ELECTRICAL SYSTEM

SECTION EL

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

CONTENTS

CONTENTS (Cont'd.)

WIRING DIAGRAM REFERENCE CHART

Precautions

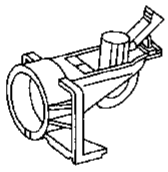
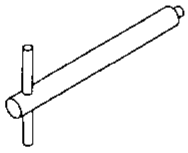
SUPPLEMENTAL RESTRAINT SYSTEM "AIR BAG"

The Supplemental Restraint System "Air Bag" 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 **BF section** of this Service Manual.

WARNING:

a. **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, 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) 26086 30P00 (left) Headlamp aimer adapter	 NT217	Attaching headlamp aimer
(J36126) Washer nozzle adjusting tool	 NT218	Adjusting washer nozzle

Description

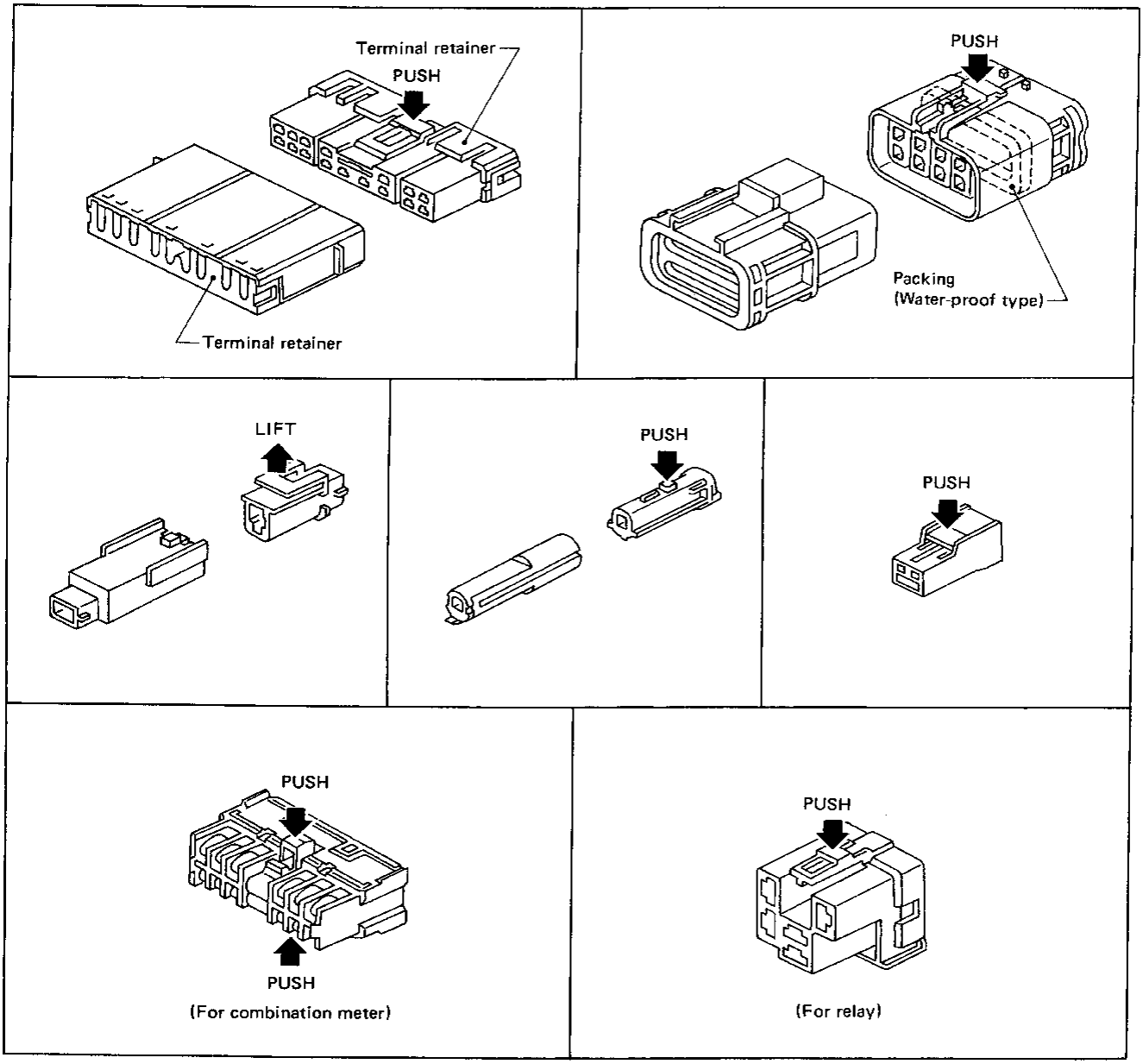
HARNESS CONNECTOR

- 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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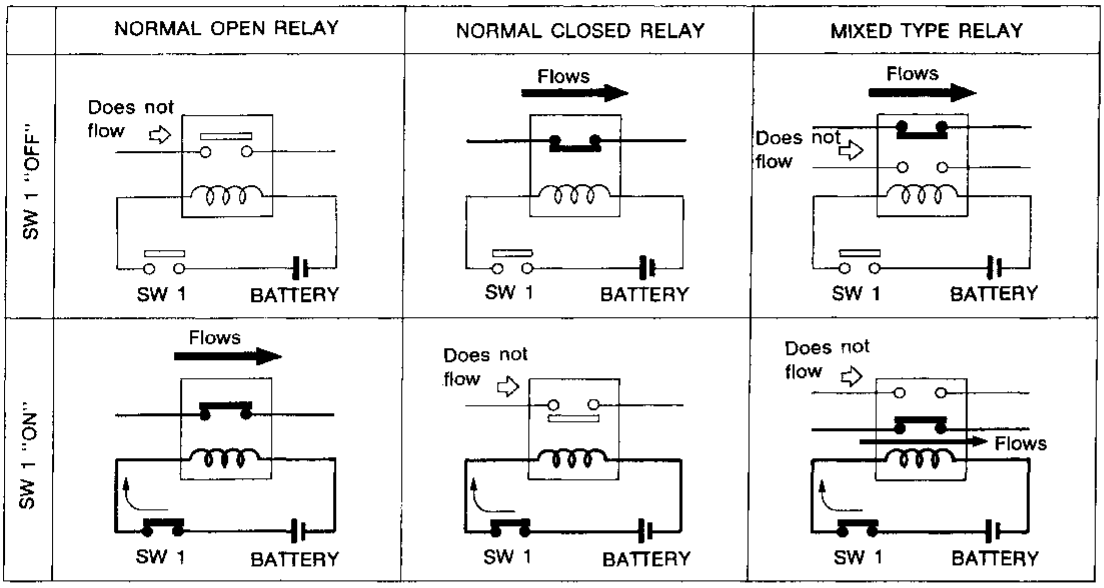
Description

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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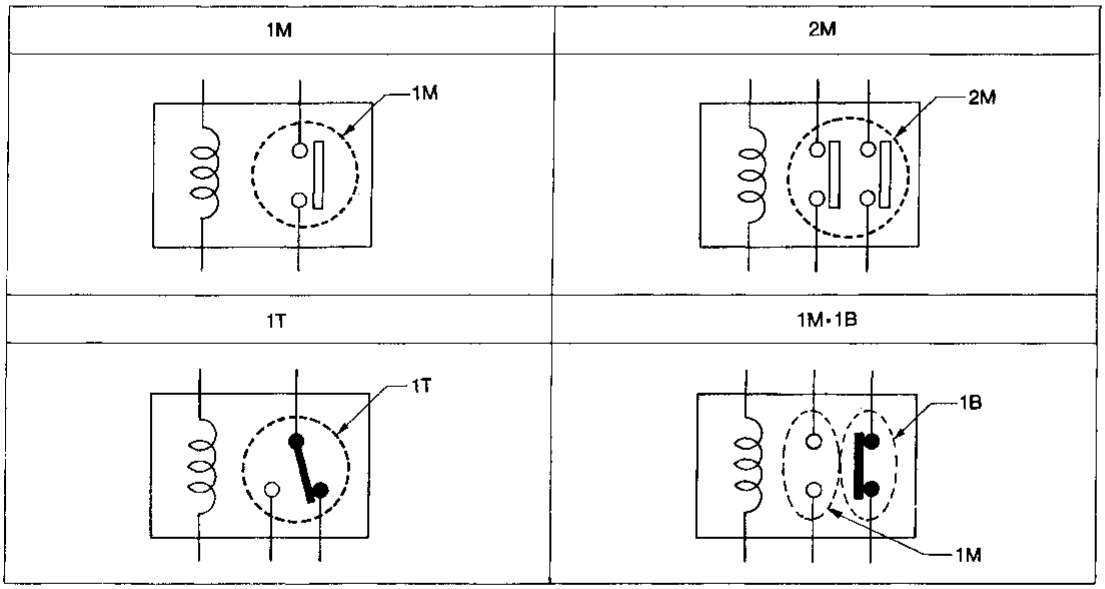
TYPE OF STANDARDIZED RELAYS

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



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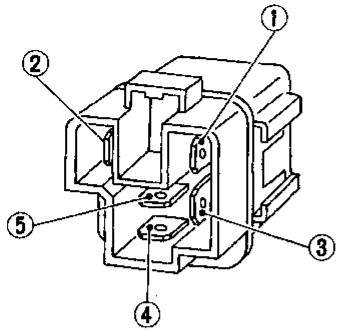
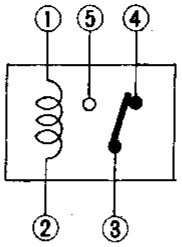
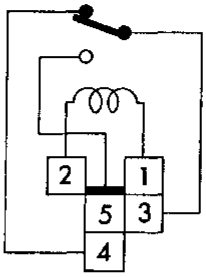
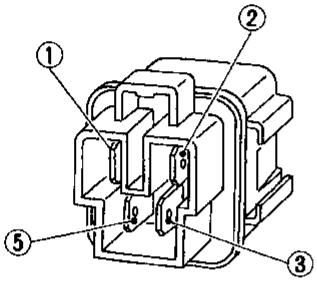
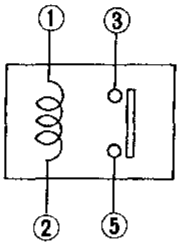
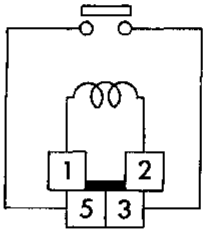
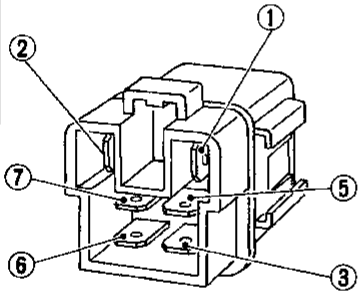
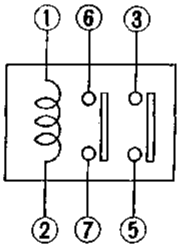
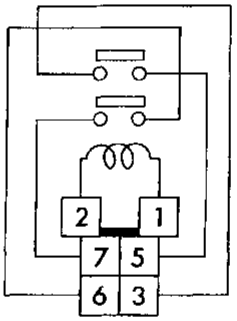
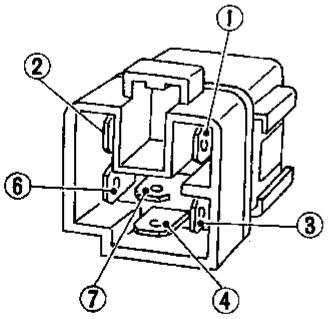
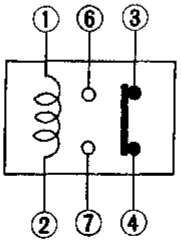
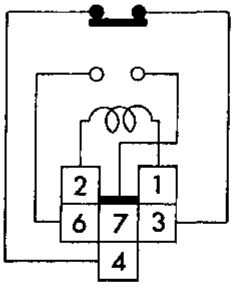
Description (Cont'd)

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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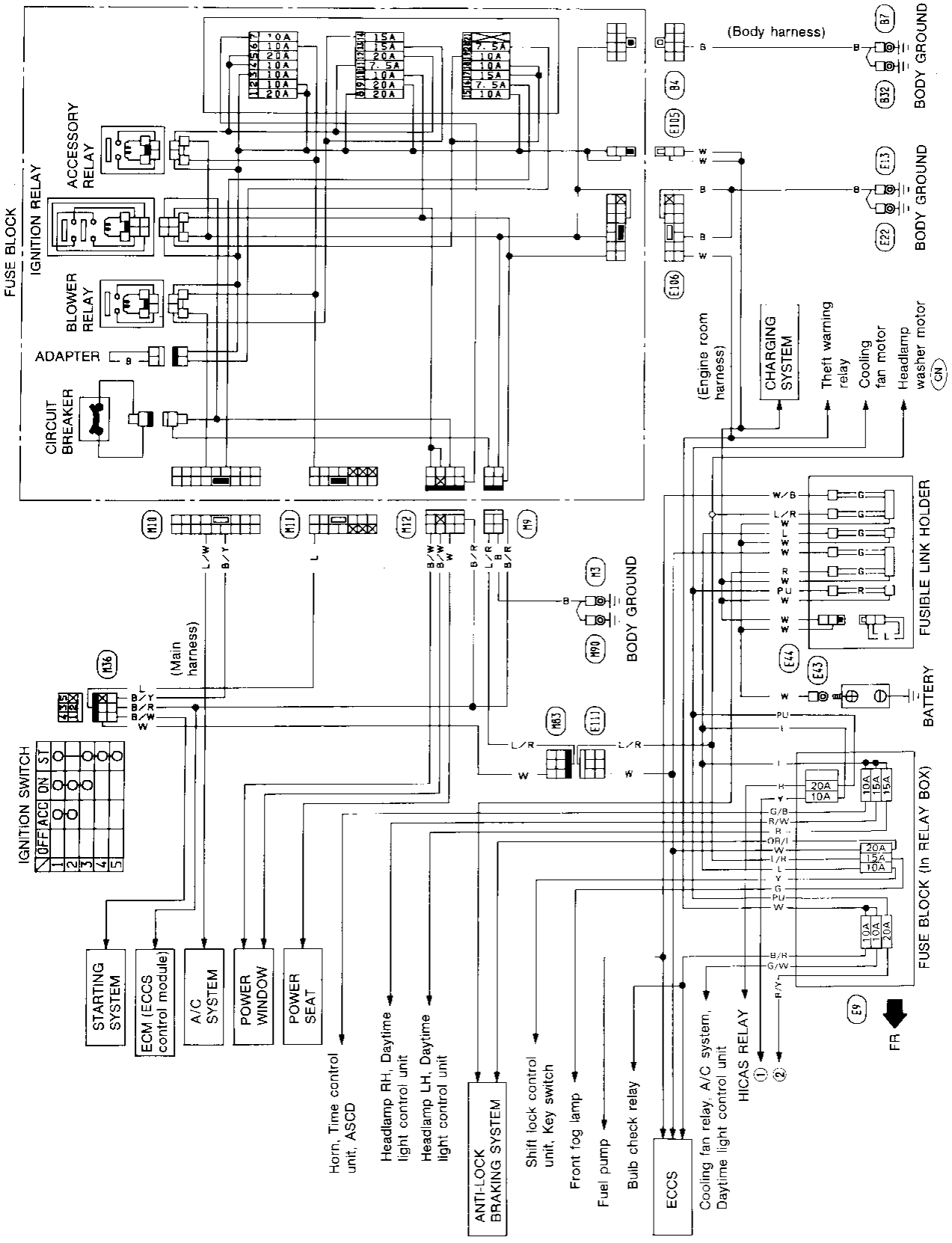
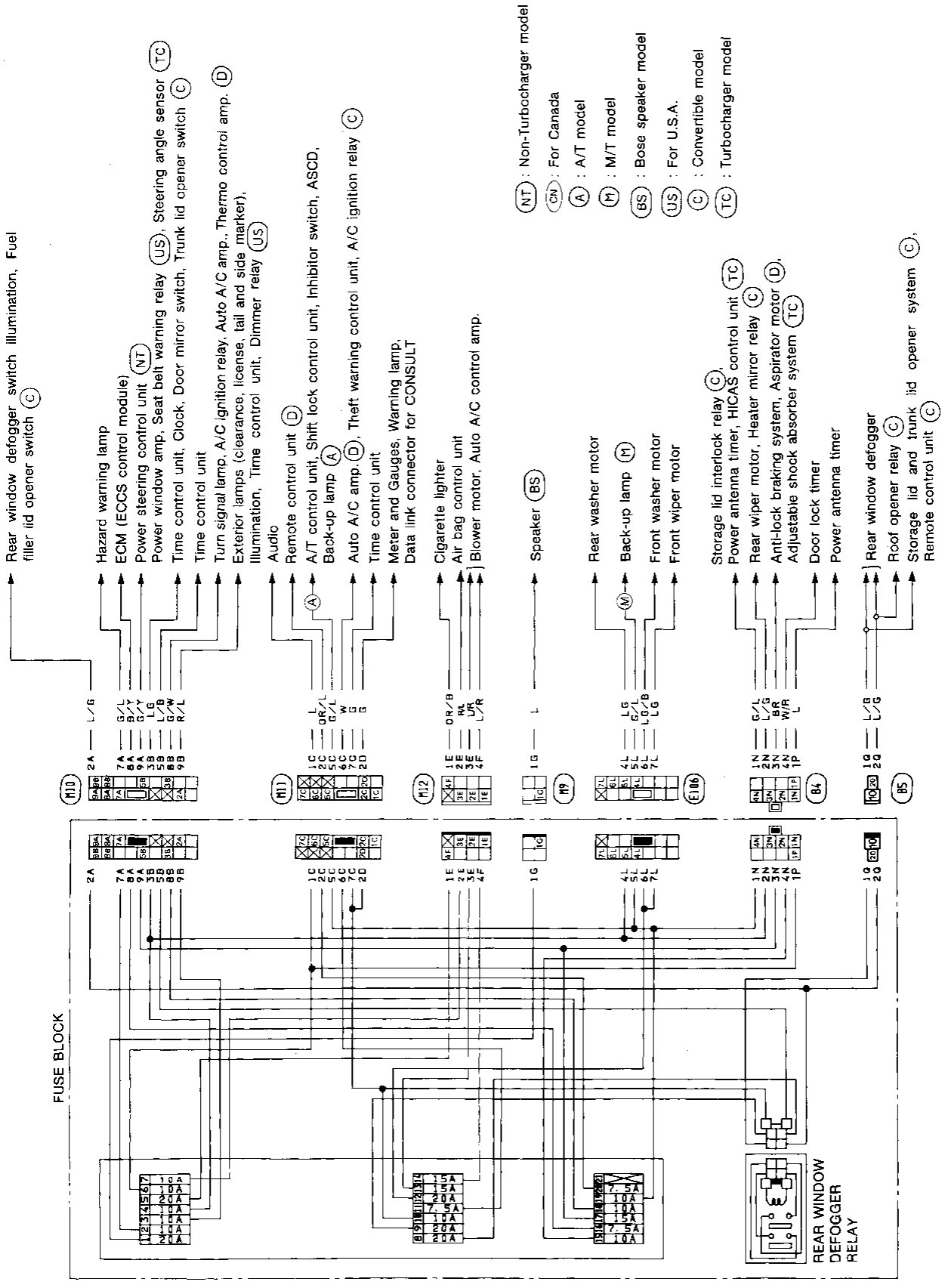
NOTE

Wiring Diagram

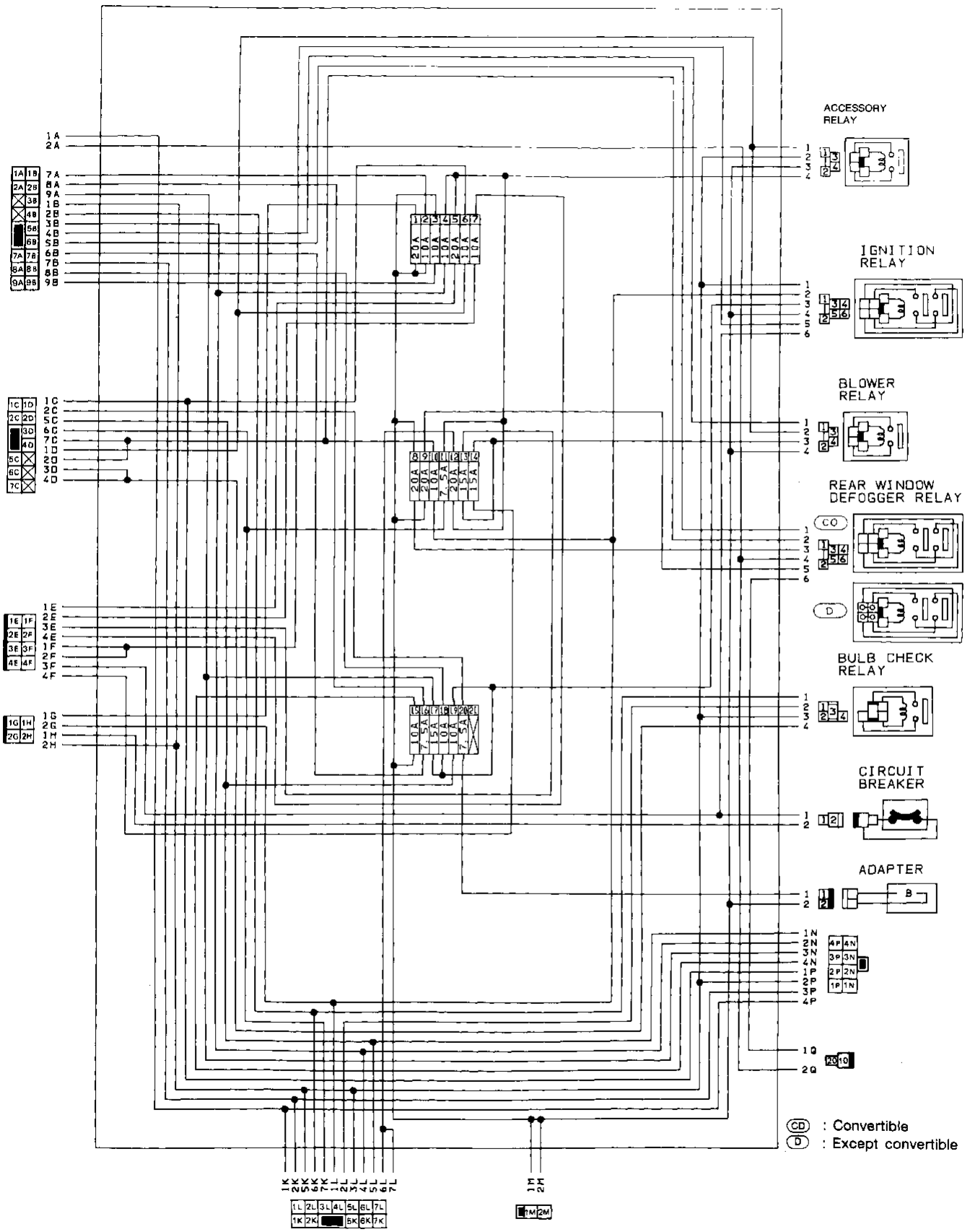


Wiring Diagram (Cont'd)

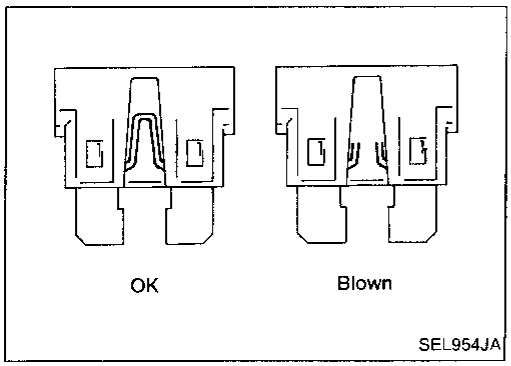


MEL810C

Fuse Block Internal Circuit

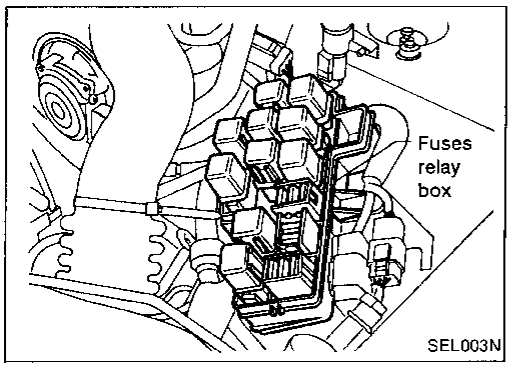


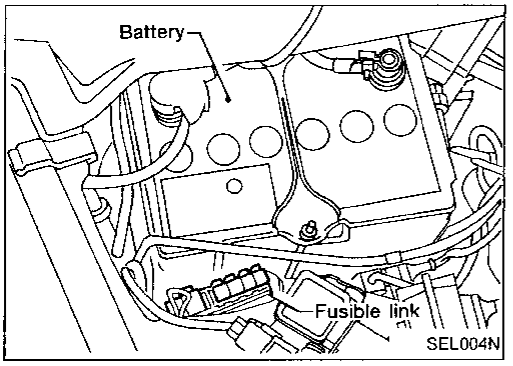
SEL682R



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

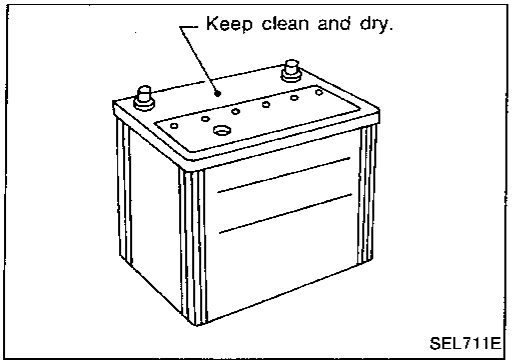
A melted fusible link can be detected either by visual inspection or by feeling with finger tip. If its condition is questionable, use circuit tester or test lamp.

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.

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.**

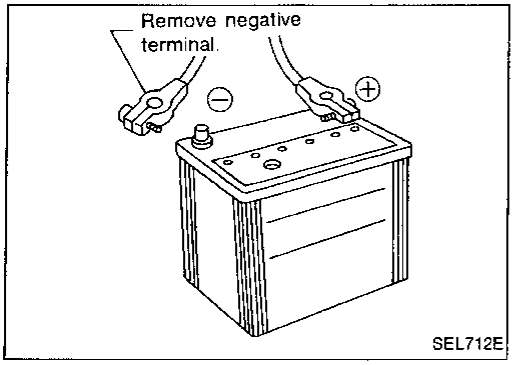


How to Handle Battery

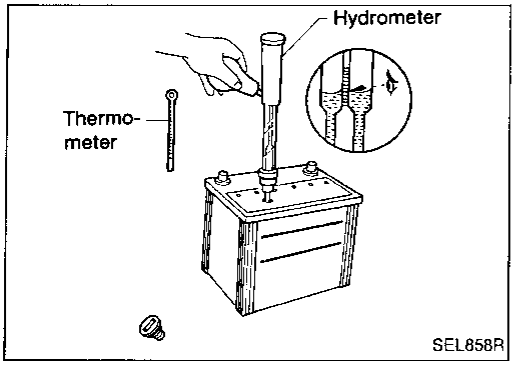
METHODS OF PREVENTING OVER-DISCHARGE

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.)



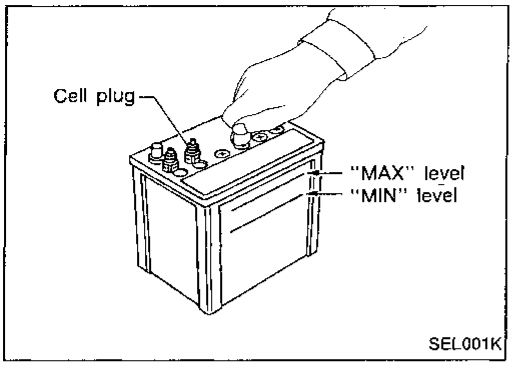
- Check the charge condition of the battery.
  Periodically check the specific gravity of the electrolyte. Keep a close check on charge condition to prevent over-discharge.

CHECKING ELECTROLYTE LEVEL

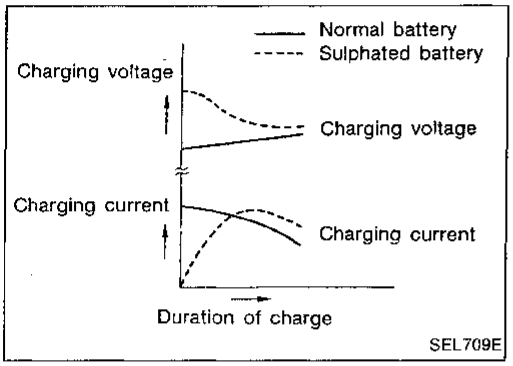
WARNING:

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)

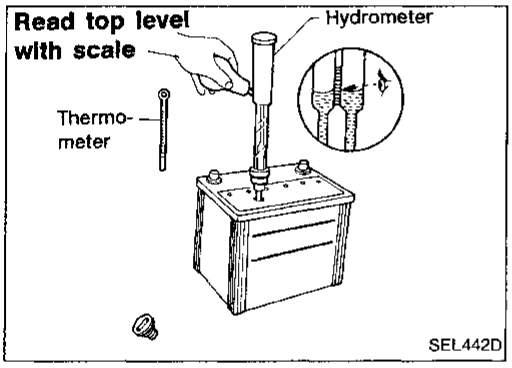


- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



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).

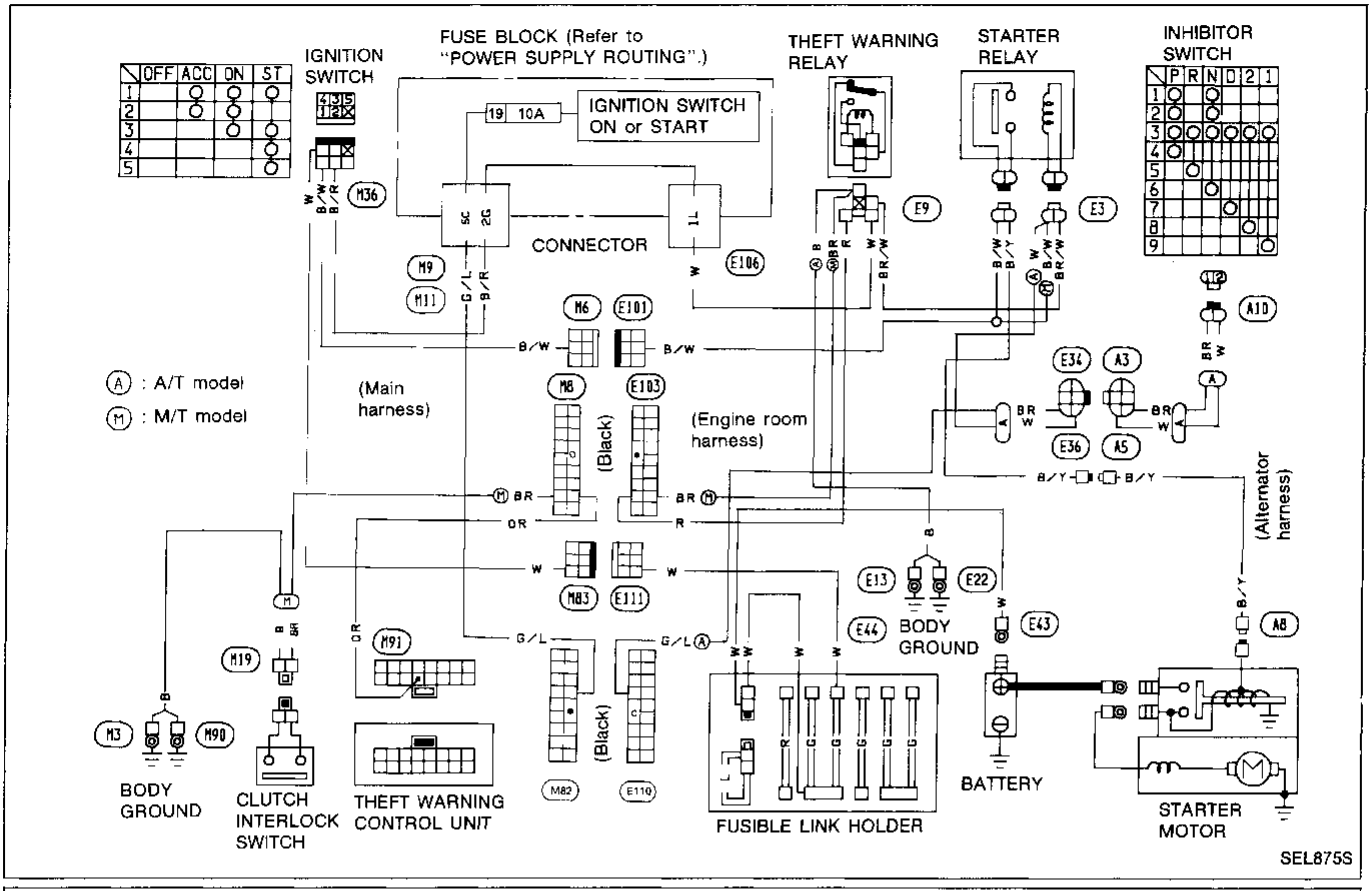
Charging rates:

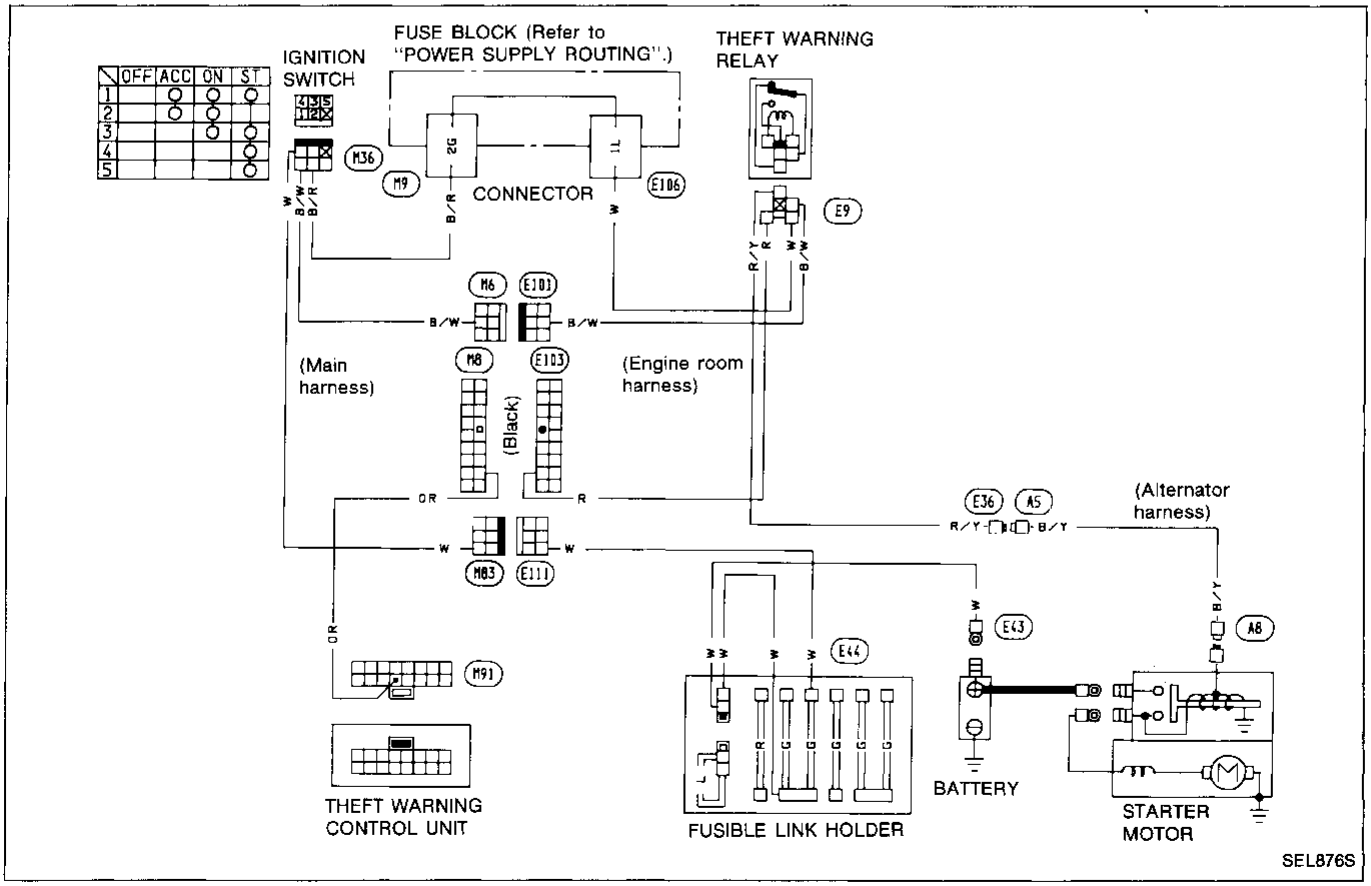
Amps	Time
50	1 hour
25	2 hours
10	5 hours
5	10 hours

Service Data and Specifications (SDS)

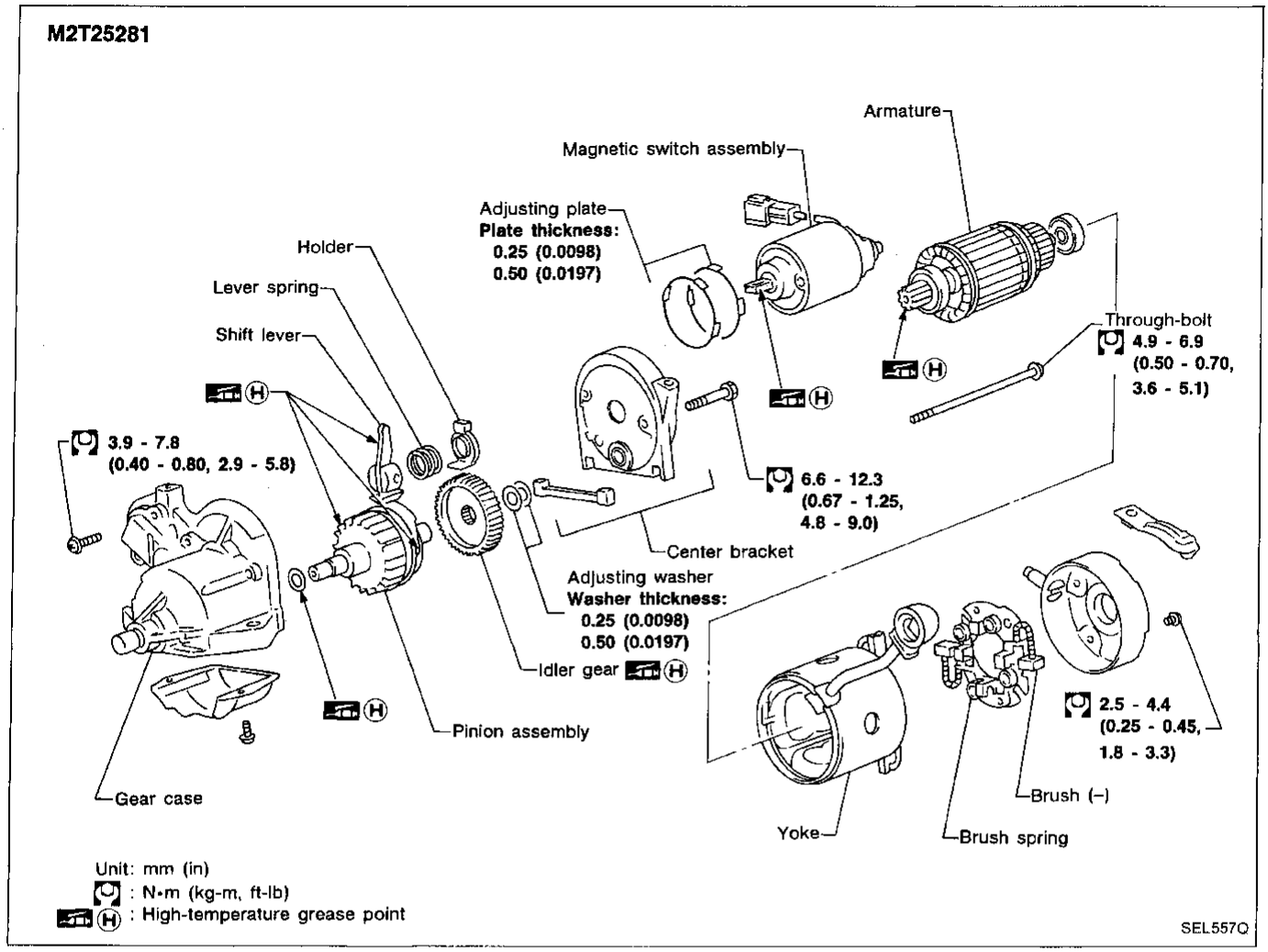
Applied model	M/T	A/T	
		Except convertible	Convertible
Type	65D26L	80D26L	55D23L
Capacity V-AH	12-65		12-60

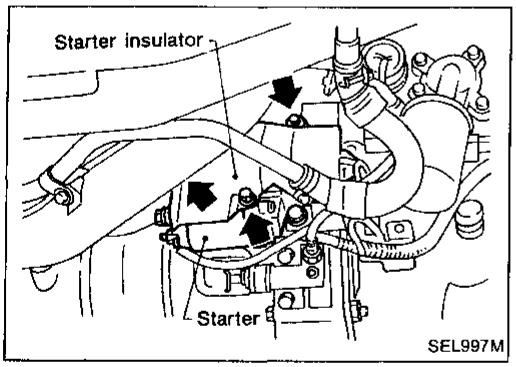
Wiring Diagram





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

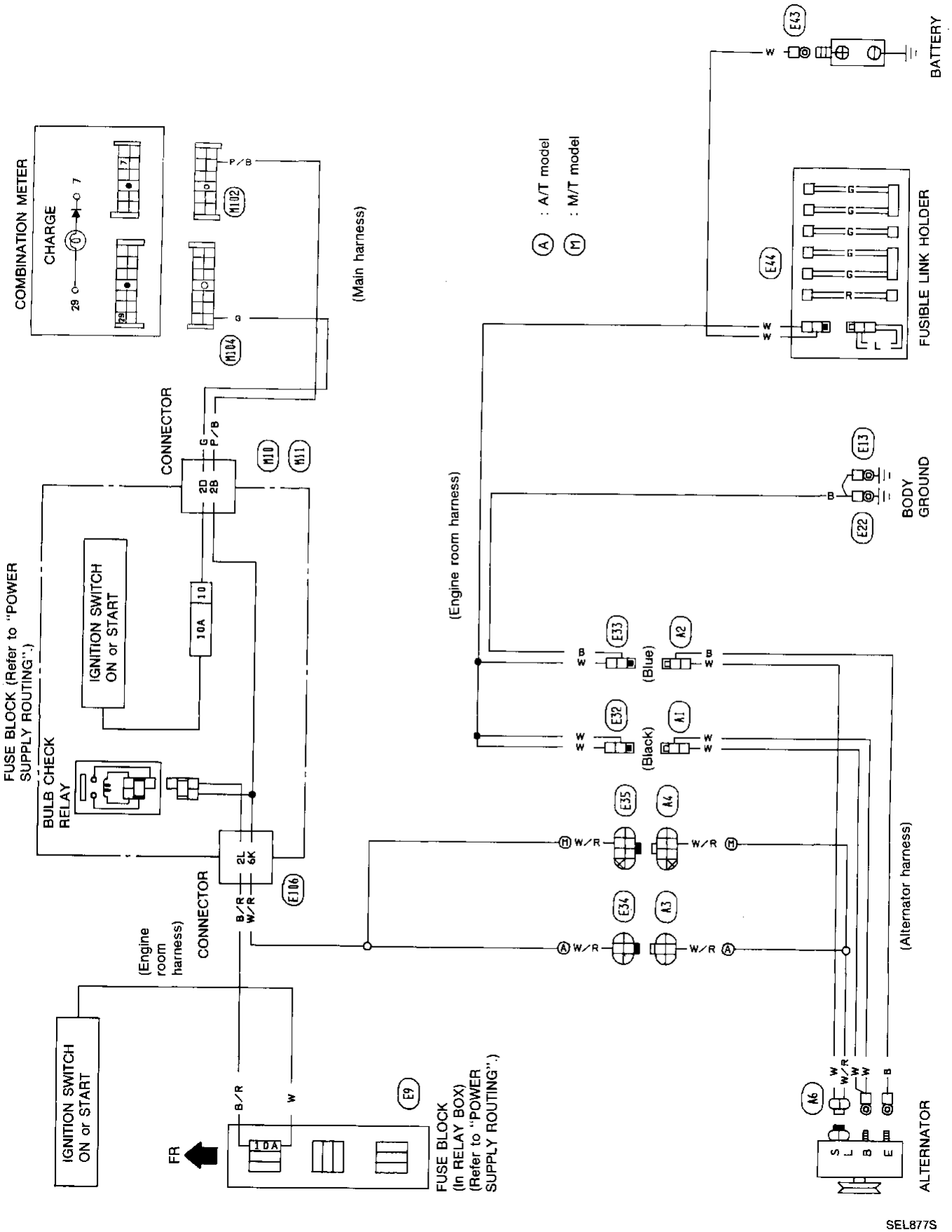
- Installation procedure is in reverse order of removal.

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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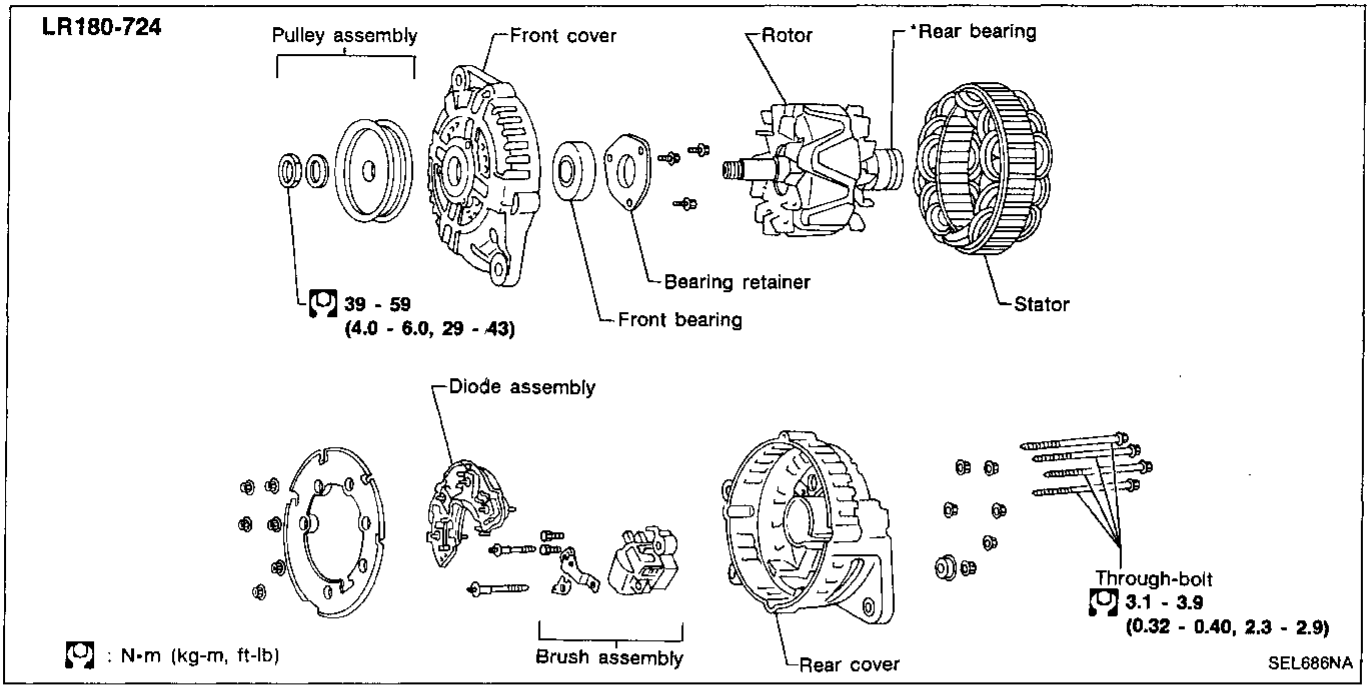
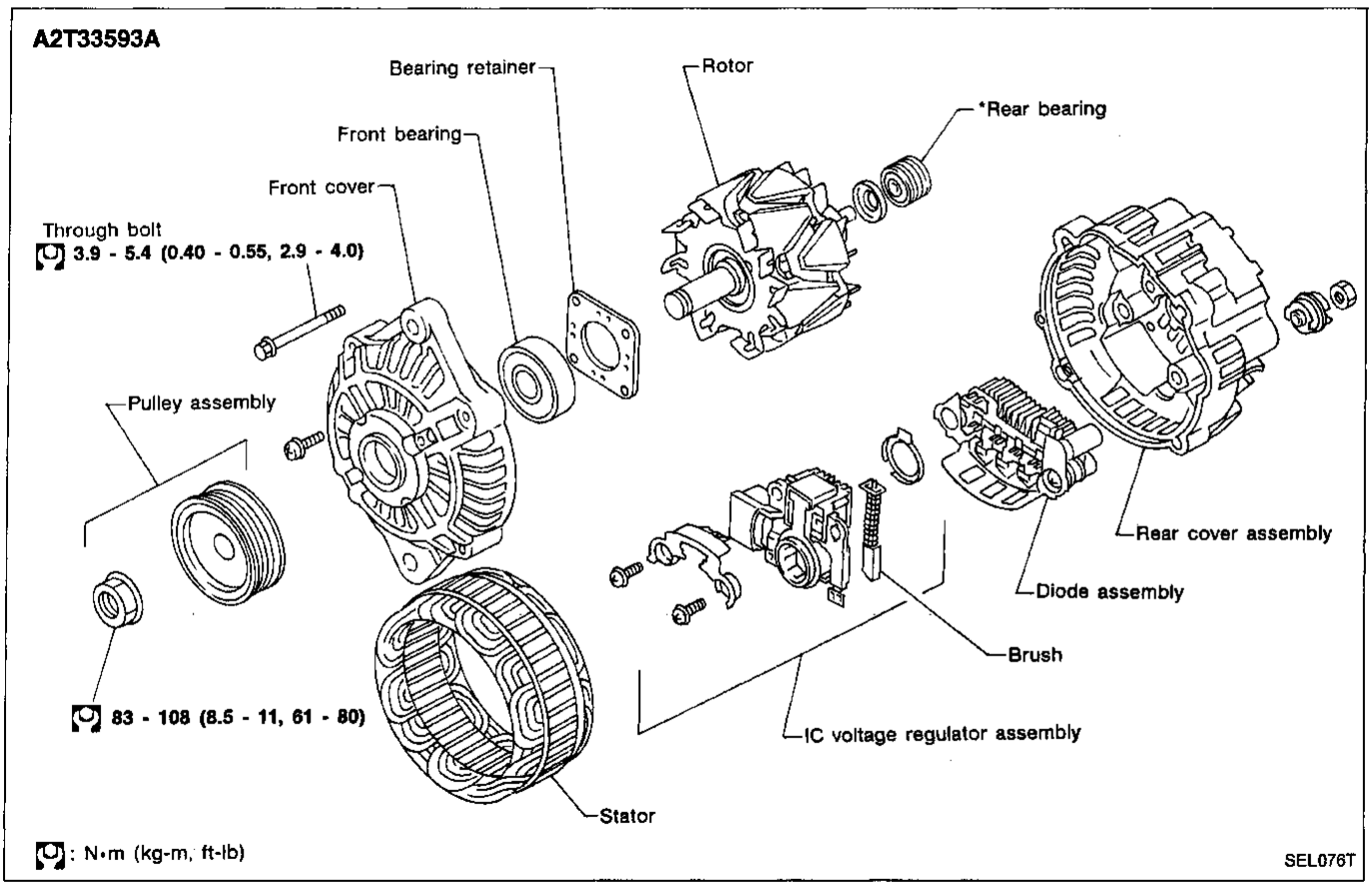
Construction



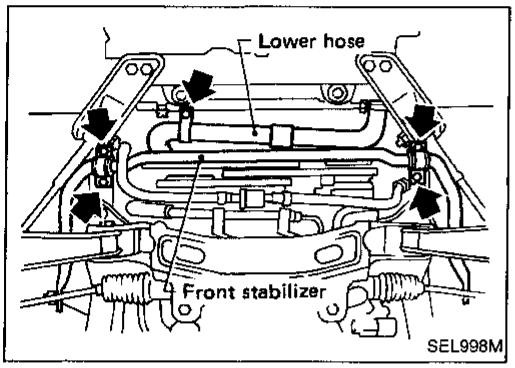


***Rear bearing**
CAUTION:
Rear cover may be hard to remove because a ring is used to lock outer race of rear bearing. Be careful not to lose this ring during removal.

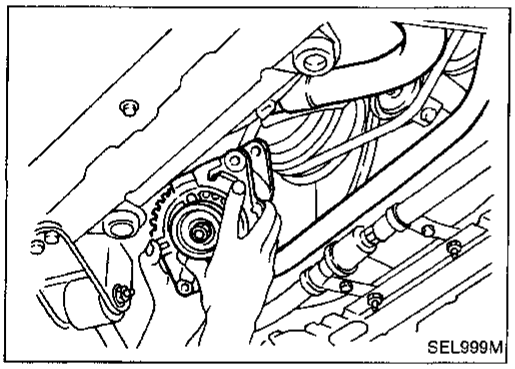
Removal and Installation

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

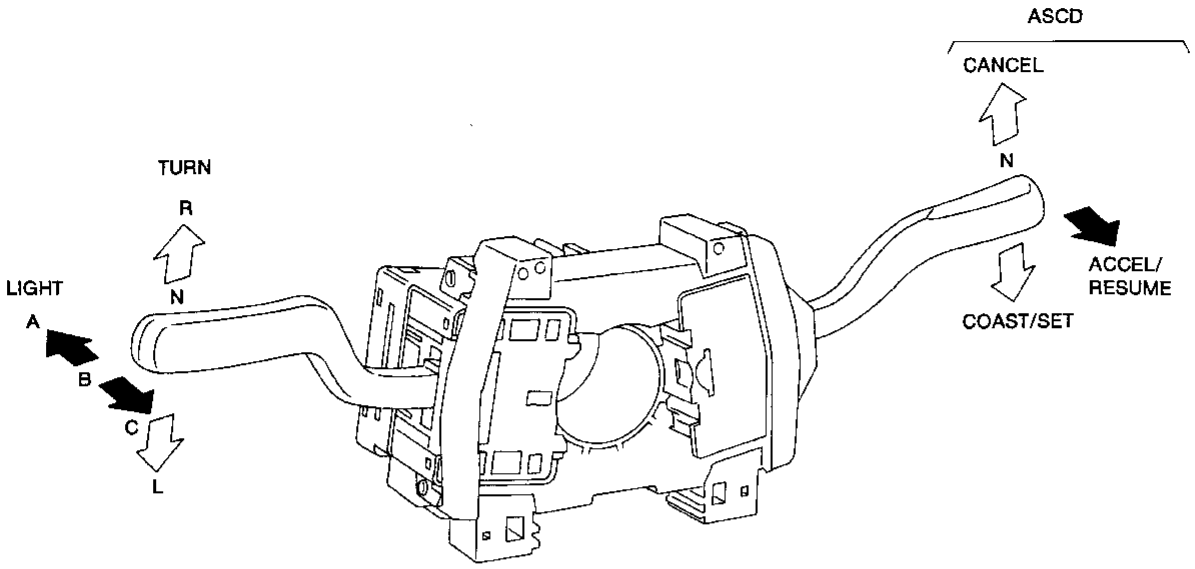
- Installation procedure is in reverse order of removal.

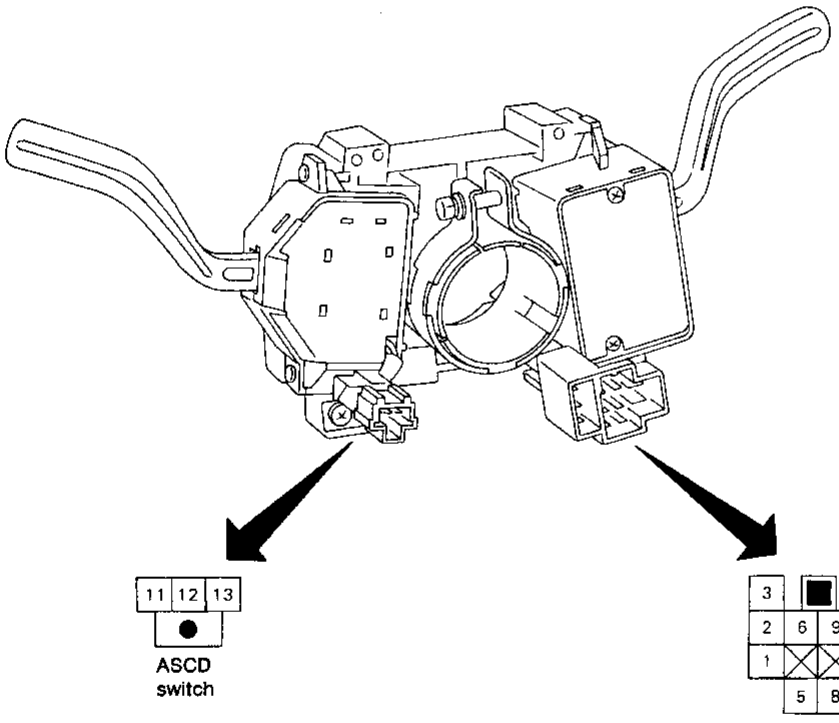
Service Data and Specifications (SDS)

ALTERNATOR

Type		LR180-724 HITACHI make	A2T33593A 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 950	Less than 1,300
Hot output current	A/rpm	More than 65/2,500 More than 80/5,000	More than 20/1,300 More than 61/2,500
Regulated output voltage	V	14.1 - 14.7	
Minimum length of brush	mm (in)	More than 7.0 (0.276)	5.0 (0.197)
Brush spring pressure	N (g, oz)	1.863 - 3.040 (190 - 310, 6.70 - 10.93)	4.609 - 5.786 (470 - 590, 16.58 - 20.81)
Slip ring minimum outer diameter	mm (in)	More than 30.6 (1.205)	More than 22.1 (0.870)

Combination Switch/Check





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			○

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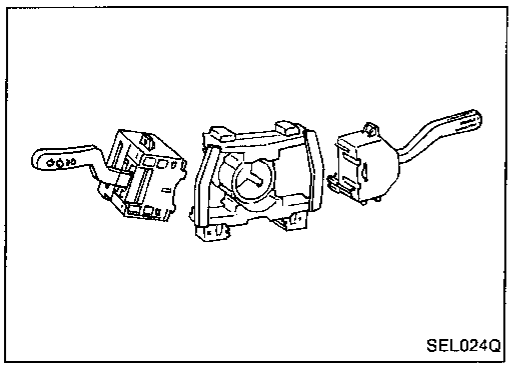
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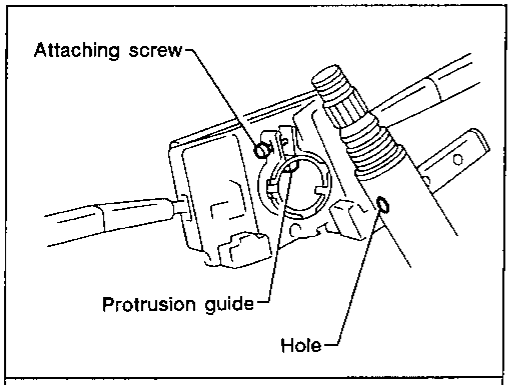
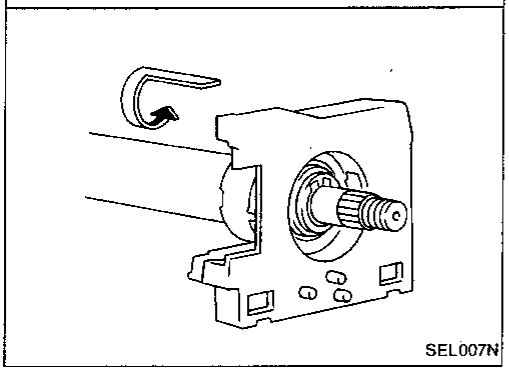
Combination Switch/Replacement

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

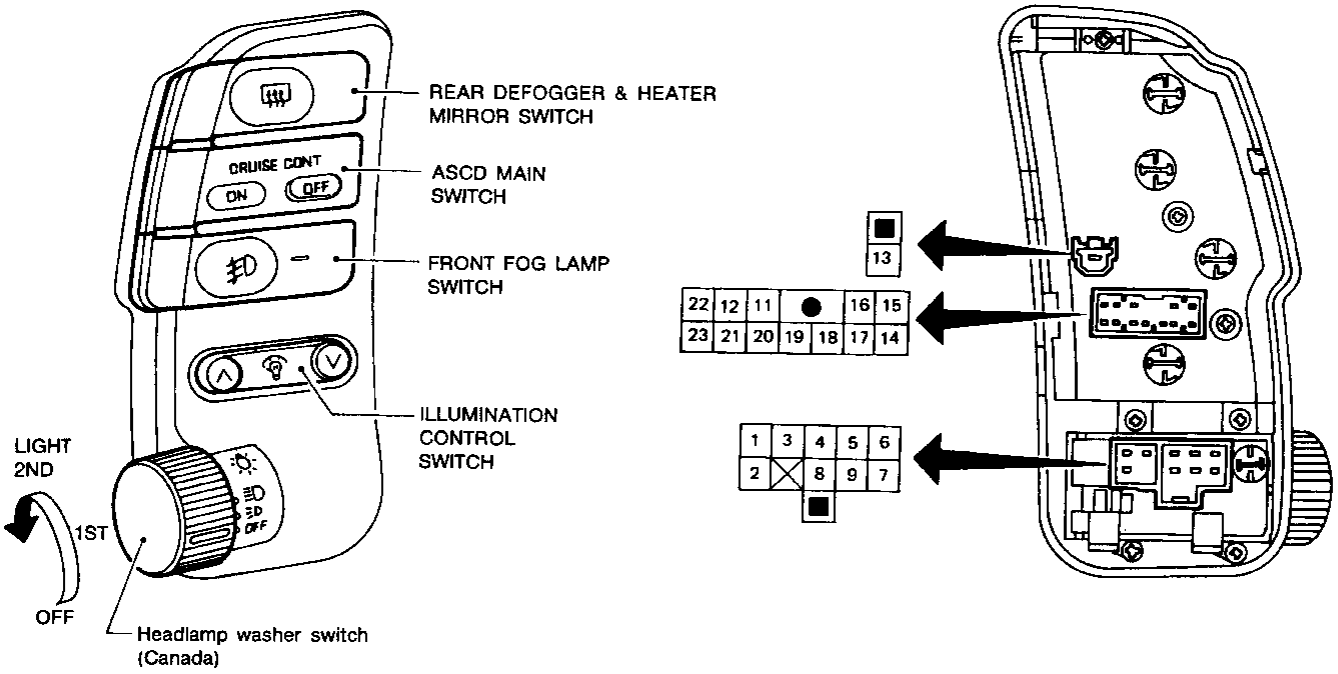
- Each switch can be replaced without removing combination switch base.

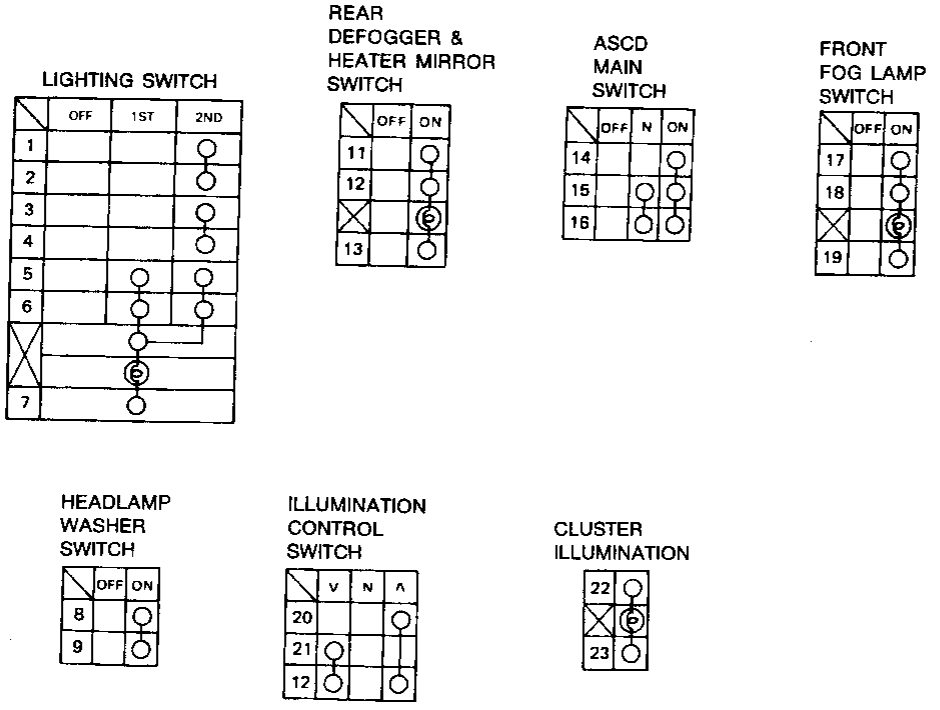


- To remove combination switch base, remove base attaching screw and turn after pushing on it.


SEL007N

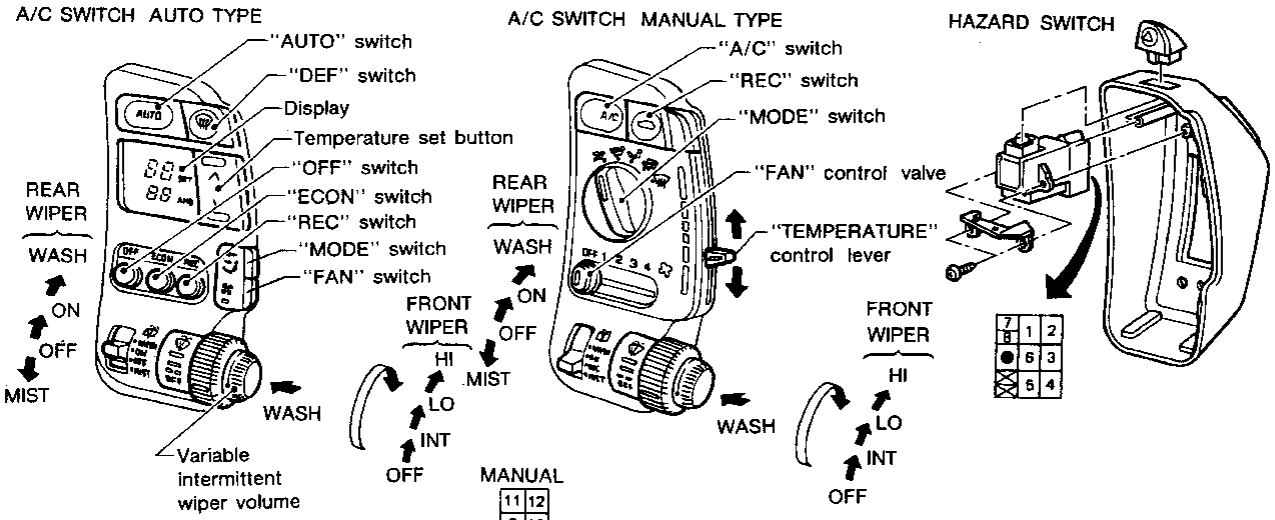
Check

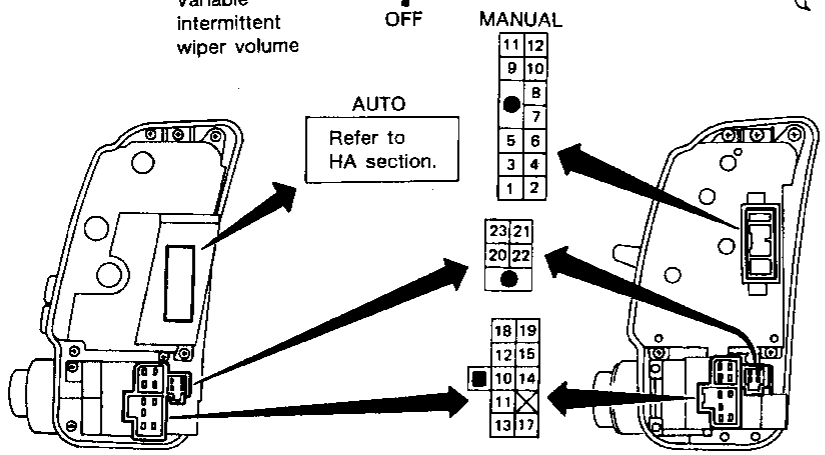


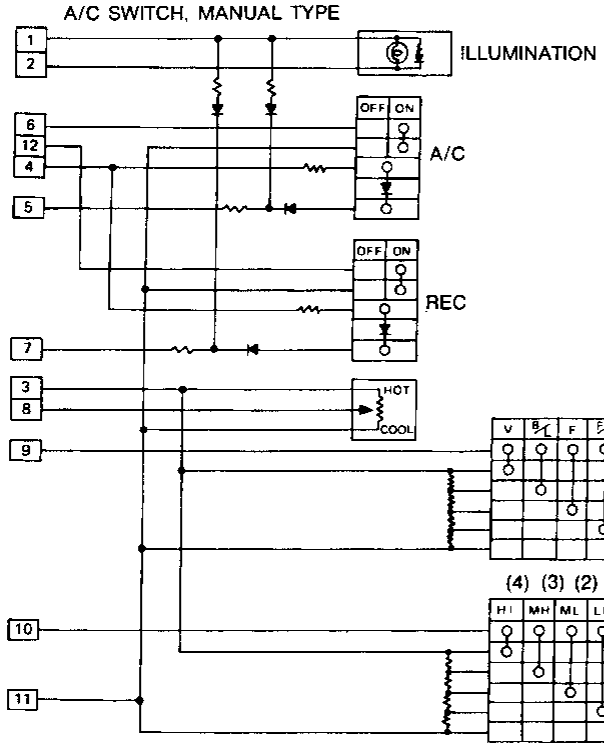


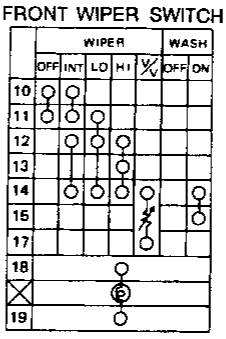
SEL785QA

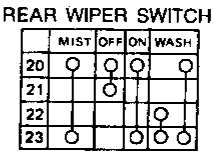
Check (Cont'd)

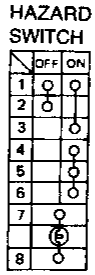












SEL529N

Operation (Daytime light system equipped model)

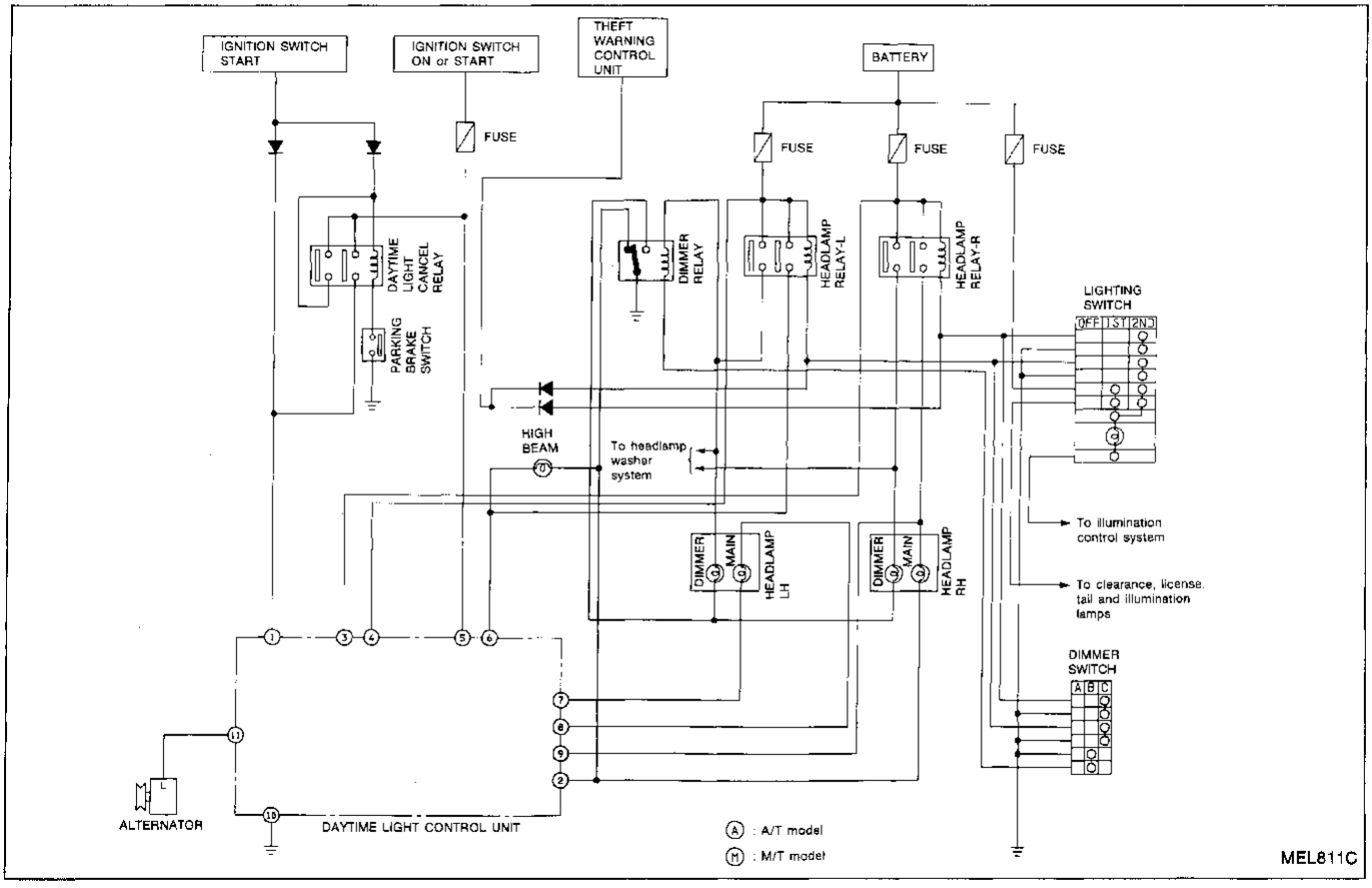
After starting the engine with the lighting switch in the "OFF" position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

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.

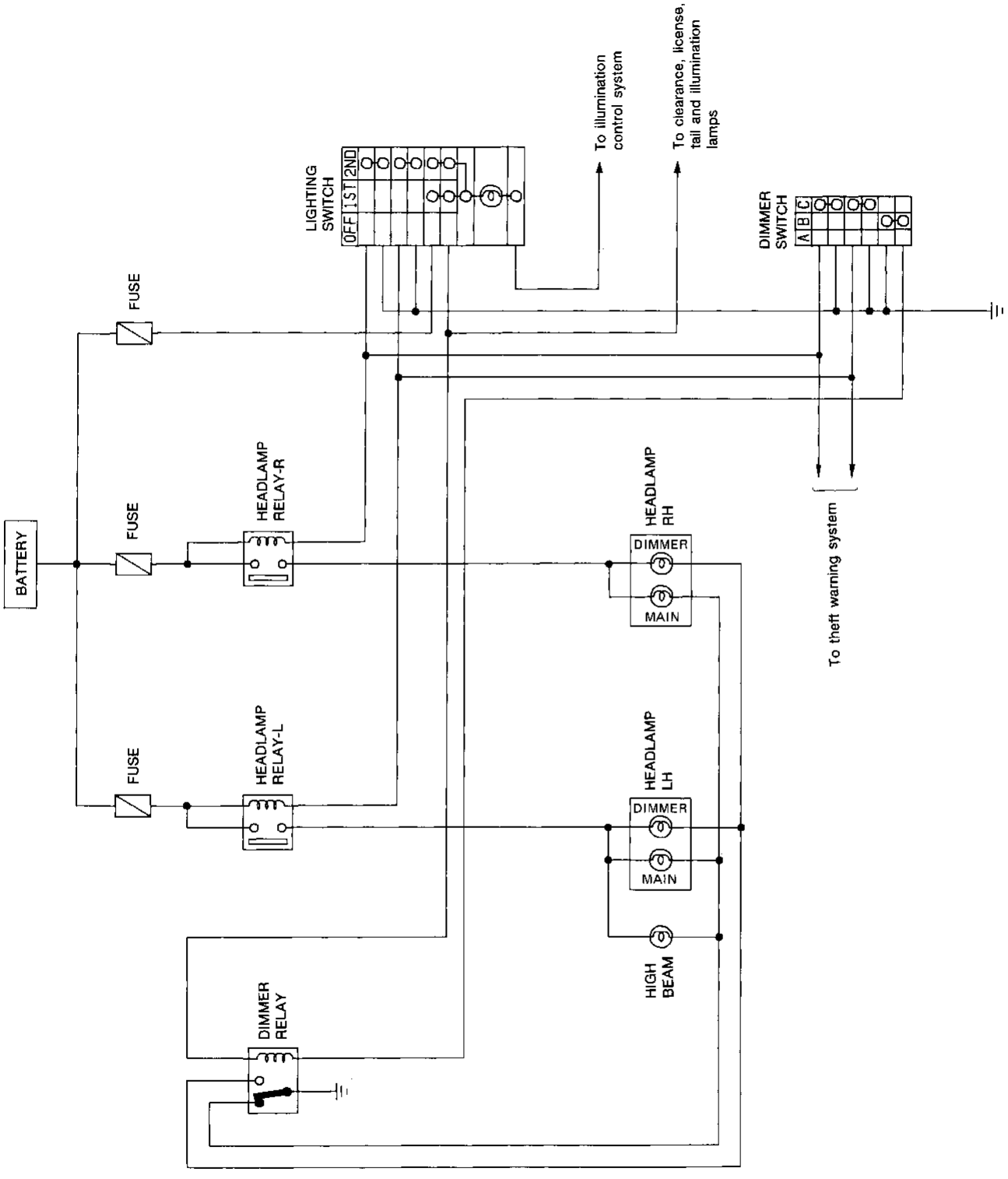
Schematic

FOR CANADA



Schematic (Cont'd)

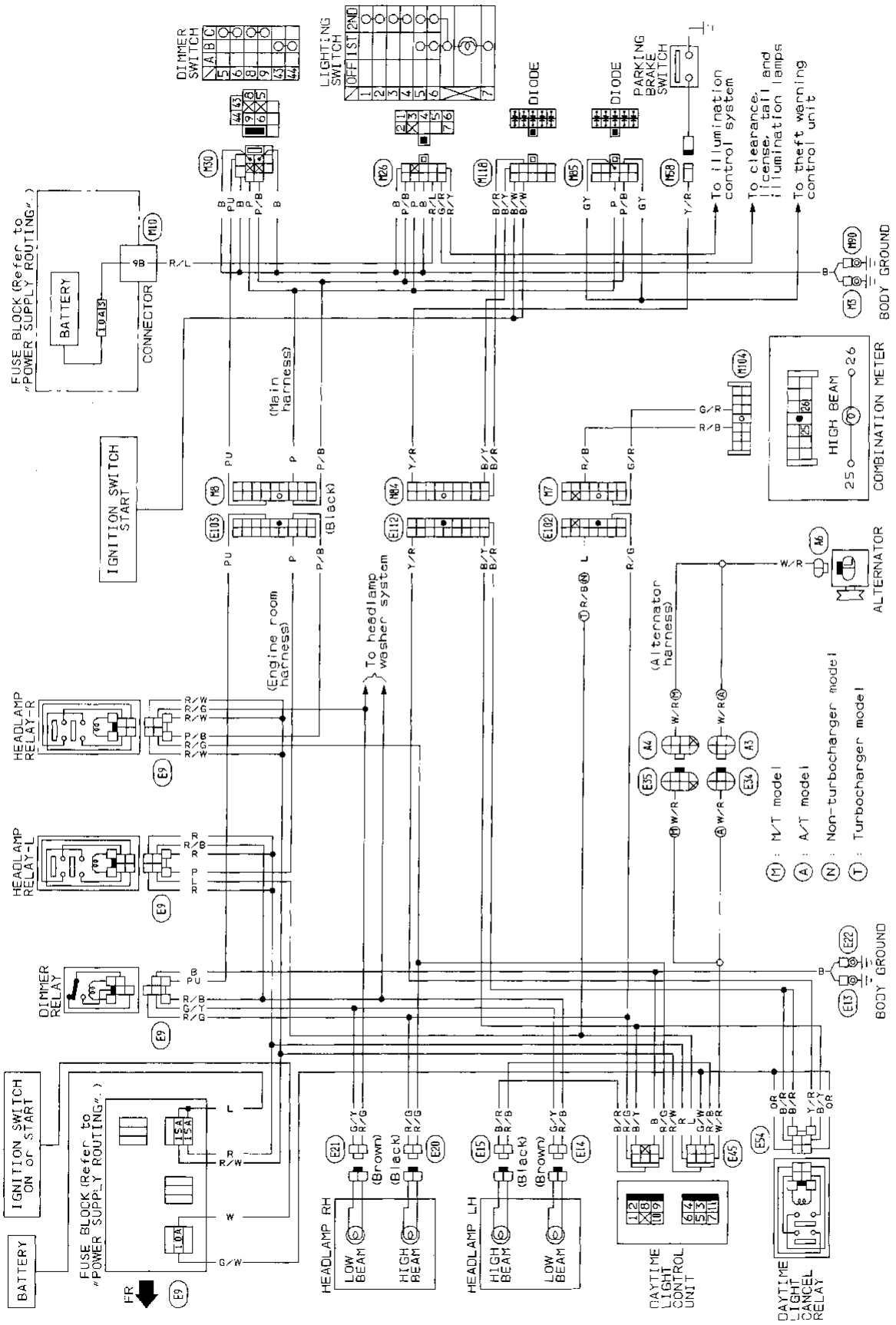
FOR U.S.A.



MEL812C

Wiring Diagram

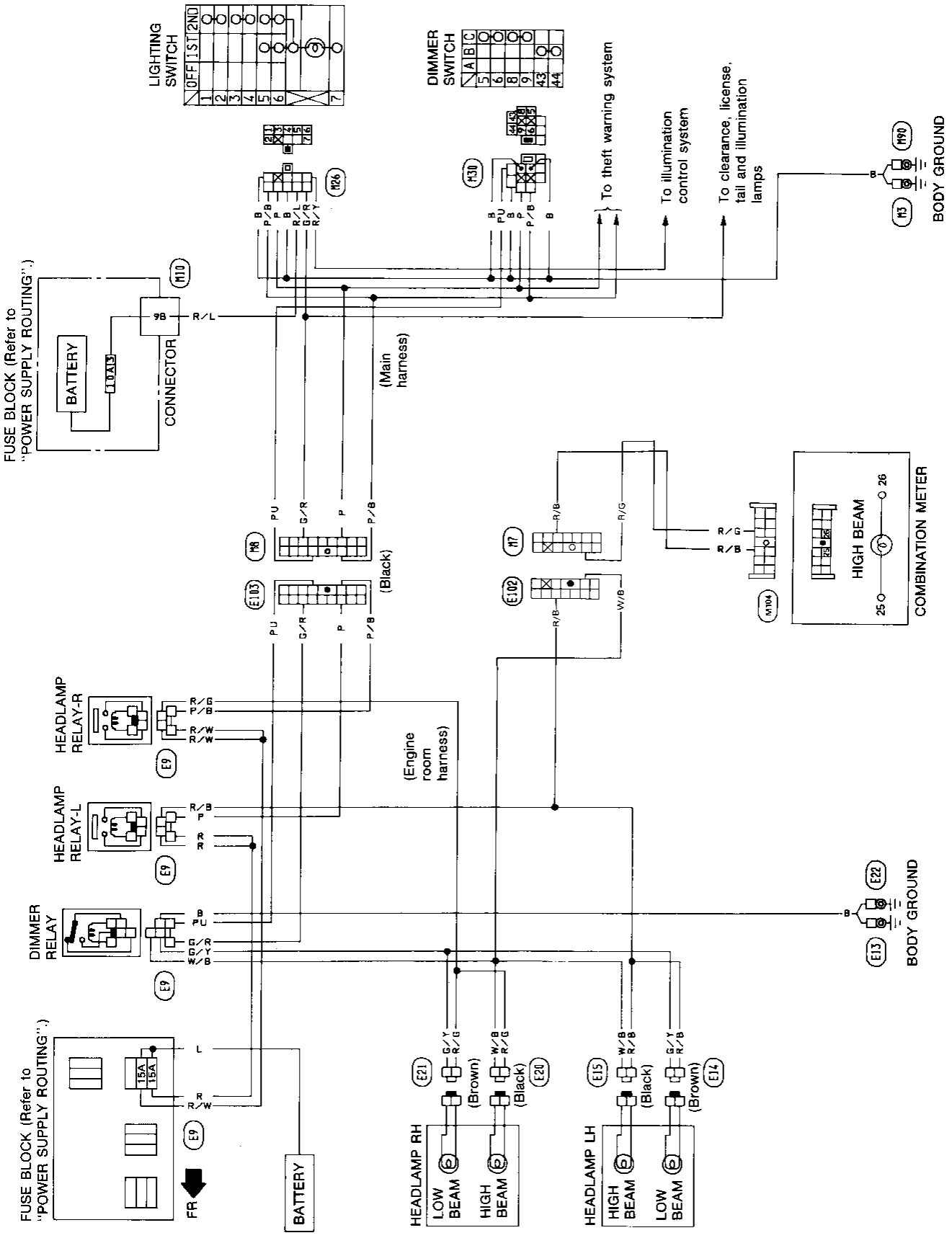
FOR CANADA



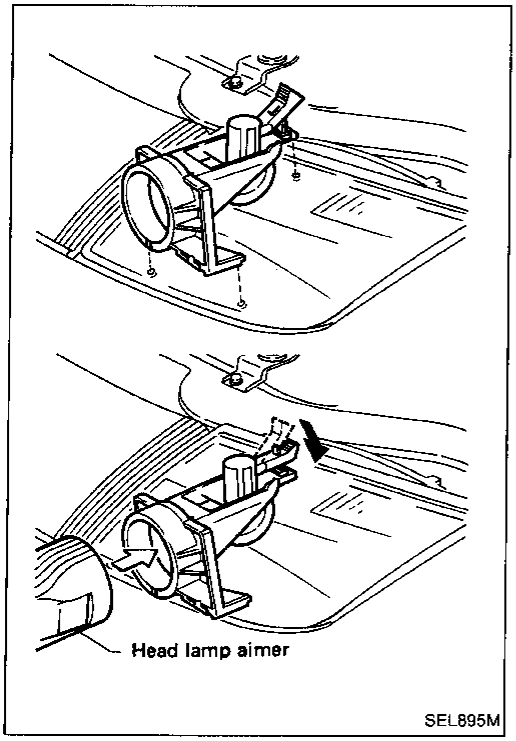
MEL813C

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

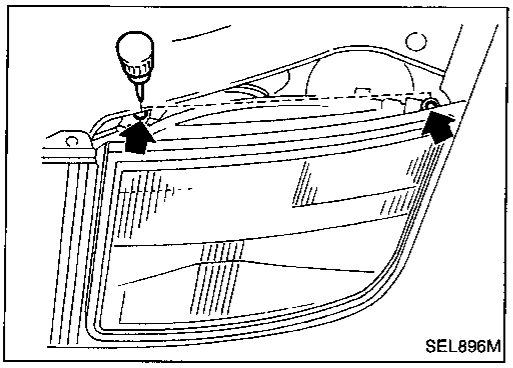
Attach the headlamp aimer using Tool (aimer adapter). Place the aimer adapter on the 3 points of the headlamp, then push the lever down to secure it.

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

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

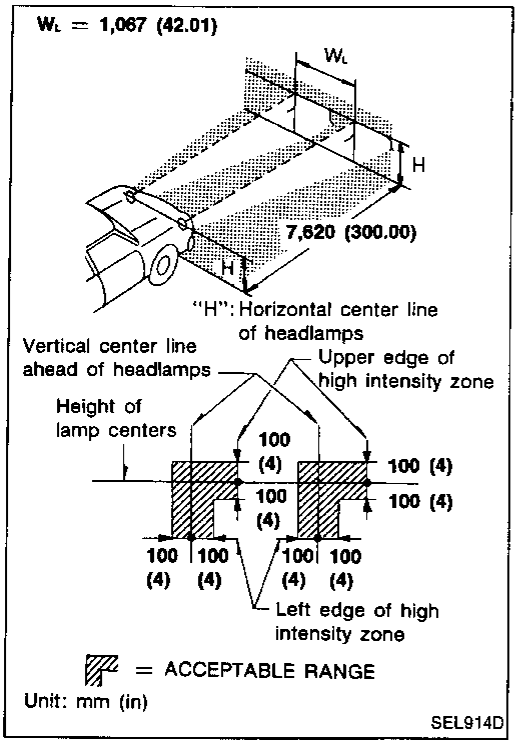
CAUTION:

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.

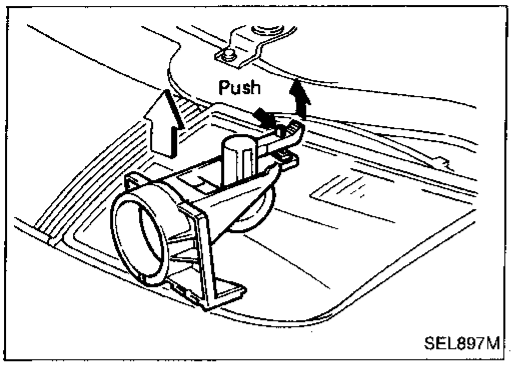
- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**



- **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.**

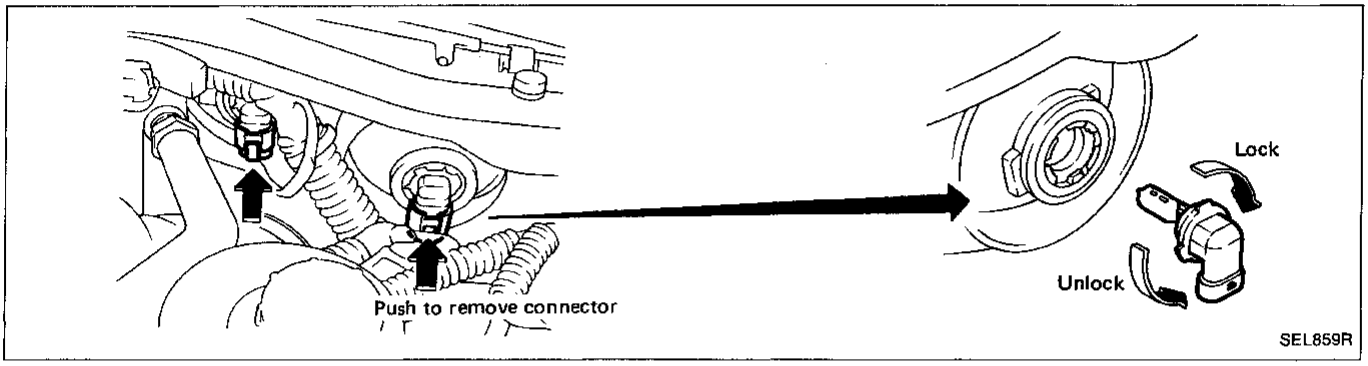
"H": Horizontal center line of headlamps
"W_L": Distance between each headlamp center

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.

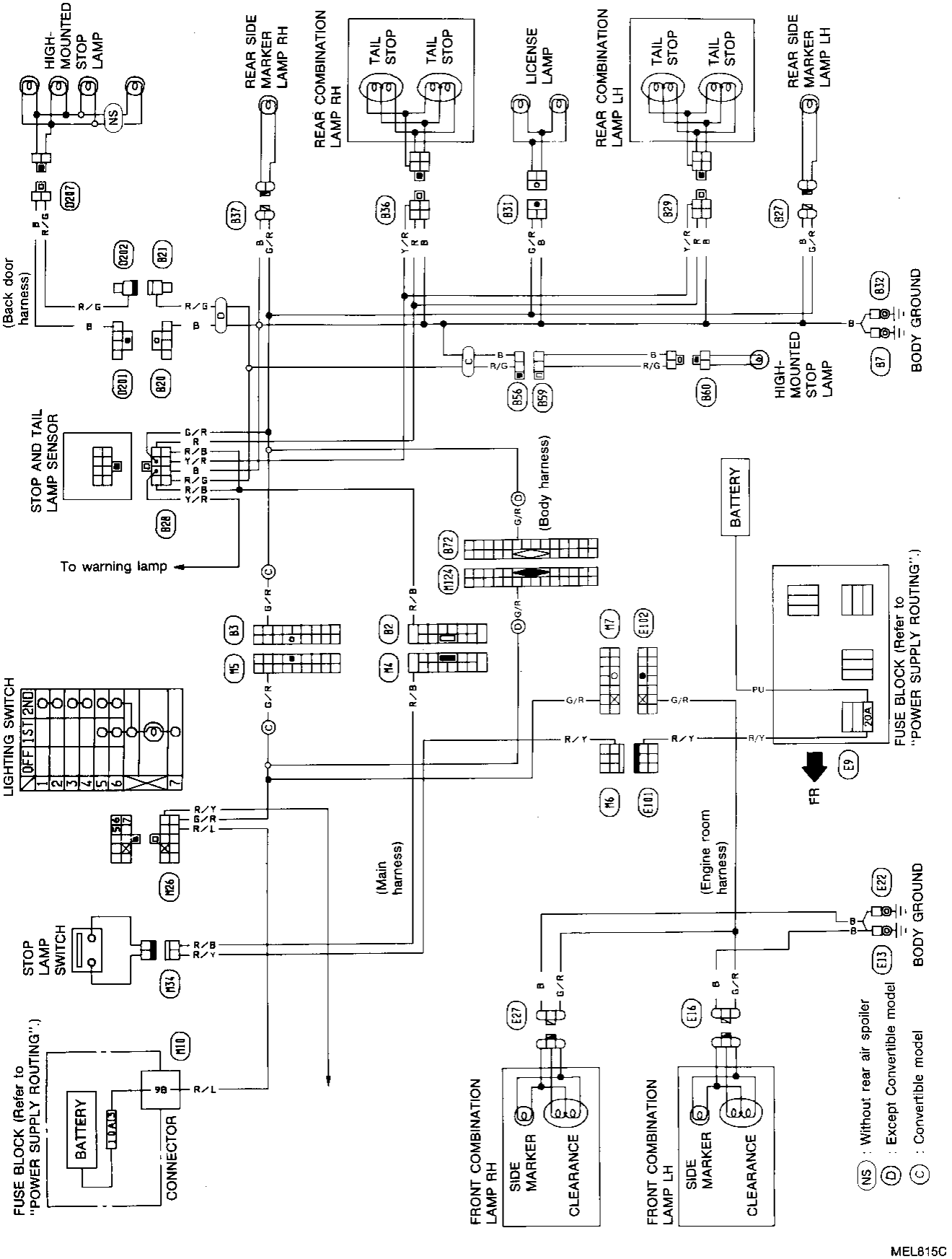
CAUTION:

Do not touch the bulb.

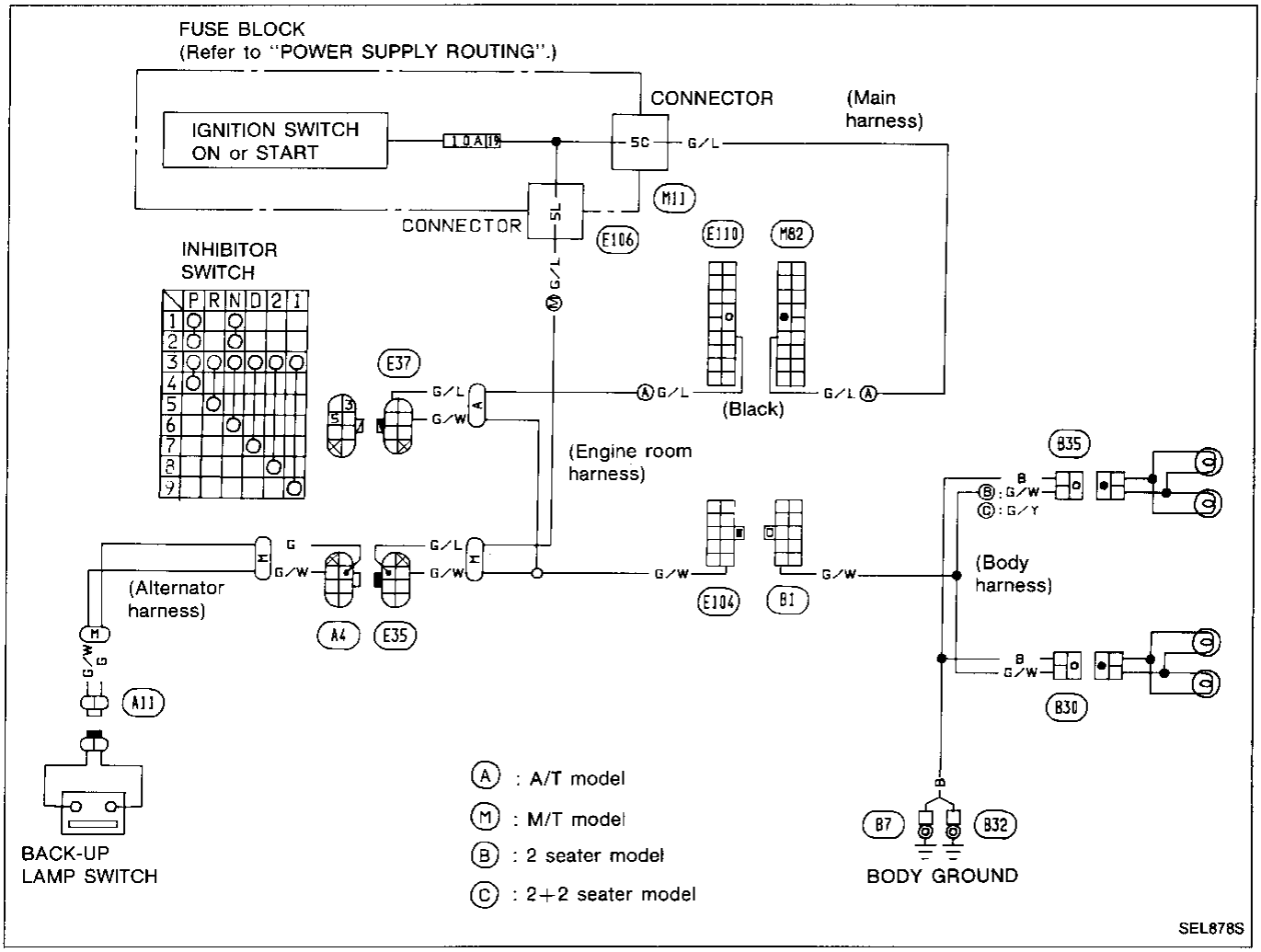
- **Use the same number and wattage as originally installed:**

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

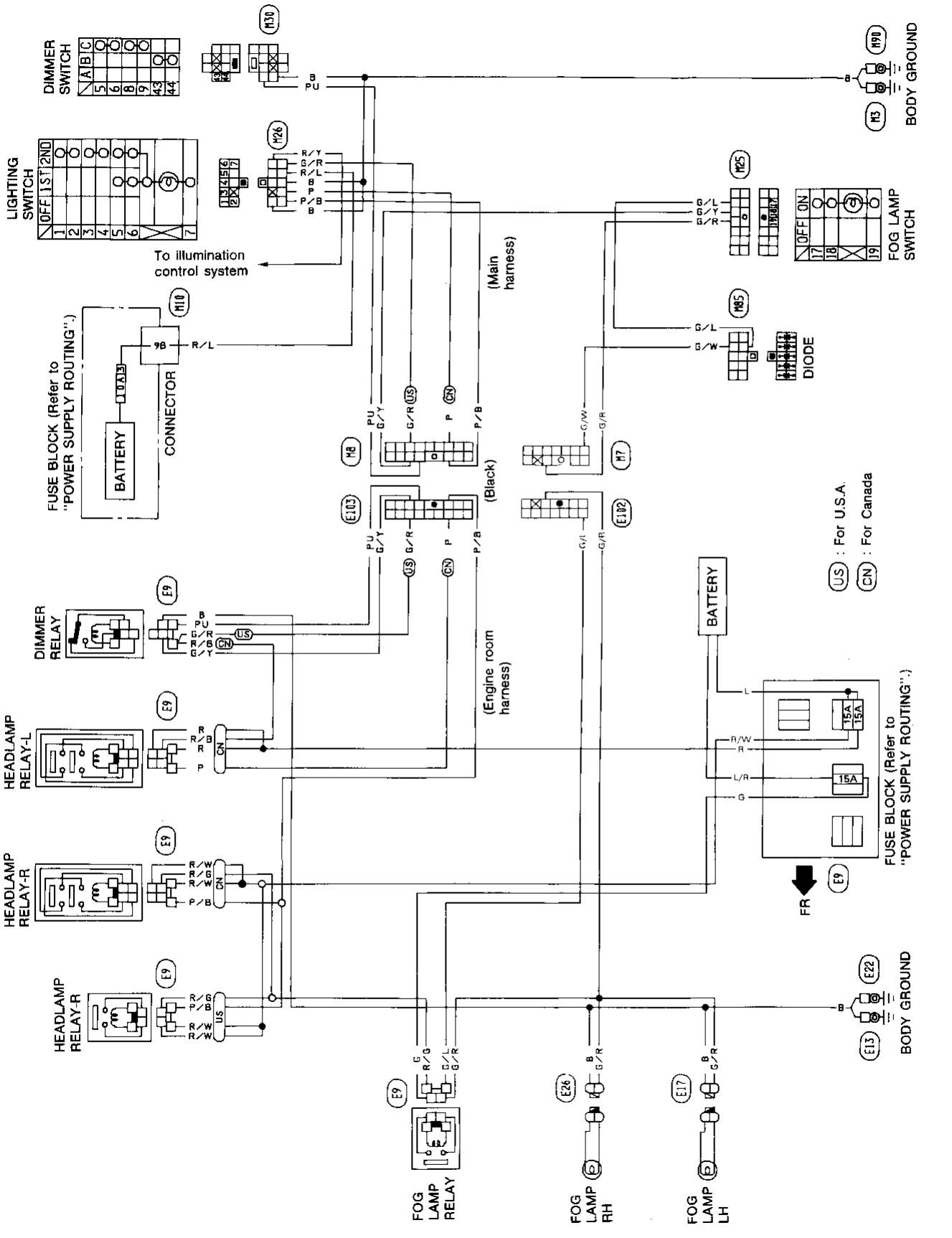
Clearance, License, Tail and Stop Lamps/Wiring Diagram



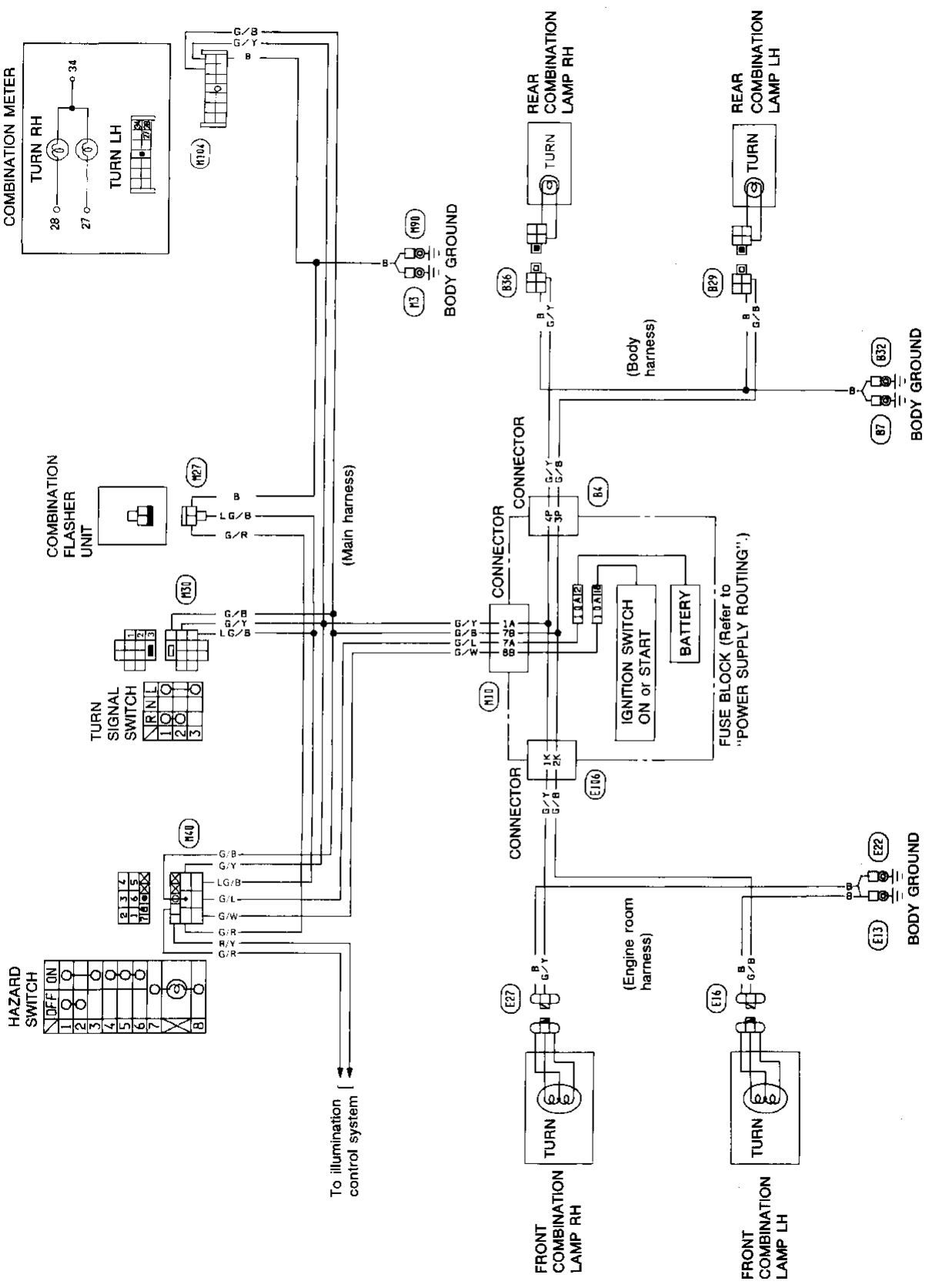
Back-up Lamp/Wiring Diagram



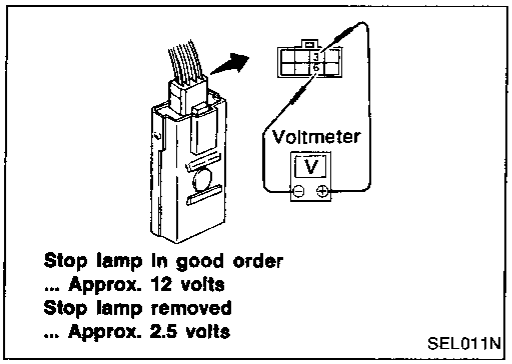
Front Fog Lamp/Wiring Diagram



Turn Signal and Hazard Warning Lamps/Wiring Diagram



MEL817C

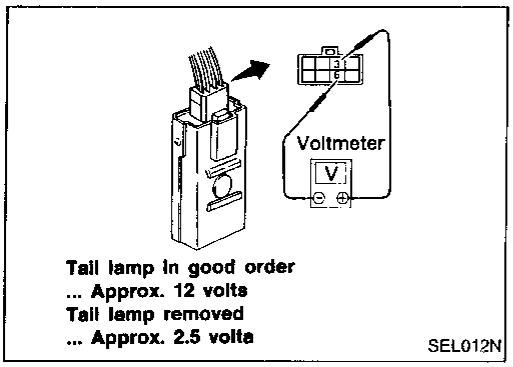


Stop and Tail Lamp Sensor Check

- Before checking, ensure that bulbs meet specifications.

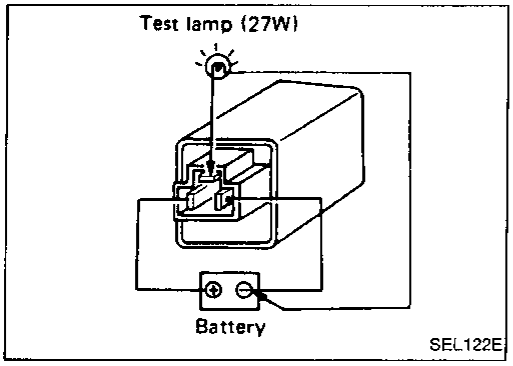
STOP LAMP

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



Tail Lamp

1. Start engine.
2. Lighting switch on.



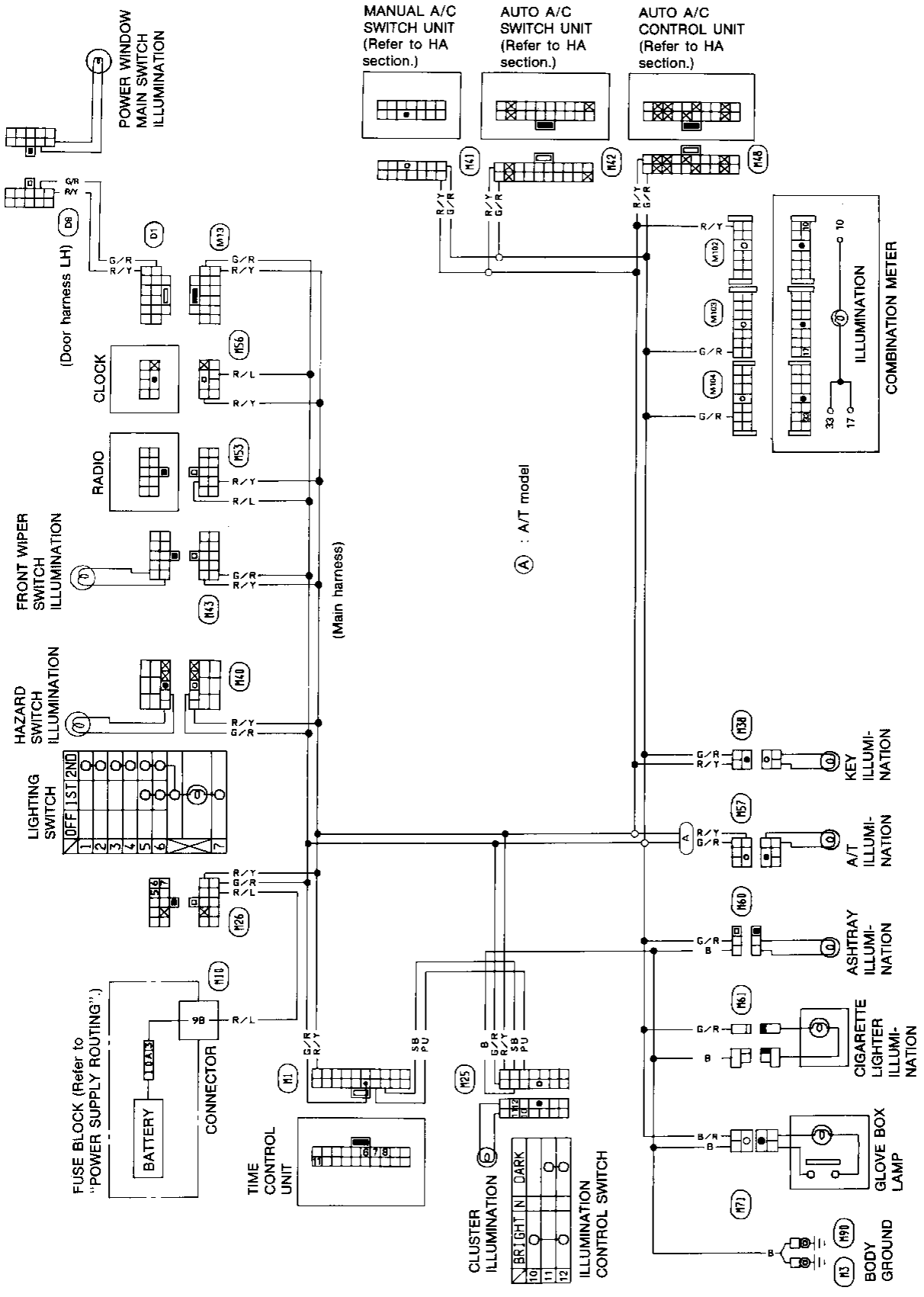
Combination Flasher Unit Check

- 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

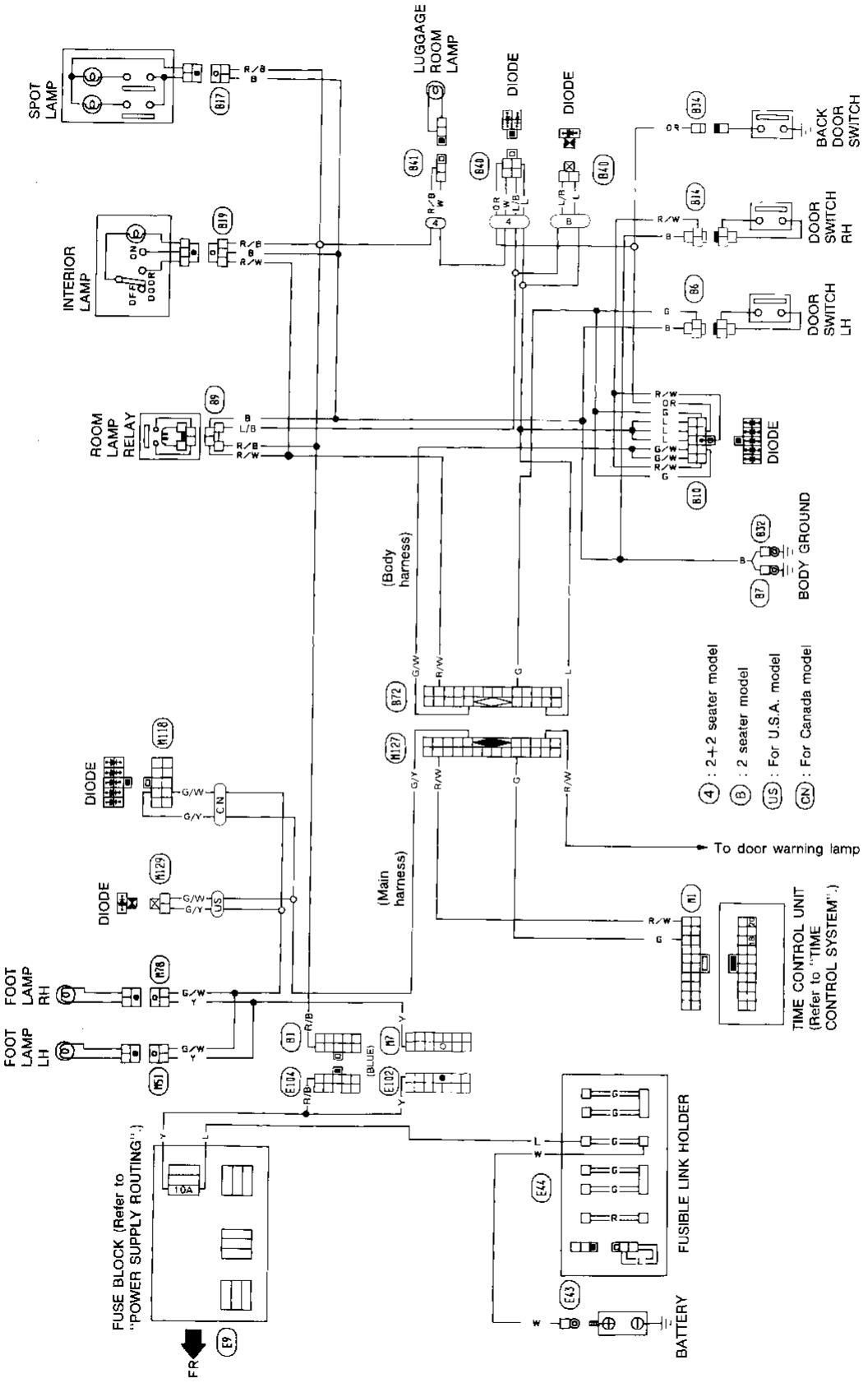
	Wattage (W)	Bulb No.
Front combination lamp		
Turn signal/Clearance	27/8	1157
Front side marker	3.8	194
Rear combination lamp		
Turn signal	27	1156
Stop/Tail	27/8	1157
Back-up lamp	27	1156
Rear side marker lamp	3.8	194
License plate lamp	3.8	194
Front fog lamp	35	
High-mounted stop lamp	13	
Interior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

Illumination/Wiring Diagram



MEL818C

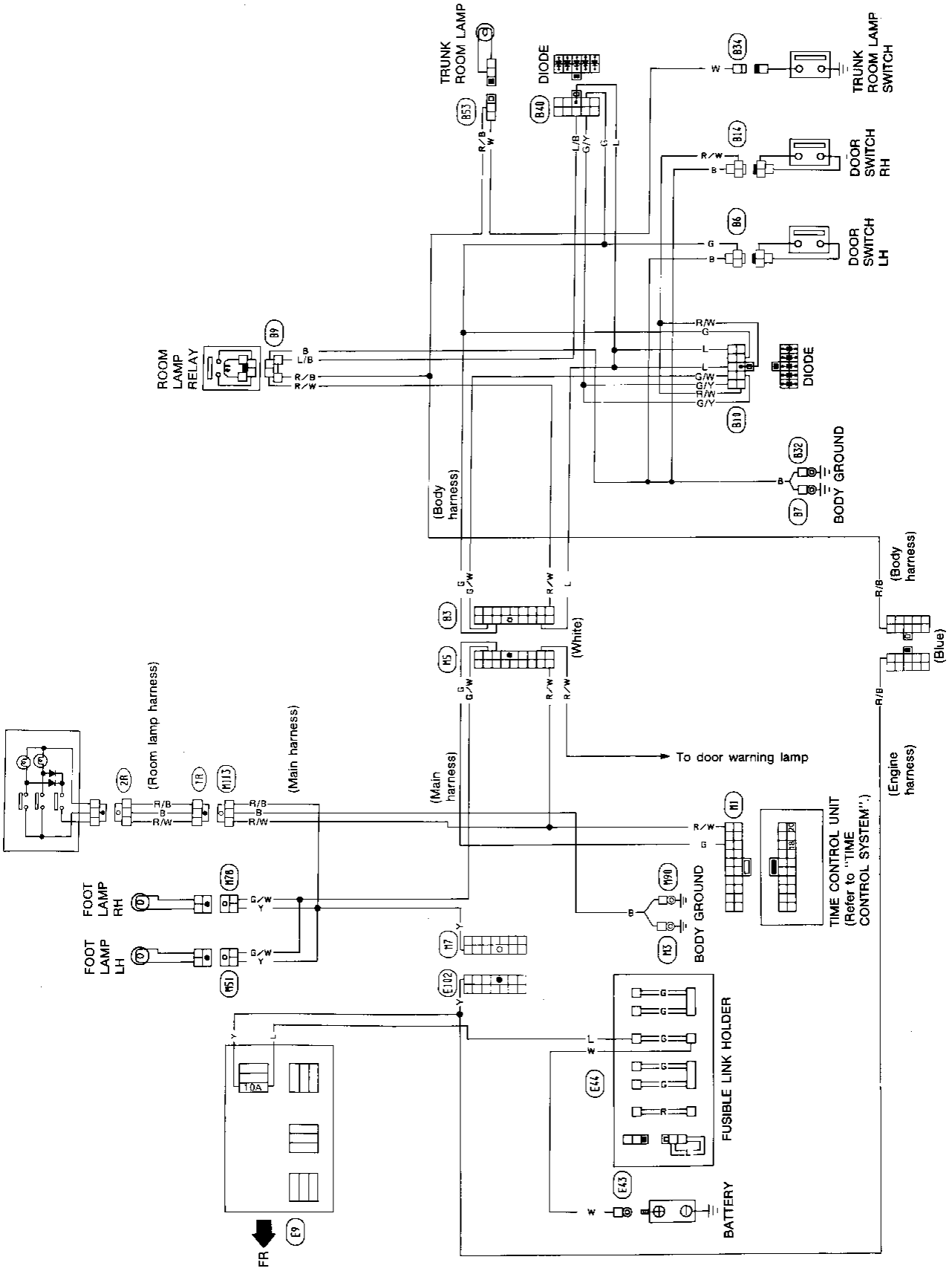
Interior, Spot, Foot and Luggage Room Lamps/ Wiring Diagram



MEL820C

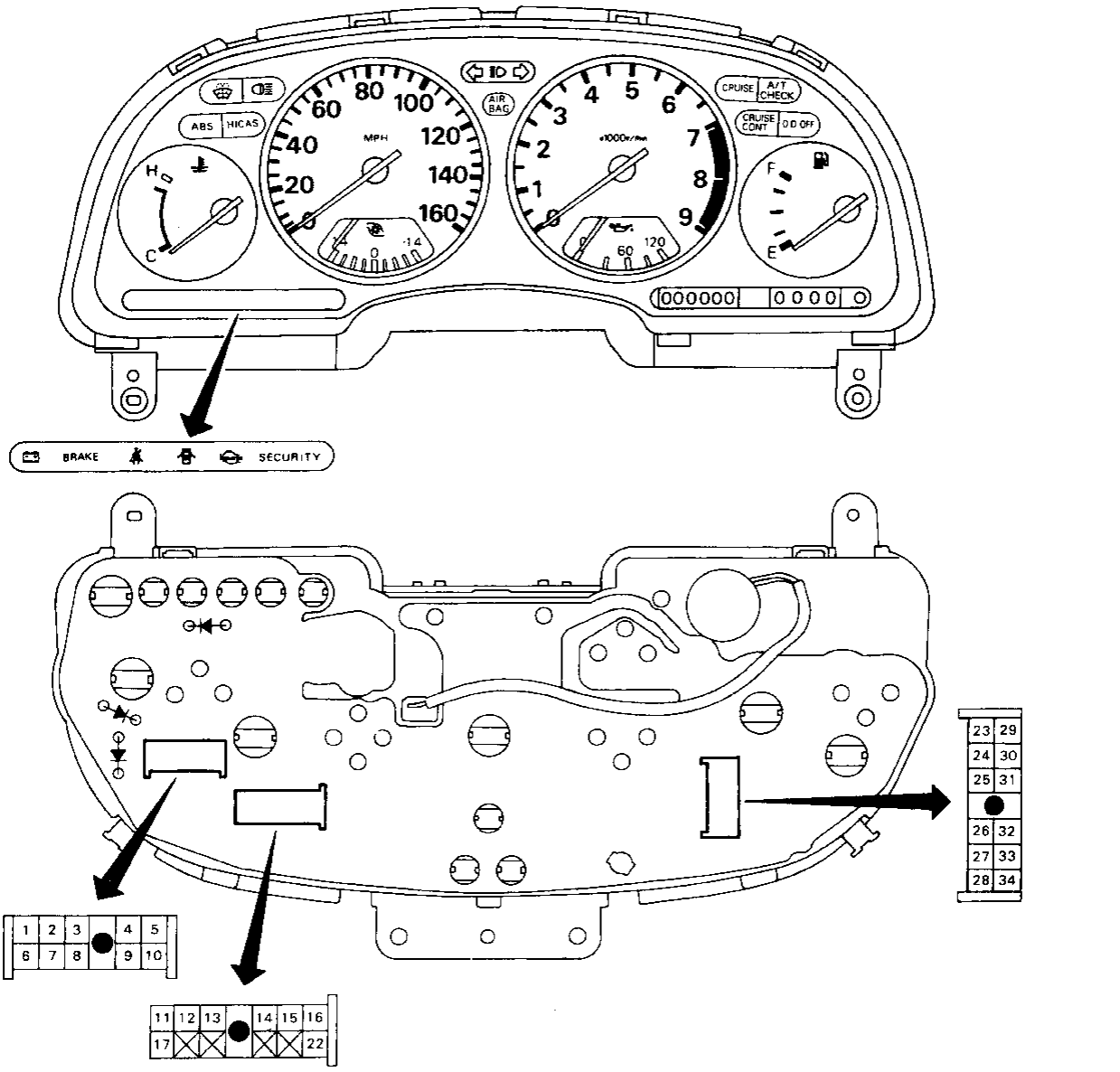
Interior, Spot, Foot and Luggage Room Lamps/ Wiring Diagram (Cont'd)

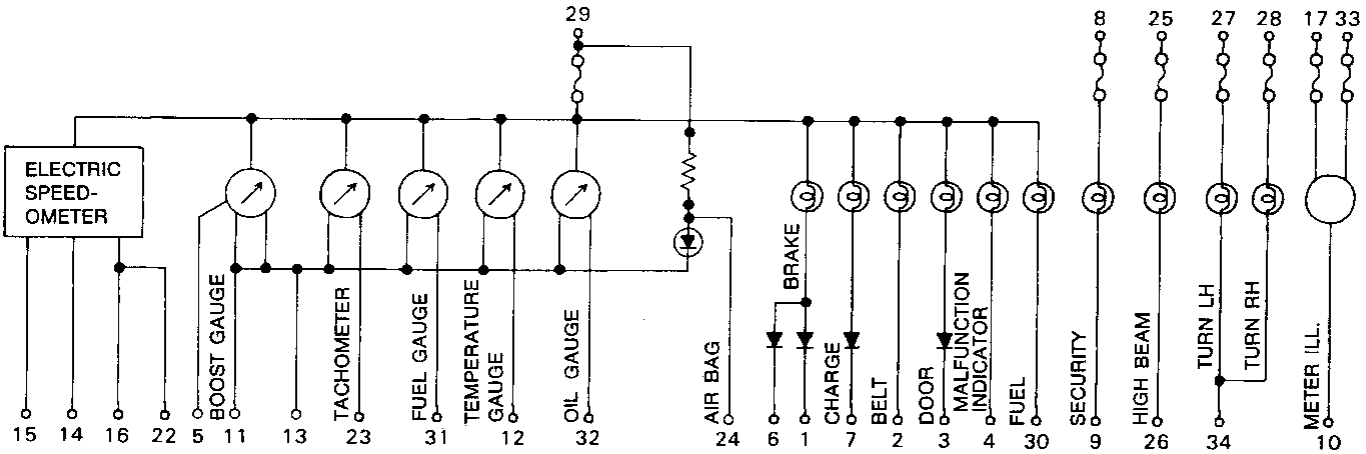
CONVERTIBLE



SEL879S

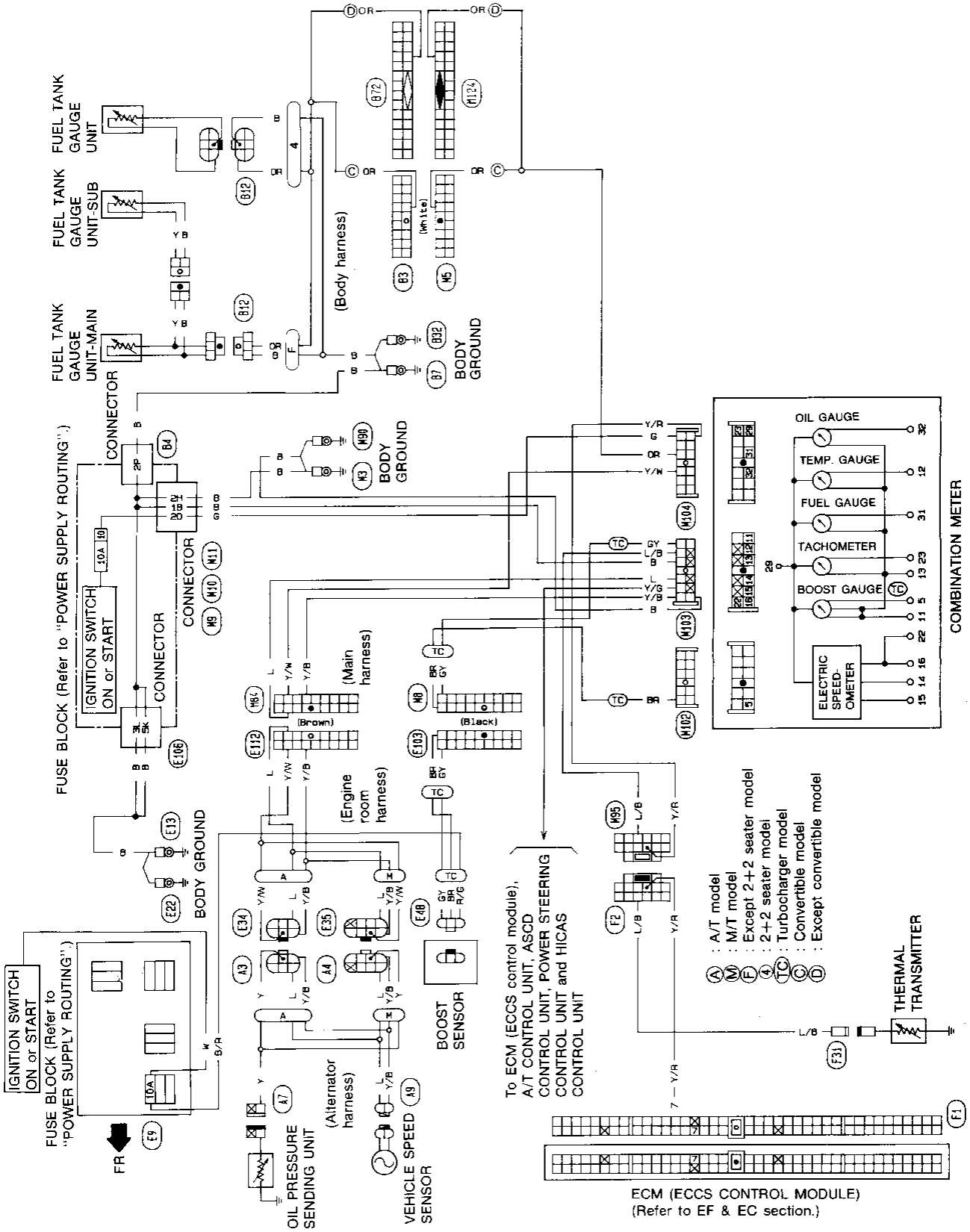
Combination Meter



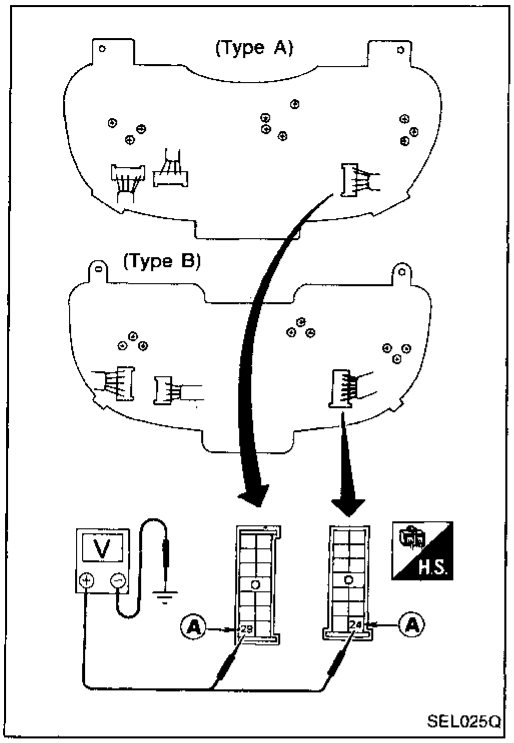


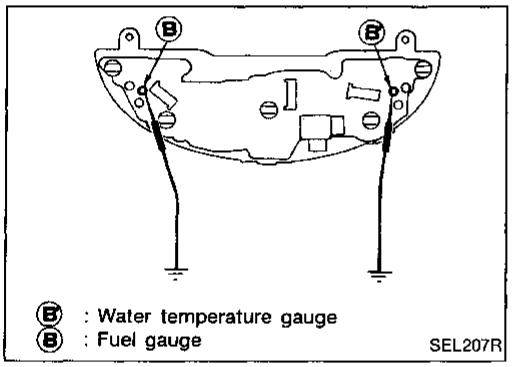
SEL694RA

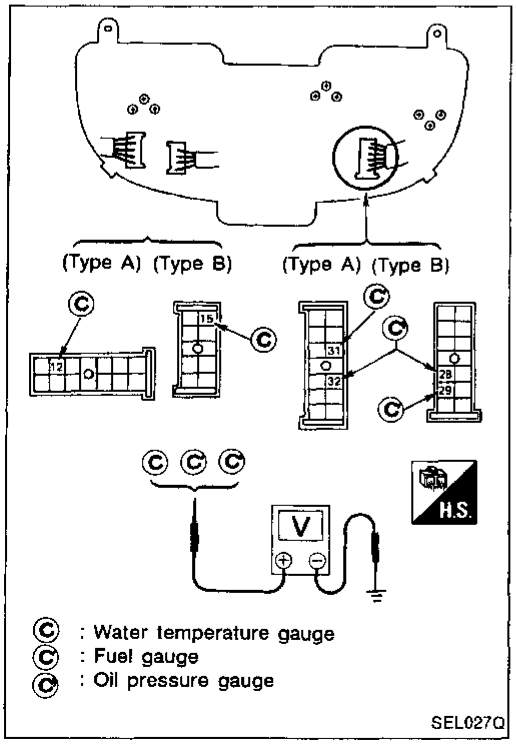
Speedometer, Tachometer, Temp., Oil, Fuel and Boost Gauges/Wiring Diagram



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

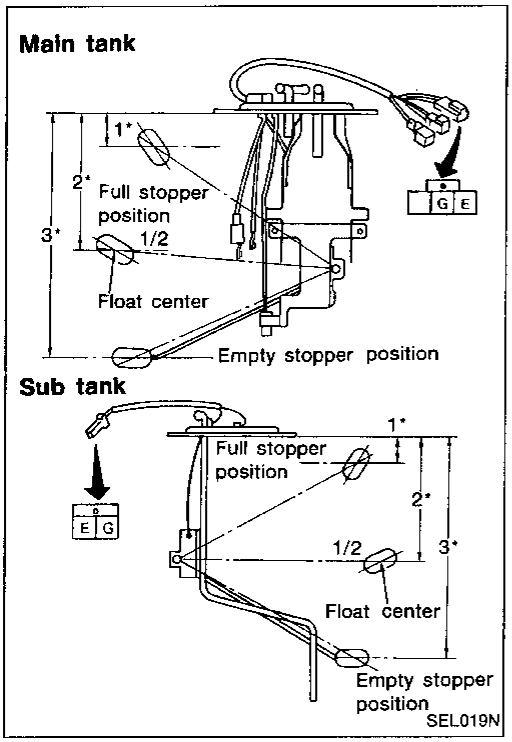
CHECK COMPONENT
Check gauge units and harness.
Refer to "Fuel Tank Gauge Unit Check" (EL-43), "Thermal Transmitter Check" (EL-44) and "Oil Pressure Sending Unit Check" (EL-44).

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

OK

Reinstall any part removed.

INSPECTION END



Fuel Tank Gauge Unit Check

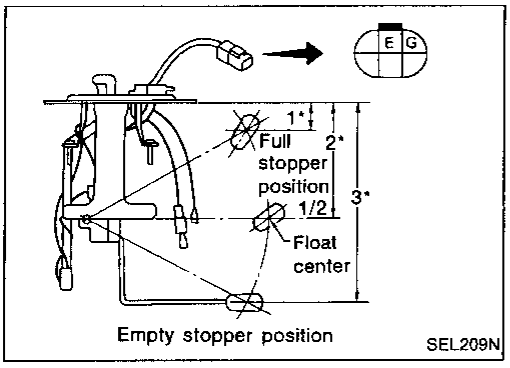
- For removal, refer to FE section.

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)	

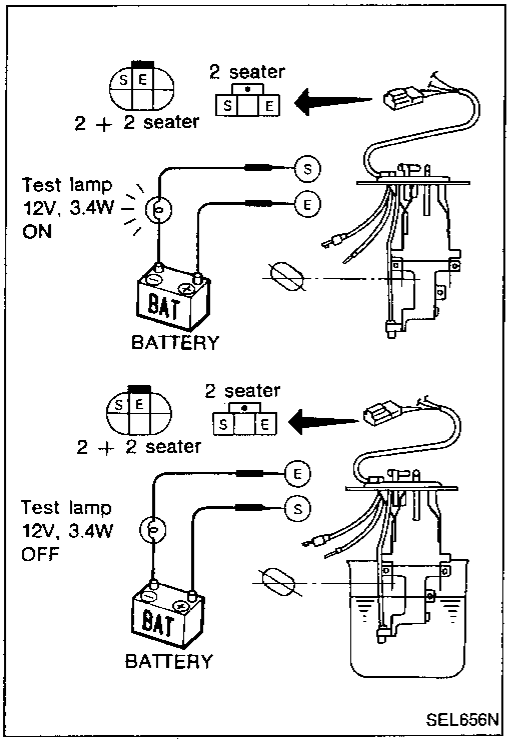
1* and 3*: When float rod is in contact with stopper.



2+2 seater model:

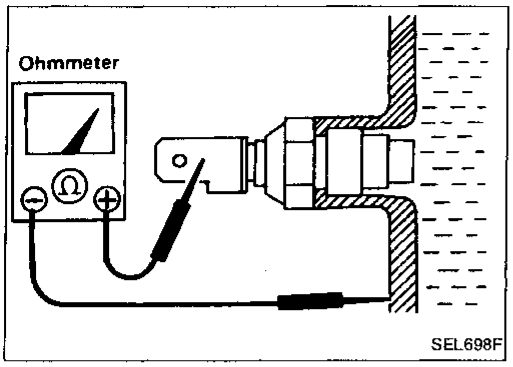
Ohm-meter (+)	Ohm-meter (−)	Float position mm (in)			Resistance value (Ω)
G	E	1*	Full	21.0 (0.827)	4.3 - 5.8
		2*	1/2	115.0 (4.53)	27.7 - 34.3
		3*	Empty	207.0 (8.15)	78.3 - 84.8

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



Fuel Warning Lamp Sensor Check

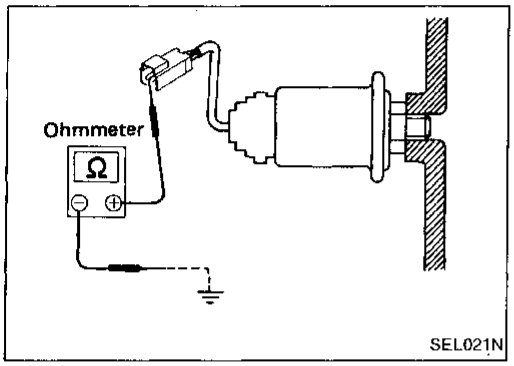
- It will take a short time for the bulb to light.



Thermal Transmitter Check

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

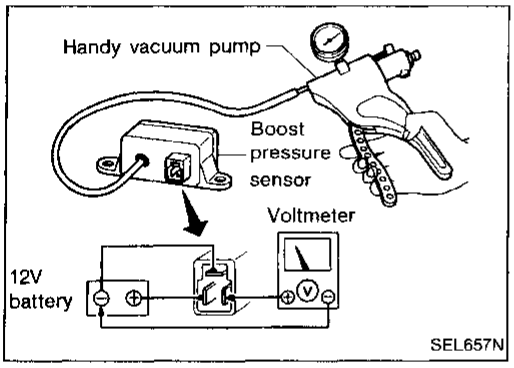
Water temperature	Resistance
60°C (140°F)	Approx. 70 - 90Ω
100°C (212°F)	Approx. 21 - 24Ω



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



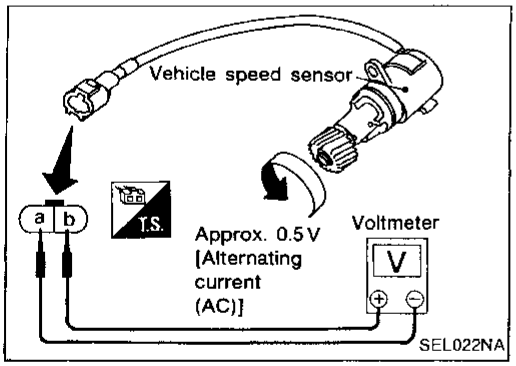
Boost Sensor Check

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)

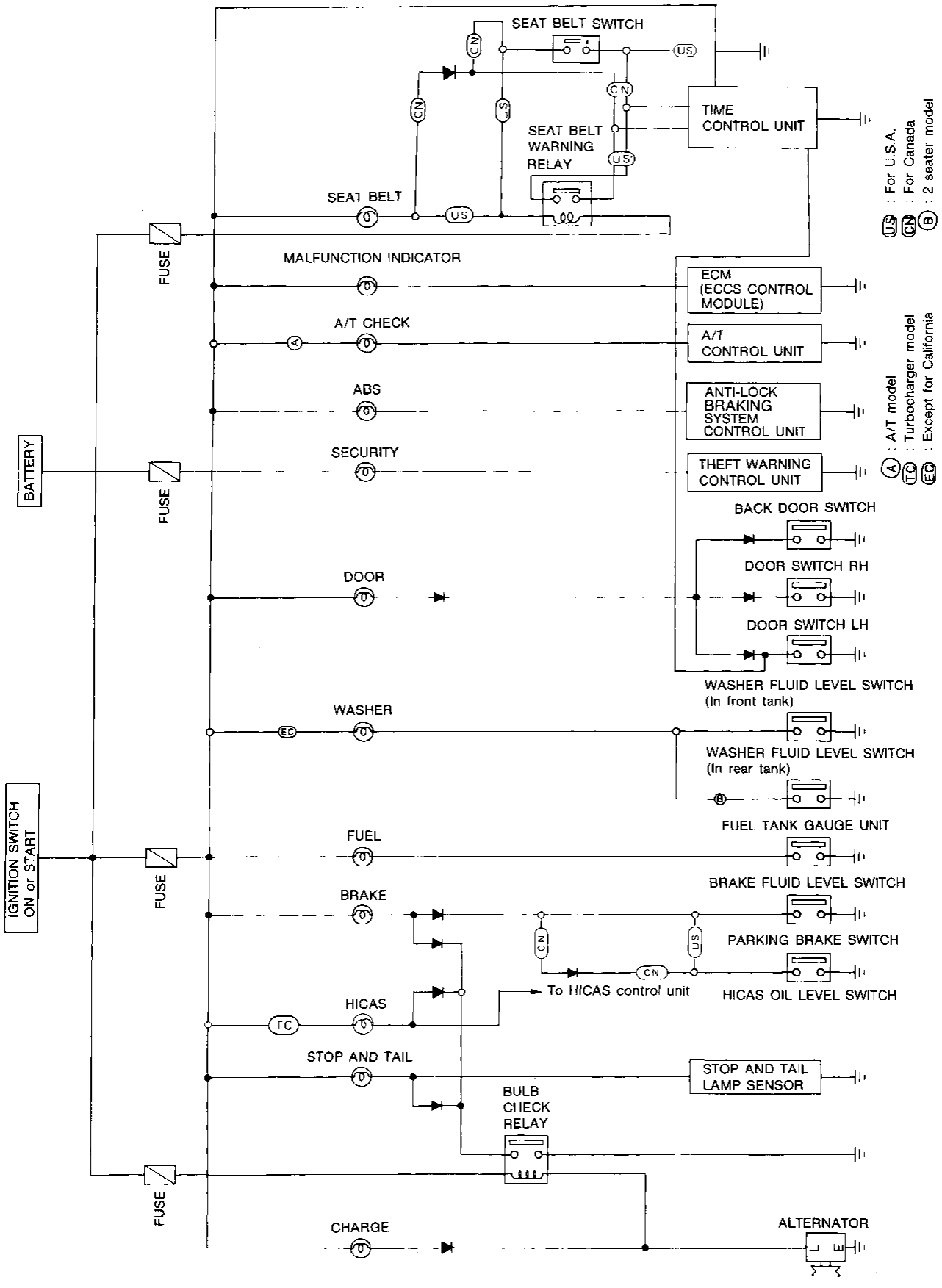
   Approx. 1.3V at –55 kPa (–0.56 kg/cm^2, –8 psi)



Vehicle Speed Sensor Signal Check

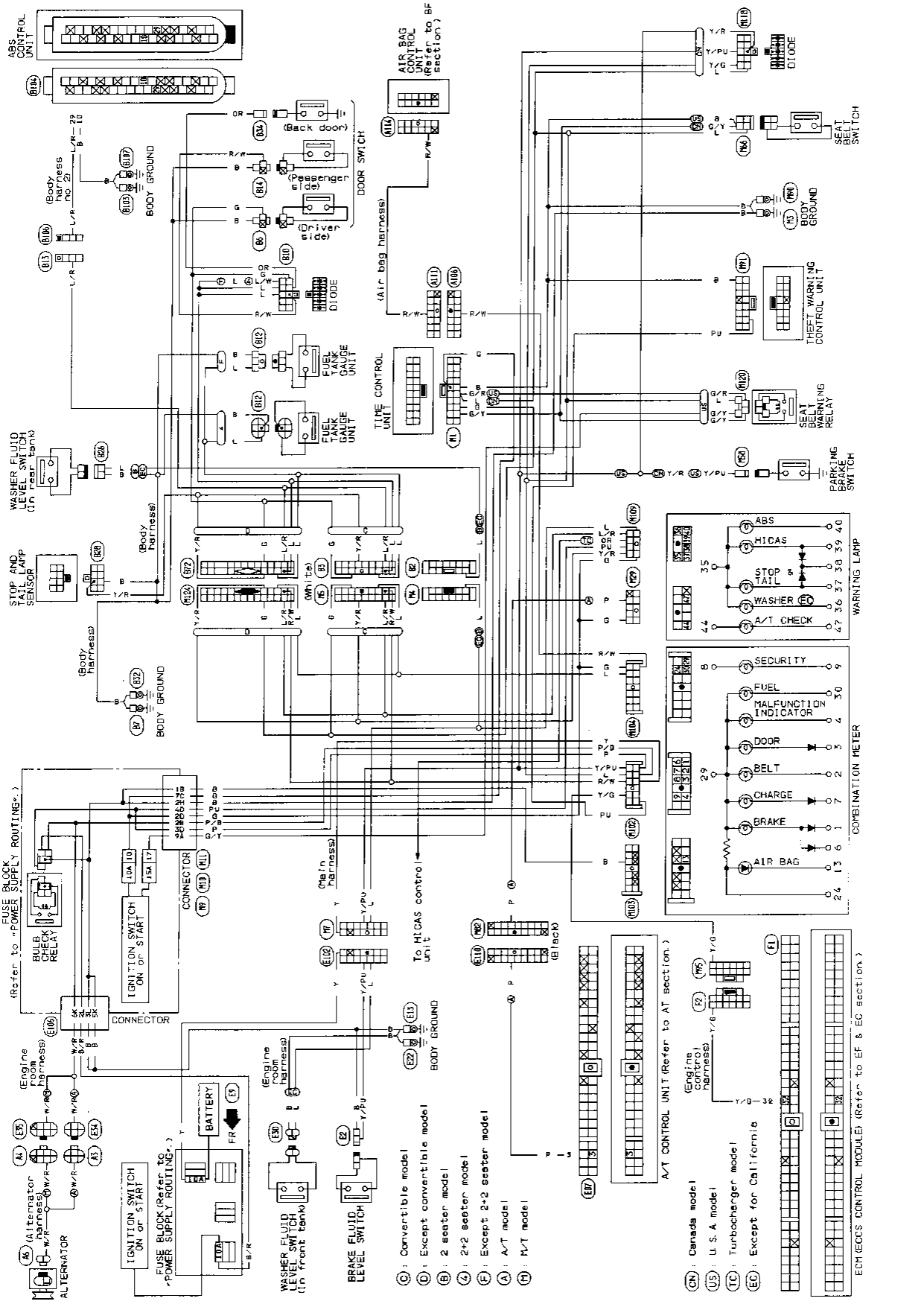
1. Remove vehicle speed sensor from transmission.
   Location: Refer to "LOCATION OF ELECTRICAL UNITS".
2. Turn vehicle speed sensor pinion quickly and measure voltage across ⓐ and ⓑ.

Warning Lamps/Schematic



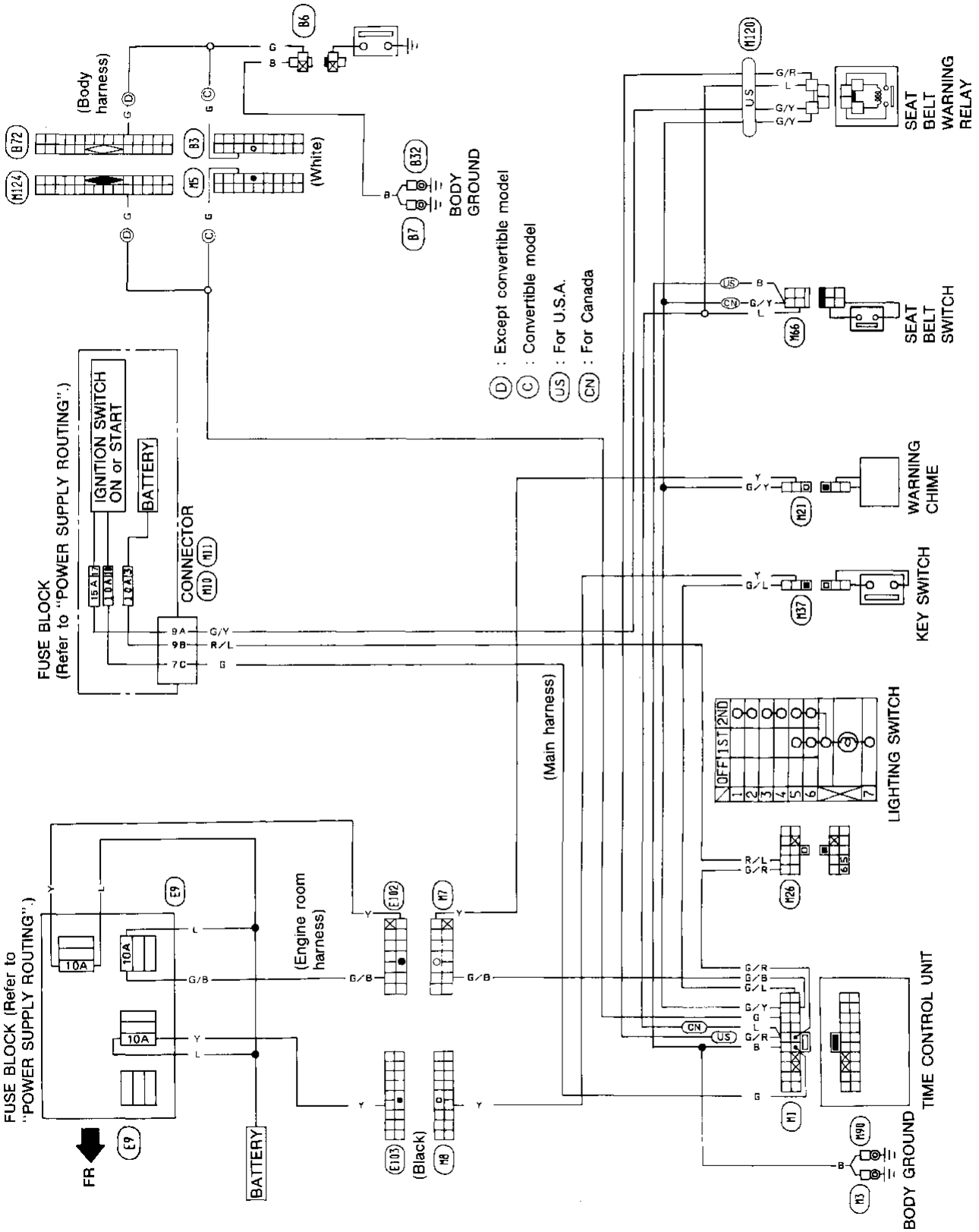
MEL824C

Warning Lamps/Wiring Diagram

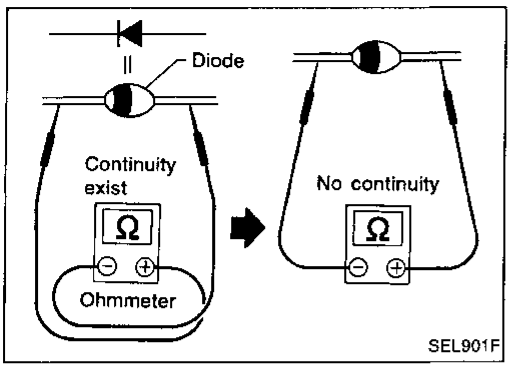


MEL825C

Warning Chime/Wiring Diagram



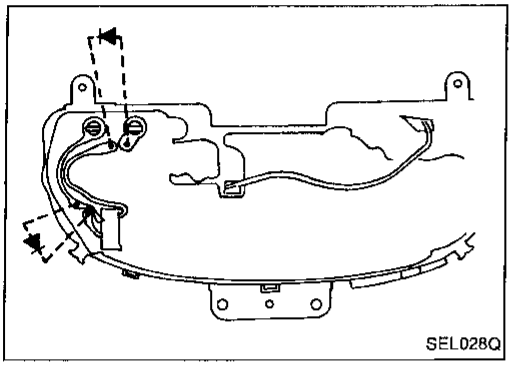
MEL827C



Diode Check

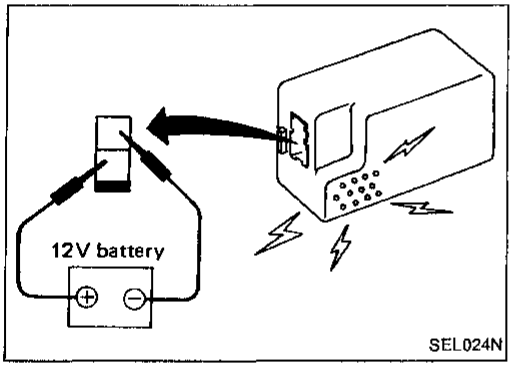
- Check continuity using an ohmmeter.
- Diode is functioning properly if test results are as shown in the figure at left.

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



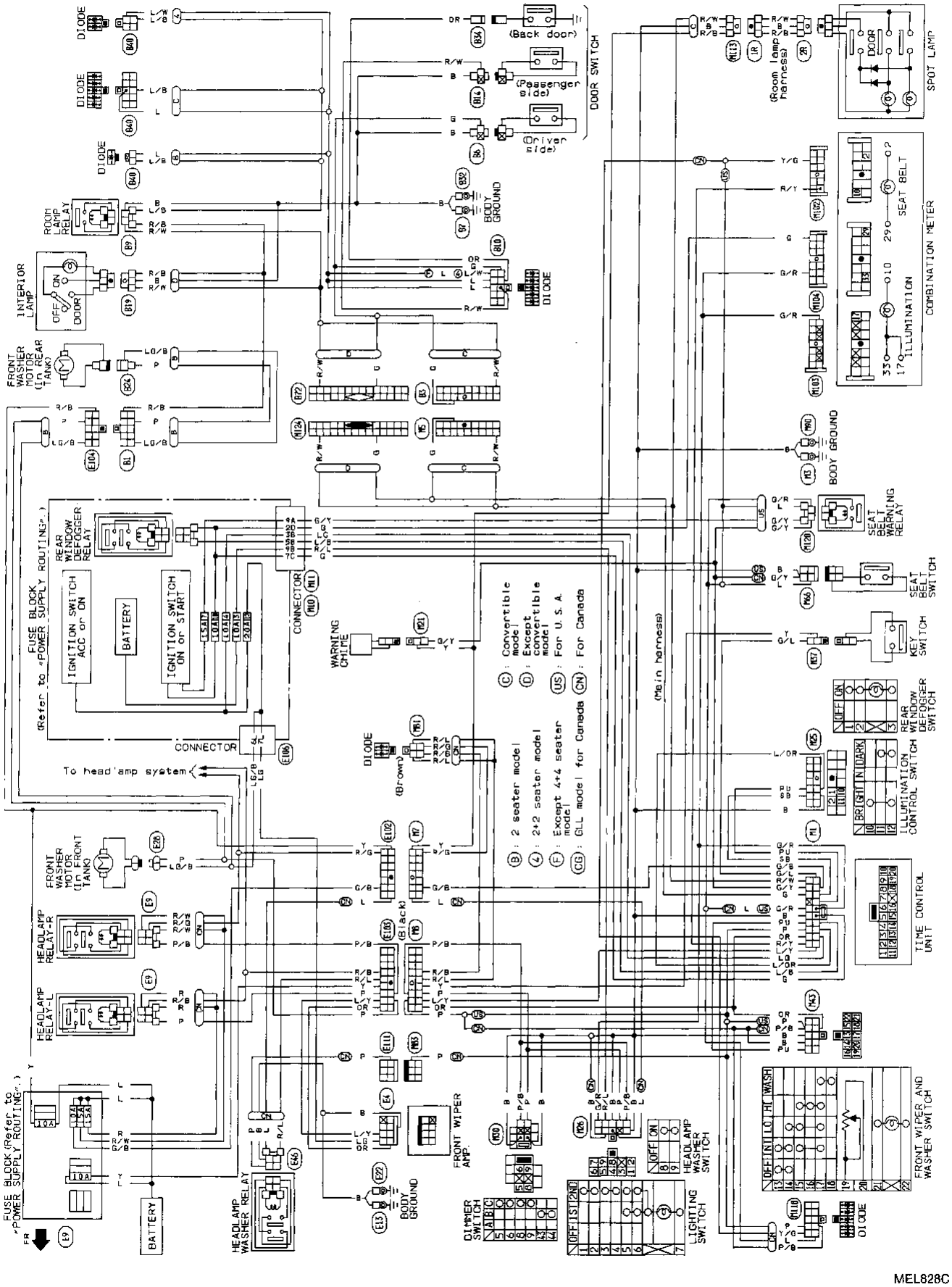
Description

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



MEL828C

Trouble Diagnoses

SYMPTOM CHART

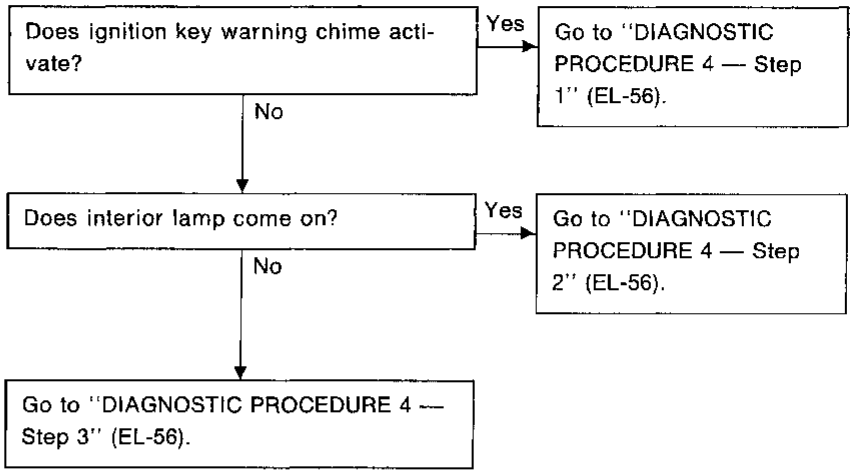
PROCEDURE		Preliminary Check			Main Power Supply and Ground Circuit Check	Diagnostic Procedure										
REFERENCE PAGE		EL-52	EL-52	EL-52	EL-54	EL-54	EL-55	EL-55	EL-56	EL-57	EL-58	EL-59	EL-59	EL-60	EL-61	EL-62
SYMPTOM		Preliminary check 1	Preliminary check 2	Preliminary check 3	Main power supply and 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

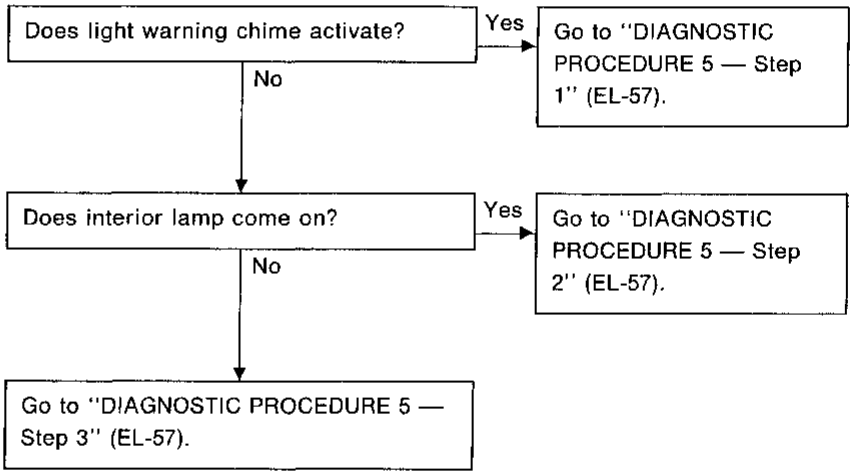
Preliminary check 1

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



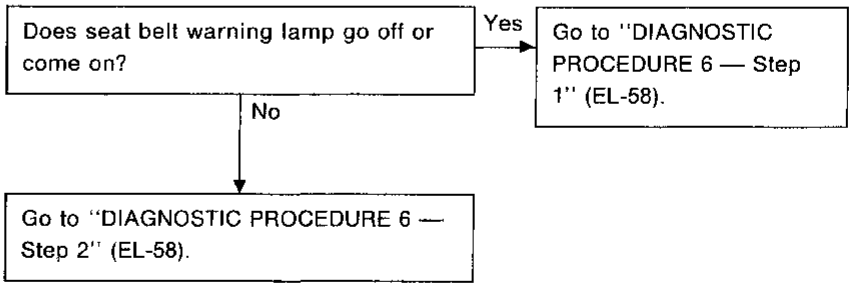
Preliminary check 2

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



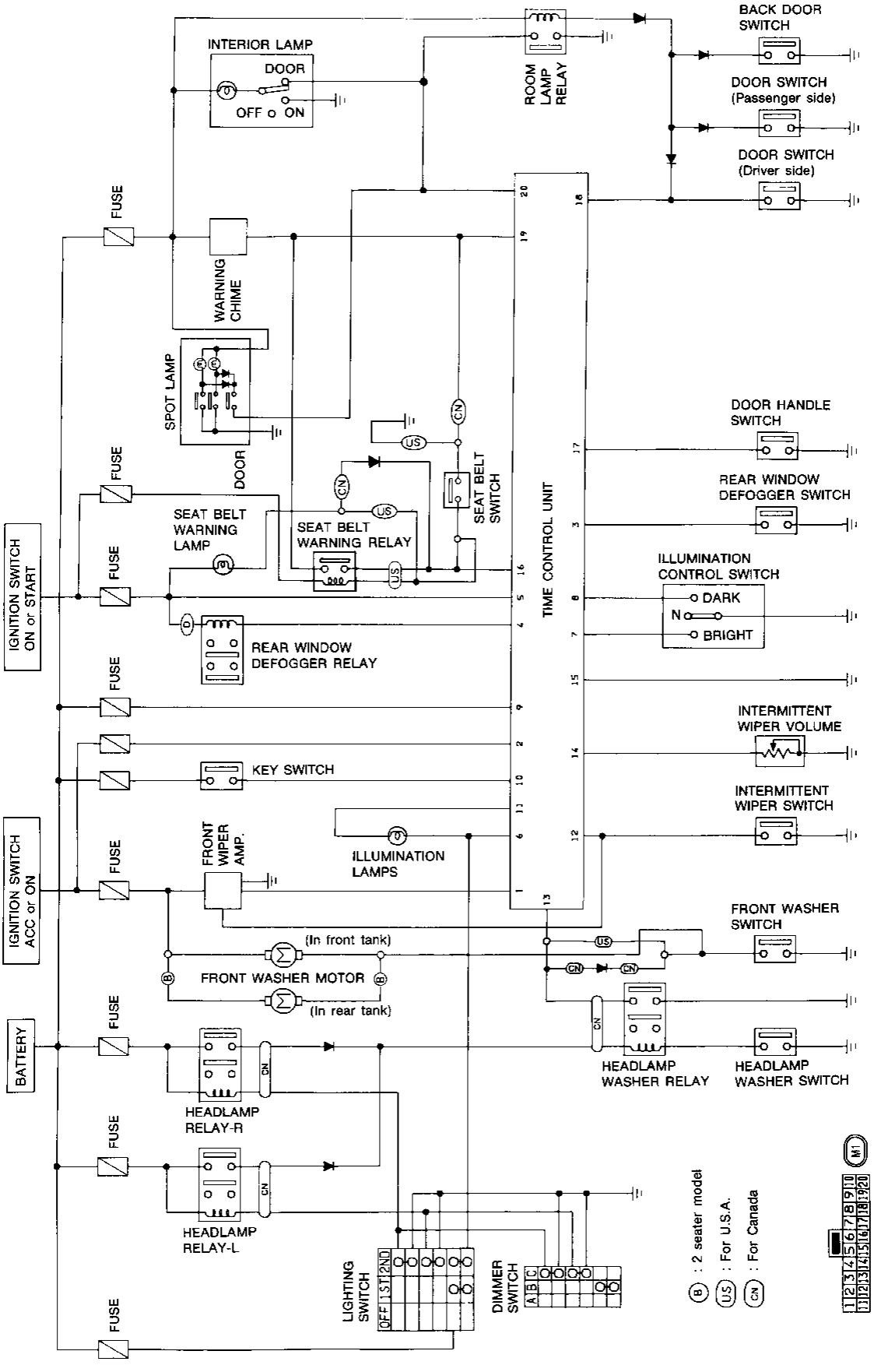
Preliminary check 3

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



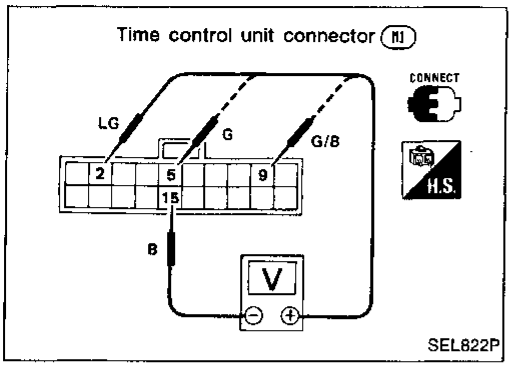
Trouble Diagnoses (Cont'd)

CIRCUIT DIAGRAM FOR QUICK PINPOINT CHECK



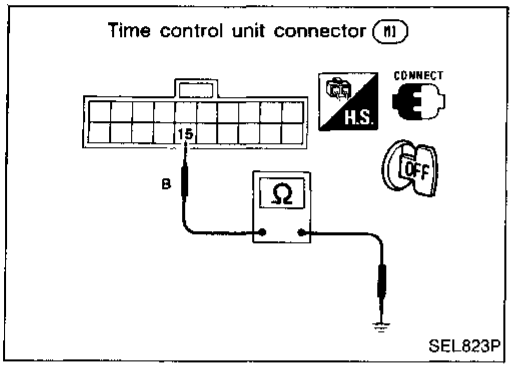
Trouble Diagnoses (Cont'd)

MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK



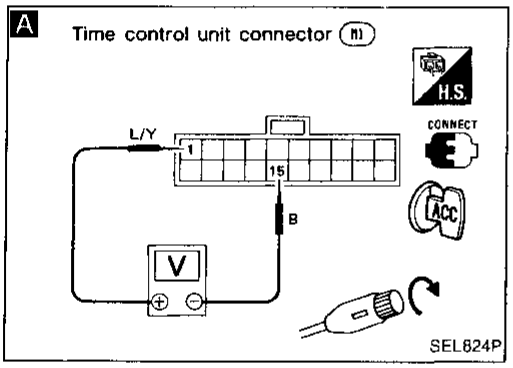
Main power supply

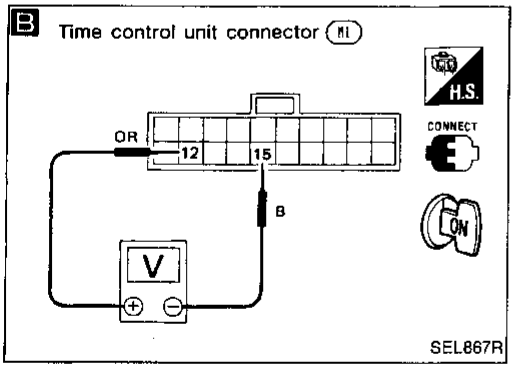
Terminals	Battery voltage existence condition		
	Ignition switch position		
	OFF	ACC	ON
⑨ - ⑮	Yes	Yes	Yes
⑤ - ⑮	No	No	Yes
② - ⑮	No	Yes	Yes



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.

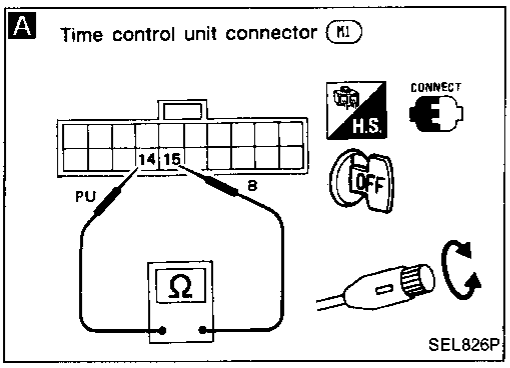
OK

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.

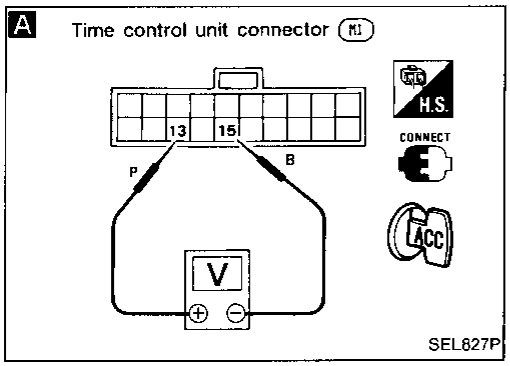
Position of wiper knob	Resistance [Ω]
S	0
L	Approx. 1 k

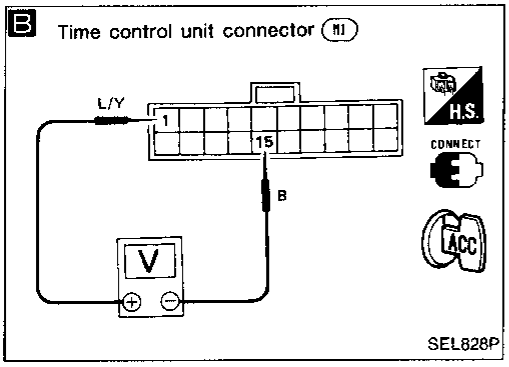
OK → Replace control unit.

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.

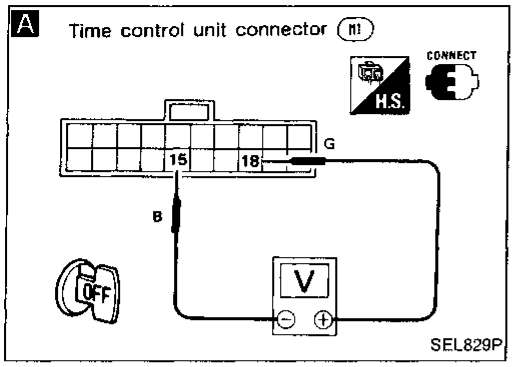
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

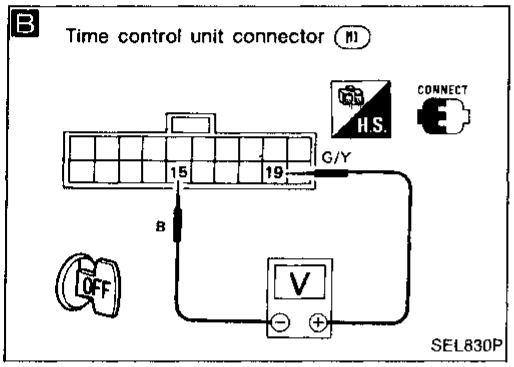
SYMPTOM: Light warning chime does not activate.

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

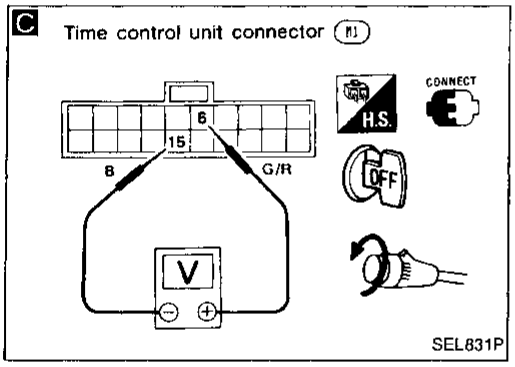
A Time control unit connector (M1)



B Time control unit connector (M1)



C Time control unit connector (M1)



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.

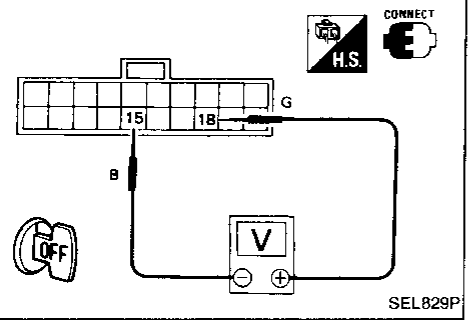
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

SYMPTOM: Ignition key warning chime does not activate.

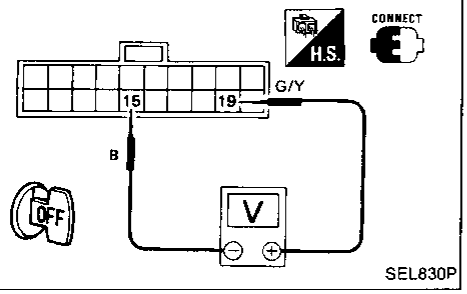
- Perform "PRELIMINARY CHECK — Procedure 2" before referring to the following flow chart.

A Time control unit connector (M1)



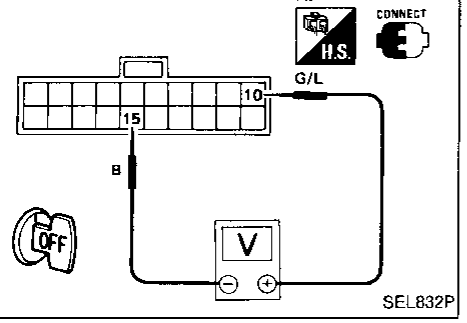
SEL829P

B Time control unit connector (M1)



SEL830P

C Time control unit connector (M1)



SEL832P

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 between 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)

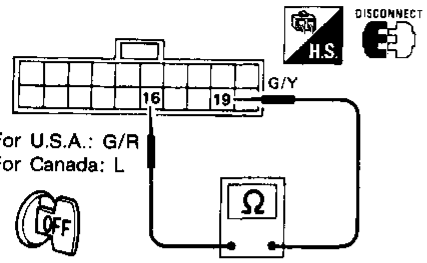
DIAGNOSTIC PROCEDURE 6

SYMPTOM: Seat belt warning chime does not activate.

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

A

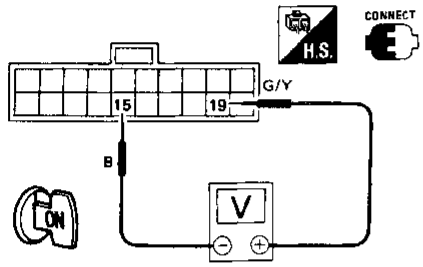
Time control unit connector (M1)



SEL833PA

B

Time control unit connector (M1)



SEL834P

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.

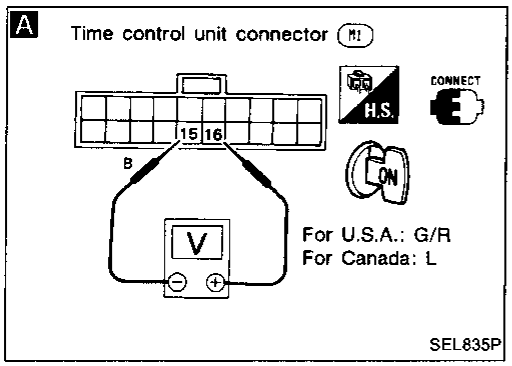
NG ↓

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"?

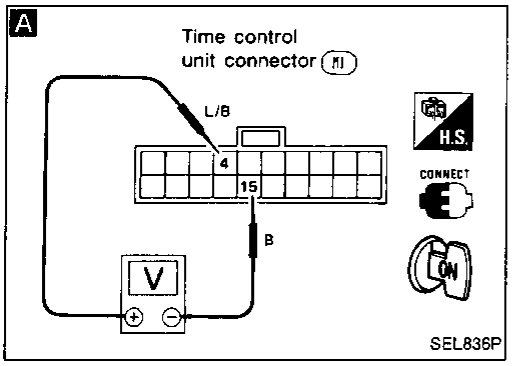
Yes → Check warning lamp. Check harness continuity between TCU and warning lamp.

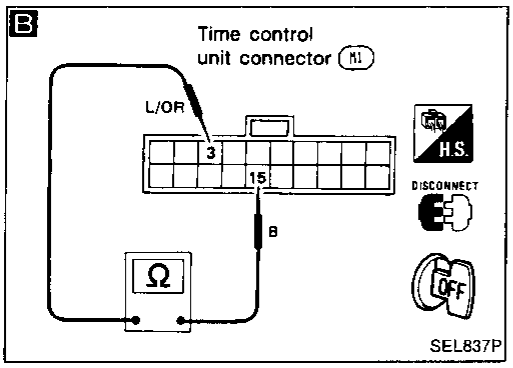
No ↓

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 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.

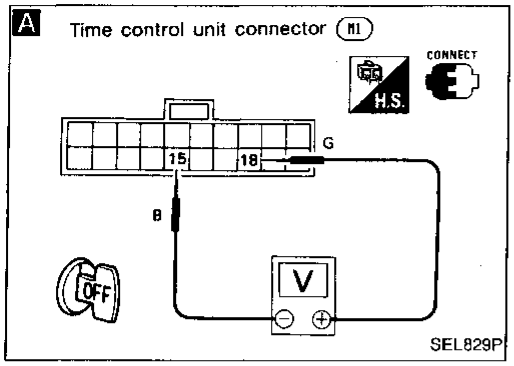
OK ↓

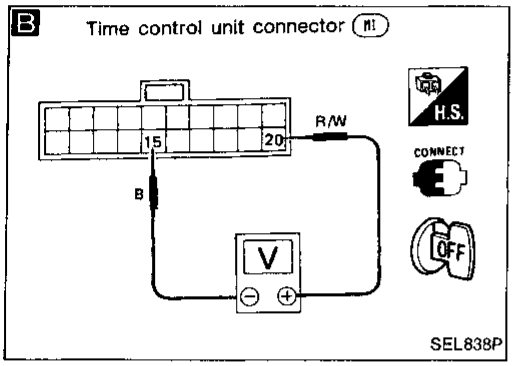
Replace control unit.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 9

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





A

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 ↓

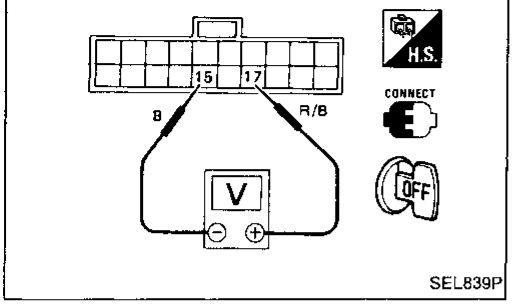
Replace TCU.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 10

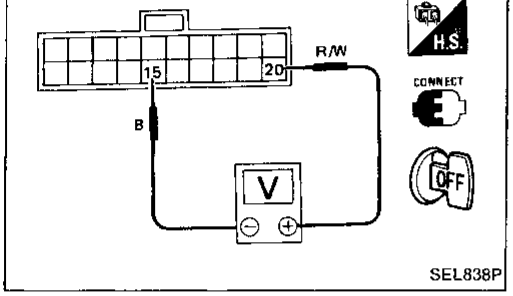
SYMPTOM: Door key hole illumination does not come on even if door handle is pulled.

A Time control unit connector (M1)



SEL839P

B Time control unit connector (M1)



SEL838P

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 ↓

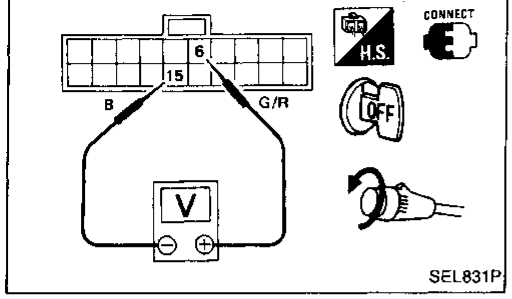
Replace TCU.

Trouble Diagnoses (Cont'd)

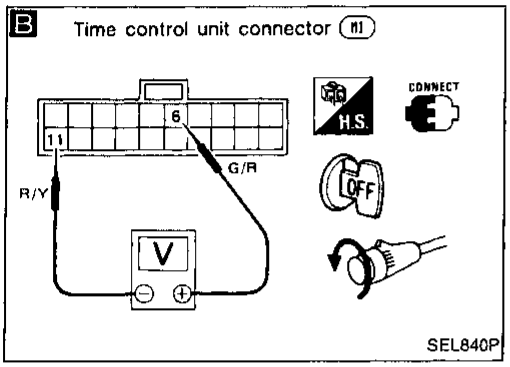
DIAGNOSTIC PROCEDURE 11

SYMPTOM: Illumination control does not actuate.

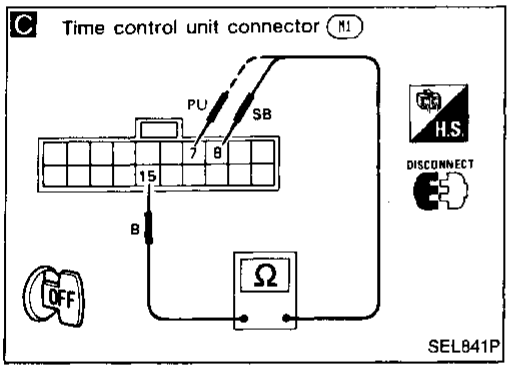
A Time control unit connector (M1)



B Time control unit connector (M1)



C Time control unit connector (M1)



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.

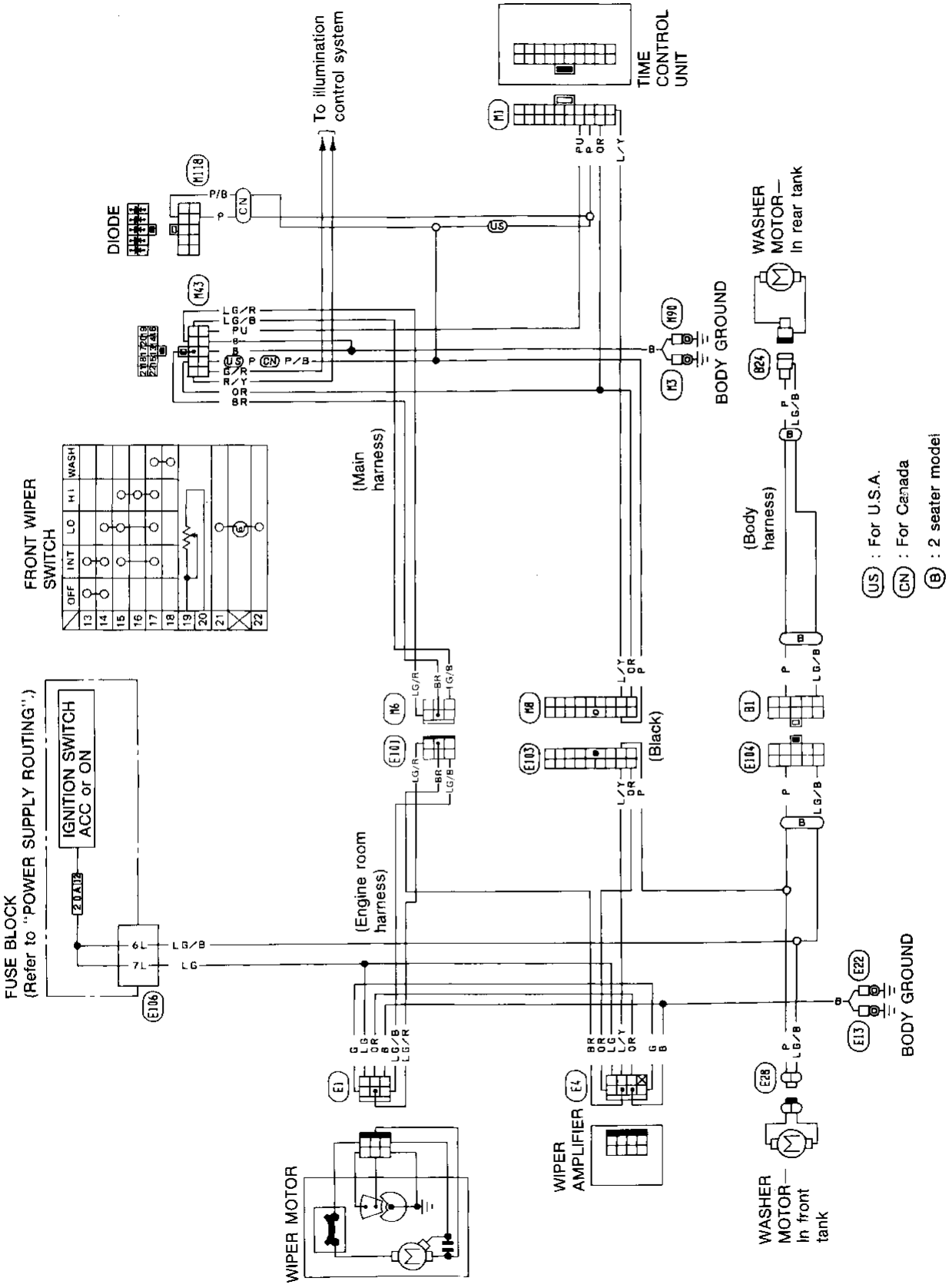
Terminals		Illumination control switch condition	Resistance [Ω]
⑧	⑮	DARK	0
		BRIGHT	Except 0
⑦	⑮	DARK	Except 0
		BRIGHT	0

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

OK ↓

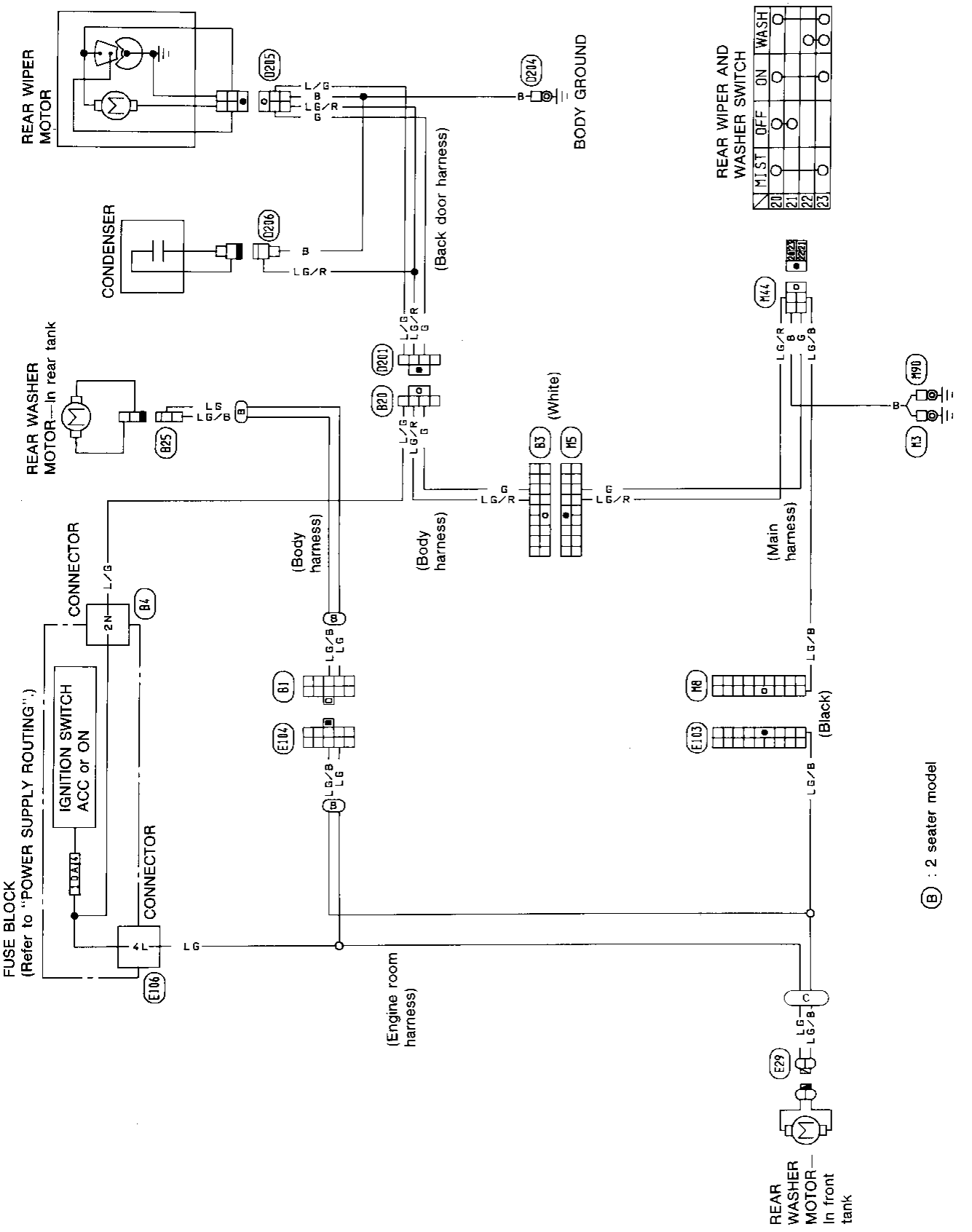
Replace TCU.

Front Wiper and Washer/Wiring Diagram



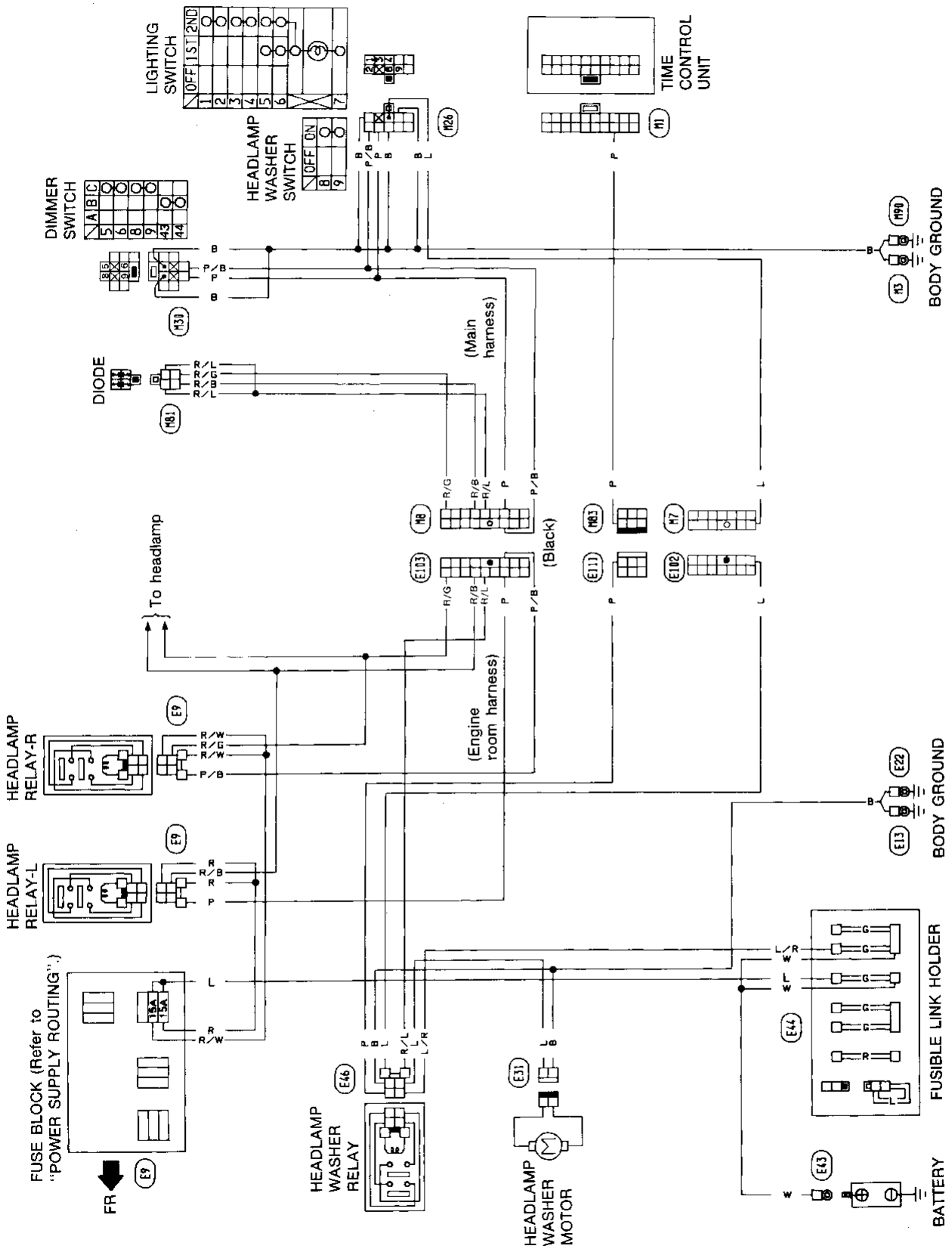
SEL880S

Rear Wiper and Washer/Wiring Diagram



SEL881S

Headlamp Washer/Wiring Diagram



SEL882S

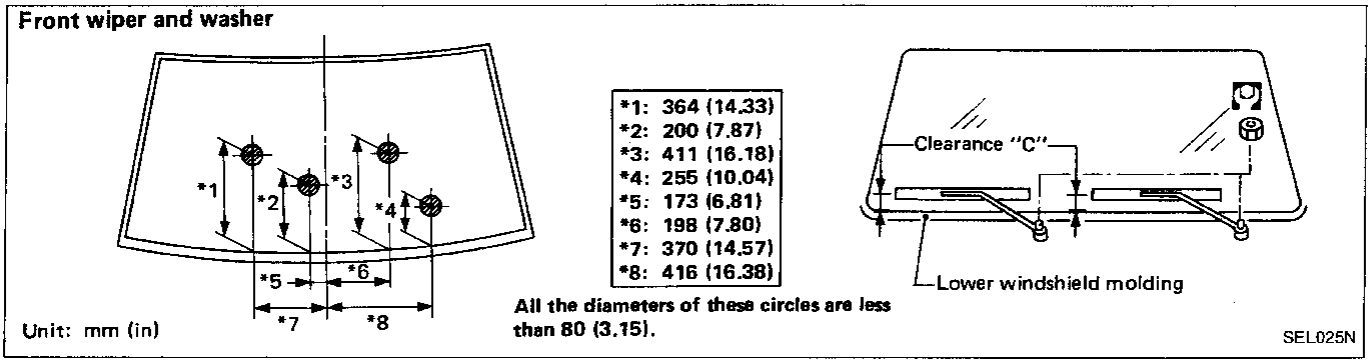
Installation

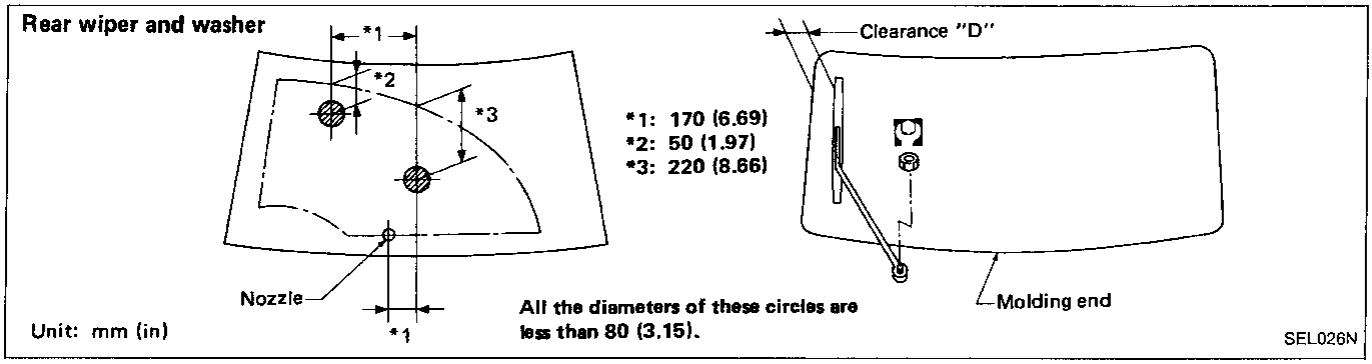
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "C" or "D" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch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

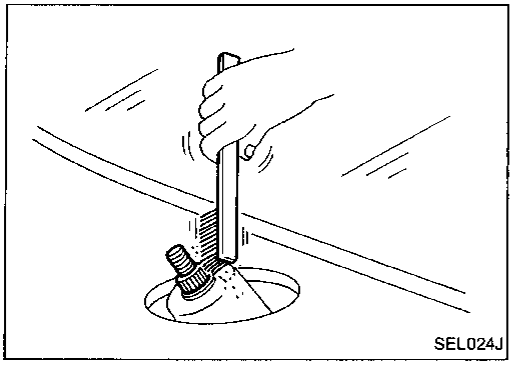
   Clearance "C": 0 - 10 mm (0 - 0.39 in)
   Clearance "D": 73 - 88 mm (2.87 - 3.46 in)

- Tighten windshield wiper arm nuts to specified torque.

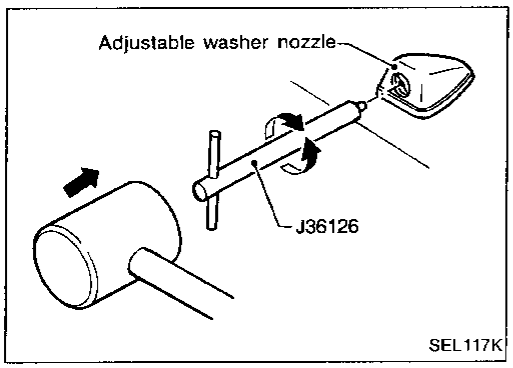
  Front wiper:
  : 26 - 32 N·m (2.7 - 3.3 kg-m, 20 - 24 ft-lb)
  Rear wiper:
  : 13 - 18 N·m (1.3 - 1.8 kg-m, 9 - 13 ft-lb)







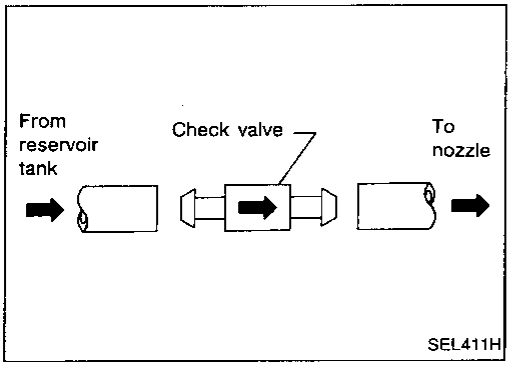
- **Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.**



Washer Nozzle Adjustment

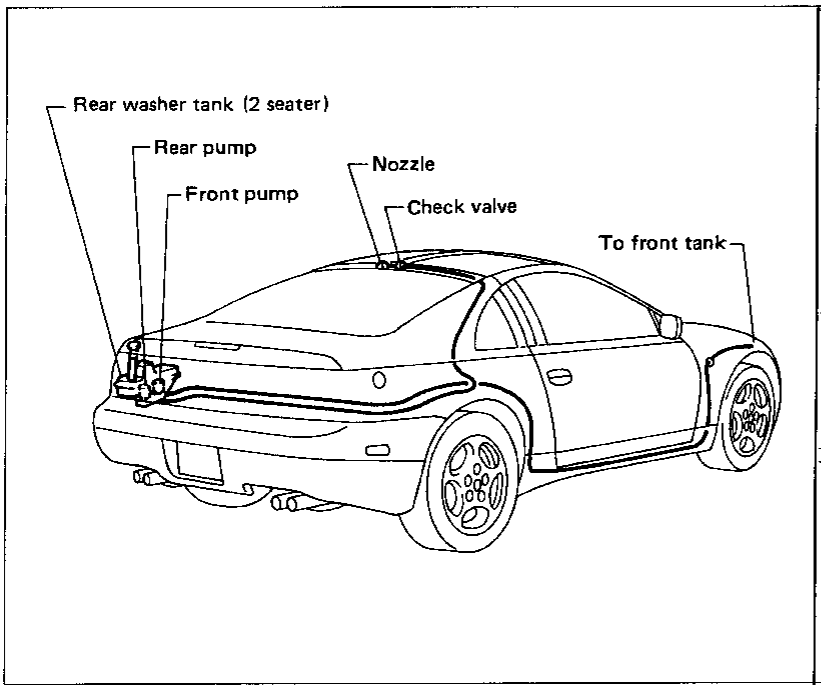
- Adjust washer nozzle with J36126 as shown in the figure at left.

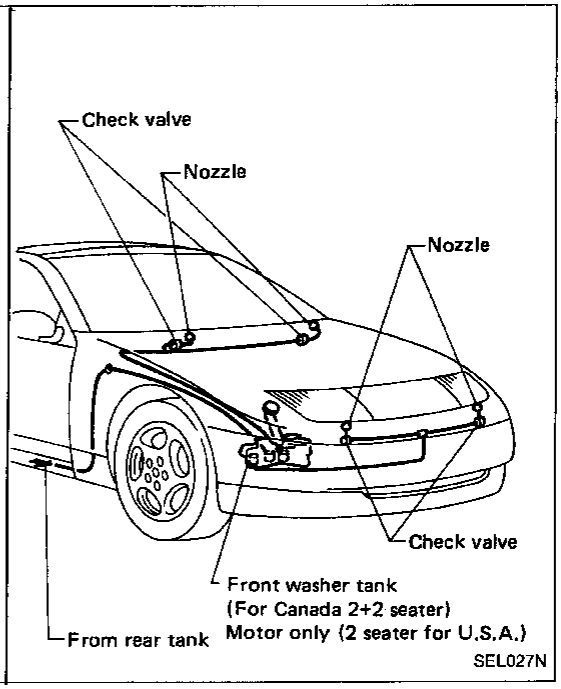
Before attempting to turn the nozzle, gently tap the end of the tool to free the nozzle. This will prevent "rounding out" the small female square in the center of the nozzle.

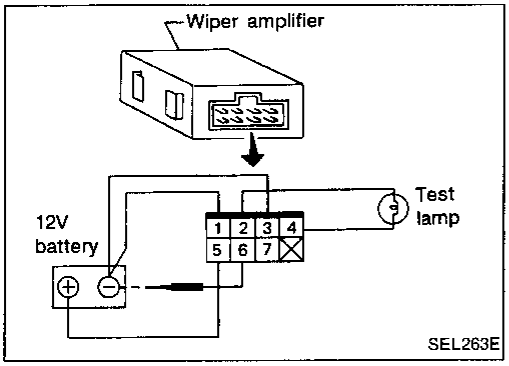


Check Valve

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



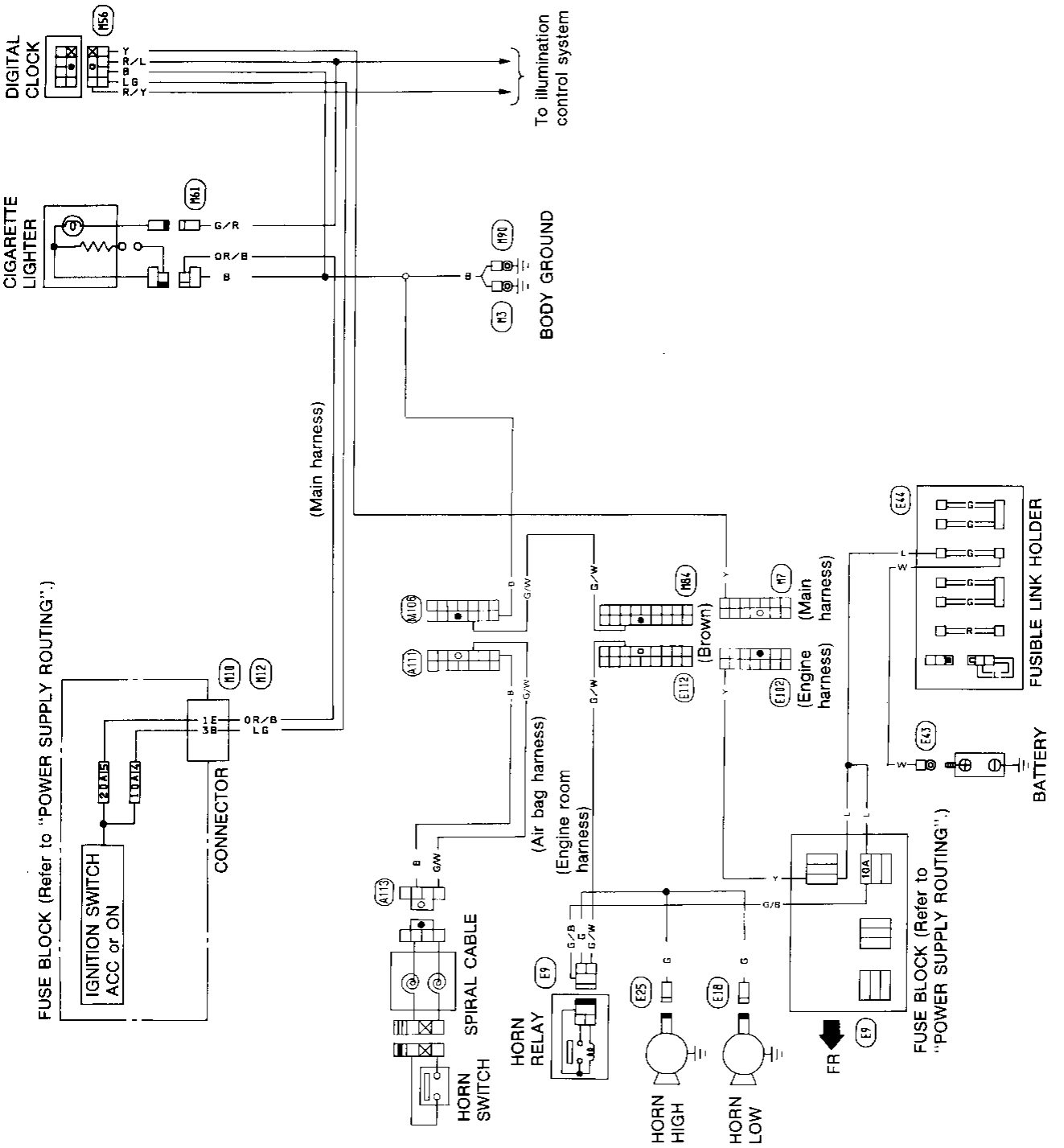




Wiper Amplifier Check

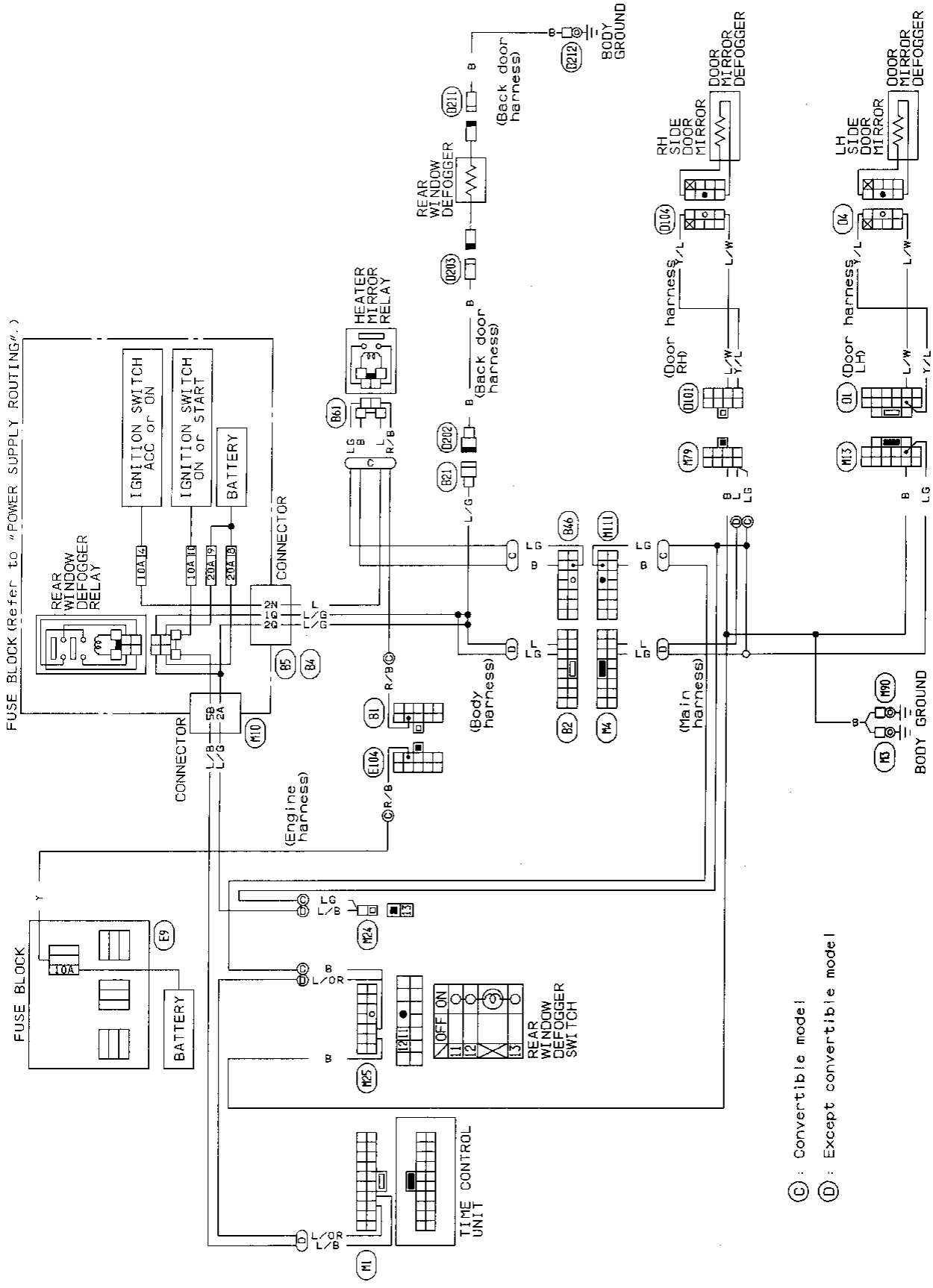
1. Connect as shown in the figure at left.
2. If test lamp comes on when connected to terminal ⑥ and battery ground, wiper amplifier is normal.

Wiring Diagram

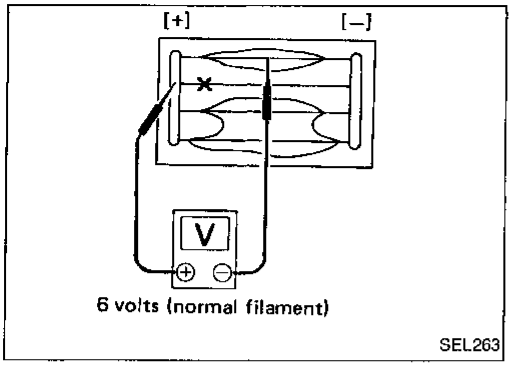


SEL883S

Wiring Diagram

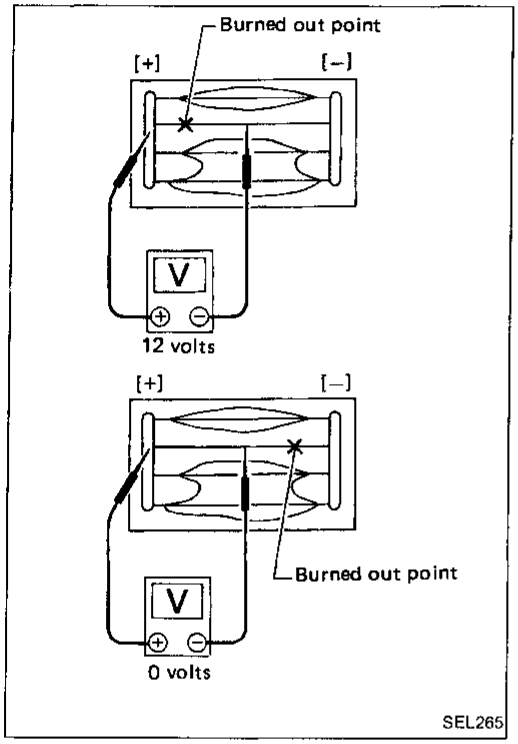


MEL829C

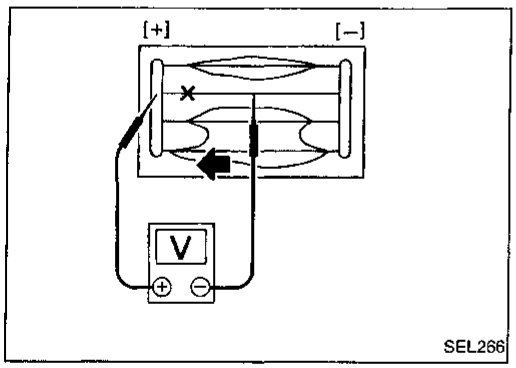


Filament Check

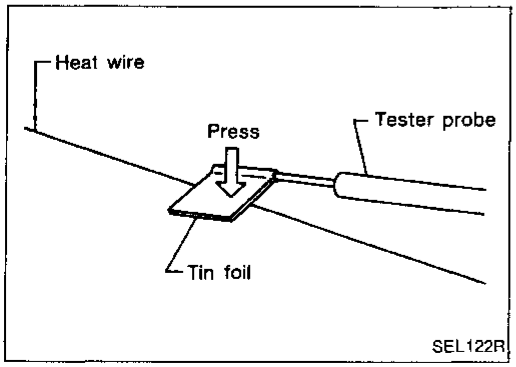
1. Attach probe circuit tester (in volt range) to middle portion of each filament.



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.

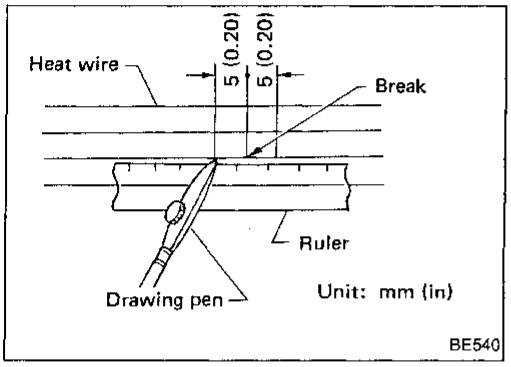


- **When measuring voltage, wind a piece of tin foil around the top of the negative probe and press the foil against the wire with your finger as shown.**

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



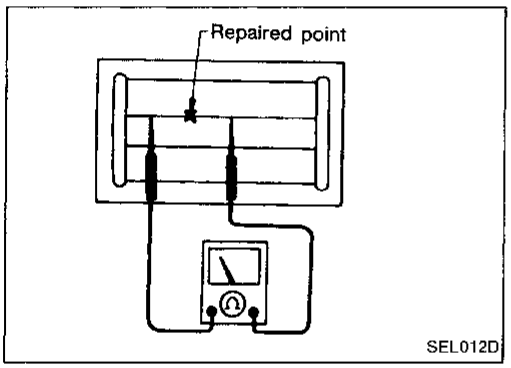
REPAIRING PROCEDURE

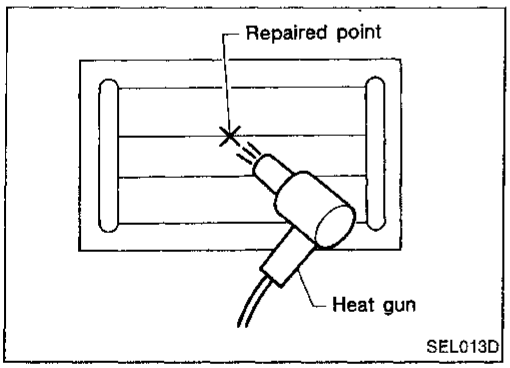
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

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.

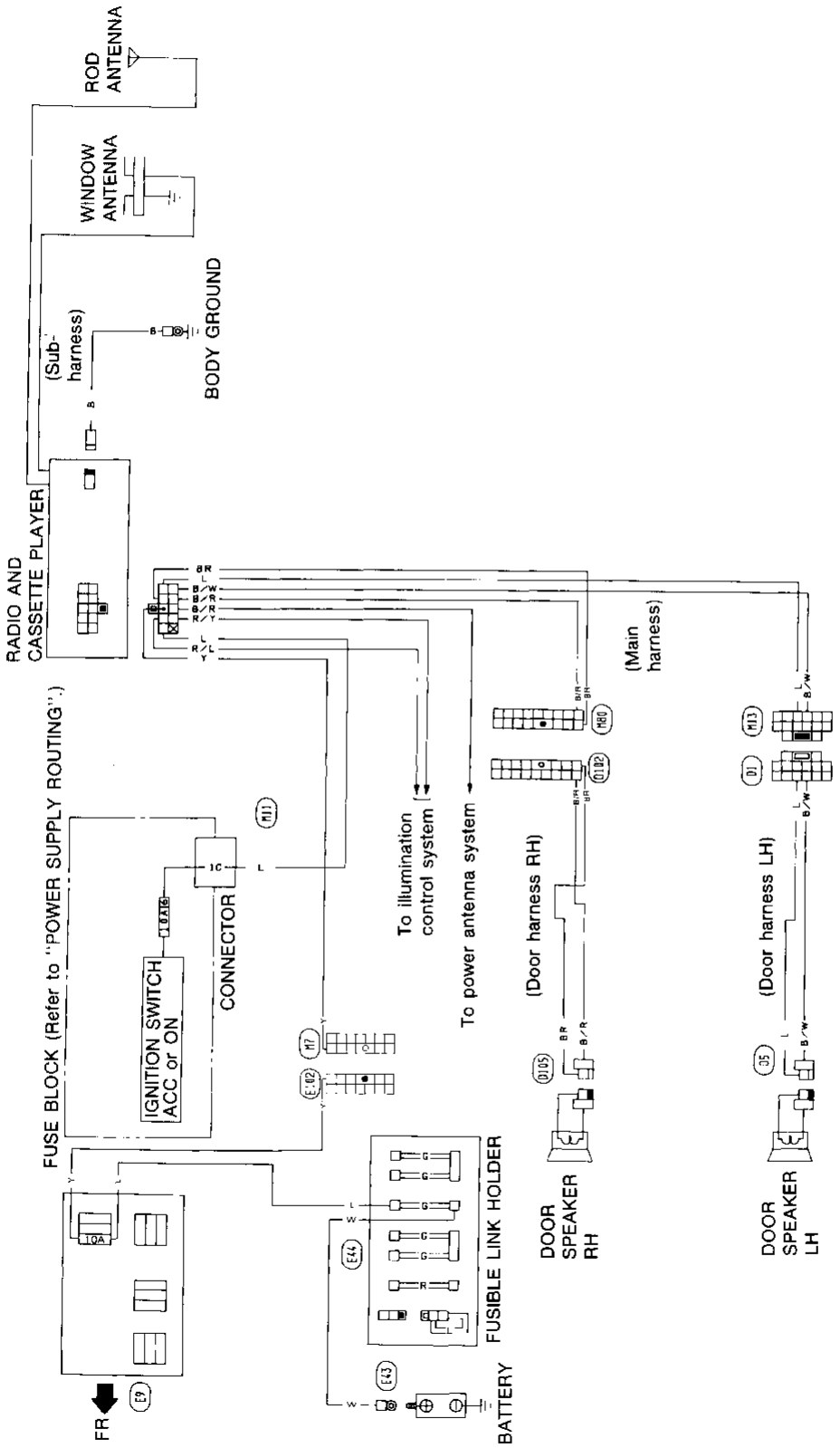




5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.

Audio/Wiring Diagram

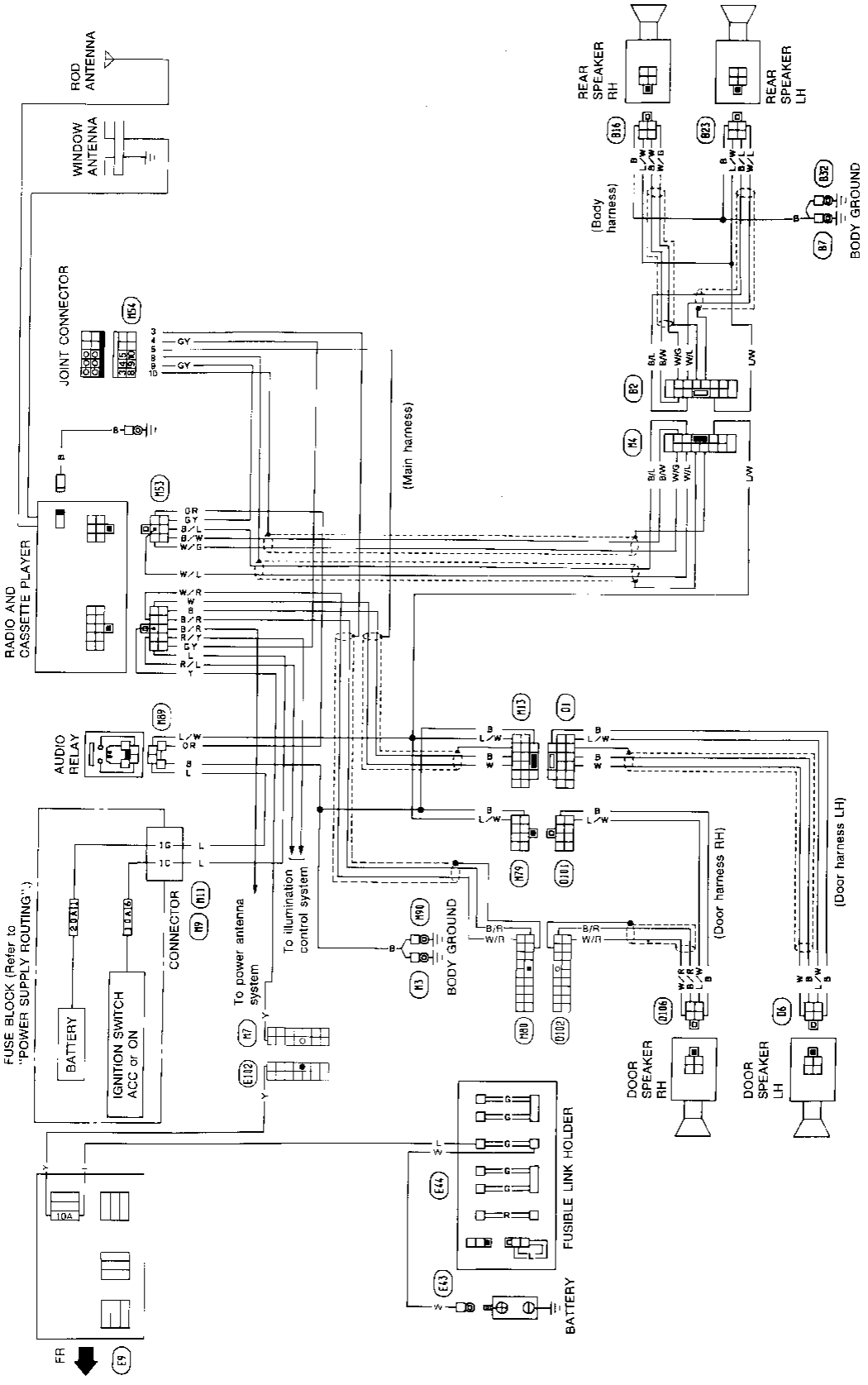
EXCEPT BOSE SYSTEM



MEL830C

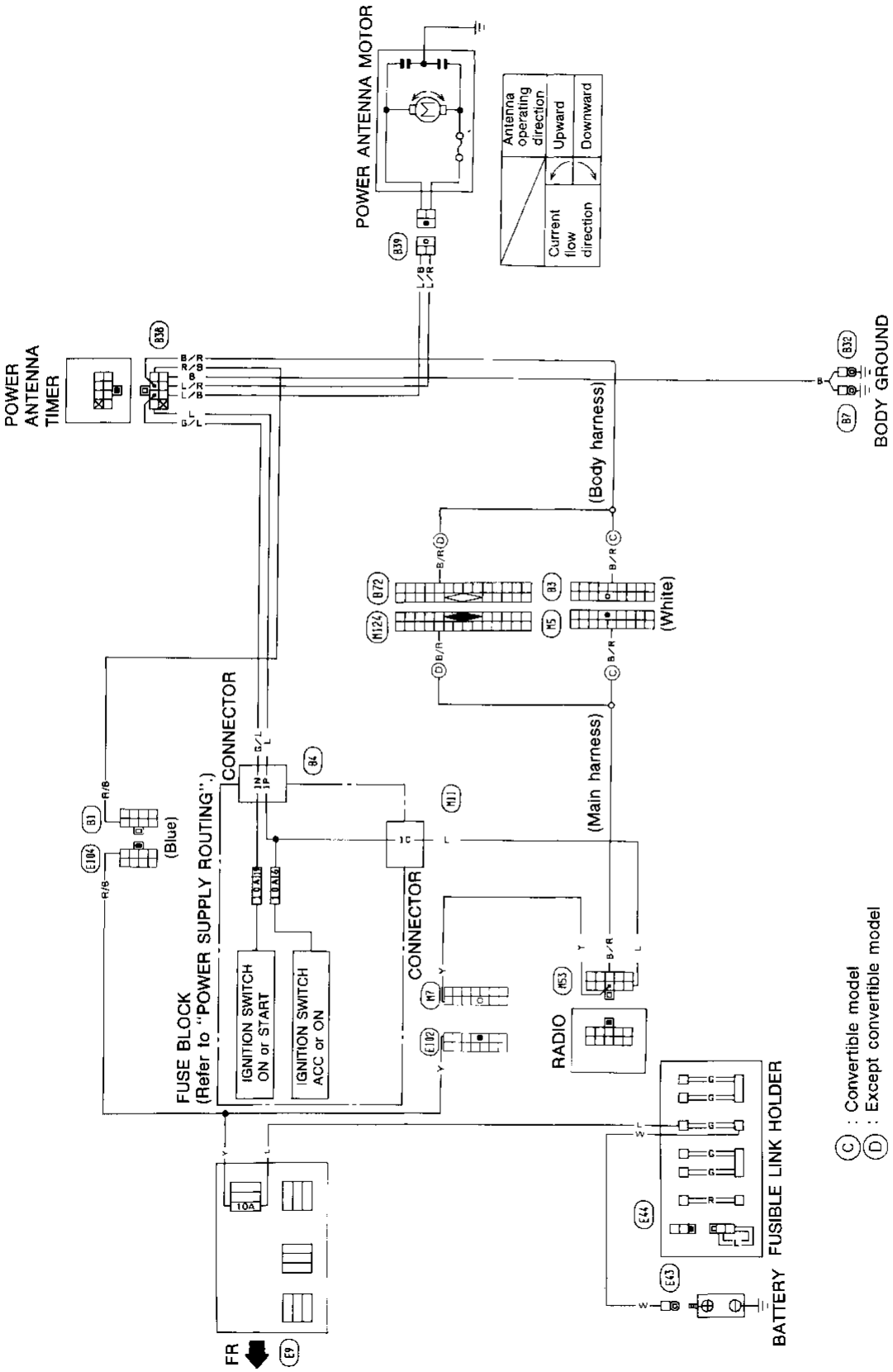
Audio/Wiring Diagram (Cont'd)

BOSE SYSTEM



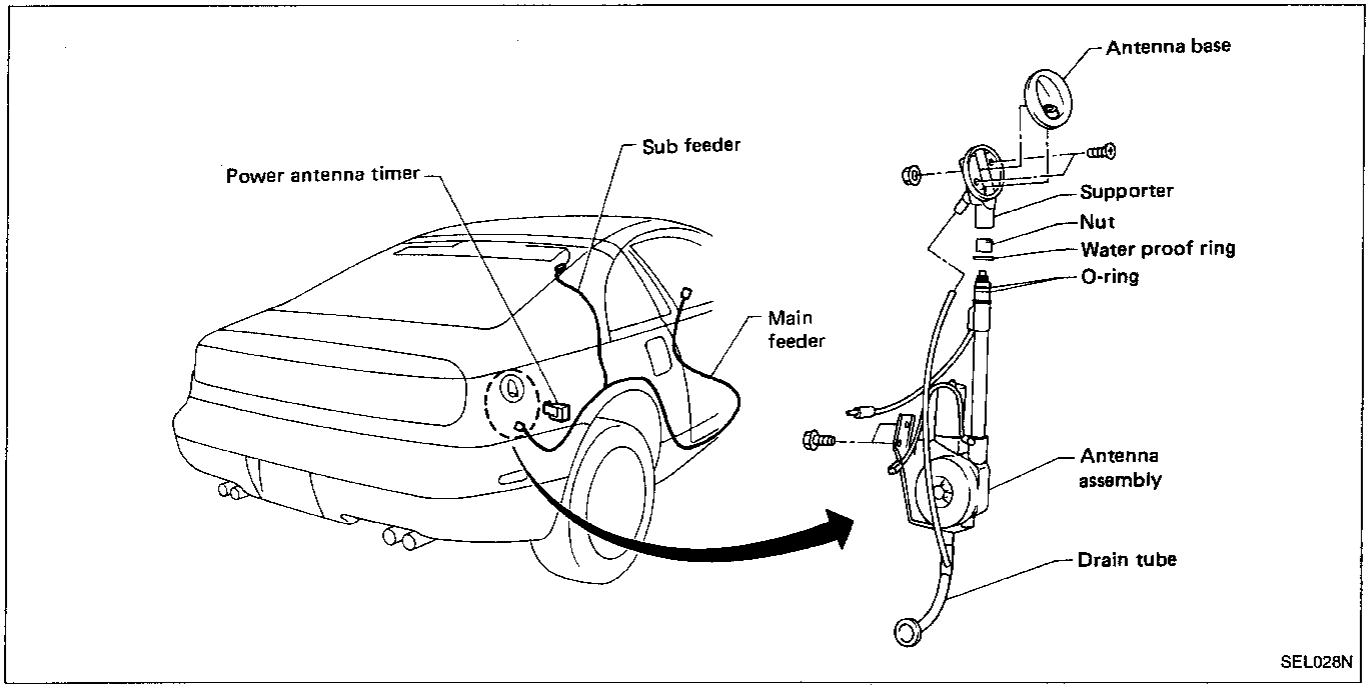
MEL831C

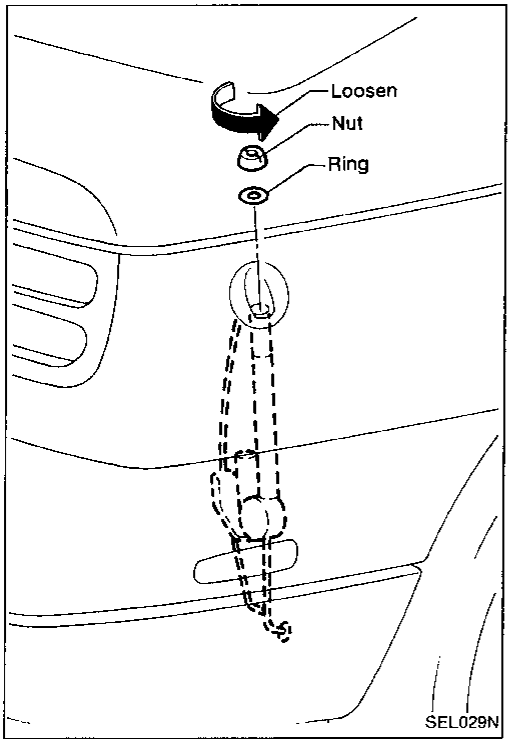
Power Antenna/Wiring Diagram



SEL884S

Location of Antenna

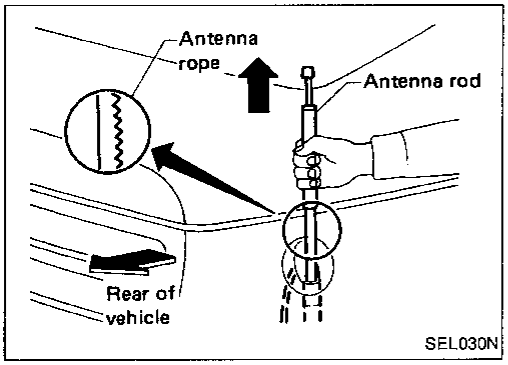




Antenna Rod Replacement

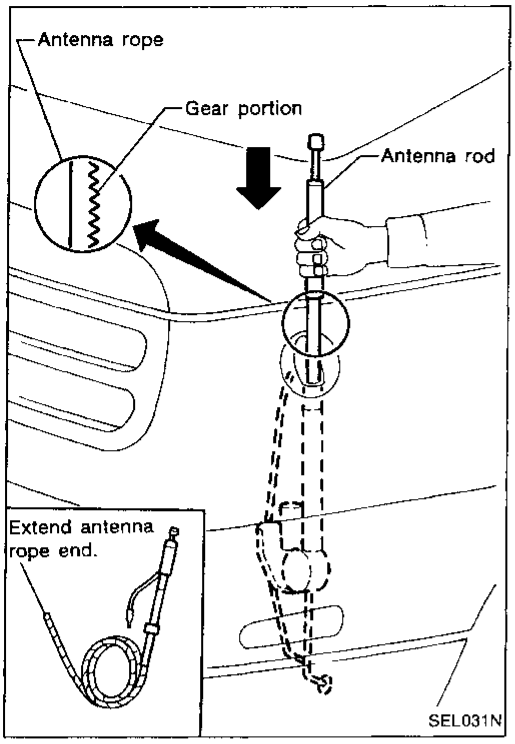
REMOVAL

1. Remove antenna nut and antenna base.



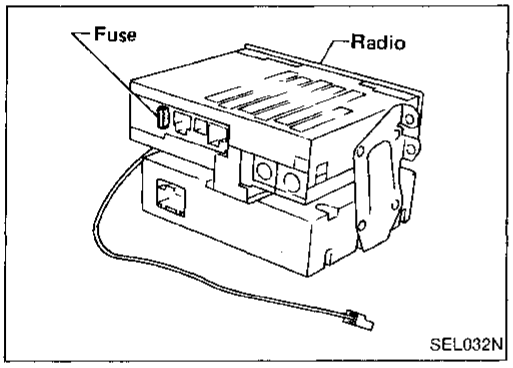
2. Withdraw antenna rod while raising it by operating antenna motor.

Antenna Rod Replacement (Cont'd)

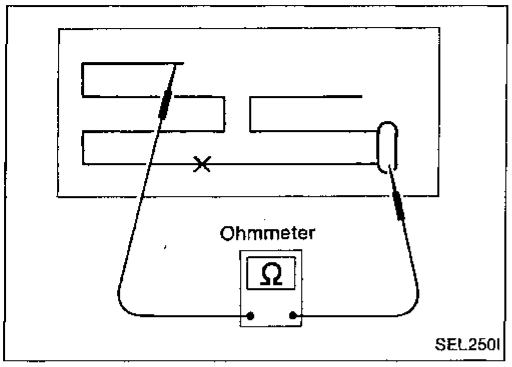


INSTALLATION

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.



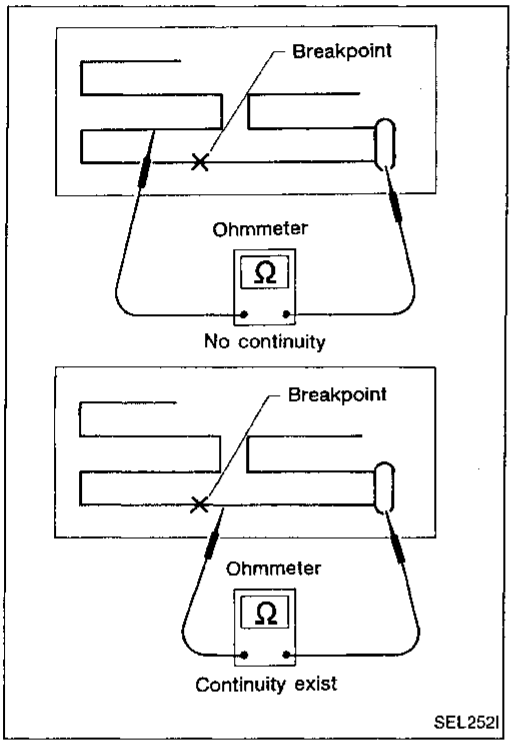
Radio Fuse Check



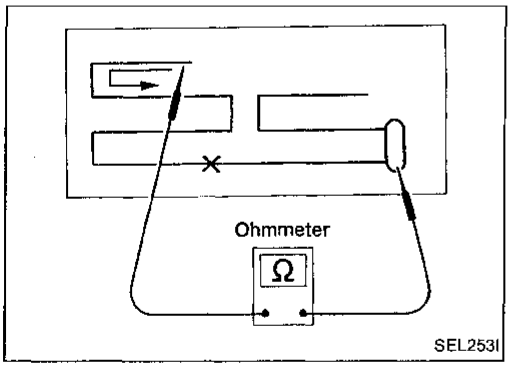
Window Antenna Repair

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.

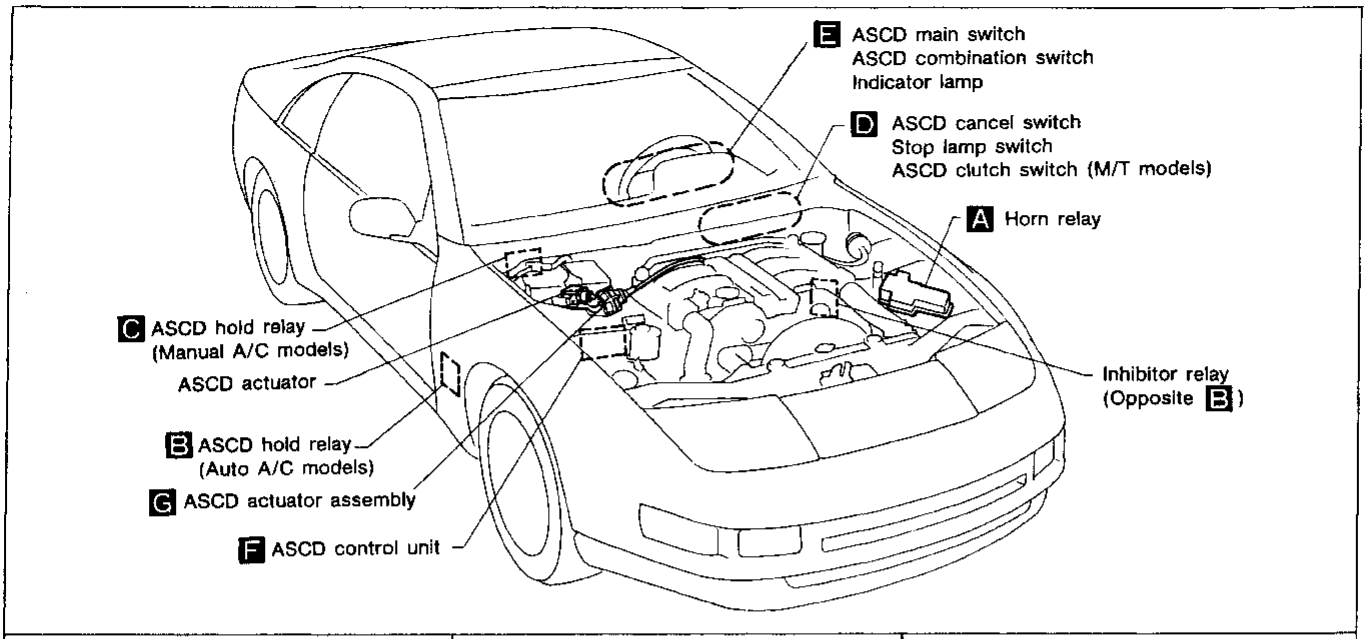


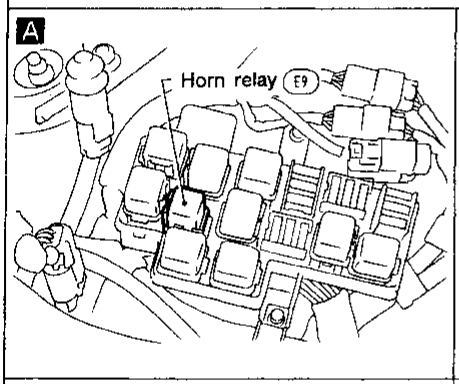
3. To locate broken point, move probe to left and right along element to determine point where tester needle swings abruptly.

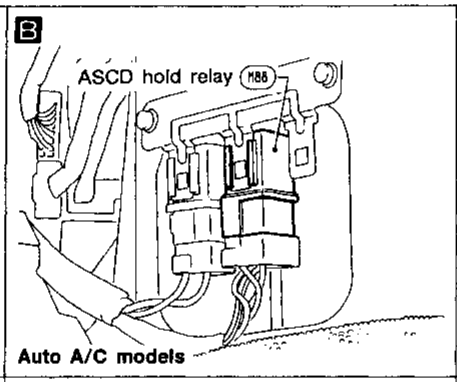
ELEMENT REPAIR

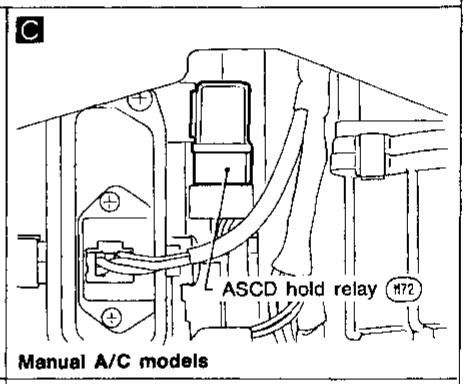
Refer to REAR WINDOW DEFOGGER "Filament Repair" (EL-71).

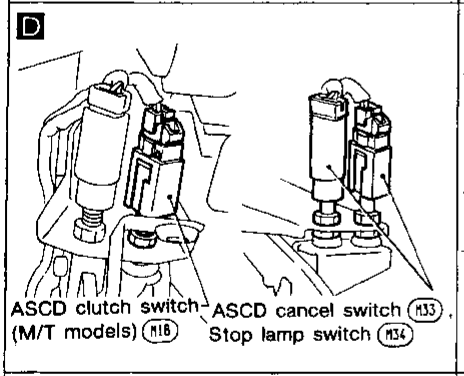
Component Parts and Harness Connector Location

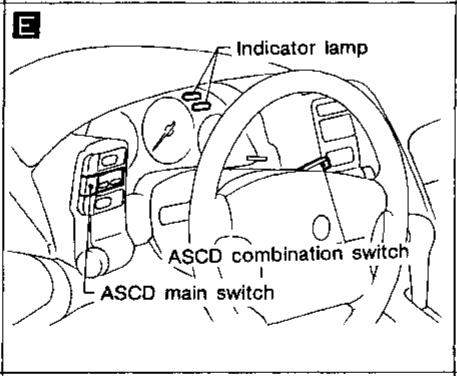


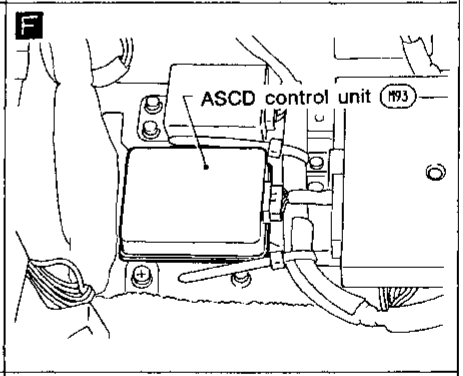


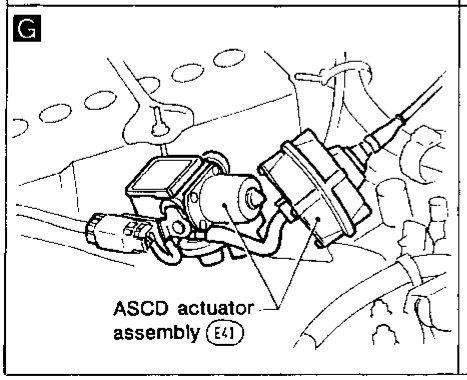






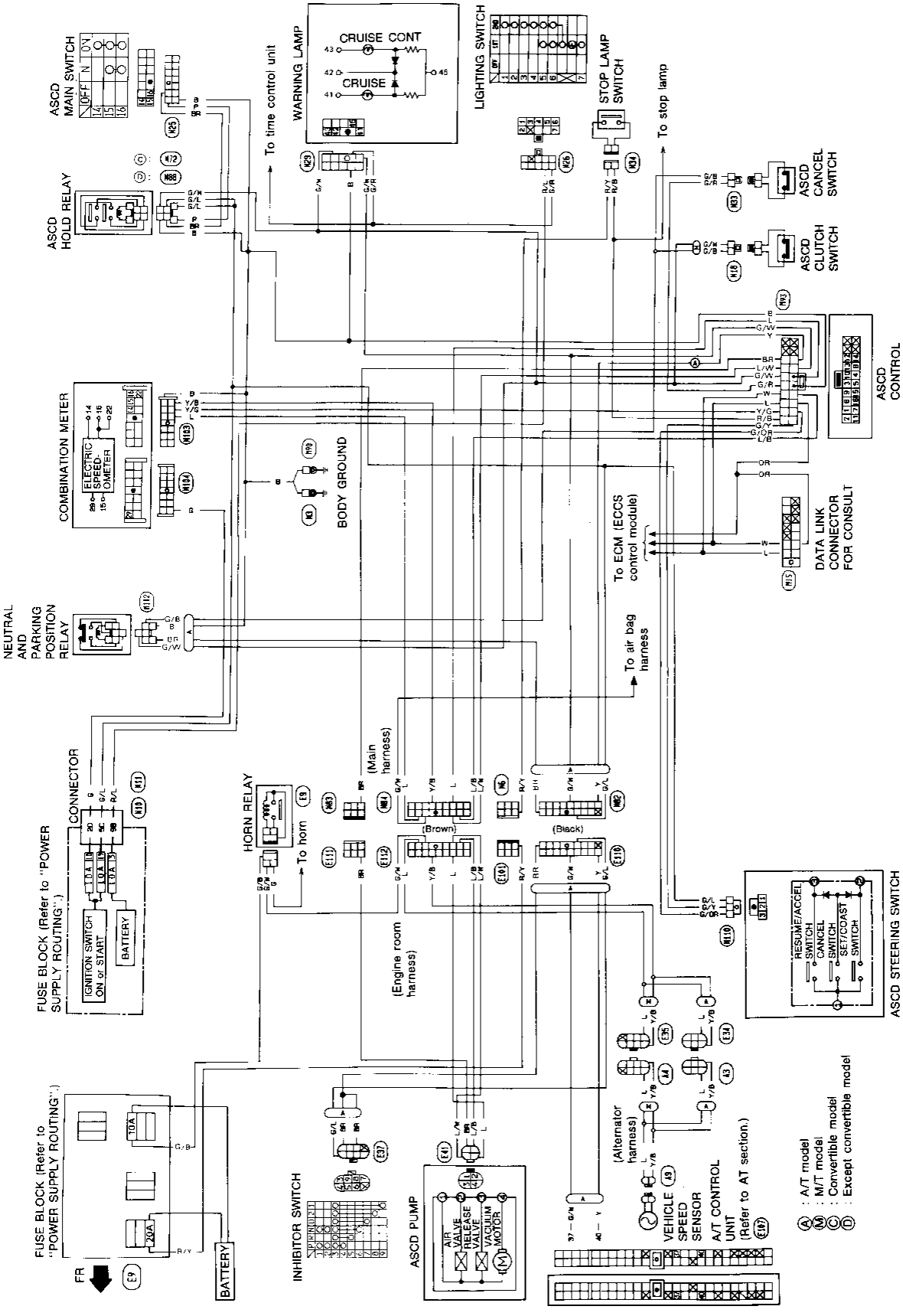




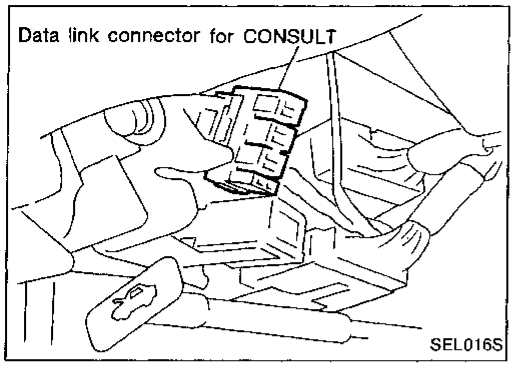


SEL078T

Wiring Diagram



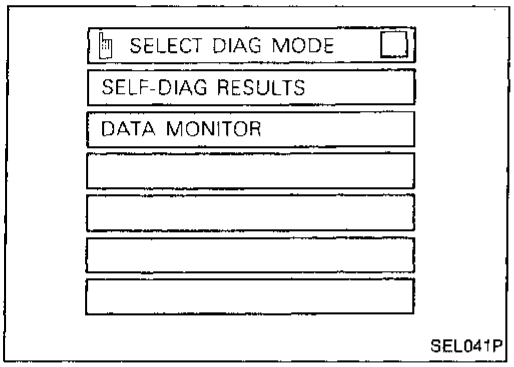
MEL832C



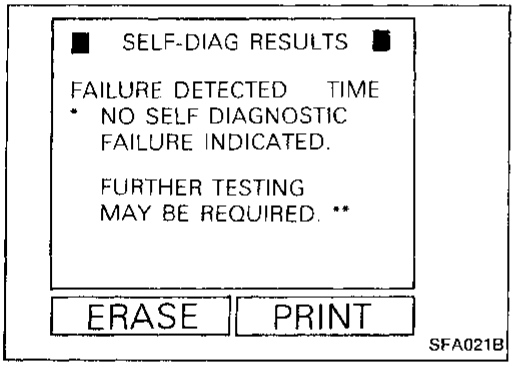
Trouble Diagnoses

CONSULT

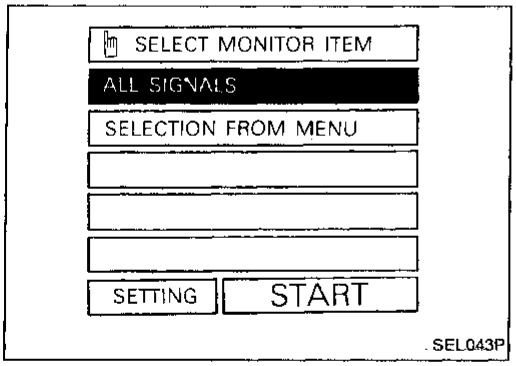
1. Turn off ignition switch.
2. Connect "CONSULT" to data link connector.



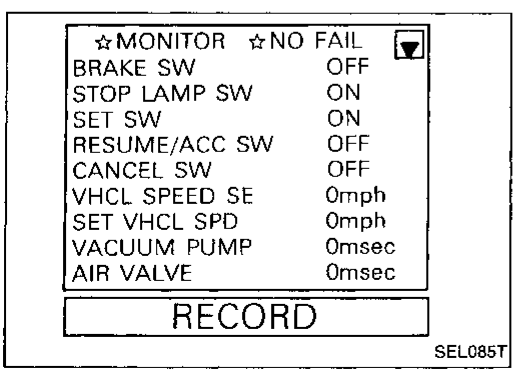
3. Turn on ignition switch.
4. Turn on ASCD main switch
5. Touch START (on CONSULT display).
6. Touch ASCD.
7. Touch SELF-DIAG RESULTS.



- 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.

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 fall-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.

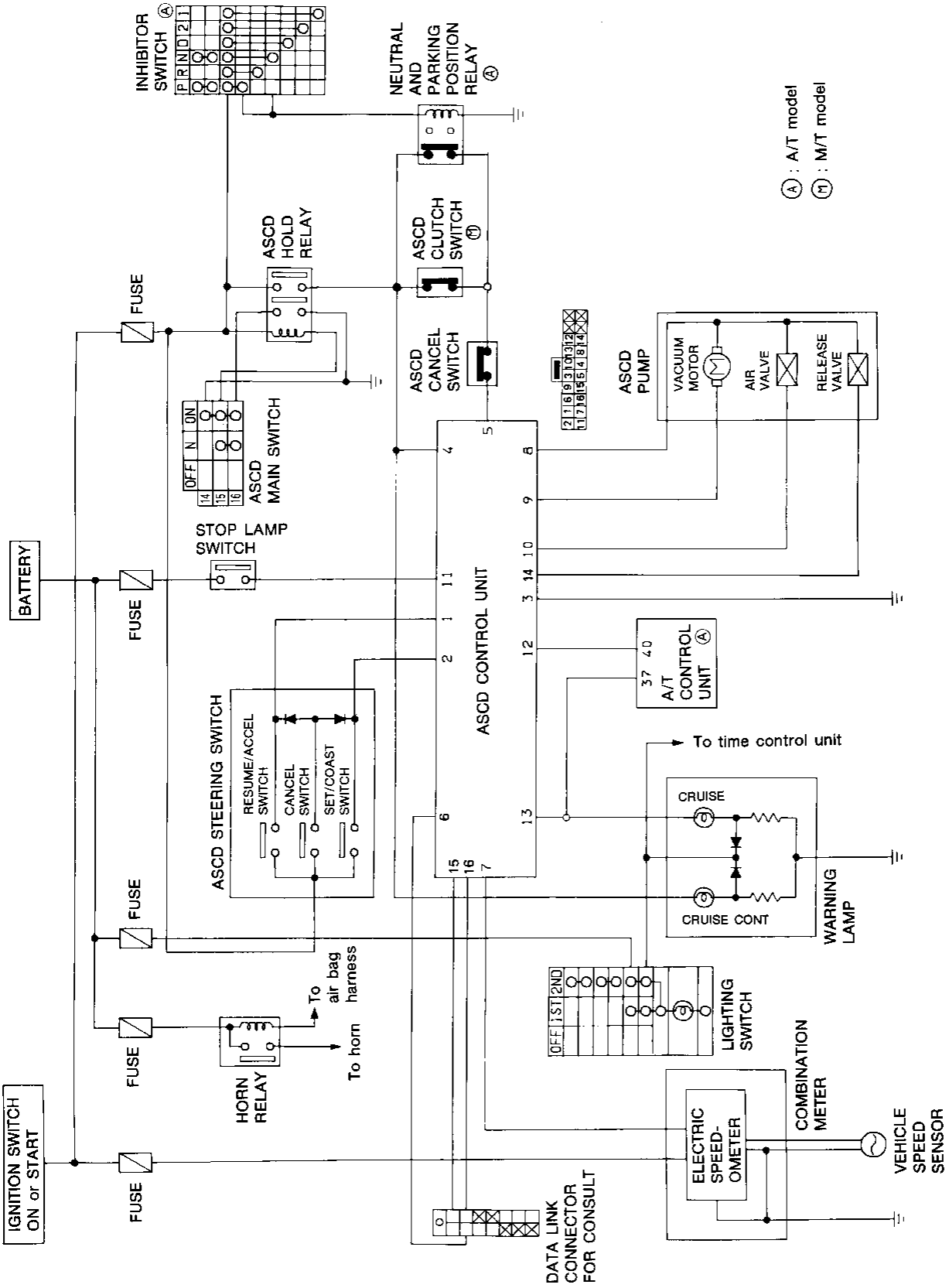
Trouble Diagnoses (Cont'd)

SYMPTOM CHART

PROCEDURE	Diagnostic Procedure								Electrical Components Inspection						
REFERENCE PAGE	EL-84	EL-87	EL-87	EL-88	EL-88	EL-90	EL-91	EL-93	EL-94	EL-95	EL-96	EL-96	EL-96	EL-96	EL-97
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	Inhibitor switch	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



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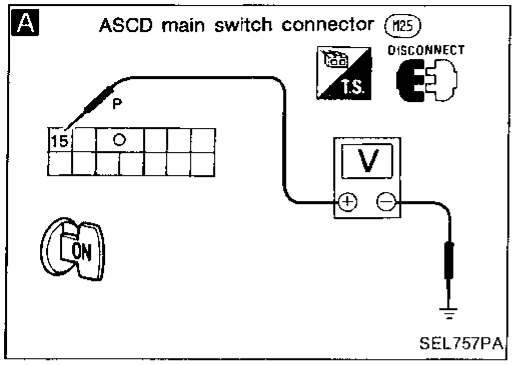
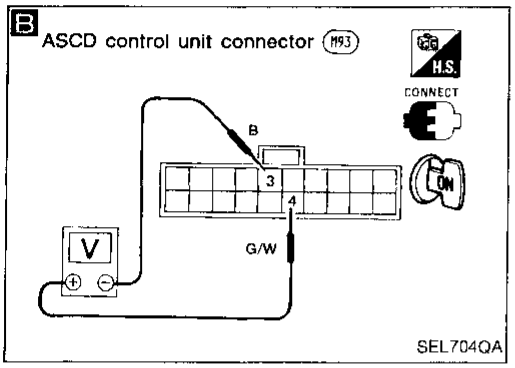
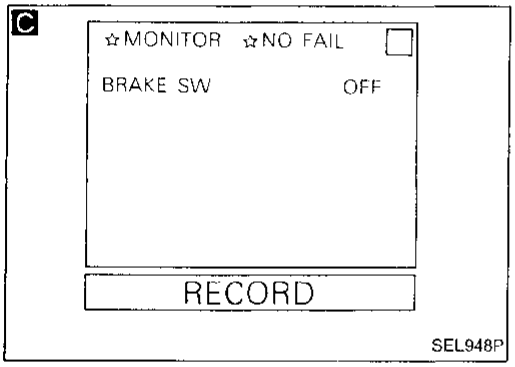
Trouble Diagnoses (Cont'd)

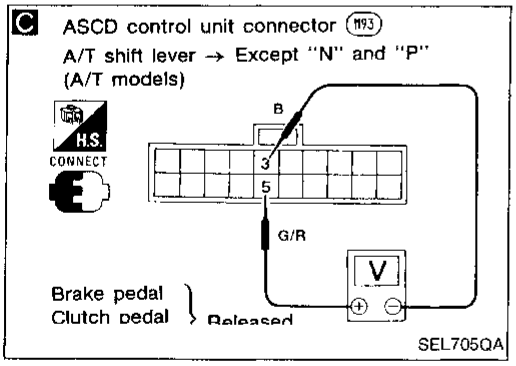
DIAGNOSTIC PROCEDURE 1

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-96).
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.

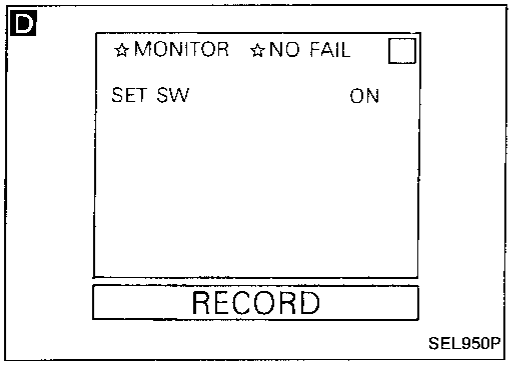
NG → CHECK ASCD CANCEL SWITCH, ASCD CLUTCH SWITCH (M/T models) AND INHIBITOR SWITCH (A/T models).
Refer to "Electrical Components Inspection" (EL-96).
CHECK INHIBITOR RELAY (A/T models).

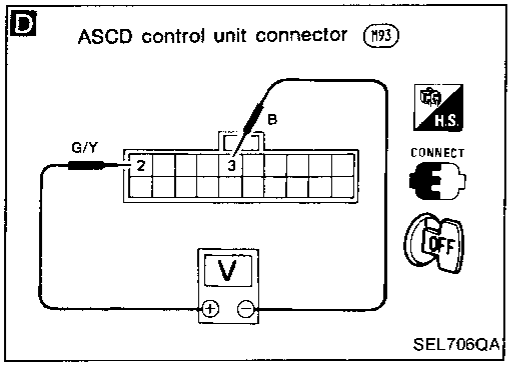
OK

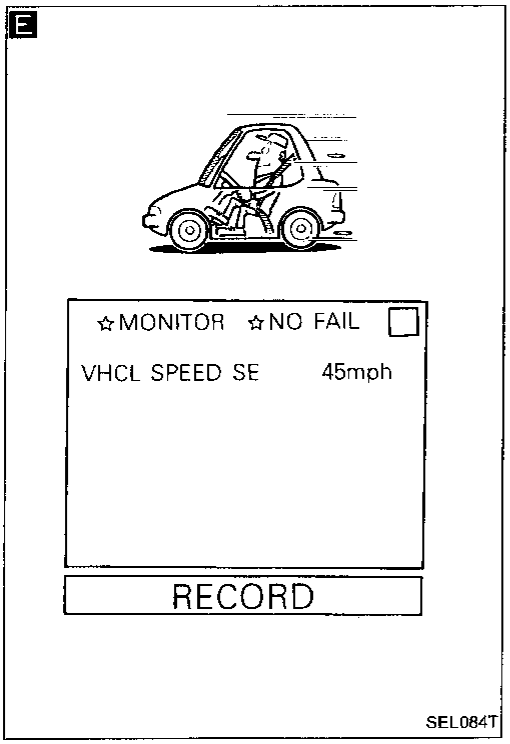
Ⓐ

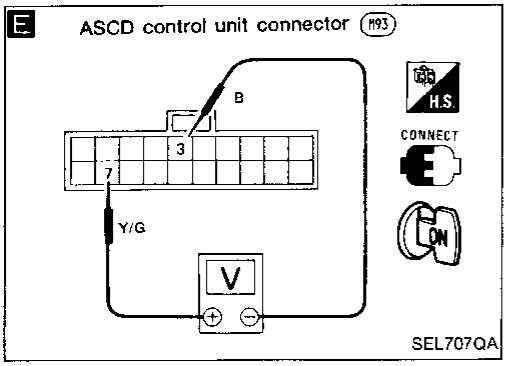
(Next page)

Trouble Diagnoses (Cont'd)









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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

OR

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

NG → Does horn work?

No → Check fuse and horn relay.

Yes → CHECK ASCD COMBINATION SWITCH.
Refer to "Electrical Components Inspection" (EL-96).

OK ↓

E

CHECK VEHICLE SPEED SENSOR CIRCUIT.

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

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.

NG → CHECK VEHICLE SPEED SENSOR.
Refer to "Electrical Components Inspection" (EL-97).

OK ↓

CHECK ASCD ACTUATOR/ASCD PUMP.
Refer to "Electrical Components Inspection" (EL-95).

NG → Replace ASCD actuator assembly.

OK ↓

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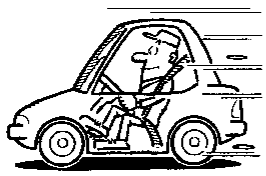
(Next page)

Trouble Diagnoses (Cont'd)

F



☆ MONITOR ☆ NO FAIL

PW SUP-VALVE ON

RECORD

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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

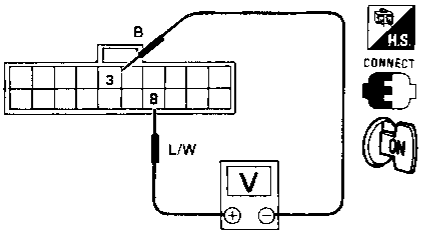
1. Check voltage between control unit harness terminals ⑧ and ③.

Voltage is 0V.

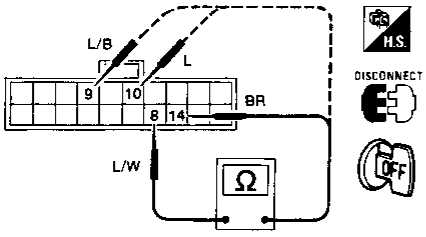
OK

F

ASCD control unit connector M93



ASCD control unit connector M93



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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

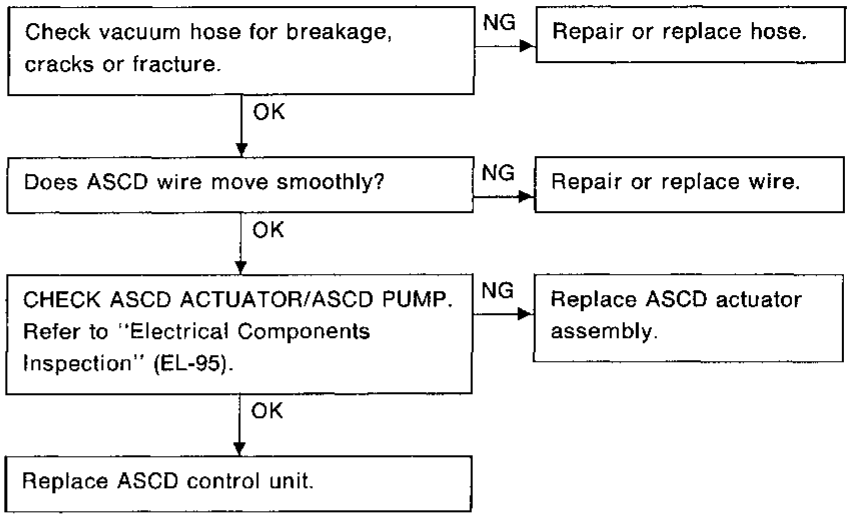
NG

Repair short or open circuit in ASCD actuator assembly.

Trouble Diagnoses (Cont'd)

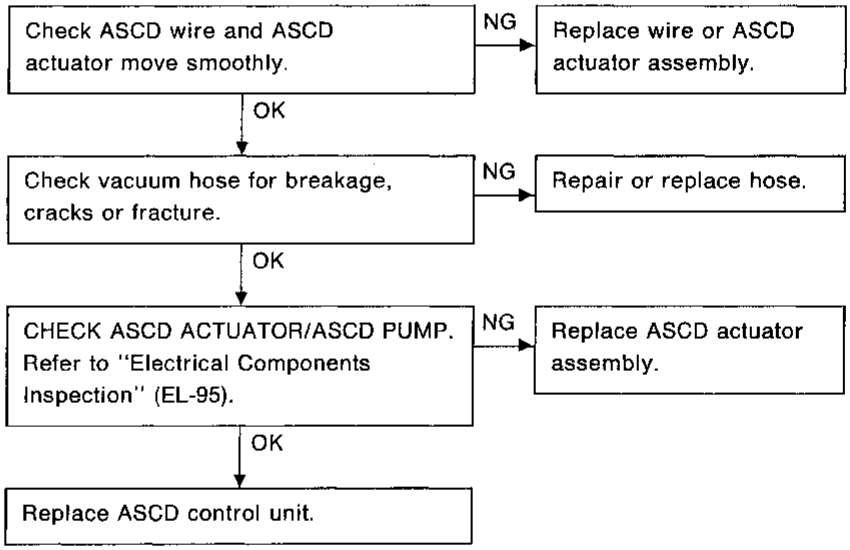
DIAGNOSTIC PROCEDURE 2

SYMPTOM: Engine hunts.



DIAGNOSTIC PROCEDURE 3

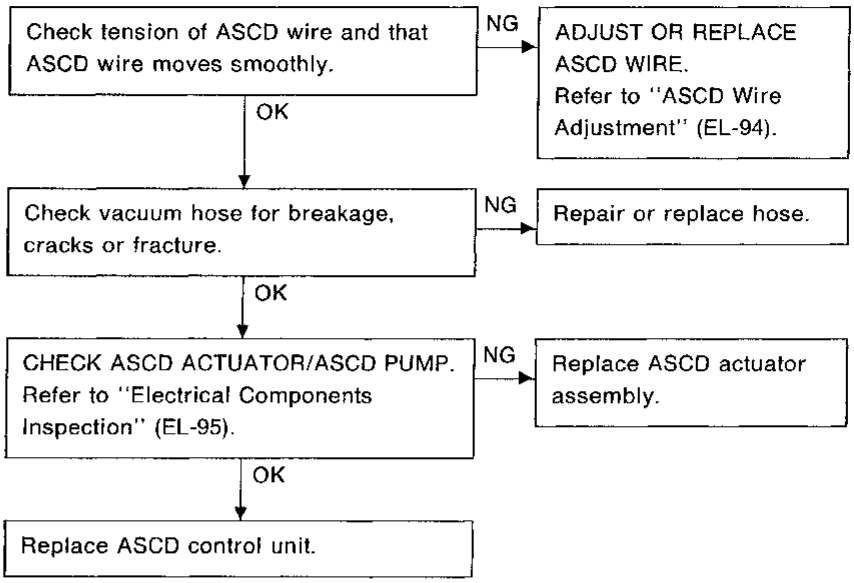
SYMPTOM: Large difference between set vehicle speed and actual speed.

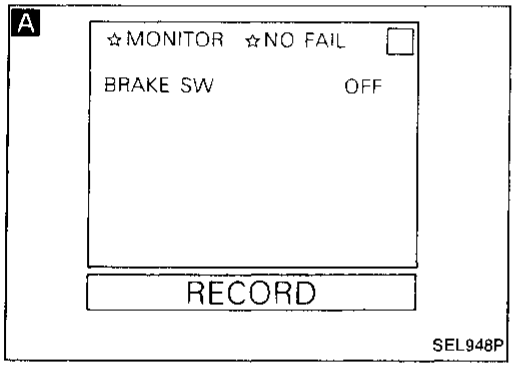


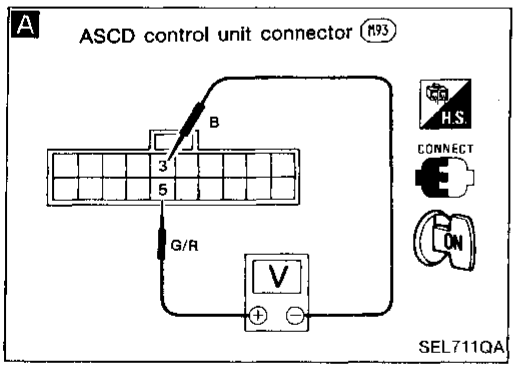
Trouble Diagnoses (Cont'd)

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-96).

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

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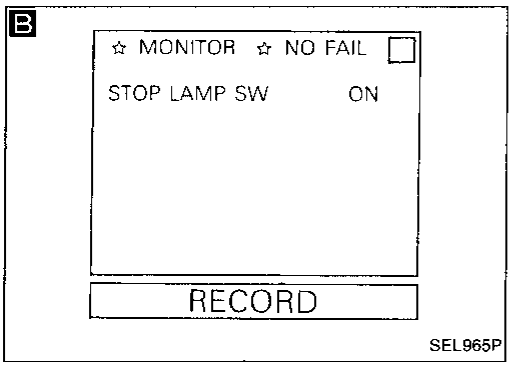
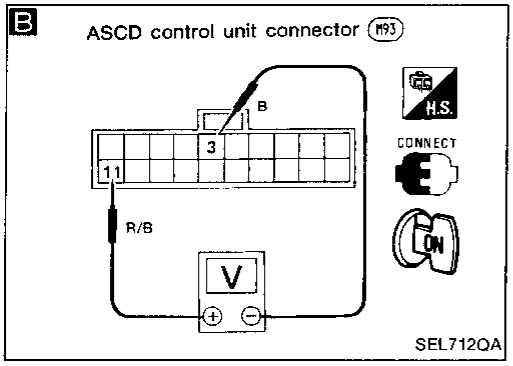
(Next page)

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-96).

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-95).
NG → Replace ASCD actuator assembly.

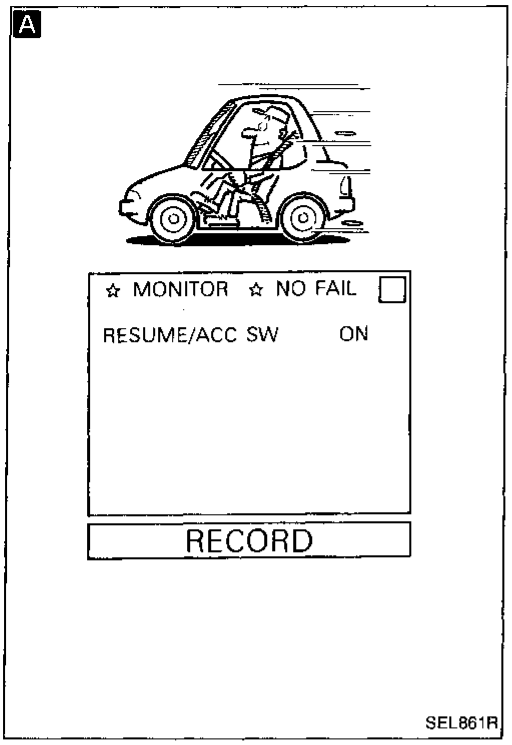
OK

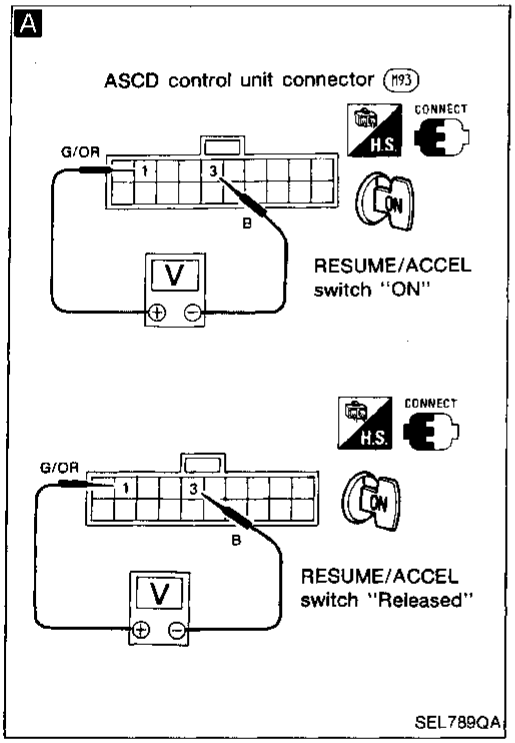
Replace ASCD control unit.

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-84).
- 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

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 COMBINATION SWITCH. Refer to "Electrical Components Inspection" (EL-96).
- NG → CHECK ASCD COMBINATION SWITCH. Refer to "Electrical Components Inspection" (EL-96).
- OK ↓

B

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

C

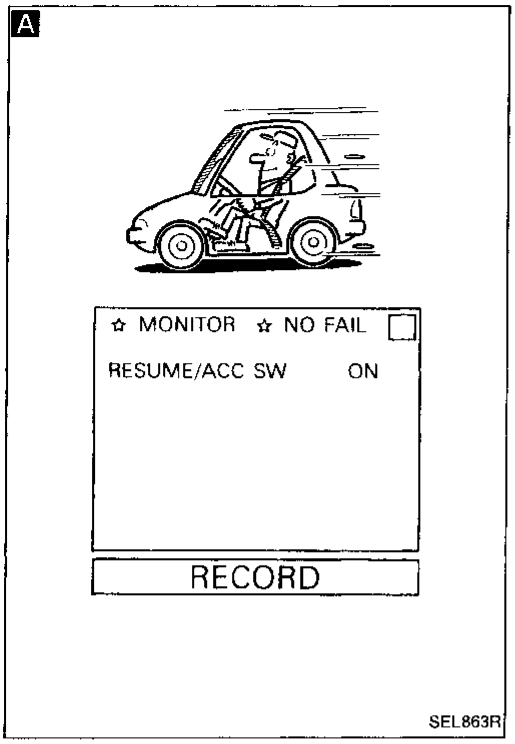
Does vehicle maintain the new (faster) speed when RESUME/ACCEL switch is released?
- No → Replace control unit.
- Yes ↓

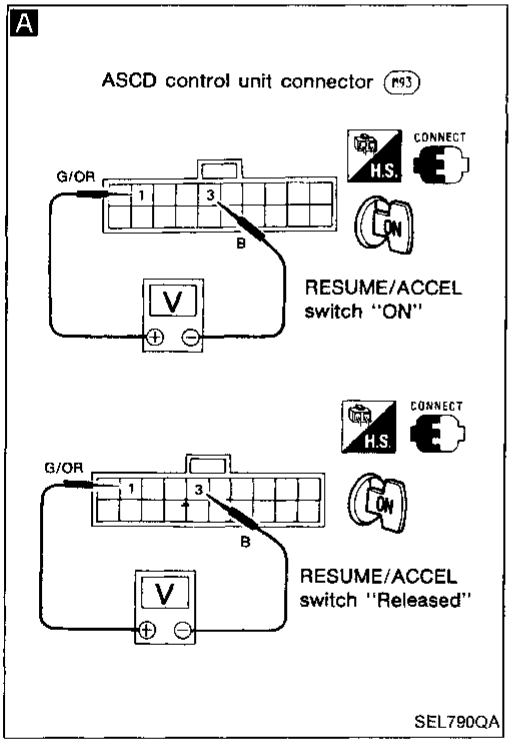
System is OK.

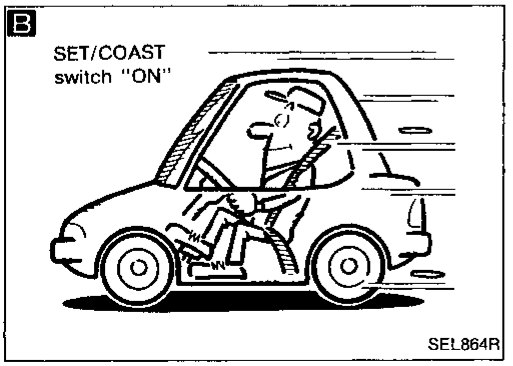
Trouble Diagnoses (Cont'd)

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-84).

OK ↓

A

CHECK RESUME/ACCEL SWITCH CIRCUIT.

NG → CHECK ASCD COMBINATION SWITCH.
Refer to "Electrical Components Inspection" (EL-96).

See "RESUME/ACC SW" in "Data monitor" mode.
RESUME/ACC SW
When switch is pressed: ON
When switch is released: OFF

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 ↓

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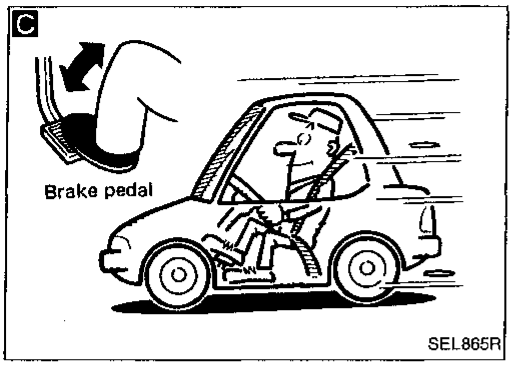
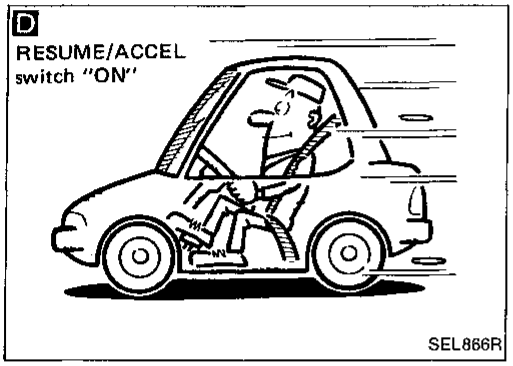
(Next page)

Trouble Diagnoses (Cont'd)





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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-96).

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-95).

NG → Replace ASCD actuator assembly.

OK → A

A

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.

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

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

OK → Replace ASCD control unit.

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

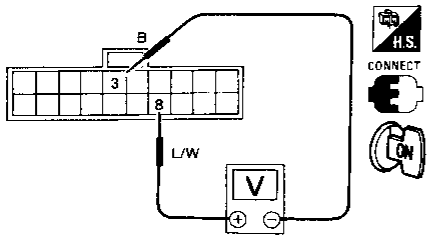
No → CHECK ASCD COMBINATION SWITCH. Refer to "Electrical Components Inspection" (EL-96).

NG → Replace ASCD combination switch.

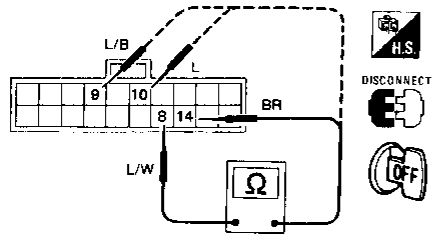
OK → Replace control unit.

A

ASCD control unit connector (M93)



ASCD control unit connector (M93)



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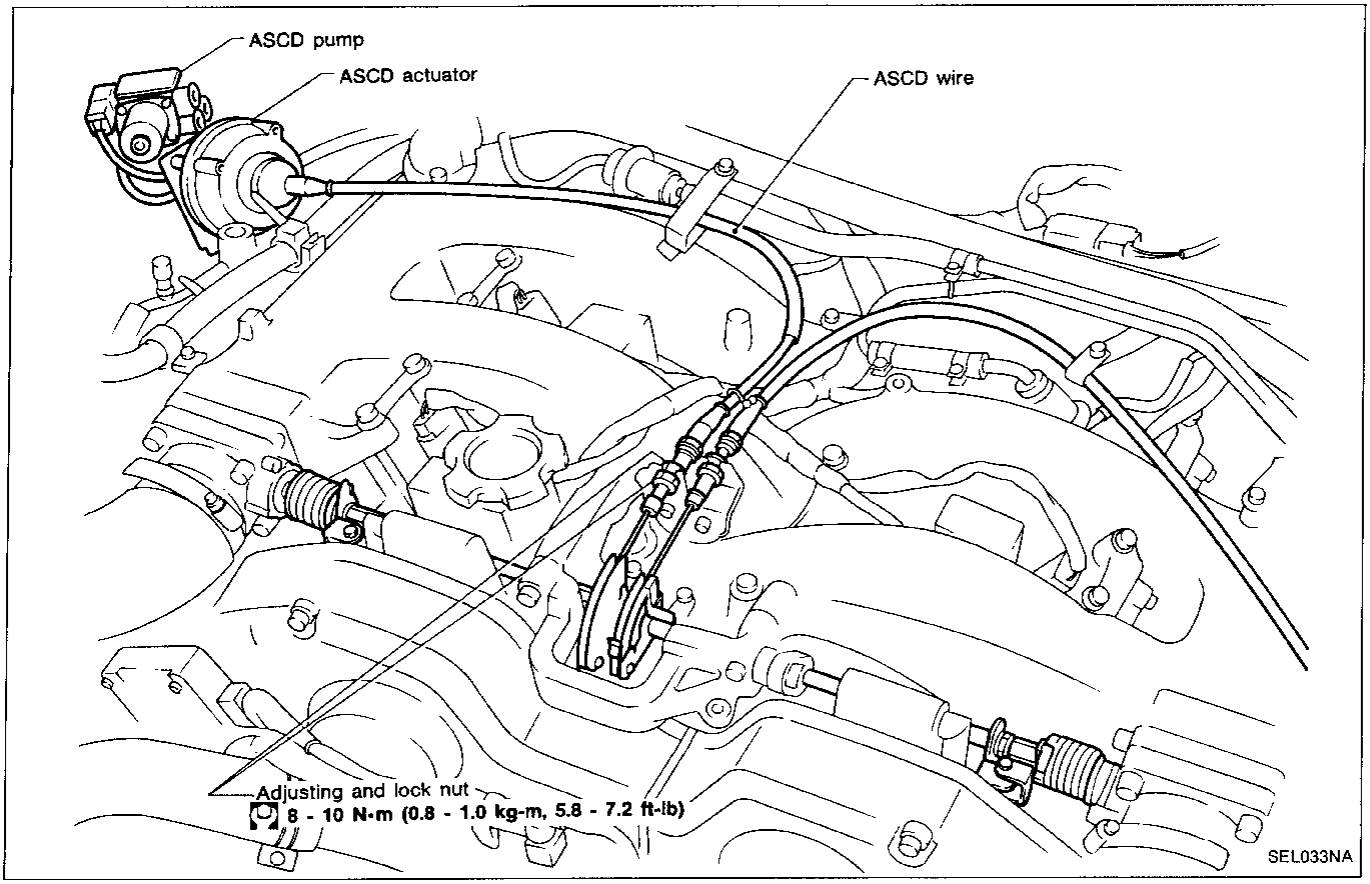
GI MA EM LC EF & EC FE CL MT AT PD FA RA BR ST BF HA EL IDX

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.

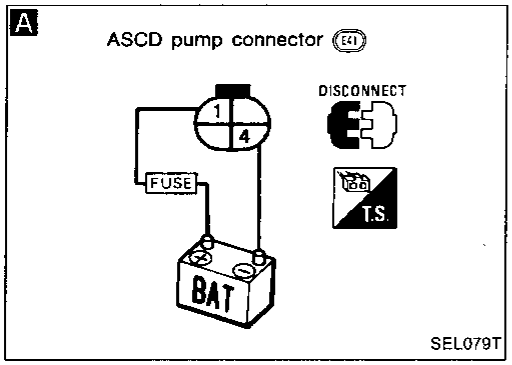
Trouble Diagnoses (Cont'd)

ELECTRICAL COMPONENTS INSPECTION

ASCD actuator/ASCD pump

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

A



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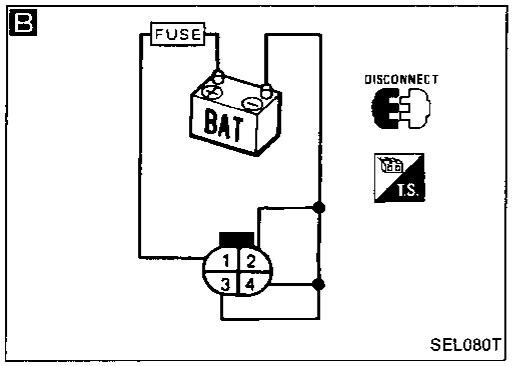

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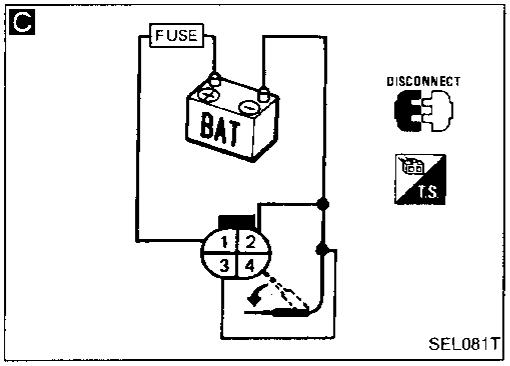
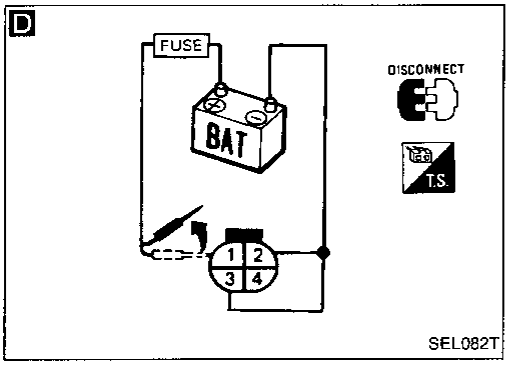


SEL081T

D



SEL082T

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 → (to Replace ASCD actuator assembly.)
OK (Wire is pulled.) ↓

C

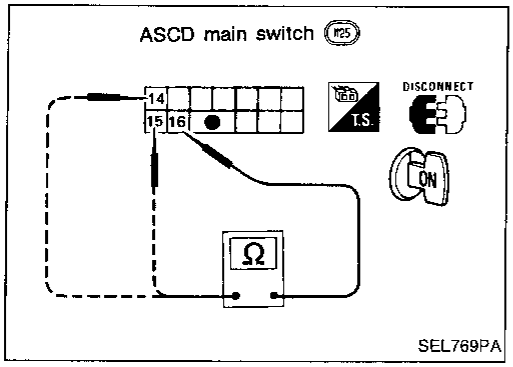
Check to see if ASCD wire returns to original position 50 to 60 seconds after disconnecting lead from ④.
NG → Replace ASCD actuator assembly.
OK (Wire does not return.) ↓

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.

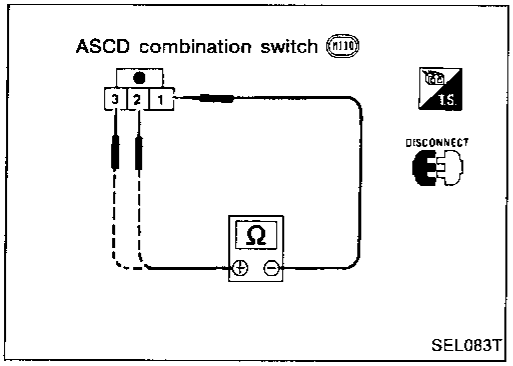
Trouble Diagnoses (Cont'd)



ASCD main switch

Check continuity between terminals by pushing switch to each position.

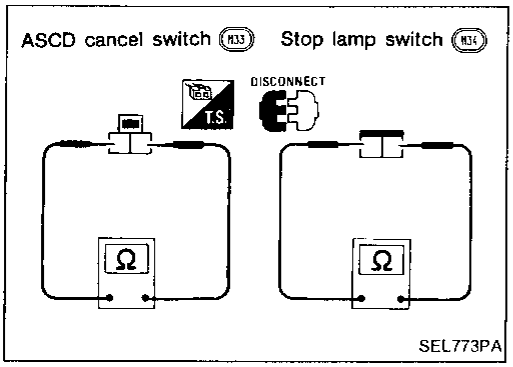
Switch position	Terminals		
	14	15	16
ON	○	○	○
N		○	○
OFF			



ASCD combination switch

Check continuity between terminals by turning lever.

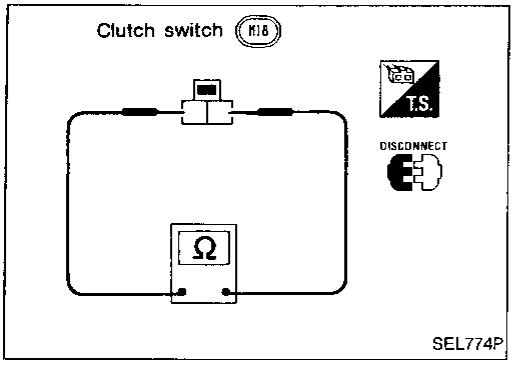
Lever	Terminals		
	1	2	3
SET/COAST	○	○	
RESUME/ACCEL	○		○
CANCEL	○	▶|○	
	○	▶	○



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

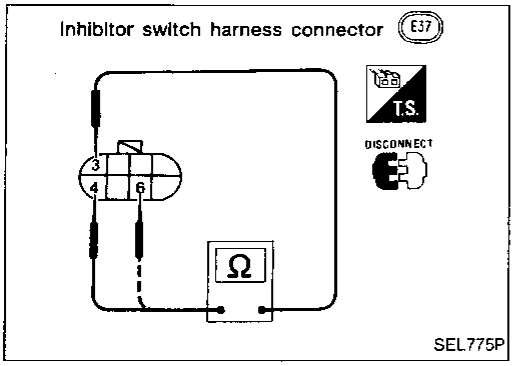
Check each switch after adjusting brake pedal — refer to BR section.



Clutch switch (For M/T models)

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

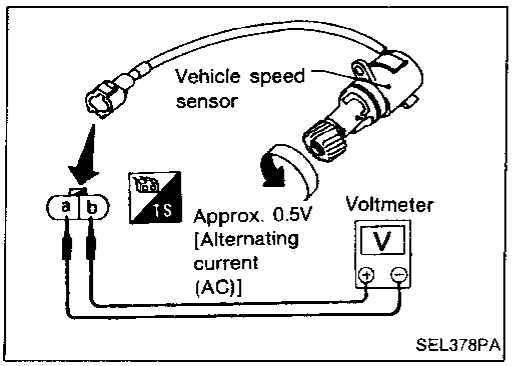
Check switch after adjusting clutch pedal — refer to CL section.



Inhibitor switch (For A/T models)

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

Trouble Diagnoses (Cont'd)

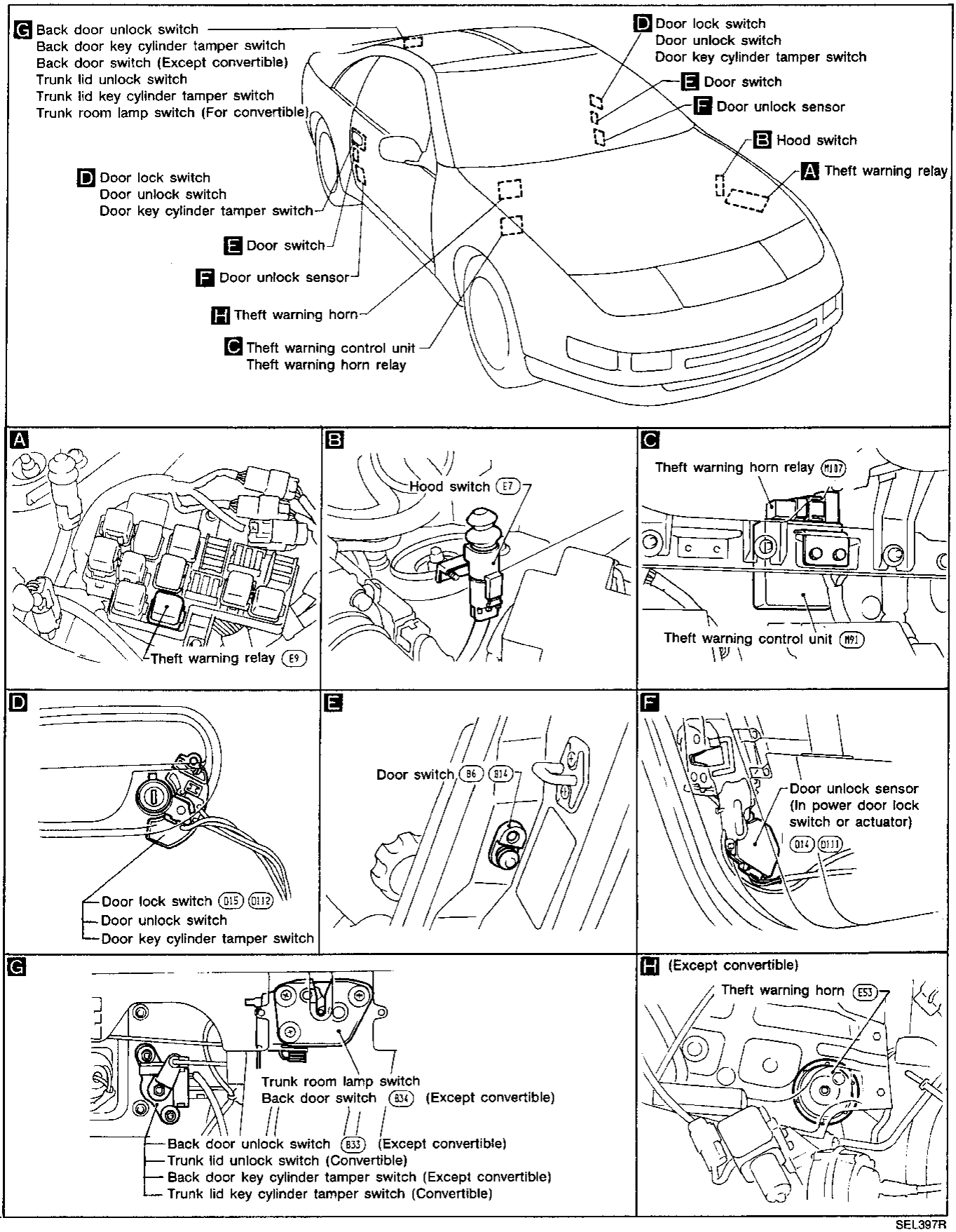


Vehicle speed sensor

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

NOTE

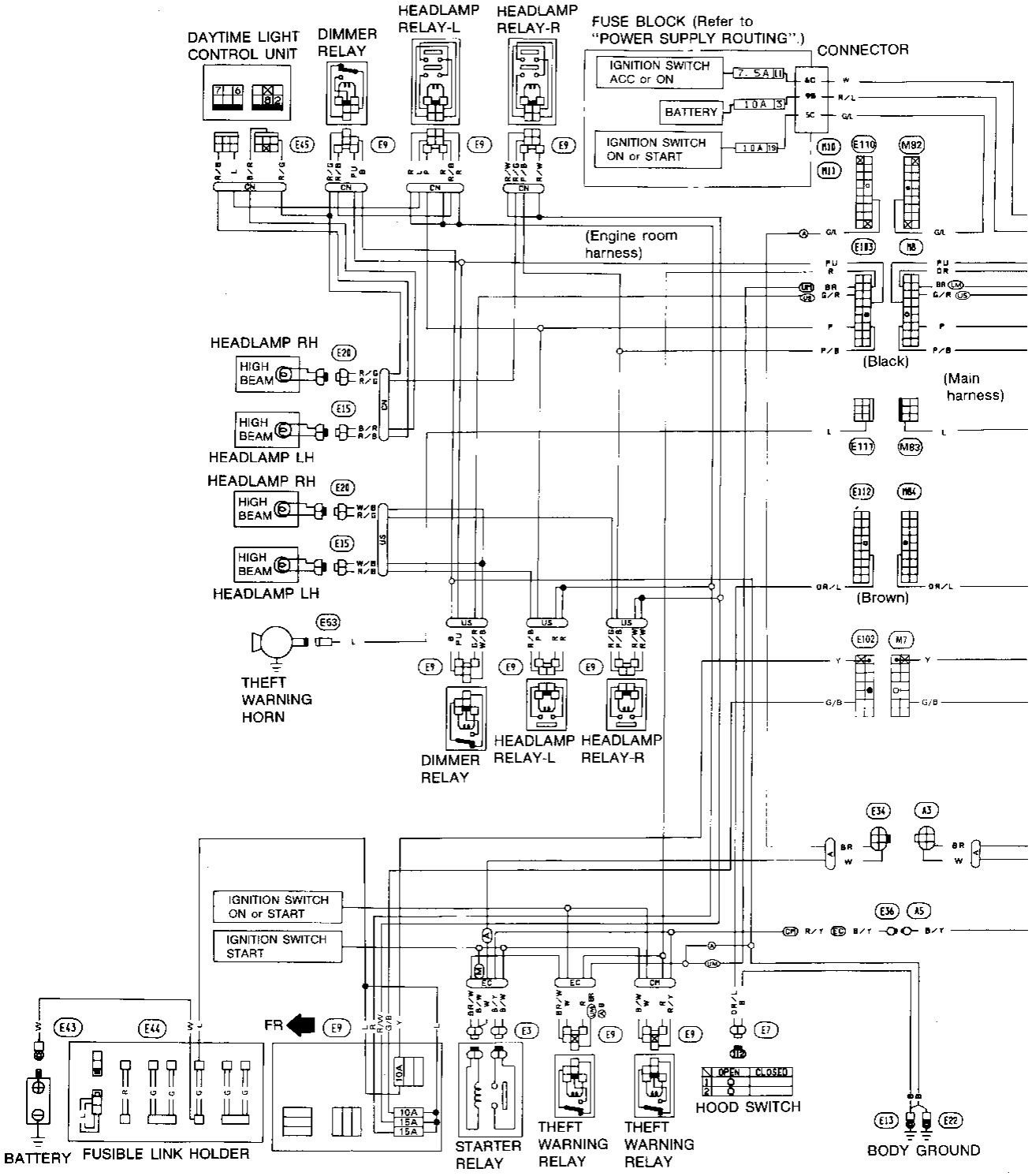
Component Parts and Harness Connector Location



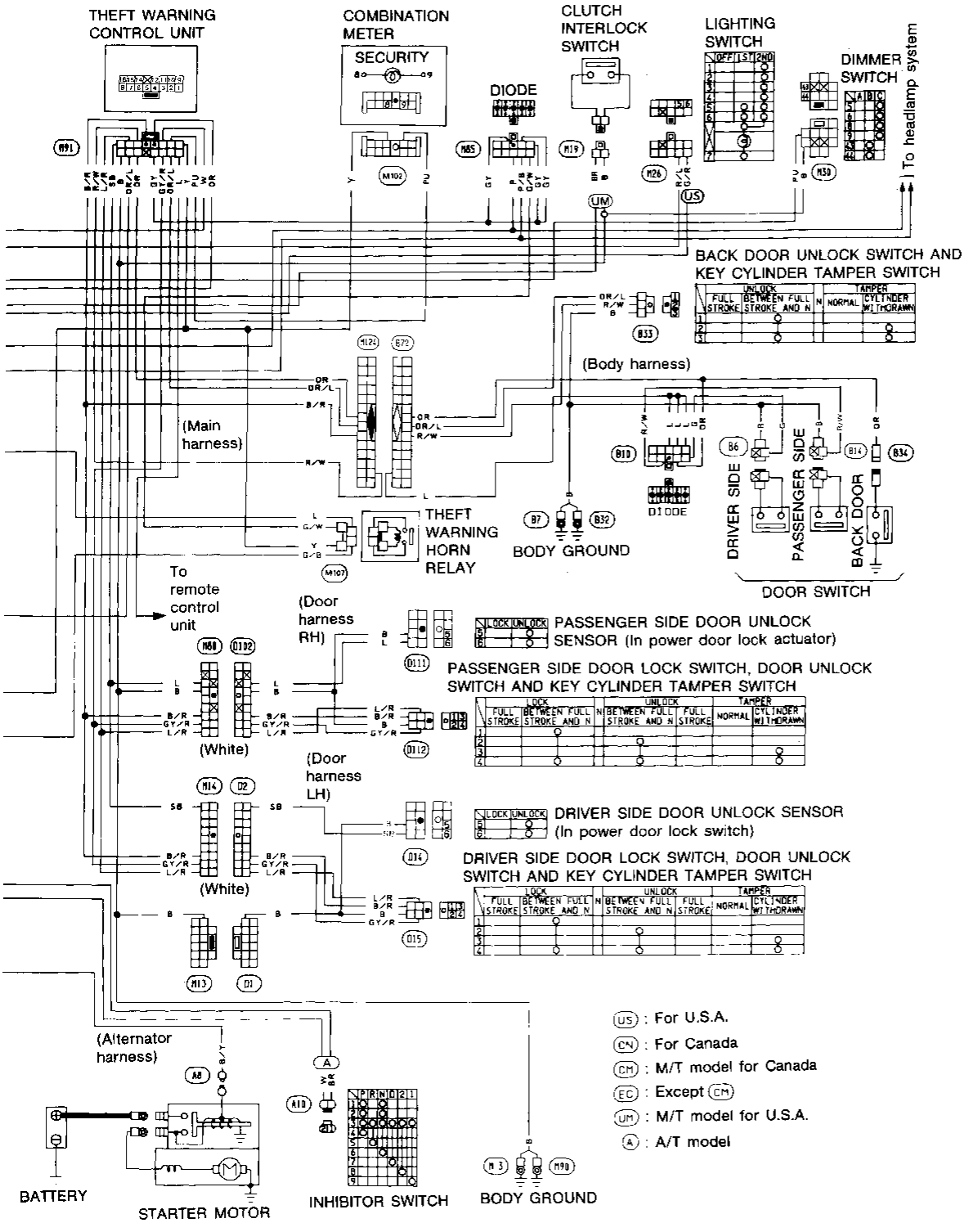
SEL397R

Wiring Diagram

2 SEATER AND 2+2



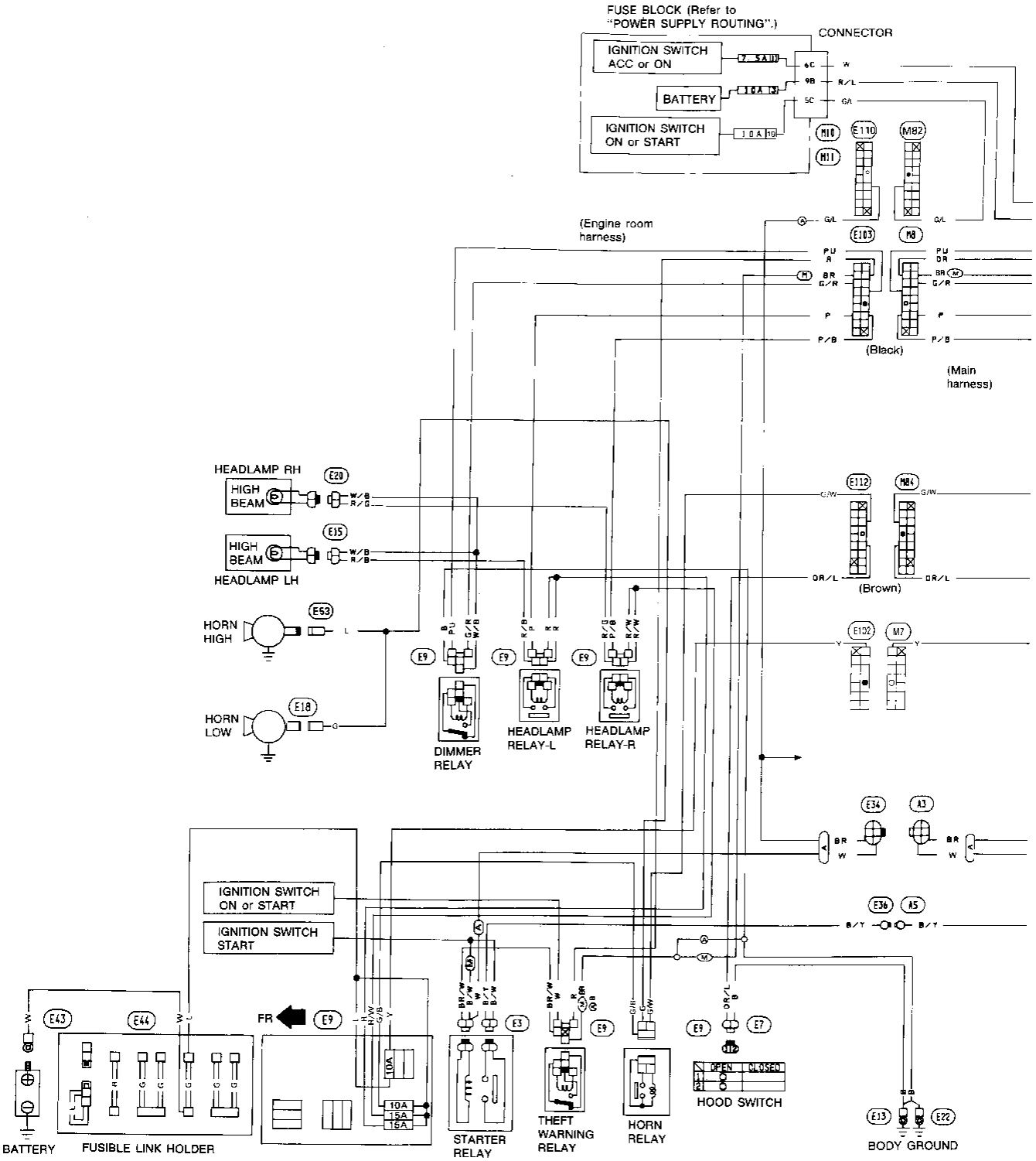
Wiring Diagram (Cont'd)



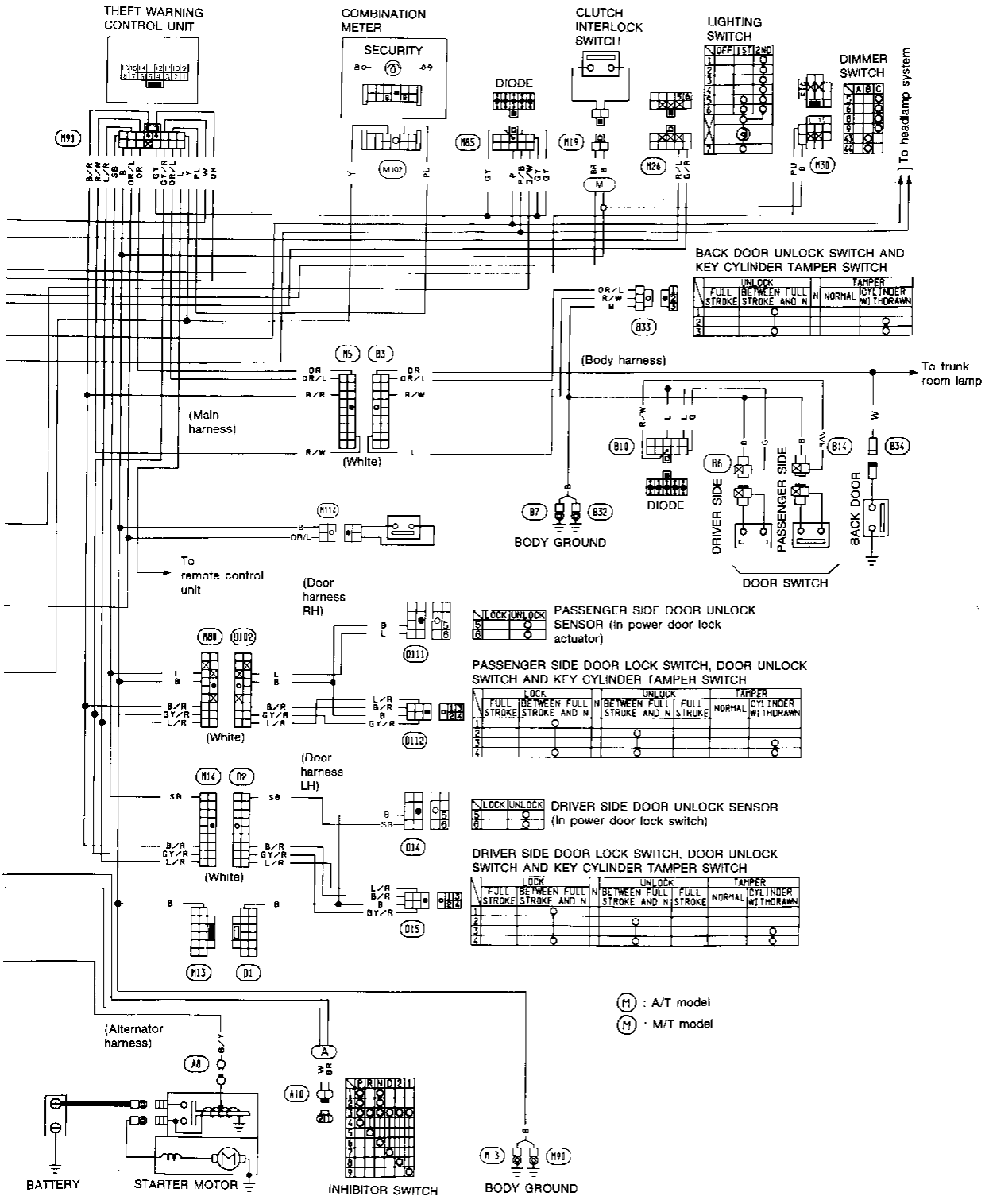
SEL886S

Wiring Diagram (Cont'd)

CONVERTIBLE



Wiring Diagram (Cont'd)

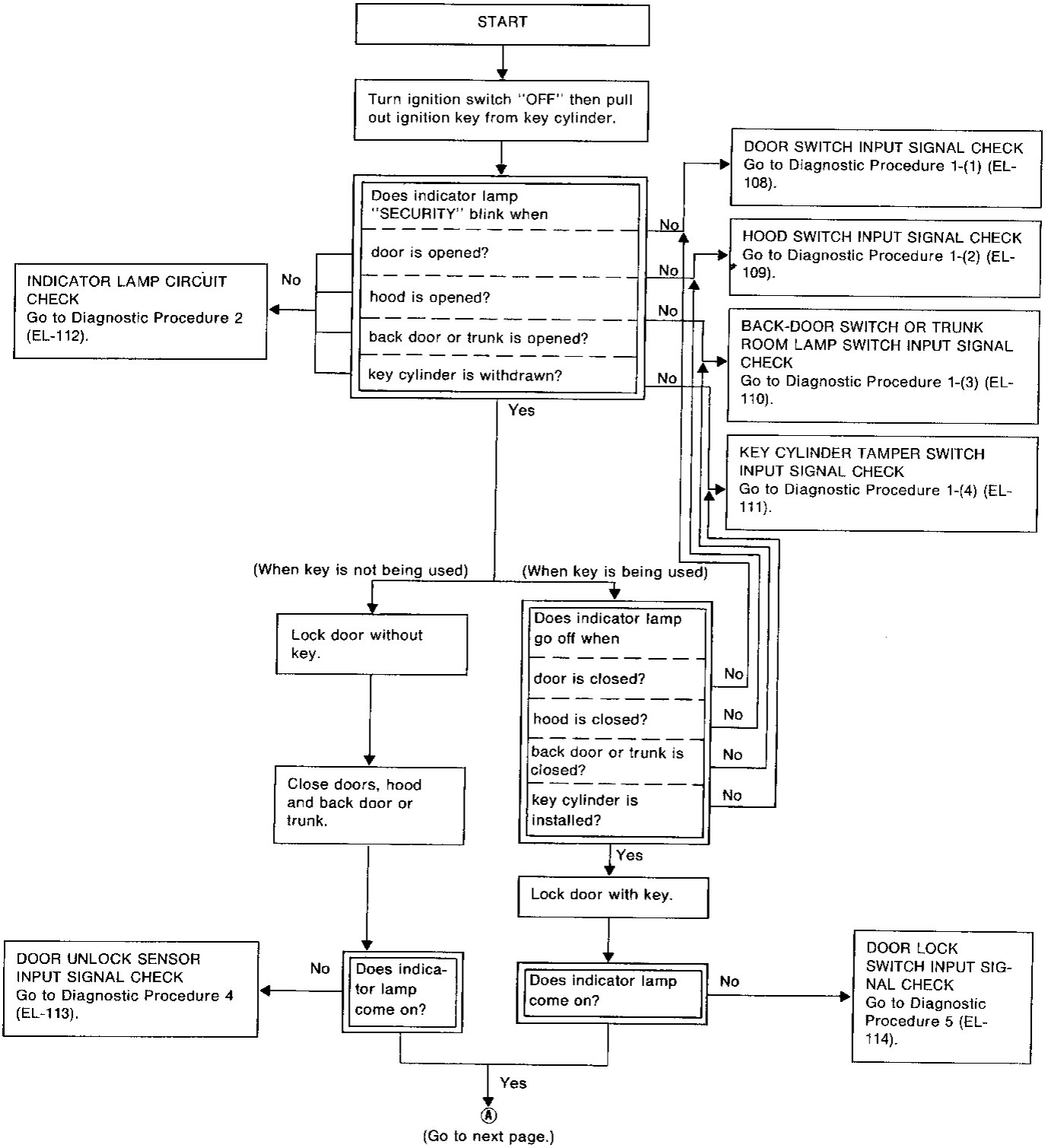


SEL867S

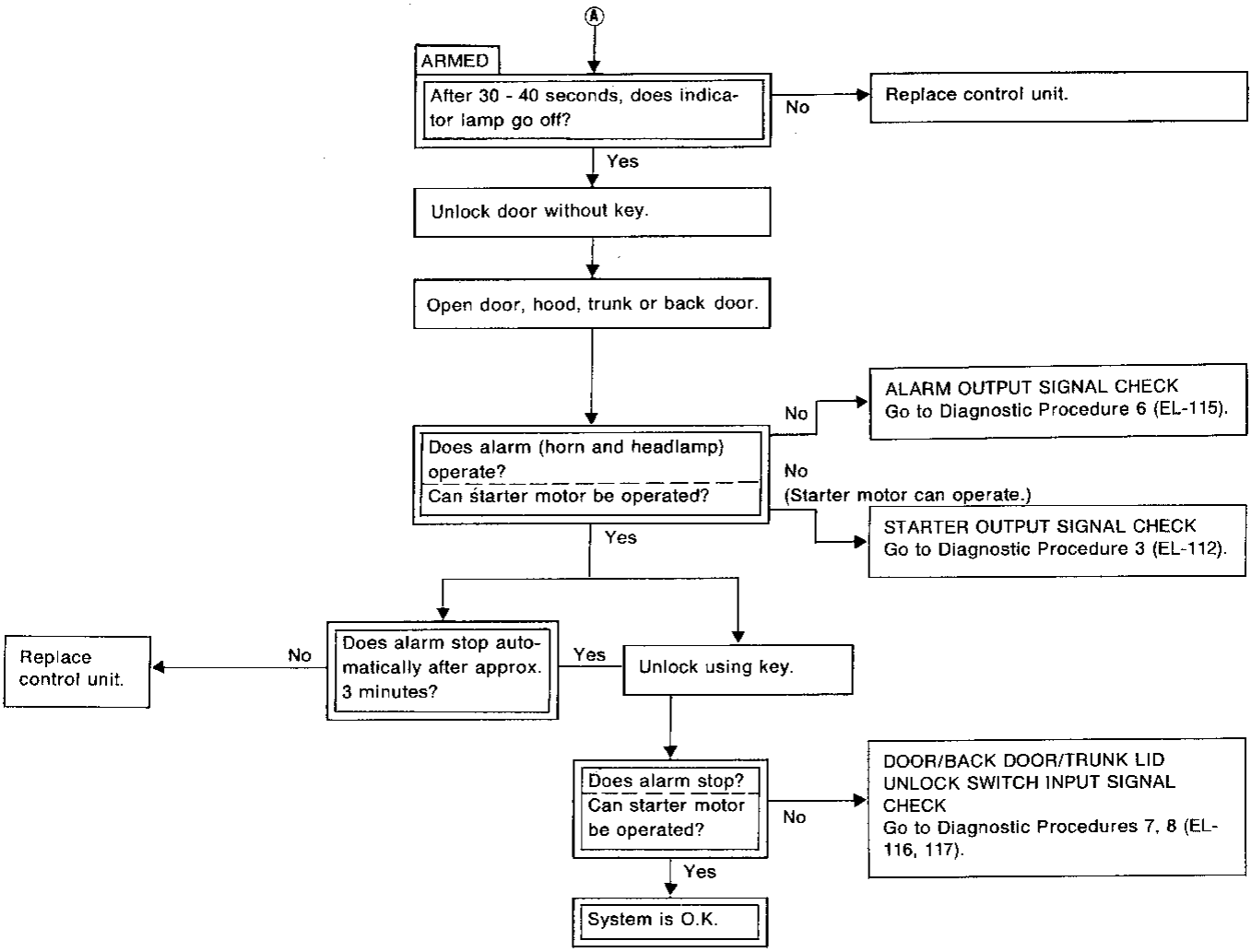
Trouble Diagnoses

SYSTEM OPERATION CHECK

If ignition switch is set in the "ACC" position in the step of START to ARMED or in the ARMED state shown in this flow chart, the system operation is canceled.

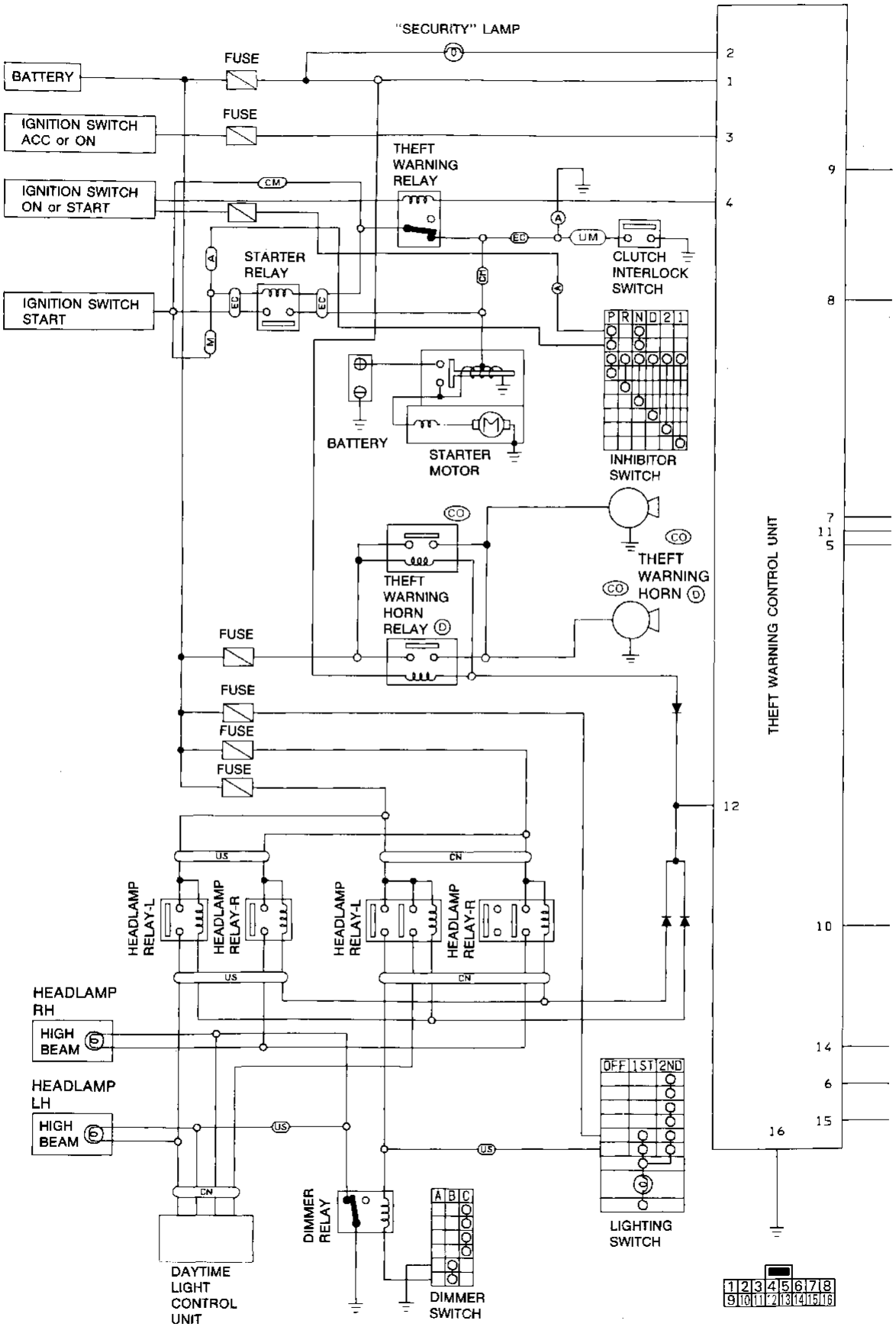


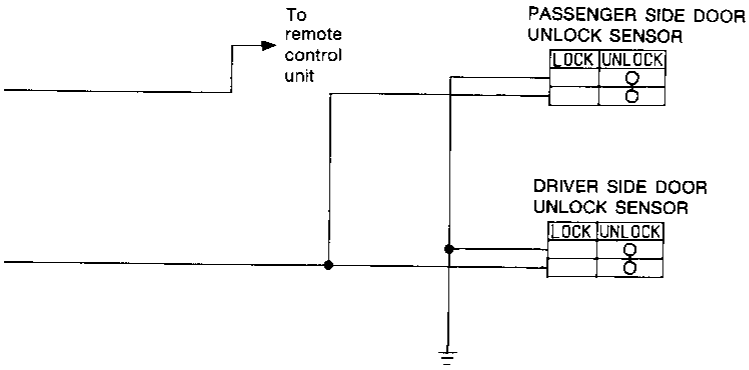
Trouble Diagnoses (Cont'd)



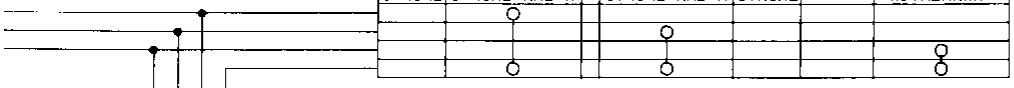
Trouble Diagnoses (Cont'd)

CIRCUIT DIAGRAM FOR QUICK PINPOINT CHECK

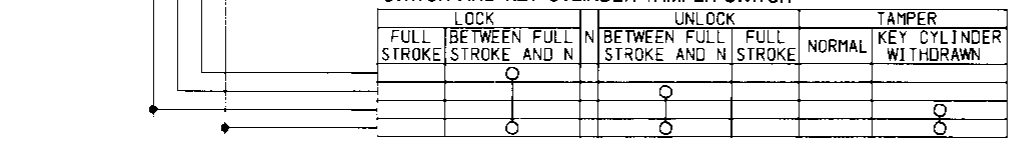




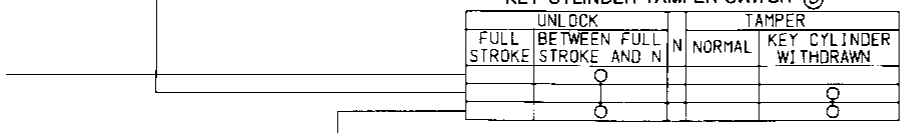
DRIVER SIDE DOOR LOCK SWITCH, DOOR UNLOCK SWITCH AND KEY CYLINDER TAMPER SWITCH

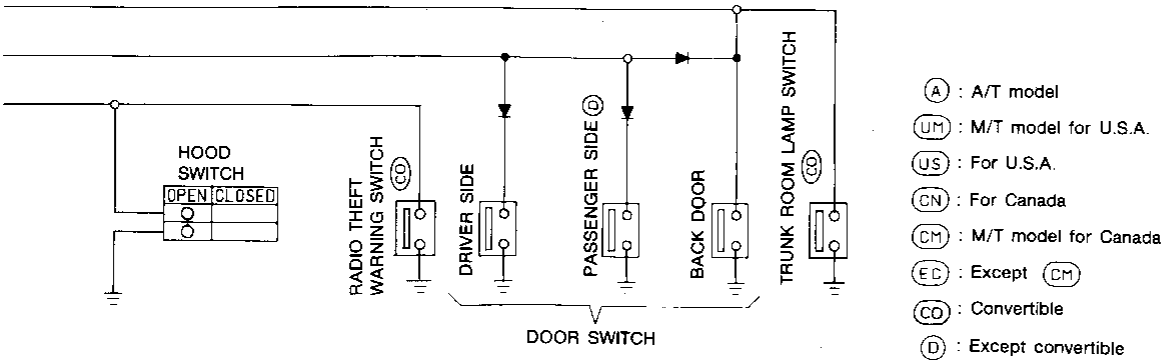


PASSENGER SIDE DOOR LOCK SWITCH, DOOR UNLOCK SWITCH AND KEY CYLINDER TAMPER SWITCH



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



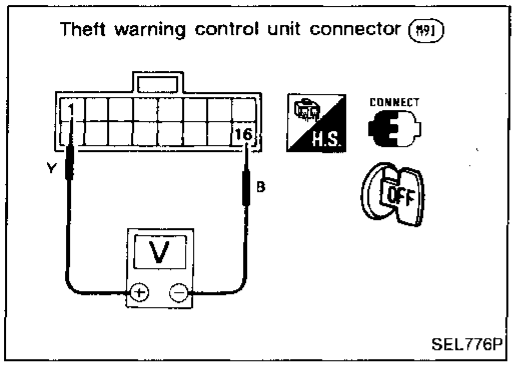


(A) : A/T model
(UM) : M/T model for U.S.A.
(US) : For U.S.A.
(CN) : For Canada
(CM) : M/T model for Canada
(EC) : Except (CM)
(CO) : Convertible
(D) : Except convertible

SEL888S

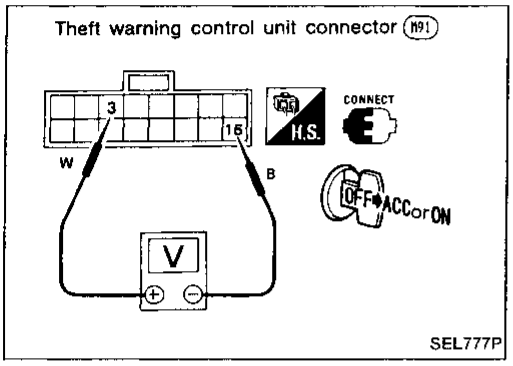
Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK



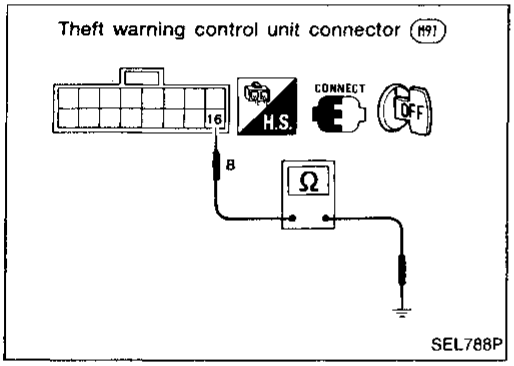
Main power supply circuit check

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

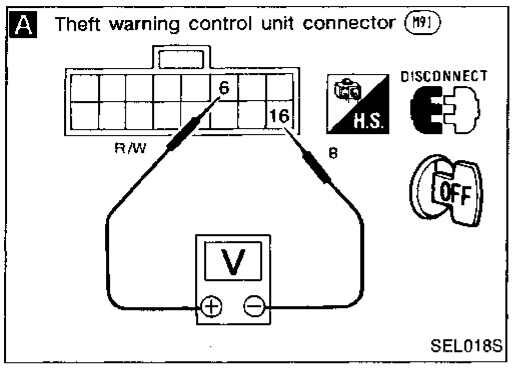
Terminals	Continuity
⑯ - Ground	Yes

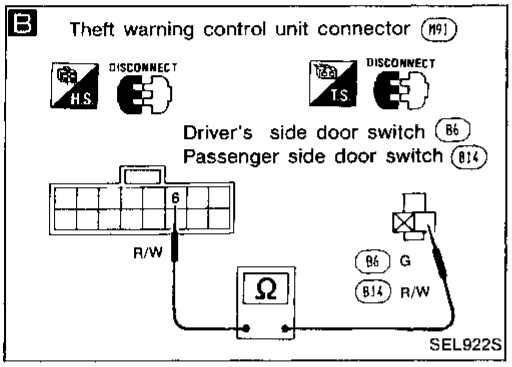
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

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

Diagnostic procedure 1-(1)





A

DOOR SWITCH INPUT SIGNAL CHECK
Check voltage between control unit harness terminals ⑥ and ⑯.

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

OK → Go to Diagnostic Procedure 2 (EL-112).

NG ↓

DOOR SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-118).

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.

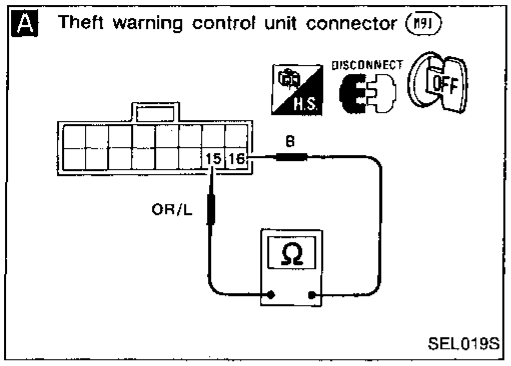
NG → Repair harness or connectors.

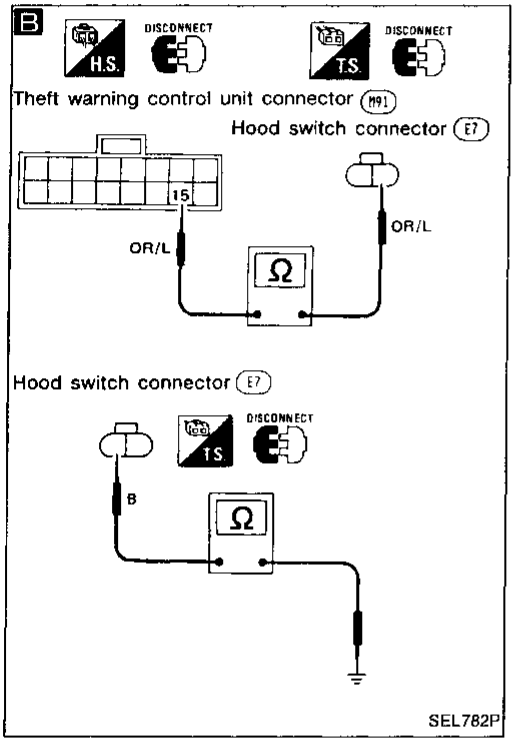
OK ↓

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-112).

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-118).

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.

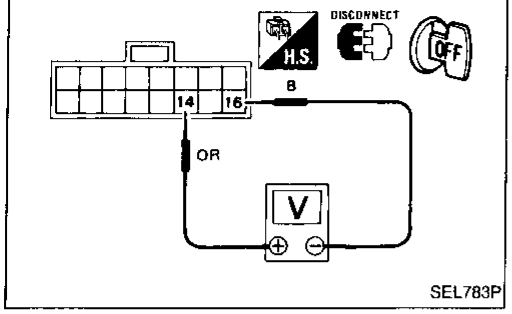
OK

CHECK THE CONNECTIONS AT EACH CONNECTOR.

Trouble Diagnoses (Cont'd)

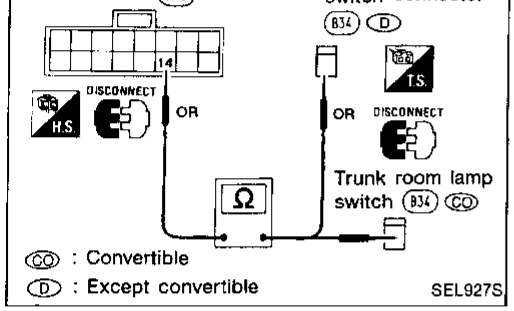
Diagnostic procedure 1-(3)

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

A

BACK DOOR SWITCH OR TRUNK 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-112).

NG

Does room lamp come on?

Yes → B

No

BACK DOOR SWITCH OR TRUNK ROOM LAMP SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-118).

OK → BACK DOOR SWITCH OR TRUNK ROOM LAMP SWITCH CIRCUIT CHECK
Check harness continuity between control unit harness terminal (14) and back door switch harness terminal or trunk room lamp switch harness terminal.

NG → Replace back door switch or trunk room lamp switch.

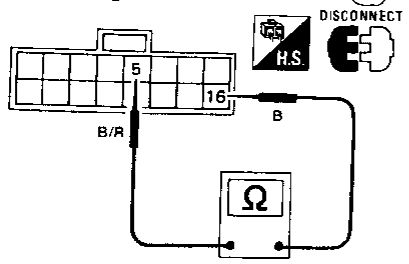
OK → CHECK THE CONNECTIONS AT EACH CONNECTOR.

Trouble Diagnoses (Cont'd)

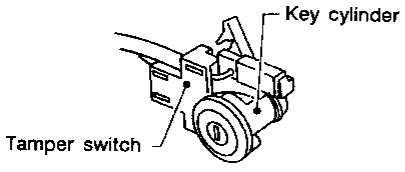
Diagnostic procedure 1-(4)

A

Theft warning control unit connector (M91)

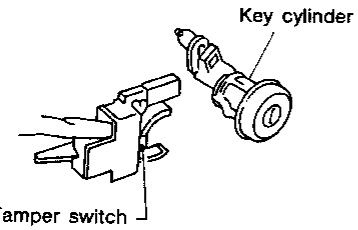


[Example]



No continuity ... OK

[Example]

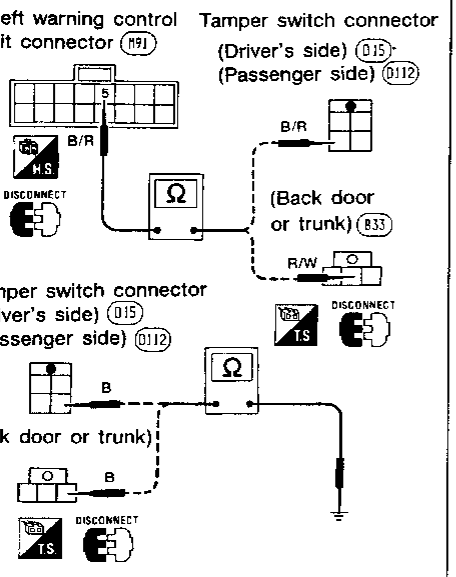


Reed switch turns on when key cylinder is removed.

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-112).

NG

KEY CYLINDER TAMPER SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-119).

NG → Replace key cylinder tamper switch.

OK

B

KEY CYLINDER TAMPER SWITCH CIRCUIT CHECK
- Check harness continuity Metween 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.

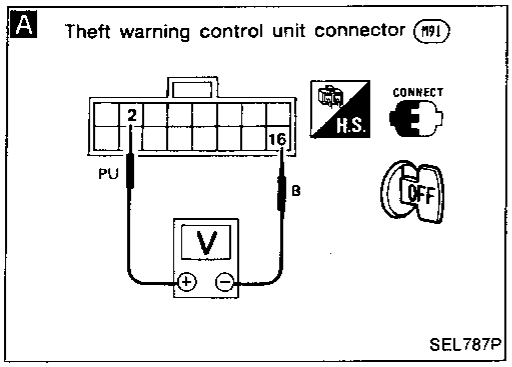
OK

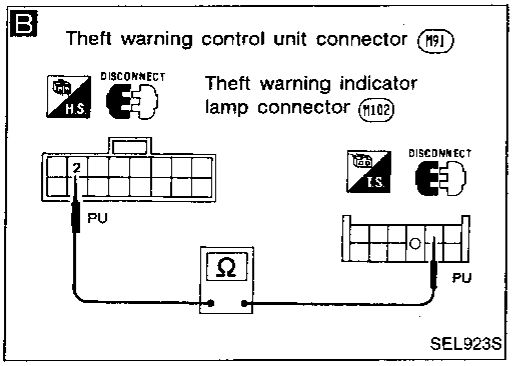
CHECK THE CONNECTIONS AT EACH CONNECTOR.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Indicator lamp does not blink.





A

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.

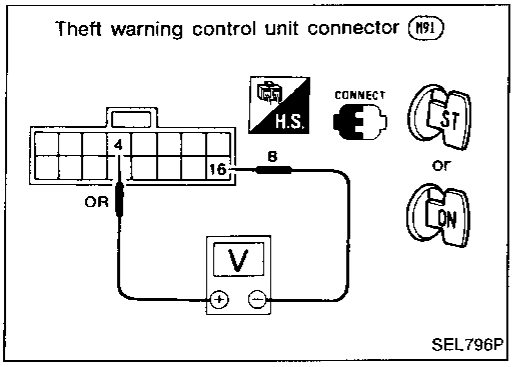
NG → Repair harness or connectors.

OK ↓

CHECK THE CONNECTIONS AT EACH CONNECTOR.

DIAGNOSTIC PROCEDURE 3

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.

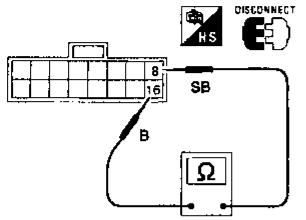
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

SYMPTOM: Indicator lamp does not come on.

A

Theft warning control unit connector (M91)



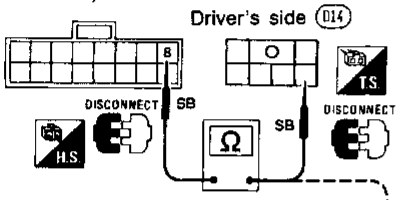
SEL924S

B

Theft warning control unit connector (M91)

Door actuator connector (Unlock sensor)

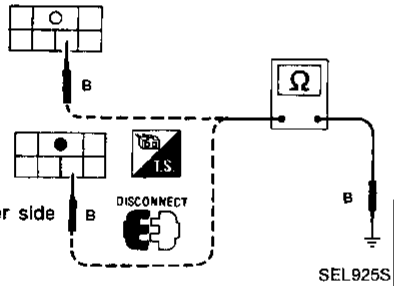
Driver's side (D14)



Passenger side (D11) L

Door actuator connector (Unlock sensor)

Driver's side (D14)



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-114).

OK → Replace control unit.

NG

DOOR UNLOCK SENSOR CHECK

Refer to "Electrical Components Inspection" (EL-118).

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.

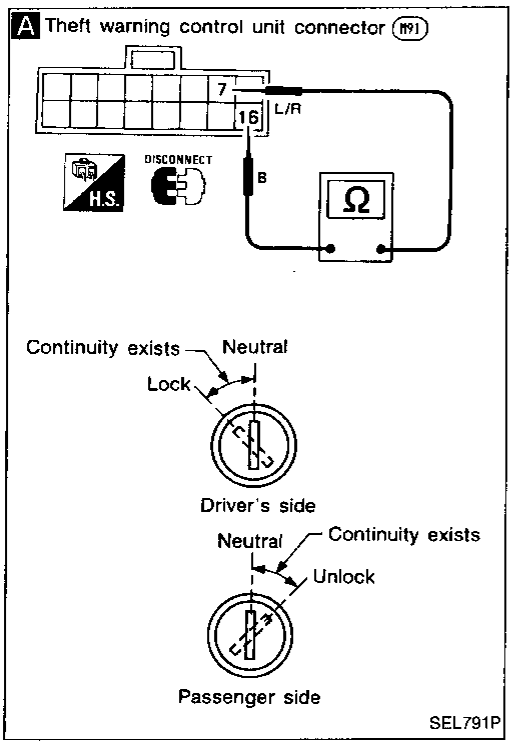
OK

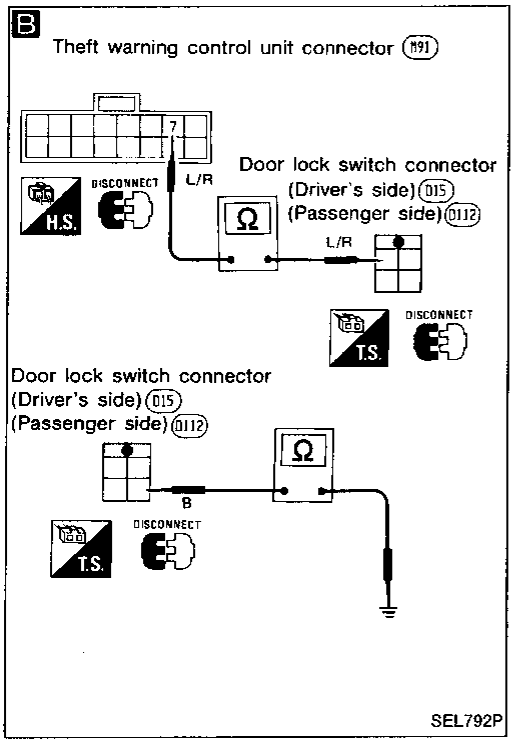
CHECK THE CONNECTIONS AT EACH CONNECTOR.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

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-113).
OK → Replace control unit.

NG

DOOR LOCK SWITCH CHECK
Refer to "Electrical Components Inspection" (EL-119).

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.

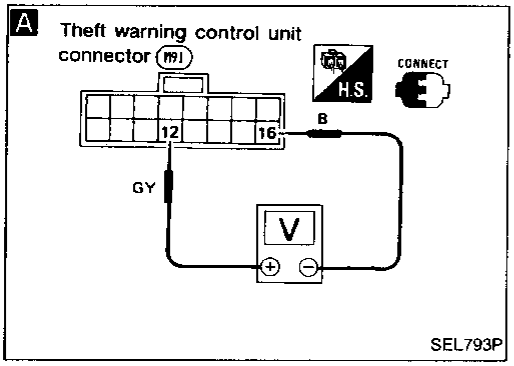
OK

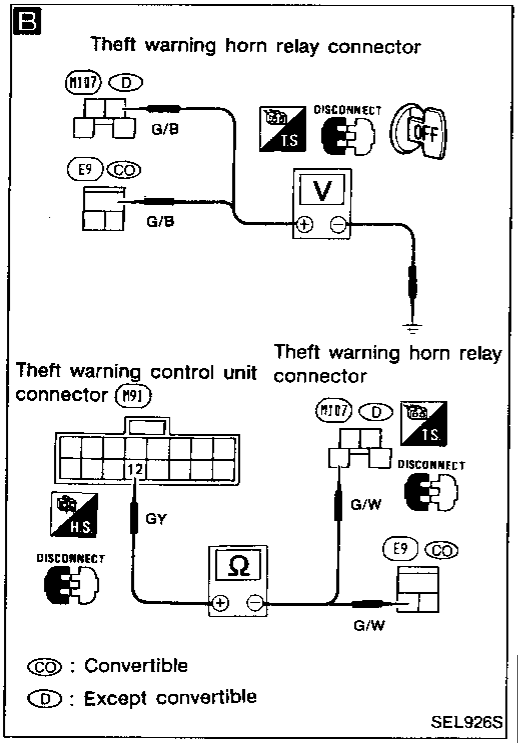
CHECK THE CONNECTIONS AT EACH CONNECTOR.

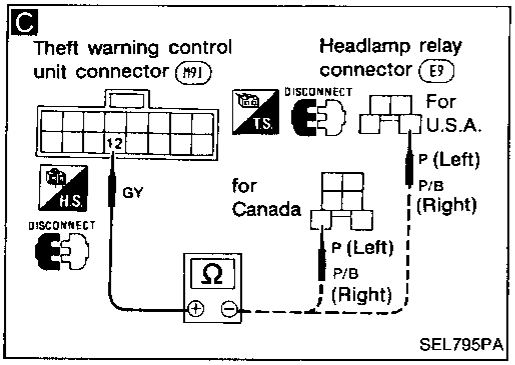
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

SYMPTOM: Alarm does not operate.







A

ALARM SIGNAL OUTPUT 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.

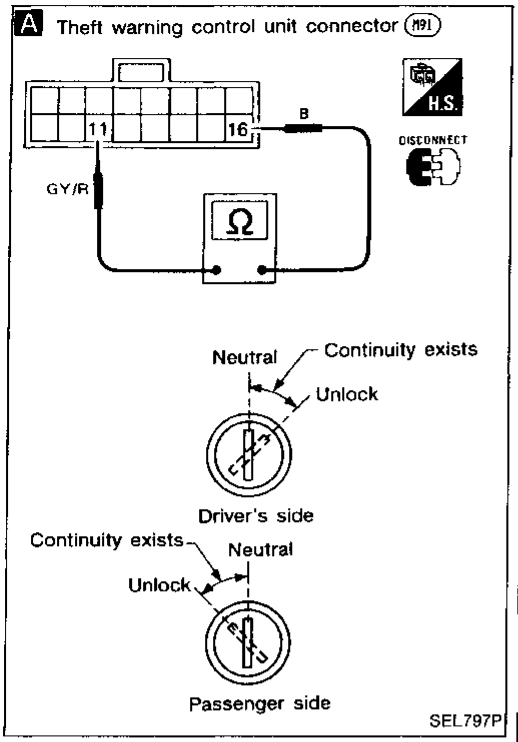
OK ↓

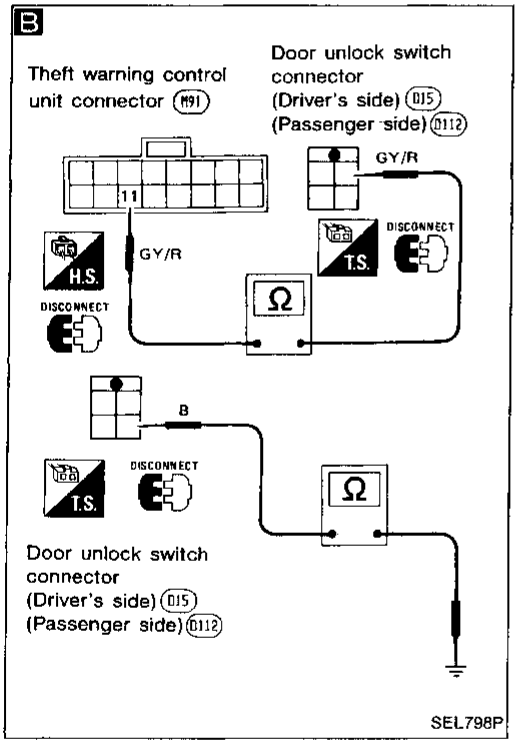
Check headlamp system. Refer to "HEADLAMP" (EL-26).

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 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-119).

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.

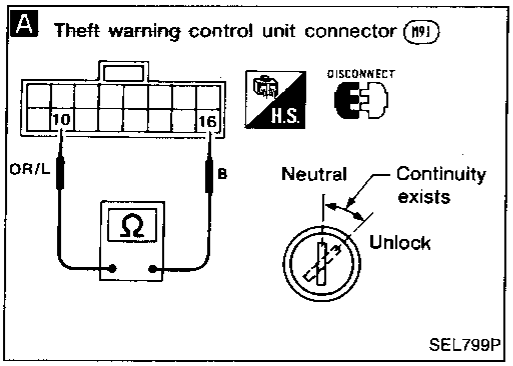
OK ↓

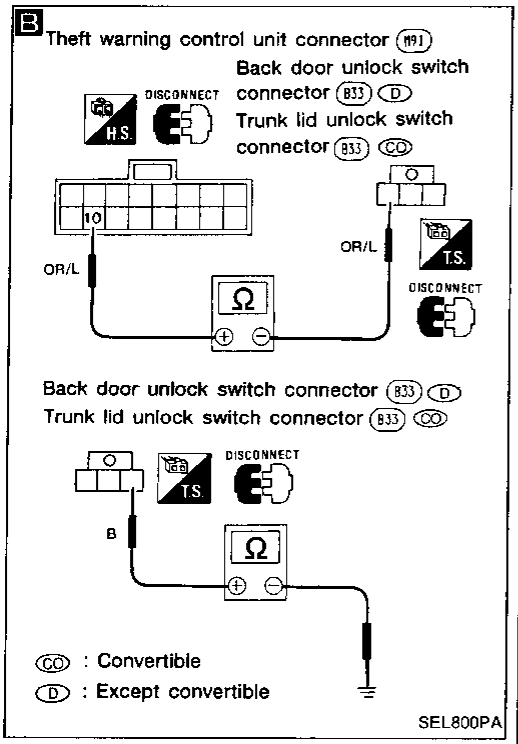
CHECK THE CONNECTIONS AT EACH CONNECTOR.

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-119).

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.

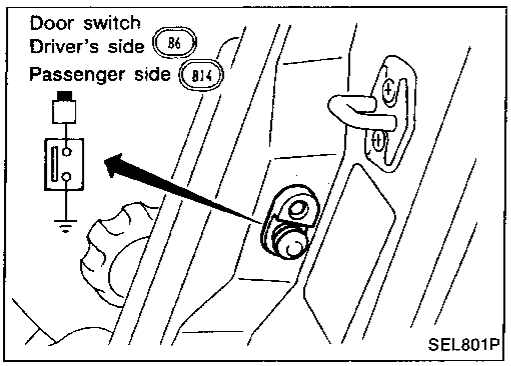
NG → Repair harness or connectors.

OK ↓

CHECK THE CONNECTIONS AT EACH CONNECTOR.

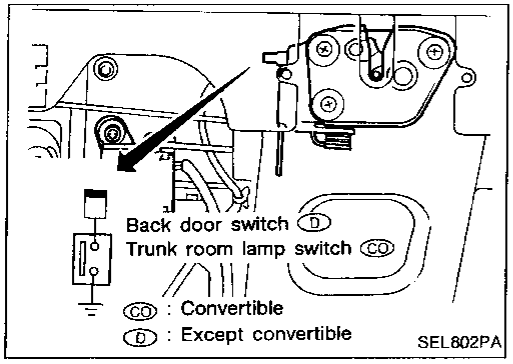
Trouble Diagnoses (Cont'd)

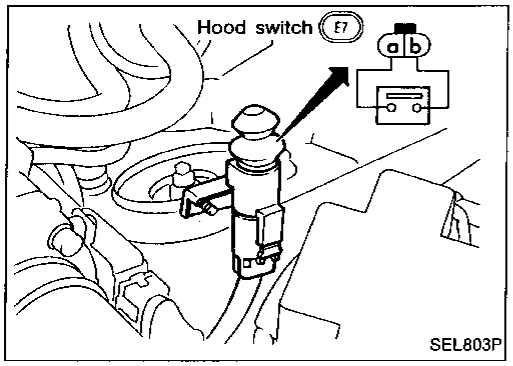
ELECTRICAL COMPONENTS INSPECTION



Door switches

Check continuity between terminal and switch body.

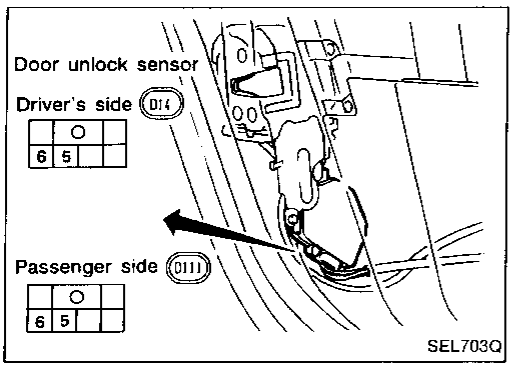




Hood switch

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

Terminal	Pushed	Released
a		○
b		○

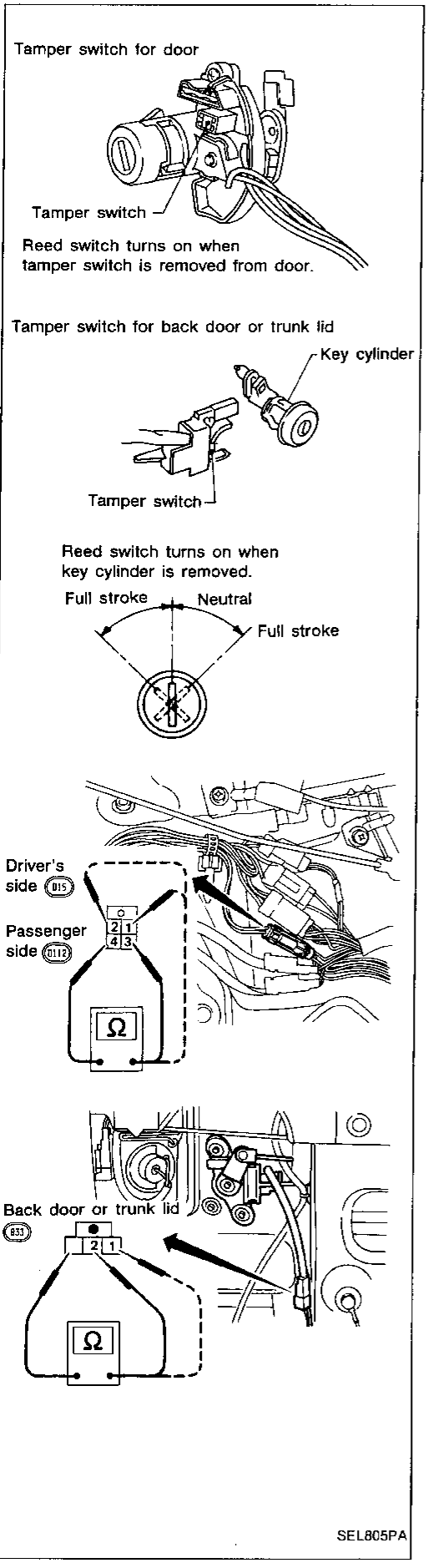


Door unlock sensor

	LOCK	UNLOCK
5		○
6		○

Trouble Diagnoses (Cont'd)

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



- **Door**

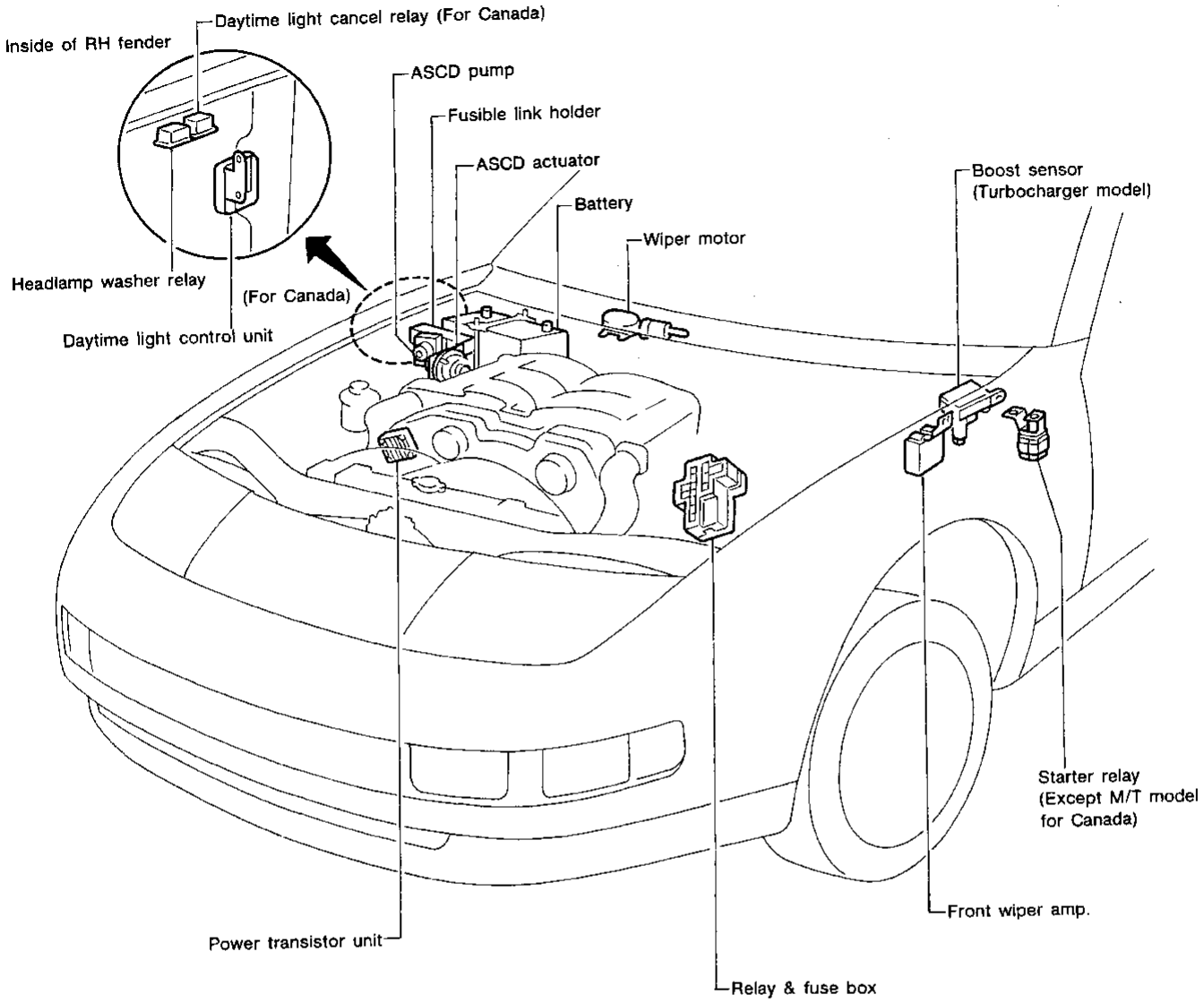
	TAMPER SWITCH		DOOR LOCK SWITCH			DOOR UNLOCK SWITCH	
	Key cylinder is installed	Key cylinder is removed	Full stroke	Between full stroke and neutral	Neutral	Between full stroke and neutral	Full stroke
1				○			
2				○		○	
3		○		○		○	
4		○		○		○	

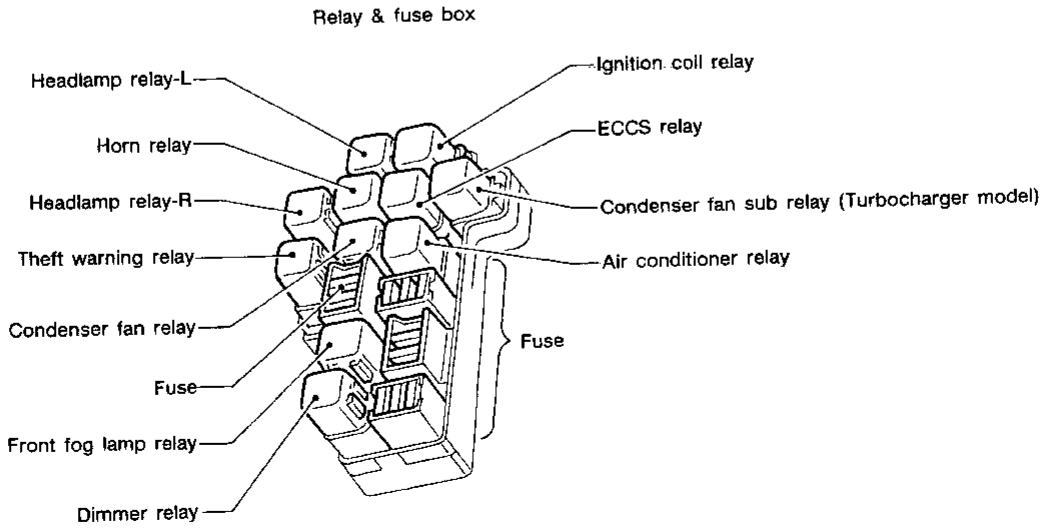
- **Back door or trunk lid**

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

NOTE

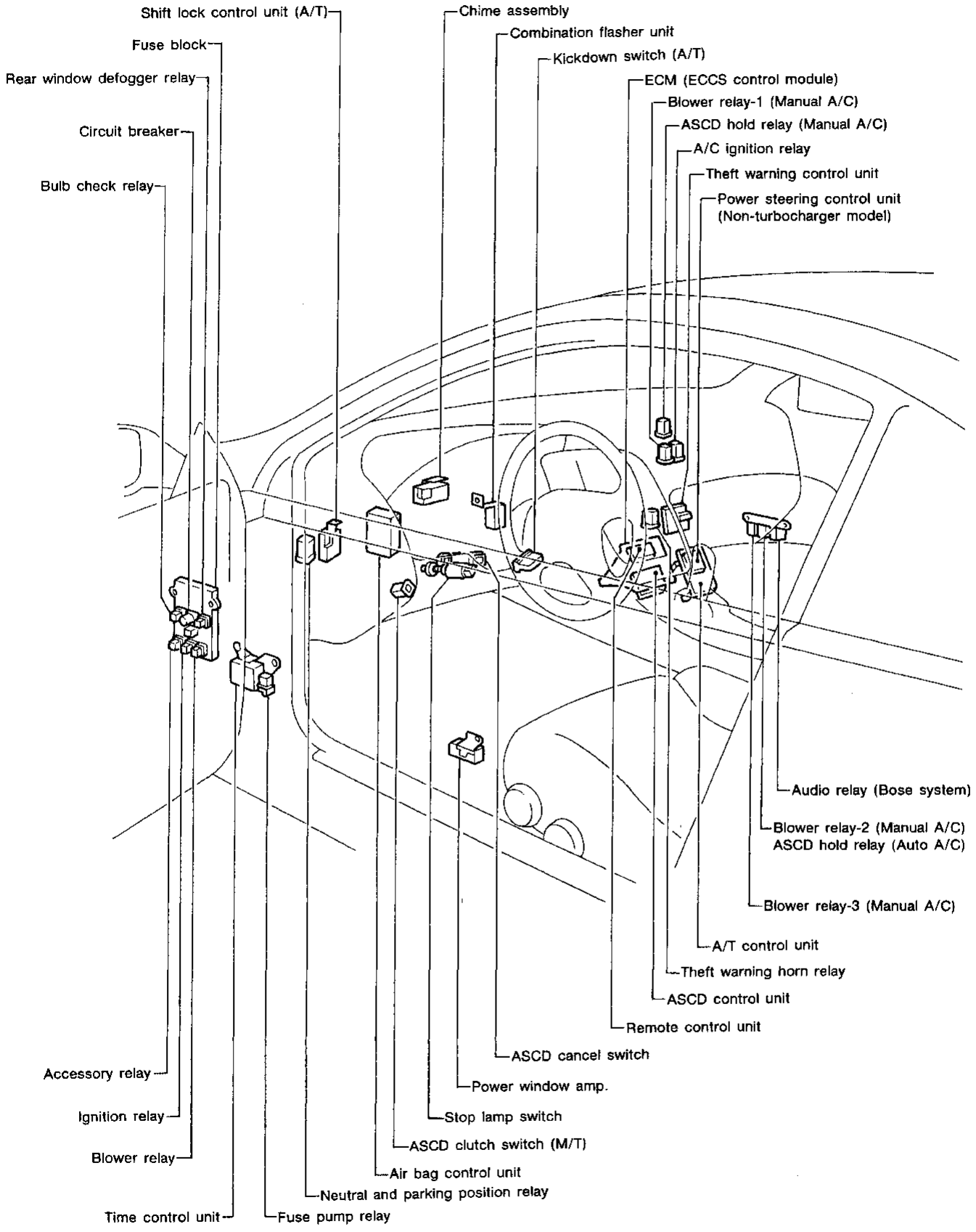
Engine Compartment





SEL928S

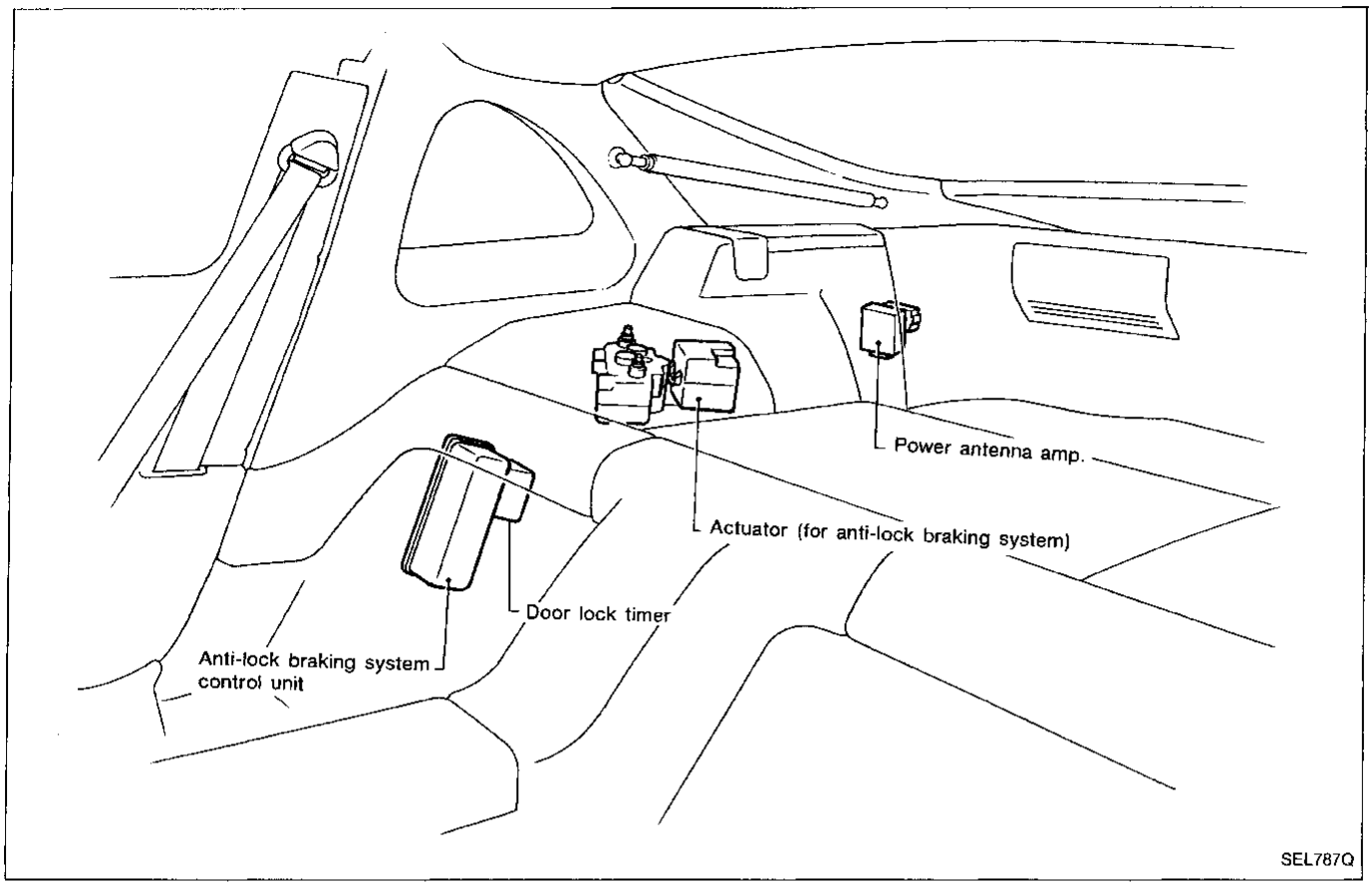
Passenger Compartment

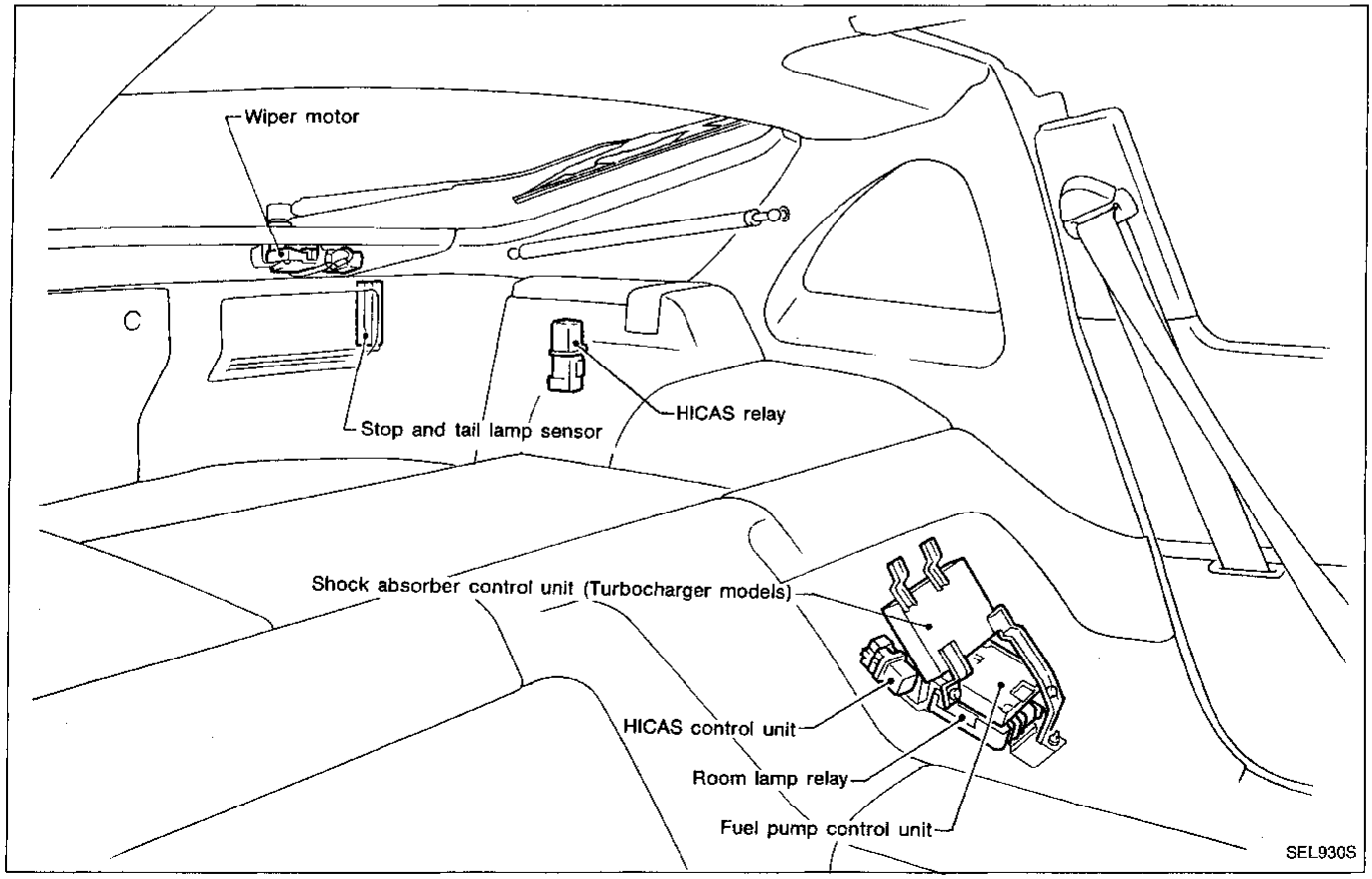


SEL929S

Luggage Compartment

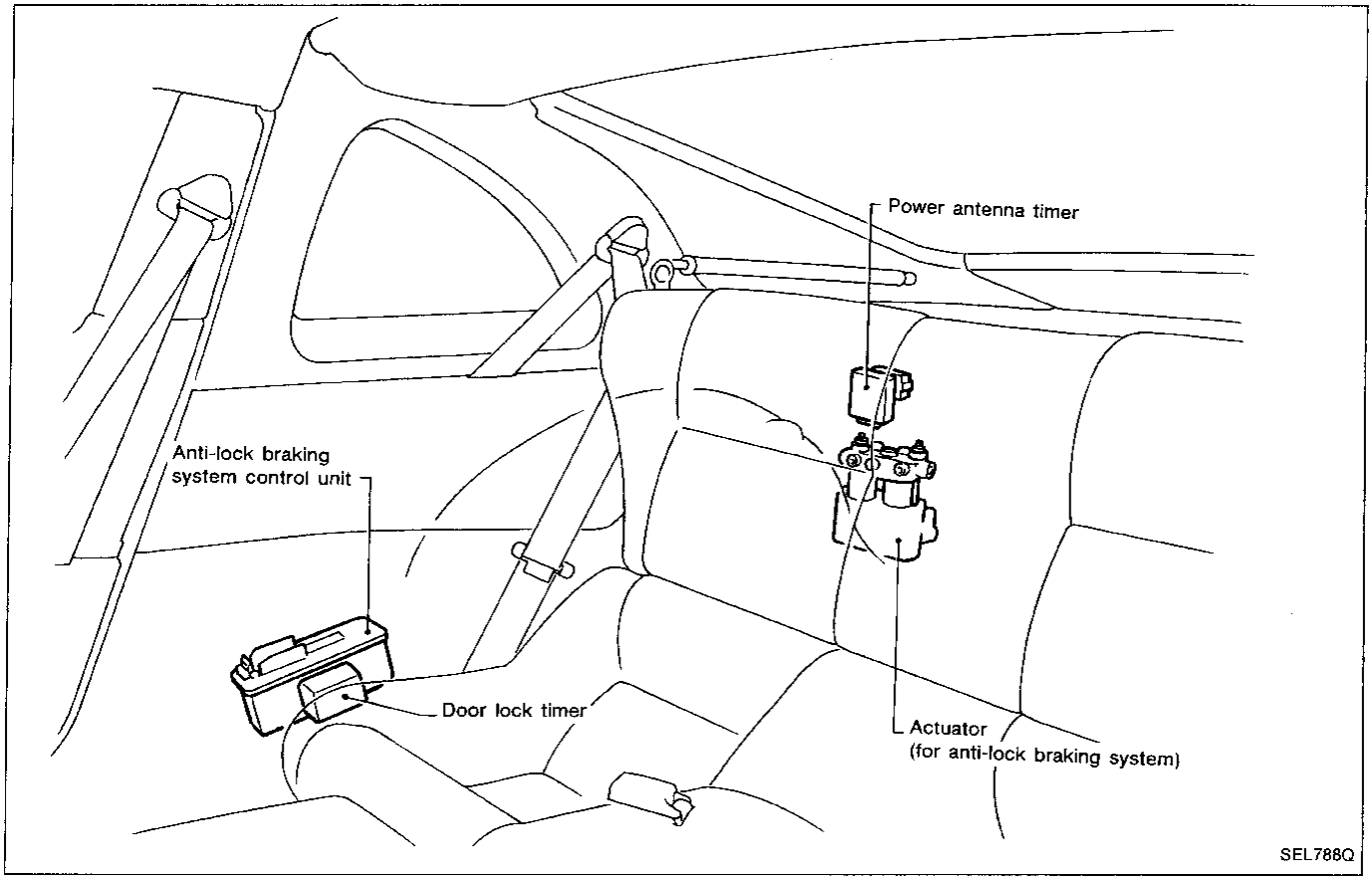
2 SEATER

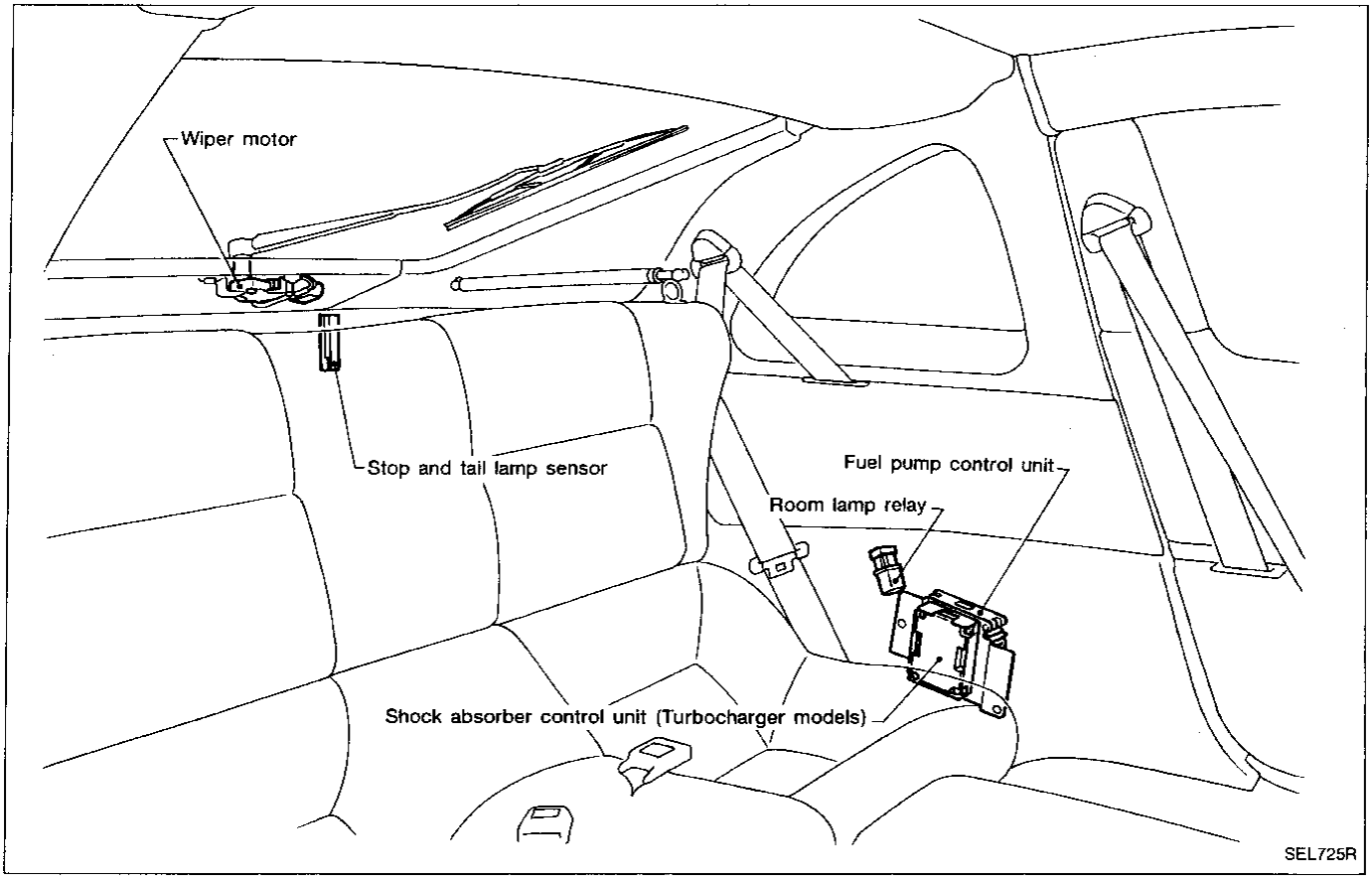




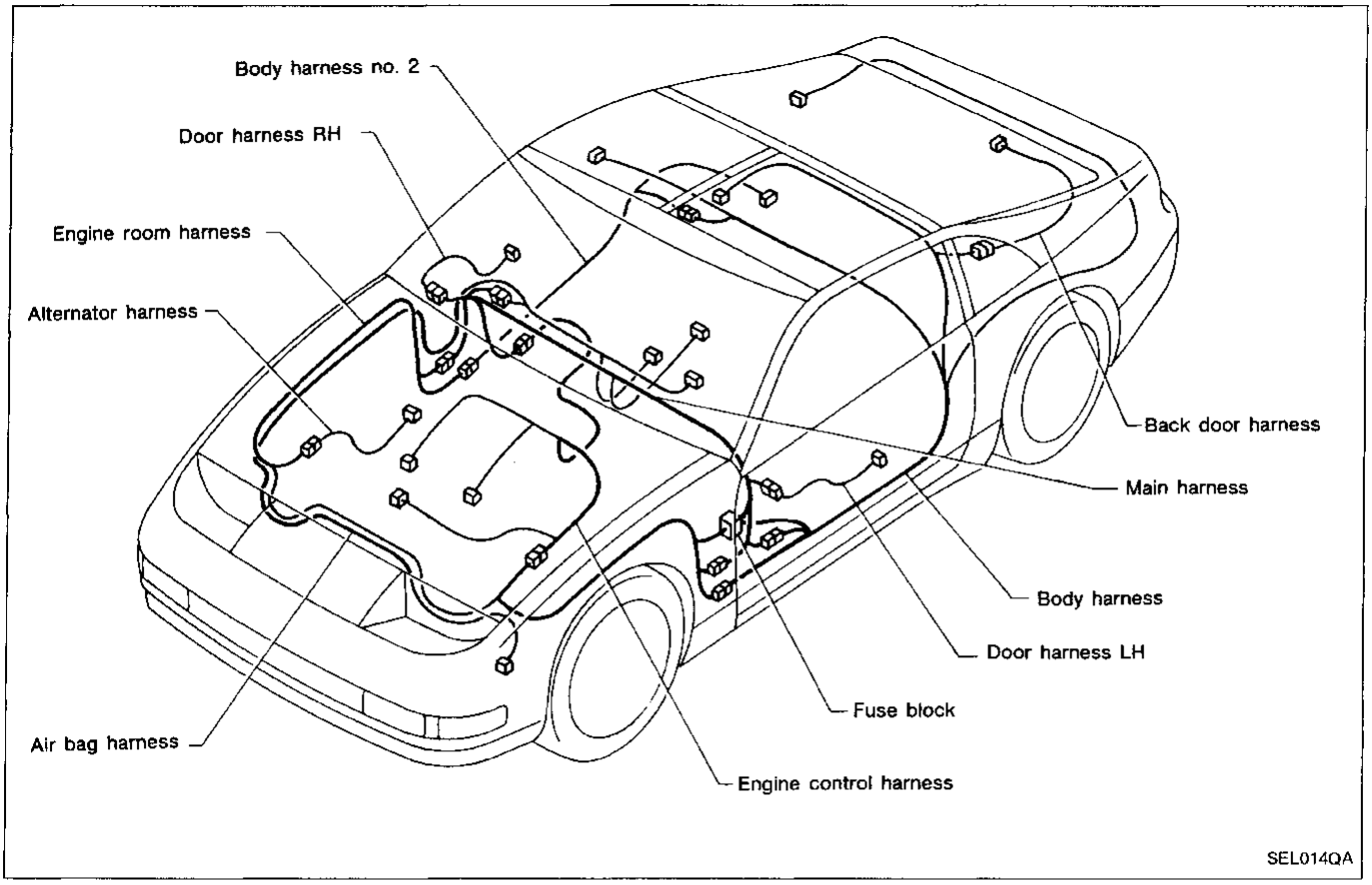
Luggage Compartment (Cont'd)

2+2 SEATER

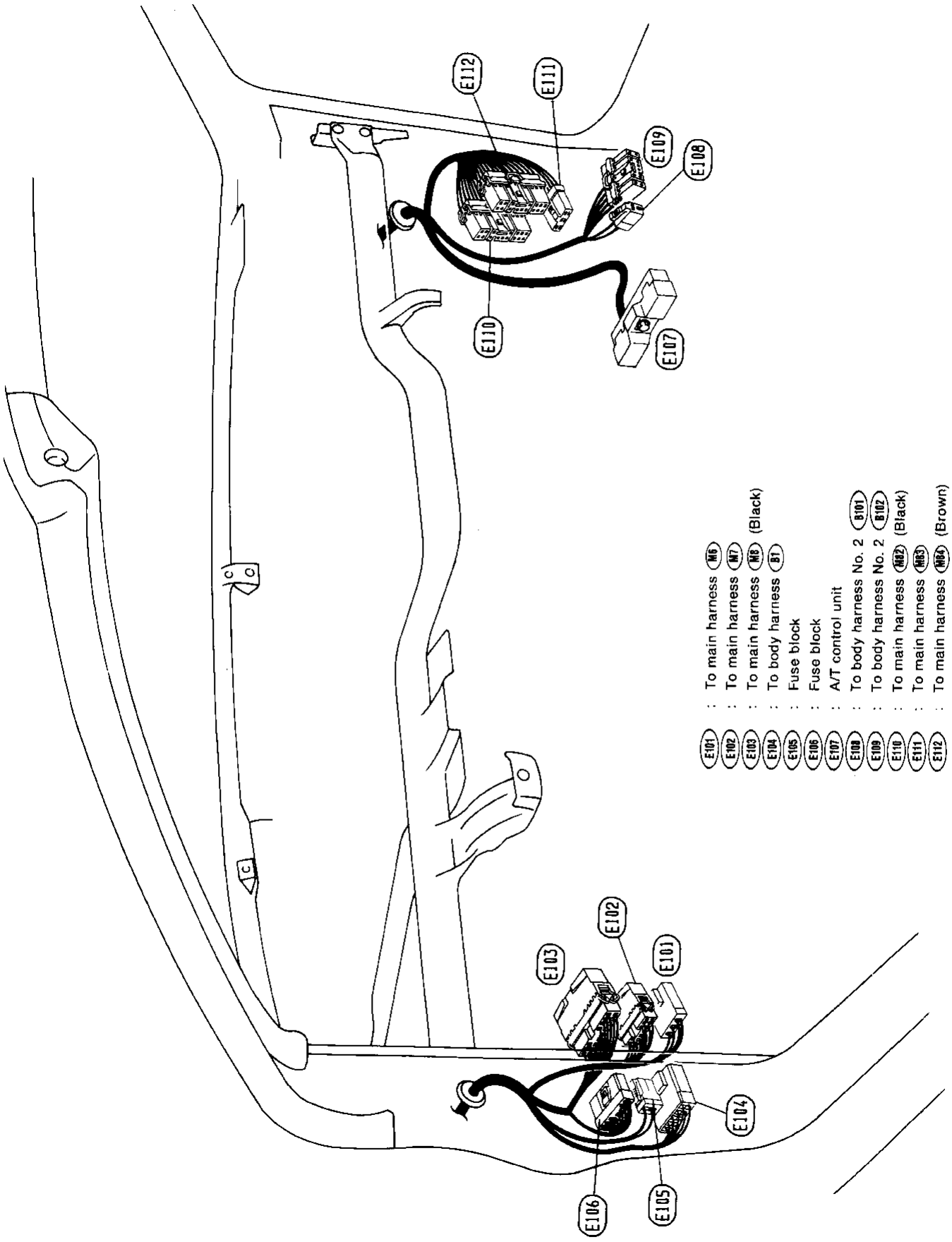




Outline

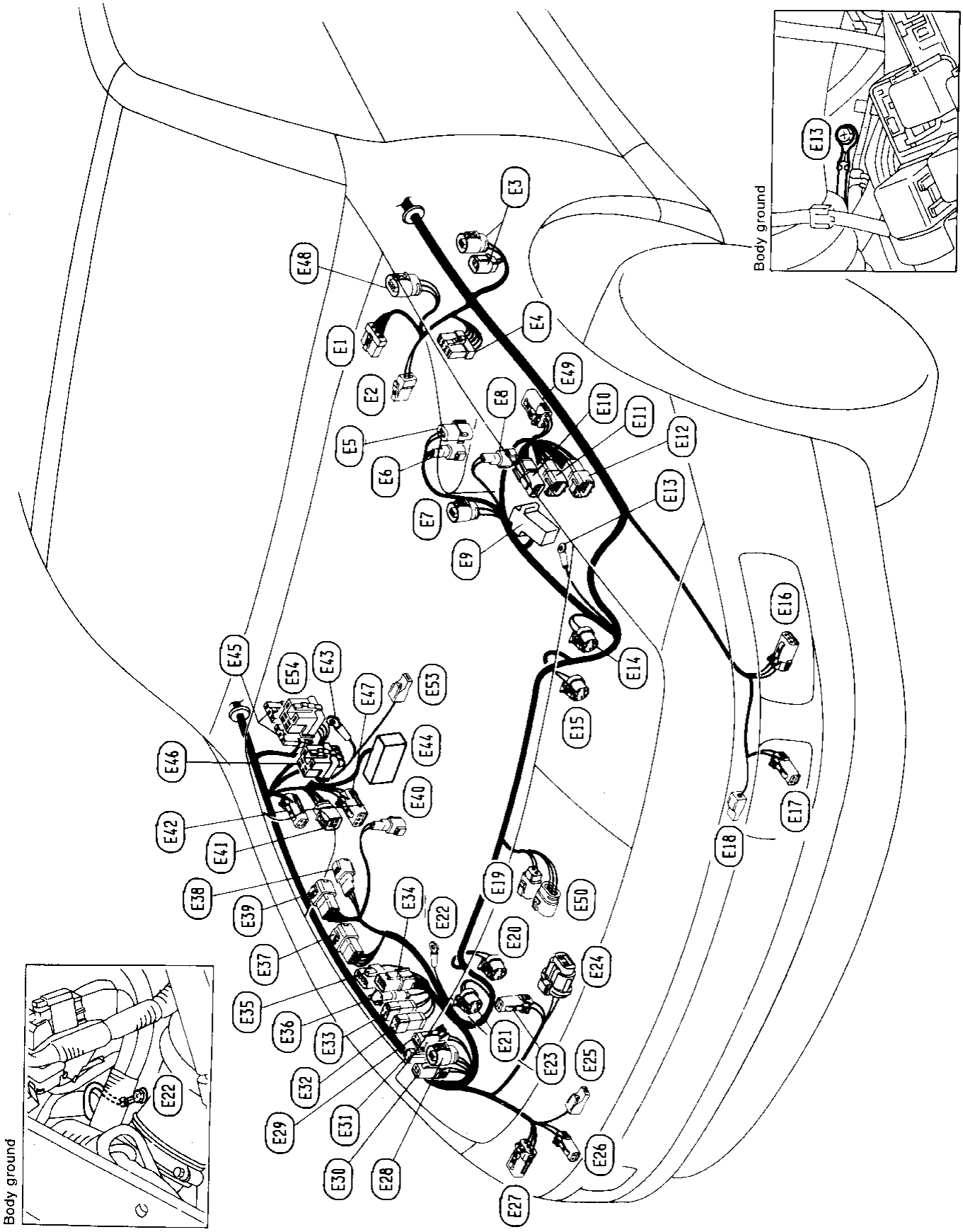

Body harness no. 2
Door harness RH
Engine room harness
Alternator harness
Air bag harness
Back door harness
Main harness
Body harness
Door harness LH
Fuse block
Engine control harness
SEL014QA

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 braking system)
(E9) : Relay box (Refer to page EL-122.)
(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 braking 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)

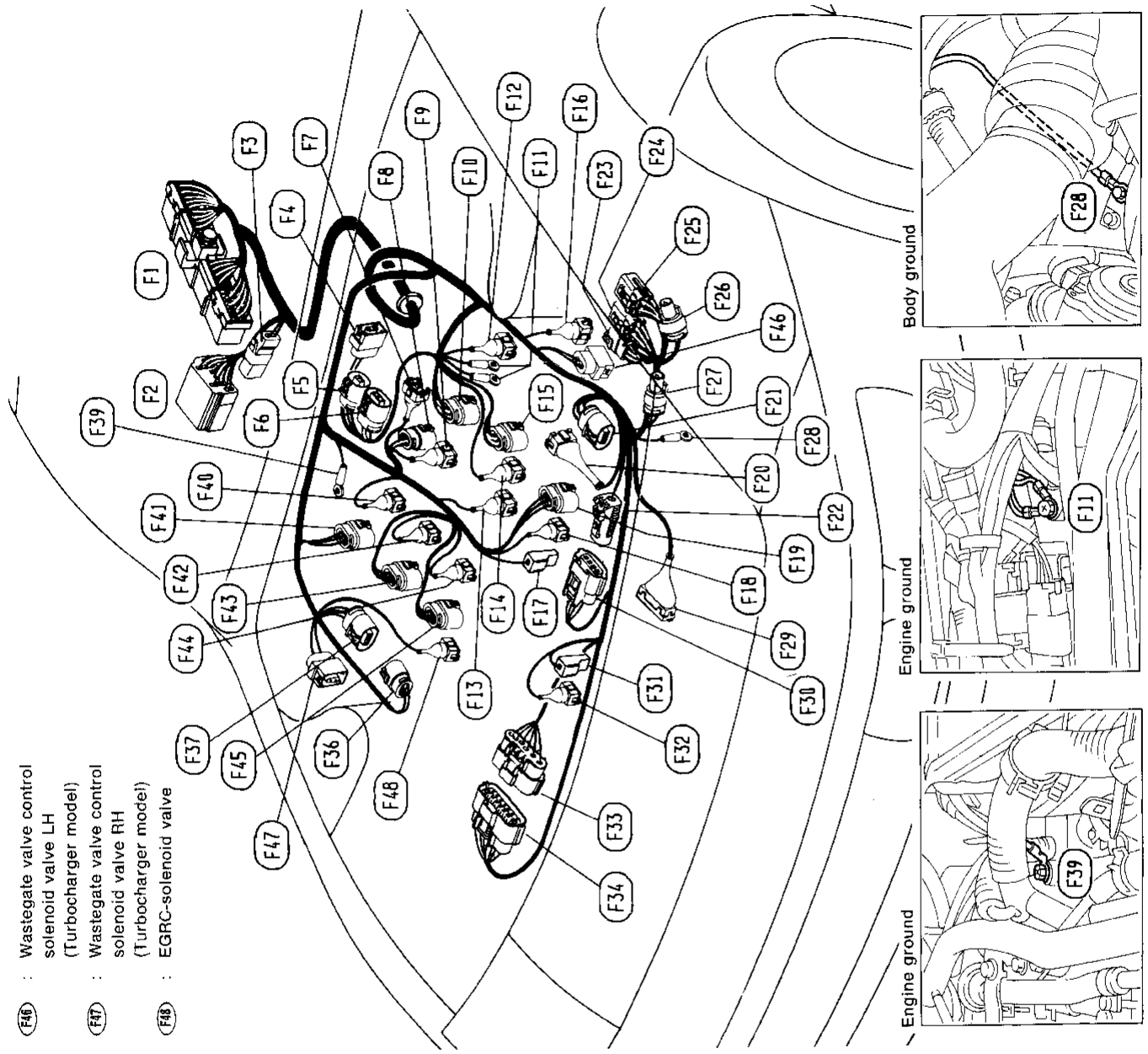
SEL932S

Engine Control Harness

NON-TURBOCHARGER MODEL

SEL933S

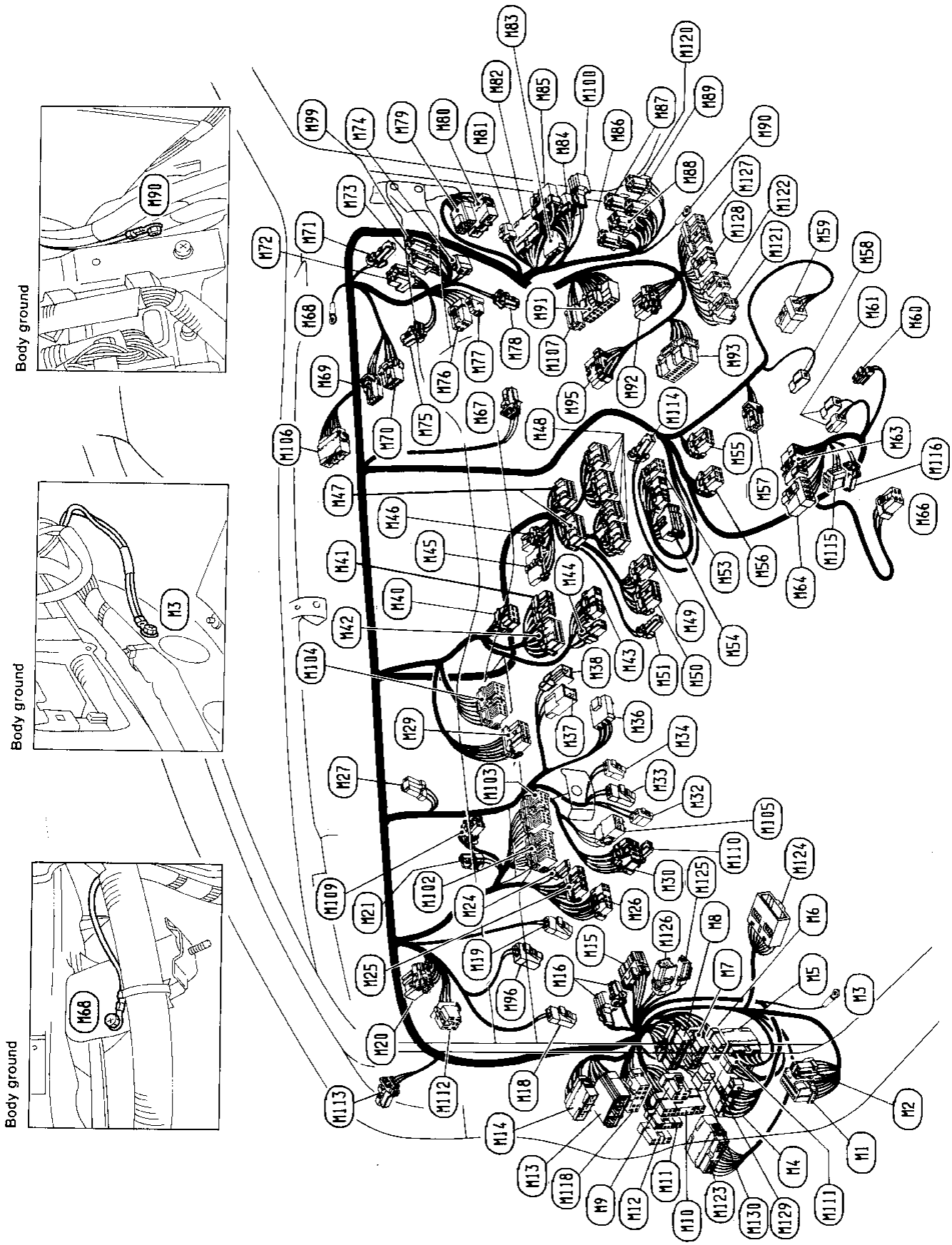
TURBOCHARGER MODEL



F1 : ECM (ECCS control module)
F2 : To main harness (M95)
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
F9 : Injector No. 6
F10 : Ignition coil No. 6
F11 : Engine ground
F12 : IACV-AAC valve
F13 : Injector No. 4
F14 : IACV-FICD solenoid valve
F15 : Ignition coil No. 4
F16 : PRVR control solenoid valve
F17 : Fuel temperature sensor
F18 : Injector No. 2
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
F39 : Engine ground
F40 : Injector No. 5
F41 : Ignition coil No. 5
F42 : Injector No. 3
F43 : Ignition coil No. 3
F44 : Injector No. 1
F45 : Ignition coil No. 1
F46 : Wastegate valve control solenoid valve LH (Turbocharger model)
F47 : Wastegate valve control solenoid valve RH (Turbocharger model)
F48 : EGRC-solenoid valve

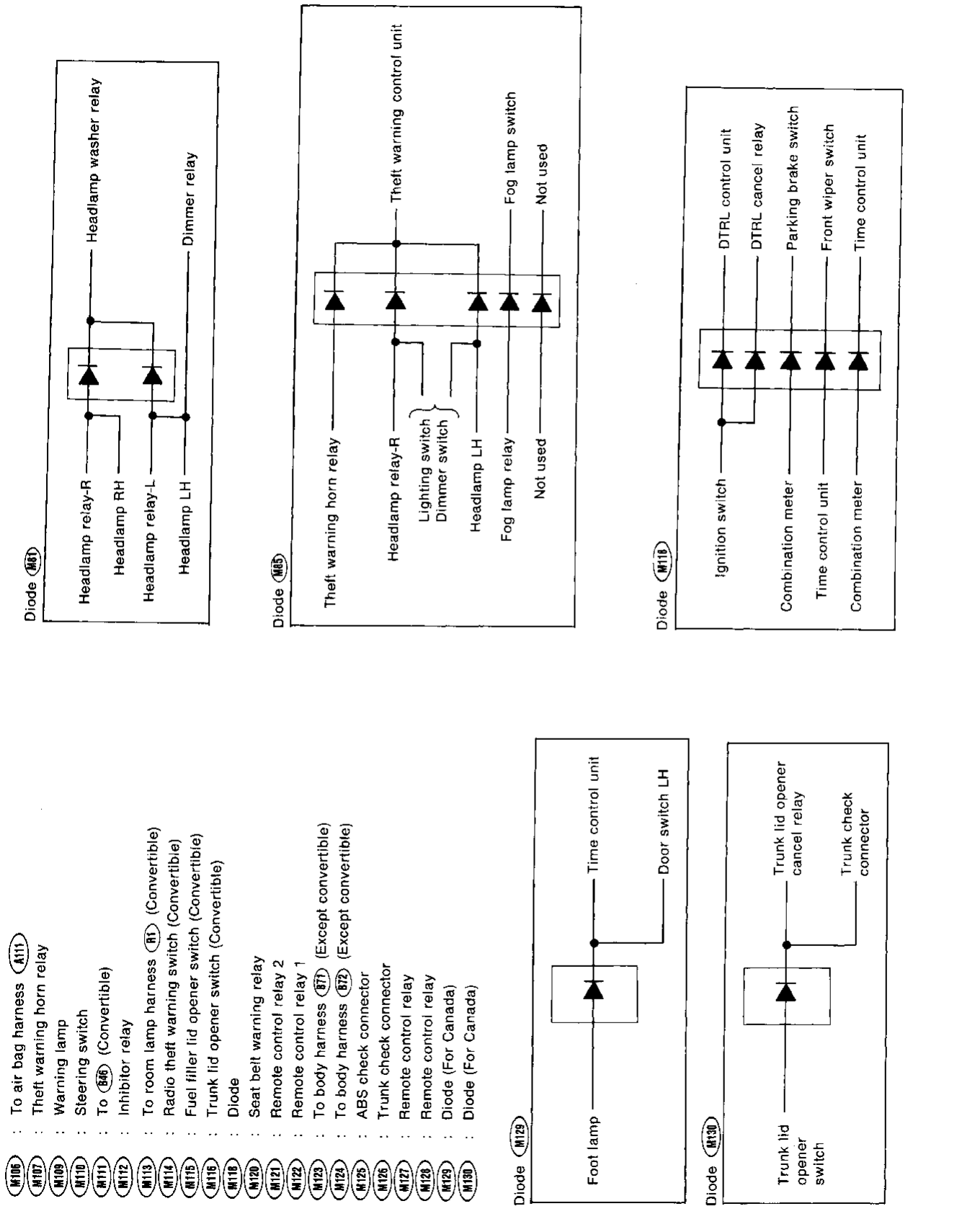
SEL934S

Main Harness



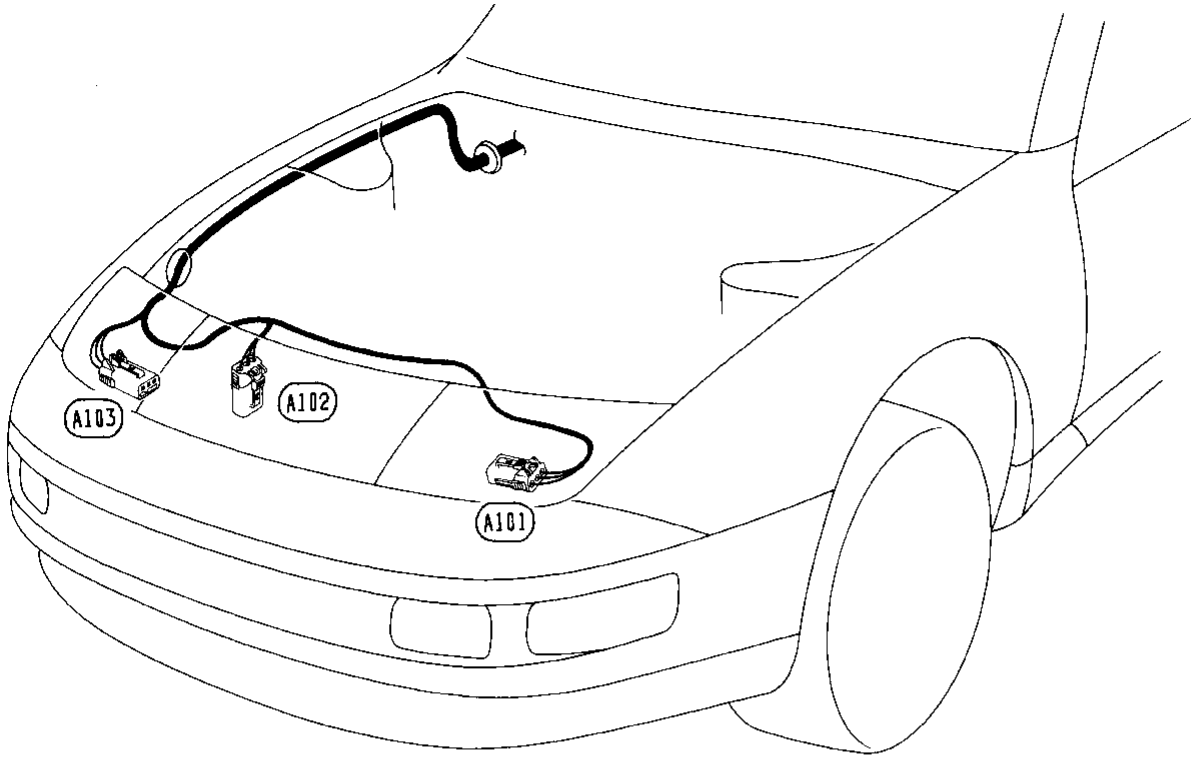
(M1) : Time control unit
(M2) : Fuel pump relay
(M3) : Body ground
(M4) : To body harness (B2)
(M5) : To body harness (B3) (Convertible)
(M6) : To engine room harness (E101)
(M7) : To engine room harness (E102)
(M8) : To engine room harness (E103) (Black)
(M9) : Fuse block
(M10) : Fuse block
(M11) : 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
(M104) : Combination meter
(M105) : Steering angle sensor (Turbocharger model)

Main Harness (Cont'd)

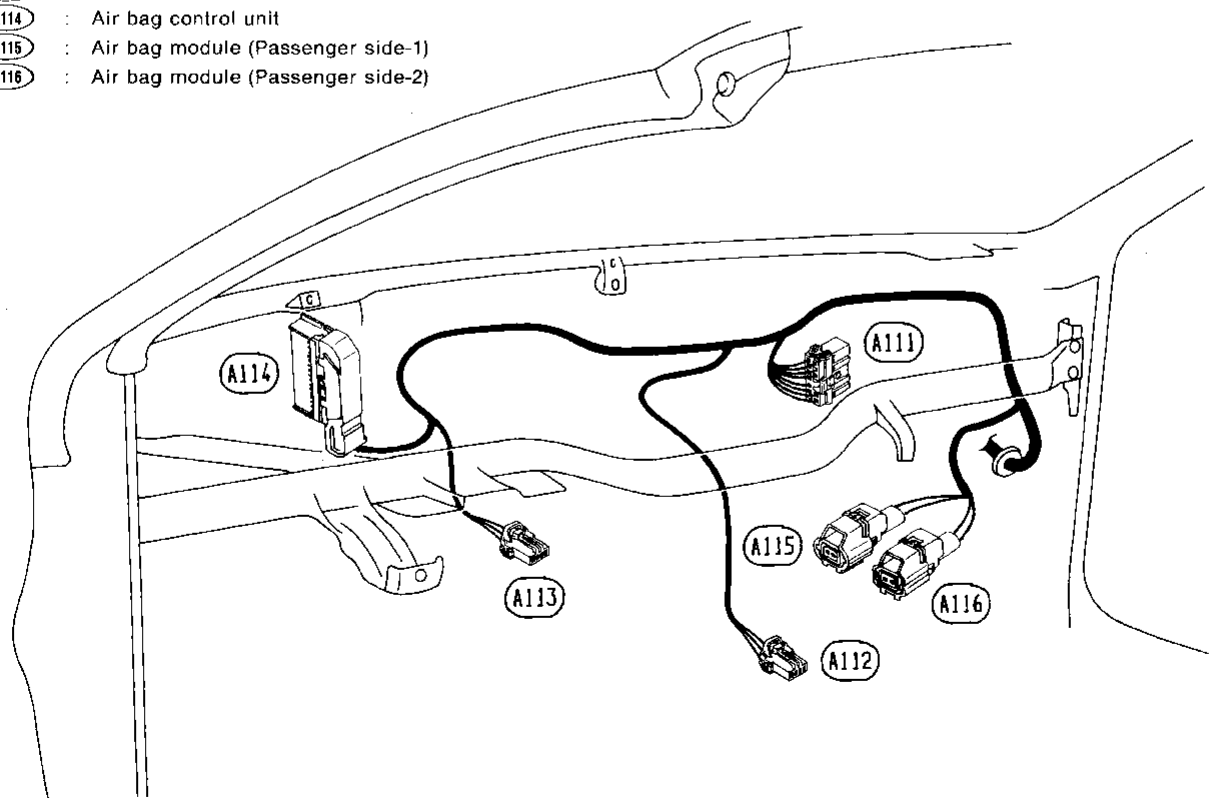


SEL935S

Air Bag Harness



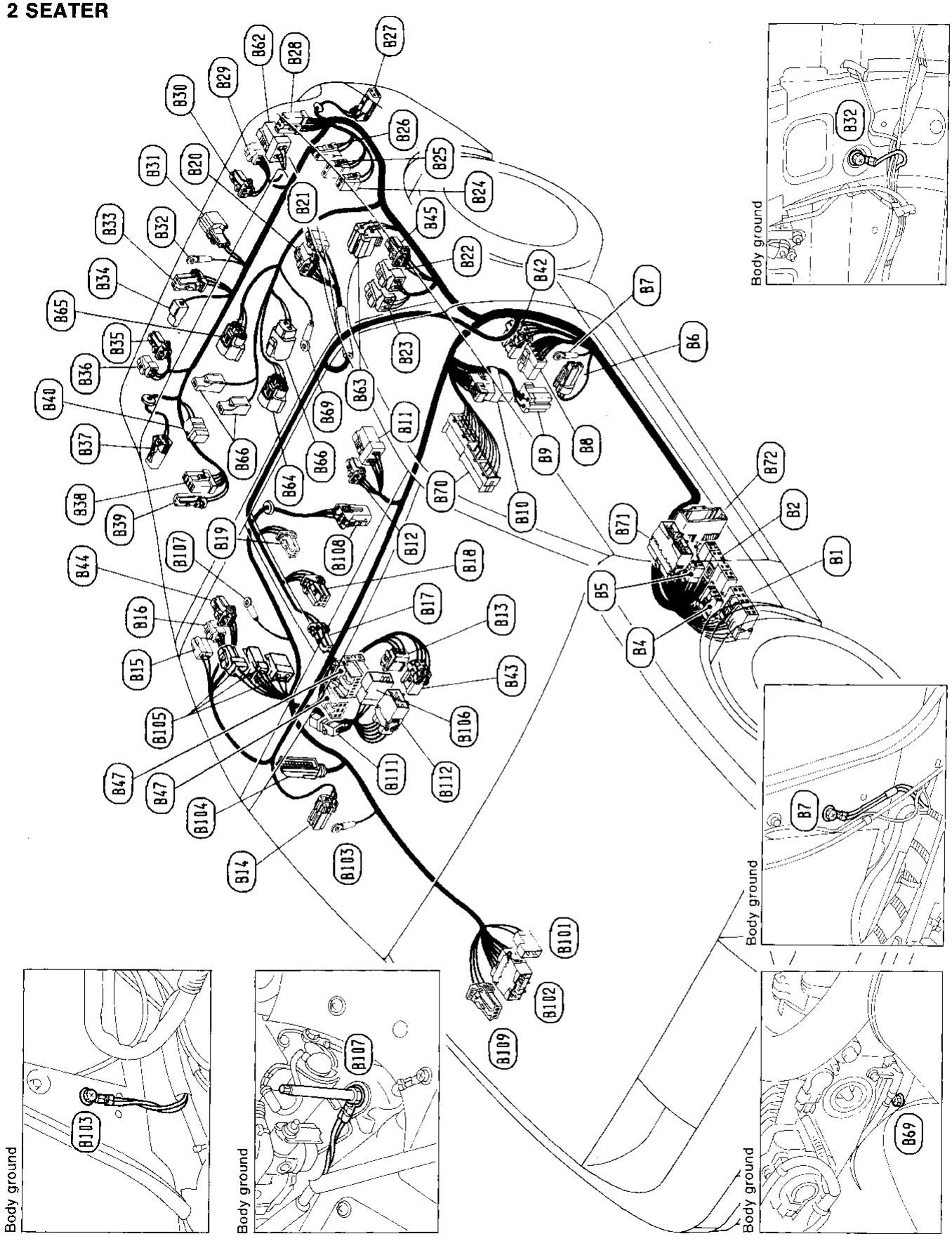
A101 : Left crash zone sensor
A102 : Center crash zone sensor
A103 : Right crash zone sensor
A111 : To main harness M106
A112 : Tunnel and safing sensor
A113 : Air bag module
A114 : Air bag control unit
A115 : Air bag module (Passenger side-1)
A116 : Air bag module (Passenger side-2)



SEL938S

Body Harness

2 SEATER



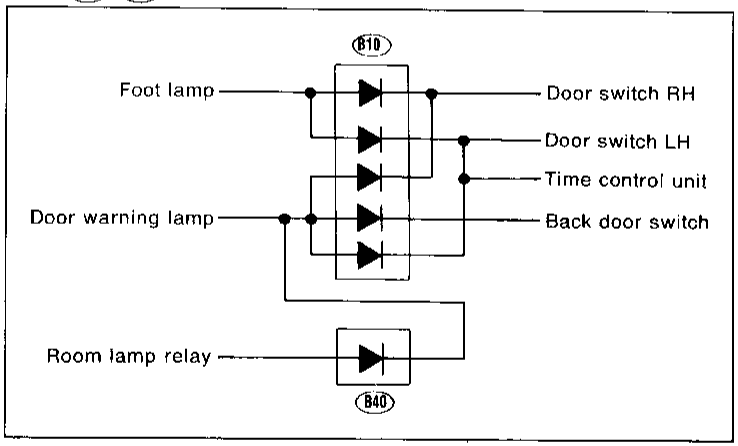
Body harness

- (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)
- (B24) : Front washer motor (White)
- (B25) : Rear washer motor (Green)
- (B26) : Washer fluid level switch (Black) (Except for California)
- (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)

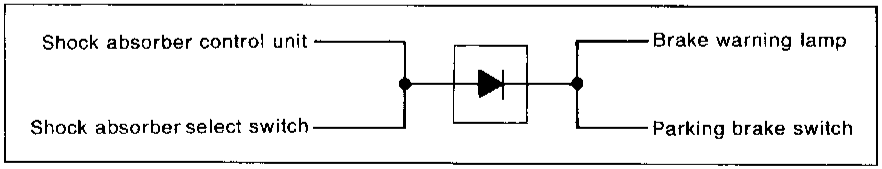
Body harness No. 2

- (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)



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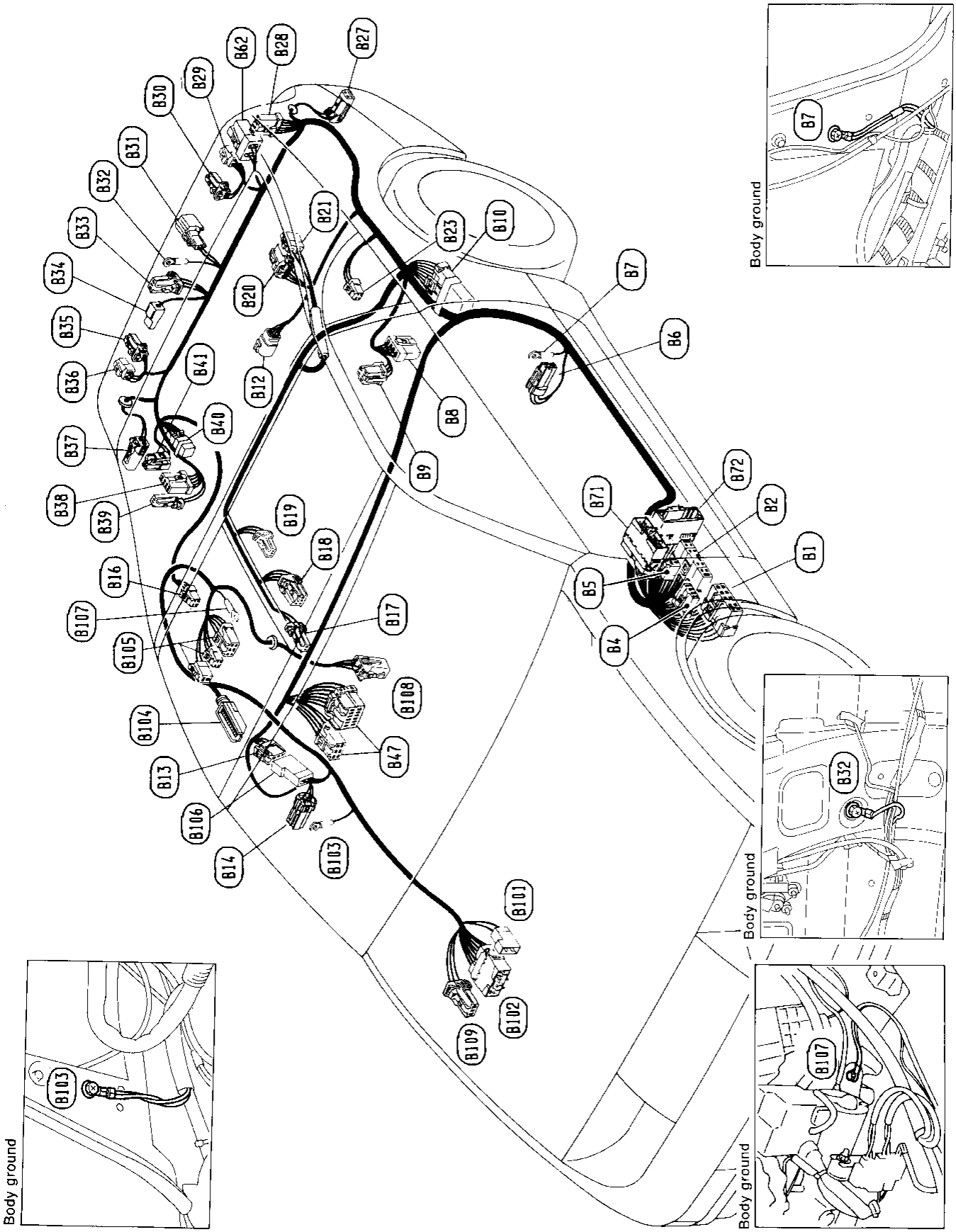
Body Harness (Cont'd)

2 + 2 SEATER



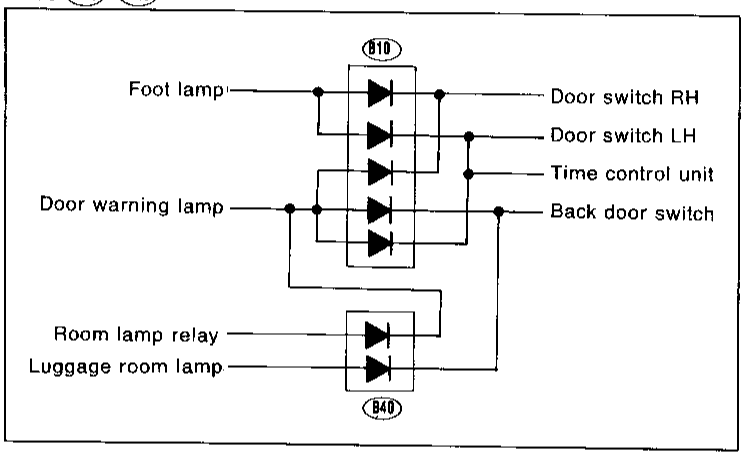
Body harness

- (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

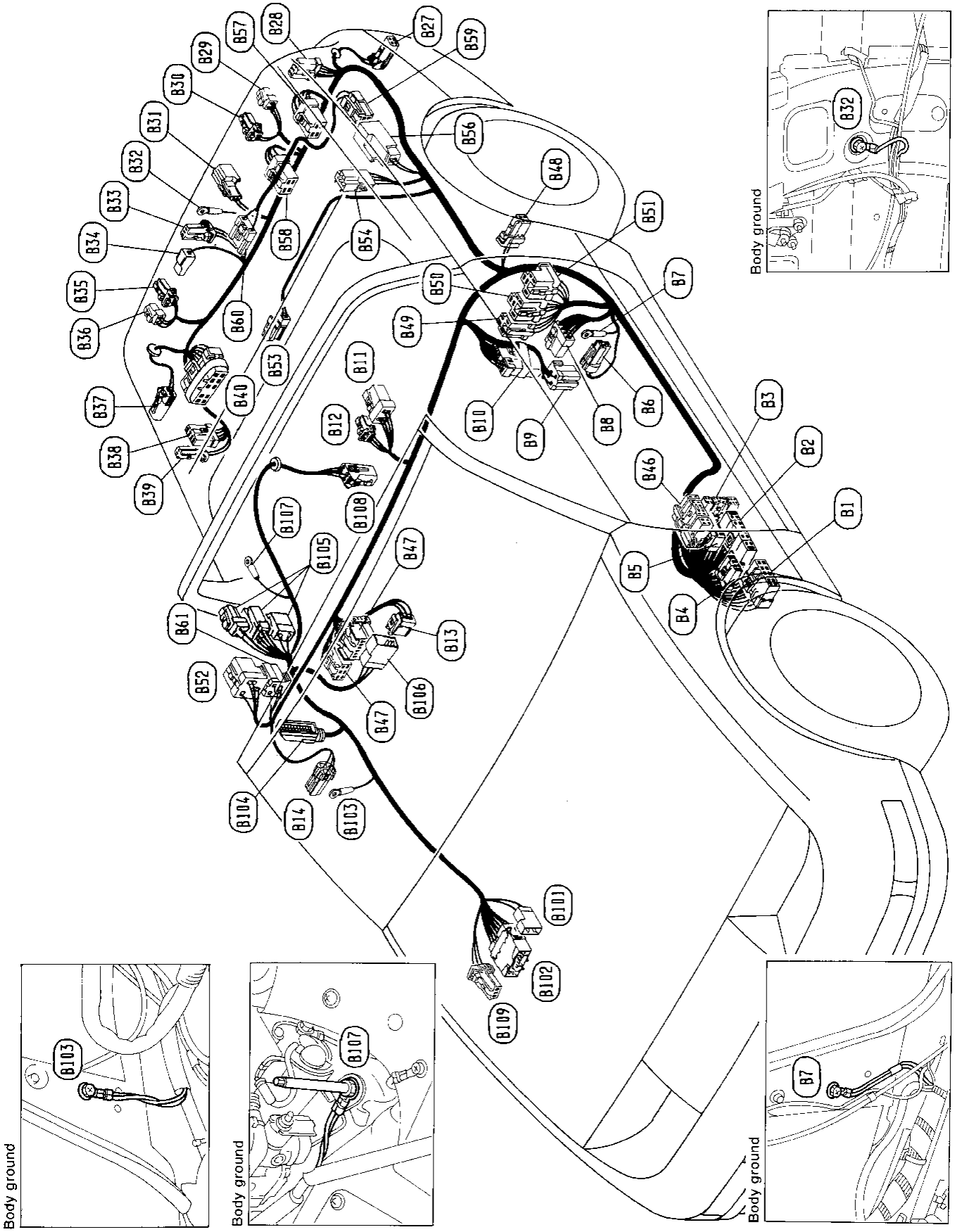
- (B101) : To engine room harness (E108)
- (B102) : To engine room harness (E109)
- (B103) : Body ground
- (B104) : ABS control unit
- (B105) : Actuator (For ABS)
- (B106) : To body harness (B13)
- (B107) : Body ground
- (B108) : Rear sensor (For ABS)
- (B109) : To main harness (M100)

Diode (B10) (B40)



Body Harness (Cont'd)

CONVERTIBLE



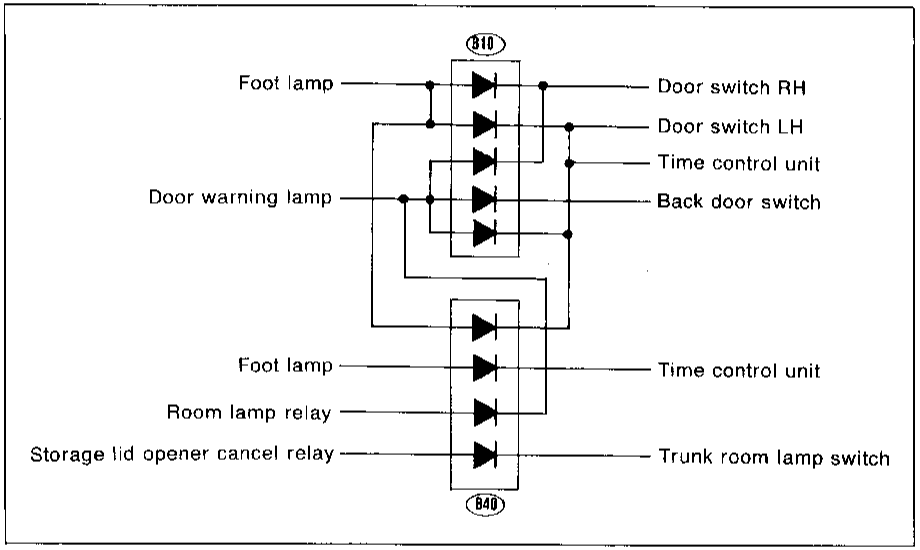
Body harness

- 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
- B46 : 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

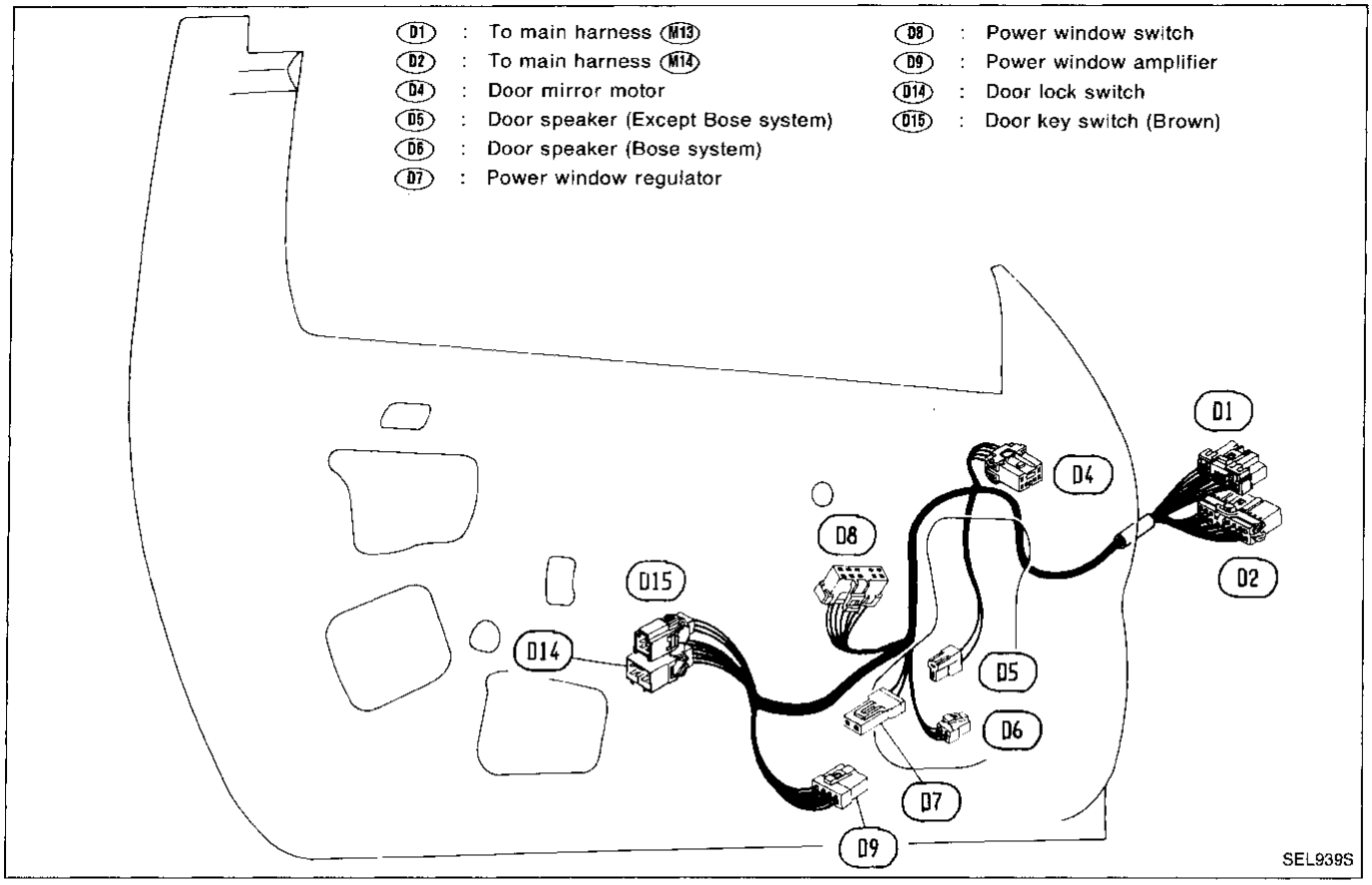
Body harness No. 2

- 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 braking system)
- B109 : To main harness M100

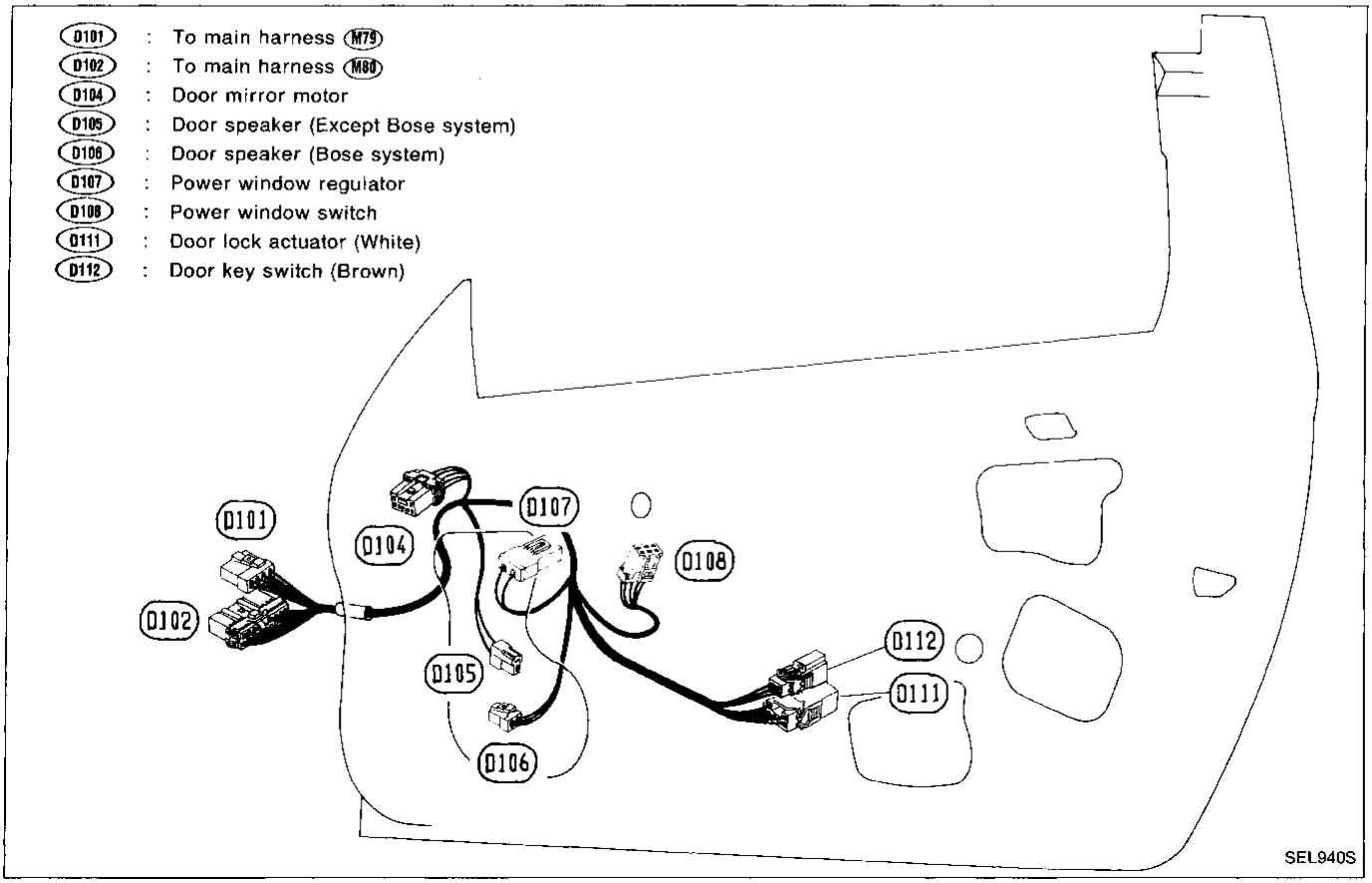
Diode B10 B40



Door Harness LH

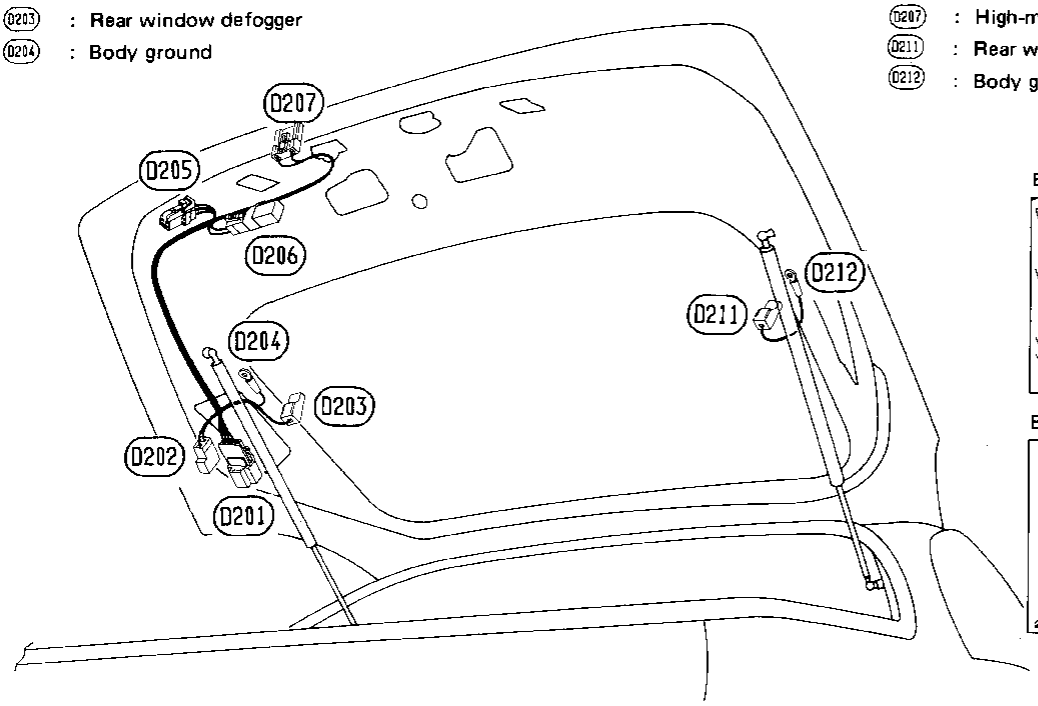


Door Harness RH

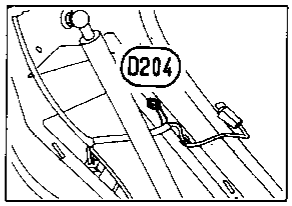


Back Door Harness

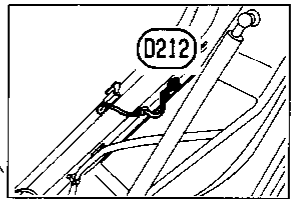
D201 : To body harness B20
D202 : To body harness B21
D203 : Rear window defogger
D204 : Body ground
D205 : Rear wiper motor
D206 : Condenser
D207 : High-mounted stop lamp
D211 : Rear window defogger
D212 : Body ground



Body ground



Body ground



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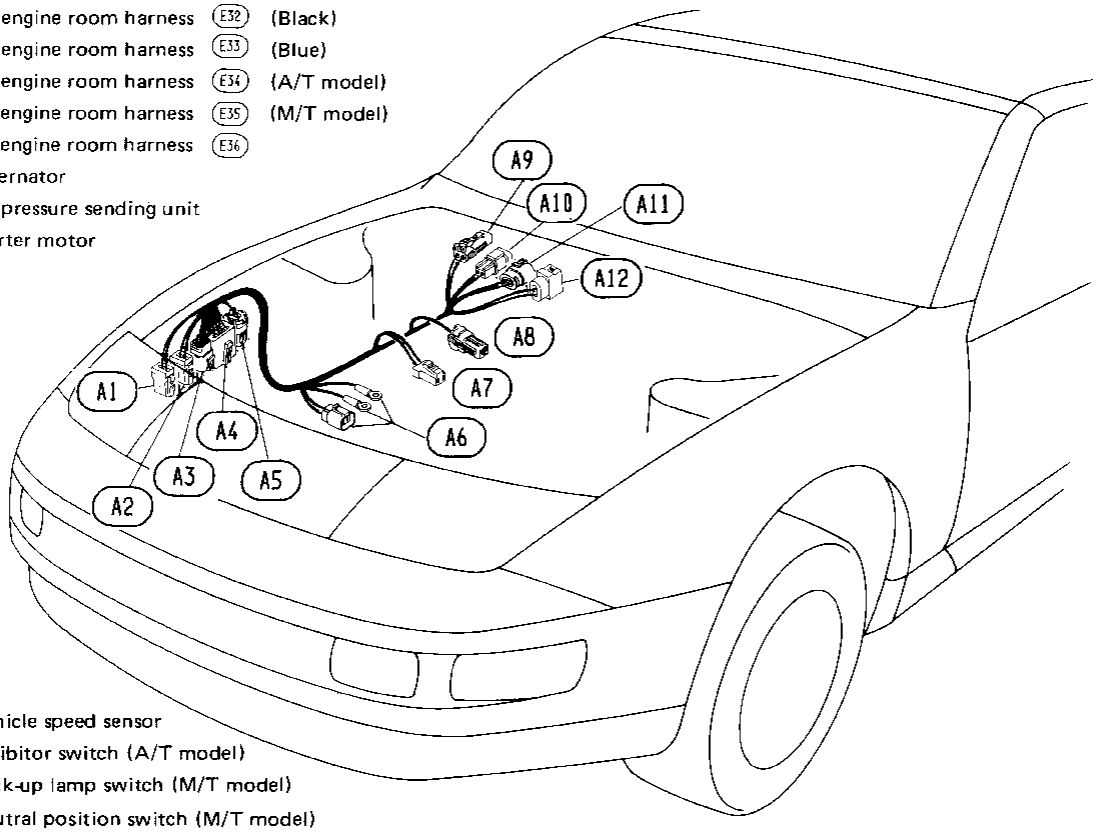
Alternator Harness

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)

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