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

Supplemental Restraint System "AIR BAG"

The Supplemental Restraint System "Air Bag" helps to reduce the risk or severity of injury to the driver in a frontal collision. The Supplemental Restraint System consists of an air bag (located in the center of the steering wheel), sensors, a control 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 "Air Bag".**

Description

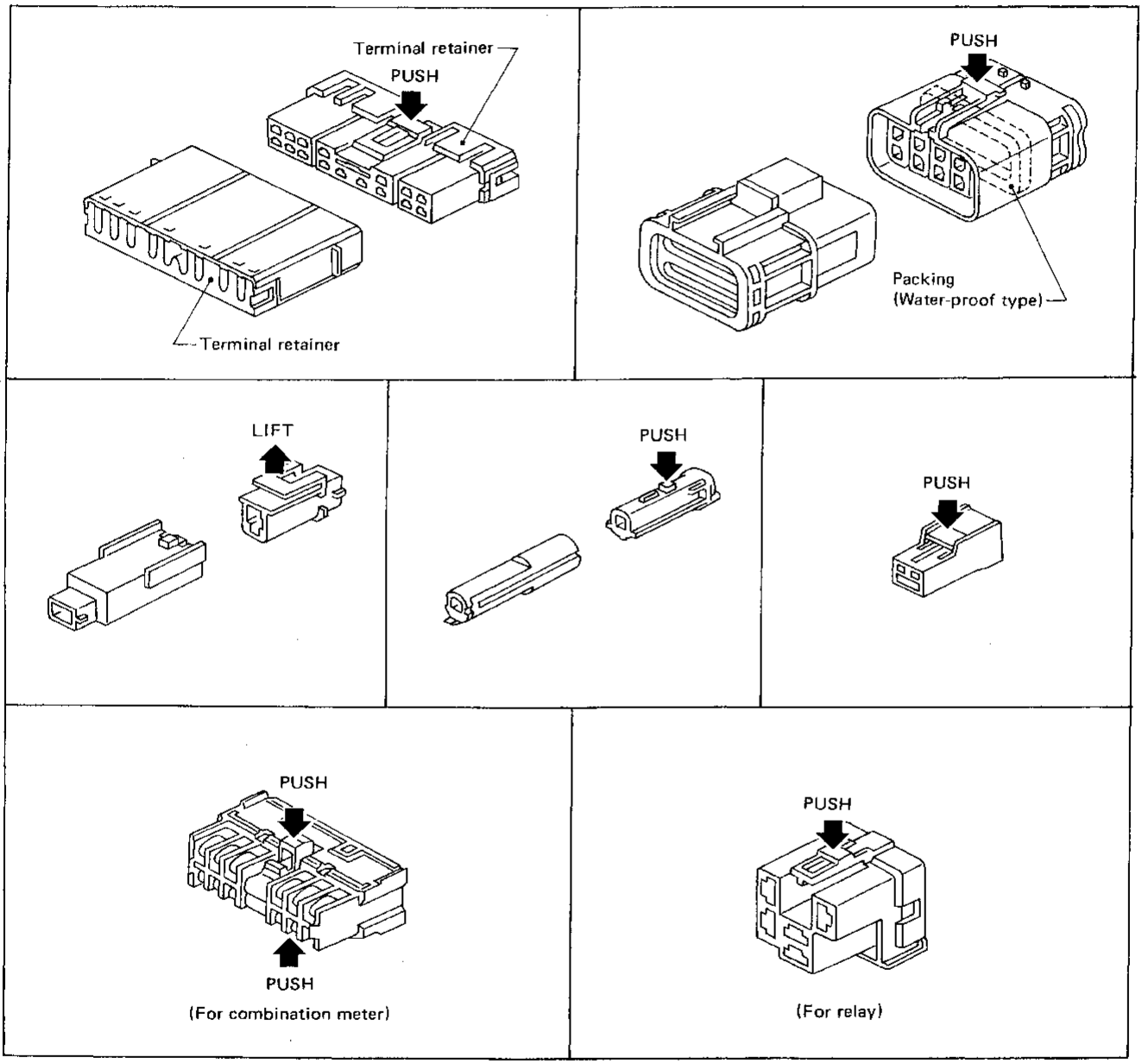
HARNESS CONNECTOR

- 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]

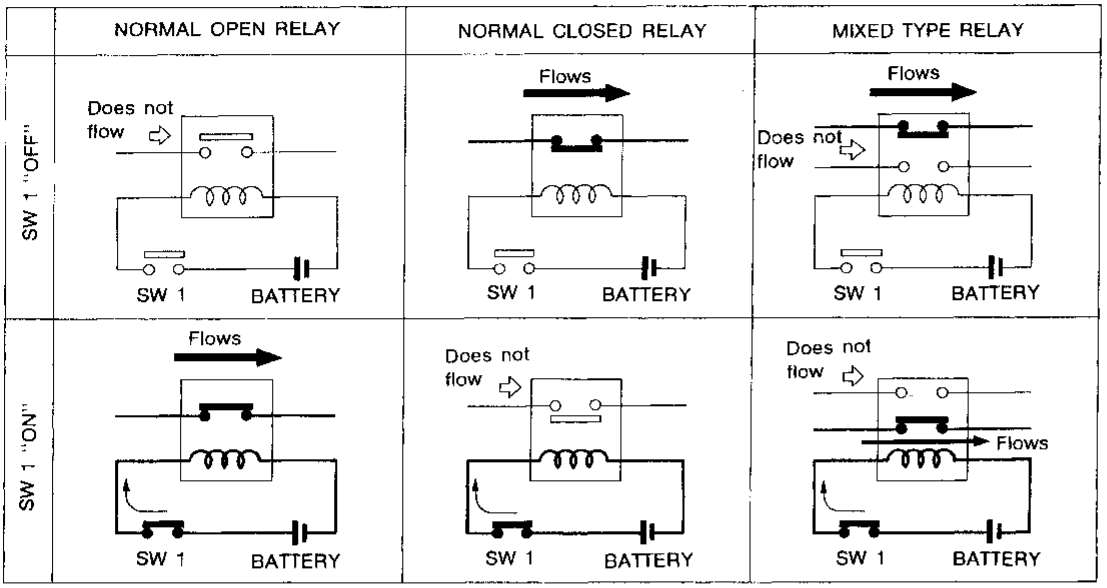


SEL769D

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

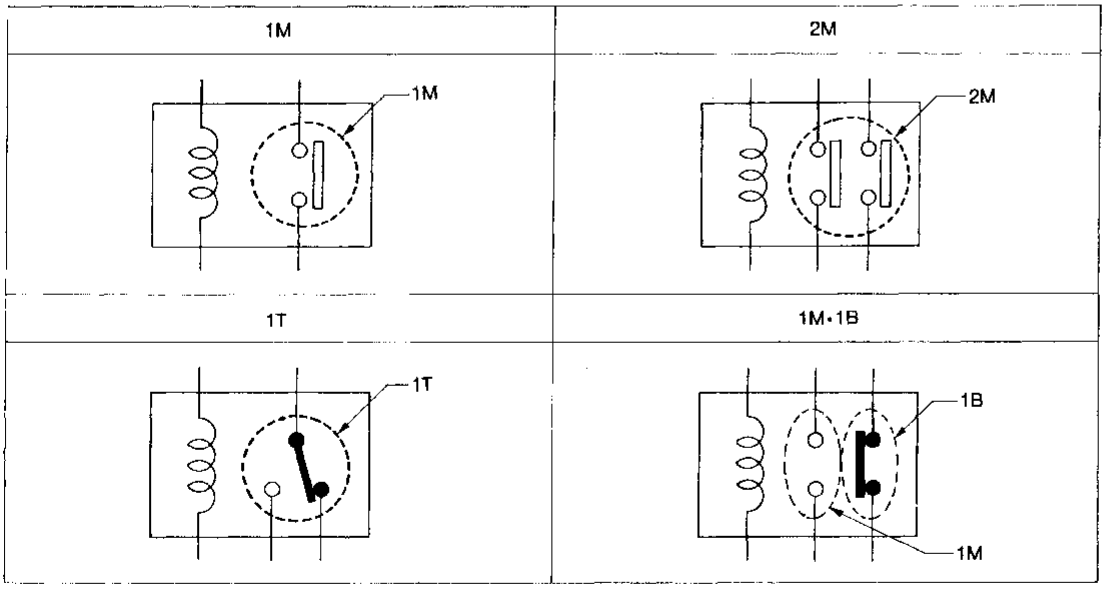
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



SEL881H

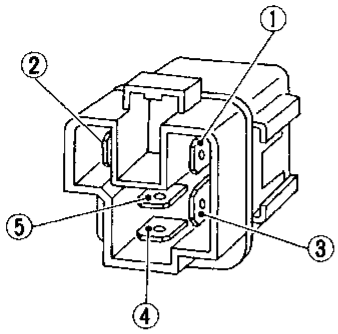
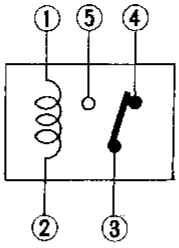
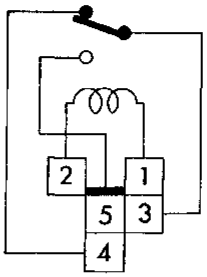
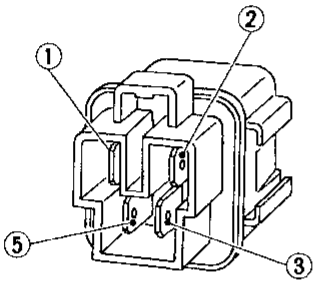
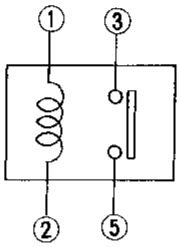
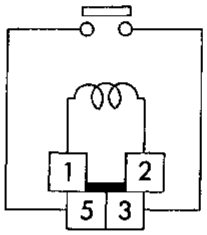
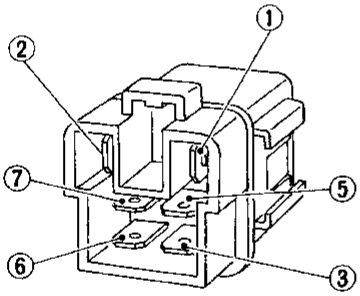
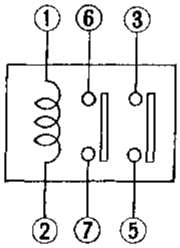
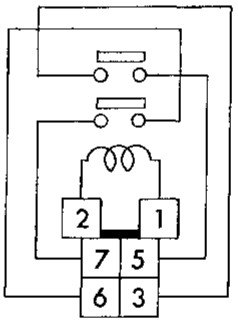
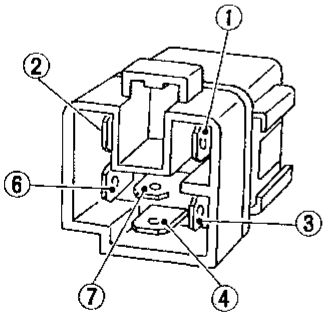
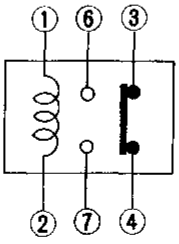
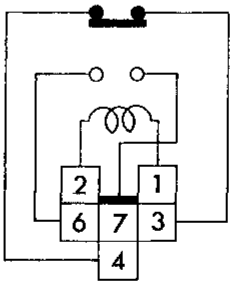
TYPE OF STANDARDIZED RELAYS

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



SEL882H

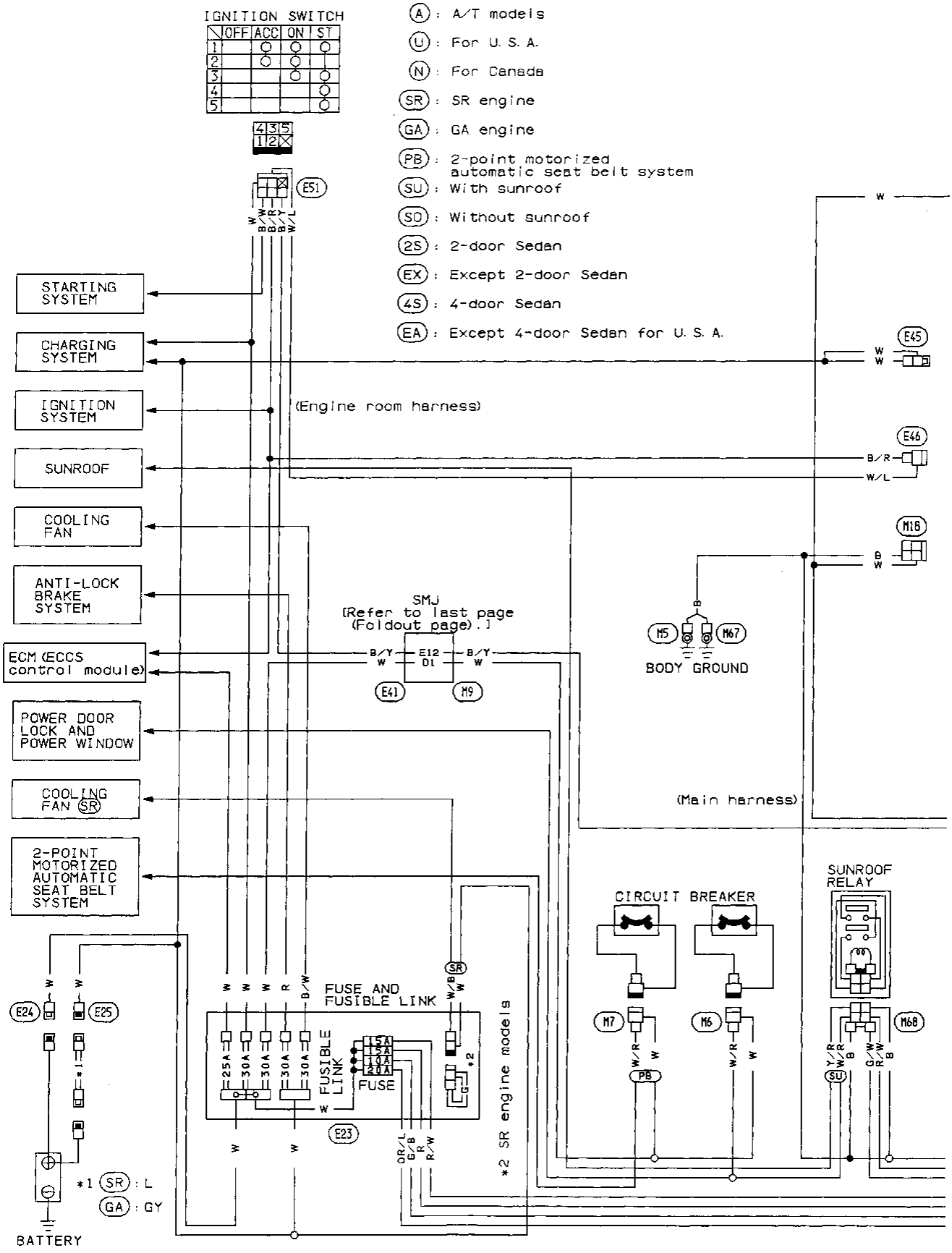
Description (Cont'd)

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

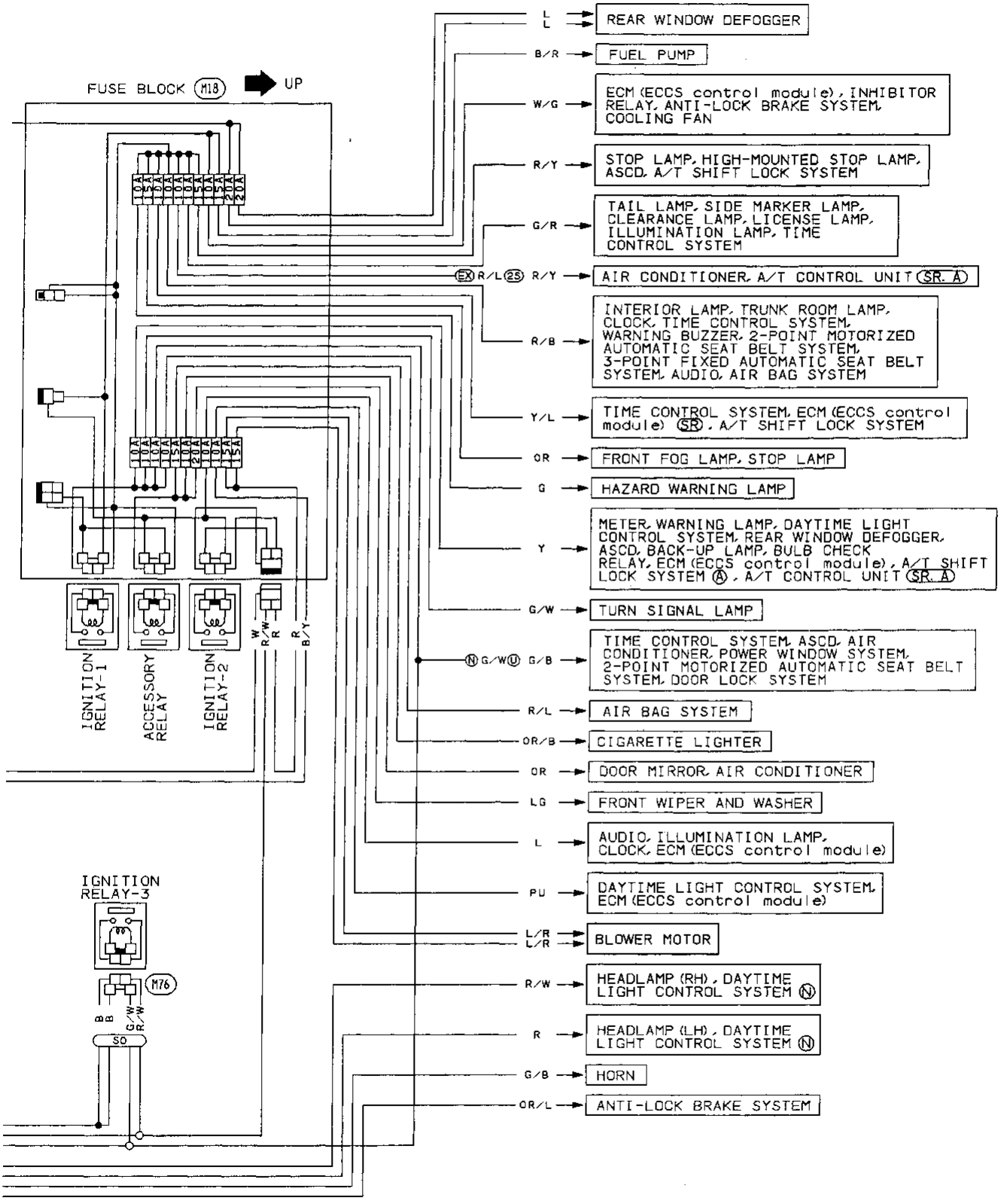
SEL883H

NOTE

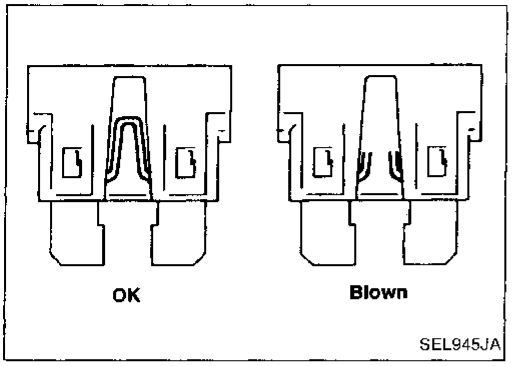
Wiring Diagram



Wiring Diagram (Cont'd)

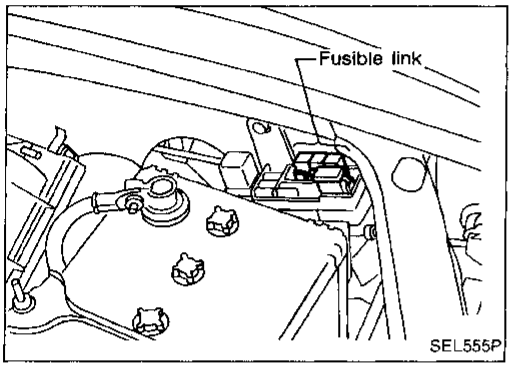


MEL684C



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 by visual inspection. If its condition is questionable, use circuit tester or test lamp.

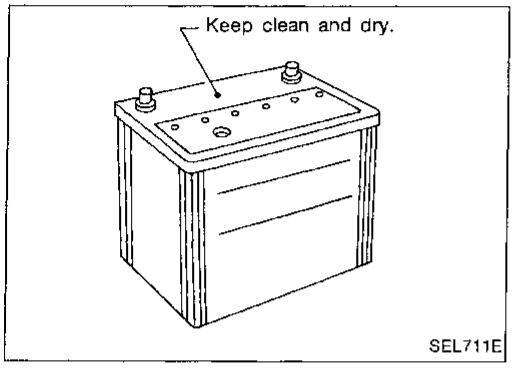
CAUTION:

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.**

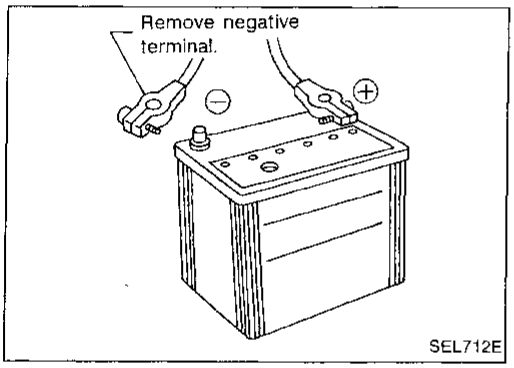


How to Handle Battery

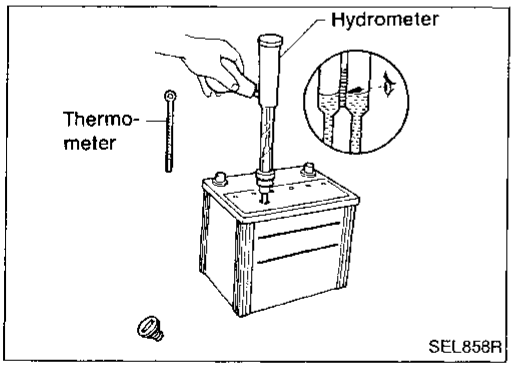
METHODS OF PREVENTING OVER-DISCHARGE

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.)



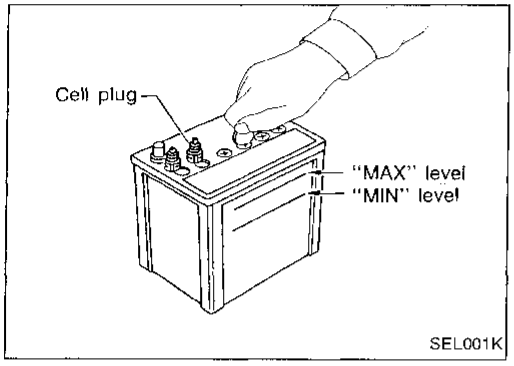
- Check the charge condition of the battery.
  Periodically check the specific gravity of the electrolyte. Keep a close check on charge condition to prevent over-discharge.

How to Handle Battery (Cont'd)

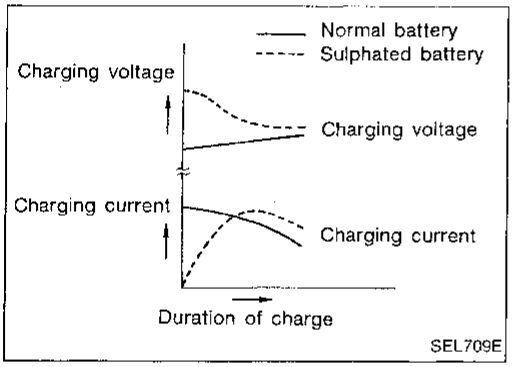
CHECKING ELECTROLYTE LEVEL

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.



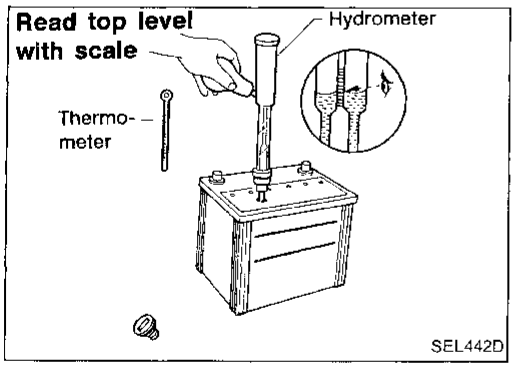
- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



SULPHATION

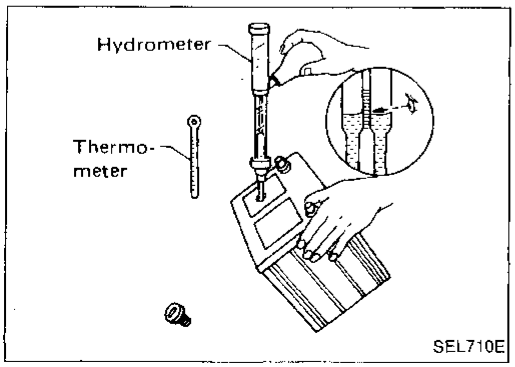
When a battery has been left unattended for a long period of time and has a specific gravity of less than 1.100, it will be completely discharged, resulting in sulphation on the cell plates.

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.



- When electrolyte level is too low, tilt battery case to raise it for easy measurement.

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

How to Handle Battery (Cont'd)

Do not charge at more than 50 ampere rate.

Note: The ammeter reading on your battery charger will automatically decrease as the battery charges. This indicates that the voltage of the battery is increasing normally as the state of charge improves. The charging amps indicated above refer to initial charge rate.

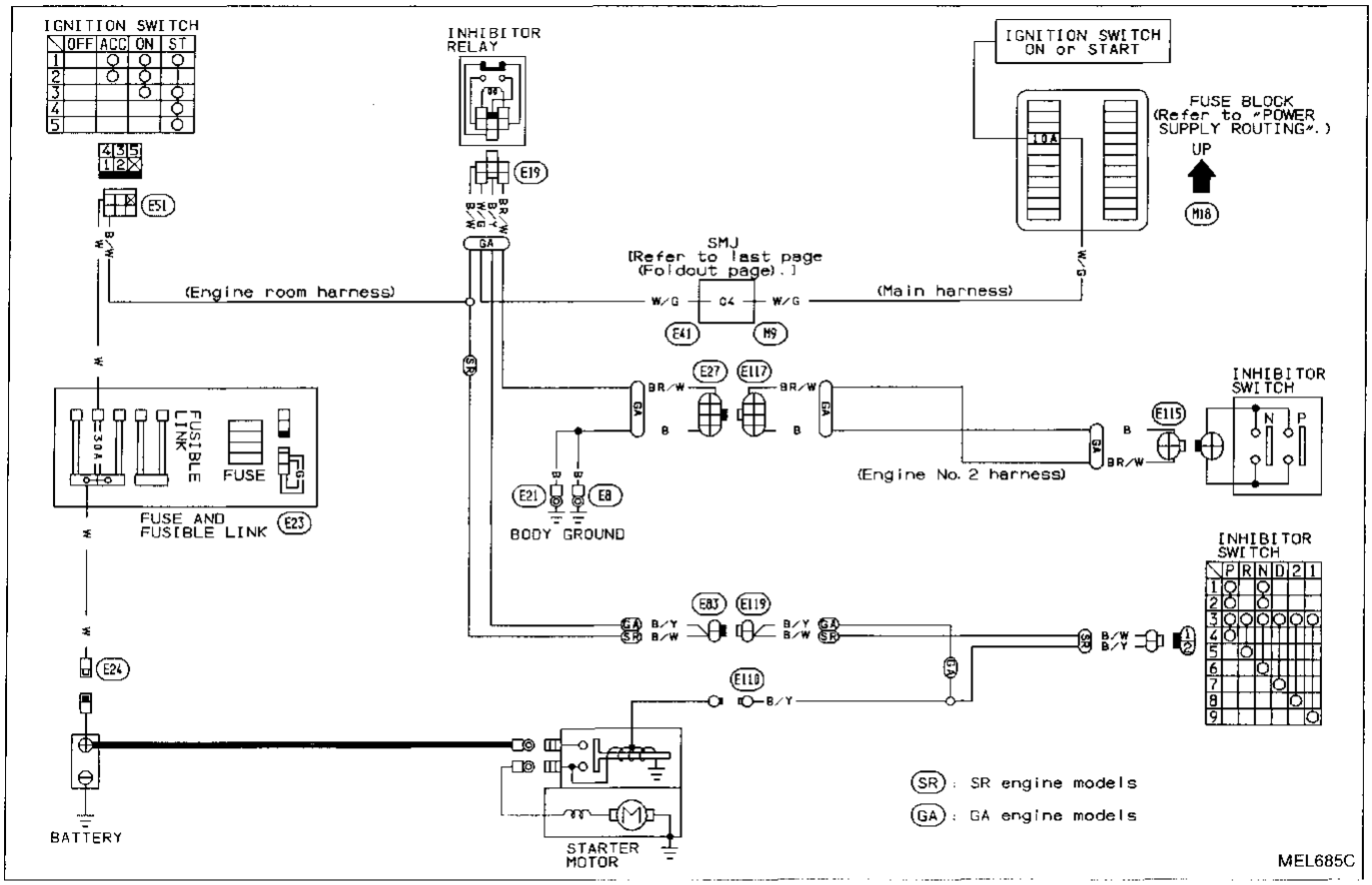
- **If, after charging, the specific gravity of any two cells varies more than .050, the battery should be replaced.**

Service Data and Specifications (SDS)

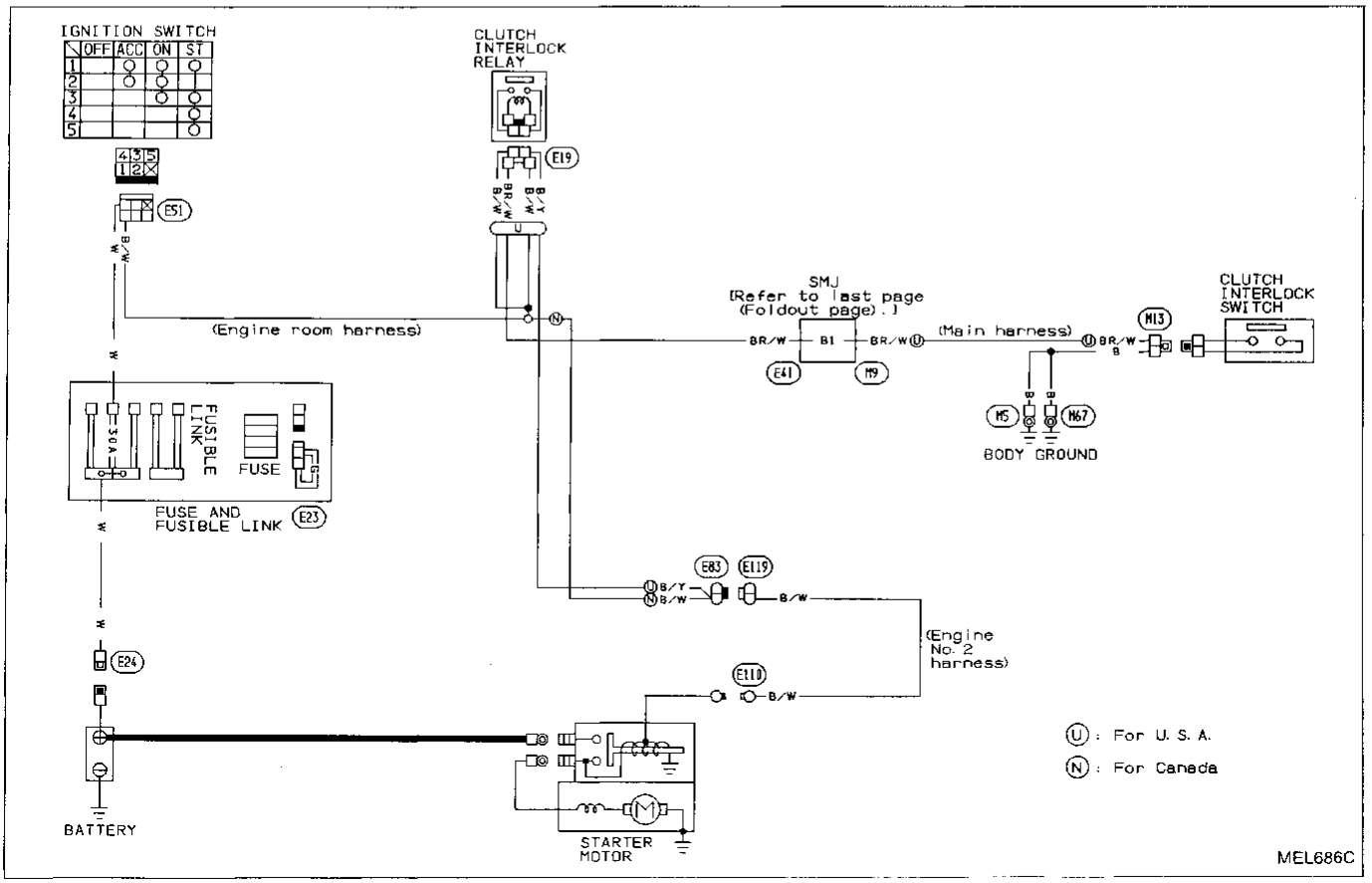
Destination		U.S.A.		Canada	
Applied model		Standard	Option for SR20DE	SR20DE	GA16DE
Type		55D23L	80D26L		65D26L
Capacity	V-AH	12-60	12-65		12-65

A/T models

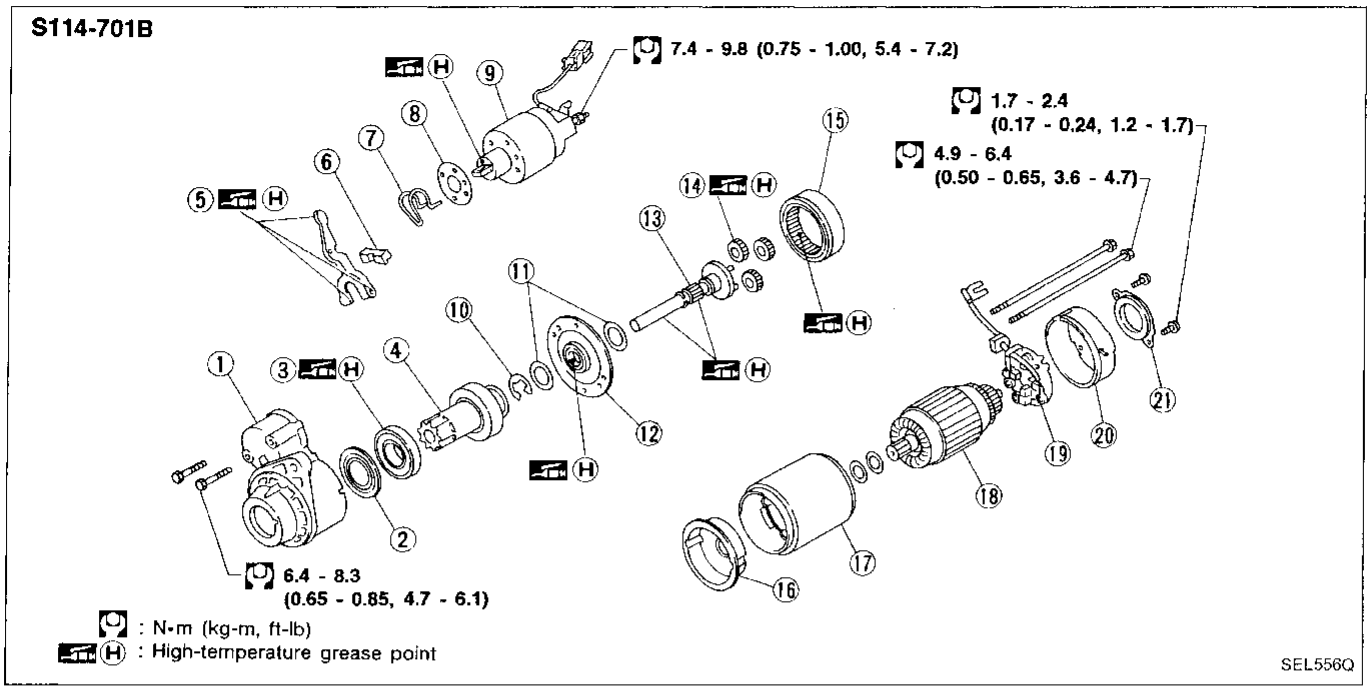
Wiring Diagram



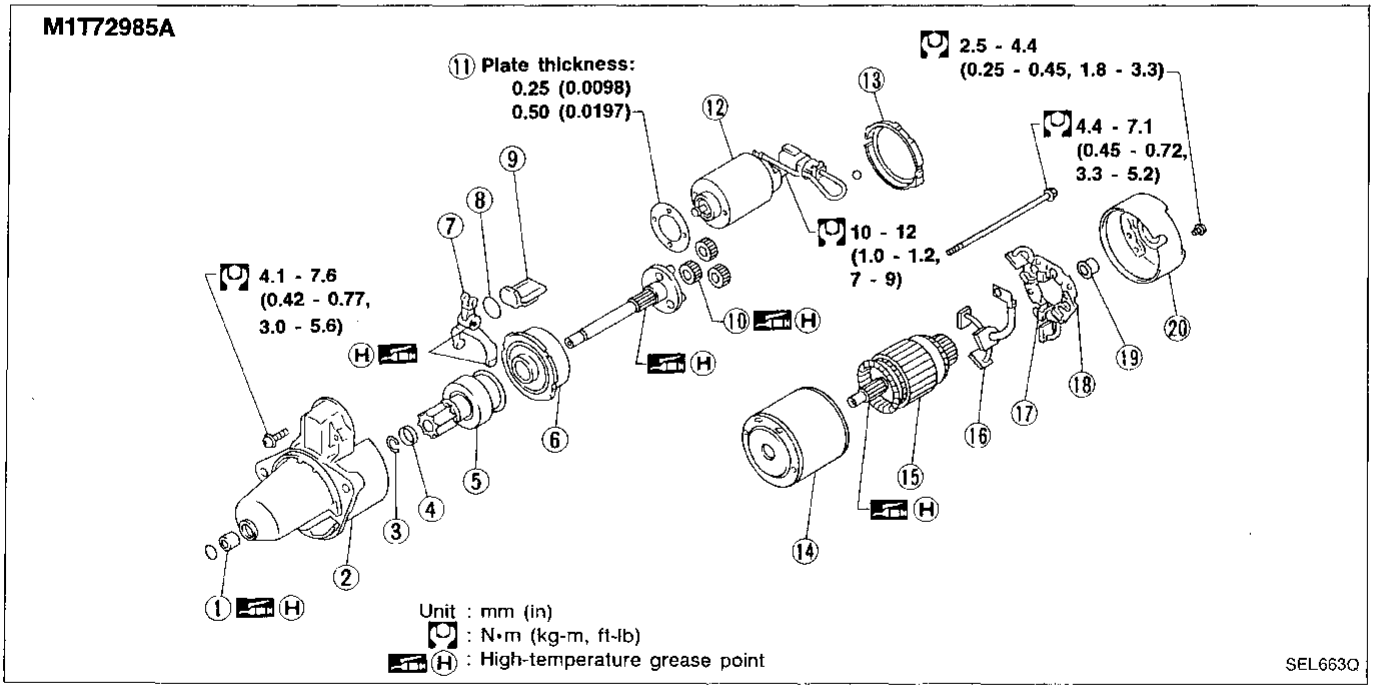
M/T models



Construction

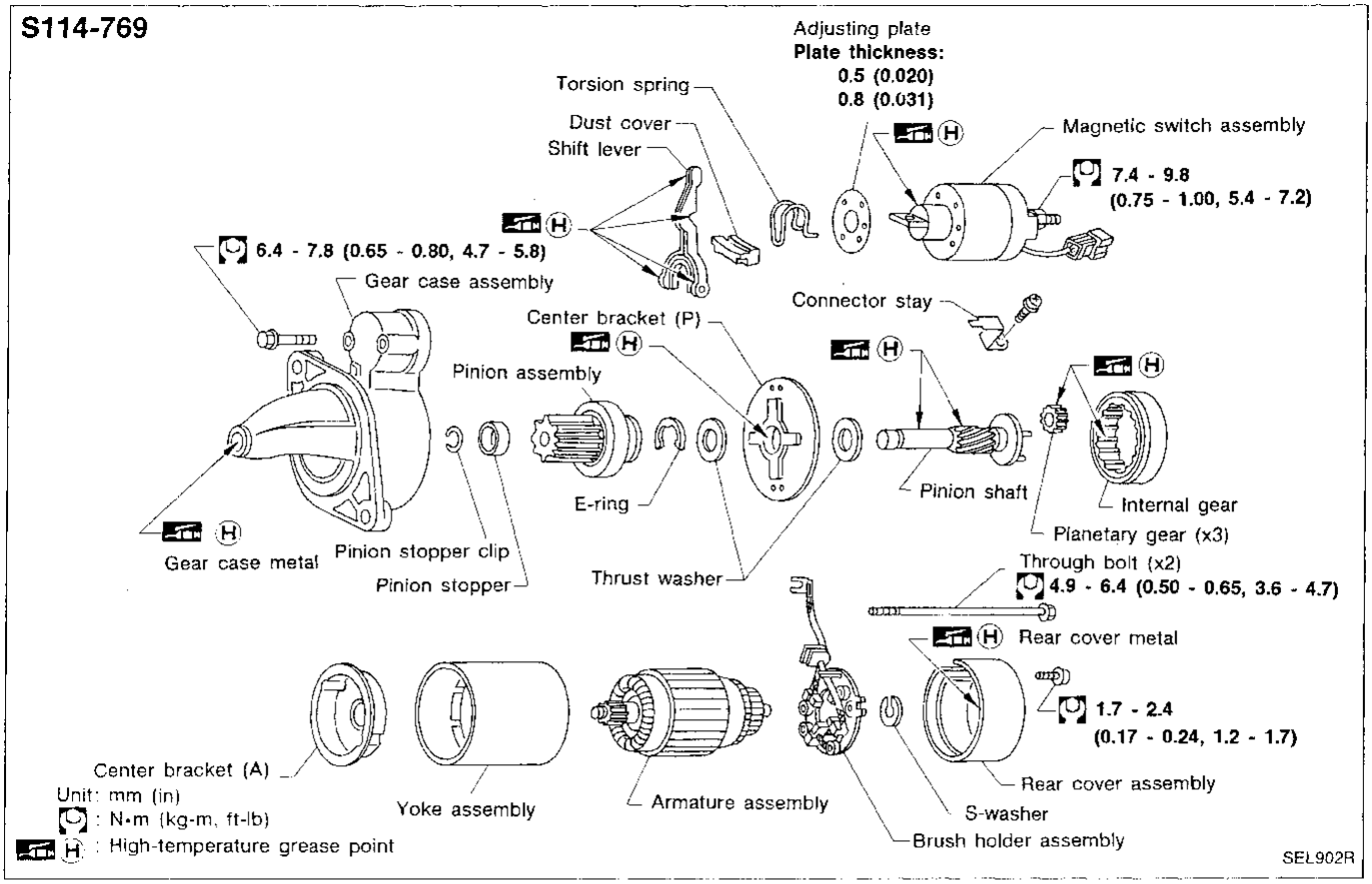


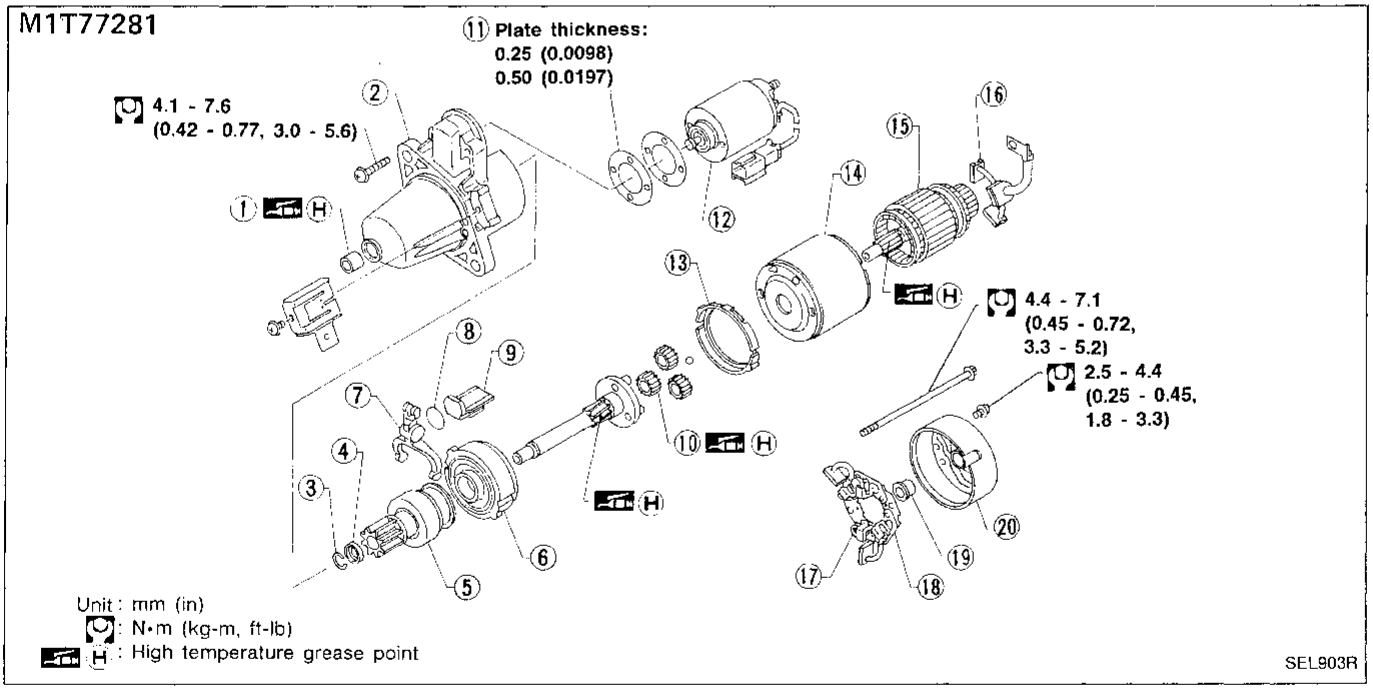
① Gear case
② Bearing cover
③ Ball bearing
④ Pinion assembly
⑤ Shift lever
⑥ Dust cover
⑦ Torsion spring
⑧ Adjusting plate
⑨ Magnetic switch assembly
⑩ E-ring
⑪ Thrust washer
⑫ Center bracket
⑬ Pinion shaft
⑭ Planetary gear
⑮ Internal gear
⑯ Center bracket
⑰ Yoke assembly
⑱ Armature
⑲ Brush holder assembly
⑳ Rear cover
㉑ Dust cover



① Sleeve bearing
② Gear case
③ Stopper clip
④ Pinion stopper
⑤ Pinion assembly
⑥ Internal gear
⑦ Shift lever
⑧ Plate
⑨ Packing
⑩ Planetary gear
⑪ Adjusting plate
⑫ Magnetic switch assembly
⑬ Packing
⑭ Yoke
⑮ Armature
⑯ Bush (+)
⑰ Brush spring
⑱ Brush holder
⑲ Bearing
⑳ Rear cover

Construction (Cont'd)

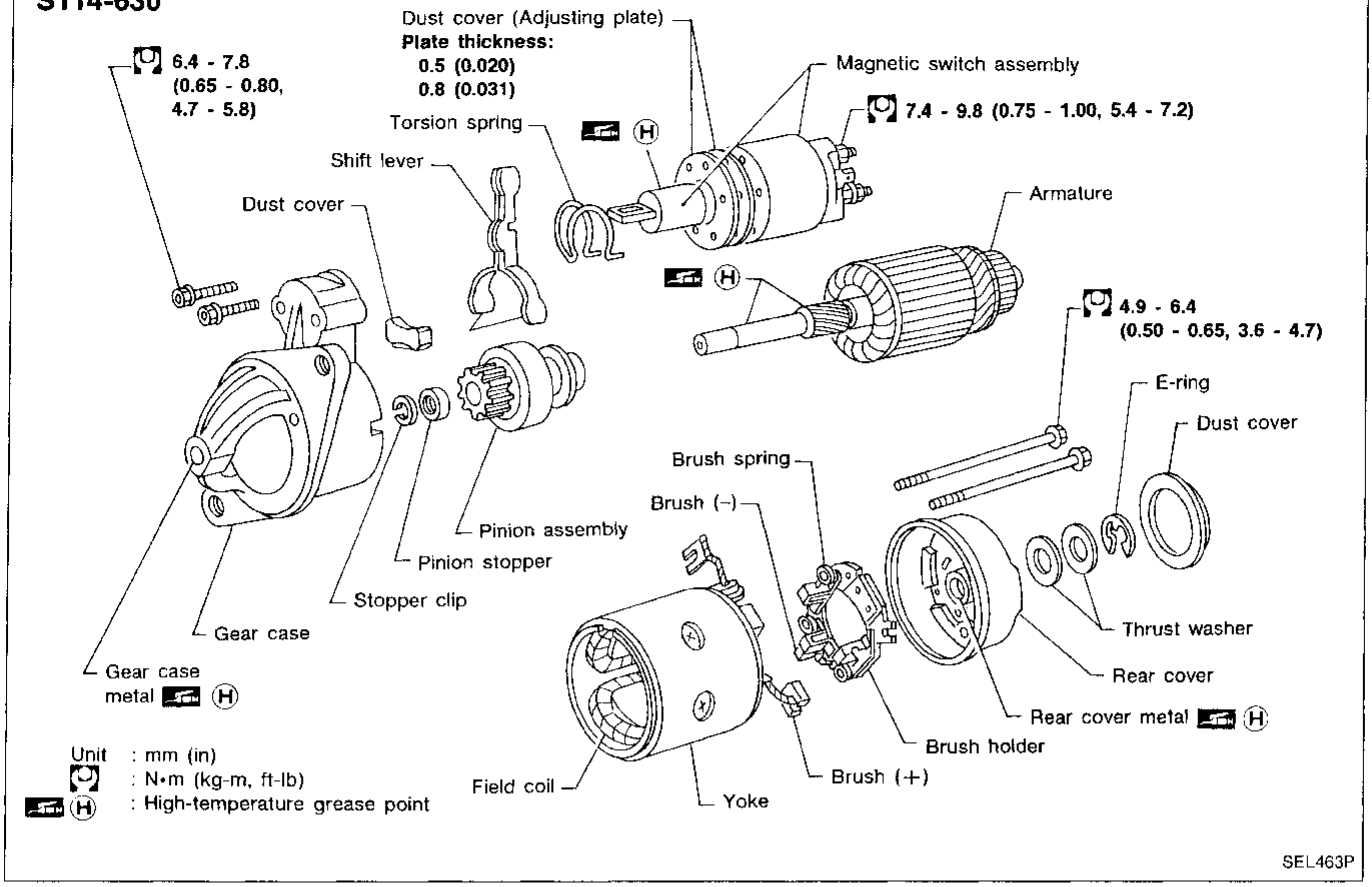




① Sleeve bearing
② Gear case
③ Stopper clip
④ Pinion stopper
⑤ Pinion assembly
⑥ Internal gear
⑦ Shift lever
⑧ Plate
⑨ Packing
⑩ Planetary gear
⑪ Adjusting plate
⑫ Magnetic switch assembly
⑬ Packing
⑭ Yoke
⑮ Armature
⑯ Brush (+)
⑰ Brush spring
⑱ Brush holder
⑲ Bearing
⑳ Rear cover

Construction (Cont'd)

S114-630



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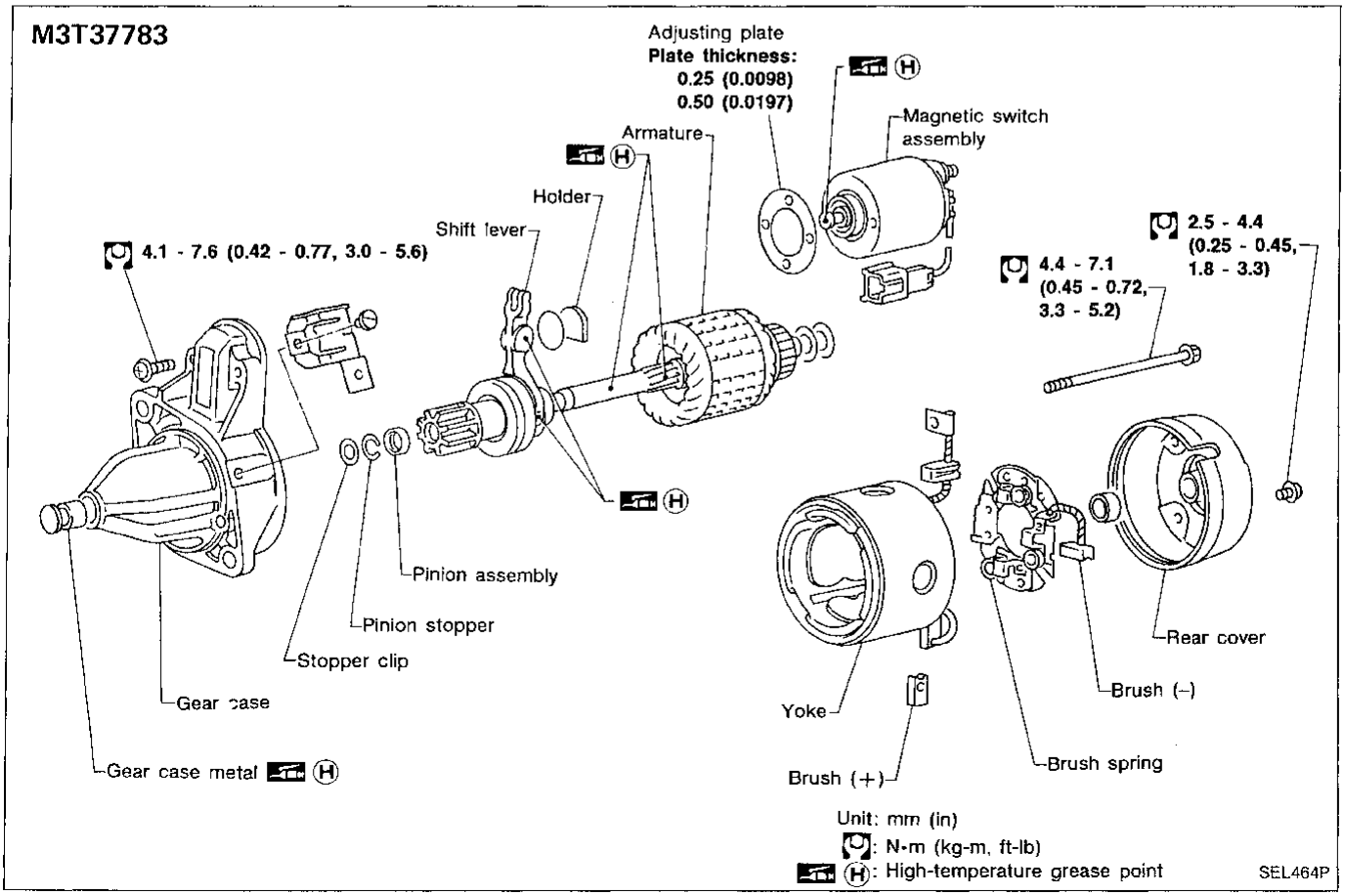
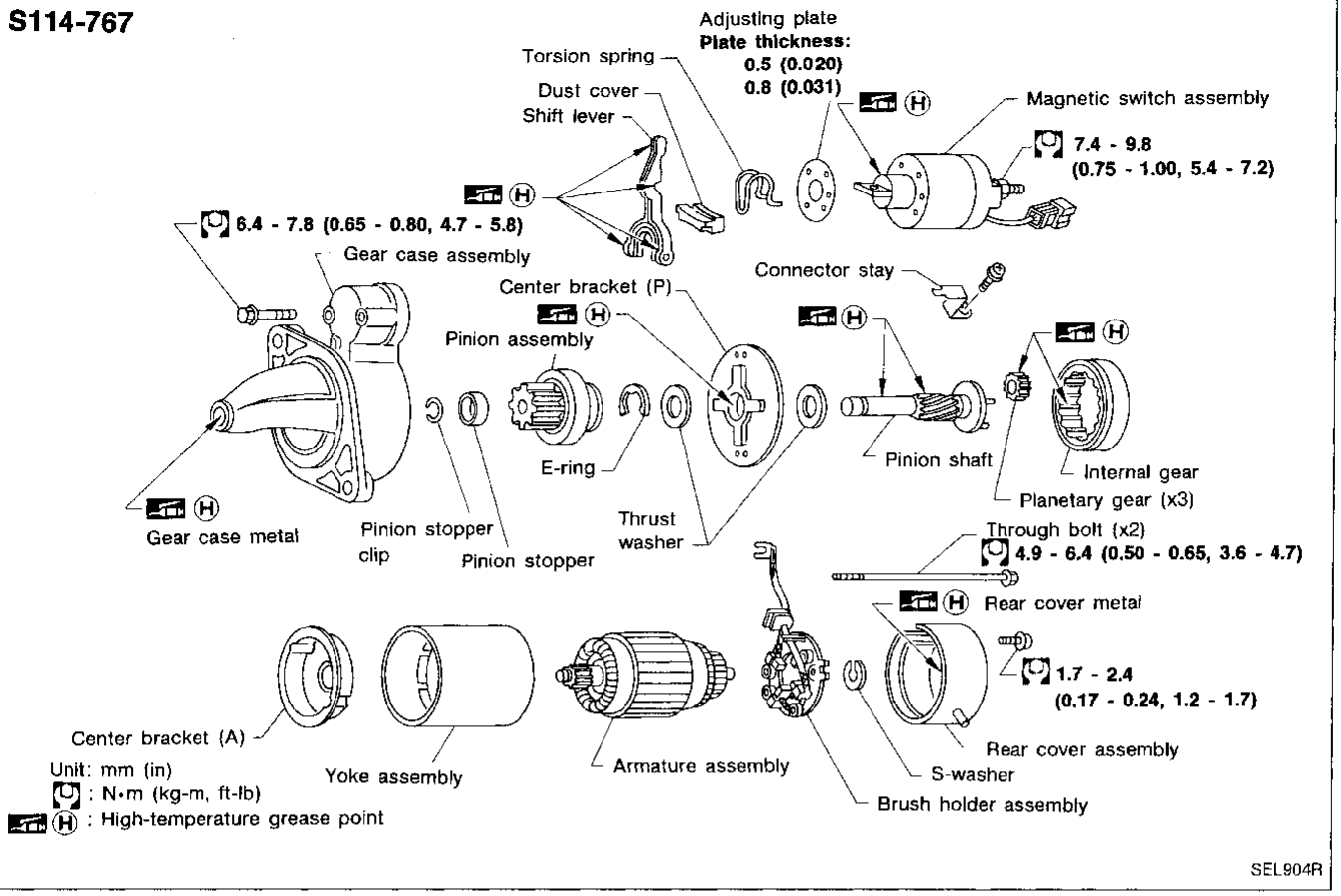
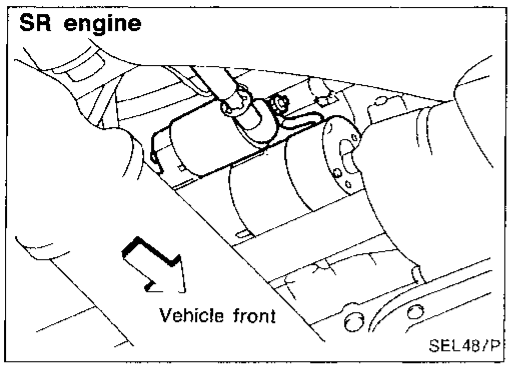


Construction (Cont'd)

S114-767





Removal and Installation

REMOVAL

1. Remove battery negative cable from battery.
2. Remove intake air duct.
3. Remove starter motor mounting bolts.
4. Remove battery cable from starter motor.
5. Disconnect harness connector from starter motor harness.
6. Remove starter motor:
   - from under vehicle [SR engine].
   - from transaxle side [GA engine (M/T)].
   - from engine side [GA engine (A/T)].

INSTALLATION

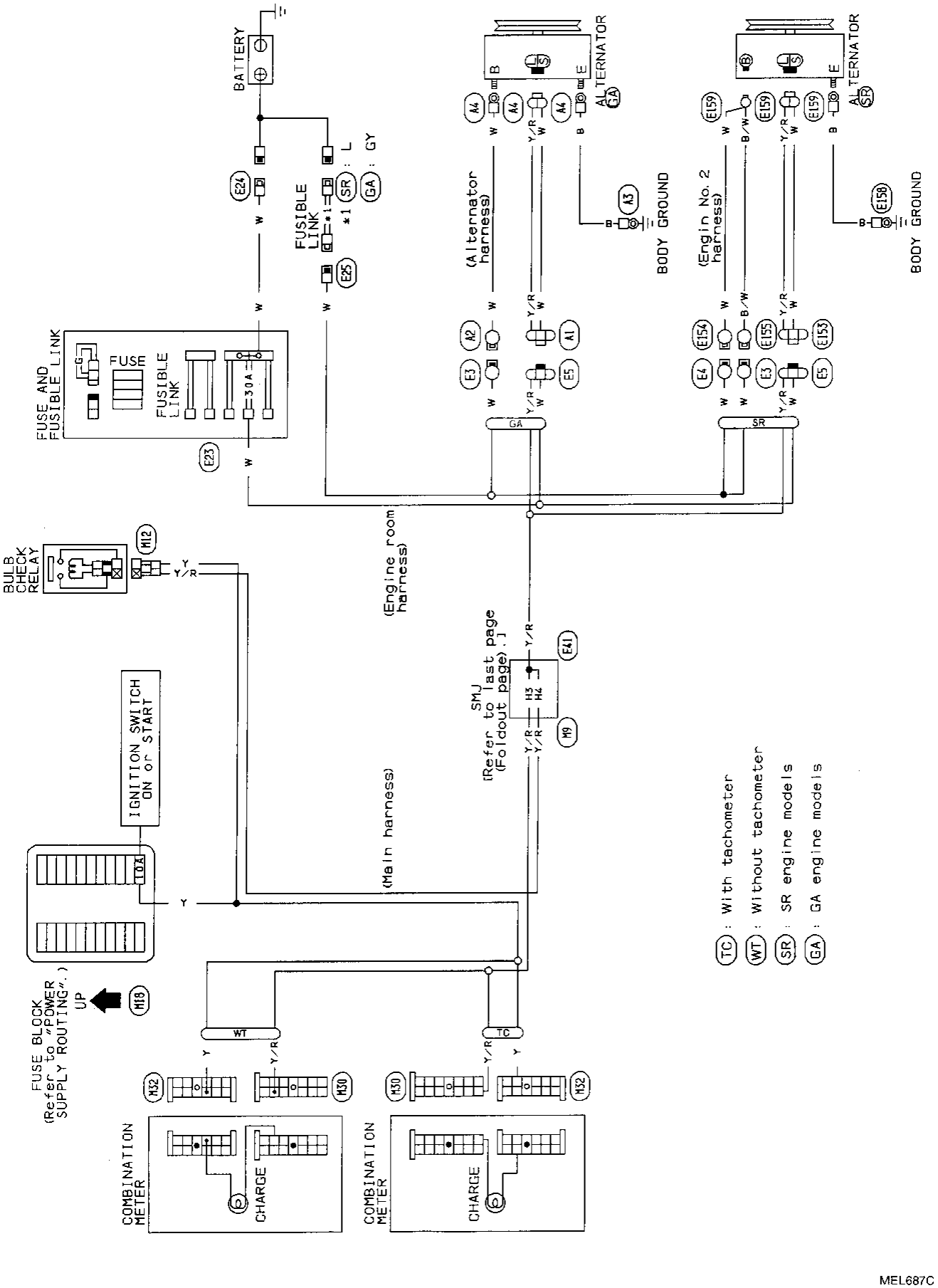
- Installation procedure is basically the reverse order of removal.

Service Data and Specifications (SDS)

STARTER

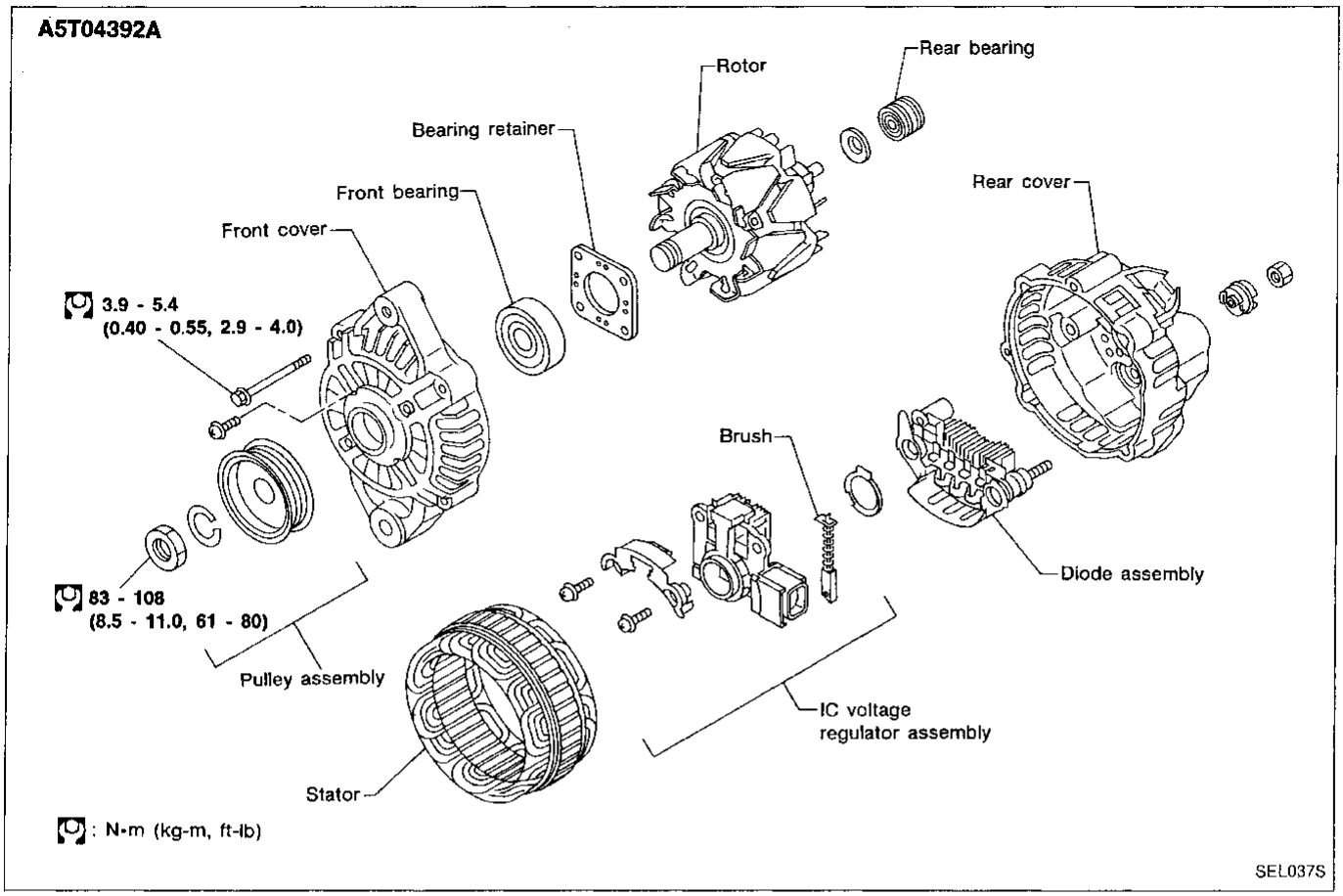
Type	S114-701B	M1T72985A	S114-769	M1T77281	S114-630	M3T37783	S114-767
	HITACHI	MITSUBISHI	HITACHI	MITSUBISHI	HITACHI	MITSUBISHI	HITACHI
	Reduction type				Non-reduction type		Reduction type
Applied model	SR20DE		GA16DE M/T except for California		GA16DE M/T for California		GA16DE A/T
System voltage V	12						
No load							
Terminal voltage V	11.0				11.5		11.0
Current A	Less than 90	50 - 75	Less than 85	50 - 75	Less than 60		Less than 90
Revolution rpm	More than 2,950	3,000 - 4,000	More than 2,950	3,000 - 4,000	More than 7,000	More than 6,500	More than 2,950
Minimum diameter of commutator mm (in)	32.0 (1.260)	28.8 (1.134)	28.0 (1.102)	28.8 (1.134)	39.0 (1.535)	31.4 (1.236)	28.0 (1.102)
Minimum length of brush mm (in)	11.0 (0.433)	12.0 (0.472)	10.5 (0.413)	12.0 (0.472)	11.0 (0.433)	11.5 (0.453)	10.5 (0.413)
Brush spring tension N (kg, lb)	17.7 - 21.6 (1.8 - 2.2, 4.0 - 4.9)	13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7)	14.7 - 17.7 (1.5 - 1.8, 3.3 - 4.0)	13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7)	17.7 - 21.6 (1.8 - 2.2, 4.0 - 4.9)	13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7)	14.7 - 17.7 (1.5 - 1.8, 3.3 - 4.0)
Clearance between bearing metal and armature shaft mm (in)	0.03 - 0.3 (0.0012 - 0.0118)	Less than 0.2 (0.008)	—	Less than 0.2 (0.008)	Less than 0.2 (0.008)	—	—
Clearance "f" between pinion front edge and pinion stopper mm (in)	0.05 - 1.5 (0.0020 - 0.0591)	0.5 - 2.0 (0.020 - 0.079)	0.3 - 2.5 (0.012 - 0.098)	0.5 - 2.0 (0.020 - 0.079)	0.3 - 2.5 (0.012 - 0.098)	0.5 - 2.0 (0.020 - 0.079)	0.3 - 2.5 (0.012 - 0.098)
Movement "f" in height of pinion assembly mm (in)	—	—	—	—	—	—	—

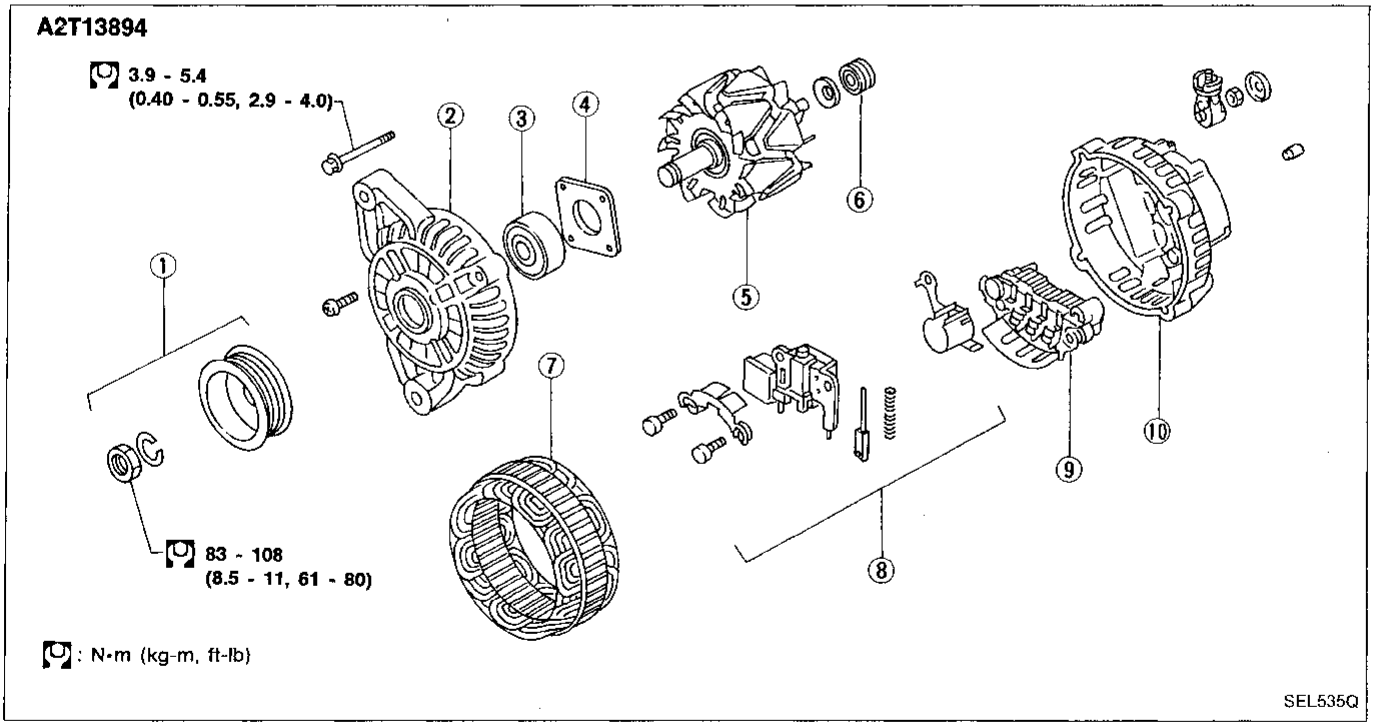
Wiring Diagram



MEL687C

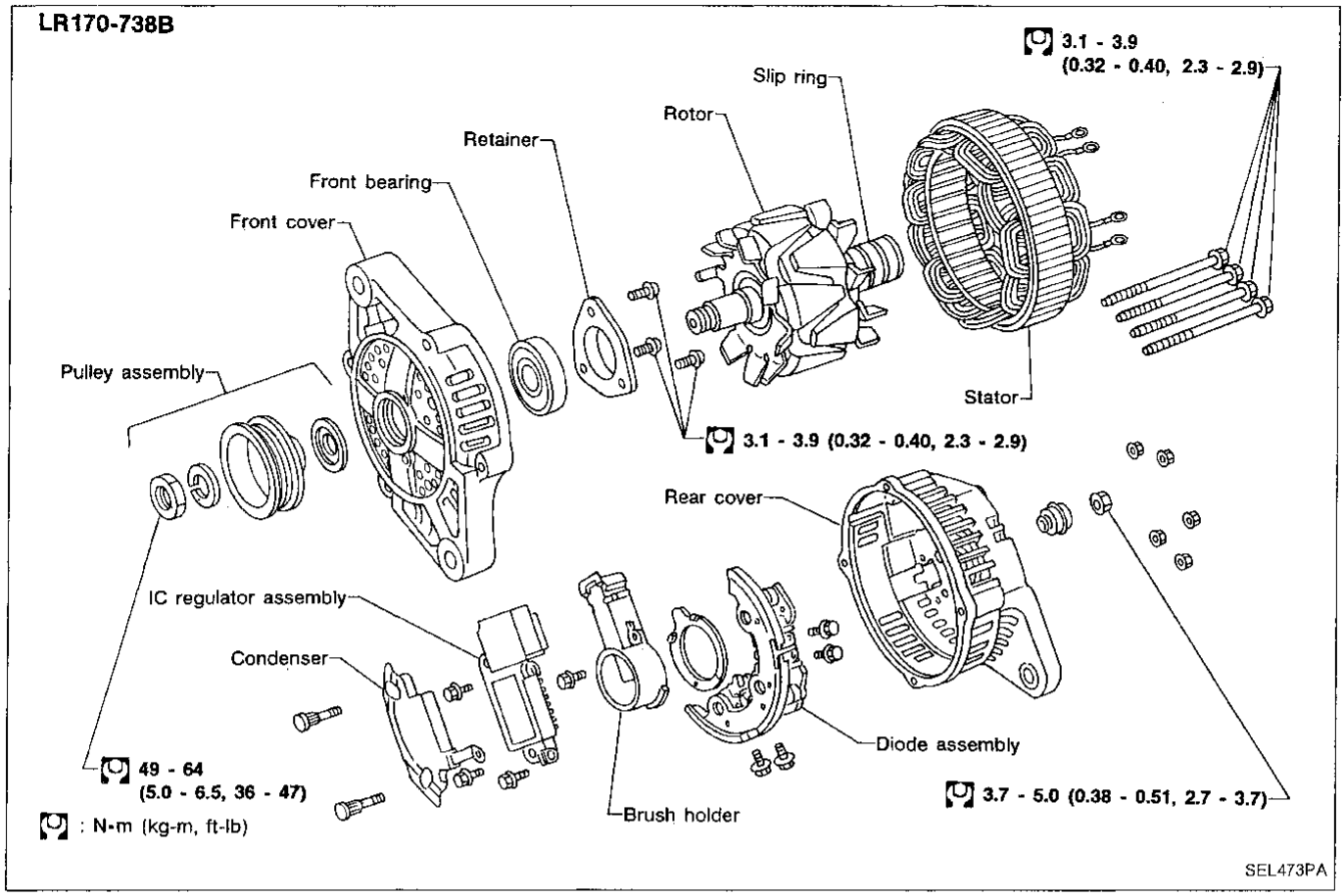
Construction

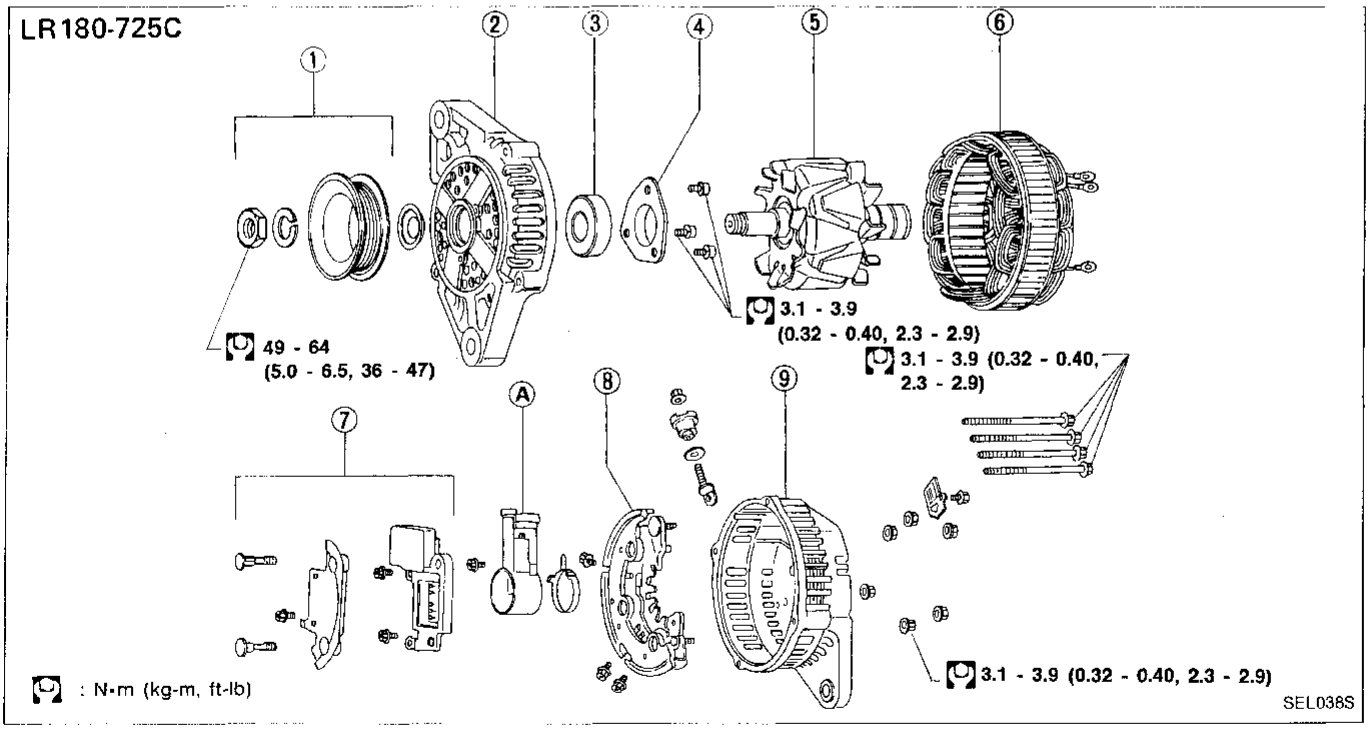




① Pulley assembly
② Front cover
③ Front bearing
④ Bearing retainer
⑤ Rotor
⑥ Rear bearing
⑦ Stator
⑧ IC voltage regulator assembly
⑨ Diode assembly
⑩ Rear cover

Construction (Cont'd)



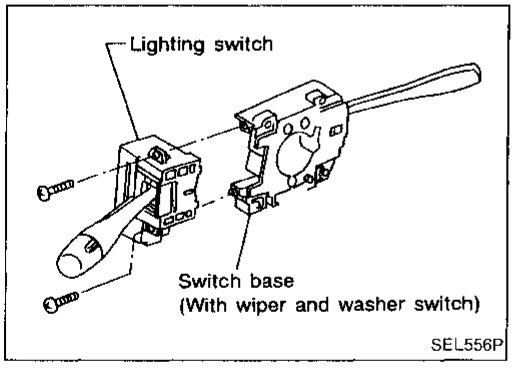


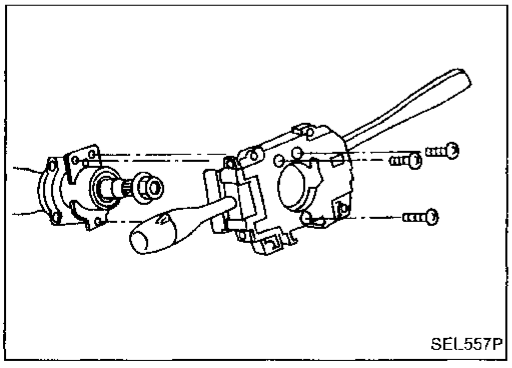
① Pulley assembly
② Front cover
③ Bearing
④ Bearing retainer
⑤ Rotor
⑥ Stator
⑦ IC regulator assembly
⑧ Diode assembly
⑨ Rear cover
Ⓐ Brush holder

Service Data and Specifications (SDS)

ALTERNATOR

Type		LR180-725C	A2T13894	LR170-738C	A5T04392A
		HITACHI	MITSUBISHI	HITACHI	MITSUBISHI
Applied model		SR20DE		GA16DE	
Nominal rating	V-A	12-80		12-70	
Ground polarity		Negative			
Minimum revolution under no-load (When 13.5 volts is applied)	rpm	Less than 1,000	1,300	Less than 1,000	Less than 1,300
Hot output current	A/rpm	More than 23/1,300 More than 63/2,500 More than 77/5,000	More than 22/1,300 More than 65/2,500	More than 22/1,300 More than 50/2,500 More than 67/5,000	More than 21/1,300 More than 50/2,500
Regulated output voltage	V	14.1 - 14.7			
Minimum length of brush	mm (in)	6.0 (0.236)	8.0 (0.315)	6.0 (0.236)	8.0 (0.315)
Brush spring pressure	N (g, oz)	1.000 - 3.432 (102 - 350, 3.60 - 12.34)	3.138 - 4.315 (320 - 440, 11.29 - 15.52)	1.000 - 3.432 (102 - 350, 360 - 12.34)	3.138 - 4.315 (320 - 440, 11.29 - 15.52)
Slip ring minimum outer diameter	mm (in)	More than 26.0 (1.024)	More than 22.1 (0.870)	More than 26.0 (1.024)	More than 22.1 (0.870)
Rotor (Field coil) resistance	Ω	2.6 - 2.7	2.3 - 2.7	2.5 - 2.6	2.5 - 3.0



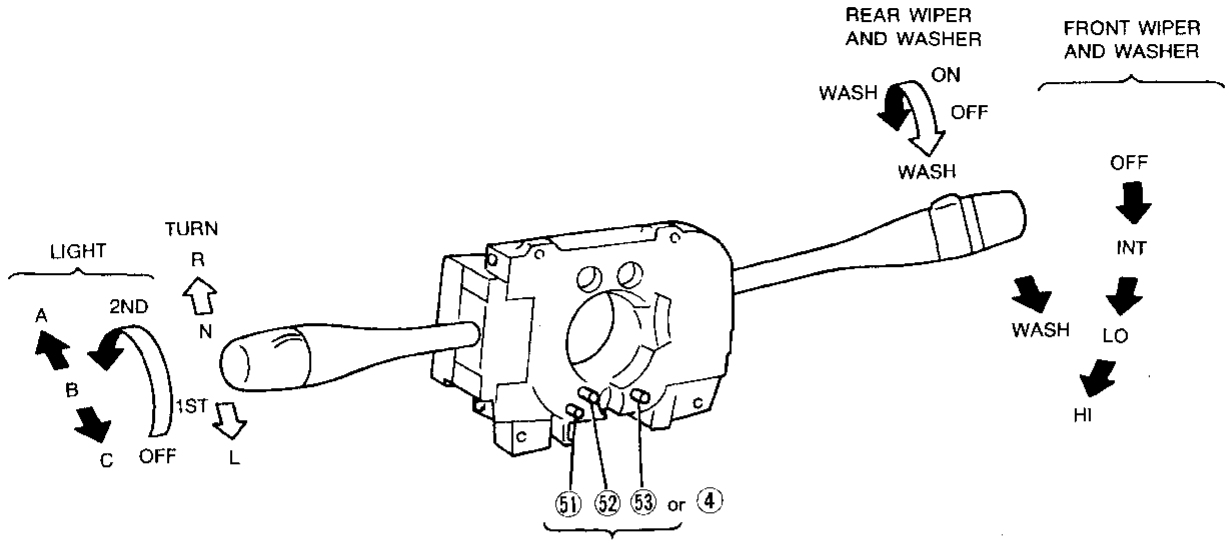


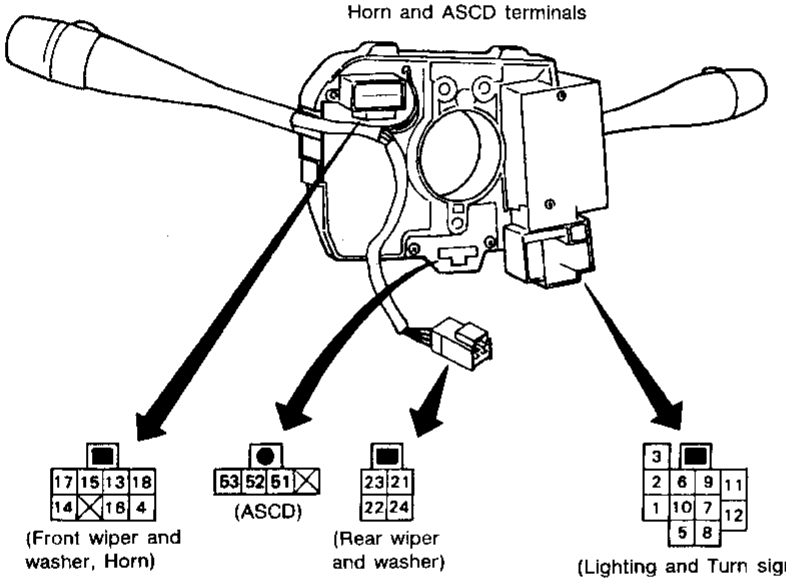
Replacement

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

- Lighting switch can be replaced without removing combination switch base.
- To remove combination switch base, remove base attaching screw.

Check





LIGHTING SWITCH

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

TURN SIGNAL SWITCH

	R	N	L
1	○		○
2	○		
3			○

WIPER SWITCH

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

WIPER AMPLIFIER (In combination switch)

INTERMITTENT WIPER VOLUME

(With intermittent)

	OFF	LO	HI	WASH
13	○			
14	○	○		
16			○	
17		○	○	○
18				○

(Without intermittent)

REAR WIPER SWITCH

	WASH	OFF	ON	WASH
21	○		○	○
22		○		
23	○			
24			○	○

ASCD SWITCH

	RES ACCEL	SET COAST	CANCEL
53	○	○	○
52		○	○
51	○		○

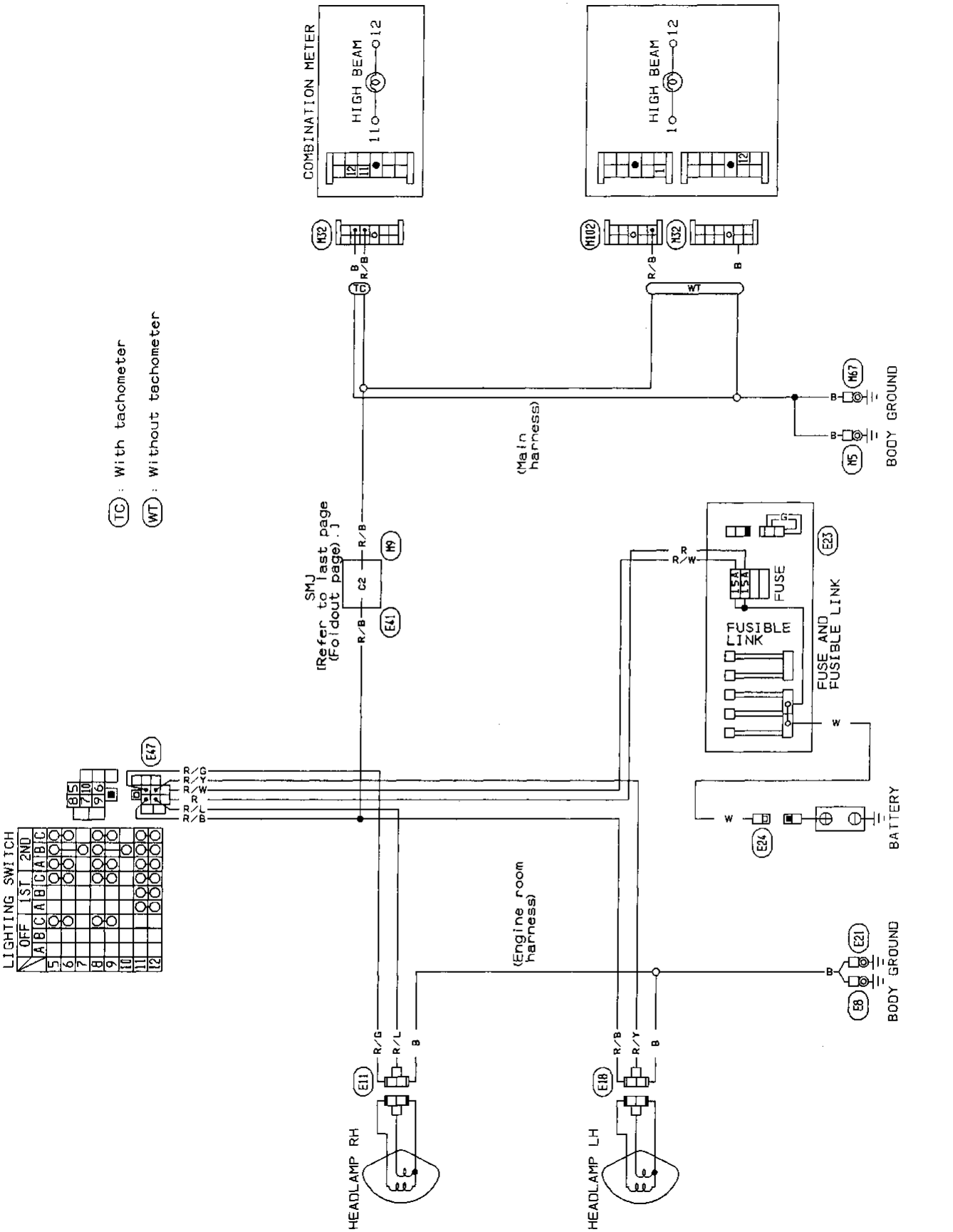
HORN SWITCH

(With ASCD) (53)

(Without ASCD) (4)

MEL322AA

Wiring Diagram (For U.S.A.)



MEL688C

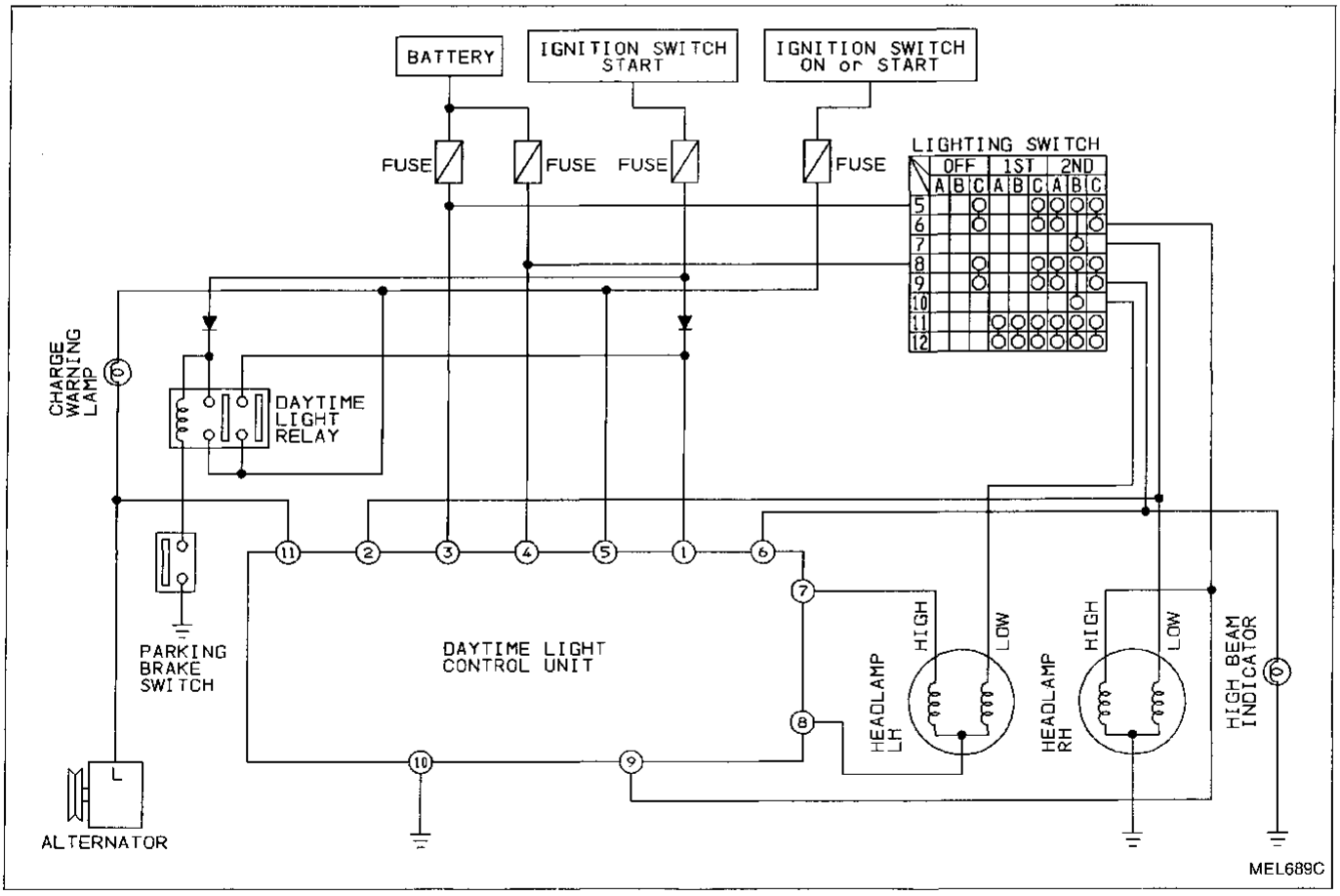
Operation (Daytime light system for Canada)

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

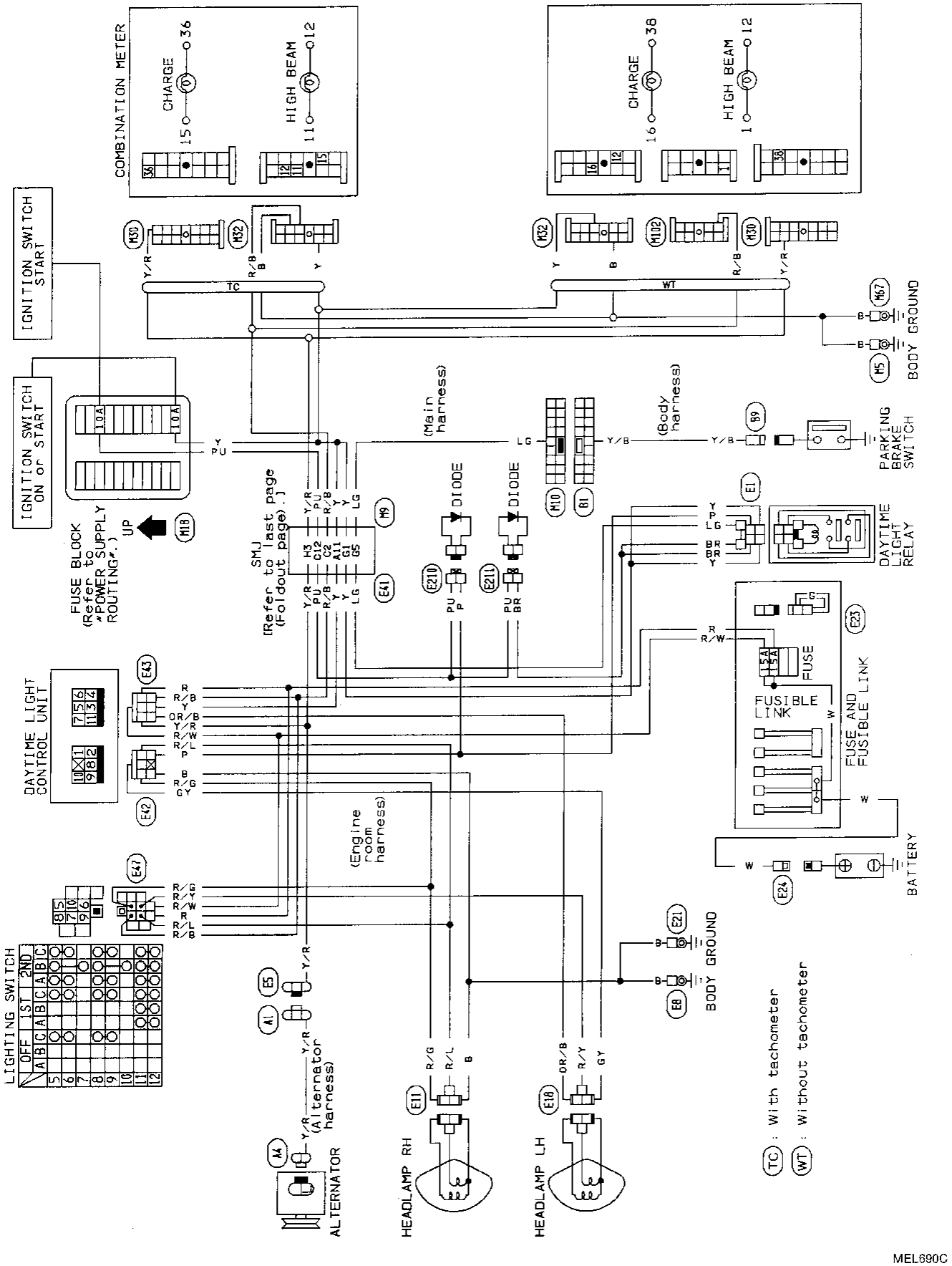
Engine		With engine stopped									With engine running								
Lighting switch		OFF			1ST			2ND			OFF			1ST			2ND		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Headlamp	High beam	X	X	O	X	X	O	O	X	O	△*	△*	O	△*	△*	O	O	X	O
	Low beam	X	X	X	X	X	X	X	O	X	X	X	X	X	X	X	X	O	X
Clearance and tail lamp		X	X	X	O	O	O	O	O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

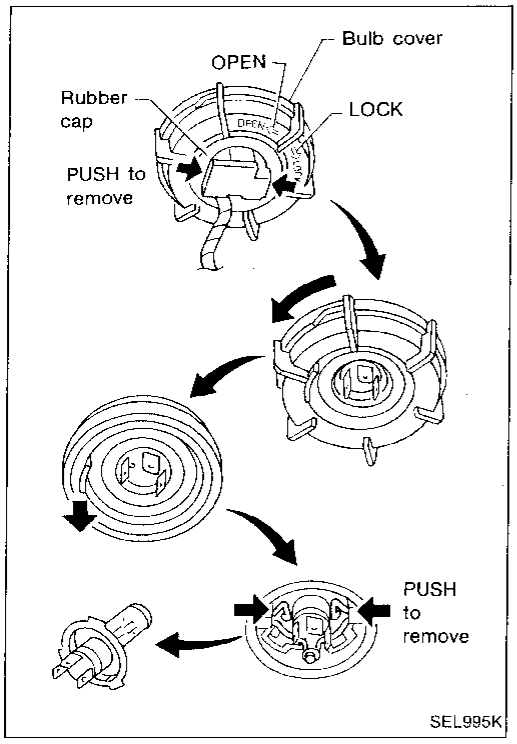
O : Lamp "ON"
X : Lamp "OFF"
△ : Lamp dims.
□ : Added functions
* : When starting the engine with the parking brake released, the daytime light will come on.
When starting the engine with the parking brake applied, the daytime light will not come on.

Schematic (Daytime light system for Canada)



Wiring Diagram (Daytime light system for Canada)





Bulb Replacement

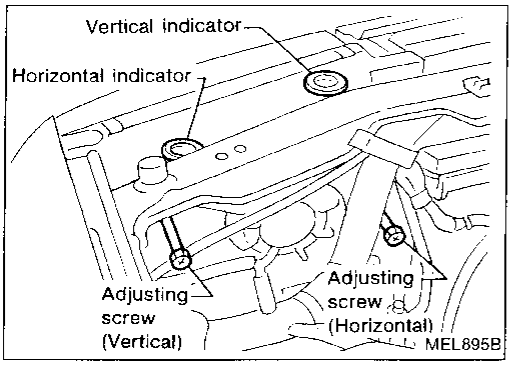
The headlamp is a semi-sealed beam type which uses a replaceable halogen bulb. The bulb can be replaced from the engine compartment side without removing the headlamp body.

- **Grasp only the plastic base when handling the bulb. Never touch the glass envelope.**

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

CAUTION:

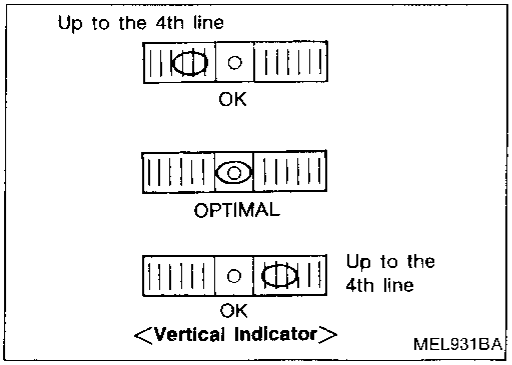
- **Do not leave the bulb out of the headlamp reflector for a long period of time as dust, moisture, smoke, etc. may enter the headlamp body and affect the performance of the headlamp. Thus, the headlamp bulb should not be removed from the headlamp reflector until just before a replacement bulb is to be installed.**



Aiming Adjustment

Before performing aiming adjustment, make sure of the following.

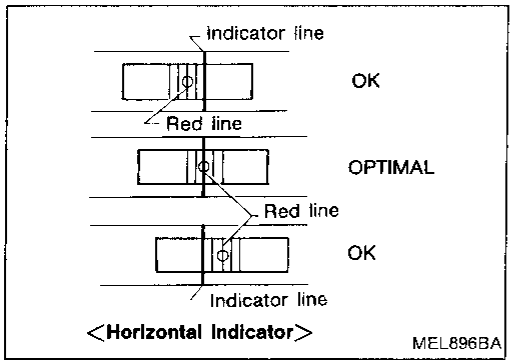
a. Keep all tires inflated to correct pressure.
b. Place vehicle on level ground.
c. See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver's seat.



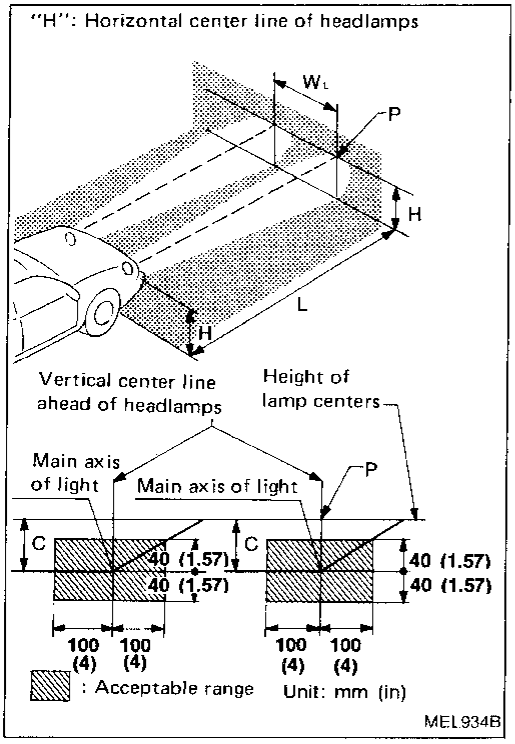
LOW BEAM

1. Open the hood.
2. Adjust the vertical indicator by turning the adjusting screw (vertical direction).
   The bubble in the gauge should be centered on the "o" mark as shown in the illustration.

Aiming Adjustment (Cont'd)



3. Adjust the horizontal indicator by turning the adjusting screw. (horizontal direction)
   The inner red line with the "o" mark should align with the indicator line.



ADJUSTMENT AFTER HEADLAMP ASSEMBLY REPLACEMENT

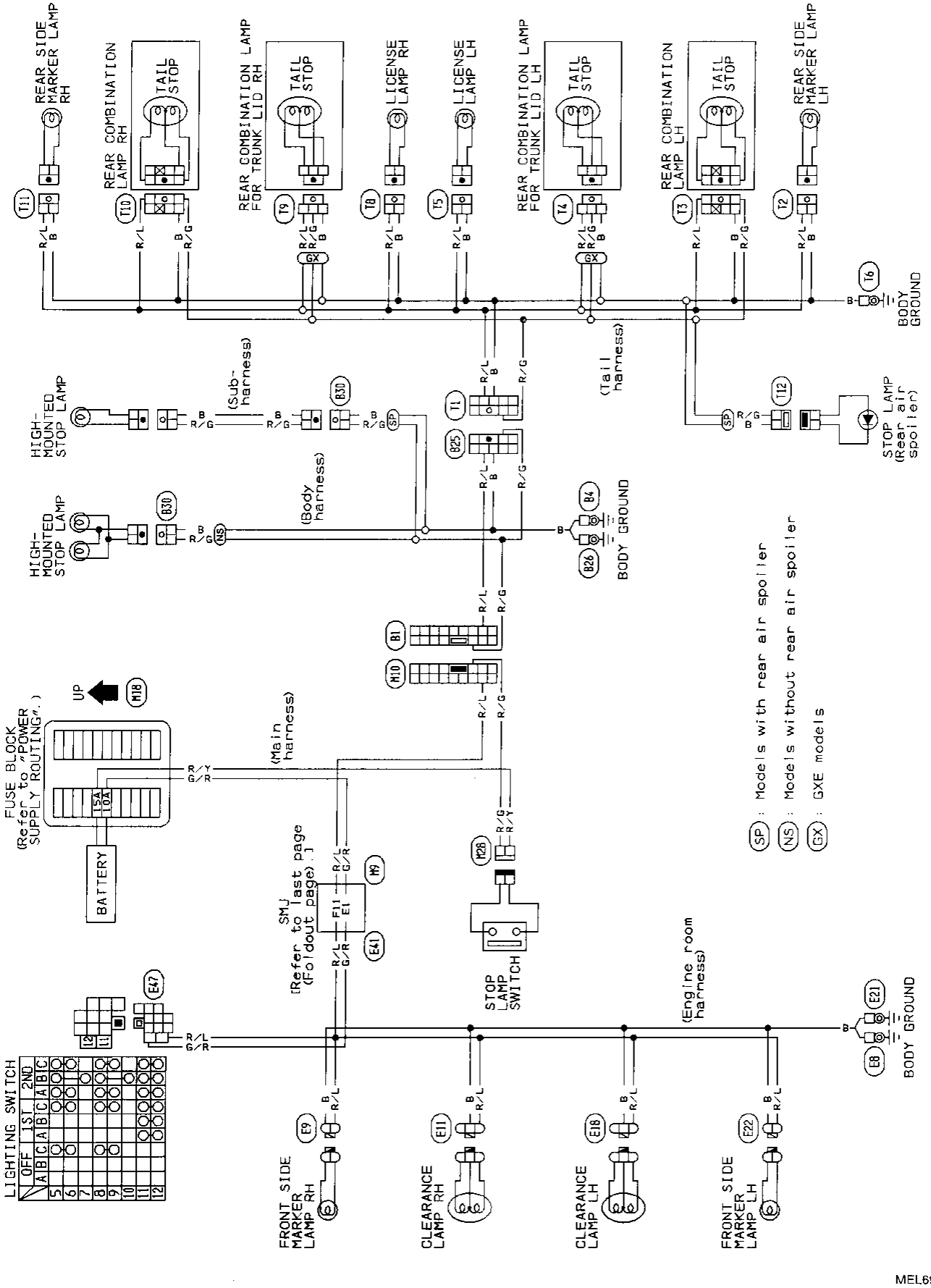
If the vehicle has had front body repair and the headlamp assembly has been replaced, the aiming should be checked using the aiming chart as shown in the illustration.

a. Adjust headlamps so that main axis of light is parallel to center line of body and is aligned with point P shown in the illustration.

b. Dotted lines in illustration show center of headlamp.
"H": Horizontal center line of headlamps
"W_L": Distance between each headlamp center
"L": 7,620 mm (300.00 in)
"C": 106 mm (4.17 in)

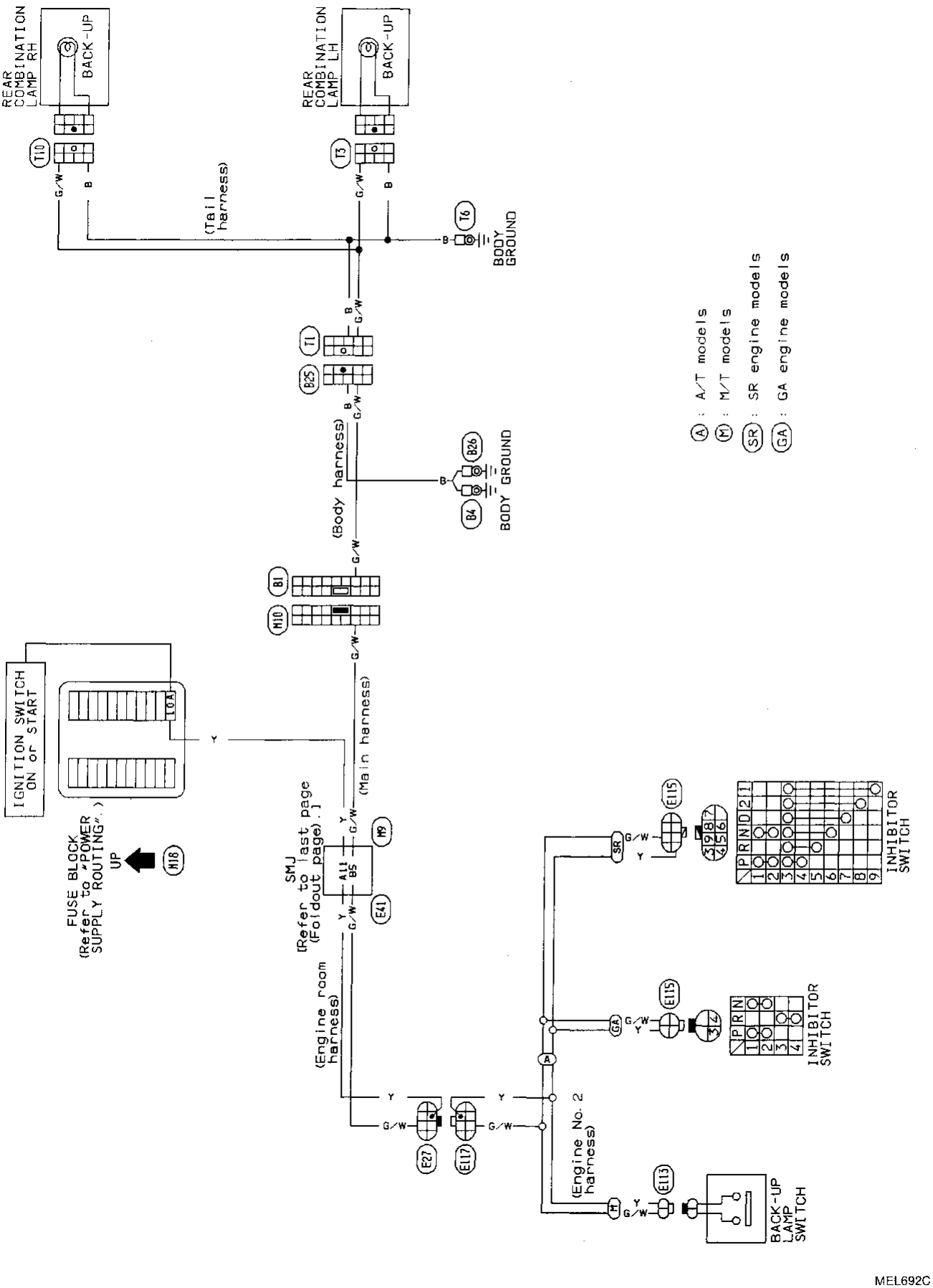
Even if the horizontal indicator does not align with the indicator line or the bubble is not centered in the vertical indicator after aiming by the chart, it is acceptable if they are within the OK ranges.

Clearance, License, Tail and Stop Lamps/Wiring Diagram



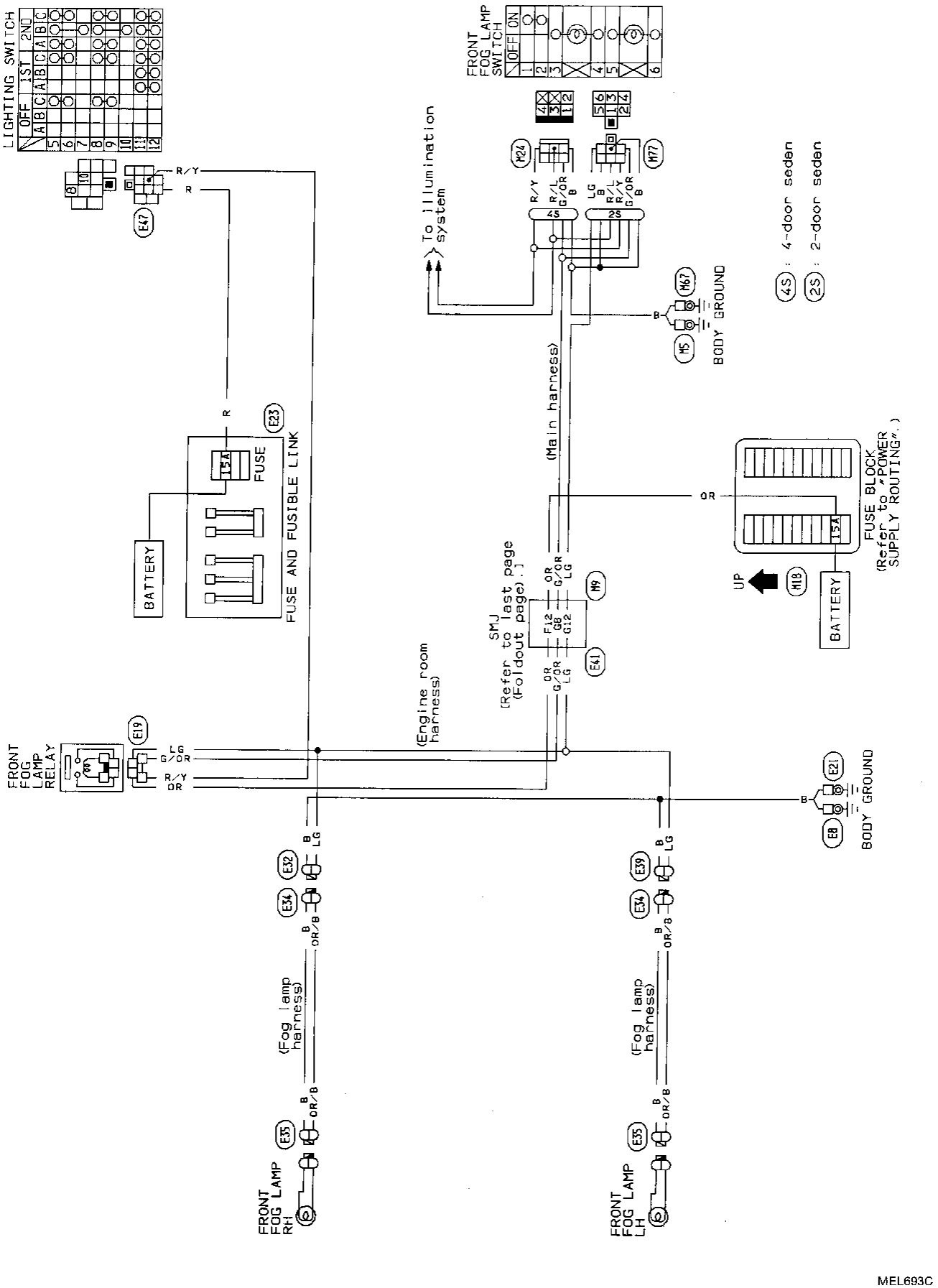
MEL691C

Back-up Lamp/Wiring Diagram



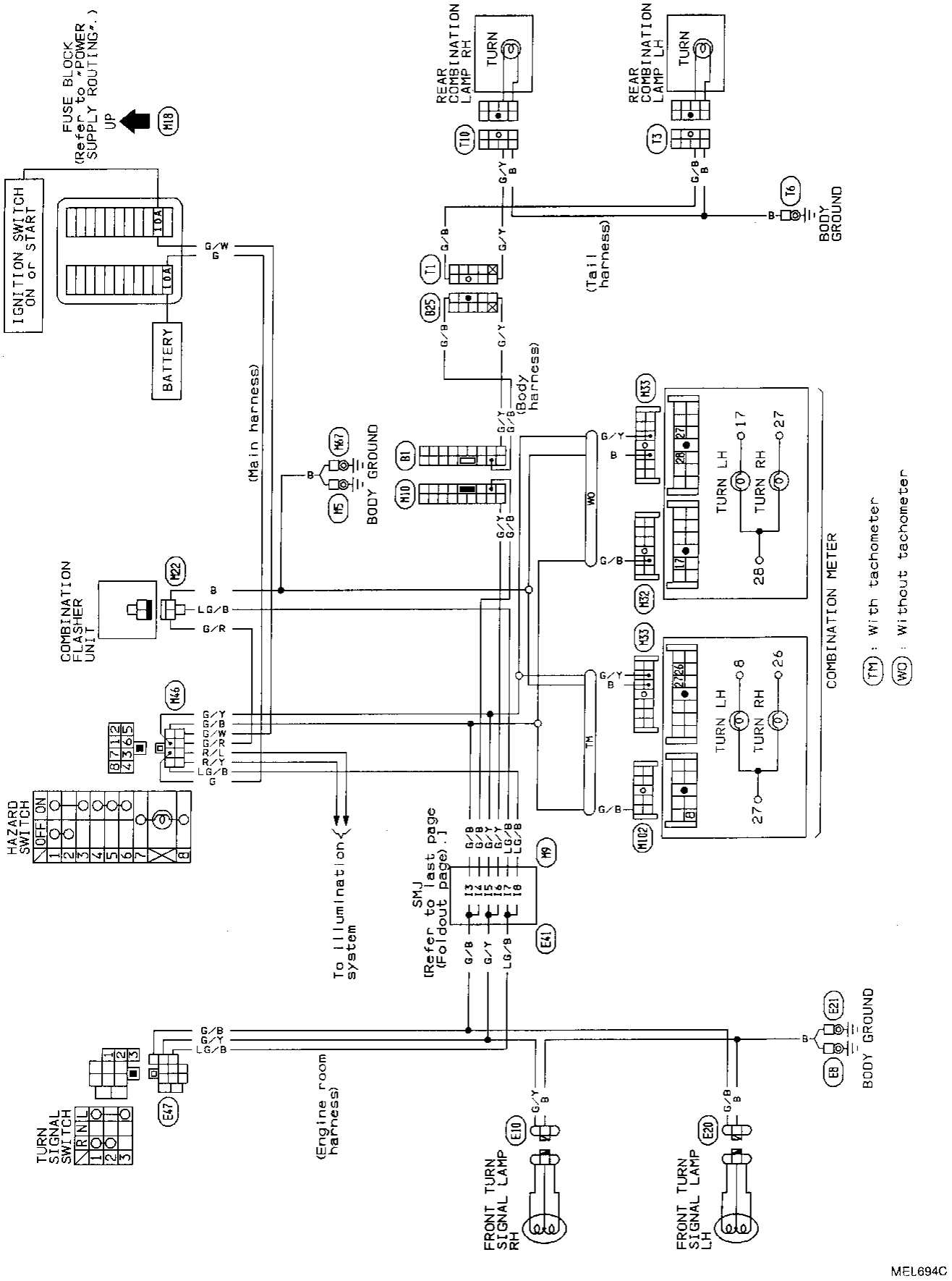
MEL692C

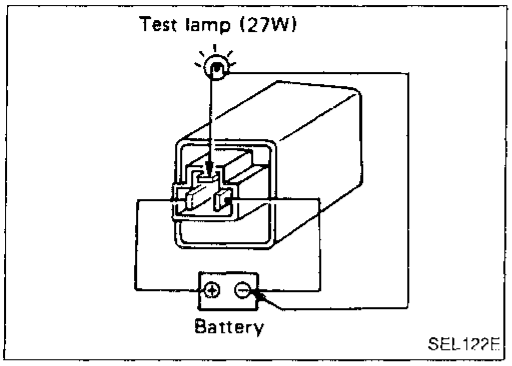
Front Fog Lamp/Wiring Diagram



MEL693C

Turn Signal and Hazard Warning Lamps/Wiring Diagram





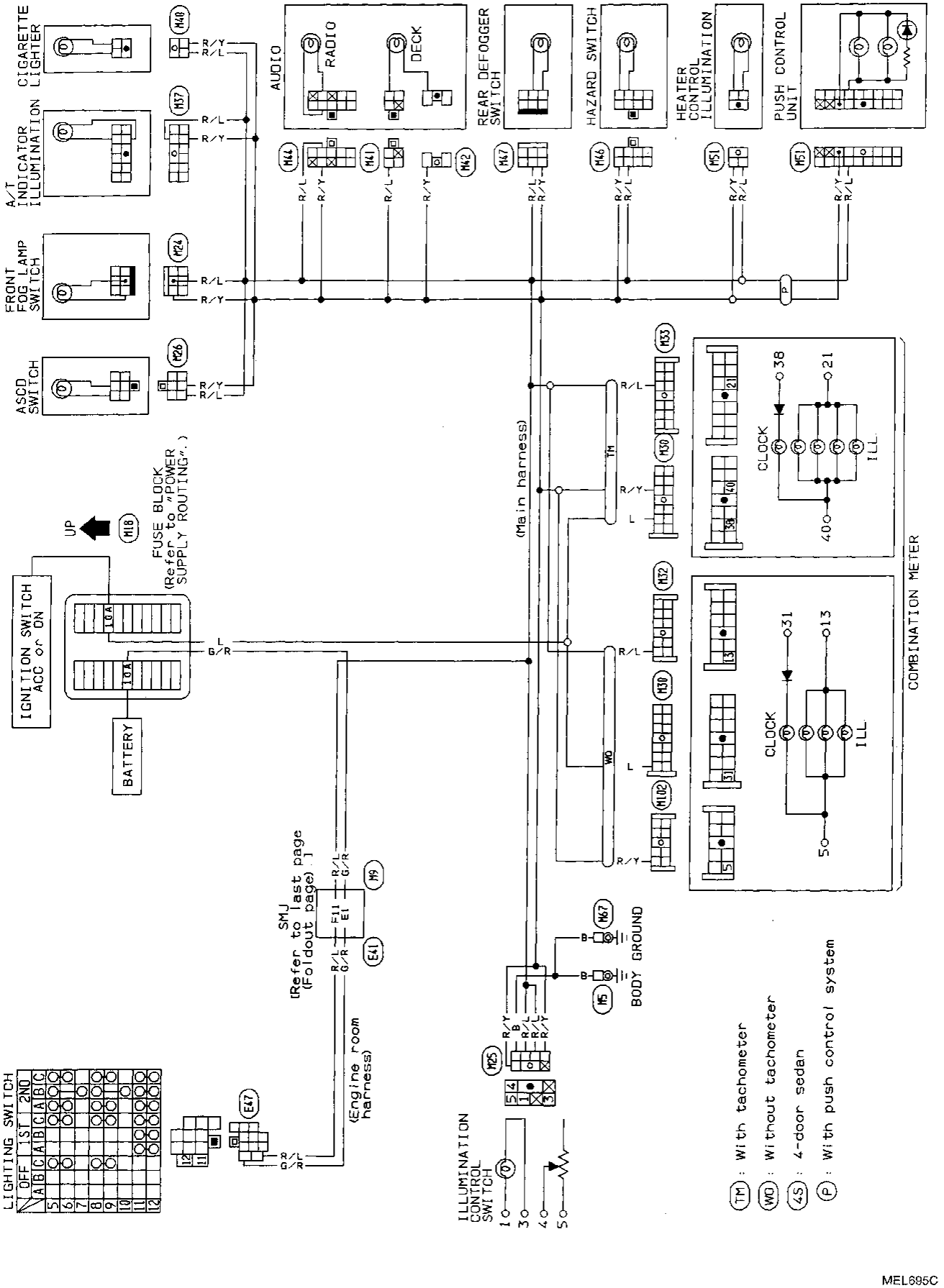
Combination Flasher Unit Check

- 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

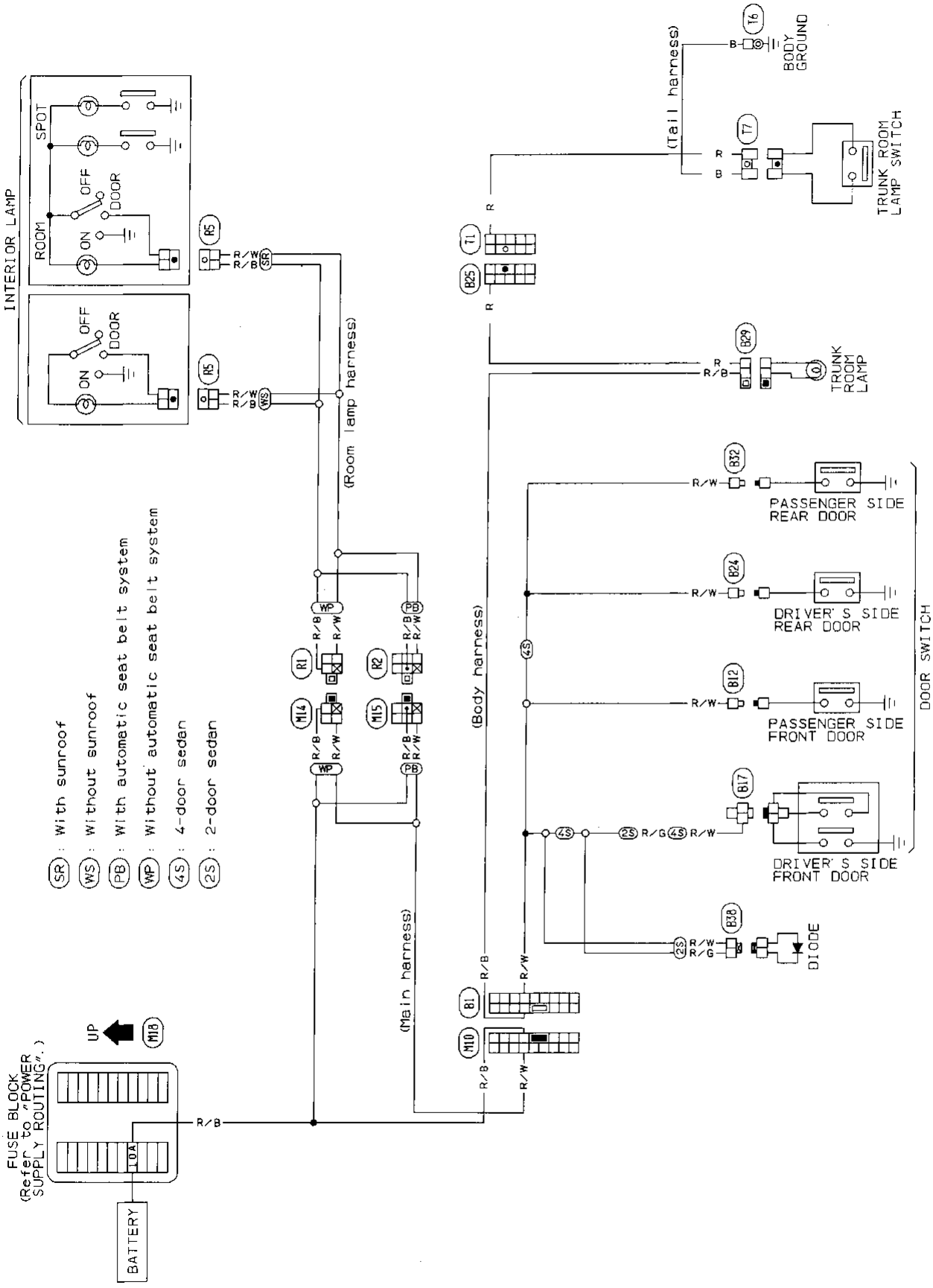
Item	Wattage (W)	Bulb No.
Headlamp	60/55	HB2
Front combination lamp	27/8	1157NA
Front side marker lamp	3.8	194
Rear combination lamp		
Turn signal	27	1156
Stop/Tail	27/8	1157
Back-up	27	1156
Rear side marker lamp	3.8	194
License plate lamp	5	
High-mounted stop lamp	13	912
Interior lamp	10	
Trunk lamp	3.4	158

Illumination/Wiring Diagram



MEL695C

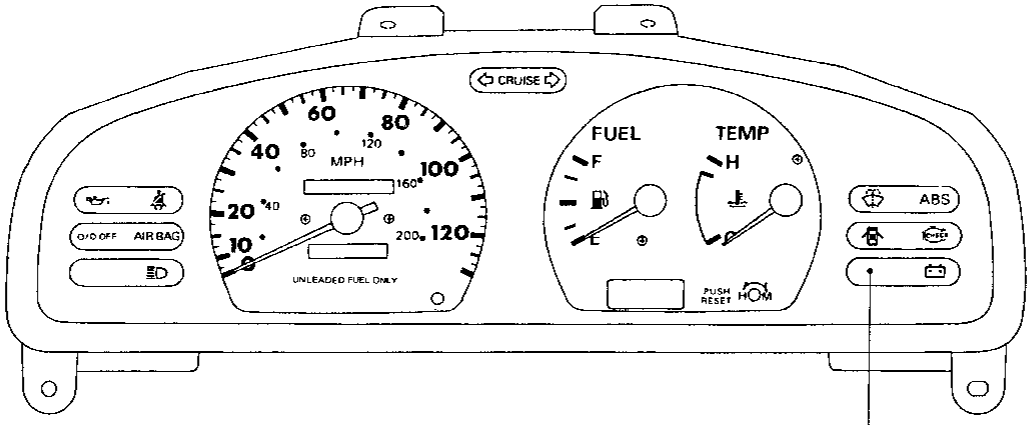
Interior and Trunk Room Lamps/Wiring Diagram



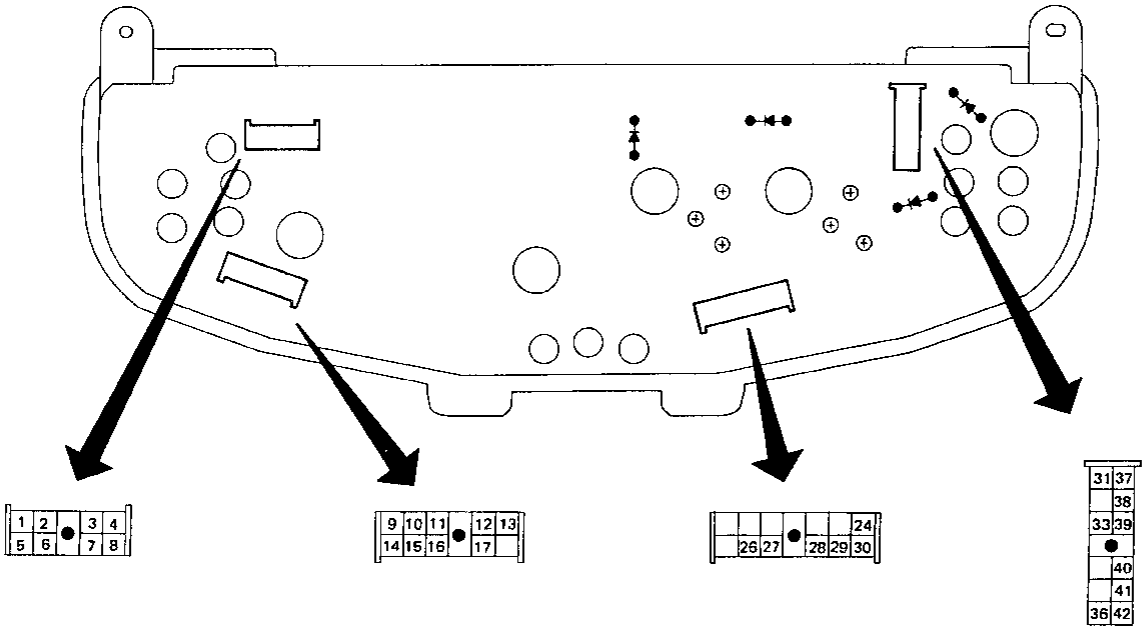
MEL829B

Combination Meter

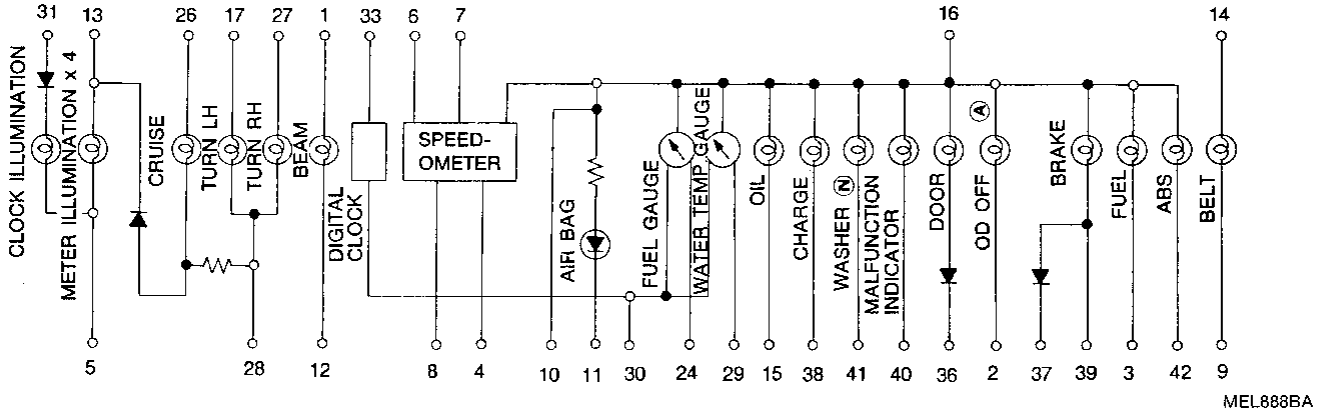
WITHOUT TACHOMETER



BRAKE ... For U.S.A.
(!) ... For Canada



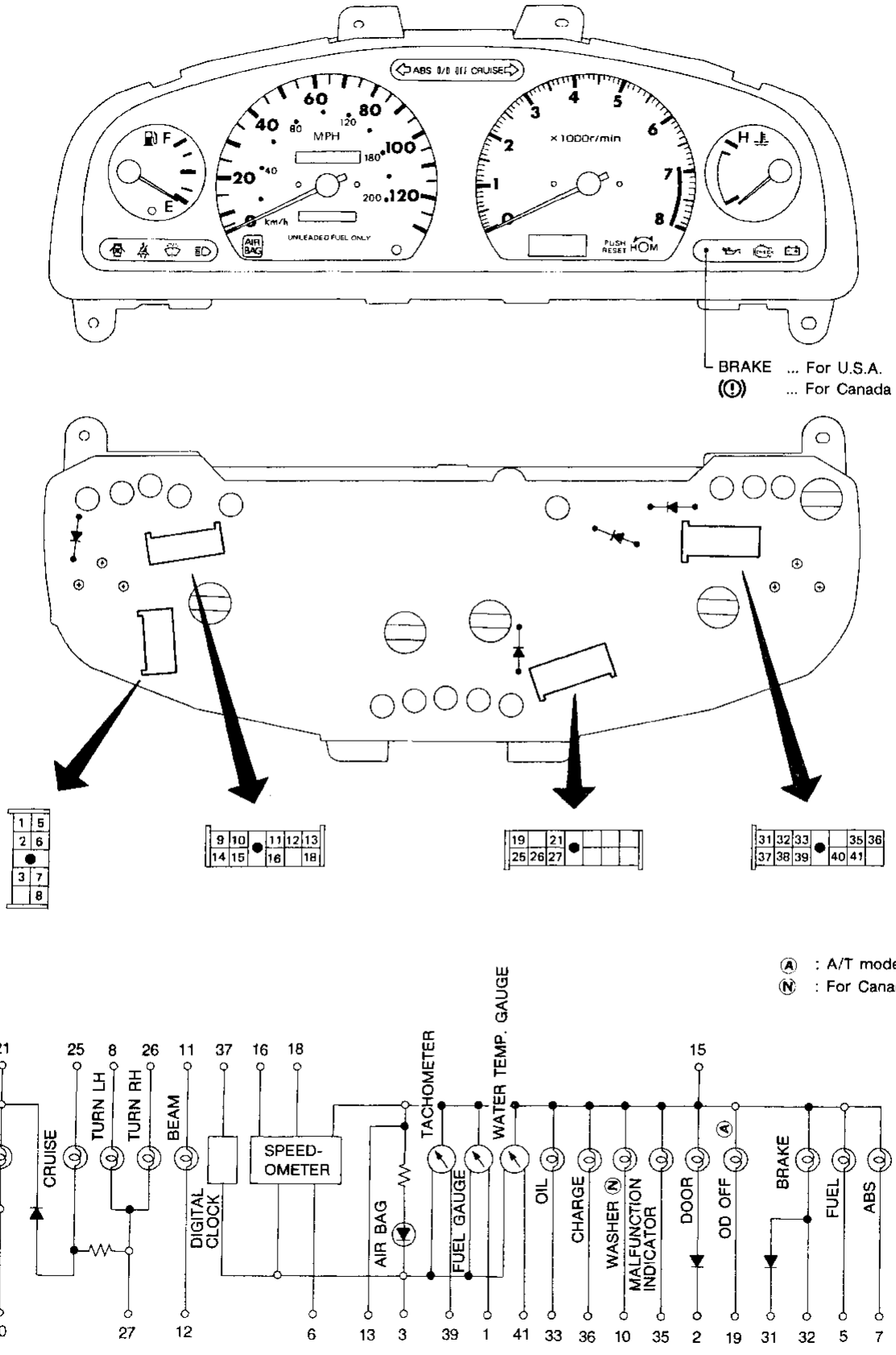
Ⓐ : A/T models
Ⓝ : For Canada



MEL888BA

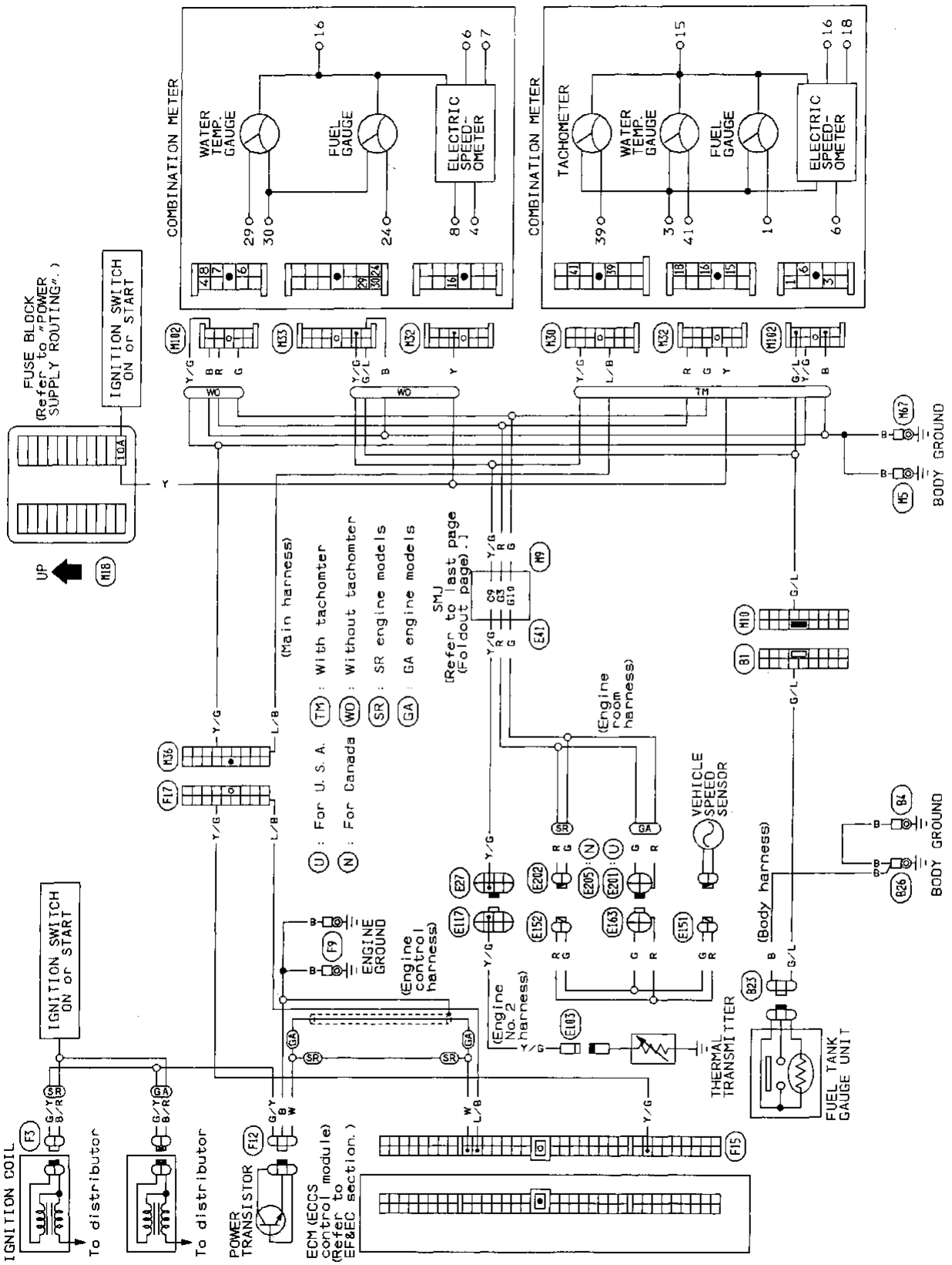
Combination Meter (Cont'd)

WITH TACHOMETER

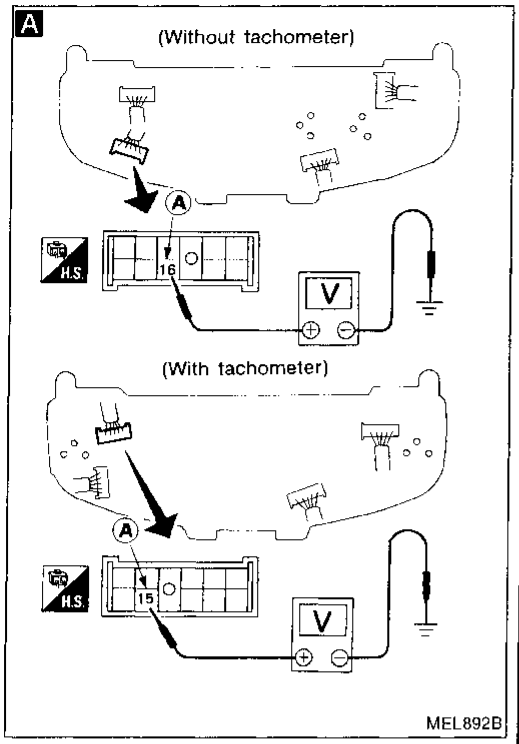


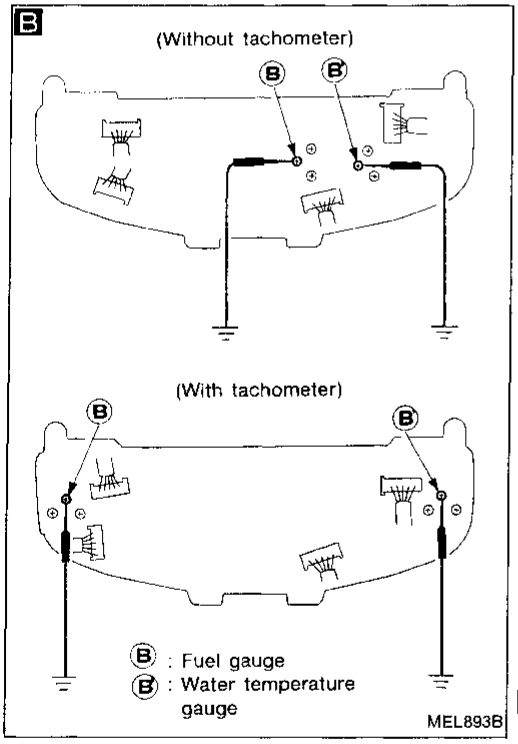
MEL869BA

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



MEL696C





Inspection/Fuel Gauge and Water Temperature Gauge

INSPECTION START

A

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

B

CHECK GAUGE OPERATION.
1) Turn ignition switch "ON".
2) Connect terminals Ⓑ (Fuel), Ⓑ' (Temp.) 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

C

Check harness continuity between component and combination meter Ⓒ .

NG → Repair or replace.

OK

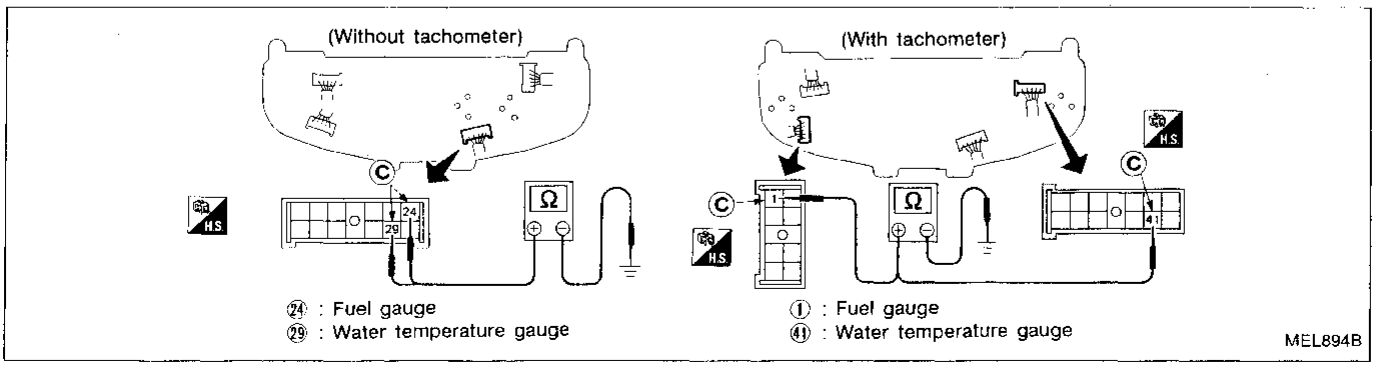
CHECK COMPONENT.
Check gauge units and harness.
Refer to "Fuel Tank Gauge Unit Check", "Thermal Transmitter Check" (EL-42).

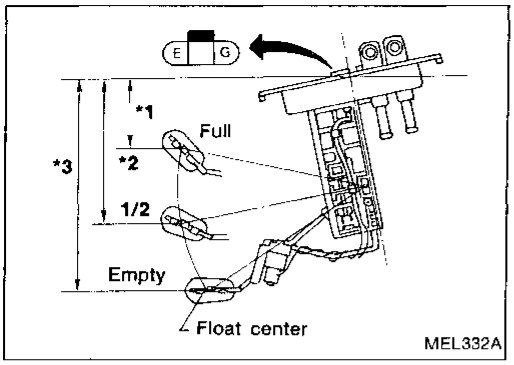
NG → Repair or replace.
Refer to FE section (Fuel tank gauge unit).

OK

Reinstall any part removed.

INSPECTION END



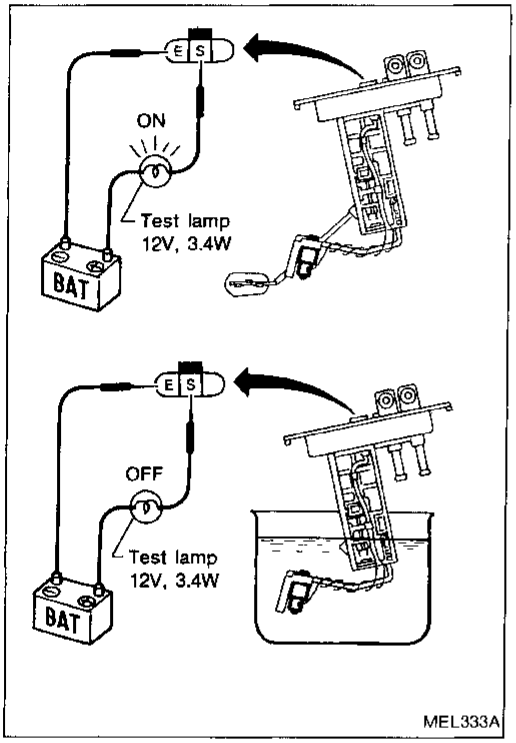


Fuel Tank Gauge Unit Check

- For removal, refer to FE section.

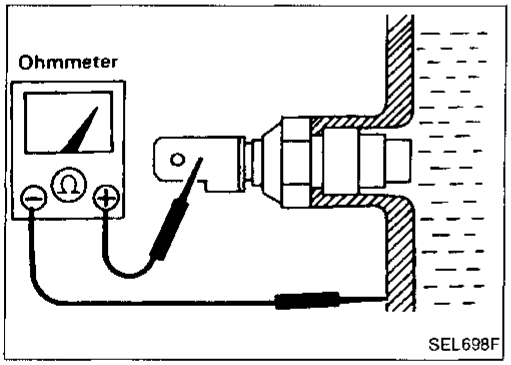
Check the resistance between terminals Ⓖ and Ⓔ.

Ohmmeter (+)	Ohmmeter (−)	Float position mm (in)			Resistance value (Ω)
G	E	*1	Full	62 (2.44)	Approx. 4 - 6
		*2	1/2	111 (4.37)	Approx. 28 - 34
		*3	Empty	164 (6.46)	Approx. 73 - 85



Fuel Warning Lamp Sensor Check

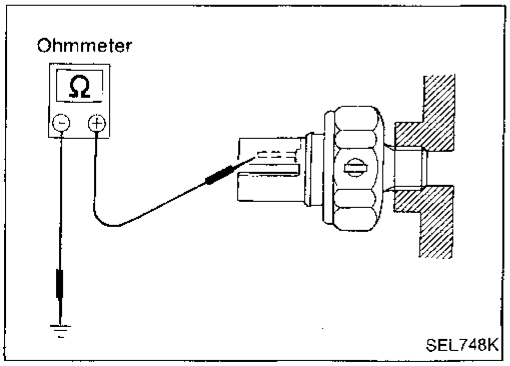
- It will take a short time for the bulb to light.



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

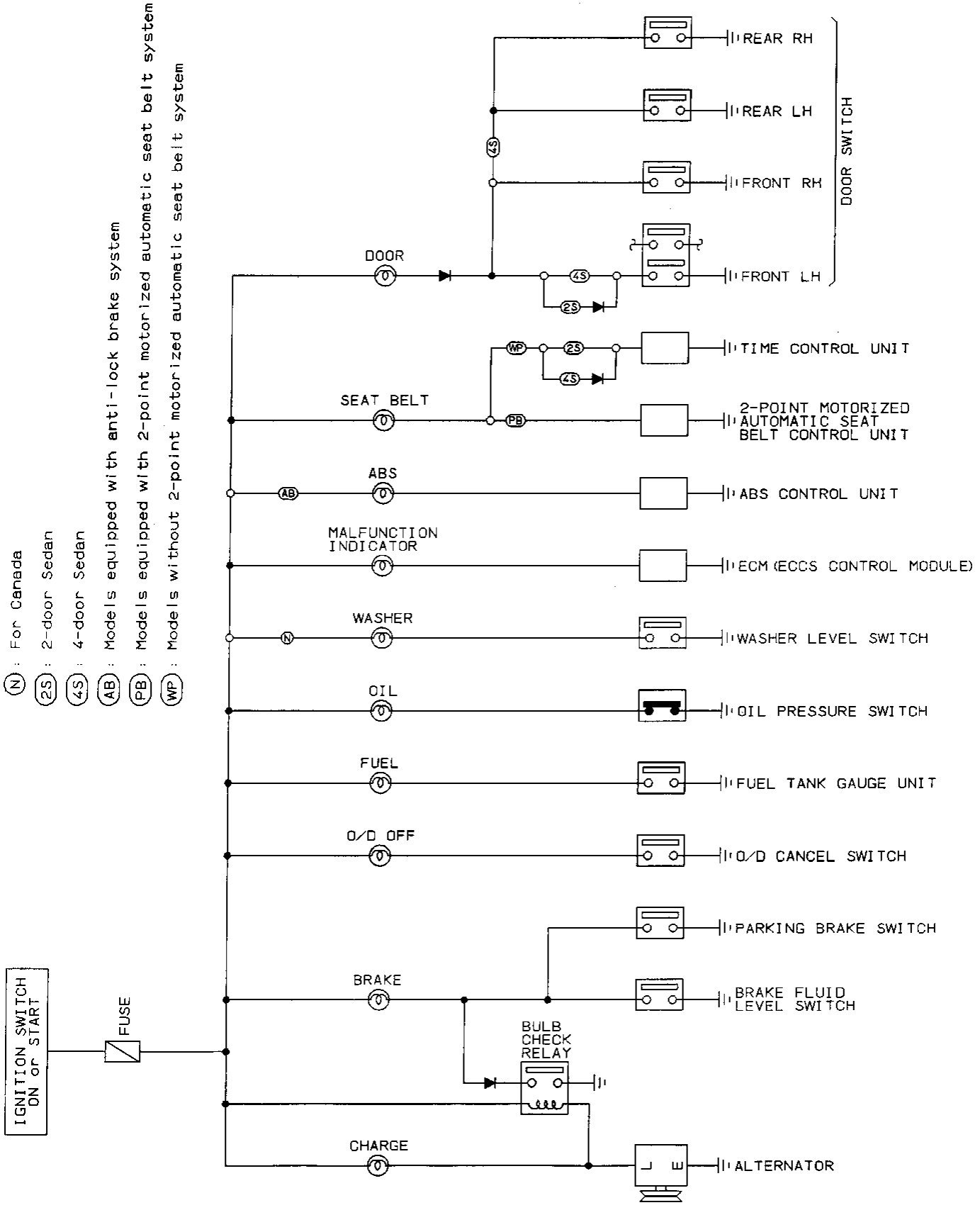


Oil Pressure Switch Check

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

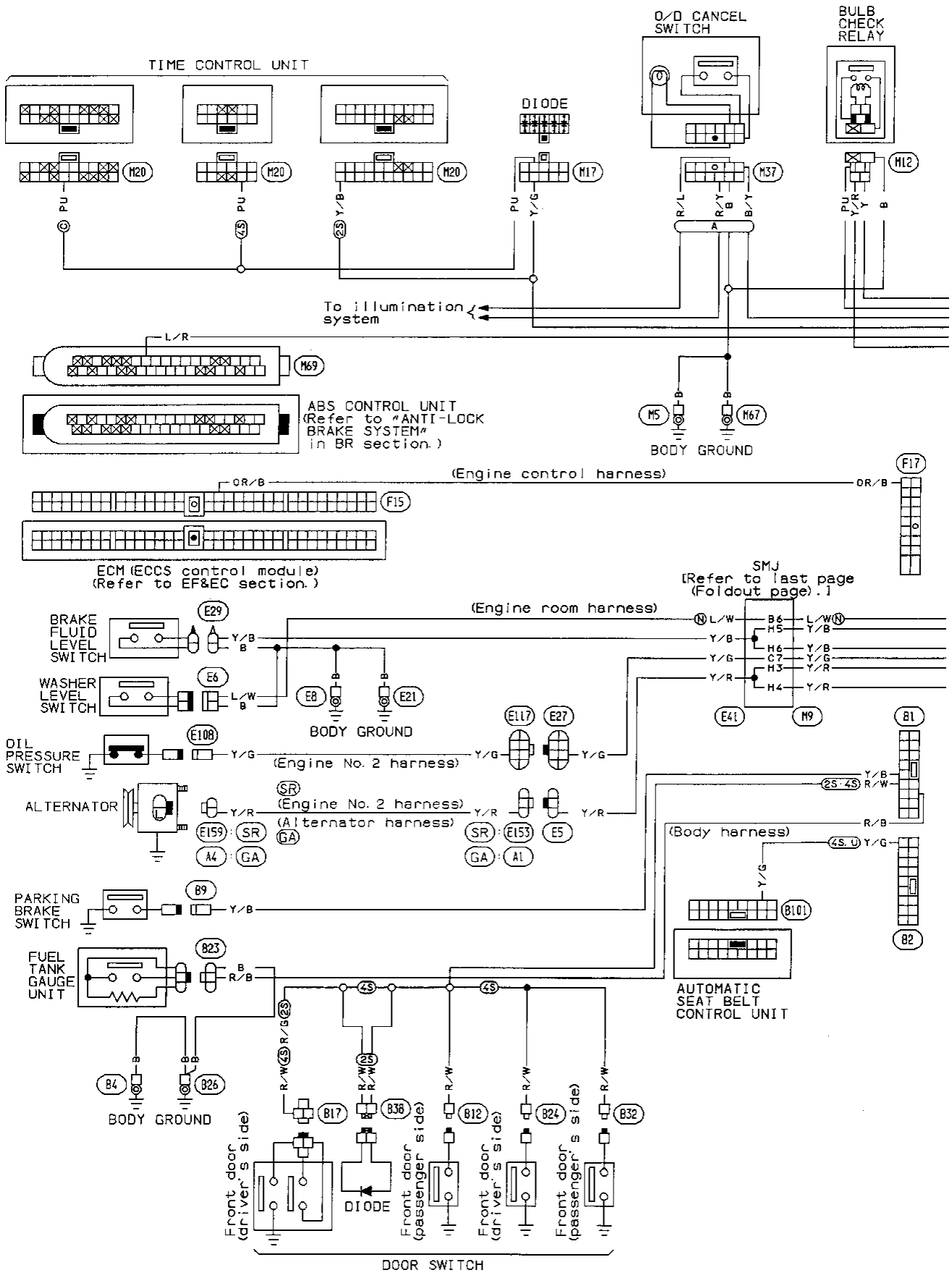
	Oil pressure kPa (kg/cm², psi)	Continuity
Engine start	More than 10 - 20 (0.1 - 0.2, 1.4 - 2.8)	NO
Engine stop	Less than 10 - 20 (0.1 - 0.2, 1.4 - 2.8)	YES

Warning Lamp/Schematic

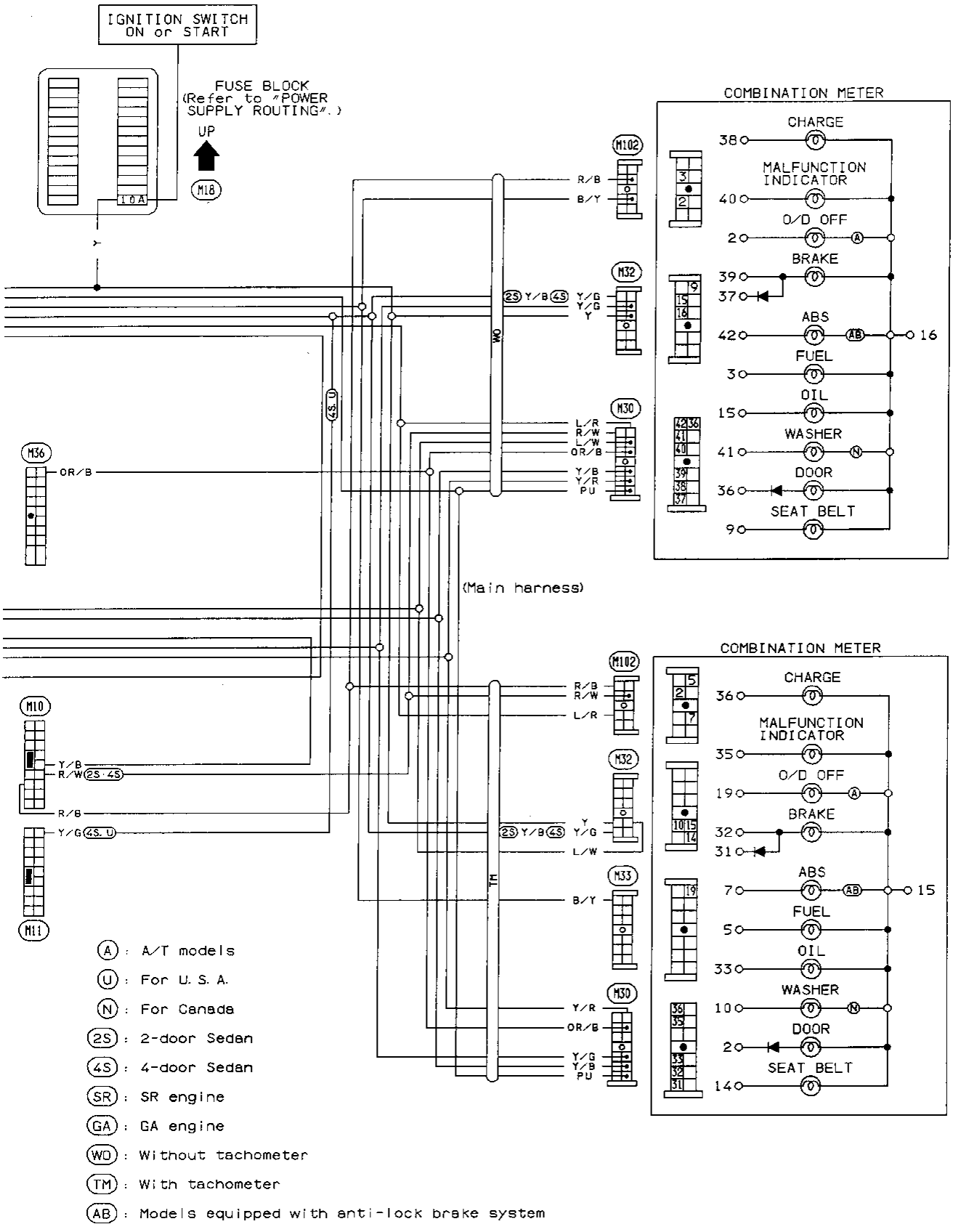


MEL697C

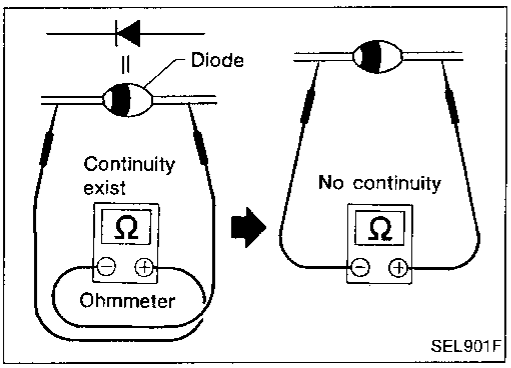
Warning Lamp/Wiring Diagram



Warning Lamp/Wiring Diagram (Cont'd)



MEL698C



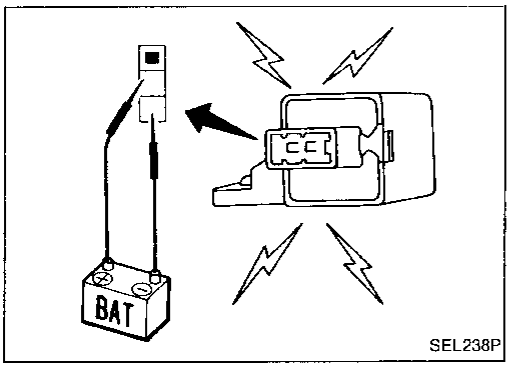
Diode Check

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

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

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

Refer to "Combination Meter" (EL-38).



Warning Buzzer Check

Description

FUNCTION

- Time control unit has the following functions.

	Item	Details of control
1	Light warning chime timer	When driver's door is opened with light switch ON and ignition switch OFF, warning chime sounds.
2	Ignition key warning buzzer timer	When driver's door is opened with ignition switch OFF, warning buzzer sounds.
*3	Seat belt warning buzzer timer	Sounds warning buzzer for about 7 seconds if ignition switch is turned "ON" when seat belt switch is "ON" (seat belt is unfastened).
*4	Seat belt warning lamp timer	Seat belt warning lamp blinks for about 7 seconds when ignition switch is turned to "ON".
5	Rear defogger timer	Rear defogger operates for about 15 minutes when defogger switch is ON.

* For the 2-door Sedan, the time control unit also has a semi-automatic seat belt warning function. Refer to the BF section for the trouble diagnoses of the semi-automatic seat belt system.

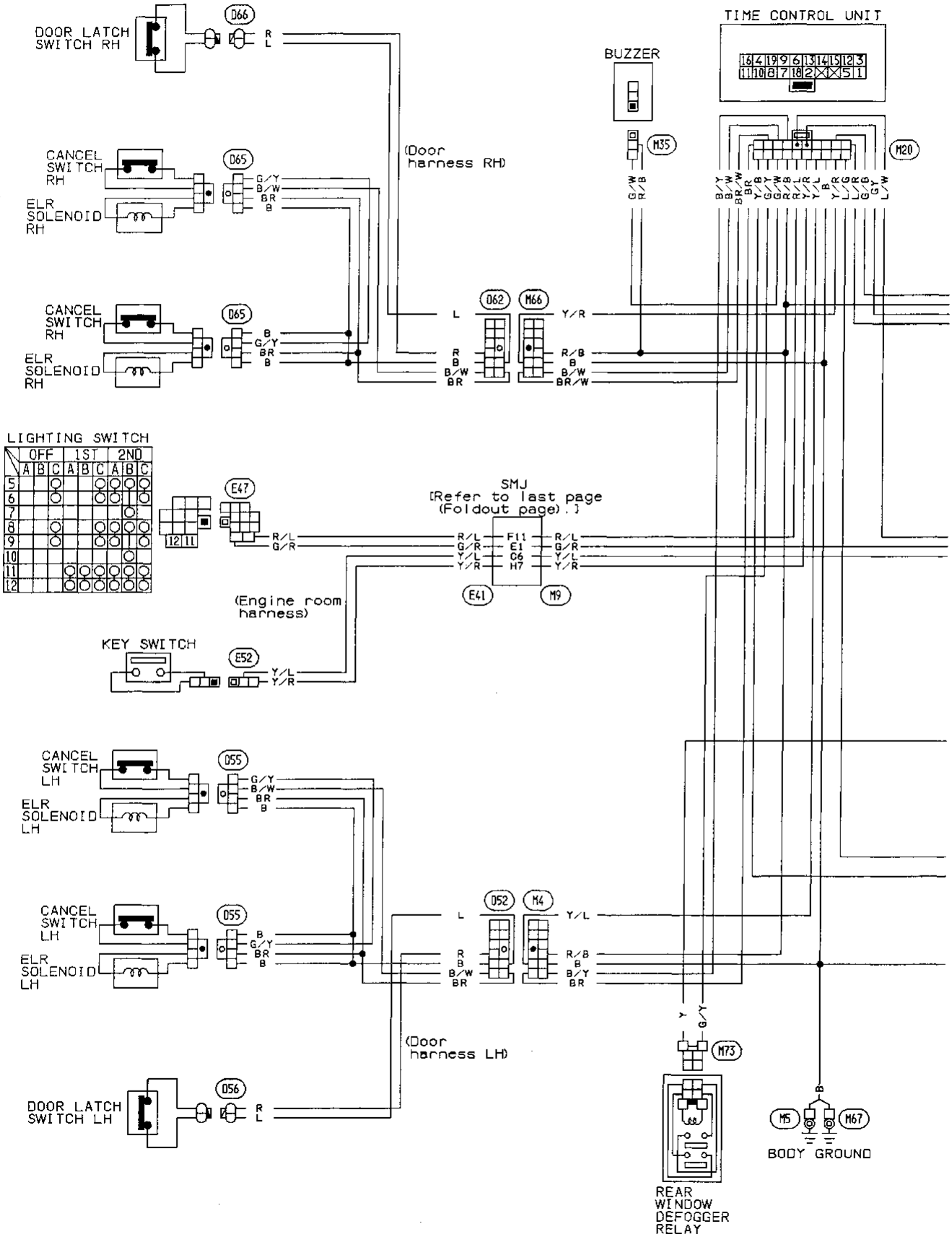
The following ABBREVIATIONS are used in Trouble Diagnoses.

(2D) : For 2-door Sedan

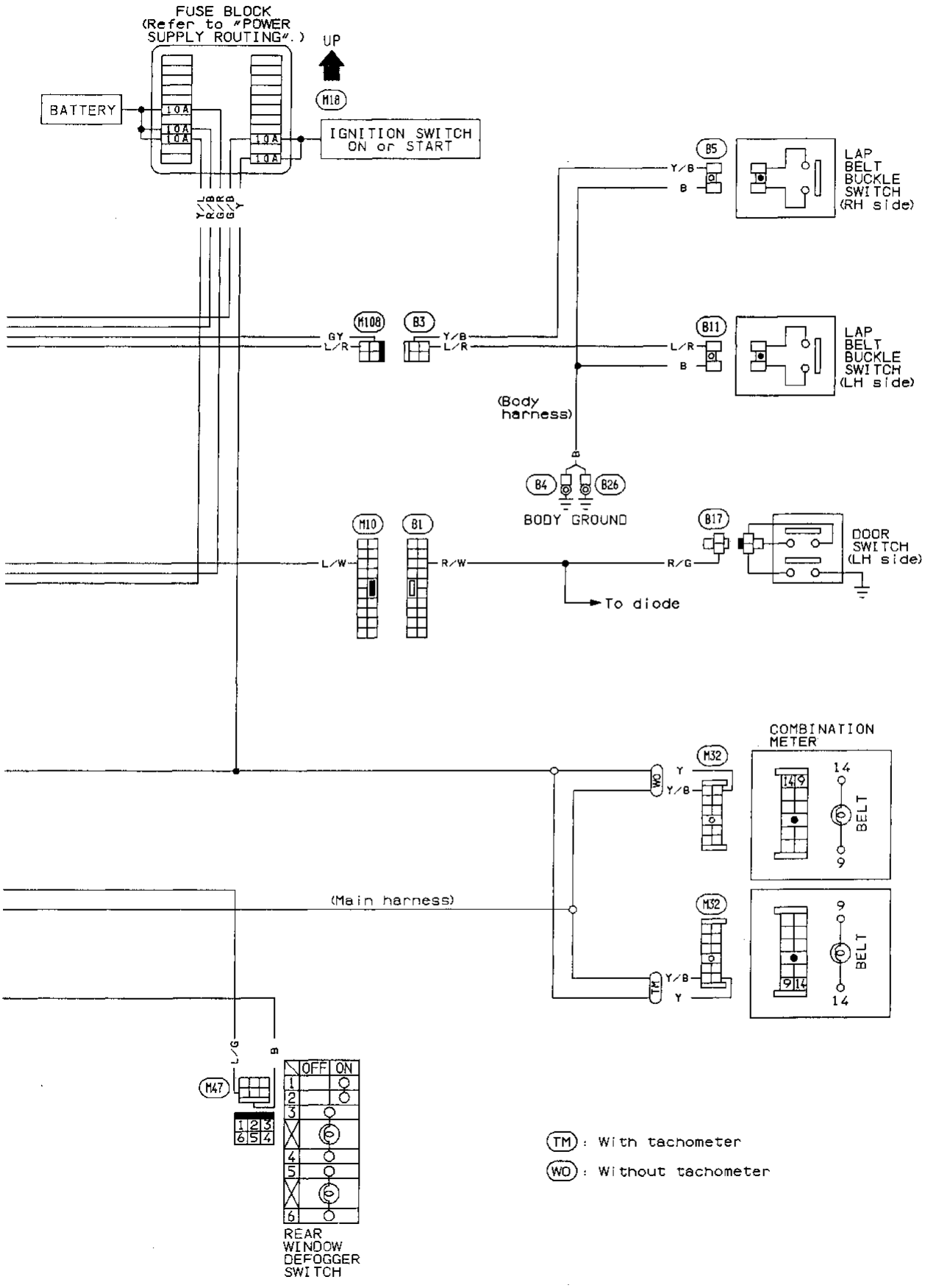
(4D) : For 4-door Sedan

Wiring Diagram

For 2-door Sedan



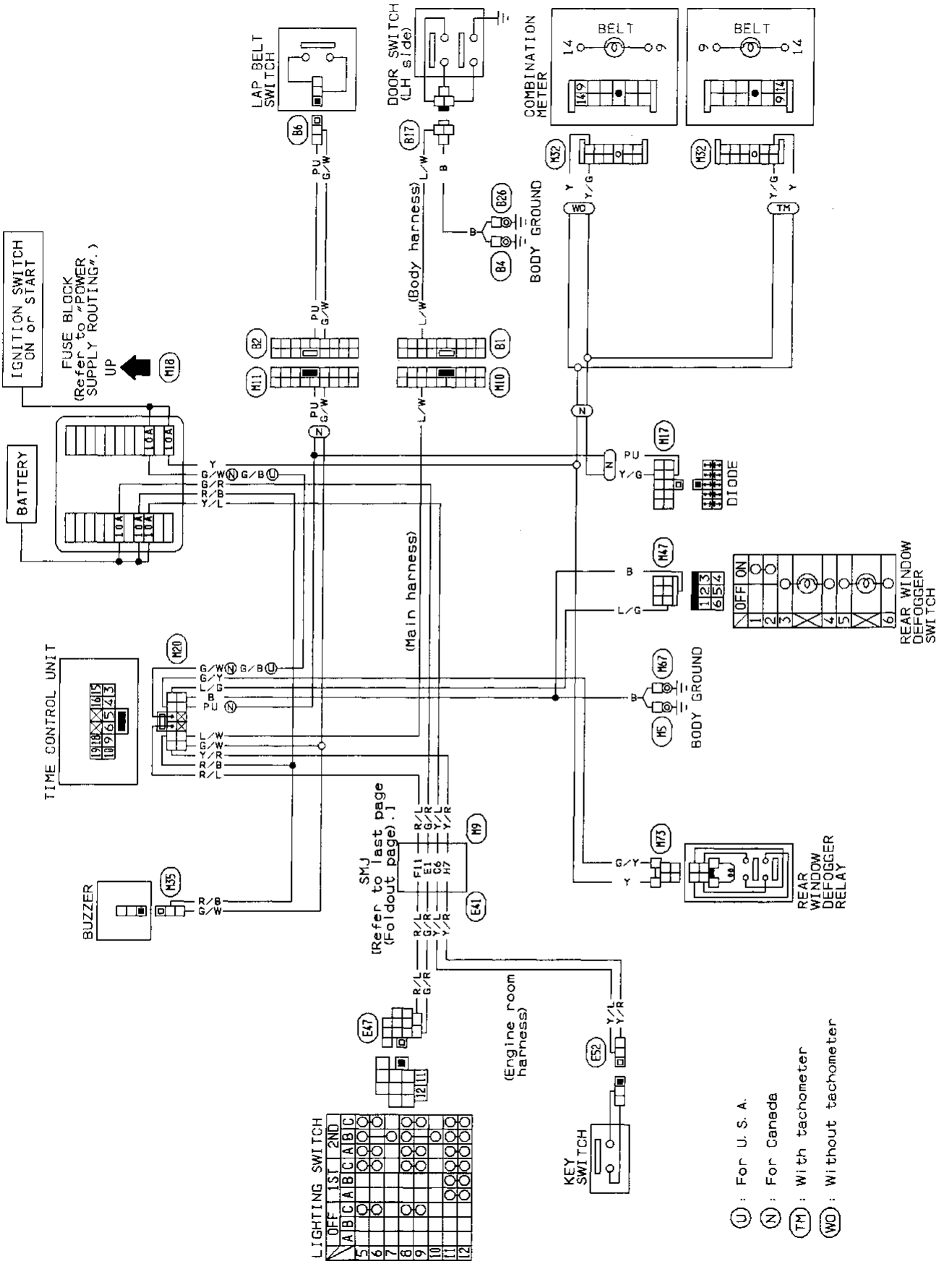
Wiring Diagram (Cont'd)



MEL700C

Wiring Diagram (Cont'd)

For 4-door Sedan

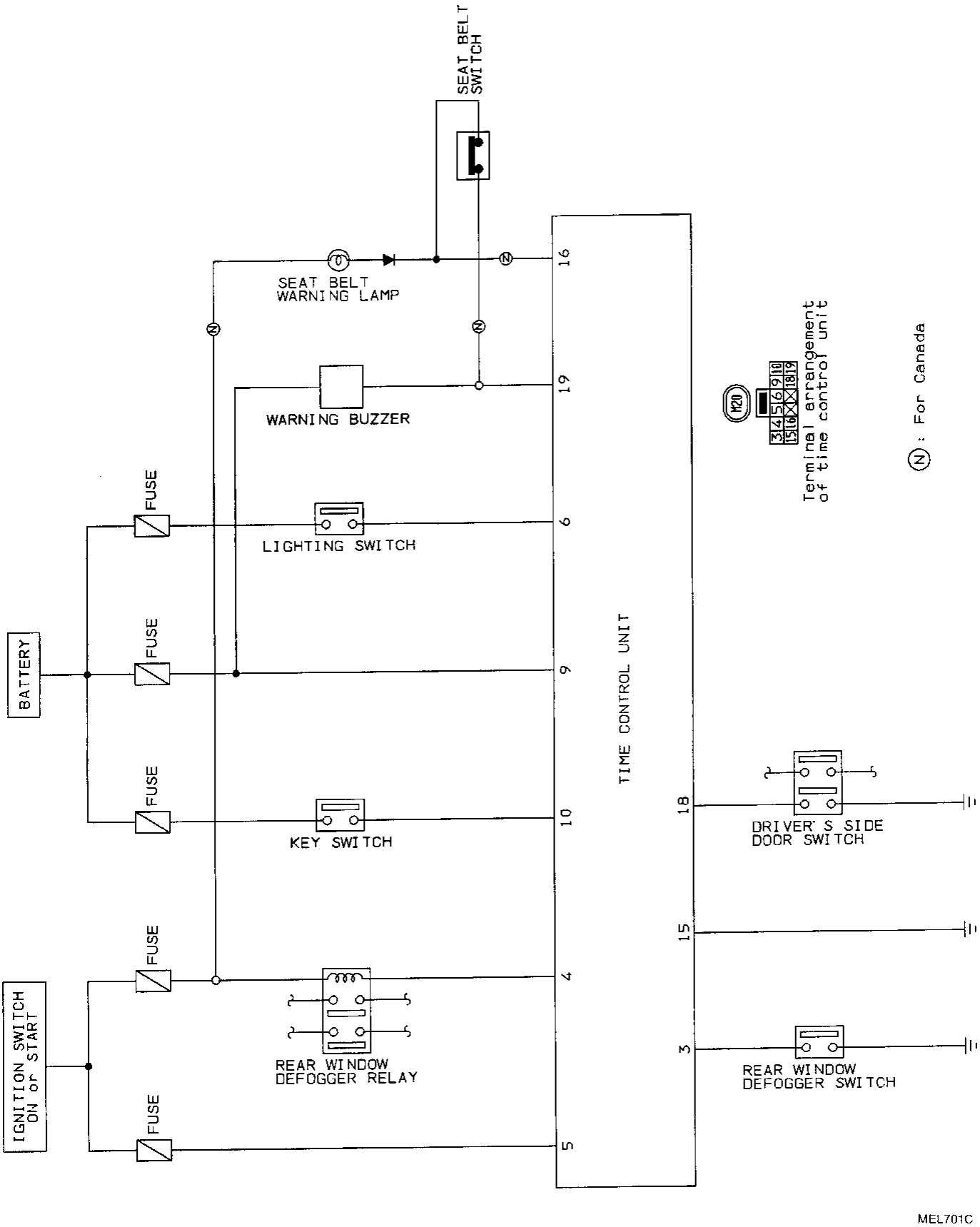


MEL699C

Trouble Diagnoses

CIRCUIT DIAGRAM FOR QUICK PINPOINT CHECK

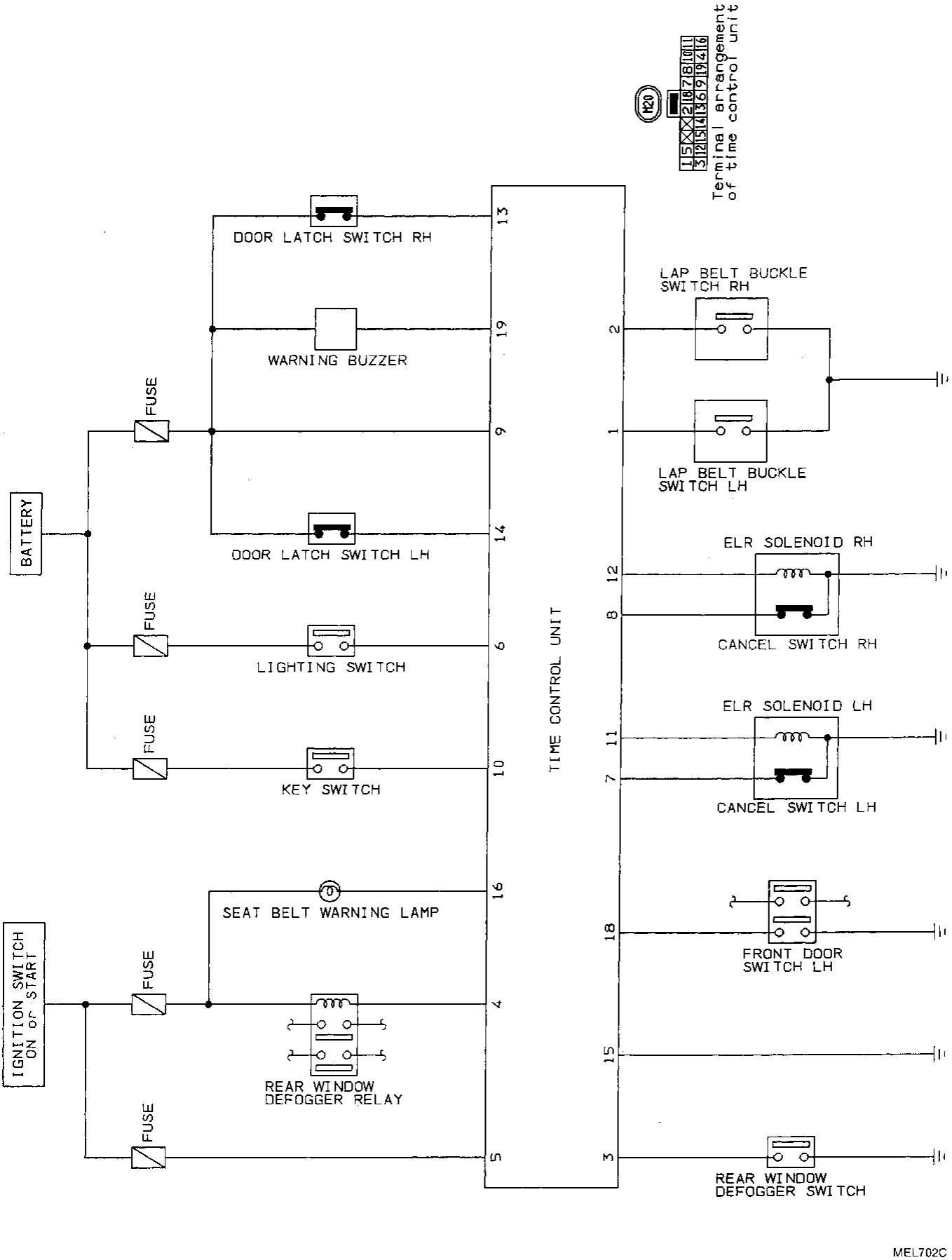
For 4-door Sedan



MEL701C

Trouble Diagnoses (Cont'd)

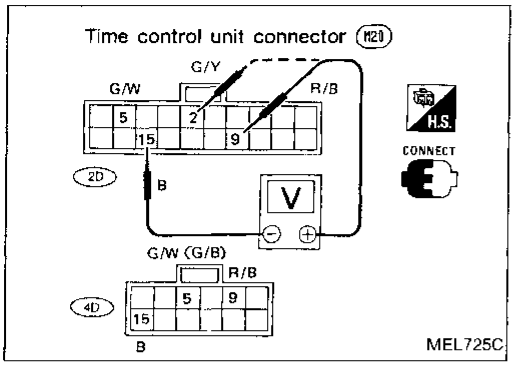
For 2-door Sedan

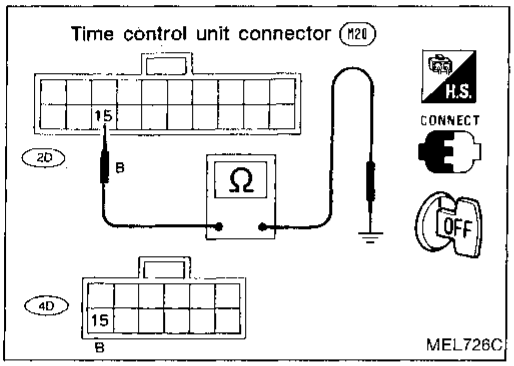


MEL702C

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

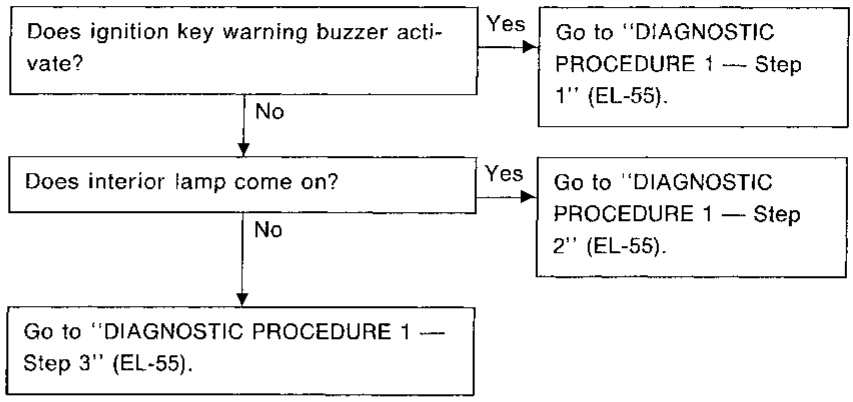
Terminals	Continuity
⑮ - Ground	Yes

Trouble Diagnoses (Cont'd)

PRELIMINARY CHECK

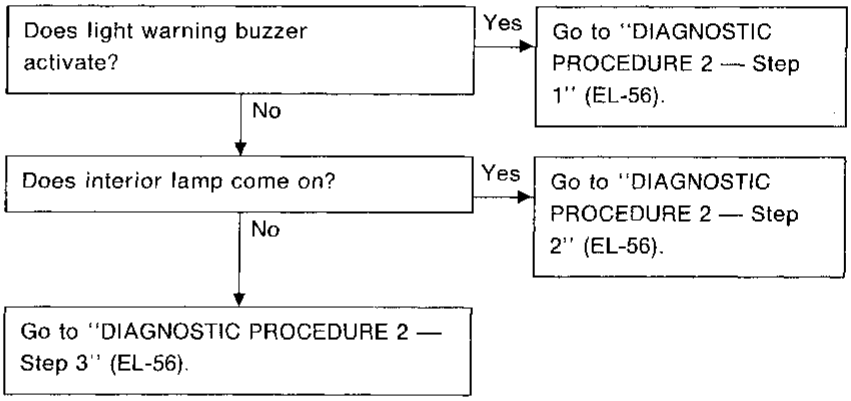
Preliminary check 1

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



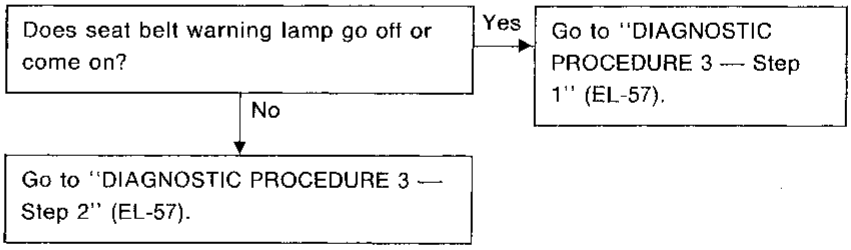
Preliminary check 2

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



Preliminary check 3

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

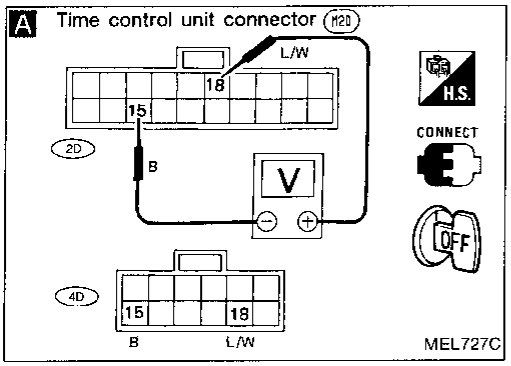


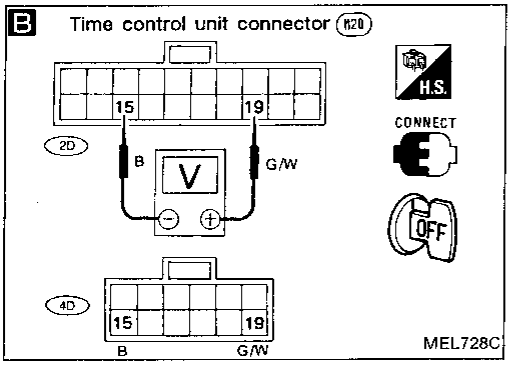
Trouble Diagnoses (Cont'd)

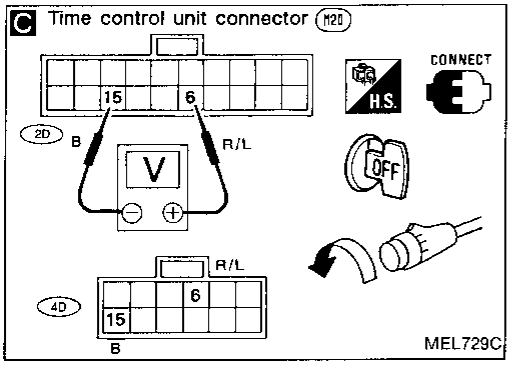
DIAGNOSTIC PROCEDURE 1

SYMPTOM: Light warning buzzer does not activate.

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







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

BUZZER 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 buzzer. Check harness continuity between TCU and buzzer.

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 ↓

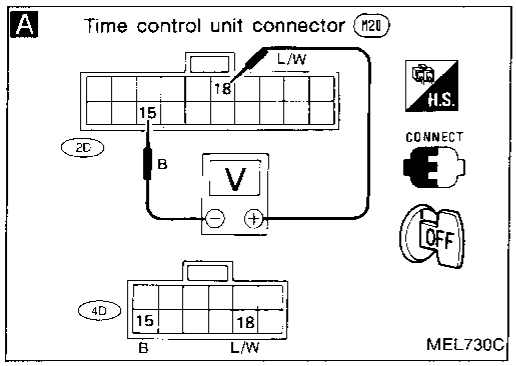
Replace control unit.

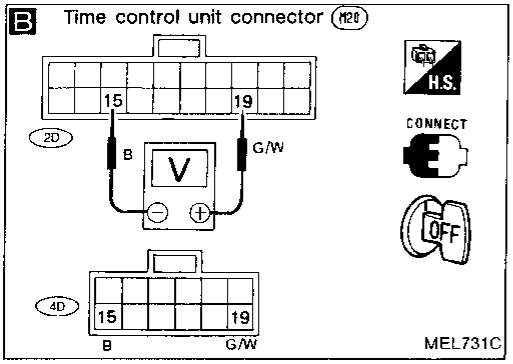
Trouble Diagnoses (Cont'd)

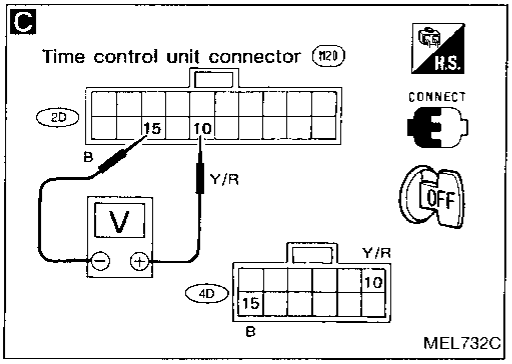
DIAGNOSTIC PROCEDURE 2

SYMPTOM: Ignition key warning buzzer does not activate.

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







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

BUZZER 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 buzzer. Check harness continuity between TCU and buzzer.

NG ↓

C — Step 1

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

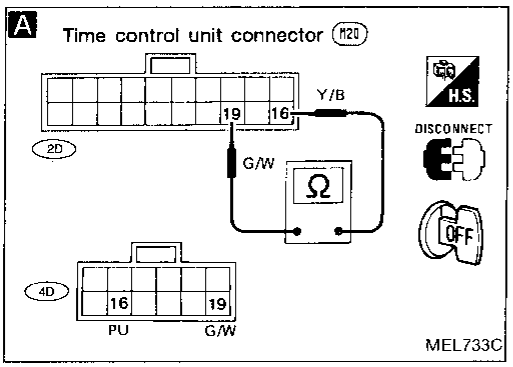
Condition	Voltage [V]
Key is inserted	Approx. 12
Key is pulled	0

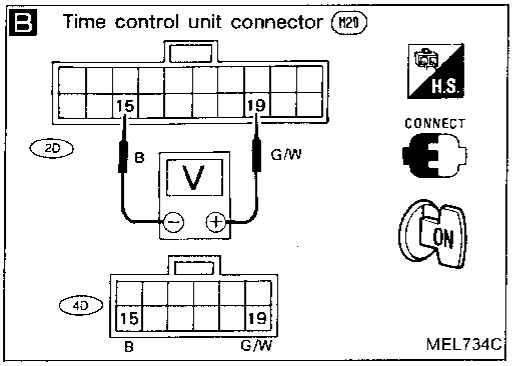
NG → Check ignition key switch. Check harness continuity between TCU and ignition key switch.

OK ↓

Replace control unit.

Trouble Diagnoses (Cont'd)





DIAGNOSTIC PROCEDURE 3

SYMPTOM: Seat belt warning buzzer does not activate.

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

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

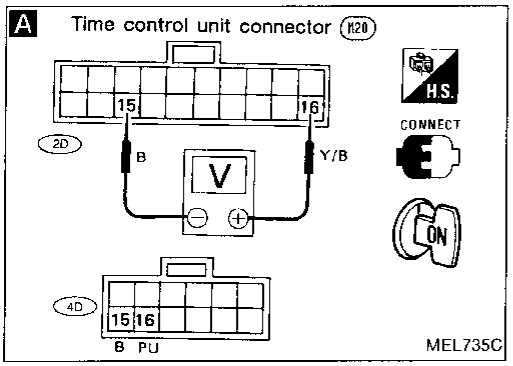
BUZZER OUTPUT SIGNAL CHECK
1) Connect TCU harness connector.
2) Turn ignition switch "ON".
3) Measure voltage between control unit harness terminals ⑲ and ⑮.

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

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

NG ↓

Replace control unit.



DIAGNOSTIC PROCEDURE 4

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.

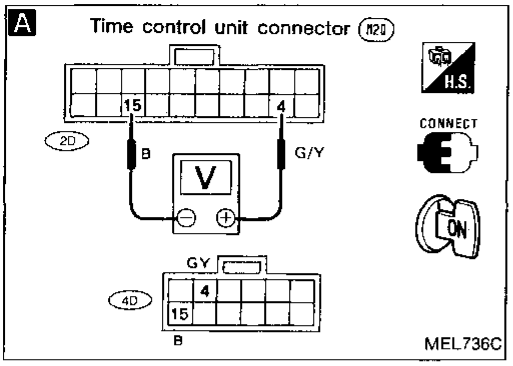
No ↓

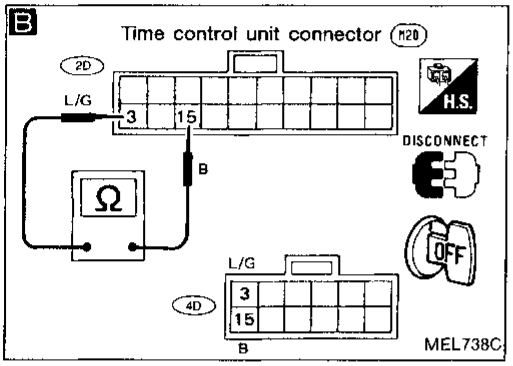
Replace control unit.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

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





A

REAR WINDOW DEFOGGER OUTPUT SIGNAL CHECK

Measure voltage between control unit harness terminals ④ and ⑮.

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

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

NG ↓

B

REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL CHECK

1) Disconnect TCU harness connector.
2) Check continuity between control unit harness terminals ③ and ⑮.

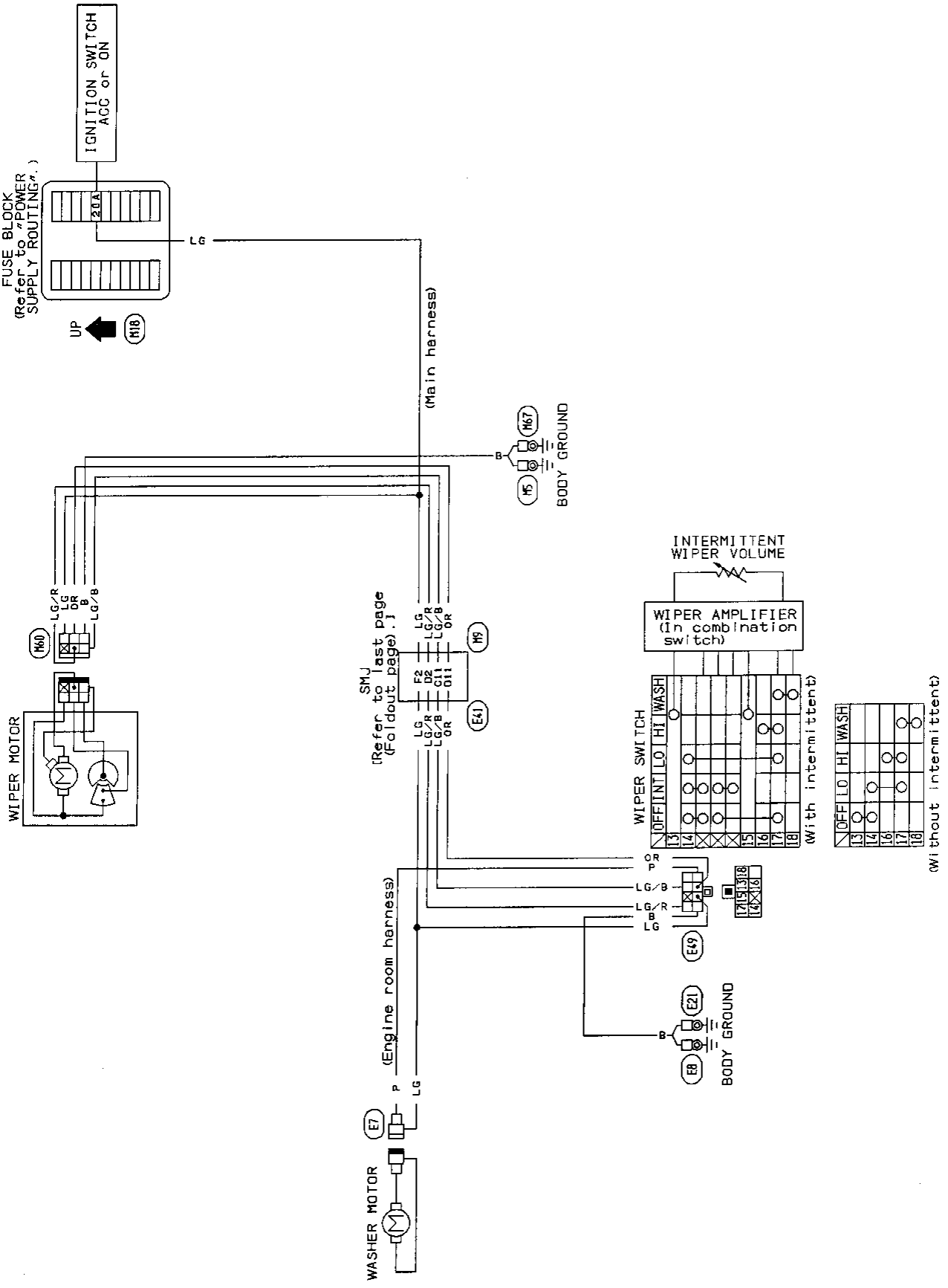
Condition of defogger switch	Continuity
Defogger switch is "OFF"	No
Defogger switch is "ON"	Yes

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

OK ↓

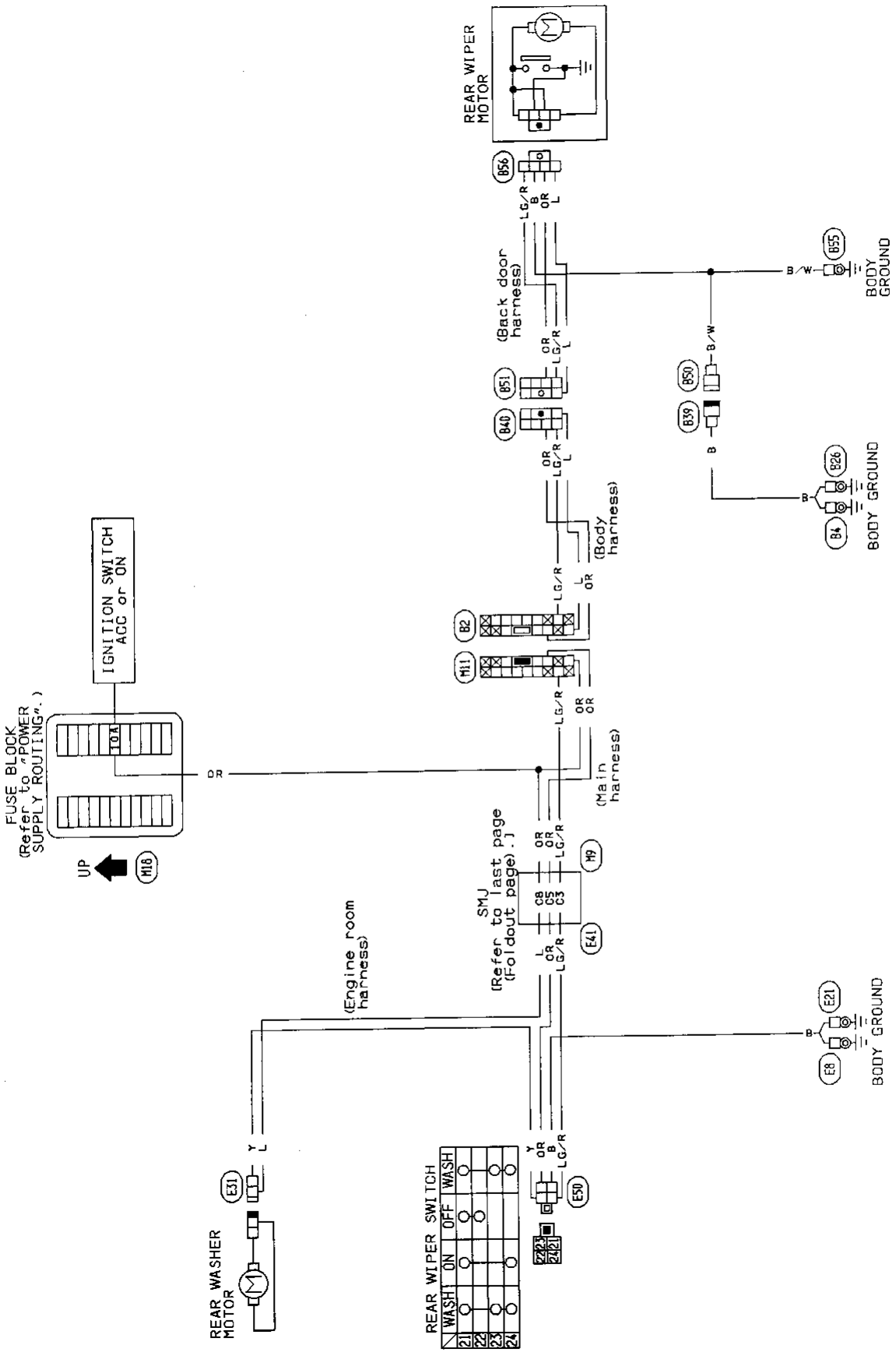
Replace control unit.

Front Wiper and Washer/Wiring Diagram



MEL703C

Rear Wiper and Washer/Wiring Diagram



MEL704C

Installation

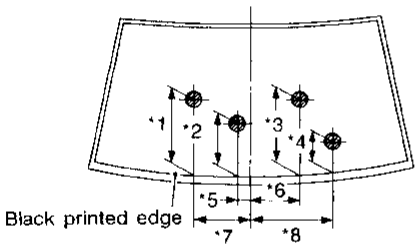
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "A", "B", or "C" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper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

Clearance "A":
25 - 35 mm (0.98 - 1.38 in)
Clearance "B":
20 - 30 mm (0.79 - 1.18 in)

- Tighten wiper arm nuts to specified torque.

Front wiper:
[O]: 17 - 23 N·m (1.7 - 2.3 kg-m, 12 - 17 ft-lb)

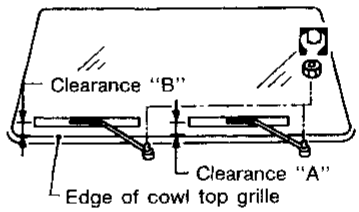
Front wiper and washer



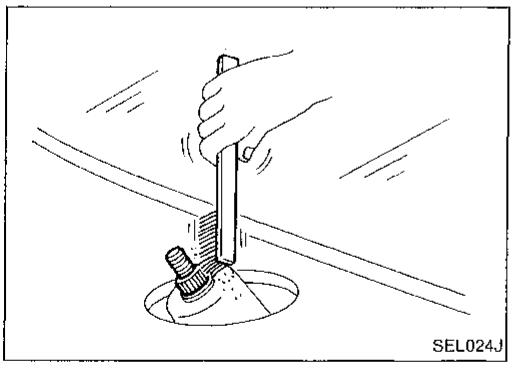
Unit: mm (in)

***1: 340 (13.39)**
***2: 155 (6.10)**
***3: 300 (11.81)**
***4: 115 (4.53)**
***5: 130 (5.12)**
***6: 160 (6.30)**
***7: 310 (12.20)**
***8: 400 (15.75)**

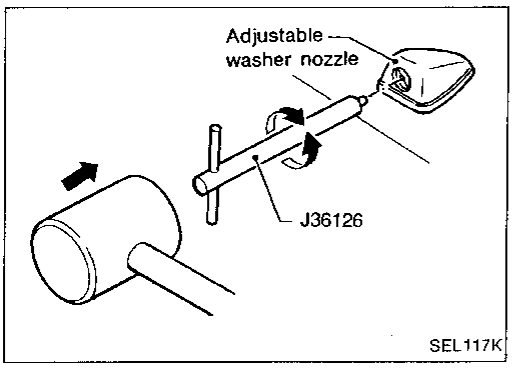
All the diameters of these circles are less than 80 (3.15).



MEL336AA



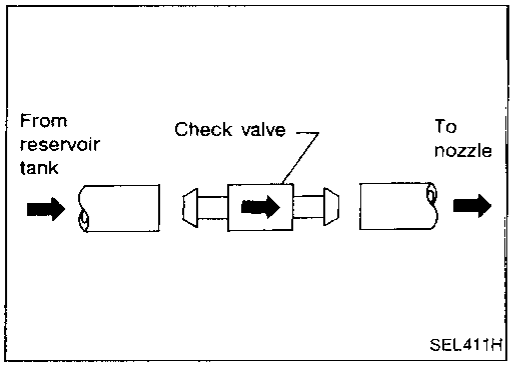
- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.



Washer Nozzle Adjustment

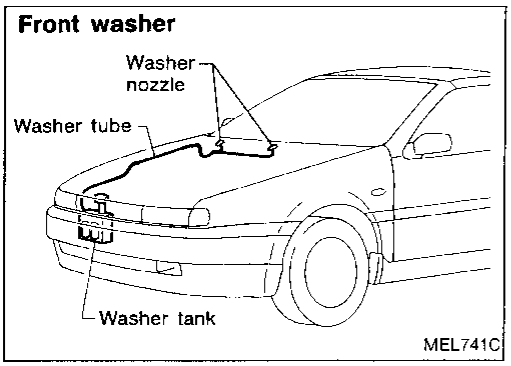
- Using Tool J36126, adjust windshield washer nozzle to correct its spray pattern.

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.

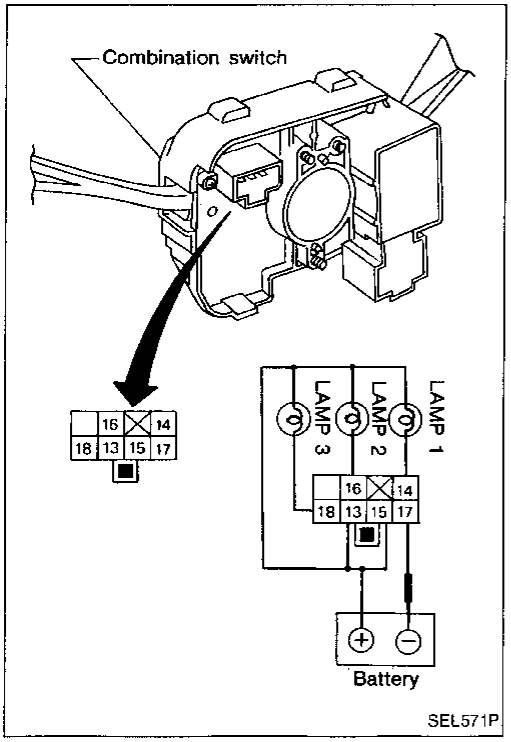


Check Valve

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



Washer Tube Layout



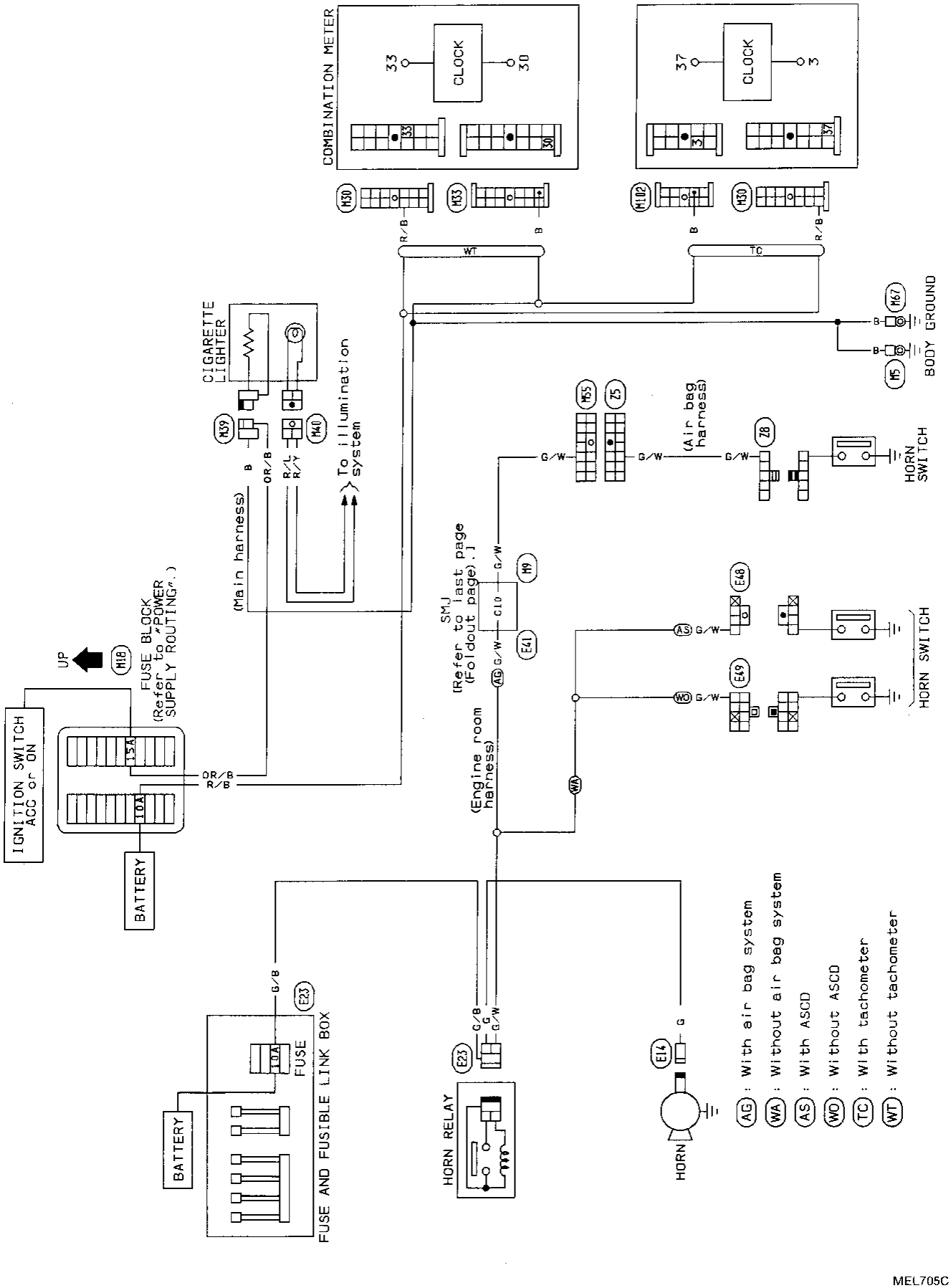
Wiper Amplifier Check

1. Connect as shown in the figure at left.
2. If test lamp comes on when connected to terminal ⑰ and battery ground, wiper switch and amplifier is normal.

Wiper switch position	Test lamp		
	1	2	3
OFF	—	—	—
INT or LO	○	—	—
HI	—	○	—
WASH	○	—	○

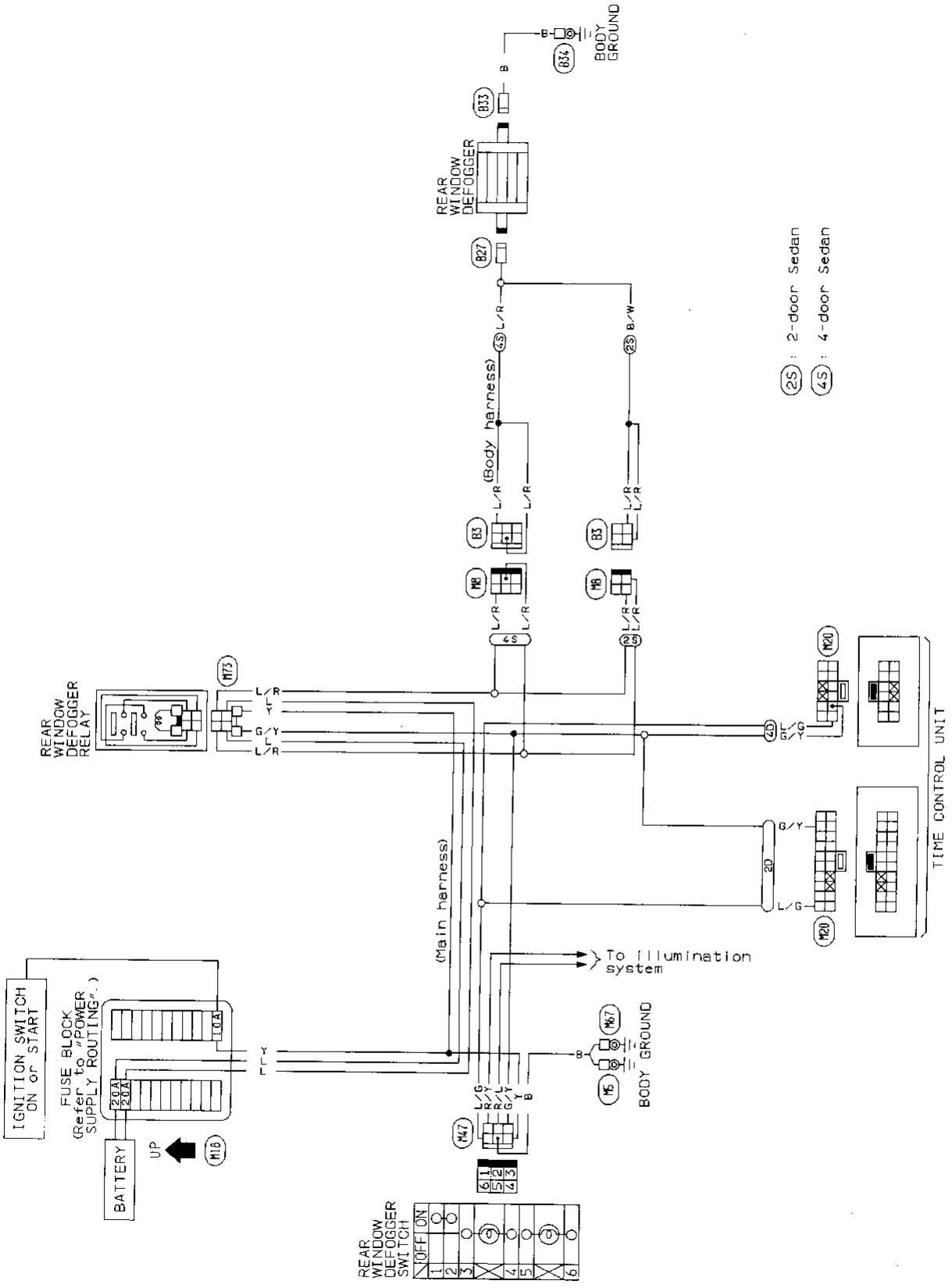
○: Lamp "ON". —: Lamp "OFF"

Wiring Diagram

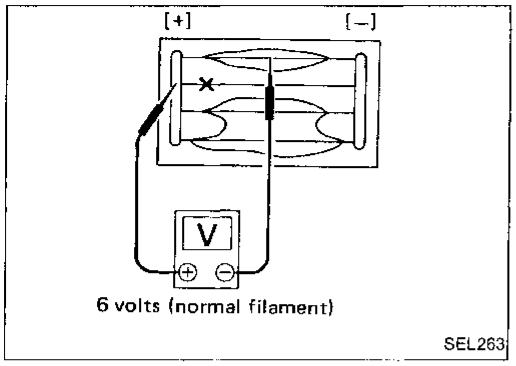


MEL705C

Wiring Diagram

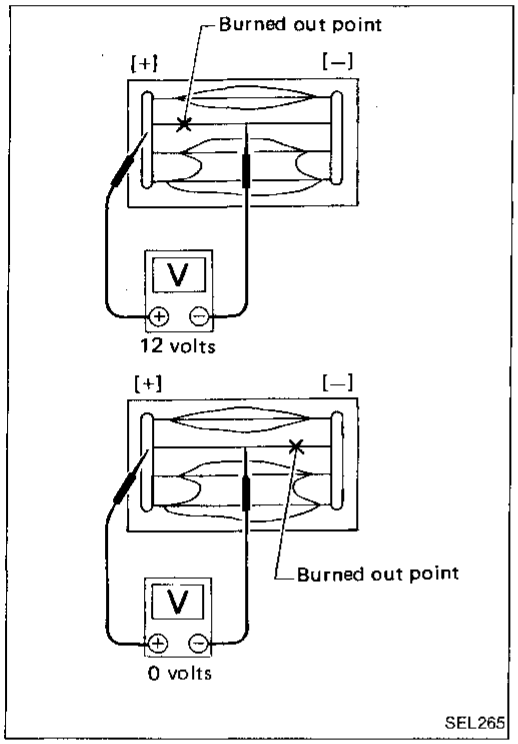


MEL834B

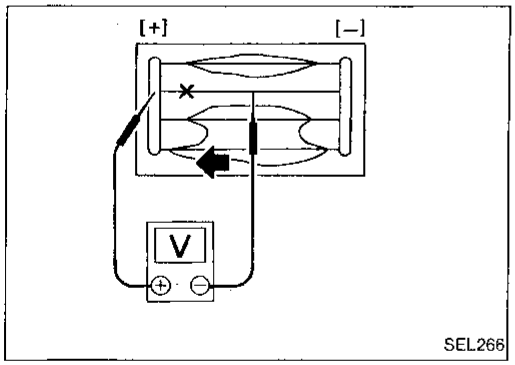


Filament Check

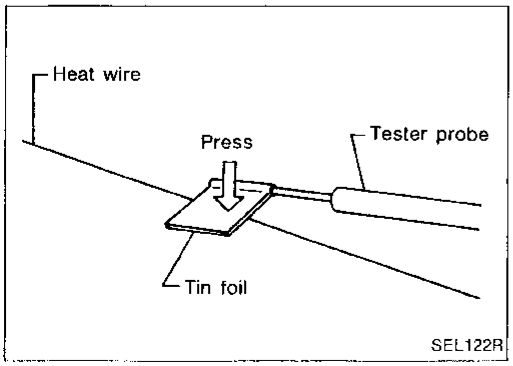
1. Attach probe circuit tester (in volt range) to middle portion of each filament.



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.

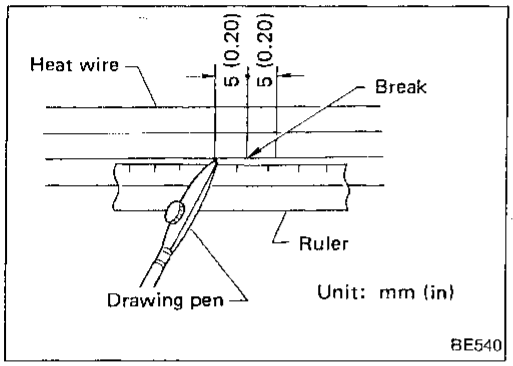


- **When measuring voltage, wind a piece of tin foil around the top of the negative probe and press the foil against the wire with your finger as shown.**

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

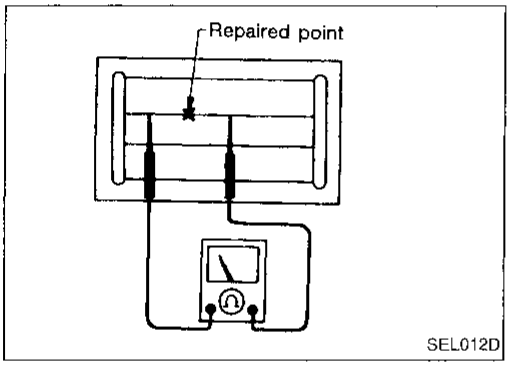


REPAIRING PROCEDURE

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.

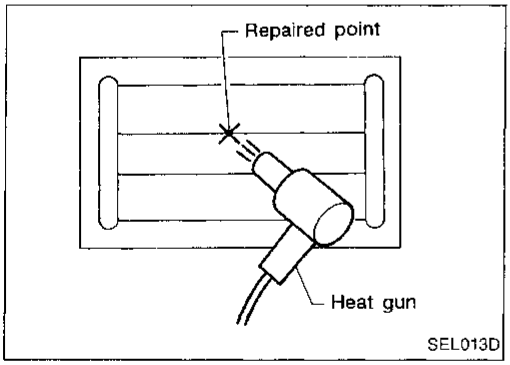
Shake silver composition container before use.

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.



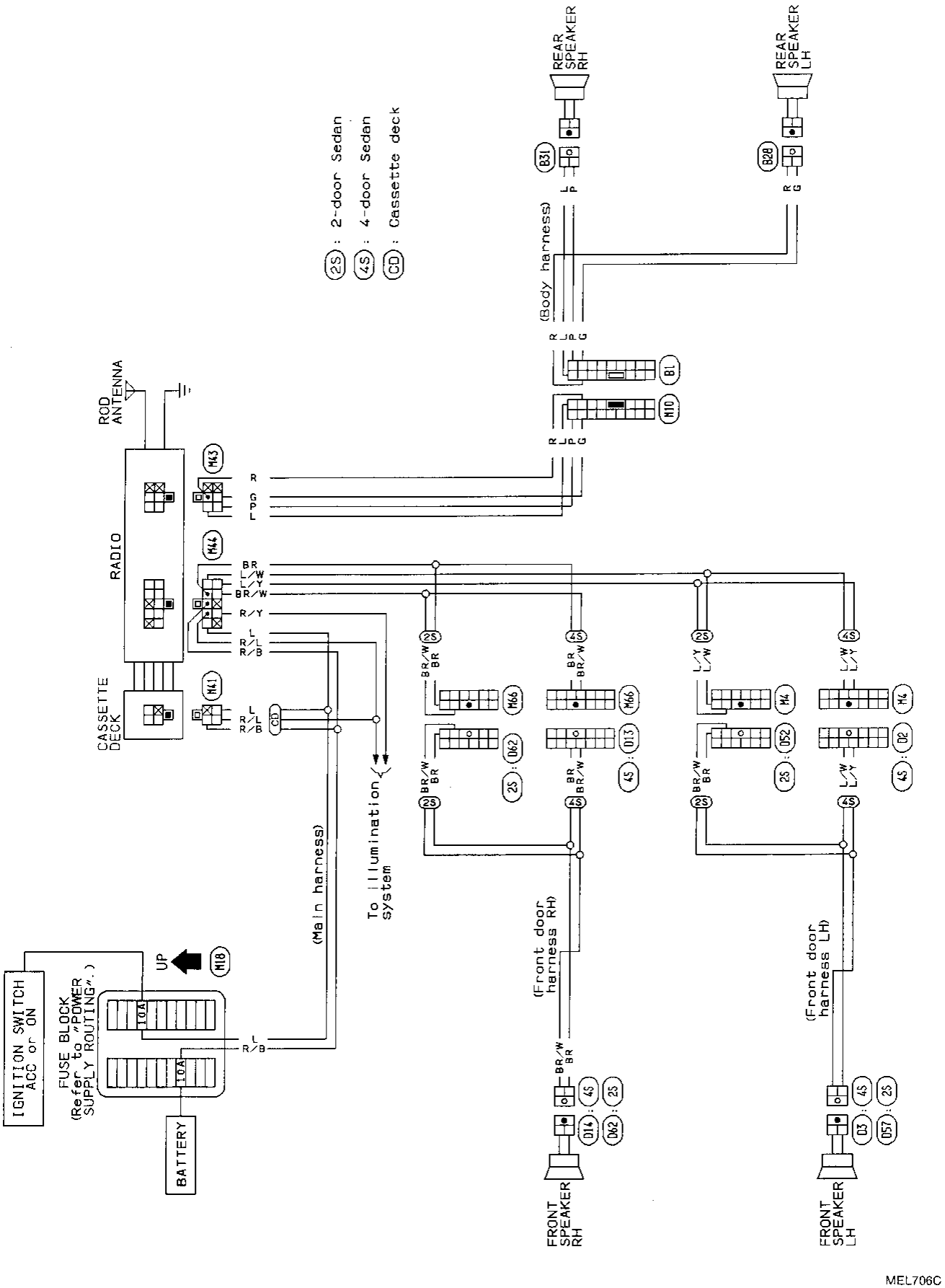
4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.



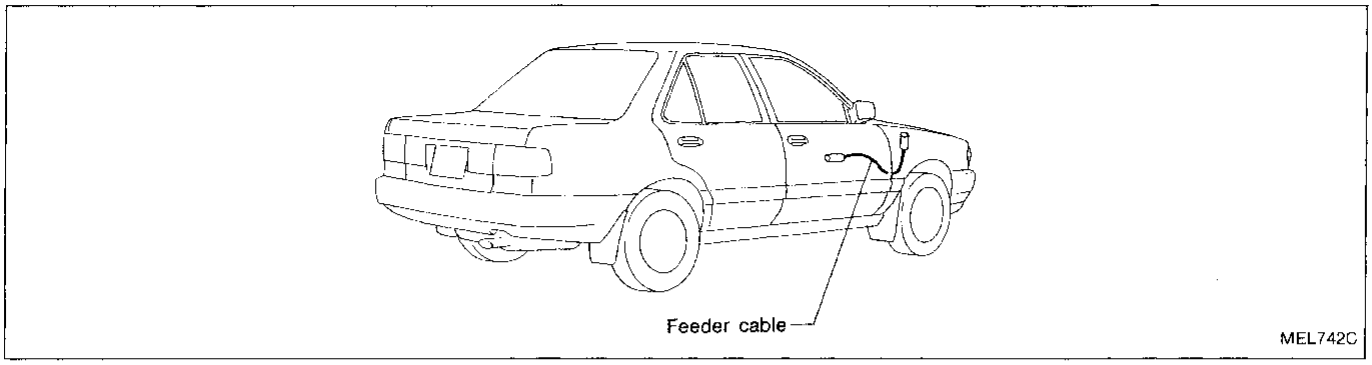
5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.

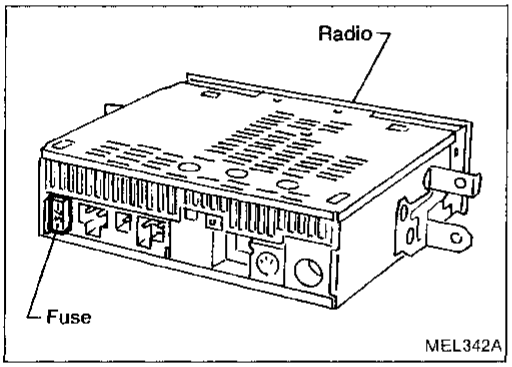
Audio/Wiring Diagram



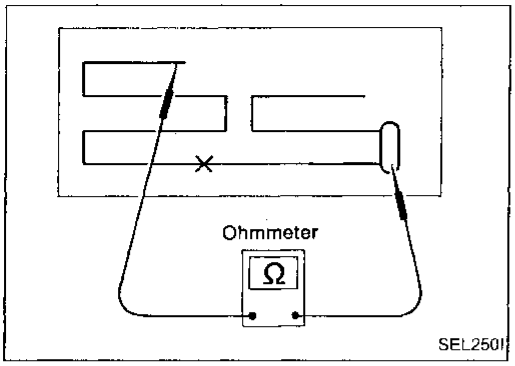
MEL706C

Location of Antenna





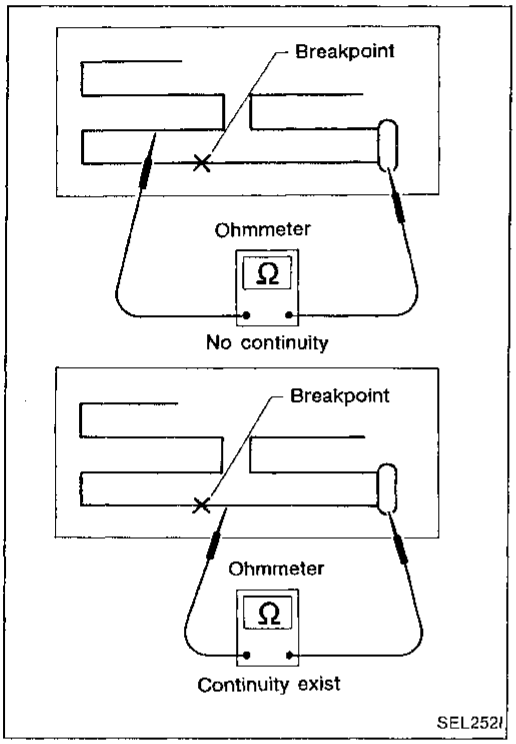
Radio Fuse Check



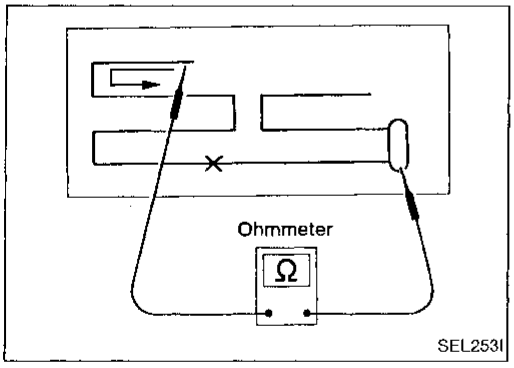
Window Antenna Repair

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.

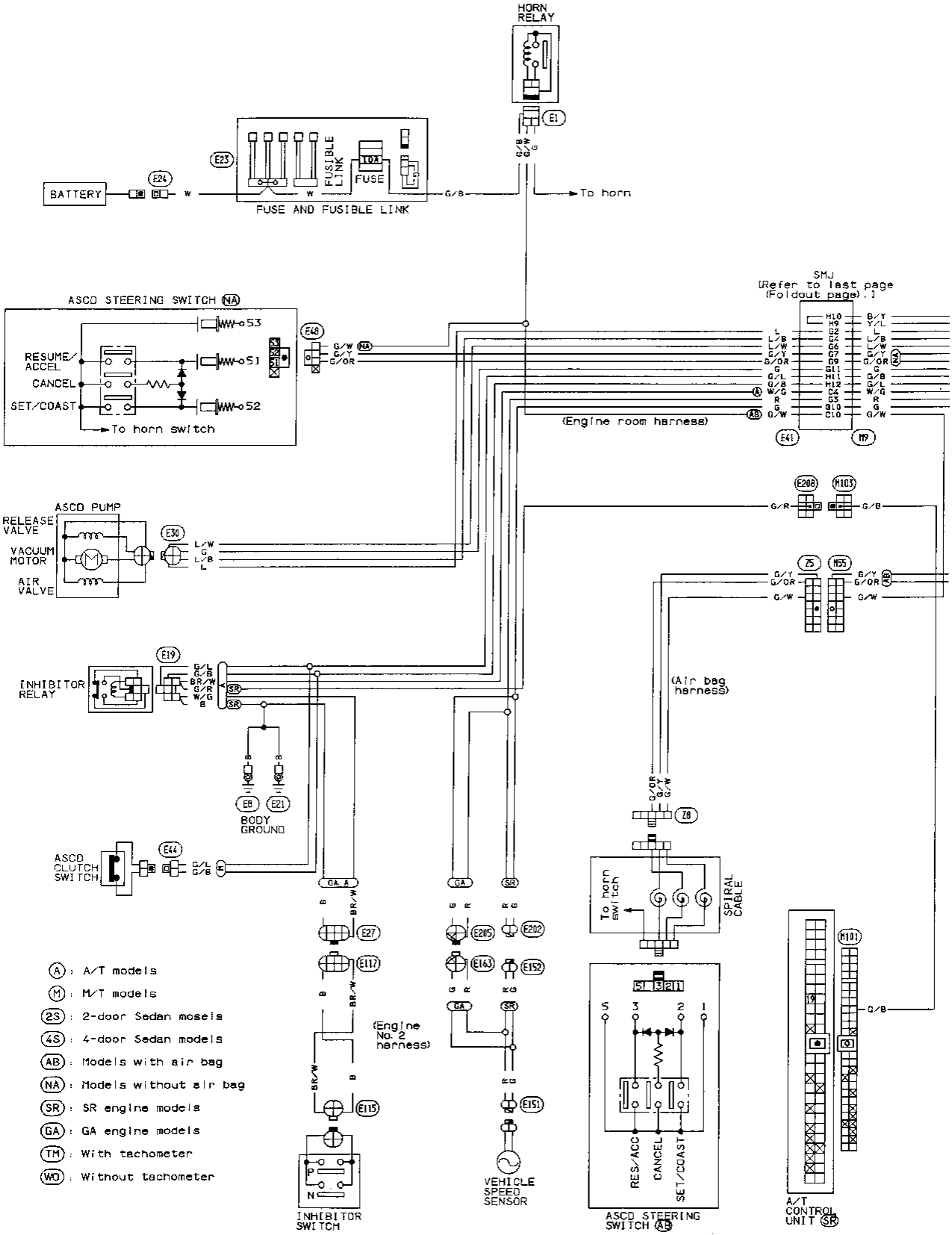


3. To locate broken point, move probe to left and right along element to determine point where tester needle swings abruptly.

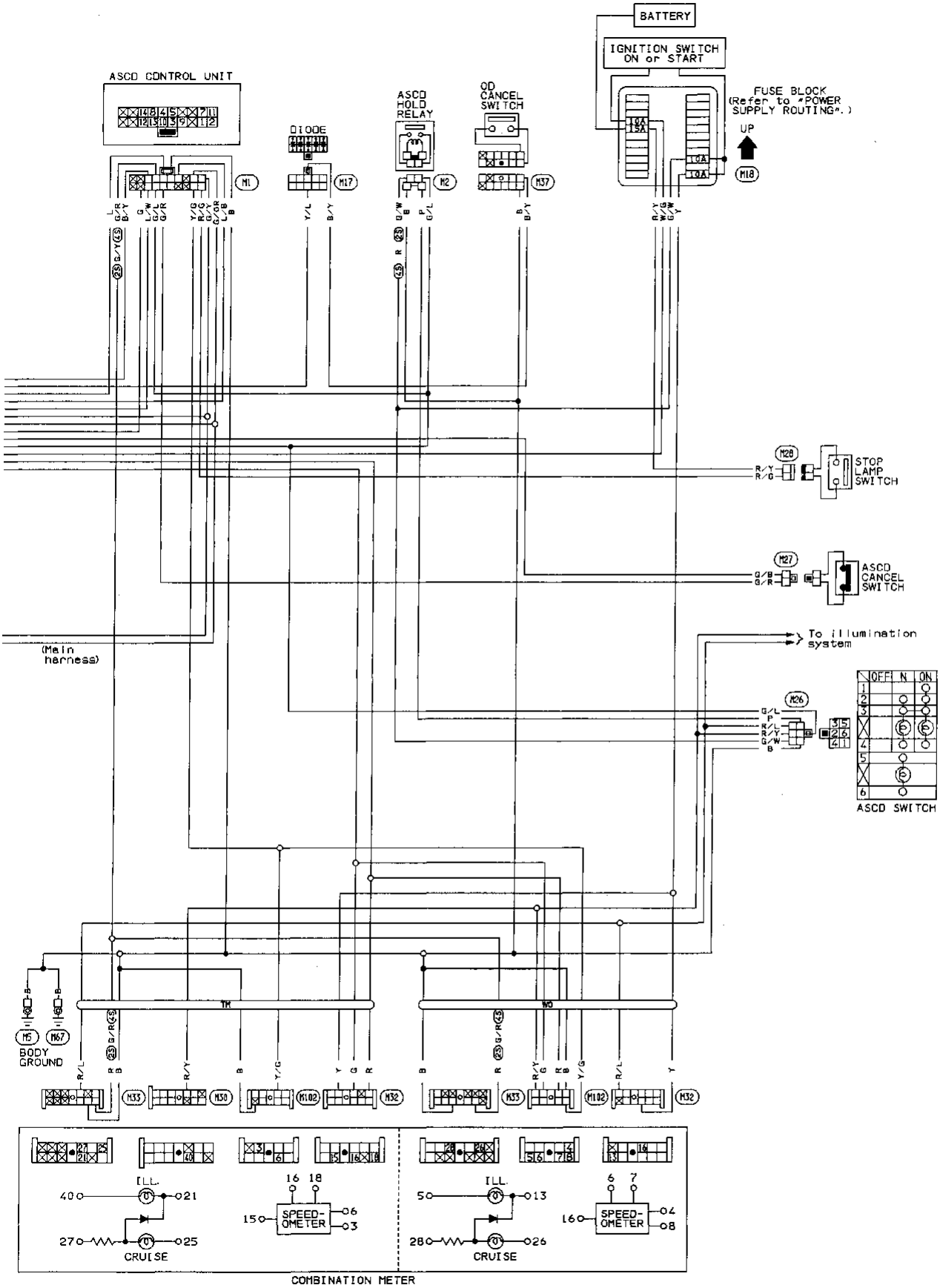
ELEMENT REPAIR

Refer to REAR WINDOW DEFOGGER "Filament Repair" (EL-66).

Wiring Diagram

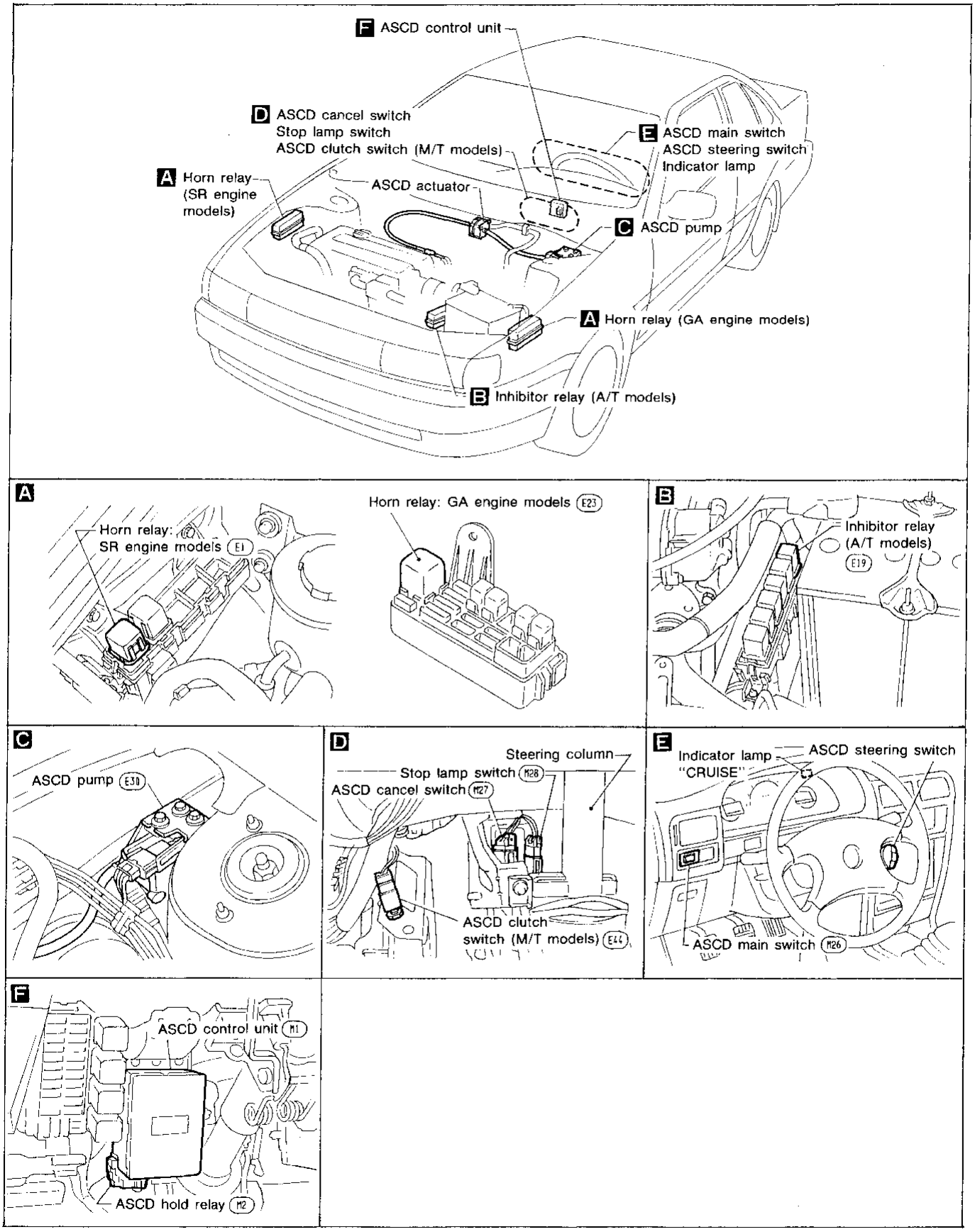


Wiring Diagram (Cont'd)



MEL707C

Component Parts and Harness Connector Location



MEL743C

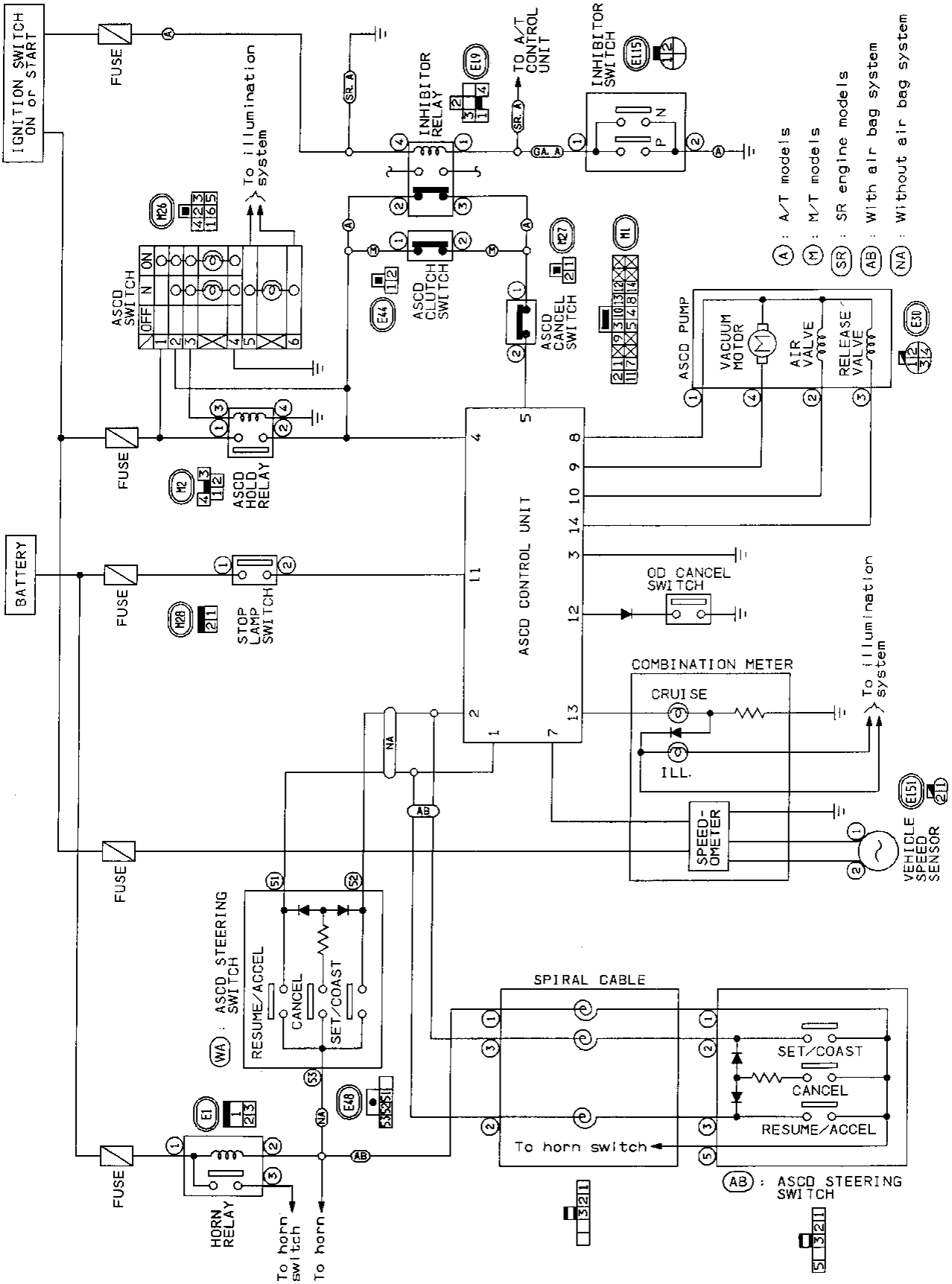
Trouble Diagnoses

SYMPTOM CHART

PROCEDURE	Diagnostic Procedure								Electrical Components Inspection							
REFERENCE PAGE	EL-75	EL-77	EL-77	EL-78	EL-79	EL-80	EL-81	EL-82	EL-83	EL-84	EL-84	EL-85	EL-85	EL-85	EL-85	EL-85
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	ASCD clutch switch (For M/T models)	Inhibitor switch (For A/T models)	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 cancelled.							○		○	○			○	○		
"CRUISE" indicator lamp blinks.								○		○		○	○			

Trouble Diagnoses (Cont'd)

CIRCUIT DIAGRAM FOR QUICK PINPOINT CHECK

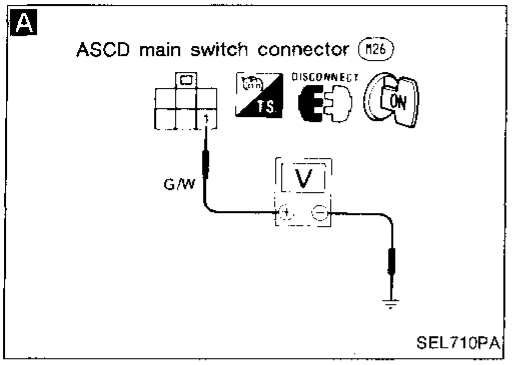


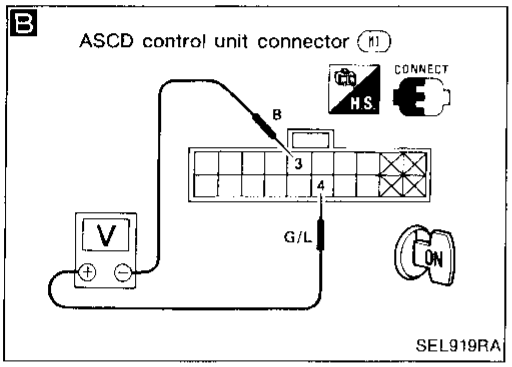
MEL708C

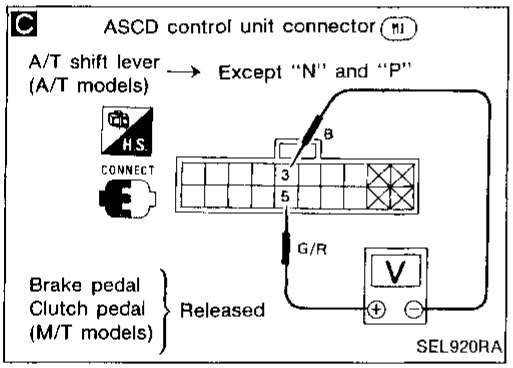
Trouble Diagnoses (Cont'd)

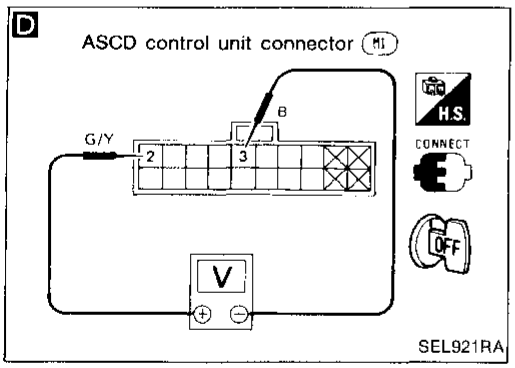
DIAGNOSTIC PROCEDURE 1

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 ① and body ground?

No → Check fuse and harness.

Yes → CHECK ASCD MAIN SWITCH.
Refer to "Electrical Components Inspection" (EL-84).
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 terminal 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.
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-85).
CHECK INHIBITOR RELAY (A/T models).

OK ↓

D

CHECK SET/COAST SWITCH CIRCUIT FOR ASCD CONTROL UNIT.
1. Push and hold SET/COAST button on ASCD steering 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 STEERING SWITCH.
Refer to "Electrical Components Inspection" (EL-85).

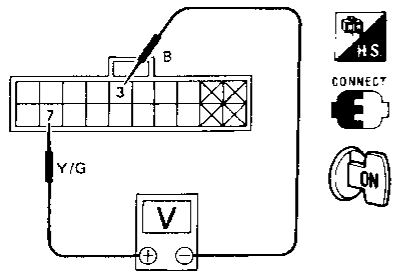
OK ↓

Ⓐ
(Next page)

Trouble Diagnoses (Cont'd)

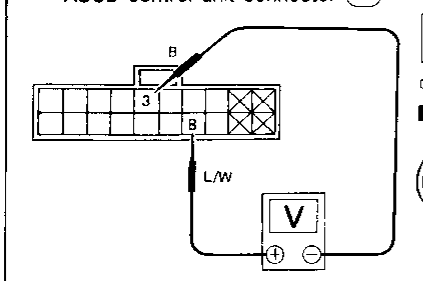
E

ASCD control unit connector (M1)

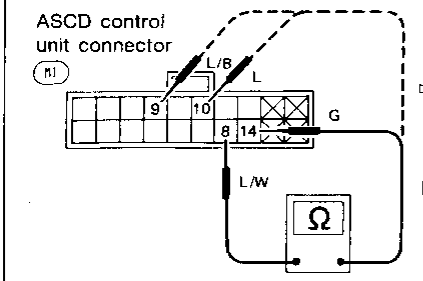


F

ASCD control unit connector (M52)



ASCD control unit connector (M1)



Ⓐ

E

CHECK VEHICLE SPEED SENSOR CIRCUIT.
1. Apply wheel chocks and jack up front of vehicle.
2. Connect voltmeter between control unit harness terminals ⑦ and ③.
3. Slowly turn front wheel.
4. Check deflection of voltmeter pointer.

NG → CHECK VEHICLE SPEED SENSOR. Refer to "Electrical Components Inspection" (EL-85).

OK ↓

CHECK ASCD ACTUATOR/ASCD PUMP. Refer to "Electrical Components Inspection" (EL-84).

NG → Replace ASCD actuator/ASCD pump.

OK ↓

F

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

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

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

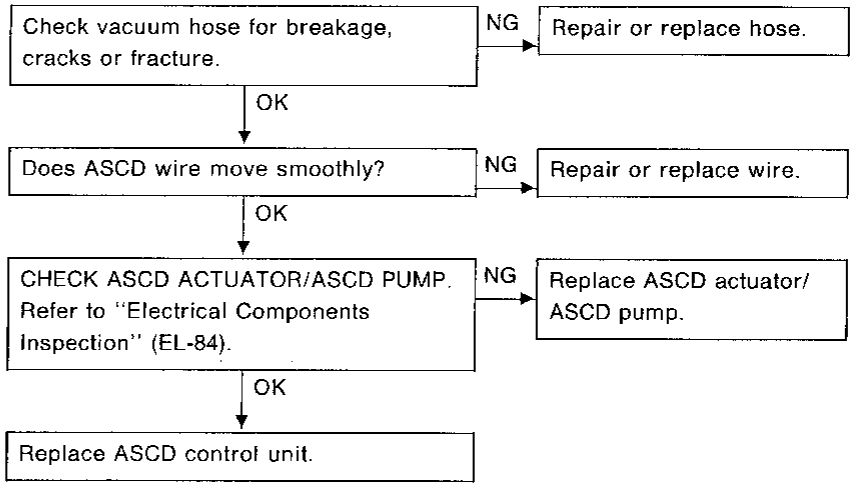
OK ↓

Replace ASCD control unit.

Trouble Diagnoses (Cont'd)

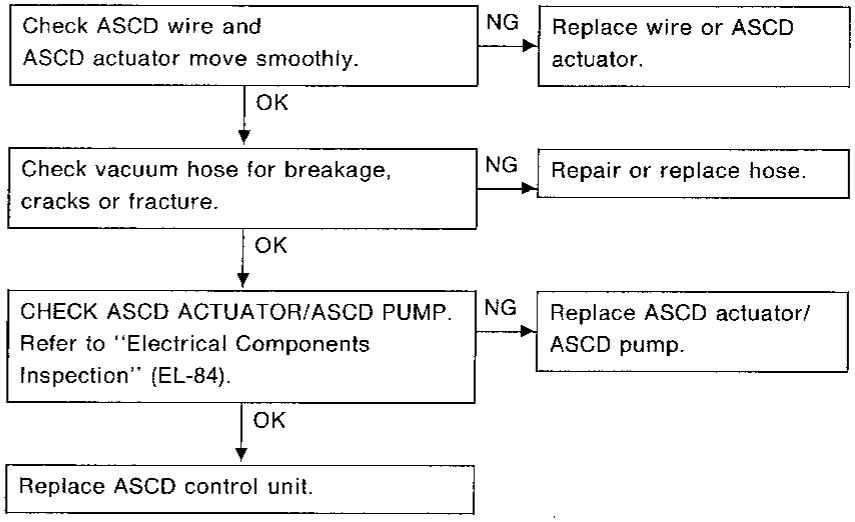
DIAGNOSTIC PROCEDURE 2

SYMPTOM: Engine hunts.



DIAGNOSTIC PROCEDURE 3

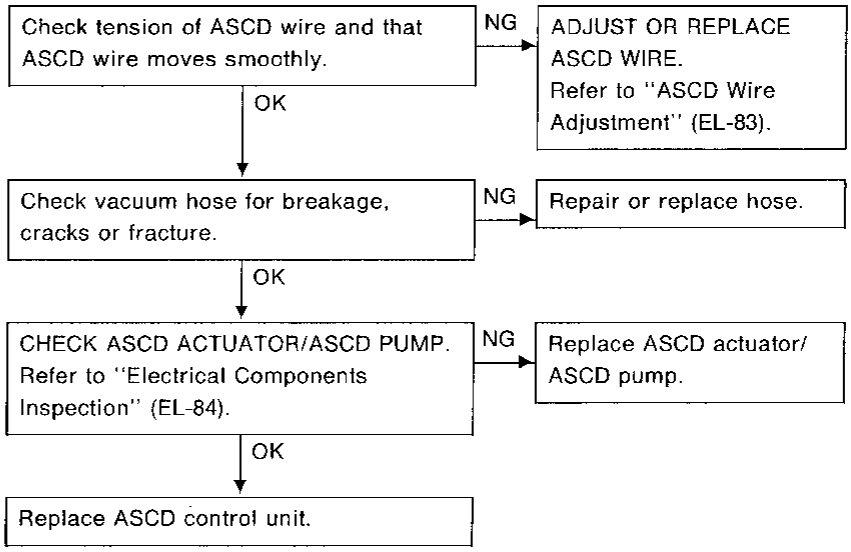
SYMPTOM: Large difference between set vehicle speed and actual speed.



Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

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

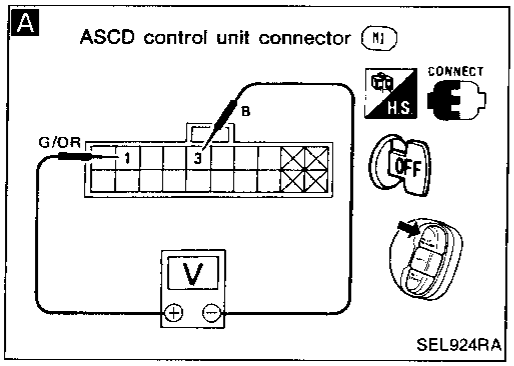


Trouble Diagnoses (Cont'd)

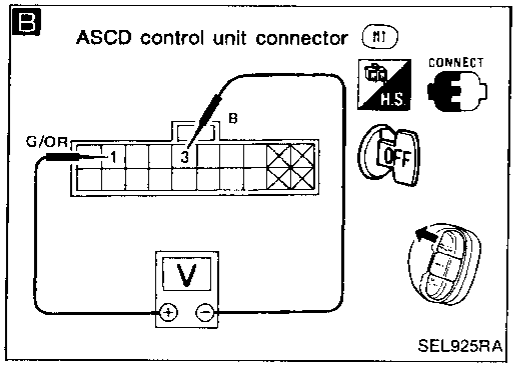
DIAGNOSTIC PROCEDURE 5

SYMPTOM: ACCEL switch will not operate.

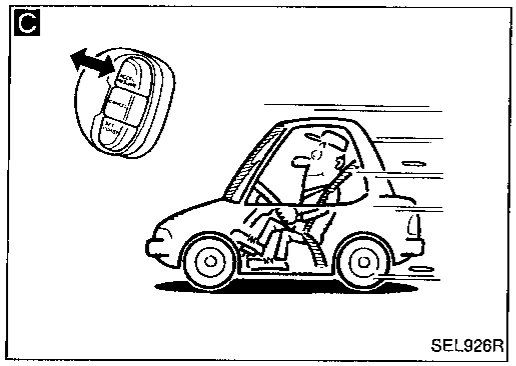
A



B



C



Check constant-speed function for operating using SET/COAST switch.
- NG → Go to "DIAGNOSTIC PROCEDURE 1" (EL-75).
- OK ↓

A

Check voltage between control unit harness terminals ① and ③ after pressing and holding RESUME/ACCEL switch.
Battery voltage should exist.
- NG → CHECK ASCD STEERING SWITCH. Refer to "Electrical Components Inspection" (EL-85).
- OK ↓

B

Check voltage between control unit harness terminals ① and ③ after releasing RESUME/ACCEL switch.
Voltage is 0V.
- NG → CHECK ASCD STEERING SWITCH. Refer to "Electrical Components Inspection" (EL-85).
- OK ↓

C

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

D

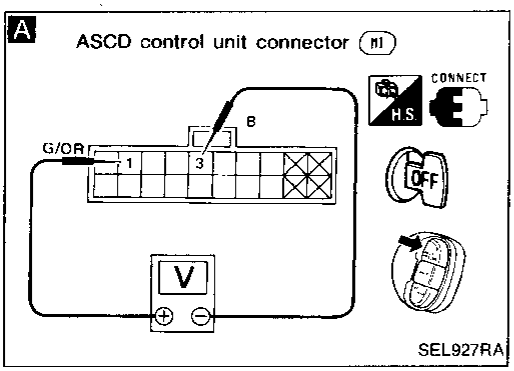
Does vehicle maintain the new (faster) speed when RESUME/ACCEL switch is released?
- No → Replace control unit.
- Yes ↓

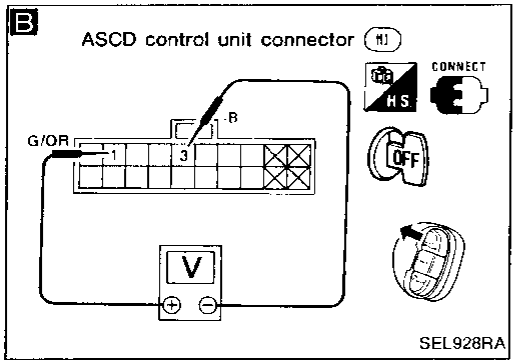
System is OK.

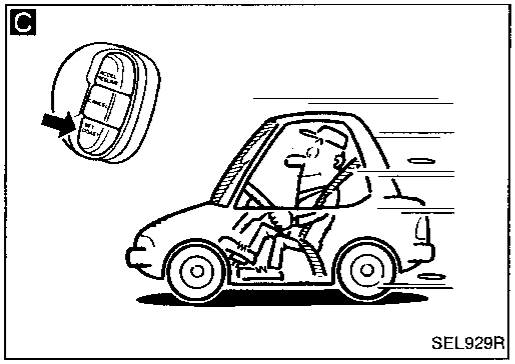
Trouble Diagnoses (Cont'd)

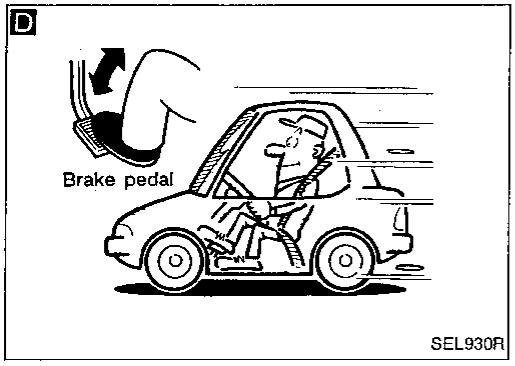
DIAGNOSTIC PROCEDURE 6

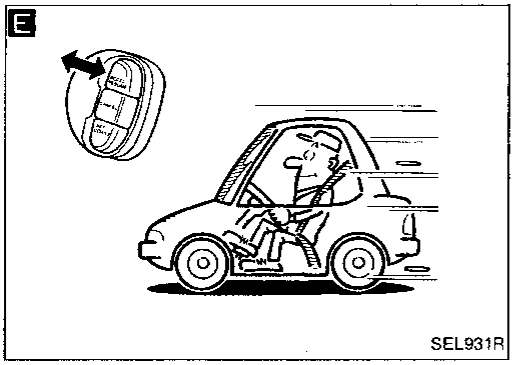
SYMPTOM: RESUME switch will not operate.











Check constant-speed function for operation using SET/COAST switch.
- NG → Go to "DIAGNOSTIC PROCEDURE 1" (EL-75).
- OK ↓

A

Check voltage between control unit harness terminals ① and ③ after pressing and holding RESUME/ACCEL switch.
Battery voltage should exist.
- NG → CHECK ASCD STEERING SWITCH. Refer to "Electrical Components Inspection" (EL-85).
- OK ↓

B

Check voltage between control unit harness terminals ① and ③ after releasing RESUME/ACCEL switch.
Voltage is 0V.
- NG → CHECK ASCD STEERING SWITCH. Refer to "Electrical Components Inspection" (EL-85).
- OK ↓

C

Set vehicle speed at 80 km/h (50 MPH) by pressing SET/COAST switch.
- OK ↓

D

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-85).
- Yes ↓

E

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

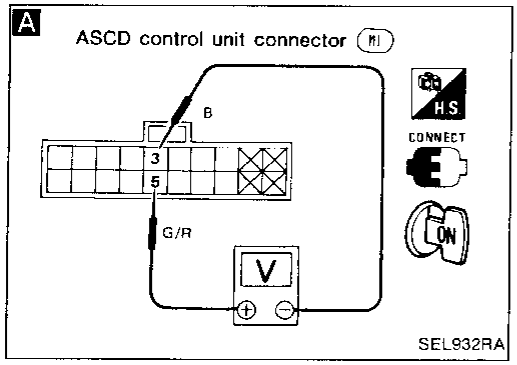
Does vehicle return to previously set speed [80 km/h (50 MPH)]?
- No → Replace control unit.
- Yes ↓

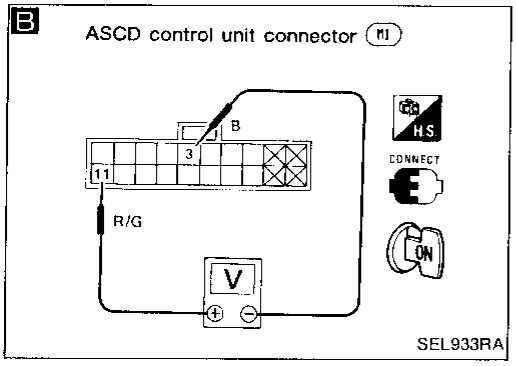
System is OK.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

SYMPTOM: Set speed cannot be cancelled.





A

CHECK ASCD CANCEL, CLUTCH, INHIBITOR SWITCH CIRCUIT.
1. Turn ASCD main switch "ON".
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

NG → CHECK ASCD CANCEL, CLUTCH, and INHIBITOR SWITCH.
Refer to "Electrical Components Inspection" (EL-85).

OK ↓

B

CHECK STOP LAMP SWITCH CIRCUIT.
Check voltage between control unit harness terminals ⑪ and ③.

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

NG → CHECK STOP LAMP SWITCH.
Refer to "Electrical Components Inspection (EL-85).

OK ↓

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

OK ↓

CHECK ASCD ACTUATOR/ASCD PUMP.
Refer to "Electrical Components Inspection" (EL-84).
NG → Replace ASCD actuator/ASCD pump.

OK ↓

Replace ASCD control unit.

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

No → CHECK ASCD STEERING SWITCH.
Refer to "Electrical Components Inspection" (EL-85).

- NG → Replace ASCD steering switch.
- OK → Replace control unit.

No → CHECK ASCD ACTUATOR/ASCD PUMP.
Refer to "Electrical Components Inspection" (EL-84).

- NG → Replace ASCD actuator/ ASCD pump
- OK

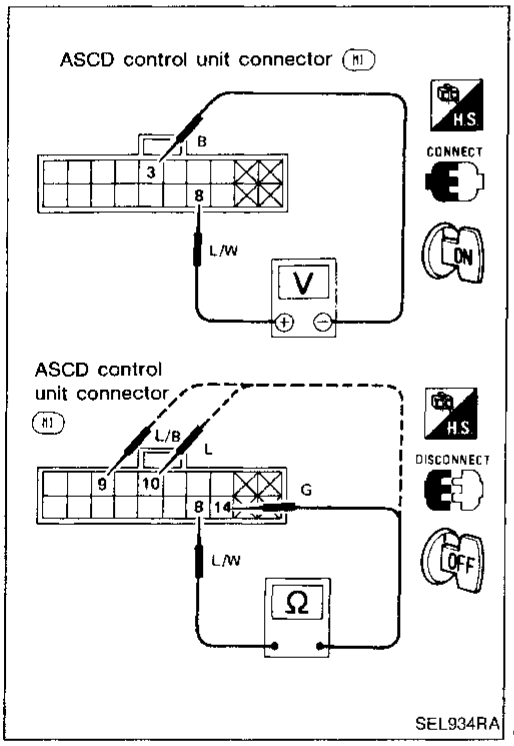
CHECK ASCD ACTUATOR/ASCD PUMP CIRCUIT.

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.

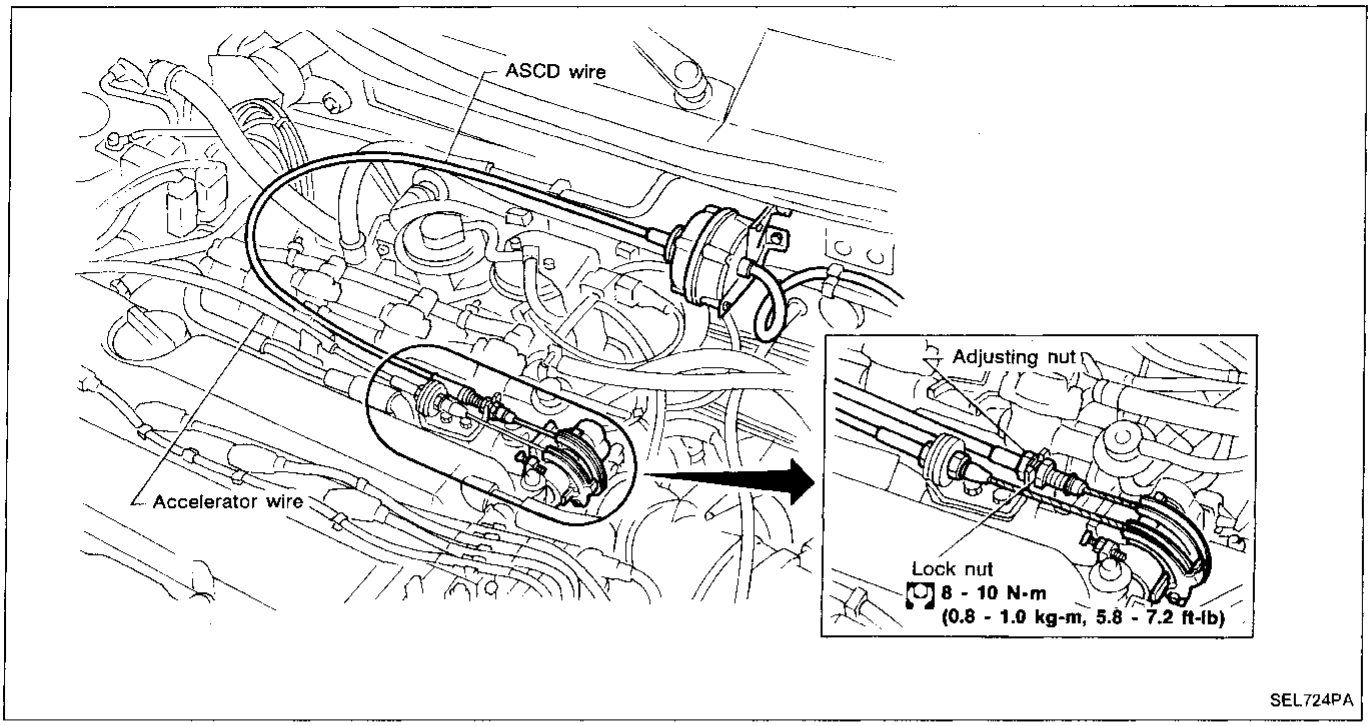
Terminals		Resistance [Ω]
⑧	⑨	Approx. 8 - 45
	⑩	Approx. 65
	⑭	Approx. 65

OK → Replace ASCD control unit.



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)

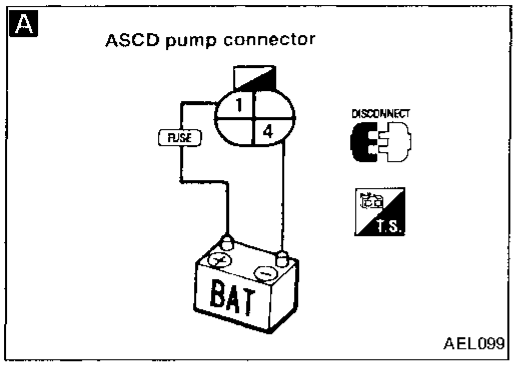
(2) Securely tighten lock nut to hold adjusting nut in place.

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.

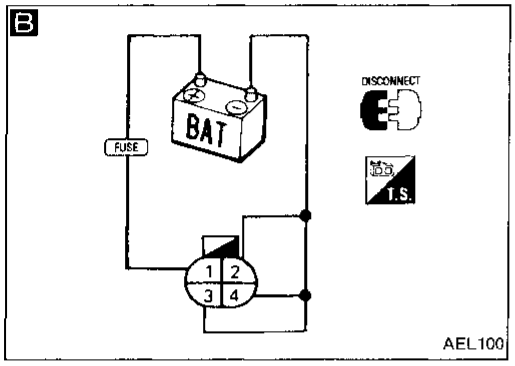


A

Check to see if motor starts when 12V DC is applied across ① and ④.

NG → Replace ASCD pump.

OK ↓



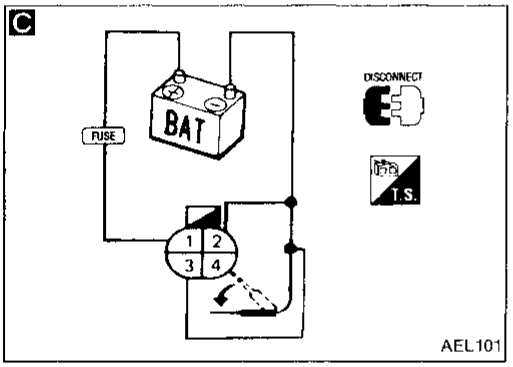
B

Check to see if ASCD wire is pulled when 12V DC is applied across ①, ②, ③ and ④.

NG → Disconnect vacuum hose from ASCD actuator and check for presence of vacuum pressure at ASCD pump.

- NG → Replace ASCD actuator.
- OK

OK (Wire is pulled.) ↓

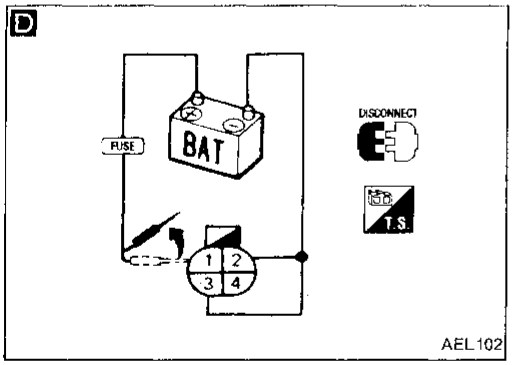


C

Check to see if ASCD wire returns to original position 50 to 60 seconds after disconnecting lead from ④.

NG → Replace ASCD pump.

OK (Wire does not return.) ↓



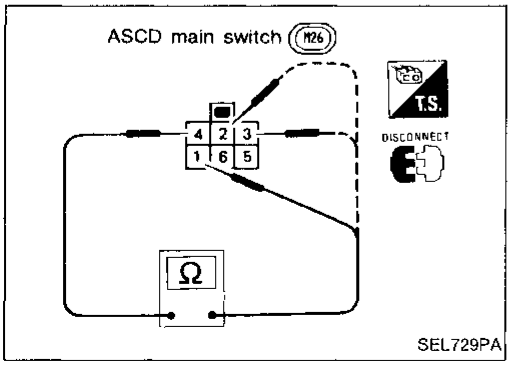
D

Disconnect lead from ① to see if ASCD wire returns immediately.

NG → Replace ASCD pump.

OK (Wire returns.) ↓

ASCD actuator/ASCD pump are OK

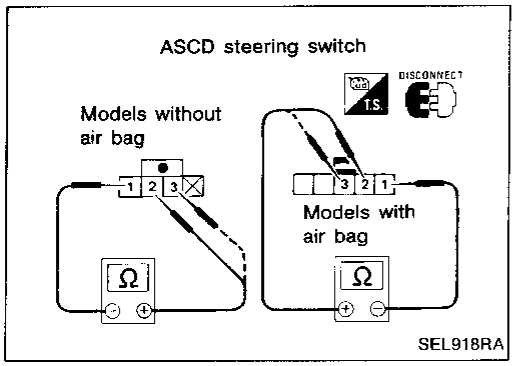


ASCD main switch

Check continuity between terminals by pushing switch to each position.

Switch position	Terminals					
	1	2	3	4	5	6
ON	○	○	○	○		
N		○	○	○	ILL. ○	○
OFF						

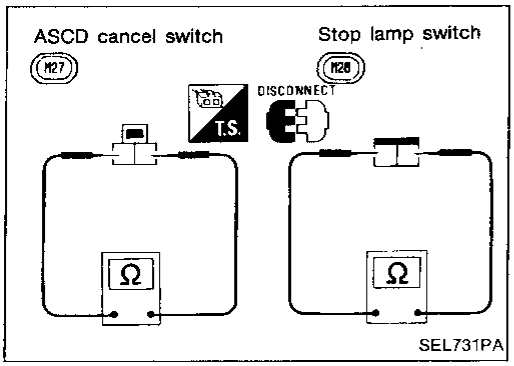
Trouble Diagnoses (Cont'd)



ASCD steering switch

Check continuity between terminals by pushing each button.

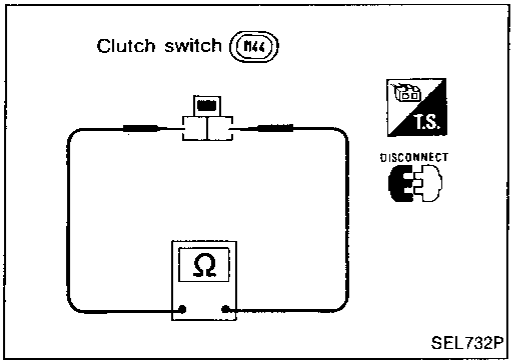
Button	Terminal		
	1	2	3
SET/COAST	○	○	
RESUME/ACCEL	○		○
CANCEL	○	▷ ○	
	○	▷	○



ASCD cancel switch and stop lamp switch

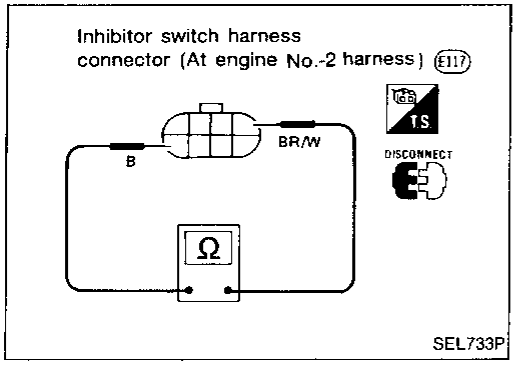
Condition	Continuity	
	ASCD cancel switch	Stop lamp switch
When brake pedal is depressed	No	Yes
When brake pedal is released	Yes	No

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



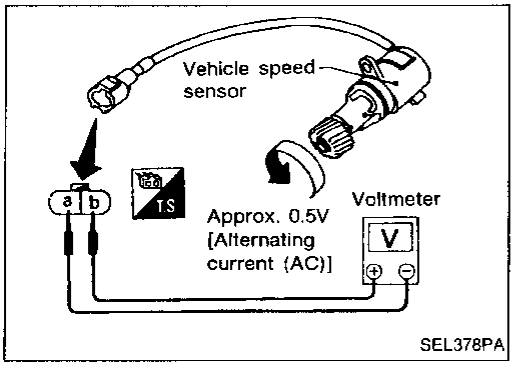
ASCD clutch switch (For M/T models)

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



Inhibitor switch (For A/T models)

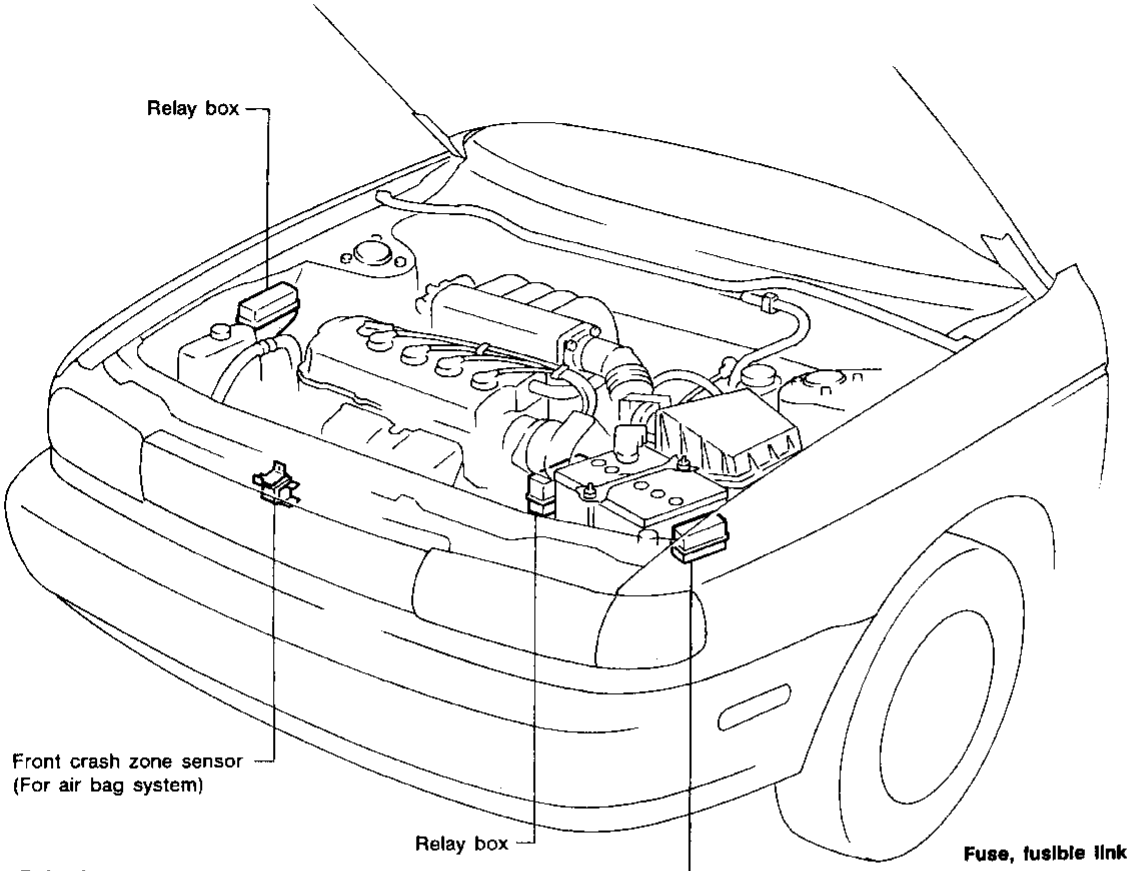
Condition	Continuity
When shift lever position is "N" or "P"	Yes
When shift lever position is any position except "N" or "P"	No



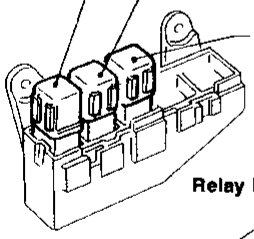
Vehicle speed sensor

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

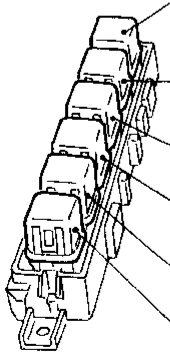
Engine Compartment



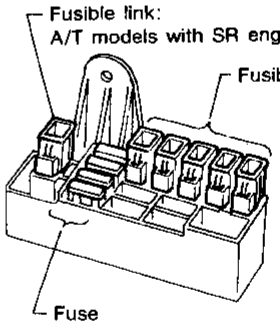
Relay box

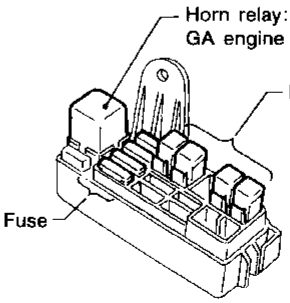


Relay box



Fuse, fusible link and relay box





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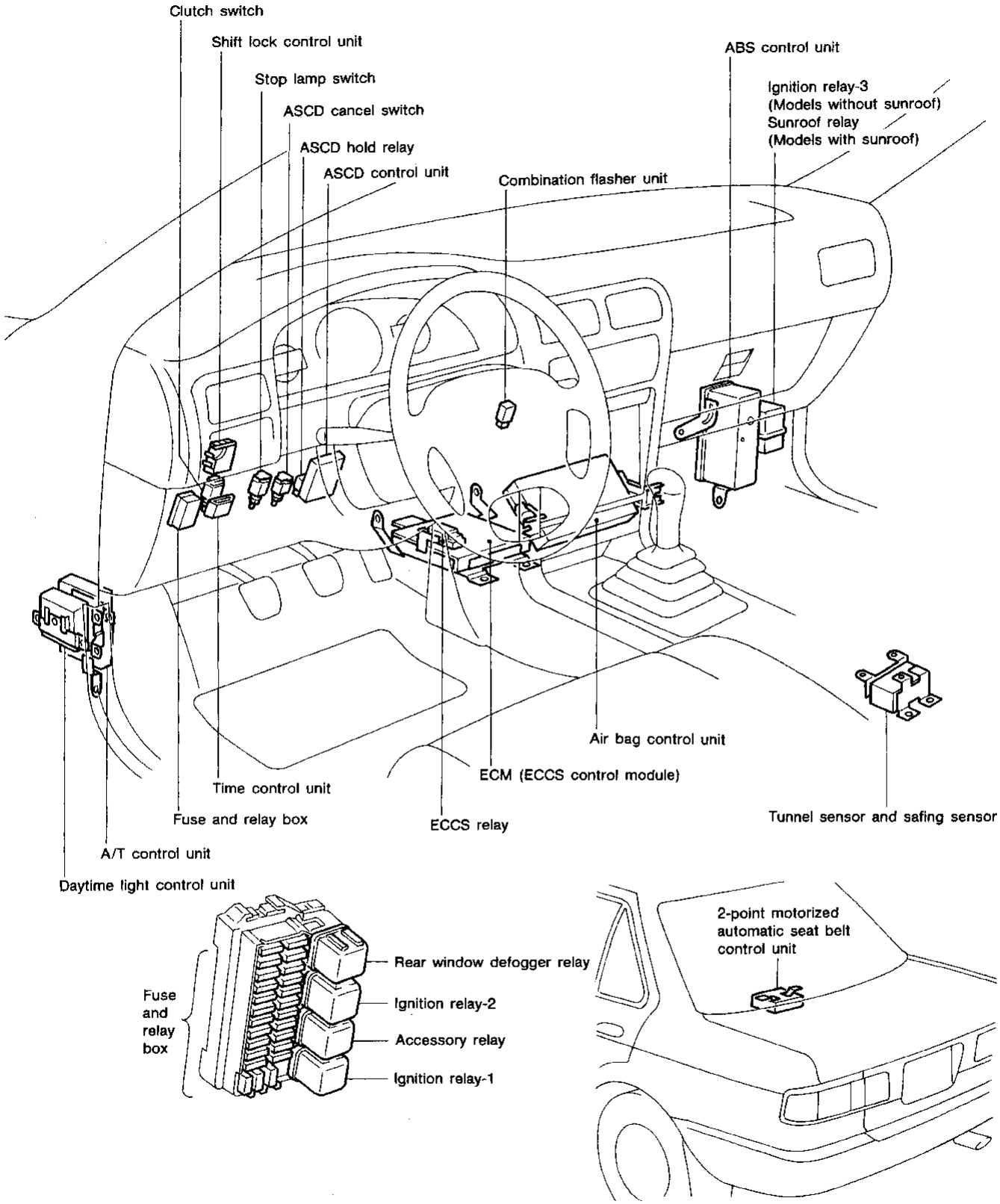
Passenger Compartment



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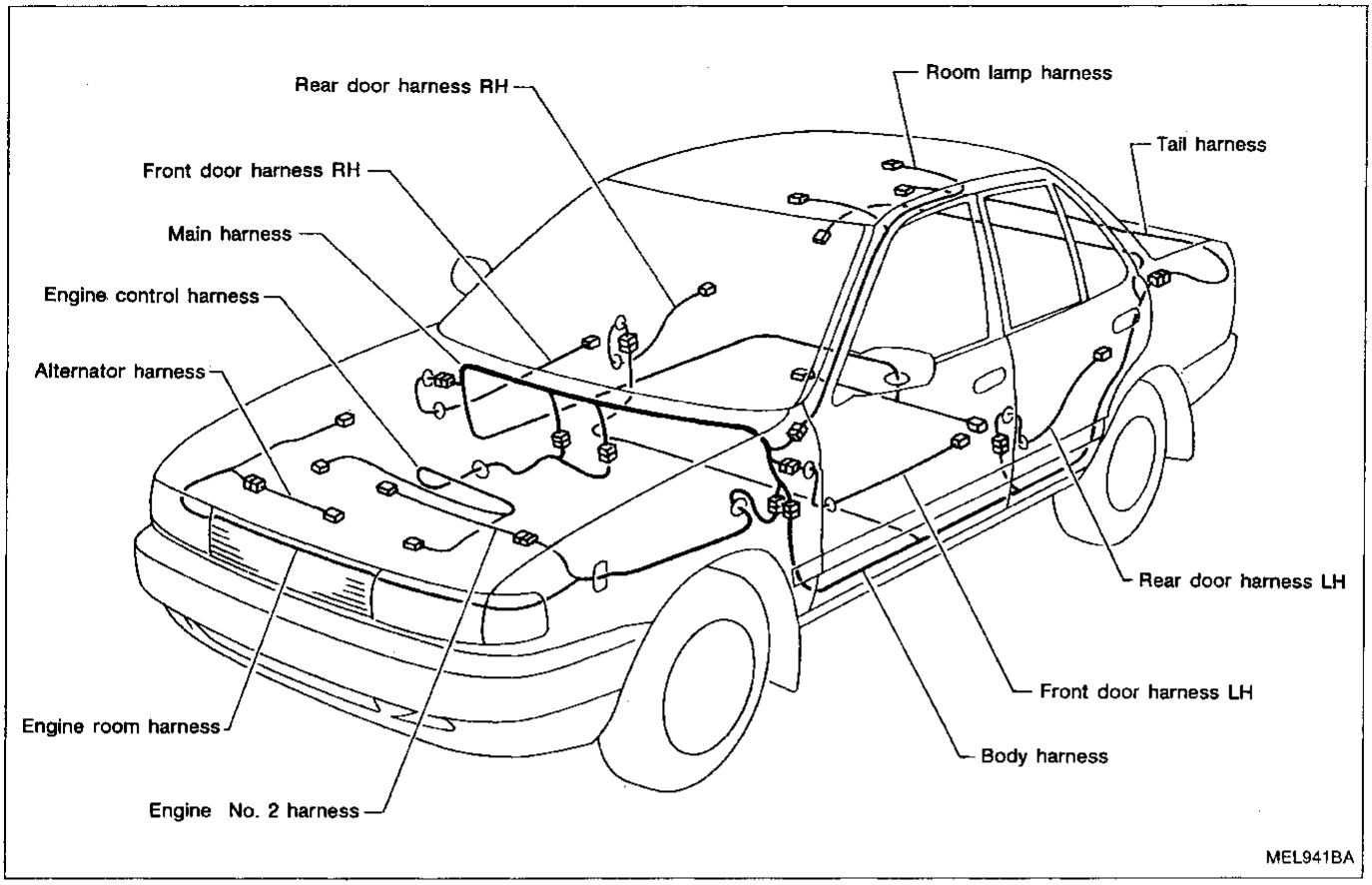
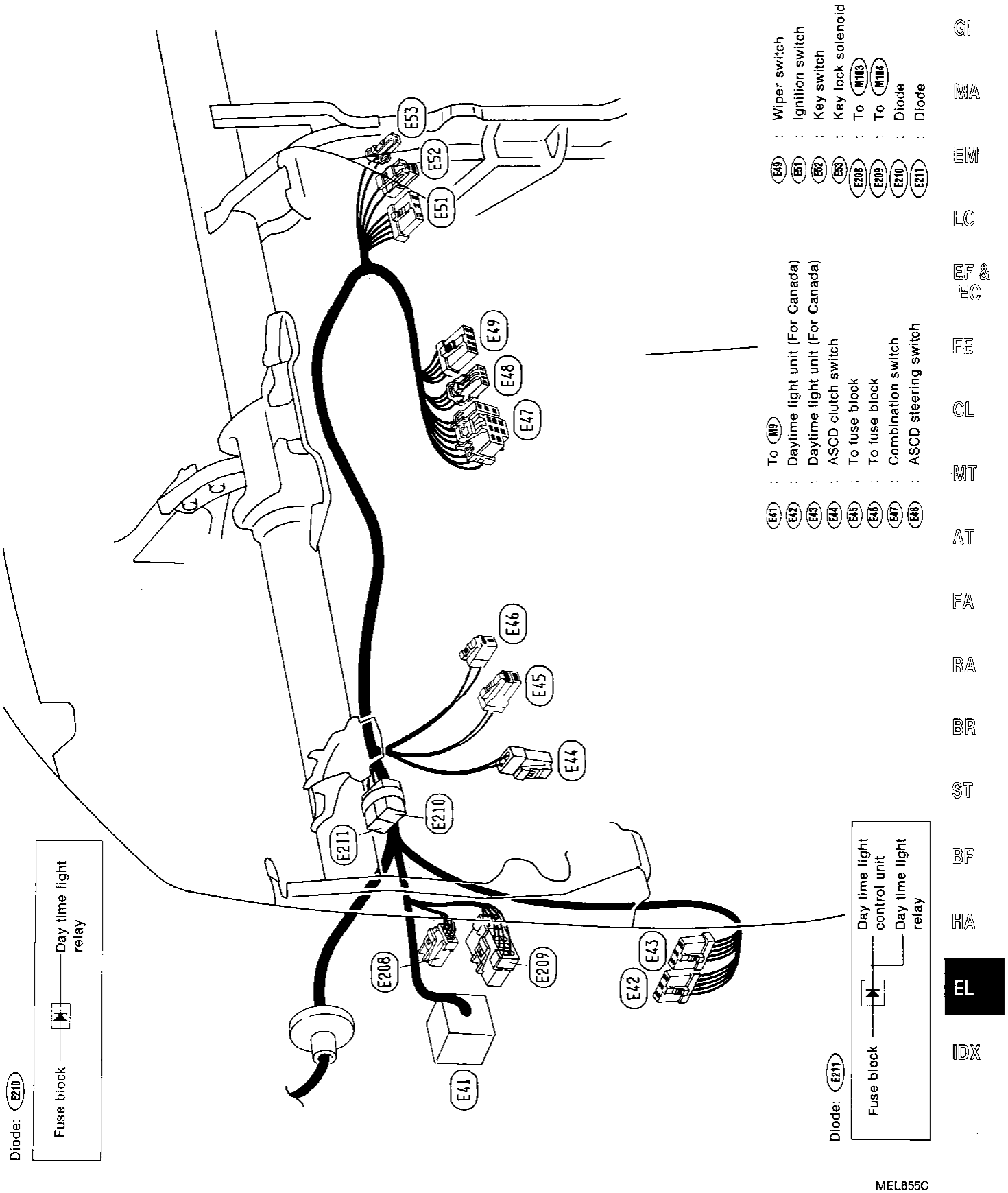
Outline


Rear door harness RH
Room lamp harness
Tail harness
Front door harness RH
Main harness
Engine control harness
Alternator harness
Rear door harness LH
Front door harness LH
Engine room harness
Body harness
Engine No. 2 harness
MEL941BA

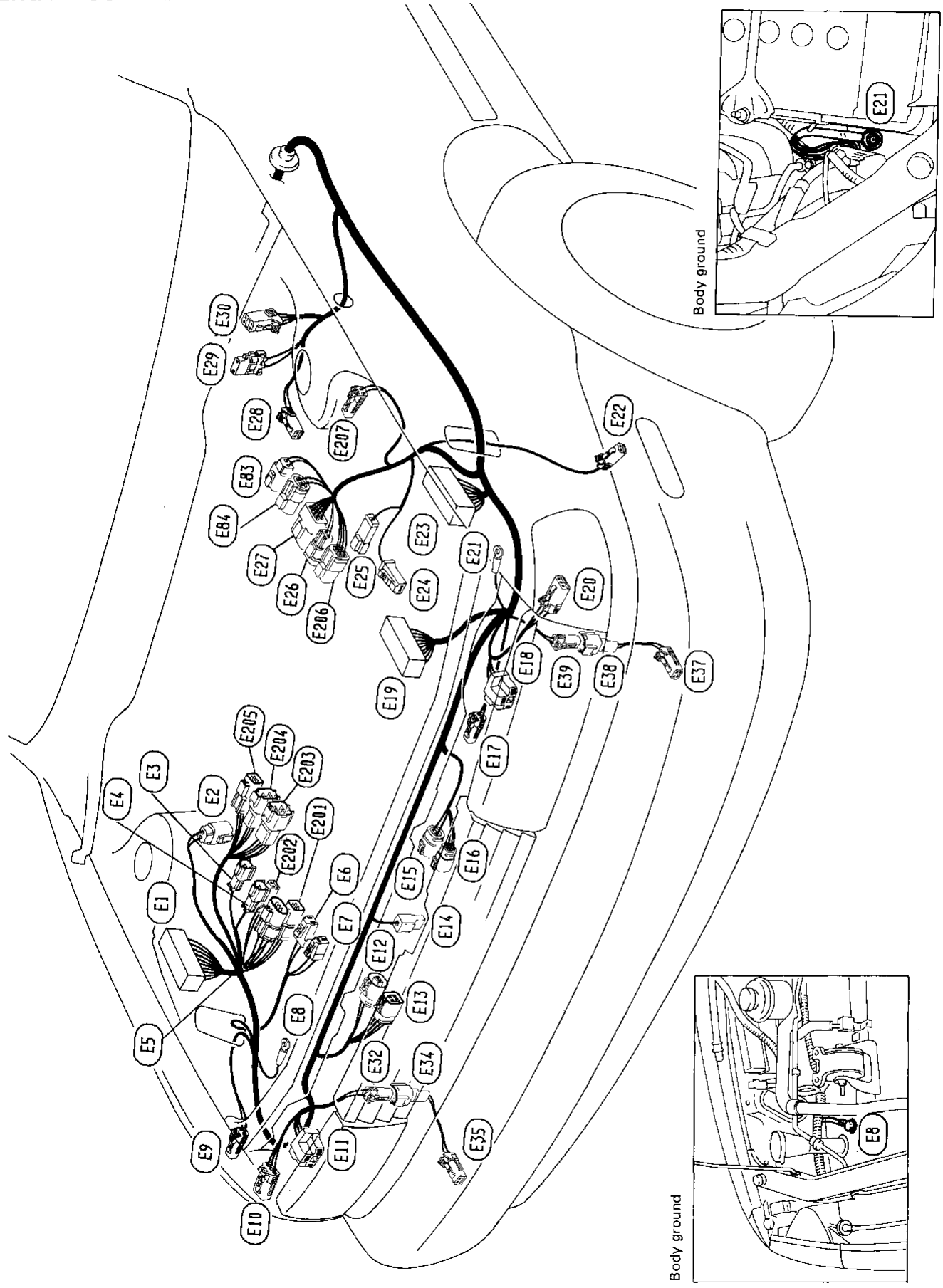
Engine Room Harness

PASSENGER COMPARTMENT



Engine Room Harness (Cont'd)

ENGINE COMPARTMENT



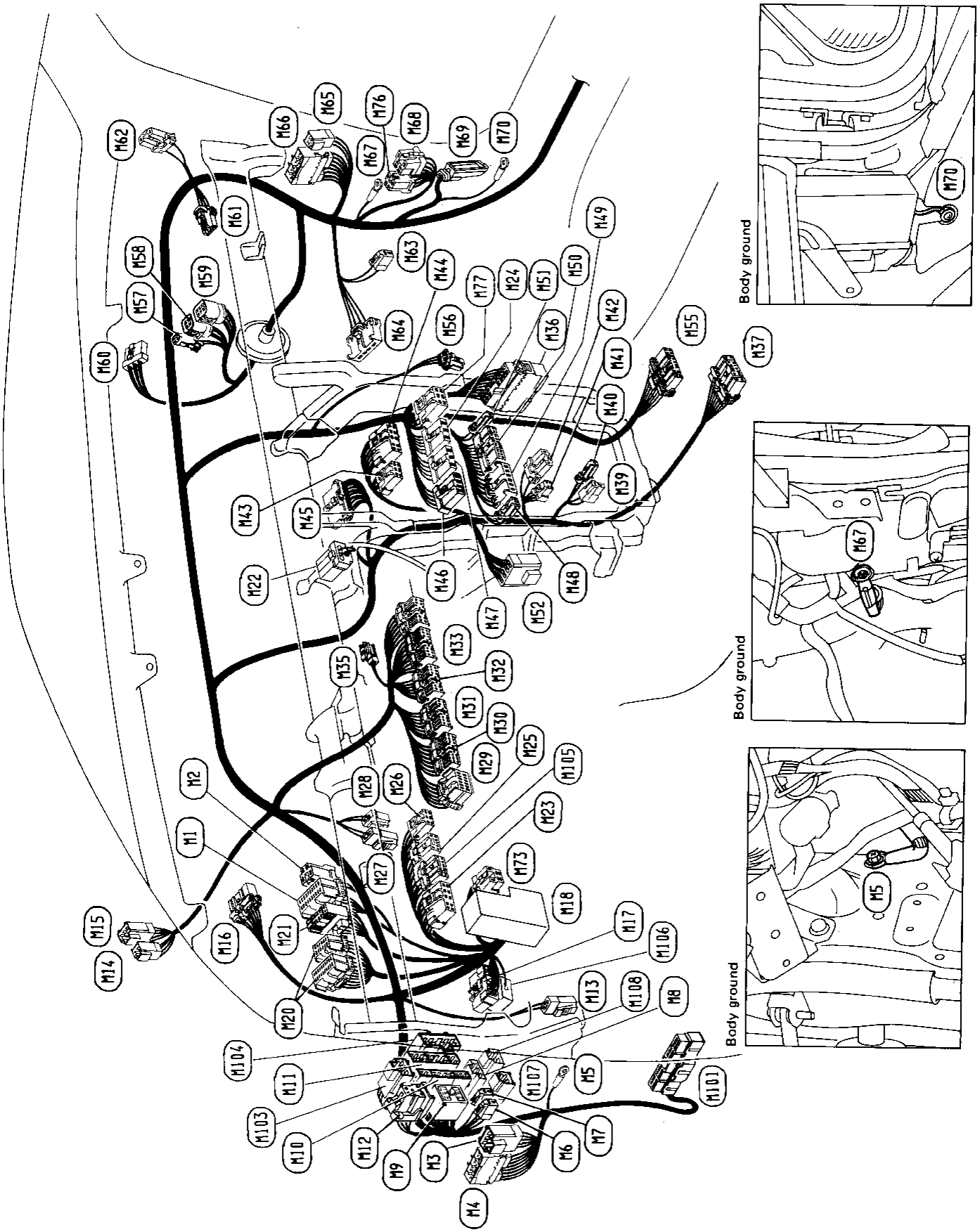
Engine Room Harness (Cont'd)

E1 : Relay box
E2 : Actuator (ABS)
E3 : To A2 (GA engine), To E155 (SR engine)
E4 : To E154 (SR engine)
E5 : To A1 (GA engine), To E153 (SR engine)
E6 : Washer level switch
E7 : Washer motor
E8 : Body ground
E9 : Front side marker lamp RH
E10 : Front combination lamp RH
E11 : Headlamp RH
E12 : Cooling fan motor-2 (Except A/T models with SR engine and A/T models with GA engine for U.S.A.)
E13 : Cooling fan motor-2 (A/T models with SR engine and A/T models with GA engine for U.S.A.)
E14 : Horn
E15 : Cooling fan motor-1 (Except A/T models with SR engine and A/T models with GA engine for U.S.A.)
E16 : Cooling fan motor-1 (A/T models with SR engine and A/T models with GA engine for U.S.A.)
E17 : Dual-pressure switch
E18 : Headlamp LH
E19 : Relay box
E20 : Front combination lamp LH
E21 : Body ground
E22 : Front side marker lamp LH
E23 : Relay, fusible link and fuse box (Refer to "LOCATION OF ELECTRICAL UNITS".)
E24 : Battery
E25 : Fusible link
E26 : To E116
E27 : To E117
E28 : Front wheel sensor LH (ABS)
E29 : Brake fluid level switch
E30 : ASCD pump
E32 : To fog lamp harness RH
E34 : To E32
E35 : Fog lamp RH
E37 : Fog lamp LH
E38 : To E59
E39 : To fog lamp harness LH
E83 : To E119 (SR engine)
E84 : To E120 (SR engine)
E201 : To E163 (GA engine for U.S.A.)
E202 : To E152 (SR engine)
E203 : To E156
E204 : To E157
E205 : To E163 (GA engine for Canada)
E206 : To E162 (A/T models with SR engine)
E207 : Dropping resistor

MEL767BA

Main Harness

INSTRUMENT SIDE



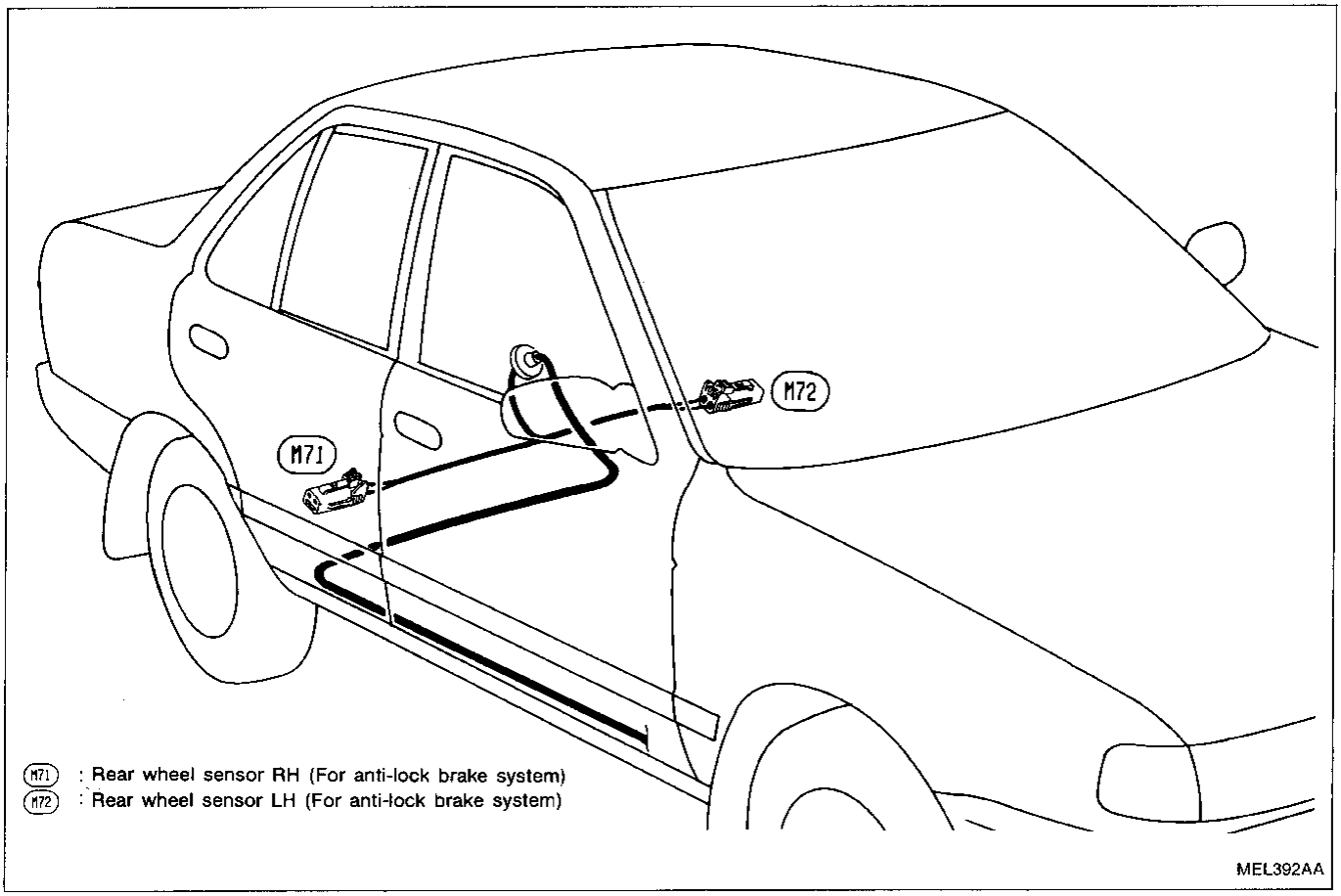
Main Harness (Cont'd)

M1 : ASCD control unit
M2 : ASCD hold relay
M3 : To (B1) (4-door Sedan)
M4 : To (D2) (4-door Sedan)
To (D52) (2-door Sedan)
M5 : Body ground
M6 : Circuit breaker
M7 : Circuit breaker (4-door Sedan for U.S.A.)
M8 : To (B3) (Except 2-door Sedan)
M9 : To (E41)
M10 : To (B1)
M11 : To (B2) (Except 2-door Sedan)
M12 : Bulb check relay
M13 : Clutch switch
M14 : To (R1) (Without 2-point motorized automatic seat belt)
M15 : To (R2) (With 2-point motorized automatic seat belt)
M16 : Shift lock control unit
M17 : Diode
M18 : Fuse block
M20 : Time control unit
M21 : Data link connector for CONSULT
M22 : Combination flasher unit
M23 : Door mirror switch
M24 : Fog lamp switch (4-door Sedan)
M25 : Illumination control switch
M26 : ASCD switch
M27 : ASCD cancel switch
M28 : Stop lamp switch
M29 : Combination meter
M30 : Combination meter
M31 : Combination meter
M32 : Combination meter
M33 : Combination meter
M35 : Warning buzzer
M36 : To (F17)
M37 : A/T device
M39 : Cigarette lighter
M40 : Cigarette lighter illumination
M41 : Deck
M42 : Deck
M43 : Radio
M44 : Radio
M45 : Mode actuator (Except 2-door Sedan)
M46 : Hazard switch
M47 : Rear window defogger switch
M48 : A/C switch
M49 : Fan switch
M50 : Heater control switch (Except 2-door Sedan)
M51 : Fan switch
M52 : To (F14)
M55 : To air bag harness
M56 : Thermo control amp.
M57 : Front wheel sensor RH (For ABS)
M58 : Actuator (For ABS)
M59 : Actuator (For ABS)
M60 : Front wiper motor
M61 : Intake actuator (Except 2-door Sedan)
M62 : Limit switch (Except 2-door Sedan)
M63 : Blower motor
M64 : Fan resistor
M65 : To (D12) (4-door Sedan)
M66 : To (D13) (4-door Sedan)
To (D62) (2-door Sedan)
M67 : Body ground
M68 : Sunroof relay (Models with sunroof)
M69 : ABS control unit (For ABS)
M70 : Body ground
M73 : Rear window defogger relay
M76 : Ignition relay-3 (Models without sunroof)
M77 : Fog lamp switch (2-door Sedan)
M101 : A/T control unit
M102 : Combination meter
M103 : To (E208)
M104 : To (E209)
M105 : A/T mode switch
M106 : Diode
M107 : To (B102) (2-door Sedan)
M108 : To (B103) (2-door Sedan)

MEL439CA

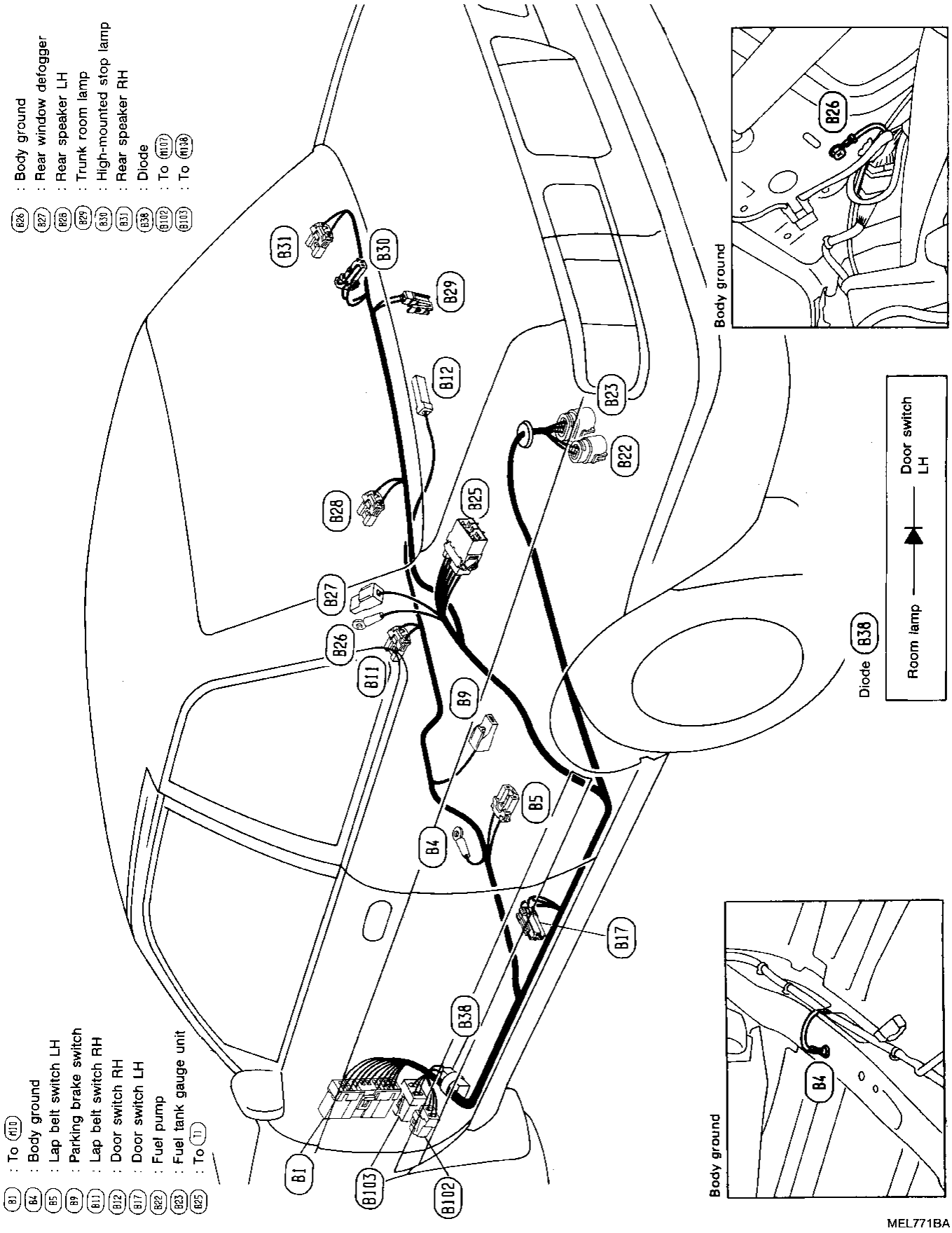
Main Harness (Cont'd)

BODY SIDE



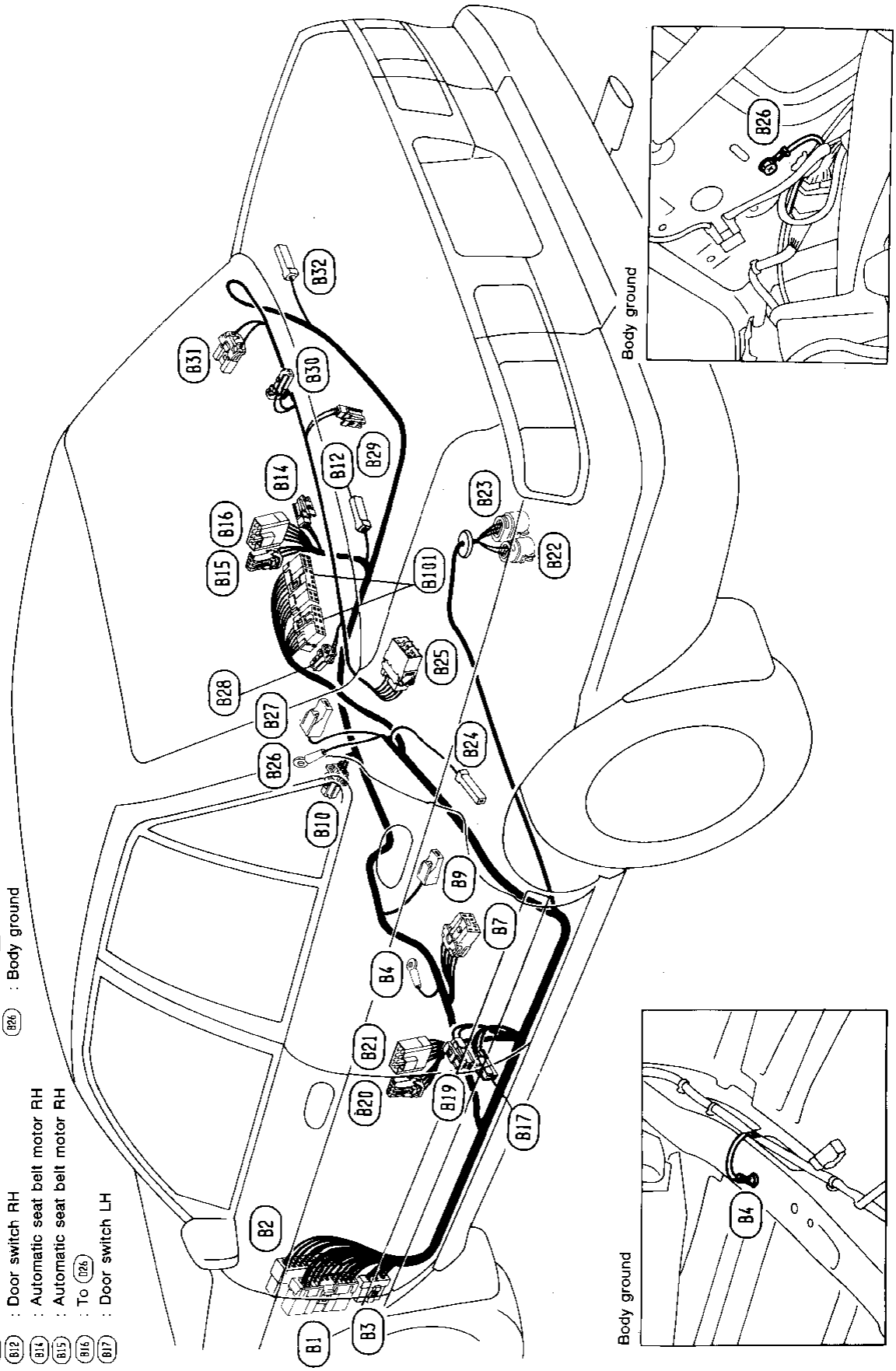
Body Harness

2-DOOR SEDAN



Body Harness (Cont'd)

4-DOOR SEDAN (U.S.A.)



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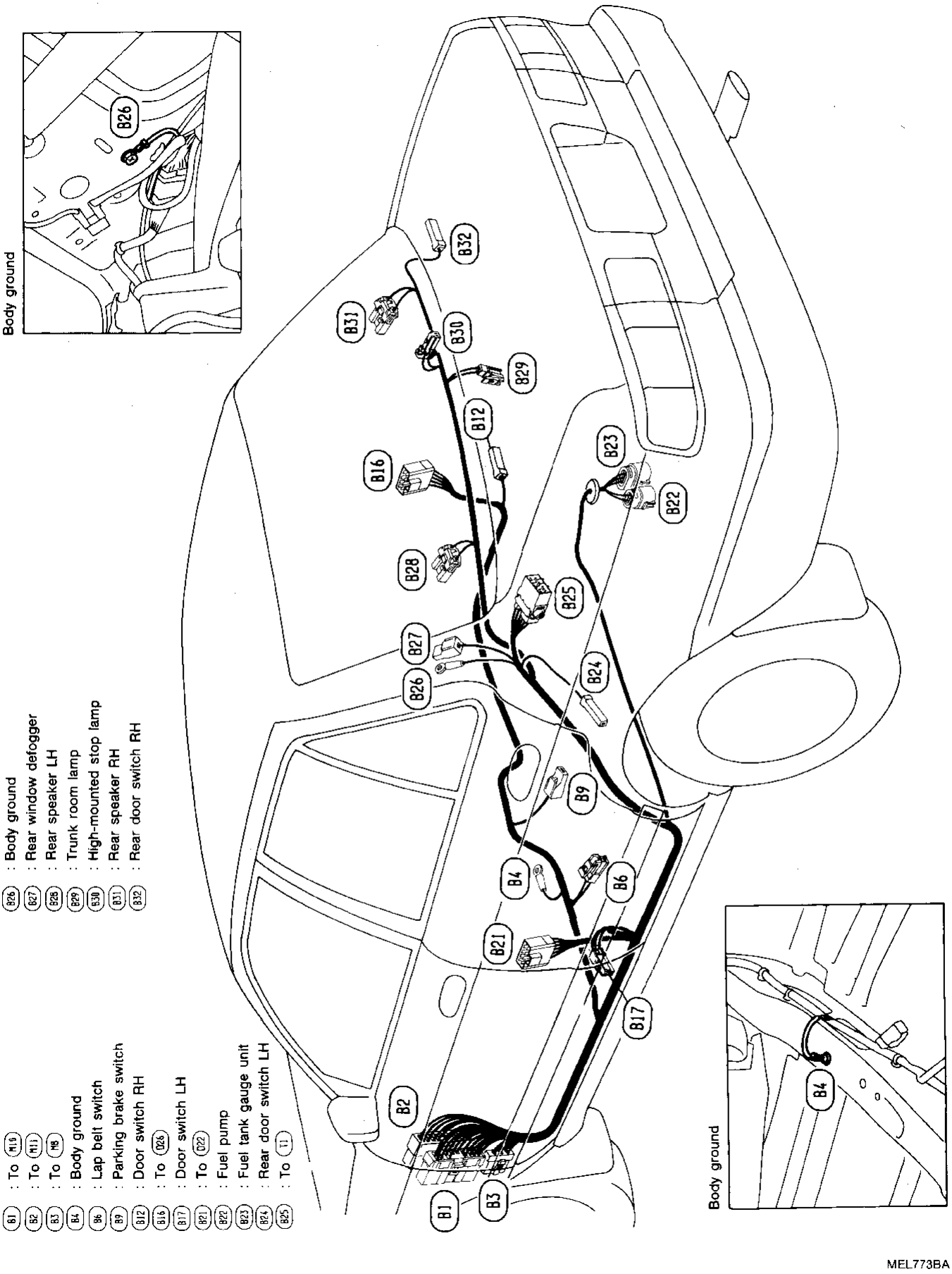
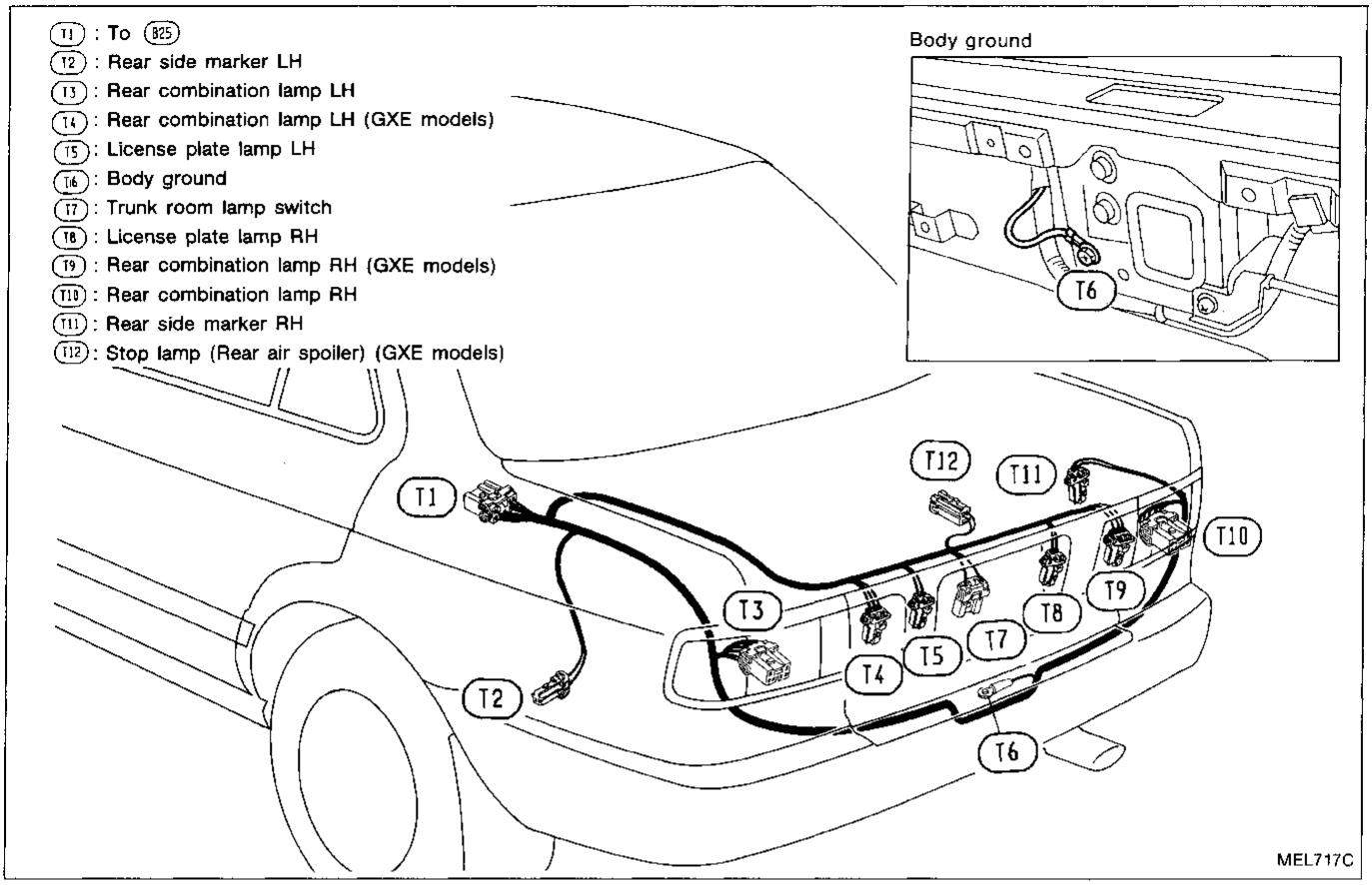
Body Harness (Cont'd)

4-DOOR SEDAN (CANADA)

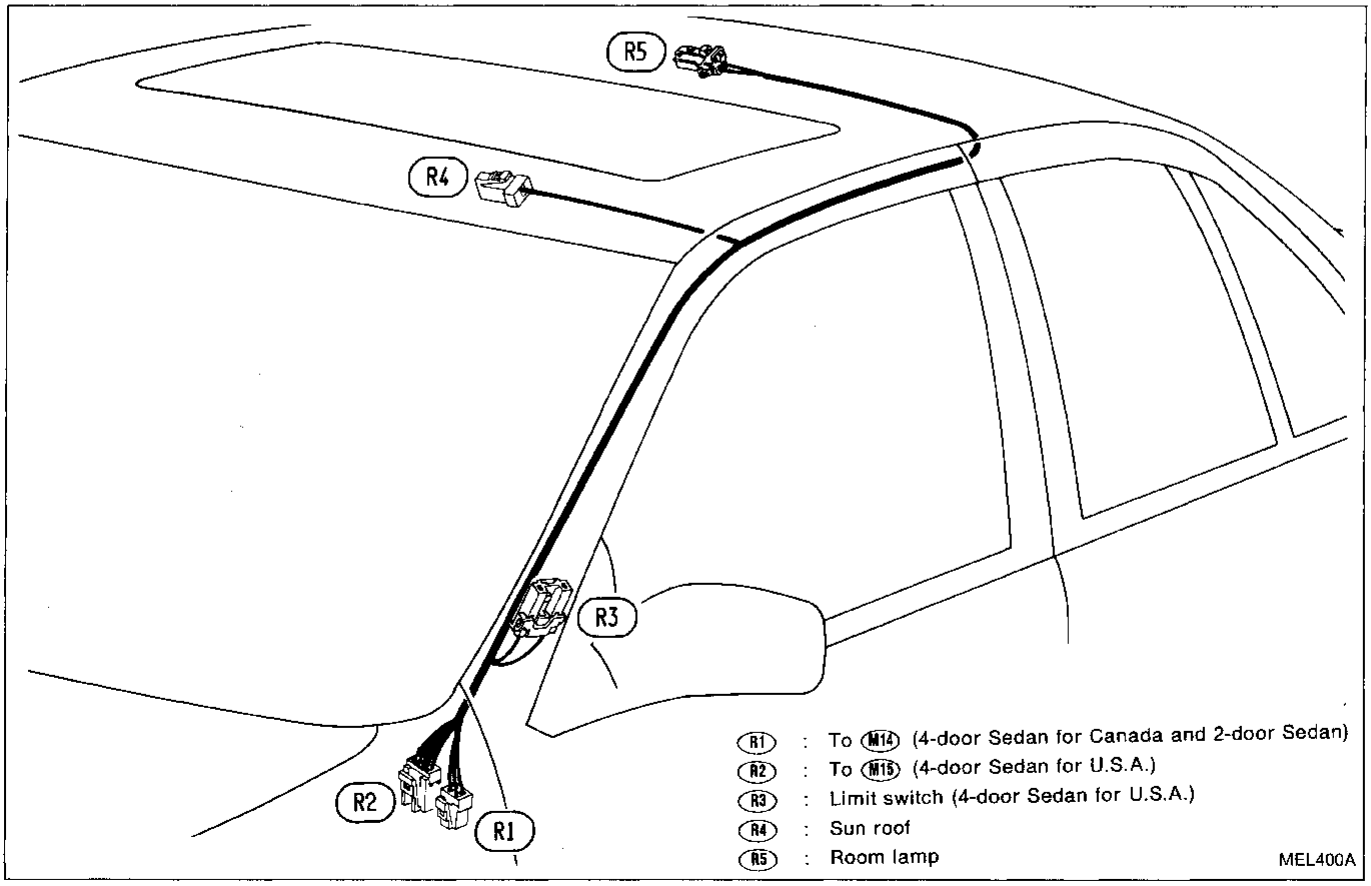


MEL773BA

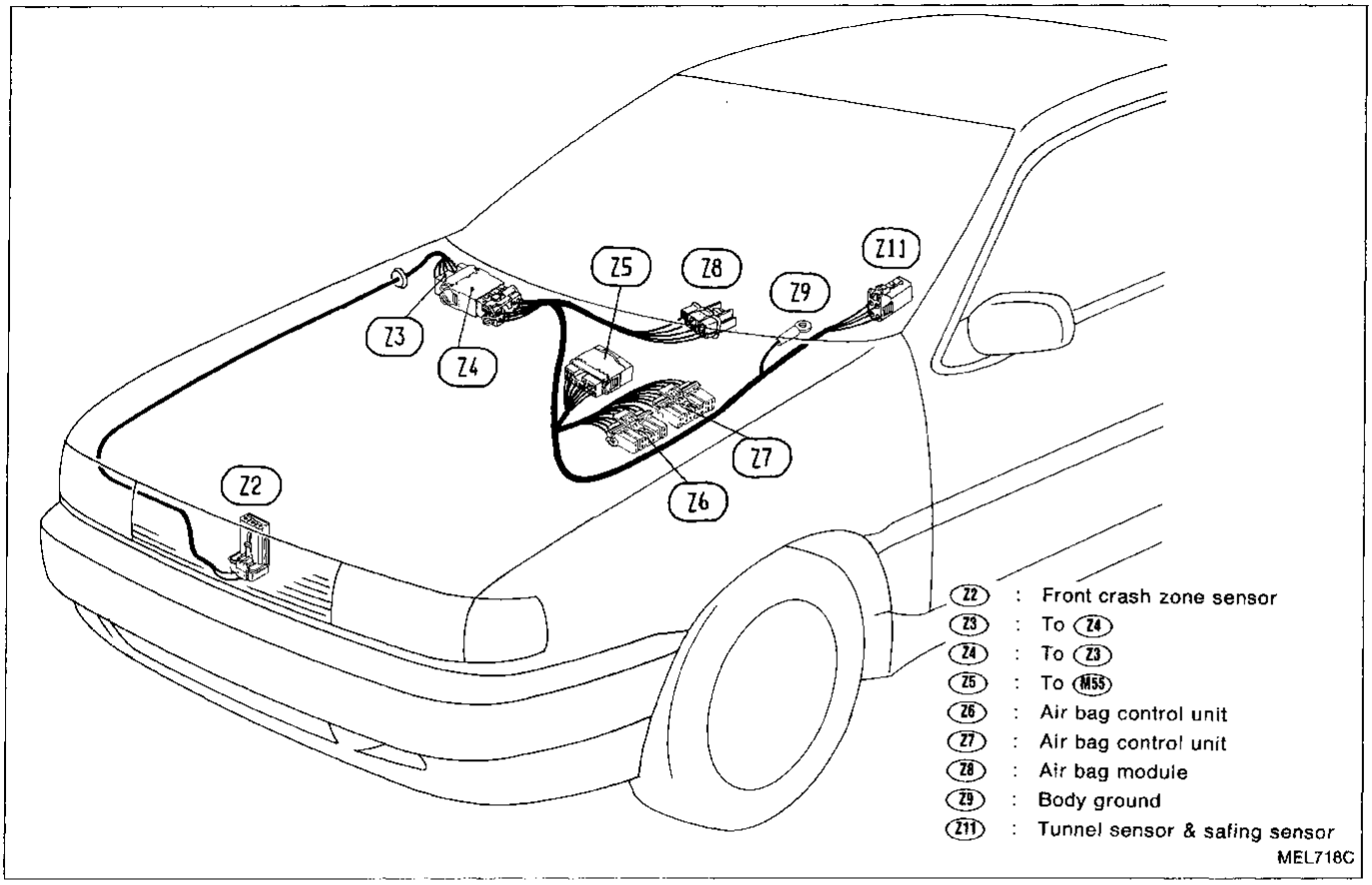
Tail Harness



Room Lamp Harness

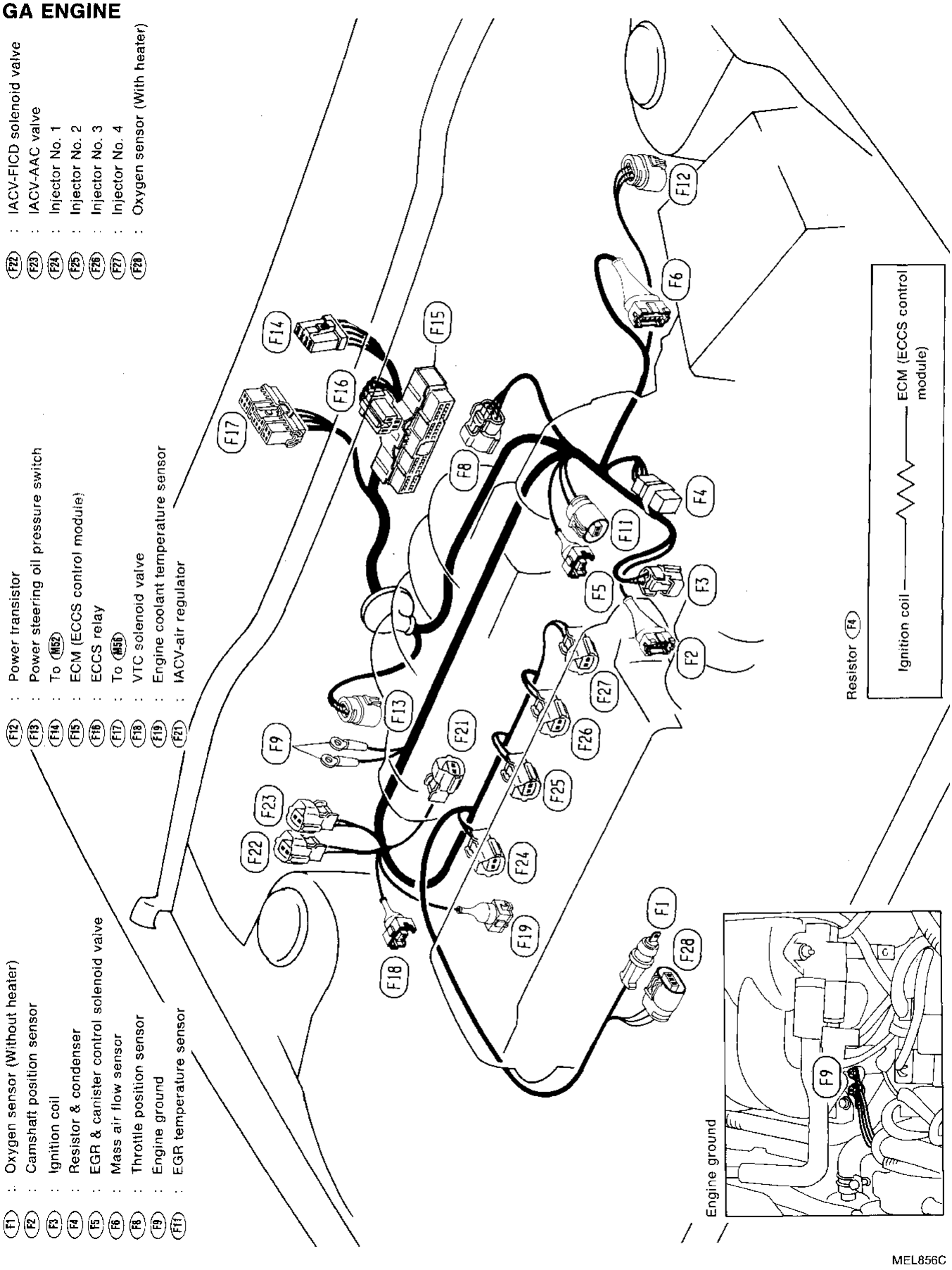


Air Bag Harness



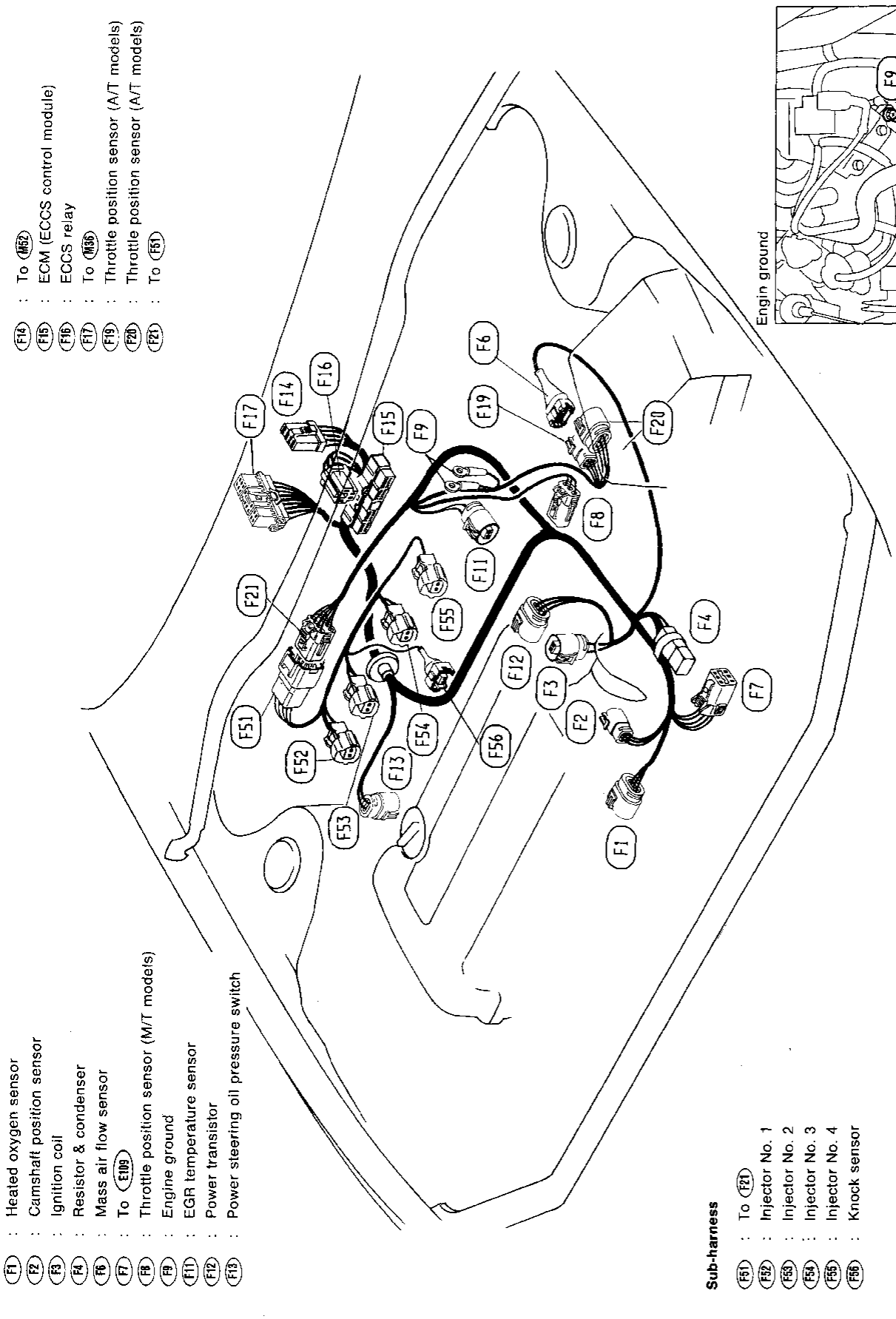
Engine Control Harness

GA ENGINE



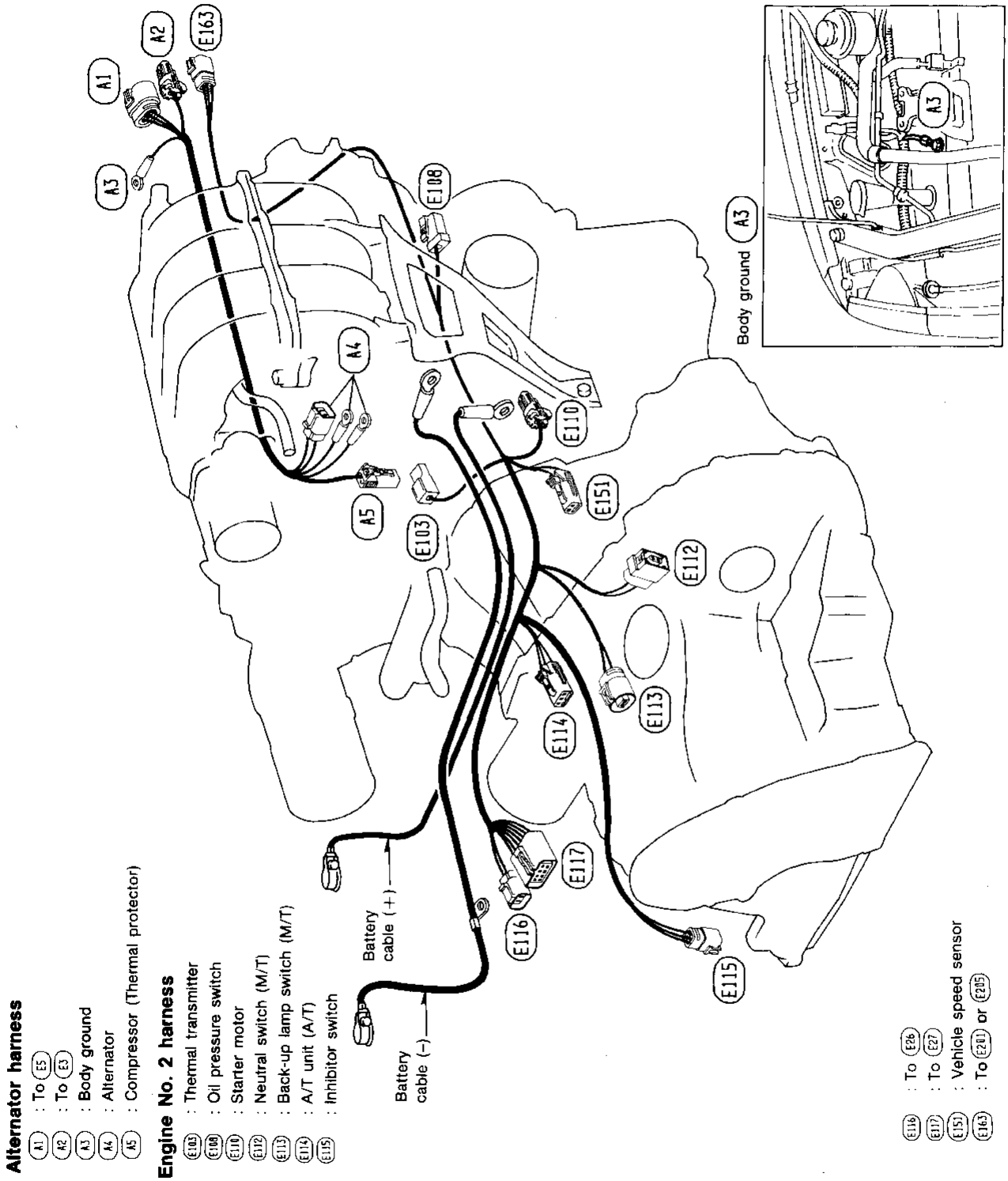
Engine Control Harness (Cont'd)

SR ENGINE



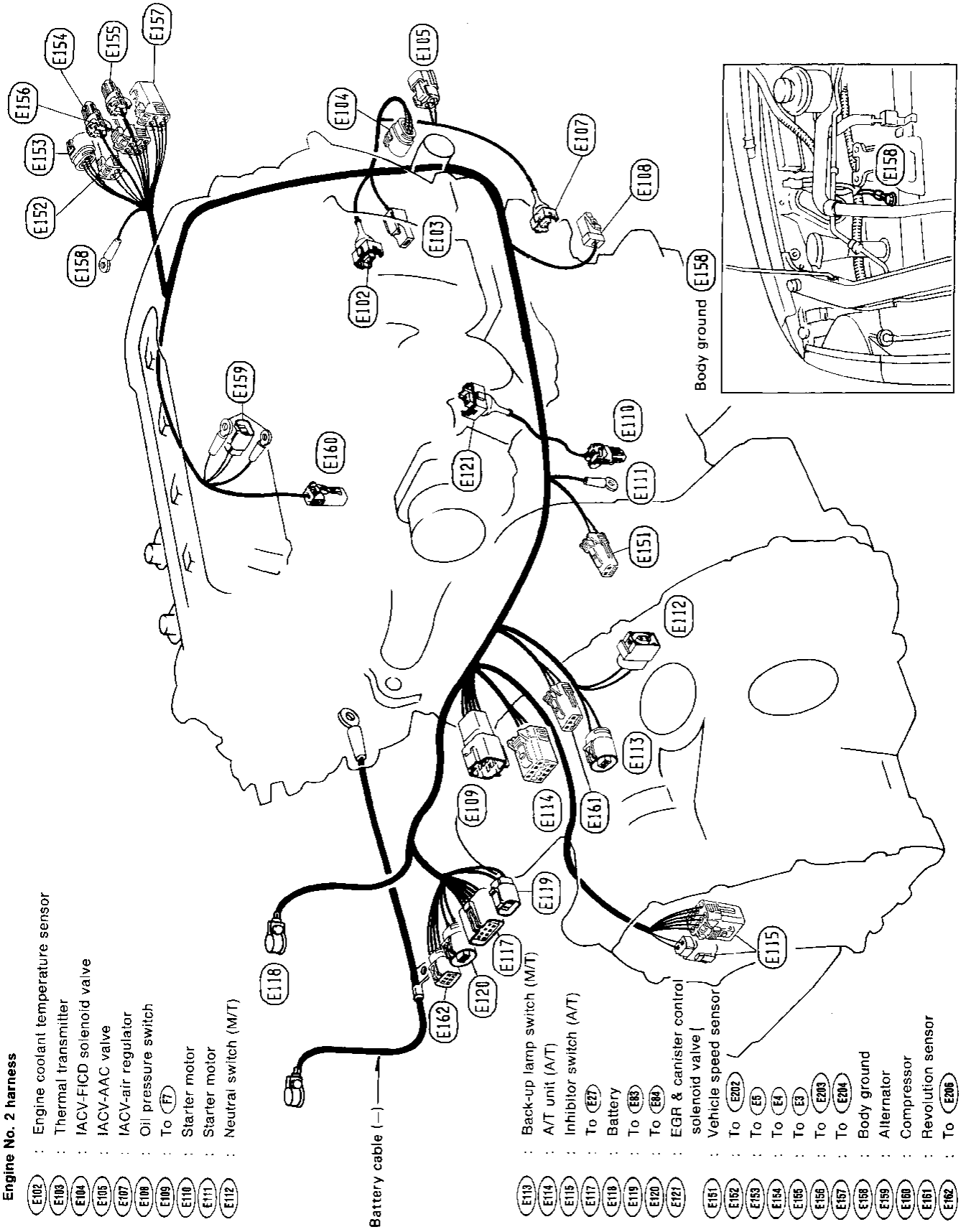
Alternator Harness & Engine No. 2 Harness

GA ENGINE



Alternator Harness & Engine No. 2 Harness (Cont'd)

SR ENGINE



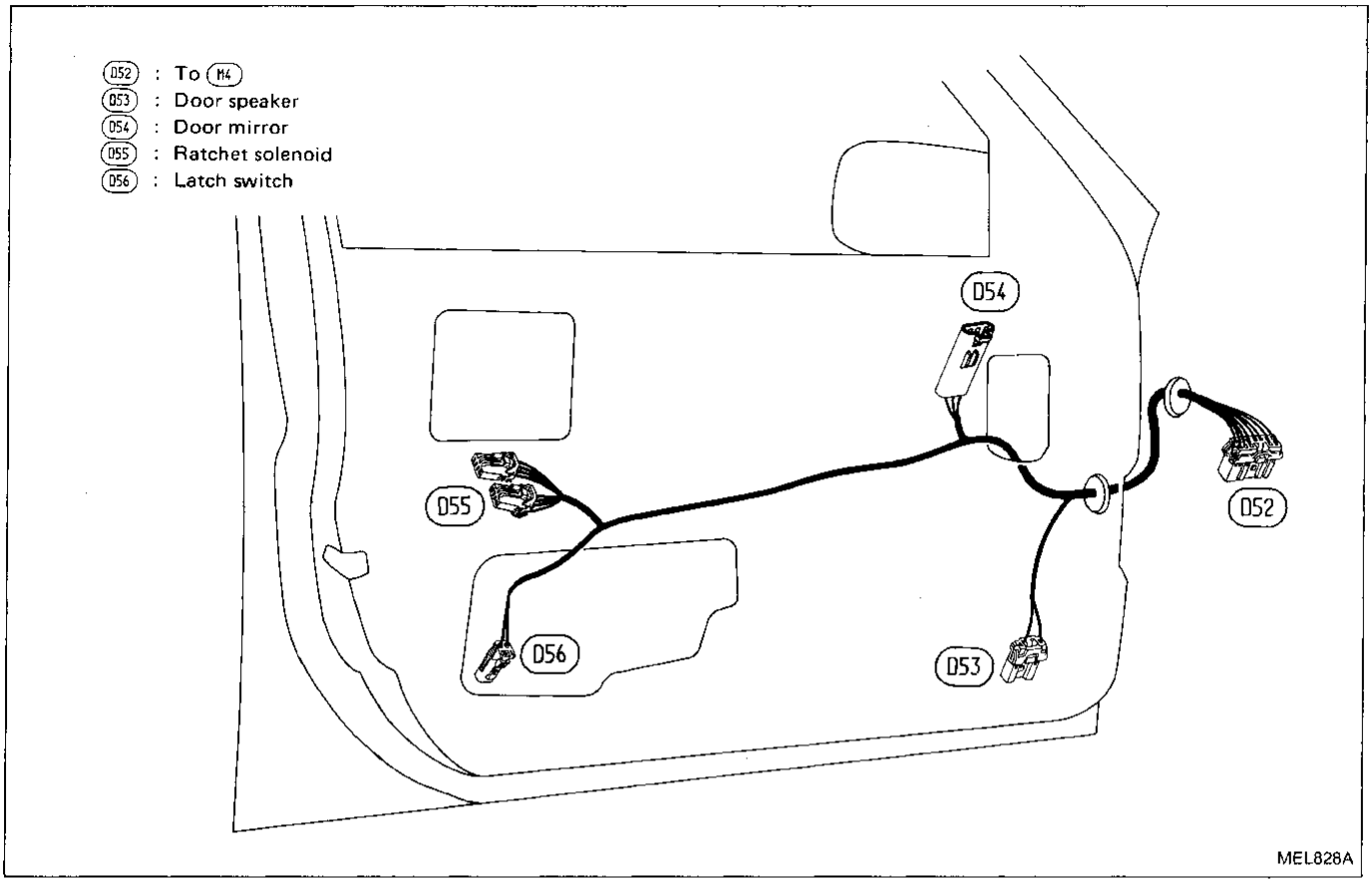
Engine No. 2 harness

- E102 : Engine coolant temperature sensor
- E103 : Thermal transmitter
- E104 : IACV-FICD solenoid valve
- E105 : IACV-AAC valve
- E107 : IACV-air regulator
- E108 : Oil pressure switch
- E109 : To (F7)
- E110 : Starter motor
- E111 : Starter motor
- E112 : Neutral switch (M/T)
- E113 : Back-up lamp switch (M/T)
- E114 : A/T unit (A/T)
- E115 : Inhibitor switch (A/T)
- E117 : To (E27)
- E119 : Battery
- E119 : To (E83)
- E120 : To (E84)
- E121 : EGR & canister control solenoid valve
- E151 : Vehicle speed sensor
- E152 : To (E202)
- E153 : To (E6)
- E154 : To (E4)
- E155 : To (E3)
- E156 : To (E203)
- E157 : To (E204)
- E158 : Body ground
- E159 : Alternator
- E160 : Compressor
- E161 : Revolution sensor
- E162 : To (E206)

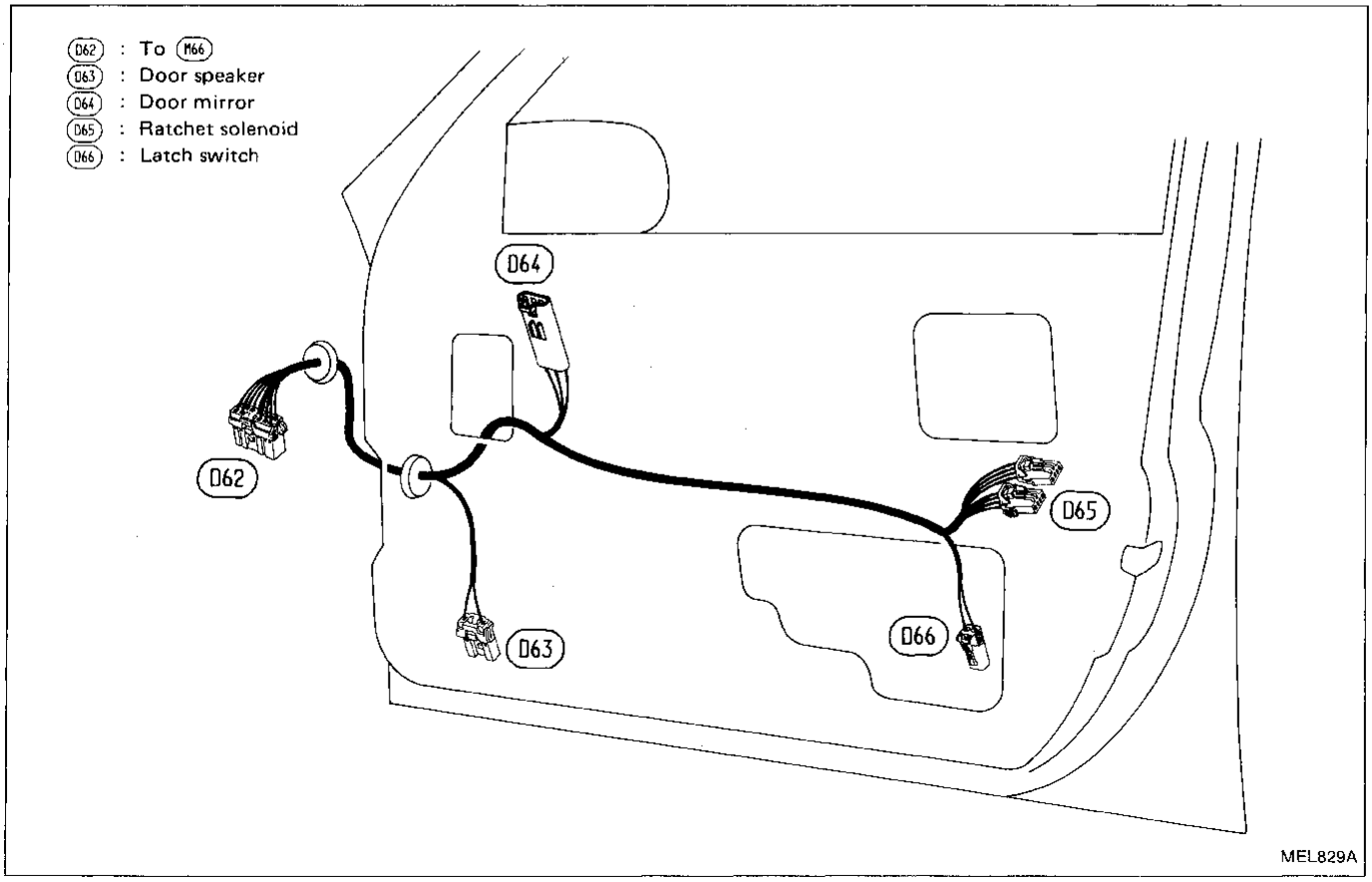
MEL722C

Door Harness (2-door Sedan)

LH SIDE

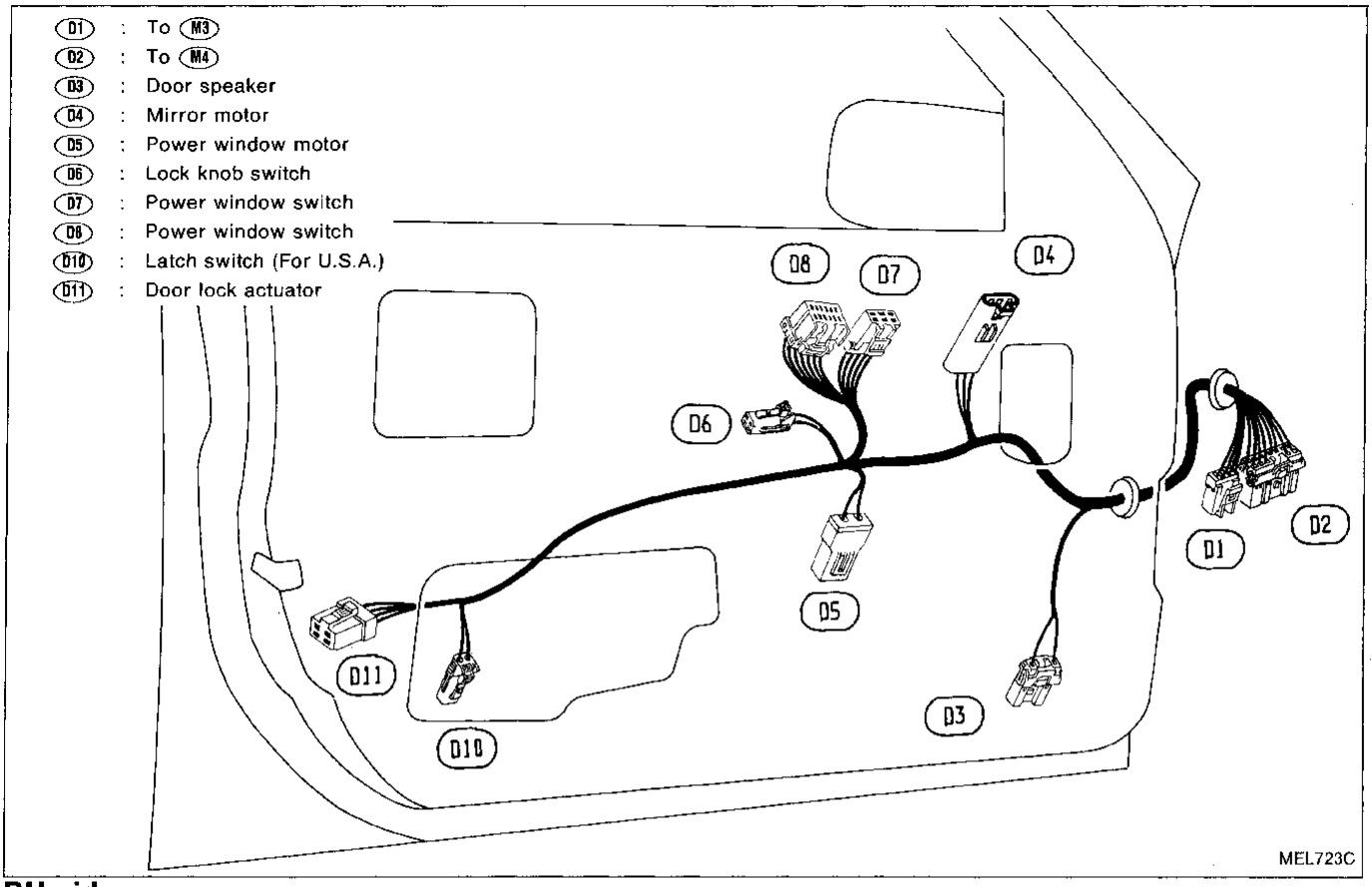


RH SIDE

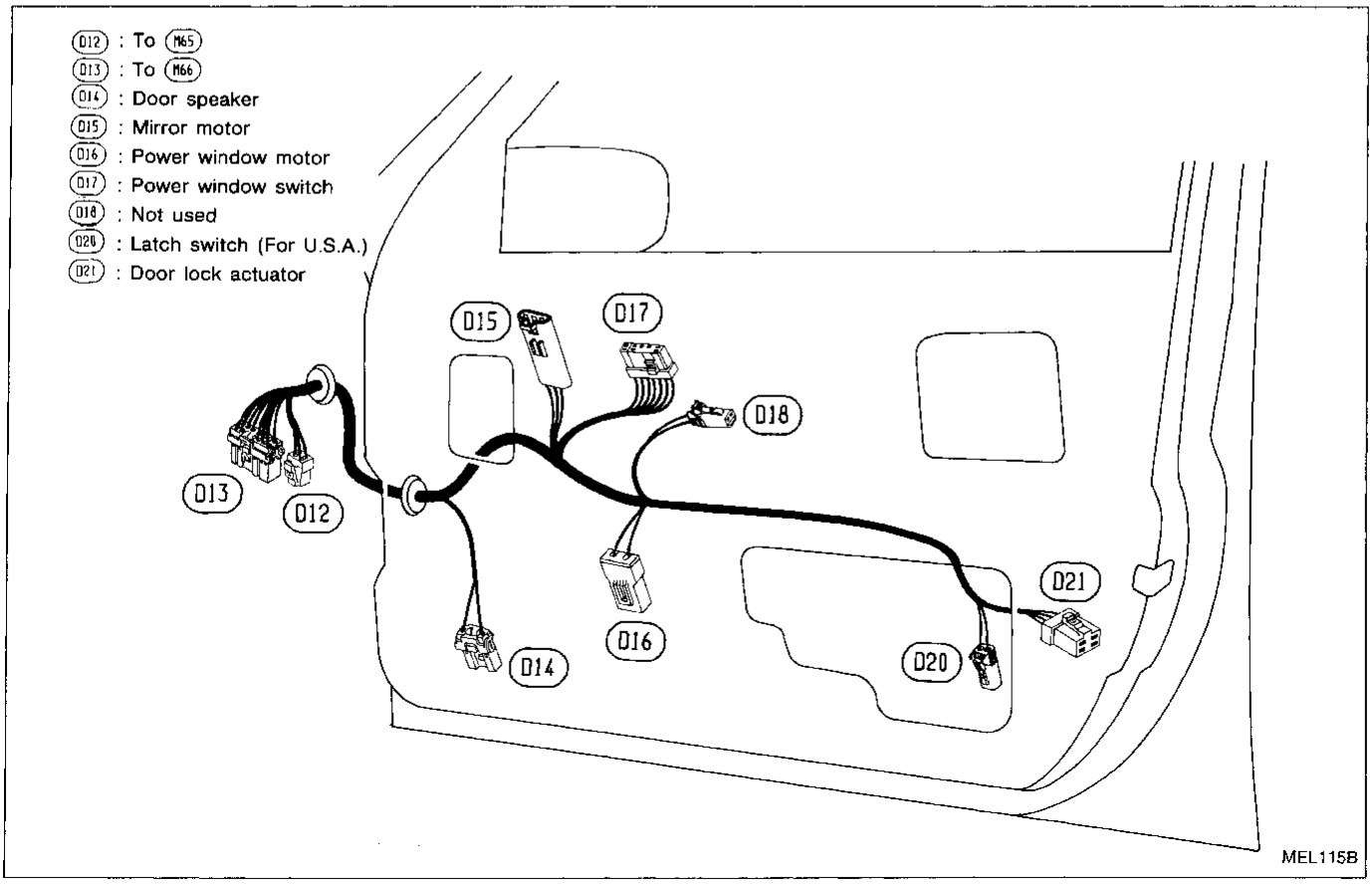


Door Harness (4-door Sedan)

FRONT
LH side



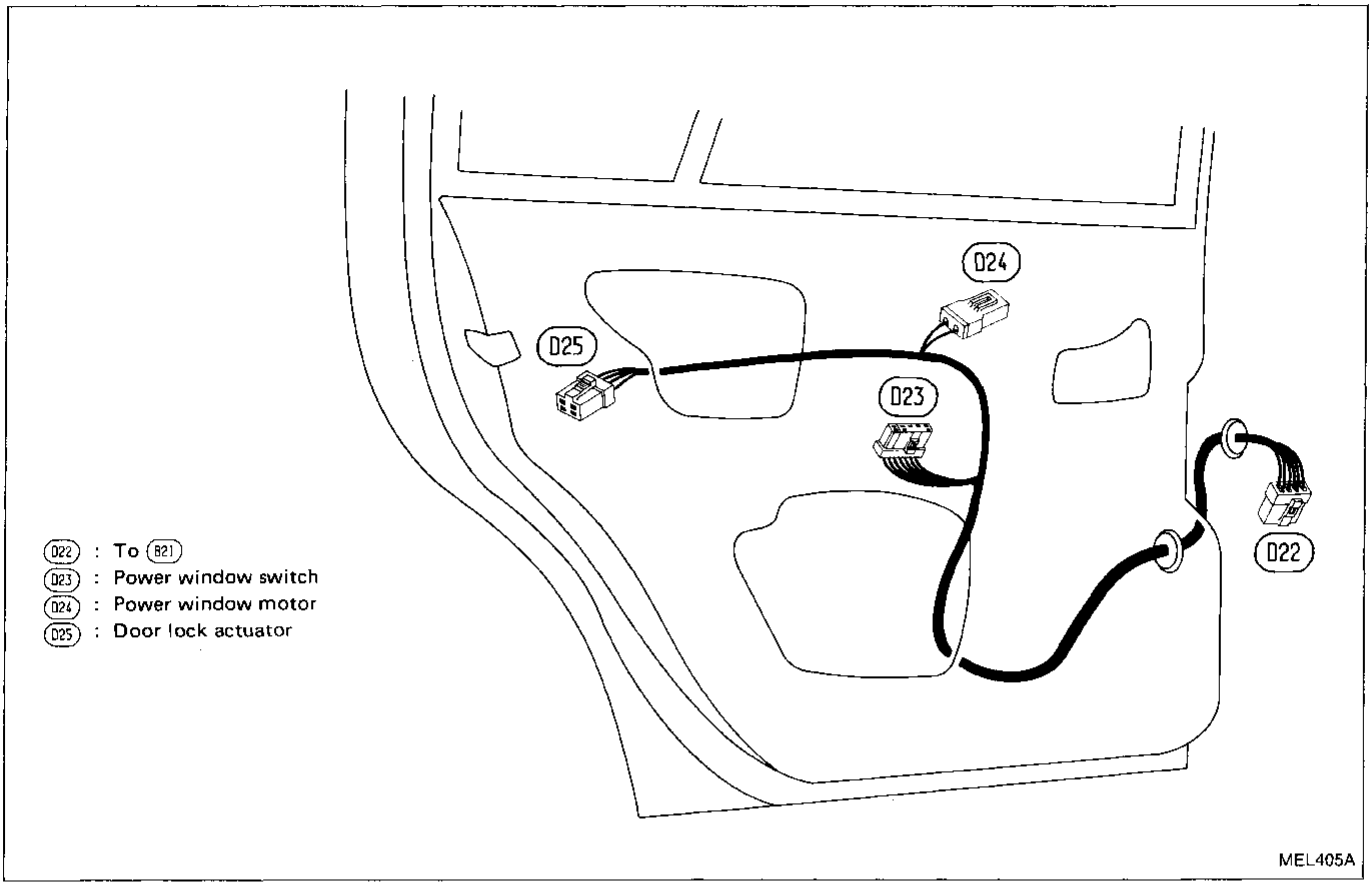
RH side



Door Harness (4-door Sedan) (Cont'd)

REAR

LH side



RH side