# ELECTRICAL SYSTEM

# SECTION EL

**When you read wiring diagrams:**
- **Read GI section, "HOW TO READ WIRING DIAGRAMS".**

**When you perform trouble diagnoses, read GI section, "HOW TO FOLLOW FLOW CHART IN TROUBLE DIAGNOSES" and "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT".**

# CONTENTS

# CONTENTS (Cont'd)

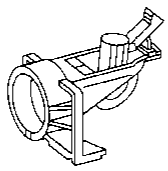
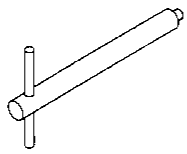
## Supplemental Restraint System (SRS) "AIR BAG"

The Supplemental Restraint System "Air Bag", used along with a seat belt, helps 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 bags (located in the center of the steering wheel and on the instrument panel on the passenger side), sensors, a diagnosis unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the **RS section** of this Service Manual.

**WARNING:**

a. **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN dealer.**
b. **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.**
c. **All SRS electrical wiring harnesses and connectors are covered with yellow outer insulation. Do not use electrical test equipment on any circuit related to the SRS.**

## Special Service Tools

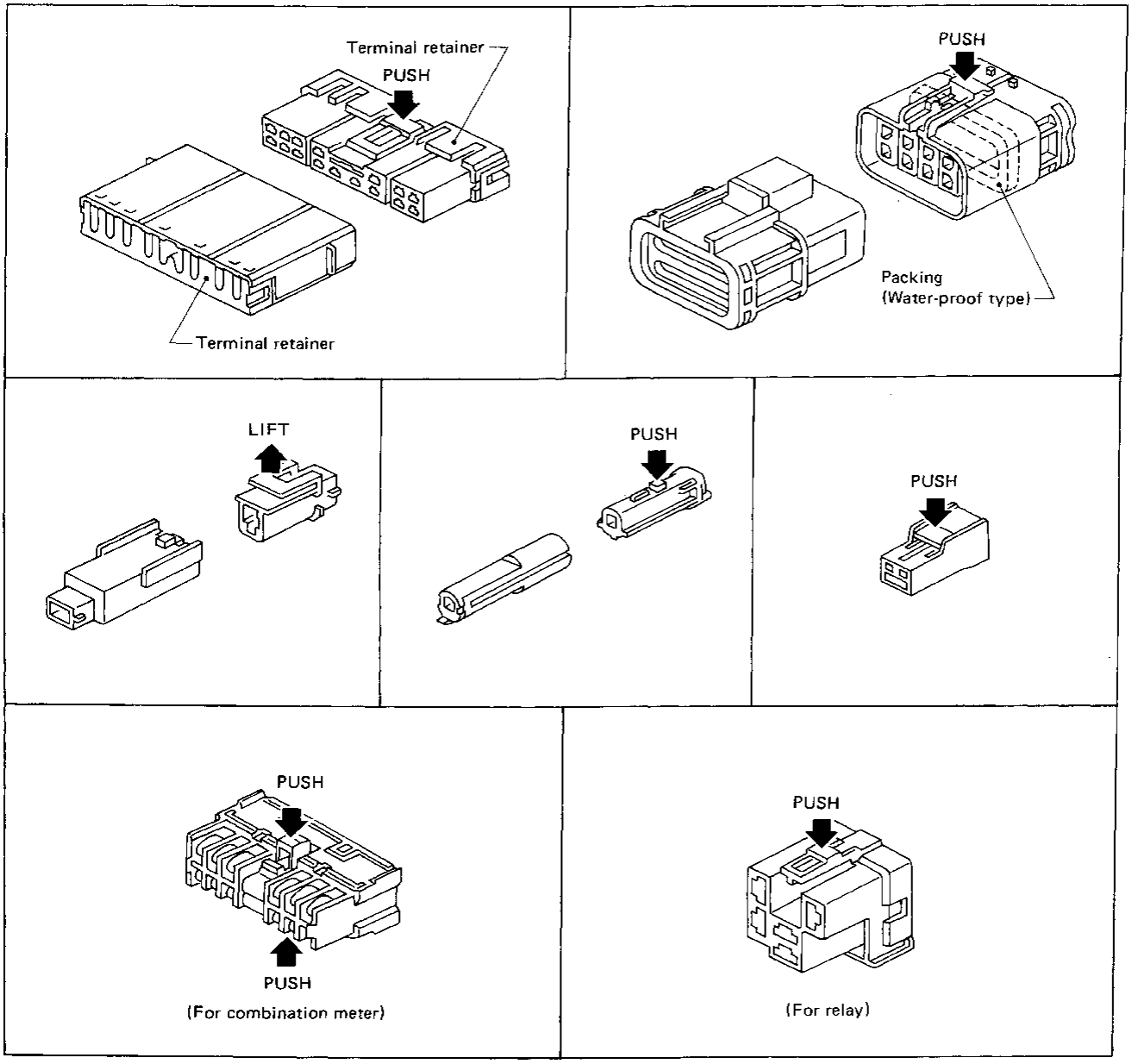
| Tool number (Kent-Moore No.) Tool name | Description | |
|---|---|---|
| 26081 30P00 (right)<br>26086 30P00 (left)<br>Headlamp aimer adapter |  <br>NT217 | Attaching headlamp aimer |
| (J36126)<br>Washer nozzle adjusting tool |  <br>NT218 | Adjusting washer nozzle |

# Description

## HARNESS CONNECTOR

- All harness connectors have been modified to prevent accidental looseness or disconnection.
- The connector can be disconnected by pushing or lifting the locking section.

**CAUTION:**
**Do not pull the harness when disconnecting the connector.**
[Example]

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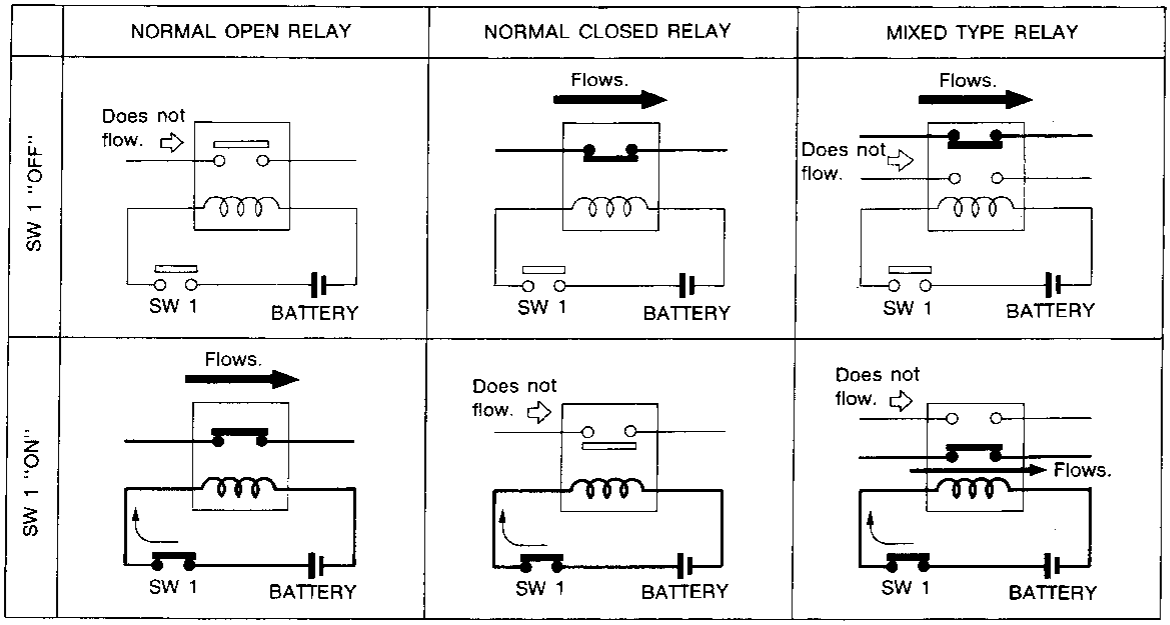
# Description

## NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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

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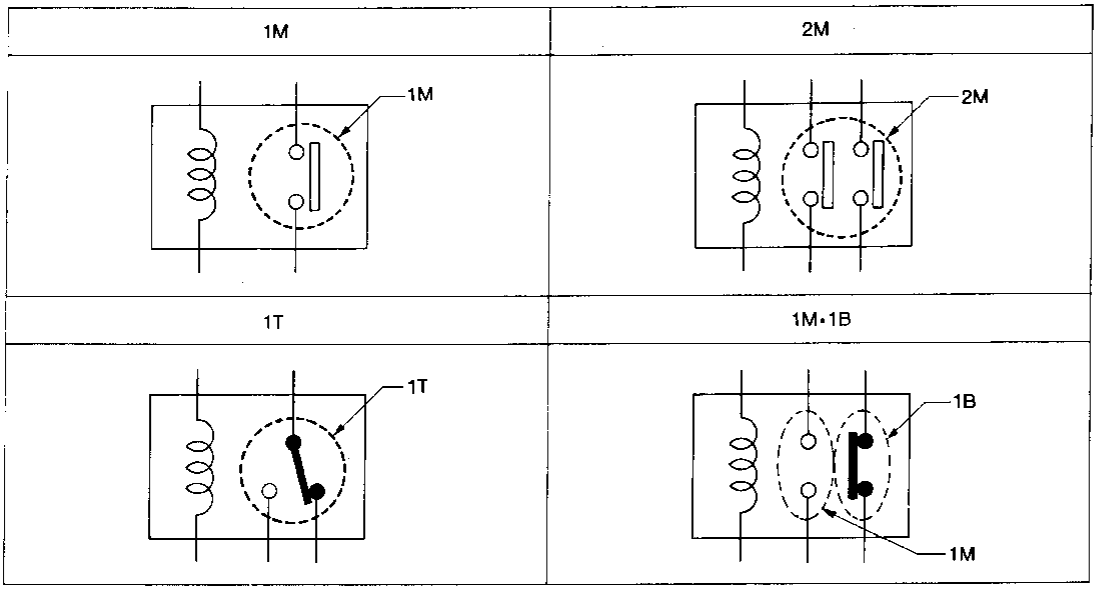
## TYPE OF STANDARDIZED RELAYS

1M ..... 1 Make
2M ..... 2 Make
1T ..... 1 Transfer
1M•1B ..... 1 Make, 1 Break

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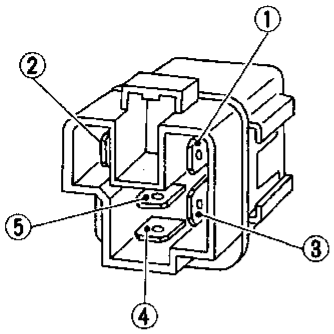
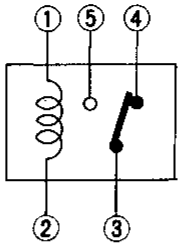
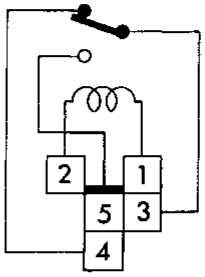
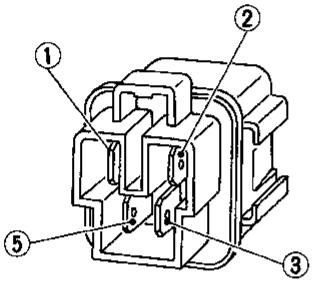
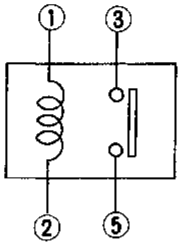
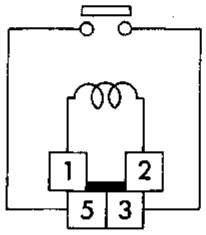
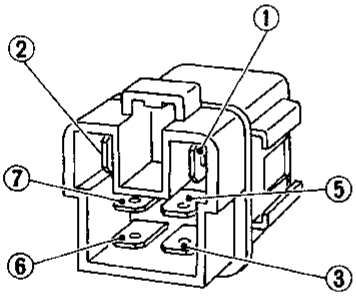
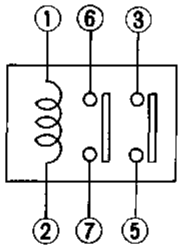
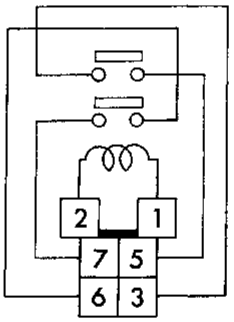
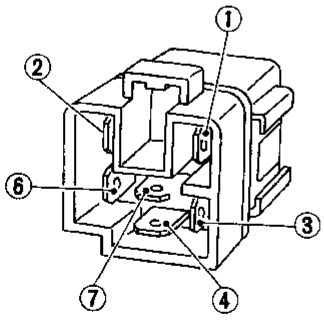
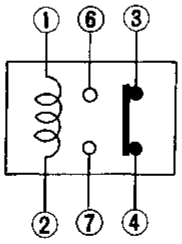
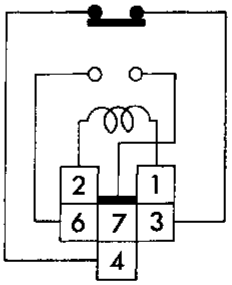
## Description (Cont'd)

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

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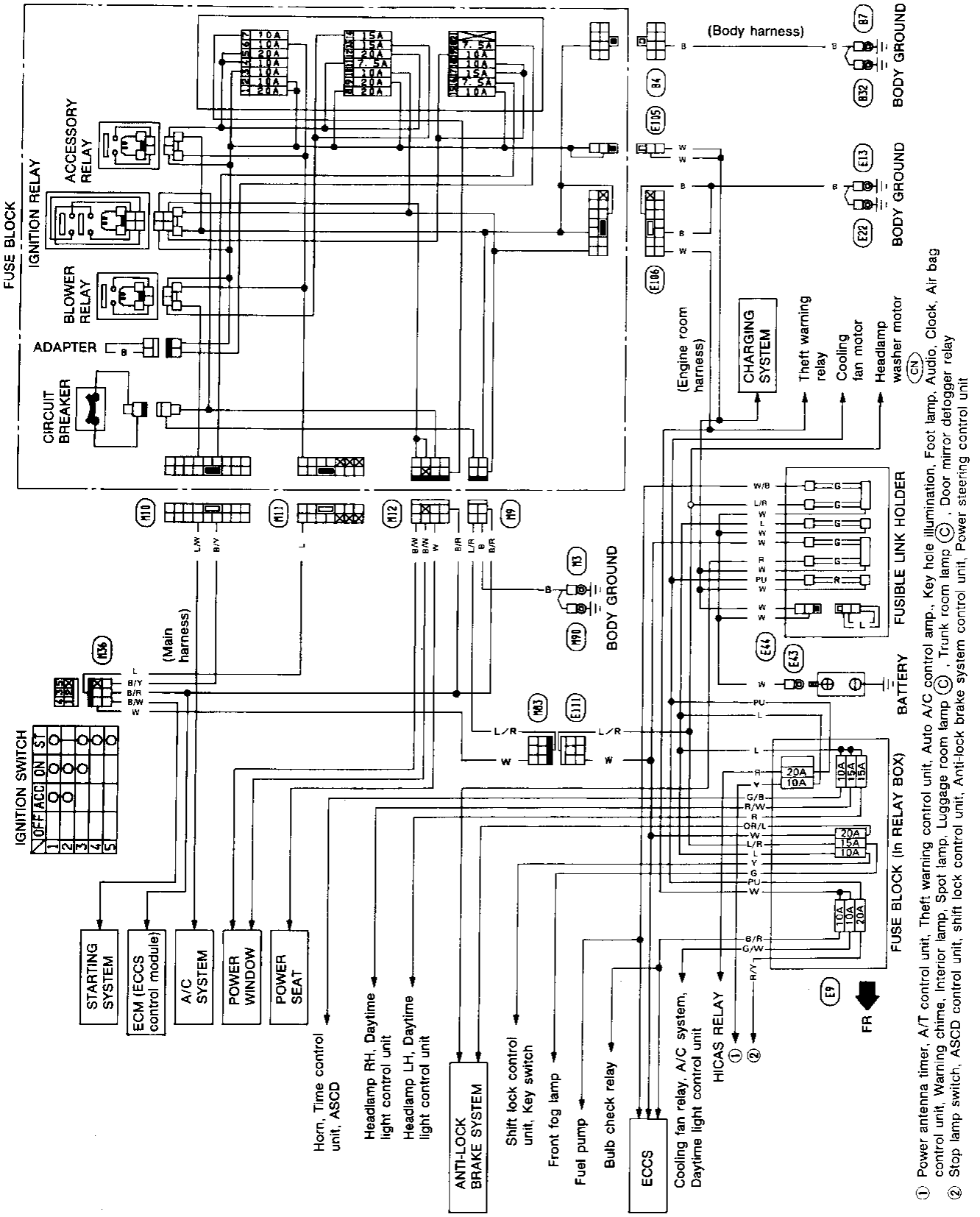
NOTE

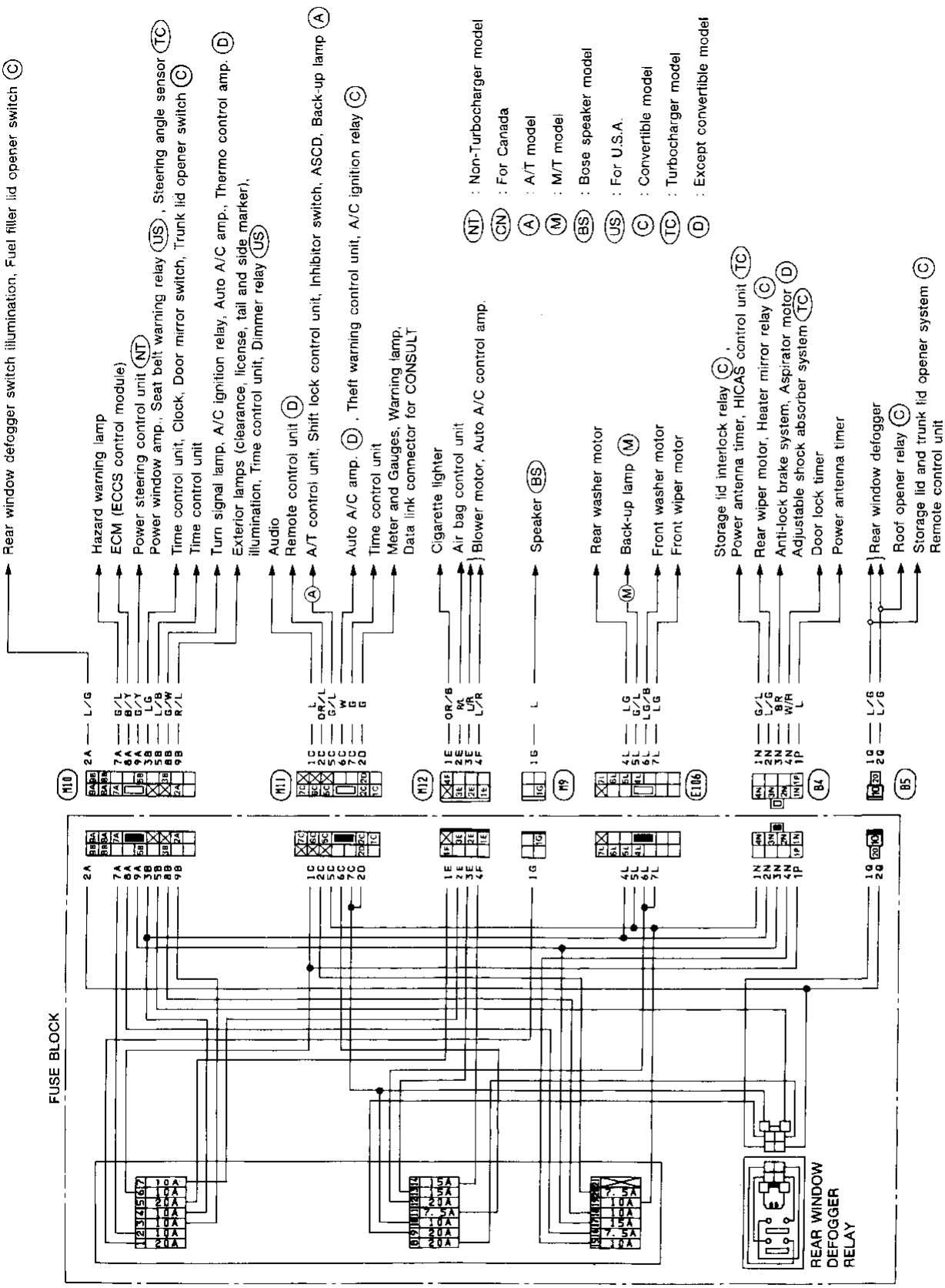
## Wiring Diagram




① Power antenna timer, A/T control unit, Theft warning control unit, Auto A/C control amp., Key hole illumination, Foot lamp, Audio, Clock, Air bag control unit, Warning chime, Interior lamp, Spot lamp, Luggage room lamp Ⓒ, Trunk room lamp Ⓒ, Door mirror defogger relay

② Stop lamp switch, ASCD control unit, shift lock control unit, Anti-lock brake system control unit, Power steering control unit

## Wiring Diagram (Cont'd)

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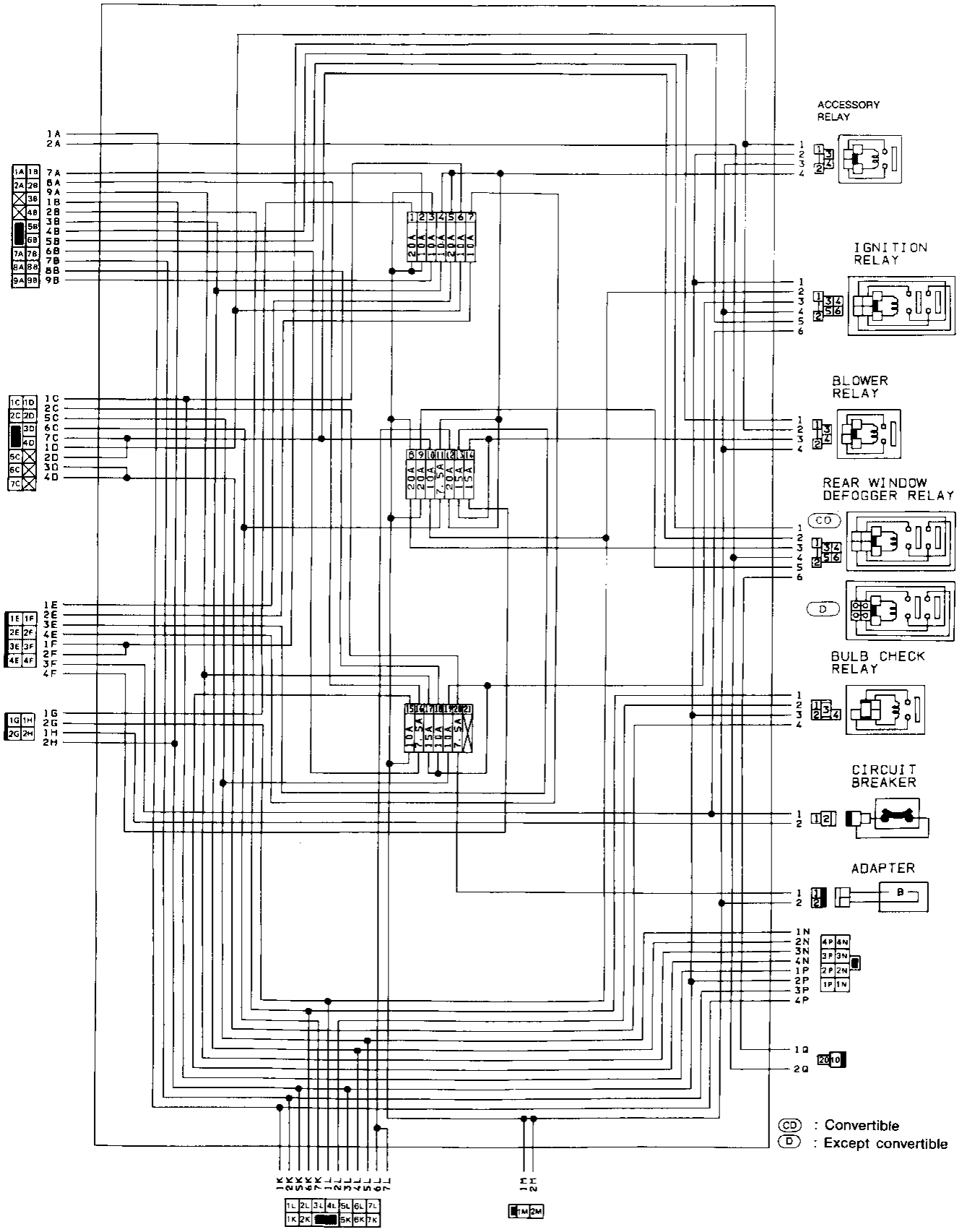
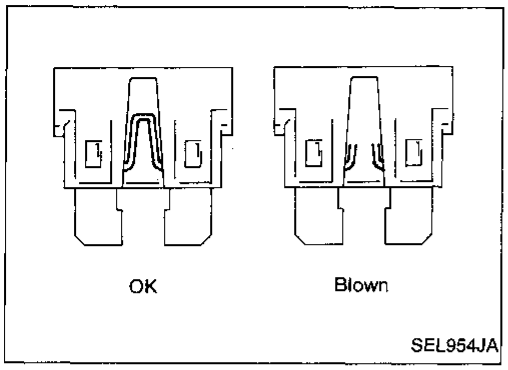
## Fuse Block Internal Circuit

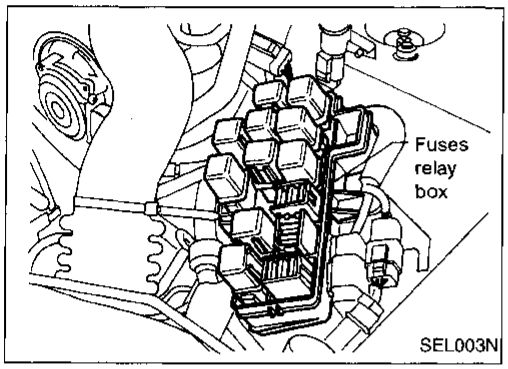



SEL682R




## Fuse

**a. If fuse is blown, be sure to eliminate cause of problem before installing new fuse.**
**b. Use fuse of specified rating. Never use fuse of more than specified rating.**
**c. Do not partially install fuse; always insert it into fuse holder properly.**
**d. Remove fuse for clock if vehicle is not used for a long period of time.**

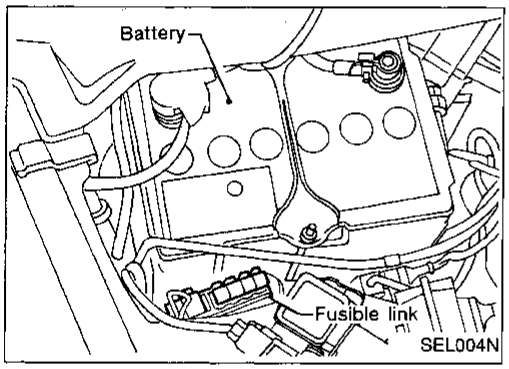


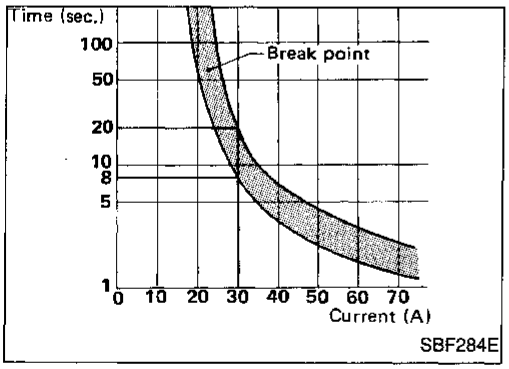

## Fusible Link

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:**

**a. 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.**
**b. Never wrap outside of fusible link with vinyl tape. Extreme care should be taken with this link to ensure that it does not come into contact with any other wiring harness or vinyl or rubber parts.**




## Circuit Breaker Inspection

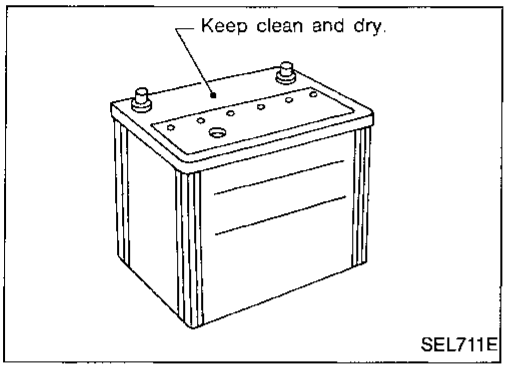
For example, when current is 30A, the circuit is broken within 8 to 20 seconds.

Circuit breakers are used in the following systems.

- Power window & power door lock
- Power seat

**CAUTION:**

a. **If it becomes necessary to start the engine with a booster battery and jumper cables, use a 12-volt booster battery.**
b. **After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.**
c. **Never add distilled water through the hole used to check specific gravity.**

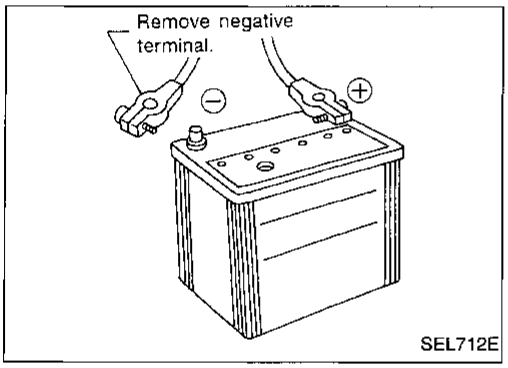



## How to Handle Battery

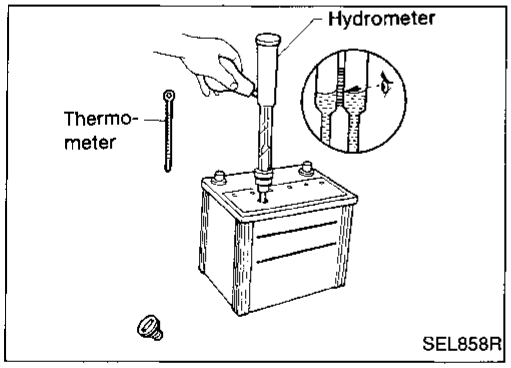
### METHODS OF PREVENTING OVER-DISCHARGE

The following precautions must be taken to prevent over-discharging a battery.

- The battery surface (particularly its top) should always be kept clean and dry.
- The terminal connections should be clean and tight.
- At every routine maintenance, check the electrolyte level.




- When the vehicle is not going to be used over a long period of time, disconnect the negative battery terminal. (If the vehicle has an extended storage switch, turn it off.)



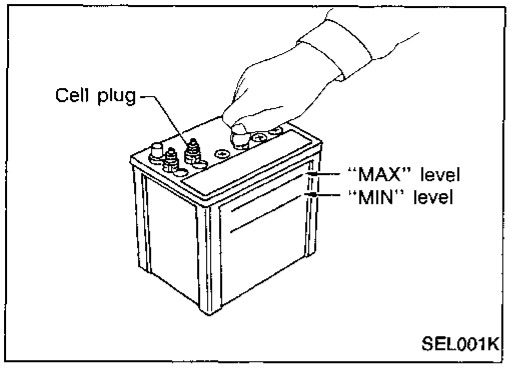

- Check the charge condition of the battery.
  Periodically check the specific gravity of the electrolyte. Keep a close check on charge condition to prevent over-discharge.

### CHECKING ELECTROLYTE LEVEL

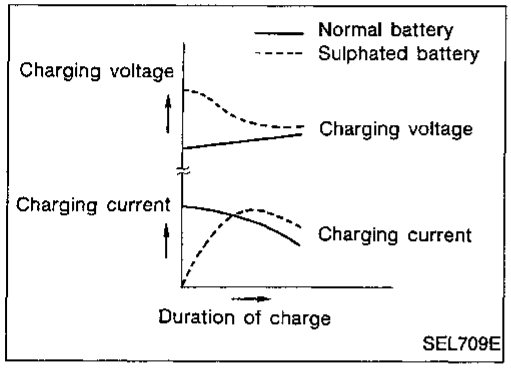
**WARNING:**

**Do not allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. After touching a battery, do not touch or rub your eyes until you have thoroughly washed your hands. If the acid contacts the eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention.**

## How to Handle Battery (Cont'd)

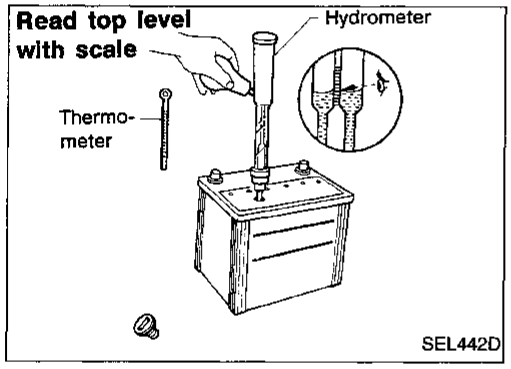



- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.




### SULPHATION

When a battery has been left unattended for a long period of time and has a specific gravity of less than 1.100, it will be completely discharged, resulting in sulphation on the cell plates.
Compared with a battery discharged under normal conditions, the current flow in a "sulphated" battery is not as smooth although its voltage is high during the initial stage of charging, as shown in the figure at the left.




### SPECIFIC GRAVITY CHECK

Read hydrometer and thermometer indications at eye level.

## How to Handle Battery (Cont'd)

- Use the chart below to correct your hydrometer reading according to electrolyte temperature.

**Hydrometer temperature correction**

| Battery electrolyte temperature °C (°F) | Add to specific gravity reading |
|---|---|
| 71 (160) | 0.032 |
| 66 (150) | 0.028 |
| 60 (140) | 0.024 |
| 54 (129) | 0.020 |
| 49 (120) | 0.016 |
| 43 (110) | 0.012 |
| 38 (100) | 0.008 |
| 32 (90) | 0.004 |
| 27 (80) | 0 |
| 21 (70) | −0.004 |
| 16 (60) | −0.008 |
| 10 (50) | −0.012 |
| 4 (39) | −0.016 |
| −1 (30) | −0.020 |
| −7 (20) | −0.024 |
| −12 (10) | −0.028 |
| −18 (0) | −0.032 |

| Corrected specific gravity | Approximate charge condition |
|---|---|
| 1.260 - 1.280 | Fully charged |
| 1.230 - 1.250 | 3/4 charged |
| 1.200 - 1.220 | 1/2 charged |
| 1.170 - 1.190 | 1/4 charged |
| 1.140 - 1.160 | Almost discharged |
| 1.110 - 1.130 | Completely discharged |

### CHARGING THE BATTERY

**CAUTION:**

**a. Do not "quick charge" a fully discharged battery.**

**b. Keep the battery away from open flame while it is being charged.**

**c. When connecting the charger, connect the leads first, then turn on the charger. Do not turn on the charger first, as this may cause a spark.**

**d. If battery electrolyte temperature rises above 60°C (140°F), stop charging. Always charge battery at a temperature below 60°C (140°F).**

**Charging rates:**

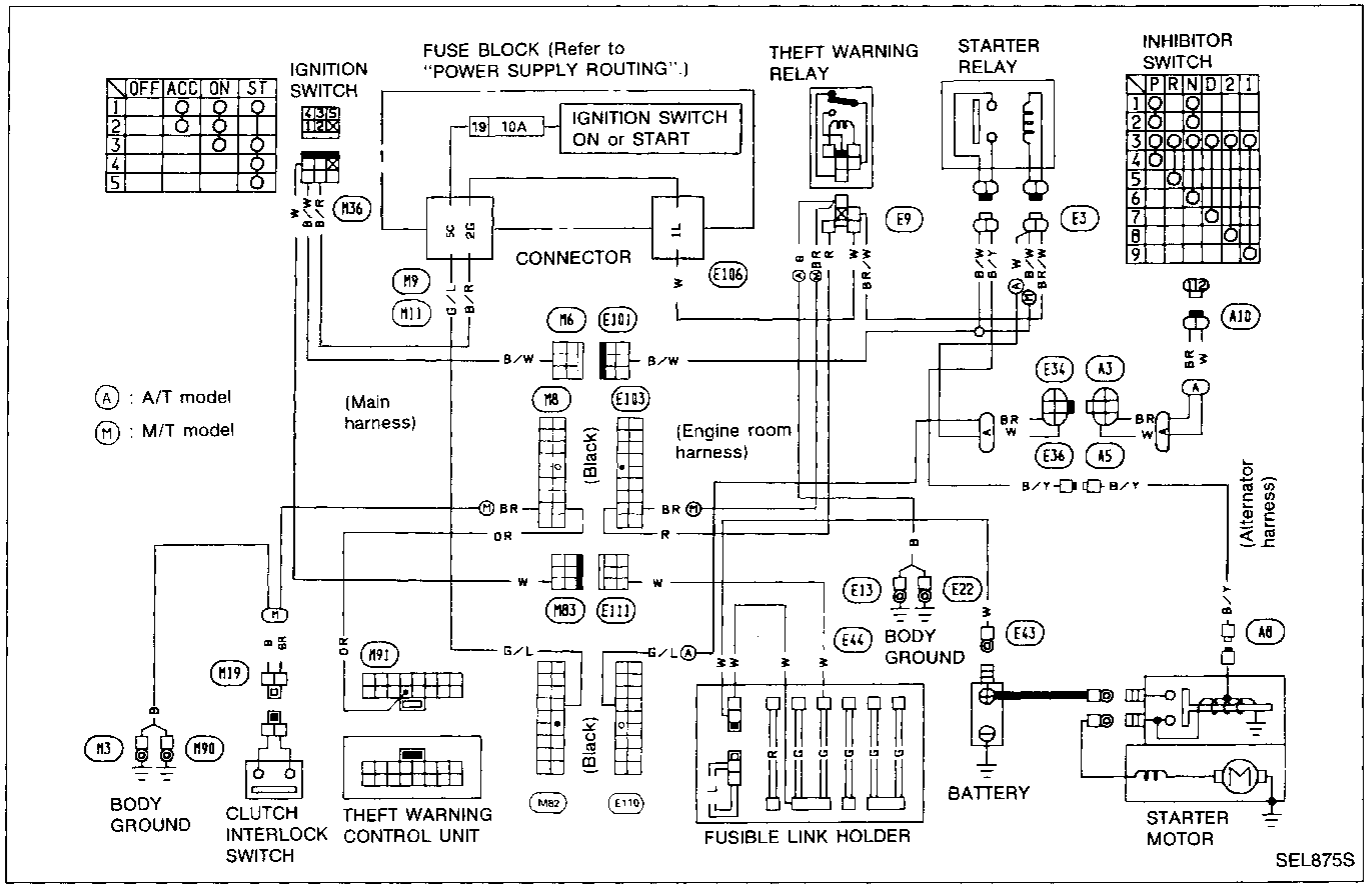
| Amps | Time |
|---|---|
| 50 | 1 hour |
| 25 | 2 hours |
| 10 | 5 hours |
| 5 | 10 hours |

## Service Data and Specifications (SDS)

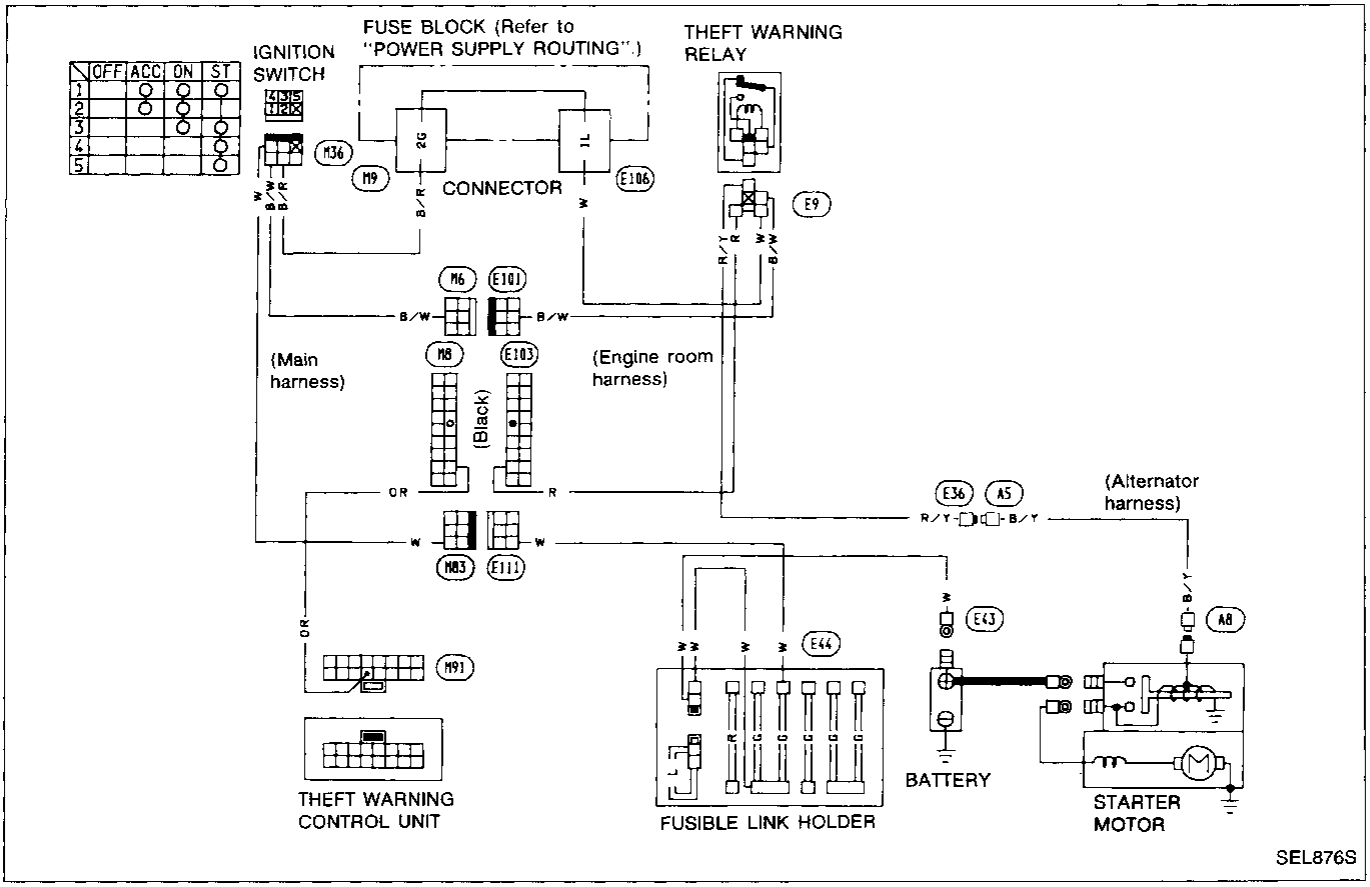
| Applied model | | M/T | A/T | |
|---|---|---|---|---|
| | | | Except convertible | Convertible |
| Type | | 65D26L | 80D26L | 55D23L |
| Capacity | V-AH | 12-65 | | 12-60 |

## FOR U.S.A. MODEL & CANADA A/T MODEL

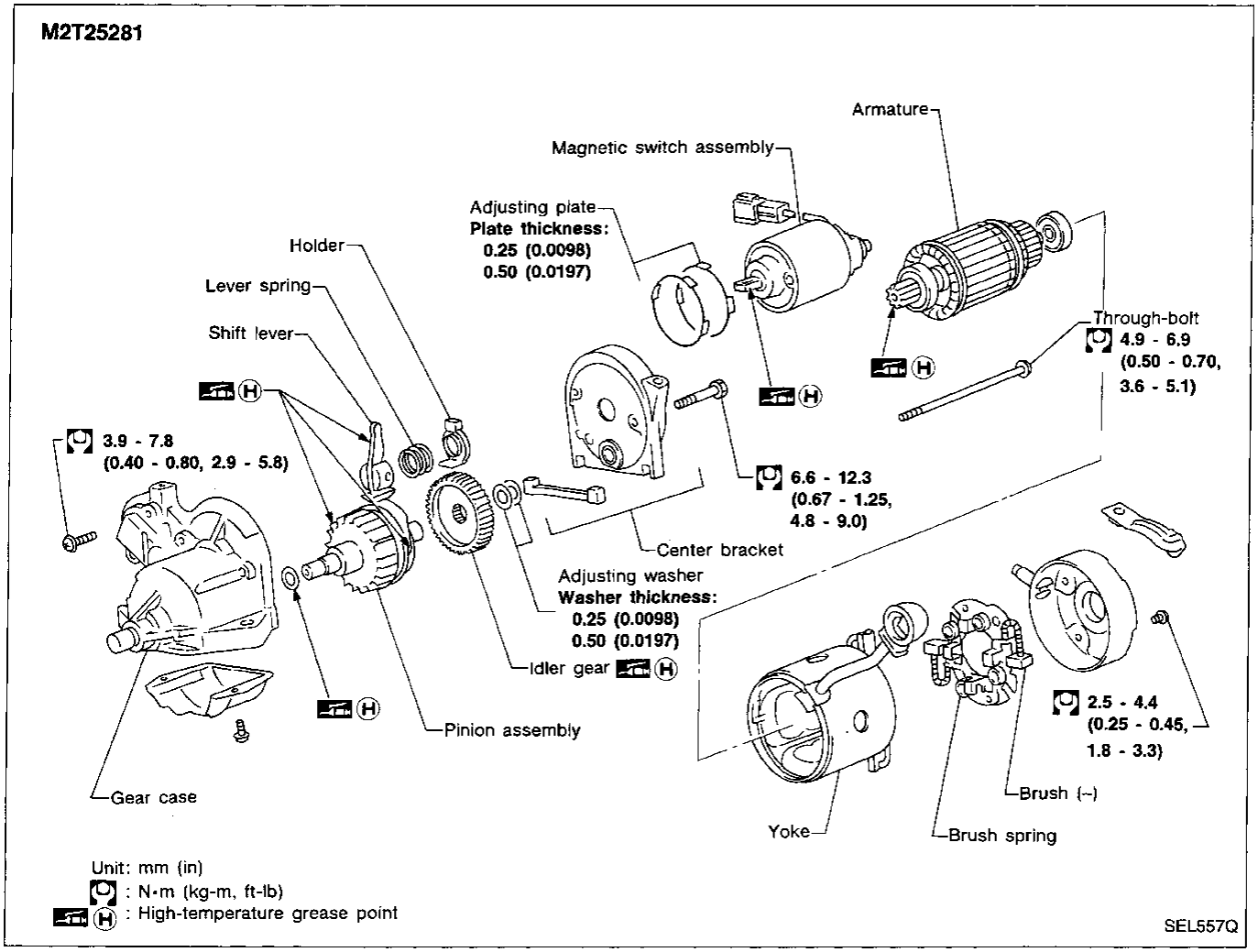
## Wiring Diagram

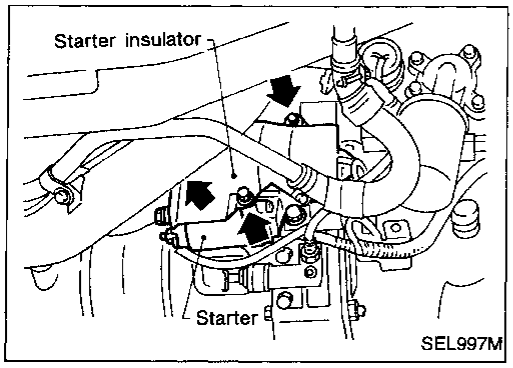



## FOR CANADA M/T MODEL



## Construction




## Removal and Installation

### REMOVAL

1. Remove starter insulator.
2. Remove starter harness connector and cable.
3. Remove starter fixing bolt and nut and remove starter.

### INSTALLATION

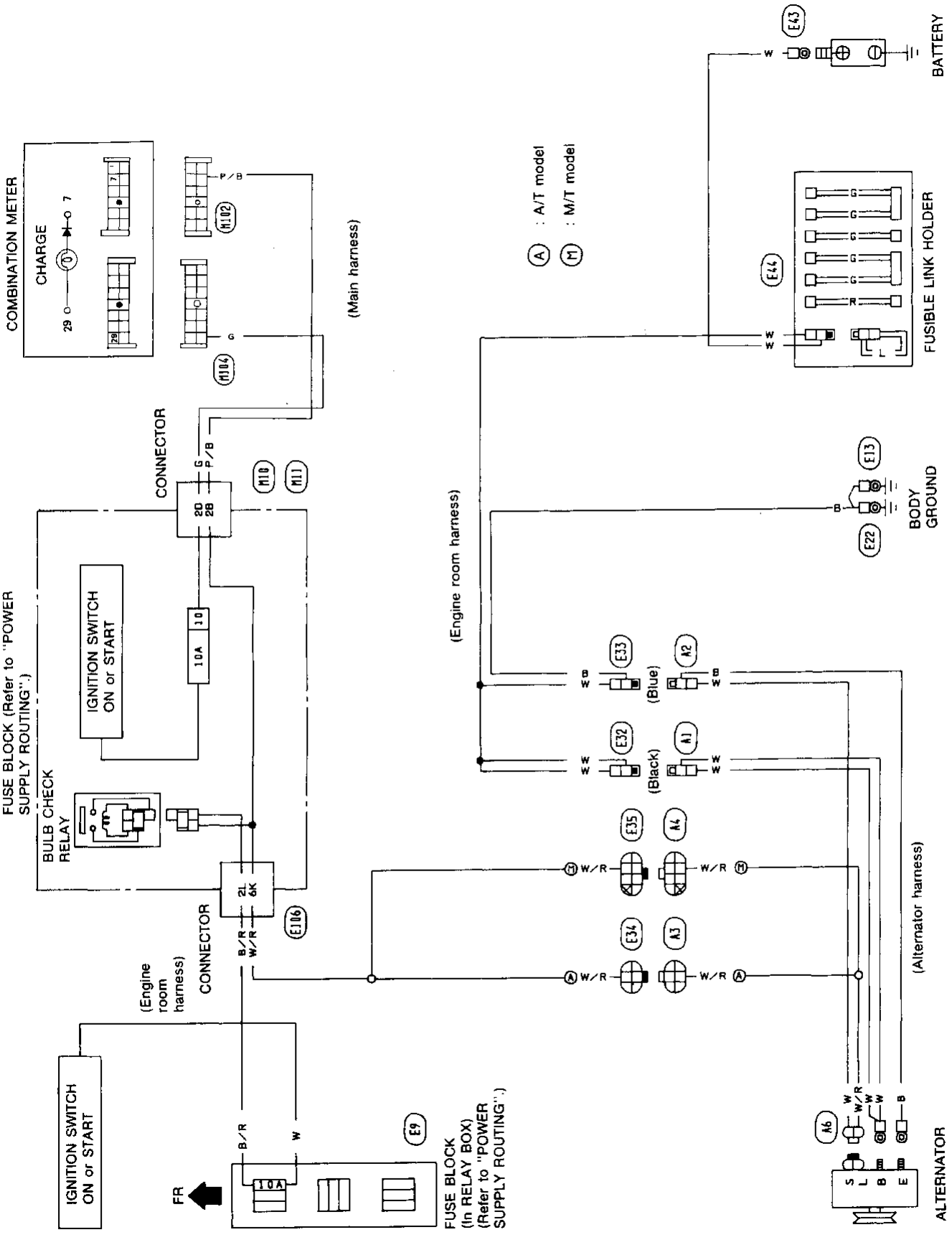
- Installation procedure is in reverse order of removal.

## Service Data and Specifications (SDS)

### STARTER

| Type | | | M2T25281 |
|---|---|---|---|
| | | | Reduction gear |
| System voltage | | V | 12 |
| No-load | Terminal voltage | V | 11.0 |
| | Current | A | 70 |
| | Revolution | rpm | More than 2,000 |
| Minimum length of brush | | mm (in) | 11.5 (0.453) |
| Brush spring tension (With new brush) | | N (kg, lb) | 13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7) |
| Minimum diameter of commutator | | mm (in) | 31.4 (1.236) |
| Difference in height of pinion assembly | | mm (in) | 0.3 - 2.0 (0.012 - 0.079) |

## Wiring Diagram

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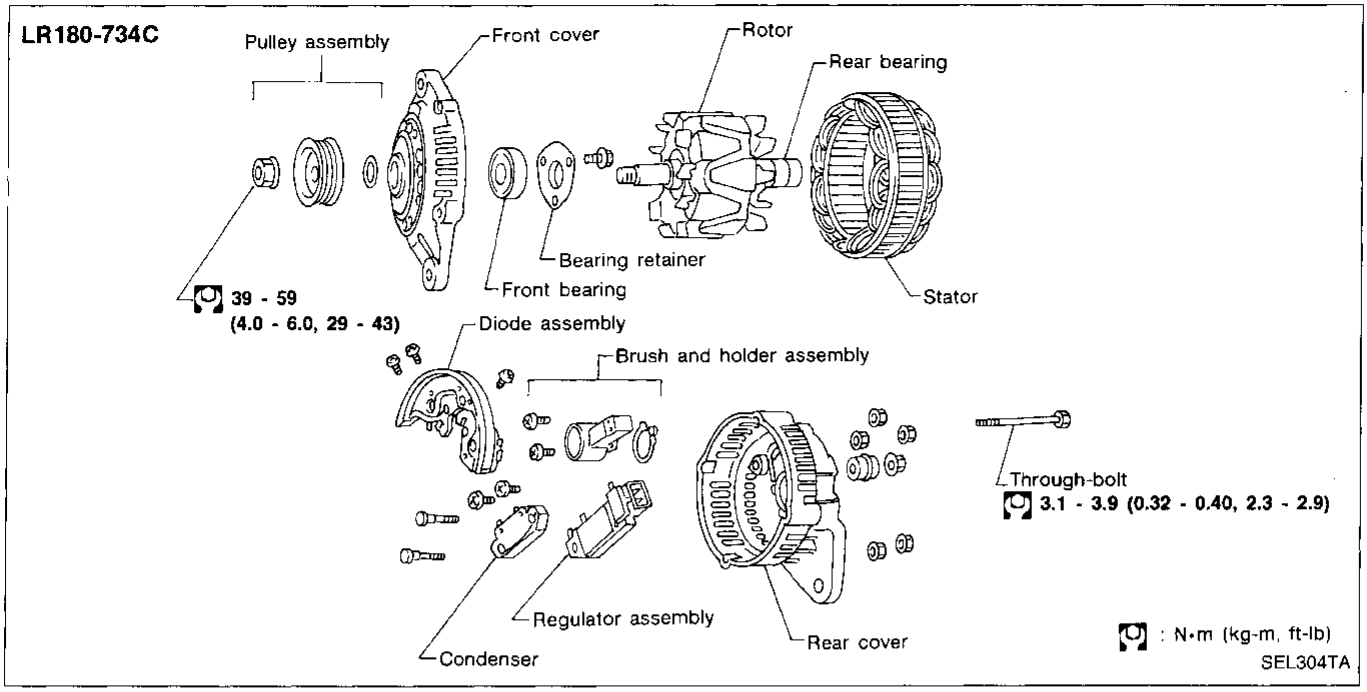
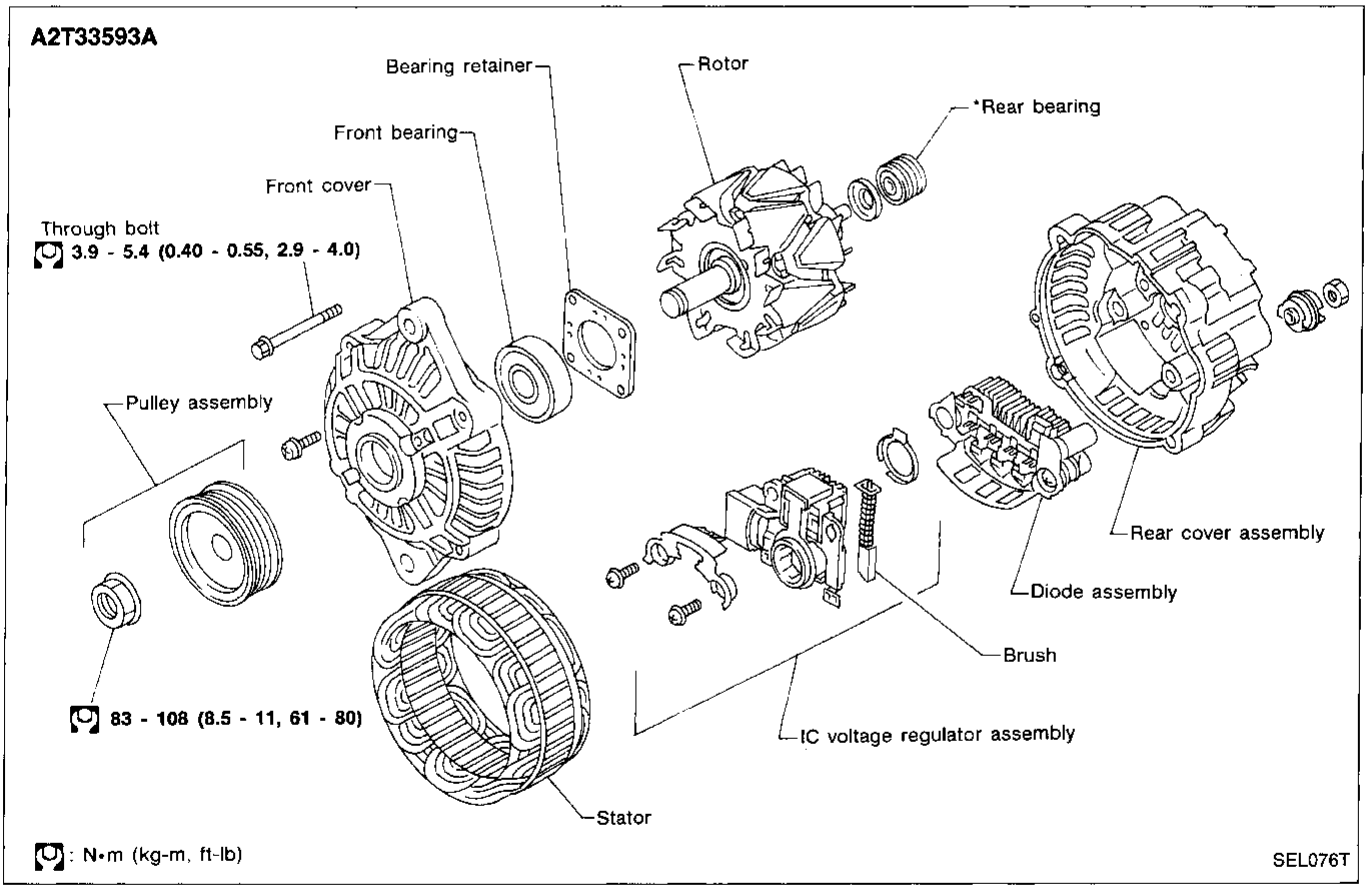
## Construction



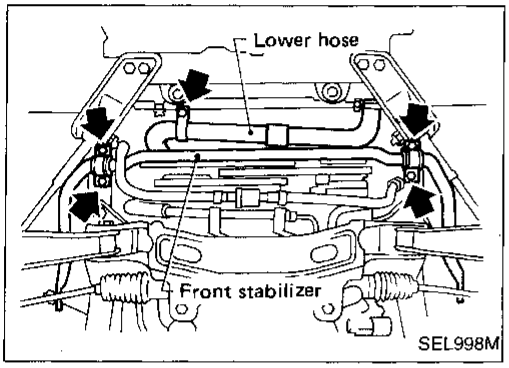




***Rear bearing**
**CAUTION:**
**Rear cover may be hard to remove because a ring is used to lock outer race of rear bearing. Be careful not to lose this ring during removal.**

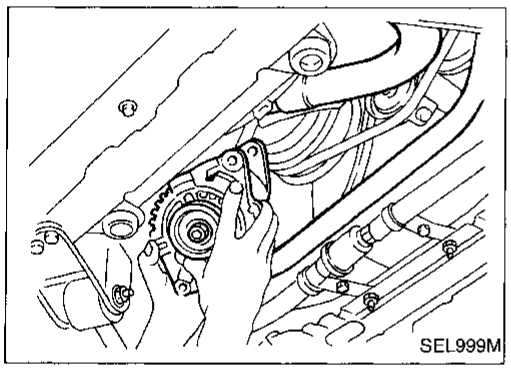
## Removal and Installation

### REMOVAL

1. Loosen alternator belt.
2. Remove alternator adjusting bar.
3. Remove harness connector and cable from alternator.




4. Remove stabilizer bracket fixing bolts.
5. Remove radiator lower hose bracket and push lower hose upward to make room.




6. Remove alternator fixing bolt and take out alternator as shown in the figure.

### INSTALLATION

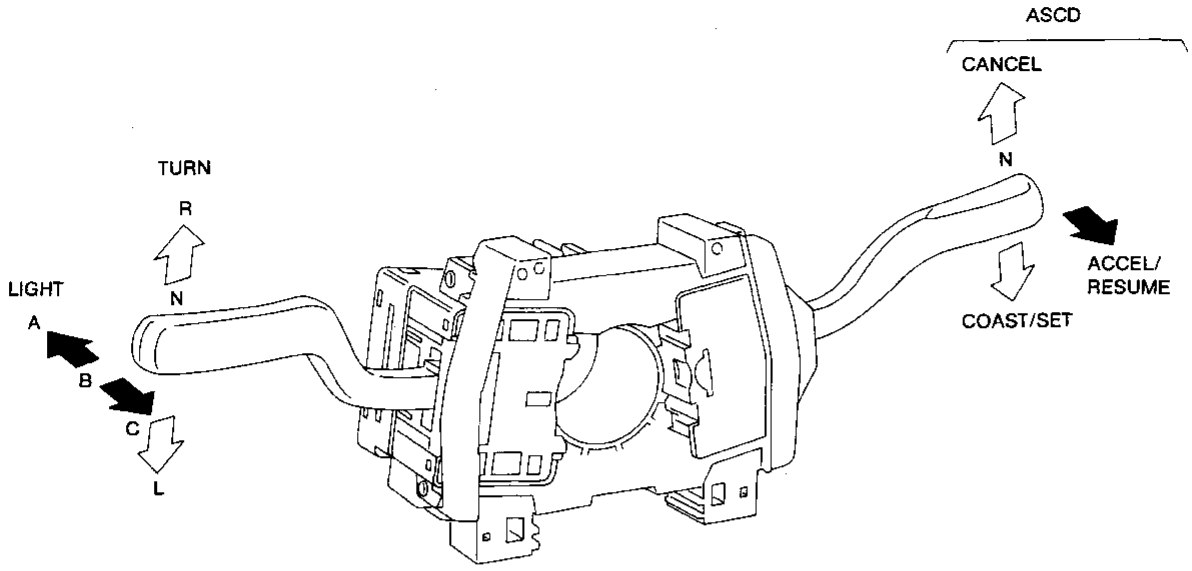
- Installation procedure is in reverse order of removal.

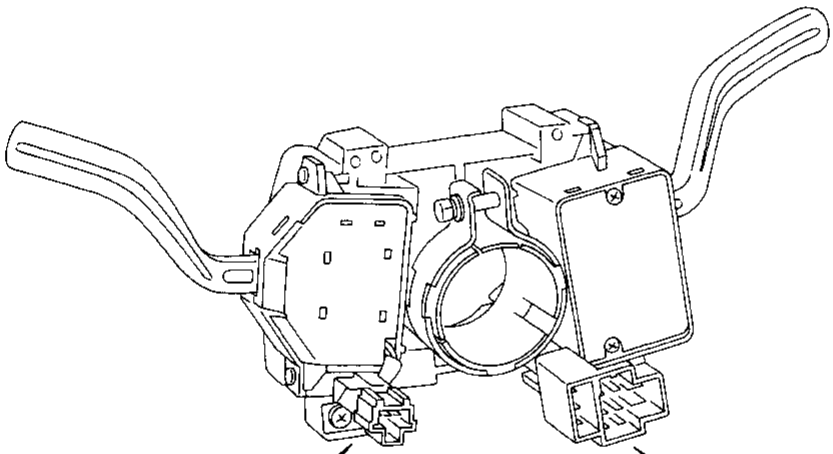
## Service Data and Specifications (SDS)

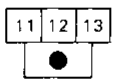
### ALTERNATOR

| Type | | LR180-734C | A2T33593A |
|---|---|---|---|
| | | HITACHI make | MITSUBISHI make |
| Applied engine | | VG30DE | VG30DETT |
| Nominal rating | V-A | 12-80 | 12-90 |
| Ground polarity | | Negative | |
| Minimum revolution under no-load (when 13.5 volts is applied) | rpm | Less than 1,000 | Less than 1,300 |
| Hot output current | A/rpm | More than 65/2,500<br>More than 80/5,000 | More than 20/1,300<br>More than 61/2,500 |
| Regulated output voltage | V | 14.1 - 14.7 | |
| Minimum length of brush | mm (in) | More than 6.0 (0.236) | 5.0 (0.197) |
| Brush spring pressure | N (g, oz) | 1.000 - 3.432 (102 - 350, 3.60 - 12.34) | 4.609 - 5.786 (470 - 590, 16.58 - 20.81) |
| Slip ring minimum outer diameter | mm (in) | More than 26.0 (1.024) | More than 22.1 (0.870) |

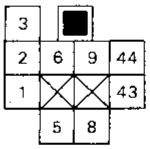
## Combination Switch/Check






ASCD switch




ASCD SWITCH

| | RESUME ACCEL | N | SET COAST | OFF | CANCEL |
|---|---|---|---|---|---|
| 13 | ○ | | ○ | | ○ |
| 12 | | | ○ | | ○ |
| 11 | ○ | | | | ○ |

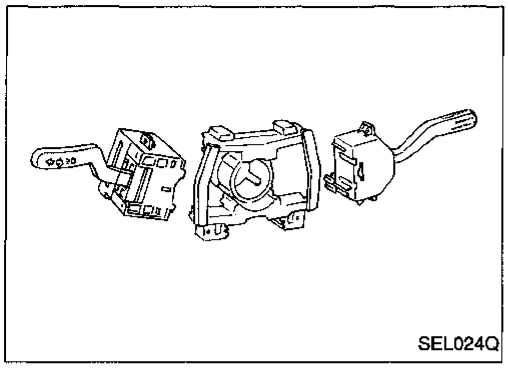
DIMMER SWITCH

| | A | B | C |
|---|---|---|---|
| 5 | | | ○ |
| 6 | | | ○ |
| 8 | | | ○ |
| 9 | | | ○ |
| 43 | | ○ | |
| 44 | | ○ | |

TURN SIGNAL SWITCH

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

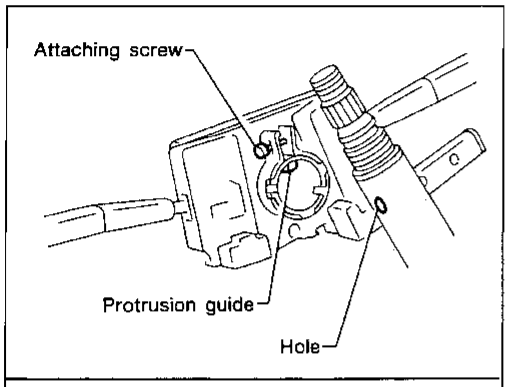
SEL077T


SEL024Q

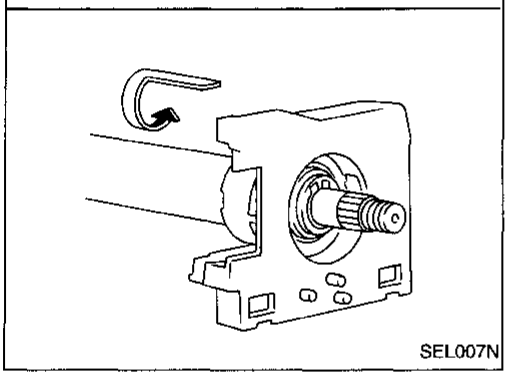
## Combination Switch/Replacement

**For removing/installing air bag module and spiral cable, refer to RS section.**

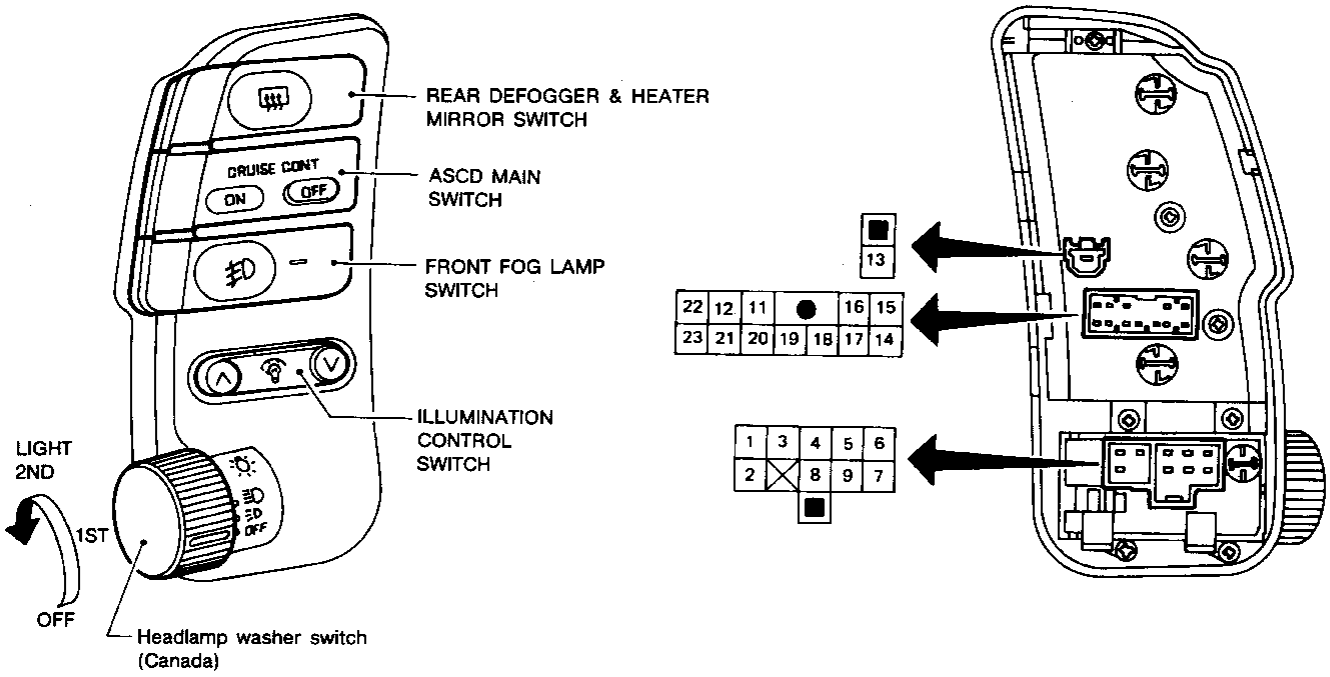
- Each switch can be replaced without removing combination switch base.

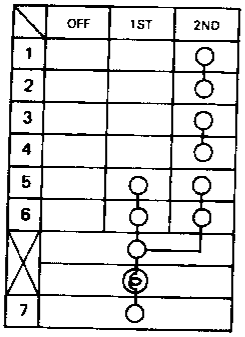


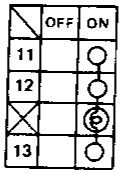

- To remove combination switch base, remove base attaching screw and turn after pushing on it.

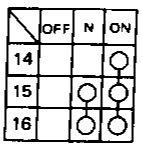

SEL007N

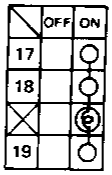
## Check

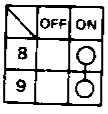


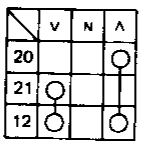



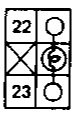



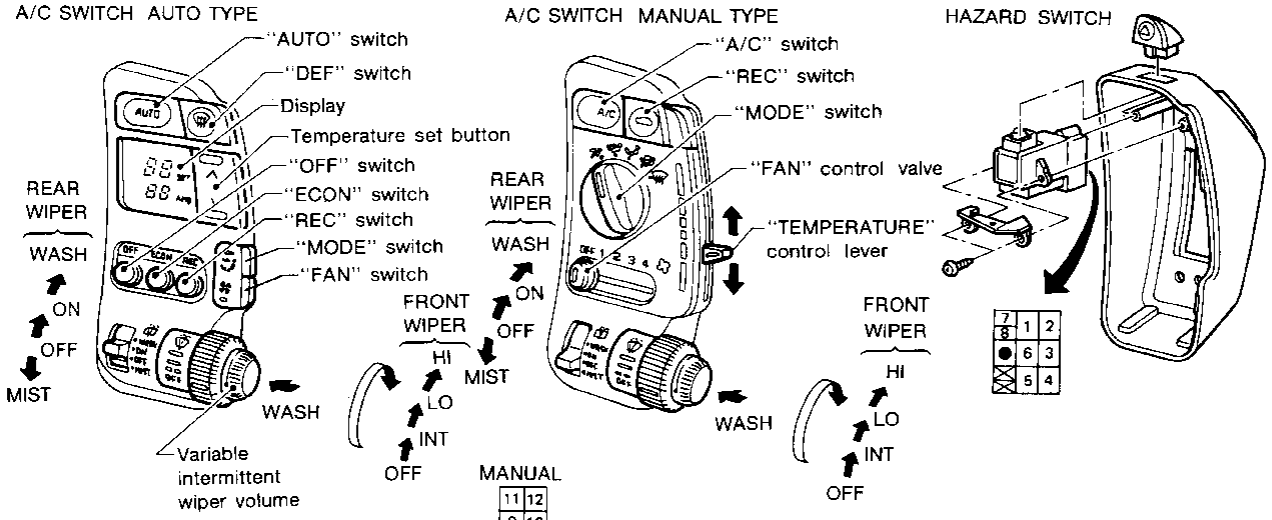



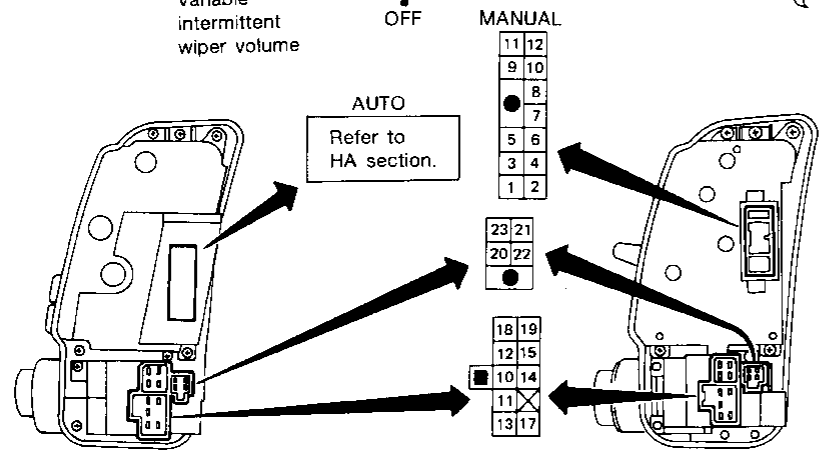



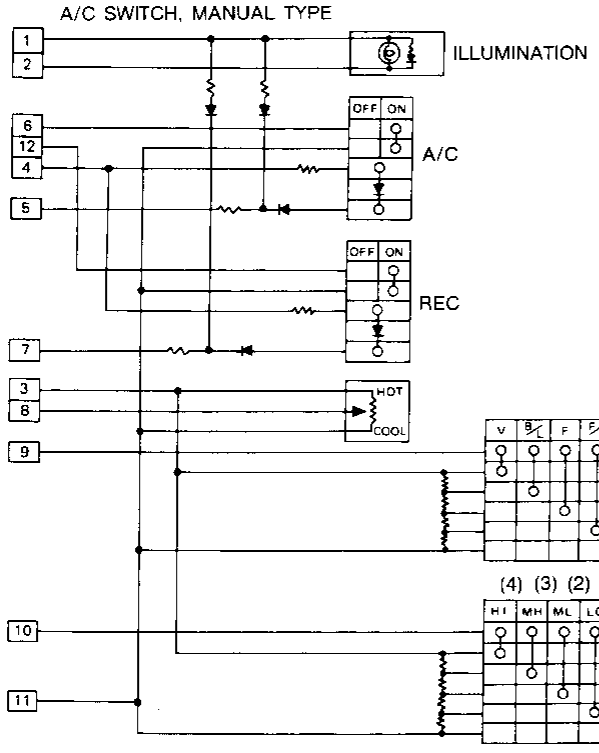



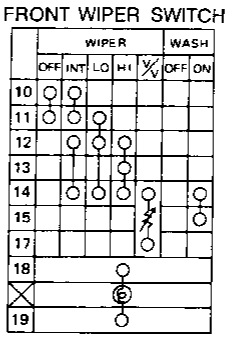

SEL785QA

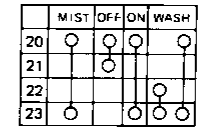
## Check (Cont'd)

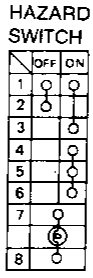



SEL529N

## Operation (Daytime light system equipped model)

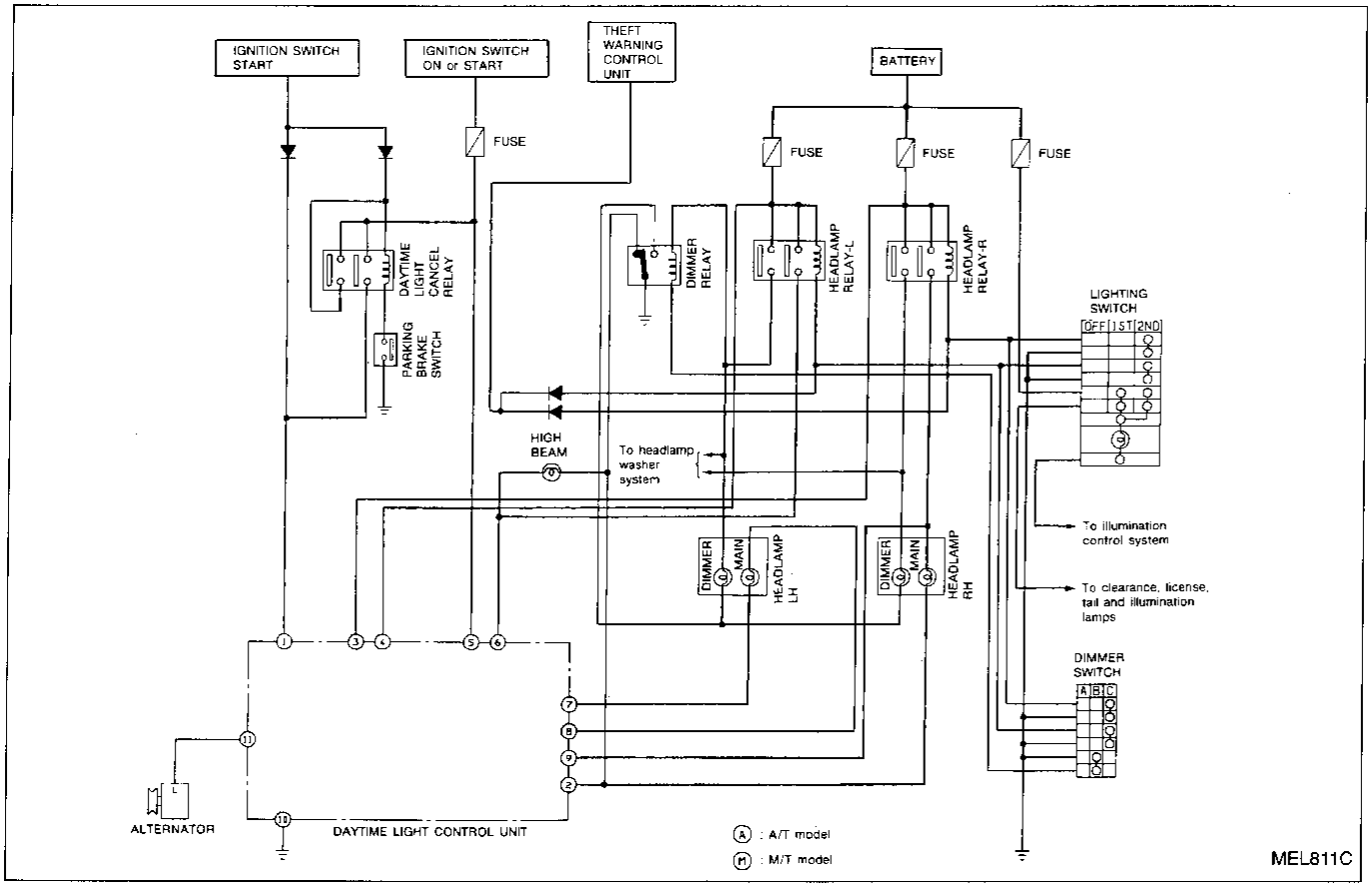
After starting the engine with the lighting switch in the "OFF" position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

| 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 | × | × | ○ | × | × | ○ | ○ | × | ○ | △* | △* | ○ | △* | △* | ○ | ○ | × | ○ |
| | Low beam | × | × | × | × | × | × | × | ○ | × | × | × | × | × | × | × | × | ○ | × |
| Clearance and tail lamp | | × | × | × | ○ | ○ | ○ | ○ | ○ | ○ | × | × | × | ○ | ○ | ○ | ○ | ○ | ○ |
| License and instrument illumination lamp | | × | × | × | ○ | ○ | ○ | ○ | ○ | ○ | × | × | × | ○ | ○ | ○ | ○ | ○ | ○ |

○ : Lamp "ON"
× : Lamp "OFF"
△ : Lamp dims.
□ : Added functions
* : When starting the engine with the parking brake released, the daytime light system will come ON.
When starting the engine with the parking brake pulled, the daytime light system will not come ON.

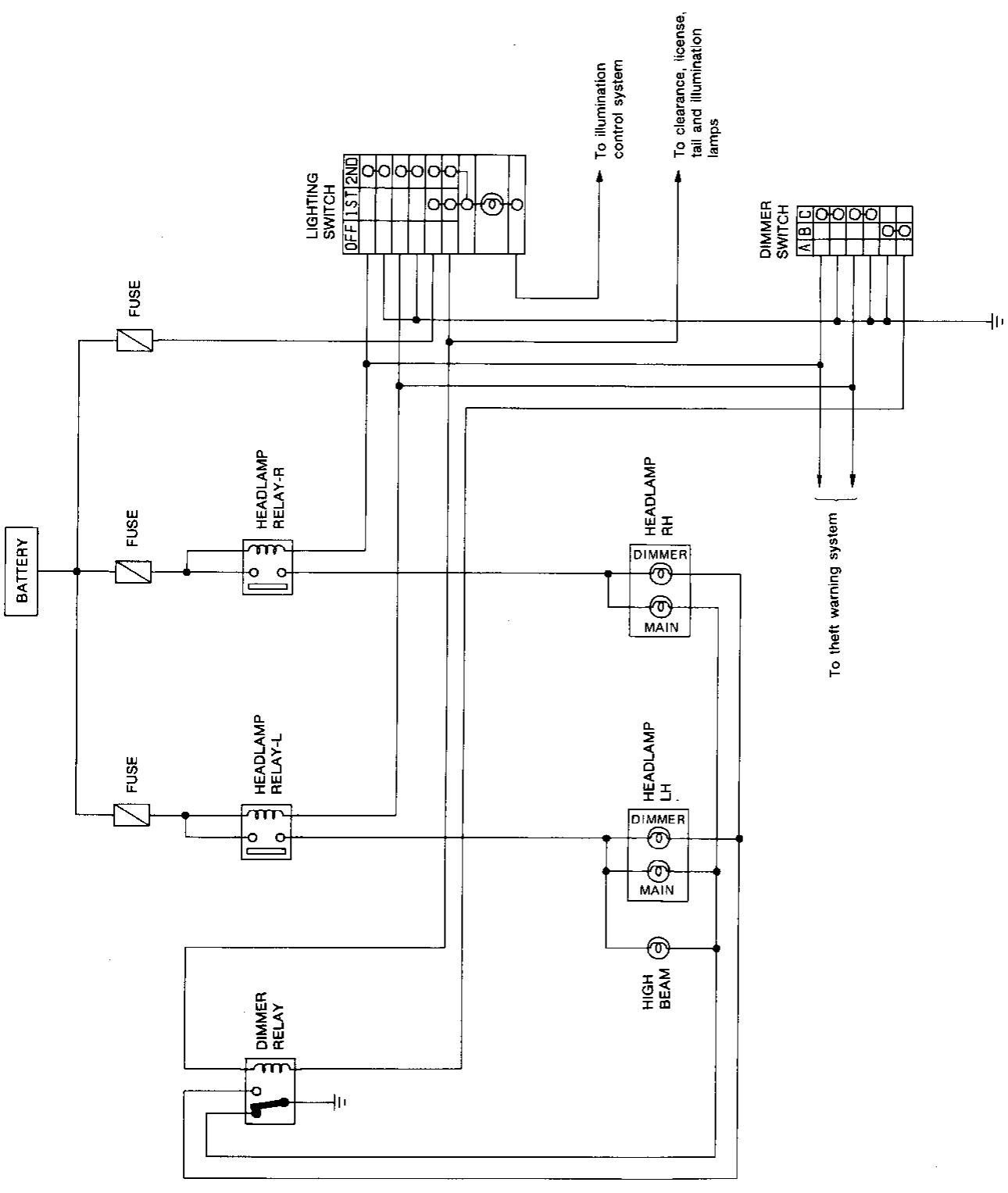
## Schematic

### FOR CANADA



## Schematic (Cont'd)

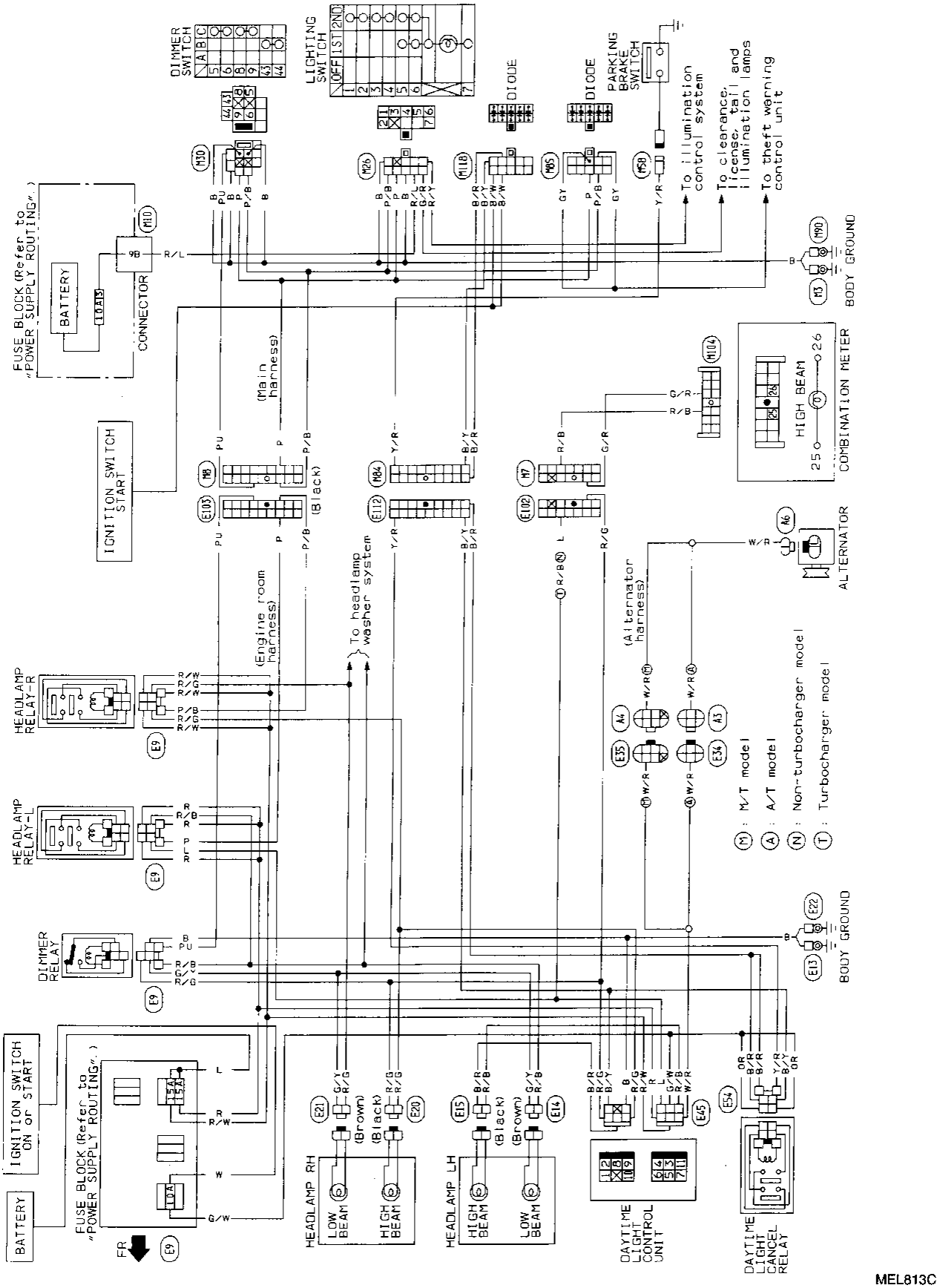
**FOR U.S.A.**




MEL812C

## Wiring Diagram

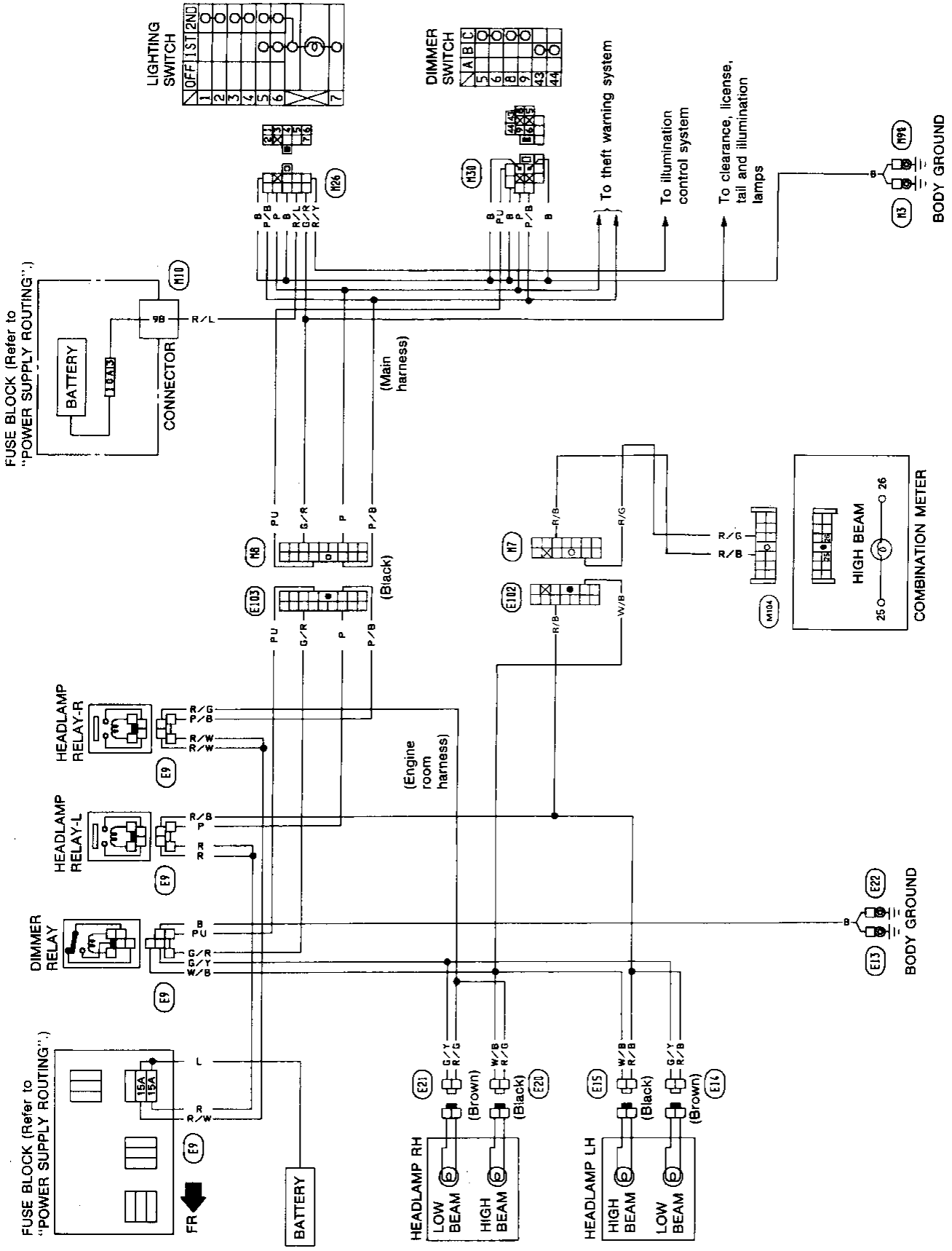
### FOR CANADA



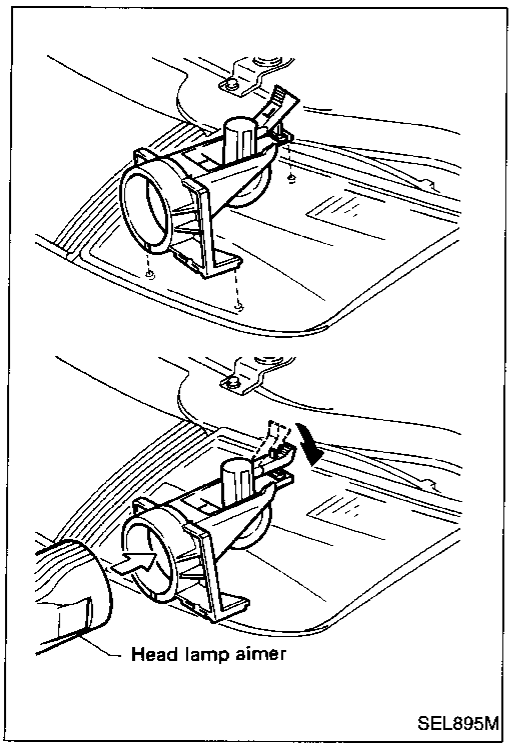

MEL813C

## Wiring Diagram (Cont'd)

**FOR U.S.A.**




MEL814C




## Aiming Adjustment

When performing headlamp aiming adjustment, use an aiming machine, aiming wall, screen or headlamp tester. When operating any aimer, it should be in good repair, calibrated and used according to the operation manual supplied with the unit.

### HEADLAMP AIMER ADAPTER

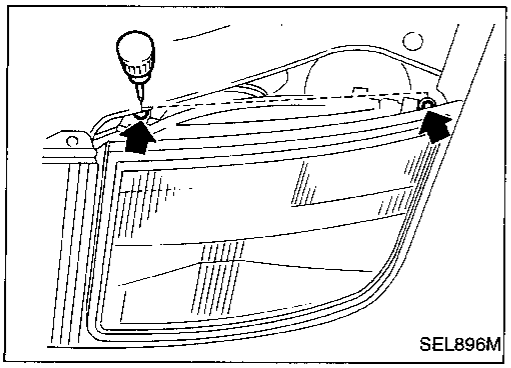
Attach the headlamp aimer using Tool (aimer adapter). Place the aimer adapter on the 3 points of the headlamp, then push the lever down to secure it.

If no aimer is available, aiming adjustment can be done as follows:

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

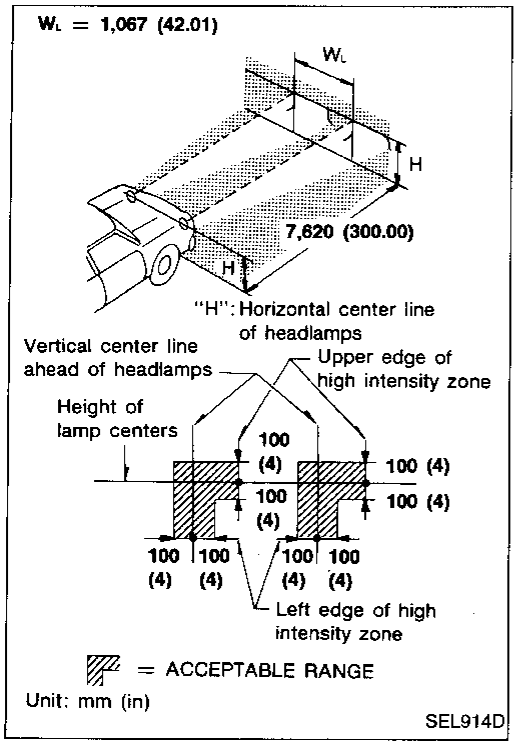
**CAUTION:**

**a. Make sure tires are inflated to correct pressures.**
**b. Place vehicle and tester on the same flat surface.**
**c. See that there is no load in the 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).**




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

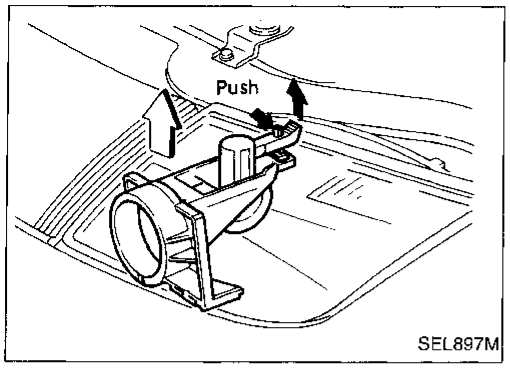
- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**




- **Adjust headlamps so that upper edge and left edge of high intensity zone are within the acceptable range as shown at left.**
- **Dotted lines in illustration show center of headlamp.**

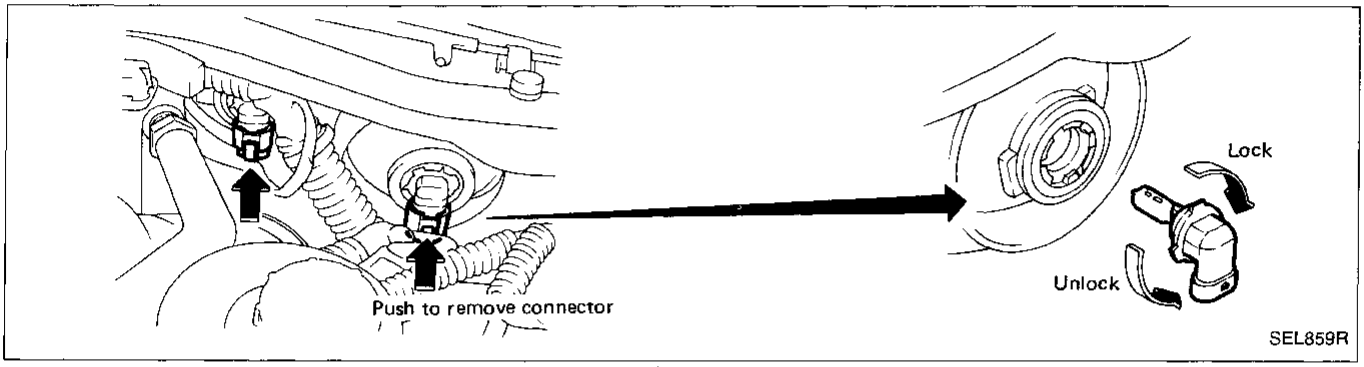
"H": Horizontal center line of headlamps
"$W_L$": Distance between each headlamp center

## Aiming Adjustment (Cont'd)




Push the tongue and pull the lever up to remove the adapter.

## Bulb Replacement




The Headlamp is a semi-sealed beam type which uses a replaceable Headlamp (halogen) bulb. A bulb can be replaced from inside the engine compartment without removing the Headlamp assembly.

**CAUTION:**
**High pressure halogen gas is sealed inside the halogen bulb. The bulb may break if the glass envelope is scratched or the bulb is dropped.**
**Hold the plastic base when handling the bulb. Never touch the glass envelope.**

### REMOVING HEADLAMP BULB

1. Disconnect battery negative cable.
2. Disconnect electrical connector from rear end of bulb.
3. Turn plastic base counterclockwise until it is free from headlamp reflector, then remove it.
4. Remove headlamp bulb. Do not shake or rotate bulb when removing it.

### REPLACING HEADLAMP BULB

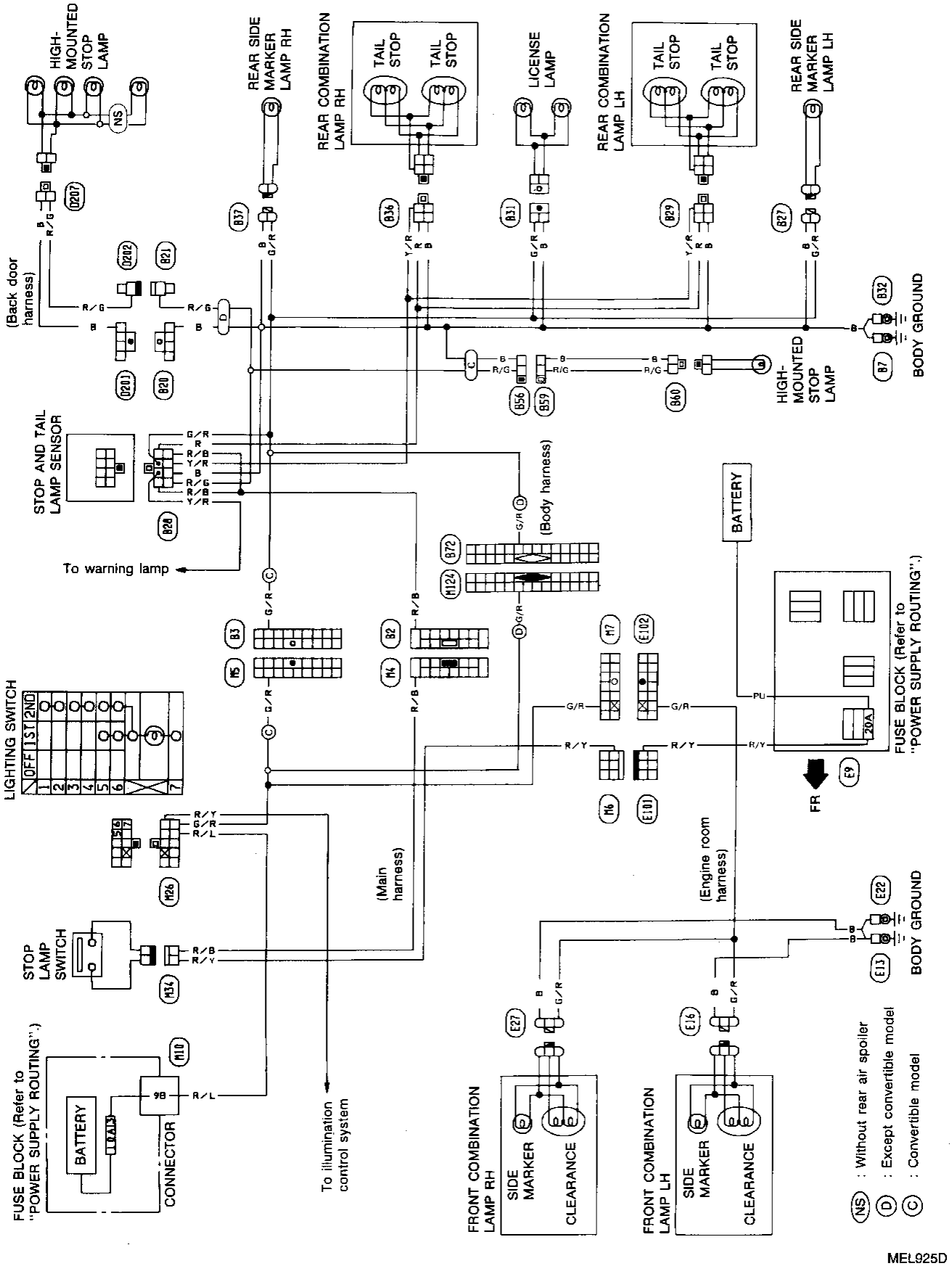
1. Insert bulb into headlamp reflector with plastic base facing downward and turn it clockwise until it stops.
2. Push electrical connector into bulb plastic base until it snaps and stops.

**CAUTION:**
**Do not touch the bulb.**

- **Use the same number and wattage as originally installed:**

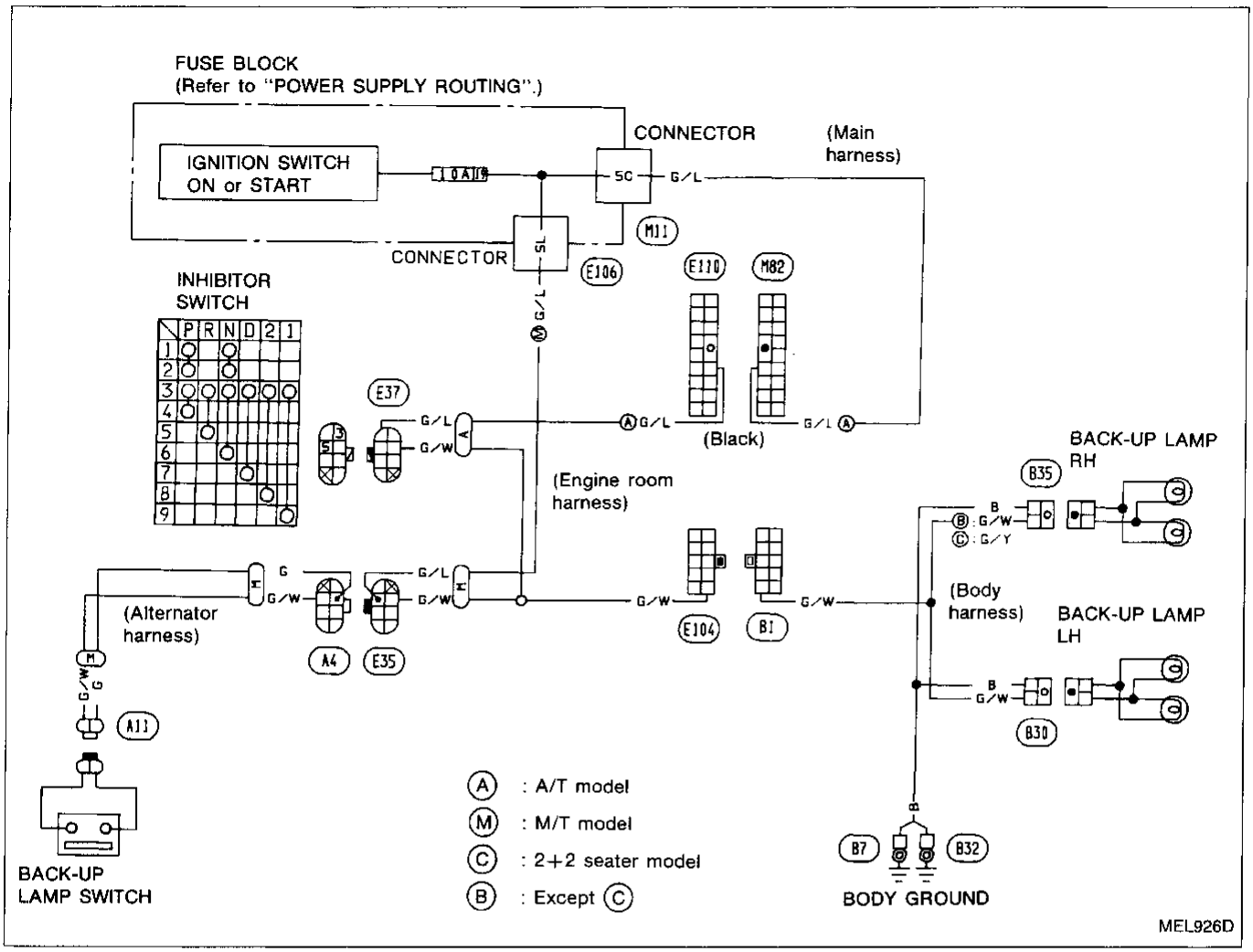
| | Inside (High beam) | Outside (Low beam) |
|---|---|---|
| Wattage (W) | 65 | 55 |
| Bulb no. | 9005 | 9006 |

## Clearance, License, Tail and Stop Lamps/ Wiring Diagram

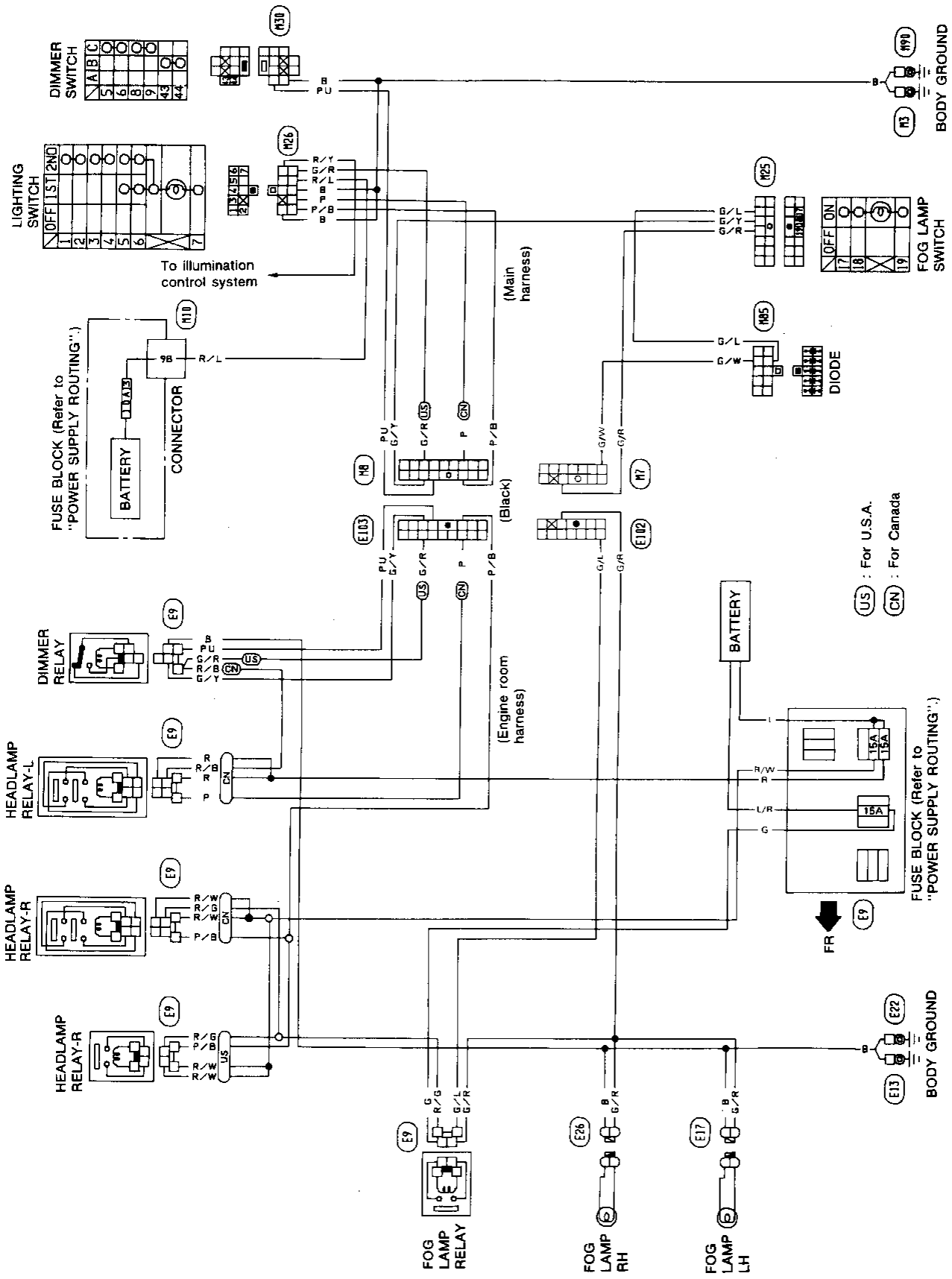



MEL925D

## Back-up Lamp/Wiring Diagram

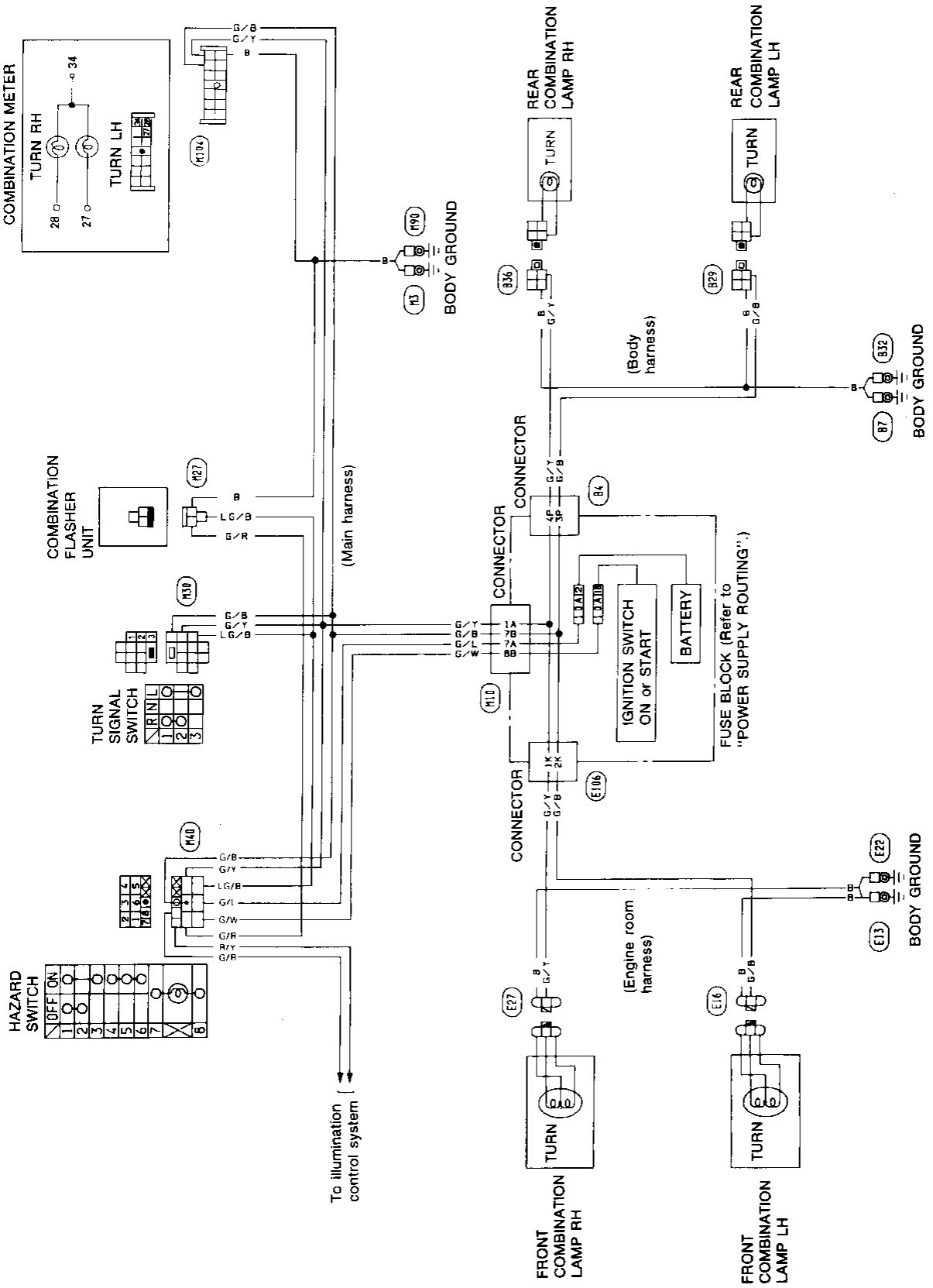


## Front Fog Lamp/Wiring Diagram

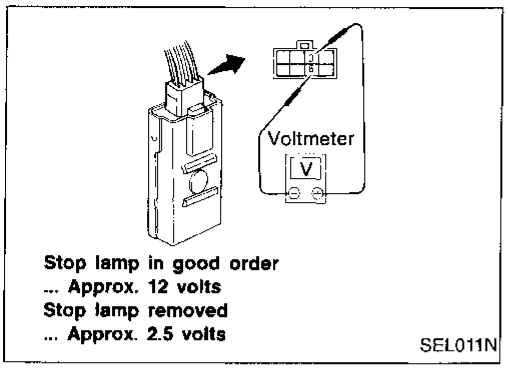



MEL816C

## Turn Signal and Hazard Warning Lamps/Wiring Diagram




MEL817C

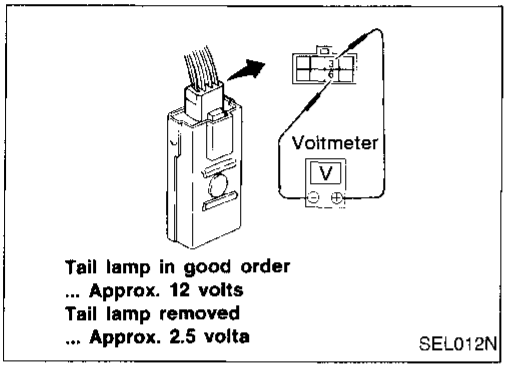



## Stop and Tail Lamp Sensor Check

- Before checking, ensure that bulbs meet specifications.

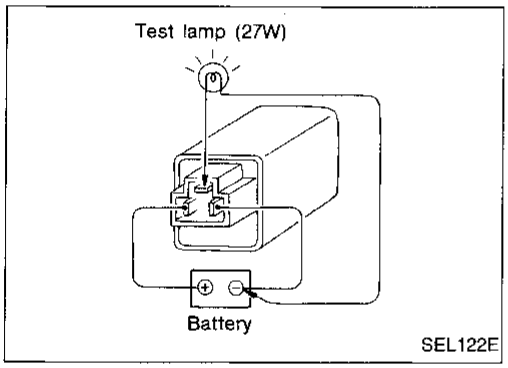
### STOP LAMP

1. Start engine.
2. Stop lamp switch on.




### TAIL LAMP

1. Start engine.
2. Lighting switch on.



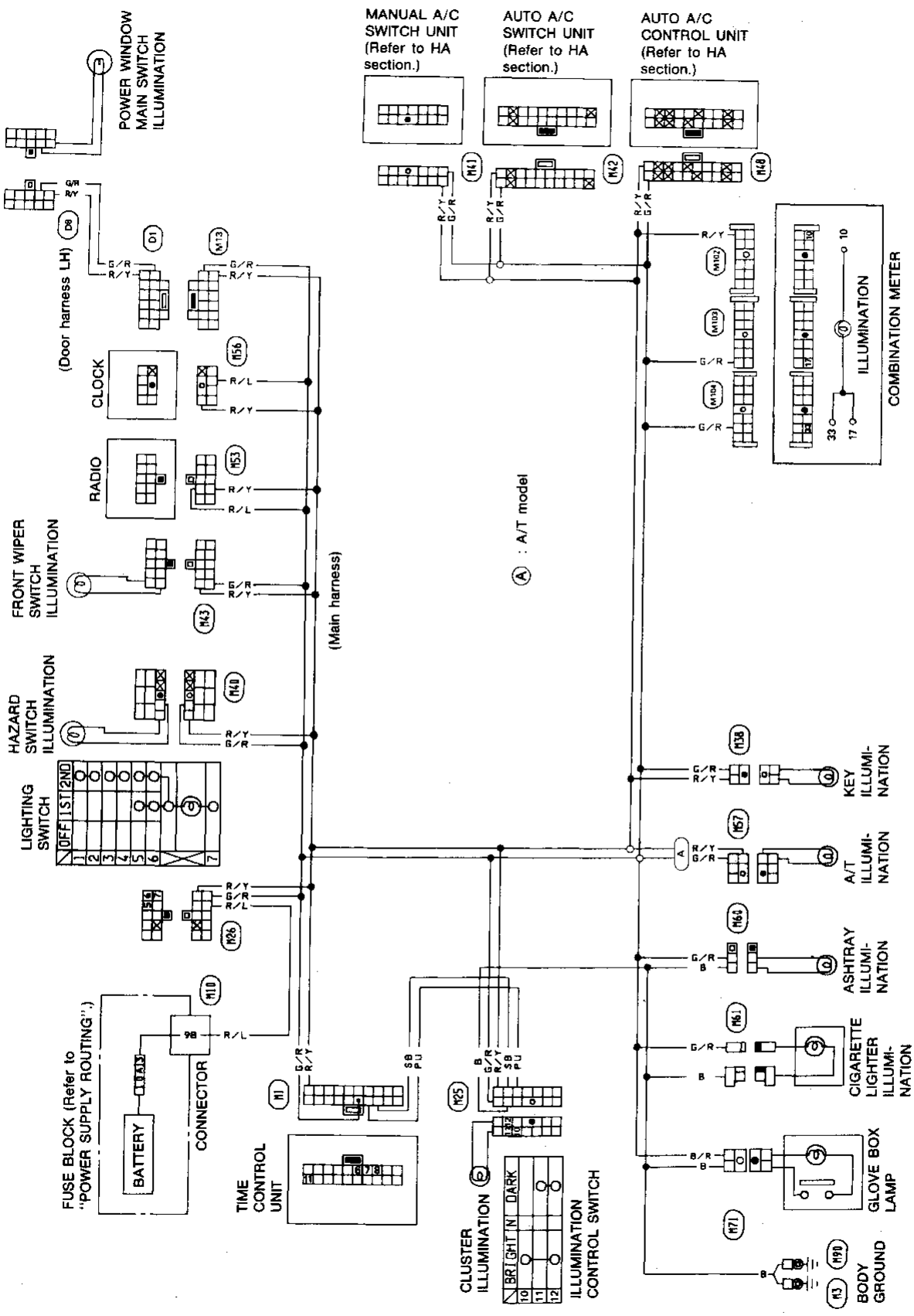

## Combination Flasher Unit Check

- 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.

## Bulb Specifications

| | Wattage (W) | Bulb No. |
|---|---|---|
| Front combination lamp | | |
| Turn signal/Clearance | 27/8 | 1157 |
| Front side marker | 3.8 | 194 |
| Rear combination lamp | | |
| Turn signal | 27 | 1156 |
| Stop/Tail | 27/8 | 1157 |
| Back-up lamp | 27 | 1156 |
| Rear side marker lamp | 3.8 | 194 |
| License plate lamp | 3.8 | 194 |
| Front fog lamp | 35 | |
| High-mounted stop lamp | 13 | |
| Interior lamp | 10 | |
| Spot lamp | 3.6 | |
| Luggage room lamp | 3.4 | |
| Foot lamp | 2 | |

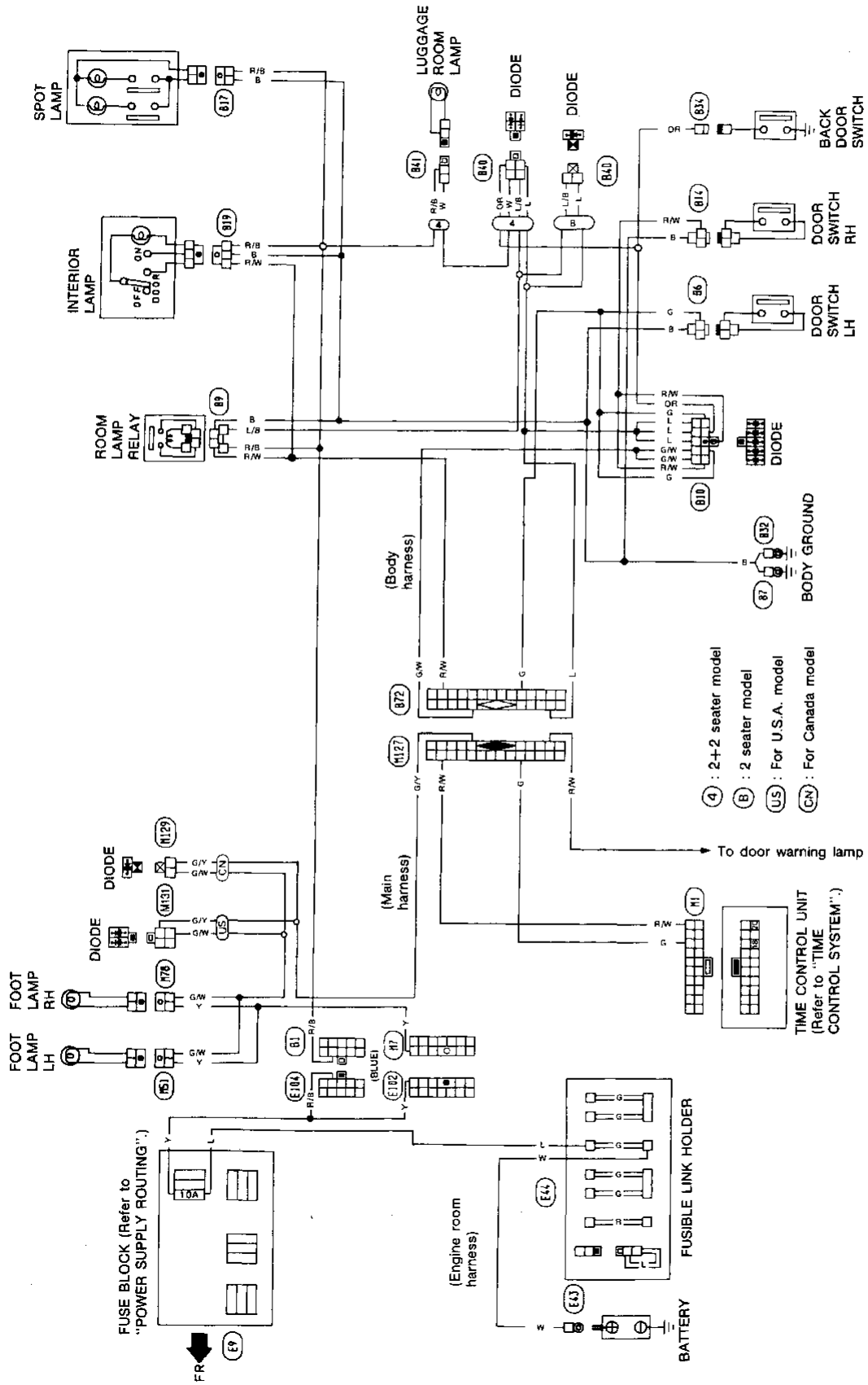
## Illumination/Wiring Diagram




MEL818C

## Interior, Spot, Foot and Luggage Room Lamps/ Wiring Diagram

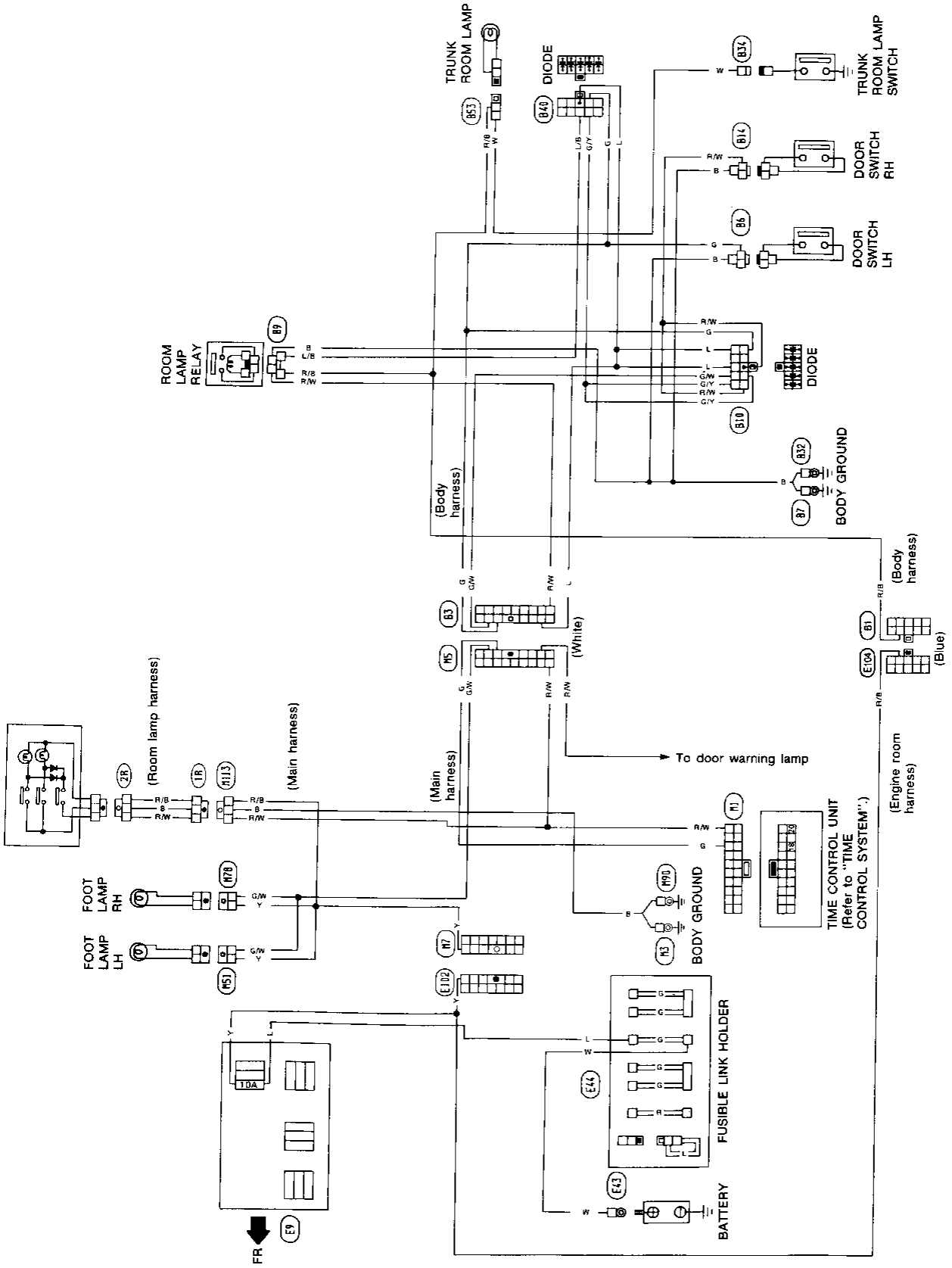
### EXCEPT CONVERTIBLE




MEL927D

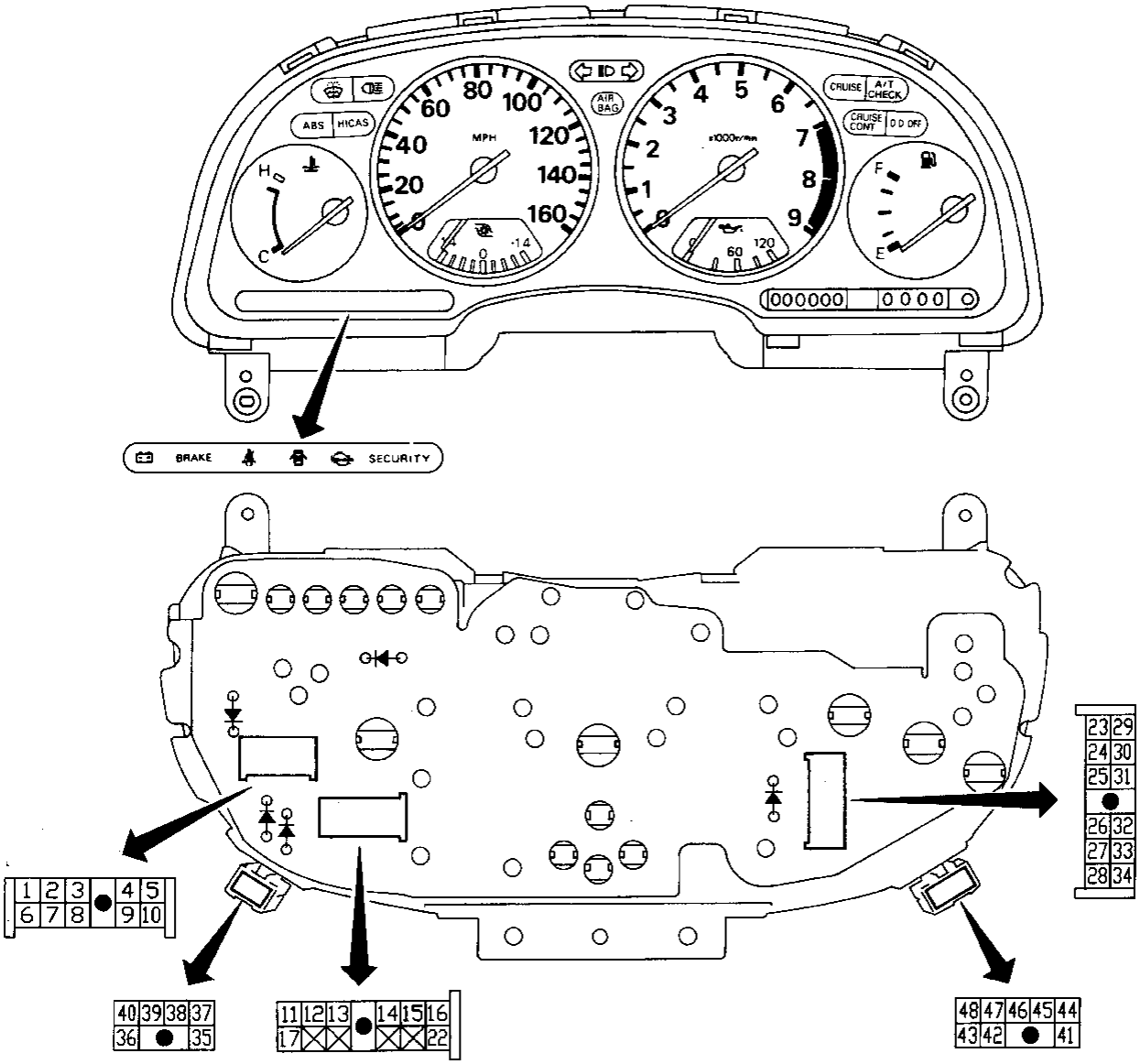
## Interior, Spot, Foot and Luggage Room Lamps/ Wiring Diagram (Cont'd)

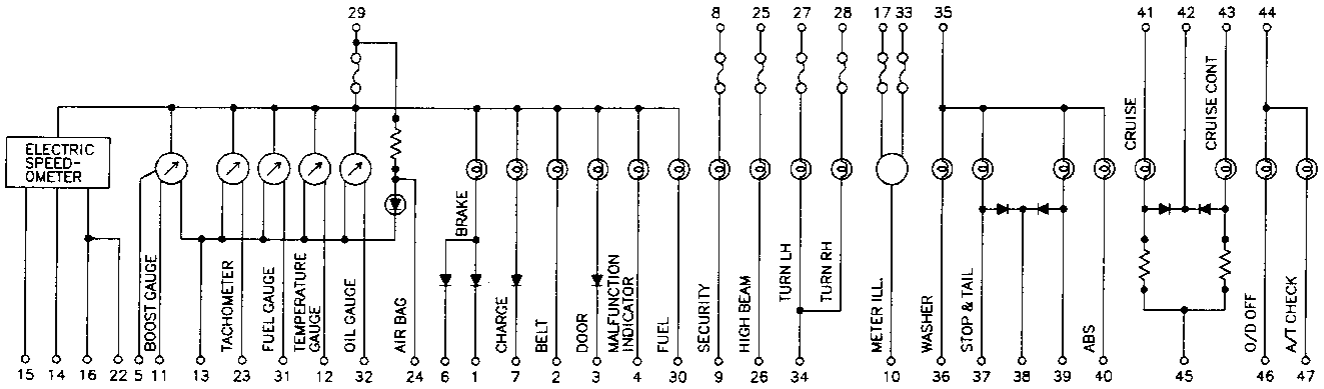
### CONVERTIBLE




MEL928D

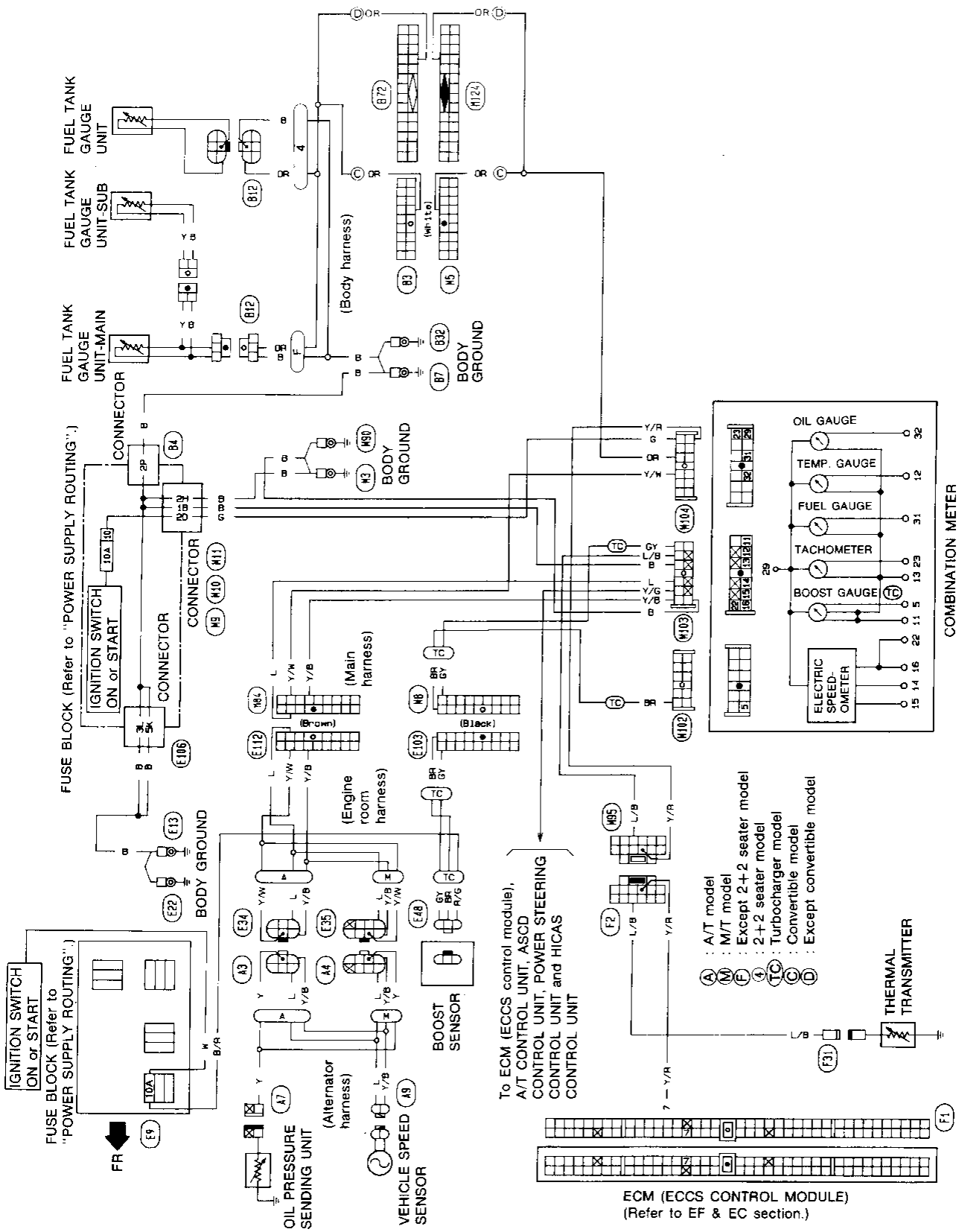
## Combination Meter



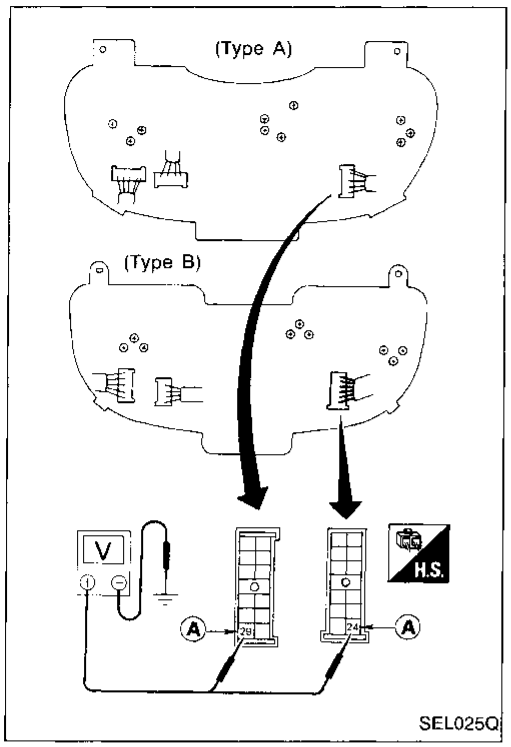



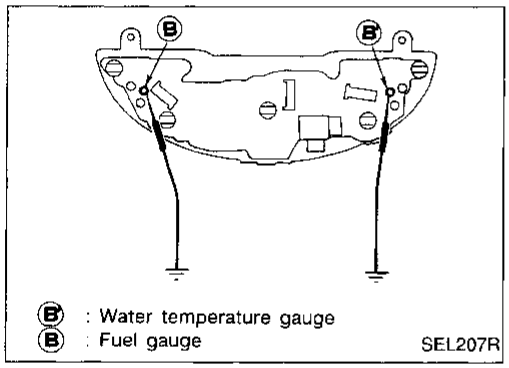

SEL223U

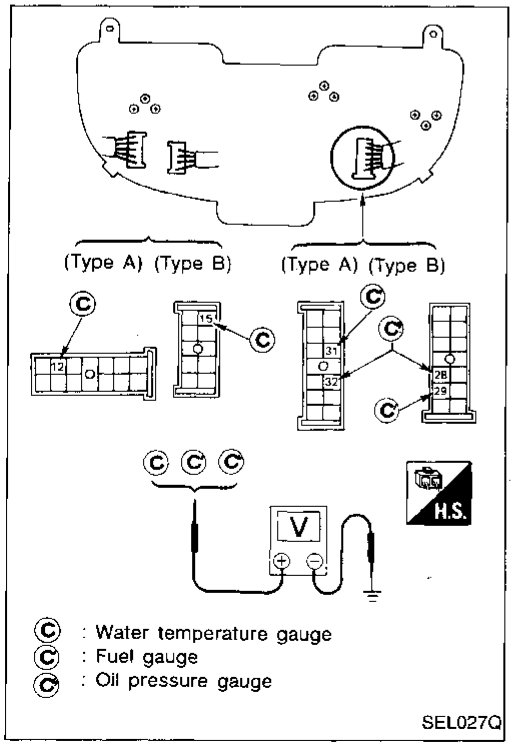
## Speedometer, Tachometer, Temp., Oil, Fuel and Boost Gauges/Wiring Diagram




MEL823C




## Inspection/Fuel Gauge and Water Temperature Gauge

INSPECTION START

CHECK POWER SOURCE
1) Turn ignition switch "ON".
2) Check voltage between terminal Ⓐ and ground.
**Battery voltage should exist.**

NG → Check the following items.
1) Harness continuity between battery terminal and combination meter
2) Ignition relay
3) Fusible link and fuse
4) Ignition switch

OK

CHECK GAUGE OPERATION
1) Turn ignition switch "ON".
2) Connect terminals Ⓑ, Ⓑ' and ground with wire **for less than 10 seconds.**
3) Check operation of gauge.
**Gauge should move smoothly to full scale.**

NG → Repair or replace gauge.

OK

Check harness continuity between component and combination meter Ⓒ, Ⓒ' and Ⓒ''.

NG → Repair or replace.

OK

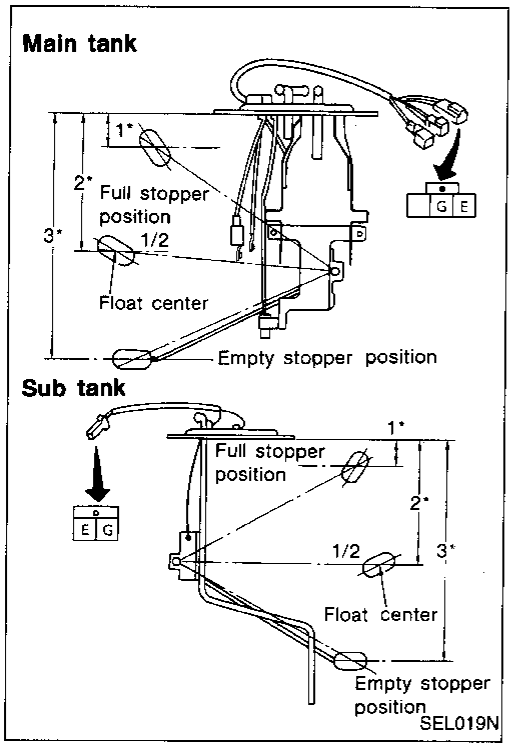
CHECK COMPONENT
Check gauge units and harness.
**Refer to "Fuel Tank Gauge Unit Check" (EL-43), "Thermal Transmitter Check" (EL-44) and "Oil Pressure Sending Unit Check" (EL-44).**

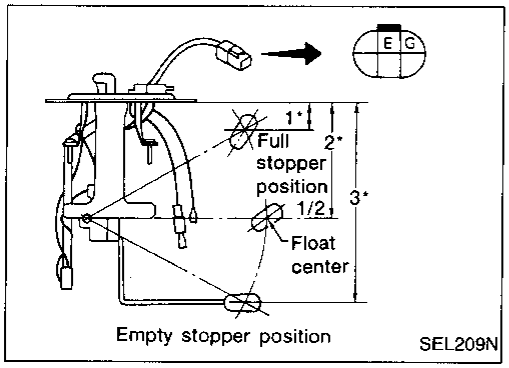
NG → Repair or replace.
**Refer to FE section. (Fuel tank gauge unit)**

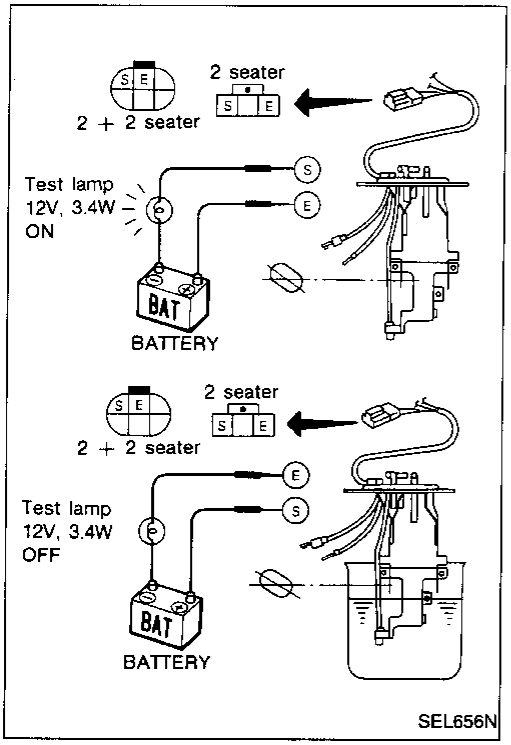
OK

Reinstall any part removed.

INSPECTION END




## Fuel Tank Gauge Unit Check

- For removal, refer to FE section.

Check the resistance between terminals Ⓖ and Ⓔ.

**2 seater model:**

| Ohm-meter (+) | Ohm-meter (−) | Float position mm (in) | | | | Resistance value (Ω) |
|---|---|---|---|---|---|---|
| G | E | 1* | Full | Main | 41.0 (1.614) | 8.6 - 11.6 |
| | | | | Sub | 40.0 (1.575) | |
| | | 2* | 1/2 | Main | 137.0 (5.39) | 55.4 - 68.6 |
| | | | | Sub | 139.5 (5.49) | |
| | | 3* | Empty | Main | 232.0 (9.13) | 157.6 - 170.6 |
| | | | | Sub | 261.0 (10.28) | |

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

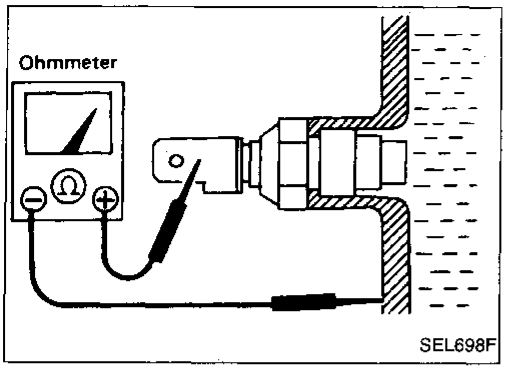
**2+2 seater model:**

| Ohm-meter (+) | Ohm-meter (−) | Float position mm (in) | | | Resistance value (Ω) |
|---|---|---|---|---|---|
| G | E | 1* | Full | 21.0 (0.827) | 4.3 - 5.8 |
| | | 2* | 1/2 | 115.0 (4.53) | 27.7 - 34.3 |
| | | 3* | Empty | 207.0 (8.15) | 78.3 - 84.8 |

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

## Fuel Warning Lamp Sensor Check

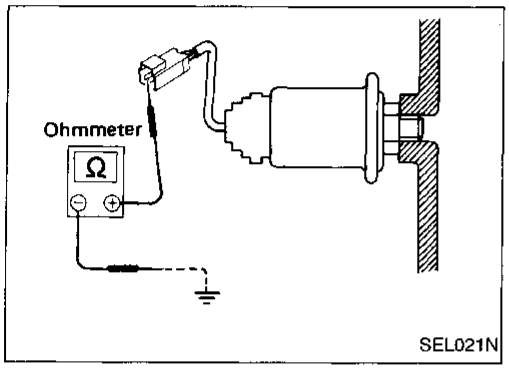
- It will take a short time for the bulb to light.




## Thermal Transmitter Check

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

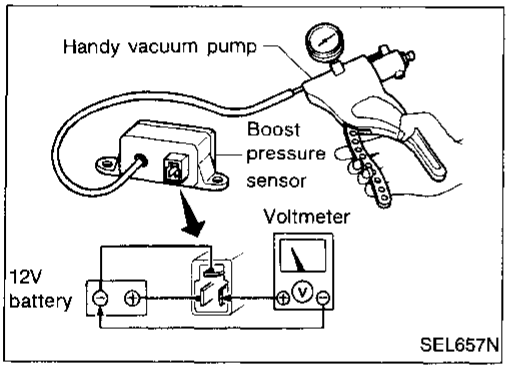
| Water temperature | Resistance |
|---|---|
| 60°C (140°F) | Approx. 70 - 90Ω |
| 100°C (212°F) | Approx. 21 - 24Ω |




## Oil Pressure Sending Unit Check

Check the resistance between the terminals of oil pressure sending unit and body ground.

| Oil pressure kPa (kg/cm$^2$ psi) | Resistance (Ω) |
|---|---|
| 0 (0, 0) (Engine is stopped) | More than 83 |
| 392 (4, 57) | Approx. 26 - 37 |
| 588 (6, 85) | Approx. 18 - 26 |

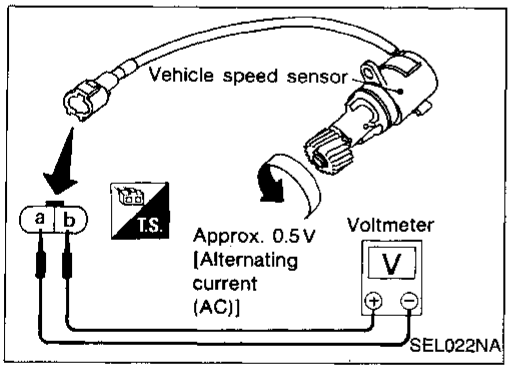



## Boost Sensor Check

1. Connect vacuum pump gauge to boost sensor vacuum hose.
2. Disconnect harness connector from boost sensor and connect battery and voltmeter as shown.
3. Apply vacuum pressure to boost sensor by vacuum pump gauge and measure voltages.

   **Voltage:**

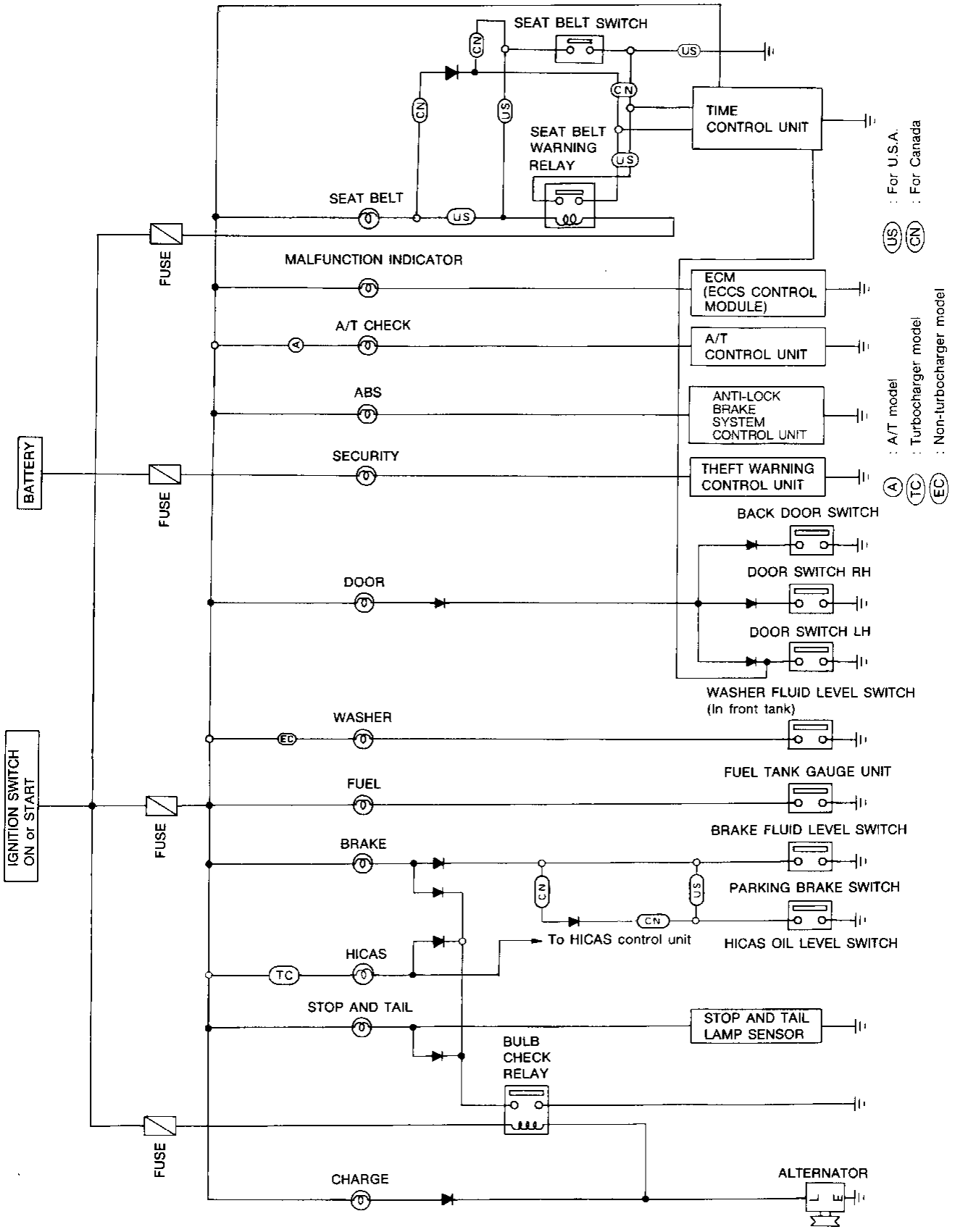
   **Approx. 2.2V at 0 kPa (0 kg/cm$^2$, 0 psi)**
   **(Atmospheric pressure)**
   **Approx. 1.3V at −55 kPa (−0.56 kg/cm$^2$, −8 psi)**




## Vehicle Speed Sensor Signal Check

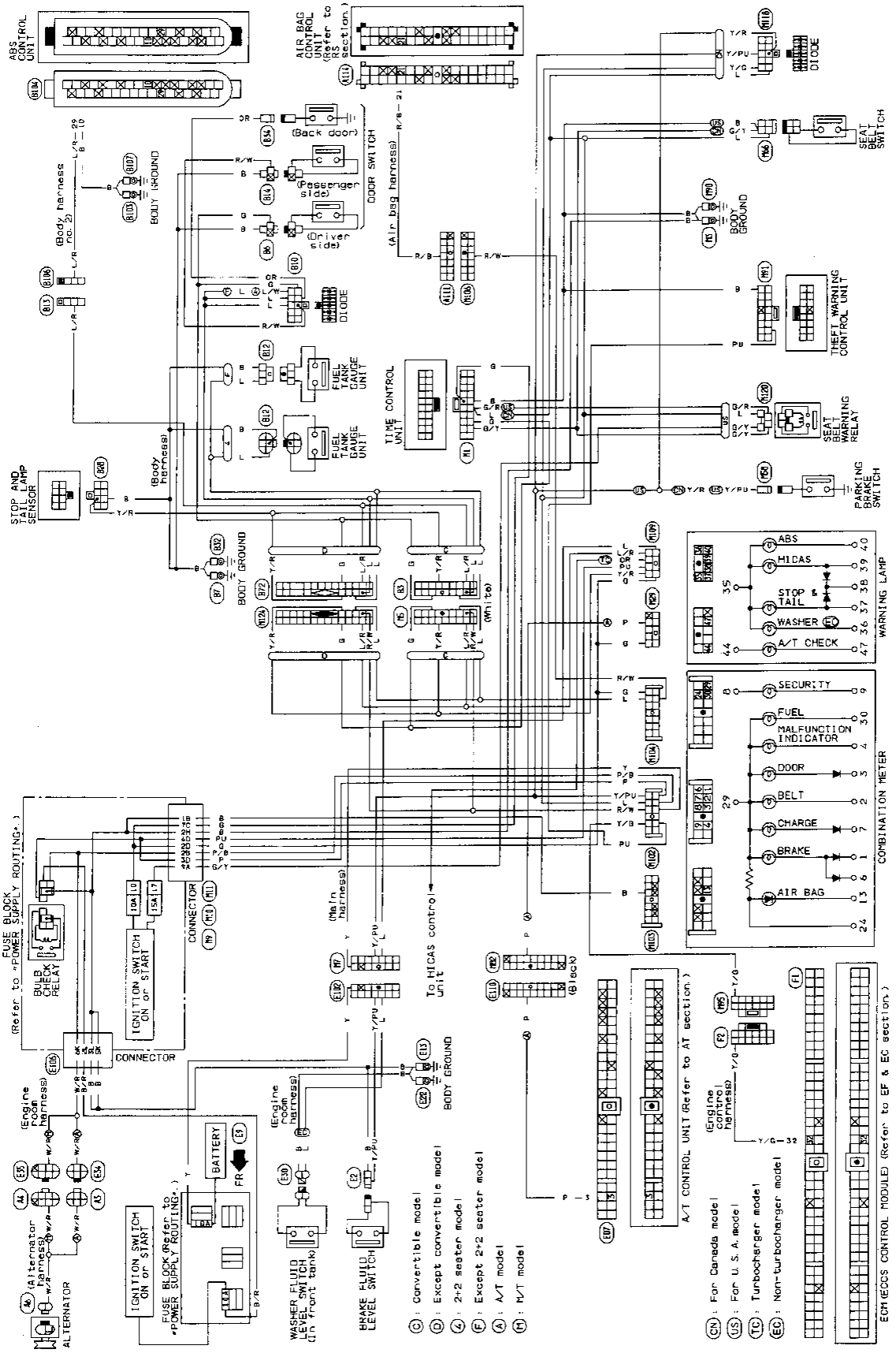
1. Remove vehicle speed sensor from transmission.
   Location: Refer to "LOCATION OF ELECTRICAL UNITS".
2. Turn vehicle speed sensor pinion quickly and measure voltage across ⓐ and ⓑ.

## Warning Lamps/Schematic



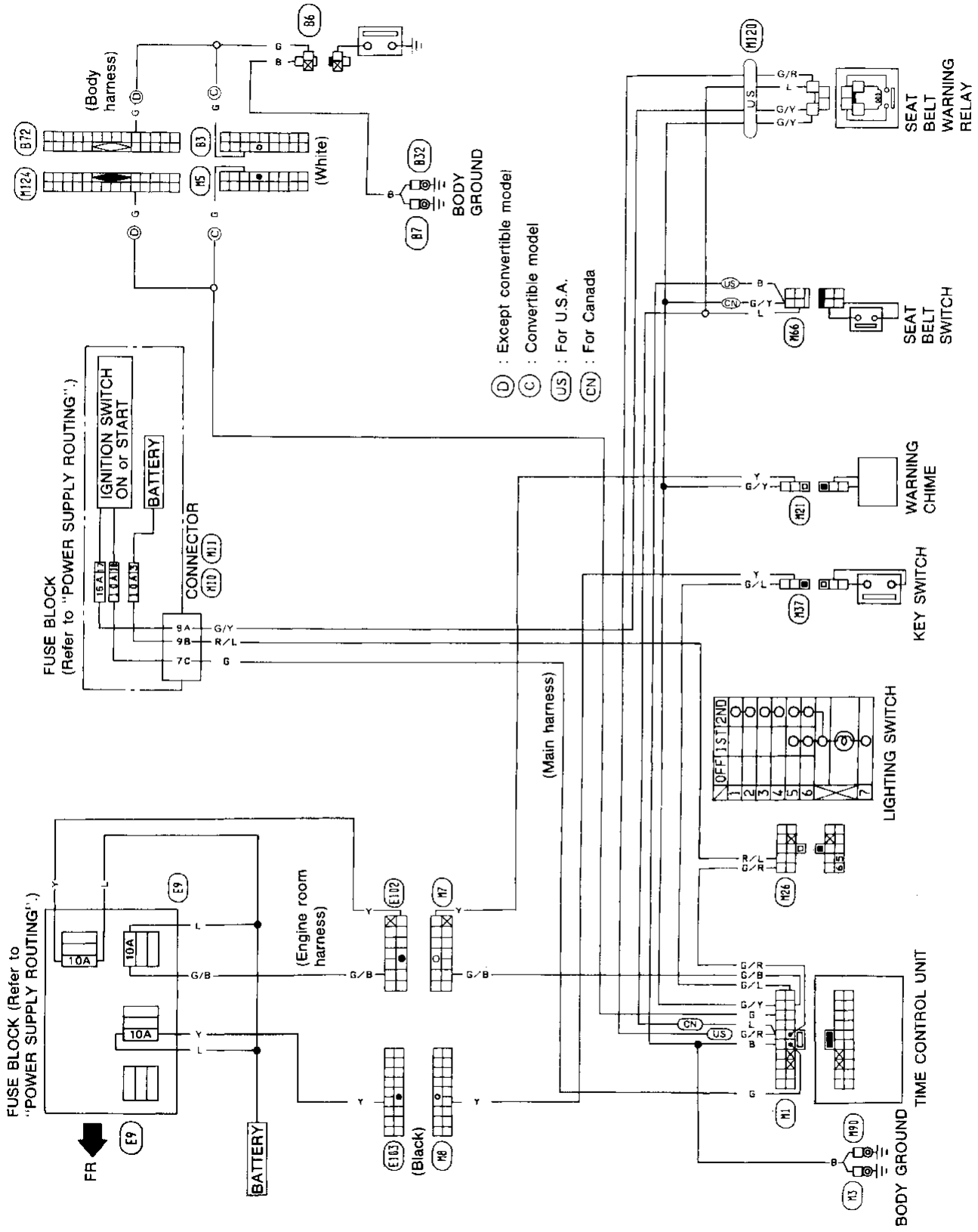

MEL929D

## Warning Lamps/Wiring Diagram

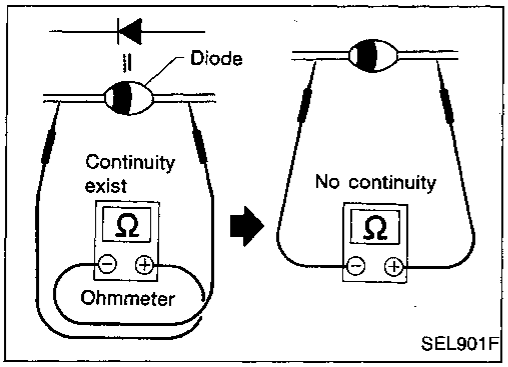



MEL930D

## Warning Chime/Wiring Diagram



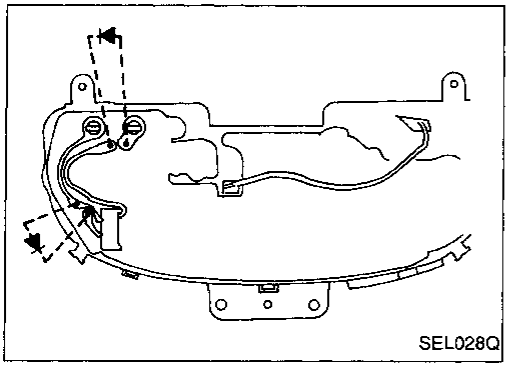

MEL827C



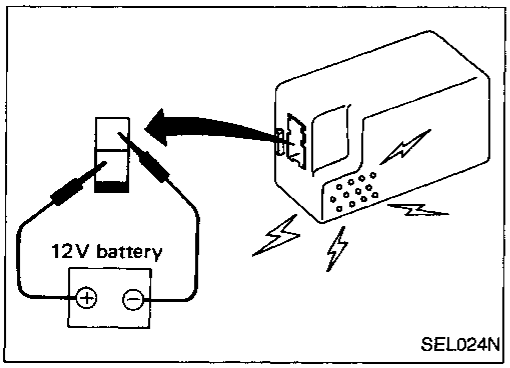

## Diode Check

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

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




- Diodes for warning lamps are built into the combination meter printed circuit.




## Warning Chime Check

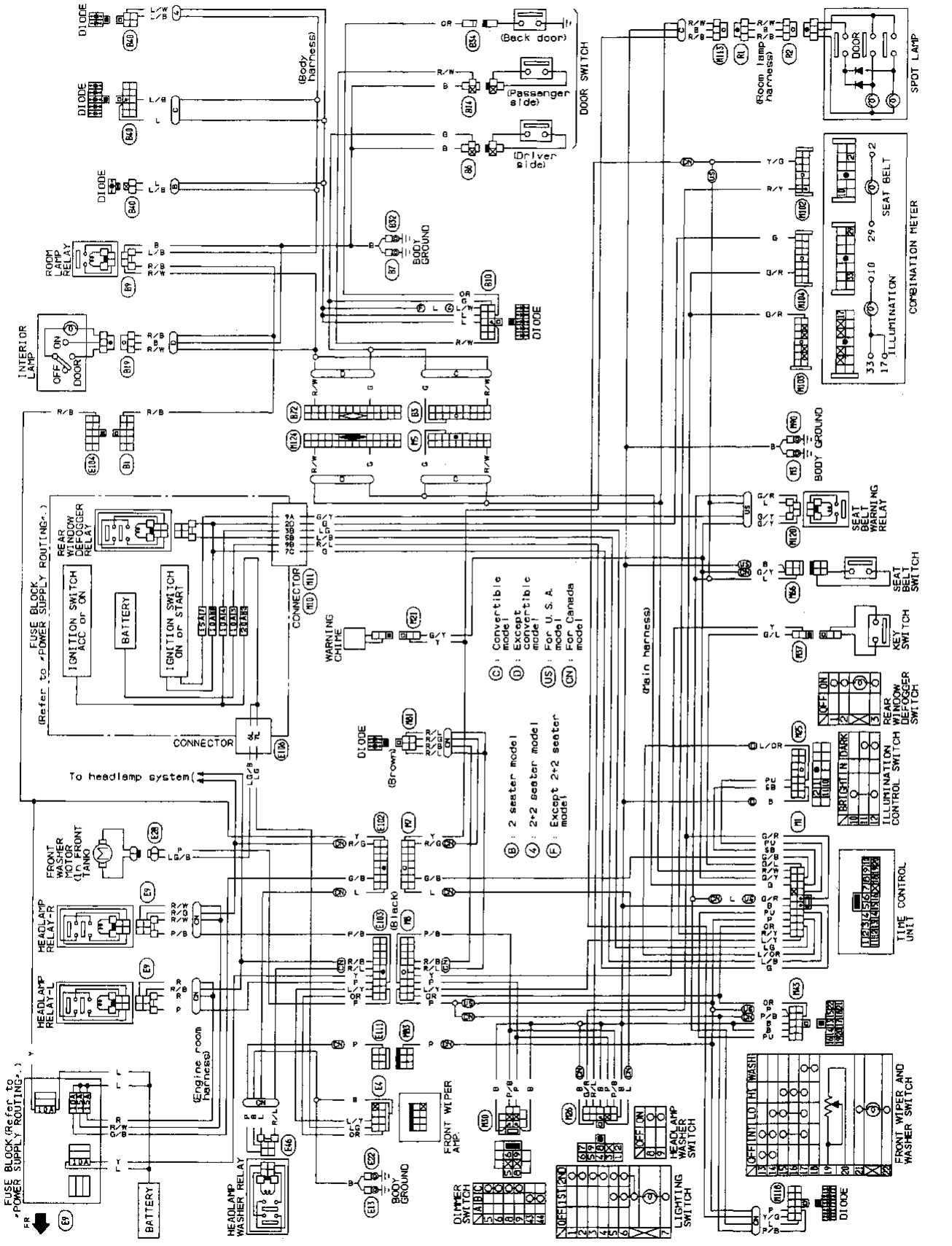
# Description

## FUNCTION

- Time control unit has the following functions.

| Item | | Details of control |
|---|---|---|
| 1, 2 | Intermittent wiper control | Regulates intermittent time from approximately 3 to 23 seconds depending on the intermittent wiper volume setting. |
| 3 | Washer and wiper combination control | Wiper is operated in conjunction with washer switch. |
| 4 | Light warning chime timer | When driver's door is opened with light switch ON and ignition switch OFF, warning chime sounds. |
| 5 | Ignition key warning chime timer | When driver's door is opened with ignition switch OFF, warning chime sounds. |
| 6 | Seat belt warning chime timer | Sounds warning chime for about 7 seconds if ignition switch is turned "ON" when seat belt switch is "ON" (seat belt is unfastened). |
| 7 | Seat belt warning lamp timer | Seat belt warning lamp blinks for about 7 seconds when ignition switch is turned to "ON". |
| 8 | Rear defogger timer | Rear defogger operates for about 15 minutes when defogger switch is ON. |
| 9 | Interior lamp timer | Fades out interior lamp when driver's side door is opened and closed. |
| 10 | Door key hole illumination | Illuminates for about 7 seconds when door outside handle is pulled. |
| 11 | Illumination control | The brightness of the instrument panel light can be adjusted. |

## Wiring Diagram




MEL931D

# Trouble Diagnoses

## SYMPTOM CHART

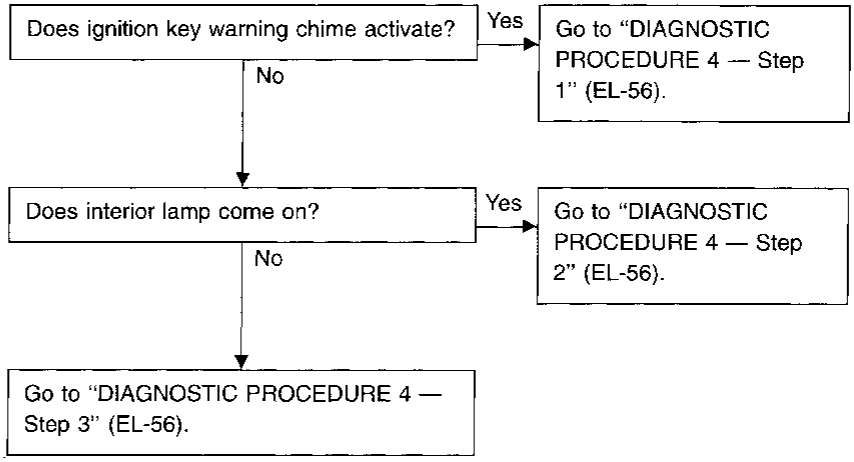
| PROCEDURE | | Preliminary Check | | | Main Power Supply and Ground Circuit Check | Diagnostic Procedure | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REFERENCE PAGE | | EL-52 | EL-52 | EL-52 | EL-54 | EL-54 | EL-55 | EL-55 | EL-56 | EL-57 | EL-58 | EL-59 | EL-59 | EL-60 | EL-61 | EL-62 |
| SYMPTOM | | Preliminary check 1 | Preliminary check 2 | Preliminary check 3 | Main power supply and Ground circuit | Diagnostic Procedure 1 | Diagnostic Procedure 2 | Diagnostic Procedure 3 | Diagnostic Procedure 4 | Diagnostic Procedure 5 | Diagnostic Procedure 6 | Diagnostic Procedure 7 | Diagnostic Procedure 8 | Diagnostic Procedure 9 | Diagnostic Procedure 10 | Diagnostic Procedure 11 |
| Wiper & washer | Intermittent wiper does not operate. | | | | ○ | ○ | | | | | | | | | | |
| | Intermittent time of wiper cannot be adjusted. | | | | | | ○ | | | | | | | | | |
| | Wiper and washer activate individually but not in combination. | | | | | | | ○ | | | | | | | | |
| Warning | Light warning chime does not activate. | ○ | | | ○ | | | | ○ | | | | | | | |
| | Ignition key warning chime does not activate. | | ○ | | ○ | | | | | ○ | | | | | | |
| | Seat belt warning chime does not activate. | | | ○ | ○ | | | | | | ○ | | | | | |
| | Seat belt warning lamp does not come on, or does not go off after coming on. | | | | ○ | | | | | | | ○ | | | | |
| Rear defogger | Rear defogger does not activate, or go off after activating. | | | | ○ | | | | | | | | ○ | | | |
| Illumination | Interior lamp does not fade out after driver's door is closed. | | | | ○ | | | | | | | | | ○ | | |
| | Door key hole illumination does not come on even if door handle is pulled. | | | | ○ | | | | | | | | | | ○ | |
| | Illumination control does not actuate. | | | | | | | | | | | | | | | ○ |

## Trouble Diagnoses (Cont'd)

### PRELIMINARY CHECK

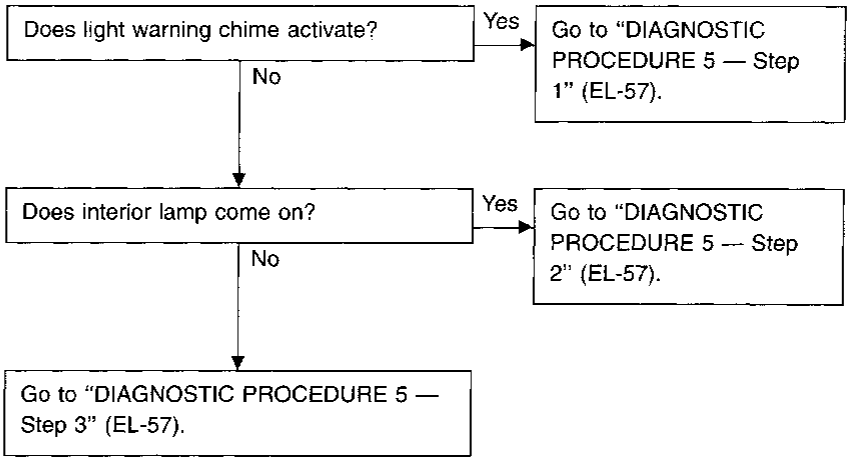
#### Preliminary check 1

- **Light warning chime does not activate.**



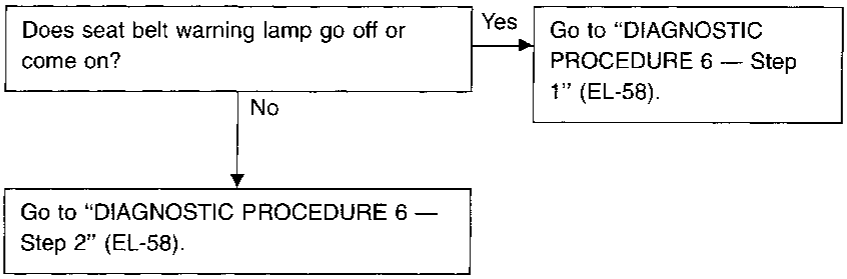

#### Preliminary check 2

- **Ignition key warning chime does not activate.**



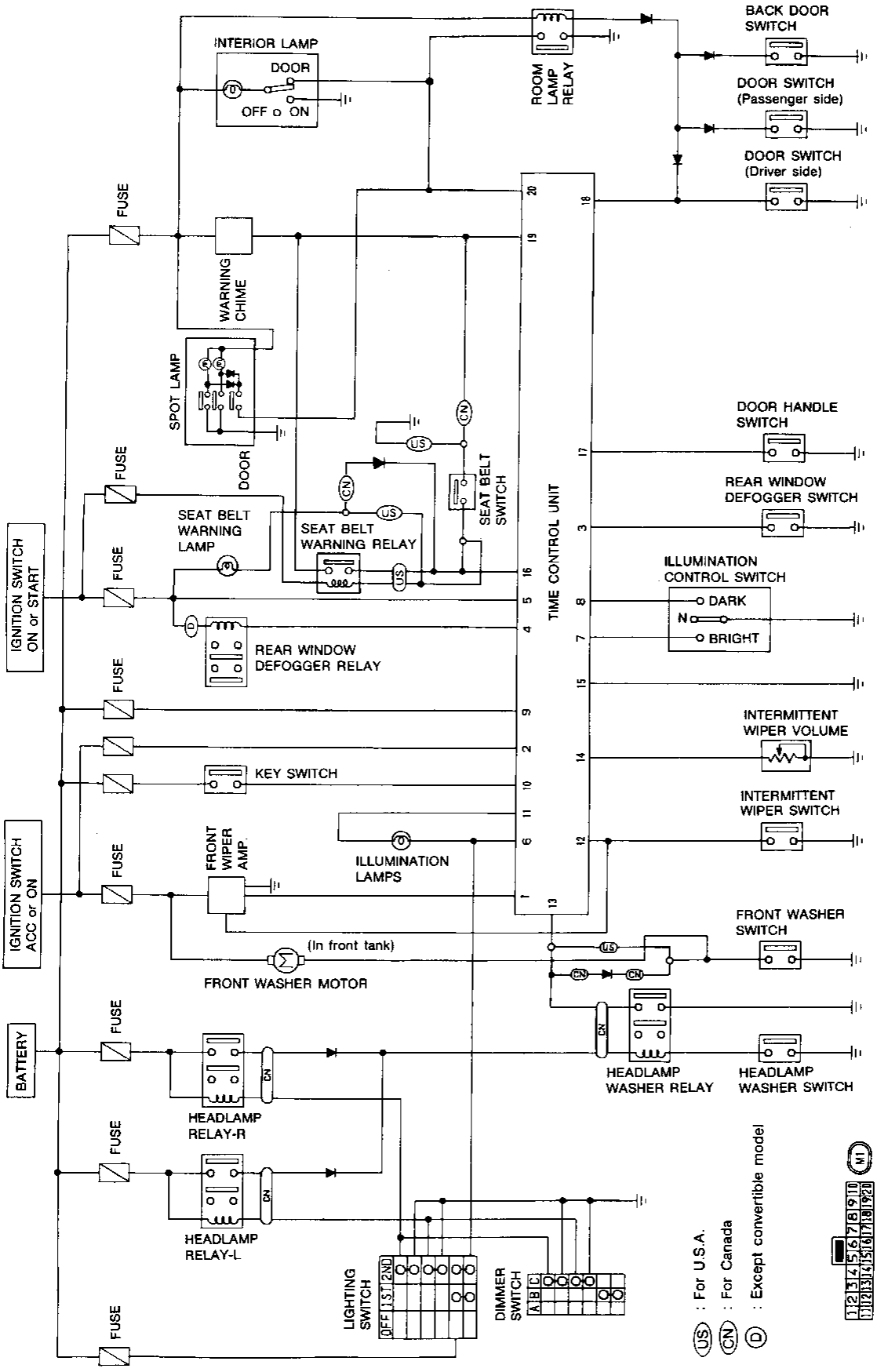

#### Preliminary check 3

- **Seat belt warning chime does not activate.**



## Trouble Diagnoses (Cont'd)

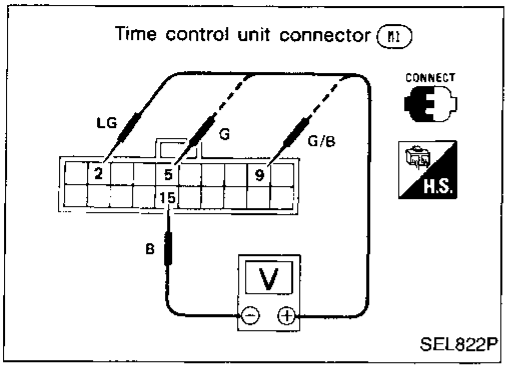
### CIRCUIT DIAGRAM FOR QUICK PINPOINT CHECK




MEL932D

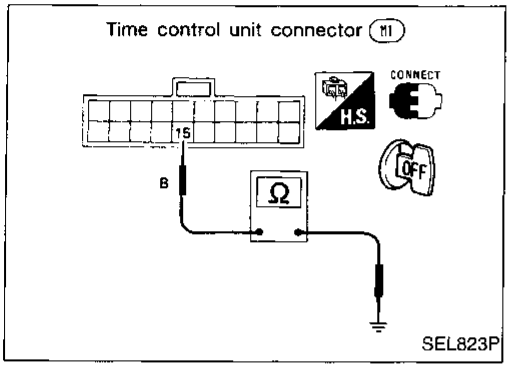
## Trouble Diagnoses (Cont'd)

### MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK



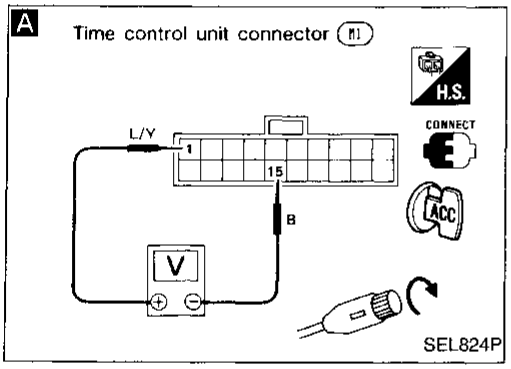

#### Main power supply

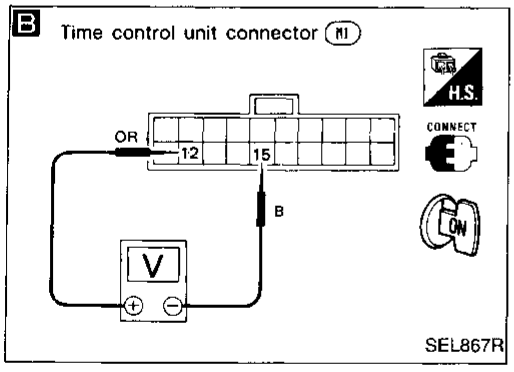
| Terminals | Battery voltage existence condition | | |
|---|---|---|---|
| | Ignition switch position | | |
| | OFF | ACC | ON |
| ⑨ - ⑮ | Yes | Yes | Yes |
| ⑤ - ⑮ | No | No | Yes |
| ② - ⑮ | No | Yes | Yes |




#### Ground circuit

| Terminals | Continuity |
|---|---|
| ⑮ - Ground | Yes |




### DIAGNOSTIC PROCEDURE 1

**SYMPTOM: Intermittent wiper does not operate.**

**A**

WIPER RELAY OUTPUT SIGNAL CHECK
1) Turn ignition switch to "ACC".
2) Turn wiper switch to "INT" or "OFF".
3) Measure voltage between control unit harness terminals ① and ⑮.

| Condition of wiper switch | Voltage [V] |
|---|---|
| OFF | Approx. 12 |
| INT | Pointer swings from 0 to 12 every 3 to 23 seconds |

OK → Check wiper amp. Refer to "WIPER AND WASHER".

OK → Check wiper amp. circuit.

NG → Replace wiper amp.

NG

**B**

INTERMITTENT SWITCH INPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑫ and ⑮.

| Condition of wiper switch | Voltage [V] |
|---|---|
| OFF | Approx. 12 |
| INT | 0 |

NG → Check wiper switch. Check harness continuity between TCU and wiper switch.

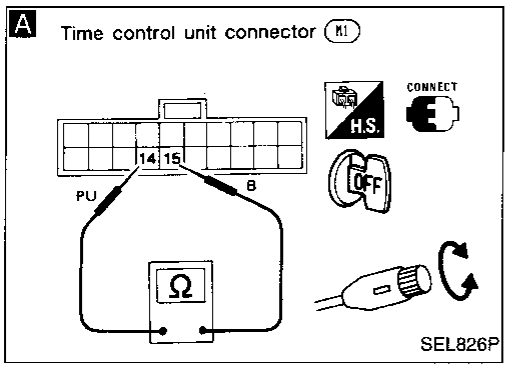
OK

Replace control unit.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 2

**SYMPTOM: Intermittent time of wiper cannot be adjusted.**




A

INTERMITTENT WIPER VOLUME INPUT SIGNAL CHECK

Measure resistance between control unit harness terminals ⑭ and ⑮ while turning intermittent wiper volume.

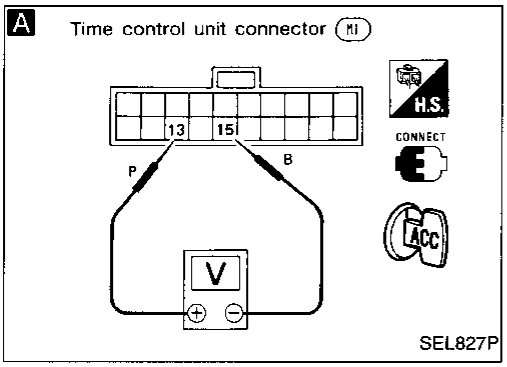
| Position of wiper knob | Resistance [Ω] |
|---|---|
| S | 0 |
| L | Approx. 1 k |

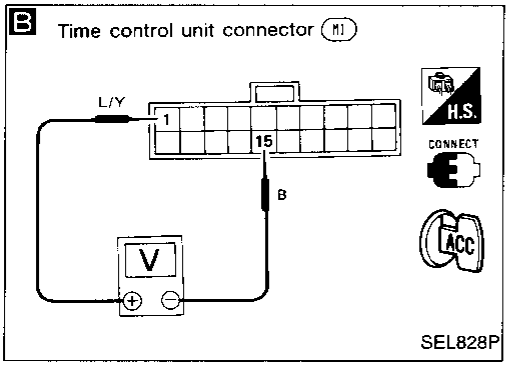
OK → Replace control unit.

NG → Check intermittent wiper volume. Check harness continuity between TCU and wiper switch.

### DIAGNOSTIC PROCEDURE 3

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




A

WASHER SWITCH INPUT SIGNAL CHECK

1) Turn ignition switch to "ACC".
2) Measure voltage between control unit harness terminals ⑬ and ⑮.

| Condition of washer switch | Voltage [V] |
|---|---|
| OFF | Approx. 12 |
| ON | 0 |

NG → Check harness continuity between TCU and washer switch.

OK →

B

WIPER AMP. OUTPUT SIGNAL CHECK

Measure voltage between control unit harness terminals ① and ⑮ after operating washer switch.

**0V for approx. 3 seconds after washer has operated.**

NG → Replace control unit.

OK → Replace wiper amp.

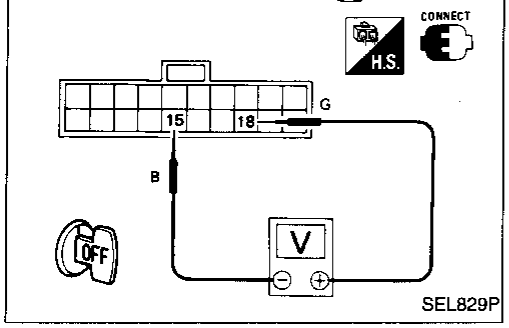
## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 4

**SYMPTOM: Light warning chime does not activate.**

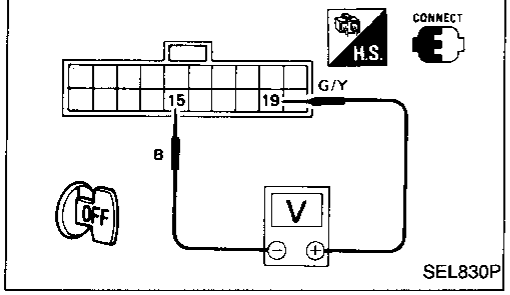
- Perform "PRELIMINARY CHECK — Procedure 1" before referring to the following flow chart.

A Time control unit connector (M1)



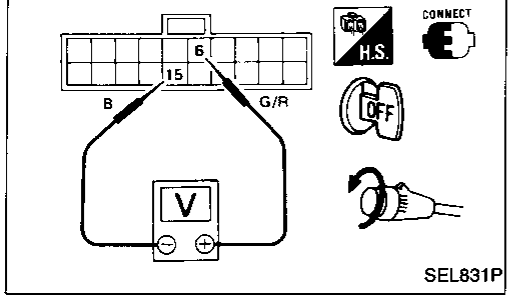

SEL829P

B Time control unit connector (M1)




SEL830P

C Time control unit connector (M1)




SEL831P

A

Step 3

DOOR SWITCH INPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑱ and ⑮.

| Condition of driver's door | Voltage [V] |
|---|---|
| Door is closed. | Approx. 12 |
| Door is open. | 0 |

NG → Check door switch. Check harness continuity between TCU and door switch.

OK ↓

B

Step 2

CHIME OUTPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑲ and ⑮.

| Condition of driver's door | Voltage [V] |
|---|---|
| Door is closed. | Approx. 12 |
| Door is open. | Pointer deflects intermittently |

OK → Check chime. Check harness continuity between TCU and chime.

NG ↓

C

Step 1

LIGHT SWITCH INPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑥ and ⑮.

| Condition | Voltage [V] |
|---|---|
| Light switch is ON. | Approx. 12 |
| Light switch is OFF. | 0 |

NG → Check light switch. Check harness continuity between TCU and light switch.

OK ↓

Replace control unit.

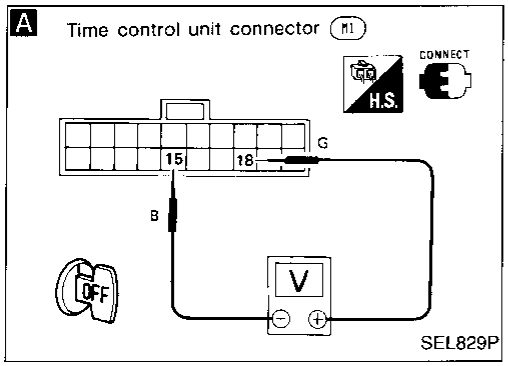
## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 5

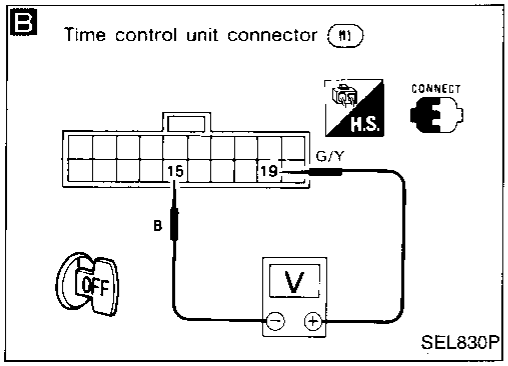
**SYMPTOM: Ignition key warning chime does not activate.**

- Perform "PRELIMINARY CHECK — Procedure 2" before referring to the following flow chart.

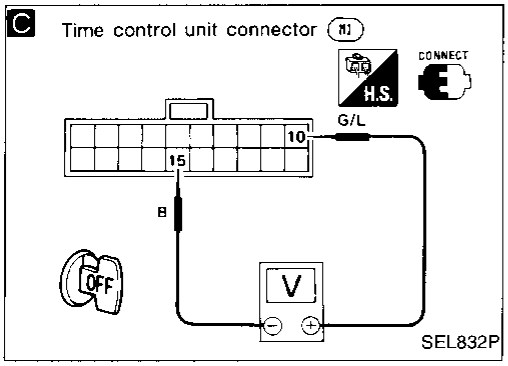
A




B




C




A

Step 3

DOOR SWITCH INPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑱ and ⑮.

| Condition of driver's door | Voltage [V] |
|---|---|
| Door is closed. | Approx. 12 |
| Door is open. | 0 |

NG → Check door switch. Check harness continuity between TCU and door switch.

OK ↓

B

Step 2

CHIME OUTPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑲ and ⑮.

| Condition of driver's door | Voltage [V] |
|---|---|
| Door is closed. | Approx. 12 |
| Door is open. | Pointer deflects intermittently |

OK → Check chime. Check harness continuity between TCU and chime.

NG ↓

C

Step 1

IGNITION KEY SWITCH INPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑩ and ⑮.

| Condition | Voltage [V] |
|---|---|
| Key is inserted. | Approx. 12 |
| Key is pulled. | 0 |

NG → Check ignition key switch. Check harness continuity between TCU and ignition key switch.

OK ↓

Replace control unit.

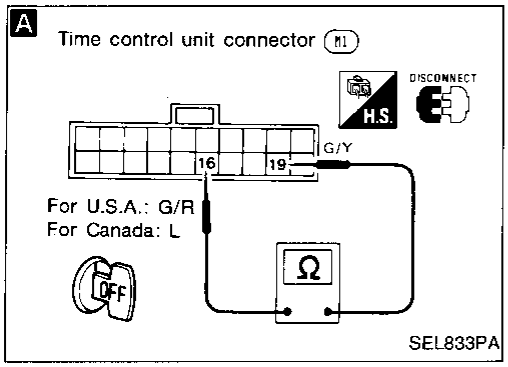
## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 6

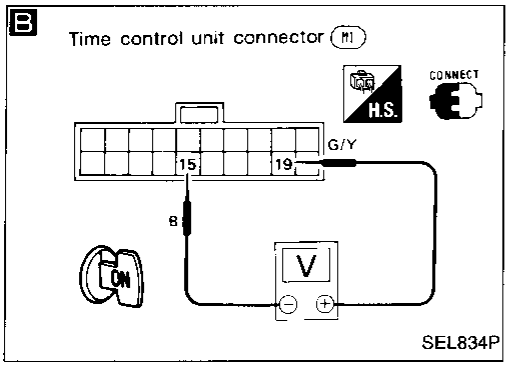
**SYMPTOM: Seat belt warning chime does not activate.**

- Perform "PRELIMINARY CHECK — Procedure 3" before referring to the following flow chart.

A




B




A

Step 2

SEAT BELT SWITCH INPUT SIGNAL CHECK

Check continuity between control unit harness terminals ⑯ and ⑲.

| Condition | Continuity |
|---|---|
| Unfastened | Yes |
| Fastened | No |

NG → Check seat belt switch. Check harness continuity between TCU and seat belt switch.

OK ↓

B

Step 1

CHIME OUTPUT SIGNAL CHECK

1) Connect TCU harness connector.
2) Turn ignition switch "ON".
3) Measure voltage between control unit harness terminals ⑲ and ⑮.

| Condition of seat belt | Voltage [V] |
|---|---|
| Unfastened | Pointer deflects intermittently |
| Fastened | Approx. 12 |

OK → Check chime. Check harness continuity between TCU and chime.

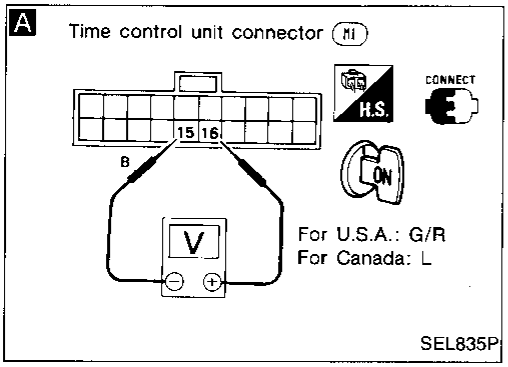
NG ↓

Replace control unit.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 7

**SYMPTOM: Seat belt warning lamp does not come on, or does not go off after coming on.**




A

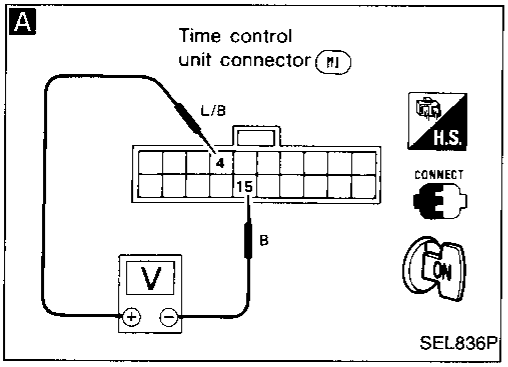
WARNING LAMP OUTPUT SIGNAL CHECK
1) Connect TCU harness connector.
2) Turn ignition switch "ON", after connecting control unit harness terminals ⑯ and ⑮.
3) Does voltmeter needle keep swinging for about 7 seconds after ignition switch has been turned "ON"?

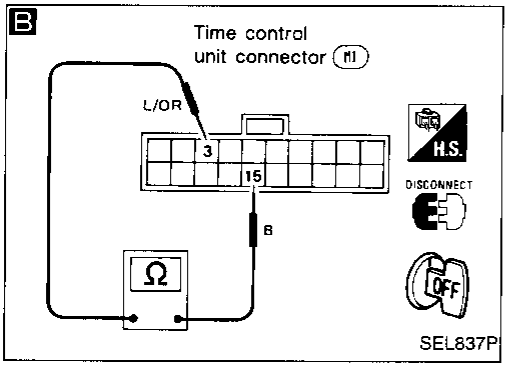
Yes → Check warning lamp.
Check harness continuity between TCU and warning lamp.

No → Replace control unit.

### DIAGNOSTIC PROCEDURE 8

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




A

REAR WINDOW DEFOGGER OUTPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ④ and ⑮.

| Condition of defogger switch | Voltage [V] |
|---|---|
| Defogger switch is "OFF". | Approx. 12 |
| Defogger switch is "ON". | 0 |

OK → Check rear window defogger relay.
Check rear window defogger circuit.

NG ↓

B

REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL CHECK
1) Disconnect TCU harness connector.
2) Check continuity between control unit harness terminals ③ and ⑮.

| Condition of defogger switch | Continuity |
|---|---|
| Defogger switch is "OFF". | No |
| Defogger switch is "ON". | Yes |

NG → Check rear window defogger switch.
Check harness continuity between TCU and rear window defogger switch.

OK ↓

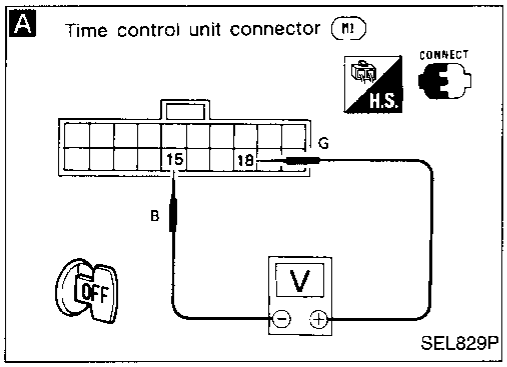
Replace control unit.

## Trouble Diagnoses (Cont'd)

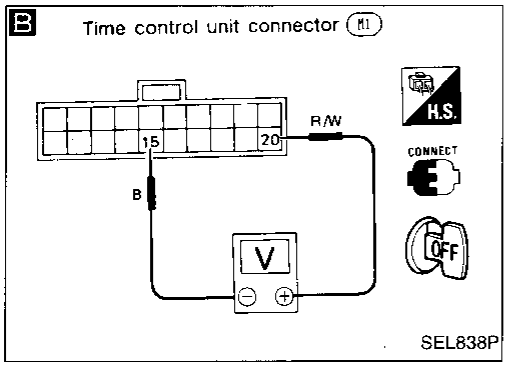
### DIAGNOSTIC PROCEDURE 9

**SYMPTOM: Interior lamp does not fade out after driver's door is closed.**

A




B




A

DOOR SWITCH INPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑱ and ⑮.

| Condition of driver's door | Voltage [V] |
|---|---|
| Door is closed. | Approx. 12 |
| Door is open. | 0 |

NG → Check door switch. Check harness continuity between TCU and door switch.

OK ↓

B

INTERIOR LAMP SIGNAL CHECK
Measure voltage between control unit harness terminals ⑳ and ⑮.

| Condition of driver's door | Voltage [V] |
|---|---|
| Door is closed. | 0 → Approx. 12 |
| Door is open. | 0 |

OK → Check interior lamp and harness between TCU and interior lamp.

NG ↓

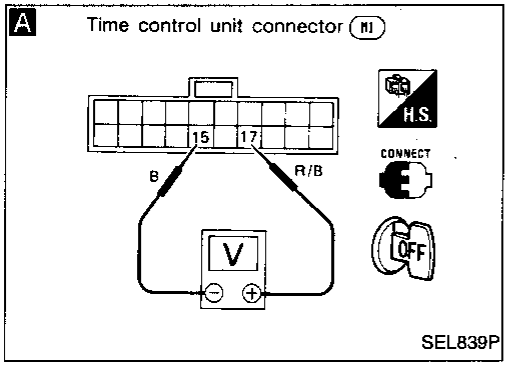
Replace TCU.

## Trouble Diagnoses (Cont'd)

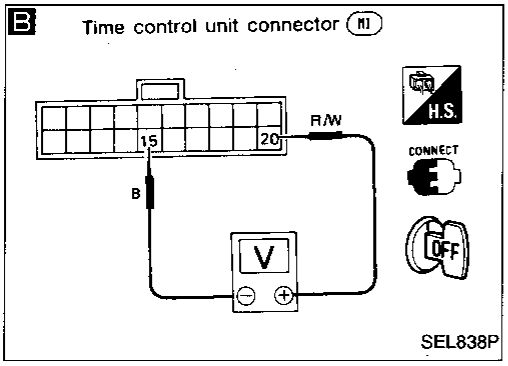
### DIAGNOSTIC PROCEDURE 10

**SYMPTOM: Door key hole illumination does not come on even if door handle is pulled.**

A




B




A

DOOR SWITCH INPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑰ and ⑮.

| Condition of driver's handle | Voltage [V] |
|---|---|
| Handle is pulled. | 0 |
| Handle is released. | Approx. 12 |

NG → Check door handle switch. Check harness continuity between TCU and door handle switch.

OK ↓

B

KEY HOLE ILLUMINATION SIGNAL CHECK
Measure voltage between control unit harness terminals ⑳ and ⑮.

| Condition of driver's door | Voltage [V] |
|---|---|
| Door is closed. | 0 → Approx. 12 |
| Door is open. | 0 |

OK → Check key hole illumination and harness between TCU and key hole illumination.

NG ↓

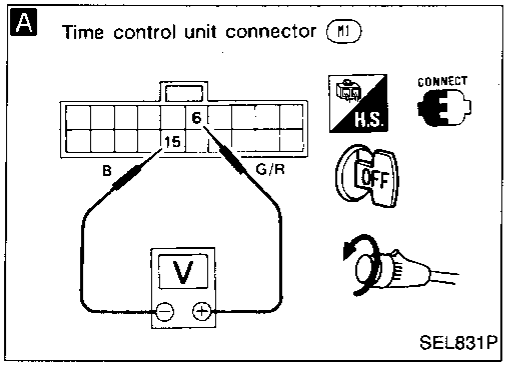
Replace TCU.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 11

**SYMPTOM: Illumination control does not actuate.**

A



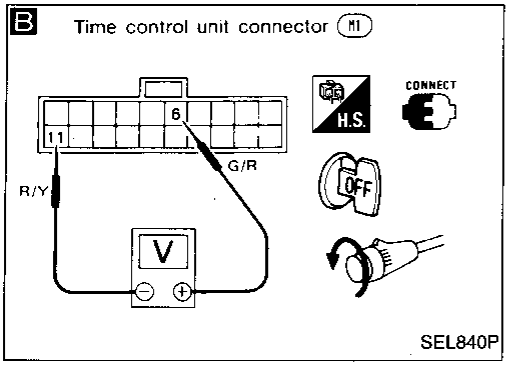

LIGHT SWITCH INPUT SIGNAL CHECK
Measure voltage between control unit harness terminals ⑥ and ⑮.

| Condition | Voltage [V] |
|---|---|
| Light switch is on. | Approx. 12 |
| Light switch is off. | 0 |

NG → Check light switch.
Check harness continuity between TCU and light switch.

OK ↓

B



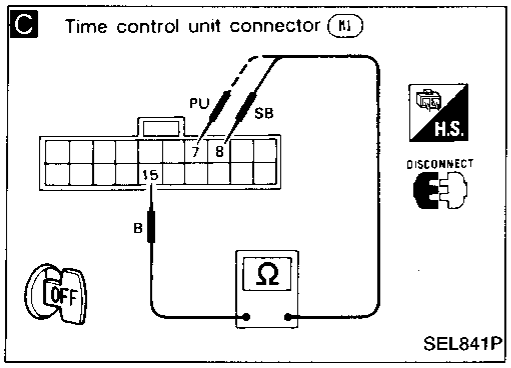

ILLUMINATION CIRCUIT CHECK
Measure voltage between control unit harness terminals ⑥ and ⑪.

| Condition | Voltage [V] |
|---|---|
| Light switch is on. | Approx. 12 |
| Light switch is off. | 0 |

NG → Check meter illumination.
Check harness continuity of illumination circuit.

OK ↓

C




ILLUMINATION CIRCUIT CHECK
Measure resistance between control unit harness terminals ⑦ or ⑧ and ⑮.

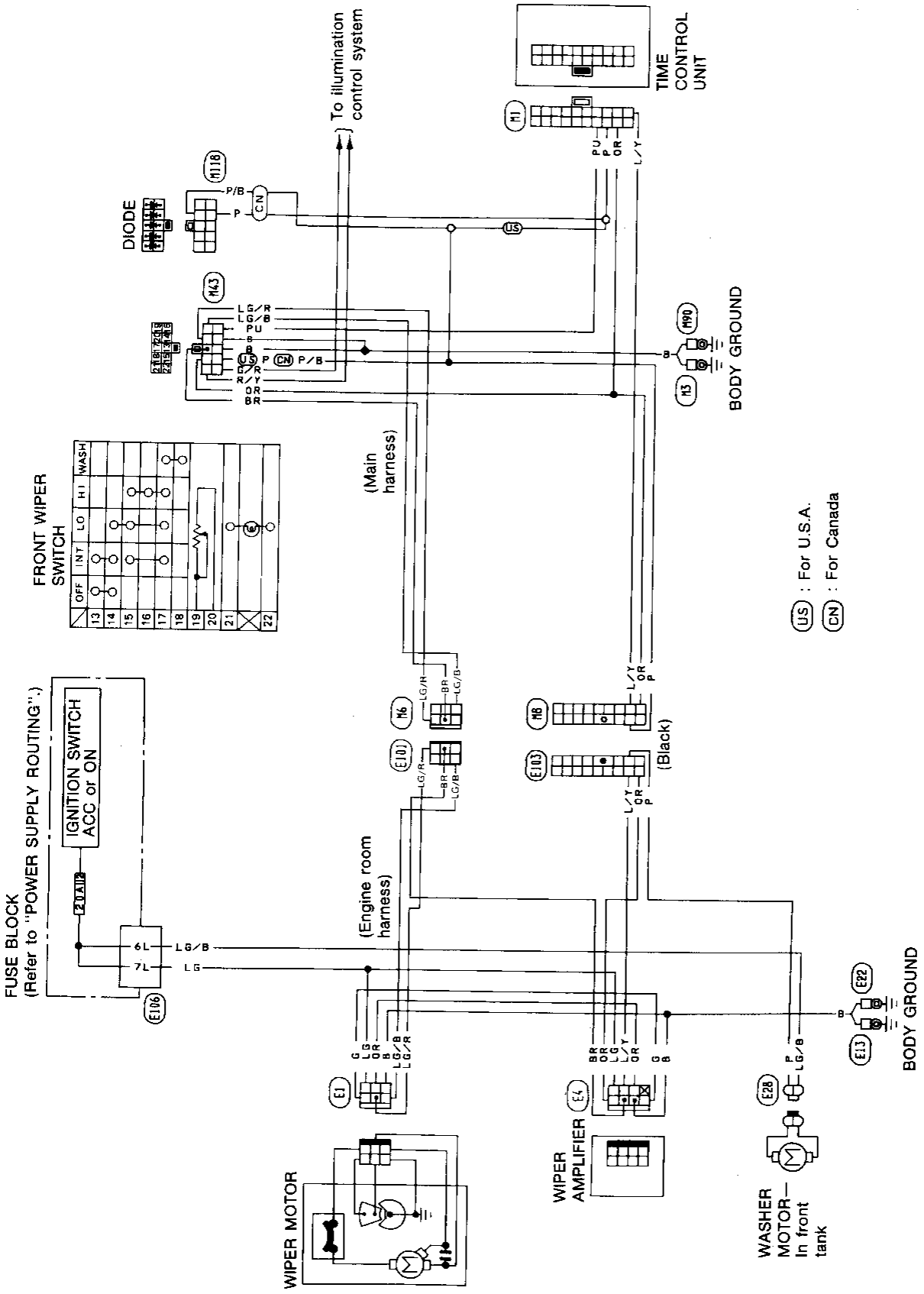
| Terminals | | Illumination control switch condition | Resistance [Ω] |
|---|---|---|---|
| ⑧ | ⑮ | DARK | 0 |
| | | BRIGHT | Except 0 |
| ⑦ | ⑮ | DARK | Except 0 |
| | | BRIGHT | 0 |

NG → Check illumination control switch.
Check harness continuity between TCU and illumination switch.

OK ↓

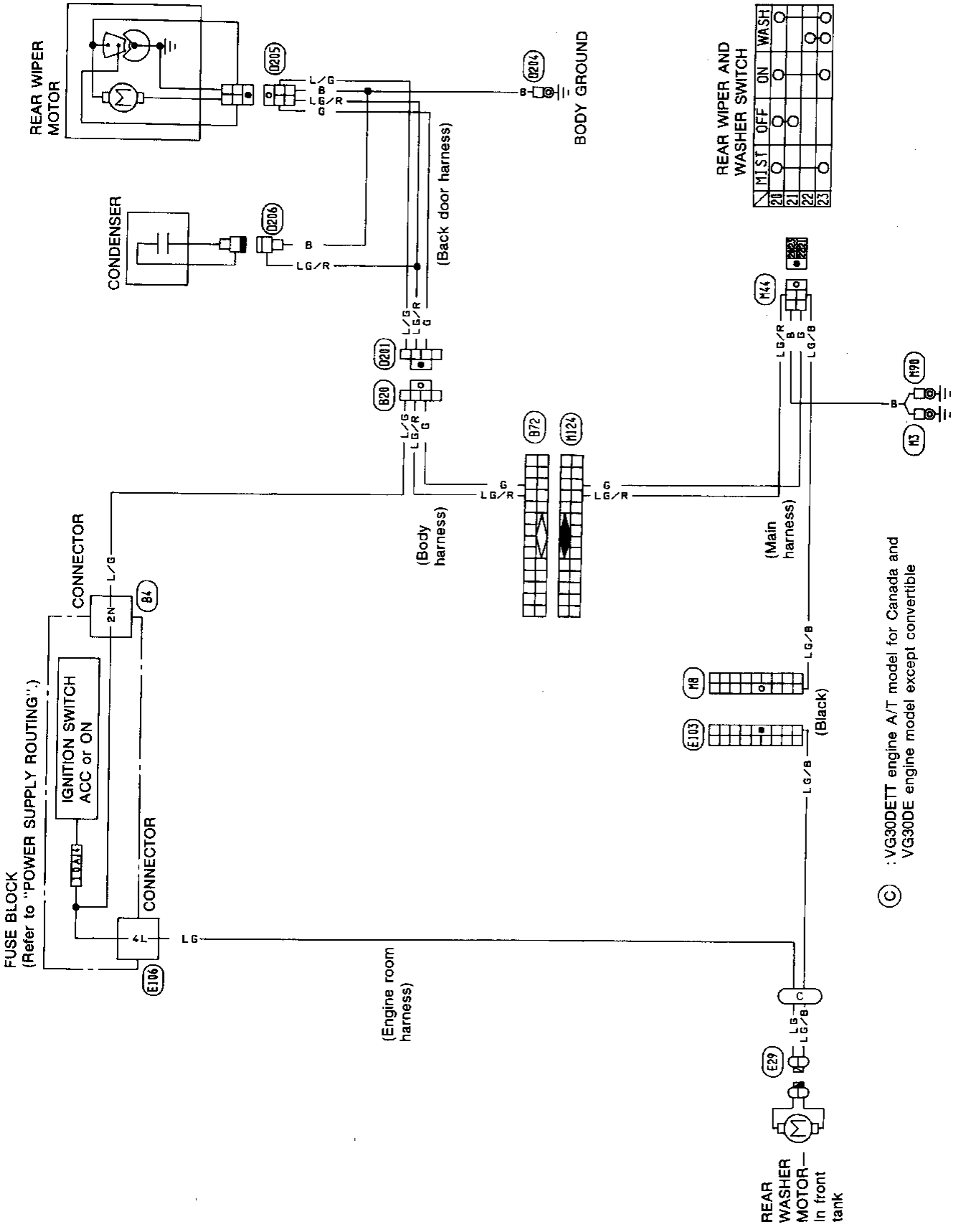
Replace TCU.

## Front Wiper and Washer/Wiring Diagram

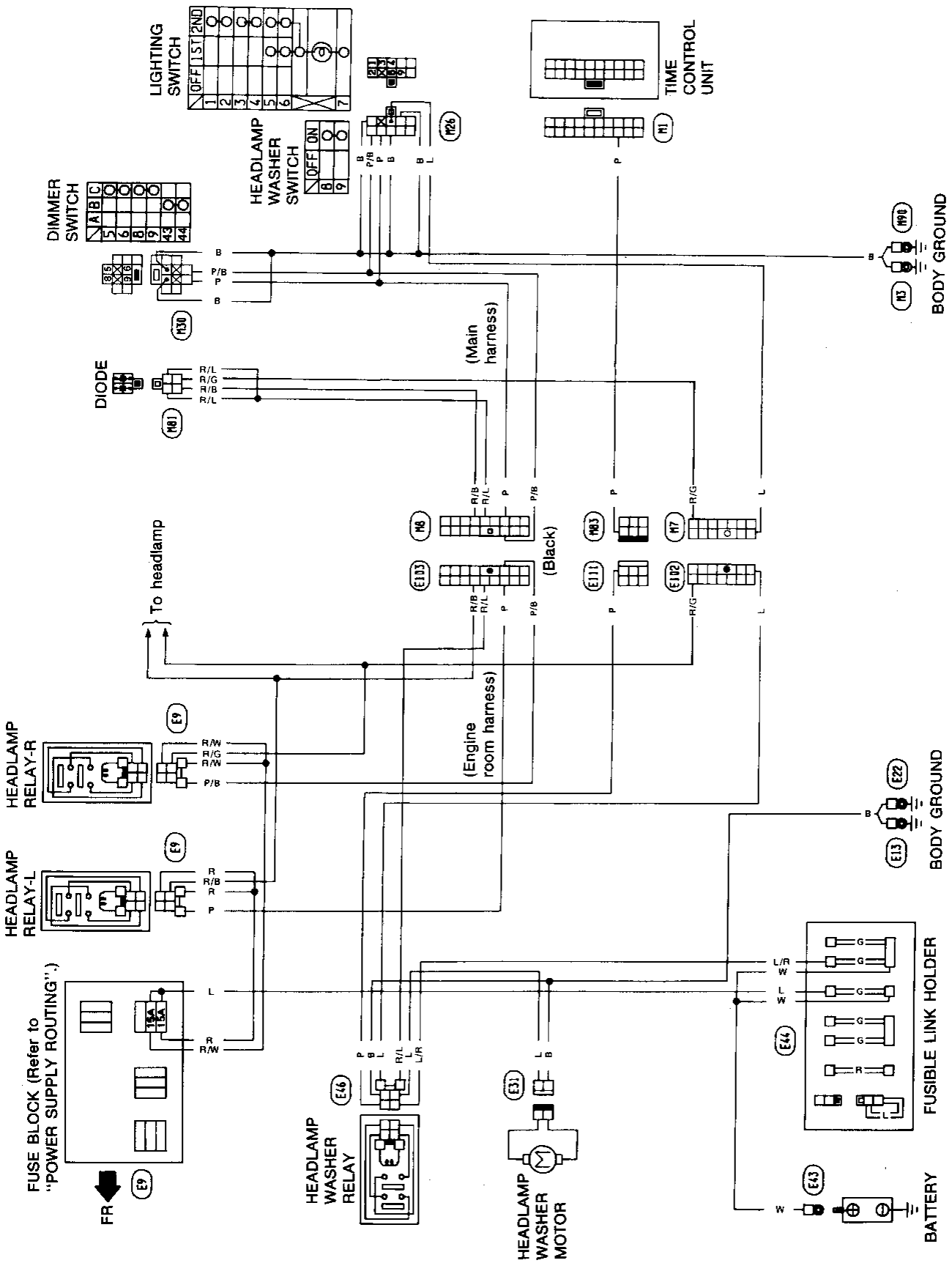



MEL933D

## Rear Wiper and Washer/Wiring Diagram



## Headlamp Washer/Wiring Diagram




MEL935D

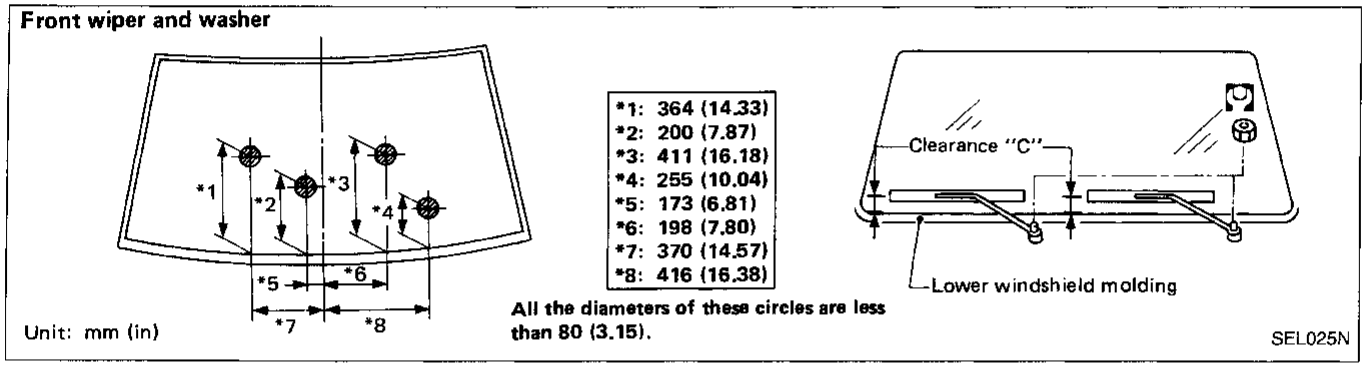
## Installation

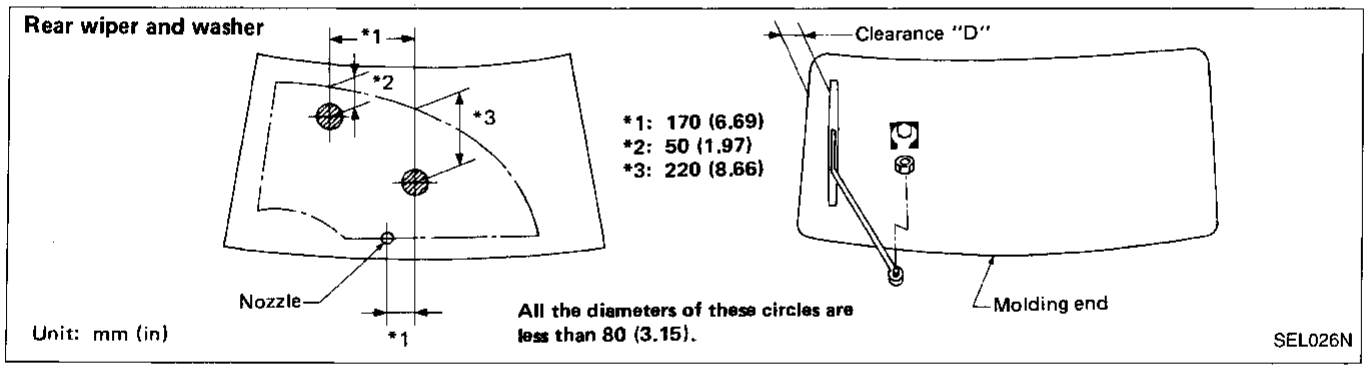
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "C" or "D" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch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

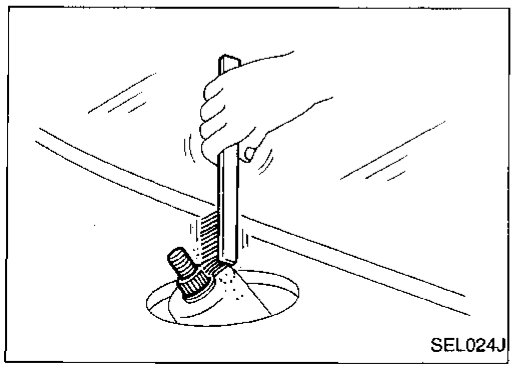
   **Clearance "C": 0 - 10 mm (0 - 0.39 in)**
   **Clearance "D": 73 - 88 mm (2.87 - 3.46 in)**

- Tighten windshield wiper arm nuts to specified torque.

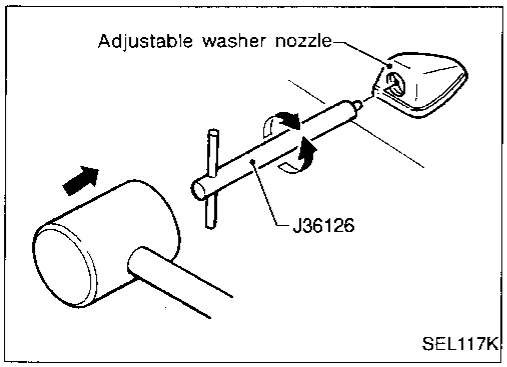
  **Front wiper:**
  **: 26 - 32 N·m (2.7 - 3.3 kg-m, 20 - 24 ft-lb)**
  **Rear wiper:**
  **: 13 - 18 N·m (1.3 - 1.8 kg-m, 9 - 13 ft-lb)**



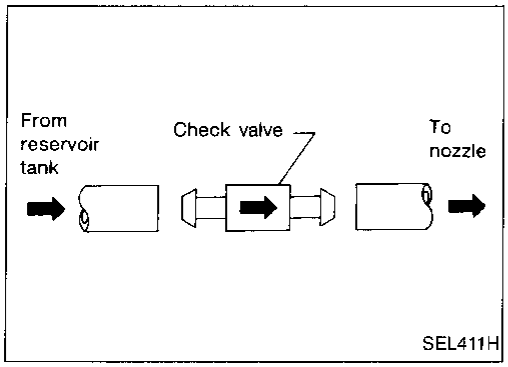

- **Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.**




## Washer Nozzle Adjustment

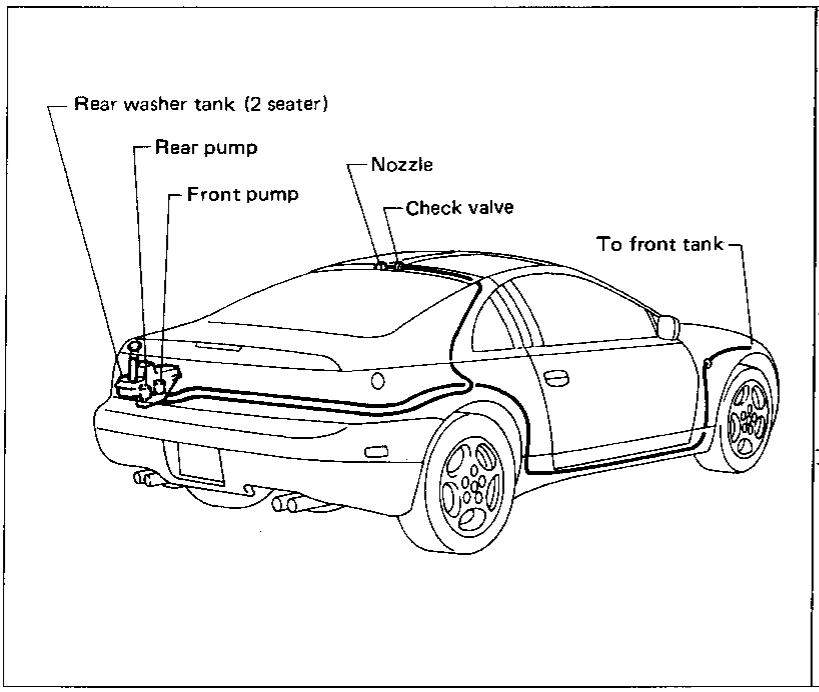
- Adjust washer nozzle with J36126 as shown in the figure at left.

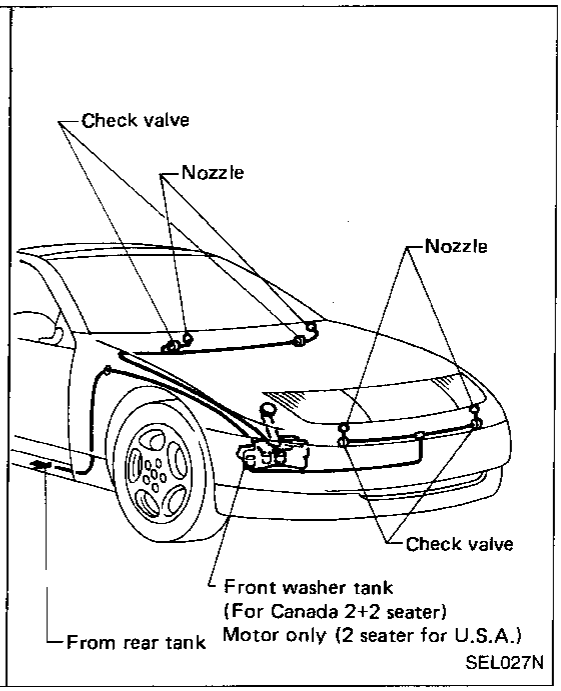
**Before attempting to turn the nozzle, gently tap the end of the tool to free the nozzle. This will prevent "rounding out" the small female square in the center of the nozzle.**

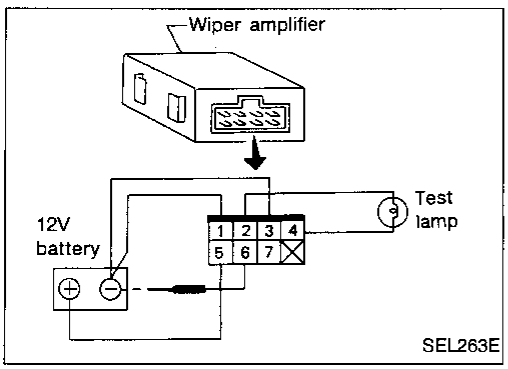



## Check Valve

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



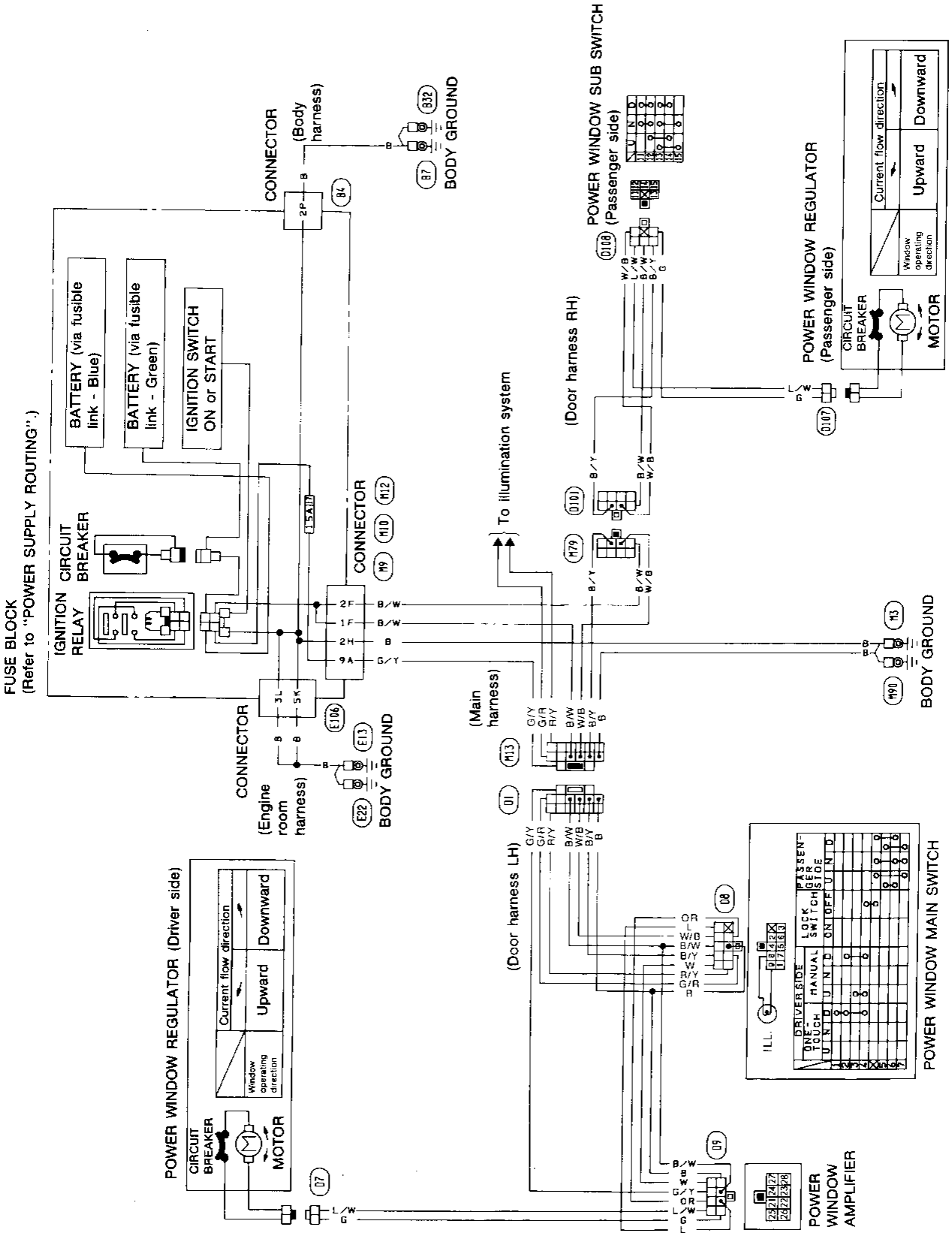




## Wiper Amplifier Check

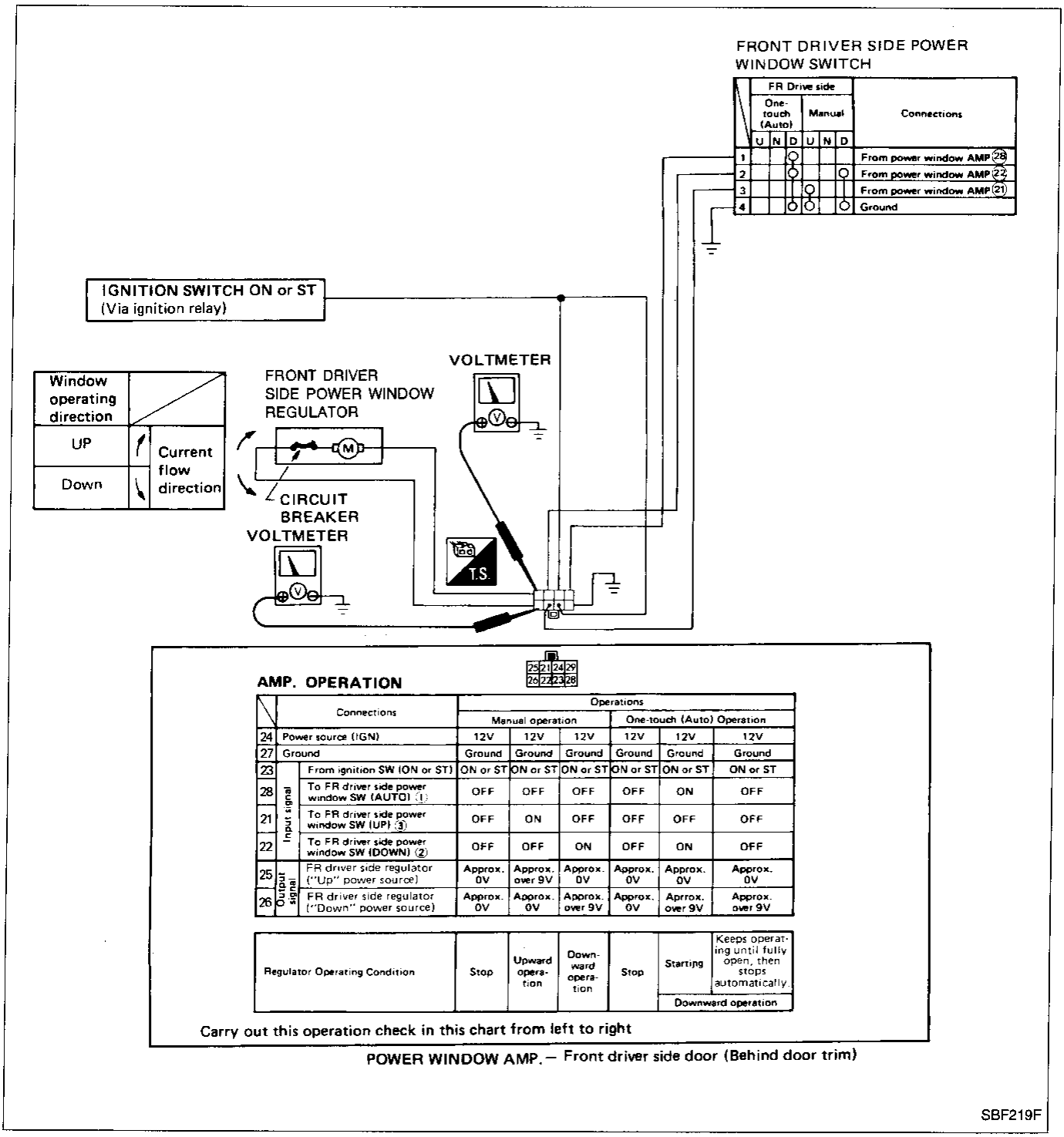
1. Connect as shown in the figure at left.
2. If test lamp comes on when connected to terminal ⑥ and battery ground, wiper amplifier is normal.

## Wiring Diagram




MEL154E

## Power Window Amp. Inspection




**AMP. OPERATION**

| | Connections | | Operations | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Manual operation | | | One-touch (Auto) Operation | | |
| 24 | Power source (IGN) | | 12V | 12V | 12V | 12V | 12V | 12V |
| 27 | Ground | | Ground | Ground | Ground | Ground | Ground | Ground |
| 23 | Input signal | From ignition SW (ON or ST) | ON or ST | ON or ST | ON or ST | ON or ST | ON or ST | ON or ST |
| 28 | Input signal | To FR driver side power window SW (AUTO) (1) | OFF | OFF | OFF | OFF | ON | OFF |
| 21 | Input signal | To FR driver side power window SW (UP) (3) | OFF | ON | OFF | OFF | OFF | OFF |
| 22 | Input signal | To FR driver side power window SW (DOWN) (2) | OFF | OFF | ON | OFF | ON | OFF |
| 25 | Output signal | FR driver side regulator ("Up" power source) | Approx. 0V | Approx. over 9V | Approx. 0V | Approx. 0V | Approx. 0V | Approx. 0V |
| 26 | Output signal | FR driver side regulator ("Down" power source) | Approx. 0V | Approx. 0V | Approx. over 9V | Approx. 0V | Aprrox. over 9V | Approx. over 9V |

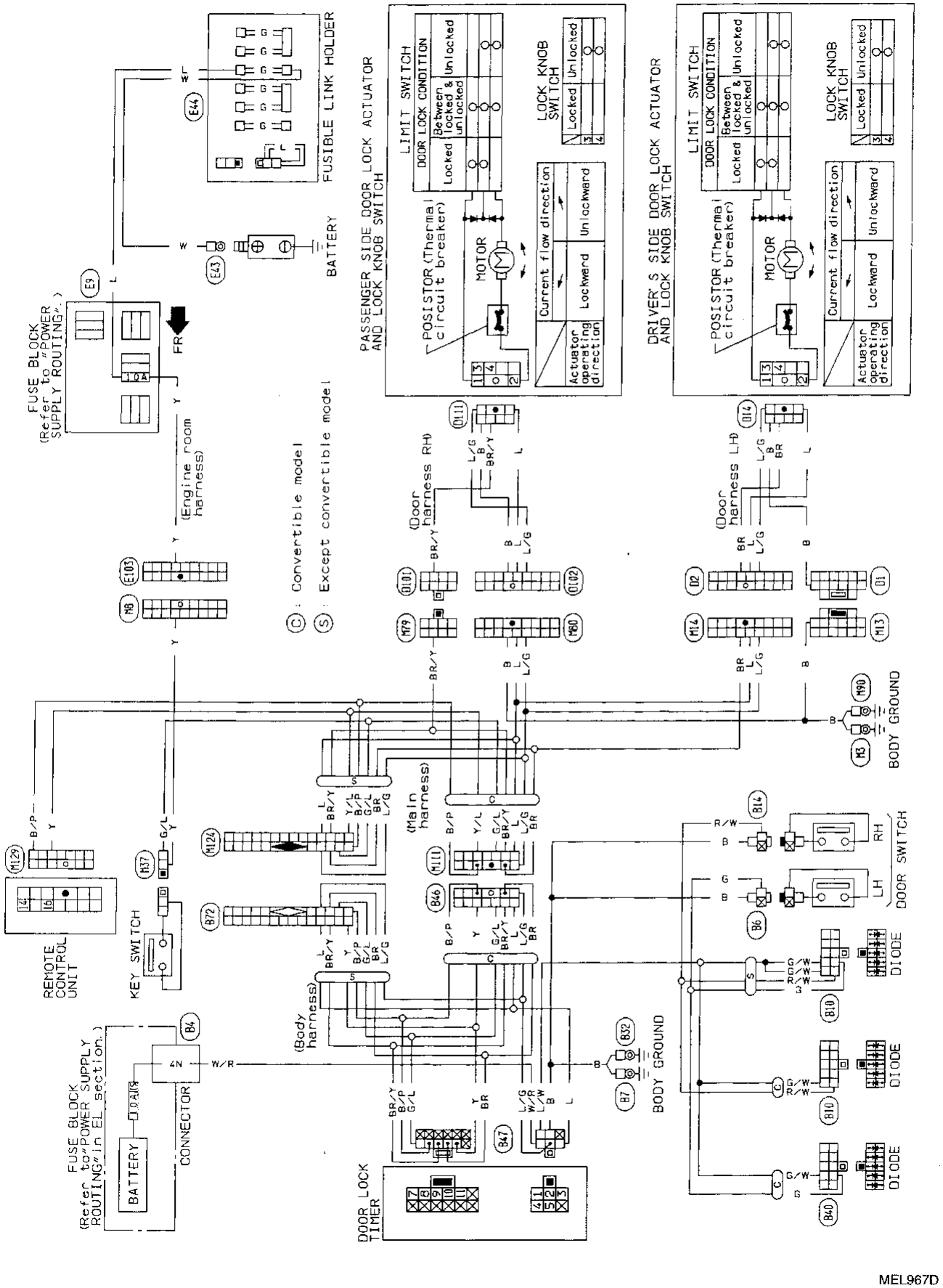
| Regulator Operating Condition | Stop | Upward operation | Downward operation | Stop | Starting | Keeps operating until fully open, then stops automatically. |
|---|---|---|---|---|---|---|
| | | | | | Downward operation | |

Carry out this operation check in this chart from left to right

POWER WINDOW AMP. – Front driver side door (Behind door trim)

SBF219F

## Wiring Diagram




MEL967D

## Door Lock Timer Inspection

- Carry out the following inspections:

(1) Check power source and ground.
(2) Check input signals.
If the input signal is NG, go to ELECTRICAL COMPONENTS INSPECTION.
(3) Check output signals.
If the input signal is OK and the output signal is NG, replace the door lock timer.
If the input signal and output signal are OK, check door lock actuator in ELECTRICAL COMPONENTS INSPECTION.

### Lock & unlock operation by lock knob or main switch

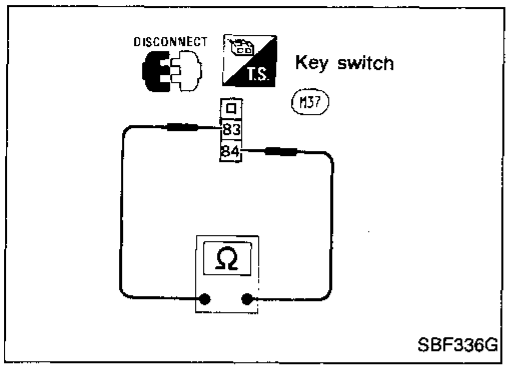
(The voltages are approximate values.)

| | Connections | | Operations | | | |
|---|---|---|---|---|---|---|
| | | | Lock knob switch LH | | Lock knob switch RH | |
| | | | Unlock → Lock | Lock → Unlock | Unlock → Lock | Lock → Unlock |
| 1 | Power source | | 12V | 12V | 12V | 12V |
| 5 | Ground | | Ground | Ground | Ground | Ground |
| 7 | Input signals | Key switch | Either key switch or door switches are off. (Key is not in the ignition or all doors are closed.) | | | |
| 4 | Input signals | Door switch LH | | | | |
| 10 | Input signals | Lock knob switch LH | ON (Ground) → OFF (Open) | OFF (Open) → ON (Ground) | — | — |
| 9 | Input signals | Lock knob switch RH | — | — | ON (Ground) → OFF (Open) | OFF (Open) → ON (Ground) |
| 2 | Output signals | Door lock actuator (Lock power source) | 0V → 12V → 0V (Approx. 1.0 sec.) | 0V | 0V → 12V → 0V (Approx. 1.0 sec.) | 0V |
| 3 | Output signals | Door lock actuator (Unlock power source) | 0V | 0V → 12V → 0V (Approx. 1.0 sec.) | 0V | 0V → 12V → 0V (Approx. 1.0 sec.) |

### Key reminder operation

(The voltages are approximate values.)

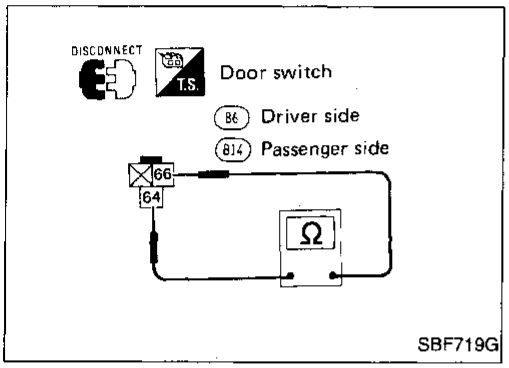
| | Connections | | Operations | |
|---|---|---|---|---|
| | | | Lock knob switch LH | Lock knob switch RH |
| | | | Unlock → Lock → Automatically unlocked | Unlock → Lock → Automatically unlocked |
| 1 | Power source | | 12V | 12V |
| 5 | Ground | | 0V | 0V |
| 7 | Input signals | Key switch | ON (12V) — Key is in the ignition. | |
| 4 | Input signals | Door switch | ON (Ground) — Either door is open. | |
| 10 | Input signals | Lock knob switch LH | ON (Ground) → OFF (Open) → ON (Ground) | — |
| 9 | Input signals | Lock knob switch RH | — | ON (Ground) → OFF (Open) → ON (Ground) |
| 2 | Output signals | Door lock actuator (Lock power source) | 0V → 12V → 0V (Approx. 0.3 sec.) | 0V → 12V → 0V (Approx. 0.3 sec.) |
| 3 | Output signals | Door lock actuator (Unlock power source) | 0V → 12V → 0V (Approx. 1.4 sec.) | 0V → 12V → 0V (Approx. 1.4 sec.) |




# Electrical Components Inspection

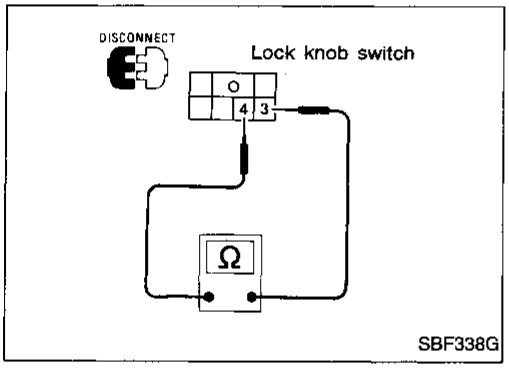
## Key switch

| Terminals | Condition | Continuity |
|---|---|---|
| ⑧③ - ⑧④ | Key is in the ignition. | Yes |
| | Key is not in the ignition. | No |



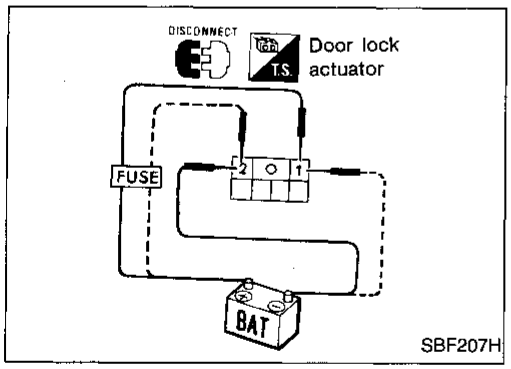

## Door switch

| Terminals | Condition | Continuity |
|---|---|---|
| ⑥④ - ⑥⑥ | Door is closed. | No |
| | Door is open. | Yes |




## Lock knob switch (Built-in front door lock actuator)

| Terminals | Condition | Continuity |
|---|---|---|
| ③ - ④ | Lock | No |
| | Unlock | Yes |

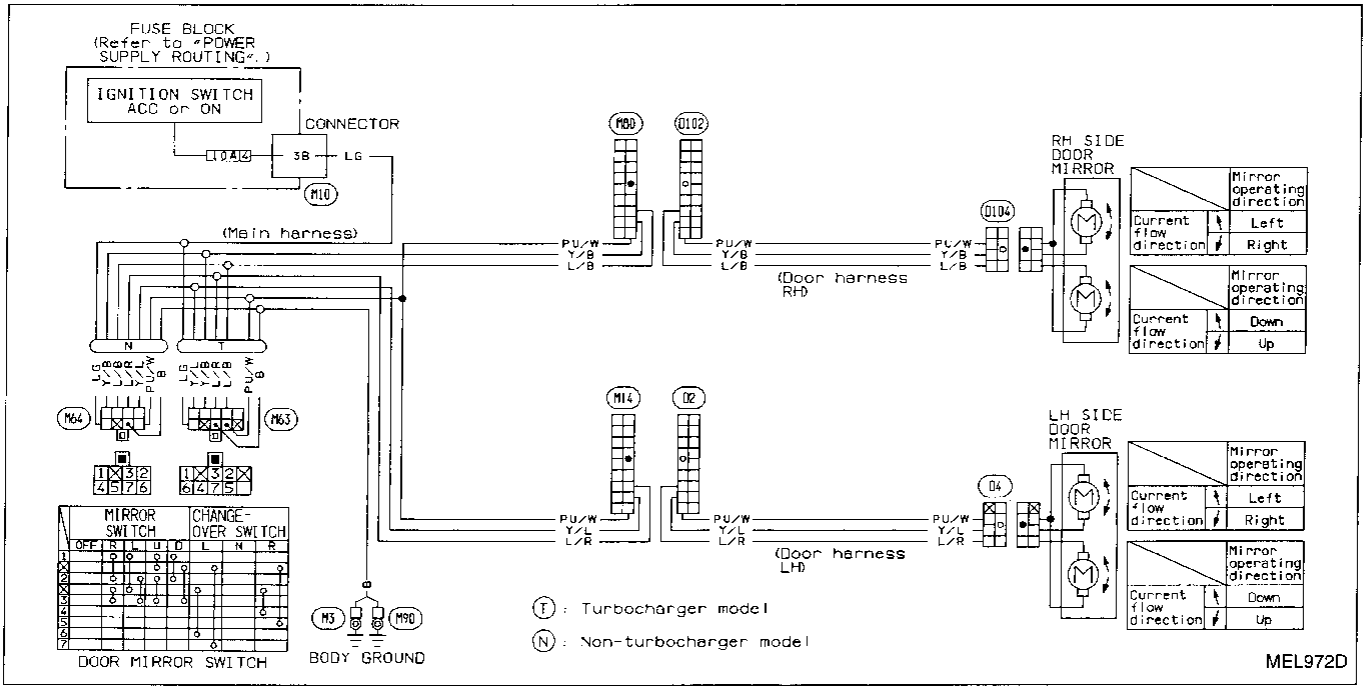



## Door lock actuator

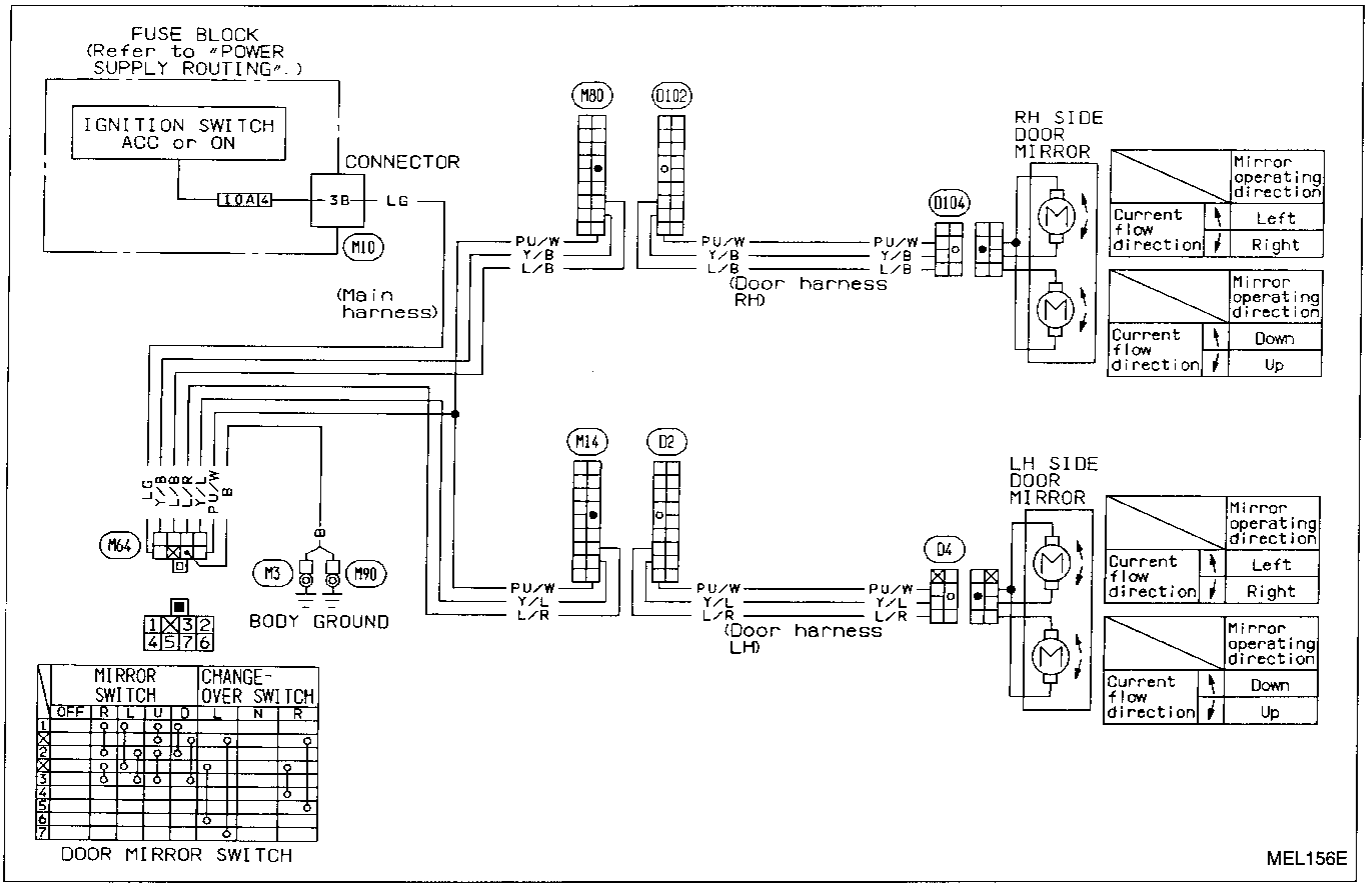
| Terminals | | Operation |
|---|---|---|
| ⊕ | ⊖ | |
| ① | ② | Lock |
| ② | ① | Unlock |

## Wiring Diagram

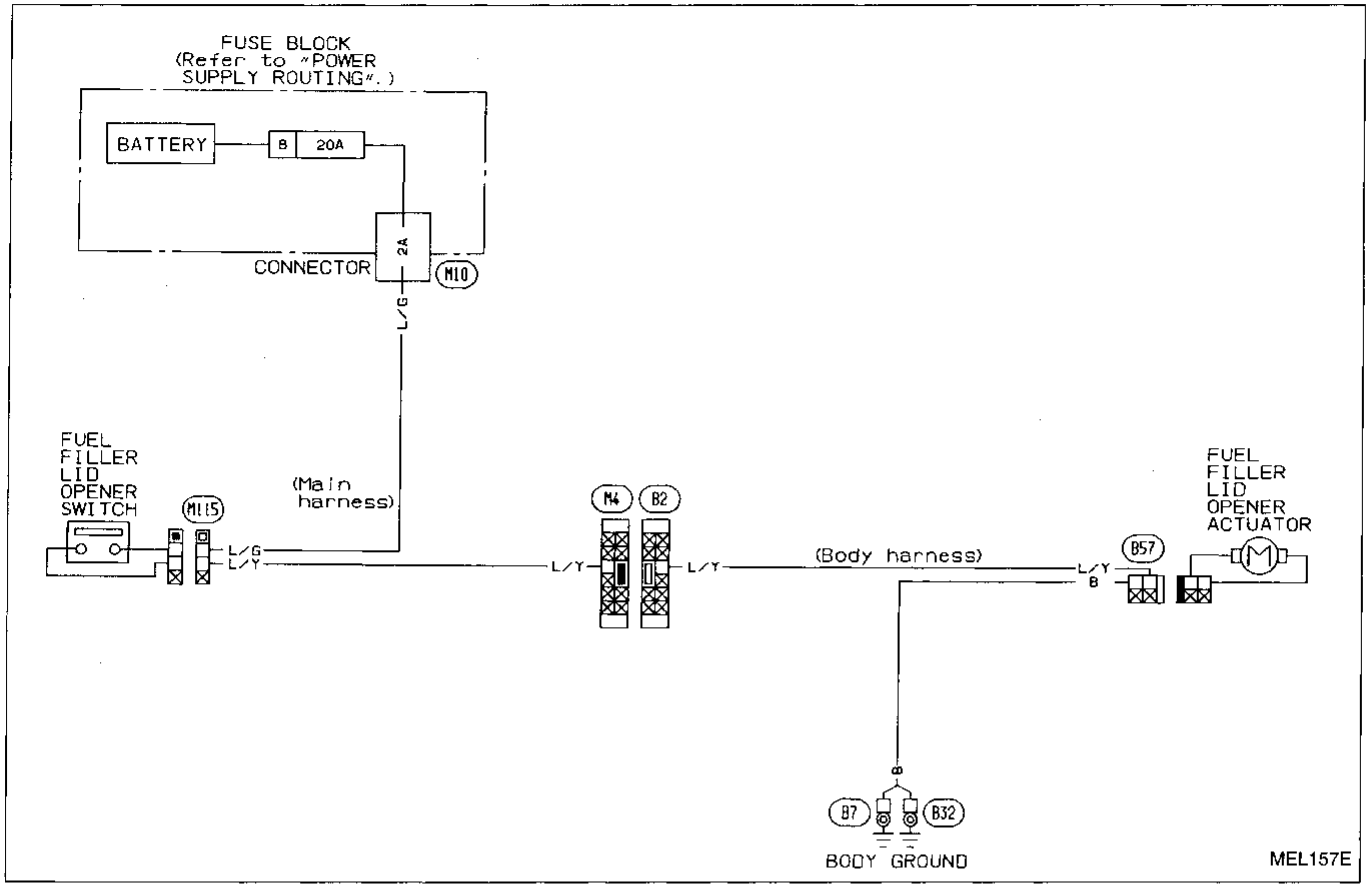
### EXCEPT CONVERTIBLE ROOF TYPE




### CONVERTIBLE ROOF TYPE

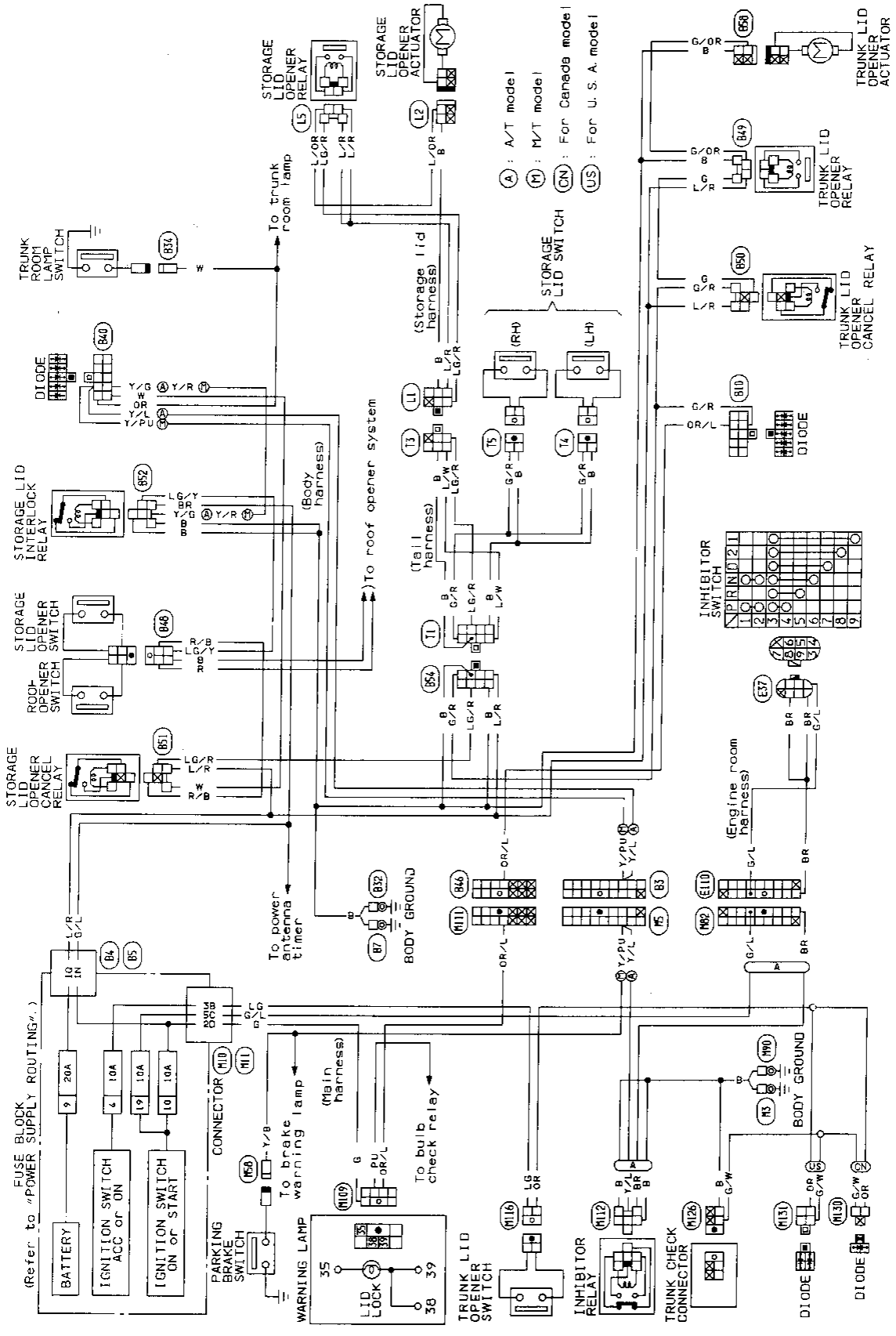


## Wiring Diagram



# Wiring Diagram

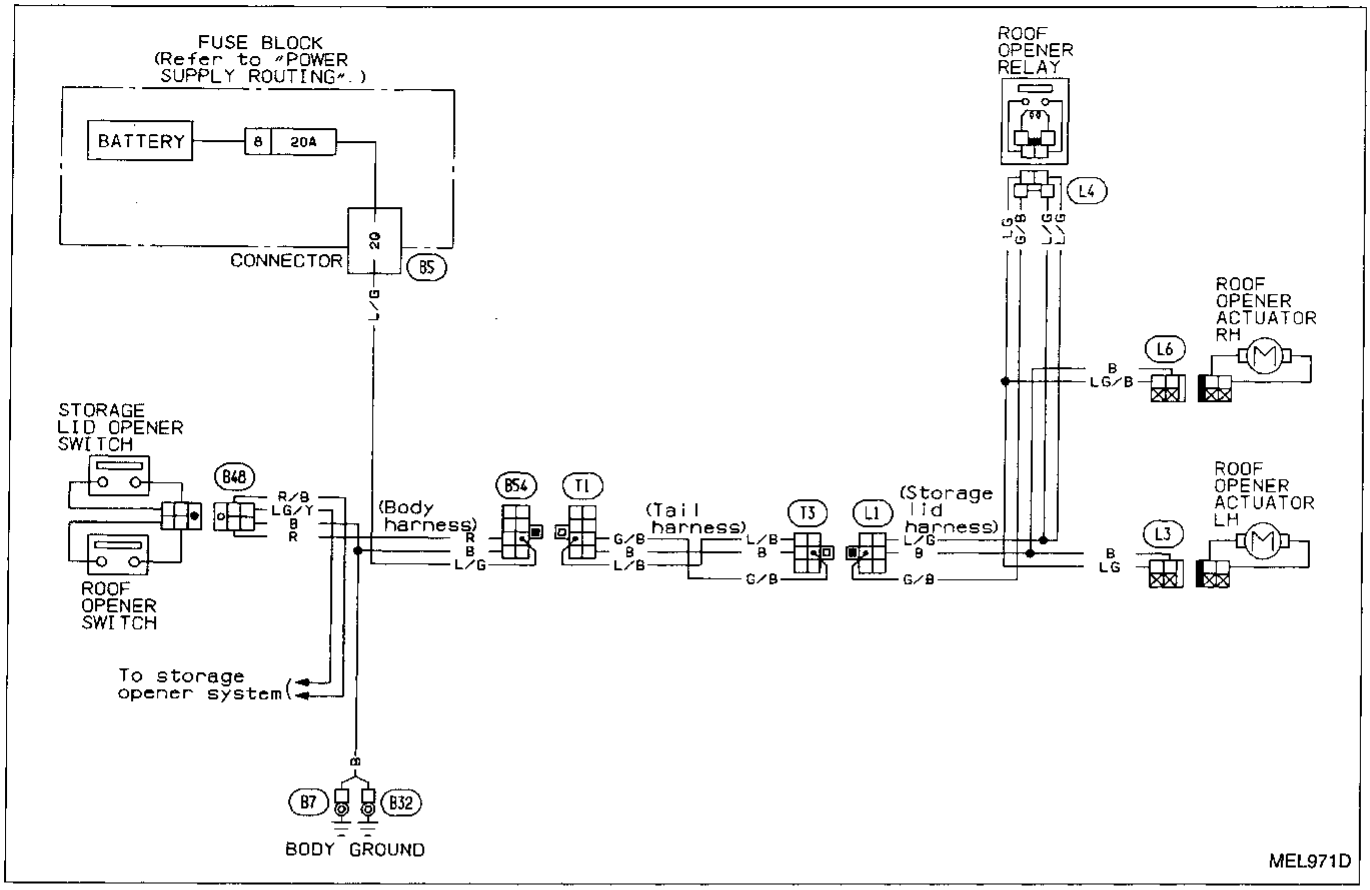
## STORAGE LID AND TRUNK LID OPENER SYSTEM



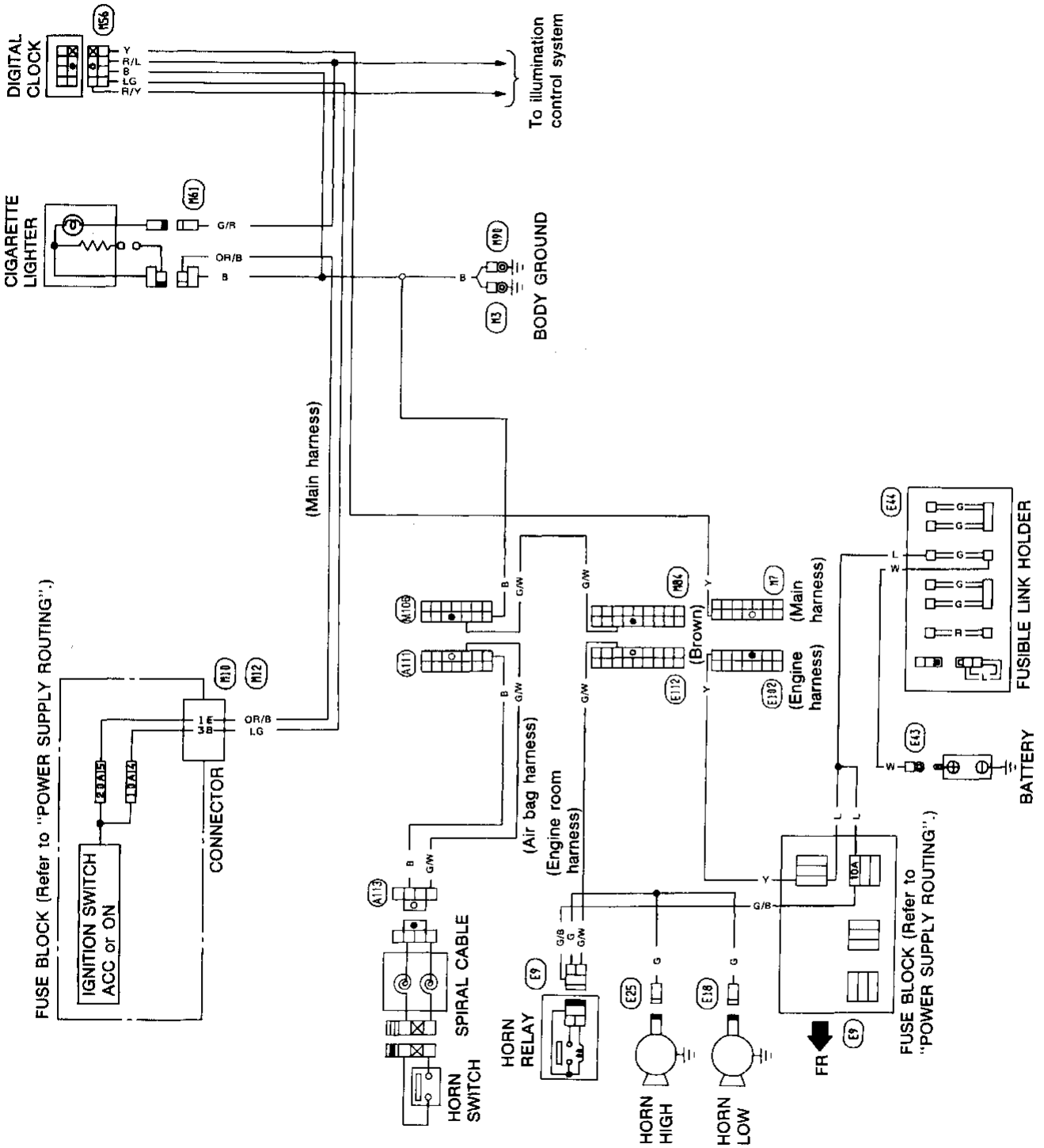

MEL970D

## Wiring Diagram (Cont'd)

### ROOF OPENER SYSTEM

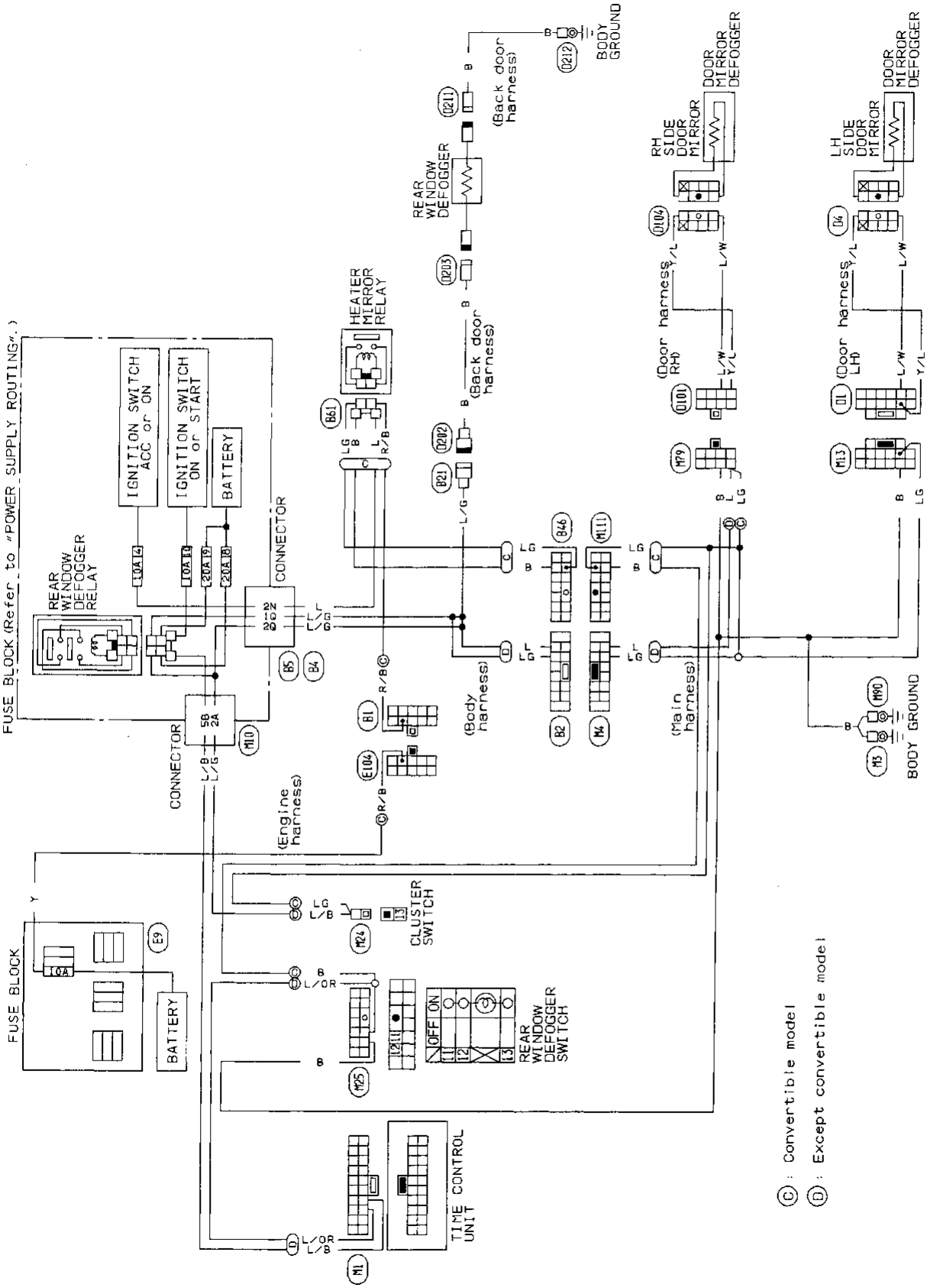


## Wiring Diagram

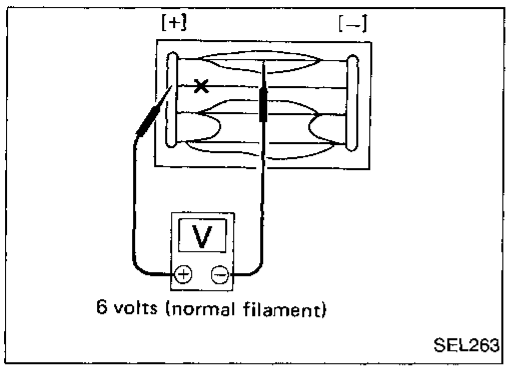



MEL936D

## Wiring Diagram

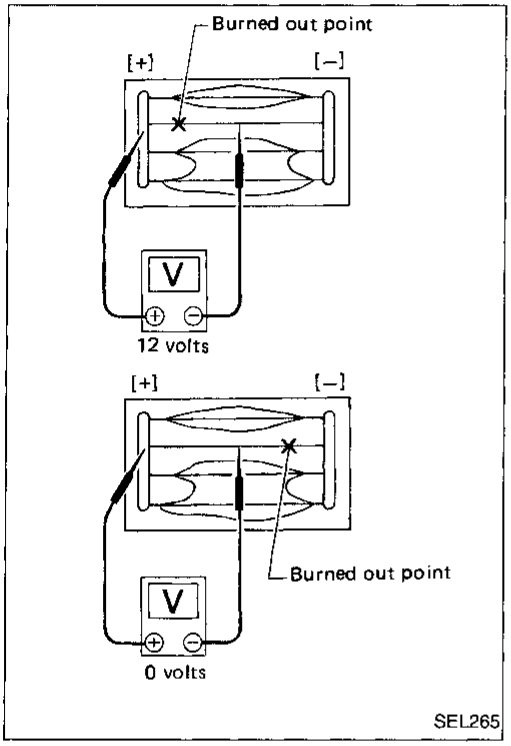



MEL937D

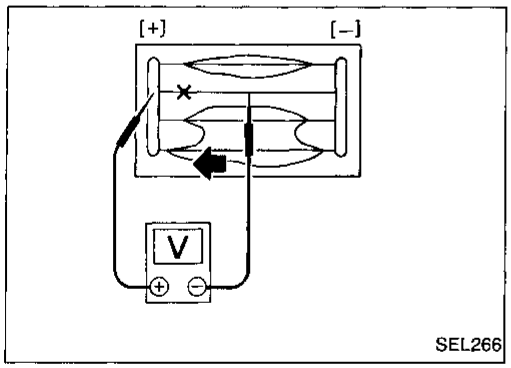



## Filament Check

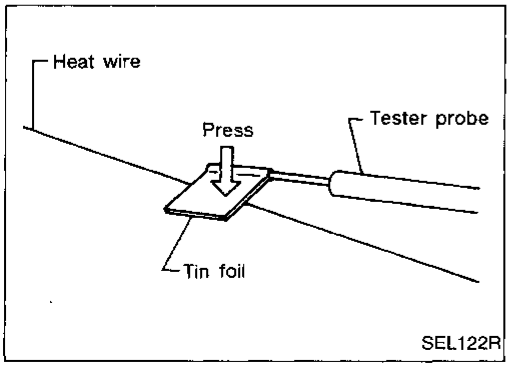
1. Attach probe circuit tester (in volt range) to middle portion of each filament.




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 to determine point where tester needle swings abruptly.

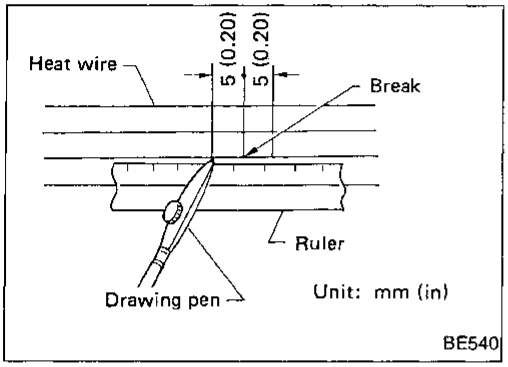



- **When measuring voltage, wind a piece of tin foil around the top of the negative probe and press the foil against the wire with your finger as shown.**

## Filament Repair

### REPAIR EQUIPMENT

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



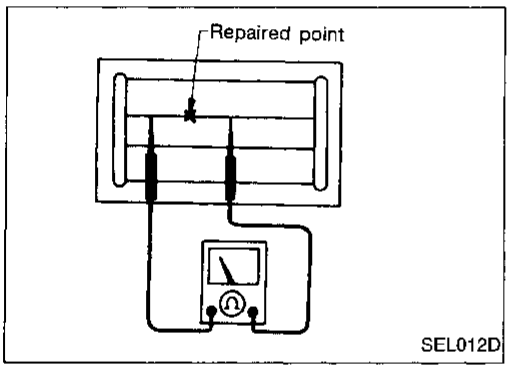

### REPAIRING PROCEDURE

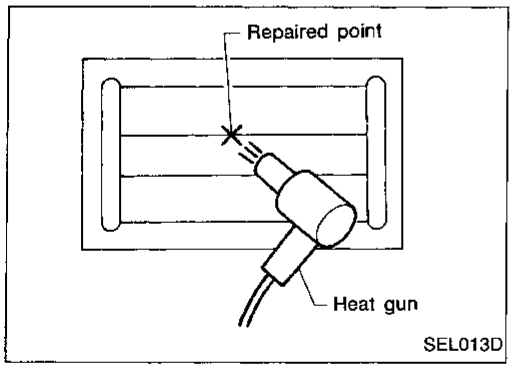
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

**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.**

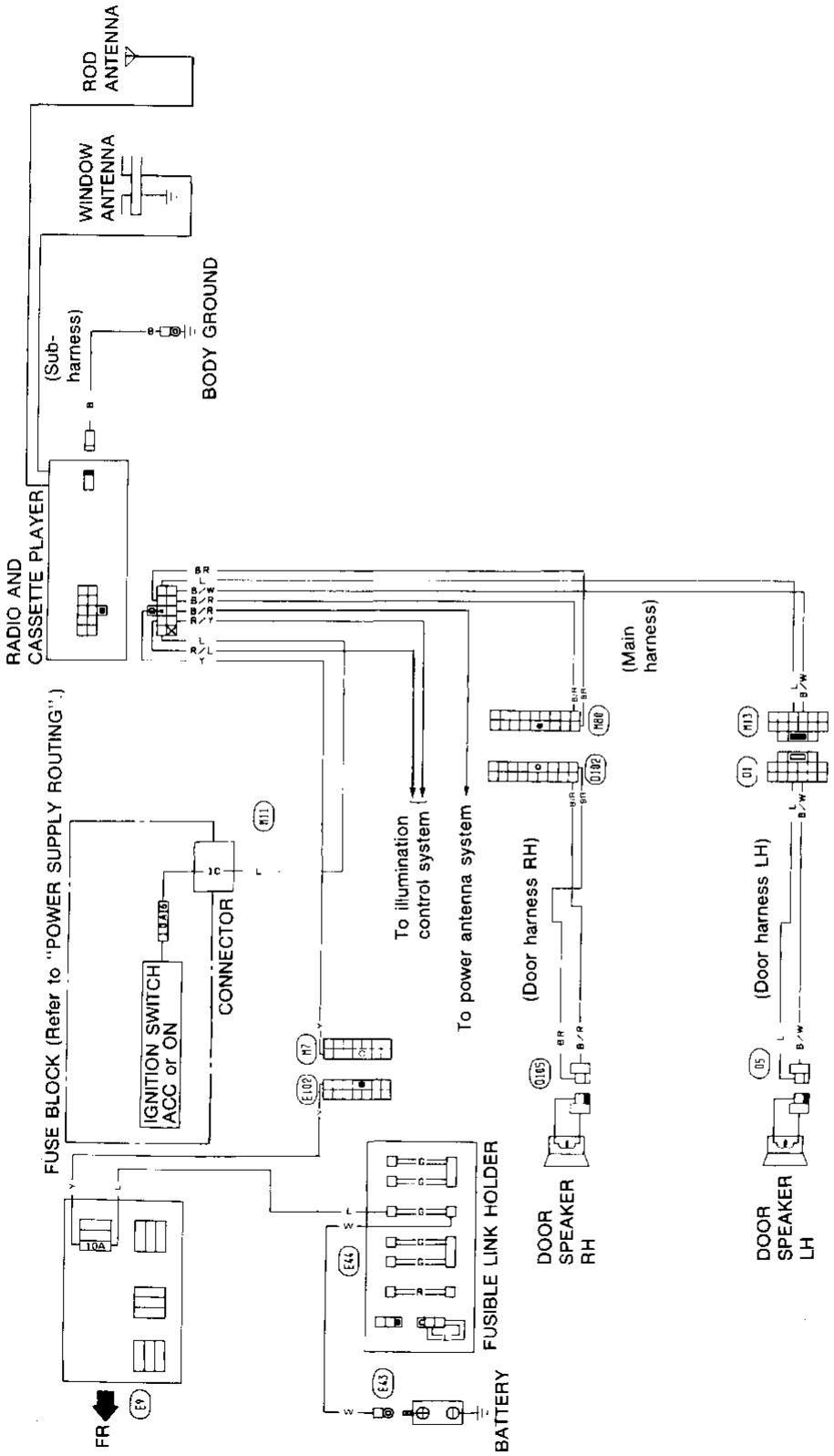



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.

## Audio/Wiring Diagram

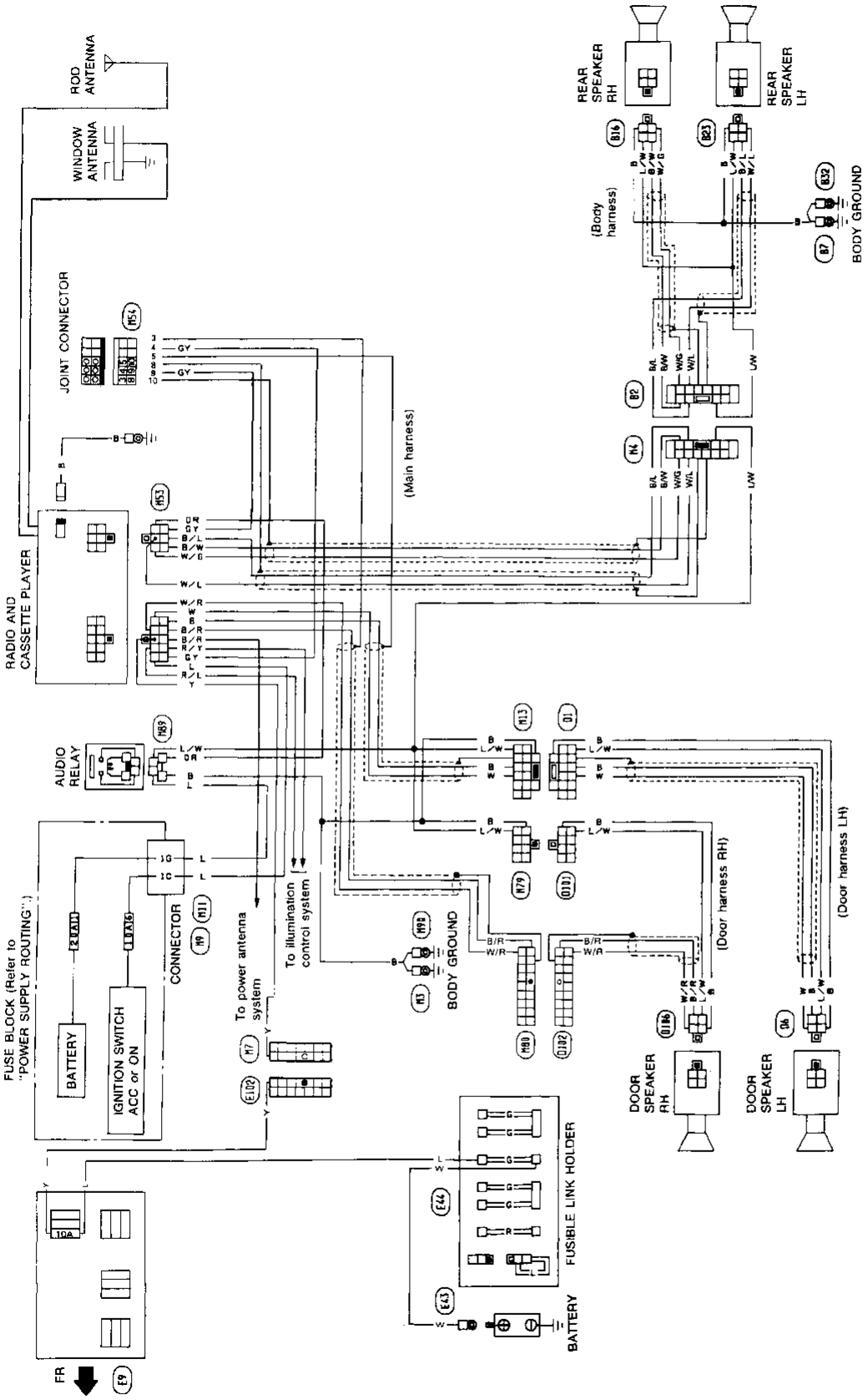
### EXCEPT BOSE SYSTEM




MEL830C

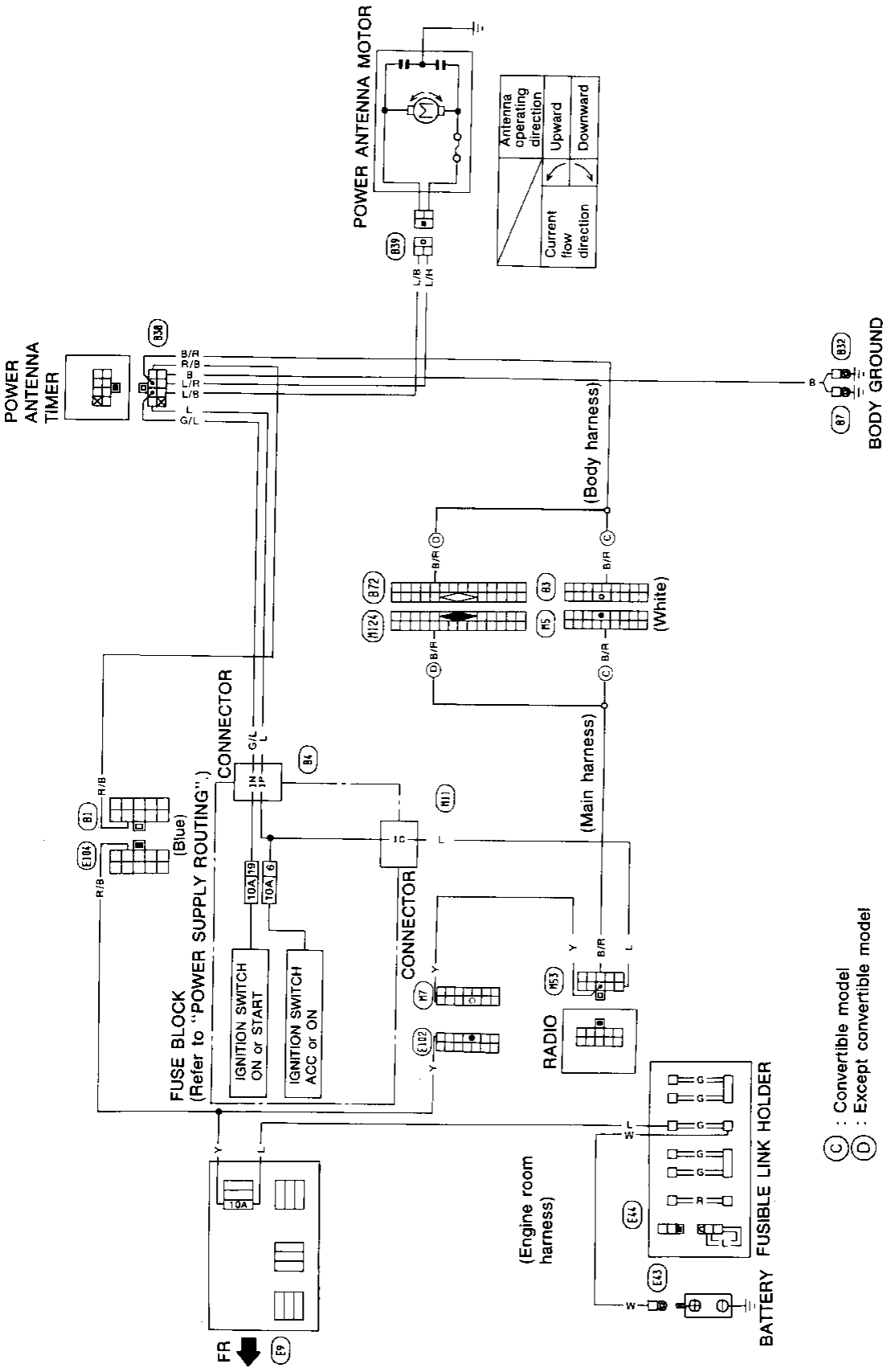
## Audio/Wiring Diagram (Cont'd)

### BOSE SYSTEM



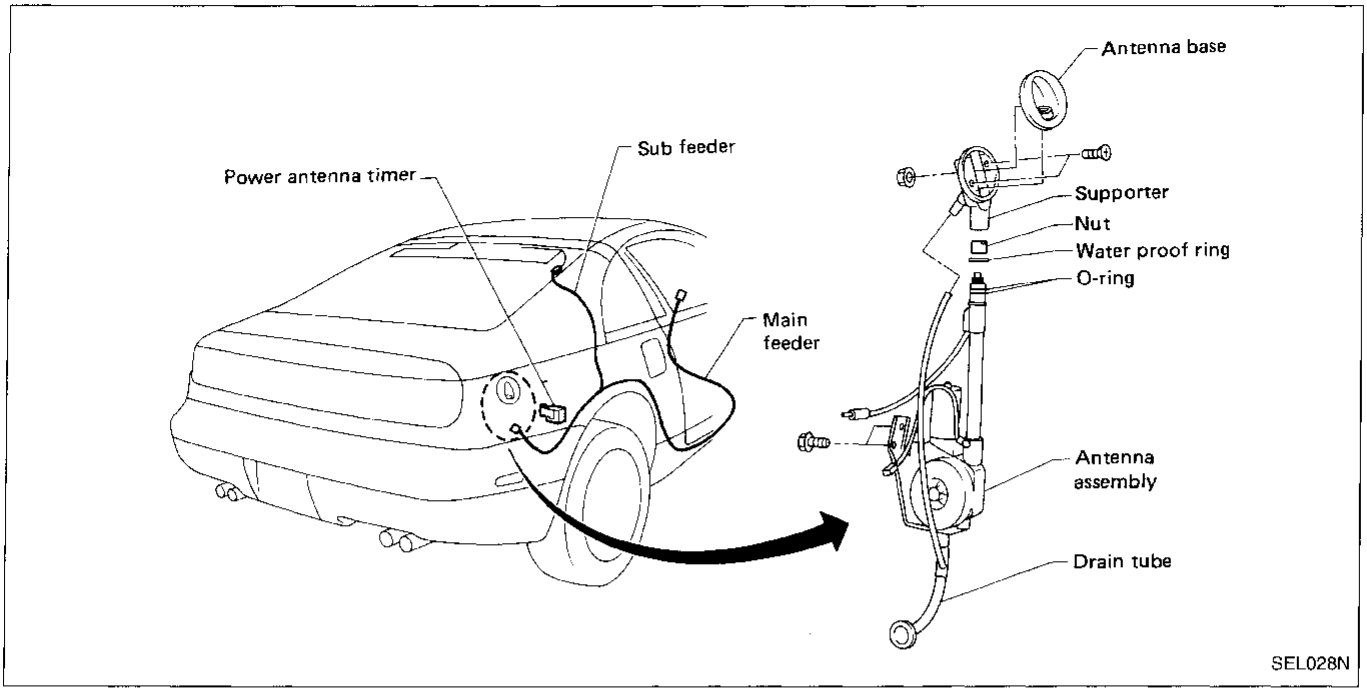

MEL831C

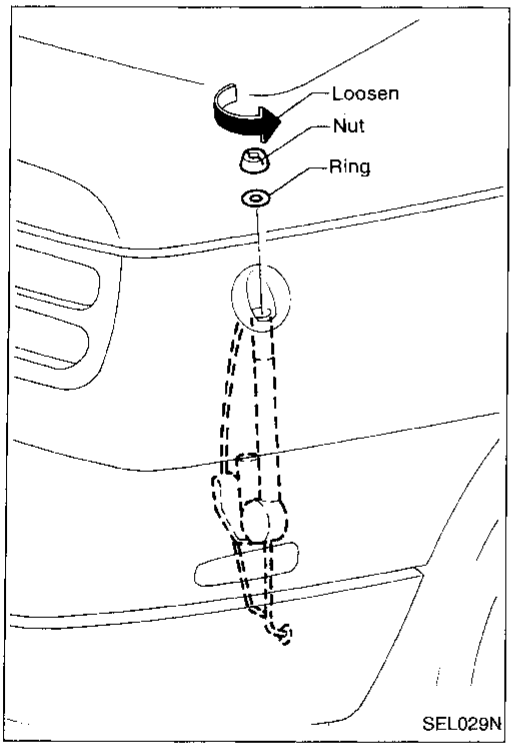
## Power Antenna/Wiring Diagram




MEL938D

## Location of Antenna

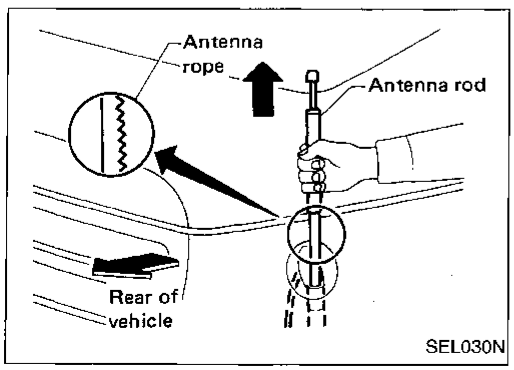



## Antenna Rod Replacement

### REMOVAL

1. Remove antenna nut and antenna base.

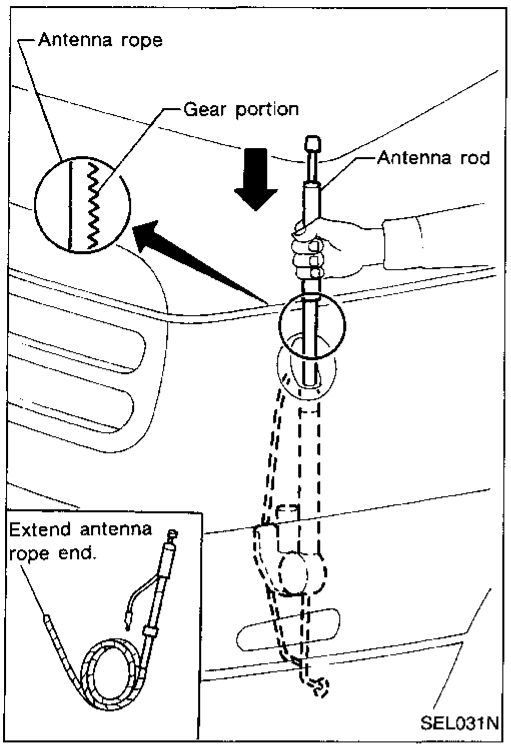



2. Withdraw antenna rod while raising it by operating antenna motor.

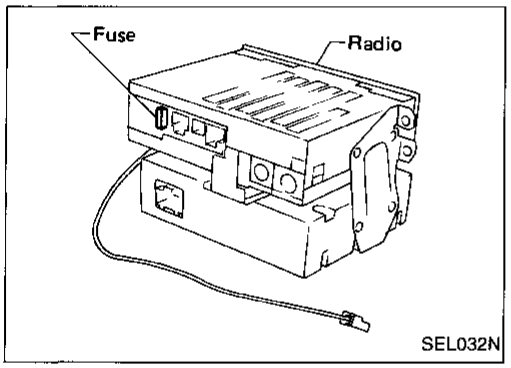
## Antenna Rod Replacement (Cont'd)

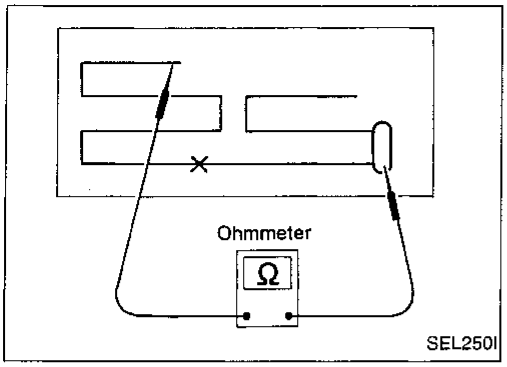
### INSTALLATION

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




## Radio Fuse Check

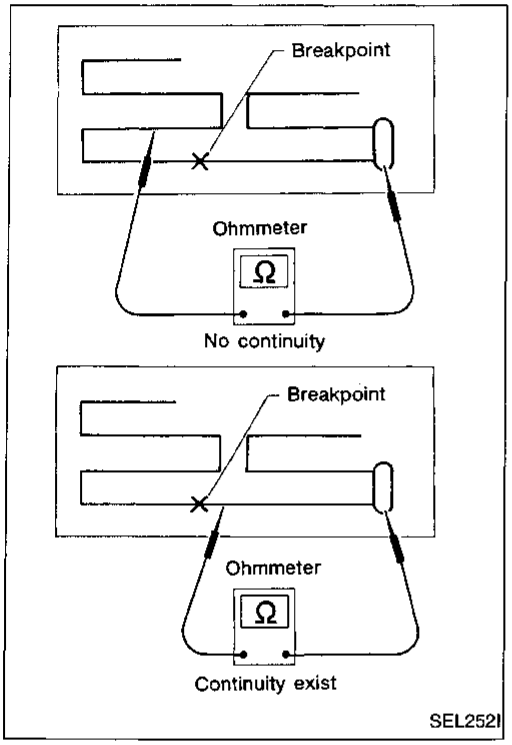




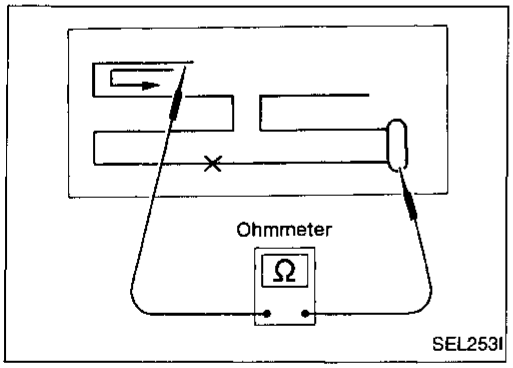

## Window Antenna Repair

### ELEMENT CHECK

1. Attach probe circuit tester (in ohm range) to antenna terminal on each side.




2. If an element is broken, no continuity will exist.

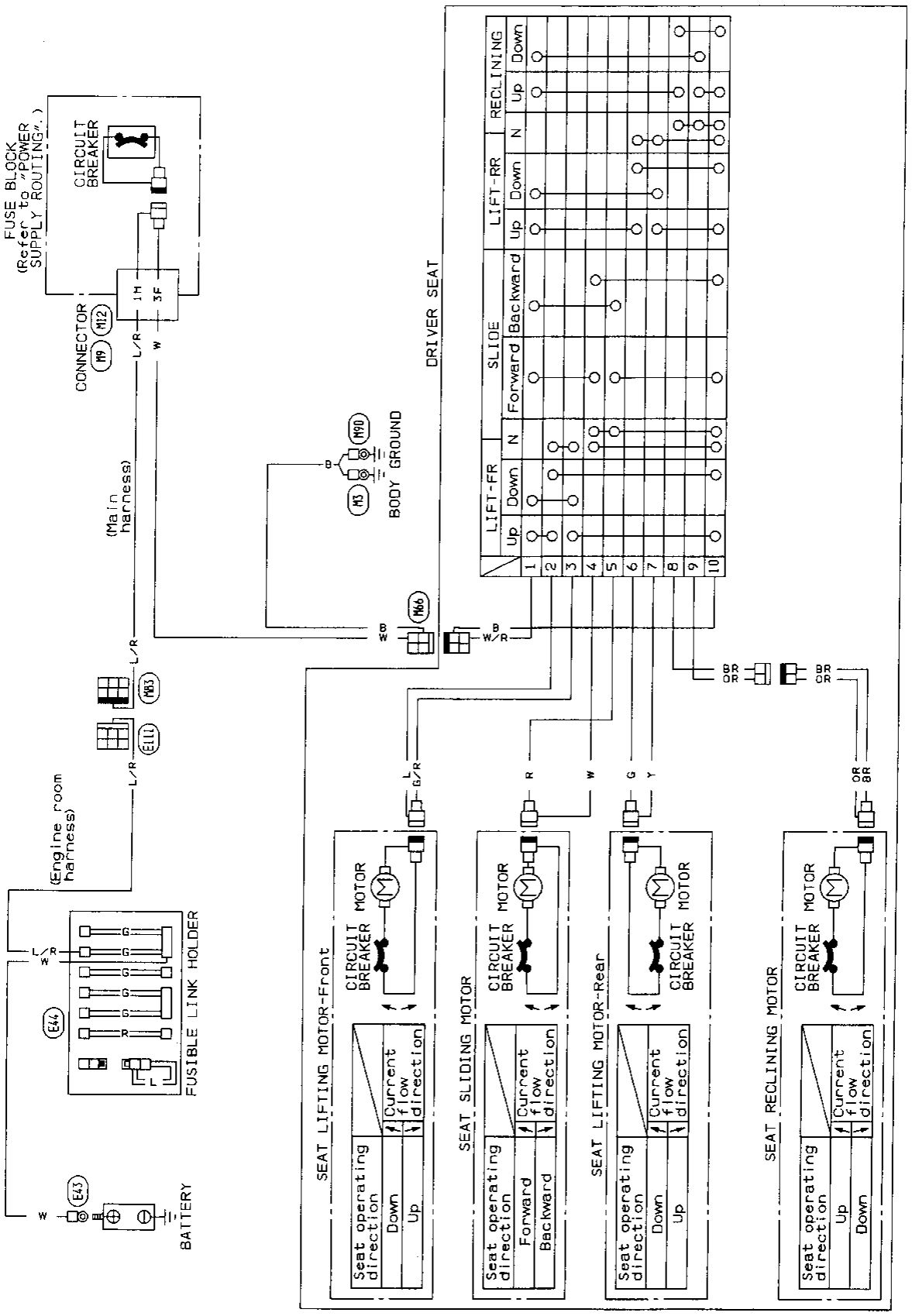



3. To locate broken point, move probe to left and right along element to determine point where tester needle swings abruptly.

### ELEMENT REPAIR

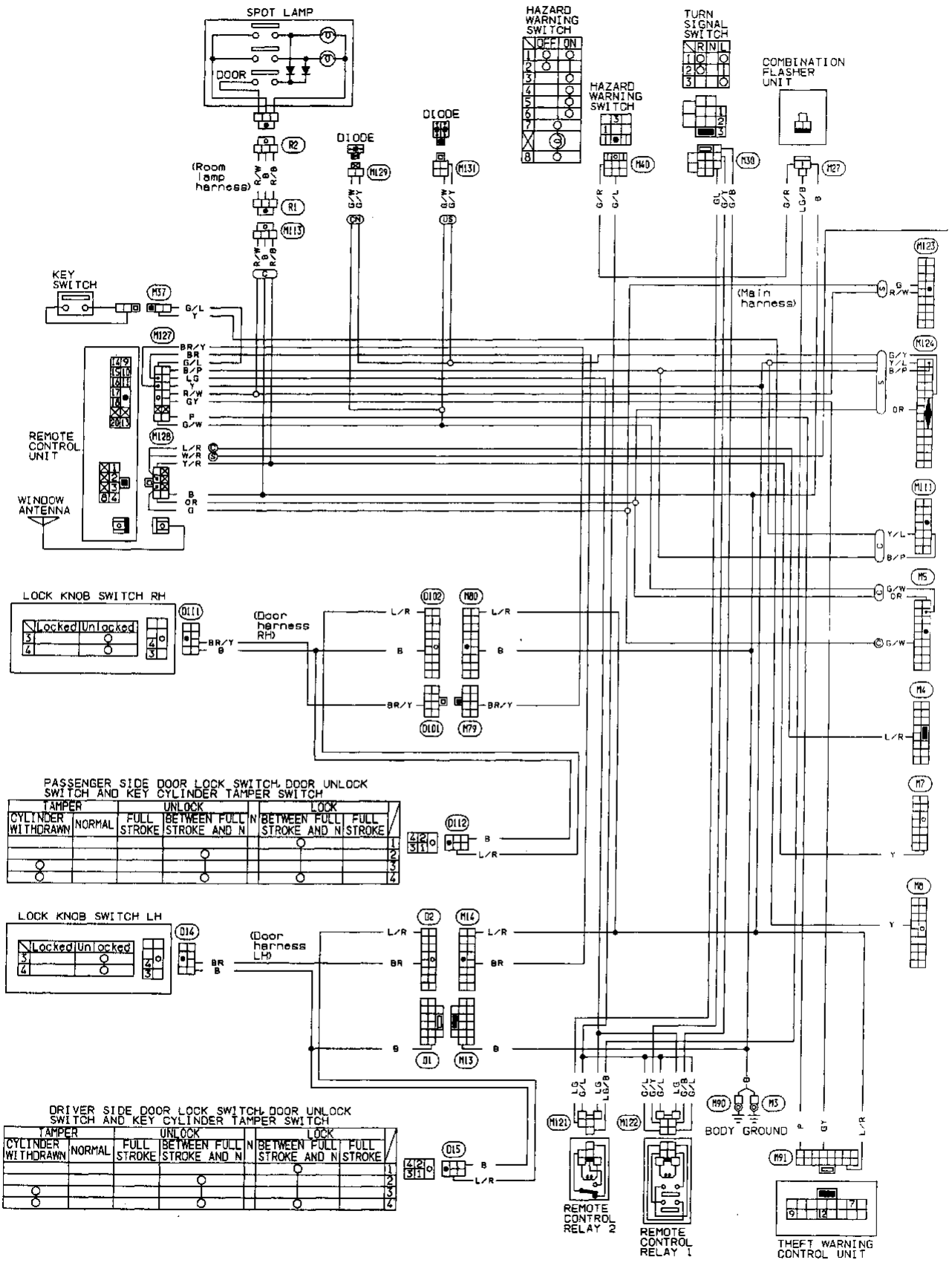
Refer to REAR WINDOW DEFOGGER "Filament Repair" (EL-80).

## Wiring Diagram — SEAT —

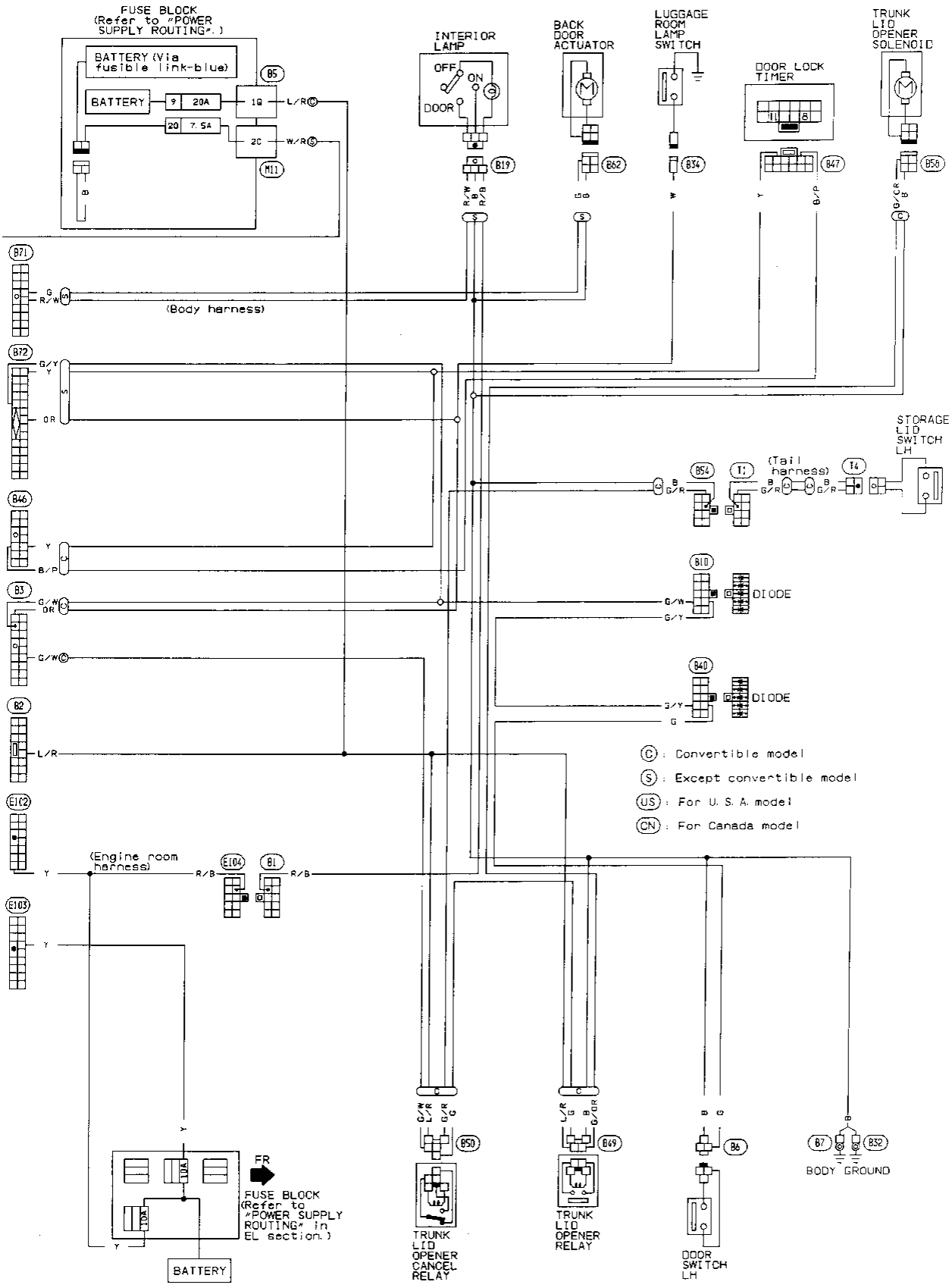



MEL158E

## Wiring Diagram — MULTI —

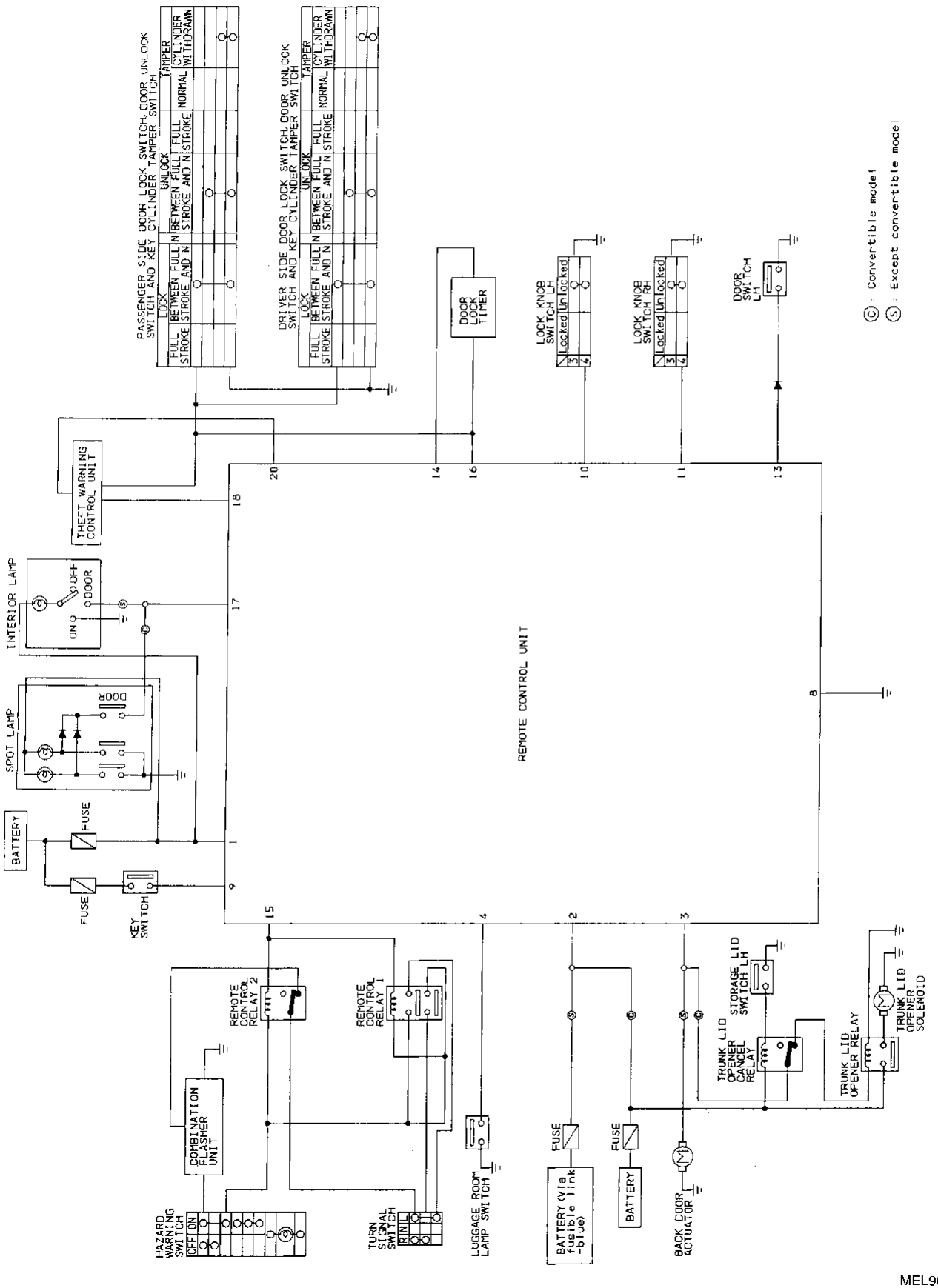


## Wiring Diagram — MULTI — (Cont'd)




MEL968D

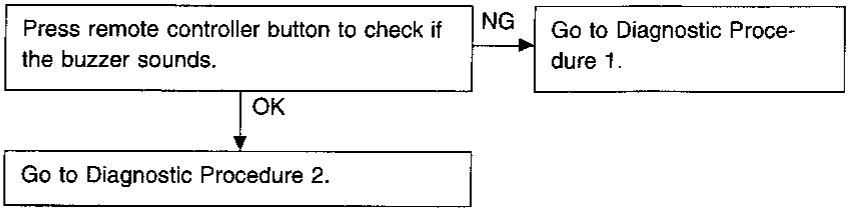
## Circuit Diagram for Quick Pinpoint Check



## Trouble Diagnoses Preliminary Inspection

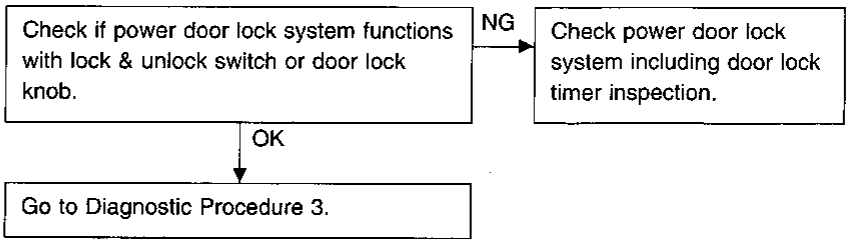
### PRELIMINARY INSPECTION PROCEDURE 1

**All functions of multi remote control system do not function.**



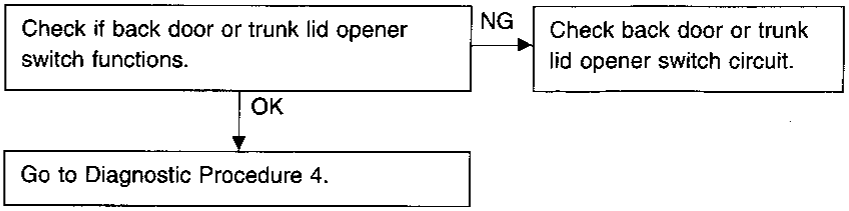

### PRELIMINARY INSPECTION PROCEDURE 2

**Door lock and unlock do not function.**



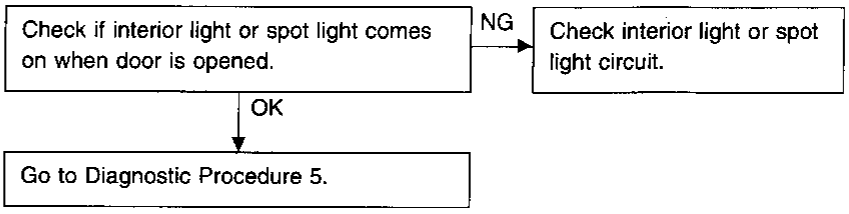

### PRELIMINARY INSPECTION PROCEDURE 3

**Back door or trunk lid open function does not function.**



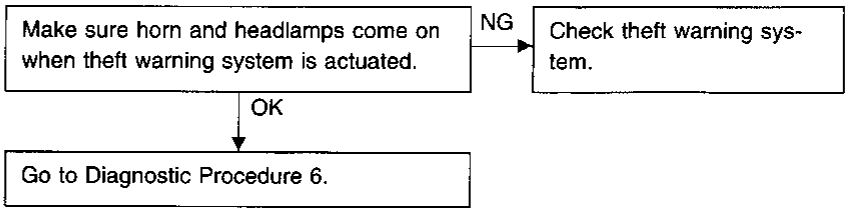

### PRELIMINARY INSPECTION PROCEDURE 4

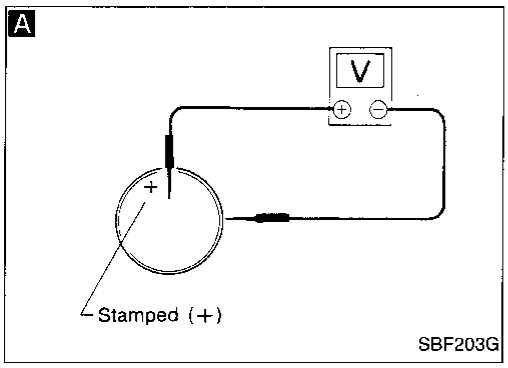
**Interior light or spot light does not function.**




### PRELIMINARY INSPECTION PROCEDURE 5

**Panic alarm does not function.**






# Trouble Diagnoses

## DIAGNOSTIC PROCEDURE 1

**Remote controller buzzer does not sound when the button is pressed.**

A

**CHECK REMOTE CONTROLLER BATTERY.**
Remove battery and measure voltage across battery positive and negative terminals ⊕ and ⊖.

| Measuring terminal | | Standard value |
|---|---|---|
| ⊕ | ⊖ | |
| Battery positive terminal ⊕ | Battery negative terminal ⊖ | 3V or more |

NG → Replace battery.

OK ↓

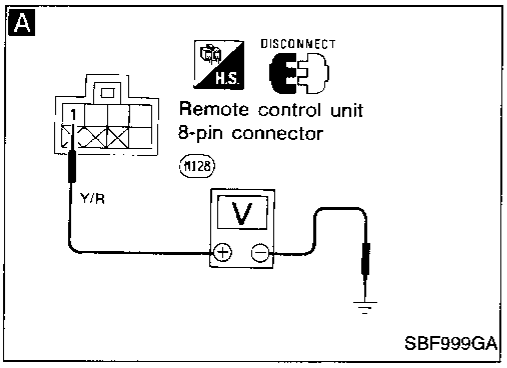
1) Push door lock button of remote controller before installing battery.
2) Reset battery in remote controller to make sure the buzzer sound.

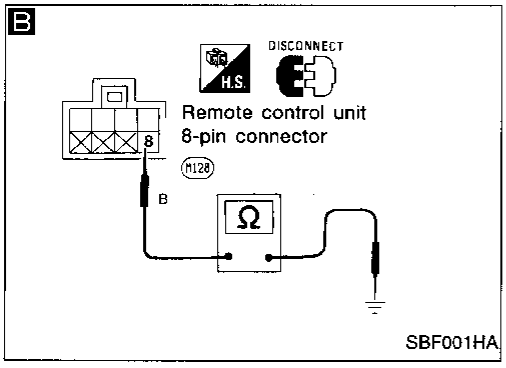
OK → Check system operation.

NG ↓

Replace controller.

**Note:**
**Remote controller does not function if battery is not set correctly.**




## DIAGNOSTIC PROCEDURE 2

**All remote controls do not function even if remote controller buzzer does sound.**

A

**CHECK MAIN POWER SUPPLY AND GROUND CIRCUIT.**
1) Remove key from ignition.
2) Disconnect 8-pin connector from control unit. Check voltage across remote control unit terminal ① and GND.
**Battery voltage should exist.**

NG → Check power supply harness.

OK ↓

B

Check continuity between terminal ⑧ and GND.
**Continuity should exist.**

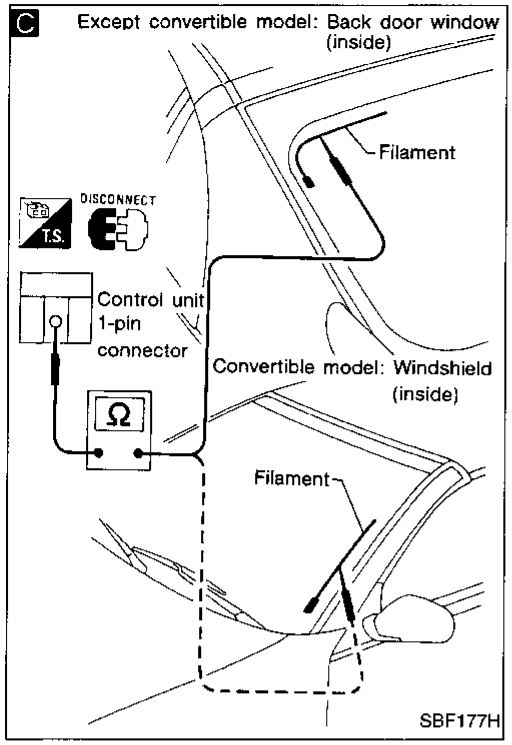
NG → Check GND harness.

OK ↓

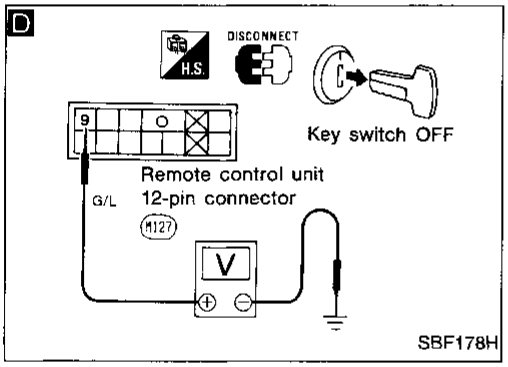
Ⓐ

## Trouble Diagnoses (Cont'd)

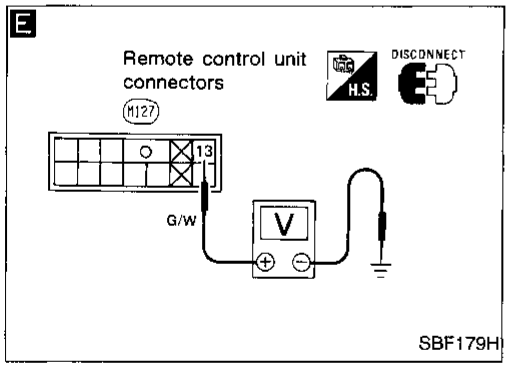
C



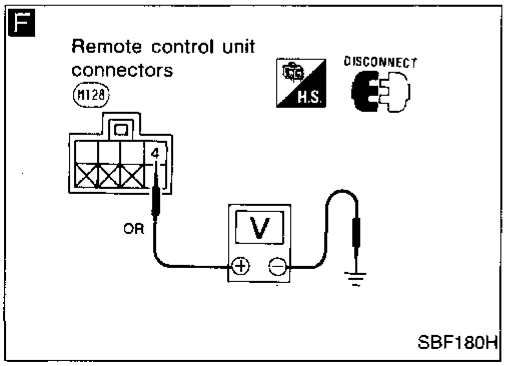

D




E




F




Ⓐ

**C** **CHECK ANTENNA CIRCUIT.**
Disconnect 1-pin connector from control unit.
Check continuity between a terminal and filament on the window.
**Continuity should exist.**

NG → Check antenna circuit. (Refer to REAR WINDOW DEFOGGER "Filament Repair".)

OK ↓

**D** **CHECK IGNITION KEY SWITCH CIRCUIT.**
Disconnect 12-pin connector from control unit.
Check voltage across remote control unit terminal ⑨ and GND.
**Voltage should be approx. 0V**

NG → Check ignition key switch.

OK ↓

**E** **CHECK DOOR SWITCH CIRCUIT.**
Close all doors.
Check voltage across terminal ⑬ and GND.
**Does battery voltage exist?**

No → Check door switch circuit.

Yes ↓

**F** **CHECK LUGGAGE ROOM LAMP SWITCH CIRCUIT.**
Close back door or trunk lid.
Check voltage across terminal ④ and GND.
**Does battery voltage exist?**

No → Check luggage room lamp switch circuit.

Yes ↓

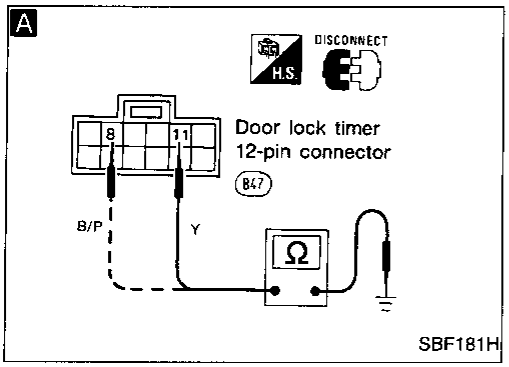
Replace control unit.

## Trouble Diagnoses (Cont'd)

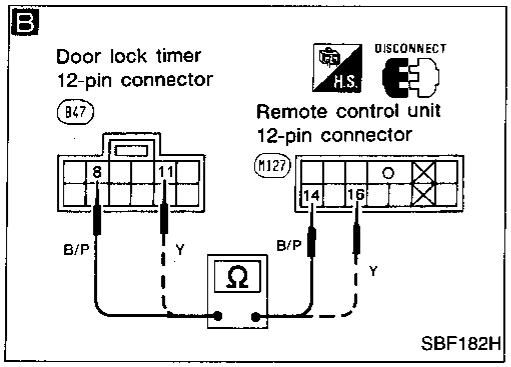
### DIAGNOSTIC PROCEDURE 3

**Door lock and unlock remote control do not function. Everything else does function.**

A




B




A

**CHECK DOOR LOCK AND UNLOCK SIGNAL FOR DOOR LOCK TIMER.**

1) Remove key from ignition.
2) Close all doors and trunk lid.
3) Remove door lock timer 12-pin connector.
   Push remote controller buttons and check continuity between terminals ⑪ and GND, ⑧ and GND.

| Terminals | Operation | Continuity |
|---|---|---|
| ⑪ - GND | Lock | Yes |
| | Unlock | No |
| ⑧ - GND | Unlock | Yes |
| | Lock | No |

OK → Check power door lock system.

NG ↓

Does continuity exist continually?

Yes → Repair harness. (There might be incorrect grounding.)

No ↓

B

Remove remote control unit 12-pin connector.
Check continuity between remote control unit terminals and door lock timer.

| Terminals | |
|---|---|
| Remote control | Door lock timer |
| ⑭ | ⑧ |
| ⑲ | ⑪ |

**Continuity should exist.**

NG → Repair harness.

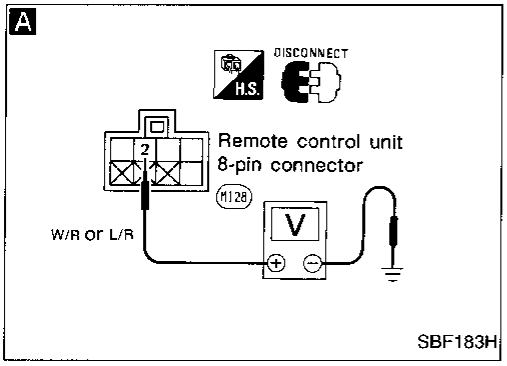
OK ↓

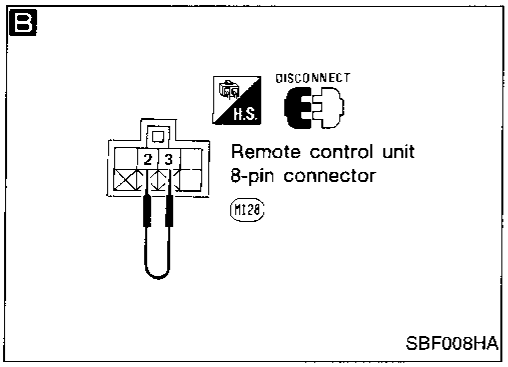
Replace control unit.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 4

**Trunk lid open remote control does not function. Everything else does function.**




A

**CHECK POWER SUPPLY CIRCUIT FOR TRUNK OPEN FUNCTION.**
Disconnect 8-pin connector from remote control unit.
Check voltage between terminal ② and ground.
**Battery voltage should exist.**

NG → Repair harness.

OK ↓

B

Connect remote control unit connector terminal ② to ③.
**Does trunk lid opener function?**

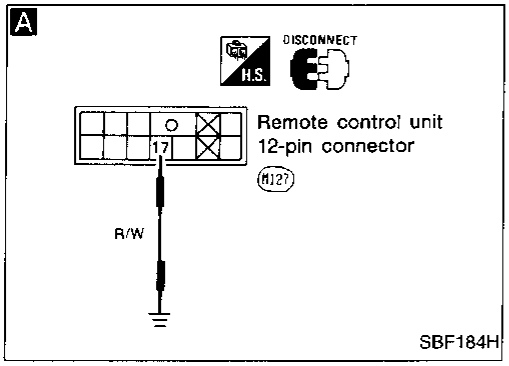
No → Check trunk lid opener circuit.

Yes ↓

Replace control unit.

### DIAGNOSTIC PROCEDURE 5

**Interior light or spot light (convertible model) does not function. Everything else does function.**




A

**CHECK INTERIOR LIGHT OR SPOT LIGHT (CONVERTIBLE MODEL) CIRCUIT.**
Disconnect remote control unit 12-pin connector.
Ground remote control unit connector terminal ⑰.
**Does interior light or spot light (convertible model) function?**

No → Check interior light or spot light (convertible model) circuit.

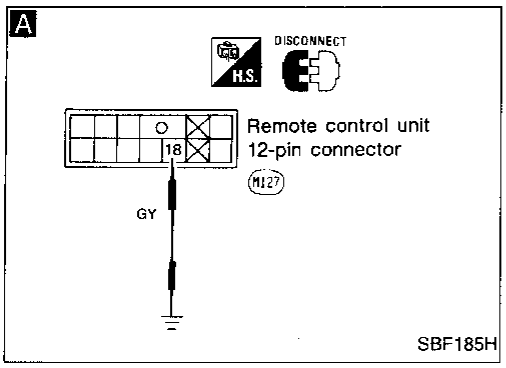
Yes ↓

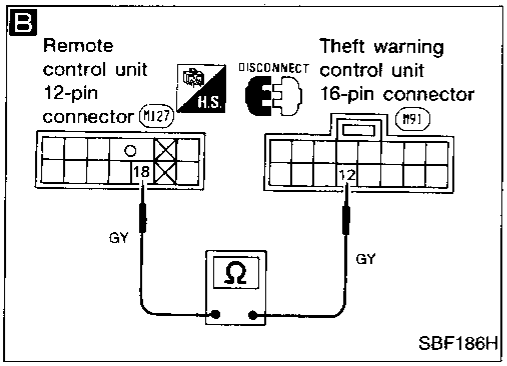
Replace control unit.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 6

**Panic alarm function does not function. Everything else does function.**




A

**CHECK PANIC ALARM CIRCUIT.**
Disconnect 12-pin connector from remote control unit.
Ground remote control unit connector terminal ⑱.
**Does panic alarm function function?**

Yes → Replace control unit.

No ↓

B

Disconnect 16-pin connector from theft warning control unit.
Check continuity between terminals ⑱ of remote control unit connector and ⑫ of theft warning control unit.
**Does continuity exist?**

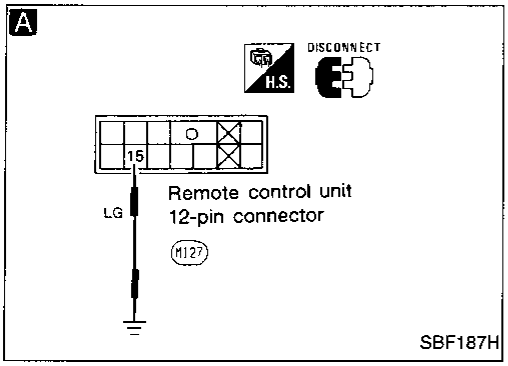
Yes → Check theft warning system.

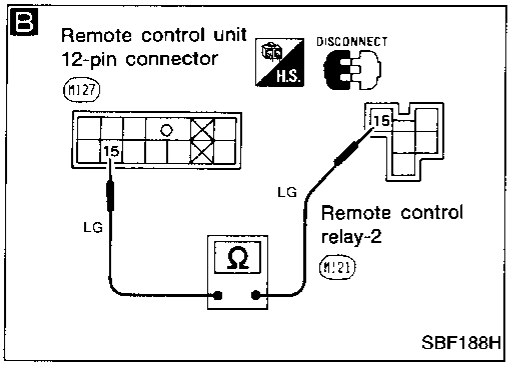
No ↓

Repair harness.

### DIAGNOSTIC PROCEDURE 7

**Hazard indicator flashing does not function. Everything else does function.**




A

**CHECK HAZARD INDICATOR FLASHING CIRCUIT.**
Disconnect 12-pin connector from remote control unit.
Ground remote control unit connector terminal ⑮.
**Does hazard indicator flashing function function?**

Yes → Replace control unit.

No ↓

B

Disconnect remote control relay-2 connector.
Check continuity between terminals ⑮ of remote control unit connector and remote control relay-2.
**Does continuity exist?**

Yes → Check remote control relay-2 and harness.

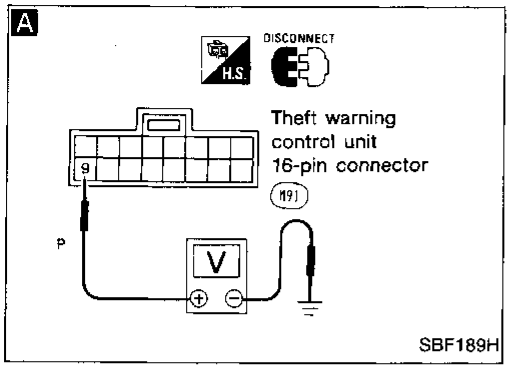
No ↓

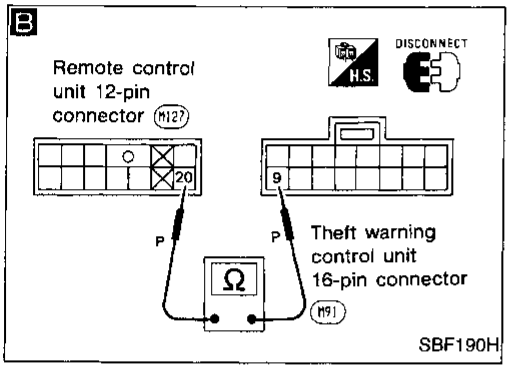
Repair harness.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 8

**Theft warning is actuated when door is unlocked or trunk lid is opened with remote control.**




A

**CHECK THEFT WARNING CANCEL SIGNAL CIRCUIT.**

1) Disconnect theft warning control unit 16-pin connector.
2) Remove key from ignition.
3) Close all doors and back door or trunk lid.
   Check voltage between terminal ⑨ and GND when door unlock remote control function is operated.

| Terminal | Operation | Voltage |
|---|---|---|
| ⑨ - GND | Door is unlocked. | 12V → 0V → 12V |

**Does voltmeter gauge move when door is unlocked?**

Yes → Check theft warning system.

No ↓

B

Disconnect 12-pin connector from remote control unit.
Check continuity between terminals ⑳ of remote control unit and ⑨ of theft warning control unit.
**Does continuity exist?**

Yes → Replace remote control unit.

No ↓

Repair harness.

## Replacing Remote Controller or Control Unit

**If the remote controller or the control unit needs to be replaced or if an additional remote controller needs to be set, enter the identity (ID) code manually.**

**ID Code Entry Procedure**

To enter the ID code, follow this procedure.

**"Setting mode".**

Three steps must be followed to establish the "setting mode".

(1) Open the trunk.
(2) Close and lock all doors.
(3) Insert and remove the key from the ignition more than six times within 10 seconds.

- **At this time, the original ID codes are eliminated.**

**ID code entry:**

(4) Unlock and lock the driver's door inside lock lever once.
(5) Push lock button on the new remote controller once (for example, if door is locked using the remote controller during this ID code entry enable state, a new ID code can be entered).

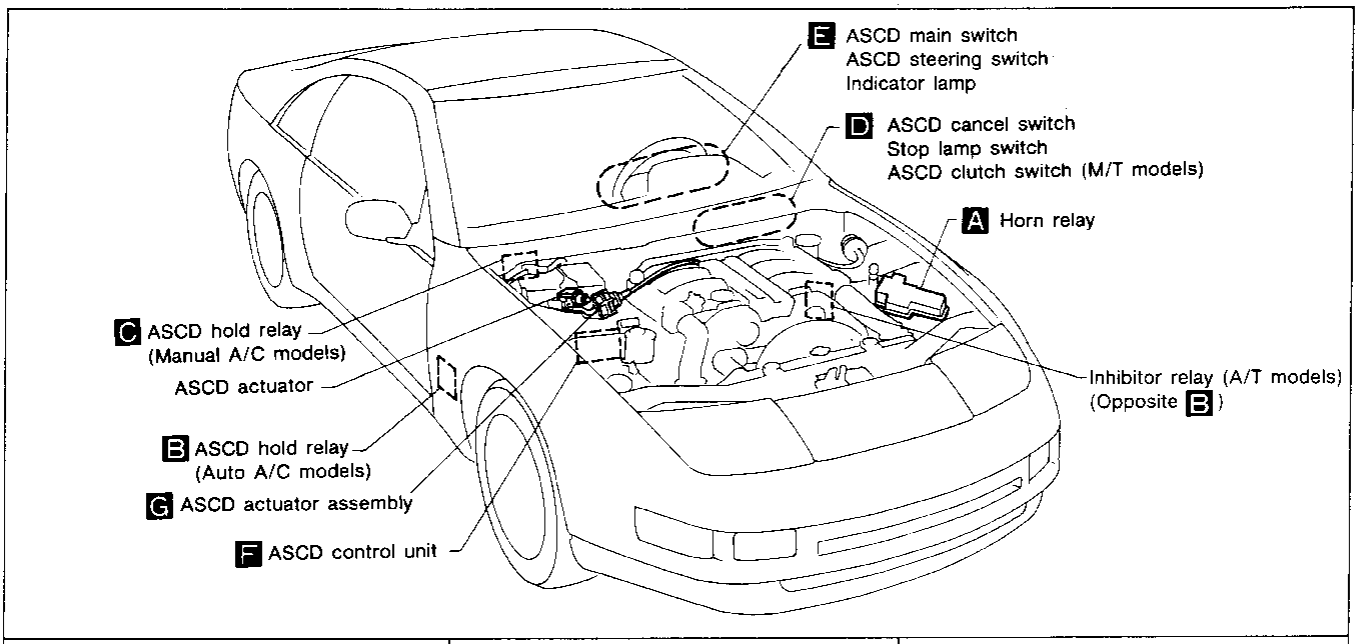
- **At this time, the new ID code is entered.**

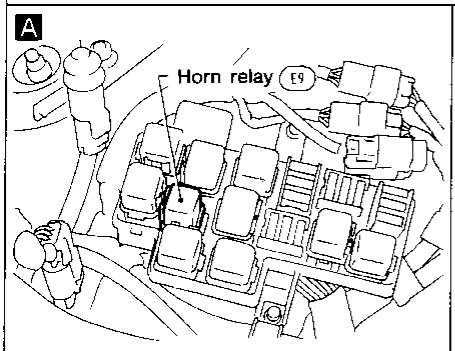
(6) If you need to enter additional remote controllers (including the original) repeat the step (4) and (5) for each additional controller.
(7) This ID code entry enable state and setting mode remain until any one of the doors is opened.

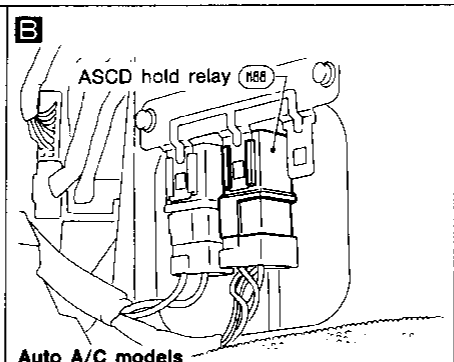
**Note**

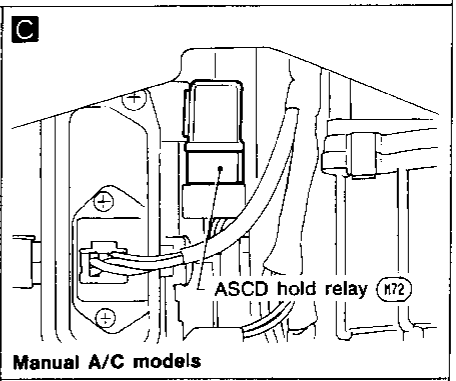
- **If the same ID code that existing in the memory is input, the entry is canceled, and no ID code will be entered.**
- **Entry of maximum four ID codes is allowed and any attempt to enter more will be ignored.**
- **Any ID codes entered after termination of the "setting" mode will not be accepted. Additionally remote control signals will be inhibited when an ID code has not been entered during the "setting" mode.**

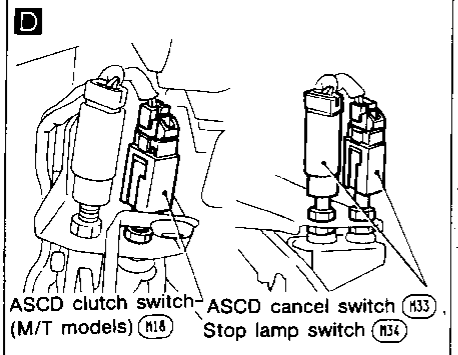
## Component Parts and Harness Connector Location

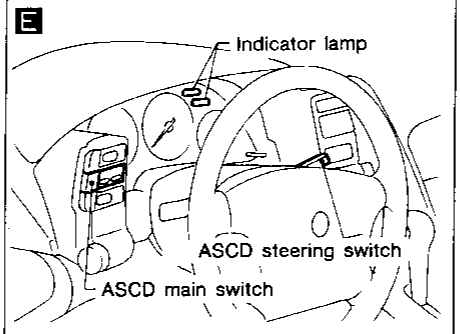


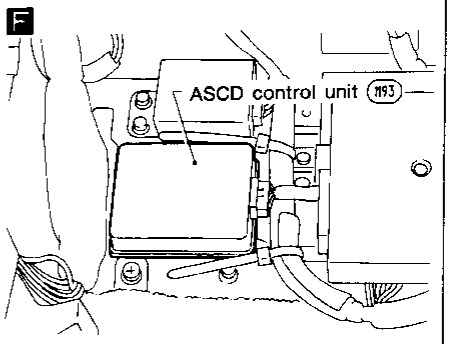



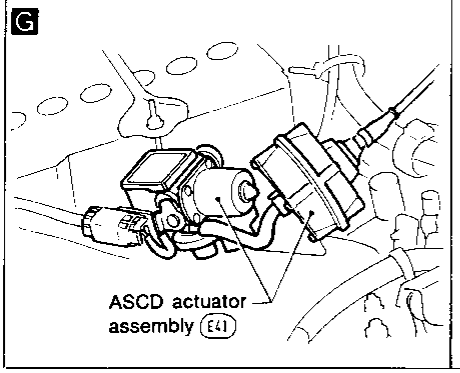



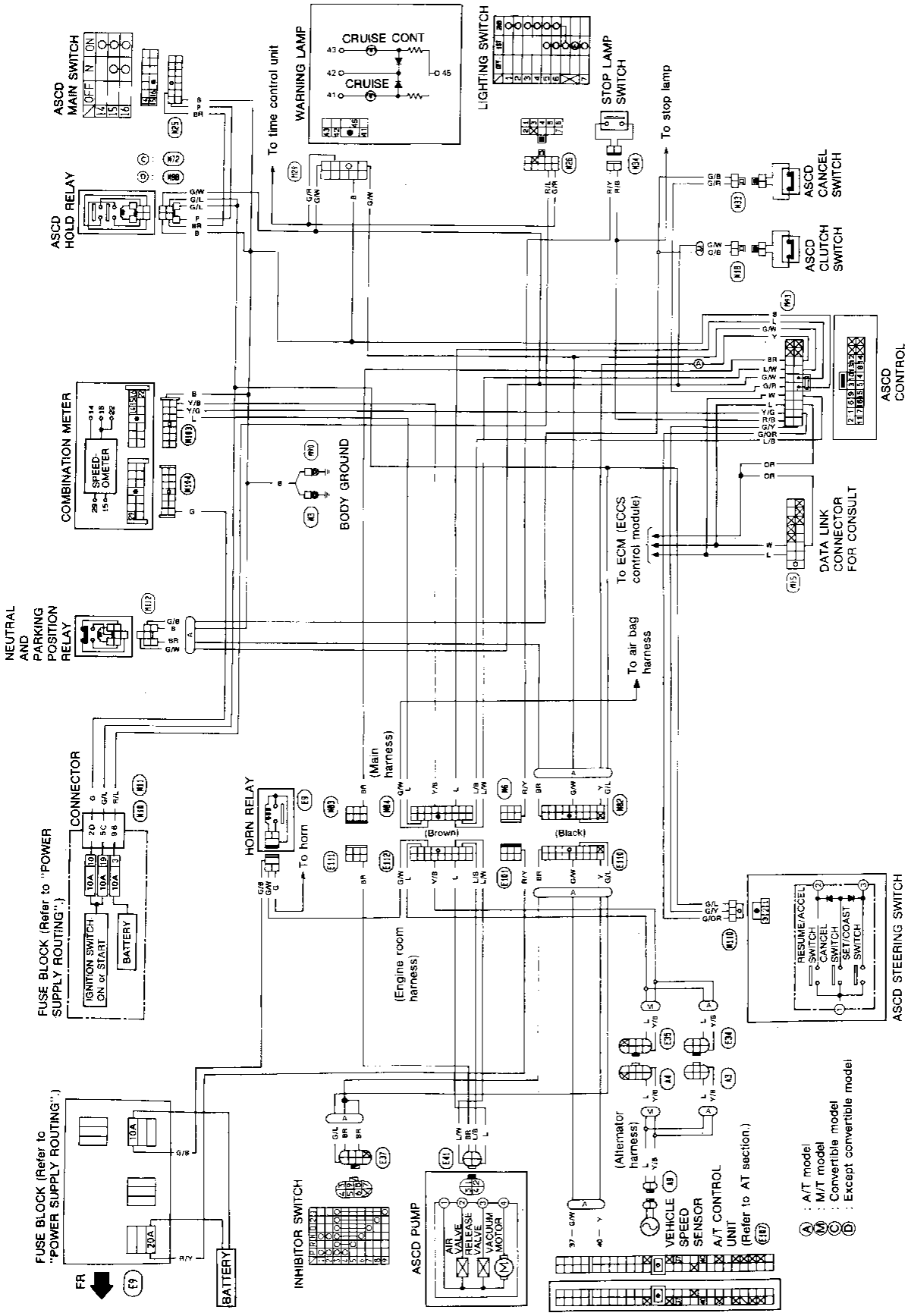



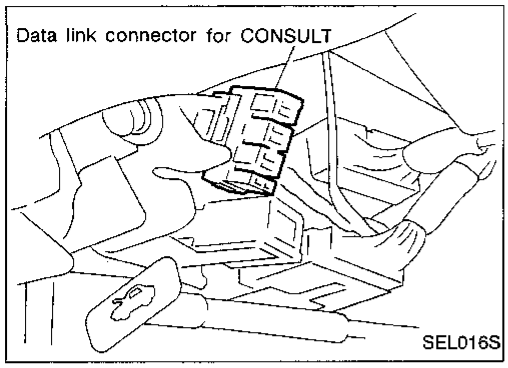




SEL078TA

## Wiring Diagram



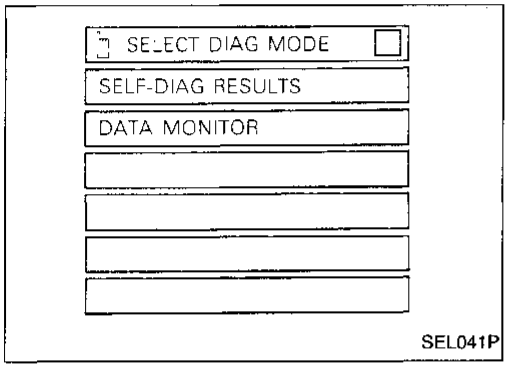

MEL939D



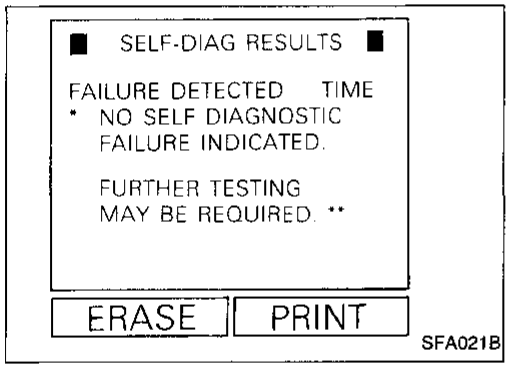

## Trouble Diagnoses

### CONSULT

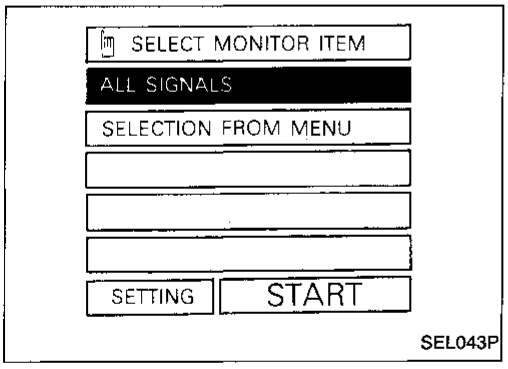
1. Turn off ignition switch.
2. Connect "CONSULT" to data link connector.



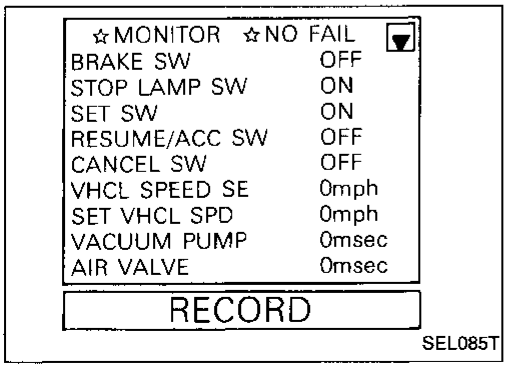

3. Turn on ignition switch.
4. Turn on ASCD main switch.
5. Touch START (on CONSULT display).
6. Touch ASCD.
7. Touch SELF-DIAG RESULTS.




- Self-diagnostic results are shown on display. Refer to table on the next page.




8. Touch DATA MONITOR.




- Touch START.
- Data monitor results are shown on display. Refer to table on the next page.

**For further information, read the CONSULT Operation Manual.**

## Trouble Diagnoses (Cont'd)

### Self-diagnostic results

| Diagnostic item | Description |
|---|---|
| * NO SELF DIAGNOSTIC FAILURE INDICATED. FURTHER TESTING MAY BE REQUIRED.** | • Even if no self diagnostic failure is indicated, further testing may be required as far as the customer complains. |
| POWER SUPPLY-VALVE | • The power supply circuit for the valves is open. (An abnormally high voltage is entered.) |
| VACUUM PUMP | • The vacuum pump circuit is open or shorted. (An abnormally high or low voltage is entered. |
| AIR VALVE | • The air valve circuit is open or shorted. (An abnormally high or low voltage is entered.) |
| VHCL SP•S/FAILSAFE | • The vehicle speed sensor or the fail-safe circuit is malfunctioning. |
| CONTROL UNIT | • The ASCD control unit is malfunctioning. |
| RELEASE VALVE | • The release valve circuit is open or shorted. (An abnormally high or low voltage is entered.) |
| BRAKE SW/STOP/L SW | • The brake switch or stop lamp switch is malfunctioning. |

### Data monitor

| Monitored item | Description |
|---|---|
| BRAKE SW | • Indicates [ON/OFF] condition of the brake switch circuit. |
| STOP LAMP SW | • Indicates [ON/OFF] condition of the stop lamp switch circuit. |
| SET SW | • Indicates [ON/OFF] condition of the set switch circuit. |
| RESUME/ACC SW | • Indicates [ON/OFF] condition of the resume/accelerate switch circuit. |
| CANCEL SW | • Indicates [ON/OFF] condition of the cancel circuit. |
| VHCL SPEED SE | • The present vehicle speed computed from the vehicle speed sensor signal is displayed. |
| SET VHCL SPD | • The preset vehicle speed is displayed. |
| VACUUM PUMP | • The operation time of the vacuum pump is displayed. |
| AIR VALVE | • The operation time of the air valve is displayed. |
| PW SUP-VALVE | • Indicates [ON/OFF] condition of the circuit for the air valve and the release valve. |
| CRUISE LAMP | • Indicates [ON/OFF] condition of the cruise lamp circuit. |
| A/T•OD CANCEL | • Indicates [ON/OFF] condition of the OD cancel circuit. |
| FAIL SAFE•LOW | • The fail-safe (LOW) circuit function is displayed. |
| FAIL SAFE•SPD | • The fail-safe (SPEED) circuit function is displayed. |

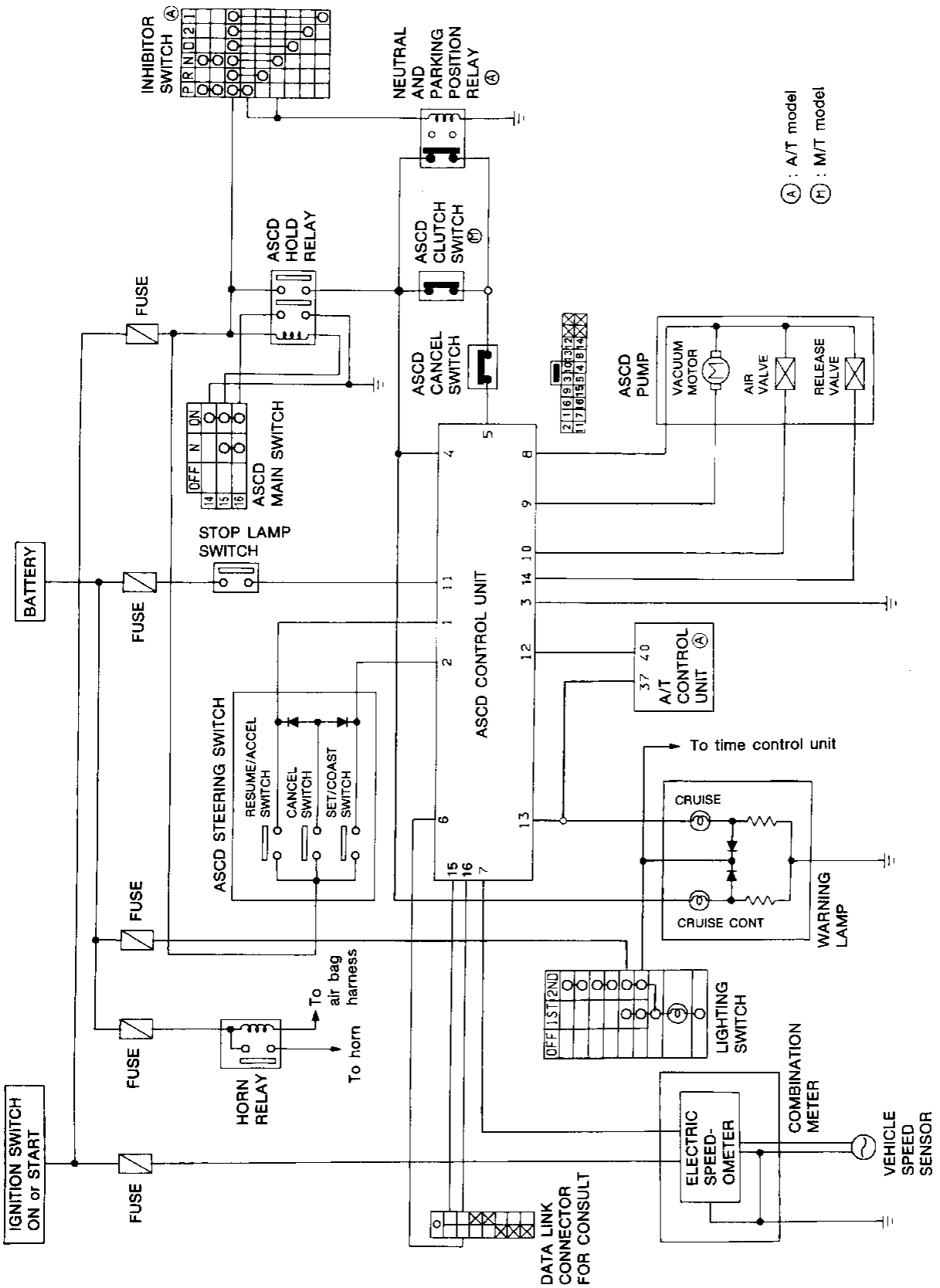
## Trouble Diagnoses (Cont'd)

### SYMPTOM CHART

| PROCEDURE | Diagnostic Procedure | | | | | | | | Electrical Components Inspection | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REFERENCE PAGE | EL-105 | EL-108 | EL-108 | EL-109 | EL-109 | EL-111 | EL-112 | EL-114 | EL-115 | EL-116 | EL-117 | EL-117 | EL-117 | EL-117 | EL-117 | EL-118 |
| SYMPTOM | Diagnostic Procedure 1 | Diagnostic Procedure 2 | Diagnostic Procedure 3 | Diagnostic Procedure 4 | Diagnostic Procedure 5 | Diagnostic Procedure 6 | Diagnostic Procedure 7 | Diagnostic Procedure 8 | ASCD wire adjustment | ASCD actuator/ASCD pump | ASCD main switch | ASCD steering switch | ASCD cancel switch and stop lamp switch | Clutch switch (For M/T models) | Inhibitor switch (For A/T models) | Vehicle speed sensor |
| ASCD control unit cannot be set properly. | ○ | | | | | | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Engine hunts | | ○ | | | | | | | ○ | ○ | | | | | | |
| Large difference between set speed and actual vehicle speed. | | | ○ | | | | | | ○ | ○ | | | | | | |
| Deceleration is greatest immediately after ASCD has been set. | | | | ○ | | | | | ○ | ○ | | | | | | |
| ACCEL switch will not operate. | ○ | | | | | ○ | | | | | | ○ | | | | |
| RESUME switch will not operate. | ○ | | | | | | ○ | | | | | ○ | ○ | | | |
| Set speed cannot be canceled. | | | | | ○ | | | | ○ | ○ | | | ○ | | | |
| "CRUISE" indicator lamp blinks. | | | | | | | | ○ | | ○ | | ○ | ○ | | | |

## Trouble Diagnoses (Cont'd)

### CIRCUIT DIAGRAM FOR QUICK PINPOINT CHECK

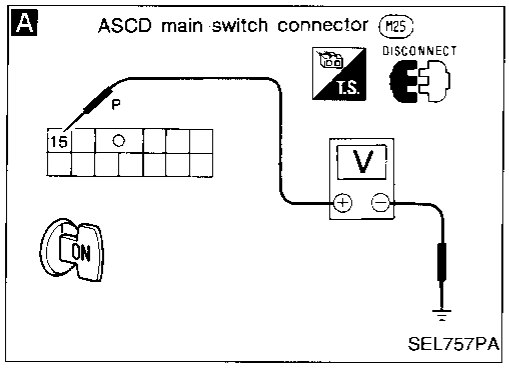


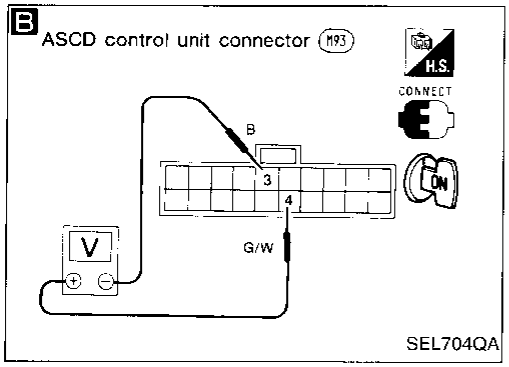

MEL833C

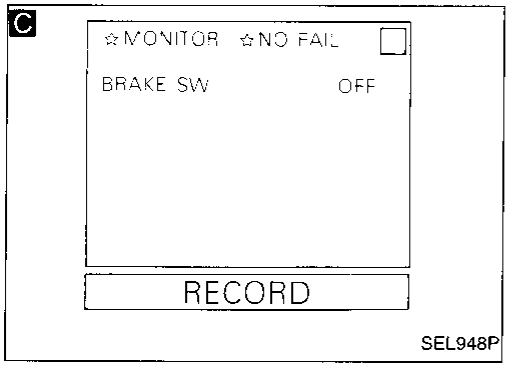
## Trouble Diagnoses (Cont'd)

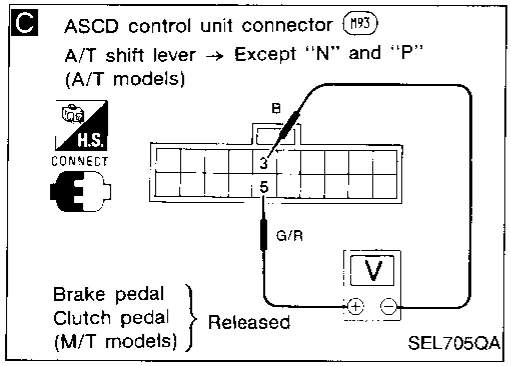
### DIAGNOSTIC PROCEDURE 1

**SYMPTOM: ASCD control cannot be set.**




Turn ASCD main switch "OFF" and "ON" to make sure indicator illuminates.

NG → **A**

**A**

CHECK POWER SUPPLY FOR ASCD MAIN SWITCH.
1. Disconnect main switch harness connector.
2. Do approx. 12 volts exist between main switch harness terminal ⑮ and body ground?

No → Check fuse and harness.

Yes → CHECK ASCD MAIN SWITCH.
Refer to "Electrical Components Inspection" (EL-117).
CHECK ASCD HOLD RELAY.

OK

**B**

CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT.
1. Turn ASCD main switch "ON".
2. Check voltage between control unit harness terminals ④ and ③.
**Battery voltage should exist.**

NG → Check continuity between control unit harness terminal ④ and ASCD hold relay.

OK

**C**

CHECK CUT-OFF CIRCUIT FOR ASCD CONTROL UNIT.

See "BRAKE SW" in "Data monitor" mode.
**BRAKE SWITCH**
**When switch is depressed: OFF**
**When switch is released: ON**

OR

Check voltage between control unit harness terminals ⑤ and ③.
**Battery voltage should exist.**

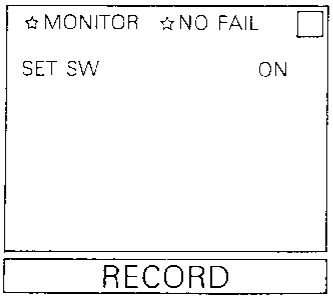
NG → CHECK ASCD CANCEL SWITCH, ASCD CLUTCH SWITCH (M/T models) AND INHIBITOR SWITCH (A/T models).
Refer to "Electrical Components Inspection" (EL-117).
CHECK INHIBITOR RELAY (A/T models).

OK

Ⓐ
(Next page)

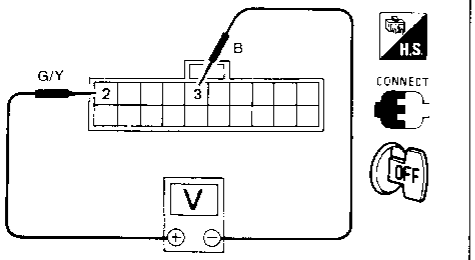
## Trouble Diagnoses (Cont'd)

D



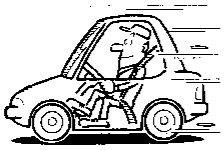

SEL950P

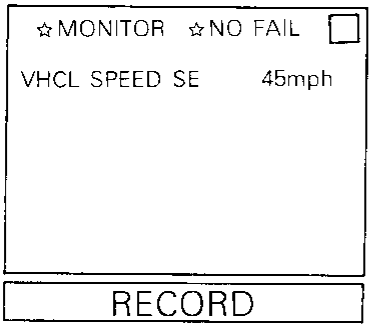
D




SEL706QA

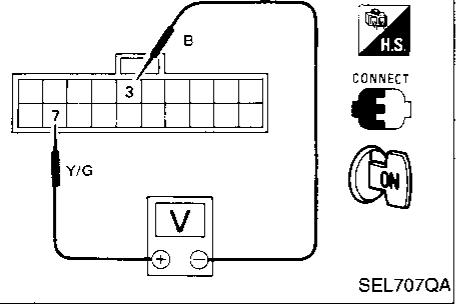
E






SEL084T

E




SEL707QA

Ⓐ

D

CHECK SET/COAST SWITCH CIRCUIT FOR ASCD CONTROL UNIT.

See "SET SW" in "Data monitor" mode.

**SET SW**
**When switch is pressed: ON**
**When switch is released: OFF**

NG → Does horn work?

No → Check fuse and horn relay.

Yes → CHECK ASCD STEERING SWITCH.
Refer to "Electrical Components Inspection" (EL-117).

OR

1. Turn and keep on SET/COAST switch of ASCD steering switch.
2. Check voltage between control unit harness terminals ② and ③.
   **Battery voltage should exist.**

OK

E

CHECK VEHICLE SPEED SENSOR CIRCUIT.

See "VHCL SPEED SE" in "Data monitor" mode while driving.

NG → CHECK VEHICLE SPEED SENSOR.
Refer to "Electrical Components Inspection" (EL-118).

OR

1. Apply wheel chocks and jack up rear of vehicle.
2. Connect voltmeter between control unit harness terminals ⑦ and ③.
3. Slowly turn rear wheel.
4. Check deflection of voltmeter pointer.

OK

CHECK ASCD ACTUATOR/ASCD PUMP.
Refer to "Electrical Components Inspection" (EL-116).

NG → Replace ASCD actuator assembly.

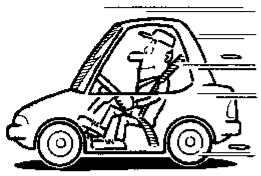
OK

Ⓑ

(Next page)

## Trouble Diagnoses (Cont'd)

F



☆ MONITOR ☆ NO FAIL

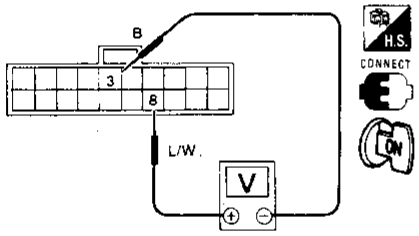
PW SUP-VALVE ON

RECORD

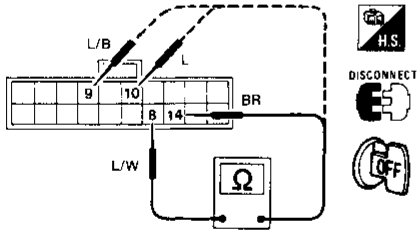
SEL860R

F

ASCD control unit connector M93




ASCD control unit connector M93




SEL708QA

⑧

F

CHECK OUTPUT FOR ASCD ACTUATOR/ASCD PUMP.

1. Read out "PW SUP- VALVE" in "Data monitor" mode while driving.

**PW SUP-VALVE:**
ON (When ASCD is operating.)
OFF (When ASCD is not operating.)

NG → Repair ASCD control unit.

OR

1. Check voltage between control unit harness terminals ⑧ and ③.

**Voltage is 0V.**

OK

F

1. Disconnect ASCD control unit connector.
2. Measure resistance between control unit harness terminals ⑧ and ⑨, ⑩, ⑭.

| Terminals | | Resistance [Ω] |
|---|---|---|
| ⑧ | ⑨ | Approx. 8 - 45 |
| | ⑩ | Approx. 65 |
| | ⑭ | Approx. 65 |

OK → (to Repair ASCD control unit.)

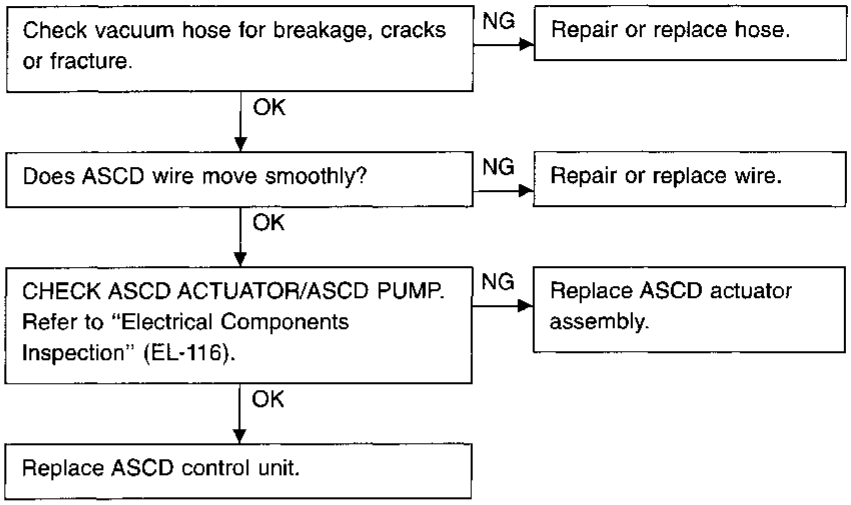
NG

Repair short or open circuit in ASCD actuator assembly.

## Trouble Diagnoses (Cont'd)

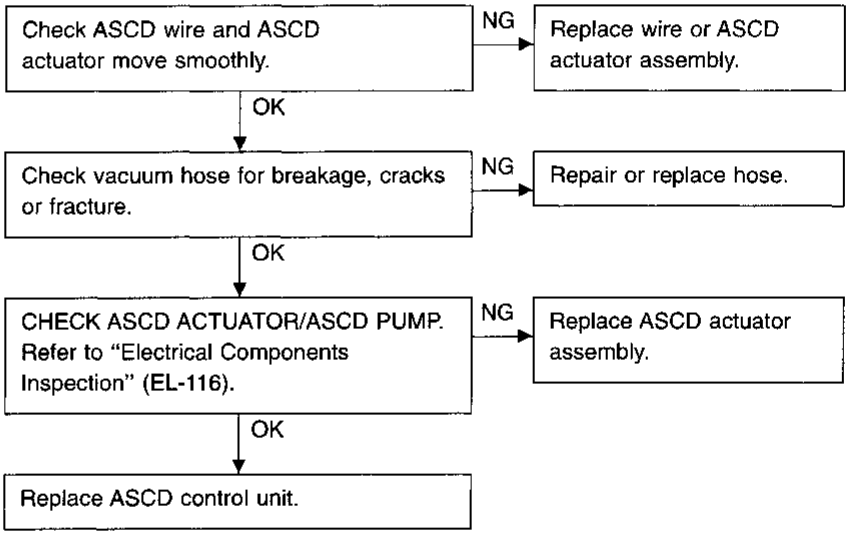
### DIAGNOSTIC PROCEDURE 2

**SYMPTOM: Engine hunts.**




### DIAGNOSTIC PROCEDURE 3

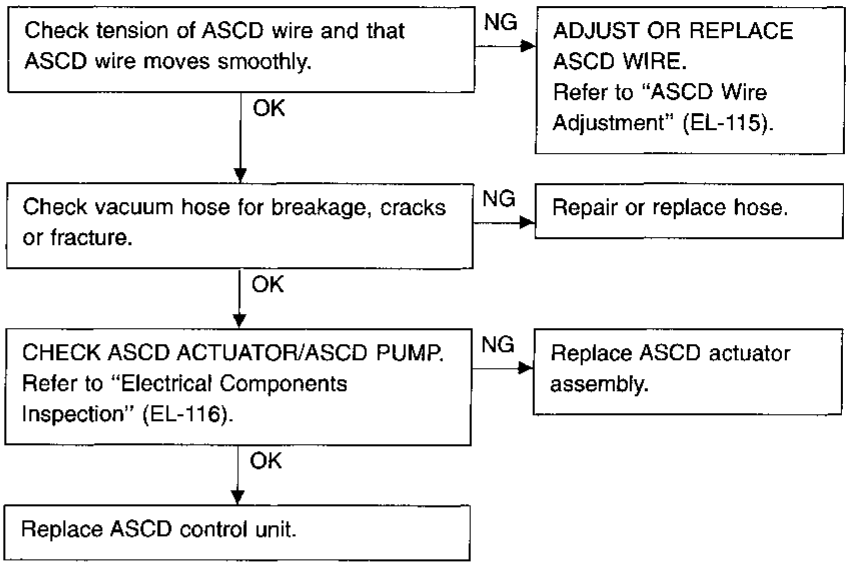
**SYMPTOM: Large difference between set vehicle speed and actual speed.**

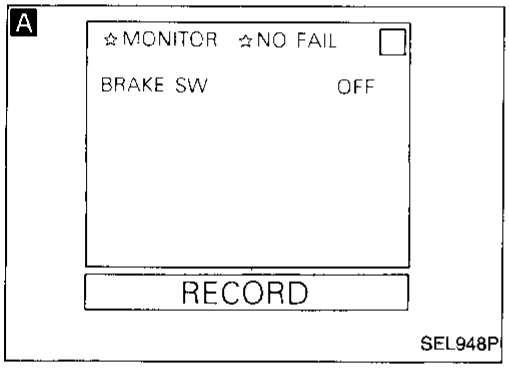


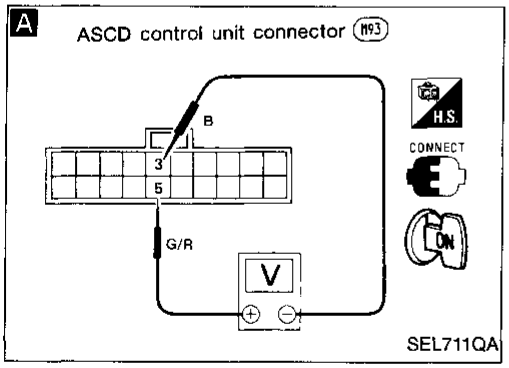
## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 4

**SYMPTOM: Deceleration is greatest immediately after ASCD has been set.**




### DIAGNOSTIC PROCEDURE 5

**SYMPTOM: Set speed cannot be cancelled.**

A

CHECK ASCD BRAKE AND INHIBITOR SWITCH CIRCUIT.
1. Turn ASCD main switch "ON".
2. See "BRAKE SW" in "Data monitor" mode.
   **BRAKE SW**
   When brake pedal is released: ON
   When brake pedal is depressed: OFF

NG → CHECK ASCD CANCEL, CLUTCH, and INHIBITOR SWITCH. Refer to "Electrical Components Inspection" (EL-117).

OR

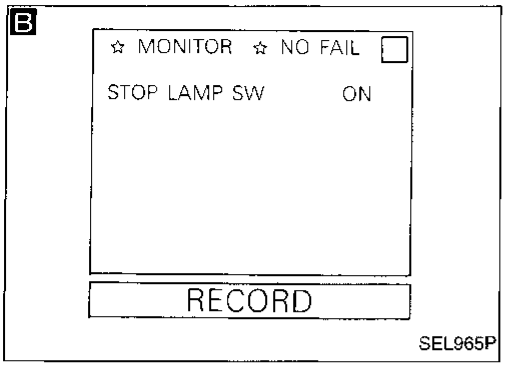
2. Check voltage between control unit harness terminals ⑤ and ③.

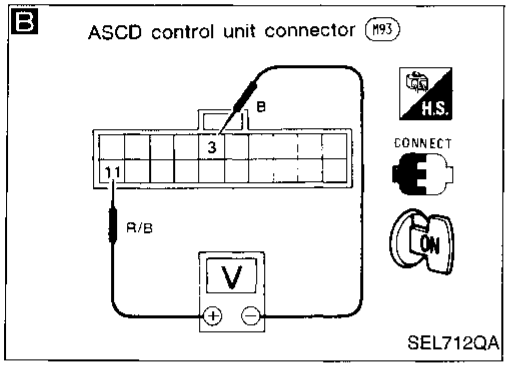
| Conditions | | | Voltage [V] |
|---|---|---|---|
| M/T | ASCD cancel switch | Depressed | 0 |
| | | Released | Approx. 12 |
| | ASCD clutch switch | Depressed | 0 |
| | | Released | Approx. 12 |
| A/T | A/T shift lever position is at any position except N or P. | | Approx. 12 |
| | A/T shift lever position is at N or P. | | 0 |

OK

Ⓒ (Next page)

## Trouble Diagnoses (Cont'd)

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B

CHECK STOP LAMP SWITCH CIRCUIT.

See "STOP LAMP SW" in "Data monitor" mode.

**STOP LAMP SW**

When brake pedal is released: OFF

When brake pedal is depressed: ON

NG → CHECK STOP LAMP SWITCH. Refer to "Electrical Components Inspection" (EL-117).

OR

Check voltage between control unit harness terminals ⑪ and ③.

| Condition | | Voltage [V] |
|---|---|---|
| Stop lamp switch | Depressed | Approx. 12 |
| | Released | 0 |

OK

Check ASCD wire moves smoothly. NG → Replace ASCD wire.

OK

CHECK ASCD ACTUATOR/ASCD PUMP. Refer to "Electrical Components Inspection" (EL-116). NG → Replace ASCD actuator assembly.

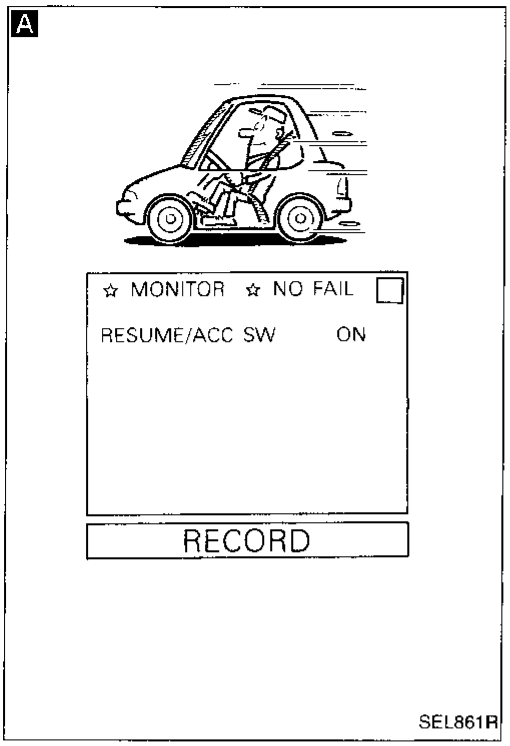
OK

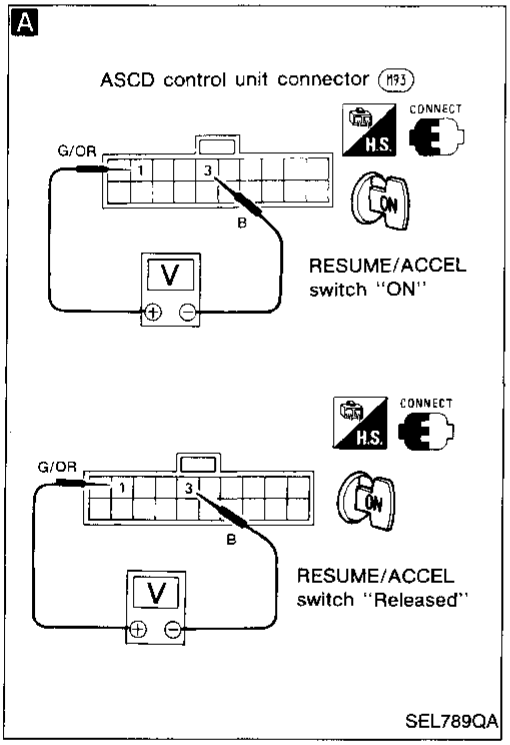
Replace ASCD control unit.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 6

**SYMPTOM: ACCEL switch will not operate.**





Check constant-speed function for operating using SET/COAST switch.
NG → Go to "DIAGNOSTIC PROCEDURE 1" (EL-105).
OK

A

CHECK RESUME/ACCEL SWITCH CIRCUIT.
See "RESUME/ACC SW" in "Data monitor" mode.
**RESUME/ACC SW**
When switch is pressed: ON
When switch is released: OFF
NG → CHECK ASCD STEERING SWITCH. Refer to "Electrical Components Inspection" (EL-117).

OR

Check voltage between control unit harness terminals ① and ③ after turning on and holding RESUME/ ACCEL switch.
**Battery voltage should exist.**
Check voltage between control unit harness terminals ① and ③ after releasing RESUME/ ACCEL switch.
**Voltage is 0V.**
NG → CHECK ASCD STEERING SWITCH. Refer to "Electrical Components Inspection" (EL-117).

OK

B

Does vehicle accelerate when RESUME/ ACCEL switch is turned on?
No → Replace control unit.
Yes

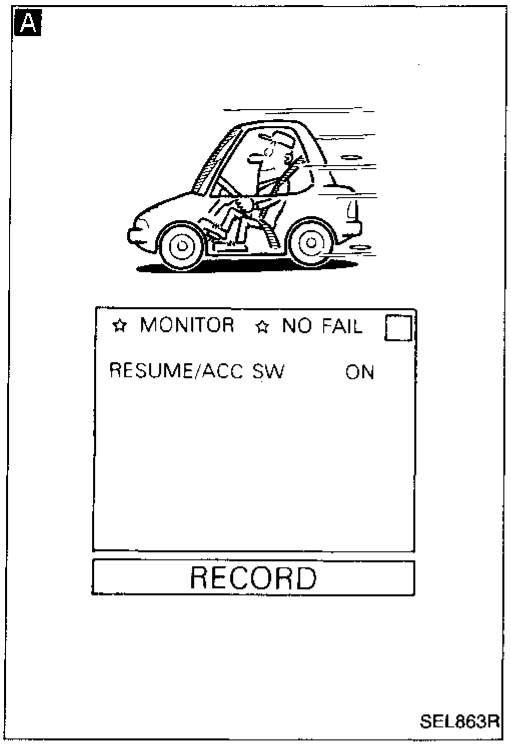
Does vehicle maintain the new (faster) speed when RESUME/ACCEL switch is released?
No → Replace control unit.
Yes

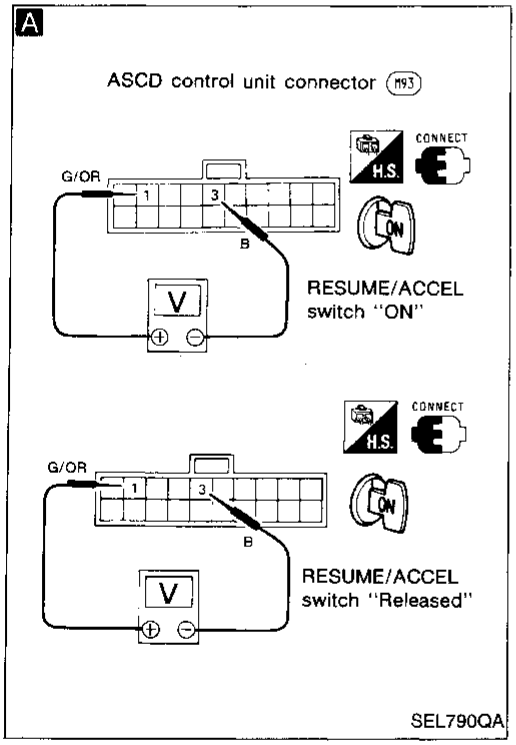
System is OK.

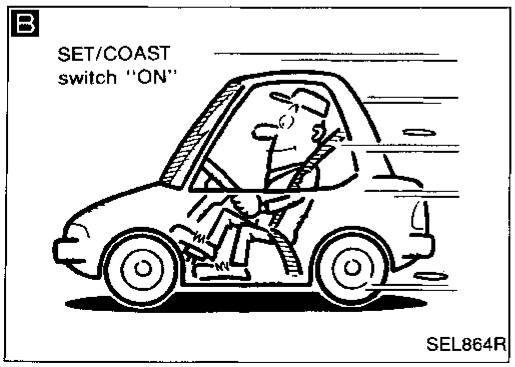
## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 7

**SYMPTOM: RESUME switch will not operate.**




Check constant-speed function for operation using SET/COAST switch.

NG → Go to "DIAGNOSTIC PROCEDURE 1" (EL-105).

OK

A

CHECK RESUME/ACCEL SWITCH CIRCUIT.

See "RESUME/ACC SW" in "Data monitor" mode.

**RESUME/ACC SW**

When switch is pressed: ON

When switch is released: OFF

NG → CHECK ASCD STEERING SWITCH. Refer to "Electrical Components Inspection" (EL-117).

OR

Check voltage between control unit harness terminals ① and ③.

- After turning on and holding RESUME/ACC switch.
  **Battery voltage should exist.**
- After releasing RESUME/ACC switch.
  **Voltage is 0V.**

OK

B

Set vehicle speed at 80 km/h (50 MPH) by turning on SET/COAST switch.

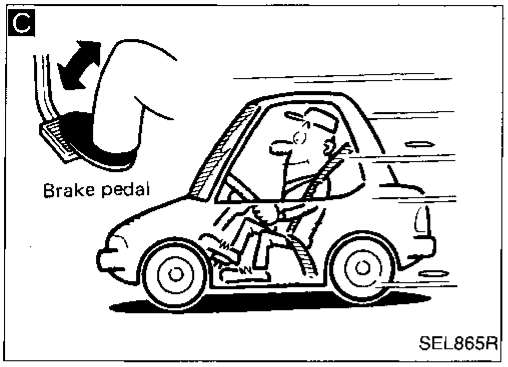
OK

Ⓓ

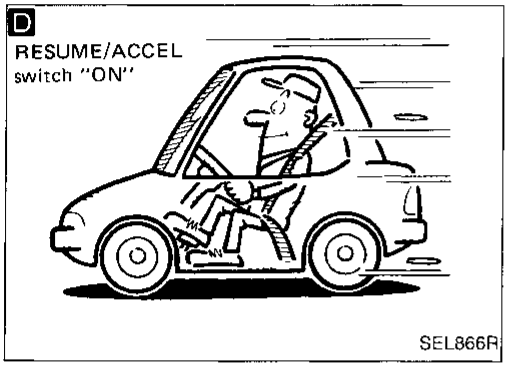
(Next page)

## Trouble Diagnoses (Cont'd)

C




D




Ⓓ

C

While cruising at set speed, depress and release brake pedal.

OK

Does speed control disengage and "CRUISE" lamp turn off?

No → CHECK STOP LAMP SWITCH, ASCD CANCEL SWITCH AND ASCD CLUTCH SWITCH (M/T models). Refer to "Electrical Components Inspection" (EL-117).

Yes

D

Above 48 km/h (30 MPH), press and release "RESUME/ACCEL switch.

OK

Does vehicle return to previously set speed [80 km/h (50 MPH)]?

No → Replace control unit.

Yes

System is OK.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 8

**SYMPTOM: "CRUISE" indicator lamp blinks.**

Does indicator lamp blink when ASCD main switch is turned to "ON" again?

Yes → Does indicator lamp blink when brake pedal is depressed slowly?

No → CHECK ASCD ACTUATOR/ ASCD PUMP.
Refer to "Electrical Components Inspection" (EL-116).

Yes → Adjust installation of stop lamp switch and ASCD cancel switch. Refer to BR section.

No → CHECK ASCD STEERING SWITCH.
Refer to "Electrical Components Inspection" (EL-117).

NG → Replace ASCD combination switch.

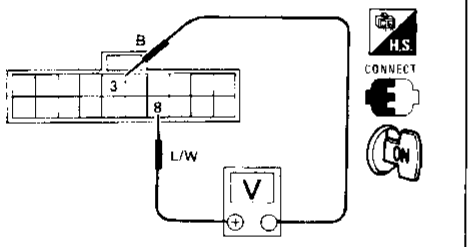
OK → Replace control unit.

NG → Replace ASCD actuator assembly.

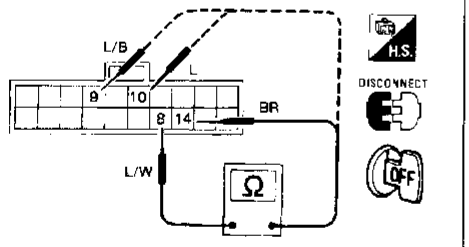
OK → A

A

ASCD control unit connector M93




ASCD control unit connector M93




SEL713QA

CHECK ASCD ACTUATOR/ ASCD PUMP CIRCUIT.

1. Check voltage between control unit harness terminals ⑧ and ③.
   **Voltage is 0V.**
2. Disconnect ASCD control unit connector.
3. Measure resistance between control unit harness terminals ⑧ and ⑨, ⑩, ⑭.

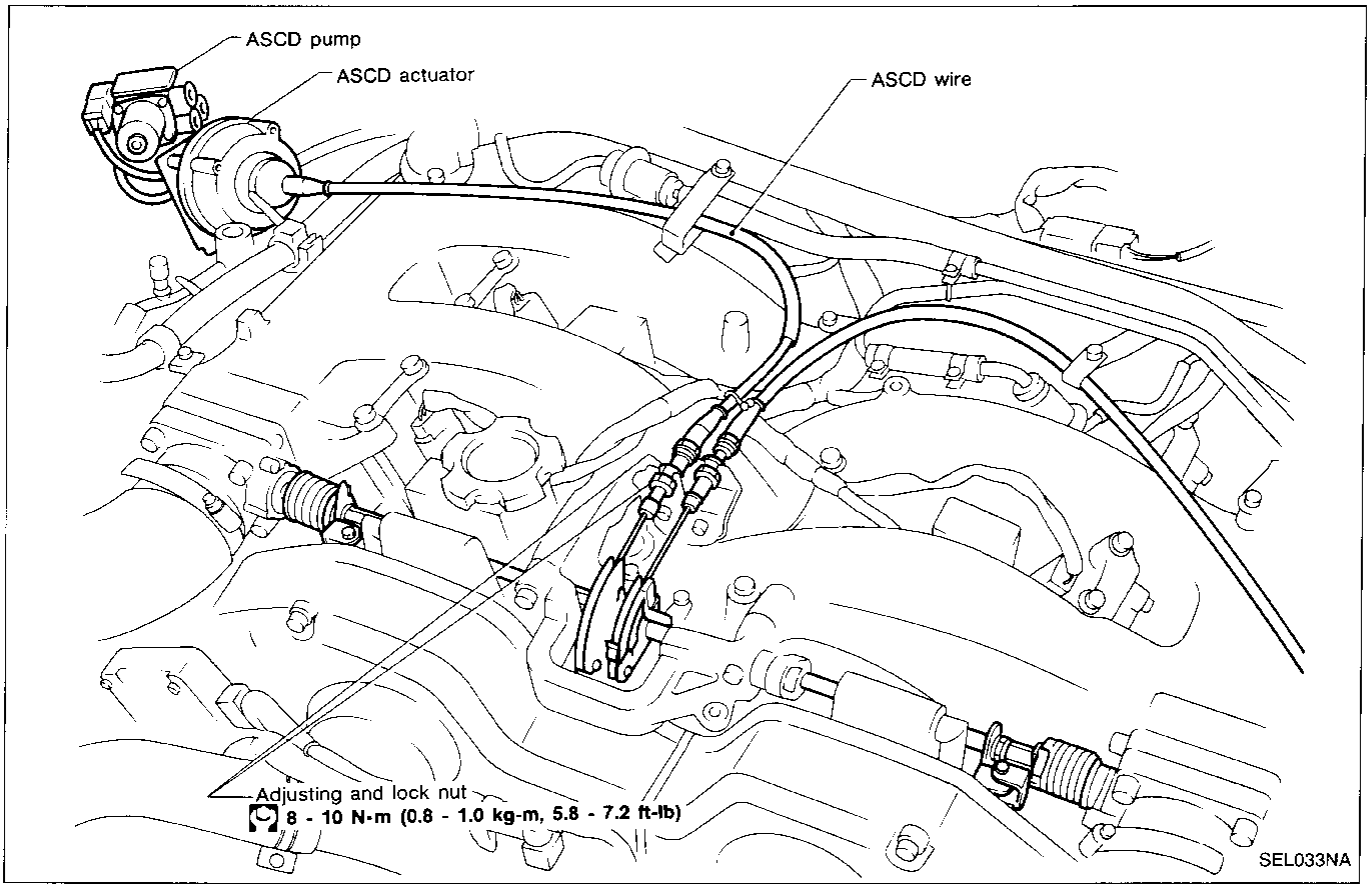
| Terminals | | Resistance [Ω] |
|---|---|---|
| ⑧ | ⑨ | Approx. 8 - 45 |
| | ⑩ | Approx. 65 |
| | ⑭ | Approx. 65 |

NG → Repair short or open circuit in ASCD actuator/ ASCD pump harness.

OK → Replace ASCD control unit.

## Trouble Diagnoses (Cont'd)

### ASCD WIRE ADJUSTMENT




**CAUTION:**

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

After confirming that accelerator wire is properly adjusted, adjust the tension of ASCD wire in the following manner.

(1) After adjusting the length of the accelerator wire, turn a securing nut by 1/2 to 1 turn from throttle open starting position to the wire loosening direction to fix. (Must be securing carried out to prevent response delay of operation of the ASCD)

(2) Securely tighten lock nut to hold adjusting nut in place.

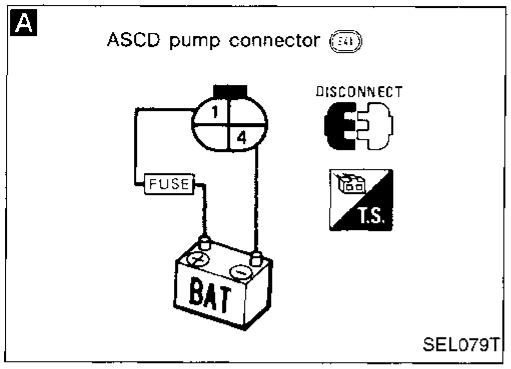
## Trouble Diagnoses (Cont'd)

### ELECTRICAL COMPONENTS INSPECTION

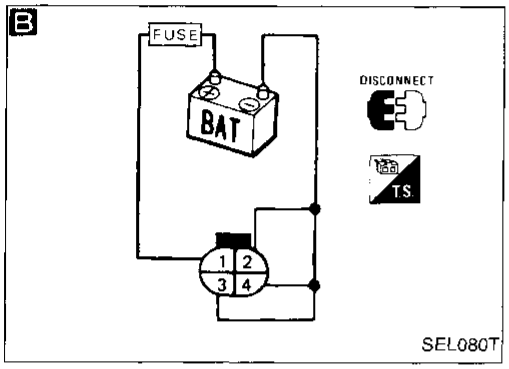
### ASCD actuator/ASCD pump

1. Disconnect ASCD actuator/ASCD pump connector.
2. Check ASCD actuator/ASCD pump operations as shown.

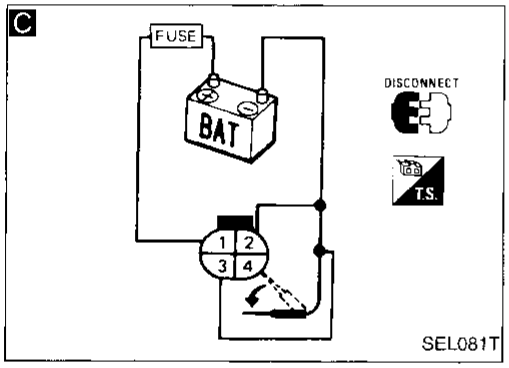
A



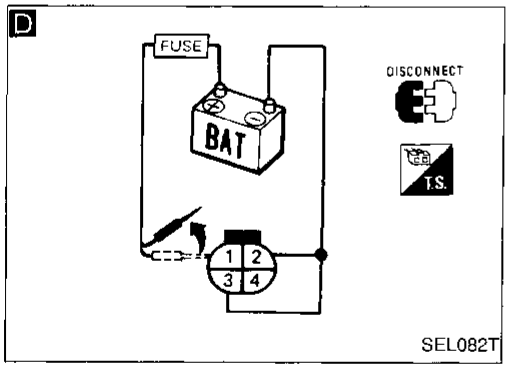

B




C




D




A

Check to see if motor starts when 12V DC is applied across ① and ④.
NG → Replace ASCD actuator assembly.
OK ↓

B

Check to see if ASCD wire is pulled when 12V DC is applied across ①, ②, ③ and ④.
NG → Replace ASCD actuator assembly.
OK (Wire is pulled.) ↓

C

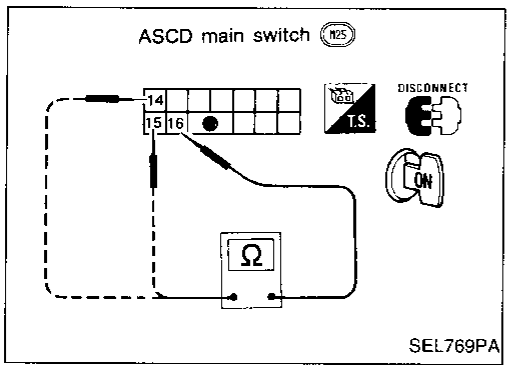
Check to see if ASCD wire returns to original position 50 to 60 seconds after disconnecting lead from ④.
NG → Replace ASCD actuator assembly.
OK (Wire does not return.) ↓

D

Disconnect lead from ① to see if ASCD wire returns immediately.
NG → Replace ASCD actuator assembly.
OK (Wire returns.) ↓

ASCD actuator/ASCD pump are OK.

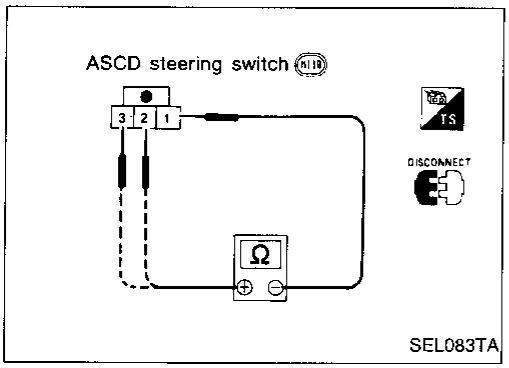
## Trouble Diagnoses (Cont'd)




### ASCD main switch

Check continuity between terminals by pushing switch to each position.

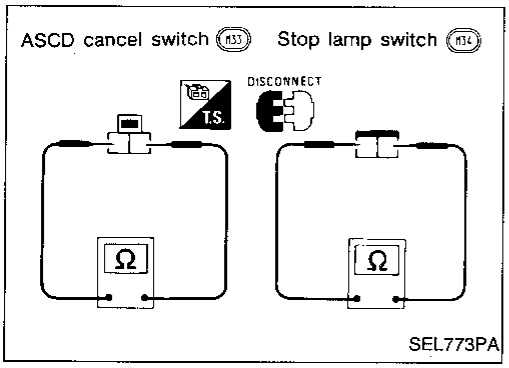
| Switch position | Terminals | | |
|---|---|---|---|
| | 14 | 15 | 16 |
| ON | ○ | ○ | ○ |
| N | | ○ | ○ |
| OFF | | | |




### ASCD steering switch

Check continuity between terminals by turning lever.

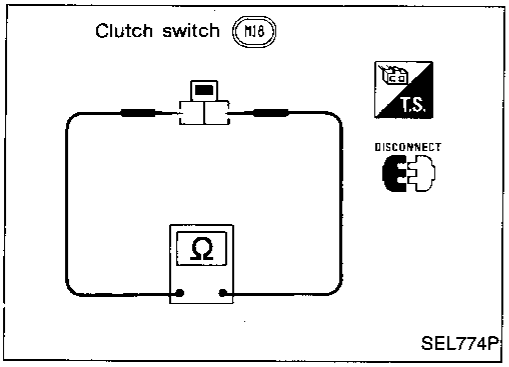
| Lever | Terminals | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| SET/COAST | ○ | ○ | |
| RESUME/ACCEL | ○ | | ○ |
| CANCEL | ○ | ▶\|○ | |
| | ○ | ▶ | ○ |




### ASCD cancel switch and stop lamp switch

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

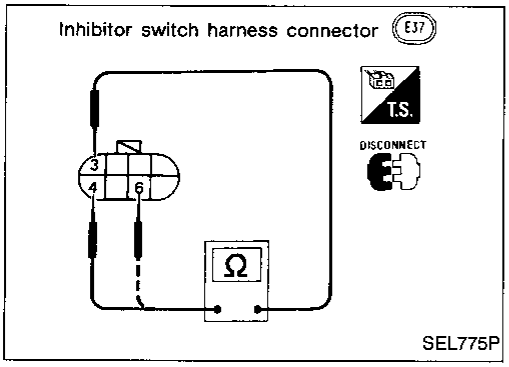
**Check each switch after adjusting brake pedal — refer to BR section.**




### Clutch switch (For M/T models)

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

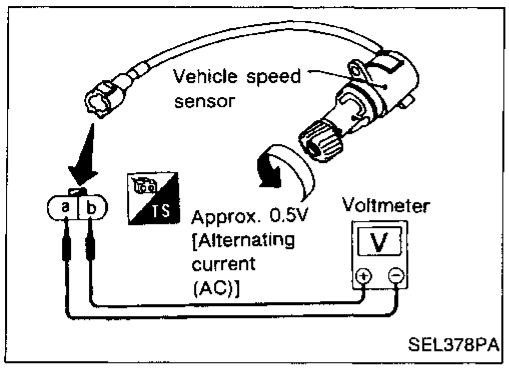
**Check switch after adjusting clutch pedal — refer to CL section.**




### Inhibitor switch (For A/T models)

| Shift lever position | Terminals | | |
|---|---|---|---|
| | 3 | 4 | 6 |
| "P" | ○ | ○ | |
| "N" | ○ | | ○ |
| Except "N" or "P" | | | |

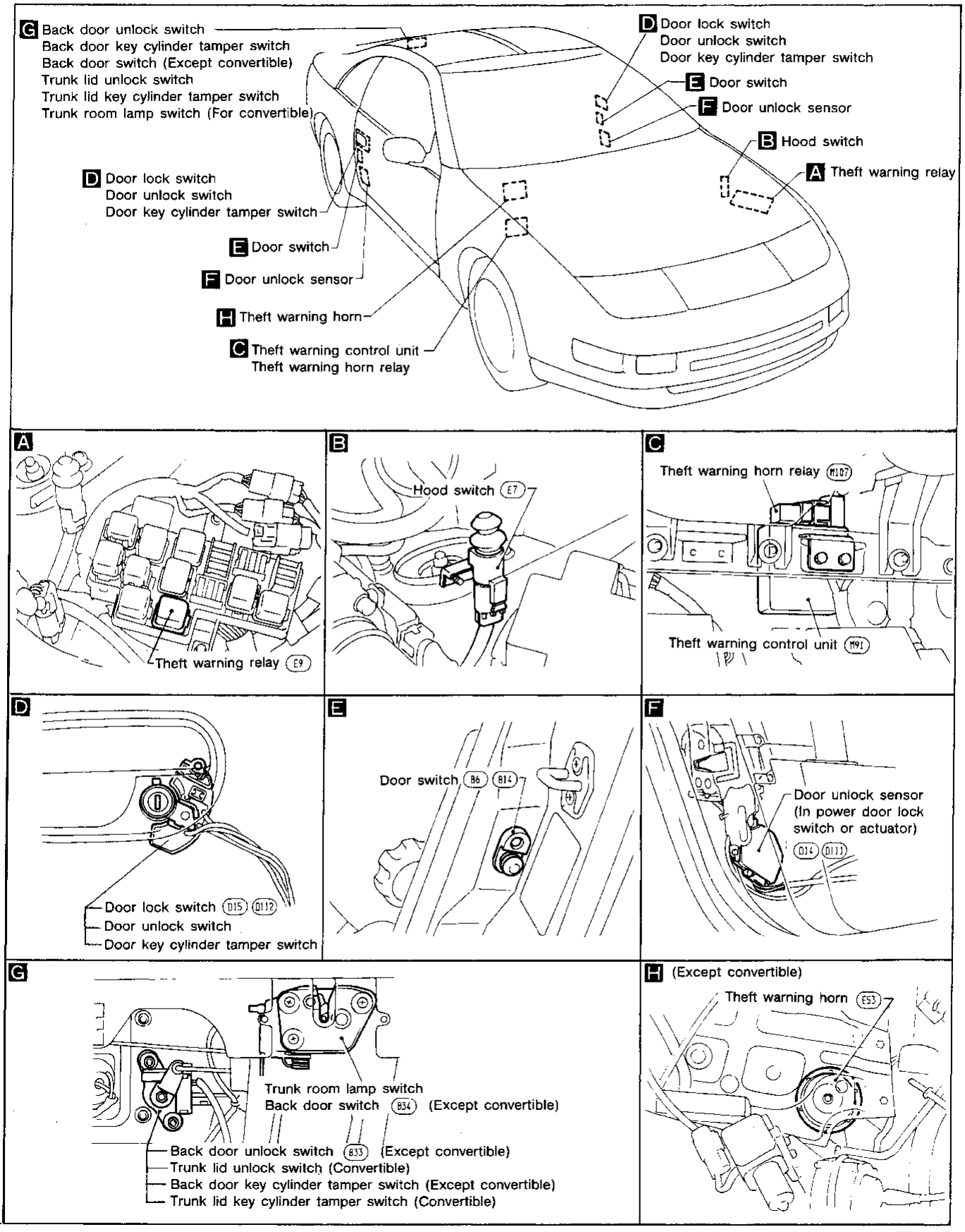
## Trouble Diagnoses (Cont'd)




### Vehicle speed sensor

1 Remove vehicle speed sensor from transaxle.
2. Turn vehicle speed sensor pinion quickly and measure voltage across ⓐ and ⓑ.

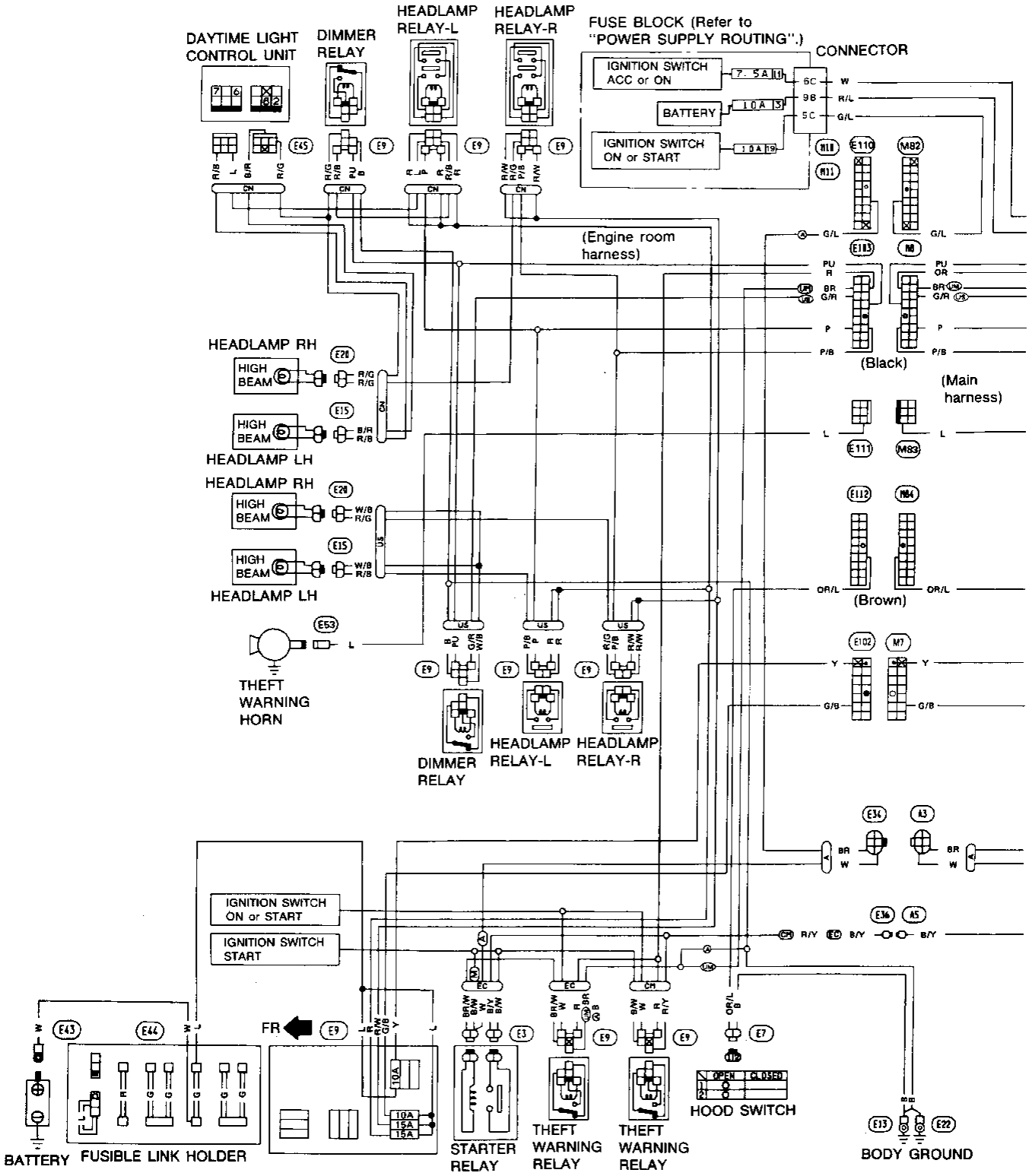
## Component Parts and Harness Connector Location



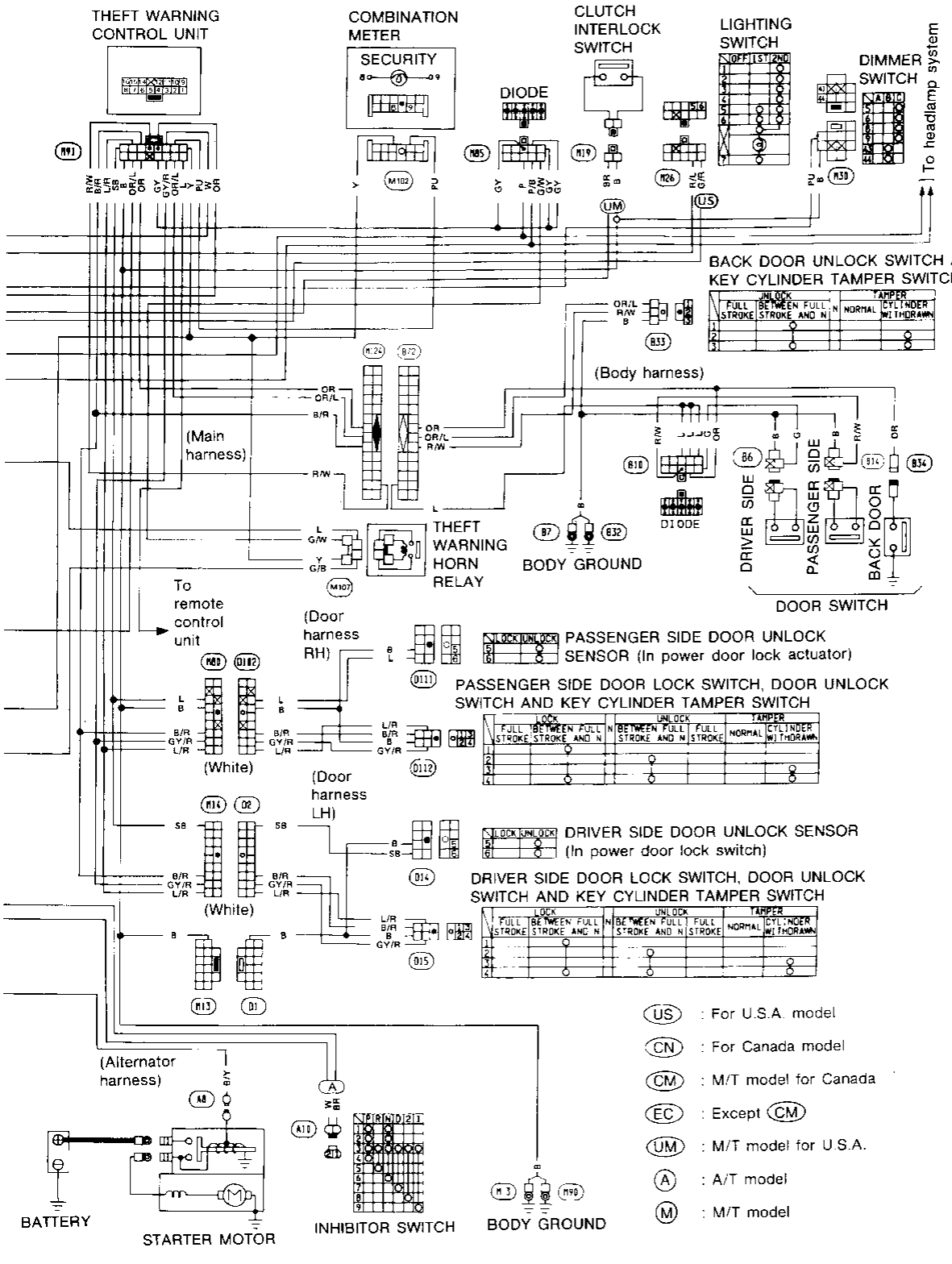

SEL397R

## Wiring Diagram

### 2 SEATER AND 2+2



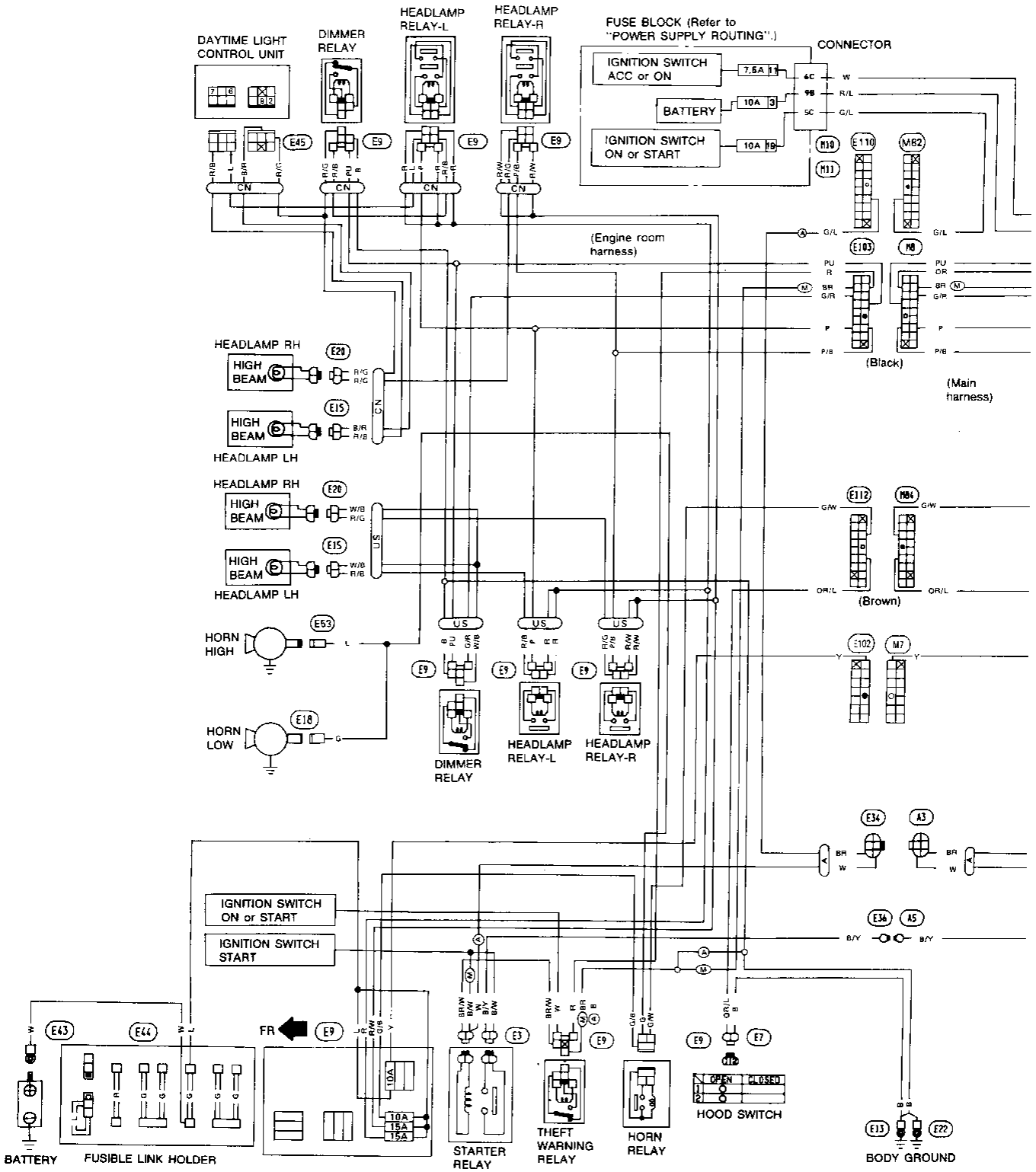
## Wiring Diagram (Cont'd)



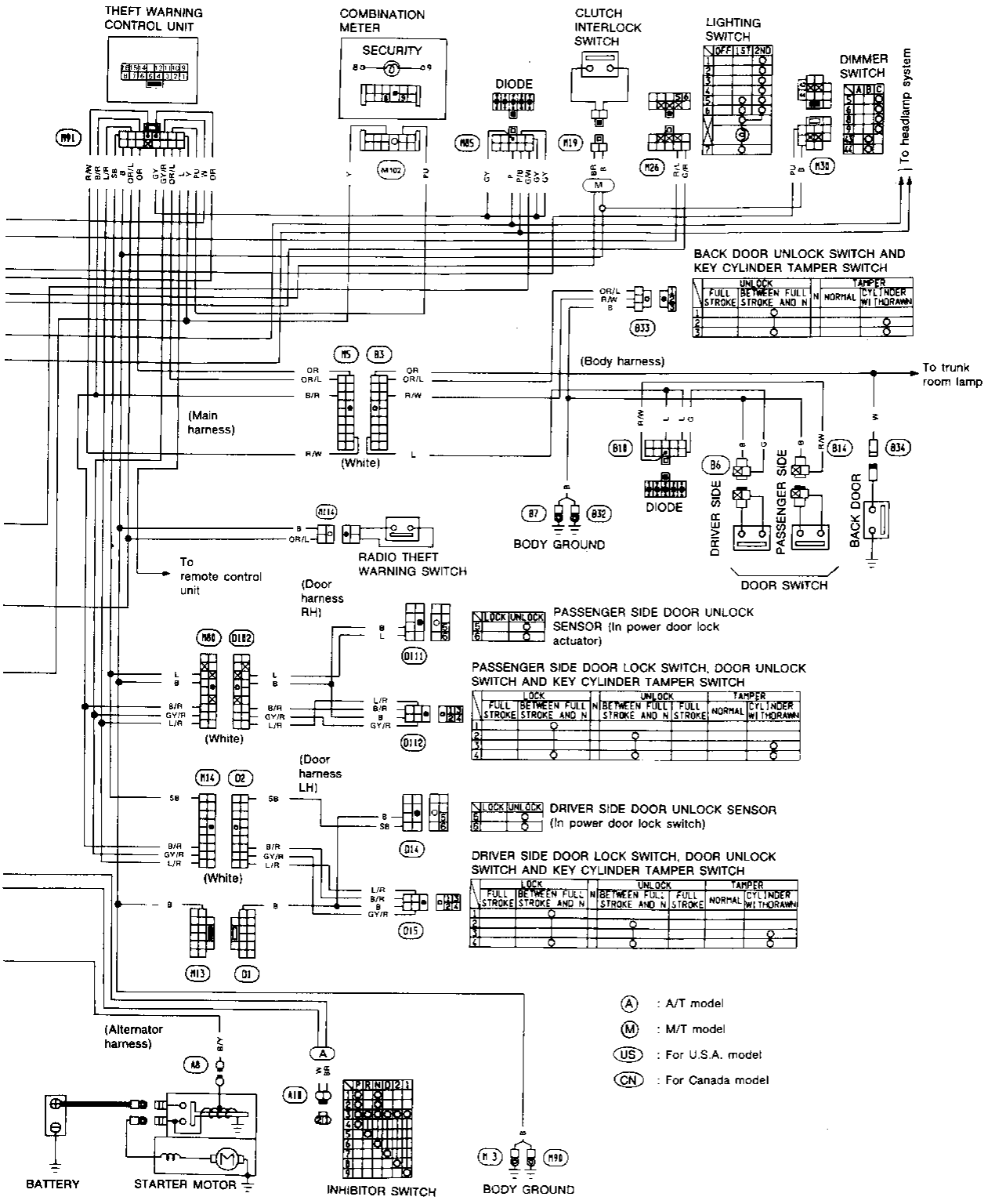

MEL940D

## Wiring Diagram (Cont'd)

### CONVERTIBLE



## Wiring Diagram (Cont'd)



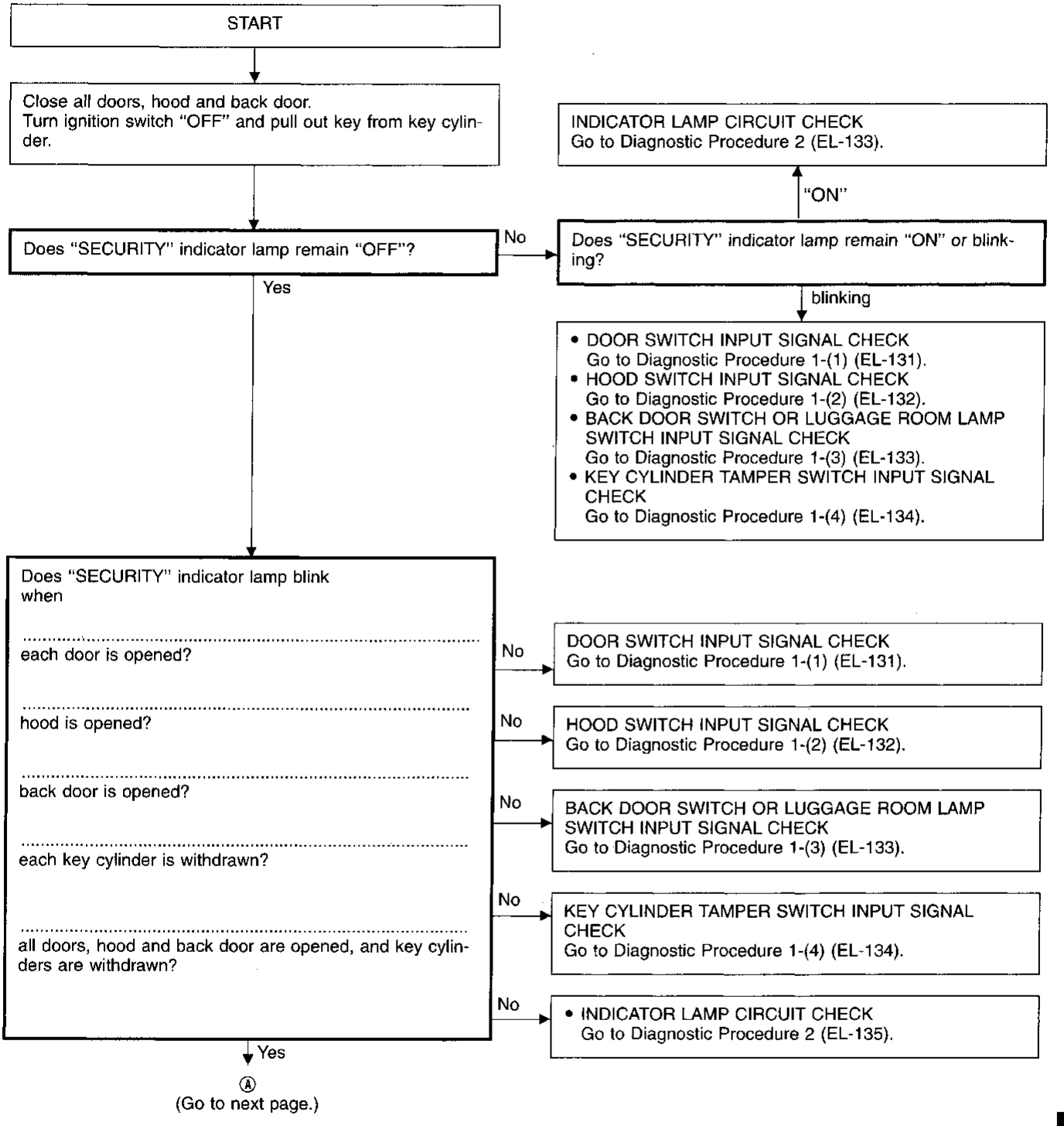

MEL941D

NOTE

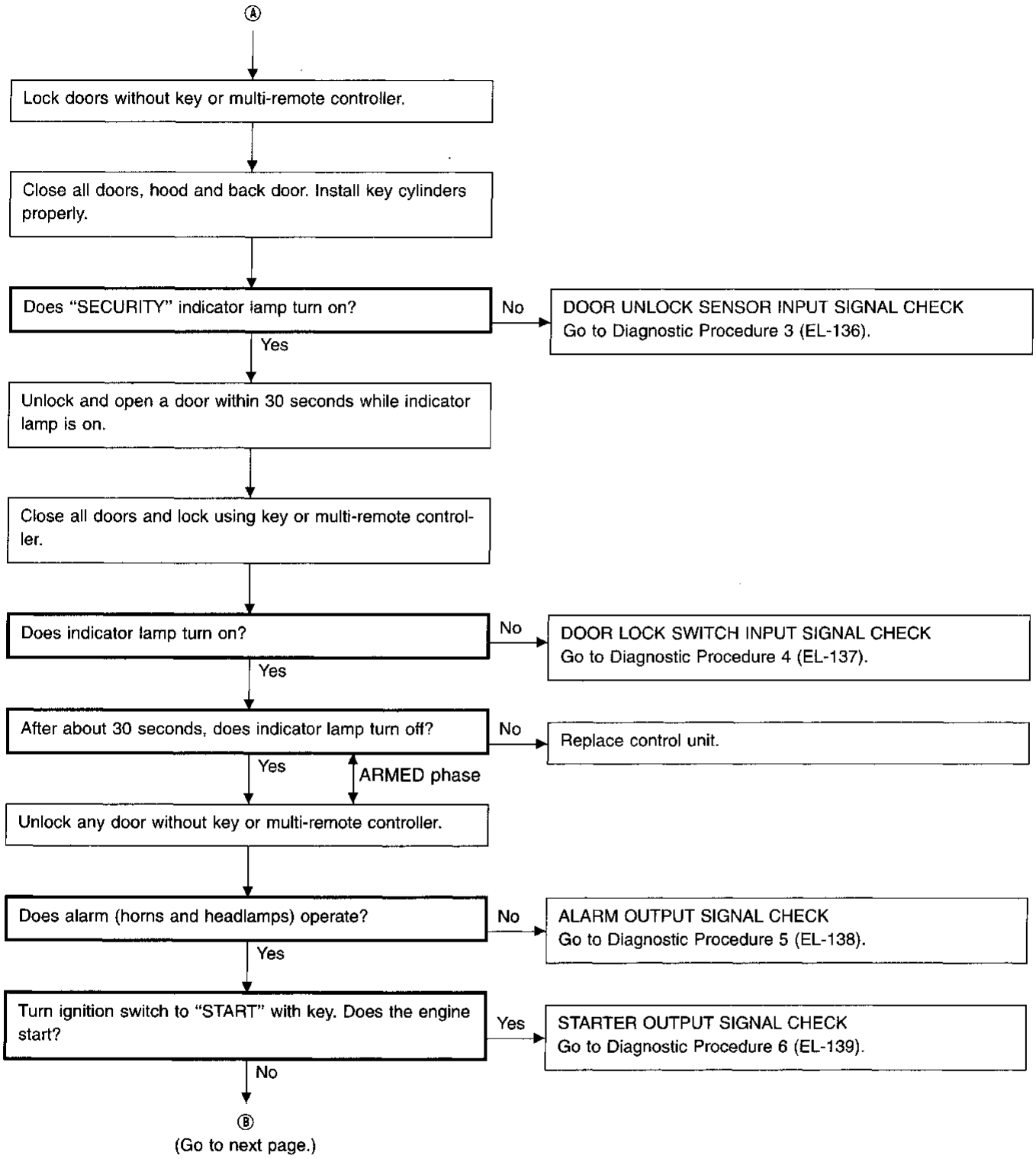
## Trouble Diagnoses

### SYSTEM OPERATION CHECK

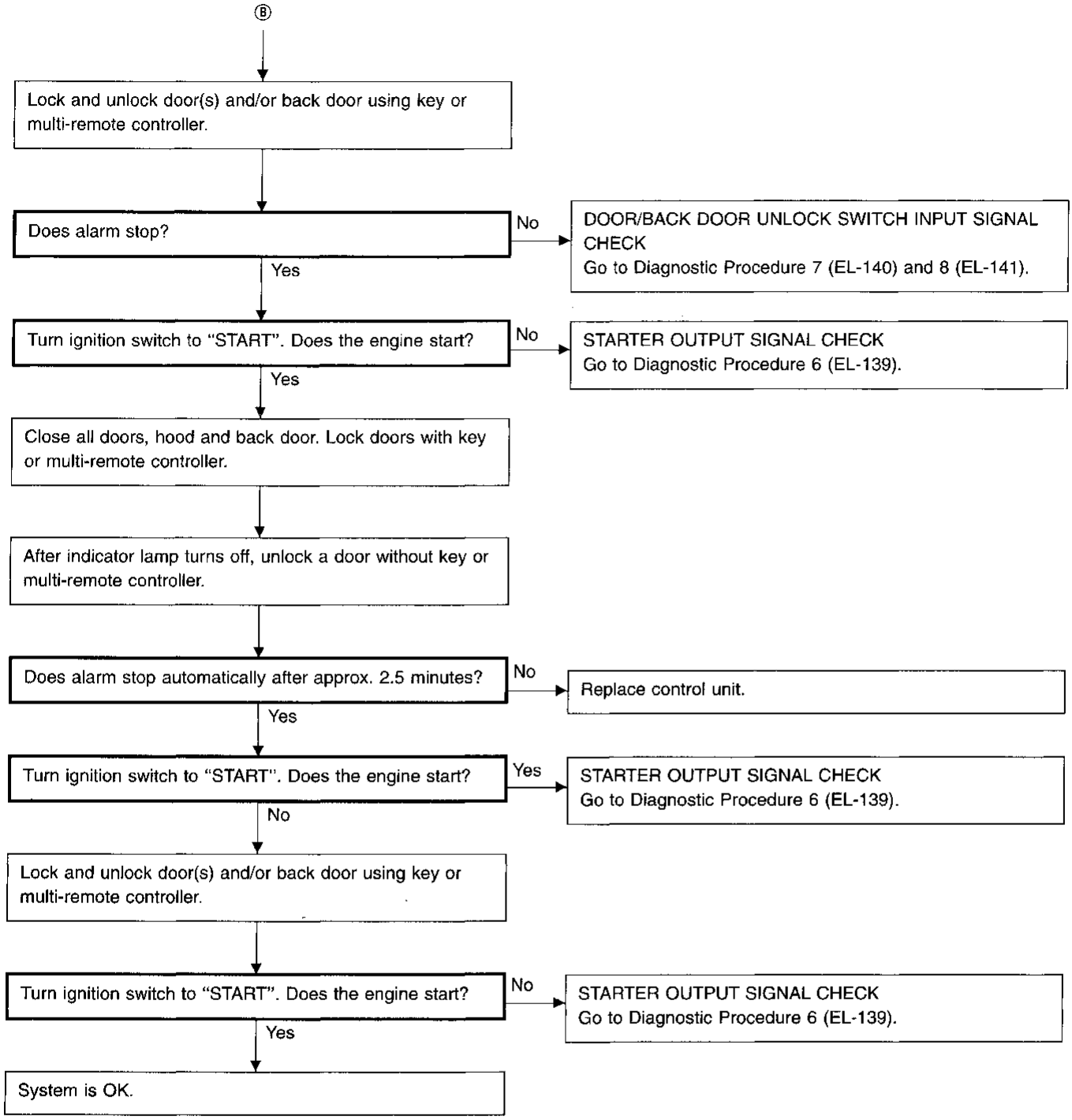
If ignition switch is turned to "ACC" at a step between START and ARMED or in the ARMED phase shown in this flow chart, the system operation is canceled.



## Trouble Diagnoses (Cont'd)

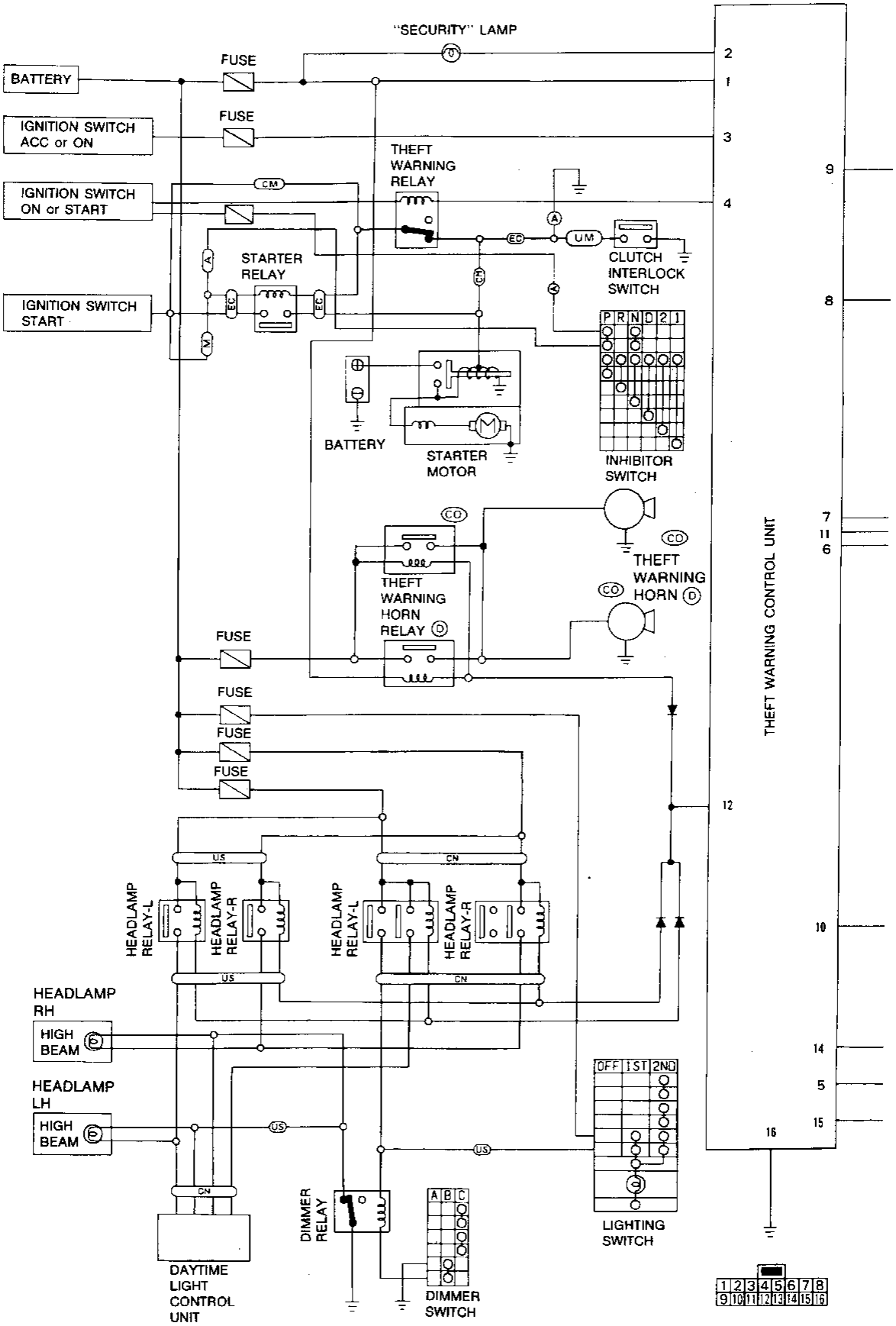


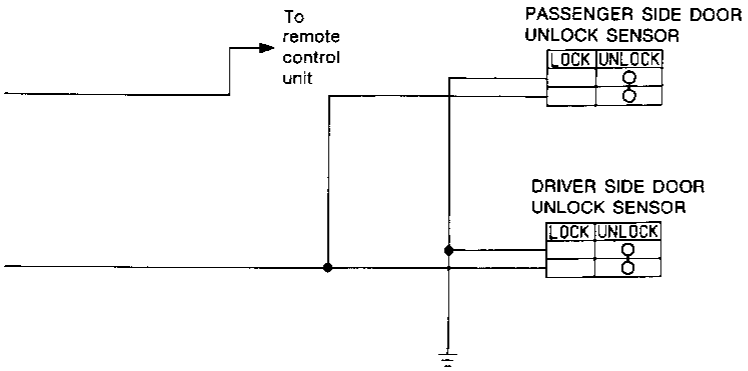
## Trouble Diagnoses (Cont'd)



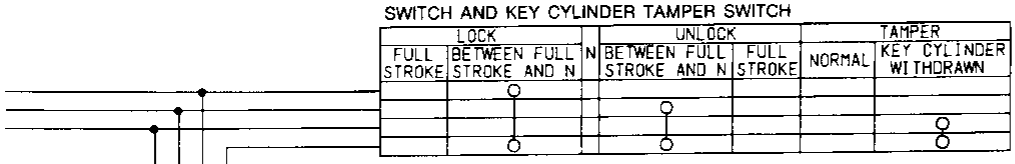
## Trouble Diagnoses (Cont'd)

### CIRCUIT DIAGRAM FOR QUICK PINPOINT CHECK

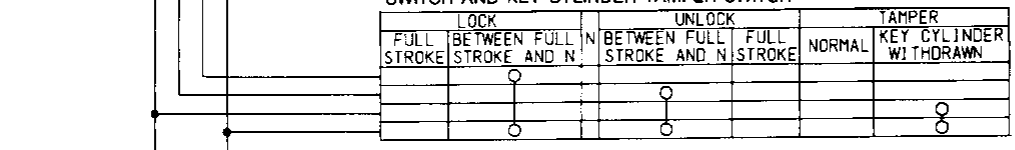




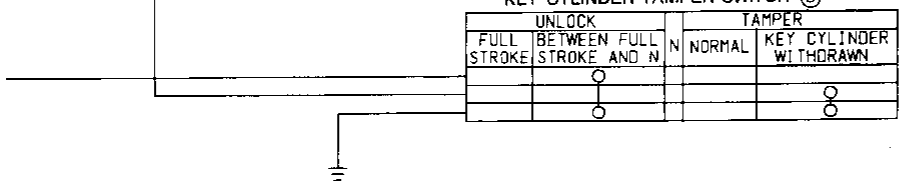

DRIVER SIDE DOOR LOCK SWITCH, DOOR UNLOCK SWITCH AND KEY CYLINDER TAMPER SWITCH

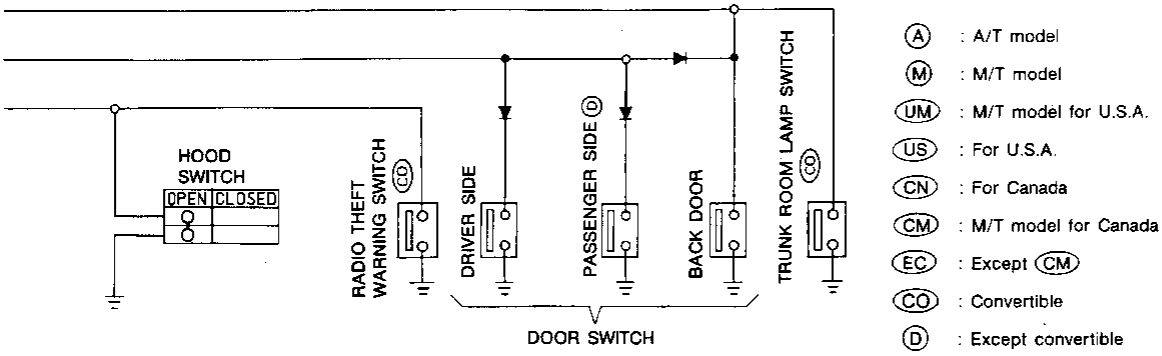



PASSENGER SIDE DOOR LOCK SWITCH, DOOR UNLOCK SWITCH AND KEY CYLINDER TAMPER SWITCH




TRUNK LID UNLOCK SWITCH AND KEY CYLINDER TAMPER SWITCH (CO)
BACK DOOR UNLOCK SWITCH AND KEY CYLINDER TAMPER SWITCH (D)



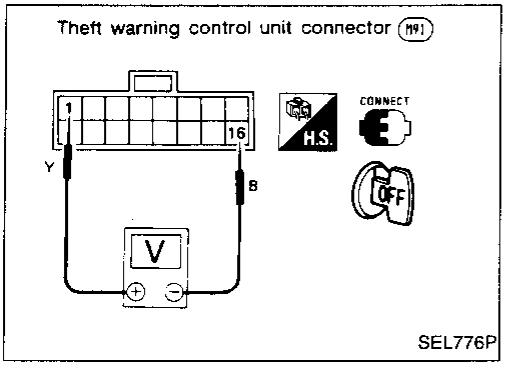




(A) : A/T model
(M) : M/T model
(UM) : M/T model for U.S.A.
(US) : For U.S.A.
(CN) : For Canada
(CM) : M/T model for Canada
(EC) : Except (CM)
(CO) : Convertible
(D) : Except convertible

MEL942D

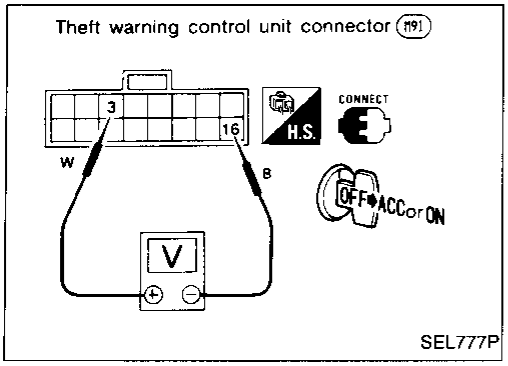
## Trouble Diagnoses (Cont'd)

### POWER SUPPLY AND GROUND CIRCUIT CHECK



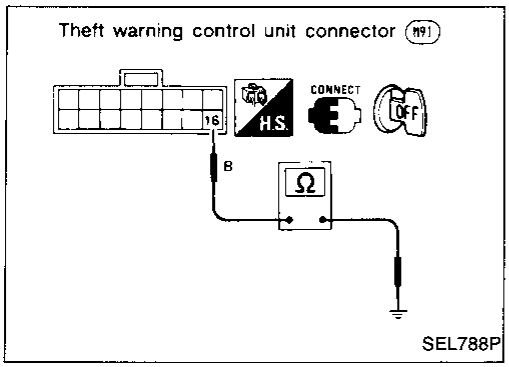

#### Main power supply circuit check

| Terminals | Ignition switch position | | |
|---|---|---|---|
| | OFF | ACC | ON |
| ① - ⑯ | Battery voltage | Battery voltage | Battery voltage |




#### Power supply circuit check for system cancel

| Terminals | Ignition switch position | | |
|---|---|---|---|
| | OFF | ACC | ON |
| ③ - ⑯ | 0V | Battery voltage | Battery voltage |




#### Ground circuit check

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

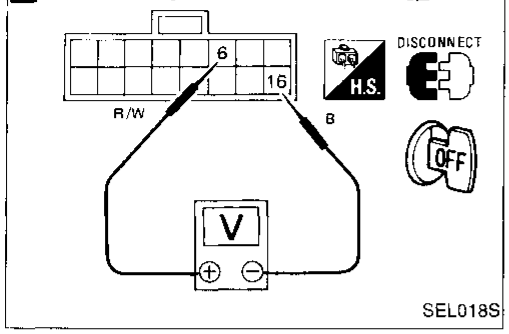
## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 1

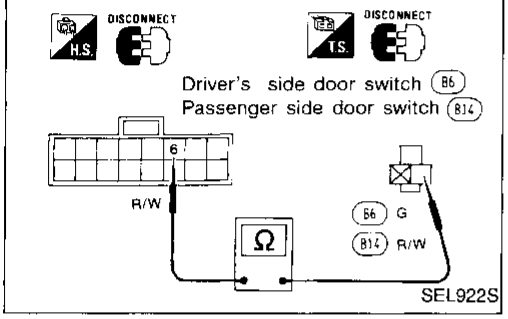
**SYMPTOM:**
- **Indicator lamp does not blink.**
- **Indicator lamp remains blinking.**

### Diagnostic procedure 1-(1)

A Theft warning control unit connector (M91)




B Theft warning control unit connector (M91)




A

DOOR SWITCH INPUT SIGNAL CHECK
Check voltage between control unit harness terminals ⑥ and ⑱.

| Condition | Voltage |
|---|---|
| All doors are closed. | Battery voltage |
| At least one door is open. | 0V |

OK → Go to Diagnostic Procedure 2 (EL-135).

NG ↓

DOOR SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-142).

NG → Replace door switch.

OK ↓

B

DOOR SWITCH CIRCUIT CHECK
Check harness continuity between control unit harness terminal ⑥ and door switch harness terminal.
**Continuity should exist.**

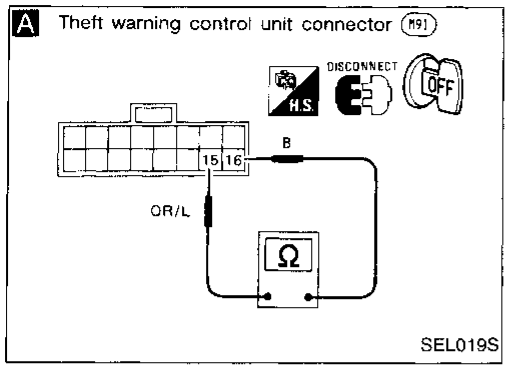
NG → Repair harness or connectors.

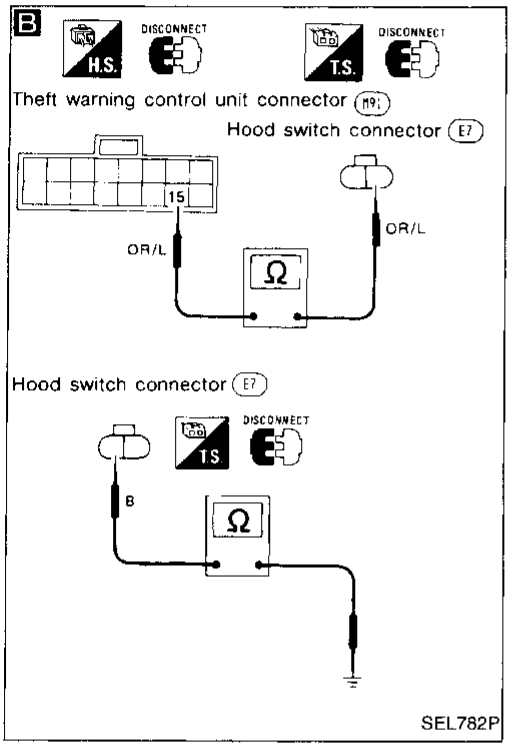
OK ↓

CHECK THE CONNECTIONS AT EACH CONNECTOR.

## Trouble Diagnoses (Cont'd)

### Diagnostic procedure 1-(2)




**A**

HOOD SWITCH INPUT SIGNAL CHECK
Check continuity between control unit harness terminals 15 and 16.

| Condition | Continuity |
|---|---|
| Hood is open. | Yes |
| Hood is closed. | No |

OK → Go to Diagnostic Procedure 2 (EL-135).

NG ↓

Check hood switch and hood fitting condition.

NG → Adjust installation of hood switch or hood.

OK ↓

HOOD SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-142).

NG → Replace hood switch.

OK ↓

**B**

HOOD SWITCH CIRCUIT CHECK
- Check harness continuity between control unit harness terminal 15 and hood switch harness terminal.
- Check harness continuity between hood switch terminal and body ground.

**Continuity should exist.**

NG → Repair harness or connectors.

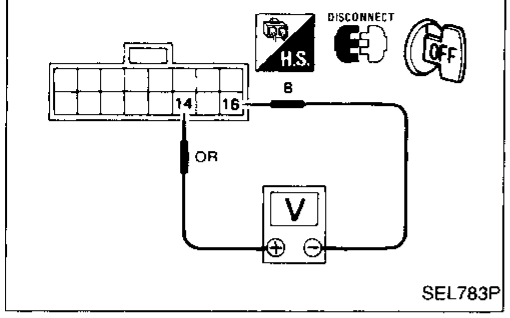
OK ↓

CHECK THE CONNECTIONS AT EACH CONNECTOR.

## Trouble Diagnoses (Cont'd)

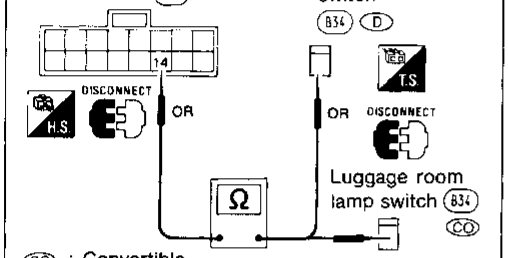
### Diagnostic procedure 1-(3)

A Theft warning control unit connector (M91)




B Theft warning control unit connector (M91)

Back door switch connector (B34) (D)




(CO) : Convertible
(D) : Except convertible
SEL927SA

A

BACK DOOR SWITCH OR LUGGAGE ROOM LAMP SWITCH INPUT SIGNAL CHECK
Check voltage between control unit harness terminals ⑭ and ⑯.

| Condition | Voltage |
|---|---|
| Back door or trunk is open. | Approx. 0V |
| Back door or trunk is closed. | Approx. 12V |

OK → Go to Diagnostic Procedure 2 (EL-135).

NG ↓

Does room lamp come on?

Yes → B

No ↓

BACK DOOR SWITCH OR LUGGAGE ROOM LAMP SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-142).

OK → B

NG ↓

Replace back door switch or luggage room lamp switch.

B

BACK DOOR SWITCH OR LUGGAGE ROOM LAMP SWITCH CIRCUIT CHECK
Check harness continuity between control unit harness terminal ⑭ and back door switch harness terminal or luggage room lamp switch harness terminal.

OK ↓

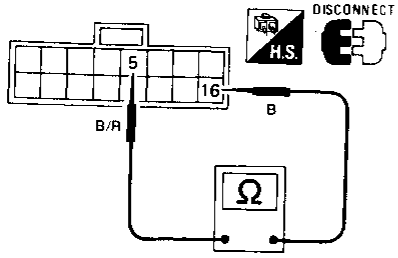
CHECK THE CONNECTIONS AT EACH CONNECTOR.

## Trouble Diagnoses (Cont'd)

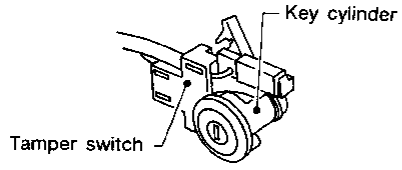
### Diagnostic procedure 1-(4)

A

Theft warning control unit connector (M91)

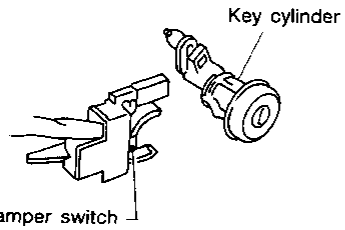



[Example]




No continuity ... OK

[Example]

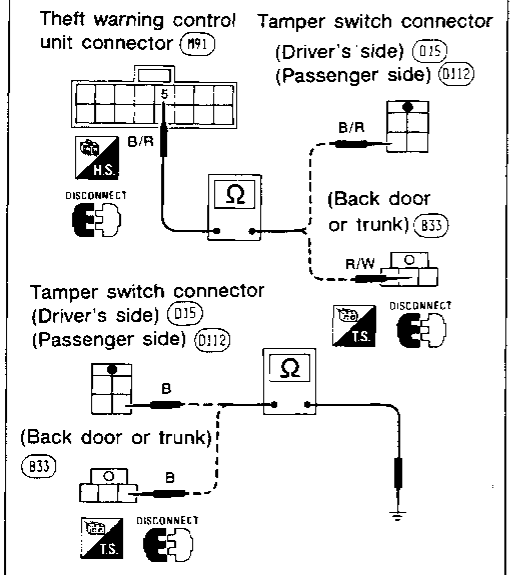



Reed switch turns on when key cylinder is removed.

Continuity exists ... OK

SEL785PA

B




SEL786PA

A

KEY CYLINDER TAMPER SWITCH INPUT SIGNAL CHECK
Check continuity between control unit harness terminals ⑤ and ⑯.

| Condition | Continuity |
|---|---|
| Tamper switch is | |
| Normal | No |
| Removed | Yes |

OK → Go to Diagnostic Procedure 2 (EL-135).

NG ↓

KEY CYLINDER TAMPER SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-143).

NG → Replace key cylinder tamper switch.

OK ↓

B

KEY CYLINDER TAMPER SWITCH CIRCUIT CHECK
- Check harness continuity between control unit harness terminal ⑤ and tamper switch harness terminal.
- Check harness continuity between tamper switch terminal and body ground.

**Continuity should exist.**

NG → Repair harness and connectors.

OK ↓

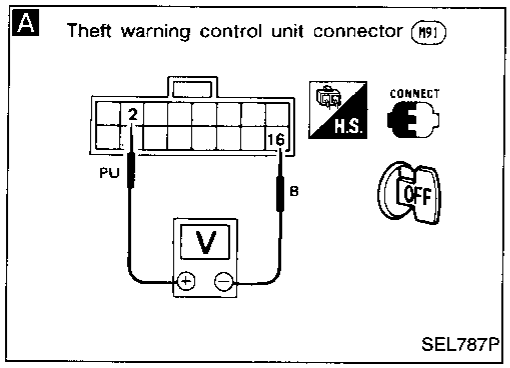
CHECK THE CONNECTIONS AT EACH CONNECTOR.

## Trouble Diagnoses (Cont'd)

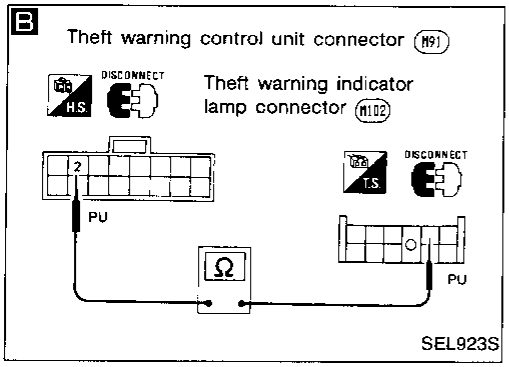
### DIAGNOSTIC PROCEDURE 2

**SYMPTOM: Indicator lamp does not blink.**

A




B




A

INDICATOR LAMP OUTPUT SIGNAL CHECK
Check voltage between control unit harness terminals ② and ⑯.
**Pointer of voltmeter should deflect intermittently.**

NG → Replace control unit.

OK ↓

INDICATOR LAMP CHECK

NG → Replace indicator lamp.

OK ↓

B

INDICATOR LAMP CIRCUIT CHECK
Check harness continuity between control unit harness terminal ② and indicator lamp harness terminal.
**Continuity should exist.**

NG → Repair harness or connectors.

OK ↓

CHECK THE CONNECTIONS AT EACH CONNECTOR.

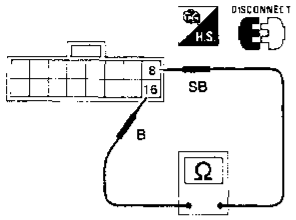
## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 3

**SYMPTOM: Indicator lamp does not come on.**

A

Theft warning control unit connector (M91)



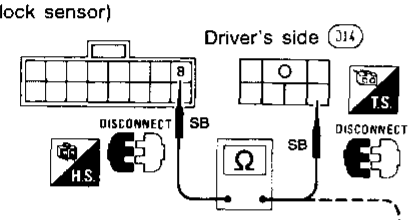

SEL924S

B

Theft warning control unit connector (M91)

Door actuator connector (Unlock sensor)

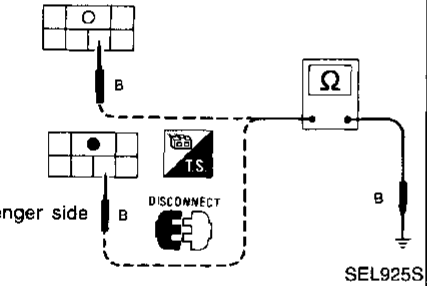
Driver's side (D14)




Passenger side (D11) L

Door actuator connector (Unlock sensor)

Driver's side (D14)




(D11)

SEL925S

A

DOOR UNLOCK SENSOR INPUT SIGNAL CHECK

Check continuity between control unit harness terminals ⑧ and ⑯.

| Condition | Continuity |
|---|---|
| Locked | No |
| Unlocked | Yes |

OK → Go to Diagnostic Procedure 5 (EL-137).

OK → Replace control unit.

NG

DOOR UNLOCK SENSOR CHECK

Refer to "Electrical Components Inspection" (EL-142).

NG → Replace door lock actuator.

OK

B

DOOR UNLOCK SENSOR CIRCUIT CHECK

- Check harness continuity between control unit harness terminal ⑧ and door actuator terminal.
- Check harness continuity between door actuator terminal and body ground.

**Continuity should exist.**

NG → Repair harness or connectors.

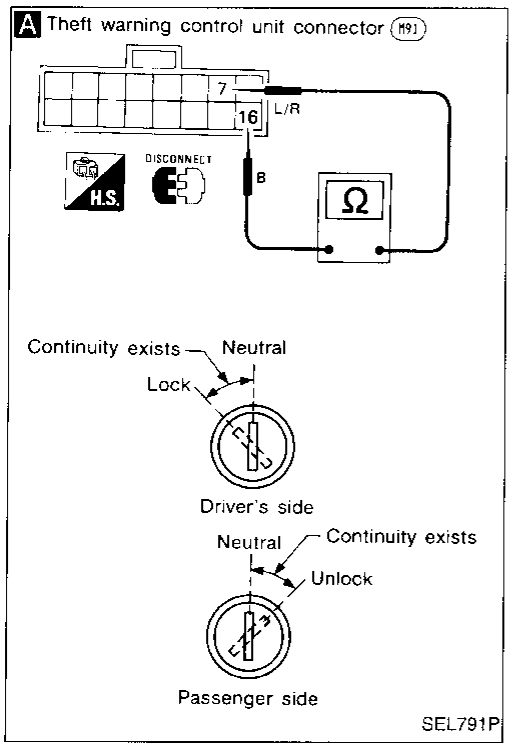
OK

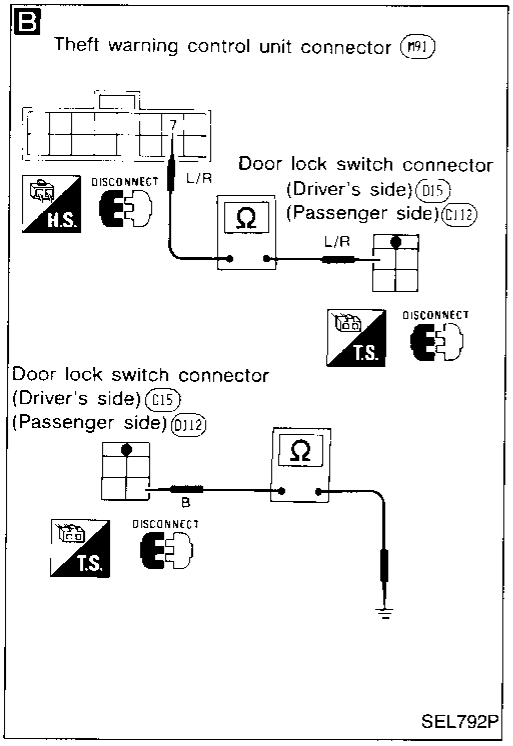
CHECK THE CONNECTIONS AT EACH CONNECTOR.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 4

**SYMPTOM: Indicator lamp does not come on.**




**A**

DOOR LOCK SWITCH INPUT SIGNAL CHECK (LOCK SIGNAL)
Check continuity between control unit harness terminals ⑦ and ⑯.

| Key position | Continuity |
|---|---|
| Neutral/Lock | No |
| Between neutral and lock | Yes |

OK → Go to Diagnostic Procedure 4 (EL-136).
OK → Replace control unit.

NG

DOOR LOCK SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-143).

NG → Replace key cylinder switch.

OK

**B**

DOOR LOCK SWITCH CIRCUIT CHECK
- Check harness continuity between control unit harness terminal ⑦ and door lock switch terminal.
- Check harness continuity between door lock switch terminal and body ground.

**Continuity should exist.**

NG → Repair harness or connectors.

OK

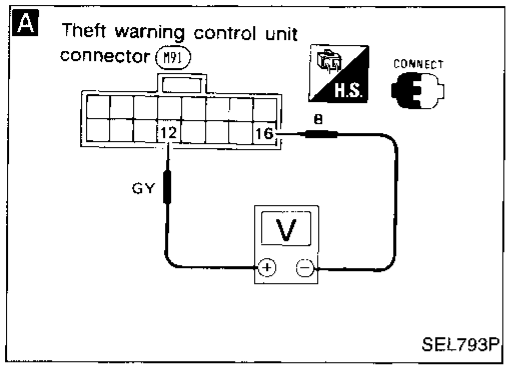
CHECK THE CONNECTIONS AT EACH CONNECTOR.

## Trouble Diagnoses (Cont'd)

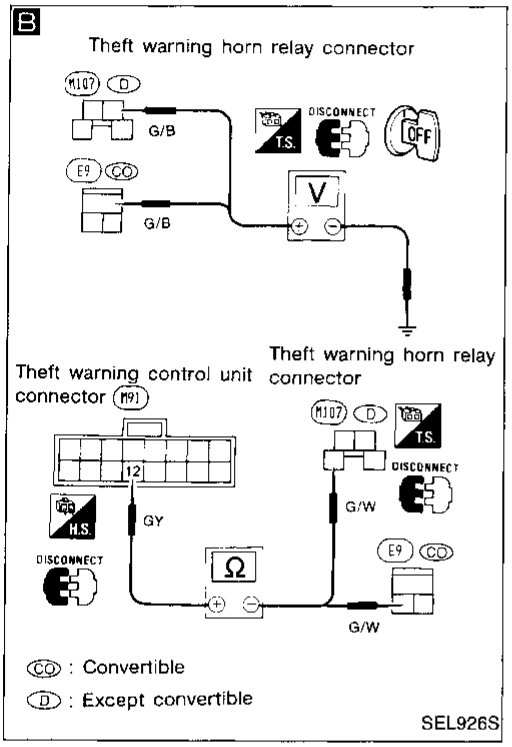
### DIAGNOSTIC PROCEDURE 5

**SYMPTOM: Alarm does not operate.**

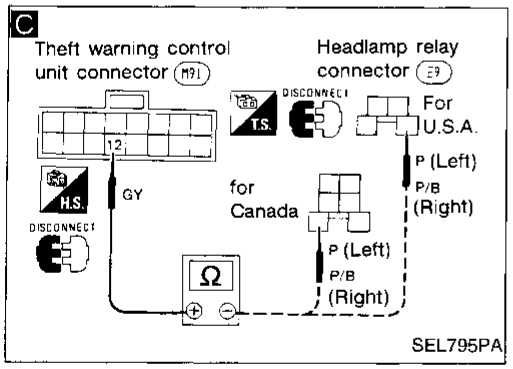
A




B




C




A

ALARM OUTPUT SIGNAL CHECK
Check voltage between control unit harness terminals ⑫ and ⑯.

| Condition | Voltmeter |
|---|---|
| Except alarm phase | 12V |
| Alarm phase | Pointer deflects intermittently |

NG → Replace control unit.

OK ↓

Check theft warning horn relay. NG → Replace relay.

OK ↓

B

THEFT WARNING HORN CIRCUIT CHECK
Check if voltage across theft warning horn relay harness terminal and body is 12V.
Check continuity between theft warning horn relay terminal and control unit harness terminal ⑫.
**Continuity should exist.**

NG → Repair harness and connectors.

OK ↓

C

THEFT WARNING HEADLAMP CIRCUIT CHECK
Check continuity between headlamp relay terminal and control unit harness terminal ⑫.

NG → Repair harness and connectors.

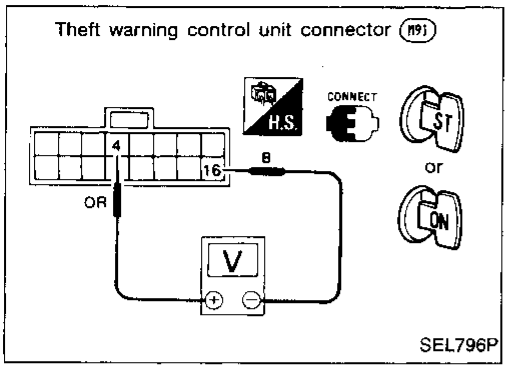
OK ↓

Check headlamp system. Refer to "HEADLAMP" (EL-26).

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 6

**SYMPTOM: STARTER MOTOR can be operated. (Starter killed phase)**




Approx. 12V

STARTER MOTOR KILL OUTPUT SIGNAL CHECK
Check voltage between control unit harness terminals ④ and ⑯ when ignition switch is turned to ON or "START".

→ Replace control unit.

Approx. 0 volt

Check theft warning relay.

NG → Replace theft warning relay.

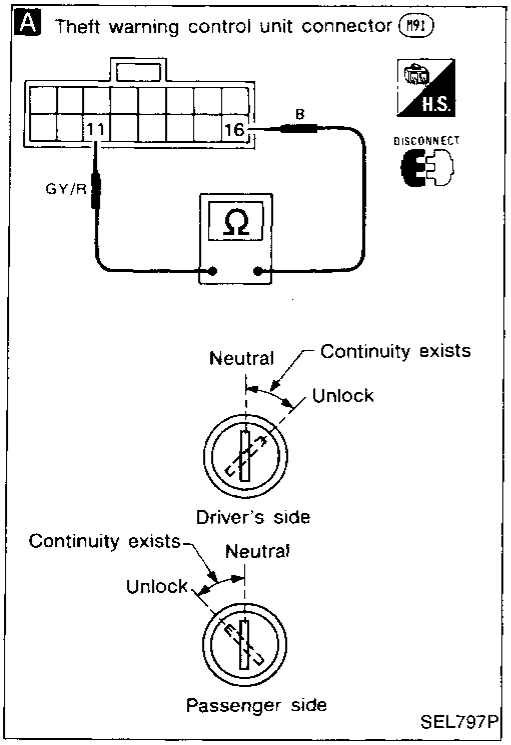
OK

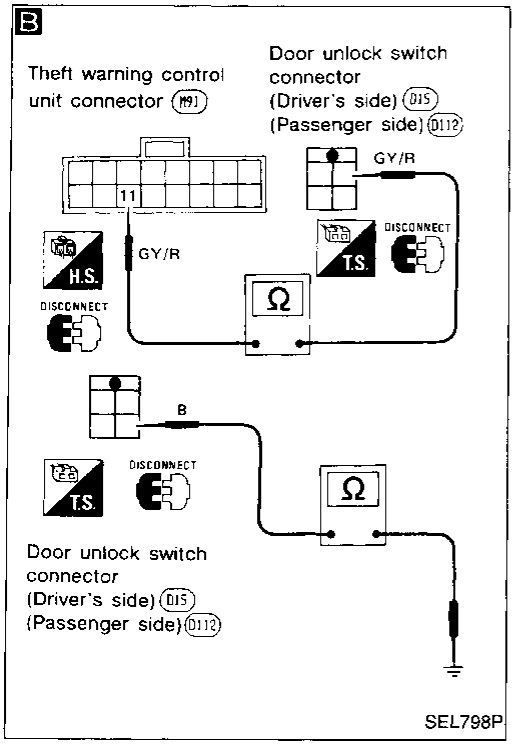
Repair harness between control unit and theft warning relay.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 7

**SYMPTOM: Alarm does not stop even if stop signal is given.**




A

DOOR UNLOCK SWITCH INPUT SIGNAL CHECK (UNLOCK SIGNAL)
Check continuity between control unit harness terminals ⑪ and ⑯.

| Key position | Continuity |
|---|---|
| Neutral/Unlock | No |
| Between neutral and unlock | Yes |

OK → Replace control unit.

NG ↓

DOOR UNLOCK SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-143).

NG → Replace key cylinder switch.

OK ↓

B

DOOR UNLOCK SWITCH CIRCUIT CHECK
- Check harness continuity between control unit harness terminal ⑪ and door unlock switch terminal.
- Check harness continuity between door unlock switch terminal and body ground.

**Continuity should exist.**

NG → Repair harness or connectors.

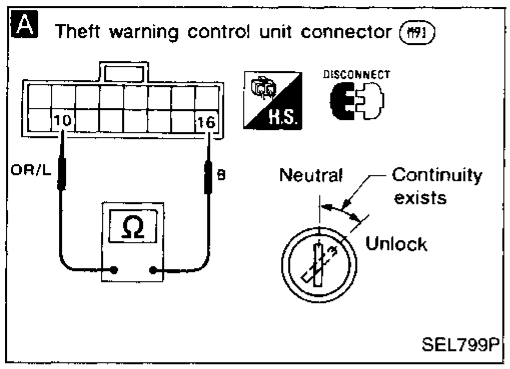
OK ↓

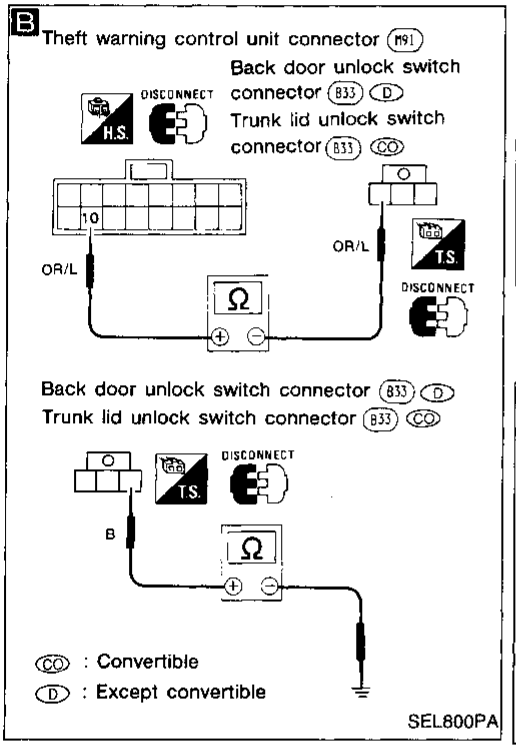
CHECK THE CONNECTIONS AT EACH CONNECTOR.

## Trouble Diagnoses (Cont'd)

### DIAGNOSTIC PROCEDURE 8

**SYMPTOM: Alarm does not stop even if stop signal is given.**




A

BACK DOOR UNLOCK SWITCH OR TRUNK LID UNLOCK SWITCH INPUT SIGNAL CHECK (UNLOCK SIGNAL)
Check continuity between control unit harness terminals ⑩ and ⑯.

| Key position | Continuity |
|---|---|
| Neutral/Unlock | No |
| Between neutral and unlock | Yes |

OK → Replace control unit.

NG ↓

BACK DOOR UNLOCK SWITCH OR TRUNK LID UNLOCK SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-143).

NG → Replace key cylinder switch.

OK ↓

B

BACK DOOR UNLOCK SWITCH OR TRUNK LID UNLOCK SWITCH CIRCUIT CHECK

- Check harness continuity between control unit harness terminal ⑩ and back door unlock switch terminal or trunk lid unlock switch terminal.
- Check harness continuity between back door unlock switch terminal or trunk lid unlock switch terminal and body ground.

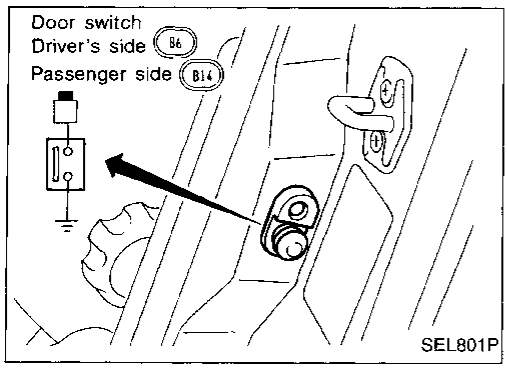
NG → Repair harness or connectors.

OK ↓

CHECK THE CONNECTIONS AT EACH CONNECTOR.

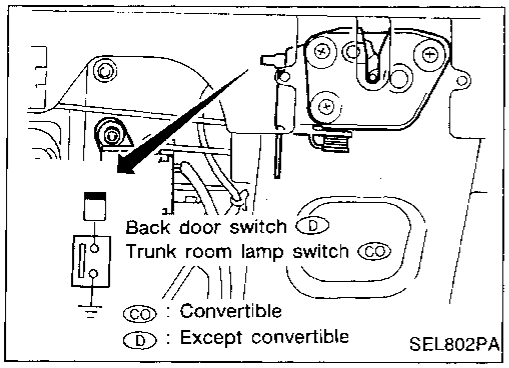
## Trouble Diagnoses (Cont'd)

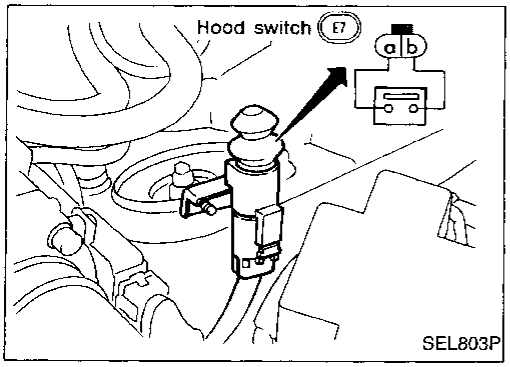
### ELECTRICAL COMPONENTS INSPECTION




### Door switches

Check continuity between terminal and switch body.

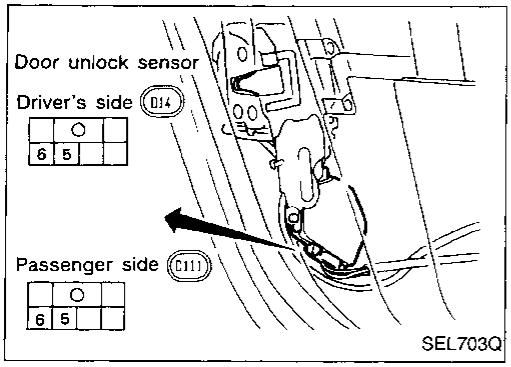



### Hood switch

Check continuity between terminals when hood switch is pushed and released.

| Terminal | Pushed | Released |
|---|---|---|
| a | | ○ |
| b | | ○ |

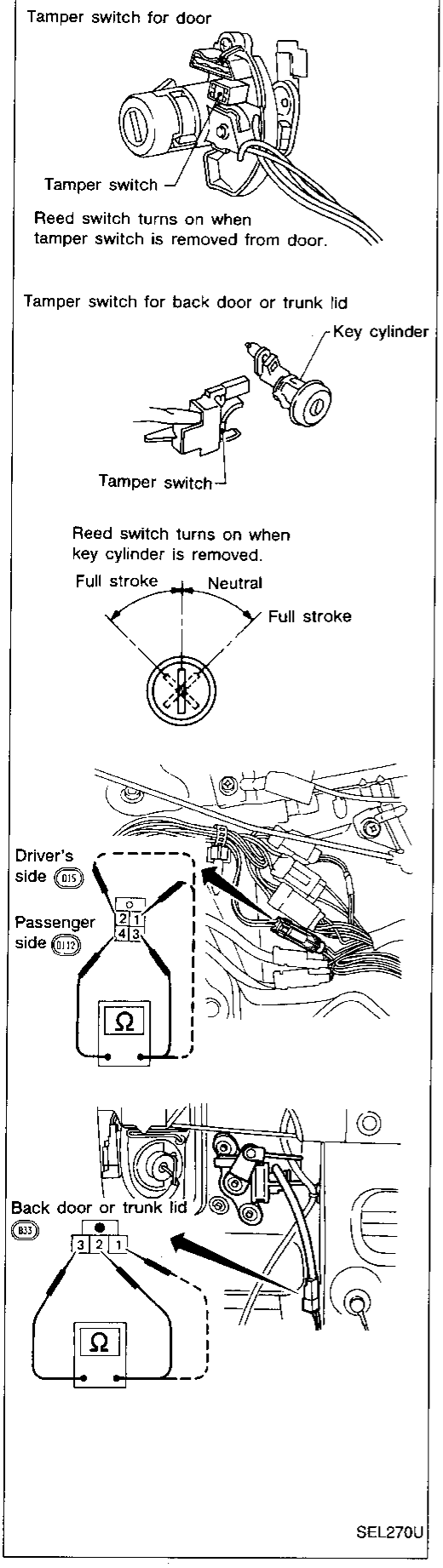



### Door unlock sensor

| | LOCK | UNLOCK |
|---|---|---|
| 5 | | ○ |
| 6 | | ○ |

## Trouble Diagnoses (Cont'd)

### Key cylinder tamper switch, door lock switch and door unlock switch



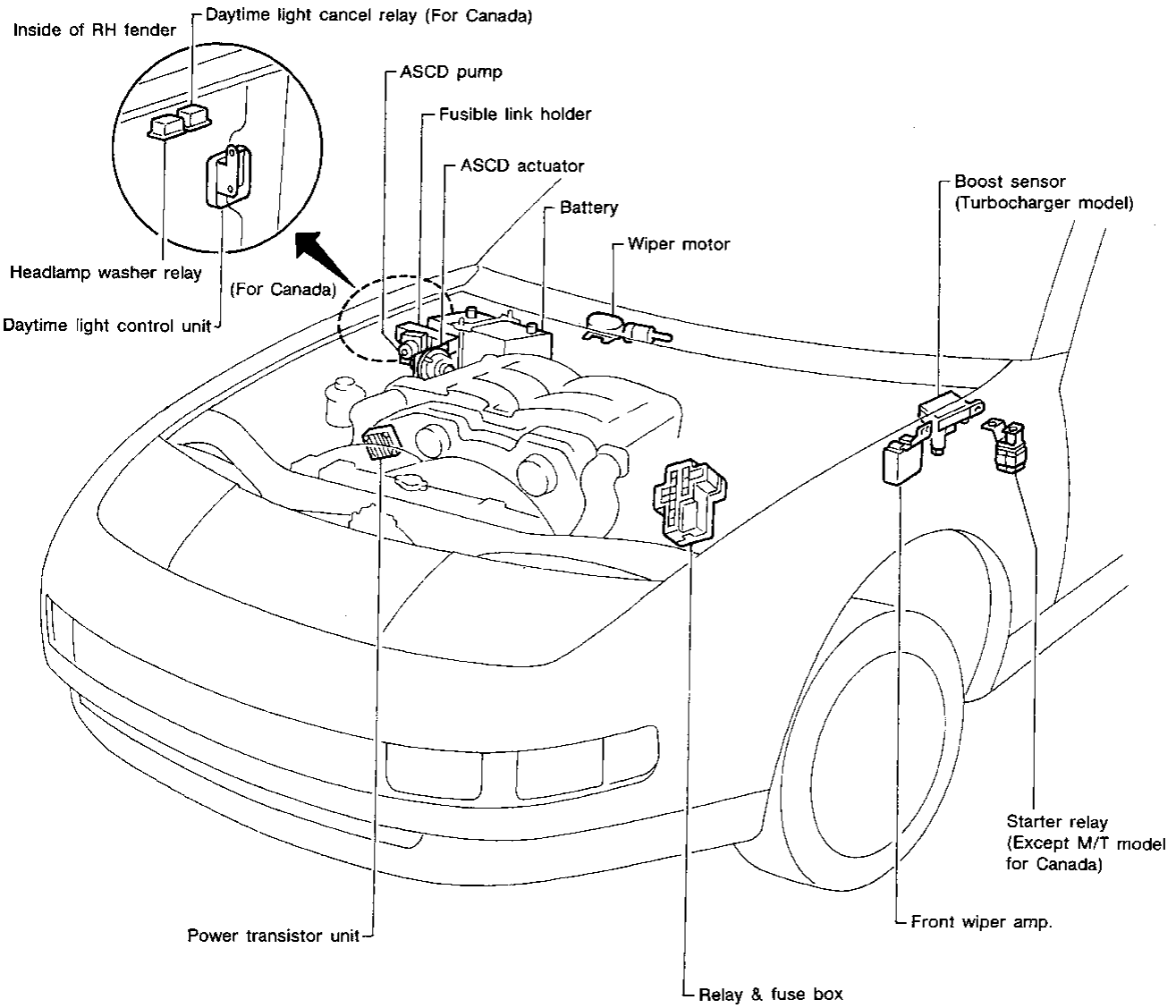

- **Door**

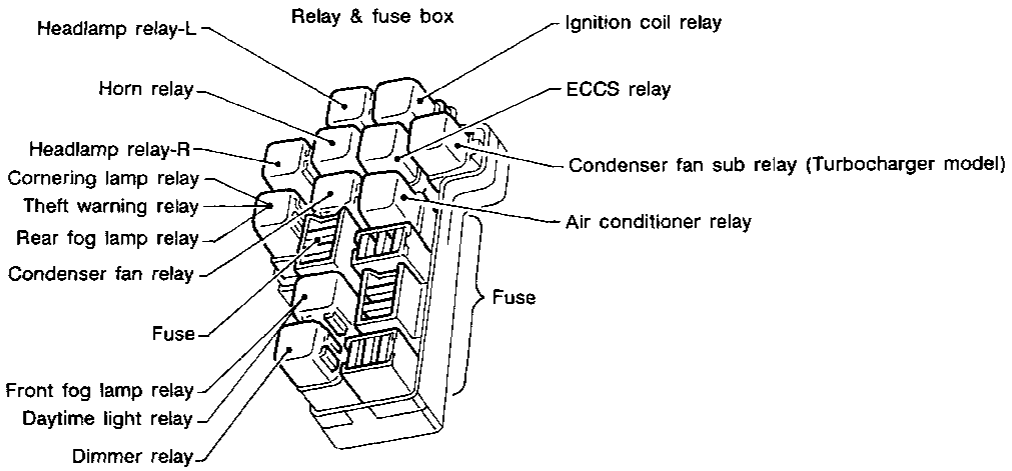
| | TAMPER SWITCH | | DOOR LOCK SWITCH | | | DOOR UNLOCK SWITCH | |
|---|---|---|---|---|---|---|---|
| | Key cylinder is installed | Key cylinder is removed | Full stroke | Between full stroke and neutral | Neutral | Between full stroke and neutral | Full stroke |
| 1 | | | | ○ | | | |
| 2 | | | | \| | | ○ | |
| 3 | | ○ | | \| | | \| | |
| 4 | | \| | | ○ | | ○ | |

- **Back door or trunk lid**

| | TAMPER SWITCH | | UNLOCK SWITCH | | |
|---|---|---|---|---|---|
| | Key cylinder is installed | Key cylinder is removed | Full stroke | Between full stroke and neutral | Neutral |
| 1 | | | | ○ | |
| 2 | | ○ | | \| | |
| 3 | | \| | | ○ | |

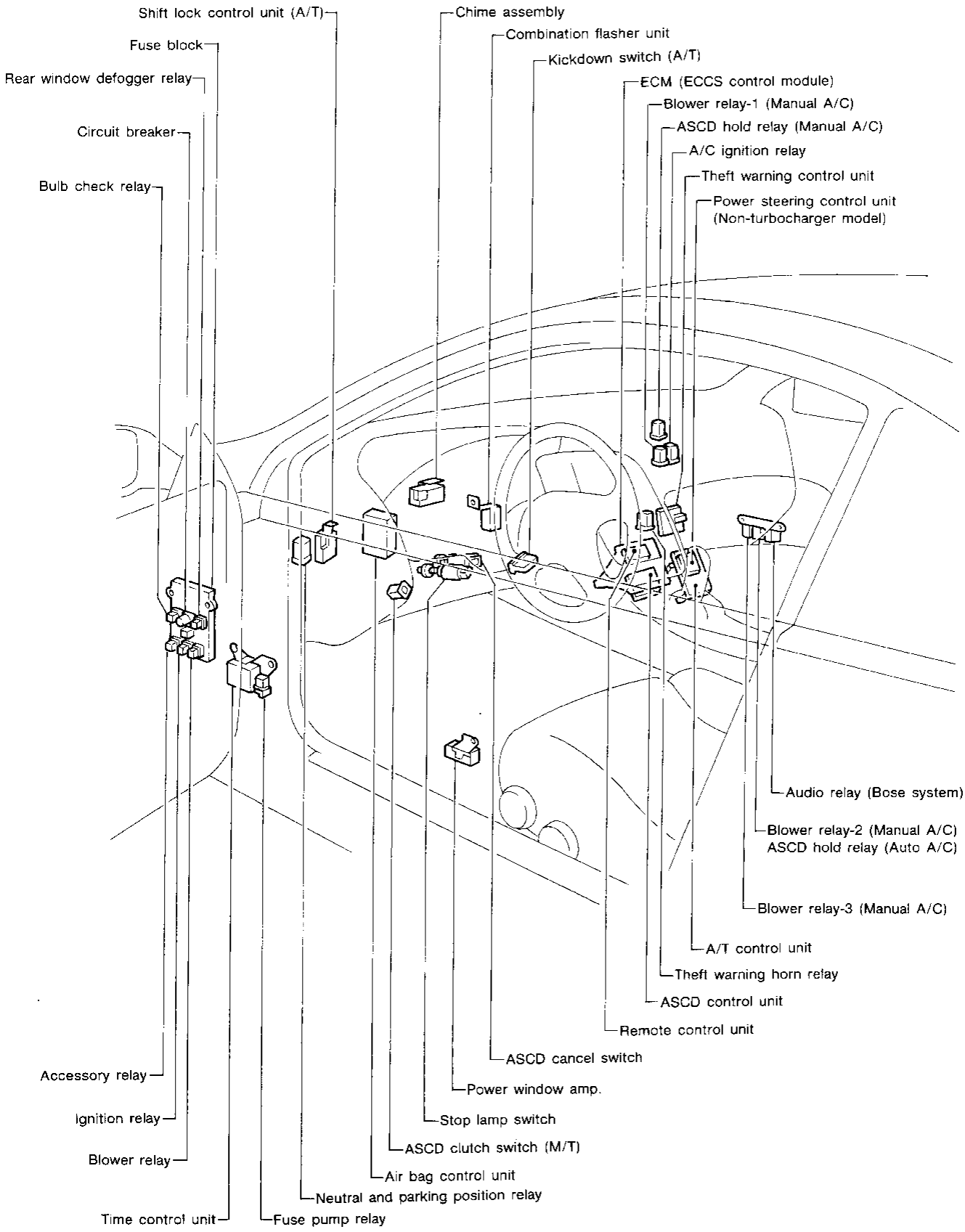
## Engine Compartment




MEL159E

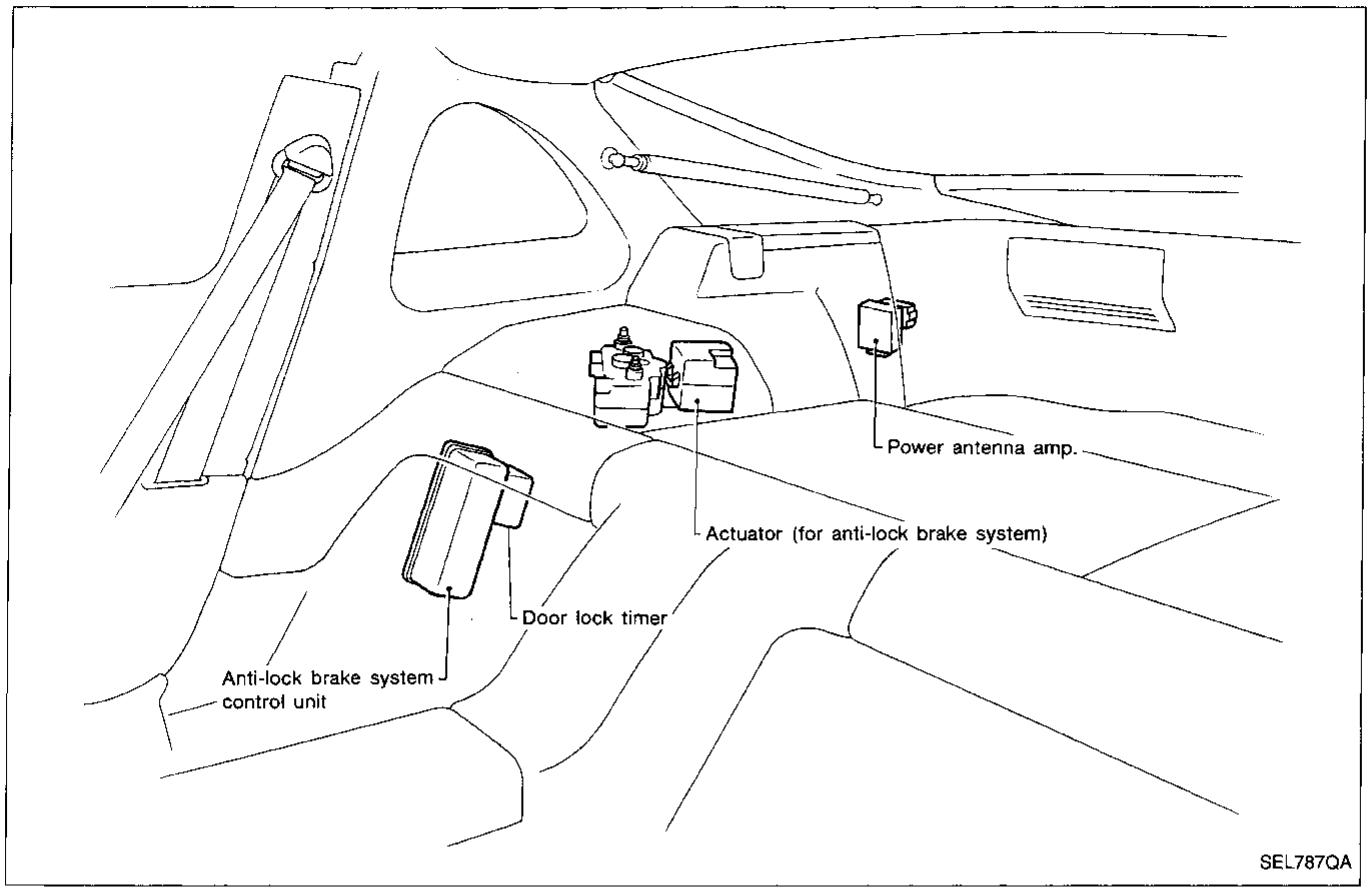
## Passenger Compartment

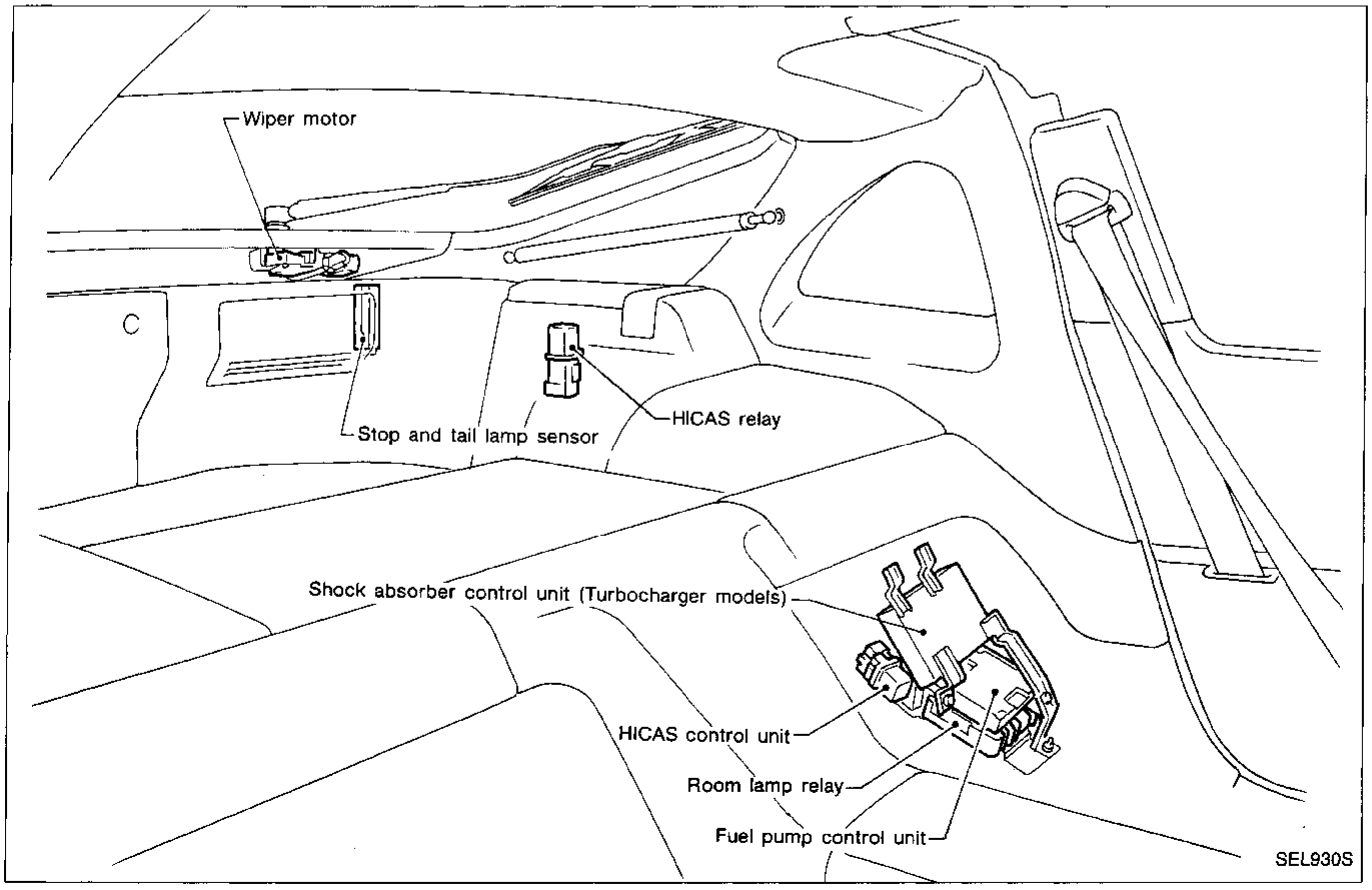



SEL929S

## Luggage Compartment

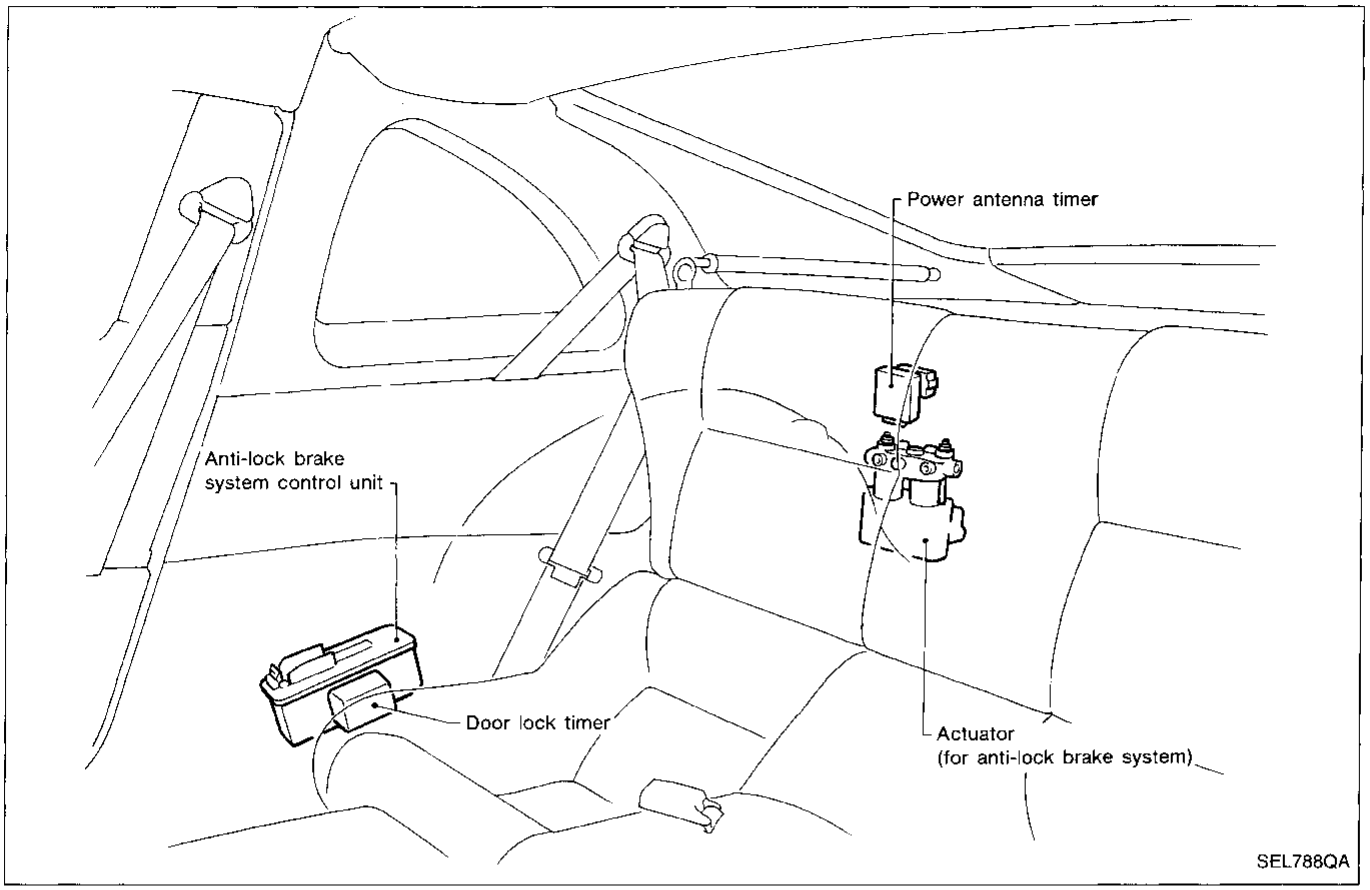
**2 SEATER**

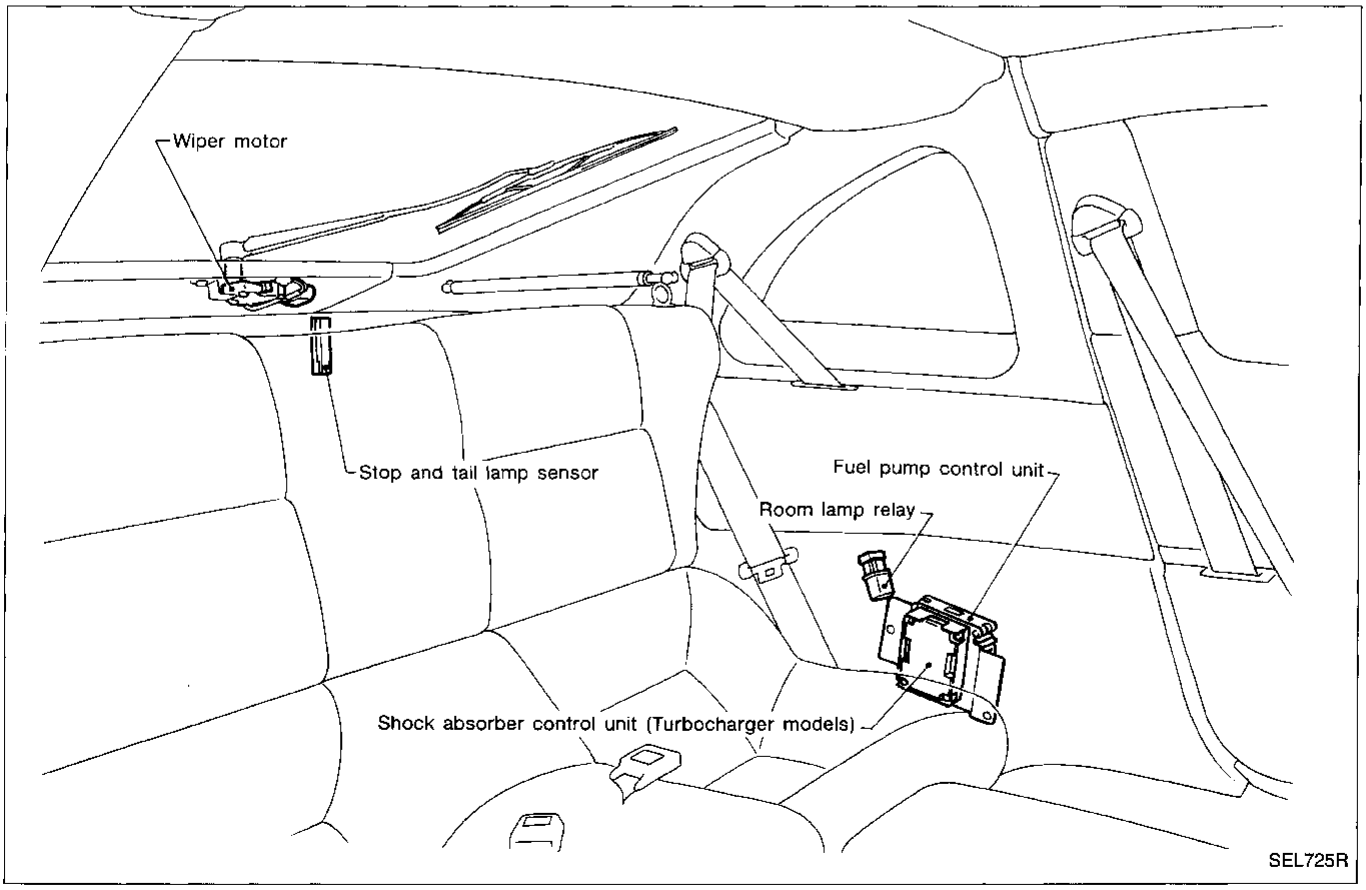


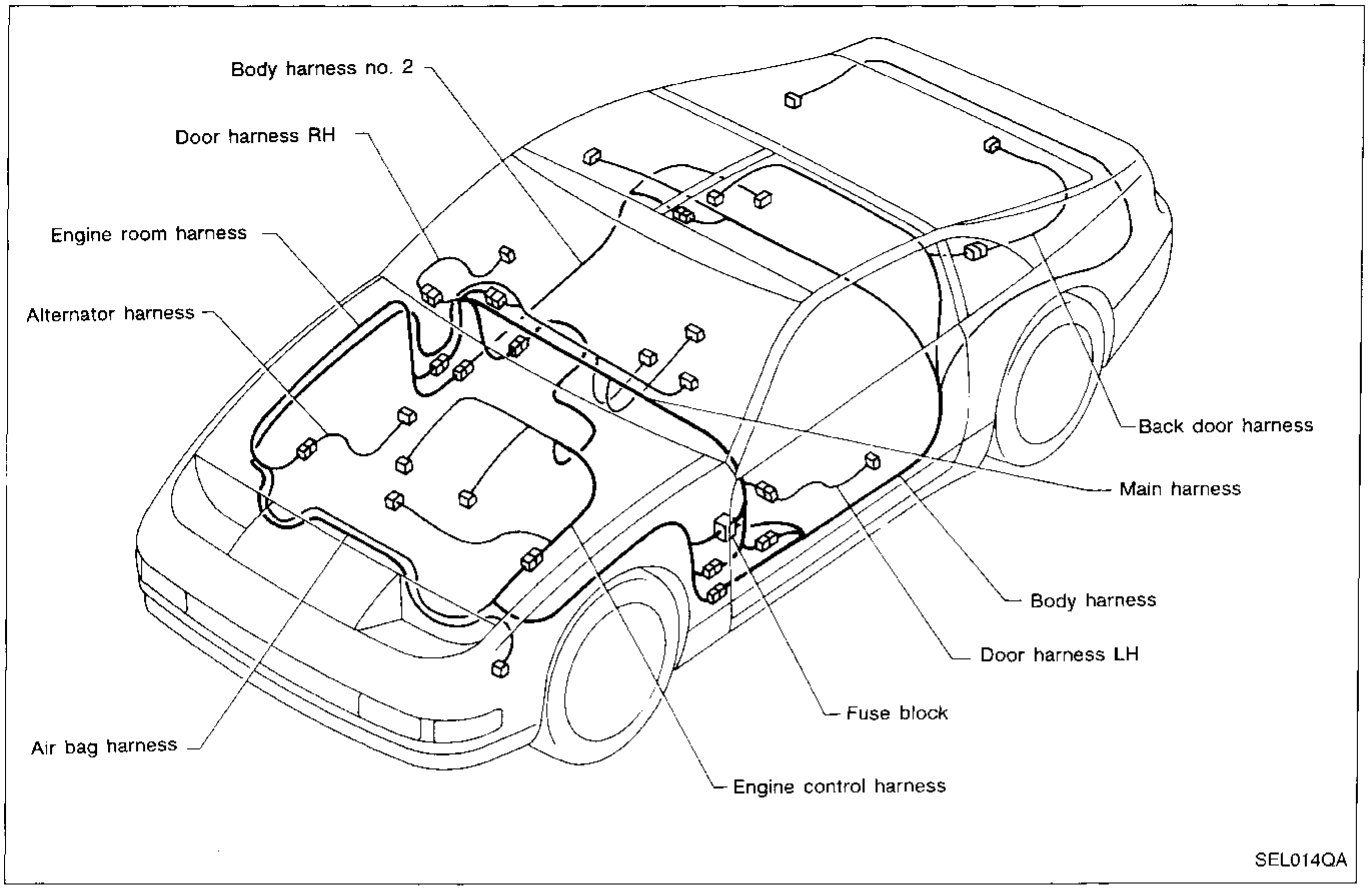
## Luggage Compartment (Cont'd)

### 2+2 SEATER

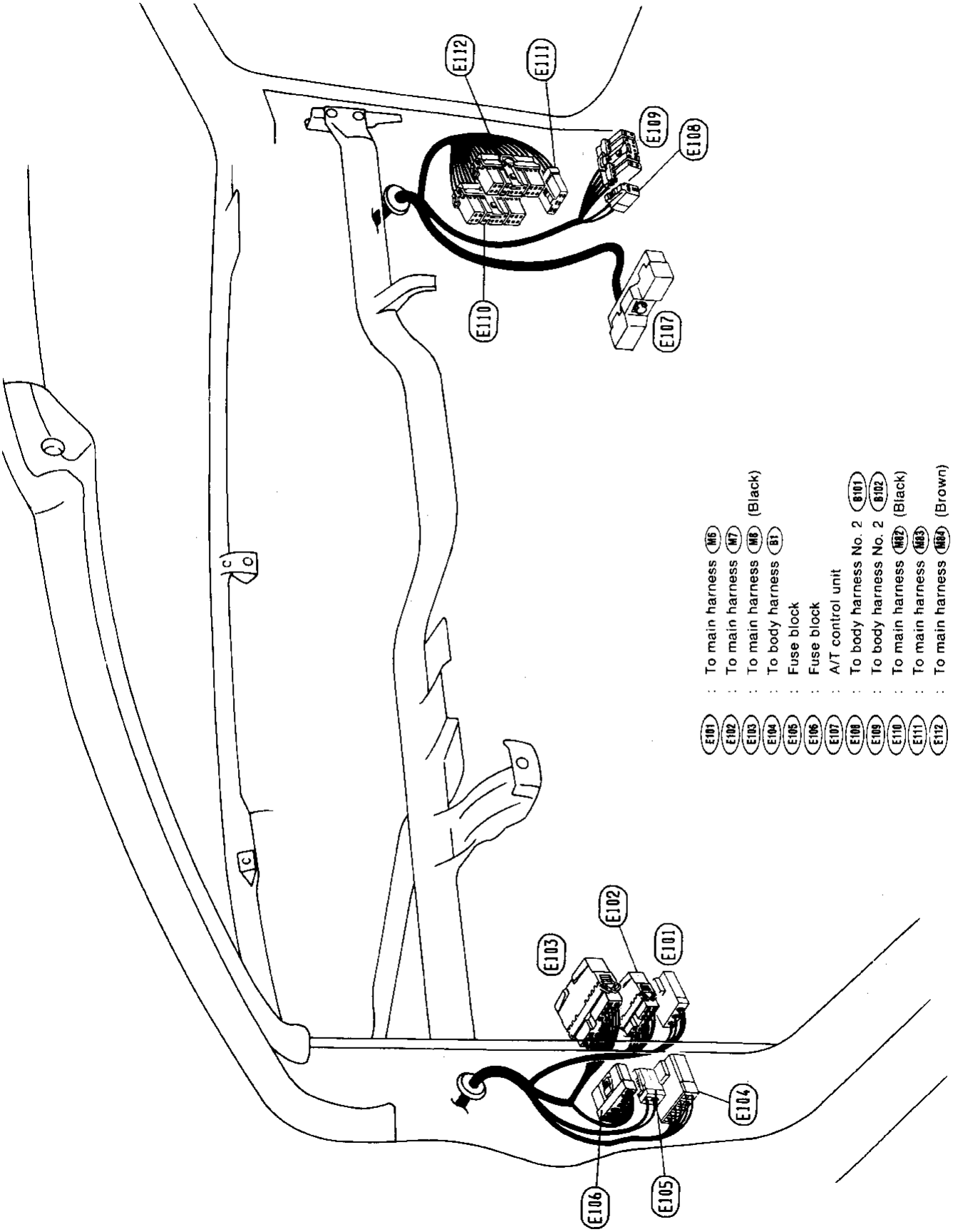


## Outline

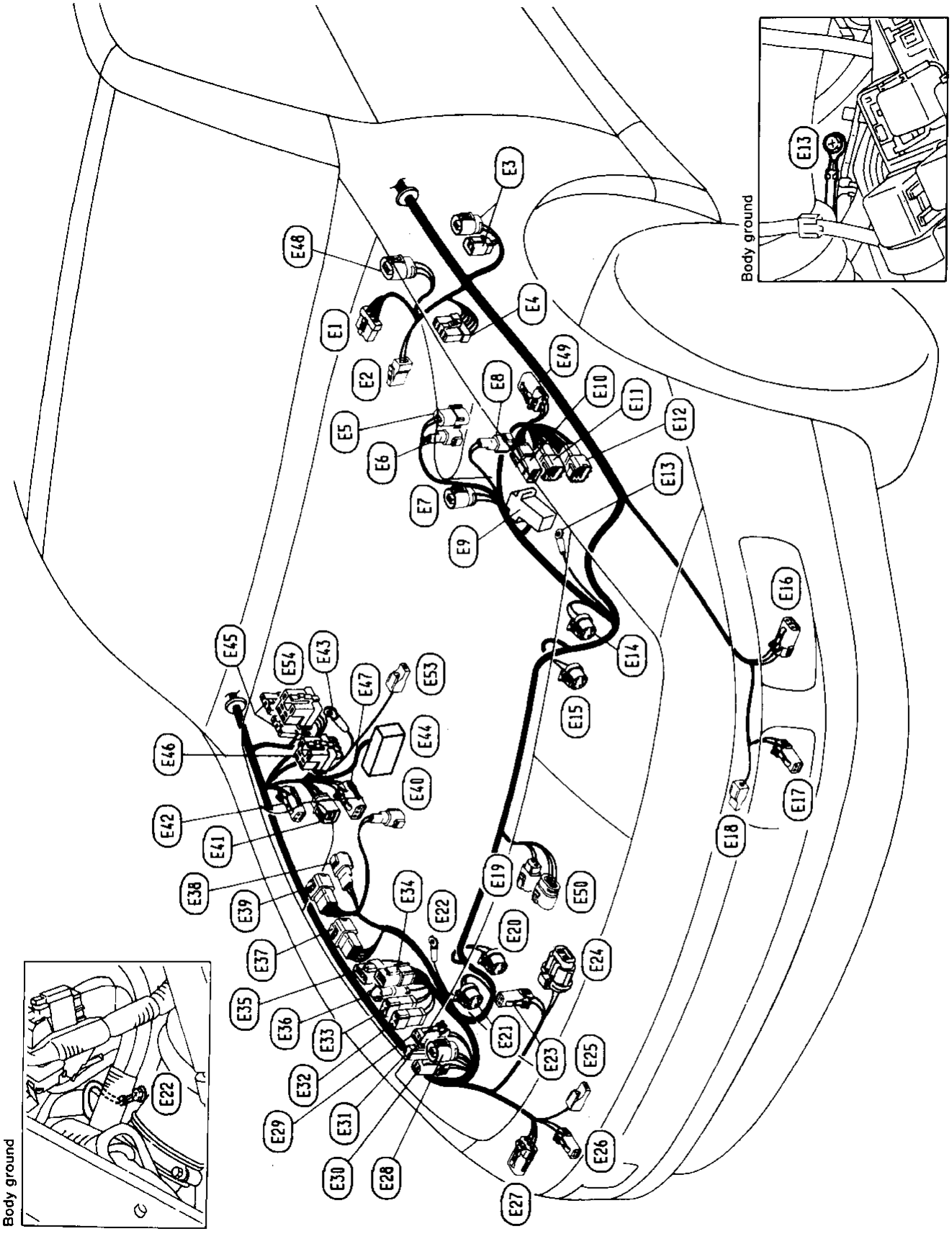

Body harness no. 2
Door harness RH
Engine room harness
Alternator harness
Air bag harness
Back door harness
Main harness
Body harness
Door harness LH
Fuse block
Engine control harness
SEL014QA

## Engine Room Harness




SEL931S

## Engine Room Harness (Cont'd)



## Engine Room Harness (Cont'd)

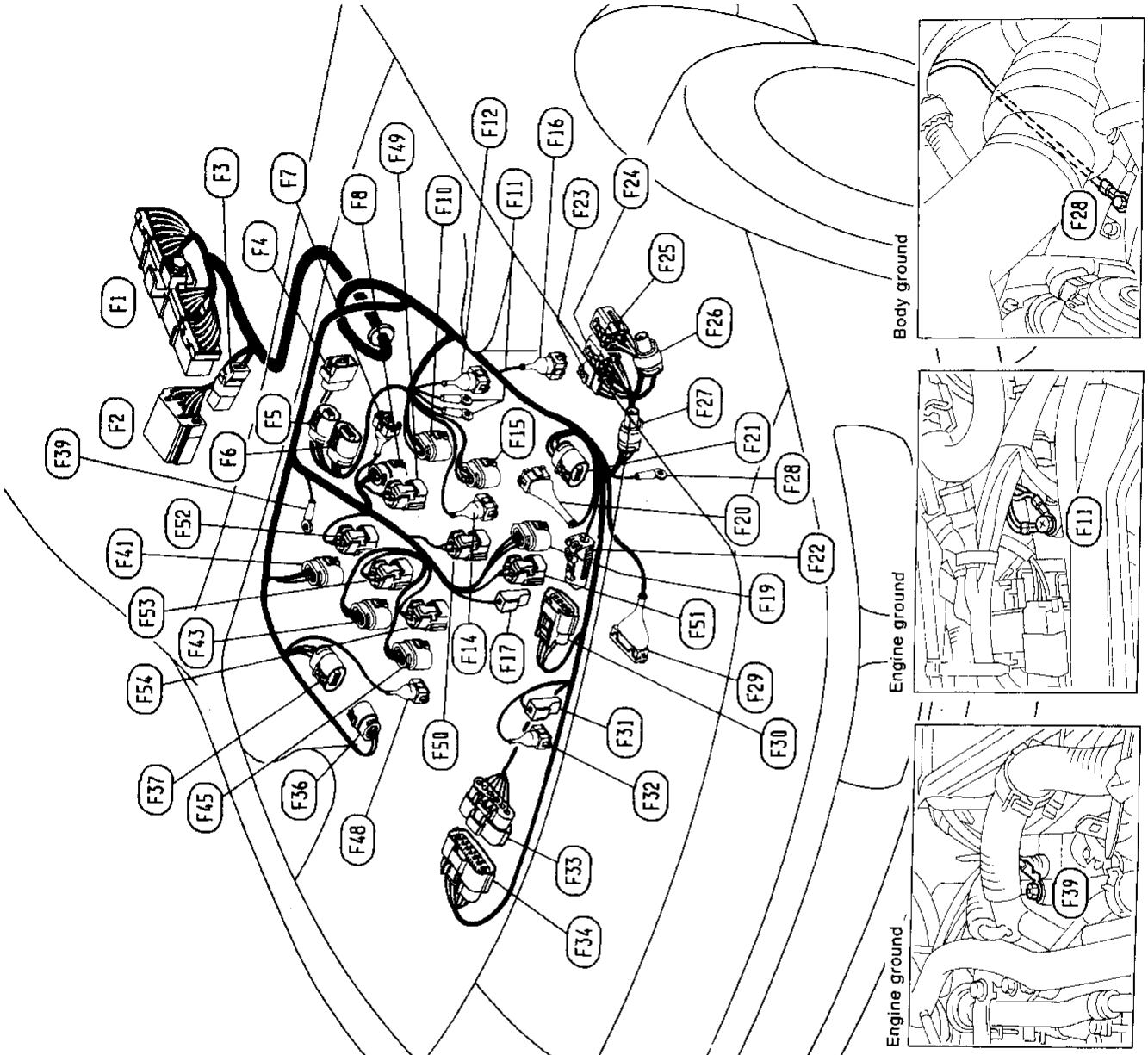
E1 : Front wiper motor
E2 : Brake fluid level switch
E3 : Starter relay (Except M/T model for Canada)
E4 : Front wiper amplifier
E5 : Power steering oil pressure switch (Black)
E6 : Power steering solenoid (Gray)
E7 : Hood switch
E8 : Front sensor LH (For anti-lock brake system)
E9 : Relay box (Refer to page EL-144.)
E10 : To engine control harness F23 (White)
E11 : To engine control harness F24 (Gray)
E12 : To engine control harness F25 (Brown)
E13 : Body ground
E14 : Headlamp LH (Low beam) (Brown)
E15 : Headlamp LH (High beam) (Black)
E16 : Front combination lamp LH
E17 : Front fog lamp LH
E18 : Horn-low
E19 : Cooling fan motor (Non-turbocharger model)
E20 : Headlamp RH (High beam) (Black)
E21 : Headlamp RH (Low beam) (Brown)
E22 : Body ground
E23 : Ambient sensor (Auto A/C model)
E24 : Low-pressure switch
E25 : Horn-high
E26 : Front fog lamp RH
E27 : Front combination lamp RH
E28 : Front washer motor (White)
E29 : Rear washer motor (Gray)
E30 : Washer fluid level switch (Brown) (Except for California)
E31 : Headlamp washer motor (Black) (For Canada)
E32 : To alternator harness A1 (Black)
E33 : To alternator harness A2 (Blue)
E34 : To alternator harness A3 (A/T model)
E35 : To alternator harness A4 (M/T model)
E36 : To alternator harness A5
E37 : Inhibitor switch (A/T model)
E38 : Revolution sensor (A/T model)
E39 : To A/T solenoid harness (A/T model)
E40 : Front sensor RH (For anti-lock brake system)
E41 : ASCD pump
E42 : Dropping resistor (A/T model)
E43 : Battery
E44 : Fusible link holder
E45 : Daytime light control unit (For Canada)
E46 : Headlamp washer relay (For Canada)
E47 : Front shock absorber actuator RH (Turbocharger model)
E48 : Boost sensor (Turbocharger model)
E49 : Front shock absorber actuator LH (Turbocharger model)
E50 : Cooling fan motor (Turbocharger model)
E53 : Theft warning horn
E54 : Daytime light cancel relay (For Canada)



SEL932SA

## Engine Control Harness

### NON-TURBOCHARGER MODEL

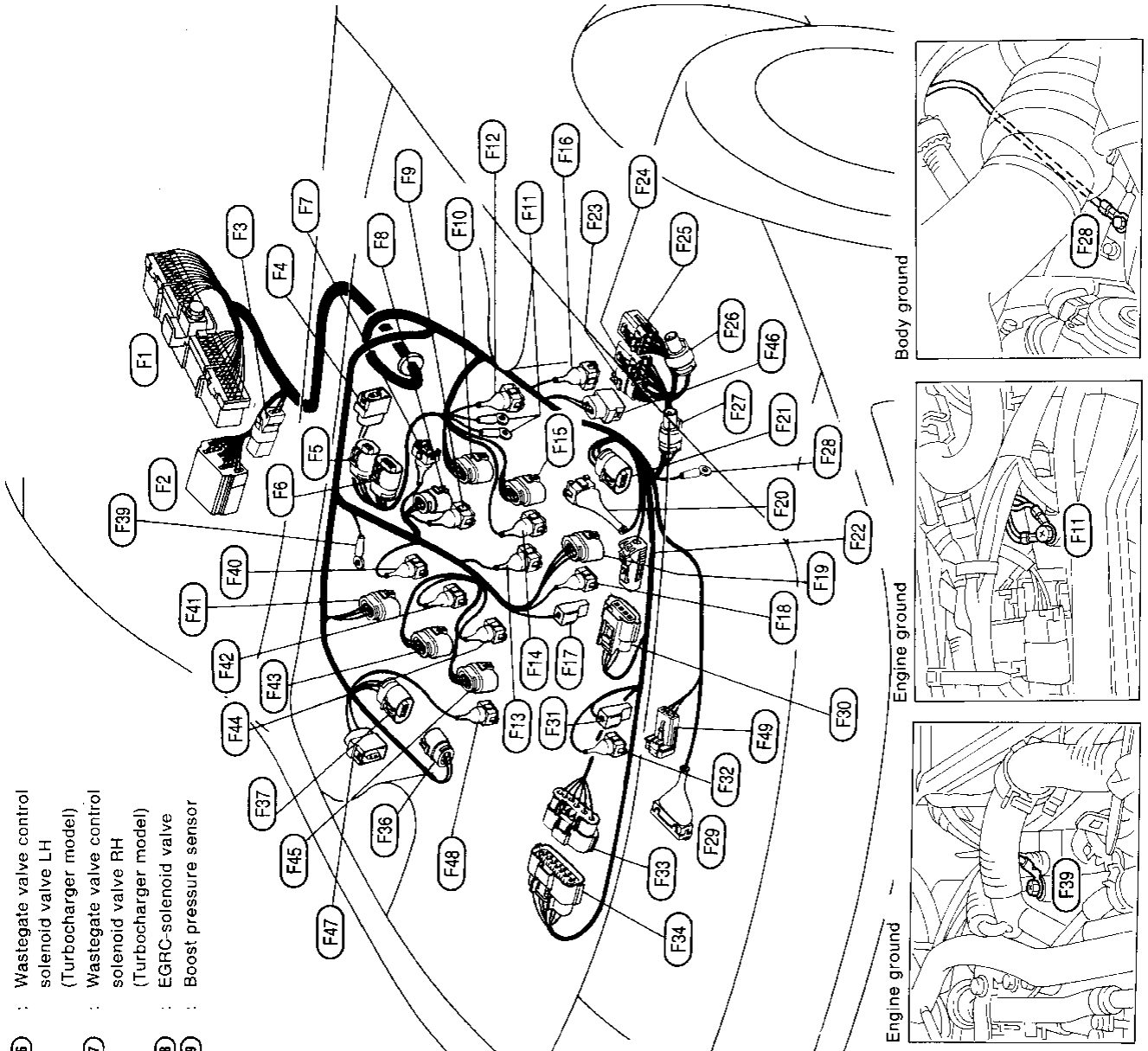



F1 : ECM (ECCS control module)
F2 : To main harness (M55)
F3 : Resistor
F4 : EGR temperature sensor
F5 : VTC solenoid valve — LH
F6 : Heated oxygen sensor — LH
F7 : IACV-Air regulator
F8 : To knock sensor sub-harness
F10 : Ignition coil No. 6
F11 : Engine ground
F12 : IACV-AAC valve
F14 : IACV-FICD solenoid valve
F15 : Ignition coil No. 4
F16 : PRVR control solenoid valve
F17 : Fuel temperature sensor
F19 : Ignition coil No. 2
F20 : Throttle position switch
F21 : Throttle position sensor
F22 : Compressor
F23 : To engine room harness (E10) (White)
F24 : To engine room harness (E11) (Gray)
F25 : To engine room harness (E12) (Brown)
F26 : Check connector
F27 : Check connector
F28 : Body ground
F29 : Mass air flow sensor
F30 : Camshaft position sensor
F31 : Thermal transmitter
F32 : Engine coolant temperature sensor
F33 : Power transistor unit
F34 : Power transistor unit
F36 : VTC solenoid valve — RH
F37 : Heated oxygen sensor — RH
F38 : Engine ground
F41 : Ignition coil No. 5
F43 : Ignition coil No. 3
F45 : Ignition coil No. 1
F48 : EGRC-solenoid valve
F49 : Injector No. 6
F50 : Injector No. 4
F51 : Injector No. 2
F52 : Injector No. 5
F53 : Injector No. 3
F54 : Injector No. 1

SEL933S

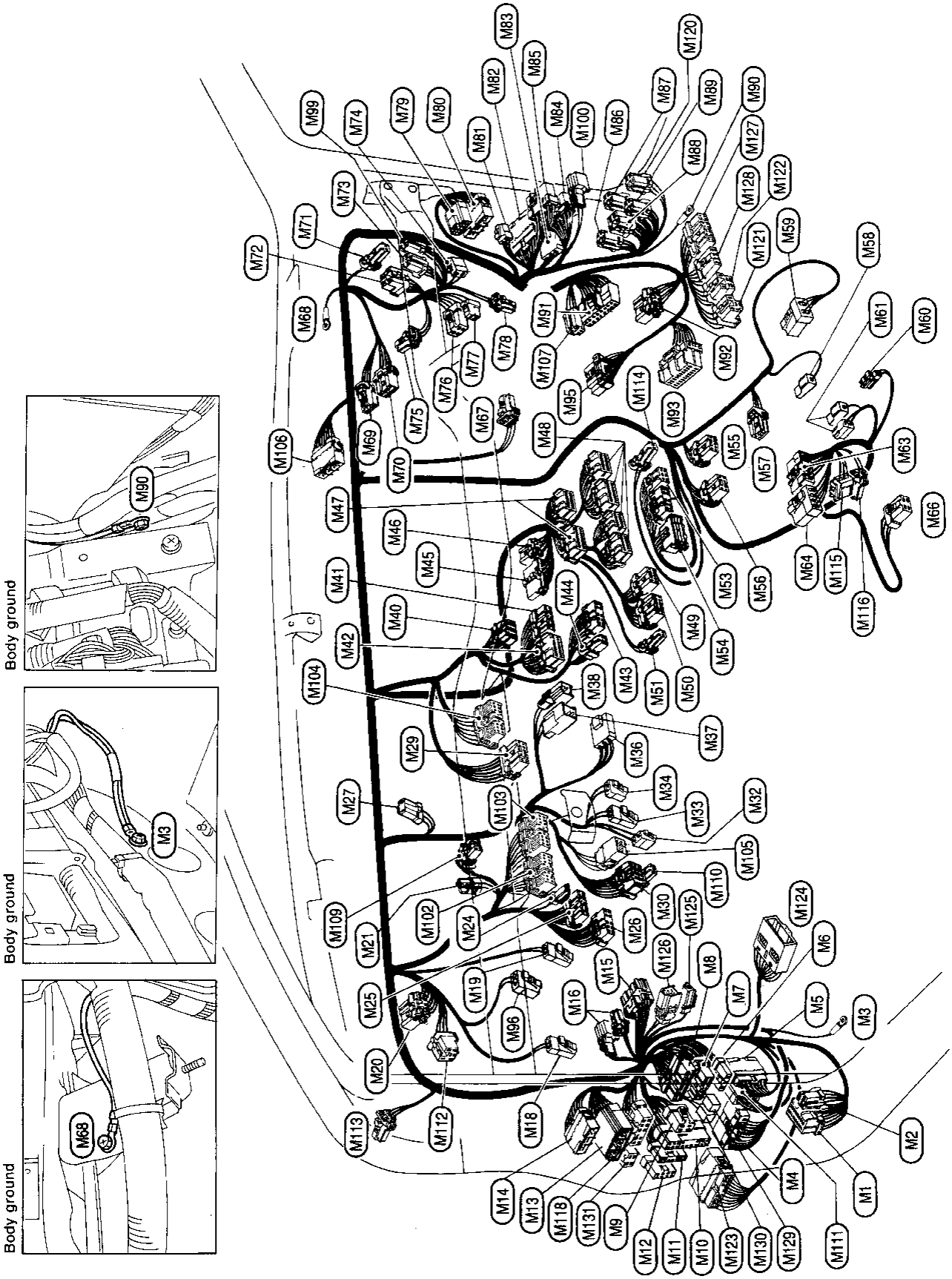
## Engine Control Harness (Cont'd)

### TURBOCHARGER MODEL



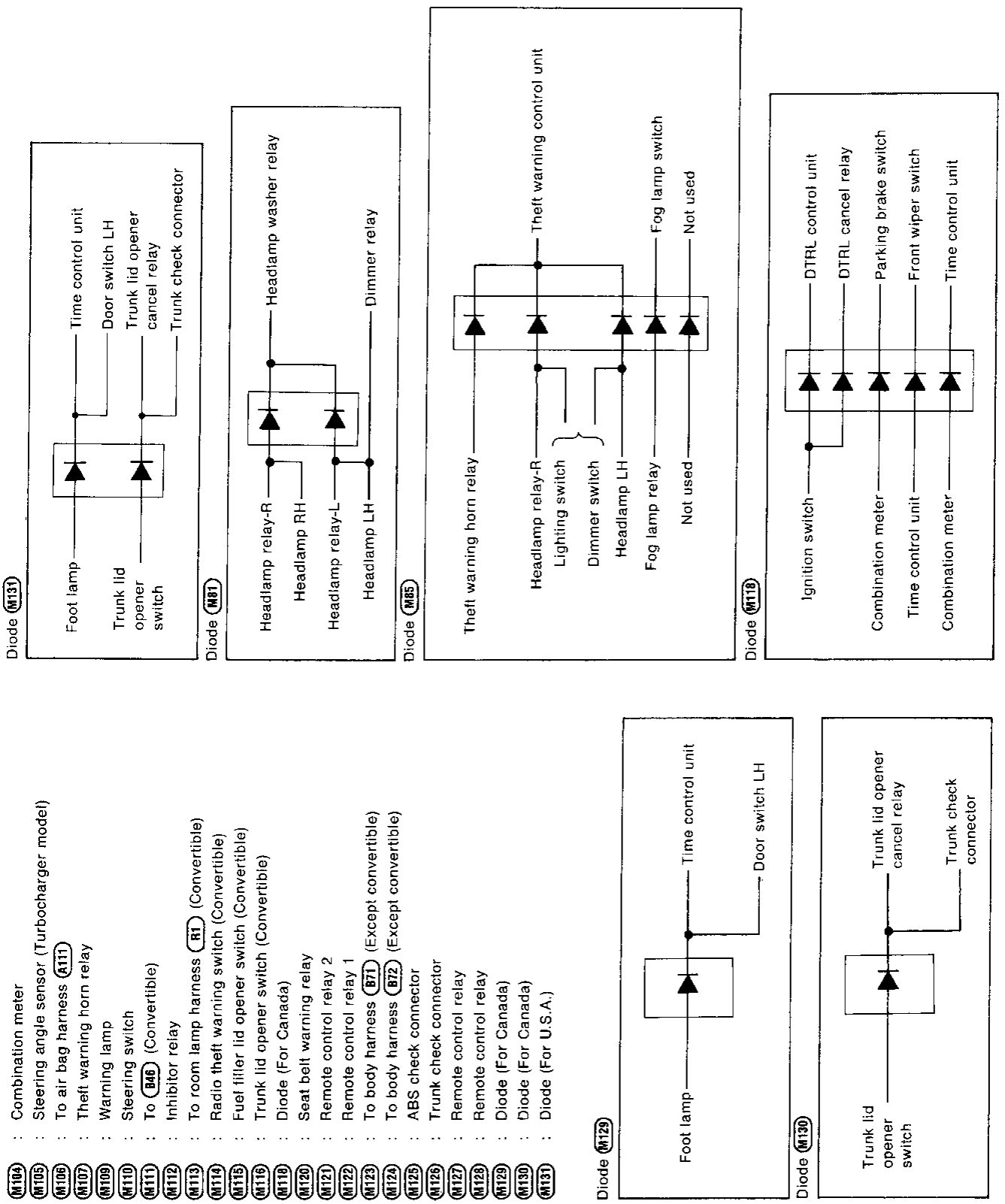

MEL943D

## Main Harness



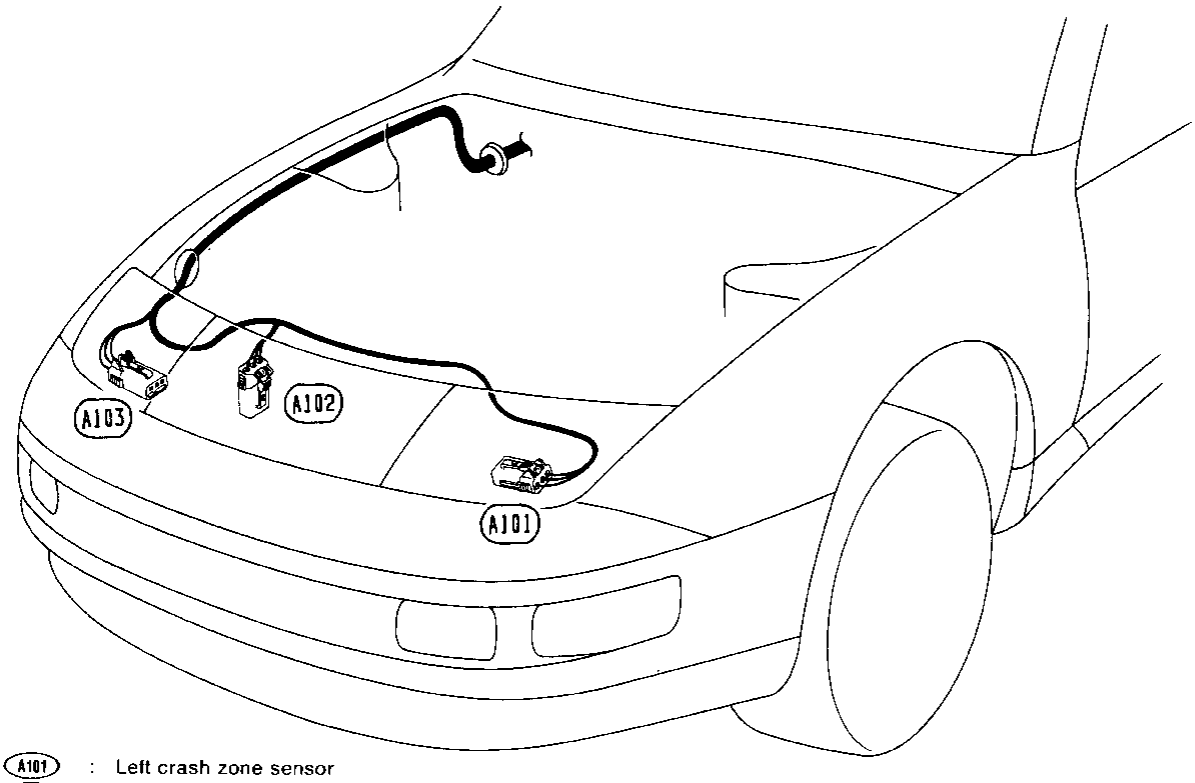
(M1) : Time control unit
(M2) : Fuel pump relay
(M3) : Body ground
(M4) : To body harness (B2)
(M5) : To body harness (B3) (Convertible)
(M6) : To engine room harness (E101)
(M7) : To engine room harness (E102)
(M8) : To engine room harness (E103) (Black)
(M9) : Fuse block
(M10) : Fuse block
(M11) : Fuse block
(M12) : Fuse block
(M13) : To door harness LH (D1)
(M14) : To door harness LH (D2)
(M15) : Data link connector for CONSULT
(M16) : Joint connector (Turbocharger model)
(M18) : ASCD clutch switch (Blue)
(M19) : Clutch interlock switch (Blue) (M/T model for U.S.A.)
(M20) : Shift lock control unit (A/T model)
(M21) : Warning chime
(M24) : Cluster switch
(M25) : Cluster switch
(M26) : Lighting switch-Headlamp washer switch
(M27) : Combination flasher unit
(M29) : Warning lamp
(M30) : Dimmer switch
(M32) : Kickdown switch (White) (A/T model)
(M33) : ASCD cancel switch (Blue)
(M34) : Stop lamp switch (Black)
(M36) : Ignition switch
(M37) : Key switch
(M38) : Key hole illumination
(M40) : Hazard warning switch
(M41) : A/C switch unit (Manual A/C model)
(M42) : A/C switch unit (Auto A/C model)
(M43) : Front wiper and washer switch
(M44) : Rear wiper and washer switch
(M45) : Mode door motor (Manual A/C model)
(M46) : Mode door motor (Auto A/C model)
(M47) : A/C control unit (Manual A/C model)
(M48) : A/C control unit (Auto A/C model)
(M49) : Air mix actuator (Manual A/C model)
(M50) : To A/C sub-harness (Auto A/C model)
(M51) : Foot lamp LH
(M53) : Radio and cassette player
(M54) : Joint connector (Bose system model)
(M55) : Shift lock solenoid-Detention switch (A/T model)
(M56) : Digital clock
(M57) : OD control switch and A/T illumination (A/T model)
(M58) : Parking brake switch
(M59) : Seat belt switch RH (Convertible)
(M60) : Ashtray illumination
(M61) : Cigarette lighter
(M63) : Door mirror control switch-Shock absorber select switch (Turbocharger model)
(M64) : Door mirror control switch (Non-turbocharger model)
(M66) : To seat sub-harness (With power seat)
(M67) : Thermo control amplifier (Manual A/C model)
(M68) : Body ground
(M69) : Intake door motor (Manual A/C model)
(M70) : Intake door motor (Auto A/C model)
(M71) : Glove box lamp
(M72) : ASCD hold relay (Manual A/C model)
(M73) : Blower relay-1 (Manual A/C model)
(M74) : Blower motor
(M75) : A/C sensor (Auto A/C model)
(M76) : Heater resistor (Manual A/C model)
(M77) : Blower control amplifier (Auto A/C model)
(M78) : Foot lamp RH
(M79) : To door harness RH (D101)
(M80) : To door harness RH (D102)
(M81) : Diode (For Canada)
(M82) : To engine room harness (E110) (Black)
(M83) : To engine room harness (E111)
(M84) : To engine room harness (E112) (Brown)
(M85) : Diode
(M86) : Blower relay-3 (Manual A/C model)
(M87) : Blower relay-2 (Manual A/C model)
(M88) : ASCD hold relay (Auto A/C model)
(M89) : Audio relay (Manual A/C model with Bose system)
(M90) : Body ground
(M91) : Theft warning control unit
(M92) : Power steering control unit (Non-turbocharger model)
(M93) : ASCD control unit
(M95) : To engine control harness (F2)
(M96) : Clutch pedal position switch (Black) (M/T)
(M99) : A/C ignition relay (Convertible)
(M100) : To body harness No. 2 (B109) (Turbocharger model)
(M102) : Combination meter
(M103) : Combination meter

## Main Harness (Cont'd)

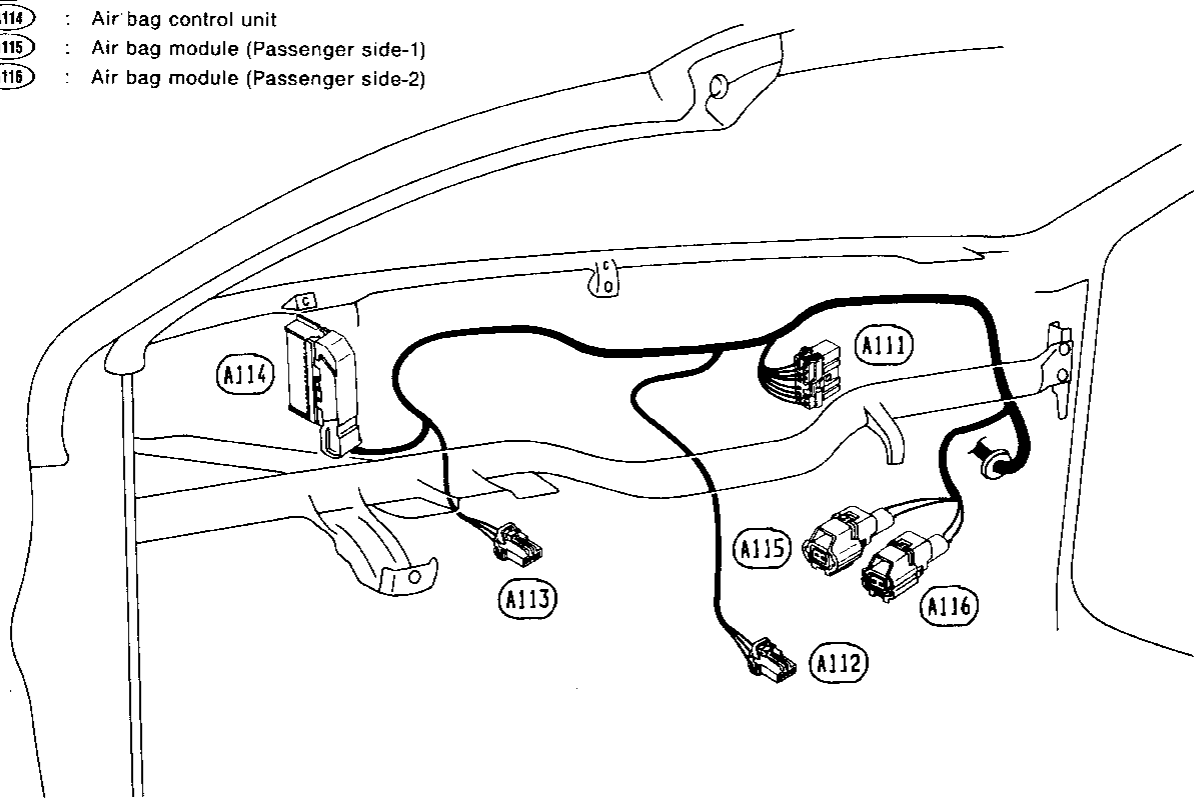



MEL944D

## Air Bag Harness



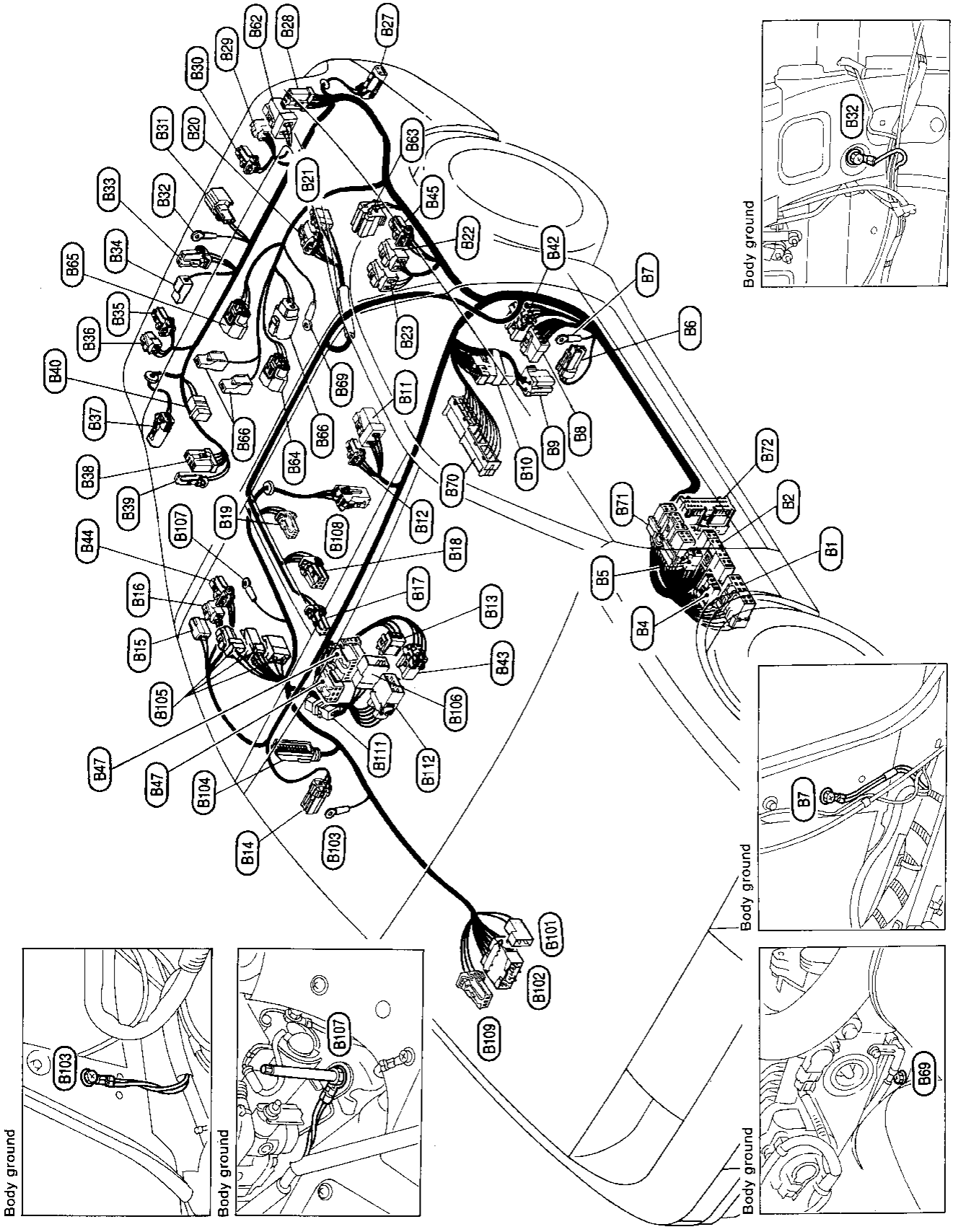

A101 : Left crash zone sensor
A102 : Center crash zone sensor
A103 : Right crash zone sensor
A111 : To main harness M106
A112 : Tunnel and safing sensor
A113 : Air bag module
A114 : Air bag control unit
A115 : Air bag module (Passenger side-1)
A116 : Air bag module (Passenger side-2)




SEL938S

## Body Harness

### 2 SEATER



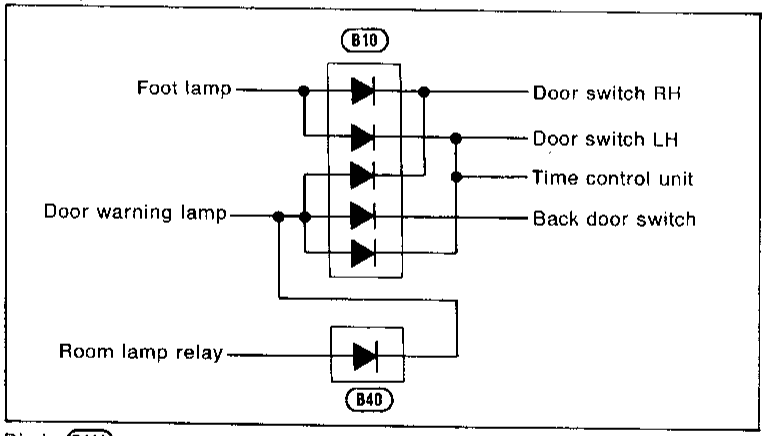
## Body harness

- B1 : To engine room harness (E104)
- B2 : To main harness (M4)
- B4 : Fuse block
- B5 : Fuse block
- B6 : Door switch LH
- B7 : Body ground
- B8 : Fuel pump control unit
- B9 : Room lamp relay
- B10 : Diode
- B11 : Fuel pump
- B12 : Fuel tank gauge unit
- B13 : To body harness No. 2 (B106)
- B14 : Door switch RH
- B16 : Rear speaker RH (Bose system)
- B17 : Spot lamp
- B18 : In-vehicle sensor upper·Aspirator motor (Auto A/C model)
- B19 : Interior lamp
- B20 : To back door harness (D201)
- B21 : To back door harness (D202)
- B23 : Rear speaker LH (Bose system)
- B27 : Rear side marker lamp LH
- B28 : Stop and tail lamp sensor
- B29 : Rear combination lamp LH
- B30 : Back-up lamp LH
- B31 : License lamp
- B32 : Body ground
- B33 : Back door key switch
- B34 : Back door switch
- B35 : Back-up lamp RH
- B36 : Rear combination lamp RH
- B37 : Rear side marker lamp RH
- B38 : Power antenna timer
- B39 : Power antenna motor
- B40 : Diode
- B42 : Shock absorber control unit (Turbocharger model)
- B43 : To body harness No. 2 (B112) (Turbocharger model)
- B44 : Rear shock absorber actuator RH (Turbocharger model)
- B45 : Rear shock absorber actuator LH (Turbocharger model)
- B47 : Door lock timer
- B62 : Back door actuator
- B63 : HICAS relay
- B64 : Rear sub sensor
- B65 : Main sensor
- B66 : HICAS motor
- B69 : Body ground
- B70 : HICAS control unit
- B71 : To main harness (M123)
- B72 : To main harness (M124)

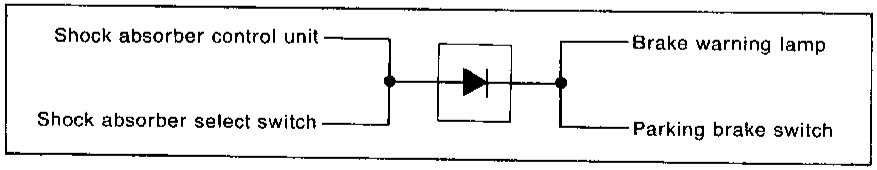
## Body harness No. 2

- B101 : To engine room harness (E108)
- B102 : To engine room harness (E109)
- B103 : Body ground
- B104 : ABS control unit
- B105 : Actuator (For ABS)
- B106 : To body harness (B13)
- B107 : Body ground
- B108 : Rear sensor (For ABS)
- B109 : To main harness (M100)
- B111 : Diode (Turbocharger model)
- B112 : To body harness (B43) (Turbocharger model)

Diode (B10) (B40)

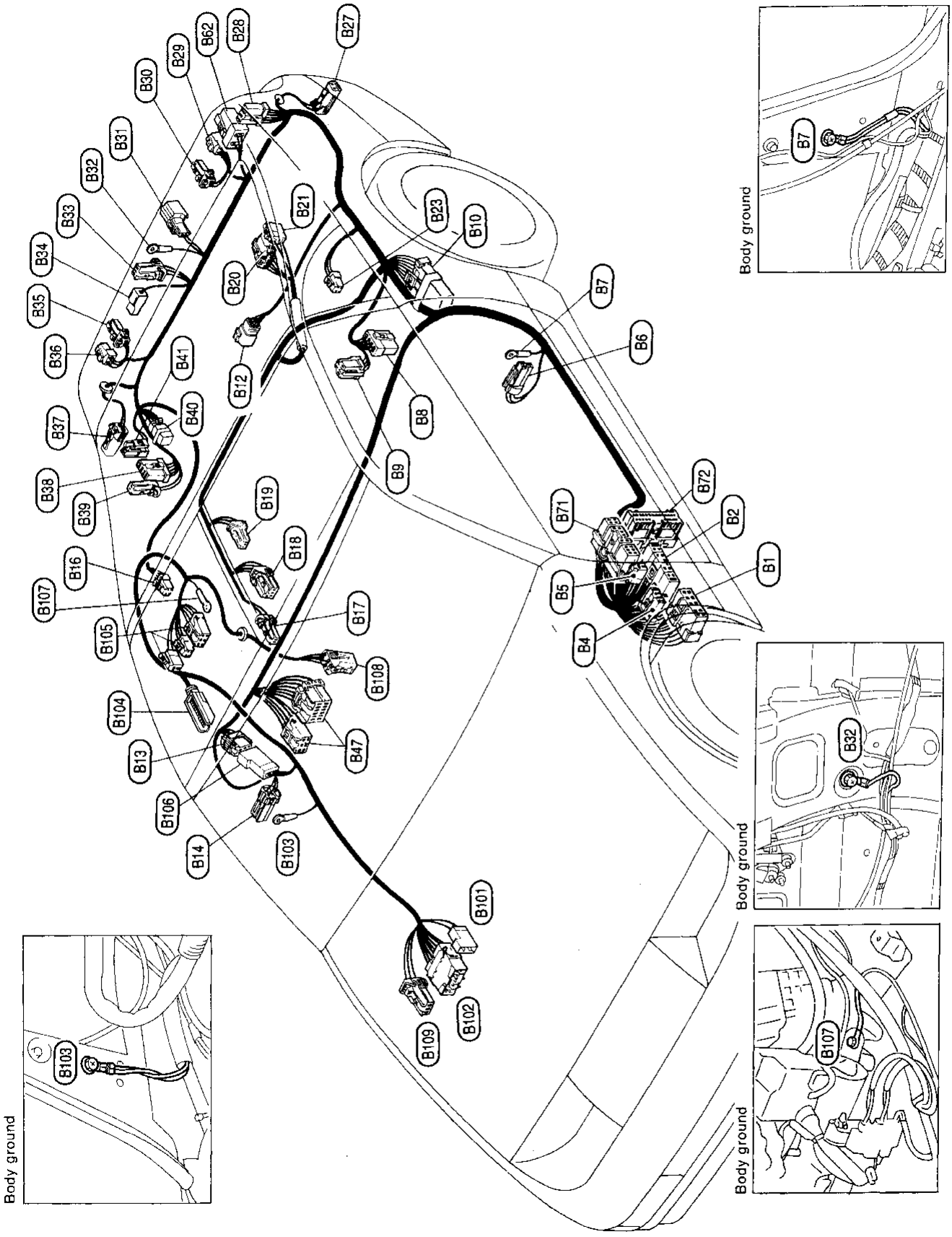



Diode (B111)



## Body Harness (Cont'd)

### 2+2 SEATER



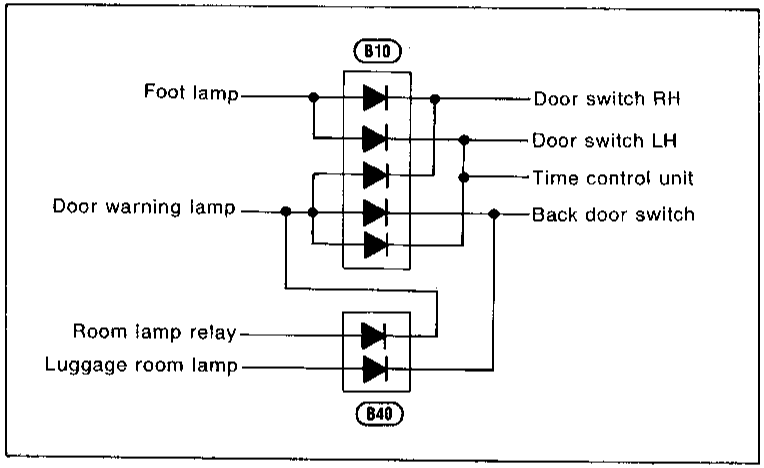
## Body harness

- B1 : To engine room harness E104
- B2 : To main harness M4
- B4 : Fuse block
- B5 : Fuse block
- B6 : Door switch LH
- B7 : Body ground
- B8 : Fuel pump control unit
- B9 : Room lamp relay
- B10 : Diode
- B12 : Fuel tank gauge unit
- B13 : To body harness No. 2 B106
- B14 : Door switch RH
- B16 : Rear speaker RH (Bose system)
- B17 : Spot lamp
- B18 : In-vehicle sensor upper·Aspirator motor (Auto A/C model)
- B19 : Interior lamp
- B20 : To back door harness D201
- B21 : To back door harness D202
- B23 : Rear speaker LH (Bose system)
- B27 : Rear side marker lamp LH
- B28 : Stop and tail lamp sensor
- B29 : Rear combination lamp LH
- B30 : Back-up lamp LH
- B31 : License lamp
- B32 : Body ground
- B33 : Back door key switch
- B34 : Back door switch
- B35 : Back-up lamp RH
- B36 : Rear combination lamp RH
- B37 : Rear side marker lamp RH
- B38 : Power antenna timer
- B39 : Power antenna motor
- B40 : Diode
- B41 : Luggage room lamp
- B47 : Door lock timer
- B62 : Back door actuator
- B71 : To main harness M123
- B72 : To main harness M124

## Body harness No. 2

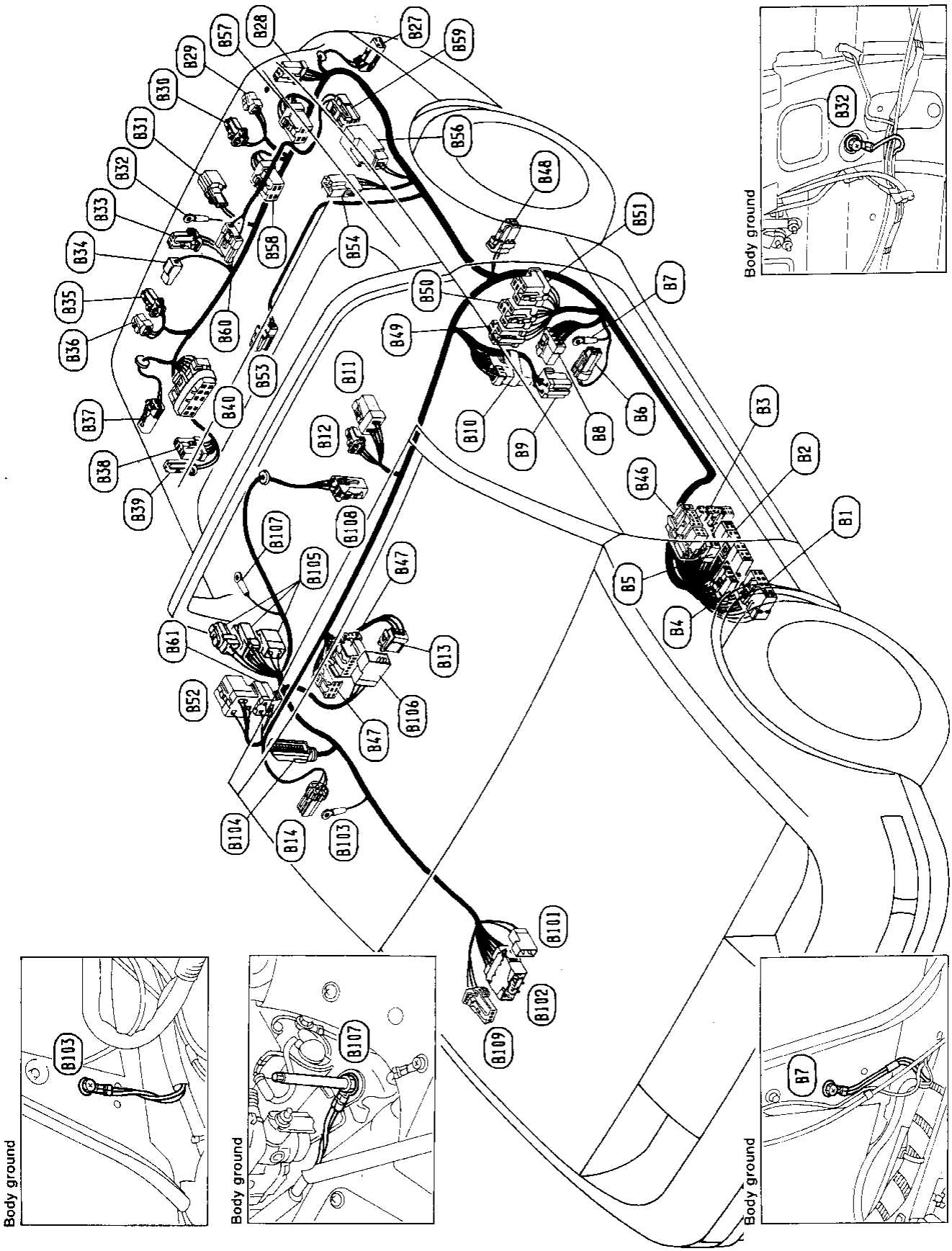
- B101 : To engine room harness E106
- B102 : To engine room harness E109
- B103 : Body ground
- B104 : ABS control unit
- B105 : Actuator (For ABS)
- B106 : To body harness B13
- B107 : Body ground
- B108 : Rear sensor (For ABS)
- B109 : To main harness M100

Diode B10 B40



## Body Harness (Cont'd)

**CONVERTIBLE**



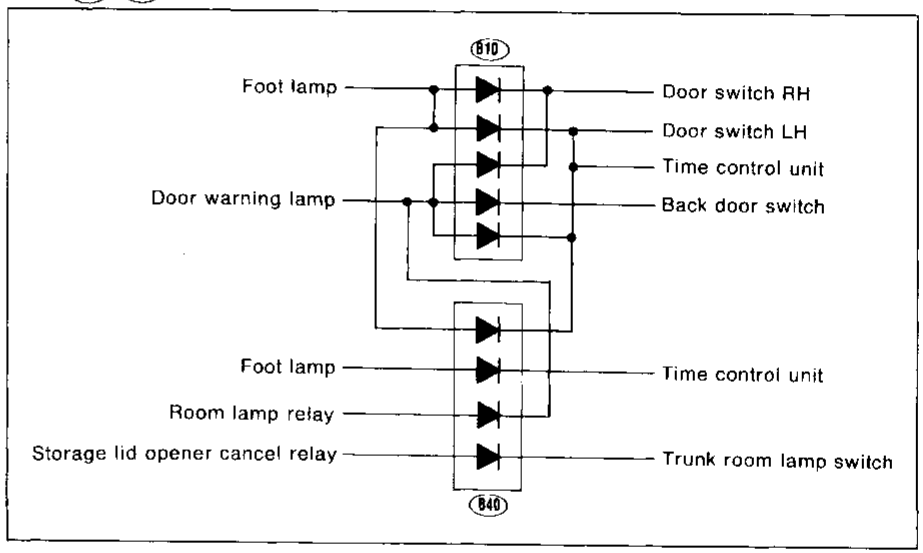
### Body harness

- (B1) : To engine room harness (E104)
- (B2) : To main harness (M4)
- (B3) : To main harness (M5)
- (B4) : Fuse block
- (B5) : Fuse block
- (B6) : Door switch LH
- (B7) : Body ground
- (B8) : Fuel pump control unit
- (B9) : Room lamp relay
- (B10) : Diode
- (B11) : Fuel pump
- (B12) : Fuel tank gauge unit
- (B13) : To body harness No. 2 (B106)
- (B14) : Door switch RH
- (B27) : Rear side marker lamp LH
- (B28) : Stop and tail lamp sensor
- (B29) : Rear combination lamp LH
- (B30) : Back-up lamp LH
- (B31) : License lamp
- (B32) : Body ground
- (B33) : Back door key switch
- (B34) : Trunk room lamp switch
- (B35) : Back-up lamp RH
- (B36) : Rear combination lamp RH
- (B37) : Rear side marker lamp RH
- (B38) : Power antenna timer
- (B39) : Power antenna motor
- (B40) : Diode
- (B45) : To main harness (M111)
- (B47) : Door lock timer
- (B48) : Storage lid opener and roof opener switch
- (B49) : Trunk lid opener relay
- (B50) : Trunk lid opener cancel relay
- (B51) : Storage lid opener cancel relay
- (B52) : Storage lid interlock relay
- (B53) : Trunk room lamp
- (B54) : To tail harness (T1)
- (B56) : To high-mounted stop lamp sub-harness (B59)
- (B57) : Fuel filler lid opener solenoid
- (B58) : Trunk lid opener solenoid
- (B59) : To body harness (B56)
- (B60) : High-mounted stop lamp
- (B61) : Heater mirror relay

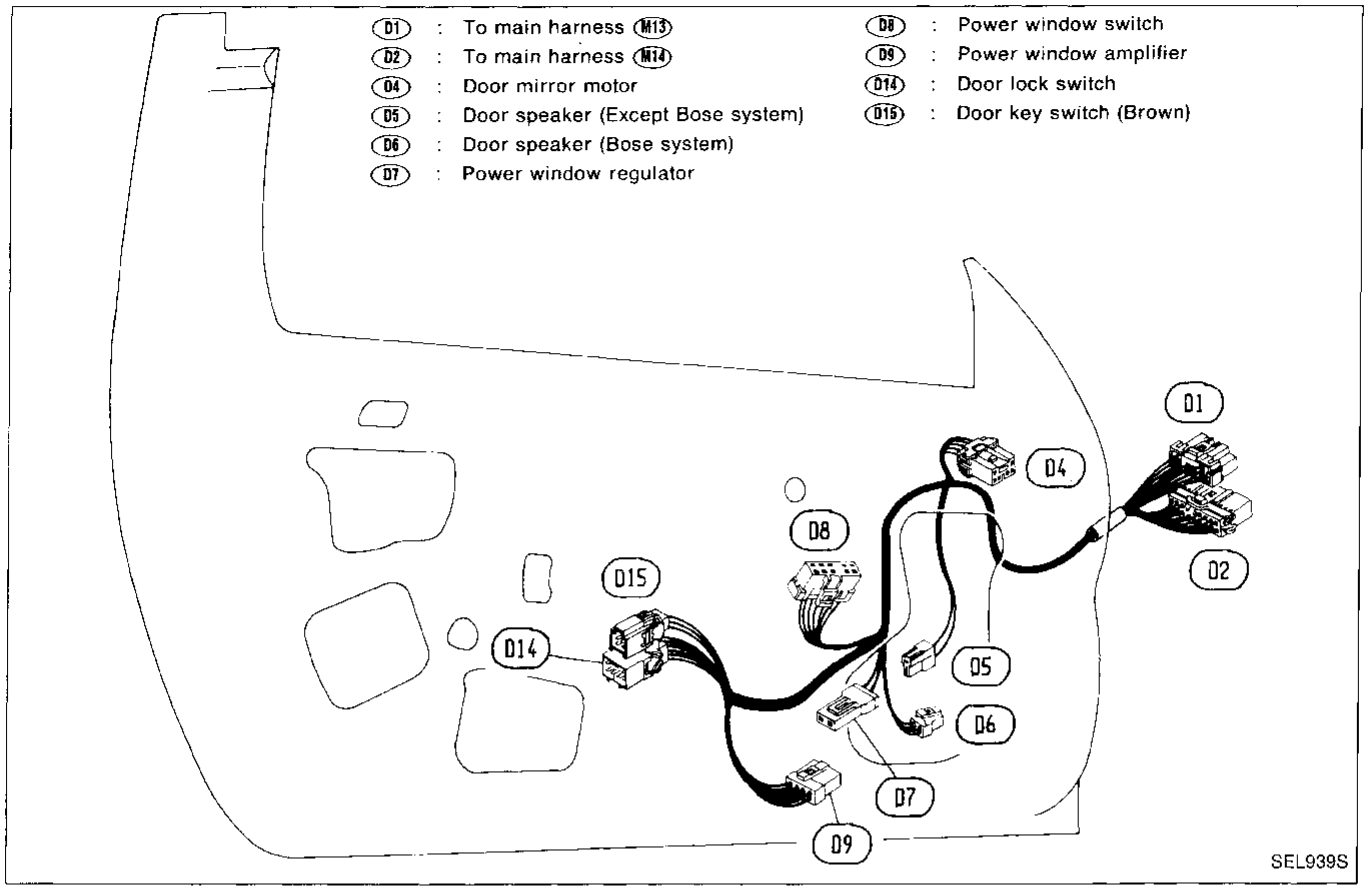
### Body harness No. 2

- (B101) : To engine room harness (E108)
- (B102) : To engine room harness (E109)
- (B103) : Body ground
- (B104) : ABS control unit
- (B105) : Actuator (For ABS)
- (B106) : To body harness (B13)
- (B107) : Body ground
- (B108) : Rear sensor (For anti-lock brake system)
- (B109) : To main harness (M100)

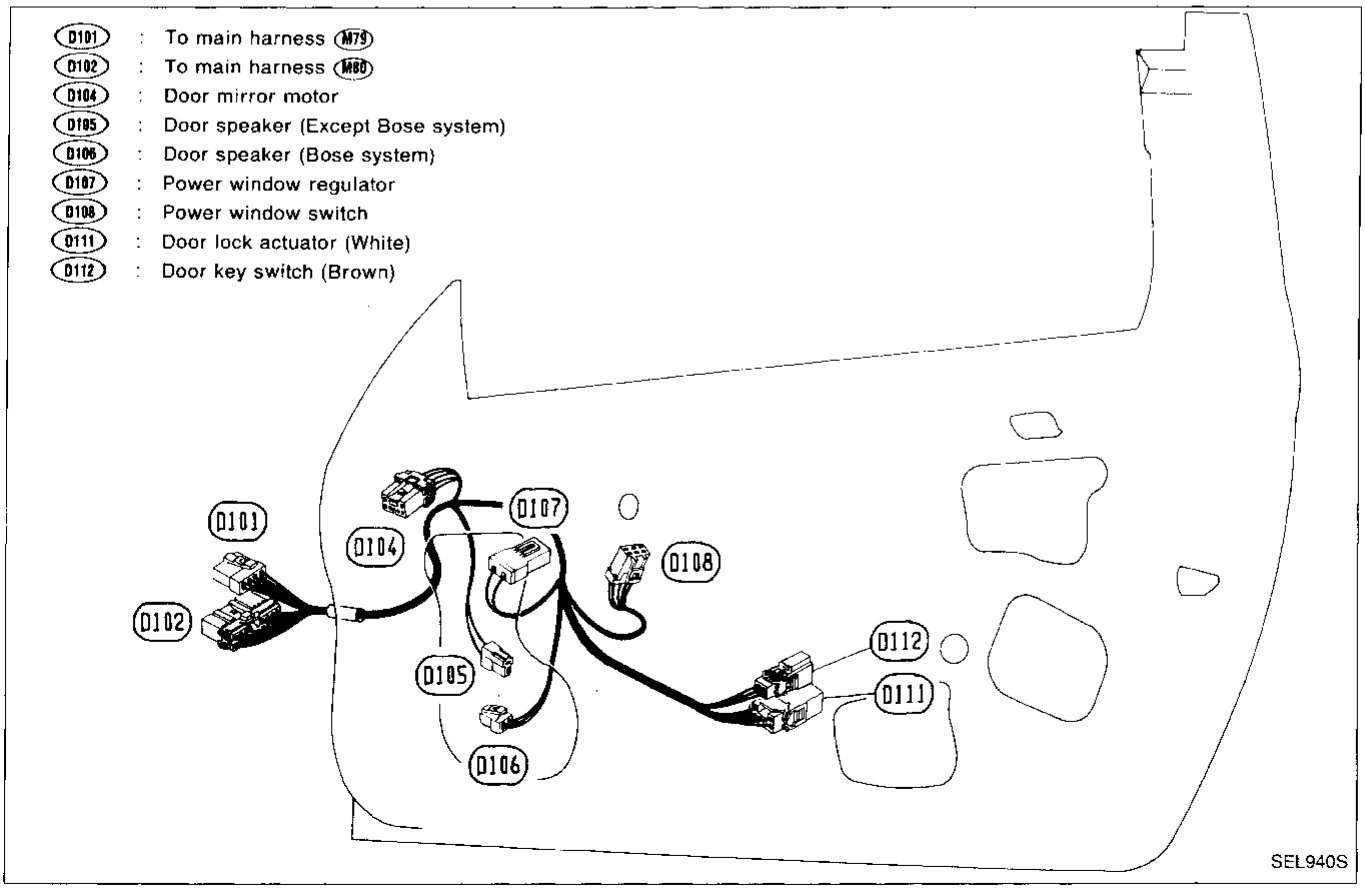
Diode (B10) (B40)



## Door Harness LH

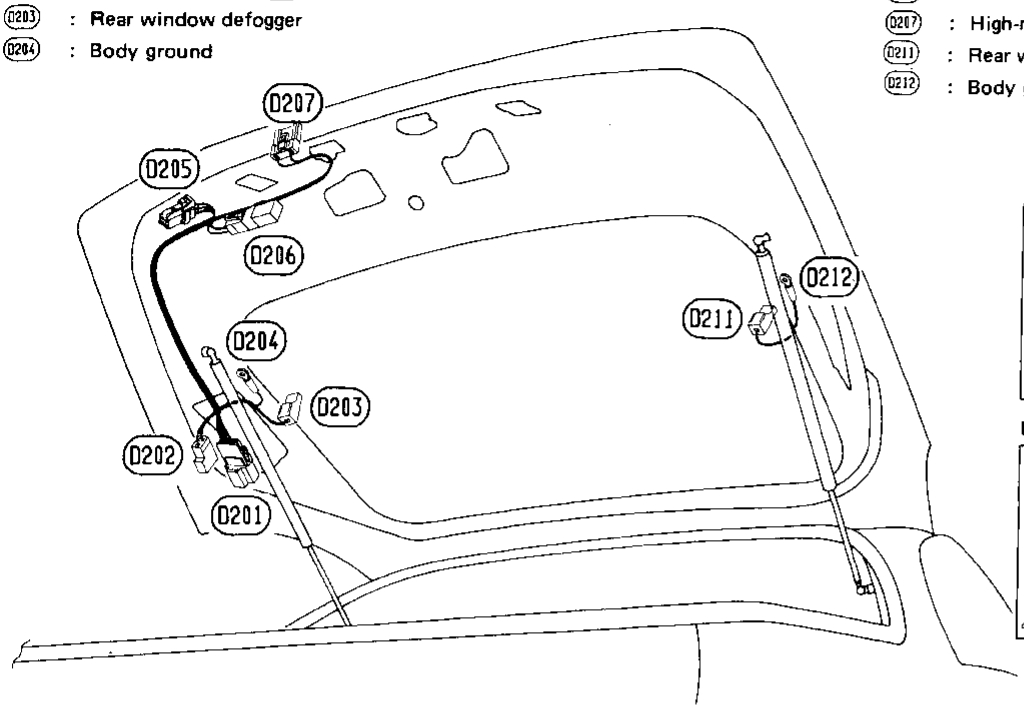



## Door Harness RH

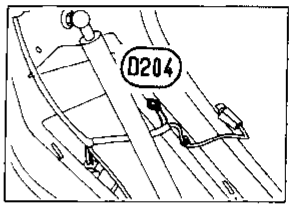


## Back Door Harness

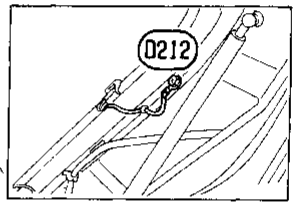
D201 : To body harness B20
D202 : To body harness B21
D203 : Rear window defogger
D204 : Body ground
D205 : Rear wiper motor
D206 : Condenser
D207 : High-mounted stop lamp
D211 : Rear window defogger
D212 : Body ground




Body ground



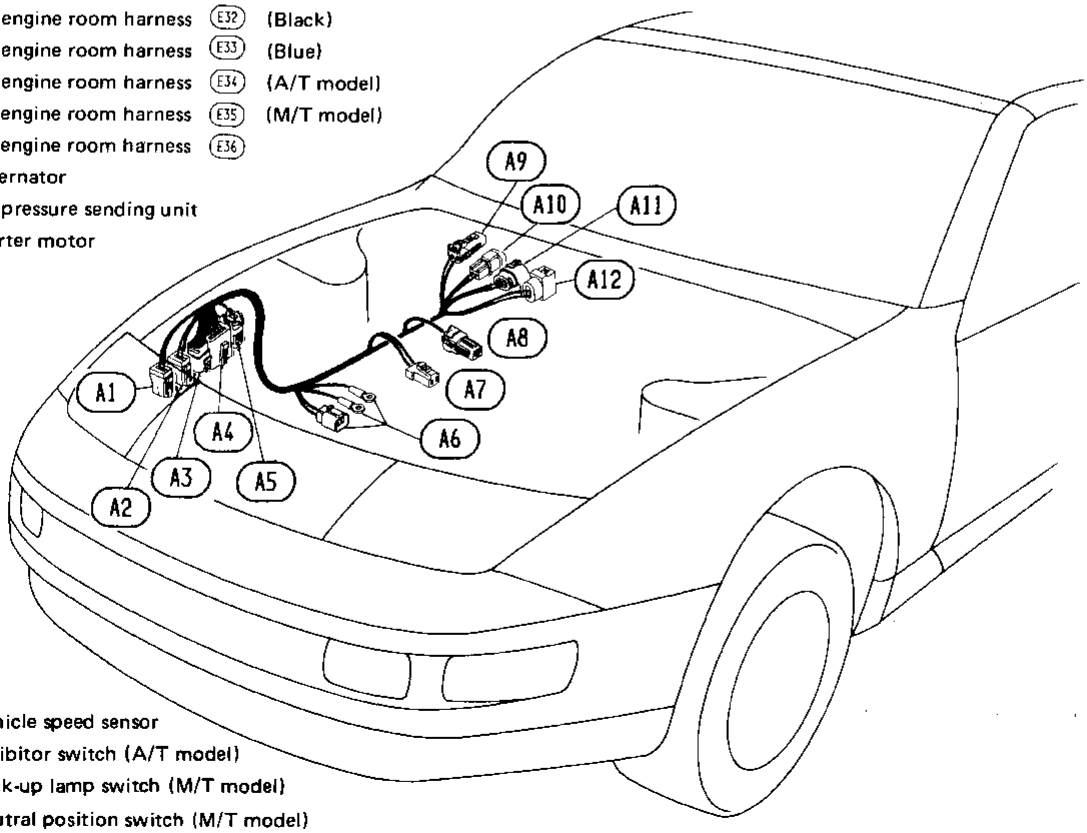

Body ground




SEL711R

## Alternator Harness

A1 : To engine room harness E32 (Black)
A2 : To engine room harness E33 (Blue)
A3 : To engine room harness E34 (A/T model)
A4 : To engine room harness E35 (M/T model)
A5 : To engine room harness E36
A6 : Alternator
A7 : Oil pressure sending unit
A8 : Starter motor




A9 : Vehicle speed sensor
A10 : Inhibitor switch (A/T model)
A11 : Back-up lamp switch (M/T model)
A12 : Neutral position switch (M/T model)

SEL996M