

ELECTRICAL SYSTEM

SECTION EL

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PRECAUTIONS

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

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

NCEL0001

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER" used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS system composition which is available to INFINITI G20 is as follows:

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

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

WARNING:

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

Wiring Diagrams and Trouble Diagnosis

NCEL0002

When you read wiring diagrams, refer to the following:

- GI-11, "HOW TO READ WIRING DIAGRAMS"
- EL-9, "POWER SUPPLY ROUTING" for power distribution circuit

When you perform trouble diagnosis, refer to the following:

- GI-36, "HOW TO FOLLOW TEST GROUP IN TROUBLE DIAGNOSIS"
- GI-25, "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT"

Check for any Service bulletins before servicing the vehicle.

Description

NCEL0003

NCEL0003S01

HARNESS CONNECTOR (TAB-LOCKING TYPE)

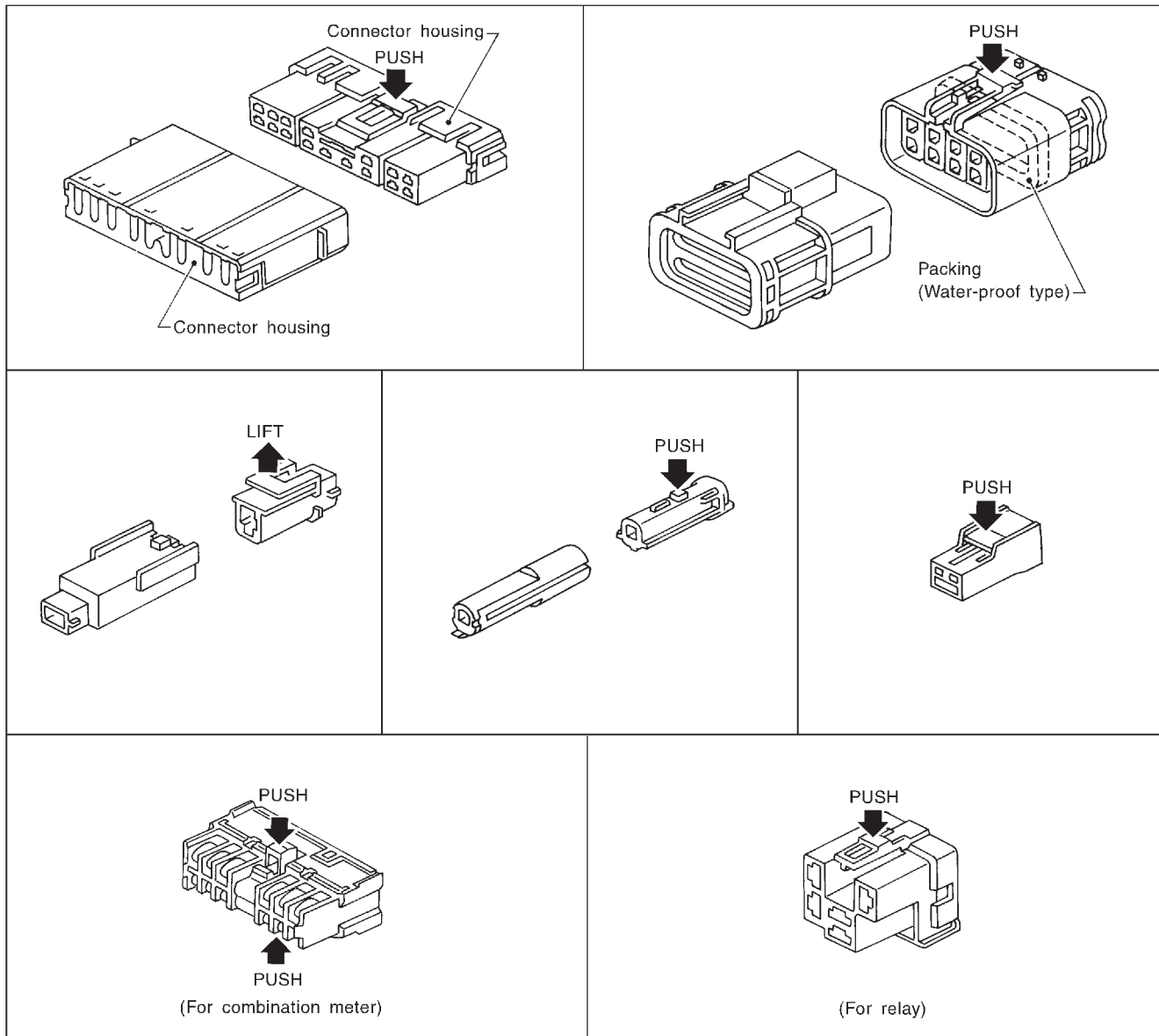
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

CAUTION:

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

[Example]



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HARNESS CONNECTOR

Description (Cont'd)

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

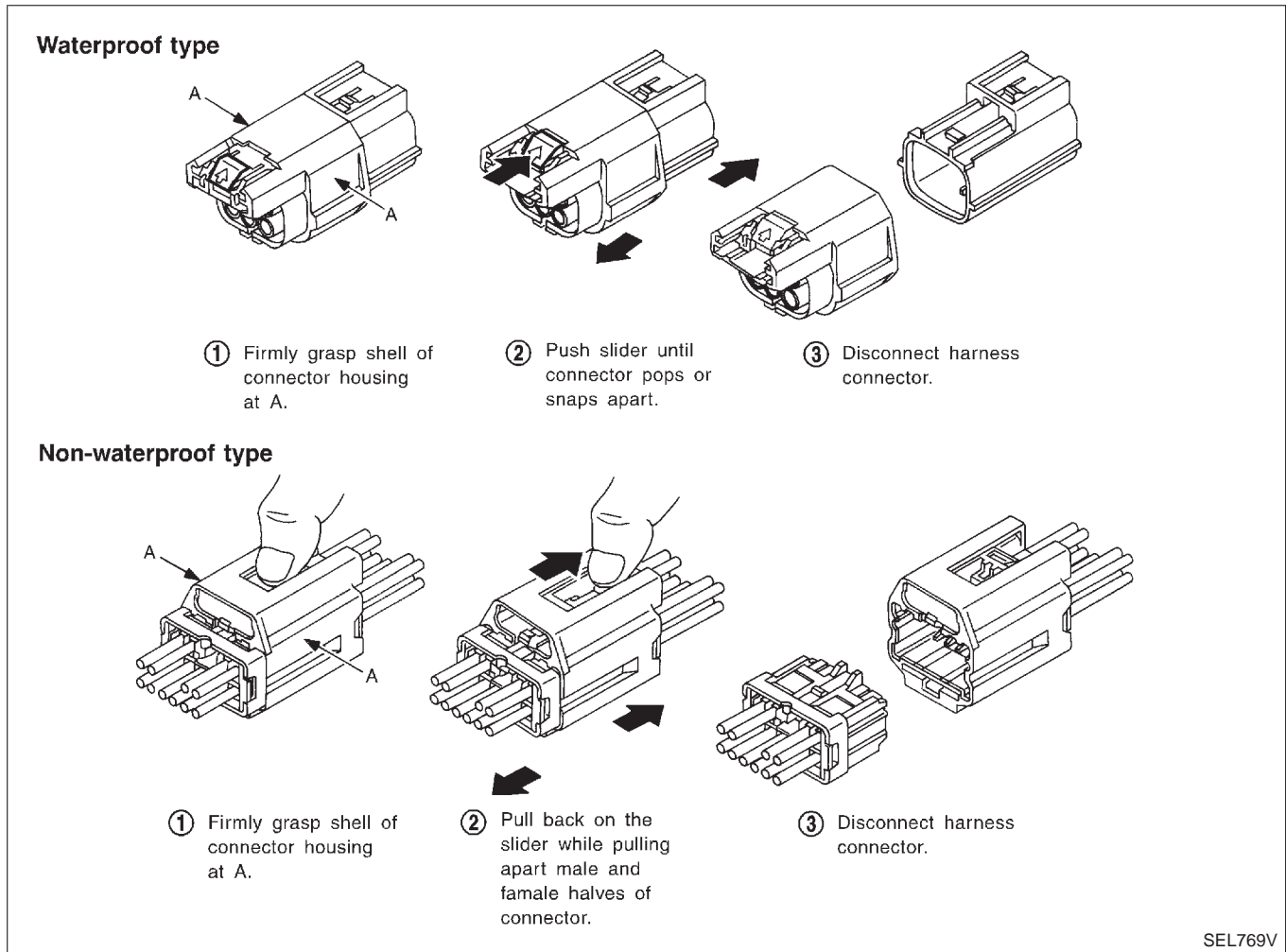
=NCEL0003S02

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

CAUTION:

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

[Example]



SEL769V

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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NCEL0004S01

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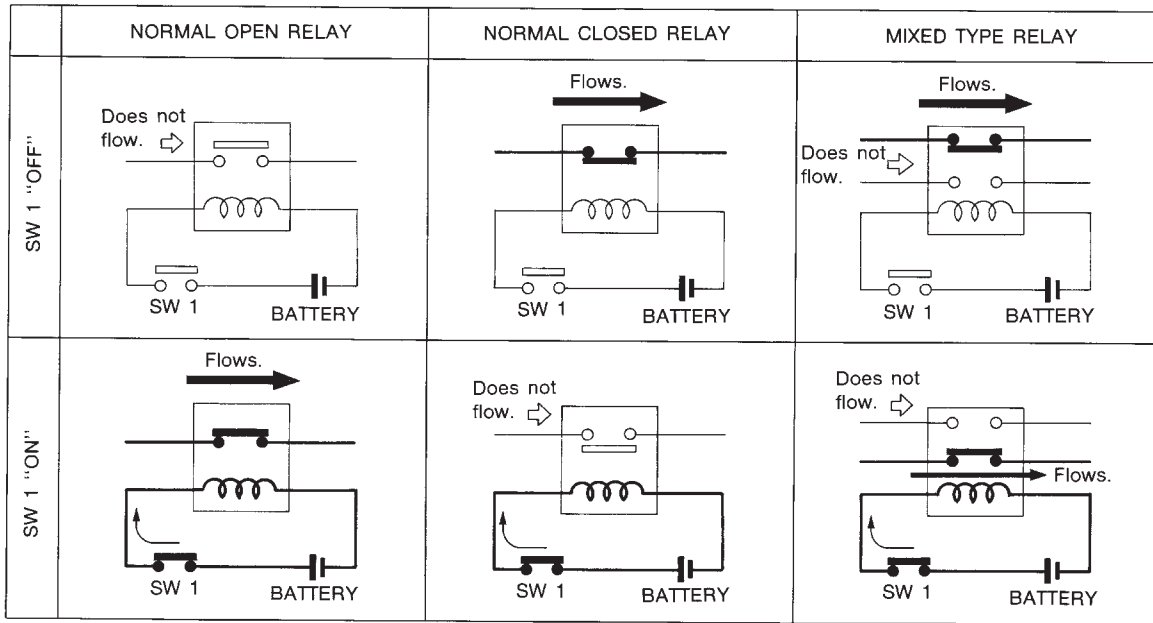
EC

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SEL881H



TYPE OF STANDARDIZED RELAYS

NCEL0004S02

AT

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

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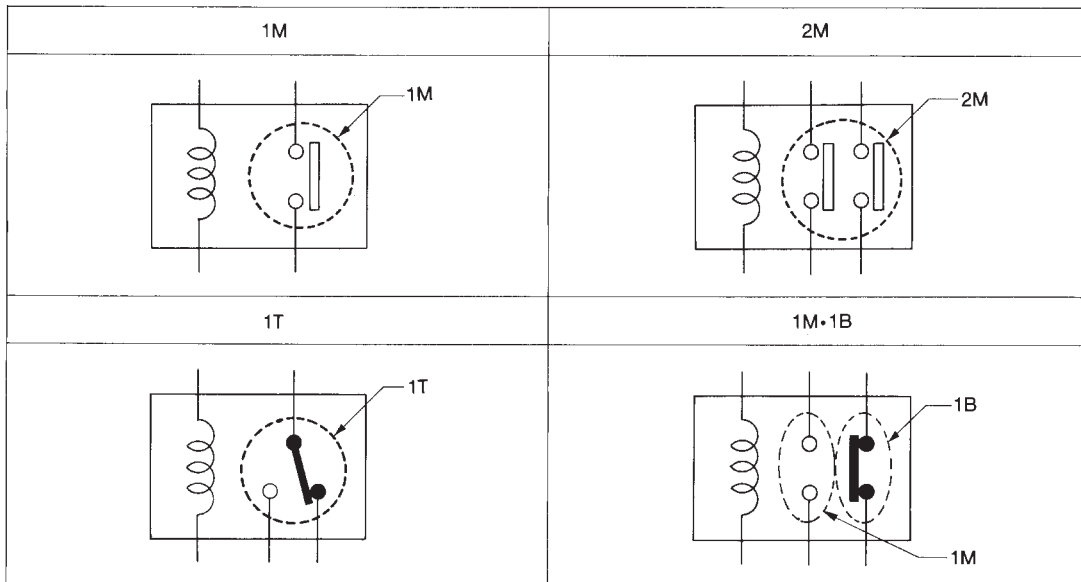
HA

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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.

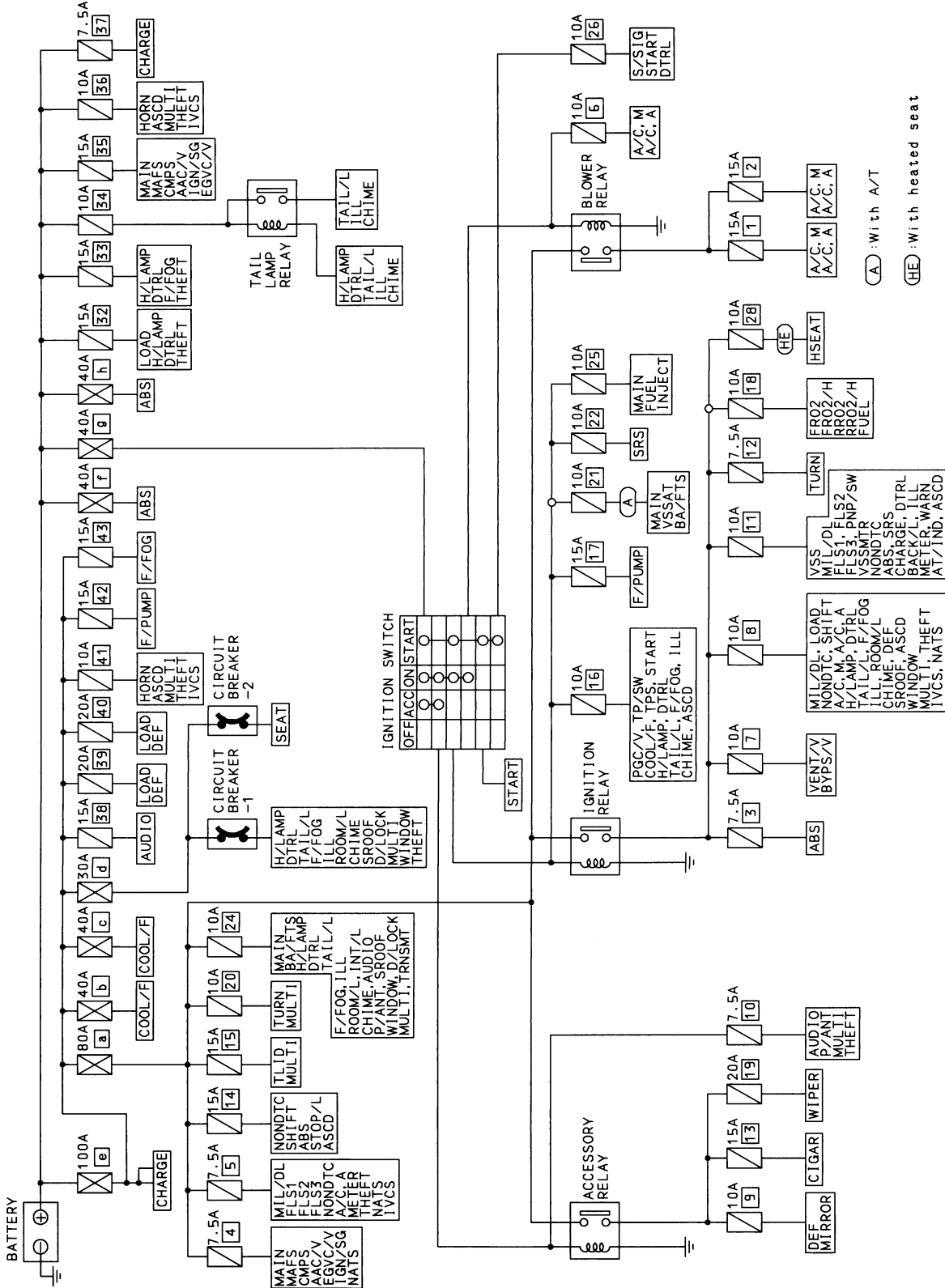
SEL188W

Schematic

NCEL0005

NOTE:

For detailed ground distribution information, refer to "GROUND DISTRIBUTION", EL-18.



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POWER SUPPLY ROUTING

Wiring Diagram — POWER —

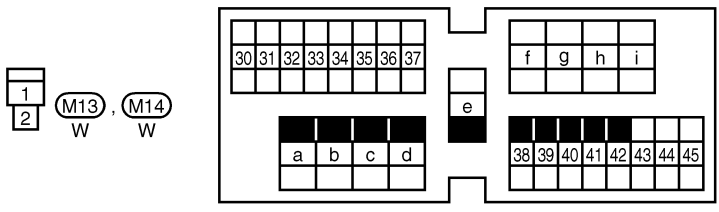
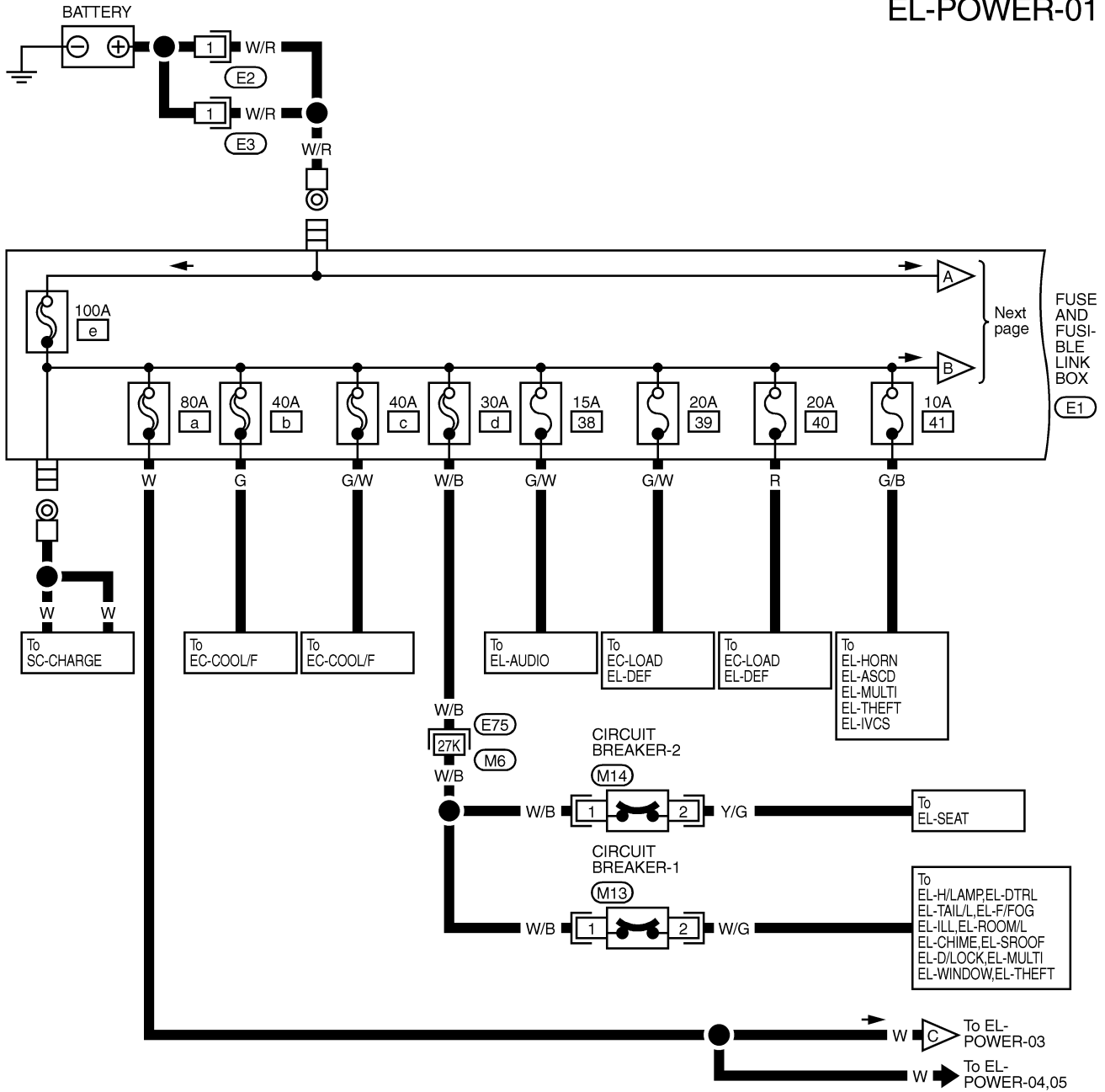
Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

NCEL0006

NCEL0006S01

EL-POWER-01

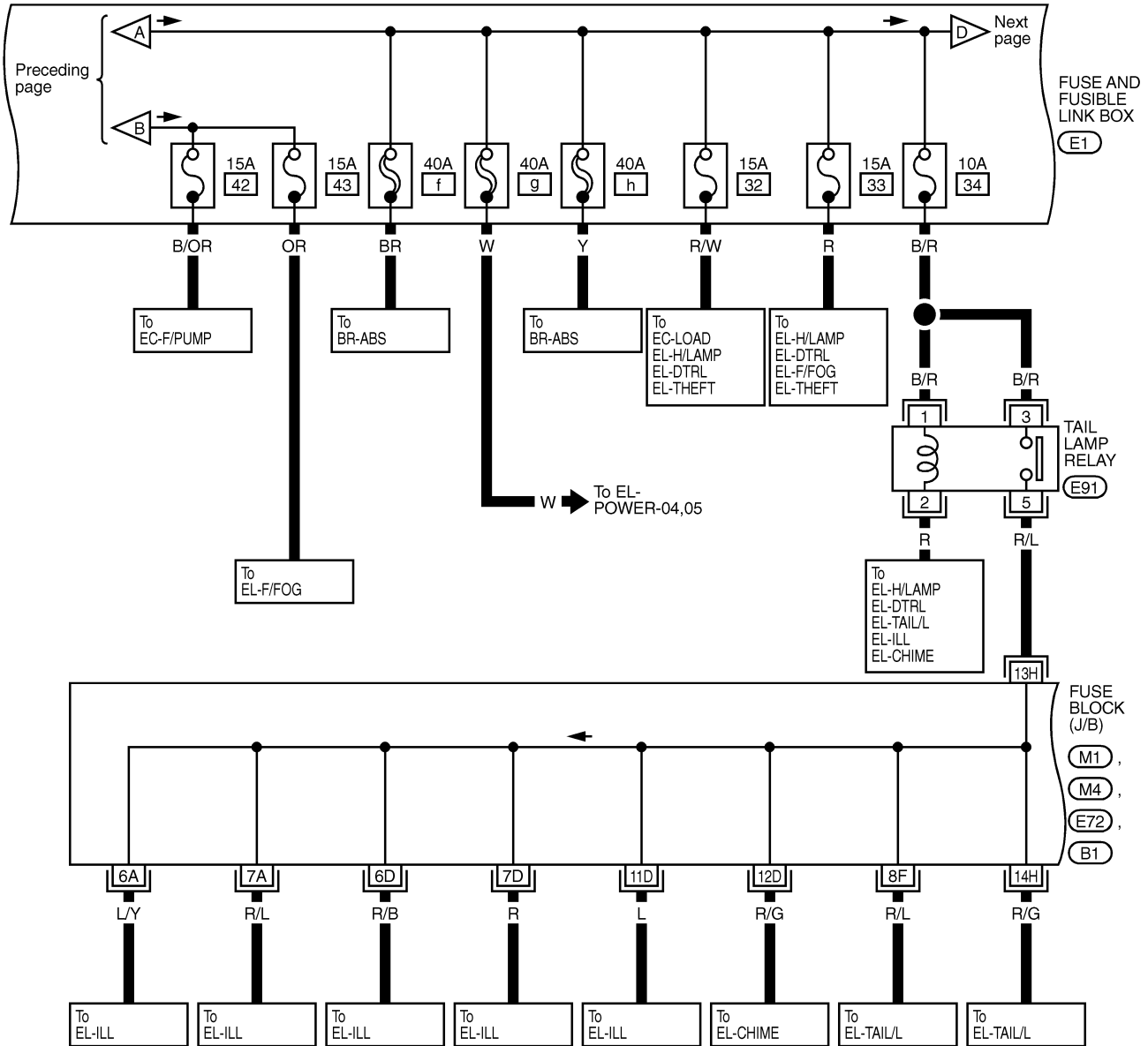


REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)

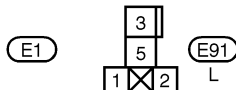
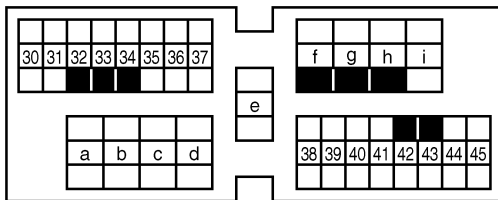
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-02



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REFER TO THE FOLLOWING.

(M1), (M4), (E72), (B1)
- FUSE BLOCK-JUNCTION BOX (J/B)

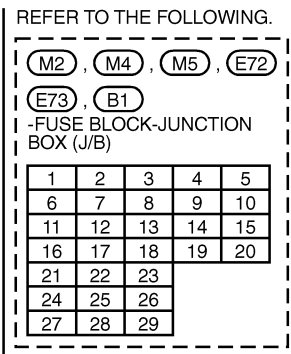
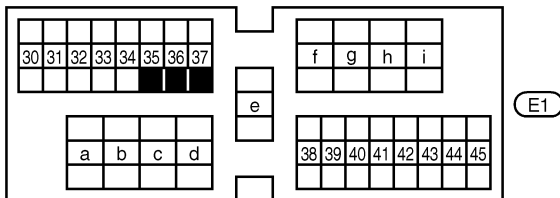
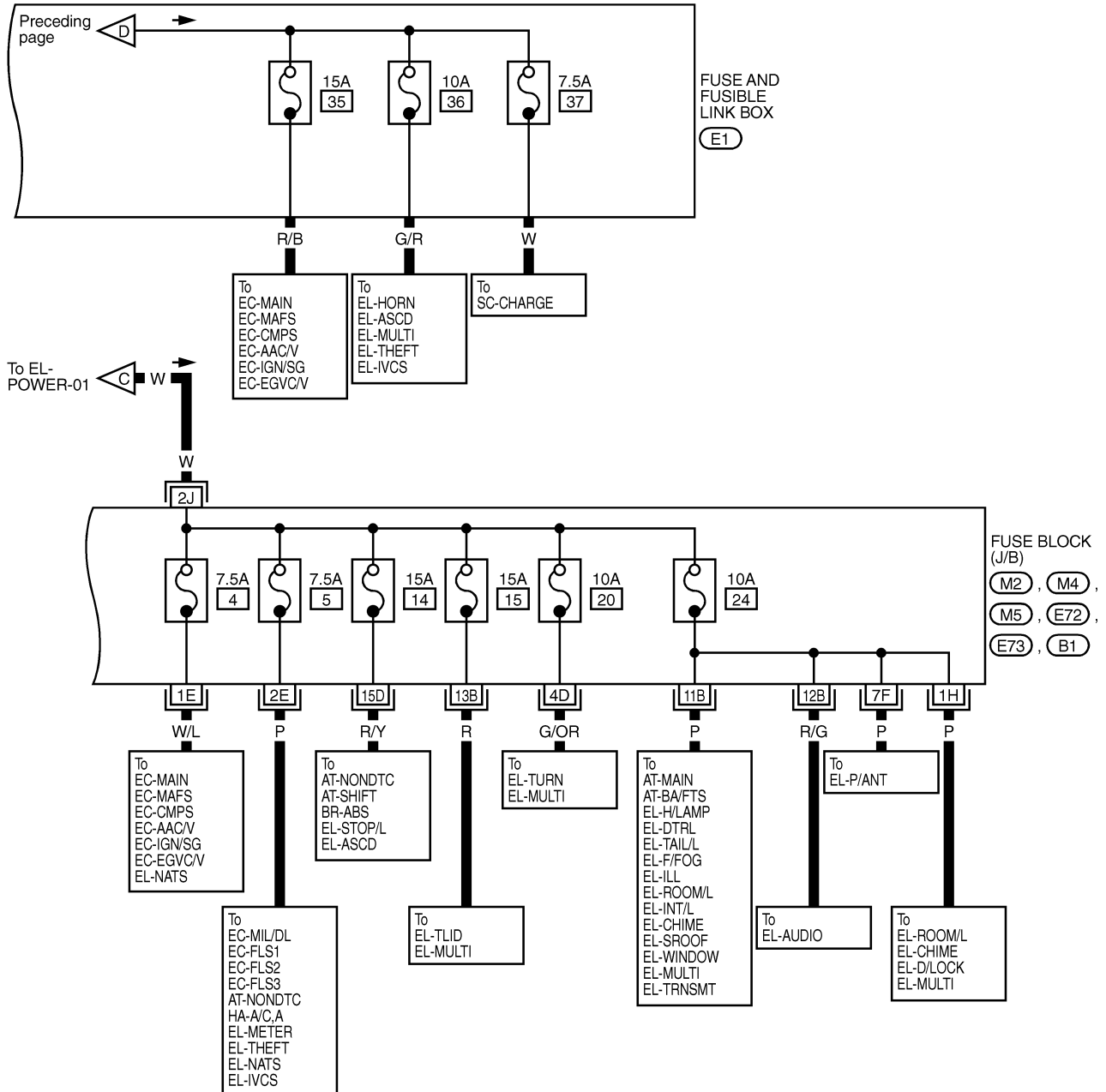
| | | | | |
|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | | |
| 24 | 25 | 26 | | |
| 27 | 28 | 29 | | |

TEL468B

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03



TEL469B

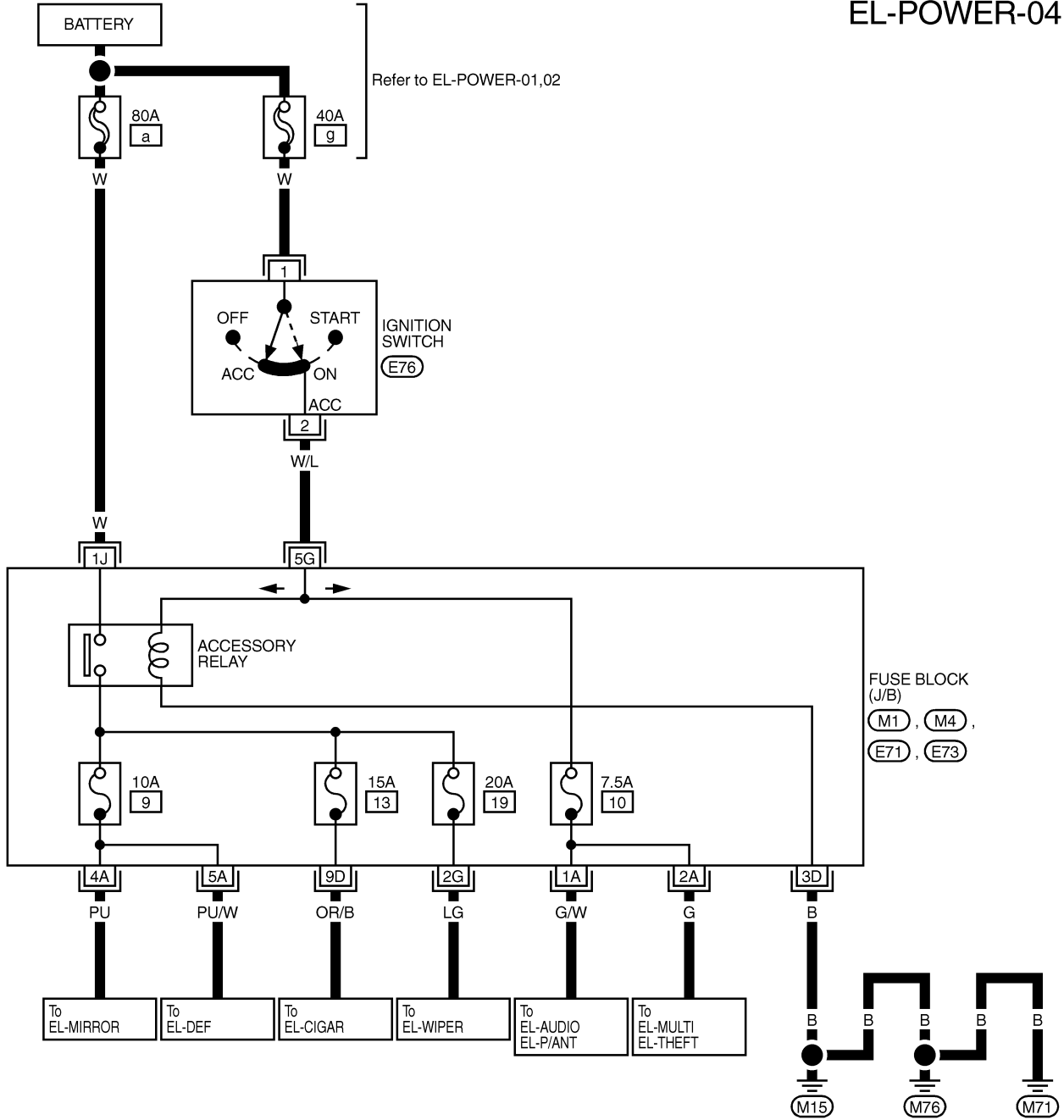
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

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

NCEL0006S02

EL-POWER-04



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| | | |
|---|---|---|
| 1 | 3 | 5 |
| 6 | 2 | 4 |

(E76)
W

REFER TO THE FOLLOWING.

(M1), (M4), (E71), (E73)
- FUSE BLOCK - JUNCTION BOX (J/B)

| | | | | |
|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | | |
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TEL470B

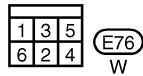
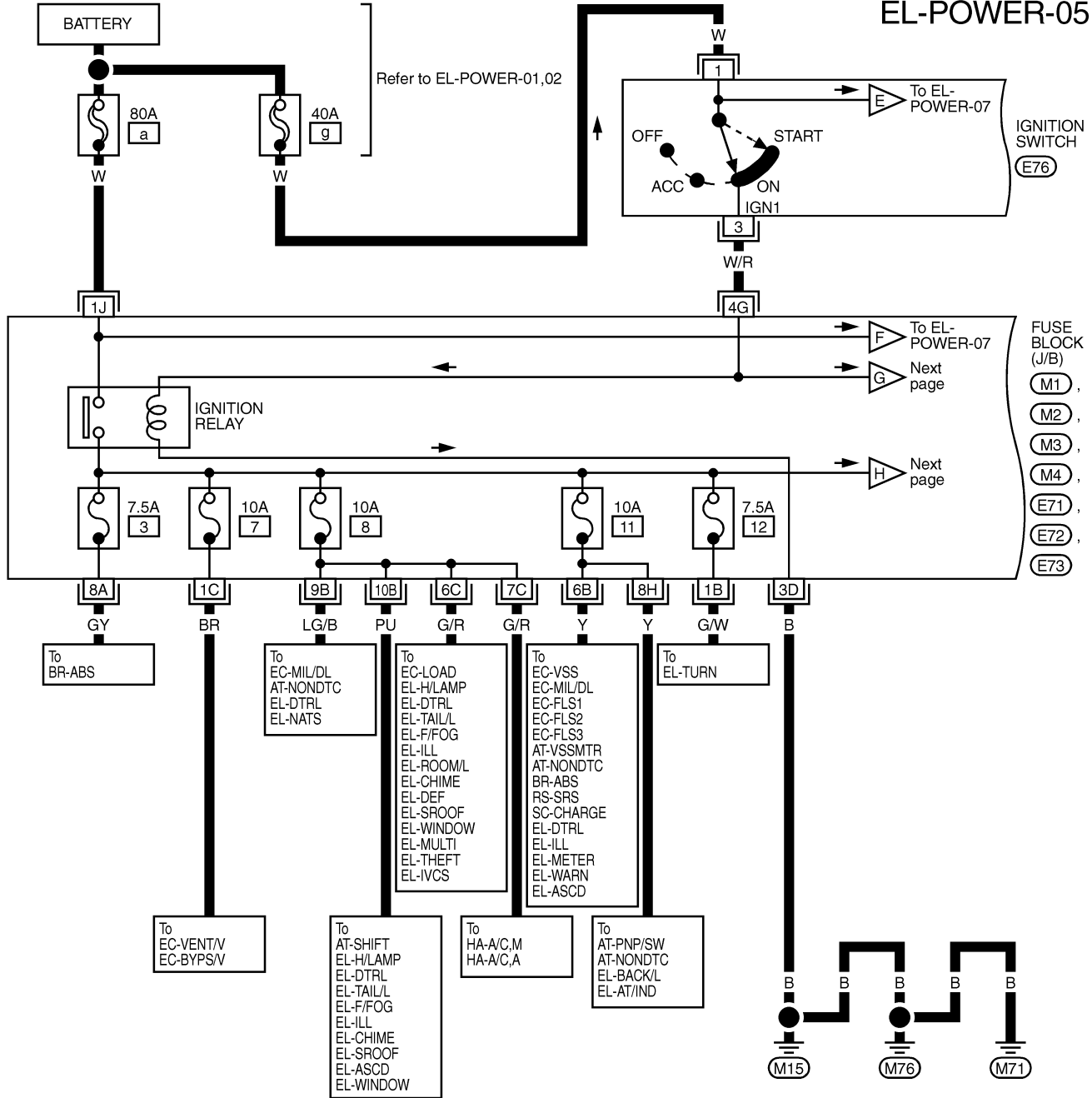
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

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

NCEL0006S03

EL-POWER-05



REFER TO THE FOLLOWING.

(M1), (M2), (M3), (M4)

(E71), (E72), (E73)

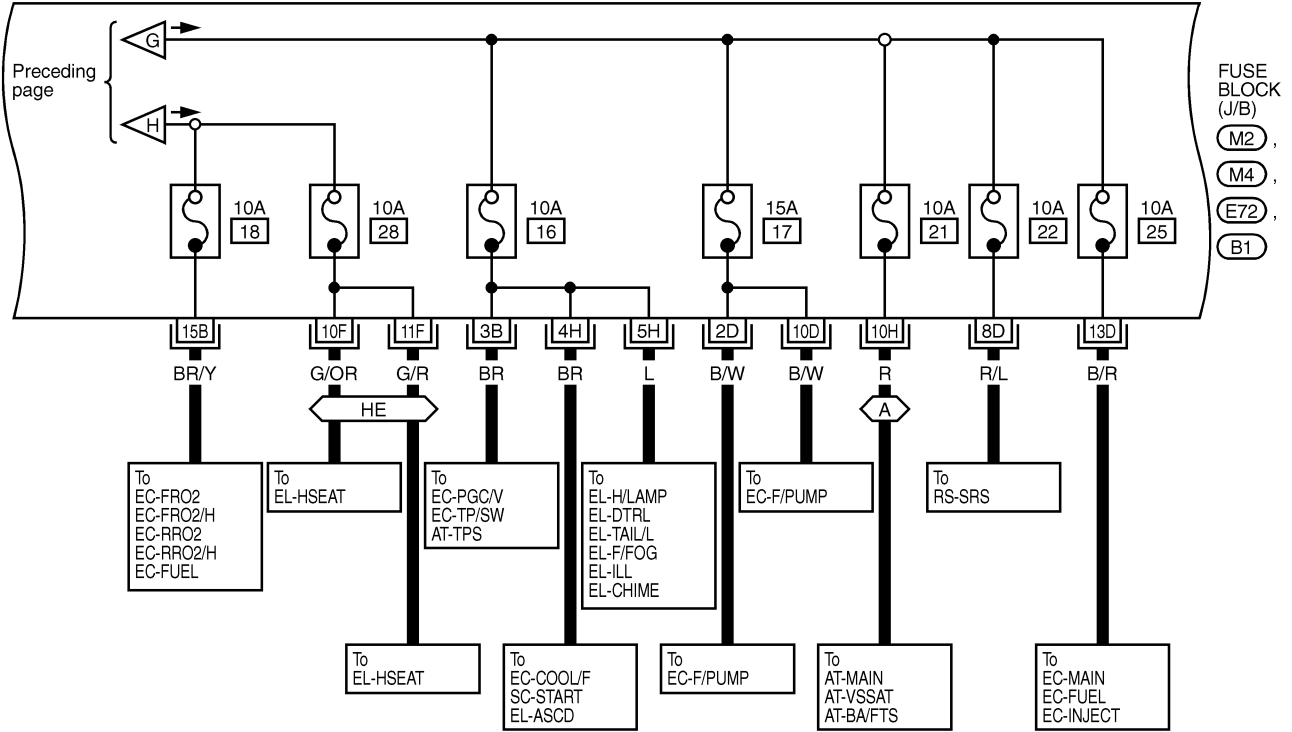
- FUSE BLOCK-JUNCTION BOX (J/B)

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

TEL471B

EL-POWER-06

: With A/T
 : With heated seat



REFER TO THE FOLLOWING.

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

| | | | | |
|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |
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| 21 | 22 | 23 | | |
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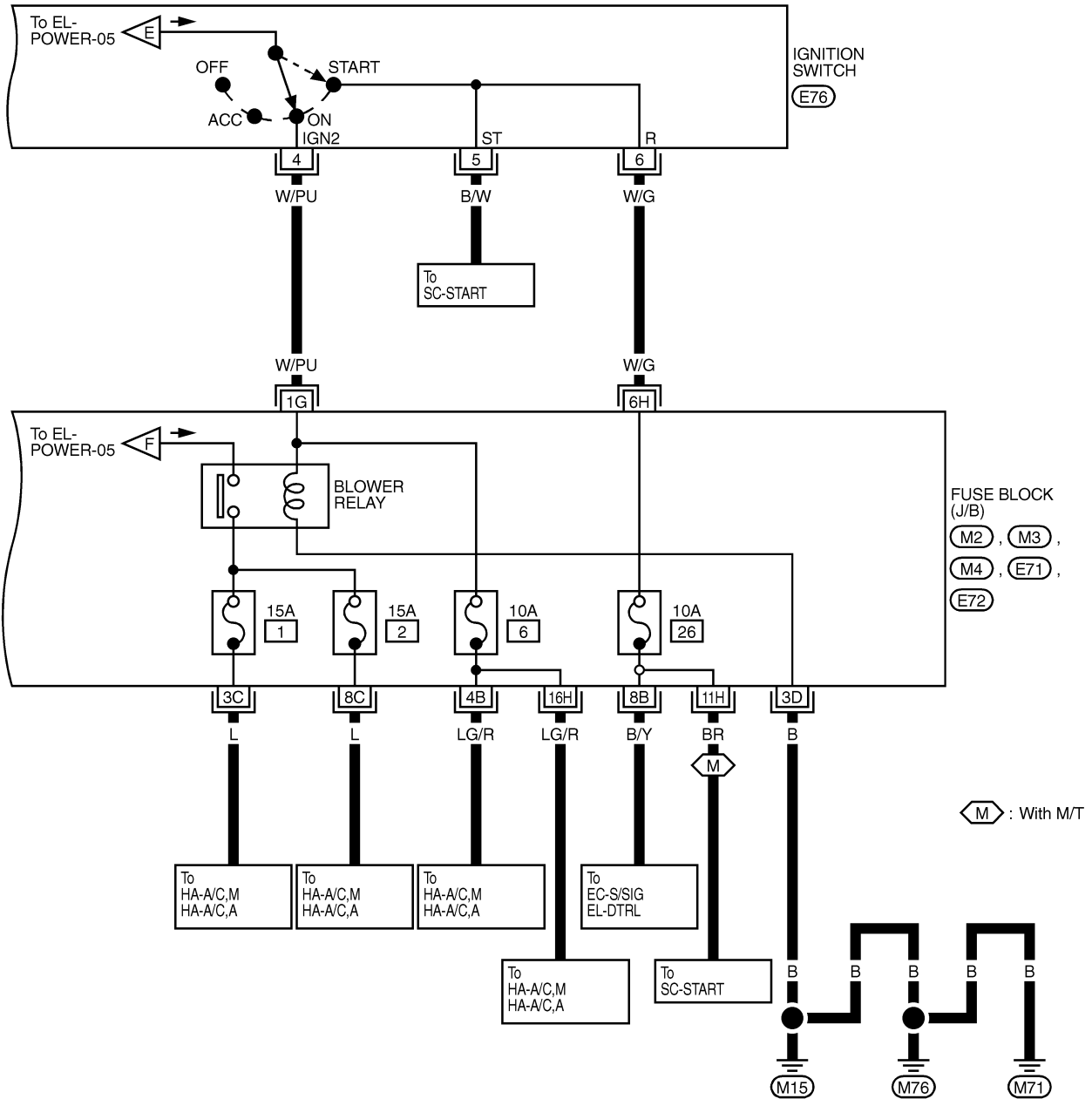
TEL472B

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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-07



| | | |
|---|---|---|
| 1 | 3 | 5 |
| 6 | 2 | 4 |

(E76)
W

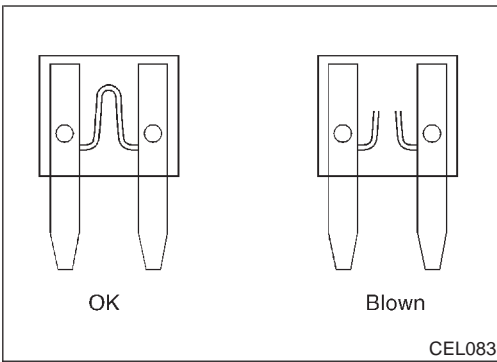
REFER TO THE FOLLOWING.

(M2), (M3), (M4), (E71)

(E72) - FUSE BLOCK-JUNCTION BOX (J/B)

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| 27 | 28 | 29 | | |

TEL473B



Inspection

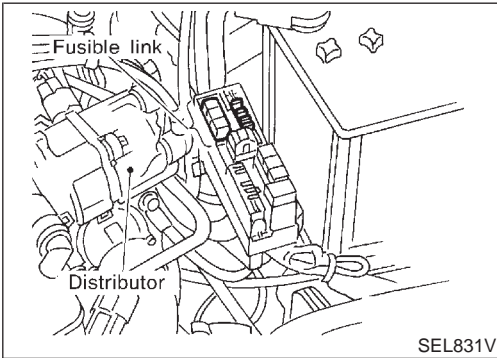
FUSE

NCEL0007

NCEL0007S01

- 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.

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FUSIBLE LINK

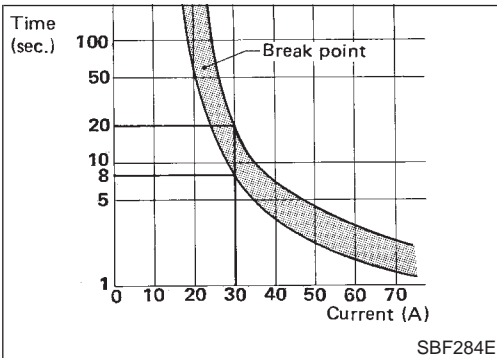
NCEL0007S02

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.

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CIRCUIT BREAKER

NCEL0007S03

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

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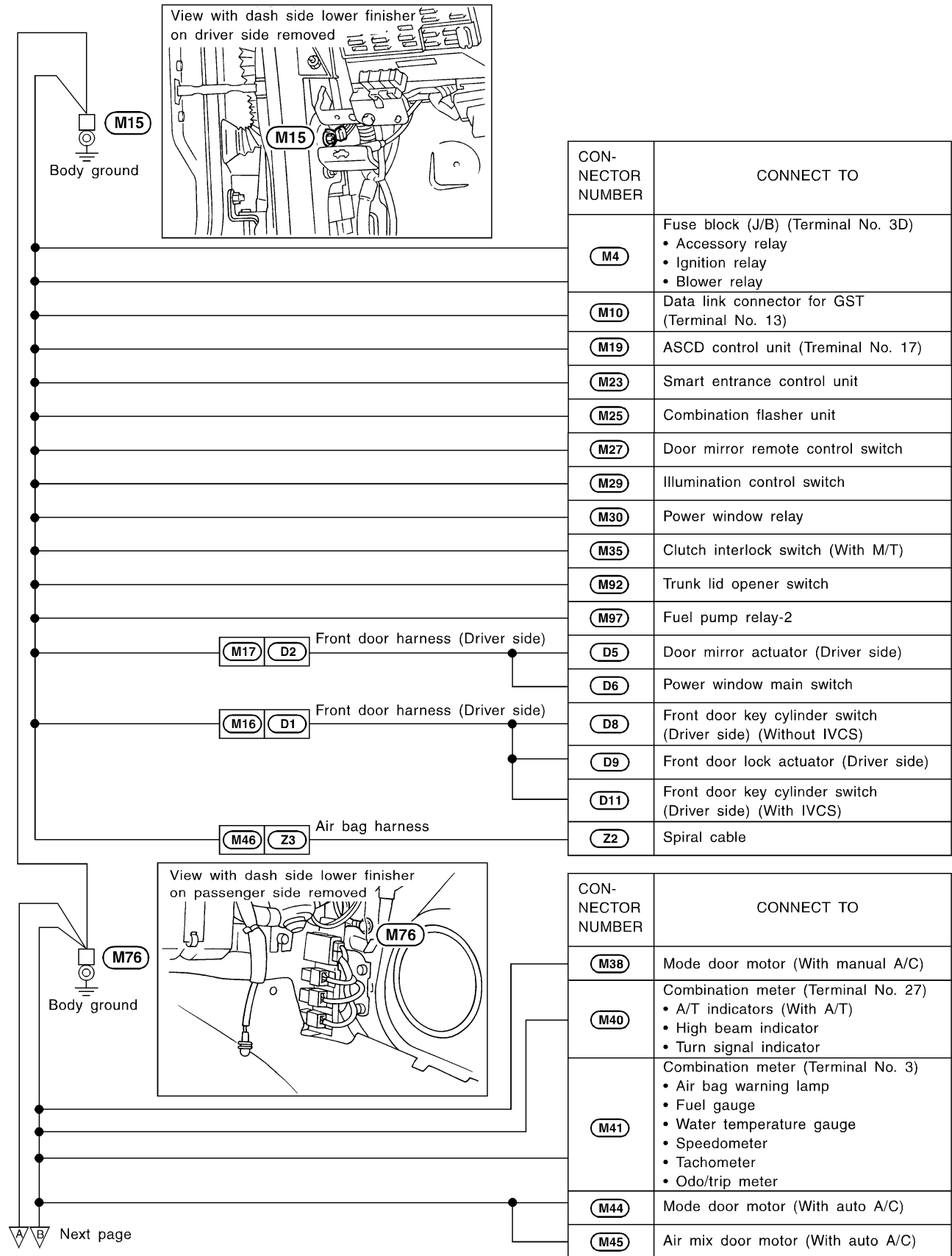
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Ground Distribution

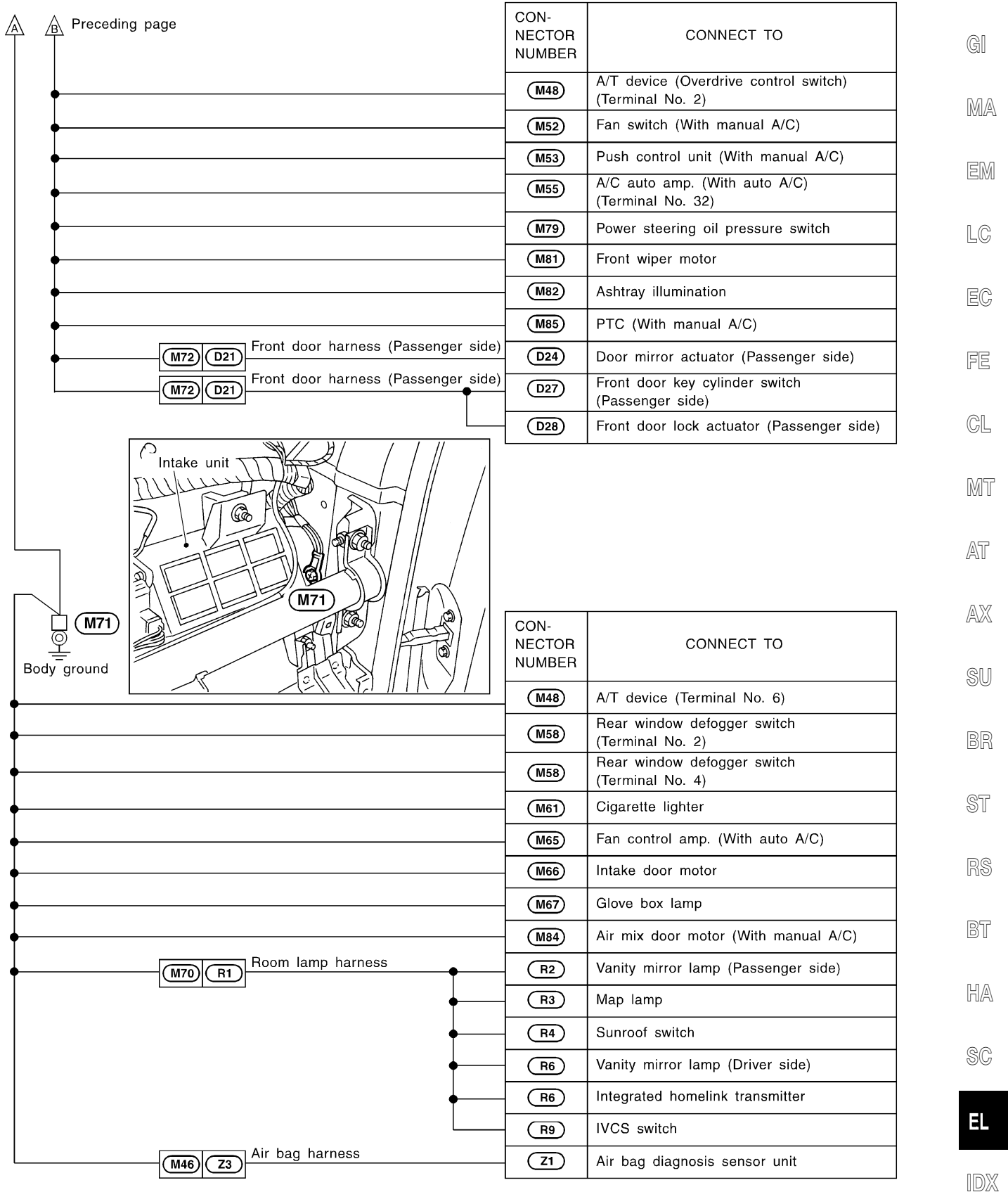
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NCEL0008S01

MAIN HARNESS



Next page

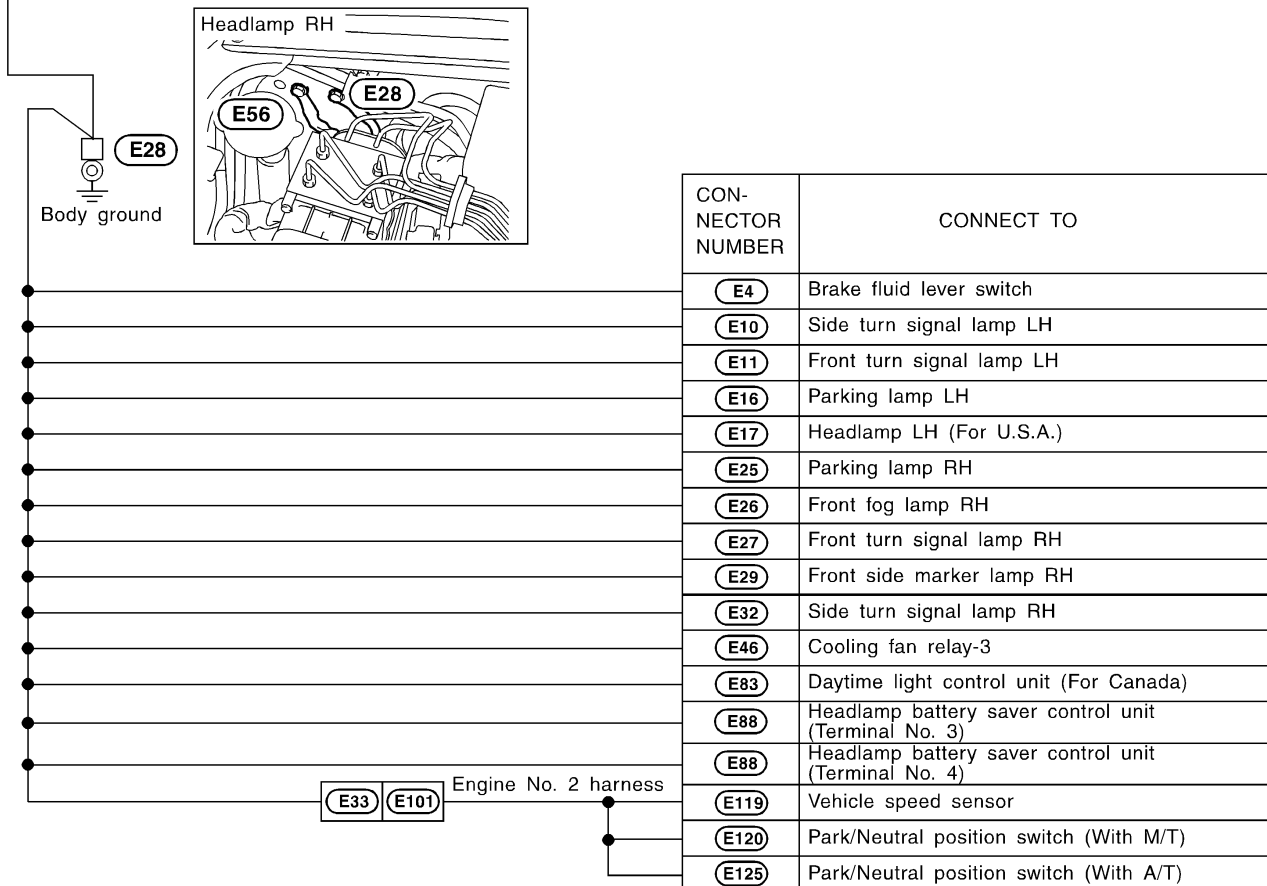
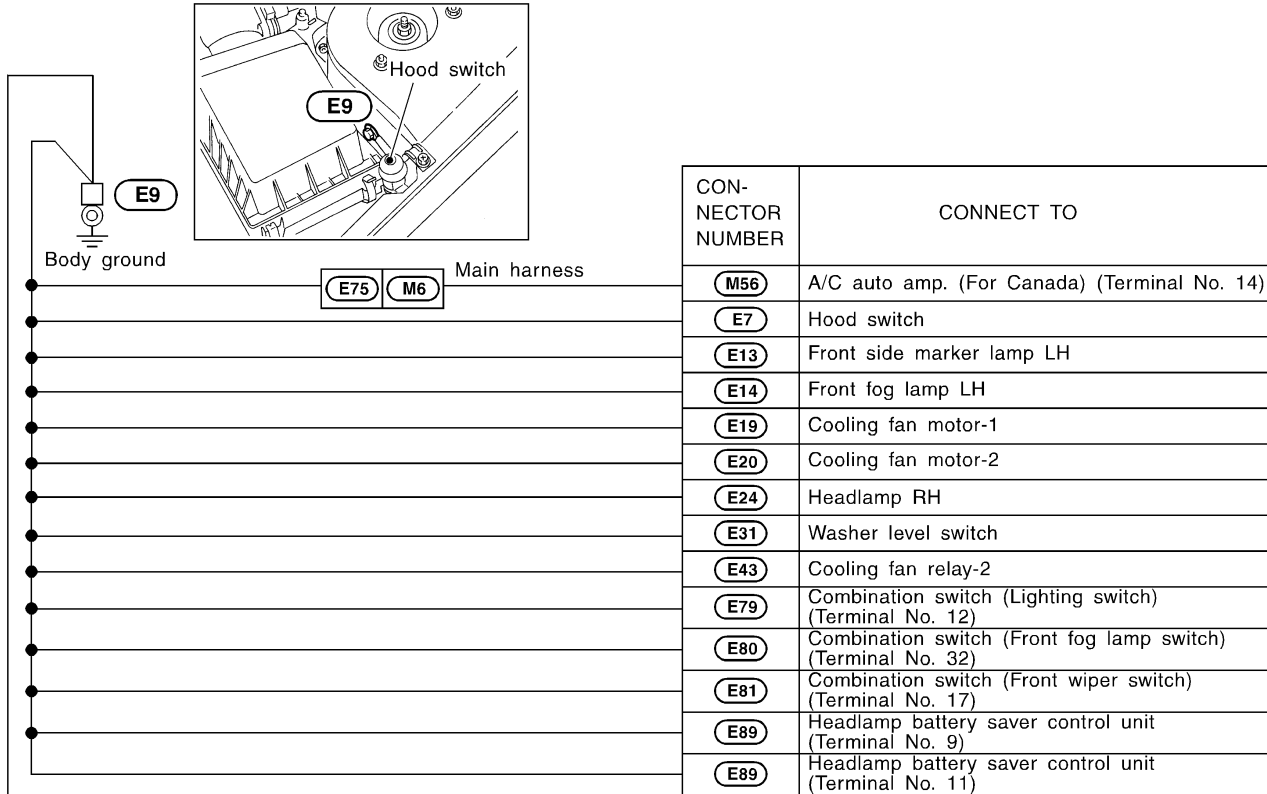


GROUND

Ground Distribution (Cont'd)

ENGINE ROOM HARNESS

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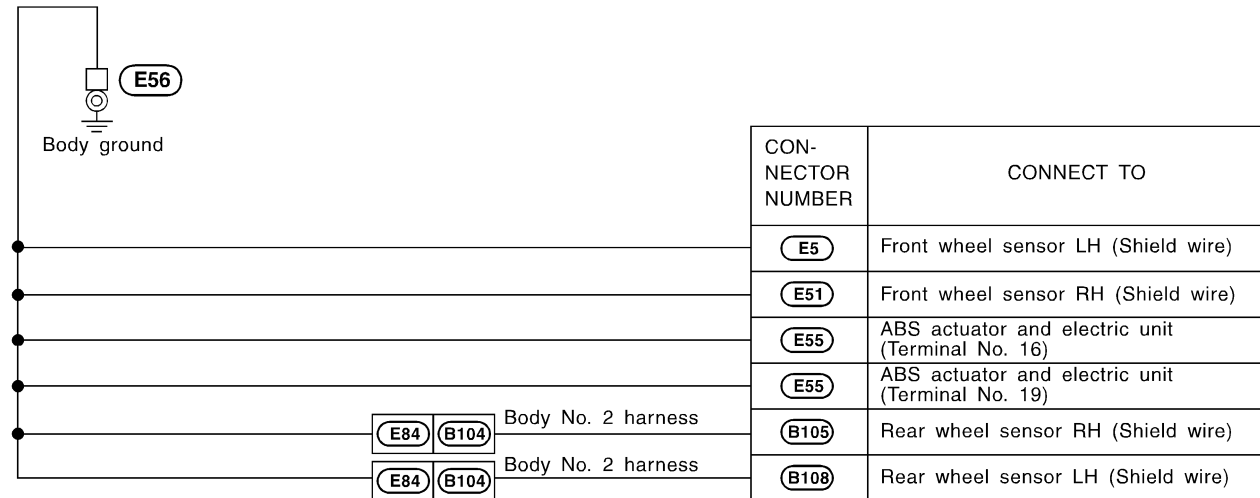
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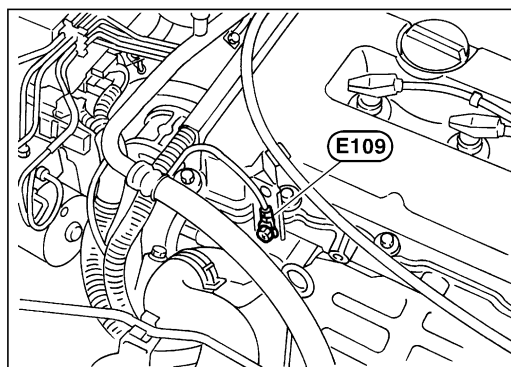
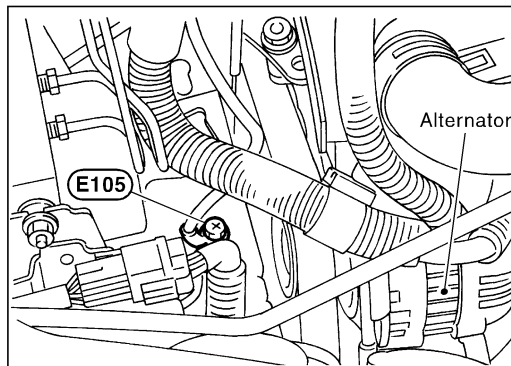
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ENGINE HARNESS



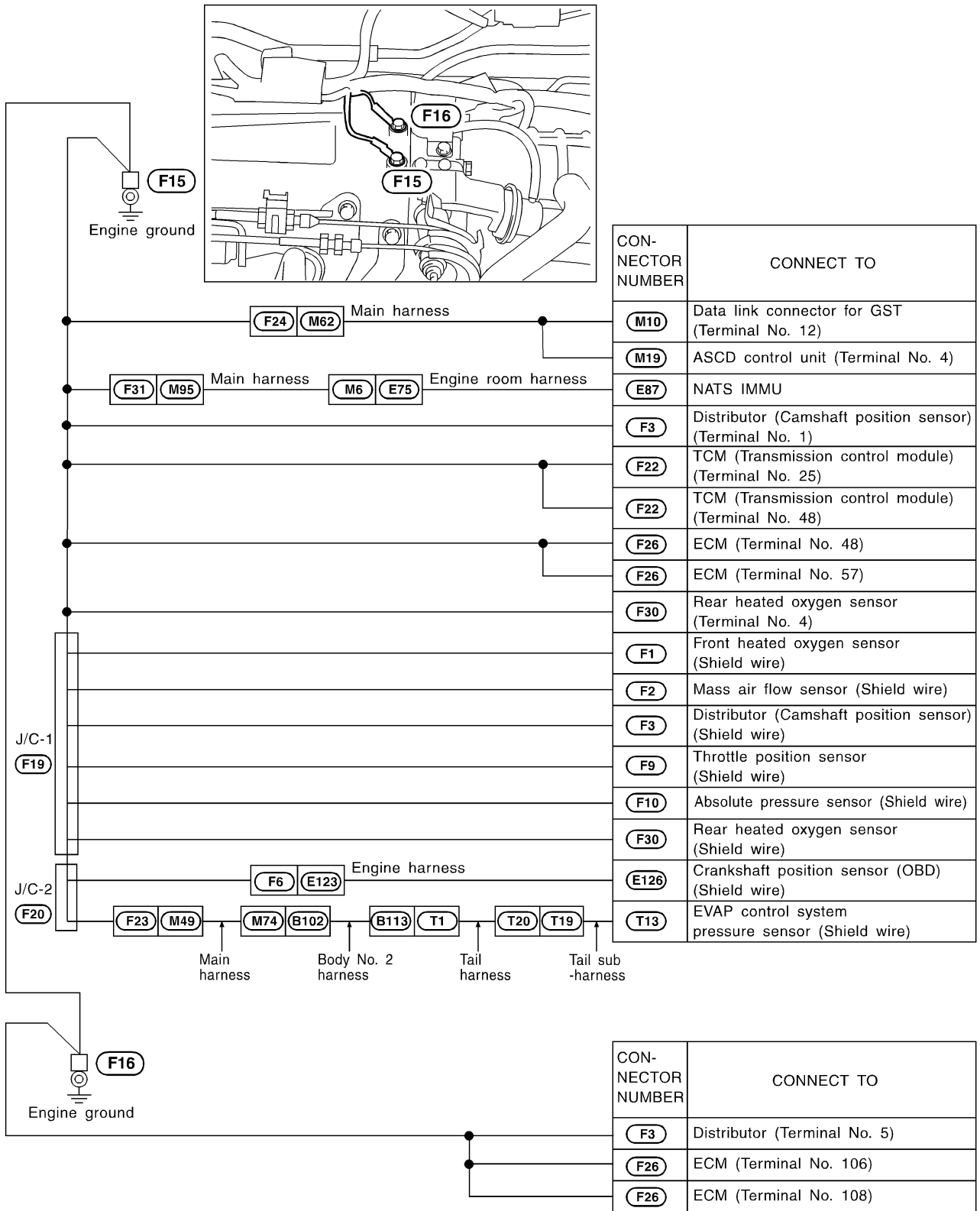
CEL164A

GROUND

Ground Distribution (Cont'd)

ENGINE CONTROL HARNESS

NCEL0008S04



CEL165A

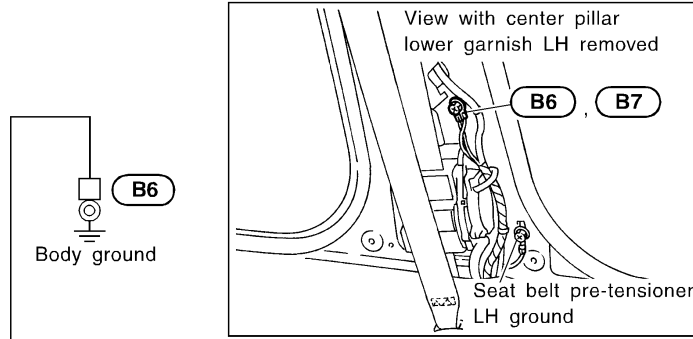
GROUND

Ground Distribution (Cont'd)

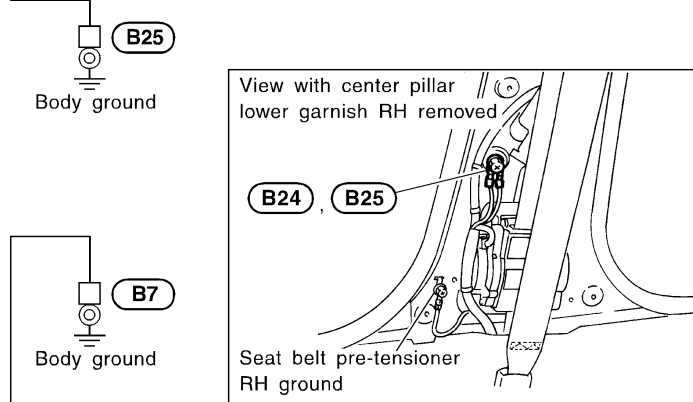
BODY HARNESS

NCEL0008S05

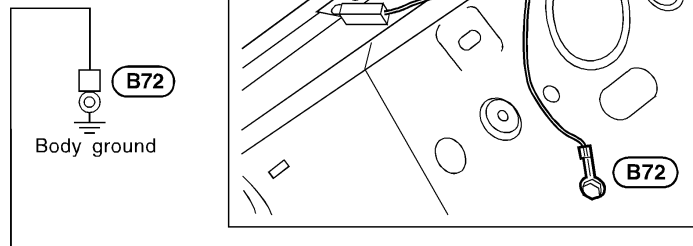
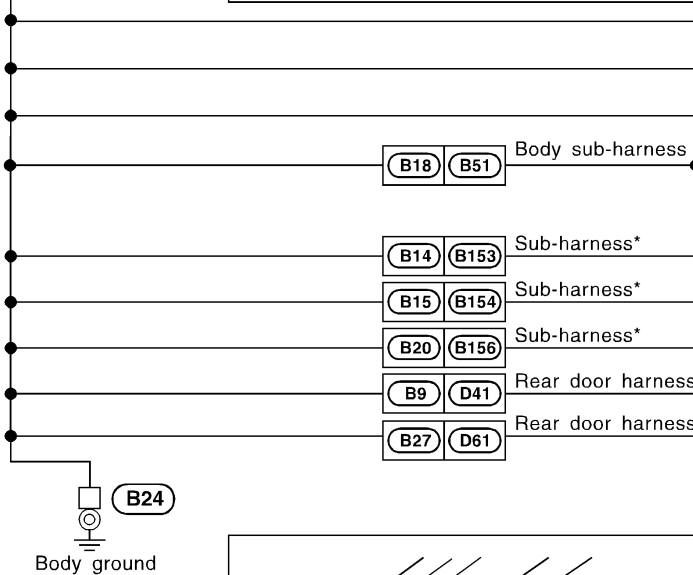
GI
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IDX



| CON-NECTOR NUMBER | CONNECT TO |
|-------------------|---|
| B19 | Air bag diagnosis sensor unit (Terminal No. 40) (Shield wire) |



| CON-NECTOR NUMBER | CONNECT TO |
|-------------------|---------------------------------------|
| B4 | Front door switch (Driver side) |
| B13 | Seat belt buckle switch (Driver side) |
| B30 | IVCS unit |
| B52 | Heated seat switch LH |
| B53 | Heated seat switch RH |
| B150 | Power seat (Driver side) |
| B155 | Heated seat LH |
| B157 | Heated seat RH |
| D44 | Rear door lock actuator LH |
| D64 | Rear door lock actuator RH |



| CON-NECTOR NUMBER | CONNECT TO |
|-------------------|--------------------------|
| B71 | Rear window defogger (-) |

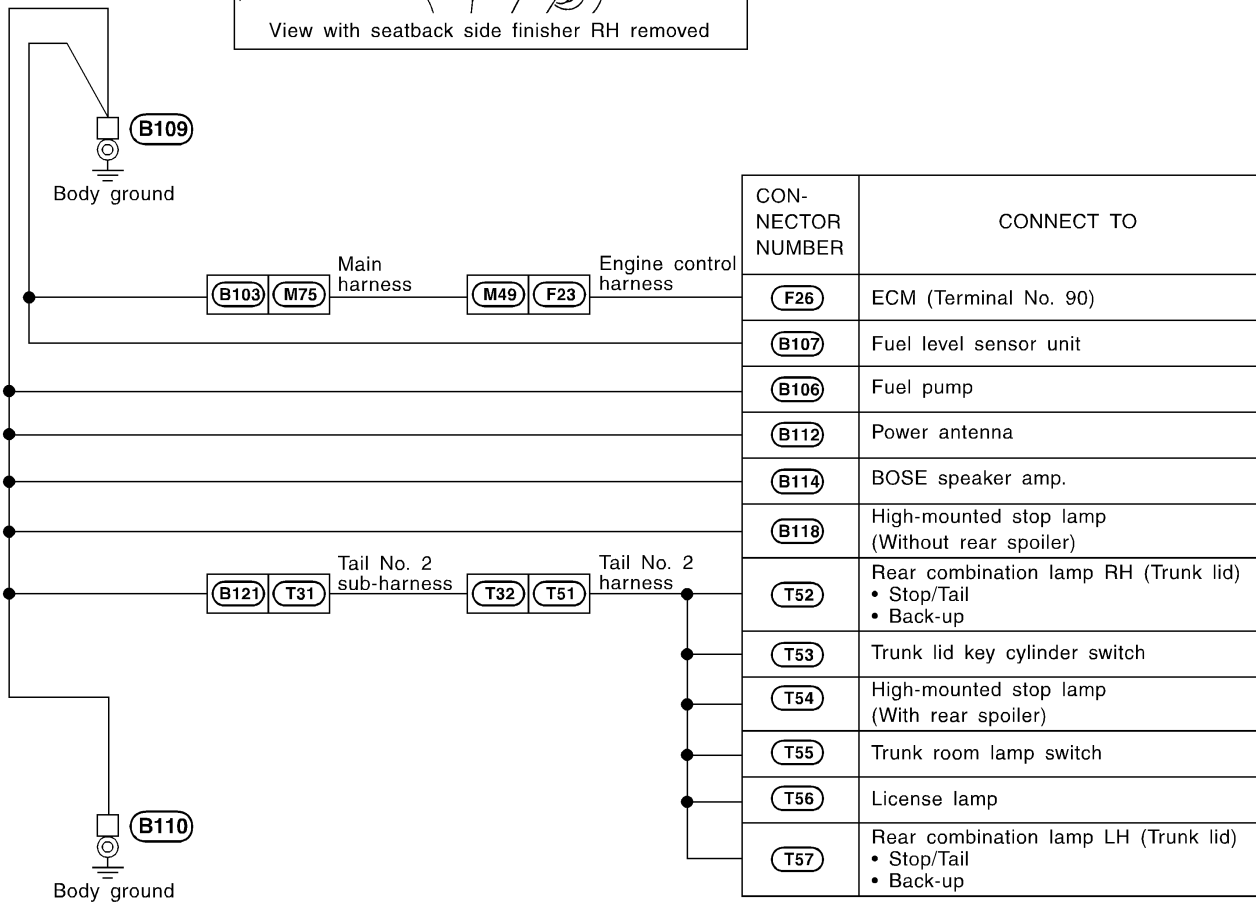
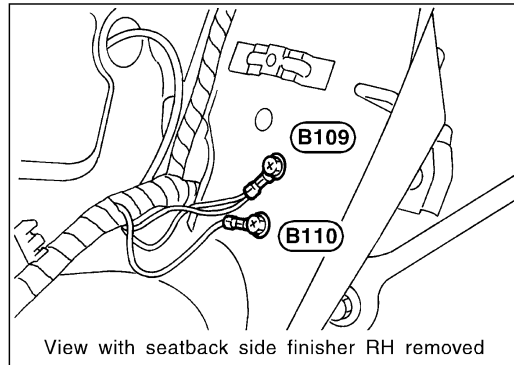
* : This sub-harness is not shown in "HARNESS LAYOUT", EL section.

GROUND

Ground Distribution (Cont'd)

BODY NO. 2 HARNESS

NCEL0008S06



CEL167A

TAIL HARNESS

NCEL0008S07

GI

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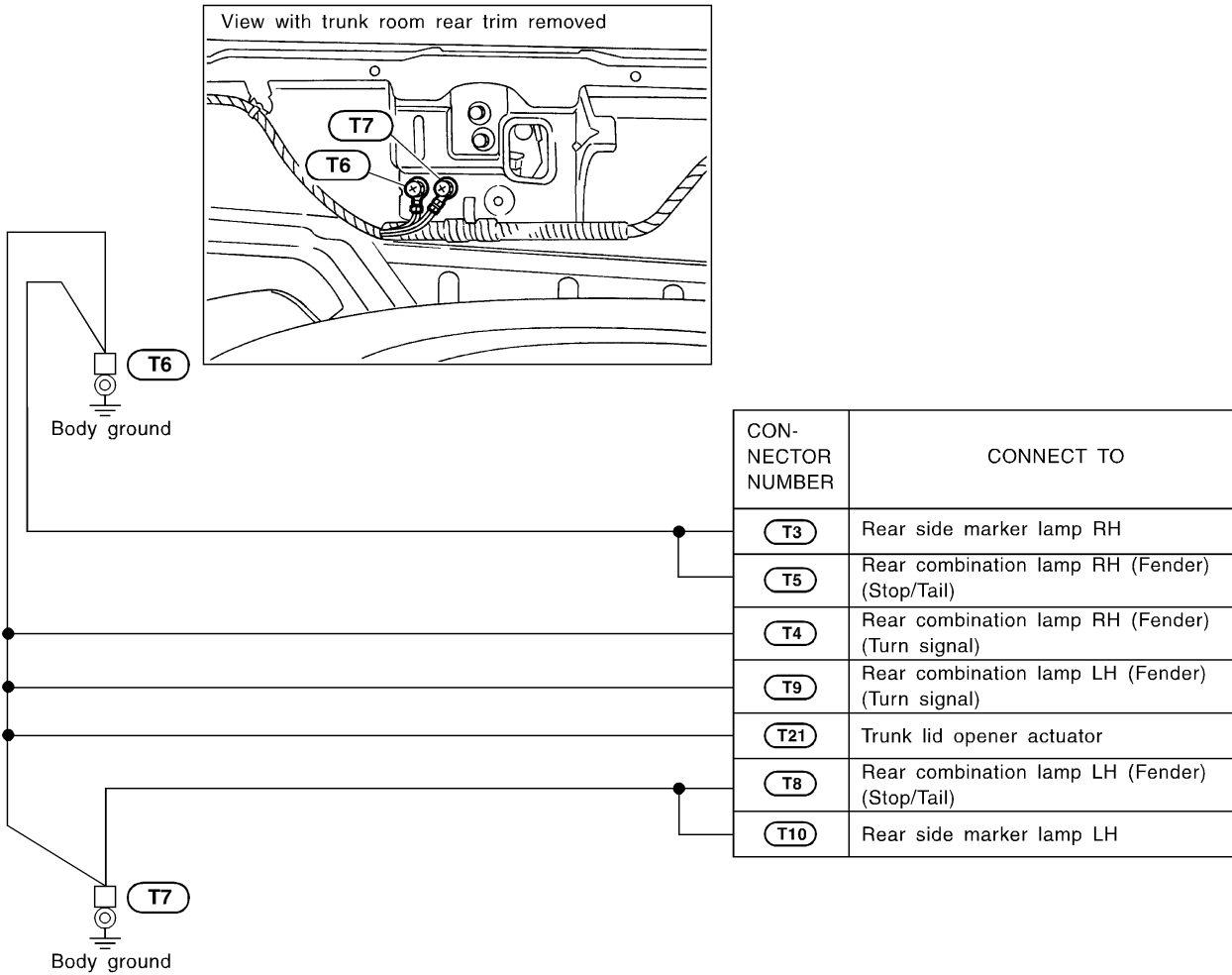
BT

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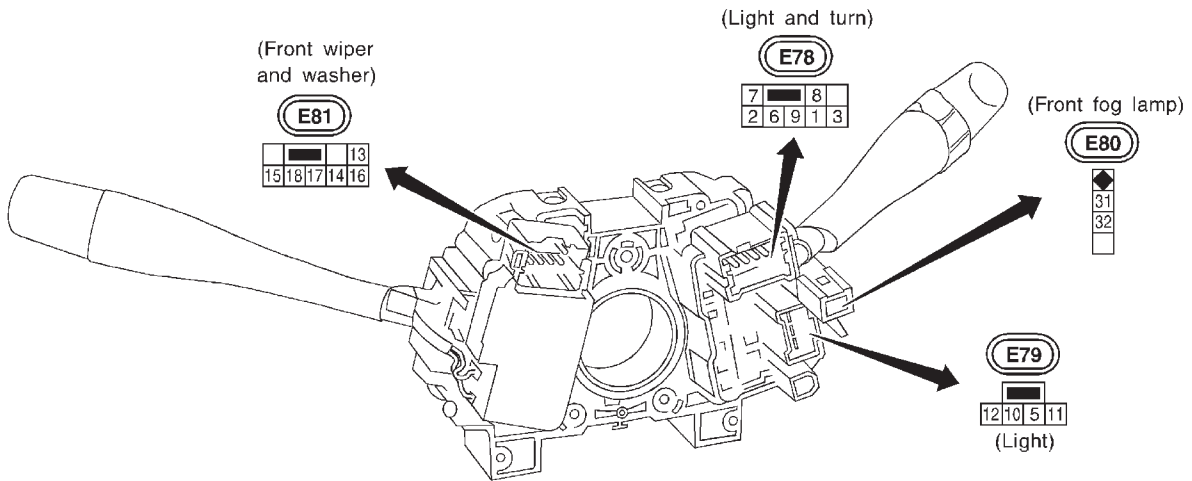
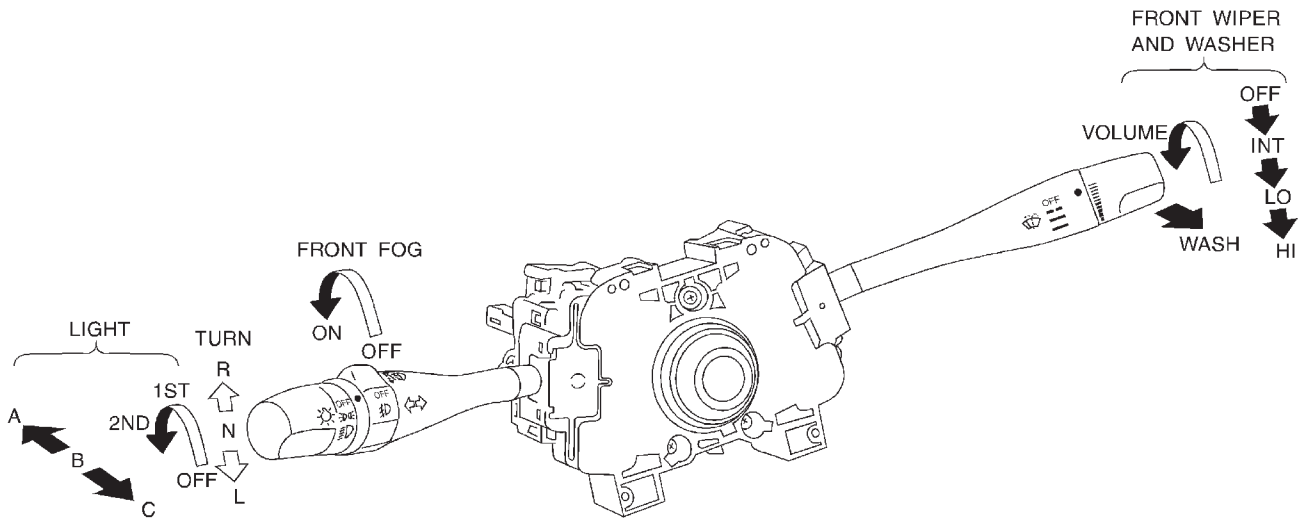
CEL168A

COMBINATION SWITCH

Check

Check

NCEL0009



FRONT WIPER AND WASHER SWITCH

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

WIPER AMP.

14 15 13 16 17 18

VARIABLE INTERMITTENT WIPER VOLUME



LIGHTING SWITCH

| | OFF | | | 1ST | | | 2ND | | |
|----|-----|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | A | B | C | A | B | C | A | B | C |
| 5 | | | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | | | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | | | | | | | | | <input type="checkbox"/> |
| 8 | | | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | | | | | | | | | <input type="checkbox"/> |
| 11 | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

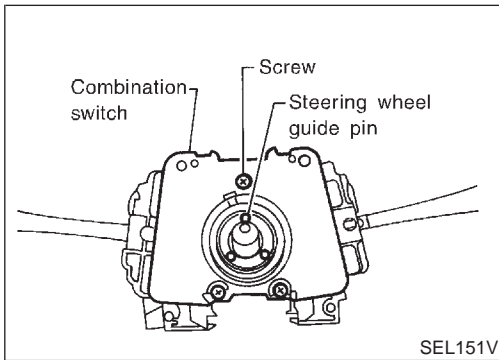
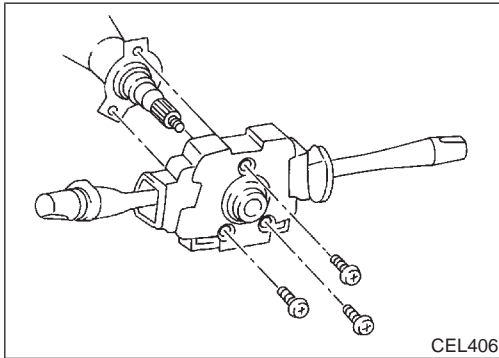
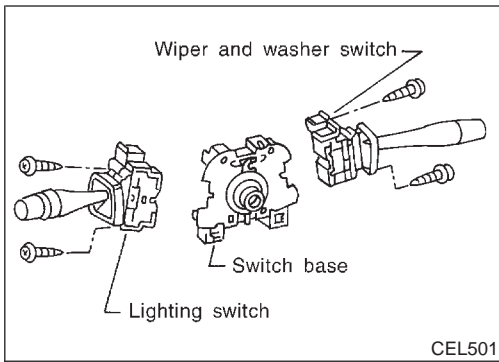
FRONT FOG LAMP SWITCH

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

TURN SIGNAL SWITCH

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

CEL940



Replacement

For removal and installation of spiral cable, refer to ^{NCEL0010}RS-22 "Installation — Air Bag Module and Spiral Cable".

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

GI

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IDX

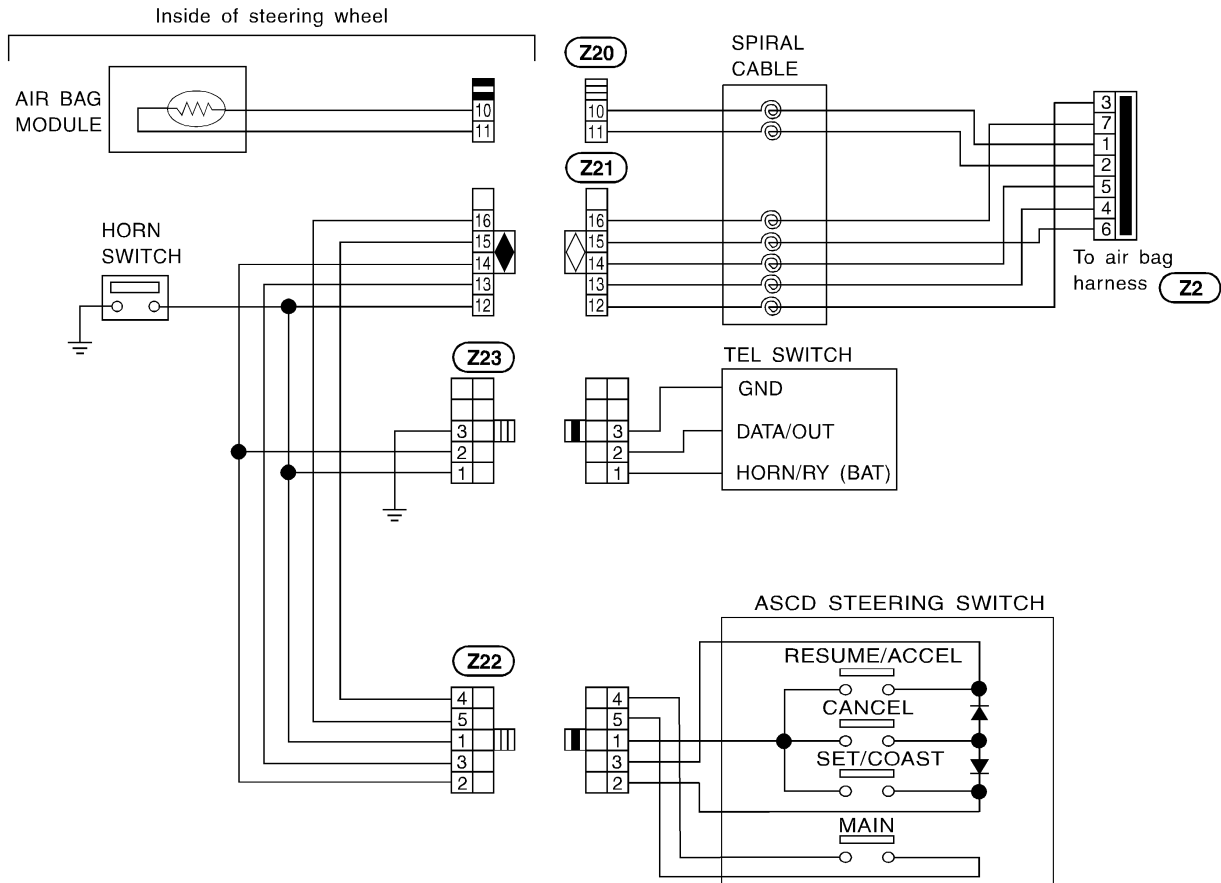
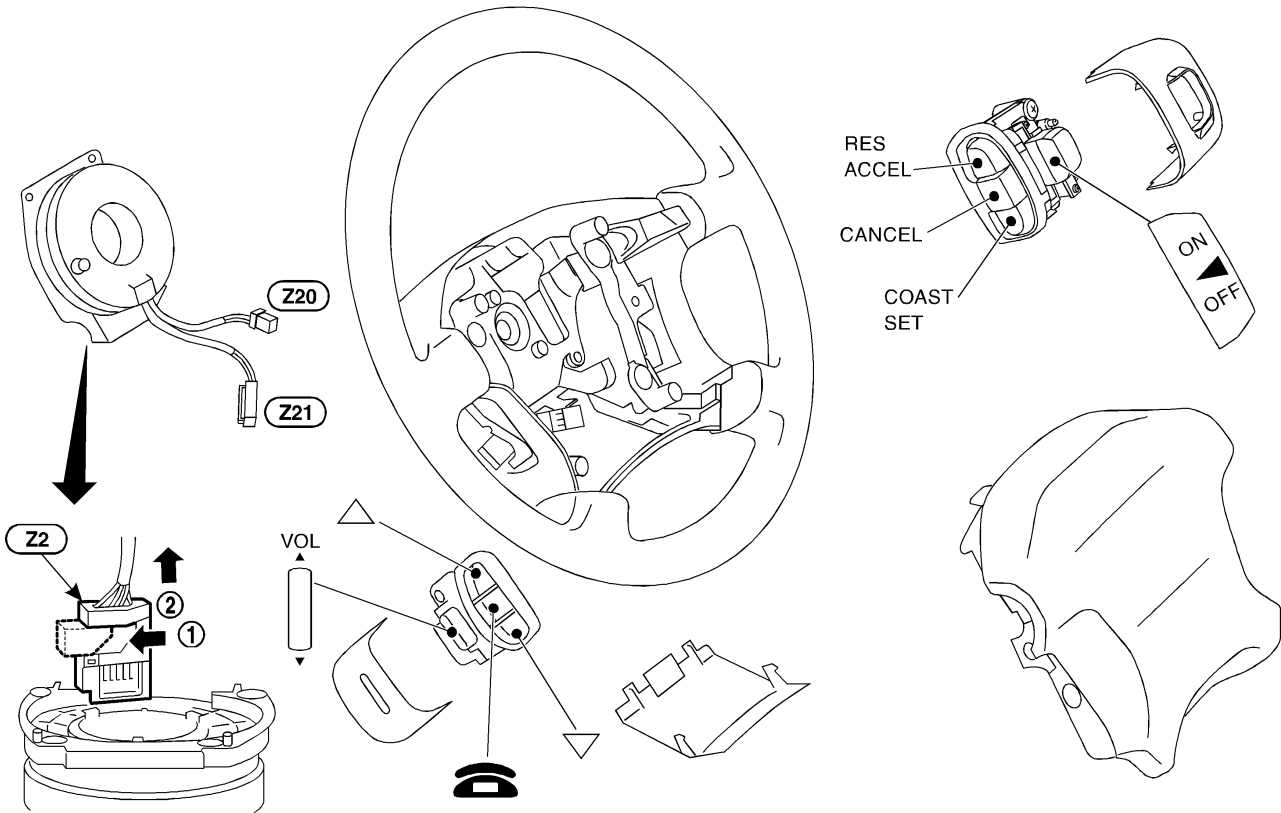
STEERING SWITCH

Check

Check WITH INFINITI COMMUNICATOR (IVCS)

NCEL0011

NCEL0011S01



CEL169A

STEERING SWITCH

Check (Cont'd)

WITHOUT INFINITI COMMUNICATOR (IVCS)

NCEL0011S02

GI

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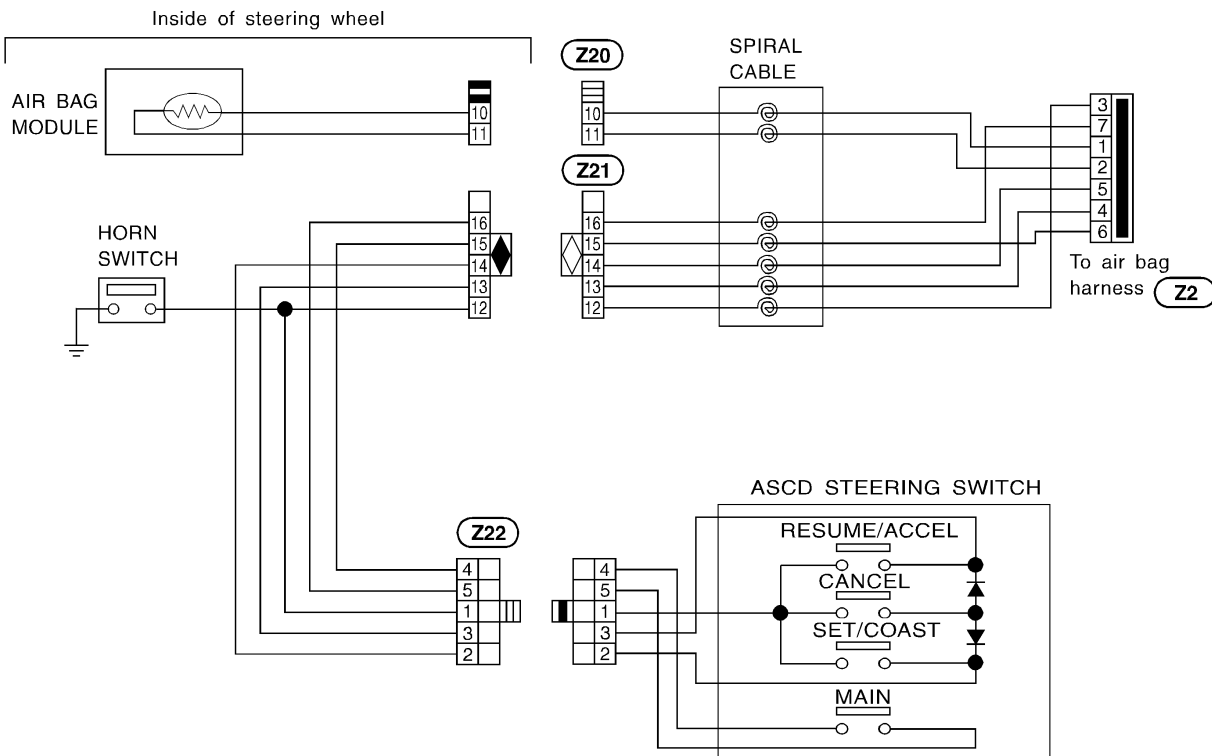
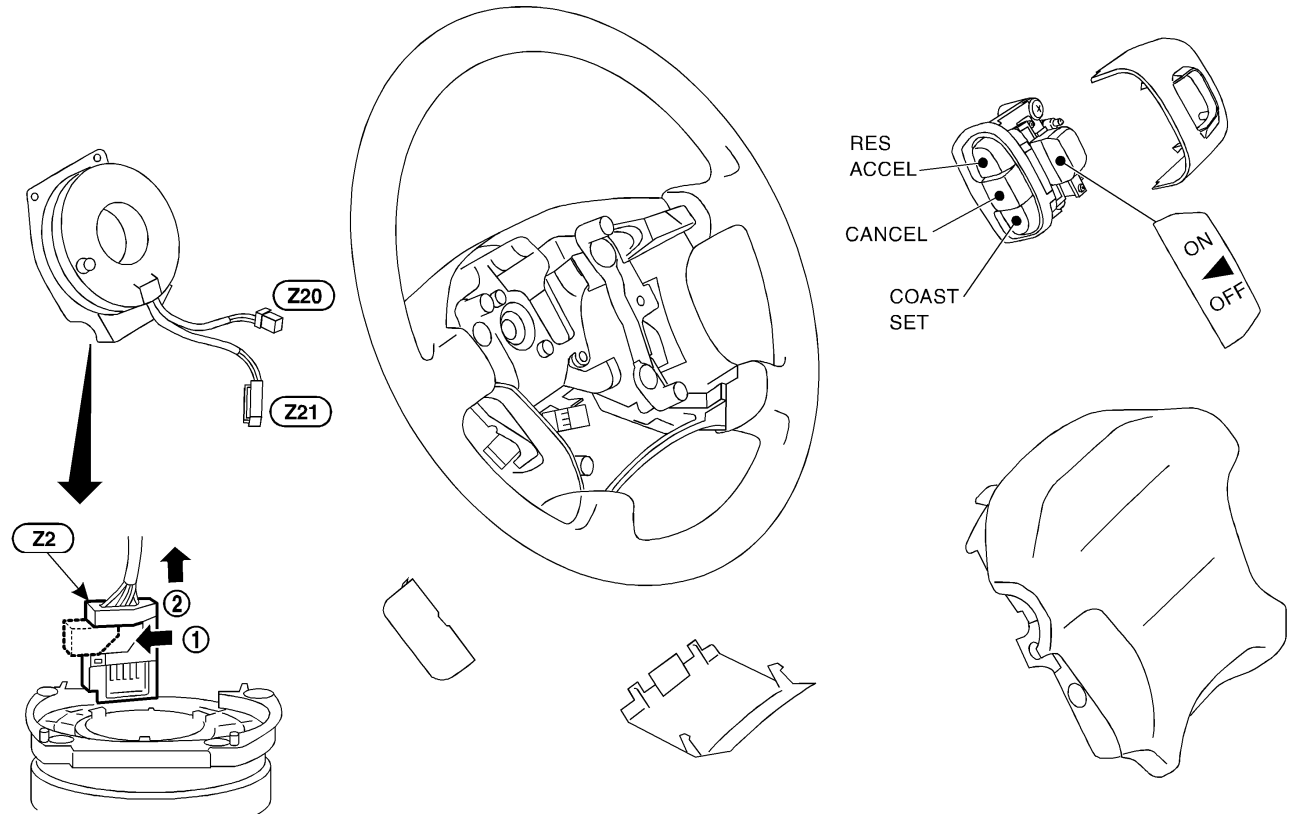
BT

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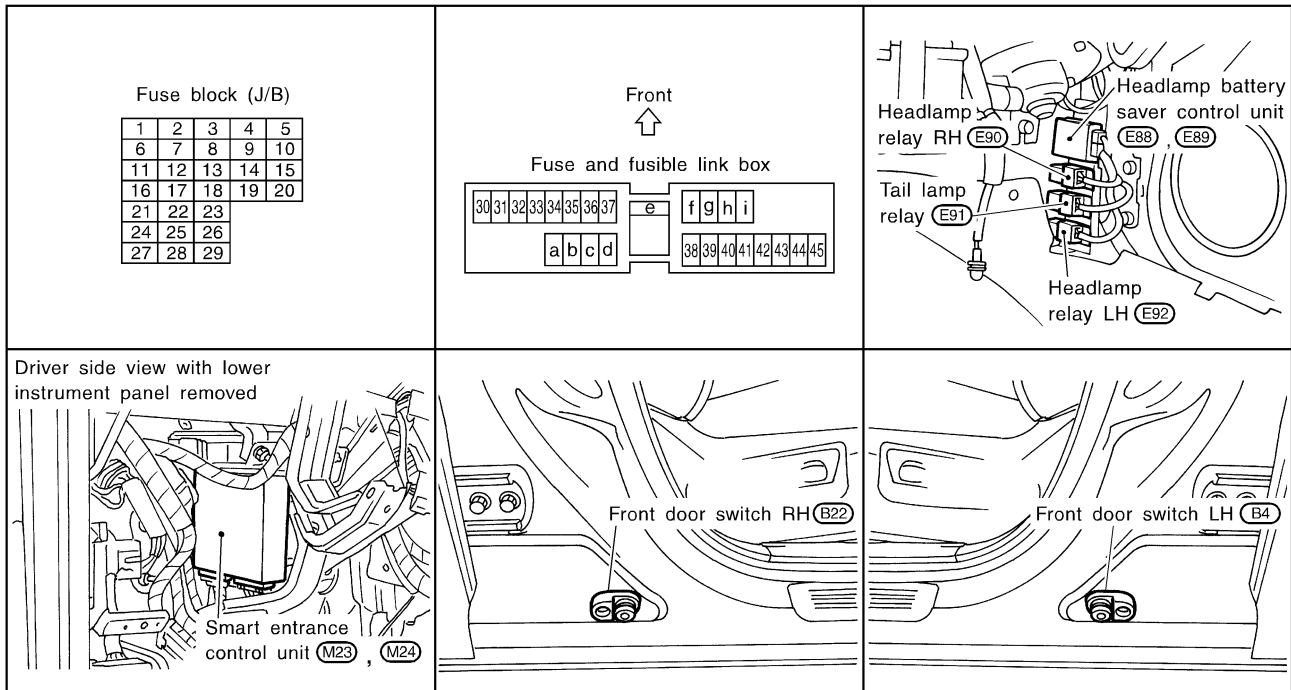


HEADLAMP (FOR USA)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0164



SEL665W

System Description

NCEL0012

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

OUTLINE

NCEL0012S04

Power is supplied at all times

- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 32, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 33, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 8, located in the fuse block (J/B)]

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

When Ignition Switch is in ON or START Position

NCEL0012S0401

Ground is supplied

- to headlamp LH relay terminal 2 from headlamp battery saver control unit terminal 8
- through headlamp battery saver control unit terminal 9, and
- through body grounds E9 and E28, and
- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 2
- through headlamp battery saver control unit terminal 3, and
- through body grounds E9 and E28.

GI

MA

EM

Headlamp relays (LH and RH) are then energized.

When Ignition Switch is in OFF or ACC Position

NCEL0012S0402

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

LC

EC

And then, ground is also supplied to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit. Headlamp relays (LH and RH) are then energized.

FE

LOW BEAM OPERATION

NCEL0012S01

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

- from lighting switch terminal 10
- to terminal 3 of the LH headlamp, and
- from lighting switch terminal 7
- to terminal 3 of the RH headlamp.

CL

MT

Terminal 2 of each headlamp supplies ground through body grounds E9 and E28.

AT

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

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

NCEL0012S02

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

- from lighting switch terminal 6
- to terminal 1 of the RH headlamp, and
- from lighting switch terminal 9
- to terminal 1 of the LH headlamp, and
- to combination meter terminal 29 for the high beam indicator.

AX

SU

BR

Ground is supplied to terminal 27 of the combination meter through body grounds M15, M71 and M76.

ST

Terminal 2 of each headlamp supplies ground through body grounds E9 and E28.

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

RS

BATTERY SAVER CONTROL

NCEL0012S05

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps illuminate, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

BT

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 2 of the headlamp LH and RH relay from headlamp battery saver control unit terminals 2 and 8 is terminated.

HA

Then the headlamps are turned off.

SC

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

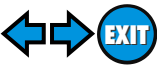
When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supplied

EL

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit terminals 2 and 8
- through headlamp battery saver control unit terminals 3 and 9, and
- through body grounds E9 and E28.

IDX

Then headlamps illuminate again.



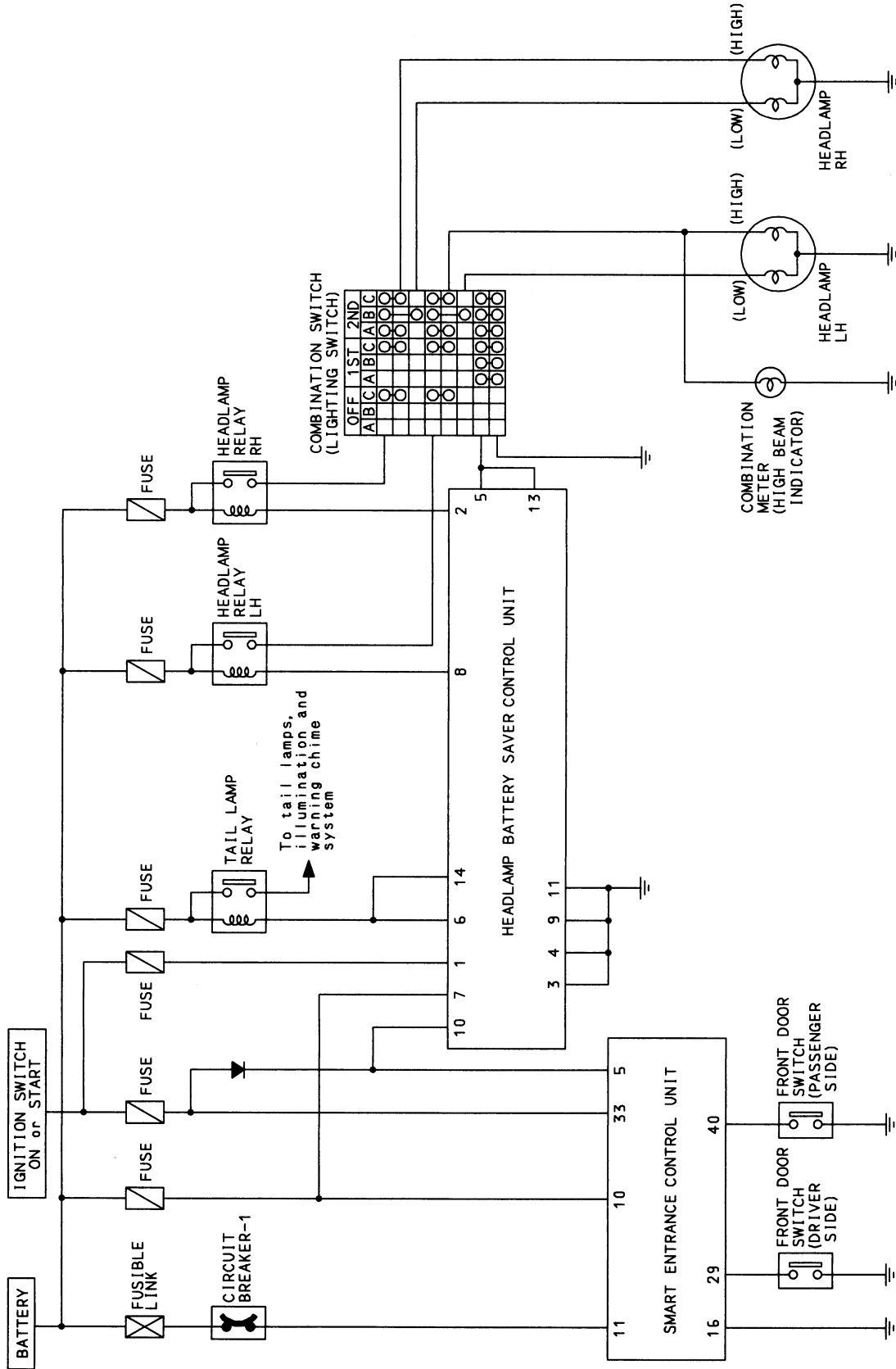
System Description (Cont'd)

THEFT WARNING SYSTEM

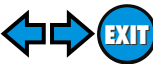
The theft warning system will flash the high beams if the system is triggered. Refer to “THEFT WARNING SYSTEM” (EL-217). NCEL0012S03

Schematic

NCEL0165



GI
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HEADLAMP (FOR USA)

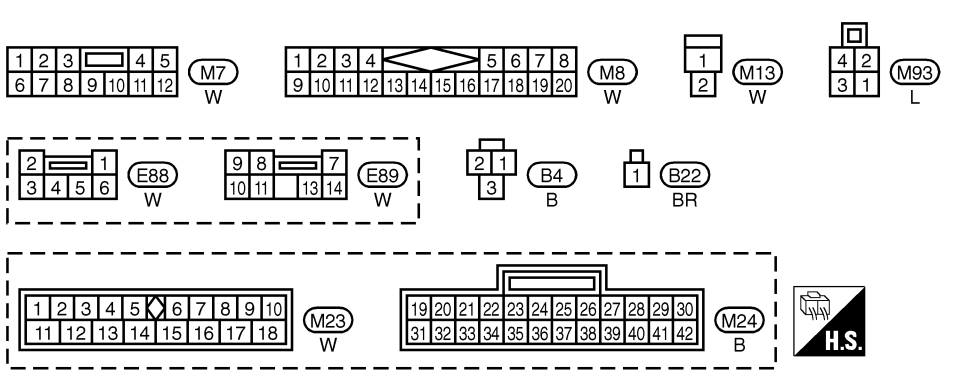
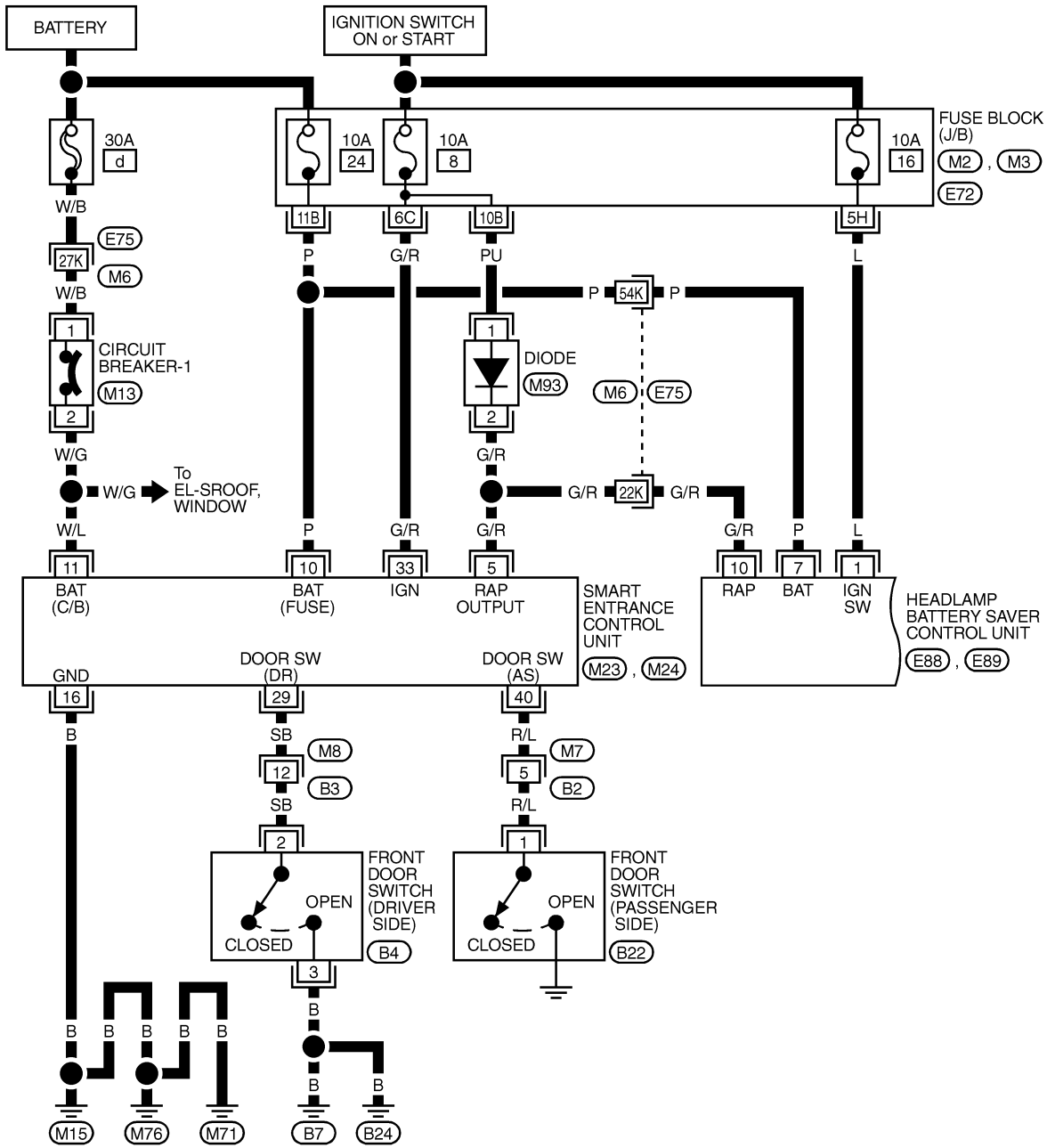
Wiring Diagram — H/LAMP —

Wiring Diagram — H/LAMP —

NCEL0013

EL-H/LAMP-01

Refer to EL-POWER.



REFER TO THE FOLLOWING.

- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

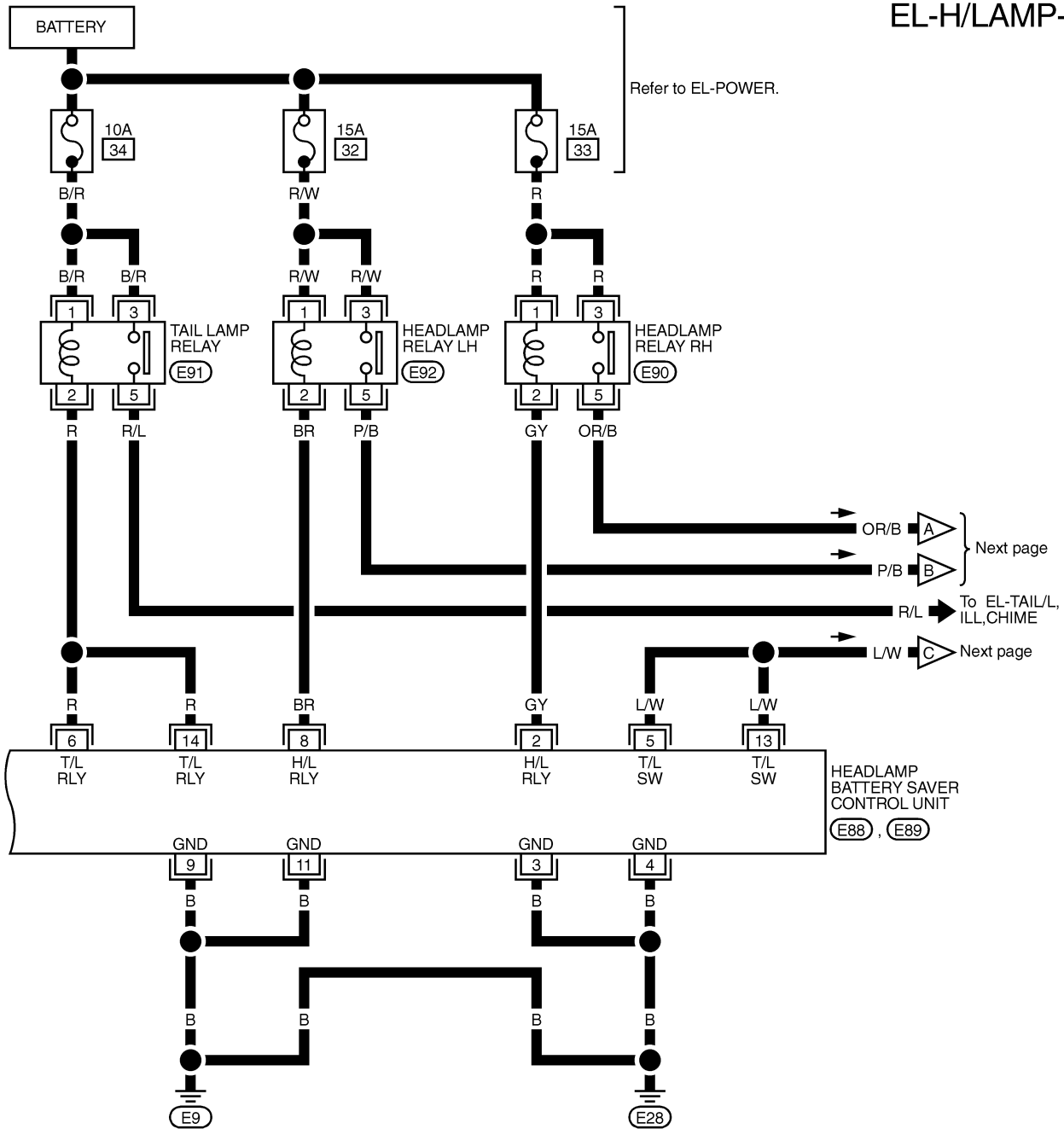


TEL475B

HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-02

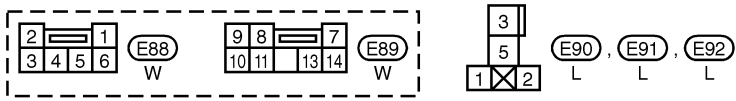


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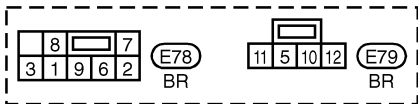
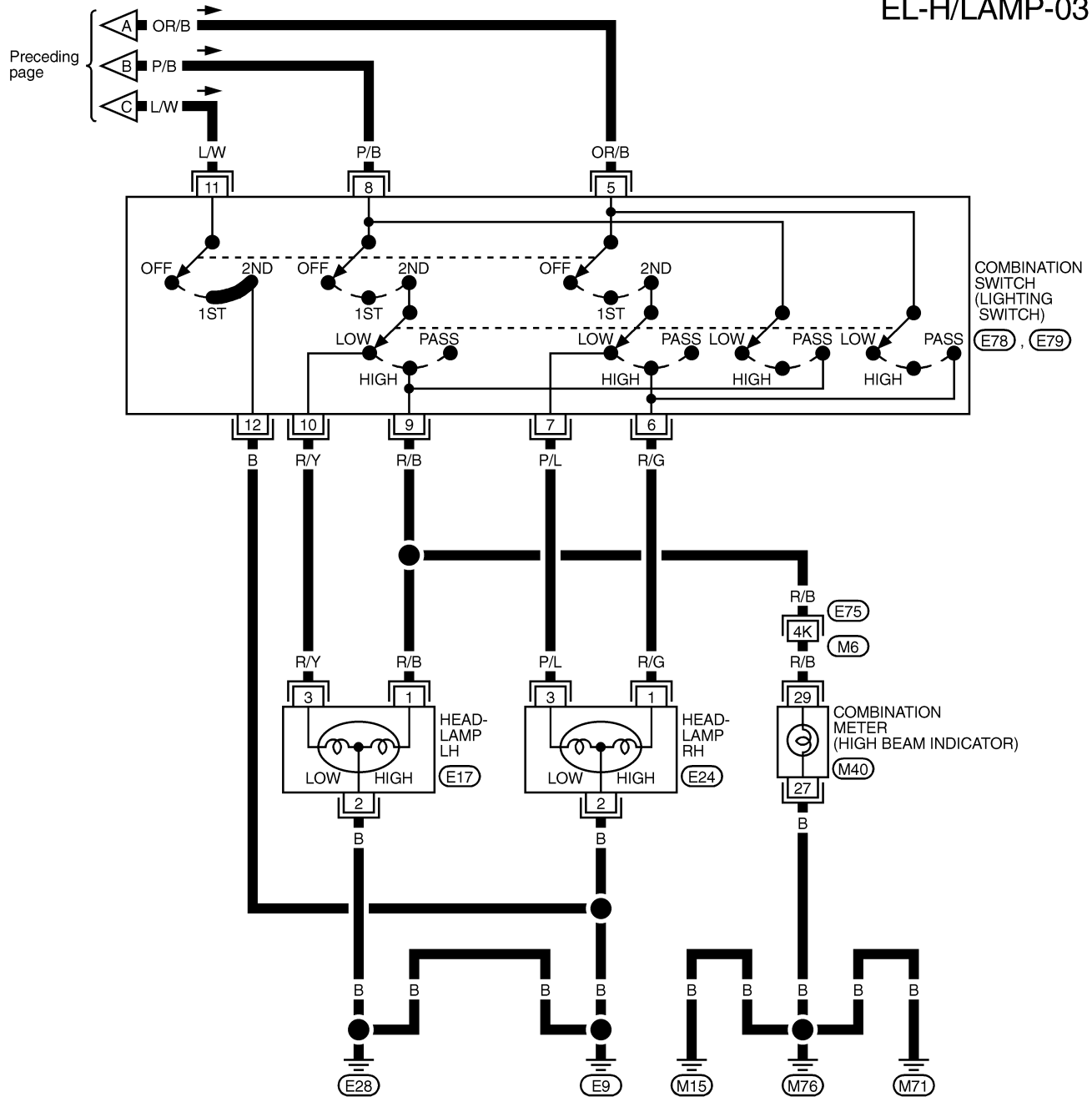
IDX



HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-03



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)

TEL477B

Trouble Diagnoses

NCEL0014

| Symptom | Possible cause | Repair order | |
|---|---|--|--|
| Neither headlamp operates. | <ol style="list-style-type: none"> 1. 10A fuse 2. Lighting switch 3. Headlamp battery saver control unit | <ol style="list-style-type: none"> 1. Check 10A fuse [No. 24, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit. 2. Check Lighting switch. 3. Check headlamp battery saver control unit. | <p>GI</p> <p>MA</p> <p>EM</p> |
| LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate. | <ol style="list-style-type: none"> 1. Bulb 2. LH headlamp ground circuit 3. 15A fuse 4. Headlamp LH relay 5. Headlamp LH relay circuit 6. Lighting switch 7. Headlamp battery saver control unit | <ol style="list-style-type: none"> 1. Check bulb. 2. Check harness between LH headlamp and ground. 3. Check 15A fuse (No. 32, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp LH relay. 4. Check headlamp LH relay. 5. Check harness between headlamp LH relay and lighting switch. Check harness between headlamp LH relay and headlamp battery saver control unit. 6. Check lighting switch. 7. Check headlamp battery saver control unit. | <p>LC</p> <p>EC</p> <p>FE</p> |
| RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate. | <ol style="list-style-type: none"> 1. Bulb 2. RH headlamp ground circuit 3. 15A fuse 4. Headlamp RH relay 5. Headlamp RH relay circuit 6. Lighting switch 7. Headlamp battery saver control unit | <ol style="list-style-type: none"> 1. Check bulb. 2. Check harness between RH headlamp and ground. 3. Check 15A fuse (No. 33, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp RH relay. 4. Check headlamp RH relay. 5. Check harness between headlamp RH relay and lighting switch. Check harness between headlamp RH relay and headlamp battery saver control unit. 6. Check lighting switch. 7. Check headlamp battery saver control unit. | <p>CL</p> <p>MT</p> <p>AT</p> <p>AX</p> |
| LH high beam does not operate, but LH low beam does operate. | <ol style="list-style-type: none"> 1. Bulb 2. Open in LH high beams circuit 3. Lighting switch | <ol style="list-style-type: none"> 1. Check bulb. 2. Check R/B wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch. | <p>SU</p> <p>BR</p> |
| LH low beam does not operate, but LH high beam does operate. | <ol style="list-style-type: none"> 1. Bulb 2. Open in LH low beams circuit 3. Lighting switch | <ol style="list-style-type: none"> 1. Check bulb. 2. Check R/Y wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch. | <p>ST</p> |
| RH high beam does not operate, but RH low beam does operate. | <ol style="list-style-type: none"> 1. Bulb 2. Open in RH high beams circuit 3. Lighting switch | <ol style="list-style-type: none"> 1. Check bulb. 2. Check R/G wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch. | <p>RS</p> <p>BT</p> |
| RH low beam does not operate, but RH high beam does operate. | <ol style="list-style-type: none"> 1. Bulb 2. Open in RH low beams circuit 3. Lighting switch | <ol style="list-style-type: none"> 1. Check bulb. 2. Check P/L wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch. | <p>HA</p> |
| High beam indicator does not work. | <ol style="list-style-type: none"> 1. Bulb 2. Ground circuit 3. Open in high beam circuit | <ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check harness between high beam indicator and ground. 3. Check R/B wire between lighting switch and combination meter for an open circuit. | <p>SC</p> <p style="background-color: black; color: white; padding: 2px;">EL</p> |

IDX

HEADLAMP (FOR USA)

Trouble Diagnoses (Cont'd)

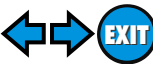
| Symptom | Possible cause | Repair order |
|--|--|--|
| Battery saver control does not operate properly. | <ol style="list-style-type: none"> 1. RAP signal circuit 2. Driver or passenger side door switch circuit 3. Lighting switch circuit 4. Headlamp battery saver control unit 5. Smart entrance control unit | <ol style="list-style-type: none"> 1. Check harness between headlamp battery saver control unit terminal 10 and smart entrance control unit terminal 5 for open or short circuit. 2. Check harness between smart entrance control unit and driver or passenger side door switch for open or short circuit. Check driver or passenger side door switch ground circuit. Check driver or passenger side door switch. 3. Check harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. Check harness between lighting switch terminal 12 and ground. Check lighting switch. 4. Check headlamp battery saver control unit. 5. Check smart entrance control unit. (EL-247) |

BATTERY SAVER CONTROL UNIT INSPECTION TABLE

NCEL0014S01

| Terminal No. | Item | Condition | | Voltage (Approximate value) |
|--------------|--------------------------|---|--------------|---|
| 1 | Ignition ON power supply | Ignition switch | OFF or ACC | Less than 1V |
| | | | ON or START | Battery voltage |
| 2 | Headlamp RH relay | Ignition switch (with lighting switch 1ST or 2ND) | OFF or ACC | More than 45 seconds after ignition switch is turned OFF or ACC |
| | | | | Within 45 seconds after ignition switch is turned OFF or ACC |
| | | | ON or START | Less than 1V |
| | | Lighting switch (with ignition switch OFF) | OFF | Battery voltage |
| | | 1ST or 2ND | Less than 1V | |
| 3 | Ground | — | | — |
| 4 | Ground | — | | — |
| 5 | Tail lamp switch | Lighting switch | OFF | Battery voltage |
| | | | 1ST or 2ND | Less than 1V |
| 6 | Tail lamp relay | Ignition switch (with lighting switch 1ST or 2ND) | OFF or ACC | More than 45 seconds after ignition switch is turned OFF or ACC |
| | | | | Within 45 seconds after ignition switch is turned OFF or ACC |
| | | | ON or START | Less than 1V |
| | | Lighting switch (with ignition switch OFF) | OFF | Battery voltage |
| | | 1ST or 2ND | Less than 1V | |

HEADLAMP (FOR USA)



Trouble Diagnoses (Cont'd)

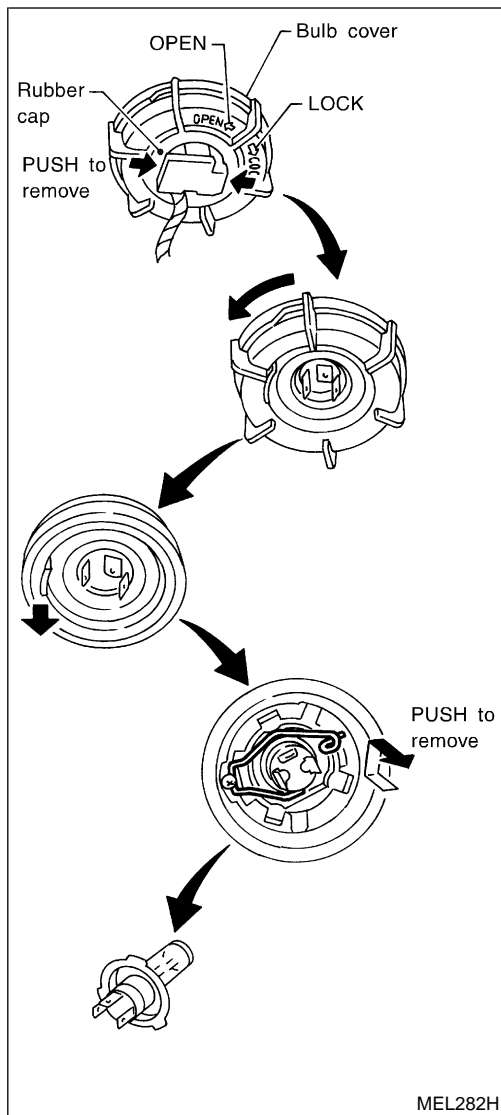
| Terminal No. | Item | Condition | | Voltage (Approximate value) | | |
|--------------|-------------------|---|--|---|-----------------|----|
| 7 | Power supply | — | | Battery voltage | GI | |
| 8 | Headlamp LH relay | Ignition switch (with lighting switch 1ST or 2ND) | OFF or ACC | More than 45 seconds after ignition switch is turned OFF or ACC | Battery voltage | MA |
| | | | | Within 45 seconds after ignition switch is turned OFF or ACC | Less than 1V | EM |
| | | ON or START | | Less than 1V | EC | |
| | | Lighting switch (with ignition switch OFF) | OFF | Battery voltage | FE | |
| | | | 1ST or 2ND | Less than 1V | | |
| 9 | Ground | — | | — | | |
| 10 | RAP signal | Ignition switch | OFF or ACC (After more than 45 seconds with ignition switch turned OFF or ACC) | Less than 1V | CL | |
| | | | ON or START | Battery voltage | MT | |
| 11 | Ground | — | | — | AT | |
| 13 | Tail lamp switch | Lighting switch | OFF | Battery voltage | | |
| | | | 1ST or 2ND | Less than 1V | AX | |
| 14 | Tail lamp relay | Ignition switch (with lighting switch OFF) | OFF or ACC | More than 45 seconds after ignition switch is turned OFF or ACC | Battery voltage | SU |
| | | | | Within 45 seconds after ignition switch is turned OFF or ACC | Less than 1V | BR |
| | | ON or START | | Less than 1V | ST | |
| | | Lighting switch (with ignition switch OFF) | OFF | Battery voltage | RS | |
| | | | 1ST or 2ND | Less than 1V | | |

EL

IDX

HEADLAMP (FOR USA)

Bulb Replacement



Bulb Replacement

NCEL0015

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. Turn the bulb retaining ring counterclockwise until it is free from the headlamp reflector, and then remove it.
 3. Disconnect the harness connector from the back side of the bulb.
 4. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
 5. Install in the reverse order of removal.

CAUTION:

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

Aiming Adjustment

NCEL0016

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:

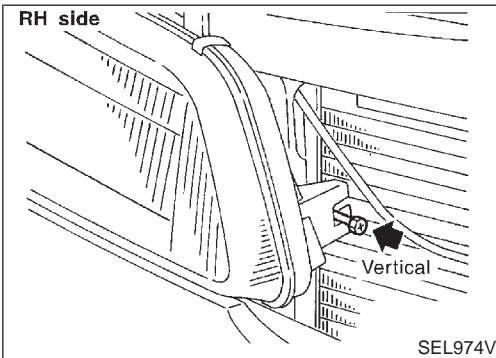
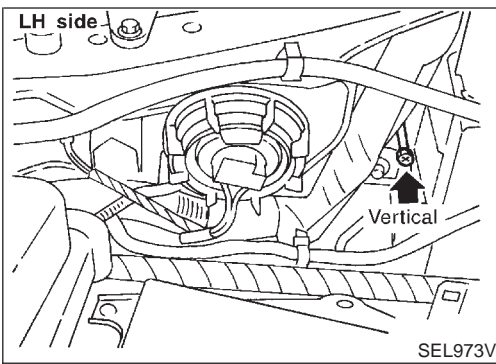
For details, refer to the regulations in your own country.

- 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).

HEADLAMP (FOR USA)

Aiming Adjustment (Cont'd)

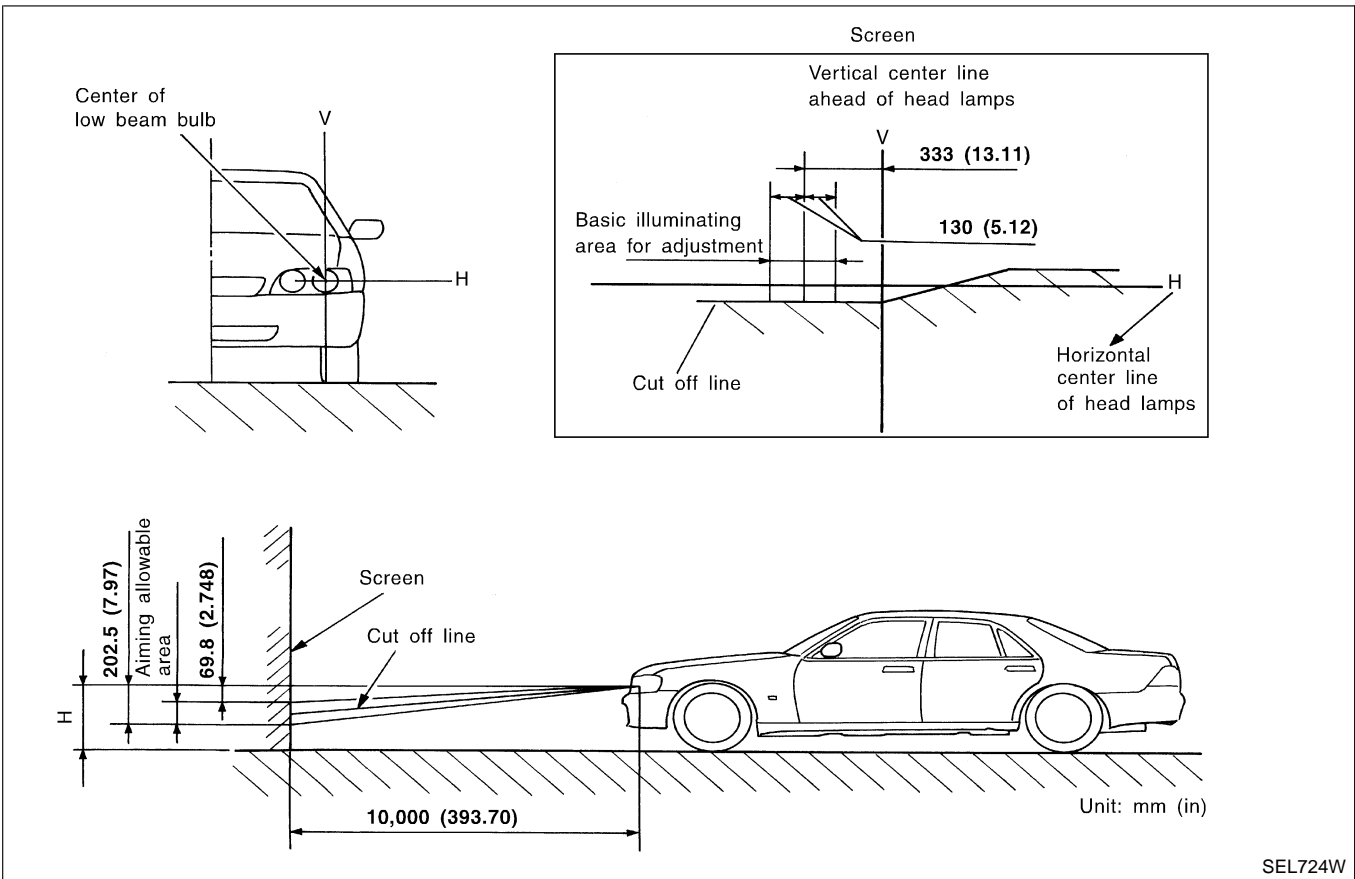
NCEL0016S02



LOW BEAM

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

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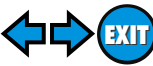
EL

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

- **Basic illuminating area for adjustment should be within the range shown at left. Adjust headlamps accordingly.**

IDX

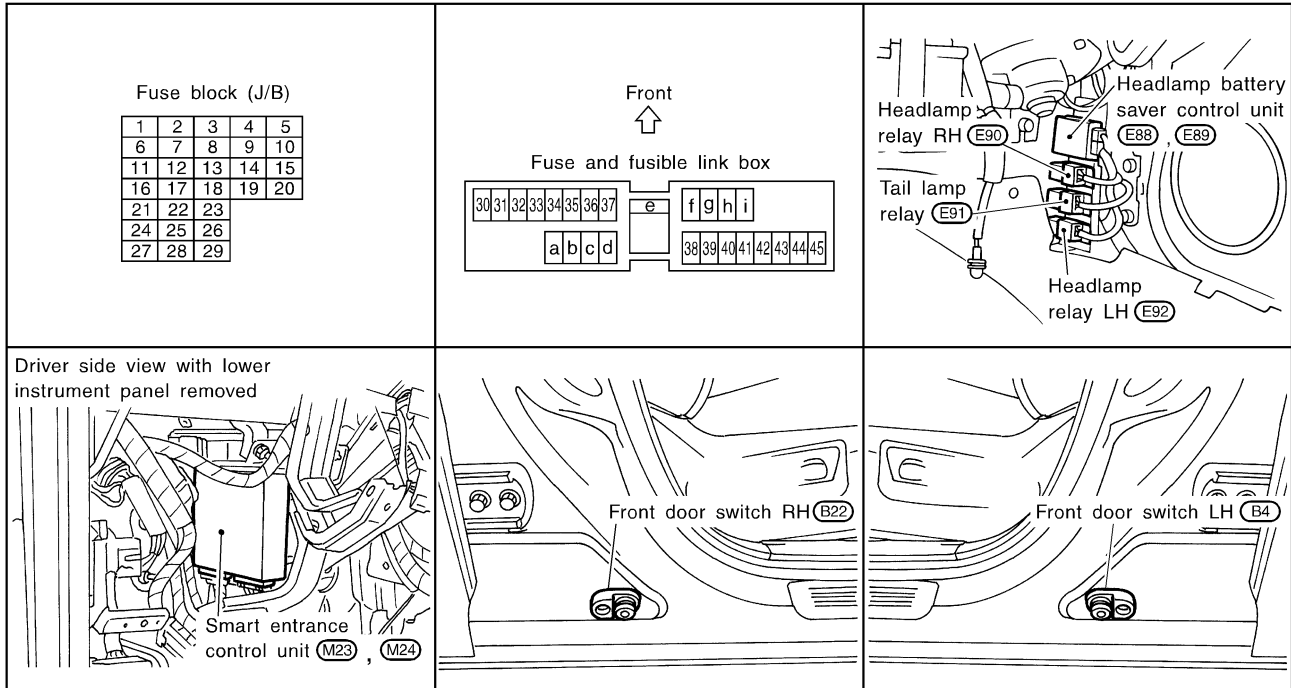
HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —



Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0166



SEL665W

System Description

NCEL0017

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

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

Power is supplied at all times

- to daytime light control unit terminal 3, and
- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 32, located in the fuse and fusible link box), and
- to daytime light control unit terminal 2 and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 33, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, located in the fuse block (J/B)].

Ground is supplied

- to daytime light control unit terminal 9 and
- to headlamp battery saver control unit terminals 4 and 11

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

- to daytime light control unit terminal 12,
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 8, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)].

GI

MA

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

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

EM

HEADLAMP OPERATION

LC

NCEL0017S01

When Ignition Switch is in ON or START Position

NCEL0017S0103

Ground is supplied

- to headlamp LH relay terminal 2 from headlamp battery saver control unit terminal 8
- through headlamp battery saver control unit terminal 9, and
- through body grounds E9 and E28, and
- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 2
- through headlamp battery saver control unit terminal 3, and
- through body grounds E9 and E28.

EC

FE

CL

Headlamp relays (LH and RH) are then energized.

MT

When Ignition Switch is in OFF or ACC Position

NCEL0017S0104

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

AT

And then, ground is also supplied to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit. Headlamp relays (LH and RH) are then energized.

AX

Low Beam Operation

NCEL0017S0101

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

- from lighting switch terminal 7
- to RH headlamp terminal 3
- to daytime light control unit terminal 4.

SU

BR

Ground is supplied to RH headlamp terminal 2 through body grounds E9 and E28.

Also, when the lighting switch is turned to the 2ND position and placed in LOW ("B") position, power is supplied

ST

- from lighting switch terminal 10
- to LH headlamp terminal 3.

RS

Ground is supplied

- to LH headlamp terminal 2
- from daytime light control unit terminal 7
- through daytime light control unit terminal 9
- through body grounds E9 and E28.

BT

HA

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

SC

High Beam Operation/Flash-to-pass Operation

NCEL0017S0102

When the lighting switch is turned to the 2ND position and placed in HIGH ("A") position, power is supplied

- from lighting switch terminal 6
- to terminal 1 of RH headlamp.

EL

When the lighting switch is turned to the 2ND position and placed in HIGH ("A") position, power is supplied

- from lighting switch terminal 9
- to daytime light control terminal 5
- to combination meter terminal 29 for the high beam indicator, and
- through daytime light control terminal 6

IDX

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

System Description (Cont'd)

- to terminal 1 of LH headlamp.

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

Ground is supplied to terminal 27 of the combination meter through body grounds M15, M71 and M76. With power and ground supplied, the high beam headlamps and HI BEAM indicator illuminate.

BATTERY SAVER CONTROL

NCEL0017S04

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated, The RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 1 of headlamp LH and RH relays from headlamp battery saver control unit terminals 2 and 8 is terminated.

Then headlamps are turned off.

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

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

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit terminals 2 and 8.

Then headlamps illuminate again.

DAYTIME LIGHT OPERATION

NCEL0017S02

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

- through daytime light control unit terminal 6
- to terminal 1 of LH headlamp, and
- through terminal 2 of LH headlamp
- to daytime light control unit terminal 7, and
- through daytime light control unit terminal 8
- to terminal 1 of RH headlamp.

Ground is supplied to terminal 2 of RH headlamp through body grounds E9 and E28.

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

OPERATION

NCEL0017S03

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

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

A: "HIGH BEAM" position

B: "LOW BEAM" position

C: "FLASH TO PASS" position

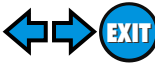
O : Lamp "ON"

X : Lamp "OFF"

△ : Lamp dims. (Added functions)

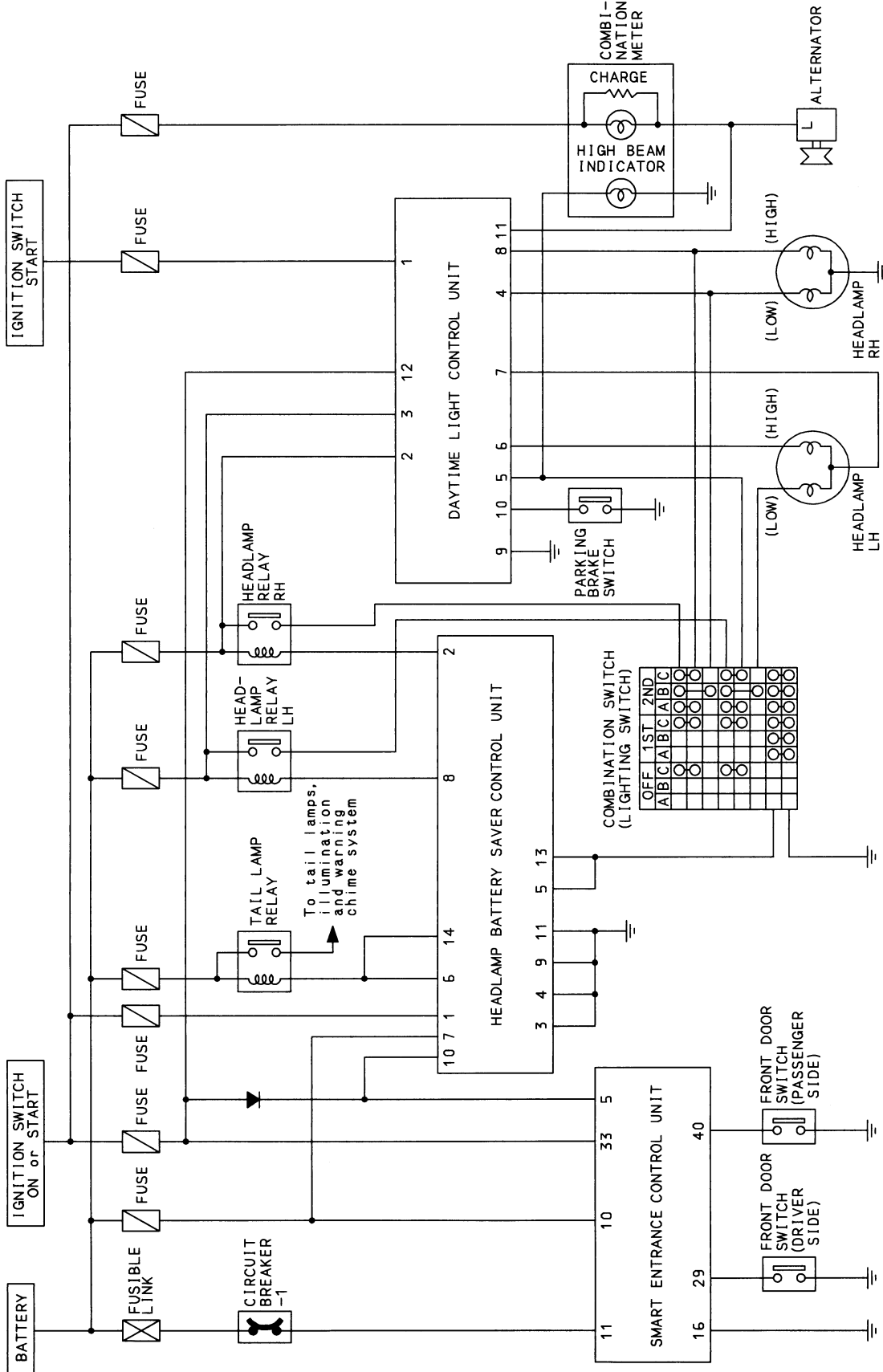
*: When starting the engine with the parking brake released, the daytime light will come ON.

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



Schematic

NCEL0167



- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- AX
- SU
- BR
- ST
- RS
- BT
- HA
- SC
- EL
- IDX

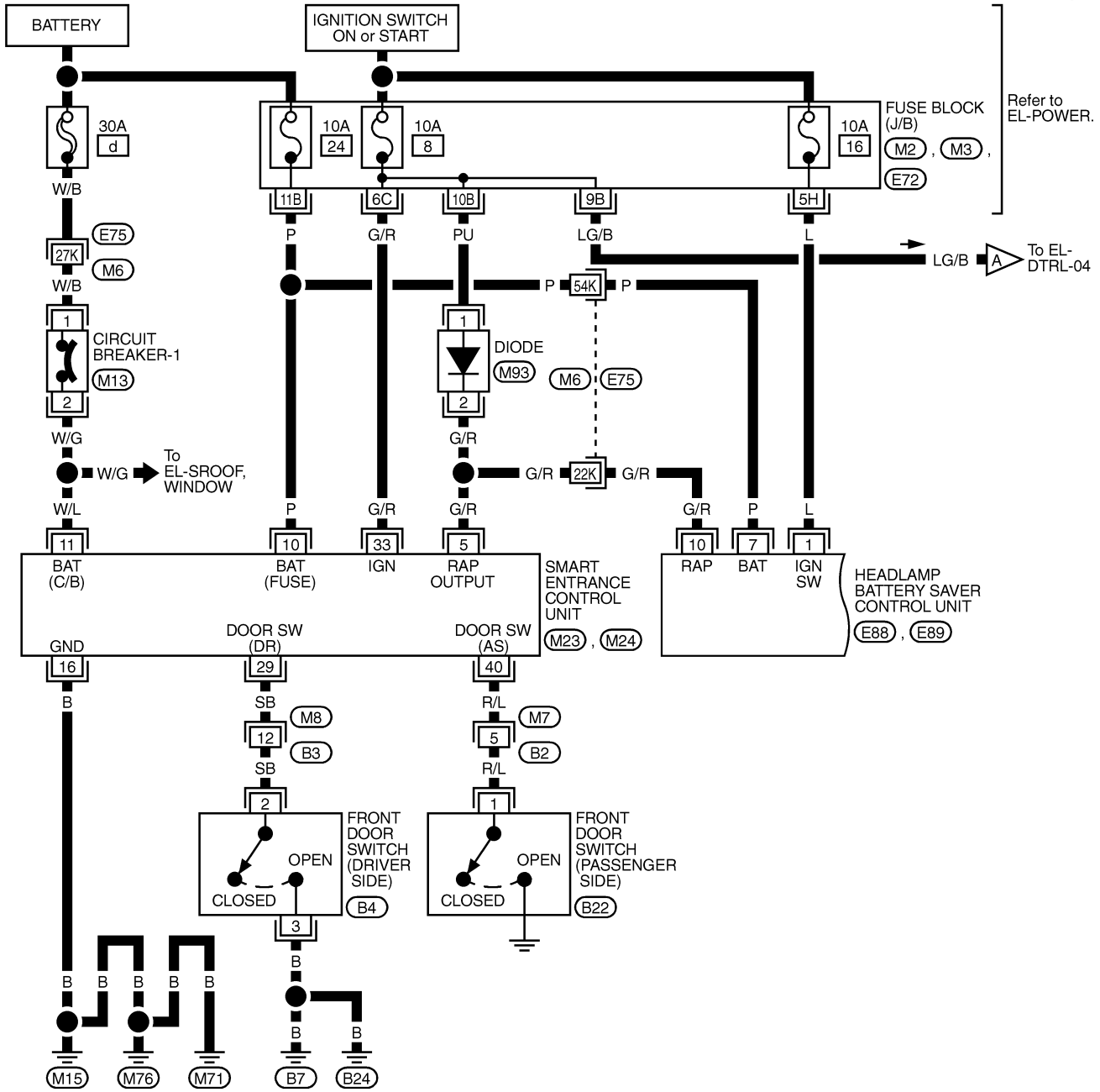
HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL —

Wiring Diagram — DTRL —

NCEL0020

EL-DTRL-01

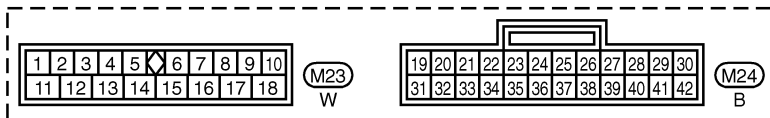
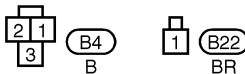
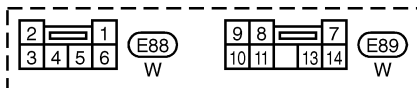
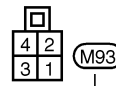
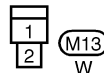
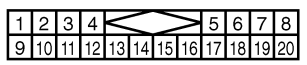
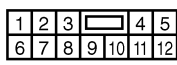


Refer to EL-POWER.

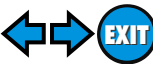
To EL-DTRL-04

REFER TO THE FOLLOWING.

- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

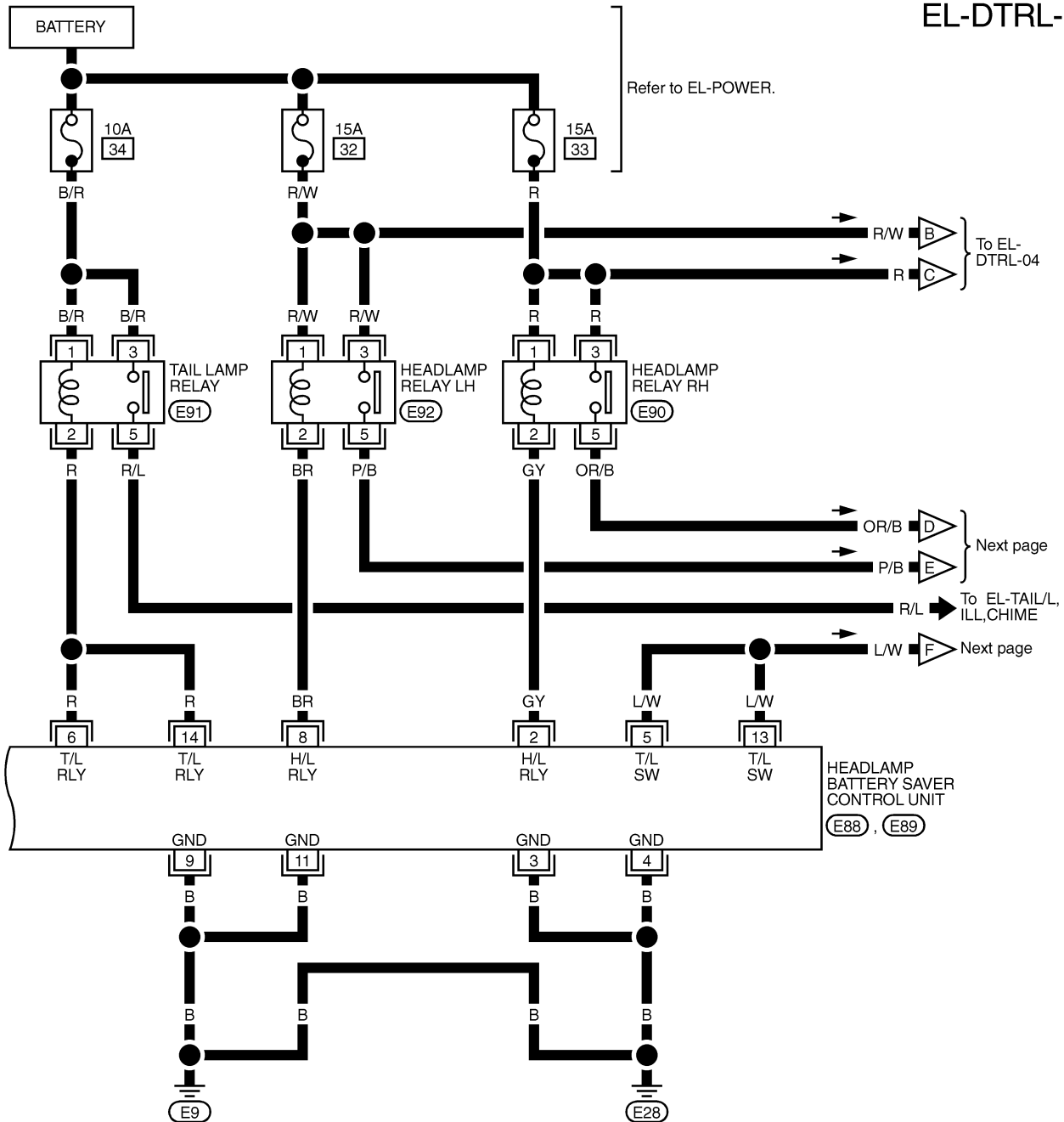


HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —



Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02

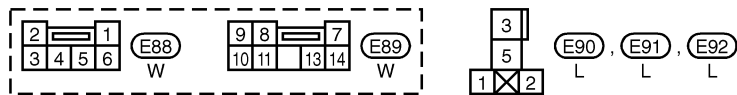


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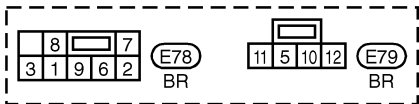
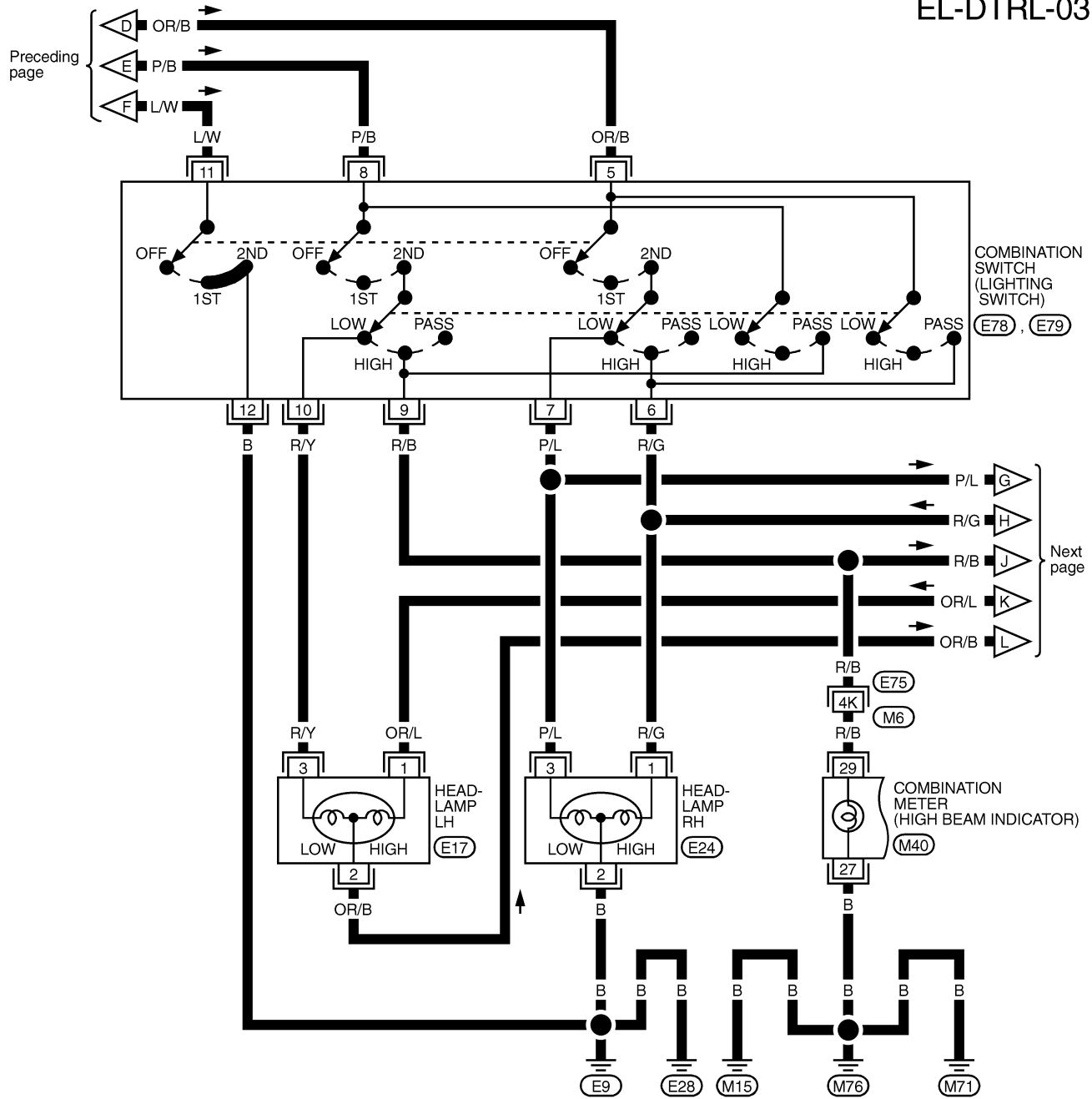


TEL480B

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

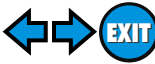
Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-03



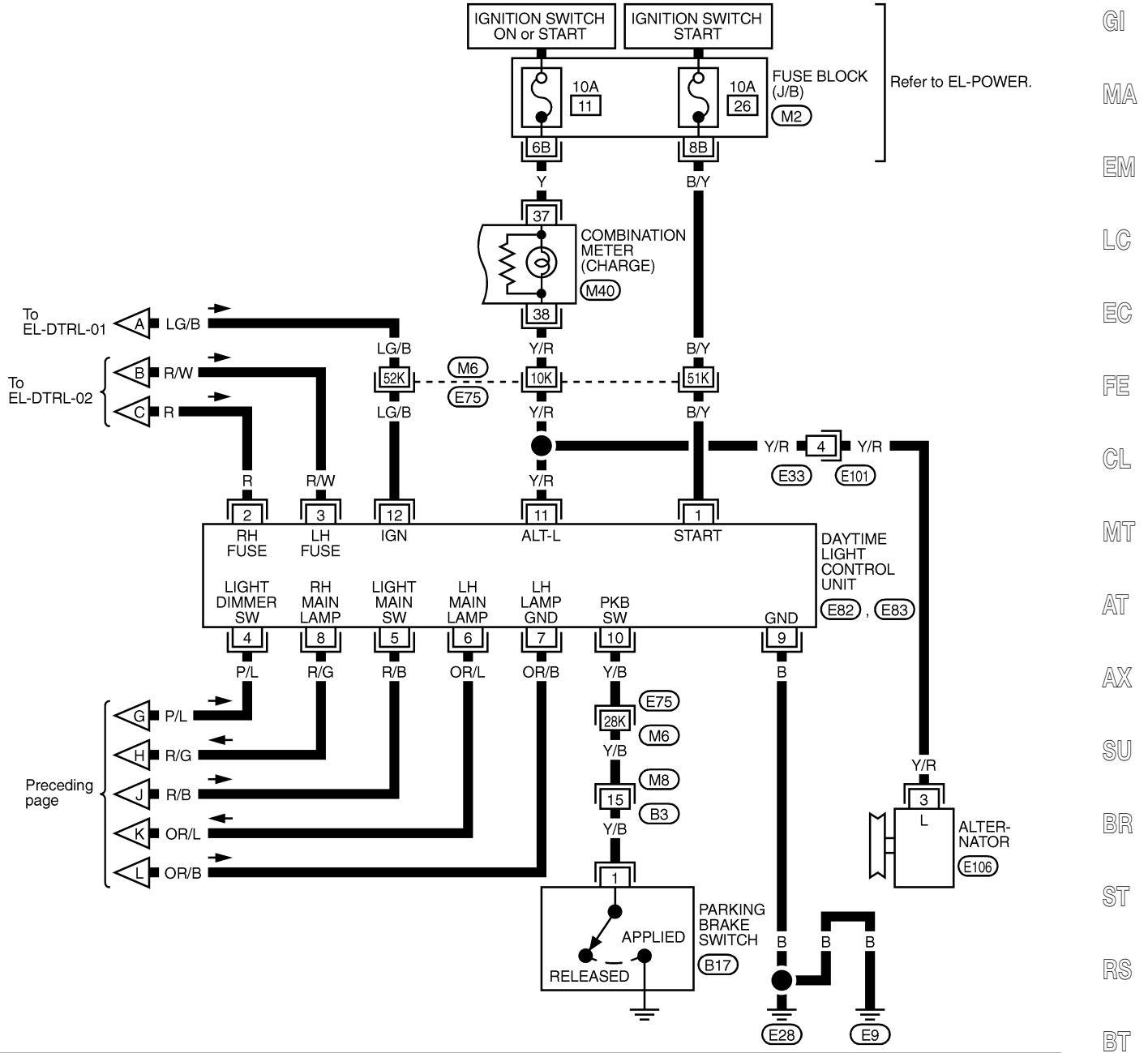
REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

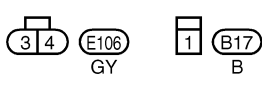
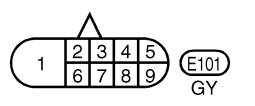
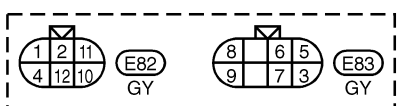
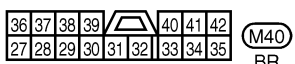
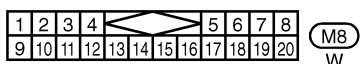


Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-04



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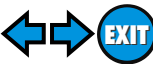


REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2) -FUSE BLOCK-JUNCTION BOX (J/B)

HA
SC
EL
IDX

TEL482B

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —



Trouble Diagnoses

Trouble Diagnoses

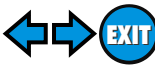
NCEL0021

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE








NCEL0021S01

| Terminal No. | Wire color | Item | Condition | | Voltage (Approximate values) |
|--------------|------------|------------------------------|-----------|--|------------------------------|
| 1 | B/Y | Start signal | | When turning ignition switch to "ST" | Battery voltage |
| | | | | When turning ignition switch to "ON" from "ST" | Less than 1V |
| | | | | When turning ignition switch to "OFF" | Less than 1V |
| 2 | R | Power source | | When turning ignition switch to "ON" | Battery voltage |
| | | | | When turning ignition switch to "OFF" | Battery voltage |
| 3 | R/W | Power source | | When turning ignition switch to "ON" | Battery voltage |
| | | | | When turning ignition switch to "OFF" | Battery voltage |
| 4 | P/L | Lighting switch (Low beam) | | When lighting switch is turned to the 2ND position with "LOW BEAM" position | Battery voltage |
| 5 | R/B | Lighting switch (High beam) | | When turning lighting switch to "HIGH BEAM" | Battery voltage |
| | | | | When turning lighting switch to "FLASH TO PASS" | Battery voltage |
| 6 | OR/L | High beam LH | | When turning lighting switch to "HIGH BEAM" | Battery voltage |
| | | | | When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position. | Approx. half battery voltage |
| 7 | OR/B | Headlamp LH control (ground) | | When lighting switch is turned to the 2ND position with "LOW BEAM" position | Less than 1V |
| | | | | When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position. | Approx. half battery voltage |
| 8 | R/G | High beam RH | | When lighting switch is turned to the 2ND position with "HIGH BEAM" position | Battery voltage |
| | | | | When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position. | Approx. half battery voltage |

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —



Trouble Diagnoses (Cont'd)

| Terminal No. | Wire color | Item | Condition | | Voltage (Approximate values) | |
|--------------|------------|----------------------|---|---------------------------------------|------------------------------|----|
| 9 | B | Ground | | — | — | GI |
| 10 | Y/B | Parking brake switch |  | When parking brake is released | Battery voltage | MA |
| | | | | When parking brake is set | Less than 1.5V | |
| 11 | Y/R | Alternator |  | When turning ignition switch to "ON" | Less than 1V | EM |
| | | |  | When engine is running | Battery voltage | LC |
| | | |  | When turning ignition switch to "OFF" | Less than 1V | EC |
| 12 | LG/B | Power source |  | When turning ignition switch to "ON" | Battery voltage | FE |
| | | |  | When turning ignition switch to "ST" | Battery voltage | CL |
| | | |  | When turning ignition switch to "OFF" | Less than 1V | MT |
| | | | | | | AT |

BATTERY SAVER CONTROL UNIT INSPECTION TABLE

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

NCEL0021S02

AX

SU

BR

Bulb Replacement

Refer to "HEADLAMP (FOR USA)" (EL-40).

NCEL0022

ST

RS

BT

HA

Aiming Adjustment

Refer to "HEADLAMP (FOR USA)" (EL-40).

NCEL0023

SC

EL

IDX

System Description

NCEL0168

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

Power is supplied at all times

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 34, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 8, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

LIGHTING OPERATION BY LIGHTING SWITCH

NCEL0168S01

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

- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through body grounds E9 and E28.

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

BATTERY SAVER CONTROL

NCEL0168S02

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while parking, license and tail lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 2 of the tail lamp relay from headlamp battery saver control unit terminals 6 and 14 is terminated.

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

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

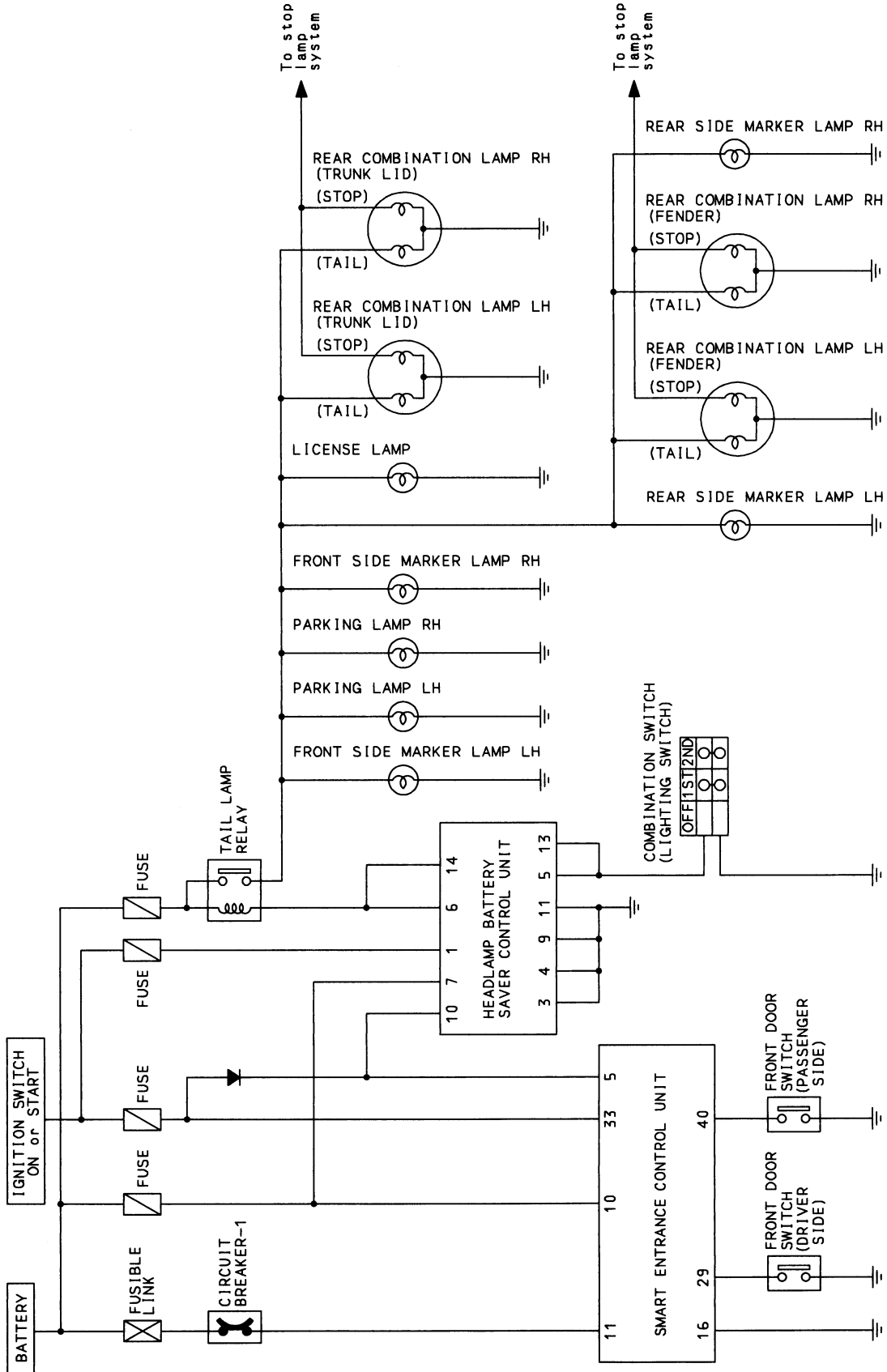
When the lighting switch is turned from OFF to 1ST (or 2ND) after the parking, license and tail lamps are turned off by the battery saver control, ground is supplied.

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14.

Then the parking, license and tail lamps illuminate again.

Schematic

NCEL0169



- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- AX
- SU
- BR
- ST
- RS
- BT
- HA
- SC
- EL**
- IDX

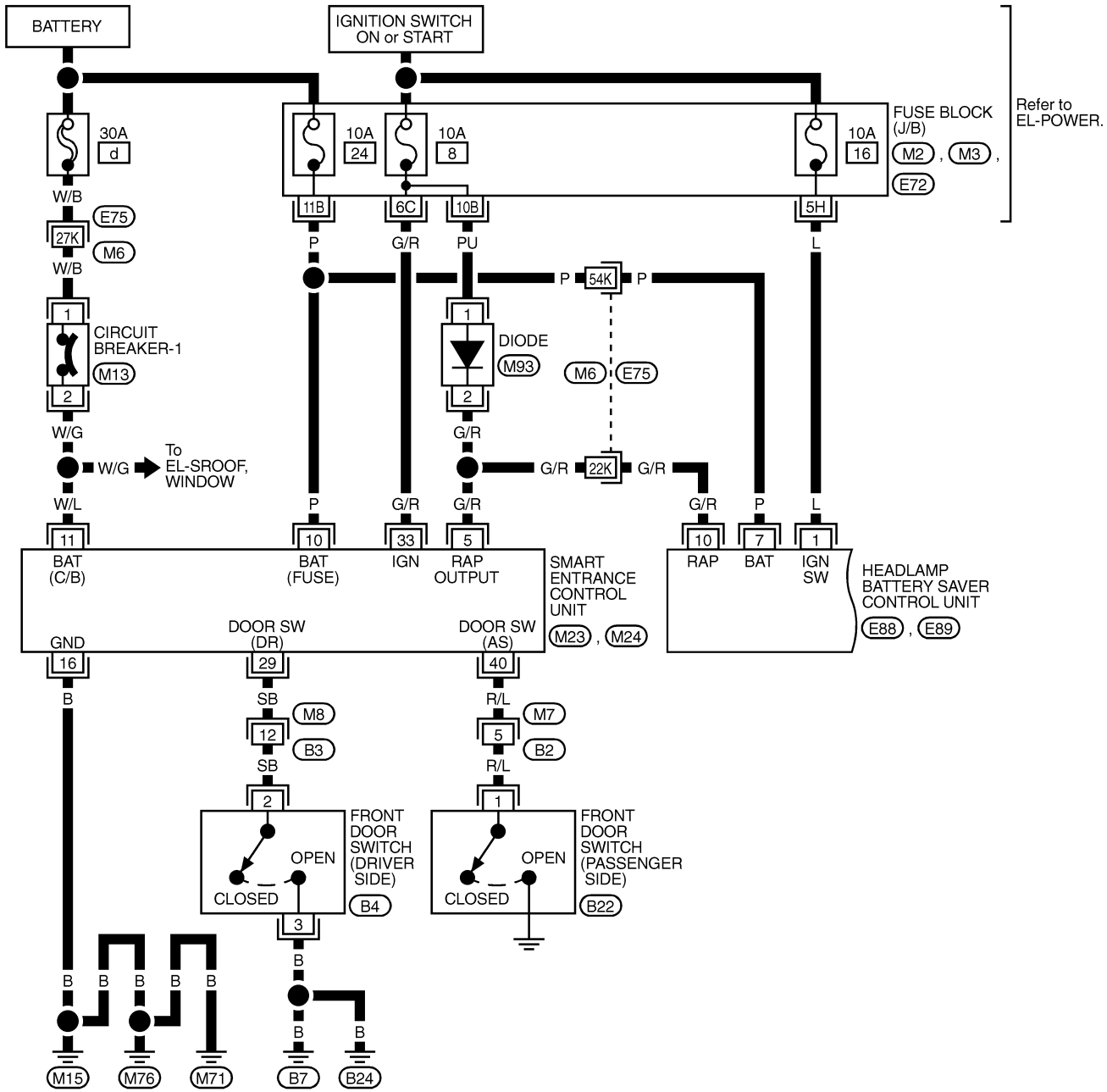
PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —

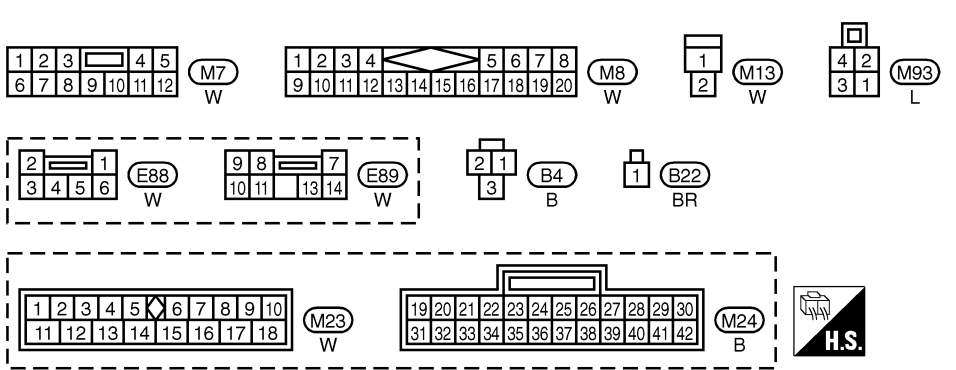
Wiring Diagram — TAIL/L —

NCEL0024

EL-TAIL/L-01



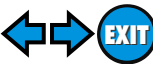
Refer to EL-POWER.



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

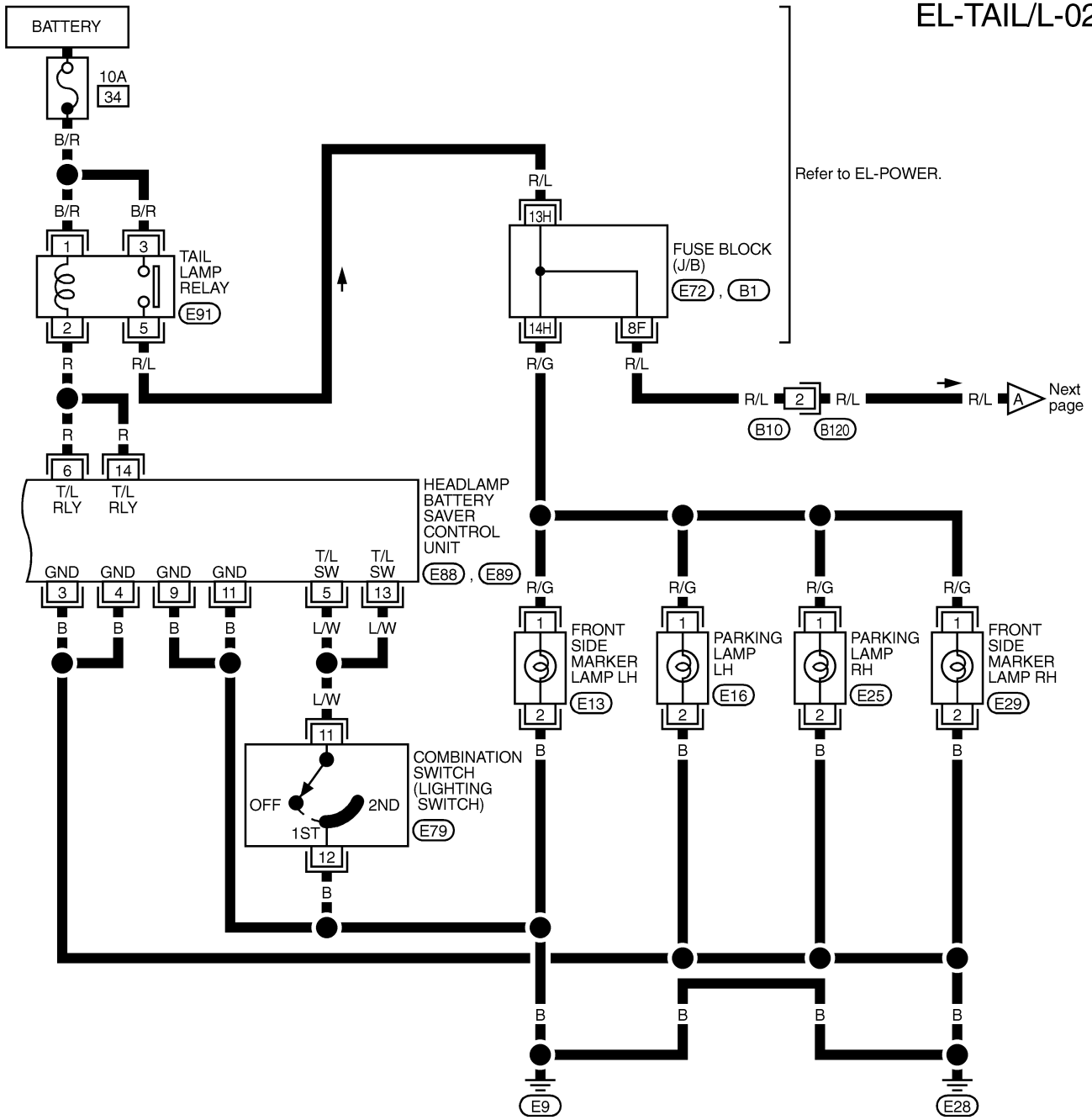


PARKING, LICENSE AND TAIL LAMPS



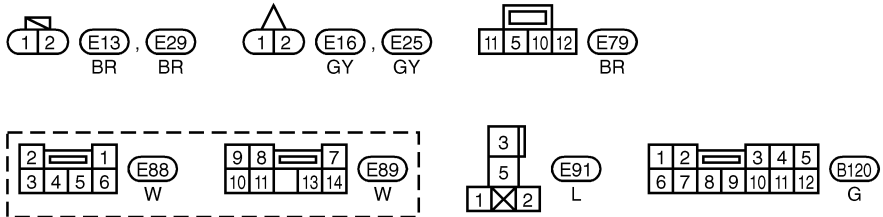
Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-02



Refer to EL-POWER.

Next page



REFER TO THE FOLLOWING.
 (E72), (B1) - FUSE BLOCK-
 JUNCTION BOX (J/B)

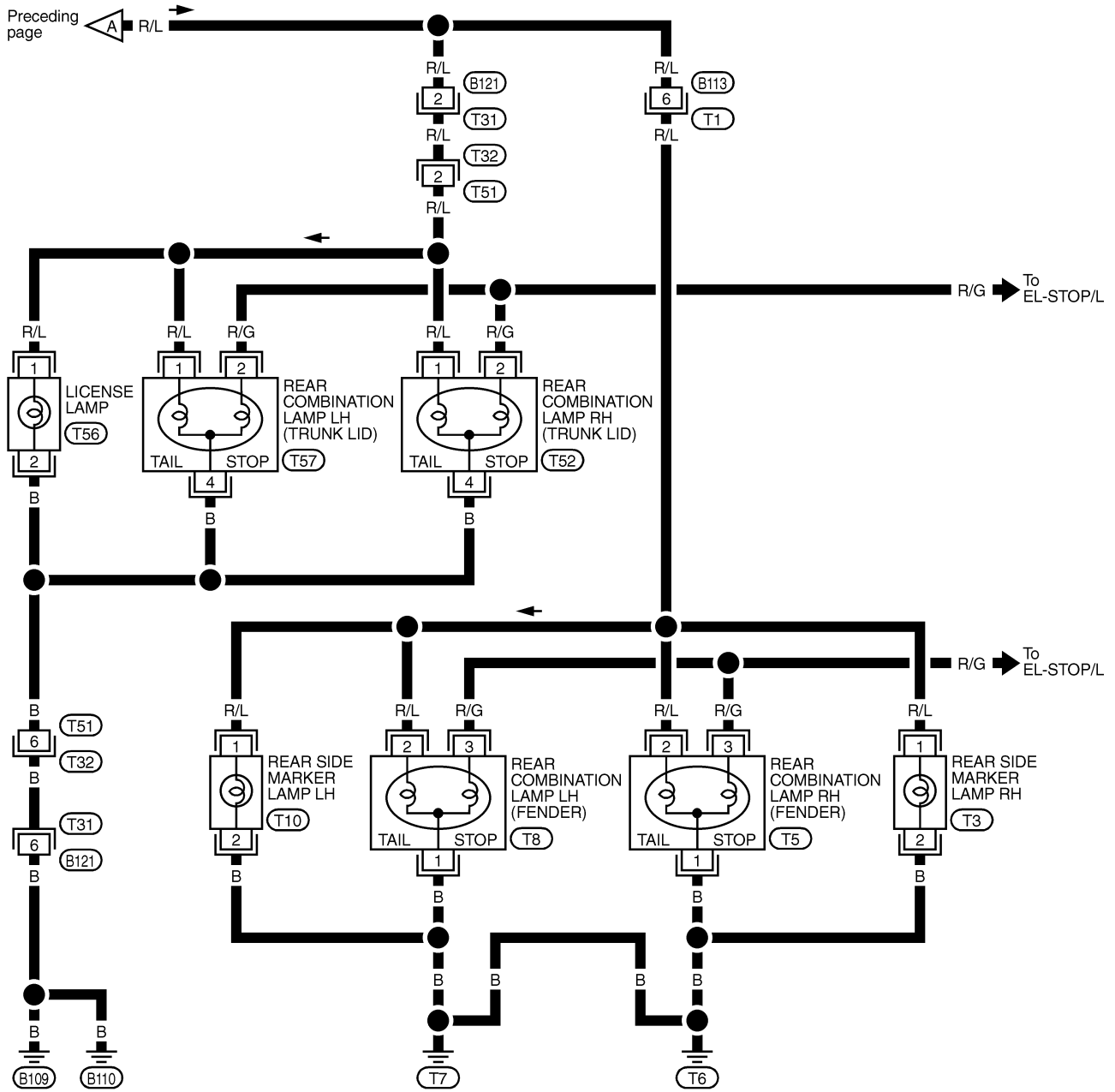
- GI
- MA
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- MT
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- RS
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- HA
- SC
- EL
- IDX

TEL485B

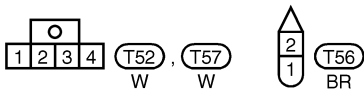
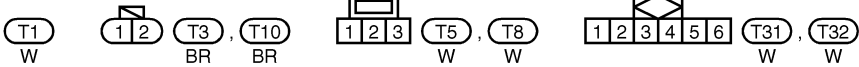
PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-03



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



TEL486B

Trouble Diagnoses

NCEL0170

| Symptom | Possible cause | Repair order | |
|---|--|--|---|
| No lamps operate (including headlamps). | <ol style="list-style-type: none"> 1. 10A fuse 2. Lighting switch 3. Headlamp battery saver control unit | <ol style="list-style-type: none"> 1. Check 10A fuse [No. 24, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit. 2. Check lighting switch. 3. Check headlamp battery saver control unit. (EL-38) | <p>GI</p> <p>MA</p> <p>EM</p> |
| No parking, license and tail lamps operate, but headlamps do operate. | <ol style="list-style-type: none"> 1. 10A fuse 2. Tail lamp relay 3. Tail lamp relay circuit 4. Lighting switch 5. Lighting switch circuit 6. Headlamp battery saver control unit | <ol style="list-style-type: none"> 1. Check 10A fuse (No. 34, located in fusible and fuse block). Verify battery positive voltage is present at terminals 1 and 3 of tail lamp relay. 2. Check tail lamp relay. 3. Check harness between headlamp battery saver control unit terminals 6 and 14 and tail lamp relay terminal 2. Check harness between tail lamp relay terminal 5 and fuse block. 4. Check lighting switch. 5. Check harness between lighting switch terminal 11 and headlamp battery saver control unit terminals 5 and 13. Check harness between lighting switch terminal 12 and ground. 6. Check headlamp battery saver control unit. (EL-38) | <p>LC</p> <p>EC</p> <p>FE</p> <p>CL</p> <p>MT</p> |
| Battery saver control does not operate properly. | <ol style="list-style-type: none"> 1. RAP signal circuit 2. Driver or passenger side door switch circuit 3. Lighting switch circuit 4. Headlamp battery saver control unit 5. Smart entrance control unit | <ol style="list-style-type: none"> 1. Check harness between headlamp battery saver control unit terminal 10 and smart entrance control unit terminal 5 for open or short circuit. 2. Check harness between smart entrance control unit and driver or passenger side door switch for open or short circuit. Check driver or passenger side door switch ground circuit. Check driver or passenger side door switch. 3. Check harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. Check harness between lighting switch terminal 12 and ground. Check lighting switch. 4. Check headlamp battery saver control unit. (EL-38) 5. Check smart entrance control unit. (EL-247) | <p>AT</p> <p>AX</p> <p>SU</p> <p>BR</p> <p>ST</p> |

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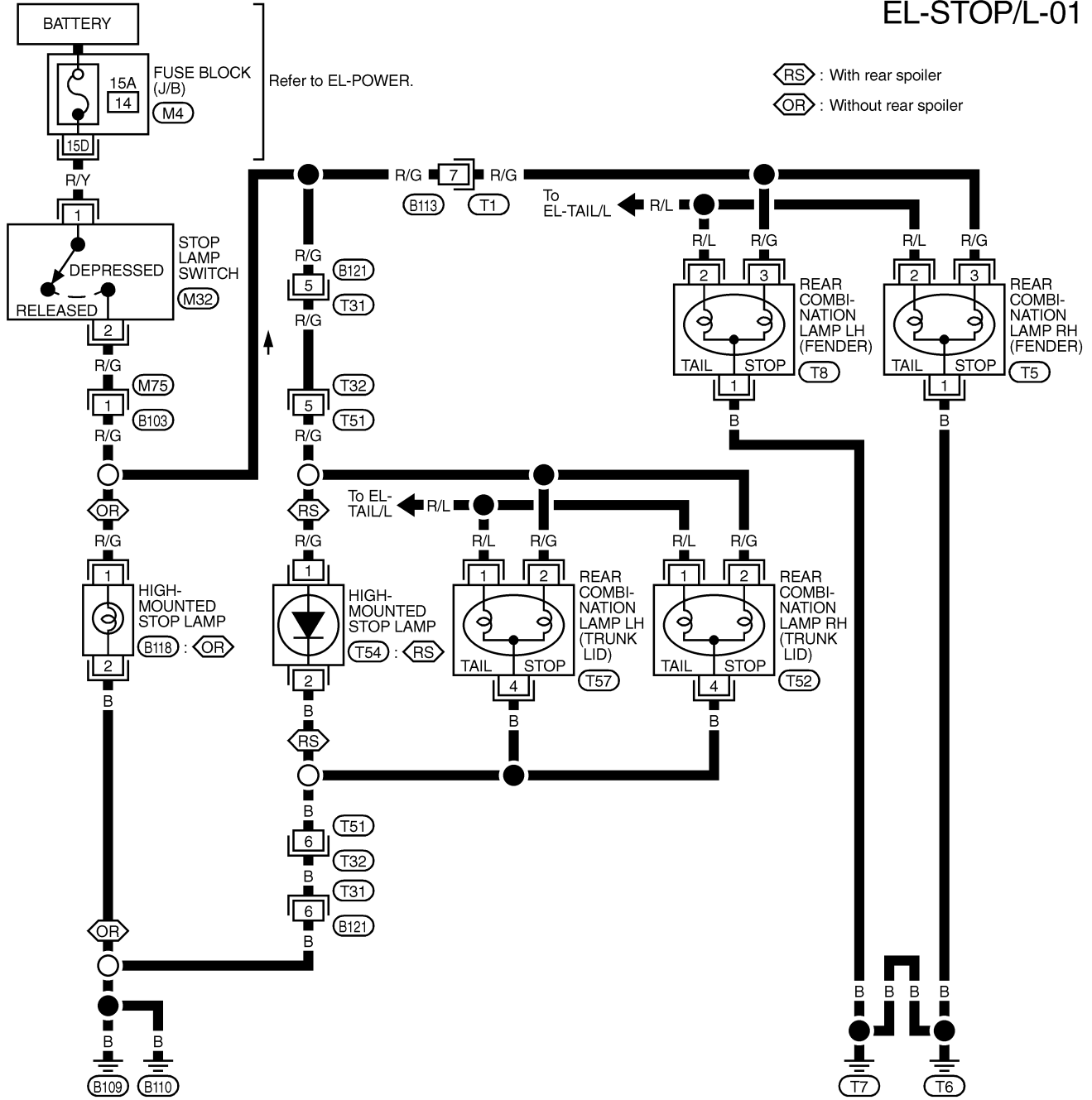
STOP LAMP

Wiring Diagram — STOP/L —

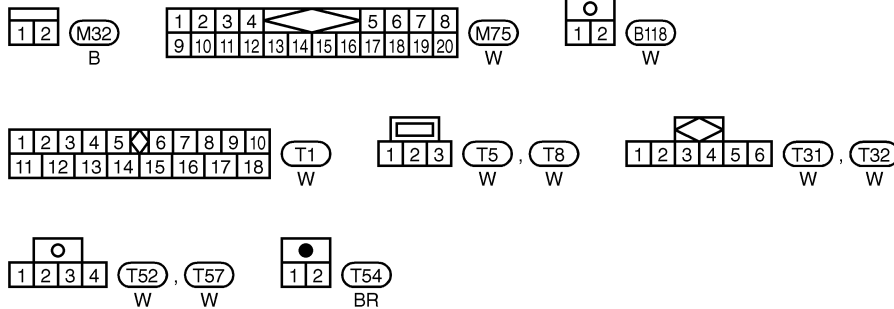
Wiring Diagram — STOP/L —

NCEL0025

EL-STOP/L-01



◊RS : With rear spoiler
 ◊OR : Without rear spoiler



REFER TO THE FOLLOWING.
 (M4) - FUSE BLOCK-JUNCTION BOX (J/B)

BACK-UP LAMP

Wiring Diagram — BACK/L —

Wiring Diagram — BACK/L —

NCEL0026

EL-BACK/L-01

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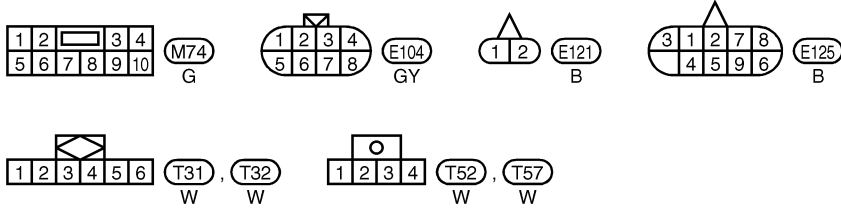
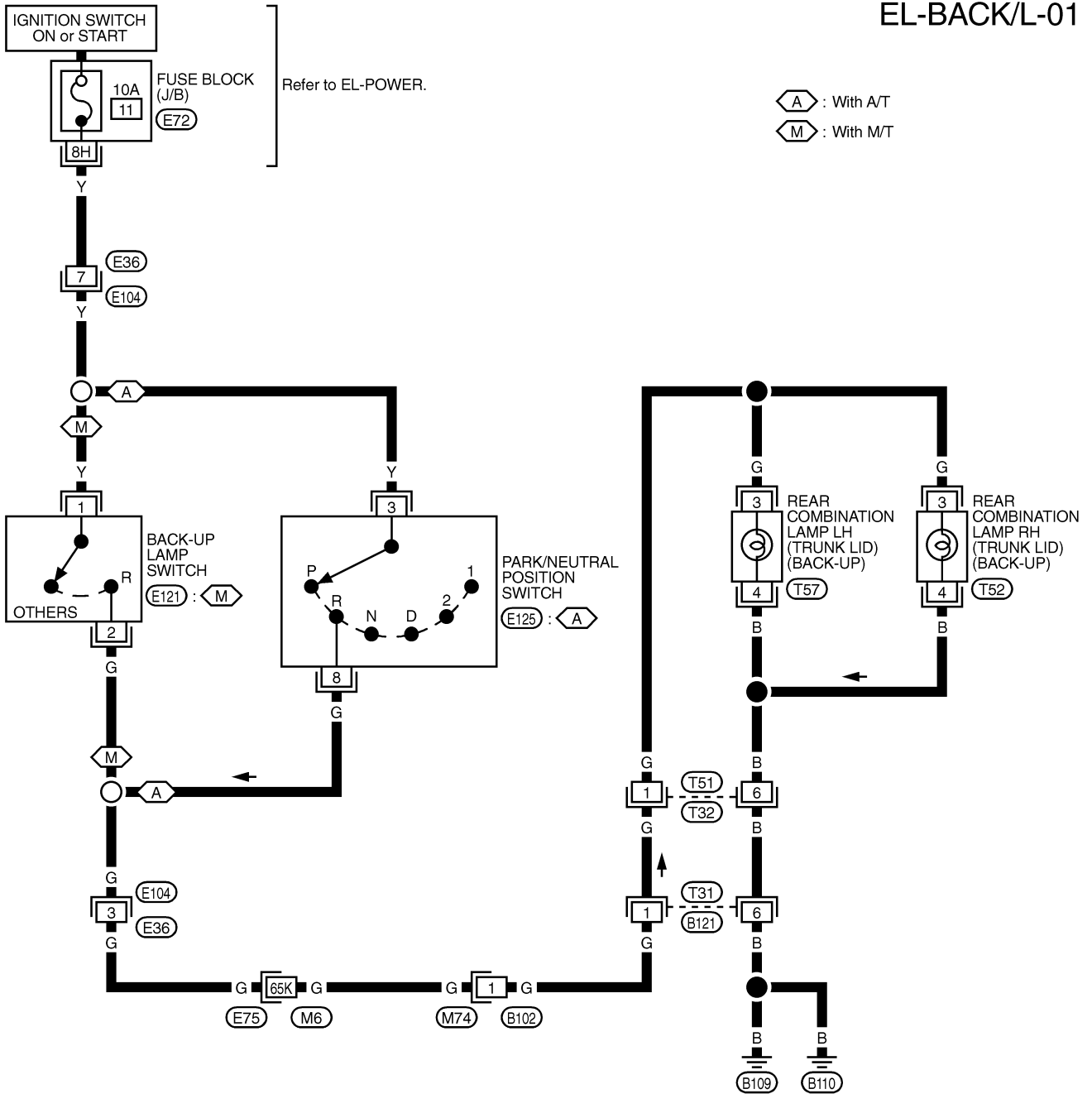
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REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (E72) -FUSE BLOCK-JUNCTION BOX (J/B)

System Description

NCEL0027

NCEL0027S02

OUTLINE

Power is supplied at all times

- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 33, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, located in the fuse block (J/B)], and
- to front fog lamp relay terminal 3
- through 15A fuse (No. 43, located in the fuse and fusible link box).

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 8, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

When Ignition Switch is in ON or START Position

NCEL0027S0201

Ground is supplied

- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 2.
- through headlamp battery saver control unit terminal 9, and
- through body grounds E9 and E28.

Headlamp RH relay is then energized.

When Ignition Switch is in OFF or ACC Position

NCEL0027S0202

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

And then, ground is also supplied to headlamp RH relay terminal 2 from the headlamp battery saver control unit. The headlamp RH relay is then energized.

FOG LAMP OPERATION

NCEL0027S01

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

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

- to fog lamp relay terminal 2
- through the fog lamp switch and body grounds E9 and E28.

The fog lamp relay is energized and power is supplied

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

Ground is supplied to terminal 2 of each fog lamp through body grounds E9 and E28.

With power and ground supplied, the fog lamps illuminate.

BATTERY SAVER CONTROL

NCEL0027S03

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while fog lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

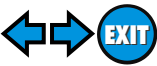
After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 2 of headlamp RH relay from headlamp battery saver control unit terminal 2 is terminated.

Then fog lamps are turned to off.

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

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

FRONT FOG LAMP



System Description (Cont'd)

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
 - to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 2.
- Then the fog lamps illuminate again.

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FRONT FOG LAMP

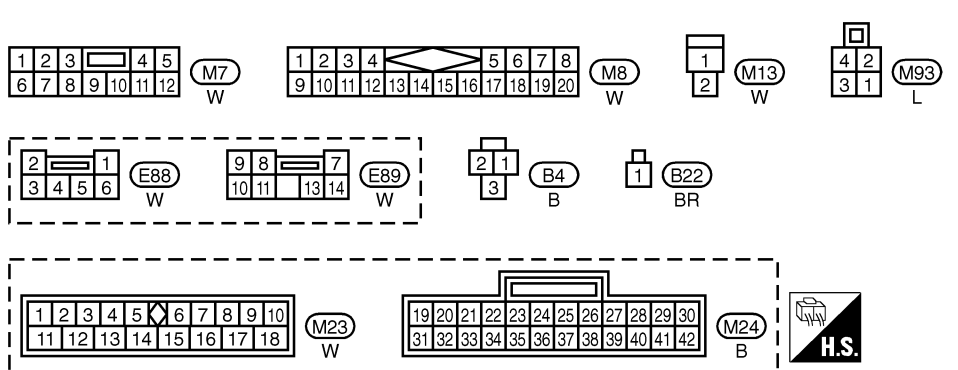
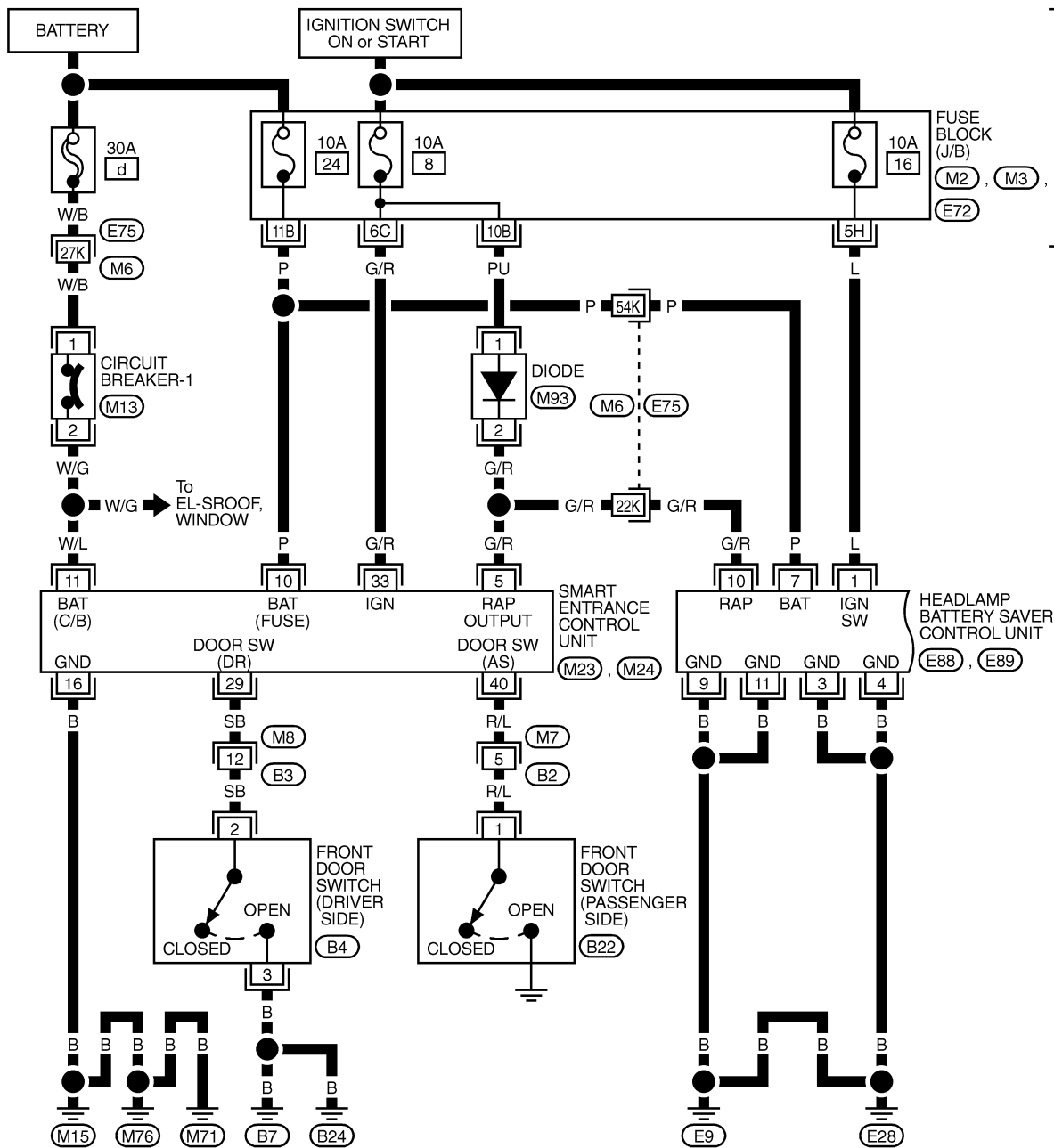
Wiring Diagram — F/FOG —

Wiring Diagram — F/FOG —

NCEL0028

EL-F/FOG-01

Refer to EL-POWER.



REFER TO THE FOLLOWING.

- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2 , M3 , E72) -FUSE BLOCK-JUNCTION BOX (J/B)

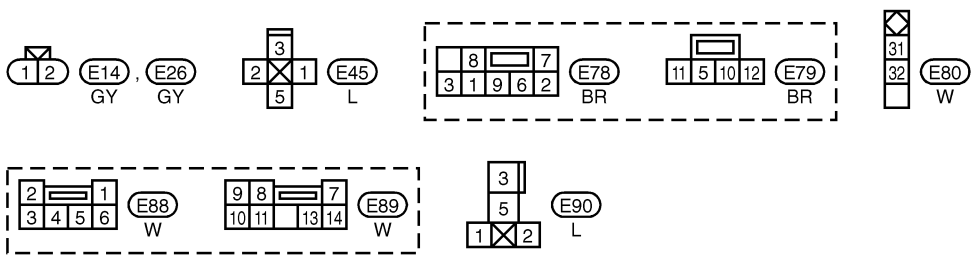
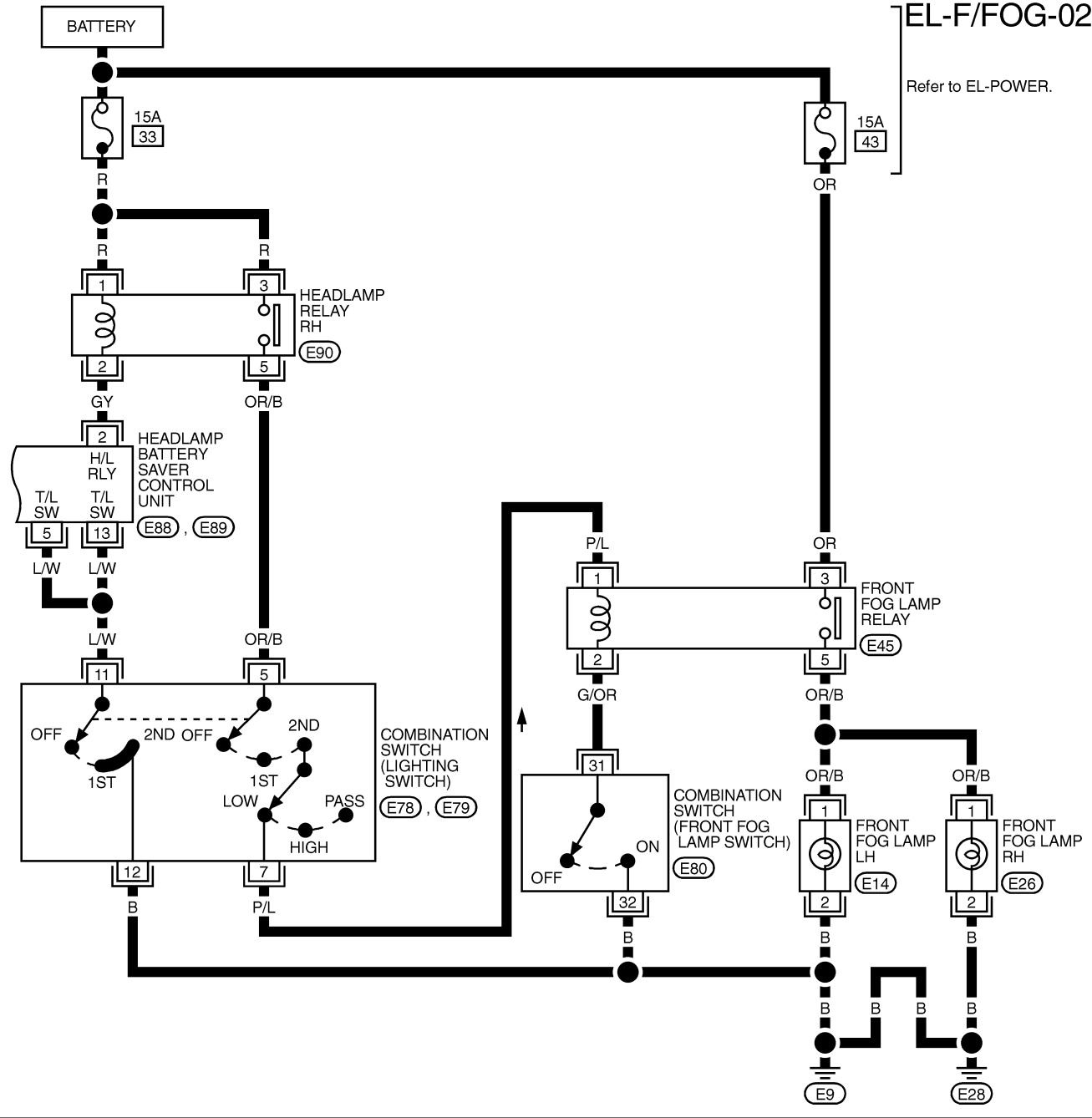
FRONT FOG LAMP

Wiring Diagram — F/FOG — (Cont'd)

EL-F/FOG-02

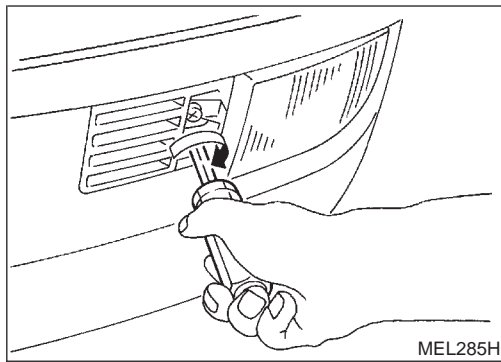
Refer to EL-POWER.

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FRONT FOG LAMP

Aiming Adjustment



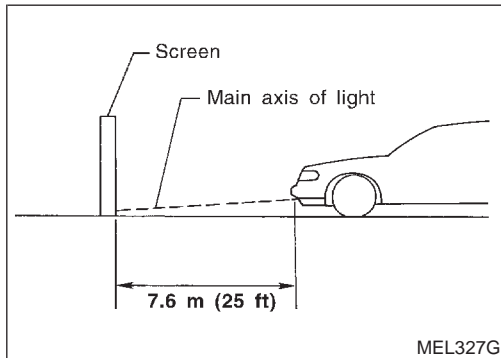
Aiming Adjustment

NCEL0029

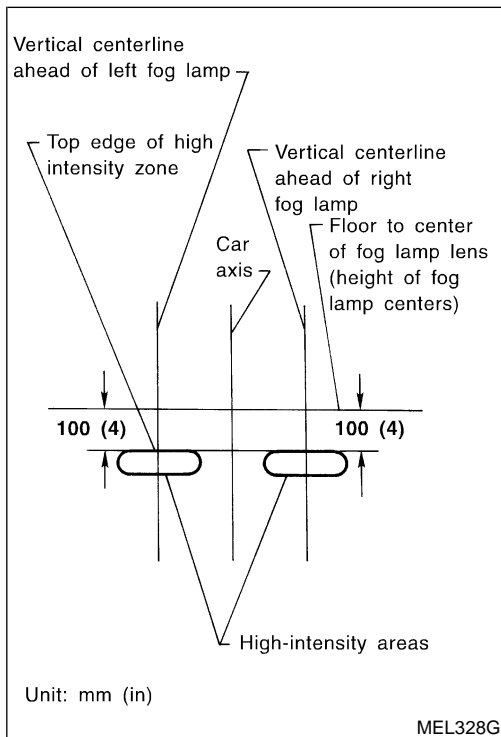
Before performing aiming adjustment, make sure of the following.

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

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



1. Set the distance between the screen and the center of the fog lamp lens as shown at left.
2. Remove front fog lamp rim. For detail, refer to "BODY END" in BT section.
3. Turn front fog lamps ON.



4. Adjust front fog lamps so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown at left.
- When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.

System Description

NCEL0030

TURN SIGNAL OPERATION

NCEL0030S01

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

- through 7.5A fuse [No. 12, located in the fuse block (J/B)]
- to hazard switch terminal 2
- through terminal 1 of the hazard switch
- to combination flasher unit terminal 1
- through terminal 3 of the combination flasher unit
- to turn signal switch terminal 1.

Ground is supplied to combination flasher unit terminal 2 through body grounds M15, M71 and M76.

LH Turn

NCEL0030S0101

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

- front turn signal lamp LH terminal 1
- side turn signal lamp LH terminal 1
- combination meter terminal 30
- rear combination lamp LH terminal 1.

Ground is supplied to the front turn signal lamp LH terminal 2 and the side turn signal lamp LH terminal 2 through body grounds E9 and E28.

Ground is supplied to the rear combination lamp LH terminal 2 through body grounds T6 and T7.

Ground is supplied to combination meter terminal 27 through body grounds M15, M71 and M76.

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

RH Turn

NCEL0030S0102

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

- front turn signal lamp RH terminal 1
- side turn signal lamp RH terminal 1
- combination meter terminal 28
- rear combination lamp RH terminal 1.

Ground is supplied to the front turn signal lamp RH terminal 2 and the side turn signal lamp terminal 2 through body grounds E9 and E28.

Ground is supplied to the rear combination lamp RH terminal 2 through body grounds T6 and T7.

Ground is supplied to combination meter terminal 27 through body grounds M15, M71 and M76.

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

HAZARD LAMP OPERATION

NCEL0030S02

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

- 10A fuse [No. 20, located in the fuse block (J/B)].

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

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

Ground is supplied to combination flasher unit terminal 2 through body grounds M15, M71 and M76.

Power is supplied through terminal 5 of the hazard switch to

- front turn signal lamp LH terminal 1
- side turn signal lamp LH terminal 1
- combination meter terminal 30
- rear combination lamp LH terminal 1.

Power is supplied through terminal 6 of the hazard switch to

- front turn signal lamp RH terminal 1
- side turn signal lamp RH terminal 1

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TURN SIGNAL AND HAZARD WARNING LAMPS

System Description (Cont'd)

- combination meter terminal 28
- rear combination lamp RH terminal 1.

Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E9 and E28.

Ground is supplied to terminal 2 of each side turn signal lamp through body grounds E9 and E28.

Ground is supplied to terminal 2 of each rear combination lamp through body grounds T6 and T7.

Ground is supplied to combination meter terminal 27 through body grounds M15, M71 and M76.

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

MULTI-REMOTE CONTROL SYSTEM OPERATION

NCEL0030S03

Power is supplied at all times

- through 10A fuse [No. 20, located in the fuse block (J/B)]
- to multi-remote control relay terminals 1, 3 and 6.

Ground is supplied to multi-remote control relay terminal 2, when the multi-remote control system is triggered through the smart entrance control unit.

Refer to "MULTI-REMOTE CONTROL SYSTEM", EL-190.

The multi-remote control relay is energized.

Power is supplied through terminal 7 of the multi-remote control relay

- to front turn signal lamp LH terminal 1
- side turn signal lamp LH terminal 1
- to combination meter terminal 30
- to rear combination lamp LH terminal 1.

Power is supplied through terminal 5 of the multi-remote control relay

- to front turn signal lamp RH terminal 1
- side turn signal lamp RH terminal 1
- to combination meter terminal 28
- to rear combination lamp RH terminal 1.

Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E9 and E28.

Ground is supplied to terminal 2 of each side turn signal lamp through body grounds E9 and E28.

Ground is supplied to terminal 2 of each rear combination lamp through body grounds T6 and T7.

Ground is supplied to combination meter terminal 27 through body grounds M15, M71 and M76.

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

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —

Wiring Diagram — TURN —

NCEL0032

EL-TURN-01

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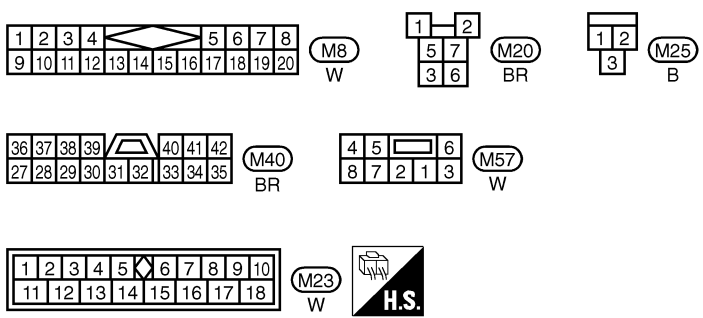
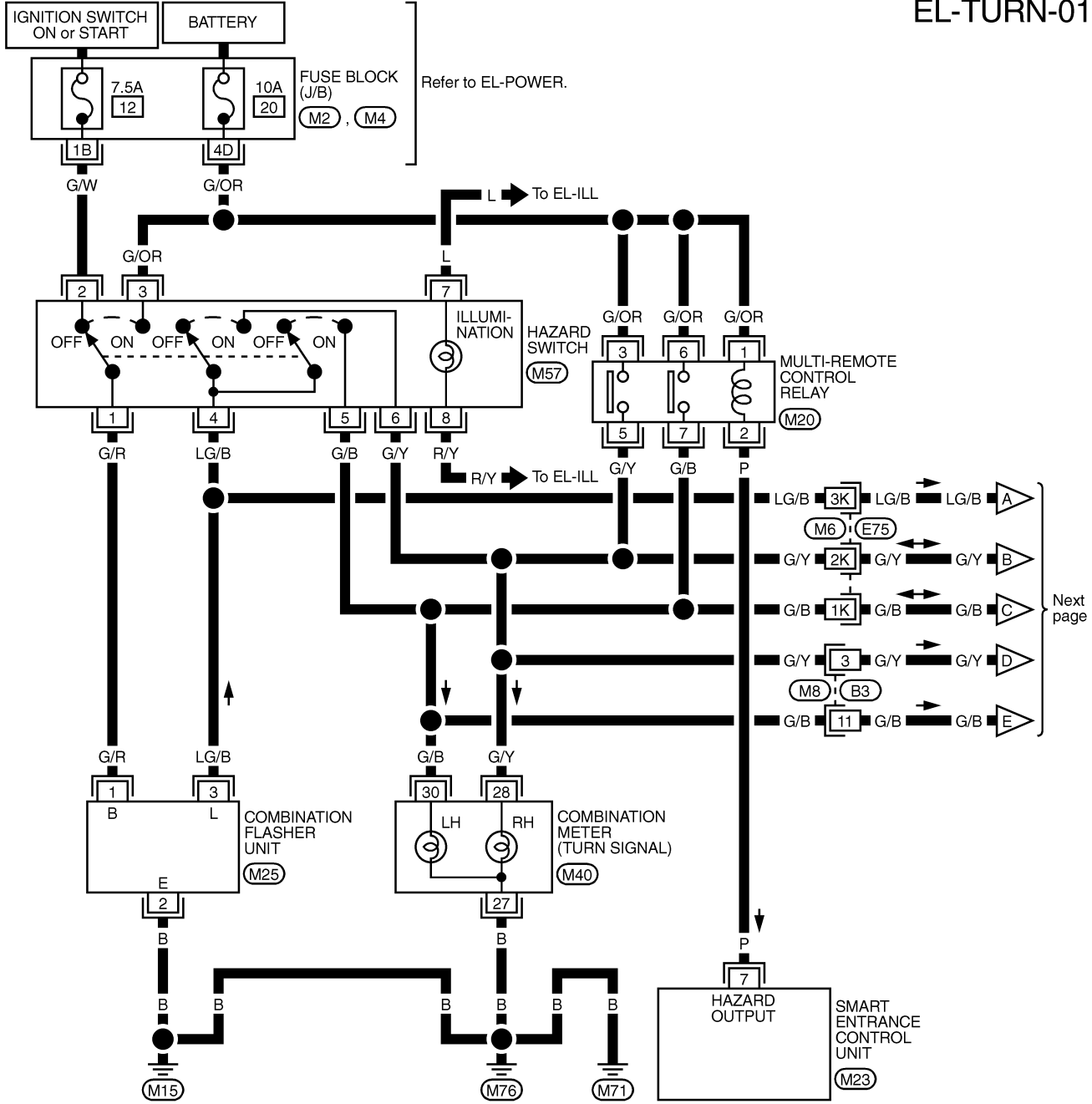
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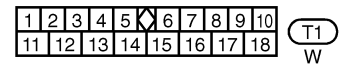
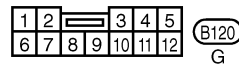
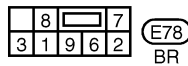
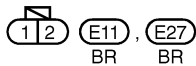
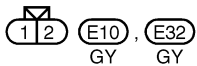
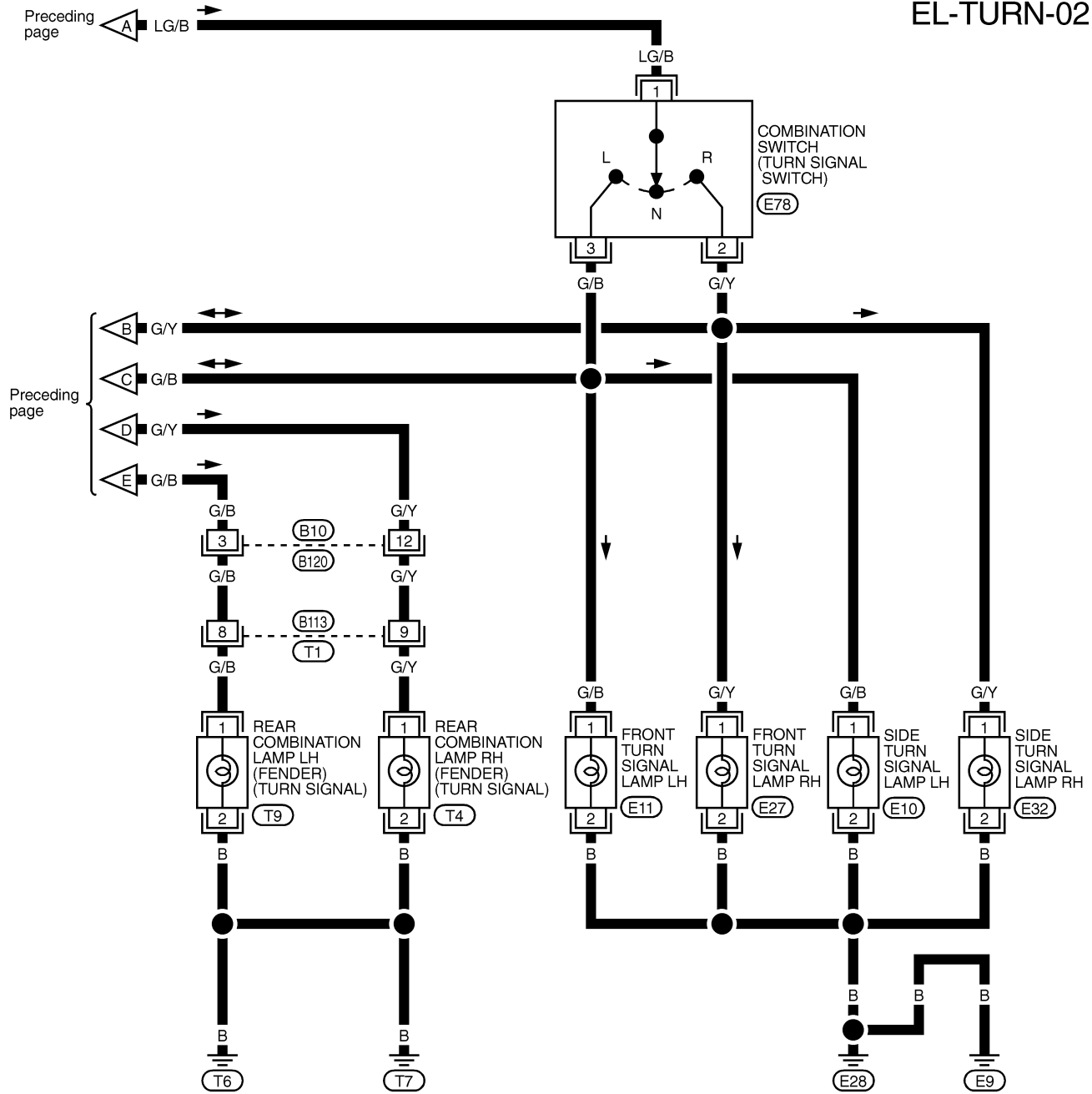


REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2, M4) -FUSE BLOCK-JUNCTION BOX (J/B)

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-02

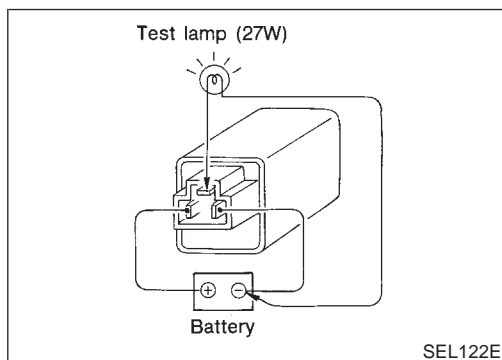


TEL492B

Trouble Diagnoses

NCEL0033

| 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. 12, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check the wire between combination flasher unit terminal 3 and turn signal switch terminal 1 for open circuit. |
| Hazard warning lamps do not operate but turn signal lamps operate. | <ol style="list-style-type: none"> 1. 10A fuse 2. Hazard switch 3. Open in hazard switch circuit | <ol style="list-style-type: none"> 1. Check 10A fuse [No. 20, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check the wire between combination flasher unit terminal 3 and hazard switch terminal 4 for open circuit. |
| Front turn signal lamp LH or RH does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Grounds E9 and E28 | <ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds E9 and E28. |
| Rear turn signal lamp LH or RH does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Grounds T6 and T7 | <ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds T6 and T7. |
| Side turn signal lamp LH or RH does not operate. | <ol style="list-style-type: none"> 1. Bulb 2. Grounds E9 and E28 | <ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds E9 and E28. |
| LH and RH turn indicators do not operate. | <ol style="list-style-type: none"> 1. Ground | <ol style="list-style-type: none"> 1. Check grounds M15, M71 and M76. |
| 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

NCEL0034

NCEL0034S01

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

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ILLUMINATION

System Description

System Description

NCEL0035

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

Power is supplied at all times

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 34, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 8, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

LIGHTING OPERATION BY LIGHTING SWITCH

NCEL0035S01

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

- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through body grounds E9 and E28.

Tail lamp relay is then energized and illumination lamps illuminate.

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

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

The 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 | M29 | 1 | 3 |
| Combination meter | M40 | 33, 37 | 34 |
| A/T indicator | M48 | 3 | 4 |
| Ashtray | M82 | 1 | 2 |
| Grove box lamp | M67 | 1 | 2 |
| IVCS switch | R9 | 2 | 12 |
| Rear window defogger switch | M58 | 5 | 6 |
| Power window main switch | D6, D10 | 17 | 12 |
| Audio | M50 | 8 | 7 |
| Hazard switch | M57 | 7 | 8 |
| Push control unit | M53, M54 | 15 | 16 |
| A/C auto amp. | M55 | 24 | 25 |

The ground for all of the components except for grove box lamp and ashtray are controlled through terminals 2 and 3 of the illumination control switch and body grounds M15, M71 and M76.

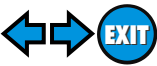
BATTERY SAVER CONTROL

NCEL0035S02

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 2 of the tail lamp relay from headlamp battery saver control unit

ILLUMINATION



System Description (Cont'd)

terminals 6 and 14 is terminated.

Then illumination lamps are turned off.

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

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

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14.

Then illumination lamps illuminate again.

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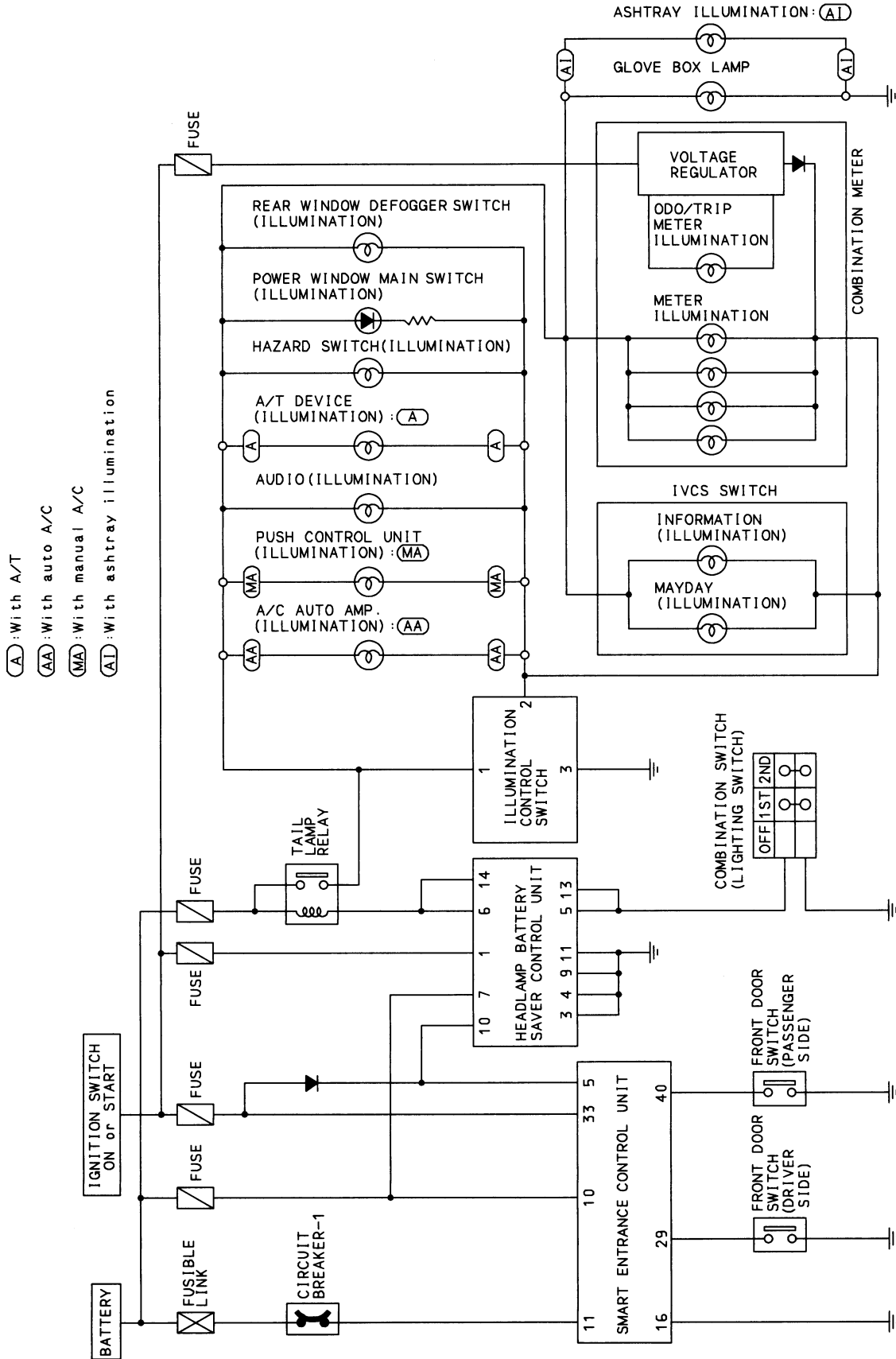
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ILLUMINATION

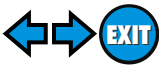
Schematic

Schematic

NCEL0036



TEL493B



ILLUMINATION

Wiring Diagram — ILL —

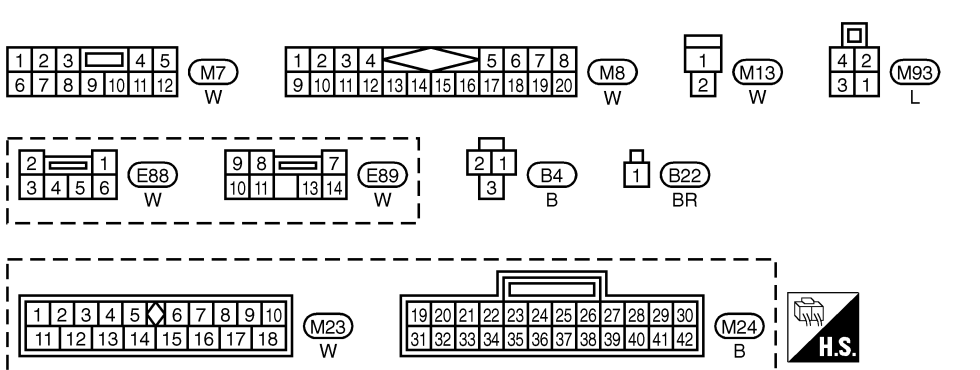
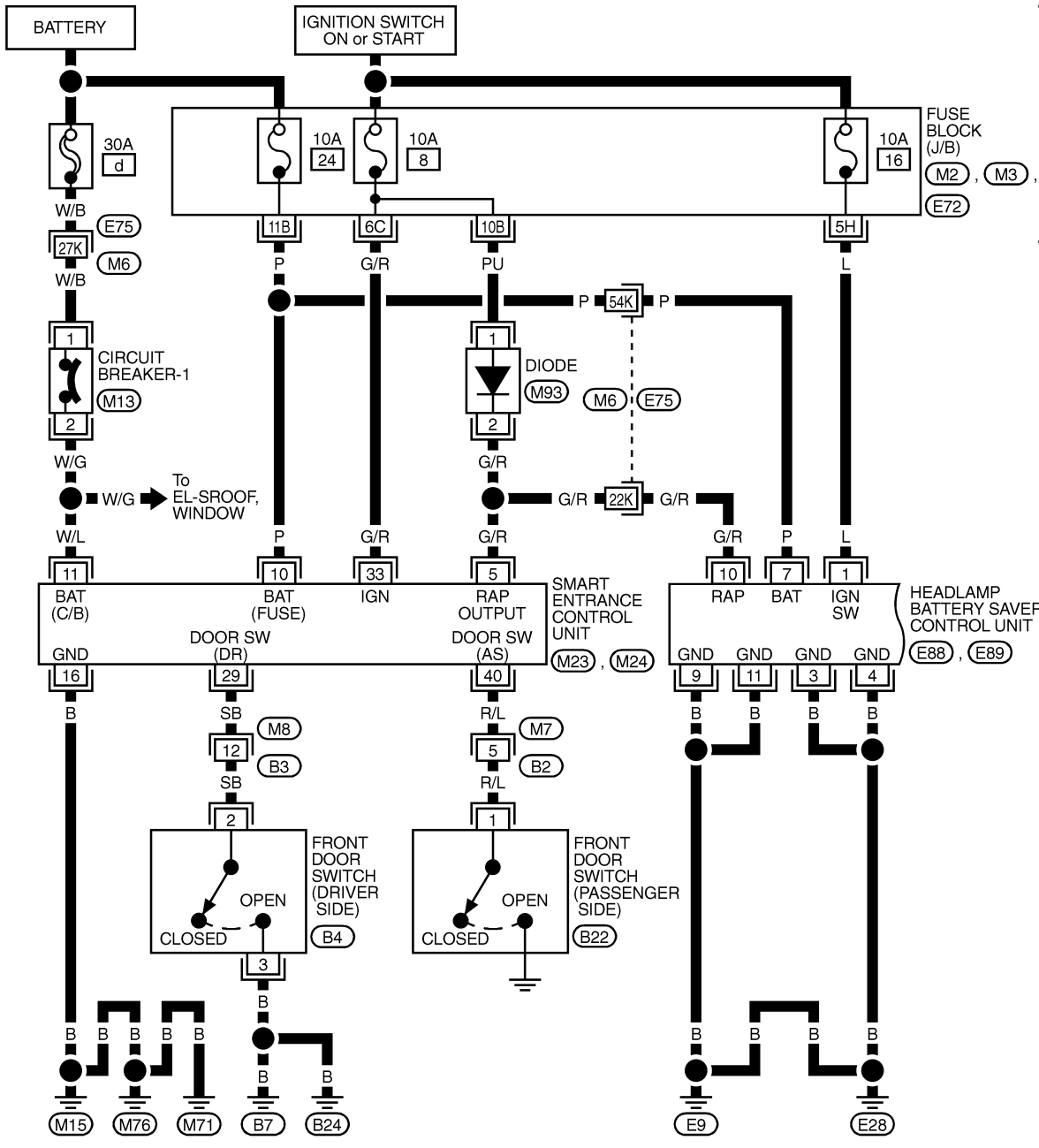
Wiring Diagram — ILL —

NCEL0037

EL-ILL-01

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HA
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EL
IDX

Refer to EL-POWER.



REFER TO THE FOLLOWING.
(E75) -SUPER MULTIPLE JUNCTION (SMJ)
(M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

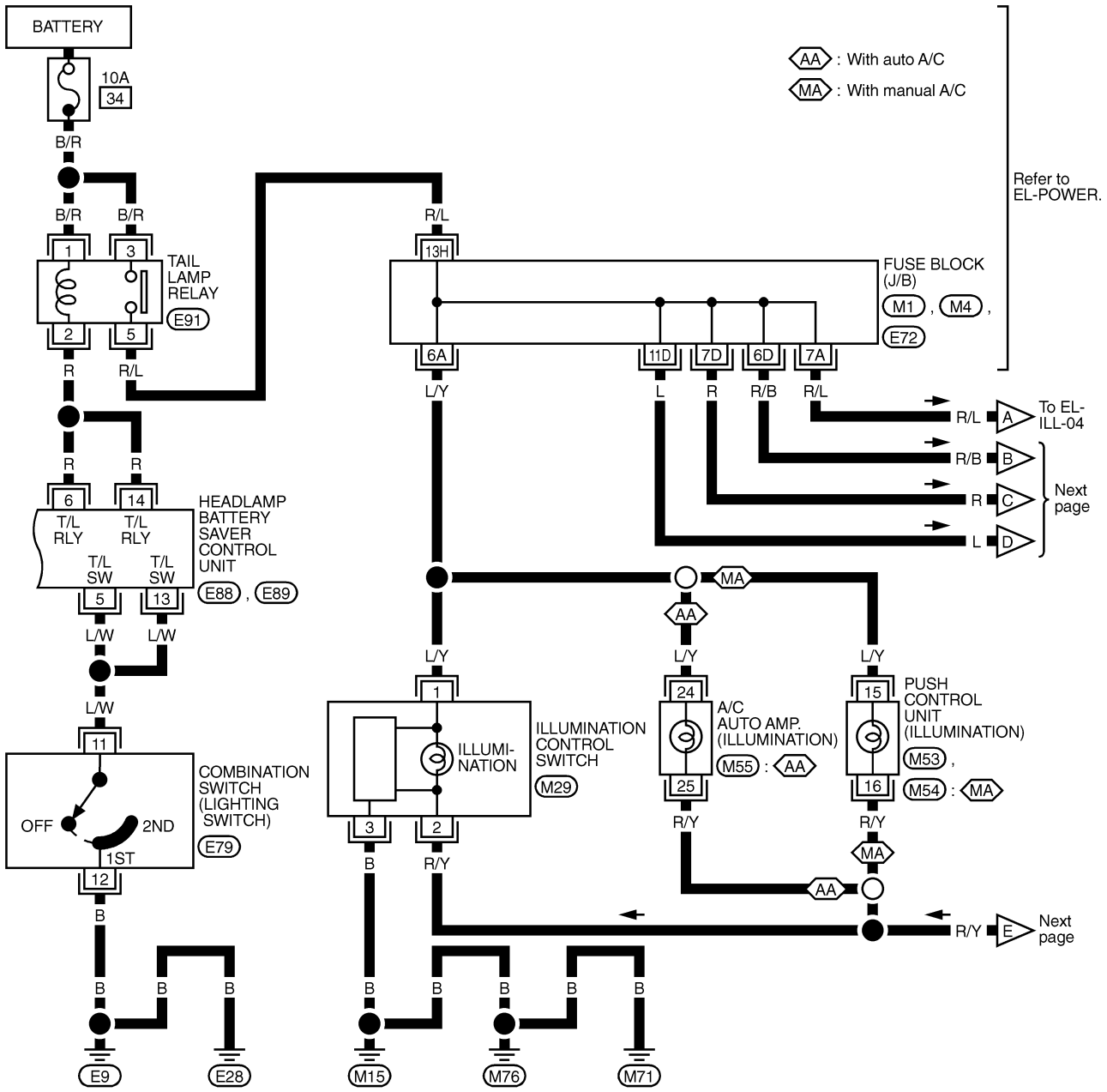


TEL494B

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02

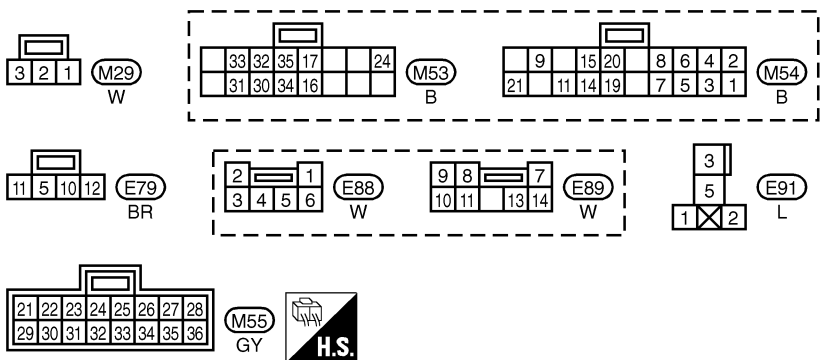


AA : With auto A/C
 MA : With manual A/C

Refer to EL-POWER.

To EL-ILL-04
 Next page

Next page



REFER TO THE FOLLOWING.
 M1, M4, E72 - FUSE BLOCK-JUNCTION BOX (J/B)

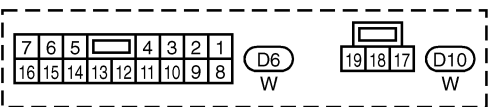
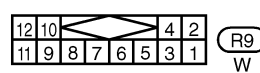
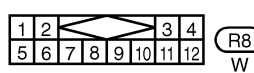
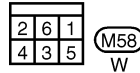
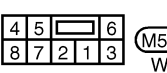
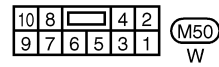
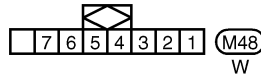
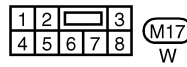
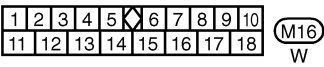
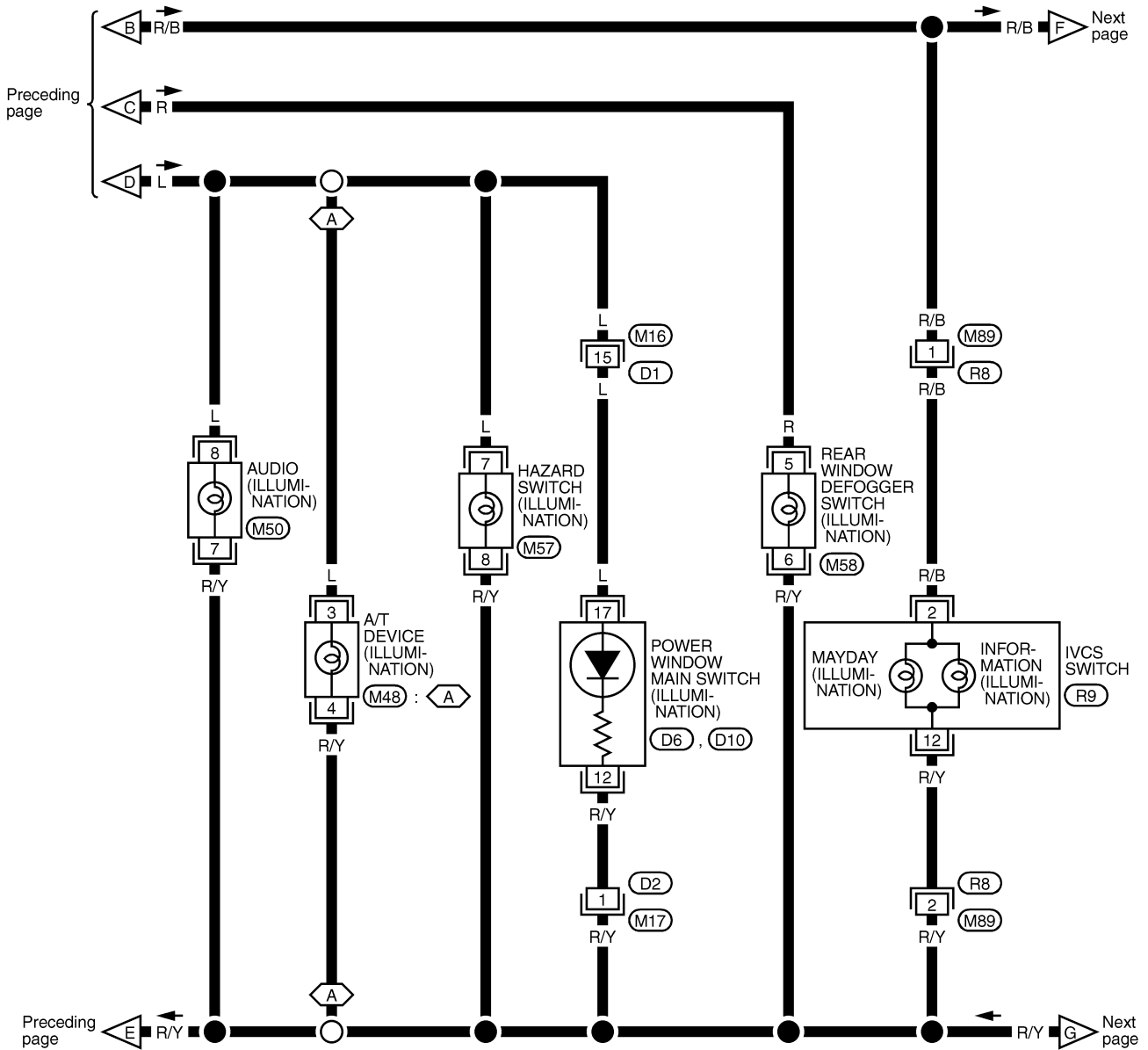
TEL495B

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-03

⬡ : With A/T

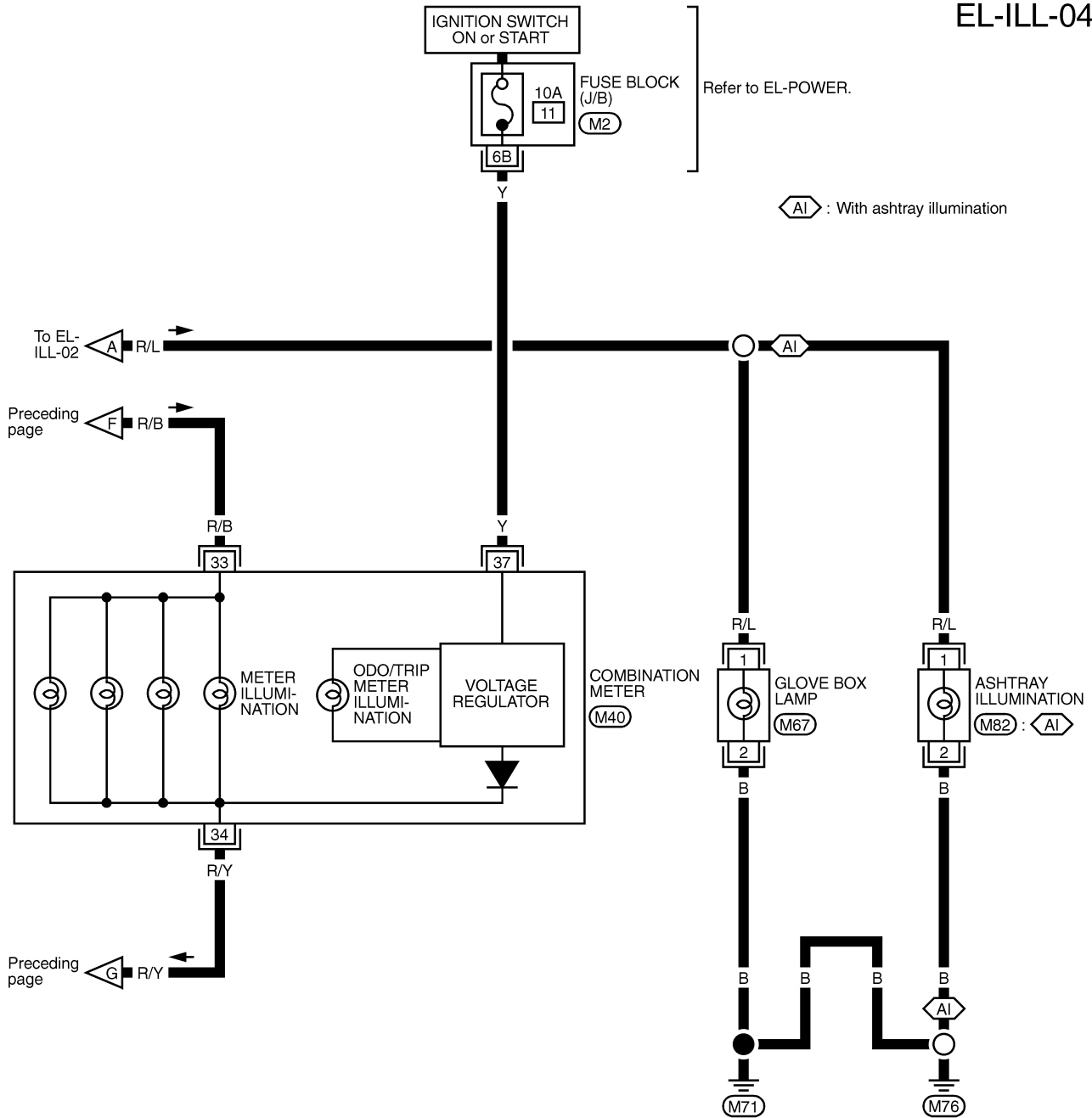


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ILLUMINATION

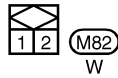
Wiring Diagram — ILL — (Cont'd)

EL-ILL-04



| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 36 | 37 | 38 | 39 | 40 | 41 | 42 | | |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |

M40 BR



REFER TO THE FOLLOWING.
(M2) - FUSE BLOCK-JUNCTION BOX (J/B)

TEL497B

System Description

POWER SUPPLY AND GROUND

NCEL0162

NCEL0162S01

Power is supplied at all times:

- through 30A fusible link (Letter **d**, located in the fuse and fusible link box)
- to circuit breaker-1 terminal 1
- through circuit breaker-1 terminal 2
- to smart entrance control unit terminal 11.

GI

MA

EM

Power is supplied at all times:

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to key switch terminal 1 and
- to smart entrance control unit terminal 10.

LC

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

- through terminal key switch 2
- to smart entrance control unit terminal 32.

EC

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

FE

CL

Ground is supplied:

- to smart entrance control unit terminal 16
- through body grounds terminal M15, M71 and M76.

MT

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

- through body grounds B7 and B24
- to front door switch (driver side) terminal 3
- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29.

AT

AX

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

- through case ground of front door switch (passenger side)
- from front door switch (passenger side) terminal 1
- to smart entrance control unit terminal 40.

SU

BR

When any other door (except front passenger side) is opened ground is supplied to smart entrance control unit terminal 28 in the same manner as the front door switch (front passenger side).

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

- through body grounds terminal M15, M71 and M76
- to front door lock actuator (driver side) (unlock sensor) terminal 2
- from front door lock actuator (driver side) (unlock sensor) terminal 4
- to smart entrance control unit terminal 36.

ST

RS

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

- through smart entrance control unit terminal 8
- to interior room lamp terminal 2.

BT

HA

With power and ground supplied, the interior room lamp illuminates.

SWITCH OPERATION

NCEL0162S03

When the room lamp switch is ON, ground is supplied:

- through case grounds of interior room lamp
- from interior room lamp terminal 1
- to smart entrance control unit terminal 17.

SC

EL

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

- through body grounds M15, M71 and M76
- to map lamp terminal 2
- from map lamp terminal 1
- to smart entrance control unit terminal 17.

IDX

With power and ground supplied, the room lamp turns ON.

INTERIOR ROOM LAMP

System Description (Cont'd)

INTERIOR ROOM LAMP TIMER OPERATION

NCEL0162S04

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

- unlock signal is supplied from driver's door unlock sensor while all doors are closed and key is removed from ignition key cylinder
- key is removed from ignition key cylinder while all doors are closed
- driver's door is opened and then closed while key is removed from the ignition key cylinder. (However, if the driver's door is closed with the key inserted in the ignition key cylinder after the driver's door is opened with the key removed, the timer is operated.)

When the interior lamp switch is in the "DOOR" position and the unlock signal is supplied from the multi-remote controller while the driver's door is locked and all doors are closed (even if key is inserted), the smart entrance control unit keeps the interior lamp illuminated for about 30 seconds.

The timer is canceled when:

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

ON-OFF CONTROL

NCEL0162S05

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

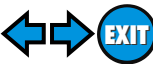
BATTERY SAVER

NCEL0162S06

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

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

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



INTERIOR ROOM LAMP

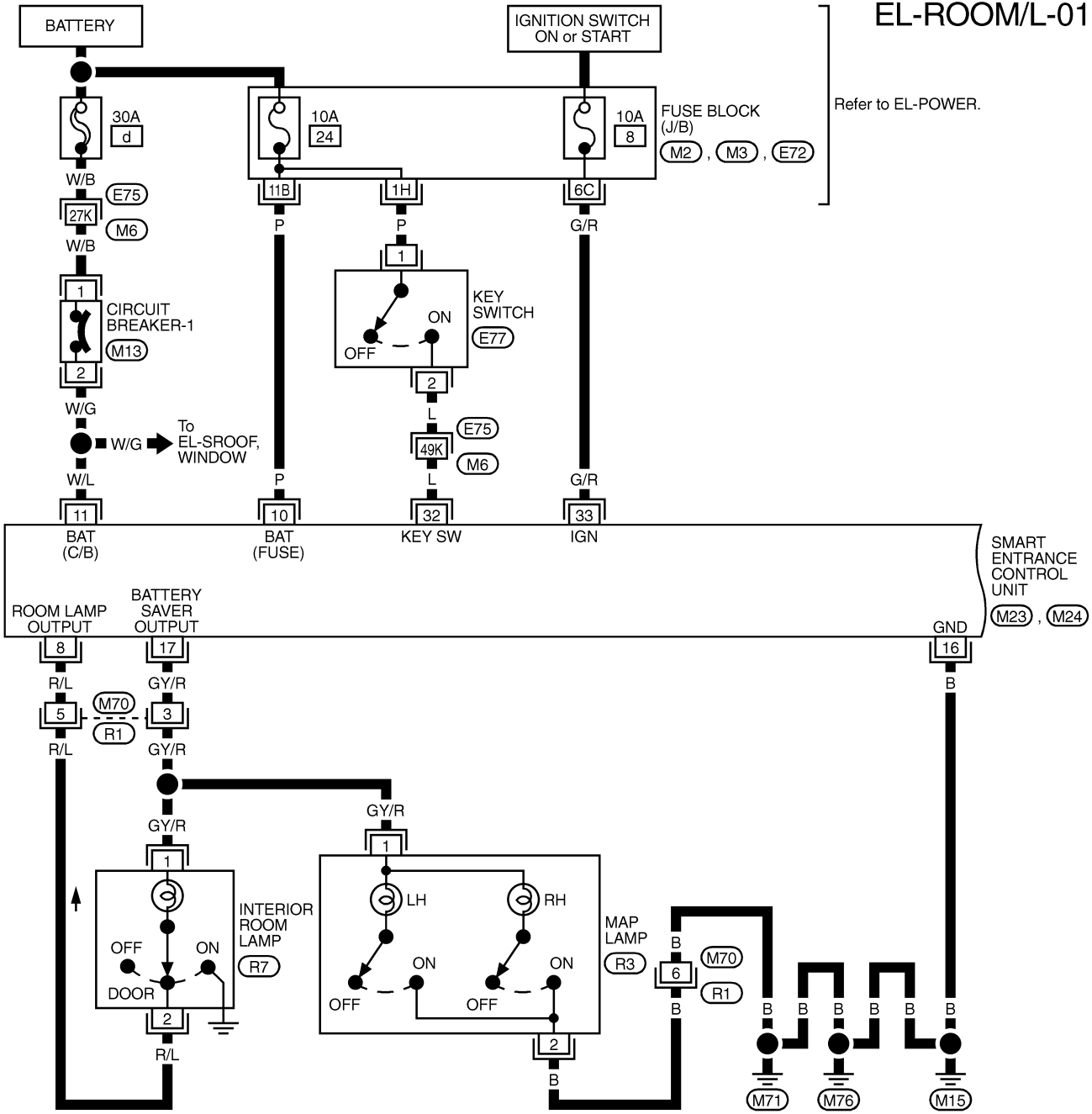
Wiring Diagram — ROOM/L —

Wiring Diagram — ROOM/L —

NCEL0163

EL-ROOM/L-01

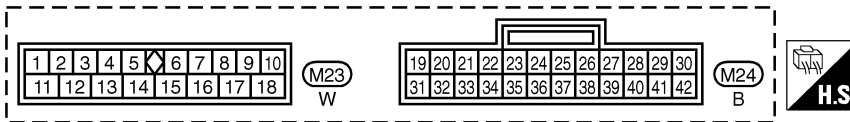
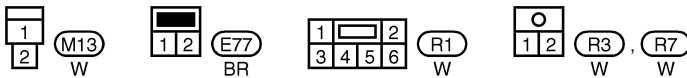
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REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

(M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

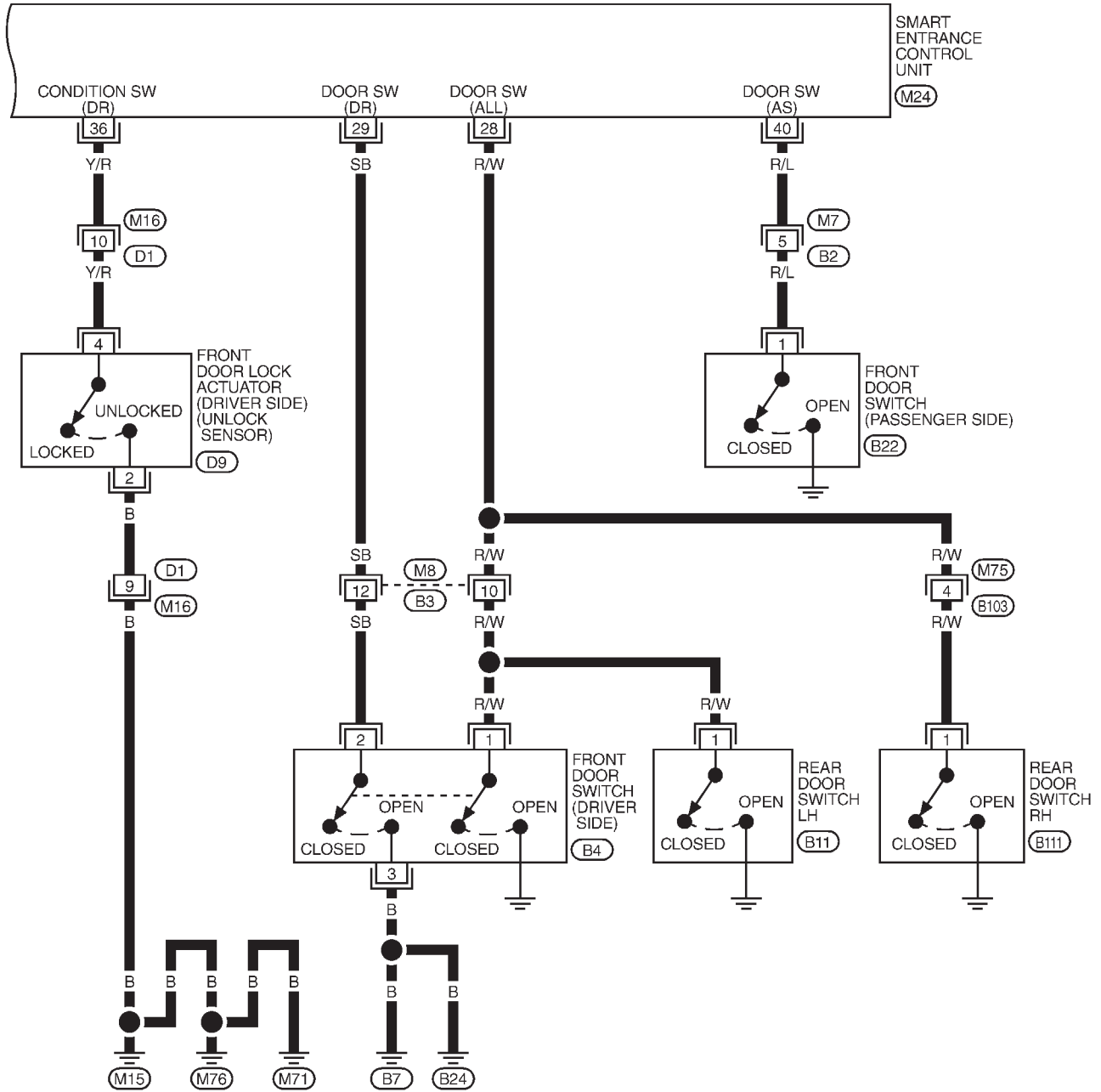


TEL498B

INTERIOR ROOM LAMP

Wiring Diagram — ROOM/L — (Cont'd)

EL-ROOM/L-02



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

(M7) W

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

(M8) W

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

(M16) W

| | |
|---|---|
| 2 | 1 |
| 3 | B |

(B4) B

| | | | |
|----|-----|-----|------|
| 1 | B11 | B22 | B111 |
| BR | BR | BR | BR |

| | |
|---|---|
| 2 | 1 |
| 4 | 3 |

(D9) GY

| | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |

(M24) B



System Description

TRUNK ROOM LAMP

Power is supplied at all times

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to trunk room lamp terminal 1,

With trunk room lamp switch ON, ground is supplied to turn trunk room lamp ON.

When trunk room lamp switch is opened, ground is supplied to trunk room lamp terminal 2 through body grounds B109 and B110.

VANITY MIRROR LAMP

Power is supplied at all times

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to each vanity mirror lamp terminal 1.

With the vanity mirror lamp switch in the ON position, the vanity mirror lamp turns ON.

NCEL0038

NCEL0038S01

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NCEL0038S04

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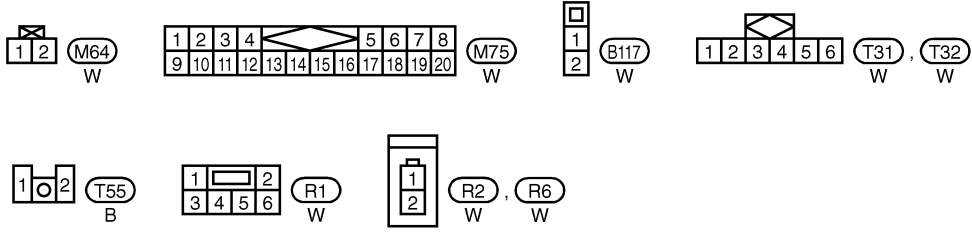
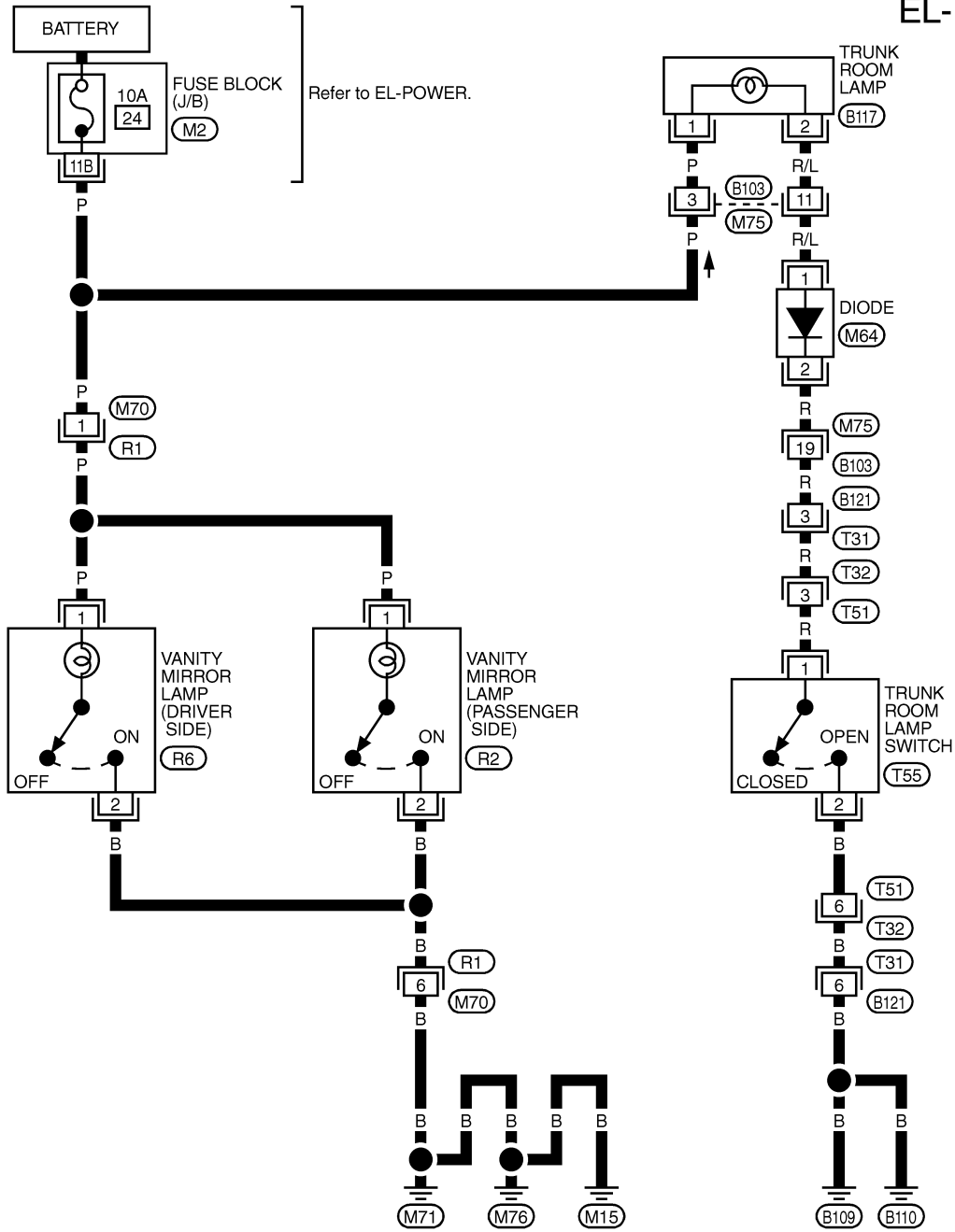
VANITY MIRROR AND TRUNK ROOM LAMPS

Wiring Diagram — INT/L —

Wiring Diagram — INT/L —

NCEL0040

EL-INT/L-01



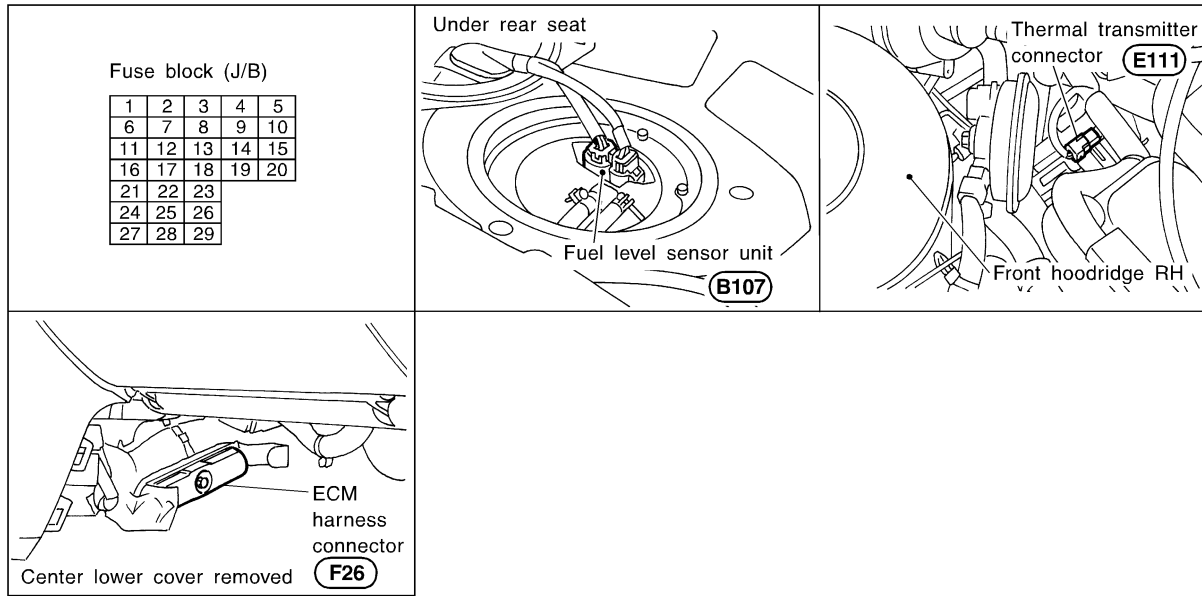
REFER TO THE FOLLOWING.
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

METERS AND GAUGES

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0041



SEL832VA

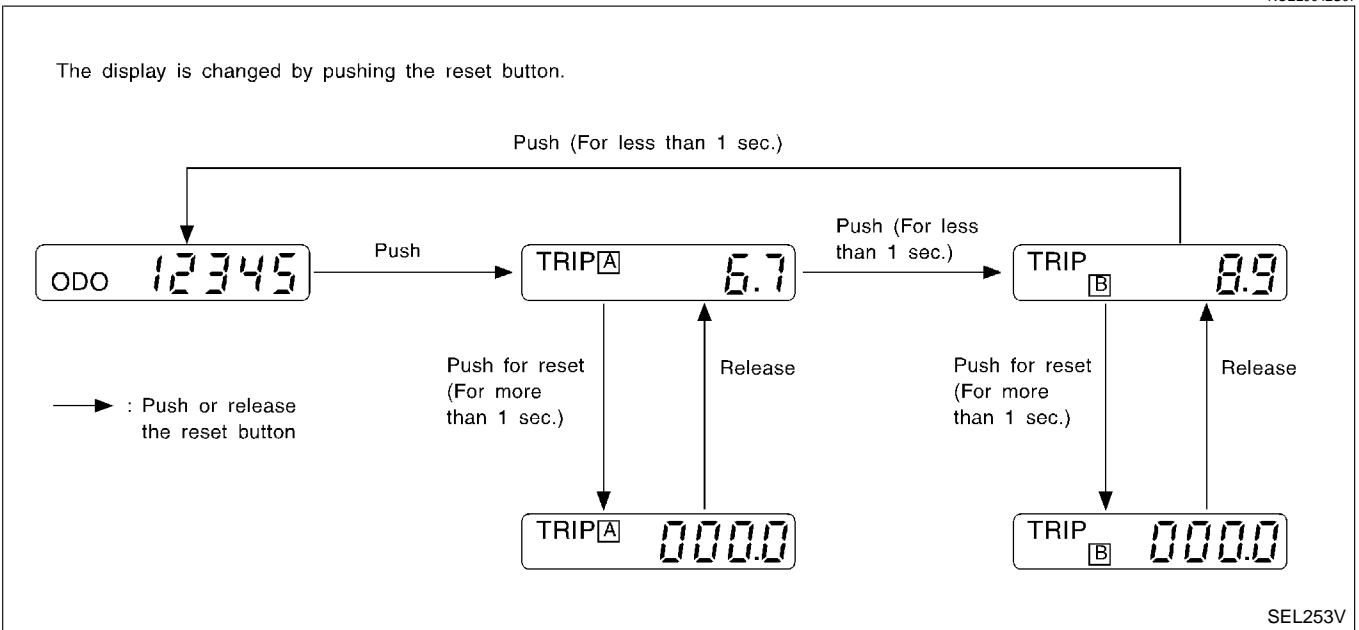
System Description

NCEL0042

UNIFIED CONTROL METER

- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by control unit combined with speedometer.
- 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



NOTE:

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

METERS AND GAUGES

System Description (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT

NCEL0042S08

Power is supplied at all times

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

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 37.

Ground is supplied

- to combination meter terminal 3
- through body grounds M15, M71 and M76.

WATER TEMPERATURE GAUGE

NCEL0042S01

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

As the temperature of the coolant increases, the resistance of the thermal transmitter decreases. A variable ground is supplied to terminal 5 of the combination meter for the water temperature gauge. The needle on the gauge moves from "C" to "H".

TACHOMETER

NCEL0042S02

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

The tachometer is regulated by a signal

- from terminal 32 of the ECM
- to combination meter terminal 16 for the tachometer.

FUEL GAUGE

NCEL0042S03

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

The fuel gauge is regulated by a variable ground signal supplied

- to combination meter terminal 6 for the fuel gauge
- from terminal 4 of the fuel level sensor unit
- through terminal 1 of the fuel level sensor unit and
- through body grounds B109 and B110.

SPEEDOMETER

NCEL0042S04

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

The voltage is supplied

- from combination meter terminal 15 for the speedometer
- to terminal 1 of the vehicle speed sensor.

The speedometer converts the voltage into the vehicle speed displayed.

METERS AND GAUGES

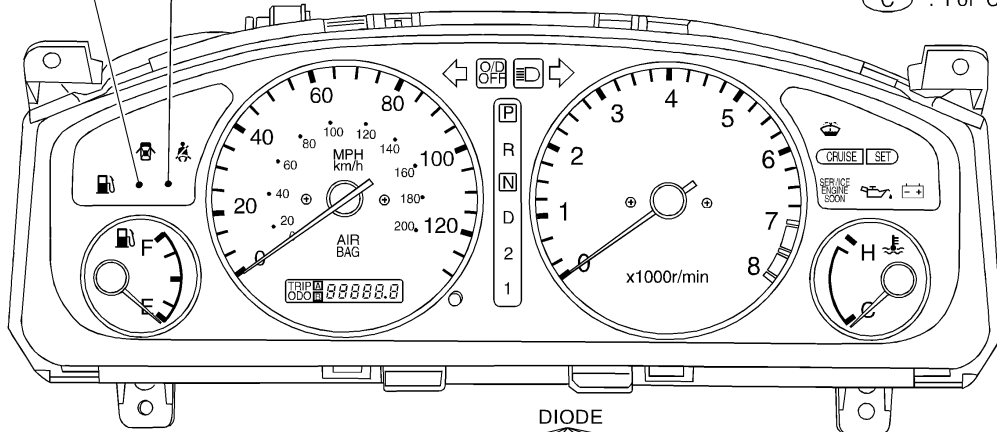
Combination Meter

Combination Meter

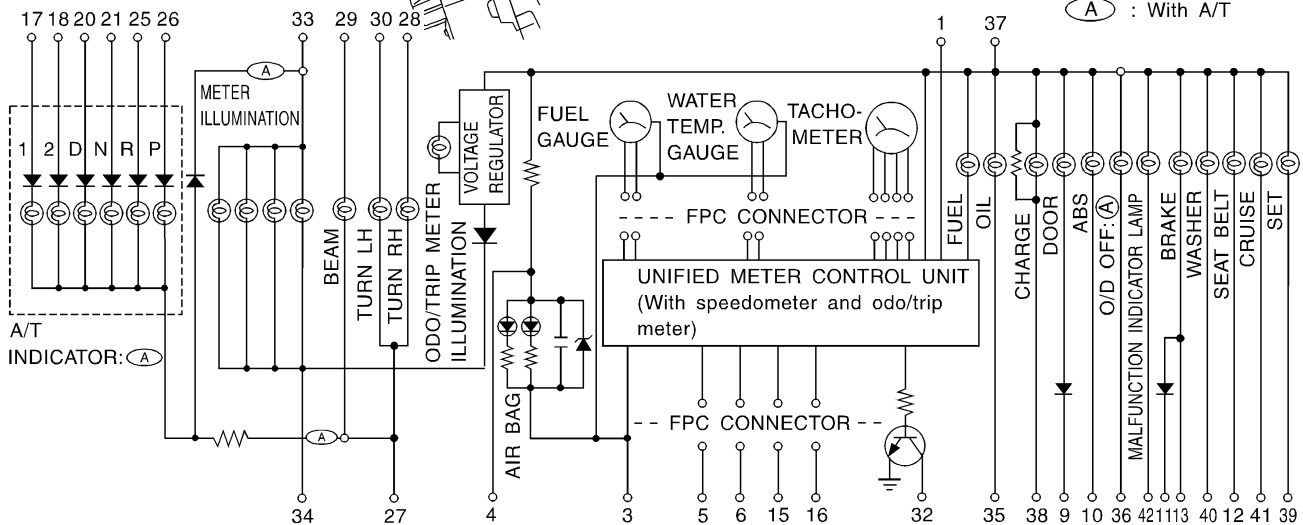
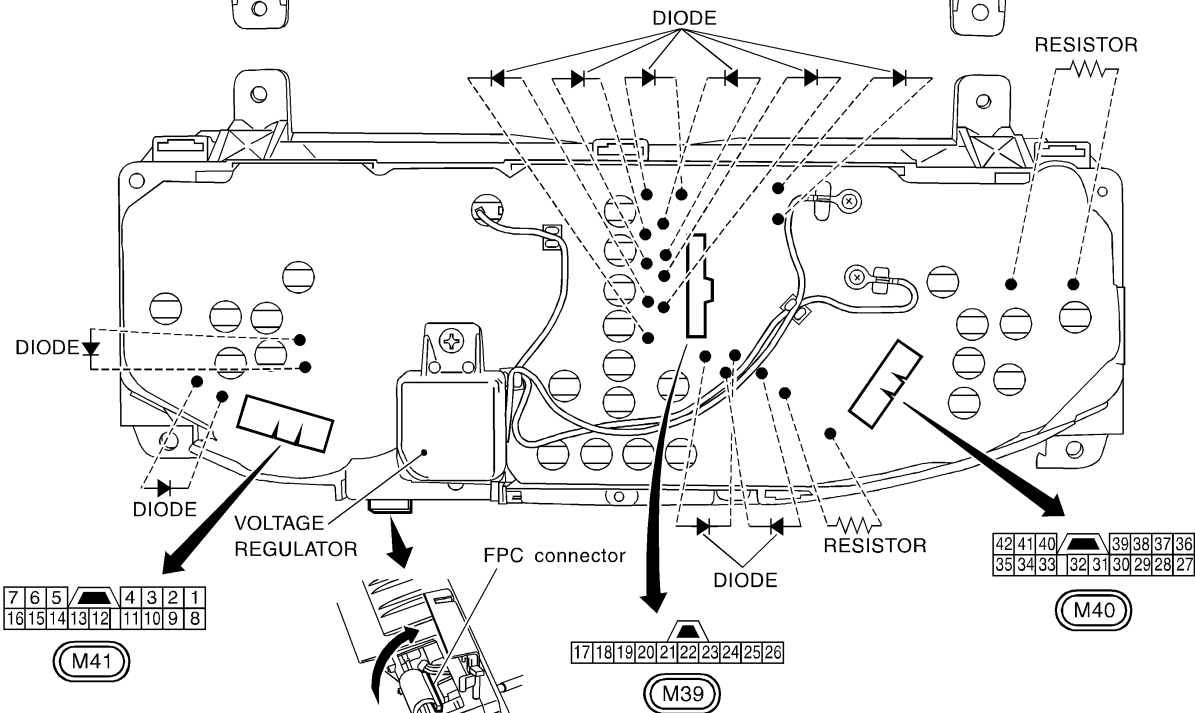
NCEL0043

U : ABS U : BRAKE
C : C :

U : For U.S.A.
C : For Canada



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CEL171A

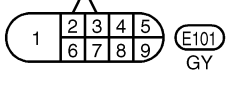
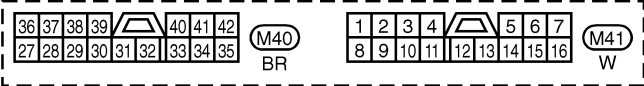
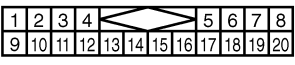
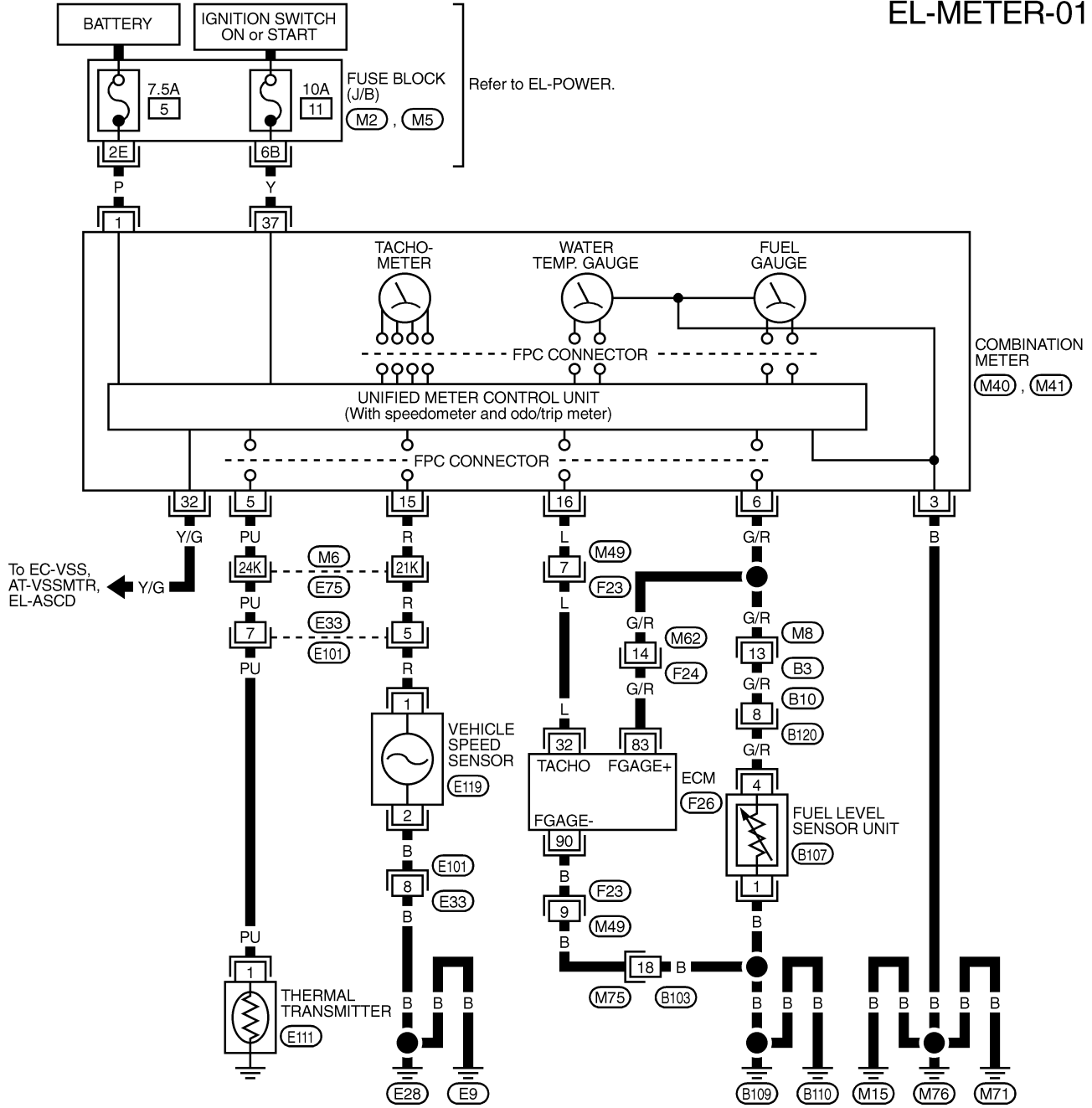
METERS AND GAUGES

Wiring Diagram — METER —

Wiring Diagram — METER —

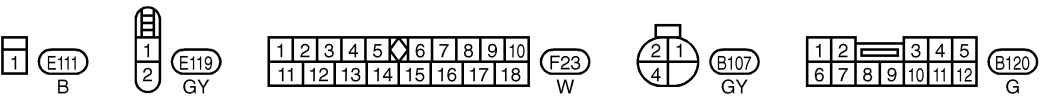
NCEL0045

EL-METER-01



REFER TO THE FOLLOWING.

- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2), (M5) -FUSE BLOCK-JUNCTION BOX (J/B)
- (F26) -ELECTRICAL UNITS



METERS AND GAUGES

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

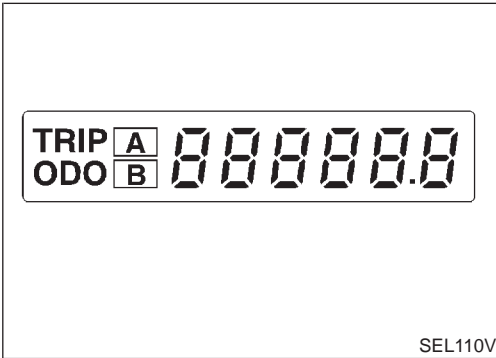
Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode

DIAGNOSIS FUNCTION

- Odo/trip meter segment can be checked in diagnosis mode. NCELO151
- Meters/gauges can be checked in diagnosis mode. NCELO151S01

HOW TO ALTERNATE DIAGNOSIS MODE

1. Turn ignition switch to ON and change odo/trip meter to "TRIP A" or "TRIP B". NCELO151S02
2. Turn ignition switch to OFF.
3. Turn ignition switch to ON when pushing odo/trip meter switch. EM
4. Confirm that trip meter indicates "000.0". LC
5. Push odo/trip meter switch more than three times within 5 seconds. EC

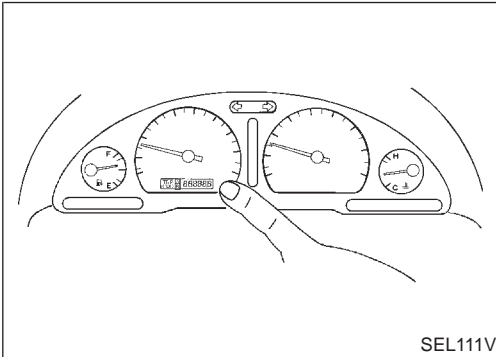


6. All odo/trip meter segments should be turned on. FE

NOTE:

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

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



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

NOTE:

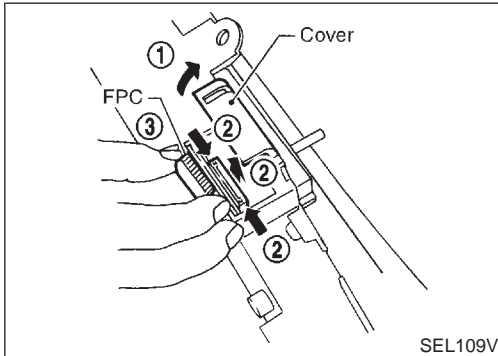
It takes about 1 minute for indication of fuel gauge to become stable. AX

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Flexible Print Circuit (FPC)

=NCEL0152

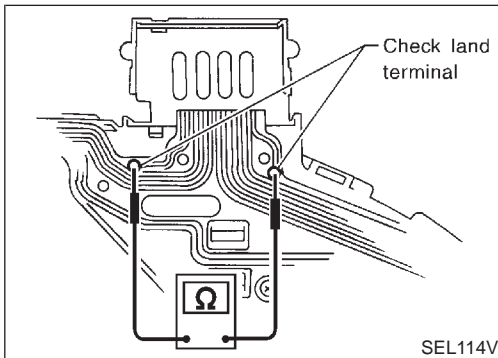
Tachometer, fuel gauge and water temperature gauge are connected with unified meter control unit (speedometer) by Flexible Print Circuit (FPC) connector. When replace or remove and install unified control unit (speedometer), disconnect and connect FPC connector according to the following steps.



DISCONNECT

NCEL0152S01

1. Open connector cover.
2. Release connector lock by holding both ends of it and pulling it up.
3. Disconnect FPC by pulling it up.



CONNECT

NCEL0152S02

1. Insert FPC into connector and lock connector pushing FPC downward.
2. Check secure connection of FPC.
3. Check continuity of check land terminal for secure connection of FPC.

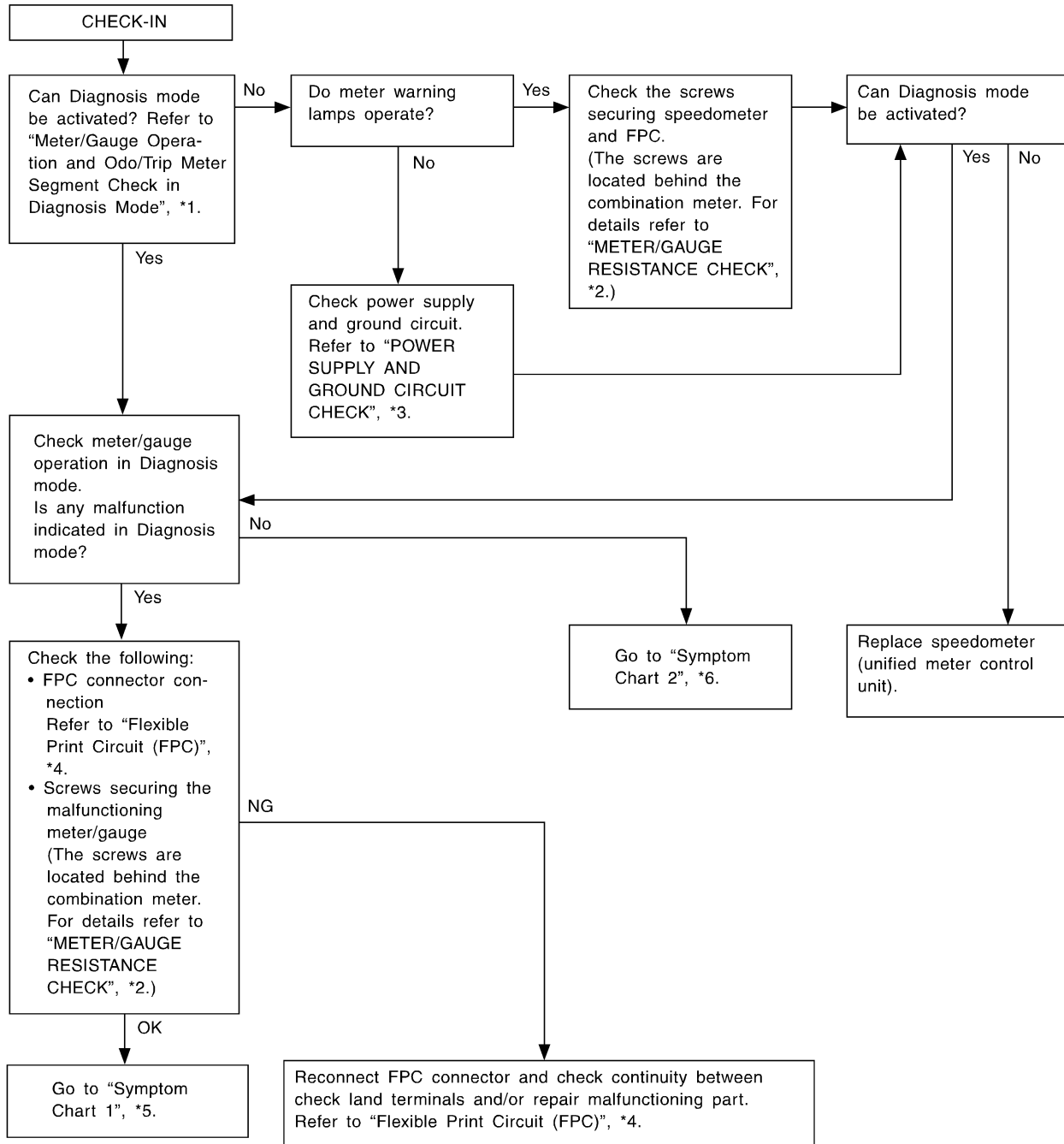
Resistance: 0Ω

4. Close connector cover.

Trouble Diagnoses PRELIMINARY CHECK

NCEL0046

NCEL0046S04



MEL474HB

*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-87)
*2: METER/GAUGE RESISTANCE CHECK (EL-96)

*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-91)
*4: Flexible Print Circuit (FPC) (EL-88)

*5: Symptom Chart 1 (EL-90)
*6: Symptom Chart 2 (EL-90)

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METERS AND GAUGES

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NCEL0046S10

NCEL0046S1001

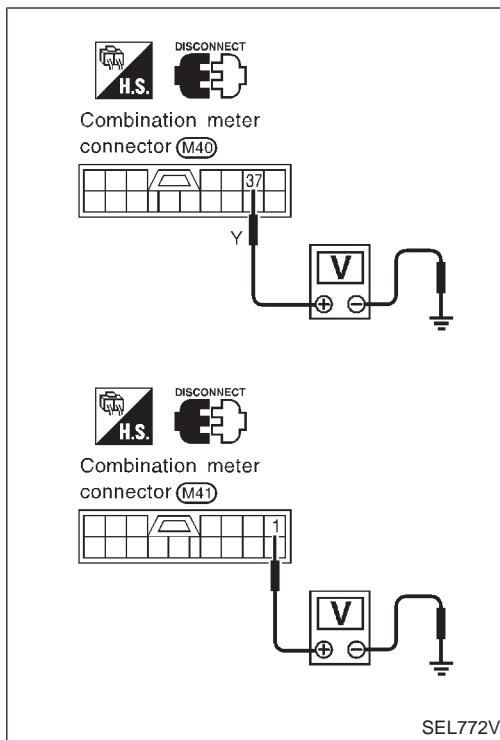
| Symptom | Possible causes | Repair order |
|---|---|---|
| Speedometer and/or odometer/trip meter indicate(s) malfunction in Diagnosis mode. | <ul style="list-style-type: none"> Speedometer (Unified meter control unit) | <ul style="list-style-type: none"> Replace speedometer (unified meter control unit). |
| Multiple meter/gauge indicate malfunction in Diagnosis mode. | | |
| One of tachometer/fuel gauge/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"> Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-96. If the resistance is OK, replace speedometer (unified meter control unit). |

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

NCEL0046S1002

| Symptom | Possible causes | Repair order |
|--|---|--|
| Speedometer and odometer/trip meter are malfunctioning. | <ol style="list-style-type: none"> Sensor <ul style="list-style-type: none"> Speedometer, Odo/Trip meter FPC connector Speedometer (Unified meter control unit) | <ol style="list-style-type: none"> Check vehicle speed sensor. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-92.) Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-88. Replace speedometer (unified meter control unit). |
| Multiple meter/gauge are malfunctioning. (except speedometer, odometer/trip meter) | <ol style="list-style-type: none"> FPC connector Speedometer (Unified meter control unit) | <ol style="list-style-type: none"> Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-88. Replace speedometer (unified meter control unit). |
| One of tachometer/fuel gauge/water temp. gauge is malfunctioning. | <ol style="list-style-type: none"> Sensor/Engine revolution signal <ul style="list-style-type: none"> Tachometer Fuel gauge Water temp. gauge FPC connector Speedometer (Unified meter control unit) | <ol style="list-style-type: none"> Check the sensor for malfunctioning meter/gauge. INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-93.) INSPECTION/FUEL LEVEL SENSOR UNIT (Refer to EL-94.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-95.) Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-88. Replace speedometer (unified meter control unit). |

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-89.



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NCEL0046S07

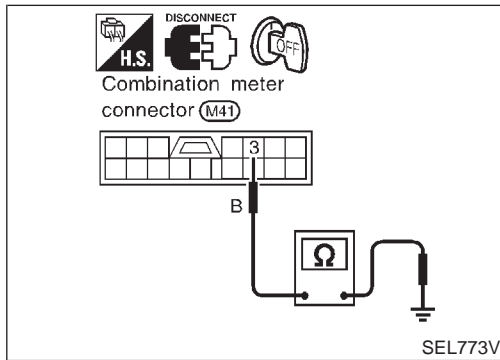
Power Supply Circuit Check

NCEL0046S0701

| Terminals | | Ignition switch position | | |
|-----------|--------|--------------------------|-----------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 1 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 37 | Ground | 0V | 0V | Battery voltage |

If NG, check the following.

- 7.5A fuse [No. 5, 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

NCEL0046S0702

| Terminals | Continuity |
|------------|------------|
| 3 - Ground | Yes |

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METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/VEHICLE SPEED SENSOR

=NCEL0046S03

| | | | |
|--|--|-----------------------------|--|
| 1 | CHECK VEHICLE SPEED SENSOR OUTPUT | | |
| <p>1. Remove vehicle speed sensor from transmission. 2. Check voltage between combination meter terminal 15 and ground while quickly turning speed sensor pinion.</p> | | | |
| | | | |
| SEL176X | | | |
| OK or NG | | | |
| OK | ▶ | Vehicle speed sensor is OK. | |
| NG | ▶ | GO TO 2. | |

| | | | |
|---|-----------------------------------|---|--|
| 2 | CHECK VEHICLE SPEED SENSOR | | |
| <p>Check resistance between vehicle speed sensor terminals 1 and 2.</p> | | | |
| | | | |
| SEL776V | | | |
| Resistance: Approx. 250Ω | | | |
| OK or NG | | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Harness or connector between speedometer and vehicle speed sensor ● Harness between vehicle speed sensor and ground | |
| NG | ▶ | Replace vehicle speed sensor. | |

INSPECTION/ENGINE REVOLUTION SIGNAL

NCEL0046S02

| | | |
|----------|-------------------------|---|
| 1 | CHECK ECM OUTPUT | <p>1. Start engine. 2. Check voltage between combination meter terminals 16 and ground at idle and 2,000 rpm.</p> <div style="text-align: center;"> </div> <p>Higher rpm = Higher voltage Lower rpm = Lower voltage Voltage should change with rpm.</p> <p style="text-align: center;">OK or NG</p> |
| OK | ▶ | Engine revolution signal is OK. |
| NG | ▶ | Harness for open or short between ECM and combination meter |

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METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/FUEL LEVEL SENSOR UNIT

=NCEL0046S08

| | | |
|--|--|------------------------------|
| 1 | CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT | |
| Check harness continuity between fuel level sensor unit terminal 1 and ground. | | |
| <p>Fuel level sensor unit connector (B107)</p> | | |
| SEL777VA | | |
| Yes or No | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Repair harness or connector. |

| | | |
|--|---------------------------|---------------------------------|
| 2 | CHECK SENSOR UNITS | |
| Refer to "FUEL LEVEL SENSOR UNIT CHECK" (EL-96). | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace fuel level sensor unit. |

| | | |
|--|--|-------------------------------|
| 3 | CHECK HARNESS FOR OPEN OR SHORT | |
| <ol style="list-style-type: none"> 1. Disconnect combination meter connector and fuel level sensor unit connector. 2. Check continuity between combination meter terminal 6 and fuel level sensor unit terminal 4. Continuity should exist. 3. Check continuity between combination meter terminal 6 and ground. Continuity should not exist. | | |
| <p>Combination meter connector (M41)</p> <p>Fuel level sensor unit connector (B107)</p> | | |
| SEL778VA | | |
| OK or NG | | |
| OK | ▶ | Fuel level sensor unit is OK. |
| NG | ▶ | Repair harness or connector. |

INSPECTION/THERMAL TRANSMITTER

=NCEL0046S09

| | | |
|---|----------------------------------|----------|
| 1 | CHECK THERMAL TRANSMITTER | |
| Refer to "THERMAL TRANSMITTER CHECK" (EL-97). | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace. |

GI
MA
EM

| | | |
|---|--|------------------------------|
| 2 | CHECK HARNESS FOR OPEN OR SHORT | |
| <p>1. Disconnect combination meter connector and thermal transmitter connector.</p> <p>2. Check continuity between combination meter terminal 5 and thermal transmitter terminal 1. Continuity should exist.</p> <p>3. Check continuity between combination meter terminal 5 and ground. Continuity should not exist.</p> | | |
| | | |
| SEL779VA | | |
| OK or NG | | |
| OK | ▶ | Thermal transmitter is OK. |
| NG | ▶ | Repair harness or connector. |

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METERS AND GAUGES

Electrical Components Inspection

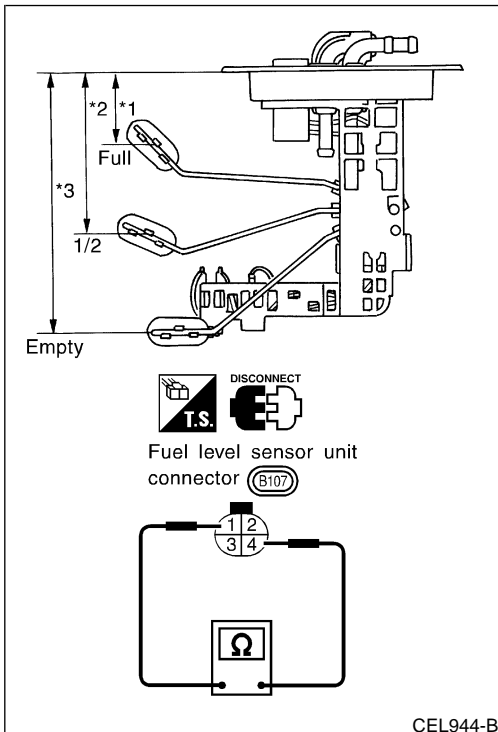
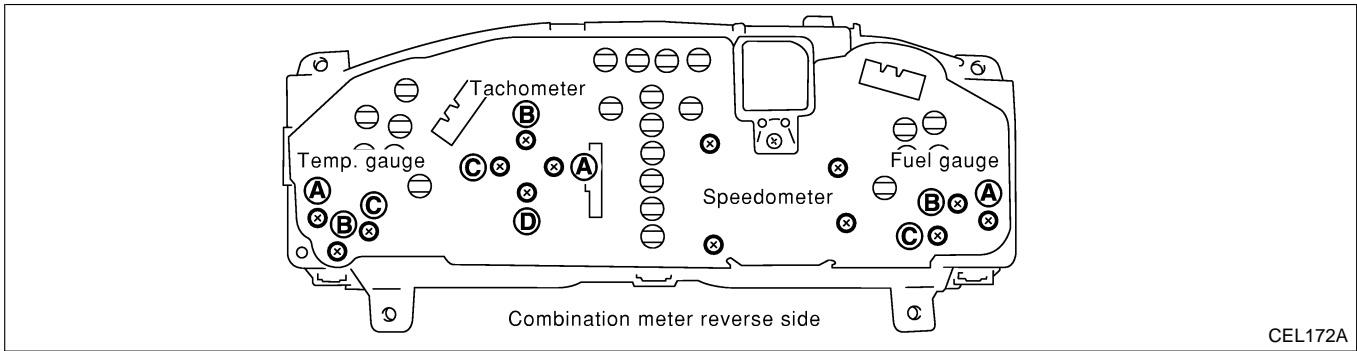
=NCEL0047

METER/GAUGE RESISTANCE CHECK

NCEL0047S04

1. Disconnect FPC connector. Refer to "Flexible Print Circuit (FPC)" (EL-88).
2. Check resistance between installation screws of meter/gauge after removing meter/gauge.

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



FUEL LEVEL SENSOR UNIT CHECK

NCEL0047S01

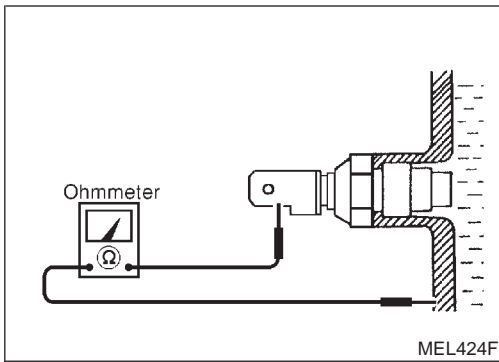
- For removal, refer to FE section.
- Check the resistance between terminals 4 and 1.

| Ohmmeter | | Float position | | mm (in) | Resistance value Ω |
|----------|-----|----------------|-------|------------|---------------------------|
| (+) | (-) | | | | |
| 4 | 1 | *1 | Full | 45 (1.77) | Approx. 4 - 6 |
| | | *2 | 1/2 | 101 (3.98) | 30 - 34 |
| | | *3 | Empty | 160 (6.30) | 80 - 83 |

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

METERS AND GAUGES

Electrical Components Inspection (Cont'd)

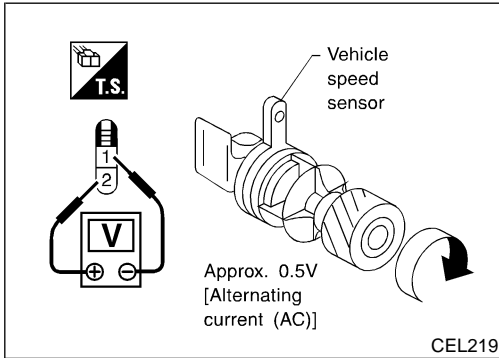


THERMAL TRANSMITTER CHECK

NCEL0047S02

Check the resistance between the terminals of thermal transmitter 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

NCEL0047S03

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

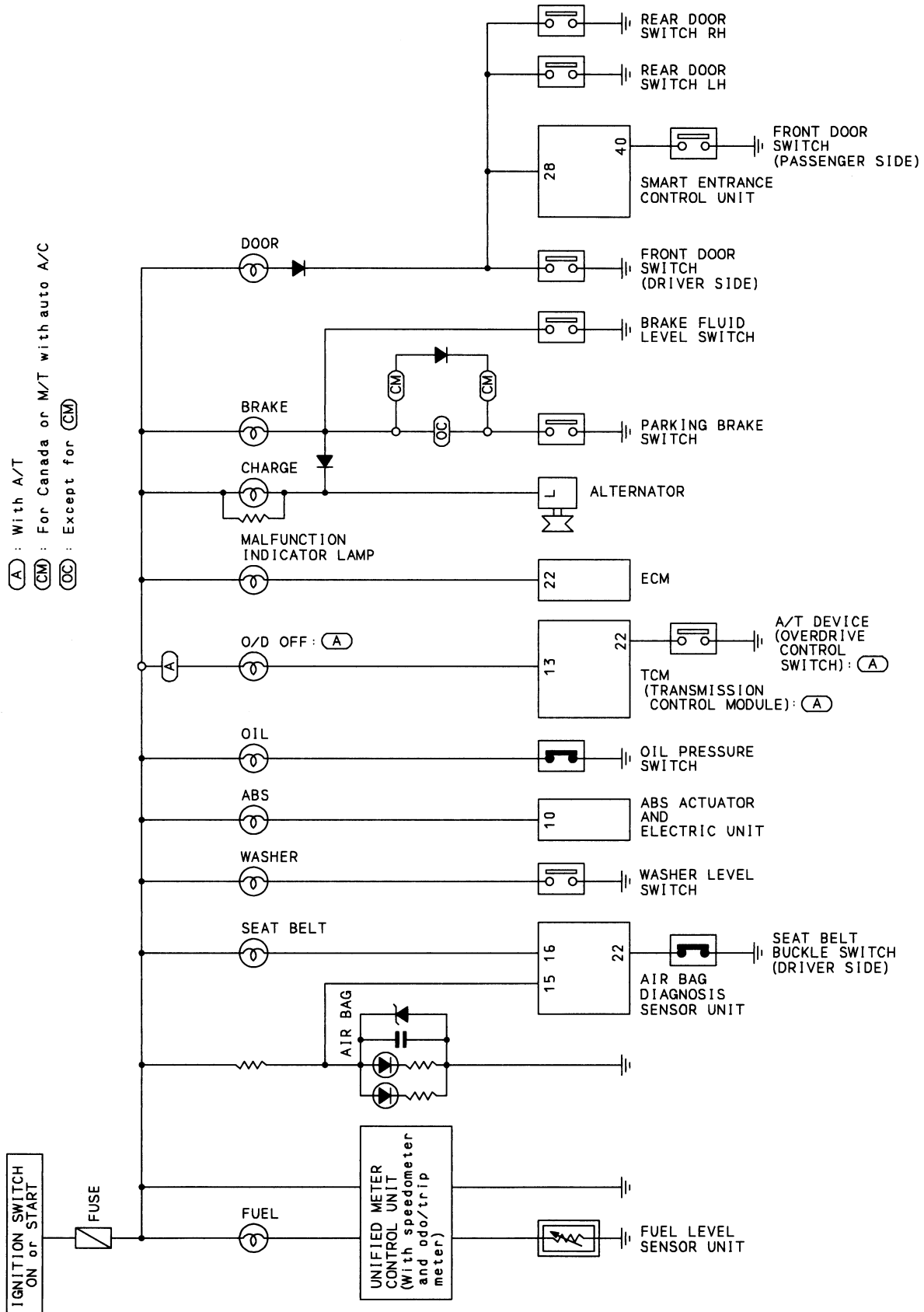
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WARNING LAMPS

Schematic

Schematic

NCEL0049



TEL501B

WARNING LAMPS

Wiring Diagram — WARN —

Wiring Diagram — WARN —

NCEL0050

EL-WARN-01 GI

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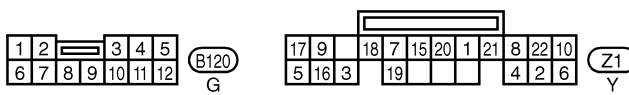
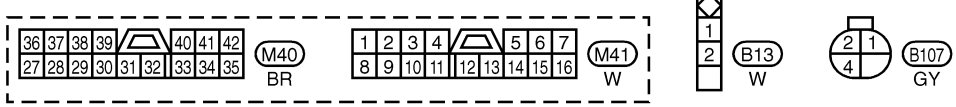
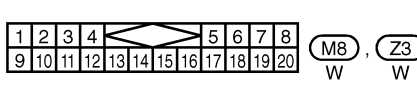
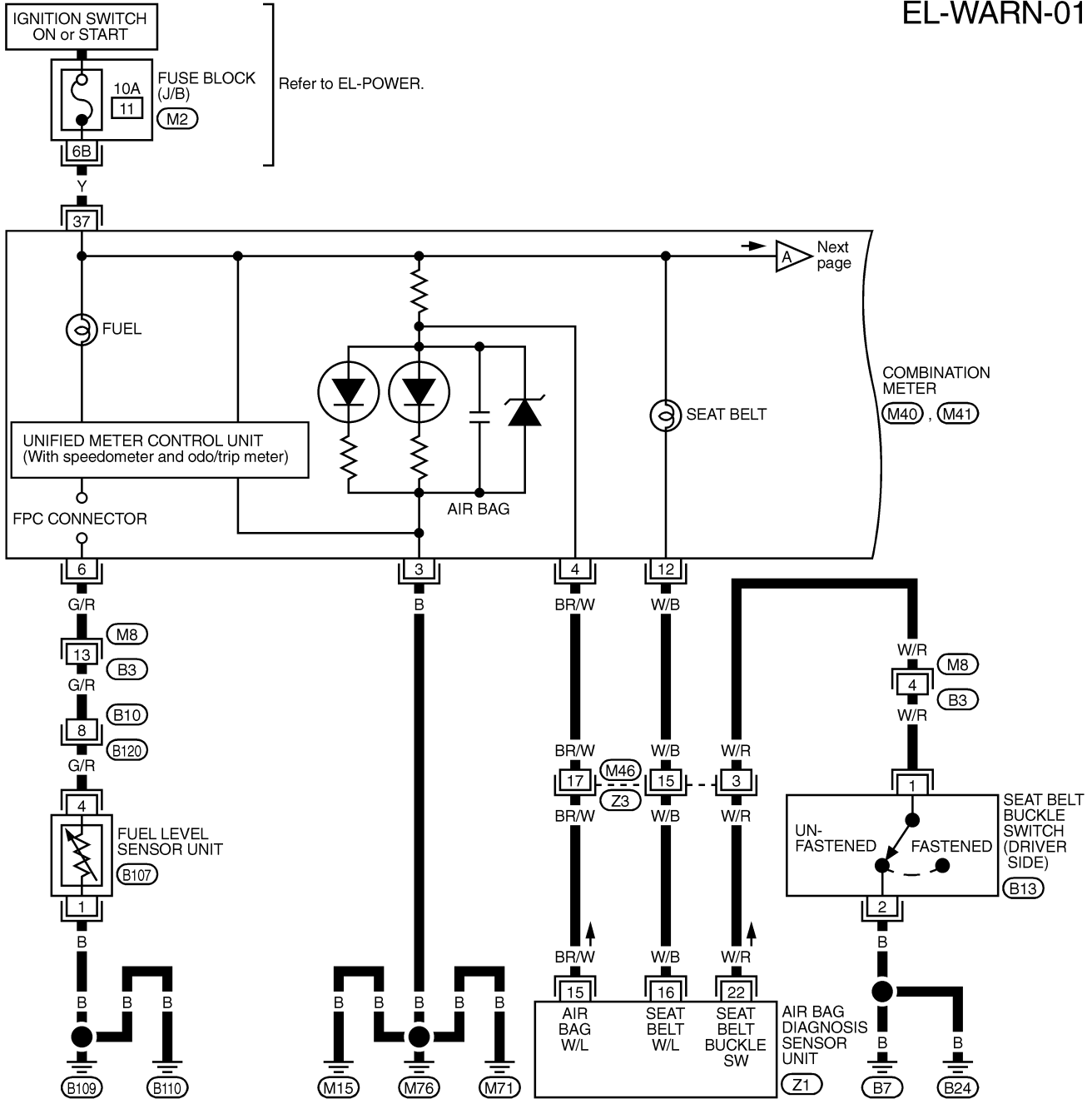
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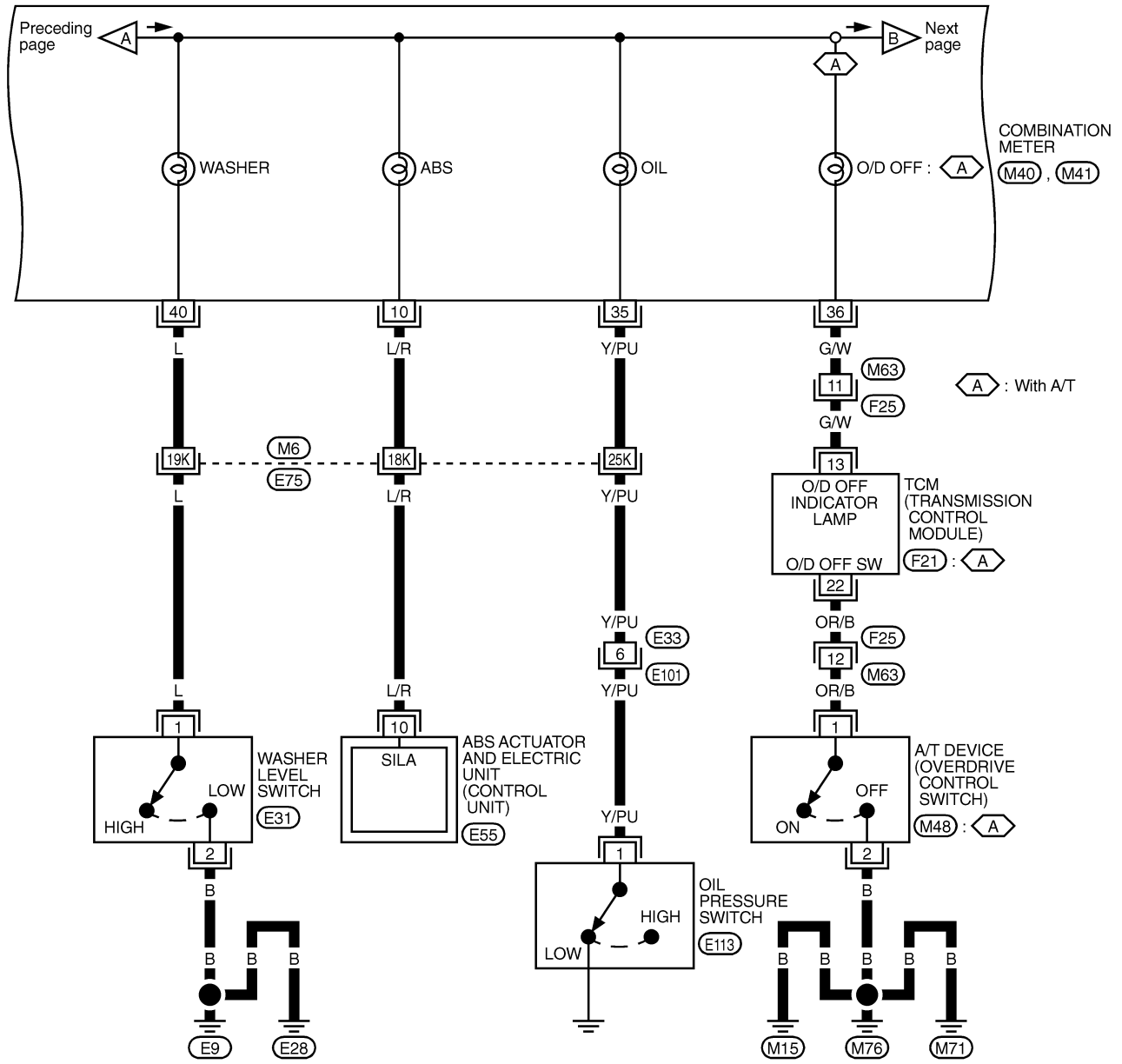


REFER TO THE FOLLOWING.
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

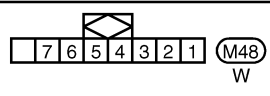
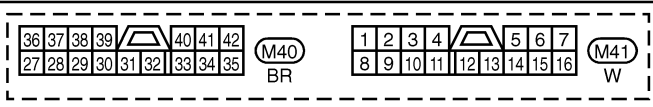
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

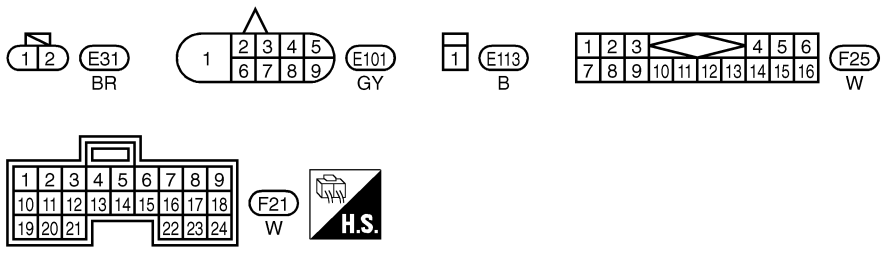
EL-WARN-02



⬡ : With A/T



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (E55) -ELECTRICAL UNITS

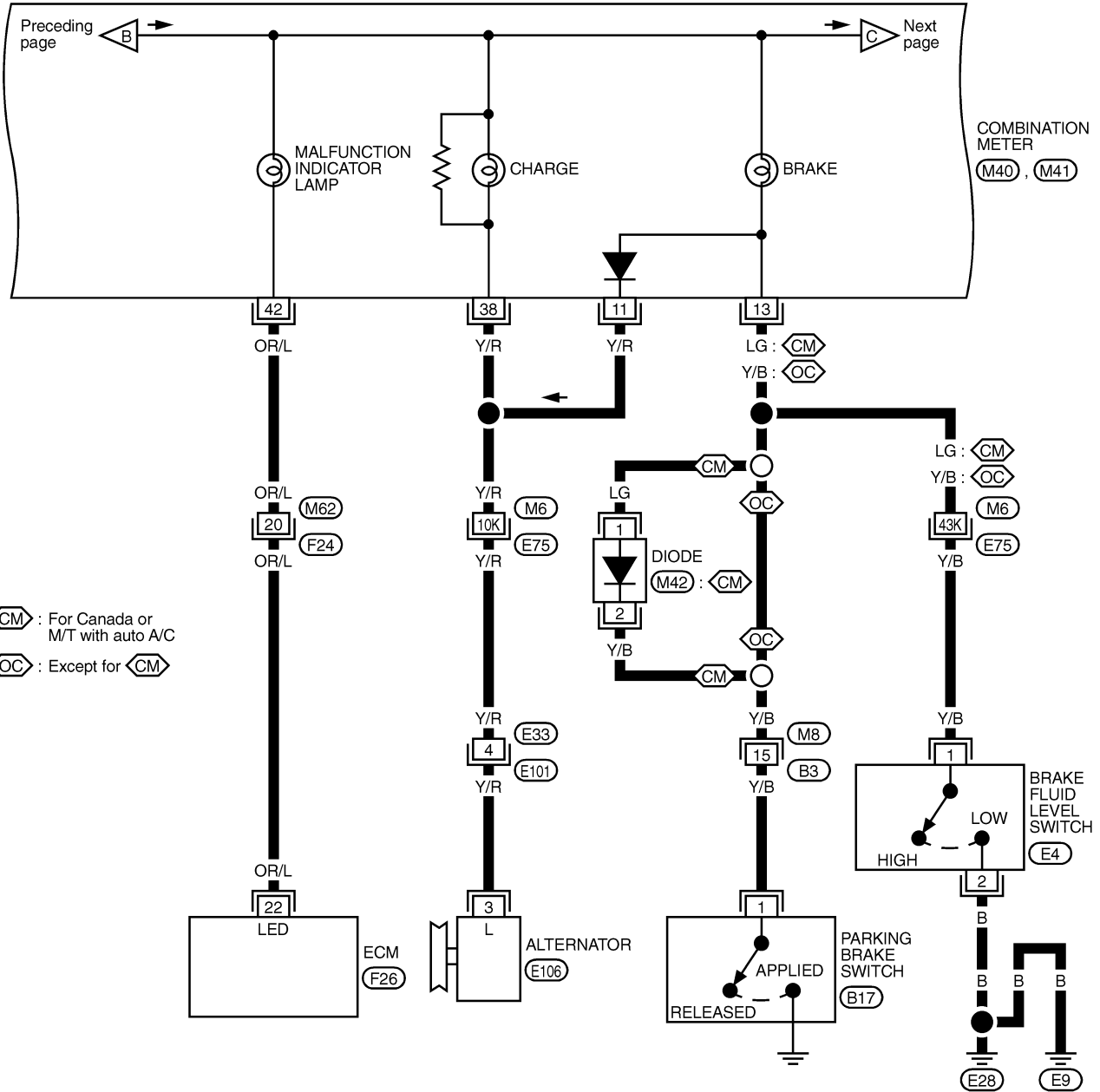


TEL503B

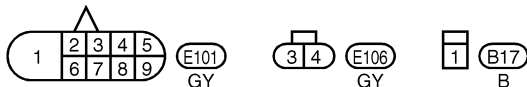
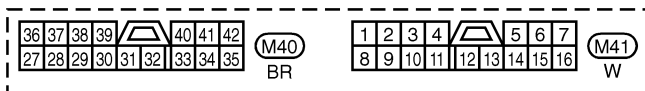
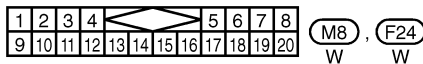
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



: For Canada or M/T with auto A/C
 : Except for



REFER TO THE FOLLOWING.

-SUPER MULTIPLE JUNCTION (SMJ)

-ELECTRICAL UNITS

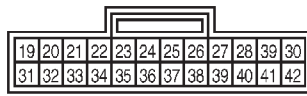
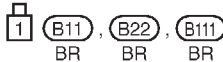
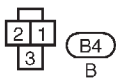
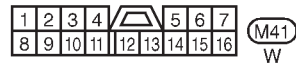
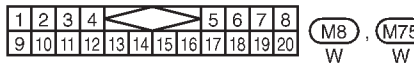
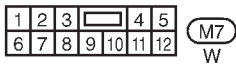
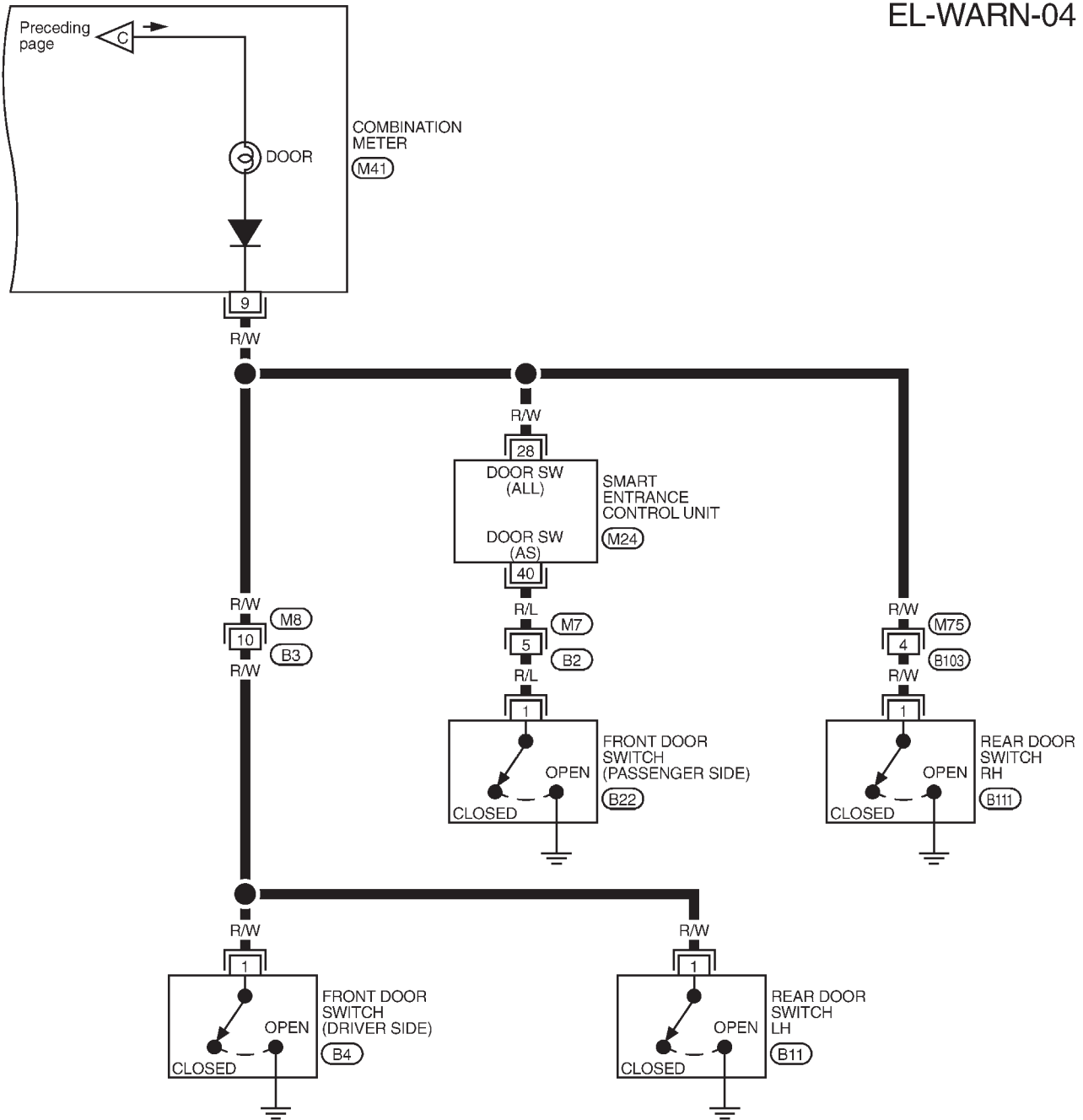
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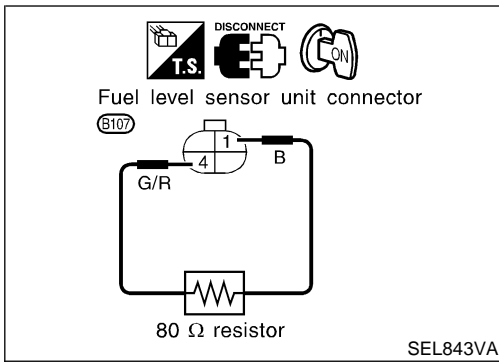
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WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-04





Electrical Components Inspection

FUEL WARNING LAMP OPERATION CHECK

NCEL0051

NCEL0051S01

1. Turn ignition switch "OFF".
2. Disconnect fuel level sensor unit harness connector B107.
3. Connect a resistor (80Ω) between fuel level sensor unit harness connector terminals 1 and 4.
4. Turn ignition switch "ON".

The fuel warning lamp should come on.

NOTE:

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

If the DTC is stored in ECM memory, erase the DTC after reconnecting fuel level sensor unit harness connector.

Refer to EC-79, "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION", "Emission-related Diagnostic Information" "ON BOARD DIAGNOSTIC SYSTEM DESCRIPTION".

GI

MA

EM

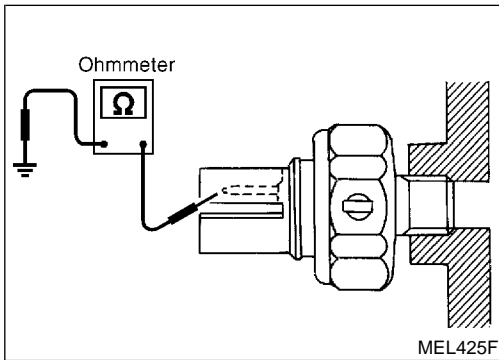
LC

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MT



OIL PRESSURE SWITCH CHECK

NCEL0051S02

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

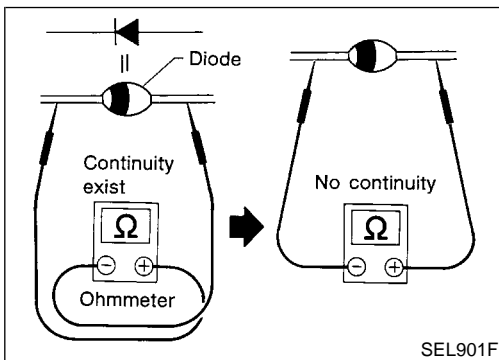
Check the continuity between the terminals of oil pressure switch and body ground.

AT

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BR



DIODE CHECK

NCEL0051S03

- Check continuity using an ohmmeter.
- Diode is functioning properly if test results are as shown in the figure at left.

NOTE:

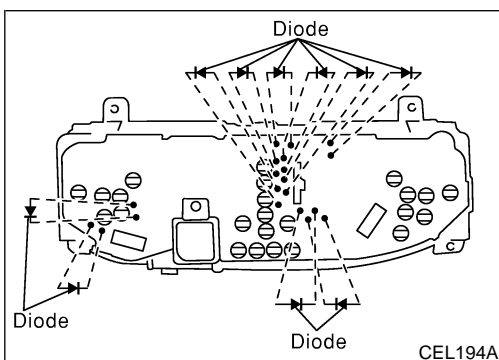
Specification may vary depending on the type of tester. Before performing this inspection, be sure to refer to the instruction manual for the tester to be used.

ST

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HA



- Diodes for warning lamps are built into the combination meter printed circuit.
- For location of diodes, refer to Combination Meter, EL-85.

SC

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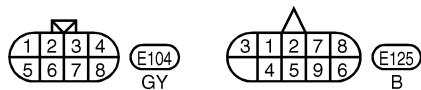
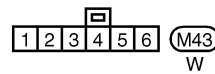
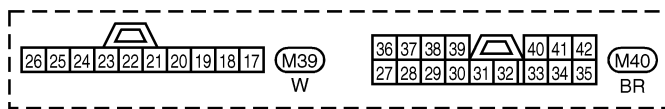
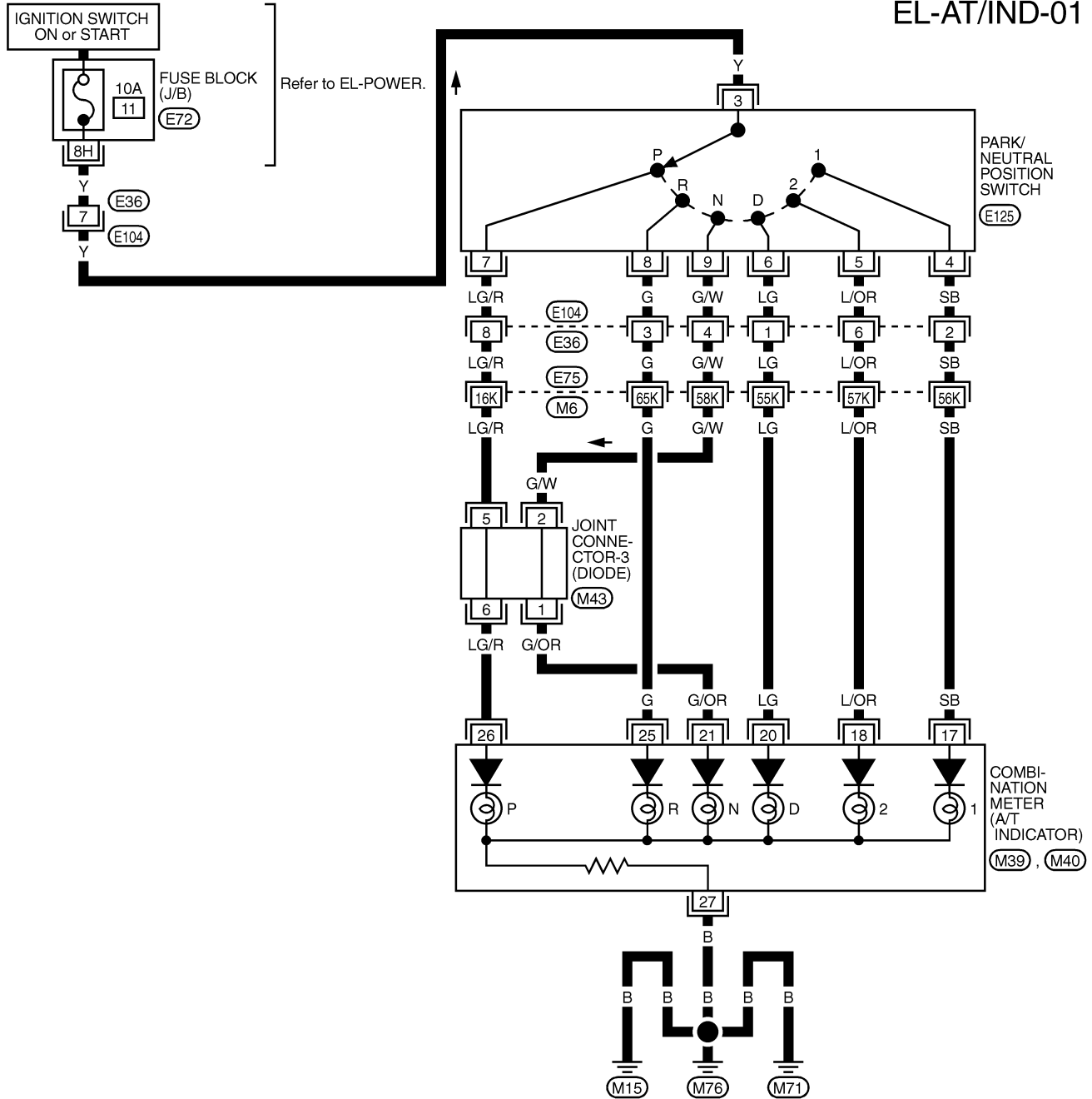
A/T INDICATOR

Wiring Diagram — AT/IND —

Wiring Diagram — AT/IND —

NCEL0159

EL-AT/IND-01



REFER TO THE FOLLOWING.

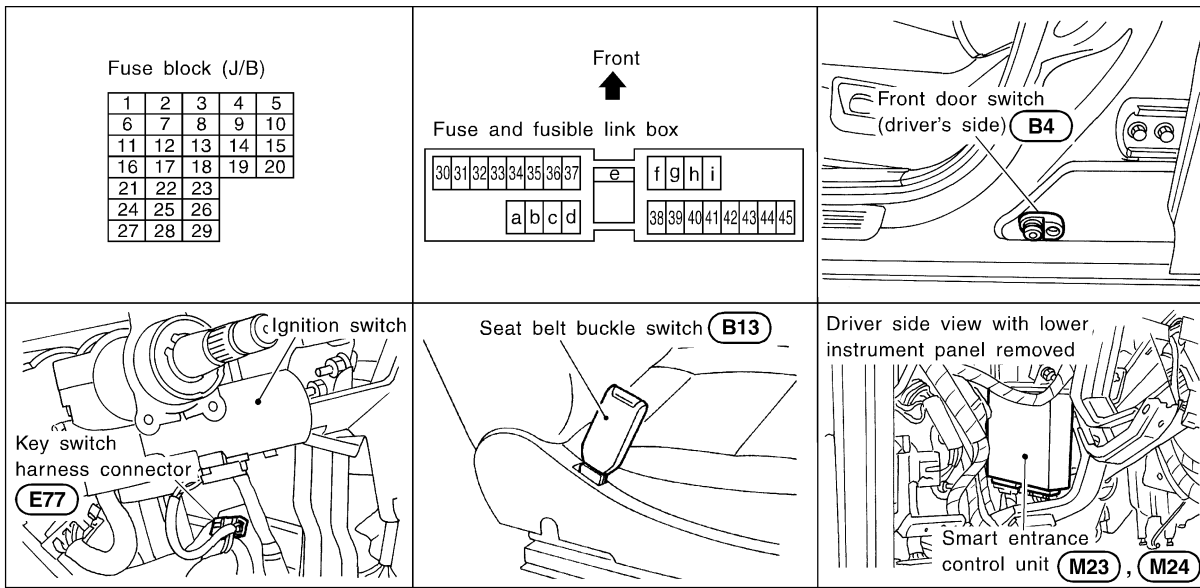
(E75) -SUPER MULTIPLE JUNCTION (SMJ)

(E72) -FUSE BLOCK-JUNCTION BOX (J/B)

WARNING CHIME

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location



NCEL0052

GI

MA

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EC

FE

CL

SEL834VA

MT

System Description

NCEL0053

AT

The warning chime is controlled by the smart entrance control unit. The warning chime is located in the smart entrance control unit. Power is supplied at all times

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to key switch terminal 1.

Power is supplied at all times

- through 10A fuse [No. 34, located in the fuse block (J/B)]
- to tail lamp relay terminals 1 and 3.

Power is supplied at all times

- through 30A fusible link (letter **d**, located in the fuse and fusible link box).
- to smart entrance control unit terminal 11.

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

Ground is supplied to smart entrance control unit terminal 16 through body grounds M15, M71 and M76.

IGNITION KEY WARNING CHIME

NCEL0053S01

With the key in the ignition switch in the OFF or ACC position, and the driver's door open, the warning chime will sound. A battery positive voltage is supplied

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

Ground is supplied

- from front door switch LH terminal 2
- to smart entrance control unit terminal 29.

Front door switch LH terminal 3 is grounded through body grounds B7 and B24.

LIGHT WARNING CHIME

NCEL0053S02

With ignition switch OFF or ACC, driver's door open, warning chime will sound. [Except when headlamp battery saver control operates (for 45 seconds after ignition switch is turned to OFF or ACC position) and headlamps do not illuminate.] A battery positive voltage is supplied.

- from tail lamp relay terminal 5

EL

IDX

WARNING CHIME

System Description (Cont'd)

- to smart entrance control unit terminal 34.
- Ground is supplied
- from front door switch LH terminal 2
 - to smart entrance control unit terminal 29.

Front door switch LH terminal 3 is grounded through body grounds B7 and B24.

SEAT BELT WARNING CHIME

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

NCEL0053S03

Ground is supplied

- from seat belt switch terminal 1
- to smart entrance control unit terminal 22.

Seat belt switch terminal 2 is grounded through body grounds B7 and B24.

WARNING CHIME

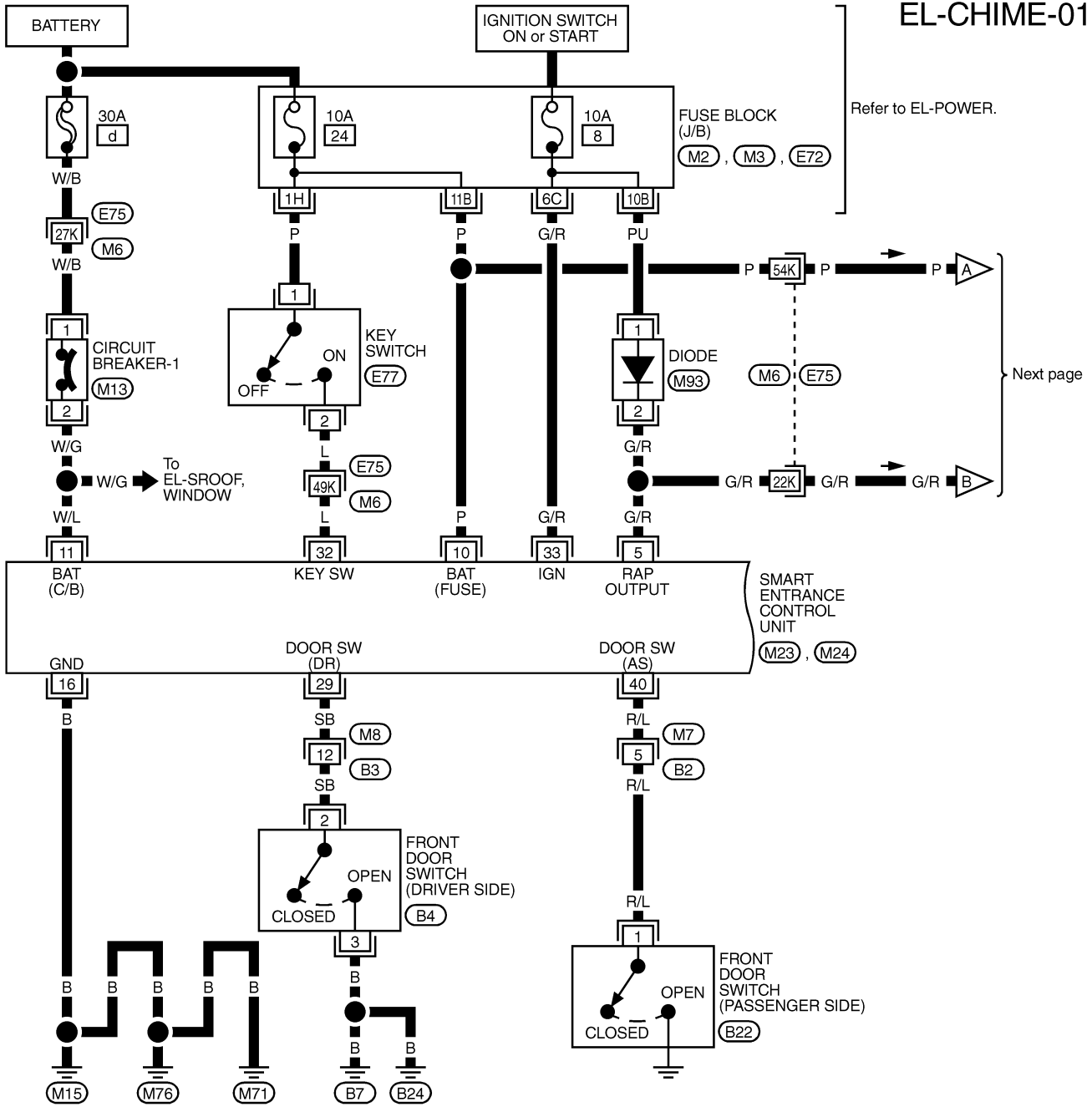
Wiring Diagram — CHIME —

Wiring Diagram — CHIME —

NCEL0054

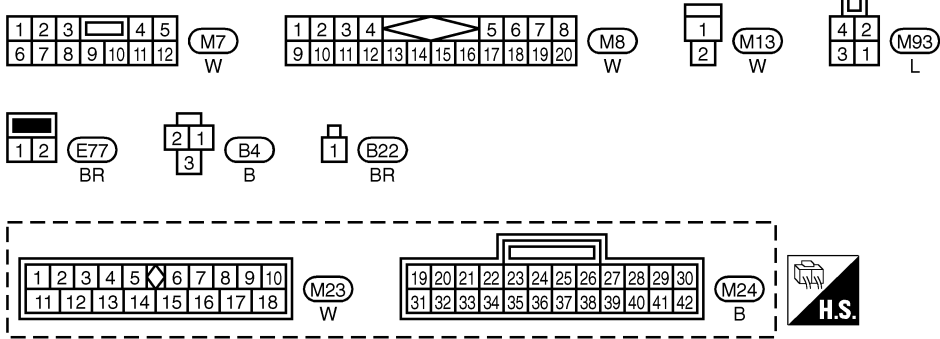
EL-CHIME-01

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REFER TO THE FOLLOWING.

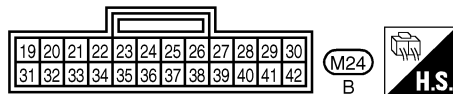
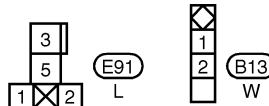
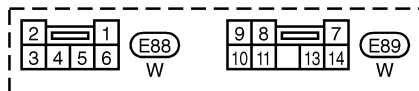
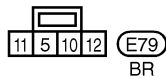
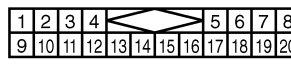
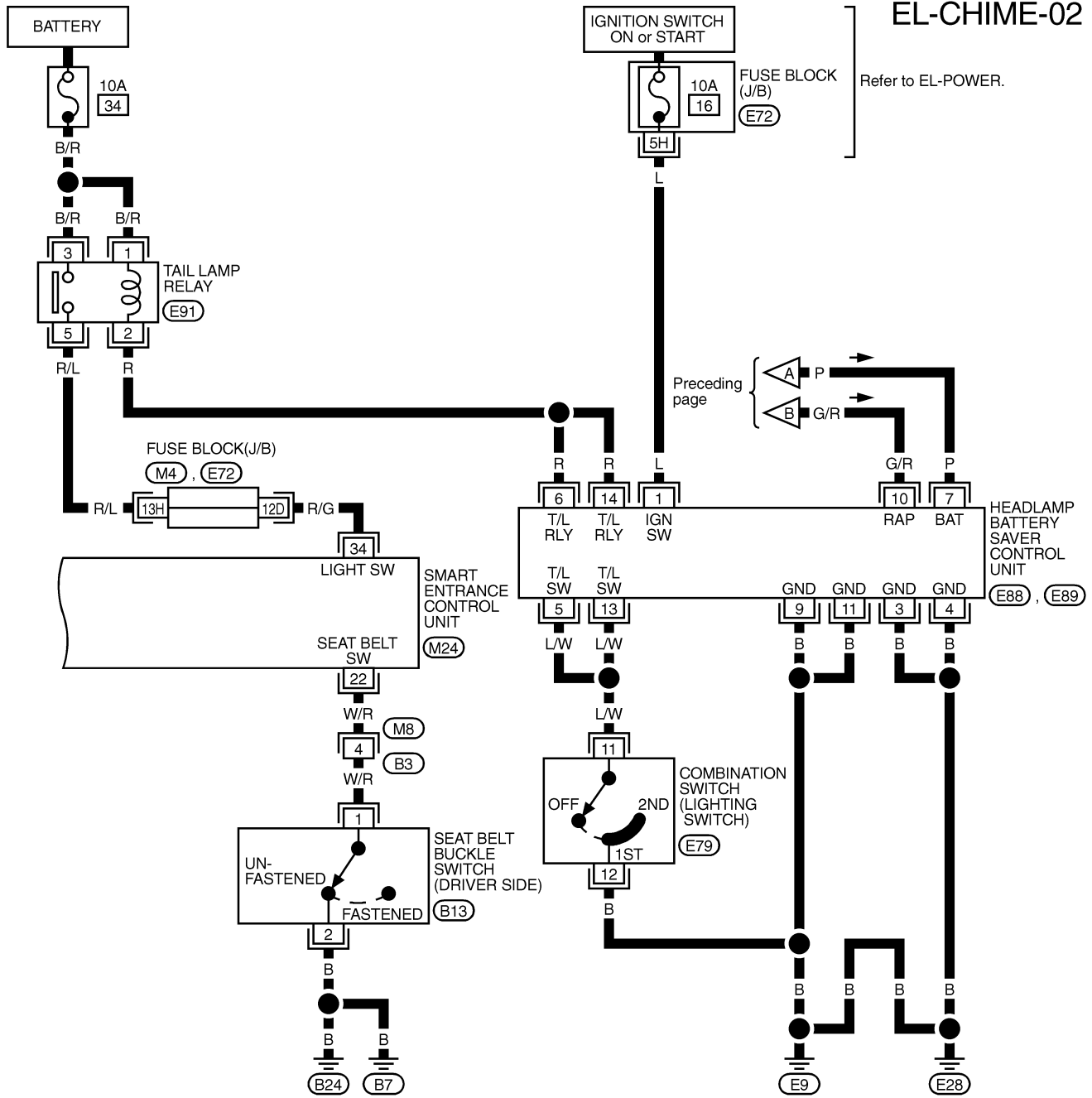
- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2 , M3 , E72) -FUSE BLOCK-JUNCTION BOX (J/B)



TEL506B

WARNING CHIME

Wiring Diagram — CHIME — (Cont'd)



REFER TO THE FOLLOWING.
 (M4), (E72) - FUSE BLOCK-JUNCTION BOX (J/B)

WARNING CHIME

Trouble Diagnoses

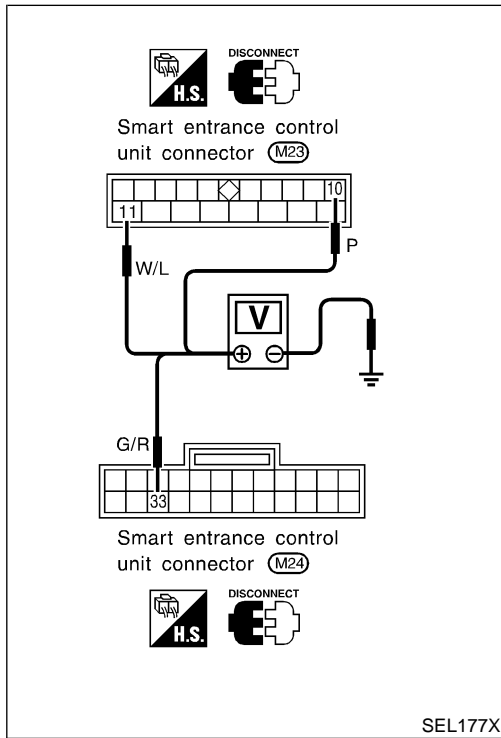
Trouble Diagnoses SYMPTOM CHART

NCEL0055

NCEL0055S01

| REFERENCE PAGE (EL-) | 109 | 110 | 111 | 112 | 113 |
|---|---------------------------------------|------------------------------------|---------------------------|-------------------------------|-------------------------------|
| SYMPTOM | POWER SUPPLY AND GROUND CIRCUIT CHECK | LIGHTING SWITCH INPUT SIGNAL CHECK | KEY SWITCH (INSERT) CHECK | SEAT BELT BUCKLE SWITCH CHECK | DRIVER SIDE DOOR SWITCH 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 | | | | X |

GI
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POWER SUPPLY AND GROUND CIRCUIT CHECK

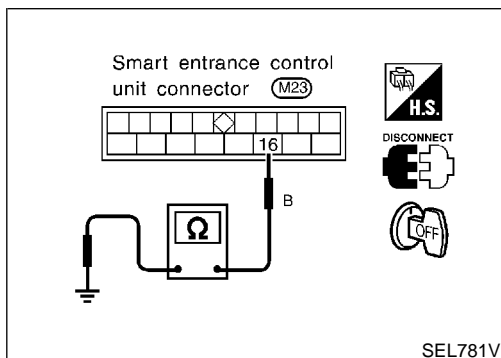
NCEL0055S02

Power Supply Circuit Check

NCEL0055S0201

| Terminals | | Ignition switch position | | |
|-----------|--------|--------------------------|-----------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 10 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 11 | | | | |
| 33 | Ground | 0V | 0V | Battery voltage |

AT
AX
SU
BR
ST
RS
BT
HA



Ground Circuit Check

NCEL0055S0202

| Terminals | Continuity |
|-------------|------------|
| 16 - Ground | Yes |

SC
EL
IDX

WARNING CHIME

Trouble Diagnoses (Cont'd)

LIGHTING SWITCH INPUT SIGNAL CHECK

=NCEL0055S03

| | | |
|--|---|--|
| 1 | CHECK LIGHTING SWITCH INPUT SIGNAL | |
| <p>Check voltage between control unit terminal 34 and ground.</p> <div style="text-align: center;"> </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;">SEL782V</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"> ● 10A fuse (No. 34, located in the fuse and fusible link box) ● Harness for open or short between control unit and lighting switch |

KEY SWITCH (INSERT) CHECK

=NCEL0055S04

| | | | |
|----------|--------------------------------------|--|--|
| 1 | CHECK KEY SWITCH INPUT SIGNAL | <p>Check voltage between control unit terminal 32 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL783V</p> <p>Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is withdrawn. 0</p> <p style="text-align: center;">OK or NG</p> | GI MA EM LC EC FE CL MT |
| OK | ▶ | Key switch is OK. | |
| NG | ▶ | GO TO 2. | |

| | | | |
|----------|----------------------------------|--|--|
| 2 | CHECK KEY SWITCH (INSERT) | <p>Check continuity between terminals 1 and 2.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL784V</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> | AT AX SU BR ST RS BT HA SC |
| OK | ▶ | Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 24, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between control unit and key switch | |
| NG | ▶ | Replace key switch. | |

WARNING CHIME

Trouble Diagnoses (Cont'd)

SEAT BELT BUCKLE SWITCH CHECK

=NCEL0055S05

| | | |
|----------|---|--|
| 1 | CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL | <p>1. Turn ignition switch "ON". 2. Check voltage between control unit terminal 22 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL785V</p> <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 style="text-align: right;">SEL298VB</p> <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 control unit and seat belt buckle switch |
| NG | ▶ | Replace seat belt buckle switch. |

WARNING CHIME

Trouble Diagnoses (Cont'd)

DRIVER SIDE DOOR SWITCH CHECK

NCEL0055S06

| | | | |
|----------|---------------------------------------|--|--|
| 1 | CHECK DOOR SWITCH INPUT SIGNAL | <p>Check voltage between control unit terminal 29 and ground.</p> <div style="text-align: center;"> <p>Smart entrance control unit connector (M24)</p> </div> <p style="text-align: right;">SEL786V</p> <p>Voltage [V]: Condition of driver's door: CLOSED Approx. 12 Condition of driver's door: OPENED 0</p> <p style="text-align: center;">OK or NG</p> | GI MA EM LC EC FE CL MT |
| OK | ▶ | Driver side door switch is OK. | |
| NG | ▶ | GO TO 2. | |

| | | | |
|----------|--------------------------------------|---|--|
| 2 | CHECK DRIVER SIDE DOOR SWITCH | <p>Check continuity between terminals 2 and 3, 3 and ground.</p> <div style="text-align: center;"> <p>Door switch driver side connector (B4)</p> </div> <p style="text-align: right;">SEL844V</p> <p>Continuity: Door switch is pushed. No Door switch is released. Yes</p> <p style="text-align: center;">OK or NG</p> | AT AX SU BR ST RS BT HA SC |
| OK | ▶ | Check the following. <ul style="list-style-type: none"> ● Door switch ground circuit ● Harness for open or short between control unit and door switch | |
| NG | ▶ | Replace driver side door switch. | |

System Description

NCEL0057

NCEL0057S01

WIPER OPERATION

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

- LO speed
- HI speed
- INT (Intermittent)

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

- through 20A fuse [No. 19, located in the fuse block (J/B)]
- to wiper motor terminal 6.

Low and High Speed Wiper Operation

NCEL0057S0101

Ground is supplied to wiper switch terminal 17 through body grounds E9 and E28.

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

- through terminal 14 of the wiper switch
- to wiper motor terminal 2.

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

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

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

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

Auto Stop Operation

NCEL0057S0102

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

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

- from terminal 14 of the wiper switch
- to wiper motor terminal 2, in order to continue wiper motor operation at low speed.

Ground is also supplied

- through terminal 13 of the wiper switch
- to wiper motor terminal 5
- through terminal 4 of the wiper motor, and
- through body grounds M15, M71 and M76.

When wiper arms reach base of windshield, wiper motor terminals 5 and 6 are connected instead of terminals 4 and 5. Wiper motor will then stop wiper arms at the STOP position.

Intermittent Operation

NCEL0057S0103

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

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

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

Then intermittent ground is supplied

- to wiper motor terminal 2
- from terminal 14 of wiper switch
- through wiper amplifier (OUTPUT).

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

WASHER OPERATION

NCEL0057S02

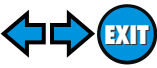
With the ignition switch in the ACC or ON position, power is supplied

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

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

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

FRONT WIPER AND WASHER



System Description (Cont'd)

- through body grounds E9 and E28.

With power and ground supplied, the washer motor operates.

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

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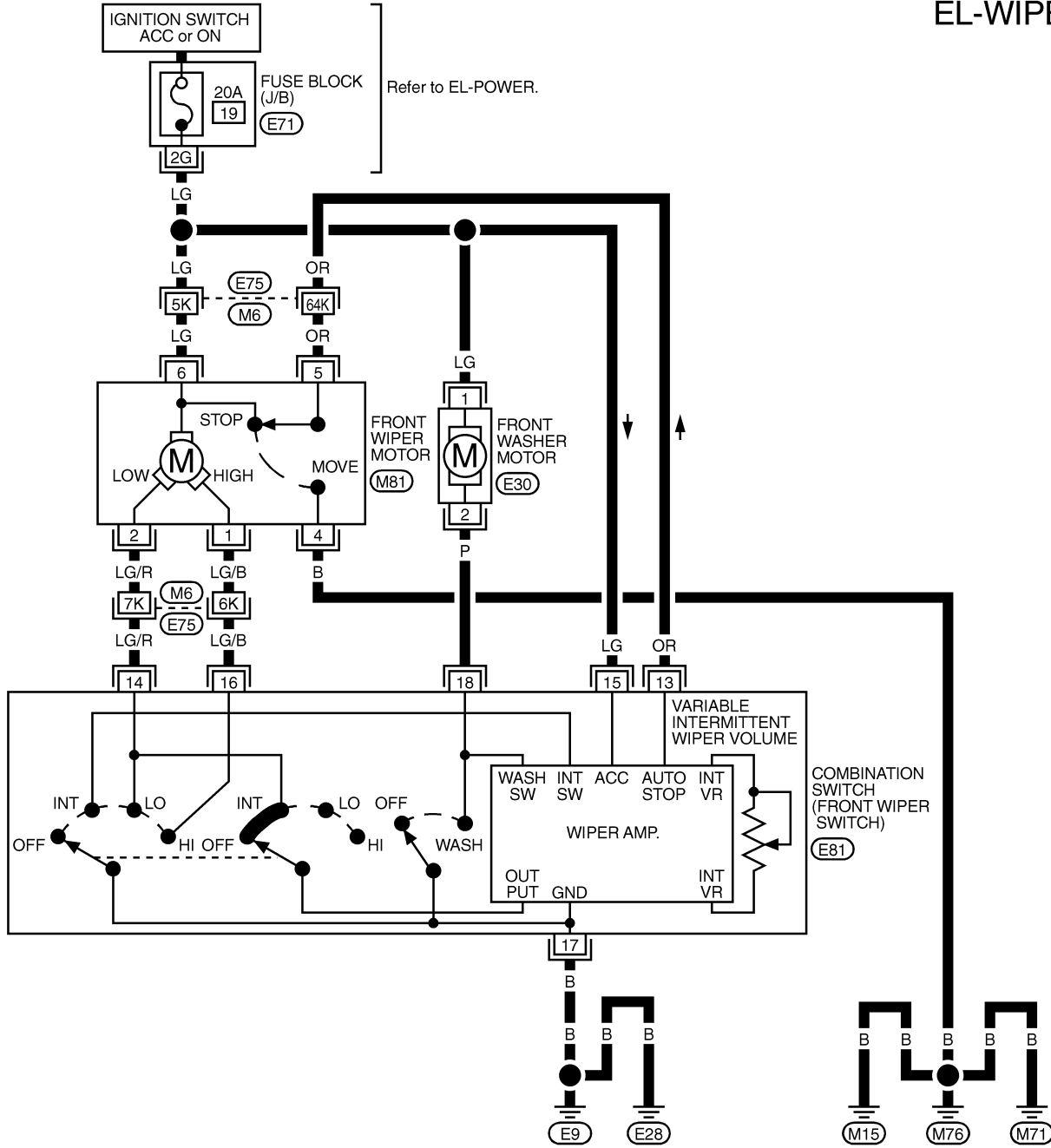
FRONT WIPER AND WASHER

Wiring Diagram — WIPER —

Wiring Diagram — WIPER —

NCEL0058

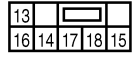
EL-WIPER-01



M81
GY



E30
GY



E81
GY

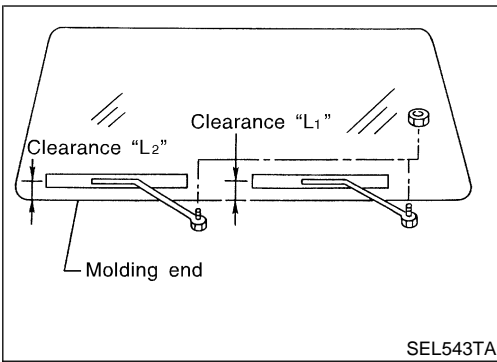
REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

(E71) -FUSE BLOCK-JUNCTION BOX (J/B)

FRONT WIPER AND WASHER

Removal and Installation



SEL543TA

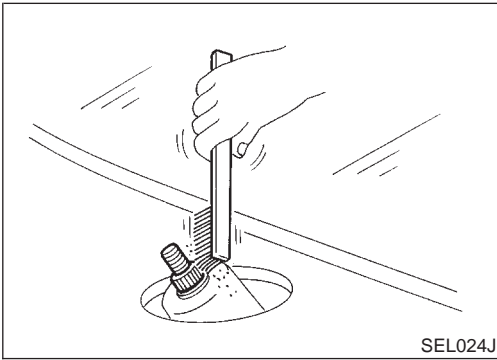
Removal and Installation

NCEL0060

WIPER ARMS

NCEL0060S01

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": 18.5 - 33.5 mm (0.728 - 1.319 in)**
 - Clearance "L₂": 19.5 - 34.5 mm (0.768 - 1.358 in)**
- Tighten wiper arm nuts to specified torque.
 - Front wiper: 17 - 23 N·m (1.7 - 2.3 kg·m, 12 - 17 ft·lb)**

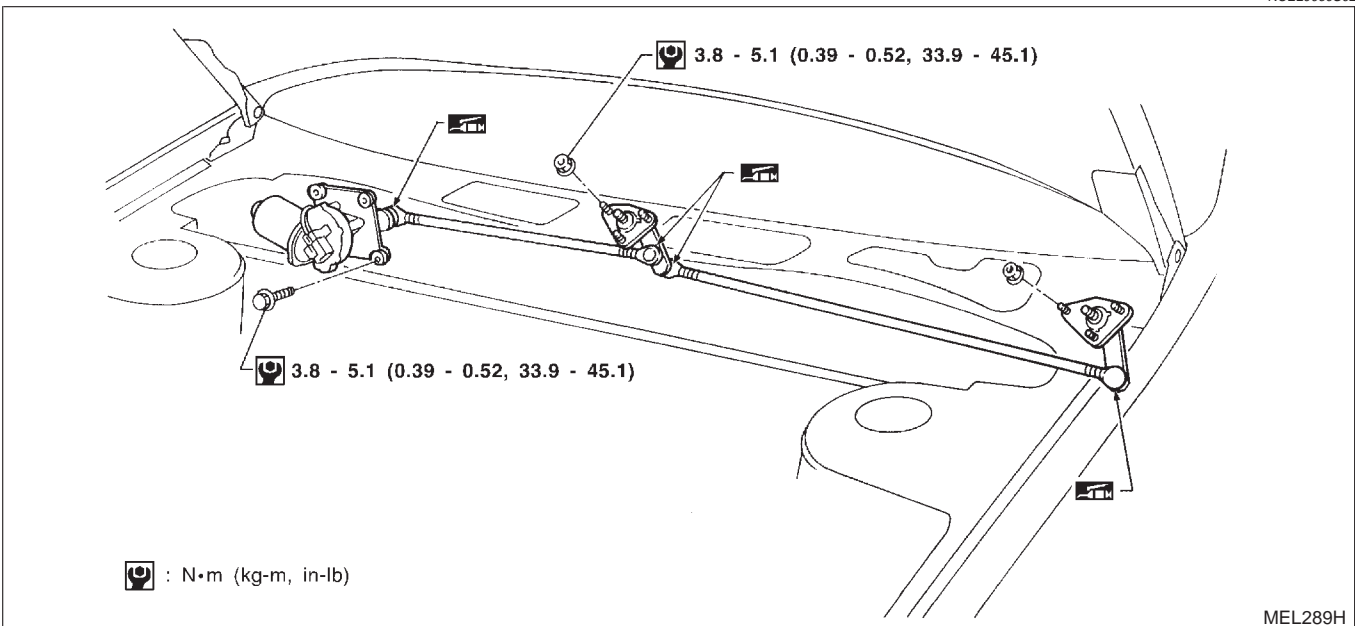


SEL024J

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

WIPER LINKAGE

NCEL0060S02



MEL289H

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FRONT WIPER AND WASHER

Removal and Installation (Cont'd)

Removal

NCEL0060S0201

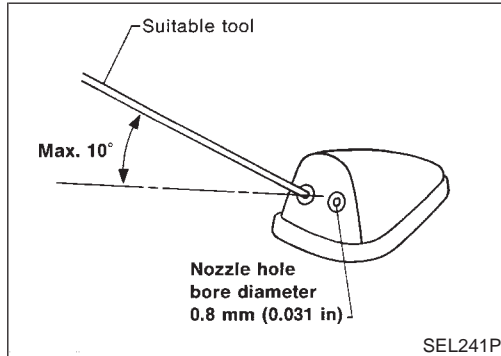
1. Remove 4 bolts that secure wiper motor.
2. Detach wiper motor from wiper linkage at ball joint.
3. Remove wiper linkage.

Be careful not to break ball joint rubber boot.

Installation

NCEL0060S0202

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

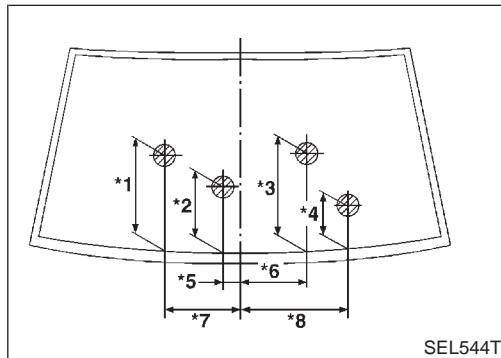


Washer Nozzle Adjustment

NCEL0061

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

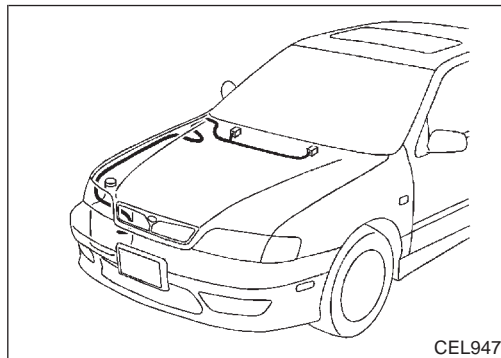
Adjustable range: ±10°



Unit: mm (in)

| | | | |
|----|-------------|----|-------------|
| *1 | 330 (12.99) | *5 | 115 (4.53) |
| *2 | 185 (7.28) | *6 | 175 (6.89) |
| *3 | 320 (12.60) | *7 | 370 (14.57) |
| *4 | 175 (6.89) | *8 | 440 (17.32) |

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



Washer Tube Layout

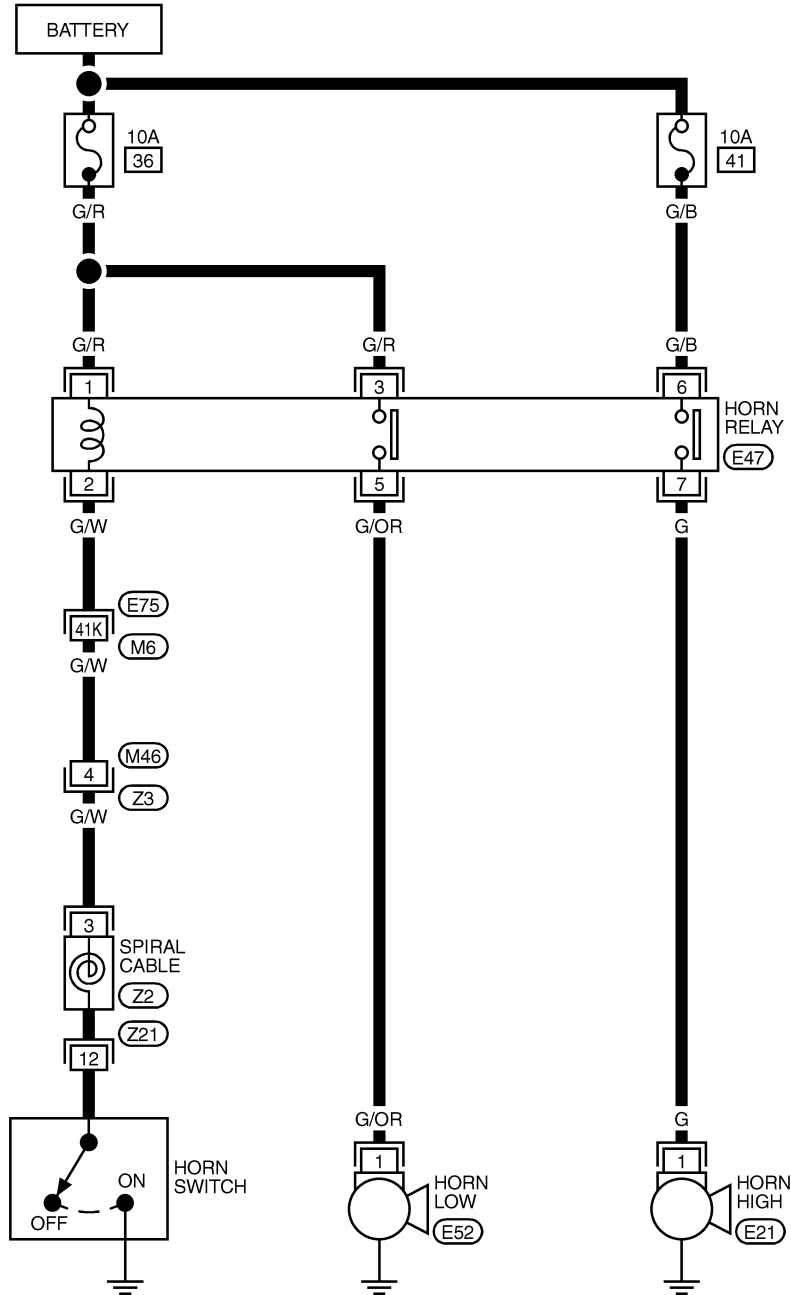
NCEL0062

Wiring Diagram — HORN —

NCEL0071

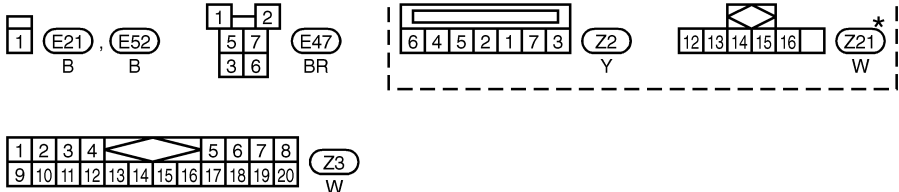
EL-HORN-01

Refer to EL-POWER.



- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- AX
- SU
- BR
- ST
- RS
- BT

- HA
- SC
- EL
- IDX



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)

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

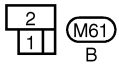
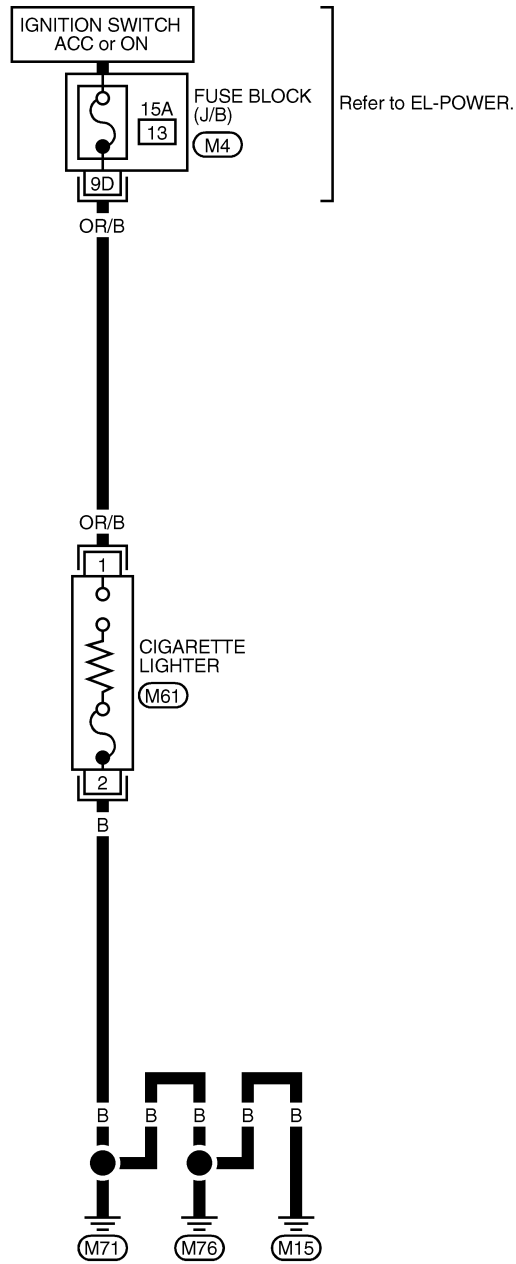
CIGARETTE LIGHTER

Wiring Diagram — CIGAR —

Wiring Diagram — CIGAR —

NCEL0156

EL-CIGAR-01



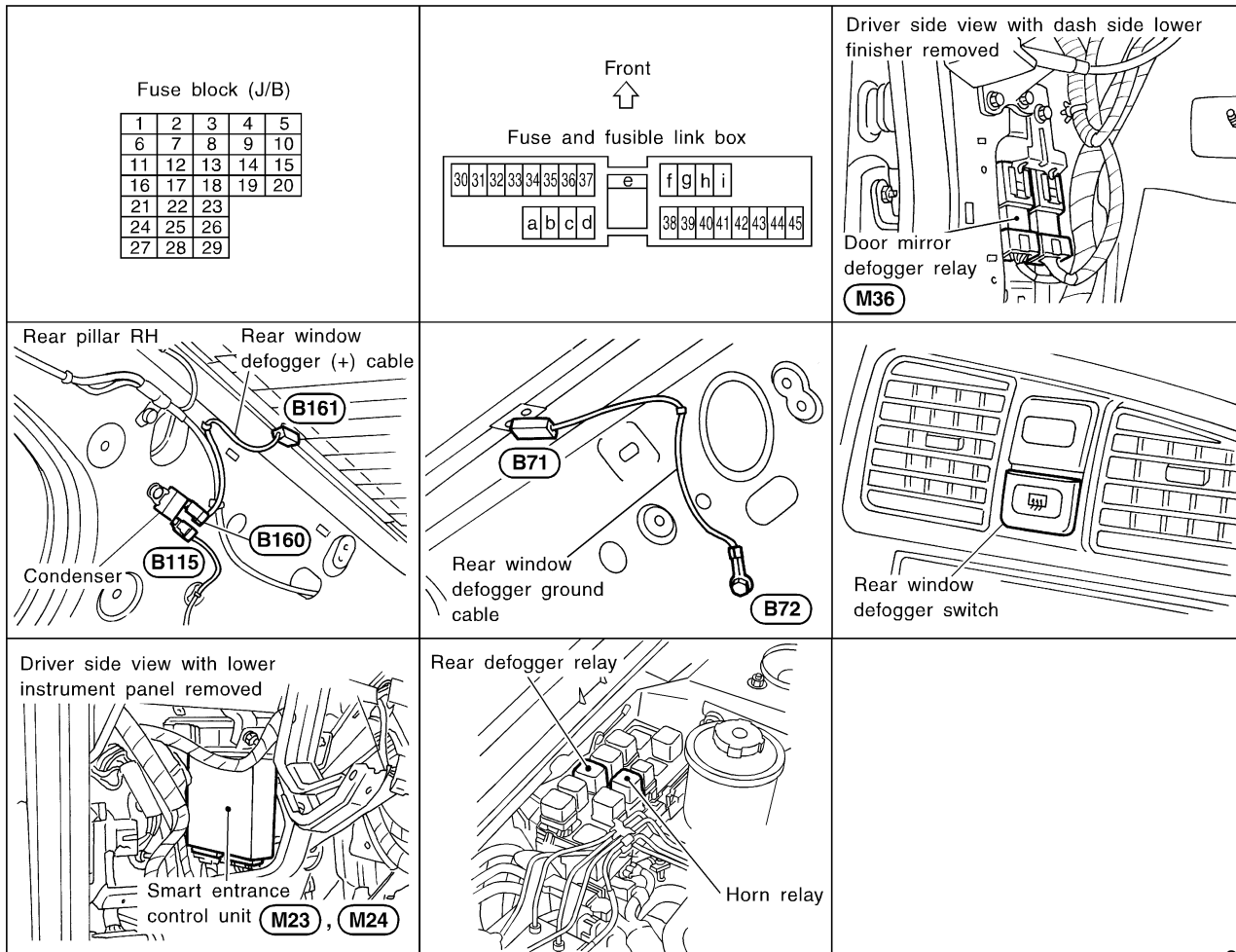
REFER TO THE FOLLOWING.
M4 - FUSE BLOCK-JUNCTION
BOX (J/B)

REAR WINDOW DEFOGGER

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0072



SEL667W

System Description

NCEL0073

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

Power is supplied at all times

- to rear window defogger relay terminal 3
- through 20A fuse (No. 39, located in the fuse and fusible link box) and
- to rear window defogger relay terminal 6
- through 20A fuse (No. 40, located in the fuse and fusible link box).

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to the rear window defogger relay terminal 1 and
- to smart entrance control unit terminal 33.

Ground is supplied to terminal 2 of the rear window defogger switch through body grounds M15, M71 and M76. When the rear window defogger switch is turned ON, ground is supplied

- through terminal 1 of the rear window defogger switch
- to smart entrance control unit terminal 39.

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

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

Power is supplied

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

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REAR WINDOW DEFOGGER

System Description (Cont'd)

- to the rear window defogger.

The rear window defogger has an independent ground.

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

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

Power is supplied

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

Terminal 4 of the rear window defogger switch is grounded through body grounds M15, M71 and M76.

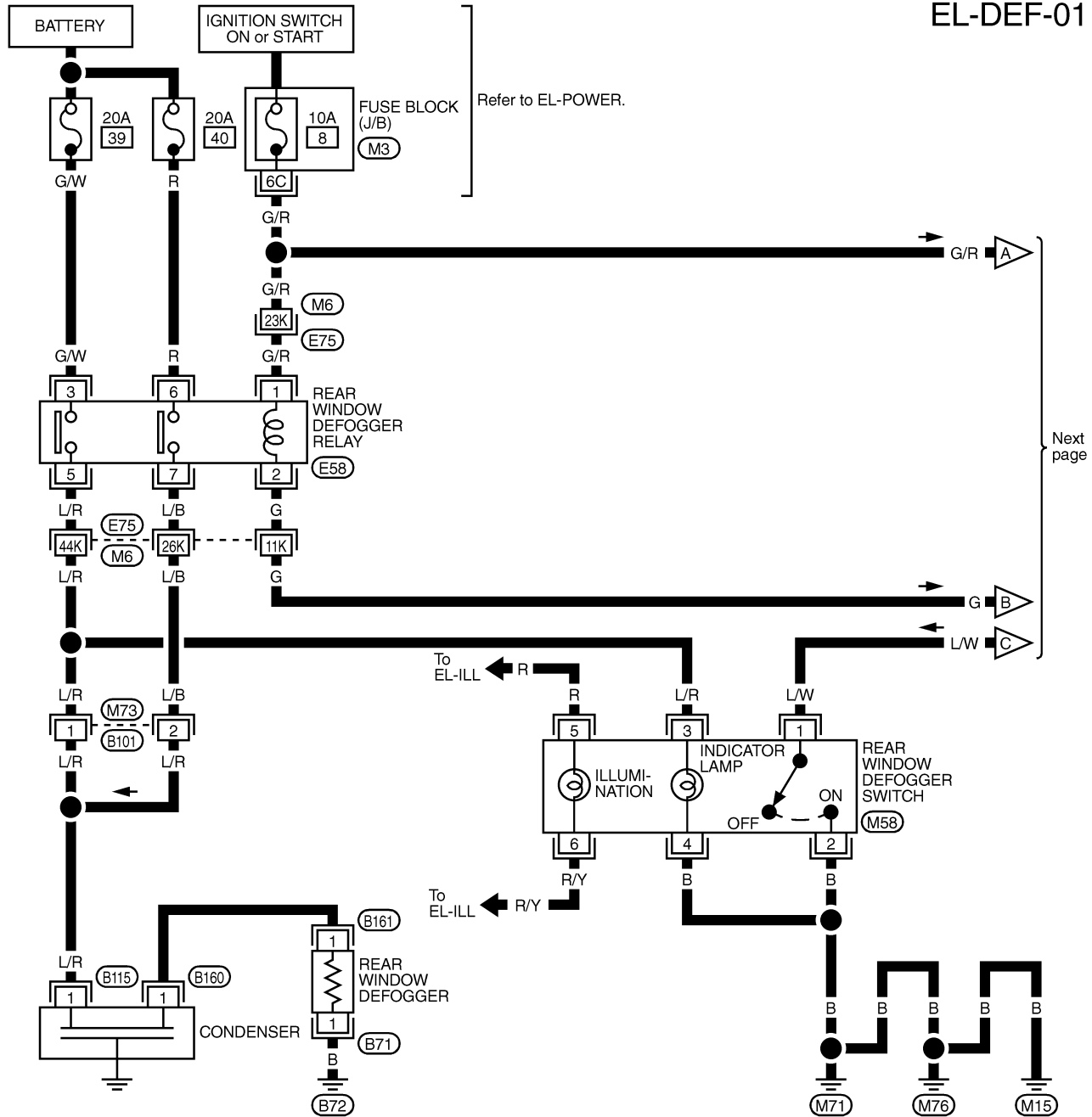
REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

Wiring Diagram — DEF —

NCEL0074

EL-DEF-01 GI



MA

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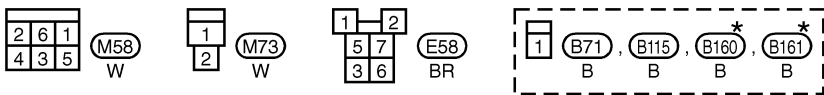
BT

HA

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EL

IDX



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

REFER TO THE FOLLOWING.

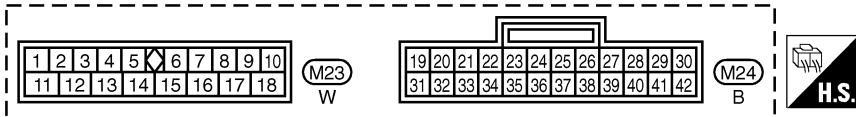
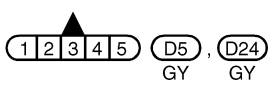
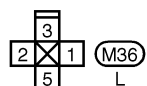
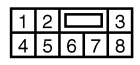
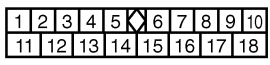
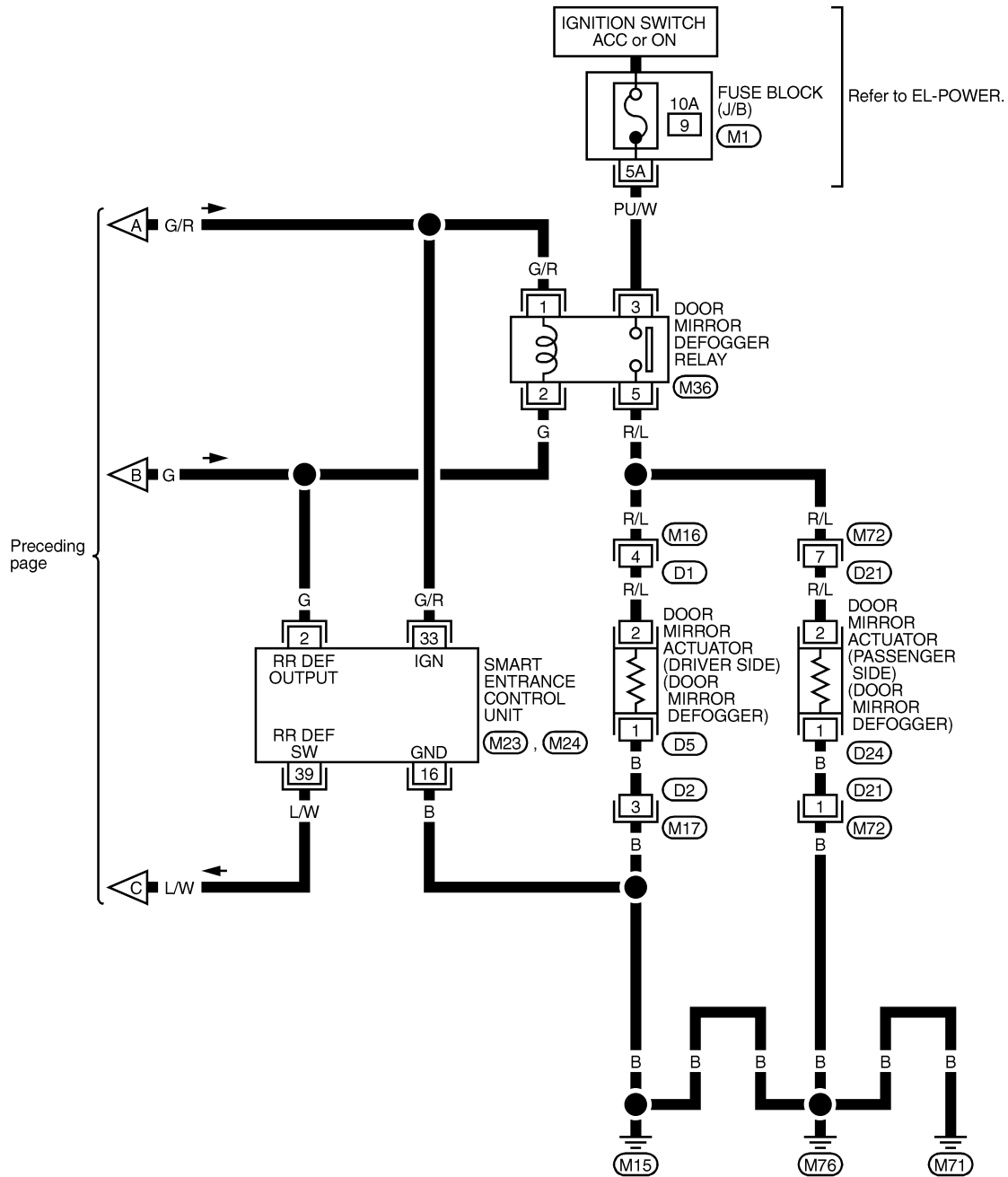
(E75) -SUPER MULTIPLE JUNCTION (SMJ)

(M3) -FUSE BLOCK-JUNCTION BOX (J/B)

REAR WINDOW DEFOGGER

Wiring Diagram — DEF — (Cont'd)

EL-DEF-02



REFER TO THE FOLLOWING.
M1 - FUSE BLOCK-JUNCTION BOX (J/B)

REAR WINDOW DEFOGGER

Trouble Diagnoses

Trouble Diagnoses DIAGNOSTIC PROCEDURE

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

NCEL0075

NCEL0075S01

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| | |
|--|--|
| 1 CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL | |
| <p>1. Turn ignition switch to ON position. 2. Check voltage between smart entrance control unit harness terminal 2 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 (M23)</p> </div> <div style="text-align: center;"> </div> </div> <p>Voltage [V]: Rear window defogger switch is "OFF". Approx. 12 Rear window defogger switch is "ON". 0</p> <p style="text-align: right;">SEL787V</p> | |
| OK or NG | |
| OK | <p>▶ Check the following.</p> <ul style="list-style-type: none"> • Rear window defogger relay (Refer to EL-127.) • Rear window defogger circuit • Rear window defogger filament (Refer to EL-127.) |
| NG | ▶ GO TO 2. |

| | |
|---|---|
| 2 CHECK DEFOGGER RELAY COIL SIDE CIRCUIT | |
| <p>1. Disconnect control unit connector. 2. Turn ignition switch to ON position. 3. Check voltage between smart entrance control unit terminal 2 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 (M23)</p> </div> <div style="text-align: center;"> </div> </div> <p style="text-align: right;">SEL788V</p> | |
| Does battery voltage exist? | |
| Yes | ▶ GO TO 3. |
| No | <p>▶ Check the following.</p> <ul style="list-style-type: none"> • 10A fuse [No. 8, located in the fuse block (J/B)] • Rear window defogger relay • Harness for open or short between rear window defogger relay and control unit |

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

| | |
|---|--|
| 3 | CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL |
| <p>Check continuity between smart entrance control unit terminal 39 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 (M24)</p> <p>39</p> <p>L/W</p> </div> <div style="text-align: center;"> <p>H.S.</p> <p>DISCONNECT</p> </div> </div> <p style="text-align: right;">SEL737W</p> <p>Continuity: Rear window defogger switch is pushed. Yes Rear window defogger switch is released. No</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ GO TO 4. |
| NG | ▶ Check the following. <ul style="list-style-type: none"> ● Rear window defogger switch (Refer to EL-127.) ● Harness for open or short between control unit and rear window defogger switch ● Rear window defogger switch ground circuit |

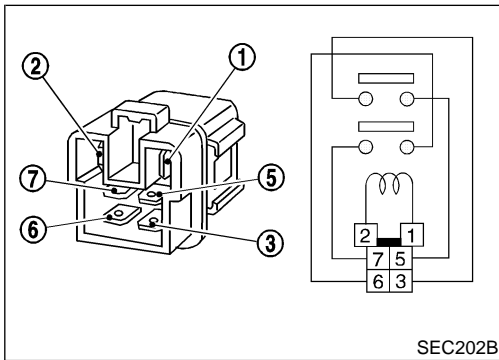
| | |
|--|--|
| 4 | CHECK IGNITION INPUT SIGNAL |
| <p>Check voltage between smart entrance control unit terminal 33 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Smart entrance control unit connector (M24)</p> <p>33</p> <p>G/R</p> </div> <div style="text-align: center;"> <p>H.S.</p> <p>DISCONNECT</p> </div> </div> <p style="text-align: right;">SEL790V</p> <p>Voltage [V]: Ignition switch is "ON". Approx. 12 Ignition switch is "OFF". 0</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ GO TO 5. |
| NG | ▶ Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 8, located in the fuse block (J/B)] ● Harness for open or short between control unit and fuse |

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

| | | |
|--|--|-------------------------------|
| 5 | CHECK CONTROL UNIT GROUND CIRCUIT | |
| Check continuity between smart entrance control unit terminal 16 and ground. | | |
| | | |
| SEL791V | | |
| Does continuity exist? | | |
| Yes | ▶ | Replace control unit. |
| No | ▶ | Repair harness or connectors. |

GI
MA
EM
LC
EC
FE



Electrical Components Inspection

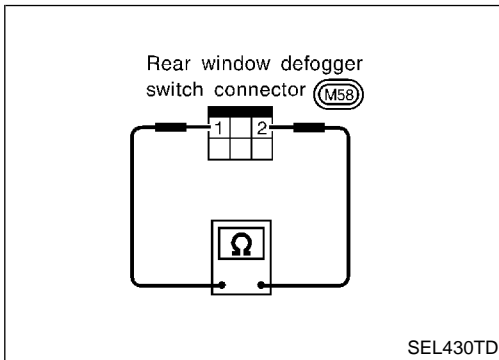
REAR WINDOW DEFOGGER RELAY

NCEL0076
NCEL0076S01

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 |

CL
MT
AT
AX
SU
BR



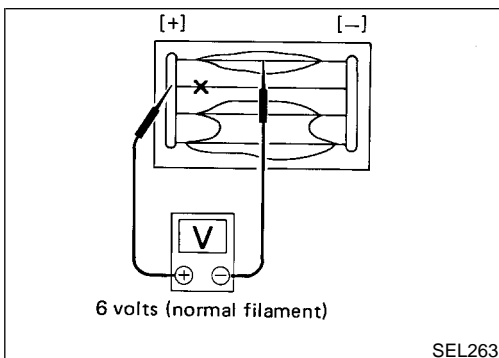
REAR WINDOW DEFOGGER SWITCH

NCEL0076S02

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 |

ST
RS
BT
HA



Filament Check

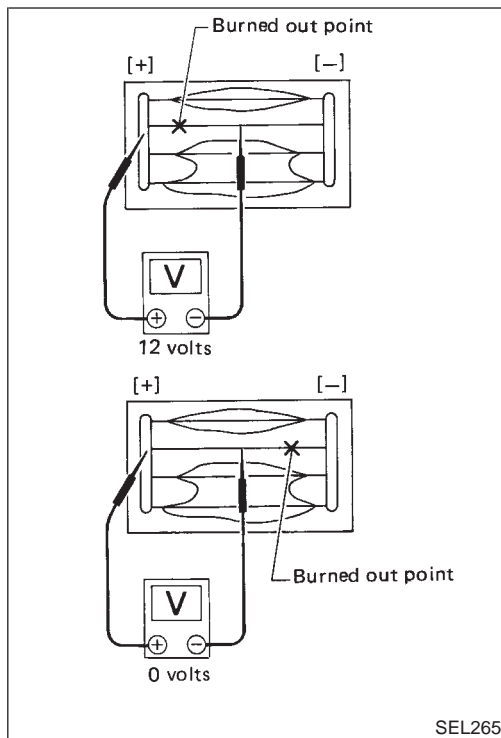
NCEL0077

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

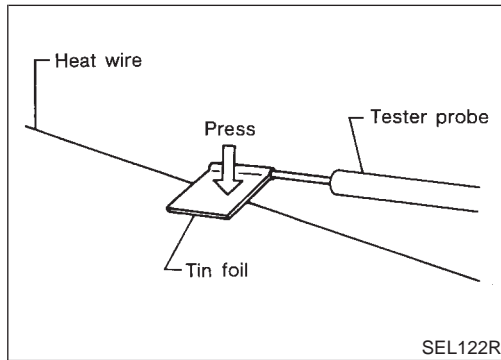
SC
EL
IDX

REAR WINDOW DEFOGGER

Filament Check (Cont'd)



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



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

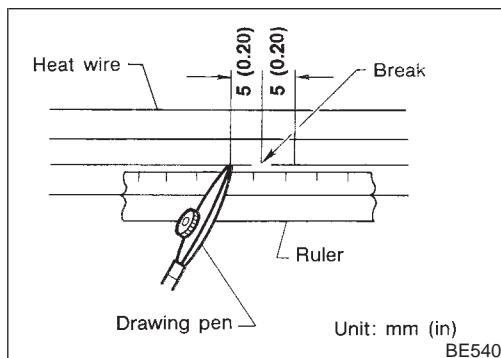
Filament Repair

REPAIR EQUIPMENT

NCEL0078

NCEL0078S01

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



REPAIRING PROCEDURE

NCEL0078S02

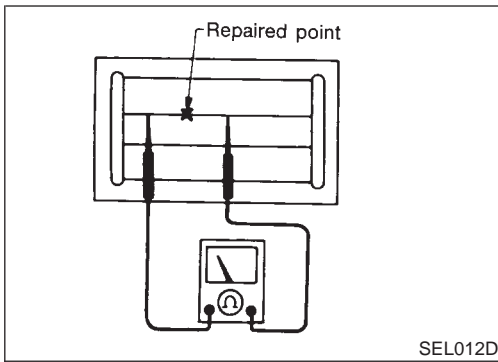
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

Shake silver composition container before use.

3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

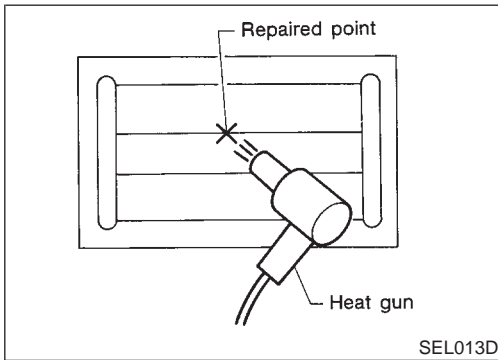
REAR WINDOW DEFOGGER

Filament Repair (Cont'd)



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

Do not touch repaired area while test is being conducted.



- 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.

GI

MA

EM

LC

EC

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MT

AT

AX

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BR

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System Description

NCEL0079

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

Power is supplied at all times

- through 15A fuse (No. 38, located in the fuse and fusible link box)
- to speaker amp. terminal 11, and
- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to audio terminal 6.

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

- through 7.5A fuse [No. 10, located in the fuse block (J/B)]
- to audio terminal 10.

Ground is supplied through the case of the audio.

Ground is supplied

- to speaker amp. terminal 23,
- through body grounds B109 and B110.

Audio signals are supplied

- through audio terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to speaker amp. terminals 4, 5, 6, 7, 17, 18, 19 and 20.

Audio signals are amplified by the speaker amp.

The amplified audio signals are supplied

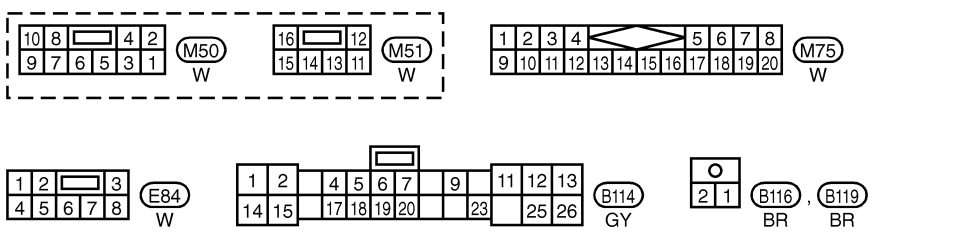
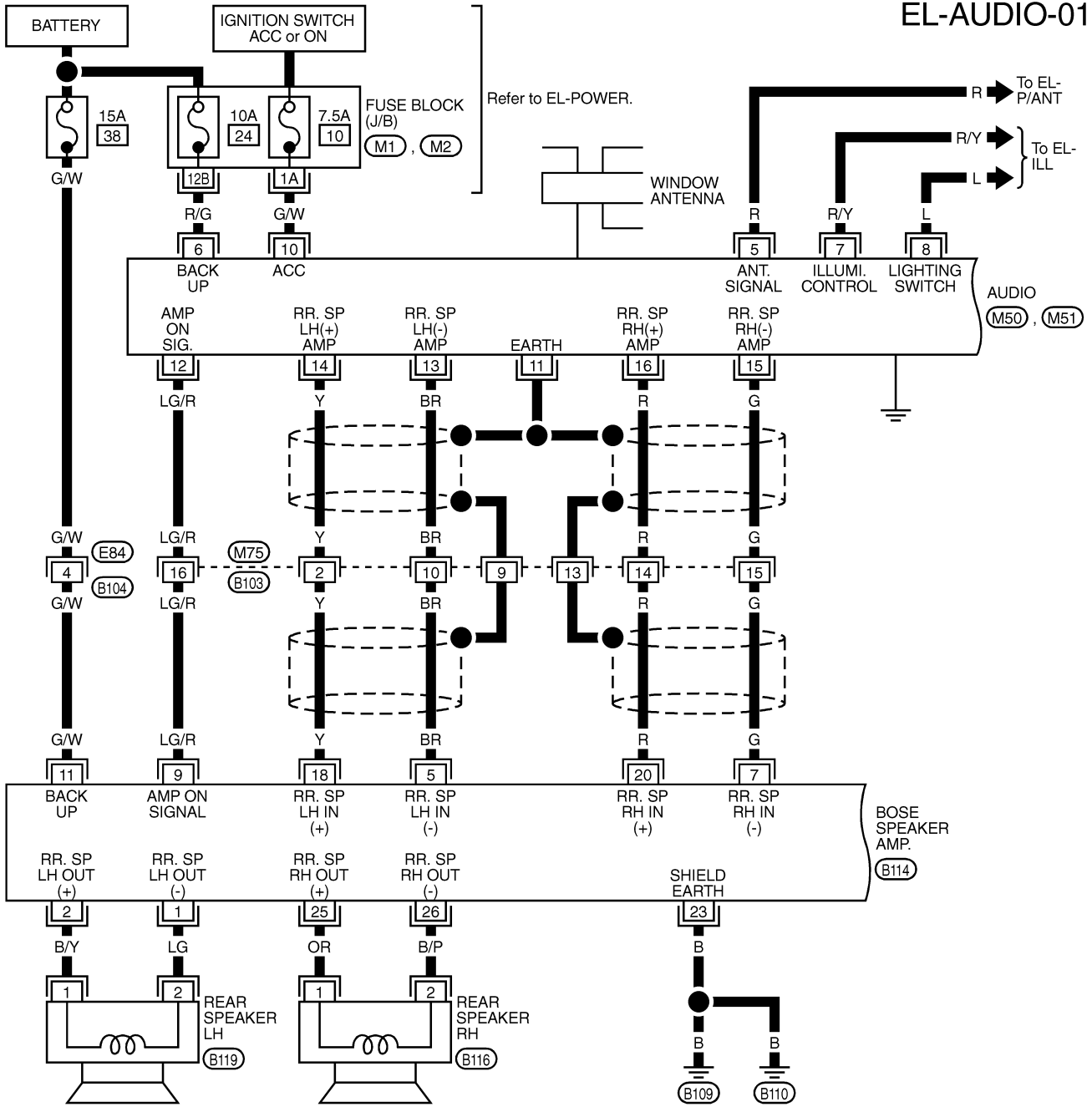
- through speaker amp. terminals 1, 2, 12, 13, 14, 15, 25 and 26
- to terminals 1 and 2 of the front door speaker LH and RH
- to terminals 1 and 2 of the tweeter LH and RH
- to terminals 1 and 2 of the rear speaker LH and RH.

Wiring Diagram — AUDIO —

NCEL0081

EL-AUDIO-01

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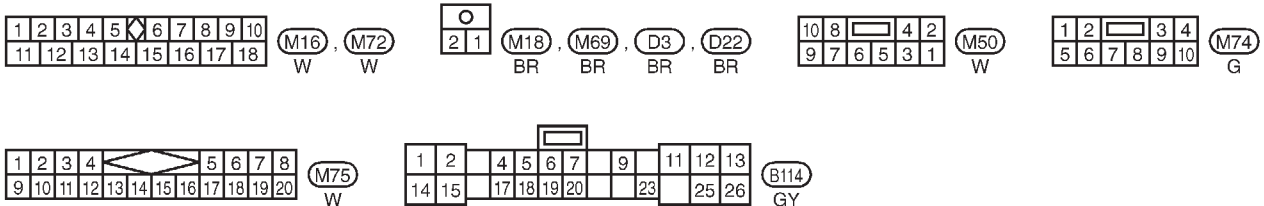
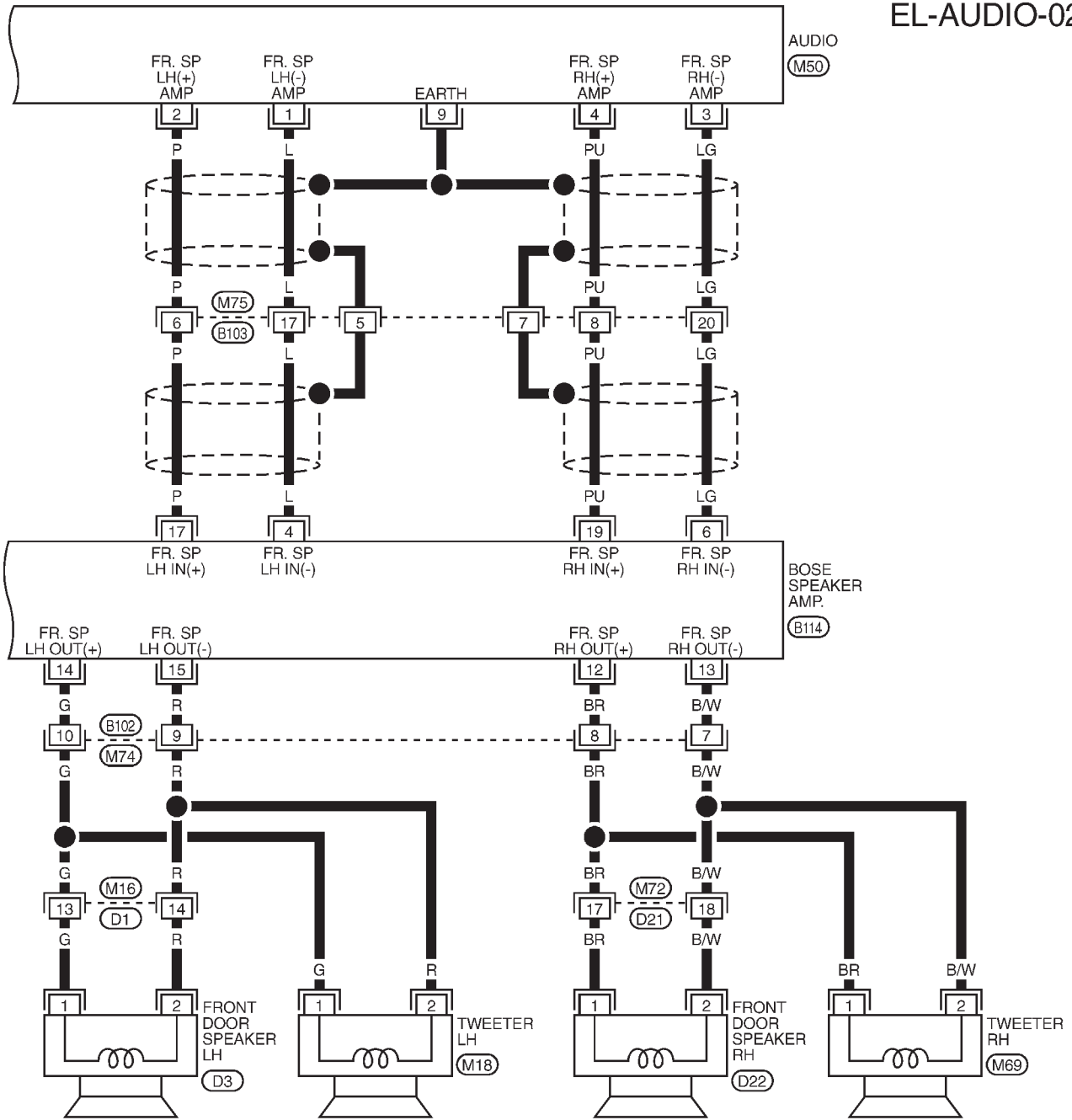


REFER TO THE FOLLOWING.
 (M1), (M2) - FUSE BLOCK-
 JUNCTION BOX (J/B)

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-02



TEL913A

Trouble Diagnoses

NCEL0082

NCEL0082S01

RADIO

| Symptom | Possible causes | Repair order |
|---|--|---|
| Radio inoperative (no digital display and no sound from speakers). | <ol style="list-style-type: none"> 7.5A fuse Poor radio case ground Radio | <ol style="list-style-type: none"> Check 7.5A fuse [No. 10, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of radio. Check radio case ground. Remove radio for repair. |
| Radio presets are lost when ignition switch is turned OFF. | <ol style="list-style-type: none"> 10A fuse Radio | <ol style="list-style-type: none"> Check 10A fuse [No. 24, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of radio. Remove radio for repair. |
| AM stations are weak or noisy (FM stations OK). | <ol style="list-style-type: none"> Antenna Poor radio ground Radio | <ol style="list-style-type: none"> Check antenna. Check radio ground. Remove radio for repair. |
| FM stations are weak or noisy (AM stations OK). | <ol style="list-style-type: none"> Window antenna Radio | <ol style="list-style-type: none"> Check window antenna. Remove radio for repair. |
| Radio generates noise in AM and FM modes with engine running. | <ol style="list-style-type: none"> Poor radio ground Loose or missing ground bonding straps Ignition condenser or rear window defogger noise suppressor condenser Alternator Ignition coil or secondary wiring Radio | <ol style="list-style-type: none"> Check radio ground. Check ground bonding straps. Replace ignition condenser or rear window defogger noise suppressor condenser. Check alternator. Check ignition coil and secondary wiring. Remove radio for repair. |
| Radio generates noise in AM and FM modes with accessories on (switch pops and motor noise). | <ol style="list-style-type: none"> Poor radio ground Antenna Accessory ground Faulty accessory | <ol style="list-style-type: none"> Check radio ground. Check antenna. Check accessory ground. Replace accessory. |
| Radio controls are operational, but no sound is heard from any speaker. | <ol style="list-style-type: none"> 15A fuse Radio output Radio | <ol style="list-style-type: none"> Check 15A fuse (No. 38, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 11 of speaker amp. Check radio output voltage (Terminal 12). Remove radio for repair. |
| All speakers are inoperative. | <ol style="list-style-type: none"> Speaker amp. ground Amp. ON signal | <ol style="list-style-type: none"> Check speaker amp. Check speaker amp. ground (Terminal 23). Turn ignition switch ACC and radio ON. Verify battery positive voltage is present at terminal 9 of speaker amp. |
| Individual rear speaker is noisy or inoperative. | <ol style="list-style-type: none"> Speaker Speaker amp. output Speaker circuit Radio | <ol style="list-style-type: none"> Check speaker. Check speaker amp. output. Check wires for open or short between radio/amp. and speakers. Remove radio for repair. |

GI

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EL

IDX

Inspection

=NCEL0083

NCEL0083S01

RADIO AND AMP.

All voltage inspections are made with:

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

ANTENNA

NCEL0083S02

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.

System Description

NCEL0084

Power is supplied at all times

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to power antenna terminal 6.

Ground is supplied to the power antenna terminal 2 through body grounds B109 and B110.

When the audio is turned to the ON position, battery positive voltage is supplied

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

The antenna raises and is held in the extended position.

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

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

The antenna retracts.

GI

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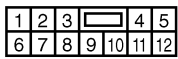
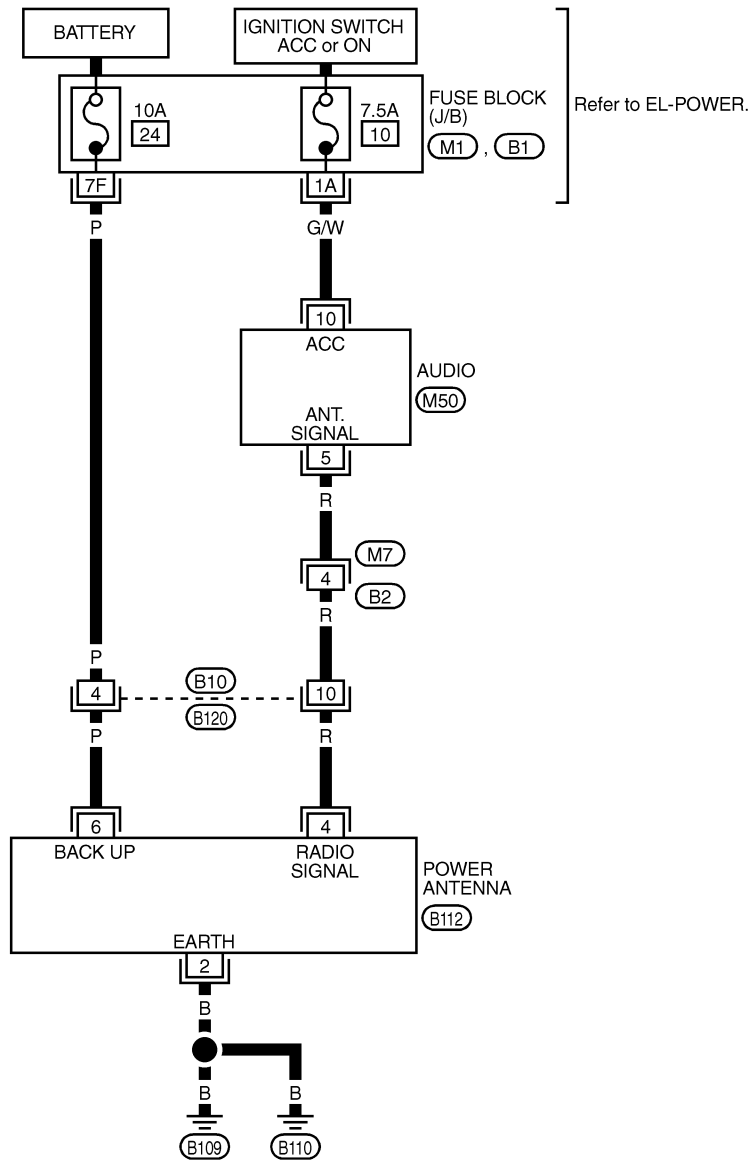
AUDIO ANTENNA

Wiring Diagram — P/ANT —

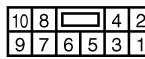
Wiring Diagram — P/ANT —

NCEL0085

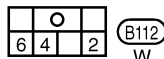
EL-P/ANT-01



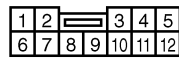
(M7)
W



(M50)
W



(B112)
W



(B120)
G

REFER TO THE FOLLOWING.
(M1), (B1) - FUSE BLOCK-
JUNCTION BOX (J/B)

AUDIO ANTENNA

Trouble Diagnoses

Trouble Diagnoses

NCEL0086

NCEL0086S01

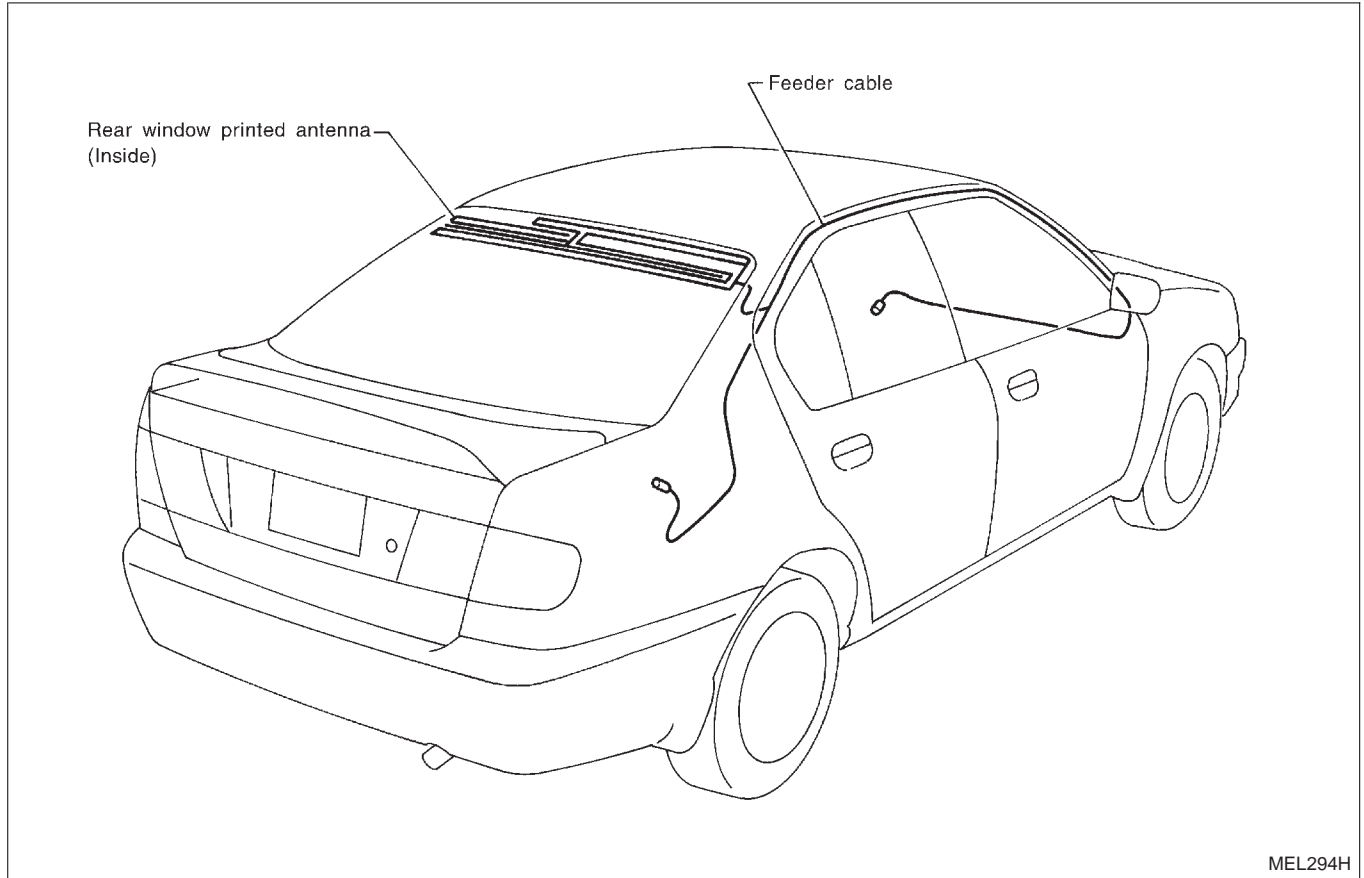
POWER ANTENNA

| Symptom | Possible causes | Repair order |
|---------------------------------|---|--|
| Power antenna does not operate. | <ol style="list-style-type: none"> 10A fuse Radio signal Grounds B109 and B110 | <ol style="list-style-type: none"> 1. Check 10A fuse [No. 24, located in fuse block (J/B)]. Verify that battery positive voltage is present at terminal 6 of power antenna. 2. Turn ignition switch and radio ON. Verify that battery positive voltage is present at terminal 4 of power antenna. 3. Check grounds B109 and B110. |

GI
MA
EM
LC

Location of Antenna

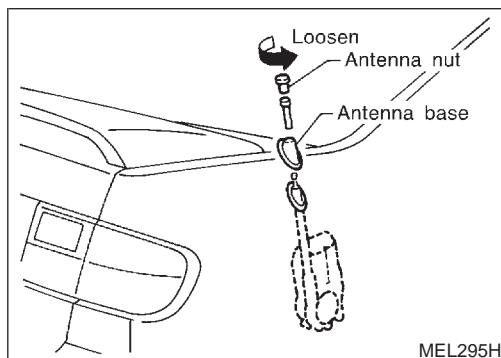
NCEL0087



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MEL294H

BT
HA



MEL295H

Antenna Rod Replacement REMOVAL

NCEL0088

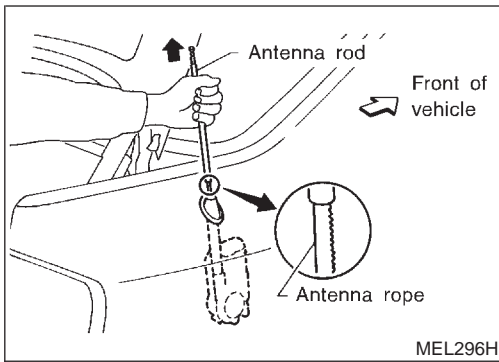
NCEL0088S01

1. Remove antenna nut and antenna base.

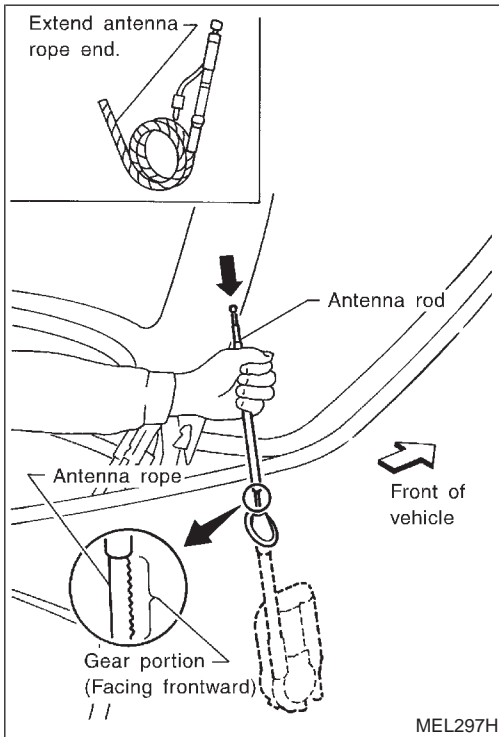
SC
EL
IDX

AUDIO ANTENNA

Antenna Rod Replacement (Cont'd)



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



INSTALLATION

NCEL0088S02

1. Lower antenna rod by operating antenna motor.
2. Insert gear section of antenna rope into place with it facing toward antenna motor.
3. As soon as antenna rope is wound on antenna motor, stop antenna motor. Insert antenna rod lower end into antenna motor pipe.
4. Retract antenna rod completely by operating antenna motor.
5. Install antenna nut [Tightening torque: 2.0 - 3.9 N·m (0.2 - 0.4 kg-m, 17.4 - 34.7 in-lb)] and base.

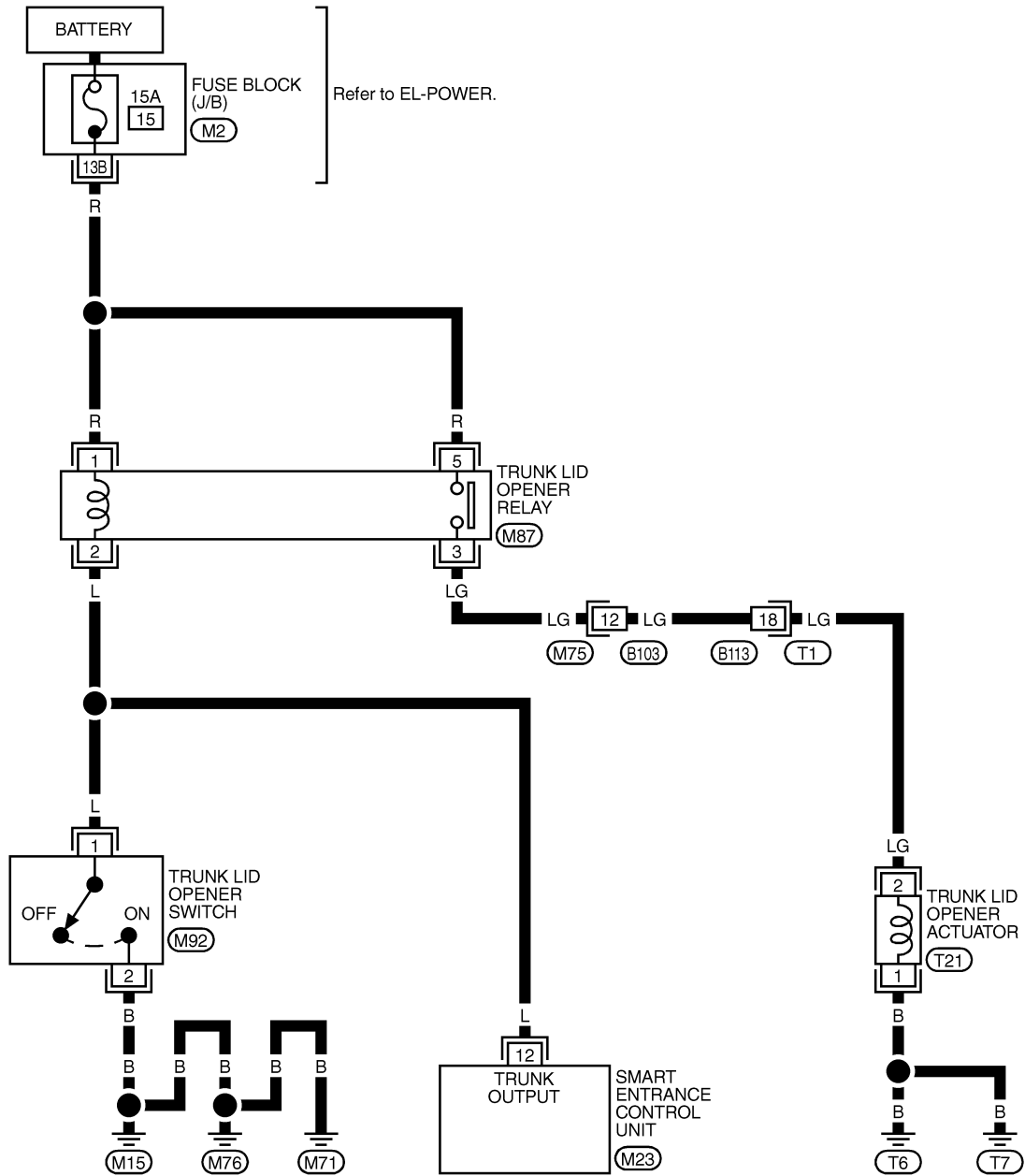
TRUNK LID AND FUEL FILLER LID OPENER

Wiring Diagram — TLID —

Wiring Diagram — TLID —

NCEL0171

EL-TLID-01 GI



MA

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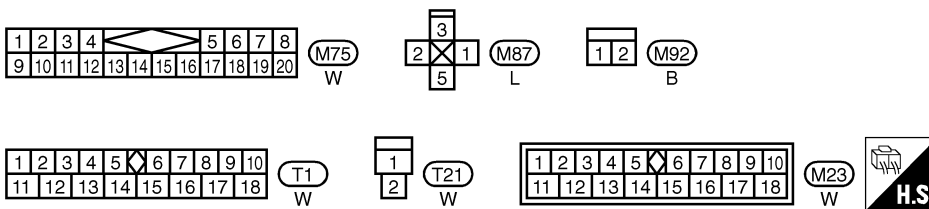
BT

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REFER TO THE FOLLOWING.
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

System Description

NCEL0172

NCEL0172S01

OUTLINE

Electric sunroof system consists of

- Sunroof switch
- Sunroof motor
- Power window relay
- Smart entrance control unit

Smart entrance control unit controls retained power operation.

RETAINED POWER OPERATION

NCEL0172S02

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

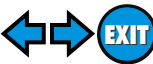
- to power window relay terminal 1
- from smart entrance control unit terminal 5.

Ground is always supplied

- to power window relay terminal 2
- through body grounds.

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

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



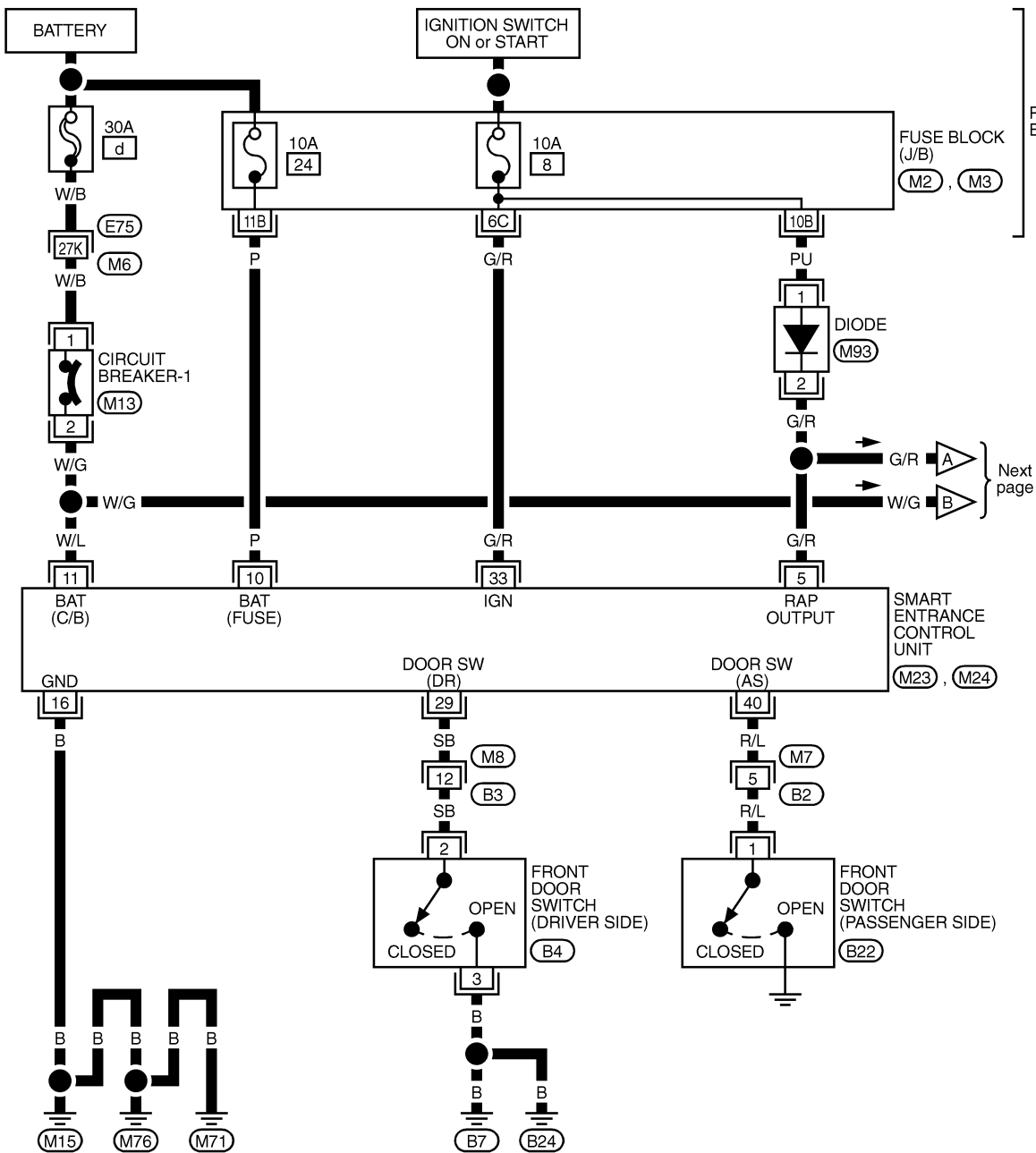
POWER SUNROOF

Wiring Diagram — SROOF —

Wiring Diagram — SROOF —

NCEL0089

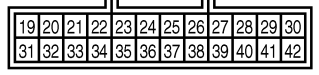
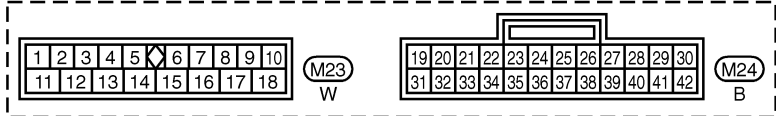
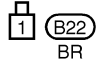
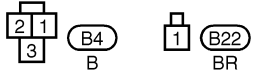
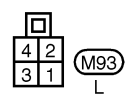
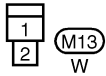
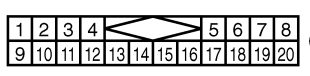
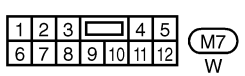
EL-SROOF-01



Refer to EL-POWER.

Next page

- GI
- MA
- EM
- LC
- EC
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- MT
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- SU
- BR
- ST
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- BT
- HA
- SC
- EL
- IDX



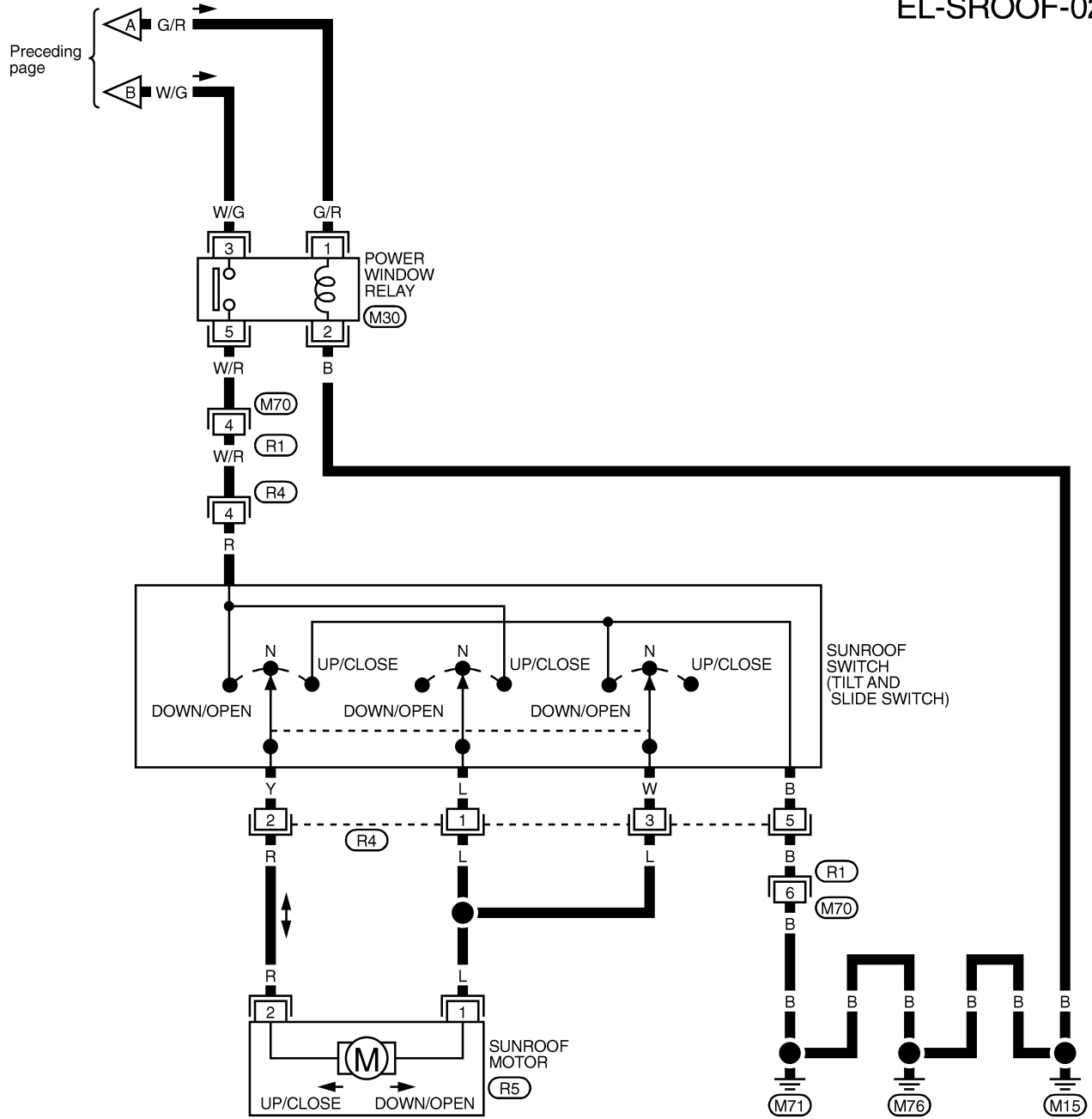
REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2) , (M3) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL598B

POWER SUNROOF

Wiring Diagram — SROOF — (Cont'd)

EL-SROOF-02



DOOR MIRROR

Wiring Diagram — MIRROR —

Wiring Diagram — MIRROR —

NCEL0090

EL-MIRROR-01 GI

MA

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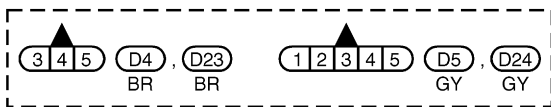
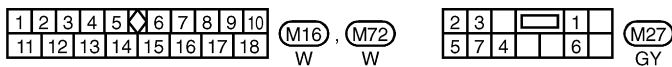
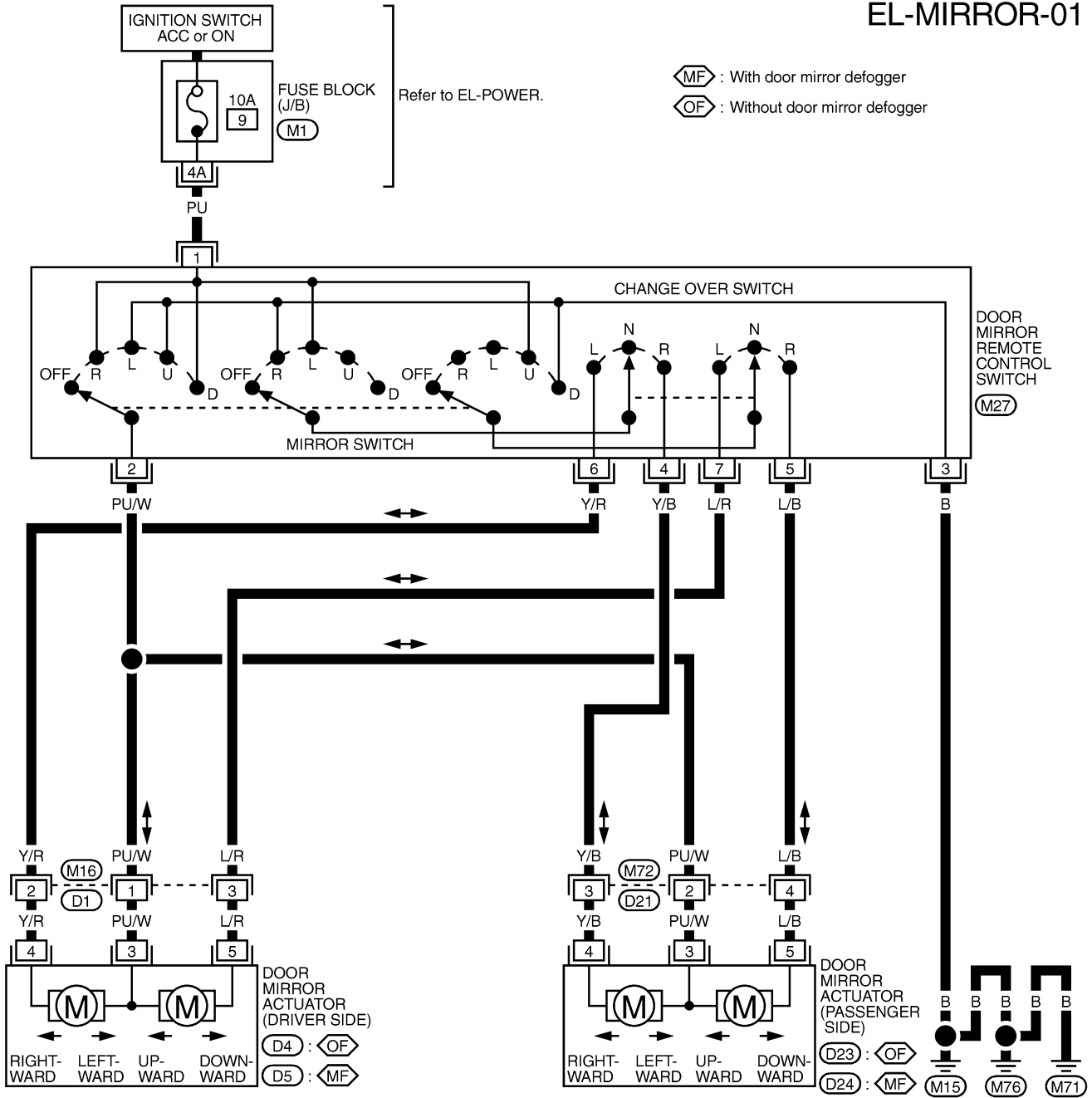
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REFER TO THE FOLLOWING.

(M1) - FUSE BLOCK-JUNCTION BOX (J/B)

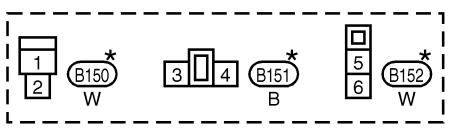
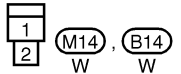
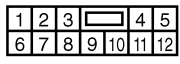
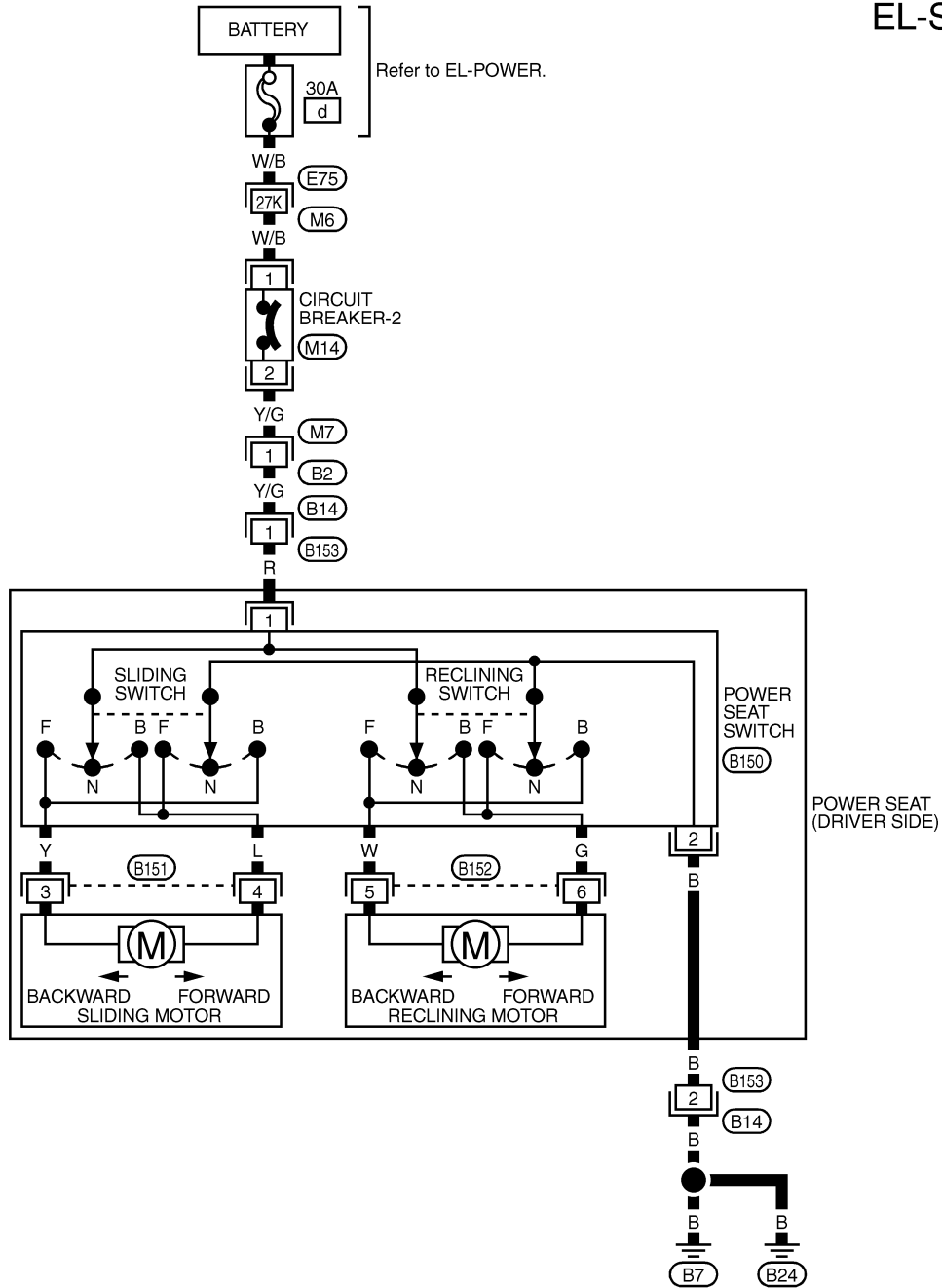
POWER SEAT

Wiring Diagram — SEAT —

Wiring Diagram — SEAT —

NCEL0092

EL-SEAT-01



REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

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

HEATED SEAT

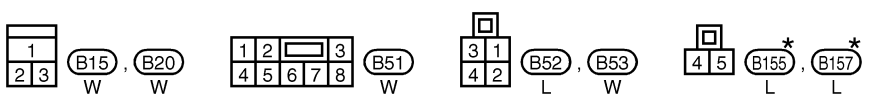
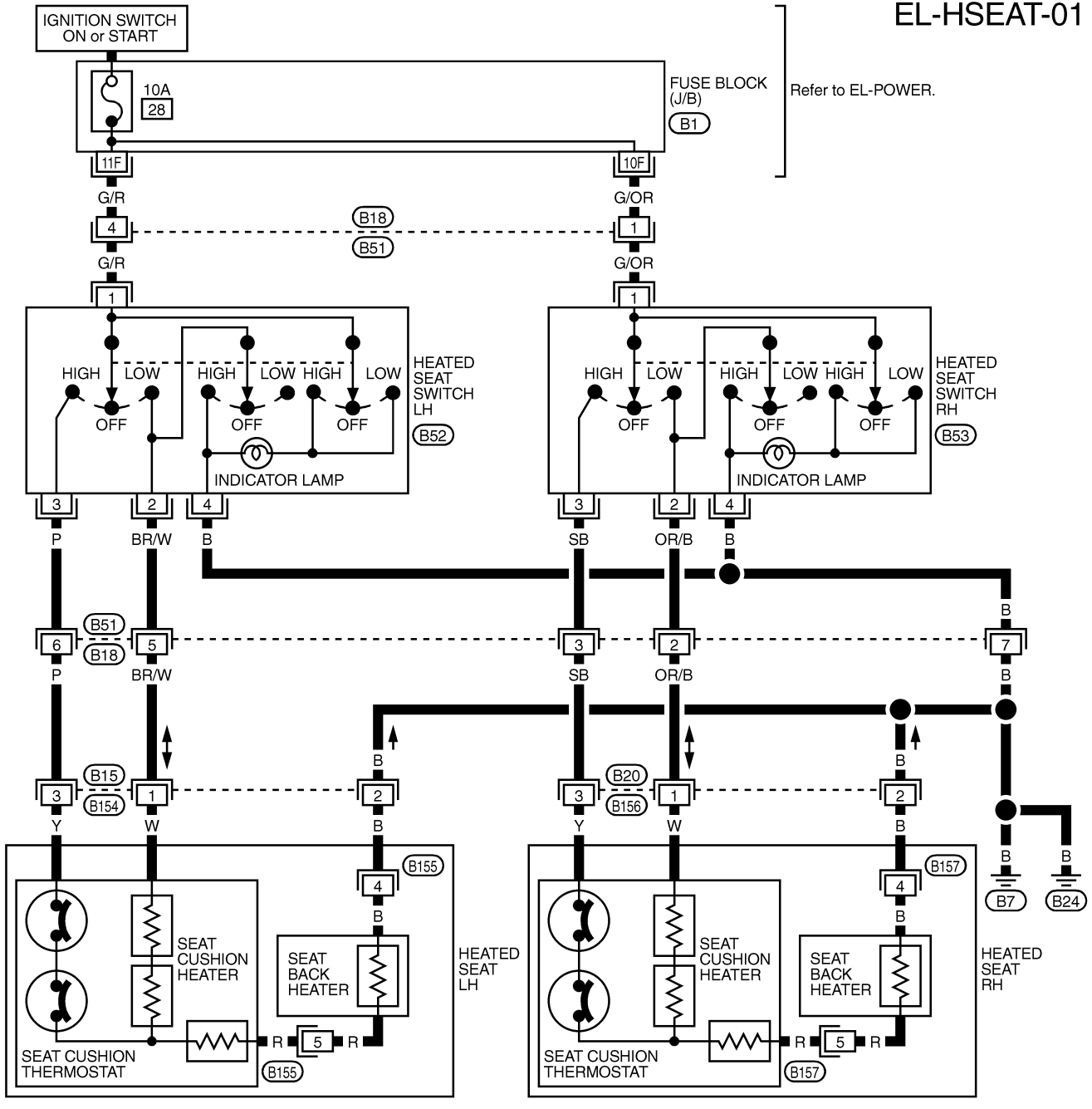
Wiring Diagram — HSEAT —

Wiring Diagram — HSEAT —

NCEL0093

EL-HSEAT-01

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

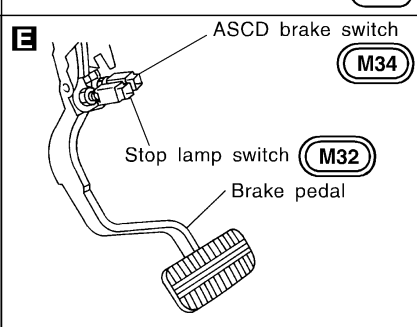
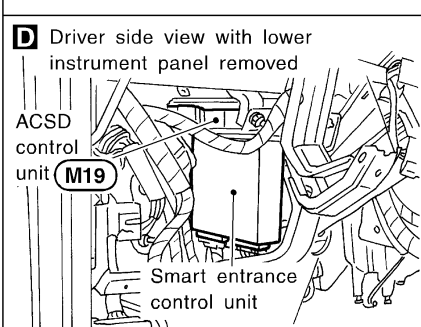
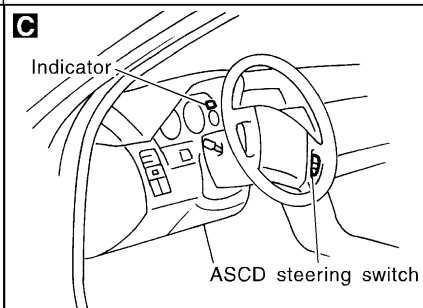
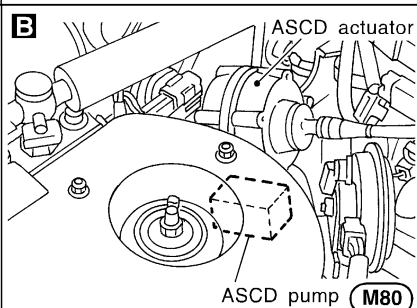
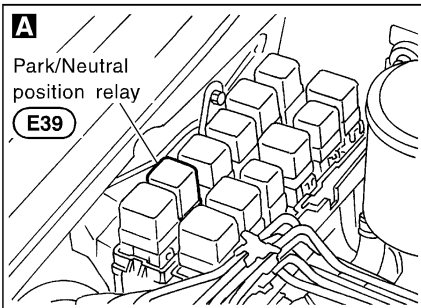
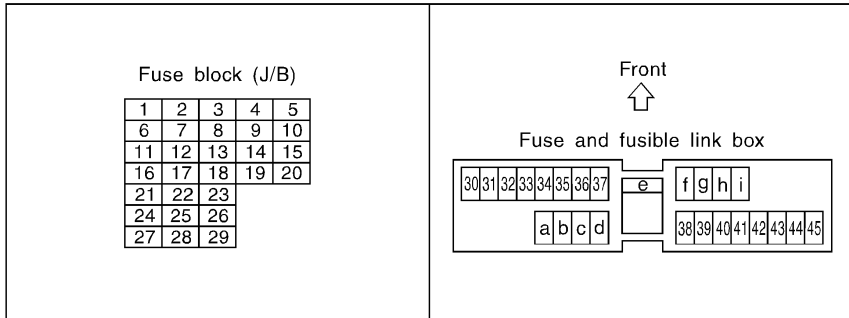
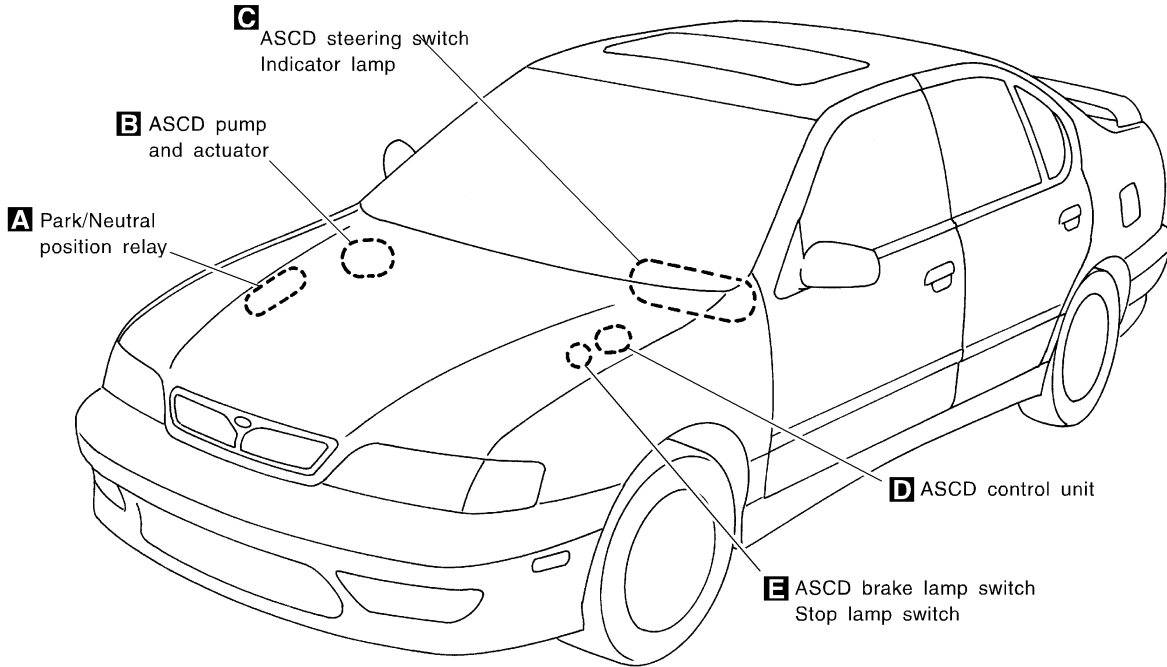
* : This connector is not shown in "HARNES LAYOUT", EL section.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0094



System Description

Refer to Owner's Manual for ASCD operating instructions.

NCEL0095

POWER SUPPLY AND GROUND

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to ASCD clutch switch terminal 1 (M/T models),
- to ASCD brake switch terminal 1 (A/T models) and
- to ASCD control unit terminal 5
- through 10A fuse [No. 11, located in the fuse block (J/B)]
- to combination meter terminal 37,
- through 10A fuse [No. 16, located in the fuse block (J/B)]
- to park/neutral position relay terminal 1 (A/T models),

Power is supplied at all times:

- through 15A fuse [No. 14, located in the fuse block (J/B)]
- to the stop lamp switch terminal 1, and
- through 10A fuse [No. 36, located in the fuse block (J/B)]
- to the horn relay terminal 1.

When park/neutral position is in the P or N position, ground is supplied (A/T models):

- to park/neutral position switch terminal 2
- through body grounds E9 and E28.

When ASCD main switch is depressed (ON), ground is supplied:

- to ASCD control unit terminal 9
- from ASCD steering switch terminal 4
- to ASCD steering switch terminal 5
- through body grounds M15, M71 and M76

then ASCD control unit holds CRUISE condition and illuminates CRUISE indicator.

Ground is supplied:

- to ASCD control unit terminal 15, and
- from combination meter terminal 41.

OPERATION

Set Operation

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

- Ground supplies to ASCD control unit terminal 9 (Main switch is ON position).
- Power supply to ASCD control unit terminal 8 [Brake and clutch pedal is released (M/T models), and brake pedal is released and A/T selector lever is in other than P and N position. (A/T models)]
- Vehicle speed is between 40 km/h (25 MPH) and 144 km/h (89 MPH). (Signal from combination meter)

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

- from ASCD steering switch terminal 2
- to ASCD control unit terminal 11.

And then ASCD pump is activated to control throttle wire and ASCD control unit supply ground

- to combination meter terminal 18 to illuminate SET indicator.

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

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

- from ASCD control unit terminal 10
- to TCM (transmission control module) terminal 24.

When this occurs, the TCM (transmission control module) cancels overdrive.

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

ASCD Shifting Control

During ASCD cruise, ASCD control unit controls A/T shifting to avoid uncomfortable shifting. This is used to control the signals below.

GI

NCEL0095S03

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

NCEL0095S04

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

NCEL0095S0401

ST

- Ground supplies to ASCD control unit terminal 9 (Main switch is ON position).
- Power supply to ASCD control unit terminal 8 [Brake and clutch pedal is released (M/T models), and brake pedal is released and A/T selector lever is in other than P and N position. (A/T models)]
- Vehicle speed is between 40 km/h (25 MPH) and 144 km/h (89 MPH). (Signal from combination meter)

RS

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

- from ASCD steering switch terminal 2
- to ASCD control unit terminal 11.

BT

And then ASCD pump is activated to control throttle wire and ASCD control unit supply ground

- to combination meter terminal 18 to illuminate SET indicator.

HA

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

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

- from ASCD control unit terminal 10
- to TCM (transmission control module) terminal 24.

When this occurs, the TCM (transmission control module) cancels overdrive.

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

SC

NCEL0095S0402

EL

ASCD Shifting Control

During ASCD cruise, ASCD control unit controls A/T shifting to avoid uncomfortable shifting. This is used to control the signals below.

IDX

NCEL0095S0407

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description (Cont'd)

- Throttle position sensor from ECM
- A/T shift solenoid valve A

Coast Operation

When the SET/COAST switch is depressed during cruise control driving, ASCD actuator returns the throttle cable to decrease vehicle set speed until the switch is released. And then ASCD will keep the new set speed. NCEL0095S0403

Accel Operation

When the RESUME/ACCEL switch is depressed, power is supplied NCEL0095S0404

- from ASCD steering switch terminal 3
- to ASCD control unit terminal 24.

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

Cancel Operation

When any of following condition exists, cruise operation will be canceled. NCEL0095S0405

- CANCEL switch is depressed. (Power supply to ASCD control unit terminals 11 and 24)
- Brake pedal is depressed. (Power supply to ASCD control unit terminal 23 from stop lamp switch)
- Brake or clutch pedal is depressed (M/T models), brake pedal is depressed or A/T selector lever is shifted to P or N position (A/T models). (Power supply to ASCD control unit terminal 8 is interrupted.)

If MAIN switch is turned to OFF during ASCD is activated, all of ASCD operation will be canceled and vehicle speed memory will be erased.

Resume Operation

When the RESUME/ACCEL switch is depressed after cancel operation other than depressing MAIN switch is performed, vehicle speed will return to last set speed. To resume vehicle set speed, vehicle condition must meet following conditions. NCEL0095S0406

- Brake pedal is released.
- Clutch pedal is released (M/T models).
- A/T selector lever is in other than P and N position (A/T models).
- Vehicle speed is greater than 40 km/h (25 MPH) and 144 km/h (89 MPH).

ASCD PUMP OPERATION

The ASCD pump consists of a vacuum motor, an air valve and a release valve. When the ASCD activates, power is supplied NCEL0095S05

- from terminal 12 of ASCD control unit
- to ASCD pump terminal 1.

Ground is supplied to vacuum motor, air valve and release valve from ASCD control unit depending on the operated condition as shown in the below table.

The pump is connected to ASCD actuator by vacuum hose. When the ASCD pump is activated, the ASCD pump vacuum the diaphragm of ASCD actuator to control throttle cable.

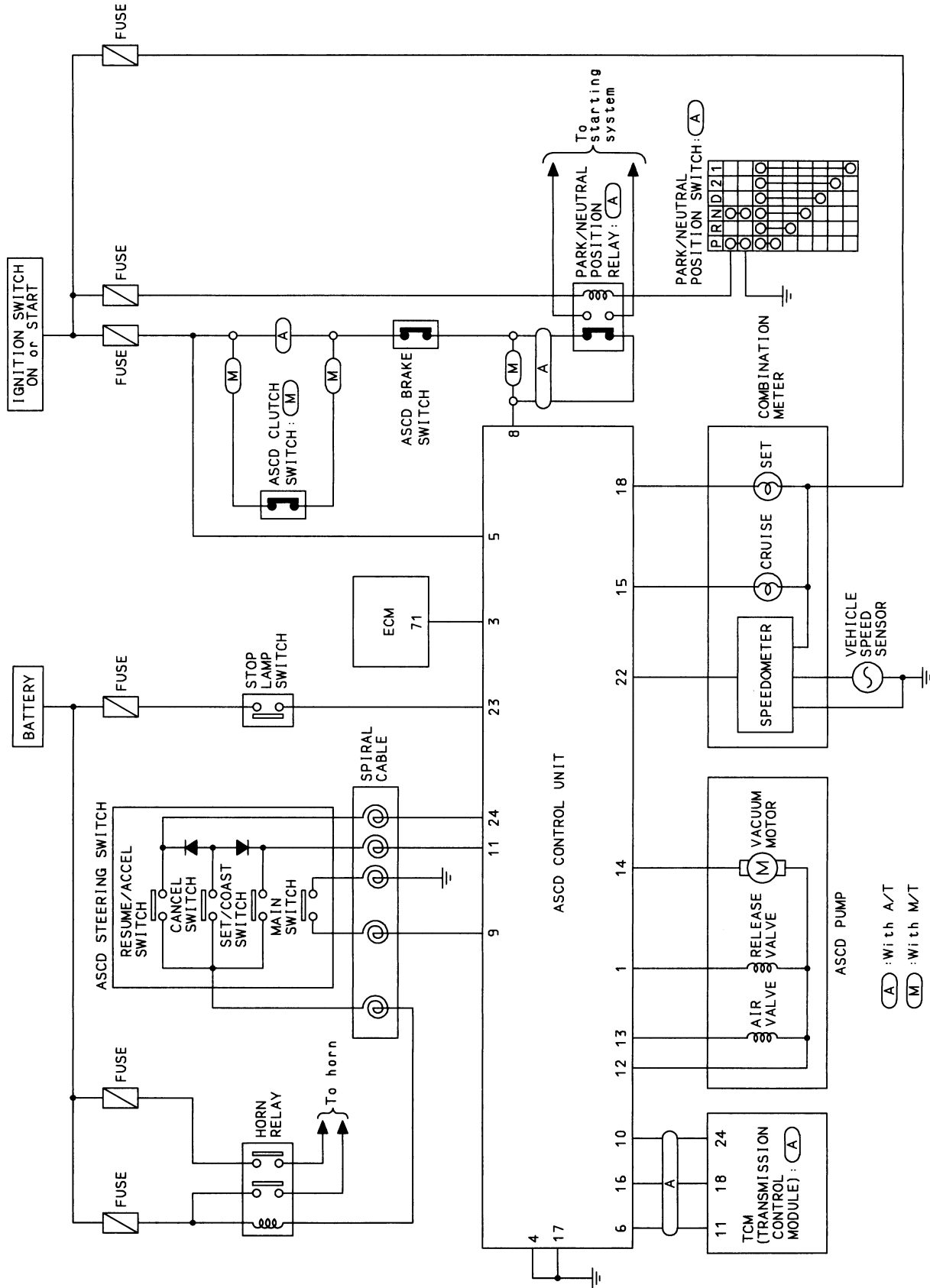
| | | Air valve (*1) | Release valve (*1) | Vacuum motor | Actuator inner pressure |
|--------------------|---------------------------|----------------|--------------------|--------------|-------------------------|
| ASCD not operating | | Open | Open | Stopped | Atmosphere |
| ASCD operating | Releasing throttle cable | Open | Closed | Stopped | Vacuum |
| | Holding throttle position | Closed | Closed | Stopped | Vacuum (*2) |
| | Pulling throttle cable | Closed | Closed | Operated | Vacuum |

*1: When power and ground is supplied, valve is closed.

*2: Set position held.

Schematic

NCEL0096



GI
MA
EM
LC
EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD —

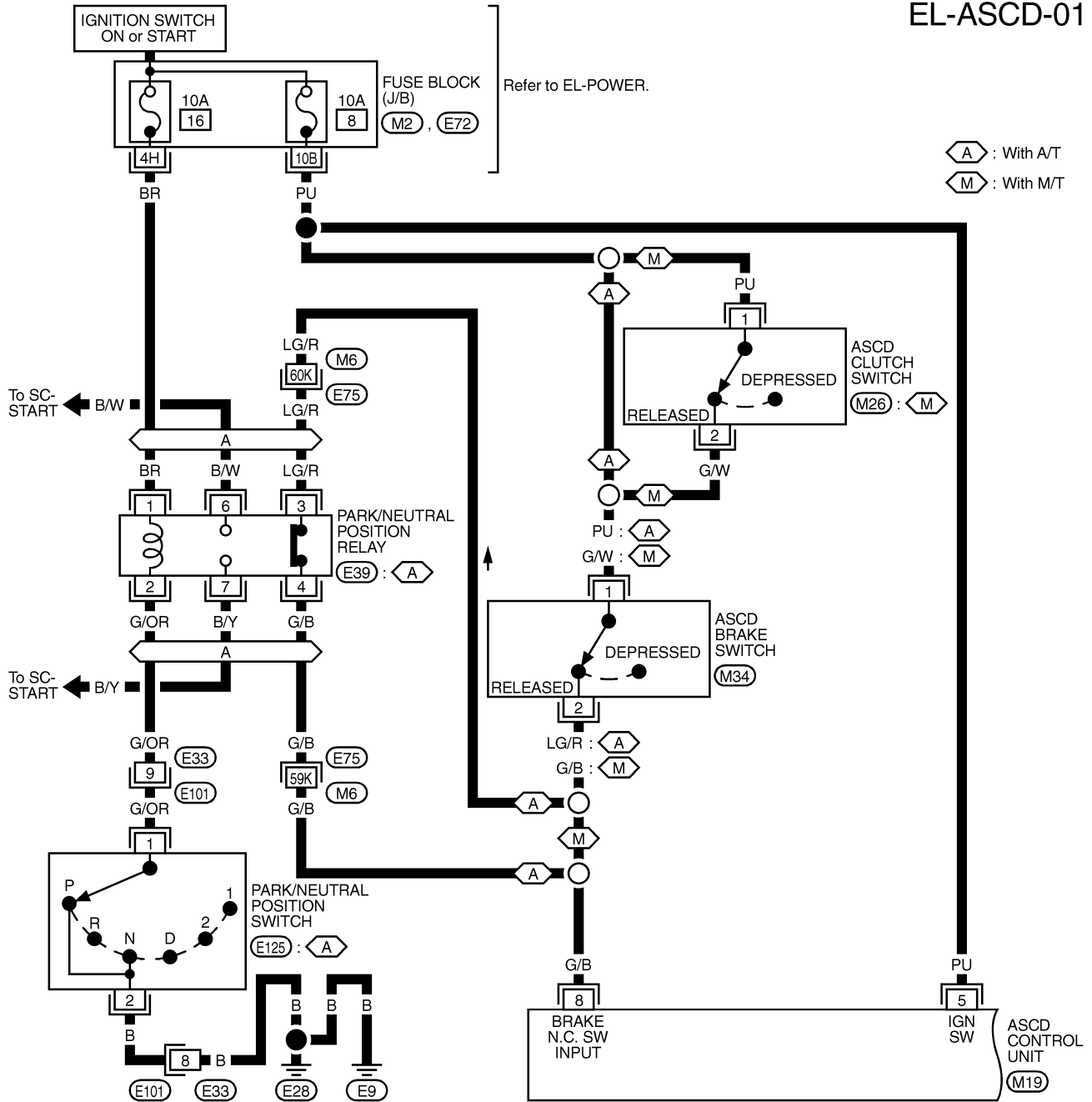
Wiring Diagram — ASCD —

NCEL0097

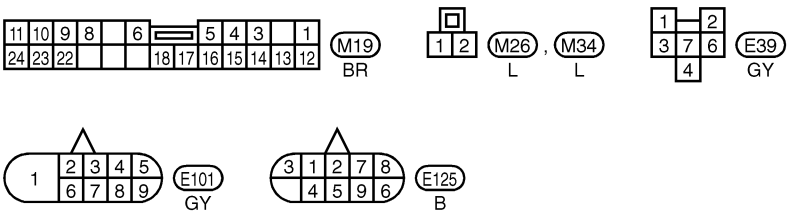
NCEL0097S01

FIG. 1

EL-ASCD-01



⬡ A : With A/T
 ⬡ M : With M/T



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2), (E72) -FUSE BLOCK-JUNCTION BOX (J/B)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

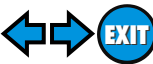
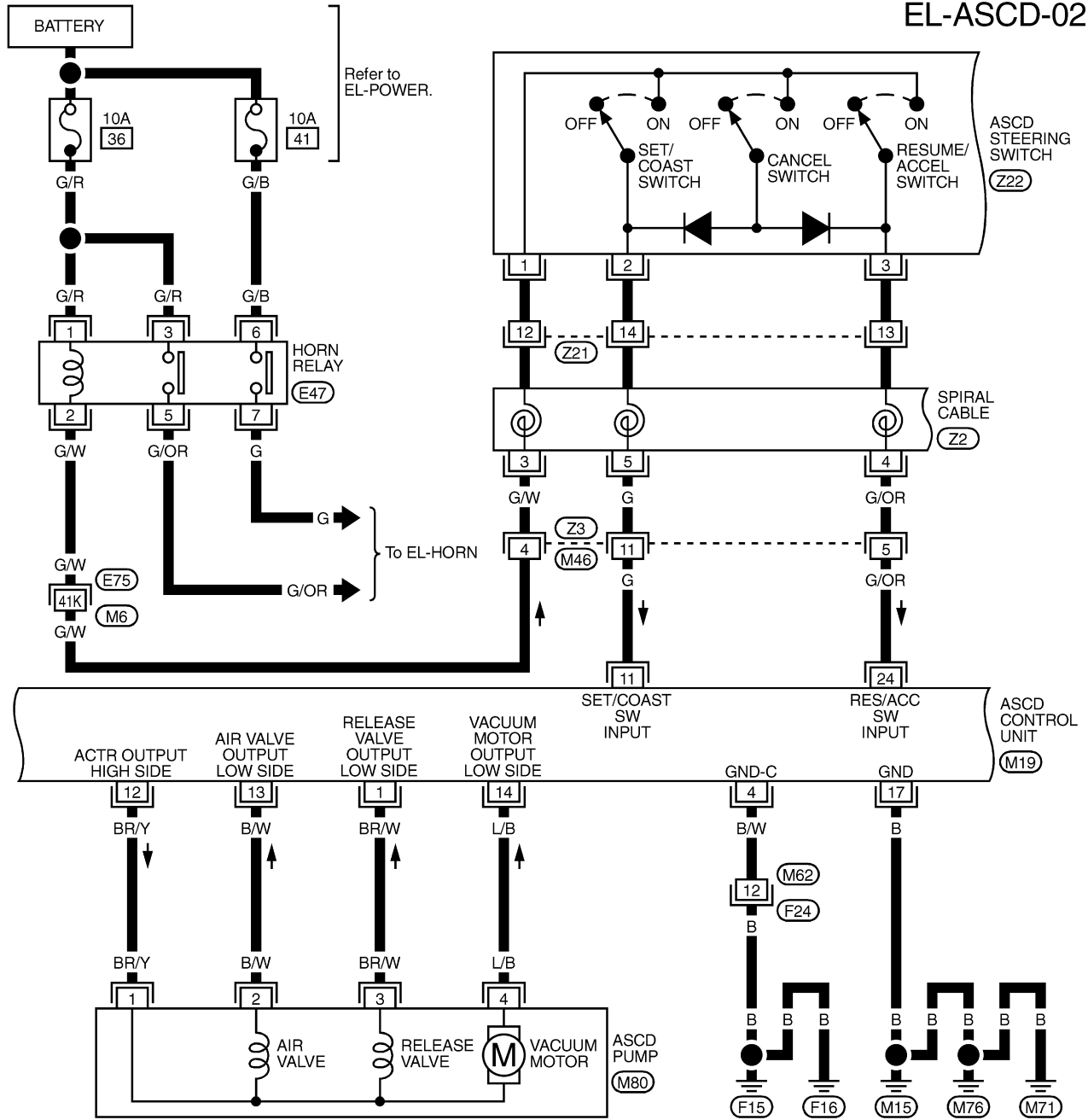
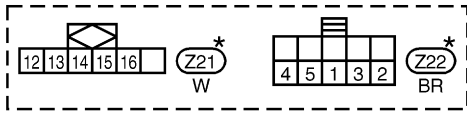
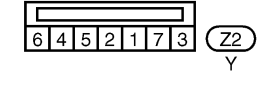
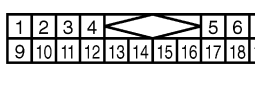
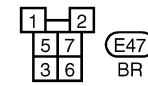
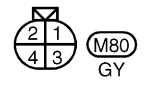
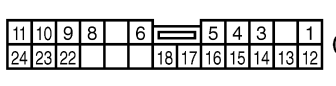


FIG. 2

NCEL0097S02



GI
 MA
 EM
 LC
 EC
 FE
 CL
 MT
 AT
 AX
 SU
 BR
 ST
 RS
 BT
 HA
 SC
 EL
 IDX



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

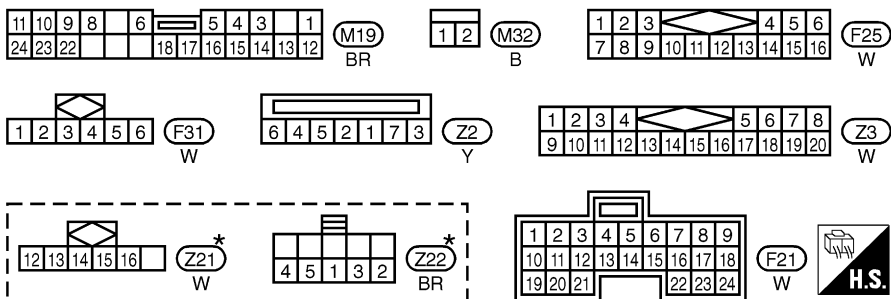
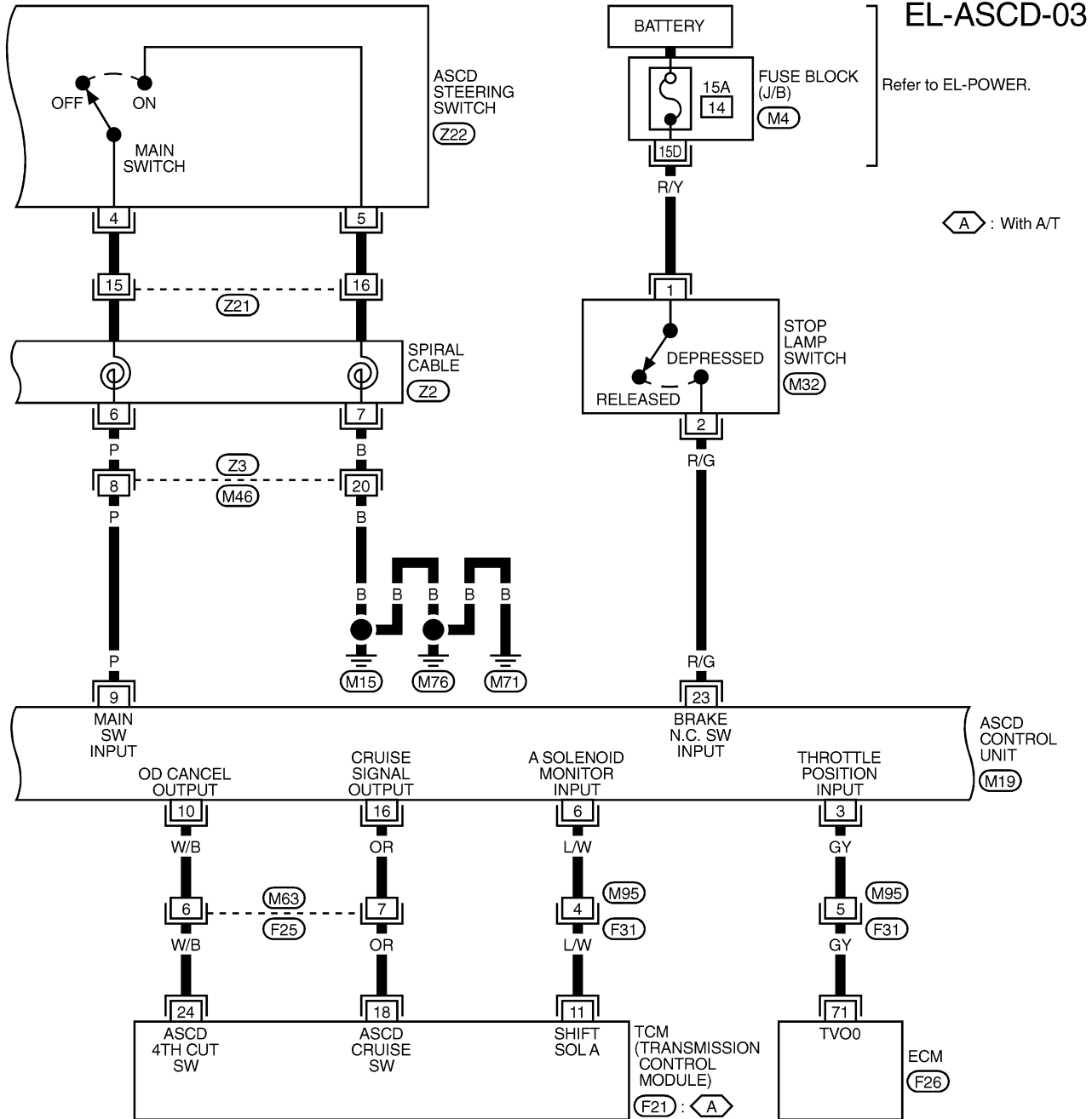
REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

FIG. 3

NCEL0097S03



REFER TO THE FOLLOWING.
 (M4) - FUSE BLOCK-JUNCTION BOX (J/B)
 (F26) - ELECTRICAL UNITS

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

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

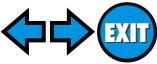
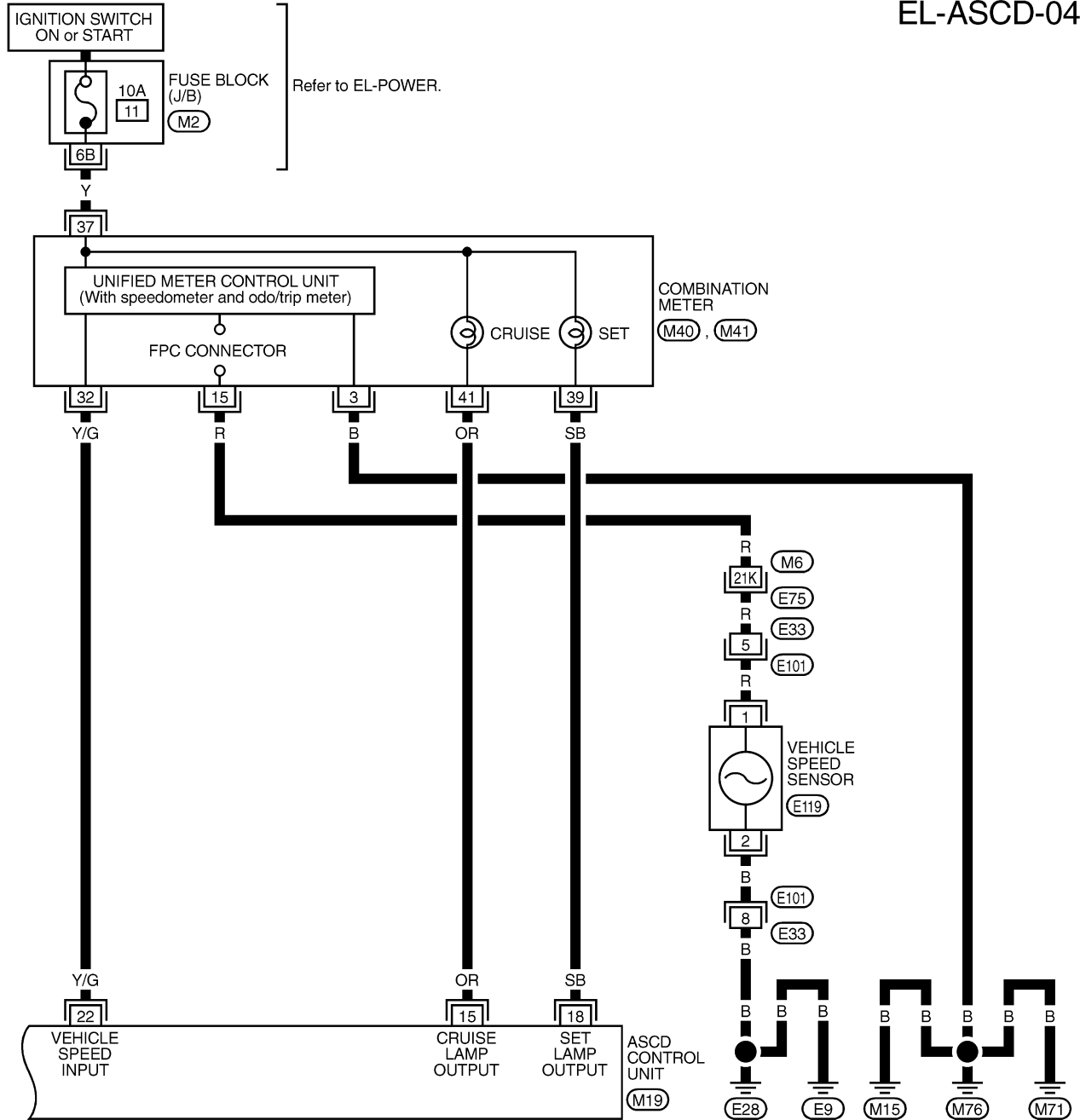


FIG. 4

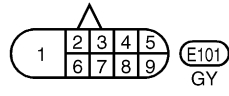
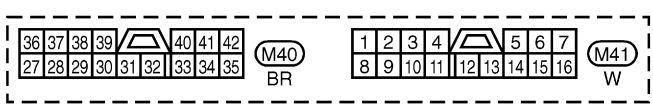
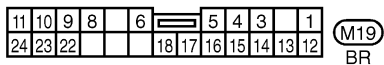
NCEL0097S04

EL-ASCD-04



GI
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IDX

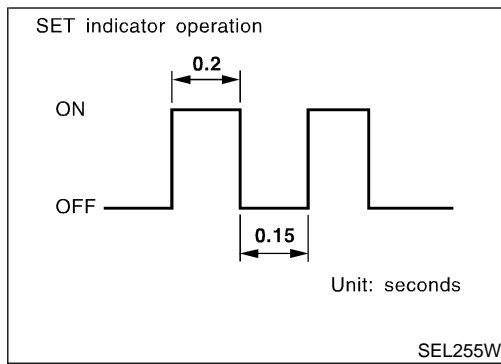


REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL524B

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Fail-safe System



Fail-safe System

NCEL0098

DESCRIPTION

NCEL0098S01

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

MALFUNCTION DETECTION CONDITIONS

NCEL0098S02

| 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. |

Trouble Diagnoses SYMPTOM CHART

NCEL0099

NCEL0099S01

| PROCEDURE | Diagnostic procedure | | | | | | |
|--|------------------------|---------------------------------------|-----------------------------------|----------------------------|----------------------------|-------------------------|--------------------------|
| REFERENCE PAGE (EL-) | 156 | 157 | 158 | 159 | 160 | 160 | 162 |
| SYMPTOM | FAIL-SAFE SYSTEM CHECK | POWER SUPPLY AND GROUND CIRCUIT CHECK | ASCD BRAKE/STOP LAMP SWITCH CHECK | ASCD STEERING SWITCH CHECK | VEHICLE SPEED SENSOR CHECK | ASCD PUMP CIRCUIT CHECK | ASCD ACTUATOR/PUMP CHECK |
| ASCD cannot be set. ("CRUISE" indicator lamp does not ON.) | | X | | X★3 | | | |
| ASCD cannot be set. ("SET" indicator lamp does not blink.) | | | X | X | X | | |
| ASCD cannot be set. ("SET" indicator lamp blinks.★1) | X | | X | X | X | X | |
| Vehicle speed does not decrease after SET/COAST switch has been pressed. | | | | X | | | X |
| Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.★2 | | | | X | | | X |
| Vehicle speed does not increase after RESUME/ACCEL switch has been pressed. | | | | X | | | X |
| System is not released after CANCEL switch (steering) has been pressed. | | | | X | | | X |
| Large difference between set speed and actual vehicle speed. | | | | | X | X | X |
| Deceleration is greatest immediately after ASCD has been set. | | | | | X | X | X |

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

★2: If vehicle speed is greater than 40 km/h (25 MPH) after system has been released, pressing RESUME/ACCEL switch returns vehicle speed to the set speed previously achieved. However, doing so when the ASCD main switch is turned to "OFF", vehicle speed will not return to the set speed since the memory is canceled.

★3: Check only main switch built-in steering switch.

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

BT

HA

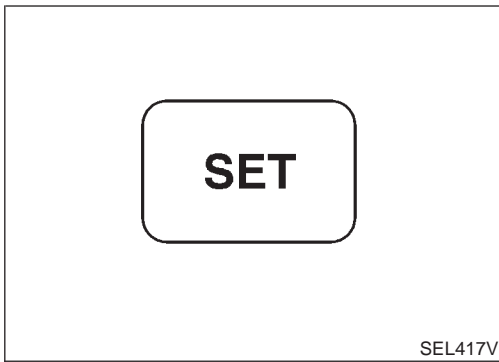
SC

EL

IDX

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

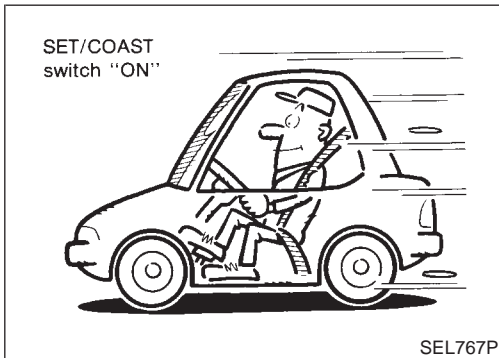
Trouble Diagnoses (Cont'd)



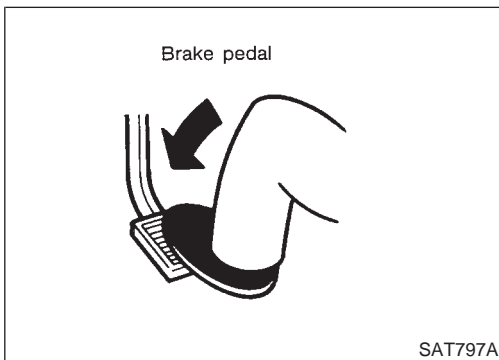
FAIL-SAFE SYSTEM CHECK

=NCEL0099S02

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the "set indicator" blinks.
If the indicator lamp blinks, check the following.
 - ASCD steering switch. Refer to EL-159.



3. Drive the vehicle at more than 40 km/h (25 MPH) and push SET/COAST switch.
If the indicator lamp blinks, check the following.
 - Vehicle speed sensor. Refer to EL-160.
 - ASCD pump circuit. Refer to EL-160.
 - Replace control unit.



4. Depress brake pedal slowly (brake pedal should be depressed more than 5 seconds).
If the indicator lamp blinks, check the following.
 - ASCD brake/stop lamp switch. Refer to EL-158.

5. END. (System is OK.)

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NCEL0099S03

| | | | |
|----------|---|---|----------------------------|
| 1 | CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT | | GI |
| | <p>1. Disconnect ASCD control unit harness connector.</p> <p>2. Turn ignition switch ON.</p> <p>3. Check voltage between ASCD control unit harness connector terminal 5 and ground.</p> <div style="text-align: center;"> <p>ASCD control unit connector (M19)</p> <p>Does battery voltage exist?</p> </div> <p style="text-align: right;">SEL256WA</p> | | MA EM LC EC FE |
| | Yes | ▶ GO TO 2. | CL |
| | No | ▶ Check the following. <ul style="list-style-type: none"> ● 10A fuse (No. 8 located in the fuse block) ● Harness for open or short | MT |

| | | | |
|----------|---|--|----------------------|
| 2 | CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT | | AT |
| | <p>Check continuity between ASCD control unit harness connector terminal 17 and body ground.</p> <div style="text-align: center;"> <p>ASCD control unit connector (M19)</p> <p>Does continuity exist?</p> </div> <p style="text-align: right;">SEL257WA</p> | | AX SU BR ST |
| | Yes | ▶ Power supply and ground circuit is OK. | RS |
| | No | ▶ Repair harness. | BT |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

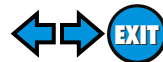
ASCD BRAKE/STOP LAMP SWITCH CHECK

=NCEL0099S06

| | | |
|-----------------|--|---|
| 1 | CHECK ASCD BRAKE SWITCH CIRCUIT | <p>1. Disconnect ASCD control unit harness connector. 2. Turn ignition switch ON. 3. Check voltage between ASCD control unit harness connector terminal 8 and ground.</p> <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>DISCONNECT H.S. CON ASCDC control unit connector (M19)</p> </div> <div style="flex: 2; padding-left: 20px;"> <p>When brake or clutch pedal is depressed (M/T), or when brake pedal is depressed or A/T selector lever is in "N" or "P" range (A/T): Apporox. 0V</p> <p>When brake and clutch pedal are released (M/T), or when both brake pedal is released and A/T selector lever is not in "N" or "P" range (A/T): Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL258WB</p> |
| OK or NG | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● ASCD brake switch Refer to "Electrical Component Inspection" (EL-164). ● Park/neutral position switch Refer to "Electrical Component Inspection" (EL-164). ● Park/neutral position relay ● ASCD clutch switch Refer to "Electrical Component Inspection" (EL-164). ● Harness for open or short |

| | | |
|-----------------|---------------------------------------|--|
| 2 | CHECK STOP LAMP SWITCH CIRCUIT | <p>1. Disconnect ASCD control unit harness connector. 2. Check voltage between ASCD control unit harness connector terminal 23 and ground.</p> <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>DISCONNECT H.S. ASCDC control unit connector (M19)</p> </div> <div style="flex: 2; padding-left: 20px;"> <p>Voltage [V]: Stop lamp switch: Depressed Apporox. 12 Stop lamp switch: Released 0</p> </div> </div> <p>Refer to wiring diagram in EL-152.</p> <p style="text-align: right;">SEL259WA</p> |
| OK or NG | | |
| OK | ▶ | ASCDC brake/stop lamp switch is OK. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 15A fuse [No. 14, located in the fuse block (J/B)] ● Harness for open or short between ASCDC control unit and stop lamp switch ● Harness for open or short between fuse and stop lamp switch ● Stop lamp switch Refer to "Electrical Component Inspection" (EL-164). |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)



Trouble Diagnoses (Cont'd)

ASCD STEERING SWITCH CHECK

=NCEL0099S07

| 1 | CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT | GI MA EM LC EC FE CL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|---------|------------------|--|------------------|--|-----|-----|---------|----------|---------|---|--------|----|------------|--------------|----|--------|-----|----|---------------|----|--------|-----|----|-----------|----|--------|-----|----|----|--------|-----|----|
| <p>Check voltage between ASCD control unit harness connector terminals and ground.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Refer to wiring diagram in EL-151 and EL-152.</p> </div> <div style="width: 60%;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <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>MAIN SW</td> <td>9</td> <td>Ground</td> <td>0V</td> <td>Approx. 9V</td> </tr> <tr> <td>SET/COAST SW</td> <td>11</td> <td>Ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td>RESUME/ACC SW</td> <td>24</td> <td>Ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td rowspan="2">CANCEL SW</td> <td>11</td> <td>Ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td>24</td> <td>Ground</td> <td>12V</td> <td>0V</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL260WA</p> | | | | Terminal No. | | Switch condition | | (+) | (-) | Pressed | Released | MAIN SW | 9 | Ground | 0V | Approx. 9V | SET/COAST SW | 11 | Ground | 12V | 0V | RESUME/ACC SW | 24 | Ground | 12V | 0V | CANCEL SW | 11 | Ground | 12V | 0V | 24 | Ground | 12V | 0V |
| | Terminal No. | | | Switch condition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (+) | (-) | Pressed | Released | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAIN SW | 9 | Ground | 0V | Approx. 9V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SET/COAST SW | 11 | Ground | 12V | 0V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RESUME/ACC SW | 24 | Ground | 12V | 0V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CANCEL SW | 11 | Ground | 12V | 0V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 24 | Ground | 12V | 0V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ ASCD steering switch is OK. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ GO TO 2. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|------------------------|--|----------------------|
| 2 | CHECK POWER SUPPLY FOR ASCD STEERING SWITCH | MT AT AX SU |
| Does horn work? | | |
| Yes | ▶ GO TO 3. | |
| No | ▶ Check the following. <ul style="list-style-type: none"> 10A fuse (No. 36, located in the relay box) Horn relay Harness for open or short | |

| 3 | CHECK ASCD STEERING SWITCH | BR ST RS BT HA SC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|----------------------------------|--------|----------|---|--|--|--|---|---|---|---|---|------|--|--|--|---|---|--------------|---|--|---|--|--|-----------|---|---|--|--|--|--------|---|---|---|--|--|---|---|---|--|--|
| <p>1. Disconnect ASCD steering switch. 2. Check continuity between terminals by pushing each switch.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> </div> <div style="width: 60%;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Switch</th> <th colspan="5">Terminal</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>MAIN</td> <td></td> <td></td> <td></td> <td>○</td> <td>○</td> </tr> <tr> <td>RESUME/ACCEL</td> <td>○</td> <td></td> <td>○</td> <td></td> <td></td> </tr> <tr> <td>SET/COAST</td> <td>○</td> <td>○</td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="2">CANCEL</td> <td>○</td> <td>▶</td> <td>○</td> <td></td> <td></td> </tr> <tr> <td>○</td> <td>▶</td> <td>○</td> <td></td> <td></td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL178X</p> | | | Switch | Terminal | | | | | 1 | 2 | 3 | 4 | 5 | MAIN | | | | ○ | ○ | RESUME/ACCEL | ○ | | ○ | | | SET/COAST | ○ | ○ | | | | CANCEL | ○ | ▶ | ○ | | | ○ | ▶ | ○ | | |
| Switch | Terminal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAIN | | | | ○ | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RESUME/ACCEL | ○ | | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SET/COAST | ○ | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CANCEL | ○ | ▶ | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ○ | ▶ | ○ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ Check the following. <ul style="list-style-type: none"> Harness for open or short between ASCD steering switch and ASCD control unit Main switch ground circuit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ Replace ASCD steering switch. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

EL

IDX

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

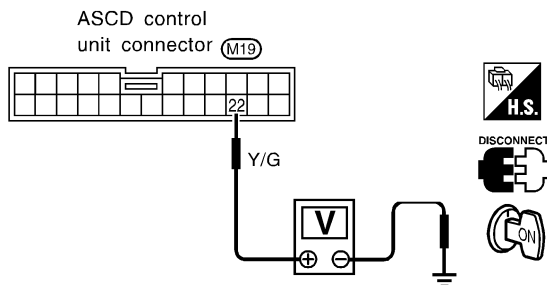
VEHICLE SPEED SENSOR CHECK

=NCEL0099S08

| | | |
|------------------------------------|------------------------------------|---|
| 1 | CHECK SPEEDOMETER OPERATION | |
| Does speedometer operate normally? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check speedometer and vehicle speed sensor circuit. Refer to EL-92. |

2 CHECK VEHICLE SPEED INPUT

1. Apply wheel chocks and jack up drive wheel.
2. Disconnect ASCD control unit harness connector.
3. Check voltage between control unit terminal 22 and ground with turning drive wheel slowly by hand.



Does voltage pointer deflect?

SEL263WA

Refer to wiring diagram in EL-153.

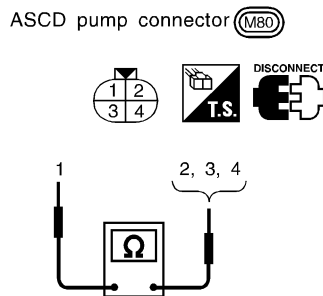
| | | |
|-----|---|--|
| Yes | ▶ | Vehicle speed sensor is OK. |
| No | ▶ | Check harness for open or short between ASCD control unit terminal 22 and combination meter terminal 32. |

ASCD PUMP CIRCUIT CHECK

NCEL0099S09

1 CHECK ASCD PUMP

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



| Terminals | | Resistance Ω |
|-----------|---|--------------|
| 1 | 2 | Approx. 65 |
| | 3 | Approx. 65 |
| | 4 | Approx. 3 |

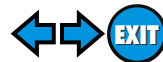
SEL262WA

Refer to wiring diagram in EL-151.

OK or NG

| | | |
|----|---|--------------------|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace ASCD pump. |


AUTOMATIC SPEED CONTROL DEVICE (ASCD)




Trouble Diagnoses (Cont'd)

2 CHECK ASCD PUMP CIRCUIT

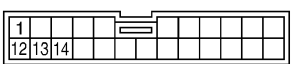
1. Disconnect ASCD control unit harness connector.
2. Check harness for open or short between ASCD control unit and ASCD pump.



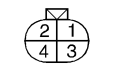
DISCONNECT
H.S.



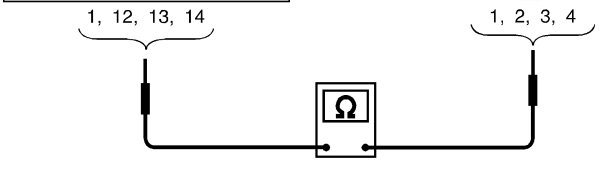
DISCONNECT
T.S.



ASCDC control unit connector (M19)



ASCDC pump connector (M80)



| Circuit | Terminal | |
|-------------------------|--------------------|------------|
| | ASCDC control unit | ASCDC pump |
| ASCDC pump power supply | 12 | 1 |
| Air valve | 13 | 2 |
| Release valve | 1 | 3 |
| Vacuum motor | 14 | 4 |

Continuity should exist.

SEL269WA

OK or NG

OK

▶

GO TO 3.

NG


▶

Repair harness.


3 CHECK ASCD PUMP POWER SUPPLY

1. Jack-up the drive wheels.
2. Maintain the conditions below.
 - Vehicle speed is more than 40 km/h (25 MPH).
 - Main switch (CRUISE lamp) is ON.
 - Set/coast switch (SET lamp) is ON.

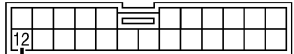
Check voltage between ASCDC control unit harness connector terminal 12 and ground.



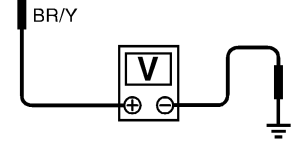
CONNECT
H.S.



CONNECT
T.S.



ASCDC control unit connector (M19)



Battery voltage should exist.

SEL381WA

OK or NG

OK

▶

ASCDC pump power supply is OK.

NG

▶

Replace ASCDC control unit.

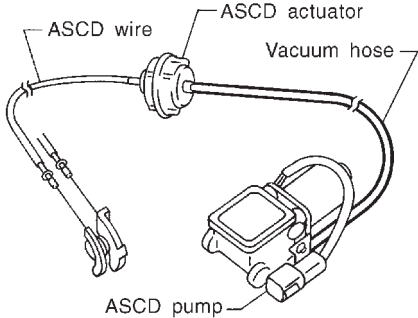
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

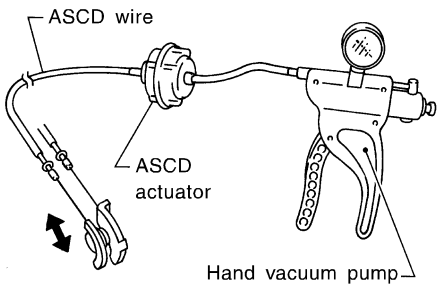
Trouble Diagnoses (Cont'd)

ASCD ACTUATOR/PUMP CHECK

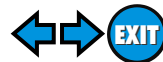
=NCEL0099S10

| | | |
|---|--------------------------|-------------------------|
| 1 | CHECK VACUUM HOSE | |
| <p>Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks or fracture.</p> <div style="text-align: center;">  </div> <p style="text-align: right;">MEL402G</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair or replace hose. |

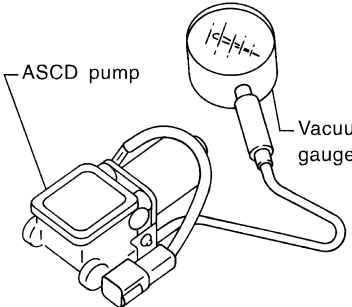
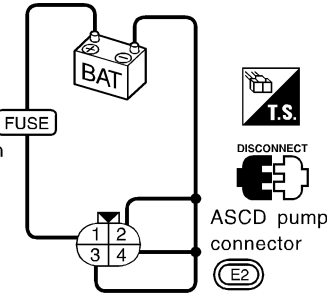
| | | |
|---|------------------------|---|
| 2 | CHECK ASCD WIRE | |
| <p>Check wire for improper installation, rust formation or breaks.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-165). |

| | | |
|--|----------------------------|------------------------|
| 3 | CHECK ASCD ACTUATOR | |
| <p>1. Disconnect vacuum hose from ASCD actuator. 2. Connect the hose of hand vacuum pump to ASCD actuator.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;">  </div> <div style="width: 55%;"> <p>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. Wait 10 seconds and check for decrease in vacuum pressure.</p> <p style="text-align: center;">Vacuum pressure decrease: Less than 2.7 kPa (0.028 kg/cm², 0.39 psi)</p> <p style="text-align: right;">SEL264W</p> <p style="text-align: center;">OK or NG</p> </div> </div> | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Replace ASCD actuator. |

AUTOMATIC SPEED CONTROL DEVICE (ASCD)



Trouble Diagnoses (Cont'd)

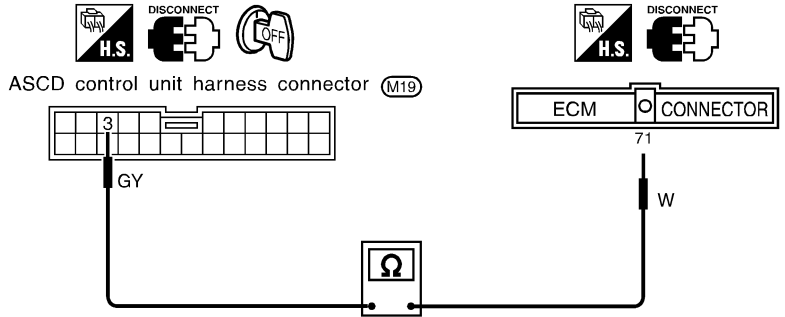
| 4 | CHECK ASCD PUMP | <p>1. Disconnect vacuum hose from ASCD pump and ASCD pump connector. 2. If necessary remove ASCD pump. 3. Connect vacuum gauge to ASCD pump. 4. Apply 12V direct current to ASCD pump and check operation.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  <p>ASCD pump Vacuum gauge</p> </div> <div style="text-align: center;">  <p>FUSE BAT T.S. DISCONNECT ASCD pump connector E2</p> </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">12V direct current supply terminals</th> <th rowspan="2">Operation</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td>Air valve</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Close</td> </tr> <tr> <td>Release valve</td> <td style="text-align: center;">3</td> <td style="text-align: center;">Close</td> </tr> <tr> <td>Vacuum motor</td> <td style="text-align: center;">4</td> <td style="text-align: center;">Operate</td> </tr> </tbody> </table> <p>A vacuum pressure of at least -40 kPa (-0.41 kg/cm², -5.8 psi) should be generated.</p> </div> </div> | | 12V direct current supply terminals | | Operation | (+) | (-) | Air valve | 1 | 2 | Close | Release valve | 3 | Close | Vacuum motor | 4 | Operate |
|---------------|-------------------------------------|--|---------|-------------------------------------|--|-----------|-----|-----|-----------|---|---|-------|---------------|---|-------|--------------|---|---------|
| | 12V direct current supply terminals | | | Operation | | | | | | | | | | | | | | |
| | (+) | (-) | | | | | | | | | | | | | | | | |
| Air valve | 1 | 2 | Close | | | | | | | | | | | | | | | |
| Release valve | | 3 | Close | | | | | | | | | | | | | | | |
| Vacuum motor | | 4 | Operate | | | | | | | | | | | | | | | |

SEL265W

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THROTTLE POSITION SENSOR SIGNAL CHECK

NCEL0099S11

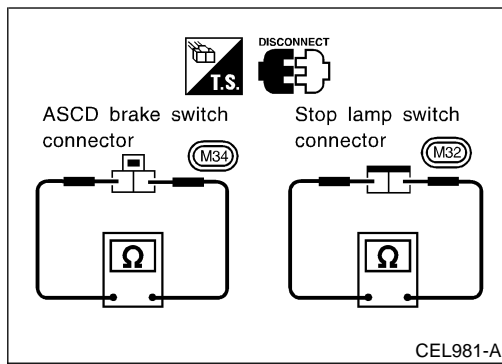
| | | |
|-----------------|--|---|
| 1 | CHECK THROTTLE POSITION SENSOR SIGNAL CIRCUIT | <p>1. Disconnect ECM harness connector and ASCD control unit harness connector. 2. Check continuity between ECM terminal 71 and ASCD control unit terminal 3.</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <p>DISCONNECT H.S. DISCONNECT OFF ASCD control unit harness connector (M19) GY ECM CONNECTOR 71 W Ω</p> </div> <div style="text-align: right; padding-right: 20px;"> <p>Continuity should exist.</p> </div> </div> <div style="text-align: right; margin-top: 10px;">SEL268WA</div> |
| OK or NG | | |
| OK | ▶ | Refer to "TROUBLE DIAGNOSIS FOR INTERMITTENT INCIDENT" in EC section. (EC-145) |
| NG | ▶ | Repair harness. |

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Electrical Component Inspection



Electrical Component Inspection

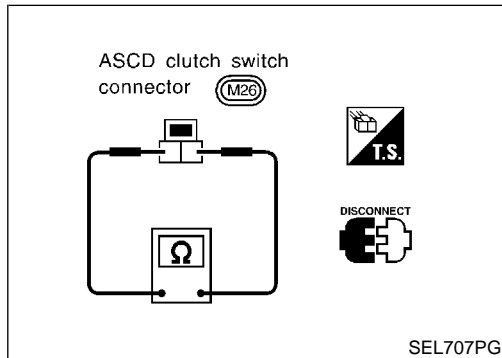
ASCD BRAKE SWITCH AND STOP LAMP SWITCH

=NCEL0100

NCEL0100S02

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

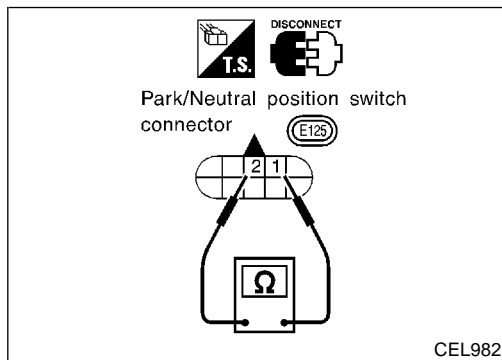
Check each switch after adjusting brake pedal — refer to BR-12, “BRAKE PEDAL AND BRACKET”.



ASCD CLUTCH SWITCH (FOR M/T MODELS)

NCEL0100S04

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



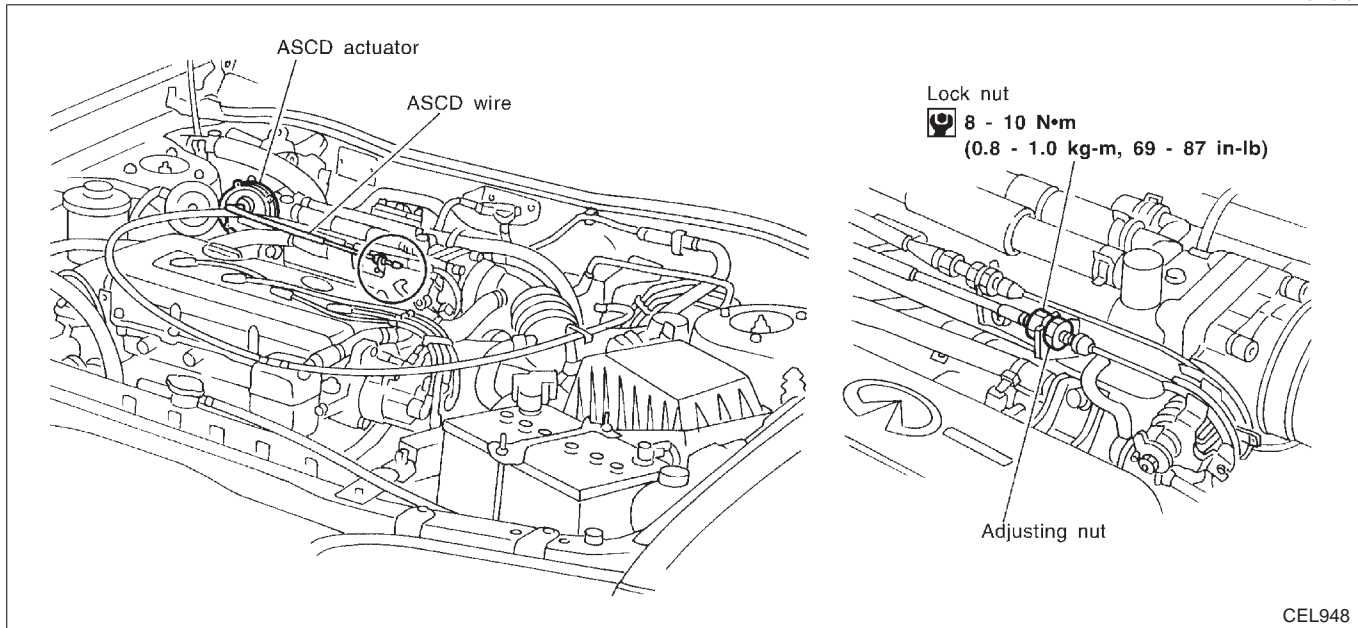
PARK/NEUTRAL POSITION SWITCH (FOR A/T MODELS)

NCEL0100S03

| A/T selector lever position | Continuity |
|-----------------------------|---------------------------|
| | Between terminals 1 and 2 |
| “P” | Yes |
| “N” | Yes |
| Except “P” and “N” | No |

ASCD Wire Adjustment

=NCEL0101

**CAUTION:**

- Be careful not to twist ASCD wire when removing it.
 - Do not tense ASCD wire excessively during adjustment.
- Adjust the tension of ASCD wire in the following manner.
1. Loosen lock nut and adjusting nut.
 2. Make sure that accelerator wire is properly adjusted. Refer to FE-3, "ACCELERATOR CONTROL SYSTEM".
 3. Tighten adjusting nut just until throttle drum starts to move.
 4. Loosen adjusting nut again 1/2 to 1 turn.
 5. Tighten lock nut.

GI

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System Description

NCEL0102

Power is supplied at all times

- from 30A fusible link (letter **d**, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to power window relay terminal 3 and
- to power window main switch terminal 7.

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to power window relay terminal 1.

Ground is supplied to power window relay terminal 2

- through body grounds M15, M71 and M76.

Then power window relay is energized and power is supplied

- through power window relay terminal 5
- to power window main switch terminal 11,
- to front power window sub-switch terminal 5 and
- to rear power window switch LH and RH terminal 5.

MANUAL OPERATION

NCEL0102S01

Front Door LH

NCEL0102S0101

Ground is supplied

- to power window main switch terminal 6
- through body grounds M15, M71 and M76.

WINDOW UP

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

- to front power window regulator LH terminal 3
- through power window main switch terminal 2.

Ground is supplied

- to front power window regulator LH terminal 1
- through power window main switch terminal 3.

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

WINDOW DOWN

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

- to front power window regulator LH terminal 1
- through power window main switch terminal 3.

Ground is supplied

- to front power window regulator LH terminal 3
- through power window main switch terminal 2.

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

Front Door RH

NCEL0102S0102

Ground is supplied

- to power window main switch terminal 6
- through body grounds M15, M71 and M76.

NOTE:

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

POWER WINDOW MAIN SWITCH OPERATION

Power is supplied

- through power window main switch 4 or 5
- to front power window switch (passenger side) 4 or 3.

The subsequent operation is the same as the power window switch operation.

POWER WINDOW SWITCH OPERATION

Power is supplied

- through front power window switch (passenger side) 2 or 1
- to front power window regulator (passenger side) 2 or 1.

Ground is supplied

- to front power window regulator (passenger side) 1 or 2
- through front power window switch (passenger side) 1 or 2
- to front power window switch (passenger side) 3 or 4
- through power window main switch 5 or 4.

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

Rear Door

Rear door windows will raise and lower in the same manner as front door RH window.

AUTO OPERATION

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

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

POWER WINDOW LOCK

The power window lock is designed to lock operation of all windows except for driver's door window.

When the lock switch is pressed to lock position, ground of the power window switches in the power window main switch is disconnected. This prevents the power window motors from operating.

RETAINED POWER OPERATION

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

- to power window relay terminal 1
- from smart entrance control unit terminal 5.

Ground is always supplied

- to power window relay terminal 2
- through body grounds.

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

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

INTERRUPTION DETECTION FUNCTION

CPU (combined with power window main switch) monitors the power window regulator motor operation and the power window position (full closed or other) for driver's power window by the signals from encoder and limit switch in front power window regulator (driver's side).

When CPU (combined with power window main switch) detects interruption during the following close operation in the driver's side door,

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

CPU (combined with power window main switch) controls driver's power window regulator motor for open and the power window will be lowered about 150 mm (5.91 in).

GI

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NCEL0102S0103

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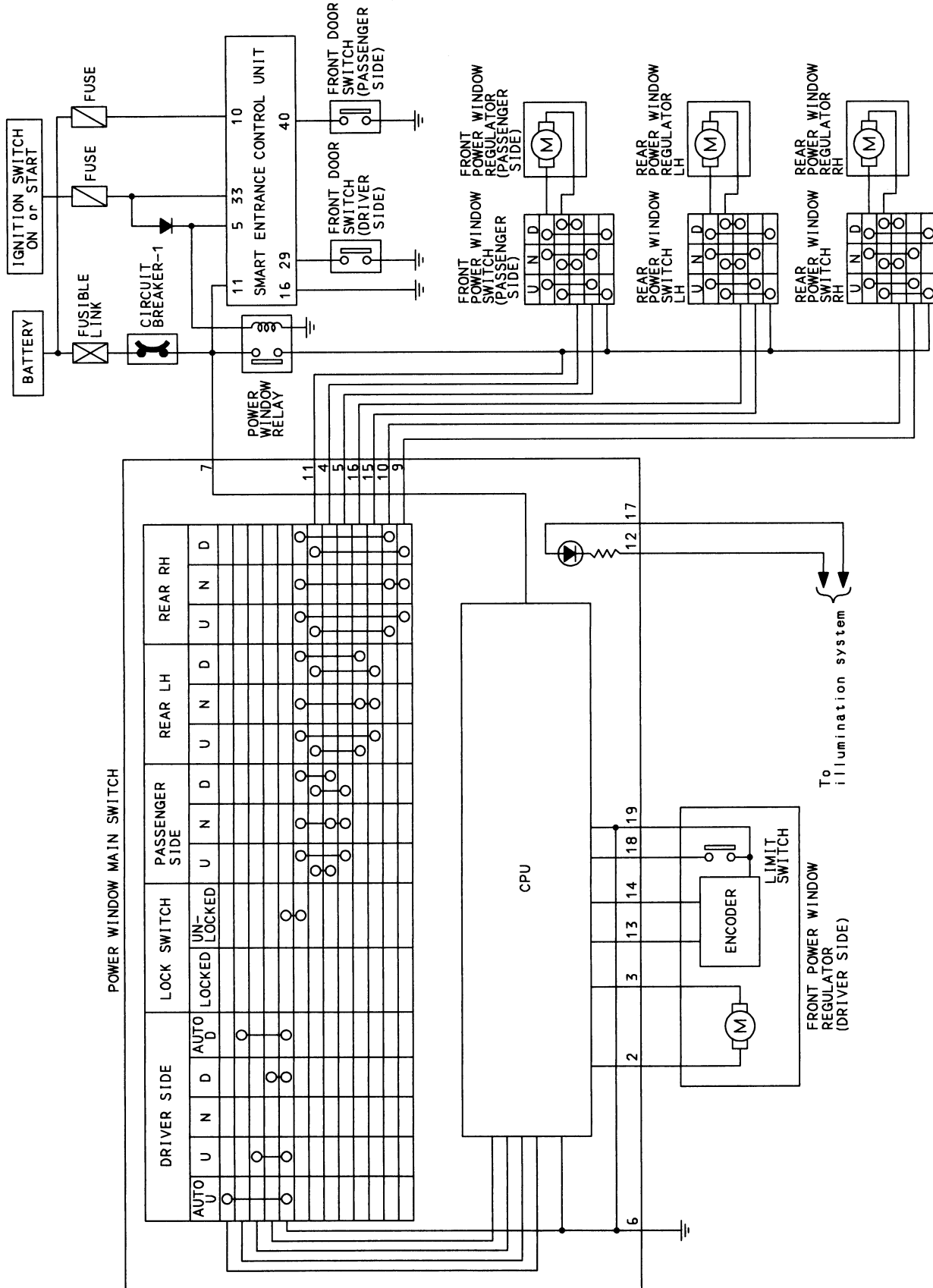
IDX

POWER WINDOW

Schematic

NCEL0103

Schematic



TEL525B

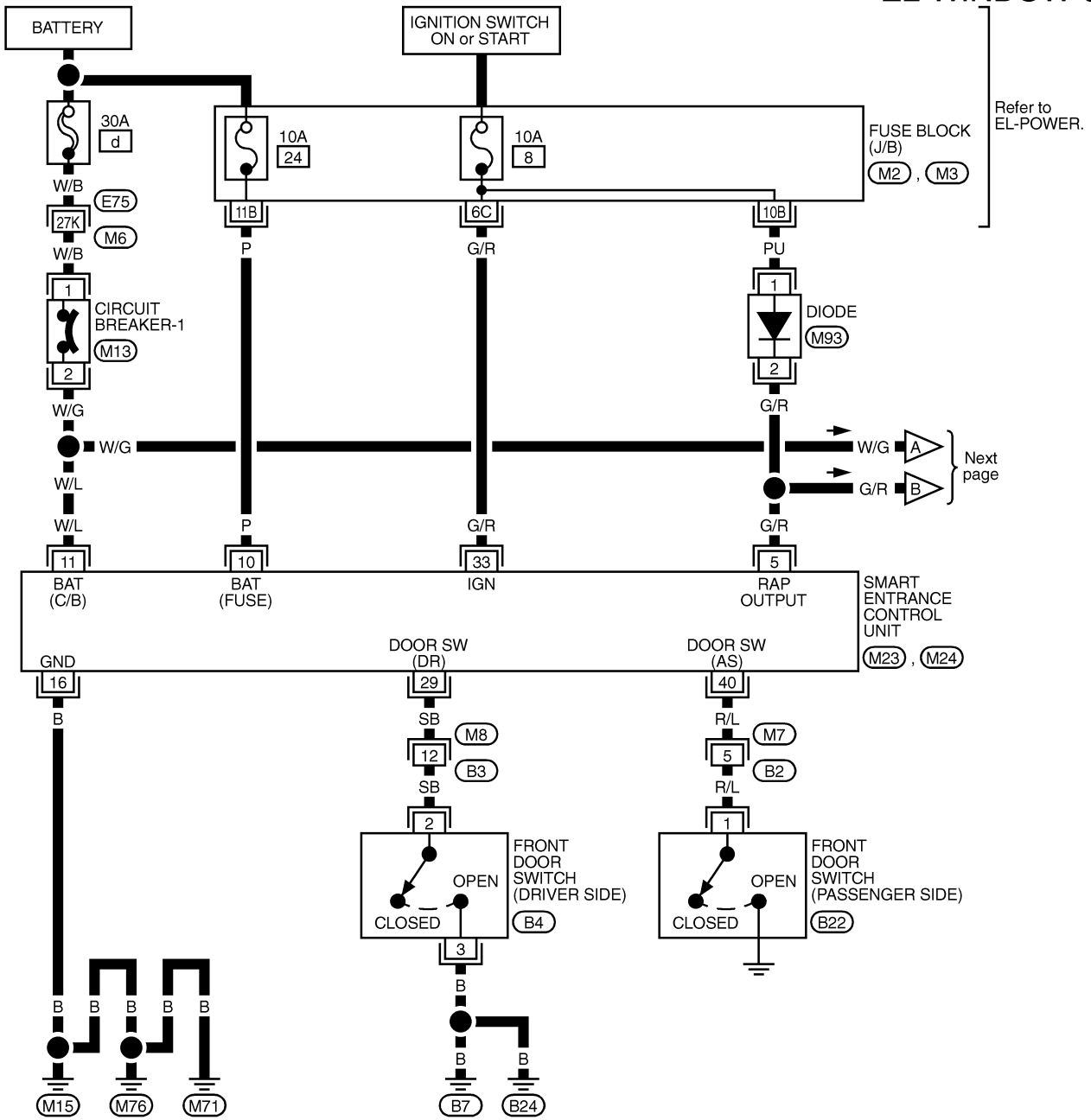
POWER WINDOW

Wiring Diagram — WINDOW —

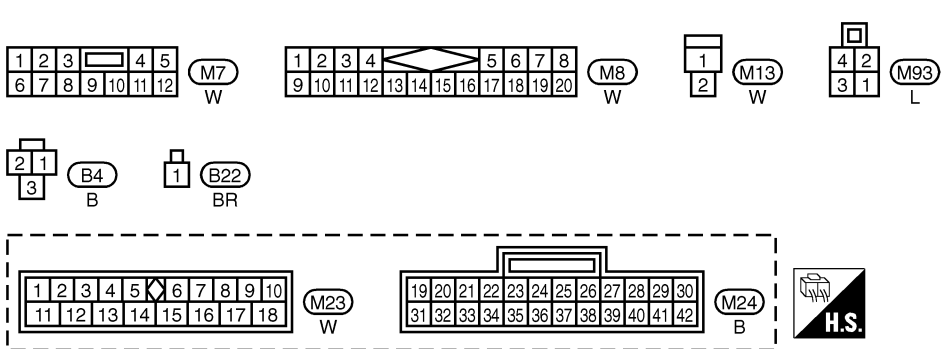
Wiring Diagram — WINDOW —

NCEL0104

EL-WINDOW-01



- GI
- MA
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- LC
- EC
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- AT
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- SU
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- ST
- RS
- BT
- HA
- SC
- EL
- IDX

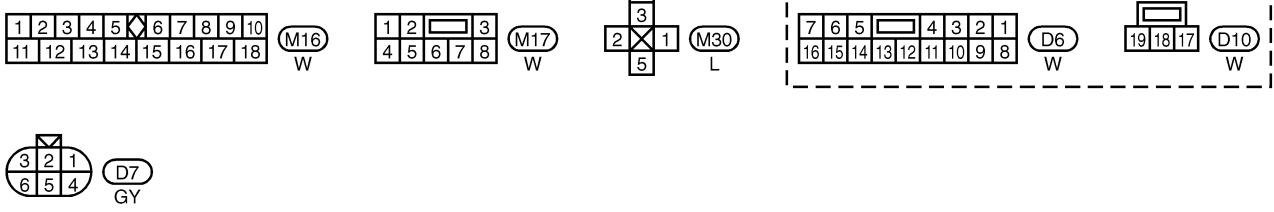
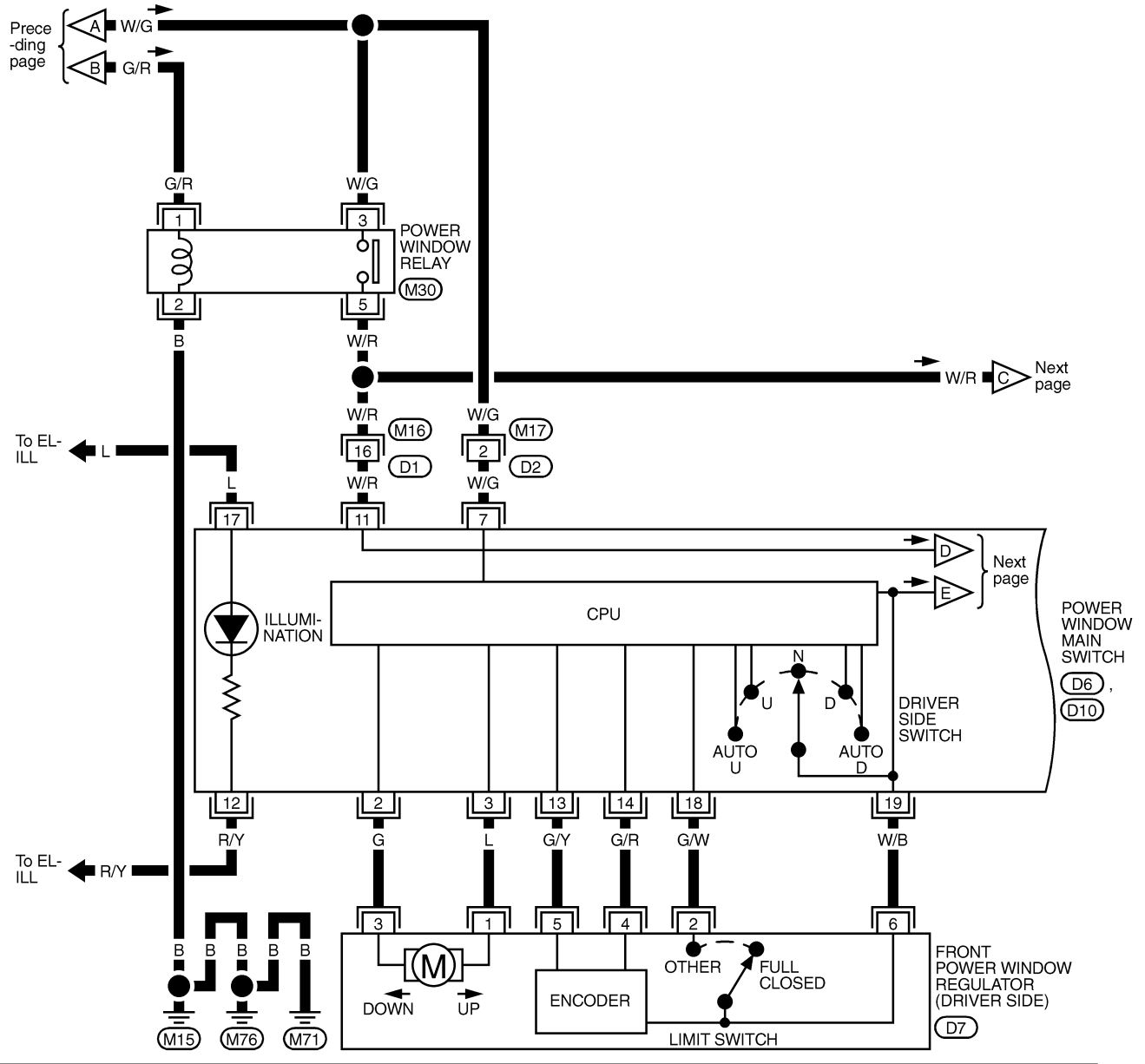


REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2 , M3) -FUSE BLOCK-JUNCTION BOX (J/B)

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

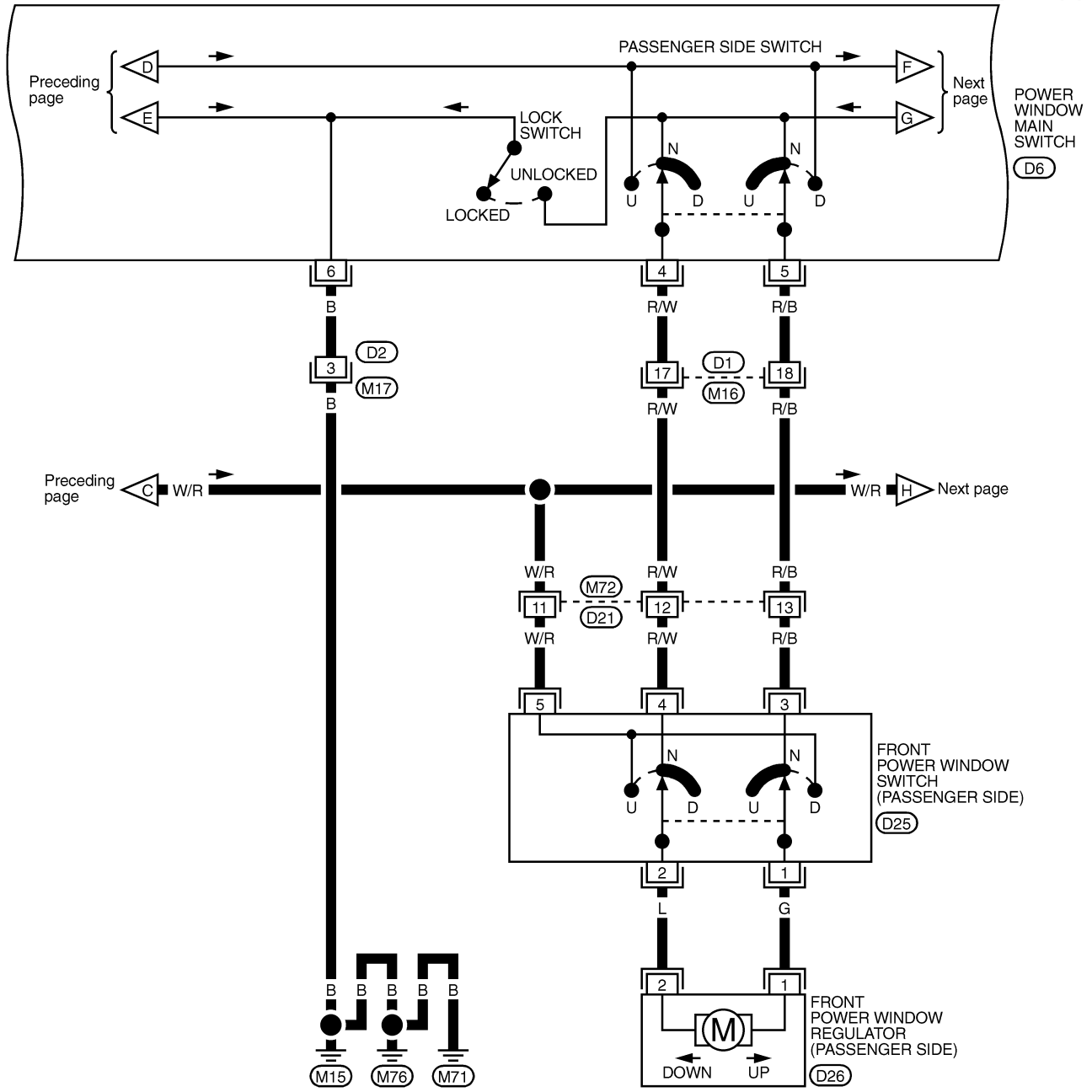
EL-WINDOW-02



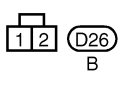
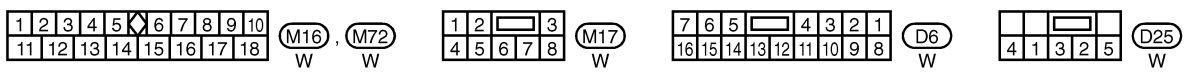
POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03



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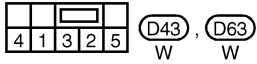
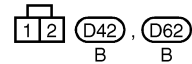
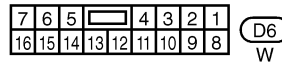
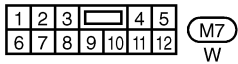
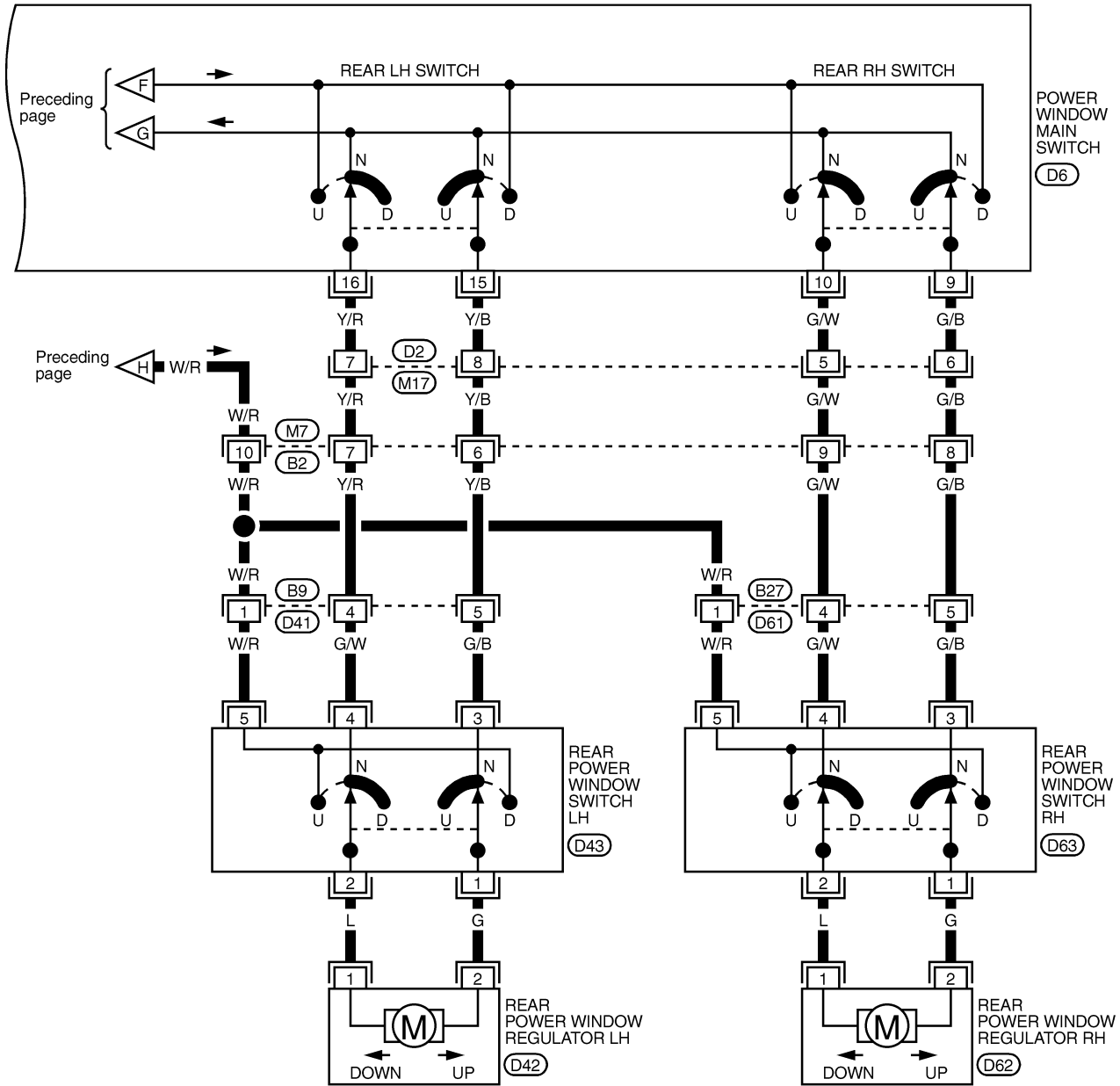
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TEL527B

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-04



TEL528B

Trouble Diagnoses

NCEL0105

| Symptom | Possible cause | Repair order |
|--|--|---|
| None of the power windows can be operated using any switch. | <ol style="list-style-type: none"> 10A fuse, 30A fusible link and M13 circuit breaker Power window main switch ground circuit Power window relay ground circuit Power window relay Open/short in power window main switch circuit Power window main switch | <ol style="list-style-type: none"> Check 10A fuse [No. 8, located in fuse block (J/B)], 30A fusible link (letter d, located in fuse and fusible link box) and M13 circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminals 1 and 3 of power window relay and terminal 7 of power window main switch. Check power window main switch ground circuit. Check power window relay ground circuit. Check power window relay. Check the wire between power window relay terminal 5 and power window main switch terminal 11 for open/short circuit. Check power window main switch. |
| Driver side power window cannot be operated but other windows can be operated. | <ol style="list-style-type: none"> Driver side power window regulator circuit Driver side power window regulator Power window main switch | <ol style="list-style-type: none"> Check harness between power window main switch and power window regulator for open or short circuit. Check driver side power window regulator. Check power window main switch. |
| Passenger power window cannot be operated. | <ol style="list-style-type: none"> Power window switches Passenger side power window regulators Power window main switch Power window circuit | <ol style="list-style-type: none"> Check power window switch. Check passenger side power window regulator. Check power window main switch. Check the following. <ol style="list-style-type: none"> Check harnesses between power window main switch and power window switch for open/short circuit. Check harnesses between power window switch and power window regulator for open/short circuit. |
| Passenger power window cannot be operated using power window main switch but can be operated by power window switch. | <ol style="list-style-type: none"> Power window main switch | <ol style="list-style-type: none"> Check power window main switch. |
| Driver side power window automatic operation does not function properly. | <ol style="list-style-type: none"> Power window main switch Encoder and limit switch | <ol style="list-style-type: none"> Check power window main switch. Check encoder and limit switch. (EL-174) |
| Retained power operation does not operate properly. | <ol style="list-style-type: none"> RAP signal circuit Driver or passenger side door switch circuit Smart entrance control unit | <ol style="list-style-type: none"> Check harness between power window relay terminal 1 and smart entrance control unit terminal 5 for open or short circuit. Check the following: <ol style="list-style-type: none"> Harness between smart entrance control unit and driver or passenger side door switch for open or short circuit Driver or passenger side door switch ground circuit Driver or passenger side door switch. Check smart entrance control unit. (EL-247) |

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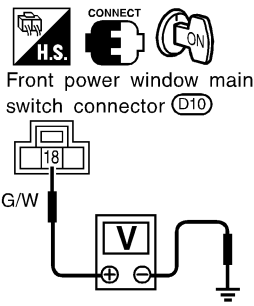
POWER WINDOW

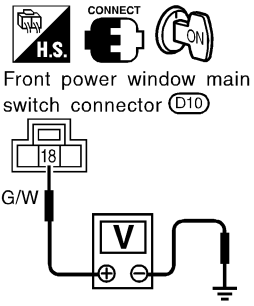
Trouble Diagnoses (Cont'd)

ENCODER AND LIMIT SWITCH CHECK

=NCEL0105S01

| | | |
|--|--|---|
| 1 | CHECK DOOR WINDOW SLIDE MECHANISM | |
| <p>Check the following.</p> <ul style="list-style-type: none"> ● Obstacles in window, glass molding, etc. ● Worn or deformed glass molding ● Door sash tilted too far inward or outward ● Door window regulator <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Remove obstacles or repair door window slide mechanism. |

| | | |
|---|---|-----------------------------------|
| 2 | CHECK POWER SUPPLY TO LIMIT SWITCH | |
| <p>1. Disconnect front power window regulator (driver side) connector. 2. Check voltage between power window main switch terminal 18 and ground.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Voltage: 5V</p> </div> </div> <p style="text-align: right;">SEL179X</p> <p>NOTE: Check voltage when front power window regulator (driver side) harness connector is disconnected.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace power window main switch. |

| 3 | CHECK LIMIT SWITCH OPERATION | | | | | | | | | | |
|--|--|---------------|--------------|-----------|---------------|----|--|-----------|--|-----------------|-----------|
| <p>1. Connect front power window regulator (driver side) connector. 2. Check voltage between power window main switch terminal 18 and ground during power window closing operation.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th style="text-align: center;">Terminal No.</th> <th style="text-align: center;">Condition</th> <th style="text-align: center;">Voltage (DCV)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">18</td> <td>Approx. 15 mm (0.59 in) below the full closed position to full closed position</td> <td style="text-align: center;">Approx. 5</td> </tr> <tr> <td></td> <td>Other positions</td> <td style="text-align: center;">Approx. 0</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL181X</p> <p style="text-align: center;">OK or NG</p> | | | Terminal No. | Condition | Voltage (DCV) | 18 | Approx. 15 mm (0.59 in) below the full closed position to full closed position | Approx. 5 | | Other positions | Approx. 0 |
| Terminal No. | Condition | Voltage (DCV) | | | | | | | | | |
| 18 | Approx. 15 mm (0.59 in) below the full closed position to full closed position | Approx. 5 | | | | | | | | | |
| | Other positions | Approx. 0 | | | | | | | | | |
| OK | ▶ | GO TO 5. | | | | | | | | | |
| NG | ▶ | GO TO 4. | | | | | | | | | |

POWER WINDOW

Trouble Diagnoses (Cont'd)

| 4 | RESET LIMIT SWITCH | | | | | | | | | |
|--|--|---|--------------|-----------|---------------|----|--|-----------|-----------------|-----------|
| <p>Reset limit switch. Refer to BT-19, "Front Door Glass Limit Switch Reset". Then check voltage between power window main switch terminal 18 and ground during power window closing operation at least ten times.</p> | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;"> <p>Front power window main switch connector (D10)</p> </div> <div style="width: 45%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Terminal No.</th> <th style="width: 55%;">Condition</th> <th style="width: 30%;">Voltage (DCV)</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="text-align: center;">18</td> <td>Approx. 15 mm (0.59 in) below the full closed position to full closed position</td> <td style="text-align: center;">Approx. 5</td> </tr> <tr> <td>Other positions</td> <td style="text-align: center;">Approx. 0</td> </tr> </tbody> </table> </div> </div> | | | Terminal No. | Condition | Voltage (DCV) | 18 | Approx. 15 mm (0.59 in) below the full closed position to full closed position | Approx. 5 | Other positions | Approx. 0 |
| Terminal No. | Condition | Voltage (DCV) | | | | | | | | |
| 18 | Approx. 15 mm (0.59 in) below the full closed position to full closed position | Approx. 5 | | | | | | | | |
| | Other positions | Approx. 0 | | | | | | | | |
| SEL181X | | | | | | | | | | |
| OK or NG | | | | | | | | | | |
| OK | ▶ | GO TO 5. | | | | | | | | |
| NG | ▶ | Replace power window regulator motor (front driver side). | | | | | | | | |

| | | |
|--|----------------------|---|
| 5 | CHECK ENCODER | |
| <p>Measure voltage between power window main switch terminal 13 and ground with oscilloscope when power window is in automatic closing operation.</p> | | |
| <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;"> <p>Power window main switch connector (D6)</p> </div> <div style="width: 45%;"> <p>HI: Approx. 5V LO: Approx. 0V</p> </div> </div> | | |
| SEL182X | | |
| OK or NG | | |
| OK | ▶ | Replace power window main switch. |
| NG | ▶ | Replace power window regulator motor (front driver side). |

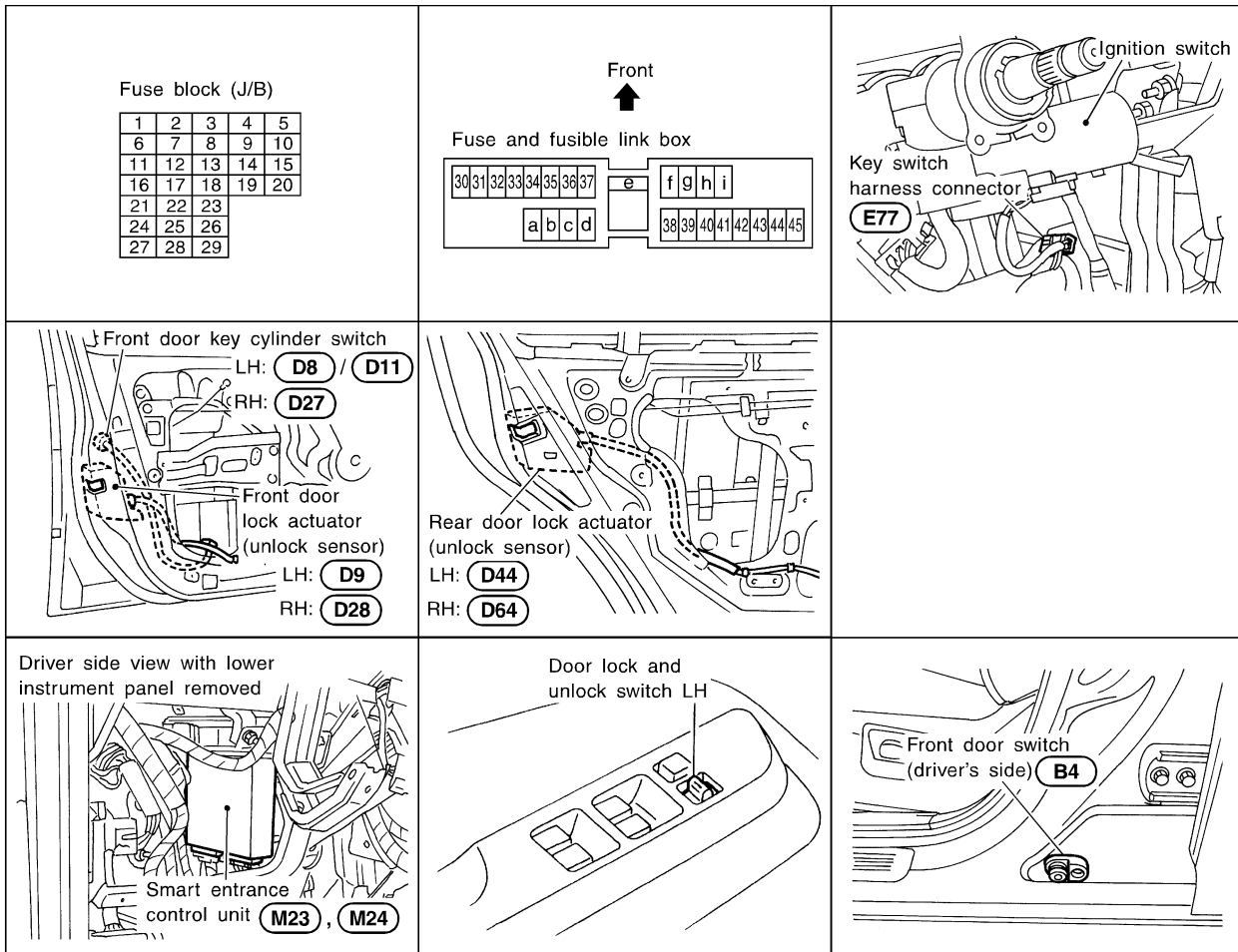
GI
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POWER DOOR LOCK

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0106



SEL837VA

System Description

NCEL0107

NCEL0107S04

OPERATION

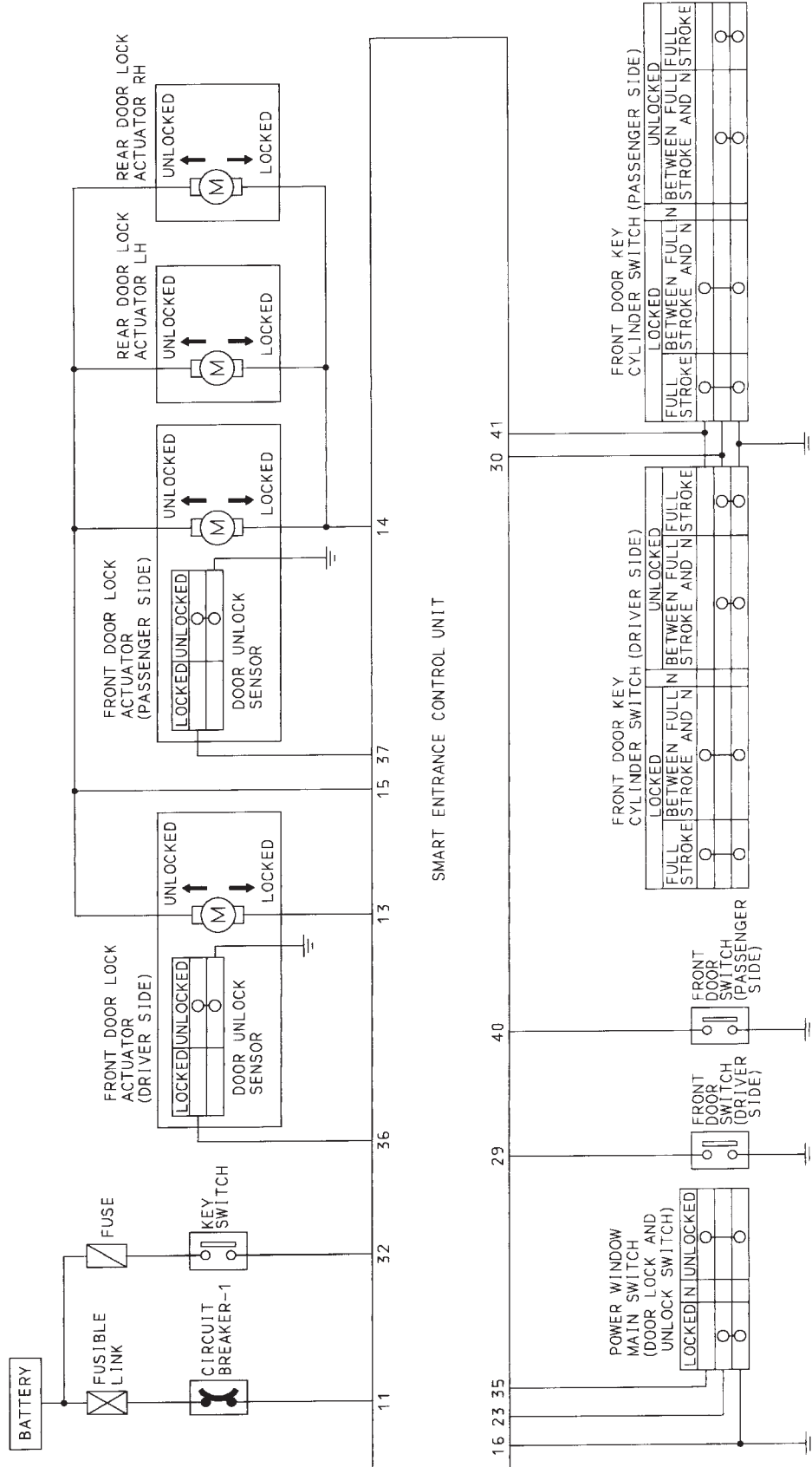
- The lock/unlock switch on driver's door trim can lock and unlock all doors.
- With the lock knob on front LH or RH door set to "LOCK", all doors are locked. (Signals from front door unlock sensor)
- With the door key inserted in the key cylinder on front LH or RH, turning it to "LOCK", will lock all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

POWER DOOR LOCK

Schematic

Schematic

NCEL0108



- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- AX
- SU
- BR
- ST
- RS
- BT
- HA
- SC
- EL**
- IDX

POWER DOOR LOCK

Wiring Diagram — D/LOCK —

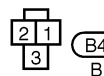
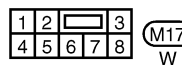
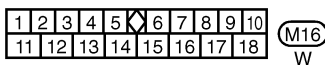
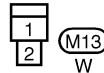
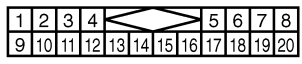
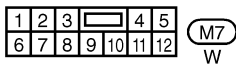
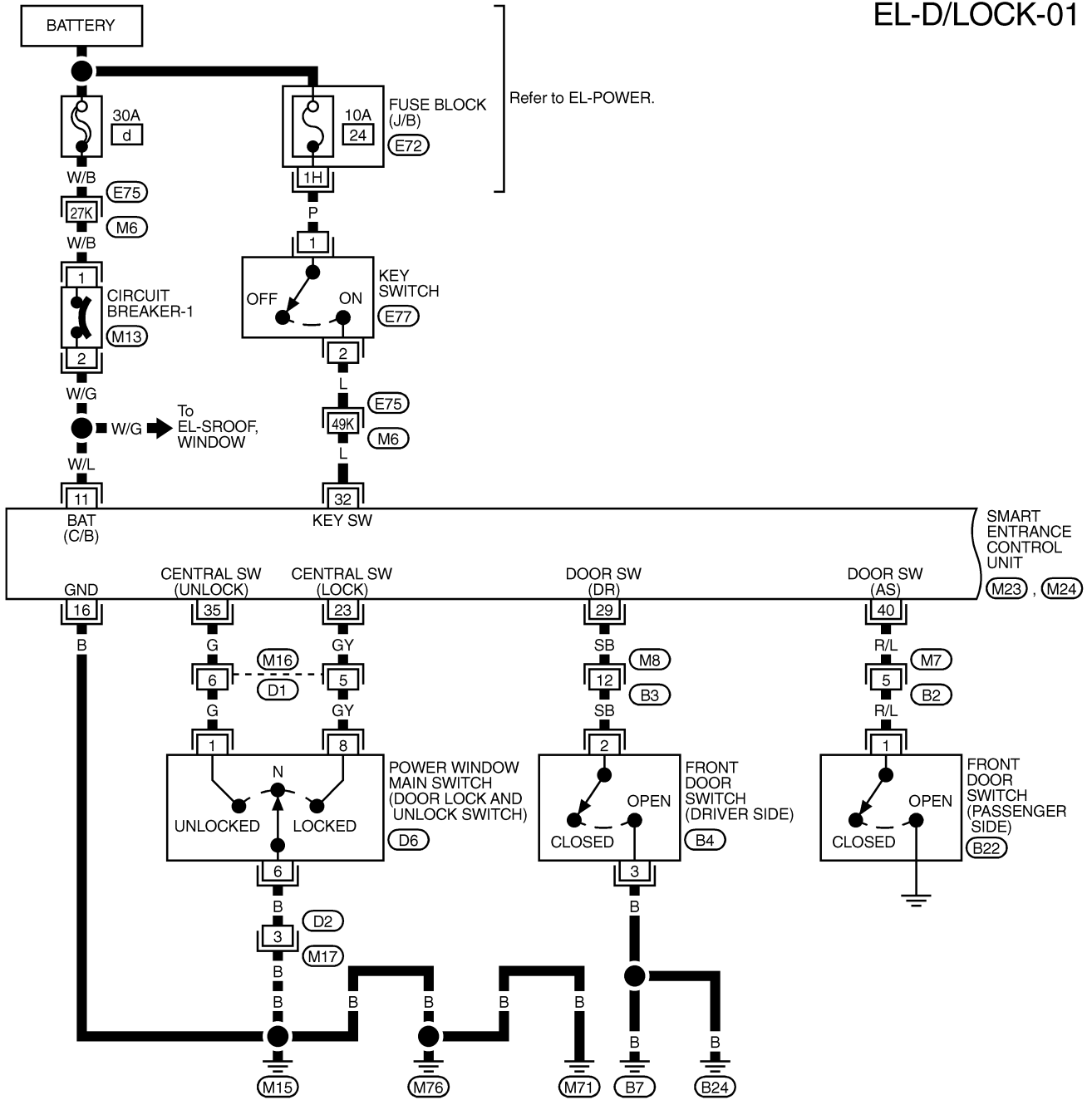
Wiring Diagram — D/LOCK —

NCEL0109

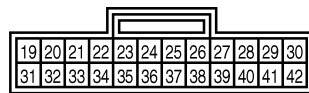
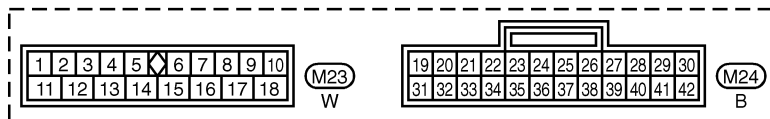
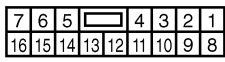
NCEL0109S01

FIG. 1

EL-D/LOCK-01



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (E72) -FUSE BLOCK-JUNCTION BOX (J/B)



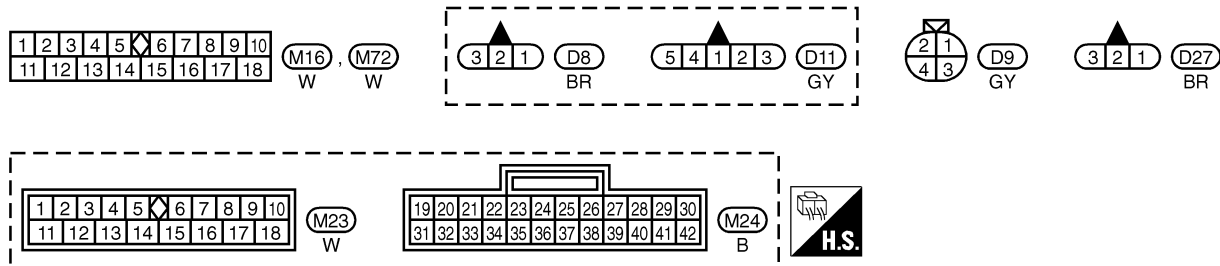
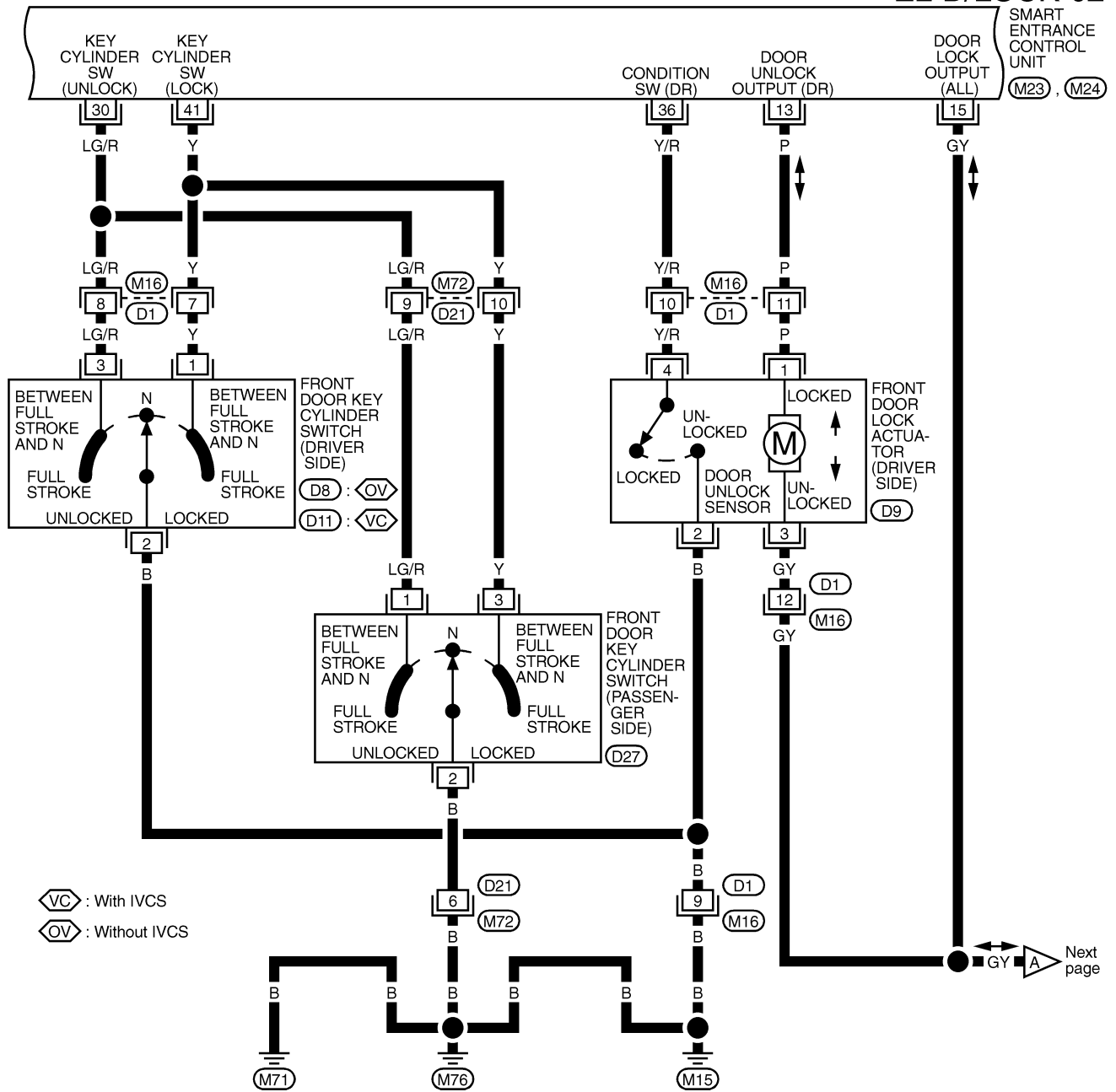
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 2

NCEL0109S02

EL-D/LOCK-02



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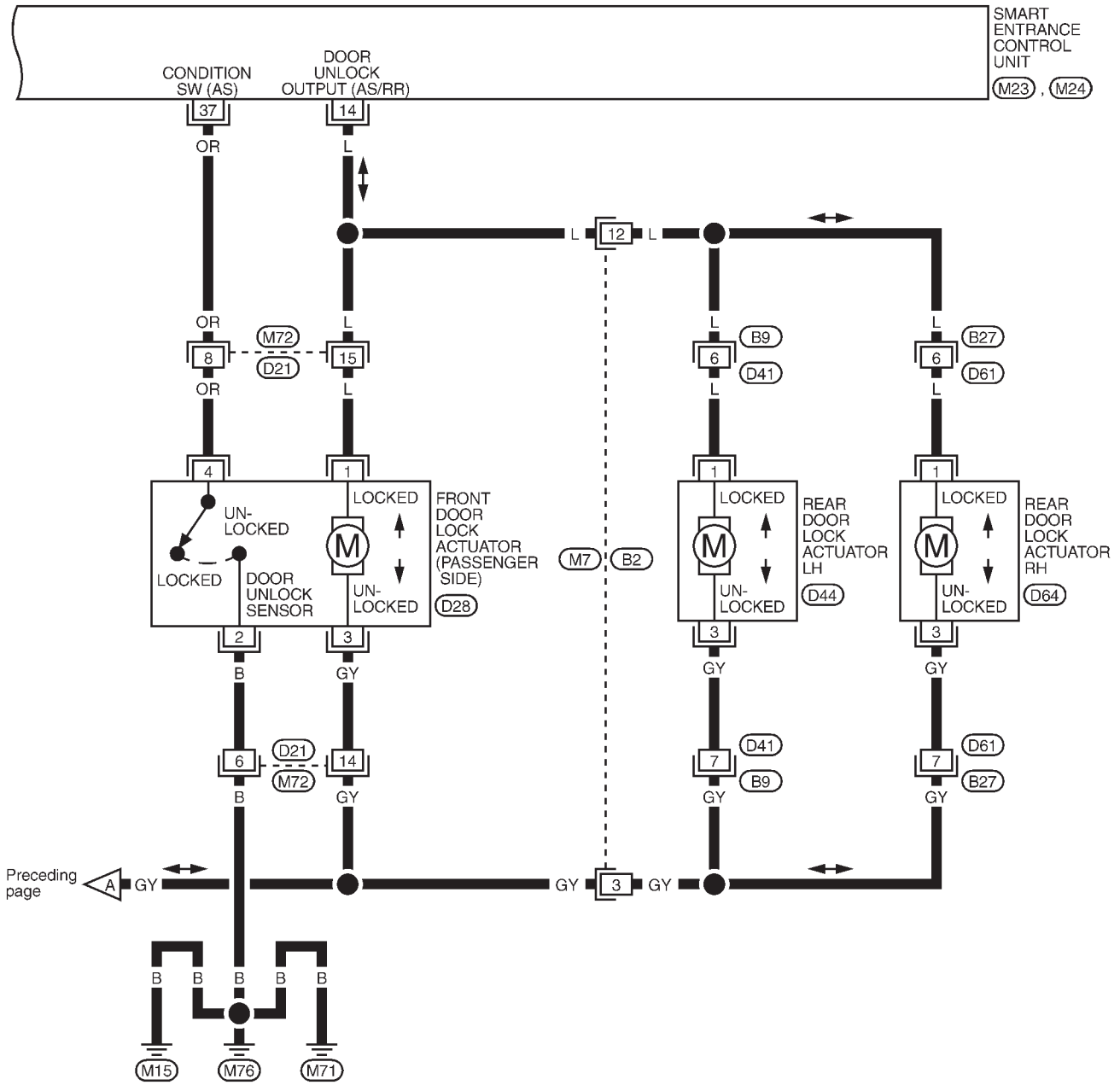
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 3

NCEL0109S03

EL-D/LOCK-03



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

(M7)
W

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

(M72)
W

| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | 8 | |

(B9)
W

(B27)
W

| | |
|---|---|
| 2 | 1 |
| 4 | 3 |

(D28)
GY

(D44)
GY

(D64)
GY

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

(M23)
W

| | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |

(M24)
B



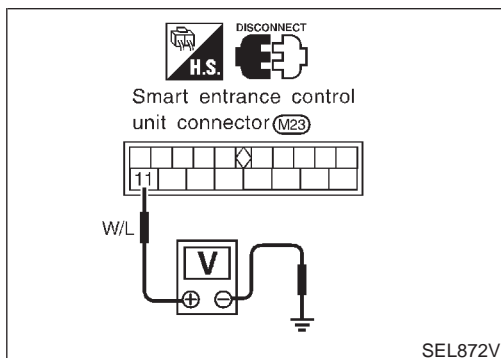
Trouble Diagnoses SYMPTOM CHART

NCEL0110

NCEL0110S01

| REFERENCE PAGE (EL-) | 181 | 182 | 183 | 184 | 185 | 187 | 188 |
|--|--|-------------------|---------------------------|-------------------------------|--------------------------------------|--------------------------------|--------------------------|
| SYMPTOM | MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK | DOOR SWITCH CHECK | KEY SWITCH (INSERT) CHECK | DOOR LOCK/UNLOCK SWITCH CHECK | FRONT DOOR KEY CYLINDER SWITCH CHECK | FRONT DOOR UNLOCK SENSOR CHECK | DOOR LOCK ACTUATOR CHECK |
| Key reminder door system does not operate properly. | X | X | X | | | X | X |
| Specific door lock actuator does not operate. | | | | | | | X |
| Power door lock does not operate with door lock and unlock switch on power window main switch. | X | | | X | | | |
| Power door lock does not operate with front door key cylinder operation. | X | | | | X | | |
| Power door lock does not operate with front door lock knob switch. | X | | | | | X | |

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MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK Main Power Supply Circuit Check

NCEL0110S02

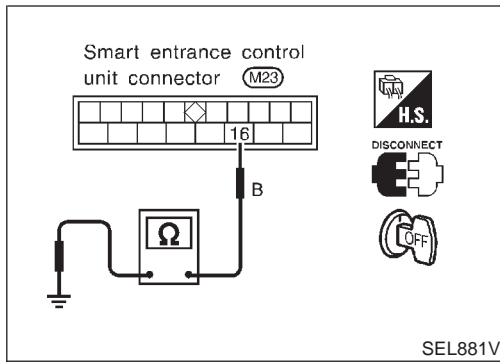
NCEL0110S0201

| Terminal | | Ignition switch | | |
|----------|--------|-----------------|-----------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 11 | Ground | Battery voltage | Battery voltage | Battery voltage |

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)



Ground Circuit Check

NCEL0110S0202

| Terminals | Continuity |
|-------------|------------|
| 16 - Ground | Yes |

DOOR SWITCH CHECK

NCEL0110S05

1 CHECK DOOR SWITCHES INPUT SIGNAL

Check voltage between control unit terminals 29 or 40 and ground.

Smart entrance control unit connector (M24)

29

40

SB

R/L

V

H.S. CONNECT

OFF

| | Terminals | | Condition | Voltage [V] |
|----------------------|-----------|--------|-----------|-------------|
| | (+) | (-) | | |
| Front LH door switch | 29 | Ground | Open | 0 |
| | | | Closed | Approx. 12 |
| Front RH door switch | 40 | Ground | Open | 0 |
| | | | Closed | Approx. 12 |

Refer to wiring diagram in EL-178.

SEL186X

OK or NG

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

2 CHECK DOOR SWITCHES

Check continuity between door switch terminals.

T.S. DISCONNECT

Door switch connector Front LH: (B4)

2

3

Ω

T.S. DISCONNECT

Door switch connector Front RH: (B22)

1

Ω

| | Terminals | Condition | Continuity |
|----------------------|------------|-----------|------------|
| Front LH door switch | 2 - 3 | Closed | No |
| | | Open | Yes |
| Front RH door switch | 1 - ground | Closed | No |
| | | Open | Yes |

SEL187X

OK or NG

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

KEY SWITCH (INSERT) CHECK

=NCEL0110S06

| | | | |
|----------|--------------------------------------|--|--|
| 1 | CHECK KEY SWITCH INPUT SIGNAL | <p>Check voltage between control unit terminal 32 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL873V</p> <p>Refer to wiring diagram in EL-178.</p> <p>Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is withdrawn. 0</p> <p style="text-align: center;">OK or NG</p> | GI MA EM LC EC FE CL MT |
| OK | ▶ | Key switch is OK. | |
| NG | ▶ | GO TO 2. | |

| | | | |
|----------|----------------------------------|--|--|
| 2 | CHECK KEY SWITCH (INSERT) | <p>Check continuity between terminals 1 and 2.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL784V</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> | AT AX SU BR ST RS BT HA SC |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 24, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between control unit and key switch | |
| NG | ▶ | Replace key switch. | |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

=NCEL0110S03

1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

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

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

MTBL0153

Smart entrance control unit connector (M24)

Refer to wiring diagram in EL-178.

SEL875V

OK or NG

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

2 CHECK DOOR LOCK/UNLOCK SWITCH

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

| Condition | Terminals | | |
|-----------|---------------|---|---|
| | 6 | 8 | 1 |
| Unlock | ○ | ○ | ○ |
| N | No continuity | | |
| Lock | ○ | ○ | ○ |

SEL670W

OK or NG

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

FRONT DOOR KEY CYLINDER SWITCH CHECK

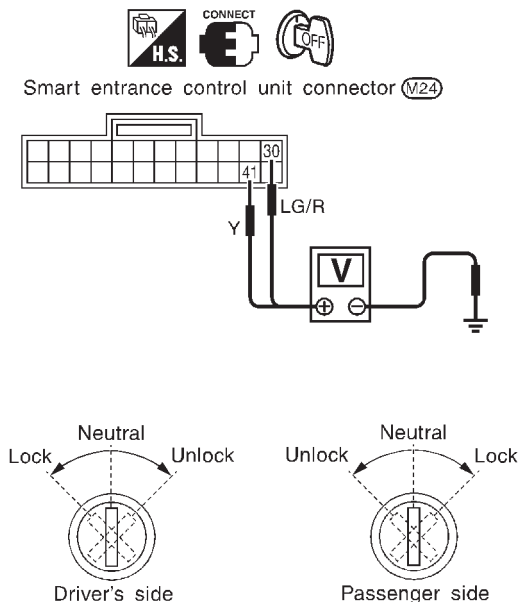
=NCEL0110S07

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

Check voltage between control unit terminals 30 or 41 and ground.

| Terminals | | Key position | Voltage [V] |
|-----------|--------|--------------|-------------|
| (+) | (-) | | |
| 41 | Ground | Neutral | Approx. 12 |
| | | Lock | 0 |
| 30 | Ground | Neutral | Approx. 12 |
| | | Unlock | 0 |

MTBL0155



Refer to wiring diagram in EL-179.

SEL878V

OK or NG

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

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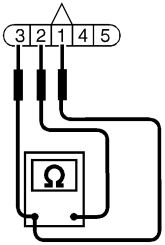
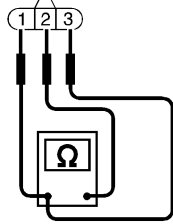
SC

EL

IDX

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

| 2 | CHECK DOOR KEY CYLINDER SWITCH | | | | | | | | | | | | | | | |
|--|---|------------|--------------|------------|-----------|---------|----|-----------|--------|-----|-----------|---------|----|-----------|------|-----|
| <p>1. Disconnect door key cylinder switch connector. 2. Check continuity between door key cylinder switch terminals.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Door key cylinder switch connector</p> </div> <div style="text-align: center;"> <p>LH (With IVCS) : (D1)</p>  </div> <div style="text-align: center;"> <p>LH (Without IVCS) : (D8)</p> <p>RH : (D27)</p>  </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Terminals</th> <th>Key position</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td>LH: 3 - 2</td> <td>Neutral</td> <td>No</td> </tr> <tr> <td>RH: 1 - 2</td> <td>Unlock</td> <td>Yes</td> </tr> <tr> <td>LH: 1 - 2</td> <td>Neutral</td> <td>No</td> </tr> <tr> <td>RH: 3 - 2</td> <td>Lock</td> <td>Yes</td> </tr> </tbody> </table> </div> </div> <div style="margin-top: 10px;"> <p>① : Door lock switch terminal (LH) Door unlock switch terminal (RH)</p> <p>② : Ground terminal</p> <p>③ : Door unlock switch terminal (LH) Door lock switch terminal (RH)</p> </div> <div style="text-align: right; margin-top: 10px;"> <p>SEL671W</p> </div> | | Terminals | Key position | Continuity | LH: 3 - 2 | Neutral | No | RH: 1 - 2 | Unlock | Yes | LH: 1 - 2 | Neutral | No | RH: 3 - 2 | Lock | Yes |
| Terminals | Key position | Continuity | | | | | | | | | | | | | | |
| LH: 3 - 2 | Neutral | No | | | | | | | | | | | | | | |
| RH: 1 - 2 | Unlock | Yes | | | | | | | | | | | | | | |
| LH: 1 - 2 | Neutral | No | | | | | | | | | | | | | | |
| RH: 3 - 2 | Lock | Yes | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | | | |
| OK | <p>▶ Check the following.</p> <ul style="list-style-type: none"> ● Door key cylinder switch ground circuit ● Harness for open or short between control unit and door key cylinder switch | | | | | | | | | | | | | | | |
| NG | <p>▶ Replace door key cylinder switch.</p> | | | | | | | | | | | | | | | |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

FRONT DOOR UNLOCK SENSOR CHECK

=NCEL0110S09

| 1 | CHECK DOOR UNLOCK SENSOR INPUT SIGNAL | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---------------------------|----------|------------|-------------|-----------|-------------|-----|-----|---------------|----|--------|--------|------------|----------|---|---------------|----|--------|--------|------------|----------|---|
| Check voltage between control unit terminals 36 or 37 and ground. | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminals</th> <th rowspan="2">Condition</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front LH door</td> <td rowspan="2">36</td> <td rowspan="2">Ground</td> <td>Locked</td> <td>Approx. 12</td> </tr> <tr> <td>Unlocked</td> <td>0</td> </tr> <tr> <td rowspan="2">Front RH door</td> <td rowspan="2">37</td> <td rowspan="2">Ground</td> <td>Locked</td> <td>Approx. 12</td> </tr> <tr> <td>Unlocked</td> <td>0</td> </tr> </tbody> </table> | | | | Terminals | | Condition | Voltage [V] | (+) | (-) | Front LH door | 36 | Ground | Locked | Approx. 12 | Unlocked | 0 | Front RH door | 37 | Ground | Locked | Approx. 12 | Unlocked | 0 |
| | Terminals | | | Condition | Voltage [V] | | | | | | | | | | | | | | | | | | |
| | (+) | (-) | | | | | | | | | | | | | | | | | | | | | |
| Front LH door | 36 | Ground | Locked | Approx. 12 | | | | | | | | | | | | | | | | | | | |
| | | | Unlocked | 0 | | | | | | | | | | | | | | | | | | | |
| Front RH door | 37 | Ground | Locked | Approx. 12 | | | | | | | | | | | | | | | | | | | |
| | | | Unlocked | 0 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Refer to wiring diagram in EL-179, 180.</p> <p>OK or NG</p> | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | Door unlock sensor is OK. | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ | GO TO 2. | | | | | | | | | | | | | | | | | | | | | |

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| | | |
|--|---------------------------------|---|
| 2 | CHECK DOOR UNLOCK SENSOR | |
| <ol style="list-style-type: none"> Disconnect door unlock sensor connector. Check continuity between door unlock sensor terminals 4 and 2. | | |
| <p>Door lock actuator connectors</p> <p>Front LH : (D9)</p> <p>Front RH : (D28)</p> | | |
| <p>Continuity:</p> <p>Condition: Locked No</p> <p>Condition: Unlocked Yes</p> <p>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 control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

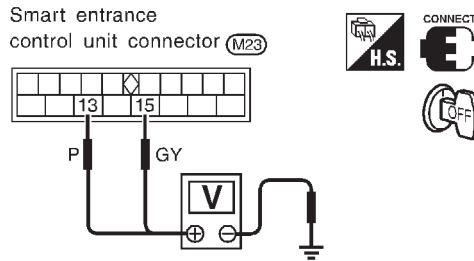
DOOR LOCK ACTUATOR CHECK

=NCEL0110S04

1 CHECK DOOR LOCK ACTUATOR CIRCUIT

Check voltage for door lock actuator.

- Door lock actuator front LH

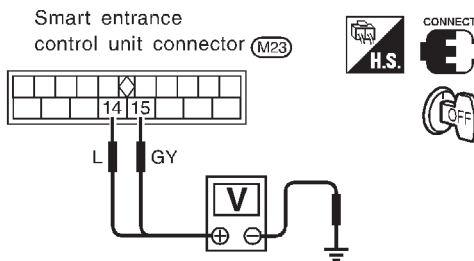


SEL879V

| Door lock/unlock switch condition | Terminal No. | | Voltage (V) |
|-----------------------------------|--------------|--------|-------------|
| | (+) | (-) | |
| Lock | 15 | ground | Approx. 12 |
| Unlock | 13 | ground | |

MTBL0192

- Door lock actuator front RH and rear



SEL880V

| Door lock/unlock switch condition | Terminal No. | | Voltage (V) |
|-----------------------------------|--------------|--------|-------------|
| | (+) | (-) | |
| Lock | 15 | ground | Approx. 12 |
| Unlock | 14 | ground | |

MTBL0193

Refer to wiring diagram in EL-179, 180.

OK or NG

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

| 2 | CHECK DOOR LOCK ACTUATOR |
|----|---|
| | <p>1. Disconnect door lock actuator connector. 2. Apply 12V direct current to door lock actuator and check operation.</p> <p>● Door lock actuator operation:</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-left: 20px;"> <p>Door lock actuator connector</p> <p>Front LH: (D9)</p> <p>Front RH: (D28)</p> <p>Rear LH: (D44)</p> <p>Rear RH: (D64)</p> </div> </div> <p>Terminals between (+): 3 and (-): 1 Unlocked → Locked</p> <p>Terminals between (+): 1 and (-): 3 Locked → Unlocked</p> <p style="text-align: center;">OK or NG</p> <p style="text-align: right;">SEL736UC</p> |
| OK | ▶ Check harness for open or short between control unit connector and door lock actuator. |
| NG | ▶ Replace door lock actuator. |

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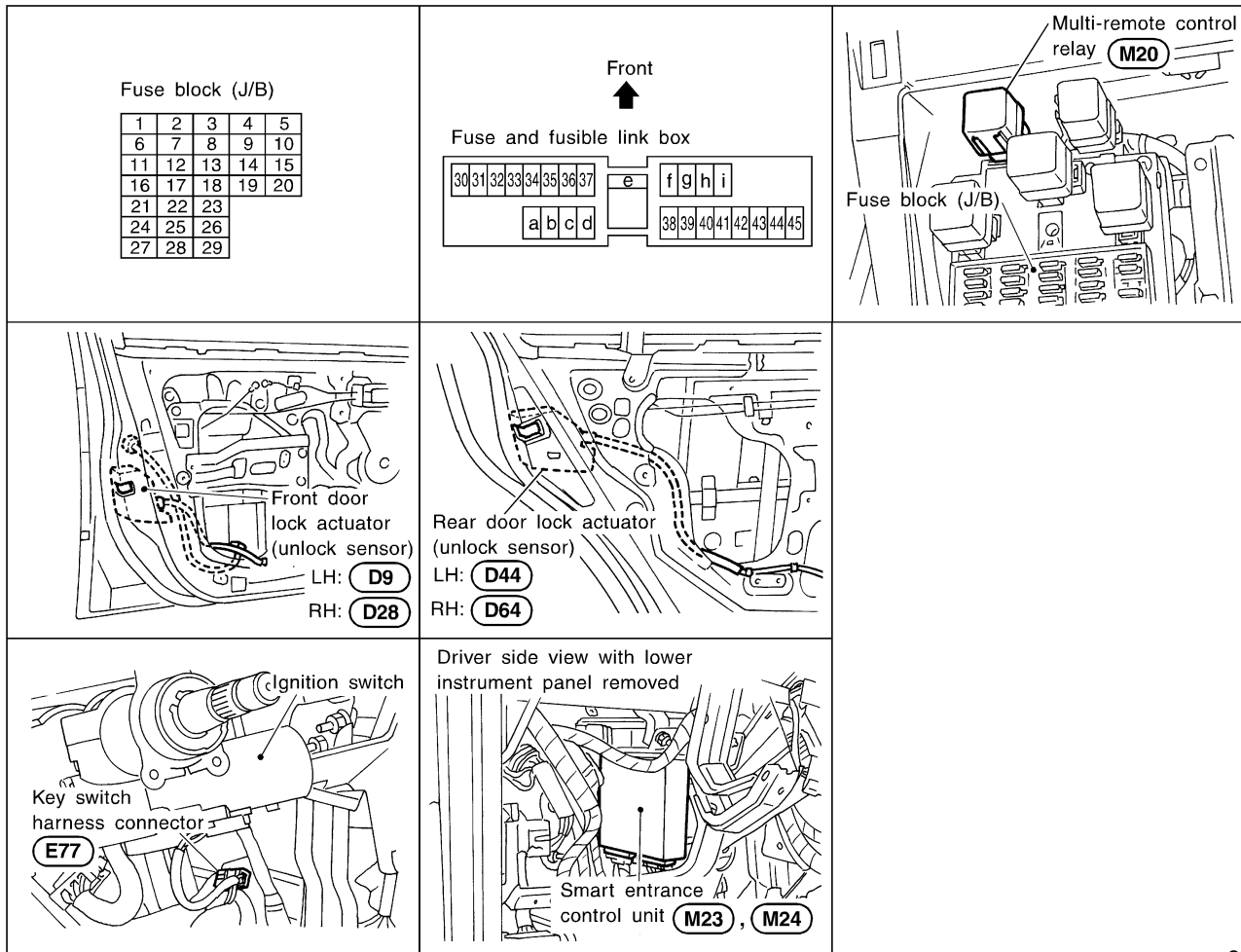
IDX

MULTI-REMOTE CONTROL SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0111



SEL188X

System Description

NCEL0112

NCEL0112S01

INPUTS

Power is supplied at all times

- to key switch terminal 1
- through 10A fuse [No. 24, located in the fuse block (J/B)].

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

- through key switch terminal 2
- to smart entrance control unit terminal 32.

When the front door switch (driver side) is OPEN, ground is supplied

- to smart entrance control unit terminal 29
- through front door switch (driver side) terminal 2
- to front door switch (driver side) terminal 3
- through body grounds B7 and B24.

When the front door switch (passenger side) is OPEN, ground is supplied

- to smart entrance control unit terminal 40
- through front door switch (passenger side) terminal 1
- through the front door switch RH case ground.

When the rear door switch is OPEN, ground is supplied

- to smart entrance control unit terminal 28
- through each door switch case ground.

When door lock and unlock switch is LOCKED, ground is supplied

- to smart entrance control unit terminal 23
- through door lock and unlock switch terminals 8 and 6
- through body grounds M15, M71 and M76.

GI

When door lock and unlock switch is UNLOCKED, ground is supplied

- to smart entrance control unit terminal 35
- through door lock and unlock switch terminals 1 and 6
- through body grounds M15, M71 and M76.

MA

EM

When the front door lock actuator (driver side) (door unlock sensor) is UNLOCKED, ground is supplied

- to smart entrance control unit terminal 36
- through door lock actuator (driver side) (door unlock sensor) terminal 4
- to door lock actuator (driver side) (door unlock sensor) terminal 2
- through body grounds M15, M71 and M76.

LC

EC

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

FE

Then smart entrance control unit supplies power and ground to each door lock actuator.

The multi-remote control system controls operation of the

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

CL

MT

OPERATED PROCEDURE

Power Door Lock Operation

NCEL0112S02

AT

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

NCEL0112S0201

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

AX

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

SU

Hazard and Horn Reminder

NCEL0112S0204

Power is supplied at all times

- to multi-remote control relay terminals 1, 3 and 6
- through 15A fuse [No. 20, located in the fuse block (J/B)],
- to horn relay terminals 1 and 3
- through 10A fuse (No. 36, located in the fusible link and fuse box) and
- to horn relay terminal 6
- through 10A fuse (No. 41, located in the fusible link and fuse box).

BR

ST

RS

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

BT

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

HA

Multi-remote control relay and horn relay are now energized, and hazard warning lamp flashes and horn sounds as a reminder.

SC

The hazard and horn reminder has a horn chirp mode and a non-horn chirp mode.

Operating function of hazard and horn reminder

EL

| | Horn chirp mode | | Non-horn chirp mode | |
|------|---------------------------|------------|---------------------------|------------|
| | Hazard warning lamp flash | Horn sound | Hazard warning lamp flash | Horn sound |
| Lock | Twice | Once | Twice | — |

IDX

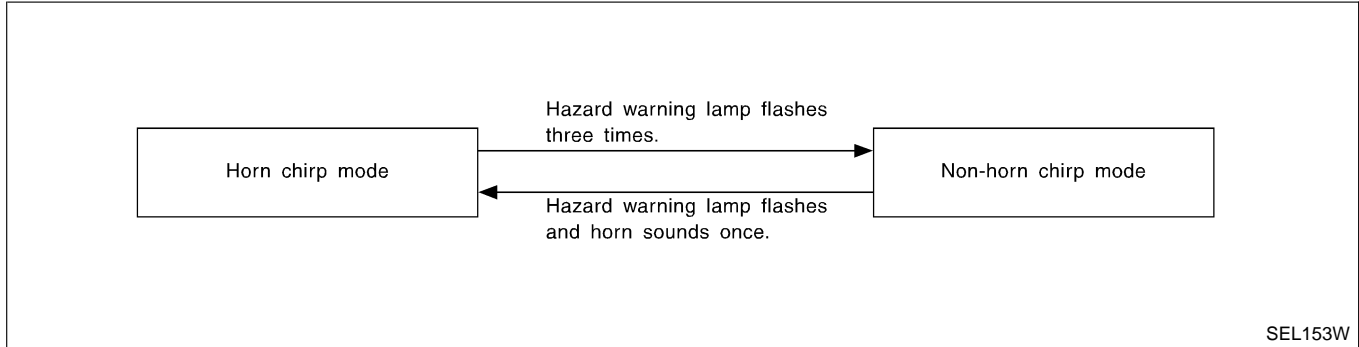
MULTI-REMOTE CONTROL SYSTEM

System Description (Cont'd)

| | Horn chirp mode | | Non-horn chirp mode | |
|--------|---------------------------|------------|---------------------------|------------|
| | Hazard warning lamp flash | Horn sound | Hazard warning lamp flash | Horn sound |
| Unlock | Once | — | — | — |

How to change hazard and horn reminder mode

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



Trunk Lid Opener Operation

NCEL0112S0205

Power is supplied at all times

- through 15A fuse [No. 15, located in the fuse block (J/B)]
- to trunk lid opener relay terminals 1 and 5.

When a TRUNK OPEN signal is sent from multi-remote controller with key switch OFF, ground is supplied

- to trunk lid opener relay terminal 2
- through smart entrance control unit terminal 12.

Trunk opener relay is now energized and trunk lid opener actuator opens trunk lid.

Interior Lamp Operation

NCEL0112S0202

When the following input signals are both supplied:

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

multi-remote control system turns on interior lamp (for 30 seconds) with input of UNLOCK signal from remote controller.

For detailed description, refer to "SMART ENTRANCE CONTROL UNIT" (EL-243).

Panic Alarm Operation

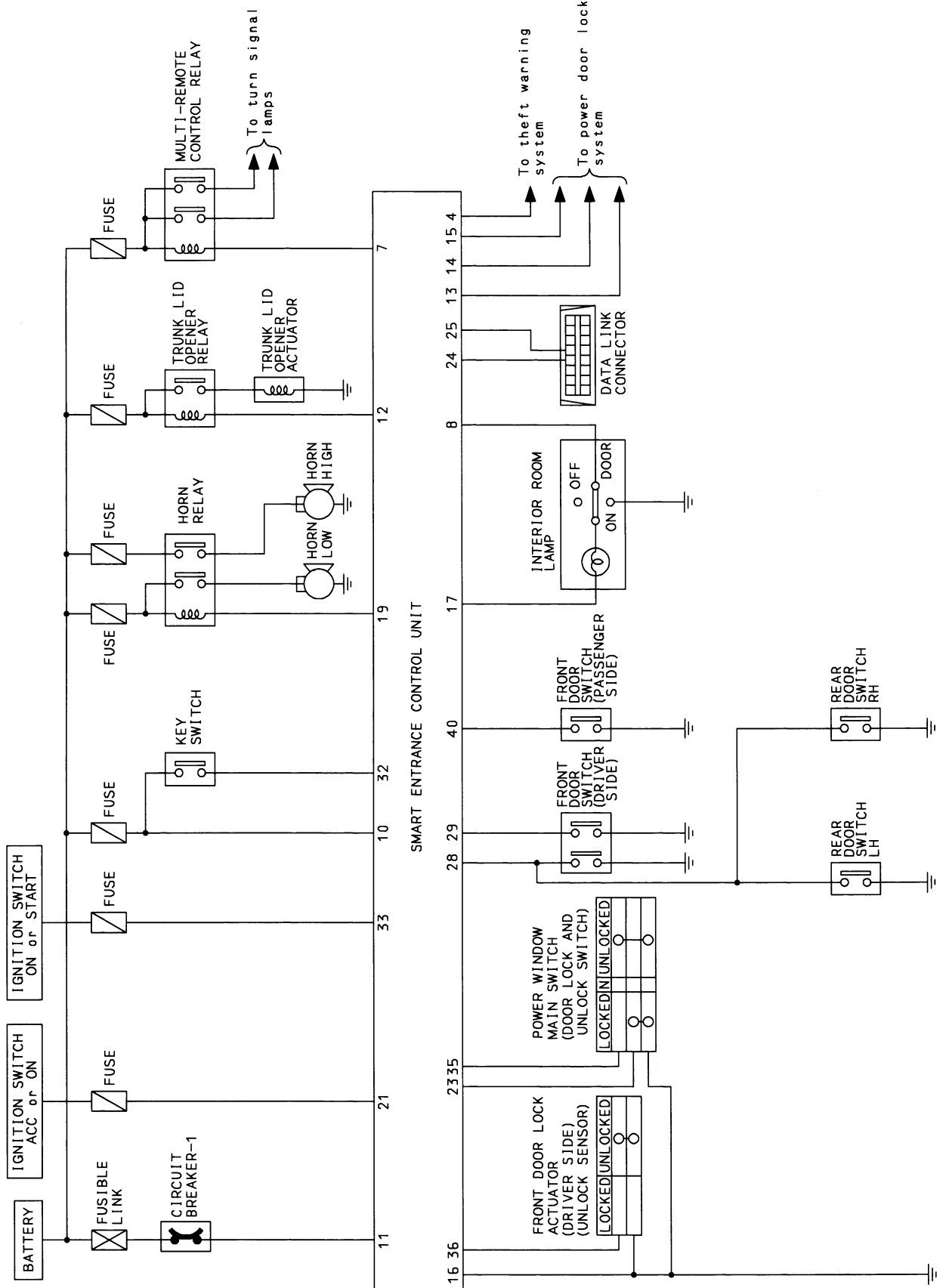
NCEL0112S0203

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

For detailed description, refer to "THEFT WARNING SYSTEM" (EL-216).

Schematic

NCEL0173



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MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI —

Wiring Diagram — MULTI —

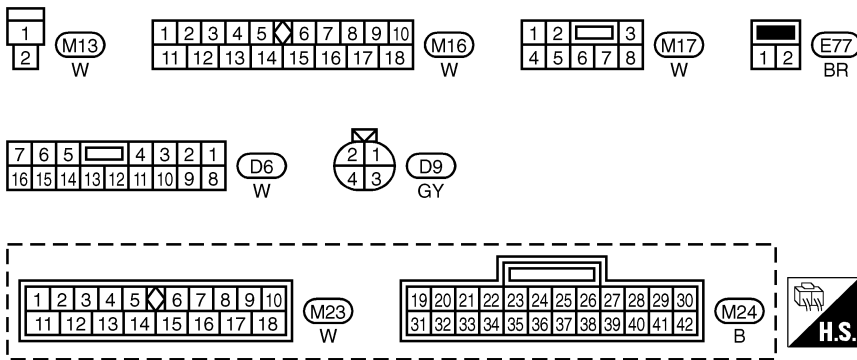
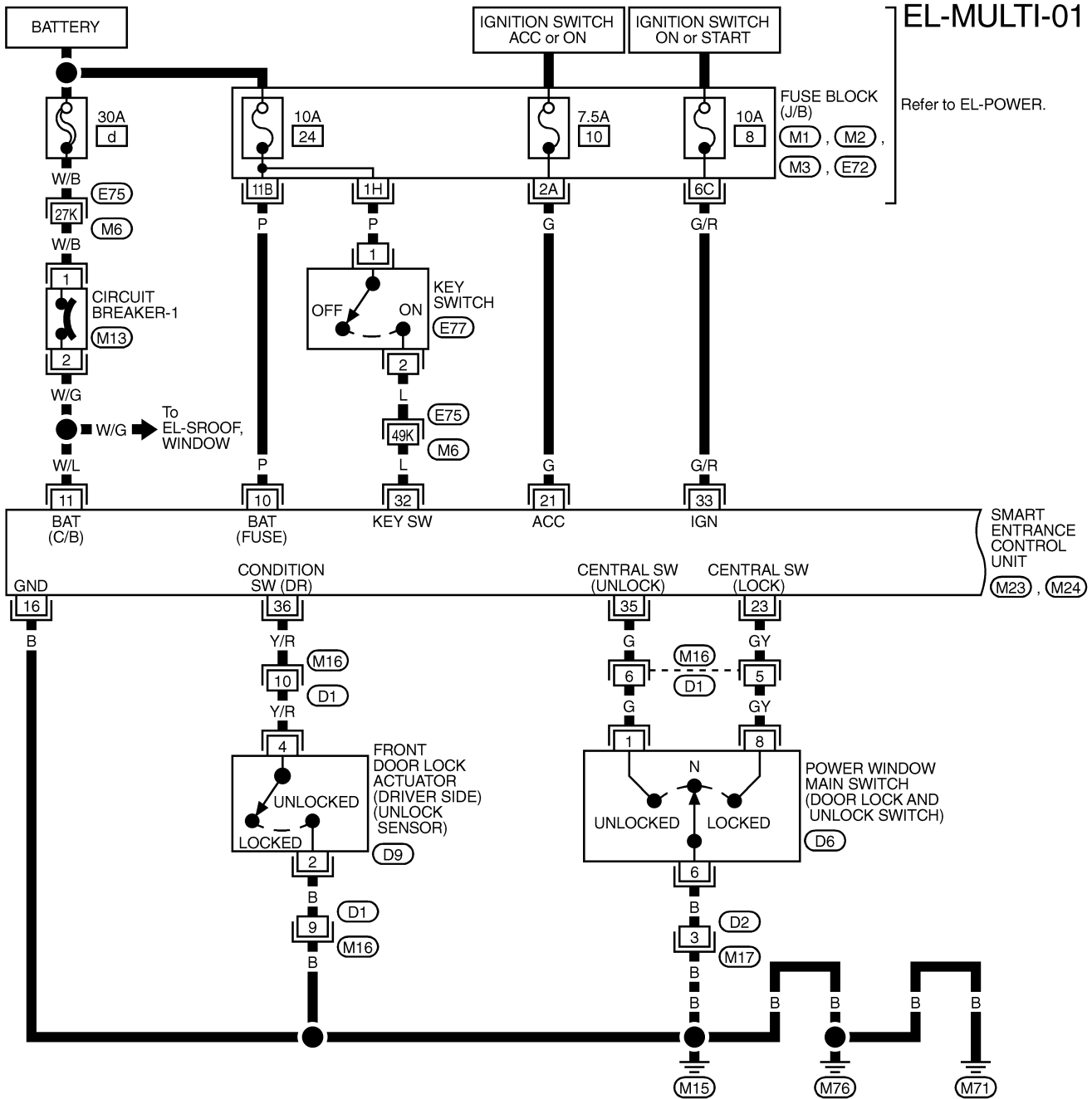
NCEL0114

NCEL0114S01

FIG. 1

EL-MULTI-01

Refer to EL-POWER.



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1, M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

MULTI-REMOTE CONTROL SYSTEM

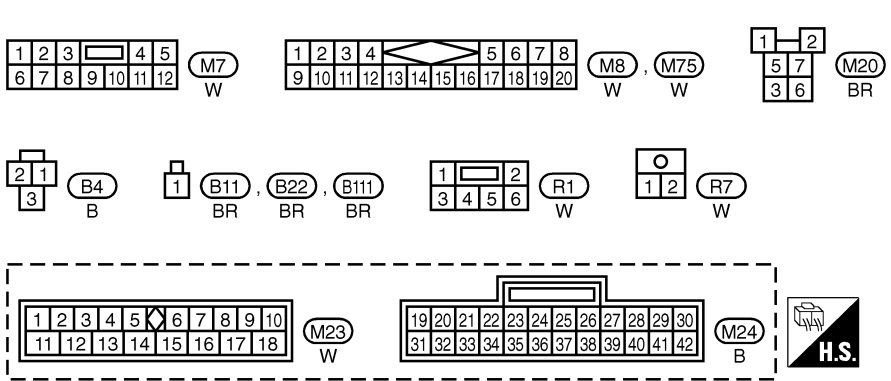
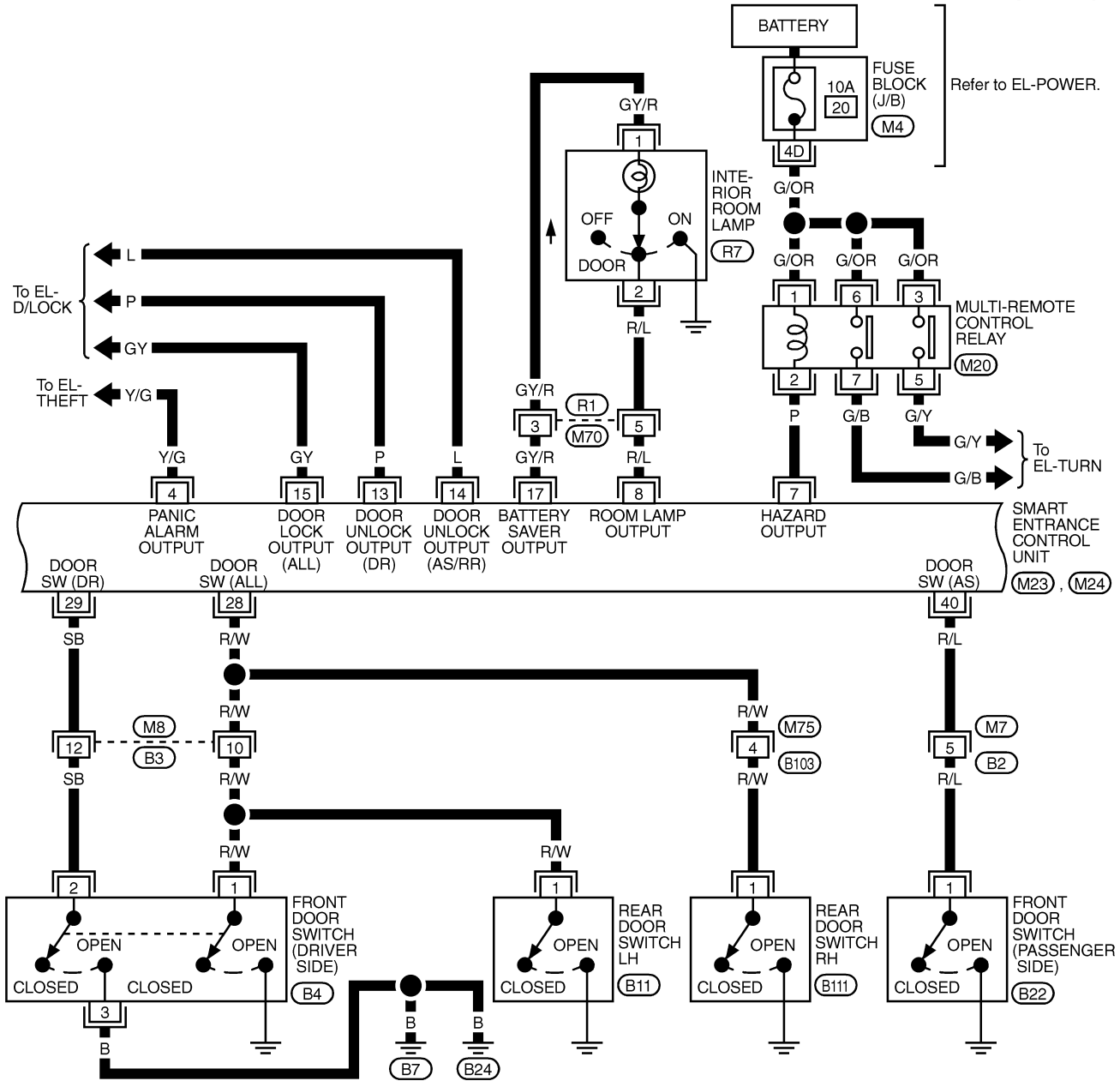
Wiring Diagram — MULTI — (Cont'd)

FIG. 2

NCEL0114S02

EL-MULTI-02

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REFER TO THE FOLLOWING.
(M4) - FUSE BLOCK-JUNCTION BOX (J/B)



MULTI-REMOTE CONTROL SYSTEM

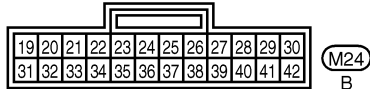
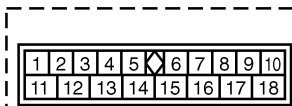
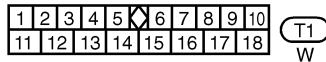
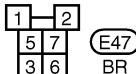
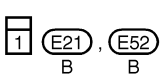
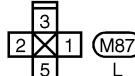
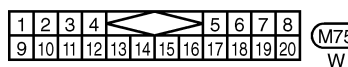
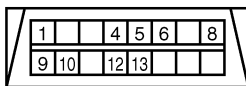
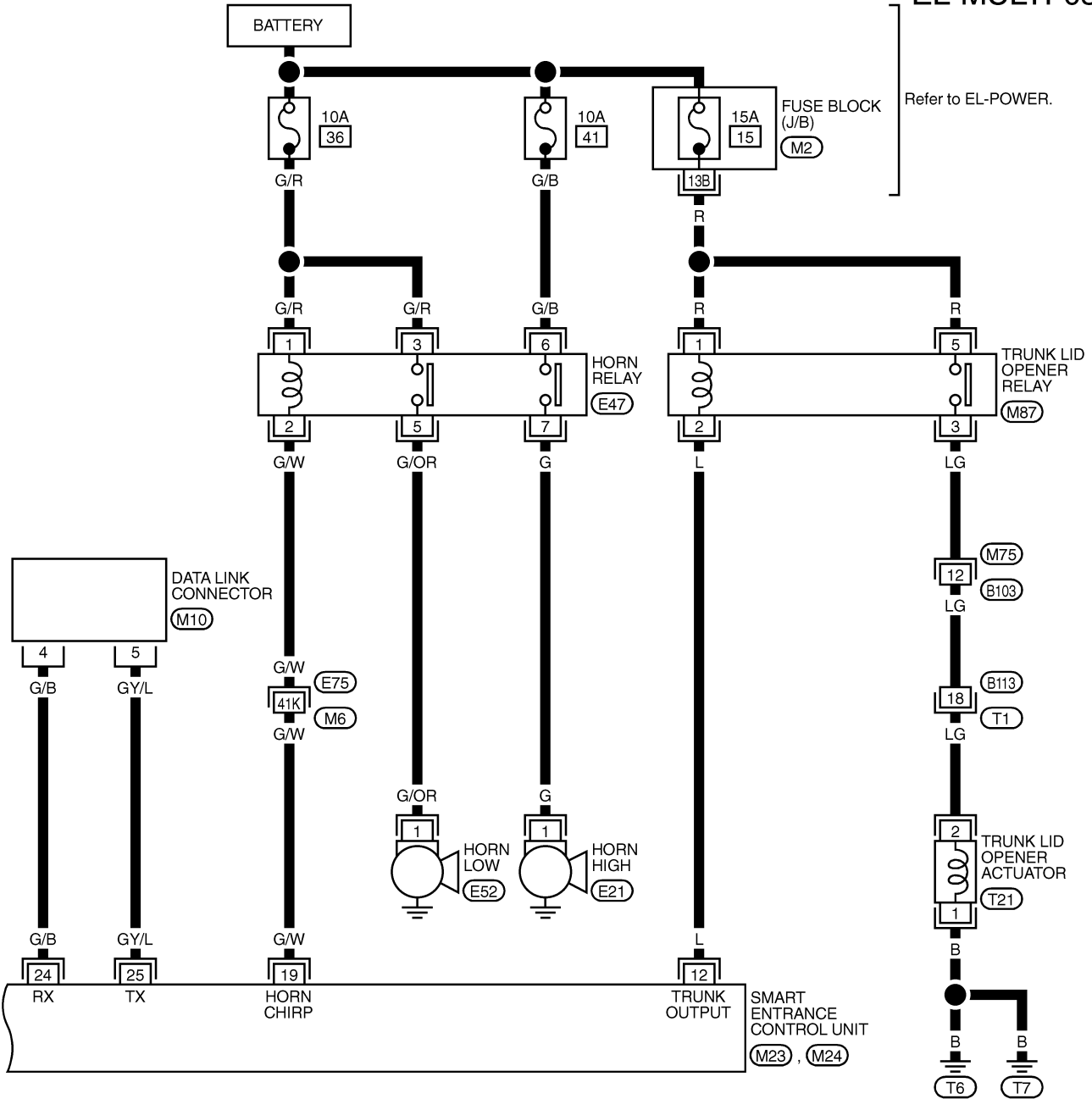
Wiring Diagram — MULTI — (Cont'd)

FIG. 3

NCEL0114S05

EL-MULTI-03

Refer to EL-POWER.



REFER TO THE FOLLOWING.

(M2) - FUSE BLOCK-JUNCTION BOX (J/B)

(E75) - SUPER MULTIPLE JUNCTION (SMJ)

Trouble Diagnoses

SYMPTOM CHART

NCEL0115

NCEL0115S01

NOTE:

- Always check remote controller battery before replacing remote controller.
- Trunk lid opener operation and panic alarm operation of multi-remote control system does not activate with the ignition key inserted in the ignition key cylinder.

| Symptom | Diagnoses/service procedure | Reference page (EL-) |
|---|--|-----------------------|
| All function of multi-remote control system do not operate. | 1. Remote controller battery check | 198 |
| | 2. Power supply and ground circuit for control unit check | 198 |
| | 3. Replace remote controller. Refer to ID Code Entry Procedure. | 210 |
| The new ID of remote controller cannot entered. | 1. Remote controller battery check | 198 |
| | 2. Key switch (insert) check | 203 |
| | 3. Door switch check | 201 |
| | 4. Door lock/unlock switch check | 205 |
| | 5. Power supply and ground circuit for control unit check | 198 |
| | 6. Replace remote controller. Refer to ID Code Entry Procedure. | 210 |
| Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system. Refer to EL-181.) | 1. Replace remote controller. Refer to ID Code Entry Procedure. | 210 |
| Hazard and horn reminder do not activate properly when pressing lock or unlock button of remote controller. | 1. Hazard reminder check | 206 |
| | 2. Horn reminder check* *: Horn chirp can be activated or deactivated. First check the horn chirp setting. Refer to EL-191. | 207 |
| | 3. Door switch check | 201 |
| | 4. Replace remote controller. Refer to ID Code Entry Procedure. | 210 |
| Trunk lid does not open when trunk opener button is pressed. | 1. Trunk lid opener operation check | 208 |
| | 2. Key switch (insert) check | 203 |
| | 3. Replace remote controller. Refer to ID Code Entry Procedure. | 210 |
| Interior lamp does not turn on for 30 seconds when pressing unlock button of remote controller. | 1. Interior room lamp operation check | 209 |
| | 2. Door switch check | 201 |
| | 3. Door unlock sensor check | 205 |
| Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed more than 1.5 seconds. | 1. Theft warning operation check. Refer to "PRELIMINARY CHECK" in "THEFT WARNING SYSTEM". | 224 |
| | 2. Key switch (insert) check | 203 |
| | 3. Replace remote controller. Refer to ID Code Entry Procedure. | 210 |

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

REMOTE CONTROLLER BATTERY CHECK

=NCEL0115S02

| | | |
|--|--|--|
| 1 | CHECK REMOTE CONTROLLER BATTERY | |
| <p>Remove battery (refer to EL-214) and measure voltage across battery positive and negative terminals, (+) and (-). NOTE: Remote controller does not function if battery is not set correctly.</p> | | |
| | | |
| <p>Voltage [V]: 2.5 - 3.0</p> | | |
| OK or NG | | |
| OK | ▶ | Check remote controller battery terminals for corrosion or damage. |
| NG | ▶ | Replace battery. |

SEL277V

POWER SUPPLY AND GROUND CIRCUIT CHECK

NCEL0115S04

| | | |
|---|---|---|
| 1 | CHECK MAIN POWER SUPPLY CIRCUIT FOR CONTROL UNIT | |
| <p>1. Disconnect connector from control unit. 2. Check voltage between control unit terminals 10 or 11 and ground.</p> | | |
| | | |
| <p>Refer to wiring diagram in EL-194. Battery voltage should exist.</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 30A fusible link (letter d, located in fuse and fusible link box) ● 10A fuse [No. 24, located in fuse block (J/B)] ● M13 circuit breaker ● Harness for open or short between control unit and circuit breaker |

SEL884V

| 2 | | CHECK IGNITION SWITCH "ACC" CIRCUIT |
|---|---|--|
| <ol style="list-style-type: none"> 1. Disconnect control unit connector. 2. Check voltage between control unit terminal 21 and ground while ignition switch is "ACC". | | <div style="text-align: center;"> </div> <p style="text-align: right;">SEL885V</p> <p>Refer to wiring diagram in EL-194. Battery voltage should exist.</p> <p style="text-align: center;">OK or NG</p> |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 10, located in fuse block (J/B)] ● Harness for open or short between control unit and fuse |

| 3 | | CHECK IGNITION SWITCH "ON" CIRCUIT |
|--|---|--|
| <ol style="list-style-type: none"> 1. Disconnect control unit connector. 2. Check voltage between control unit terminal 33 and ground with ignition switch "ON". | | <div style="text-align: center;"> </div> <p style="text-align: right;">SEL790V</p> <p>Refer to wiring diagram in EL-194. Battery voltage should exist.</p> <p style="text-align: center;">OK or NG</p> |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 8, located in fuse block (J/B)] ● Harness for open or short between control unit and fuse |

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

| 4 | CHECK GROUND CIRCUIT FOR CONTROL UNIT | |
|----|---|--|
| | <p>1. Disconnect control unit connector.</p> <p>2. Check continuity between control unit terminal 16 and ground.</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram in EL-194. Continuity should exist.</p> <p style="text-align: right;">SEL791V</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ | Power supply and ground circuits are OK. |
| NG | ▶ | Check ground harness. |

DOOR SWITCH CHECK

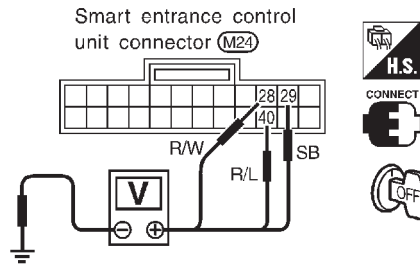
=NCEL0115S05

1 CHECK DOOR SWITCH INPUT SIGNAL

Check voltage between control unit terminals 28, 29 or 40 and ground.

| | Terminals | | Condition | Voltage [V] |
|----------------------|-----------|--------|-----------|-------------|
| | (+) | (-) | | |
| Front LH door switch | 29 | ground | Open | 0 |
| | | | Closed | Approx. 12 |
| Front RH door switch | 40 | ground | Open | 0 |
| | | | Closed | Approx. 12 |
| All door switches | 28 | ground | Open | 0 |
| | | | Closed | Approx. 12 |

MTBL0158



SEL886V

Refer to wiring diagram in EL-195.

OK or NG

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

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MULTI-REMOTE CONTROL SYSTEM

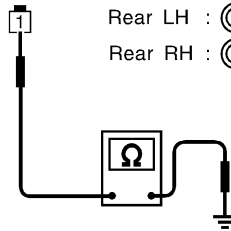
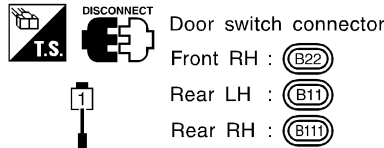
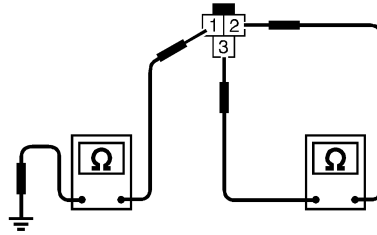
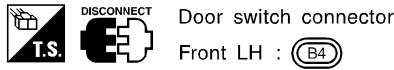
Trouble Diagnoses (Cont'd)

2 CHECK DOOR SWITCH

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

| | Terminals | Condition | Continuity |
|---------------------------------|-------------------|-----------|------------|
| Front LH door switch | 2 - 3, 1 - ground | Closed | No |
| | | Open | Yes |
| Front RH and rear door switches | 1 - ground | Closed | No |
| | | Open | Yes |

MTBL0384



SEL887VA

OK or NG

OK



Check the following.

- Door switch ground circuit (Front, back door) or door switch ground condition
- Harness for open or short between control unit and door switch

NG



Replace door switch.

KEY SWITCH (INSERT) CHECK

=NCEL0115S07

| | | | |
|----------|--------------------------------------|--|--|
| 1 | CHECK KEY SWITCH INPUT SIGNAL | <p>Check voltage between control unit terminal 32 and ground.</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram in EL-194.</p> <p>Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is withdrawn. 0</p> <p style="text-align: right;">SEL888V</p> <p style="text-align: center;">OK or NG</p> | GI MA EM LC EC FE CL MT |
| OK | ▶ | Key switch is OK. | |
| NG | ▶ | GO TO 2. | |

| | | | |
|----------|----------------------------------|--|--|
| 2 | CHECK KEY SWITCH (INSERT) | <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 withdrawn. No</p> <p style="text-align: right;">SEL784V</p> <p style="text-align: center;">OK or NG</p> | AT AX SU BR ST RS BT HA SC |
| OK | ▶ | Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 24, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between control unit and key switch | |
| NG | ▶ | Replace key switch. | |

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

=NCEL0115S12

1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

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

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

MTBL0153

Smart entrance control unit connector (M24)

Refer to wiring diagram in EL-194.

SEL875V

OK or NG

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

2 CHECK DOOR LOCK/UNLOCK SWITCH

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

| Condition | Terminals | | |
|-----------|---------------|---|---|
| | 6 | 8 | 1 |
| Unlock | ○ | ○ | ○ |
| N | No continuity | | |
| Lock | ○ | ○ | ○ |

P/W main switch connector (D6)

SEL670W

OK or NG

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

DOOR UNLOCK SENSOR CHECK

=NCEL0115S06

| | | |
|---|--|---|
| 1 | CHECK DOOR UNLOCK SENSOR INPUT SIGNAL | |
| <p>Check voltage between control unit terminal 36 and ground.</p> | | |
| | | |
| SEL189X | | |
| OK or NG | | |
| OK | ▶ | Door unlock sensor (driver side) is OK. |
| NG | ▶ | GO TO 2. |

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| 2 | CHECK DOOR UNLOCK SENSOR | |
| <p>1. Disconnect door unlock sensor connector. 2. Check continuity between door unlock sensor (driver side) terminals.</p> | | |
| | | |
| SEL247VE | | |
| 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 control unit and door unlock sensor (driver side) |
| NG | ▶ | Replace door unlock sensor (driver side). |

Continuity:
Condition: Locked
 No
Condition: Unlocked
 Yes

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

HAZARD REMINDER CHECK

=NCEL0115S08

| | |
|---|-------------------------------------|
| 1 | CHECK HAZARD INDICATOR |
| Check if hazard indicator flashes with hazard switch. | |
| Does hazard indicator operate? | |
| Yes | ▶ GO TO 2. |
| No | ▶ Check "hazard indicator" circuit. |

| | |
|--|--|
| 2 | CHECK HAZARD REMINDER OPERATION |
| 1. Disconnect control unit connector. 2. Apply ground to control unit terminal 7. | |
| | |
| SEL890V | |
| Refer to wiring diagram in EL-195. | |
| Does hazard indicator illuminate? | |
| Yes | ▶ Replace smart entrance control unit. |
| No | ▶ GO TO 3. |

| | |
|-----------------------------------|---|
| 3 | CHECK MULTI-REMOTE CONTROL RELAY |
| Check multi-remote control relay. | |
| OK or NG | |
| OK | ▶ GO TO 4. |
| NG | ▶ Replace. |

| | |
|--|---|
| 4 | CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY |
| 1. Disconnect multi-remote control relay connector. 2. Check voltage between terminal 1 and ground. | |
| | |
| SEL244VB | |
| Battery voltage should exist. | |
| OK or NG | |
| OK | ▶ GO TO 5. |
| NG | ▶ Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 20, 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 | | |
| | | <ol style="list-style-type: none"> 1. Disconnect multi-remote control relay connector. 2. Check voltage between terminals 3 and 5. Battery voltage should exist. 3. Check voltage between terminals 6 and 7. Battery voltage should exist. | GI MA EM LC EC FE CL MT |
| | | | SEL245VB |
| | | OK or NG | |
| OK | ▶ | Check harness for open or short between control unit and multi-remote control relay. | |
| NG | ▶ | Check the following. <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 | |

HORN REMINDER CHECK

NCEL0115S11

| | | | |
|----------|-------------------|--|--|
| 1 | CHECK HORN | | |
| | | Check if horn sounds with horn switch. | |
| | | Does horn operate? | |
| Yes | ▶ | GO TO 2. | |
| No | ▶ | Check horn circuit. | |

| | | | |
|----------|--------------------------------------|---|----------|
| 2 | CHECK HORN REMINDER OPERATION | | |
| | | <ol style="list-style-type: none"> 1. Disconnect control unit connector. 2. Apply ground to control unit terminal 19. | |
| | | | SEL075WA |
| | | Refer to wiring diagram in EL-196. | |
| | | Does horn sound? | |
| Yes | ▶ | Replace smart entrance control unit. | |
| No | ▶ | Check harness for open or short between control unit and horn relay. | |

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

TRUNK LID OPENER CHECK

=NCEL0115S10

| | |
|---|---|
| 1 | CHECK TRUNK LID OPENER OPERATION |
| Does trunk lid opener operate with trunk lid opener switch? | |
| Yes or No | |
| Yes | ▶ GO TO 2. |
| No | ▶ GO TO 3. |

| | |
|--|--|
| 2 | CHECK TRUNK LID OPENER CIRCUIT |
| 1. Disconnect smart entrance control unit connector. 2. Check voltage between smart entrance control unit connector terminal 12 and ground. | |
| <div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> | |
| SEL675W | |
| OK or NG | |
| OK | ▶ Replace smart entrance control unit. |
| NG | ▶ Check harness or open or short between trunk lid opener relay and smart entrance control unit. |

| | |
|---|---|
| 3 | CHECK TRUNK LID OPENER ACTUATOR |
| 1. Disconnect trunk lid opener actuator connector. 2. Check to see if trunk lid opens when 12V is applied between trunk lid opener actuator terminals 1 and 2. | |
| <div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; text-align: center;"> <p>OK or NG</p> </div> </div> | |
| SEL676W | |
| OK | ▶ Check the following. <ul style="list-style-type: none"> ● 15A fuse [No. 15, located in the fuse block (J/B)] ● Trunk lid opener relay ● Harness for open or short between trunk lid opener relay and fuse ● Harness for open or short between trunk lid opener relay and trunk lid opener actuator ● Trunk lid opener actuator ground circuit |
| NG | ▶ Replace trunk lid opener actuator. |

INTERIOR ROOM LAMP OPERATION CHECK

=NCEL0115S09

| | | |
|--|---------------------------------|-------------------------------------|
| 1 | CHECK INTERIOR ROOM LAMP | |
| Check if the interior room lamp switch is in the "DOOR" position and the lamp illuminates when a door is open. | | |
| Does interior room lamp illuminate? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check "Interior room lamp" circuit. |

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| 2 | CHECK INTERIOR ROOM LAMP CIRCUIT | |
| When interior room lamp switch is "DOOR" position, check voltage across control unit terminal 8 and ground. | | |
| | | |
| Refer to wiring diagram in EL-195. Battery voltage should exist. | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair harness between control unit and interior room lamp. |

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|---|----------------------------------|--------------------------------------|
| 3 | CHECK CONTROL UNIT OUTPUT | |
| Push unlock button of remote controller and check voltage across control unit terminal 8 and ground. | | |
| | | |
| Voltage (V): Unlock button is pushed. 0 (For approx. 30 seconds.) Unlock button is not pushed. Battery voltage | | |
| OK or NG | | |
| OK | ▶ | Check system again. |
| NG | ▶ | Replace smart entrance control unit. |

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MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure

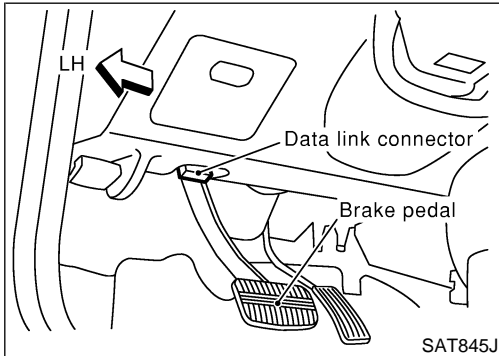
ID Code Entry Procedure

REMOTE CONTROLLER ID SET UP WITH CONSULT-II

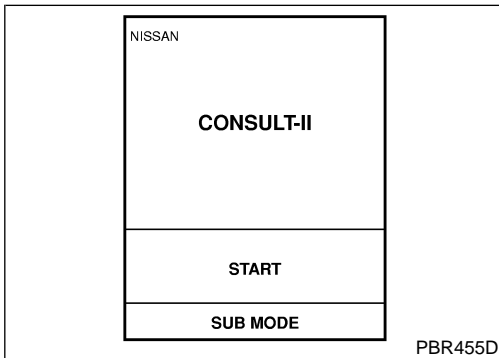
NCEL0117
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NOTE:

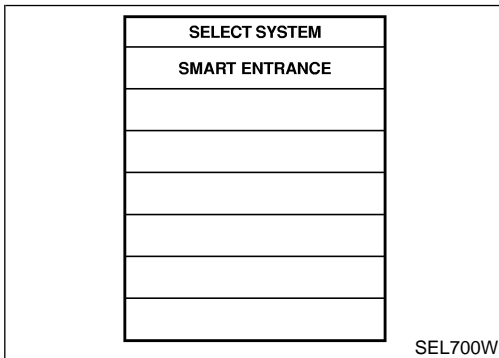
If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. When the ID code of a lost remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers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



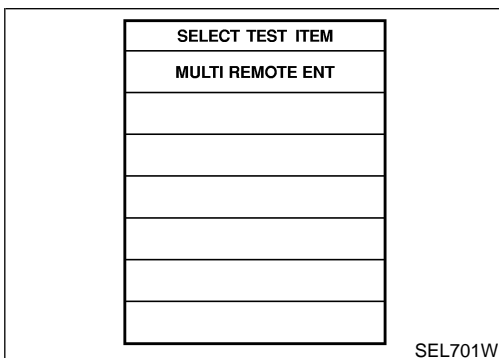
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



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

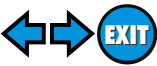


5. Touch "SMART ENTRANCE".



6. Touch "MULTI REMOTE ENT".

MULTI-REMOTE CONTROL SYSTEM



ID Code Entry Procedure (Cont'd)

| |
|------------------|
| SELECT DIAG MODE |
| WORK SUPPORT |
| |
| |
| |
| |
| |
| |

SEL702W

7. Touch "WORK SUPPORT".

| |
|---------------------|
| SELECT WORK ITEM |
| REMO CONT ID CONFIR |
| REMO CONT ID REGIST |
| REMO CONT ID ERASUR |
| |
| |
| |
| |

SEL703W

8. The items are shown on the figure at left can be set up.

- "REMO CONT ID CONFIR"
Use this mode to confirm if a remote controller ID code is registered or not.
- "REMO CONT ID REGIST"
Use this mode to register a remote controller ID code.

NOTE:

Register the ID code when remote controller or smart entrance control unit is replaced, or when additional remote controller is required.

- "REMO CONT ID ERASUR"
Use this mode to erase a remote controller ID code.

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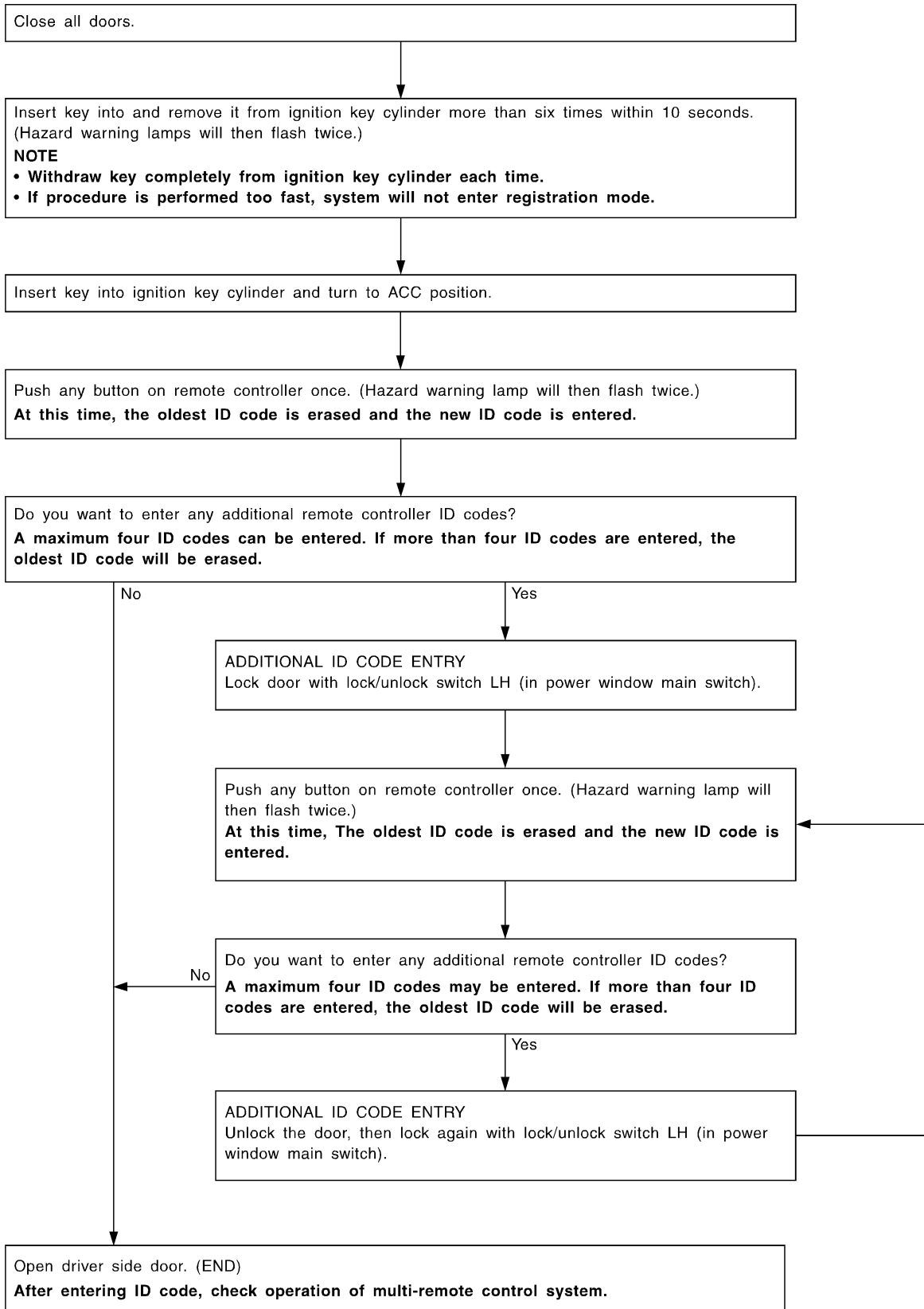
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MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Cont'd)

REMOTE CONTROLLER ID SET UP WITHOUT CONSULT-II

NCEL0117S02



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NOTE:

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

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MULTI-REMOTE CONTROL SYSTEM

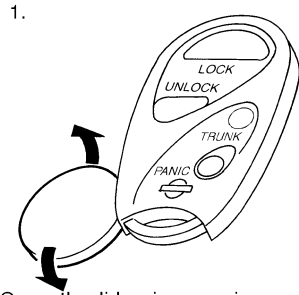
Remote Controller Battery Replacement

Remote Controller Battery Replacement

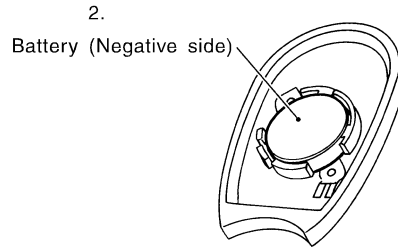
NCEL0118

NOTE:

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

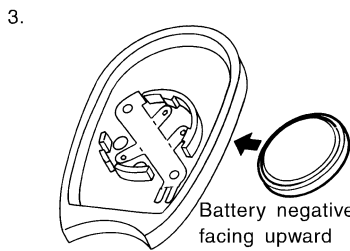


1. Open the lid using a coin.



2. Battery (Negative side)

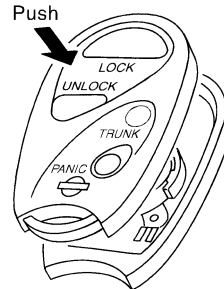
Remove the battery.



3.

Battery negative side facing upward

Insert the new battery.



4.

Push

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

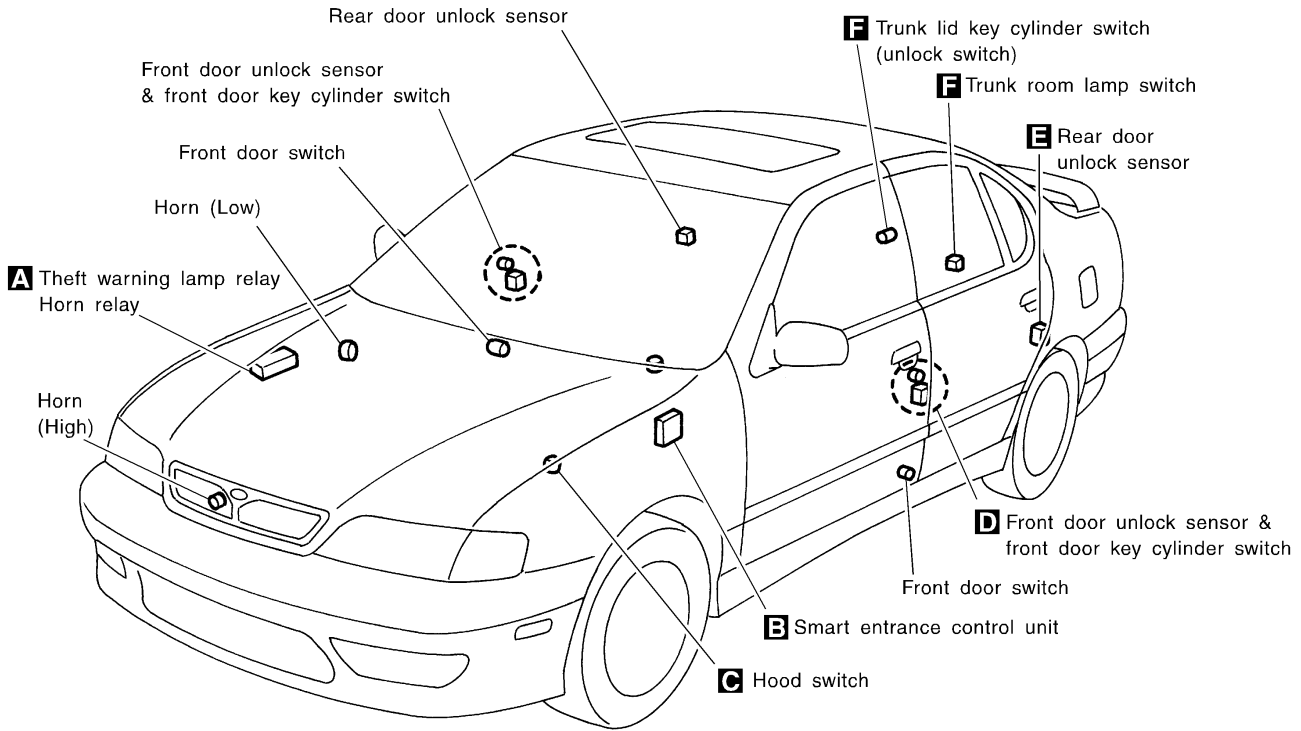
SEL366W

THEFT WARNING SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

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|---|--|---|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|----|----|----|--|--|----|----|----|--|--|---|----|----|----|----|----|----|----|----|---|---|---|---|---|--|--|--|--|--|--|--|--|--|---|---|---|---|--|--|--|--|--|--|--|--|--|----|----|----|----|----|----|----|----|--|
| <p>Fuse block (J/B)</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td></td><td></td></tr> <tr><td>24</td><td>25</td><td>26</td><td></td><td></td></tr> <tr><td>27</td><td>28</td><td>29</td><td></td><td></td></tr> </table> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | 24 | 25 | 26 | | | 27 | 28 | 29 | | | <p>Front ↑</p> <p>Fuse and fusible link box</p> <table border="1"> <tr><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>e</td><td>f</td><td>g</td><td>h</td><td>i</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>a</td><td>b</td><td>c</td><td>d</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>38</td><td>39</td><td>40</td><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td></tr> </table> | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | e | f | g | h | i | | | | | | | | | | a | b | c | d | | | | | | | | | | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | <p>A Theft warning lamp relay</p> <p>Horn relay</p> |
| 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 7 | 8 | 9 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 17 | 18 | 19 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 22 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 25 | 26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 28 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | e | f | g | h | i | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | a | b | c | d | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>B Driver side view with lower instrument panel removed</p> <p>Smart entrance control unit M23, M24</p> | <p>C Hood switch E7</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>D Front door key cylinder switch</p> <p>LH: D8 RH: D27</p> <p>Front door lock actuator (unlock sensor)</p> <p>LH: D9 RH: D28</p> | <p>E Rear door lock actuator (unlock sensor)</p> <p>LH: D44 RH: D64</p> | <p>F Trunk room lamp switch T55</p> <p>Trunk lid key cylinder switch (unlock switch) T53</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SEL672W

THEFT WARNING SYSTEM

System Description

System Description

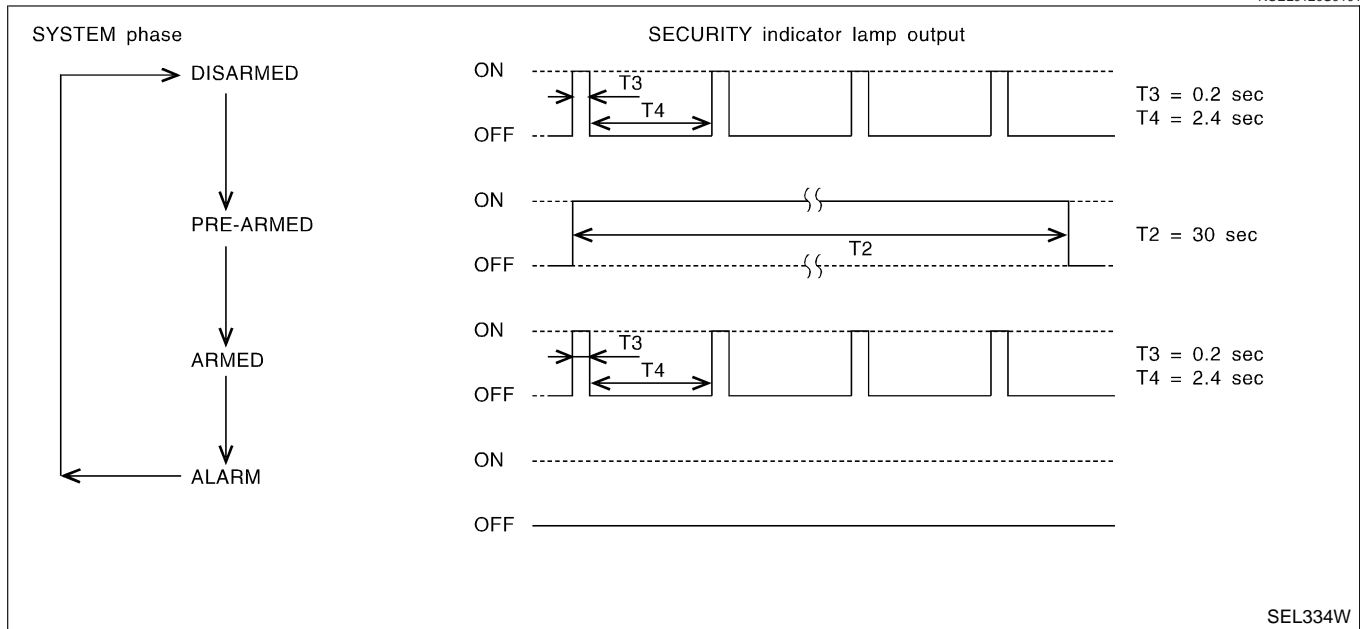
NCEL0120

NCEL0120S01

NCEL0120S0101

DESCRIPTION

1. Operation Flow



2. Setting The Theft Warning System

NCEL0120S0102

Initial condition

- 1) Close all doors.
- 2) Close engine hood and trunk lid.

Disarmed phase

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

Pre-armed phase and armed phase

The theft warning system turns into the "pre-armed" phase when engine hood, trunk lid 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

NCEL0120S0103

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

- 1) Unlock the doors with the key or multi-remote controller.
- 2) Open the trunk lid with the key. When the trunk lid is closed after opening the trunk lid with the key, the system returns to the armed phase.

4. Activating The Alarm Operation of The Theft Warning System

NCEL0120S0104

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.6 seconds.)

When the following operation 1) or 2) is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

- 1) Engine hood, trunk lid or any door is opened before unlocking door with key or multi-remote controller.
- 2) Door is unlocked without using key or multi-remote controller.

POWER SUPPLY AND GROUND

NCEL0120S07

Power is supplied at all times

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to security indicator lamp terminal 1.

Power is supplied at all times

- through 30A fusible link (letter **d**, located in the fuse and fusible link box)
- to smart entrance control unit terminal 11.

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

- through 7.5A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 21.

Ground is supplied

- to smart entrance control unit terminal 16
- through body grounds M15, M71 and M76.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

NCEL0120S02

The operation of the theft warning system is controlled by the doors, engine hood and trunk lid.

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

When a door is open, smart entrance control unit terminal 28, 29 or 40 receives a ground signal from each door switch.

When a door is unlocked, smart entrance control unit terminal 26, 36 or 37 receives a ground signal from terminal 4 of each door unlock sensor.

When the engine hood is open, smart entrance control unit terminal 27 receives a ground signal

- from terminal 1 of the hood switch
- through body grounds E9 and E28.

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

- from terminal 1 of the trunk room lamp switch
- through body grounds B109 and B110.

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 mode.

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

NCEL0120S03

If the key is used to lock doors, terminal 41 receives a ground signal

- from terminal 1 of the key cylinder switch (driver side)
- from terminal 3 of the front door key cylinder switch (passenger side)
- through body grounds M15, M71 and M76

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 31 supplies ground to terminal 2 of the security indicator lamp.

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

Now the theft warning system is in armed phase.

THEFT WARNING SYSTEM ALARM OPERATION

NCEL0120S04

The theft warning system is triggered by

- opening the door without using the key
- opening the engine hood or the trunk lid
- unlocking the door without using the key.

Once the theft warning system is in armed phase, if the smart entrance control unit receives a ground signal at terminal 26, 36, 37 (door unlock sensor), 28, 29, 40 (door switch), 38 (trunk room lamp switch) or 27 (hood switch), the theft warning system will be triggered. The headlamps flash and the horn sounds intermittently.

Power is supplied at all times

- through 10A fuse (No. 36, located in fuse and fusible link box)
- to theft warning lamp relay terminal 1 and
- to horn relay terminals 1 and 3
- through 10A fuse (No. 41, located in fuse and fusible link box)
- to horn relay terminal 6.

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

- from terminal 4 of the smart entrance control unit
- to theft warning lamp relay terminal 2 and
- from terminal 19 of smart entrance control unit
- to horn relay terminal 2.

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THEFT WARNING SYSTEM

System Description (Cont'd)

The headlamps flash and the horn sounds intermittently.

The alarm automatically turns off after 50 seconds but will reactivate if the vehicle is tampered with again.

THEFT WARNING SYSTEM DEACTIVATION

NCEL0120S05

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

When the key is used to unlock the door, smart entrance control unit terminal 30 receives a ground signal

- from terminal 3 of the front door key cylinder switch (driver side)
- from terminal 1 of the front door key cylinder switch (passenger side)

When the key is used to open the trunk lid, smart entrance control unit terminal 42 receives a ground signal from terminal 1 of the trunk lid key cylinder switch.

When the smart entrance control unit receives either one of these signals or unlock signal from remote controller, the theft warning system is deactivated. (Disarmed phase)

PANIC ALARM OPERATION

NCEL0120S06

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

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

- from smart entrance control unit terminal 4
- to theft warning lamp relay terminal 2 and
- from smart entrance control unit terminal 19
- to terminal 2 of horn relay.

The headlamp flashes and the horn sounds intermittently.

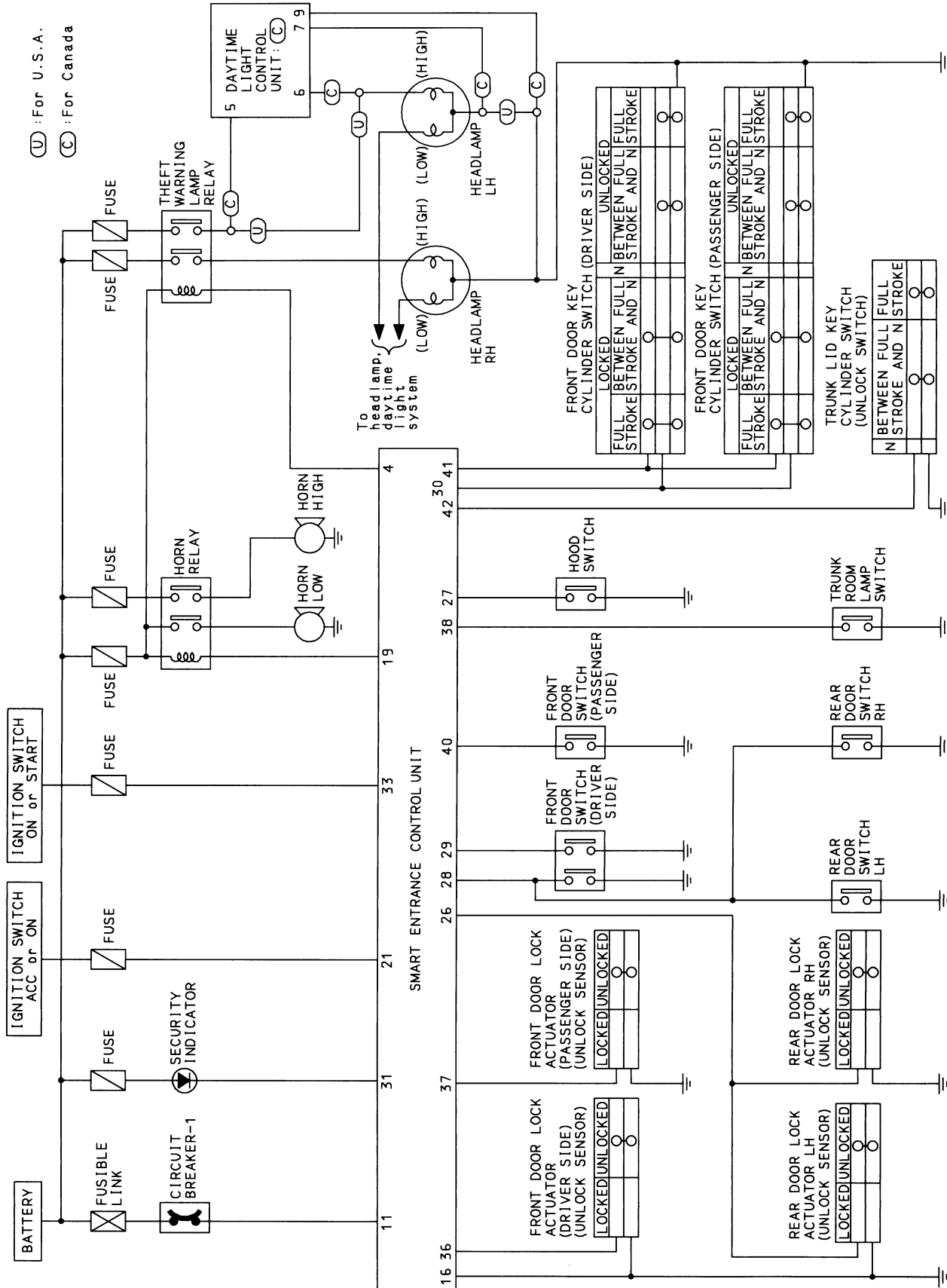
The alarm automatically turns off after 30 seconds or when smart entrance control unit receives any signal from multi-remote controller.

THEFT WARNING SYSTEM

Schematic

NCEL0121

Schematic



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TEL535B

THEFT WARNING SYSTEM

Wiring Diagram — THEFT —

Wiring Diagram — THEFT —

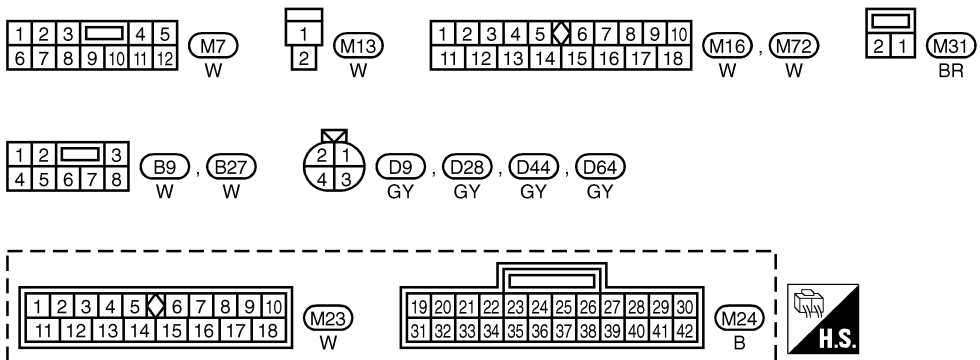
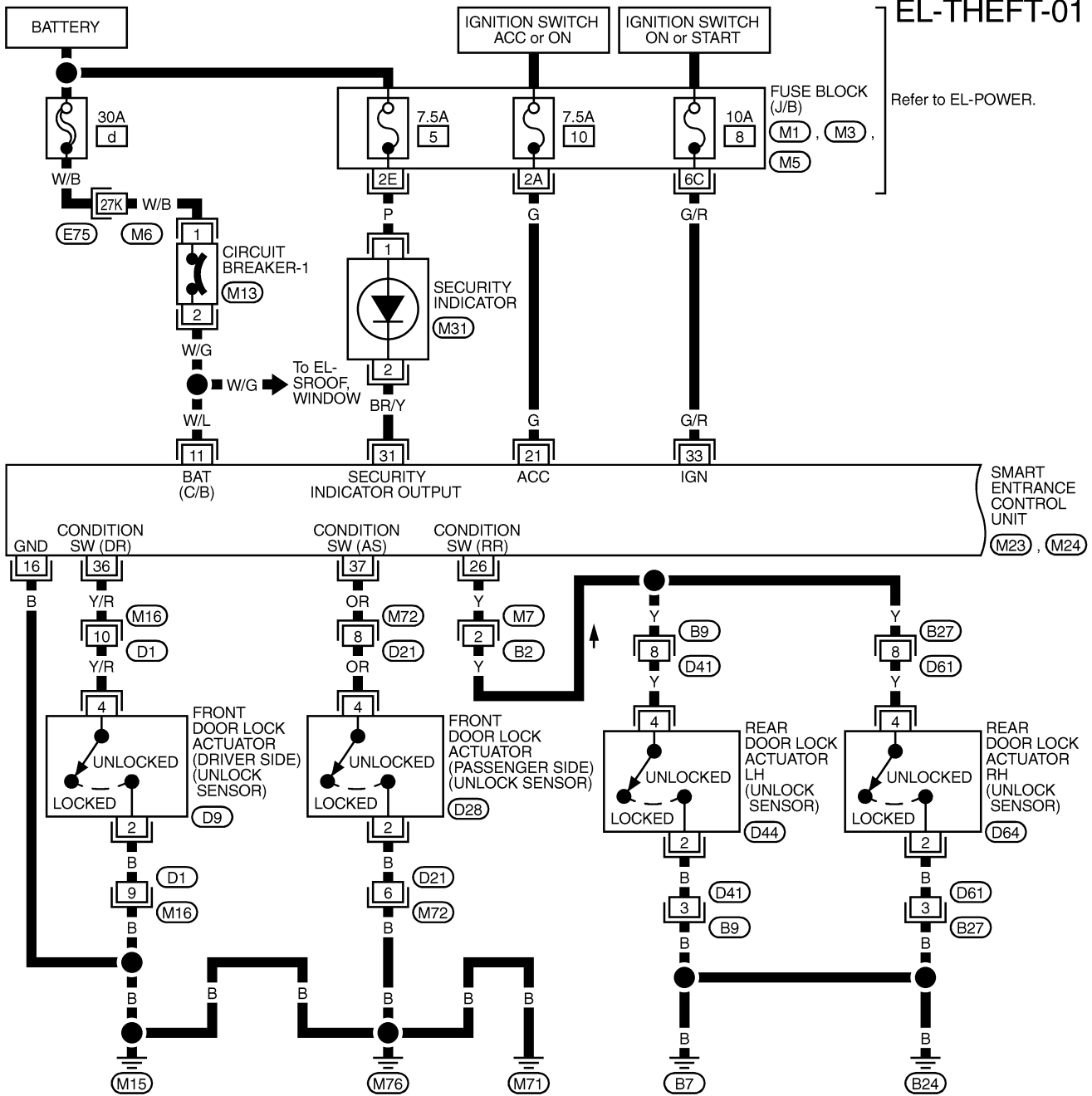
NCEL0122

NCEL0122S01

FIG. 1

EL-THEFT-01

Refer to EL-POWER.



REFER TO THE FOLLOWING.

- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M3), (M5) -FUSE BLOCK-JUNCTION BOX (J/B)



THEFT WARNING SYSTEM

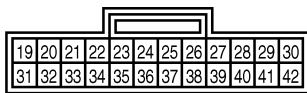
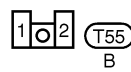
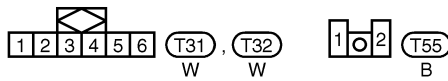
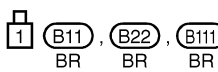
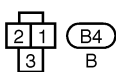
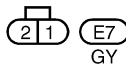
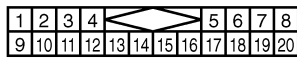
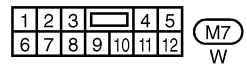
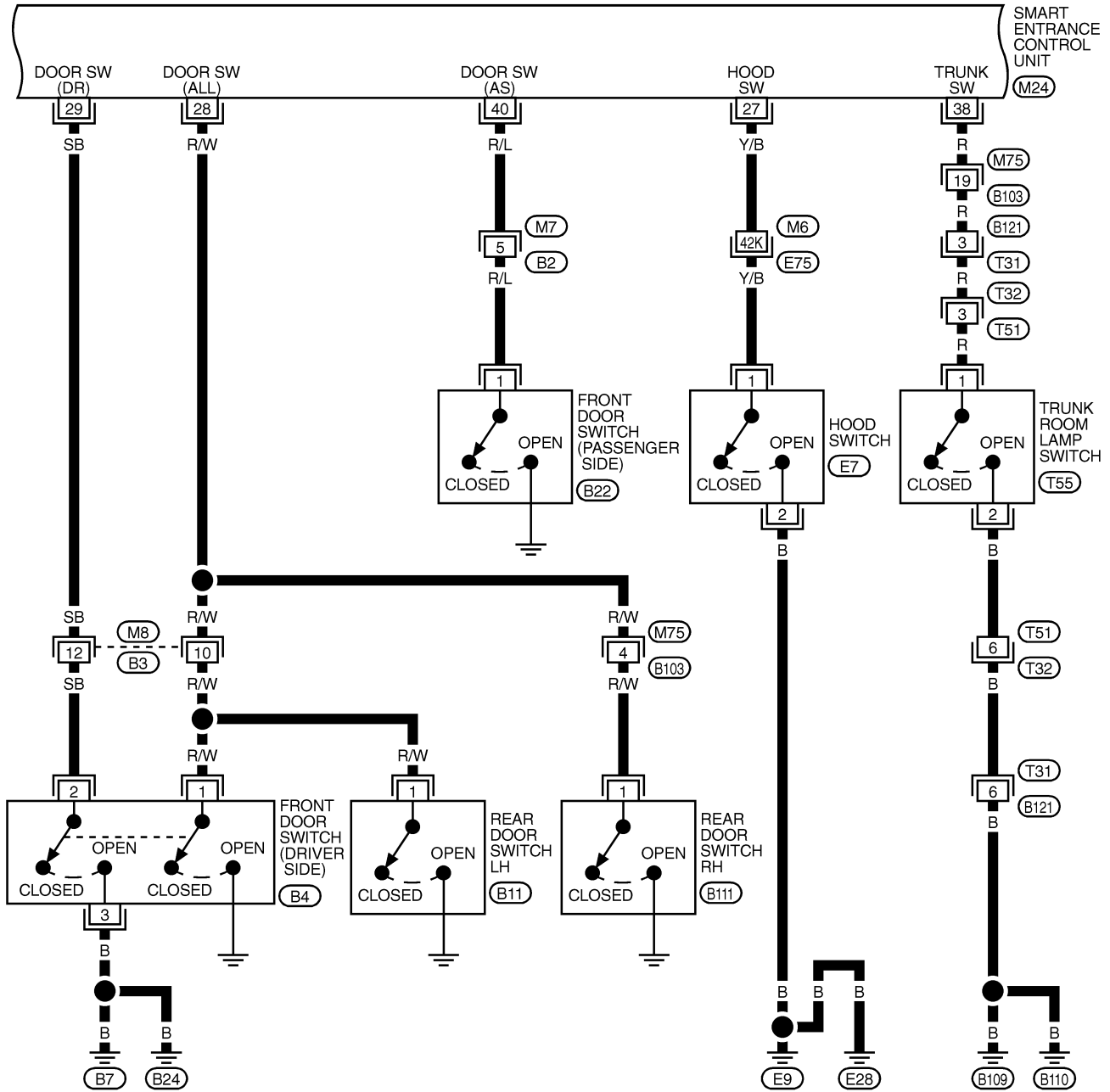
Wiring Diagram — THEFT — (Cont'd)

FIG. 2

NCEL0122S02

EL-THEFT-02

SMART
ENTRANCE
CONTROL
UNIT
(M24)



REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

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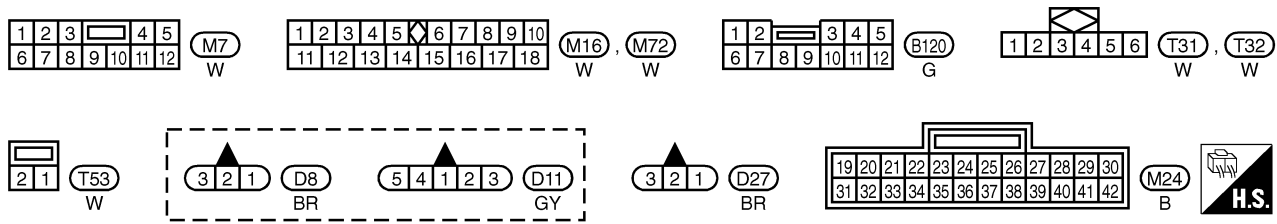
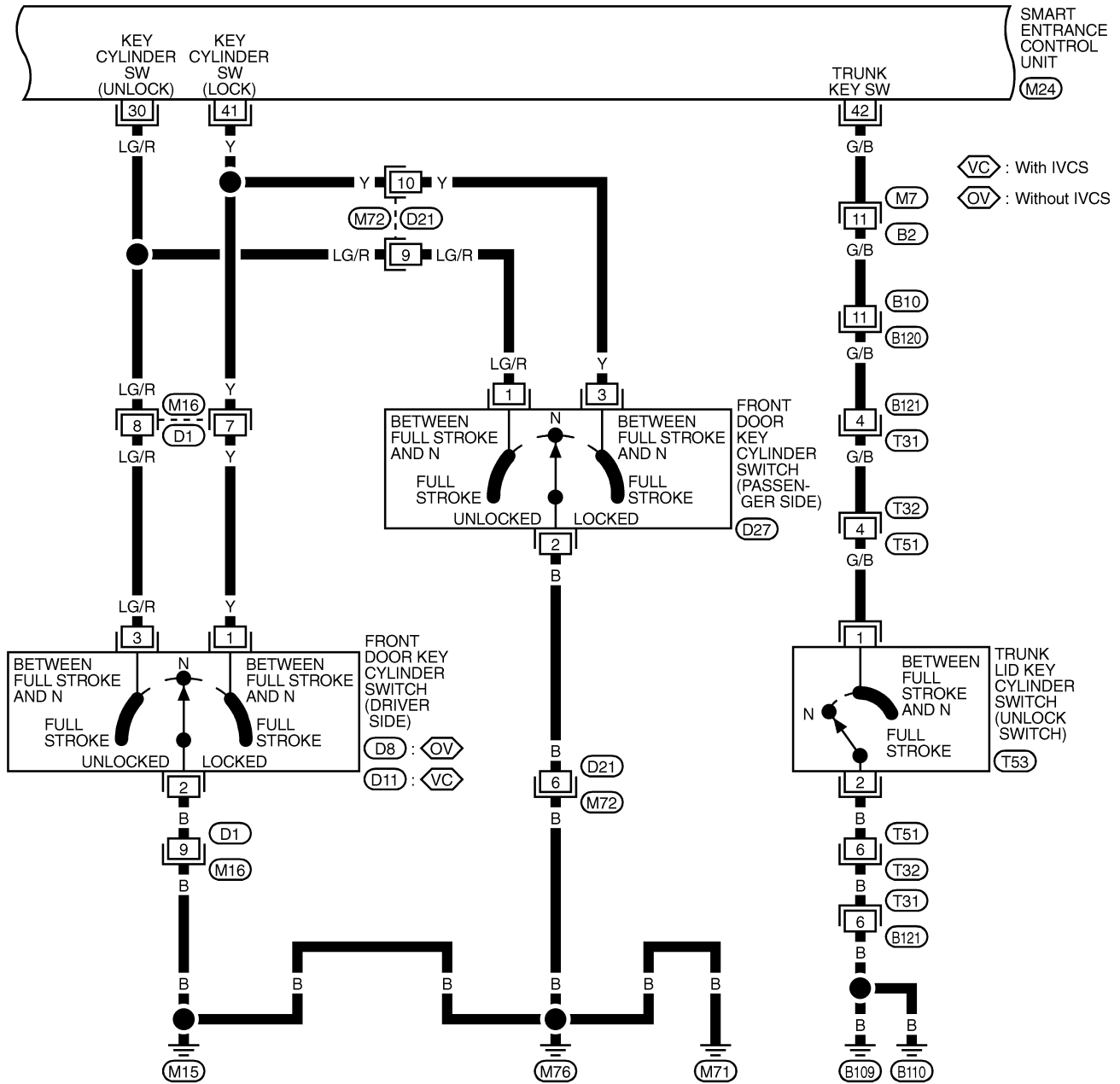
THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

FIG. 3

NCEL0122S03

EL-THEFT-03

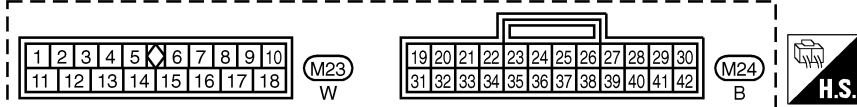
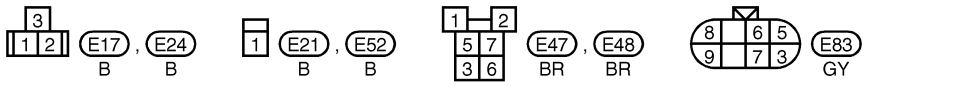
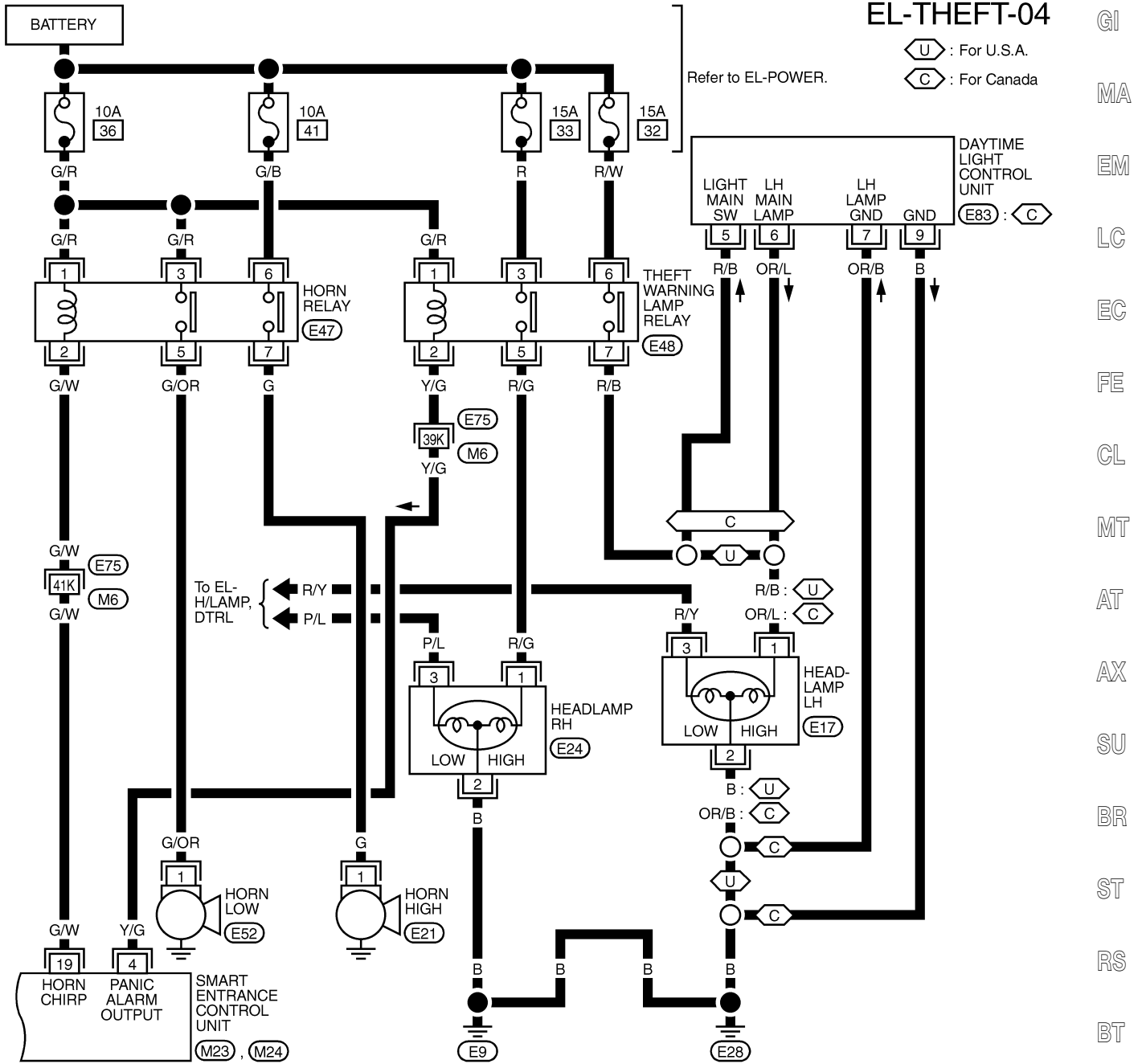


THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

FIG. 4

NCEL0122S04



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)

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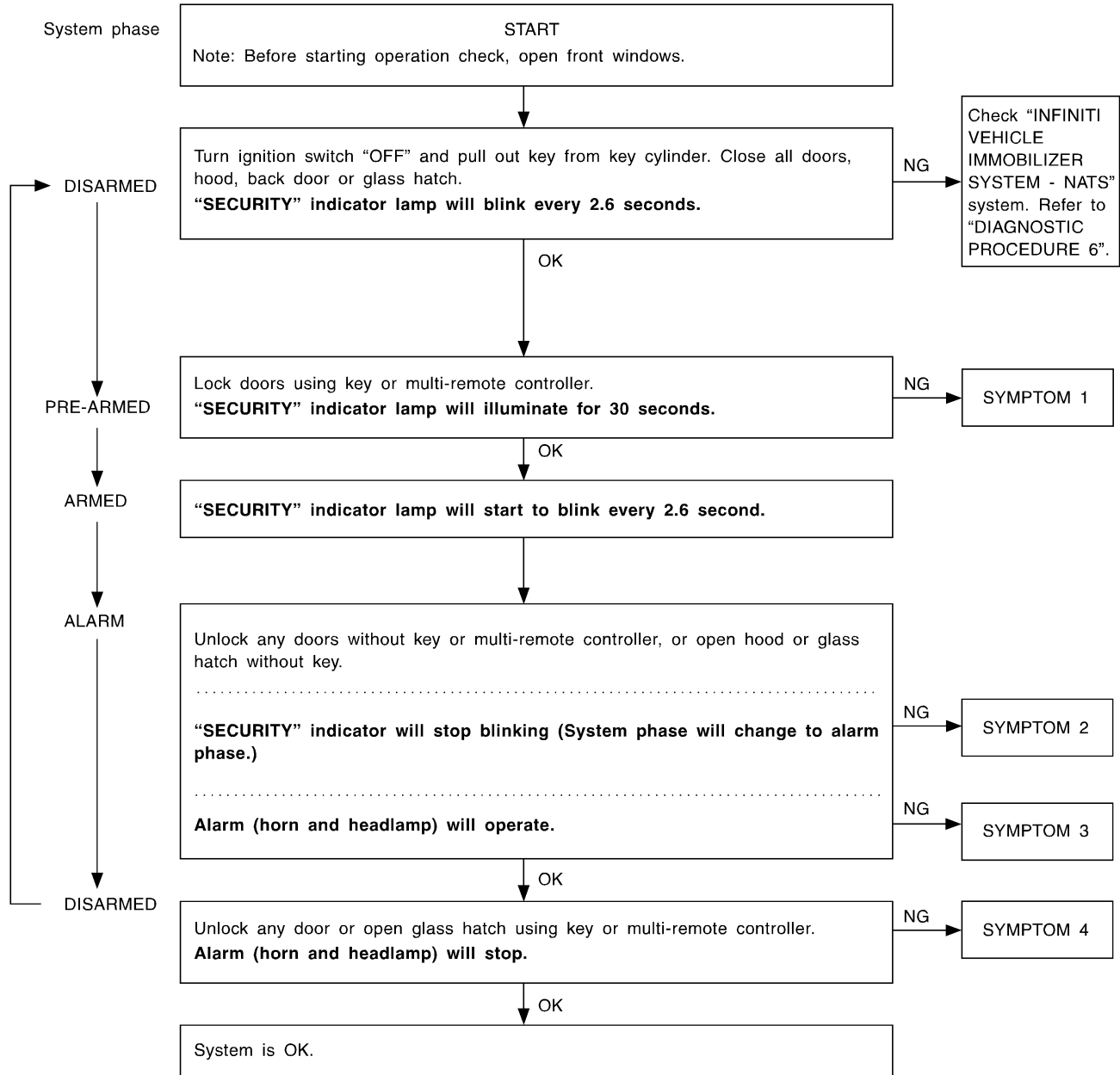
THEFT WARNING SYSTEM

Trouble Diagnoses PRELIMINARY CHECK

NCEL0123

NCEL0123S01

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



SEL733WB

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

THEFT WARNING SYSTEM



Trouble Diagnoses (Cont'd)

SYMPTOM CHART

NCEL0123S02

| REFERENCE PAGE (EL-) | 224 | 226 | 227 | 233 | 234 | 235 | 237 | 239 | 241 | 197 | | |
|-----------------------|---|---|---|-------------------------------|--------------------------|--------------------------------|-------------------------------------|--------------------------------|------------------------------------|--------------------------------------|--|----|
| SYMPTOM | PRELIMINARY CHECK | POWER SUPPLY AND GROUND CIRCUIT CHECK | DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK | SECURITY INDICATOR LAMP CHECK | DOOR UNLOCK SENSOR CHECK | DOOR KEY CYLINDER SWITCH CHECK | TRUNK LID KEY CYLINDER SWITCH CHECK | THEFT WARNING HORN ALARM CHECK | THEFT WARNING HEADLAMP ALARM CHECK | Check "MULTI-REMOTE CONTROL" system. | GI MA EM LC EC FE CL MT | |
| 1 | Theft warning indicator does not illuminate for 30 seconds. | X | X | X | X | | | | | | AT | |
| | Theft warning system cannot be set by ... | All items | X | X | X | | X | | | | AX | |
| | | Door outside key | X | | | | | X | | | | SU |
| | Multi-remote control | X | | | | | | | | X | | |
| 2 | *1 Theft warning system does not alarm when ... | Any door is opened. | X | | X | | | | | | BR | |
| | | Any door is unlocked without using key or multi-remote controller | X | | | | X | | | | | ST |
| 3 | Theft warning alarm does not activate. | All function | X | | X | | X | | | | RS | |
| | | Horn alarm | X | | | | | | X | | | BT |
| | | Headlamp alarm | X | | | | | | | X | | |
| 4 | Theft warning system cannot be canceled by ... | Door outside key | X | | | | X | | | | HA | |
| | | Trunk lid key | X | | | | | X | | | | SC |
| | | Multi-remote control | X | | | | | | | | X | |

X : Applicable

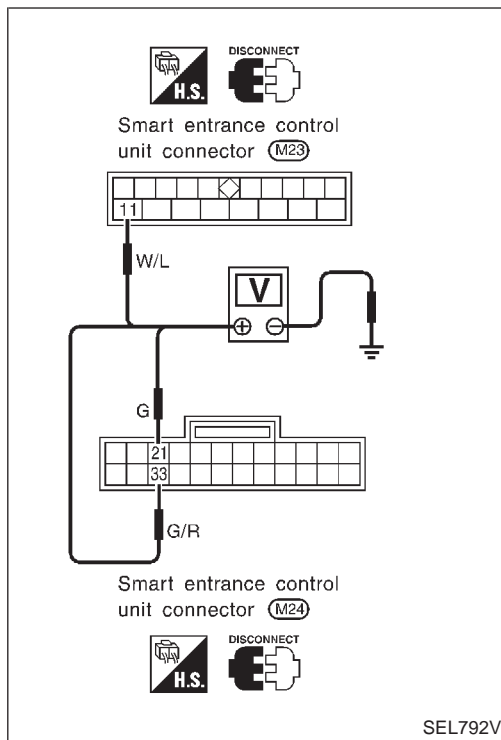
*1: Make sure the system is in the armed phase.

Before starting trouble diagnoses above, perform preliminary check, EL-224.

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

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)



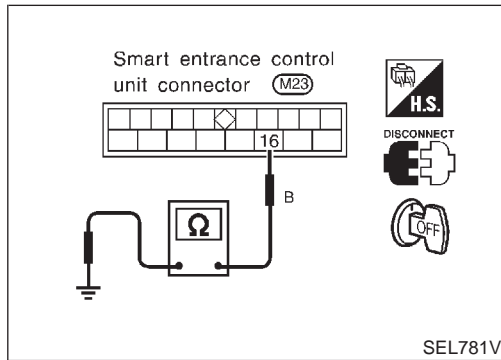
POWER SUPPLY AND GROUND CIRCUIT CHECK

NCEL0123S03

Power Supply Circuit Check

NCEL0123S0301

| Terminals | | Ignition switch position | | |
|-----------|--------|--------------------------|-----------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 11 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 33 | Ground | 0V | 0V | Battery voltage |
| 21 | Ground | 0V | Battery voltage | Battery voltage |



Ground Circuit Check

NCEL0123S0302

| Terminals | Continuity |
|-------------|------------|
| 16 - Ground | Yes |

DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK

Door Switch Check

=NCEL0123S04

NCEL0123S0401

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

| 2 | CHECK DOOR SWITCH INPUT SIGNAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------------|---|--------|------------|-------------|-----------|-------------|-----|-----|----------------------|----|--------|------|---|--------|------------|----------------------|----|--------|------|---|--------|------------|---------------------------------|----|--------|------|---|--------|------------|
| Check voltage between control unit terminals 28, 29 or 40 and ground. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminals</th> <th rowspan="2">Condition</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front LH door switch</td> <td rowspan="2">29</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 12</td> </tr> <tr> <td rowspan="2">Front RH door switch</td> <td rowspan="2">40</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 12</td> </tr> <tr> <td rowspan="2">Front LH and rear door switches</td> <td rowspan="2">28</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 12</td> </tr> </tbody> </table> | | | | Terminals | | Condition | Voltage [V] | (+) | (-) | Front LH door switch | 29 | ground | Open | 0 | Closed | Approx. 12 | Front RH door switch | 40 | ground | Open | 0 | Closed | Approx. 12 | Front LH and rear door switches | 28 | ground | Open | 0 | Closed | Approx. 12 |
| | Terminals | | | Condition | Voltage [V] | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (+) | (-) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front LH door switch | 29 | ground | Open | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Closed | Approx. 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front RH door switch | 40 | ground | Open | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Closed | Approx. 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front LH and rear door switches | 28 | ground | Open | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Closed | Approx. 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MTBL0194 SEL930V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Refer to wiring diagram in EL-221. <p style="text-align: center;">OK or NG</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OK | ▶ | Door switch is OK. Next, go to "Hood Switch Check". | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NG | ▶ | GO TO 3. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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THEFT WARNING SYSTEM

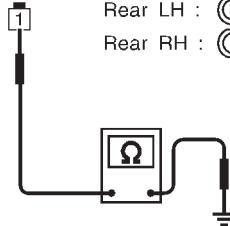
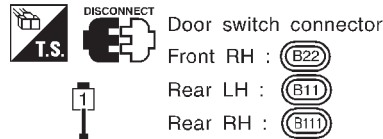
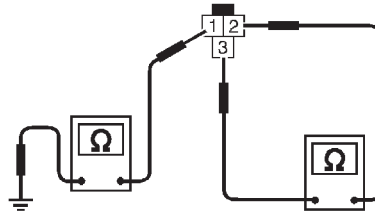
Trouble Diagnoses (Cont'd)

3 CHECK DOOR SWITCH

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

| | Terminals | Condition | Continuity |
|---------------------------------|-------------------|-----------|------------|
| Front LH door switch | 2 - 3, 1 - ground | Closed | No |
| | | Open | Yes |
| Front RH and rear door switches | 1 - ground | Closed | No |
| | | Open | Yes |

MTBL0195



SEL931V

OK or NG

OK



Check the following.

- Door switch ground circuit (Front, rear door) or door switch ground condition
- Harness for open or short between control unit and door switch

NG



Replace door switch.

Hood Switch Check

=NCEL0123S0402

| | | |
|--|--------------------------|--|
| 1 | PRELIMINARY CHECK | |
| 1. Turn ignition switch "OFF" and remove key from key cylinder. 2. Close all doors, engine hood and trunk lid. "SECURITY" indicator lamp should turn off. 3. Open hood. "SECURITY" indicator lamp should blink every second. | | |
| OK or NG | | |
| OK | ▶ | Hood switch is OK. Next, go to "Trunk Room Lamp Switch Check". |
| NG | ▶ | GO TO 2. |

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LC

| | | |
|-----------------|--|---|
| 2 | CHECK HOOD SWITCH FITTING CONDITION | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Adjust installation of hood switch or hood. |

EC
FE
CL

| | | |
|--|---------------------------------------|--|
| 3 | CHECK HOOD SWITCH INPUT SIGNAL | |
| Check voltage between control unit terminal 27 and ground. | | |
| | | |
| Refer to wiring diagram in EL-221. Voltage [V]: Engine hood is open. 0 Engine hood is closed. Approx. 12 | | |
| OK or NG | | |
| OK | ▶ | Hood switch is OK. Next, go to "Trunk Room Lamp Switch Check". |
| NG | ▶ | GO TO 4. |

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SEL932V

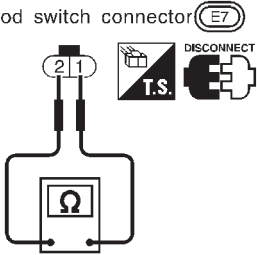
HA
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EL

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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

| 4 | CHECK HOOD SWITCH |
|---|---|
| <p>1. Disconnect hood switch connector.</p> <p>2. Check continuity between hood switch terminals 1 and 2.</p> <div style="text-align: center;">  <p>Hood switch connector (E7)</p> </div> <p style="text-align: right;">SEL397TC</p> <p>Continuity: Condition: Pushed No Condition: Released Yes</p> <p style="text-align: center;">OK or NG</p> | |
| OK | <p>▶ Check the following.</p> <ul style="list-style-type: none"> ● Hood switch ground circuit ● Harness for open or short between control unit and hood switch |
| NG | <p>▶ Replace hood switch.</p> |

Trunk Room Lamp Switch Check

=NCEL0123S0403

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

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LC

| | | |
|----------|--|-------------------------------|
| 2 | CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL | |
| | Check voltage between control unit terminal 38 and ground. <div style="text-align: center;"> <p style="text-align: center;">Smart entrance control unit connector (M24)</p> <p style="text-align: center;">H.S. CONNECT OFF</p> </div> <p style="text-align: right;">SEL933V</p> <p>Refer to wiring diagram in EL-221.</p> <p>Voltage [V]: Trunk lid is open. Approx. 0 Trunk lid is closed. Approx. 12</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ | Trunk room lamp switch is OK. |
| NG | ▶ | GO TO 3. |

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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

| | | |
|----------|-------------------------------------|---|
| 3 | CHECK TRUNK ROOM LAMP SWITCH | <p>1. Disconnect trunk room lamp switch connector. 2. Check continuity between trunk room lamp switch terminals 1 and 2.</p> <div style="text-align: center;"> <p>Trunk room lamp switch connector (T55)</p> </div> <p style="text-align: right;">SEL934V</p> <p>Continuity: Condition: Closed No Condition: Open Yes</p> <p style="text-align: center;">OK or NG</p> |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Trunk room lamp switch ground circuit ● Harness for open or short between control unit and trunk room lamp switch |
| NG | ▶ | <p>Replace trunk room lamp switch.</p> |

SECURITY INDICATOR LAMP CHECK

=NCEL0123S05

| | | | | | | | | | |
|----------|---|--|----|---|--------------------------------|----|---|----------|--|
| 1 | CHECK INDICATOR LAMP OUTPUT SIGNAL | <p>1. Disconnect control unit connector. 2. Check voltage between control unit terminal 31 and ground.</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram in EL-220. Battery voltage should exist.</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>Security indicator lamp is OK.</td> </tr> <tr> <td>NG</td> <td>▶</td> <td>GO TO 2.</td> </tr> </table> | OK | ▶ | Security indicator lamp is OK. | NG | ▶ | GO TO 2. | GI MA EM LC EC FE CL |
| OK | ▶ | Security indicator lamp is OK. | | | | | | | |
| NG | ▶ | GO TO 2. | | | | | | | |

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

| | | | | | | | | | |
|----------|--|--|----|---|---|----|---|--|--|
| 3 | CHECK POWER SUPPLY CIRCUIT FOR INDICATOR LAMP | <p>1. Disconnect security lamp connector. 2. Check voltage between indicator lamp terminal 1 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: center;">Battery voltage should exist.</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>Check harness for open or short between security indicator lamp and control unit.</td> </tr> <tr> <td>NG</td> <td>▶</td> <td> Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in fuse block (J/B)] ● Harness for open or short between security indicator lamp and fuse </td> </tr> </table> | OK | ▶ | Check harness for open or short between security indicator lamp and control unit. | NG | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in fuse block (J/B)] ● Harness for open or short between security indicator lamp and fuse | SU BR ST RS BT HA SC |
| OK | ▶ | Check harness for open or short between security indicator lamp and control unit. | | | | | | | |
| NG | ▶ | Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in fuse block (J/B)] ● Harness for open or short between security indicator lamp and fuse | | | | | | | |

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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

DOOR UNLOCK SENSOR CHECK

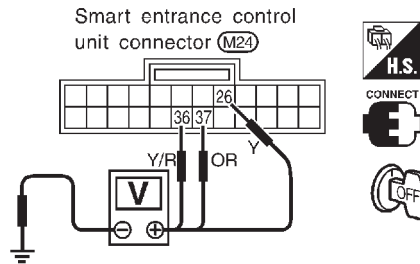
=NCEL0123S06

1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between control unit terminals 26, 36 or 37 and ground.

| | Terminals | | Condition | Voltage [V] |
|---------------|-----------|--------|-----------|-------------|
| | (+) | (-) | | |
| Front LH door | 36 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |
| Front RH door | 37 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |
| Rear door | 26 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |

MTBL0163



SEL937V

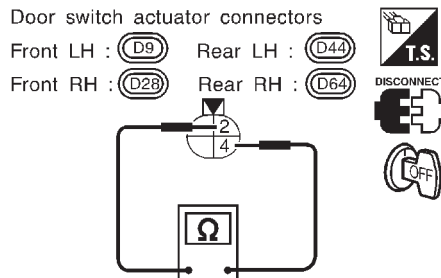
Refer to wiring diagram in EL-220.

OK or NG

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

2 CHECK DOOR UNLOCK SENSOR

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



SEL938V

Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

OK or NG

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

DOOR KEY CYLINDER SWITCH CHECK

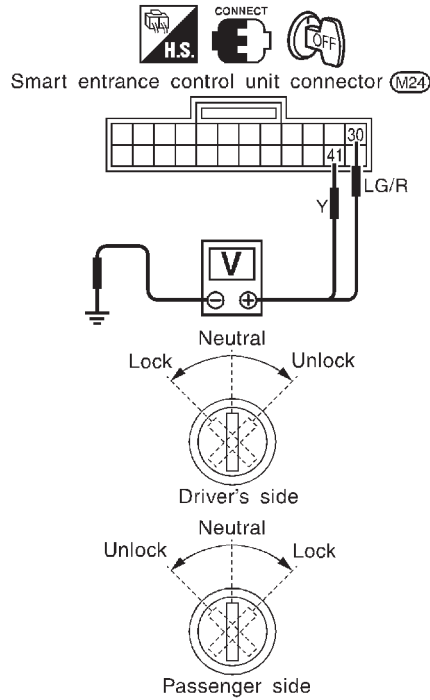
=NCEL0123S07

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

Check voltage between control unit terminals 30 or 41 and ground.

| Terminals | | Key position | Voltage [V] |
|-----------|--------|--------------|-------------|
| (+) | (-) | | |
| 30 | Ground | Neutral | Approx. 12 |
| | | Unlock | 0 |
| 41 | Ground | Neutral | Approx. 12 |
| | | Lock | 0 |

MTBL0164



Refer to wiring diagram in EL-222.

SEL939V

OK or NG

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

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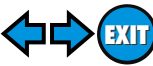
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

| | |
|--|--|
| 2 | CHECK DOOR KEY CYLINDER SWITCH |
| <p>1. Disconnect door key cylinder switch connector. 2. Check continuity between door key cylinder switch terminals.</p> | |
| | |
| <p>Door key cylinder switch connector</p> | |
| <p>LH (With IVCS) : (D1)</p> | <p>LH (Without IVCS) : (D8) RH : (D27)</p> |
| <p>① : Door lock switch terminal (LH) Door unlock switch terminal (RH)</p> <p>② : Ground terminal</p> <p>③ : Door unlock switch terminal (LH) Door lock switch terminal (RH)</p> | |
| <p>SEL671W</p> | |
| 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 control unit and door key cylinder switch |
| NG | ▶ Replace door key cylinder switch. |

THEFT WARNING SYSTEM



Trouble Diagnoses (Cont'd)

TRUNK LID KEY CYLINDER SWITCH CHECK

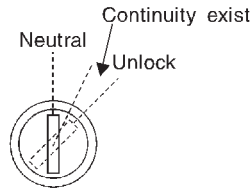
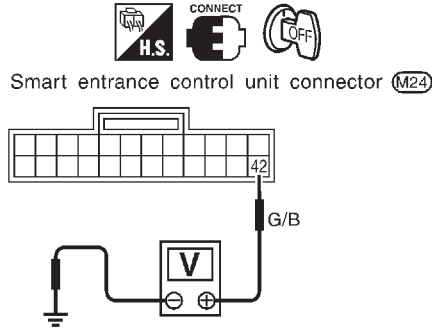
=NCEL0123S08

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

Check voltage between control unit terminal 42 and ground.

| Terminal | | Key position | Voltage [V] |
|----------|--------|--------------|-------------|
| (+) | (-) | | |
| 42 | Ground | Neutral | Approx. 12 |
| | | Unlock | 0 |

MTBL0166



Refer to wiring diagram in EL-222.

SEL941V

OK or NG

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

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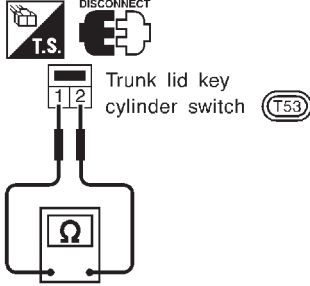
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

| 2 | CHECK TRUNK LID KEY CYLINDER SWITCH | | | | | | | |
|--------------|--|---|--------------|------------|---------|----|--------|-----|
| | <p>1. Disconnect trunk lid key cylinder switch connector.</p> <p>2. Check continuity between trunk lid key cylinder switch terminals.</p> <table border="1"> <thead> <tr> <th>Key position</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td>Neutral</td> <td>No</td> </tr> <tr> <td>Unlock</td> <td>Yes</td> </tr> </tbody> </table> <div style="text-align: right; margin-top: 10px;">MTBL0167</div> <div style="text-align: center; margin-top: 20px;">  <p style="margin-left: 100px;">Trunk lid key cylinder switch (T53)</p> </div> <div style="text-align: center; margin-top: 10px;">OK or NG</div> <div style="text-align: right; margin-top: 10px;">SEL942V</div> | | Key position | Continuity | Neutral | No | Unlock | Yes |
| Key position | Continuity | | | | | | | |
| Neutral | No | | | | | | | |
| Unlock | Yes | | | | | | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Trunk lid key cylinder switch ground circuit ● Harness for open or short between control unit and trunk lid key cylinder switch | | | | | | |
| NG | ▶ | Replace trunk lid key cylinder switch. | | | | | | |

THEFT WARNING HORN ALARM CHECK

=NCEL0123S09

| | | | |
|---|---|---|----------------------------------|
| 1 | CHECK THEFT WARNING HORN ALARM OPERATION | | GI |
| <p>1. Disconnect control unit connector. 2. Apply ground to control unit terminal 19.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p style="text-align: center;">Smart entrance control unit connector (M24)</p> <div style="margin-left: 200px; text-align: center;"> <p>Does horn alarm activate?</p> </div> <div style="text-align: right; margin-top: 20px;">SEL734W</div> | | | MA EM LC EC FE CL |
| <p>Refer to wiring diagram in EL-223.</p> | | | |
| Yes | | ▶ | Horn alarm is OK. |
| No | | ▶ | GO TO 2. |

| | | | |
|---|-------------------------|---|----------|
| 2 | CHECK HORN RELAY | | MT |
| <p>Check horn relay.</p> <p style="text-align: center; margin-top: 20px;">OK or NG</p> | | | AT |
| OK | | ▶ | GO TO 3. |
| NG | | ▶ | Replace. |

| | | | |
|---|--|---|---|
| 3 | CHECK POWER SUPPLY FOR HORN RELAY | | SU |
| <p>1. Disconnect horn relay connector. 2. Check voltage between terminal 1 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p style="text-align: center;">Horn relay connector (E47)</p> <div style="margin-left: 200px; text-align: center;"> <p>Battery voltage should exist.</p> </div> <div style="text-align: right; margin-top: 20px;">SEL673W</div> | | | BR ST RS BT HA SC |
| OK or NG | | | |
| OK | | ▶ | GO TO 4. |
| NG | | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 36, 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 HORN RELAY CIRCUIT | |
| | <ol style="list-style-type: none"> 1. Disconnect horn relay connector. 2. Check voltage between terminals 3 and 5. 3. Check voltage between terminals 6 and 7. | |
| | <div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <p>Horn relay connector (E47)</p> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> | |
| | SEL674W | |
| | OK or NG | |
| OK | ▶ | Check harness for open or short between theft warning horn relay and control unit. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 41, located in the fuse and fusible link box) ● Harness for open or short between fuse and horn relay ● Harness for open or short between horn relay and horns |

THEFT WARNING HEADLAMP ALARM CHECK

=NCEL0123S10

| | | |
|--|---|-----------------------|
| 1 | CHECK THEFT WARNING HEADLAMP ALARM OPERATION | |
| <p>1. Disconnect control unit connector. 2. Apply ground to control unit terminal 4.</p> <div style="text-align: center;"> <p>Smart entrance control unit connector (M23)</p> </div> <p>Refer to wiring diagram in EL-223.</p> <p style="text-align: right;">SEL943V</p> | | |
| Does headlamp alarm activate? | | |
| Yes | ▶ | Headlamp alarm is OK. |
| No | ▶ | GO TO 2. |

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| 2 | CHECK HEADLAMP OPERATION | |
| Does headlamp come on when turning lighting switch "ON"? | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | Check headlamp system. Refer to "HEADLAMP". |

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

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| | | |
|---|--|---|
| 4 | CHECK POWER SUPPLY FOR THEFT WARNING LAMP RELAY | |
| <p>1. Disconnect theft warning lamp relay connector. 2. Check voltage between terminal 1 and ground.</p> <div style="text-align: center;"> <p>Theft warning lamp relay connector (E48)</p> </div> <p>Refer to wiring diagram in EL-223. Battery voltage should exist.</p> <p style="text-align: right;">SEL757UE</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 36, located in the fuse and fusible link box) ● Harness for open or short between theft warning lamp relay and fuse |

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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 connector.</p> <p>2. Check voltage between terminals 3 and 5. Battery voltage should exist.</p> <p>3. Check voltage between terminals 6 and 7. Battery voltage should exist.</p> <div style="text-align: center;"> <p>Thief warning lamp relay connector (E48)</p> </div> <p style="text-align: right;">SEL758UG</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ | Check harness for open or short between theft warning lamp relay and control unit. |
| NG | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● 15A fuse (No. 32 and 33, located in the fuse and fusible link box) ● Harness for open or short between fuse and theft warning lamp relay ● Harness for open or short between theft warning lamp relay and headlamps |

Description

NCEL0124

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

- Warning chime
- Rear window defogger timer and door mirror defogger timer
- Power door lock
- Multi-remote control system
- Theft warning system
- Interior room lamp timer
- Electric sunroof and power window timer
- Battery saver

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.

INPUT/OUTPUT

NCEL0124S01

| System | Input | Output |
|---|--|--|
| Power door lock | Door lock and unlock switch Key switch (Insert) Front door switch LH Front door switch RH Front door unlock sensor LH Front door unlock sensor RH Door key cylinder switches | Door lock actuator |
| Multi-remote control | Key switch (Insert) Ignition switch (ACC) Door switches Door lock and unlock switch Door unlock sensor (driver side) Antenna (remote controller signal) | Horn relay Theft warning lamp relay Interior room lamp Multi-remote control relay Door lock actuator Trunk lid opener relay |
| Warning chime | Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt switch Front door switch LH | Warning chime |
| Rear window defogger timer and door mirror defogger timer | Ignition switch (ON) Rear window defogger switch | Rear window defogger relay |
| Theft warning | Ignition switch (ACC, ON) Door switches Hood switch Trunk room lamp switch Door key cylinder switches (lock/unlock) Trunk lid key cylinder switch (unlock) Door unlock sensors | Horn relay Theft warning lamp relay Security indicator |
| Interior room lamp timer | Door switches Door lock and unlock switch Ignition switch (ON) Key switch (Insert) | Interior room lamp |
| Electric sunroof and power window timer | Ignition switch (ON) Front door switches | Power window relay |
| Headlamp battery saver timer | Ignition switch (ON) Front door switches | Headlamp battery saver control unit |
| Battery saver | Key switch (Insert) Door switches Door lock and unlock switch | Interior room lamp Map lamp |

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Description (Cont'd)

BATTERY SAVER

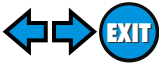
NCEL0124S02

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

After the battery saver system turns off the lamps, the lamps illuminate again when:

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

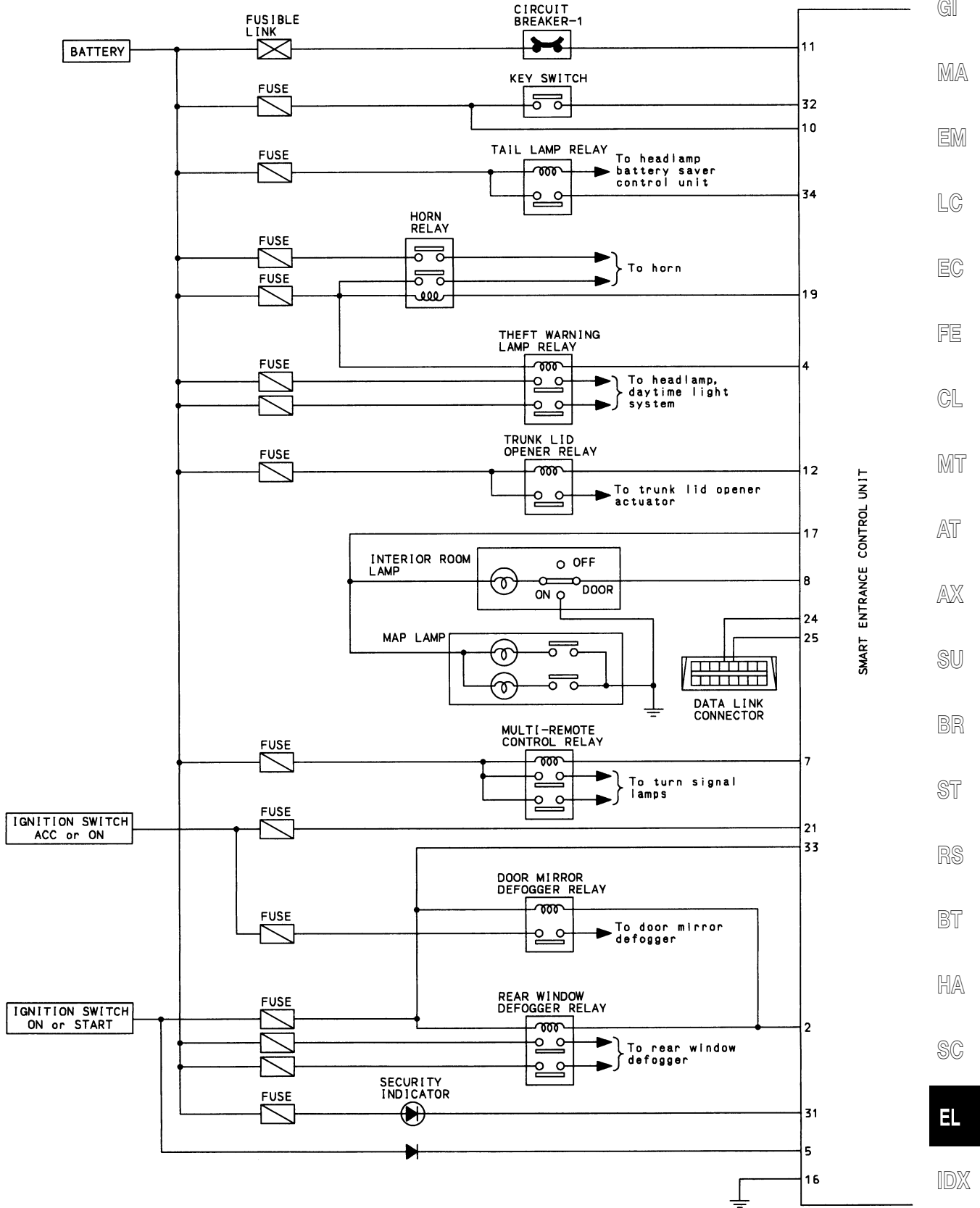
SMART ENTRANCE CONTROL UNIT



Schematic

Schematic

NCEL0125



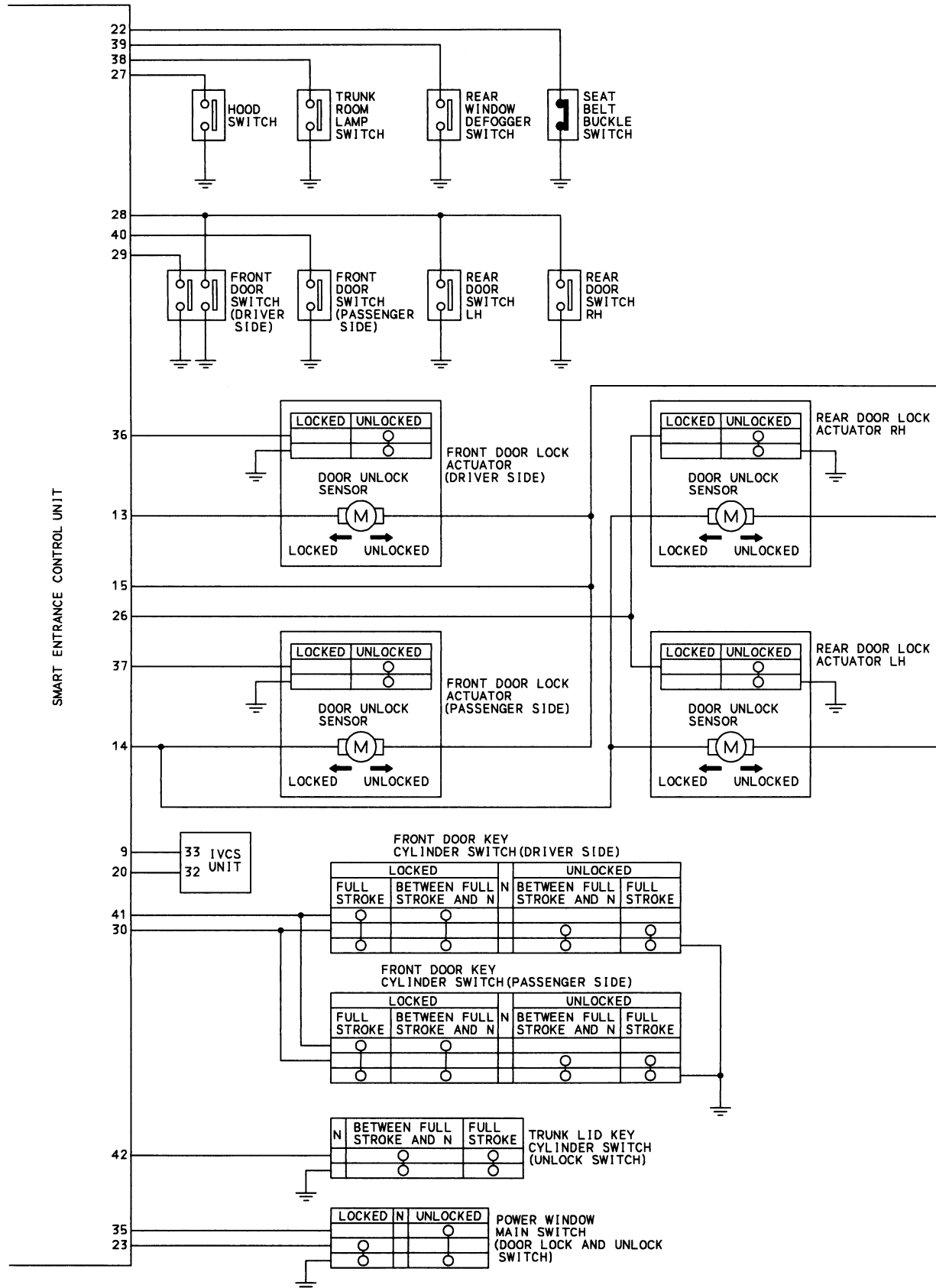
SMART ENTRANCE CONTROL UNIT

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- SU
- BR
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- RS
- BT
- HA
- SC
- EL**
- IDX

TEL540B

SMART ENTRANCE CONTROL UNIT

Schematic (Cont'd)



SMART ENTRANCE CONTROL UNIT



Smart Entrance Control Unit Inspection Table

Smart Entrance Control Unit Inspection Table

NCEL0126

| Terminal No. | Wire color | Connections | Operated condition | Voltage (Approximate values) | |
|--------------|------------|---------------------------------|---|------------------------------|-----|
| 2 | G | Rear window defogger relay | OFF → ON (Ignition key is in "ON" position) | 12V → 0V | |
| 4 | Y/G | Theft warning lamp relay | When panic alarm is operated using remote controller | 12V → 0V | |
| 7 | P | Multi-remote control relay | When doors are locked using remote controller | 12V → 0V | |
| 8 | R/L | Interior room lamp | When interior lamp is operated using remote controller (Lamp switch in "DOOR" position) | 12V → 0V | |
| 10 | P | Power source (Fuse) | — | 12V | |
| 11 | W/L | Power source (C/B) | — | 12V | |
| 12 | L | Trunk lid opener relay | When trunk lid is unlocked using remote controller | 12V → 0V | |
| 13 | P | Driver door lock actuator | Door lock & unlock switch | Free | 0V |
| 14 | L | Passenger door lock actuator | | Unlocked | 12V |
| 15 | GY | Door lock actuators | Door lock & unlock switch | Free | 0V |
| | | | | Locked | 12V |
| 16 | B | Ground | — | — | |
| 17 | GY/R | Battery saver | Battery saver is not operate → Operate | 12V → 0V | |
| 19 | G/W | Horn relay | When doors are locked using remote controller with horn chirp mode | 12V → 0V | |
| 21 | G | Ignition switch (ACC) | "ACC" position | 12V | |
| 22 | W/R | Seat belt buckle switch | Unfasten → Fasten (Ignition key is in "ON" position) | 0V → 12V | |
| 23 | GY | Door lock & unlock switches | Neutral → Locks | 12V → 0V | |
| 26 | Y | Rear door unlock sensors | All doors are locked → One or more doors are unlocked | 12V → 0V | |
| 27 | Y/B | Hood open signal | ON (Open) → OFF (Closed) | 0V → 12V | |
| 28 | R/W | All door switches | OFF (Closed) → ON (Open) | 12V → 0V | |
| 29 | SB | Driver door switch | OFF (Closed) → ON (Open) | 12V → 0V | |
| 30 | LG/R | Door key cylinder unlock switch | OFF (Neutral) → ON (Unlocked) | 12V → 0V | |
| 31 | BR/Y | Security indicator | Goes off → Illuminates | 12V → 0V | |
| 32 | L | Ignition key switch (Insert) | key inserted → key removed from IGN key cylinder | 12V → 0V | |
| 33 | G/R | Ignition switch (ON) | Ignition key is in "ON" position | 12V | |
| 34 | R/G | Tail lamp relay | 1ST, 2ND positions: ON → OFF | 12V → 0V | |
| 35 | G | Door lock & unlock switches | Neutral → Unlocks | 12V → 0V | |
| 36 | Y/R | Driver door unlock sensor | Driver door: Locked → Unlocked | 12V → 0V | |
| 37 | OR | Passenger door unlock sensor | Passenger door: Locked → Unlocked | 12V → 0V | |
| 38 | R | Trunk room lamp switch | ON (Open) → OFF (Closed) | 0V → 12V | |
| 39 | L/W | Rear window defogger switch | OFF → ON | 12V → 0V | |
| 40 | R/L | Passenger door switch | OFF (Closed) → ON (Open) | 12V → 0V | |
| 41 | Y | Door key cylinder lock switch | OFF (Neutral) → ON (Locked) | 12V → 0V | |
| 42 | G/B | Trunk lid key unlock switch | OFF (Neutral) → ON (Unlock) | 12V → 0V | |

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

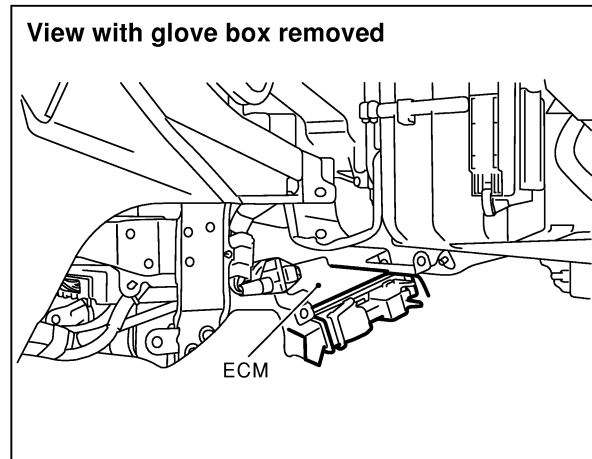
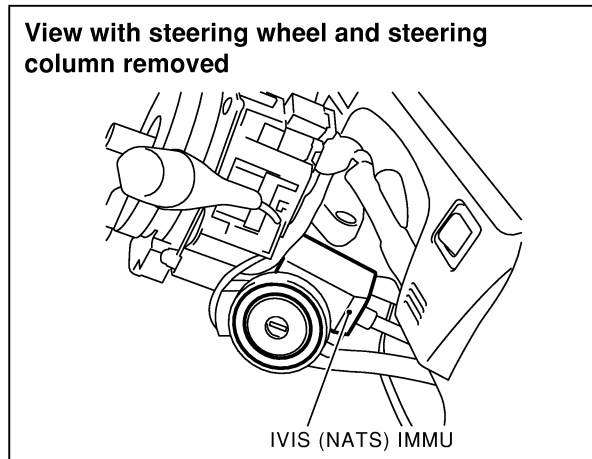
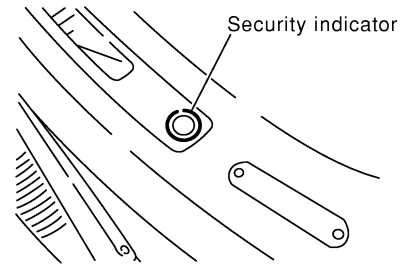
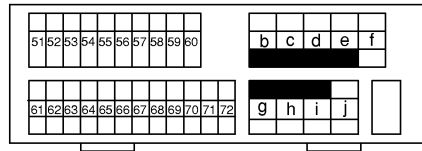
Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0174

Fuse block (J/B)

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



SEL663W

NOTE:

If customer reports a “No Start” condition, request ALL KEYS to be brought to an INFINITI dealer in case of an IVIS (NATS) malfunction.

System Description

=NCEL0175

IVIS (INFINITI Vehicle Immobilizer System—NATS) has the following immobilizer functions:

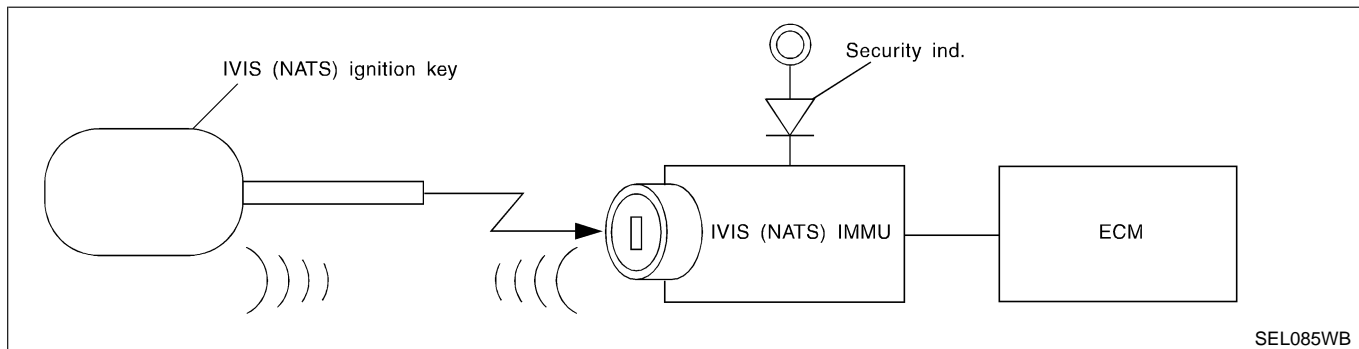
- Since only IVIS (NATS) ignition keys, whose ID nos. have been registered into the ECM and IMMU of IVIS (NATS), allow the engine to run, operation of a stolen vehicle without a IVIS (NATS) registered key is prevented by IVIS (NATS).
That is to say, IVIS (NATS) will immobilize the engine if someone tries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

System Composition

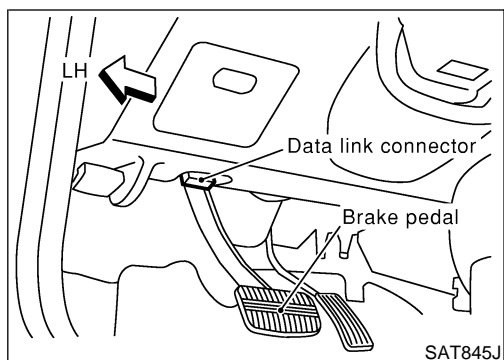
NCEL0176

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

- IVIS (NATS) ignition key
- IVIS (NATS) immobilizer control unit (IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- Security indicator



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CONSULT-II

CONSULT-II INSPECTION PROCEDURE

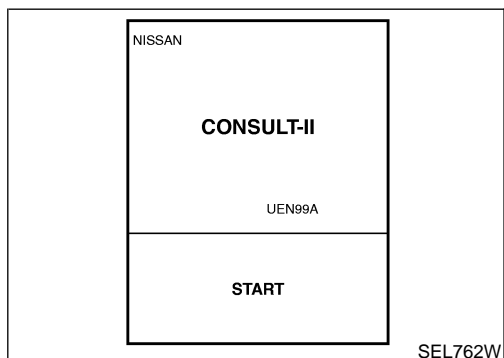
NCEL0178

NCEL0178S01

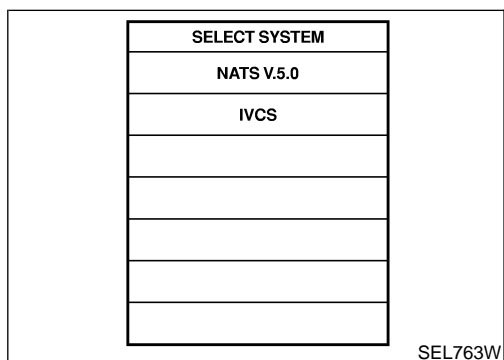
1. Turn ignition switch OFF.
2. Insert IVIS (NATS) program card into CONSULT-II.

Program card NATS (UEN99A)

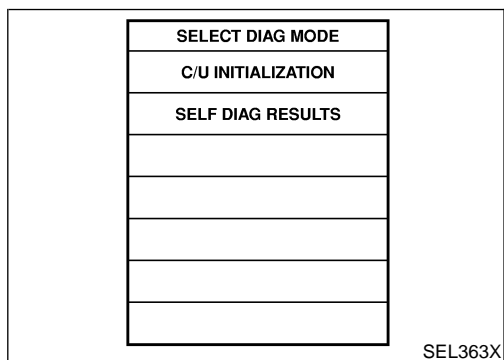
3. Connect CONSULT-II to the data link connector.



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



6. Select "NATS V.5.0".



7. Perform each diagnostic test mode according to each service procedure.
For further information, see the CONSULT-II Operation Manual, IVIS/NVIS.

CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

NCEL0178S02

| CONSULT-II DIAGNOSTIC TEST MODE | Description |
|---------------------------------|---|
| C/U INITIALIZATION | When replacing any of the following three components, C/U initialization and re-registration of all IVIS (NATS) ignition keys are necessary. [IVIS (NATS) ignition key/IMMU/ECM] |
| SELF-DIAG RESULTS | Detected items (screen terms) are as shown in the chart below. |

NOTE:

- When any initialization is performed, all IDs previously

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

CONSULT-II (Cont'd)

registered will be erased and all IVIS (NATS) ignition keys must be registered again.

- The engine cannot be started with an unregistered key. In this case, the system will show “DIFFERENCE OF KEY” or “LOCK MODE” as a self-diagnostic result on the CONSULT-II screen.
- “CHAIN OF ECM-IMMU” might be stored as a self-diagnostic result during the key registration procedure, even if the system is not malfunctioning.

HOW TO READ SELF-DIAGNOSTIC RESULTS

NCEL0178S03

Result display screen (When no malfunction is detected)

| SELF DIAG RESULTS | |
|--|------|
| DTC RESULTS | TIME |
| NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED. | |
| | |
| | |
| | |
| PRINT | |

Result display screen (When malfunction is detected)

| SELF DIAG RESULTS | |
|-------------------|-------|
| DTC RESULTS | TIME |
| CHAIN OF ECM-IMMU | 0 |
| DIFFERENCE OF KEY | 1 |
| | |
| | |
| Scroll down | |
| ERASE | PRINT |

Detected items →

If “Scroll Down” is indicated, there are four or more malfunctions.

When touched, the results stored in the engine control module (ECM) are erased.

Time data
This indicates how many times the vehicle was driven after the last detection of a malfunction. If the malfunction is detected currently, the time data will be “0”.

When touched, the results are printed out.

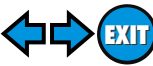
SEL364X

IVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART

NCEL0178S04

| Detected items (NATS program card screen terms) | P No. Code (Self-diagnostic result of “ENGINE”) | Malfunction is detected when | Reference page |
|---|---|--|----------------|
| ECM INT CIRC-IMMU | NATS MAL-FUNCTION P1613 | The malfunction of ECM internal circuit of IMMU communication line is detected. | EL-256 |
| CHAIN OF ECM-IMMU | NATS MAL-FUNCTION P1612 | Communication impossible between ECM and IMMU (“CHAIN OF ECM-IMMU” might be stored as a self-diagnostic result during the key registration procedure, even if the system is not malfunctioning.) | EL-257 |
| DIFFERENCE OF KEY | NATS MAL-FUNCTION P1615 | IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG. | EL-261 |
| CHAIN OF IMMU-KEY | NATS MAL-FUNCTION P1614 | IMMU cannot receive the key ID signal. | EL-262 |
| ID DISCORD, IMM-ECM | NATS MAL-FUNCTION P1611 | The result of ID verification between IMMU and ECM is NG. System initialization is required. | EL-263 |

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)



CONSULT-II (Cont'd)

| Detected items (NATS program card screen terms) | P No. Code (Self-diagnostic result of "ENGINE") | Malfunction is detected when | Reference page |
|---|---|--|----------------|
| LOCK MODE | NATS MAL-FUNCTION P1610 | When the starting operation is carried out five or more times consecutively under the following conditions, IVIS (NATS) will shift the mode to one which prevents the engine from being started. <ul style="list-style-type: none"> ● Unregistered ignition key is used. ● IMMU or ECM's malfunctioning. | EL-266 |
| DON'T ERASE BEFORE CHECKING ENG DIAG | — | All engine trouble codes except IVIS (NATS) trouble code has been detected in ECM. | EL-254 |

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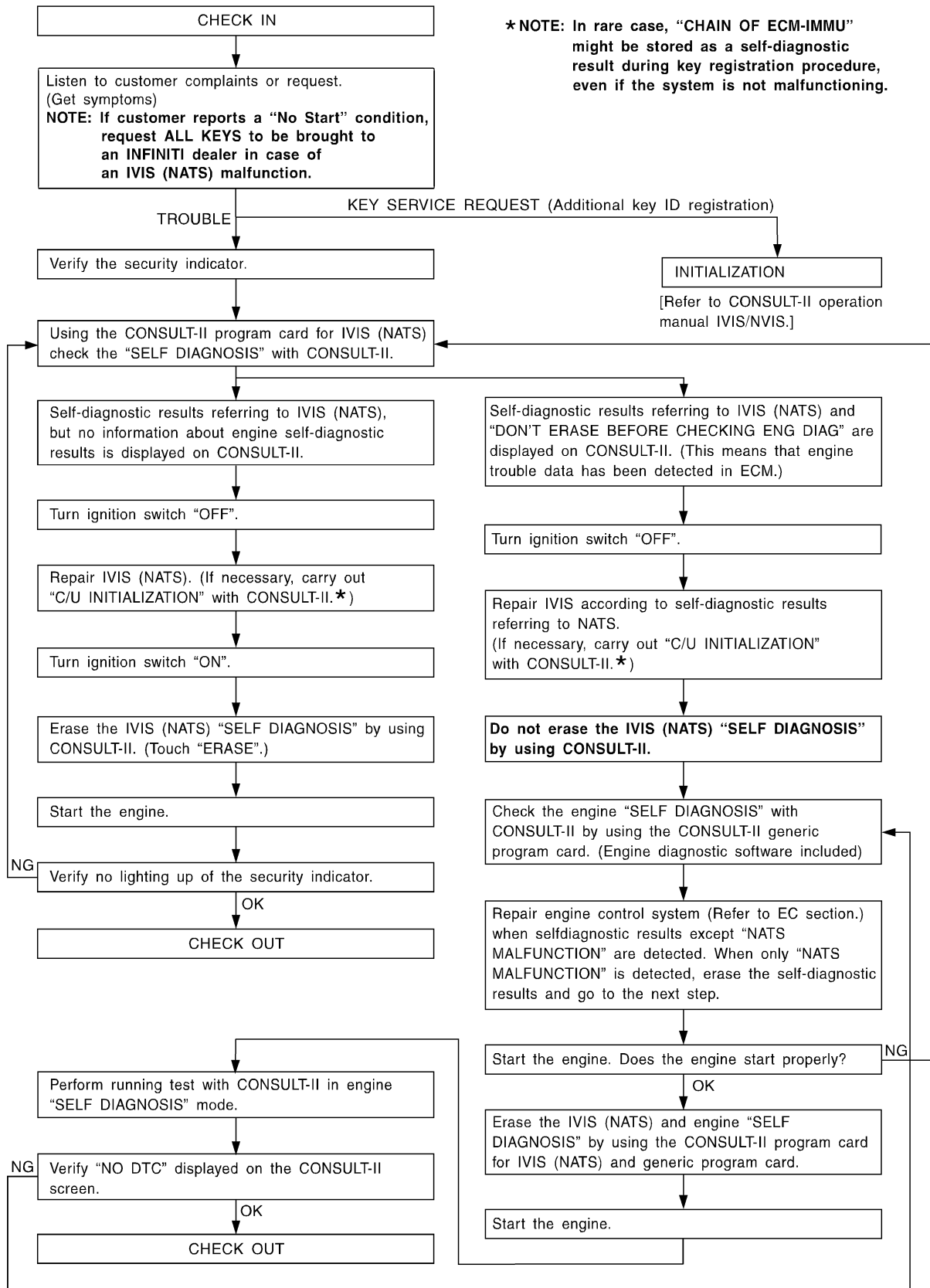
IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses

Trouble Diagnoses WORK FLOW

NCEL0179

NCEL0179S01



SEL024X

SYMPTOM MATRIX CHART 1 (Self-diagnosis related item)

NCEL0179S02

| SYMPTOM | Displayed "SELF-DIAG RESULTS" on CONSULT-II screen. | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) | REFERENCE PART NO. OF ILLUSTRATION ON NEXT PAGE | |
|--|---|--|--|--|-------------------------|
| <ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine cannot be started. | ECM INT CIRC-IMMU | PROCEDURE 1 (EL-256) | ECM | B | |
| | CHAIN OF ECM-IMMU | | PROCEDURE 2 (EL-257) | "CHAIN OF ECM-IMMU" might be stored as a self-diagnostic result during the key registration procedure, even if the system is not malfunctioning. | — |
| | | | | Open circuit in battery voltage line of IMMU circuit | C1 |
| | | | | Open circuit in ignition line of IMMU circuit | C2 |
| | | | | Open circuit in ground line of IMMU circuit | C3 |
| | | | | Open circuit in communication line between IMMU and ECM | C4 |
| | | | | Short circuit between IMMU and ECM communication line and battery voltage line | C4 |
| | | | | Short circuit between IMMU and ECM communication line and ground line | C4 |
| | | | | ECM | B |
| | | | | IMMU | A |
| | | | | DIFFERENCE OF KEY | PROCEDURE 3 (EL-261) |
| | | | IMMU | A | |
| | CHAIN OF IMMU-KEY | | PROCEDURE 4 (EL-262) | Malfunction of key ID chip | E |
| | | | | IMMU | A |
| | ID DISCORD, IMM-ECM | | PROCEDURE 5 (EL-263) | System initialization has not yet been completed. | F |
| ECM | | | | F | |
| LOCK MODE | | PROCEDURE 7 (EL-266) | LOCK MODE | D | |
| <ul style="list-style-type: none"> ● MIL staying ON ● Security indicator lighting up* | DON'T ERASE BEFORE CHECKING ENG DIAG | WORK FLOW (EL-254) | Engine trouble data and IVIS (NATS) trouble data have been detected in ECM | — | |

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

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

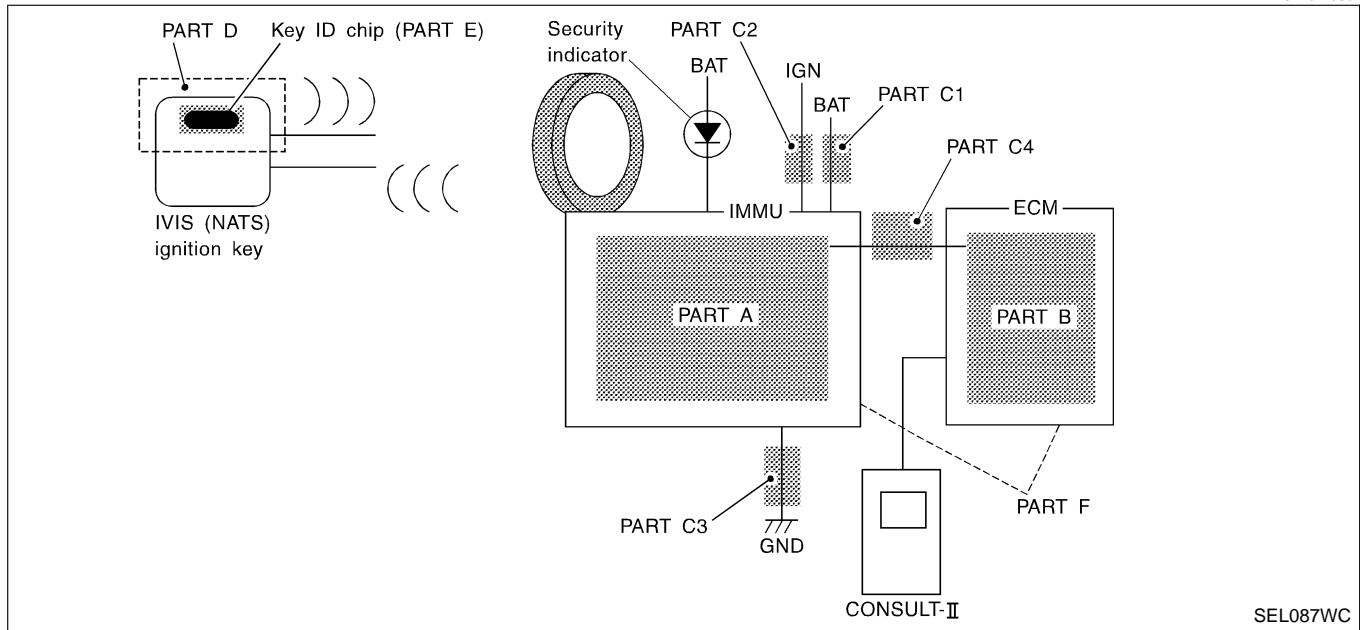
SYMPTOM MATRIX CHART 2 (Non self-diagnosis related item)

NCEL0179S03

| SYMPTOM | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) |
|----------------------------------|--|---|
| Security ind. does not light up. | PROCEDURE 6 (EL-264) | Security ind. |
| | | Open circuit between Fuse and IMMU |
| | | Continuation of initialization mode |
| | | IMMU |

DIAGNOSTIC SYSTEM DIAGRAM

NCEL0179S04



SEL087WC

| SELF DIAG RESULTS | |
|-------------------|------|
| DTC RESULTS | TIME |
| ECM INT CIRC-IMMU | 0 |
| | |
| | |

SEL365X

DIAGNOSTIC PROCEDURE 1

NCEL0179S05

Self-diagnostic results:

“ECM INT CIRC-IMMU” displayed on CONSULT-II screen

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

DIAGNOSTIC PROCEDURE 2

=NCEL0179S06

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

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS | | | | | | | | | | | |
|---|--|-------------------------------|-------------------|--|-------------|------|-------------------|---|--|--|--|--|
| Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF ECM-IMMU" displayed on CONSULT-II screen. NOTE: "CHAIN OF ECM-IMMU" might be stored as a self-diagnostic result during the key registration procedure, even if the system is not malfunctioning. | | | | | | | | | | | | |
| <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">CHAIN OF ECM-IMMU</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> | | | SELF DIAG RESULTS | | DTC RESULTS | TIME | CHAIN OF ECM-IMMU | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| CHAIN OF ECM-IMMU | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL366X | | | | | | | | | | | | |
| Is CONSULT-II screen displayed as above? | | | | | | | | | | | | |
| Yes | ▶ | GO TO 2. | | | | | | | | | | |
| No | ▶ | GO TO SYMPTOM MATRIX CHART 1. | | | | | | | | | | |

| | | |
|--|--|--|
| 2 | CHECK POWER SUPPLY CIRCUIT FOR IMMU | |
| 1. Disconnect IMMU connector. 2. Check voltage between terminal 8 of IMMU and ground with CONSULT-II or tester. | | |
| | | |
| Battery voltage should exist. | | |
| SEL302WA | | |
| OK or NG | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Check the following <ul style="list-style-type: none"> ● 7.5A fuse [No. 4, located in the fuse block (J/B)] ● Harness for open or short between fuse and IMMU connector Ref. Part No. C1 |

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

| | | | |
|----------|--------------------------------|---|--|
| 3 | CHECK IGN SW. ON SIGNAL | <p>1. Turn ignition switch ON. 2. Check voltage between terminal 7 of IMMU and ground with CONSULT-II or tester.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL303WB</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ | GO TO 4. | |
| NG | ▶ | <p>Check the following</p> <ul style="list-style-type: none"> ● 10A fuse [No. 8, located in the fuse block (J/B)] ● Harness for open or short between fuse and IMMU connector <p>Ref. part No. C2</p> | |

| | | | |
|----------|--------------------------------------|--|--|
| 4 | CHECK GROUND CIRCUIT FOR IMMU | <p>1. Turn ignition OFF. 2. Check harness continuity between IMMU terminal 4 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> <p>Continuity should exist.</p> </div> </div> <p style="text-align: right;">SEL304WA</p> <p style="text-align: center;">OK or NG</p> | |
| OK | ▶ | GO TO 5. | |
| NG | ▶ | Repair harness. Ref. part No. C3 | |

| 5 | CHECK COMMUNICATION LINE OPEN CIRCUIT | |
|----|---|---|
| | <p>1. Disconnect ECM connector.</p> <p>2. Check harness continuity between ECM terminal 116 and IMMU terminal 1.</p> <div style="text-align: center;"> <p style="text-align: right; font-weight: bold;">Continuity should exist.</p> </div> <p style="text-align: right;">SEL305WA</p> <p style="text-align: center; font-weight: bold;">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 | ▶ | GO TO 6. |
| NG | ▶ | Repair harness or connector. Ref. part No. C4 |

| 6 | CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT | |
|----|---|---|
| | <p>1. Turn ignition ON.</p> <p>2. Check voltage between ECM terminal 116 or IMMU terminal 1 and ground.</p> <div style="text-align: center;"> <p style="text-align: right; font-weight: bold;">Voltage: 0V</p> </div> <p style="text-align: right;">SEL306WA</p> <p style="text-align: center; font-weight: bold;">OK or NG</p> | <p>MT</p> <p>AT</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 | ▶ | GO TO 7. |
| NG | ▶ | Communication line is short-circuited with battery voltage line or ignition switch ON line. Repair harness or connectors. Ref. part No. C4 |

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

| | | |
|---|--|---|
| 7 | CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT | |
| <p>1. Turn ignition switch OFF. 2. Check continuity between ECM terminal 116 or IMMU terminal 1 and ground.</p> | | |
| | | |
| SEL307WA | | |
| OK or NG | | |
| OK | ▶ | GO TO 8. |
| NG | ▶ | Communication line is short-circuited with ground line. Repair harness or connectors. Ref. part No. C4 |

| | | |
|--|--------------------------------------|--|
| 8 | CHECK SIGNAL FROM ECM TO IMMU | |
| <p>1. Check the signal between ECM terminal 116 and ground with CONSULT-II or oscilloscope when ignition switch is turned "ON". 2. Make sure the signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned "ON".</p> | | |
| | | |
| SEL730W | | |
| OK or NG | | |
| OK | ▶ | IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For the operation of initialization, refer to "CONSULT-II operation manual IVIS/NVIS". |
| NG | ▶ | ECM is malfunctioning. Replace ECM. Ref. part No. B Perform initialization with CONSULT-II. For the operation of initialization, refer to "CONSULT-II operation manual IVIS/NVIS". |

DIAGNOSTIC PROCEDURE 3

=NCEL0179S07

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

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS | | | | | | | | | | | |
|--|--|-------------------------------|-------------------|--|-------------|------|-------------------|---|--|--|--|--|
| Confirm SELF-DIAGNOSTIC RESULTS “DIFFERENCE OF KEY” displayed on CONSULT-II screen. | | | | | | | | | | | | |
| <table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>DIFFERENCE OF KEY</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> | | | SELF DIAG RESULTS | | DTC RESULTS | TIME | DIFFERENCE OF KEY | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| DIFFERENCE OF KEY | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL367X | | | | | | | | | | | | |
| Is CONSULT-II screen displayed as above? | | | | | | | | | | | | |
| Yes | ▶ | GO TO 2. | | | | | | | | | | |
| No | ▶ | GO TO SYMPTOM MATRIX CHART 1. | | | | | | | | | | |

| 2 | PERFORM INITIALIZATION WITH CONSULT-II | | | | |
|--|---|---|---------------------|------------------------|--|
| Perform initialization with CONSULT-II. Re-register all IVIS (NATS) ignition key IDs. For initialization and registration of IVIS (NATS) ignition key IDs, refer to “CONSULT-II operation manual IVIS/NVIS”. | | | | | |
| <table border="1" style="margin: auto;"> <thead> <tr> <th>IMMU INITIALIZATION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">INITIALIZATION FAIL</td> </tr> <tr> <td style="text-align: center;">THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td> </tr> </tbody> </table> | | | IMMU INITIALIZATION | INITIALIZATION FAIL | THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. |
| IMMU INITIALIZATION | | | | | |
| INITIALIZATION FAIL | | | | | |
| THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. | | | | | |
| SEL297W | | | | | |
| NOTE: If the initialization is not completed or fails, CONSULT-II shows above message on the screen. | | | | | |
| Can the system be initialized and can the engine be started with the re-registered IVIS (NATS) ignition key? | | | | | |
| Yes | ▶ | Start engine. (END) (Ignition key ID was unregistered. Ref. part No. D) | | | |
| No | ▶ | IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”. | | | |

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

=NCEL0179S08

Self-diagnostic results:

“CHAIN OF IMMU-KEY” displayed on CONSULT-II screen

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS | | | | | | | | | | | |
|--|--|-------------------------------|-------------------|--|-------------|------|-------------------|---|--|--|--|--|
| Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF IMMU-KEY” displayed on CONSULT-II screen. | | | | | | | | | | | | |
| <table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>CHAIN OF IMMU-KEY</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> | | | SELF DIAG RESULTS | | DTC RESULTS | TIME | CHAIN OF IMMU-KEY | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| CHAIN OF IMMU-KEY | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL368X | | | | | | | | | | | | |
| Is CONSULT-II screen displayed as above? | | | | | | | | | | | | |
| Yes | ▶ | GO TO 2. | | | | | | | | | | |
| No | ▶ | GO TO SYMPTOM MATRIX CHART 1. | | | | | | | | | | |

| | | |
|--|---|--|
| 2 | CHECK IVIS (NATS) IGNITION KEY ID CHIP | |
| Start engine with another registered IVIS (NATS) ignition key. | | |
| Does the engine start? | | |
| Yes | ▶ | Ignition key ID chip is malfunctioning. Replace the ignition key. Ref. part No. E Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”. |
| No | ▶ | IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”. |

DIAGNOSTIC PROCEDURE 5

=NCEL0179S09

**Self-diagnostic results:
"ID DISCORD, IMM-ECM" displayed on CONSULT-II screen**

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS | | | | | | | | | | | |
|--|--|-------------------------------|-------------------|--|-------------|------|---------------------|---|--|--|--|--|
| Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM" displayed on CONSULT-II screen. | | | | | | | | | | | | |
| <table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>ID DISCORD, IMM-ECM</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> | | | SELF DIAG RESULTS | | DTC RESULTS | TIME | ID DISCORD, IMM-ECM | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| ID DISCORD, IMM-ECM | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| <p>NOTE: "ID DISCORD IMM-ECM": Registered ID of IMMU is in discord with that of ECM.</p> | | | | | | | | | | | | |
| SEL369X | | | | | | | | | | | | |
| Is CONSULT-II screen displayed as above? | | | | | | | | | | | | |
| Yes | ▶ | GO TO 2. | | | | | | | | | | |
| No | ▶ | GO TO SYMPTOM MATRIX CHART 1. | | | | | | | | | | |

| 2 | PERFORM INITIALIZATION WITH CONSULT-II | | | | |
|--|---|---|---------------------|------------------------|--|
| Perform initialization with CONSULT-II. Re-register all IVIS (NATS) ignition key IDs. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS". | | | | | |
| <table border="1" style="margin: auto;"> <thead> <tr> <th>IMMU INITIALIZATION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">INITIALIZATION FAIL</td> </tr> <tr> <td style="text-align: center;">THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td> </tr> </tbody> </table> | | | IMMU INITIALIZATION | INITIALIZATION FAIL | THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. |
| IMMU INITIALIZATION | | | | | |
| INITIALIZATION FAIL | | | | | |
| THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. | | | | | |
| <p>NOTE: If the initialization is not completed or fails, CONSULT-II shows above message on the screen.</p> | | | | | |
| SEL297W | | | | | |
| Can the system be initialized? | | | | | |
| Yes | ▶ | Start engine. (END) (System initialization had not been completed. Ref. part No. F) | | | |
| No | ▶ | ECM is malfunctioning. Replace ECM. Ref. part No. F Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS". | | | |

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6 “SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

=NCEL0179S10

| | | |
|---|-------------------|---------------|
| 1 | CHECK FUSE | |
| Check 7.5A fuse [No. 5, located in the fuse block (J/B)]. | | |
| Is fuse OK? | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Replace fuse. |

| | | |
|---|--------------------------------------|----------------|
| 2 | CHECK SECURITY INDICATOR LAMP | |
| <ol style="list-style-type: none"> 1. Install 7.5A fuse. 2. Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”. 3. Turn ignition switch OFF. 4. Start engine and turn ignition switch OFF. 5. Check the security indicator lamp lighting. Security indicator lamp should be light up. | | |
| OK or NG | | |
| OK | ▶ | INSPECTION END |
| NG | ▶ | GO TO 3. |

| | | |
|---|---|---|
| 3 | CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT | |
| <ol style="list-style-type: none"> 1. Disconnect security indicator lamp connector. 2. Check voltage between security indicator lamp connector terminal 1 and ground. | | |
| <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;"> <p>Security indicator lamp connector (M31)</p> </div> <div style="text-align: center;"> <p>DISCONNECT</p> </div> <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right; margin-right: 50px;">SEL664W</p> | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Check harness for open or short between fuse and security indicator lamp. |

| | | |
|---------------------------------------|--------------------------------------|----------------------------------|
| 4 | CHECK SECURITY INDICATOR LAMP | |
| Check security Indicator Lamp. | | |
| Is security indicator lamp OK? | | |
| Yes | ▶ | GO TO 5. |
| No | ▶ | Replace security indicator lamp. |

| 5 | CHECK IMMU FUNCTION | |
|-----------------|---|--|
| | <ol style="list-style-type: none"> 1. Connect IMMU connector. 2. Disconnect security indicator lamp connector. 3. Check continuity between IMMU terminal 5 and ground. | <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> <p>IMMU connector (E87)</p> <p>BR/Y</p> </div> <div style="text-align: center;"> <p>CONNECT</p> <p>OFF</p> </div> <div style="text-align: center;"> <p>Continuity should exist intermittently.</p> </div> </div> <p style="text-align: right; margin-top: 20px;">SEL300WA</p> |
| OK or NG | | |
| OK | ▶ | Check harness for open or short between security indicator lamp and IMMU. |
| NG | ▶ | IMMU is malfunctioning. Replace IMMU. Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS". |

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

=NCEL0179S11

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

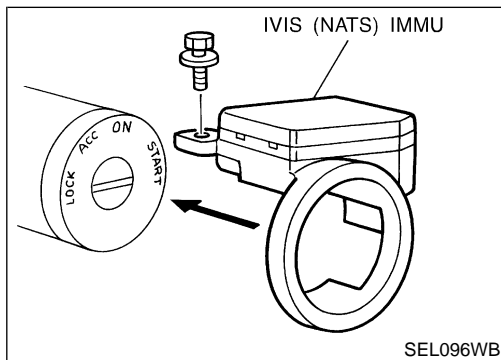
| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS | | | | | | | | | | | |
|---|--|-------------------------------|-------------------|--|-------------|------|-----------|---|--|--|--|--|
| Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT-II screen. | | | | | | | | | | | | |
| <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">LOCK MODE</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> </tbody> </table> | | | SELF DIAG RESULTS | | DTC RESULTS | TIME | LOCK MODE | 0 | | | | |
| SELF DIAG RESULTS | | | | | | | | | | | | |
| DTC RESULTS | TIME | | | | | | | | | | | |
| LOCK MODE | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| SEL371X | | | | | | | | | | | | |
| Is CONSULT-II screen displayed as above? | | | | | | | | | | | | |
| Yes | ▶ | GO TO 2. | | | | | | | | | | |
| No | ▶ | GO TO SYMPTOM MATRIX CHART 1. | | | | | | | | | | |

| | | |
|--|------------------------------|--|
| 2 | ESCAPE FROM LOCK MODE | |
| <ol style="list-style-type: none"> 1. Turn ignition switch OFF. 2. Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds. 3. Return the key to OFF position. 4. Repeat steps 2 and 3 twice (total of three cycles). 5. Start the engine. | | |
| Does engine start? | | |
| Yes | ▶ | System is OK. (Now system is escaped from "LOCK MODE".) |
| No | ▶ | GO TO 3. |

| | | |
|--|--------------------------------|---------------------------|
| 3 | CHECK IMMU ILLUSTRATION | |
| Check IMMU installation. Refer to "How to Replace IMMU" in EL-267. | | |
| OK or NG | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Reinstall IMMU correctly. |

| | | | | | |
|---|---|---|----------------------------|------------------------|--|
| 4 | PERFORM INITIALIZATION WITH CONSULT-II | | | | |
| Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS". | | | | | |
| <table border="1" style="margin: auto;"> <tr> <td style="text-align: center;">IMMU INITIALIZATION</td> </tr> <tr> <td style="text-align: center;">INITIALIZATION FAIL</td> </tr> <tr> <td style="text-align: center;"> THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. </td> </tr> </table> | | | IMMU INITIALIZATION | INITIALIZATION FAIL | THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. |
| IMMU INITIALIZATION | | | | | |
| INITIALIZATION FAIL | | | | | |
| THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. | | | | | |
| <p>NOTE: If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.</p> <p style="text-align: right;">SEL297W</p> | | | | | |
| Can the system be initialized? | | | | | |
| Yes | ▶ | System is OK. | | | |
| No | ▶ | GO TO DIAGNOSTIC PROCEDURE 5 to check "CHAIN OF IMMU-KEY", refer to EL-262. | | | |

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How to Replace IVIS (NATS) IMMU

NCEL0180

NOTE:

- If IVIS (NATS) IMMU is not installed correctly, IVIS (NATS) system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show "LOCK MODE".

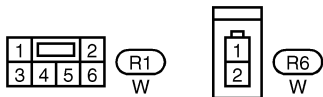
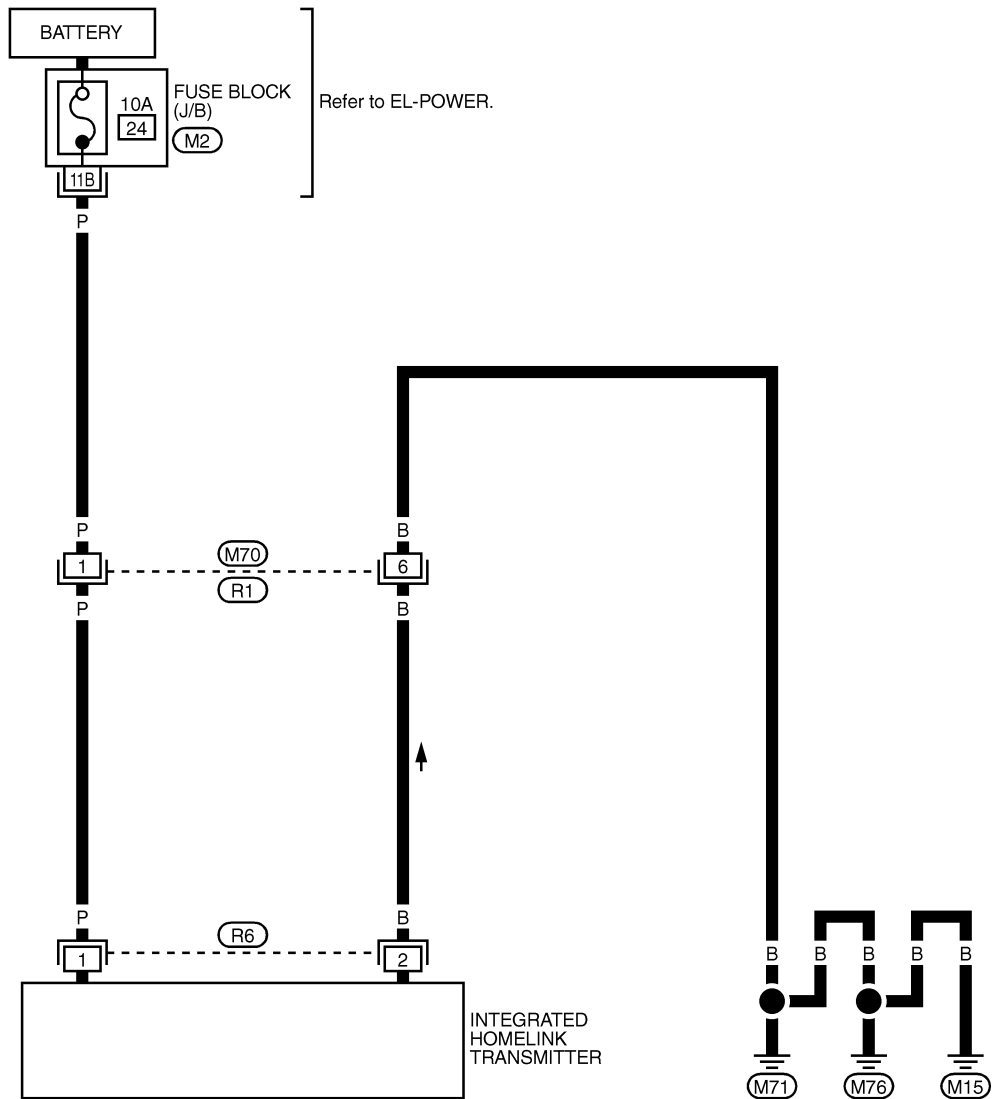
INTEGRATED HOMELINK TRANSMITTER

Wiring Diagram — TRNSMT —

Wiring Diagram — TRNSMT —

NCEL0127

EL-TRNSMT-01



REFER TO THE FOLLOWING.
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

Trouble Diagnoses

DIAGNOSTIC PROCEDURE

NCEL0128

NCEL0128S01

SYMPTOM: Transmitter does not activate receiver.

Before conducting the procedure given below, make sure that system receiver (garage door opener, etc.) operates with original, hand-held transmitter. If NG, receiver or hand-held transmitter is at fault, not vehicle related.

| | | | |
|--|--------------------------|----------|--|
| 1 | PRELIMINARY CHECK | | |
| <p>1. Turn ignition switch "OFF". 2. Does red light (LED) of transmitter illuminate when any button is pressed?</p> | | | |
| | | | |
| SEL442U | | | |
| Yes or No | | | |
| Yes | ▶ | GO TO 2. | |
| No | ▶ | GO TO 3. | |

| | | | |
|--|-----------------------------------|--|--|
| 2 | CHECK TRANSMITTER FUNCTION | | |
| <p>Check transmitter with Tool. For details, refer to Technical Service Bulletin.</p> | | | |
| OK or NG | | | |
| OK | ▶ | Receiver or handheld transmitter fault, not vehicle related. | |
| NG | ▶ | Replace transmitter with sun visor assembly. | |

| | | | |
|---|---------------------------|--------------------------------------|--|
| 3 | CHECK POWER SUPPLY | | |
| <p>1. Disconnect transmitter connector. 2. Turn ignition switch "OFF". 3. Check voltage between terminal 1 and body ground.</p> | | | |
| | | | |
| SEL635U | | | |
| Battery voltage should exist. | | | |
| OK or NG | | | |
| OK | ▶ | GO TO 4. | |
| NG | ▶ | Check fuse (10A) and repair harness. | |

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INTEGRATED HOMELINK TRANSMITTER

Trouble Diagnoses (Cont'd)

| | | |
|---|-----------------------------|--|
| 4 | CHECK GROUND CIRCUIT | |
| <p>Check continuity between terminal 2 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL636U</p> | | |
| <p>Continuity should exist.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | Replace transmitter with sun visor assembly. |
| NG | ▶ | Repair harness. |

Precaution

NCEL0182

CAUTION:

- Use CONSULT-II to set the system “Demonstration mode” if INFINITI Communicator needs to be activated during service procedures. (For details of the demonstration mode, refer to EL-303.)
- Make sure to turn the demonstration mode OFF before returning the vehicle to the owner.
- In the demonstration mode, no service from the Communicator Response Center is available. Therefore, even if the customer encounters an emergency, no service will be dispatched.
- If the theft warning system is activated for more than 7 seconds, INFINITI Communicator will dial to the Communicator Response Center automatically. The operator will contact the customer to confirm whether the vehicle has been stolen or not.
- When “Mayday” emergency dialing is activated (if the system is not in the demonstration mode), the Communicator Response Center operator will come online. If there is no emergency, the operator will ask the occupant for the user password (option). Failure to provide the correct password results in a police response.
- IVCS unit memory includes VIN (Vehicle Identification Number) and other such vehicle specific data. Therefore, the IVCS unit cannot be transferred to another vehicle. When the IVCS unit is replaced, the new unit must be set up and programmed. The INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started after a phone number has been changed or a module (IVCS unit) is replaced. The VIN will be written in the memory of the new unit by transmitting data from the Communicator Response Center. For details, refer to “System Setting”, EL-305.
- Before servicing the vehicle, confirm that the VIN memorized by the IVCS unit is the same as the VIN on the vehicle’s identification plate.

GI
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EM
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Communicator Response Center Telephone Number for Technicians

NCEL0183

The Communicator Response Center telephone number for technicians is **1-888-427-4812**.

Whenever an INFINITI dealer technician dials the above number, the following information will be required by the Communicator Response Center operator.

- Customer name
- Unit ID number of old IVCS unit (For details, refer to EL-290.)
- Unit ID number of new IVCS unit
- VIN
- Dealer name and code (For security purposes)
- Dealer contact person (technician)
- Dealer phone and fax numbers

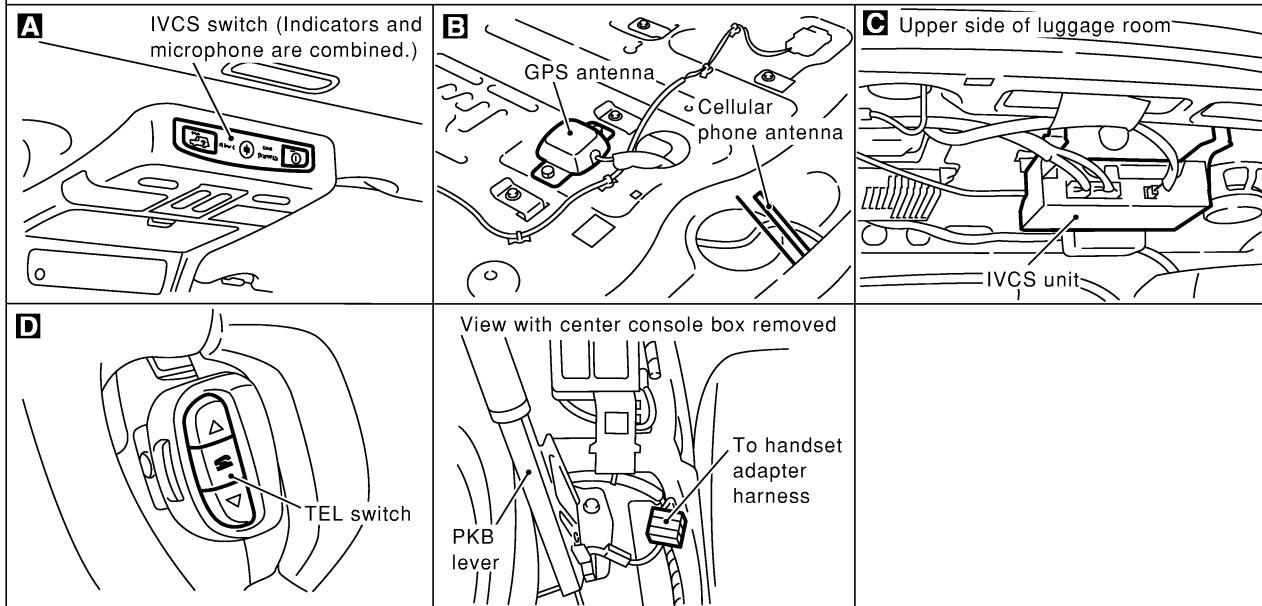
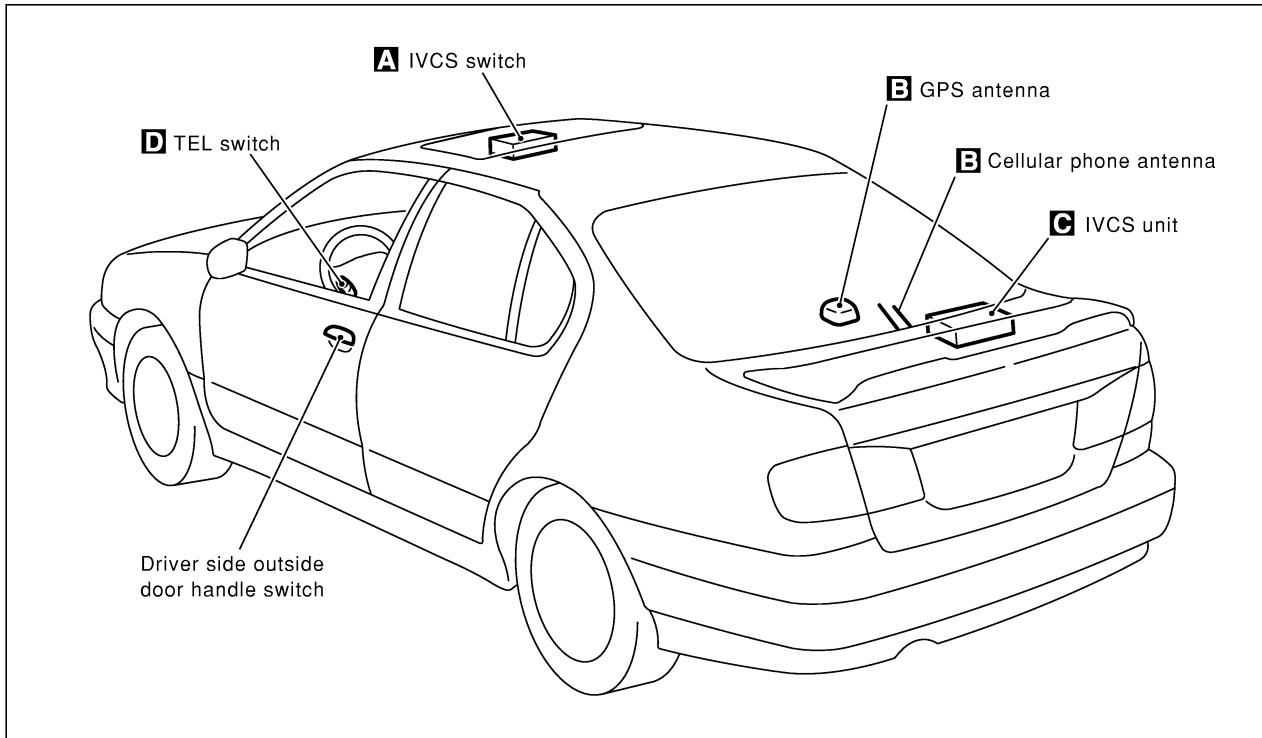
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INFINITI COMMUNICATOR (IVCS)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0184



System Description

OUTLINE

NCEL0185

NCEL0185S01

INFINITI Communicator system uses the Global Positioning System (GPS), cellular phone technology and the Communicator Response Center to provide the following functions.

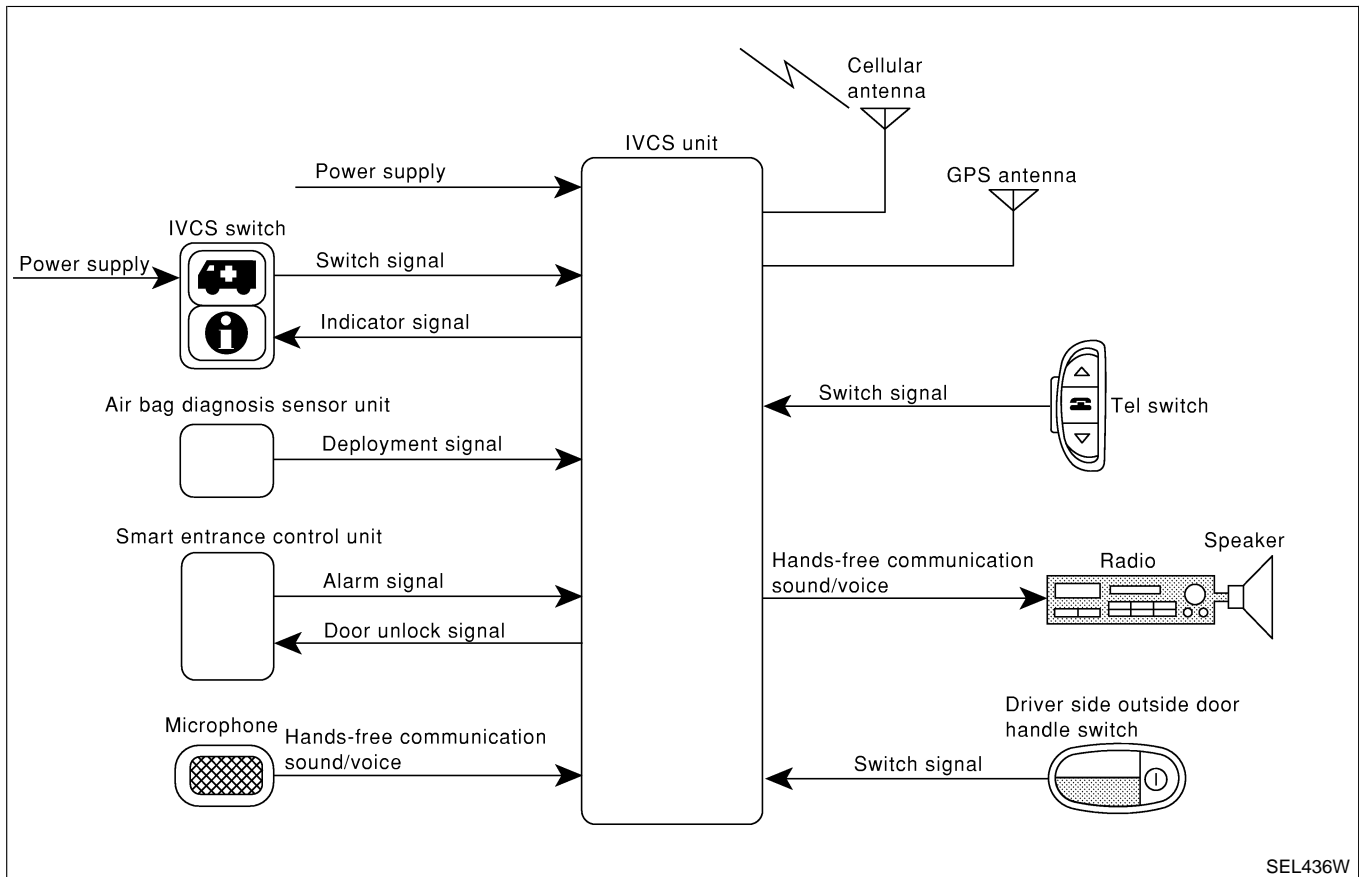
- One touch "Information" dialing
- One touch "Mayday" emergency dialing
- Automatic air bag inflation notification
- Stolen vehicle tracking
- Alarm notification
- Remote door unlock

There are limitations to the INFINITI Communicator system. To understand the system, read SYSTEM LIMITATIONS (EL-274) thoroughly.

SYSTEM COMPOSITION

NCEL0185S02

- The INFINITI Communicator system is controlled by the IVCS (In Vehicle Communication System) unit. System status ("Mayday"-emergency dialing, or re-dialing, etc.) is displayed by the indicators in the IVCS switch.
- The INFINITI Communicator system can only make calls to the Communicator Response Center and receive calls from the center, unless the customer chooses to have the optional handset install.



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SYSTEM LIMITATIONS

NCEL0185S03

Service Area

NCEL0185S0301

Depending on the cellular provider chosen, service is provided in the 48 contiguous states. Service is not available in Alaska, Hawaii, Canada, or Mexico. The Communicator Response Center will not be able to locate the customer's vehicle outside of the continental United States.

Inoperative if Cellular Phone is Inactive or Inoperative

NCEL0185S0302

INFINITI Communicator will be inoperative if the customer does not have an active account with cellular provider, since INFINITI Communicator relies on the cellular network. When the INFINITI Communicator system is outside of cellular service, the "NO SERVICE" indicator will illuminate. If you try to activate INFINITI Communicator, the REQUEST will be cancelled. Cellular phone transmission may become temporarily disabled, or interrupted by environmental factors like tunnels, bridges, or tall buildings. In such cases, INFINITI Communicator will re-dial up to four times. After several failed attempts, the system will quit dialing and return to normal mode.

Inoperative if The System is in The Demonstration Mode

NCEL0185S0303

The INFINITI Communicator system remains in the demonstration mode until the setup procedures are completed. If the system is activated in this mode, the Communicator Response Center will recognize this operation as a demonstration and will not provide any service. The system can be changed to the demonstration mode by using CONSULT-II to check the system operation. Do not forget to turn off the demonstration mode after confirmation.

Battery

NCEL0185S0304

Since INFINITI Communicator is powered by the vehicle's battery, if the battery is removed, damaged or discharged, the system will not work.

Inoperative if Cellular System is Busy

NCEL0185S0305

When INFINITI Communicator tries to contact the Communicator Response Center, but the cellular network is busy, the system attempts to re-dial for up to two hours. This time varies greatly depending on the cellular network and cellular signal strength. The system resets to ready when the system completes the re-dialing attempts.

Roaming

NCEL0185S0306

If the customer's cellular provider does not have a roaming agreement with the provider where the vehicle locates, it may not be possible to use the lines of a different cellular provider. Therefore, it is impossible that INFINITI Communicator will contact the Communicator Response Center.

Special Cellular Features

NCEL0185S0307

Some cellular carriers offer custom phone numbers that are assigned a Personal Identification Number (PIN). The cellular phone user is required to enter the PIN anytime a phone call is made. The INFINITI Communicator system is not compatible with the PIN feature. A PIN requirement on the cellular phone will cause the INFINITI Communicator system to be inoperative.

Other special features such as call waiting, voice mail, call forwarding, etc. can interfere with INFINITI Communicator system operation.

Cellular Airwave Interference

NCEL0185S0308

At times someone other than the Communicator Response Center operator may be heard. This is caused by Cellular Airwave Interference and is not caused by an INFINITI Communicator system malfunction.

GI

Possibility of Positioning Capability Degraded

NCEL0185S0309

Vehicle positioning is accomplished using the GPS (Global Positioning System). If the signal from the GPS satellite is obstructed by a tunnel or building, positioning capability may be degraded or lost. In this case, the last valid position obtained before the obstruction is transmitted to the Communicator Response Center. The precision is also influenced by the location of GPS satellites.

MA

EM

LC

Once the battery cable is disconnected, it will take about 5 minutes to determine the vehicle location. This is because the memory related to GPS is lost when the battery cable is disconnected.

EC

OPERATION

One Touch “Information” Dialing

NCEL0185S04

- If the vehicle becomes disabled due to problems such as engine trouble, press the “Information” switch to connect to the Communicator Response Center and receive the desired service.
- When the indicator lamp on the switch lights up, it means that the system has started to contact the Communicator Response Center. (Voice communication with Communicator Response Center operator is not available while DATA is being transmitted even if the indicator lamp is lit.)
- When the indicator lamp blinks, it means that the system is preparing for cellular connection or attempting to re-dial.

FE

CL

MT

AT

AX

One Touch “Mayday” Emergency Dialing

NCEL0185S0402

- When an emergency occurs, press the “Mayday” emergency switch to connect to the Communicator Response Center. With this report, the Communicator Response Center recognizes that an emergency has occurred and provides necessary service.
- The operator will request a password (if the customer chooses to establish a password). If the wrong password or if no password is provided, the Communicator Response Center will assume the customer is in a duress situation and dispatch police.
- When no voice reply is heard from the vehicle or the sound heard indicates an emergency situation, the Communicator Response Center will have the police rush to the scene.
- Other operations are the same as service dialing.

SU

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RS

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Automatic Air Bag Inflation Notification

NCEL0185S0403

- When an air bag inflates, the air bag diagnosis sensor unit sends the air bag inflation signal to the IVCS unit, and the system automatically dials the Communicator Response Center to report the occurrence of an accident.

SC

Stolen Vehicle Tracking

NCEL0185S0404

- When a vehicle is stolen, the owner can contact the Communicator Response Center to attempt to locate the stolen vehicle. The Communicator Response Center will activate the stolen vehicle tracking to locate the vehicle. If the Communicator Response Center successfully locates the vehicle, they will contact the police to provide the location.

IDX

EL

INFINITI COMMUNICATOR (IVCS)

System Description (Cont'd)

- The vehicle location data is calculated using GPS.
- The vehicle ignition switch must be turned to the ON position to obtain the vehicle location. (This is because the system is in the sleep mode when the ignition switch is OFF.)
- Once this function starts up, regardless of the ignition switch position, the system keeps transmitting the vehicle location until the cancel signal is transmitted from the Communicator Response Center.
- While this function is operating, the operator can covertly monitor what is happening inside the vehicle through the hands-free microphone.

Alarm Notification

NCEL0185S0405

- When theft warning system sounds an alarm for more than 7 seconds because of improper access, the alarm signal is transmitted from the smart entrance control unit to the IVCS unit, and the system executes automatic dialing to the Communicator Response Center.
If the alarm is reset before 7 seconds has elapsed, the INFINITI Communicator will not place a call to the Communicator Response Center.
- This function operates regardless of ignition switch position.
- While this function is operating, the operator can covertly monitor what is happening inside the vehicle through the hands-free microphone.

Remote Door Unlock

NCEL0185S0406

- When the door is locked with the key inside the vehicle, the door can be unlocked by contacting the Communicator Response Center (Proof that the person calling is the owner must be received by the Communicator Response Center.)
- When the ignition key is in the "OFF" position, the system is in the sleep mode. Therefore, back door outside handle must be pulled to wake up the system.
- To perform remote door unlock, call the Communicator Response Center and follow the operator's instructions.

NOTE:

- **When the system contacts the Communicator Response Center, data including the vehicle location is transmitted to the Communicator Response Center.**
- **Communication with the Communicator Response Center is not completed until the completion signal is transmitted from the Communicator Response Center. (Any calls to the Communicator Response Center can only be terminated by Communicator Response Center.)**
- **Functions other than alarm notification and remote door unlock operate while the ignition switch is ON and only for three minutes after the switch is turned OFF.**
- **Once a call to the Communicator Response Center is made, the communication continues regardless of the ignition key switch position.**
- **All the voice communication with the Communicator Response Center is made through the hands-free telephone.**
- **When the INFINITI Communicator system is activated, the handset does not function.**

DATA TRANSMITTING

When contact to the Communicator Response Center is made, vehicle sends electrical data including type of activation (i.e., emergency call or alarm notification), vehicle location, time, etc.

NCEL0185S05

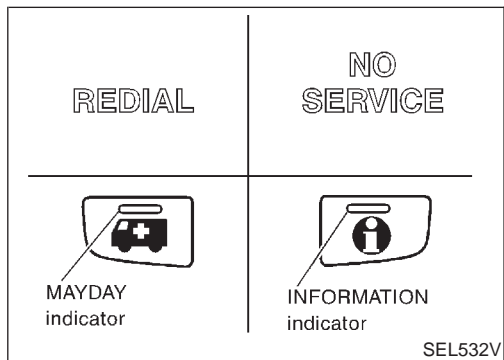
SLEEP/WAKE UP CONTROL

3 minutes after the ignition switch is turned OFF, the system goes into the SLEEP MODE to save battery power supply. Communication with Communicator Response Center is not available in the SLEEP MODE.

NCEL0185S06

To wake up the system, perform either of the following operations.

- Turn Ignition switch ON.
- Pull driver side outside door handle for more than 10 seconds. (Operation for door unlock function)



INDICATOR LAMPS OPERATION

The system status is displayed as below by the indicator lamps.

NCEL0185S07

| Indicator | Condition | Description |
|-------------|------------------------|---|
| MAYDAY | Blinks. | System is trying to acquire an available cellular channel by "Mayday" switch operation. |
| | Lights up. (See NOTE.) | System is connected to a cellular channel and is communicating information to the Communicator Response Center. |
| INFORMATION | Blinks. | System is trying to acquire an available cellular channel by "Information" switch operation. |
| | Lights up. (See NOTE.) | System is connected to a cellular channel and is communicating information to the Communicator Response Center. |
| REDIAL | Lights up. | Re-dialing |
| | Blinks. | Waiting for re-dial |
| NO SERVICE | Lights up. | Out of CELLULAR PHONE service area or signal is too weak. |

NOTE:

- When connection to Communicator Response Center by re-dial ends in failure, all the indicators are turned off.
- All indicators illuminate for up to 30 seconds or more when ignition switch is turned from OFF to ON and the system performs a self check.
- If both of MAYDAY and INFORMATION indicators do not turn off 30 seconds or more after the ignition switch is turned to ON, the system is malfunctioning.

AUTOMATIC RE-DIAL/AUTO RESET TO READY

- When INFINITI Communicator tries to contact the Communicator Response Center, but the cellular network is busy, the system attempts to dial for up to 2 hours. This time varies

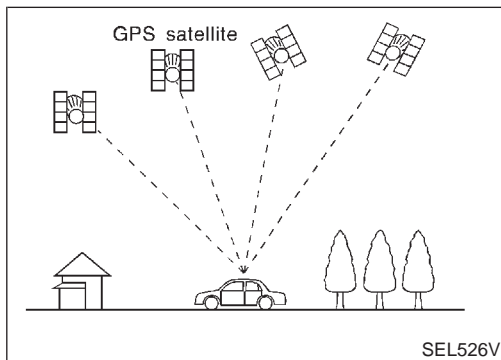
NCEL0185S08

INFINITI COMMUNICATOR (IVCS)

System Description (Cont'd)

greatly depending on the cellular network and cellular signal strength. The system resets to ready when the system completes the dialing attempts. The vehicle owner can press the button again if he or she still needs to contact the Communicator Response Center.

- INFINITI Communicator automatically redials if communication between the vehicle owner and Communicator Response Center is lost for some reason.
- The only way for a transmission to be officially terminated is for the Communicator Response Center to send an end transmission signal, which turns off the indicator in the switch. (Communication with Communicator Response Center can not be terminated by the occupant.)
- If the vehicle owner start the engine during a call, the conversation may be interrupted. When this happens the system may try to resume transmission once after the engine has been started.



GPS (GLOBAL POSITIONING SYSTEM)

NCEL0185S09

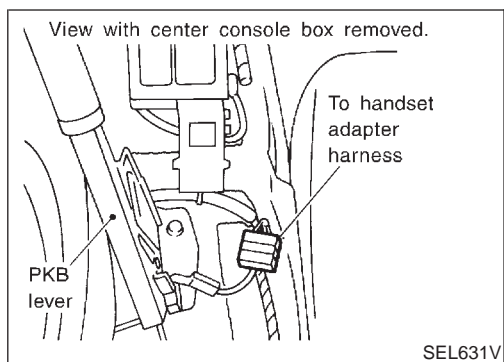
GPS is the global positioning system developed and operated by the US Department of Defense. GPS satellites (NAVSTAR) transmit radio waves and orbit around the earth at an altitude of approximately 21,000 km (13,000 miles).

GPS receiver calculates the three-dimensional position of the vehicle (latitude, longitude, and altitude from the sea level) by the time difference of the radio wave arriving from more than four GPS satellites (three-dimensional positioning).

When the radio wave is received from only three GPS satellites, the two-dimensional position (latitude and longitude) is calculated, using the altitude from the sea level data calculated by using four GPS satellites (two-dimensional positioning).

Positioning capability is degraded in the following cases.

- In two-dimensional positioning, when the vehicle's altitude from the sea level changes, the precision becomes lower.
- The location detection performance can have an error of about 100 m (300 ft) even in three-dimensional positioning with high precision. Because the precision is influenced by the location of GPS satellites used for positioning, the location detection performance may drop depending on the location of GPS satellites.
- When the radio wave from GPS satellites cannot be received, for example, when the vehicle is in a tunnel, in a parking lot inside building, under an elevated superhighway or near strong power lines, the location may not be detected. Turbulent/electric weather conditions may also affect positioning performance. If something is placed on the antenna, the radio wave from GPS satellites may not be received.



HANDSET

NCEL0185S10

NOTE:

- If an optional handset is installed, INFINITI Communicator can be used as a normal cellular phone.
- If INFINITI Communicator is activated when INFINITI Communicator system's cellular phone is in use, the current phone transmission will be cut and INFINITI Communicator will dial the Communicator Response Center. The cellular handset will be disabled, and communication with the Communicator Response Center operator will be carried out through the hands-free microphone.
- After communication with Communicator Response Center is finished, the handset last number memory will be erased.
- While INFINITI Communicator is activated, the handset becomes inoperative and all communication with the operator is accomplished via the hands-free phone. When an activation is terminated, the handset will be unlocked.

GI

MA

EM

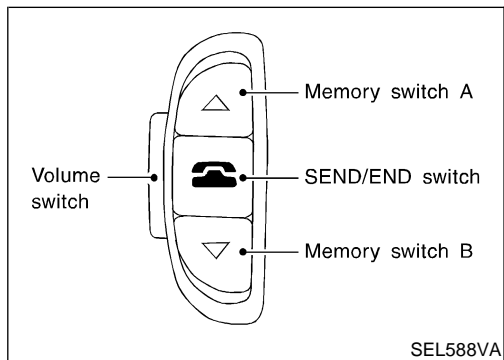
LC

EC

FE

CL

MT



TEL SWITCH

NCEL0185S11

When any of the TEL switches is pressed, the TEL switch which is combined with the multiplex transmitting unit sends operational commands to the IVCS unit. TEL switch has following three functions.

- Volume adjust
- Placing re-dial call
- Placing memorized call (The telephone numbers are stored in the handset. A maximum of 6 memories are operative.)

AT

AX

SU

BR

VOLUME Switch

NCEL0185S1101

Voice volume from the front RH speaker can be adjusted by using the VOLUME switch.

ST

SEND/END Switch Operation

NCEL0185S1102

- When a call is received, press SEND/END switch to permit conversation.
- At the completion of the conversation, press the SEND/END switch to terminate the call.
- To re-dial the last phone number, press SEND/END switch.

RS

BT

MEMORY Switch Operation

NCEL0185S1103

- A maximum of 6 telephone numbers which stored in the memory of the handset can be dialed by MEMORY switch operation.
- The last phone number is erased if the ignition switch is turned off or if the INFINITI Communicator system has been activated.
- For the procedure to input telephone numbers, refer to the handset operation manual.
- To select memory 1 to 6, push MEMORY switch A or B. Every push on the switch changes the memory as follows.
 SWITCH A: Memory 1 → 2 → 3 → OFF
 SWITCH B: Memory 4 → 5 → 6 → OFF
 After selecting memory, push SEND/END switch to make a call.

HA

SC

EL

IDX

NOTE:

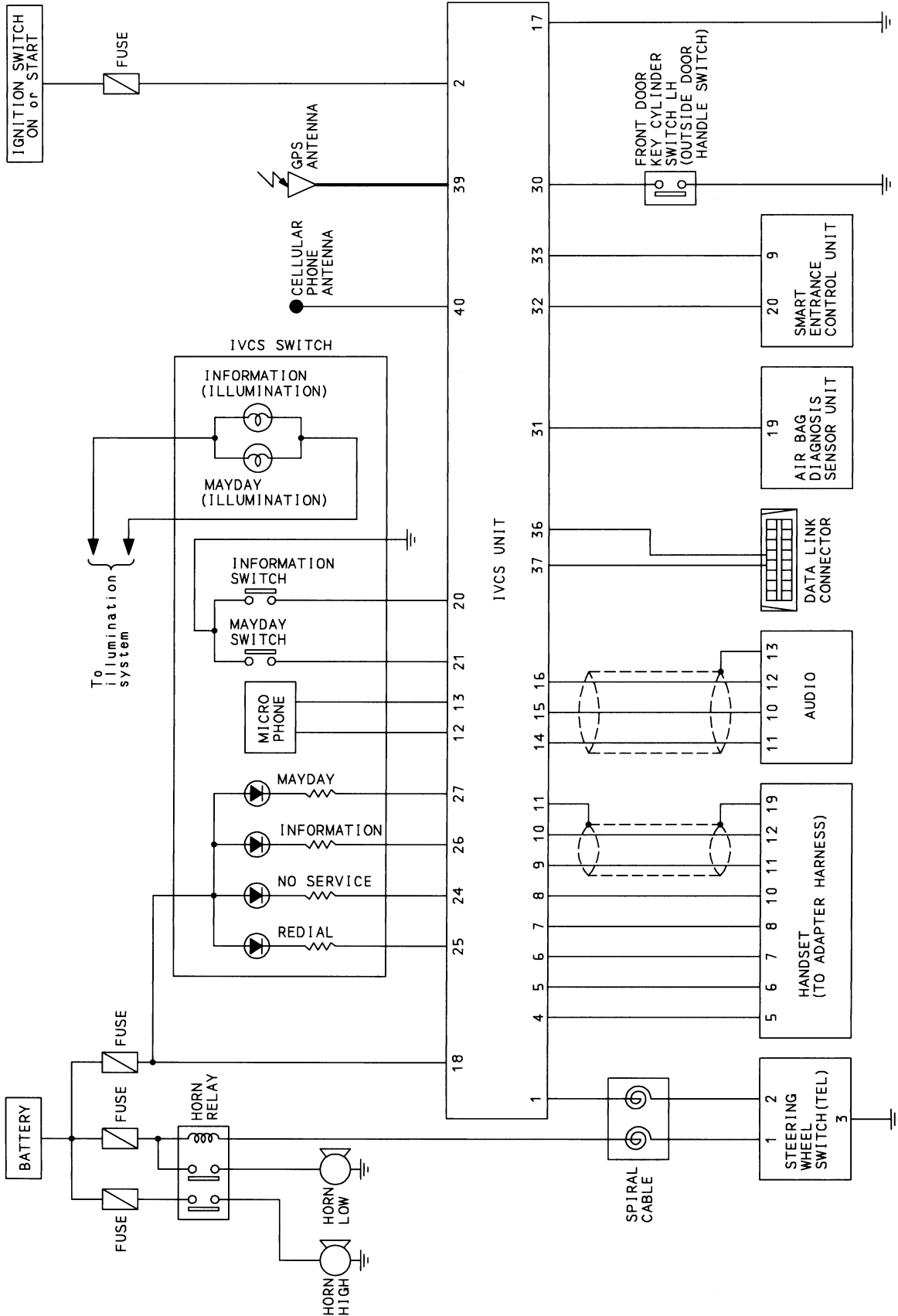
Memory switches are not functional unless handset is installed.

INFINITI COMMUNICATOR (IVCS)

Schematic

NCEL0186

Schematic



- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- AX
- SU
- BR
- ST
- RS
- BT
- HA
- SC
- EL**
- IDX

TEL544B

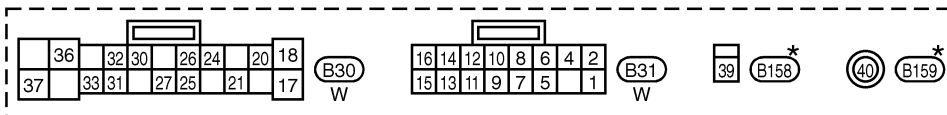
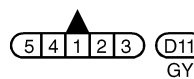
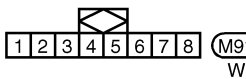
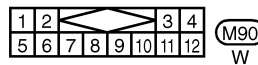
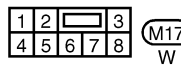
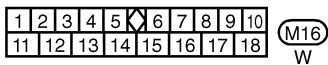
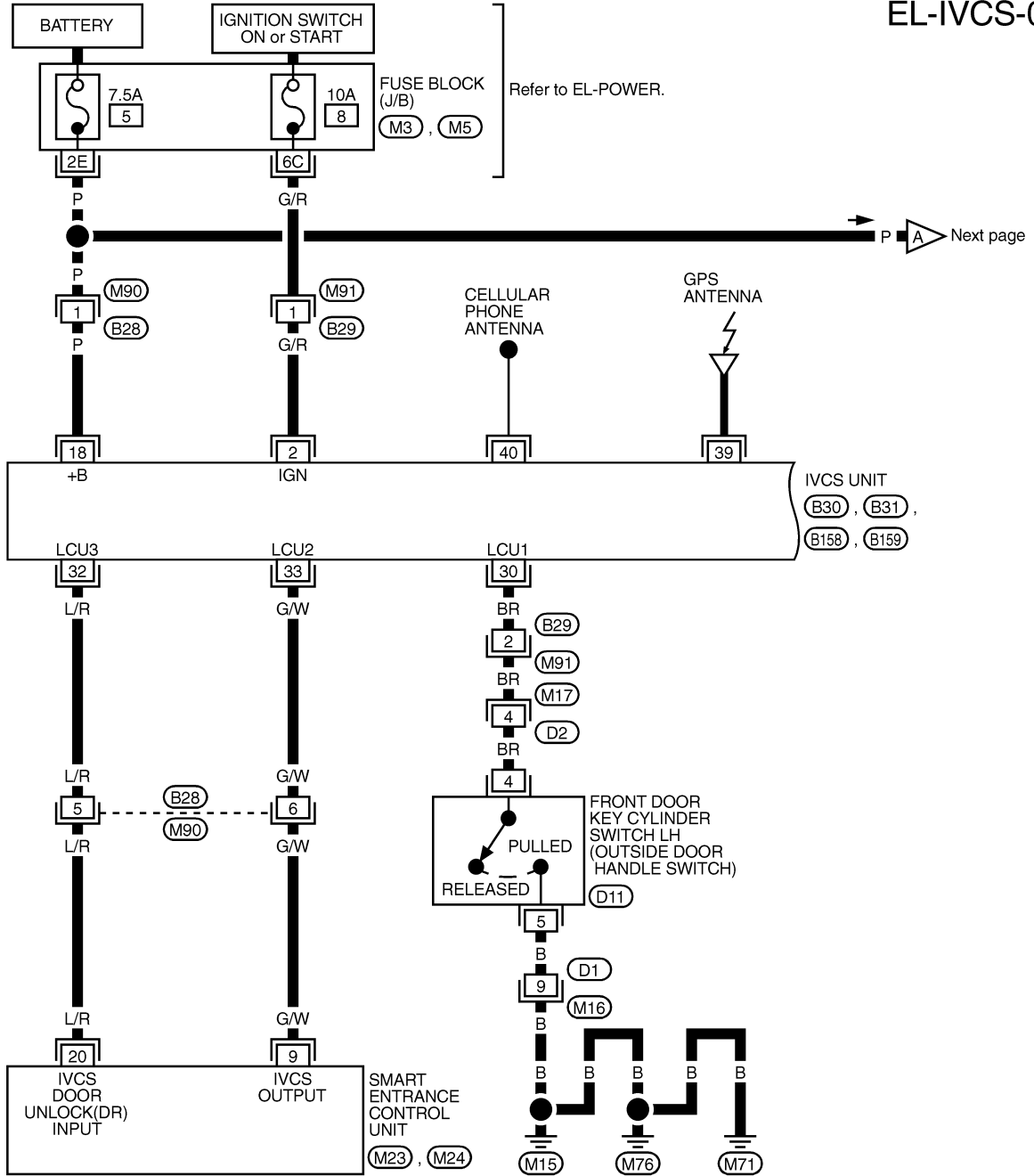
INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS —

Wiring Diagram — IVCS —

NCEL0187

EL-IVCS-01



REFER TO THE FOLLOWING.
 (M3), (M5) - FUSE BLOCK-JUNCTION BOX (J/B)
 (M23), (M24) - ELECTRICAL UNITS

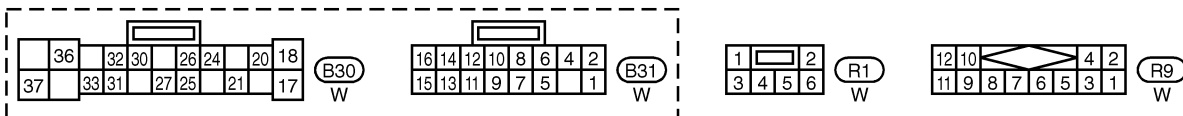
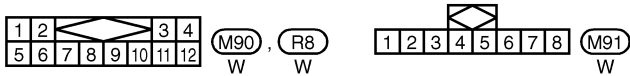
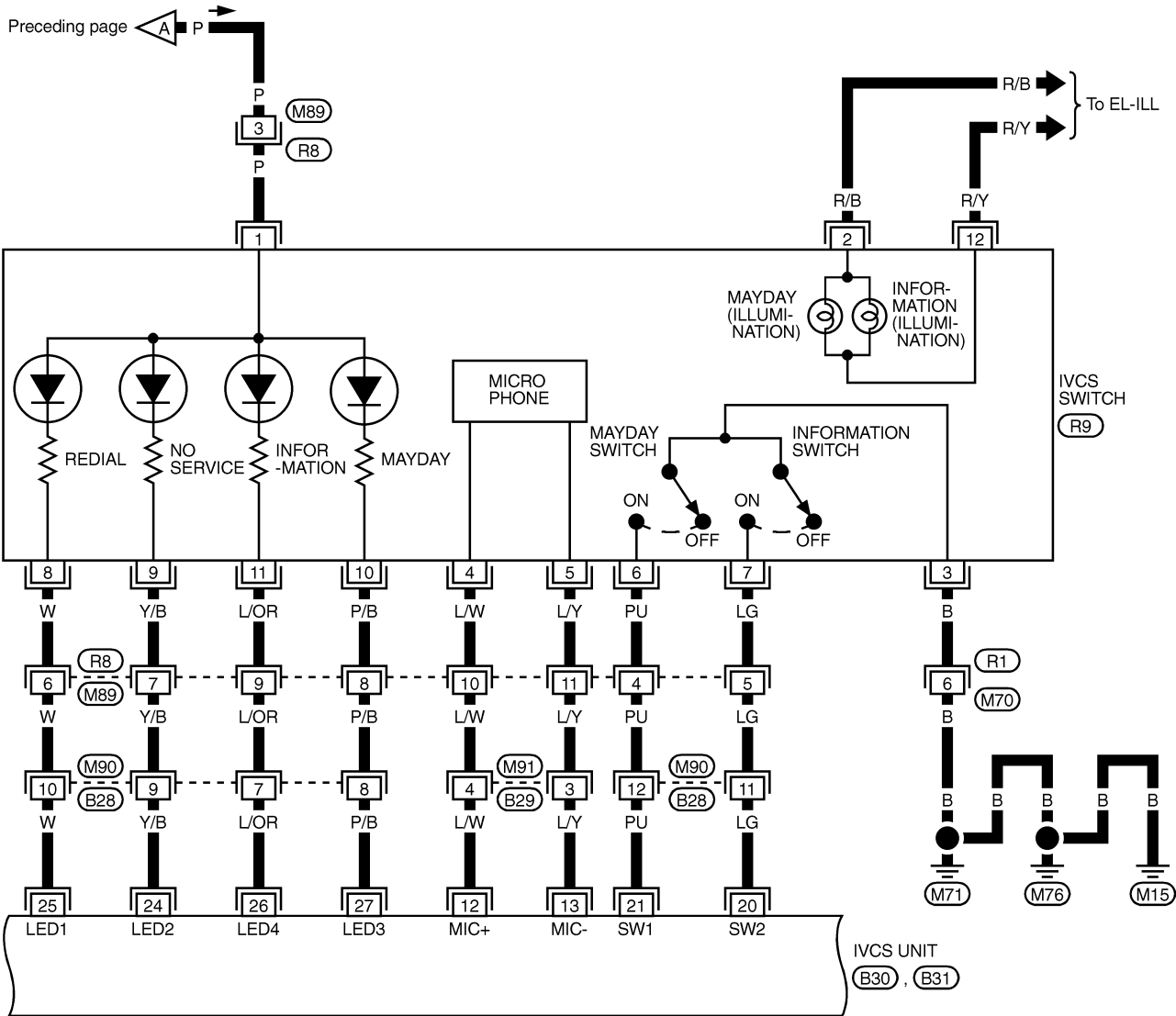
*: This connector is not shown in "HARNESS LAYOUT", EL section.

INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

EL-IVCS-02

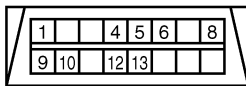
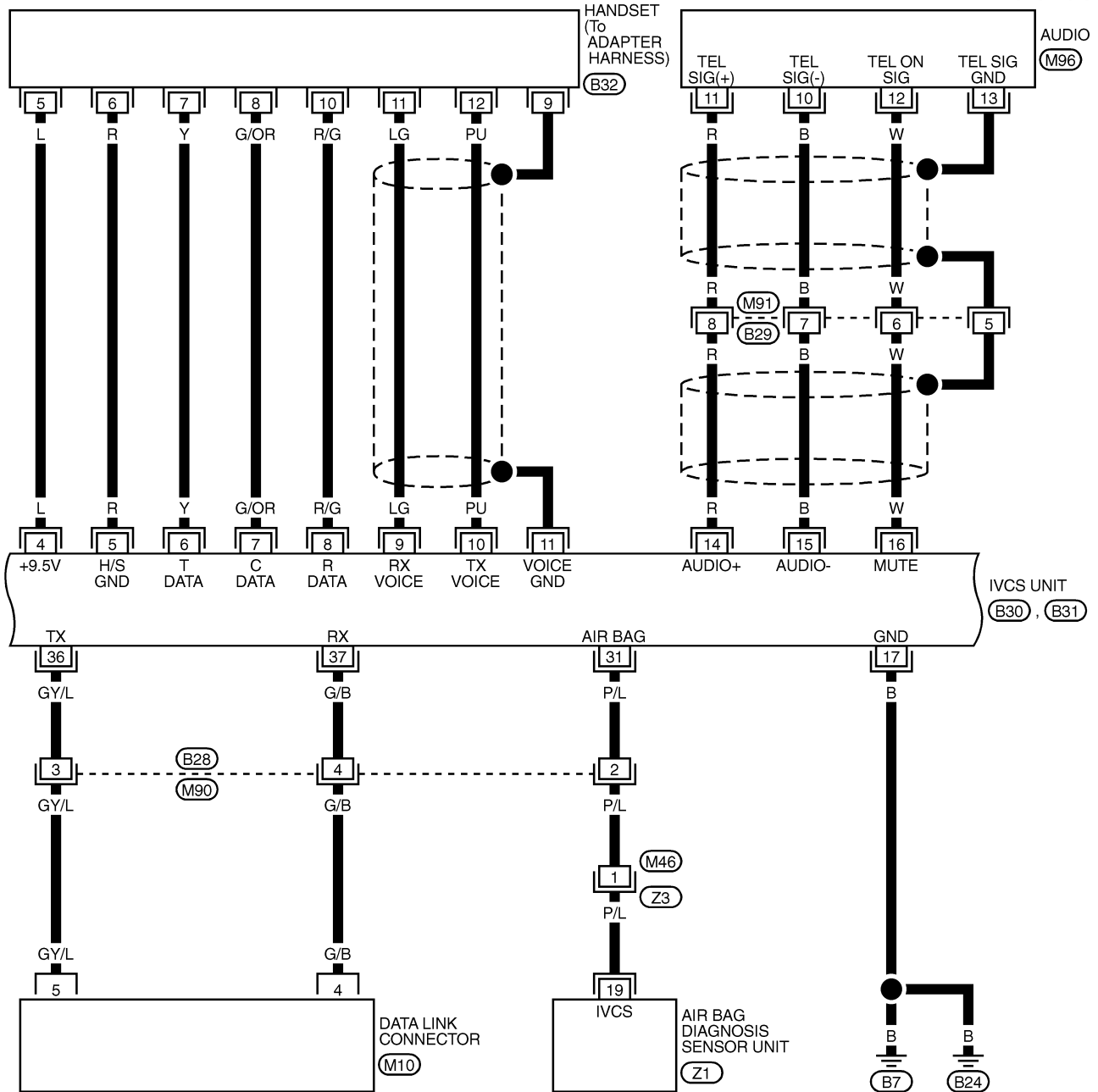
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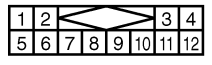
INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

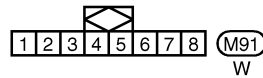
EL-IVCS-03



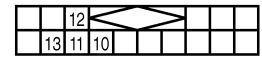
M10
W



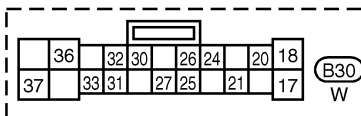
M90
W



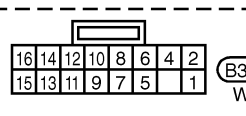
M91
W



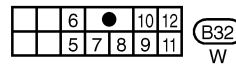
M96
W



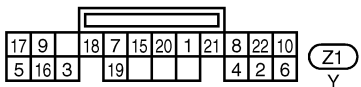
B30
W



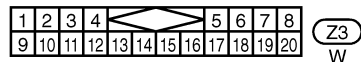
B31
W



B32
W



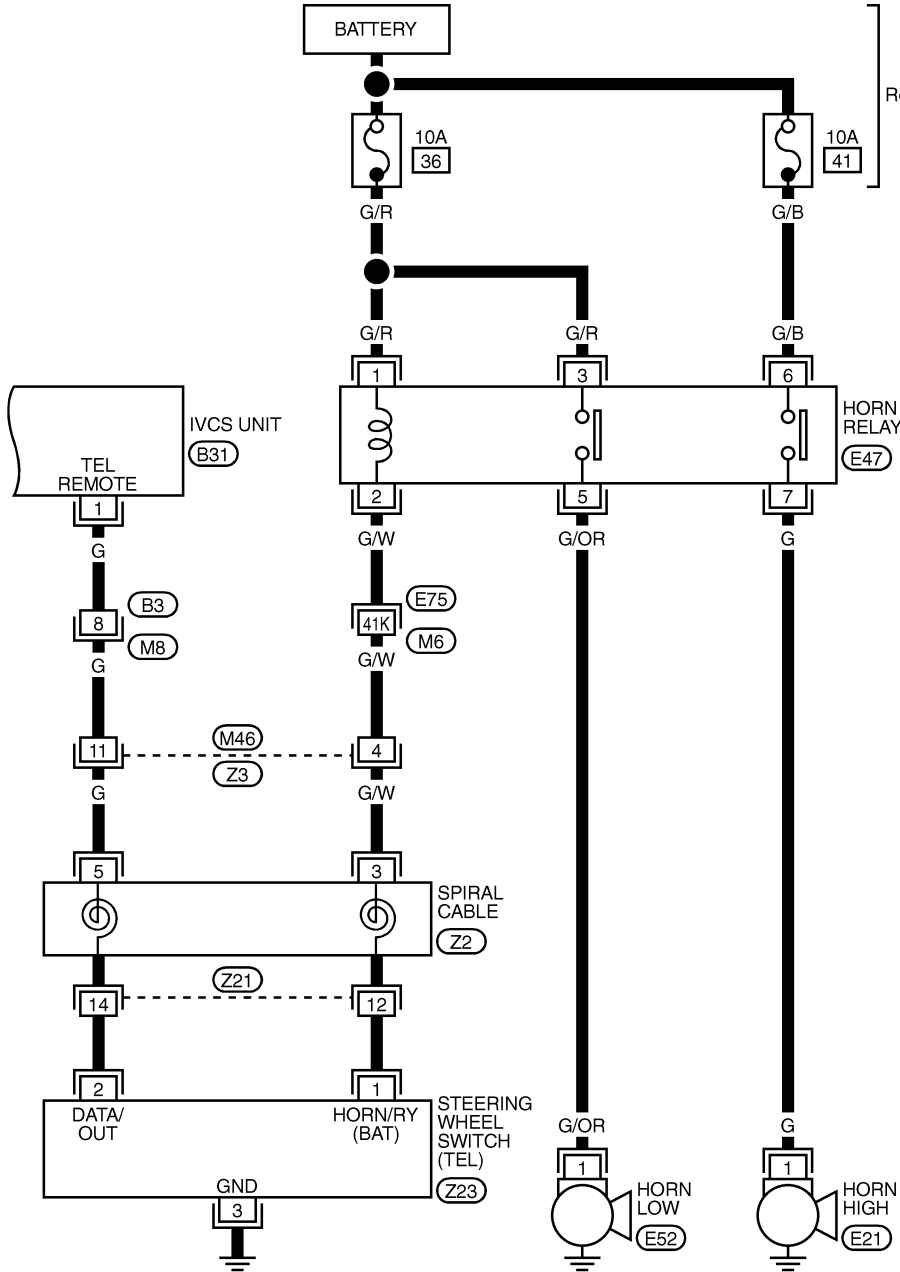
Z1
Y



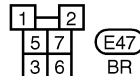
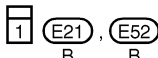
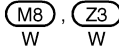
Z3
W

TEL547B

EL-IVCS-04



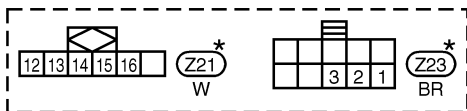
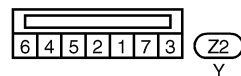
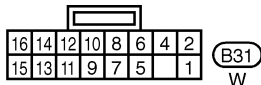
GI
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BT



REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

HA
SC

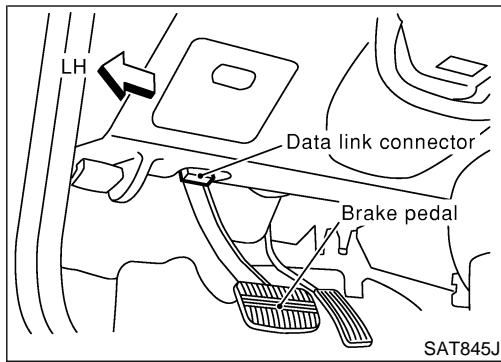


* : This connector is not shown in "HARNESS LAYOUT", EL section.

EL
IDX

INFINITI COMMUNICATOR (IVCS)

CONSULT-II



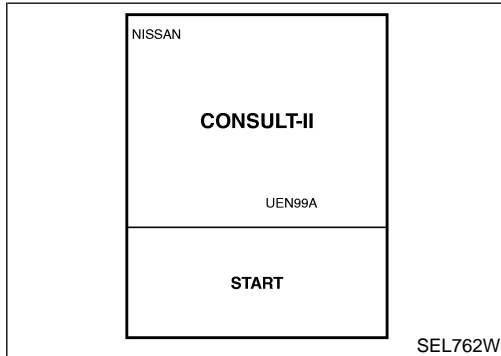
CONSULT-II

CONSULT-II INSPECTION PROCEDURE

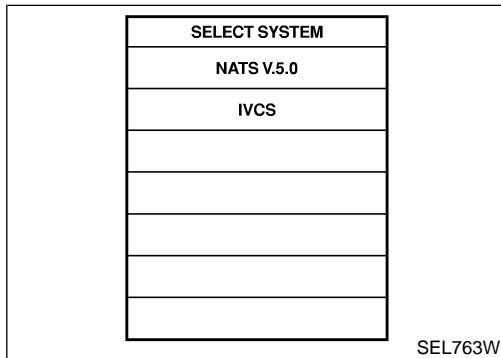
NCEL0188

NCEL0188S01

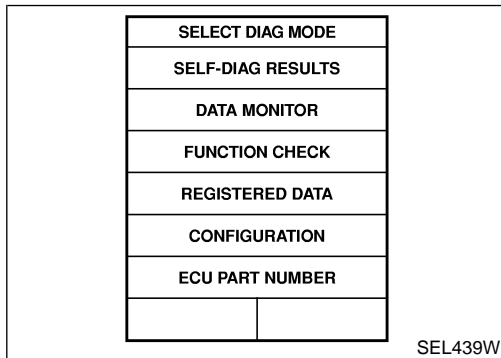
1. Turn ignition switch "OFF".
2. Insert UEN99A program card in to CONSULT-II.
3. Connect CONSULT-II to the data link connector.



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



6. Touch "IVCS".



7. Perform each diagnostic item according to the item application chart as follows:

8. When CONSULT-II inspection is terminated, follow the procedure shown below.
 - a. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears, then turn off CONSULT-II.
 - b. Turn ignition switch to OFF position.
 - c. Disconnect CONSULT-II DDL connector.

NOTE:

If the DDL connector is disconnected before turning ignition switch to "OFF" position, INFINITI communicator may not operate properly.

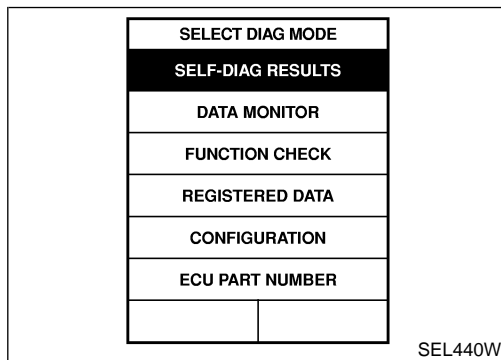
APPLICATION ITEMS

NCEL0188S02

| Mode | Description | Reference page | |
|------------------------------|---|----------------|----------|
| SELF DIAG RESULTS | Displays the result of self-diagnosis. | EL-287 | GI |
| DATA MONITOR | Two modes, "GPS MONITOR" and "SWITCH MONITOR" can be selected in this mode. <ul style="list-style-type: none"> ● Displays current data related to GPS in "GPS MONITOR" mode. ● Displays IVCS switch and outside door handle switch condition in "SWITCH MONITOR" mode. | EL-289 | MA EM |
| FUNCTION CHECK | In this mode, "Remote door unlock function" can be checked using CONSULT-II. Door can be unlocked according to the commands to the smart entrance control unit by the IVCS unit. This check verifies communication circuit between smart entrance control unit and IVCS unit. | EL-298 | LC EC |
| REGISTERED DATA | Displays the following data registered in the IVCS unit. In this mode the data cannot be re-written. <ul style="list-style-type: none"> ● Unit ID ● Cellular phone number ● VIN (Vehicle Identification Number) | EL-290 | FE CL |
| CONFIGURATION (See Note.) | In this mode, the system can be set up in the demonstration mode to confirm system operation. | EL-303 | MT |
| | Various data related to both the Communicator Response Center contract and cellular provider can be written/updated in this mode. <ul style="list-style-type: none"> ● Phone number ● NAM (Number Assignment Module) ● Stolen vehicle tracking setting (Default should always be on.) ● Alarm notification setting (Default should always be on.) | EL-305 | AT AX |
| ECU PART NUMBER | Displays the part number of the IVCS unit. | — | SU BR |

NOTE:

Data must not be rewritten without prior approval from the customer.

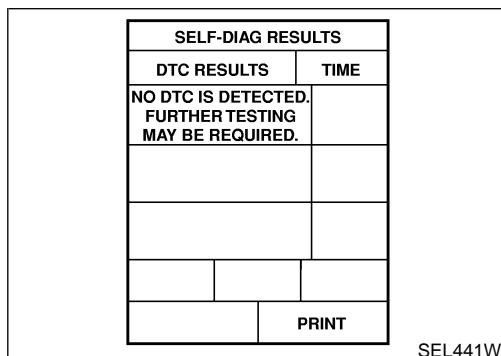


"SELF-DIAG RESULTS" MODE
How to Perform Self-diagnosis

NCEL0188S03

NCEL0188S0301

1. Touch "SELF-DIAG RESULTS".
2. Touch "START".



3. If no malfunction is detected, CONSULT-II will show "NO DTC IS DETECTED".

EL

IDX

INFINITI COMMUNICATOR (IVCS)

CONSULT-II (Cont'd)

| SELF-DIAG RESULTS | |
|--------------------------------|-------|
| DTC RESULTS | TIME |
| CONNECTION ERROR [GPS ANTENNA] | 0 |
| CONNECTION ERROR [AIR BAG] | 0 |
| | |
| | |
| | |
| | PRINT |

SEL442W

| SELF-DIAG RESULTS | |
|--------------------------------|-------|
| DTC RESULTS | TIME |
| CONNECTION ERROR [GPS ANTENNA] | 1 |
| CONNECTION ERROR [AIR BAG] | 1 |
| | |
| | |
| | |
| | PRINT |

SEL443W

- If trouble codes are displayed with “TIME = 0”, repair/replace the system according to “SYMPTOM CHART 1 (SELF-DIAGNOSIS ITEM)”, EL-292.
- In this case, both “MAYDAY” and “INFORMATION” indicator lamps illuminate for more than 30 seconds while the ignition switch is in the ON position.

NOTE:

The time data in CONSULT-II “SELF-DIAG RESULTS” mode displays the number of ignition switch cycles without the same malfunctioning occurring.

- If trouble codes are displayed with “TIME = 1 or greater”, it means that the trouble code is historical data. So no further diagnosis is required.

NOTE:

If trouble codes are displayed with “TIME = 1 or greater” even though the INFINITI Communicator has never been serviced. Intermittent incidents may occur. Check the system, refer to “Trouble Diagnoses for Intermittent Incident”, EL-301.

- If the system does not detect any trouble, the IVCS indicators will turn off after bulb check (self-diagnosis) is completed while the ignition switch is in the ON position.

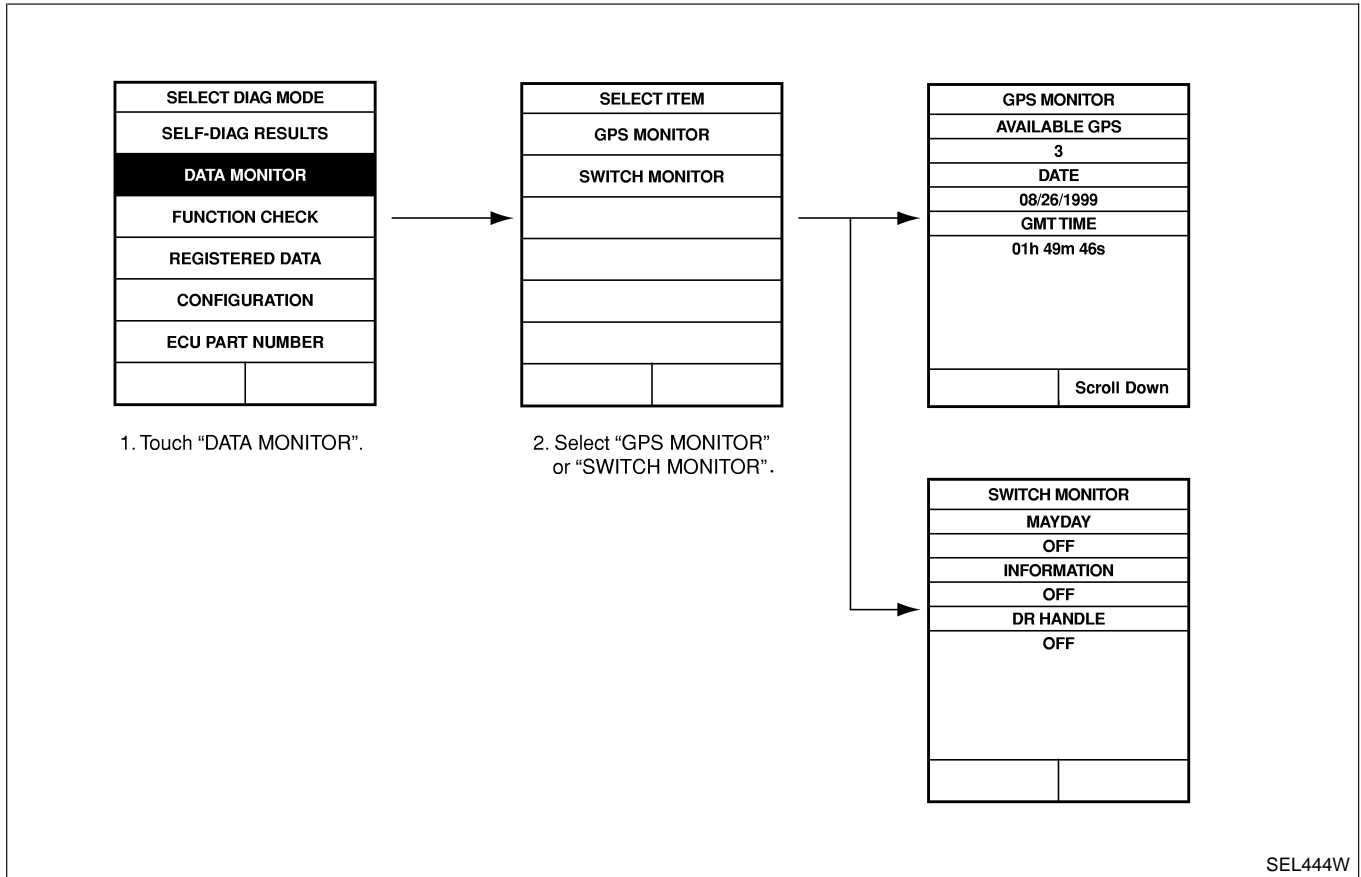
NOTE:

- The trouble codes cannot be erased by CONSULT-II.
- After 50 ignition cycles, the trouble codes are no longer displayed in the CONSULT-II “SELF-DIAG RESULTS” mode.
- The IVCS unit does not count the ignition switch cycles unless the ignition switch is OFF for more than 3 minutes between each ignition switch cycle.

“DATA MONITOR” MODE How to Perform Data Monitor

NCEL0188S04

NCEL0188S0401



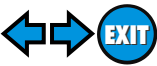
SEL444W

Data Monitor Item Chart

NCEL0188S0402

| Mode | Monitor item | Description |
|----------------|---------------|--|
| GPS MONITOR | AVAILABLE GPS | The number of GPS satellites captured by GPS antenna |
| | DATE | Date of Greenwich mean time |
| | GMT TIME | Greenwich mean time (Different from local time) |
| | LAT. | Latitude |
| | LONG. | Longitude |
| | DOP | Index of precision (an index of location status of GPS satellites. The smaller the value is, the higher the positioning precision is.) |
| SWITCH MONITOR | MAYDAY | "MAYDAY" emergency switch condition |
| | INFORMATION | "INFORMATION" switch condition |
| | DR HANDLE | Driver side outside door handle switch condition |

GI
MA
EM
LC
EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX



INFINITI COMMUNICATOR (IVCS)

CONSULT-II (Cont'd)

| | |
|--------------------|--|
| REGISTERED DATA | |
| UNIT ID | |
| SSNSXXXXXX | |
| CELLULAR PHONE# | |
| XXX-XXX-XXXX | |
| VIN# | |
| XXXXXXXXXXXXXXXXXX | |
| PRINT | |
| | |

SEL445W

“REGISTERED DATA” MODE

NCEL0188S05

| Item | Description |
|------------------|--|
| UNIT ID | ID number of the IVCS unit. ID number is unique to each unit and differs for each unit. |
| CELLULAR PHONE # | — |
| VIN # | Vehicle Identification Number. When the IVCS unit is replaced, VIN # is written in the memory of the replaced unit by transmitting data from the Communicator Response Center. |

NOTE:

No data can be changed in this CONSULT-II mode.

Trouble Diagnoses WORK FLOW

NCEL0189

NCEL0189S01

GI

MA

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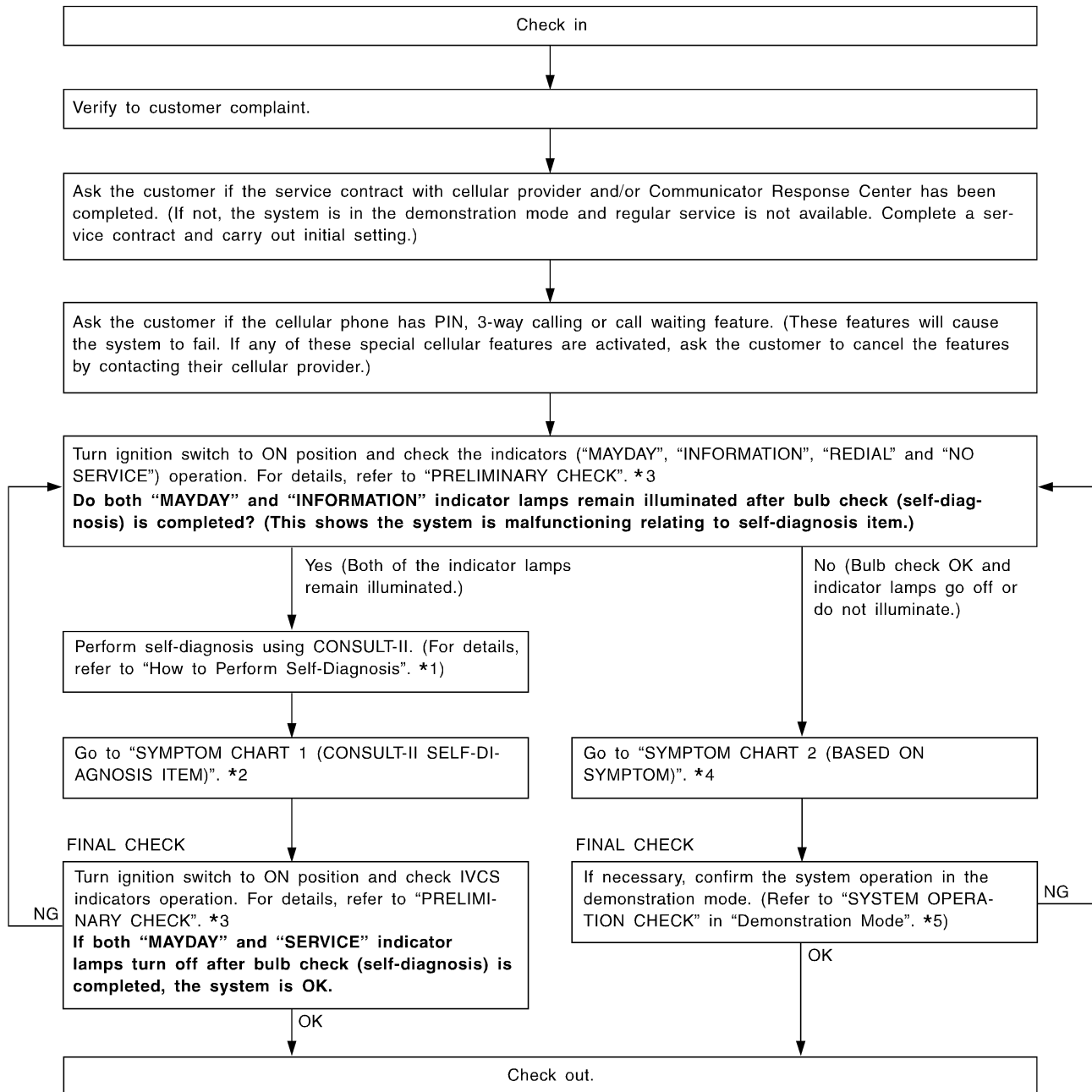
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SEL101WA

*1 EL-287

*2 EL-292

*3 EL-292

*4 EL-293

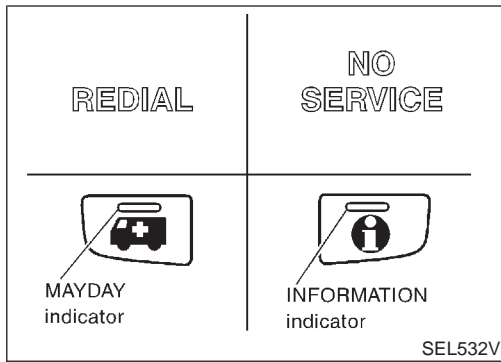
*5 EL-303

WARNING:

- Whenever possible, set the system to "Demonstration mode" if INFINITI Communicator system needs to be activated during service procedures. (For details of the demonstration mode, refer to EL-303.)
- If you activate the INFINITI Communicator system (when the system is not in the demonstration mode), the Communicator Response Center operator may dispatch police.

INFINITI COMMUNICATOR (IVCS)

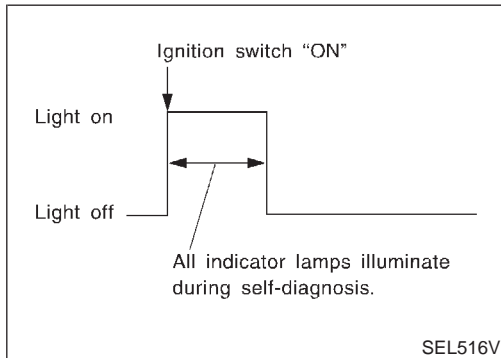
Trouble Diagnoses (Cont'd)



PRELIMINARY CHECK

NCEL0189S02

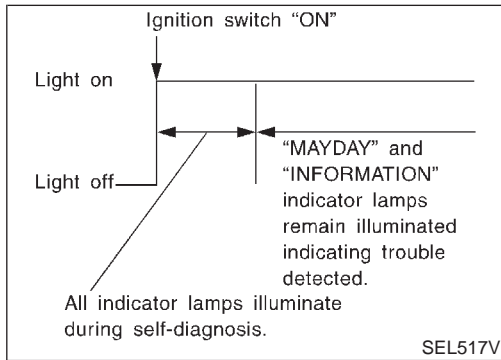
1. Turn ignition switch ON.
2. Check "MAYDAY", "INFORMATION", "REDIAL" and "NO SERVICE" indicator lamps operation.



- If no malfunction is detected, indicator lamps will turn off after the bulb check (self-diagnosis) is terminated for about 30 seconds or more.

NOTE:

- Bulb check (self-diagnosis) is not performed unless the ignition switch has been turned off for at least 3 minutes.
- Bulb check is not performed during contact with Communicator Response Center.



- If the system detects malfunctions, both "MAYDAY" and "INFORMATION" indicator lamps remain illuminated. Perform self-diagnosis using CONSULT-II and repair or replace the system. Refer to "How to Perform Self-diagnosis", EL-287.

NOTE:

For details of indicator lamps operation, refer to "INDICATOR LAMPS OPERATION", EL-277.

SYMPTOM CHART 1 (CONSULT-II SELF-DIAGNOSIS ITEM)

NCEL0189S03

| Detected items (Screen items) | Description | Service procedure |
|----------------------------------|---|--|
| CONNECTION ERROR [GPS ANTENNA] | Connection error between GPS antenna and IVCS unit. | Go to GPS ANTENNA CHECK, EL-300. |
| CELLULAR PHONE [TWB ERROR] | Communication error between CPU in the IVCS unit and transceiver | Replace IVCS unit. |
| MEMORY ERROR | Inner memory error of the IVCS unit | Replace IVCS unit. |
| CONNECTION ERROR [AIR BAG] | Connection error between air bag diagnosis sensor unit and IVCS unit. | Go to AIR BAG DIAGNOSIS SENSOR COMMUNICATION CHECK, EL-300. |
| CONNECTION ERROR [IVMS or S/ENT] | Connection error between smart entrance control unit and IVCS unit. If this error occurs, alarm notification and auto door unlock may not operate. | Go to SMART ENTRANCE CONTROL UNIT COMMUNICATION CHECK, EL-300. |

NOTE:

After replacing IVCS unit, set up the replaced IVCS unit. Refer to “System Setting (When IVCS Unit is Replaced.)” in EL-305.

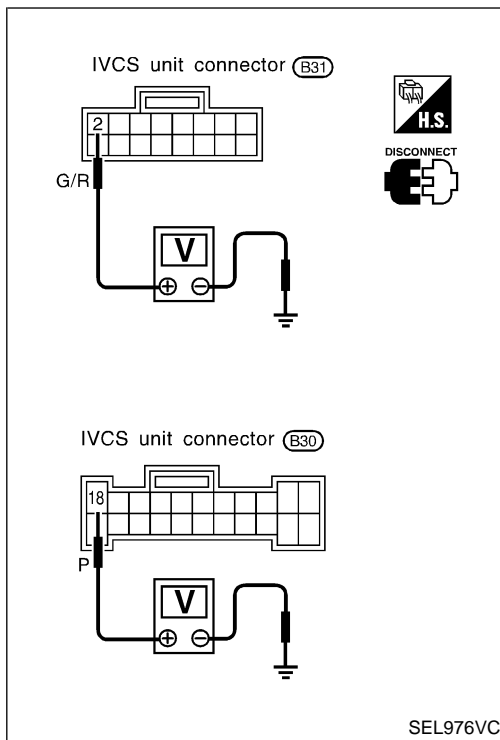
SYMPTOM CHART 2 (BASED ON SYMPTOM)

Before referencing this chart, confirm the operation of the indicator lamps. Refer to “PRELIMINARY CHECK” in EL-292. If the indicators show the system is malfunctioning, perform the self-diagnosis using CONSULT-II.

| Symptom | Diagnoses/service procedure | Reference page | |
|---|---|----------------|----|
| “MAYDAY”, “INFORMATION”, “RE-DIAL”, “NO SERVICE” indicator lamps do not illuminate when ignition switch is turned to ON position. (Bulb check is NG.) | 1. Power supply and ground circuit for IVCS unit check | EL-294 | GI |
| | 2. Indicator lamps check | EL-295 | MA |
| Mayday/Information call does not operate. | 1. IVCS switch check | EL-296 | EM |
| | 2. INFINITI Communicator operation check in demonstration mode | EL-303 | LC |
| Remote door unlocking function does not operate. | 1. Driver side outside door handle switch check | EL-297 | EC |
| | 2. Remote door unlock function check | EL-298 | FE |
| | 3. INFINITI Communicator operation check in demonstration mode | EL-303 | CL |
| Stolen vehicle tracking function does not operate. | 1. Stolen vehicle tracking setting check (Check whether the function is disabled or not.) | EL-299 | MT |
| | 2. INFINITI Communicator operation check in demonstration mode | EL-303 | AT |
| Alarm notification function does not operate. | 1. Alarm notification setting check (Check whether the function is disabled or not.) | EL-299 | AX |
| | 2. INFINITI Communicator operation check in demonstration mode | EL-303 | SU |
| Hands free telephone cannot be operated by using steering switch. (Cellular phone operates properly by using handset.) | 1. Telephone steering switch check | EL-301 | BR |
| No sounds related to the telephone are heard from Front RH speaker. (If the audio does not operate properly, check the audio system.) | 1. Check harness for open or short between IVCS unit and audio unit. | — | ST |
| The “NO SERVICE” indicator lamp is not turned off. (Even if a contract with telephone carrier has not been made, the indicator lamp remains illuminated.) | 1. Make sure the vehicle is in an area with cellular service. | — | RS |
| | 2. Check cellular phone antenna feeder cable connection. | — | BT |
| Cellular phone does not operate properly. | 1. Check hand set connector connection. | — | HA |
| | 2. Check hand set. | — | SC |
| No sound is transmitted to the other party by hands free telephone. | 1. Check harness for open or short between IVCS unit and microphone. | — | EL |
| | 2. Replace microphone. (IVCS switch assembly) | — | |

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)



POWER SUPPLY AND GROUND CIRCUIT FOR IVCS UNIT CHECK

NCEL0189S05

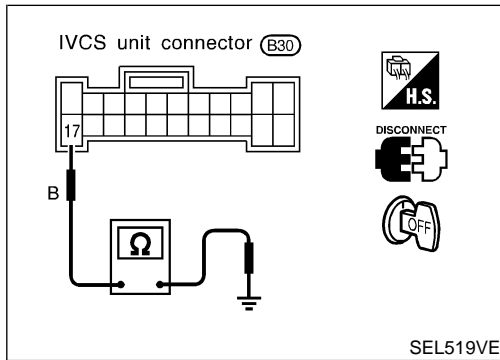
Main Power Supply Circuit Check

NCEL0189S0501

| Terminal | | Ignition switch | | |
|----------|--------|-----------------|-----------------|-----------------|
| (+) | (-) | OFF | ACC | ON |
| 18 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 2 | Ground | 0V | 0V | Battery voltage |

If NG, check the following:

- 10A fuse [No. 8, located in fuse block (J/B)]
- 7.5A fuse [No. 5, located in fuse block (J/B)]
- Harness for open or short between fuse and IVCS unit



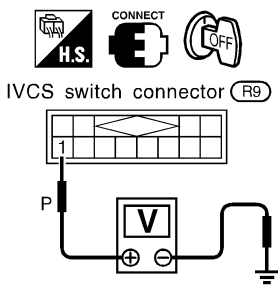
Ground Circuit Check

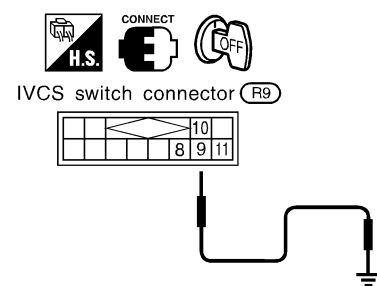
NCEL0189S0502

| Terminals | Continuity |
|-------------|------------|
| 17 - Ground | Yes |

INDICATOR LAMPS CHECK

=NCEL0189S06

| | | | |
|----------|---|---|--|
| 1 | CHECK POWER SUPPLY FOR INDICATOR LAMPS | <p>Check voltage between IVCS switch terminal 1 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL659W</p> <p style="text-align: center;">OK or NG</p> | GI MA EM LC EC FE CL MT |
| 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 fuse and IVCS switch | |

| 2 | CHECK INDICATOR LAMPS | <p>1. Disconnect IVCS unit connector (Control unit connector). 2. Apply ground to IVCS switch each terminal and check illumination.</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Indicator</th> <th style="padding: 5px;">Terminal</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">REDIAL</td> <td style="padding: 5px;">8</td> </tr> <tr> <td style="padding: 5px;">NO SERVICE</td> <td style="padding: 5px;">9</td> </tr> <tr> <td style="padding: 5px;">MAYDAY</td> <td style="padding: 5px;">10</td> </tr> <tr> <td style="padding: 5px;">INFORMATION</td> <td style="padding: 5px;">11</td> </tr> </tbody> </table> </div> <p style="text-align: right;">SEL660W</p> <p style="text-align: center;">OK or NG</p> | Indicator | Terminal | REDIAL | 8 | NO SERVICE | 9 | MAYDAY | 10 | INFORMATION | 11 | AT AX SU BR ST RS BT HA SC |
|-------------|------------------------------|---|-----------|----------|--------|---|------------|---|--------|----|-------------|----|--|
| Indicator | Terminal | | | | | | | | | | | | |
| REDIAL | 8 | | | | | | | | | | | | |
| NO SERVICE | 9 | | | | | | | | | | | | |
| MAYDAY | 10 | | | | | | | | | | | | |
| INFORMATION | 11 | | | | | | | | | | | | |
| OK | ▶ | Check harness for open or short between indicators and IVCS unit. | | | | | | | | | | | |
| NG | ▶ | Replace IVCS switch assembly. | | | | | | | | | | | |

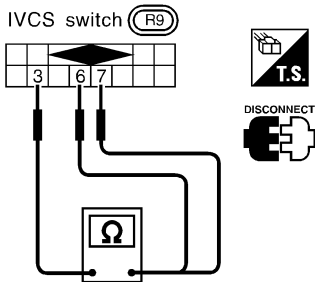
INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

IVCS SWITCH CHECK

=NCEL0189S07

| | | |
|--|---------------------------------------|--------------------|
| 1 | CHECK IVCS SWITCH INPUT SIGNAL | |
| <p>1. Turn ignition switch "ON". 2. Select "SWITCH MONITOR" in "DATA MONITOR" mode. 3. Check each switch signal.</p> <p>Condition: When MAYDAY/INFORMATION switch is pushed: MAYDAY/INFORMATION ON When MAYDAY/INFORMATION switch is released: MAYDAY/INFORMATION OFF</p> <p>NOTE: When CONSULT-II "DATA MONITOR" mode is operating, INFINITI Communicator does not dial to Communicator Response Center when the switches are operated.</p> <p style="text-align: center;">OK or NG</p> | | |
| OK | ▶ | IVCS switch is OK. |
| NG | ▶ | GO TO 2. |

| | | |
|---|---------------------------|--|
| 2 | CHECK IVCS SWITCH. | |
| <p>1. Disconnect IVCS switch. 2. Check continuity between IVCS switch terminals.</p> | | |
|  | | |
| SEL661W | | |
| OK or NG | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● IVCS switch ground circuit ● Harness for open or short between IVCS switch and IVCS unit |
| NG | ▶ | Replace IVCS switch assembly. |

DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH CHECK

=NCEL0189S08

| | | | | | | | | | | | | | | |
|---|--|---|----|----------------|--------|-----|-------------|-----|-----------|-----|--|--|--|--|
| 1 | CHECK DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH INPUT SIGNAL | | GI | | | | | | | | | | | |
| <p>1. Turn ignition switch ON. 2. Select "SWITCH MONITOR" in "DATA MONITOR" mode. 3. Check the switch operation.</p> | | | | | | | | | | | | | | |
| <table border="1" style="margin: auto;"> <tr><td style="text-align: center;">SWITCH MONITOR</td></tr> <tr><td style="text-align: center;">MAYDAY</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;">INFORMATION</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;">DR HANDLE</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> </table> | | | | SWITCH MONITOR | MAYDAY | OFF | INFORMATION | OFF | DR HANDLE | OFF | | | | |
| SWITCH MONITOR | | | | | | | | | | | | | | |
| MAYDAY | | | | | | | | | | | | | | |
| OFF | | | | | | | | | | | | | | |
| INFORMATION | | | | | | | | | | | | | | |
| OFF | | | | | | | | | | | | | | |
| DR HANDLE | | | | | | | | | | | | | | |
| OFF | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| SEL468W | | | | | | | | | | | | | | |
| <p>Condition: When driver side outside door handle switch is pushed: DR HANDLE ON When driver side outside door handle switch is released: DR HANDLE OFF</p> | | | | | | | | | | | | | | |
| <p>NOTE: When CONSULT-II "DATA MONITOR" mode is operating, INFINITI Communicator does not dial to Communicator Response Center when the switches are operated.</p> | | | | | | | | | | | | | | |
| OK or NG | | | | | | | | | | | | | | |
| OK | ▶ | Driver side outside door handle switch is OK. | AX | | | | | | | | | | | |
| NG | ▶ | GO TO 2. | SU | | | | | | | | | | | |

| 2 | CHECK DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH | | BR | | | | | | |
|---|---|--|----|-----------------------------------|------------|--------|-----|----------|----|
| <p>1. Disconnect driver side outside door handle switch connector. 2. Check continuity between driver side outside door handle switch terminals 4 and 5.</p> | | | | | | | | | |
| <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>Driver side outside door handle switch connector (D11)</p> </div> <div style="flex: 1; text-align: center;"> </div> <div style="flex: 2;"> <table border="1" style="margin: auto;"> <thead> <tr> <th style="text-align: left;">Back door handle switch condition</th> <th style="text-align: center;">Continuity</th> </tr> </thead> <tbody> <tr> <td>Pulled</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Released</td> <td style="text-align: center;">No</td> </tr> </tbody> </table> </div> </div> | | | | Back door handle switch condition | Continuity | Pulled | Yes | Released | No |
| Back door handle switch condition | Continuity | | | | | | | | |
| Pulled | Yes | | | | | | | | |
| Released | No | | | | | | | | |
| SEL662W | | | | | | | | | |
| OK or NG | | | | | | | | | |
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Driver side outside door handle switch ground circuit ● Harness for open or short between driver side outside door handle switch and IVCS unit | SC | | | | | | |
| NG | ▶ | Replace driver side outside door handle switch. | EL | | | | | | |

REMOTE DOOR UNLOCK FUNCTION CHECK (CONSULT-II "FUNCTION CHECK" MODE)

-NCEL0189S09

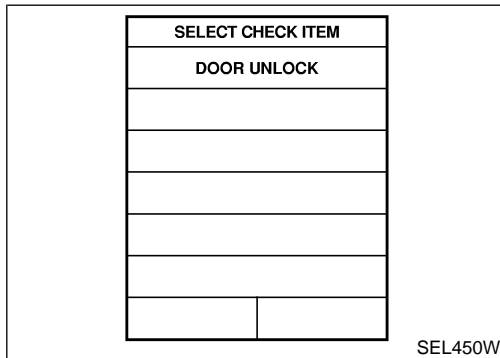
Description

NCEL0189S0901

"Remote door unlock function" can be checked using CONSULT-II. Driver side door can be unlocked according to the commands to the smart entrance control unit by the IVCS unit.

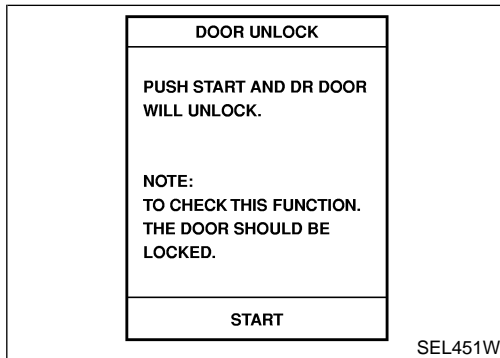
NOTE:

Before performing the function check, confirm that power door lock system operates properly.



How to perform function check.

1. Lock the doors with door lock/unlock switch on driver's door trim.
2. Touch "FUNCTION CHECK".
3. Touch "DOOR UNLOCK".
4. Touch "START". Then driver side door will be unlocked.
 - If the door cannot be unlocked using CONSULT-II, check harness for open or short between smart entrance control unit terminal 20 and IVCS unit terminal 32.



STOLEN VEHICLE TRACKING/ALARM NOTIFICATION SETTING CHECK (CONSULT-II "CONFIGURATION" MODE)

NCEL0189S10

| | | | | | | |
|----------|-----------------------------|---|----------------------|-----|-------|--|
| 1 | CHECK SYSTEM SETTING | <p>1. Turn ignition switch ON. 2. Select "VHCL TRACKING" or "ALARM NOTIFICATION" in "CONFIGURATION" mode. 3. Check the function setting.</p> <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px auto; width: 150px;"> <p style="text-align: center; margin: 0;">VEHICLE TRACKING</p> <p style="text-align: center; margin: 0;">CURRENT SETTING IS</p> <p style="text-align: center; margin: 0;">ON</p> <p style="text-align: center; margin: 0;">VEHICLE TRACKING FUNCTION IS ACTIVE.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 5px auto;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center;">OFF</td> <td style="width: 33%; text-align: center;">PRINT</td> </tr> </table> </div> <p>● ON shows the function is activated. ● OFF shows the function is deactivated.</p> <p>Does the system setting comply with the customer's contract? NOTE: Setting of "VEHICLE TRACKING" must be ON at all times.</p> <p style="text-align: center;">OK or NG</p> | | OFF | PRINT | GI MA EM LC EC FE CL MT AT AX SU BR ST RS BT HA SC |
| | OFF | PRINT | | | | |
| OK | ▶ | System setting is OK. | | | | |
| NG | ▶ | If either setting is OFF, contact the Communicator Response Center at 1-888-427-4812 to verify the system setting. NOTE: Whenever dialing the above number, some information about the vehicle will be required by the operator. For details, refer to EL-271. | SEL452W EL IDX | | | |

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

GPS ANTENNA CHECK

=NCEL0189S11

| | | |
|--|--------------------------------------|----------------------|
| 1 | CHECK VOLTAGE FOR GPS ANTENNA | |
| <p>1. Disconnect GPS feeder cable connector from IVCS unit. 2. Turn ignition switch ON. 3. Check voltage at IVCS unit GPS feeder cable terminal.</p> <div style="text-align: center;"> <p>IVCS unit</p> </div> <p style="text-align: right;">SEL106W</p> | | |
| Does approx. 5V exist? | | |
| Yes | ▶ | Replace GPS antenna. |
| No | ▶ | Replace IVCS unit. |

AIR BAG DIAGNOSES SENSOR UNIT COMMUNICATION CHECK

NCEL0189S12

| | | |
|--|--------------------------------|---|
| 1 | AIR BAG OPERATION CHECK | |
| Turn ignition switch ON and check air bag warning lamp operation. (For details, refer to RS-41.) | | |
| Does air bag warning lamp operate properly? | | |
| Yes | ▶ | Check harness connector connection between air bag diagnosis sensor unit and IVCS unit. |
| No | ▶ | Check supplemental restraint system. Refer to RS-32, "Trouble Diagnoses Introduction". |

SMART ENTRANCE CONTROL UNIT COMMUNICATION CHECK

NCEL0189S13

| | | |
|---|--|--|
| 1 | CHECK SMART ENTRANCE CONTROL UNIT OPERATION | |
| Check the system related smart entrance control unit operation. (e.g.: power door lock, power window) | | |
| Does the system operate properly? | | |
| Yes | ▶ | Check harness for open or short between smart entrance control unit and IVCS unit. |
| No | ▶ | Check smart entrance control unit. Refer to EL-243, "SMART ENTRANCE CONTROL UNIT". |

TELEPHONE STEERING SWITCH CHECK

=NCEL0189S14

| | | | |
|---|---|--|----|
| 1 | CHECK POWER SUPPLY FOR STEERING SWITCH | | GI |
| Check power supply for steering switch. | | | |
| Does horn work? | | | MA |
| Yes | ▶ | Check the following. <ul style="list-style-type: none"> ● 10A fuse (No. 36, located in fuse and fusible link box) ● Horn relay ● Harness for open or short | EM |
| No | ▶ | GO TO 2. | LC |

| | | | |
|--|--|---|----|
| 2 | CHECK STEERING SWITCH SUB-HARNESS | | EC |
| 1. Remove driver's air bag module. For removal procedure, refer to RS section. 2. Check steering switch sub-harness for open or short and ground screw. For details of the harness circuit, refer to "STEERING SWITCH", EL-28. | | | FE |
| OK or NG | | | |
| OK | ▶ | Check harness for open or short between telephone steering switch and IVCS unit. If the circuit is OK, replace telephone steering switch. | CL |
| NG | ▶ | Replace or repair the harness. | MT |

Trouble Diagnoses for Intermittent Incident

NCEL0190

NCEL0190S01

DESCRIPTION

An intermittent incident may be occurring if all of the following conditions exist.

- Both "MAYDAY" emergency and "INFORMATION" indicators have shown that the system is malfunctioning.
- CONSULT-II self-diagnosis result screen indicates a trouble code with "TIME = 1 or greater".
- The INFINITI Communicator system has not been previously serviced.

To find out the cause of a malfunction, follow the procedures shown below.

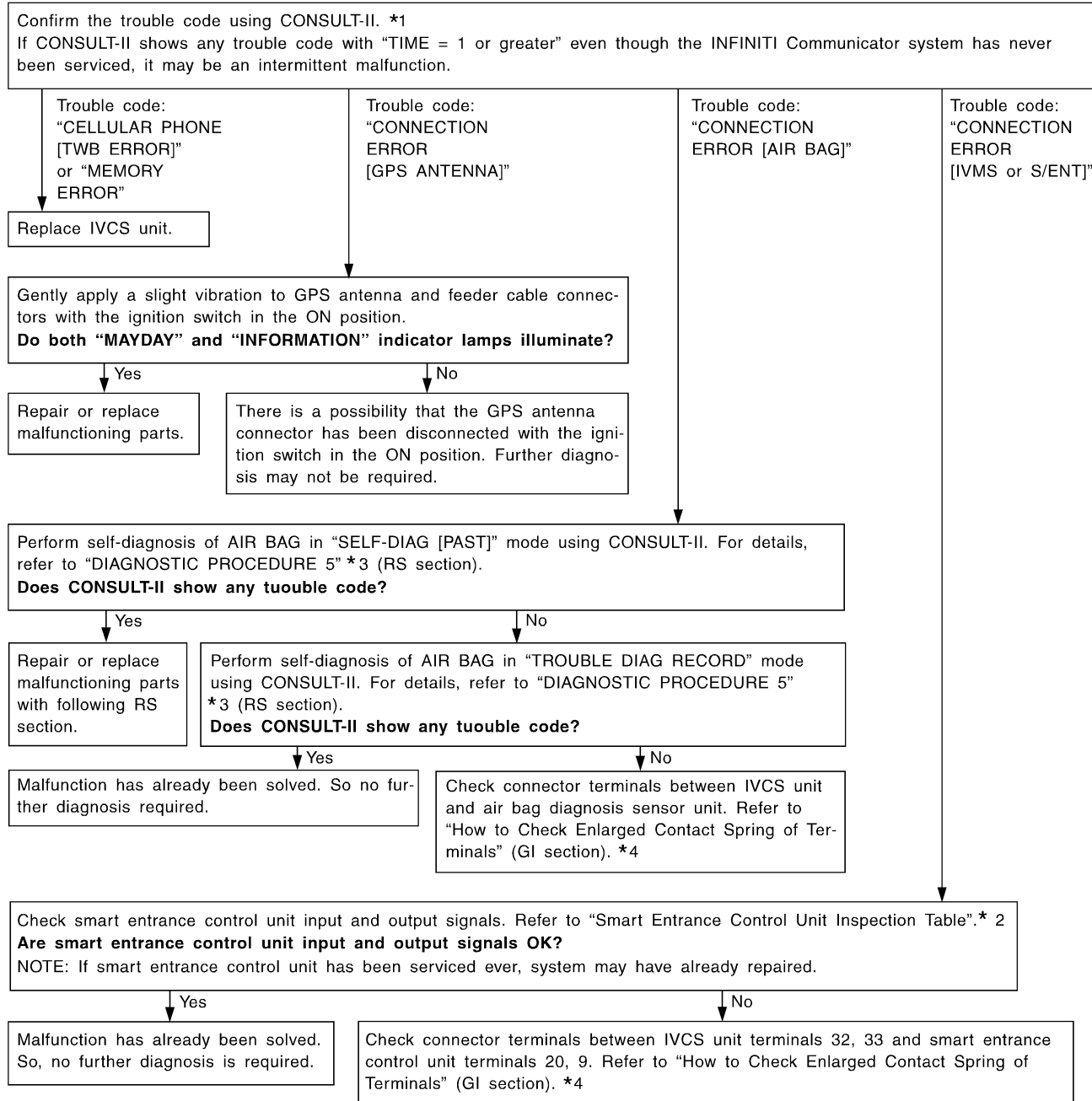
GI
MA
EM
LC
EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses for Intermittent Incident (Cont'd)

NCEL0190S02

DIAGNOSTIC PROCEDURE



SEL107WG

*1 EL-287

*3 RS-48

*4 GI-23

*2 EL-247

NOTE:

Enlarged spring contact of terminals may be cause of intermittent malfunction for "CONNECTION ERROR [AIR BAG]/[IVMS]". When you inspect terminals for enlarged contact, refer to GI-23, "How to Check Enlarged Contact Spring of Terminals".

Demonstration Mode

DESCRIPTION

NCEL0191

NCEL0191S01

By setting up the system in the demonstration mode, automatic dialing operation can be confirmed by “MAYDAY” emergency and “INFORMATION” switch operation.

Automatic dialing in this mode is connected to the demonstration center of Communicator Response Center, and is different from the normal service.

When the contract with Communicator Response Center is not concluded, all the INFINITI Communicator operations are connected to the demonstration center.

Connection to Communicator Response Center in this mode will not be charged by Communicator Response Center nor will the call be handled as an emergency.

GI

MA

EM

LC

EC

FE

CL

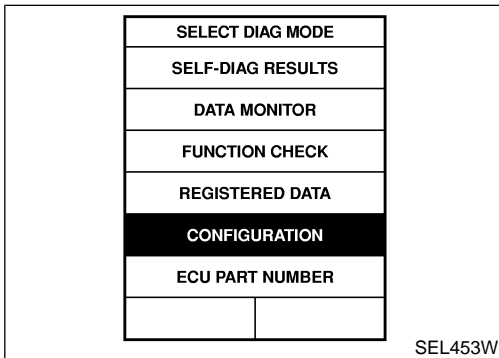
MT

SYSTEM OPERATION CHECK

NCEL0191S02

1. Touch “CONFIGURATION”.

AT



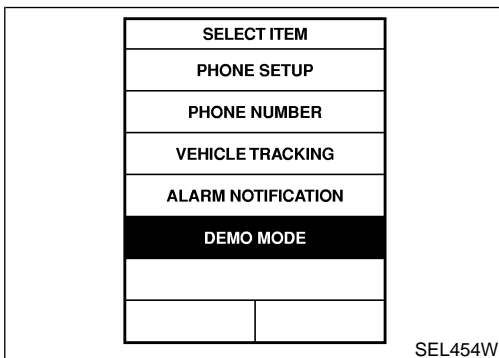
AX

SU

BR

2. Touch “DEMO MODE”.

ST



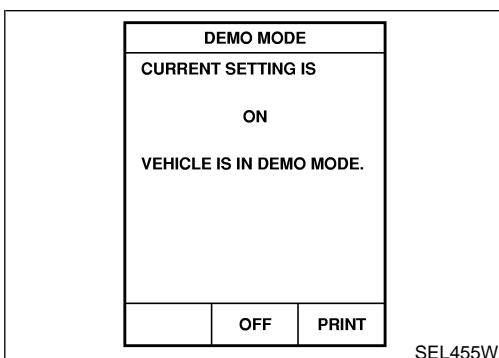
RS

BT

HA

3. Touch “ON”. Now, the system is in demonstration mode. (To return to normal mode, touch “OFF”.)

SC

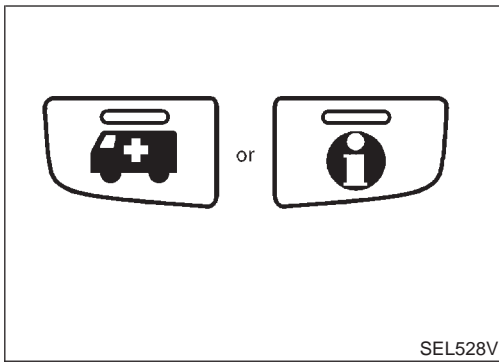


EL

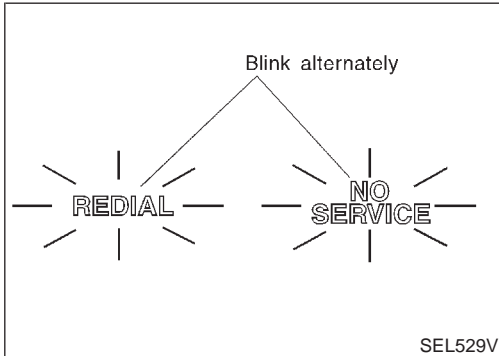
IDX

INFINITI COMMUNICATOR (IVCS)

Demonstration Mode (Cont'd)



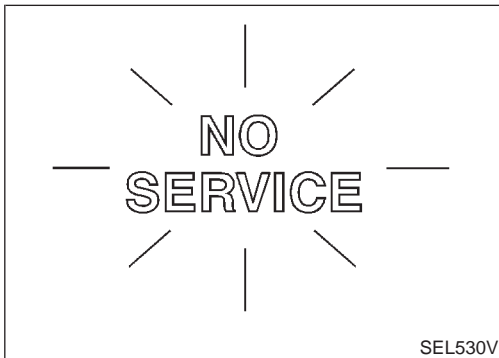
4. Touch “BACK” key of CONSULT-II until “SELECT SYSTEM” appears, then turn off CONSULT-II.
5. Turn ignition switch to the OFF position.
6. Disconnect CONSULT-II DDL connector.
7. Start the engine.
8. Touch the “MAYDAY” or “INFORMATION” switches. Then the system will call the demonstration center.



9. Check INFINITI Communicator operation.
 - If contact with Communicator Response Center is successful, system is OK.

NOTE:

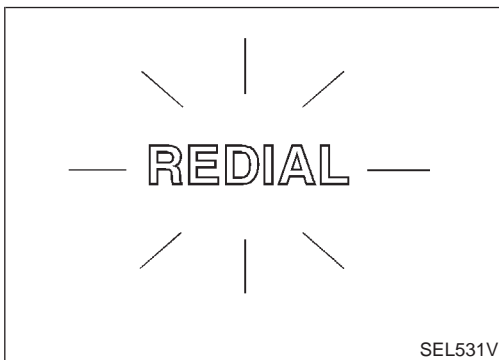
During the system contact to Communicator Response Center in demonstration mode, “REDIAL” and “NO SERVICE” indicators blink alternately.



- If “NO SERVICE” indicator illuminates and the contact to Communicator Response Center is unsuccessful, retry from other location where the cellular connection seems good. (e.g.; move the vehicle outside of the workshop and retry.)

NOTE:

If “NO SERVICE” indicator frequently illuminates from a location where the cellular connection seems good, check the connection of the feeder cable for the cellular phone antenna.



- If “REDIAL” indicator lamp illuminates and the contact to Communicator Response Center is unsuccessful, the cellular network is busy or there are no open cellular channels. The system will redial automatically.

NOTE:

If redial fails several times, confirm whether the roaming agreement of customer’s cellular provider at the vehicle location is available or not.

WARNING:

- Make sure to turn the demonstration mode OFF before returning the vehicle to the owner.
- In the demonstration mode, any service from Communicator Response Center is not available. Therefore, even if the customer encounters an emergency, no service will be dispatched.

System Setting (When IVCS Unit is Replaced)

NCEL0192

DESCRIPTION

NCEL0192S01

When the IVCS unit is replaced, carry out the following data settings.

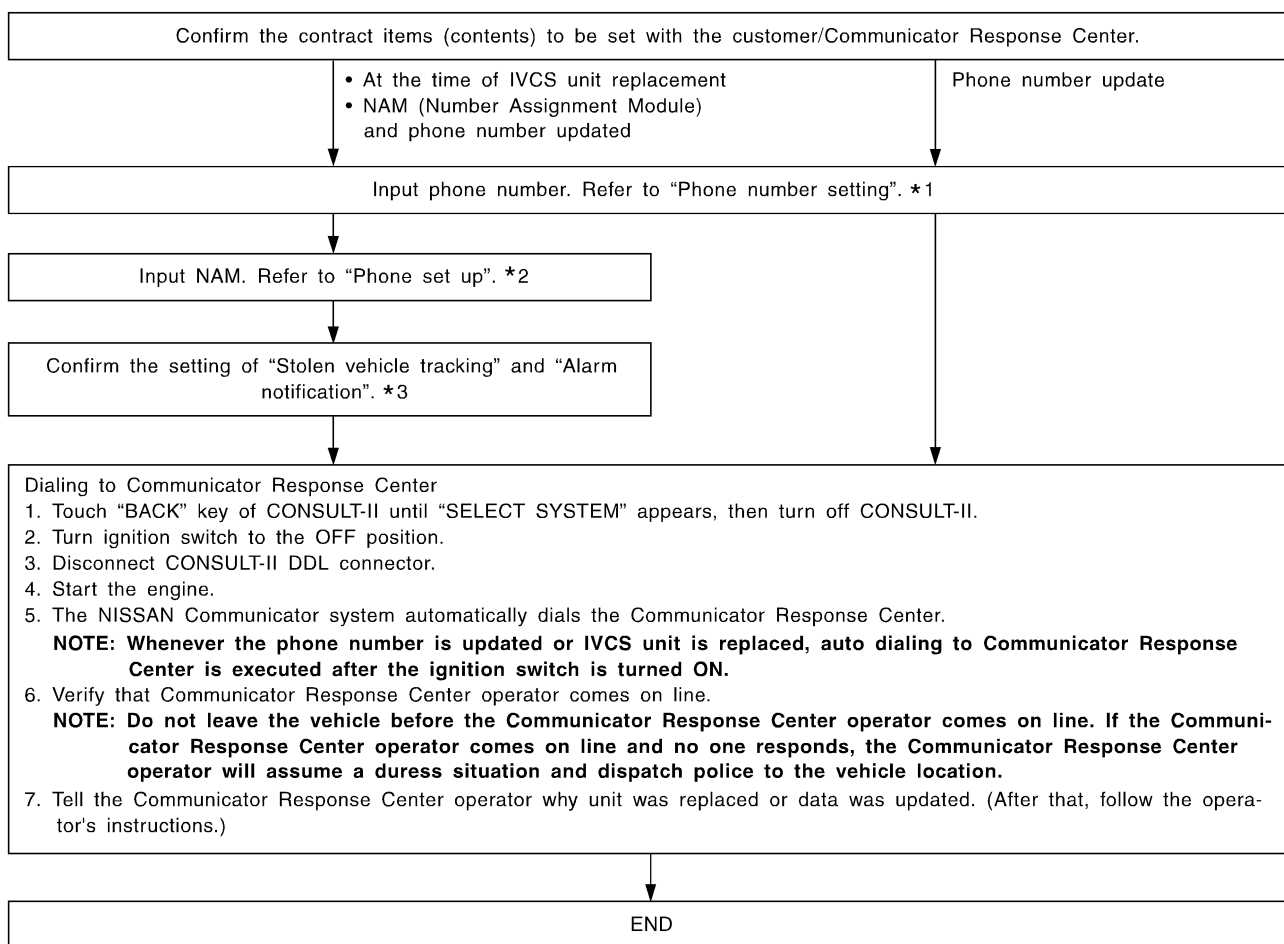
- Phone setup — Data setting regarding NAM (Number Assignment Module)
- Phone number — Phone number setting

NOTE:

- **Data must not be updated without prior approval from the customer.**
- **NAM and phone number can be programmed by using handset. For details, refer to the handset operation manual.**
- **The IVCS unit does not permit updating of NAM more than 15 times.**

WORK FLOW

NCEL0192S02



*1 EL-306

*2 EL-307

*3 EL-308

NOTE:

- **If a Communicator Response Center operator does not come on line even though the system activates, the system may not be properly configured. Call the Communicator Response Center at 1-888-427-4812 to verify the configuration information.**

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

INFINITI COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

| | |
|---|----|
| PHONE NUMBER | |
| NEW PHONE# | |
| XXX - XXX - XXXX | |
| THE ABOVE CELLULAR PHONE NUMBER WILL BE PROGRAMMED. OK? | |
| CANCEL | OK |

SEL460W

6. Touch "OK".
7. Carry out the next system setting or contact Communicator Response Center and inform them that data has been updated or the IVCS unit has been replaced. For details, refer to EL-305.

NOTE:

Whenever the phone number is updated or the IVCS unit is replaced, the INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started.

| | |
|--------------------|--|
| SELECT ITEM | |
| PHONE SETUP | |
| PHONE NUMBER | |
| VEHICLE TRACKING | |
| ALARM NOTIFICATION | |
| DEMO MODE | |
| | |
| | |

SEL461W

PHONE SET UP

NCEL0192S04

1. Touch "CONFIGURATION".
2. Touch "PHONE SET UP".

| | | |
|--|---------|-------|
| PHONE SETUP | | |
| THIS UNIT HAS NO REQUIRED DATA PROGRAMMED. | | |
| ERASE | REWRITE | PRINT |
| Scroll Down | | |

SEL716W

3. Touch "WRITE" or "REWRITE".
 - If no data is previously memorized, the display shows "This unit has no required data programmed".

| | | |
|--|---------|-------|
| PHONE SETUP | | |
| SYS.ID: | | |
| 11111 | | |
| GR.ID: | | |
| 11 | | |
| OVERLOAD CLASS: | | |
| 11 | | |
| THIS UNIT HAS THE ABOVE DATA PROGRAMMED. | | |
| ERASE | REWRITE | PRINT |
| Scroll Down | | |

SEL463W

- If NAM (Number Assignment Module) data is previously memorized, the display shows the current NAM data.
- To erase the NAM, touch "ERASE".

| | | | | | | |
|-----------------|---|---|---|----|--------|-------|
| PHONE SETUP | | | | | | |
| SYS.ID: | | | | | | |
| | | | | | | |
| GR.ID: | | | | | | |
| | | | | | | |
| OVERLOAD CLASS: | | | | | | |
| | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | |
| 7 | 8 | 9 | 0 | BS | | |
| | | | | | CANCEL | ENTER |
| Scroll Down | | | | | | |

SEL464W

4. Input new NAM data.
 - SYS ID (Carrier system ID number) — Available number: 0 to 32765
 - GR ID (Group ID mark) — Available number: 0 to 15
 - OVERLOAD CLASS (Access overload class) — Available number: 0 to 15
 - SECURITY CODE (User security code)
 - UNLOCK CODE
 - INIT PAGE CH (Initial paging channel)

GI
MA
EM
LC
EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

INFINITI COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

NOTE:

If an unavailable number is input as “SYS ID”, “GR ID” or “OVERLOAD CLASS”, CONSULT-II may be locked. In such cases, disconnect the vehicle battery cable once and then setup the system again.

5. Touch “ENTER”.

| | |
|--|----|
| PHONE SETUP | |
| SYS.ID: | |
| 11111 | |
| GR.ID: | |
| 11 | |
| OVERLOAD CLASS: | |
| 11 | |
| THE ABOVE DATA WILL BE PROGRAMMED. OK? | |
| CANCEL | OK |
| Scroll Down | |

SEL465W

6. Touch “OK”.

7. Carry out the next system setting or contact Communicator Response Center and inform them that data has been updated or IVCS unit has been replaced. For details, refer to EL-305.

NOTE:

Whenever the phone number is updated or the IVCS unit is replaced, the INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started.

| |
|---------------------------|
| SELECT ITEM |
| PHONE SETUP |
| PHONE NUMBER |
| VEHICLE TRACKING |
| ALARM NOTIFICATION |
| DEMO MODE |
| |
| |

SEL466W

STOLEN VEHICLE TRACKING/ALARM NOTIFICATION SETTING CHECK

NCEL0192S05

1. Touch “CONFIGURATION”.

2. Touch “VEHICLE TRACKING” or “ALARM NOTIFICATION”.

| | |
|--|-------|
| ALARM NOTIFICATION | |
| CURRENT SETTING IS | |
| ON | |
| ALARM NOTIFICATION FUNCTION IS ACTIVE. | |
| OFF | PRINT |

SEL467W

3. This function should always be “ON” (function activate.)

NOTE:

- If either setting is “OFF”, contact the Communicator Response Center at 1-888-427-4812 to verify the system setting.

- Whenever dialing the above number, information about the vehicle is required by the operator. For details, refer to EL-271.

Engine Compartment

NCEL0129

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

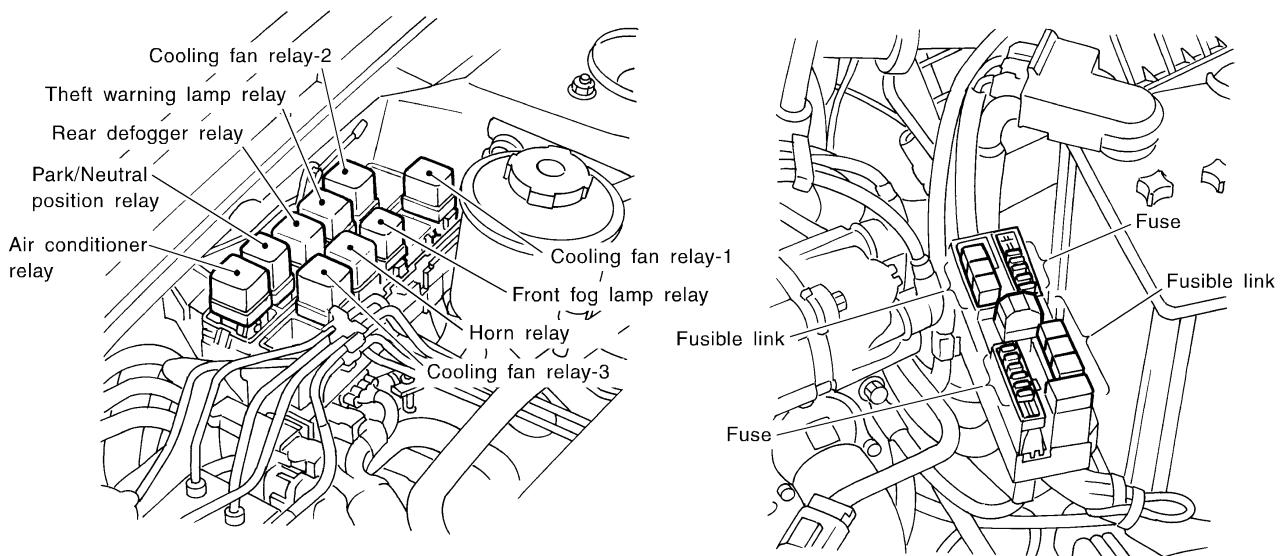
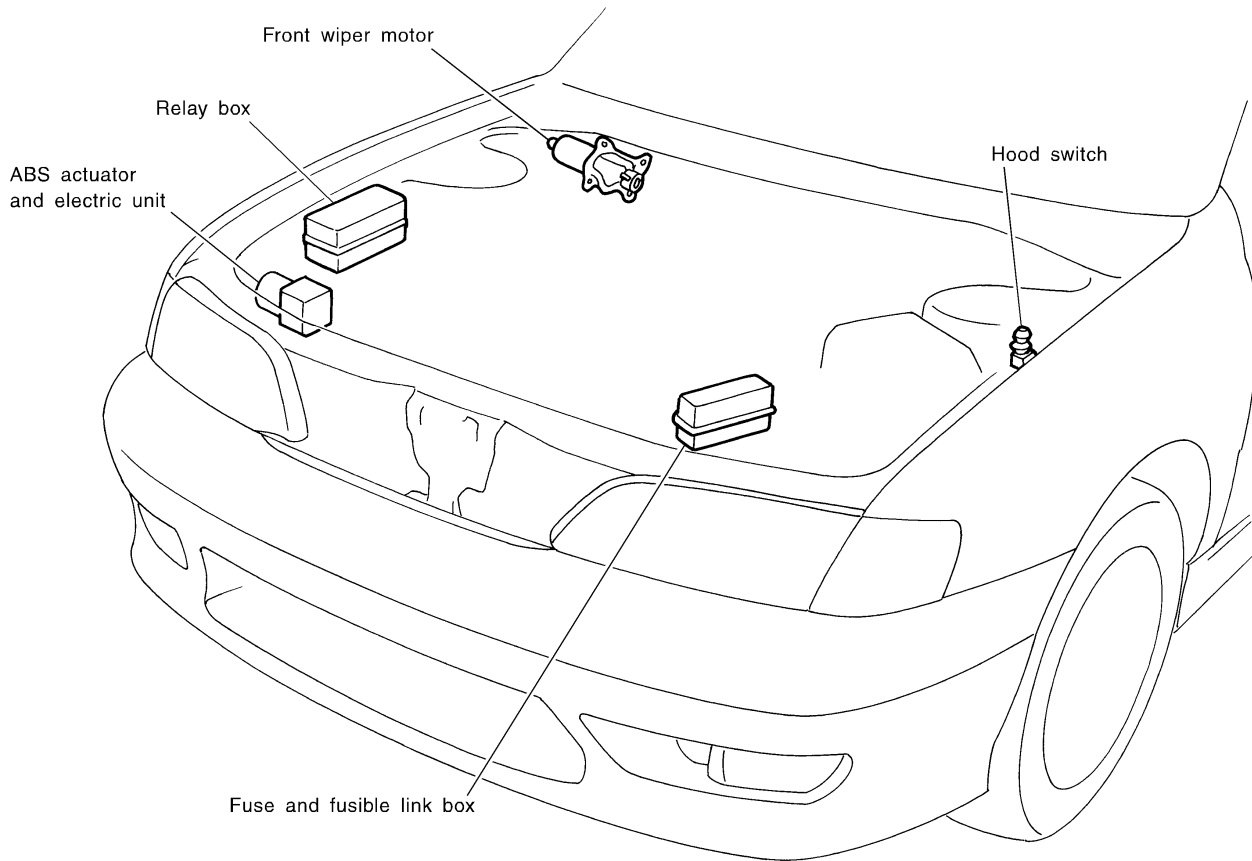
BT

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SC

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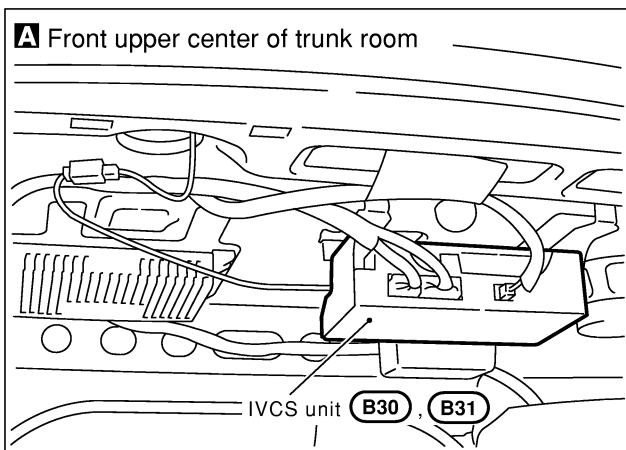
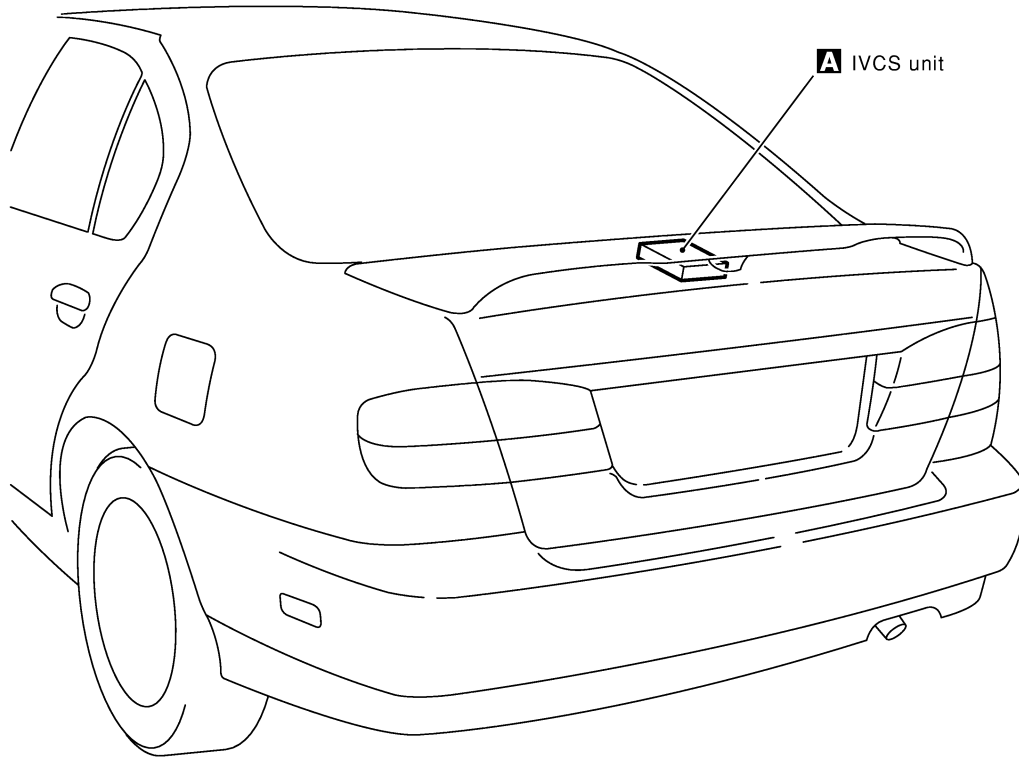
CEL173A

ELECTRICAL UNITS LOCATION

Luggage Compartment

Luggage Compartment

NCEL0193



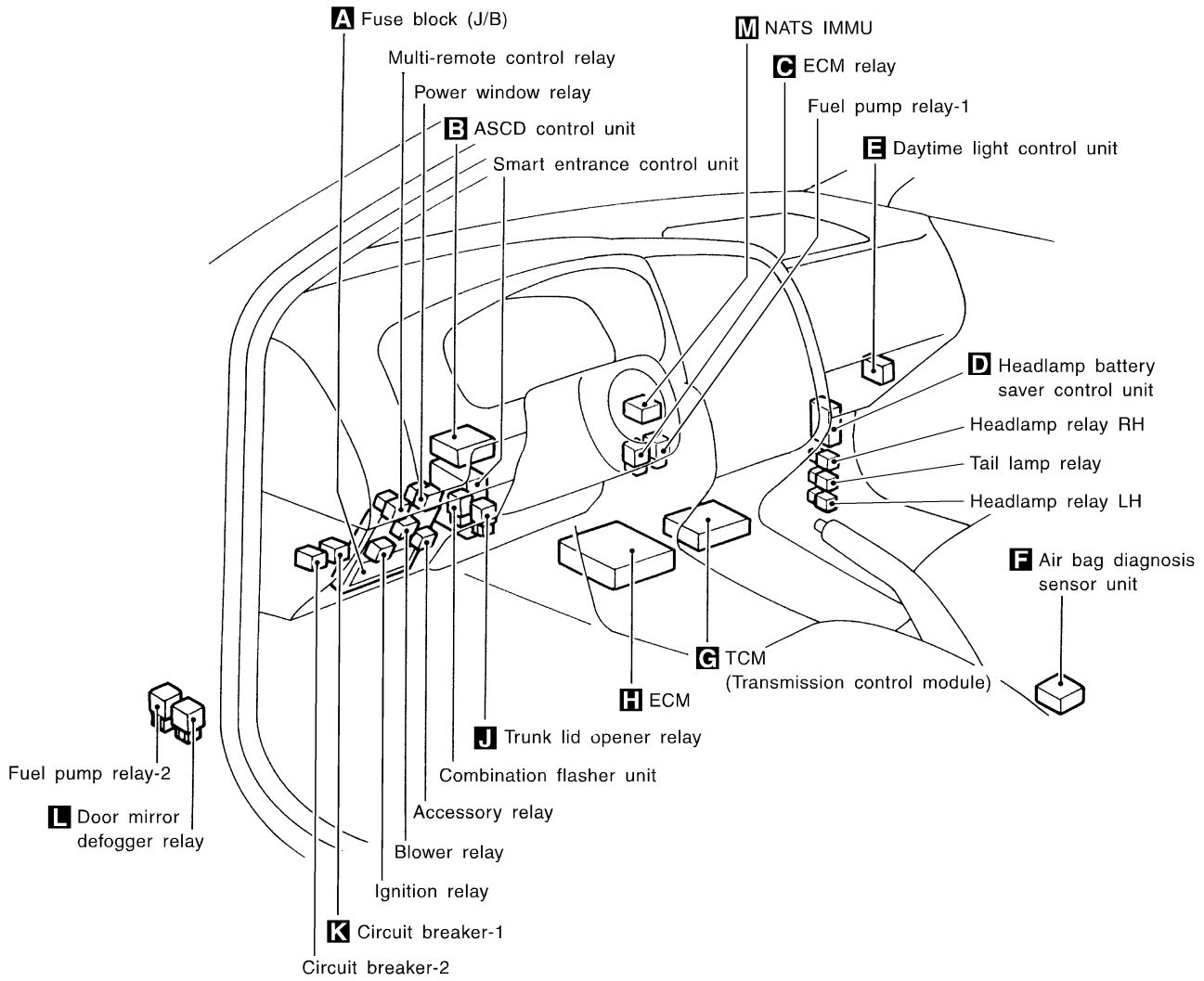
CEL174A

ELECTRICAL UNITS LOCATION

Passenger Compartment

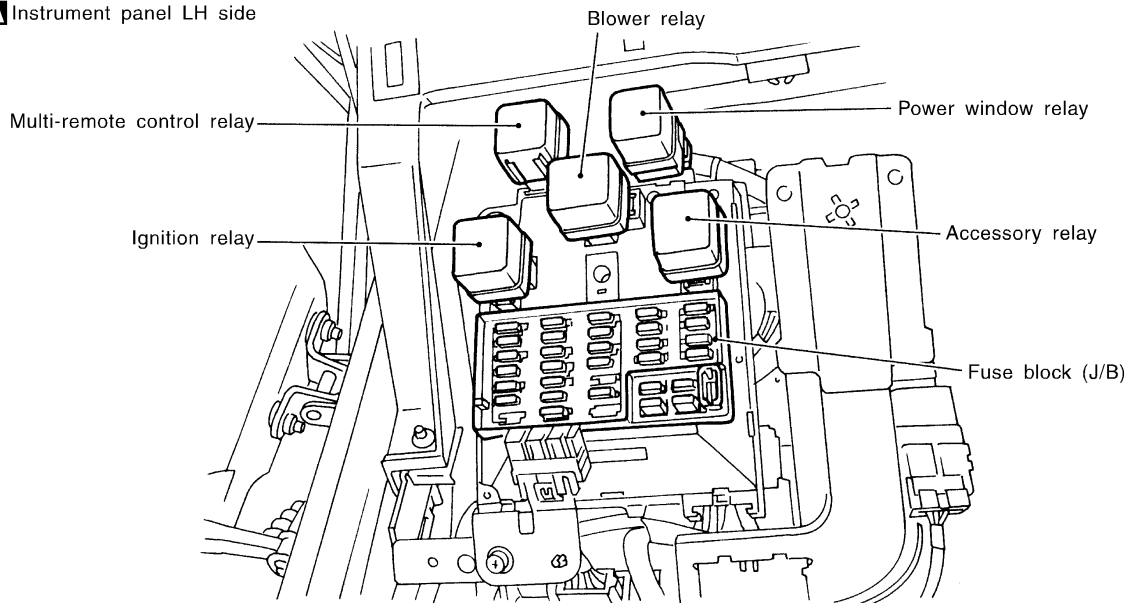
Passenger Compartment

NCEL0130



- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- AX
- SU
- BR
- ST
- RS
- BT
- HA
- SC
- EL
- IDX

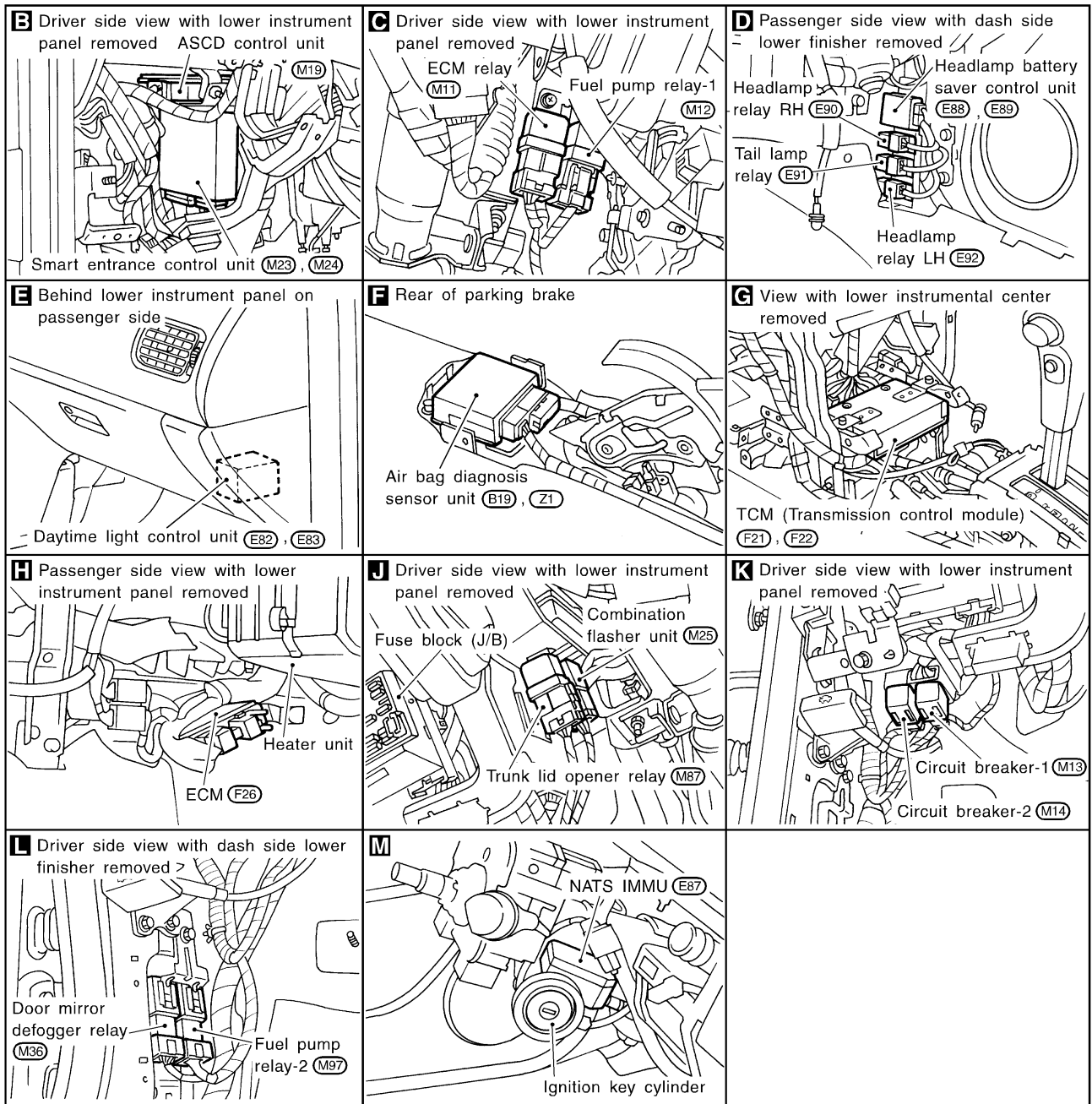
A Instrument panel LH side



CEL175A

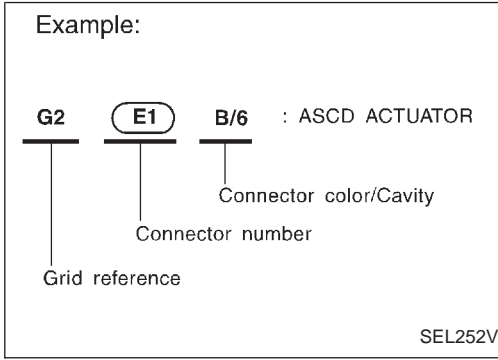
ELECTRICAL UNITS LOCATION

Passenger Compartment (Cont'd)



How to Read Harness Layout

NCEL0131



The following Harness Layouts use a map style grid to help locate connectors on the drawings:

- Main Harness
- Engine Room Harness (Engine Compartment)

TO USE THE GRID REFERENCE

1. Find the desired connector number on the connector list.
2. Find the grid reference.
3. On the drawing, find the crossing of the grid reference letter column and number row.
4. Find the connector number in the crossing zone.
5. Follow the line (if used) to the connector.

CONNECTOR SYMBOL

Main symbols of connector (in Harness Layout) are indicated in the below.

| Connector type | Water proof type | | Standard type | |
|--|------------------|--------|---------------|--------|
| | Male | Female | Male | Female |
| <ul style="list-style-type: none"> ● Cavity: Less than 4 ● Relay connector | | | | |
| <ul style="list-style-type: none"> ● Cavity: From 5 to 8 | | | | |
| <ul style="list-style-type: none"> ● Cavity: More than 9 | — | — | | |
| <ul style="list-style-type: none"> ● Ground terminal etc. | — | | | |

GI

MA

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NCEL0131S01

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NCEL0131S02

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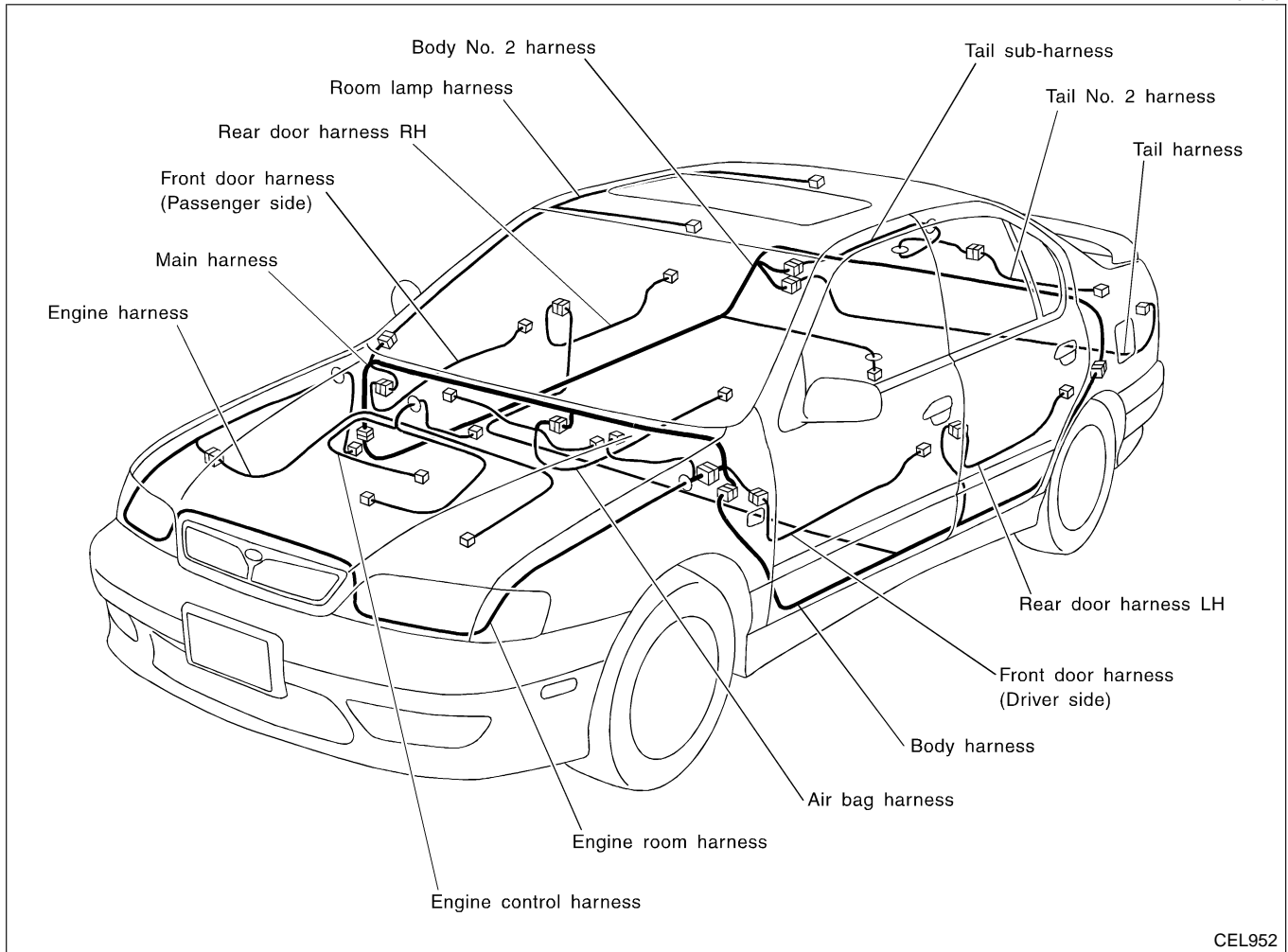
IDX

HARNES LAYOUT

Outline

Outline

NCEL0132



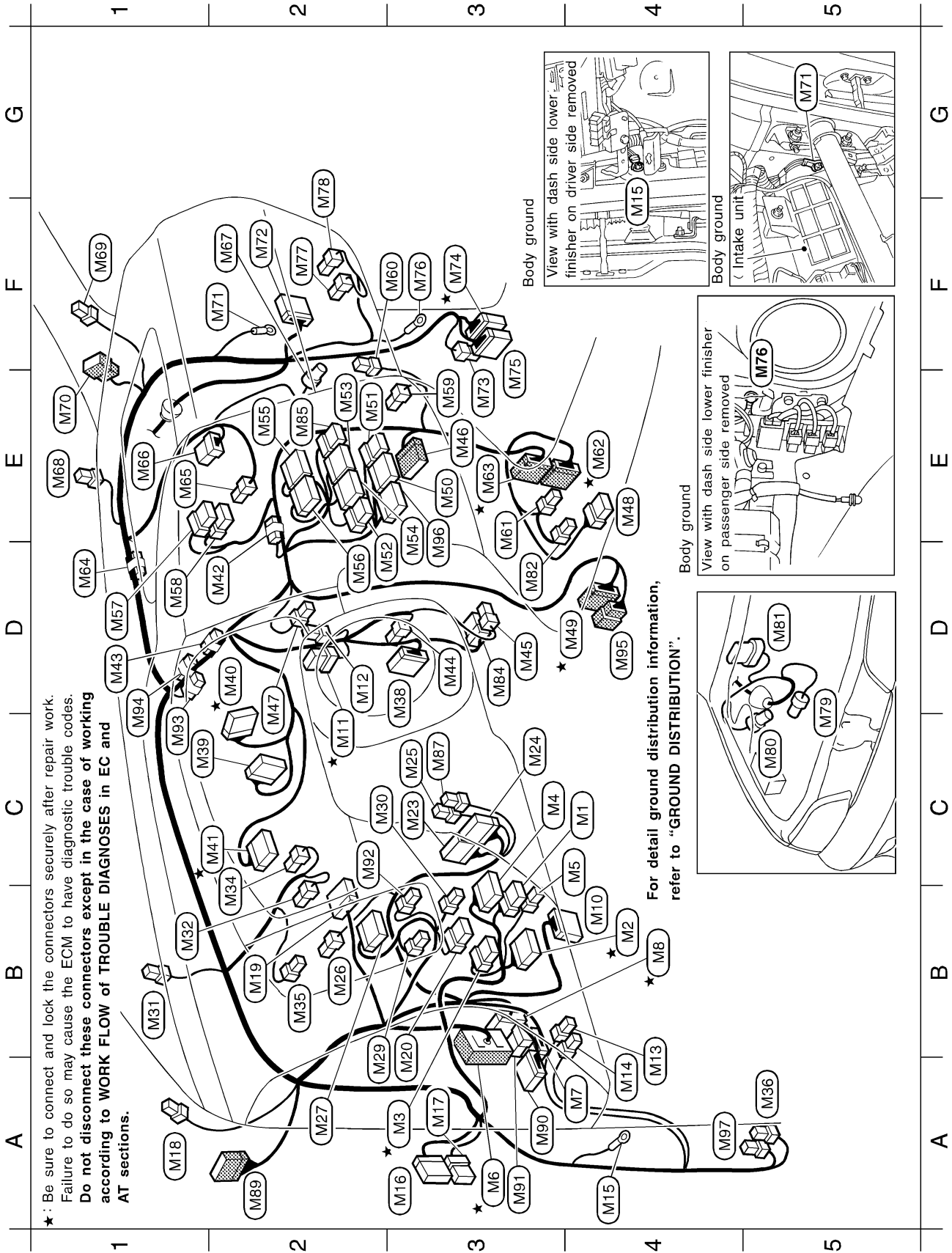
CEL952

NOTE:

For detailed ground distribution information, refer to "Ground Distribution", "GROUND", EL-18.

Main Harness

NCEL0133



★ : 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.

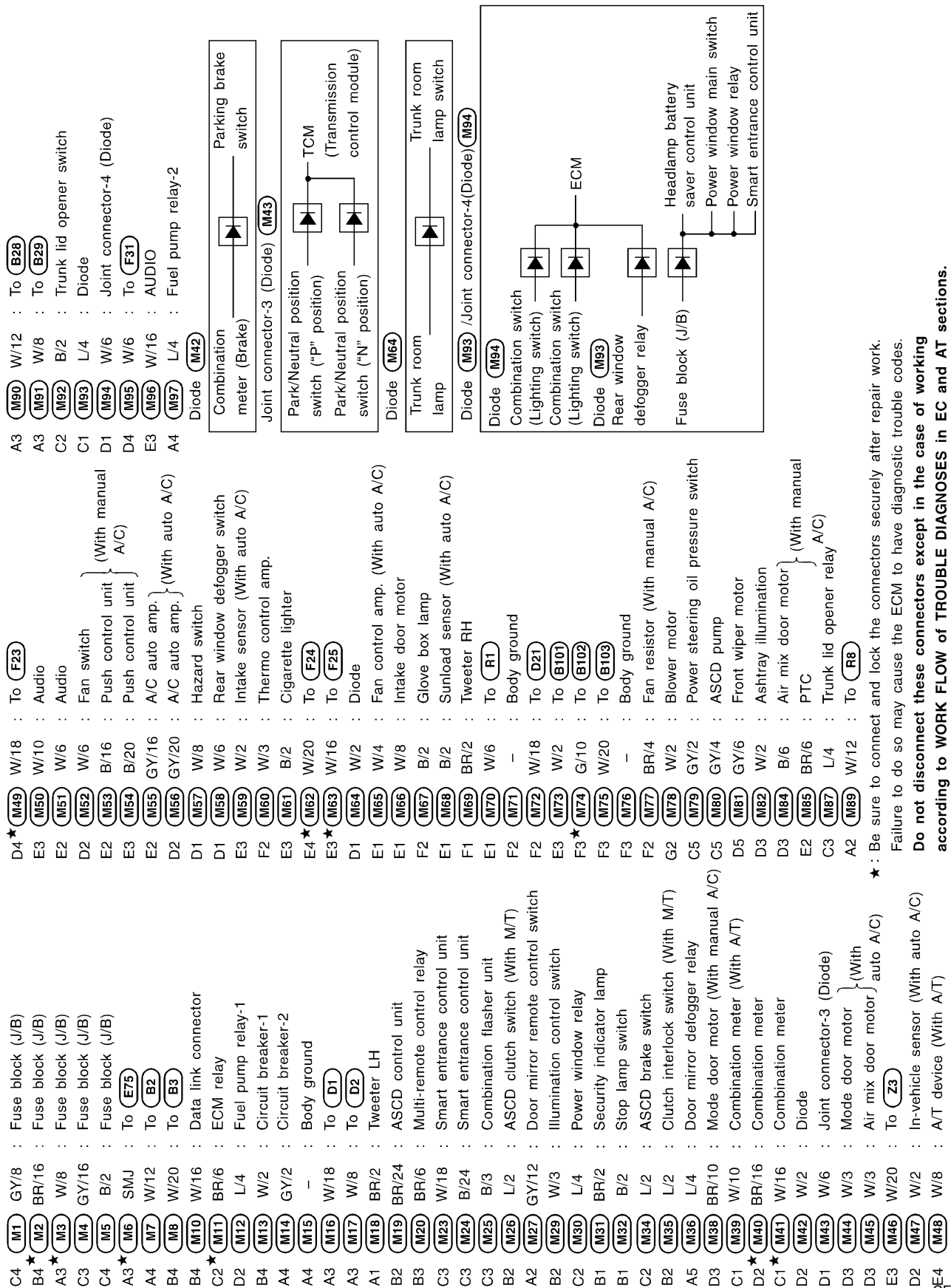
For detail ground distribution information, refer to "GROUND DISTRIBUTION".

- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- AX
- SU
- BR
- ST
- RS
- BT
- HA
- SC
- EL**
- IDX

HARNESS LAYOUT



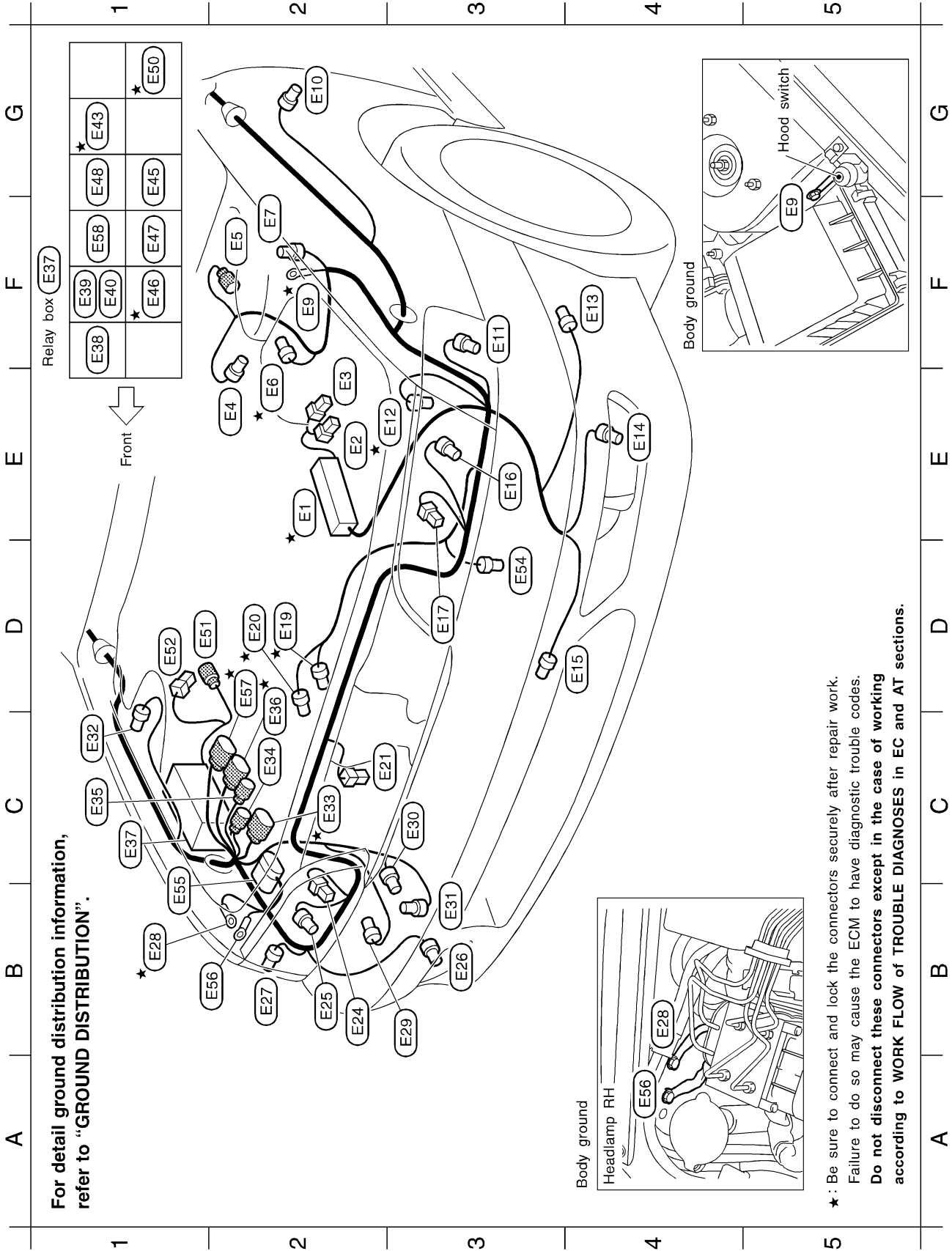
Main Harness (Cont'd)



★: 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.

Engine Room Harness

NCEL0134

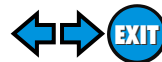


For detail ground distribution information, refer to "GROUND DISTRIBUTION".

★: 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.

GI
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AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

HARNESS LAYOUT



Engine Room Harness (Cont'd)

| | | | | |
|----|---|-----|------|--------------------------------|
| E2 | ★ | E1 | - | Fuse and Fusible link box |
| E2 | | E2 | B/1 | Battery (+) |
| E2 | | E3 | B/1 | Battery (+) |
| E2 | | E4 | GY/2 | Brake fluid level switch |
| F2 | | E5 | BR/2 | Front wheel sensor LH |
| E2 | ★ | E6 | GY/2 | Dropping resistor (With A/T) |
| F2 | | E7 | GY/2 | Hood switch |
| F2 | ★ | E9 | - | Body ground |
| G2 | | E10 | GY/2 | Side turn signal lamp LH |
| F3 | | E11 | BR/2 | Front turn signal lamp LH |
| E3 | ★ | E12 | GY/2 | Intake air temperature sensor |
| F4 | | E13 | BR/2 | Front side marker lamp LH |
| E4 | | E14 | GY/2 | Front fog lamp LH |
| D4 | | E15 | B/2 | Ambient sensor (With auto A/C) |
| E3 | | E16 | GY/2 | Parking lamp LH |
| D3 | | E17 | B/3 | Headlamp LH |
| D2 | ★ | E19 | GY/4 | Cooling fan motor-1 |
| D2 | ★ | E20 | GY/4 | Cooling fan motor-2 |
| C2 | | E21 | B/1 | Horn high |
| B2 | | E24 | B/3 | Headlamp RH |
| B2 | | E25 | GY/2 | Parking lamp RH |
| B3 | | E26 | GY/2 | Front fog lamp RH |

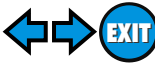
| | | | | |
|--------|---|-----|------|--|
| B2 | | E27 | BR/2 | Front turn signal lamp RH |
| B1 | ★ | E28 | - | Body ground |
| B3 | | E29 | BR/2 | Front side marker lamp RH |
| C3 | | E30 | GY/2 | Front washer motor |
| B3 | | E31 | BR/2 | Washer level switch |
| C1 | | E32 | GY/2 | Side turn signal lamp RH |
| C2 | ★ | E33 | GY/9 | To E101 |
| C2 | | E34 | GY/1 | To E102 |
| C1 | | E35 | GY/1 | To E103 |
| C2 | ★ | E36 | GY/8 | To E104 |
| C1, F1 | | E37 | - | Relay box |
| F1 | | E38 | L/4 | Air conditioner relay |
| F1 | | E39 | GY/6 | Park/Neutral position relay (With A/T) |
| F1 | | E40 | L/4 | Park/Neutral position relay (With M/T) |
| G1 | ★ | E43 | BR/6 | Cooling fan relay-2 |
| G1 | | E45 | L/4 | Front fog lamp relay |
| F1 | ★ | E46 | BR/6 | Cooling fan relay-3 |
| F1 | | E47 | BR/6 | Horn relay |
| G1 | | E48 | BR/6 | Theft warning lamp relay |
| G1 | ★ | E50 | BR/6 | Cooling fan relay-1 |
| D1 | | E51 | GY/2 | Front wheel sensor RH |
| D1 | | E52 | B/1 | Horn low |
| D3 | | E54 | B/3 | Refrigerant pressure sensor |
| B1 | | E55 | SMJ | ABS actuator and electric unit |
| B2 | | E56 | - | Body ground |
| D2 | ★ | E57 | GY/6 | To E130 |
| F1 | | E58 | BR/6 | Rear defogger relay |

★ : 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.

CEL180A

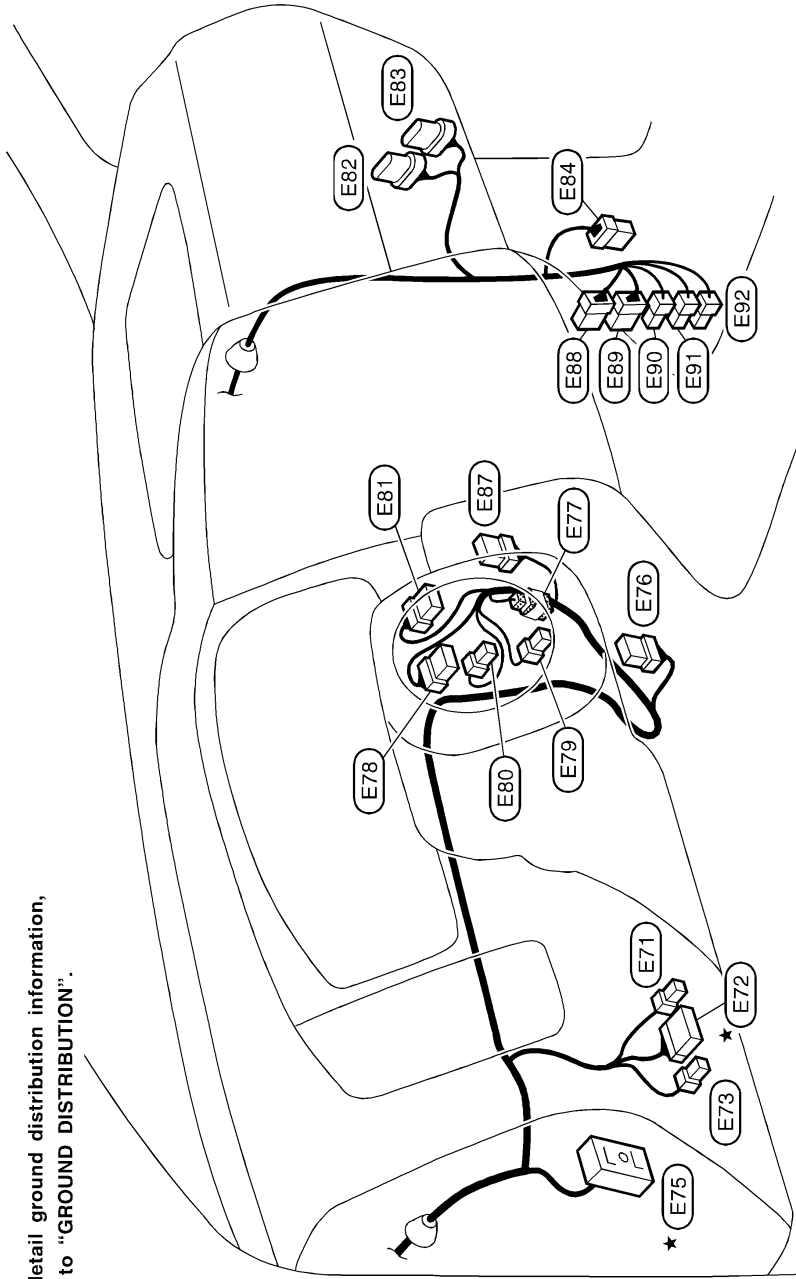
HARNESS LAYOUT

Engine Room Harness (Cont'd)



GI
MA
EM
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EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

For detail ground distribution information, refer to "GROUND DISTRIBUTION".



- ★ E71 : Fuse block (J/B)
- E72 : Fuse block (J/B)
- E73 : Fuse block (J/B)
- ★ E75 : To M6
- E76 : Ignition switch
- E77 : Key switch
- E78 : Combination switch (Lighting switch)
- E79 : Combination switch (Lighting switch)
- E80 : Combination switch (Front fog lamp switch)
- E81 : Combination switch (Front wiper switch)
- E82 : Daytime light control unit (For Canada)
- E83 : Daytime light control unit (For Canada)
- E84 : To (B104)
- E87 : NATS IMMU
- E88 : Headlamp battery saver control unit
- W/4 : Fuse block (J/B)
- W/16 : Fuse block (J/B)
- B/2 : Fuse block (J/B)
- SMJ : To M6
- W/6 : Ignition switch
- BR/2 : Key switch
- BR/8 : Combination switch (Lighting switch)
- BR/4 : Combination switch (Lighting switch)
- W/3 : Combination switch (Front fog lamp switch)
- GY/8 : Combination switch (Front wiper switch)
- GY/6 : Daytime light control unit (For Canada)
- GY/8 : Daytime light control unit (For Canada)
- W/8 : To (B104)
- W/8 : NATS IMMU
- W/6 : Headlamp battery saver control unit

- E89 : Headlamp battery saver control unit
- E90 : Headlamp relay RH
- E91 : Tail lamp relay
- E92 : Headlamp relay LH
- W/8 : Headlamp battery saver control unit
- L/4 : Headlamp relay RH
- L/4 : Tail lamp relay
- L/4 : Headlamp relay 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.

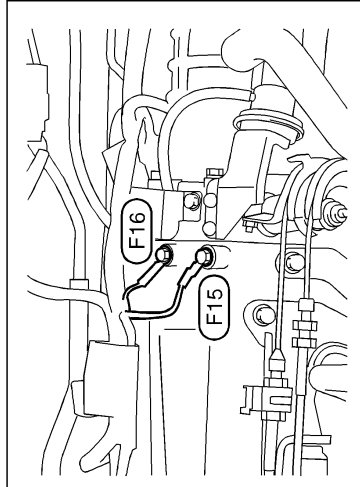
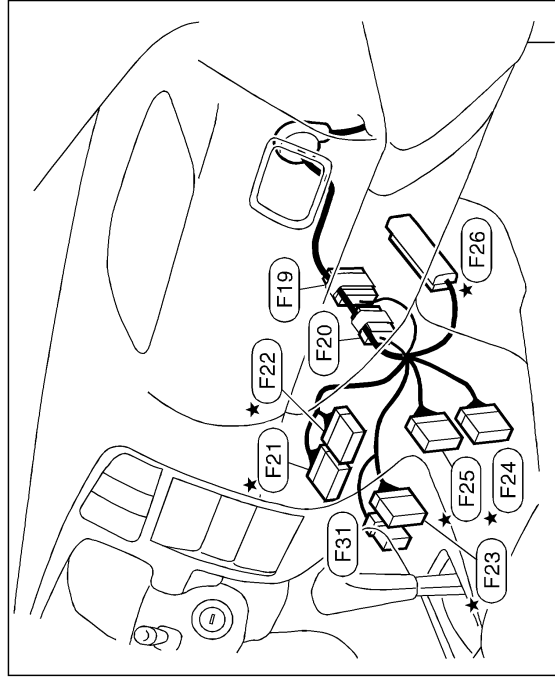
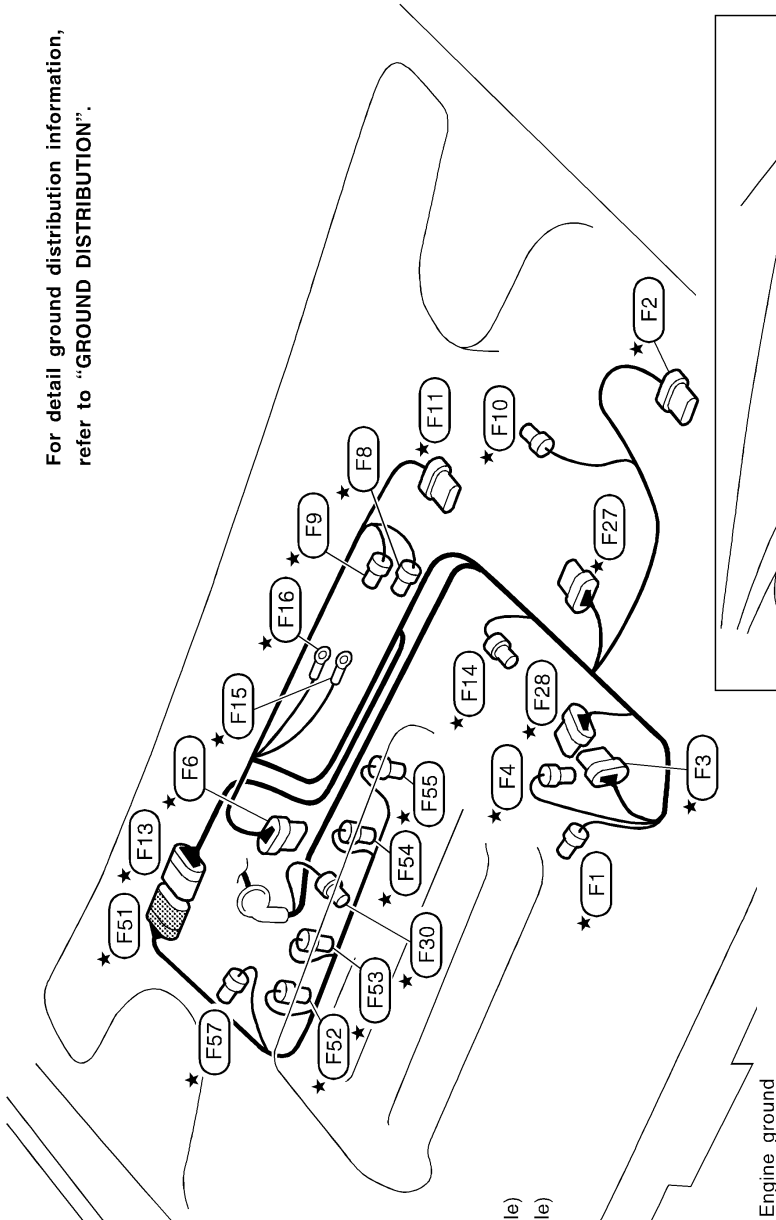
HARNESS LAYOUT

Engine Control Harness

Engine Control Harness

NCEL0135

For detail ground distribution information, refer to "GROUND DISTRIBUTION".



- Engine control harness**
- ★ F1 GY/3 : Front heated oxygen sensor
 - ★ F2 GY/5 : Mass air flow sensor
 - ★ F3 GY/6 : Distributor
 - ★ F4 GY/2 : Distributor
 - ★ F6 G/8 : To (E123)
 - ★ F8 GY/3 : Throttle position switch
 - ★ F9 BR/3 : Throttle position sensor
 - ★ F10 GY/3 : Absolute pressure sensor
 - ★ F11 GY/6 : IACV-AAC valve
 - ★ F13 GY/10 : To (F51)
 - ★ F14 LGY/2 : EGR temperature sensor
 - ★ F15 - : Engine ground
 - ★ F16 - : Engine ground
 - ★ F19 L/12 : Joint connector-1
 - ★ F20 GY/6 : Joint connector-2
 - ★ F21 W/24 : TCM (Transmission control module)
 - ★ F22 GY/24 : TCM (Transmission control module)
 - ★ F23 W/18 : To (M49)
 - ★ F24 W/20 : To (M62)
 - ★ F25 W/16 : To (M63)
 - ★ F26 SMJ : ECM
 - ★ F27 L/8 : To (E128)
 - ★ F28 G/6 : EGR volume control valve
 - ★ F30 GY/4 : Rear heated oxygen sensor
 - ★ F31 W/6 : To (M95)

- Engine control sub-harness**
- ★ F51 GY/10 : To (F13)
 - ★ F52 GY/2 : Injector No. 1
 - ★ F53 GY/2 : Injector No. 2
 - ★ F54 GY/2 : Injector No. 3
 - ★ F55 GY/2 : Injector No. 4
 - ★ F57 L/2 : EVAP canister purge volume control solenoid valve

★ : 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.

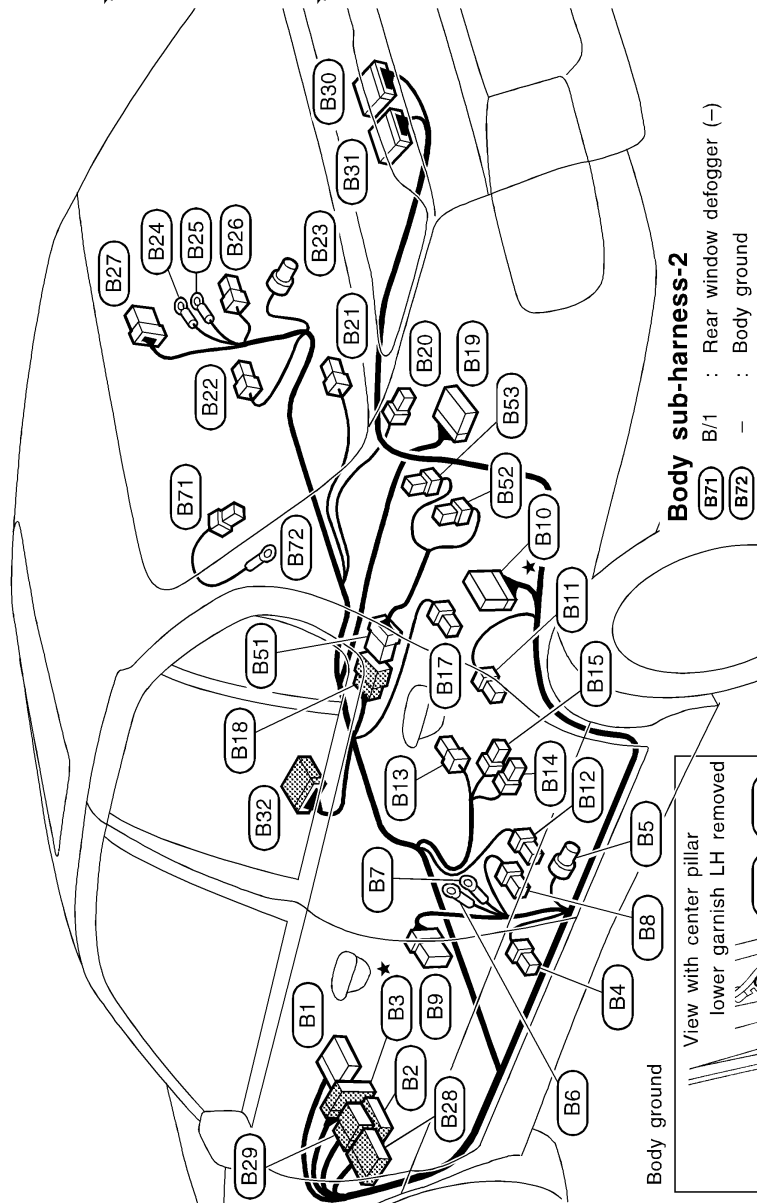
Body Harness

Body harness

- B1 W/12 : Fuse block (J/B)
- B2 W/12 : To M7
- B3 W/20 : To M8
- B4 B/3 : Front door switch (Driver side)
- B5 OR/2 : Satellite sensor LH
- B6 - : Body ground
- B7 - : Body ground
- B8 W/4 : Seat belt pre-tensioner LH
- B9 W/8 : To D41
- B10 G/12 : To B120
- B11 BR/1 : Rear door switch LH
- B12 Y/2 : Side air bag module LH
- B13 W/3 : Seat belt buckle switch (Driver side)
- B14 W/2 : Power seat switch (Driver side)
- B15 GY/3 : Via sub-harness
- B17 B/1 : Heated seat (Driver side)
- B18 W/8 : Via sub-harness
- B19 Y/10 : Parking brake switch
- B20 GY/3 : To B51
- B21 Y/2 : Air bag diagnosis sensor unit
- B22 W/8 : Heated seat (Passenger side)
- B23 Y/2 : Via sub-harness
- B24 - : Side air bag module RH
- B25 - : Front door switch (Passenger side)
- B26 - : Satellite sensor RH
- B27 - : Body ground
- B28 W/4 : Body ground
- B29 W/8 : Seat belt pre-tensioner RH
- B30 W/8 : To D61
- B31 W/12 : To M90
- B32 W/8 : To M91
- B33 W/22 : IVCS unit
- B34 W/16 : IVCS unit
- B35 W/12 : Handset

Body sub-harness-1

- B51 W/8 : To B18
- B52 L/4 : Heated seat switch LH
- B53 W/4 : Heated seat switch RH

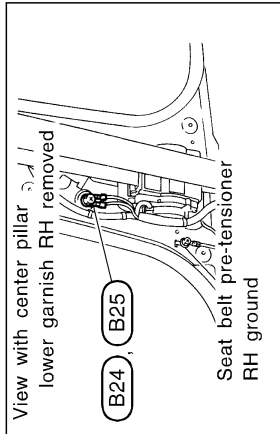
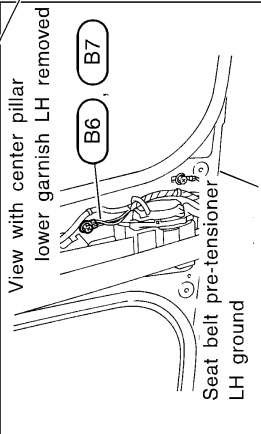


Body sub-harness-2

- B71 B/1 : Rear window defogger (-)
- B72 - : Body ground

★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

For detail ground distribution information, refer to "GROUND DISTRIBUTION".



GI
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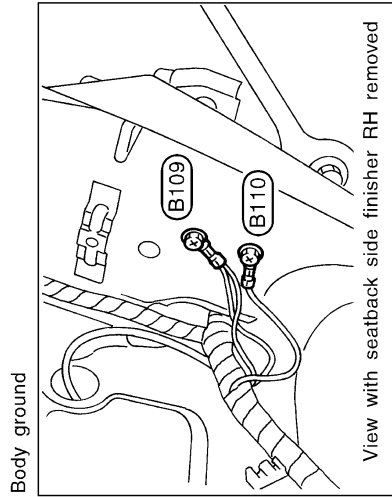
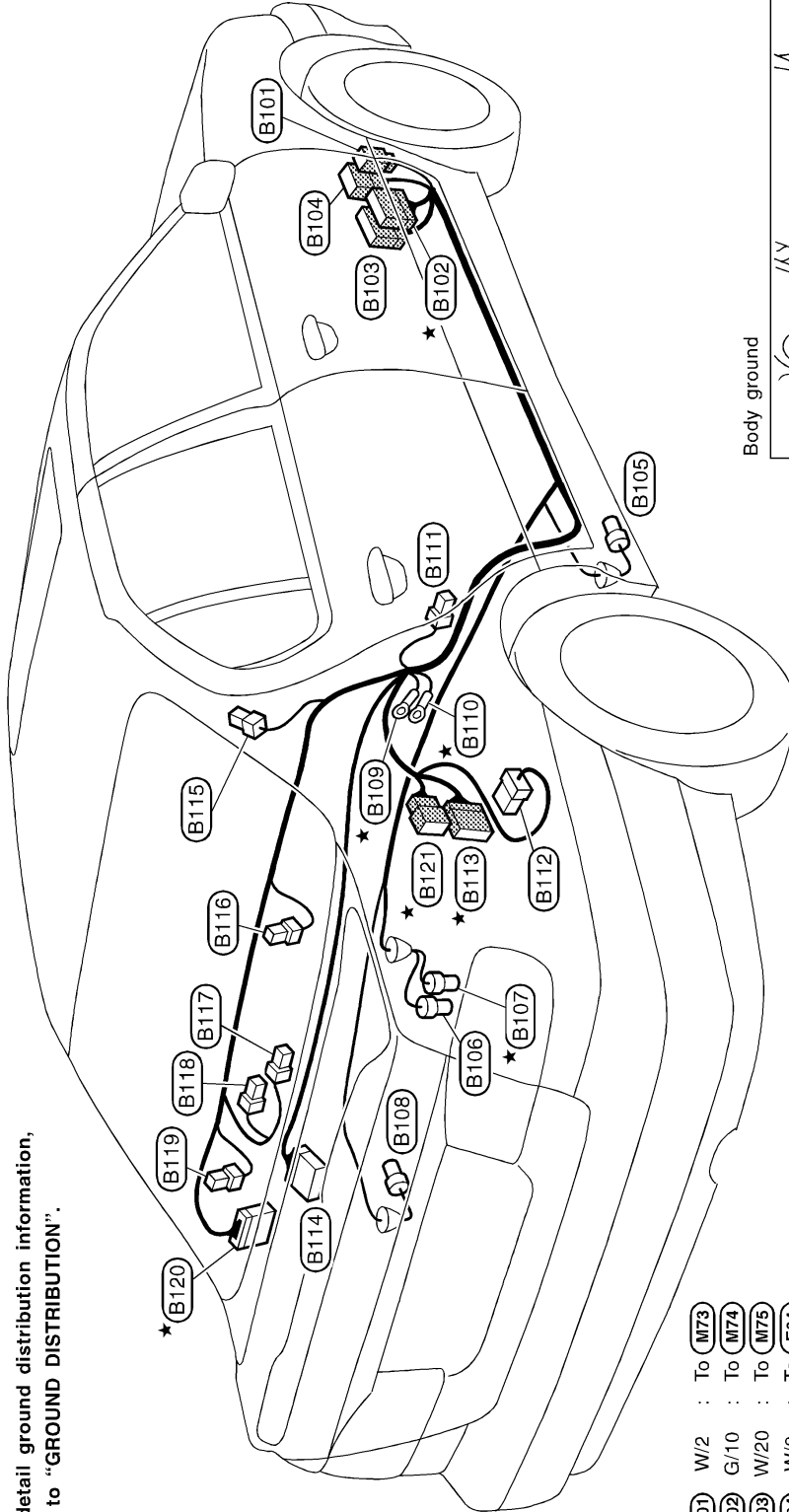
HARNES LAYOUT

Body No. 2 Harness

Body No. 2 Harness

NCEL0137

For detail ground distribution information, refer to "GROUND DISTRIBUTION".



- ★ (B101) W/2 : To (M73)
- ★ (B102) G/10 : To (M74)
- (B103) W/20 : To (M75)
- (B104) W/8 : To (E84)
- (B105) GY/2 : Rear wheel sensor RH
- (B106) GY/2 : Fuel pump
- ★ (B107) GY/4 : Fuel level sensor unit
- (B108) BR/2 : Rear wheel sensor LH
- ★ (B109) - : Body ground
- ★ (B110) - : Body ground
- (B111) BR/1 : Rear door switch RH
- (B112) W/6 : Power antenna
- ★ (B113) W/18 : To (T1)
- (B114) GY/26 : BOSE speaker amp.
- (B115) B/1 : Rear window defogger (+)
- (B116) BR/2 : Rear speaker RH
- (B117) W/2 : Trunk room lamp
- (B118) W/2 : High-mounted stop lamp (Without rear spoiler)
- (B119) BR/2 : Rear speaker LH
- ★ (B120) G/12 : To (B10)
- (B121) W/6 : To (T31)

★ : 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.

Tail & Tail No. 2 Harness

Tail harness

- ★ **T1** W/18 : To **(BT13)**
- T3** BR/2 : Rear side marker lamp RH
- T4** BR/2 : Rear combination lamp RH (Fender)
- T5** W/3 : Rear combination lamp RH (Fender)
- T6** - : Body ground
- T7** - : Body ground
- T8** W/3 : Rear combination lamp LH (Fender)
- T9** BR/2 : Rear combination lamp LH (Fender)
- T10** BR/2 : Rear side marker lamp LH
- ★ **T20** GY/8 : To **(T19)**
- T21** W/2 : Trunk lid opener actuator

Tail sub-harness

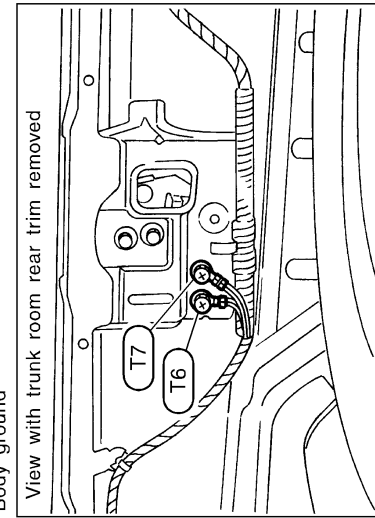
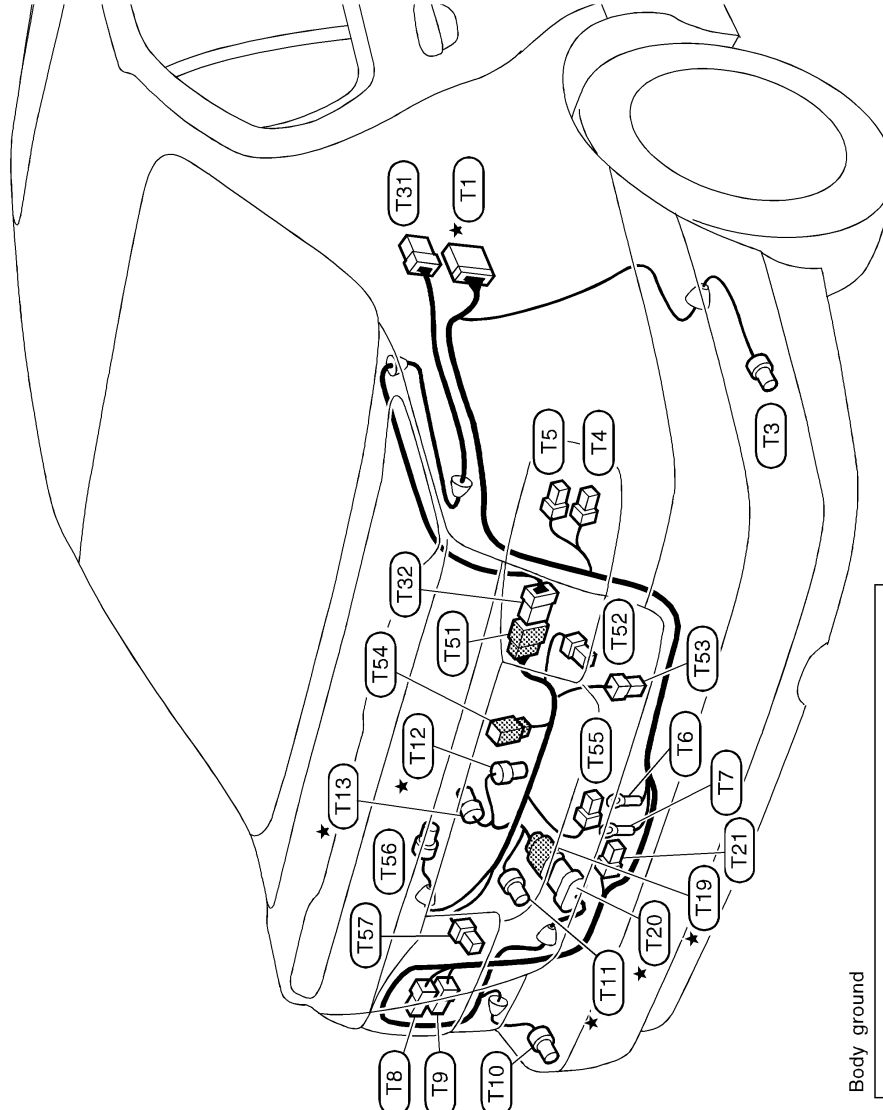
- ★ **T11** B/2 : EVAP canister vent control valve
- ★ **T12** G/2 : Vacuum cut valve bypass valve
- ★ **T13** GY/3 : EVAP control system pressure sensor
- ★ **T19** GY/8 : To **(T20)**

Tail No. 2 sub-harness

- T31** W/6 : To **(BT12)**
- T32** W/6 : To **(T51)**

Tail No. 2 harness

- T51** W/6 : To **(T32)**
- T52** W/4 : Rear combination lamp RH (Trunk lid)
- T53** W/2 : Trunk lid key cylinder switch (Unlock switch)
- T54** BR/2 : High-mounted stop lamp (With rear spoiler)
- T55** B/2 : Trunk room lamp switch
- T56** BR/2 : License lamp
- T57** W/4 : Rear combination lamp LH (Trunk lid)



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

★ : 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.

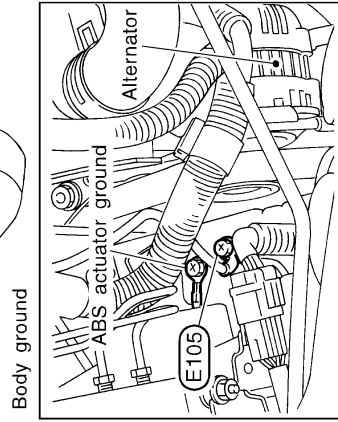
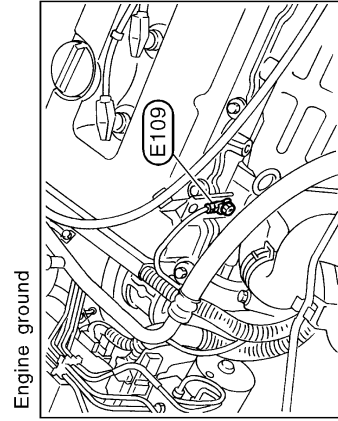
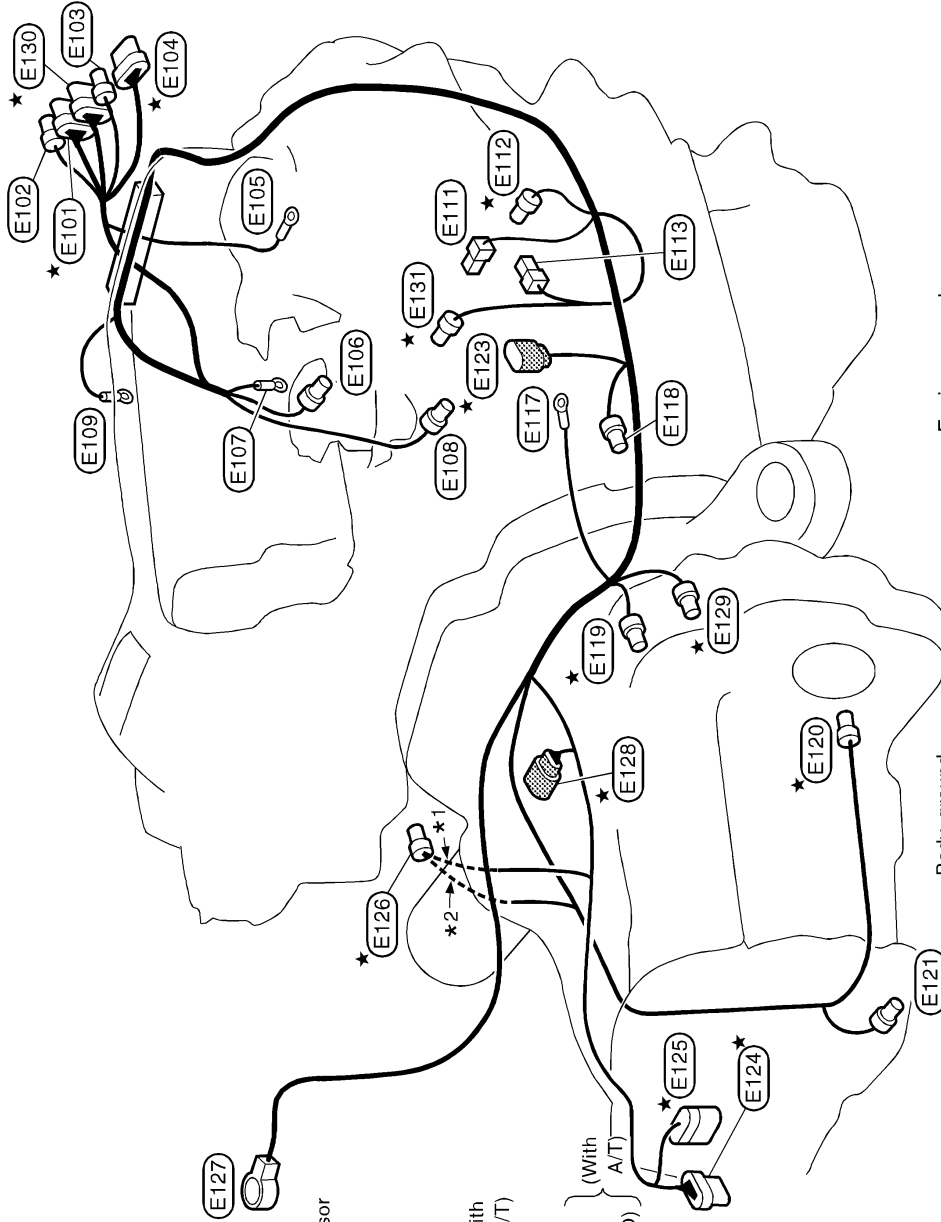
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HARNESS LAYOUT

Engine Harness

Engine Harness

NCEL0139



- ★ E101 GY/9 : To E33
- E102 GY/1 : To E34
- E103 GY/1 : To E35
- ★ E104 GY/8 : To E36
- E105 - : Body ground
- E106 GY/2 : Alternator
- E107 - : Alternator
- E108 B/1 : Compressor
- E109 - : Engine ground
- E111 B/1 : Thermal transmitter
- ★ E112 GY/2 : Engine coolant temperature sensor
- E113 B/1 : Oil pressure switch
- E117 - : Starter motor
- E118 GY/1 : Starter motor
- ★ E119 GY/2 : Vehicle speed sensor
- ★ E120 B/2 : Park/Neutral position switch } (With M/T)
- E121 B/2 : Back-up lamp switch
- ★ E123 G/8 : To F6
- ★ E124 B/8 : A/T solenoid valve
- ★ E125 B/10 : Park/Neutral position switch
- ★ E126 GY/2 : Crankshaft position sensor (OBD)
- E127 - : Battery (+)
- ★ E128 L/8 : To F27
- ★ E129 BR/3 : Revolution sensor (With A/T)
- ★ E130 GY/6 : To E57
- ★ E131 B/2 : Knock sensor

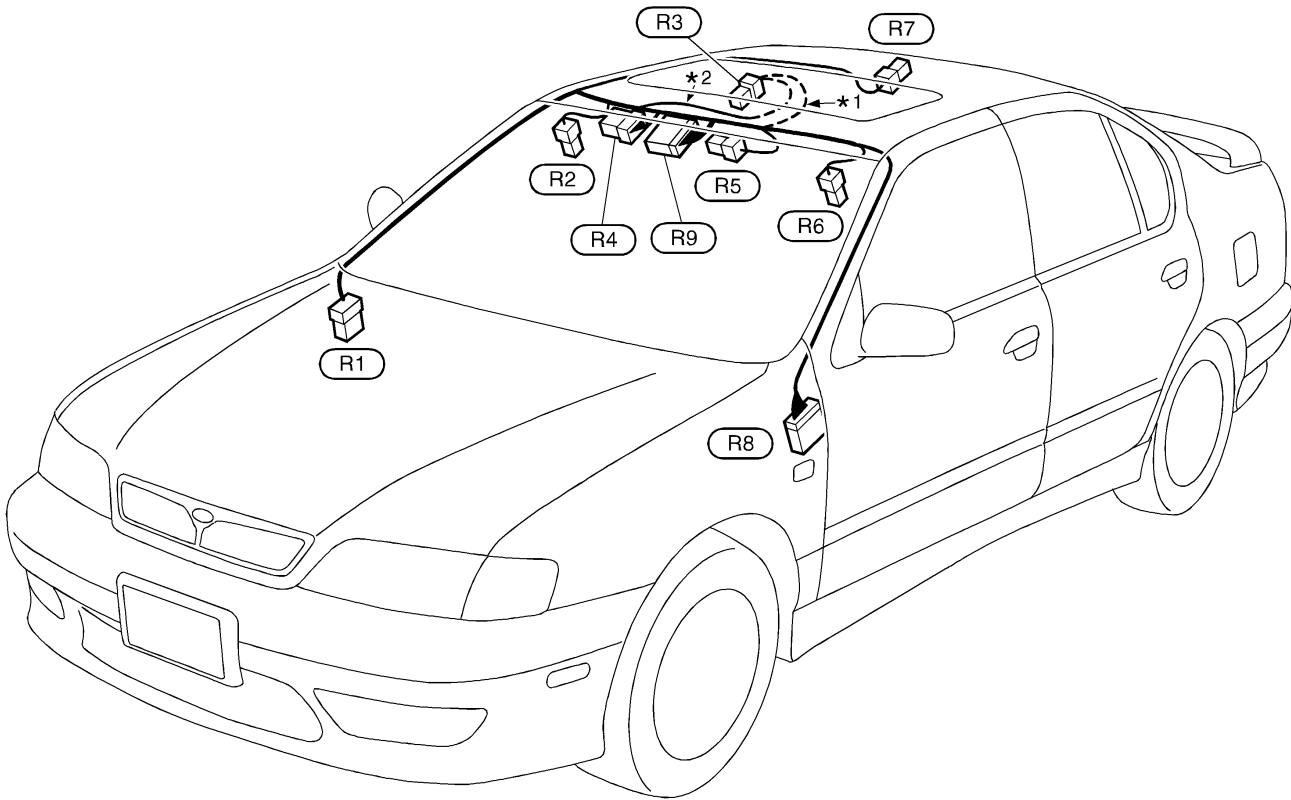
- ★1: With A/T
- ★2: With M/T

For detail ground distribution information, refer to "GROUND DISTRIBUTION".

- ★ : 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.

Room Lamp Harness

NCEL0140



- R1** W/6 : To **M70**
 - R2** W/2 : Vanity mirror lamp (Passenger side)
 - R3** W/2 : Map lamp
 - R4** L/6 : Sunroof switch (With sunroof)
 - R5** W/2 : Sunroof motor (With sunroof)
 - R6** W/2 : Vanity mirror lamp (Driver side)
 - R7** W/2 : Interior room lamp
 - R8** W/12 : To **M89**
 - R9** W/12 : IVCS switch
- *1 : With sunroof
*2 : Without sunroof

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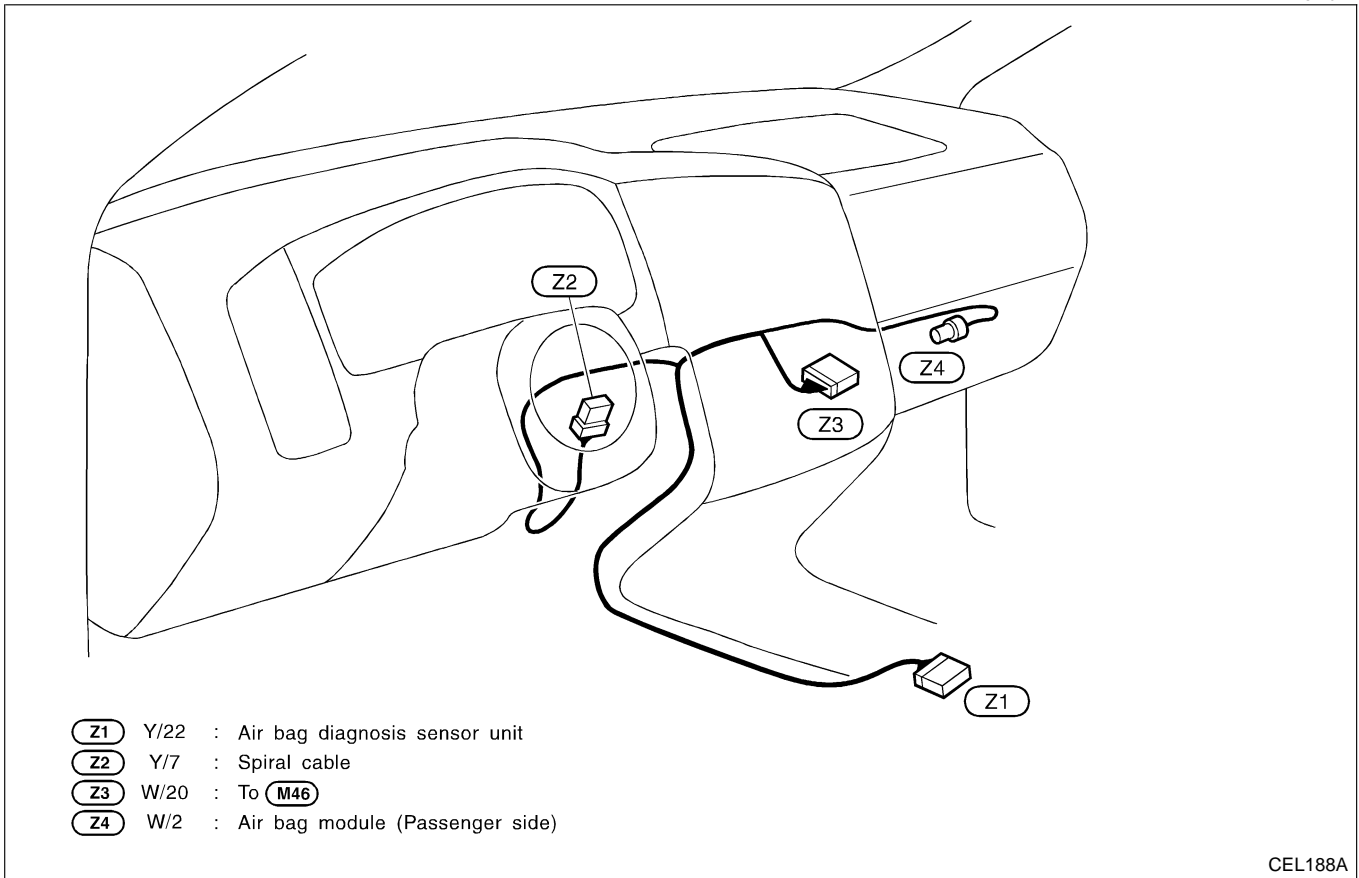
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HARNESS LAYOUT

Air Bag Harness

Air Bag Harness

NCEL0141



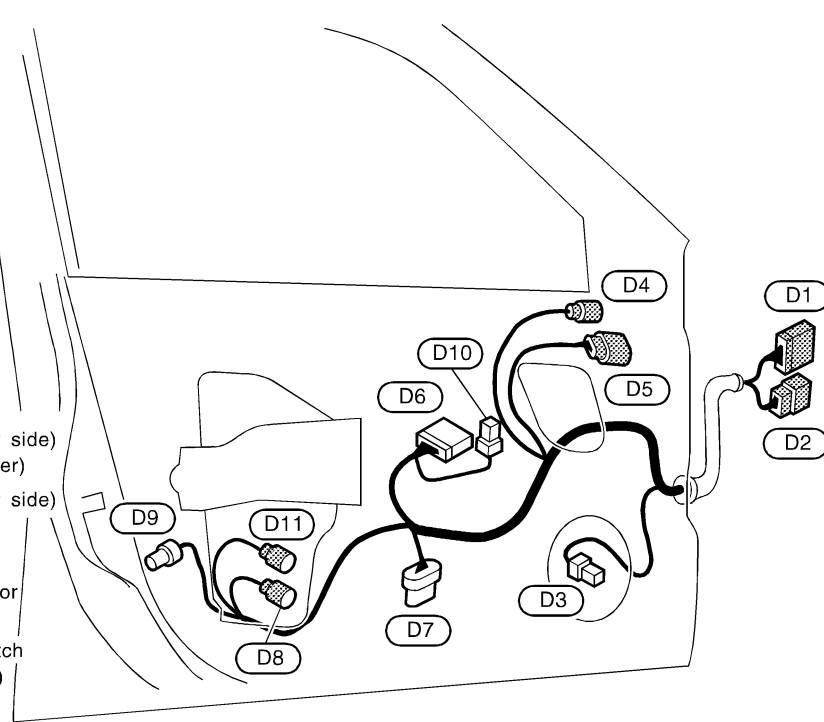
CEL188A

Front Door Harness

NCEL0142

LH SIDE

- D1** W/18 : To **M16**
- D2** W/8 : To **M17**
- D3** BR/2 : Front door speaker LH
- D4** BR/3 : Door mirror actuator (Driver side)
(Without door mirror defogger)
- D5** GY/5 : Door mirror actuator (Driver side)
(With door mirror defogger)
- D6** W/16 : Power window main switch
- D7** GY/6 : Front power window regulator
(Driver side)
- D8** BR/3 : Front door key cylinder switch
(Driver side) (Without IVCS)
- D9** GY/4 : Front door lock actuator
(Driver side)
- D10** W/3 : Power window main switch
- D11** GY/5 : Front door key cylinder switch
(Driver side) (With IVCS)



CEL189A

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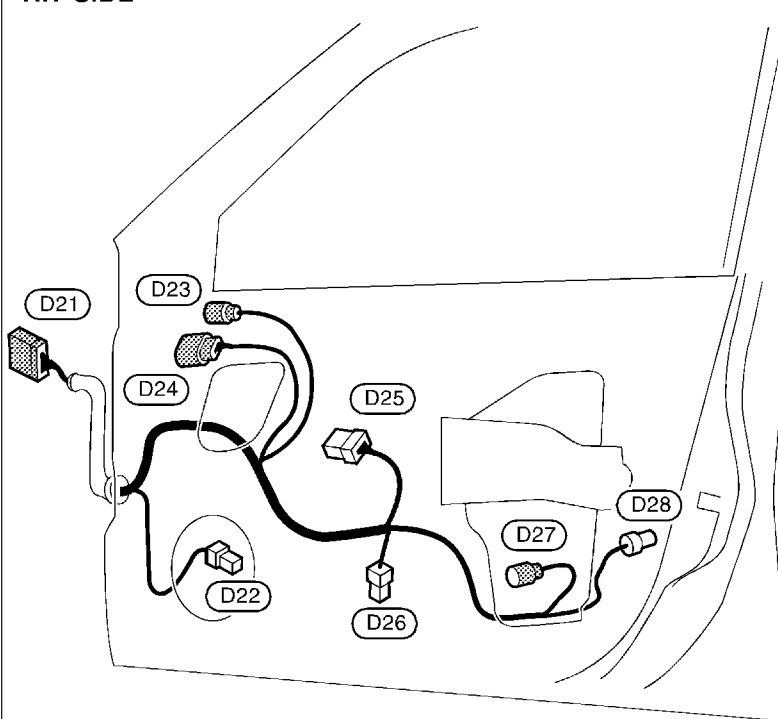
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RH SIDE

- D21** W/18 : To **M72**
- D22** BR/2 : Front door speaker RH
- D23** BR/3 : Door mirror actuator (Passenger side)
(Without door mirror defogger)
- D24** GY/5 : Door mirror actuator (Passenger side)
(With door mirror defogger)
- D25** W/8 : Front power window switch
(Passenger side)
- D26** B/2 : Front power window regulator
(Passenger side)
- D27** BR/3 : Front door key cylinder switch
(Passenger side)
- D28** GY/4 : Front door lock actuator
(Passenger side)



CEL966

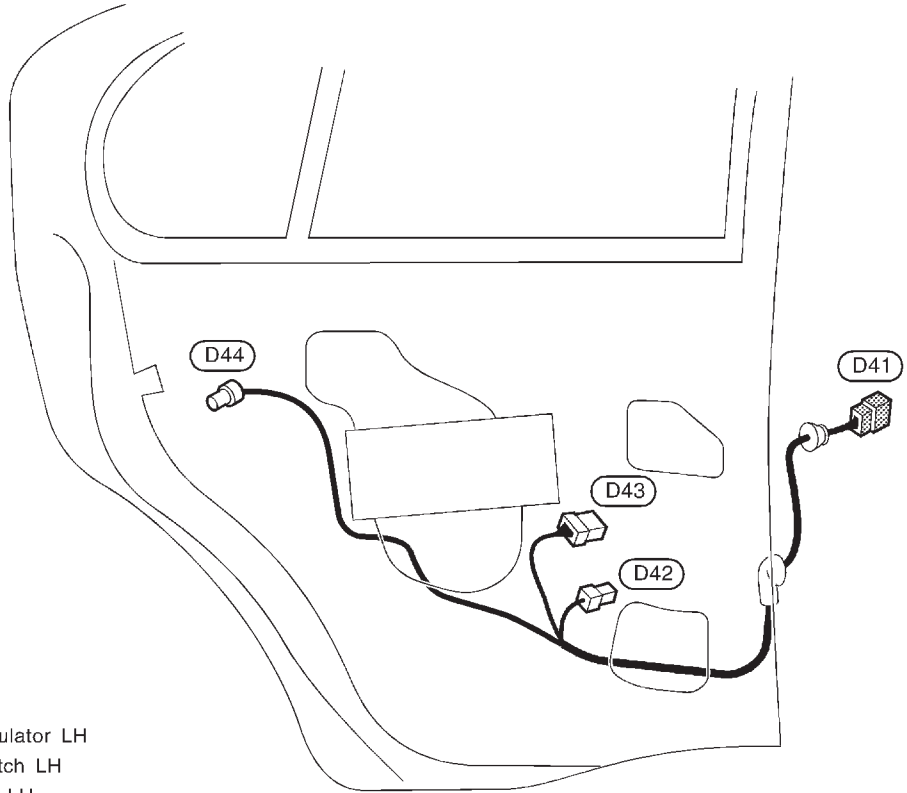
HARNESS LAYOUT

Rear Door Harness

Rear Door Harness

NCEL0143

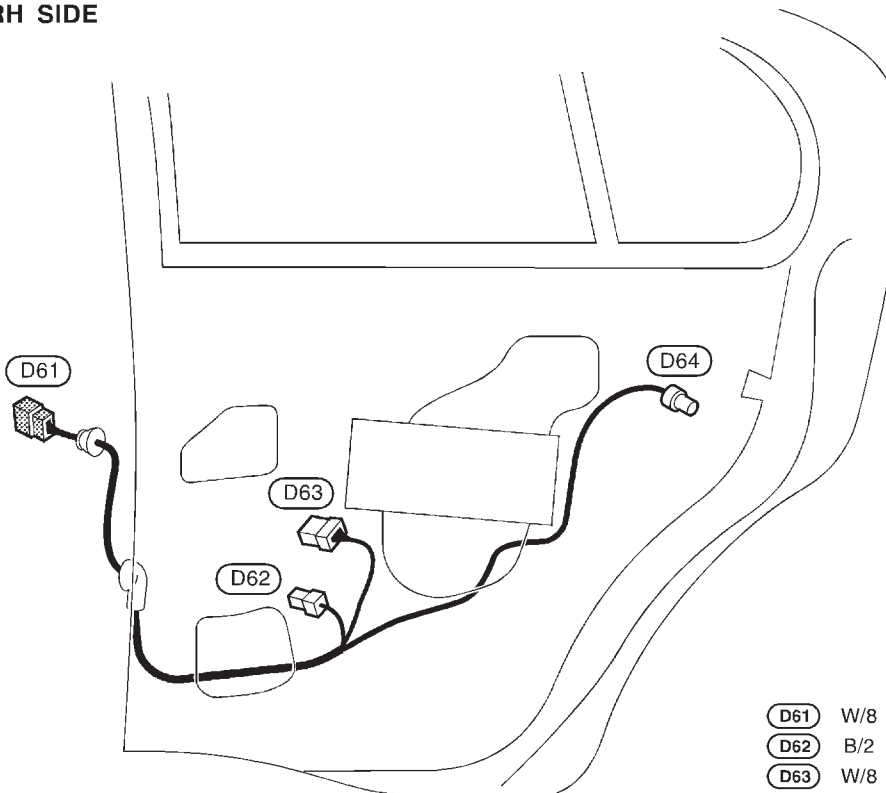
LH SIDE



- (D41) W/8 : To (B9)
- (D42) B/2 : Rear power window regulator LH
- (D43) W/8 : Rear power window switch LH
- (D44) GY/4 : Rear door lock actuator LH

CEL967

RH SIDE



- (D61) W/8 : To (B27)
- (D62) B/2 : Rear power window regulator RH
- (D63) W/8 : Rear power window switch RH
- (D64) GY/4 : Rear door lock actuator RH

CEL968

BULB SPECIFICATIONS



Headlamp

Headlamp

NCELO144S03

| Item | Wattage (W) |
|----------|-------------|
| High/Low | 60/55 (HB2) |

GI

Exterior Lamp

NCELO144S01

| Item | Wattage (W) | |
|---|-------------|------|
| Front fog lamp | 35 (H3) | |
| Front turn signal lamp | 21 | |
| Side turn signal lamp | 5 | |
| Parking lamp | 5 | |
| Front side marker lamp | 3.8 | |
| Rear combination lamp | Turn signal | 21 |
| | Stop/Tail | 21/5 |
| | Back-up | 13 |
| Rear side marker lamp | 3.8 | |
| License lamp | 5 | |
| High-mounted stop lamp (without rear spoiler) | 21 | |

MA

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MT

Interior Lamp

NCELO144S02

| Item | Wattage (W) | |
|--------------------|-----------------|---|
| Interior room lamp | 8 | |
| Map lamp | With sunroof | 5 |
| | Without sunroof | 8 |
| Vanity mirror lamp | 8 | |
| Trunk room lamp | 3.4 | |

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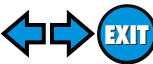
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WIRING DIAGRAM CODES (CELL CODES)



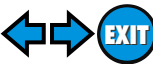
Use the chart below to find out what each wiring diagram code stands for.

Refer to the wiring diagram code in the alphabetical index to find the location (page number) of each wiring diagram.

| Code | Section | Wiring Diagram Name |
|--------|---------|---|
| 1STSIG | AT | A/T 1ST Signal |
| 2NDSIG | AT | A/T 2ND Signal |
| 3RDSIG | AT | A/T 3RD Signal |
| 4THSIG | AT | A/T 4TH Signal |
| A/C, A | HA | Auto Air Conditioner |
| A/C, M | HA | Manual Air Conditioner |
| 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 |
| AT/IND | EL | A/T Indicator Lamp |
| ATDIAG | EC | A/T Diagnosis Communication Line |
| AUDIO | EL | Audio |
| BA/FTS | AT | A/T Fluid Temperature Sensor and 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 |
| EGRC1 | EC | EGR Function |
| EGVC/V | EC | EGR Volume Control Valve |
| ENGSS | AT | Engine Speed Signal |
| F/FOG | EL | Front Fog Lamp |

| Code | Section | Wiring Diagram Name |
|--------|---------|--|
| F/PUMP | EC | Fuel Pump |
| FLS1 | EC | Fuel Level Sensor Function |
| FLS2 | EC | Fuel Level Sensor Circuit |
| FLS3 | EC | Fuel Level Sensor Circuit (Ground Signal) |
| FRO2/H | EC | Front Heated Oxygen Sensor Heater |
| FRO2 | EC | Front Heated Oxygen Sensor (Front HO2S) |
| FTS | AT | A/T Fluid Temperature Sensor |
| FUEL | EC | Fuel Injection System Function |
| H/LAMP | EL | Headlamp |
| HORN | EL | Horn |
| HSEAT | EL | Heated Seat |
| IATS | EC | Intake Air Temperature Sensor |
| IGN/SG | EC | Ignition Signal |
| ILL | EL | Illumination |
| INJECT | EC | Injector |
| INT/L | EL | Vanity Mirror and Trunk Room Lamps |
| IVCS | EL | Infiniti Communicator (IVCS) |
| KS | EC | Knock Sensor |
| LOAD | EC | Load Signal |
| LPSV | AT | Line Pressure Solenoid Valve |
| MAFS | EC | Mass Air Flow Sensor |
| MAIN | AT | Main Power Supply and Ground Circuit |
| MAIN | EC | Main Power Supply and Ground Circuit |
| METER | EL | Speedometer, Tachometer, Temp., Oil, and Fuel Gauges |
| MIL/DL | EC | MIL and Data Link Connectors |
| MIRROR | EL | Door Mirror |
| MULTI | EL | Multi-remote Control System |
| NATS | EL | Nissan Anti-Theft System |
| NONDTC | AT | Non-detectable Items |
| OVRCSV | AT | Overrun Clutch Solenoid Valve |
| P/ANT | EL | Power Antenna |
| PGC/V | EC | EVAP Canister Purge Volume Control Solenoid Valve |
| PNP/SW | AT | Park/Neutral Position Switch |

WIRING DIAGRAM CODES (CELL CODES)



| Code | Section | Wiring Diagram Name |
|--------|---------|--|
| PNP/SW | EC | Park/Neutral Position Switch |
| POWER | EL | Power Supply Routing |
| PRE/SE | EC | EVAP Control System Pressure Sensor |
| PST/SW | EC | Power Steering Oil Pressure Switch |
| ROOM/L | EL | Interior Room Lamp |
| RP/SEN | EC | Refrigerant Pressure Sensor |
| RRO2/H | EC | Rear Heated Oxygen Sensor Heater |
| RRO2 | EC | Rear Heated Oxygen Sensor |
| S/SIG | EC | Start Signal |
| SEAT | EL | Power Seat |
| SHIFT | AT | A/T Shift Lock System |
| SROOF | EL | Sunroof |
| SRS | RS | Supplemental Restraint System |
| SSV/A | AT | Shift Solenoid Valve A |
| SSV/B | AT | Shift Solenoid Valve B |
| START | SC | Starting System |
| STOP/L | EL | Stop lamp |
| TAIL/L | EL | Parking, License and Tail Lamps |
| TCCSIG | AT | A/T TCC Signal (Lock up) |
| TCV | AT | Torque Converter Clutch Solenoid Valve |
| TFTS | EC | Tank Fuel Temperature Sensor |
| THEFT | EL | Theft Warning System |
| TLID | EL | Trunk Lid Opener |
| TP/SW | EC | Throttle Position Switch |
| TPS | AT | Throttle Position Sensor |
| TPS | EC | Throttle Position Sensor |
| TRNSMT | EL | Integrated HOMELINK [™] Transmitter |
| TURN | EL | Turn Signal and Hazard Warning Lamps |
| VENT/V | EC | EVAP Canister Vent Control Valve |
| VSS | EC | Vehicle Speed Sensor |
| VSSAT | AT | Vehicle Speed Sensor A/T (Revolution Sensor) |
| VSSMTR | AT | Vehicle Speed Sensor MTR |
| WARN | EL | Warning Lamps |
| WINDOW | EL | Power Window |

| Code | Section | Wiring Diagram Name |
|-------|---------|------------------------|
| WIPER | EL | Front Wiper and Washer |

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NOTES