock sensor) (early production models) in the UNLOCKED position, ground is supplied

- To smart entrance control unit terminal 14
- through rear door lock actuator RH (door unlock sensor) terminal 3
- through rear door lock actuator RH (door unlock sensor) terminal 1
- through body grounds B106 and B116.

With the back door lock actuator (door unlock sensor) (early production models) in the UNLOCKED position, ground is supplied

- To smart entrance control unit terminal 14
- through back door lock actuator (door unlock sensor) terminal 2
- through back door lock actuator (door unlock sensor) terminal 4
- through body grounds D402 and D404.

Remote controller signal input

- through external antenna.

The multi-remote control system controls operation of the

- power door locks
- panic alarm
- hazard reminder

OPERATION PROCEDURE

Power Door Lock Operation

=NGEL0112S02

When the remote controller sends a LOCK signal with the key switch in the REMOVED position (key is not in ignition key cylinder), the smart entrance control unit locks all doors.

When the remote controller sends an UNLOCK signal once, the smart entrance control unit unlocks the front door LH.

Then, if the remote controller sends another UNLOCK signal within 5 seconds, the smart entrance control unit unlocks all other doors.

Key Reminder

NGEL0112S0206

When performing a door locking operation (early production models) using either the main power window and door lock/unlock switch, the door lock/unlock switch RH, the front door LH lock knob or a multi-remote controller, all the doors will lock and then will immediately unlock if the

- key switch is in INSERTED position (key is in ignition key cylinder) and
- ignition switch is in the OFF position and
- either front door switch LH or RH is in OPEN position (door is open).

When performing a door locking operation (late production models) using either the main power window and door lock/unlock switch, the door lock/unlock switch RH, the front door LH lock knob or a multi-remote controller, all the doors will lock and then the front door LH will immediately unlock if the

- key switch is in INSERTED position (key is in ignition key cylinder) and
- ignition switch is in the OFF position and
- either front door switch LH or RH is in OPEN position (door is open).

Hazard Reminder

NGEL0112S0204

Power is supplied at all times

- to multi-remote control relay terminals 2, 5 and 7
- through 10A fuse [No. 17, located in the fuse block (J/B)].

When remote controller sends a LOCK signal with all door switches in CLOSED (door closed) position, ground is supplied

- to multi-remote control relay terminal 1
- through smart entrance control unit terminal 7.

Multi-remote control relay is energized, and hazard warning lamps flash twice as a reminder.

For detailed description, refer to "System Description", "TURN SIGNAL AND HAZARD WARNING LAMPS", EL-55.

Interior Lamp Operation

NGEL0112S0205

When both of the following signals are supplied:

- key switch in the REMOVED (key is not in ignition key cylinder) position
- all door switches CLOSED (when all doors are closed)

multi-remote control system turns on the front and rear room lamps for 30 seconds with input of UNLOCK signal from multi-remote controller.

For detailed description, refer to "INTERIOR ROOM LAMP", EL-66.

Panic Alarm Operation

NGEL0112S0203

When remote controller sends a PANIC ALARM signal with key switch in the REMOVED (key is not in ignition key cylinder) position, multi-remote control system operates the horn, theft warning horn and headlamps intermittently.

For detailed description, refer to "System Description", "THEFT WARNING SYSTEM", EL-227.

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MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI —

FIG. 1

NGEL0114

NGEL0114S01

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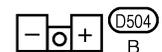
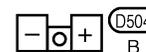
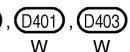
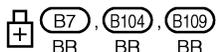
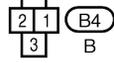
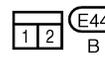
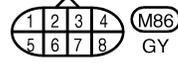
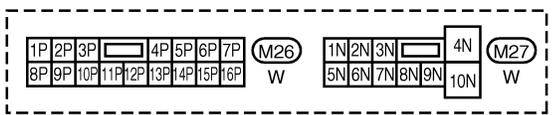
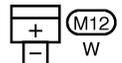
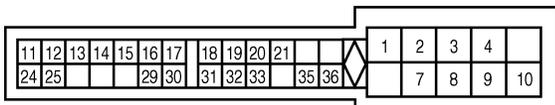
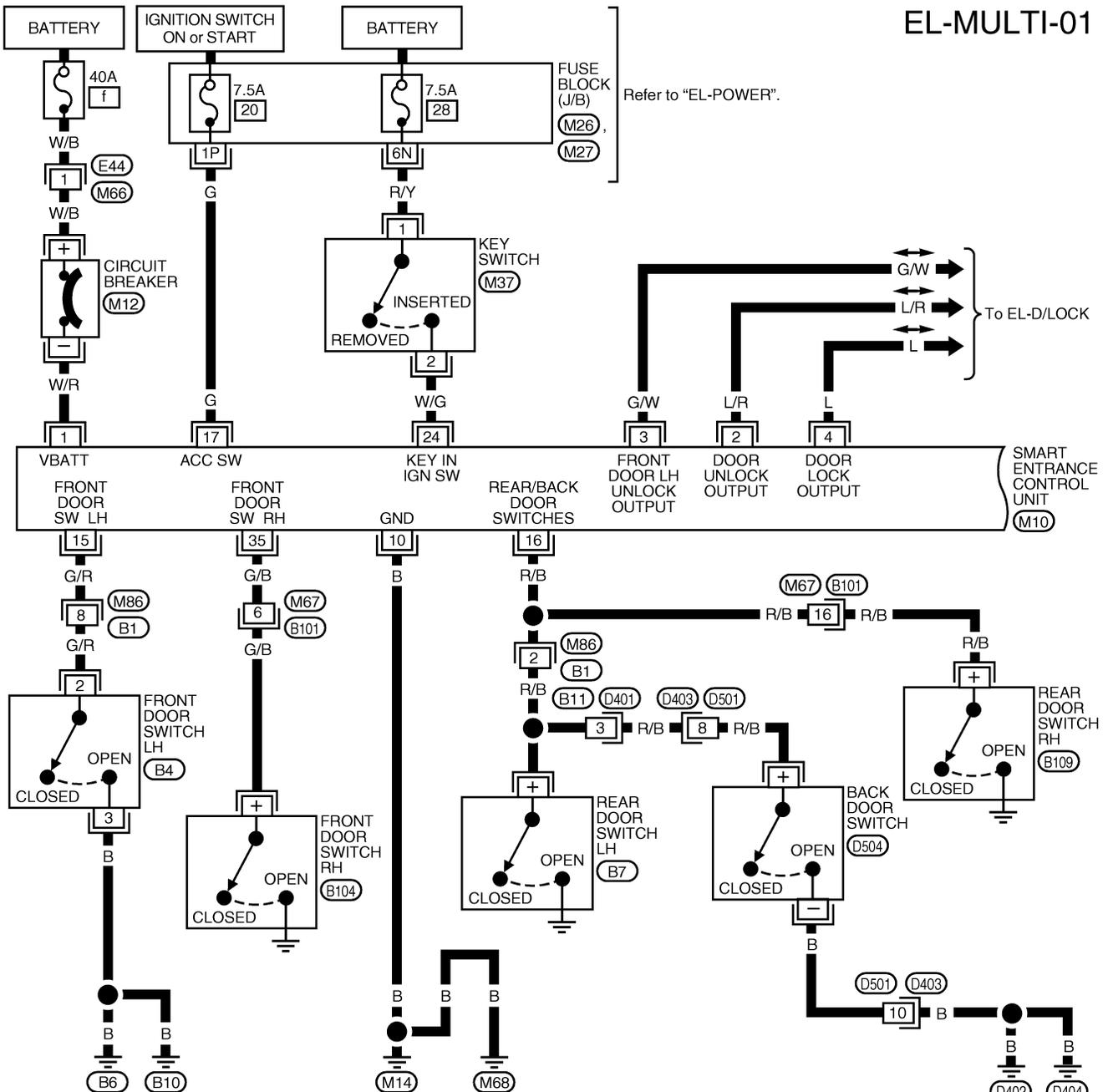
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EL-MULTI-01



MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

NGEL0114S03

FIG. 3

EL-MULTI-03

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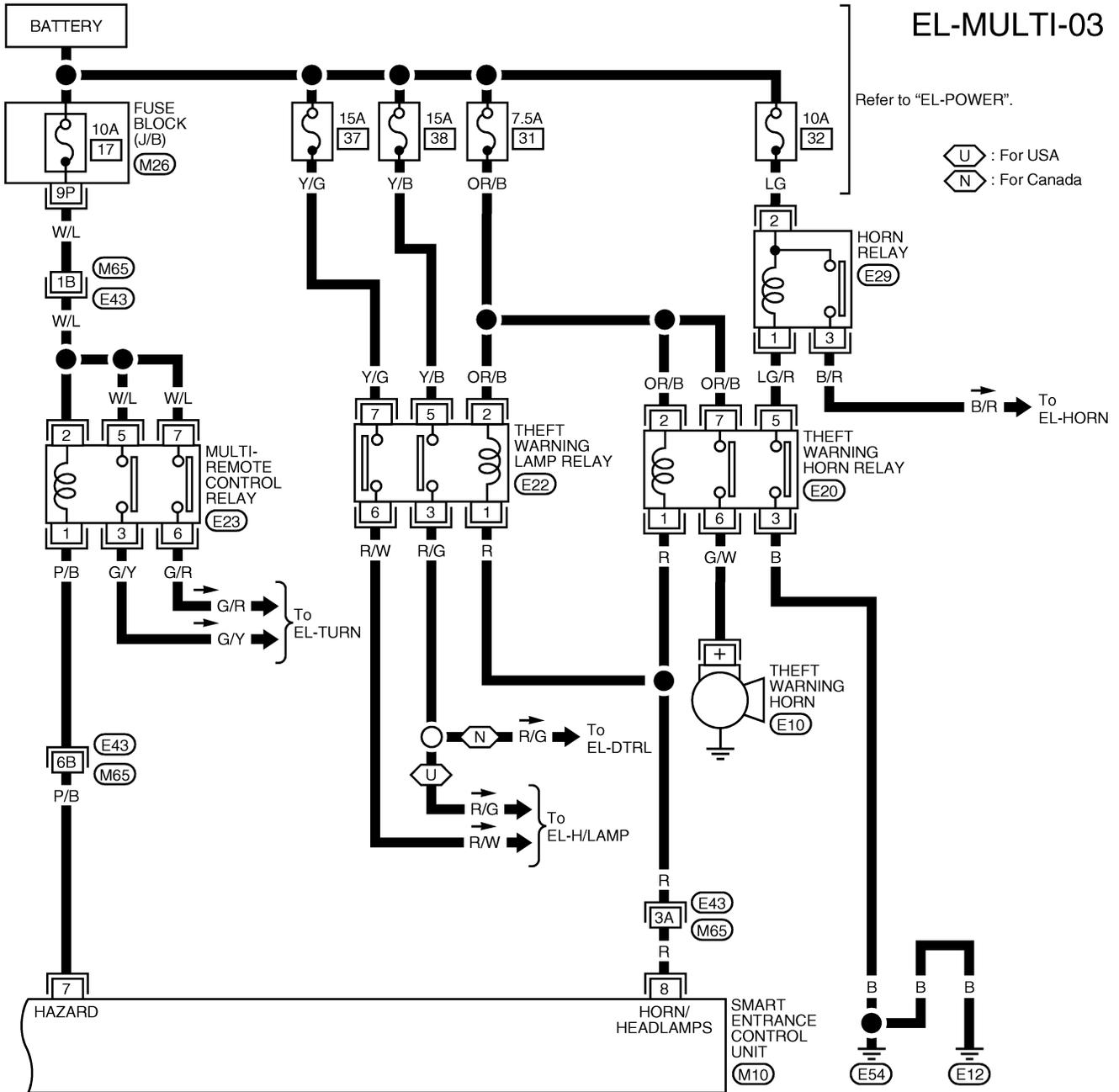
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Refer to "EL-POWER".

U : For USA
N : For Canada

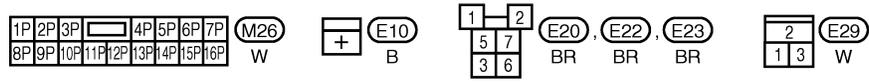
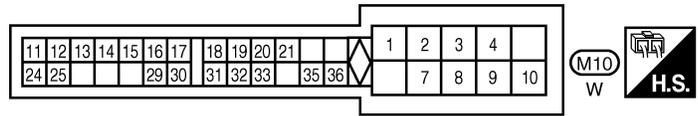
To EL-HORN

To EL-TURN

To EL-DTRL

To EL-H/LAMP

Refer to the following.
M65, E43 - SUPER
MULTIPLE JUNCTION (SMJ)



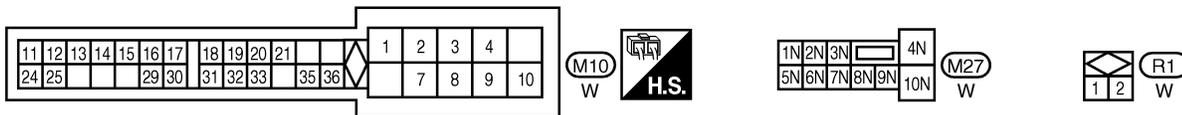
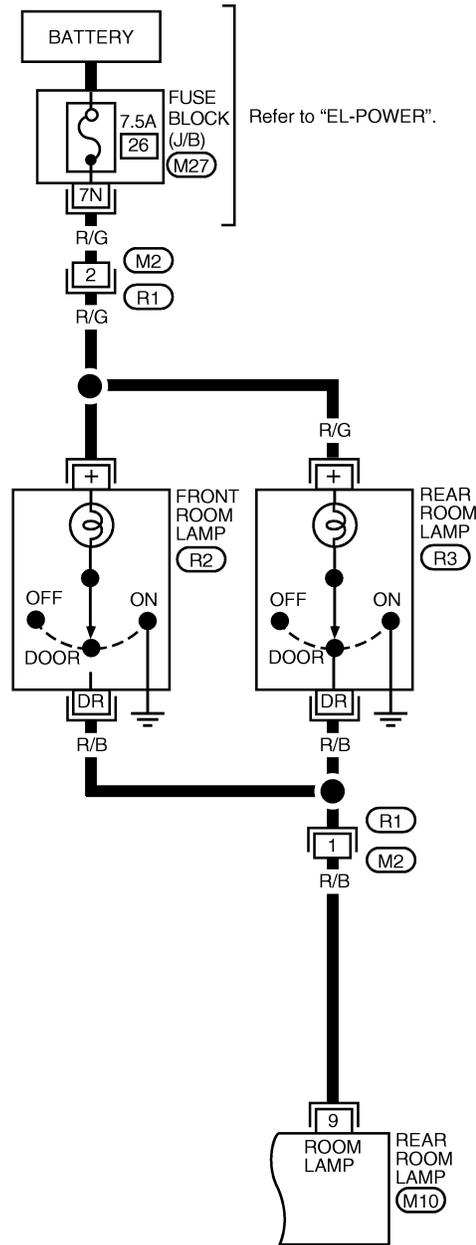
MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

NGEL0114S04

FIG. 4

EL-MULTI-04



AEL614C

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses

Trouble Diagnoses

=NGEL0115

NGEL0115S01

SYMPTOM CHART

| Symptom | Diagnoses/service procedure | Reference page (EL-) |
|---|---|-------------------------------------|
| All functions of multi-remote control system do not operate. | 1. Remote controller battery check | 212 |
| | 2. Power supply and ground circuit check | 213 |
| | 3. Key switch (inserted) check | 216 |
| | 4. Door switch check | 215 |
| | 5. Replace remote controller. | Refer to "ID Code Entry Procedure". |
| The new ID of remote controller cannot be entered. | 1. Remote controller battery check | 212 |
| | 2. Power supply and ground circuit check | 213 |
| | 3. Key switch (inserted) check | 216 |
| | 4. Door switch check | 215 |
| | 5. Door unlock sensor check | 218 |
| | 7. Replace remote controller. | Refer to "ID Code Entry Procedure". |
| Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system. Refer to "Trouble Diagnoses", "POWER DOOR LOCK", EL-188.) | 1. Key switch (inserted) check | 216 |
| | 2. Door switch check | 215 |
| | 3. Door unlock sensor check | 218 |
| | 4. Replace remote controller. | Refer to "ID Code Entry Procedure". |
| Hazard indicator does not flash twice when pressing lock button of remote controller. | 1. Hazard reminder check | 220 |
| | 2. Replace remote controller. Refer to ID Code Entry Procedure. | Refer to "ID Code Entry Procedure". |
| Front and rear room lamps do not turn on for 30 seconds when pressing unlock button of multi-remote controller | 1. Room lamp circuit check | 222 |
| Panic alarm (horn, theft warning horn and headlamps) does not activate when panic alarm button is pressed continuously for more than 1.5 seconds. | 1. Theft warning operation check. Refer to "PRELIMINARY CHECK", "THEFT WARNING SYSTEM". | 235 |
| | 2. Replace remote controller. Refer to ID Code Entry Procedure. | Refer to "ID Code Entry Procedure". |

NOTE:

- The unlock and panic alarm functions of the multi-remote control system do not activate when the key switch is in INSERTED position (key is in ignition key cylinder).
- If both of the following conditions exist, performing a door lock operation with the main power window and door lock/unlock switch, the door lock/unlock switch RH or a multi-remote controller locks the doors but immediately unlocks them when
 - key switch is in INSERTED position (key is in ignition key cylinder)
 - front door switch LH or RH is in OPEN position (door is open).

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MULTI-REMOTE CONTROL SYSTEM

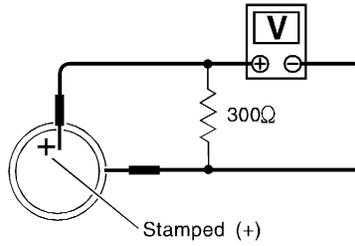
Trouble Diagnoses (Cont'd)

REMOTE CONTROLLER BATTERY CHECK

=NGEL0115S02

1 CHECK REMOTE CONTROLLER BATTERY

Remove battery (refer to EL-224) and measure voltage across battery positive and negative terminals, (+) and (-).



Voltage [V]:
2.5 - 3.0

SEL277V

NOTE:

Remote controller does not function if battery is not installed correctly.

OK or NG

| | | |
|----|---|---|
| OK | ▶ | Check remote controller battery terminals for corrosion and damage. |
| NG | ▶ | Replace battery. |

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

=NGEL0115S04

POWER SUPPLY AND GROUND CIRCUIT CHECK

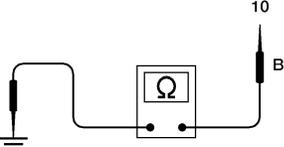
| | | |
|--|---|--|
| 1 | CHECK MAIN POWER SUPPLY CIRCUIT FOR CONTROL UNIT | |
| <p>1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector terminal 1 and ground.</p> | | |
| | | |
| <p>Refer to wiring diagram on EL-207.</p> <p>Does battery voltage exist?</p> | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 40A fusible link (letter f, located in fuse and fusible link box) ● M12 circuit breaker ● Harness for open or short between smart entrance control unit and circuit breaker |

| | | |
|--|--|--|
| 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 terminal 17 and ground while ignition switch is in ACC or ON position.</p> | | |
| | | |
| <p>Refer to wiring diagram on EL-207.</p> <p>Does battery voltage exist?</p> | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 20, located in fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse |

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

| | | |
|--|--|--|
| 3 | CHECK GROUND CIRCUIT FOR CONTROL UNIT | |
| Check continuity between smart entrance control unit terminal 10 and ground. | | |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Smart entrance control unit connector (M10)</p>  </div> <div style="text-align: center;"> <p>DISCONNECT</p>  </div> <div style="text-align: center;"> <p>OFF</p>  </div> </div> <div style="text-align: center; margin-top: 10px;">  </div> <div style="text-align: center; margin-top: 20px;">  </div> | | |
| AEL397B | | |
| Refer to wiring diagram on EL-207. | | |
| Does continuity exist? | | |
| Yes | ▶ | Power supply and ground circuits are OK. |
| No | ▶ | Check ground harness. |

MULTI-REMOTE CONTROL SYSTEM

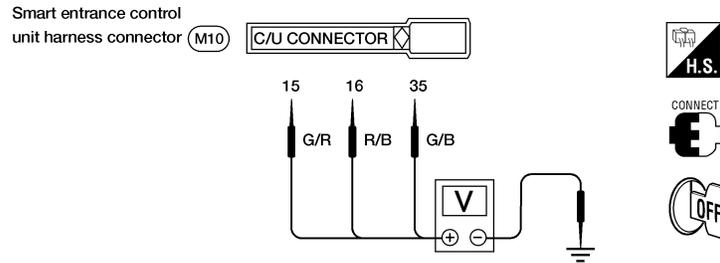
Trouble Diagnoses (Cont'd)

=NGEL0115S05

DOOR SWITCH CHECK

1 CHECK DOOR SWITCH INPUT SIGNAL

Check voltage between smart entrance control unit terminals 15, 16 or 35 and ground.



AEL650C

Voltage [V]:
 Door is closed - Approx. 12
 Door is open - 0

Refer to wiring diagram on EL-207.

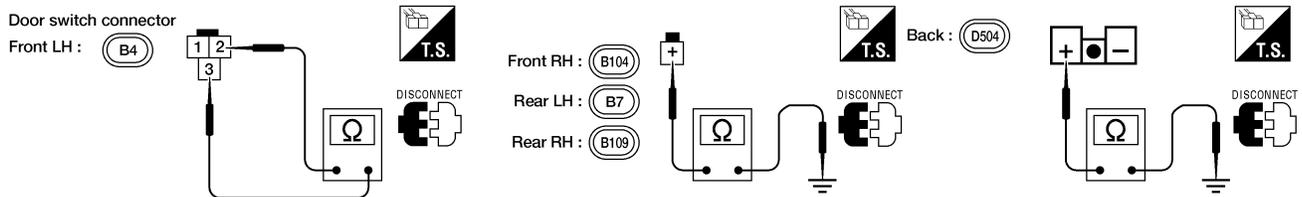
OK or NG

OK ► Door switch is OK.

NG ► GO TO 2.

2 CHECK DOOR SWITCH

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



AEL651C

Continuity:
 Front door switch LH terminals 2 - 3
 Door switch is pressed - No
 Door switch is released - Yes
 Front door switch RH, rear door switch LH or RH, back door switch terminal + - ground
 Door switch is pressed - No
 Door switch is released - Yes

OK or NG

OK ► **Check the following.**
 ● Door switch ground circuit (front door LH, back door) or door switch ground condition
 ● Harness for open or short between smart entrance control unit and door switch

NG ► Replace door switch.

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

KEY SWITCH (INSERTED) CHECK

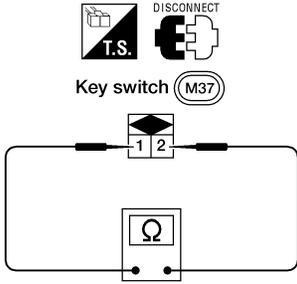
=NGEL0115S07

| | | | |
|----------|--------------------------------------|--|---------|
| 1 | CHECK KEY SWITCH INPUT SIGNAL | <p>1. Disconnect smart entrance control unit harness connector.</p> <p>2. Check voltage between smart entrance control unit harness connector terminal 24 and ground.</p> <div style="text-align: center;"> </div> <p>Voltage [V]: Key is inserted - Approx. 12 Key is removed - 0</p> <p>Refer to wiring diagram on EL-207.</p> <p style="text-align: center;">OK or NG</p> | AEL414B |
| OK | ▶ | Key switch is OK. | |
| NG | ▶ | GO TO 2. | |

| | | | |
|----------|--------------------------------------|--|---------|
| 2 | CHECK KEY SWITCH POWER SUPPLY | <p>1. Disconnect key switch harness connector.</p> <p>2. Check voltage between key switch harness connector terminal 1 and ground.</p> <div style="text-align: center;"> </div> <p>Battery voltage should exist. Refer to wiring diagram on EL-207.</p> <p style="text-align: center;">OK or NG</p> | AEL415B |
| OK | ▶ | GO TO 3. | |
| NG | ▶ | <p>Check the following</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 28, located in the fuse block (J/B)] ● Harness for open or short between key switch and fuse | |

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

| | |
|--|---|
| 3 | CHECK KEY SWITCH (INSERTED) |
| <p>Check continuity between terminals 1 and 2.</p> <div style="text-align: center;">  </div> <p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p> <p style="text-align: center;">OK or NG</p> <p style="text-align: right;">AEL416B</p> | |
| OK | ▶ Check harness for open or short between smart entrance control unit and key switch. |
| NG | ▶ Replace key switch. |

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

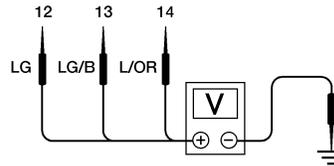
DOOR UNLOCK SENSOR CHECK

=NGEL0115S06

1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between smart entrance control unit connector M10 terminals, 12, 13, or 14 and ground. (Terminals 13 and 14 apply to early production models.)

Smart entrance control unit harness connector (M10)



AEL643C

| | Terminals | | Condition | Voltage [V] |
|---------------|-----------|--------|-----------|-------------|
| | + | - | | |
| Front door LH | 12 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |
| Front door RH | 13 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |
| Rear door LH | 14 | Ground | Locked | Approx. 12 |
| Rear door RH | | | Unlocked | 0 |
| Back door | | | | 0 |

AEL644C

NOTE:

Smart entrance control unit connector M10, terminals 13 and 14 apply to early production models. Refer to wiring diagram on EL-186, 187.

OK or NG

| | | |
|----|---|---------------------------|
| OK | ▶ | Door unlock sensor is OK. |
| NG | ▶ | GO TO 2. |

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

| 2 | CHECK DOOR UNLOCK SENSOR |
|--|--|
| <p>1. Disconnect door lock actuator (door unlock sensor) harness connector. 2. Check continuity between door unlock sensor terminals.</p> | |
| | |
| <p style="text-align: right;">AEL645C</p> | |
| <p>NOTE: Door lock actuator (unlock sensor) Front RH, Rear LH, Rear RH, and Back apply to early production models.</p> | |
| <p>Continuity: Condition: Locked No Condition: Unlocked Yes</p> | |
| <p>OK or NG</p> | |
| <p>OK</p> | <p>▶ Check the following.</p> <ul style="list-style-type: none"> ● Door unlock sensor ground circuit ● Harness for open or short between smart entrance control unit and door unlock sensor |
| <p>NG</p> | <p>▶ Replace door unlock sensor.</p> |

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

HAZARD REMINDER CHECK

=NGEL0115S09

| | | |
|---|-------------------------------|--|
| 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. Refer to "Trouble Diagnoses", "TURN SIGNAL AND HAZARD WARNING LAMPS", EL-59. |

| | | |
|---|--|-------------------------|
| 2 | CHECK HAZARD REMINDER OPERATION | |
| <p>1. Disconnect smart entrance control unit harness connector.</p> <p>2. Apply ground to smart entrance control unit harness connector terminal 7.</p> | | |
| | | |
| Refer to wiring diagram on EL-209. | | |
| Does hazard indicator illuminate? | | |
| Yes | ▶ | Hazard indicator is OK. |
| No | ▶ | GO TO 3. |

AEL404B

| | | |
|--|---|----------|
| 3 | CHECK MULTI-REMOTE CONTROL RELAY | |
| Check multi-remote control relay. | | |
| | | |
| <p>Continuity</p> <p>Condition: 12V applied across multi-remote control relay terminals 1 and 2.</p> <p>Terminals 3 - 5, 6 - 7: No</p> <p>Condition: 0V applied across multi-remote control relay terminals 1 and 2.</p> <p>Terminals 3 - 5, 6 - 7: Yes</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Replace. |

AEL578C

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

| | | |
|--|--|--|
| 4 | CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY | |
| <p>1. Disconnect multi-remote control relay harness connector.</p> <p>2. Check voltage between multi-remote control relay harness connector terminal 2 and ground.</p> | | |
| | | |
| AEL405B | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 5. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 17, located in fuse block (J/B)] ● Harness for open or short between multi-remote control relay and fuse |

| | | |
|--|---|--|
| 5 | CHECK MULTI-REMOTE CONTROL RELAY CIRCUIT | |
| <p>1. Disconnect multi-remote control relay harness connector.</p> <p>2. Check voltage between multi-remote control relay harness connector terminals 3 and 5. Battery voltage should exist.</p> <p>3. Check voltage between multi-remote control relay harness connector terminals 6 and 7. Battery voltage should exist.</p> | | |
| | | |
| AEL406B | | |
| OK or NG | | |
| OK | ▶ | Check harness for open or short between smart entrance control unit and multi-remote control relay. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Harness for open or short between multi-remote control relay and fuse ● Harness for open or short between multi-remote control relay and turn signal lamps |

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

ROOM LAMP CIRCUIT CHECK

NGEL0115S10

| | | |
|--|---------------------------------------|--|
| 1 | CHECK ROOM LAMP SUPPLY VOLTAGE | |
| <p>With room lamp switch in DOOR position, check voltage across smart entrance control unit harness connector terminal 9 and ground.</p> | | |
| | | |
| AEL654C | | |
| Refer to wiring diagram on EL-210. | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Repair harness between smart entrance control unit and room lamps. |

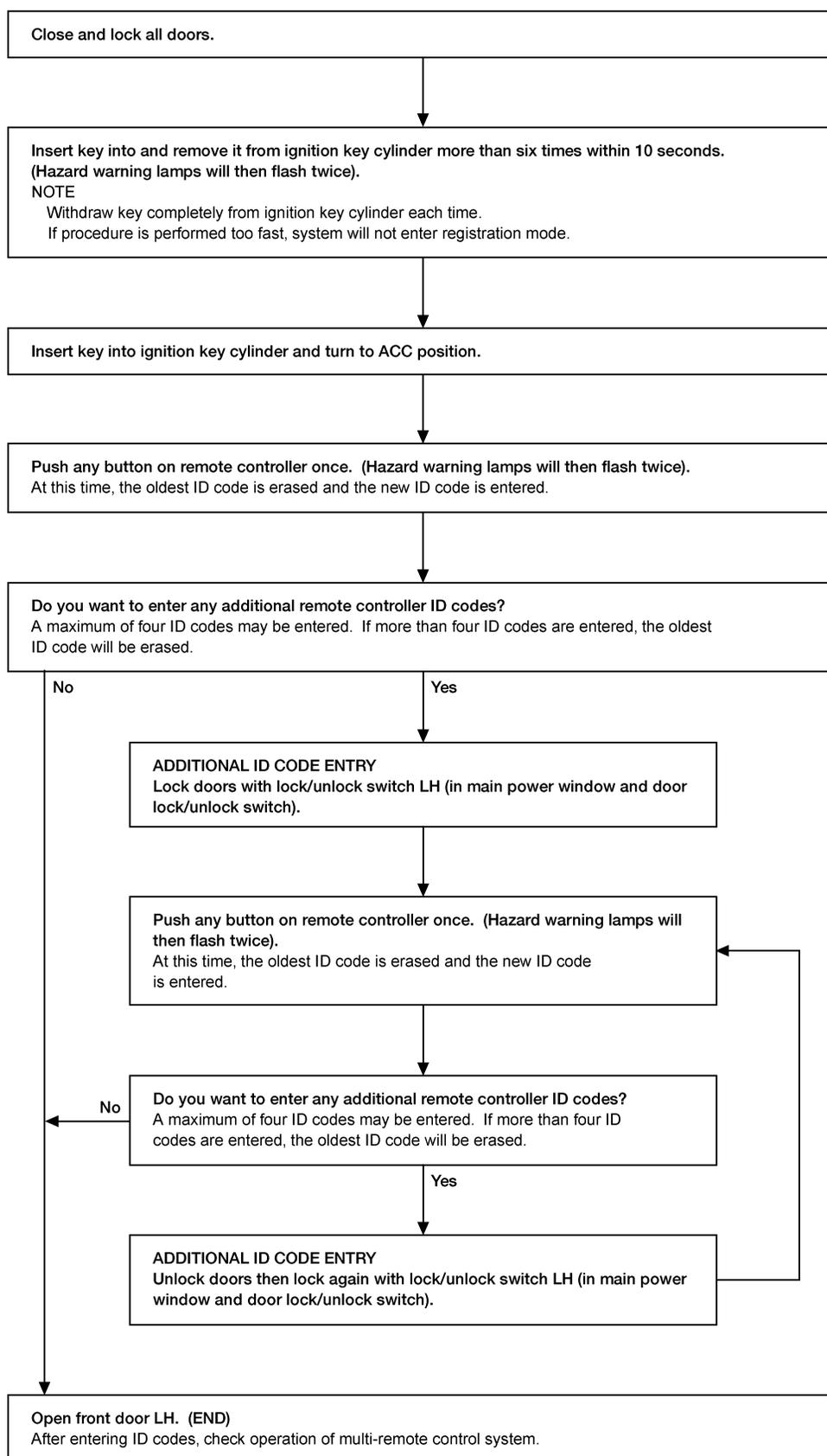
| | | |
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| 2 | CHECK ROOM LAMP GROUND CONTROL OPERATION | |
| <p>Press unlock button of multi-remote controller and check voltage across smart entrance control unit terminal 9 and ground.</p> | | |
| | | |
| AEL654C | | |
| <p>Voltage [V]: Condition: Unlock button is pressed 0 Condition: Unlock button is not pressed Battery voltage</p> | | |
| OK or NG | | |
| OK | ▶ | Check system again. |
| NG | ▶ | Check harness for open or short between room lamps and smart entrance control unit. |

MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure

ID Code Entry Procedure

NGEL0117



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MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Cont'd)

NOTE:

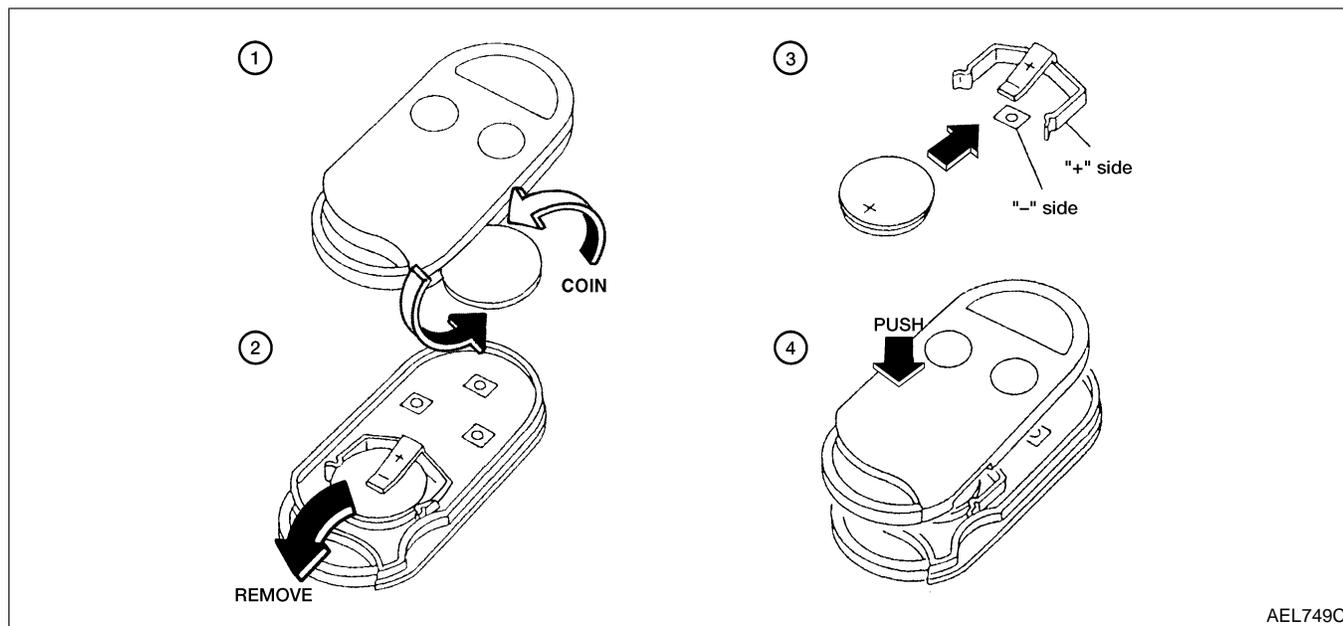
- If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. However, when the ID code of a lost remote controller is not known, all remote controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
To erase all ID codes in memory, register one ID code (remote controller) four times. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
- When registering an additional remote controller, the existing ID codes in memory may or may not be erased. If four ID codes are stored in memory when an additional code is registered, only the oldest code is erased. If less than four ID codes are stored in memory when an additional ID code is registered, the new ID code is added and no ID codes are erased.
- If you need to activate more than two additional new remote controllers, repeat the procedure "ADDITIONAL ID CODE ENTRY" for each new remote controller.
- Entry of a maximum of four ID codes is allowed. When more than four ID codes are entered, the oldest ID code will be erased.
- If an ID code has already been registered in the memory, the same ID code can be entered in the memory again. Each registration of an ID code counts as an additional code.

Remote Controller Battery Replacement

NGEL0118

NOTE:

- Be careful not to touch the circuit board or battery terminal.
- The remote controller is water-resistant. However, if it does get wet, wipe it dry immediately.
- After battery replacement, press the remote controller buttons two or three times to check their operation.



THEFT WARNING SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

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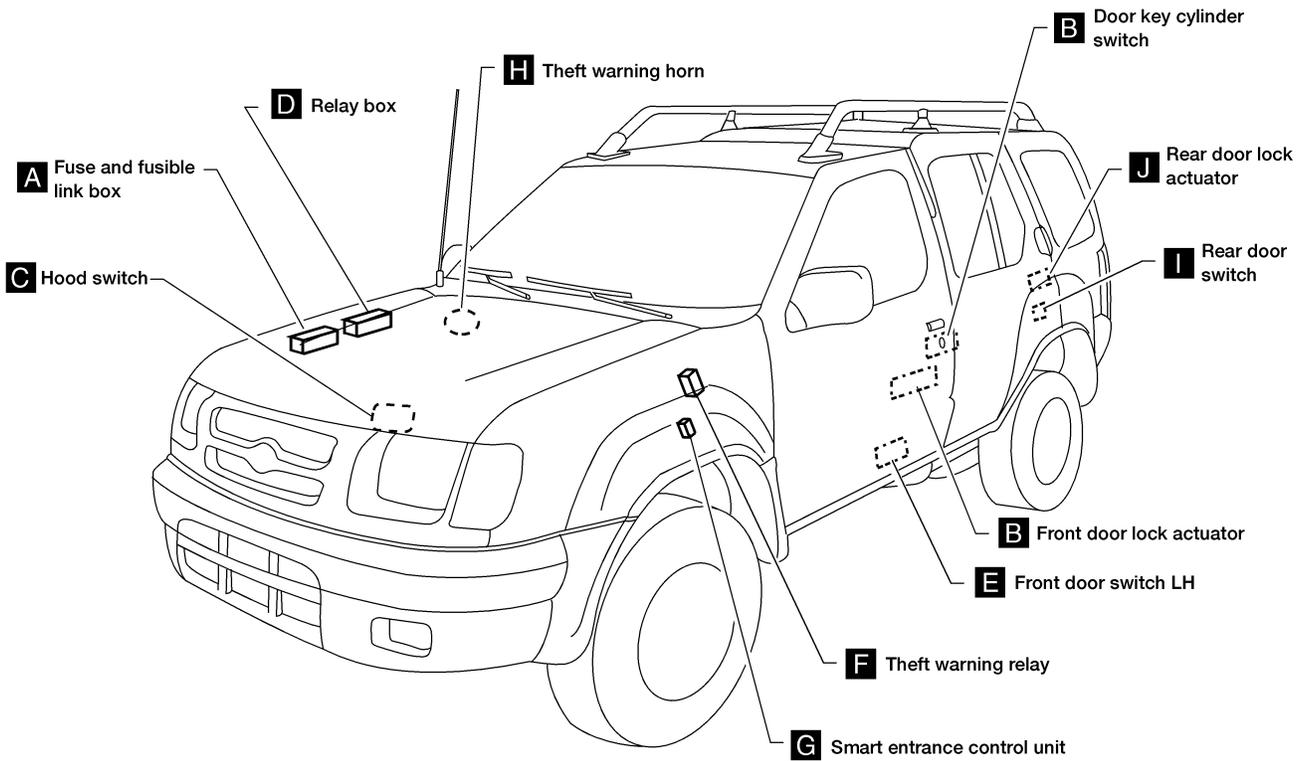
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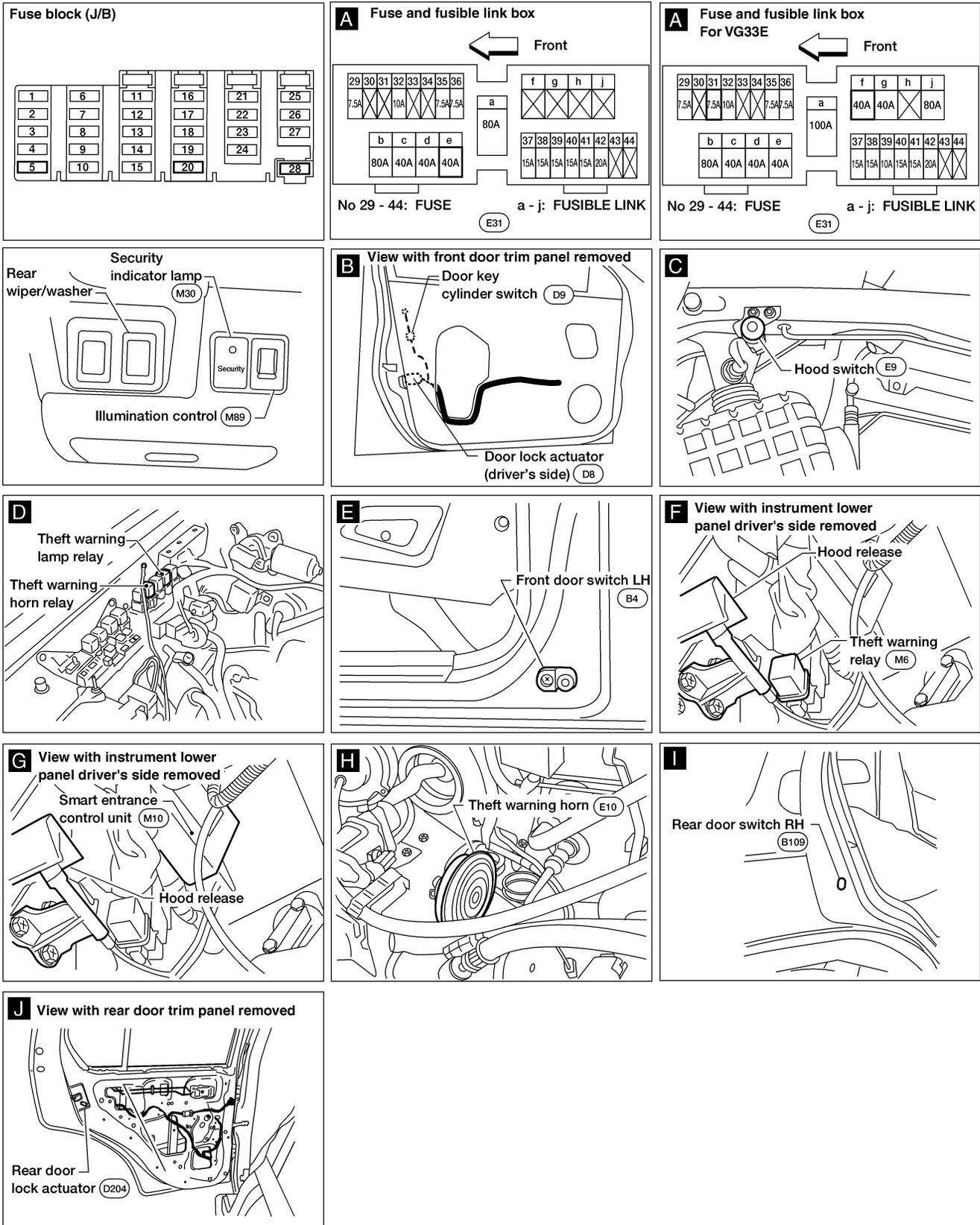
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AEL437C

THEFT WARNING SYSTEM

Component Parts and Harness Connector Location (Cont'd)

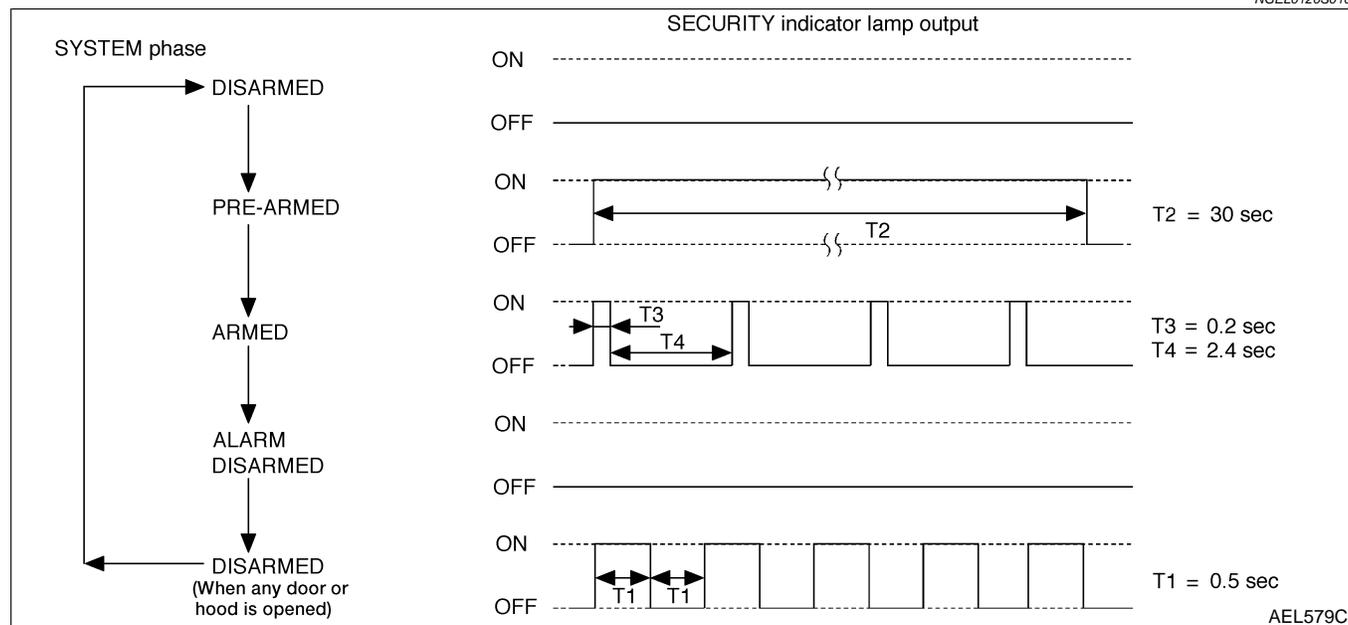


AEL434C

System Description

DESCRIPTION

1. Operation Flow



2. Setting the Theft Warning System

Initial condition

- 1) Close all doors.
- 2) Close hood.

Disarmed phase

The theft warning system is in the disarmed phase when any door(s) or hood is opened. The security indicator lamp blinks every second.

Pre-armed phase and armed phase

The theft warning system turns into the “pre-armed” phase when hood and all doors are closed and the doors are locked by key or multi-remote controller. (The security indicator lamp illuminates.)

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 Theft Warning System

When the doors are unlocked with the key or multi-remote controller, the armed phase is canceled.

4. Activating the Alarm Operation of the Theft Warning 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 horn, theft warning horn and headlamps operate intermittently for about 2.5 minutes. (At the same time, the system disconnects the starting system circuit.)

- 1) Engine hood or any door is opened before unlocking door with key or multi-remote controller.
- 2) Door is unlocked without using key or multi-remote controller (applies to early production models).

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 7.5A fuse [No. 28, located in the fuse block (J/B)]
- to security indicator lamp terminal 1.

Power is supplied at all times

- through 40A fusible link (letter f, located in the fuse and fusible link box)
- to circuit breaker terminal +
- through circuit breaker terminal –
- to smart entrance control unit terminal 1.

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

THEFT WARNING SYSTEM

System Description (Cont'd)

- through 7.5A fuse [No. 20, located in the fuse block (J/B)]
- to smart entrance control unit terminal 17.

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to smart entrance control unit terminal 11.

Ground is supplied

- to smart entrance control unit terminal 10
- through body grounds M14 and M68.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

NGEL0120S02

The operation of the theft warning system is controlled by the doors and hood.

To activate the theft warning system, the smart entrance control unit must receive signals indicating the doors and hood are closed and the doors are locked.

When a door is open, smart entrance control unit terminal 15, 16, or 35 receives a ground signal from the corresponding door switch.

When the any door is unlocked, smart entrance control unit terminals 12, 13, or 14 (13 and 14 apply to early production models) receives a ground signal from the door lock actuator (door unlock sensor).

When the hood is open, ground is supplied

- to smart entrance control unit terminal 29
- through hood switch terminal +
- through hood switch terminal –
- through body grounds E12 and E54.

When the doors are locked with key or multi-remote controller and none of the described conditions exist, the theft warning system will automatically shift to armed phase.

THEFT WARNING SYSTEM ACTIVATION (WITH KEY OR REMOTE CONTROLLER USED TO LOCK DOORS)

NGEL0120S03

If the key is used to lock doors, ground is supplied to smart entrance control unit terminal 30

- through front door key cylinder switch LH terminal 1 or
- through front door key cylinder switch RH terminal 3
- through front door key cylinder switch LH or RH terminal 2
- through body grounds M14 and M68 or
- through back door key cylinder switch terminal 1
- through back door key cylinder switch terminal 2
- through body grounds D402 and D404.

If this signal or lock signal from remote controller is received by the smart entrance control unit, the theft warning system will activate automatically.

Once the theft warning system has been activated, smart entrance control unit terminal 33 supplies ground to security indicator lamp terminal 2.

The security lamp will illuminate for approximately 30 seconds and then blink.

The theft warning system is now in armed phase.

THEFT WARNING SYSTEM ALARM OPERATION

NGEL0120S04

The theft warning system is triggered by

- opening a door
- opening the hood
- unlocking door without using a key or remote controller.

Once the theft warning system is in armed phase, if the smart entrance control unit receives a ground signal at terminal 12, 13, 14 (door unlock sensor), (13 and 14 apply to early production models) 15, 16, 35 (door switch) or 29 (hood switch), the theft warning system will be triggered. The horn, theft warning horn and headlamps operate intermittently and the starting system is interrupted.

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

- through 7.5A fuse [No. 5, located in the fuse block (J/B)].
- to theft warning relay terminal 2.

If the theft warning system is triggered, ground is supplied

- to theft warning relay terminal 1

THEFT WARNING SYSTEM

System Description (Cont'd)

- through smart entrance control unit terminal 32.

With power and ground supplied, starter motor circuit is interrupted. The starter motor will not crank and the engine will not start.

Power is supplied at all times

- through 7.5A fuse (No. 31, located in fuse and fusible link box)
- to theft warning lamp relay terminal 2 and
- to theft warning horn relay terminals 2 and 7.

When the theft warning system is triggered, ground is supplied intermittently

- to theft warning lamp relay terminal 1 and
- to theft warning horn relay terminal 1
- through smart entrance control unit terminal 8.

The horn, theft warning horn and headlamps operate intermittently.

The alarm automatically turns off after 2 or 3 minutes but will reactivate if the vehicle is tampered with again.

THEFT WARNING SYSTEM DEACTIVATION

To deactivate the theft warning system, a door must be unlocked with the key or remote controller.

NGEL0120S05

When the key is used to unlock the door, smart entrance control unit terminal 31 receives a ground signal

- through front door key cylinder switch LH terminal 3 or
- through front door key cylinder switch RH terminal 1
- through front door key cylinder switch LH or RH terminal 2
- through body grounds M14 and M68 or
- through back door key cylinder switch terminal 3
- through back door key cylinder switch terminal 2
- through body grounds D402 and D404.

When the smart entrance control unit receives this signal or an unlock signal from remote controller, the theft warning system is deactivated. (Disarmed phase)

PANIC ALARM OPERATION

Multi-remote control system may or may not operate theft warning system (horn, theft warning horn and headlamps) as required.

NGEL0120S06

When the multi-remote control system is triggered, ground is supplied intermittently

- to theft warning lamp relay terminal 1 and
- to theft warning horn relay terminal 1
- through smart entrance control unit terminal 8.

The horn, theft warning horn and headlamps operate intermittently.

The alarm automatically turns off after 30 seconds or when smart entrance control unit receives any signal from multi-remote controller.

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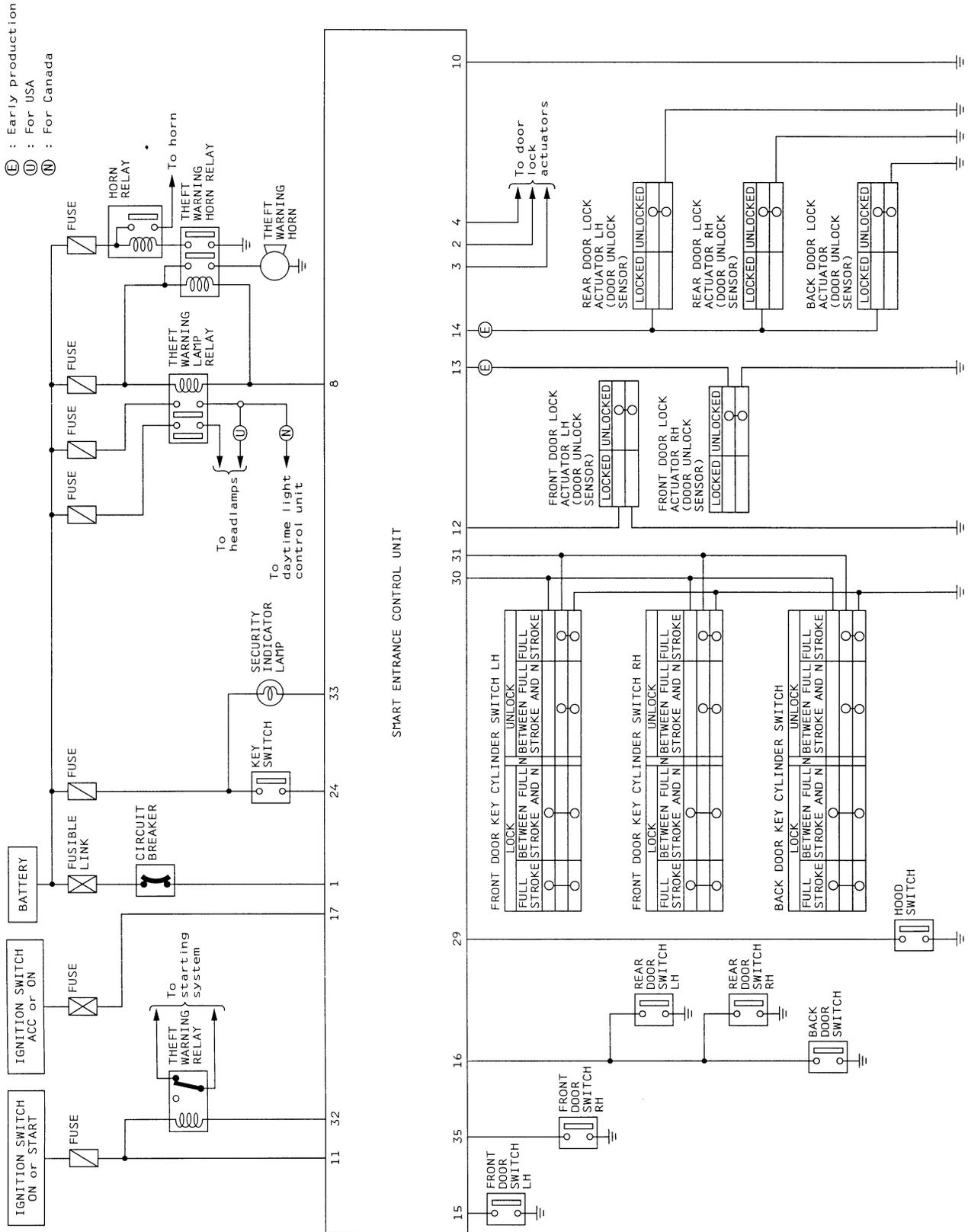
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THEFT WARNING SYSTEM

Circuit Diagram

Circuit Diagram

NGEL0121



AEL401C

THEFT WARNING SYSTEM

Wiring Diagram — THEFT —

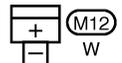
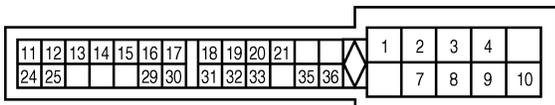
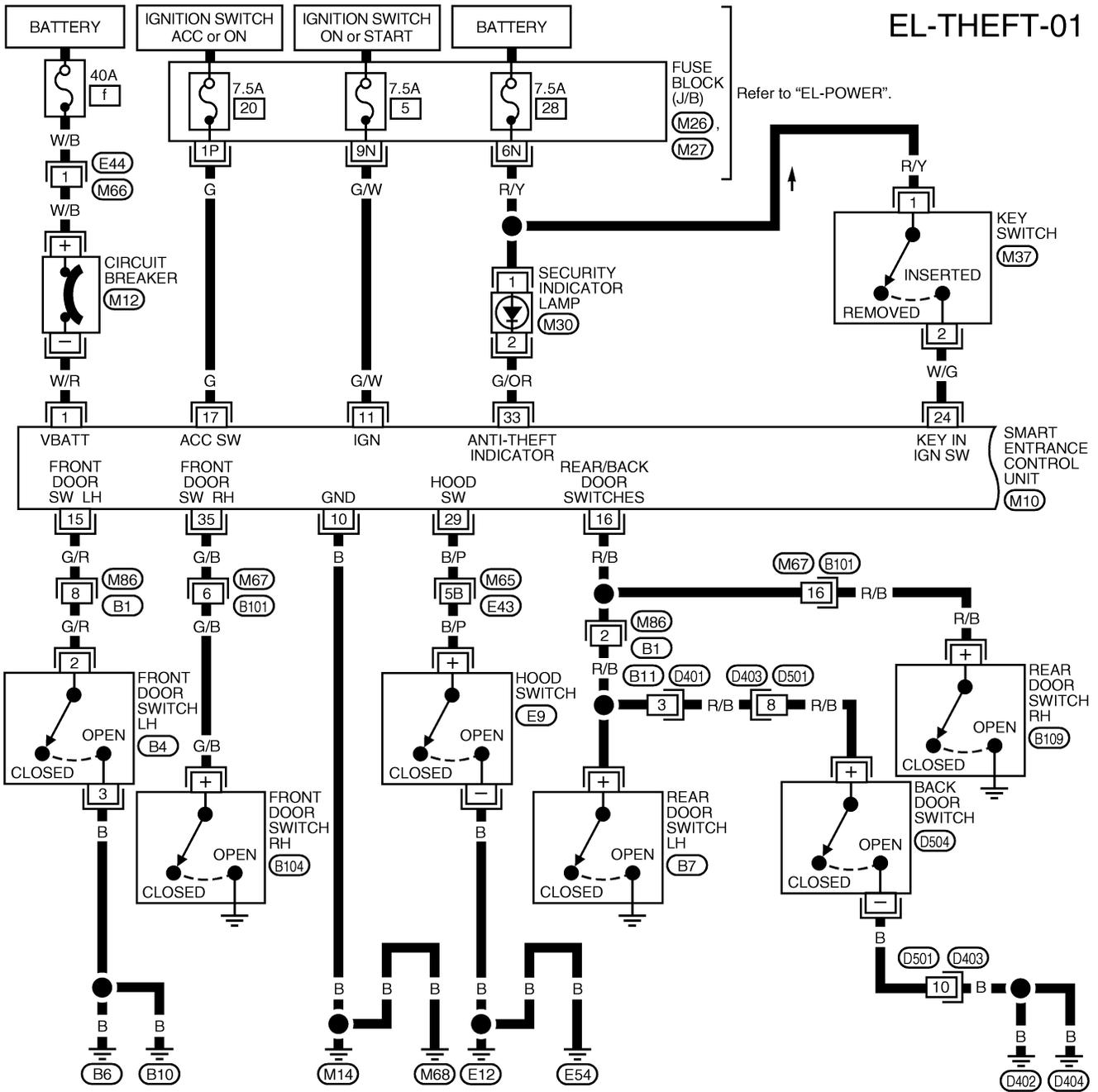
FIG. 1

NGEL0122

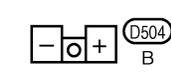
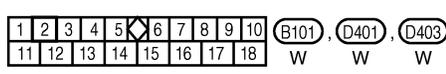
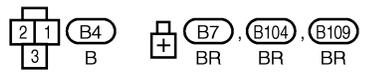
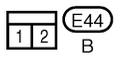
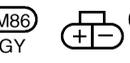
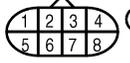
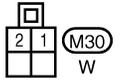
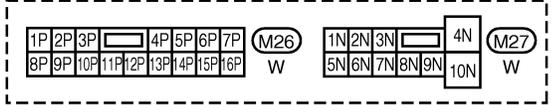
NGEL0122S01

Wiring Diagram — THEFT —

EL-THEFT-01



Refer to the following.
 (M65), (E43) - SUPER
 MULTIPLE JUNCTION (SMJ)



AEL402C

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THEFT WARNING SYSTEM

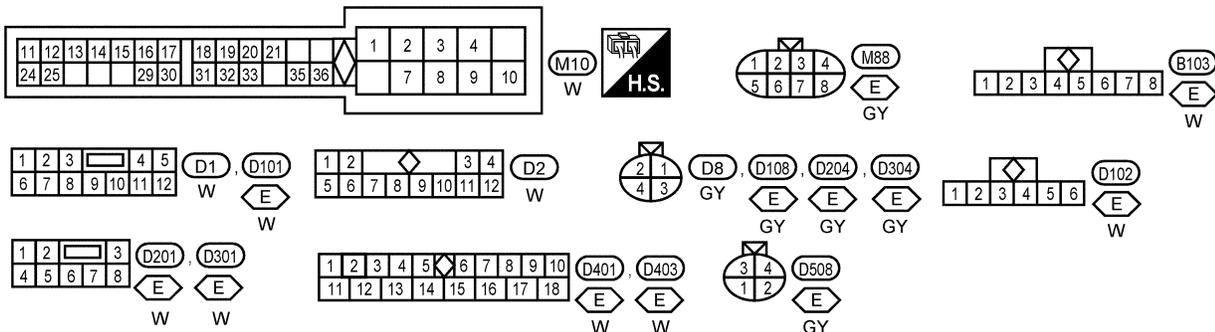
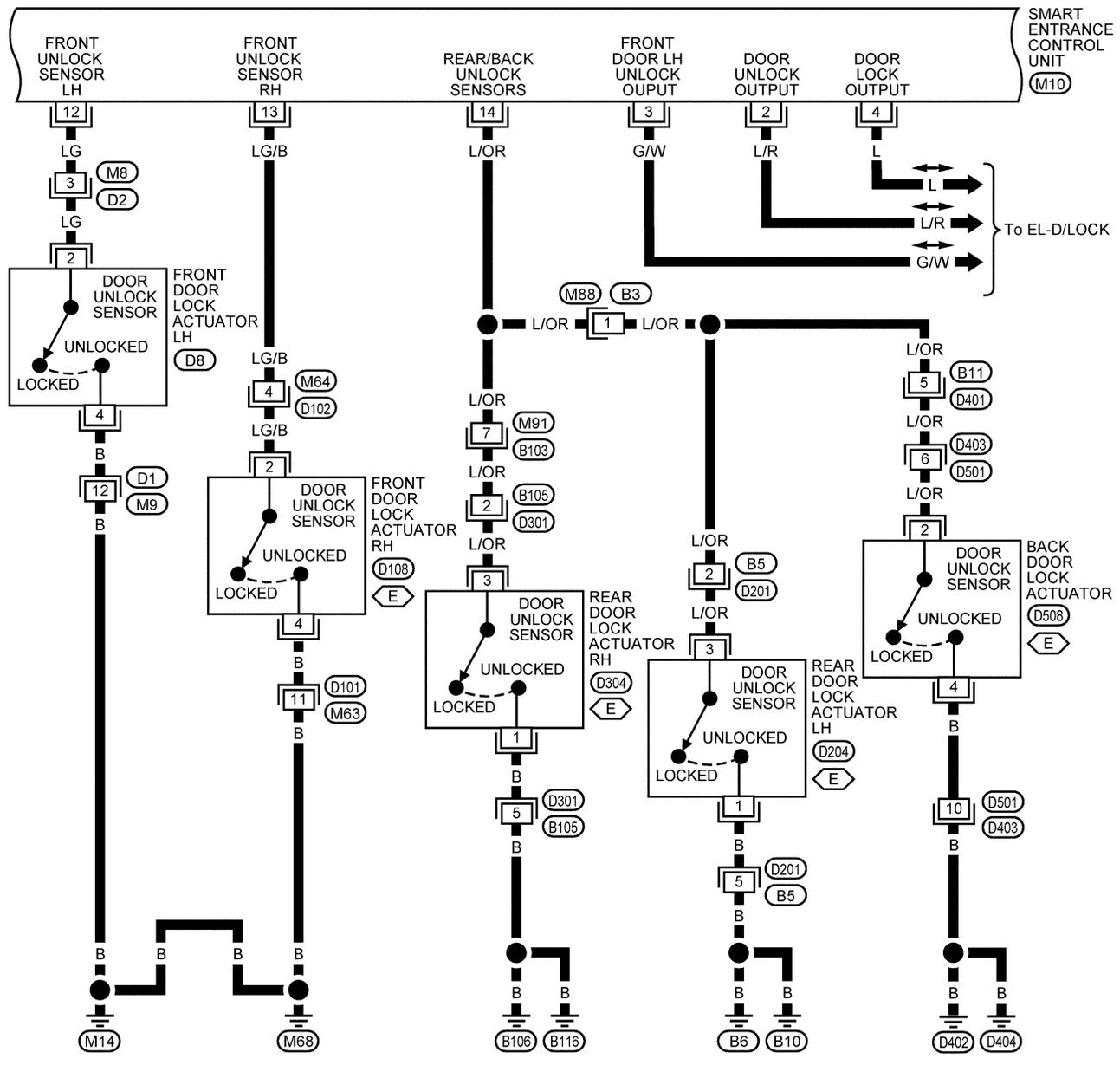
Wiring Diagram — THEFT — (Cont'd)

FIG. 2

NGEL0122S02

◊ E : Early production

EL-THEFT-02



AEL403C

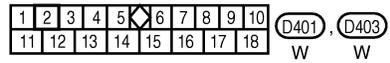
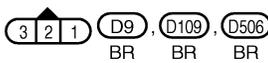
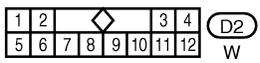
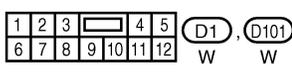
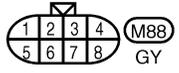
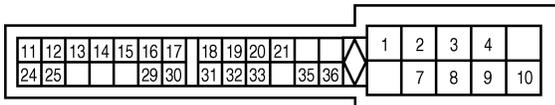
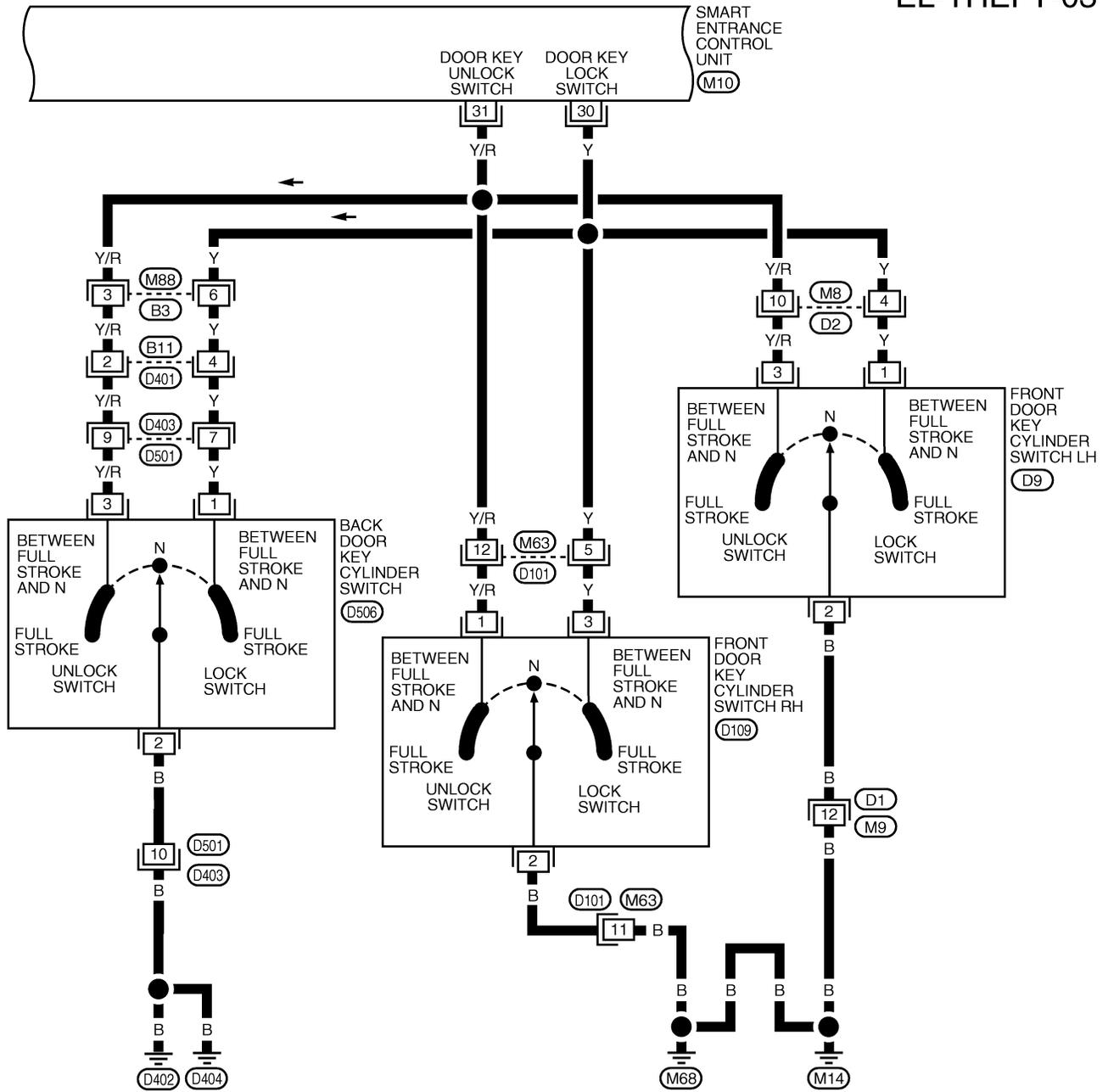
THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

FIG. 3

NGEL0122S03

EL-THEFT-03

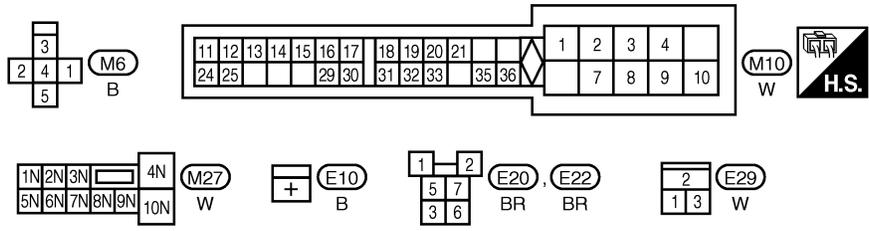
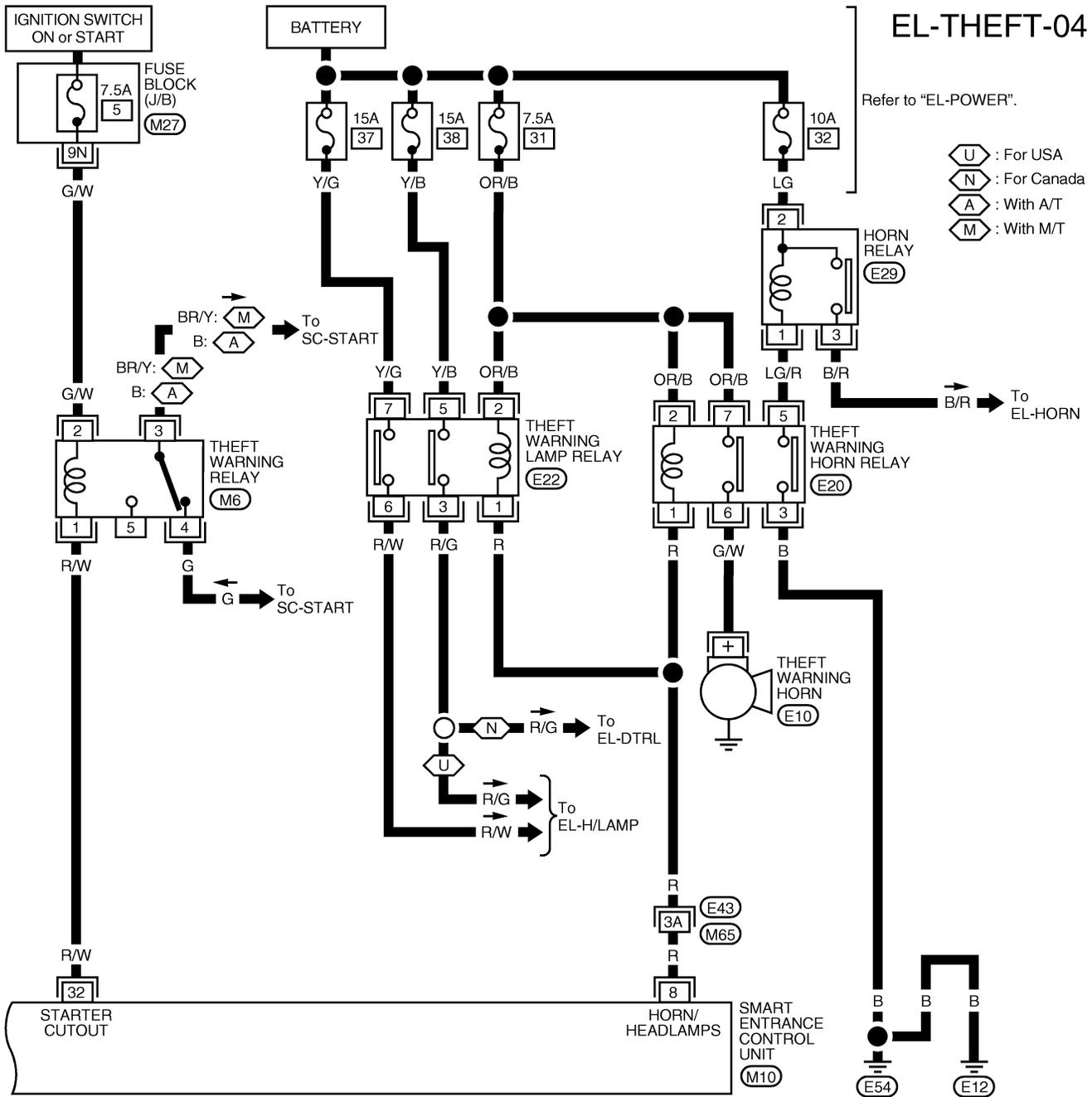


THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

FIG. 4

NGEL0122S04



Refer to the following.
 (M65), (E43) - SUPER
 MULTIPLE JUNCTION (SMJ)

THEFT WARNING SYSTEM

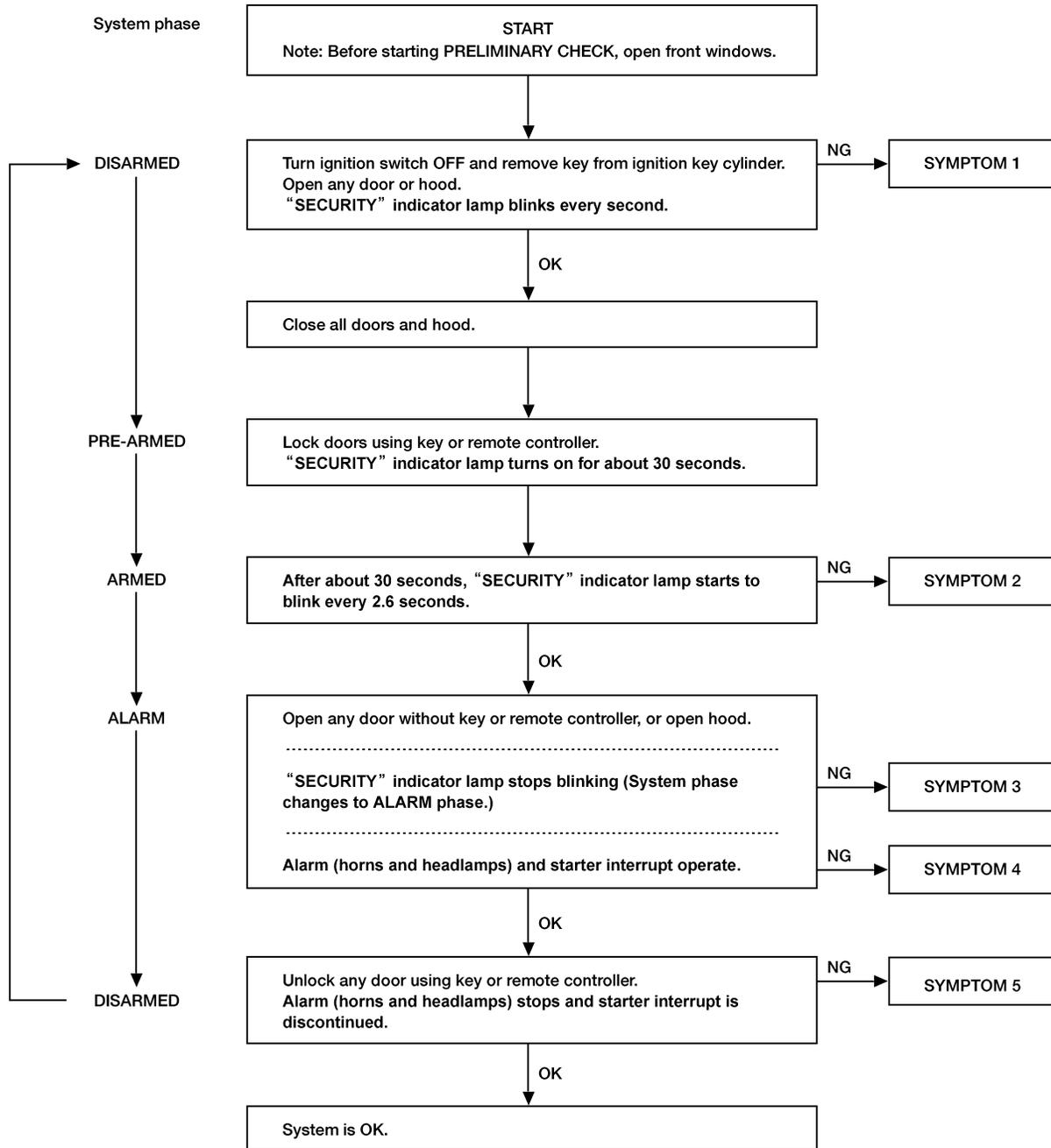
Trouble Diagnoses

Trouble Diagnoses PRELIMINARY CHECK

NGEL0123

NGEL0123S01

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



AEL763C

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

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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

NGEL0123S02

| REFERENCE PAGE (EL-) | 235 | 237 | 238 | 242 | 243 | 245 | 247 | 249 | 251 | 253 | 211 |
|-----------------------|--|--|----------------------------|-------------------------------|--------------------------|--------------------------------|-------------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------------|
| SYMPTOM | PRELIMINARY CHECK | POWER SUPPLY AND GROUND CIRCUIT CHECK | DOOR AND HOOD SWITCH CHECK | SECURITY INDICATOR LAMP CHECK | DOOR UNLOCK SENSOR CHECK | DOOR KEY CYLINDER SWITCH CHECK | BACK DOOR KEY CYLINDER SWITCH CHECK | THEFT WARNING HORN ALARM CHECK | THEFT WARNING HEADLAMP ALARM CHECK | STARTER INTERRUPT SYSTEM CHECK | Check "MULTI-REMOTE CONTROL" system. |
| 1 | Theft warning indicator does not turn ON or is not blinking. | | X | X | X | X | | | | | |
| 2 | Theft warning system cannot be set by ... | All items | X | X | X | | X | | | | |
| | | Door outside key | X | | | | | X | | | |
| | | Back door key | X | | | | | | X | | |
| | | Multi-remote controller | X | | | | | | | | X |
| 3 | *1 Theft warning system does not alarm when ... | Any door is opened. | X | | X | | | | | | |
| | | Any door is unlocked without using key or multi-remote controller. | X | | | | X | | | | |
| 4 | Theft warning alarm does not activate. | All function | X | X | X | | X | | | | |
| | | Horn alarm | X | | | | | | X | | |
| | | Headlamp alarm | X | | | | | | | X | |
| | | Starter interrupt | X | | | | | | | | X |
| 5 | Theft warning system cannot be canceled by ... | Door outside key | X | | | | X | | | | |
| | | Back door key | X | | | | | X | | | |
| | | Multi-remote controller | X | | | | | | | | X |

X : Applicable

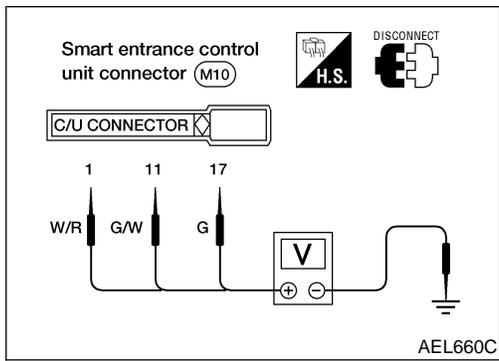
*1: Make sure the system is in the armed phase.

Before starting trouble diagnoses above, perform "PRELIMINARY CHECK", EL-235.

Symptom numbers in the symptom chart correspond with those of "PRELIMINARY CHECK".

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

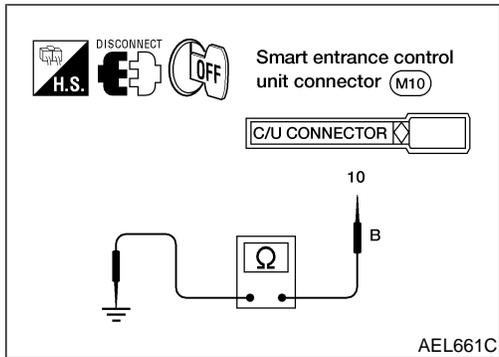


POWER SUPPLY AND GROUND CIRCUIT CHECK

NGEL0123S03

NGEL0123S0301

| Terminals | | Ignition switch position | | |
|-----------|--------|--------------------------|-----------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 1 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 11 | Ground | 0V | 0V | Battery voltage |
| 17 | Ground | 0V | Battery voltage | Battery voltage |



Ground Circuit Check

NGEL0123S0302

| Terminals | Continuity |
|-------------|------------|
| 10 - Ground | Yes |

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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

DOOR AND HOOD SWITCH CHECK Door Switch Check

=NGEL0123S04

NGEL0123S0401

| | | |
|--|--------------------------|--------------------|
| 1 | PRELIMINARY CHECK | |
| <p>1. Turn ignition switch OFF and remove key from ignition key cylinder. 2. Close all doors and hood. "SECURITY" indicator lamp should turn off. 3. Open any passenger door or back door. "SECURITY" indicator lamp should blink every second.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Door switch is OK. |
| NG | ▶ | GO TO 2. |

| | | |
|---|---------------------------------------|--|
| 2 | CHECK DOOR SWITCH INPUT SIGNAL | |
| <p>Check voltage between smart entrance control unit harness connector terminals 15, 16 or 35 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">AEL650C</p> <p>Voltage [V]: Door is closed - Approx. 12 Door is open - 0</p> <p>Refer to wiring diagram on EL-231.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Door switch is OK and go to hood switch check. |
| NG | ▶ | GO TO 3. |

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

| 3 CHECK DOOR SWITCH | |
|--|--|
| <p>1. Disconnect door switch harness connector. 2. Check continuity between door switch terminals.</p> <p style="text-align: right;">AEL651C</p> <p>Continuity: Front door switch LH terminals 2 - 3 Door switch is pressed - No Door switch is released - Yes Front door switch RH, rear door switch LH or RH, back door switch terminal + - ground Door switch is pressed - No Door switch is released - Yes</p> <p style="text-align: center;">OK or NG</p> | |
| OK | <p>▶ Check the following.</p> <ul style="list-style-type: none"> • Door switch ground circuit (Front LH, back door) or door switch ground condition • Harness for open or short between smart entrance control unit and door switch |
| NG | <p>▶ Replace door switch.</p> |

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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

Hood Switch Check

=NGEL0123S0402

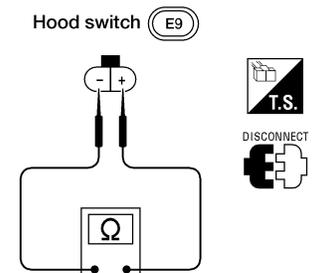
| | | |
|---|--------------------------|--------------------|
| 1 | PRELIMINARY CHECK | |
| 1. Turn ignition switch OFF and remove key from ignition key cylinder. 2. Close all doors and hood. “SECURITY” indicator lamp should turn off. 3. Open hood. “SECURITY” indicator lamp should blink every second. | | |
| OK or NG | | |
| OK | ▶ | Hood switch is OK. |
| 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 | |
| Check voltage between smart entrance control unit terminal 29 and ground. | | |
| | | |
| AEL429B | | |
| <p>Voltage [V]: Hood is open. 0 Hood is closed. Approx. 12</p> Refer to wiring diagram on EL-231. | | |
| OK or NG | | |
| OK | ▶ | Hood switch is OK. |
| NG | ▶ | GO TO 4. |

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

| | | | |
|--|--|----|-----|
| 4 | CHECK HOOD SWITCH | | GI |
| <p>1. Disconnect hood switch harness connector. 2. Check continuity between hood switch terminals + and -.</p> <div style="text-align: center;">  <p>Hood switch (E9)</p> </div> <p>Continuity: Condition: Pressed No Condition: Released Yes</p> <p style="text-align: right;">AEL430B</p> <p style="text-align: center;">OK or NG</p> | | | MA |
| 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 | EM | |
| NG | <p>▶ Replace hood switch.</p> | LC | |
| | | | EC |
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

SECURITY INDICATOR LAMP CHECK

=NGEL0123S05

| | | |
|--|---|--------------------------------|
| 1 | CHECK INDICATOR LAMP OUTPUT SIGNAL | |
| <p>1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector terminal 33 and ground.</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram on EL-231.</p> <p style="text-align: right;">AEL431B</p> | | |
| Does battery voltage exist? | | |
| Yes | ▶ | Security indicator lamp is OK. |
| No | ▶ | GO TO 2. |

| | | |
|-----------------|-----------------------------|-------------------------|
| 2 | CHECK INDICATOR LAMP | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace indicator lamp. |

| | | |
|---|--|--|
| 3 | CHECK POWER SUPPLY CIRCUIT FOR INDICATOR LAMP | |
| <p>1. Disconnect security indicator lamp harness connector. 2. Check voltage between security indicator lamp harness connector terminal 1 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">AEL145C</p> | | |
| Does battery voltage exist? | | |
| Yes | ▶ | Check harness for open or short between security indicator lamp and smart entrance control unit. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 28, located in fuse block (J/B)] ● Harness for open or short between security indicator lamp and fuse |

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

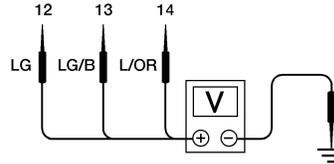
DOOR UNLOCK SENSOR CHECK

=NGEL0123S06

1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between smart entrance control unit connector M10 terminal 12, 13 or 14 and ground. (terminals 13 and 14 apply to early production models)

Smart entrance control unit harness connector (M10)



AEL643C

| | Terminals | | Condition | Voltage [V] |
|---------------|-----------|--------|-----------|-------------|
| | + | - | | |
| Front door LH | 12 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |
| Front door RH | 13 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |
| Rear door LH | 14 | Ground | Locked | Approx. 12 |
| Rear door RH | | | Unlocked | 0 |
| Back door | | | Unlocked | 0 |

AEL644C

NOTE:

Smart entrance control unit connector M10, terminals 13 and 14 above, apply to early production models. Refer to wiring diagram on EL-186, 187.

OK or NG

| | | |
|----|---|---------------------------|
| OK | ▶ | Door unlock sensor is OK. |
| NG | ▶ | GO TO 2. |

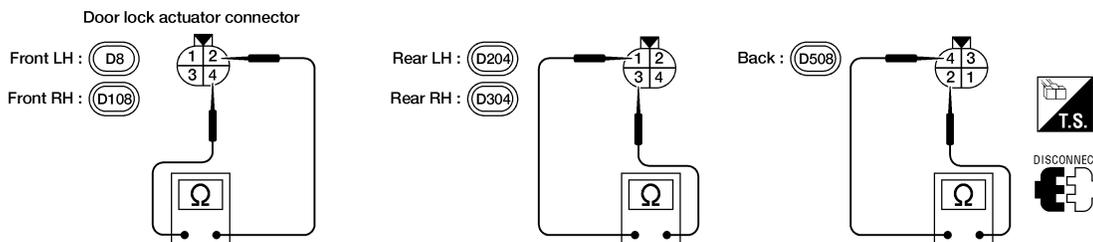
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

2 CHECK DOOR UNLOCK SENSOR

1. Disconnect door lock actuator (door unlock sensor) harness connector.
2. Check continuity between door unlock sensor terminals.



AEL645C

NOTE:

Door lock actuator (door unlock sensor) Front RH, Rear LH, Rear RH, and Back apply to early production models.

Continuity:

Condition: Locked

No

Condition: Unlocked

Yes

OK or NG

| | | |
|----|---|--|
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> • Door unlock sensor ground circuit • Harness for open or short between smart entrance control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

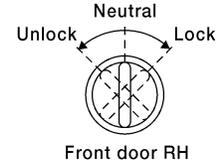
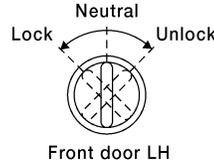
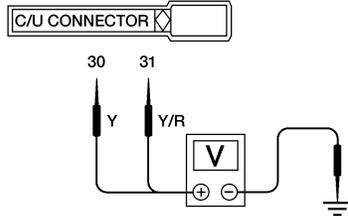
DOOR KEY CYLINDER SWITCH CHECK

-NGEL0123S07

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

Check voltage between smart entrance control unit terminal 30 or 31 and ground.

Smart entrance control unit harness connector (M10)



AEL557C

| Terminals | | Key position | Voltage [V] |
|-----------|--------|--------------|-------------|
| + | - | | |
| 30 | Ground | Neutral | Approx. 12 |
| | | Lock | 0 |
| 31 | Ground | Neutral | Approx. 12 |
| | | Unlock | 0 |

AEL559C

Refer to wiring diagram on EL-233.

OK or NG

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

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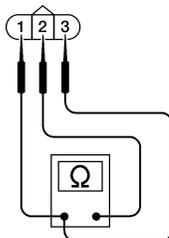
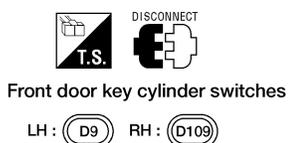
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

2 CHECK DOOR KEY CYLINDER SWITCH

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



- ① : Door unlock switch terminal (RH)
Door lock switch terminal (LH)
- ② : Ground terminal
- ③ : Door lock switch terminal (RH)
Door unlock switch terminal (LH)

AEL558C

| Terminals | Key position | Continuity |
|-----------|--------------|------------|
| LH: 1 - 2 | Neutral | No |
| RH: 3 - 2 | Lock | Yes |
| LH: 3 - 2 | Neutral | No |
| RH: 1 - 2 | Unlock | Yes |

AEL560C

OK or NG

OK



Check the following.

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

NG



Replace door key cylinder switch.

THEFT WARNING SYSTEM

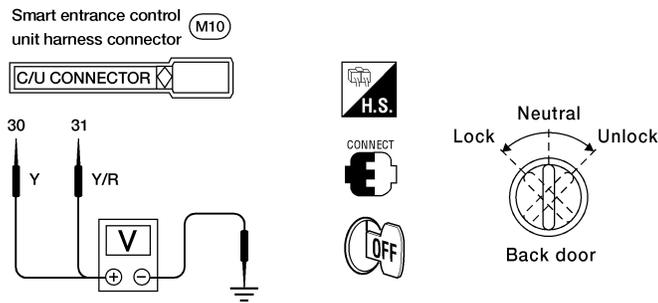
Trouble Diagnoses (Cont'd)

BACK DOOR KEY CYLINDER SWITCH CHECK

=NGEL0123S08

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

Check voltage between smart entrance control unit terminal 30 or 31 and ground.



AEL652C

| Terminals | | Key position | Voltage [V] |
|-----------|--------|--------------|-------------|
| + | - | | |
| 30 | Ground | Neutral | Approx. 12 |
| | | Lock | 0 |
| 31 | Ground | Neutral | Approx. 12 |
| | | Unlock | 0 |

AEL559C

Refer to wiring diagram on EL-233.

OK or NG

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

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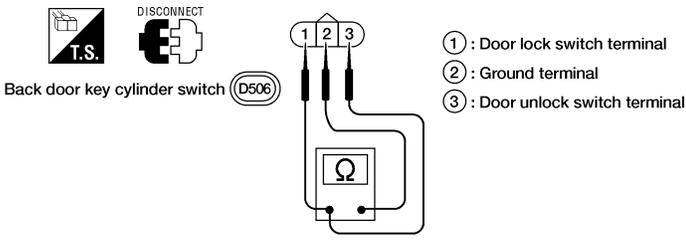
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

| | |
|---|--|
| 2 | CHECK BACK DOOR KEY CYLINDER SWITCH |
| <p>1. Disconnect back door key cylinder switch harness connector. 2. Check continuity between back door key cylinder switch terminals.</p> | |
| <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <p>① : Door lock switch terminal ② : Ground terminal ③ : Door unlock switch terminal</p> </div> </div> <p>Continuity</p> <p>Between terminals 1 and 2 Key in neutral position - No Key in lock position - Yes</p> <p>Between terminals 2 and 3 Key in neutral position - No Key in unlock position - Yes</p> <p style="text-align: center;">OK or NG</p> | |
| OK | <p>▶ Check the following.</p> <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 | <p>▶ Replace back door key cylinder switch.</p> |

AEL653C

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

THEFT WARNING HORN ALARM CHECK

-NGEL0123S09

| | | |
|---|---|-------------------|
| 1 | CHECK THEFT WARNING HORN ALARM OPERATION | |
| <p>1. Disconnect smart entrance control unit harness connector. 2. Apply ground to smart entrance control unit harness connector terminal 8.</p> <div style="text-align: center;"> <p>Smart entrance control unit connector (M10)</p> <p>C/U CONNECTOR</p> <p>8</p> <p>R</p> <p>DISCONNECT</p> <p>H.S.</p> <p>OFF</p> </div> <p>Refer to wiring diagram on EL-234.</p> <p style="text-align: right;">AEL437B</p> | | |
| Does horn alarm activate? | | |
| Yes | ▶ | Horn alarm is OK. |
| No | ▶ | GO TO 2. |

| | | |
|---------------------------------|---------------------------------------|----------|
| 2 | CHECK THEFT WARNING HORN RELAY | |
| Check theft warning horn relay. | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace. |

| | | |
|--|--|--|
| 3 | CHECK POWER SUPPLY FOR THEFT WARNING HORN RELAY | |
| <p>1. Disconnect theft warning horn relay harness connector. 2. Check voltage between theft warning horn relay harness connector terminal 2 and ground.</p> <div style="text-align: center;"> <p>Theft warning horn relay connector (E20)</p> <p>OR/B</p> <p>2</p> <p>V</p> <p>DISCONNECT</p> <p>T.S.</p> <p>OFF</p> </div> <p style="text-align: right;">AEL438B</p> | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 4. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse (No. 31, located in the fuse and fusible link box) ● Harness for open or short between theft warning horn relay and fuse |

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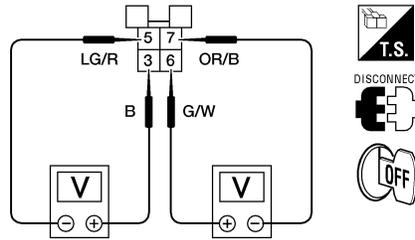
THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

4 CHECK THEFT WARNING HORN RELAY CIRCUIT

1. Disconnect theft warning horn relay harness connector.
2. Check voltage between theft warning horn relay harness connector terminals 3 and 5.
Battery voltage should exist.
3. Check voltage between theft warning horn relay harness connector terminals 6 and 7.
Battery voltage should exist.

Theft warning horn relay connector (E20)



AEL439B

OK or NG

| | | |
|----|---|---|
| OK | ▶ | Check harness for open or short between theft warning horn relay and smart entrance control unit. |
| NG | ▶ | Check harness for open or short. |

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

THEFT WARNING HEADLAMP ALARM CHECK

=NGEL0123S10

| | | |
|--|---|-----------------------|
| 1 | CHECK THEFT WARNING HEADLAMP ALARM OPERATION | |
| <p>1. Disconnect smart entrance control unit harness connector. 2. Apply ground to smart entrance control unit harness connector terminal 8.</p> <div style="text-align: center;"> <p>Smart entrance control unit connector (M10)</p> <p>C/U CONNECTOR</p> <p>8</p> <p>R</p> <p>DISCONNECT H.S.</p> <p>DISCONNECT</p> <p>OFF</p> </div> <p>Refer to wiring diagram on EL-234.</p> <p style="text-align: right;">AEL437B</p> | | |
| Does headlamp alarm activate? | | |
| Yes | ▶ | Headlamp alarm is OK. |
| No | ▶ | GO TO 2. |

| | | |
|--|---------------------------------|--|
| 2 | CHECK HEADLAMP OPERATION | |
| Do headlamps come on when turning lighting switch ON? | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | Check headlamp system. Refer to "HEADLAMP", EL-34. |

| | | |
|---------------------------------|---------------------------------------|----------|
| 3 | CHECK THEFT WARNING LAMP RELAY | |
| Check theft warning lamp relay. | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Replace. |

| | | |
|---|--|---|
| 4 | CHECK POWER SUPPLY FOR THEFT WARNING LAMP RELAY | |
| <p>1. Disconnect theft warning lamp relay harness connector. 2. Check voltage between theft warning lamp relay harness connector terminal 2 and ground.</p> <div style="text-align: center;"> <p>Theft warning lamp relay connector (E22)</p> <p>OR/B</p> <p>2</p> <p>V</p> <p>DISCONNECT T.S.</p> <p>DISCONNECT</p> <p>OFF</p> </div> <p>Refer to wiring diagram on EL-234.</p> <p style="text-align: right;">AEL441B</p> | | |
| Does battery voltage exist? | | |
| Yes | ▶ | GO TO 5. |
| No | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse (No. 31, located in the fuse and fusible link box) ● Harness for open or short between theft warning lamp relay and fuse |

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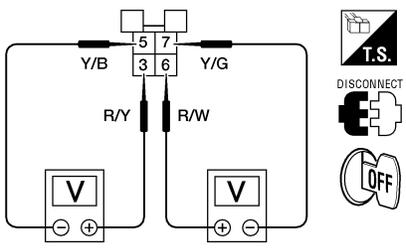
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

| | | |
|----------|---|---|
| 5 | CHECK THEFT WARNING LAMP RELAY CIRCUIT | <p>1. Disconnect theft warning lamp relay harness connector.</p> <p>2. Check voltage between theft warning lamp relay harness connector terminals 3 and 5. Battery voltage should exist.</p> <p>3. Check voltage between theft warning lamp relay harness connector terminals 6 and 7. Battery voltage should exist.</p> <div style="text-align: center; margin: 20px 0;"> <p>Theft warning lamp relay connector (E22)</p>  </div> <p style="text-align: center; margin-top: 10px;">OK or NG</p> |
| OK | ▶ | Check harness for open or short between theft warning lamp relay and smart entrance control unit. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Harness for open or short between fuse and theft warning lamp relay ● Harness for open or short between theft warning lamp relay and headlamps |

AEL442B

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

STARTER INTERRUPT SYSTEM CHECK

=NGEL0123S11

| | | |
|---|---|--|
| 1 | CHECK STARTER MOTOR INTERRUPT SIGNAL | |
| <p>1. Turn ignition switch ON. 2. Check voltage between smart entrance control unit terminal 32 and ground.</p> <div style="text-align: center;"> </div> <p>Voltage [V]: Except starter interrupted phase Approx. 12 Starter interrupted phase 0</p> <p>Refer to wiring diagram on EL-234.</p> <p style="text-align: right;">AEL443B</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in fuse block (J/B)] ● Harness for open or short between theft warning relay and fuse ● Harness for open or short between smart entrance control unit and theft warning relay |

| | | |
|----------------------------|----------------------------------|---------------------|
| 2 | CHECK THEFT WARNING RELAY | |
| Check theft warning relay. | | |
| OK or NG | | |
| OK | ▶ | Check system again. |
| NG | ▶ | Replace relay. |

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SMART ENTRANCE CONTROL UNIT

Description

Description

NGEL0124

The following systems are controlled by the smart entrance control unit.

- Warning chime
- Rear window defogger timer
- Power door lock
- Multi-remote control system
- Theft warning system

For detailed description and wiring diagrams, refer to the relevant pages for the each system. The control unit receives data from the switches and sensors to control their corresponding system relays and actuators.

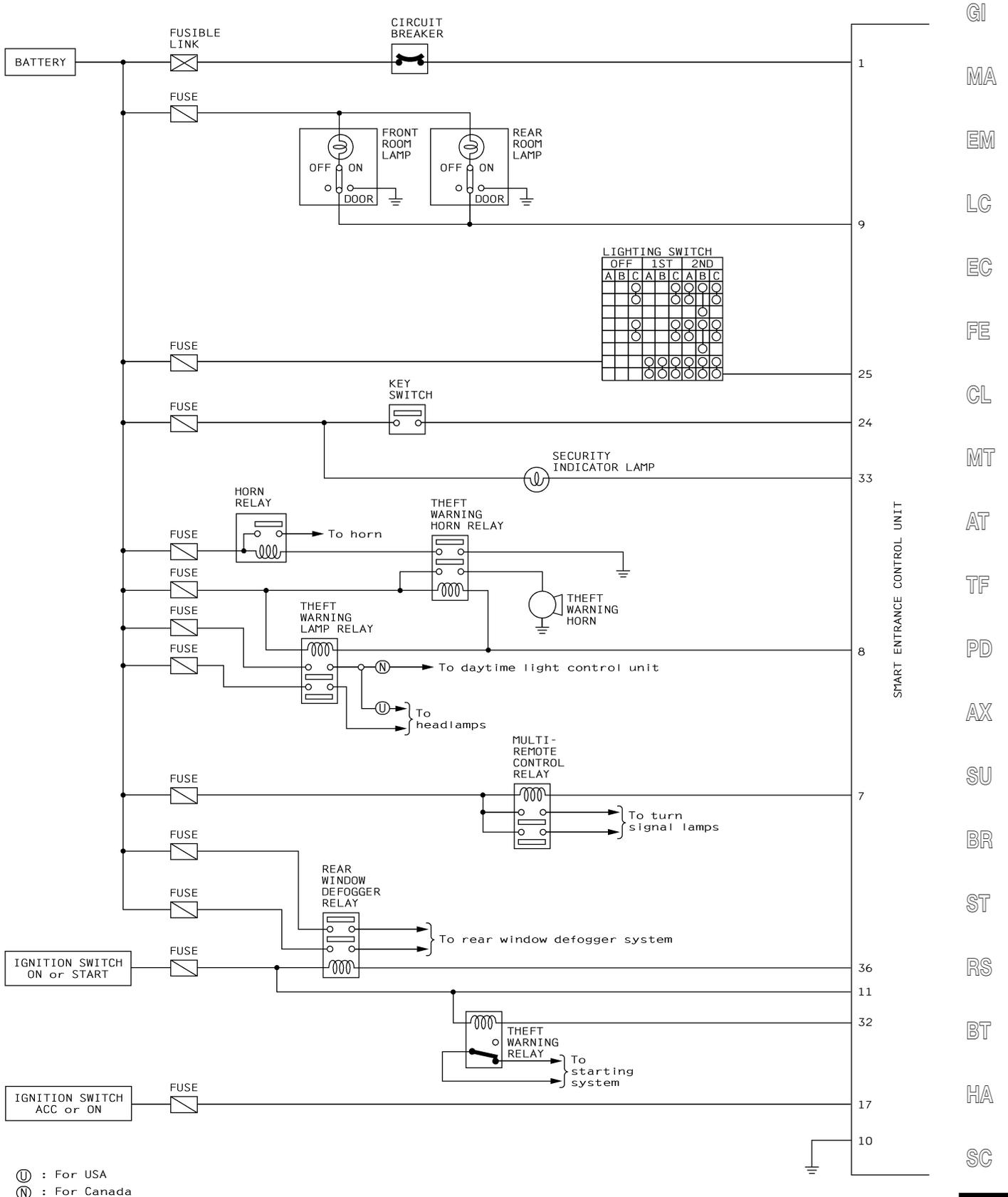
| System | Input | Output |
|----------------------------|---|--|
| Warning chime | Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt buckle switch Front door switch LH | Warning chime |
| Rear window defogger timer | Ignition switch (ON or START) Rear window defogger switch | Rear window defogger relay |
| Power door lock | Door lock/unlock switch | Door lock actuator |
| Multi-remote control | Key switch (Insert) Ignition switch (ACC) Door switch Door unlock sensor Antenna (remote controller signal) | Theft warning horn relay Theft warning lamp relay Multi-remote control relay Door lock actuator Room lamp |
| Theft warning | Ignition switch (ACC, ON) Door switch Hood switch Door key cylinder switch (lock/unlock) Door unlock sensor | Theft warning horn relay Theft warning lamp relay Theft warning relay (Starter interrupt) Security indicator |

SMART ENTRANCE CONTROL UNIT

Circuit Diagram

NGEL0125

Circuit Diagram

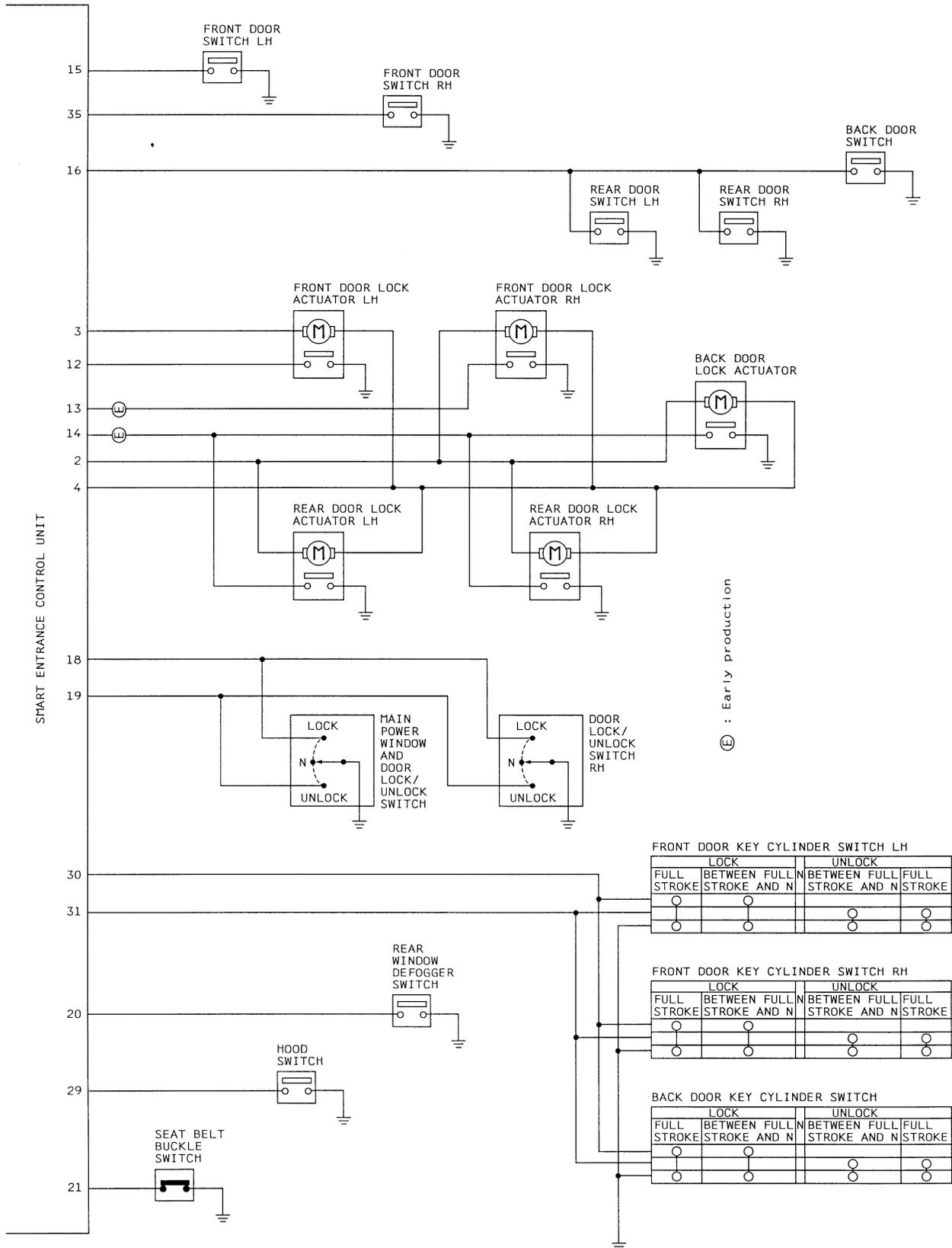


AEL407C

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SMART ENTRANCE CONTROL UNIT

Circuit Diagram (Cont'd)



SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table

Smart Entrance Control Unit Inspection Table

NGEL0126

| Terminal No. | Wire color | Connections | Operated condition | Voltage (Approximate values) | |
|--------------|------------|--|---|------------------------------|-----|
| 1 | W/R | Power source (C/B) | — | 12V | |
| 2 | L/R | Front door lock actuator RH, rear door lock actuator LH and RH | Main power window and door lock/unlock switch, door lock/unlock switch RH | Unlock | 12V |
| | | | | Neutral, lock | 0V |
| 3 | G/W | Front door lock actuator LH | Main power window and door lock/unlock switch, door lock/unlock switch RH | Unlock | 12V |
| | | | | Neutral, lock | 0V |
| 4 | L | Front door lock actuator LH and RH, rear door lock actuator LH and RH | Main power window and door lock/unlock switch, door lock/unlock switch RH | Lock | 12V |
| | | | | Neutral, unlock | 0V |
| 7 | P/B | Multi-remote control relay | When doors are locked using remote controller | 12V → 0V | |
| 8 | R | Theft warning horn relay, theft warning lamp relay | When panic alarm is operated using remote controller | 12V → 0V | |
| 9 | R/B | Room lamp | When interior lamp is operated using remote controller. (Interior lamp switch in DOOR position) | 12V → 0V | |
| 10 | B | Ground | — | — | |
| 11 | G/W | Ignition switch (ON) | Ignition key is in ON position | 12V | |
| 12 | LG | Front door unlock sensor LH | Front door LH: Locked → Unlocked | 12V → 0V | |
| *13 | LG/B | Front door unlock sensor RH | Front door RH: Locked → Unlocked | 12V → 0V | |
| *14 | L/OR | Rear door unlock sensor LH and RH, back door unlock sensor | Rear door LH or RH or back door: Locked → Unlocked | 12V → 0V | |
| 15 | G/R | Front door switch LH | OFF (Closed) → ON (Open) | 12V → 0V | |
| 16 | R/B | Rear door switch LH and RH, back door switch | OFF (Closed) → ON (Open) | 12V → 0V | |
| 17 | G | Ignition switch (ACC) | ACC position | 12V | |
| 18 | LG/R | Main power window and door lock/unlock switch, door lock/unlock switch RH | Neutral → Lock | 12V → 0V | |
| 19 | BR | Main power window and door lock/unlock switch, door lock/unlock switch RH | Neutral → Unlock | 12V → 0V | |
| 20 | G/B | Rear window defogger switch | OFF → ON | 12V → 0V | |
| 21 | B/P | Seat belt buckle switch | Unfastened → Fastened (Ignition key is in ON position) | 0V → 12V | |
| 24 | W/G | Ignition key switch (Insert) | Key inserted → Key removed from ignition key cylinder | 12V → 0V | |
| 25 | L/R | Lighting switch | 1ST, 2ND positions: ON → OFF | 12V → 0V | |
| 29 | B/P | Hood switch | ON (Open) → OFF (Closed) | 0V → 12V | |
| 30 | Y | Front door key cylinder lock switch LH or RH, back door key cylinder lock switch | OFF (Neutral) → ON (Lock) | 12V → 0V | |
| 31 | Y/R | Front door key cylinder unlock switch LH or RH, back door key cylinder unlock switch | OFF (Neutral) → ON (Unlock) | 12V → 0V | |
| 32 | R/W | Theft warning relay (Starter cut) | OFF → ON (Ignition key is in ON position) | 12V → 0V | |

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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) |
|--------------|------------|-------------------------|--------------------------|------------------------------|
| 33 | G/OR | Security indicator lamp | Turns off → Turns on | 12V → 0V |
| 35 | G/B | Front Door Switch RH | OFF (Closed) → ON (Open) | 12V → 0V |

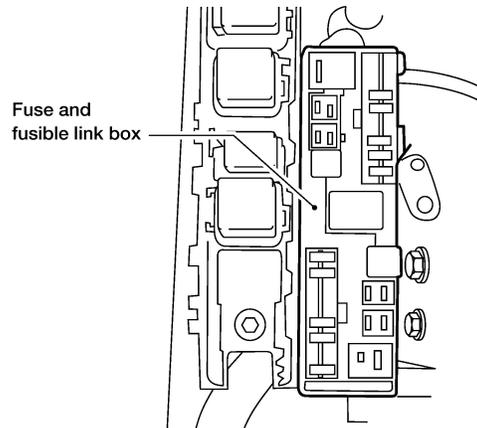
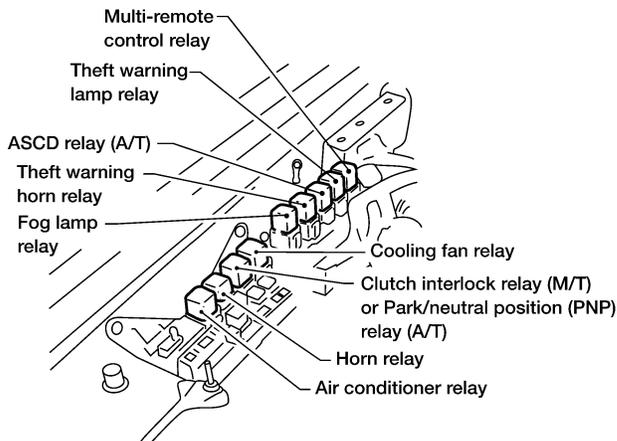
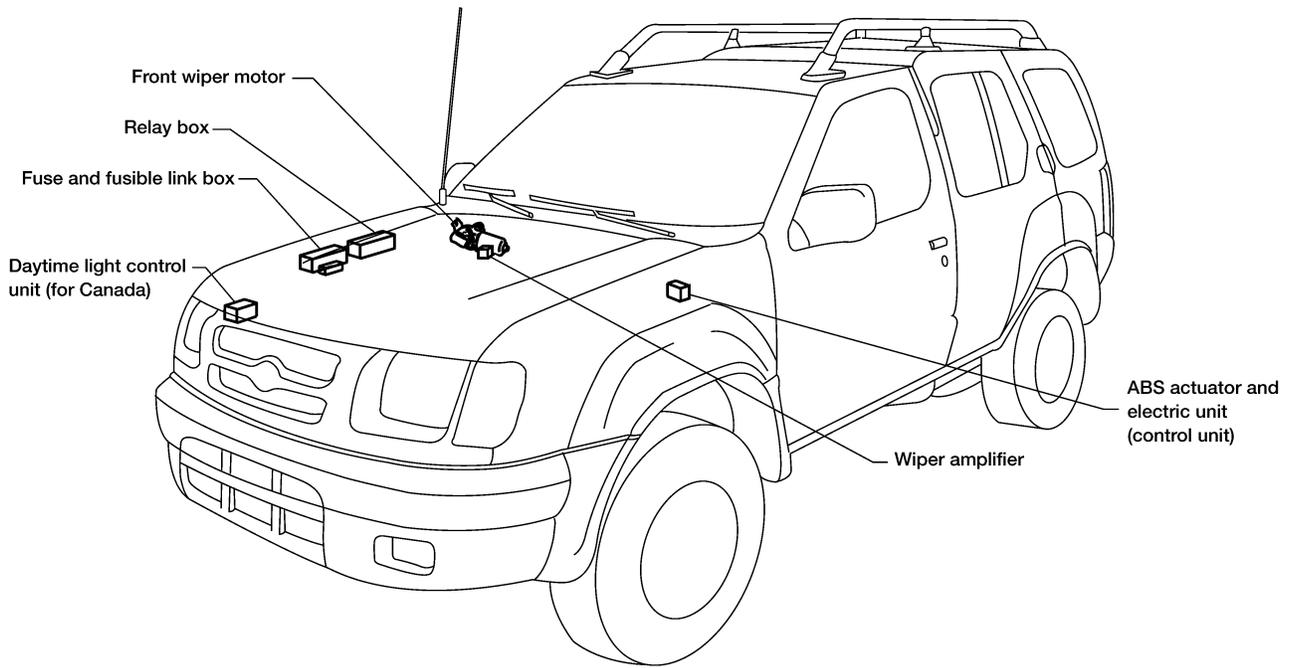
*: Early production models.

ELECTRICAL UNITS LOCATION

Engine Compartment

Engine Compartment

NGEL0129



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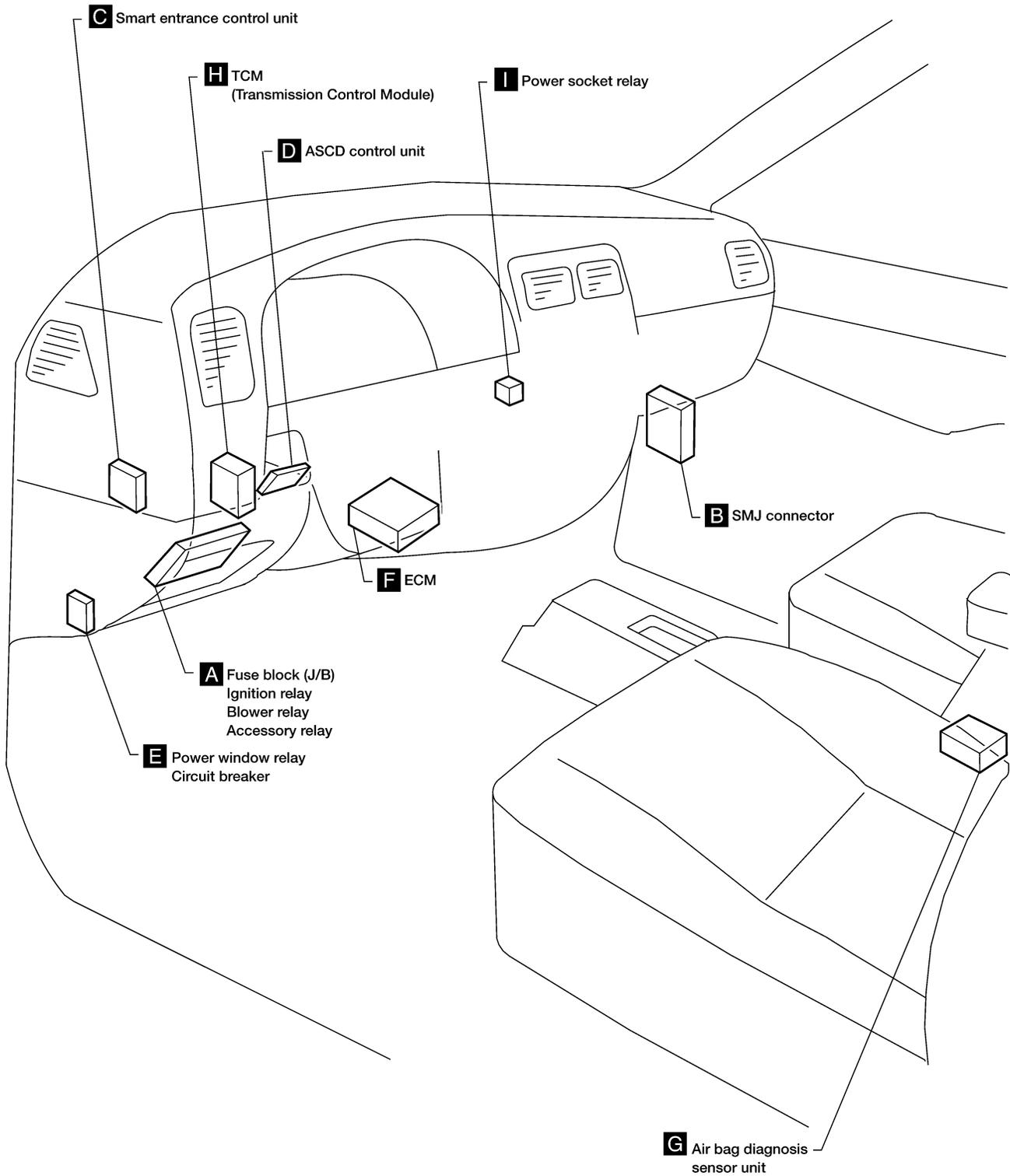
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ELECTRICAL UNITS LOCATION

Passenger Compartment

Passenger Compartment

NGEL0130

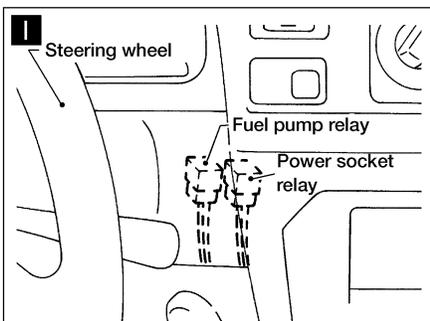
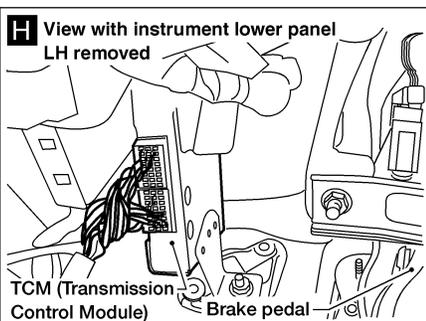
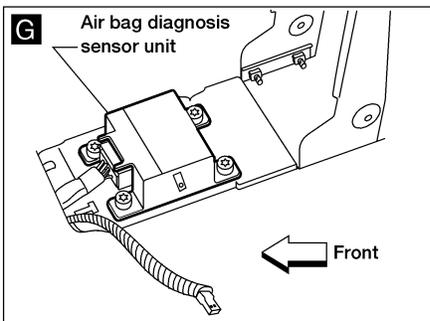
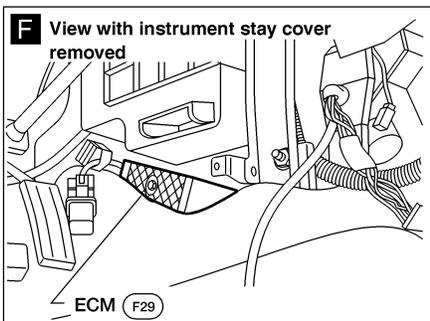
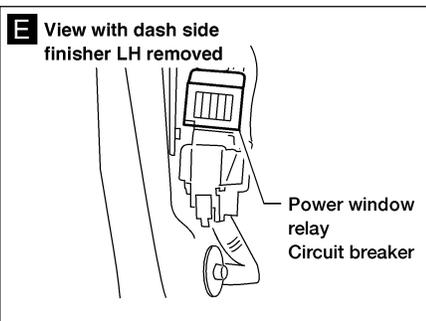
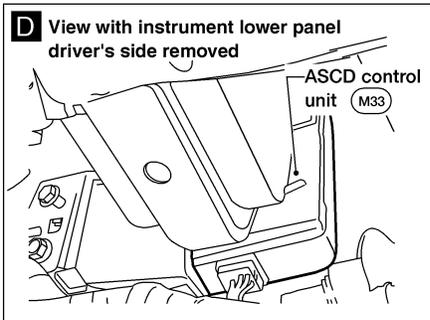
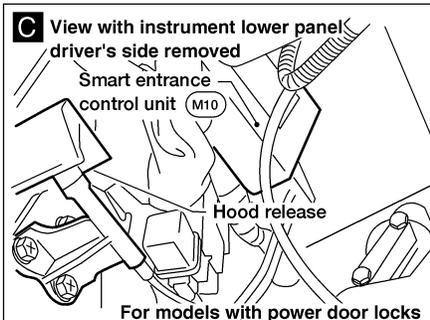
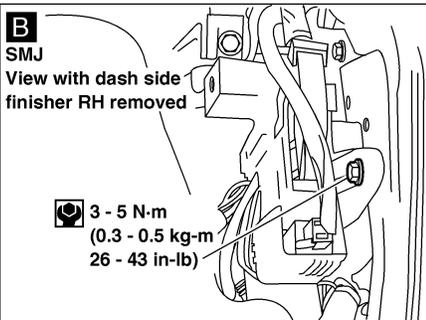
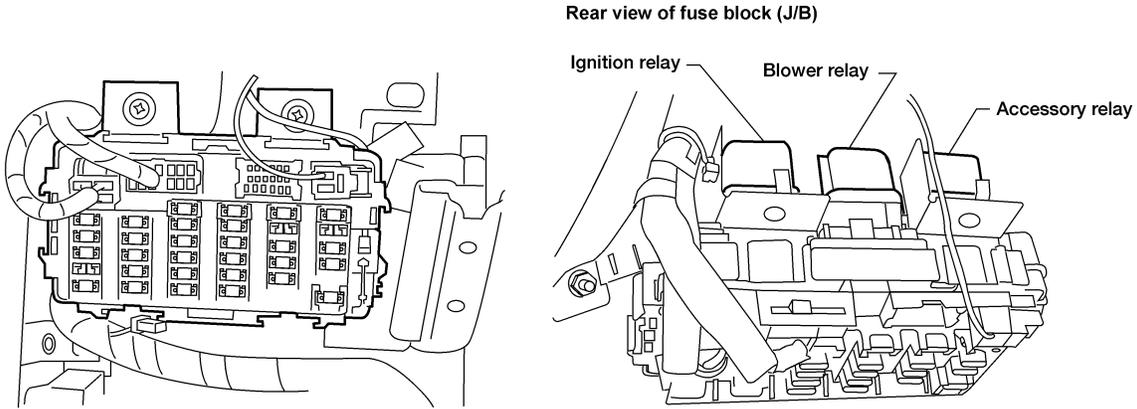


LEL512A

ELECTRICAL UNITS LOCATION

Passenger Compartment (Cont'd)

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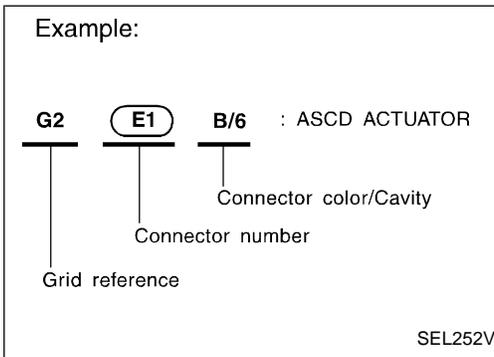
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HARNESS LAYOUT

How to Read Harness Layout

How to Read Harness Layout

NGEL0172



The following Harness Layouts use a map style grid to help locate connectors on the drawings:

- Main Harness and Body No. 2 Harness
- Engine Room Harness (Engine Compartment)

TO USE THE GRID REFERENCE

NGEL0172S01

1. Find the desired connector number on the connector list.
2. Find the grid reference.
3. On the drawing, find the crossing of the grid reference letter column and number row.
4. Find the connector number in the crossing zone.
5. Follow the line (if used) to the connector.

CONNECTOR SYMBOL

NGEL0172S02

Main symbols of connector (in Harness Layout) are indicated in the below.

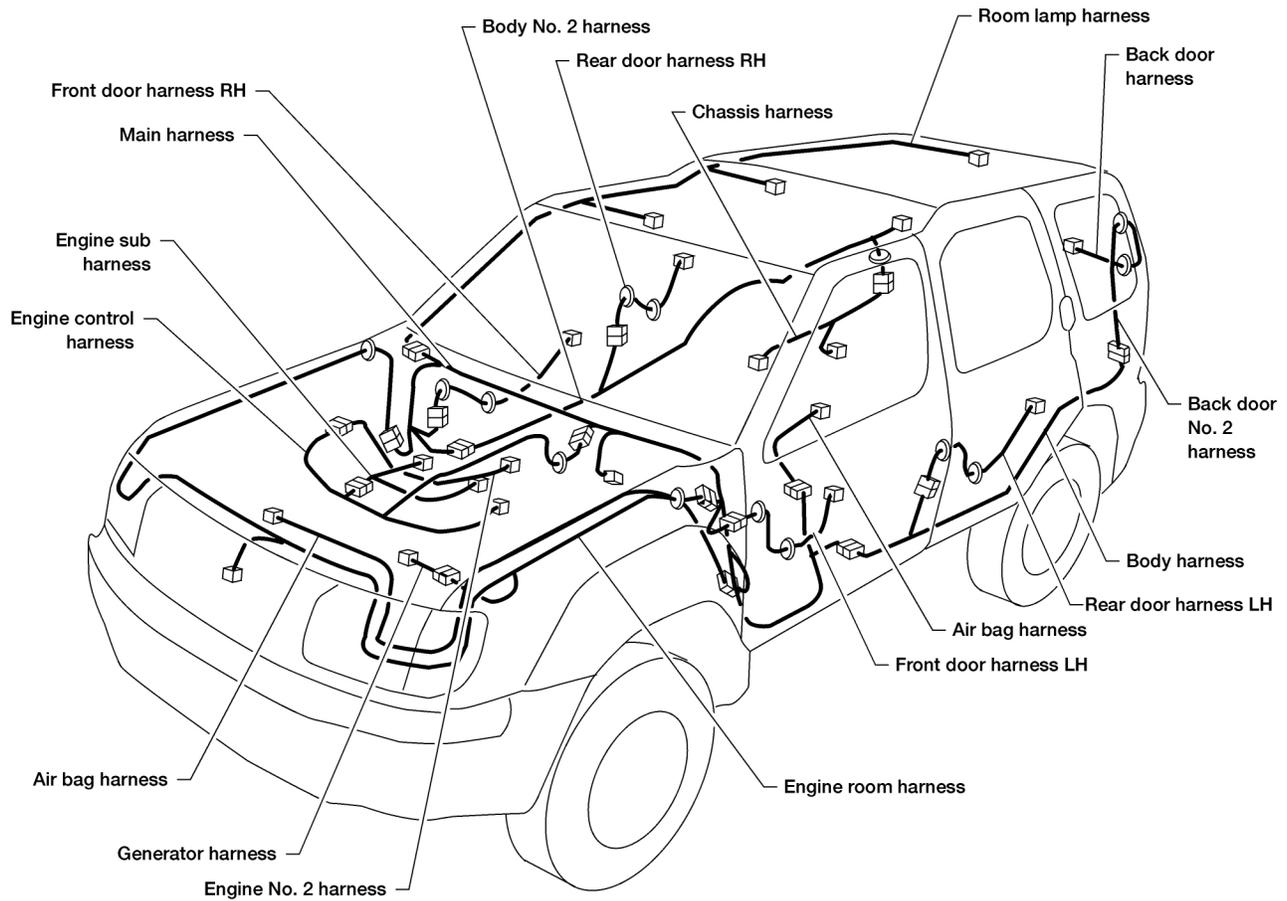
| Connector type | Water proof type | | Standard type | |
|--|------------------|--------|---------------|--------|
| | Male | Female | Male | Female |
| <ul style="list-style-type: none"> ● Cavity: Less than 4 ● Relay connector | | | | |
| <ul style="list-style-type: none"> ● Cavity: From 5 to 8 | | | | |
| <ul style="list-style-type: none"> ● Cavity: More than 9 | | | | |
| <ul style="list-style-type: none"> ● Ground terminal etc. | — | | | |

HARNESSES LAYOUT

Outline

Outline

NGEL0173



AEL705C

NOTE:

For detailed ground distribution information, refer to "GROUND DISTRIBUTION", EL-17.

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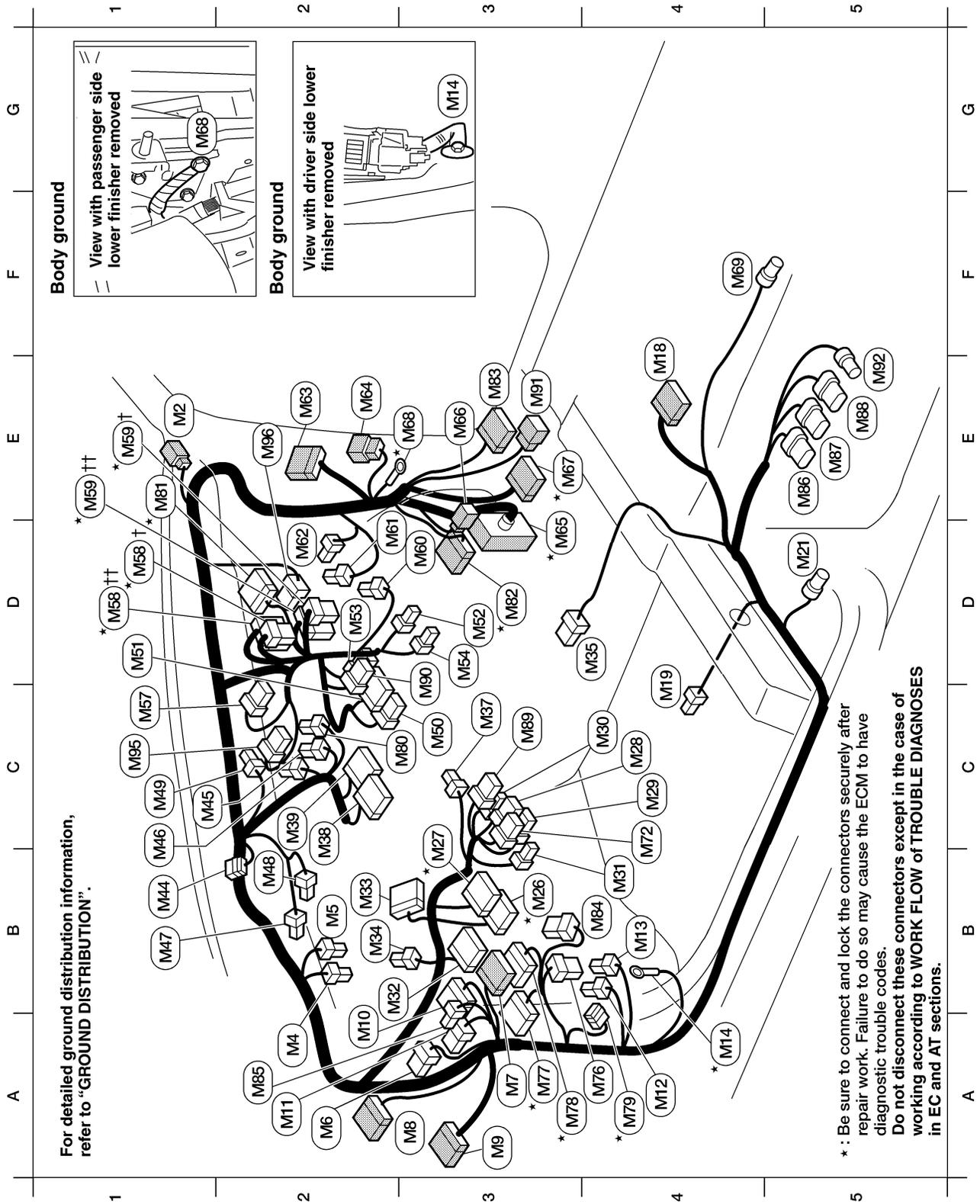
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HARNESS LAYOUT

Main Harness

Main Harness

NGEL0174

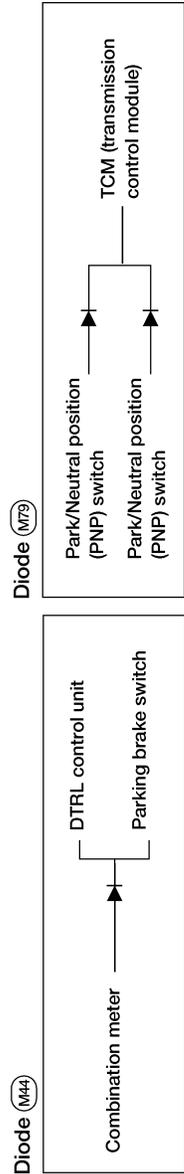


HARNESS LAYOUT

Main Harness (Cont'd)

| | | | |
|---|---|--------------|---|
| E1 (M2) W/3 : To (R1) (with map lamp) | BR/6 : ASCD hold relay (with ASCD) | B2 (M24) | D2 (M61) BR/4 : Fan resistor |
| E1 (M2) W/4 : To (R1) (without map lamp) | W/6 : A/T device (with A/T) | D4 (M85) | D2 (M62) W/2 : Blower motor |
| A2 (M4) L/2 : ASCD clutch switch (with M/T) | W/2 : Key switch | C3 (M37) | E2 (M63) W/12 : To (D101) |
| B2 (M5) L/2 : Clutch interlock switch (with M/T) | W/24 : Combination meter | B2 (M38) | E2 (M64) W/6 : To (D102) |
| A2 (M6) B/5 : Theft warning relay (with power door locks) | BR/24 : Combination meter | C2 (M39) | E3* (M65) SMJ : To (E43) |
| A3 (M7) W/18 : To (E53) | SB/4 : Diode - 1 | B1 (M44) | E3 (M66) B/2 : To (E44) |
| A2 (M8) W/12 : To (D2) | B/3 : Combination flasher unit | C1 (M45) | E3* (M67) W/18 : To (B101) |
| A3 (M9) W/12 : To (D1) | L/4 : Fuel pump relay | B1 (M46) | E3* (M68) — : Body ground |
| A2 (M10) W/36 : Smart entrance control unit (with power door locks) | B/2 : Stop lamp switch | B1 (M47) | F4 (M69) B/3 : G-sensor |
| A2 (M11) W/8 : Warning chime unit (without power door locks) | L/2 : ASCD brake switch (A/T shift lock brake switch) | B2 (M48) | C4 (M72) GY/12 : Door mirror remote control switch |
| A4 (M12) W/2 : Circuit breaker (with power door locks) | W/2 : Parking brake switch | C1 (M49) | A4 (M76) B/5 : ATP relay (with A/T) |
| B4 (M13) L/4 : Power window relay (with power windows) | W/6 : Audio unit | C3 (M50) | A3* (M77) W/24 : TCM (with A/T) |
| A4* (M14) — : Body ground | W/10 : Audio unit | D1 (M51) | A3* (M78) GY/24 : TCM (with A/T) |
| E4 (M18) W/16 : To (Z1) | B/2 : Cigarette lighter socket | D3 (M52) | A4* (M79) SB/6 : Diode - 2 (with A/T) |
| C4 (M19) W/3 : Seat belt buckle switch | W/8 : Hazard switch | D2 (M53) | C3 (M80) L/4 : Front power socket relay (with power socket) |
| D5 (M21) GY/4 : Rear heated oxygen sensor (with KA24DE engine) | B/2 : Front power socket (with power socket) | D3 (M54) | E1* (M81) W/20 : To (F36) (with KA24DE engine) |
| B3* (M26) W/16 : Fuse block (J/B) | W/6 : Fan switch | C1 (M57) | E1* (M81) W/24 : To (F36) (with VG33E engine) |
| B3* (M27) W/10 : Fuse block (J/B) | W/6 : To (F28) (with KA24DE engine) | D1* (M58) † | D3* (M82) W/20 : To (E74) (with VG33E engine) |
| C4 (M28) W/6 : Illumination control switch | W/16 : To (F28) (with VG33E engine) | D1* (M58) †† | E3 (M83) W/10 : To (B102) |
| C4 (M28) W/6 : ASCD main switch (with ASCD) | W/8 : To (F27) (with KA24DE engine) | E1* (M59) † | B4 (M84) BR/6 : Rear window defogger relay |
| C4 (M30) W/4 : Security indicator lamp (with power door locks) | W/18 : To (F27) (with VG33E engine) | E1* (M59) †† | A2 (M85) W/4 : Rear window defogger timer |
| B4 (M31) W/3 : Fuse block (J/B) | W/3 : Thermo control amplifier | D3 (M60) | E5 (M86) GY/8 : To (B1) |
| B3 (M32) W/16 : Data link connector | | | E5 (M87) B/8 : To (B2) |
| B2 (M33) B/20 : ASCD control unit (ASCSD) | | | E5 (M88) GY/8 : To (B3) |
| | | | C3 (M89) W/6 : Rear wiper switch (with intermittent wipers) |
| | | | D3 (M90) W/6 : Rear window defogger switch |
| | | | E3 (M91) W/8 : To (B103) |
| | | | F5 (M92) GY/2 : To (B12) |
| | | | C1 (M95) W/8 : Air control |
| | | | E2 (M96) B/6 : Intake door motor |

* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.



AEL703C

HARNESS LAYOUT

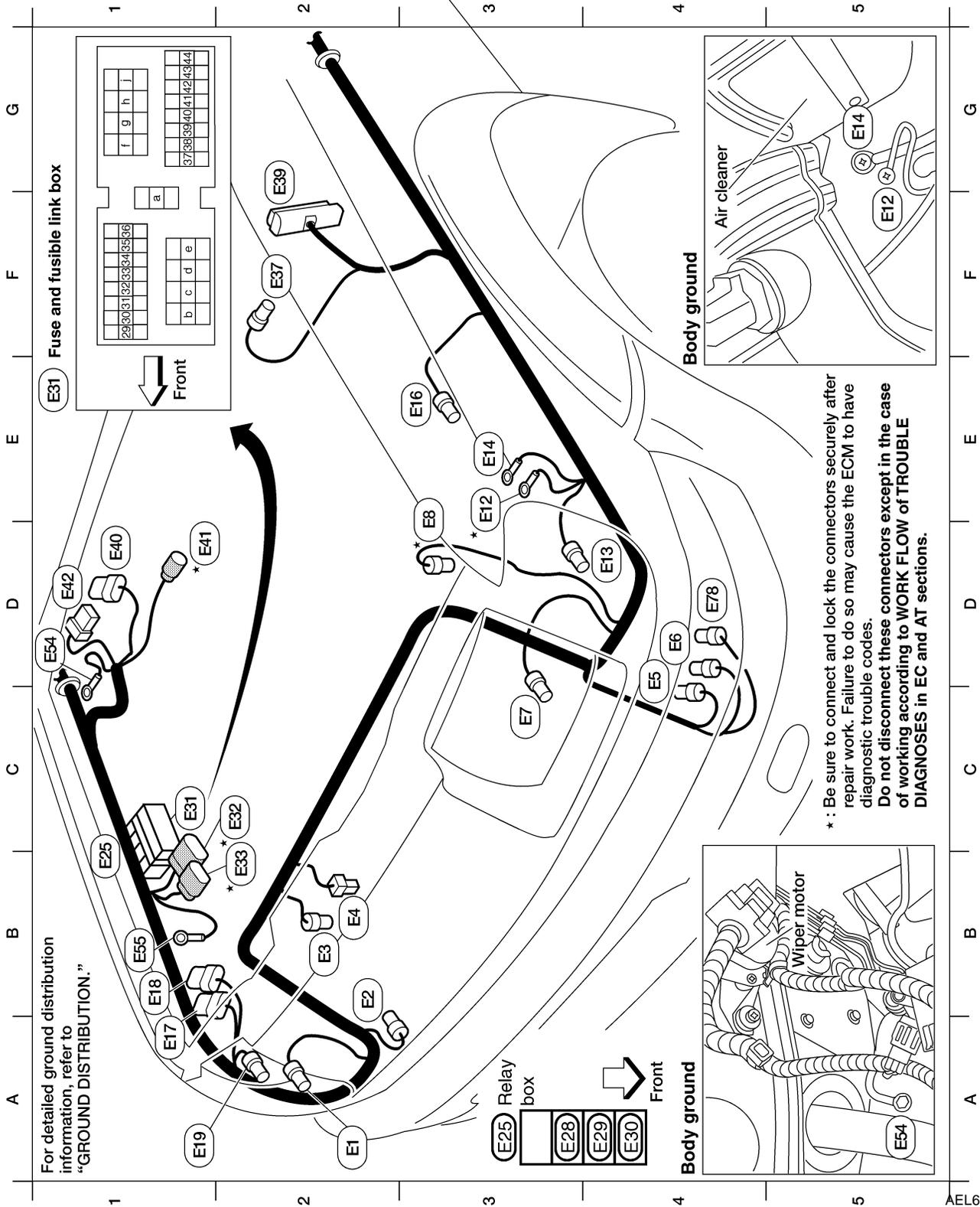
Engine Room Harness

Engine Room Harness KA24DE Engine Compartment

NGEL0175

NGEL0175S01

NGEL0175S0101



AEL668C

HARNESS LAYOUT

Engine Room Harness (Cont'd)

| | | | | | | | | |
|----|------------|--|----|------------|--|----|------------|--|
| A2 | (E1) B/3 | : Head lamp RH | E3 | (E16) BR/2 | : Front wheel sensor LH | A4 | (E30) L/4 | : Air conditioner relay |
| B2 | (E2) GY/2 | : Front wheel sensor RH | A1 | (E17) GY/8 | : Daytime light control unit (with DTRL) | C1 | (E31) — | : Fuse and fusible link box |
| B2 | (E3) B/2 | : Dual-pressure switch | B1 | (E18) GY/6 | : Daytime light control unit (with DTRL) | C2 | (E32) GY/9 | : To (E302) |
| B2 | (E4) B/1 | : Horn | A1 | (E19) GY/3 | : Front combination lamp RH | B2 | (E33) GY/6 | : To (E201) |
| C4 | (E5) BR/2 | : Washer fluid level switch (for Canada) | B1 | (E25) — | : Relay box | F2 | (E37) GY/2 | : Break fluid level switch |
| D4 | (E6) GY/2 | : Front washer motor | A3 | (E28) L/4 | : Clutch interlock relay | F2 | (E39) B/25 | : ABS actuator and electric (control unit) |
| C3 | (E7) B/3 | : Headlamp LH | A4 | (E29) W/3 | : Horn relay | D1 | (E40) B/8 | : Front wiper amplifier (with intermittent wipers) |
| D3 | (E8) B/2 | : Intake air temperature sensor | | | | D1 | (E41) GY/3 | : To (F25) |
| D3 | (E12) — | : Body ground | | | | D1 | (E42) W/6 | : Front wiper motor |
| D4 | (E13) GY/3 | : Front combination lamp LH | | | | C1 | (E54) — | : Body ground |
| E3 | (E14) — | : Body ground | | | | B1 | (E55) — | : Battery |
| | | | | | | D4 | (E78) BR/2 | : Rear washer motor (with intermittent wipers) |

* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

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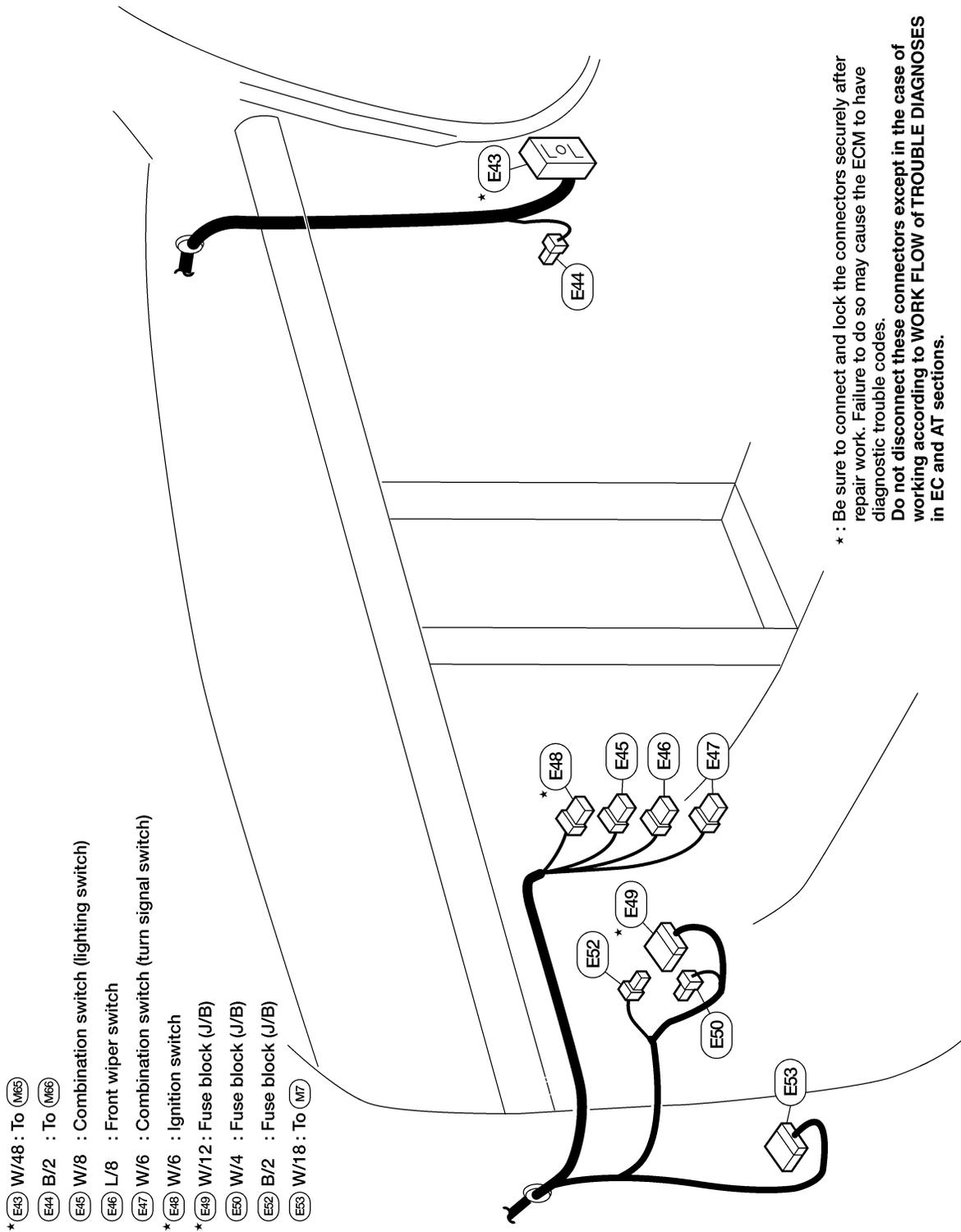
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HARNESS LAYOUT

Engine Room Harness (Cont'd)

Passenger Compartment

NGEL0175S0102



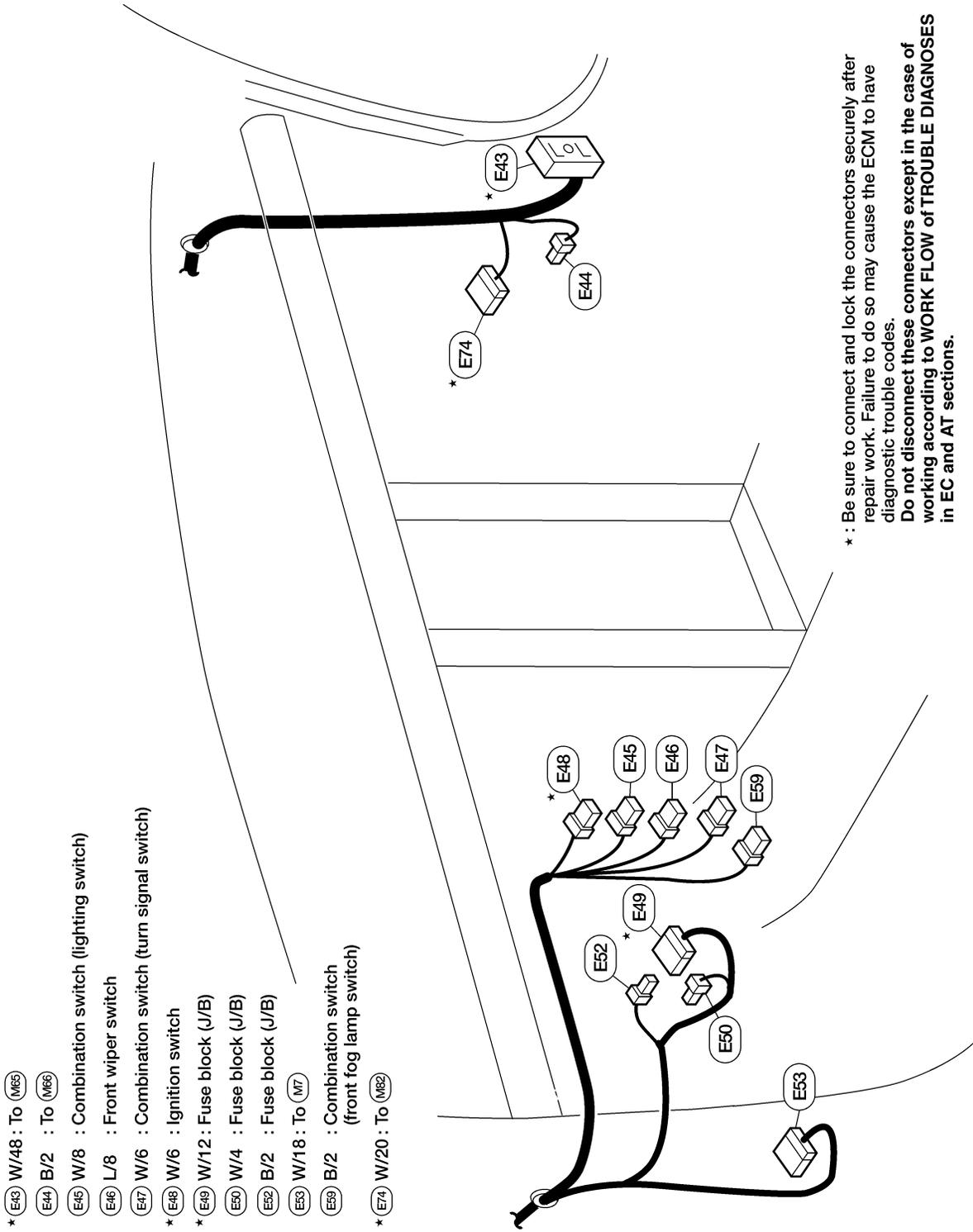
AEL670C

HARNESS LAYOUT

Engine Room Harness (Cont'd)

Passenger Compartment

NGEL0175S0202



* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
 Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

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HARNESS LAYOUT

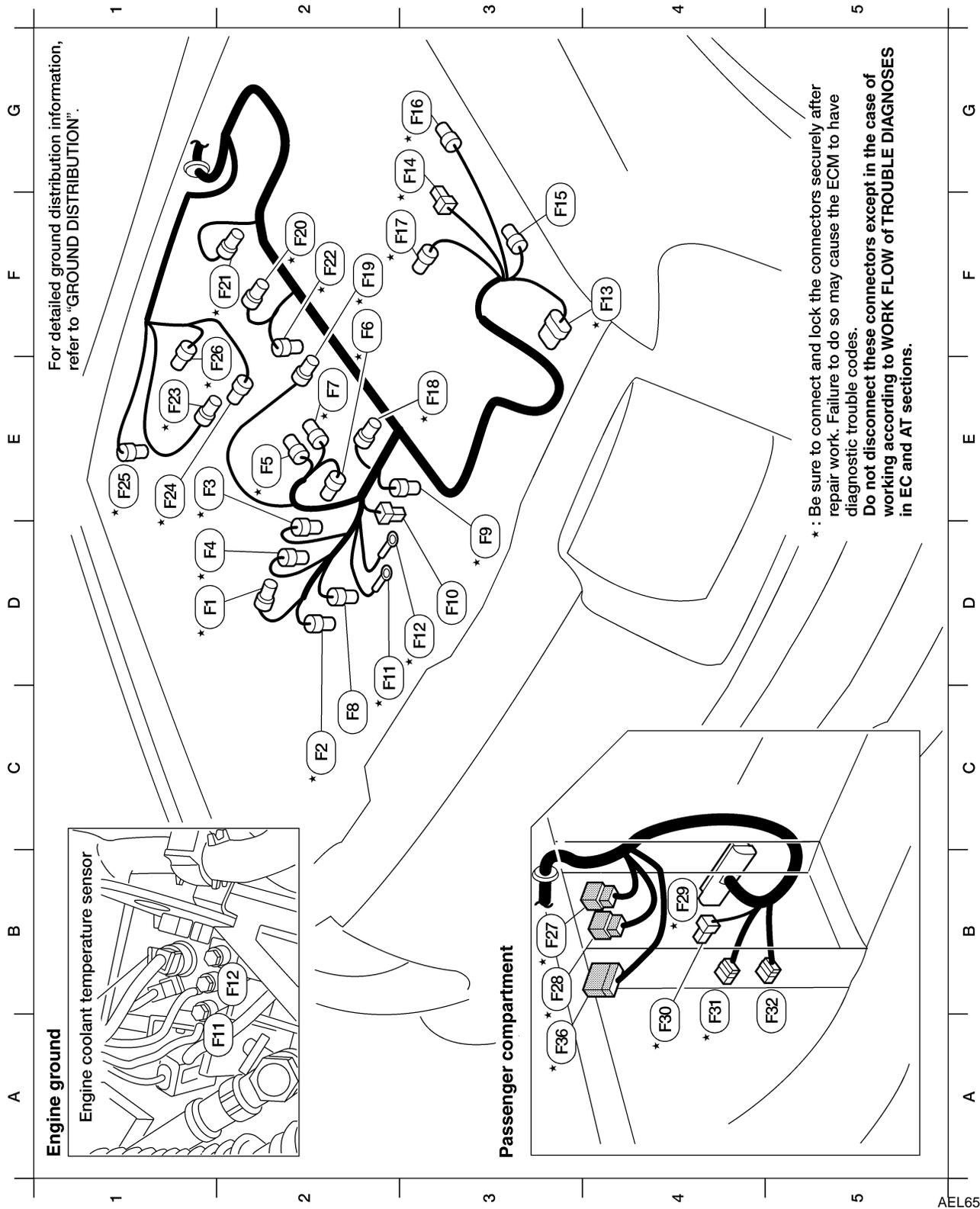
Engine Control Harness

Engine Control Harness

NGEL0176

NGEL0176S01

KA24DE



AEL657C

HARNESS LAYOUT

Engine Control Harness (Cont'd)

| | | | | | |
|----|--------------|---|----|----------------|---|
| D2 | * (F1) BR/4 | : Mass air flow sensor | F3 | * (F17) GY/2 | : Distributor (ignition coil) |
| C2 | * (F2) GY/2 | : Knock sensor | E3 | * (F18) B/2 | : Injector No. 1 |
| D2 | * (F3) BR/3 | : Throttle position sensor | F2 | * (F19) B/2 | : Injector No. 2 |
| D2 | * (F4) GY/3 | : Throttle position switch (closed throttle position switch and wide open throttle position switch) | F2 | * (F20) B/2 | : Injector No. 3 |
| E2 | * (F5) GY/2 | : EGR temperature sensor | F2 | * (F21) B/2 | : Injector No. 4 |
| F2 | * (F6) BR/2 | : IACV-AAC valve | F2 | * (F22) G/2 | : EGRC-solenoid valve |
| E2 | * (F7) PU/2 | : IACV-FICD solenoid valve | E1 | * (F23) GY/3 | : Absolute pressure sensor |
| C2 | (F8) B/1 | : Power steering oil pressure switch | E1 | * (F24) B/2 | : MAP/BARO switch solenoid valve |
| D3 | * (F9) GY/2 | : Engine coolant temperature sensor | E1 | * (F25) GY/3 | : To (E41) |
| D3 | (F10) B/1 | : Thermal transmitter | E2 | * (F26) L/2 | : EVAP canister purge volume control solenoid valve |
| D2 | * (F11) — | : Engine ground | B3 | * (E27) W/8 | : To (M69) |
| D3 | * (F12) — | : Engine ground | B3 | * (F28) W/6 | : To (M69) |
| F4 | * (F13) GY/6 | : Distributor (camshaft position sensor) | B4 | * (F29) GY/104 | : ECM |
| G3 | * (F14) GY/2 | : Resistor | A4 | * (F30) L/4 | : ECM relay |
| F3 | (F15) B/1 | : A/C compressor | A4 | * (F31) GY/6 | : Joint connector-1 |
| G3 | * (F16) GY/3 | : Front heated oxygen sensor | A5 | (F32) GY/6 | : Joint connector-2 |
| | | | A3 | * (F36) W/20 | : To (M81) |

* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

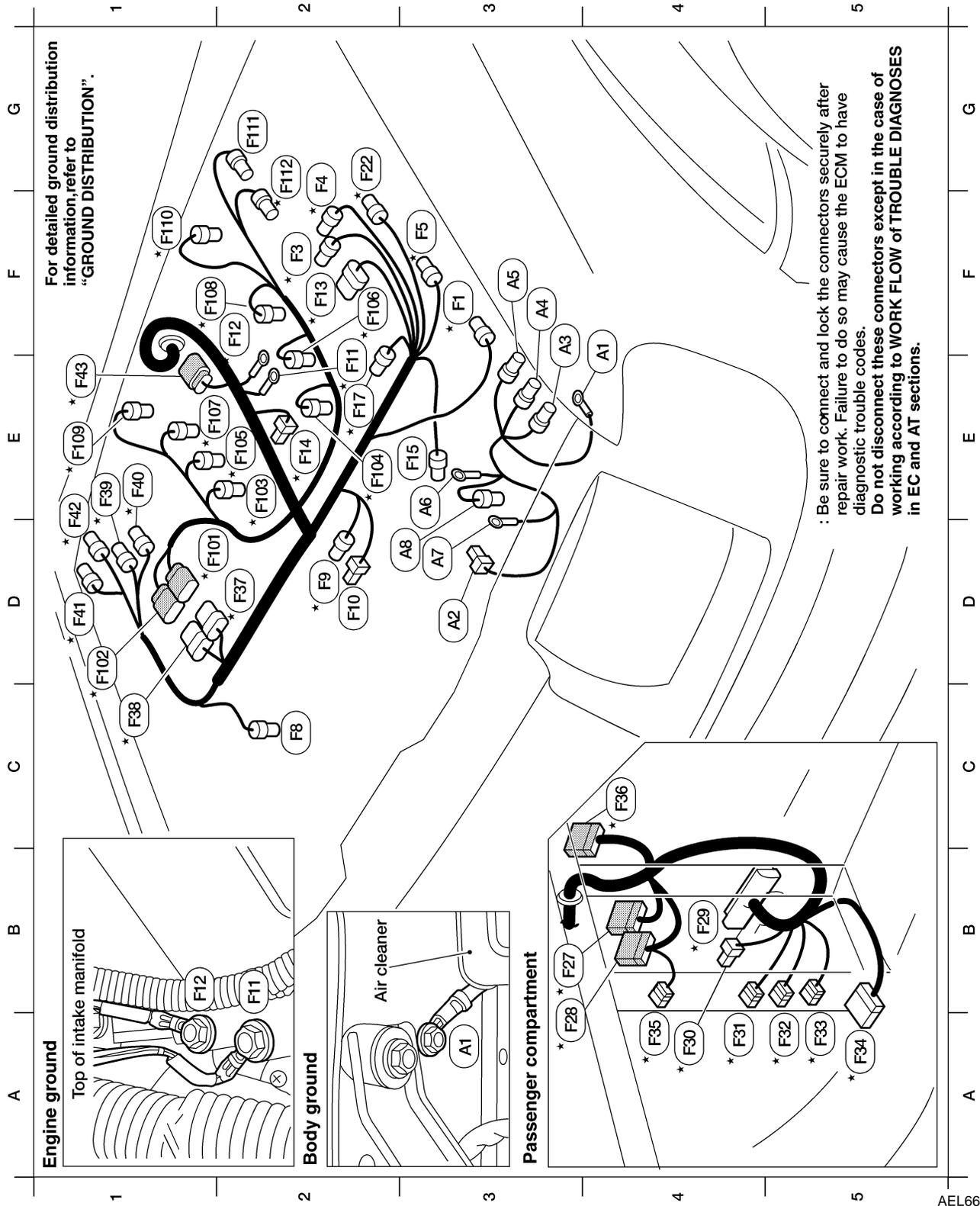
AEL658C

HARNESS LAYOUT

Engine Control Harness (Cont'd)

VG33E

NGEL0176S02



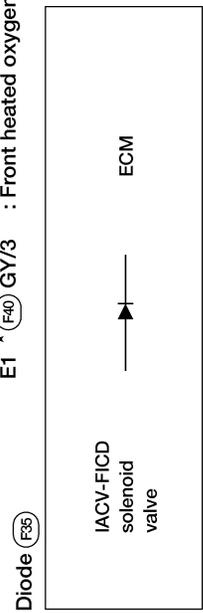
AEL663C

HARNESS LAYOUT

Engine Control Harness (Cont'd)

| | | | |
|-------------------------------|---|---|------------------------------------|
| Engine control harness | | Engine control harness (continued) | |
| F3 * (F1) BR/4 | : Mass air flow sensor | D1 * (F41) GY/3 | : Front heated oxygen sensor RH |
| F2 * (F3) BR/3 | : Throttle position sensor | D1 * (F42) GY/4 | : Rear heated oxygen sensor RH |
| F2 * (F4) GY/3 | : Throttle position switch (closed throttle position switch and wide open throttle position switch) | E1 * (F43) GY/8 | : To (F20) |
| F3 * (F5) GY/2 | : EGR temperature sensor | Engine sub harness | |
| C2 (F8) B/2 | : Power steering oil pressure switch | D2 * (F101) B/8 | : To (F37) |
| D2 * (F9) GY/2 | : Engine coolant temperature sensor | D1 * (F102) GY/8 | : To (F38) |
| D2 (F10) B/1 | : Thermal transmitter | E2 * (F103) B/2 | : Injector No. 1 |
| E2 * (F11) — | : Engine ground | E2 * (F104) B/2 | : Injector No. 2 |
| F2 * (F12) — | : Engine ground | E2 * (F105) B/2 | : Injector No. 3 |
| F2 * (F13) GY/6 | : Distributor (camshaft position sensor) | F2 * (F106) B/2 | : Injector No. 4 |
| E2 * (F14) GY/2 | : Resistor | E2 * (F107) B/2 | : Injector No. 5 |
| E3 (F15) B/1 | : A/C compressor | F1 * (F108) B/2 | : Injector No. 6 |
| E2 * (F17) GY/2 | : Distributor (ignition coil) | E1 * (F109) GY/2 | : Knock sensor |
| G2 * (F22) B/2 | : EGRC solenoid valve | F1 * (F110) GY/2 | : Crankshaft position sensor (OBD) |
| B3 * (F27) W/18 | : To (N59) | G2 (F11) GY/2 | : IACV-FICD solenoid valve |
| A3 * (F28) W/16 | : To (N58) | G2 * (F112) BR/2 | : IACV-AAC valve |
| B4 * (F29) GY/104 | : ECM | Generator harness | |
| A4 * (F30) L/4 | : ECM relay | F4 (A1) — | : Body ground |
| A4 * (F31) GY/6 | : Joint connector-1 | D3 * (A2) B/1 | : Oil pressure switch |
| A5 * (F32) GY/6 | : Joint connector-2 | F3 (A3) GY/1 | : To (E63) |
| A5 * (F33) GY/6 | : Joint connector-3 | F3 (A4) GY/1 | : To (E64) |
| A5 * (F34) L/12 | : Joint connector-4 | F3 (A5) GY/4 | : To (E65) |
| A4 * (F35) SB/2 | : Diode | E3 (A6) — | : Generator |
| C4 * (F36) W/24 | : To (N61) | D3 (A7) — | : Generator |
| D2 * (F37) B/8 | : To (F101) | D3 (A8) GY/2 | : Generator |
| C1 * (F38) GY/8 | : To (F102) | | |
| E1 * (F39) GY/4 | : Rear heated oxygen sensor LH | | |
| E1 * (F40) GY/3 | : Front heated oxygen sensor LH | | |

* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.



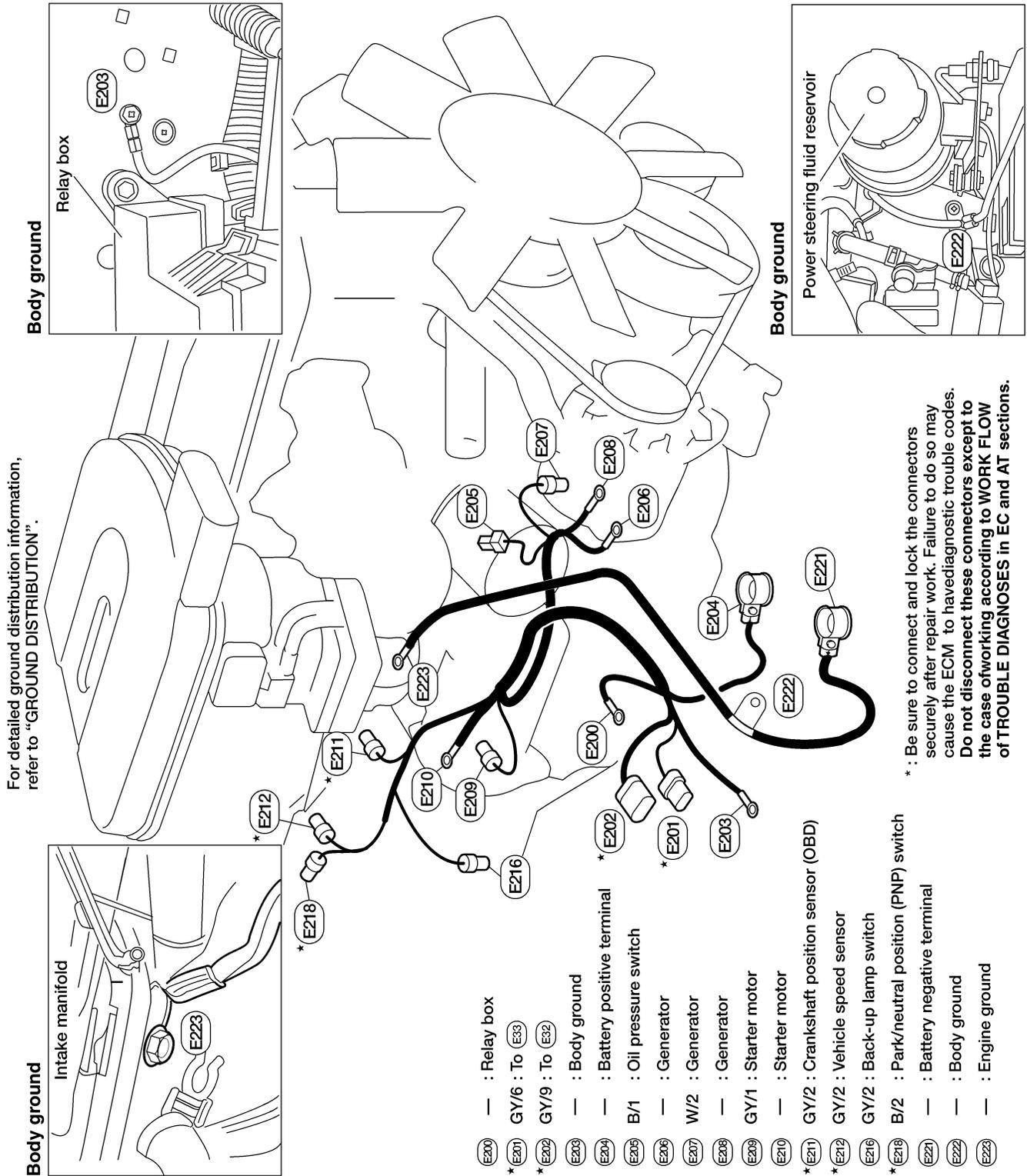
HARNESS LAYOUT

Engine No. 2 Harness

Engine No. 2 Harness KA24DE

NGEL0177

NGEL0177S01



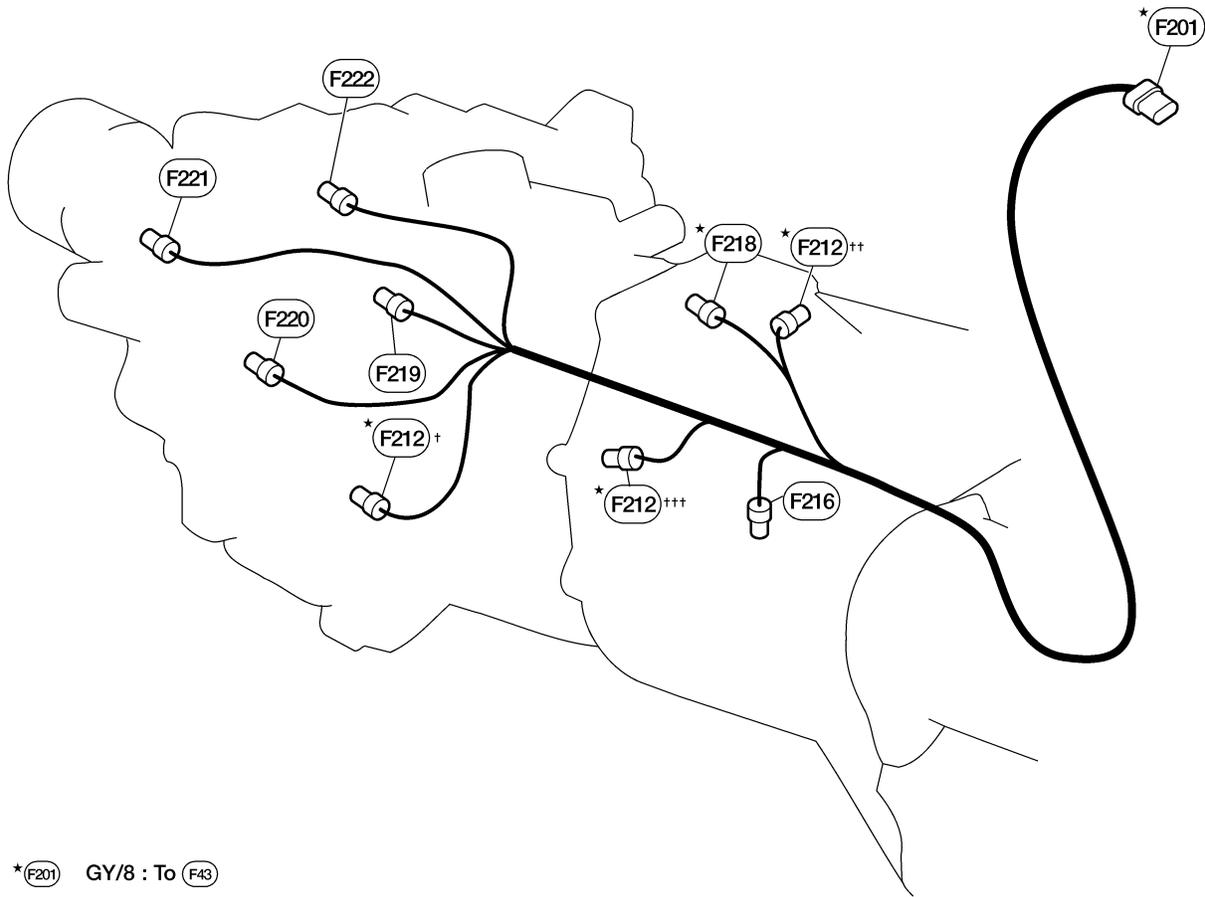
AEL659C

HARNESS LAYOUT

Engine No. 2 Harness (Cont'd)

VG33E

NGEL0177S02



- * (F201) GY/8 : To (F43)
- * (F212+) GY/2 : Vehicle speed sensor (with 4WD)
- * (F212++) GY/2 : Vehicle speed sensor (with 2WD M/T)
- * (F212+++) GY/2 : Vehicle speed sensor (with 2WD A/T)
- (F216) GY/2 : Back-up lamp switch (with M/T)
- * (F218) B/2 : Park/neutral position (PNP) switch (with M/T)
- (F219) GY/1 : Transfer neutral position switch (with M/T)
- (F220) GY/1 : 4WD switch (with M/T)
- (F221) GY/2 : 4WD switch (with A/T)
- (F222) B/2 : Transfer neutral position switch (with A/T)

* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

AEL662C

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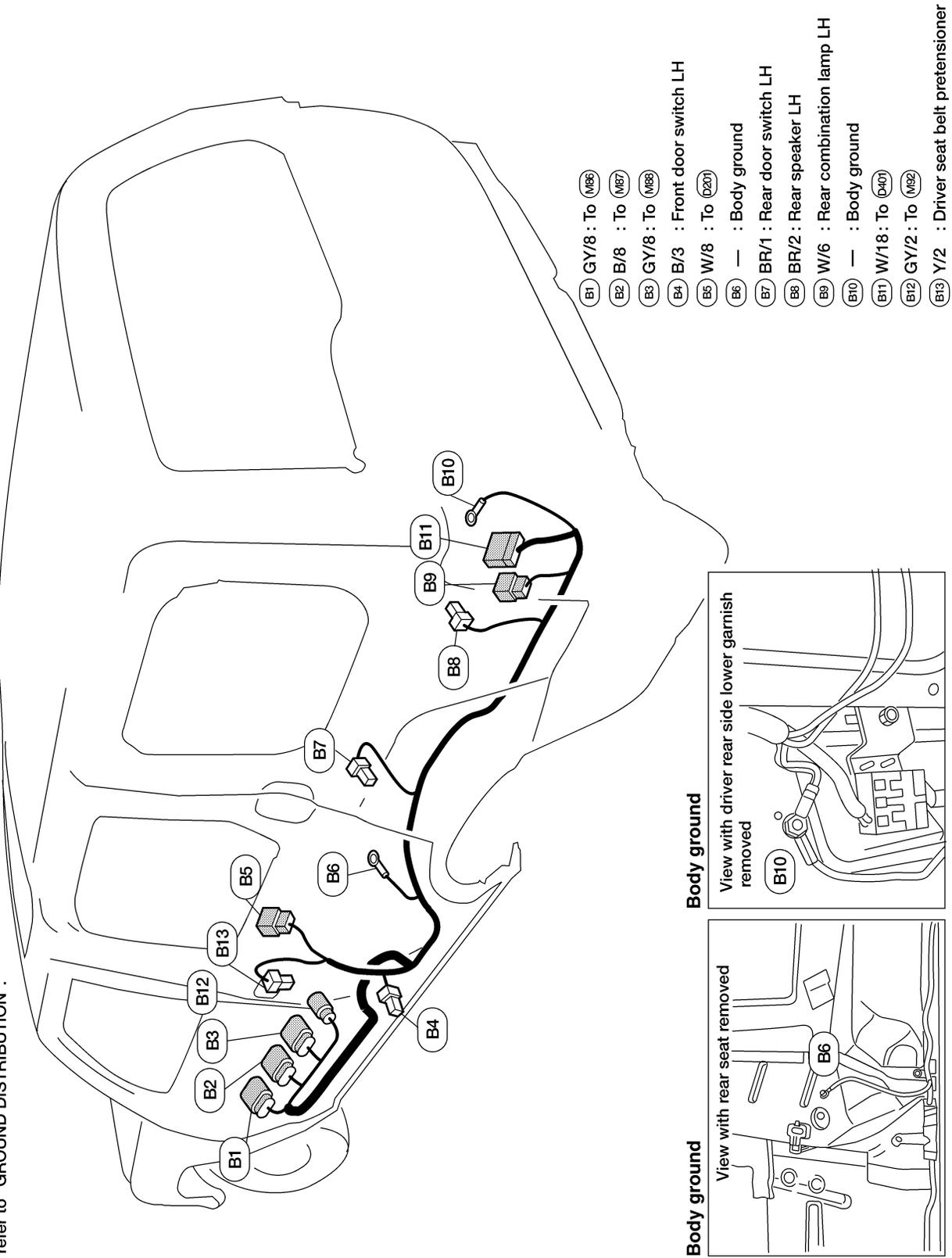
HARNESS LAYOUT

Body Harness

Body Harness

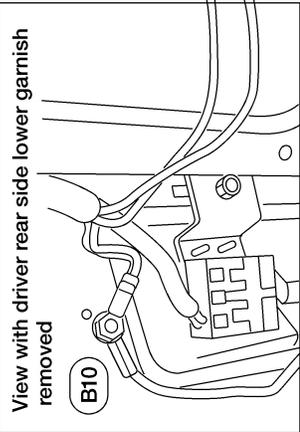
NGEL0180

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

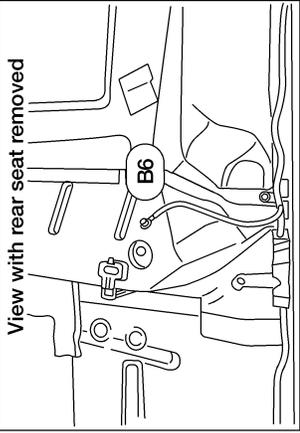


- (B1) GY/8 : To (M86)
- (B2) B/8 : To (M87)
- (B3) GY/8 : To (M88)
- (B4) B/3 : Front door switch LH
- (B5) W/8 : To (D20)
- (B6) — : Body ground
- (B7) BR/1 : Rear door switch LH
- (B8) BR/2 : Rear speaker LH
- (B9) W/6 : Rear combination lamp LH
- (B10) — : Body ground
- (B11) W/18 : To (D40)
- (B12) GY/2 : To (M82)
- (B13) Y/2 : Driver seat belt pretensioner

Body ground



Body ground



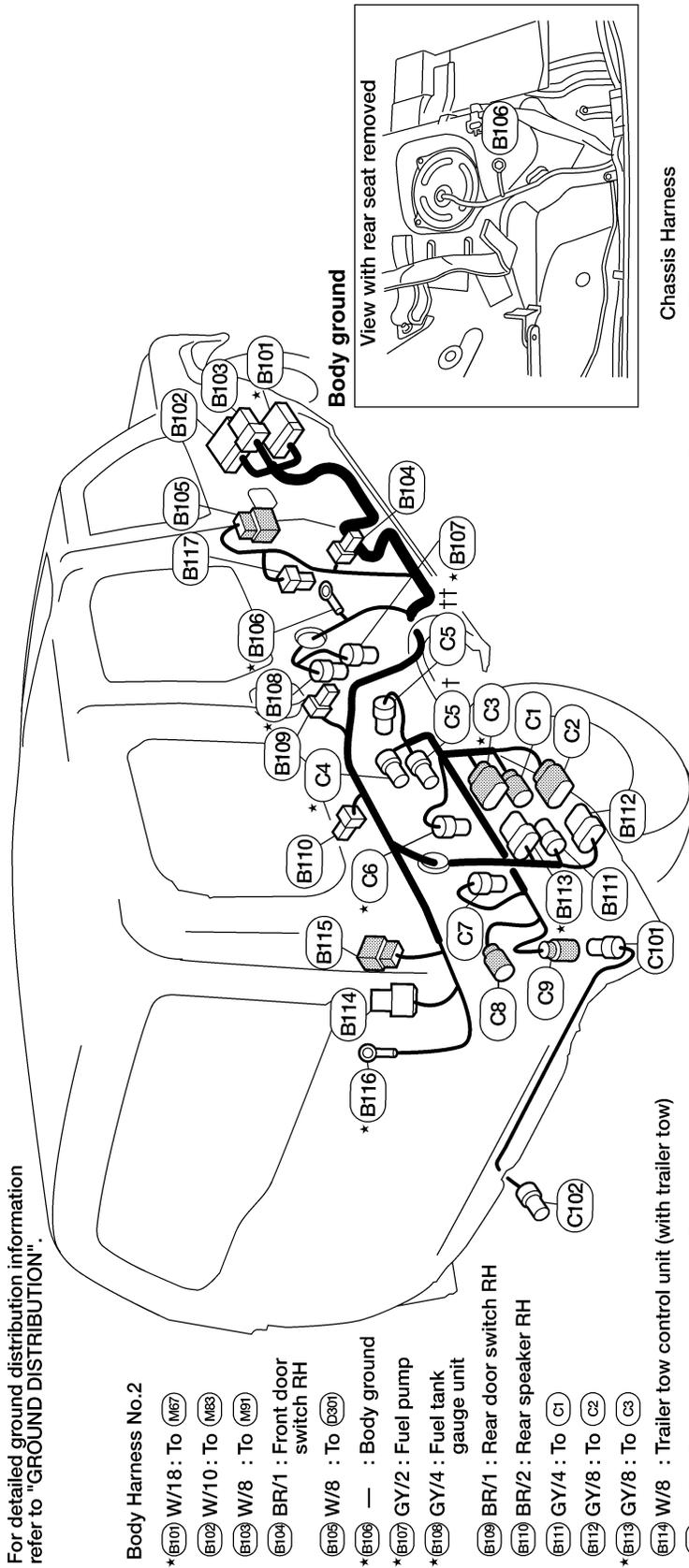
AEL569C

HARNESS LAYOUT

Body No. 2 and Chassis Harness

Body No. 2 and Chassis Harness

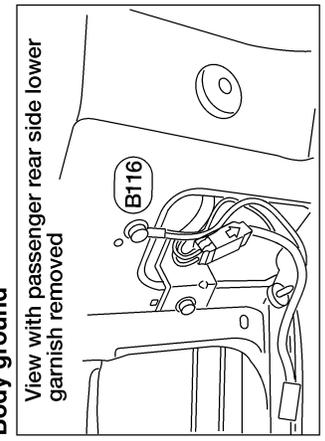
NGEL0201



For detailed ground distribution information refer to "GROUND DISTRIBUTION".

- Chassis Harness**
- (C1) GY/4 : To (B11)
 - (C2) GY/8 : To (B12)
 - * (C3) GY/8 : To (B13)
 - * (C4) GY/3 : EVAP control system pressure sensor
 - (C5) † GY/2 : Rear wheel sensor (2WD)
 - (C5) †† GY/4 : Rear wheel sensor (4WD)
 - * (C6) G/2 : Vacuum cut valve bypass valve
 - * (C7) B/2 : EVAP canister vent control valve
 - (C8) GY/2 : License plate lamp assembly
 - (C9) GY/4 : To (C10) (with trailer tow)
- Trailer Tow Sub Harness**
- (C10) GY/4 : To (C9) (with trailer tow)
 - (C102) B/4 : SAE J1239 trailer tow connector (with trailer tow)

* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
 Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.



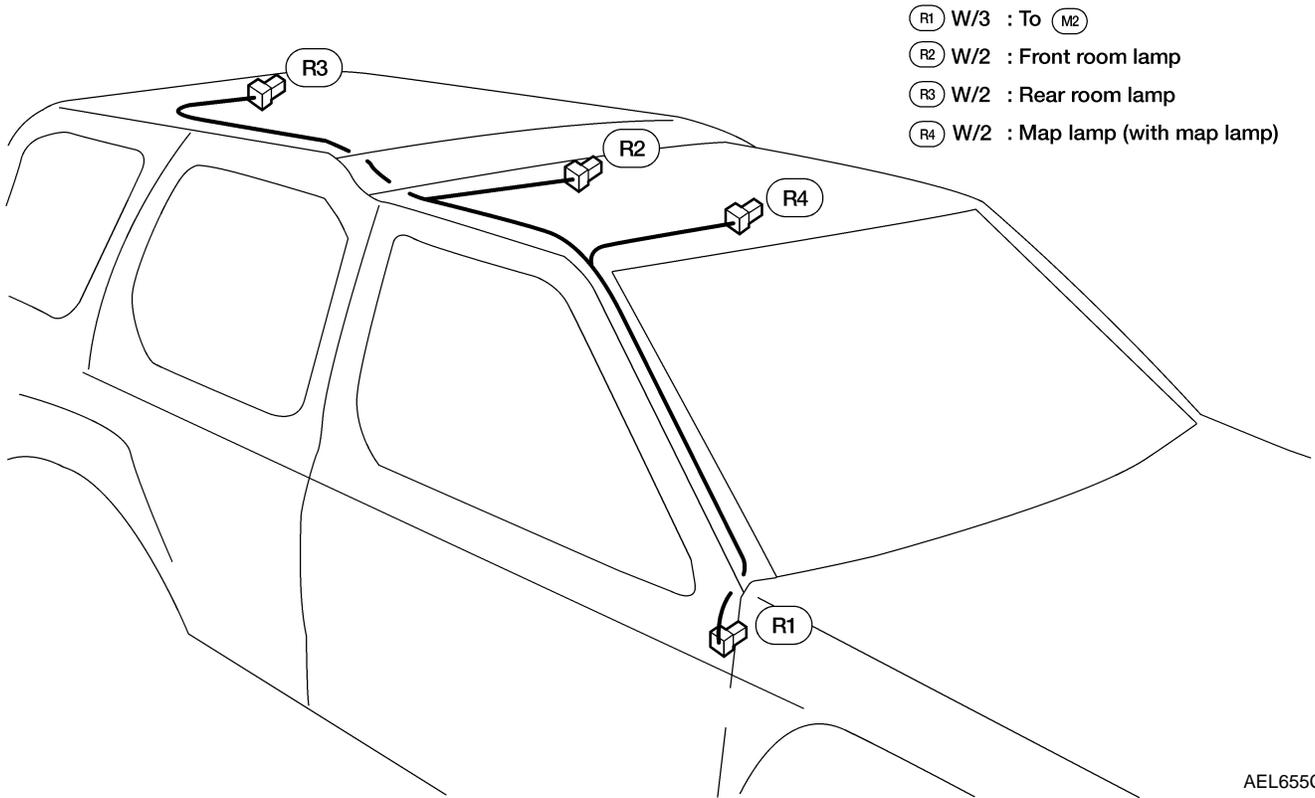
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HARNESS LAYOUT

Room Lamp Harness

Room Lamp Harness

NGEL0202



AEL655C

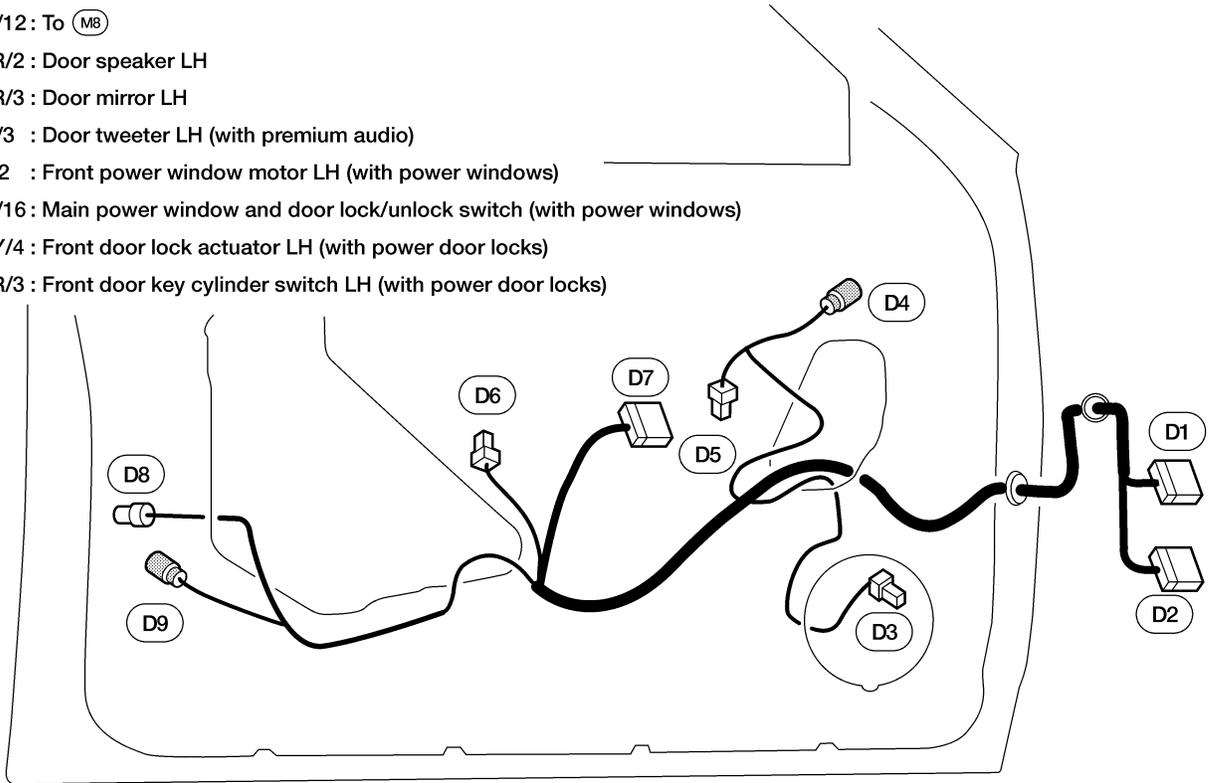
HARNESS LAYOUT

Front Door Harness

Front Door Harness

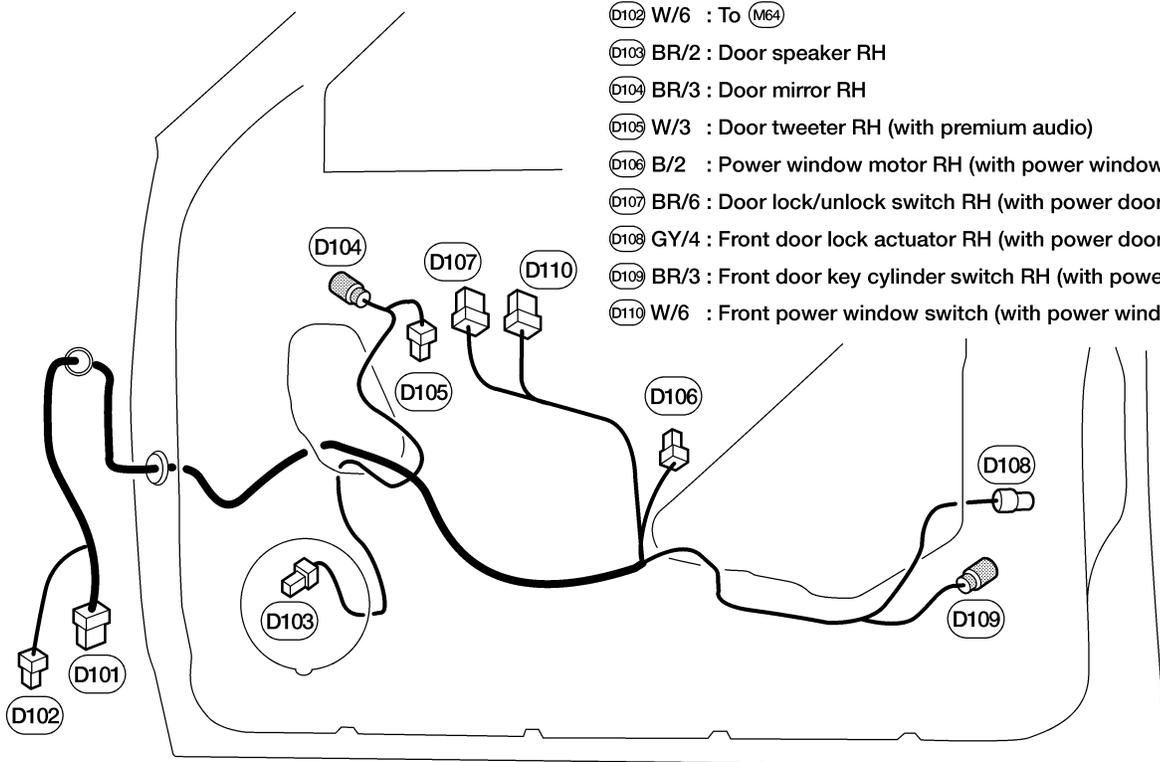
NGEL0182

- (D1) W/12 : To (M9)
- (D2) W/12 : To (M8)
- (D3) BR/2 : Door speaker LH
- (D4) BR/3 : Door mirror LH
- (D5) W/3 : Door tweeter LH (with premium audio)
- (D6) B/2 : Front power window motor LH (with power windows)
- (D7) W/16 : Main power window and door lock/unlock switch (with power windows)
- (D8) GY/4 : Front door lock actuator LH (with power door locks)
- (D9) BR/3 : Front door key cylinder switch LH (with power door locks)



AEL566C

- (D101) W/12 : To (M63)
- (D102) W/6 : To (M64)
- (D103) BR/2 : Door speaker RH
- (D104) BR/3 : Door mirror RH
- (D105) W/3 : Door tweeter RH (with premium audio)
- (D106) B/2 : Power window motor RH (with power windows)
- (D107) BR/6 : Door lock/unlock switch RH (with power door locks)
- (D108) GY/4 : Front door lock actuator RH (with power door locks)
- (D109) BR/3 : Front door key cylinder switch RH (with power door locks)
- (D110) W/6 : Front power window switch (with power windows)



AEL571C

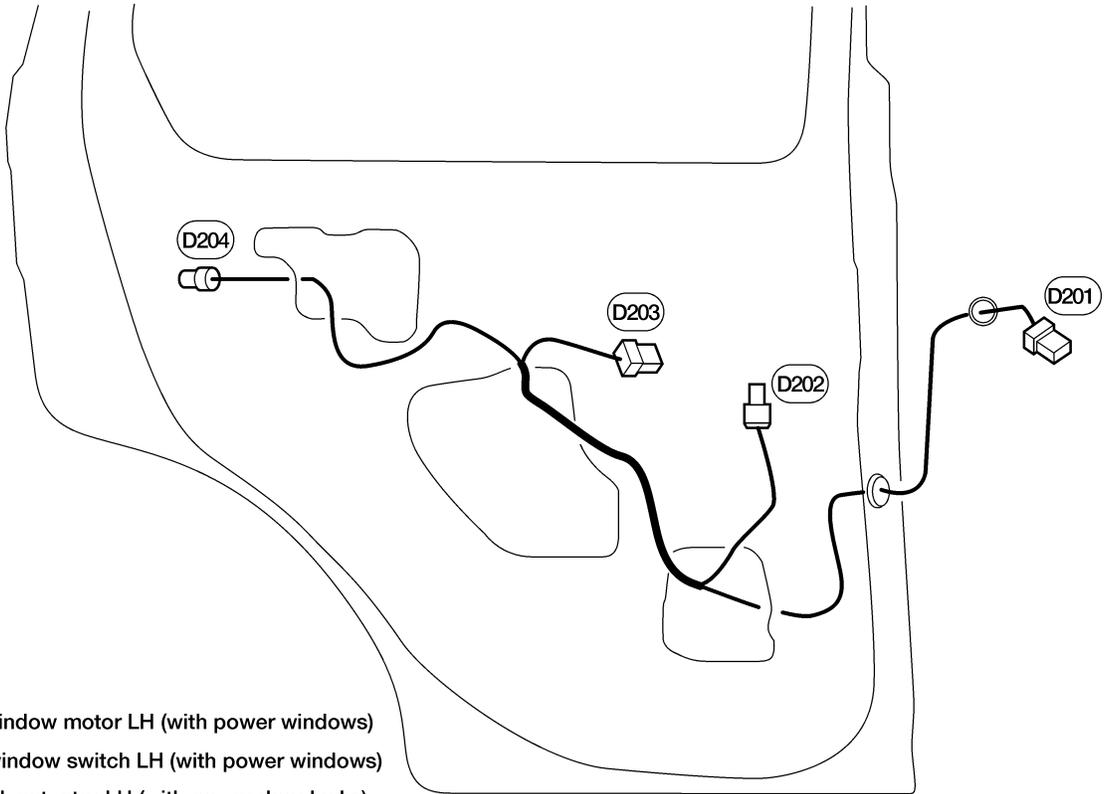
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HARNESS LAYOUT

Rear Door Harness

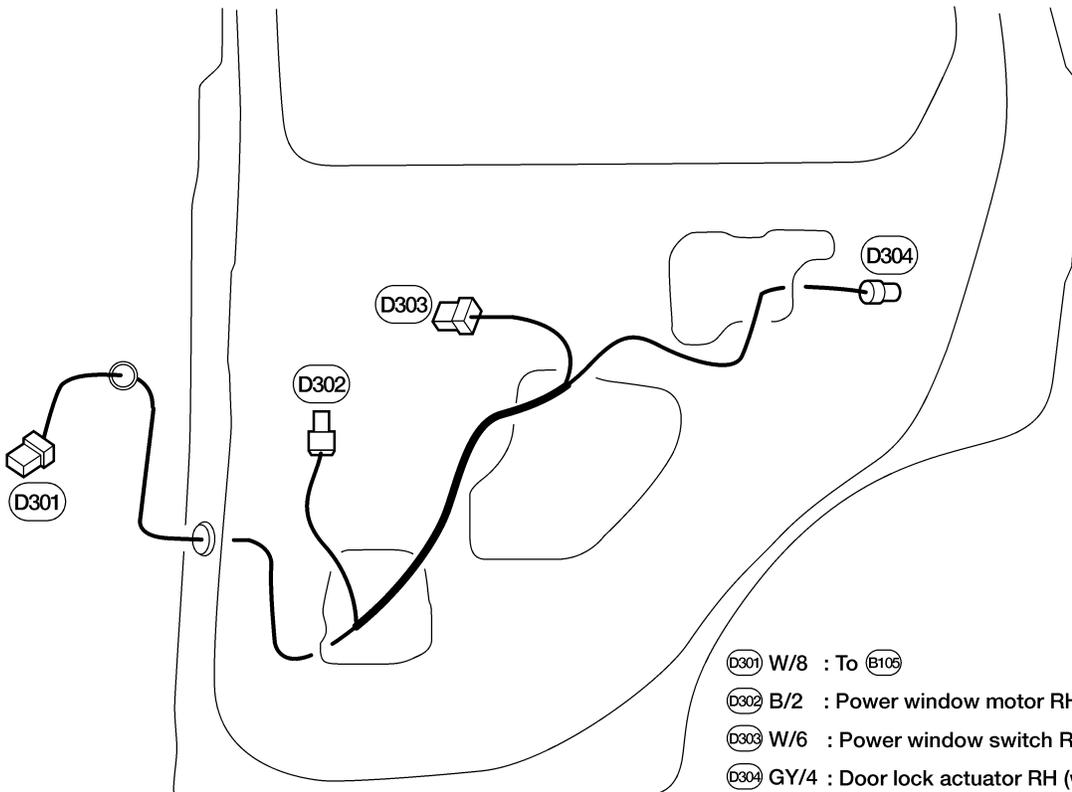
Rear Door Harness

NGEL0183



- (D201) W/8 : To (B5)
- (D202) B/2 : Power window motor LH (with power windows)
- (D203) W/6 : Power window switch LH (with power windows)
- (D204) GY/4 : Door lock actuator LH (with power door locks)

AEL567C



- (D301) W/8 : To (B105)
- (D302) B/2 : Power window motor RH (with power windows)
- (D303) W/6 : Power window switch RH (with power windows)
- (D304) GY/4 : Door lock actuator RH (with power door locks)

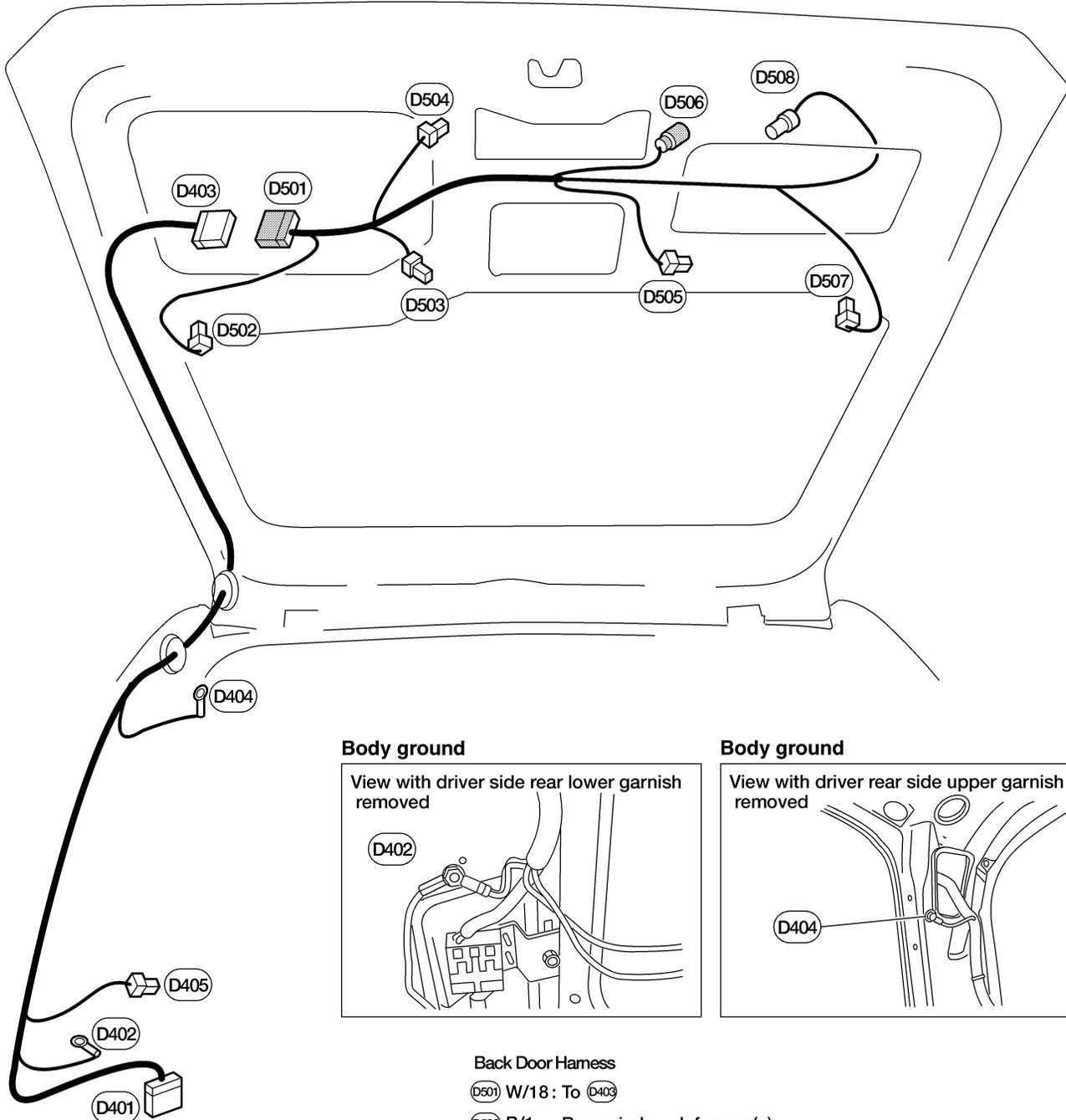
AEL572C

HARNESS LAYOUT

Back Door Harness

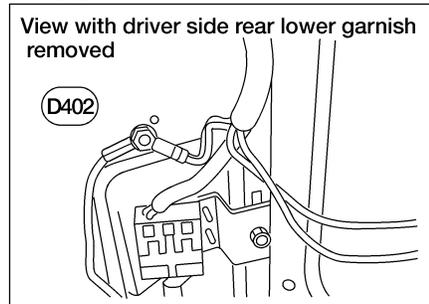
Back Door Harness

NGEL0199



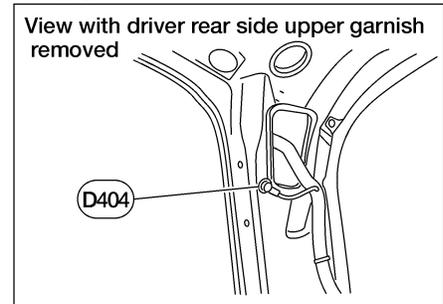
Body ground

View with driver side rear lower garnish removed



Body ground

View with driver rear side upper garnish removed



Back Door No. 2 Harness

- Ⓓ401 W/18 : To Ⓓ11
- Ⓓ402 — : Body ground
- Ⓓ403 W/18 : To Ⓓ51
- Ⓓ404 — : Body ground
- Ⓓ405 B/2 : Rear power socket

Back Door Harness

- Ⓓ501 W/18 : To Ⓓ403
- Ⓓ502 B/1 : Rear window defogger (+)
- Ⓓ503 W/2 : High mounted stop lamp
- Ⓓ504 B/2 : Back door switch
- Ⓓ505 W/4 : Rear wiper motor (with rear wiper)
- Ⓓ506 BR/3 : Back door key cylinder switch (with power door locks)
- Ⓓ507 B/1 : Rear window defogger (-)
- Ⓓ508 GY/4 : Back door lock actuator (with power door locks)

AEL568C

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PD
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

HARNESS LAYOUT

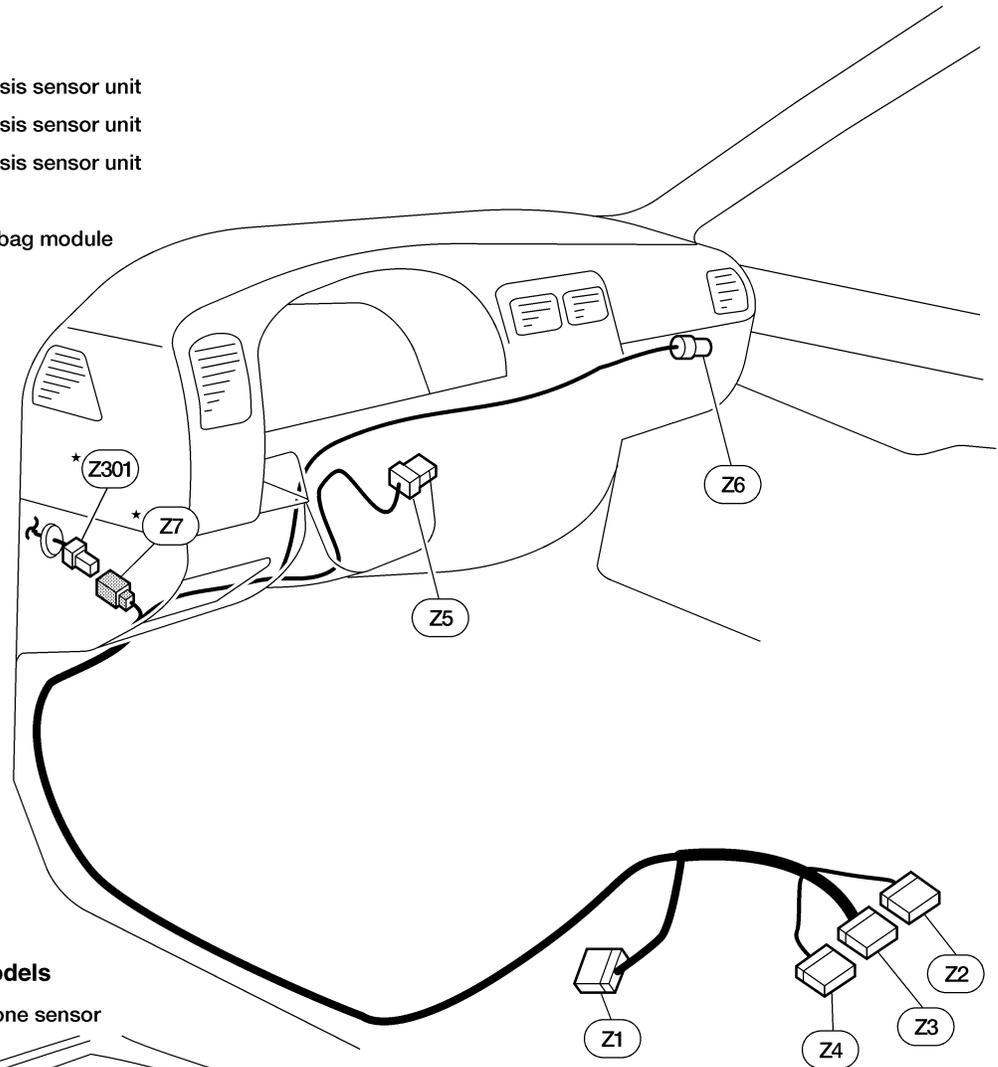
Air Bag Harness

Air Bag Harness

NGEL0181

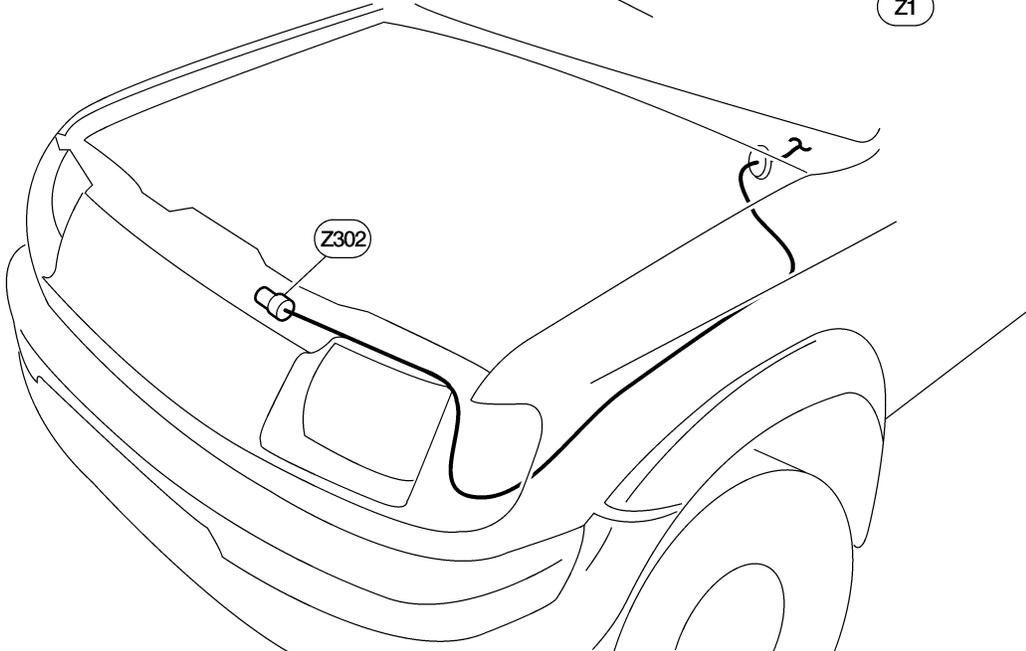
- Ⓧ Z1 W/16 : To Ⓧ M18
- Ⓧ Z2 Y/12 : Air bag diagnosis sensor unit
- Ⓧ Z3 Y/20 : Air bag diagnosis sensor unit
- Ⓧ Z4 Y/12 : Air bag diagnosis sensor unit
- Ⓧ Z5 W/6 : Spiral cable
- Ⓧ Z6 B/2 : Passenger air bag module
- * Ⓧ Z7 W/4 : To Ⓧ Z301
- * Ⓧ Z301 W/4 : To Ⓧ Z7

* : With 4-wheel drive



4-wheel drive models

- Ⓧ Z302 GY/4 : Crash zone sensor



AEL656C

BULB SPECIFICATIONS

Headlamp

| Headlamp | |
|-----------------------------|-------------|
| Item | Wattage (W) |
| High/Low (Semi-sealed beam) | 65/45 (HB1) |

GI

Exterior Lamp

| Item | Wattage (W) | Bulb No.* |
|------------------------|------------------|-----------|
| Front fog lamp | 35 | H3 |
| Front turn signal lamp | 27 | 1156NA |
| Parking lamp | 3.8 | 194 |
| Rear combination lamp | Turn signal lamp | 27 |
| | Stop/Tail lamp | 27/7 |
| | Back-up lamp | 16 |
| License plate lamp | 3.8 | 168 |
| High-mounted stop lamp | 12.8 | 912 |

MA

EM

LC

EC

FE

CL

*: Always check with the Parts Department for the latest parts information.

Interior Lamp

| Item | Wattage (W) | Bulb No.* |
|-------------------|-------------|-----------|
| Dome lamp | 8 | 82 |
| Map lamp | 8 | 82 |
| Luggage room lamp | 10 | |

MT

AT

TF

*: Always check with the Parts Department for the latest parts information.

PD

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

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 | HA | Air Conditioner |
| AAC/V | EC | IACV-AAC Valve |
| ABS | BR | Anti-lock Brake System |
| AP/SEN | EC | Absolute Pressure Sensor |
| ASCD | EL | Automatic Speed Control Device |
| AT/C | EC | A/T Control |
| ATDIAG | EC | A/T Diagnosis Communication Line |
| AUDIO | EL | Audio |
| BA/FTS | AT | A/T Fluid Temperature Sensor and Transmission Control Module (TCM) Power Supply |
| BACK/L | EL | Back-up Lamp |
| BYPS/V | EC | Vacuum Cut Valve Bypass Valve |
| CHARGE | SC | Charging System |
| CHIME | EL | Warning Chime |
| CIGAR | EL | Cigarette Lighter |
| CKPS | EC | Crankshaft Position Sensor (OBD) |
| CMPS | EC | Camshaft Position Sensor |
| COOL/F | EC | Cooling Fan Control |
| D/LOCK | EL | Power Door Lock |
| DEF | EL | Rear Window Defogger |
| DTRL | EL | Headlamp - With Daytime Light System |
| ECTS | EC | Engine Coolant Temperature Sensor |
| EGR/TS | EC | EGR Temperature Sensor |
| EGRC/V | EC | EGRC-solenoid Valve |
| EGRC1 | EC | EGR Function |
| ENGSS | AT | Engine Speed Signal |
| F/FOG | EL | Front Fog Lamp |
| F/PUMP | EC | Fuel Pump |

| Code | Section | Wiring Diagram Name |
|--------|---------|---|
| FICD | EC | IACV-FICD Solenoid Valve |
| FO2H-L | EC | Front Heated Oxygen Sensor (Front HO2S) Heater (Left Bank) (VG33E) |
| FO2H-R | EC | Front Heated Oxygen Sensor (Front HO2S) Heater (Right Bank) (VG33E) |
| FRO2 | EC | Front Heated Oxygen Sensor (Front HO2S) (KA24DE) |
| FRO2/H | EC | Front Heated Oxygen Sensor (Front HO2S) Heater (KA24DE) |
| FRO2LH | EC | Front Heated Oxygen Sensor (Front HO2S) (Left Bank) (VG33E) |
| FRO2RH | EC | Front Heated Oxygen Sensor (Front HO2S) (Right Bank) (VG33E) |
| FTS | AT | A/T Fluid Temperature Sensor |
| FUEL | EC | Fuel Injection System Function (KA24DE) |
| FUELLH | EC | Fuel Injection System Function (Left Bank) (VG33E) |
| FUELRH | EC | Fuel Injection System Function (Right Bank) (VG33E) |
| H/LAMP | EL | Headlamp |
| HORN | EL | Horn |
| IATS | EC | Intake Air Temperature Sensor |
| IGN/SG | EC | Ignition Signal |
| ILL | EL | Illumination |
| INJECT | EC | Injector |
| KS | EC | Knock Sensor |
| 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 |
| METER | EL | Speedometer, Tachometer, Temp., Oil and Fuel Gauges |
| MIL/DL | EC | MIL and Data Link Connector |
| MIRROR | EL | Door Mirror |
| MULTI | EL | Multi-remote Control System |
| NONDTC | AT | Non-detectable Items |
| OVRCSV | AT | Overrun Clutch Solenoid Valve |

WIRING DIAGRAM CODES (CELL CODES)

| Code | Section | Wiring Diagram Name | Code | Section | Wiring Diagram Name | |
|--------|---------|---|--------|---------|--|----|
| PGC/V | EC | EVAP Canister Purge Volume Control Solenoid Valve | TPS | EC | Throttle Position Sensor | GI |
| PNP/SW | AT | Park/Neutral Position Switch | TURN | EL | Turn Signal and Hazard Warning Lamps | MA |
| PNP/SW | EC | Park/Neutral Position Switch | VENT/V | EC | EVAP Canister Vent Control Valve | EM |
| POWER | EL | Power Supply Routing | VSS | EC | Vehicle Speed Sensor | EM |
| PRE/SE | EC | EVAP Control System Pressure Sensor | VSSAT | AT | Vehicle Speed Sensor A/T (Revolution Sensor) | LC |
| PST/SW | EC | Power Steering Oil Pressure Switch | VSSMTR | AT | Vehicle Speed Sensor MTR | EC |
| RO2H-L | EC | Rear Heated Oxygen Sensor (Rear HO2S) Heater (Left Bank) (VG33E) | WARN | EL | Warning Lamps | FE |
| RO2H-R | EC | Rear Heated Oxygen Sensor (Rear HO2S) Heater (Right Bank) (VG33E) | WINDOW | EL | Power Window | FE |
| ROOM/L | EL | Interior Room Lamp | WIP/R | EL | Rear Wiper and Washer | CL |
| RRO2 | EC | Rear Heated Oxygen Sensor (Rear HO2S) (KA24DE) | WIPER | EL | Front Wiper and Washer | CL |
| RRO2/H | EC | Rear Heated Oxygen Sensor (Rear HO2S) Heater (KA24DE) | | | | MT |
| RRO2LH | EC | Rear Heated Oxygen Sensor (Rear HO2S) (Left Bank) (VG33E) | | | | AT |
| RRO2RH | EC | Rear Heated Oxygen Sensor (Rear HO2S) (Right Bank) (VG33E) | | | | TF |
| S/SIG | EC | Start Signal | | | | PD |
| SHIFT | AT | A/T Shift Lock System | | | | AX |
| SRS | RS | Supplemental Restraint System | | | | SU |
| SSV/A | AT | Shift Solenoid Valve A | | | | BR |
| SSV/B | AT | Shift Solenoid Valve B | | | | ST |
| START | SC | Starting System | | | | RS |
| STOP/L | EL | Stop lamp | | | | BT |
| SW/V | EC | MAP/BARO Switch Solenoid Valve | | | | HA |
| T/TOW | EL | Trailer Tow | | | | SC |
| TAIL/L | EL | Parking, License and Tail Lamps | | | | EL |
| TCCSIG | AT | A/T TCC Signal (Lock Up) | | | | EL |
| TCV | AT | Torque Converter Clutch Solenoid Valve | | | | EL |
| TFTS | EC | Tank Fuel Temperature Sensor | | | | EL |
| THEFT | EL | Theft Warning System | | | | EL |
| TP/SW | EC | Throttle Position Switch | | | | EL |
| TPS | AT | Throttle Position Sensor | | | | EL |

NOTES