# ELECTRICAL SYSTEM

# SECTION EL

# CONTENTS

# CONTENTS (Cont'd)

# CONTENTS (Cont'd)

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

NCEL0001

The Supplemental Restraint System "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a seat belt, help to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The Supplemental Restraint System consists of air bag modules (located in the center of the steering wheel and on the instrument panel on the passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.

In addition to the supplemental air bag modules for a frontal collision, the supplemental side air bag used along with the seat belt helps to reduce the risk or severity of injury to the driver and front passenger in a side collision. The supplemental side air bag consists of air bag modules (located in the outer side of front seats), satellite sensor, diagnosis sensor unit (which is one of components of supplemental air bags for a frontal collision), wiring harness, warning lamp (which is one of components of supplemental 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.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses (except "SEAT BELT PRE-TENSIONER" connector) can be identified with yellow harness connector (and with yellow harness protector or yellow insulation tape before the harness connectors).**

## Wiring Diagrams and Trouble Diagnosis

NCEL0002

When you read wiring diagrams, refer to the followings:

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

When you perform trouble diagnosis, refer to the followings:

- "HOW TO FOLLOW TEST GROUP IN TROUBLE DIAGNOSIS" in GI section
- "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT" in GI section

Check for any Service bulletins before servicing the vehicle.

# Description

NCEL0003

## HARNESS CONNECTOR (TAB-LOCKING TYPE)

NCEL0003S01

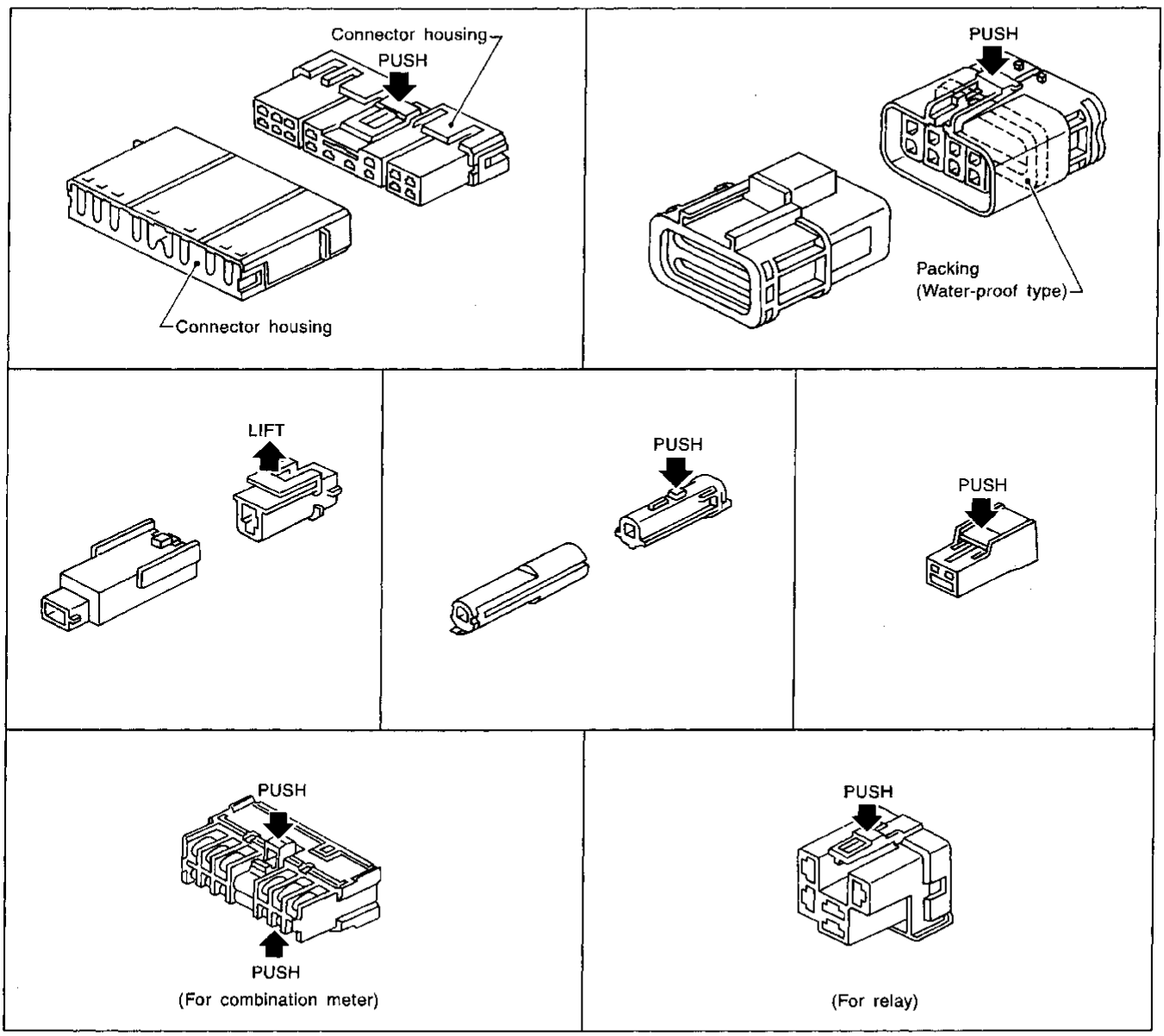
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

**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]




SEL769DA

*Description (Cont'd)*

## HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

=NCEL0003S02

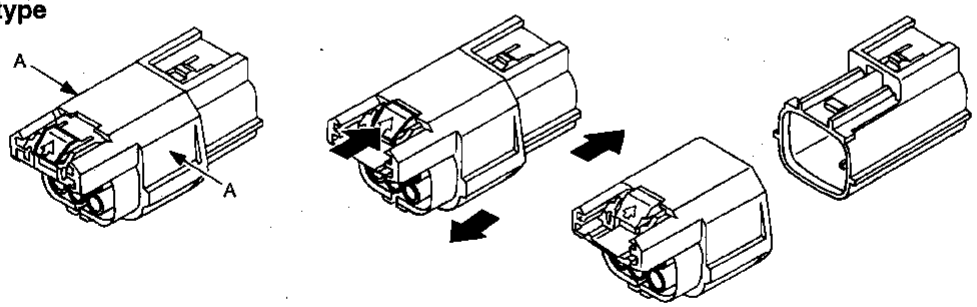
- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.
- The slide-locking type connectors are disconnected by pushing or pulling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

**Waterproof type**

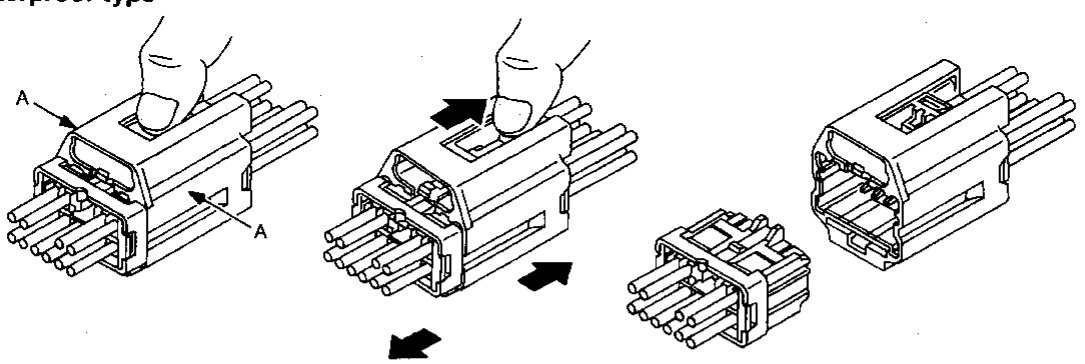



① Firmly grasp shell of connector housing at A.

② Push slider until connector pops or snaps apart.

③ Disconnect harness connector.

**Non-waterproof type**




① Firmly grasp shell of connector housing at A.

② Pull back on the slider while pulling apart male and famale halves of connector.

③ Disconnect harness connector.

SEL769V

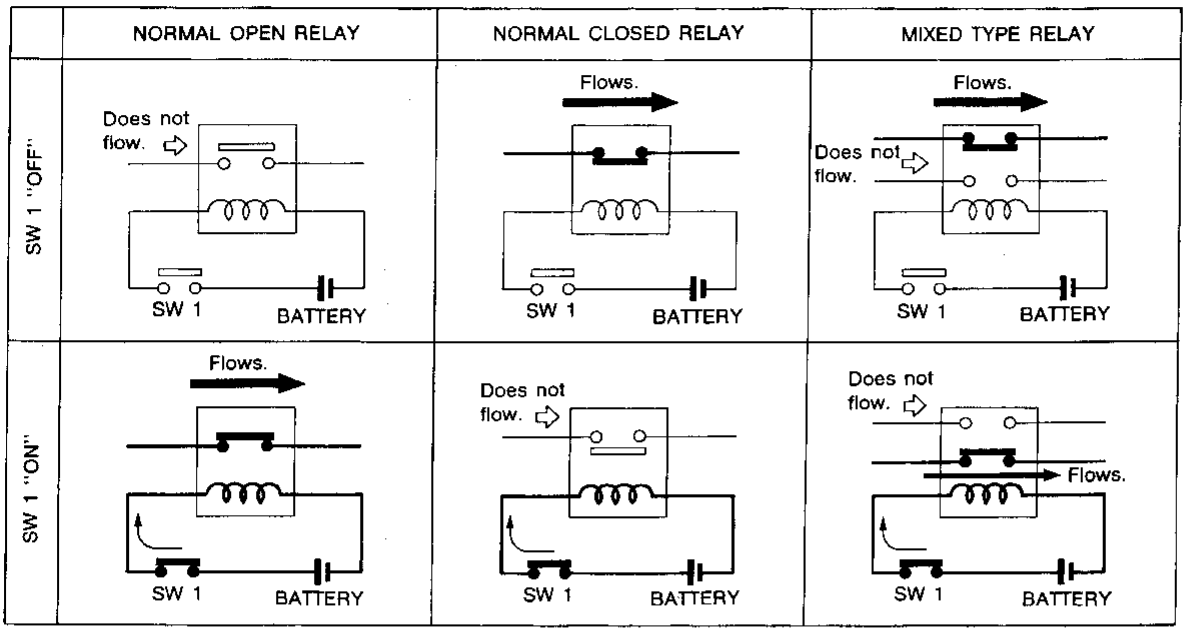
# Description

NCEL0004

## NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

NCEL0004S01

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

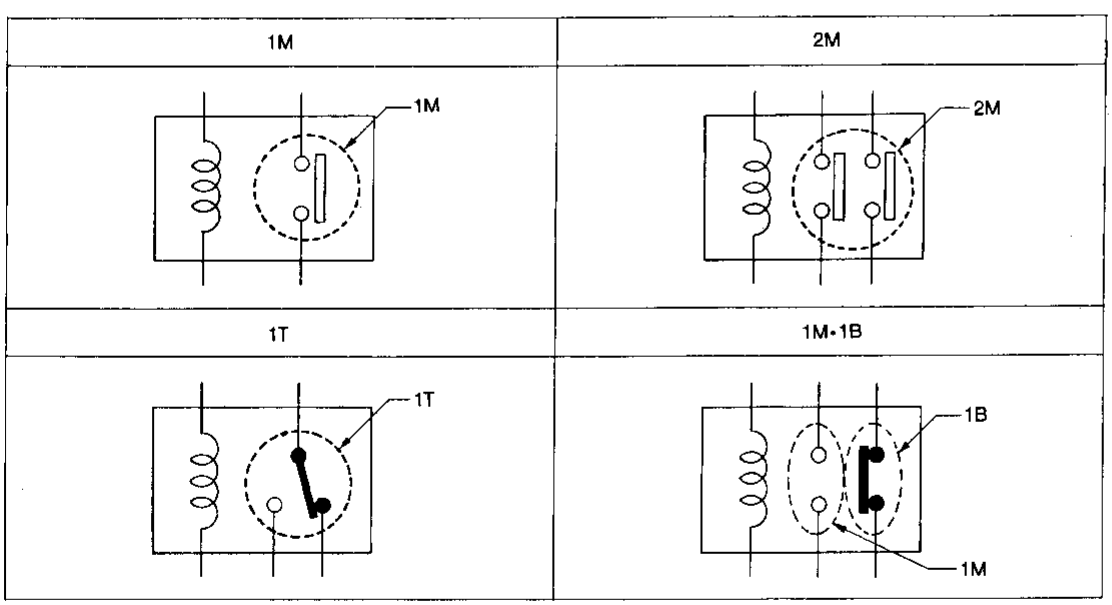



SEL881H

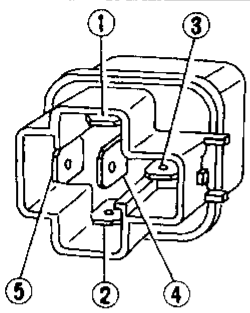
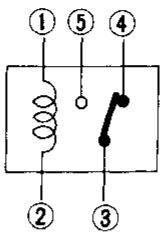
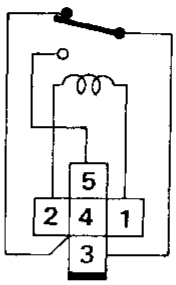
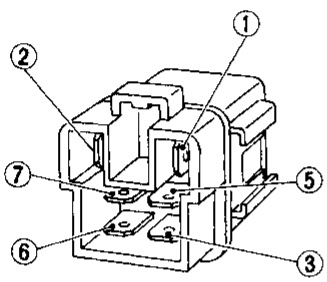
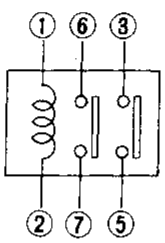
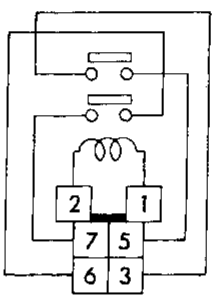
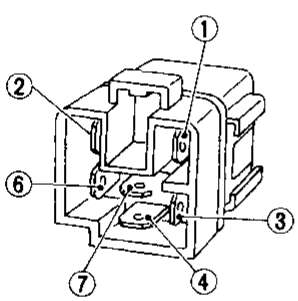
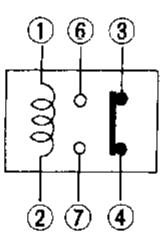
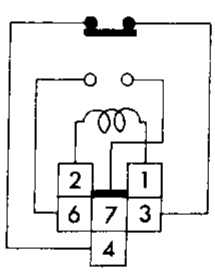
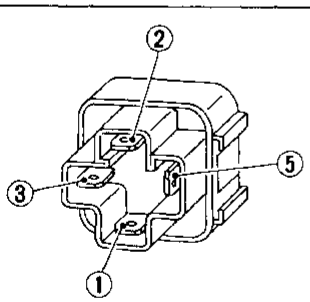
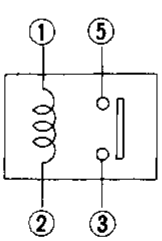
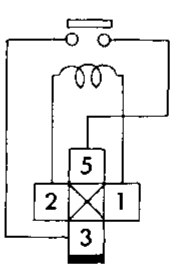
## TYPE OF STANDARDIZED RELAYS

NCEL0004S02

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




SEL882H

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

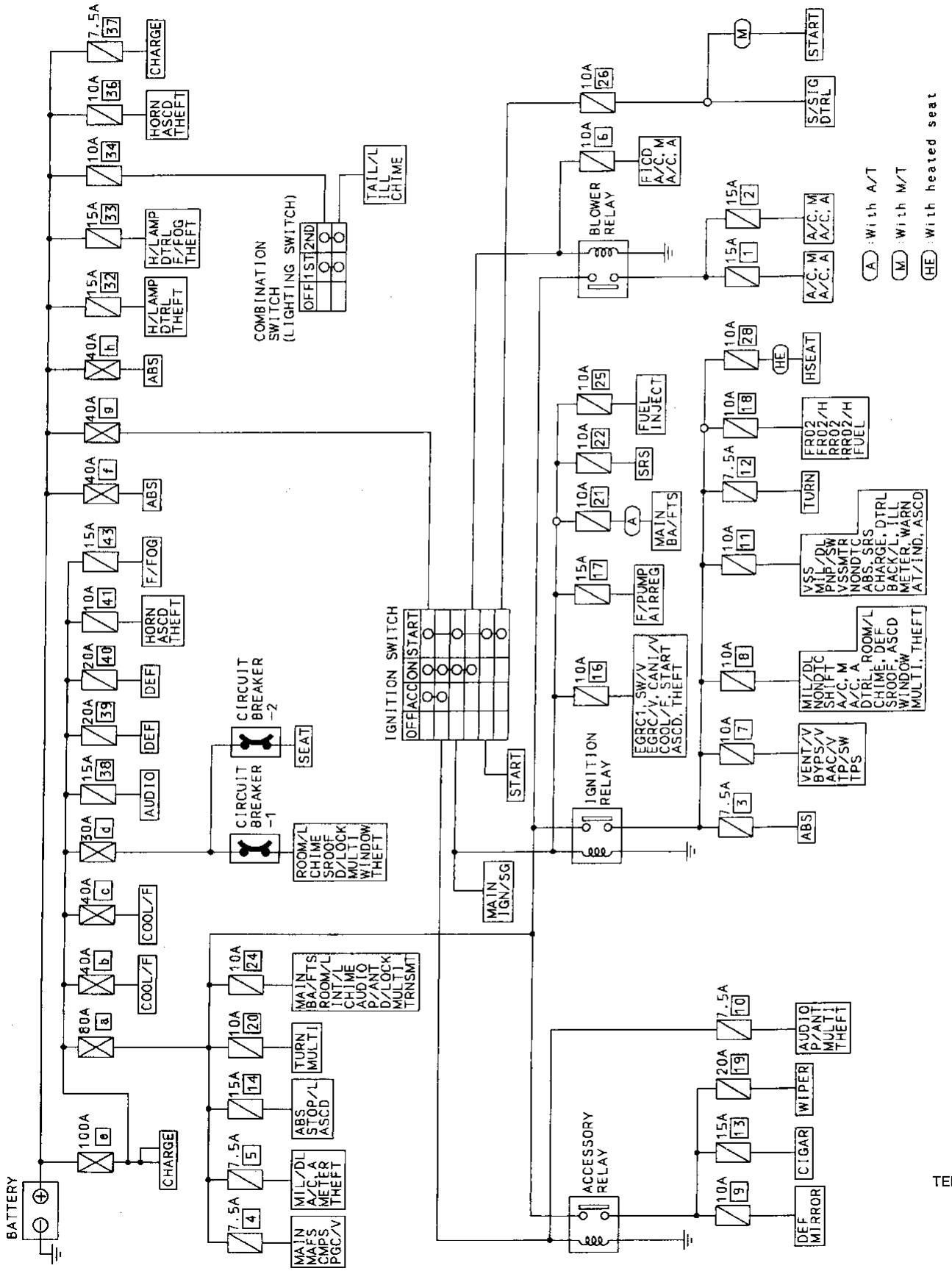
The arrangement of terminal numbers on the actual relays may differ from those shown above.

SEL661TA

## Schematic

NCEL0005

**NOTE:**
For detailed ground distribution information, refer to "GROUND DISTRIBUTION", EL-16.



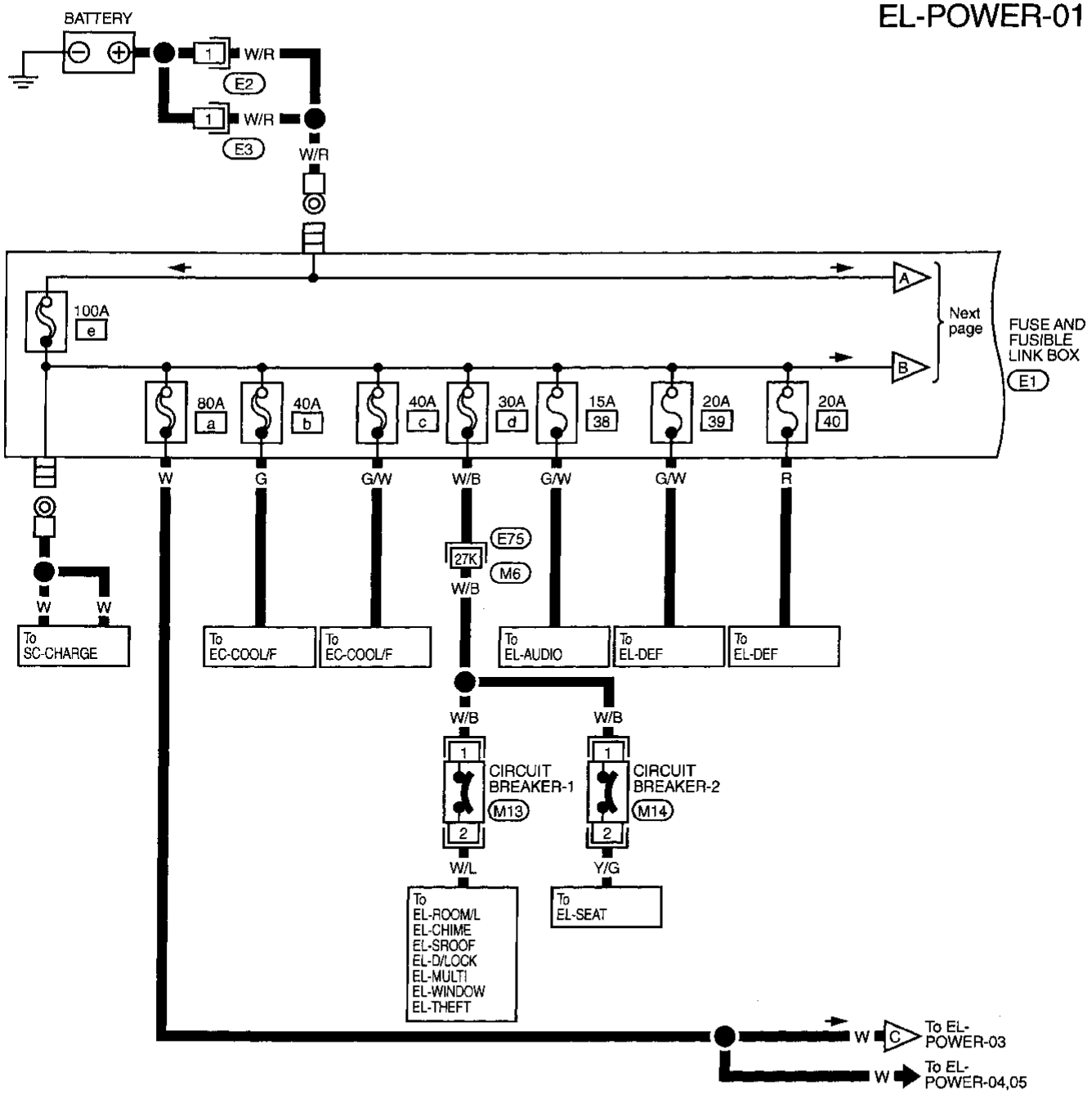
# Wiring Diagram — POWER —

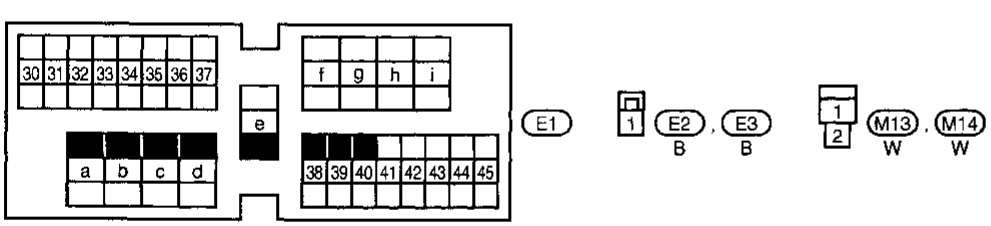
NCEL0006

## BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

NCEL0006S01

EL-POWER-01

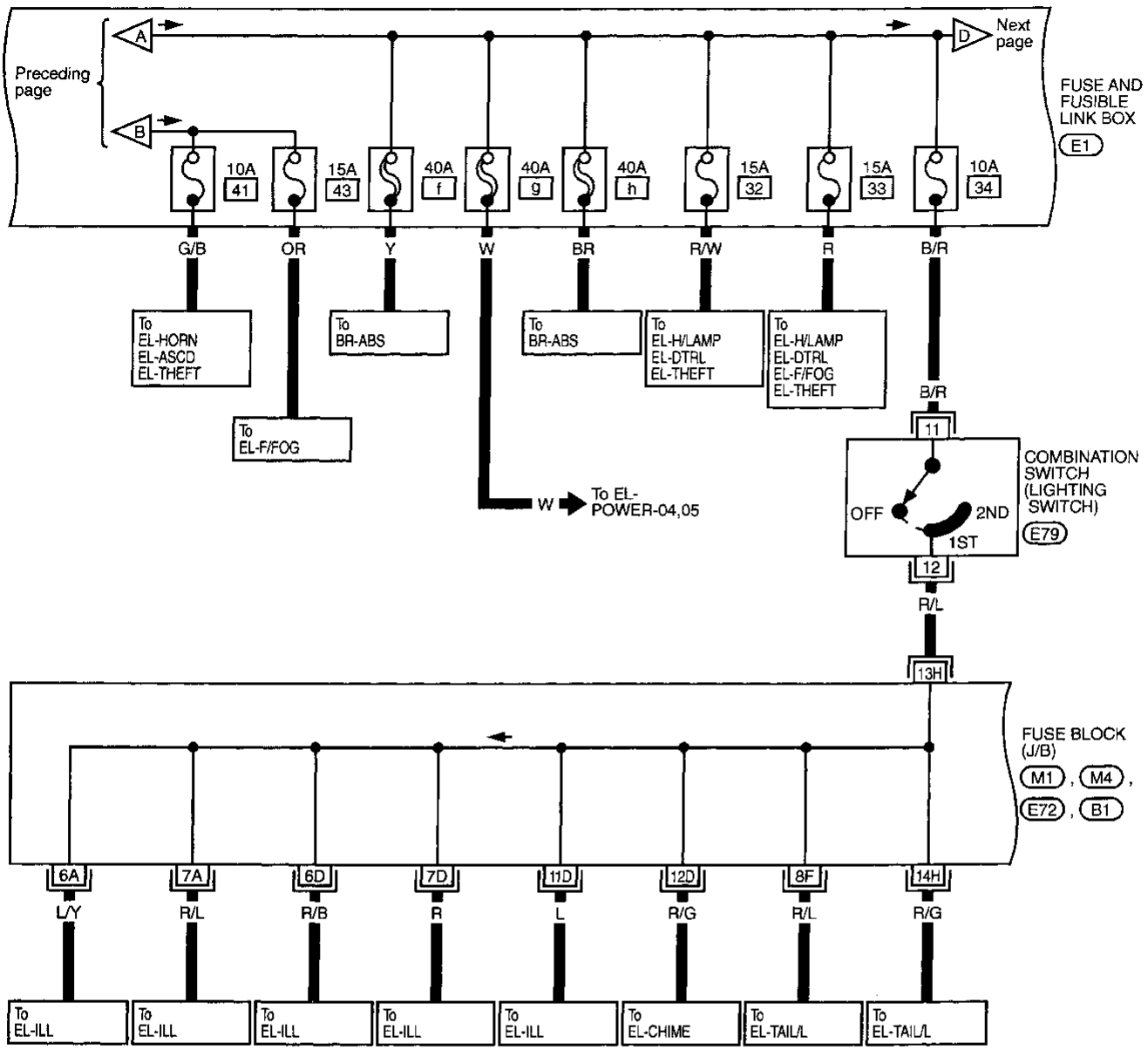


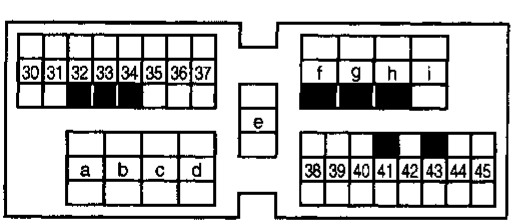




Refer to last page (Foldout page).
M6 , E75

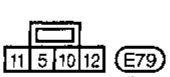
TEL876A

EL-POWER-02




E1




E79
BR

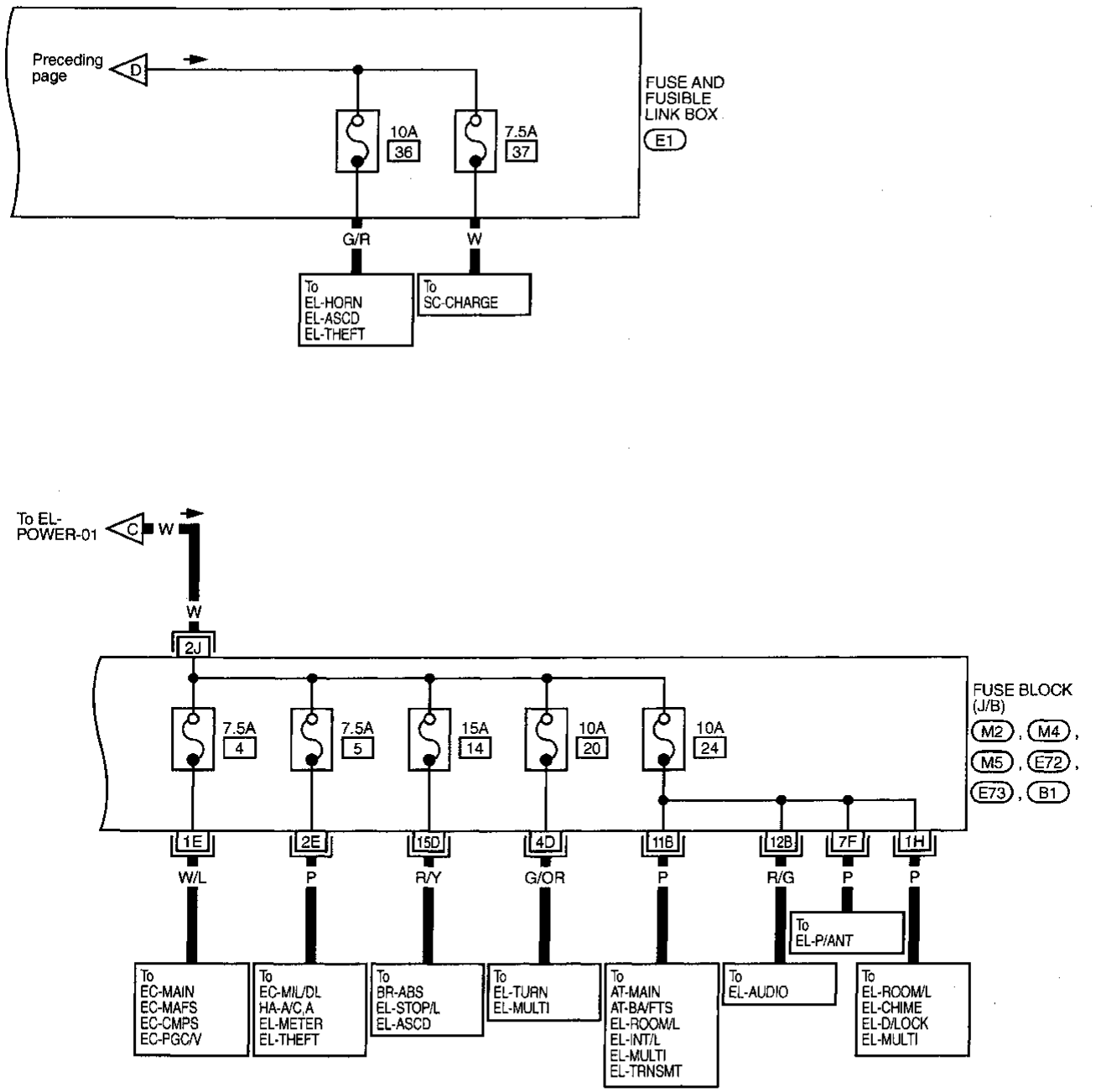
Refer to last page (Foldout page).

M1, M4, E72, B1

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

TEL877A

EL-POWER-03




Refer to last page (Foldout page).

M2, M4, M5, E72, E73, B1

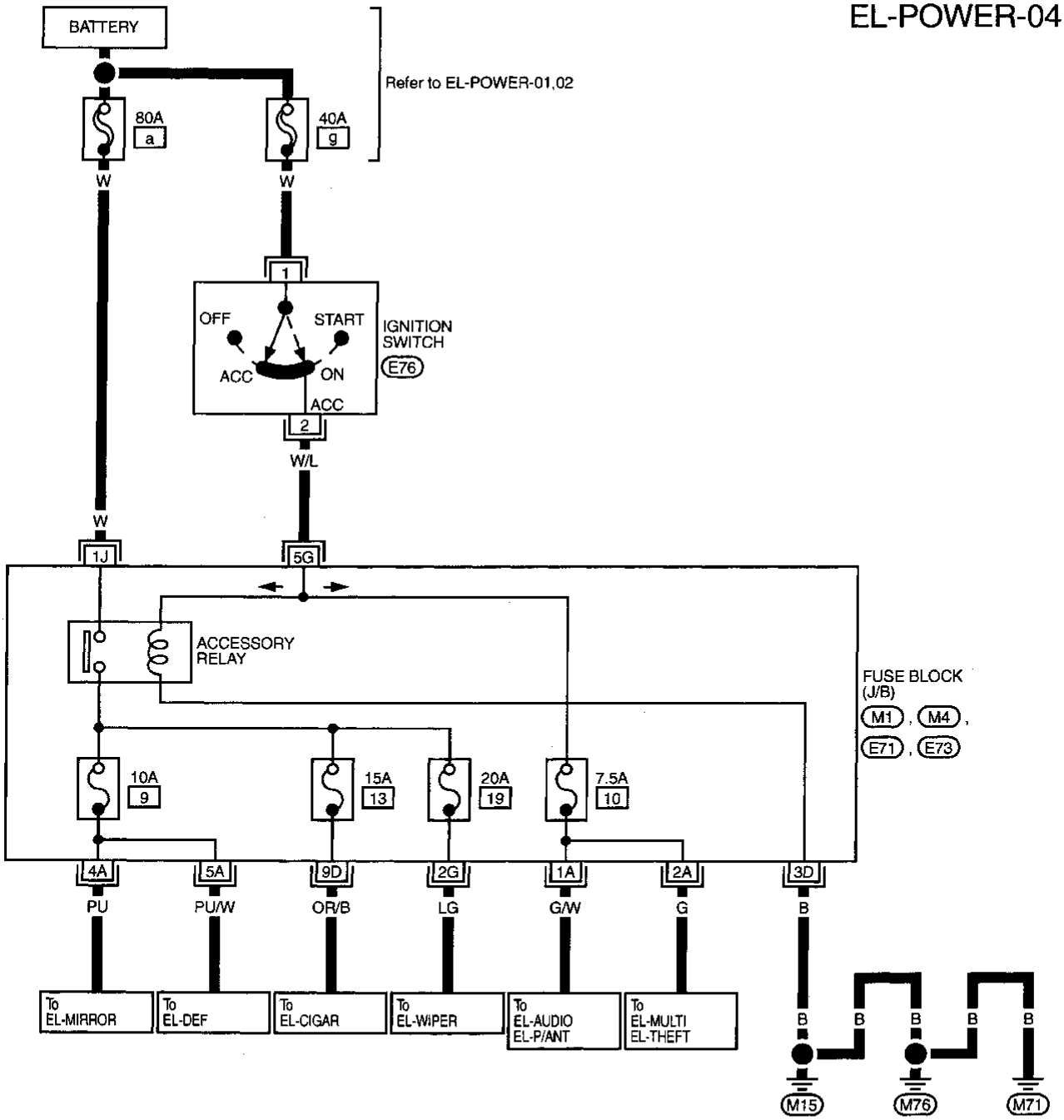
| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | | |
| 24 | 25 | 26 | | |
| 27 | 28 | 29 | | |

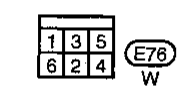
TEL878A

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

NCEL0006S02

EL-POWER-04




Refer to last page (Foldout page).

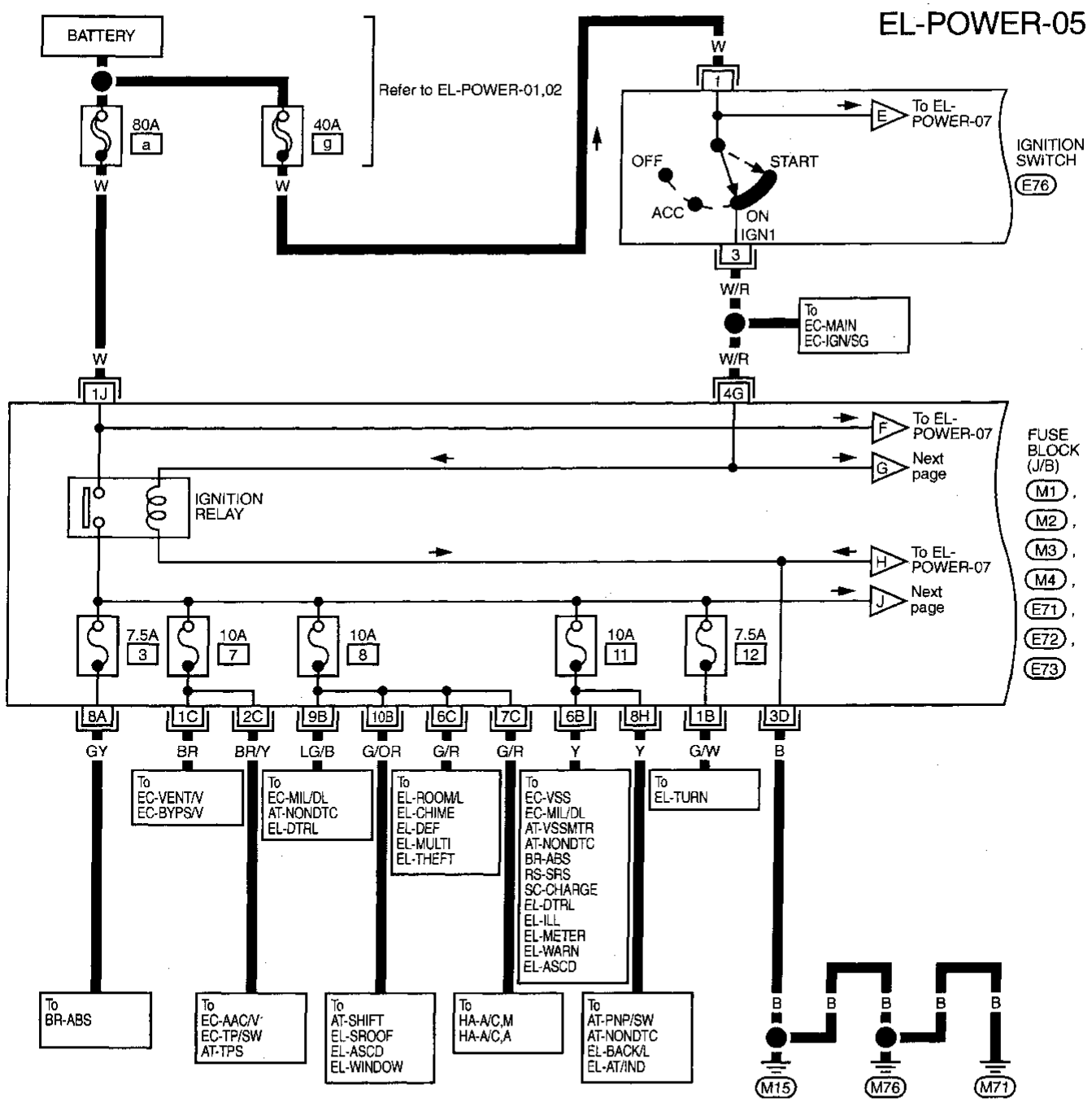
M1, M4, E71, E73

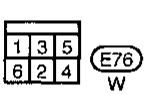
| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | | |
| 24 | 25 | 26 | | |
| 27 | 28 | 29 | | |

TEL879A

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

NCEL0006S03



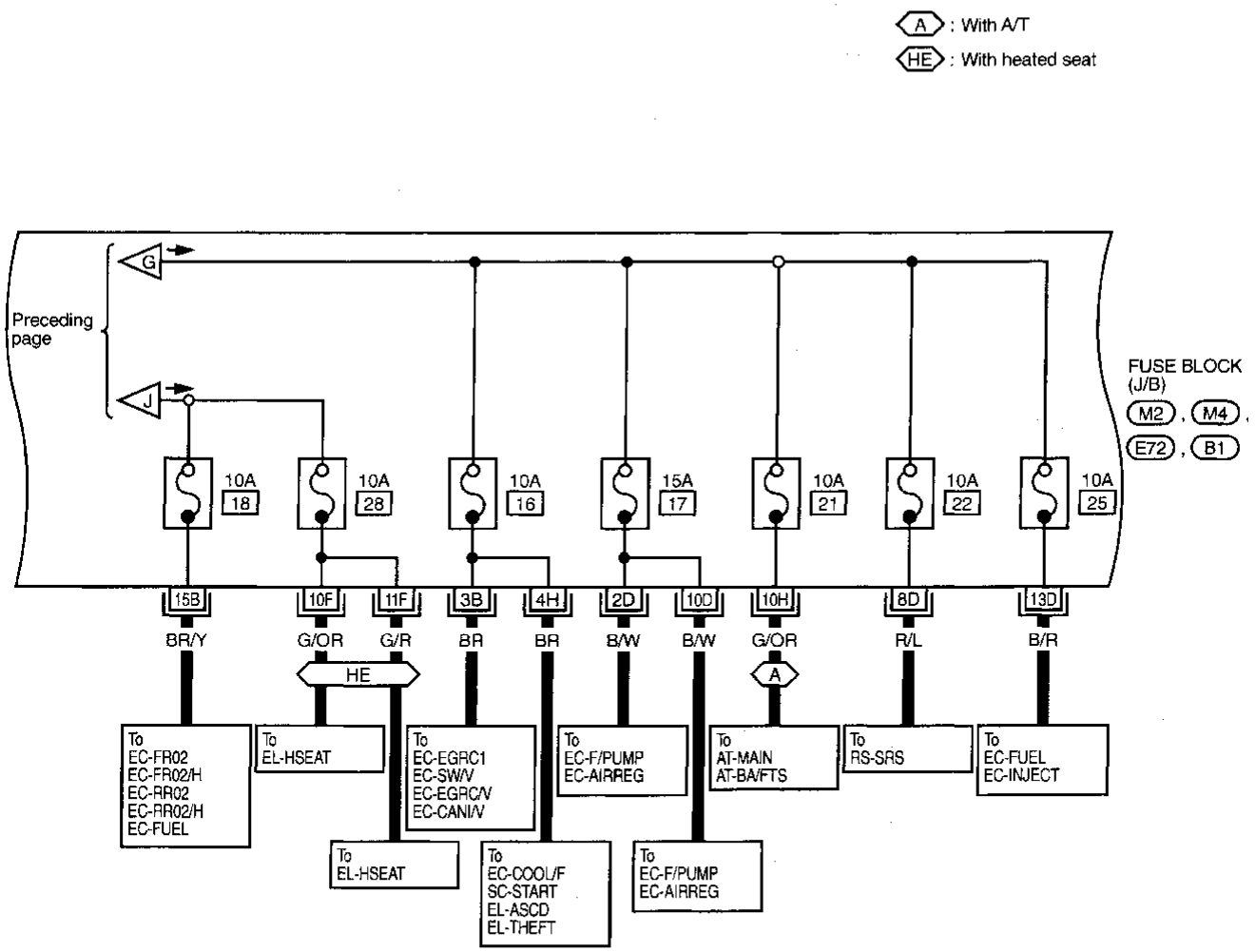




Refer to last page (Foldout page).

M1, M2, M3, M4
E71, E72, E73

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

TEL880A



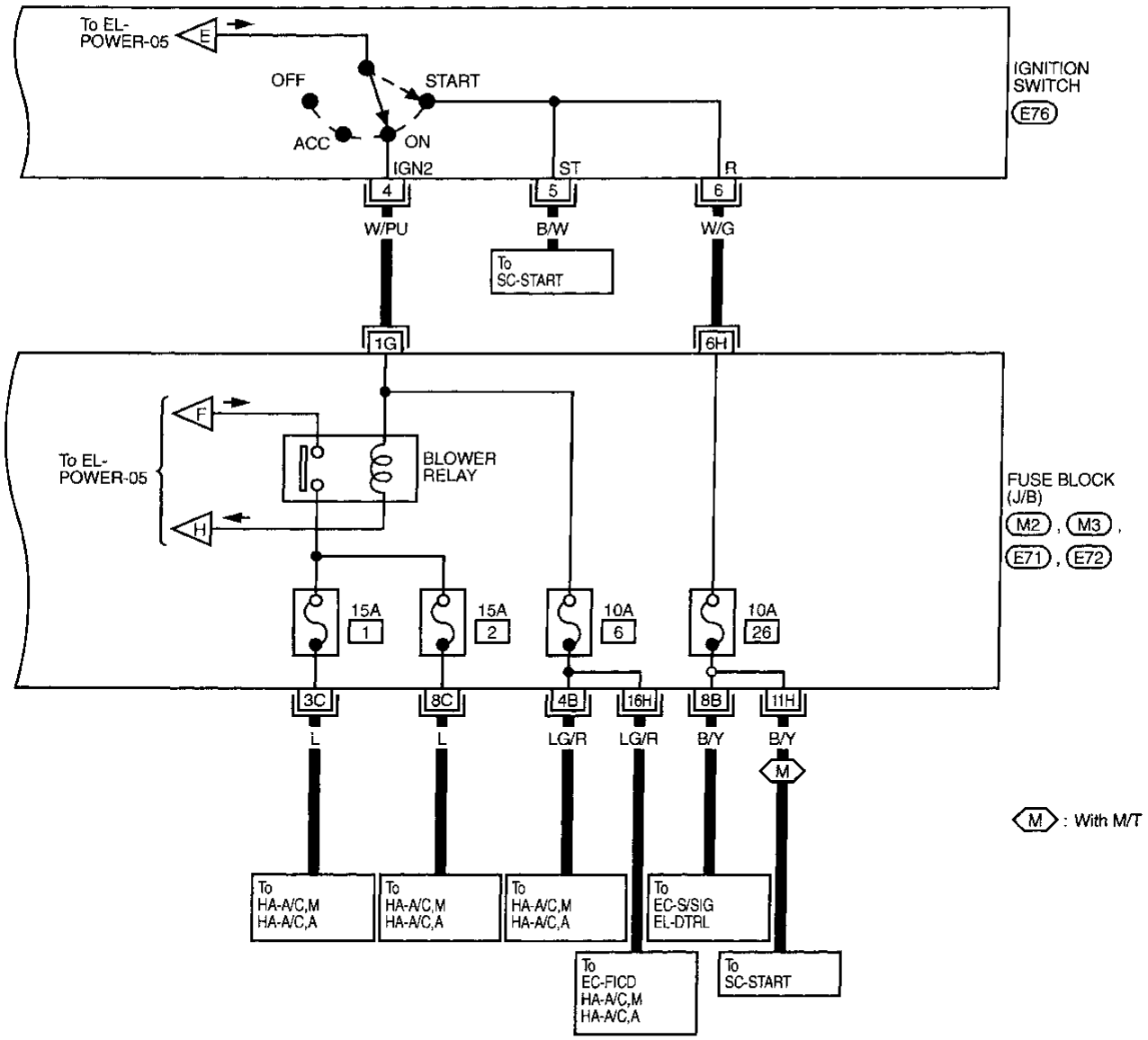

Refer to last page (Foldout page).

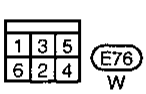
M2 , M4 , E72 , B1

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

TEL881A

EL-POWER-07



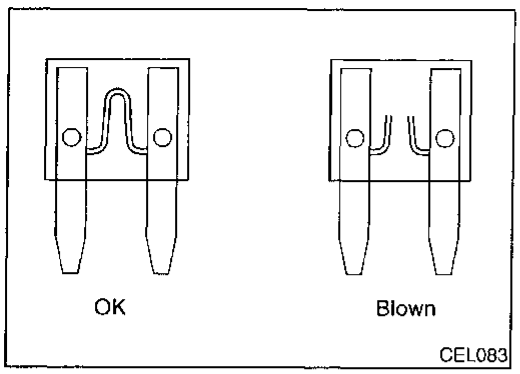



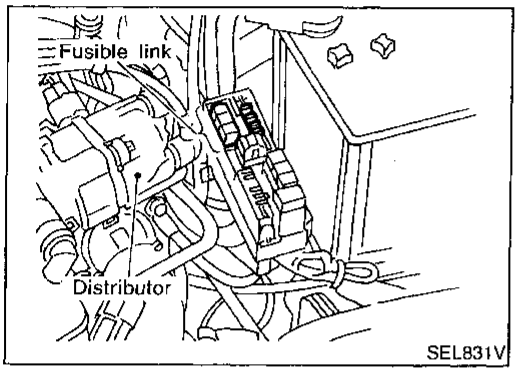

Refer to last page (Foldout page).

M2, M3, E71, E72

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

TEL882A




## Inspection

NCEL0007

### FUSE

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.**

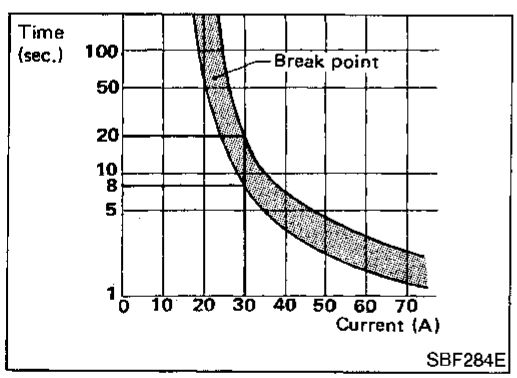
### FUSIBLE LINK

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.**



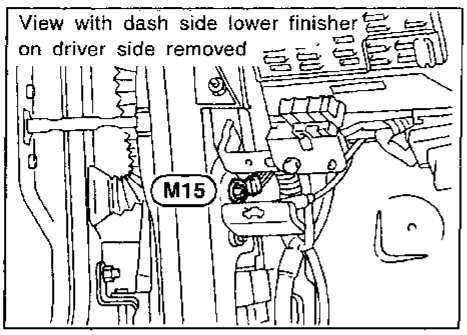

### CIRCUIT BREAKER

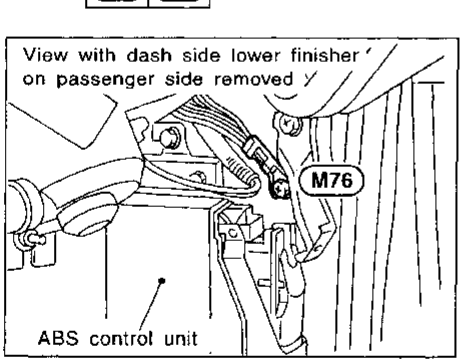
NCEL0007S03

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

# Ground Distribution

NCEL0008




M15 Body ground

M76 Body ground

M17 D2 Front door harness (Driver side)

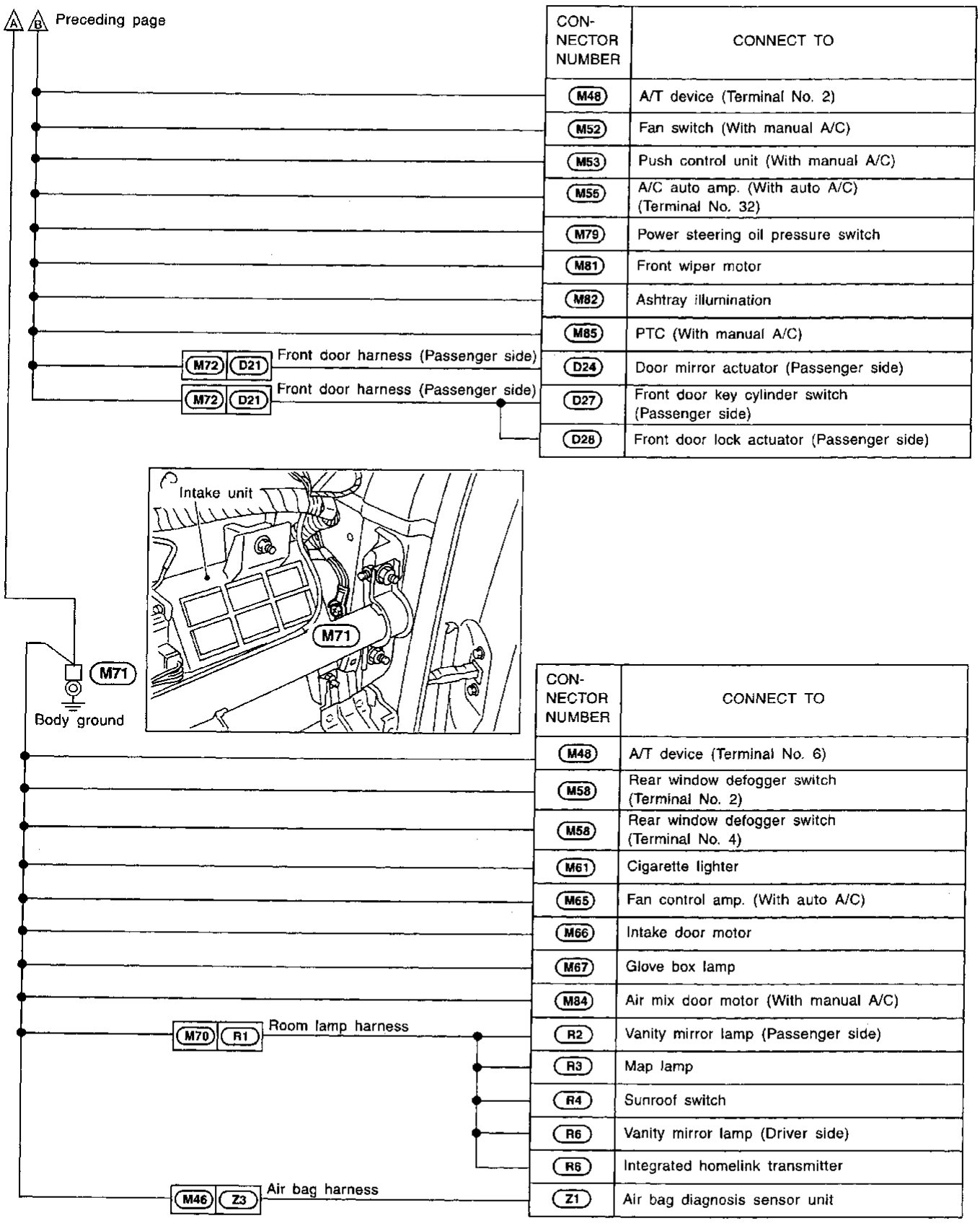
M16 D1 Front door harness (Driver side)

Next page

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| M4 | Fuse block (J/B) (Terminal No. 3D)<br>• Accessory relay<br>• Ignition relay<br>• Blower relay |
| M9 | Data link connector for consult |
| M10 | Data link connector for GST (Terminal No. 13) |
| M19 | ASCD control unit |
| M21 | ASCD hold relay (With A/T) |
| M22 | ASCD hold relay (With M/T) |
| M23 | Smart entrance control unit |
| M25 | Combination flasher unit |
| M27 | Door mirror remote control switch |
| M28 | ASCD main switch |
| M29 | Illumination control switch |
| M30 | Power window relay |
| M35 | Clutch interlock switch (With M/T) |
| D5 | Door mirror actuator (Driver side) |
| D6 | Power window main switch |
| D8 | Front door key cylinder switch (Driver side) |
| D9 | Front door lock actuator (Driver side) |

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| M38 | Mode door motor (With manual A/C) |
| M40 | Combination meter (Terminal No. 27)<br>• A/T indicators (With A/T)<br>• High beam indicator<br>• Turn signal indicator |
| M40 | Combination meter (Terminal No. 39)<br>• Cruise indicator |
| M41 | Combination meter (Terminal No. 3)<br>• Air bag warning lamp<br>• Fuel gauge<br>• Water temperature gauge<br>• Speedometer<br>• Tachometer<br>• Odo/trip meter |
| M44 | Mode door motor (With auto A/C) |
| M45 | Air mix door motor (With auto A/C) |

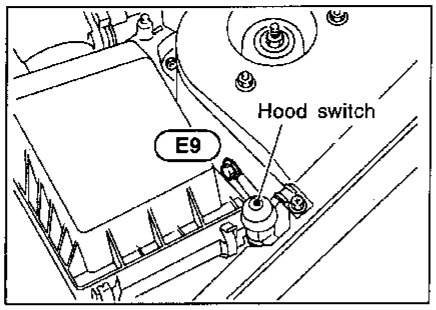
CEL931




| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| M48 | A/T device (Terminal No. 2) |
| M52 | Fan switch (With manual A/C) |
| M53 | Push control unit (With manual A/C) |
| M55 | A/C auto amp. (With auto A/C) (Terminal No. 32) |
| M79 | Power steering oil pressure switch |
| M81 | Front wiper motor |
| M82 | Ashtray illumination |
| M85 | PTC (With manual A/C) |
| D24 | Door mirror actuator (Passenger side) |
| D27 | Front door key cylinder switch (Passenger side) |
| D28 | Front door lock actuator (Passenger side) |

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| M48 | A/T device (Terminal No. 6) |
| M58 | Rear window defogger switch (Terminal No. 2) |
| M58 | Rear window defogger switch (Terminal No. 4) |
| M61 | Cigarette lighter |
| M65 | Fan control amp. (With auto A/C) |
| M66 | Intake door motor |
| M67 | Glove box lamp |
| M84 | Air mix door motor (With manual A/C) |
| R2 | Vanity mirror lamp (Passenger side) |
| R3 | Map lamp |
| R4 | Sunroof switch |
| R6 | Vanity mirror lamp (Driver side) |
| R6 | Integrated homelink transmitter |
| Z1 | Air bag diagnosis sensor unit |

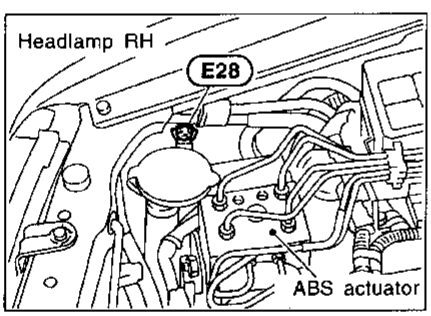
CEL932




E9
Body ground

Main harness
E75 M6

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| M56 | A/C auto amp. (For Canada) (Terminal No. 14) |
| E4 | Brake fluid level switch |
| E7 | Hood switch |
| E10 | Side turn signal lamp LH |
| E11 | Front turn signal lamp LH |
| E13 | Front side marker lamp LH |
| E14 | Front fog lamp LH |
| E18 | Triple-pressure switch |
| E19 | Cooling fan motor-1 |
| E20 | Cooling fan motor-2 |
| E24 | Headlamp RH |
| E31 | Washer level switch |
| E43 | Cooling fan relay-2 |
| E80 | Combination switch (Front fog lamp switch) (Terminal No. 32) |
| E81 | Combination switch (Front wiper switch) (Terminal No. 17) |

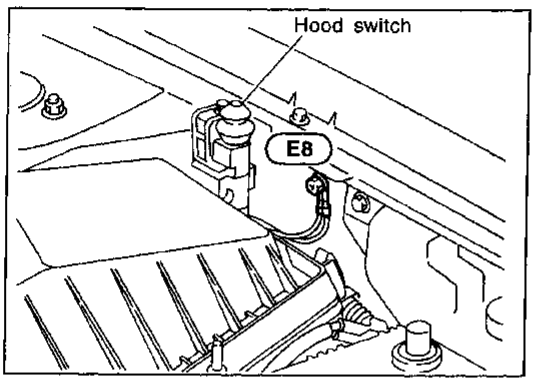


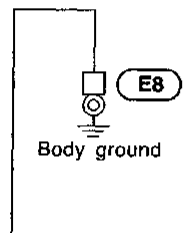

E28
Body ground

Engine No. 2 harness
E33 E101

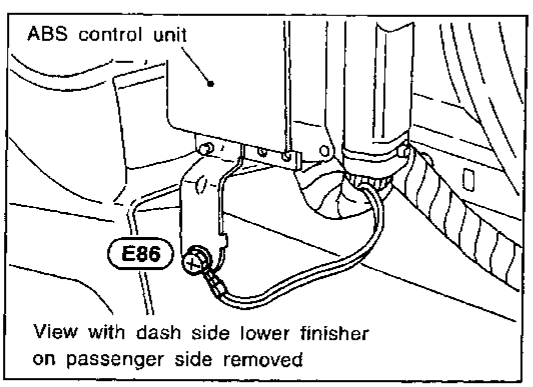
| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| E16 | Parking lamp LH |
| E17 | Headlamp LH (For U.S.A.) |
| E25 | Parking lamp RH |
| E26 | Front fog lamp RH |
| E27 | Front turn signal lamp RH |
| E29 | Front side marker lamp RH |
| E32 | Side turn signal lamp RH |
| E41 | ABS solenoid valve relay |
| E46 | Cooling fan relay-3 |
| E53 | Ambient air temperature switch (With manual A/C) |
| E83 | Daytime light control unit (For Canada) |
| E110 | IACV-Air regulator |
| E119 | Vehicle speed sensor |
| E120 | Park/Neutral position switch (With M/T) |
| E125 | Park/Neutral position switch (With A/T) |

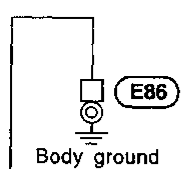
CEL933

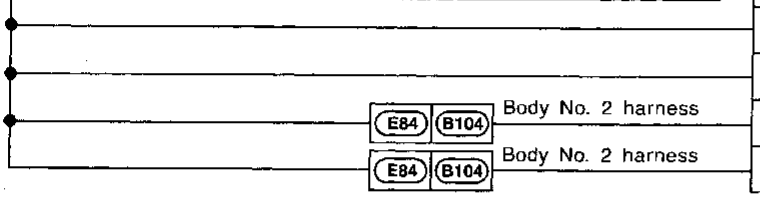



| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| E85 | ABS control unit (Terminal No. 28) |
| E85 | ABS control unit (Terminal No. 29) |
| E85 | ABS control unit (Terminal No. 39) |

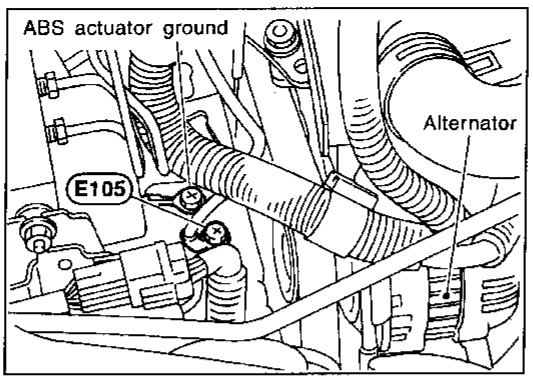


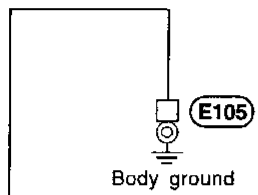



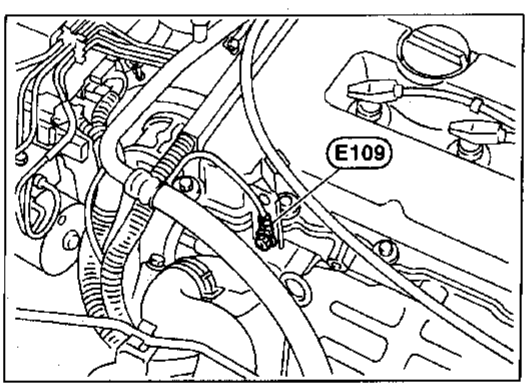



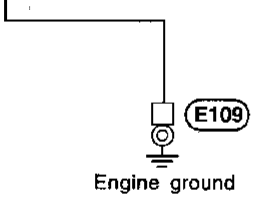

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| E5 | Front wheel sensor LH (Shield wire) |
| E51 | Front wheel sensor RH (Shield wire) |
| B105 | Rear wheel sensor RH |
| B108 | Rear wheel sensor LH |

CEL934

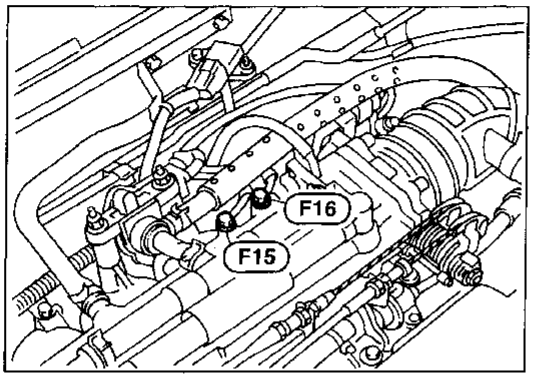

ABS actuator ground
Alternator
E105


E105
Body ground


E109


E109
Engine ground

CEL935



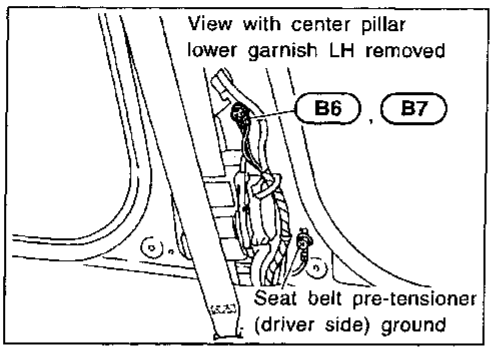




| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| M10 | Data link connector for GST (Terminal No. 12) |
| F3 | Distributor (Camshaft position sensor) (Terminal No. 1) |
| F22 | TCM (Transmission control module) (Terminal No. 25) |
| F22 | TCM (Transmission control module) (Terminal No. 48) |
| F26 | ECM (Terminal No. 39) |
| F26 | ECM (Terminal No. 43) |
| E126 | Crankshaft position sensor (OBD) (Shield wire) |
| F1 | Front heated oxygen sensor (Shield wire) |
| F2 | Mass air flow sensor (Shield wire) |
| F3 | Distributor (Camshaft position sensor) (Shield wire) |
| F9 | Throttle position sensor (Shield wire) |
| F26 | ECM (Shield wire) |
| F56 | Knock sensor (Shield wire) |
| B16 | Rear heated oxygen sensor (Shield wire) |
| F10 | Absolute pressure sensor (Shield wire) |
| T13 | EVAP control system pressure sensor (Shield wire) |

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| F3 | Distributor (Terminal No. 5) |
| F26 | ECM (Terminal No. 10) |
| F26 | ECM (Terminal No. 19) |
| F26 | ECM (Terminal No. 106) |
| F26 | ECM (Terminal No. 112) |
| F26 | ECM (Terminal No. 118) |

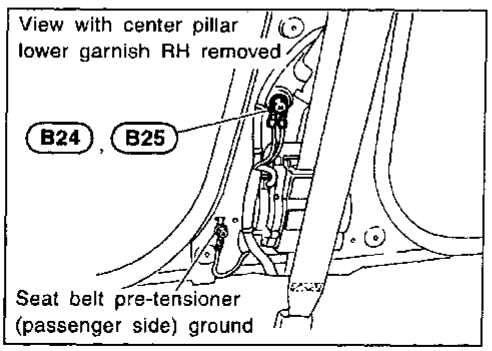
CEL936




B6
Body ground

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| B19 | Air bag diagnosis sensor unit (Shield wire) |

B25
Body ground




B7
Body ground

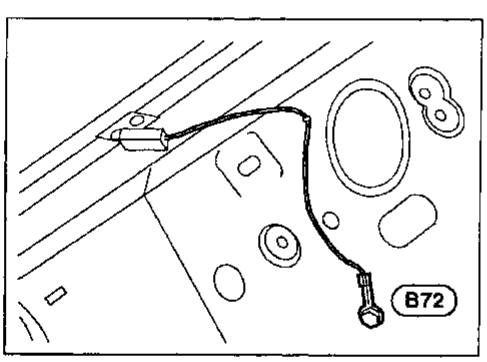
| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| B4 | Front door switch (Driver side) |
| B13 | Seat belt buckle switch (Driver side) |
| B14 | Power seat (Driver side) |
| B15 | Heated seat LH |
| B16 | Rear heated oxygen sensor |
| B20 | Heated seat RH |
| B52 | Heated seat switch LH |
| B53 | Heated seat switch RH |
| D44 | Rear door lock actuator LH |
| D64 | Rear door lock actuator RH |

B18 B51 Body sub-harness

B9 D41 Rear door harness LH

B27 D61 Rear door harness RH

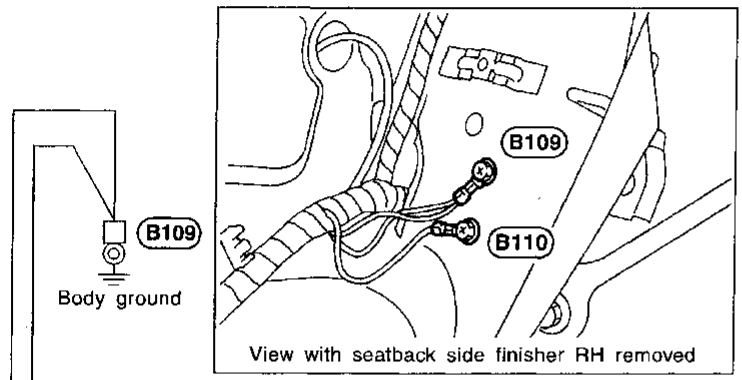
B24
Body ground




B72
Body ground

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| B71 | Rear window defogger (–) |

CEL937

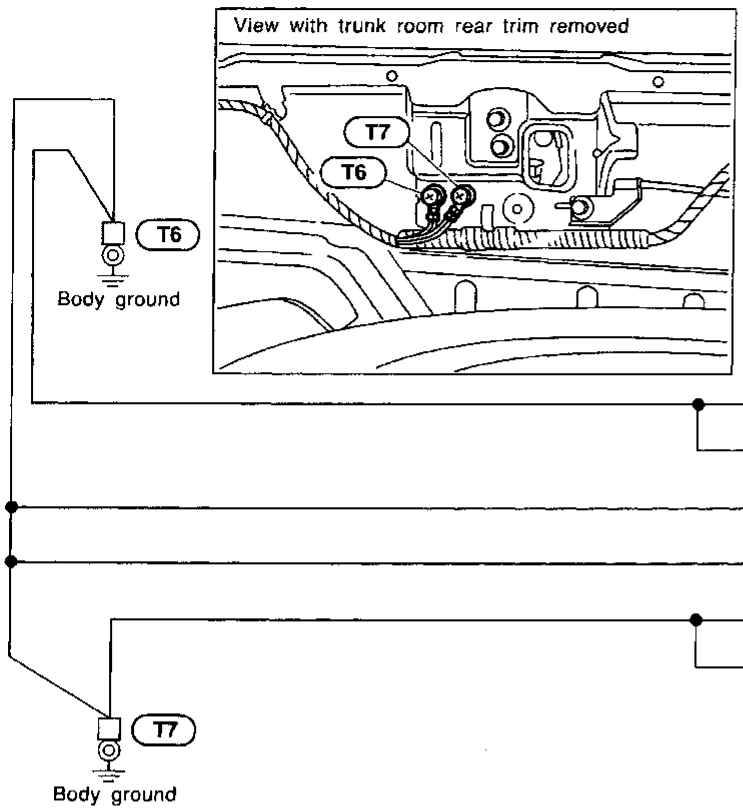






| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| B107 | Fuel tank gauge unit |
| B106 | Fuel pump |
| B112 | Power antenna |
| B114 | BOSE speaker amp. |
| B118 | High-mounted stop lamp (Without rear spoiler) |
| T52 | Rear combination lamp RH (Trunk lid)<br>• Stop/Tail<br>• Back-up |
| T53 | Trunk lid key cylinder switch |
| T54 | High-mounted stop lamp (With rear spoiler) |
| T55 | Trunk room lamp switch |
| T56 | License lamp |
| T57 | Rear combination lamp LH (Trunk lid)<br>• Stop/Tail<br>• Back-up |

CEL938

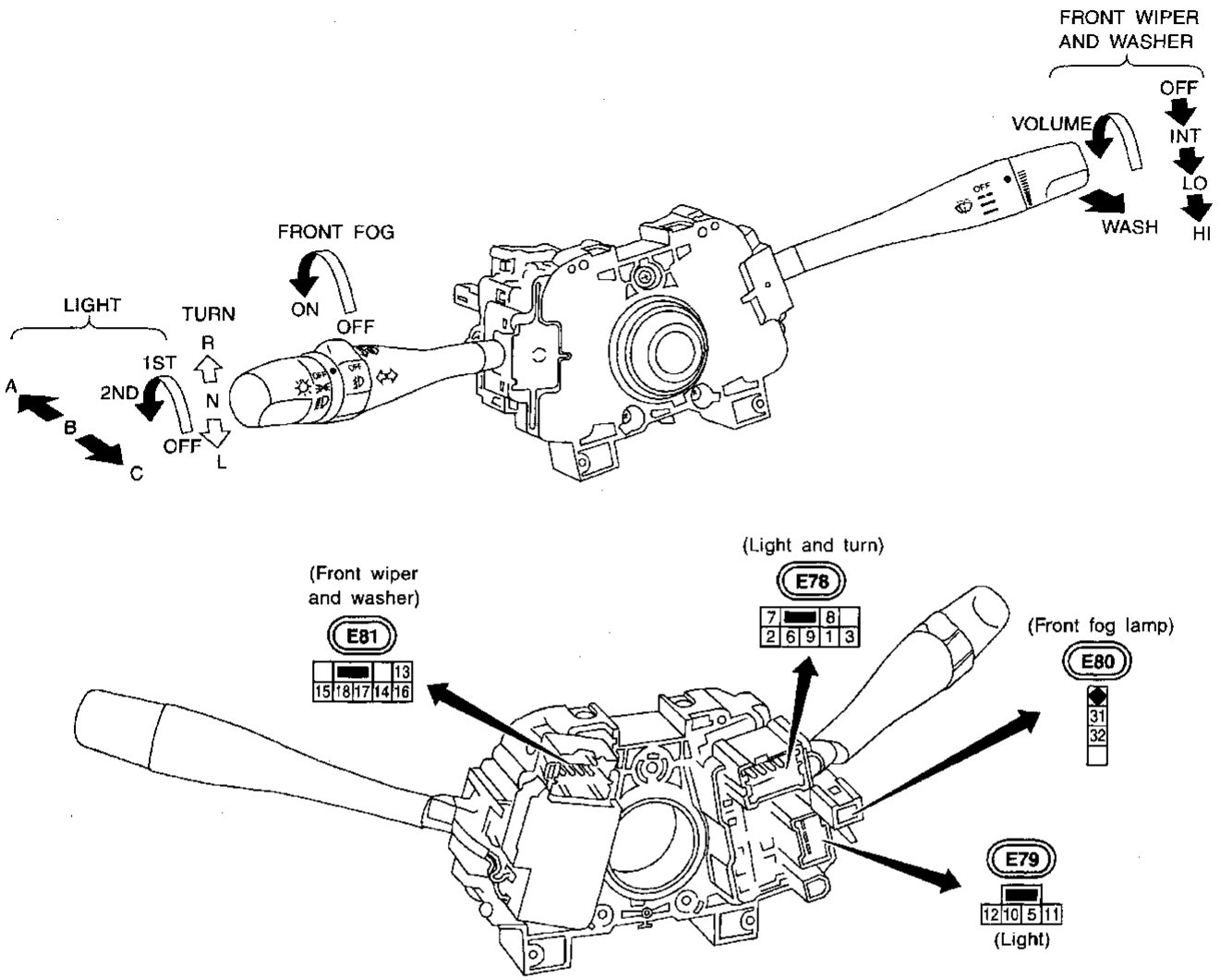



| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| T3 | Rear side marker lamp RH |
| T5 | Rear combination lamp RH (Fender) (Stop/Tail) |
| T4 | Rear combination lamp RH (Fender) (Turn signal) |
| T9 | Rear combination lamp LH (Fender) (Turn signal) |
| T8 | Rear combination lamp LH (Fender) (Stop/Tail) |
| T10 | Rear side marker lamp LH |

CEL939

## Check

NCEL0009




FRONT WIPER AND WASHER SWITCH

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

VARIABLE INTERMITTENT WIPER VOLUME

WIPER AMP.

⑭ ⑮ ⑬ ⑯ ⑰ ⑱

LIGHTING SWITCH

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

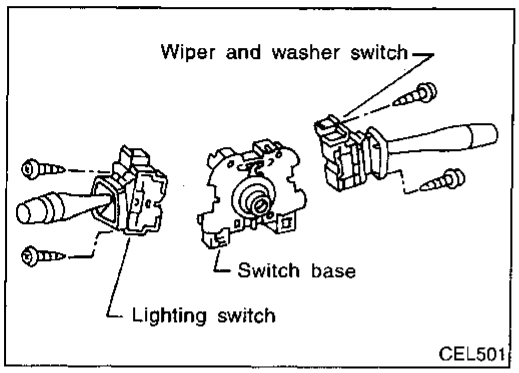
FRONT FOG LAMP SWITCH

| | OFF | ON |
|---|---|---|
| 31 | | ○ |
| 32 | | ○ |

TURN SIGNAL SWITCH

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

CEL940

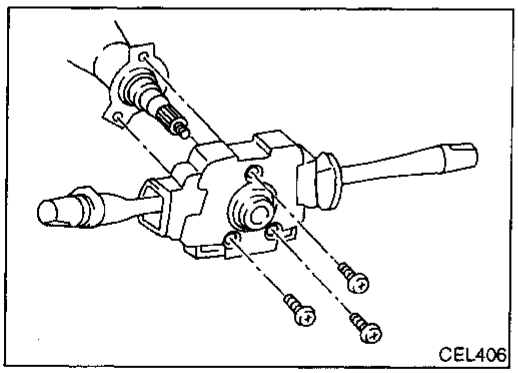



## Replacement

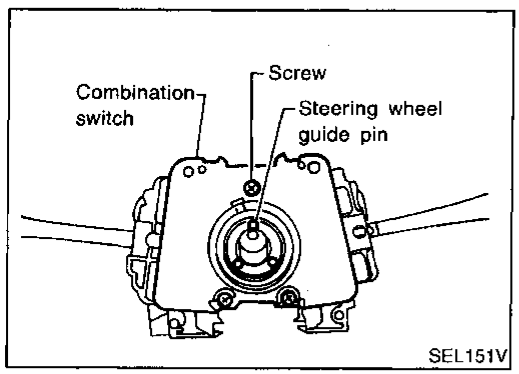
NCEL0010

**For removal and installation of spiral cable, refer to RS section ["Installation — Air Bag Module and Spiral Cable", "SUPPLEMENTAL RESTRAINT SYSTEM (SRS)"].**

- Each switch can be replaced without removing combination switch base.



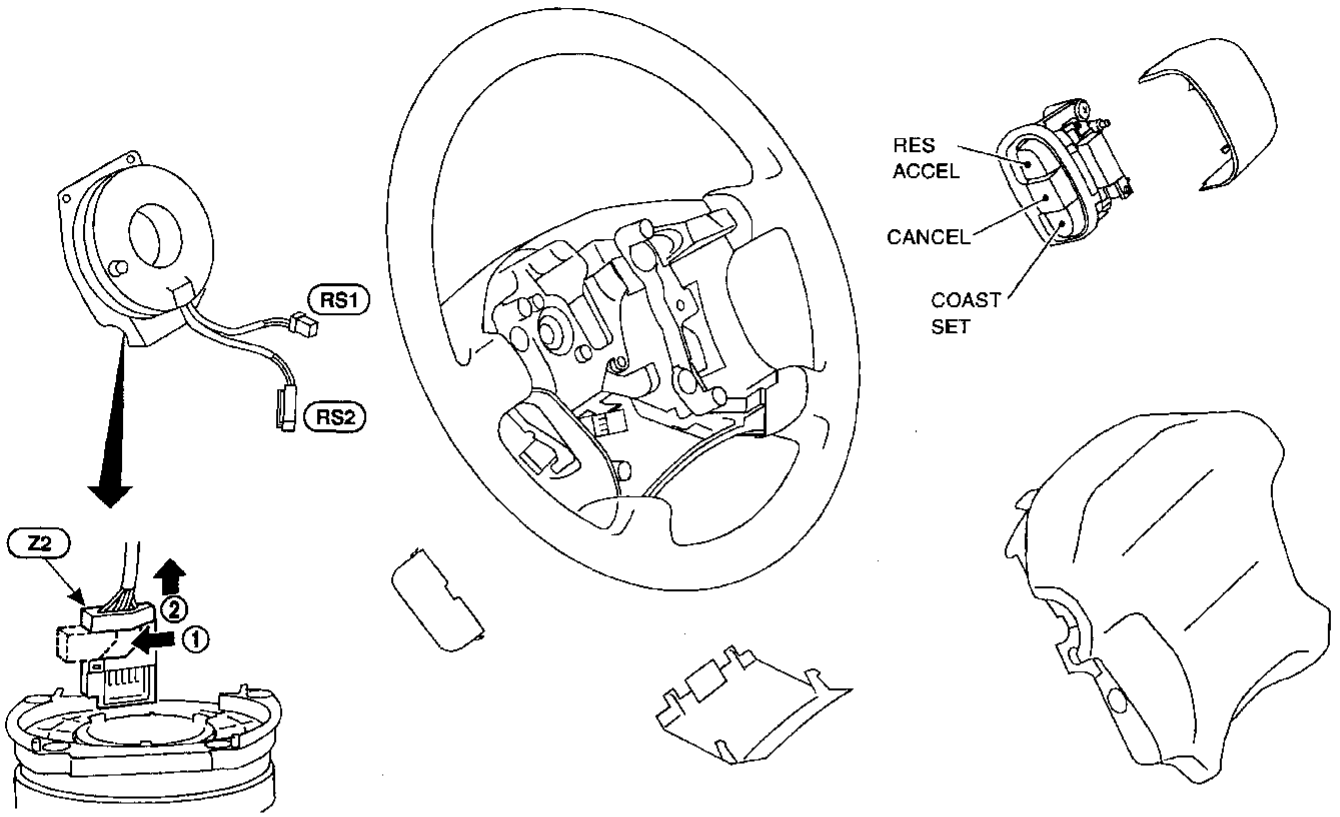

- To remove combination switch base, remove base attaching screw.

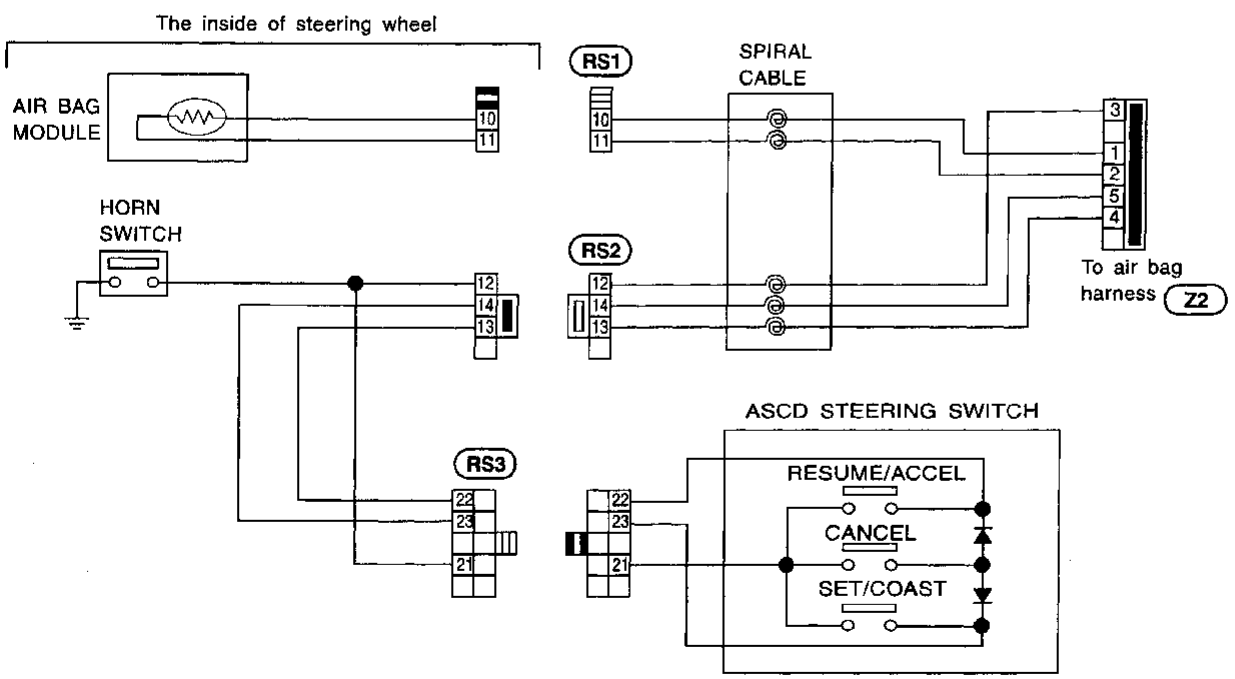



- Before installing the steering wheel, align the steering wheel guide pins with the screws which secure the combination switch as shown in the left figure.

## Check

NCEL0011




CEL941

## System Description

NCEL0012

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

- to lighting switch terminal 8
- through 15A fuse (No. 32, located in the fuse and fusible link box), and
- to lighting switch terminal 5
- through 15A fuse (No. 33, located in the fuse and fusible link box).

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

Terminal 2 of each headlamp supplies ground through body grounds E9 and E28.
With power and ground supplied, the low beams 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 each headlamp RH, and
- from lighting switch terminal 9
- to terminal 1 of each headlamp LH, and
- to combination meter terminal 29 for the high beam indicator.

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

### THEFT WARNING SYSTEM

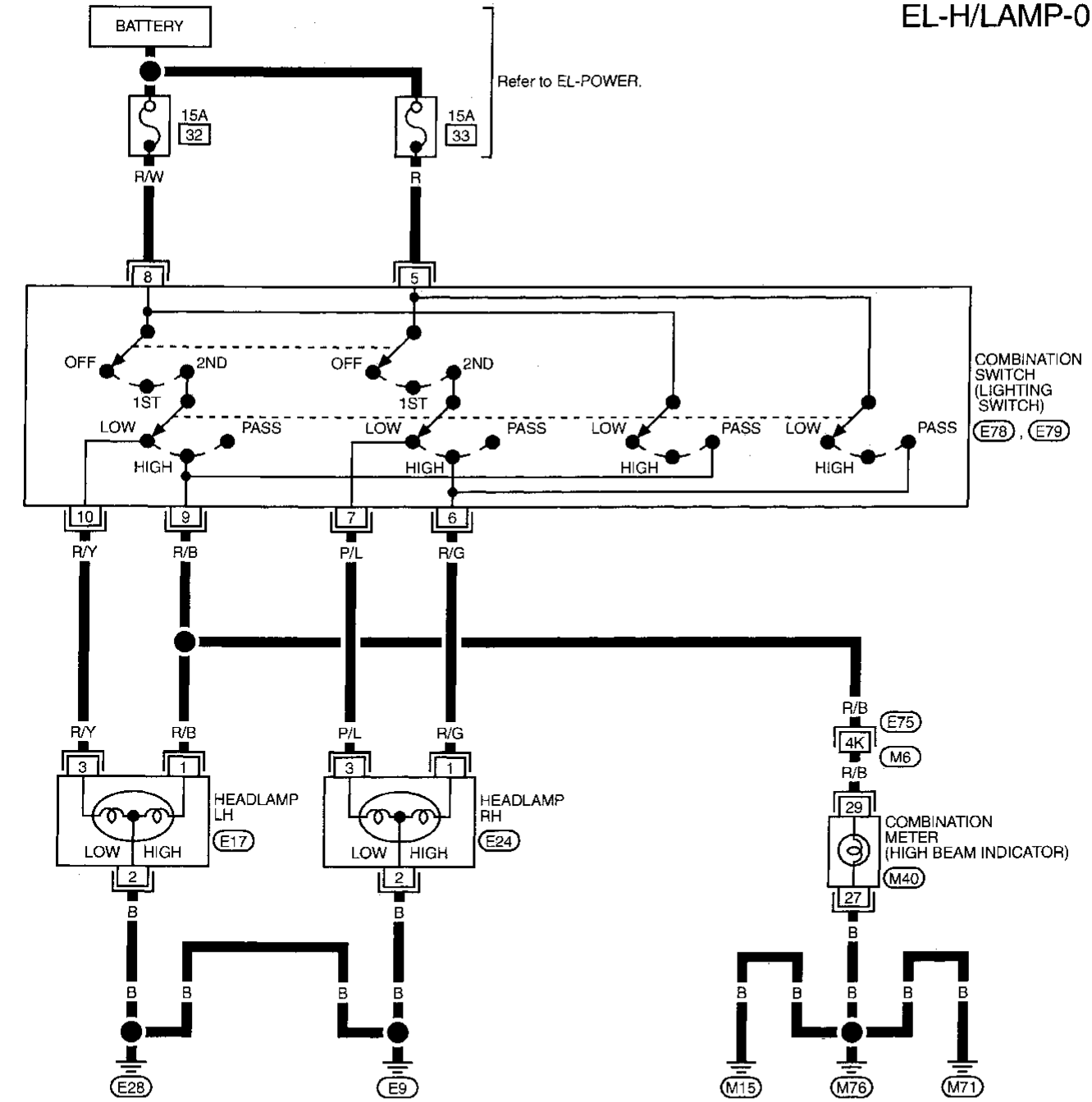
NCEL0012S03

The theft warning system will flash the high beams if the system is triggered. Refer to "THEFT WARNING SYSTEM" (EL-169).

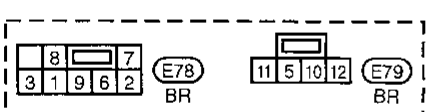
## Wiring Diagram — H/LAMP —

NCEL0013

EL-H/LAMP-01







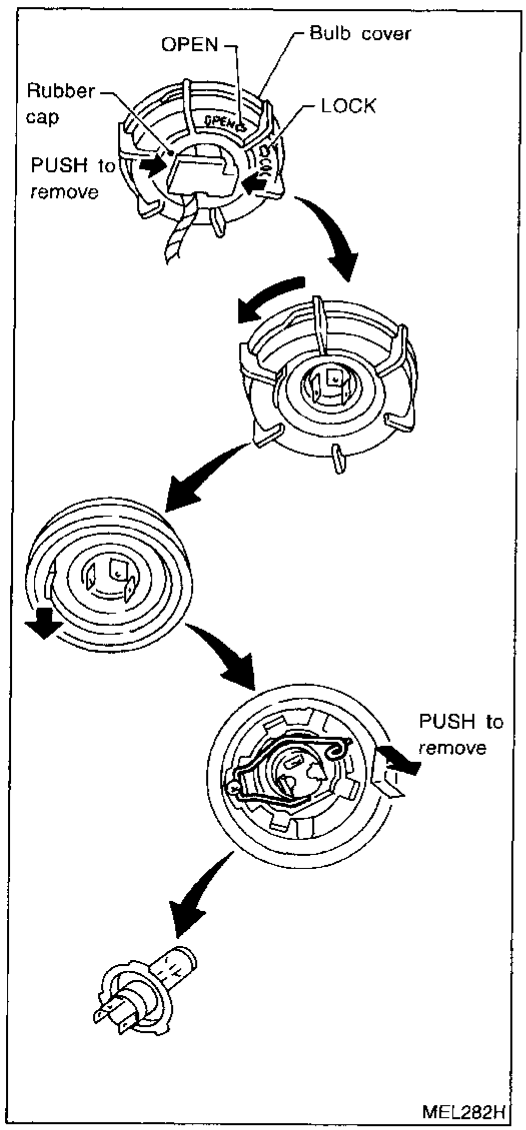

Refer to last page (Foldout page).
M6, E75

TEL883A

## Trouble Diagnoses

NCEL0014

| Symptom | Possible cause | Repair order |
|---|---|---|
| Headlamp LH do not operate. | 1. Bulb<br>2. Grounds E9 and E28<br>3. 15A fuse<br>4. Lighting switch | 1. Check bulb.<br>2. Check grounds E9 and E28.<br>3. Check 15A fuse (No. 32, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 8 of lighting switch.<br>4. Check lighting switch. |
| Headlamp RH do not operate. | 1. Bulb<br>2. Grounds E9 and E28<br>3. 15A fuse<br>4. Lighting switch | 1. Check bulb.<br>2. Check grounds E9 and E28.<br>3. Check 15A fuse (No. 33, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of lighting switch.<br>4. Check lighting switch. |
| High beam LH do not operate, but low beam LH operates. | 1. Bulbs<br>2. Open in high beam LH circuit<br>3. Lighting switch | 1. Check bulbs.<br>2. Check the wire between lighting switch terminal 9 and headlamp LH terminal 1 for an open circuit.<br>3. Check lighting switch. |
| Low beam LH does not operate, but high beam LH operates. | 1. Bulb<br>2. Open in low beam LH circuit<br>3. Lighting switch | 1. Check bulb.<br>2. Check the wire between lighting switch terminal 10 and headlamp LH terminal 3 for an open circuit.<br>3. Check lighting switch. |
| High beam RH do not operate, but low beam RH operates. | 1. Bulbs<br>2. Open in high beam RH circuit<br>3. Lighting switch | 1. Check bulbs.<br>2. Check the wire between lighting switch terminal 6 and headlamp RH terminal 1 for an open circuit.<br>3. Check lighting switch. |
| Low beam RH does not operate, but high beam RH operates. | 1. Bulb<br>2. Open in low beam RH circuit<br>3. Lighting switch | 1. Check bulb.<br>2. Check the wire between lighting switch terminal 7 and headlamp RH terminal 3 for an open circuit.<br>3. Check lighting switch. |
| High beam indicator does not work. | 1. Bulb<br>2. Grounds M15, M71 and M76<br>3. Open in high beam circuit | 1. Check bulb in combination meter.<br>2. Check grounds M15, M71 and M76.<br>3. Check the wire between lighting switch terminal 9 and combination meter terminal 29 for an open circuit. |




## 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

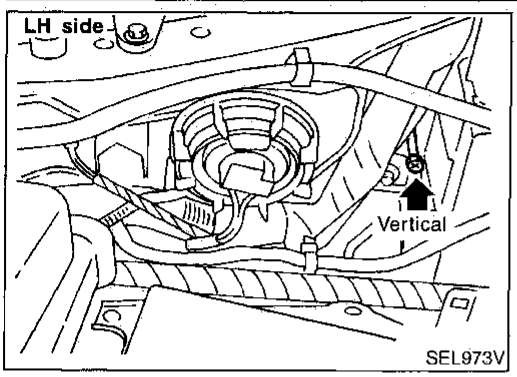
NCEL0016

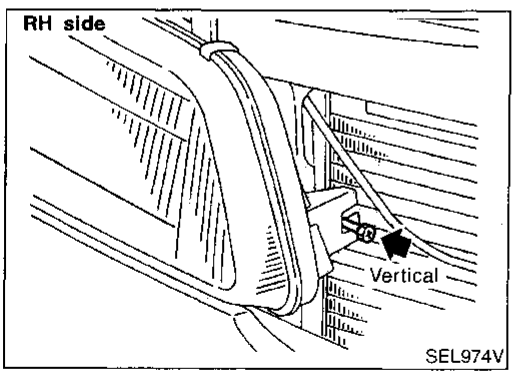
When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. Aimers should be in good repair, calibrated and operated in accordance with respective operation manuals.

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).



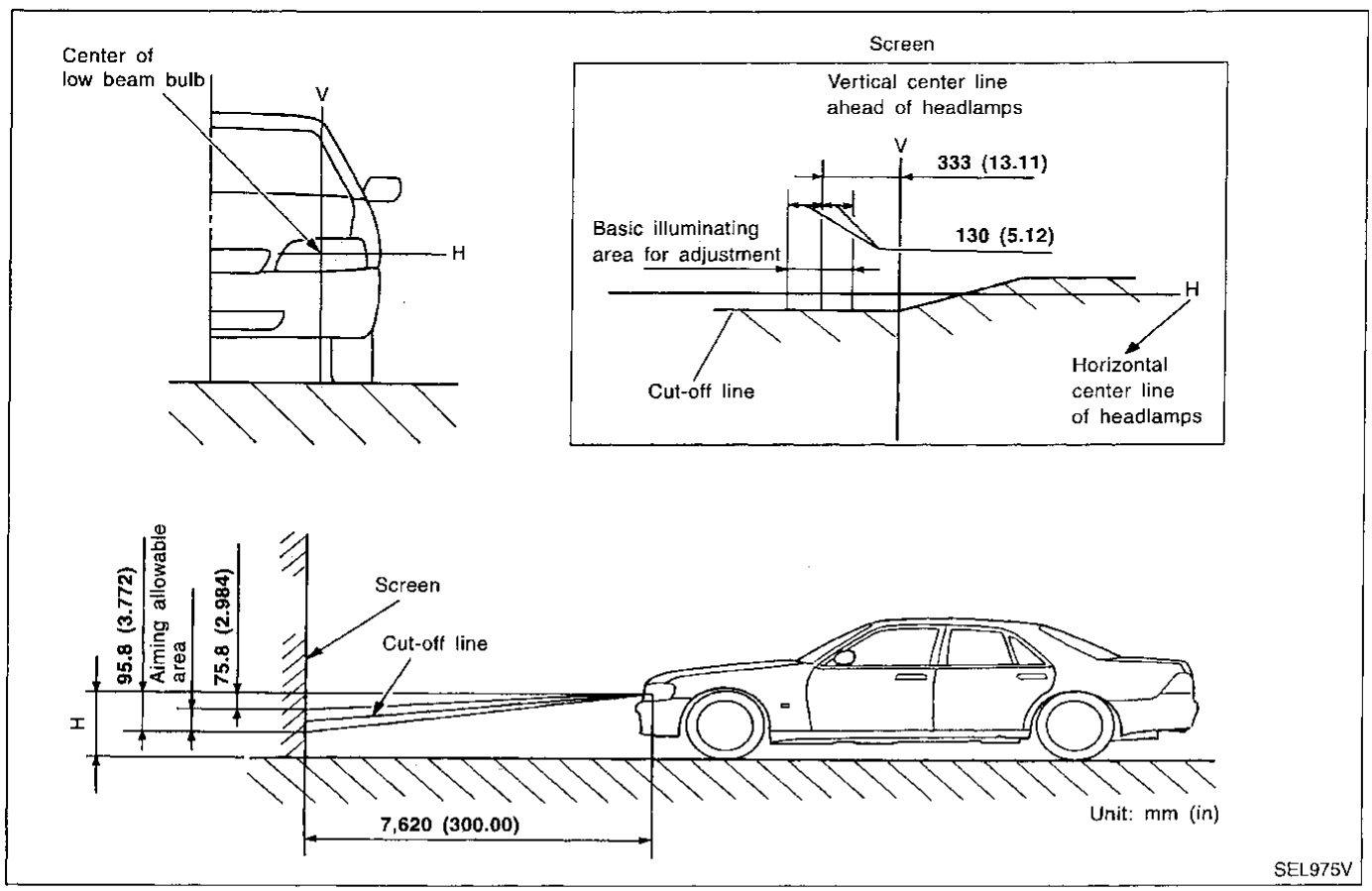




## LOW BEAM

NCEL0016S02

1. Turn headlamp low beam on.
2. Use adjusting screws to perform aiming adjustment.

- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**




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

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

## 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.

Power is supplied at all times

- through 15A fuse (No. 32, located in the fuse and fusible link box)
- to daytime light control unit terminal 3 and
- to lighting switch terminal 8.

Power is also supplied at all times

- through 15A fuse (No. 33, located in the fuse and fusible link box)
- to daytime light control unit terminal 2 and
- to lighting switch terminal 5.

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to daytime light control unit terminal 12.

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

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

Ground is supplied to daytime light control unit terminal 9 through body grounds E9 and E28.

### HEADLAMP OPERATION

NCEL0017S01

#### 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 headlamp RH terminal 3
- to daytime light control unit terminal 4.

Ground is supplied to headlamp RH 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

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

Ground is supplied

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

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

#### 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 headlamp RH.

Also, 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
- through daytime light control terminal 6
- to terminal 1 of headlamp LH.

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.

*System Description (Cont'd)*

## DAYTIME LIGHT OPERATION

NCEL0017S02

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

- to daytime light control unit terminal 3
- through daytime light control unit terminal 6
- to terminal 1 of headlamp LH
- through terminal 2 of headlamp LH
- to daytime light control unit terminal 7
- through daytime light control unit terminal 8
- to terminal 1 of headlamp RH.

Ground is supplied to terminal 2 of headlamp RH through body grounds E9 and E28.
Because the high beam headlamps are now wired in series, they operate at half illumination.

## OPERATION

NCEL0017S03

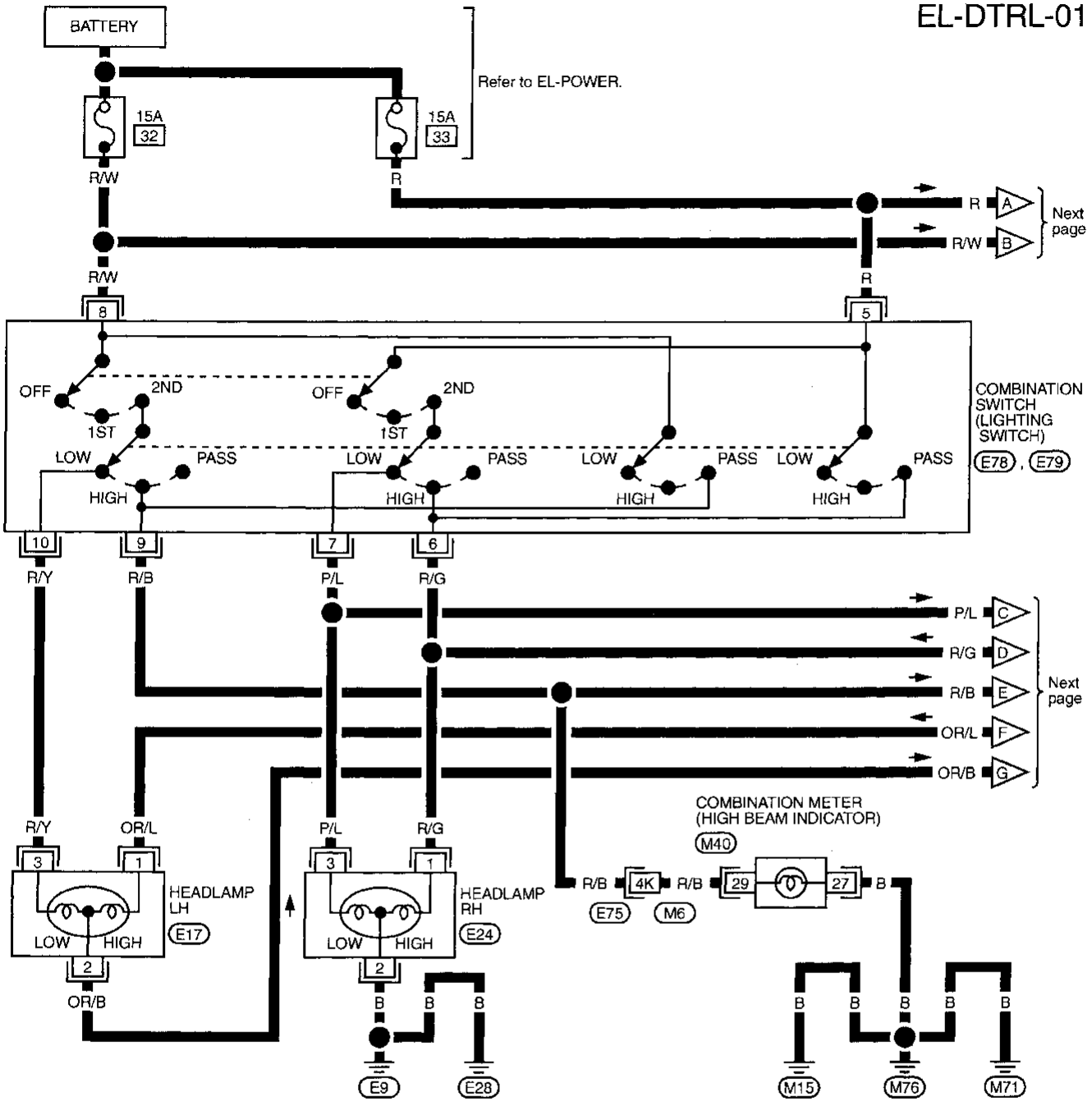
After starting the engine with the lighting switch in the "OFF" or "1ST" position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

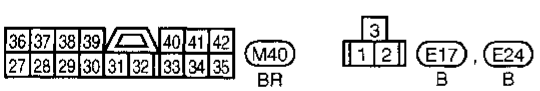
| Engine | | With engine stopped | | | | | | | | | With engine running | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lighting switch | | OFF | | | 1ST | | | 2ND | | | OFF | | | 1ST | | | 2ND | | |
| | | A | B | C | A | B | C | A | B | C | A | B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

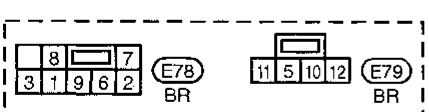
A: "HIGH BEAM" position
B: "LOW BEAM" position
C: "FLASH TO PASS" position
O : Lamp "ON"
X : Lamp "OFF"
△ : Lamp dims. (Added functions)
*: When starting the engine with the parking brake released, the daytime light will come ON.
When starting the engine with the parking brake pulled, the daytime light won't come ON.

## Wiring Diagram — DTRL —

NCEL0020



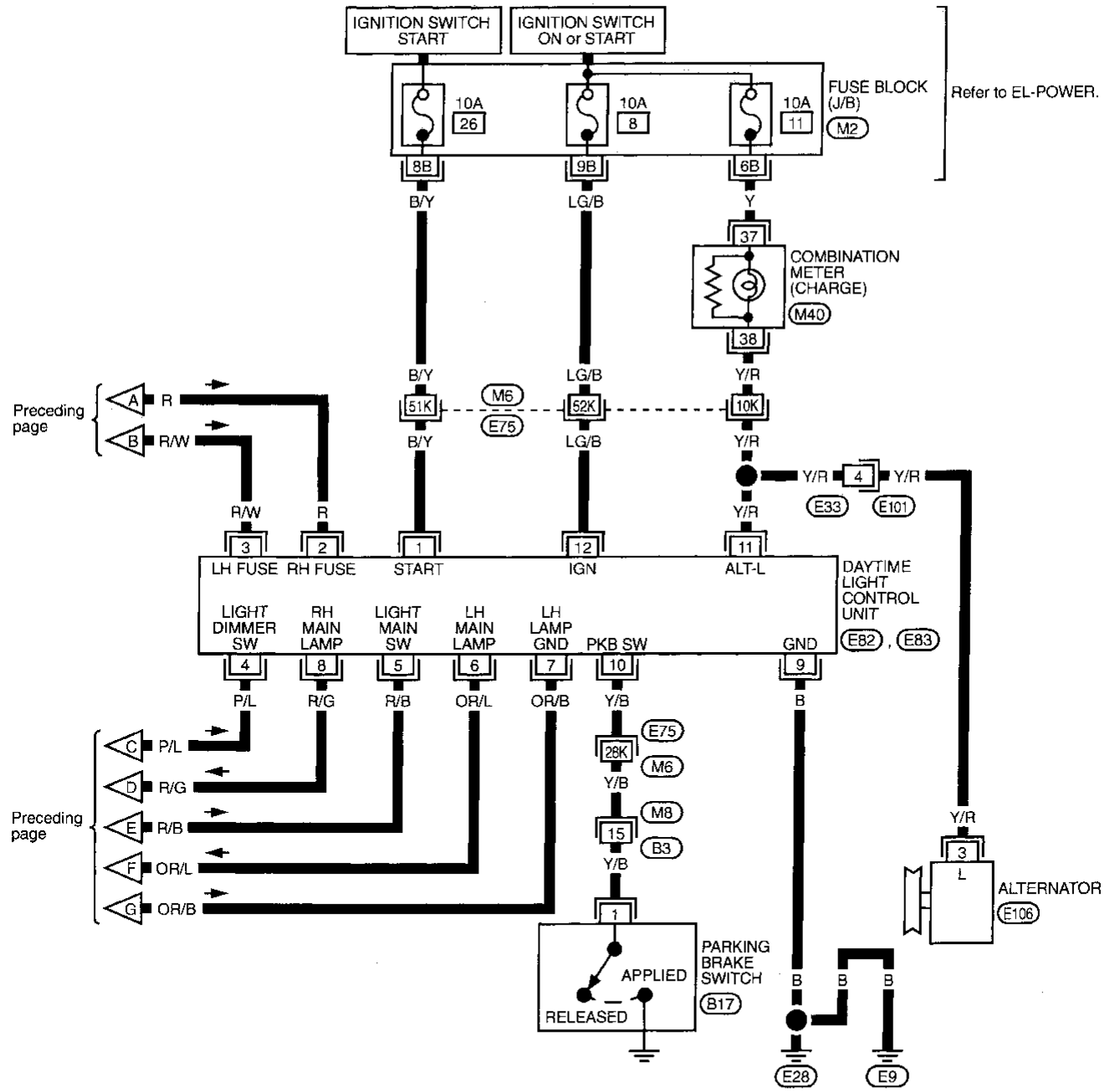



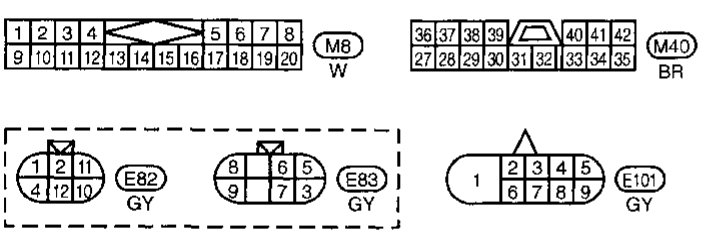




Refer to last page (Foldout page).
M6, E75

TEL884A

EL-DTRL-02




Refer to last page (Foldout page).
M6, E75
M2

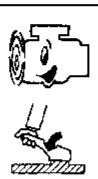
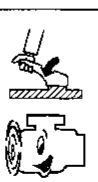
TEL885A

# 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)<br>**CAUTION:**<br>**Block wheels and ensure selector lever is in N or P position.** | 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)<br>**CAUTION:**<br>**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)<br>**CAUTION:**<br>**Block wheels and ensure selector lever is in N or P position.** | Approx. half battery voltage |

*Trouble Diagnoses (Cont'd)*

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

## Bulb Replacement

NCEL0022

Refer to "HEADLAMP (FOR USA)" (EL-31).

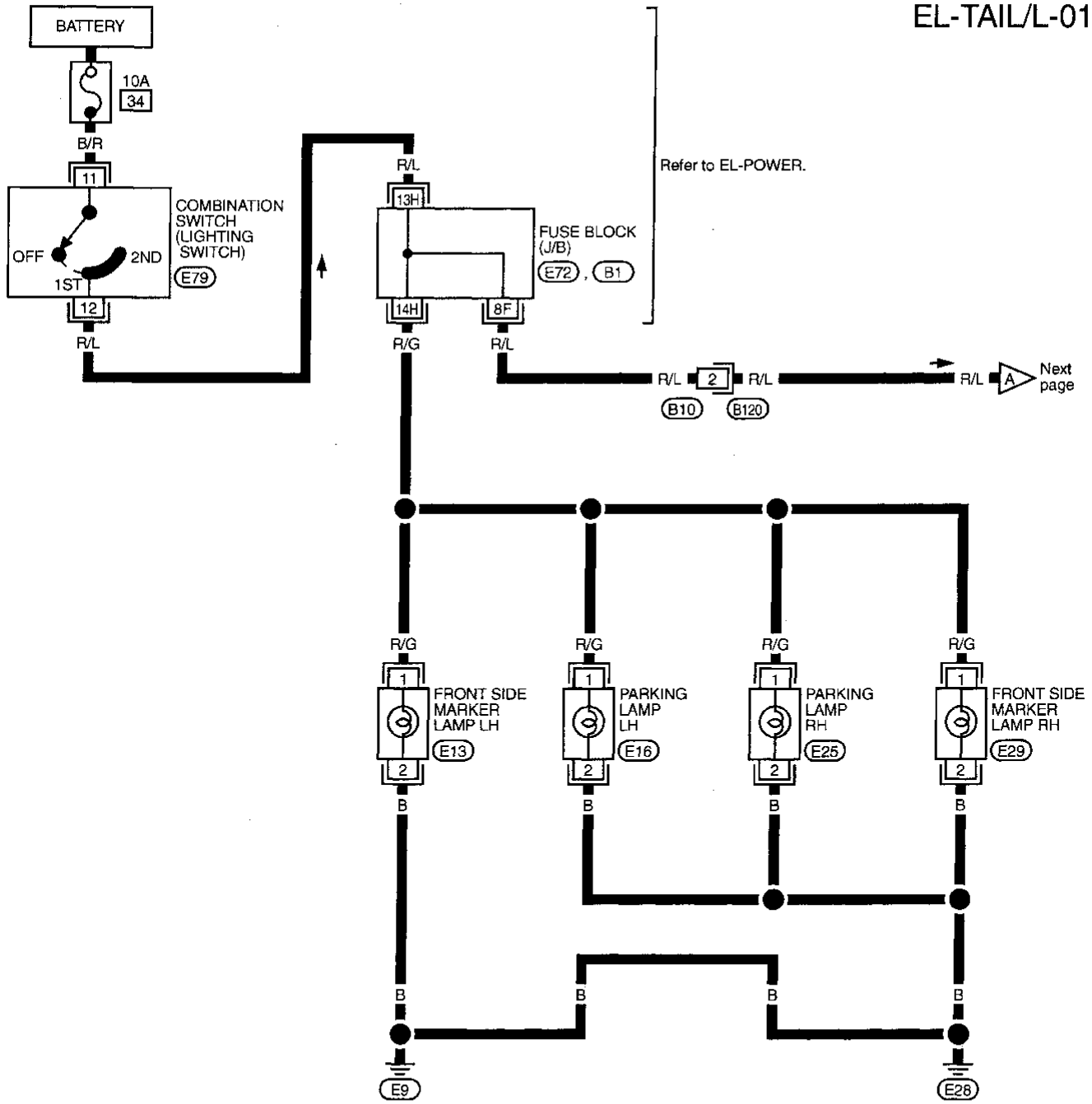
## Aiming Adjustment

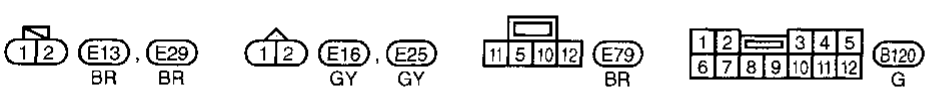
NCEL0023

Refer to "HEADLAMP (FOR USA)" (EL-31).

## Wiring Diagram — TAIL/L —

NCEL0024




Refer to last page (Foldout page).

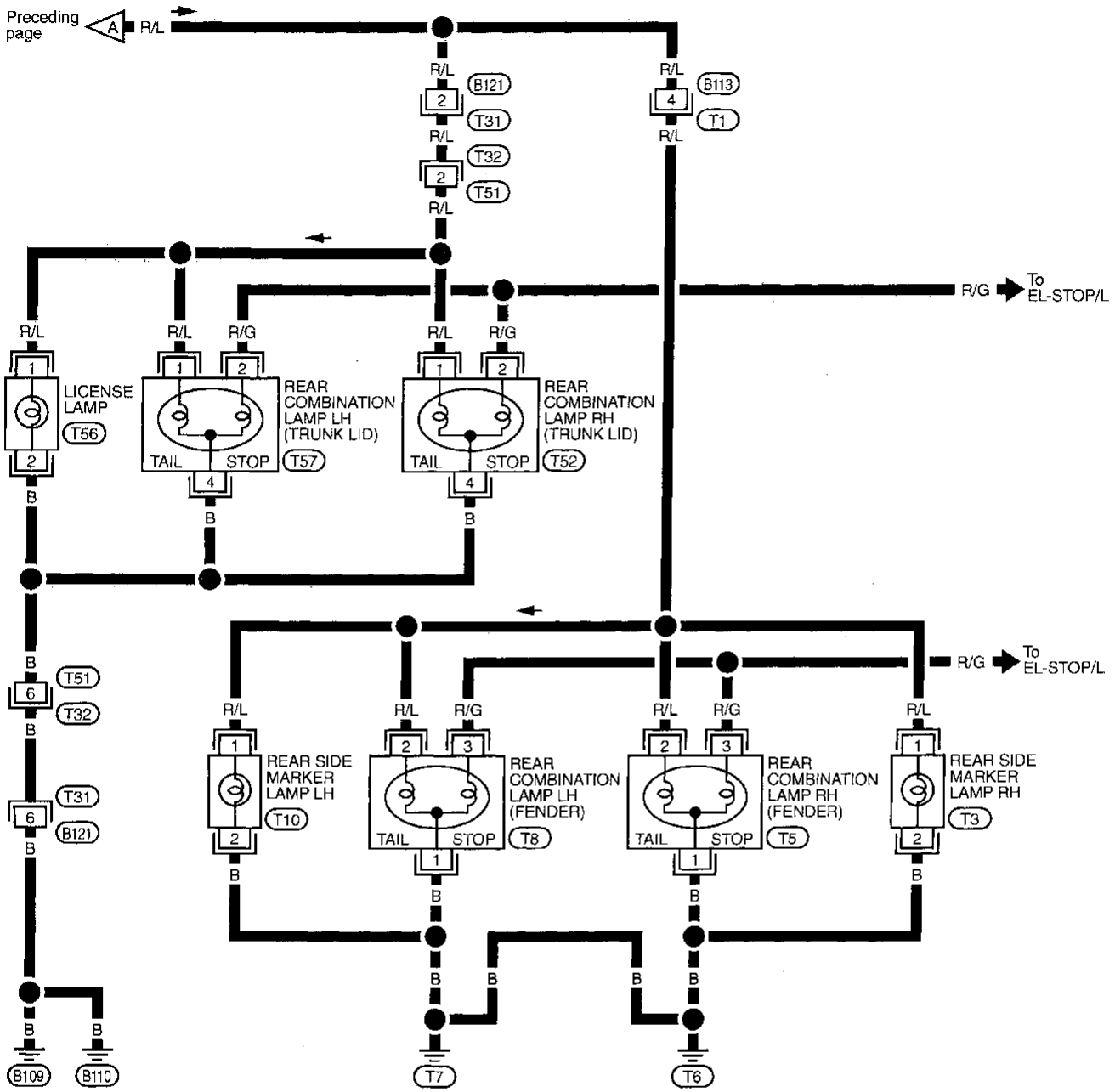
E72

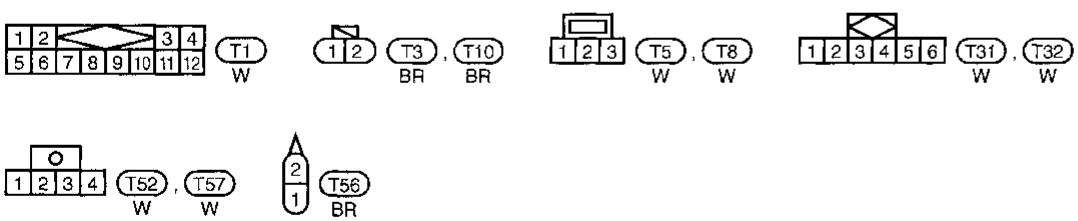
B1

TEL886A

*Wiring Diagram — TAIL/L — (Cont'd)*

EL-TAIL/L-02

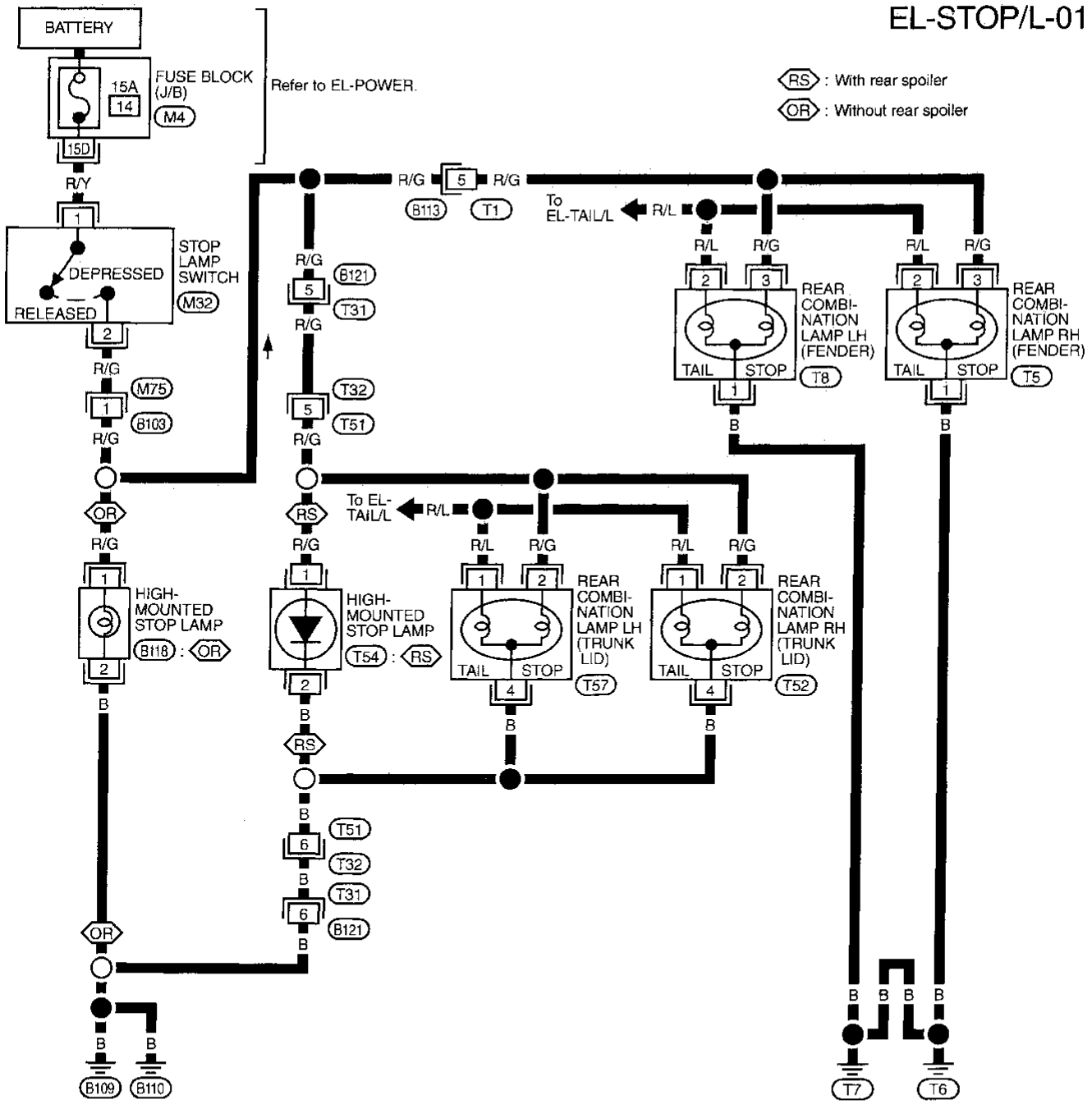


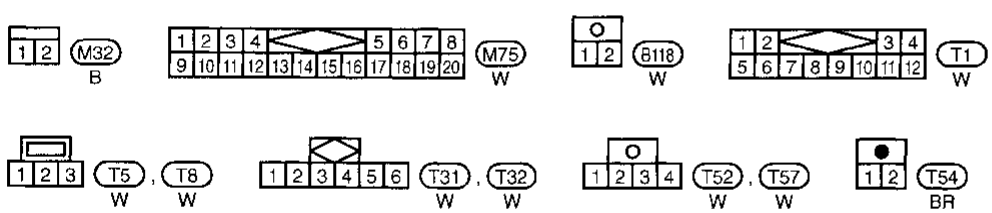




TEL887A

## Wiring Diagram — STOP/L —

NCEL0025



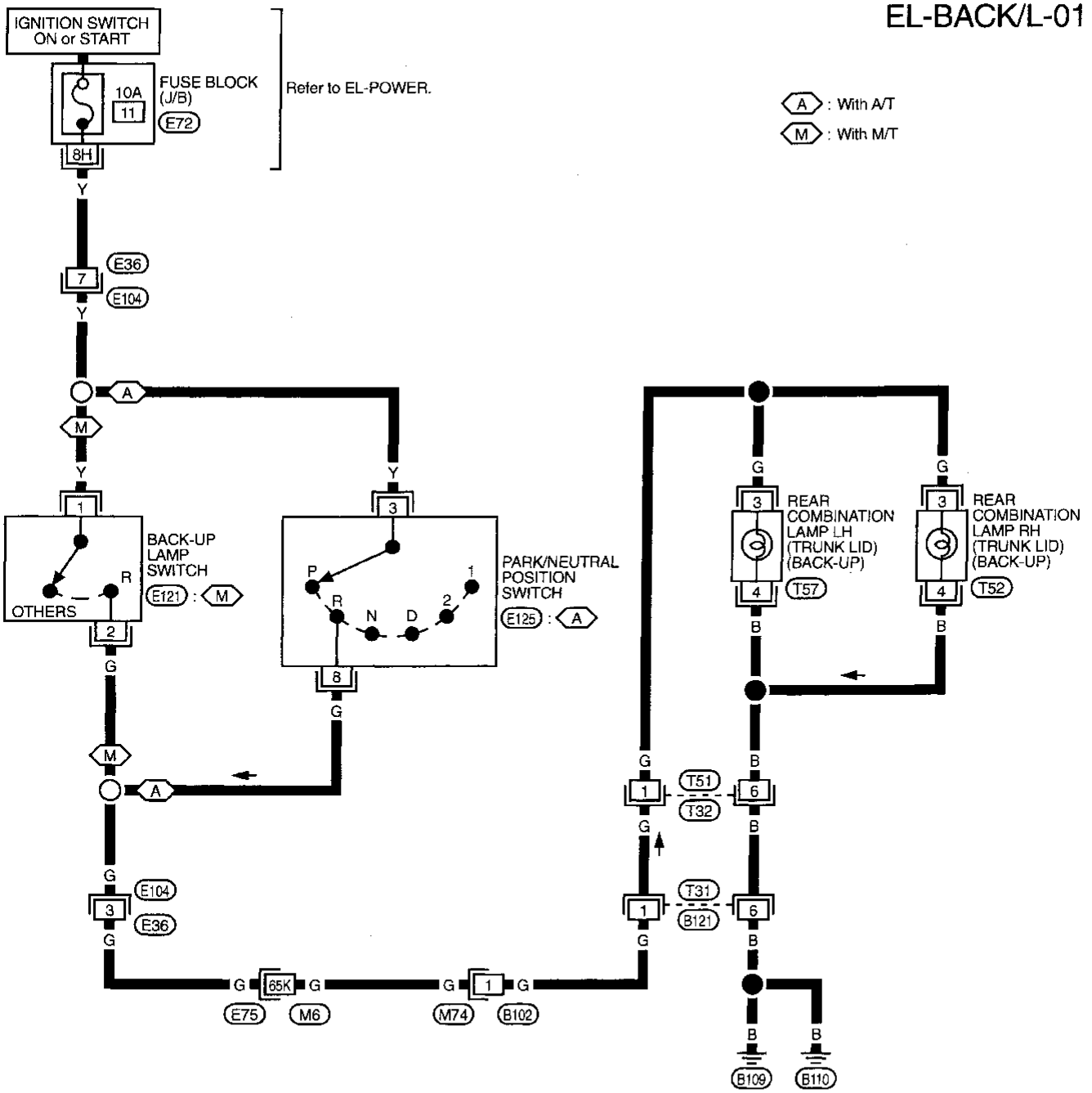

Refer to last page (Foldout page).
M4

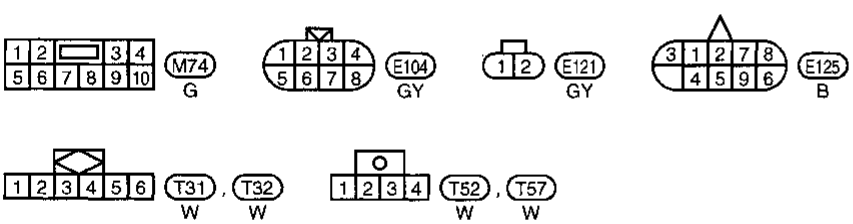
TEL888A

## Wiring Diagram — BACK/L —

NCEL0026

EL-BACK/L-01




Refer to last page (Foldout page).
M6, E75
E72

TEL889A

## System Description

NCEL0027

Power is supplied at all times to fog lamp relay terminal 3 through:

- 15A fuse (No. 43, located in the fuse and fusible link box).

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

- through 15A fuse (No. 33, located in the fuse and fusible link box).
- to lighting switch terminal 5
- through terminal 7 of the lighting switch
- to fog lamp relay terminal 1.

### 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

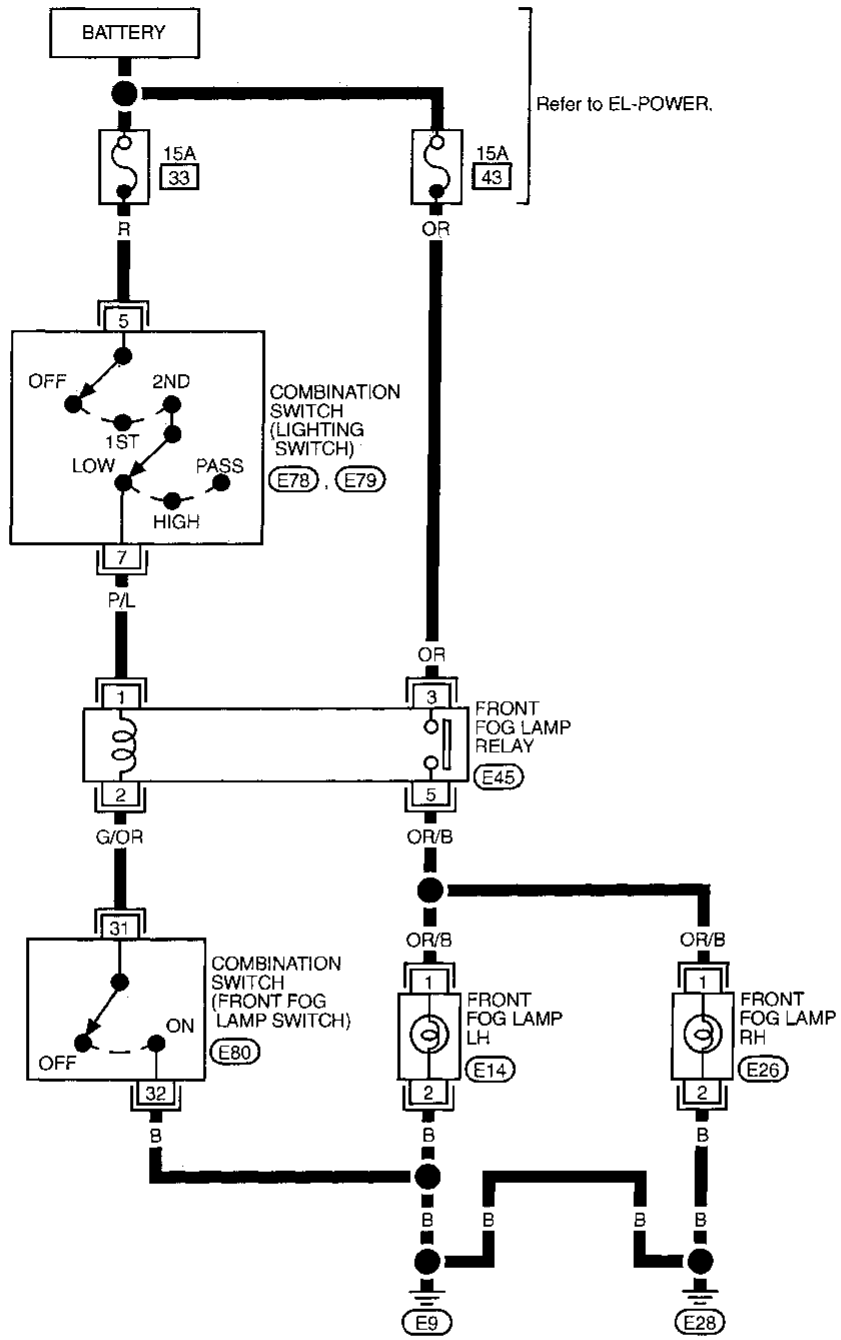
- from fog lamp relay terminal 5
- to terminal 1 of each fog lamp.

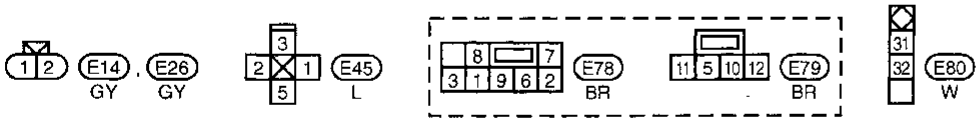
Ground is supplied to terminal 2 of each fog lamp through body grounds E9 and E28.
With power and ground supplied, the fog lamps illuminate.

## Wiring Diagram — F/FOG —

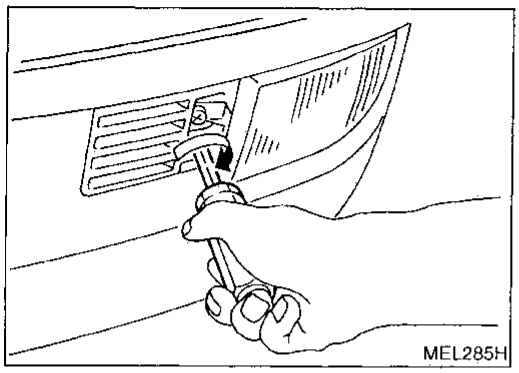
NCEL0028

EL-F/FOG-01




TEL890A


MEL285H

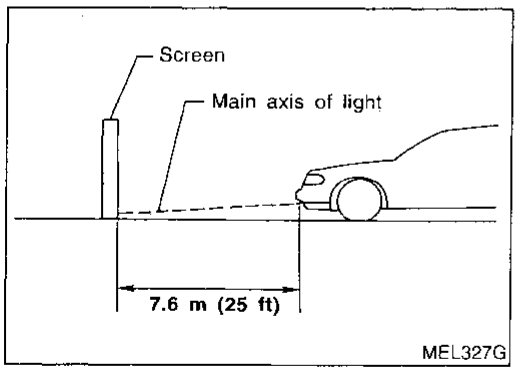
## Aiming Adjustment

NCEL0029

Before performing aiming adjustment, make sure of the following.

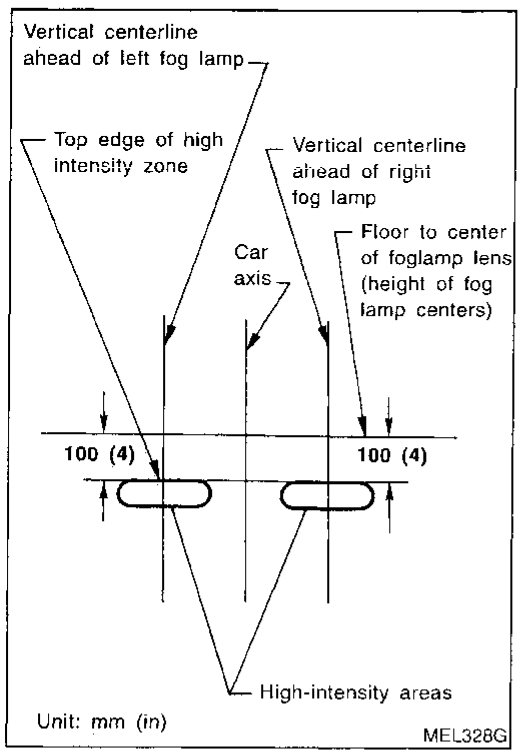
1) Keep all tires inflated to correct pressure.
2) Place vehicle on level ground.
3) See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver's seat.

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



MEL327G

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.



MEL328G

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 M4 and M66.

### 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

- 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-154.
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

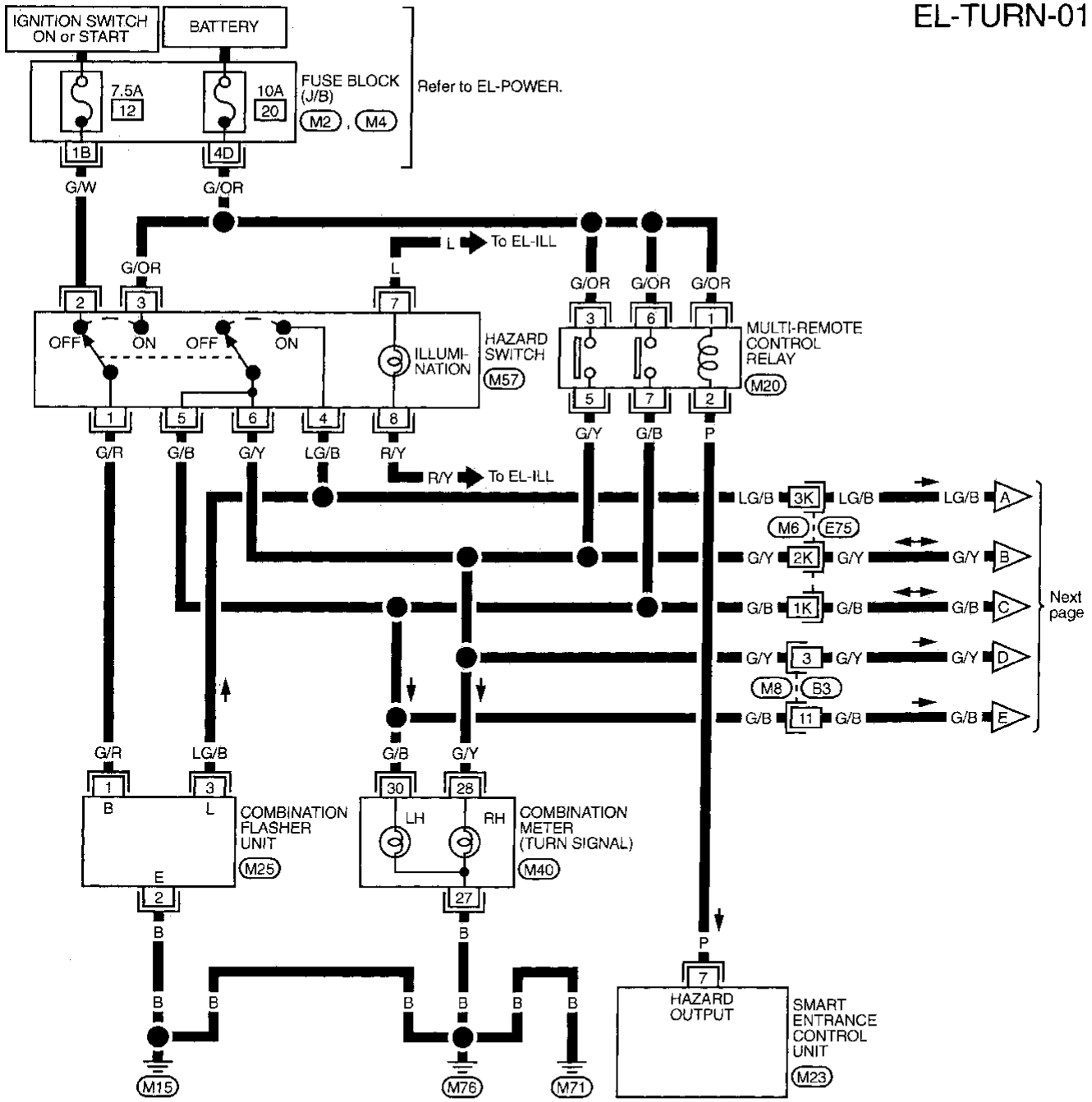
- to front turn signal lamp RH terminal 1
- side turn signal lamp RH terminal 1
- to combination meter terminal 28
- to rear combination lamp RH terminal 1.

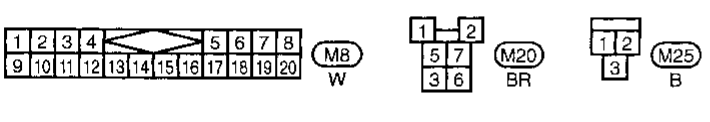
Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E9 and E28.
Ground is supplied to terminal 2 of each side turn signal lamp through body grounds E9 and E28.
Ground is supplied to terminal 2 of each rear combination lamp through body grounds T6 and T7.
Ground is supplied 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.

## Wiring Diagram — TURN —

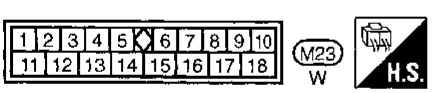
NCEL0032

EL-TURN-01



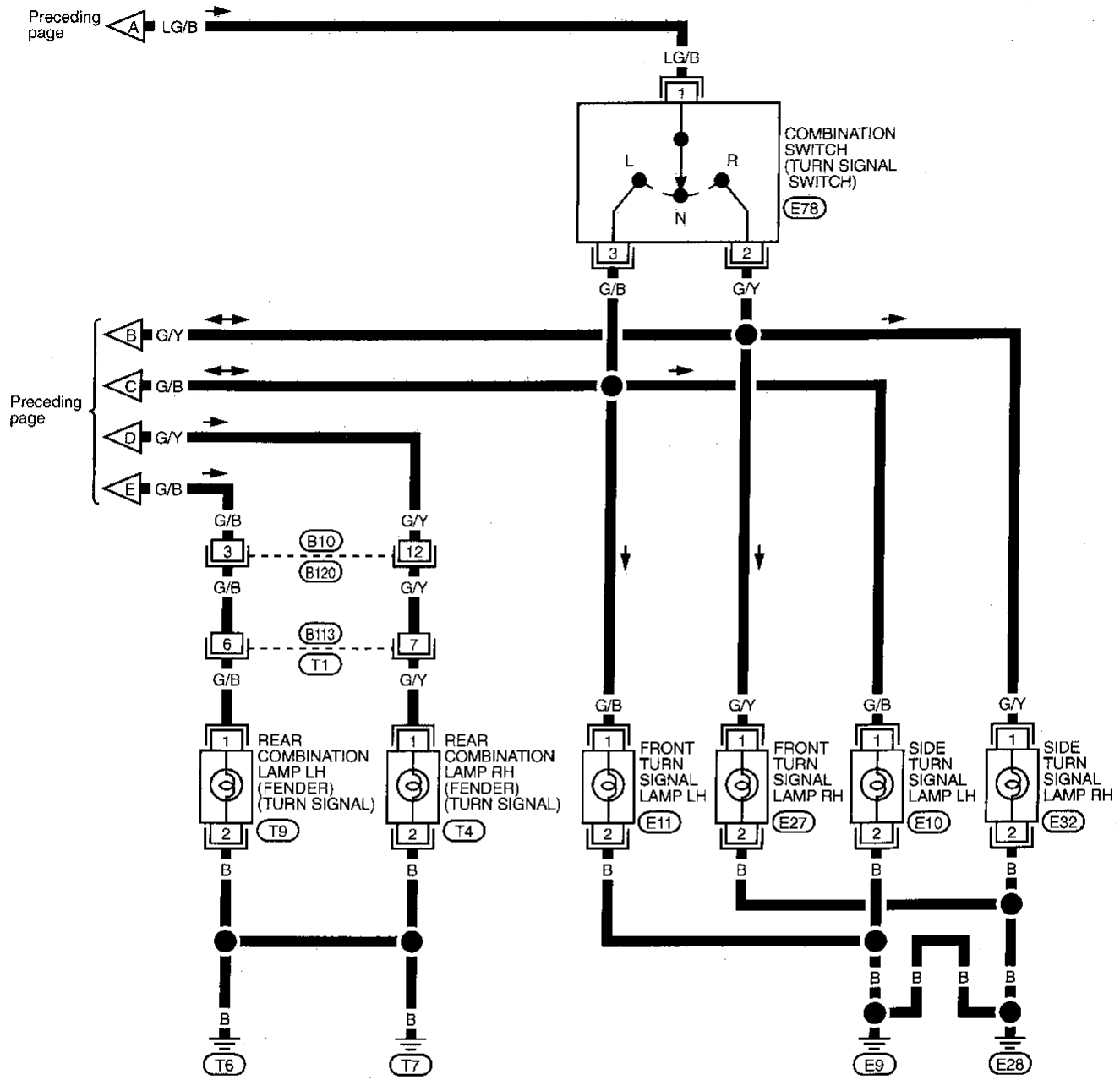


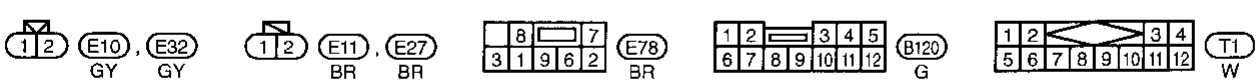



Refer to last page (Foldout page).
M6, E75
M2
M4

TEL891A

EL-TURN-02



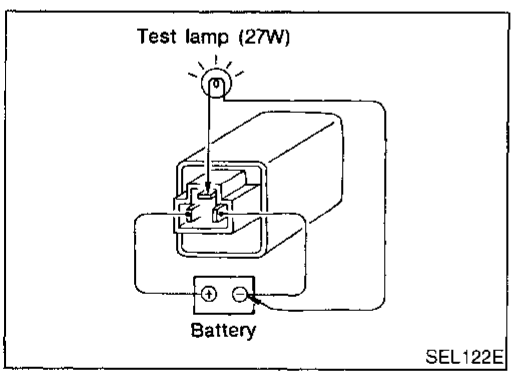


TEL892A

## Trouble Diagnoses

NCEL0033

| Symptom | Possible cause | Repair order |
|---|---|---|
| Turn signal and hazard warning lamps do not operate. | 1. Hazard switch<br>2. Combination flasher unit<br>3. Open in combination flasher unit circuit | 1. Check hazard switch.<br>2. Refer to combination flasher unit check.<br>3. Check wiring to combination flasher unit for open circuit. |
| Turn signal lamps do not operate but hazard warning lamps operate. | 1. 7.5A fuse<br>2. Hazard switch<br>3. Turn signal switch<br>4. Open in turn signal switch circuit | 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.<br>2. Check hazard switch.<br>3. Check turn signal switch.<br>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. | 1. 10A fuse<br>2. Hazard switch<br>3. Open in hazard switch circuit | 1. Check 10A fuse [No. 20, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch.<br>2. Check hazard switch.<br>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. | 1. Bulb<br>2. Grounds E9 and E28 | 1. Check bulb.<br>2. Check grounds E9 and E28. |
| Rear turn signal lamp LH or RH does not operate. | 1. Bulb<br>2. Grounds T6 and T7 | 1. Check bulb.<br>2. Check grounds T6 and T7. |
| Side turn signal lamp LH or RH does not operate. | 1. Bulb<br>2. Grounds E9 and E28 | 1. Check bulb.<br>2. Check grounds E9 and E28. |
| LH and RH turn indicators do not operate. | 1. Ground | 1. Check grounds M15, M71 and M76. |
| LH or RH turn indicator does not operate. | 1. Bulb | 1. Check bulb in combination meter. |




## Electrical Components Inspection

NCEL0034

### COMBINATION FLASHER UNIT CHECK

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.

## System Description

NCEL0035

Power is supplied at all times

- through 10A fuse [No. 34, located in the fuse block (J/B)]
- to lighting switch terminal 11.

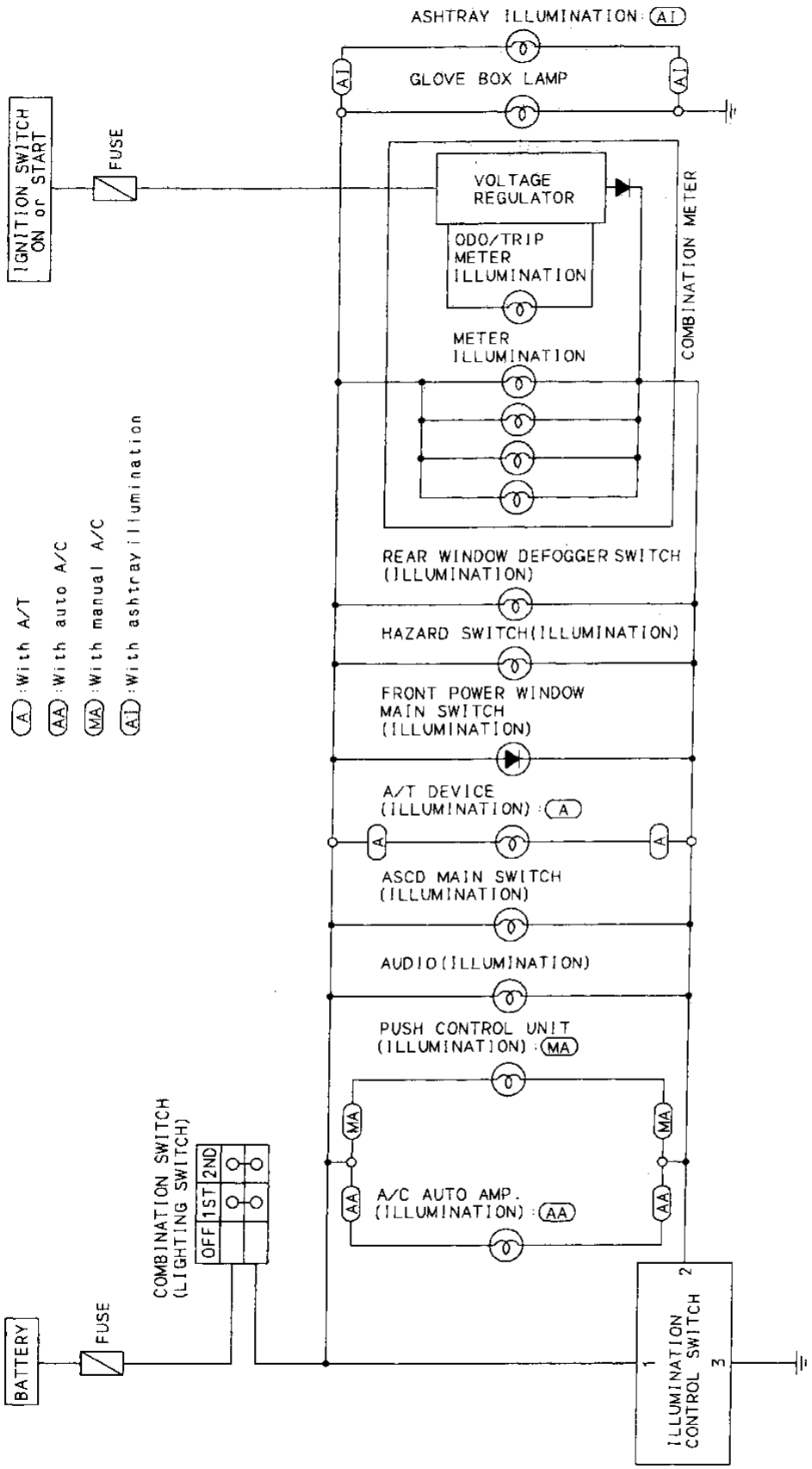
The lighting switch must be in the 1ST or 2ND position for illumination.
The illumination control switch that controls the amount of current to the illumination system. As the amount of current increases, the illumination becomes brighter.
The following chart shows the power and ground connector terminals 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 |
| ASCD main switch | M28 | 5 | 6 |
| Rear window defogger switch | M58 | 5 | 6 |
| Power window main switch | D6 | 4 | 13 |
| 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.

## Schematic

NCEL0036

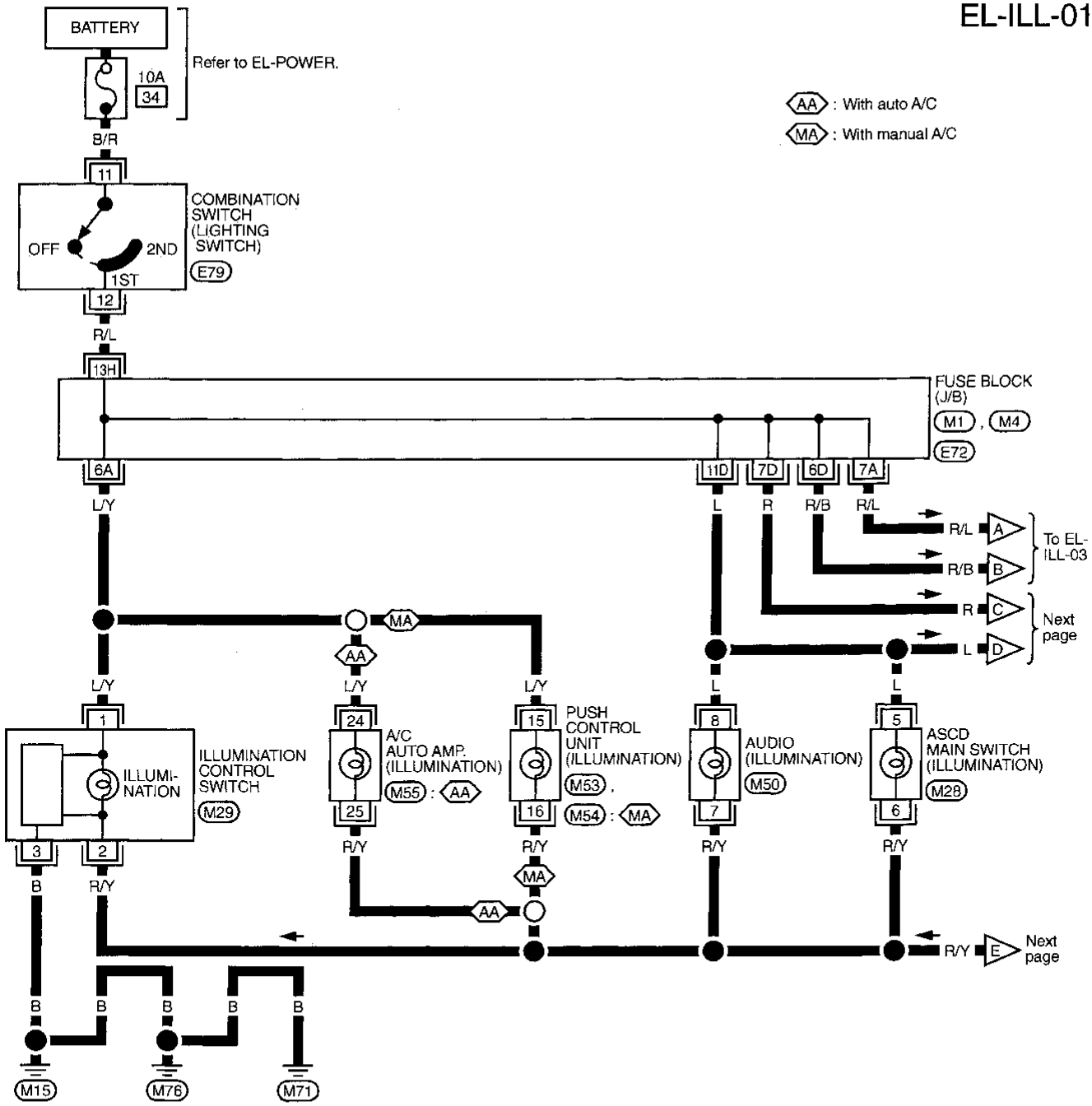


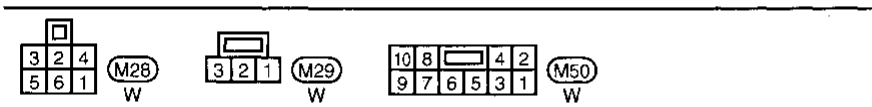

TEL893A

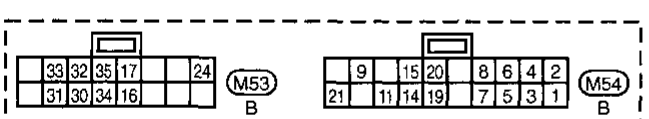
# Wiring Diagram — ILL —

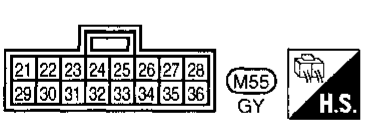
NCEL0037

EL-ILL-01




Refer to last page (Foldout page).

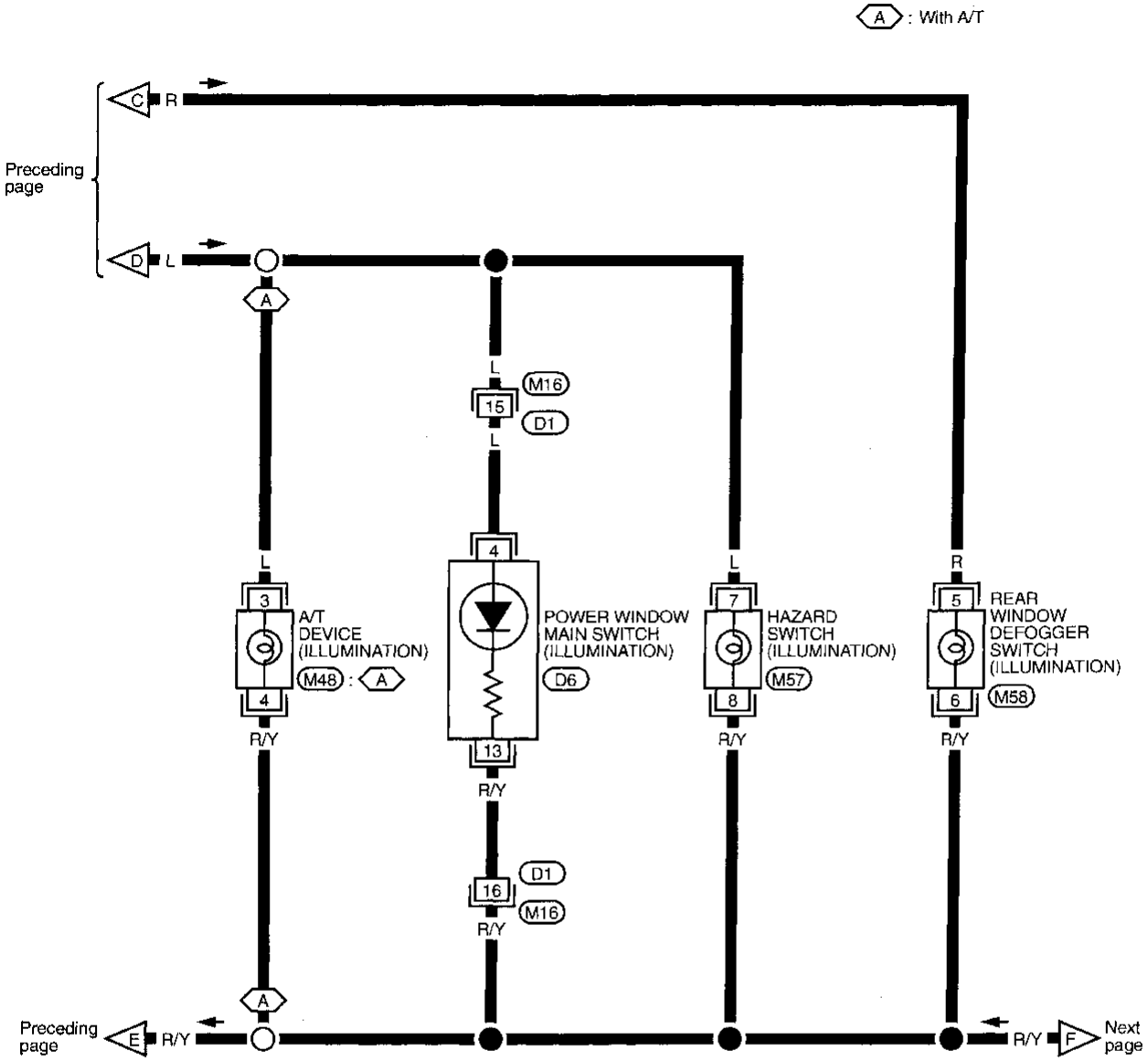
M1

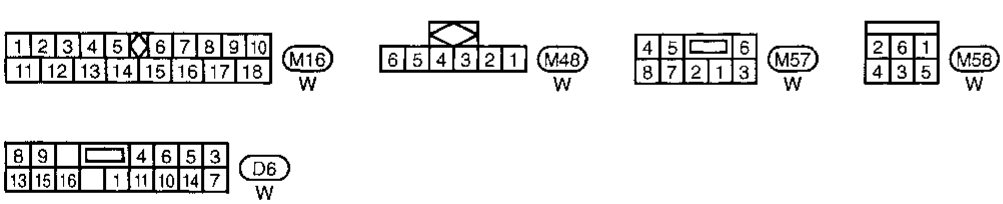
M4

E72

TEL894A

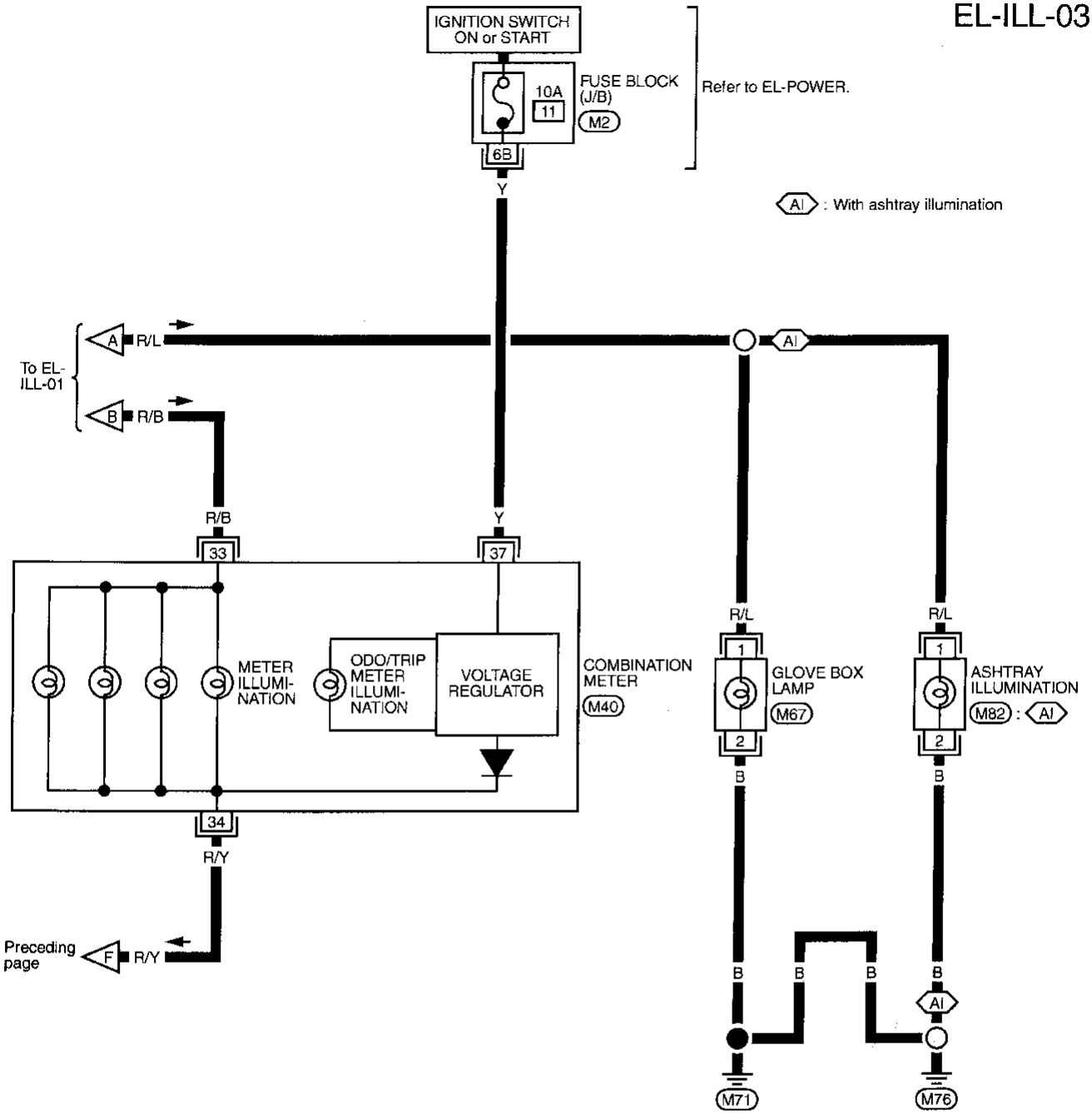
EL-ILL-02

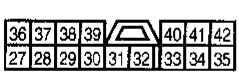


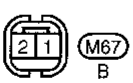



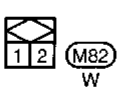

TEL895A

EL-ILL-03




Refer to last page (Foldout page).
M2

TEL896A

## System Description

NCEL0162

### POWER SUPPLY AND GROUND

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.

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.

When the key is removed from ignition key cylinder, power is interrupted:
- through terminal key switch 2
- to smart entrance control unit terminal 32.

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.

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

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.

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.

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 front passenger 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.

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.

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.

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.

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

## INTERIOR ROOM LAMP TIMER OPERATION

NCEL0162S04

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

- unlock signal is supplied from multi-remote controller (Models with multi-remote control system)
- key is removed from ignition key cylinder while driver's door is closed
- driver's door is opened and then closed while ignition switch is not in the ON position.

The timer is canceled, and interior room lamp turns off when:

- driver's door is locked with remote controller, or
- ignition switch is turned ON.

The smart entrance control unit will shut off the room light (interior room lamp and/or map lamp) if left on for 10 minutes.
For details, refer to "BATTERY SAVER", EL-190.

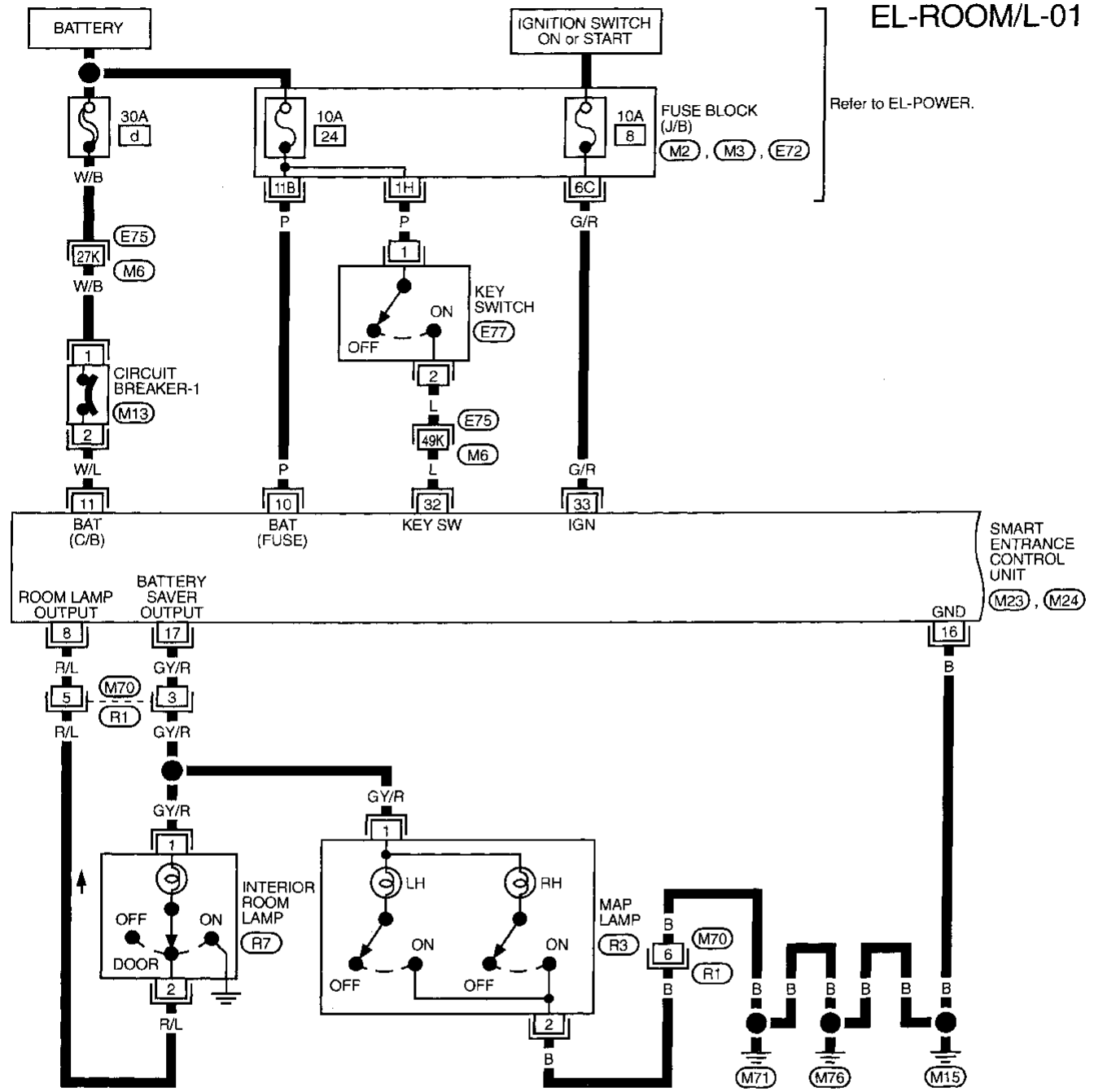
## ON-OFF CONTROL

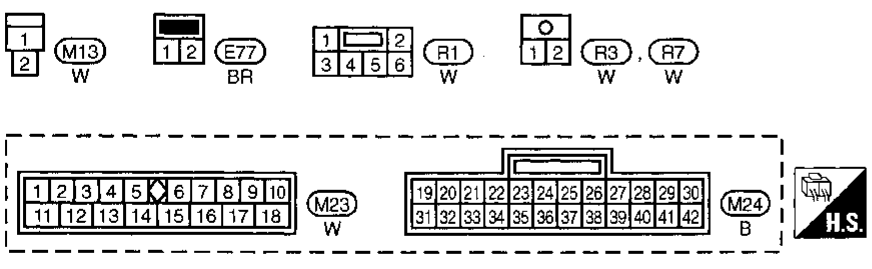
NCEL0162S05

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.
When any door is opened and then closed while the ignition switch is not in the ON position, the interior room lamp timer operates.

## Wiring Diagram — ROOM/L —

NCEL0163




Refer to last page (Foldout page).

M6, E75

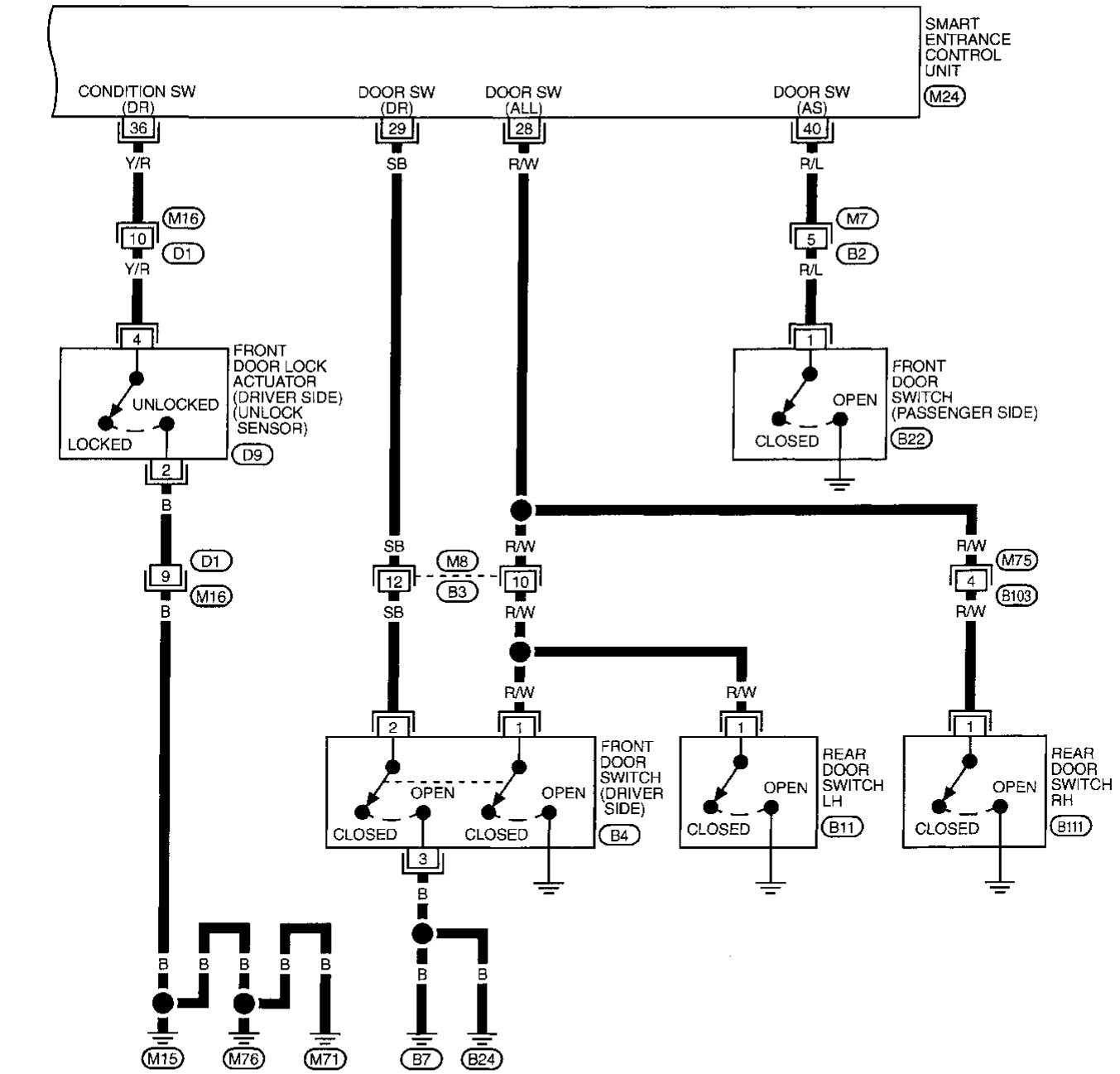
M2

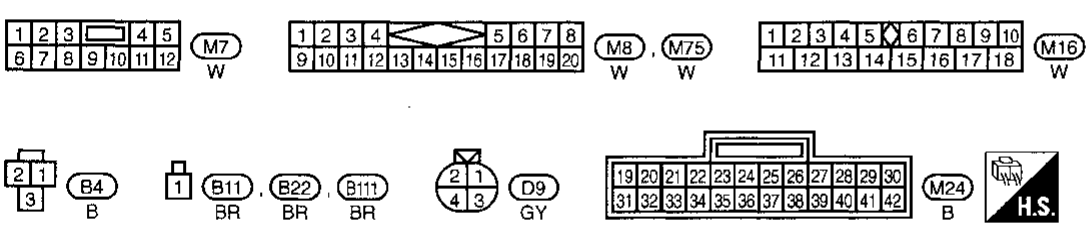
M3

E72

TEL897A

EL-ROOM/L-02




TEL898A

## System Description

NCEL0038

### TRUNK ROOM LAMP

NCEL0038S01

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

NCEL0038S04

Power is supplied at all times

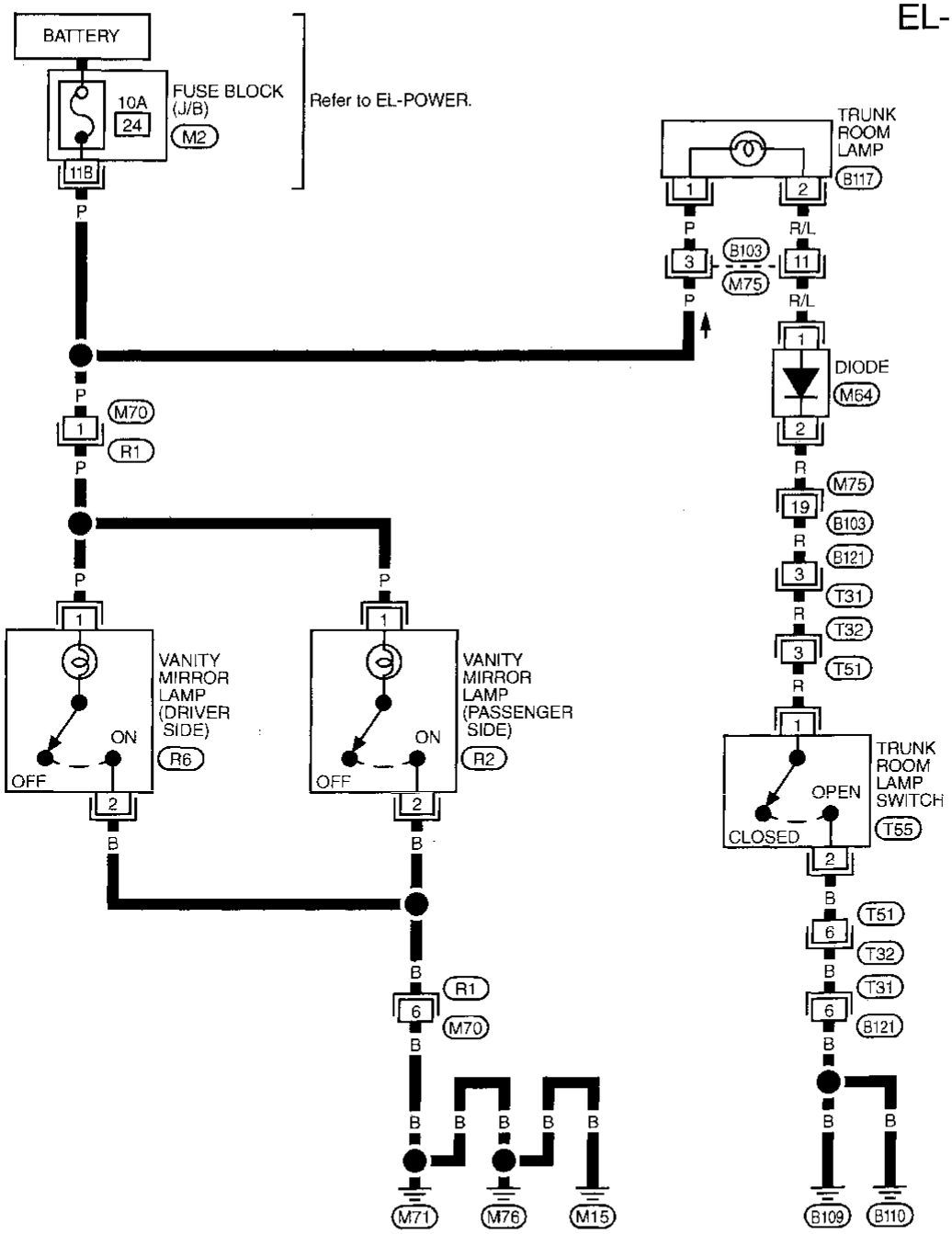
- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to each vanity mirror lamp terminal 1.

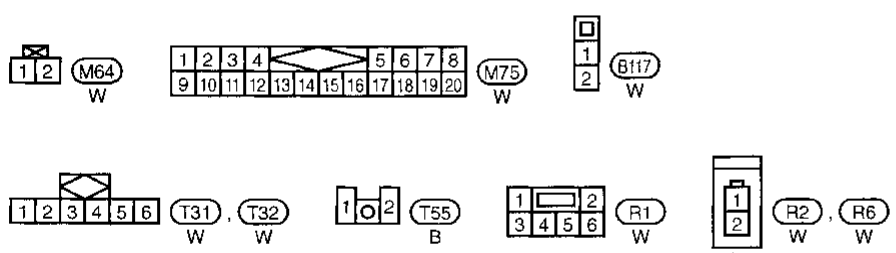
With the vanity mirror lamp switch in the ON position, the vanity mirror lamp turns ON.

## Wiring Diagram — INT/L —

NCEL0040

EL-INT/L-01

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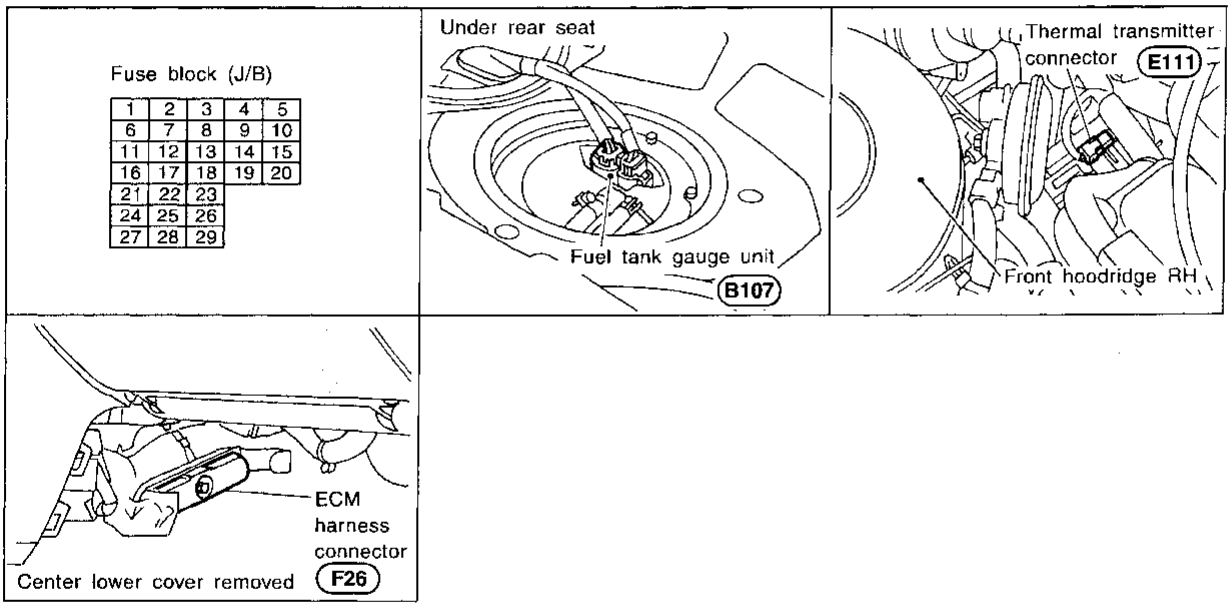
M2

TEL899A

# Component Parts and Harness Connector Location

NCEL0041




SEL832V

# System Description

NCEL0042

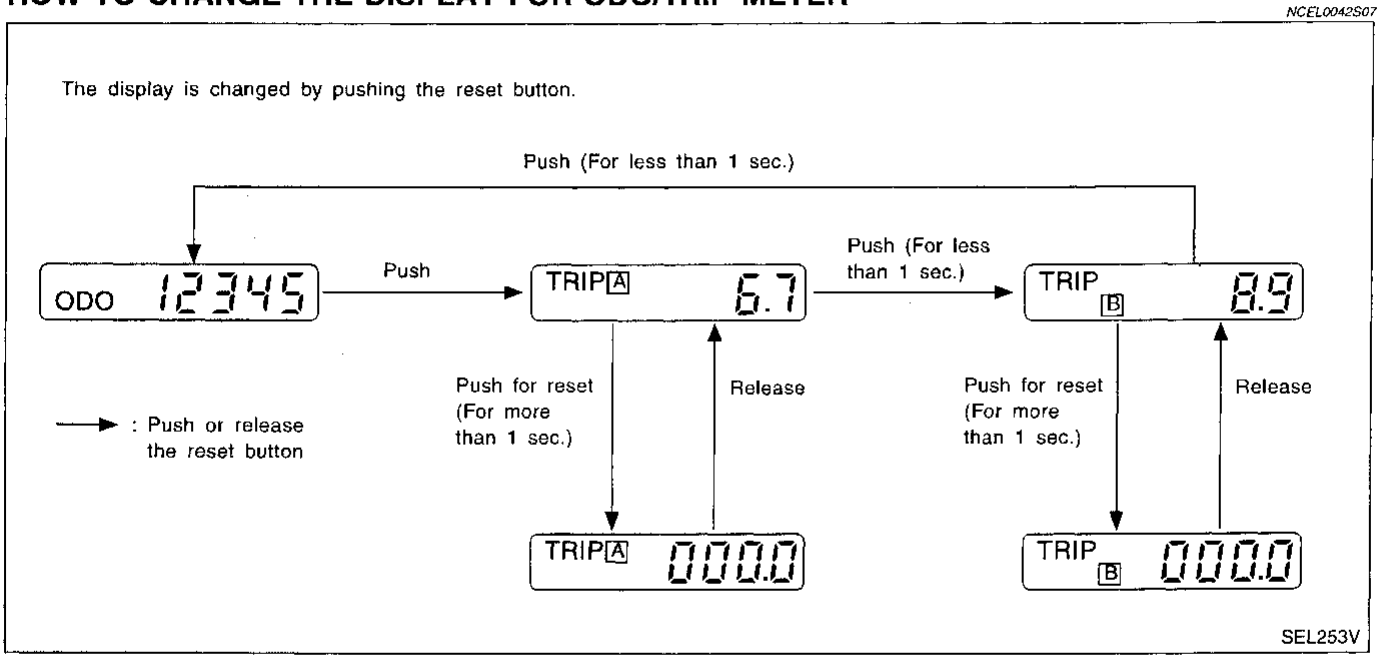
## UNIFIED CONTROL METER

NCEL0042O6

- 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

NCEL0042S07




SEL253V

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

## 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 3 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 tank gauge unit
- through terminal 1 of the fuel tank gauge 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.

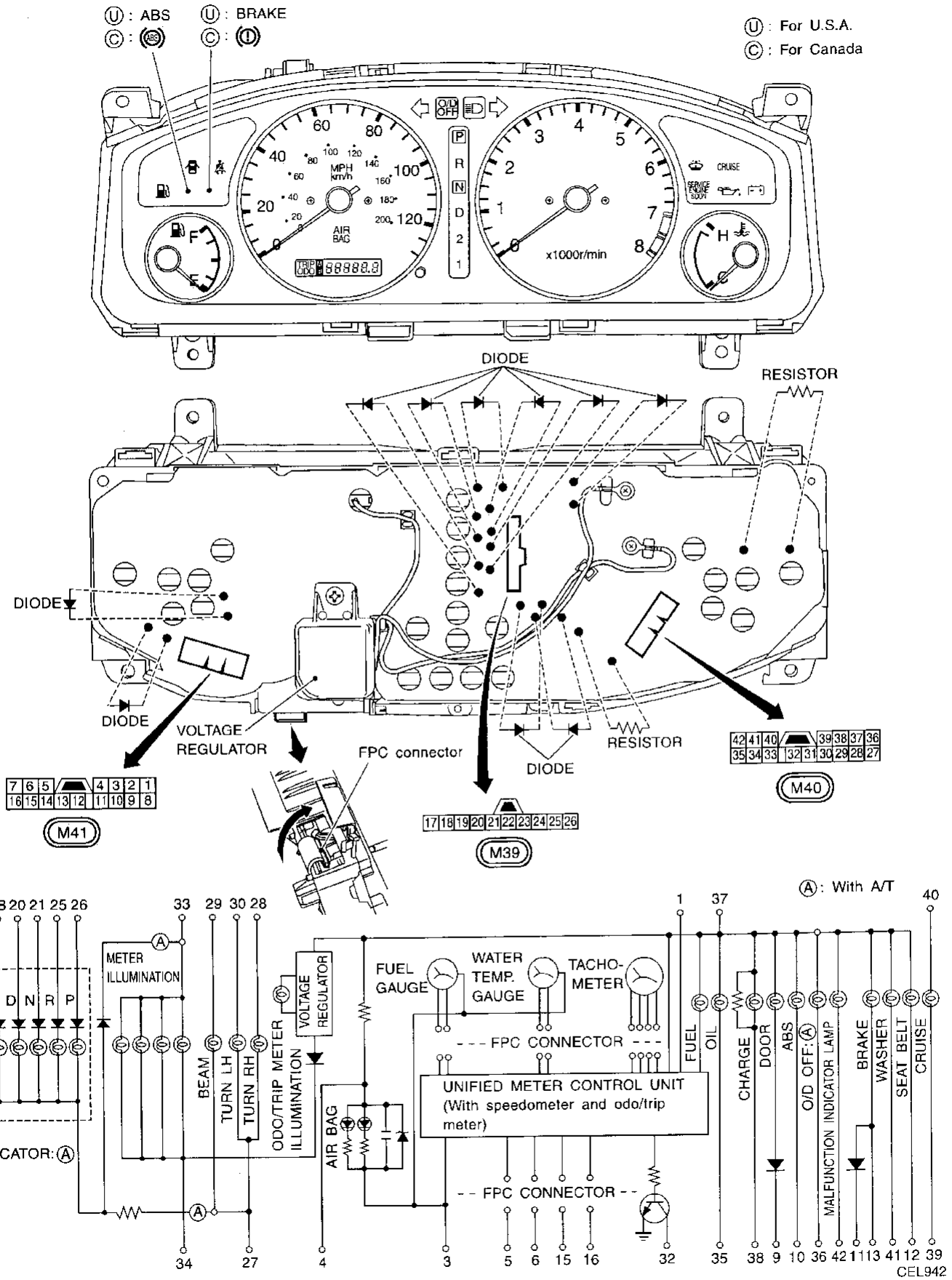
The voltage is supplied

- 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.

## Combination Meter

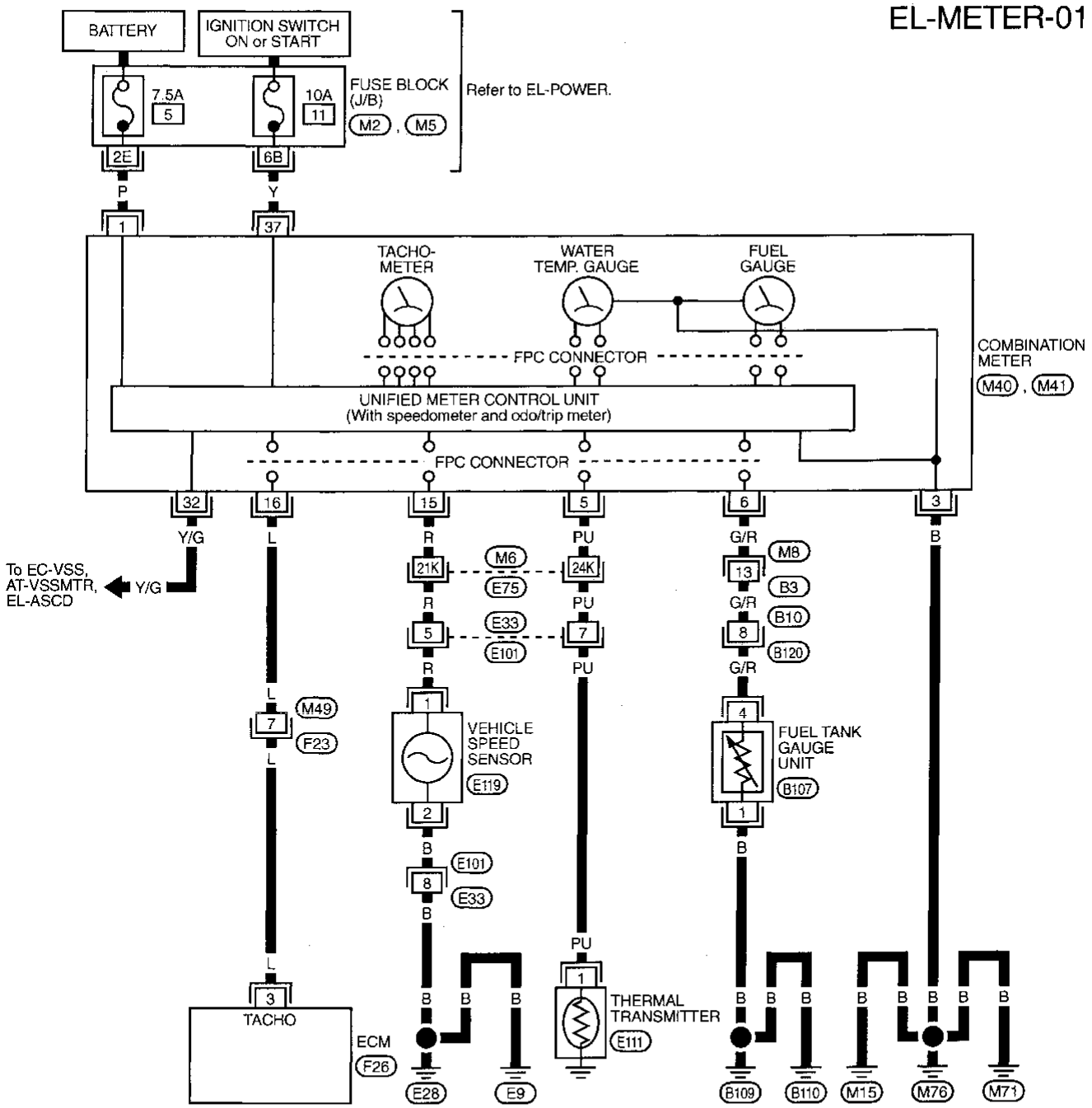
NCEL0043

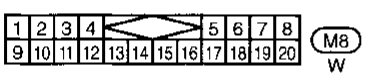


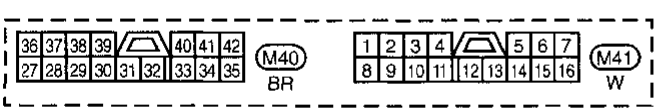
# Wiring Diagram — METER —

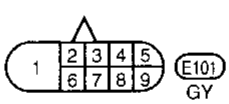
NCEL0045

EL-METER-01

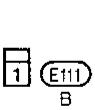


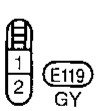



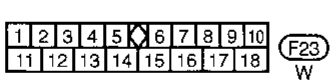



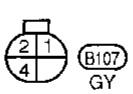



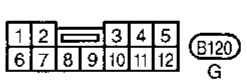

Refer to last page (Foldout page).
M6 , E75
M2
M5
F26




TEL900A

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

NCEL0151

## DIAGNOSIS FUNCTION

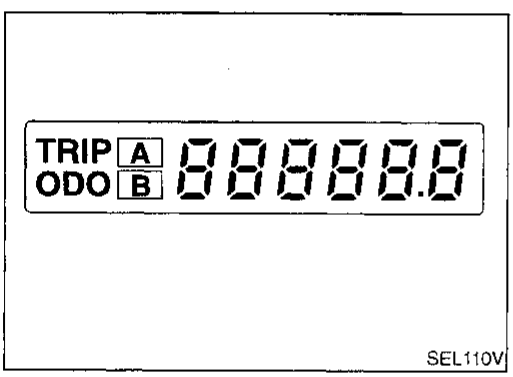
NCEL0151S01

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

## HOW TO ALTERNATE DIAGNOSIS MODE

NCEL0151S02

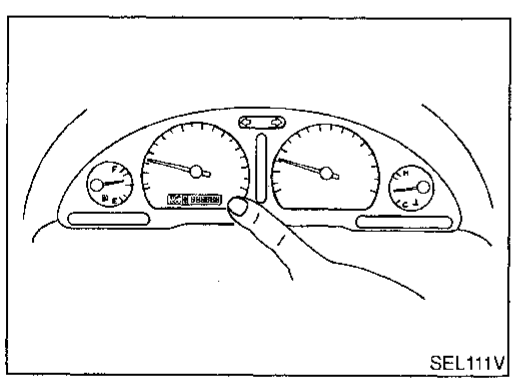
1. Turn ignition switch to ON and change odo/trip meter to "TRIP A" or "TRIP B".
2. Turn ignition switch to OFF.
3. Turn ignition switch to ON when pushing odo/trip meter switch.
4. Confirm that trip meter indicates "000.0".
5. Push odo/trip meter switch more than three times within 5 seconds.




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

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

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



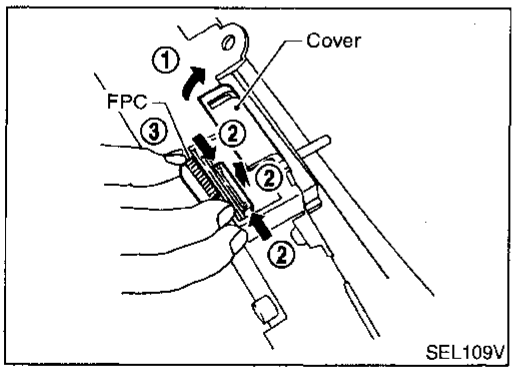

7. Push odo/trip meter switch. Indication of each meter/gauge should be as shown left during pushing odo/trip meter switch if it is no malfunctioning.

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

## Flexible Print Circuit (FPC)

=NCEL0152

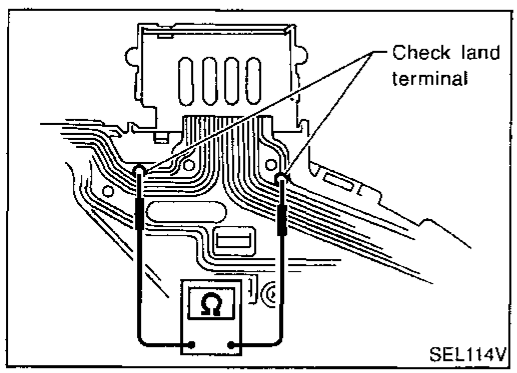
Tachometer, fuel gauge and water temperature gauge are connected with unified meter control unit (speedometer) by Flexible Print Circuit (FPC) connector. When replace or remove and install unified control unit (speedometer), disconnect and connect FPC connector according to the following steps.




### 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.

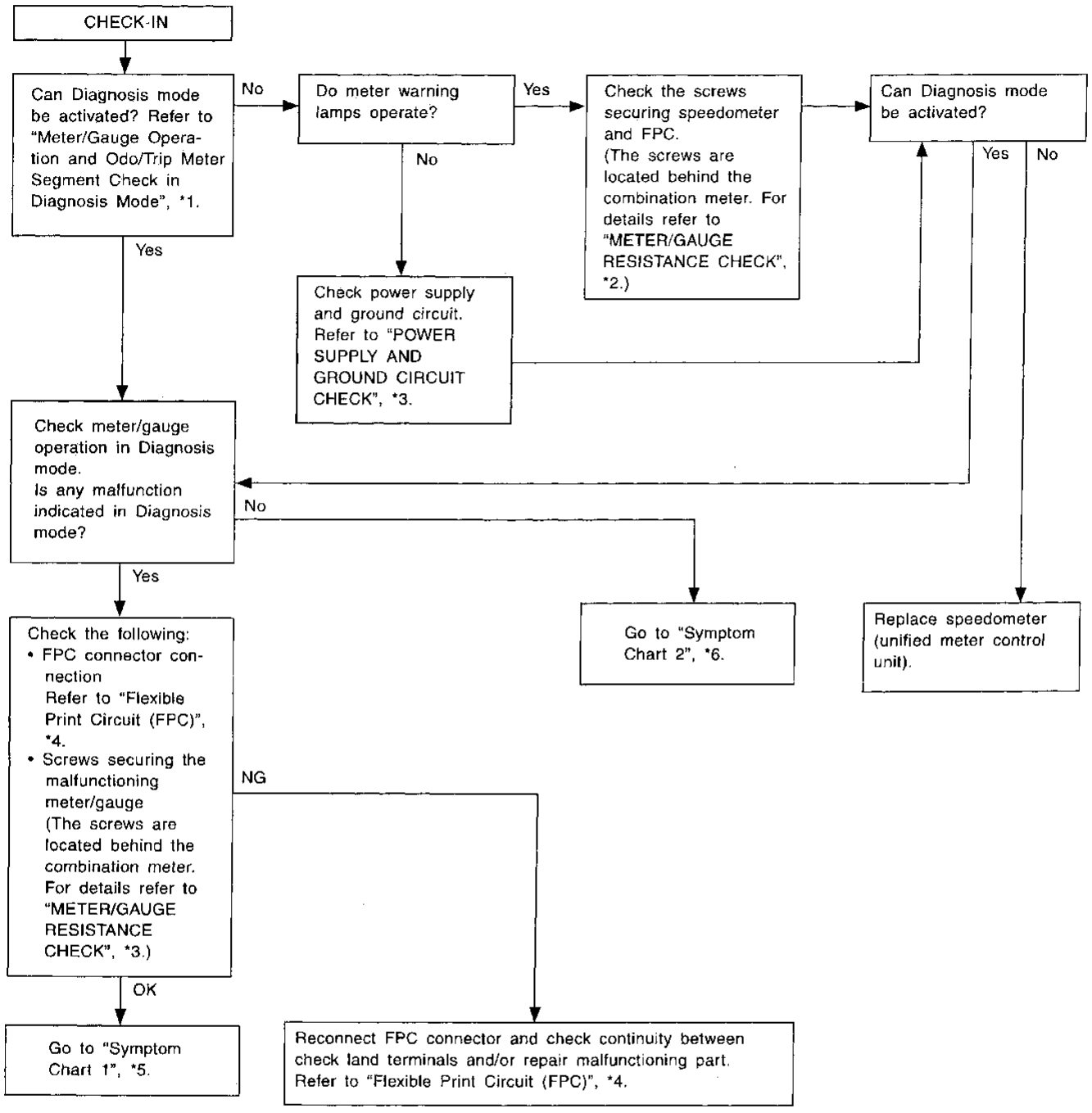
   **Resistance: 0Ω**
4. Close connector cover.

# Trouble Diagnoses

## PRELIMINARY CHECK

NCEI 0046

NCEL0046S04




MEL474H

*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-66)
*2: METER/GAUGE RESISTANCE CHECK (EL-73)
*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-70)
*4: Flexible Print Circuit (FPC) (EL-67)
*5: Symptom Chart 1 (EL-69)
*6: Symptom Chart 2 (EL-69)

## SYMPTOM CHART

NCEL0046S10

### Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NCEL0046S1001

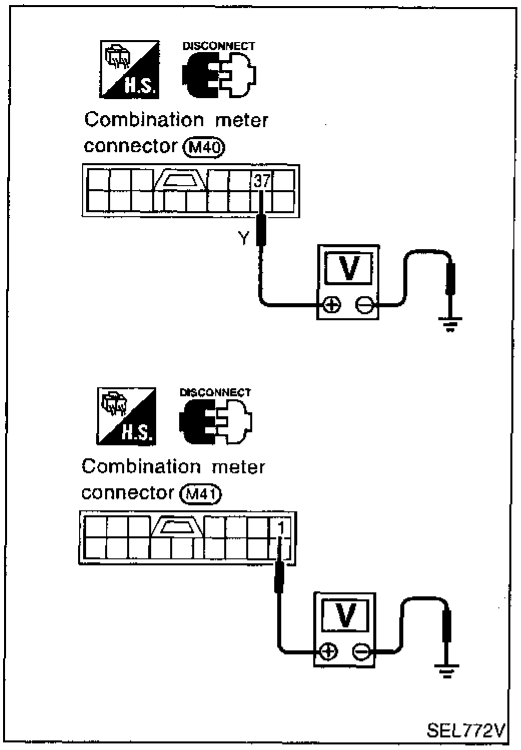
| Symptom | Possible causes | Repair order |
|---|---|---|
| Speedometer and/or odo/trip meter indicate(s) malfunction in Diagnosis mode. | • Speedometer (Unified meter control unit) | • Replace speedometer (unified meter control unit). |
| Multiple meter/gauge indicate malfunction in Diagnosis mode. | | |
| One of tachometer/fuel gauge/water temp. gauge indicates malfunction in Diagnosis mode. | • Meter/Gauge<br>• Speedometer (Unified meter control unit) | 1. Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-73.<br>2. 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 odo/trip meter are malfunctioning. | 1. Sensor<br>- Speedometer, Odo/Trip meter<br>2. FPC connector<br>3. Speedometer (Unified meter control unit) | 1. Check vehicle speed sensor.<br>INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-71.)<br>2. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-67.<br>3. Replace speedometer (unified meter control unit). |
| Multiple meter/gauge are malfunctioning. (except speedometer, odo/trip meter) | 1. FPC connector<br>2. Speedometer (Unified meter control unit) | 1. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-67.<br>2. Replace speedometer (unified meter control unit). |
| One of tachometer/fuel gauge/water temp. gauge is malfunctioning. | 1. Sensor/Engine revolution signal<br>- Tachometer<br>- Fuel gauge<br>- Water temp. gauge<br>2. FPC connector<br>3. Speedometer (Unified meter control unit) | 1. Check the sensor for malfunctioning meter/gauge.<br>INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-71.)<br>INSPECTION/FUEL TANK GAUGE UNIT (Refer to EL-72.)<br>INSPECTION/THERMAL TRANSMITTER (Refer to EL-72.)<br>2. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-67.<br>3. Replace speedometer (unified meter control unit). |

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-68.




## POWER SUPPLY AND GROUND CIRCUIT CHECK

=NCEL0046S07

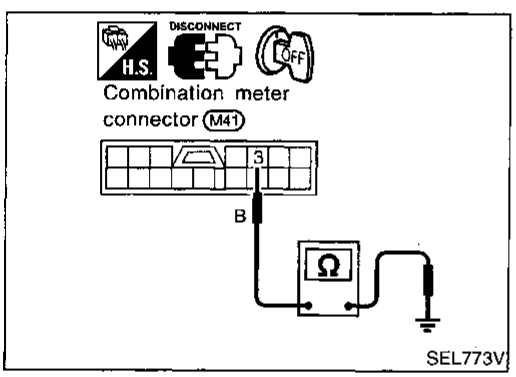
### Power Supply Circuit Check

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

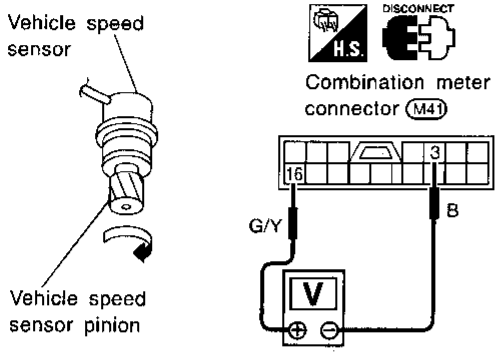
| Terminals | Continuity |
|---|---|
| 3 - Ground | Yes |

## INSPECTION/VEHICLE SPEED SENSOR

=NCEL0046S03

| 1 | CHECK VEHICLE SPEED SENSOR OUTPUT |
|---|---|

1. Remove vehicle speed sensor from transmission.
2. Check voltage between combination meter terminals 3 and 16 while quickly turning speed sensor pinion.




NOTE:
Vehicle speed sensor connector should remain connected.

SEL774V

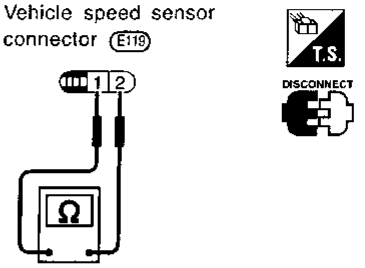
**Voltage: Approx. 0.5V**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Vehicle speed sensor is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK VEHICLE SPEED SENSOR |
|---|---|

Check resistance between vehicle speed sensor terminals 1 and 2.




SEL776V

**Resistance: Approx. 250Ω**

**OK or NG**

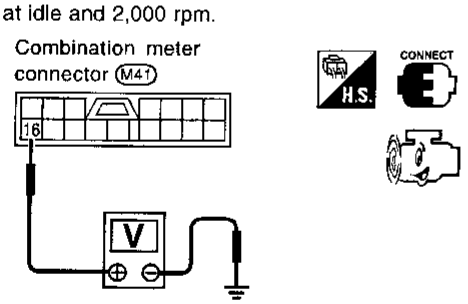
| | | |
|---|---|---|
| OK | ▶ | Check harness or connector between speedometer and vehicle speed sensor. |
| NG | ▶ | Replace vehicle speed sensor. |

## INSPECTION/ENGINE REVOLUTION SIGNAL

NCEL0046S02

| 1 | CHECK ECM OUTPUT |
|---|---|

1. Start engine.
2. Check voltage between combination meter terminals 16 and ground at idle and 2,000 rpm.




SEL775V

**Higher rpm = Higher voltage**
**Lower rpm = Lower voltage**
**Voltage should change with rpm.**

**OK or NG**

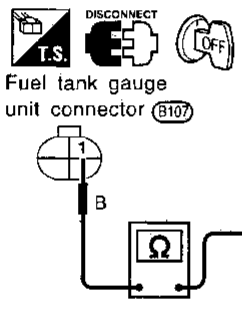
| | | |
|---|---|---|
| OK | ▶ | Engine revolution signal is OK. |
| NG | ▶ | Harness for open or short between ECM and combination meter |

## INSPECTION/FUEL TANK GAUGE UNIT

=NCEL0046S08

**1 CHECK GROUND CIRCUIT FOR FUEL TANK GAUGE UNIT**

Check harness continuity between fuel tank gauge unit terminal 1 and ground.




**Does continuity exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | Repair harness or connector. |

**2 CHECK GAUGE UNITS**

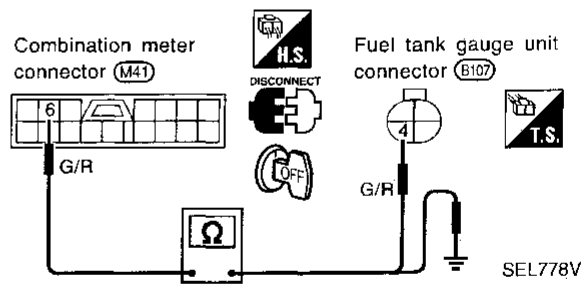
Refer to "FUEL TANK GAUGE UNIT CHECK" (EL-73).

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace fuel tank gauge unit. |

**3 CHECK HARNESS FOR OPEN OR SHORT**

1. Disconnect combination meter connector and fuel tank gauge unit connector.
2. Check continuity between combination meter terminal 6 and fuel tank gauge unit terminal 4.
   **Continuity should exist.**
3. Check continuity between combination meter terminal 6 and ground.
   **Continuity should not exist.**




**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Fuel tank gauge unit is OK. |
| NG | ▶ | Repair harness or connector. |

## INSPECTION/THERMAL TRANSMITTER

NCEL0046S09

**1 CHECK THERMAL TRANSMITTER**

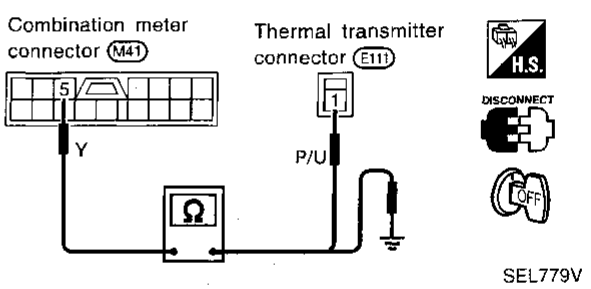
Refer to "THERMAL TRANSMITTER CHECK" (EL-74).

**OK or NG**

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

**2 CHECK HARNESS FOR OPEN OR SHORT**

1. Disconnect combination meter connector and thermal transmitter connector.
2. Check continuity between combination meter terminal 5 and thermal transmitter terminal 1.
   **Continuity should exist.**
3. Check continuity between combination meter terminal 5 and ground.
   **Continuity should not exist.**




**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Thermal transmitter is OK. |
| NG | ▶ | Repair harness or connector. |

# Electrical Components Inspection

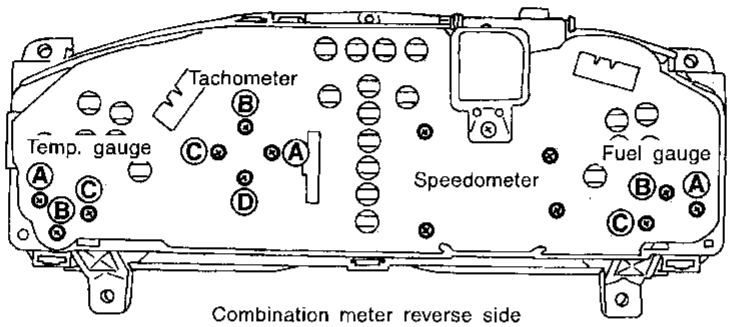
=NCEL0047

## METER/GAUGE RESISTANCE CHECK

NCEL0047S04

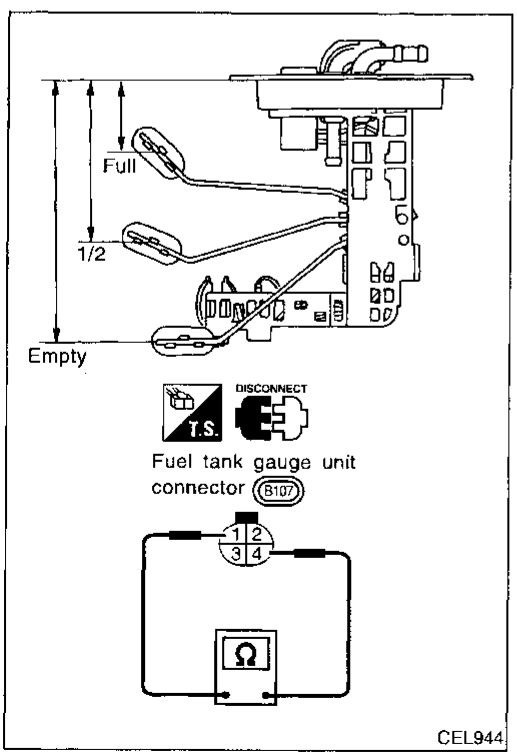
1. Disconnect FPC connector. Refer to "Flexible Print Circuit (FPC)" (EL-67).
2. Check resistance between installation screws of meter/gauge.

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




Combination meter reverse side

CEL943




CEL944

## FUEL TANK GAUGE UNIT CHECK

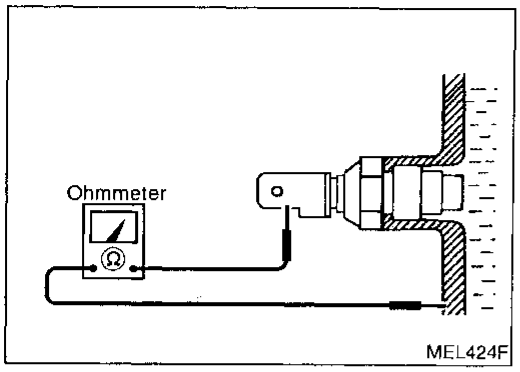
NCEL0047S01

- For removal, refer to FE section.

Check the resistance between terminals 3 and 2.

| Ohmmeter (+) | 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.

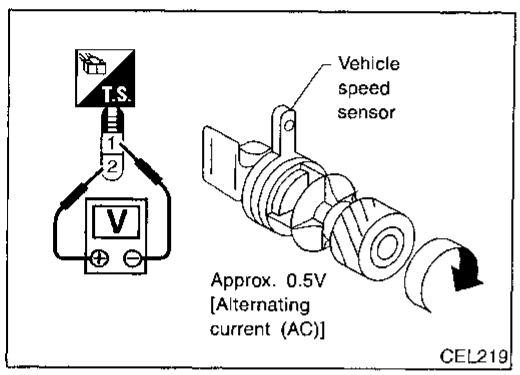



## THERMAL TRANSMITTER CHECK

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 |



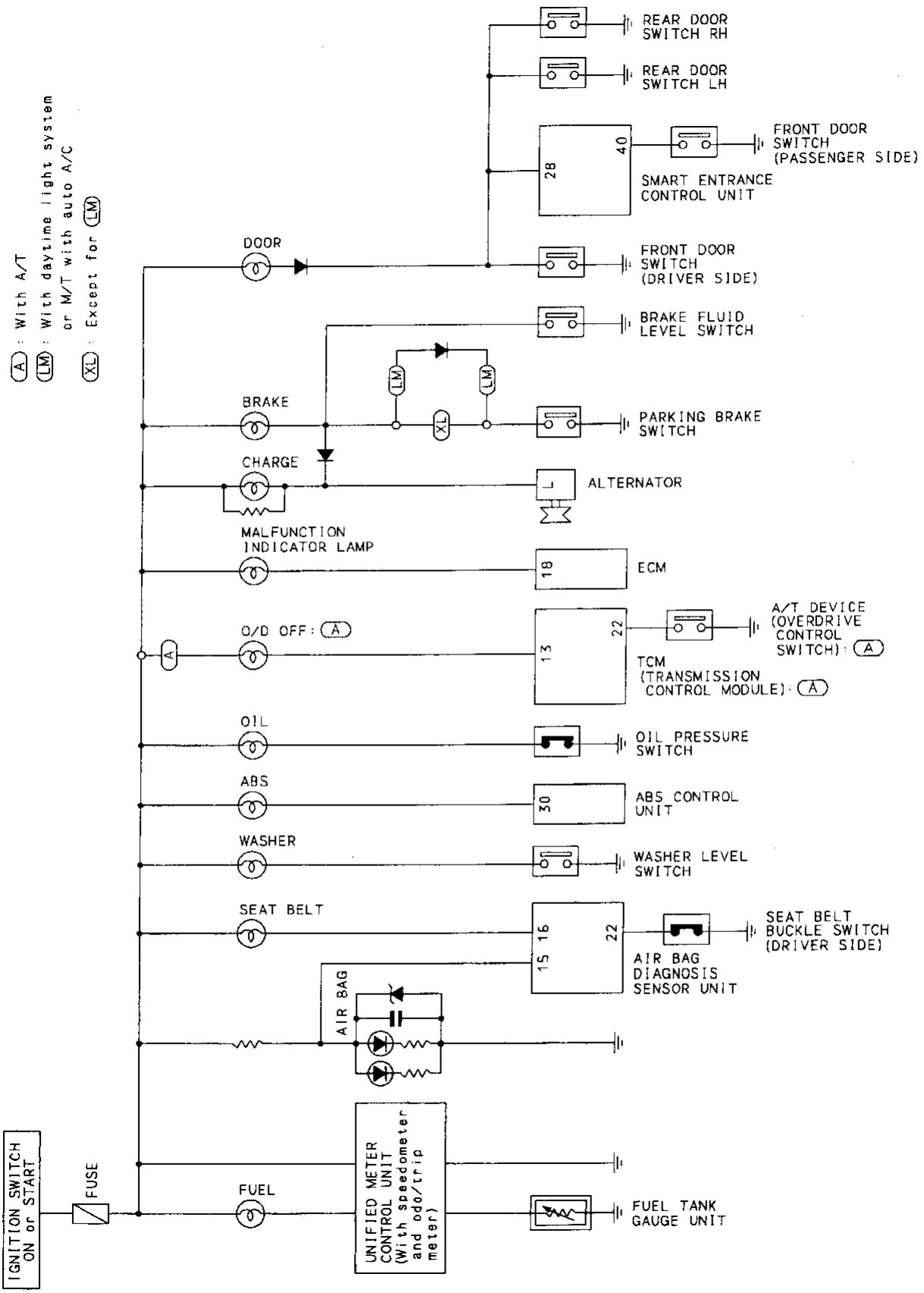

## VEHICLE SPEED SENSOR SIGNAL CHECK

NCEL0047S03

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

## Schematic

NCEL0049

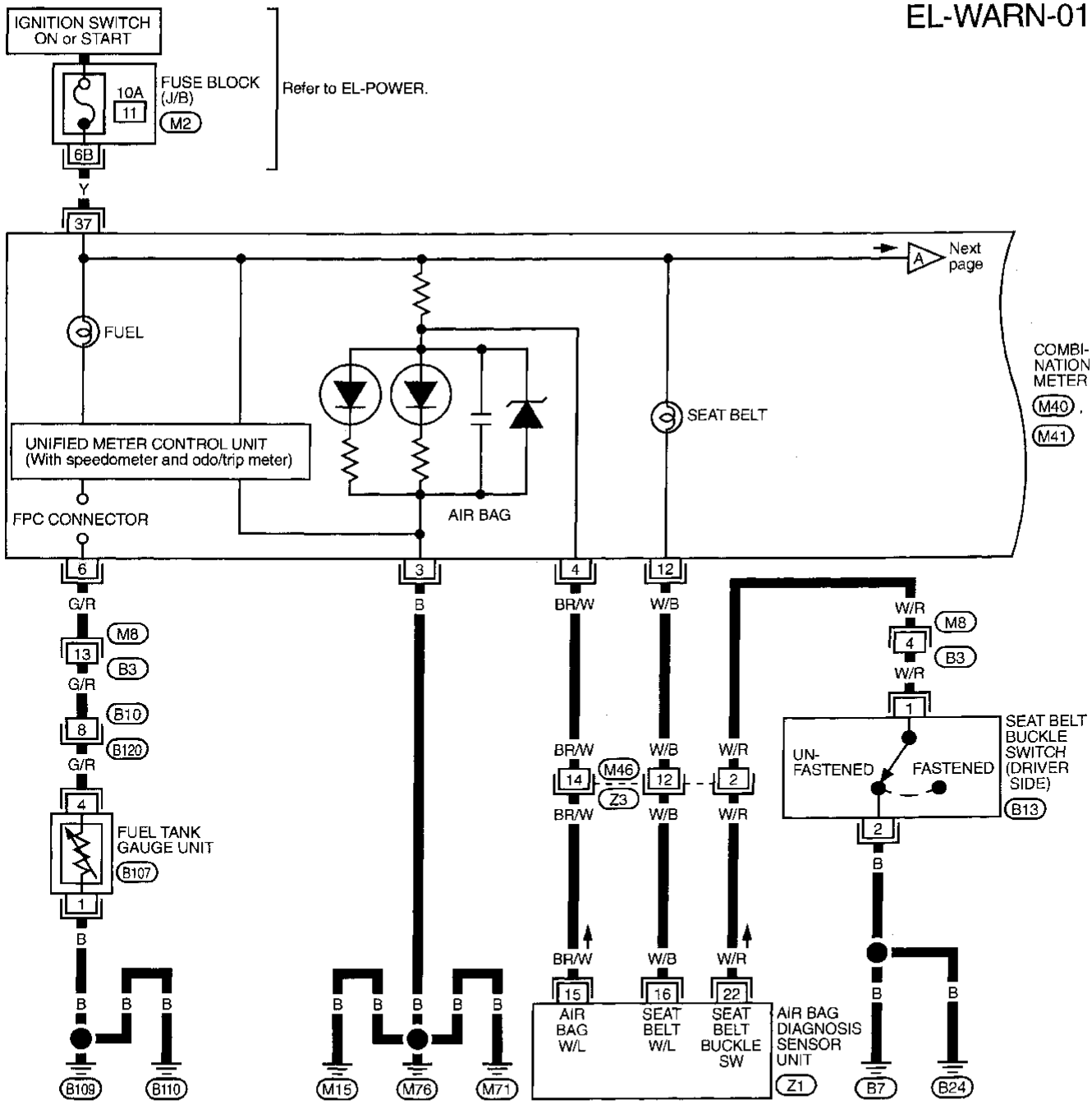


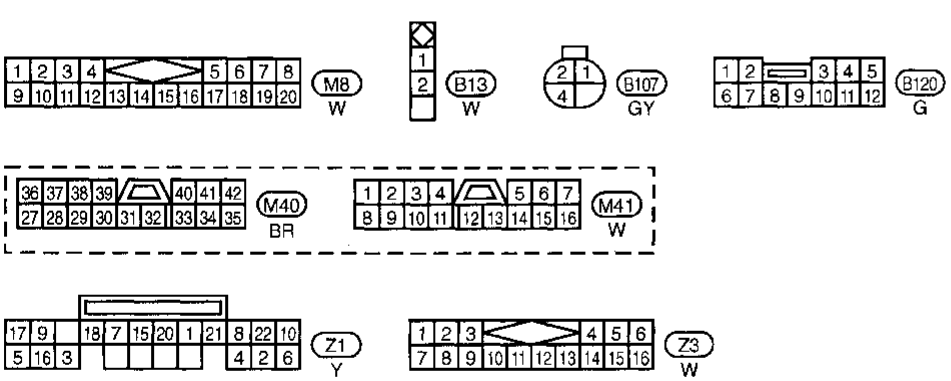

TEL902A

# Wiring Diagram — WARN —

NCEL0050

EL-WARN-01



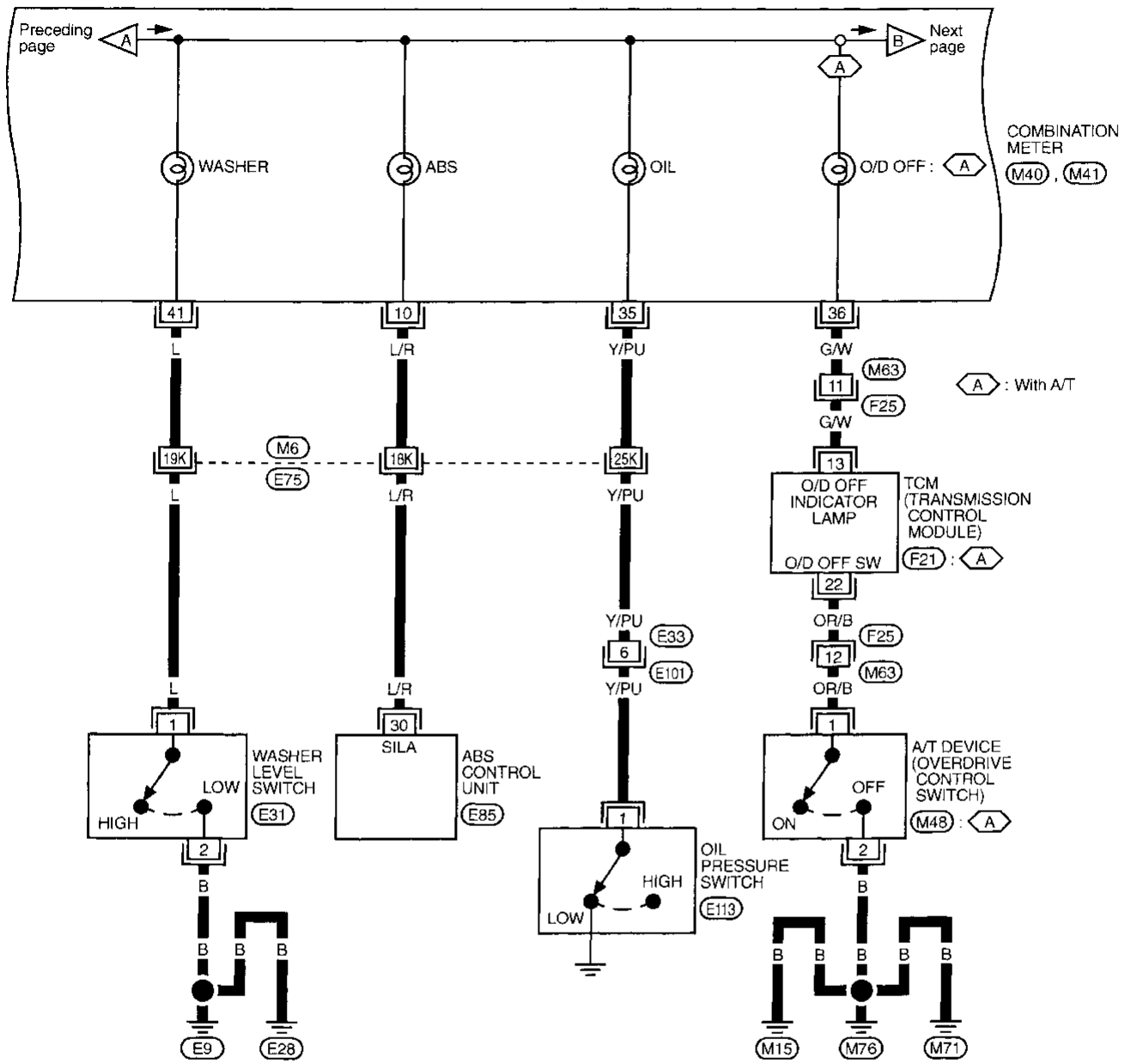



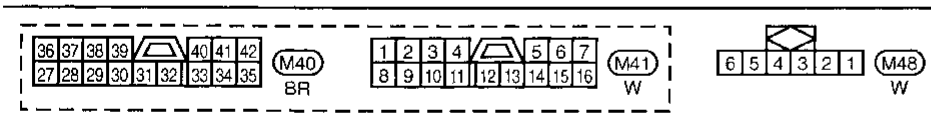

Refer to last page (Foldout page).

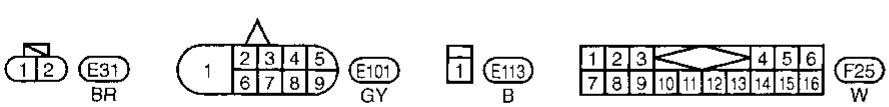
M2

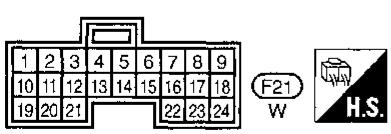
TEL903A

EL-WARN-02



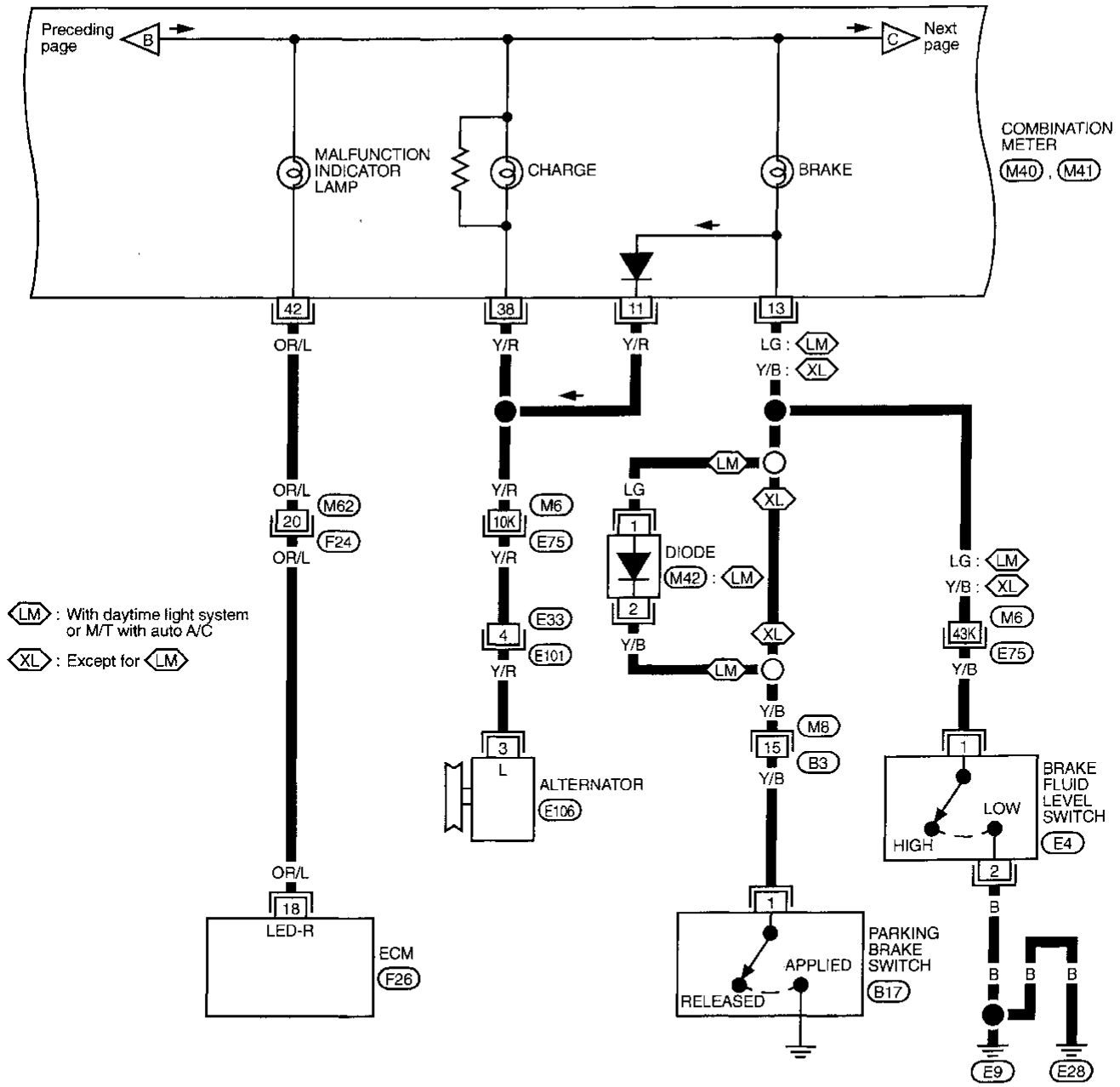

Refer to last page (Foldout page).

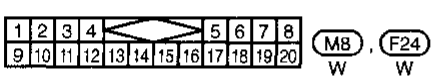
M6 , E75

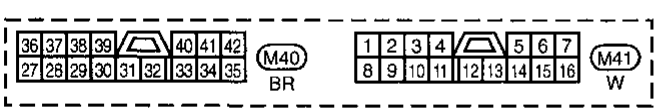
E85

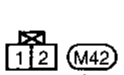
TEL904A

EL-WARN-03

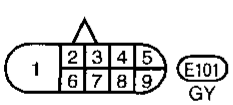


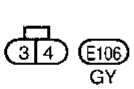







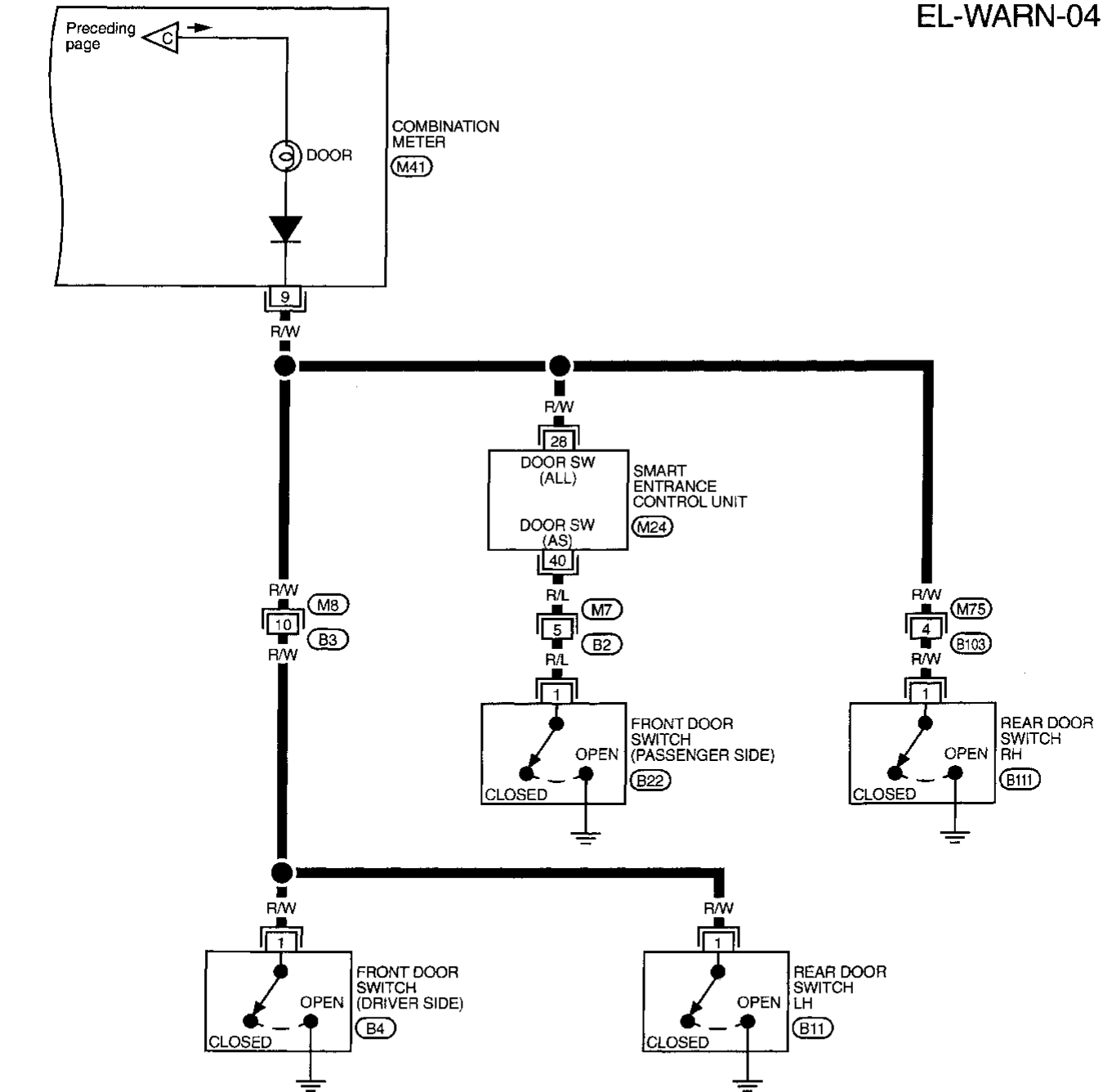





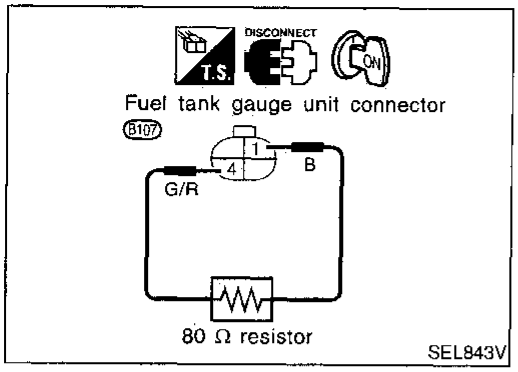
Refer to last page (Foldout page).
M6, E75
F26

TEL905A

EL-WARN-04




TEL906A




# Electrical Components Inspection

NCEL0051

## FUEL WARNING LAMP OPERATION CHECK

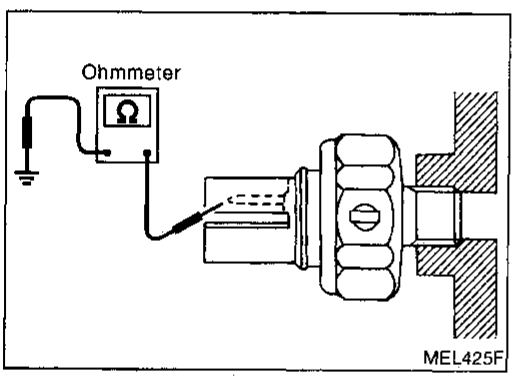
NCEL0051S01

1. Turn ignition switch "OFF".
2. Disconnect fuel tank gauge unit harness connector B107.
3. Connect a resistor (80Ω) between fuel tank gauge 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 during this inspection. If the DTC is stored in ECM memory, erase the DTC after reconnecting fuel tank gauge unit harness connector.
Refer to "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION" "Emission-related Diagnostic Information" "ON BOARD DIAGNOSTIC SYSTEM DESCRIPTION" in EC section.

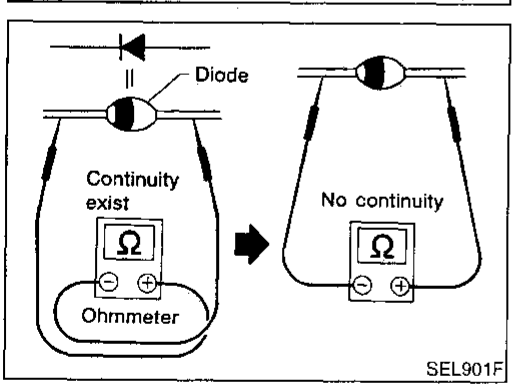



## OIL PRESSURE SWITCH CHECK

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.



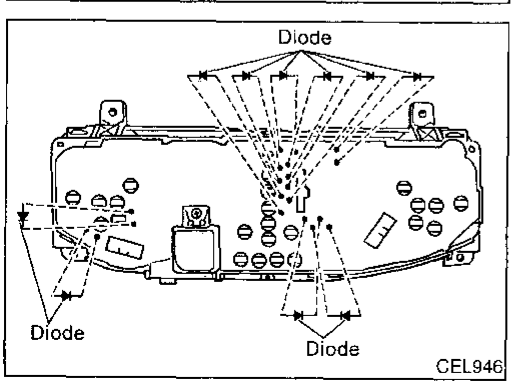

## DIODE CHECK

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.

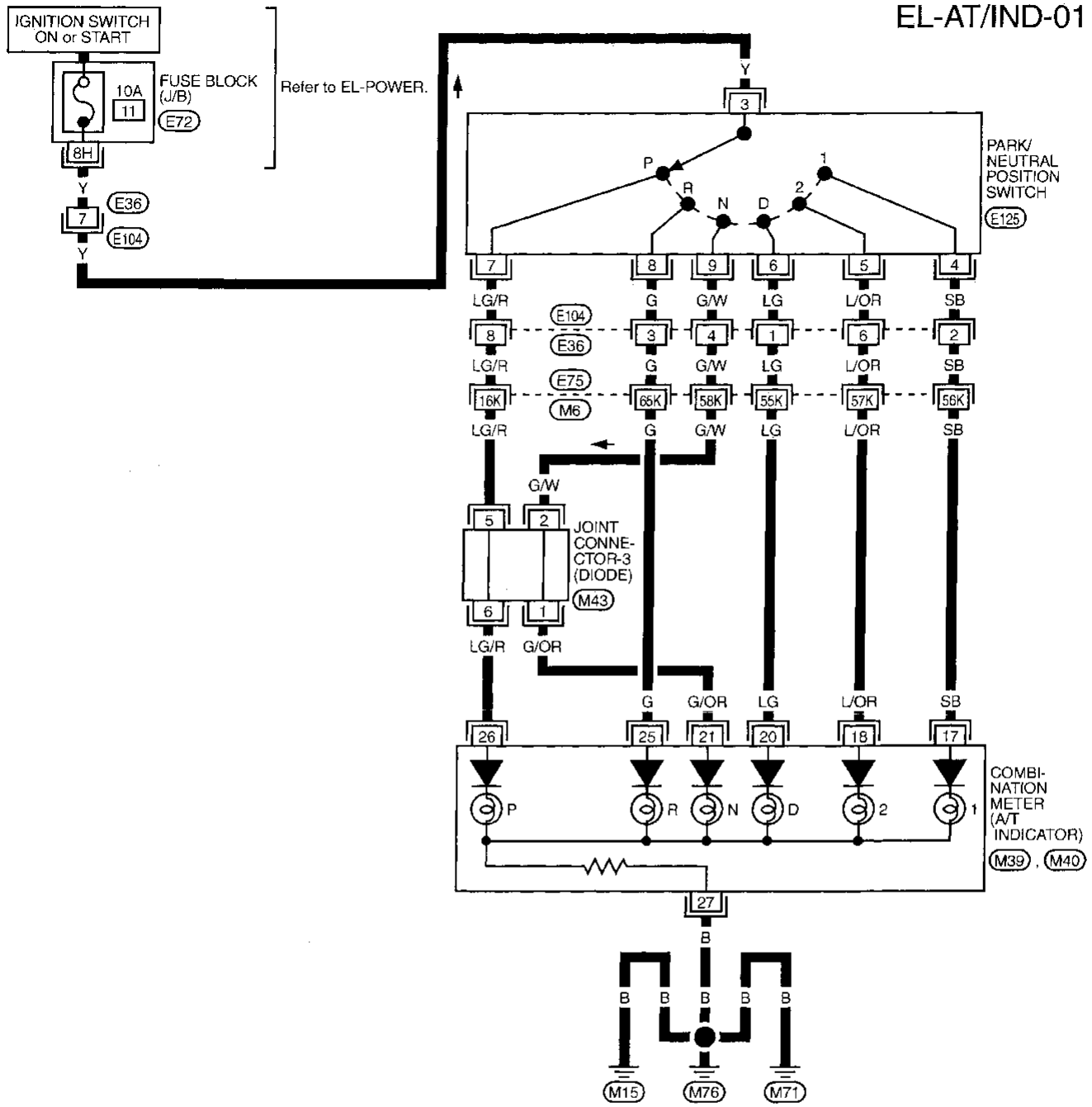


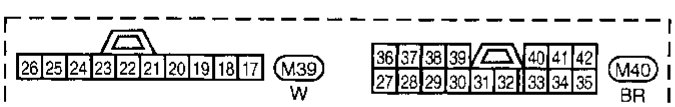

- Diodes for warning lamps are built into the combination meter printed circuit.
- For location of diodes, refer to Combination Meter, EL-64.

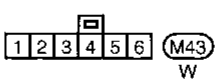
## Wiring Diagram — AT/IND —

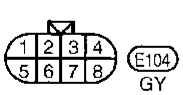
NCEL0159

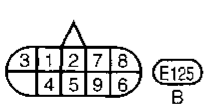
EL-AT/IND-01



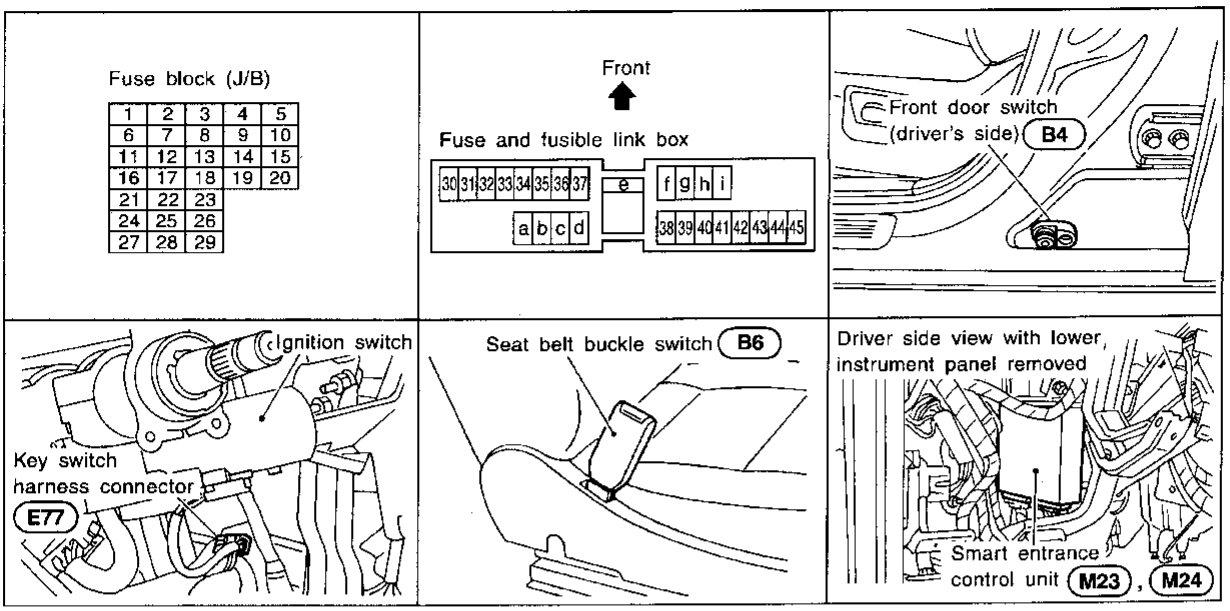




Refer to last page (Foldout page).
M6, E75
E72

TEL901A

## Component Parts and Harness Connector Location

NCEL0052




SEL834V

## System Description

NCEL0053

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 lighting switch terminal 11.

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

### 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. Power is supplied

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

Ground is supplied

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29.

Front door switch (driver side) terminal 3 is grounded through body grounds B7 and B24.

### LIGHT WARNING CHIME

NCEL0053S02

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

- from lighting switch terminal 12

- to smart entrance control unit terminal 34.

Ground is supplied

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29.

Front door switch (driver side) terminal 3 is grounded through body grounds B7 and B24.

## SEAT BELT WARNING CHIME

NCEL0053S03

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

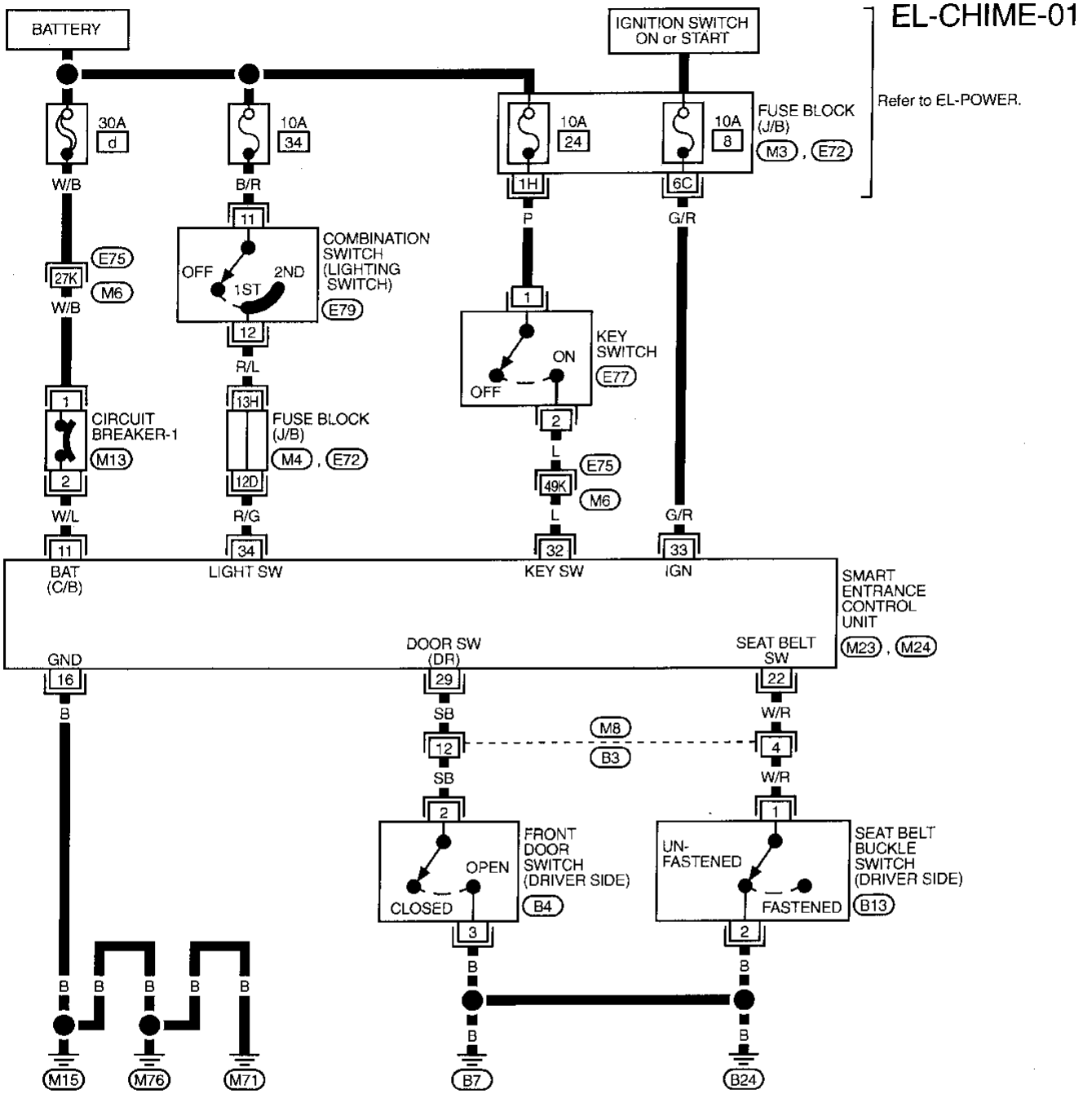
Ground is supplied

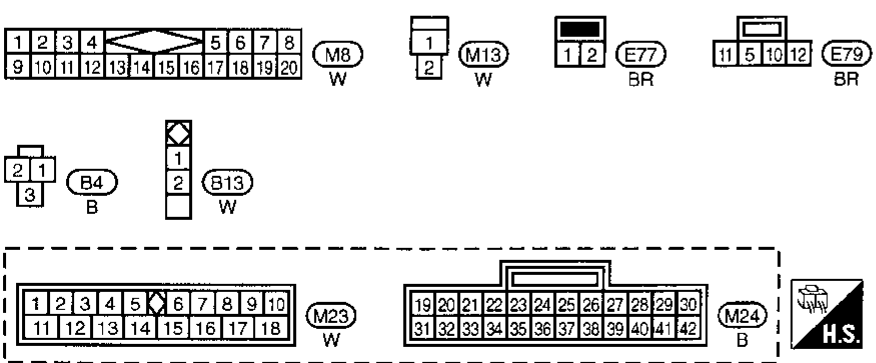
- from seat belt switch terminal 1
- to smart entrance control unit terminal 22.

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

## Wiring Diagram — CHIME —

NCEL0054




Refer to last page (Foldout page).

M6, E75

M3

M4

E72

TEL907A

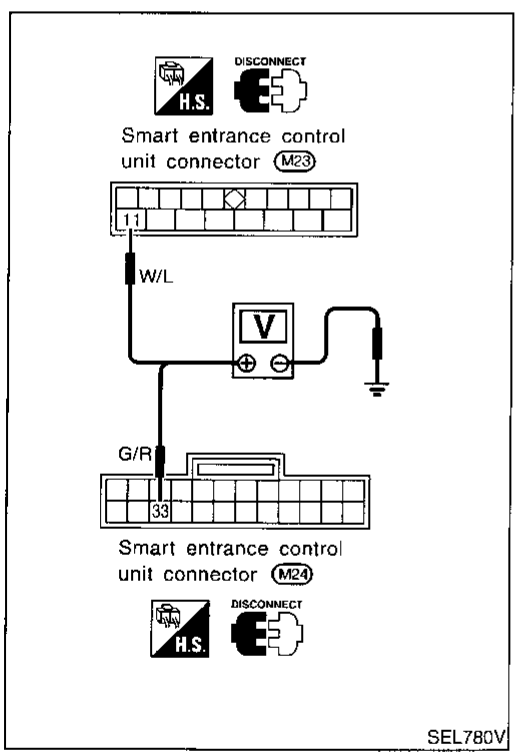
# Trouble Diagnoses

NCEL0055

## SYMPTOM CHART

NCEL0055S01

| REFERENCE PAGE (EL- ) | 85 | 86 | 86 | 87 | 87 |
|---|---|---|---|---|---|
| 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 |




SEL780V

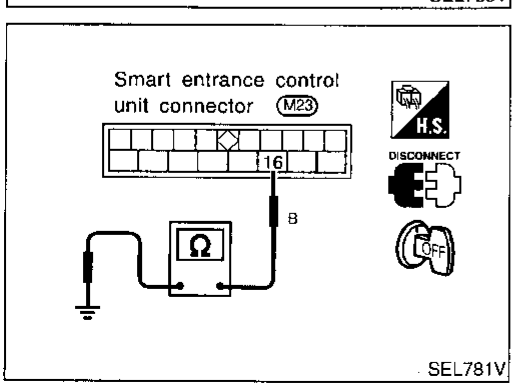
## POWER SUPPLY AND GROUND CIRCUIT CHECK

NCEL0055S02

### Power Supply Circuit Check

NCEL0055S0201

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




SEL781V

### Ground Circuit Check

NCEL0055S0202

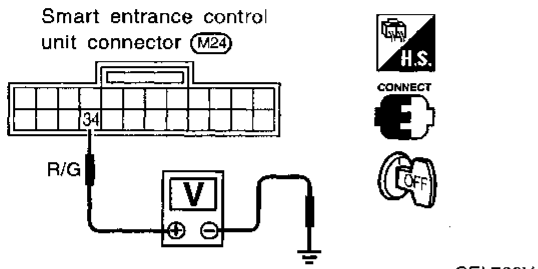
| Terminals | Continuity |
|---|---|
| 16 - Ground | Yes |

## LIGHTING SWITCH INPUT SIGNAL CHECK

NCEL0055S03

| 1 | CHECK LIGHTING SWITCH INPUT SIGNAL |
|---|---|

Check voltage between control unit terminal 34 and ground.




SEL782V

**Voltage [V]:**
**Condition of lighting switch: 1ST or 2ND**
**Approx. 12**
**Condition of lighting switch: OFF**
**0**

**OK or NG**

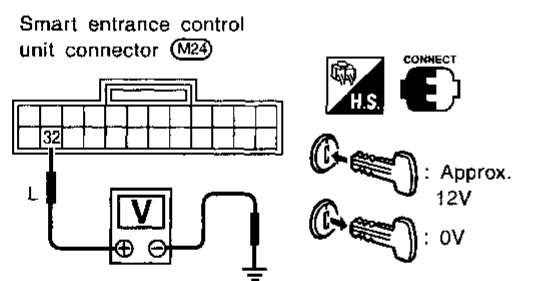
| | | |
|---|---|---|
| OK | ▶ | Lighting switch is OK. |
| NG | ▶ | **Check the following.**<br>• 10A fuse (No. 34, located in the fuse and fusible link box)<br>• Harness for open or short between control unit and lighting switch |

## KEY SWITCH (INSERT) CHECK

NCEL0055S04

| 1 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

Check voltage between control unit terminal 32 and ground.




SEL783V

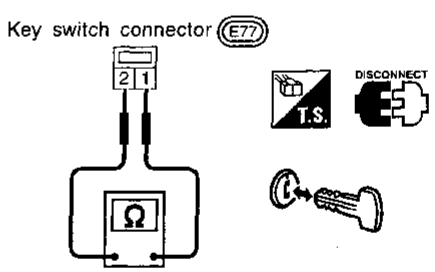
**Voltage [V]:**
**Condition of key switch: Key is inserted.**
**Approx. 12**
**Condition of key switch: Key is withdrawn.**
**0**

**OK or NG**

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

| 2 | CHECK KEY SWITCH (INSERT) |
|---|---|

Check continuity between terminals 1 and 2.




SEL784V

**Continuity:**
**Condition of key switch: Key is inserted.**
**Yes**
**Condition of key switch: Key is removed.**
**No**

**OK or NG**

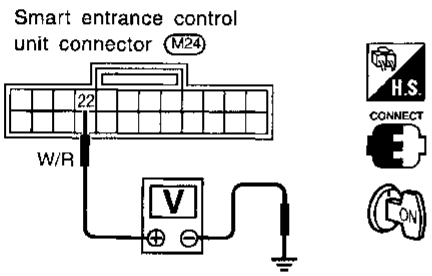
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• 10A fuse [No. 24, located in fuse block (J/B)]<br>• Harness for open or short between key switch and fuse<br>• Harness for open or short between control unit and key switch |
| NG | ▶ | Replace key switch. |

## SEAT BELT BUCKLE SWITCH CHECK

=NCEL0055S05

**1 CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL**

1. Turn ignition switch "ON".
2. Check voltage between control unit terminal 22 and ground.




SEL785V

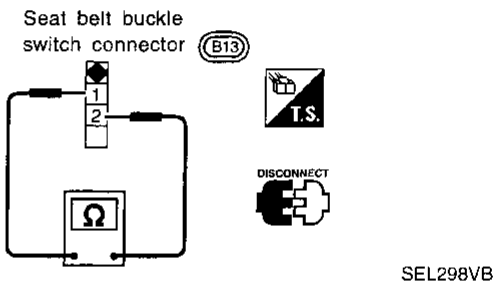
**Voltage [V]:**
**Condition of seat belt buckle switch: Fastened**
**Approx. 12**
**Condition of seat belt buckle switch: Unfastened**
**0**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Seat belt buckle switch is OK. |
| NG | ▶ | GO TO 2. |

**2 CHECK SEAT BELT BUCKLE SWITCH**

Check continuity between terminals 1 and 2 when seat belt is fastened and unfastened.




SEL298VB

**Continuity:**
**Seat belt is fastened.**
**No**
**Seat belt is unfastened.**
**Yes**

**OK or NG**

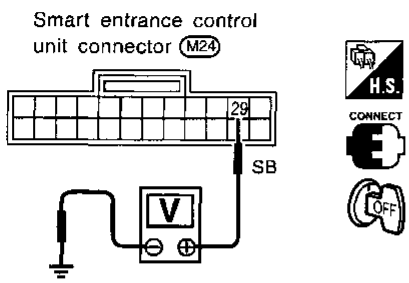
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Seat belt buckle switch ground circuit<br>• Harness for open or short between control unit and seat belt buckle switch |
| NG | ▶ | Replace seat belt buckle switch. |

## DRIVER SIDE DOOR SWITCH CHECK

NCEL0055S06

**1 CHECK DOOR SWITCH INPUT SIGNAL**

Check voltage between control unit terminal 29 and ground.




SEL786V

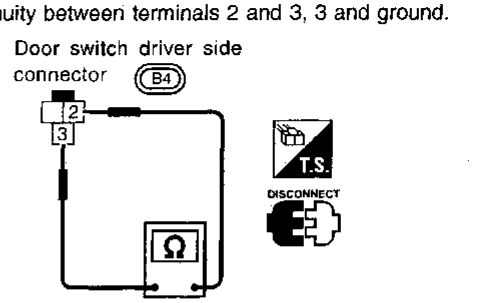
**Voltage [V]:**
**Condition of driver's door: CLOSED**
**Approx. 12**
**Condition of driver's door: OPENED**
**0**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Driver side door switch is OK. |
| NG | ▶ | GO TO 2. |

**2 CHECK DRIVER SIDE DOOR SWITCH**

Check continuity between terminals 2 and 3, 3 and ground.




SEL844V

**Continuity:**
**Door switch is pushed.**
**No**
**Door switch is released.**
**Yes**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Door switch ground circuit<br>• Harness for open or short between control unit and door switch |
| NG | ▶ | Replace driver side door switch. |

# System Description

NCEL0057

## WIPER OPERATION

NCEL0057S01

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

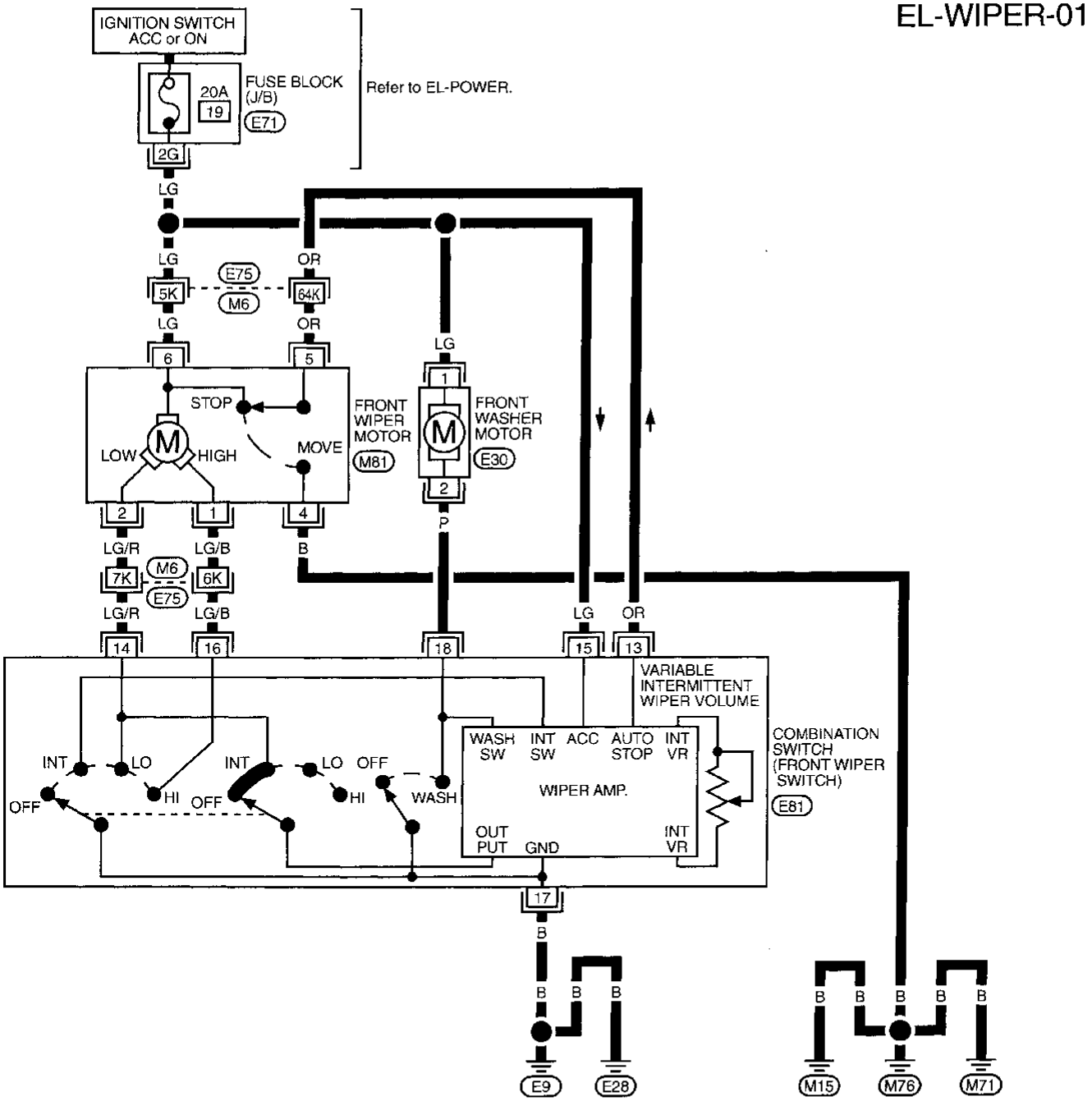
- through body grounds E9 and E28.

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.

## Wiring Diagram — WIPER —

NCEL0058

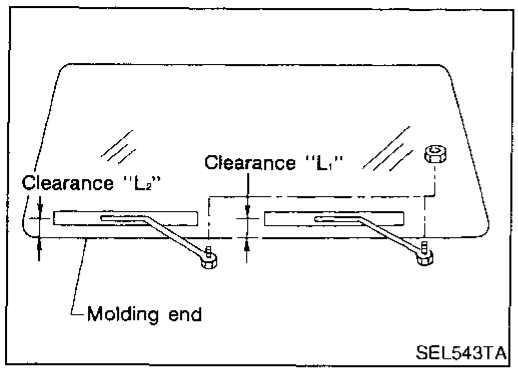
EL-WIPER-01





Refer to last page (Foldout page).
M6, E75
E71

TEL908A




## Removal and Installation

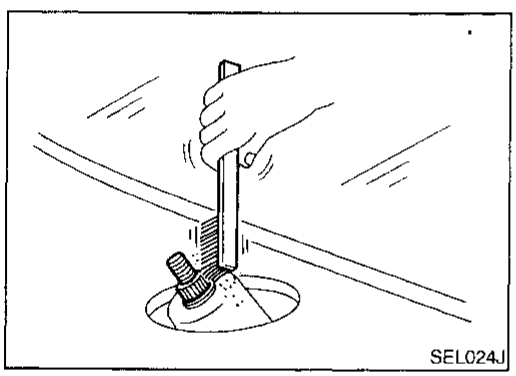
NCEL0060

### 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 "$L_1$" & "$L_2$" 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 "$L_1$" & "$L_2$".
   **Clearance "$L_1$": 18.5 - 33.5 mm (0.728 - 1.319 in)**
   **Clearance "$L_2$": 19.5 - 34.5 mm (0.768 - 1.358 in)**

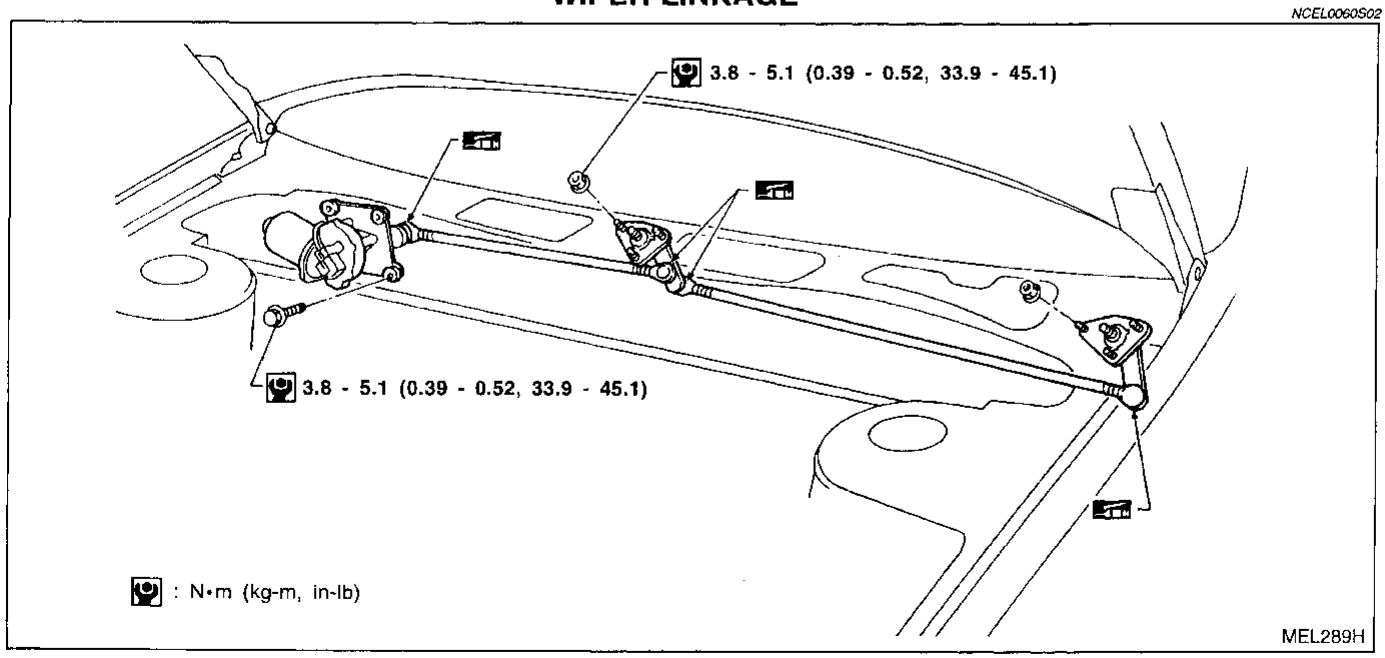
- Tighten wiper arm nuts to specified torque.
  **Front wiper: 17 - 23 N·m (1.7 - 2.3 kg-m, 12 - 17 ft-lb)**




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

### WIPER LINKAGE

NCEL0060S02



## Removal

NCEL0060S0201

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

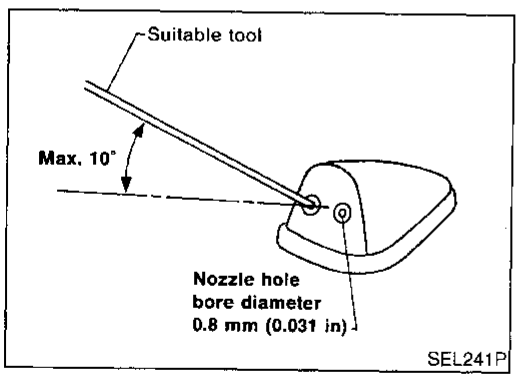
**Be careful not to break ball joint rubber boot.**

## Installation

NCEL0060S0202

- Grease ball joint portion before installation.

1. Installation is the reverse order of removal.

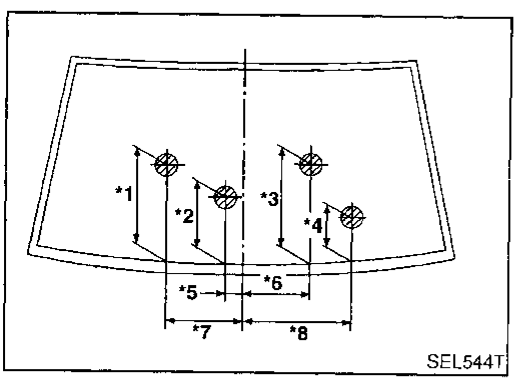



## Washer Nozzle Adjustment

NCEL0061

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

**Adjustable range: ±10°**



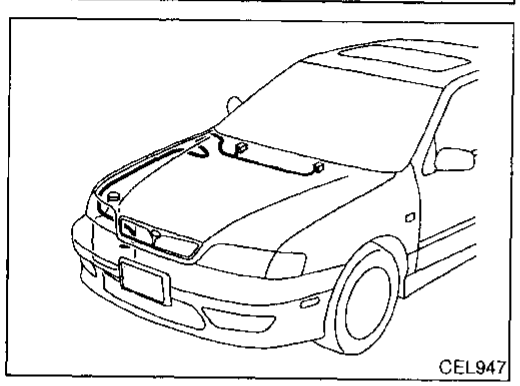

Unit: mm (in)

| | | | |
|---|---|---|---|
| *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

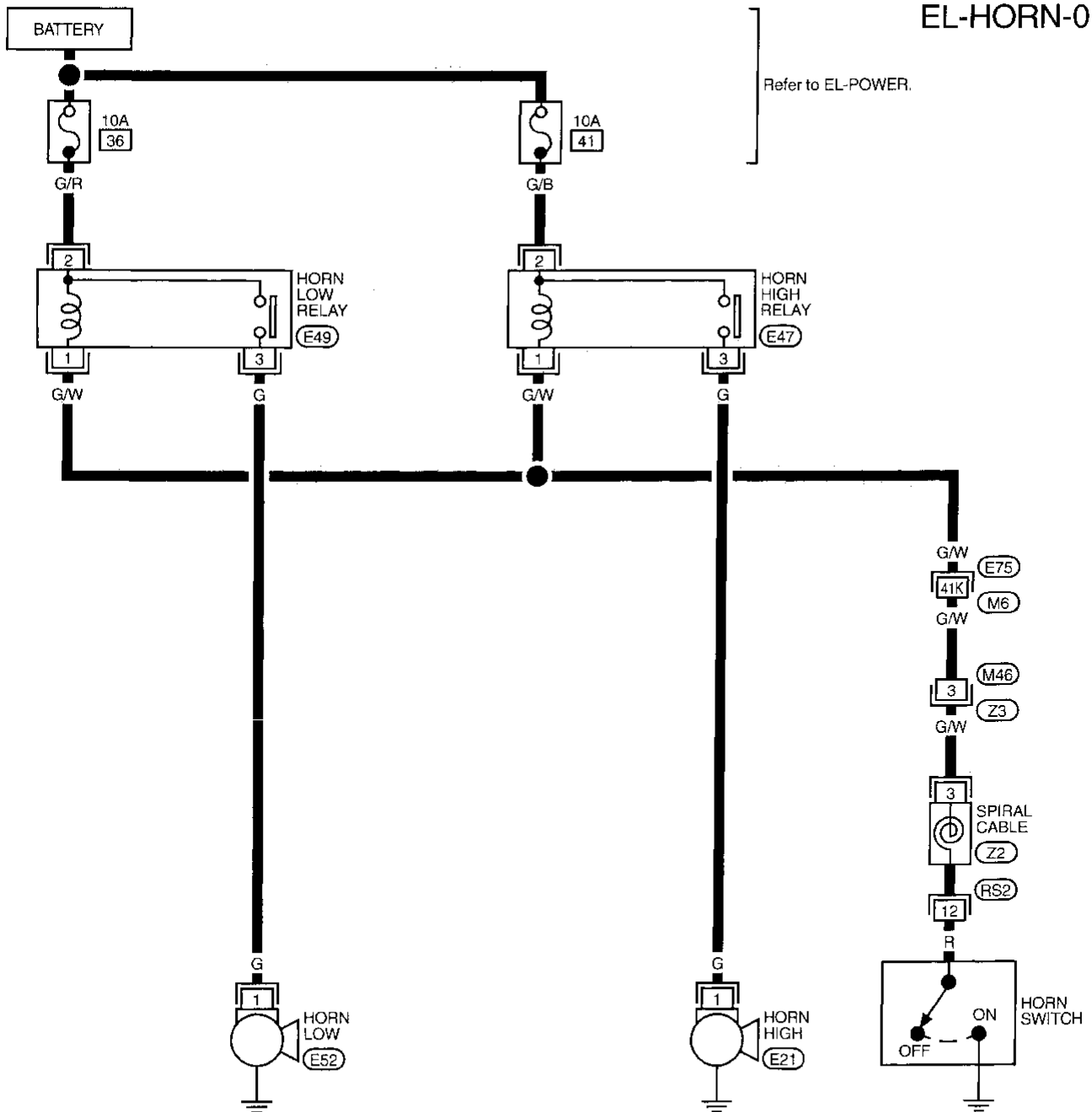
NCEL0062

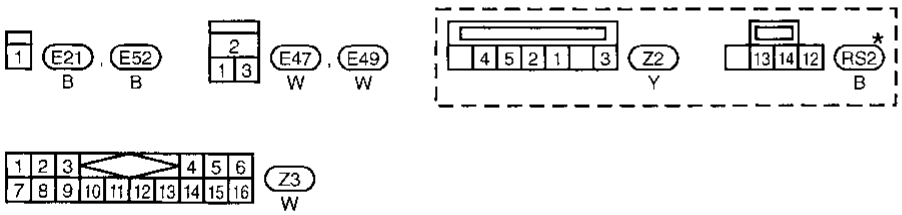


# Wiring Diagram — HORN —

NCEL0071

EL-HORN-01




Refer to last page (Foldout page).
M6 , E75

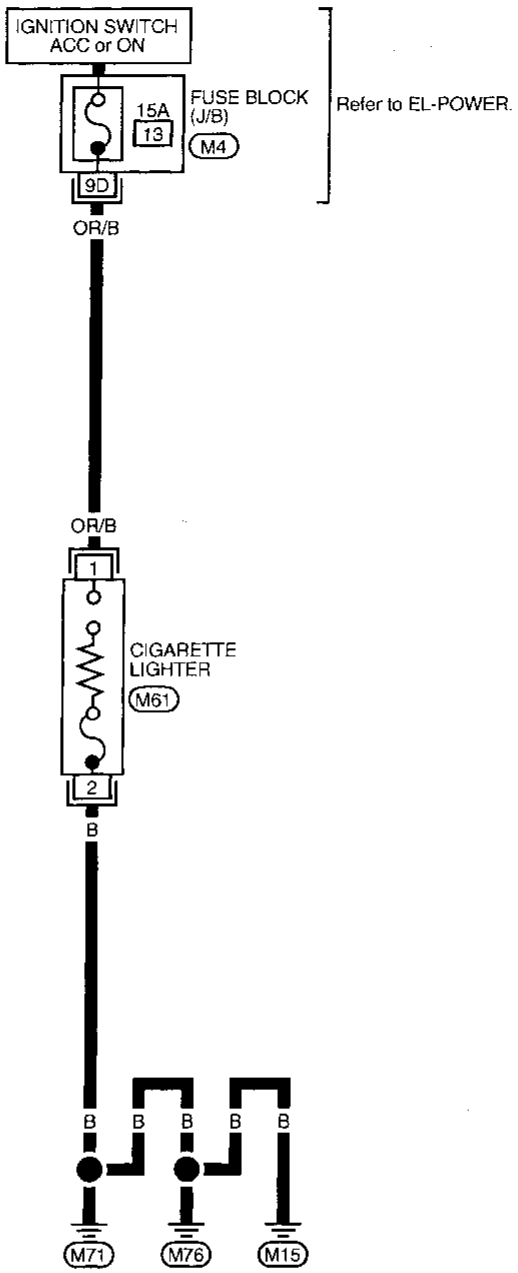
★: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL909A

## Wiring Diagram — CIGAR —

NCEL0156

EL-CIGAR-01



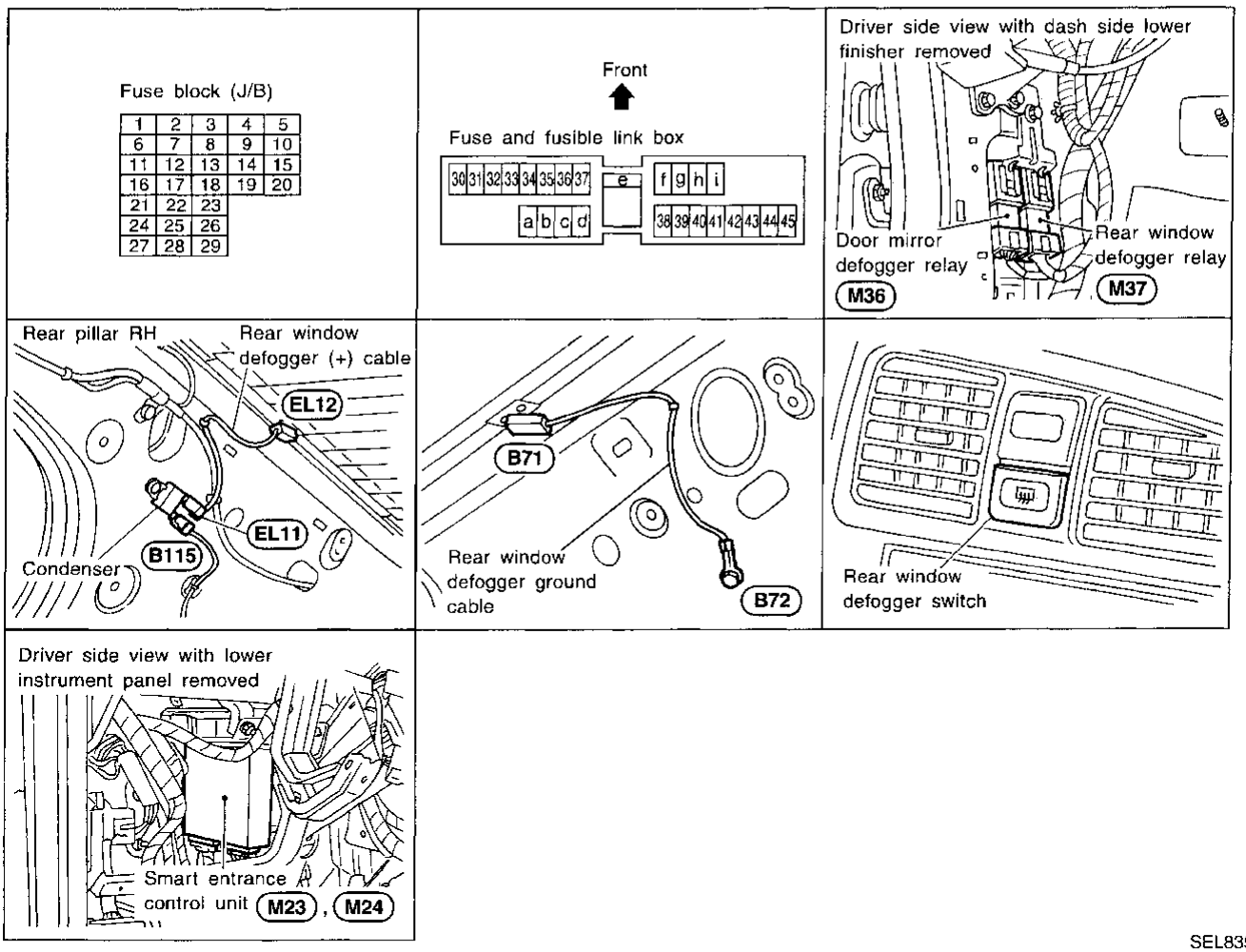

2
1
M61
B

Refer to last page (Foldout page).
M4

TEL910A

## Component Parts and Harness Connector Location

NCEL0072




SEL835V

## 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

- to the rear window defogger.

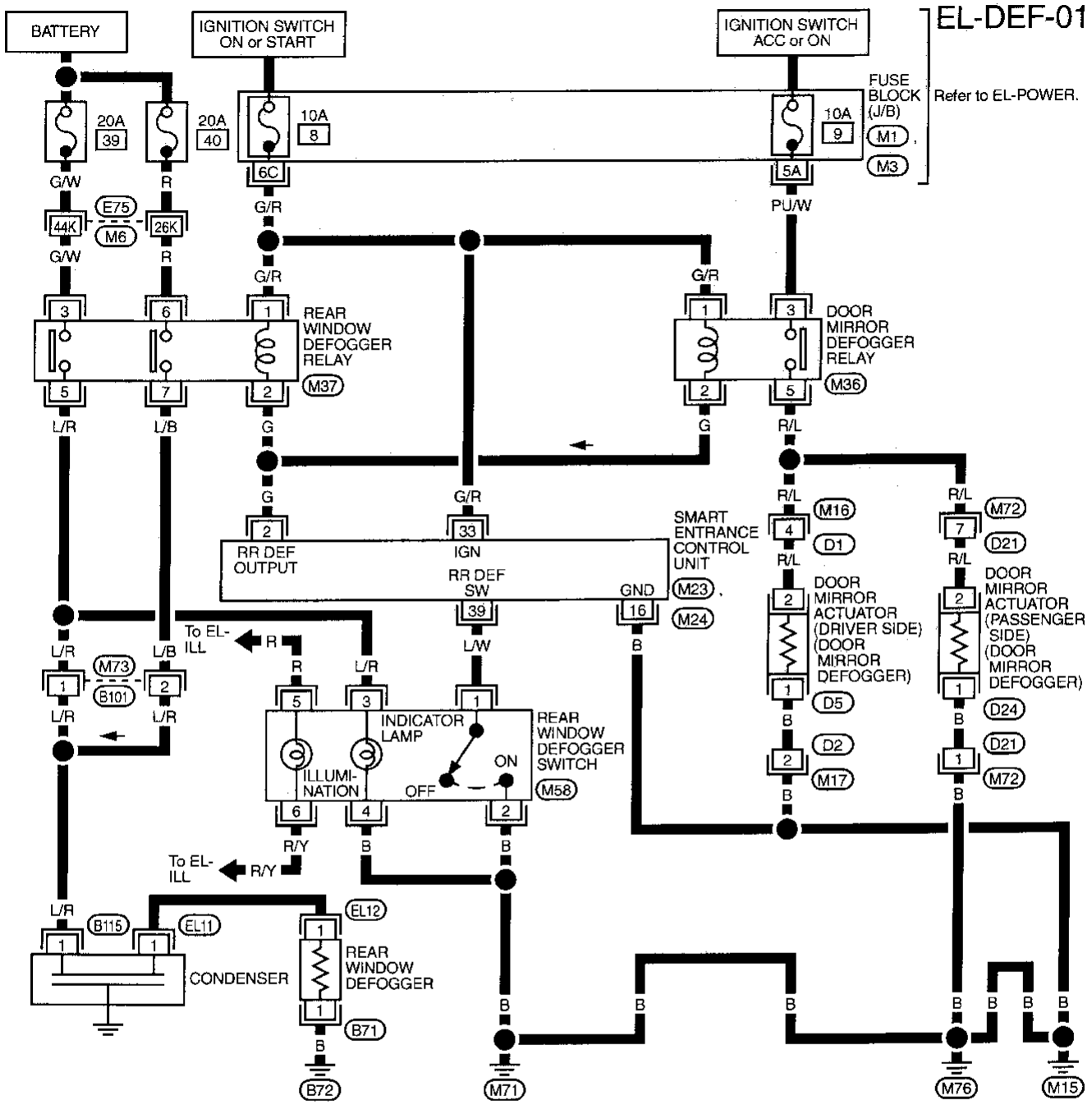
The rear window defogger has an independent ground.
With power and ground supplied, the rear window defogger filaments heat and defog the rear window.
When the system is activated, the rear window defogger indicator illuminates in the rear window defogger switch.
Power is supplied

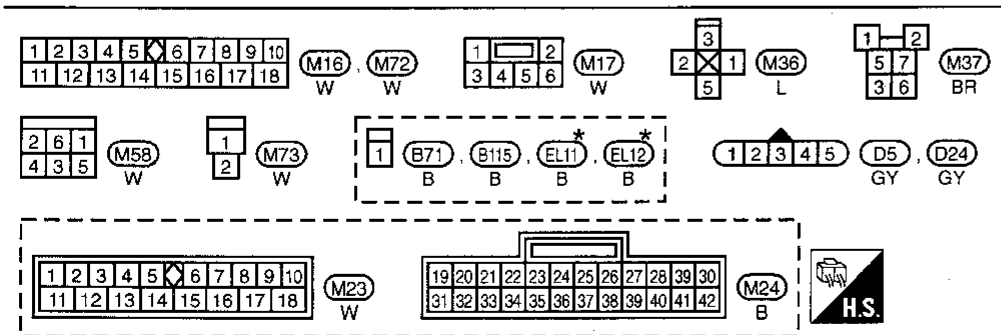
- to terminal 3 of the rear window defogger switch
- from terminal 5 of the rear window defogger relay.

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

## Wiring Diagram — DEF —

NCEL0074




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

Refer to last page (Foldout page).
M6, E75
M1
M3

TEL911A

# Trouble Diagnoses

NCEL0075

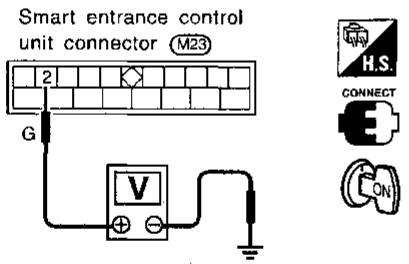
## DIAGNOSTIC PROCEDURE

NCEL0075S01

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

### 1 CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL

1. Turn ignition switch to ON position.
2. Check voltage between smart entrance control unit harness terminal 2 and ground.




SEL787V

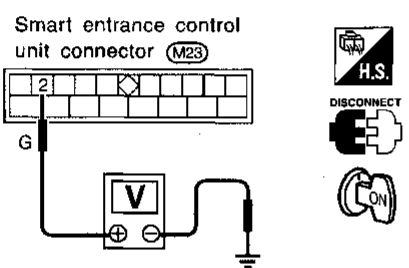
**Voltage [V]:**
**Rear window defogger switch is "OFF".**
**Approx. 12**
**Rear window defogger switch is "ON".**
**0**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Rear window defogger relay (Refer to EL-99.)<br>• Rear window defogger circuit<br>• Rear window defogger filament (Refer to EL-100.) |
| NG | ▶ | GO TO 2. |

### 2 CHECK DEFOGGER RELAY COIL SIDE CIRCUIT

1. Disconnect control unit connector.
2. Turn ignition switch to ON position.
3. Check voltage between smart entrance control unit terminal 2 and ground.



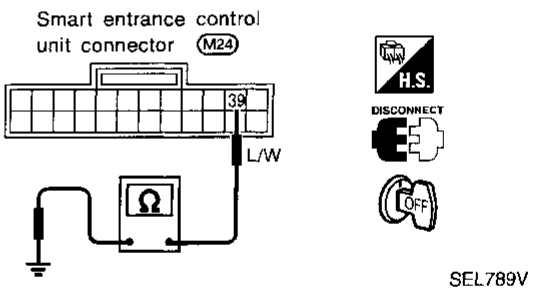

SEL788V

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 3. |
| No | ▶ | **Check the following.**<br>• 10A fuse [No. 8, located in the fuse block (J/B)]<br>• Rear window defogger relay<br>• Harness for open or short between rear window defogger relay and control unit |

### 3 CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL

Check continuity between smart entrance control unit terminal 39 and ground.




SEL789V

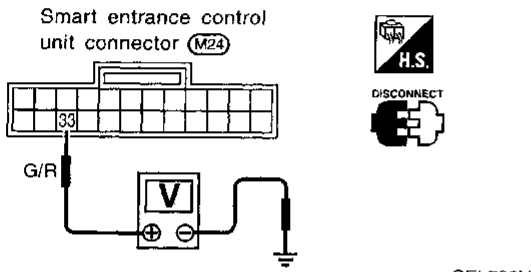
**Continuity:**
**Rear window defogger switch is pushed.**
**Yes**
**Rear window defogger switch is released.**
**No**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | **Check the following.**<br>• Rear window defogger switch (Refer to EL-99.)<br>• Harness for open or short between control unit and rear window defogger switch<br>• Rear window defogger switch ground circuit |

| 4 | CHECK IGNITION INPUT SIGNAL |
|---|---|

Check voltage between smart entrance control unit terminal 33 and ground.




SEL790V

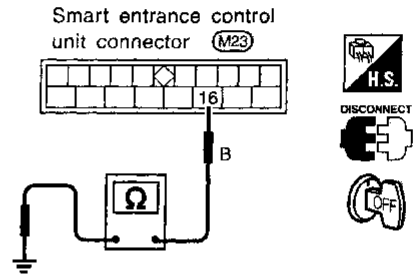
**Voltage [V]:**
**Ignition switch is "ON".**
**Approx. 12**
**Ignition switch is "OFF".**
**0**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 5. |
| NG | ▶ | **Check the following.**<br>• 10A fuse [No. 8, located in the fuse block (J/B)]<br>• Harness for open or short between control unit and fuse |

| 5 | CHECK CONTROL UNIT GROUND CIRCUIT |
|---|---|

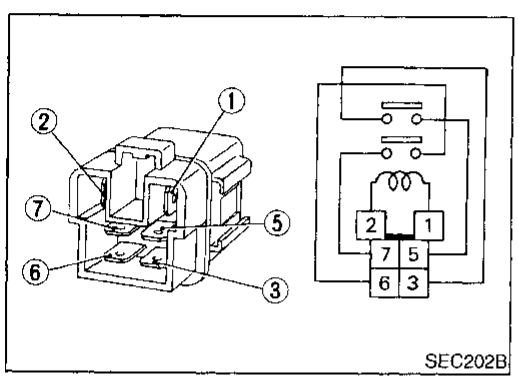
Check continuity between smart entrance control unit terminal 16 and ground.



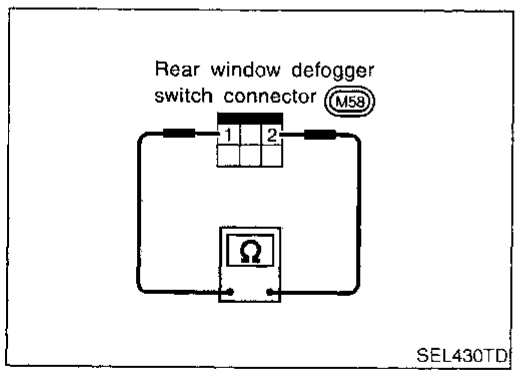

SEL791V

**Does continuity exist?**

| | | |
|---|---|---|
| Yes | ▶ | Replace control unit. |
| No | ▶ | Repair harness or connectors. |




SEC202B




SEL430TD

## Electrical Components Inspection

### REAR WINDOW DEFOGGER RELAY

NCEL0076

NCEL0076S01

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

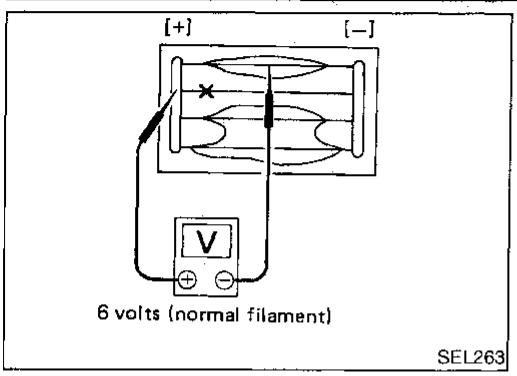
| Condition | Continuity |
|---|---|
| 12V direct current supply between terminals 1 and 2 | Yes |
| No current supply | No |

### REAR WINDOW DEFOGGER SWITCH

NCEL0076S02

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

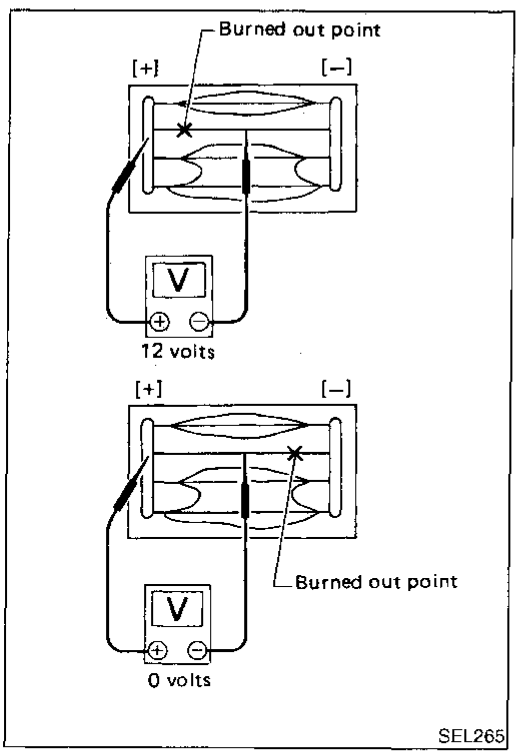
| Terminals | Condition | Continuity |
|---|---|---|
| 1 - 2 | Rear window defogger switch is pushed | Yes |
| | Rear window defogger switch is released | No |



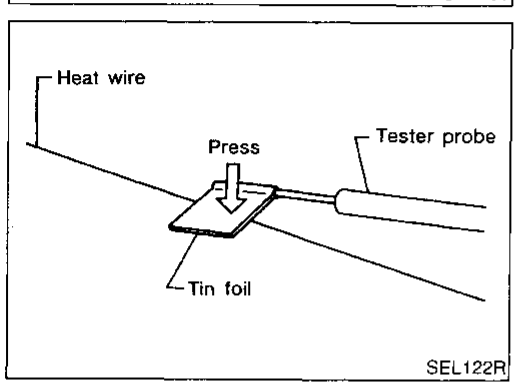

## Filament Check

NCEL0077

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




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




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

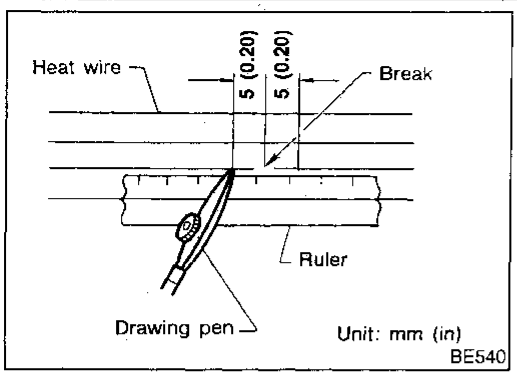
## Filament Repair

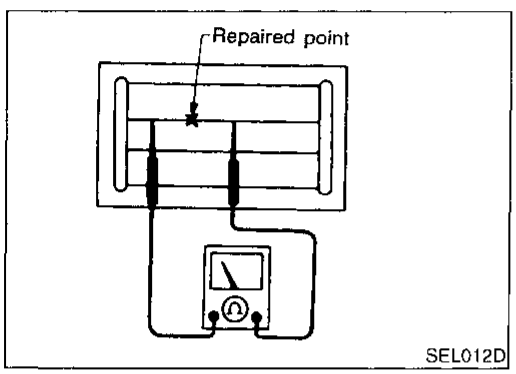
NCEL0078

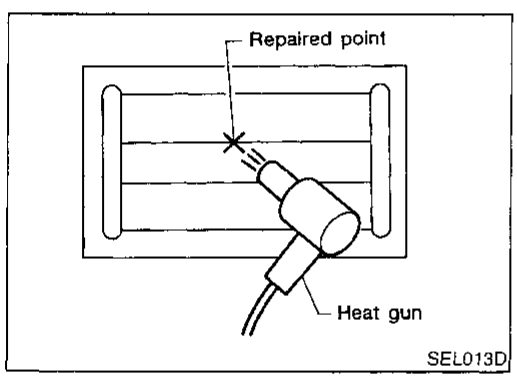
### REPAIR EQUIPMENT

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

**Do not touch repaired area while test is being conducted.**

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

## System Description

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 block (J/B)]
- 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

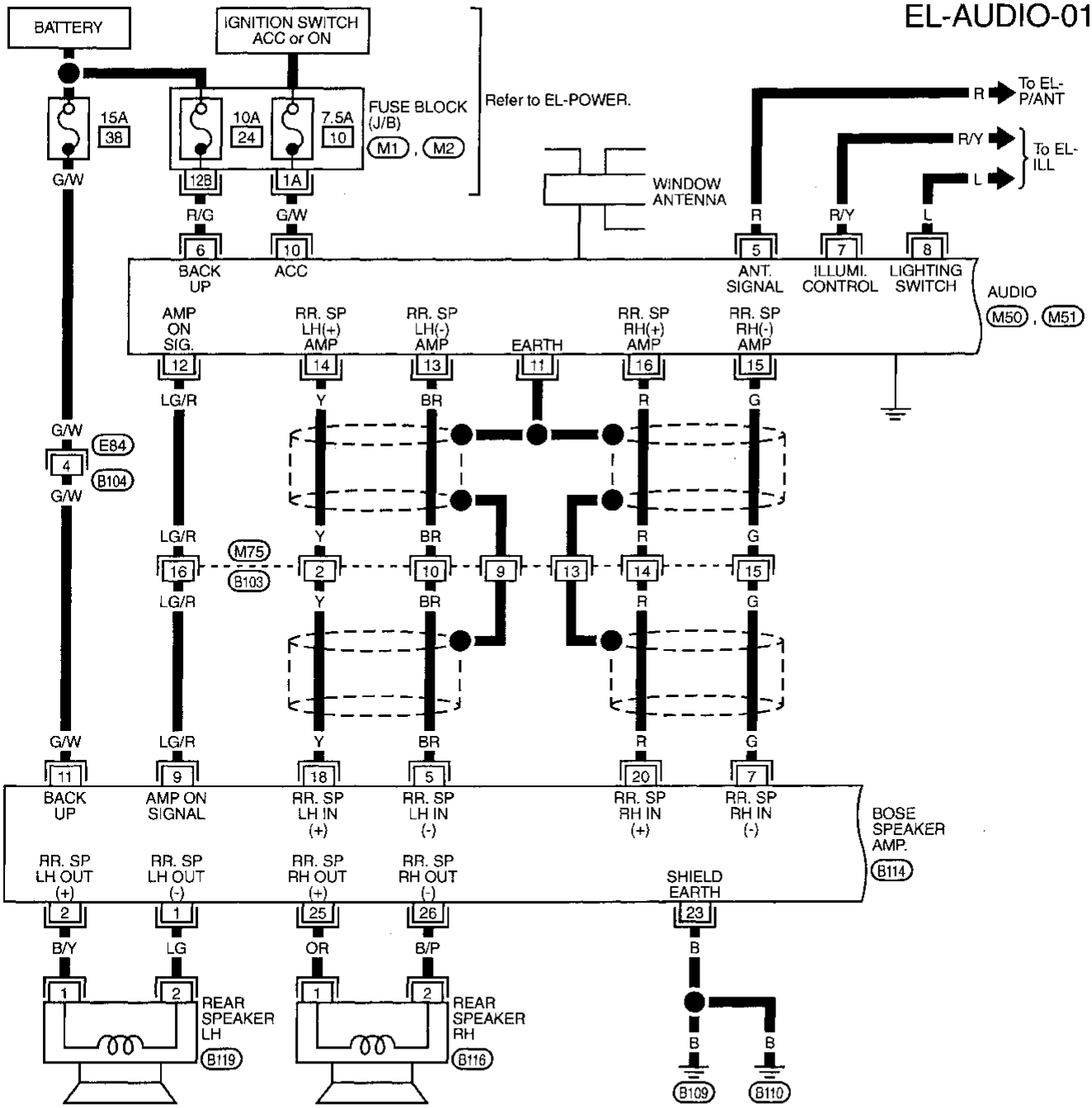
- through audio terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to speaker amp. terminals 4, 5, 6, 7, 17, 18, 19 and 20.

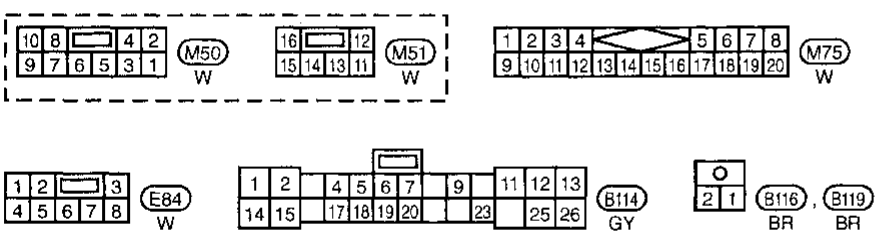
Audio signals are amplified by the speaker amp.
The amplified audio signals are supplied

- 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



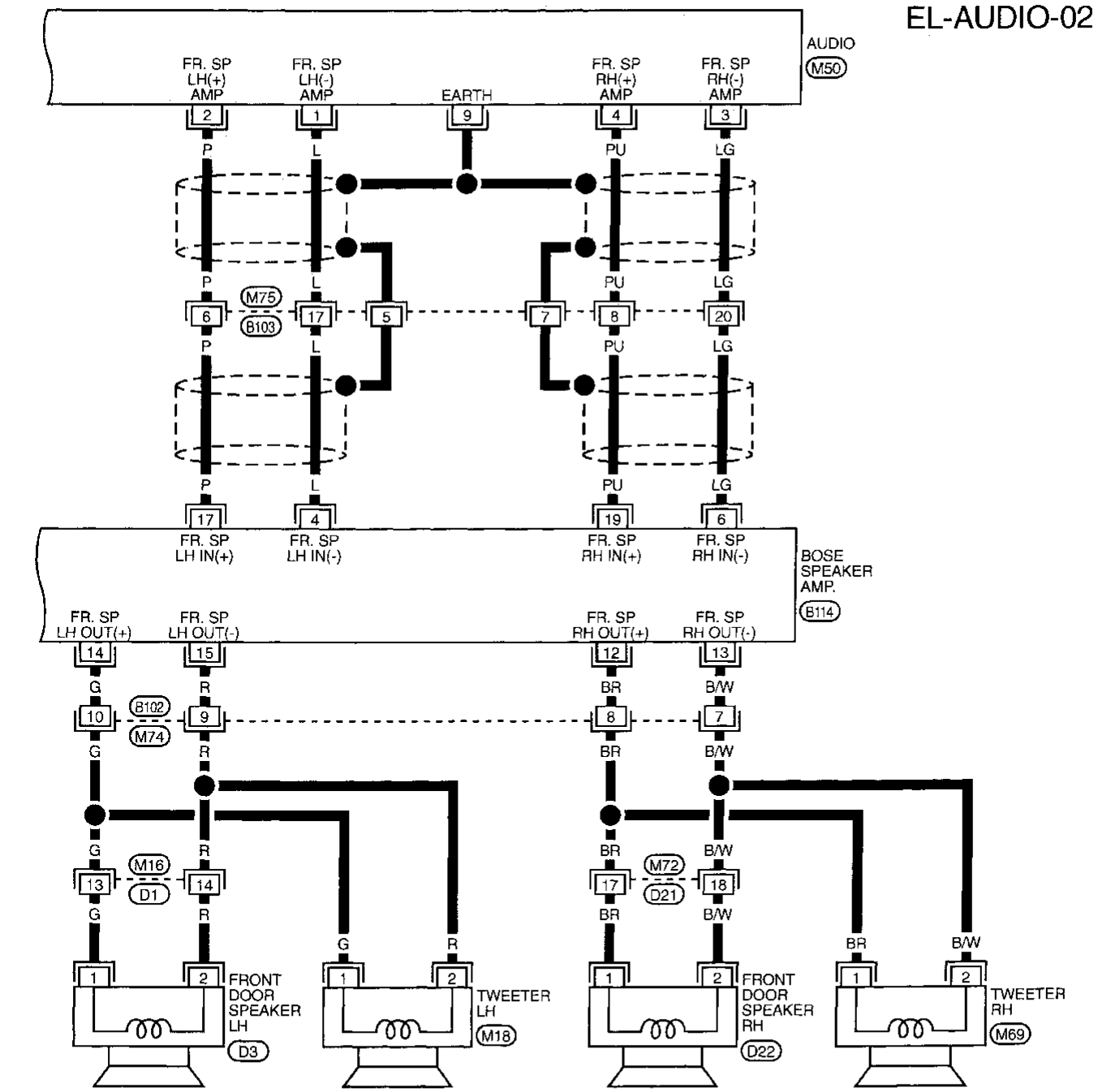

Refer to last page (Foldout page).

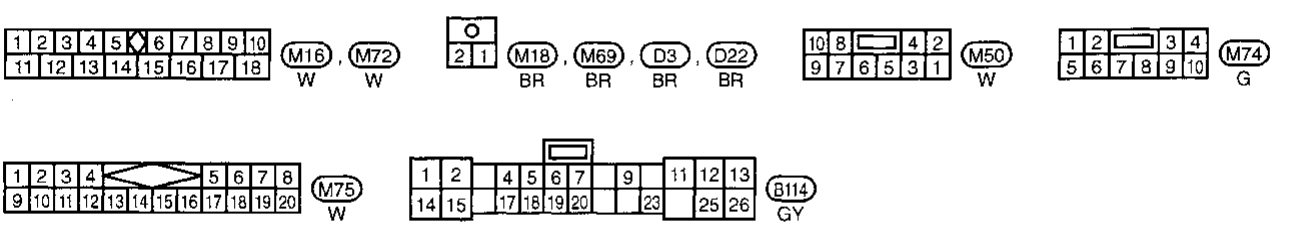
M1

M2

TEL912A

EL-AUDIO-02




TEL913A

# Trouble Diagnoses

NCEL0082

## RADIO

NCEL0082S01

| Symptom | Possible causes | Repair order |
|---|---|---|
| Radio inoperative (no digital display and no sound from speakers). | 1. 7.5A fuse<br>2. Poor radio case ground<br>3. Radio | 1. 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.<br>2. Check radio case ground.<br>3. Remove radio for repair. |
| Radio presets are lost when ignition switch is turned OFF. | 1. 10A fuse<br>2. Radio | 1. Check 10A fuse [No. 24, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of radio.<br>2. Remove radio for repair. |
| AM stations are weak or noisy (FM stations OK). | 1. Antenna<br>2. Poor radio ground<br>3. Radio | 1. Check antenna.<br>2. Check radio ground.<br>3. Remove radio for repair. |
| FM stations are weak or noisy (AM stations OK). | 1. Window antenna<br>2. Radio | 1. Check window antenna.<br>2. Remove radio for repair. |
| Radio generates noise in AM and FM modes with engine running. | 1. Poor radio ground<br>2. Loose or missing ground bonding straps<br>3. Ignition condenser or rear window defogger noise suppressor condenser<br>4. Alternator<br>5. Ignition coil or secondary wiring<br>6. Radio | 1. Check radio ground.<br>2. Check ground bonding straps.<br>3. Replace ignition condenser or rear window defogger noise suppressor condenser.<br>4. Check alternator.<br>5. Check ignition coil and secondary wiring.<br>6. Remove radio for repair. |
| Radio generates noise in AM and FM modes with accessories on (switch pops and motor noise). | 1. Poor radio ground<br>2. Antenna<br>3. Accessory ground<br>4. Faulty accessory | 1. Check radio ground.<br>2. Check antenna.<br>3. Check accessory ground.<br>4. Replace accessory. |
| Radio controls are operational, but no sound is heard from any speaker. | 1. 10A fuse<br>2. Radio output<br>3. Radio | 1. Check 10A fuse [No. 24, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of speaker amp.<br>2. Check radio output voltage (Terminal 12).<br>3. Remove radio for repair. |
| All speakers are inoperative. | 1. Speaker amp. ground<br>2. Amp. ON signal | 1. Check speaker amp.<br>2. Check speaker amp. ground (Terminal 23).<br>3. 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. | 1. Speaker<br>2. Speaker amp. output<br>3. Speaker circuit<br>4. Radio | 1. Check speaker.<br>2. Check speaker amp. output.<br>3. Check wires for open or short between radio/amp. and speakers.<br>4. Remove radio for repair. |

# Inspection

=NCEL0083

## RADIO AND AMP.

NCEL0083S01

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

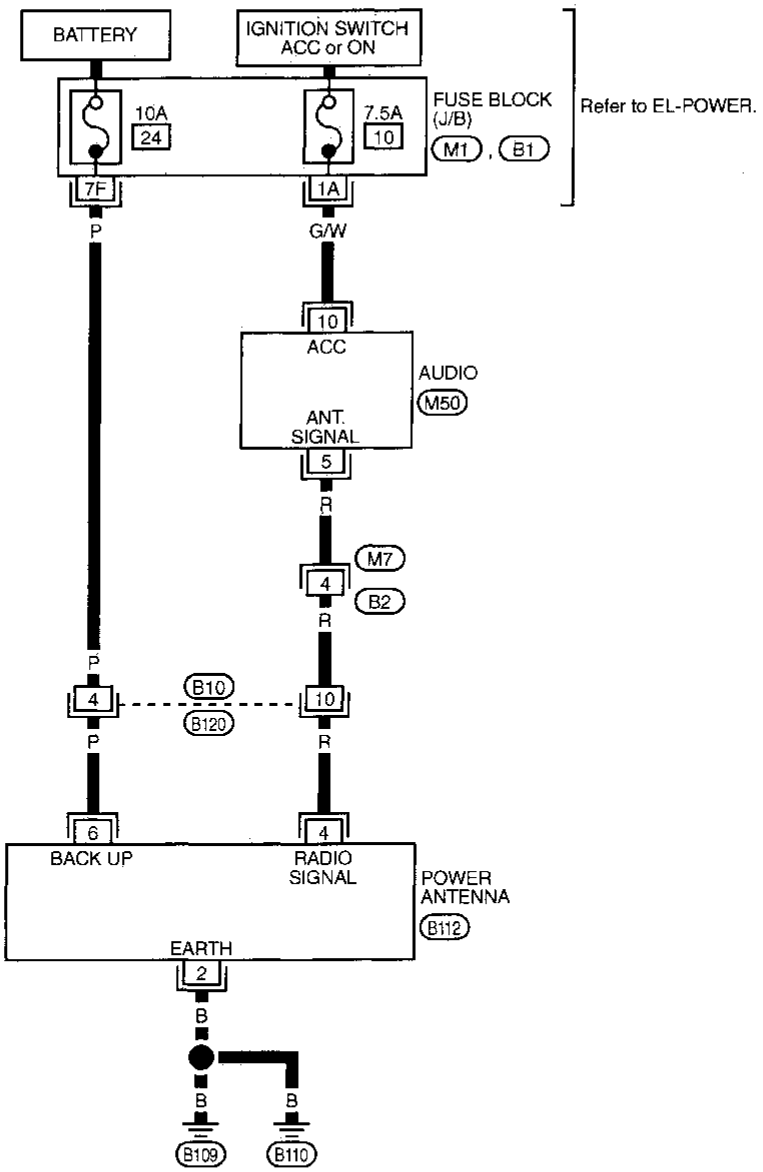
- from audio terminal 5
- to power antenna terminal 4.

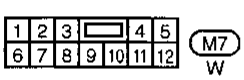
The antenna retracts.

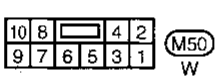
# Wiring Diagram — P/ANT —

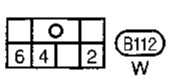
NCEL0085

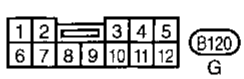
EL-P/ANT-01




*Refer to last page (Foldout page).*
M1
B1

TEL914A

# Trouble Diagnoses

NCEL0086

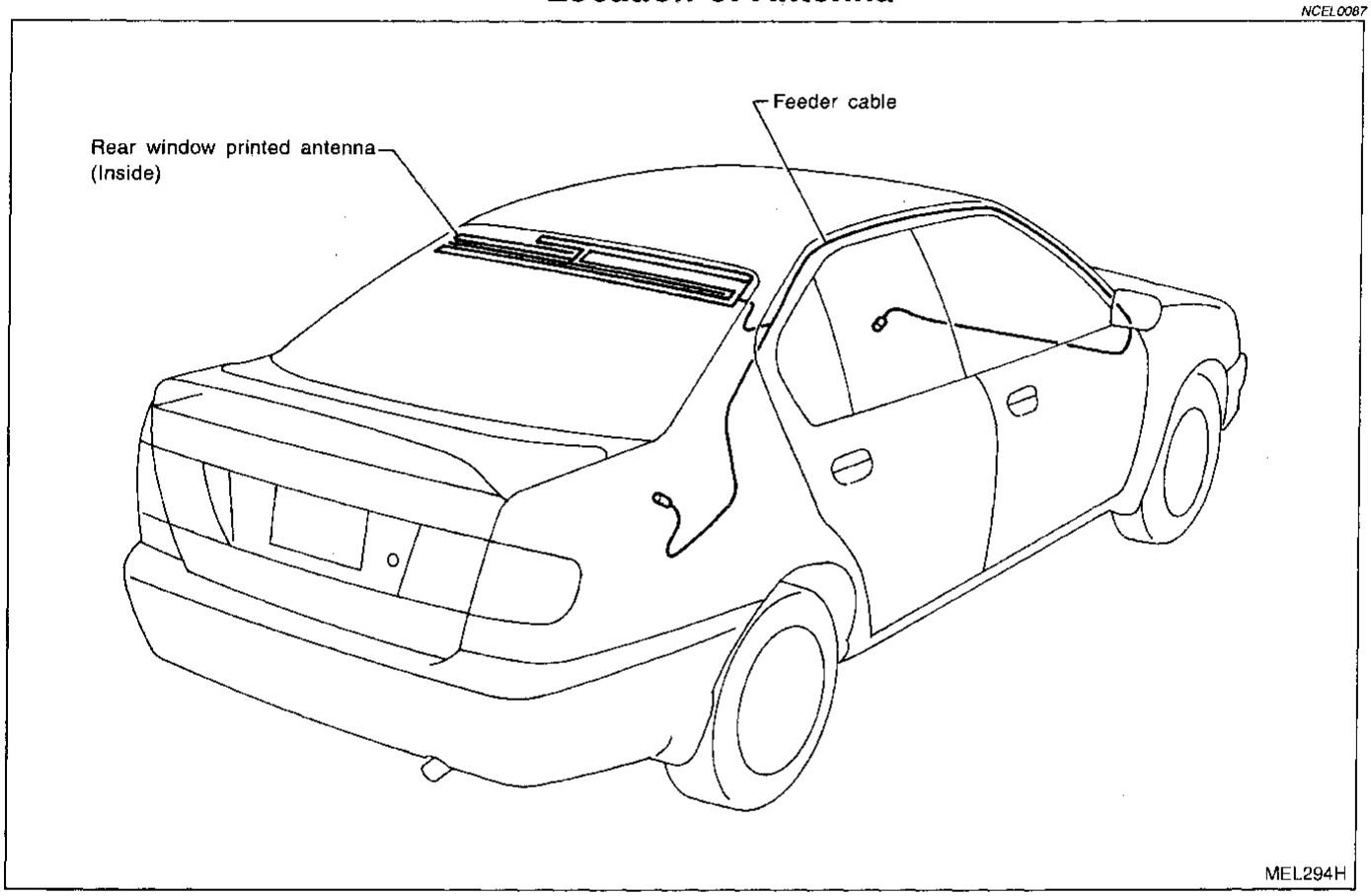
## POWER ANTENNA

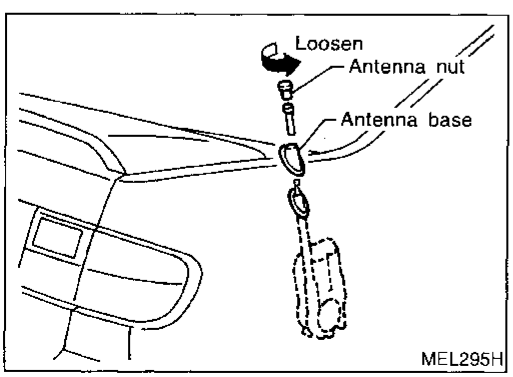
NCEL0086S01

| Symptom | Possible causes | Repair order |
|---|---|---|
| Power antenna does not operate. | 1. 10A fuse<br>2. Radio signal<br>3. Grounds B109 and B110 | 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.<br>2. Turn ignition switch and radio ON. Verify that battery positive voltage is present at terminal 4 of power antenna.<br>3. Check grounds B109 and B110. |

## Location of Antenna

NCEL0087




## Antenna Rod Replacement

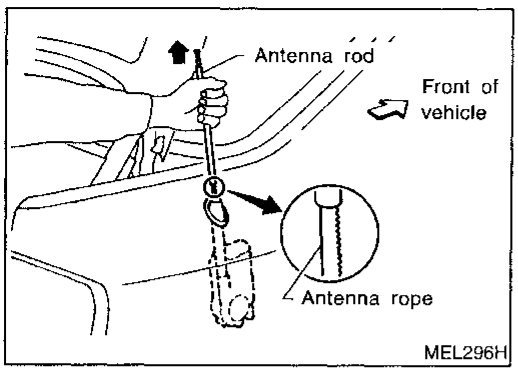
NCEL0088

NCEL0088S01

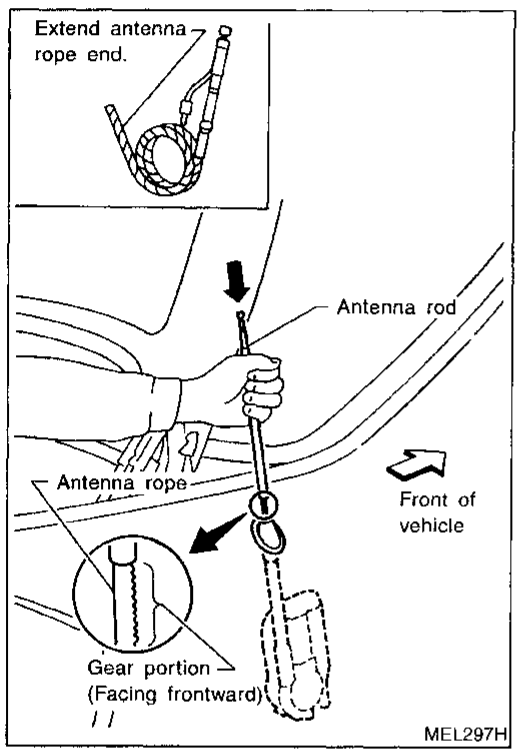
### REMOVAL

1. Remove antenna nut and antenna base.

*Antenna Rod Replacement (Cont'd)*




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




## INSTALLATION

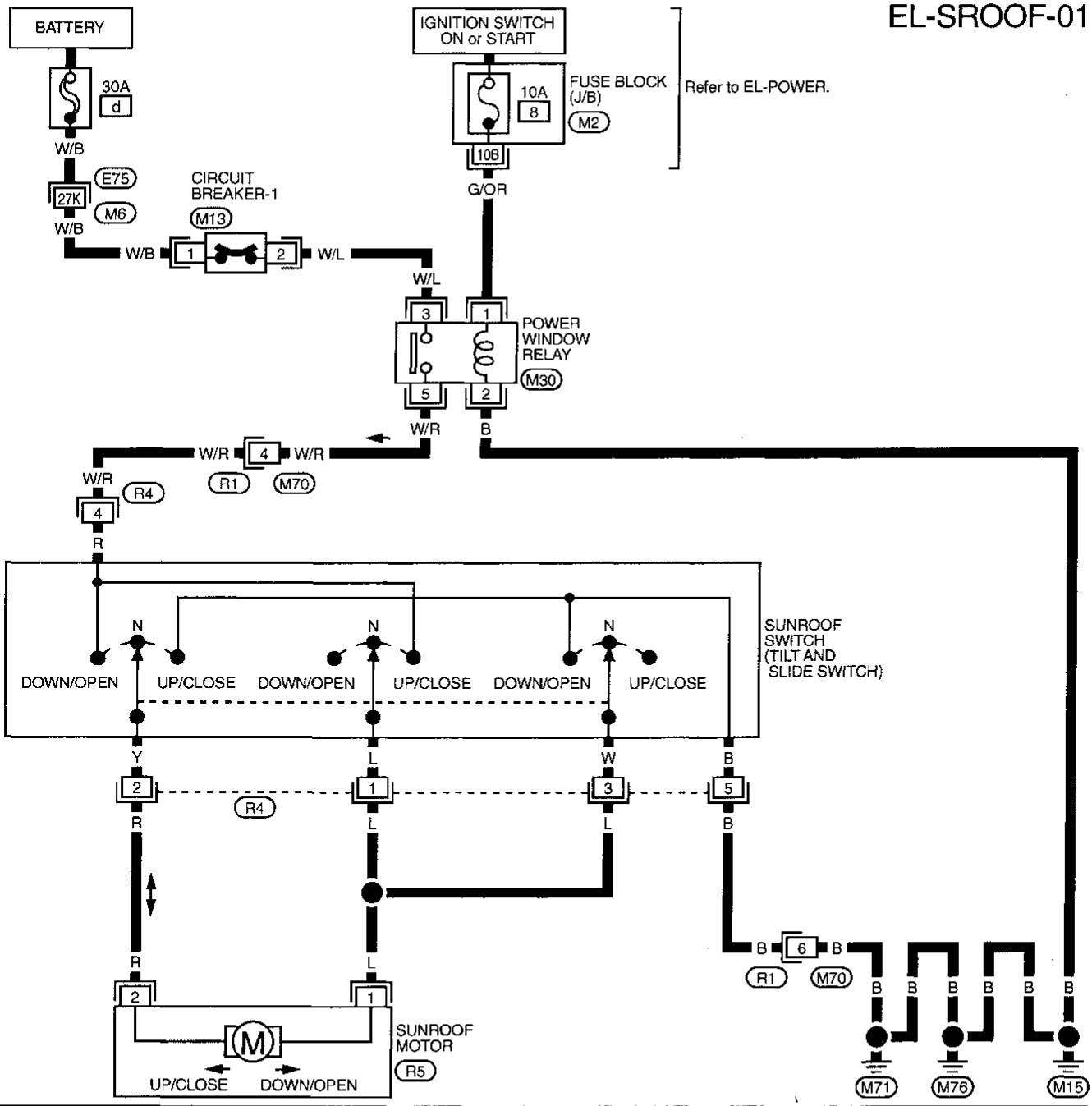
NCEL0088S02

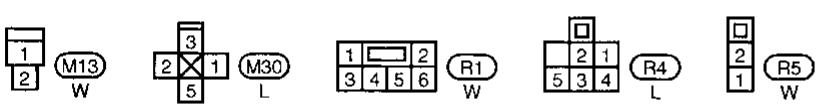
1. Lower antenna rod by operating antenna motor.
2. Insert gear section of antenna rope into place with it facing toward antenna motor.
3. As soon as antenna rope is wound on antenna motor, stop antenna motor. Insert antenna rod lower end into antenna motor pipe.
4. Retract antenna rod completely by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

# Wiring Diagram — SROOF —

NCEL0089

EL-SROOF-01




Refer to last page (Foldout page).

M6 , E75

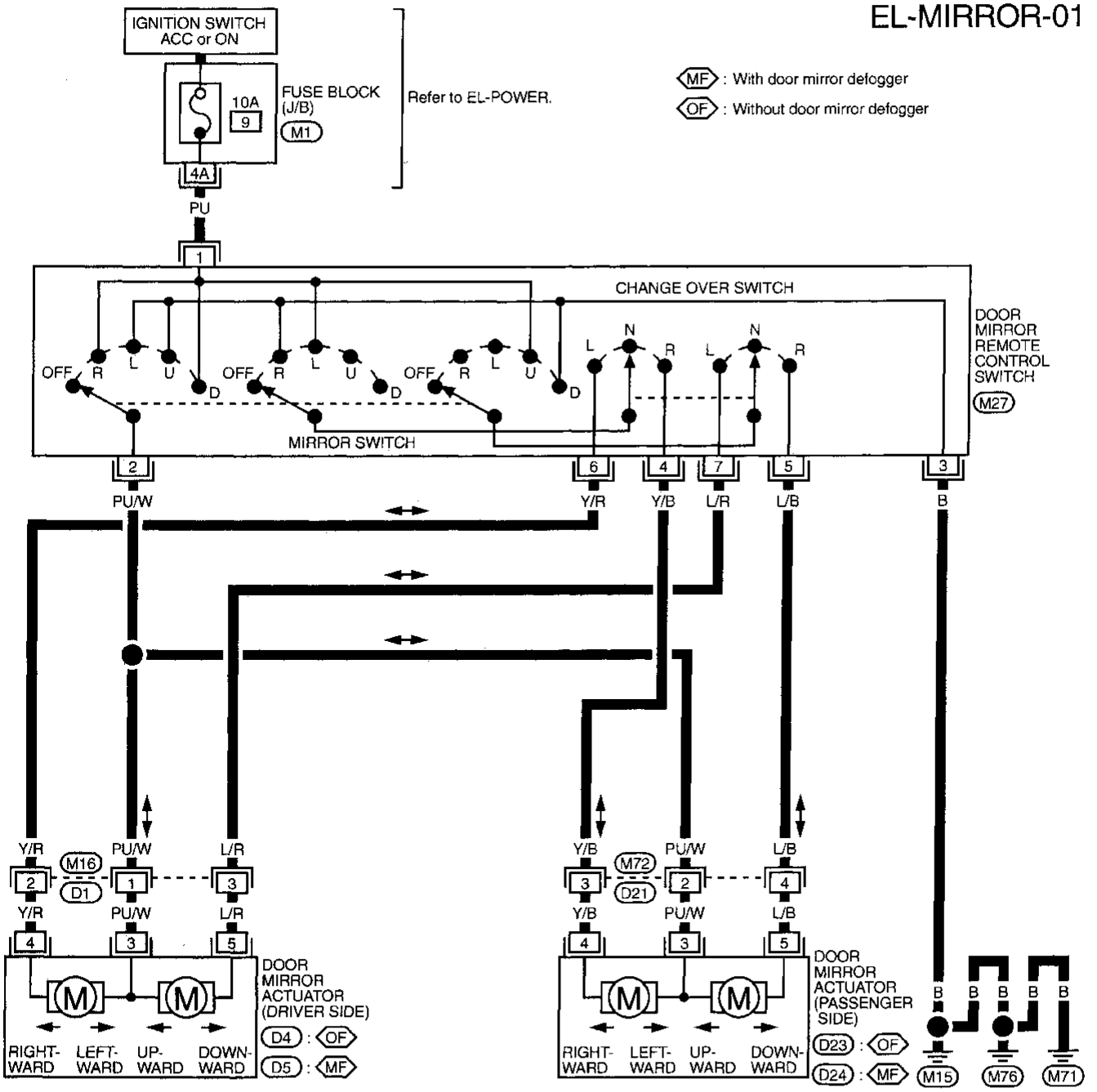
M2

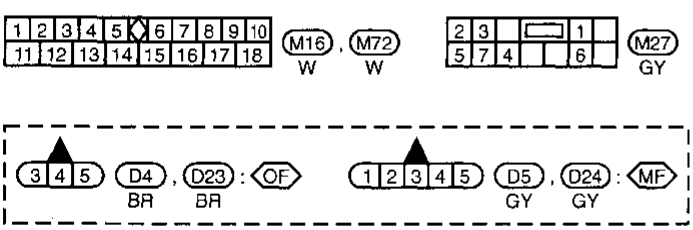
TEL915A

## Wiring Diagram — MIRROR —

NCEL0090

EL-MIRROR-01



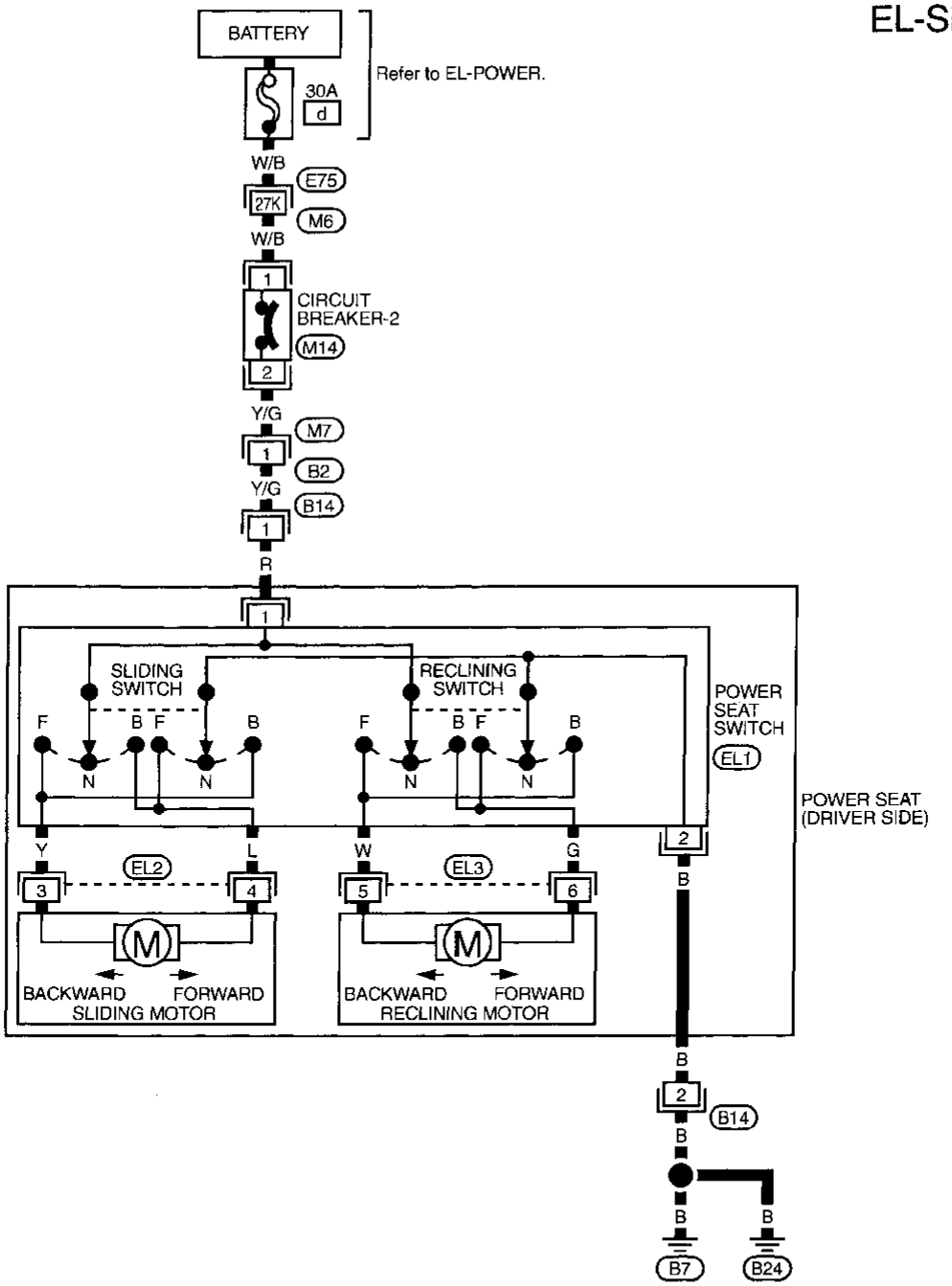

Refer to last page (Foldout page).
M1

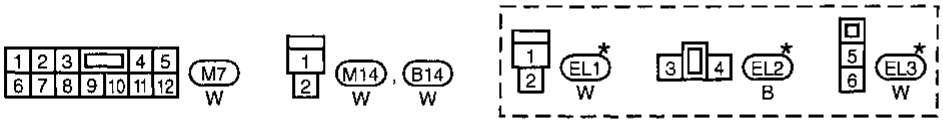
TEL917A

# Wiring Diagram — SEAT —

NCEL0092

EL-SEAT-01



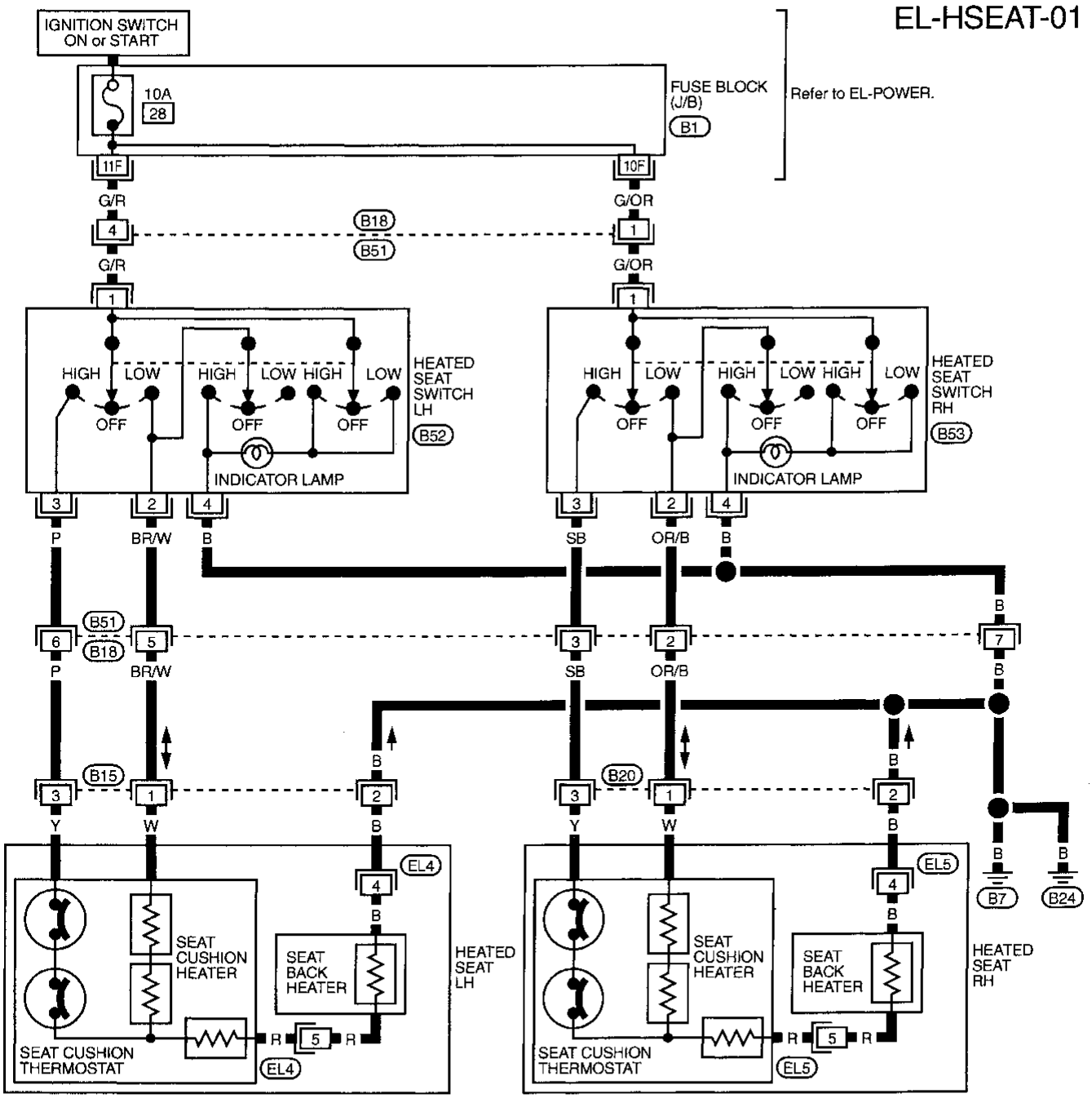

Refer to last page (Foldout page).
M6, E75

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

TEL918A

## Wiring Diagram — HSEAT —

NCEL0093




B15, B20 W W

B51 W

B52, B53 L W

EL4*, EL5* L L

Refer to last page (Foldout page).

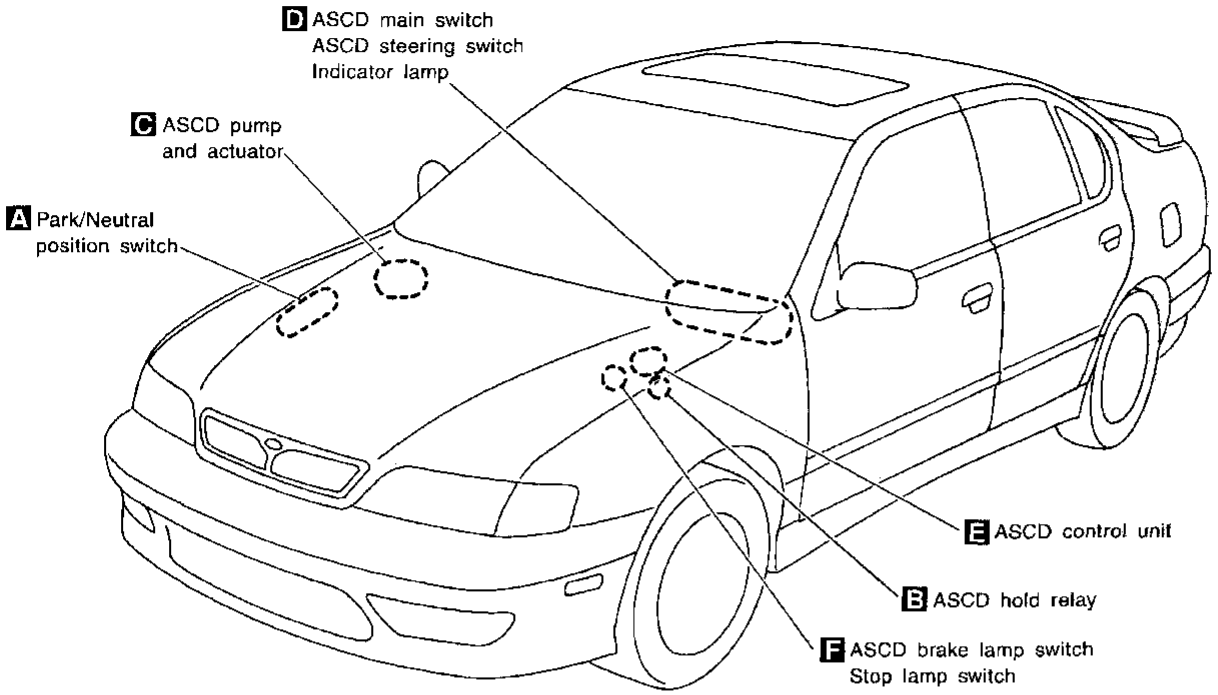
B1

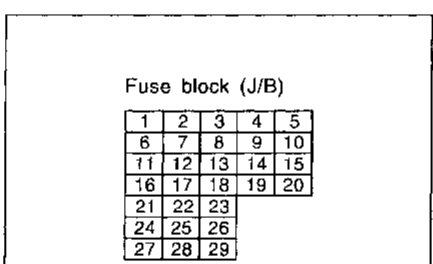
★: This connector is not shown in "HARNESS LAYOUT", EL section.

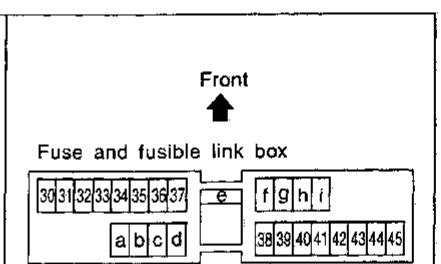
TEL919A

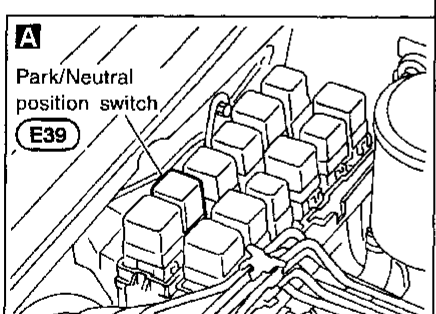
# Component Parts and Harness Connector Location

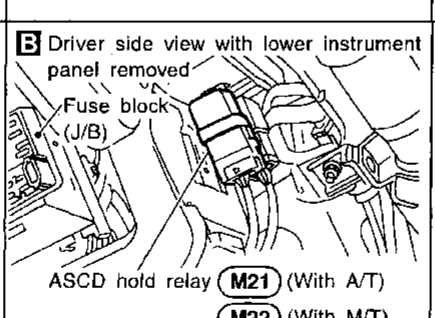
NCEL0094

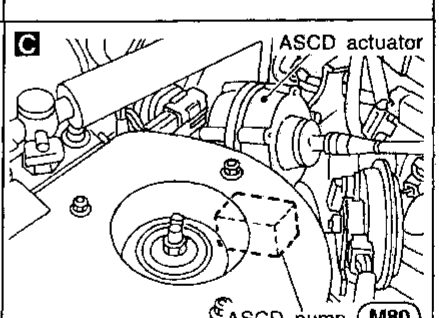


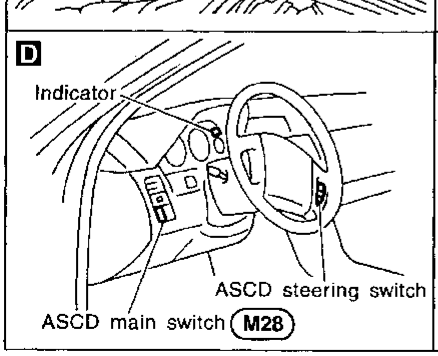



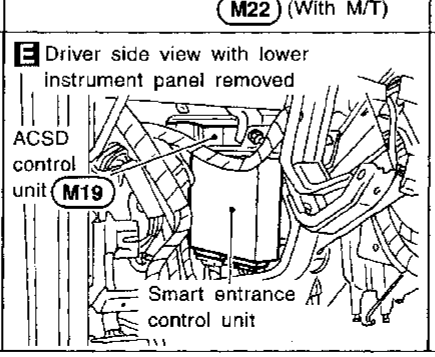



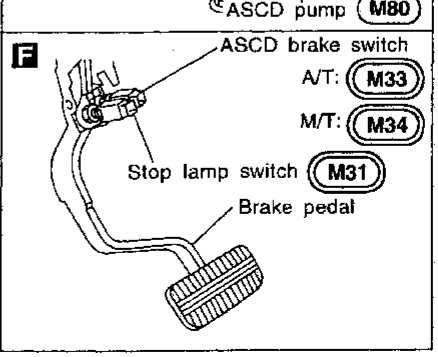




SEL836V

## System Description

NCEL0095

Refer to Owner's Manual for ASCD operating instructions.

### POWER SUPPLY AND GROUND

NCEL0095S03

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 hold relay terminal 5 and
- to ASCD main switch terminal 1.

When ASCD main switch is in ON position, power is supplied
- from ASCD main switch terminal 3
- to ASCD hold relay terminal 2.

Ground is supplied
- to ASCD hold relay terminal 1
- through body grounds M15, M71 and M76.

With power and ground is supplied, the ASCD hold relay is energized, then power is supplied
- from ASCD hold relay terminal 3
- to ASCD control unit terminal 4 and
- to ASCD main switch terminal 2.

After the ASCD main switch is released, power remains supplied
- to the coil circuit of ASCD hold relay
- through ASCD main switch terminals 2 and 3.

This power supply is kept until any of following conditions exist.
- Ignition switch is returned to the ACC or OFF position.
- ASCD main switch is turned to OFF position.

During ASCD hold relay is energized power is also supplied to ASCD control unit terminal 5
- through ASCD brake switch, ASCD hold relay and park/neutral position relay, (A/T models) or
- through ASCD hold relay, ASCD clutch switch and ASCD brake switch, (M/T models).

Ground is supplied
- to ASCD control unit terminal 3
- through body grounds M15, M71 and M76.

### INPUTS

NCEL0095S01

At this point, the system is ready to activate or deactivate, based on inputs from the following:
- speedometer in the combination meter
- stop lamp switch
- ASCD steering switch
- park/neutral position relay (A/T models)
- ASCD brake switch.
- ASCD clutch switch (M/T models)

A vehicle speed input signal is supplied
- to ASCD control unit terminal 7
- from terminal 32 of the combination meter.

Power is supplied at all times
- to stop lamp switch terminal 1
- through 15A fuse [No. 14, located in the fuse block (J/B)].

When the brake pedal is depressed, power is supplied
- from terminal 2 of the stop lamp switch
- to ASCD control unit terminal 11.

Power is supplied at all times
- through 10A fuse [No. 36, located in the fuse and fusible link box]
- to horn low relay terminal 2 and
- through 10A fuse [No. 41, located in the fuse and fusible link box]

- to horn high relay terminal 2
- through terminal 1 of each horn relay
- to ASCD steering switch terminal 21.

When the SET/COAST switch is depressed, power is supplied
- from terminal 23 of the ASCD steering switch
- to ASCD control unit terminal 2.

When the RESUME/ACCEL switch is depressed, power is supplied
- from terminal 22 of the ASCD steering switch
- to ASCD control unit terminal 1.

When the system is activated, power is supplied
- to ASCD control unit terminal 5.

Power is interrupted when
- the selector lever is placed in P or N or
- the ASCD brake switch is depressed or
- the ASCD clutch switch is depressed (M/T models).

## OUTPUTS

NCEL0095S02

The ASCD actuator controls the throttle drum via the ASCD wire based on inputs from the ASCD control unit.
The ASCD pump consists of a vacuum motor, an air valve, and a release valve.
Power is supplied
- from terminal 8 of the ASCD control unit
- to ASCD pump terminal 1.

Ground is supplied to the vacuum motor
- from terminal 9 of the ASCD control unit
- to ASCD pump terminal 4.

Ground is supplied to the air valve
- from terminal 10 of the ASCD control unit
- to ASCD pump terminal 2.

Ground is supplied to the release valve
- from terminal 14 of the ASCD control unit
- to ASCD pump terminal 3.

When the system is activated, power is supplied
- from terminal 13 of the ASCD control unit
- to combination meter terminal 40 and
- to TCM (Transmission control module) terminal 18.

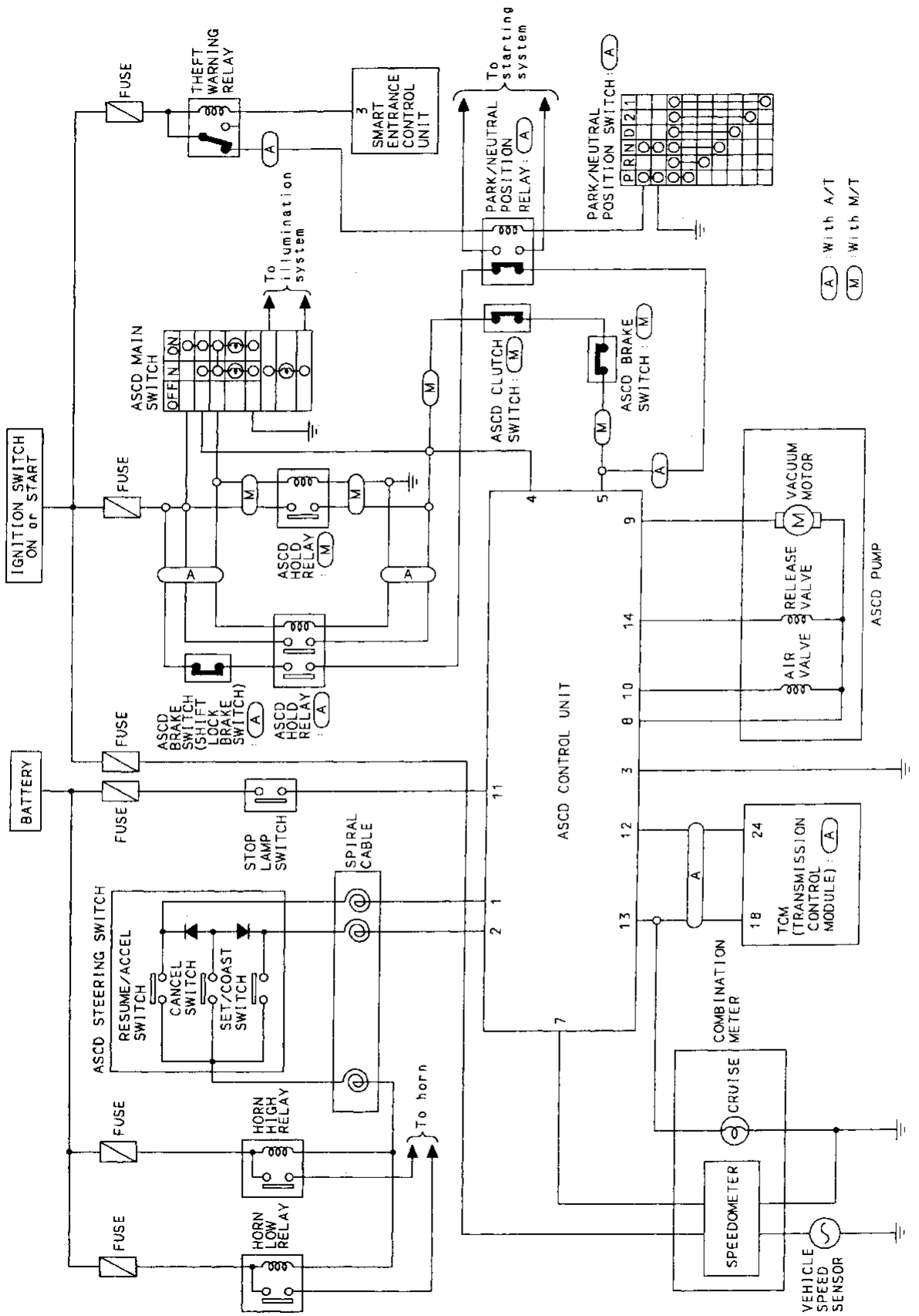
Ground is supplied
- to combination meter terminal 39
- through body grounds M15, M71 and M76.

With power and ground supplied, the CRUISE indicator illuminates.
When vehicle speed is approximately 8 km/h (5 MPH) below set speed, a signal is sent
- from terminal 12 of the ASCD control unit
- 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.

## Schematic

NCEL0096




TEL921A

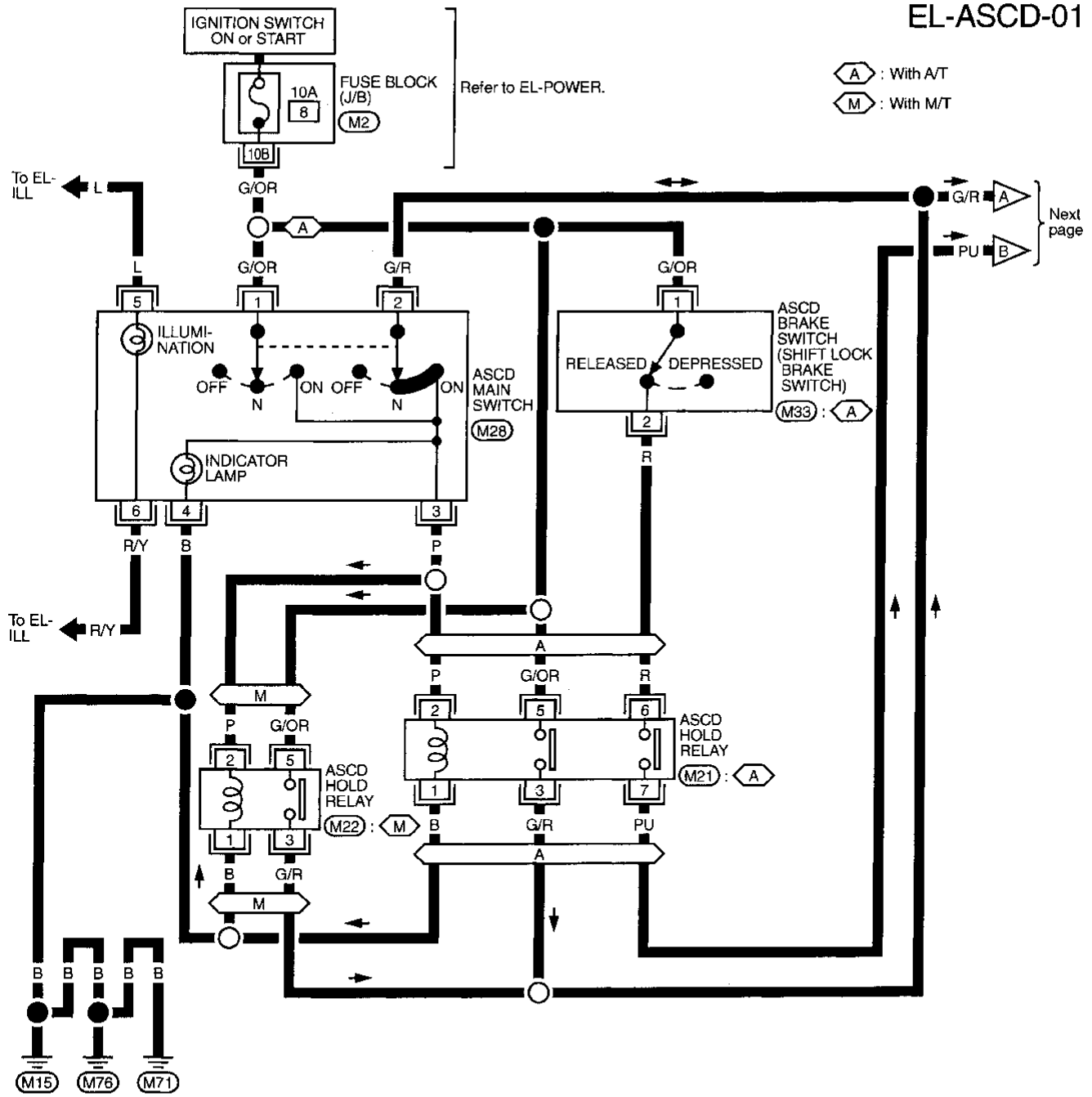
# Wiring Diagram — ASCD —

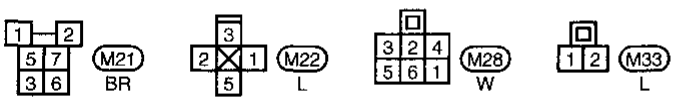
NCEL0097

NCEL0097S01

**FIG. 1**

EL-ASCD-01



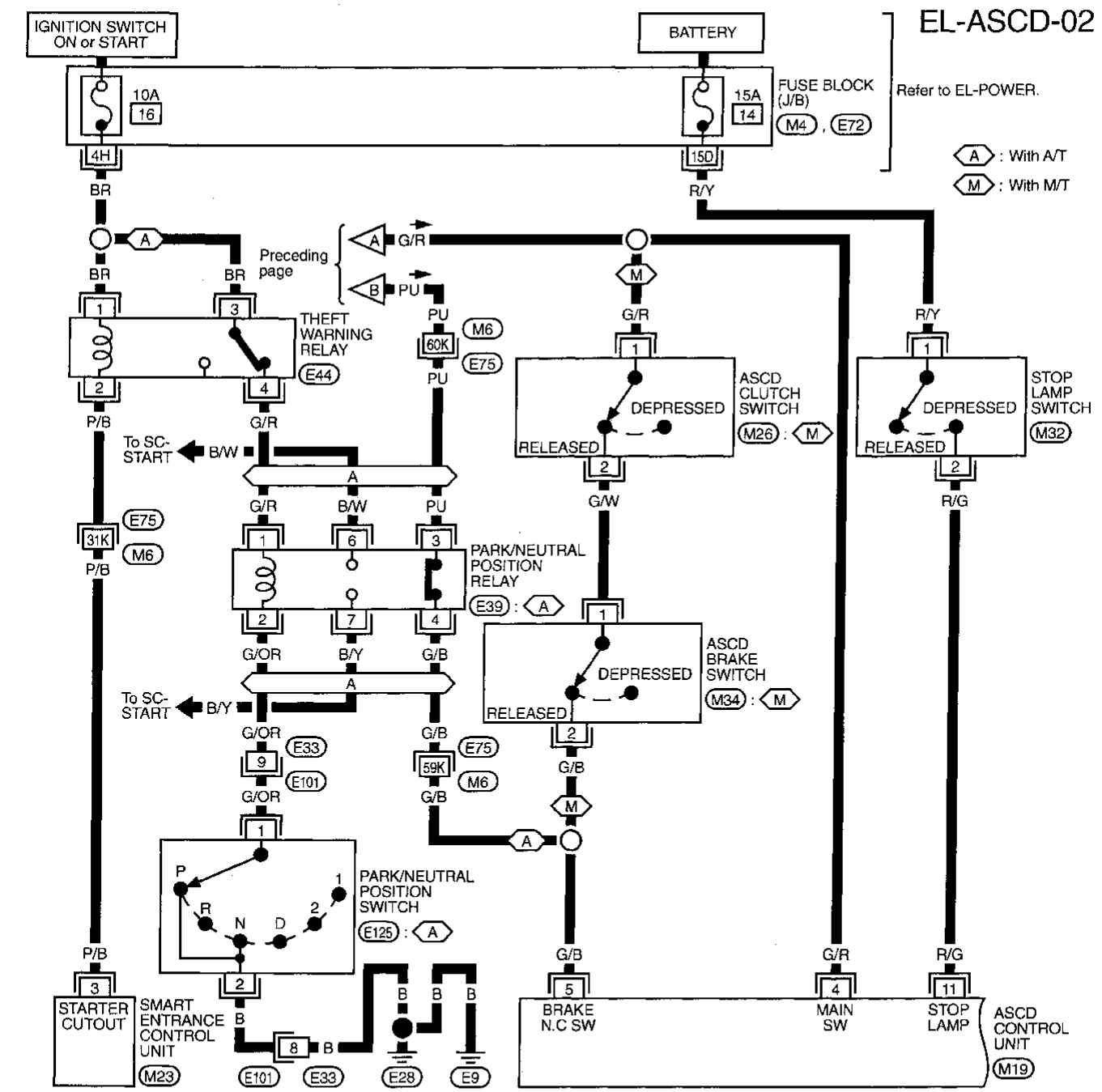



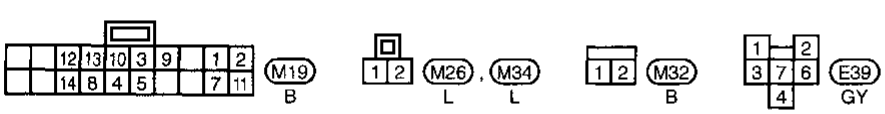

Refer to last page (Foldout page).
M2

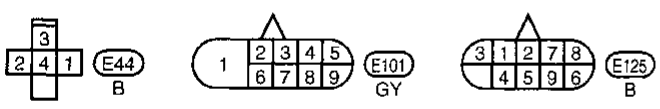
TEL922A

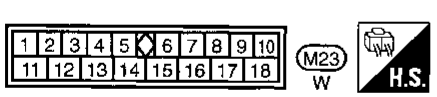
**FIG. 2**

NCEL0097S02



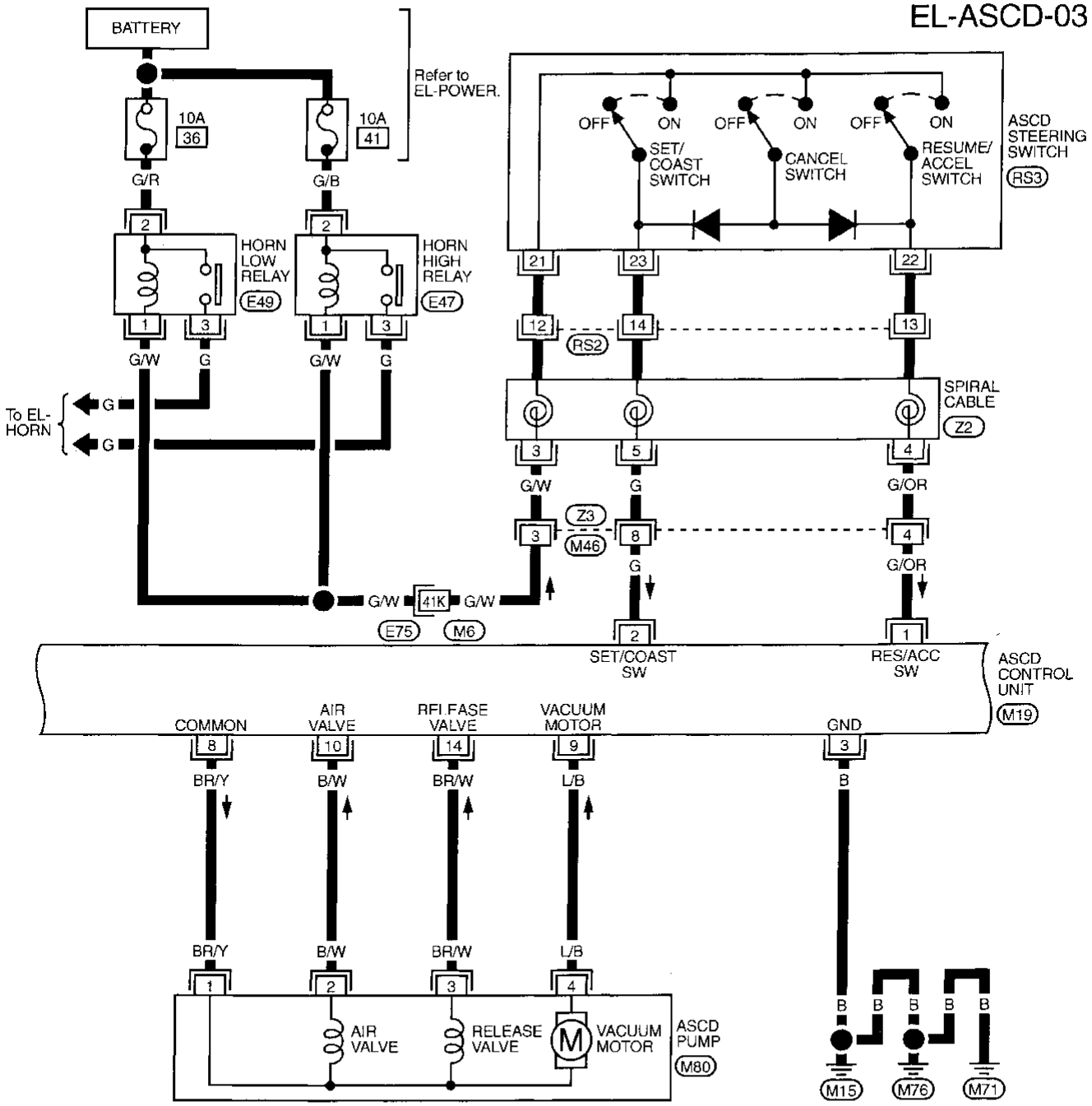



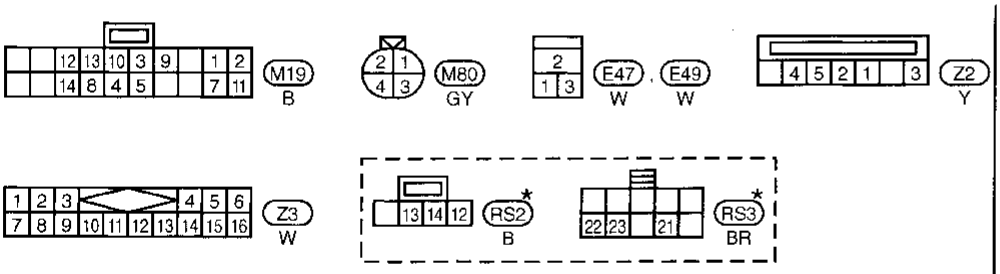

Refer to last page (Foldout page).
M6, E75
M4
E72

TEL923A

**FIG. 3**

NCEL0097S03



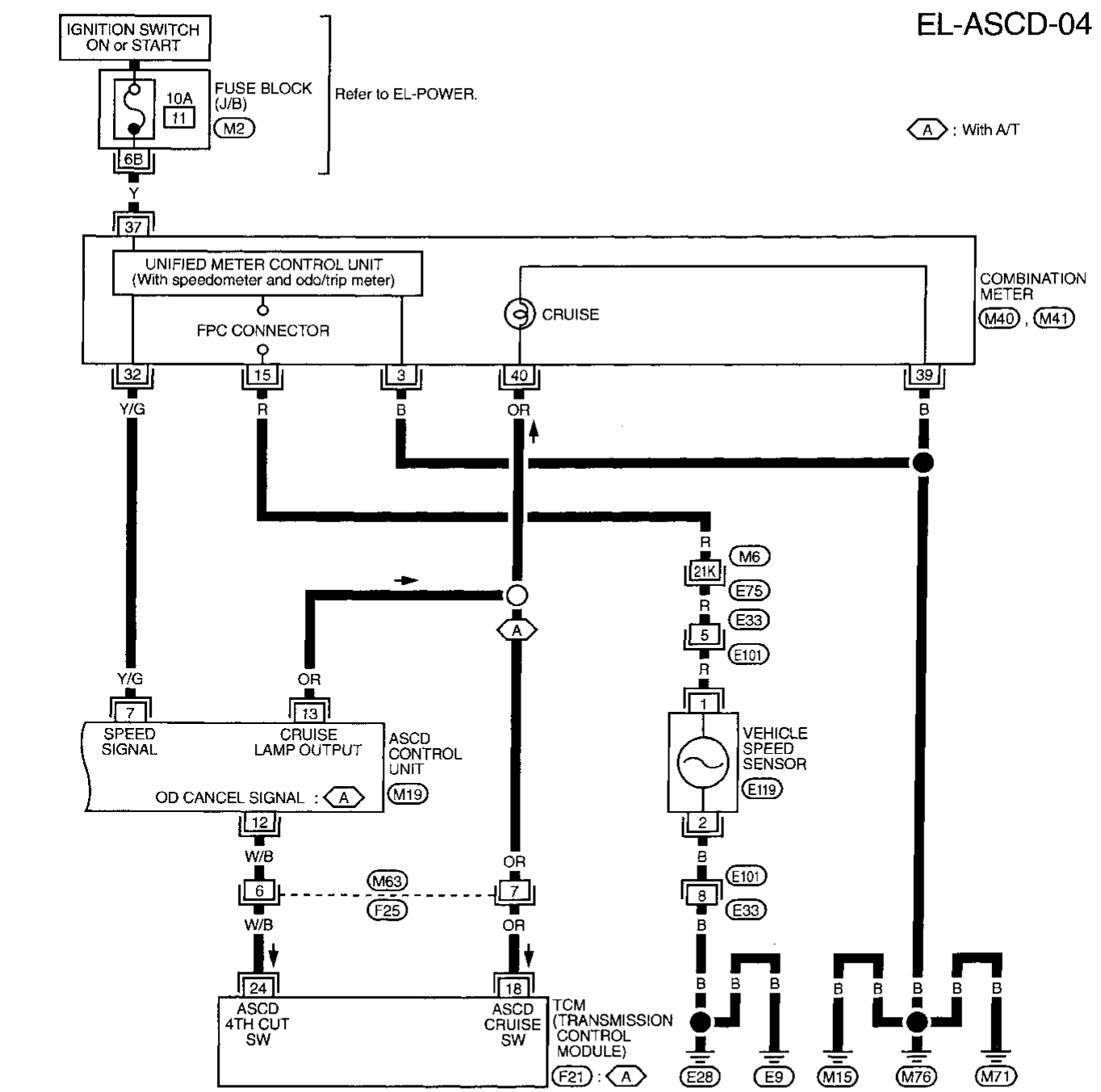

Refer to last page (Foldout page).
M6, E75

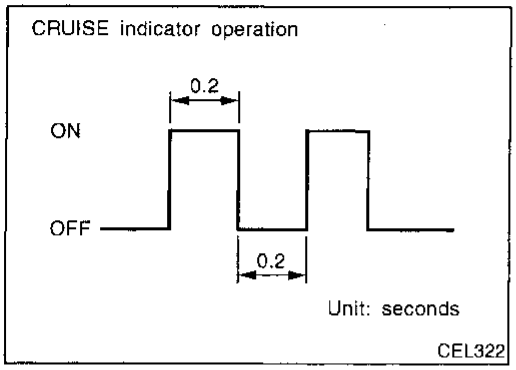
★: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL924A

**FIG. 4**

NCEL0097S04






# Fail-safe System

NCEL0098

## DESCRIPTION

NCEL0098S01

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

## MALFUNCTION DETECTION CONDITIONS

NCEL0098S02

| Detection conditions | ASCD operation during malfunction detection |
|---|---|
| • ASCD steering (RESUME/ACCEL, CANCEL, SET/COAST) switch is stuck.<br>• Vacuum motor ground circuit or power circuit is open or shorted.<br>• Air valve ground circuit or power circuit is open or shorted.<br>• Release valve ground circuit or power circuit is open or shorted.<br>• Vehicle speed sensor is faulty.<br>• ASCD control unit internal circuit is malfunctioning. | • ASCD is deactivated.<br>• Vehicle speed memory is canceled. |
| • ASCD brake switch or stop lamp switch is faulty. | • ASCD is deactivated.<br>• Vehicle speed memory is not canceled. |

# Trouble Diagnoses

NCEL0099

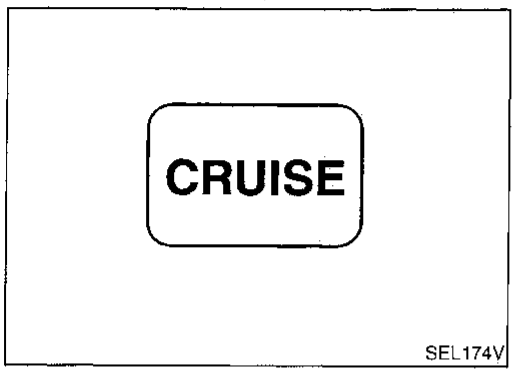
## SYMPTOM CHART

NCEL0099S01

| PROCEDURE | Diagnostic procedure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| REFERENCE PAGE (EL- ) | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 131 | 132 |
| SYMPTOM | FAIL-SAFE SYSTEM CHECK | POWER SUPPLY AND GROUND CIRCUIT CHECK | ASCD MAIN SWITCH CHECK | ASCD HOLD RELAY CHECK | ASCD BRAKE/STOP LAMP SWITCH CHECK | ASCD STEERING SWITCH CHECK | VEHICLE SPEED SENSOR CHECK | ASCD PUMP CIRCUIT CHECK | ASCD ACTUATOR/PUMP CHECK |
| ASCD cannot be set. ("CRUISE" indicator lamp does not blink.) | | X | X | X | | X | X | | |
| ASCD cannot be set. ("CRUISE" indicator lamp blinks.★1) | X | | | | X | X | X | X | |
| Vehicle speed does not decrease after SET/COAST switch has been pressed. | | | | | | X | | | X |
| Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.★2 | | | | | | X | | | X |
| Vehicle speed does not increase after RESUME/ACCEL switch has been pressed. | | | | | | X | | | X |
| System is not released after CANCEL switch (steering) has been pressed. | | | | | | X | | | X |
| Large difference between set speed and actual vehicle speed. | | | | | | | | | X |
| Deceleration is greatest immediately after ASCD has been set. | | | | | | | | | X |

★1: It indicates that system is in fail-safe. After completing diagnostic procedures, perform "FAIL-SAFE SYSTEM CHECK" (EL-125) to verify repairs.

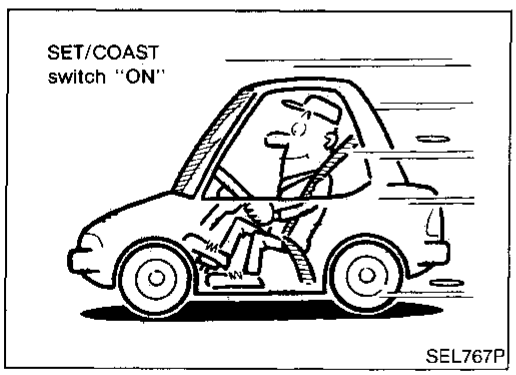
★2: If vehicle speed is greater than 48 km/h (30 MPH) after system has been released, pressing RESUME/ACCEL switch returns vehicle speed to the set speed previously achieved. However, doing so when the ASCD main switch is turned to "OFF", vehicle speed will not return to the set speed since the memory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



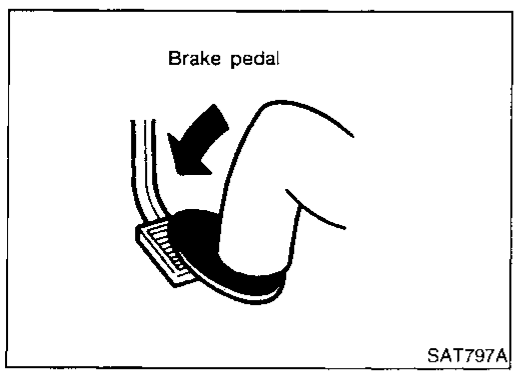

## FAIL-SAFE SYSTEM CHECK

=NCEL0099S02

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the "cruise indicator" blinks.
   **If the indicator lamp blinks, check the following.**
- ASCD steering switch. Refer to EL-130.




3. Drive the vehicle at more than 48 km/h (30 MPH) and push SET/COAST switch.
   **If the indicator lamp blinks, check the following.**
- Vehicle speed sensor. Refer to EL-131.
- ASCD pump circuit. Refer to EL-131.
- 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-129.

5. END. (System is OK.)

## POWER SUPPLY AND GROUND CIRCUIT CHECK

=NCEL0099S03

### 1 OPERATION CHECK

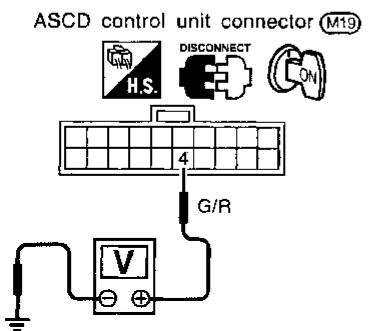
1. Turn ignition switch ON.
2. Turn ASCD main switch "ON".

**Does ASCD indicator illuminate?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | Go to ASCD MAIN SWITCH CHECK. Refer to EL-127. |

### 2 CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT

1. Disconnect ASCD control unit connector.
2. Turn ignition switch ON.
3. Turn ASCD main switch "ON".
4. Check voltage between control unit connector terminal 4 and ground.




SEL289UJ

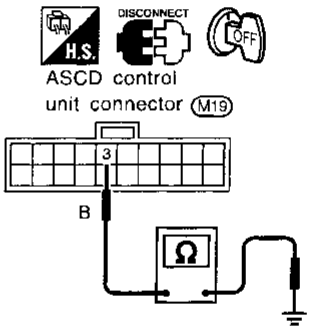
Refer to wiring diagram in EL-119.

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 3. |
| No | ▶ | Go to ASCD HOLD RELAY CHECK. Refer to EL-128. |

### 3 CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT

Check continuity between ASCD control unit harness terminal 3 and body ground.




SEL764UE

Refer to wiring diagram in EL-122.

**Does continuity exist?**

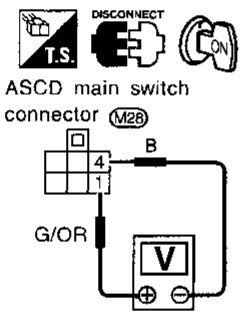
| | | |
|---|---|---|
| Yes | ▶ | Power supply and ground circuit is OK. |
| No | ▶ | Repair harness. |

## ASCD MAIN SWITCH CHECK

=NCEL0099S04

| 1 | CHECK POWER SUPPLY FOR ASCD MAIN SWITCH |
|---|---|

1. Disconnect main switch connector.
2. Check voltage between main switch terminals 1 and 4.




MEL842FD

Refer to wiring diagram in EL-119.

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | **Check the following.**<br>• 7.5A fuse (No. 11, located in the fuse block)<br>• Harness for open or short between fuse and ASCD main switch<br>• Ground circuit for ASCD main switch |

| 2 | CHECK ASCD MAIN SWITCH |
|---|---|

Refer to "Electrical Component Inspection" (EL-133).

**OK or NG**

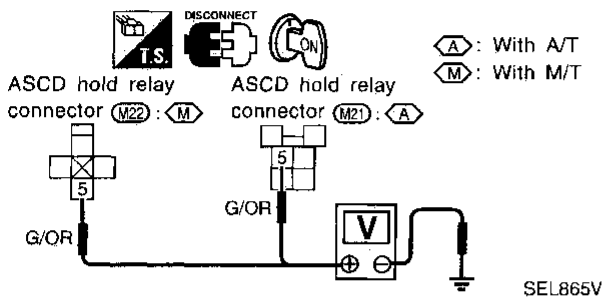
| | | |
|---|---|---|
| OK | ▶ | Go to ASCD HOLD RELAY CHECK. Refer to EL-128. |
| NG | ▶ | Replace ASCD main switch. |

## ASCD HOLD RELAY CHECK

=NCEL0099S05

### 1 CHECK POWER SUPPLY CIRCUIT FOR ASCD HOLD RELAY

1. Disconnect ASCD hold relay.
2. Check voltage between ASCD hold relay terminal 5 and body ground.




SEL865V

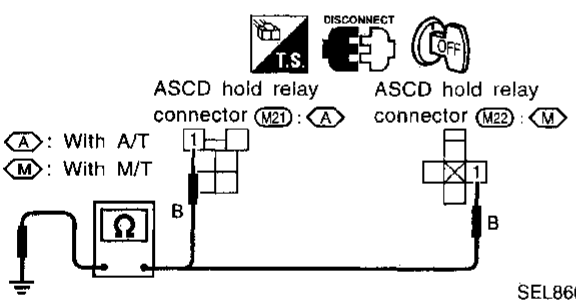
Refer to wiring diagram in EL-119.

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | **Check the following.**<br>• 7.5A fuse (No. 11, located in the fuse block)<br>• Harness for open or short between fuse and ASCD hold relay |

### 2 CHECK GROUND CIRCUIT FOR ASCD HOLD RELAY

Check continuity between ASCD hold relay terminal 1 and ground.




SEL866V

**Does continuity exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 3. |
| No | ▶ | Repair harness. |

### 3 CHECK ASCD HOLD RELAY

Check ASCD hold relay.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Replace ASCD hold relay. |

### 4 CHECK ASCD MAIN SWITCH

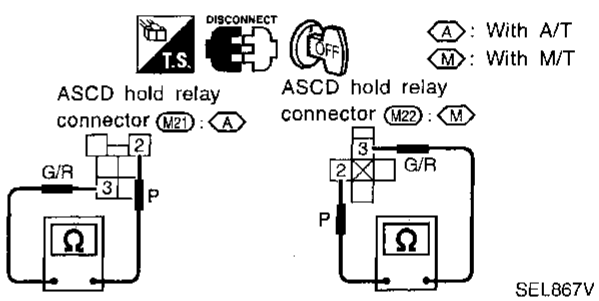
Refer to "Electrical Component Inspection" (EL-133).

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 5. |
| NG | ▶ | Replace ASCD main switch. |

### 5 CHECK ASCD HOLD RELAY OPEN OR SHORT CIRCUIT

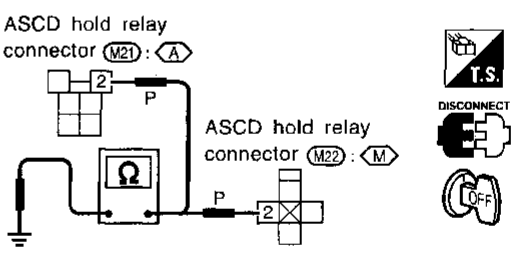
1. Connect ASCD main switch.
2. Check continuity between ASCD hold relay terminals 2 and 3.




SEL867V

**Continuity should exist.**

3. Check continuity between ASCD hold relay terminal 2 and ground.




SEL868V

**Continuity should not exist.**

**OK or NG**

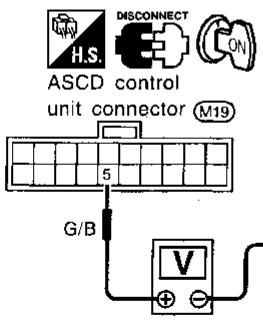
| | | |
|---|---|---|
| OK | ▶ | ASCD hold relay is OK. |
| NG | ▶ | Repair harness. |

## ASCD BRAKE/STOP LAMP SWITCH CHECK

=NCEL0099S06

### 1 CHECK ASCD BRAKE SWITCH CIRCUIT

1. Disconnect control unit connector.
2. Turn ignition switch ON.
3. Turn ASCD main switch "ON".
4. Check voltage between control unit connector terminal 5 and ground.
   When brake pedal is depressed or A/T selector lever is in "N" or "P" range:
   **Approx. 0V**
   When both brake pedal is released and A/T selector lever is not in "N" or "P" range:
   **Battery voltage should exist.**




SEL765UJ

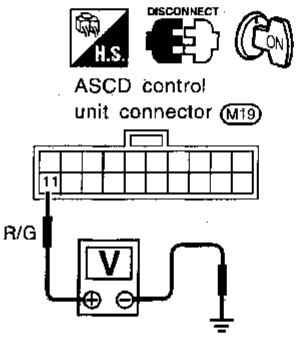
Refer to wiring diagram in EL-120.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | **Check the following.**<br>• ASCD brake switch<br>Refer to "Electrical Component Inspection" (EL-133).<br>• Inhibitor switch<br>Refer to "Electrical Component Inspection" (EL-133).<br>• ASCD hold relay<br>• Harness for open or short |

### 2 CHECK STOP LAMP SWITCH CIRCUIT

1. Disconnect control unit connector.
2. Check voltage between control unit terminal 11 and ground.




SEL759UG

**Voltage [V]:**
**Stop lamp switch: Depressed**
**Approx. 12**
**Stop lamp switch: Released**
**0**

Refer to wiring diagram in EL-121.

**OK or NG**

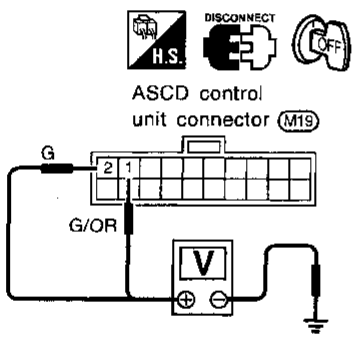
| | | |
|---|---|---|
| OK | ▶ | ASCD brake/stop lamp switch is OK. |
| NG | ▶ | **Check the following.**<br>• 10A fuse [No. 14, located in the fuse block (J/B)]<br>• Harness for open or short between ASCD control unit and stop lamp switch<br>• Stop lamp switch<br>Refer to "Electrical Component Inspection" (EL-133). |

## ASCD STEERING SWITCH CHECK

=NCEL0099S07

### 1 CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT

1. Disconnect control unit connector.
2. Check voltage between control unit harness terminals and ground.




SEL760UG

| | Terminal No. | | Switch condition | |
|---|---|---|---|---|
| | (+) | (−) | Pressed | Released |
| SET/COAST SW | 2 | ground | 12V | 0V |
| RESUME/ACC SW | 1 | ground | 12V | 0V |
| CANCEL SW | 2 | ground | 12V | 0V |
| | 1 | ground | 12V | 0V |

MTBL0002

Refer to wiring diagram in EL-121.

**OK or NG**

| | |
|---|---|
| OK ▶ | ASCD steering switch is OK. |
| NG ▶ | GO TO 2. |

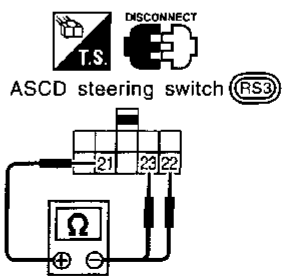
### 2 CHECK POWER SUPPLY FOR ASCD STEERING SWITCH

**Does horn work?**

| | |
|---|---|
| Yes ▶ | GO TO 3. |
| No ▶ | **Check the following.**<br>• 10A fuse (No. 54, located in the relay box)<br>• Horn relay<br>• Harness for open or short between horn and fuse |

### 3 CHECK ASCD STEERING SWITCH

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




SEL869V

| Switch | Terminal | | |
|---|---|---|---|
| | 21 | 22 | 23 |
| SET/COAST | ○ | | ○ |
| RESUME/ACCEL | ○ | ○ | |
| CANCEL | ○ | ○ | |
| | ○ | | ○ |

MTBL0149

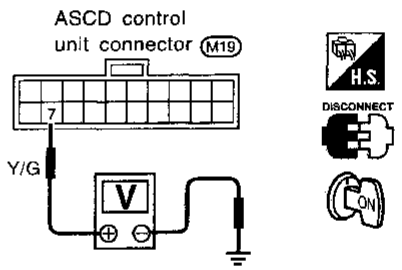
**OK or NG**

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

## VEHICLE SPEED SENSOR CHECK

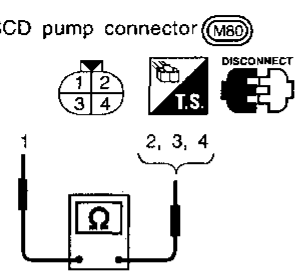
=NCEL0099S08

| 1 | CHECK SPEEDOMETER OPERATION | |
|---|---|---|
| Refer to wiring diagram in EL-122.<br>**Does speedometer operate normally?** | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check speedometer and vehicle speed sensor circuit. Refer to EL-68. |

| 2 | CHECK VEHICLE SPEED INPUT | |
|---|---|---|
| 1. Apply wheel chocks and jack up drive wheel.<br>2. Disconnect control unit connector.<br>3. Check voltage between control unit terminal 7 and ground with turning drive wheel slowly. | | |
|  <br>SEL347VA | | |
| **Does voltage pointer deflect?** | | |
| Yes | ▶ | Vehicle speed sensor is OK. |
| No | ▶ | Check harness for open or short between ASCD control unit terminal 7 and combination meter terminal 36. |

## ASCD PUMP CIRCUIT CHECK

NCEL0099S09

| 1 | CHECK ASCD PUMP | |
|---|---|---|
| 1. Disconnect ASCD pump connector.<br>2. Measure resistance between ASCD pump terminals 1 and 2, 3, 4. | | |
|  <br>SEL870V | | |
| Refer to wiring diagram in EL-122. | | |
| **OK or NG** | | |
| OK | ▶ | Check harness for open or short between ASCD pump and ASCD control unit. |
| NG | ▶ | Replace ASCD pump. |

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

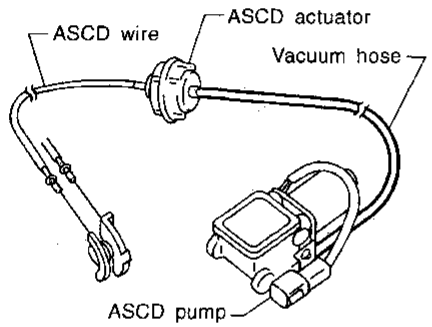
MTBL0150

## ASCD ACTUATOR/PUMP CHECK

=NCEL0099S10

### 1 CHECK VACUUM HOSE

Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks or fracture.




MEL402G

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair or replace hose. |

### 2 CHECK ASCD WIRE

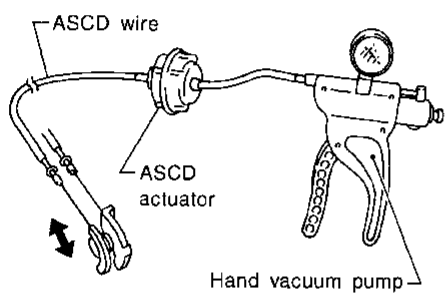
Check wire for improper installation, rust formation or breaks.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-134). |

### 3 CHECK ASCD ACTUATOR

1. Disconnect vacuum hose from ASCD actuator.
2. Apply –40 kPa (–0.41 kg/cm$^2$, –5.8 psi) vacuum to ASCD actuator with hand vacuum pump.
   **ASCD wire should move to pull throttle drum.**
3. Wait 10 seconds and check for decrease in vacuum pressure.




MEL403G

**Vacuum pressure decrease:**
**Less than 2.7 kPa (0.028 kg/cm$^2$, 0.39 psi)**

**OK or NG**

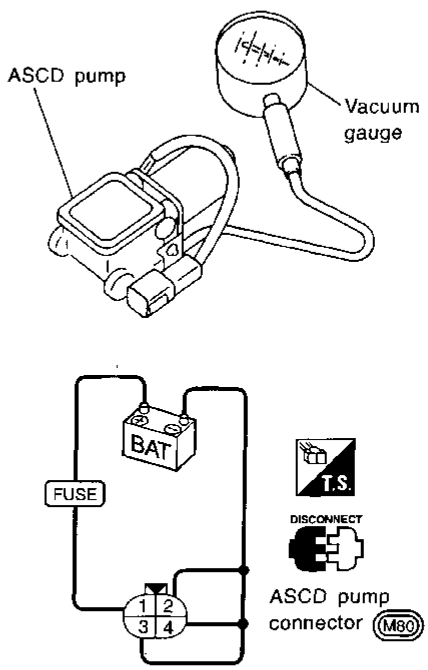
| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Replace ASCD actuator. |

### 4 CHECK ASCD PUMP

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

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

MTBL0151

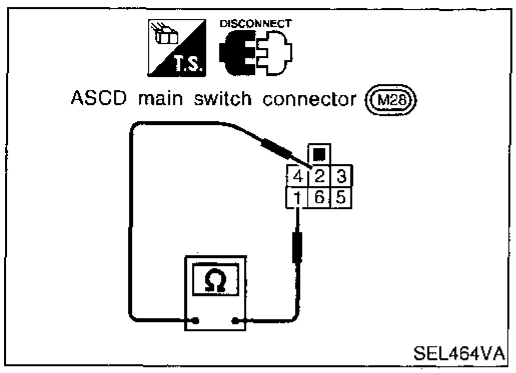


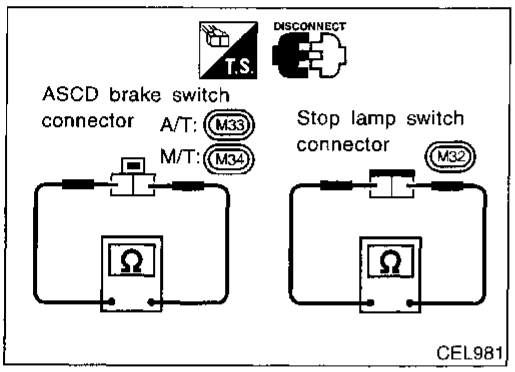

SEL871V

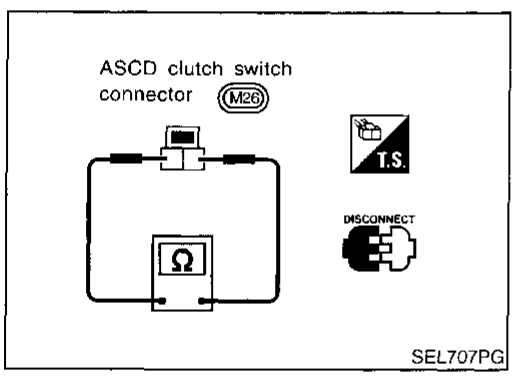
**A vacuum pressure of at least –40 kPa (–0.41 kg/cm$^2$, –5.8 psi) should be generated.**

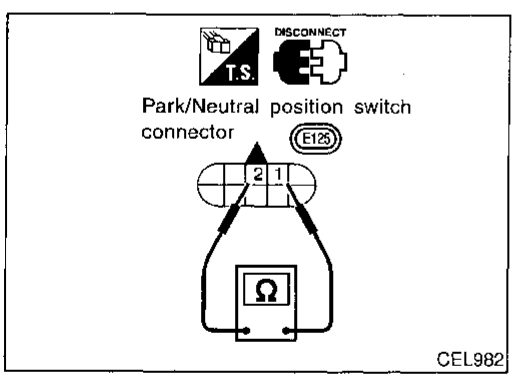
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | INSPECTION END |
| NG | ▶ | Replace ASCD pump. |




# Electrical Component Inspection

NCEL0100

## ASCD MAIN SWITCH

NCEL0100S01

Check continuity between terminals by pushing switch to each position.

## ASCD BRAKE SWITCH AND STOP LAMP SWITCH

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 section.**

## ASCD CLUTCH SWITCH (FOR M/T MODELS)

NCEL0100S04

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

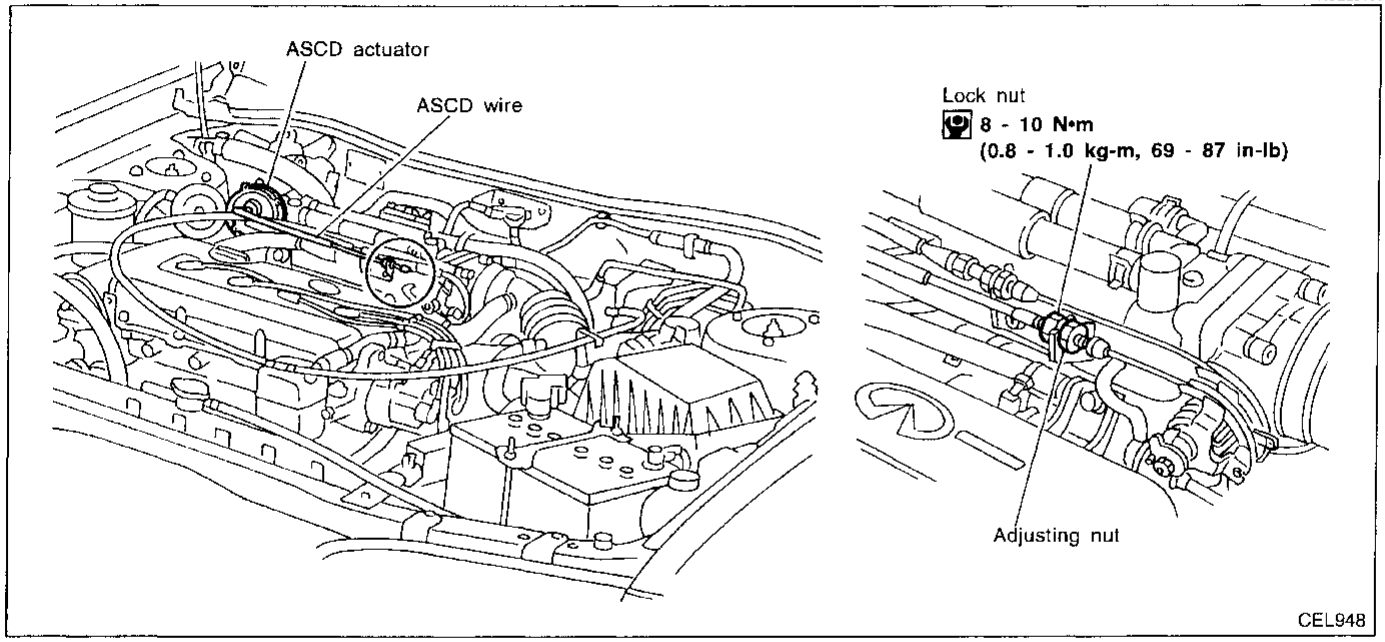
## PARK/NEUTRAL POSITION SWITCH (FOR A/T MODELS)

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 section ("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.

## 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.

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 1,
- to front power window sub-switch terminal 5.

### MANUAL OPERATION

NCEL0102S01

#### Front Door LH

NCEL0102S0101

Ground is supplied
- to power window main switch terminal 3
- 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 2
- through power window main switch terminal 9.

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

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 8.

Ground is supplied
- to front power window regulator LH terminal 2
- through power window main switch terminal 9.

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

#### Front Door RH

NCEL0102S0102

Ground is supplied
- to power window main switch terminal 3
- through body grounds M15, M71and 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 5 or 6
- to front power window switch (passenger side) 4 or 3.

The subsequent operation is the same as the sub-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 6 or 5.

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

### Rear Door

NCEL0102S0103

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

## AUTO OPERATION

NCEL0102S02

The power window AUTO feature enables the driver to lower the driver's window without holding the window switch in the down position.
The AUTO feature only operates on the driver's window downward movement.

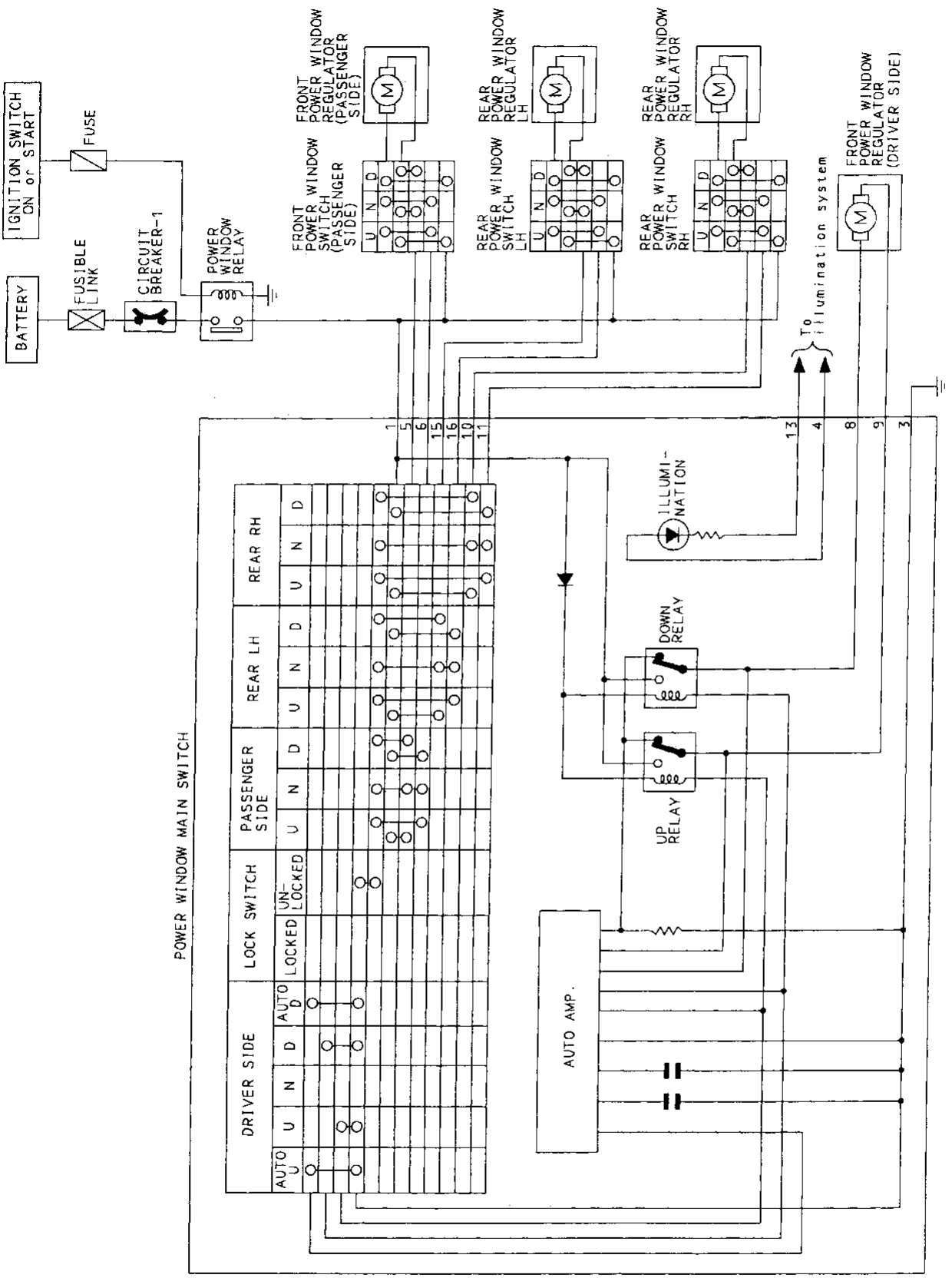
## POWER WINDOW LOCK

NCEL0102S03

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.

## Schematic

NCEL0103

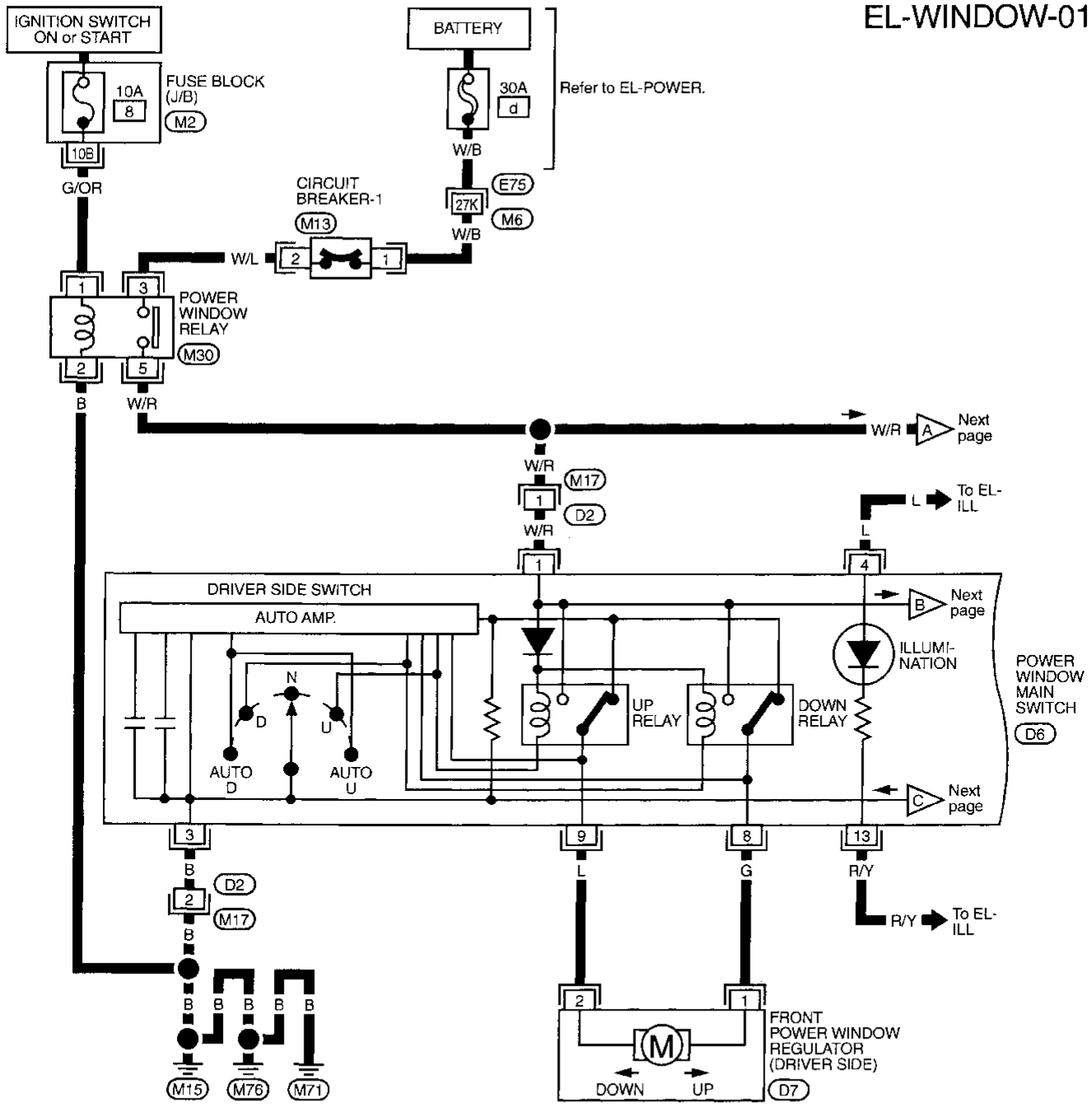


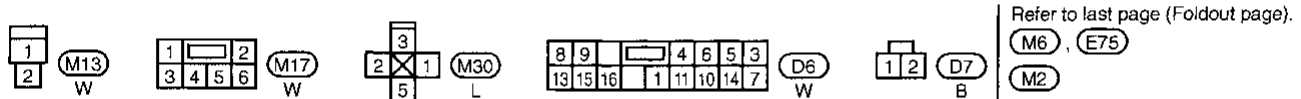

TEL926A

## Wiring Diagram — WINDOW —

NCEL0104

EL-WINDOW-01

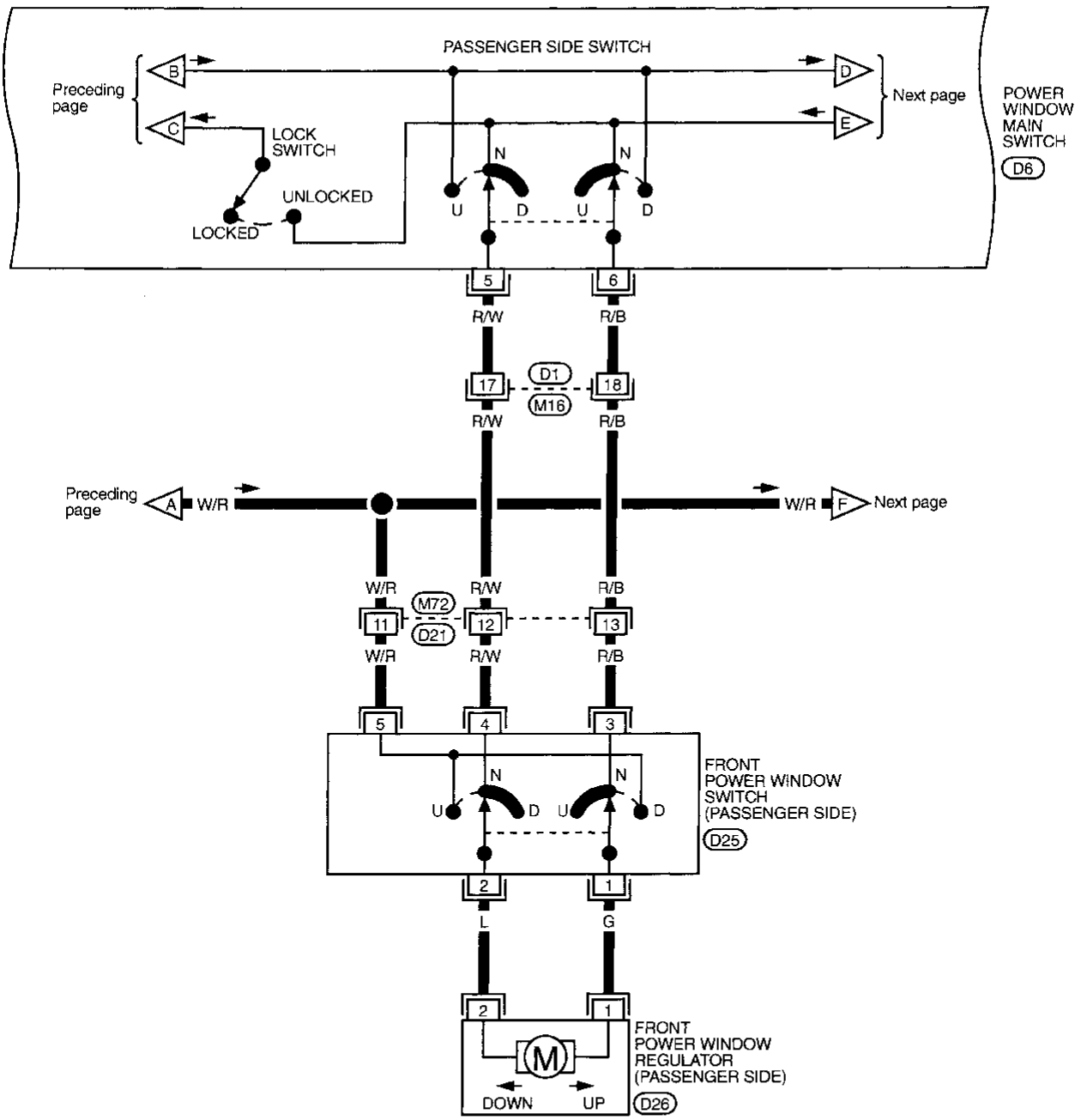


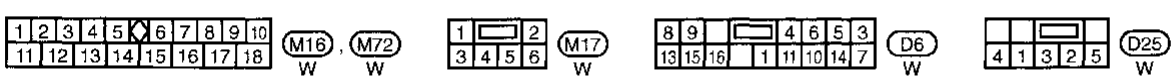



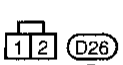

Refer to last page (Foldout page).
M6, E75
M2

TEL927A

EL-WINDOW-02

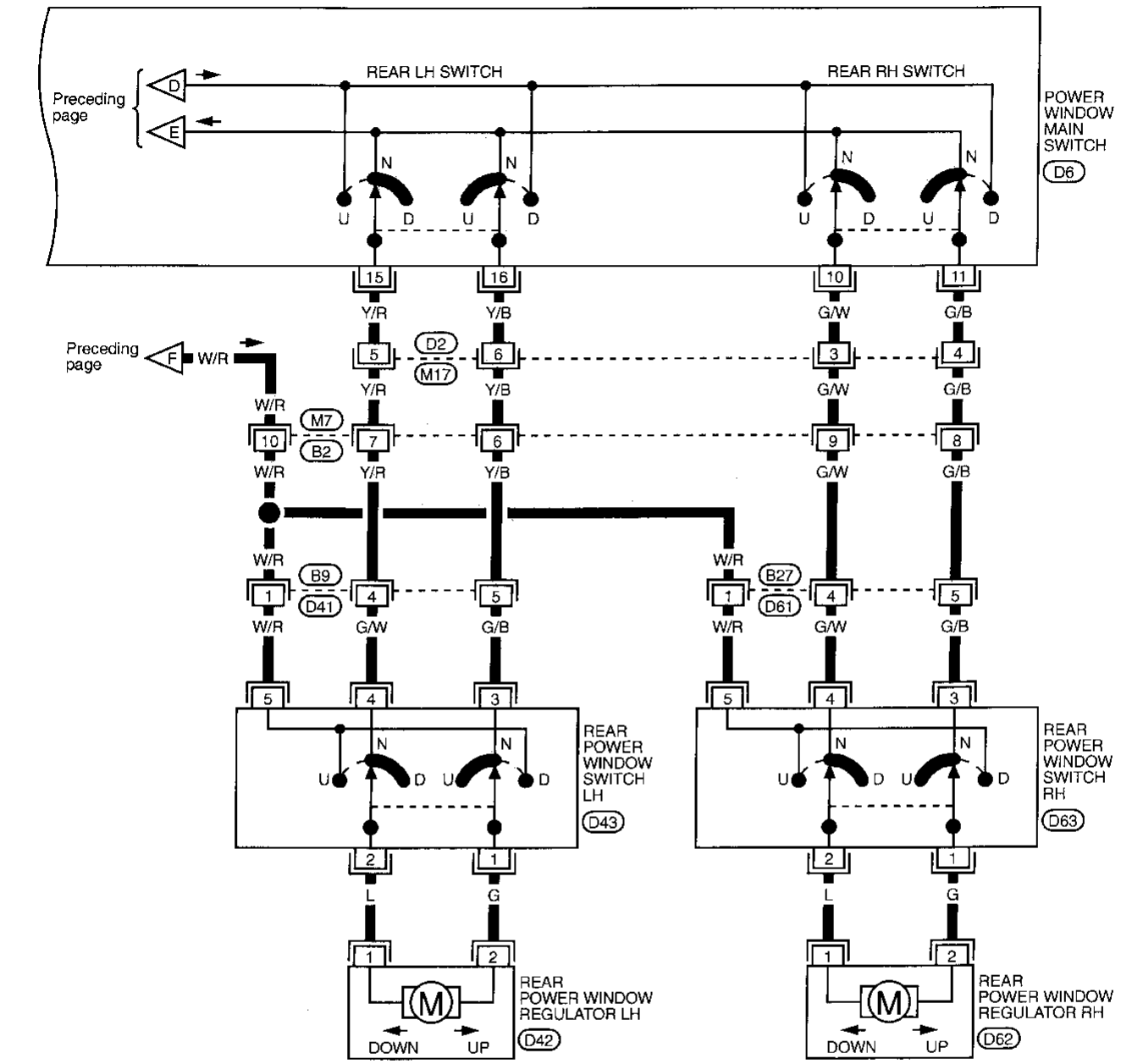


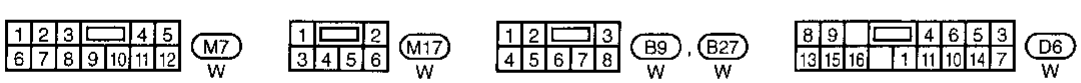



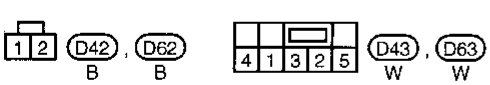




TEL928A

EL-WINDOW-03




TEL929A

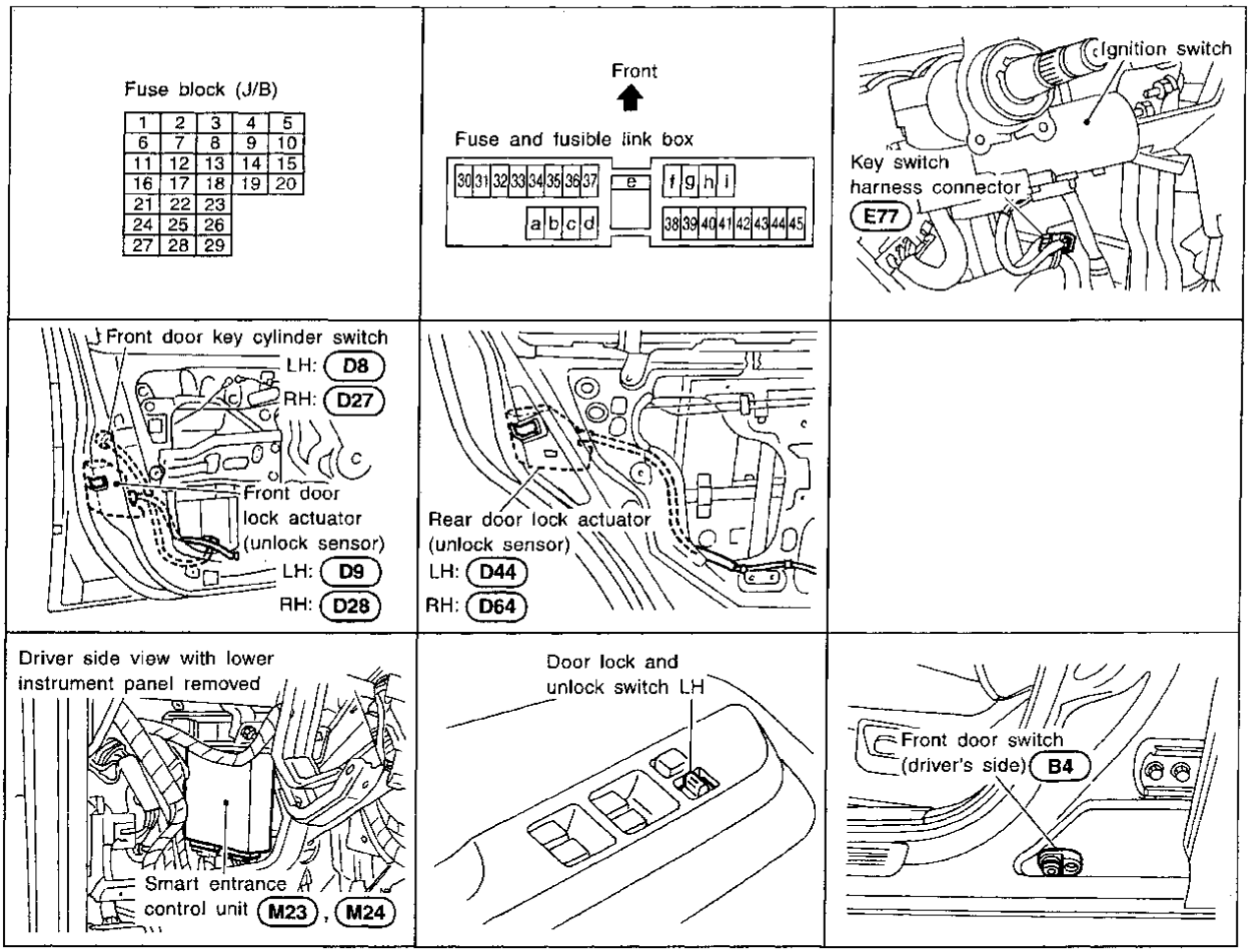
## Trouble Diagnoses

NCEL0105

| Symptom | Possible cause | Repair order |
|---|---|---|
| None of the power windows can be operated using any switch. | 1. 10A fuse, 30A fusible link and M13 circuit breaker<br>2. Grounds M15, M71 and M76<br>3. Power window relay<br>4. Open/short in power window main switch circuit | 1. 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 terminal 1 of power window main switch and terminal 5 of each power window switch.<br>2. Check grounds M15, M71 and M76.<br>3. Check power window relay.<br>4. Check the wire between power window relay terminal 5 and power window main switch terminal 1 for open/short circuit. |
| Driver side power window cannot be operated but other windows can be operated. | 1. Driver side power window regulator circuit<br>2. Driver side power window regulator | 1. Check harness between power window main switch and power window regulator for open or short circuit.<br>2. Check driver side power window regulator. |
| Passenger power window cannot be operated. | 1. Power window switches<br>2. Passenger side power window regulators<br>3. Power window main switch<br>4. Power window circuit | 1. Check power window switch.<br>2. Check passenger side power window regulator.<br>3. Check power window main switch.<br>4. Check the following.<br>a. Check harnesses between power window main switch and power window switch for open/short circuit.<br>b. 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. | 1. Power window main switch | 1. Check power window main switch. |
| Driver side power window auto function cannot be operated using power window main switch. | 1. Power window main switch | 1. Check power window main switch. |

## Component Parts and Harness Connector Location

NCEL0106




SEL837V

## System Description

NCEL0107

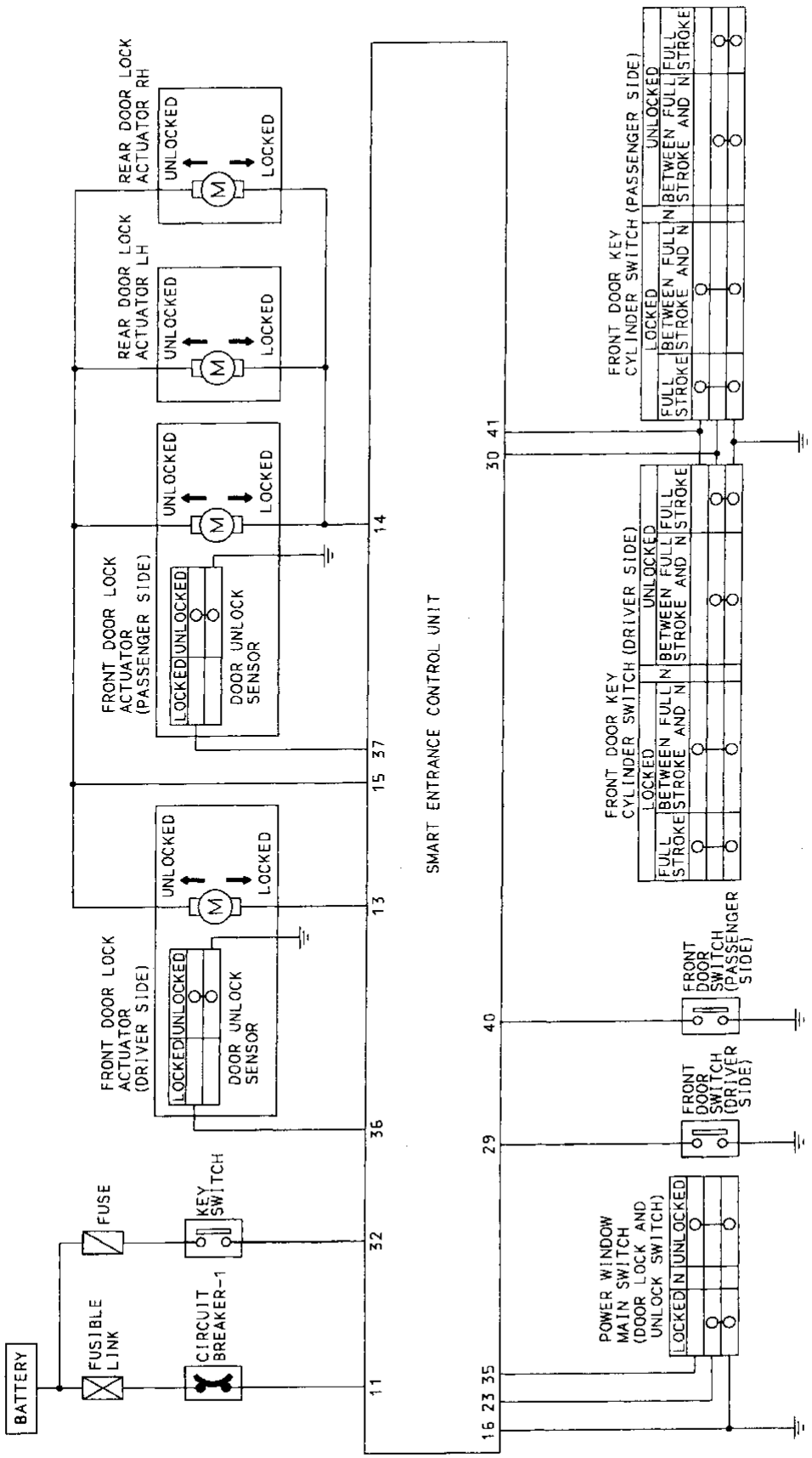
### OPERATION

NCEL0107S04

- 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 the 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)

## Schematic

NCEL0106



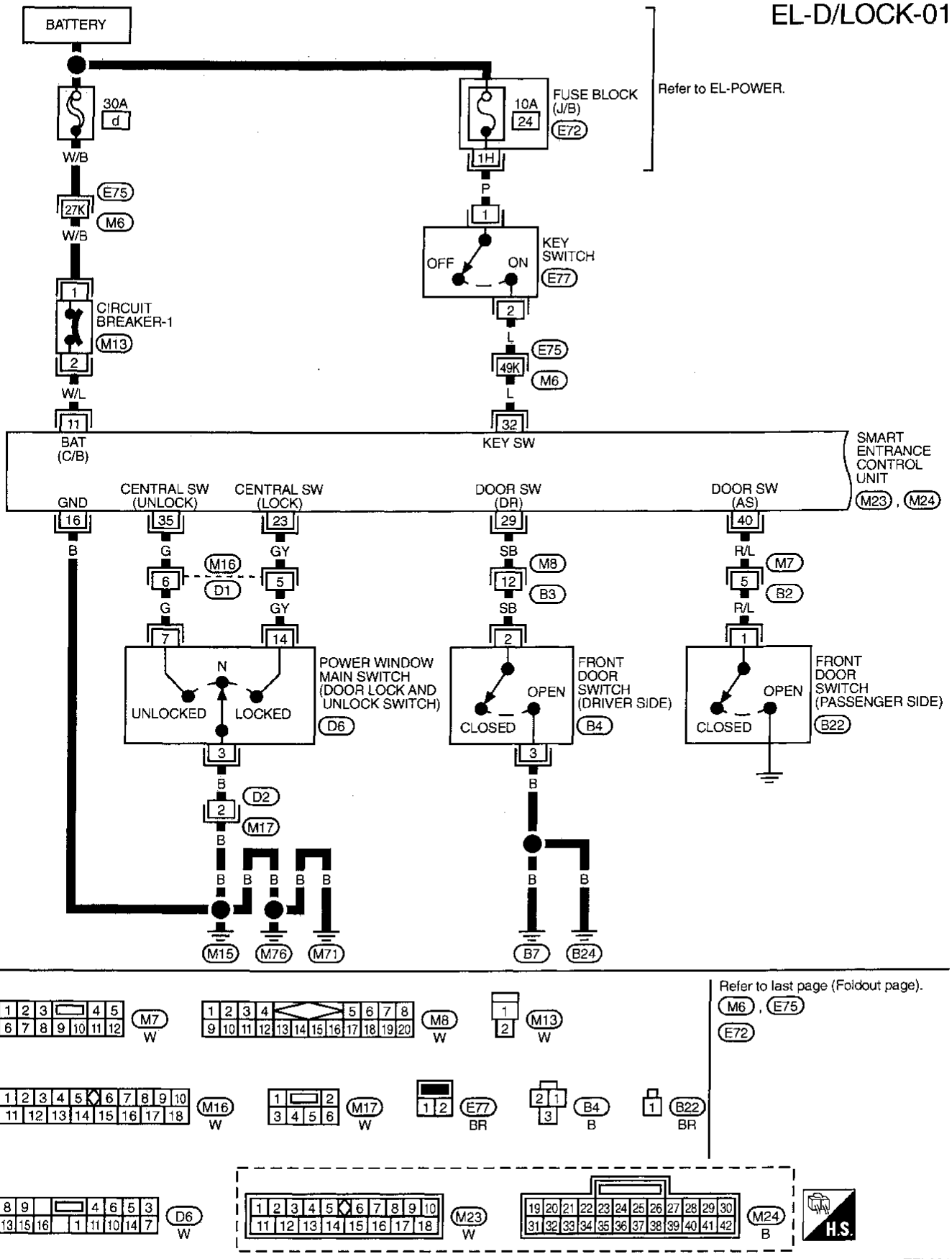

TEL930A

## Wiring Diagram — D/LOCK —

NCEL0109

**FIG. 1**

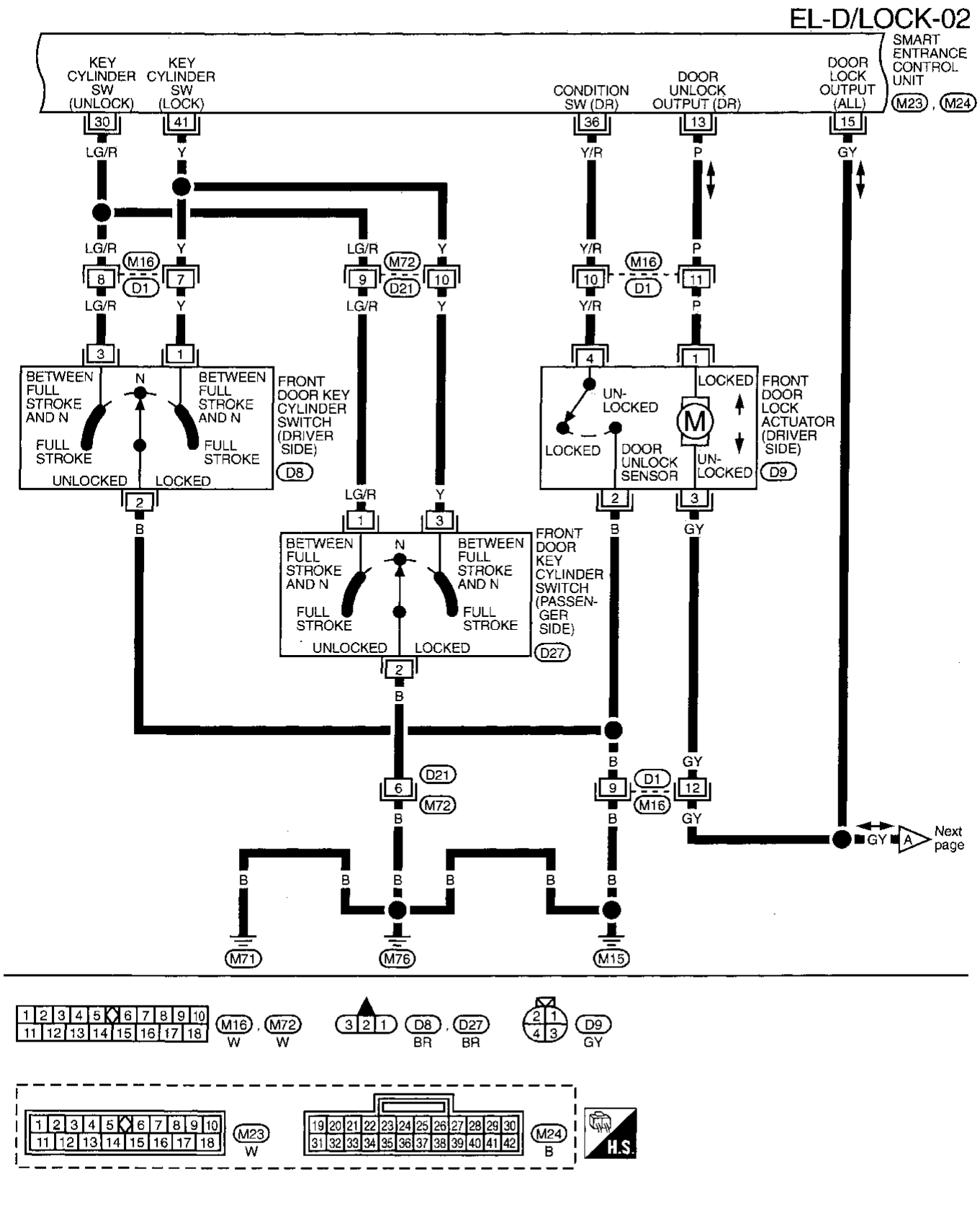
NCEL0109S01




TEL931A

**FIG. 2**

NCEL0109S02







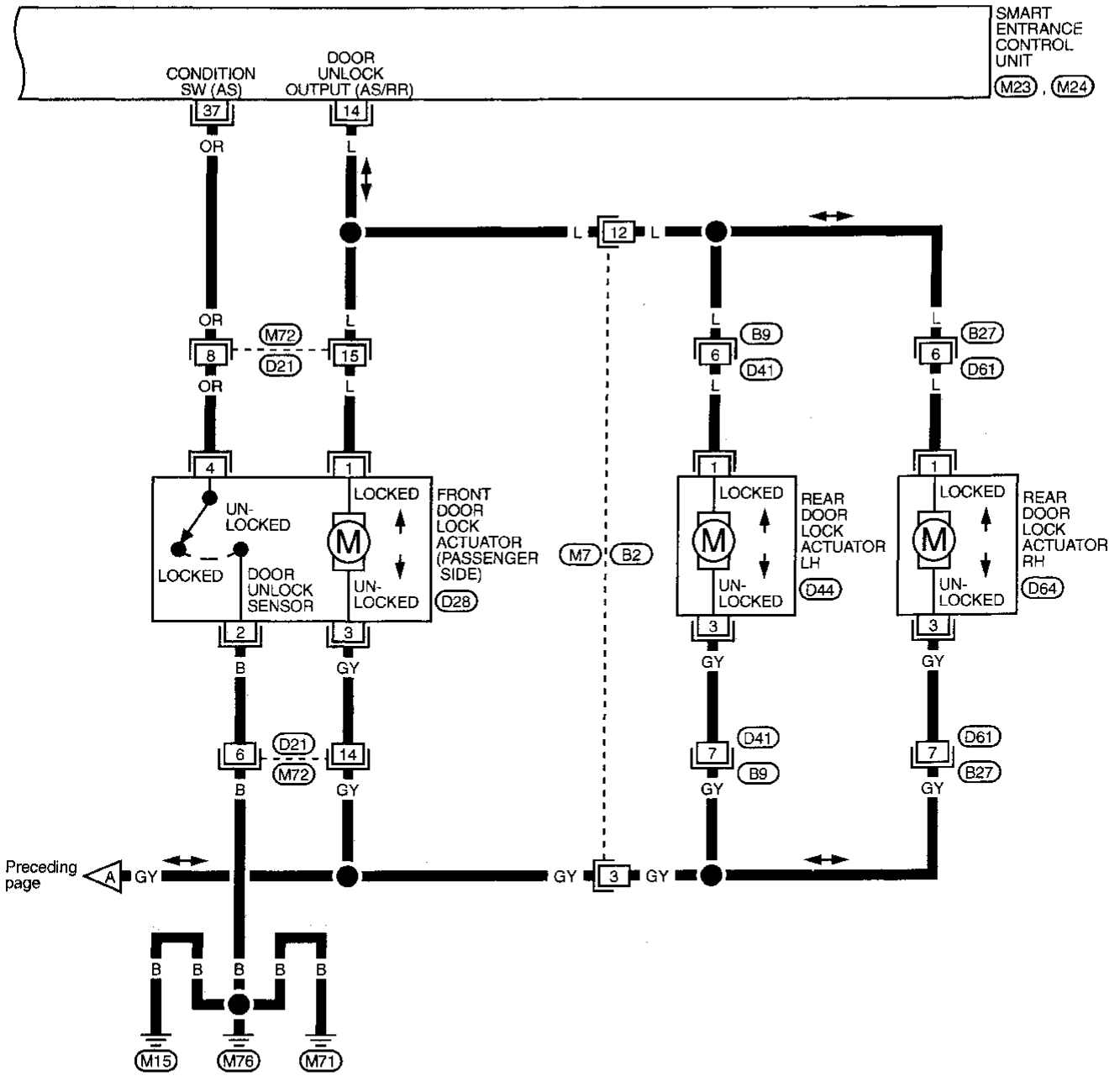


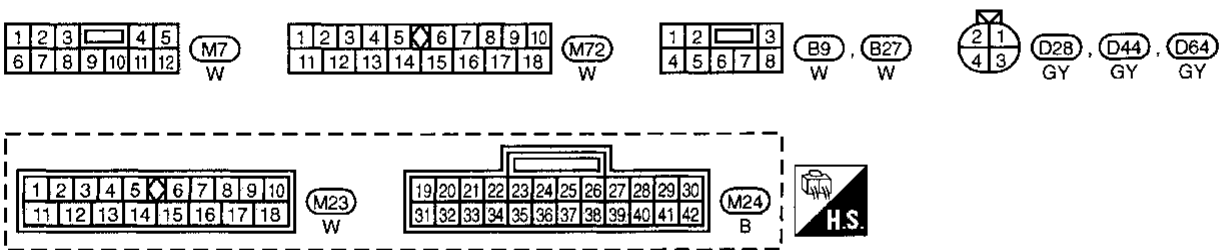

TEL932A

**FIG. 3**

NCEL0109S03

EL-D/LOCK-03




TEL933A

# Trouble Diagnoses

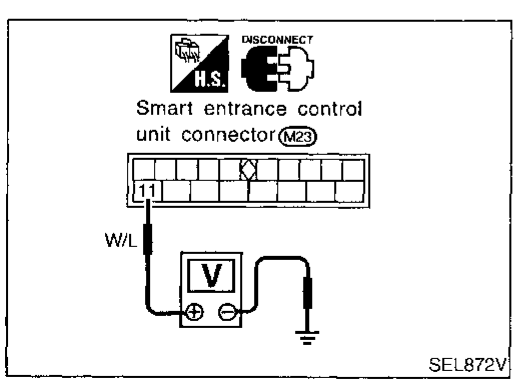
## SYMPTOM CHART

NCEL0110

NCEL0110S01

| REFERENCE PAGE (EL- ) | 147 | 148 | 149 | 150 | 151 | 152 | 153 |
|---|---|---|---|---|---|---|---|
| SYMPTOM | MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK | FRONT 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 | | | | | | 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 | |





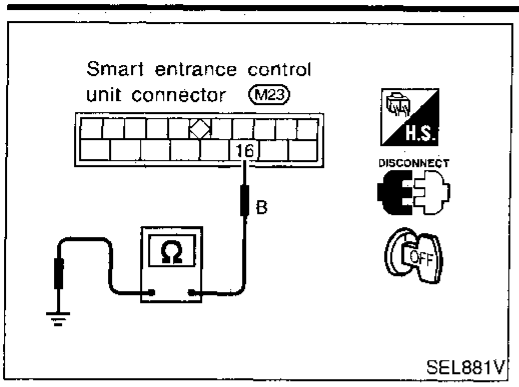

## MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

NCEL0110S02

### Main Power Supply Circuit Check

NCEL0110S0201

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




## Ground Circuit Check

NCEL0110S0202

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

## FRONT DOOR SWITCH CHECK

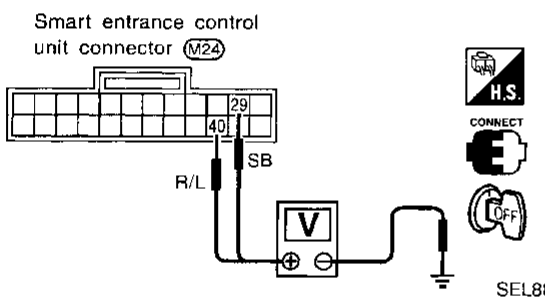
NCEL0110S05

### 1 CHECK DOOR SWITCH INPUT SIGNAL

Check voltage between control unit terminals 15 or 35 and ground.

| | Terminals (+) | 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 |

MTBL0152



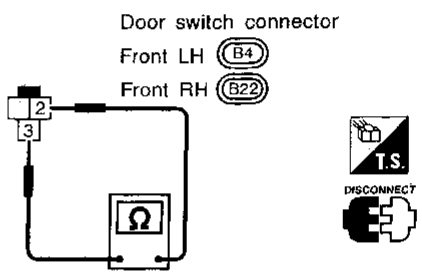

Refer to wiring diagram in EL-144.

**OK or NG**

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

### 2 CHECK DOOR SWITCH

Check continuity between terminals 2 and 3.




**Continuity:**
**Door switch is pushed.**
**No**
**Door switch is released.**
**Yes**

**OK or NG**

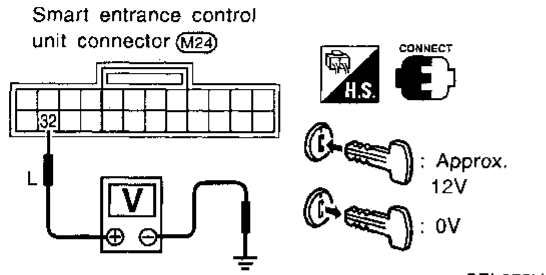
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Door switch ground circuit<br>• Harness for open or short between control unit and door switch |
| NG | ▶ | Replace door switch. |

## KEY SWITCH (INSERT) CHECK

=NCEL0110S06

| 1 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

Check voltage between control unit terminal 32 and ground.




SEL873V

Refer to wiring diagram in EL-144.

**Voltage [V]:**

**Condition of key switch: Key is inserted.**

**Approx. 12**

**Condition of key switch: Key is withdrawn.**

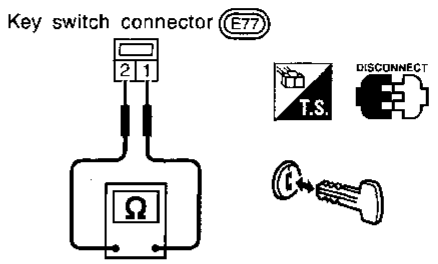
**0**

**OK or NG**

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

| 2 | CHECK KEY SWITCH (INSERT) |
|---|---|

Check continuity between terminals 1 and 2.




SEL784V

**Continuity:**

**Condition of key switch: Key is inserted.**

**Yes**

**Condition of key switch: Key is removed.**

**No**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• 10A fuse [No. 24, located in fuse block (J/B)]<br>• Harness for open or short between key switch and fuse<br>• Harness for open or short between control unit and key switch |
| NG | ▶ | Replace key switch. |

## DOOR LOCK/UNLOCK SWITCH CHECK

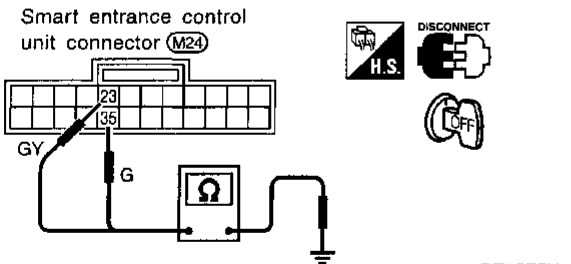
=NCEL0110S03

### 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




SEL875V

Refer to wiring diagram in EL-144.

**OK or NG**

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

### 2 CHECK DOOR LOCK/UNLOCK SWITCH

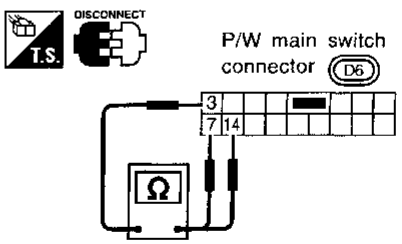
1. Disconnect door lock/unlock switch connector.
2. Check continuity between each door lock/unlock switch terminals.

- Power window main switch (Door lock/unlock switch LH)

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

MTBL0154

Door lock/unlock switch driver side




SEL876V

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Ground circuit for door lock/unlock switch<br>• 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

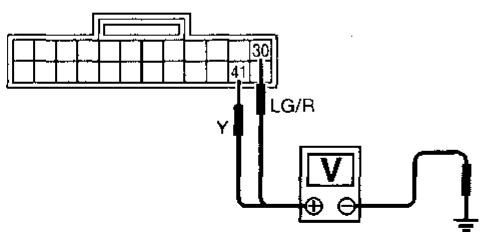
### 1 CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

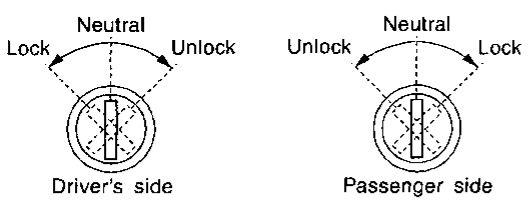
Check voltage between control unit terminals 30 or 41 and ground.

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

MTBL0155


Smart entrance control unit connector (M24)




SEL878V

Refer to wiring diagram in EL-145.

**OK or NG**

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

### 2 CHECK DOOR KEY CYLINDER SWITCH

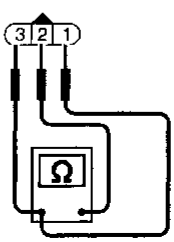
1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder switch terminals.

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

MTBL0156


Door key cylinder switch connector

LH : (D8) RH : (D27)




① : Door lock switch terminal (LH)
Door unlock switch terminal (RH)

② : Ground terminal

③ : Door unlock switch terminal (LH)
Door lock switch terminal (RH)

SEL880UA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Door key cylinder switch ground circuit<br>• Harness for open or short between control unit and door key cylinder switch |
| NG | ▶ | Replace door key cylinder switch. |

## FRONT DOOR UNLOCK SENSOR CHECK

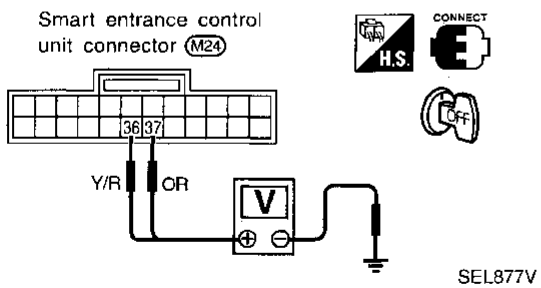
=NCEL0110S09

### 1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between control unit terminals 12 or 13 and ground.

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

MTBL0157




SEL877V

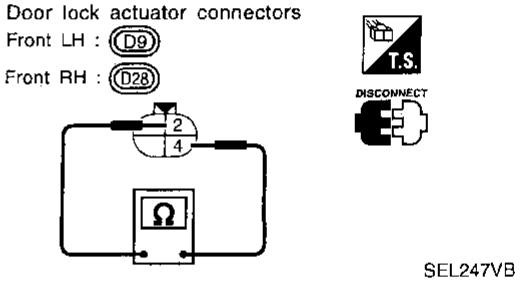
Refer to wiring diagram in EL-146.

**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 4 and 2.




SEL247VB

**Continuity:**
**Condition: Locked**
**No**
**Condition: Unlocked**
**Yes**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Door unlock sensor ground circuit<br>• Harness for open or short between control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

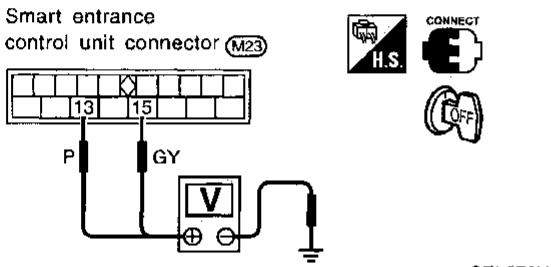
## DOOR LOCK ACTUATOR CHECK

=NCEL0110S04

### 1 CHECK DOOR LOCK ACTUATOR CIRCUIT

Check voltage for door lock actuator.

- Door lock actuator front LH

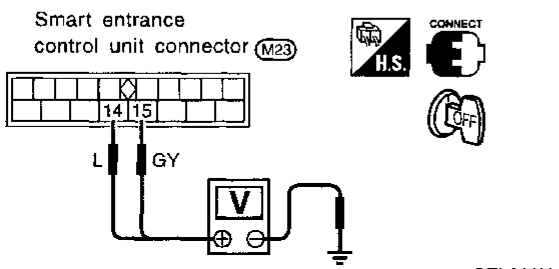



SEL879V

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

MTBL0193

Refer to wiring diagram in EL-146.

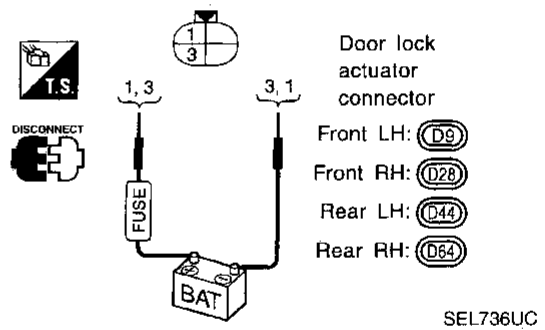
**OK or NG**

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

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

- **Door lock actuator operation:**



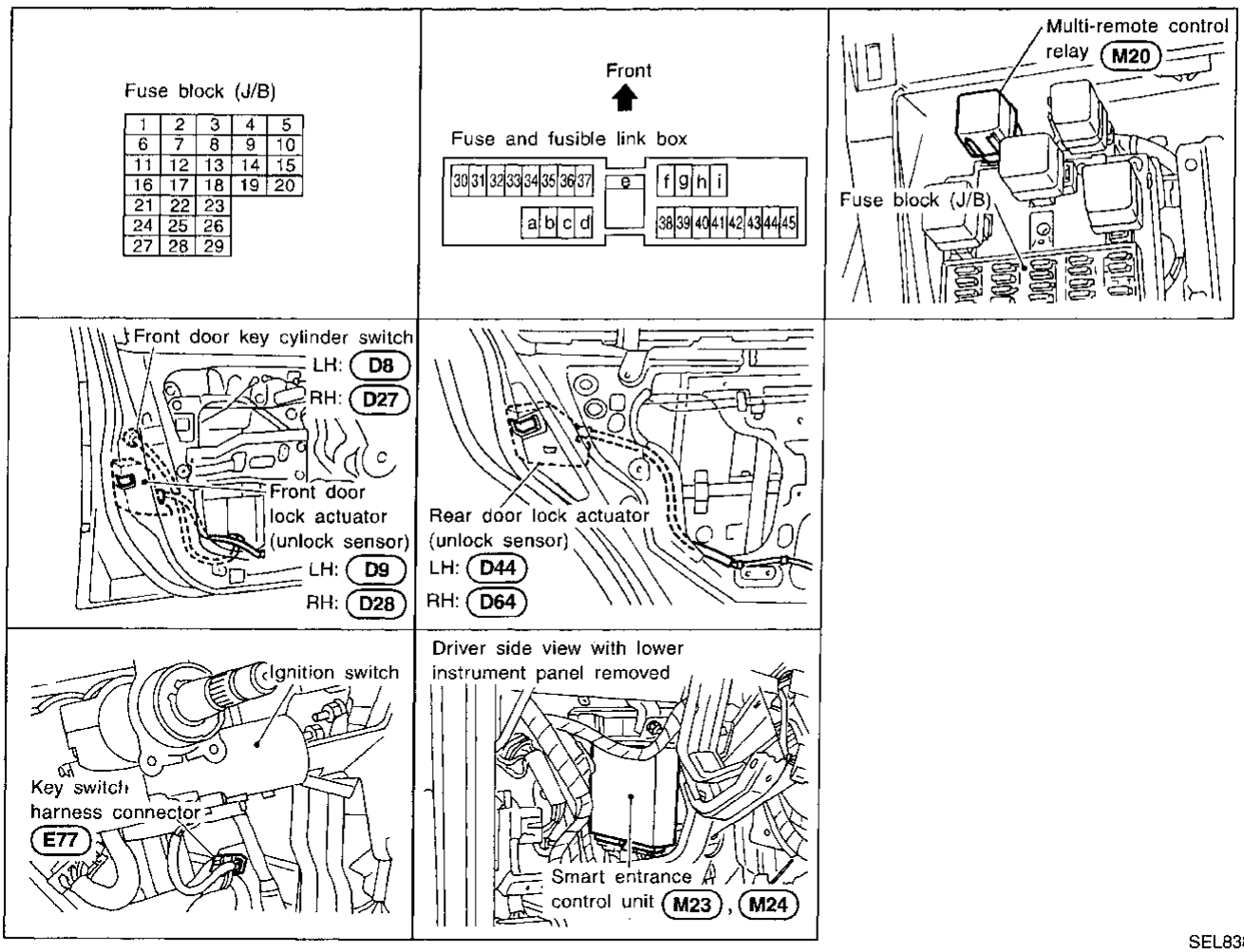

SEL736UC

**Terminals between (+): 3 and (−): 1**
**Unlocked → Locked**
**Terminals between (+): 1 and (−): 3**
**Locked → Unlocked**

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

## Component Parts and Harness Connector Location

NCEL0111




SEL838V

## 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 each door switch is OPEN, ground is supplied

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

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.

When the front door lock actuator (passenger side) (door unlock sensor) is UNLOCKED, ground is supplied to smart entrance control unit terminal 37 in the same manner as front door lock actuator (driver side).
When the rear door lock actuator LH or RH (door unlock sensor) is UNLOCKED, ground is supplied to smart entrance control unit terminal 26 in the same manner as other door lock actuator.
Remote controller signal is inputted to smart entrance control unit (the antenna of the system is combined with smart entrance control unit).
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 reminder

## OPERATED PROCEDURE

NCEL0112S02

### Power Door Lock Operation

NCEL0112S0201

When the following input signals are both supplied:

- key switch OFF (when ignition key is not inserted in key cylinder);
- door switch CLOSED (when all the doors are closed);

The two above signals are already input into smart entrance control unit. At this point, 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.
When an UNLOCK signal is sent from remote controller once, driver's door will be unlocked.
Then, if an UNLOCK signal is sent from remote controller again within 5 seconds, all other door will be unlocked.

### Hazard Reminder

NCEL0112S0204

Power is supplied at all times

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

When smart entrance control unit receives a LOCK signal from remote controller, ground is supplied

- to multi-remote control relay terminal 2
- through smart entrance control unit terminal 7.

Multi-remote control relay is now energized, and hazard warning lamp flash twice as a reminder. For detailed description, refer to "TURN SIGNAL AND HAZARD WARNING LAMPS" (EL-46).

### Interior Lamp Operation

NCEL0112S0202

When the following input signals are both supplied:

- key switch OFF (when ignition key is not inserted in key cylinder);
- 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-190).

### Panic Alarm Operation

NCEL0112S0203

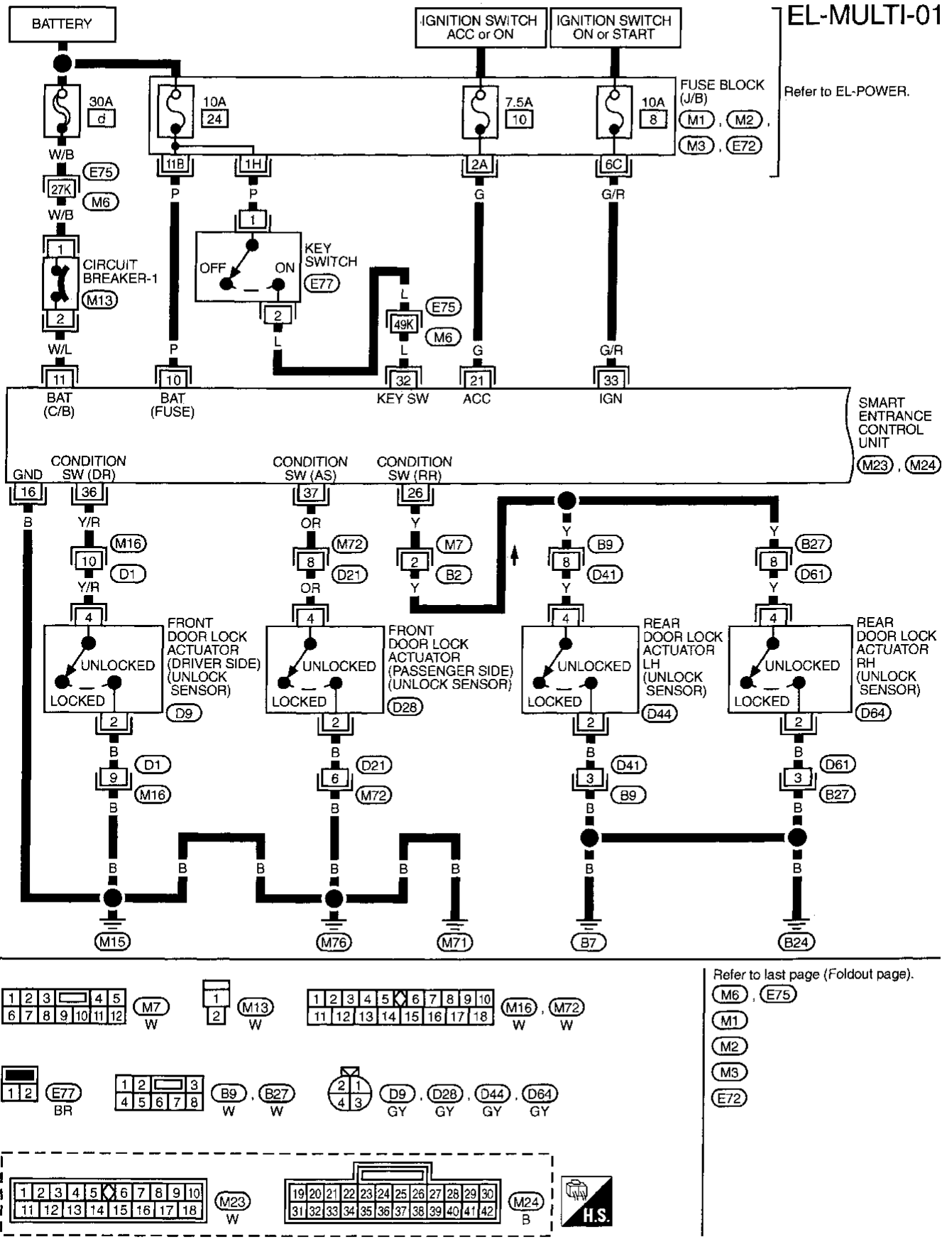
When key switch is OFF (when ignition key is not inserted in key cylinder), multi-remote control system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from remote controller.
For detailed description, refer to "THEFT WARNING SYSTEM" (EL-169).

## Wiring Diagram — MULTI —

NCEL0114

**FIG. 1**

NCEL0114S01





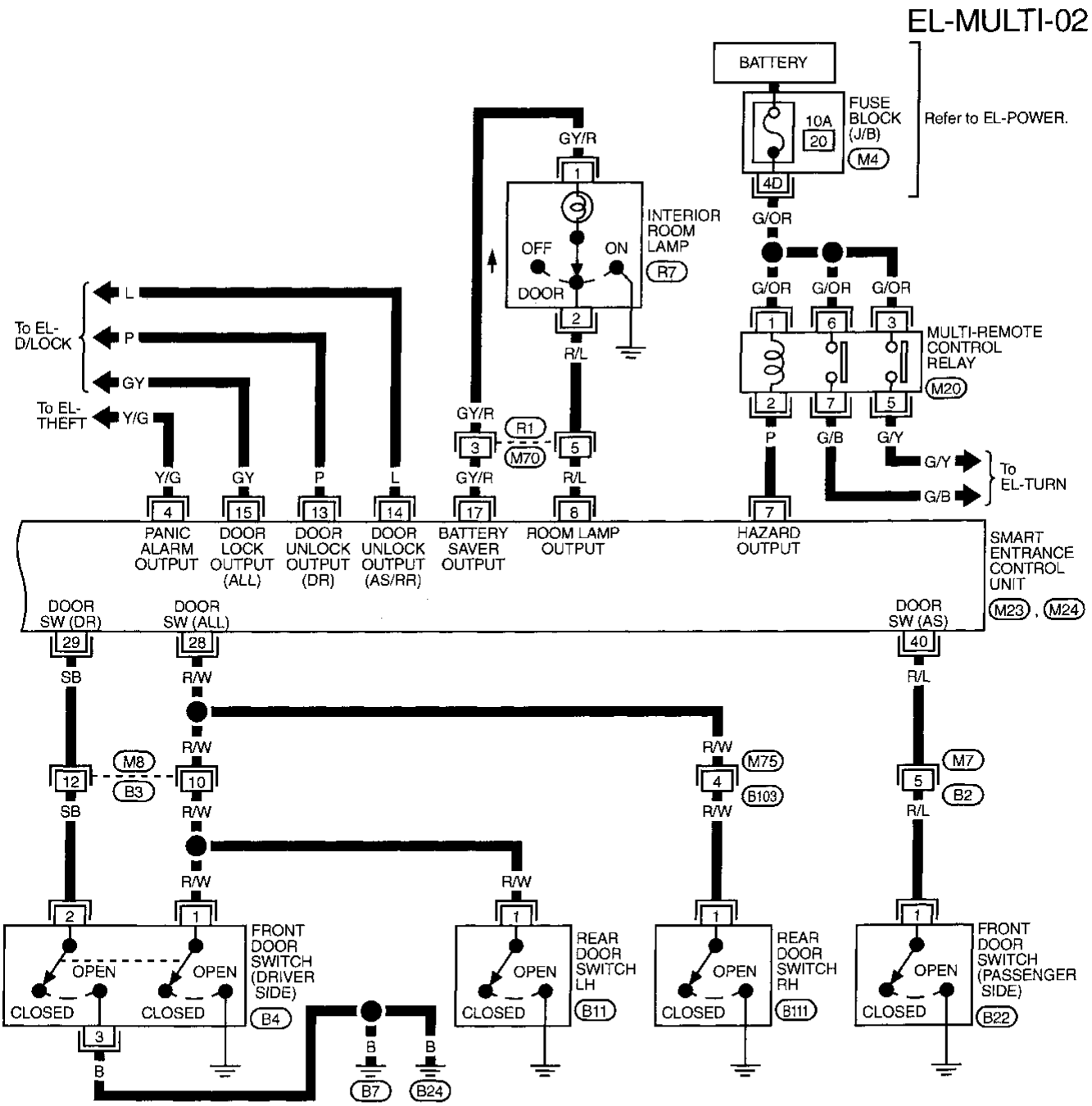


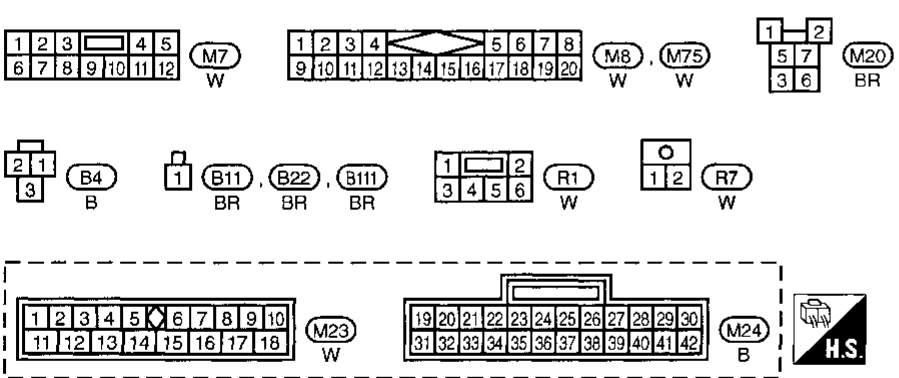
Refer to last page (Foldout page).
M6, E75
M1
M2
M3
E72

TEL934A

**FIG. 2**

NCEL0114S02




Refer to last page (Foldout page).
M4

TEL935A

# Trouble Diagnoses

## SYMPTOM CHART

NCEL0115

NCEL0115S01

| Symptom | Diagnoses/service procedure | Reference page (EL- ) |
|---|---|---|
| All function of multi-remote control system do not operate. | 1. Remote controller battery check | 159 |
| | 2. Key switch (insert) check | 162 |
| | 3. Door switch check | 161 |
| | 4. Power supply and ground circuit for control unit check | 159 |
| | 5. Replace romote controller. Refer to ID Code Entry Procedure. | 166 |
| The new ID of remote controller cannot entered. | 1. Remote controller battery check | 159 |
| | 2. Key switch (insert) check | 162 |
| | 3. Door switch check | 161 |
| | 4. Door unlock sensor check | 163 |
| | 5. Power supply and ground circuit for control unit check | 159 |
| | 6. Replace romote controller. Refer to ID Code Entry Procedure. | 166 |
| 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-147.) | 1. Key switch (insert) input signal check | 162 |
| | 2. Door switch check | 161 |
| | 3. Door unlock sensor check | 163 |
| | 4. Replace remote controller. Refer to ID Code Entry Procedure. | 166 |
| Hazard indicator does not flash twice when pressing lock button of remote controller. | 1. Harzard reminder check | 164 |
| | 2. Replace remote controller. Refer to ID Code Entry Procedure. | 166 |
| Interior lamp does not turn on for 30 seconds when pressing unlock button of remote controller. | 1. Interior room lamp operation check | 165 |
| | 2. Replace remote controller. Refer to ID Code Entry Procedure. | 166 |
| 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 "PRELIMINALY CHECK" in "THEFT WARNING SYSTEM". | 177 |
| | 2. Replace remote controller. Refer to ID Code Entry Procedure. | 166 |

**NOTE:**

- The unlock and panic alarm operation of multi-remote control system does not activate with the ignition key inserted in the ignition key cylinder.
- The lock operation of multi-remote control system does not activate with the key inserted in the ignition key cylinder or if one of the doors is opened.

## REMOTE CONTROLLER BATTERY CHECK

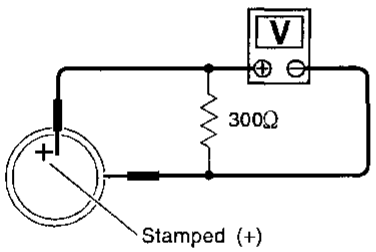
=NCEL0115S02

| 1 | CHECK REMOTE CONTROLLER BATTERY |
|---|---|

Remove battery (refer to EL-167) and measure voltage across battery positive and negative terminals, (+) and (–).

**NOTE:**

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




SEL277V

**Voltage [V]:**
**2.5 - 3.0**

**OK or NG**

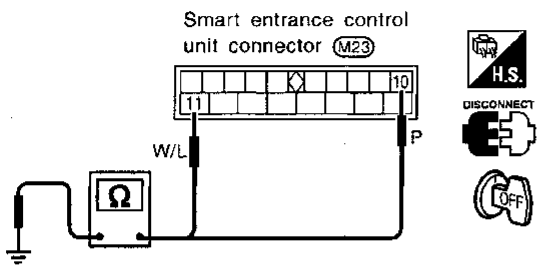
| | | |
|---|---|---|
| OK | ▶ | Check remote controller battery terminals for corrosion or damage. |
| NG | ▶ | Replace battery. |

## POWER SUPPLY AND GROUND CIRCUIT CHECK

NCEL0115S04

| 1 | CHECK MAIN POWER SUPPLY CIRCUIT FOR CONTROL UNIT |
|---|---|

1. Disconnect connector from control unit.
2. Check voltage between control unit terminals 10 or 11 and ground.




SEL884V

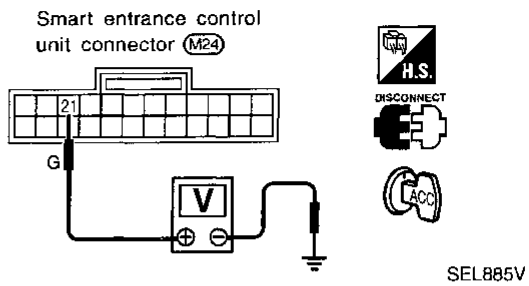
Refer to wiring diagram in EL-156.

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | **Check the following.**<br>• 30A fusible link (letter **d**, located in fuse and fusible link box)<br>• 10A fuse [No. 24, located in fuse block (J/B)]<br>• M13 circuit breaker<br>• Harness for open or short between control unit and circuit breaker |

| 2 | CHECK IGNITION SWITCH "ACC" CIRCUIT |
|---|---|

1. Disconnect control unit connector.
2. Check voltage between control unit terminal 21 and ground while ignition switch is "ACC".




SEL885V

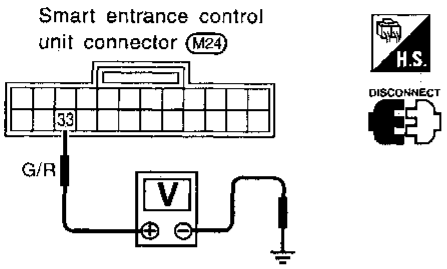
Refer to wiring diagram in EL-156.

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 3. |
| No | ▶ | **Check the following.**<br>• 7.5A fuse [No. 10, located in fuse block (J/B)]<br>• Harness for open or short between control unit and fuse |

| 3 | CHECK IGNITION SWITCH "ON" CIRCUIT |
|---|---|

1. Disconnect control unit connetor.
2. Check voltage between control unit terminal 33 and ground with ignition switch "ON".




SEL790V

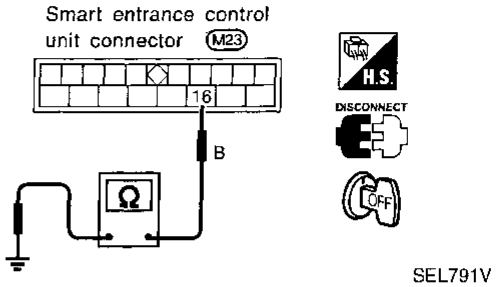
Refer to wiring diagram in EL-156.

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 4. |
| No | ▶ | **Check the following.**<br>• 10A fuse [No. 8, located in fuse block (J/B)]<br>• Harness for open or short between control unit and fuse |

| 4 | CHECK GROUND CIRCUIT FOR CONTROL UNIT |
|---|---|

1. Disconnect control unit connector.
2. Check continuity between control unit terminal 16 and ground.




SEL791V

Refer to wiring diagram in EL-156.

**Does continuity exist?**

| | | |
|---|---|---|
| Yes | ▶ | Power supply and ground circuits are OK. |
| No | ▶ | Check ground harness. |

## DOOR SWITCH CHECK

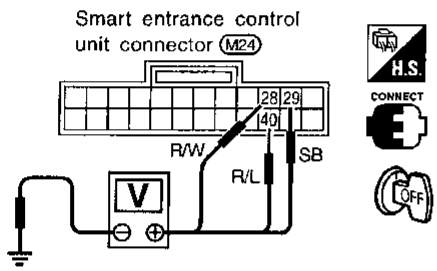
=NCEL0115S05

### 1 CHECK DOOR SWITCH INPUT SIGNAL

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

| | Terminals (+) | 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-157.

**OK or NG**

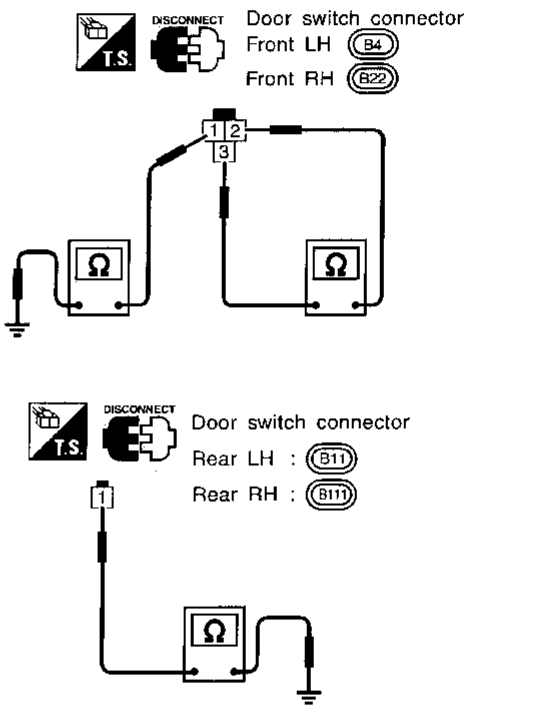
| | | |
|---|---|---|
| OK | ▶ | Door switch is OK. |
| NG | ▶ | GO TO 2. |

### 2 CHECK DOOR SWITCH

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

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

MTBL0159




SEL887V

**OK or NG**

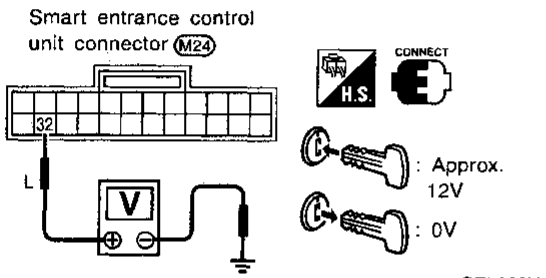
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Door switch ground circuit (Front, back door) or door switch ground condition<br>• Harness for open or short between control unit and door switch |
| NG | ▶ | Replace door switch. |

## KEY SWITCH (INSERT) CHECK

=NCEL0115S07

| 1 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

Check voltage between control unit terminal 32 and ground.




SEL888V

Refer to wiring diagram in EL-156.

**Voltage [V]:**

**Condition of key switch: Key is inserted.**

**Approx. 12**

**Condition of key switch: Key is withdrawn.**

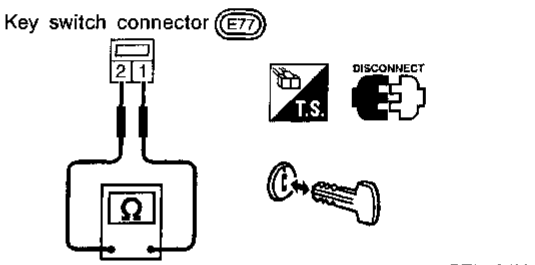
**0**

**OK or NG**

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

| 2 | CHECK KEY SWITCH (INSERT) |
|---|---|

Check continuity between terminals 1 and 2.




SEL784V

**Continuity:**

**Condition of key switch: Key is inserted.**

**Yes**

**Condition of key switch: Key is withdrawn.**

**No**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• 10A fuse [No. 24, located in fuse block (J/B)]<br>• Harness for open or short between key switch and fuse<br>• Harness for open or short between control unit and key switch |
| NG | ▶ | Replace key switch. |

## DOOR UNLOCK SENSOR CHECK

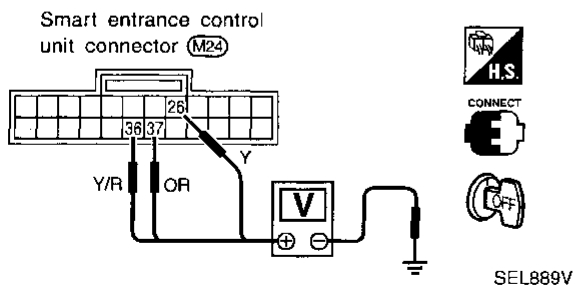
=NCEL0115S06

**1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL**

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

| | Terminals (+) | 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 and back door | 26 | Ground | Locked | Approx. 12 |
| | | | Unlocked | 0 |

MTBL0160




SEL889V

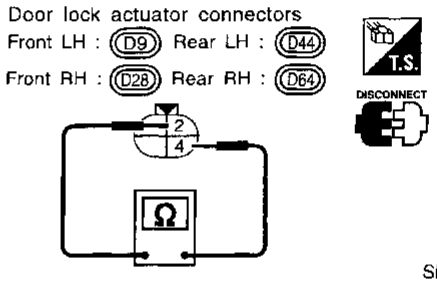
Refer to wiring diagram in EL-156.

**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.




SEL247VC

**Continuity:**
**Condition: Locked**
**No**
**Condition: Unlocked**
**Yes**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Door unlock sensor ground circuit<br>• Harness for open or short between control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

## HAZARD REMINDER CHECK

=NCEL0115S08

### 1 CHECK HAZARD INDICATOR

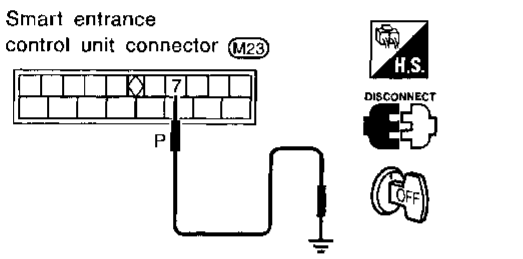
Check if hazard indicator flashes with hazard switch.

**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-157.

**Does hazard indicator illuminate?**

| | | |
|---|---|---|
| Yes | ▶ | Replace smart entrance control unit. |
| No | ▶ | GO TO 3. |

### 3 CHECK MULTI-REMOTE CONTROL RELAY

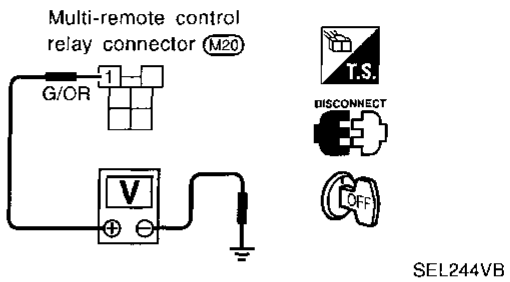
Check multi-remote control relay.

**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.



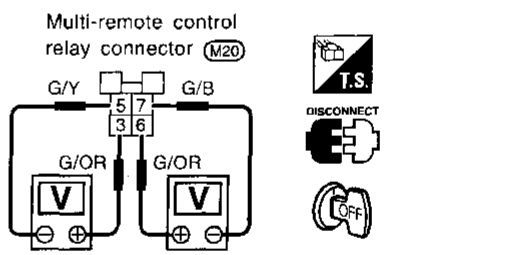

SEL244VB

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 5. |
| No | ▶ | **Check the following.**<br>• 10A fuse [No. 20, located in fuse block (J/B)]<br>• Harness for open or short between multi-remote control relay and fuse |

### 5 CHECK MULTI-REMOTE CONTROL RELAY CIRCUIT

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.**




SEL245VB

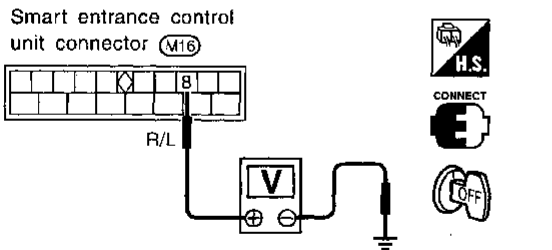
**OK or NG**

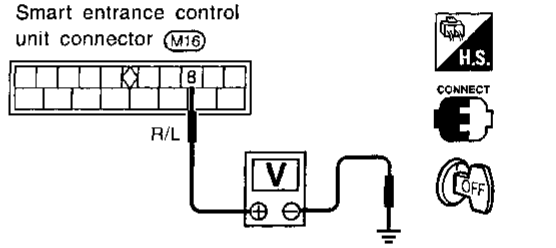
| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between control unit and multi-remote control relay. |
| NG | ▶ | **Check the following.**<br>• Harness for open or short between multi-remote control relay and fuse<br>• Harness for open or short between multi-remote control relay and turn signal lamps |

## 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.<br>**Does interior room lamp illuminate?** | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check "Interior room lamp" circuit. |

| 2 | CHECK INTERIOR ROOM LAMP CIRCUIT | |
|---|---|---|
| When interior room lamp switch is "DOOR" position, check voltage across control unit terminal 8 and ground.<br>  <br><br>SEL891V<br>Refer to wiring diagram in EL-156.<br>**Does battery voltage exist?** | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | Repair harness between control unit and interior room lamp. |

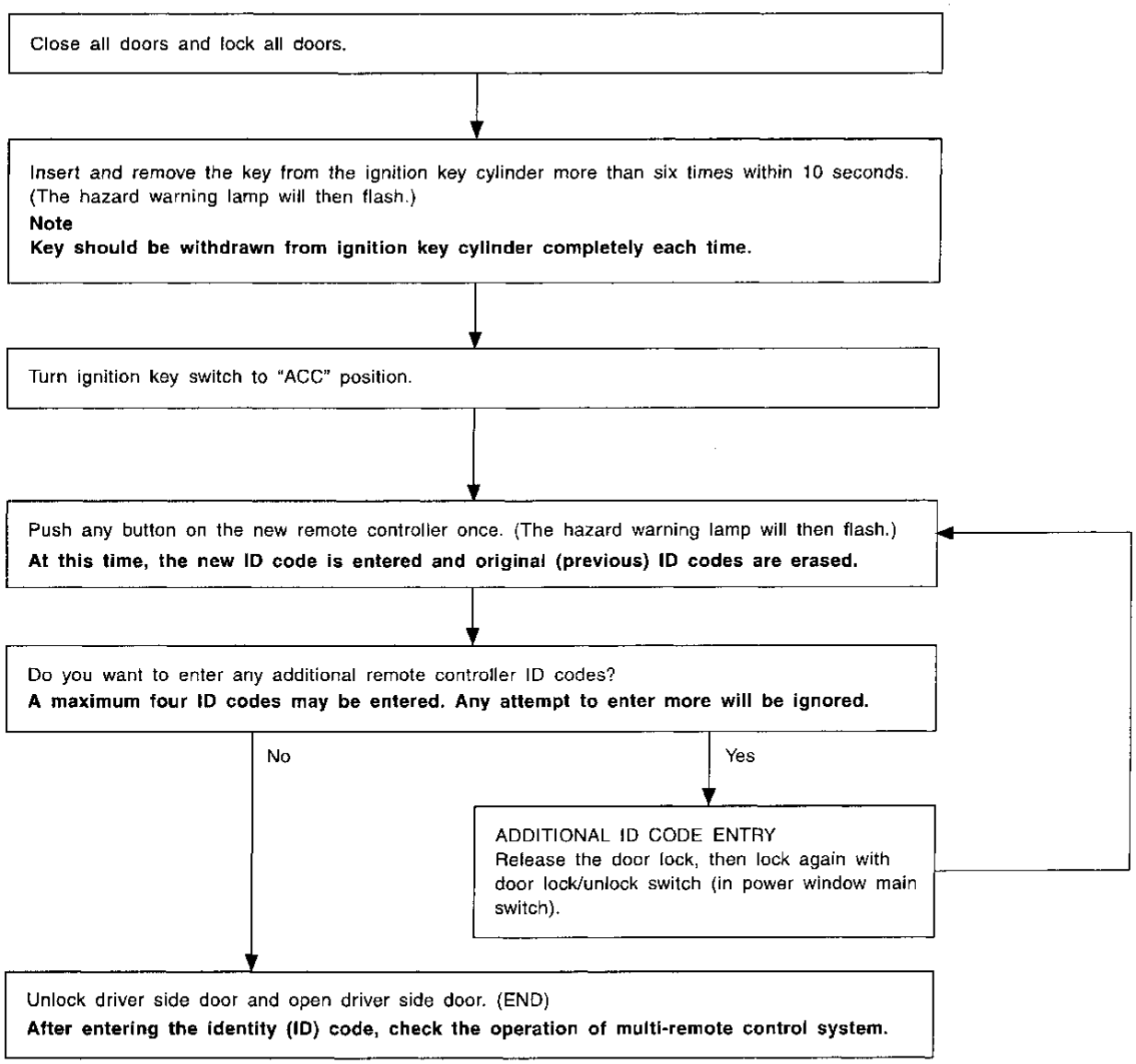
| 3 | CHECK CONTROL UNIT OUTPUT | |
|---|---|---|
| Push unlock button of remote controller and check voltage across control unit terminal 8 and ground.<br>  <br><br>SEL891V<br>**Voltage (V):**<br>**Unlock button is pushed.**<br>**0 (For approx. 30 seconds.)**<br>**Unlock button is not pushed.**<br>**Battery voltage**<br>**OK or NG** | | |
| OK | ▶ | Check system again. |
| NG | ▶ | Replace smart entrance control unit. |

# ID Code Entry Procedure

NCEL0117

**Enter the identity (ID) code manually when:**
- **remote controller or control unit is replaced.**
- **an additional remote controller is activated.**

To enter the ID code, follow the procedures below.



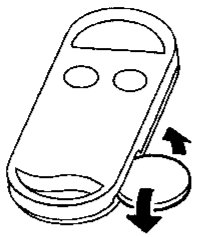

SEL892V

**NOTE:**
- If you need to activate more than two additional new remote controllers, repeat the procedure "Additional ID code entry" for each new remote controller.
- If the same ID code that exists in the memory is input, the entry will be ignored.
- Entry of maximum four ID codes is allowed and any attempt to enter more will be ignored.

## Remote Controller Battery Replacement

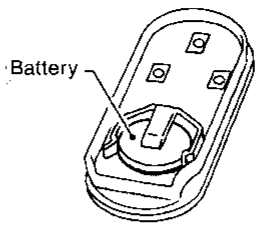
NCEL0118

1.



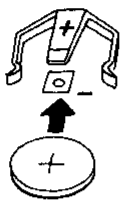
Open the lid using a coin.

2.



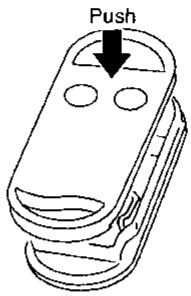

Remove the battery.

3.




Insert the new battery.
Recommended battery: CR2025 or equivalent.

4.

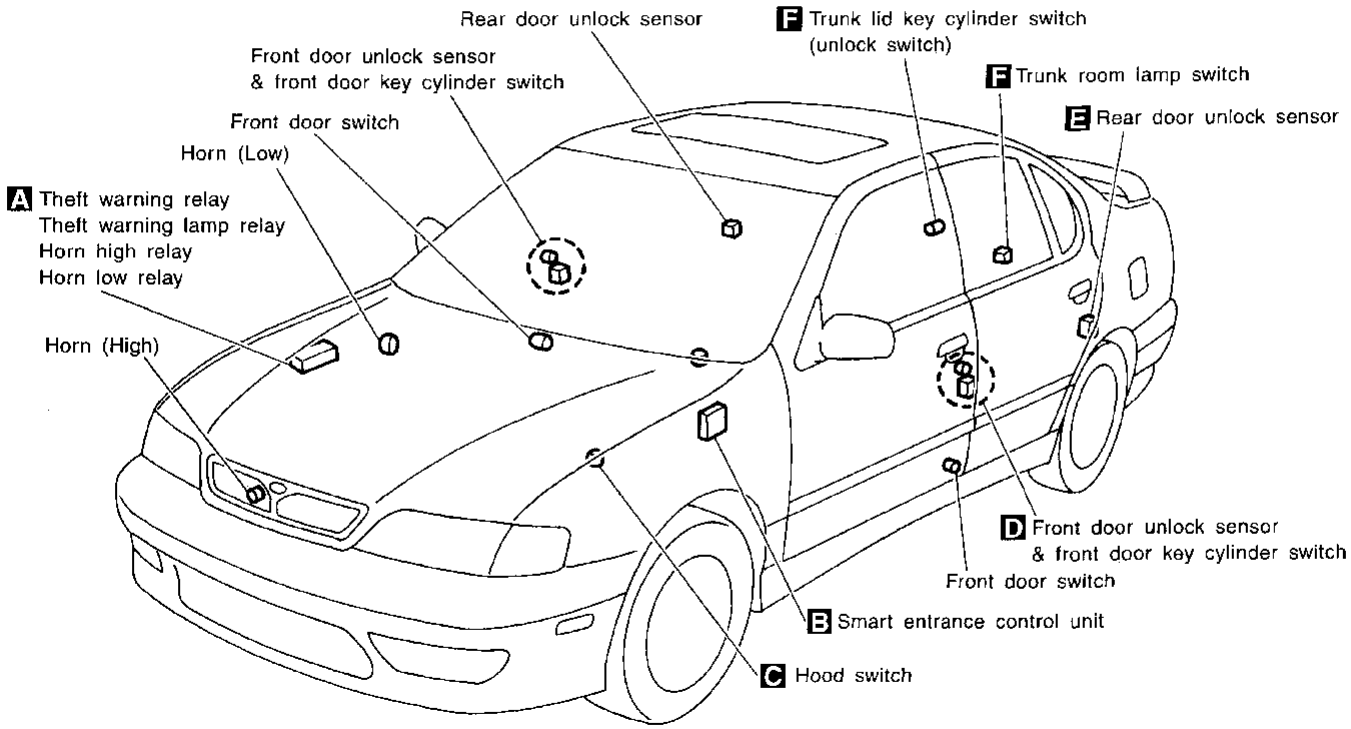


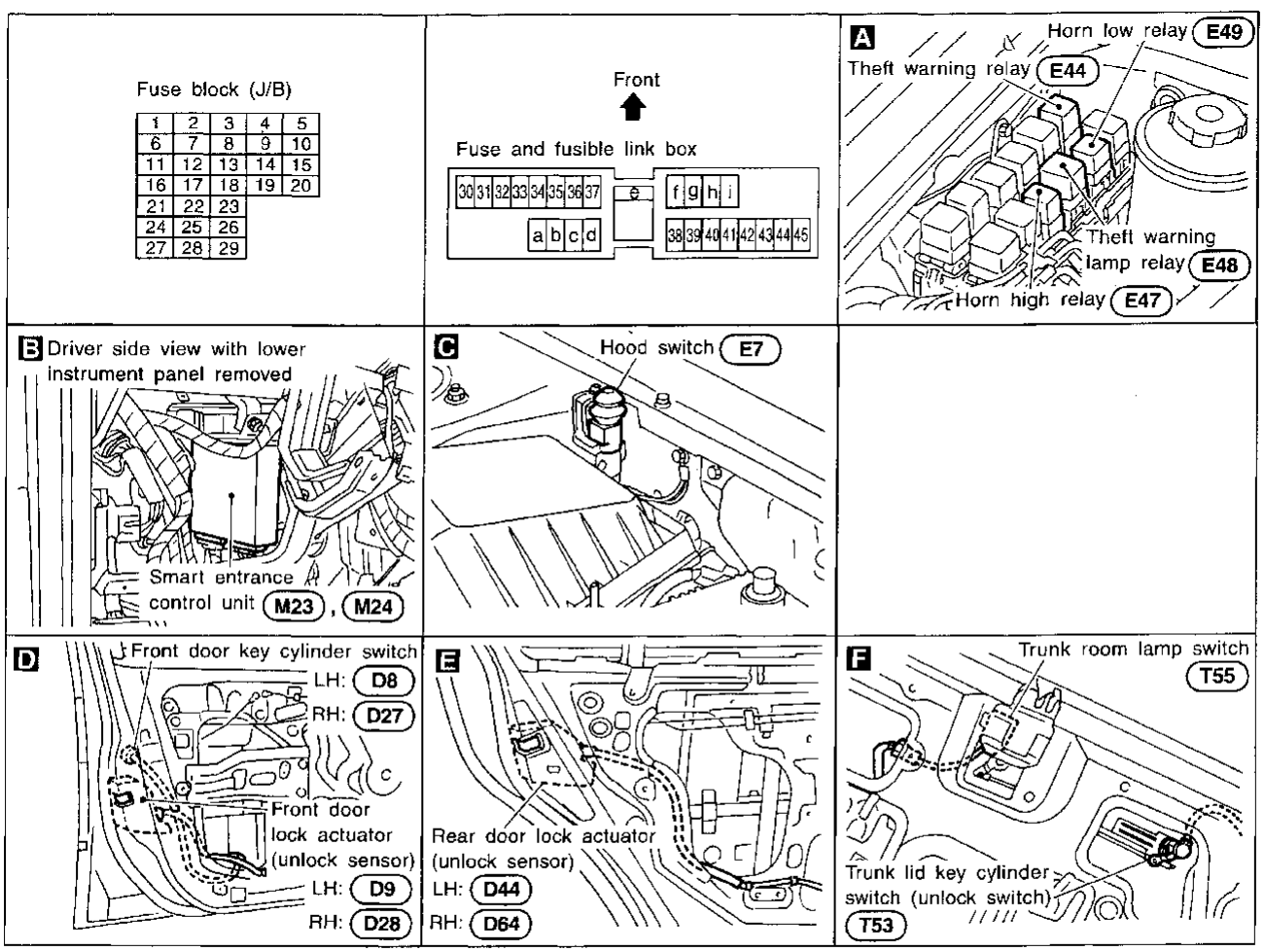

Close the lid securely.

SEL126V

# Component Parts and Harness Connector Location

NCEL0119




SEL839V

# System Description

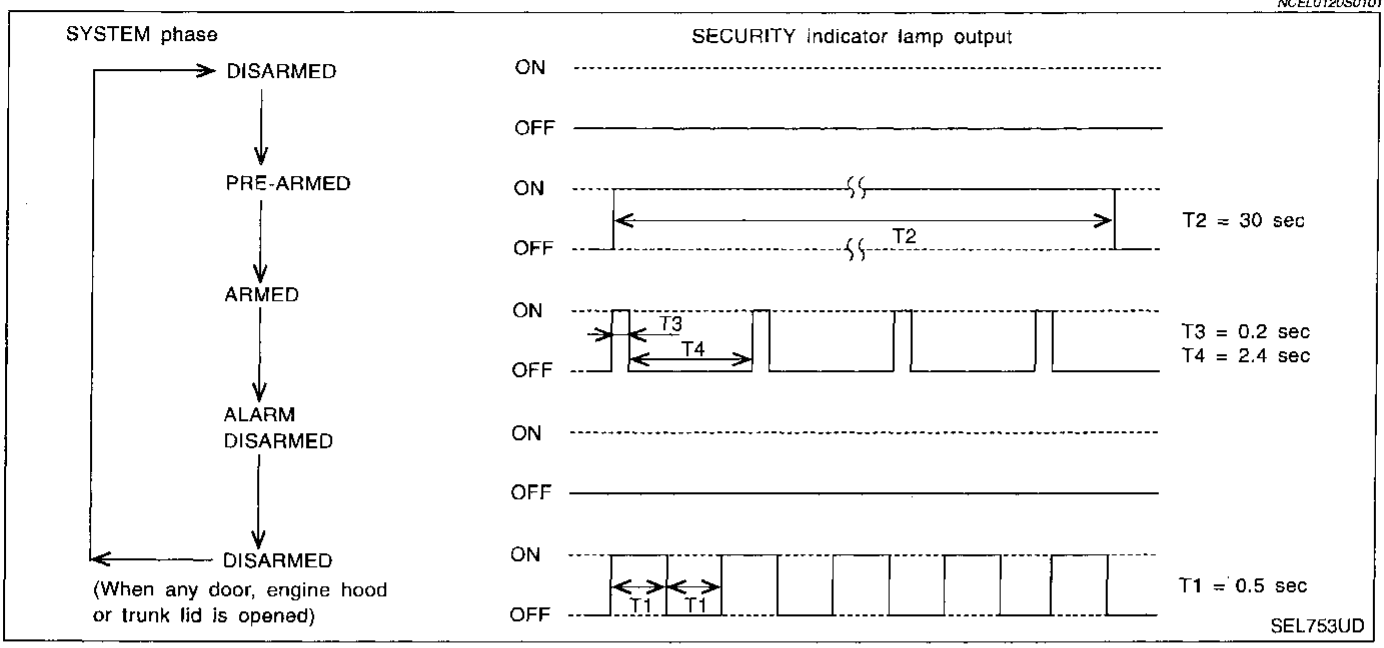
NCEL0120

## DESCRIPTION

NCEL0120S01

### 1. Operation Flow

NCEL0120S0101




### 2. Setting The Theft Warning System

NCEL0120S0102

**Initial condition**

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

**Disarmed phase**

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

**Pre-armed phase and armed phase**

The theft warning system turns into the "pre-armed" phase when 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 2.4 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 2.4 seconds.)
When the following operation 1) or 2) is performed, the system sounds the horns and flashes the headlamps for about 2.5 minutes. (At the same time, the system disconnects the starting system circuit.)

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 10A 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 D109 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 3 of the key cylinder switch (driver side)
- from terminal 1 of the front door key cylinder switch (passenger side)
- through body grounds M15, M71 and M76
- from terminal 1 of the trunk lid key cylinder switch
- through body grounds B109 and B110.

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, and the starting system is interrupted.
Power is supplied at all times
- through 10A fuse [No. 16, located in the fuse block (J/B)].
- to theft warning relay terminal 1.

If the theft warning system is triggered, ground is supplied
- from terminal 3 of the smart entrance control unit
- to theft warning relay terminal 2.

With power and ground supplied, power to starting system is interrupted. The starter motor will not crank and the engine will not start.
Power is supplied at all times

- through 10A fuse (No. 41, located in fuse and fusible link box)
- to theft warning lamp relay terminal 1 and
- to horn high relay terminal 2.
- through 10A fuse (No. 36, located in fuse and fusible link box)
- to horn low relay terminal 2.

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,
- to horn low relay terminal 1 and
- to horn high relay terminal 1.

The headlamps flash and the horn sounds intermittently.
The alarm automatically turns off after 2 or 3 minutes but will reactivate if the vehicle is tampered with again.

## THEFT WARNING SYSTEM DEACTIVATION

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 back door 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

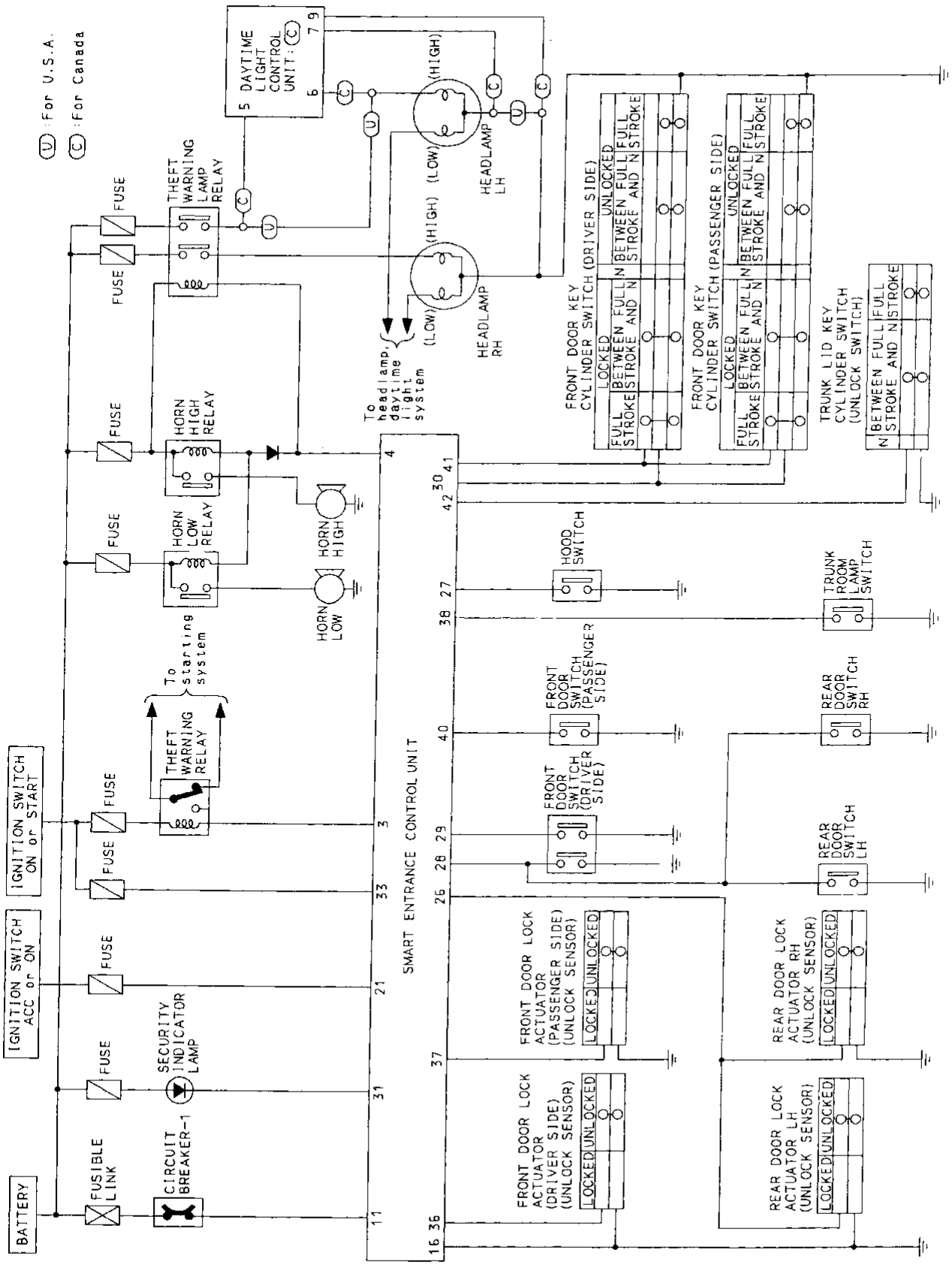
Multi-remote control system may or may not operate theft warning system (horn and headlamps) as required.
When the multi-remote control system is triggered, ground is supplied intermittently.

- from smart entrance control unit terminal 4
- to theft warning lamp relay terminal 2 and
- to each terminal 1 of horn low relay and horn high replay.

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.

## Schematic

NCEL0121



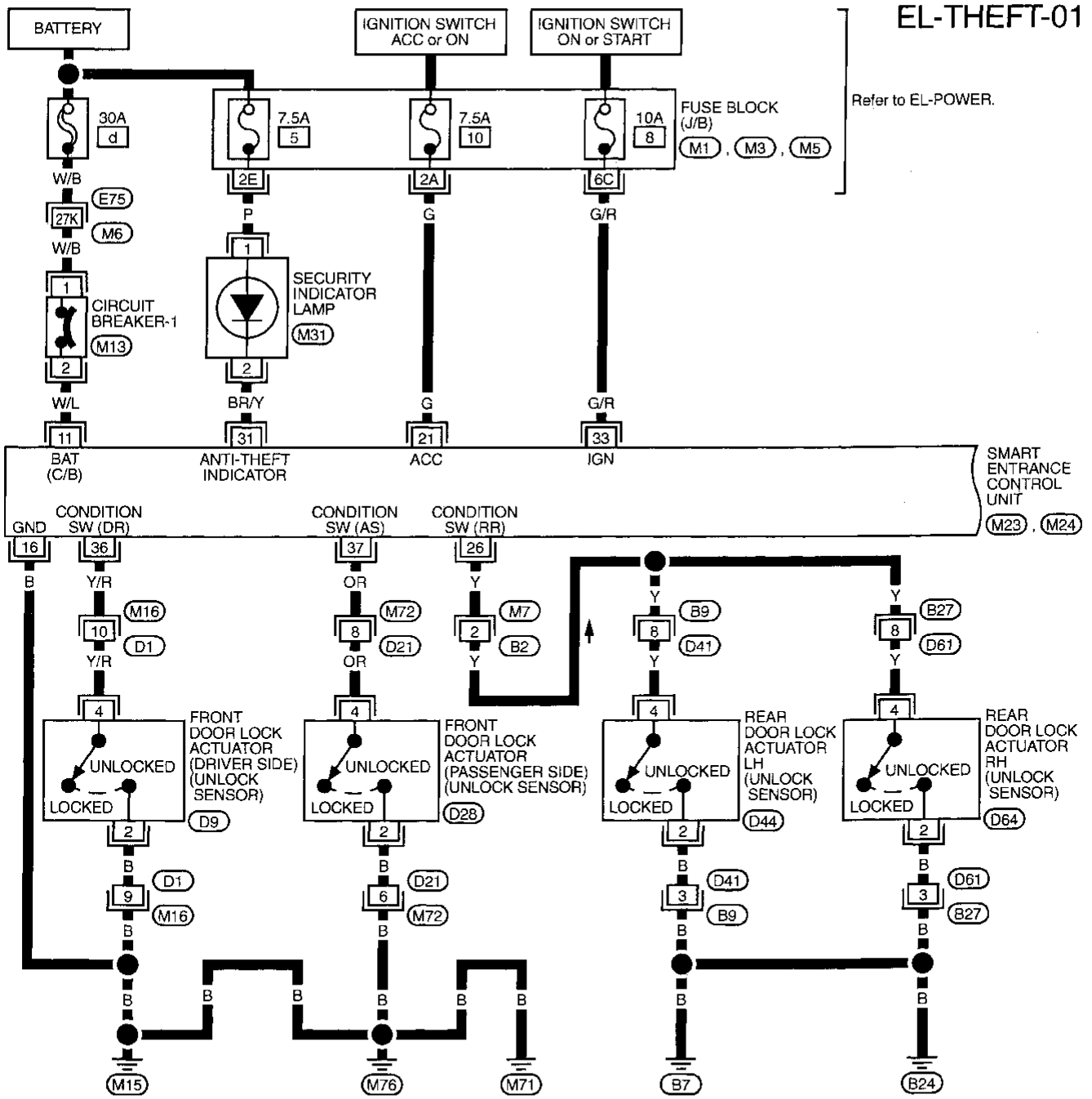

TEL936A

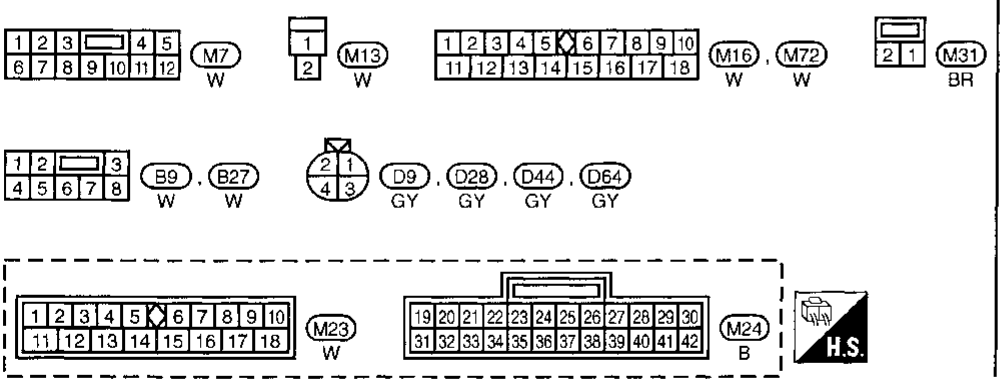
# Wiring Diagram — THEFT —

NCEL0122

**FIG. 1**

NCEL0122S01




Refer to last page (Foldout page).

M6, E75

M1

M3

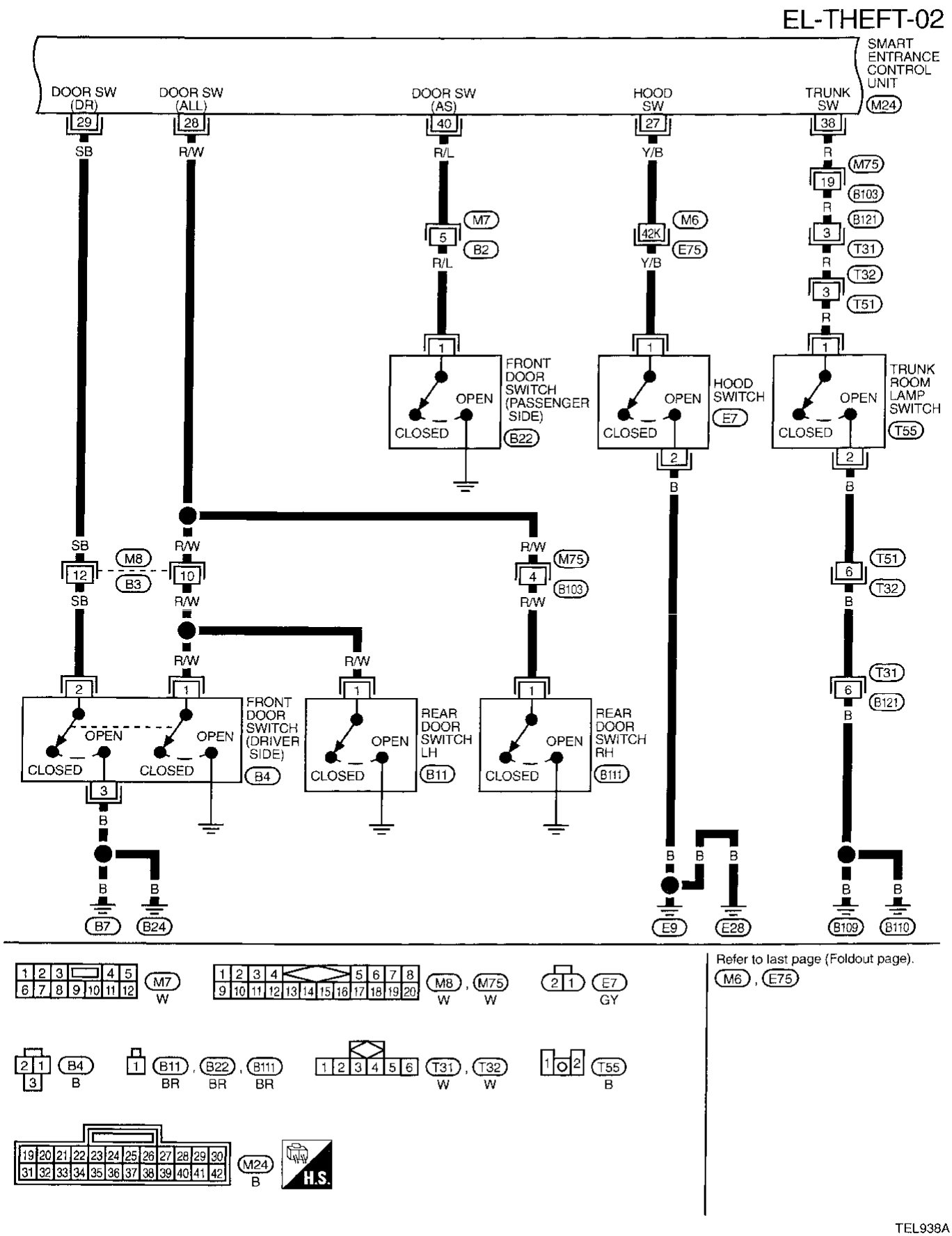
M5

TEL937A

*Wiring Diagram — THEFT — (Cont'd)*

**FIG. 2**

NCEL0122S02

























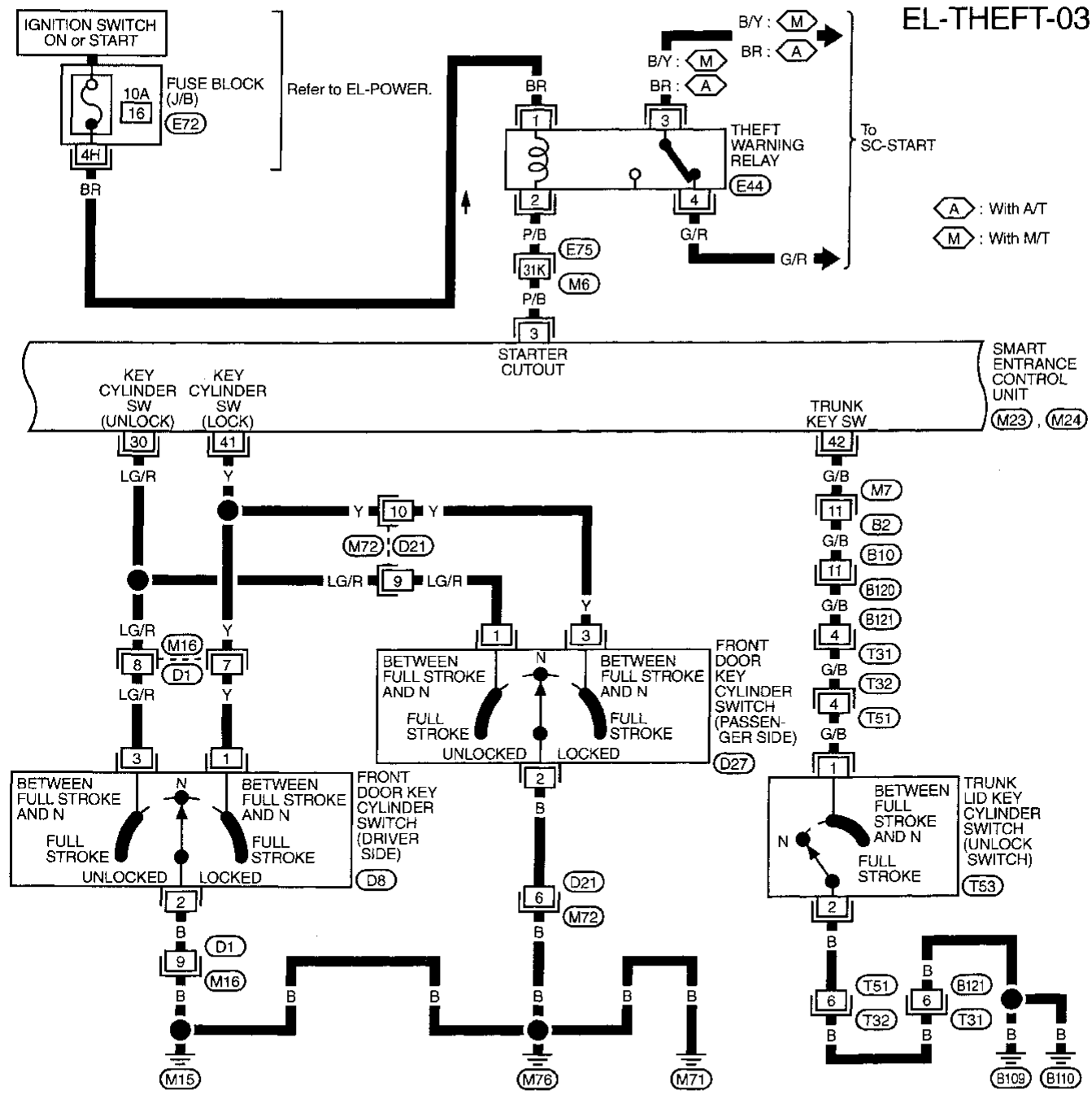


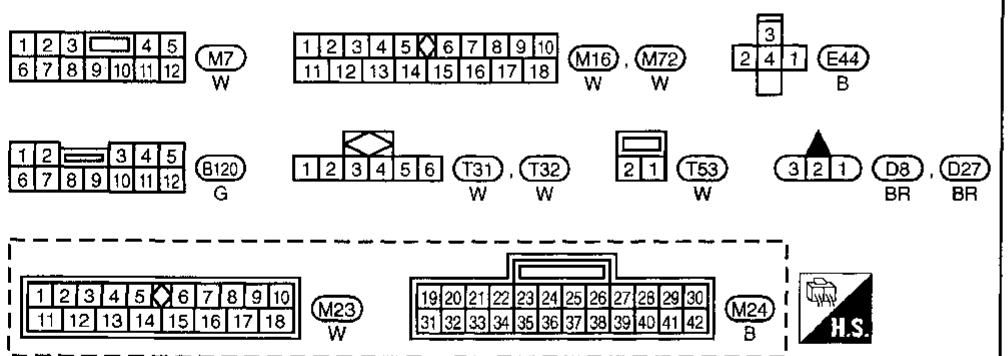

Refer to last page (Foldout page).
M6, E75

TEL938A

**FIG. 3**

NCEL0122S03



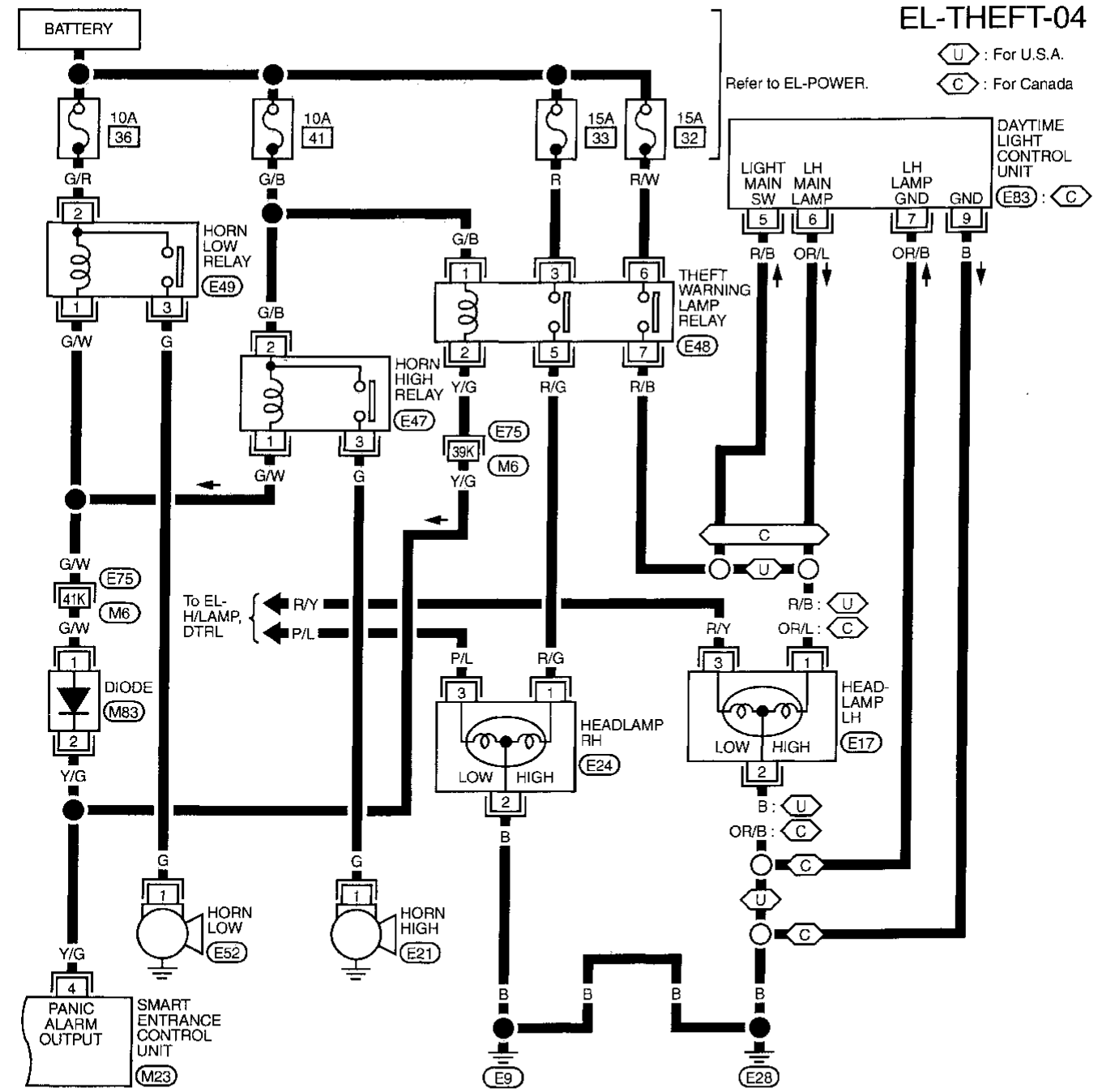




Refer to last page (Foldout page).
M6 , E75
E72

TEL939A

**FIG. 4**

NCEL0122S04




M83 W · E17 B, E24 B · E21 B, E52 B · E47 W, E49 W · E48 BR

E83 GY · M23 W

Refer to last page (Foldout page).
M6, E75

TEL940A

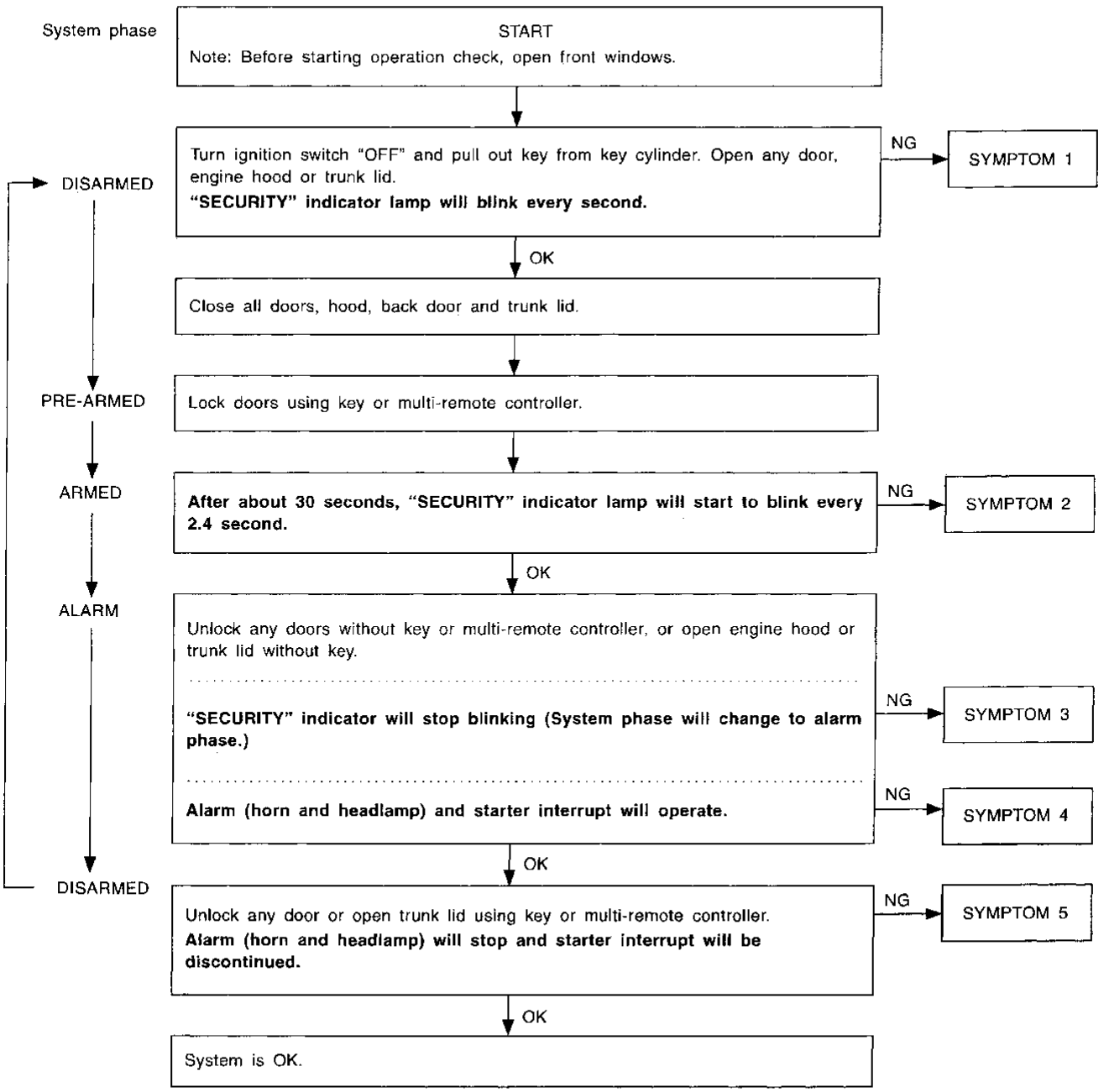
# Trouble Diagnoses

NCEL0123

## PRELIMINARY CHECK

NCEL0123S01

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




MEL447HB

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

## SYMPTOM CHART

NCEL0123S02

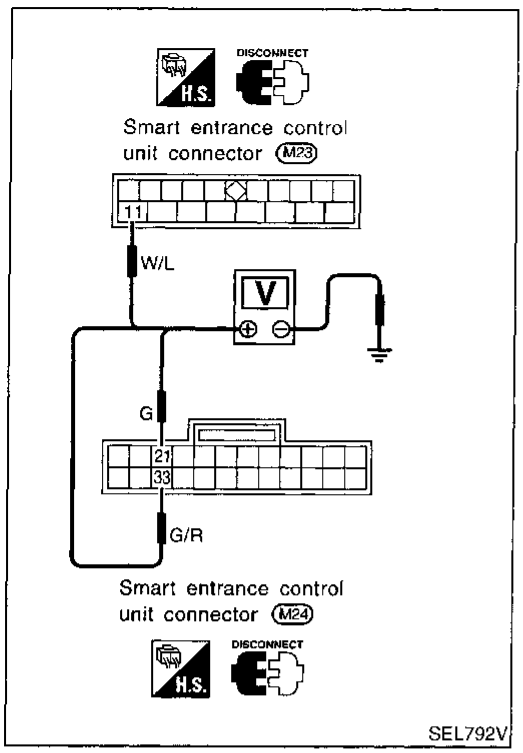
| REFERENCE PAGE (EL- ) | | | 177 | 179 | 180 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 158 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYMPTOM | | | PRELIMINARY CHECK | POWER SUPPLY AND GROUND CIRCUIT CHECK | DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK | SECURITY INDICATOR LAMP CHECK | 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 | STARTER INTERRUPT SYSTEM CHECK | Check "MULTI-REMOTE CONTROL" system. |
| 1 | Theft warning indicator does not turn "ON" or blinking. | | X | X | | X | | | | | | | |
| 2 | Theft warning system cannot be set by .... | All items | X | X | X | | X | | | | | | |
| | | Door outside key | X | X | | | | X | | | | | |
| | | Multi-remote control | X | X | | | | | | | | | X |
| 3 | *1 Theft warning system does not alarm when ... | Any door is opened. | X | X | X | | | | | | | | |
| | | Any door is unlocked without using key or multi-remote controller | X | X | | | X | | | | | | |
| 4 | Theft warning alarm does not activate. | All function | X | X | X | | X | | | | | | |
| | | Horn alarm | X | X | | | | | | X | | | |
| | | Headlamp alarm | X | X | | | | | | | X | | |
| | | Starter interrupt | X | X | | | | | | | | X | |
| 5 | Theft warning system cannot be canceled by .... | Door outside key | X | X | | | | X | | | | | |
| | | Trunk lid key | X | X | | | | | X | | | | |
| | | Multi-remote control | X | X | | | | | | | | | X |

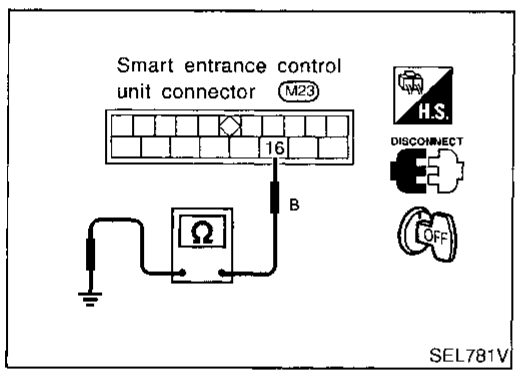
X : Applicable

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

**Before starting trouble diagnoses above, perform preliminary check, EL-177.**

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




## 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

=NCEL0123S04

### Door Switch Check

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.**

**OK or NG**

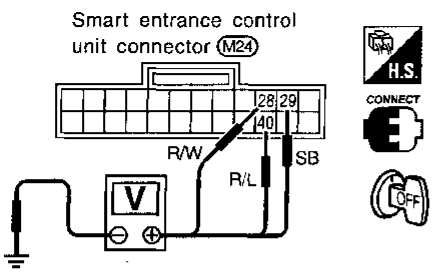
| | | |
|---|---|---|
| OK | ▶ | Door switch is OK. |
| NG | ▶ | GO TO 2. |

**2 CHECK DOOR SWITCH INPUT SIGNAL**

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

| | Terminals (+) | 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-174.

**OK or NG**

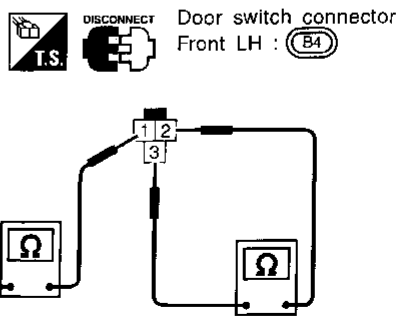
| | | |
|---|---|---|
| OK | ▶ | Door switch is OK. |
| NG | ▶ | GO TO 3. |

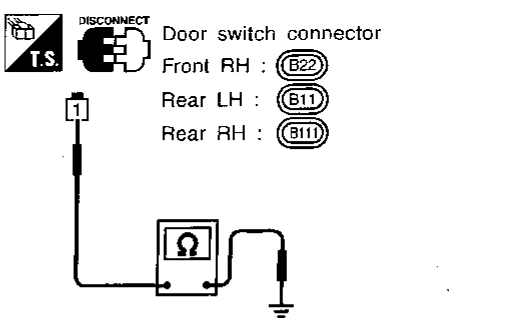
**3 CHECK DOOR SWITCH**

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.**<br>• Door switch ground circuit (Front, back door) or door switch ground condition<br>• 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. |
| NG | ▶ | GO TO 2. |

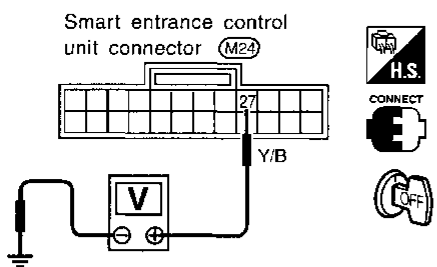
| 2 | CHECK HOOD SWITCH FITTING CONDITION |
|---|---|

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Adjust installation of hood switch or hood. |

| 3 | CHECK HOOD SWITCH INPUT SIGNAL |
|---|---|

Check voltage between control unit terminal 27 and ground.




SEL932V

Refer to wiring diagram in EL-174.

**Voltage [V]:**

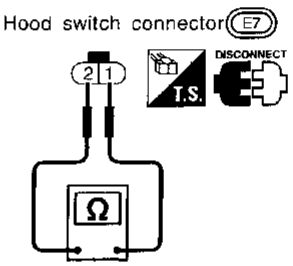
**Engine hood is open.**
**0**
**Engine hood is closed.**
**Approx. 12**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Hood switch is OK. |
| NG | ▶ | GO TO 4. |

| 4 | CHECK HOOD SWITCH |
|---|---|

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




SEL397TC

**Continuity:**

**Condition: Pushed**
**No**
**Condition: Released**
**Yes**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Hood switch ground circuit<br>• Harness for open or short between control unit and hood switch |
| NG | ▶ | Replace hood switch. |

## Trunk Room Lamp Switch Check

=NCEL0123S0403

| 1 | PRELIMINARY CHECK |
|---|---|

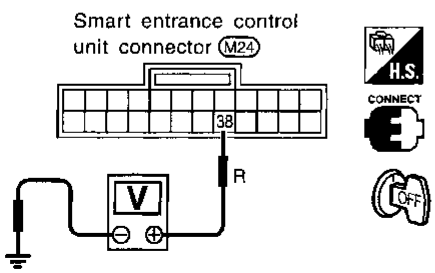
1. Turn ignition switch "OFF" and remove key from key cylinder.
2. Close all doors, engine hood and trunk lid.
   **"SECURITY" indicator lamp should turn off.**
3. Open trunk lid.
   **"SECURITY" indicator lamp should blink every second.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Trunk room lamp switch is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL |
|---|---|

Check voltage between control unit terminal 38 and ground.




SEL933V

Refer to wiring diagram in EL-174.

**Voltage [V]:**

**Trunk lid is open.**
**Approx. 0**

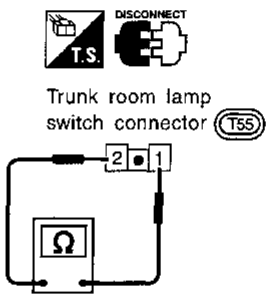
**Trunk lid is closed.**
**Approx. 12**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Trunk room lamp switch is OK. |
| NG | ▶ | GO TO 3. |

| 3 | CHECK TRUNK ROOM LAMP SWITCH |
|---|---|

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




SEL934V

**Continuity:**

**Condition: Closed**
**No**

**Condition: Open**
**Yes**

**OK or NG**

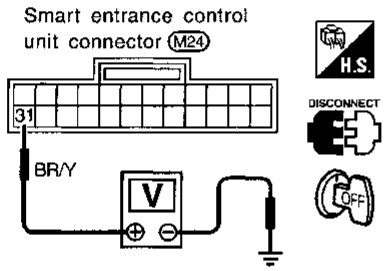
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Trunk room lamp switch ground circuit<br>• Harness for open or short between control unit and trunk room lamp switch |
| NG | ▶ | Replace trunk room lamp switch. |

## SECURITY INDICATOR LAMP CHECK

=NCEL0123S05

| 1 | CHECK INDICATOR LAMP OUTPUT SIGNAL |
|---|---|

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




SEL935V

Refer to wiring diagram in EL-173.

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | Security indicator lamp is OK. |
| No | ▶ | GO TO 2. |

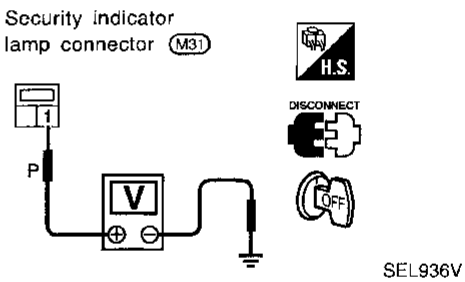
| 2 | CHECK INDICATOR LAMP |
|---|---|

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace indicator lamp. |

| 3 | CHECK POWER SUPPLY CIRCUIT FOR INDICATOR LAMP |
|---|---|

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




SEL936V

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | Check harness for open or short between security indicator lamp and control unit. |
| No | ▶ | **Check the following.**<br>• 7.5A fuse [No. 5, located in fuse block (J/B)]<br>• Harness for open or short between security indicator lamp and fuse |

## DOOR UNLOCK SENSOR CHECK

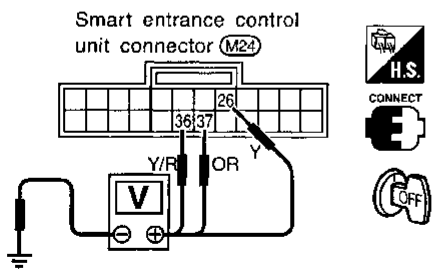
=NCEL0123S06

### 1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

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

| | Terminals (+) | 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

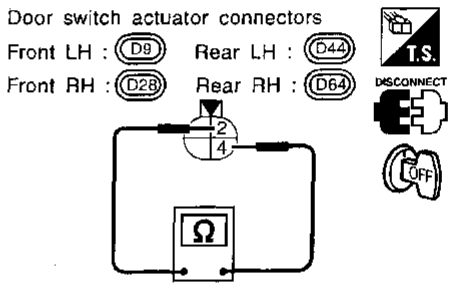
Refer to wiring diagram in EL-173.

**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.**<br>• Door unlock sensor ground circuit<br>• Harness for open or short between control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

## DOOR KEY CYLINDER SWITCH CHECK

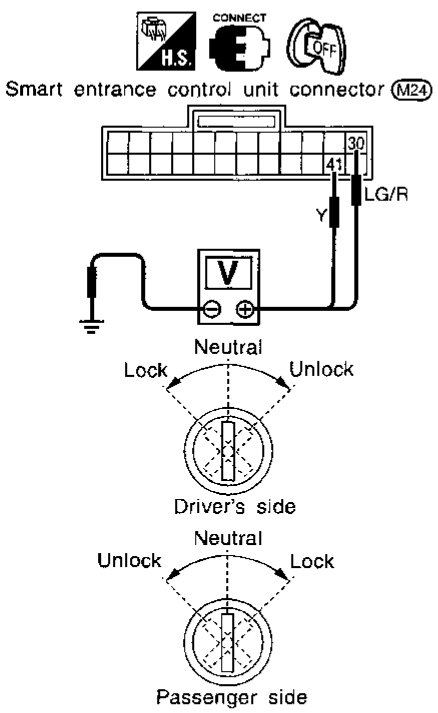
=NCEL0123S07

### 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




SEL939V

Refer to wiring diagram in EL-175.

**OK or NG**

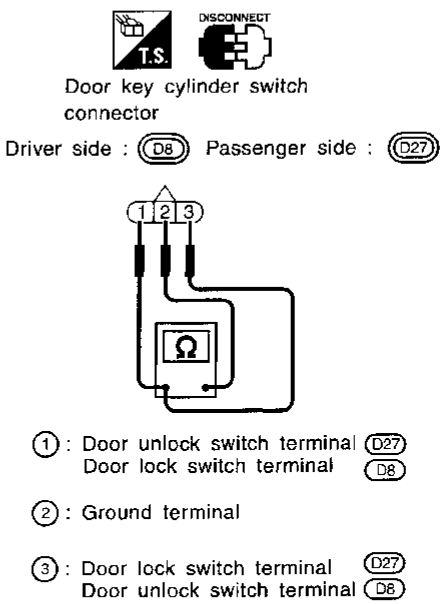
| | | |
|---|---|---|
| OK | ▶ | Door key cylinder switch is OK. |
| NG | ▶ | GO TO 2. |

### 2 CHECK DOOR KEY CYLINDER SWITCH

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

| Terminals | Key position | Continuity |
|---|---|---|
| D27: 3 - 2 | Neutral | No |
| D8: 1 - 2 | Lock | Yes |
| D27: 1 - 2 | Neutral | No |
| D8: 3 - 2 | Unlock | Yes |

MTBL0165




SEL940V

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Door key cylinder switch ground circuit<br>• Harness for open or short between control unit and door key cylinder switch |
| NG | ▶ | Replace door key cylinder switch. |

## TRUNK LID KEY CYLINDER SWITCH CHECK

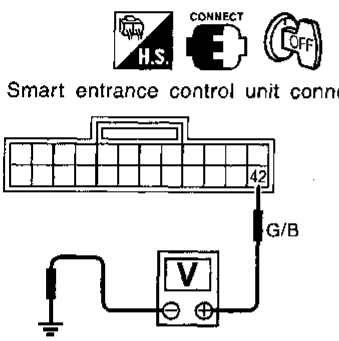
=NCEL0123S08

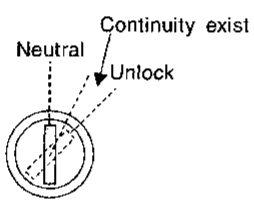
### 1 CHECK TRUNK LID KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK SIGNAL)

Check voltage between control unit terminal 42 and ground.

| Terminal (+) | Terminal (−) | Key position | Voltage [V] |
|---|---|---|---|
| 42 | Ground | Neutral | Approx. 12 |
| | | Unlock | 0 |

MTBL0166




SEL941V

Refer to wiring diagram in EL-175.

**OK or NG**

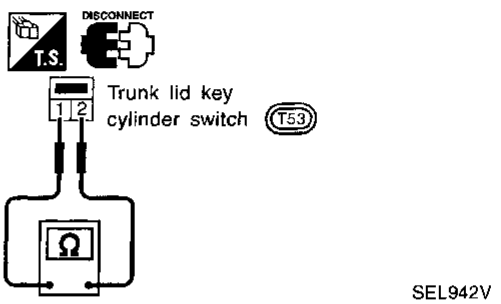
| | | |
|---|---|---|
| OK | ▶ | Trunk lid key cylinder switch is OK. |
| NG | ▶ | GO TO 2. |

### 2 CHECK TRUNK LID KEY CYLINDER SWITCH

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

| Key position | Continuity |
|---|---|
| Neutral | No |
| Unlock | Yes |

MTBL0167




SEL942V

**OK or NG**

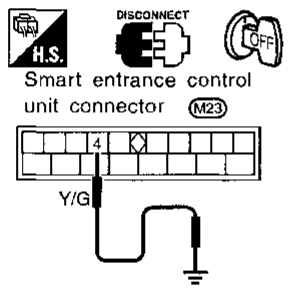
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Trunk lid key cylinder switch ground circuit<br>• Harness for open or short between control unit and trunk lid key cylinder switch |
| NG | ▶ | Replace trunk lid key cylinder switch. |

## THEFT WARNING HORN ALARM CHECK

=NCEL0123S09

### 1 CHECK THEFT WARNING HORN ALARM OPERATION

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




SEL943V

Refer to wiring diagram in EL-176.

**Does horn alarm activate?**

| | | |
|---|---|---|
| Yes | ▶ | Horn alarm is OK. |
| No | ▶ | GO TO 2. |

### 2 CHECK THEFT WARNING HORN RELAYS

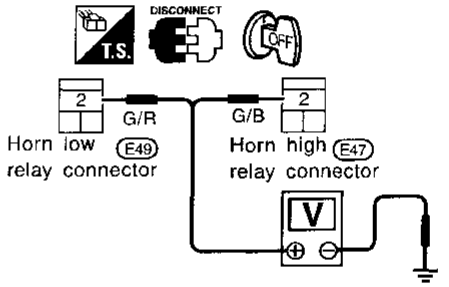
Check horn high relay and horn low relay.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace. |

### 3 CHECK POWER SUPPLY FOR THEFT WARNING HORN RELAYS

1. Disconnect horn high relay and horn low relay connectors.
2. Check voltage between terminal 2 and ground.



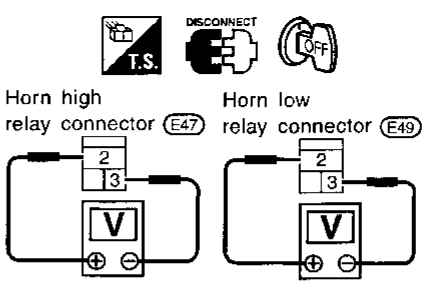

SEL944V

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 4. |
| No | ▶ | **Check the following.**<br>• 10A fuse (No. 36 and 41, located in the fuse and fusible link box)<br>• Harness for open or short between theft warning horn relays and fuse |

### 4 CHECK THEFT WARNING HORN RELAYS CIRCUIT

1. Disconnect horn high relay and horn low relay connectors.
2. Check voltage between terminals 2 and 3 of each relay.
   **Battery voltage should exist.**




SEL945V

**OK or NG**

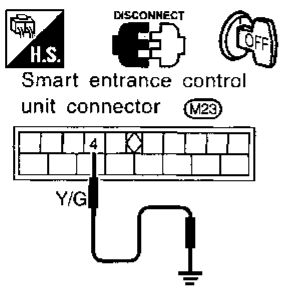
| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between theft warning horn relays and control unit. |
| NG | ▶ | Check harness for open or short. |

## THEFT WARNING HEADLAMP ALARM CHECK

=NCEL0123S10

### 1 CHECK THEFT WARNING HEADLAMP ALARM OPERATION

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




SEL943V

Refer to wiring diagram in EL-176.

**Does headlamp alarm activate?**

| | | |
|---|---|---|
| Yes | ▶ | Headlamp alarm is OK. |
| No | ▶ | GO TO 2. |

### 2 CHECK HEADLAMP OPERATION

**Does headlamp come on when turning lighting switch "ON"?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 3. |
| No | ▶ | Check headlamp system. Refer to "HEADLAMP". |

### 3 CHECK THEFT WARNING LAMP RELAY

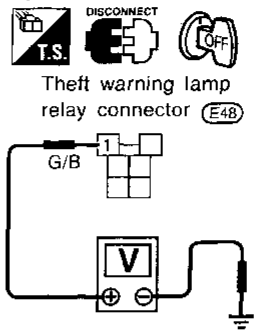
Check theft warning lamp relay.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Replace. |

### 4 CHECK POWER SUPPLY FOR THEFT WARNING LAMP RELAY

1. Disconnect theft warning lamp relay connector.
2. Check voltage between terminal 1 and ground.




SEL757UD

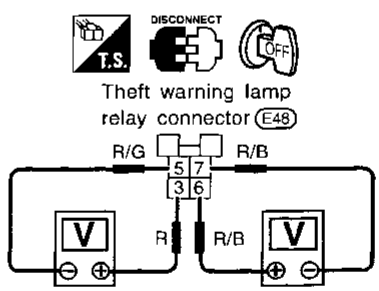
Refer to wiring diagram in EL-176.

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 5. |
| No | ▶ | **Check the following.**<br>• 10A fuse (No. 41, located in the fuse and fusible link box)<br>• Harness for open or short between theft warning lamp relay and fuse |

### 5 CHECK THEFT WARNING LAMP RELAY CIRCUIT

1. Disconnect theft warning lamp 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.**




SEL758UD

**OK or NG**

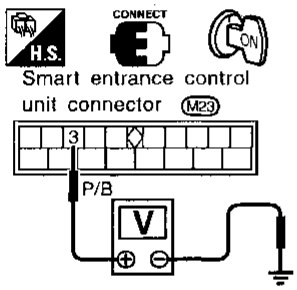
| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between theft warning lamp relay and control unit. |
| NG | ▶ | **Check the following.**<br>• Harness for open or short between fuse and theft warning lamp relay<br>• Harness for open or short between theft warning lamp relay and headlamps |

## STARTER INTERRUPT SYSTEM CHECK

=NCEL0123S11

| 1 | CHECK STARTER MOTOR INTERRUPT SIGNAL |
|---|---|

1. Turn ignition switch "ON".
2. Check voltage between control unit terminal 3 and ground.




SEL946V

Refer to wiring diagram in EL-175.

**Voltage [V]:**

**Except starter interrupted phase**

**Approx. 12**

**Starter interrupted phase**

**0**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | **Check the following.**<br>• 10A fuse [No. 16, located in fuse block (J/B)]<br>• Harness for open or short between theft warning relay and fuse<br>• Harness for open or short between control unit and theft warning relay |

| 2 | CHECK THEFT WARNING RELAY |
|---|---|

Check theft warning relay.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check system again. |
| NG | ▶ | Replace relay. |

## Description

NCEL0124

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

- Warning chime
- Rear window defogger timer
- Power door lock
- Multi-remote control system
- Theft warning system
- Interior room lamp 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<br>Key switch (Insert)<br>Front door switch LH<br>Front door switch RH<br>Front door unlock sensor LH<br>Front door unlock sensor RH<br>Door key cylinder switches | Door lock actuator |
| Multi-remote control | Key switch (Insert)<br>Ignition switch (ACC)<br>Door switches<br>Door unlock sensors<br>Antenna (remote controller signal) | Horn relays<br>Theft warning lamp relay<br>Interior room lamp<br>Multi-remote control relay<br>Door lock actuator |
| Warning chime | Key switch (Insert)<br>Ignition switch (ON)<br>Lighting switch (1st)<br>Seat belt switch<br>Front door switch LH | Warning chime |
| Rear window defogger timer | Ignition switch (ON)<br>Rear window defogger switch | Rear window defogger relay |
| Theft warning | Ignition switch (ACC, ON)<br>Door switches<br>Hood switch<br>Door key cylinder switches (lock/unlock)<br>Trunk lid key cylinder switch (unlock)<br>Door unlock sensor | Horn relays<br>Theft warning lamp relay<br>Theft warning relay<br>(Starter interrupt)<br>Security indicator |
| Interior room lamp timer | Door switches<br>Front door key cylinder switch LH (lock/unlock)<br>Ignition switch (ON)<br>Key switch (Insert) | Interior room lamp |
| Battery saver | Ignition switch (ON)<br>Door switches<br>Front door key cylinder switch LH (lock/unlock) | Interior room lamp<br>Map lamp |

### BATTERY SAVER

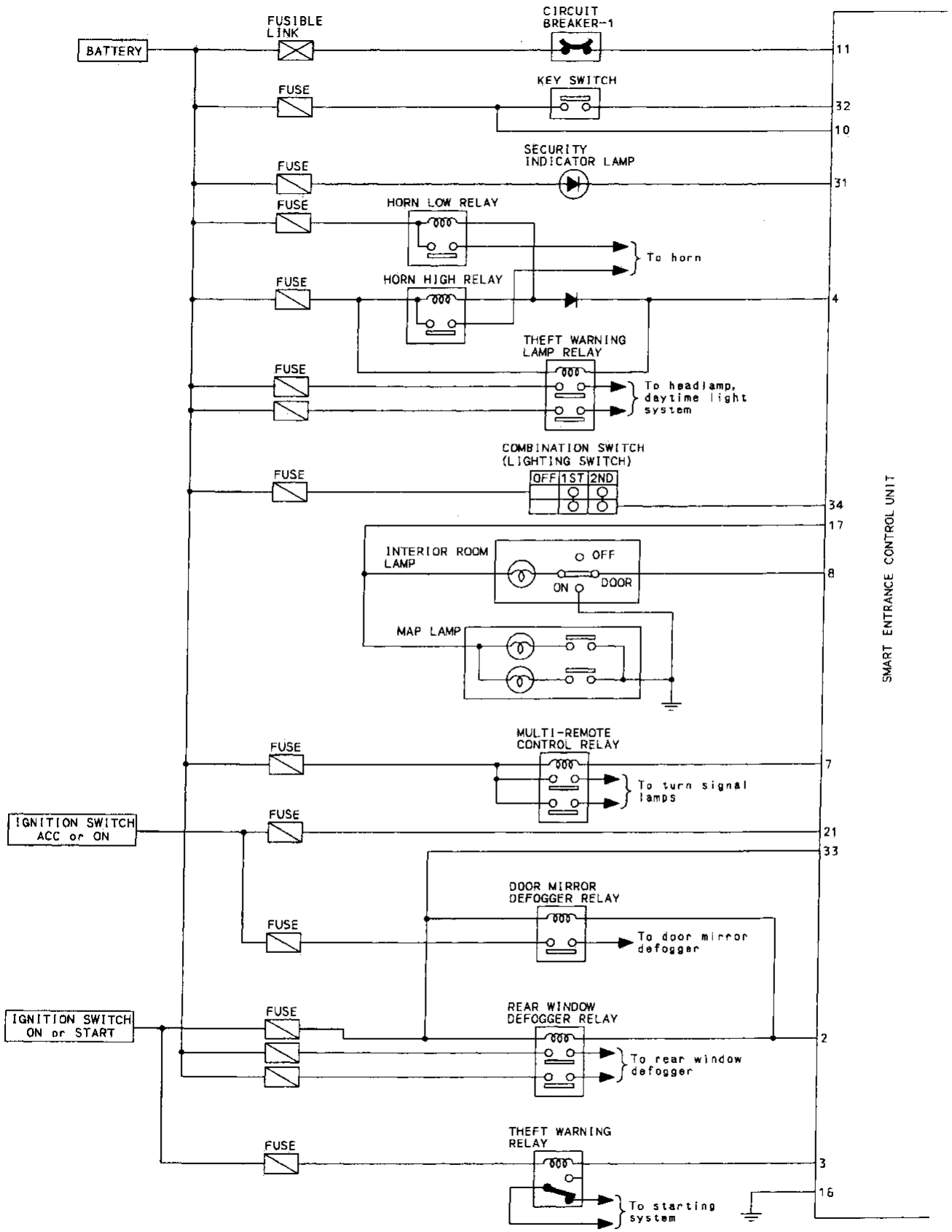
NCEL0124S02

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.

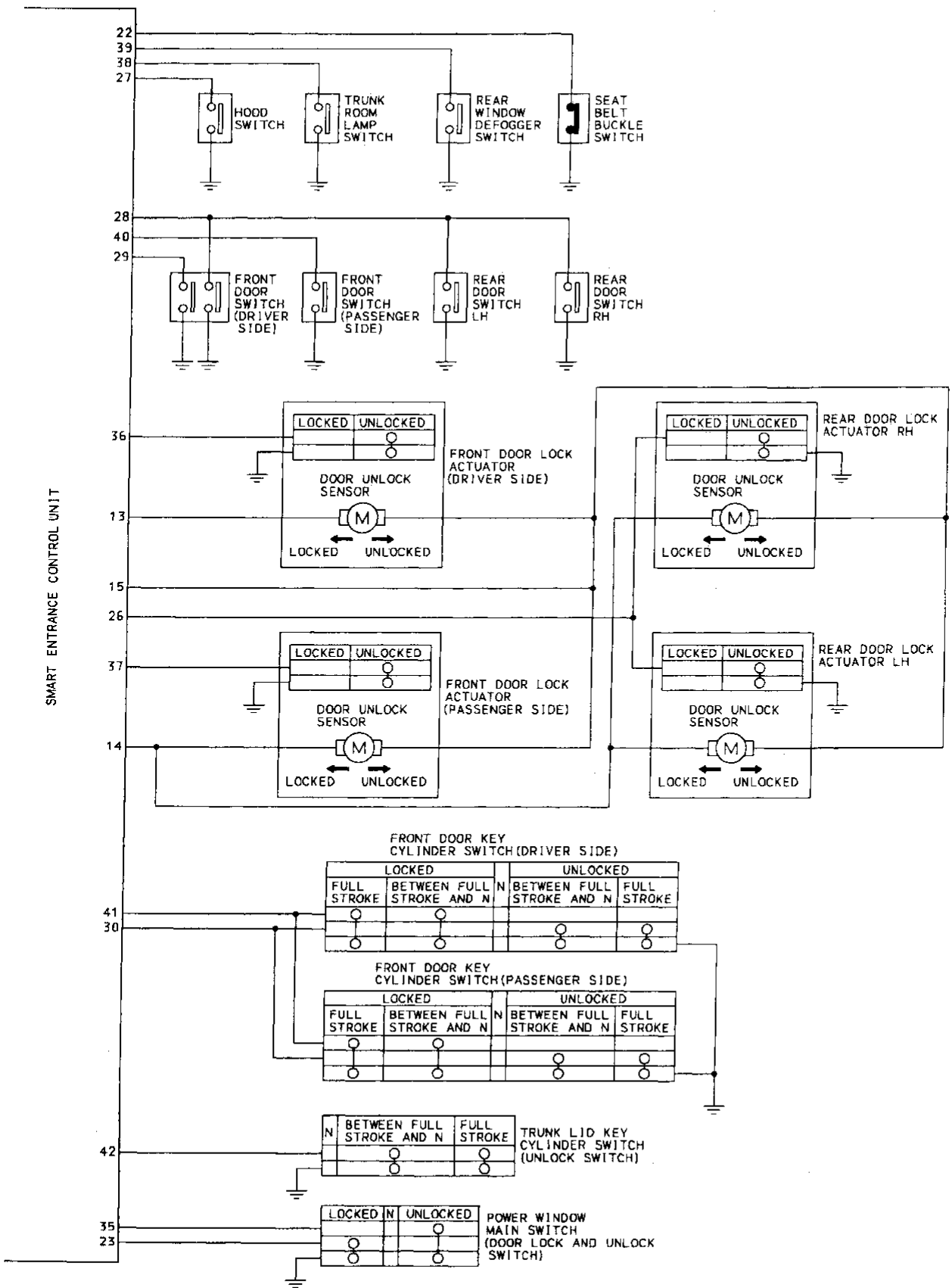
**NOTE:**

## Schematic

NCEL0125




TEL941A


SMART ENTRANCE CONTROL UNIT
22
39
38
27
HOOD SWITCH
TRUNK ROOM LAMP SWITCH
REAR WINDOW DEFOGGER SWITCH
SEAT BELT BUCKLE SWITCH
28
40
29
FRONT DOOR SWITCH (DRIVER SIDE)
FRONT DOOR SWITCH (PASSENGER SIDE)
REAR DOOR SWITCH LH
REAR DOOR SWITCH RH
36
13
15
26
37
14
LOCKED
UNLOCKED
DOOR UNLOCK SENSOR
FRONT DOOR LOCK ACTUATOR (DRIVER SIDE)
REAR DOOR LOCK ACTUATOR RH
FRONT DOOR LOCK ACTUATOR (PASSENGER SIDE)
REAR DOOR LOCK ACTUATOR LH
FRONT DOOR KEY CYLINDER SWITCH (DRIVER SIDE)
FULL STROKE
BETWEEN FULL STROKE AND N
N
41
30
FRONT DOOR KEY CYLINDER SWITCH (PASSENGER SIDE)
42
TRUNK LID KEY CYLINDER SWITCH (UNLOCK SWITCH)
35
23
POWER WINDOW MAIN SWITCH (DOOR LOCK AND UNLOCK SWITCH)

TEL942A

## Smart Entrance Control Unit Inspection Table

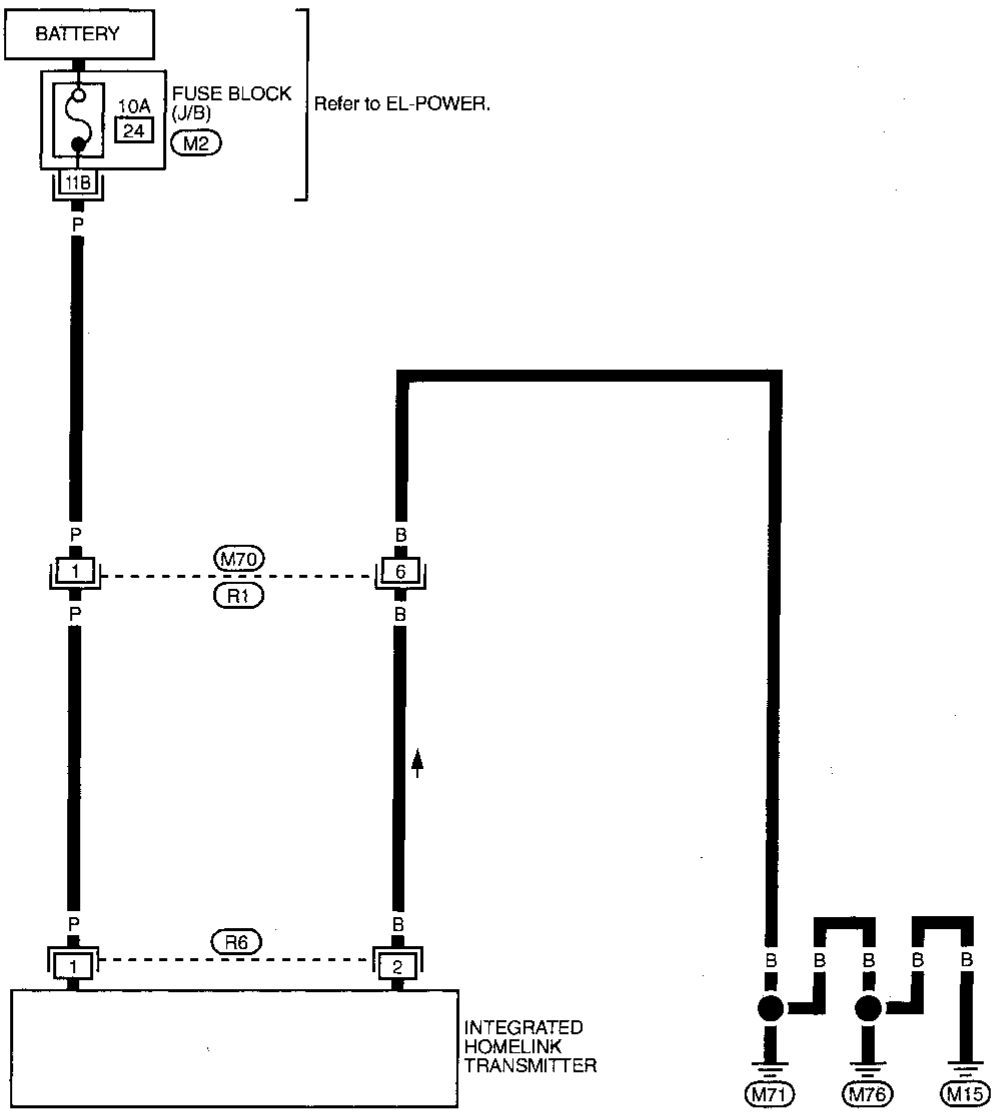
NCEL0126

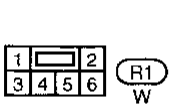
| Terminal No. | Wire color | Connections | Operated condition | | Voltage (Approximate values) |
|---|---|---|---|---|---|
| 2 | G | Rear window defogger relay | OFF → ON (Ignition key is in "ON" position) | | 12V → 0V |
| 3 | P/B | Theft warning relay (Starter cut) | OFF → ON (Ignition key is in "ON" position) | | 12V → 0V |
| 4 | Y/G | Theft warning horn/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 |
| 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 |
| 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 | Theft warning 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 | Lighting switch (1ST) | 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 |

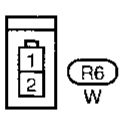
## Wiring Diagram — TRNSMT —

NCEL0127

EL-TRNSMT-01




Refer to last page (Foldout page).
M2

TEL943A

# Trouble Diagnoses

NCEL0128

## DIAGNOSTIC PROCEDURE

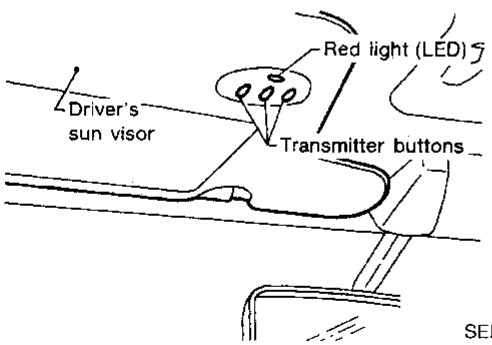
NCEL0128S01

**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

1. Turn ignition switch "OFF".
2. Does red light (LED) of transmitter illuminate when any button is pressed?




SEL442U

**Yes or No**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO 3. |

### 2 CHECK TRANSMITTER FUNCTION

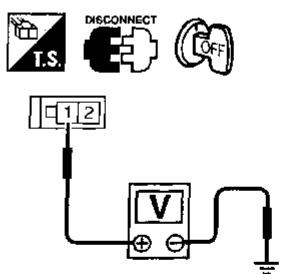
Check transmitter with Tool.
For details, refer to Technical Service Bulletin.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Receiver or handheld transmitter fault, not vehicle related. |
| NG | ▶ | Replace transmitter with sun visor assembly. |

### 3 CHECK POWER SUPPLY

1. Disconnect transmitter connector.
2. Turn ignition switch "OFF".
3. Check voltage between terminal 1 and body ground.



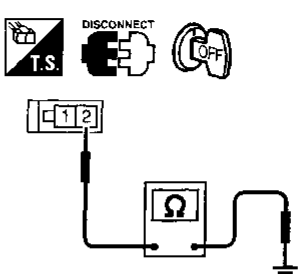

SEL635U

**Does battery voltage exist?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 4. |
| No | ▶ | Check fuse (10A) and repair harness. |

### 4 CHECK GROUND CIRCUIT

Check continuity between terminal 2 and ground.



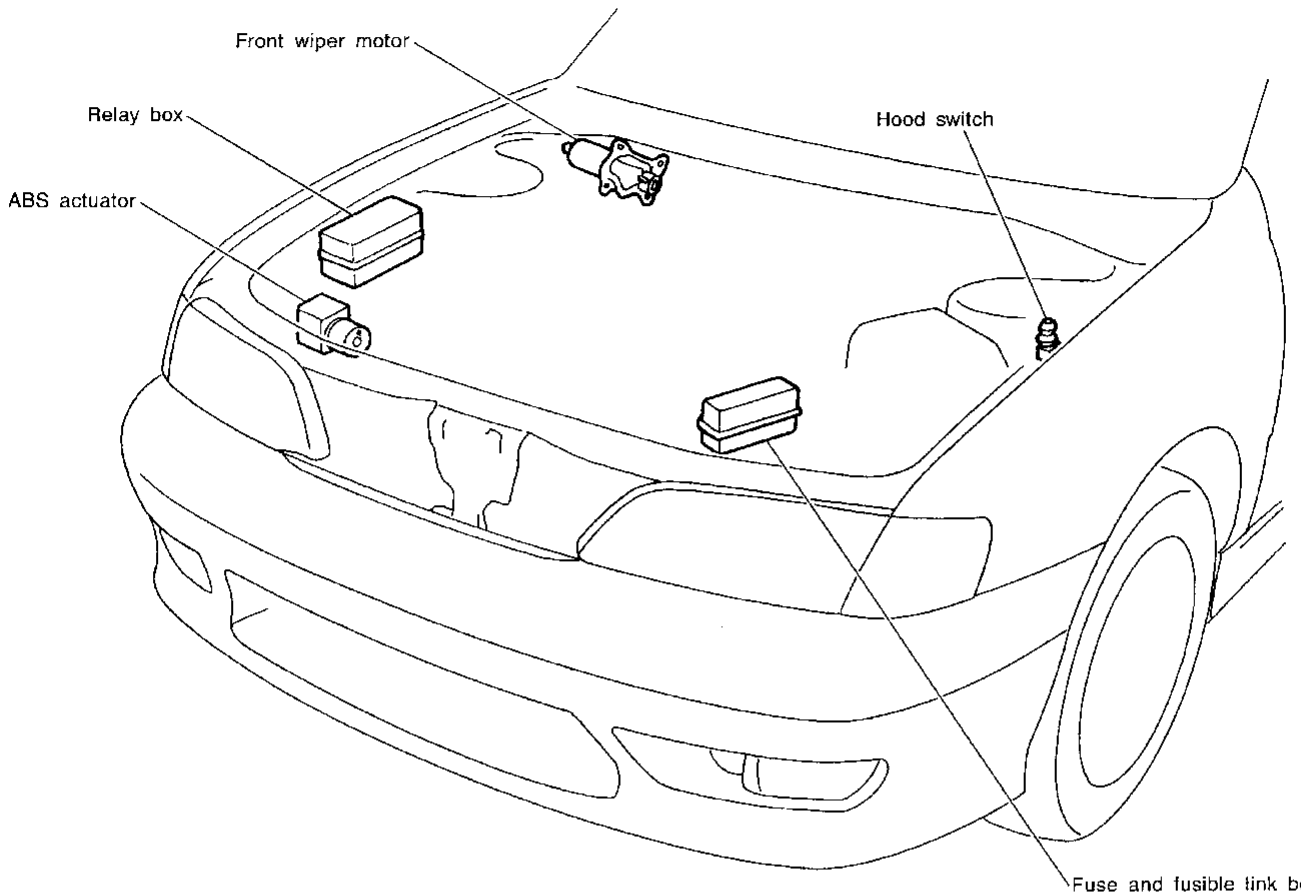

SEL636U

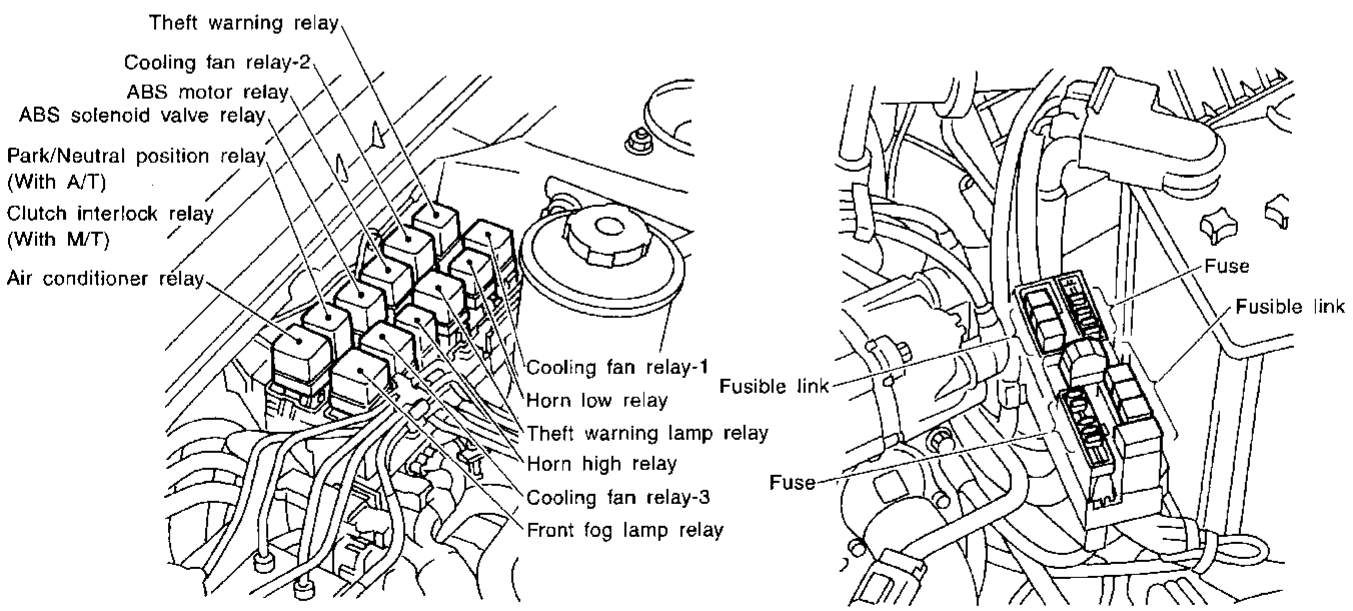
**Does continuity exist?**

| | | |
|---|---|---|
| Yes | ▶ | Replace transmitter with sun visor assembly. |
| No | ▶ | Repair harness. |

## Engine Compartment

NCEL0129

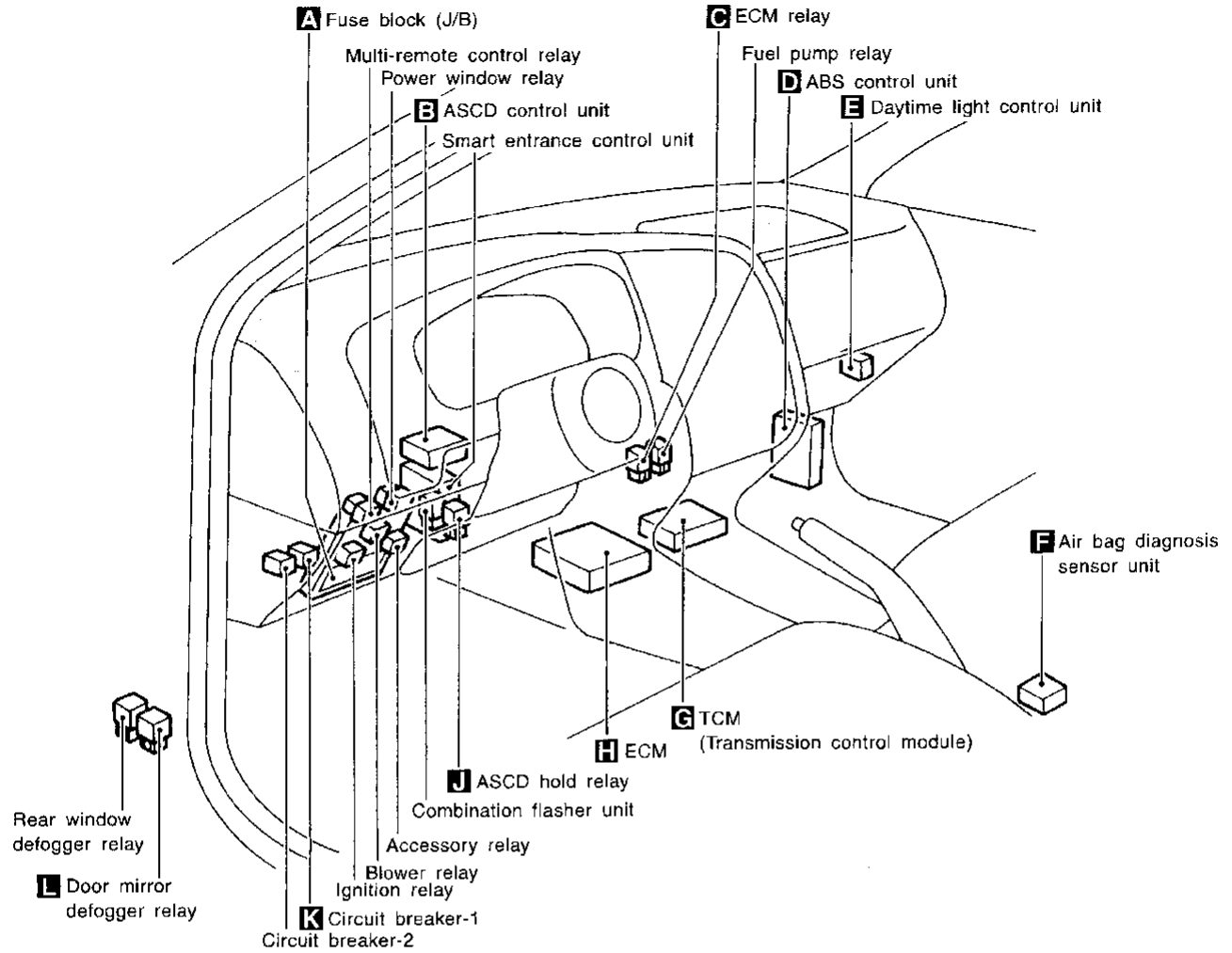


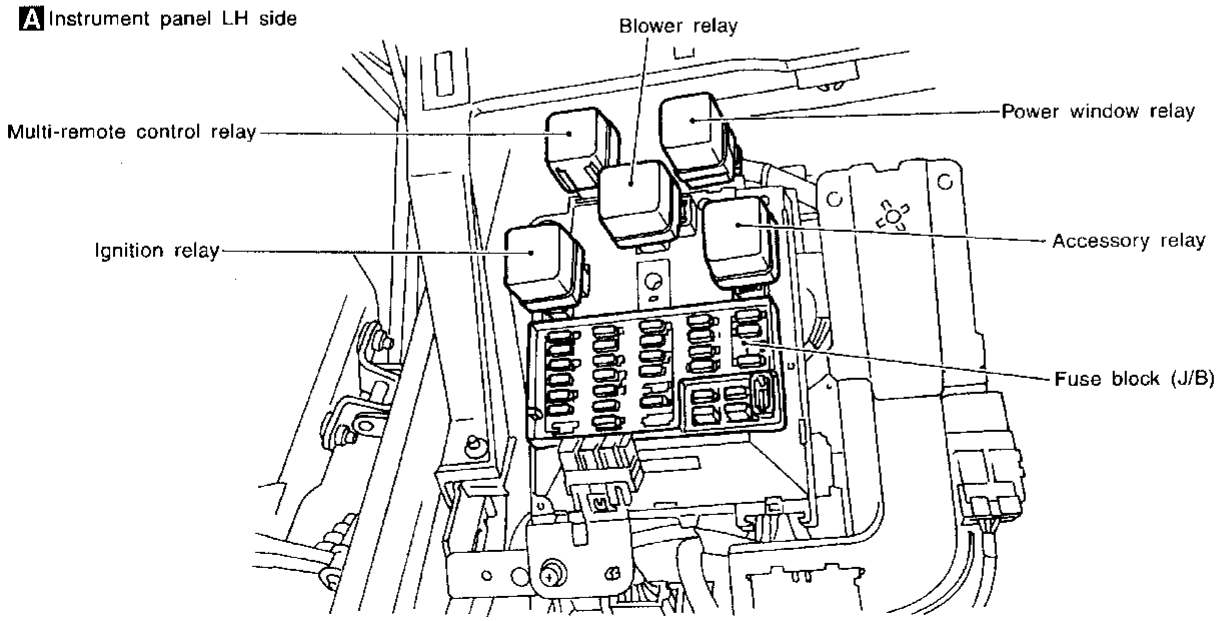




CEL949

## Passenger Compartment

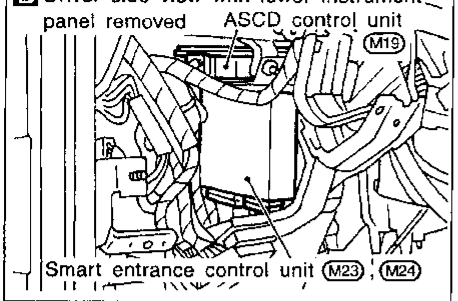
NCEL0130



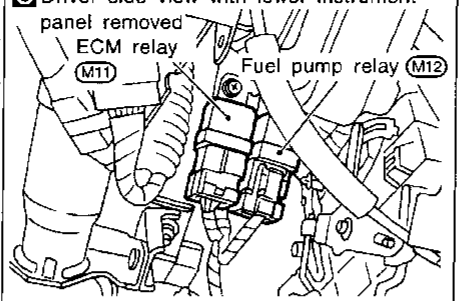




CEL950

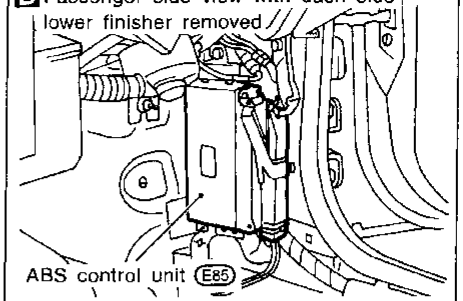
**B** Driver side view with lower instrument panel removed



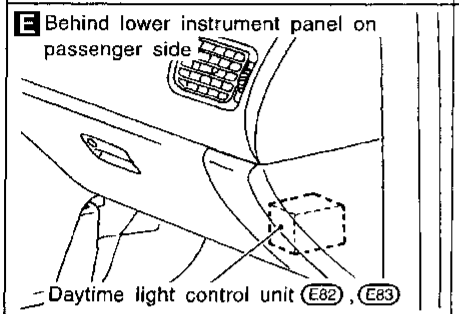

**C** Driver side view with lower instrument panel removed



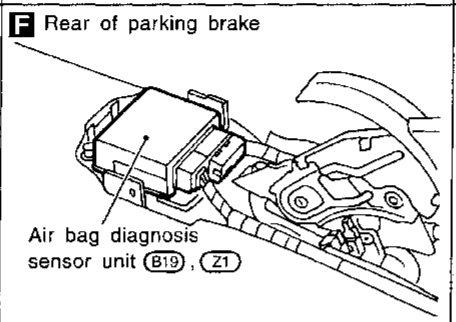

**D** Passenger side view with dash side lower finisher removed



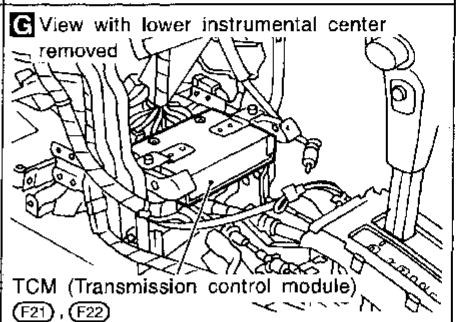

**E** Behind lower instrument panel on passenger side



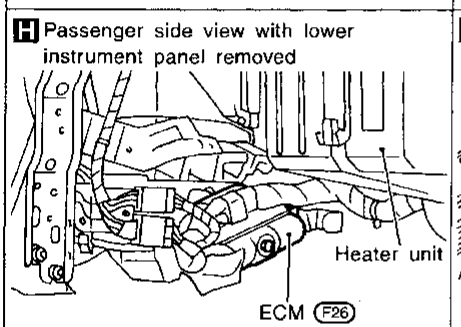

**F** Rear of parking brake



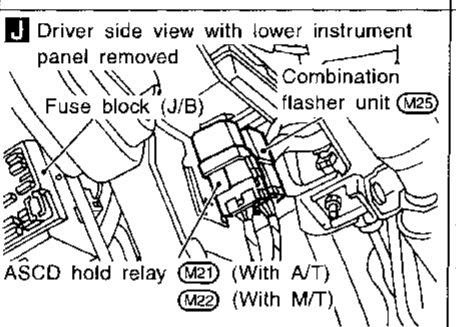

**G** View with lower instrumental center removed



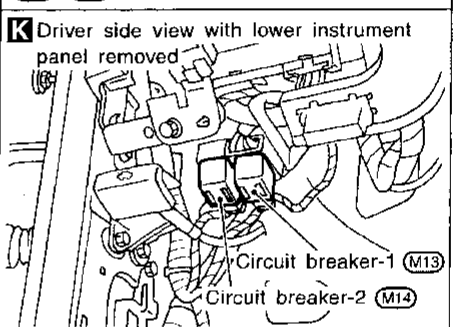

**H** Passenger side view with lower instrument panel removed



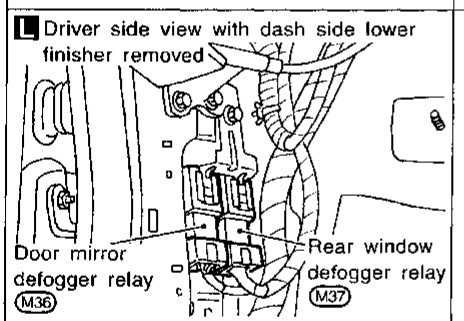

**J** Driver side view with lower instrument panel removed




**K** Driver side view with lower instrument panel removed



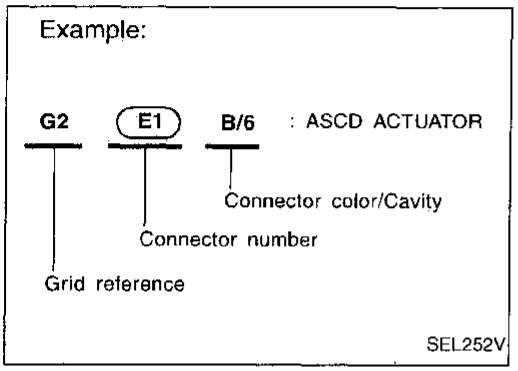

**L** Driver side view with dash side lower finisher removed




CEL951

## 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

NCEL0131S01

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

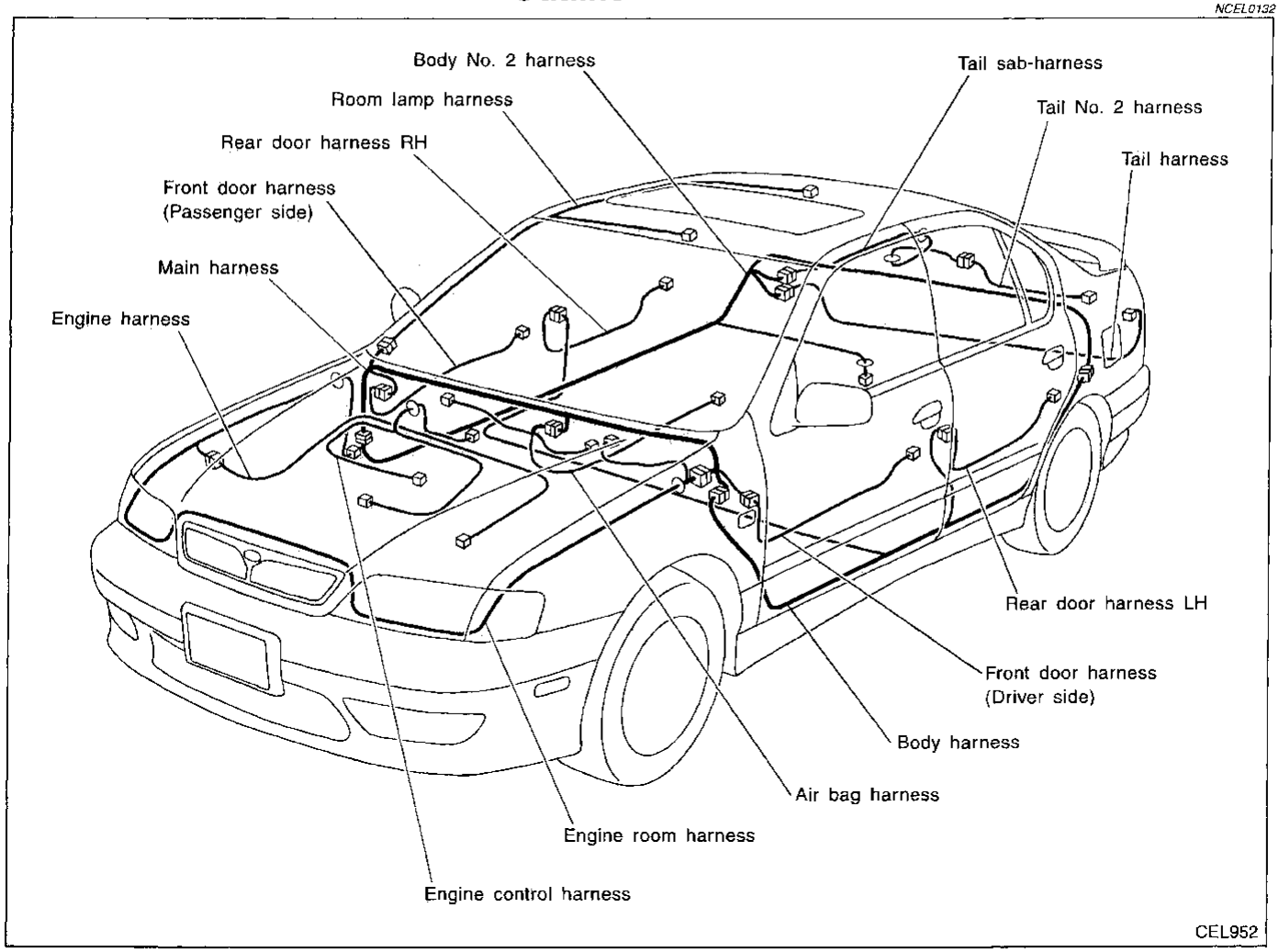
NCEL0131S02

Main symbols of connector (in Harness Layout) are indicated in the below.

| Connector type | Water proof type | | Standard type | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| • Cavity: Less than 4<br>• Relay connector |  |  |  |  |
| • Cavity: From 5 to 8 |  |  |  |  |
| • Cavity: More than 9 | — | — |  |  |
| • Ground terminal etc. | — | |  | |

## Outline

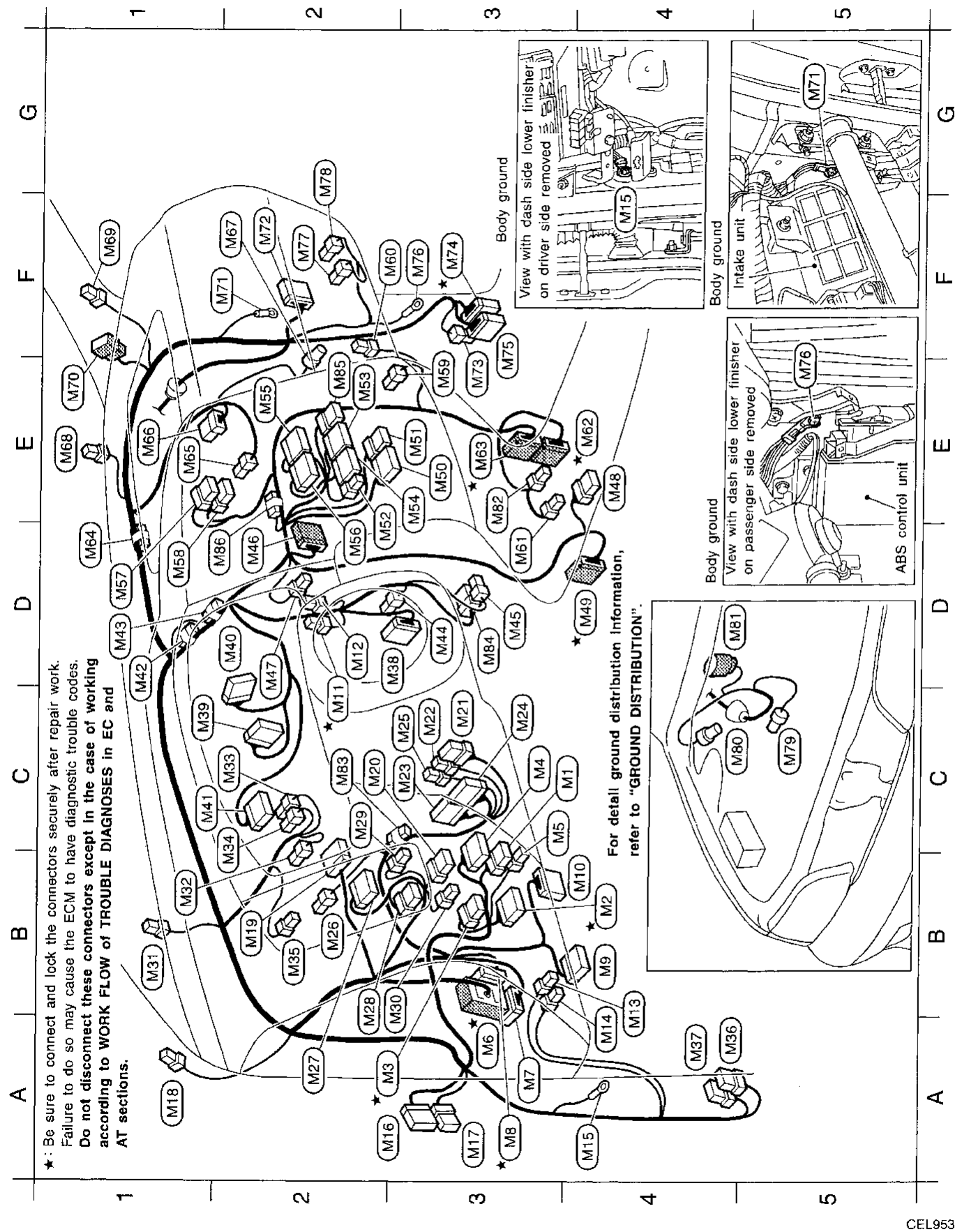
NCEL0132




**NOTE:**
For detailed ground distribution information, refer to "Ground Distribution", "GROUND" EL-16.

## Main Harness

NCEL0133



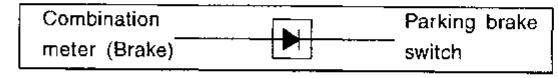

CEL953

C3 (M1) GY/8 : Fuse block (J/B)
B4★ (M2) BR/16 : Fuse block (J/B)
A3★ (M3) W/8 : Fuse block (J/B)
C3 (M4) GY/16 : Fuse block (J/B)
C3 (M5) B/2 : Fuse block (J/B)
A3★ (M6) SMJ : To (E75)
A3 (M7) W/12 : To (B2)
A3★ (M8) W/20 : To (B3)
B4 (M9) GY/14 : Data link connector for CONSULT
B4 (M10) W/16 : Data link connector for GST
C2★ (M11) L/4 : ECM relay
D2 (M12) L/4 : Fuel pump rely
B4 (M13) W/2 : Circuit breaker-1
A4 (M14) W/2 : Circuit breaker-2
A4 (M15) – : Body ground
A3 (M16) W/18 : To (D1)
A3 (M17) W/6 : To (D2)
A1 (M18) BR/2 : Tweeter LH
B2 (M19) B/20 : ASCD control unit
C2 (M20) BR/6 : Multi-remote control relay
C3 (M21) BR/6 : ASCD hold relay (With A/T)
C3 (M22) L/4 : ASCD hold relay (With M/T)
C3 (M23) W/18 : Smart entrance control unit
C3 (M24) B/24 : Smart entrance control unit
C3 (M25) B/3 : Combination flasher unit
B2 (M26) L/2 : ASCD clutch switch (With M/T)
A2 (M27) GY/12 : Door mirror remote control switch
B2 (M28) W/6 : ASCD main switch
C2 (M29) W/3 : Illumination control switch
B3 (M30) L/4 : Power window relay
B1 (M31) BR/2 : Security indicator lamp
B1 (M32) B/2 : Stop lamp switch
C2 (M33) L/2 : ASCD brake switch (Shift lock brake switch) (With A/T)
C2 (M34) L/2 : ASCD brake switch } (With M/T)
B2 (M35) L/2 : Clutch interlock switch }
A4 (M36) L/4 : Door mirror defogger relay
A4 (M37) BR/6 : Rear window defogger relay
D3 (M38) BR/10 : Mode door motor (With manual A/C)
C1 (M39) W/10 : Combination meter (With A/T)
D2 (M40) BR/16 : Combination meter
C1 (M41) W/16 : Combination meter

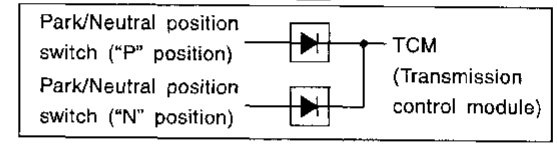
D1 (M42) W/2 : Diode
D1 (M43) W/6 : Joint connector-3 (Diode)
D3 (M44) W/3 : Mode door motor } (With auto A/C)
D3 (M45) W/3 : Air mix door motor }
D2 (M46) W/16 : To (Z3)
D2 (M47) W/2 : In-vehicle sensor (With auto A/C)
E4 (M48) W/6 : A/T device (With A/T)
D4★ (M49) W/18 : To (F23)
E3 (M50) W/10 : Audio
E3 (M51) W/6 : Audio
D2 (M52) W/6 : Fan switch
E2 (M53) B/16 : Push control unit } (With manual A/C)
E3 (M54) B/20 : Push control unit }
E2 (M55) GY/16 : A/C auto amp. } (With auto A/C)
D2 (M56) GY/20 : A/C auto amp. }
D1 (M57) W/8 : Hazard switch
D1 (M58) W/6 : Rear window defogger switch
E3 (M59) W/2 : Intake sensor (With auto A/C)
F2 (M60) W/3 : Thermo control amp.
D3 (M61) B/2 : Cigarette lighter
E4★ (M62) W/20 : To (F24)
E3★ (M63) W/16 : To (F25)
D1 (M64) W/2 : Diode
E1 (M65) W/4 : Fan control amp. (With auto A/C)
E1 (M66) W/8 : Intake door motor
F2 (M67) B/2 : Glove box lamp
E1 (M68) B/2 : Sunload sensor (With auto A/C)
F1 (M69) BR/2 : Tweeter RH
E1 (M70) W/6 : To (R1)
F2 (M71) – : Body ground
F2 (M72) W/18 : To (D21)
E3 (M73) W/2 : To (B101)
F3★ (M74) G/10 : To (B102)
F3 (M75) W/20 : To (B103)
F3 (M76) – : Body ground
F2 (M77) BR/4 : Fan resistor (With manual A/C)
G2 (M78) W/2 : Blower motor
C5 (M79) GY/2 : Power steering oil pressure switch
C4 (M80) GY/4 : ASCD pump

D4 (M81) GY/6 : Front wiper motor
E3 (M82) W/2 : Ashtray illumination
C2 (M83) W/2 : Diode
D3 (M84) B/6 : Air mix door motor } (With manual A/C)
E2 (M85) BR/6 : PTC }
D2 (M86) W/2 : Diode

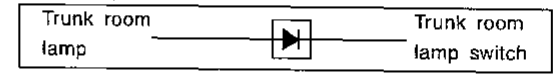
Diode (M42)



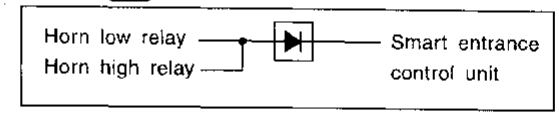

Joint connector-3 (Diode) (M43)



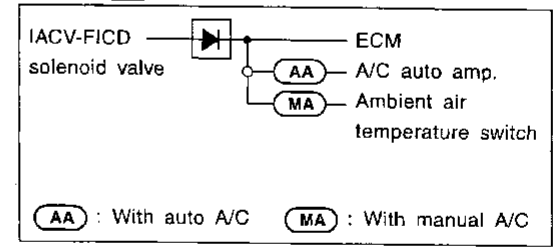

Diode (M64)




Diode (M83)




Diode (M86)

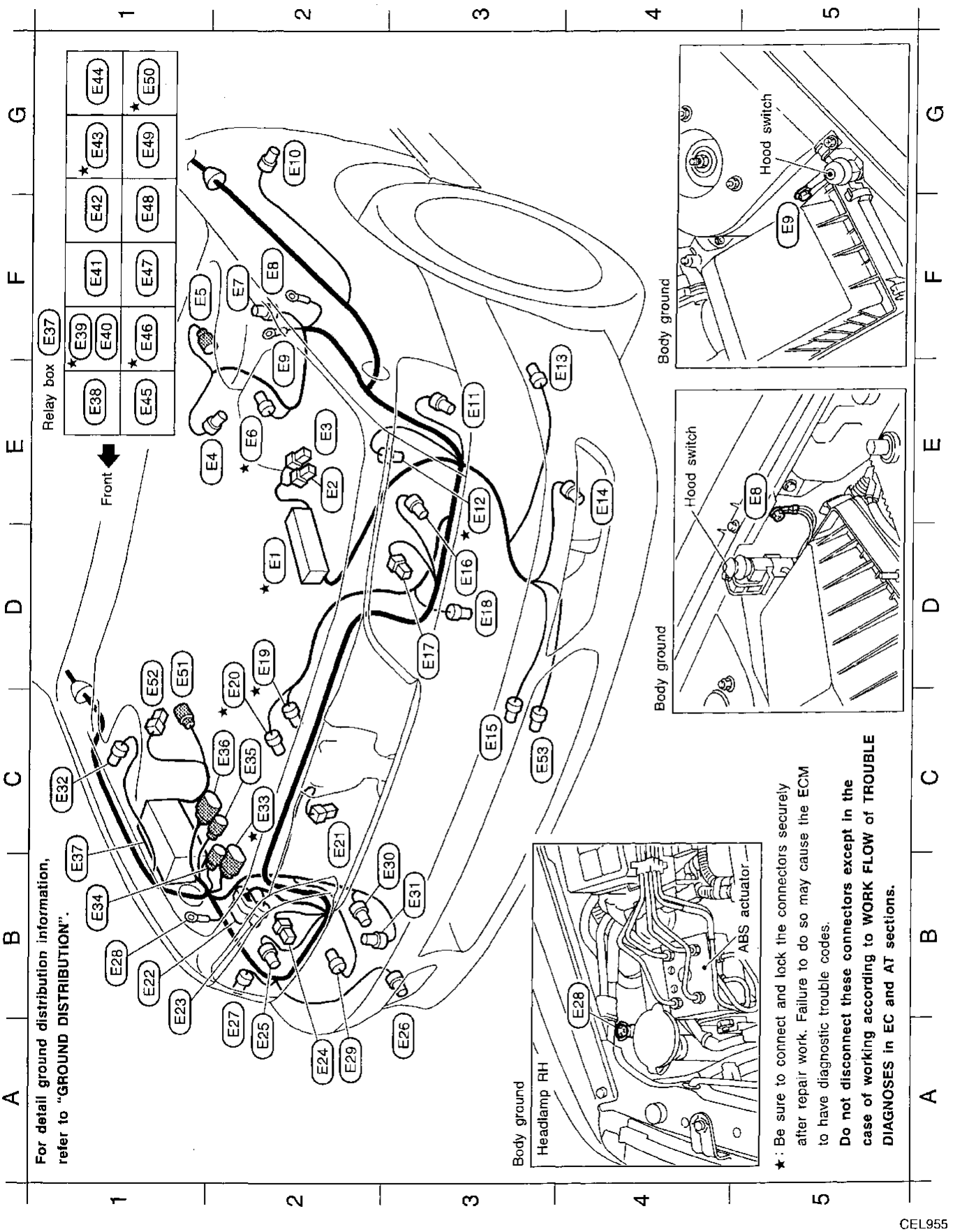



★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

CEL954

## 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.

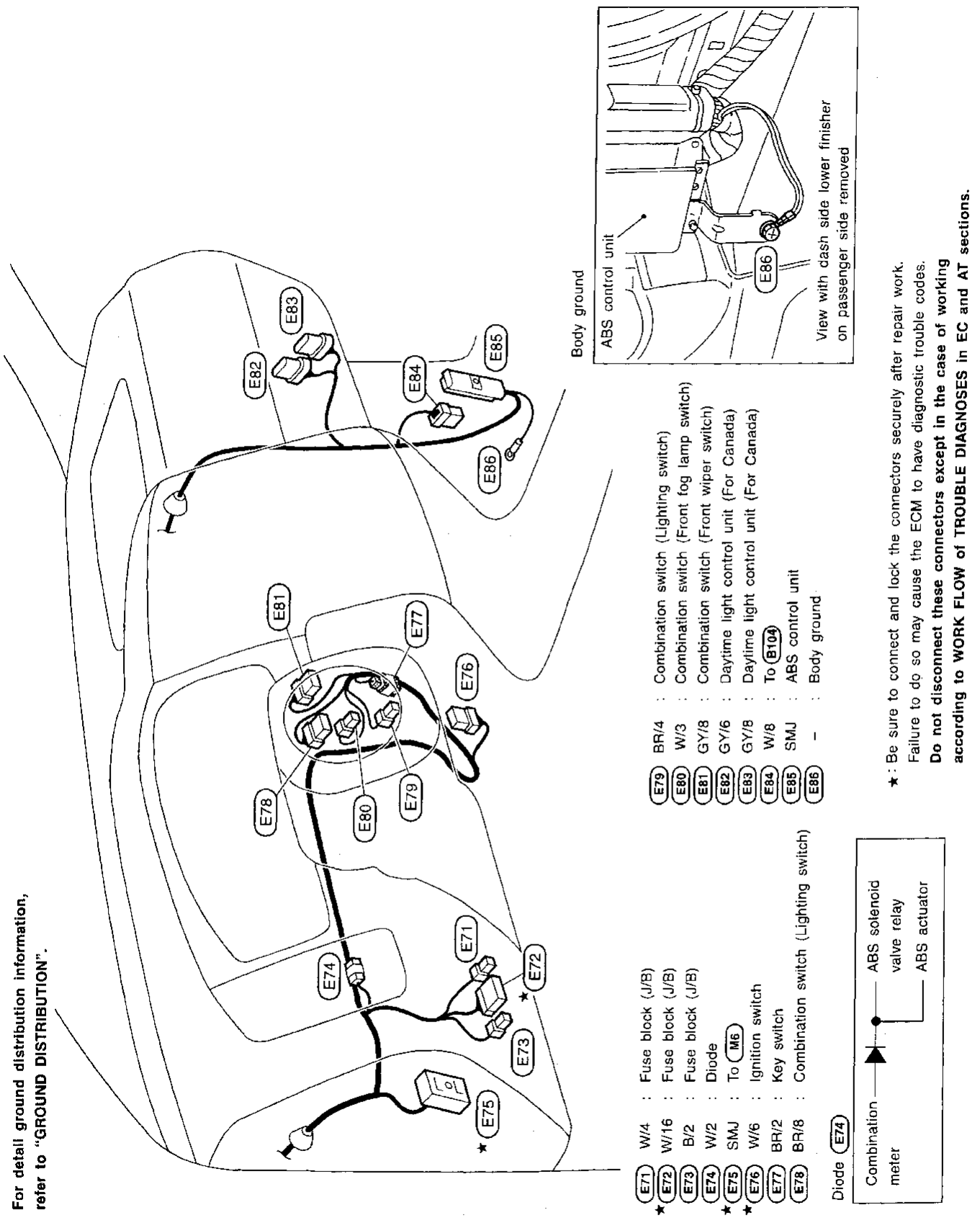
**Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

CEL955

| | | | | |
|---|---|---|---|---|
| D2★ | E1 | – | : | Fuse and Fusible link box |
| E2 | E2 | B/1 | : | Battery (+) |
| E2 | E3 | B/1 | : | Battery (+) |
| E2 | E4 | GY/2 | : | Brake fluid level switch |
| F1 | E5 | BR/2 | : | Front wheel sensor LH |
| E2★ | E6 | GY/2 | : | Dropping resistor (With A/T) |
| F2 | E7 | GY/2 | : | Hood switch |
| F2 | E8 | – | : | Body ground |
| F2 | E9 | – | : | Body ground |
| G2 | E10 | GY/2 | : | Side turn signal lamp LH |
| E3 | E11 | BR/2 | : | Front turn signal lamp LH |
| E3★ | E12 | GY/2 | : | Intake air temperature sensor |
| E3 | E13 | BR/2 | : | Front side marker lamp LH |
| E4 | E14 | GY/2 | : | Front fog lamp LH |
| C3 | E15 | B/2 | : | Ambient sensor (With auto A/C) |
| D3 | E16 | GY/2 | : | Parking lamp LH |
| D3 | E17 | B/3 | : | Headlamp LH |
| D3 | E18 | B/4 | : | Triple-pressure switch |
| D2★ | E19 | GY/4 | : | Cooling fan motor-1 |
| D2★ | E20 | GY/4 | : | Cooling fan motor-2 |
| C2 | E21 | B/1 | : | Horn high |
| B1 | E22 | GY/8 | : | ABS actuator |
| B1 | E23 | GY/2 | : | ABS actuator |
| A2 | E24 | B/3 | : | Headlamp RH |
| A2 | E25 | GY/2 | : | Parking lamp RH |
| A3 | E26 | GY/2 | : | Front fog lamp RH |
| A2 | E27 | BR/2 | : | Front turn signal lamp RH |
| B1 | E28 | – | : | Body ground |
| A2 | E29 | BR/2 | : | Front side marker lamp RH |
| B3 | 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 |
| B1 | E34 | GY/1 | : | To E102 |
| C2 | E35 | GY/1 | : | To E103 |
| C2 | E36 | GY/8 | : | To E104 |
| B1, F1 | E37 | – | : | Relay box |
| E1 | E38 | L/4 | : | Air conditioner relay |
| F1★ | E39 | GY/6 | : | Park/Neutral position relay (With A/T) |
| F1 | E40 | L/4 | : | Clutch interlock relay (With M/T) |
| F1 | E41 | B/5 | : | ABS solenoid valve relay |
| F1 | E42 | B/5 | : | ABS motor relay |
| G1★ | E43 | BR/6 | : | Cooling fan relay-2 |
| G1 | E44 | B/5 | : | Theft warning relay |
| E1 | E45 | L/4 | : | Front fog lamp relay |
| F1★ | E46 | BR/6 | : | Cooling fan relay-3 |
| F1 | E47 | W/3 | : | Horn high relay |
| F1 | E48 | BR/6 | : | Theft warning lamp relay |
| G1 | E49 | W/3 | : | Horn low relay |
| G1★ | E50 | BR/6 | : | Cooling fan relay-1 |
| D1 | E51 | GY/2 | : | Front wheel sensor RH |
| D1 | E52 | B/1 | : | Horn low |
| C3 | E53 | GY/2 | : | Ambient air temperature switch (With manual A/C) |

★ : 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.**

CEL956


For detail ground distribution information, refer to "GROUND DISTRIBUTION".
E71 W/4 : Fuse block (J/B)
★E72 W/16 : Fuse block (J/B)
E73 B/2 : Fuse block (J/B)
E74 W/2 : Diode
★E75 SMJ : To M6
★E76 W/6 : Ignition switch
E77 BR/2 : Key switch
E78 BR/8 : Combination switch (Lighting switch)
Diode E74
Combination meter
ABS solenoid valve relay
ABS actuator
E79 BR/4 : Combination switch (Lighting switch)
E80 W/3 : Combination switch (Front fog lamp switch)
E81 GY/8 : Combination switch (Front wiper switch)
E82 GY/6 : Daytime light control unit (For Canada)
E83 GY/8 : Daytime light control unit (For Canada)
E84 W/8 : To B104
E85 SMJ : ABS control unit
E86 – : Body ground
Body ground
ABS control unit
E86
View with dash side lower finisher on passenger side removed
★: 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.

CEL957

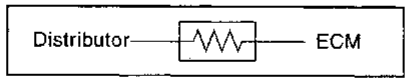
## Engine control harness

- ★F1 GY/3 : Front heated oxygen sensor
- ★F2 BR/4 : Mass air flow sensor
- ★F3 GY/6 : Distributor
- ★F4 GY/2 : Distributor
- ★F5 G/4 : To E122
- ★F6 G/8 : To E123
- ★F8 GY/3 : Throttle position switch
- ★F9 BR/3 : Throttle position sensor
- ★F10 GY/3 : Absolute pressure sensor
- ★F11 BR/2 : IACV-AAC valve
- F12 GY/2 : IACV-FICD solenoid valve
- ★F13 G/8 : To F51
- ★F14 GY/2 : EGR temperature sensor
- ★F15 – : Engine ground
- ★F16 – : Engine ground
- ★F17 GY/6 : EVAP canister purge volume control valve
- ★F18 GY/2 : Resistor
- 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 GY/10 : To E128

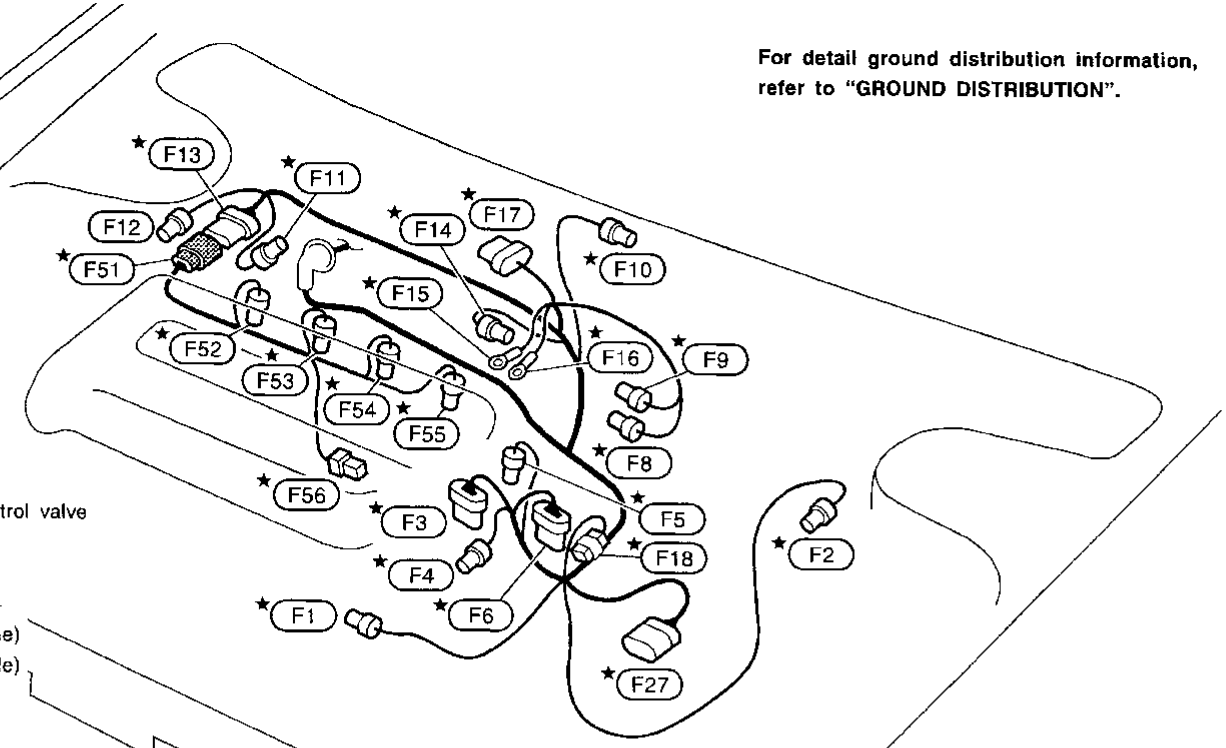
## Engine control sub-harness

- ★F51 G/8 : To F13
- ★F52 B/2 : Injector No. 1
- ★F53 B/2 : Injector No. 2
- ★F54 B/2 : Injector No. 3
- ★F55 B/2 : Injector No. 4
- ★F56 B/2 : Knock sensor

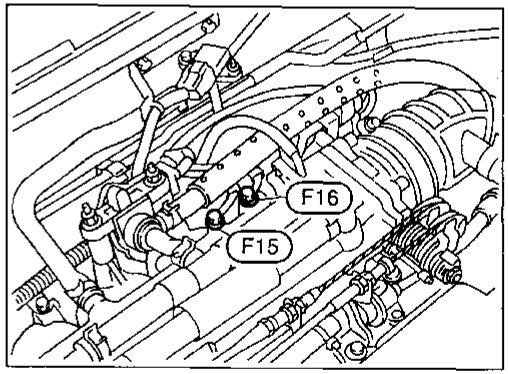
Resistor F18

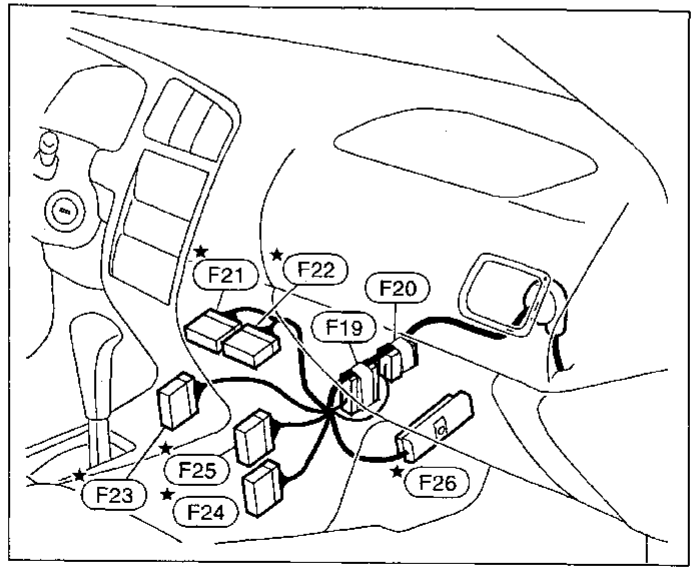



**For detail ground distribution information, refer to "GROUND DISTRIBUTION".**




Engine ground



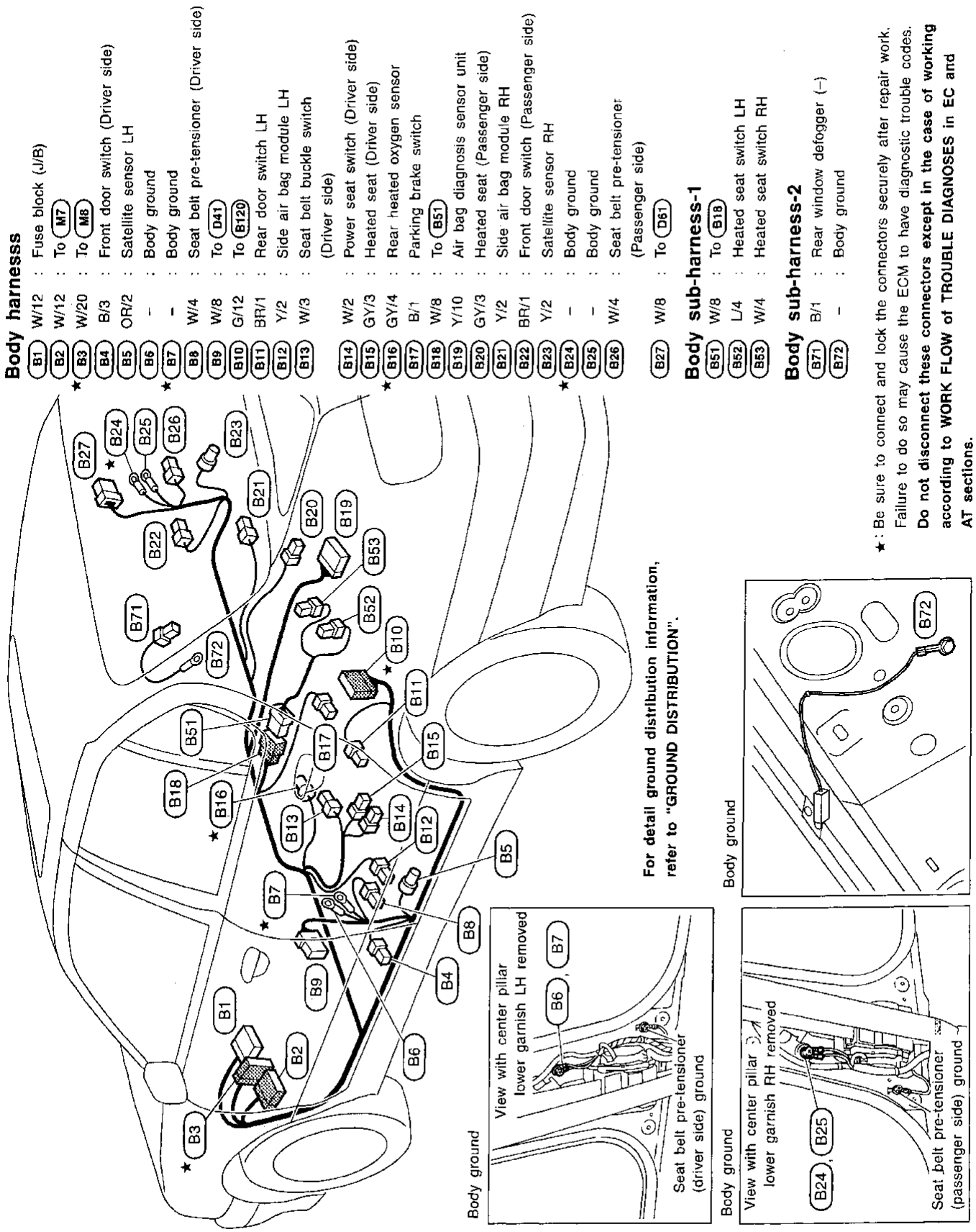

★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

CEL959

NCEL0135

## Body Harness

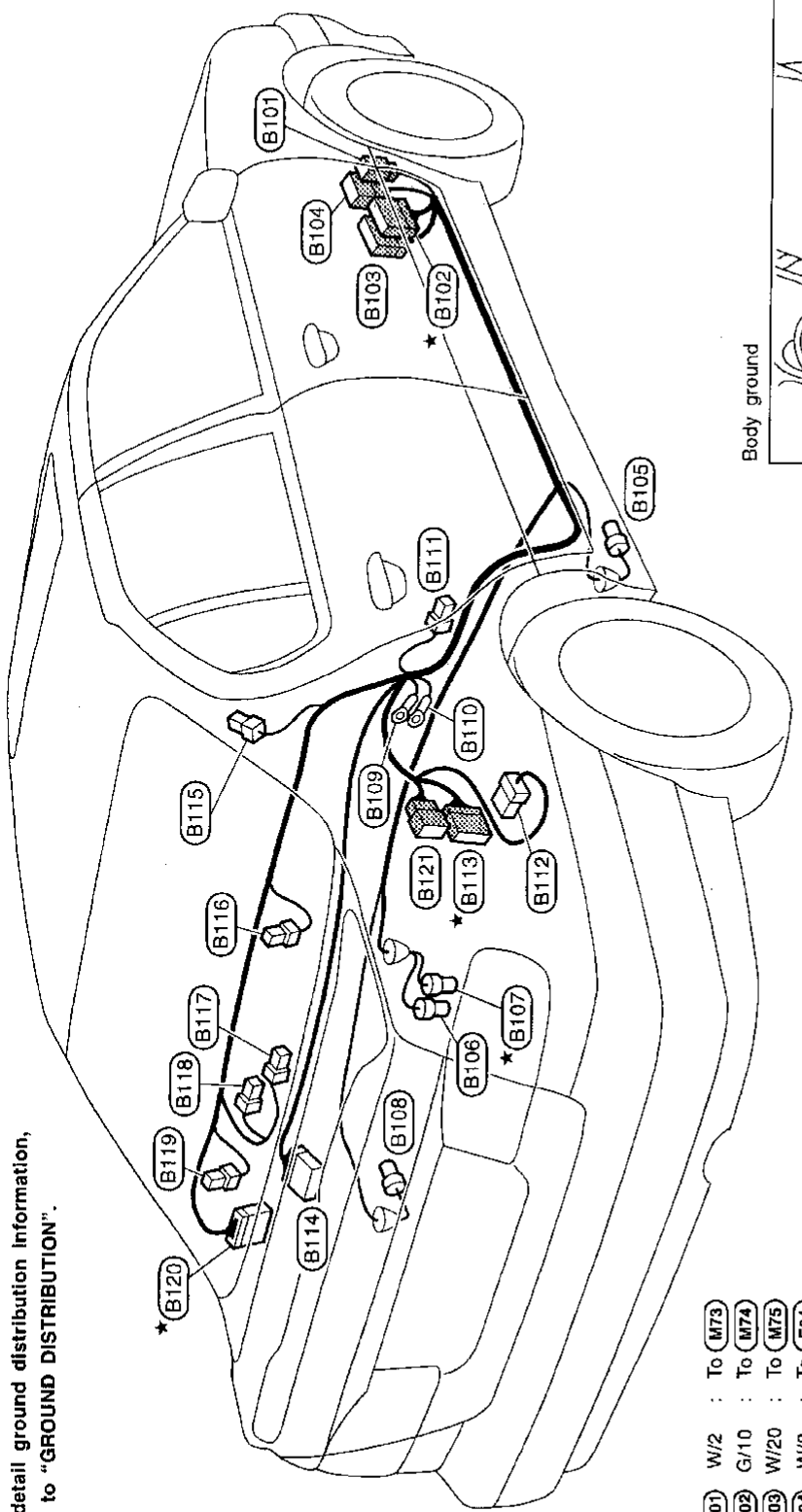
NCFL0136

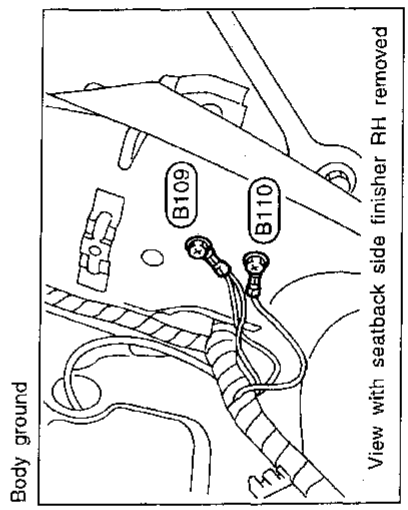



CEL960

## 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 | B119 | BR/2 | : Rear speaker LH |
| B106 | GY/2 | : Fuel pump | ★B120 | G/12 | : To B10 |
| ★B107 | GY/4 | : Fuel tank gauge unit | B121 | W/6 | : To T31 |
| 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/12 | : 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) | | | |

★: 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.**

CEL961

# Tail & Tail No. 2 Harness

NCEL0138

**Tail harness**

★ (T1) W/12 : To (B113)
(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)

**Tail sub-harness**

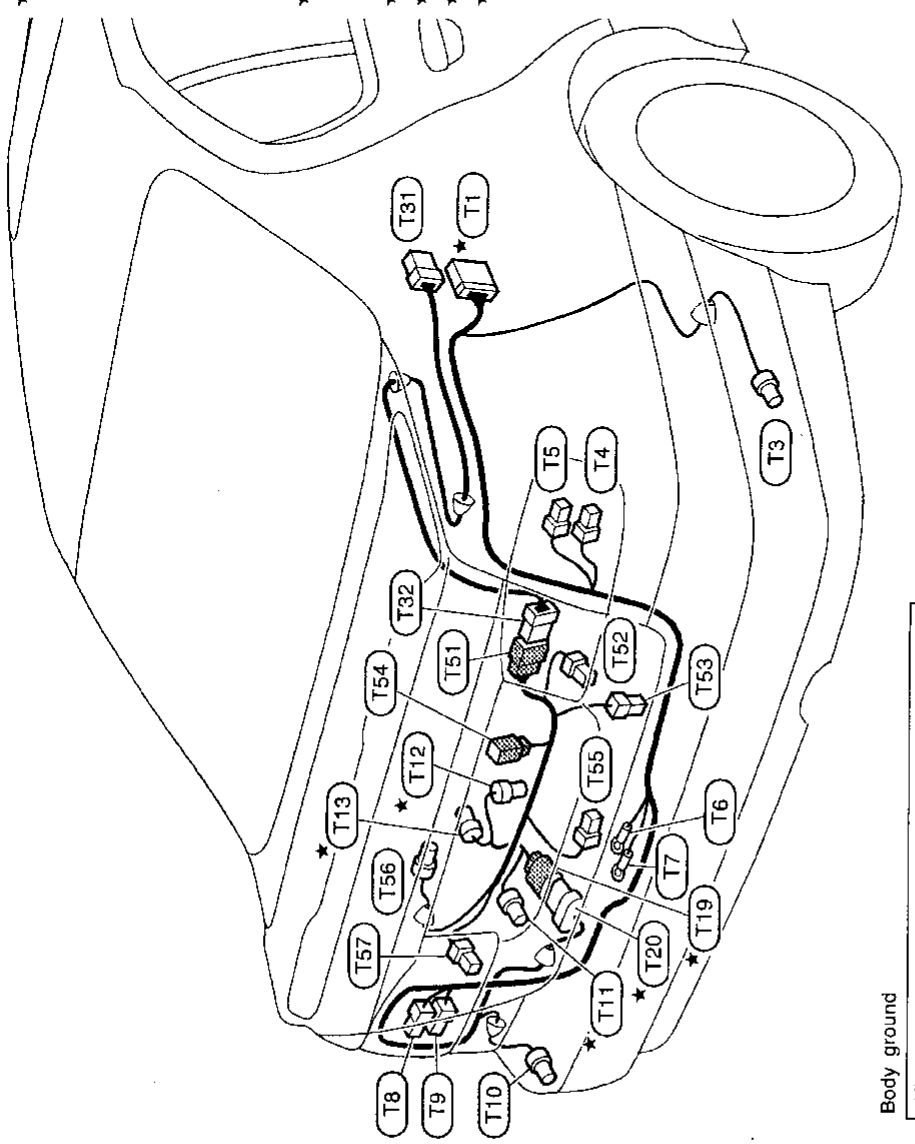
★ (T11) B/2 : EVAP canister vent control valve
★ (T12) G/2 : Vacuum cut valve bypass valve
★ (T13) GY/3 : EVAP control system pressure sensor
★ (T19) GY/8 : To (T20)

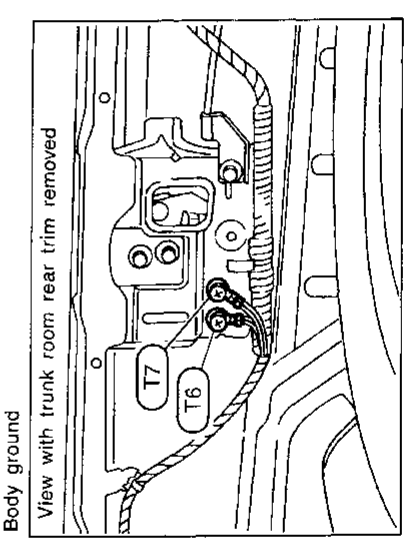
**Tail No. 2 sub-harness**

(T31) W/6 : To (B121)
(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)



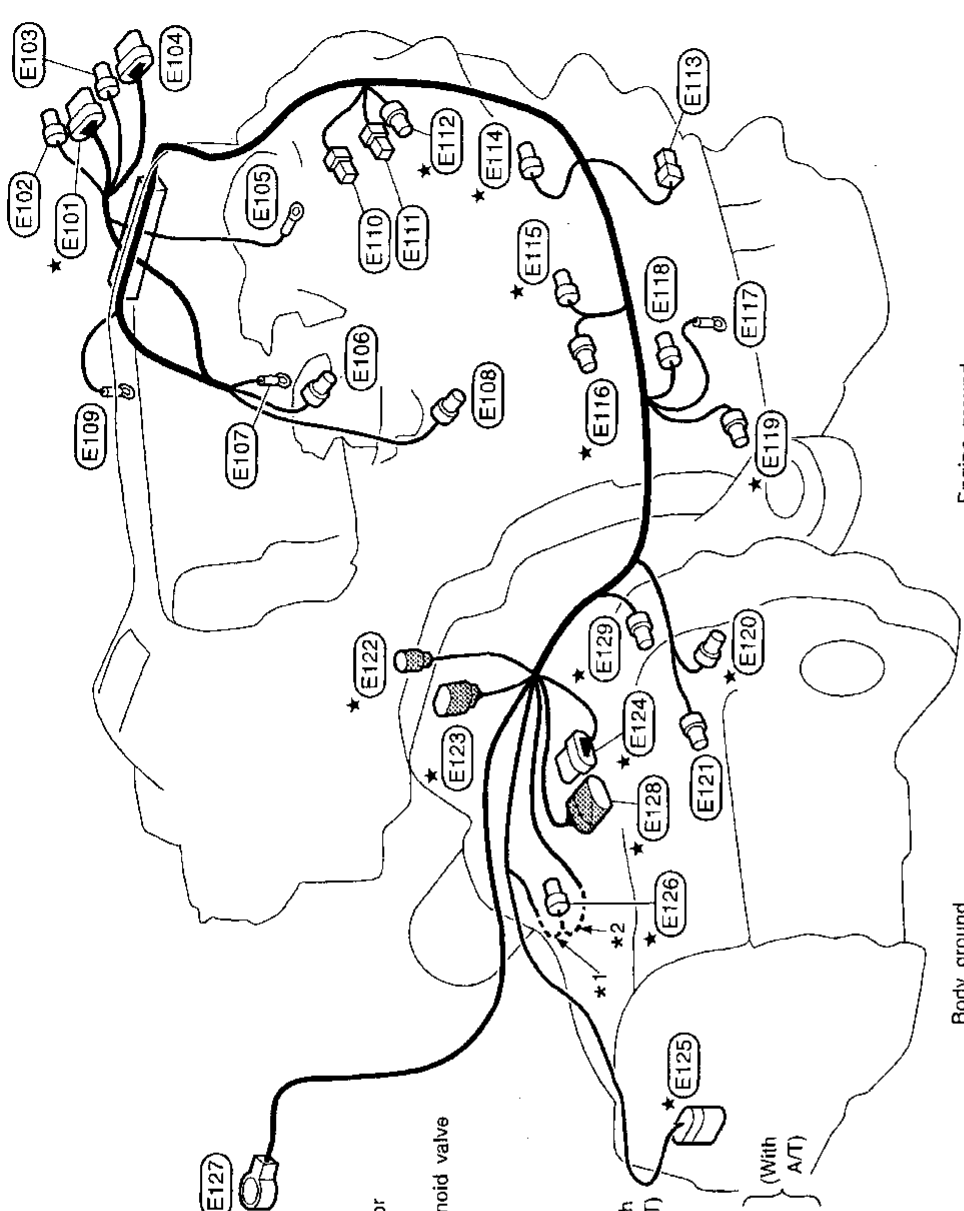

**For detail ground distribution information, refer to "GROUND DISTRIBUTION".**

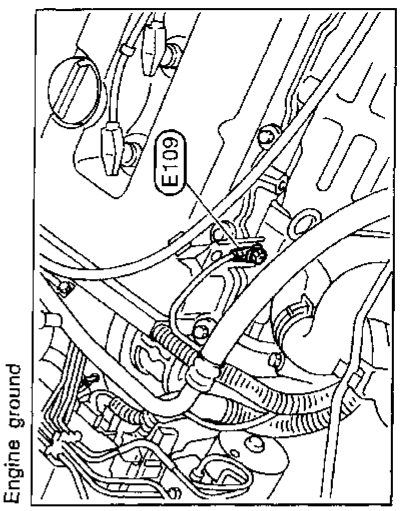
★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

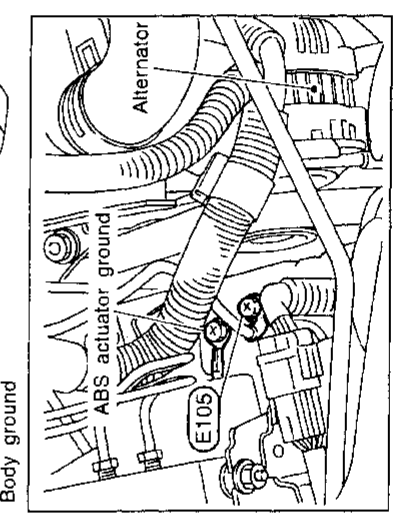
CEL962

## 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 |
| E110 | GY/2 | IACV-air regurator |
| E111 | B/1 | Thermal transmitter |
| ★E112 | GY/2 | Engine coolant temperature sensor |
| E113 | B/1 | Oil pressure switch |
| ★E114 | G/2 | EVAP canister purge control solenoid valve |
| ★E115 | BR/2 | MAP/BARO switch solenoid valve |
| ★E116 | B/2 | EGRC-solenoid valve |
| 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 | GY/2 | Back-up lamp switch (With M/T) |
| ★E122 | G/4 | To F5 |
| ★E123 | G/8 | To F6 |
| ★E124 | BR/8 | A/T solenoid valve |
| ★E125 | B/10 | Park/Neutral position switch (With A/T) |
| ★E126 | GY/2 | Crankshaft position sensor (OBD) (With A/T) |
| E127 | – | Battery (+) |
| ★E128 | GY/10 | To F27 |
| ★E129 | GY/3 | Revolution sensor (With A/T) |

★1: With A/T
★2: With M/T

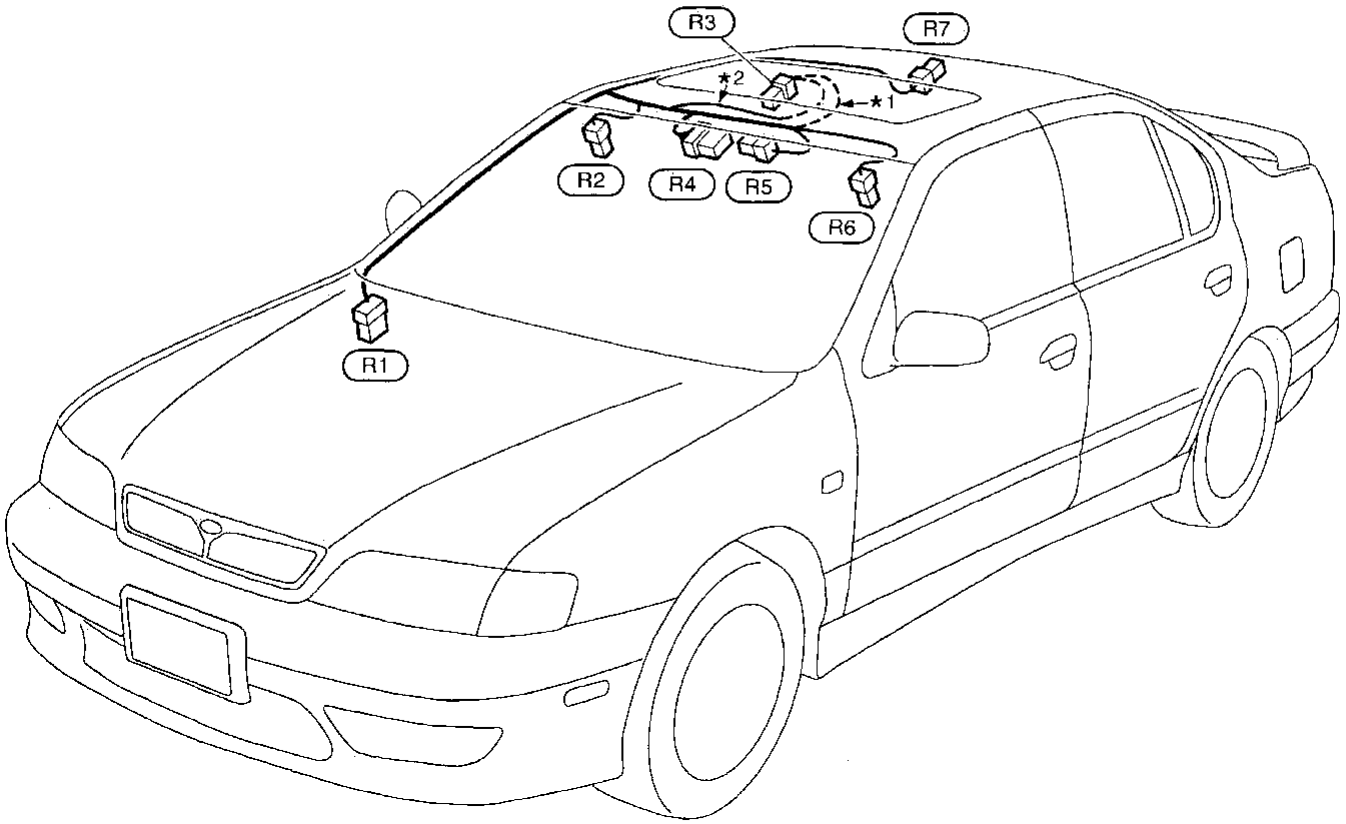
**For detail ground distribution information, refer to "GROUND DISTRIBUTION".**

★: 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.**

CEL958

## Room Lamp Harness

NCEL0140



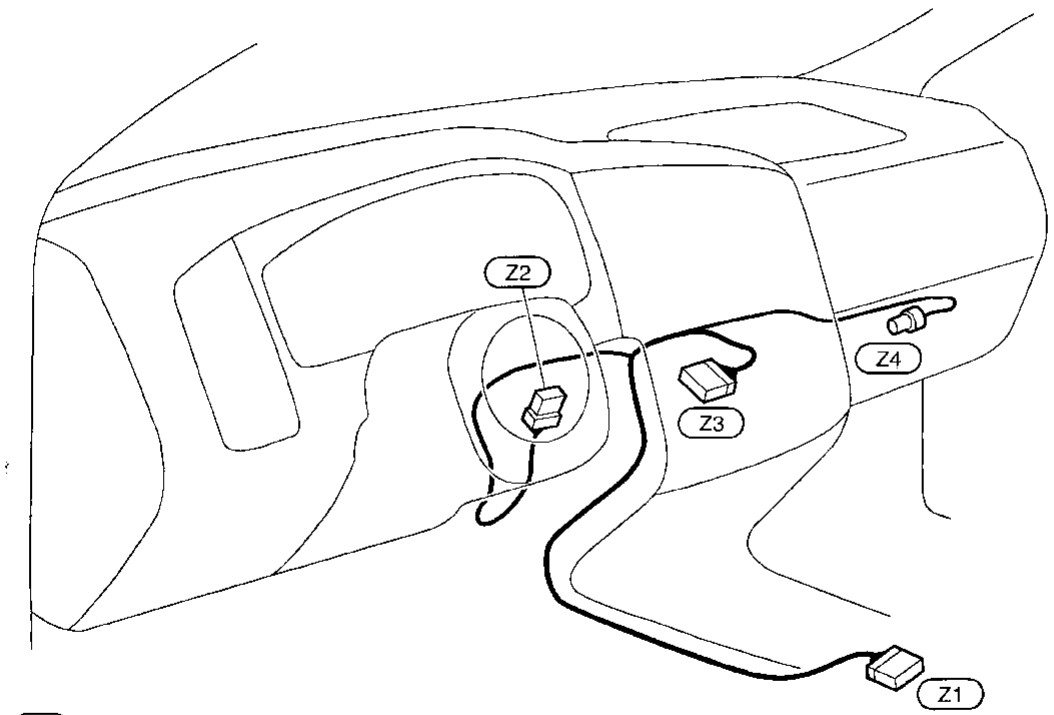

| | | | |
|---|---|---|---|
| R1 | W/6 | : | To M70 |
| R2 | W/2 | : | Vanity mirror lamp (Passenger side) |
| R3 | W/2 | : | Map lamp |
| R4 | L/6 | : | Sunroof switch (With sunroof) |
| R5 | W/2 | : | Sunroof motor (With sunroof) |
| R6 | W/2 | : | Vanity mirror lamp (Driver side) |
| R7 | W/2 | : | Interior room lamp |

*1 : With sunroof
*2 : Without sunroof

CEL963

## Air Bag Harness

NCEL0141



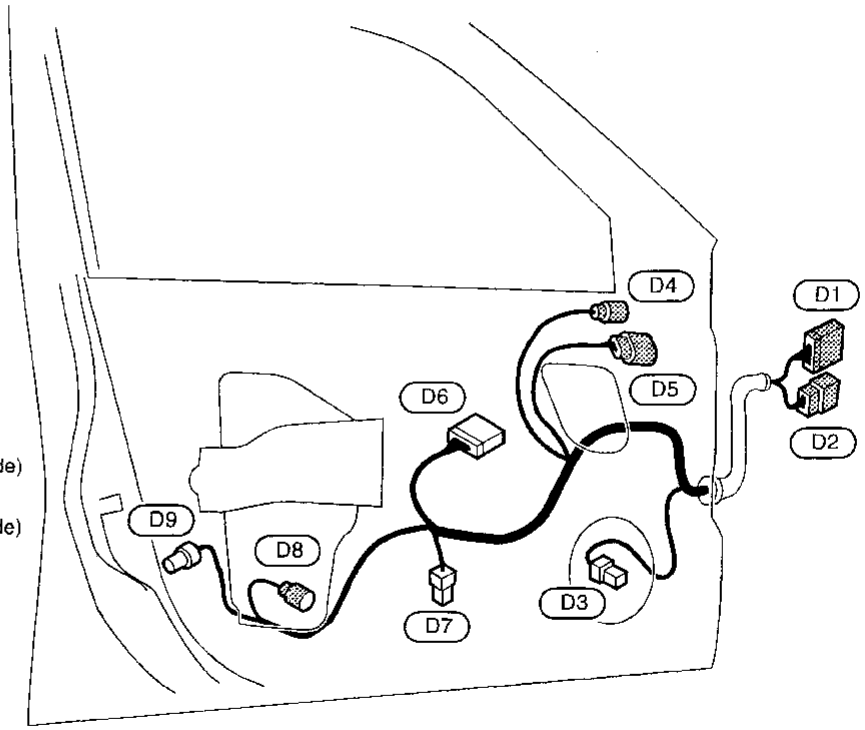

| | | | |
|---|---|---|---|
| Z1 | Y/22 | : | Air bag diagnosis sensor unit |
| Z2 | Y/7 | : | Spiral cable |
| Z3 | W/16 | : | To M46 |
| Z4 | W/2 | : | Air bag module (Passenger side) |

CEL964

## Front Door Harness

NCEL0142

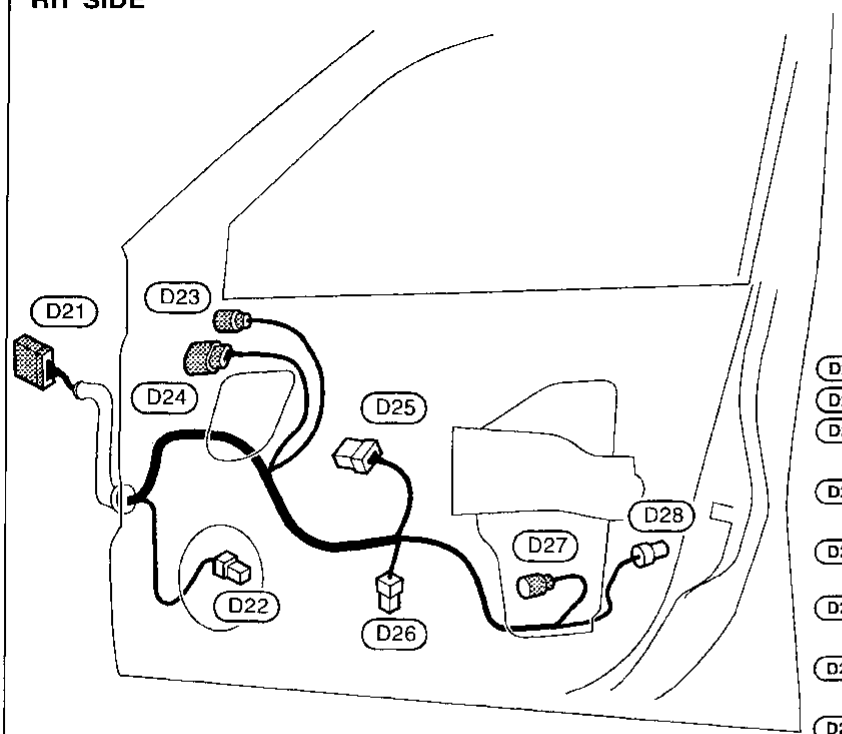
### LH SIDE




| | | | |
|---|---|---|---|
| D1 | W/18 | : | To M16 |
| D2 | W/6 | : | 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 | B/2 | : | Front power window regulator (Driver side) |
| D8 | BR/3 | : | Front door key cylinder switch (Driver side) |
| D9 | GY/4 | : | Front door lock actuator (Driver side) |

CEL965

### RH SIDE



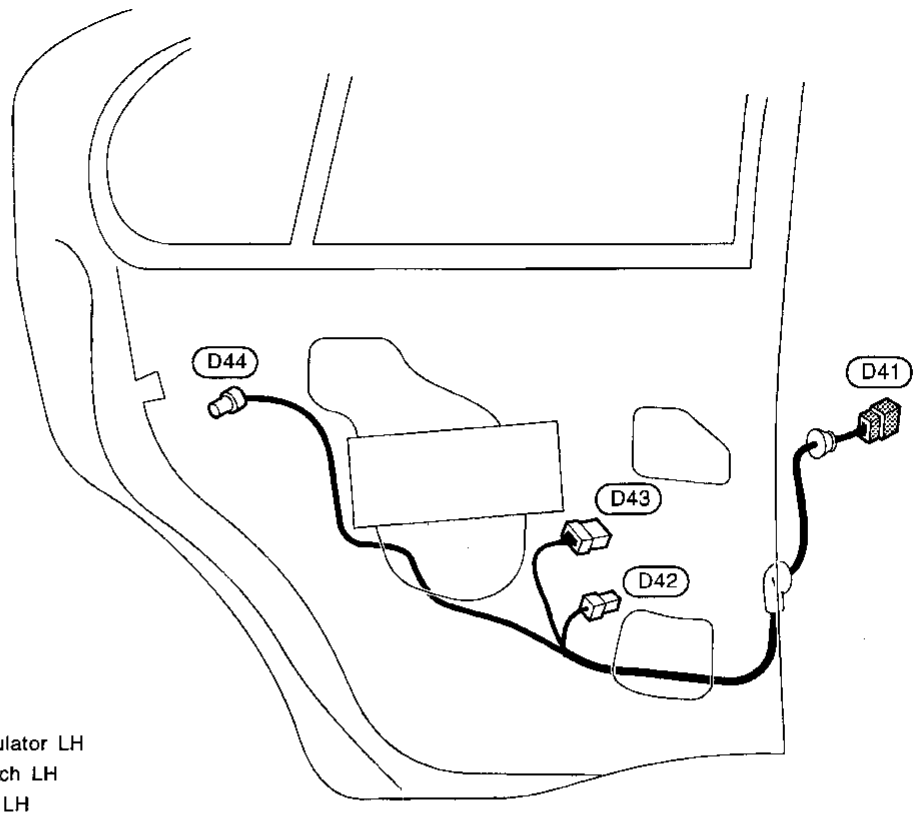

| | | | |
|---|---|---|---|
| D21 | W/18 | : | To M72 |
| D22 | BR/2 | : | Front door speaker RH |
| D23 | BR/3 | : | Door mirror actuator (Passenger side) (Without door mirror defogger) |
| D24 | GY/5 | : | Door mirror actuator (Passenger side) (With door mirror defogger) |
| D25 | W/8 | : | Front power 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

## Rear Door Harness

NCEL0143

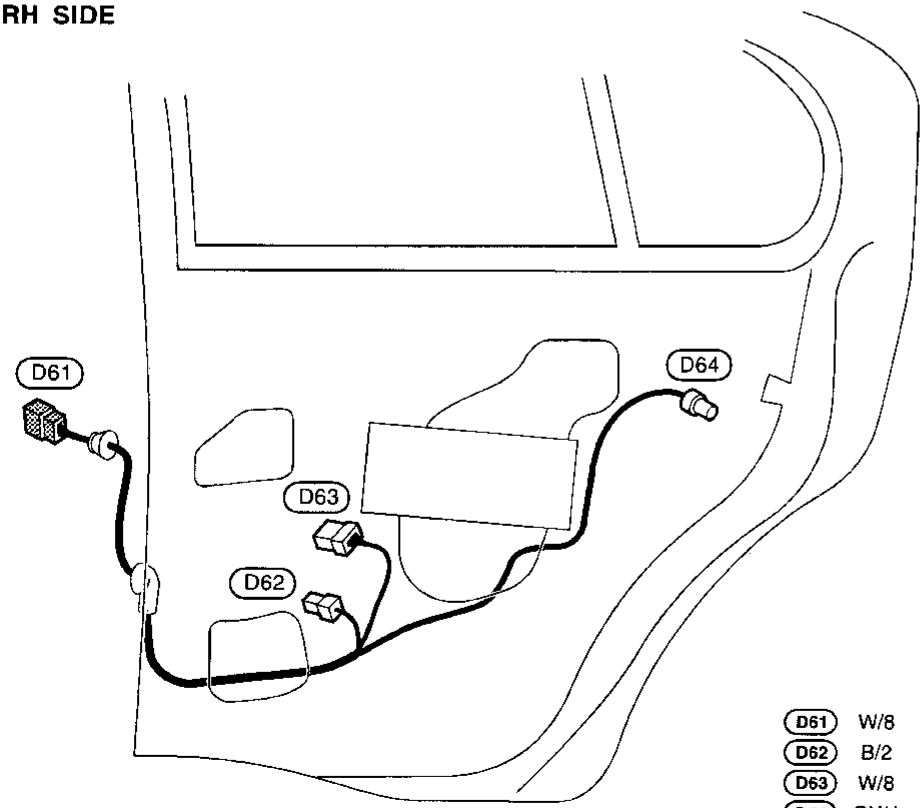
**LH SIDE**




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

NCEL0144S03

| Item | Wattage (W) |
|---|---|
| High/Low | 60/55 (HB2) |

## Exterior Lamp

NCEL0144S01

| Item | | Wattage (W) |
|---|---|---|
| Front fog lamp | | 35 (H3) |
| Front turn signal lamp | | 21 |
| Side turn signal lamp | | 5 |
| Parking lamp | | 5 |
| Front side marker lamp | | 3.8 |
| Rear combination lamp | Turn signal | 21 |
| | Stop/Tail | 21/5 |
| | Back-up | 13 |
| Rear side marker lamp | | 3.8 |
| License lamp | | 5 |
| High-mounted stop lamp (without rear spoiler) | | 21 |

## Interior Lamp

NCEL0144S02

| Item | | Wattage (W) |
|---|---|---|
| Interior room lamp | | 8 |
| Map lamp | With sunroof | 5 |
| | Without sunroof | 8 |
| Vanity mirror lamp | | 8 |
| Trunk room lamp | | 3.4 |

# WIRING DIAGRAM CODES (CELL CODES)

Use the chart below to find out what each wiring diagram code stands for.
Refer to the wiring diagram code in the alphabetical index to find the location (page number) of each wiring diagram.

| Code | Section | Wiring Diagram Name |
|---|---|---|
| 1STSIG | AT | A/T 1ST Signal |
| 2NDSIG | AT | A/T 2ND Signal |
| 3RDSIG | AT | A/T 3RD Signal |
| 4THSIG | AT | A/T 4TH Signal |
| 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 |
| AIRREG | EC | IACV-AIR Regulator |
| 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 |
| CANI/V | EC | EVAP Canister Purge Control Solenoid Valve |
| CHARGE | SC | Charging System |
| CHIME | EL | Warning Chime |
| CIGAR | EL | Cigarette Lighter |
| CKPS | EC | Crankshaft Position Sensor (OBD) |
| CMPS | EC | Camshaft Position Sensor |
| COOL/F | EC | Cooling Fan Control |
| D/LOCK | EL | Power Door Lock |
| DEF | EL | Rear Window Defogger |
| DTRL | EL | Headlamp — With Daytime Light System — |
| ECTS | EC | Engine Coolant Temperature Sensor |
| EGR/TS | EC | EGR Temperature Sensor |
| EGRC/V | EC | EGRC-solenoid Valve |
| EGRC1 | EC | EGR Function |
| ENGSS | AT | Engine Speed Signal |
| F/FOG | EL | Front Fog Lamp |
| F/PUMP | EC | Fuel Pump Control |
| FICD | EC | IACV-FICD Solenoid Valve |
| 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 |
| KS | EC | Knock Sensor |
| LPSV | AT | Line Pressure Solenoid Valve |
| MAFS | EC | Mass Air Flow Sensor |
| MAIN | AT | Main Power Supply and Ground Circuit |
| MAIN | EC | Main Power Supply and Ground Circuit |
| METER | EL | Speedometer, Tachometer, Temp., Oil, and Fuel Gauges |
| MIL/DL | EC | MIL and Data Link Connectors |
| MIRROR | EL | Door Mirror |
| MULTI | EL | Multi-remote Control 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 |
| PNP/SW | EC | Park/Neutral Position Switch |
| POWER | EL | Power Supply Routing |
| PRE/SE | EC | EVAP Control System Pressure Sensor |

| Code | Section | Wiring Diagram Name |
|---|---|---|
| PST/SW | EC | Power Steering Oil Pressure Switch |
| ROOM/L | EL | Interior Room Lamp |
| 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 |
| SW/V | EC | MAP/BARO Switch Solenoid Valve |
| 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 |
| 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 |
| WIPER | EL | Front Wiper and Washer |