ELECTRICAL SYSTEM

SECTION EL

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

CONTENTS

WIRING DIAGRAM REFERENCE CHART

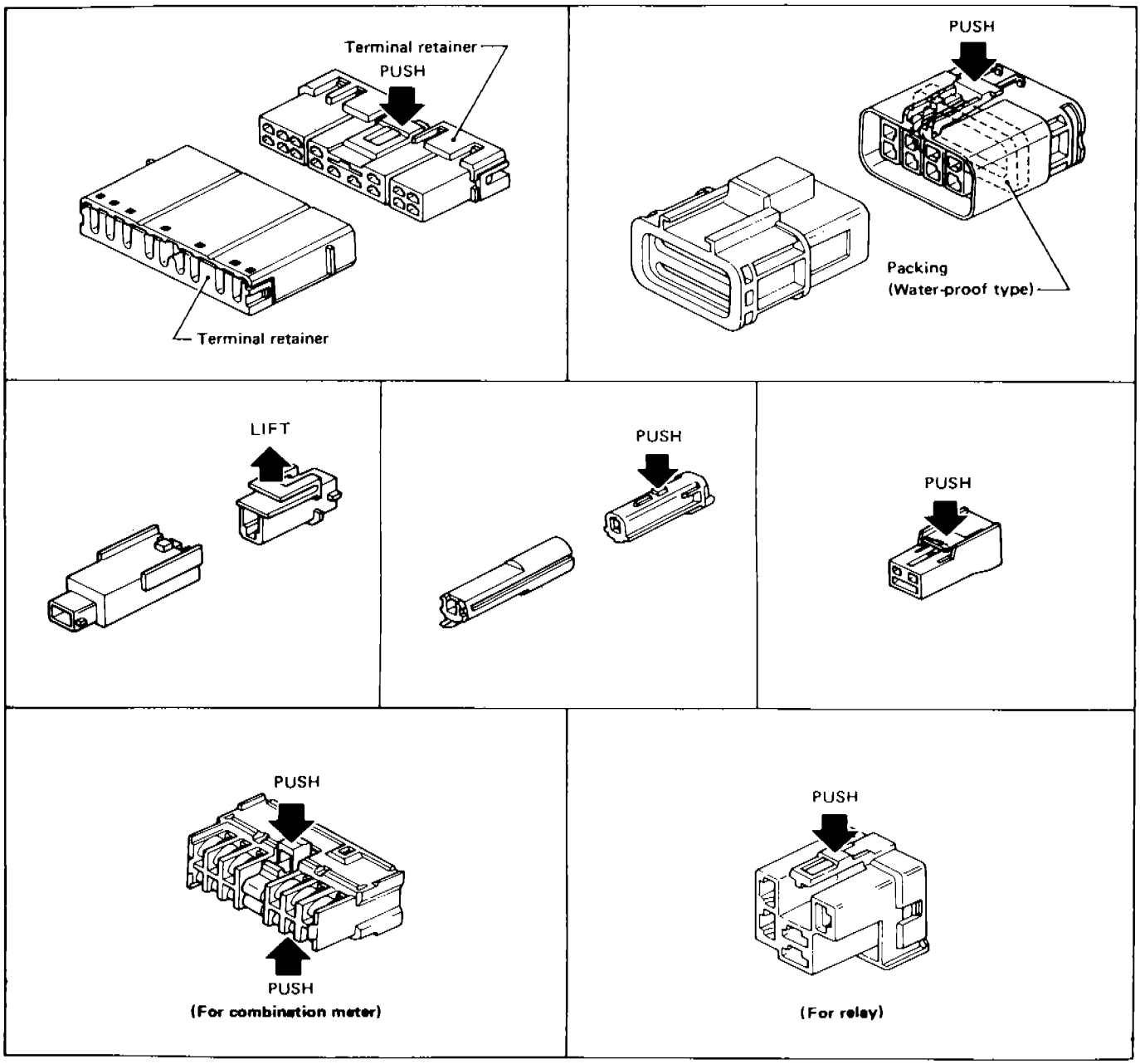
Description

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]

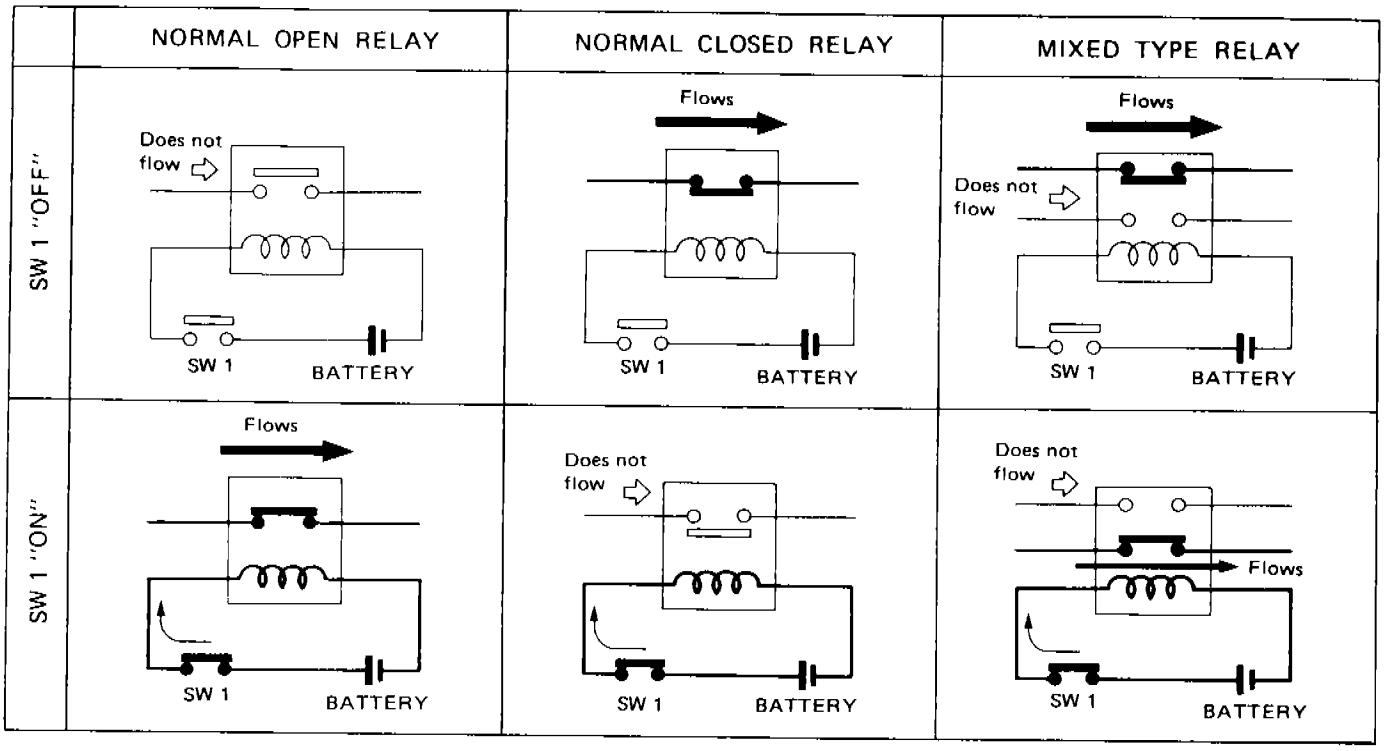


SEL769D

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

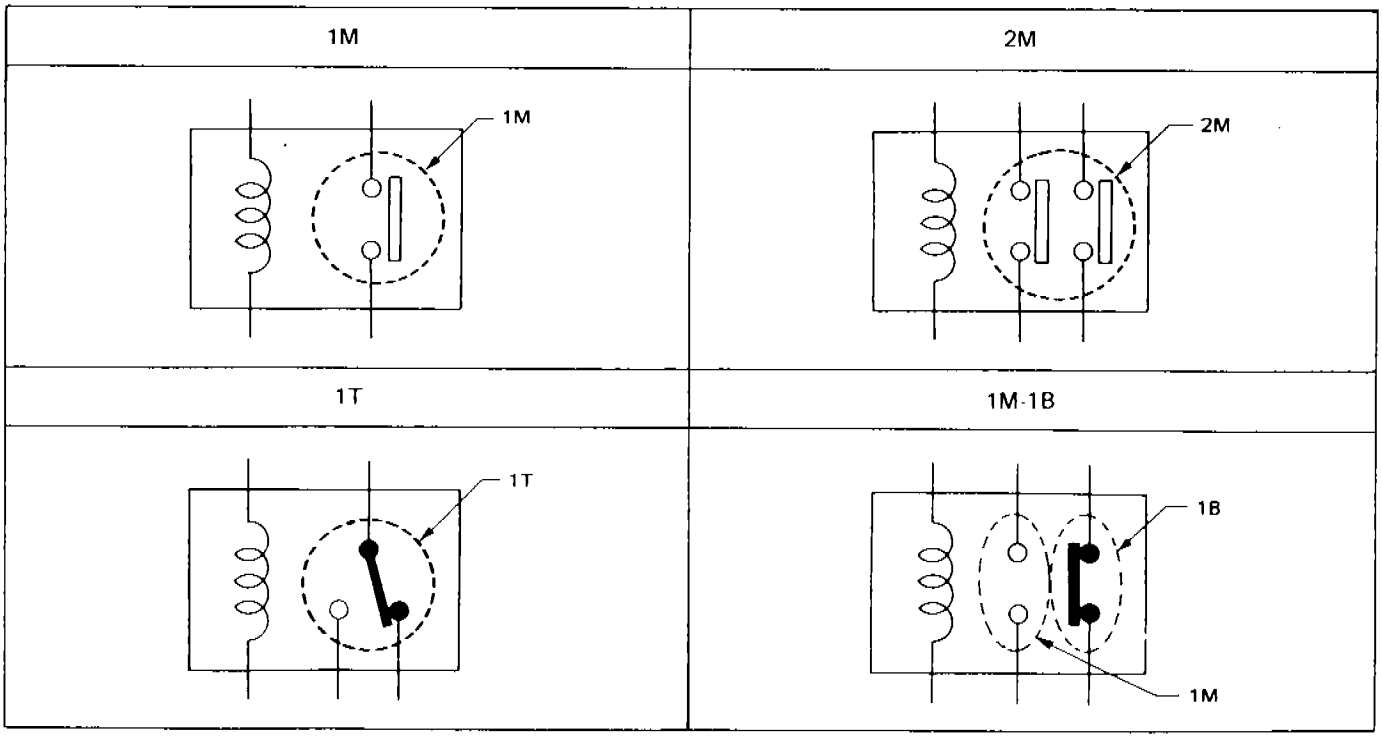
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



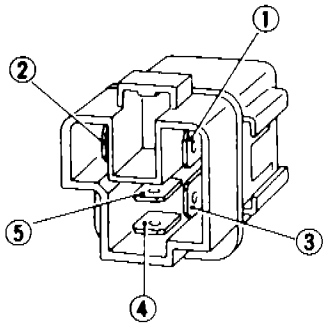
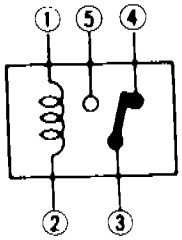
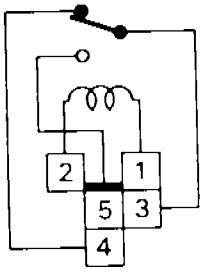
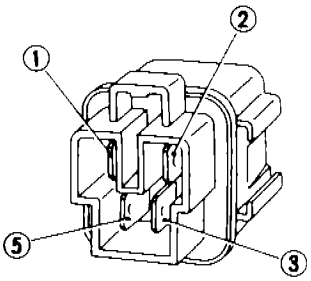
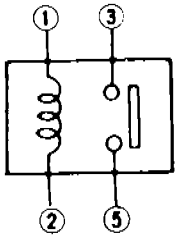
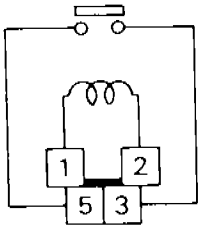
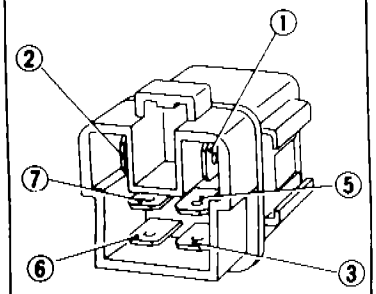
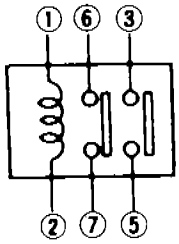
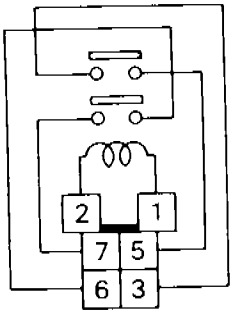
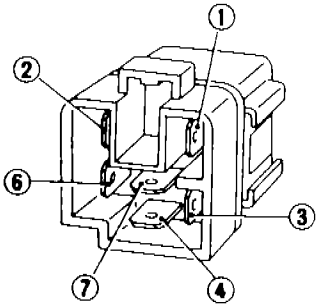
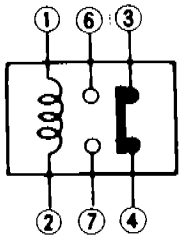
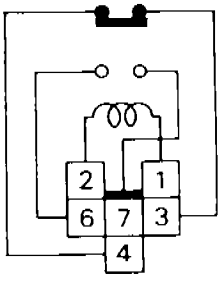
SEL881H

TYPE OF STANDARDIZED RELAYS

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



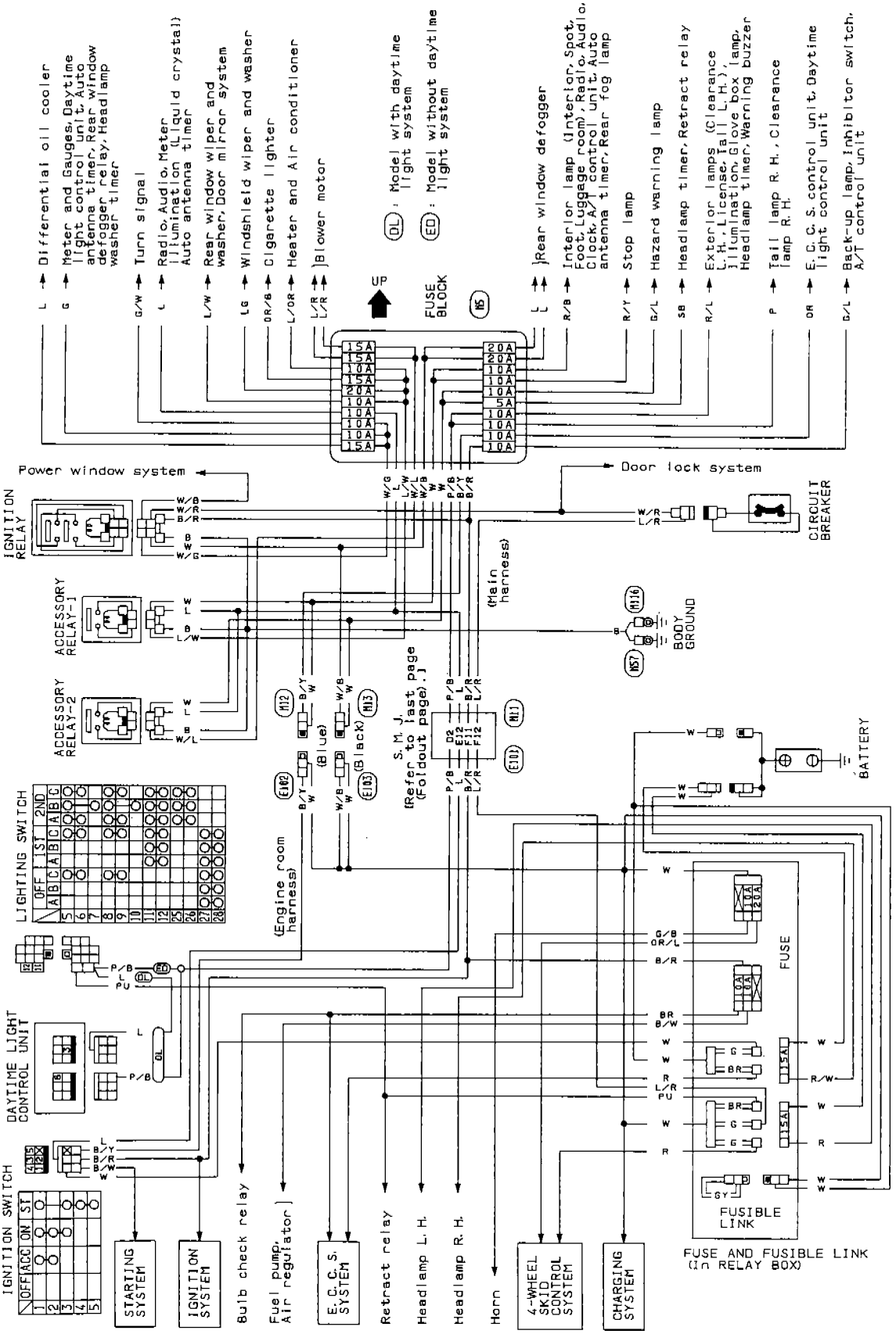
SEL882H

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

SEL883H

Wiring Diagram

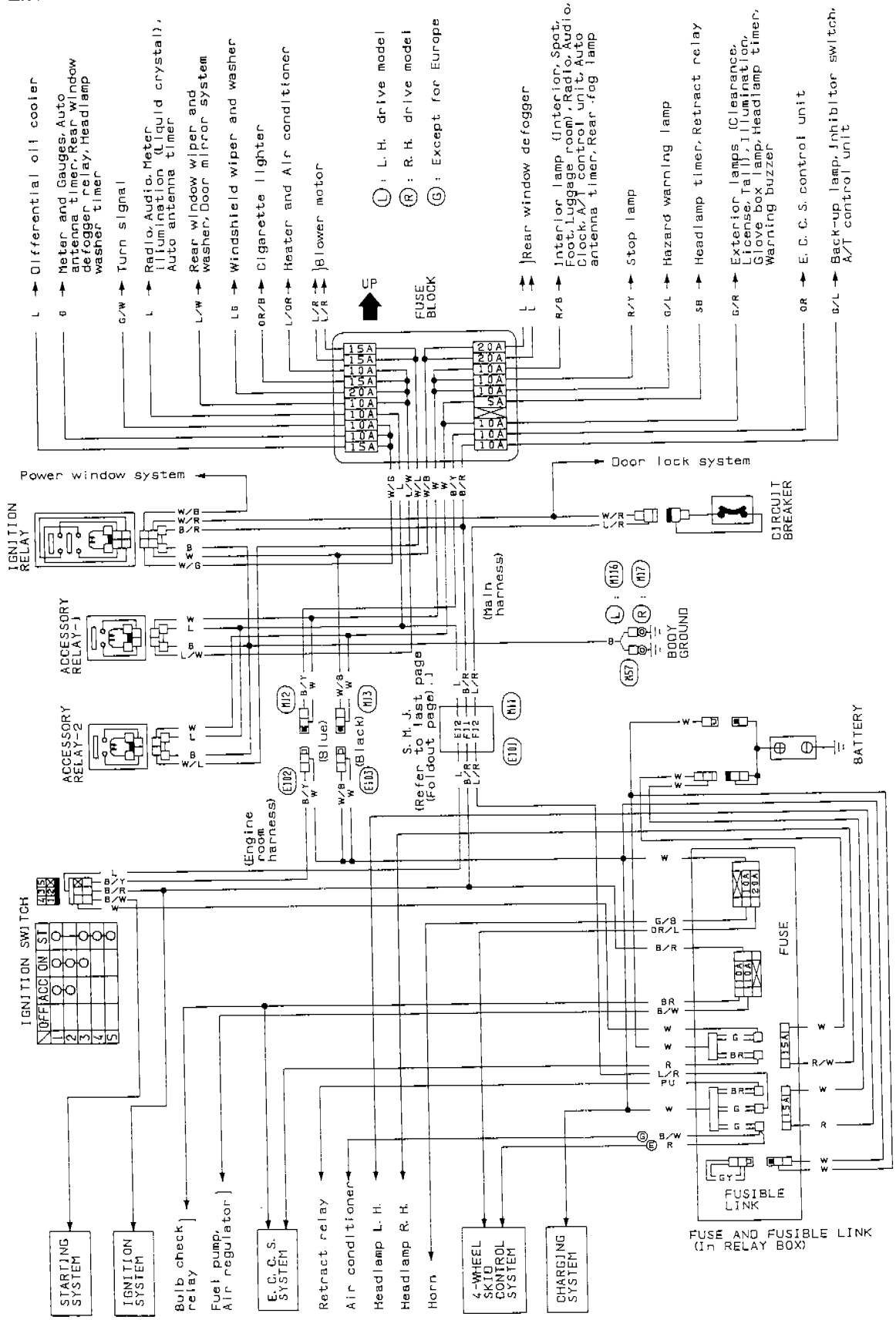
L.H. DRIVE MODEL FOR EUROPE



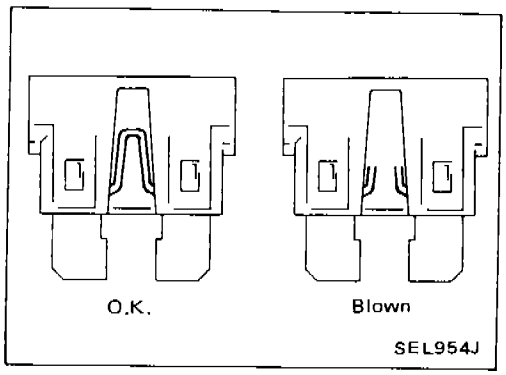
SEL764L

Wiring Diagram (Cont'd)

EXCEPT L.H. DRIVE MODEL FOR EUROPE

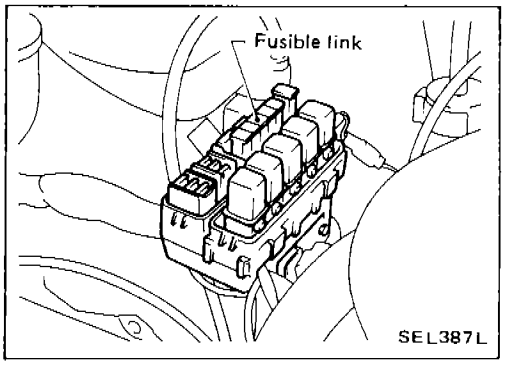


SEL765L



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 install fuse in oblique direction; 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.

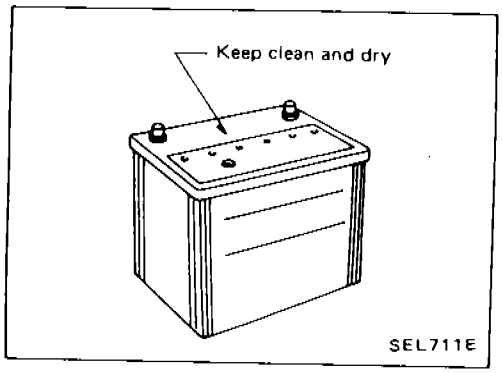
CAUTION:

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 periphery 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.**

NOTE

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.

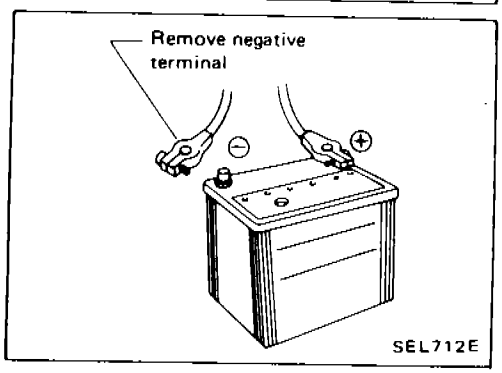


How to Handle Battery

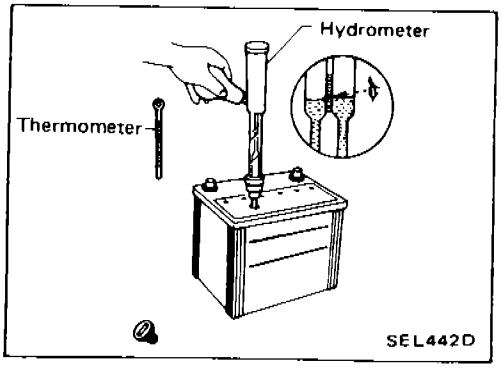
METHODS OF PREVENTING OVER-DISCHARGE

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.
  If the top surface of a battery is wet with electrolyte or water, leakage current will cause the battery to discharge. Always keep the battery clean and dry.



- 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.

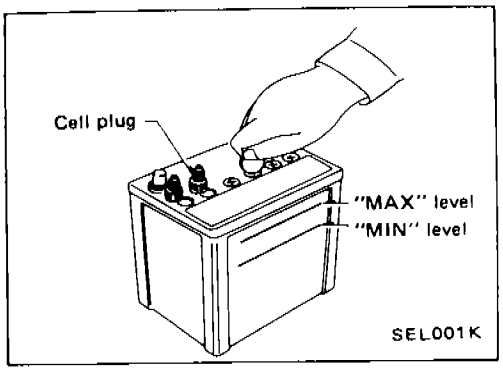
How to Handle Battery (Cont'd)

CHECKING ELECTROLYTE LEVEL

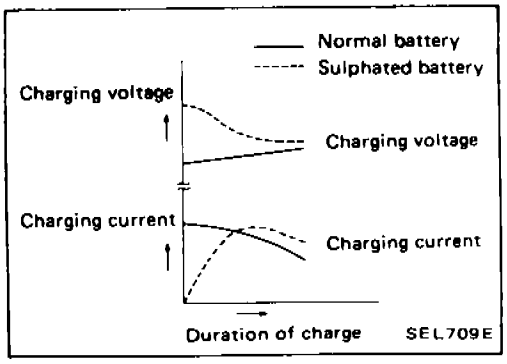
WARNING:

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.

Normally the battery does not require additional water. However, when the battery is used under severe conditions, adding distilled water may be necessary during the battery life.



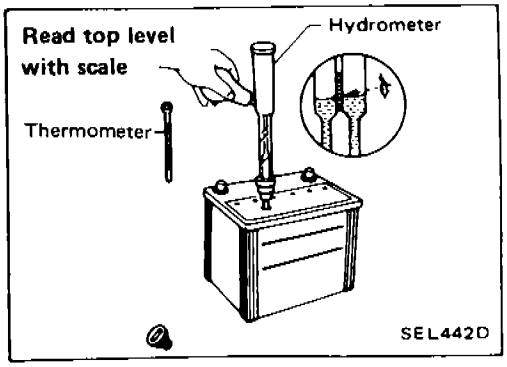
- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



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.

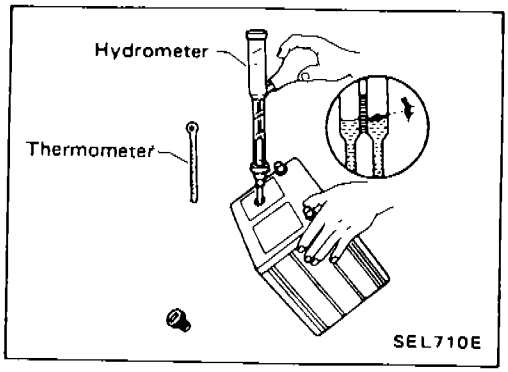
Compared with a battery discharged under normal conditions, the current flow in a "sulphated" battery is not as smooth although its voltage is high during the initial stage of charging, as shown in the figure at the left.



SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.

How to Handle Battery (Cont'd)

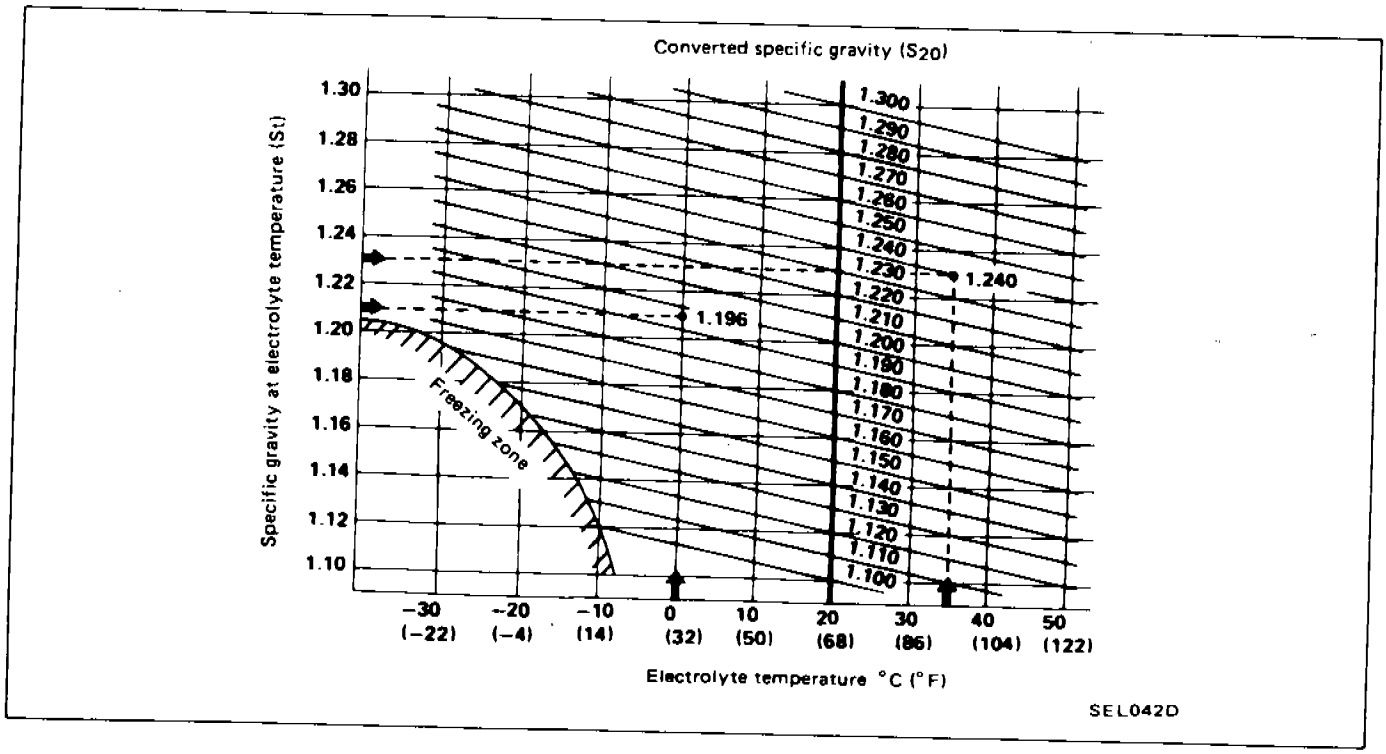


- When electrolyte level is too low, tilt battery case to raise it for easy measurement.

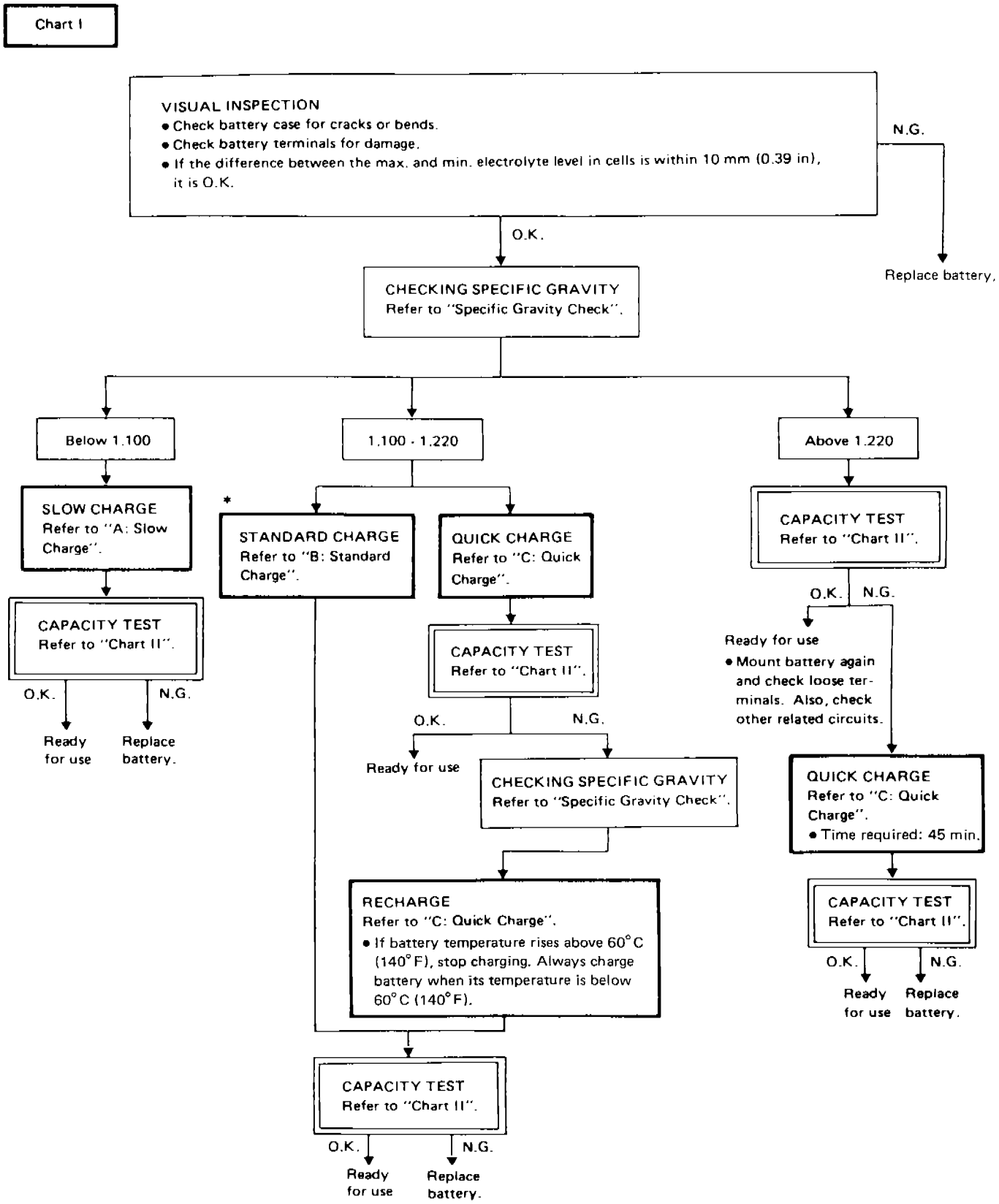
2. Convert into specific gravity at 20°C (68°F).

Example:

- When electrolyte temperature is 35°C (95°F) and specific gravity of electrolyte is 1.230, converted specific gravity at 20°C (68°F) is 1.240.
- When electrolyte temperature is 0°C (32°F) and specific gravity of electrolyte is 1.210, converted specific gravity at 20°C (68°F) is 1.196.



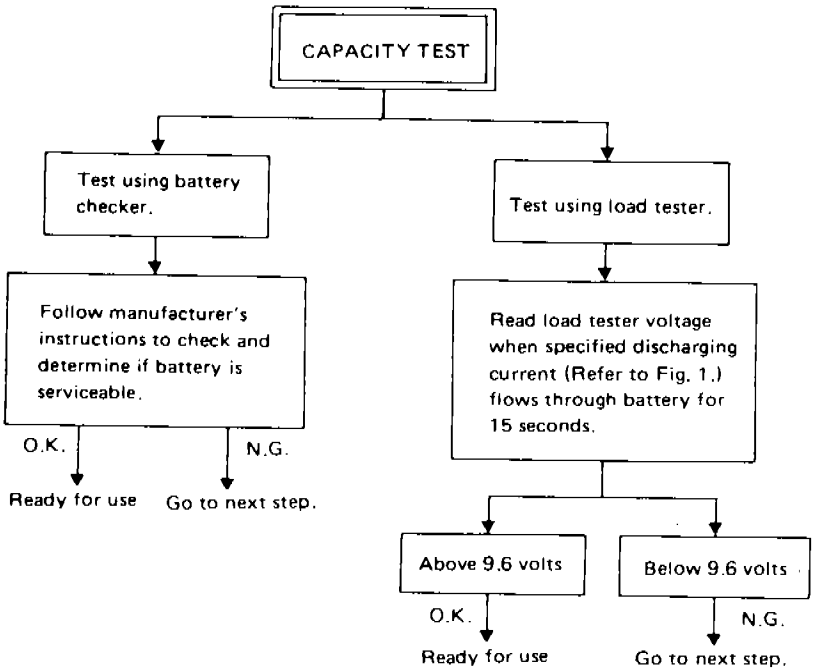
Battery Test and Charging Chart



* "STANDARD CHARGE" is recommended in case that the vehicle is in storage after charging.

Battery Test and Charging Chart (Cont'd)

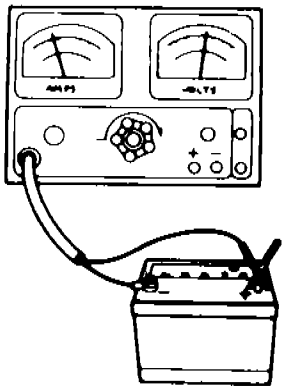
Chart II



- Check battery type and determine the specified current using the following table.

Fig. 1 DISCHARGING CURRENT (Load tester)

Type	Current (A)
28B19R(L)	90
34B19R(L)	99
46B24R(L)	135
55B24R(L)	135
50D23R(L)	150
55D23R(L)	180
65D26R(L)	195
80D26R(L)	195
75D31R(L)	210
95D31R(L)	240
95E41R(L)	300
130E41R(L)	330



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Battery Test and Charging Chart (Cont'd)

A: SLOW CHARGE

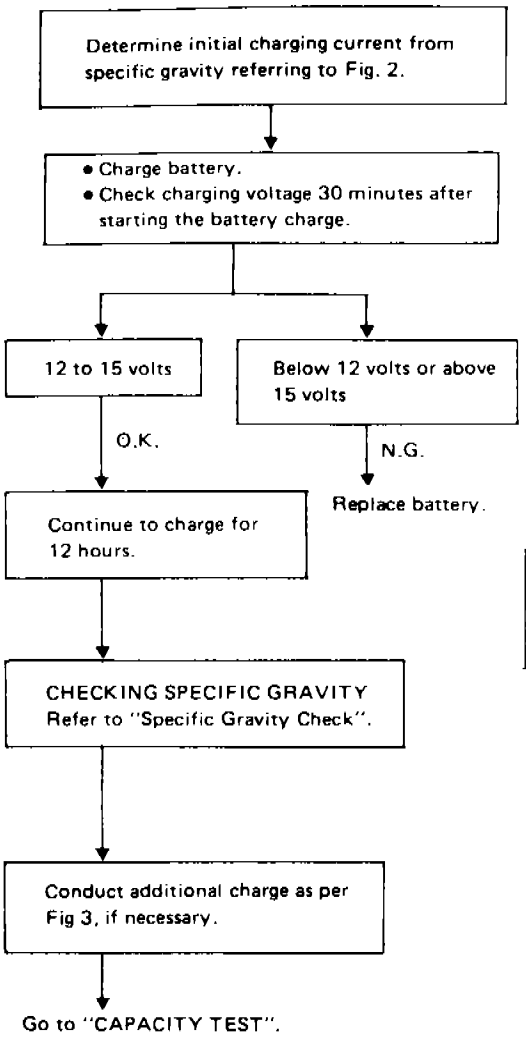
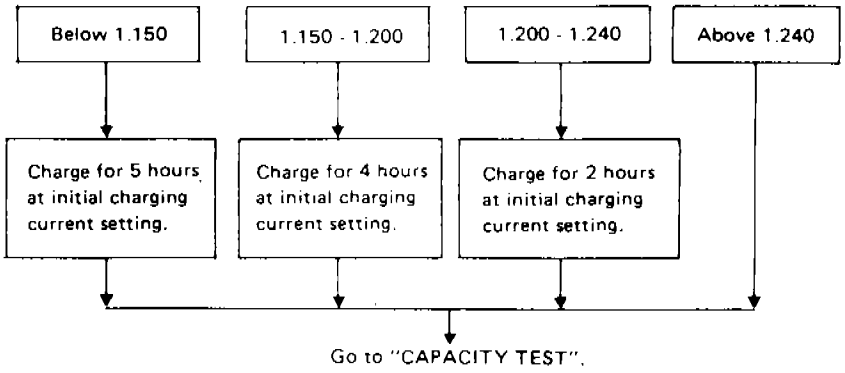


Fig. 2 INITIAL CHARGING CURRENT SETTING (Slow charge)

BATTERY TYPE / CONVERTED SPECIFIC GRAVITY	28B19R(L) 34B19R(L)	46B24R(L) 55B24R(L)	50D23R(L) 55D23R(L)	65D26R(L) 80D26R(L)	75D31R(L)	95D31R(L) 95E41R(L)	130E41R(L)
Below 1.100	4.0 (A)	5.0 (A)	7.0 (A)	8.0 (A)	9.0 (A)	10.0 (A)	14.0 (A)

- Check battery type and determine the specified current using the table shown above.
- After starting charging, adjustment of charging current is not necessary.

Fig. 3 ADDITIONAL CHARGE (Slow charge)



CAUTION:

a. Set charging current to value specified in Fig. 2. If charger is not capable of producing specified current value, set its charging current as close to that value as possible.
b. Keep battery away from open flame while it is being charged.
c. When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.
d. If battery temperature rises above 60°C (140°F), stop charging. Always charge battery when its temperature is below 60°C (140°F).

Battery Test and Charging Chart (Cont'd)

B: STANDARD CHARGE

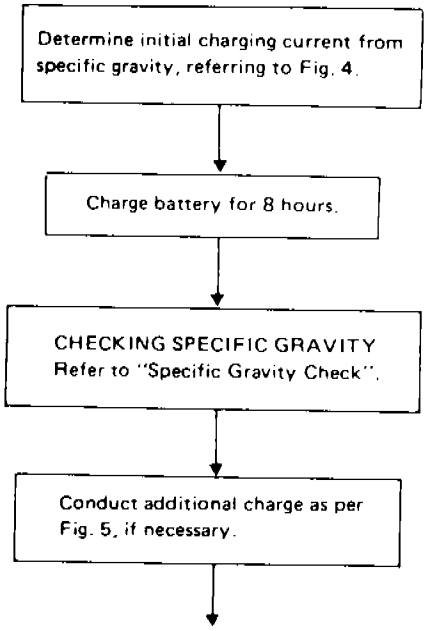
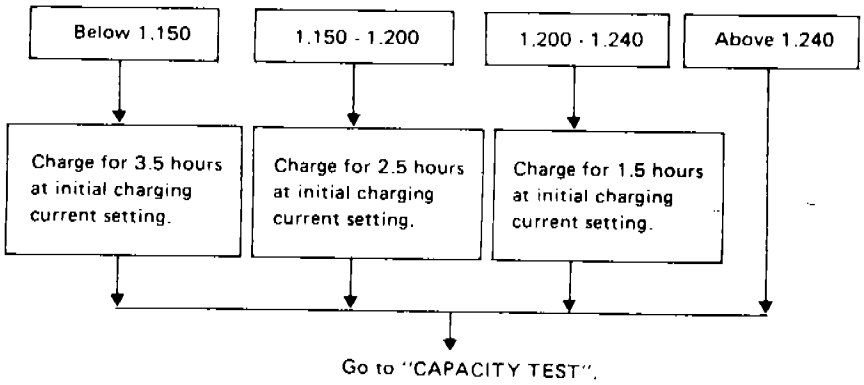


Fig. 4 INITIAL CHARGING CURRENT SETTING
(Standard charge)

BATTERY TYPE / CONVERTED SPECIFIC GRAVITY	28B19R(L) 34B19R(L)	46B24R(L) 55B24R(L)	50D23R(L) 55D23R(L)	65D26R(L) 80D26R(L)	75D31R(L)	95D31R(L) 95E41R(L)	130E41R(L)
1.100 - 1.130	4.0 (A)	5.0 (A)	6.0 (A)	7.0 (A)	8.0 (A)	9.0 (A)	13.0 (A)
1.130 - 1.160	3.0 (A)	4.0 (A)	5.0 (A)	6.0 (A)	7.0 (A)	8.0 (A)	11.0 (A)
1.160 - 1.190	2.0 (A)	3.0 (A)	4.0 (A)	5.0 (A)	6.0 (A)	7.0 (A)	9.0 (A)
1.190 - 1.220	2.0 (A)	2.0 (A)	3.0 (A)	4.0 (A)	5.0 (A)	5.0 (A)	7.0 (A)

- Check battery type and determine the specified current using the table shown above.
- After starting charging, adjustment of charging current is not necessary.

Fig. 5 ADDITIONAL CHARGE (Standard charge)



CAUTION:

a. Do not use standard charge method on a battery whose specific gravity is less than 1.100.
b. Set charging current to value specified in Fig. 4. If charger is not capable of producing specified current value, set its charging current as close to that value as possible.
c. Keep battery away from open flame while it is being charged.
d. When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.
e. If battery temperature rises above 60°C (140°F), stop charging. Always charge battery when its temperature is below 60°C (140°F).

Battery Test and Charging Chart (Cont'd)

C: QUICK CHARGE

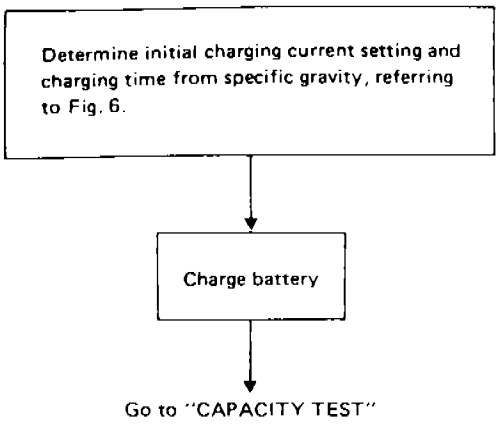


Fig. 6 INITIAL CHARGING CURRENT SETTING AND CHARGING TIME (Quick charge)

CONVERTED SPECIFIC GRAVITY \ BATTERY TYPE / CURRENT [A]	28B19R(L) 34B19R(L)	46B24R(L) 55B24R(L) 50D23R(L)	55D23R(L) 65D26R(L) 80D26R(L)	75D31R(L) 95D31R(L) 95E41R(L)	130E41R(L)
	10 (A)	15 (A)	20 (A)	30 (A)	40 (A)
1.100 - 1.130	2.5 hours				
1.130 - 1.160	2.0 hours				
1.160 - 1.190	1.5 hours				
1.190 - 1.220	1.0 hours				
Above 1.220	0.75 hours (45 min.)				

- Check battery type and determine the specified current using the table shown above.
- After starting charging, adjustment of charging current is not necessary.

CAUTION:

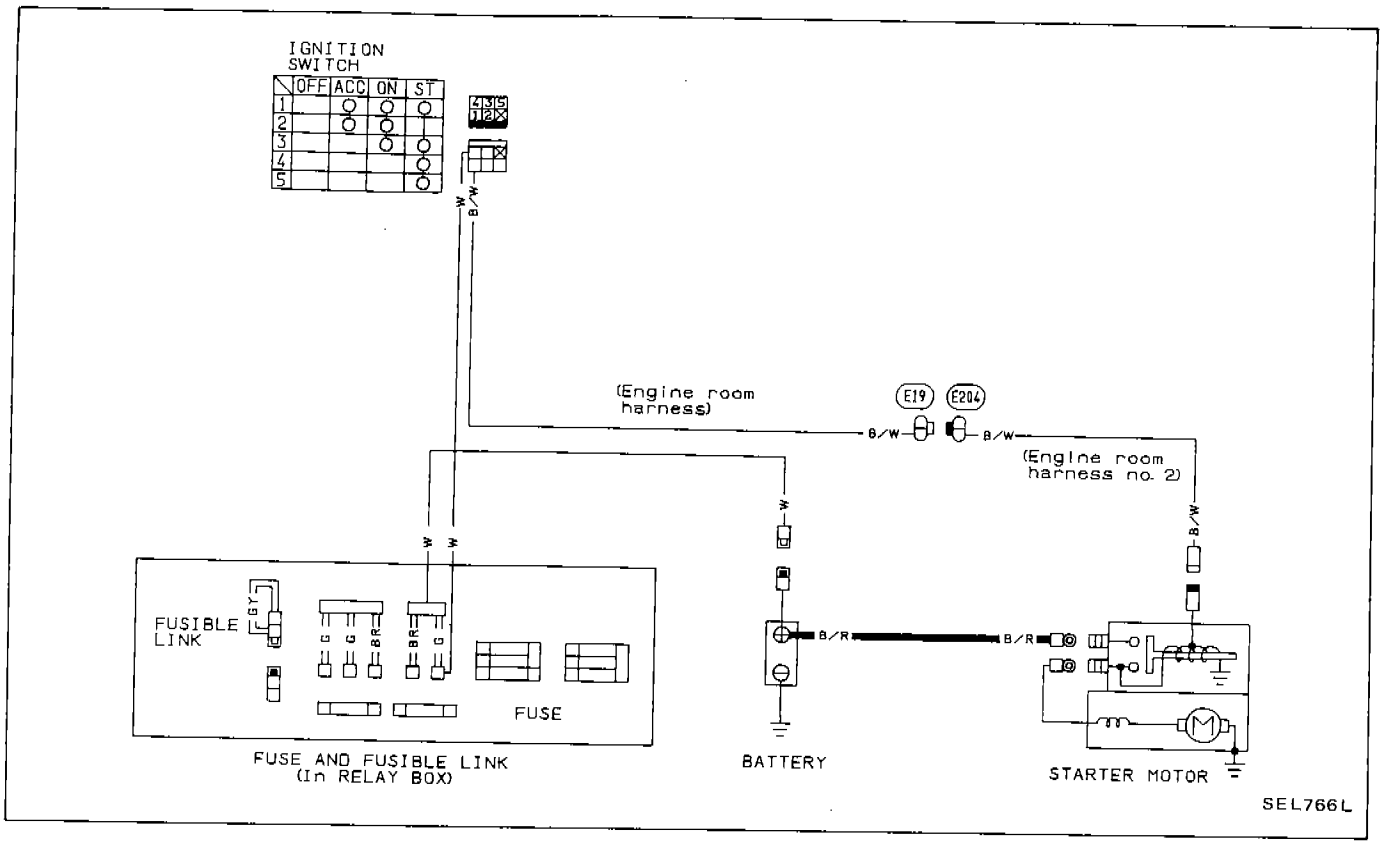
a. **Do not use quick charge method on a battery whose specific gravity is less than 1.100.**
b. **Set initial charging current to value specified in Fig. 6. If charger is not capable of producing specified current value, set its charging current as close to that value as possible.**
c. **Keep battery away from open flame while it is being charged.**
d. **When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.**
e. **Be careful of a rise in battery temperature because a large current flow is required during quick-charge operation.**
   If battery temperature rises above 60°C (140°F), stop charging. Always charge battery when its temperature is below 60°C (140°F).
f. **Do not exceed the charging time specified in Fig. 6, because charging battery over the charging time can cause deterioration of the battery.**

Service Data and Specifications (S.D.S.)

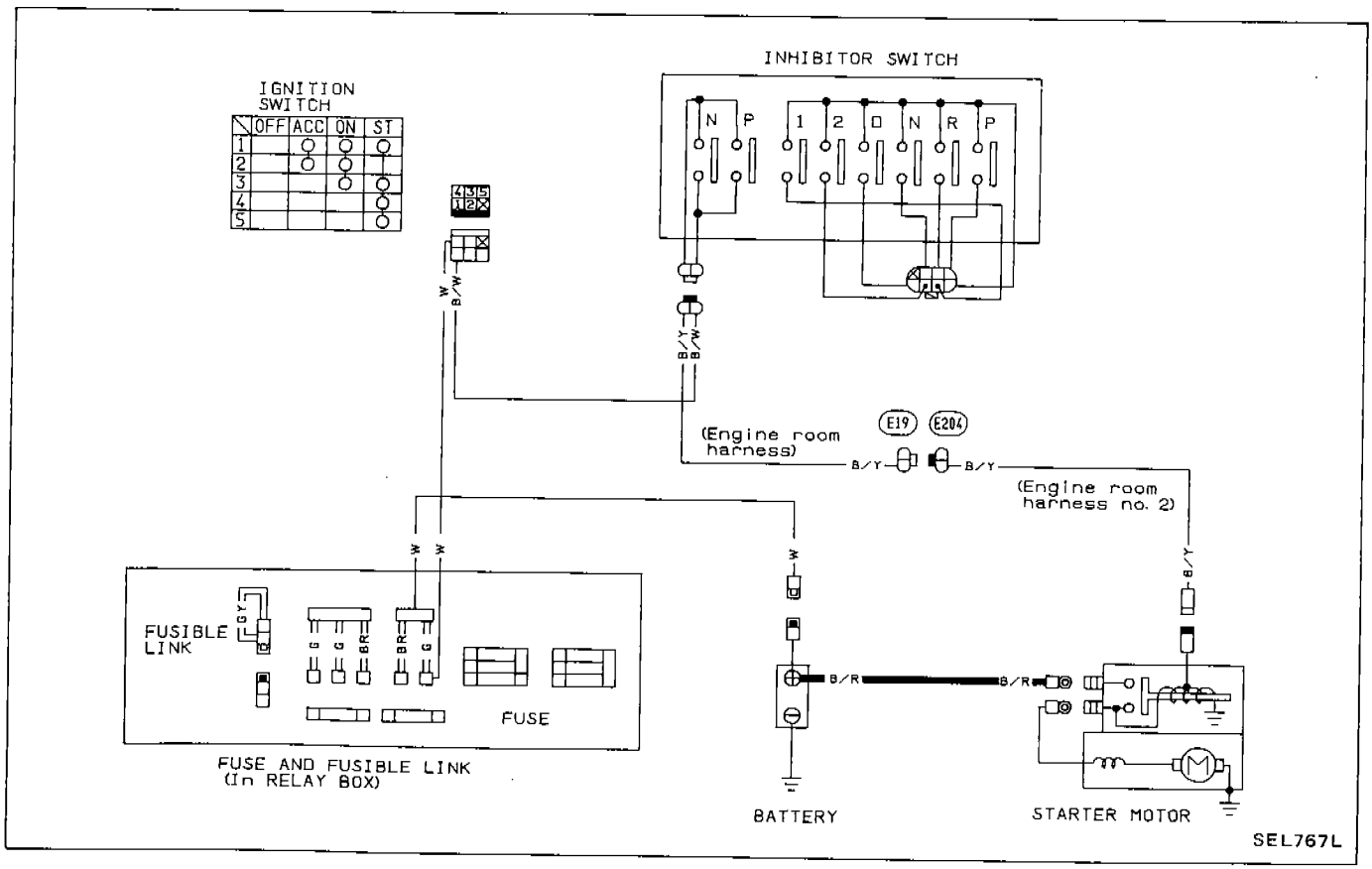
Applied area		Europe	Except Europe (Option)	Except Europe
Type		55D23R		34B19R
Capacity	V-AH	12-60		12-33

Wiring Diagram

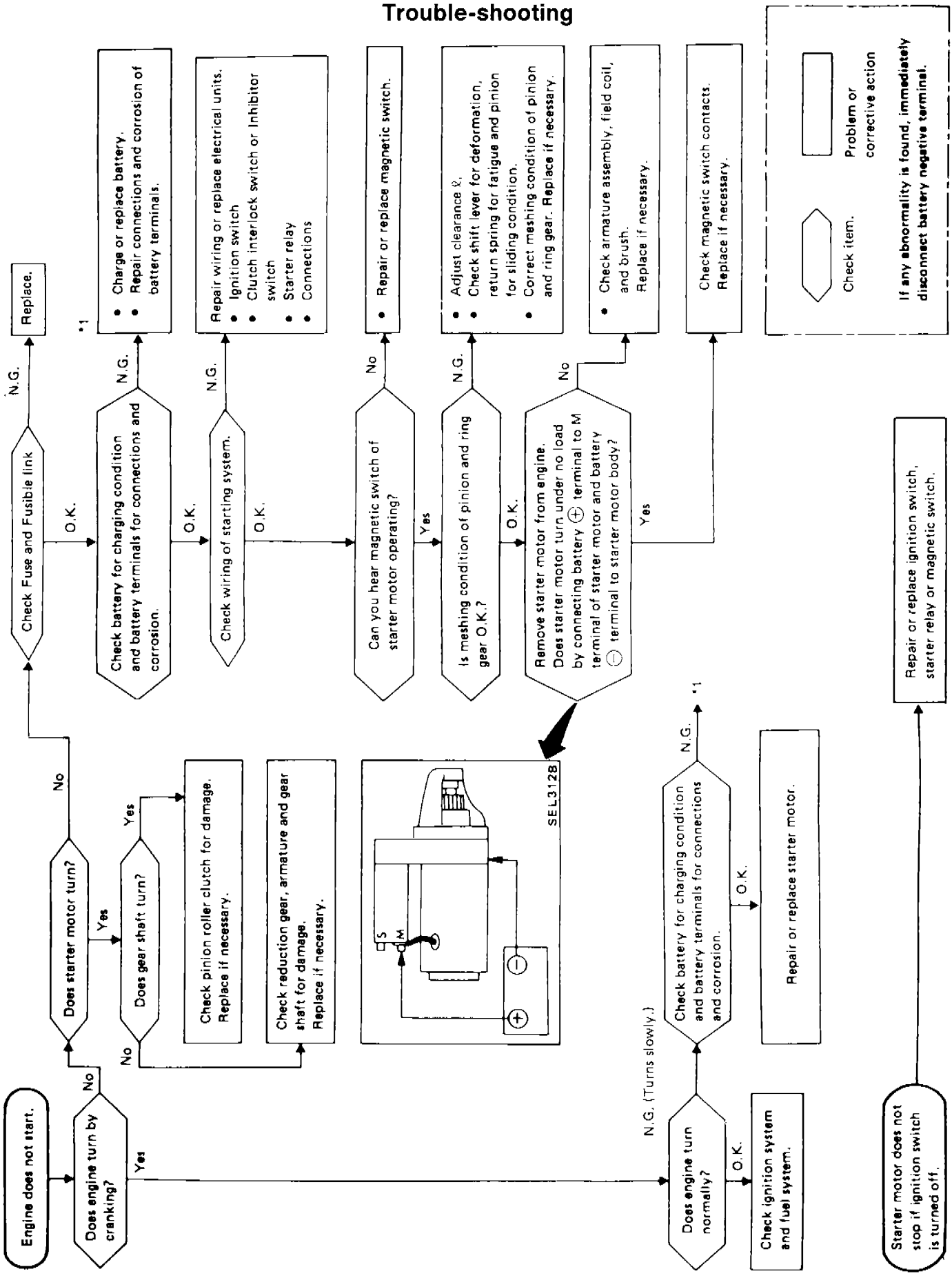
M/T MODEL



A/T MODEL

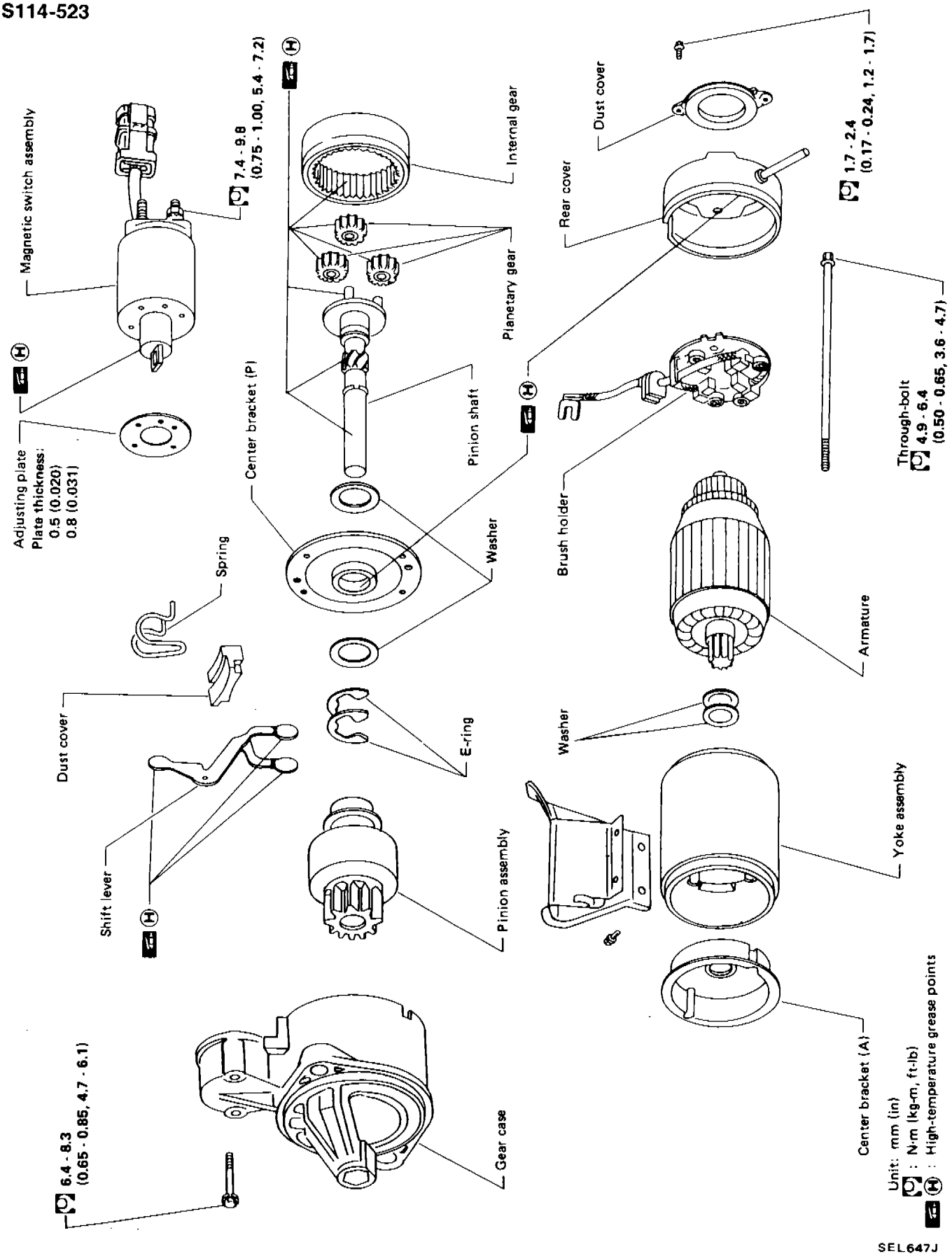


Trouble-shooting



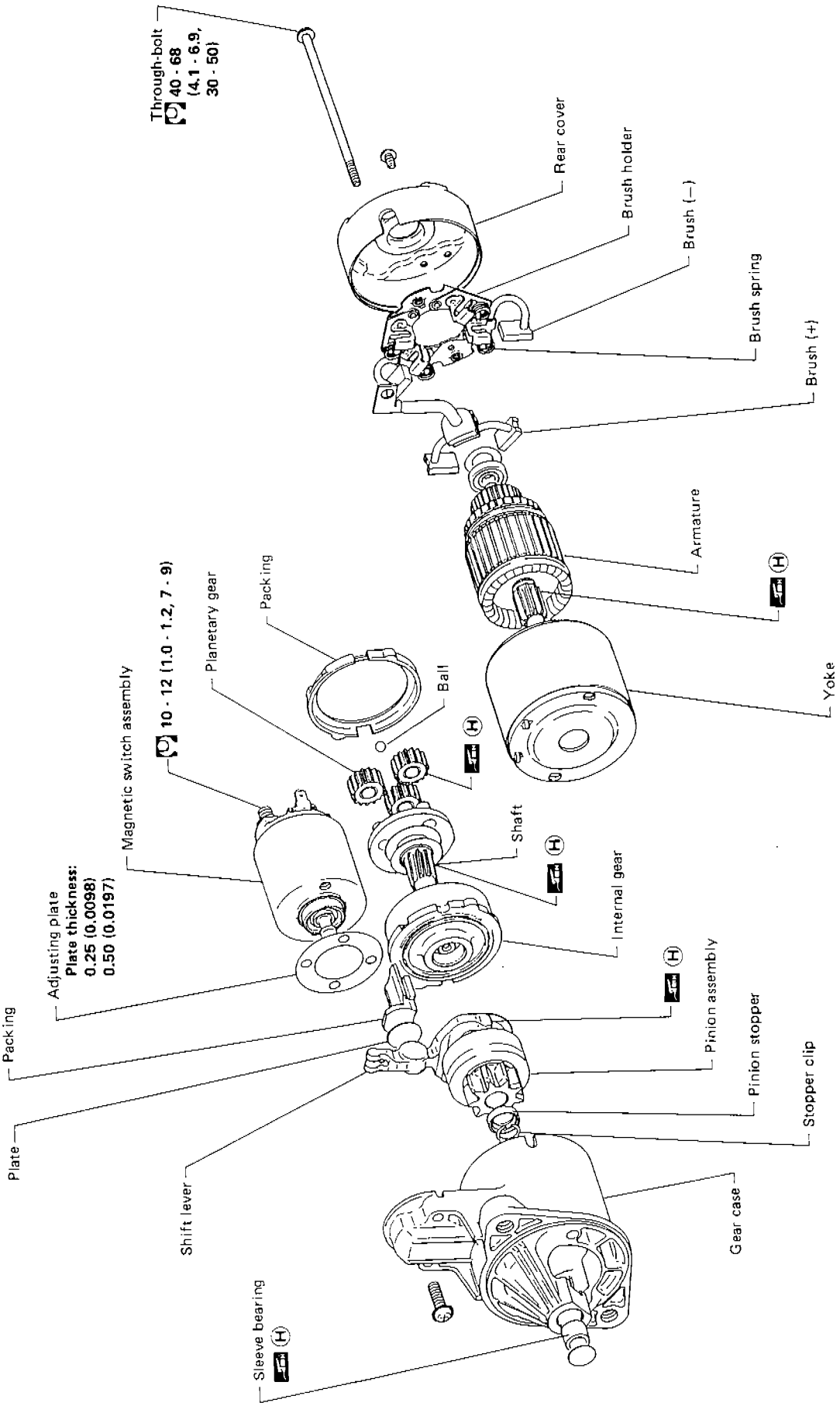
Construction

S114-523

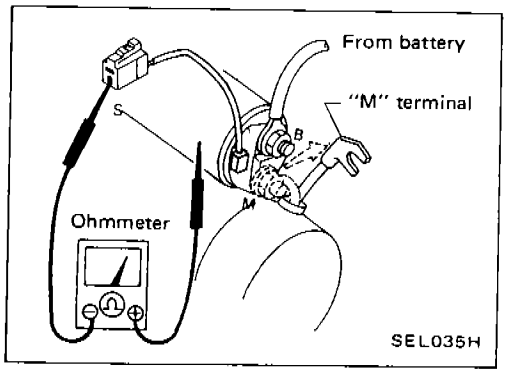


Construction (Cont'd)

M1T71481



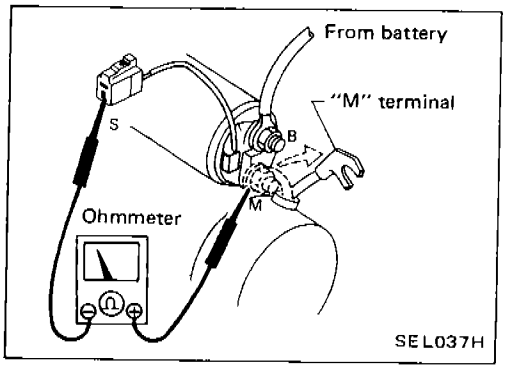
SEL707L



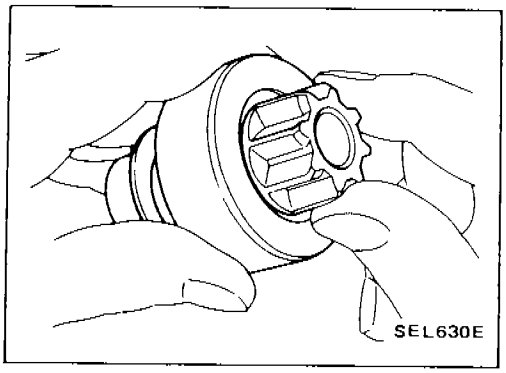
Magnetic Switch Check

- Before starting to check, disconnect battery ground cable.
- Disconnect "M" terminal of starter motor.

1. Continuity test (between "S" terminal and switch body).
- No continuity ... Replace.



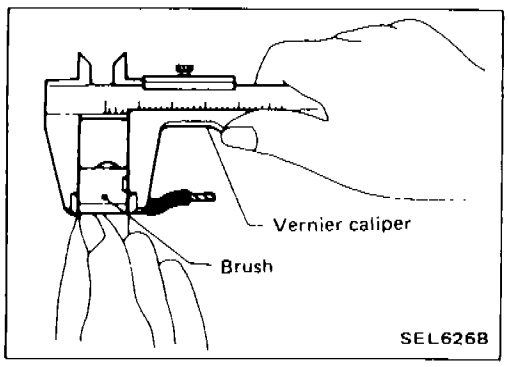
2. Continuity test (between "S" terminal and "M" terminal).
- No continuity ... Replace.



Pinion/Clutch Check

1. Inspect pinion teeth.
- Replace pinion if teeth are worn or damaged. (Also check condition of ring gear teeth.)

2. Check to see if pinion locks in one direction and rotates smoothly in the opposite direction.
- If it does not lock (or locks) in either direction or unusual resistance is evident. ... Replace.



Brush Check

BRUSH

Check wear of brush.

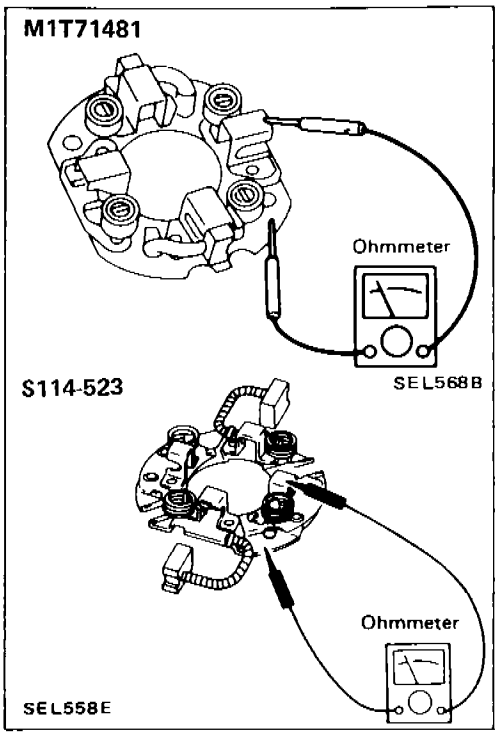
Wear limit length:
Refer to S.D.S.

- Excessive wear ... Replace.

Brush Check (Cont'd)

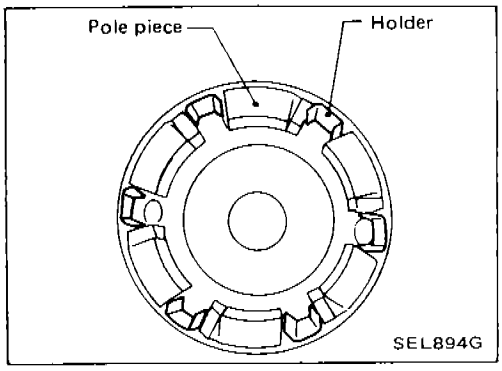
BRUSH HOLDER

1. Perform insulation test between brush holder (positive side) and its base (negative side).
- Continuity exists. ... Replace.
2. Check brush to see if it moves smoothly.
- If brush holder is bent, replace it; if sliding surface is dirty, clean.



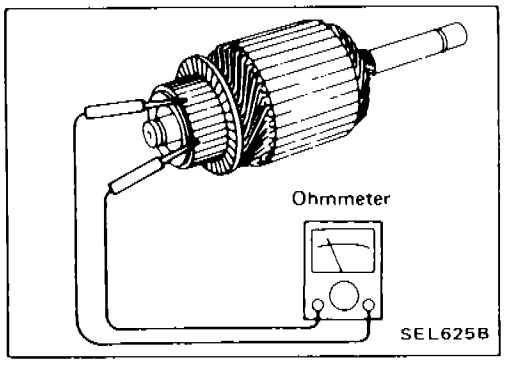
Pole Piece Check

Pole piece is secured to yoke by bonding agent. Check pole piece to see that it is secured to yoke and for any cracks. Replace malfunctioning parts as an assembly.
Holder may move slightly as it is only inserted and not bonded.

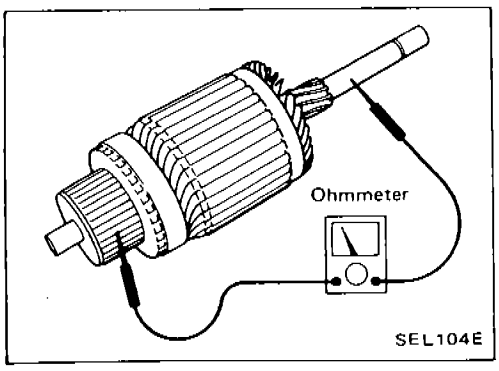


Armature Check

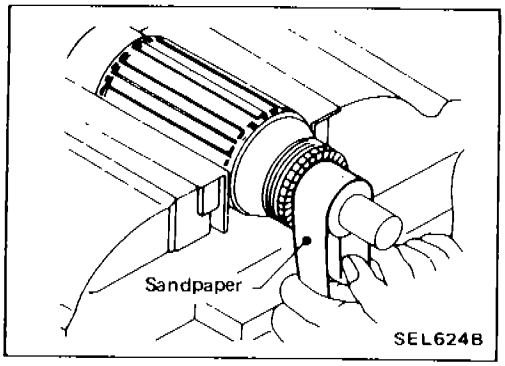
1. Continuity test (between two segments side by side).
- No continuity ... Replace.



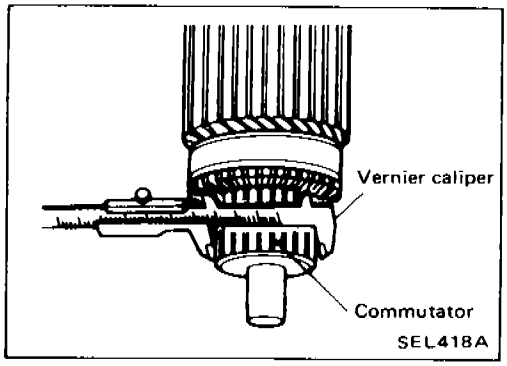
2. Insulation test (between each commutator bar and shaft).
- Continuity exists. ... Replace.



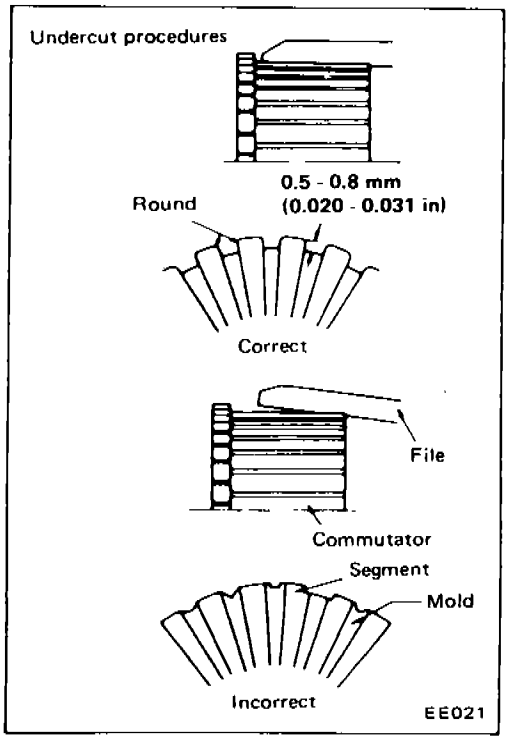
Armature Check (Cont'd)



3. Check commutator surface.
- Rough ... Sand lightly with No. 500 to 600 sandpaper.



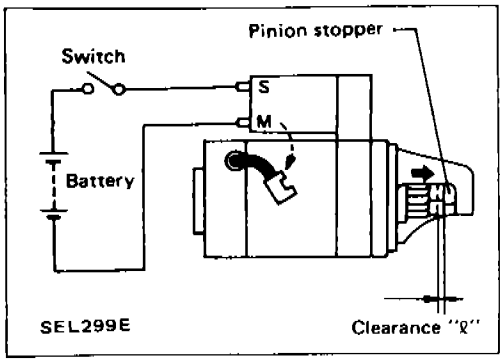
4. Check diameter of commutator.
Commutator minimum diameter:
Refer to S.D.S.
- Less than specified value ... Replace.

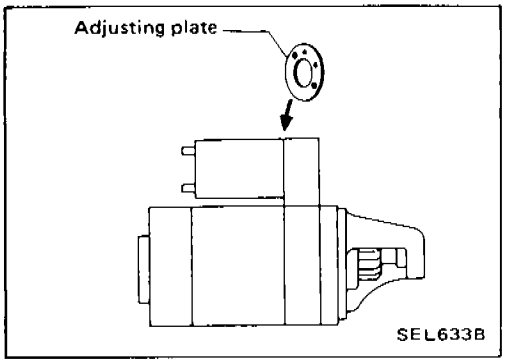


5. Check depth of insulating mold from commutator surface.
- Less than 0.2 mm (0.008 in) ... Undercut to 0.5 to 0.8 mm (0.020 to 0.031 in)

Assembly

Apply high-temperature grease to lubricate the bearing, gears and frictional surface when assembling the starter.
Carefully observe the following instructions.
- Gear case metal
- Moving portion of shift lever
- Plunger of magnetic switch
- Internal gear
- Planetary gear
- Shaft





Assembly (Cont'd)

PINION PROTRUSION LENGTH ADJUSTMENT

With pinion driven out by magnetic switch, push pinion back to remove slack and measure clearance "ℓ" between the front edge of the pinion and the pinion stopper.

Clearance "ℓ":
Refer to S.D.S.

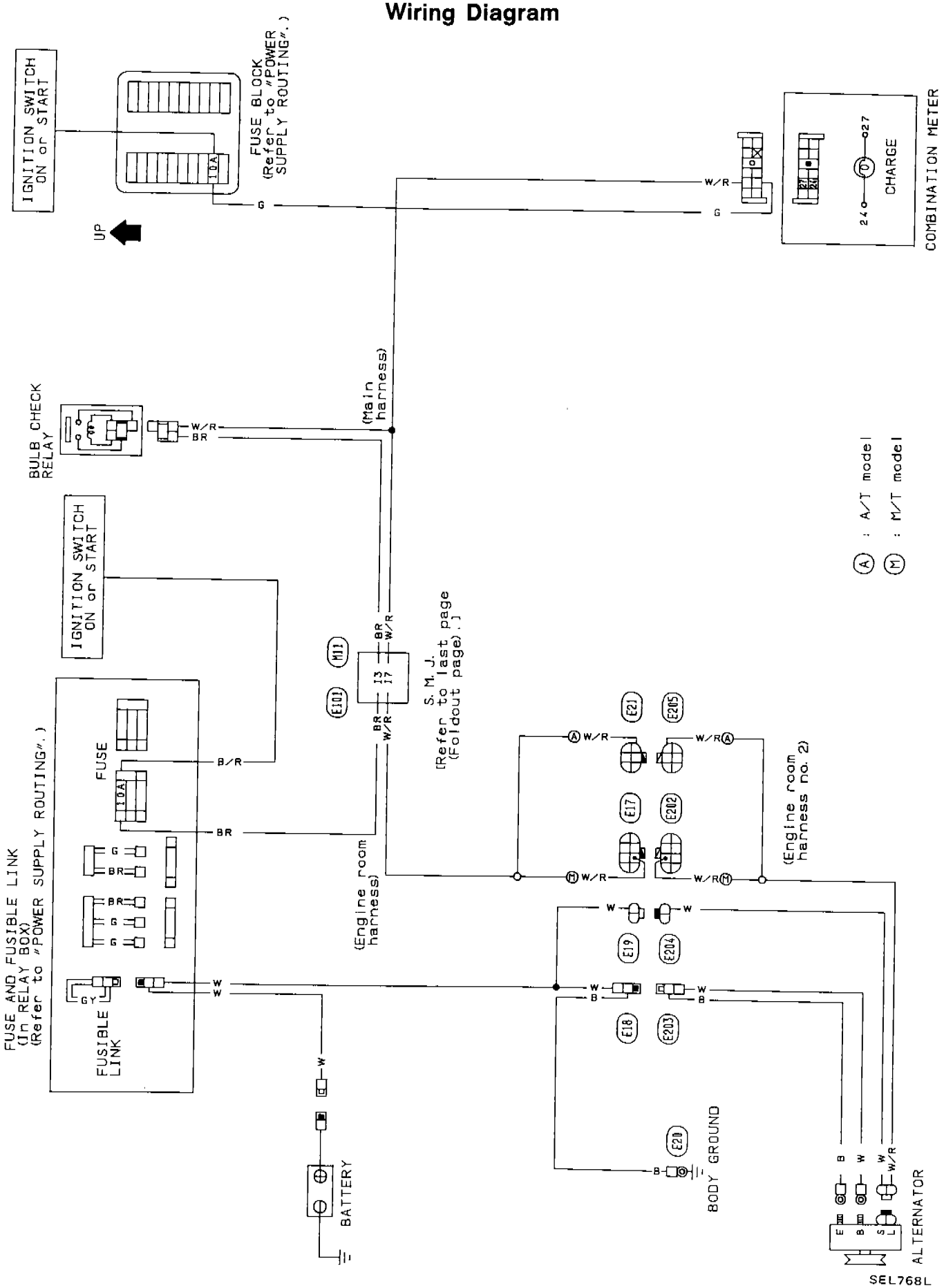
- Not in the specified value ... Adjust by adjusting plate.

Service Data and Specifications (S.D.S.)

STARTER

Type		S114-523	M1T71481
		HITACHI make	MITSUBISHI make
		Reduction gear type	
Applied model		All	
System voltage	V	12	
No-load Terminal voltage	V	11.0	
Current	A	Less than 90	50 - 75
Revolution	rpm	More than 2,950	3,000 - 4,000
Minimum diameter of commutator	mm (in)	32.0 (1.260)	28.8 (1.134)
Minimum length of brush	mm (in)	11.0 (0.433)	12.0 (0.472)
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)
Clearance of bearing metal and armature shaft	mm (in)	0.2 (0.008)	–
Clearance "ℓ" between pinion front edge and pinion stopper	mm (in)	0.3 - 1.5 (0.012 - 0.059)	0.5 - 2.0 (0.020 - 0.079)

Wiring Diagram

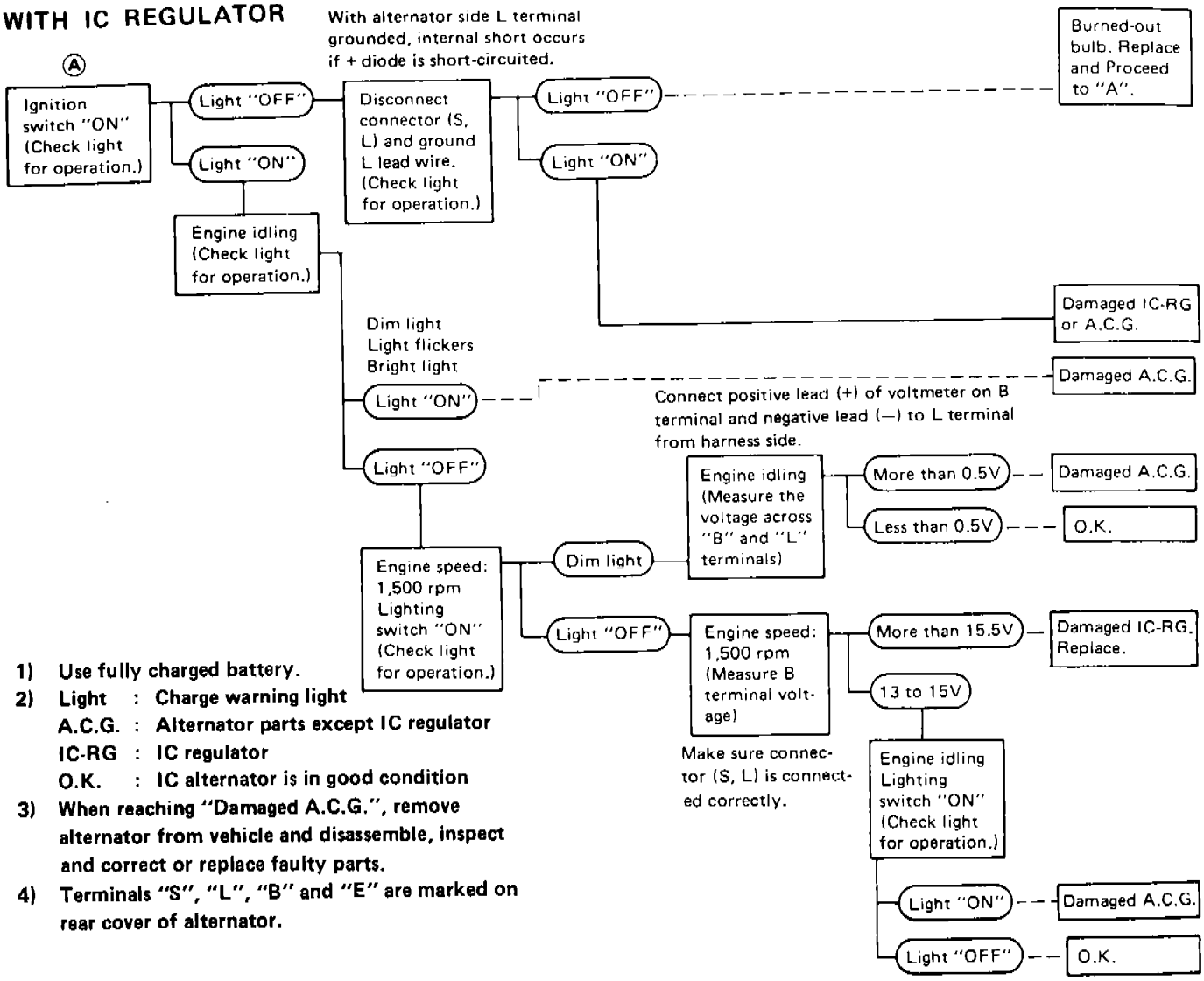


Trouble-shooting

Before conducting an alternator test, make sure that the battery is fully charged. A 30-volt voltmeter and suitable test probes are necessary for the test. The alternator can be checked easily by referring to the Inspection Table.

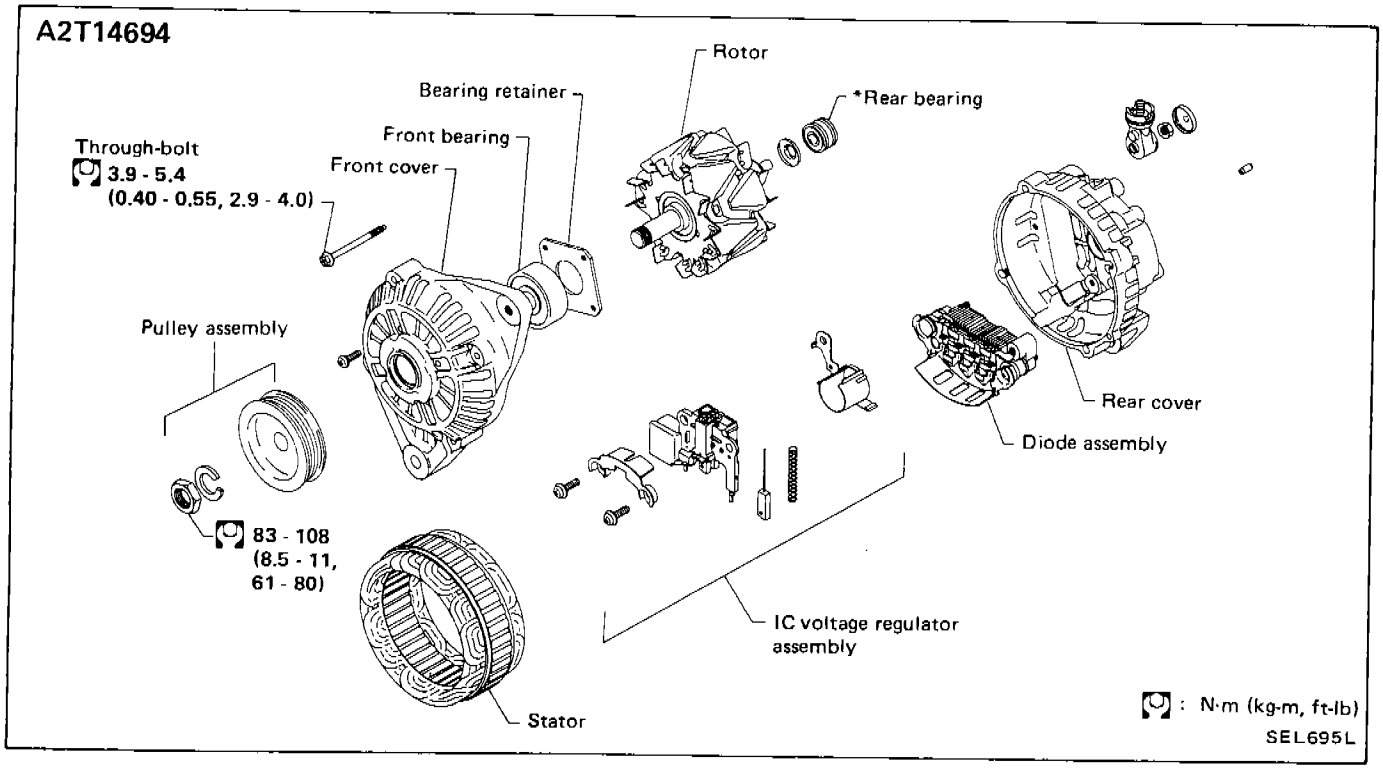
Before starting trouble-shooting, inspect the fusible link.

WITH IC REGULATOR



1) **Use fully charged battery.**
2) **Light : Charge warning light**
   A.C.G. : Alternator parts except IC regulator
   IC-RG : IC regulator
   O.K. : IC alternator is in good condition
3) **When reaching "Damaged A.C.G.", remove alternator from vehicle and disassemble, inspect and correct or replace faulty parts.**
4) **Terminals "S", "L", "B" and "E" are marked on rear cover of alternator.**

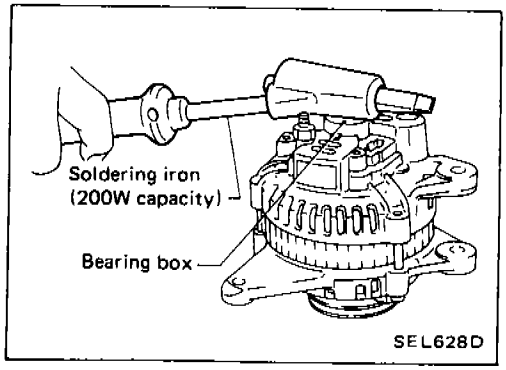
Construction



***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.



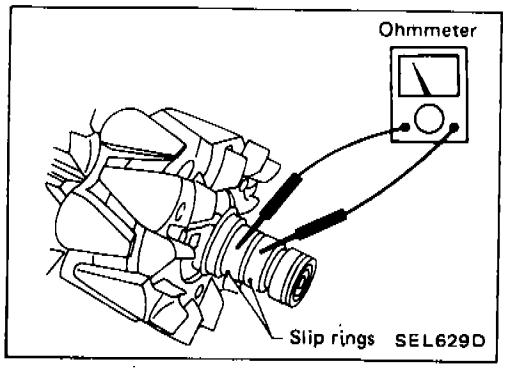
Disassembly

REAR COVER REMOVAL

CAUTION:

To facilitate removal of rear cover, heat just bearing box section with a 200W soldering iron.

Do not use a heat gun, as it can damage diode assembly.

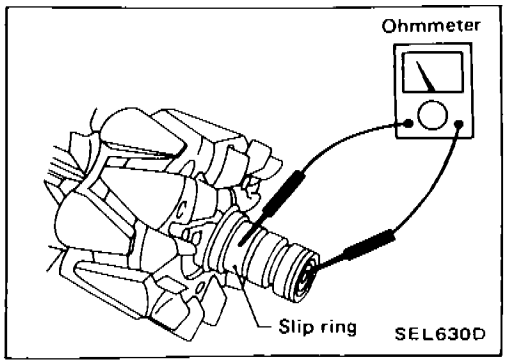


Rotor Slip Ring Check

1. Continuity test

● No continuity ... Replace rotor.

Rotor Slip Ring Check (Cont'd)

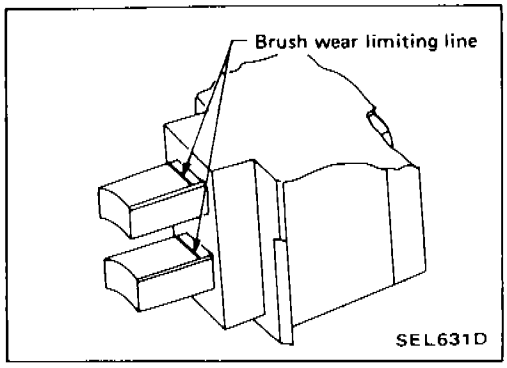


2. Insulator test
- Continuity exists. ... Replace rotor.

3. Check slip ring for wear.

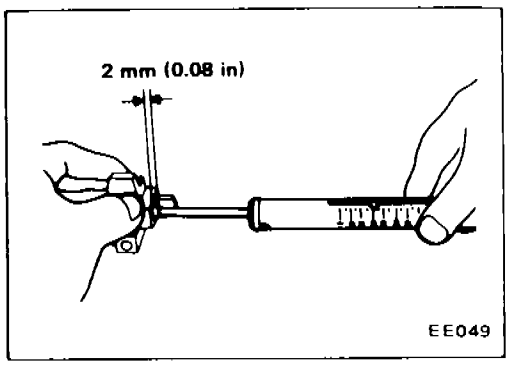
Slip ring minimum outer diameter:
Refer to S.D.S.

Brush Check



1. Check smooth movement of brush.
- Not smooth ... Check brush holder and clean.

2. Check brush for wear.
- Replace brush if it is worn down to the limit line.



3. Check brush lead wire for damage.
- Damaged ... Replace.

4. Check brush spring pressure.
Measure brush spring pressure with brush projected approximately 2 mm (0.08 in) from brush holder.

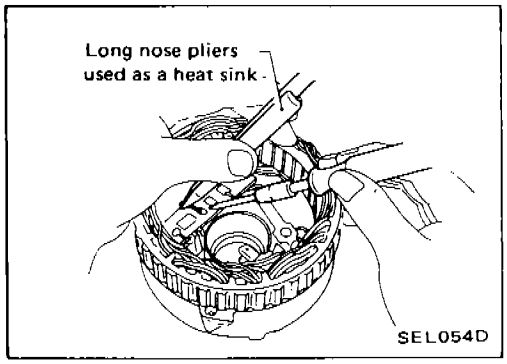
Spring pressure:
Refer to S.D.S.

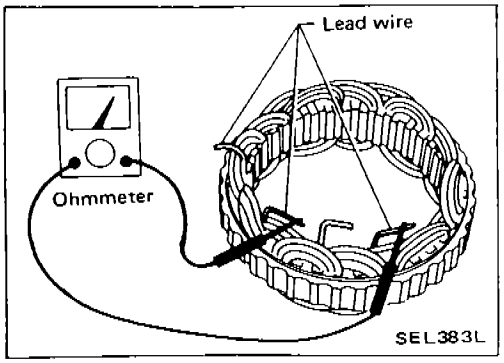
- Not within the specified values ... Replace.

Stator Check

To test the stator or diode, separate them by unsoldering the connecting wires.

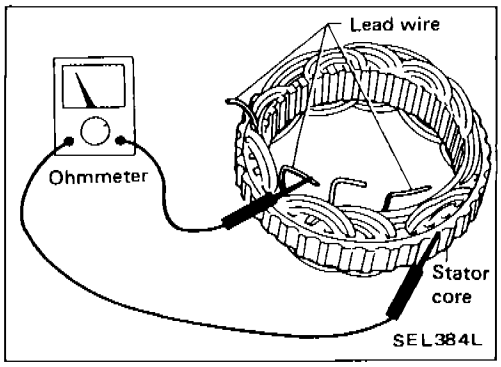
CAUTION:
Use only as much heat as required to melt solder. Otherwise, diodes will be damaged by excessive heat.





1. Continuity test
- No continuity ... Replace stator.

Stator Check (Cont'd)



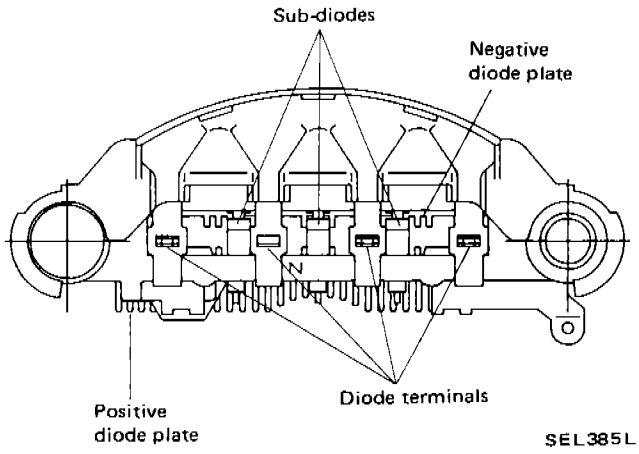
2. Ground test
- Continuity exists. ... Replace stator.

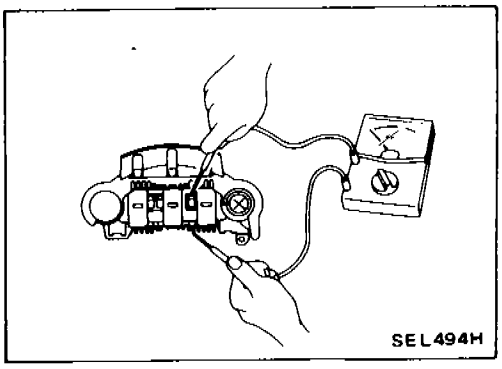
Diode Check

MAIN DIODES

- Use an ohmmeter to check condition of diodes as indicated in chart below:
- If any of the test results is not satisfactory, replace diode assembly.

	Ohmmeter probes		Continuity
	Positive ⊕	Negative ⊖	
Diodes check (Positive side)	Positive diode plate	Diode terminals	Yes
	Diode terminals	Positive diode plate	No
Diodes check (Negative side)	Negative diode plate	Diode terminals	No
	Diode terminals	Negative diode plate	Yes





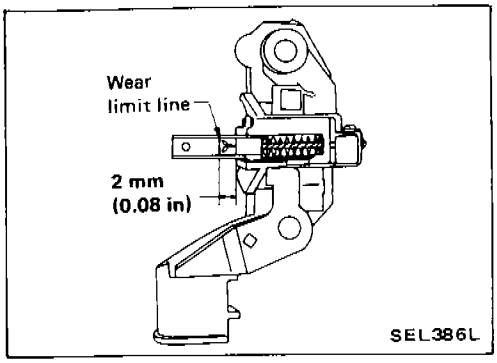
SUB-DIODES

- Attach ohmmeter's probe to each end of diode to check for continuity.
- Continuity is N.G. ... Replace diode assembly.

Assembly

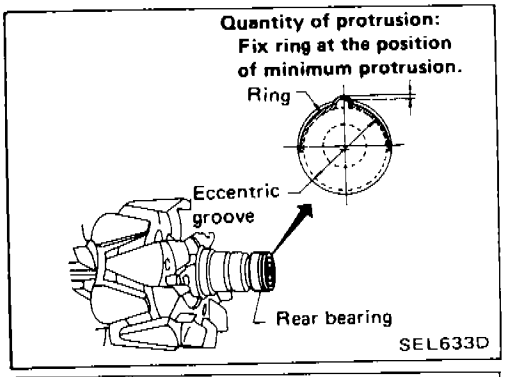
Carefully observe the following instructions.

- When soldering each stator coil lead wire to diode assembly terminal, carry out the operation as fast as possible.



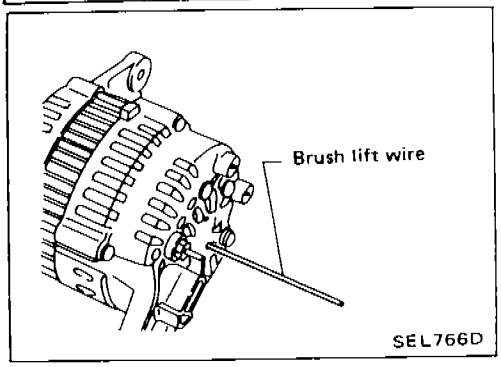
WHEN SOLDERING BRUSH LEAD WIRE

- Position brush so that its wear limit line protrudes 2 mm (0.08 in) beyond end face of brush holder.



RING FITTING IN REAR BEARING

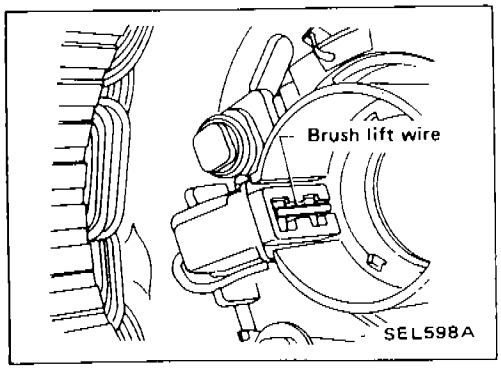
- Fix ring into groove in rear bearing so that it is as close to the adjacent area as possible.



REAR COVER INSTALLATION

(1) Before installing front cover with pulley and rotor with rear cover, push brush up with fingers and retain brush by inserting brush lift wire into brush lift hole from outside.
(2) After installing front and rear sides of alternator, pull brush lift wire by pushing toward the center.

Do not pull brush lift wire by pushing toward outside of rear cover as it will damage slip ring sliding surface.

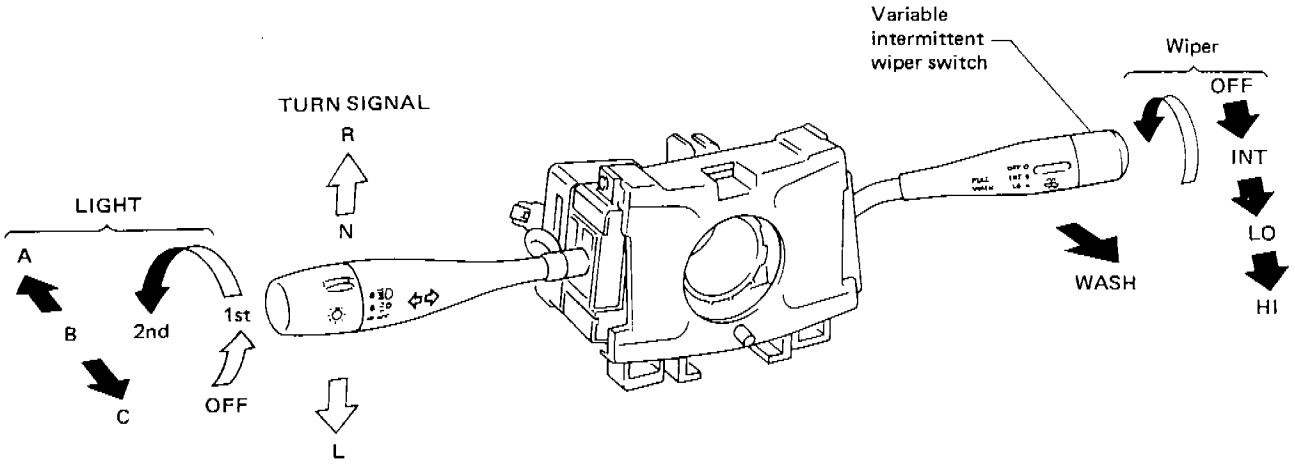


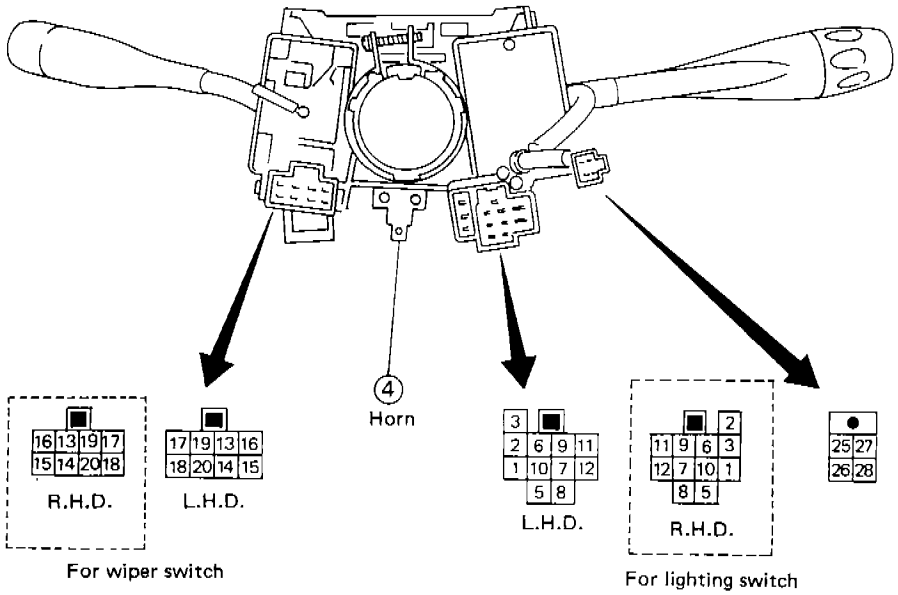
Service Data and Specifications (S.D.S.)

ALTERNATOR

Type		A2T14694
Applied model		All
Nominal rating	V-A	12-80
Ground polarity		Negative
Minimum revolution under no-load (When 13.5 volts is applied)	rpm	Less than 1,100
Hot output current	A/rpm	More than 22/1,300 More than 60/2,500
Regulated output voltage	V	14.1 - 14.7
Minimum length of brush	mm (in)	8.0 (0.315)
Brush spring pressure	N (g, oz)	3.040 - 4.217 (310 - 430, 10.93 - 15.17)
Slip ring minimum outer diameter	mm (in)	22.1 (0.870)

Check





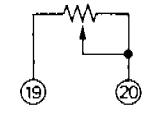
LIGHTING SWITCH

	OFF			1			2		
	A	B	C	A	B	C	A	B	C
5			○			○	○	○	○
6			○			○	○		○
7								○	
8			○			○	○	○	○
9			○			○	○	○	○
10								○	
11				○	○	○	○	○	○
12				○	○	○	○	○	○
25							○	○	○
26							○		○
27	○	○	○	○	○	○			
28	○	○	○	○	○	○			

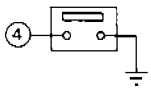
WIPER SWITCH

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

INTERMITTENT WIPER VOLUME



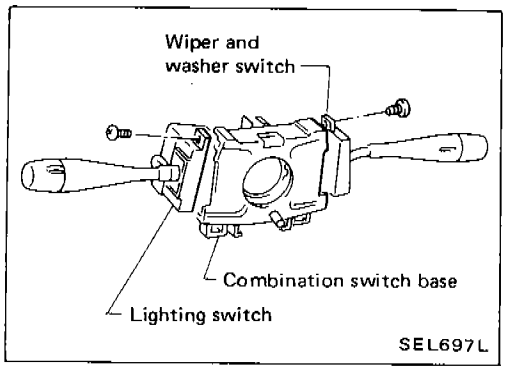
HORN SWITCH



	R	N	L
1	○		○
2	○		
3			○

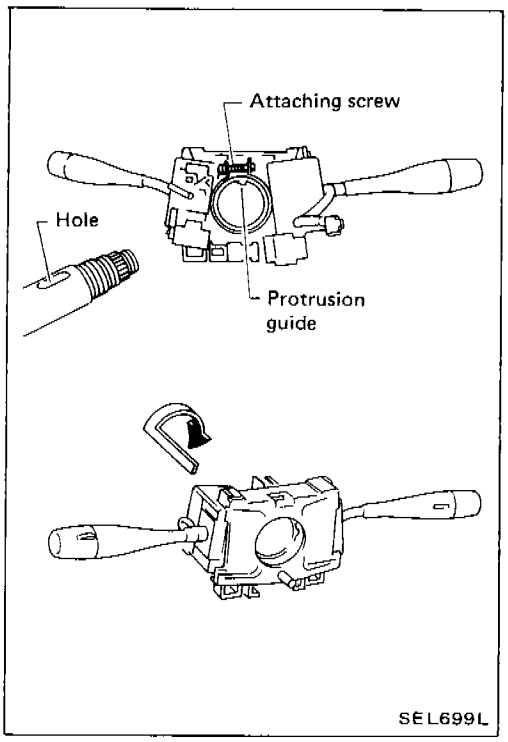
TURN SIGNAL SWITCH

SEL696L



Replacement

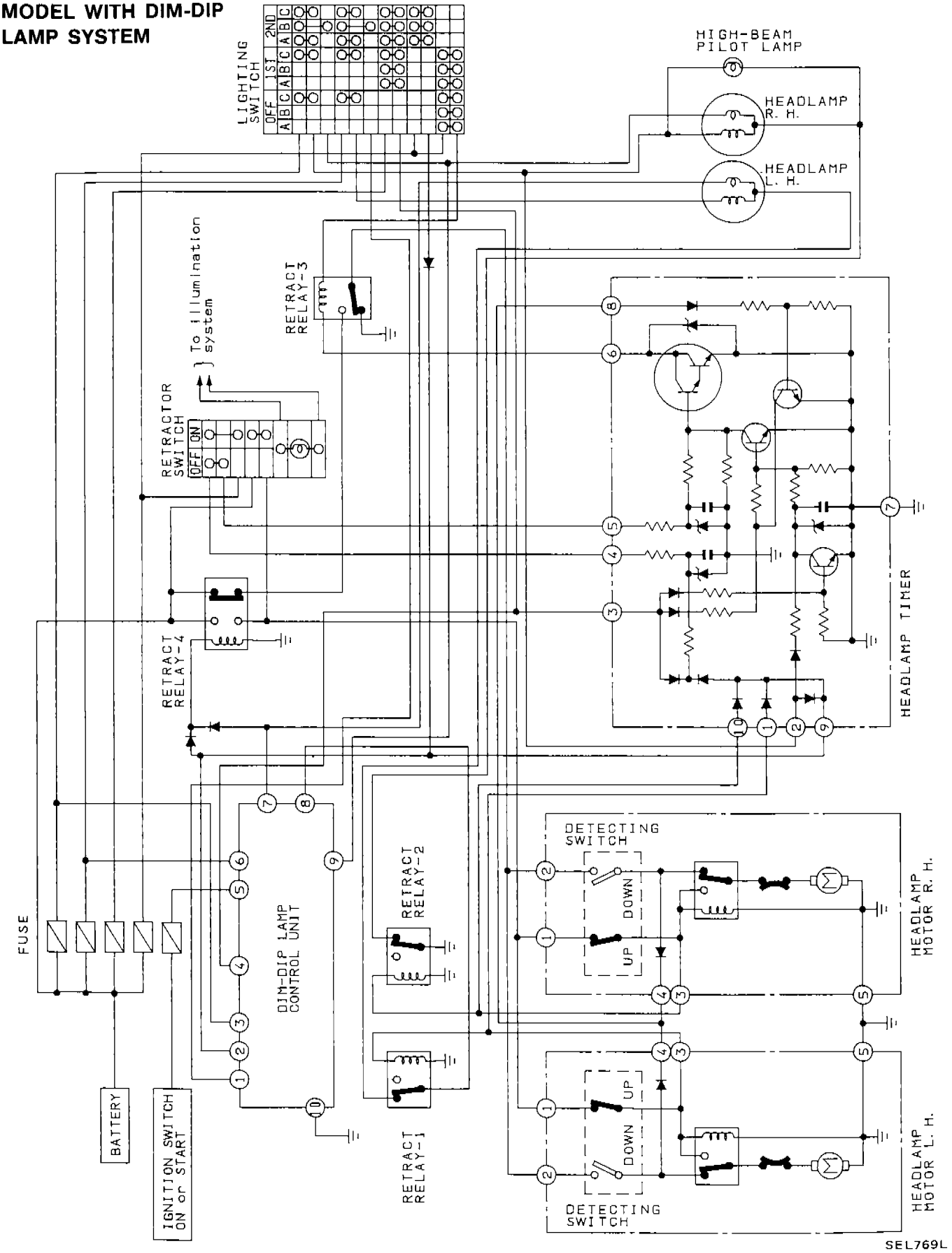
- Each switch can be replaced without removing combination switch base.



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

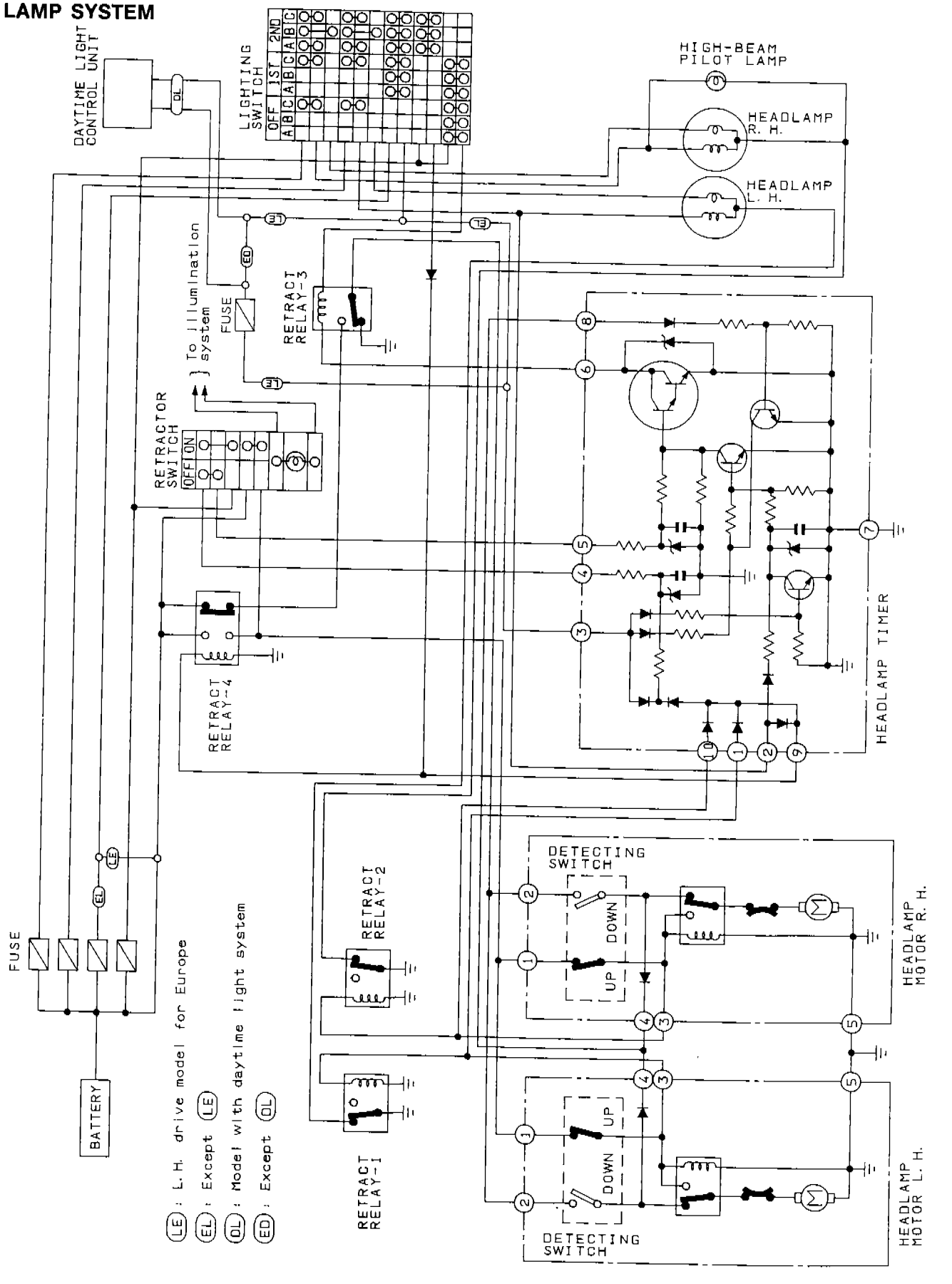
Schematic

MODEL WITH DIM-DIP LAMP SYSTEM



Schematic (Cont'd)

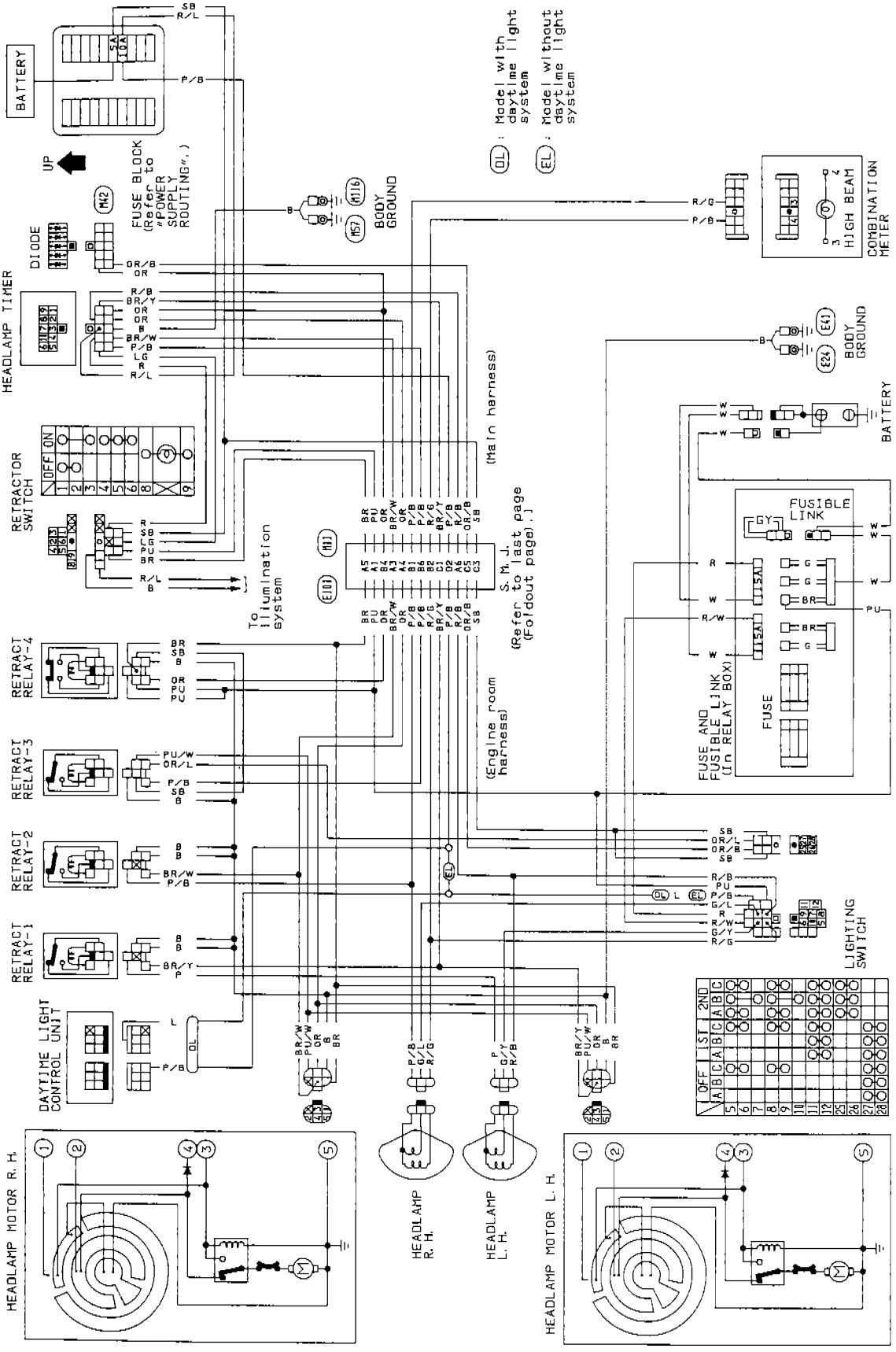
MODEL WITHOUT DIM-DIP LAMP SYSTEM



SEL770L

Wiring Diagram

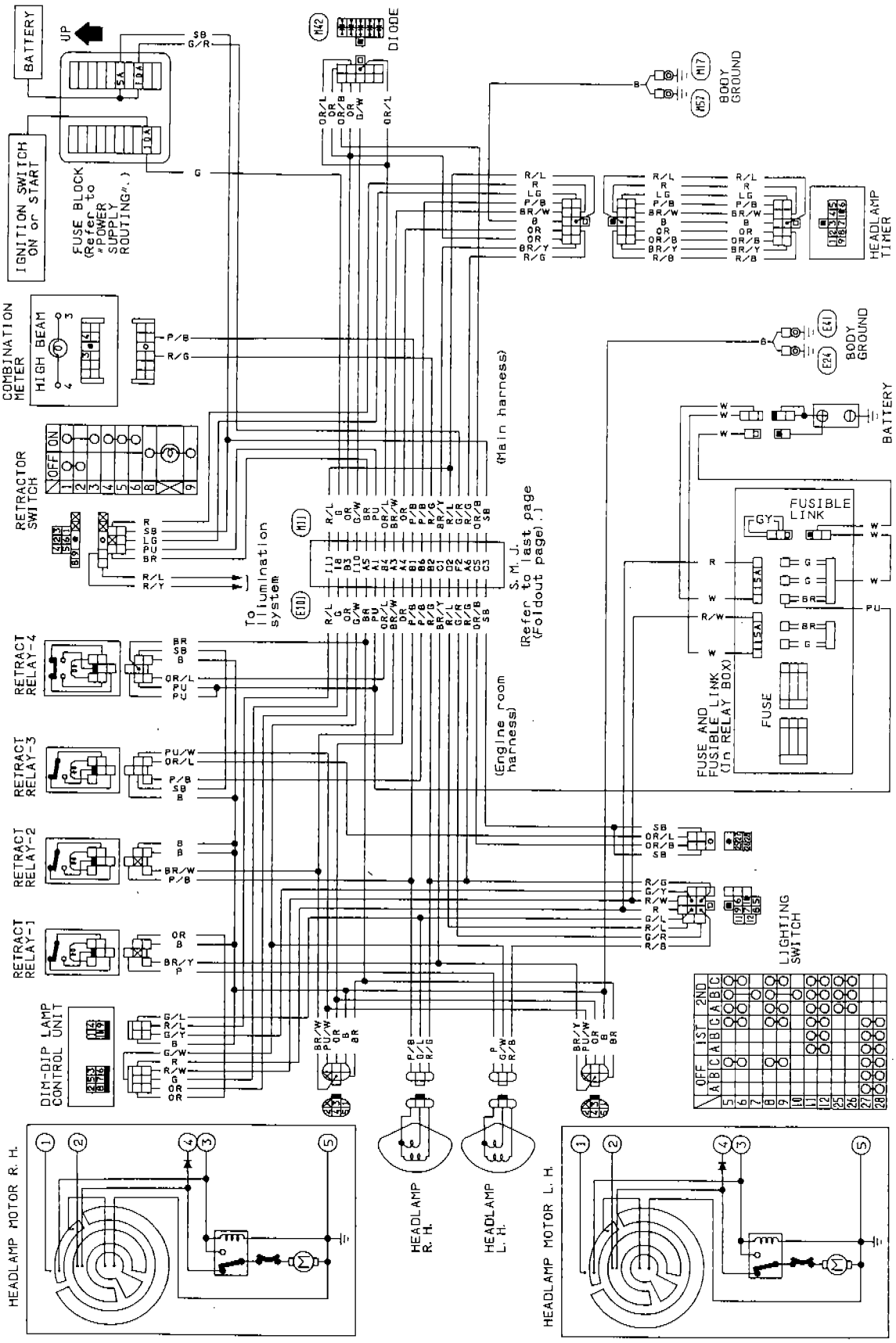
L.H. DRIVE MODEL FOR EUROPE



SEL771L

Wiring Diagram (Cont'd)

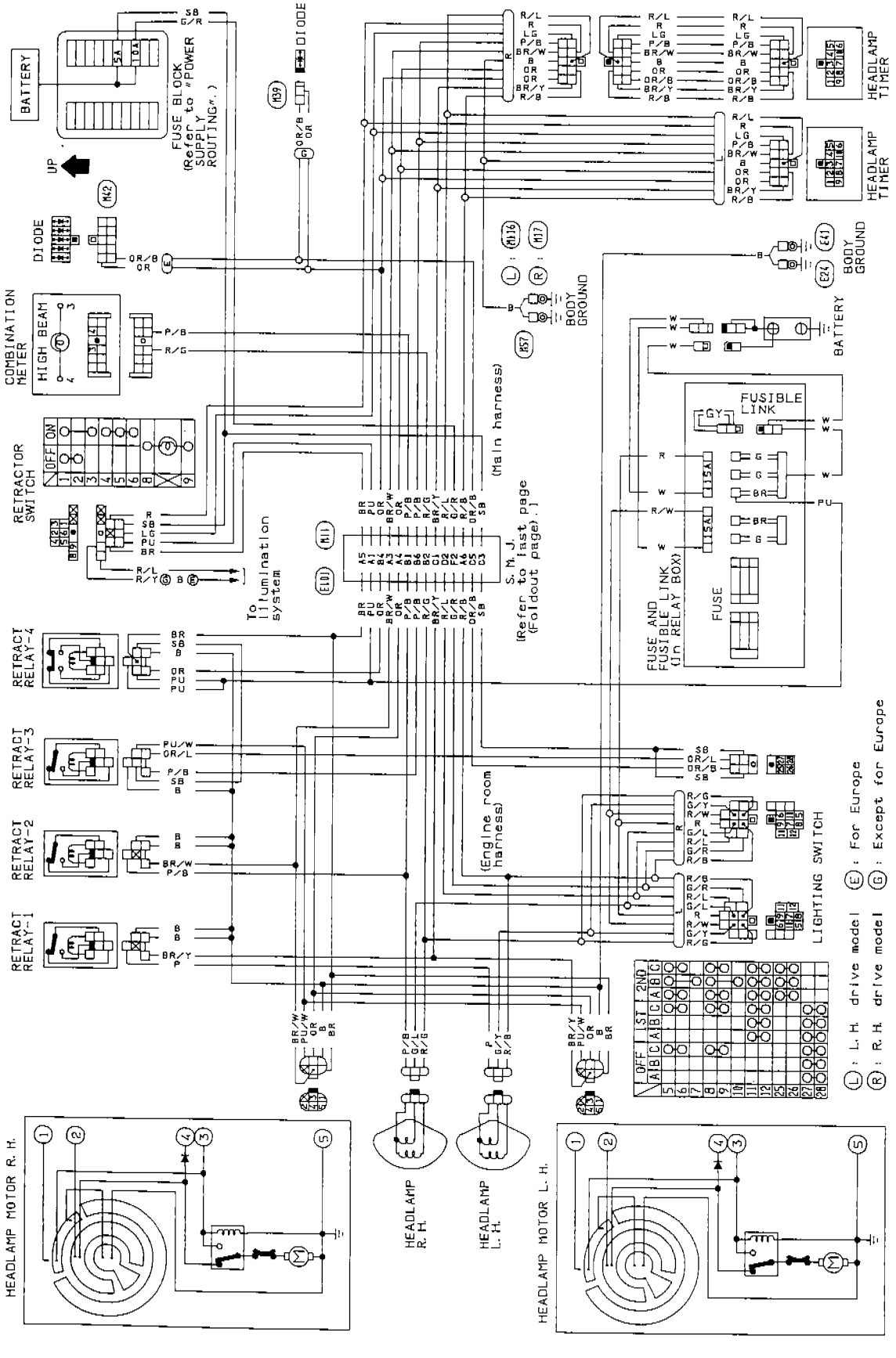
MODEL WITH DIM-DIP LAMP SYSTEM



SEL772L

Wiring Diagram (Cont'd)

L.H. DRIVE MODEL EXCEPT FOR EUROPE AND R.H. DRIVE MODEL WITHOUT DIM-DIP LAMP SYSTEM



SEL811L

Description

BASIC OPERATION

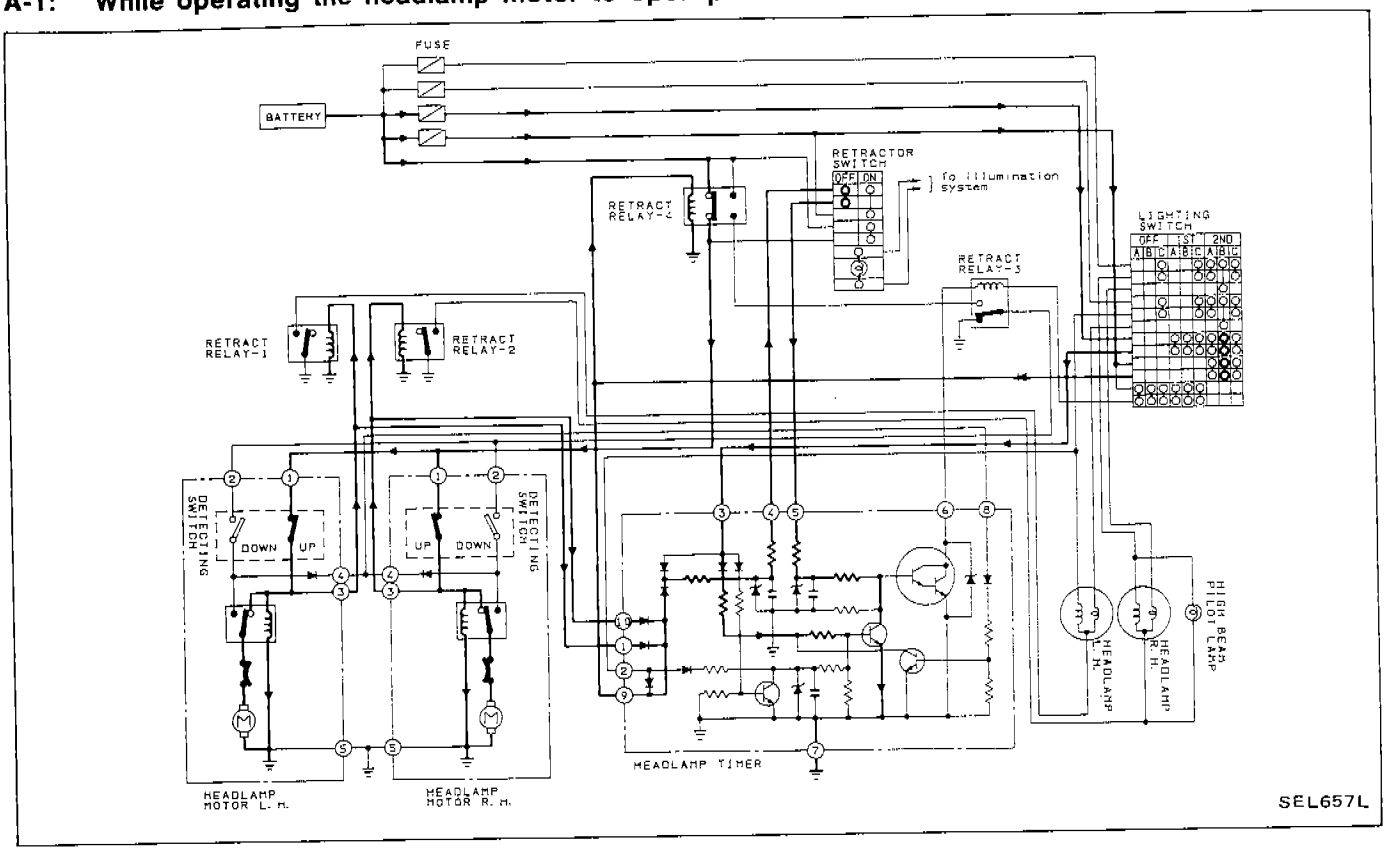
Condition		Operation	
Lighting switch	Retractor switch	Headlamp motor	Headlamps
OFF → 1ST	OFF	No operation	OFF
1ST → 2ND	OFF	Open	ON after headlamp motor reaches fully open position.
2ND → 1ST	OFF	Held to open position	OFF
1ST → OFF	OFF	Closed	OFF
Except for Europe model Momentarily turned to PASSING	OFF	Opened and closed after headlamps go off.	Momentarily ON after headlamp motor reaches fully open position, and then go off.
For Europe model Momentarily turned to PASSING	OFF	Opened and closed	OFF
Held at PASSING position	OFF	Open	ON after headlamp motor reaches fully open position.
Release PASSING position	OFF	Closed after headlamps go off.	OFF
OFF	ON	Open	OFF

Description (Cont'd)

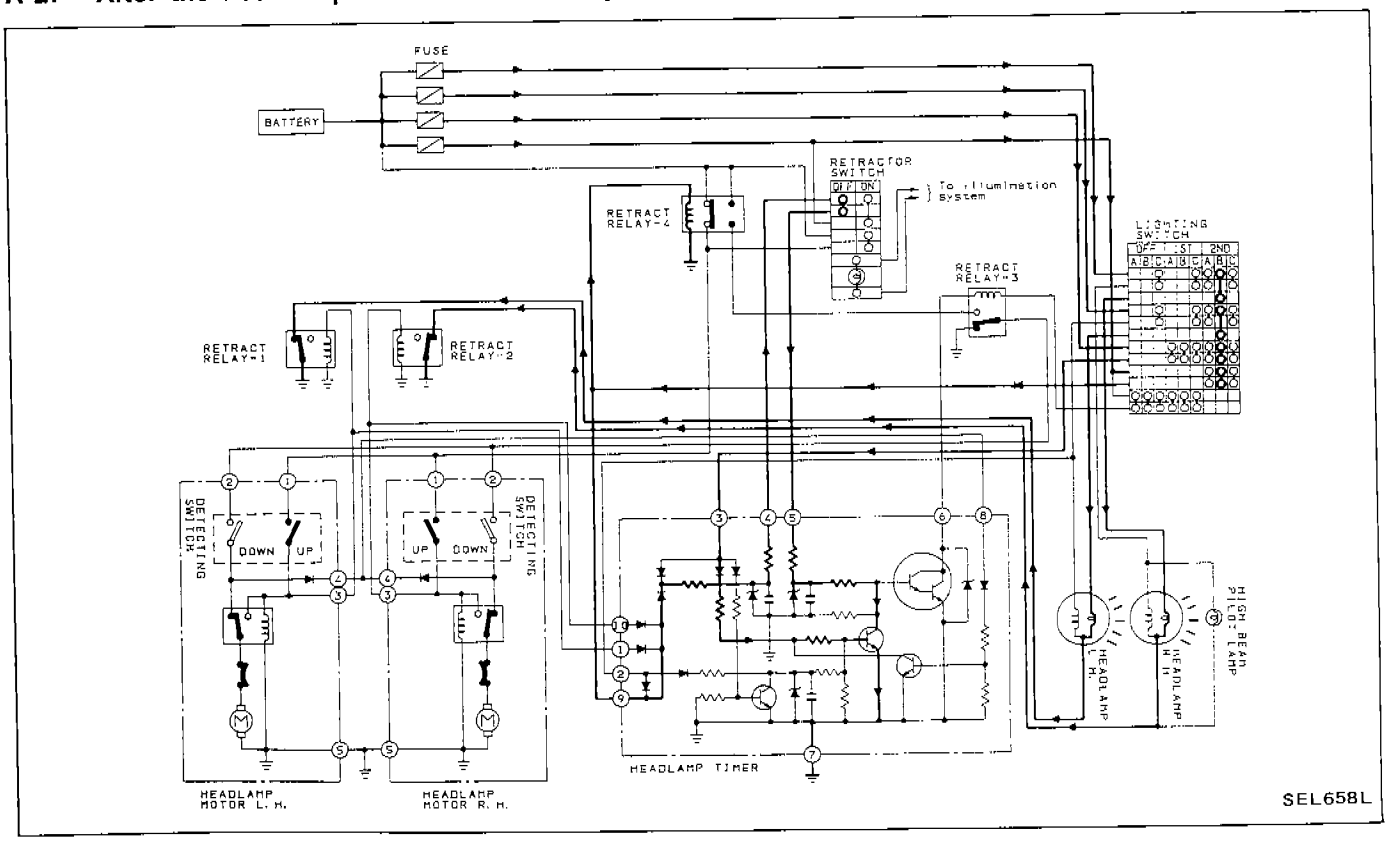
CIRCUIT OPERATION

[A] When lighting switch is switched from "1ST" → "2ND"

A-1: While operating the headlamp motor to open position

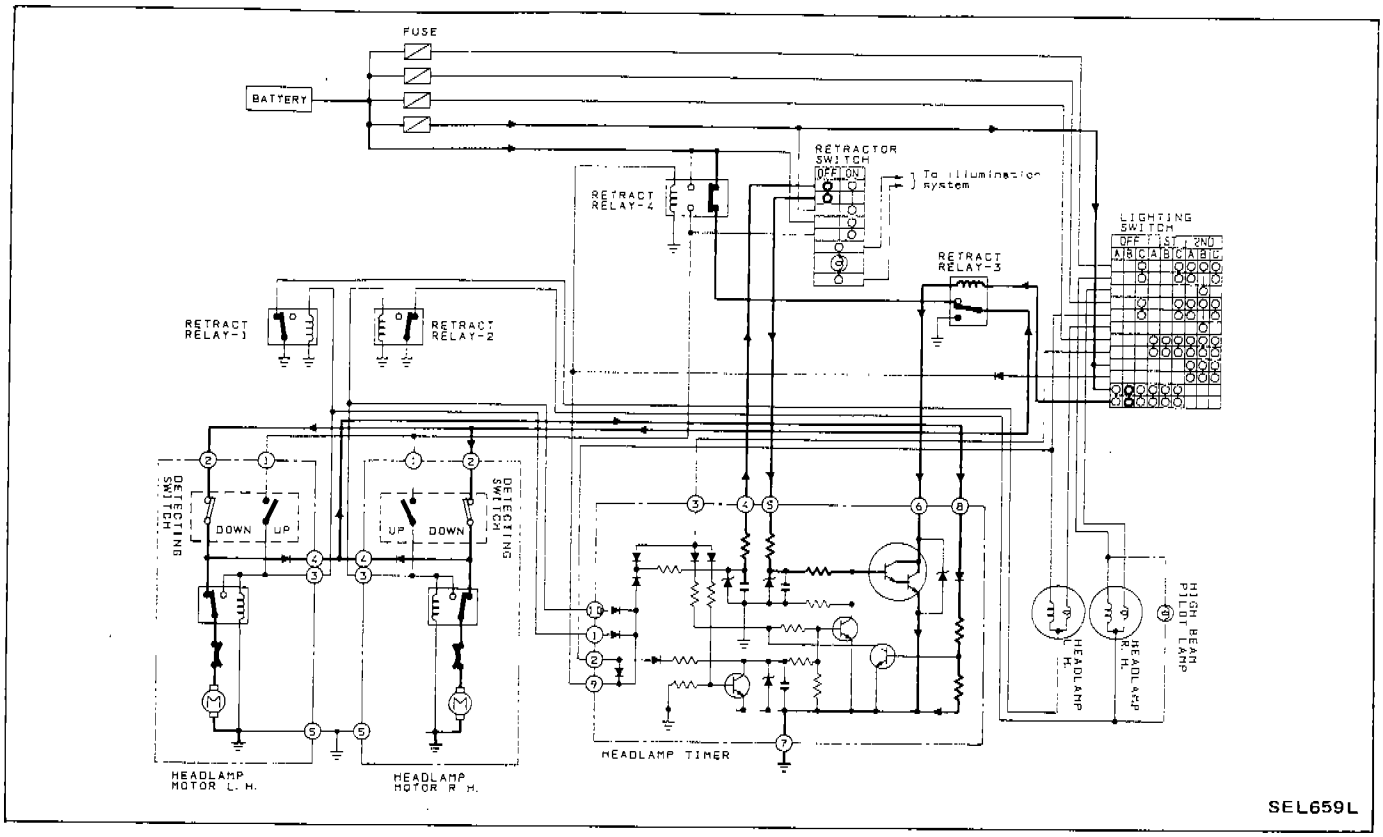


A-2: After the headlamp motor reaches fully open position

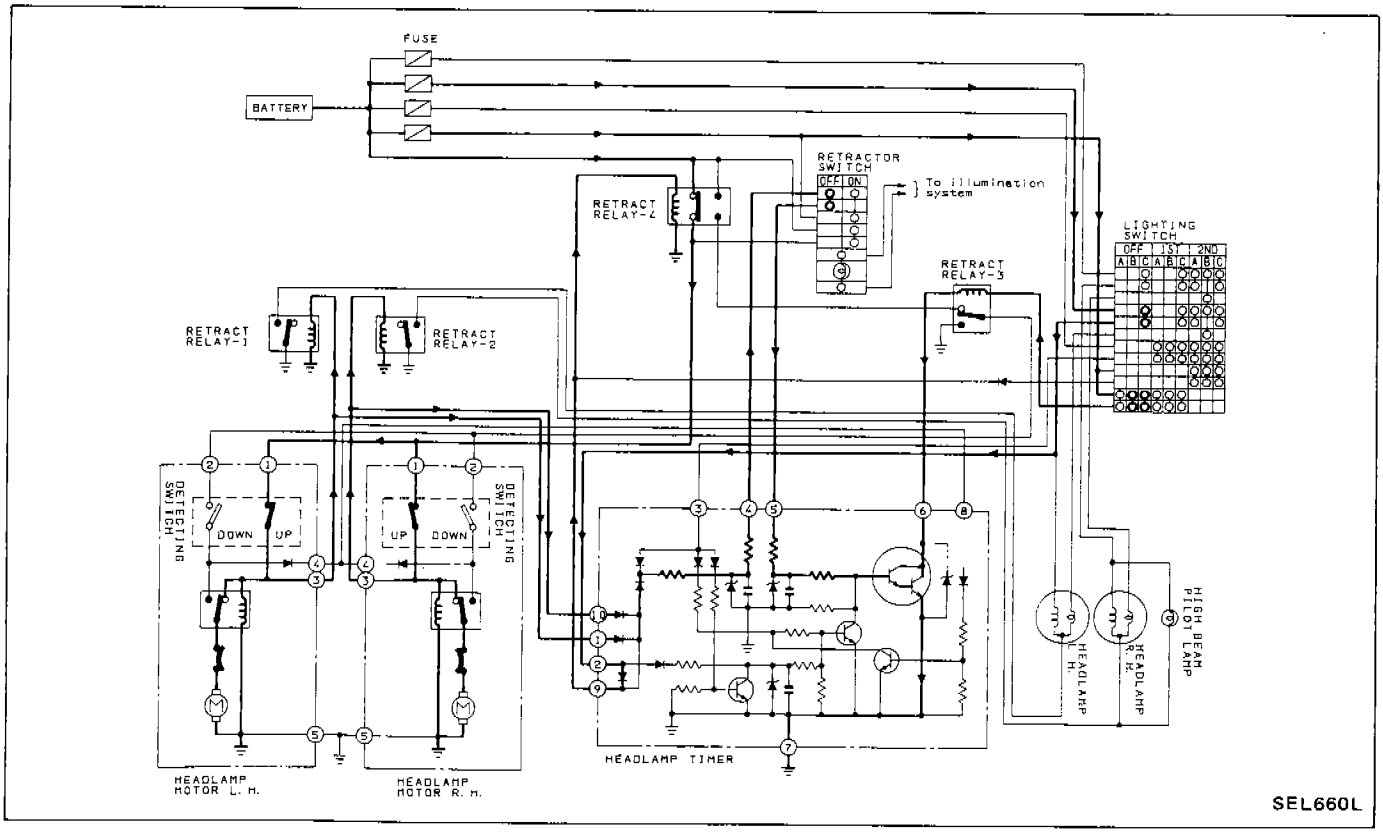


Description (Cont'd)

[B] When lighting switch is switched from "1ST" → "OFF"
(While operating the headlamp motor to closed position)

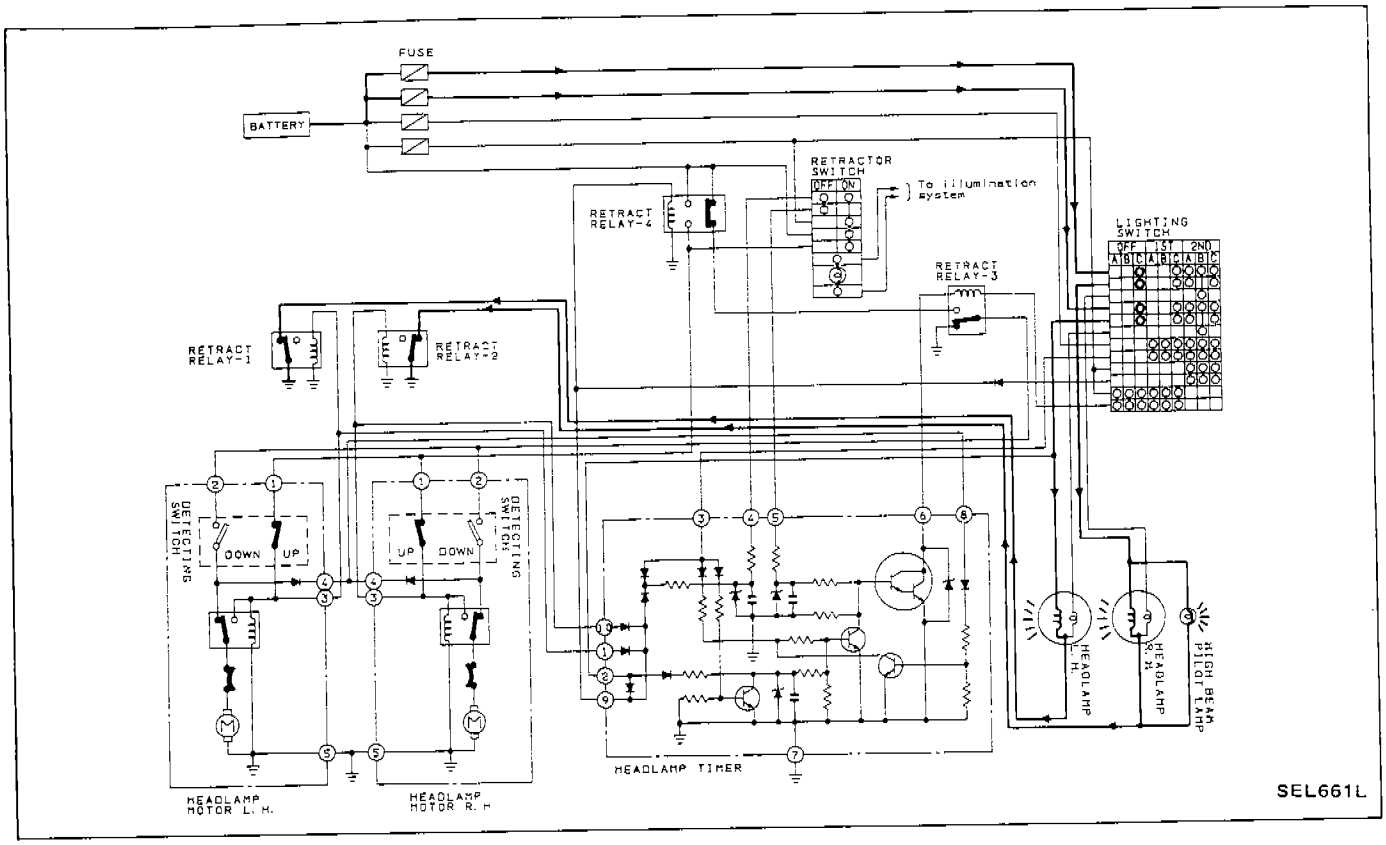


[C] When lighting switch is switched to "PASSING"
C-1: While operating the headlamp motor to open position

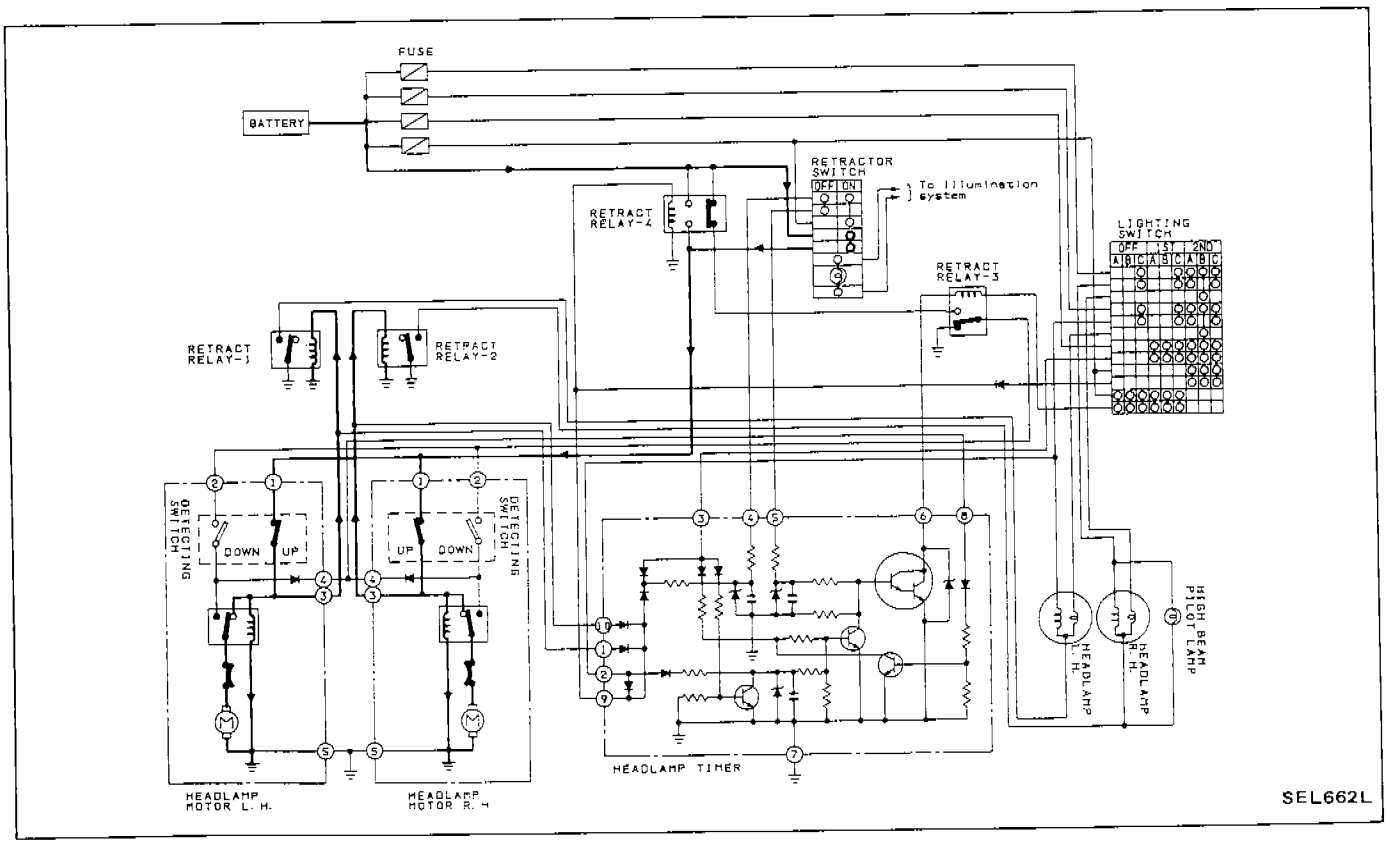


Description (Cont'd)

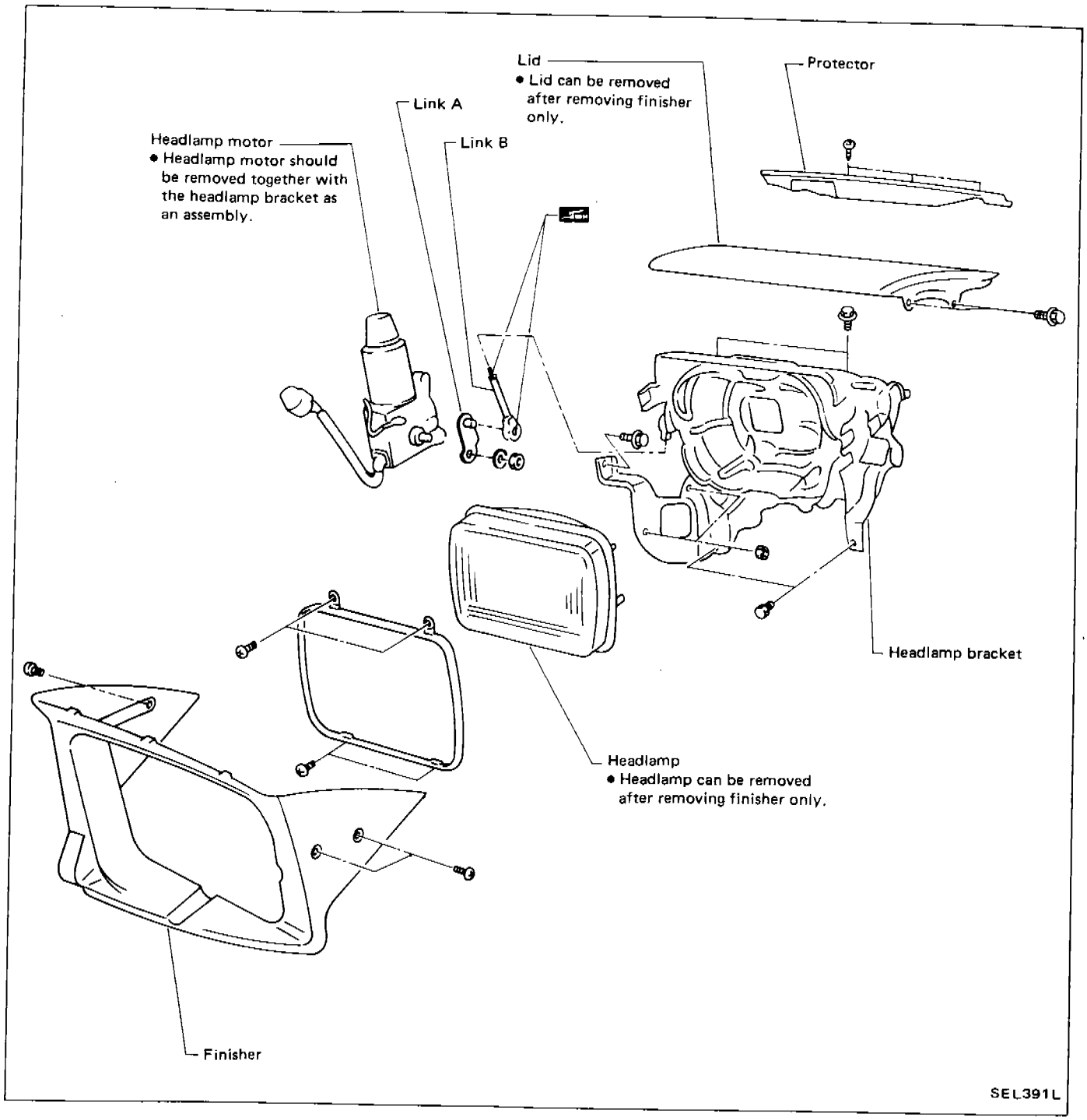
C-2: After the headlamp reaches fully open position

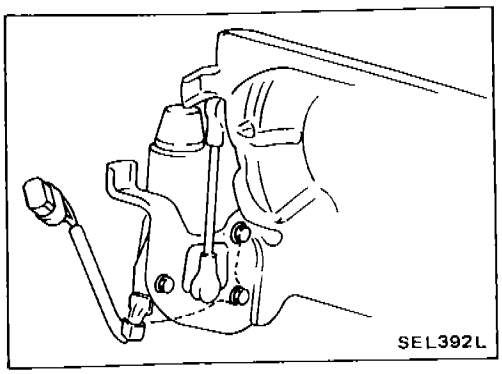


[D] When retractor switch is turned ON (While operating the headlamp motor to open position)



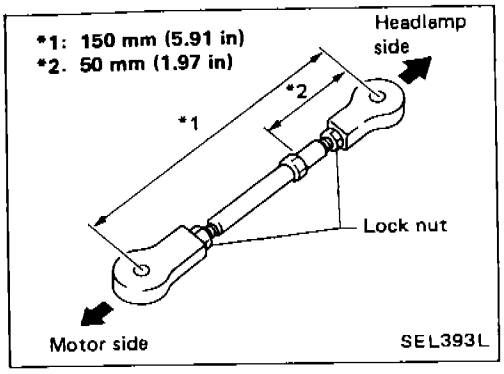
Constructions




SEL392L

Assembly

1. Install headlamp motor, ball joint and link A (as one unit) on headlamp bracket.
2. While turning link B, install link A's ball joint on headlamp housing's ball joint.
3. Set distance between centers of upper and lower ball joints as shown in figure at left, and tighten lock nuts.
4. Assemble headlamp, finisher and lid.

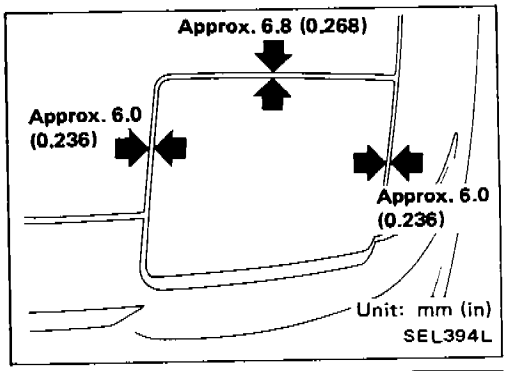


SEL393L

Installation and Adjustment

Before doing this, be sure to disconnect battery ground cable.

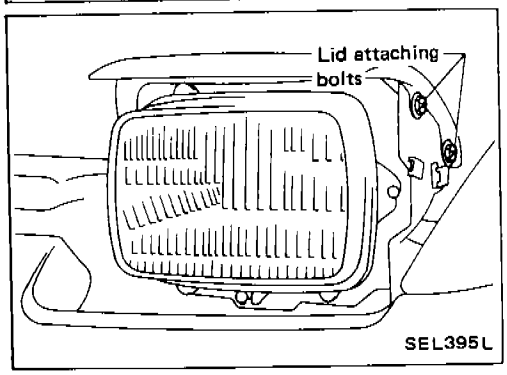
1. Install headlamp bracket to body temporarily.
1) Determine headlamp bracket location on body so that alignment between lid, hood, and fender looks straight.
2) After adjusting alignment, tighten headlamp bracket to body.



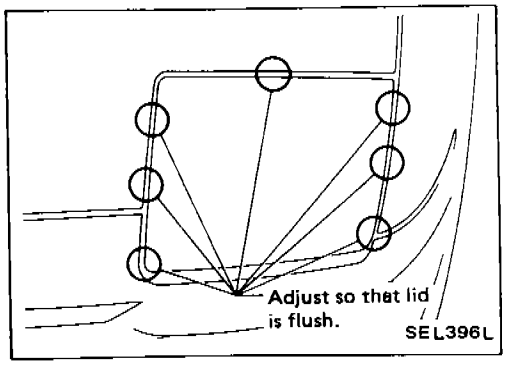
SEL394L

2. Adjust lid alignment.

- Adjust lid, hood and fender for alignment while opening and closing headlamp with motor manual knob.
  Use motor manual knob to open and close headlamp, and adjust alignment while checking that lid is not interfering with hood.

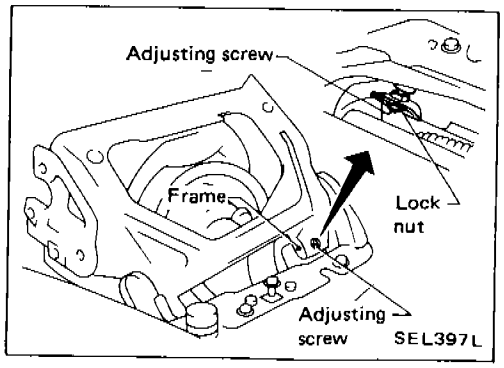


SEL395L

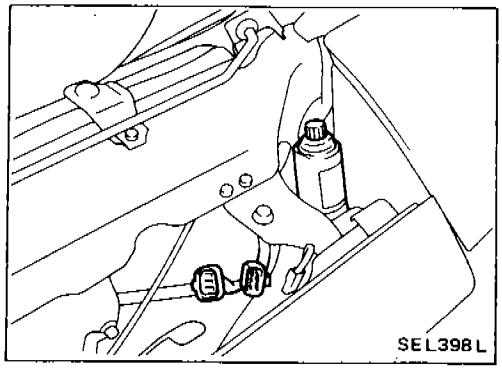


SEL396L

Installation and Adjustment (Cont'd)

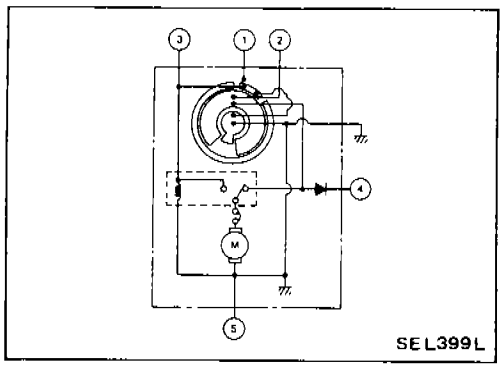


3. Adjust stopper.
1) Loosen lock nut on stopper.
2) Turn motor manual knob to open headlamp assembly completely.
3) Adjust stopper screw.



Headlamp Motor Check

1. Disconnect battery ground cable.
2. Disconnect the headlamp motor connector.
3. Use an ohmmeter to check for continuity in headlamp motor circuit while rotating motor with manual knob.

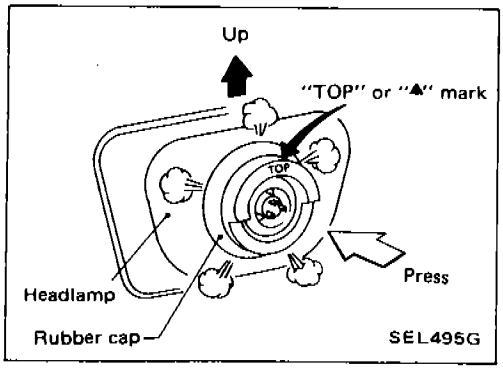


Link A position	Ohmmeter probe		Continuity
	(+)	(−)	
"CLOSE"	①	⑤	YES
	②	⑤	NO
	①	③	NO
	③	①	YES
"OPEN"	①	⑤	NO
	②	⑤	YES
	②	④	NO
	④	②	YES

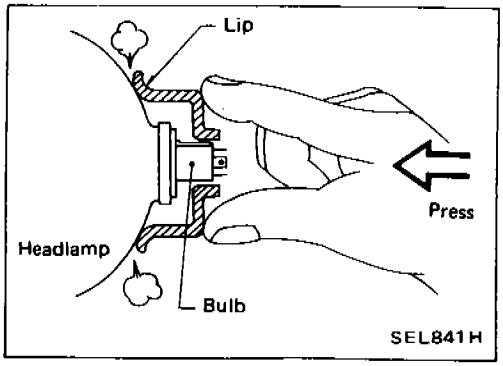
Bulb Replacement

INSTALLING HEADLAMP RUBBER CAP

When installing the rubber cap, set the "TOP" or "▲" mark so that it is facing up.



Press the rubber cap firmly so that the lip makes contact with the headlamp body.



Aiming Adjustment

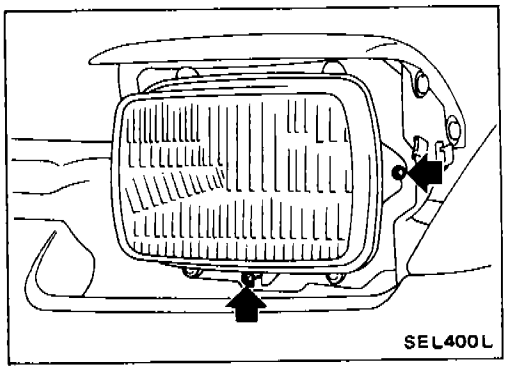
When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. For operating instructions of any aimer, it should be in good repair, calibrated and used according to respective operation manuals supplied with the unit.

If any aimer is not available, aiming adjustment can be done as follows:

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

CAUTION:

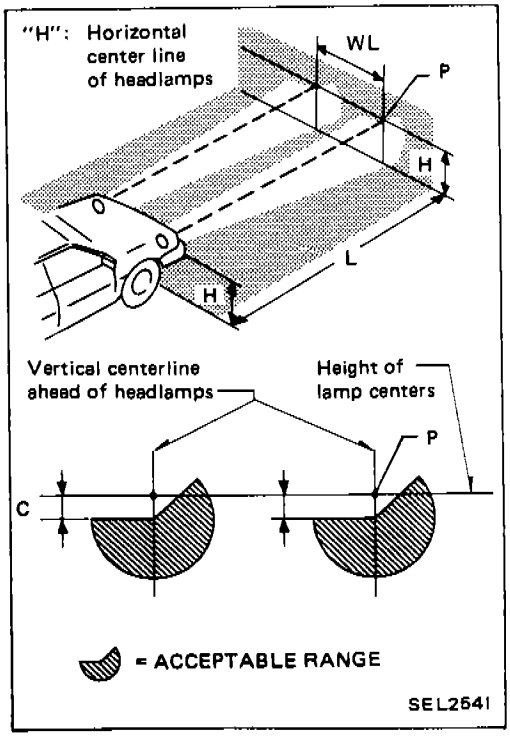
a. **Keep all tires inflated to correct pressures.**
b. **Place vehicle and tester on one and same flat surface.**
c. **See that there is no-load in vehicle (coolant, engine oil filled up to correct level and full fuel tank) other than the driver (or equivalent weight placed in driver's position).**



LOW BEAM

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.**

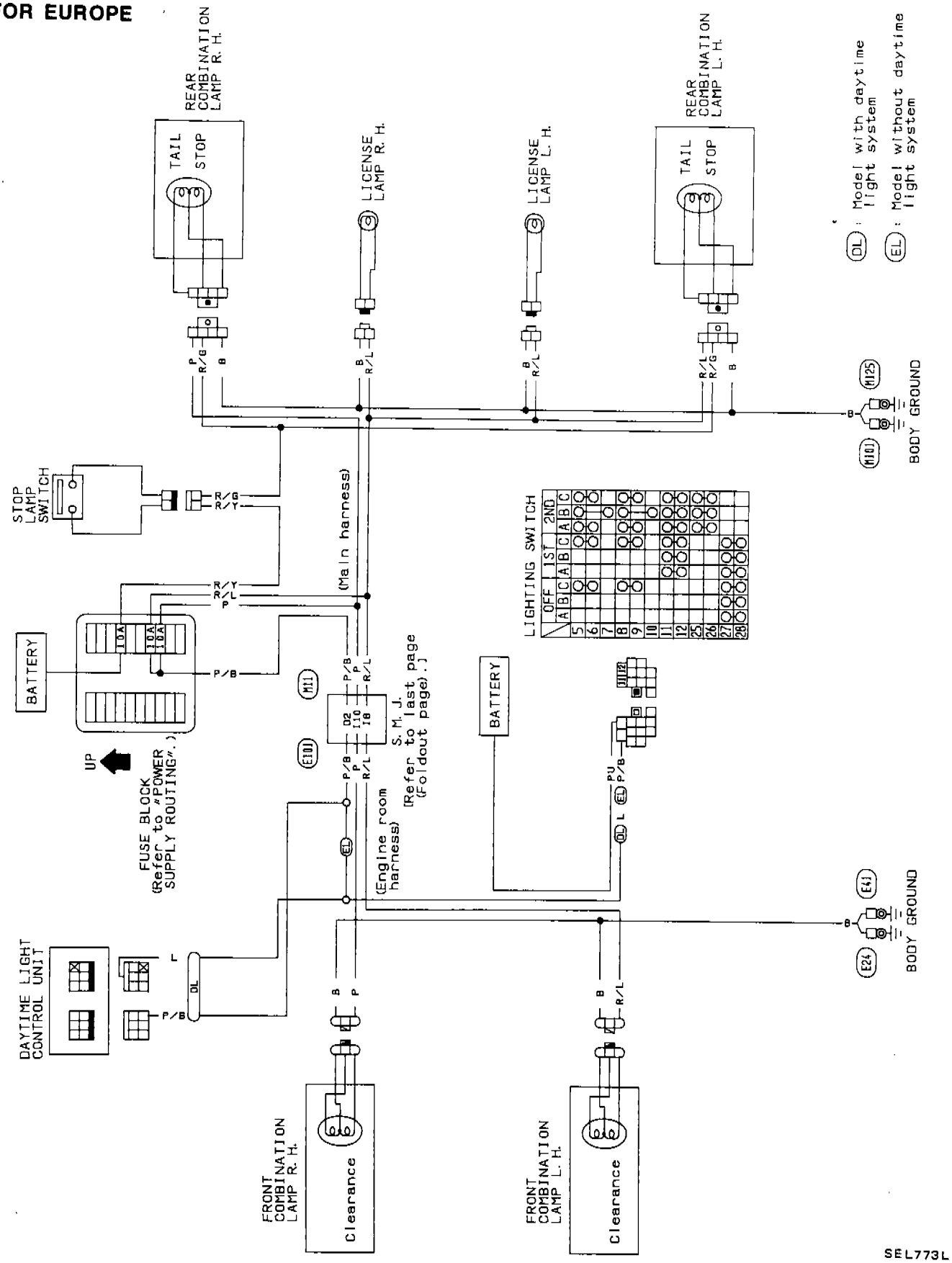


a. **Adjust headlamps so that main axis of light is parallel to center line of body and is aligned with point P shown in illustration.**
b. **Figure to the left shows headlamp aiming pattern for driving on right side of road; for driving on left side of road, aiming pattern is reversed.**
c. **Dotted lines in illustration show center of headlamp.**

"H": Horizontal center line of headlamps
"WL": Distance between each headlamp center
"L": 5,000 mm (196.85 in)
"C": 50 mm (1.97 in)

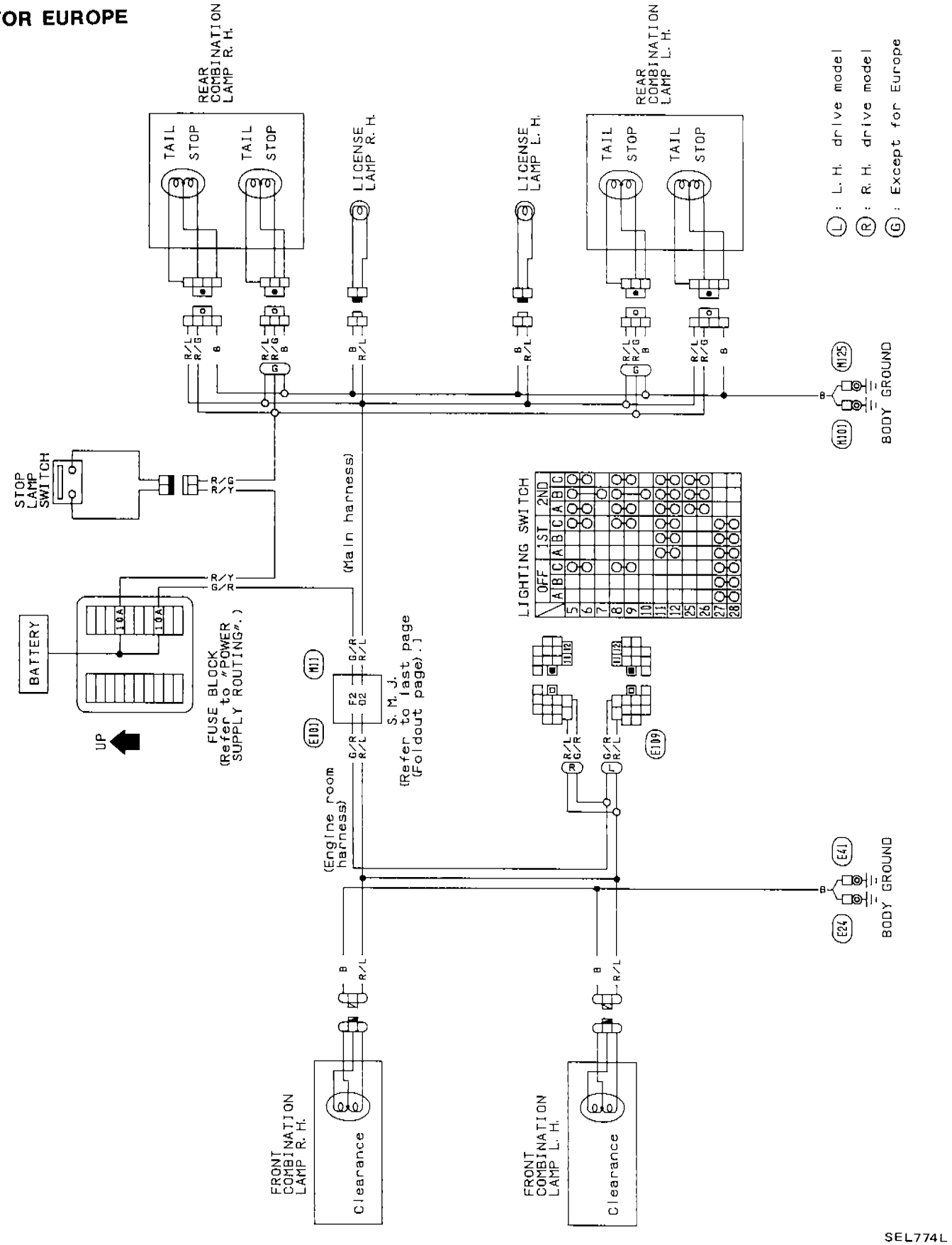
Clearance, License, Tail and Stop Lamps/Wiring Diagram

L.H. DRIVE MODEL
FOR EUROPE



Clearance, License, Tail and Stop Lamps/Wiring Diagram (Cont'd)

EXCEPT L.H. DRIVE MODEL
FOR EUROPE



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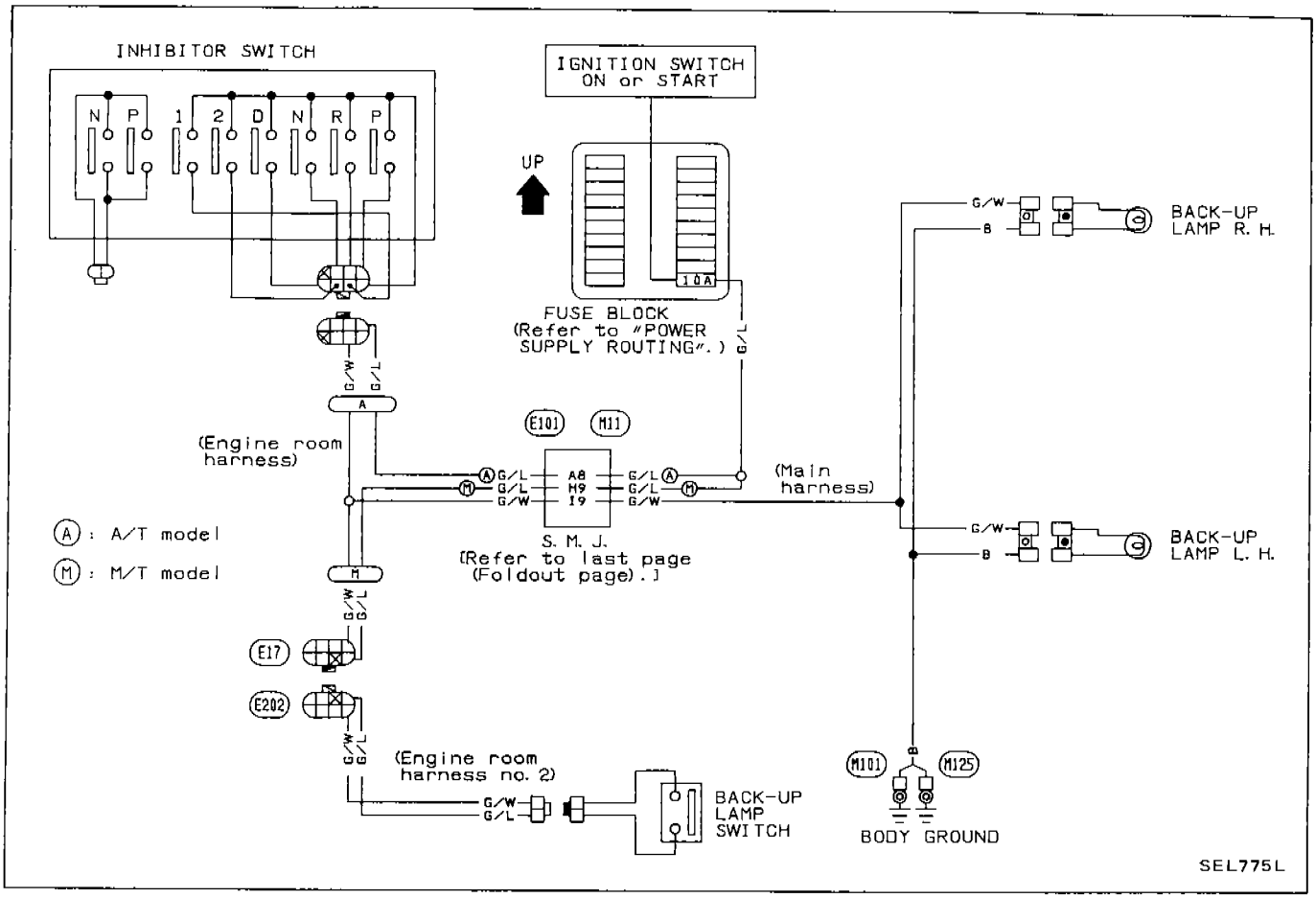
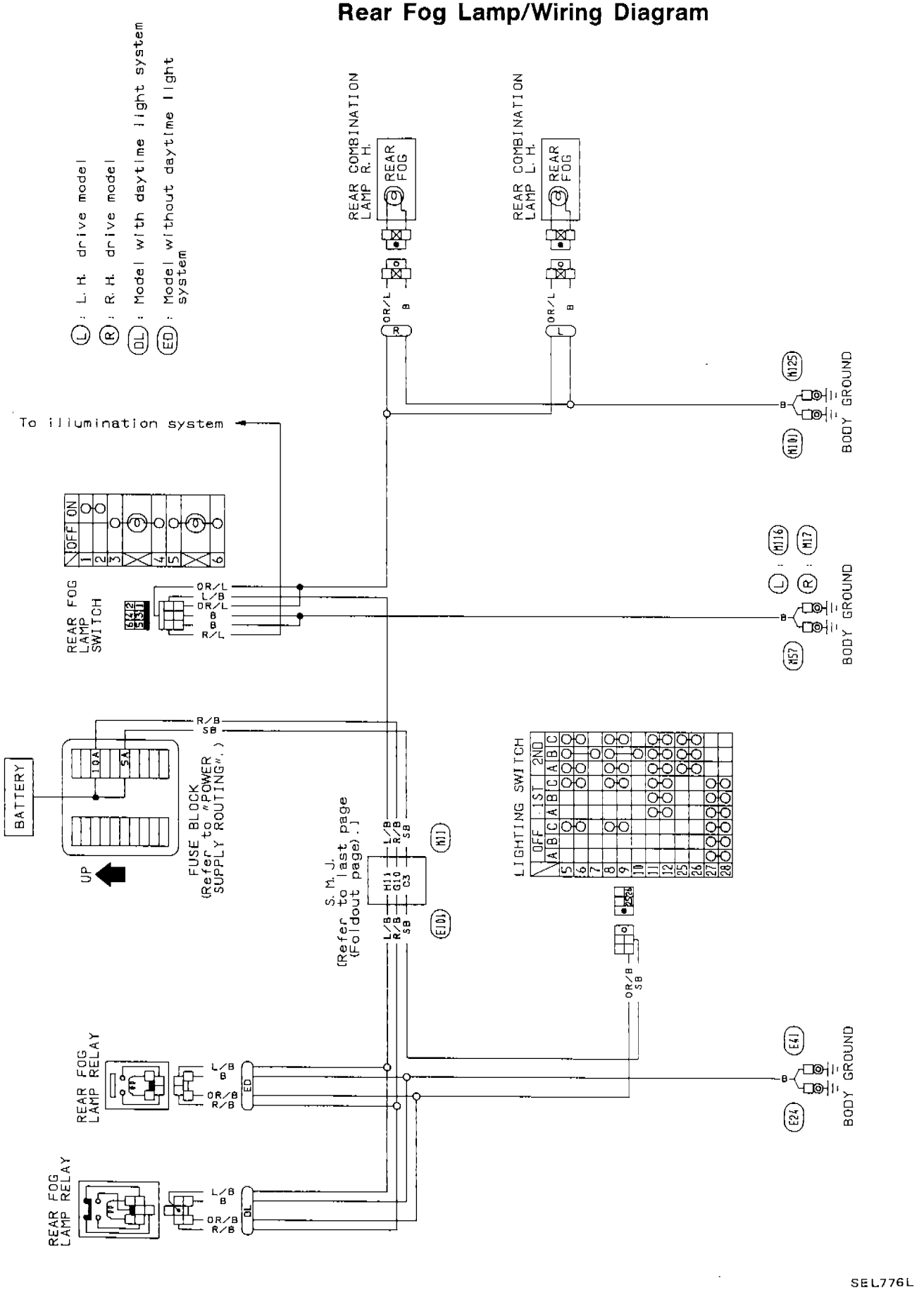
Back-up Lamp/Wiring Diagram

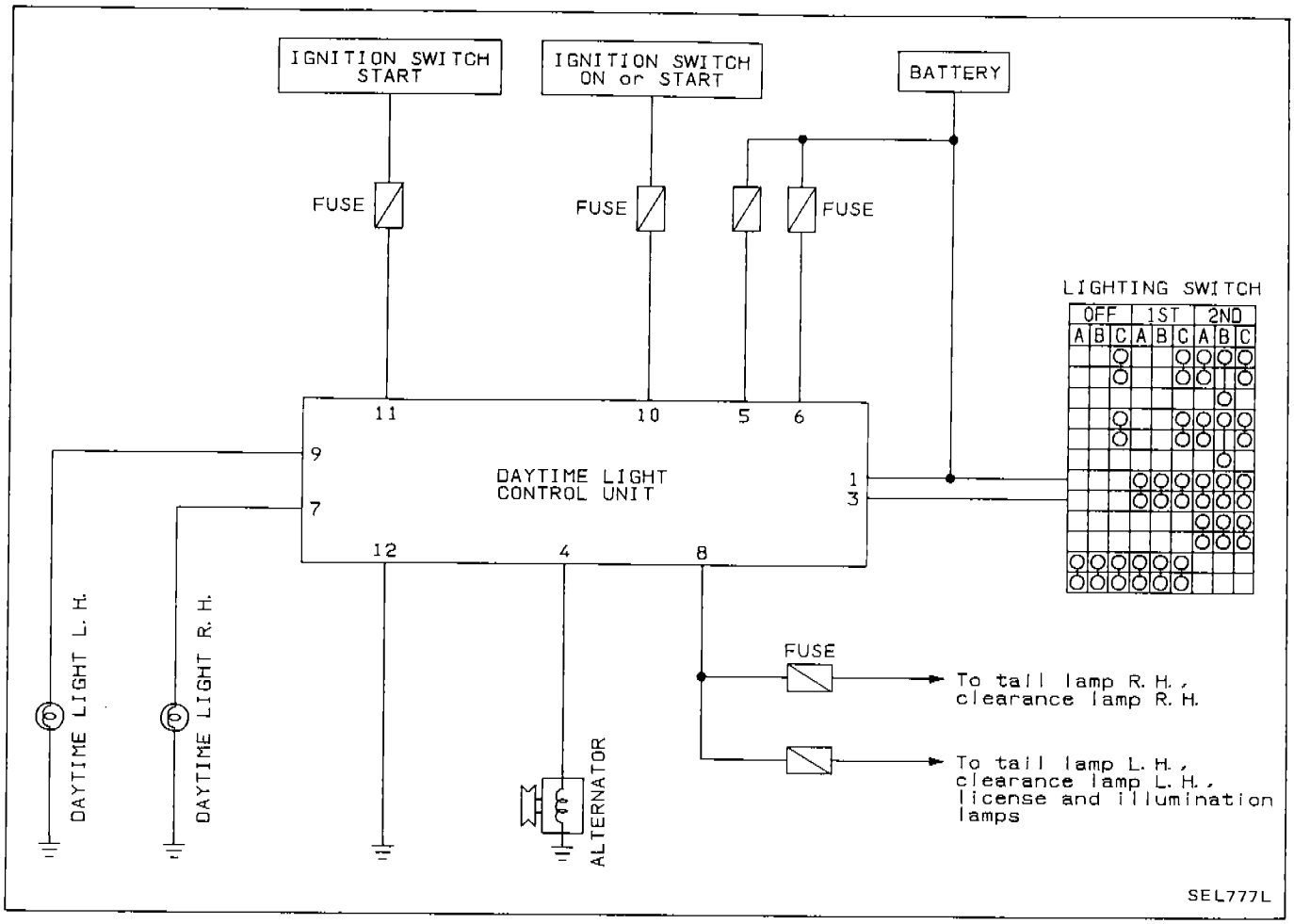


Rear Fog Lamp/Wiring Diagram

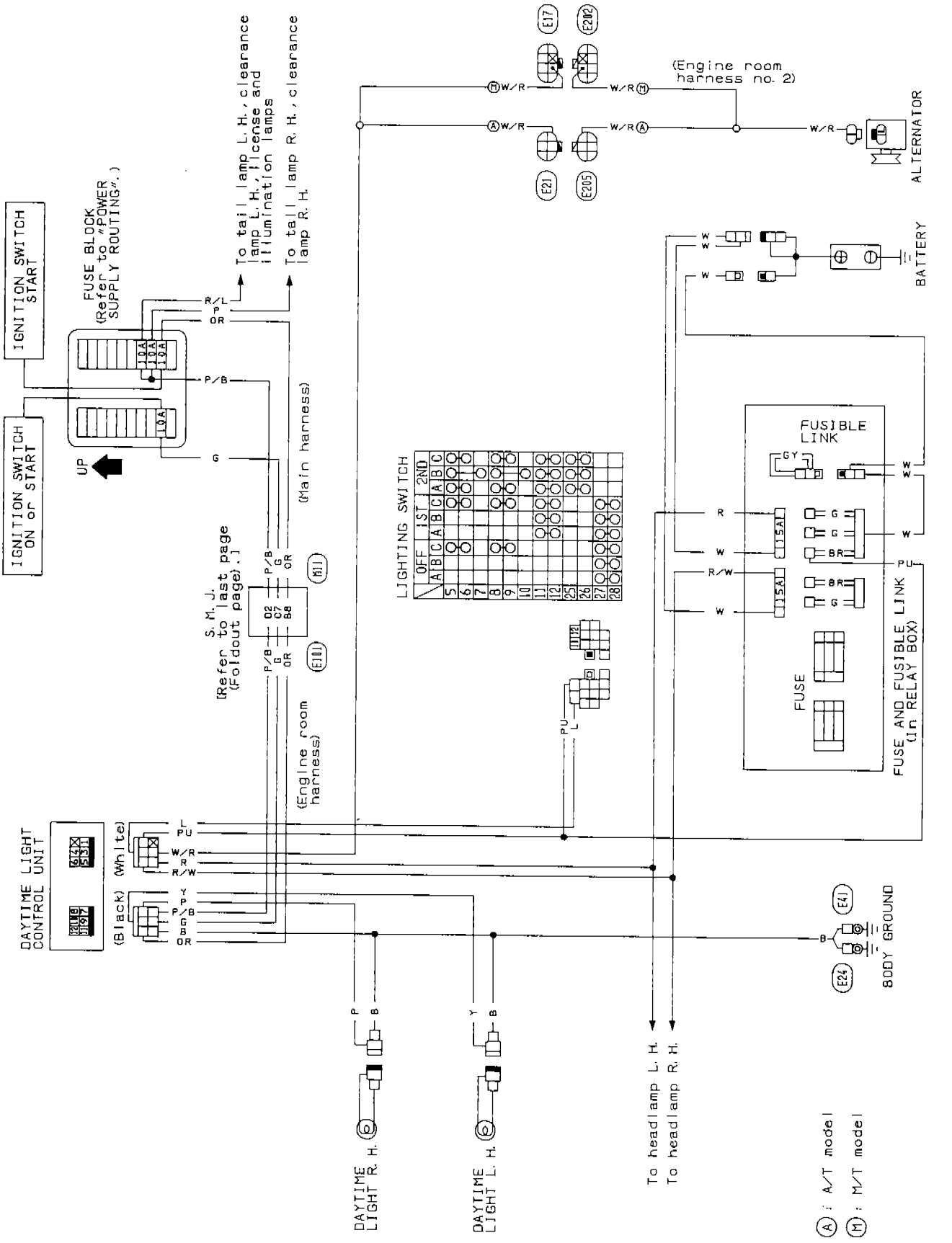


SEL776L

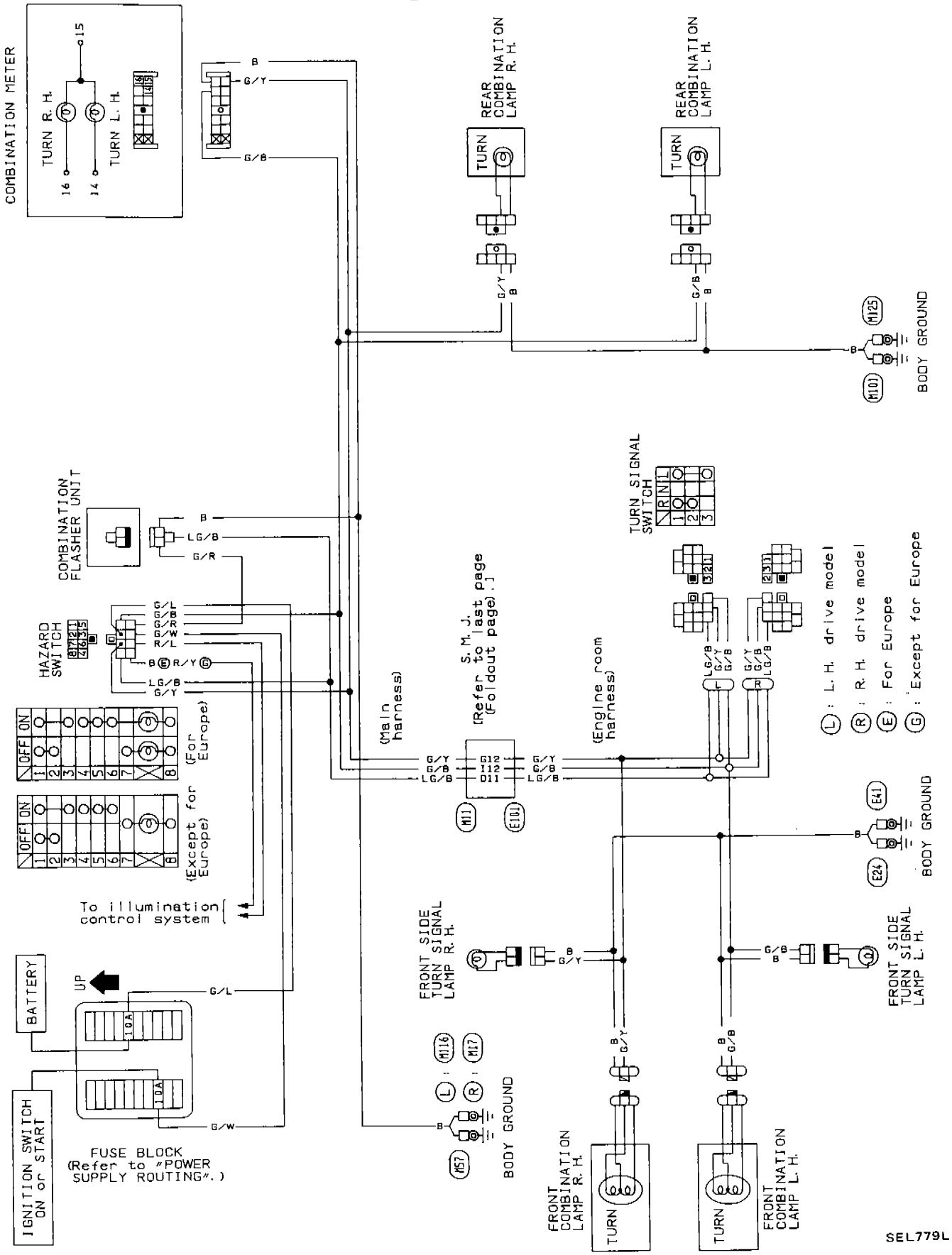
Daytime Light/Schematic

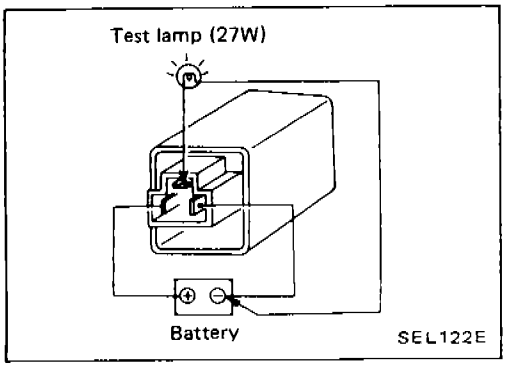


Daytime Light/Wiring Diagram



Turn Signal and Hazard Warning Lamps/Wiring Diagram





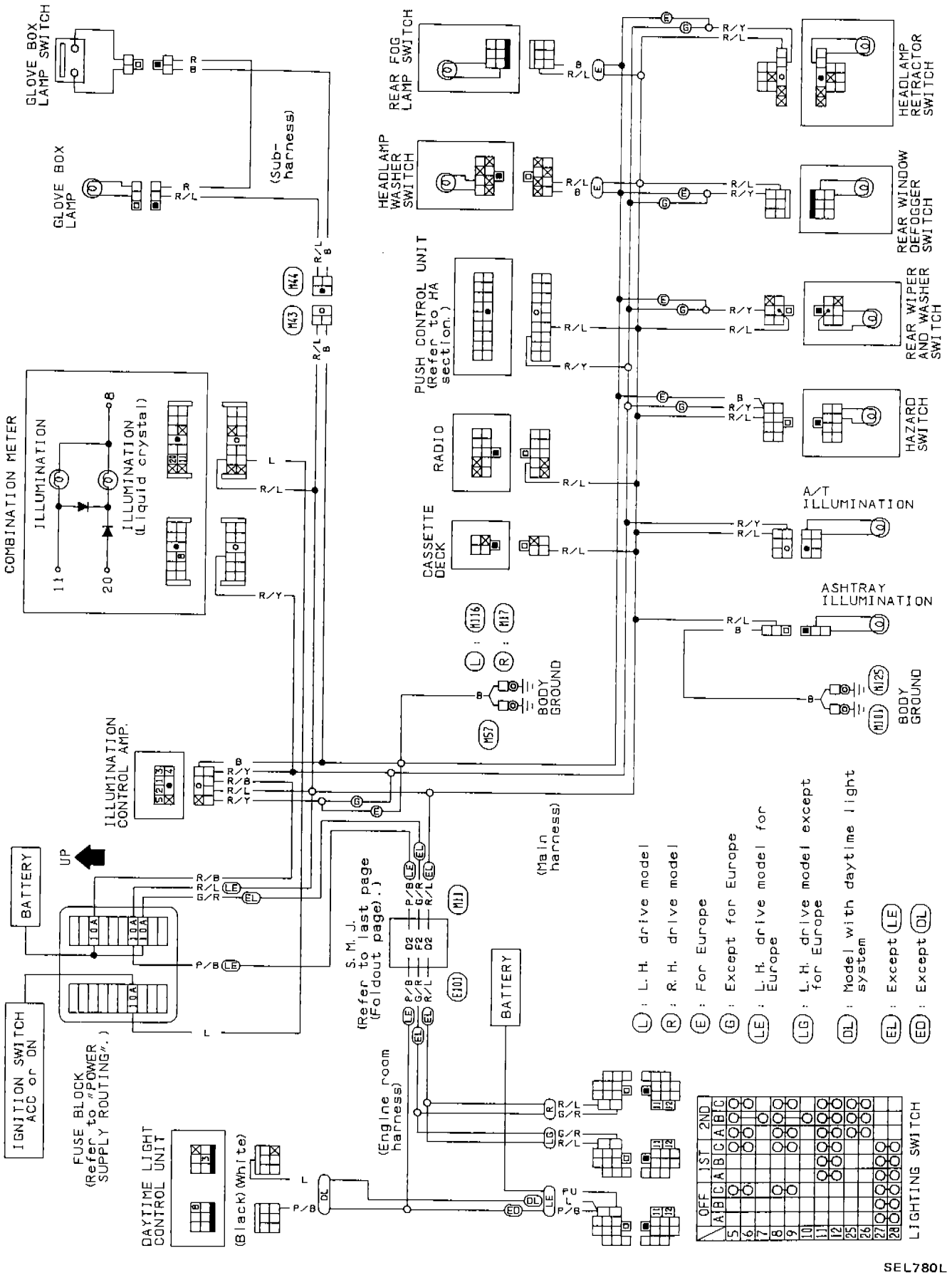
Combination Flasher Unit Check

- 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.

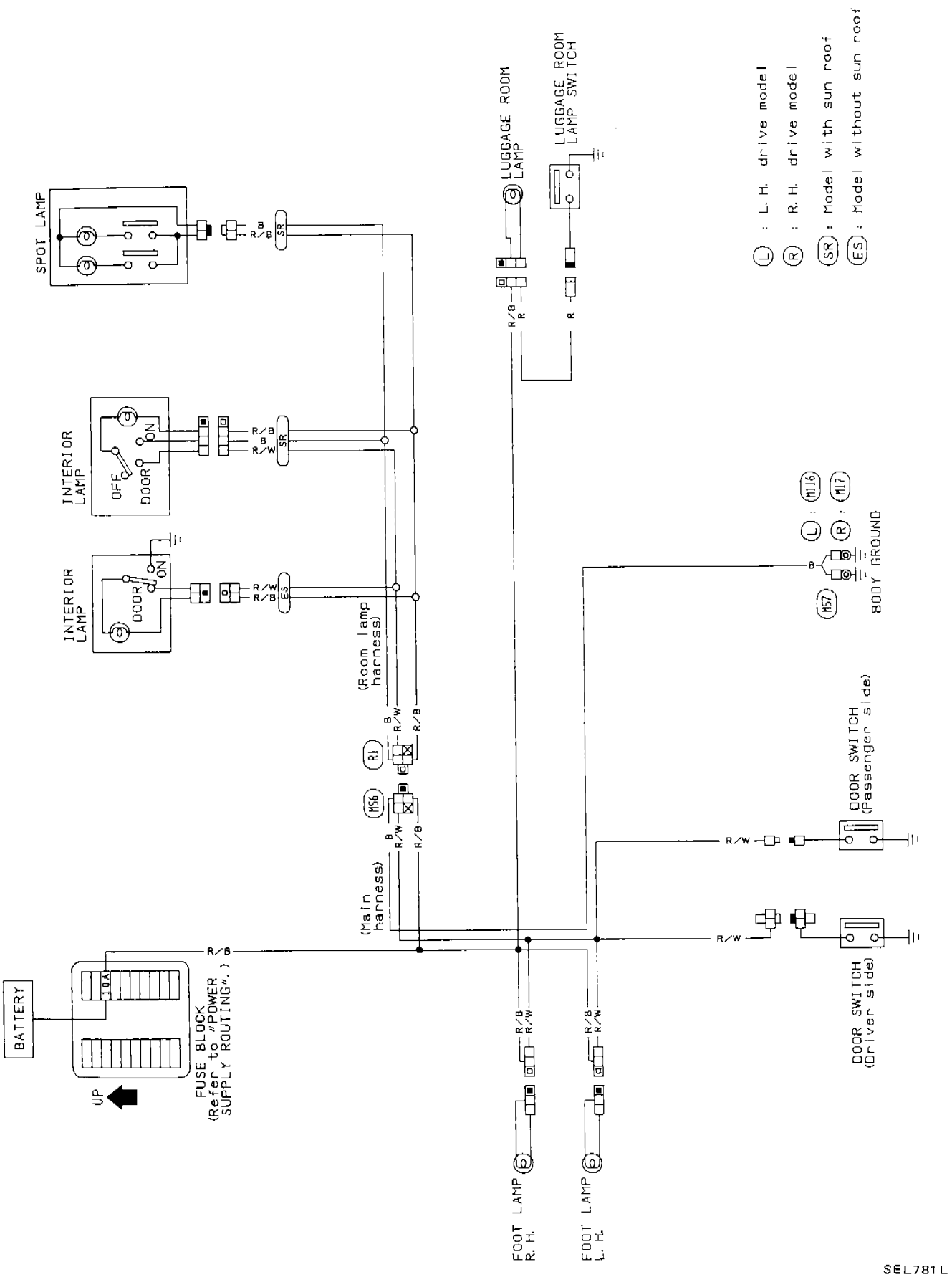
Bulb Specifications

Item	Wattage (W)
Headlamp	60/55
Front combination lamp	
Turn signal/clearance lamp	21/5
Daytime running lamp	27
Side turn signal lamp	5
Rear combination lamp	
Stop/Tail	21/5
Turn signal	21
Rear fog	21
Back-up lamp	21
License plate lamp	5
Interior lamp	10
Spot lamp	8
Luggage compartment lamp	5

Illumination/Wiring Diagram

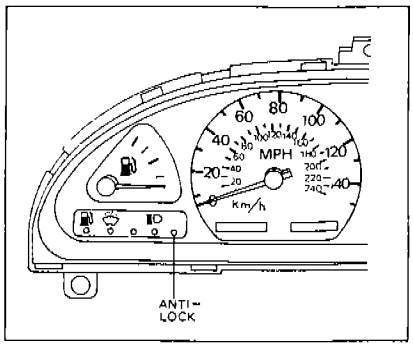


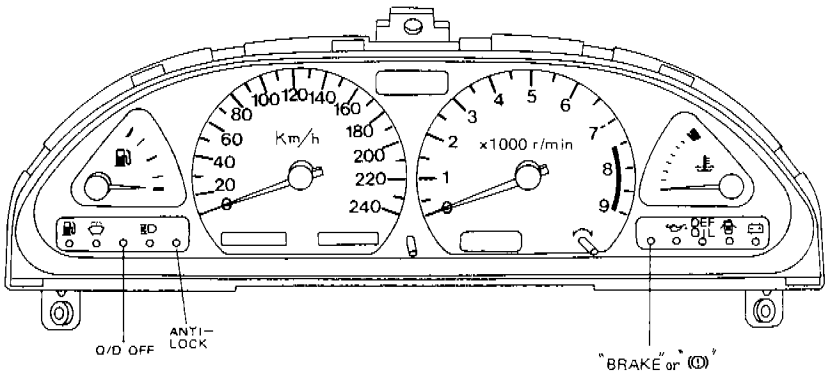
Interior Lamp/Wiring Diagram

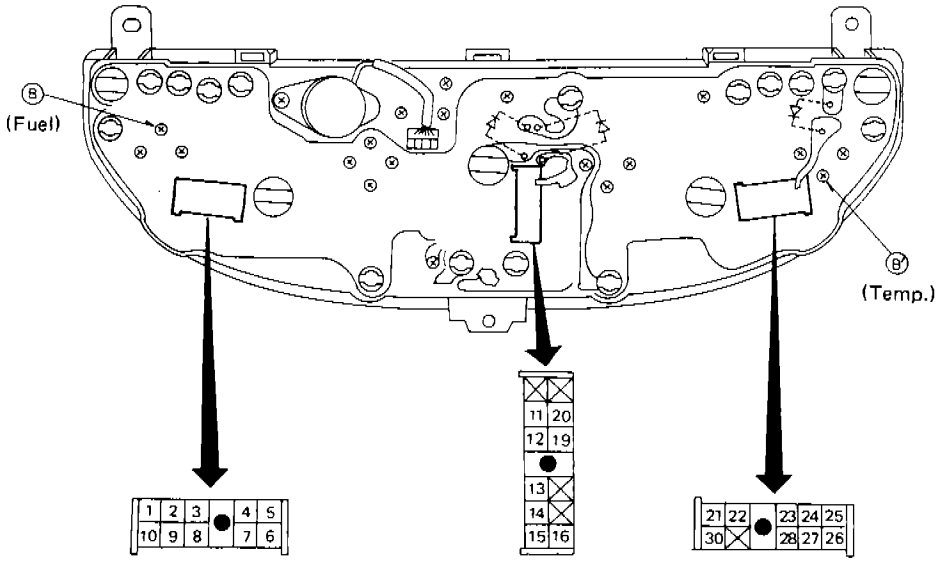


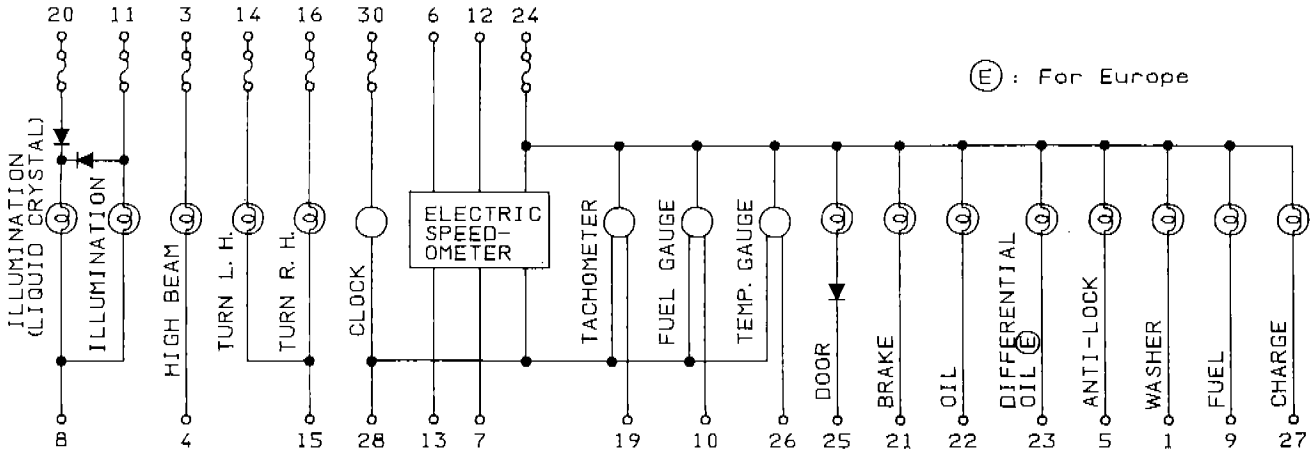
SEL781L

Combination Meter



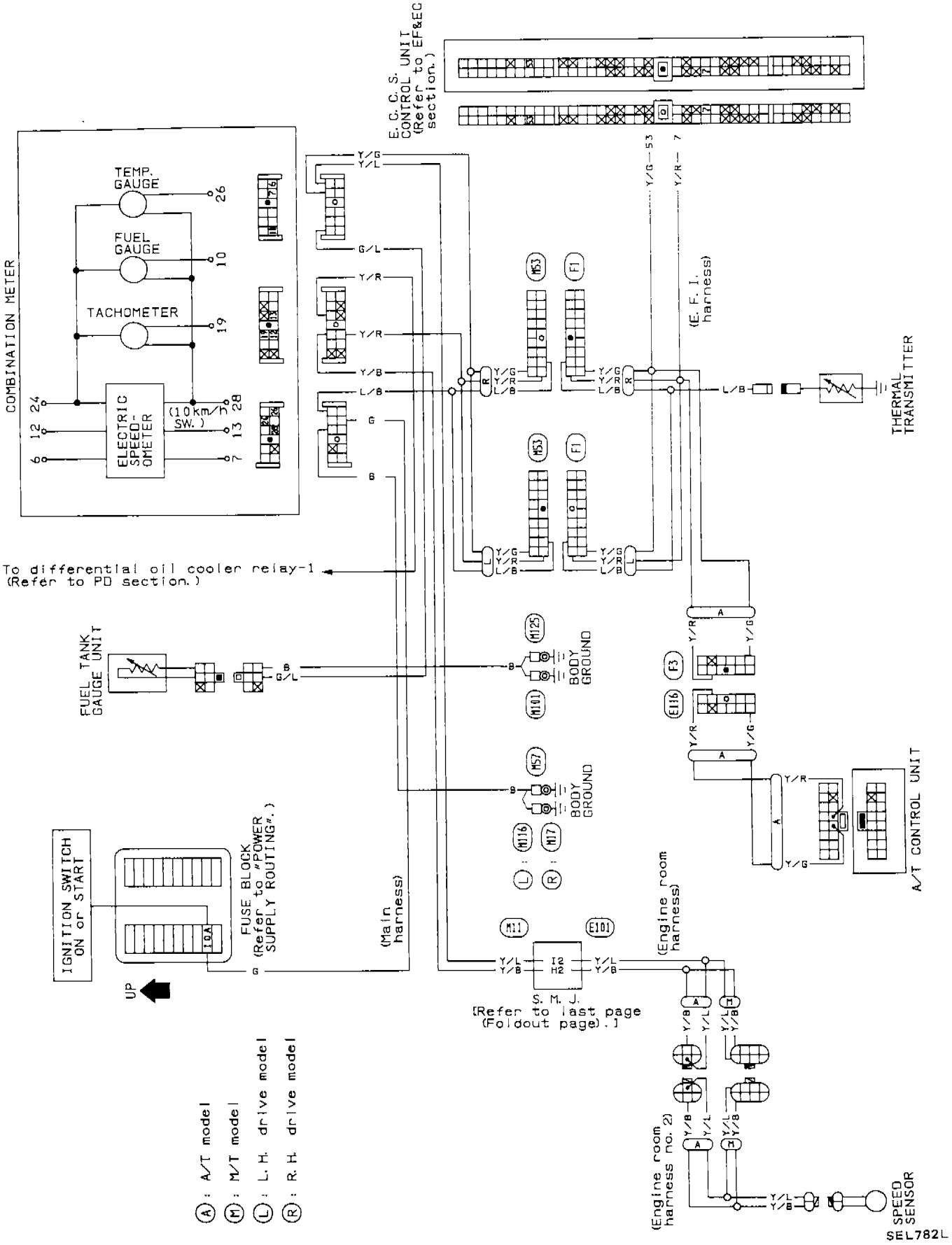


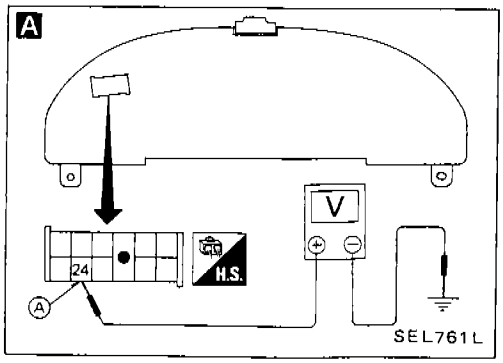


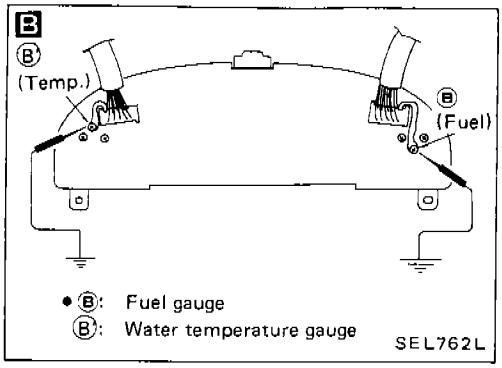


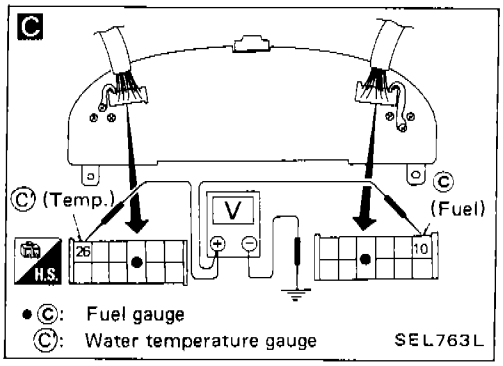
SEL698L

Tachometer, Temp. and Fuel Gauges/Wiring Diagram









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.

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

O.K.

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.

N.G. → Repair or replace gauge.

O.K.

C

Check harness continuity between component and combination meters Ⓒ (Fuel), Ⓒ (Temp.).

N.G. → Repair or replace.

O.K.

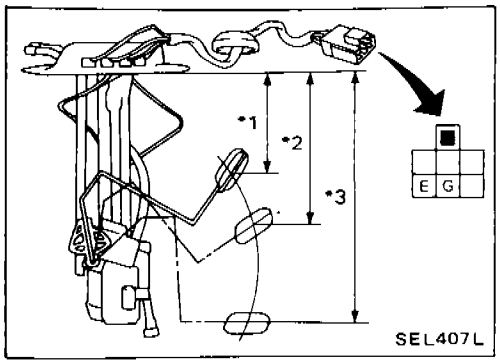
CHECK COMPONENT.
Check gauge units and harness.
Refer to "Fuel Tank Gauge Unit Check" or "Thermal Transmitter Check".

N.G. → Repair or replace.
Refer to FE section. (Fuel gauge)

O.K.

Reinstall any part removed.

INSPECTION END

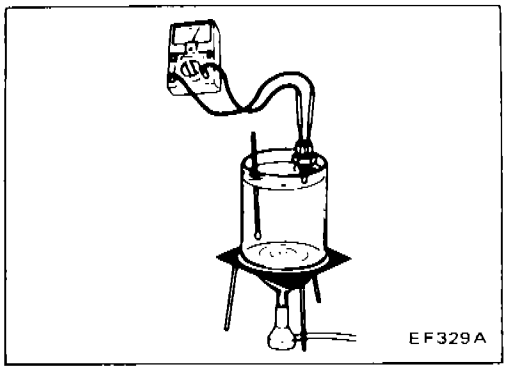


Fuel Tank Gauge Unit Check

● For removal, refer to FE section.

Check the resistance between terminals Ⓖ and Ⓔ.

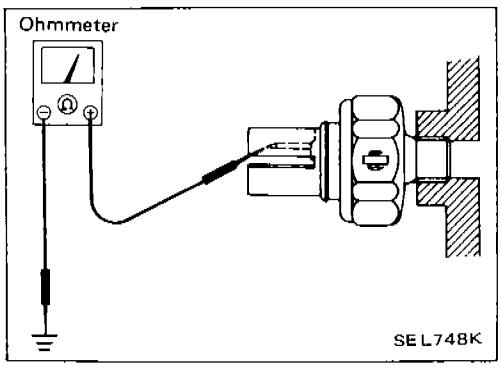
Ohmmeter (+)	Ohmmeter (−)	Float position mm (in)			Resistance Ω	Fuel value ℓ (Imp gal)
G	E	*1	Full	Approx. 64 (2.52)	4.3 - 6.3	57.6 (12-5/8)
		*2	1/2	Approx. 137 (5.39)	27.7 - 34.3	32.9 (7-1/4)
		*3	Empty	Approx. 210 (8.27)	73.3 - 84.8	7.2 (1-5/8)



Thermal Transmitter Check

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

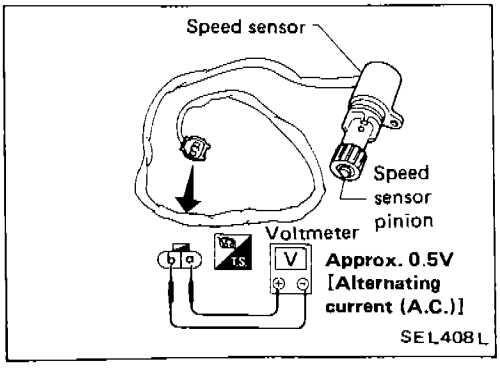
Water temperature	Resistance
60°C (140°F)	Approx. 70 - 90Ω
100°C (212°F)	Approx. 21 - 24Ω



Oil Pressure Switch Check

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

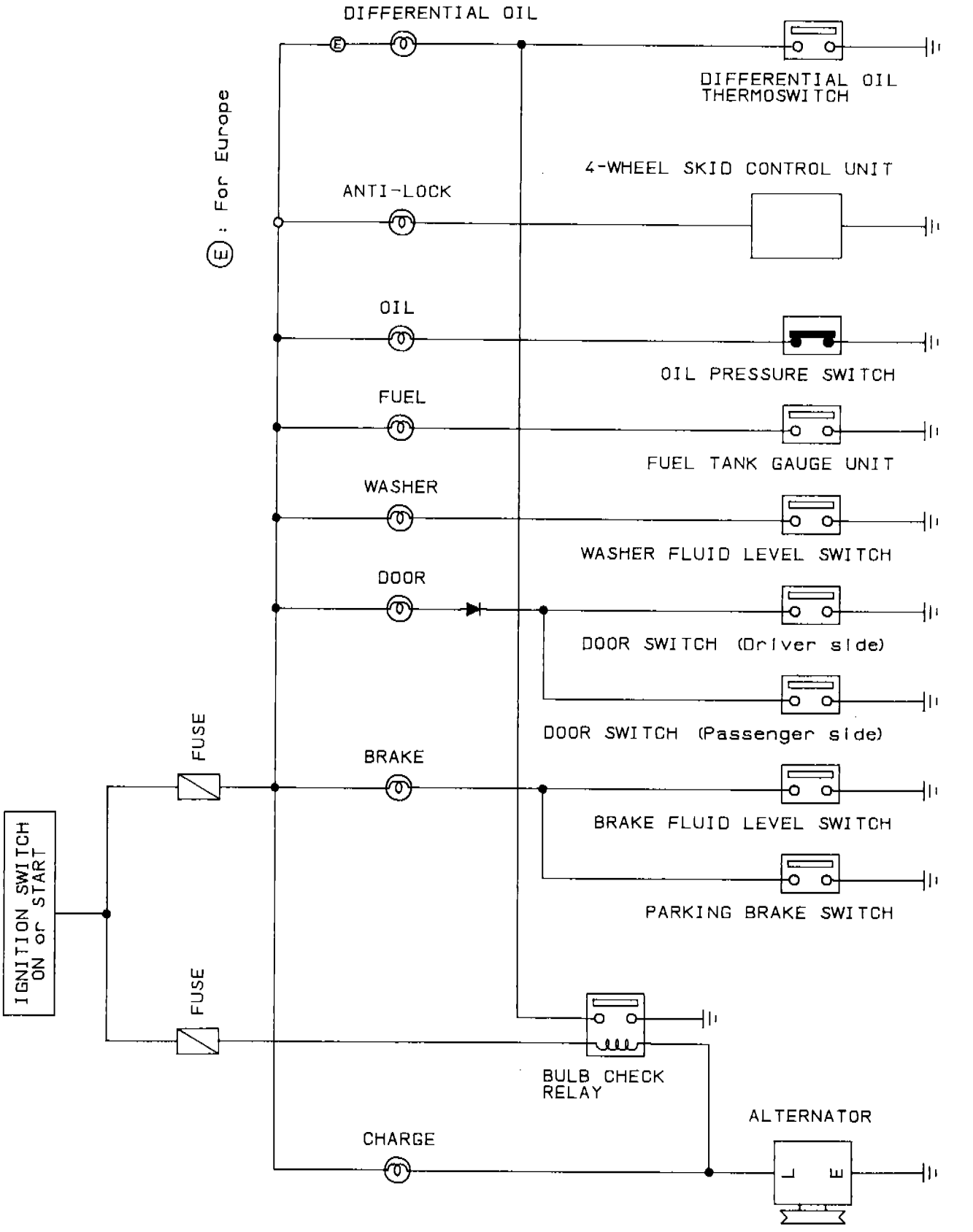
	Oil pressure kPa (bar, kg/cm², psi)	Continuity
Engine start	More than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1.4 - 2.8)	NO
Engine stop	Less than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1.4 - 2.8)	YES



Speed Sensor Signal Check

1. Remove speed sensor from transmission.
   Location: Refer to "Location of Electrical Units".
2. Turn speedometer pinion quickly and measure voltage across Ⓐ and Ⓑ.

Warning Lamps/Schematic



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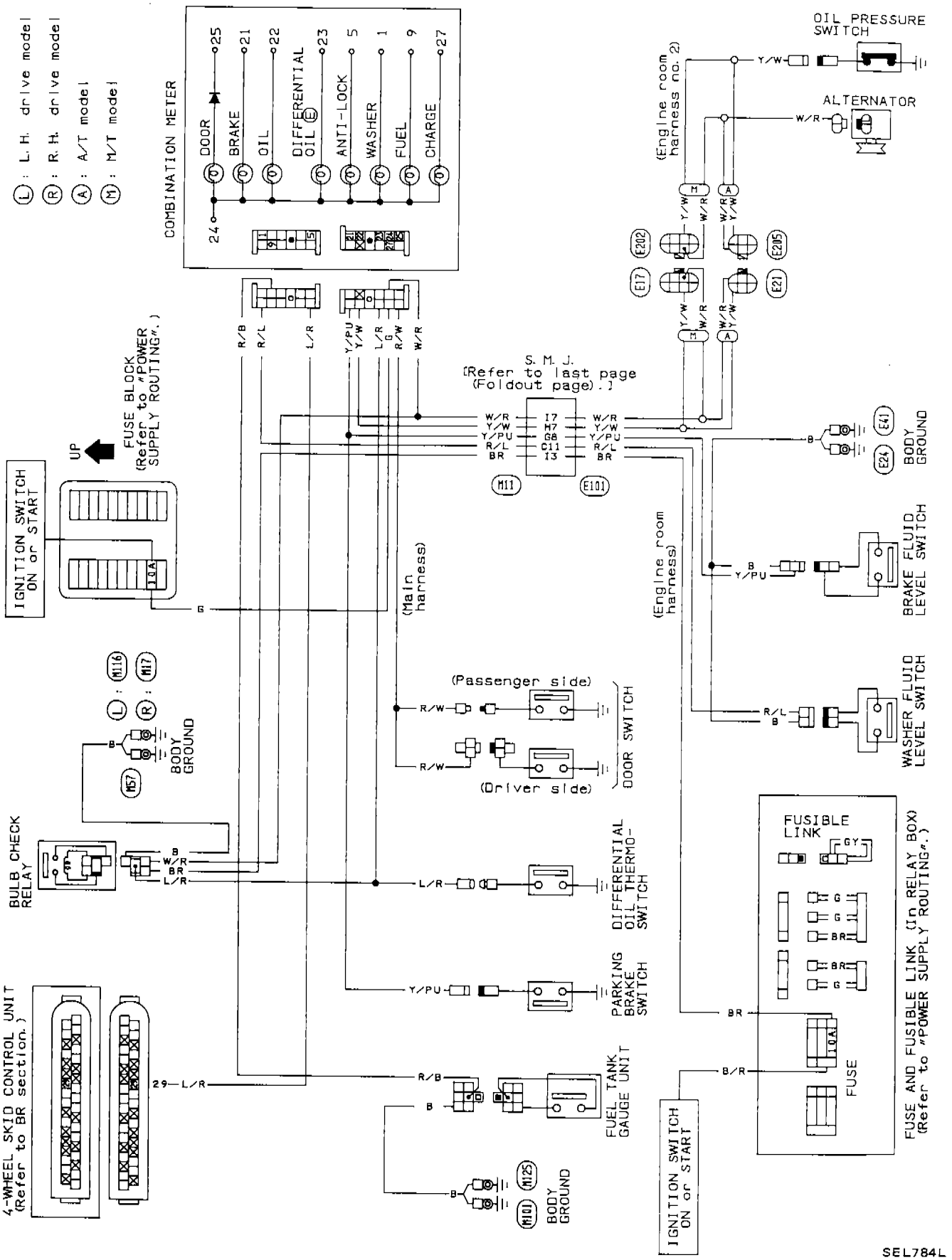
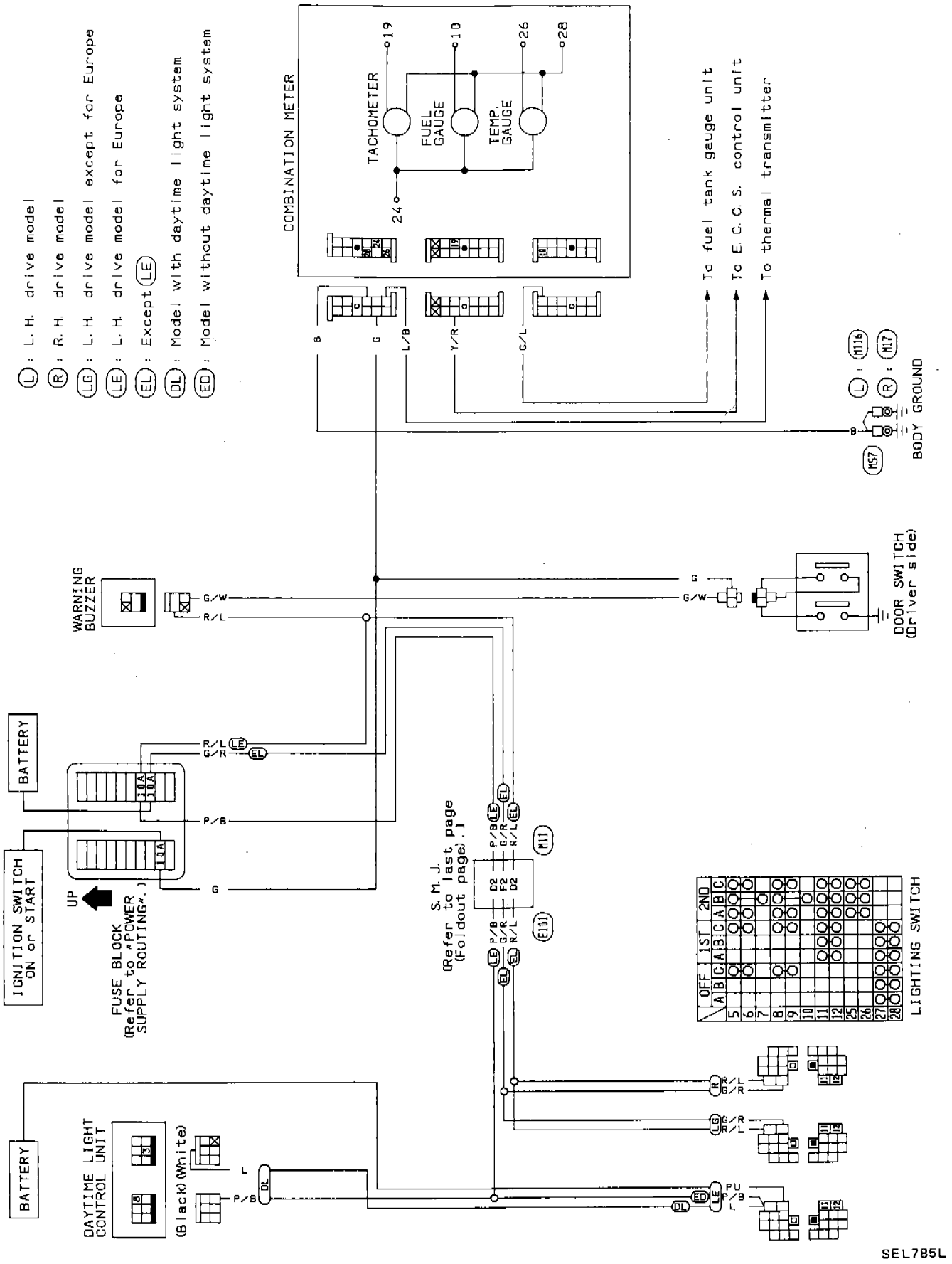
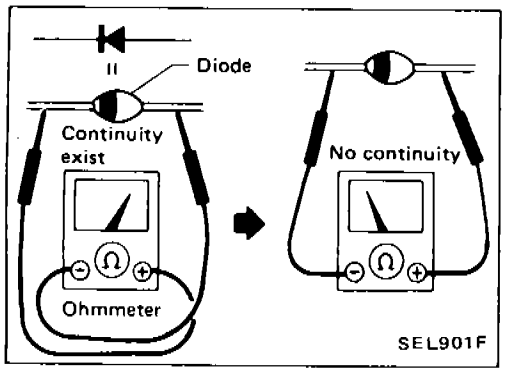
Warning Lamps/Wiring Diagram



Warning Chime/Wiring Diagram

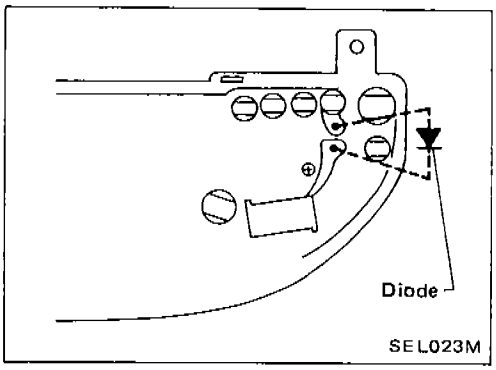


SEL785L

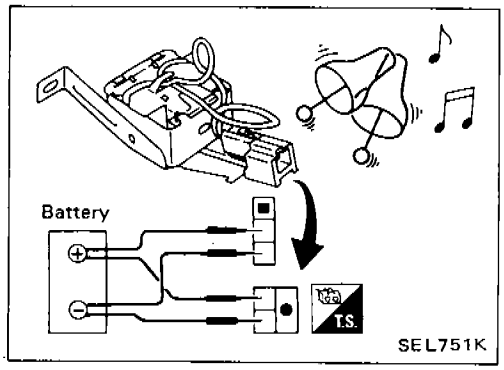


Diode Check

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

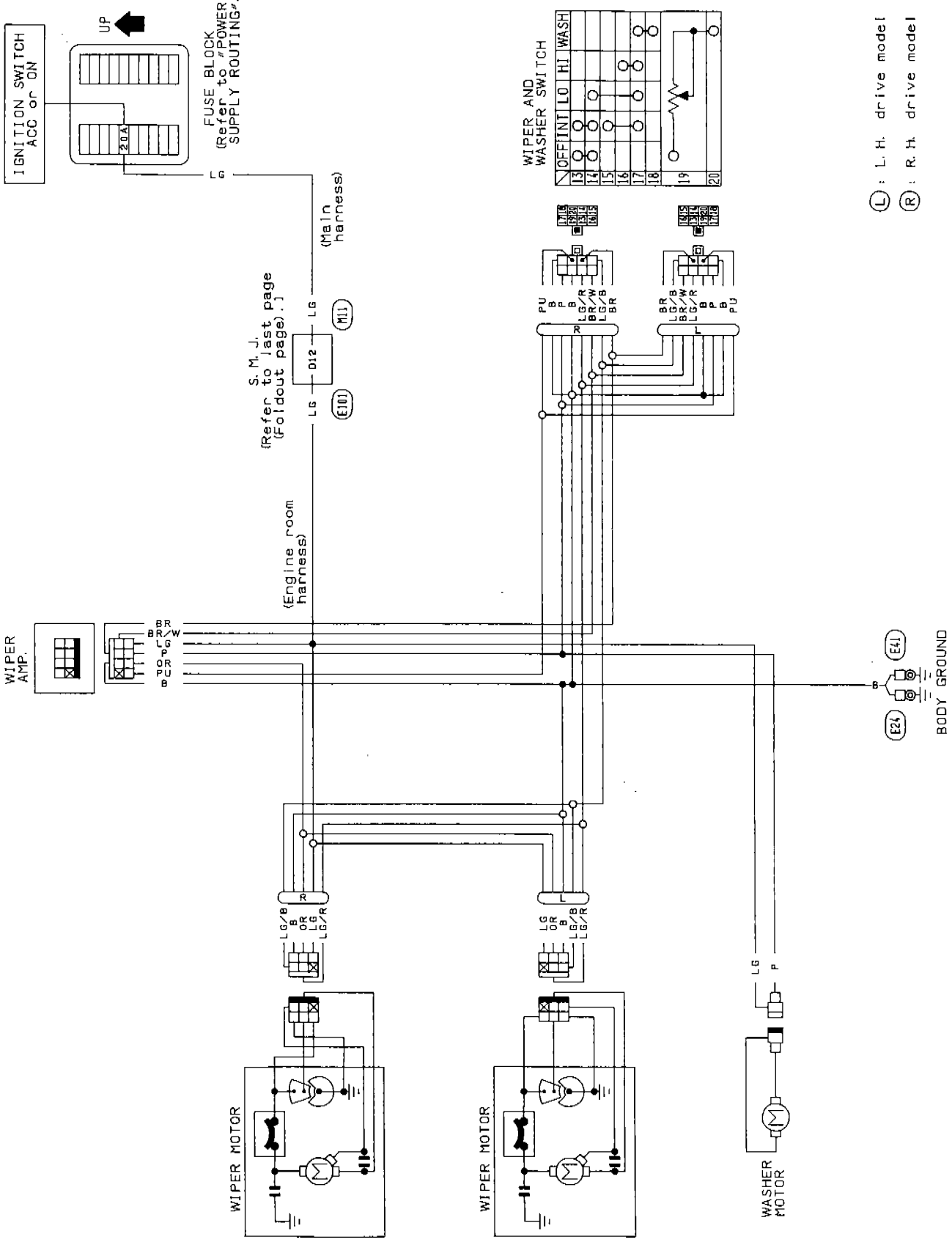


- Diodes for warning lamps are built into the combination meter printed circuit.

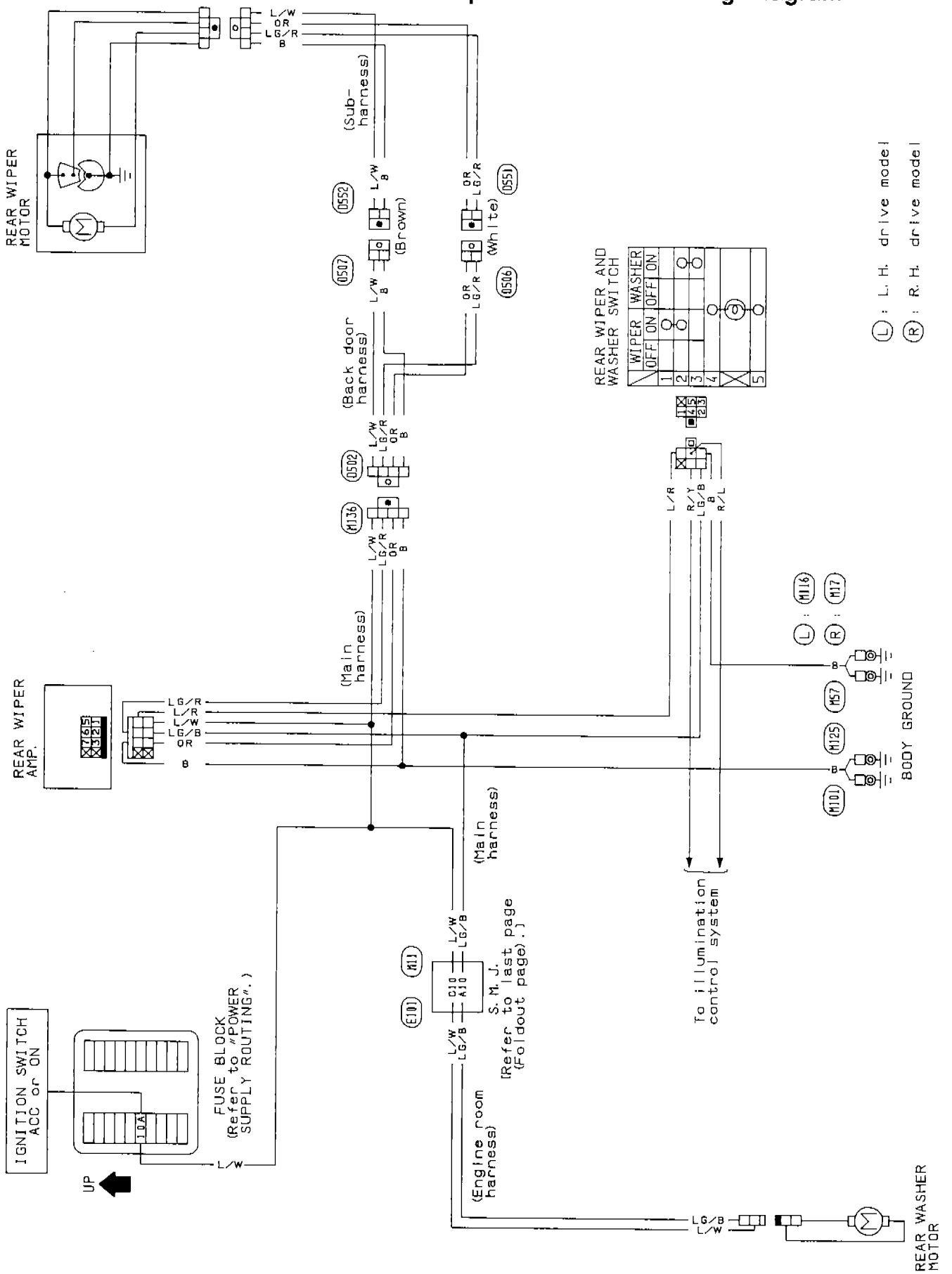


Warning Chime Check

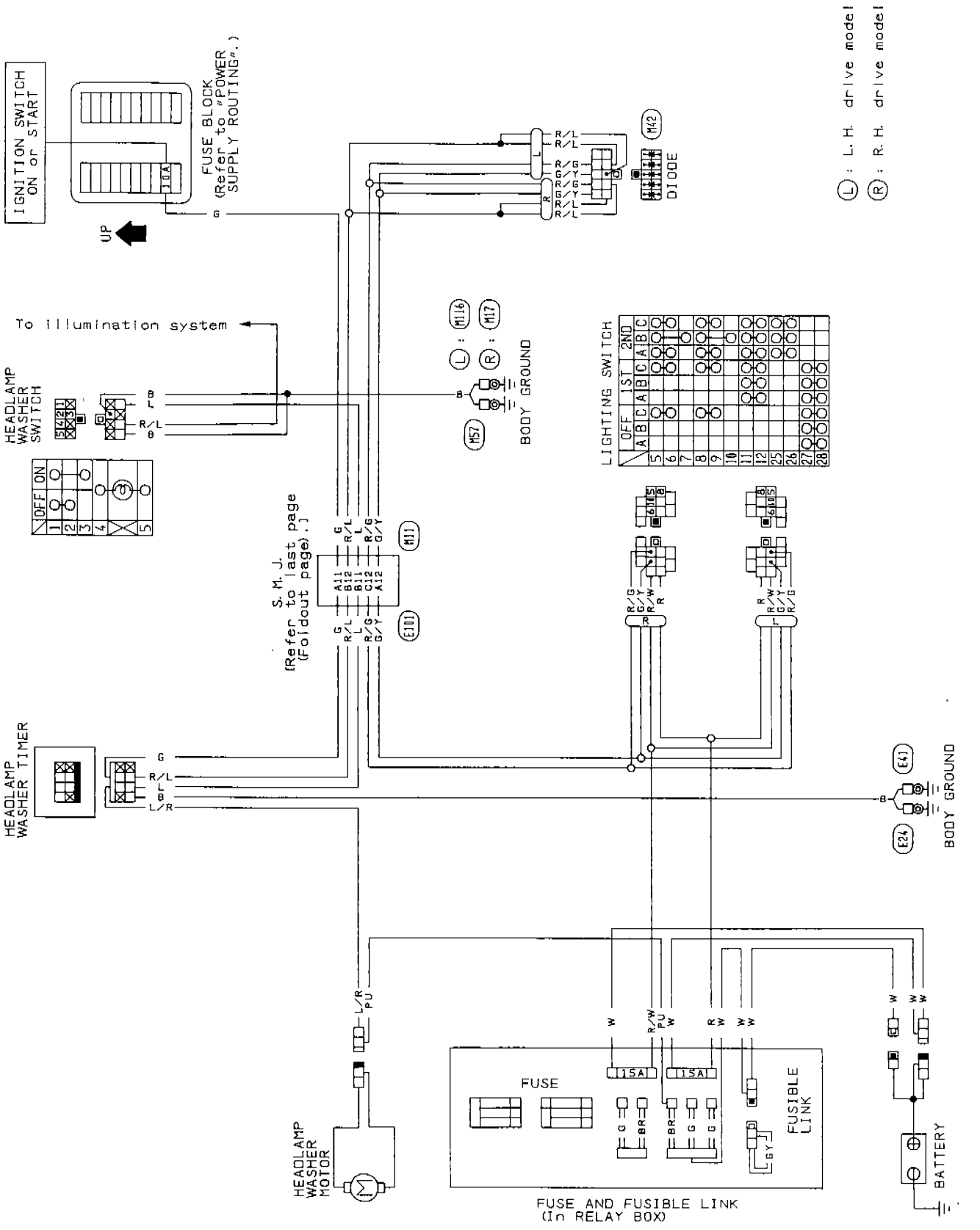
Front Wiper and Washer/Wiring Diagram



Rear Wiper and Washer/Wiring Diagram

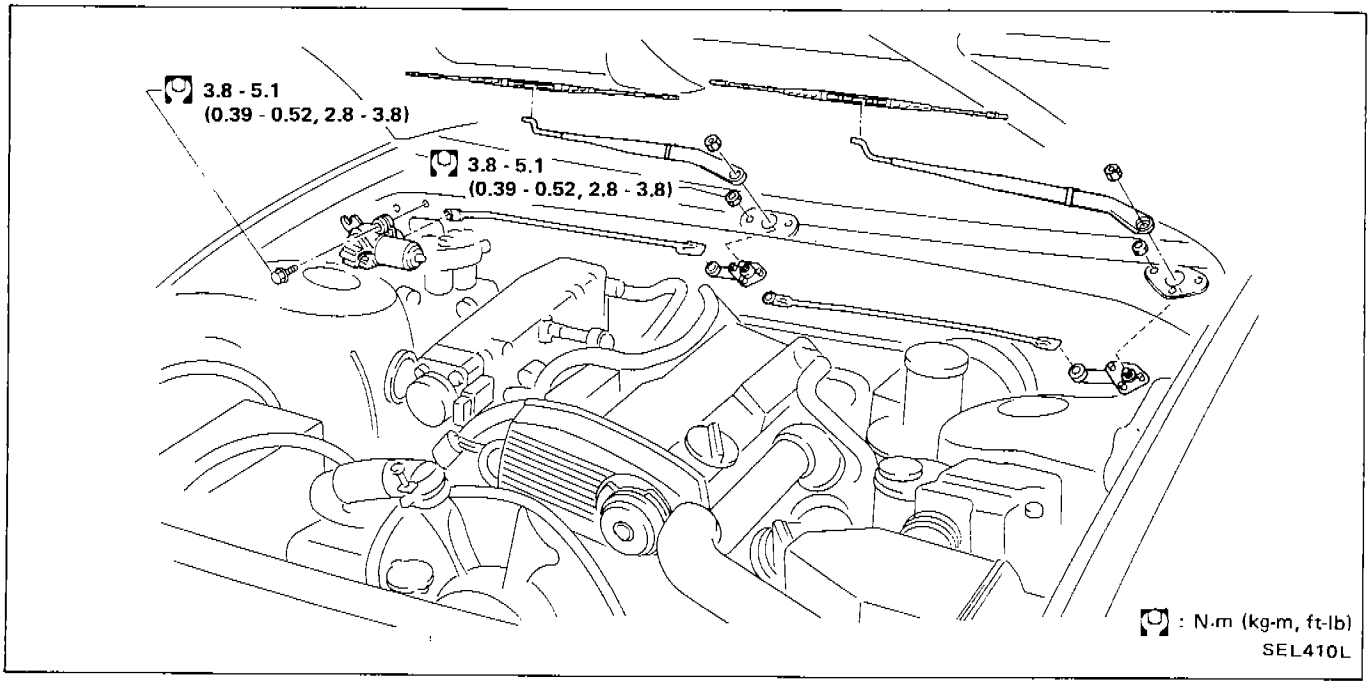


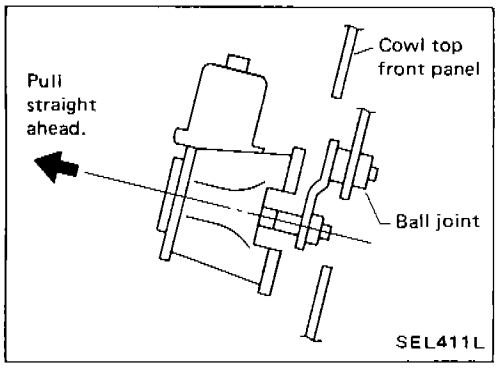
Headlamp Wiper and Washer/Wiring Diagram



SEL788L

Wiper Removal and Installation

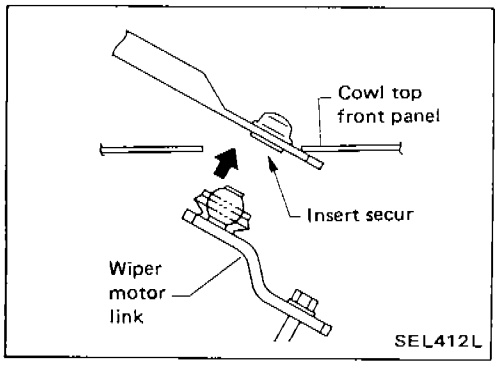




FRONT WIPER REMOVAL

Before removing front wiper motor link, turn wiper switch OFF and disconnect motor leads at connectors.

1. Remove wiper arm.
2. Remove cowl cover.
3. Remove bolts which secure wiper motor.
4. Extract wiper motor so that wiper motor link comes out of hole in front cowl top panel. Then, pull motor straight out to disconnect ball joint which connects motor link and wiper link. Wiper motor can then be removed.
5. Remove wiper link pivot blocks on driver and passenger sides.
6. Extract wiper link and pivot blocks (as one unit) from oblong hole on left side (L.H.D.) or right side (R.H.D.) of cowl top.

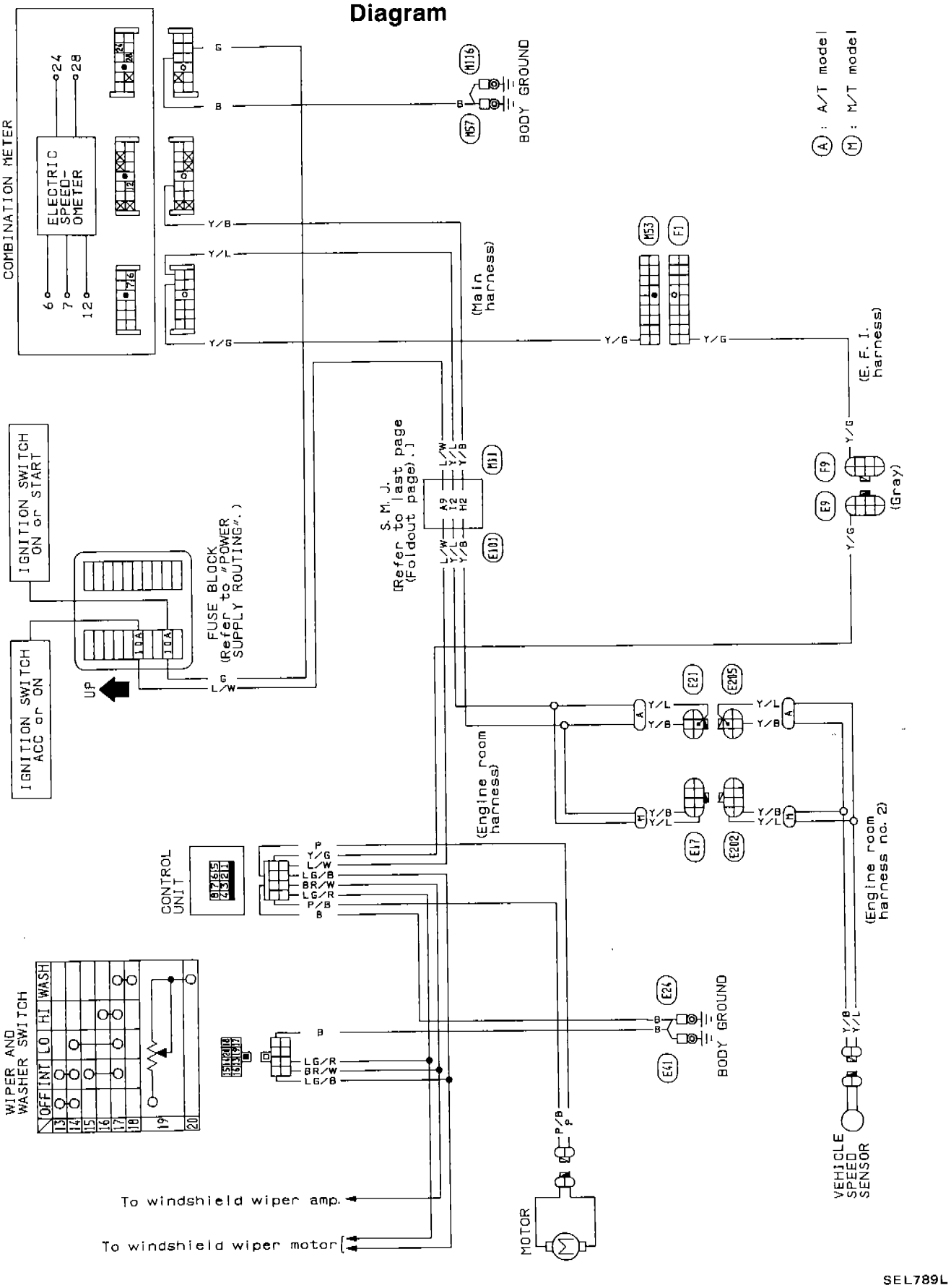


FRONT WIPER INSTALLATION

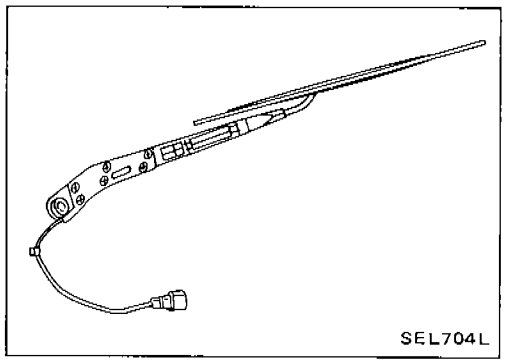
1. Position wiper link and pivot blocks (as one unit) in cowl top through oblong hole.
2. Before installing pivot blocks on cowl top, hold end (motor link side) of wiper link at hole in front cowl top panel and insert motor link's ball pin into hole in wiper link.
3. Install front wiper in reverse order of above removal procedures.

- Apply a small amount of grease to ball joints before installation.

Variable Pressure Window Screen Wiper/Wiring Diagram



SEL789L


SEL704L

Wiper Arm (For Europe L.H.D. model)

The wiper arm pressure is controlled by the vehicle speed when the wiper switch is in the "ON" position.

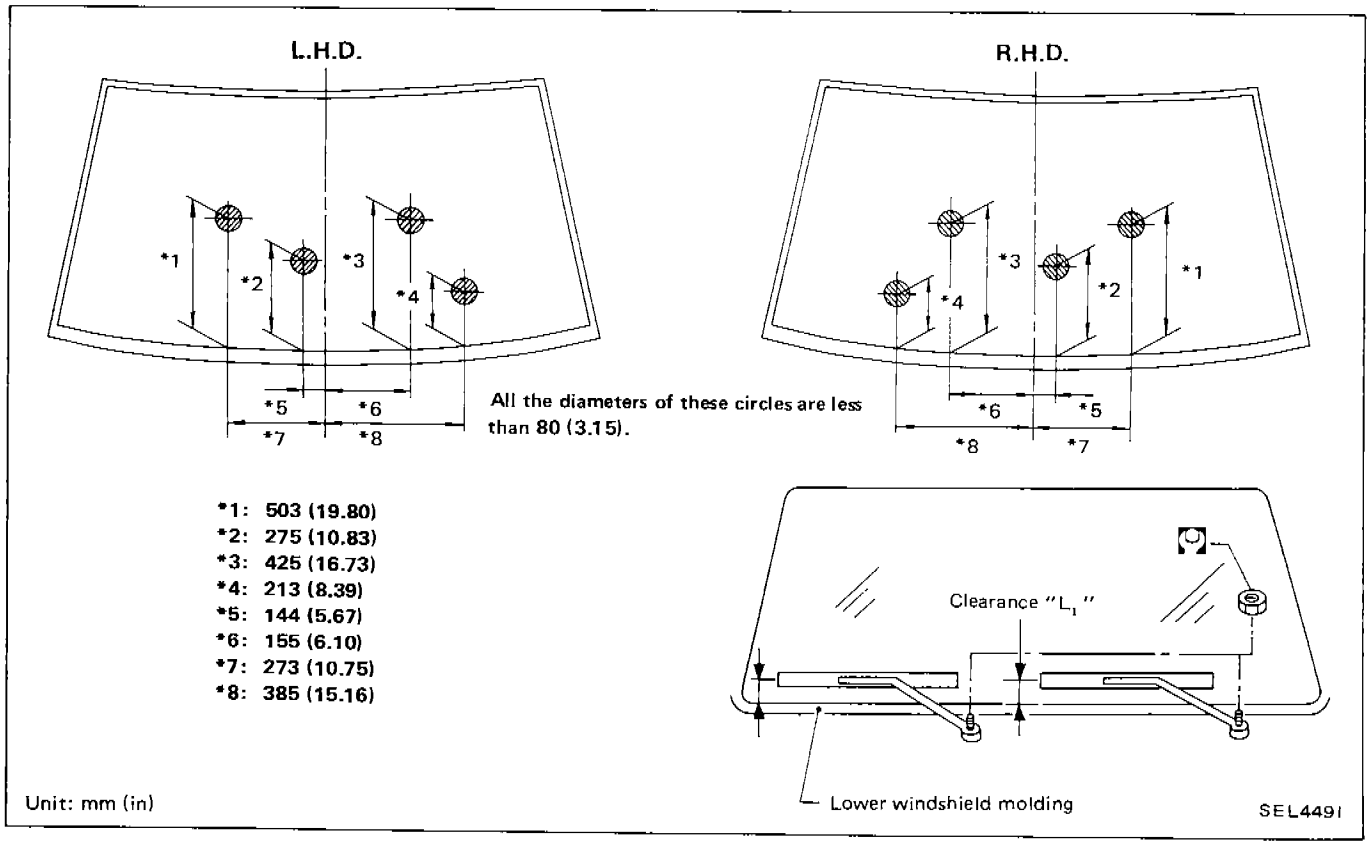
Vehicle speed km/h (MPH)	Wiper arm pressure
More than 130 (81)	Low → High
Less than 120 (75)	High → Low

Wiper and Washer Adjustment

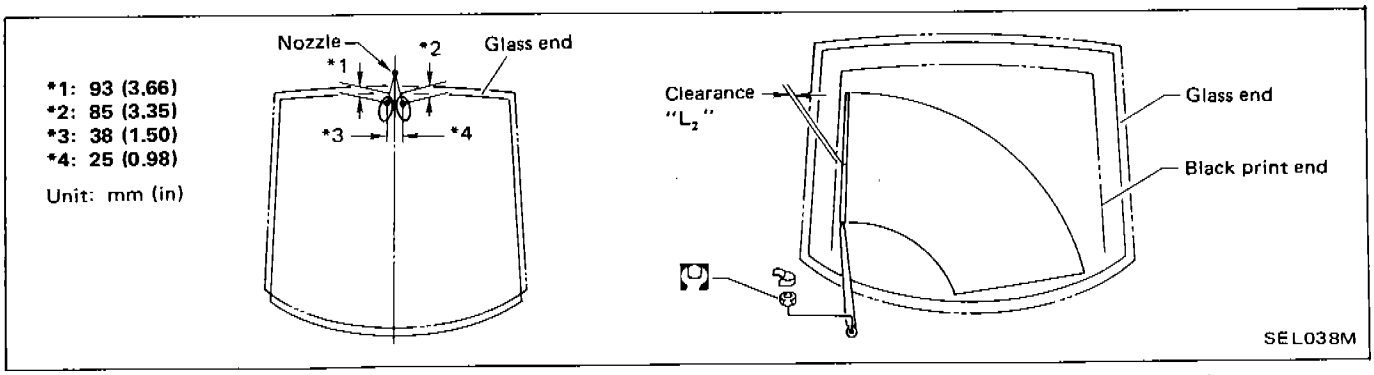
INSTALLATION

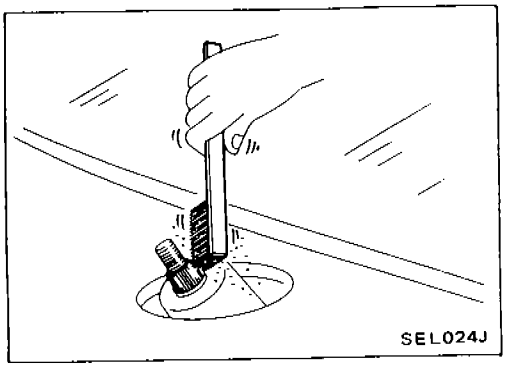
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L_1" & "L_2" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it "OFF".
4. Ensure that wiper blades stop within clearance "L_1" & "L_2".
   Clearance "L_1": 17.5 - 32.5 mm (0.689 - 1.280 in)
   Clearance "L_2": 25 - 35 mm (0.98 - 1.38 in)

- Tighten wiper arm nuts to specified torque.
  Front wiper: 17 - 23 N·m (1.7 - 2.3 kg-m, 12 - 17 ft-lb)
  Rear wiper: 13 - 18 N·m (1.3 - 1.8 kg-m, 9 - 13 ft-lb)



Wiper and Washer Adjustment (Cont'd)

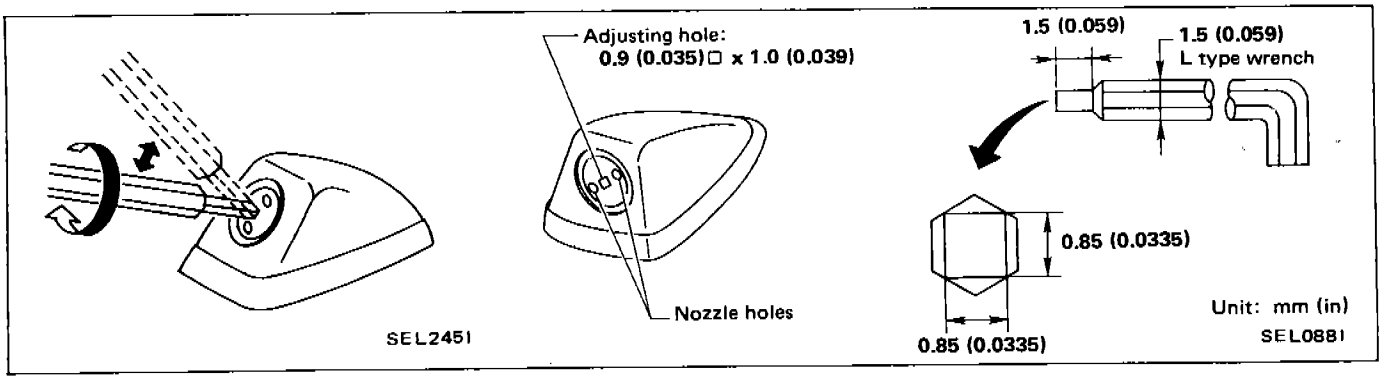


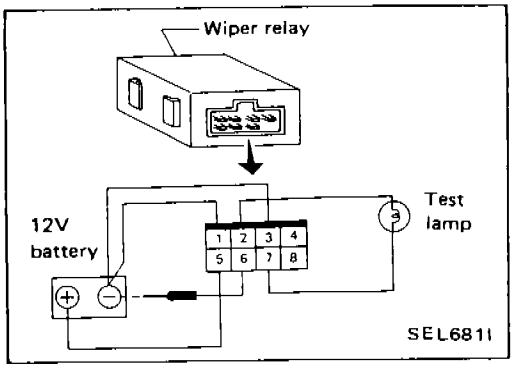


- **Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.**

Washer Nozzle Adjustment

- Adjust washer nozzle with suitable tool as shown in the figure at left.
  Details of tool are shown below.

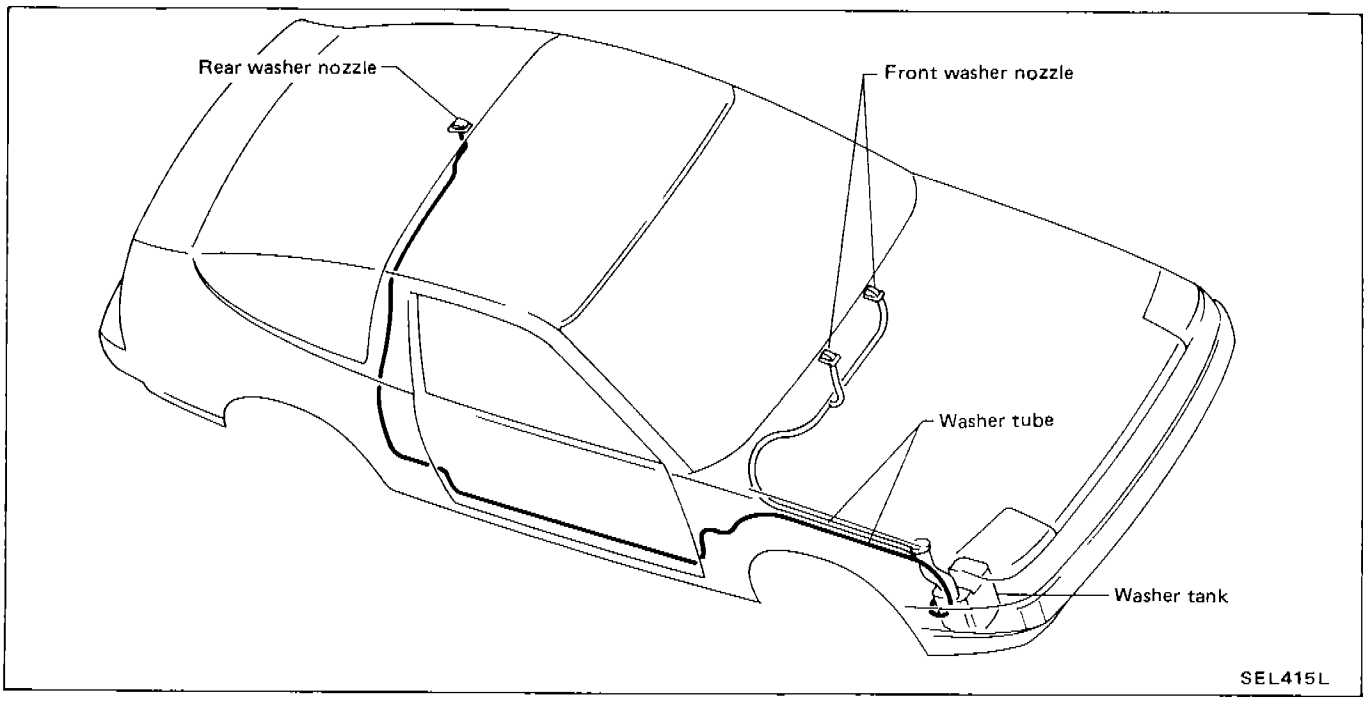




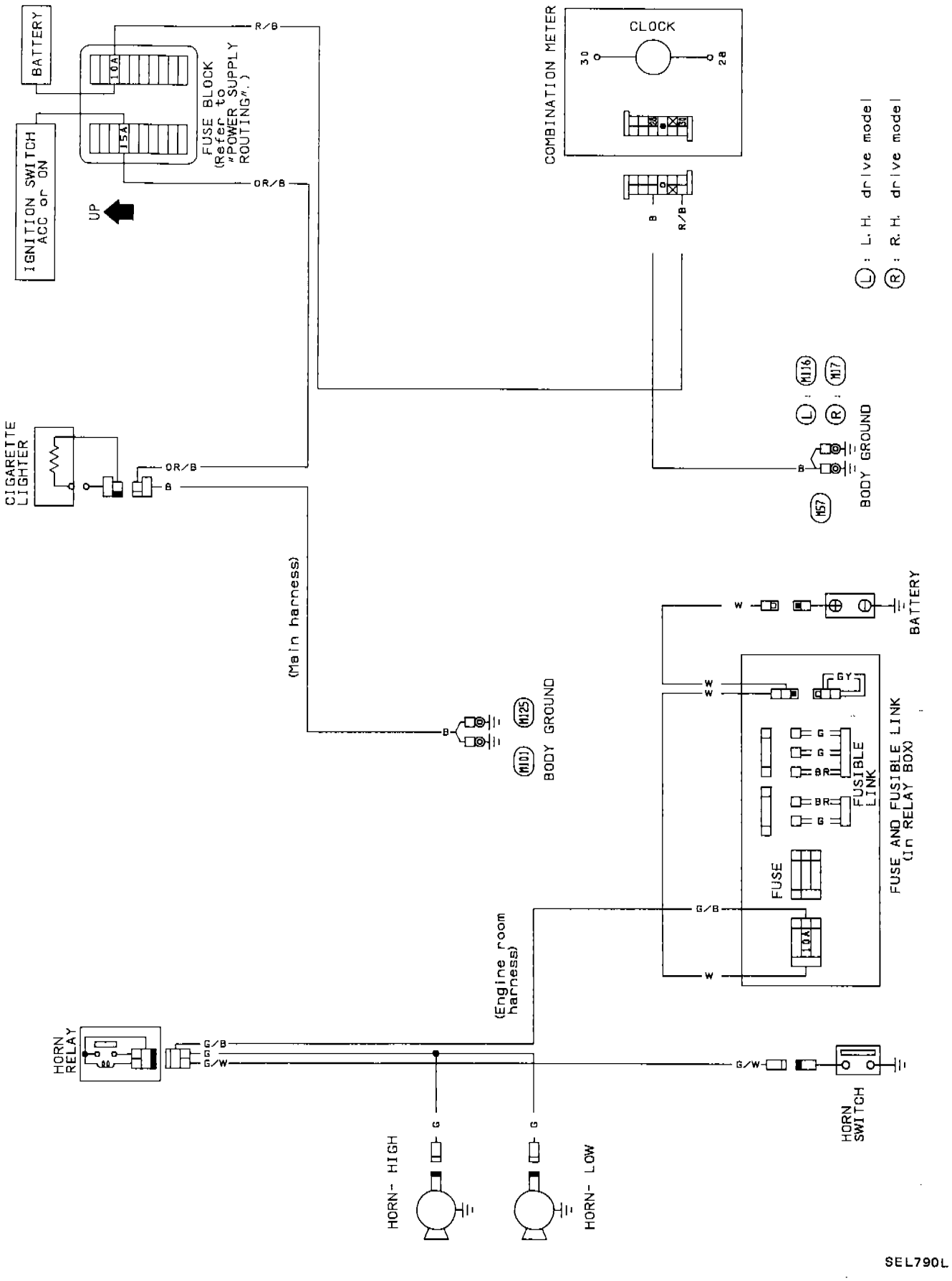
Wiper Amplifier Check

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

Washer Tube Layout

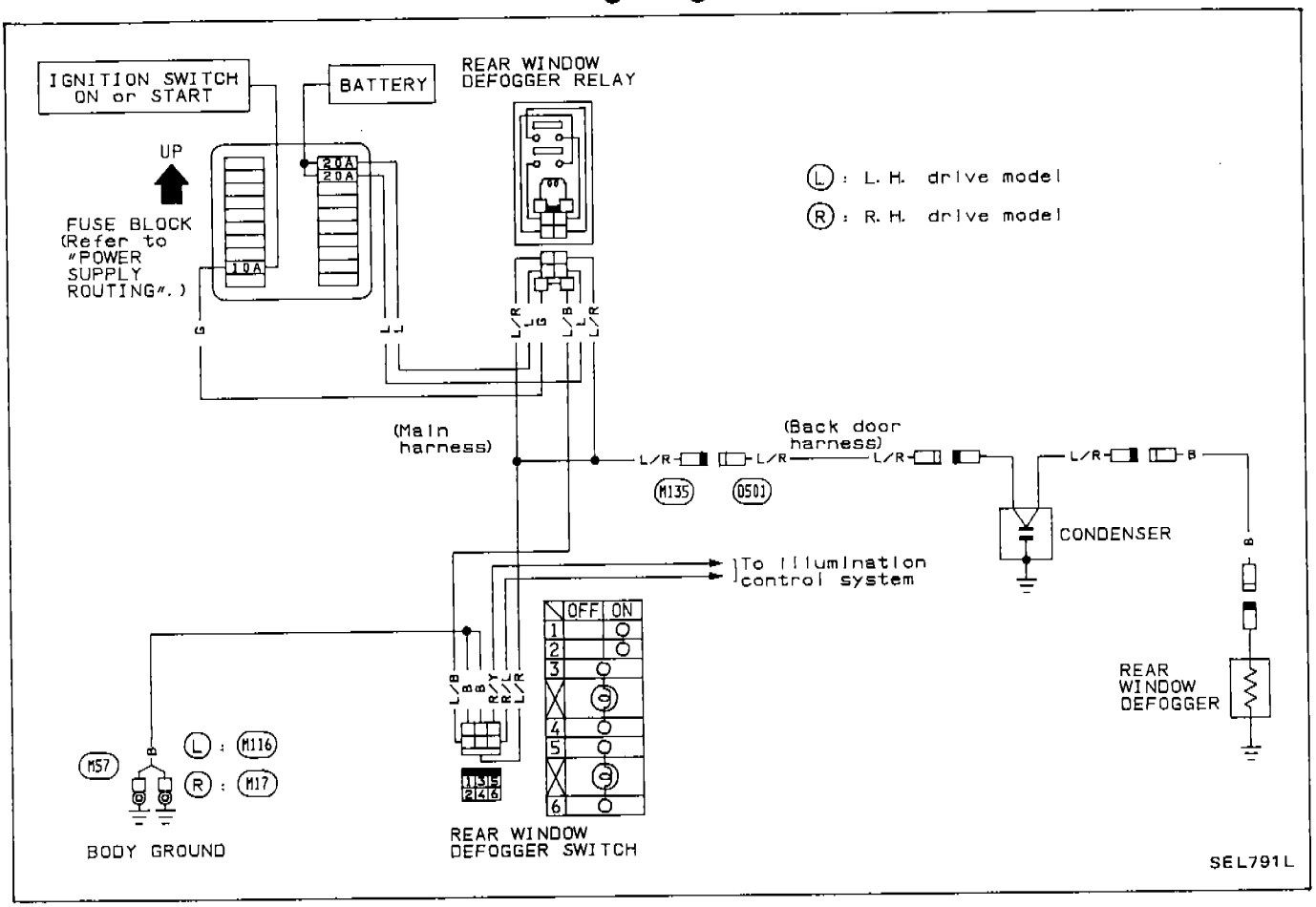


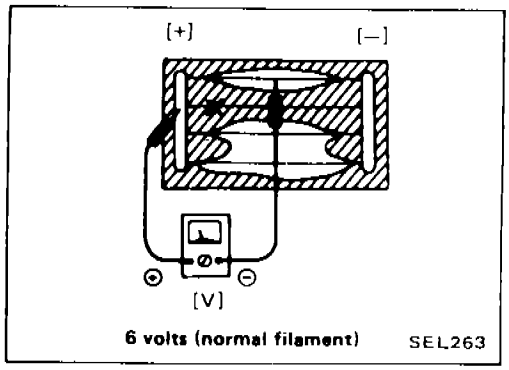
Wiring Diagram



SEL790L

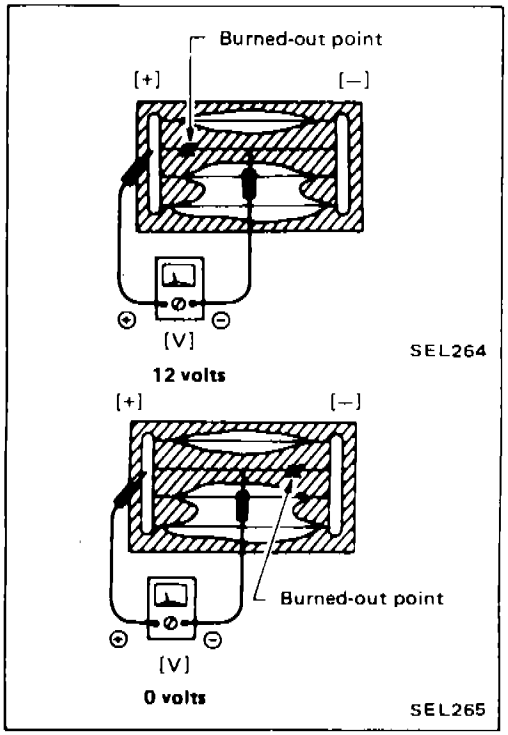
Wiring Diagram



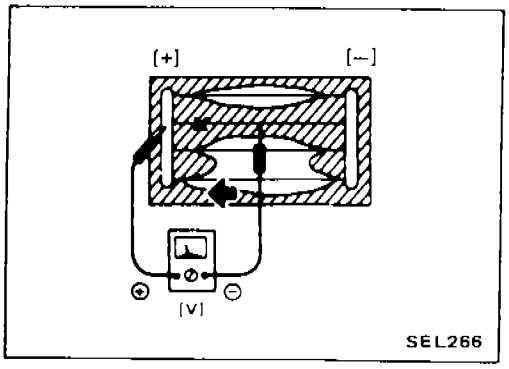


Filament Check

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.

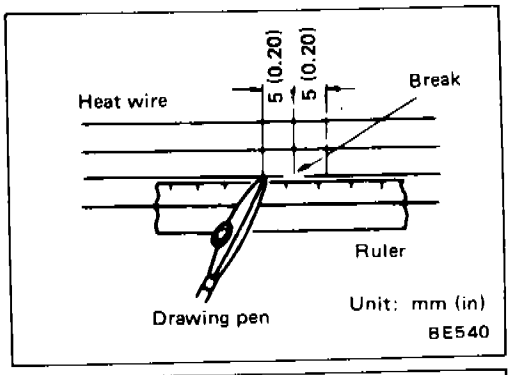


3. To locate burned out point, move probe to left and right along filament to determine point where tester needle swings abruptly.

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

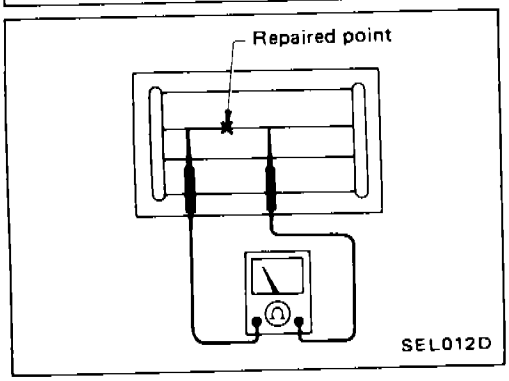


REPAIRING PROCEDURE

1. Wiper 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.

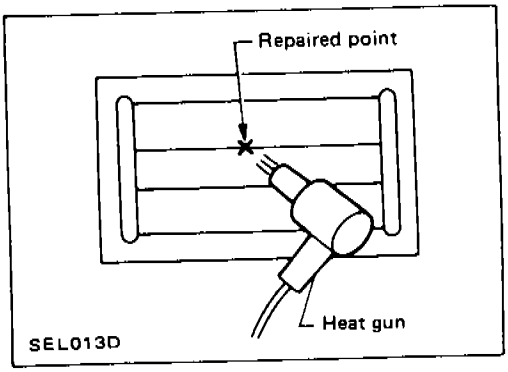
Shake silver composition container before use.

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.



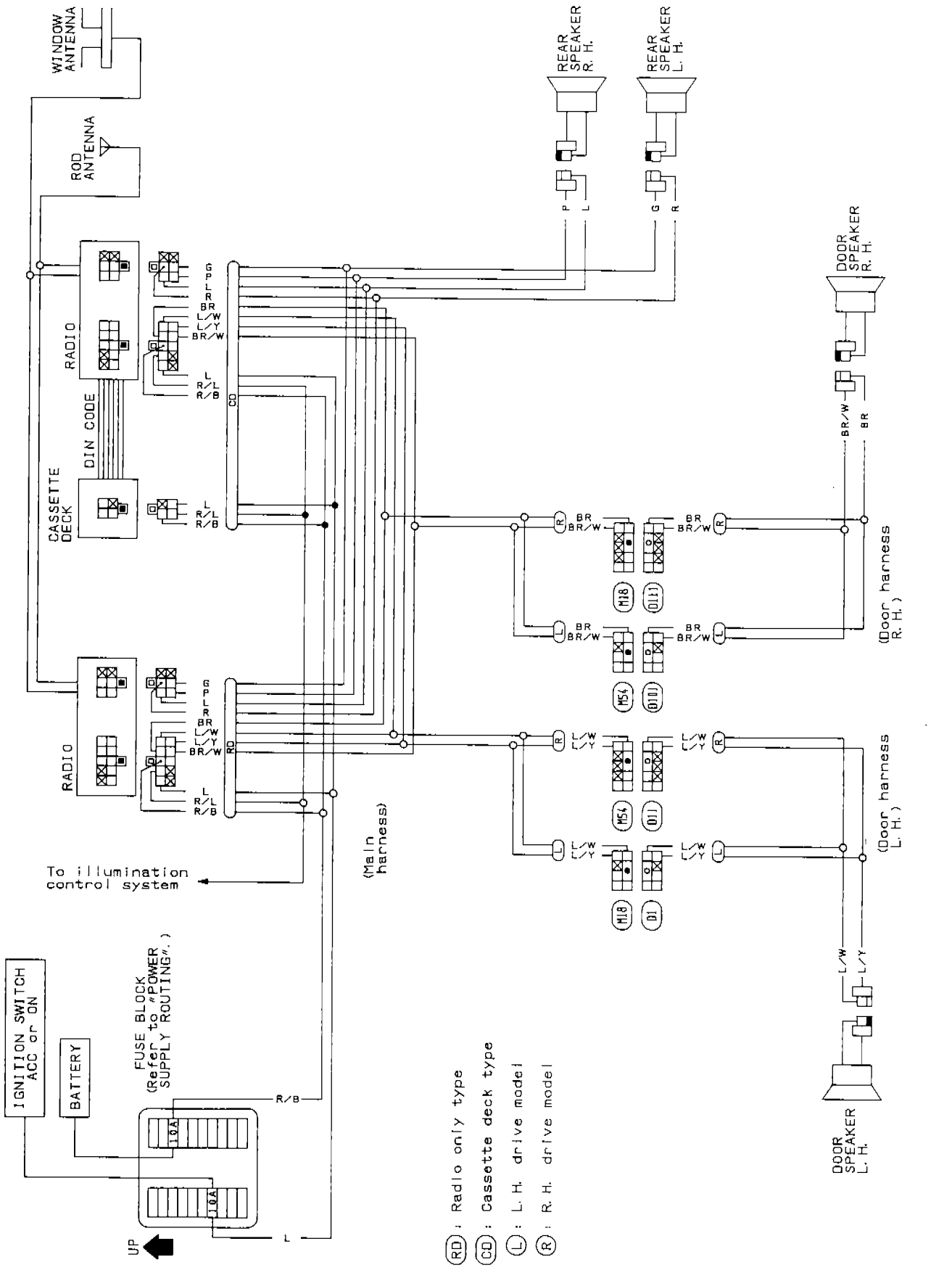
4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.

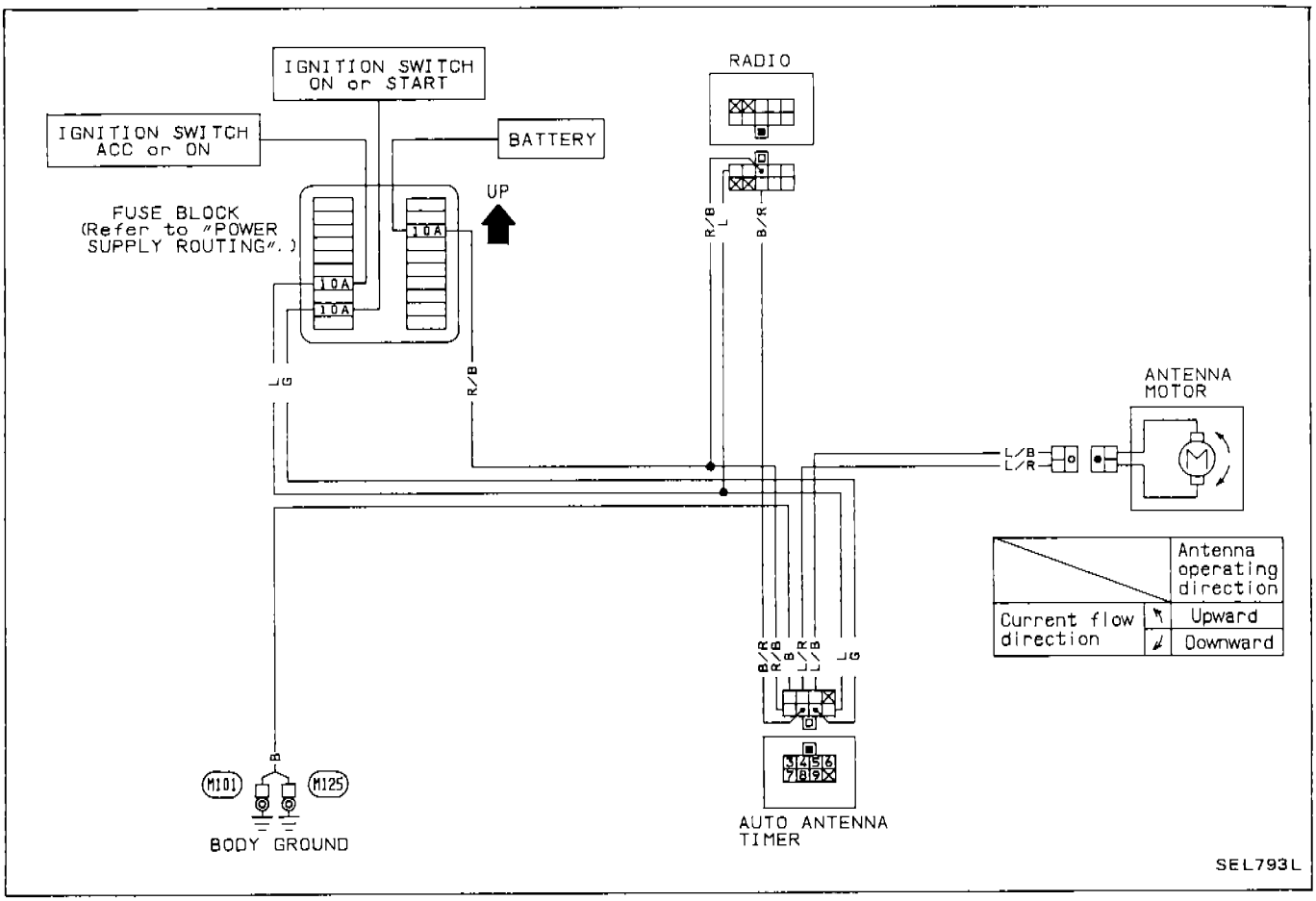


5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.

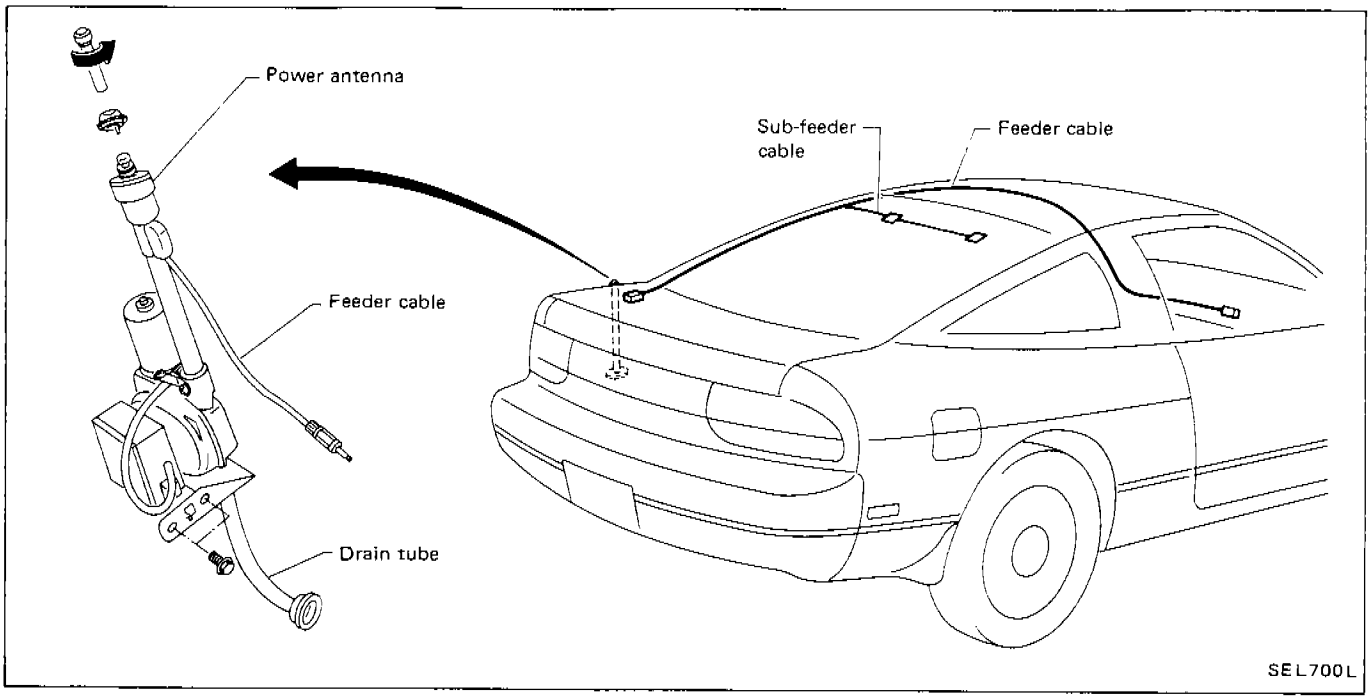
Audio/Wiring Diagram

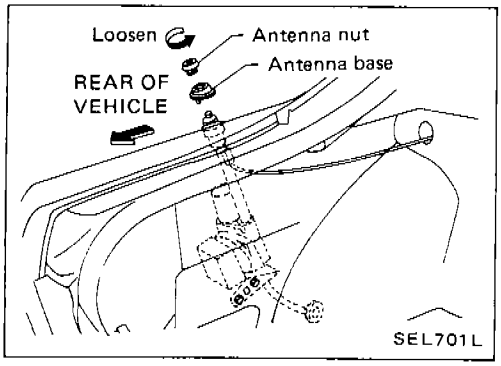


Power Antenna/Wiring Diagram



Location of Antenna

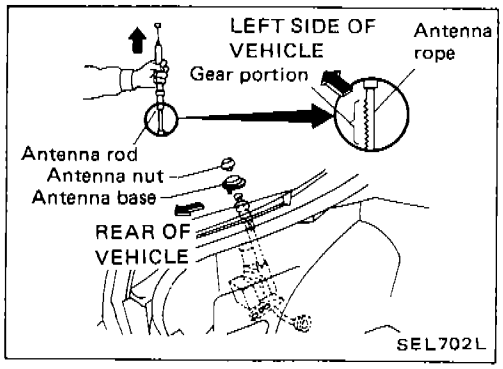




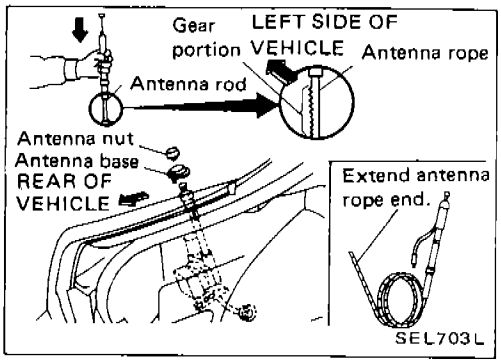
Antenna Rod Replacement

REMOVAL

1. Remove antenna nut and antenna base.



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



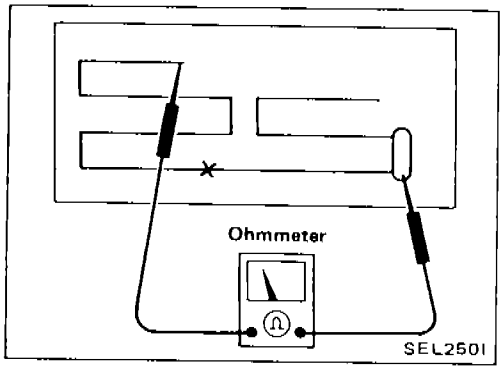
INSTALLATION

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.

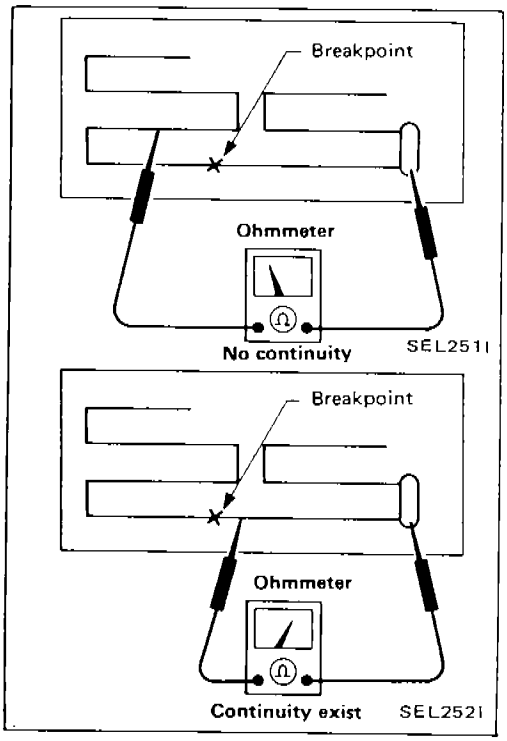
Window Antenna Repair

ELEMENT CHECK

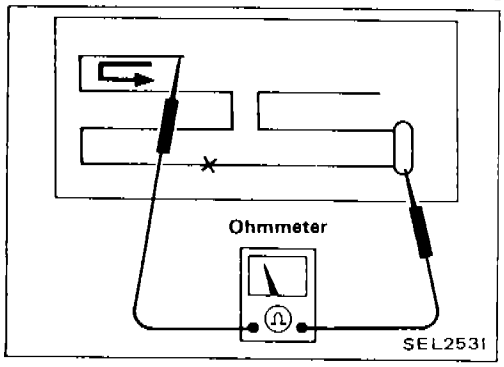
1. Attach probe circuit tester (in ohm range) to antenna terminal on each side.



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



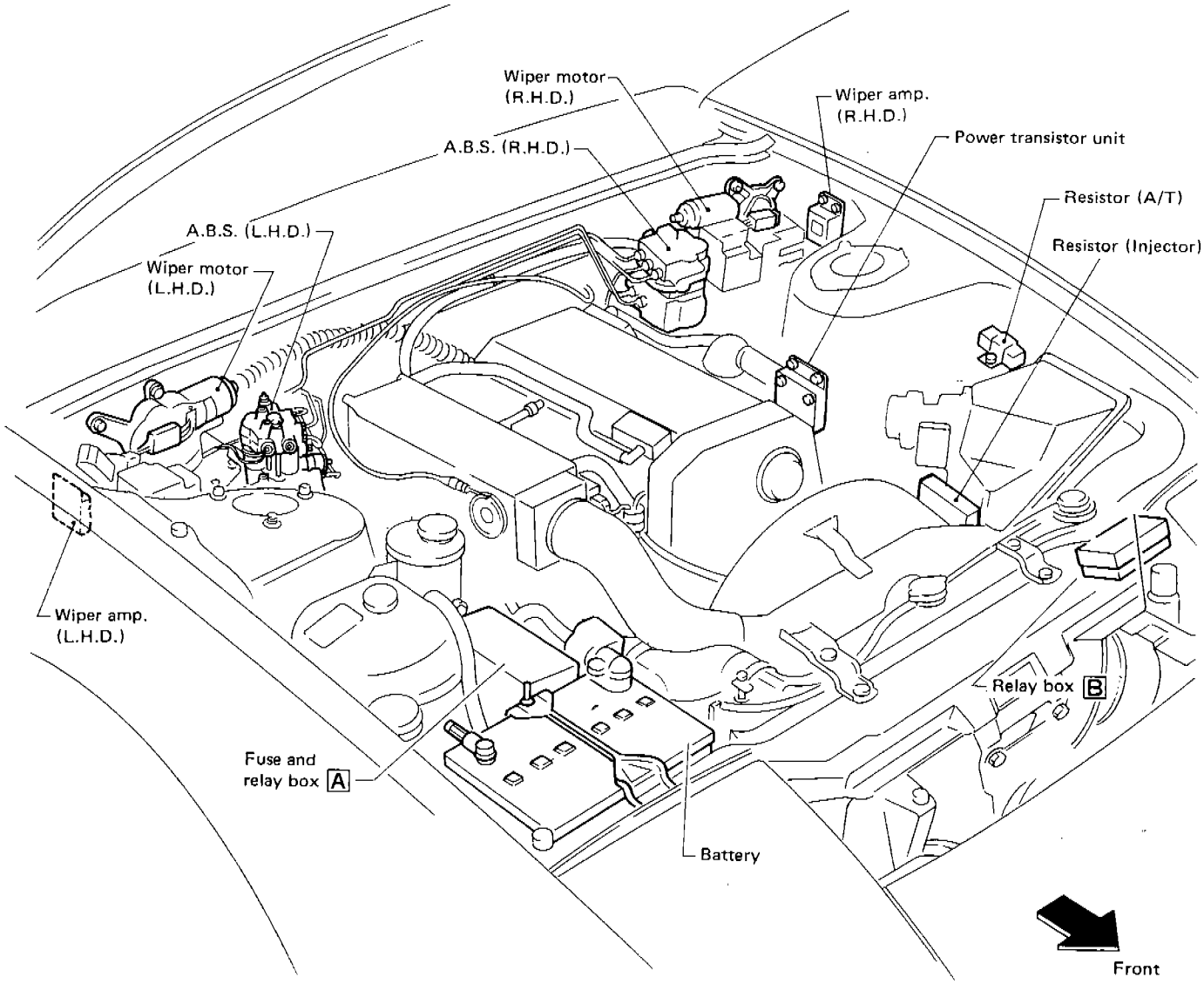
3. To locate broken point, move probe to left and right along element to determine point where tester needle swings abruptly.

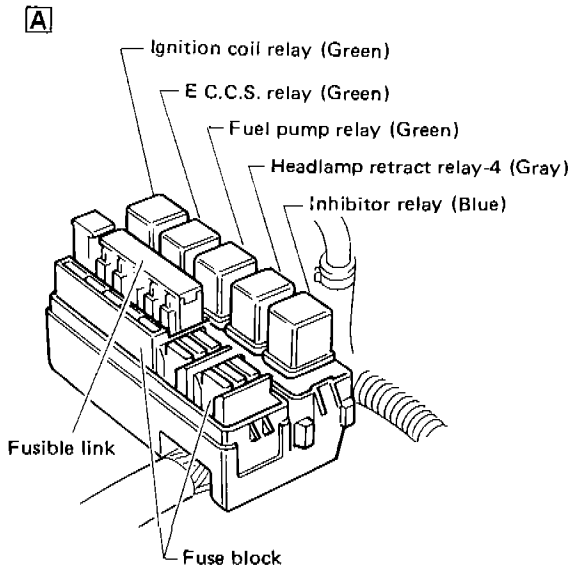


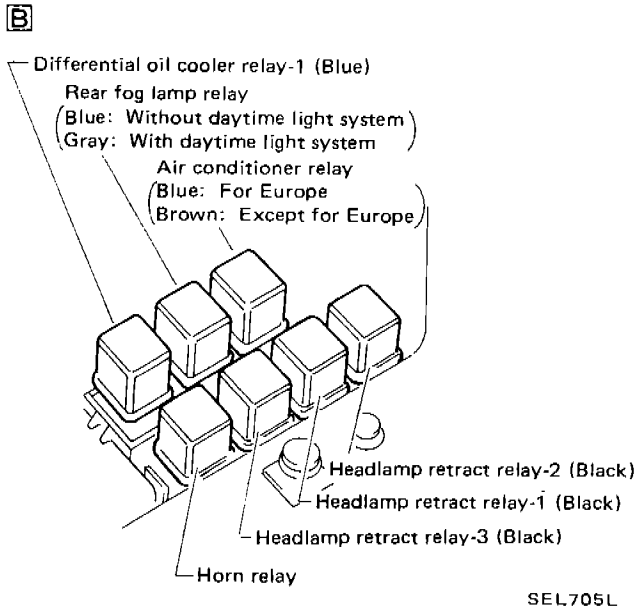
ELEMENT REPAIR

Refer to "Filament Repair" of REAR WINDOW DEFOGGER.

Engine Compartment

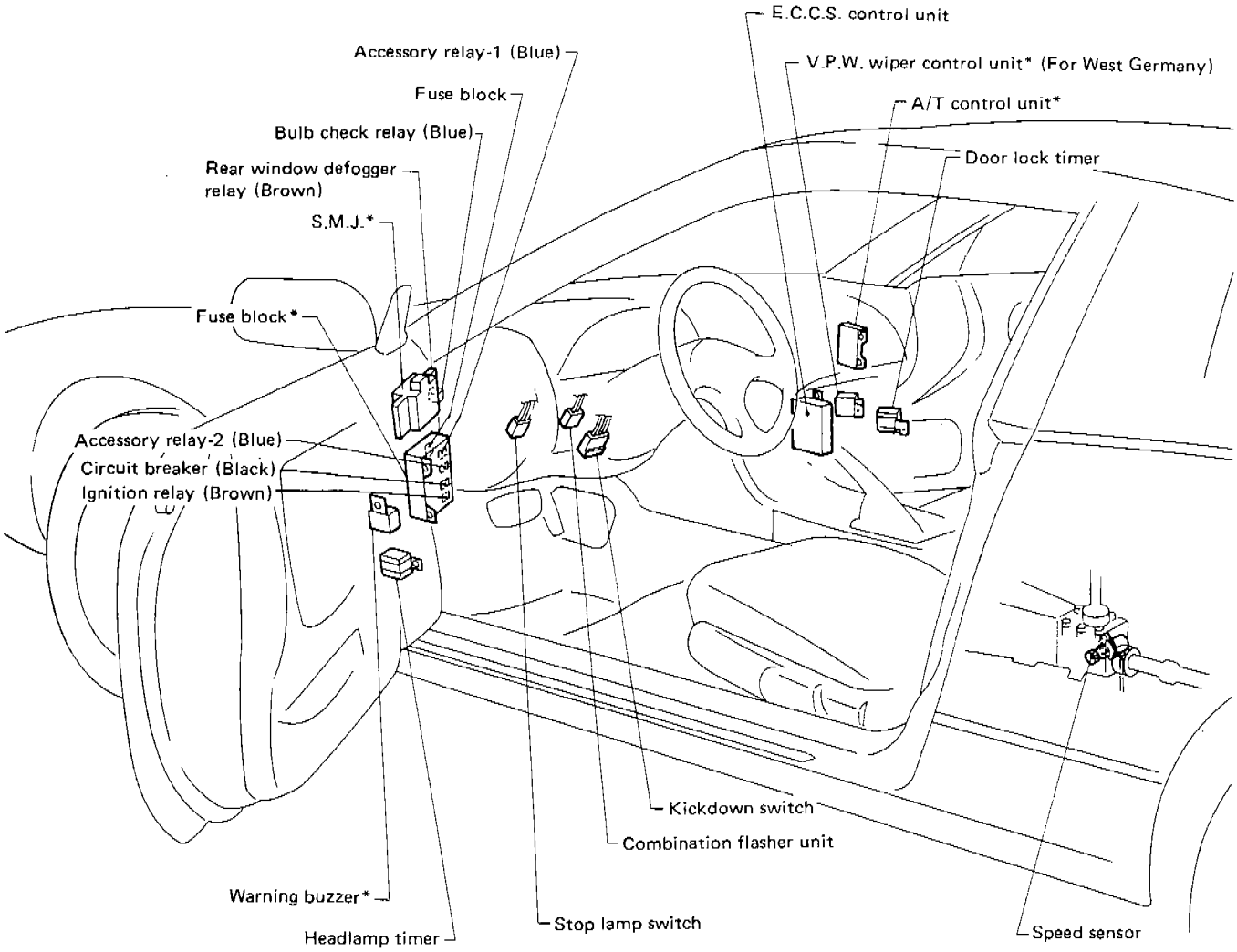




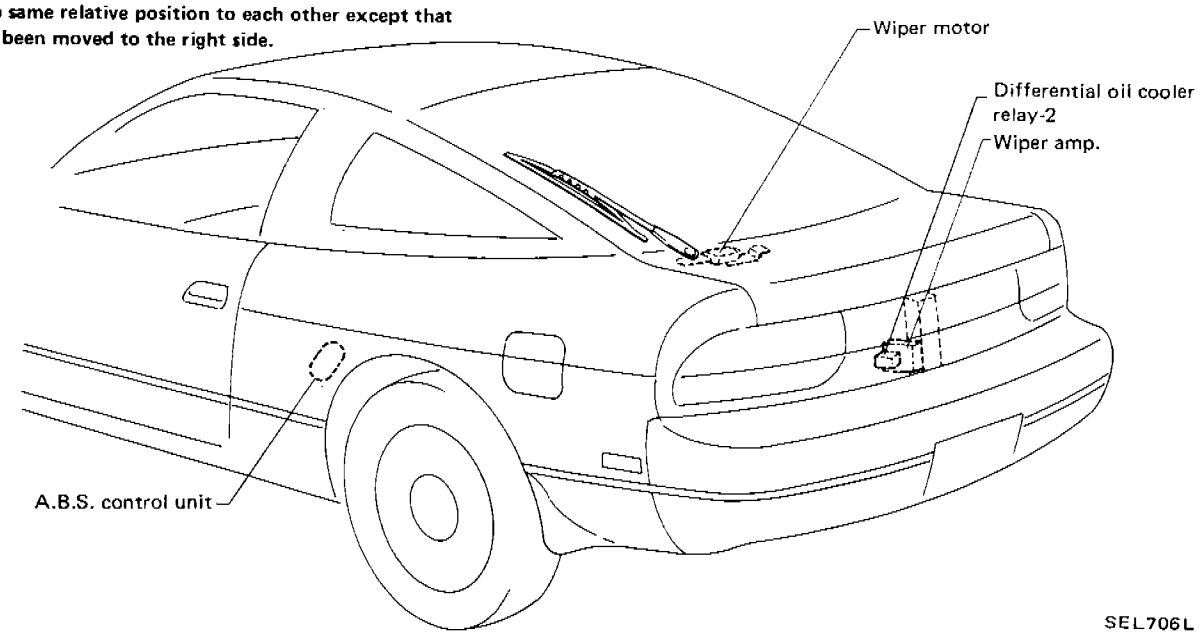


SEL705L

Passenger Compartment



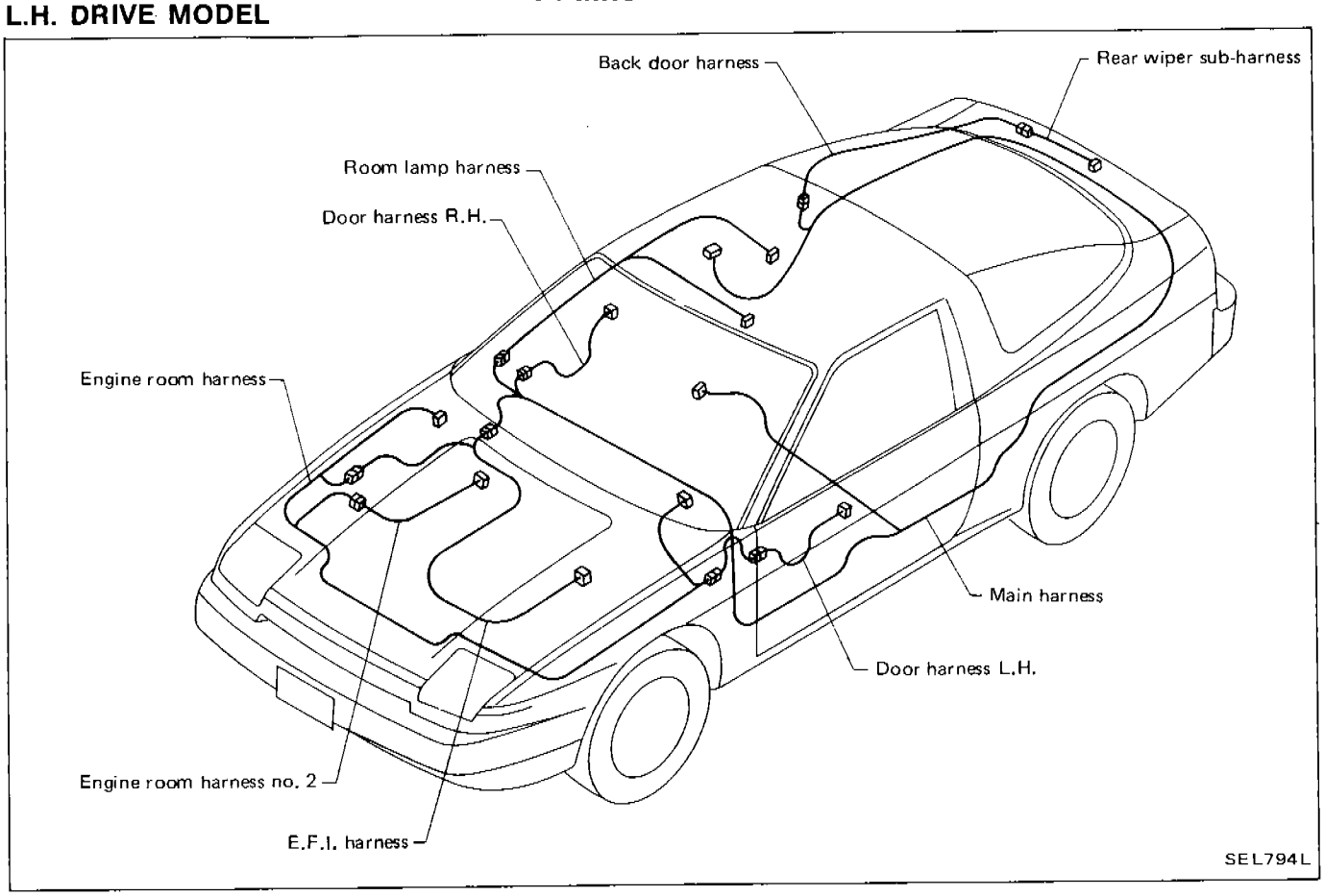
- **Figure shows dashboard for L.H.D. models.**
- **On R.H.D. models, all side panel unit parts marked with an asterisk "*" are symmetrically located to those of L.H.D. models. However, switches and units around steering column remain in the same relative position to each other except that they have all been moved to the right side.**



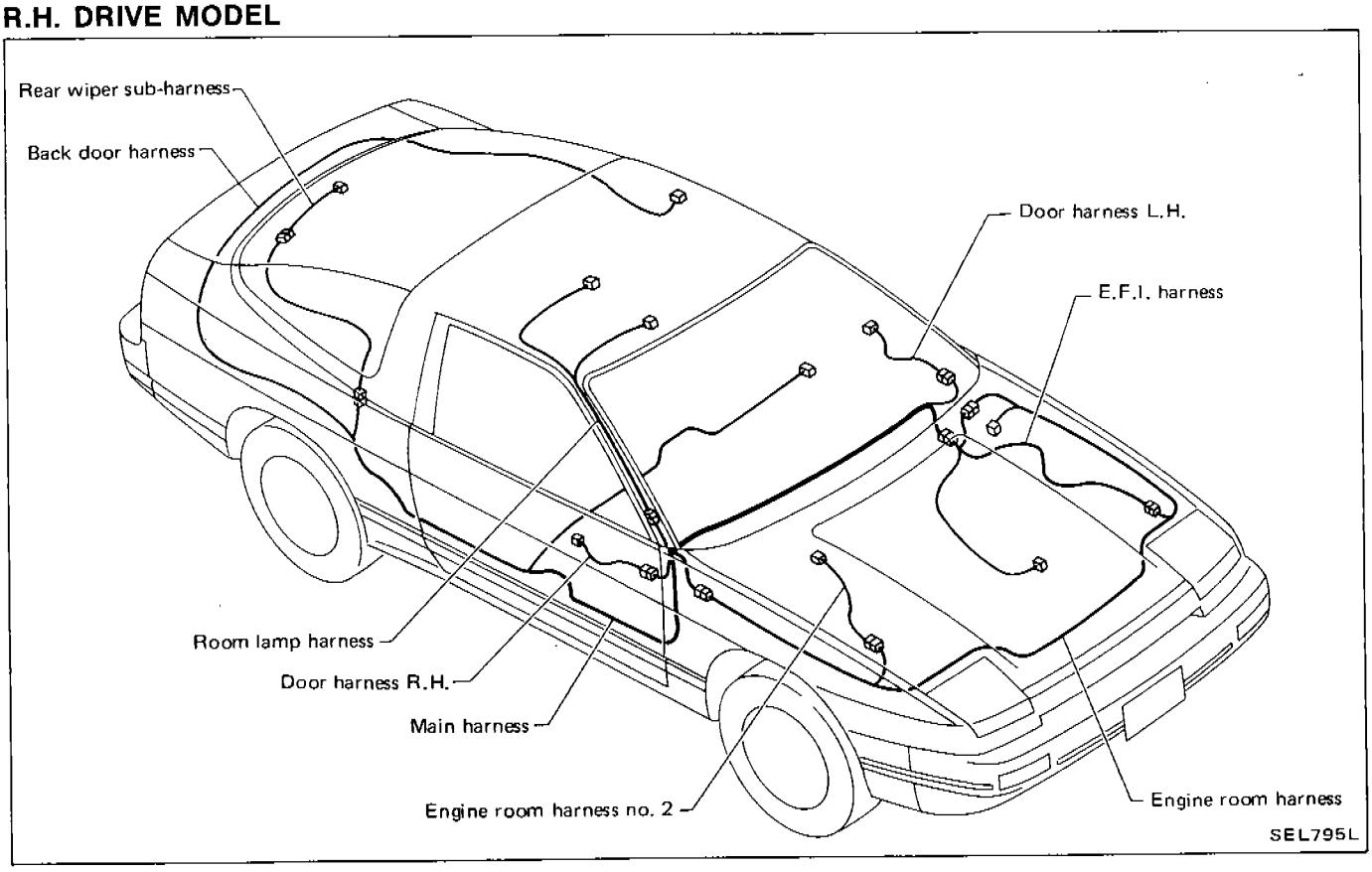
SEL706L

Outline

L.H. DRIVE MODEL

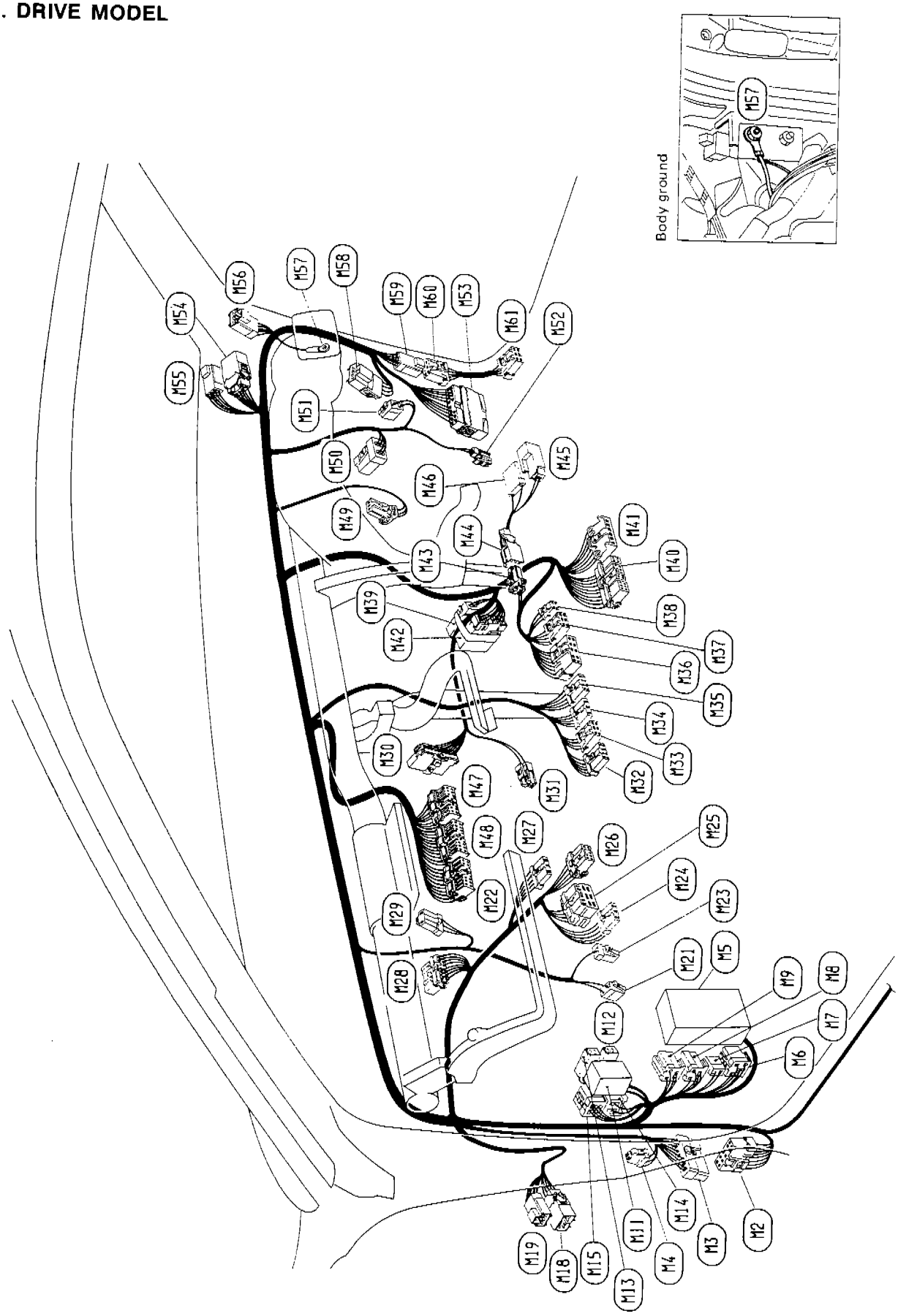


R.H. DRIVE MODEL



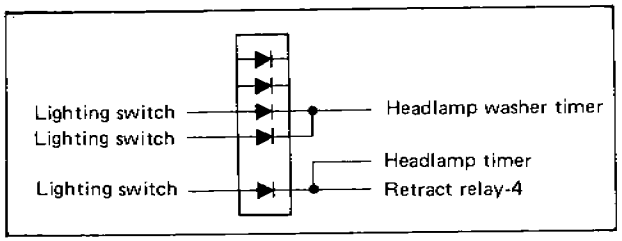
Main Harness

L.H. DRIVE MODEL

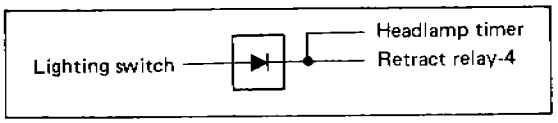


(M2) : Headlamp timer
(M3) : Check connector
(M4) : Warning buzzer
(M5) : Fuse block
(M6) : Ignition relay
(M7) : Circuit breaker (Model with power window system)
(M8) : Accessory relay-2
(M9) : Accessory relay-1
(M11) : To engine room harness (E101)
(M12) : To engine room harness (E102) (Blue)
(M13) : To engine room harness (E103) (Black)
(M14) : Bulb check relay
(M15) : Rear window defogger relay
(M18) : To door harness L.H. (D1)
(M19) : To door harness L.H. (D2)
(M21) : Kickdown switch (A/T model)
(M22) : Combination meter
(M23) : Stop lamp switch
(M24) : Rear fog lamp switch
(M25) : Headlamp retractor switch
(M26) : Illumination control amplifier
(M27) : Not used
(M28) : Not used
(M29) : Combination flasher unit
(M30) : Mode door motor
(M31) : Foot lamp L.H.
(M32) : Headlamp washer switch
(M33) : Rear wiper and washer switch
(M34) : Rear window defogger switch
(M35) : Hazard switch
(M36) : Radio
(M37) : Radio
(M38) : Cassette deck
(M39) : Diode (Except for Europe)
(M40) : Push control unit
(M41) : Fan switch
(M42) : Diode (For Europe)
(M43) : To sub-harness (M44)
(M44) : To main harness (M43)
(M45) : Glove box lamp
(M46) : Glove box lamp switch
(M47) : Combination meter
(M48) : Combination meter
(M49) : Thermo control amplifier
(M50) : Heater resistor
(M51) : Blower motor
(M52) : Foot lamp R.H.
(M53) : To E.F.I. harness (F1)
(M54) : To door harness R.H. (D101)
(M55) : To door harness R.H. (D102)
(M56) : To room lamp harness (R1)
(M57) : Body ground
(M58) : Intake door motor
(M59) : To sub-harness (M60)
(M60) : To main harness (M59)
(M61) : Door lock timer

Diode (M42)



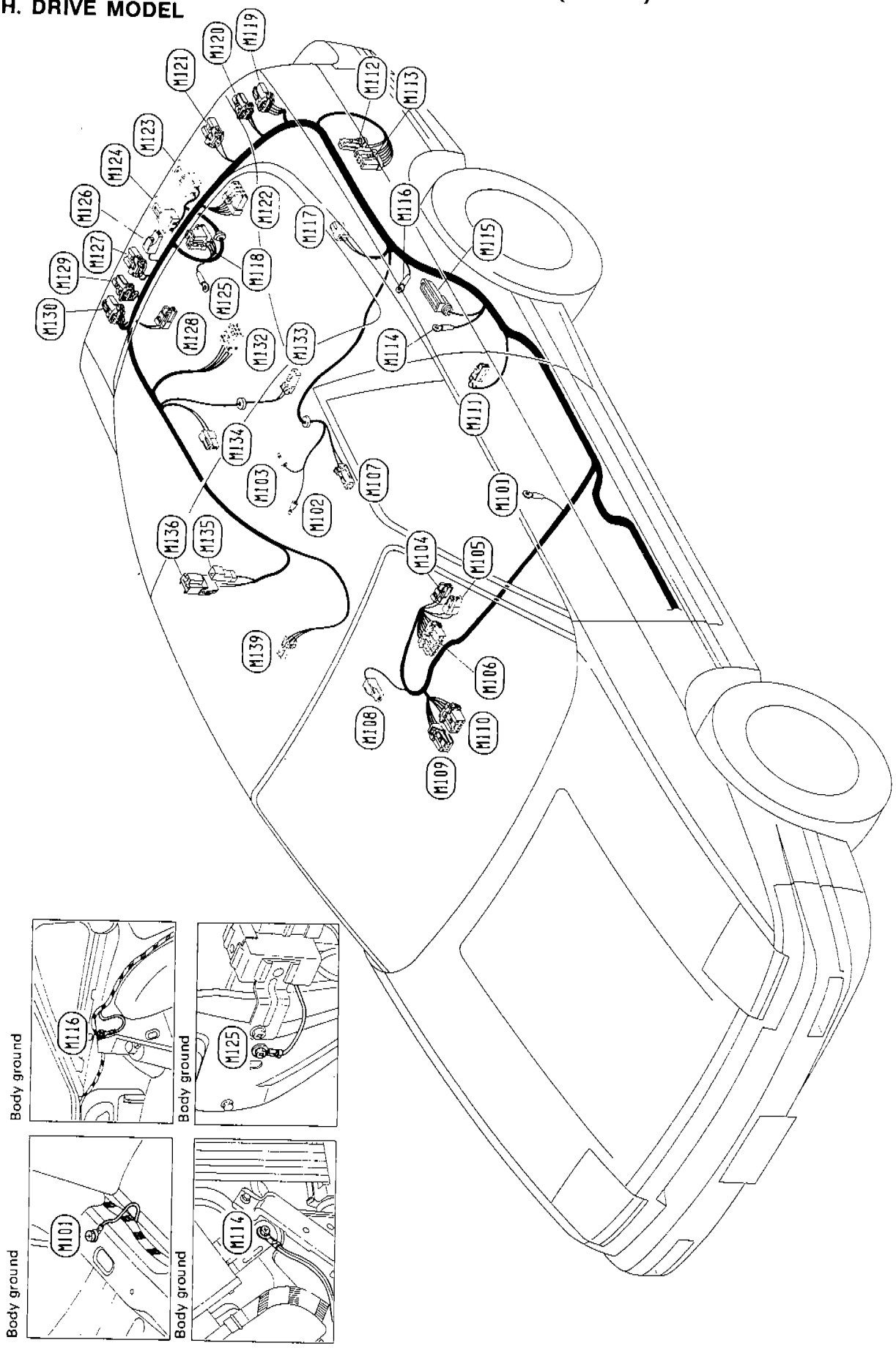
Diode (M39)



SEL800L

Main Harness (Cont'd)

L.H. DRIVE MODEL



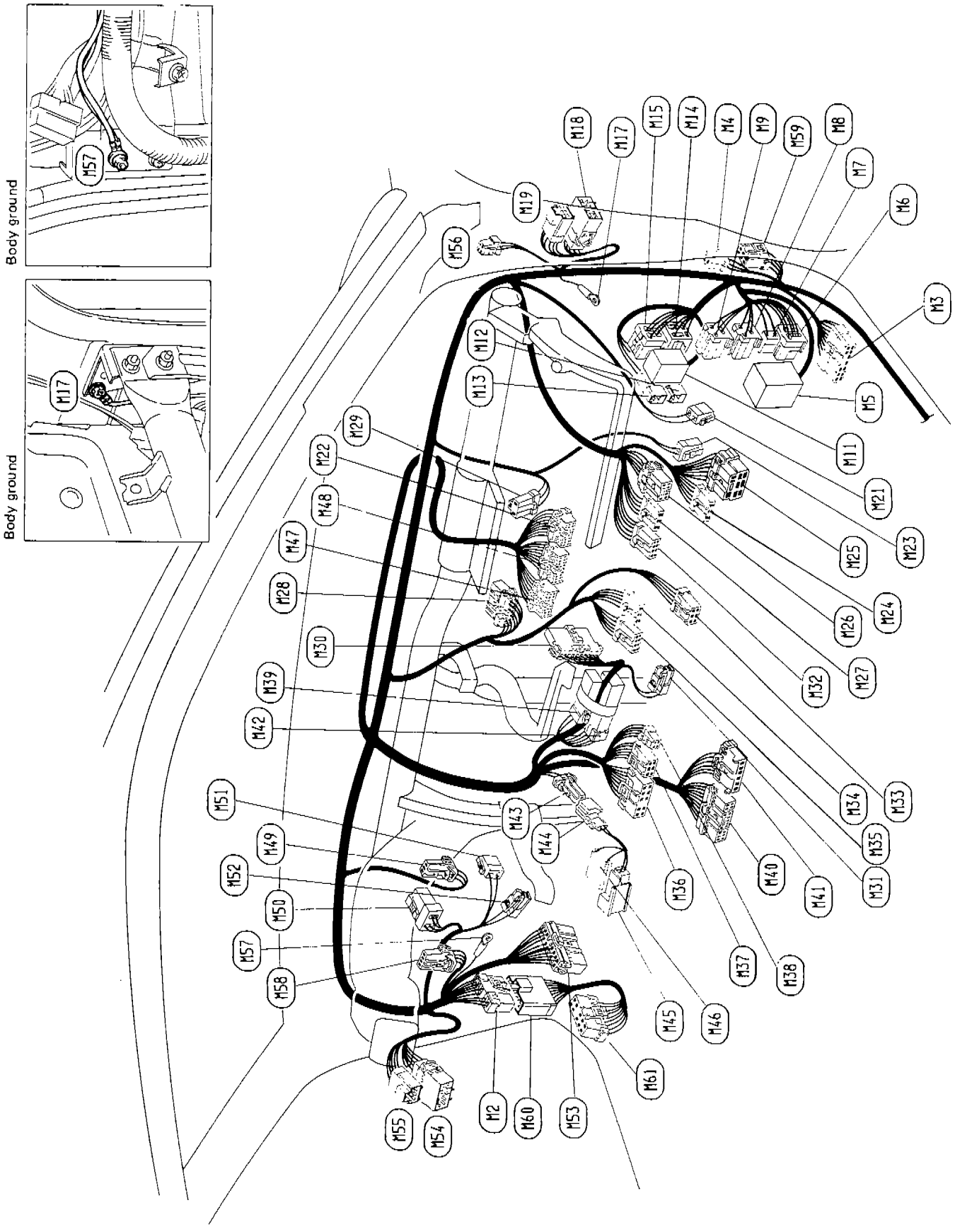
Main Harness (Cont'd)

(H101) : Body ground
(H102) : Differential oil temperature sensor
(H103) : Differential oil temperature switch
(H104) : Ash tray illumination
(H105) : Cigarette lighter
(H106) : Door mirror control switch
(H107) : Differential oil cooler pump
(H108) : Parking brake switch
(H109) : A/T device (A/T illumination and O.D. control switch) (A/T model)
(H110) : Not used
(H111) : Door switch L.H.
(H112) : Power antenna motor
(H113) : Power antenna timer
(H114) : Body ground
(H115) : 4-wheel skid control unit
(H116) : Body ground
(H117) : Rear speaker L.H.
(H118) : Differential oil cooler relay-2
(H119) : Rear combination lamp L.H.
(H120) : Rear combination lamp L.H.
(H121) : Back-up lamp L.H.
(H122) : Rear wiper amplifier
(H123) : License lamp L.H.
(H124) : License lamp R.H.
(H125) : Body ground
(H126) : Luggage room lamp switch
(H127) : Back-up lamp R.H.
(H128) : Luggage room lamp
(H129) : Rear combination lamp R.H.
(H130) : Rear combination lamp R.H.
(H132) : Fuel tank gauge unit
(H133) : Rear brake skid sensor
(H134) : Rear speaker R.H.
(H135) : To back door harness (0501)
(H136) : To back door harness (0502)
(H139) : Door switch R.H.

SEL801L

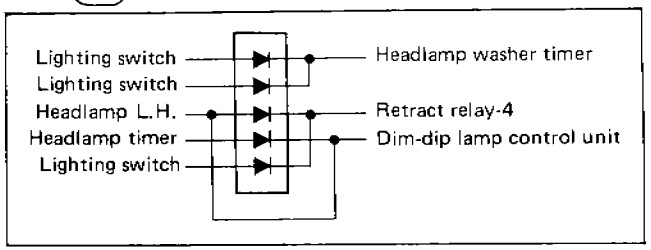
Main Harness (Cont'd)

R.H. DRIVE MODEL

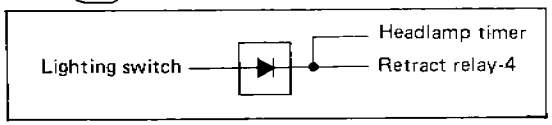


(M2) : To sub-harness (M60)
(M3) : Check connector
(M4) : Warning buzzer
(M5) : Fuse block
(M6) : Ignition relay
(M7) : Circuit breaker (Model with power window system)
(M8) : Accessory relay-2
(M9) : Accessory relay-1
(M11) : To engine room harness (E101)
(M12) : To engine room harness (E102) (Blue)
(M13) : To engine room harness (E103) (Black)
(M14) : Bulb check relay
(M15) : Rear window defogger relay
(M17) : Body ground
(M18) : To door harness R.H. (D111)
(M19) : To door harness R.H. (D112)
(M21) : Kickdown switch (A/T model)
(M22) : Combination meter
(M23) : Stop lamp switch
(M24) : Rear fog lamp switch
(M25) : Headlamp retractor switch
(M26) : Illumination control amplifier
(M27) : Not used
(M28) : Not used
(M29) : Combination flasher unit
(M30) : Mode door motor
(M31) : Foot lamp L.H.
(M32) : Headlamp washer switch
(M33) : Rear wiper and washer switch
(M34) : Rear window defogger switch
(M35) : Hazard switch
(M36) : Radio
(M37) : Radio
(M38) : Cassette deck
(M39) : Diode (Except for Europe)
(M40) : Push control unit
(M41) : Fan switch
(M42) : Diode (For Europe)
(M43) : To sub-harness (M44)
(M44) : To main harness (M43)
(M45) : Glove box lamp
(M46) : Glove box lamp switch
(M47) : Combination meter
(M48) : Combination meter
(M49) : Thermo control amplifier
(M50) : Heater resistor
(M51) : Blower motor
(M52) : Foot lamp R.H.
(M53) : To E.F.I. harness (F1)
(M54) : To door harness L.H. (D11)
(M55) : To door harness L.H. (D12)
(M56) : To room lamp harness (R1)
(M57) : Body ground
(M58) : Intake door motor
(M59) : Door lock timer
(M60) : To main harness (M2)
(M61) : Headlamp timer

Diode (M42)



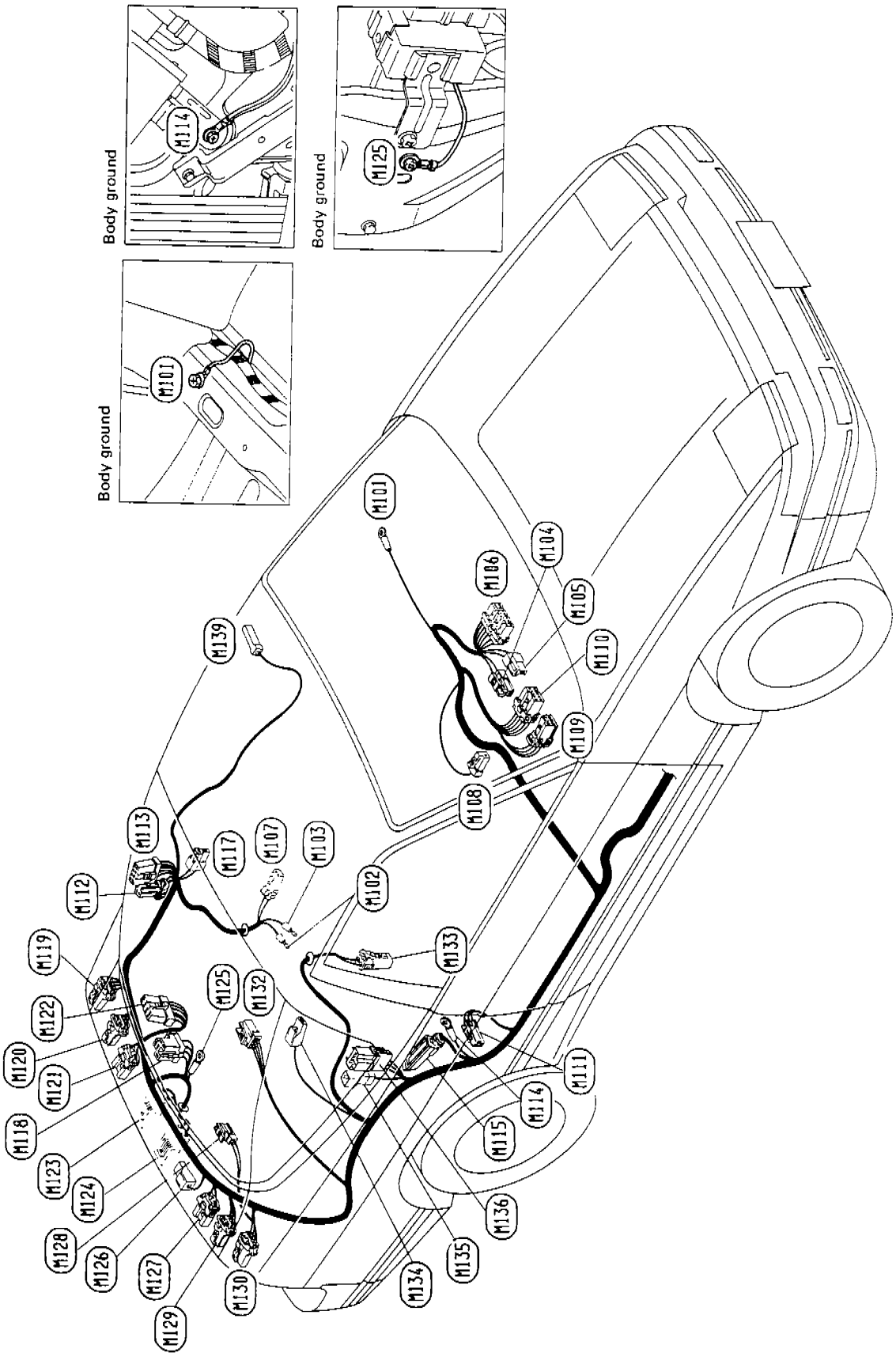
Diode (M39)



SEL802L

Main Harness (Cont'd)

R.H. DRIVE MODEL



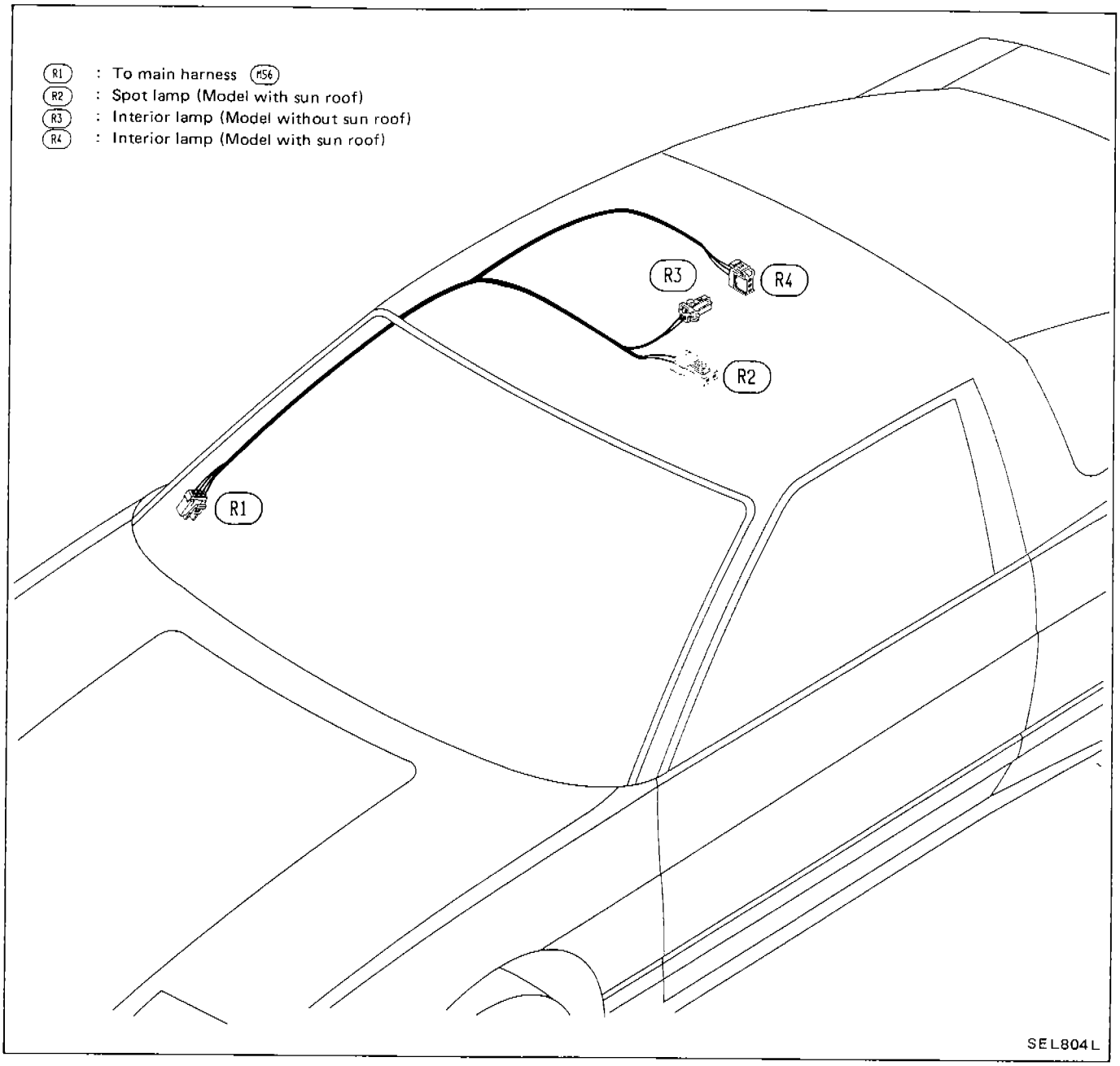
Main Harness (Cont'd)

(M101) : Body ground
(M102) : Differential oil temperature sensor
(M103) : Differential oil temperature switch
(M104) : Ash tray illumination
(M105) : Cigarette lighter
(M106) : Door mirror control switch
(M107) : Differential oil cooler pump
(M108) : Parking brake switch
(M109) : A/T device (A/T illumination and O.D. control switch) (A/T model)
(M110) : Not used
(M111) : Door switch R.H.
(M112) : Power antenna motor
(M113) : Power antenna timer
(M114) : Body ground
(M115) : 4-wheel skid control unit
(M117) : Rear speaker L.H.
(M118) : Differential oil cooler relay-2
(M119) : Rear combination lamp L.H.

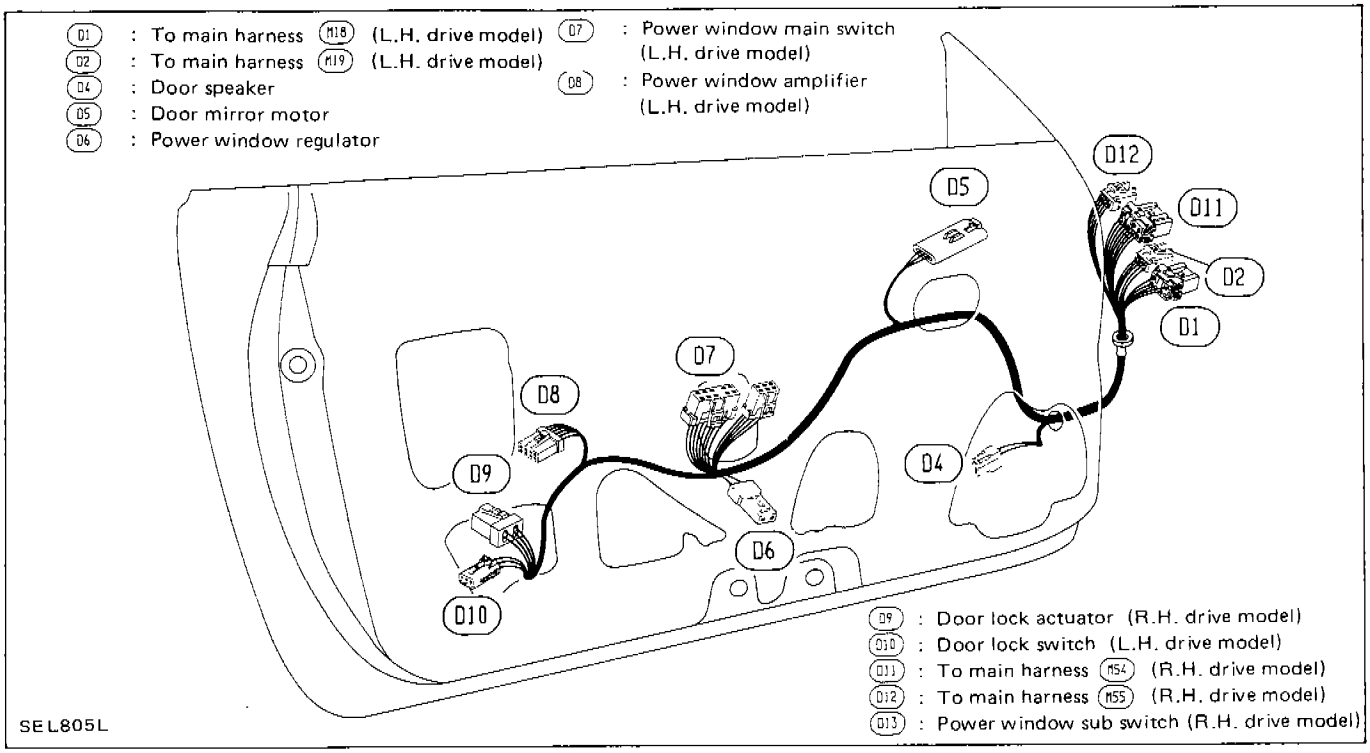
(M120) : Rear combination lamp L.H.
(M121) : Back-up lamp L.H.
(M122) : Rear wiper amplifier
(M123) : License lamp L.H.
(M124) : License lamp R.H.
(M125) : Body ground
(M126) : Luggage room lamp switch
(M127) : Back-up lamp R.H.
(M128) : Luggage room lamp
(M129) : Rear combination lamp R.H.
(M130) : Rear combination lamp R.H.
(M132) : Fuel tank gauge unit
(M133) : Rear brake skid sensor
(M134) : Rear speaker R.H.
(M135) : To back door harness (D501)
(M136) : To back door harness (D502)
(M139) : Door switch L.H.

SEL803L

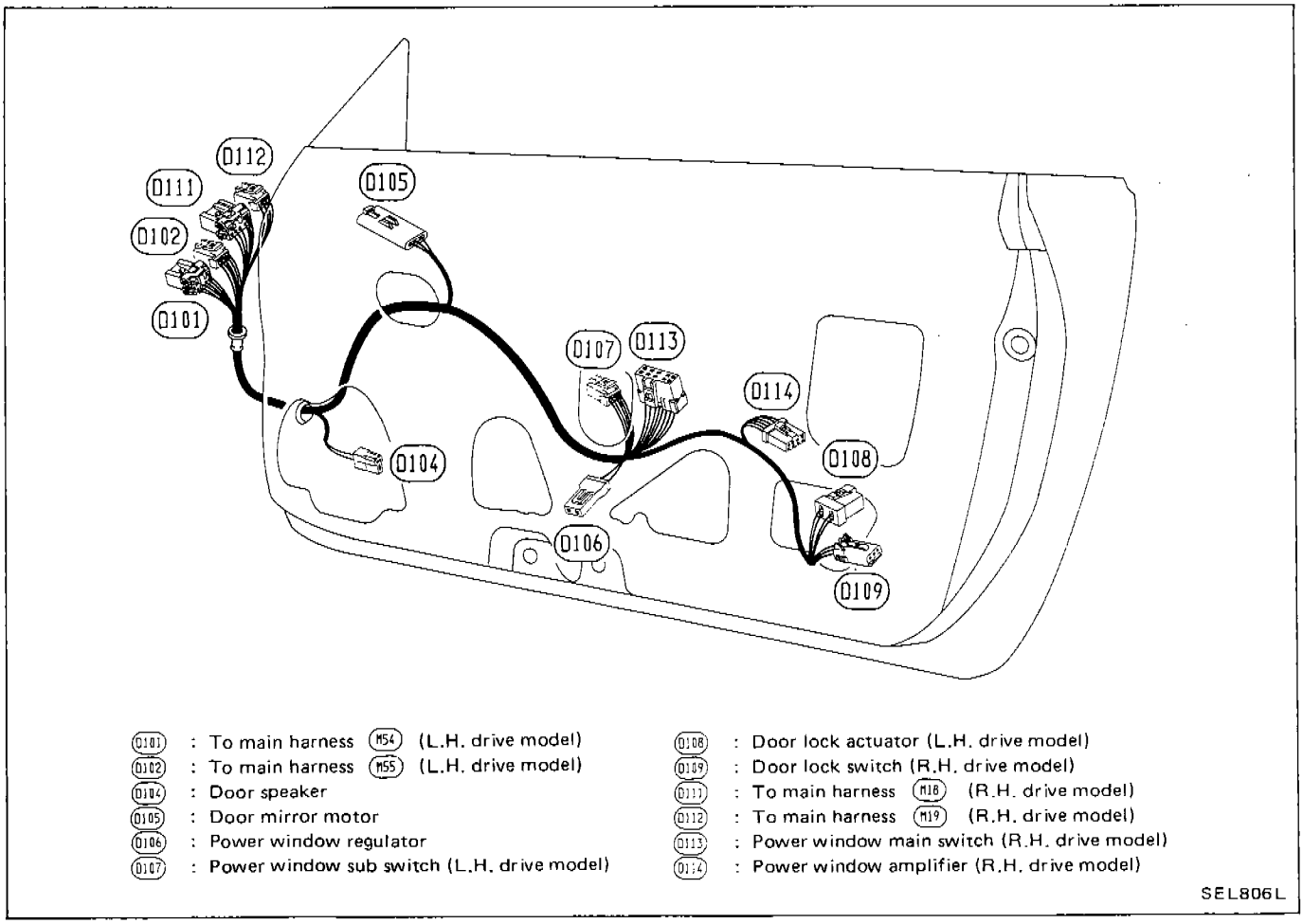
Room Lamp Harness



Door Harness L.H.

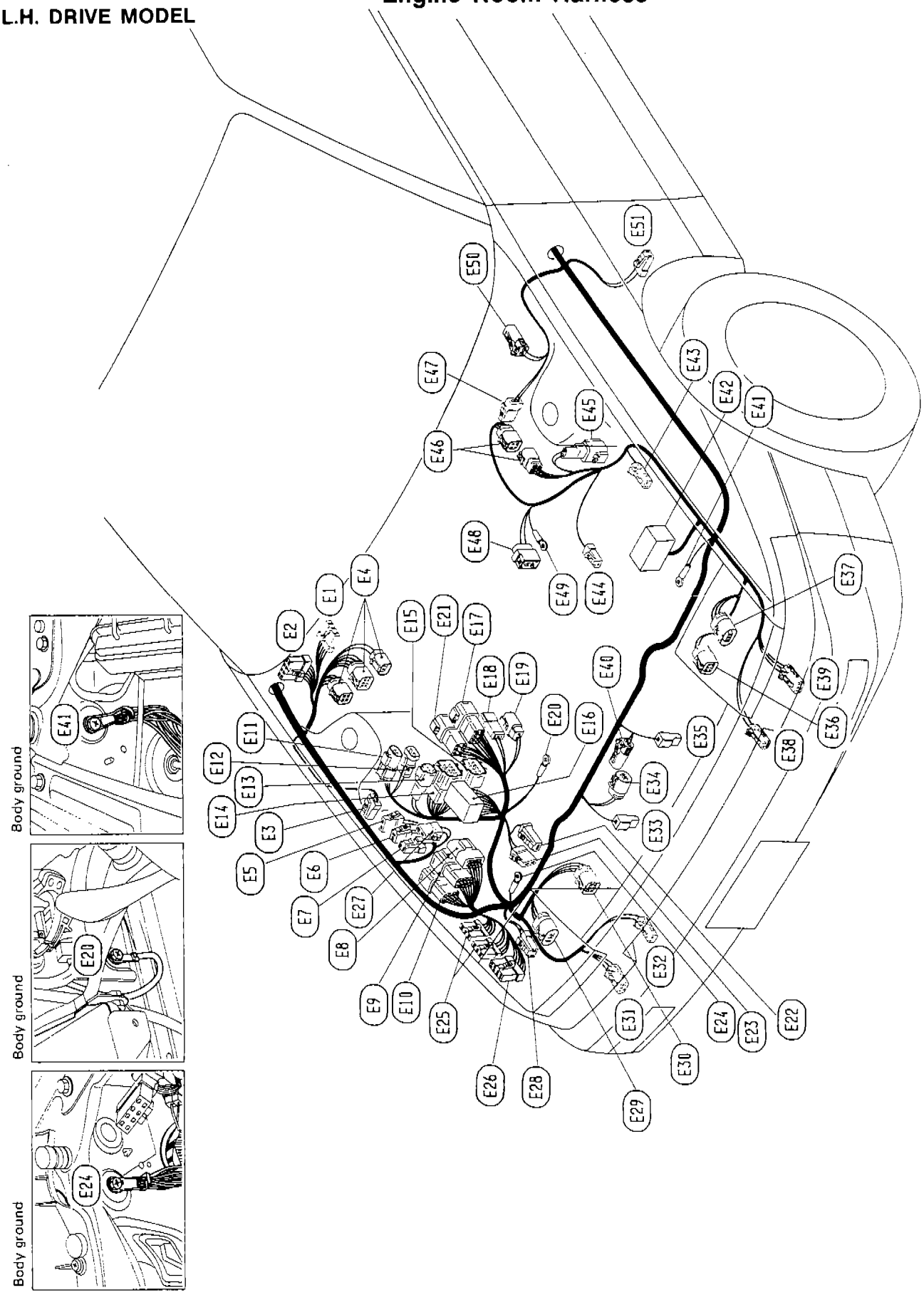


Door Harness R.H.



Engine Room Harness

L.H. DRIVE MODEL



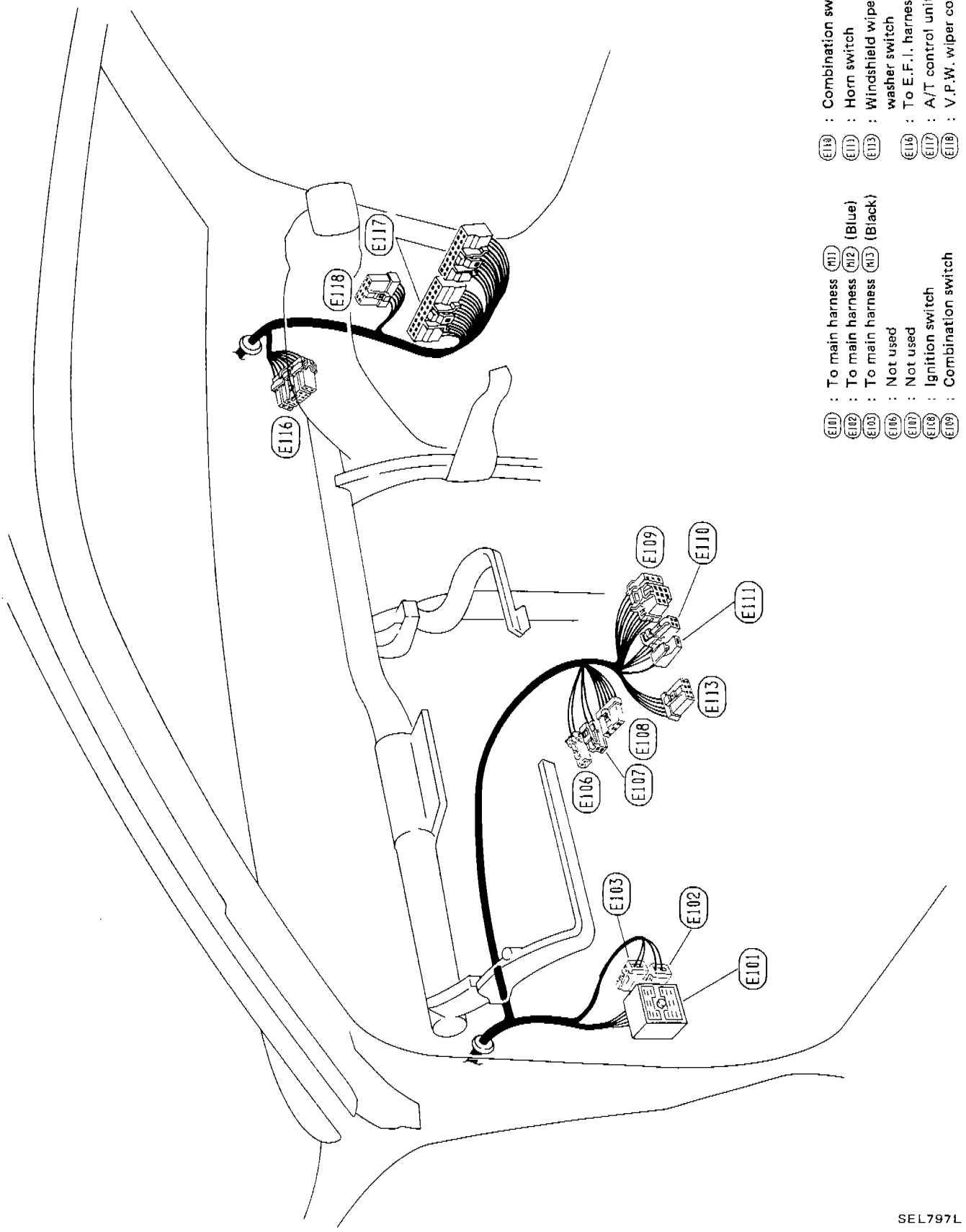
Engine Room Harness (Cont'd)

E1 : Windshield wiper motor
E2 : Windshield wiper amplifier
E3 : Side turn signal lamp R.H.
E4 : Anti-skid brake actuator
E5 : Rear washer motor
E6 : Front washer motor
E7 : Washer fluid level switch
E8 : To E.F.I. harness (F8) (White)
E9 : To E.F.I. harness (F9) (Gray)
E10 : To E.F.I. harness (F10) (Brown)
E11 : To engine room harness no. 2 (E201) (M/T model)
E12 : Inhibitor switch (A/T model)
E13 : Revolution sensor (A/T model)
E14 : Inhibitor switch (A/T model) (Gray)
E15 : To solenoid valve sub-harness (A/T model) (Brown)
E16 : Relay box (Refer to page EL-81.)
E17 : To engine room harness no. 2 (E202) (A/T model)
E18 : To engine room harness no. 2 (E203)
E19 : To engine room harness no. 2 (E204)
E20 : Body ground
E21 : To engine room harness no.2 (E205) (M/T model)
E22 : Battery
E23 : Battery
E24 : Body ground
E25 : Daytime light control unit
E26 : Headlamp washer amplifier
E27 : Headlamp washer motor
E28 : Not used
E29 : Headlamp R.H.
E30 : Headlamp motor R.H.
E31 : Front combination lamp R.H.
E32 : Daytime light R.H.
E33 : Horn-high
E34 : Condenser fan motor
E35 : Horn-low
E36 : Headlamp motor L.H.
E37 : Headlamp L.H.
E38 : Daytime light L.H.
E39 : Front combination lamp L.H.
E40 : Dual-pressure switch
E41 : Body ground
E42 : Relay box (Refer to page EL-81.)
E43 : Dropping resistor (A/T model)
E44 : Compressor
E45 : Front brake skid sensor L.H.
E46 : Power transistor unit
E47 : Brake fluid level switch
E48 : Pressure regulator control solenoid valve
E49 : Body ground for front brake skid sensor L.H.
E50 : V.P.W. wiper motor
E51 : Side turn signal lamp L.H.
E52 : To engine room harness (E28)

SEL796L

Engine Room Harness (Cont'd)

L.H. DRIVE MODEL



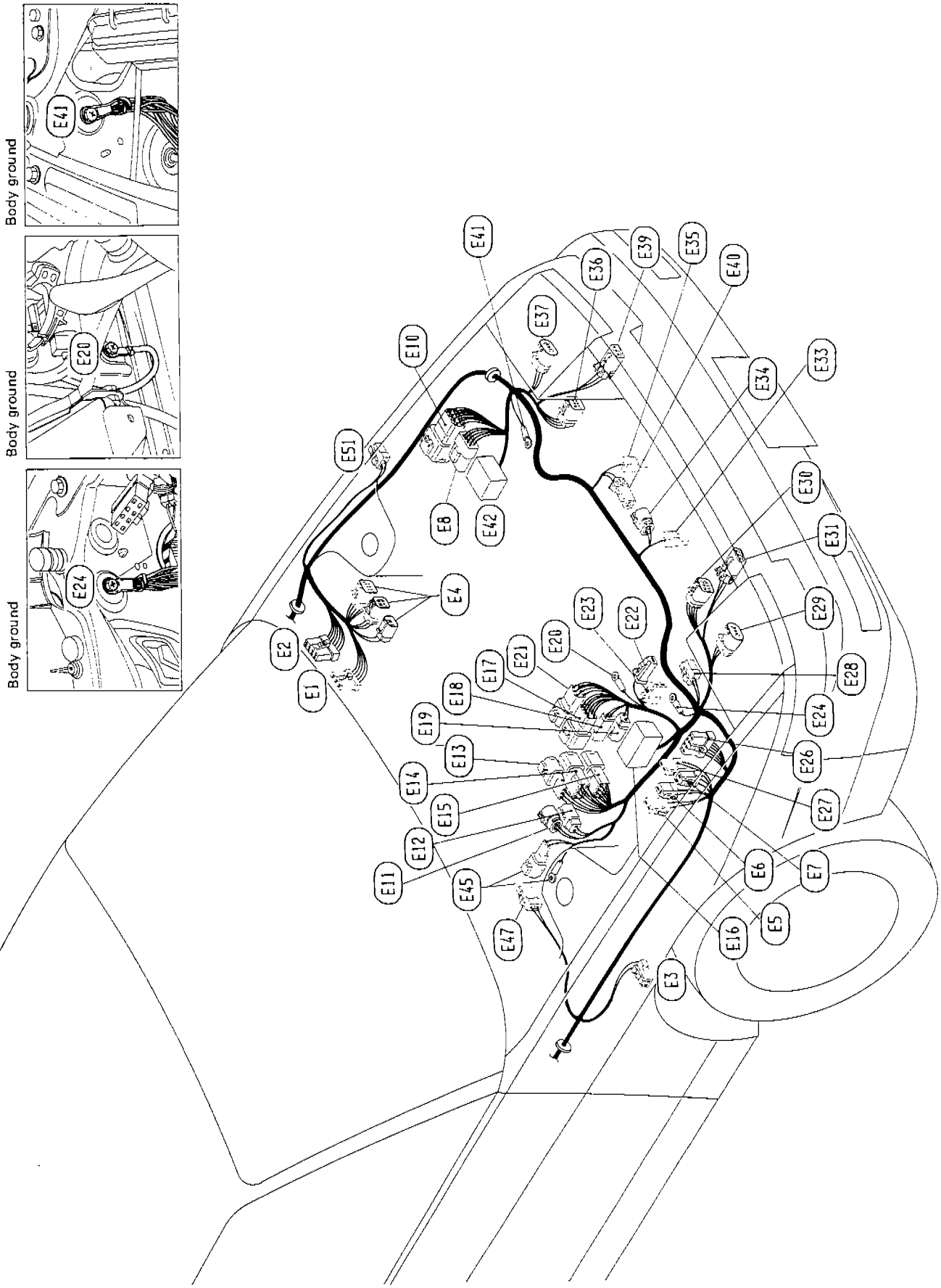
(E101) : To main harness (M11)
(E102) : To main harness (M12) (Blue)
(E103) : To main harness (M13) (Black)
(E106) : Not used
(E107) : Not used
(E108) : Ignition switch
(E109) : Combination switch
(E110) : Combination switch
(E111) : Horn switch
(E113) : Windshield wiper and washer switch
(E116) : To E.F.I. harness (F3)
(E117) : A/T control unit
(E118) : V.P.W. wiper control unit

SEL797L

NOTE

Engine Room Harness (Cont'd)

R.H. DRIVE MODEL



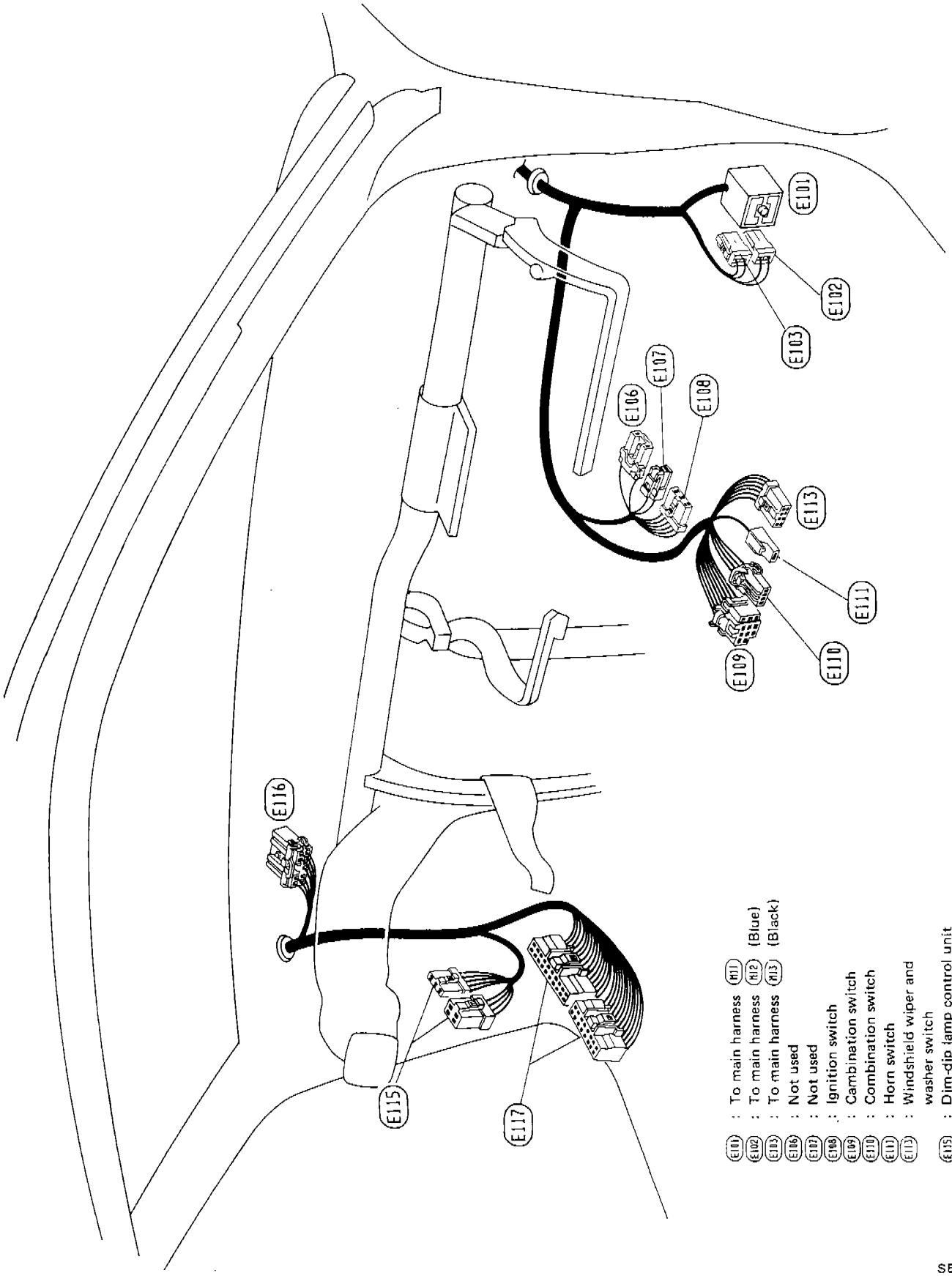
Engine Room Harness (Cont'd)

(E1) : Windshield wiper motor
(E2) : Windshield wiper amplifier
(E3) : Side turn signal lamp R.H.
(E4) : Anti-skid brake actuator
(E5) : Rear washer motor
(E6) : Front washer motor
(E7) : Washer fluid level switch
(E8) : To E.F.I. harness (F8) (White)
(E10) : To E.F.I. harness (F10) (Brown)
(E11) : To engine room harness no. 2 (E201) (M/T model)
(E12) : Inhibitor switch (A/T model)
(E13) : Revolution sensor (A/T model)
(E14) : Inhibitor switch (A/T model) (Gray)
(E15) : To solenoid valve sub-harness (A/T model) (Brown)
(E16) : Relay box (Refer to page EL-81.)
(E17) : To engine room harness no. 2 (E202) (A/T model)
(E18) : To engine room harness no. 2 (E203)
(E19) : To engine room harness no. 2 (E204)
(E20) : Body ground
(E21) : To engine room harness no.2 (E205) (M/T model)
(E22) : Battery
(E23) : Battery
(E24) : Body ground
(E26) : Headlamp washer amplifier
(E27) : Headlamp washer motor
(E28) : Not used
(E29) : Headlamp R.H.
(E30) : Headlamp motor R.H.
(E31) : Front combination lamp R.H.
(E33) : Horn-high
(E34) : Condenser fan motor
(E35) : Horn-low
(E36) : Headlamp motor L.H.
(E37) : Headlamp L.H.
(E39) : Front combination lamp L.H.
(E40) : Dual-pressure switch
(E41) : Body ground
(E42) : Relay box (Refer to page EL-81.)
(E45) : Front brake skid sensor R.H.
(E47) : Brake fluid level switch
(E51) : Side turn signal lamp L.H.
(E52) : To engine room harness (F28)

SEL798L

Engine Room Harness (Cont'd)

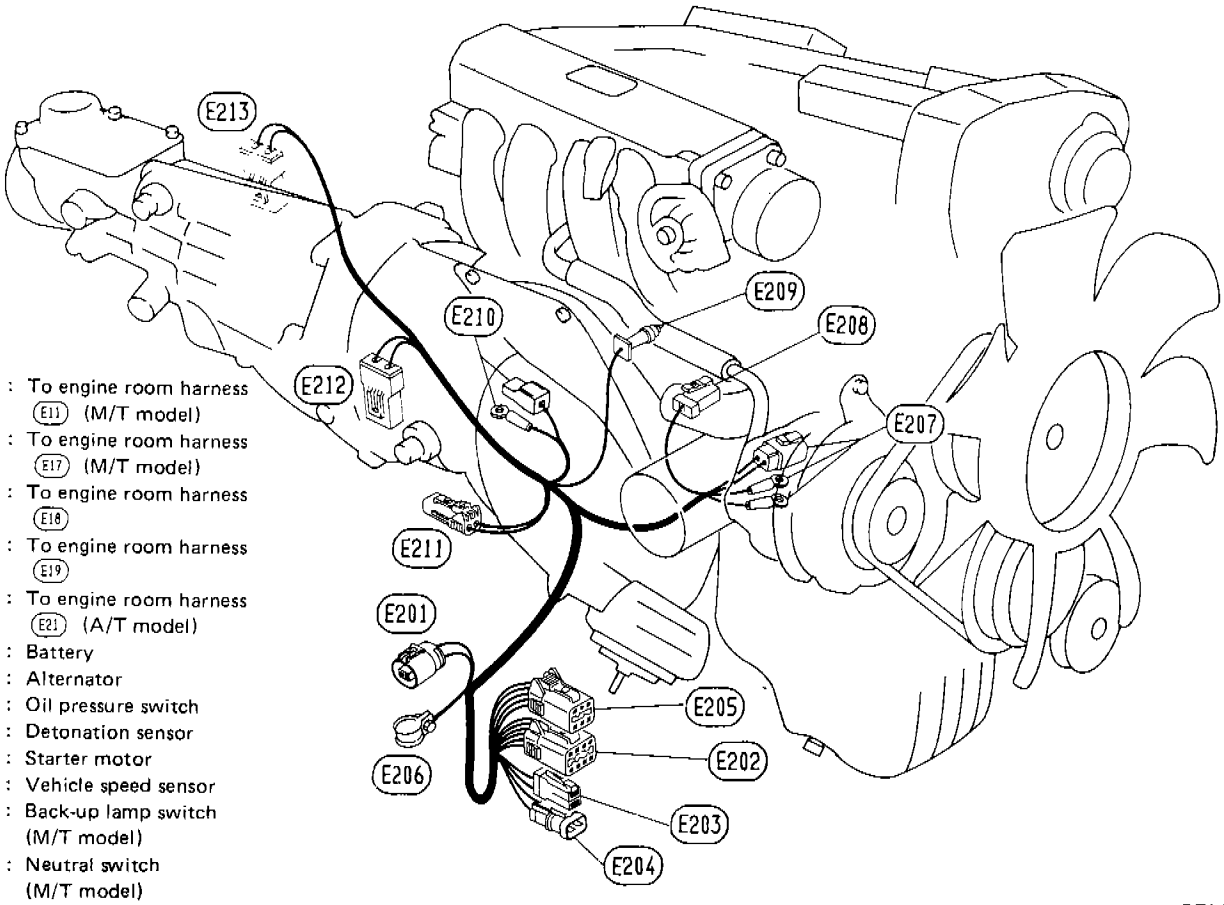
R.H. DRIVE MODEL



E101 : To main harness (H1) (Blue)
E102 : To main harness (H2) (Black)
E103 : To main harness (H3) (Black)
E106 : Not used
E107 : Not used
E108 : Ignition switch
E109 : Cambination switch
E110 : Combination switch
E111 : Horn switch
E113 : Windshield wiper and washer switch
E115 : Dim-dip lamp control unit
E116 : To E.F.I. harness (F3)
E117 : A/T control unit

SEL799L

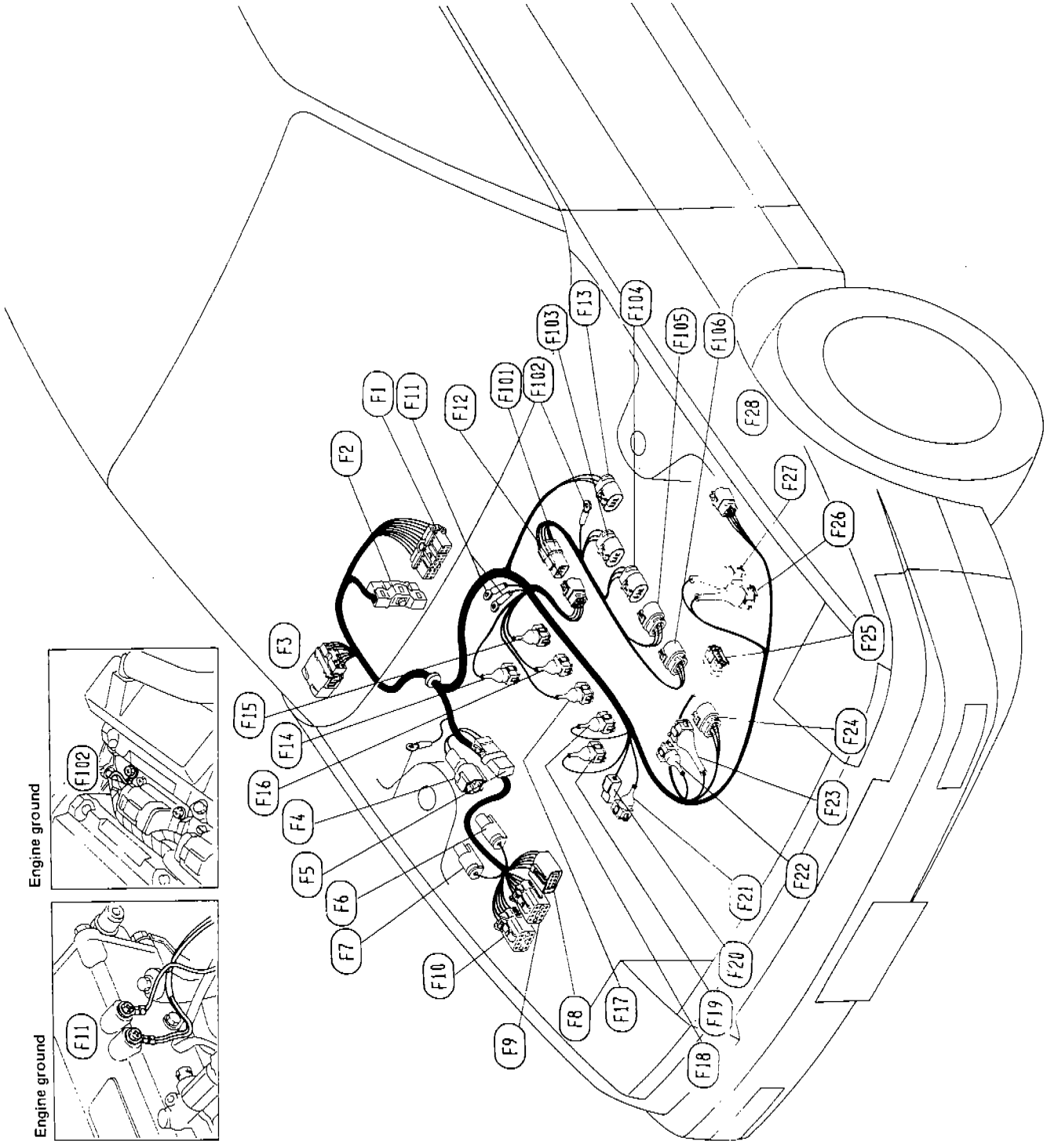
Engine Room Harness No. 2



E201 : To engine room harness E11 (M/T model)
E202 : To engine room harness E17 (M/T model)
E203 : To engine room harness E18
E204 : To engine room harness E19
E205 : To engine room harness E21 (A/T model)
E206 : Battery
E207 : Alternator
E208 : Oil pressure switch
E209 : Detonation sensor
E210 : Starter motor
E211 : Vehicle speed sensor
E212 : Back-up lamp switch (M/T model)
E213 : Neutral switch (M/T model)

E.F.I. Harness

L.H. DRIVE MODEL



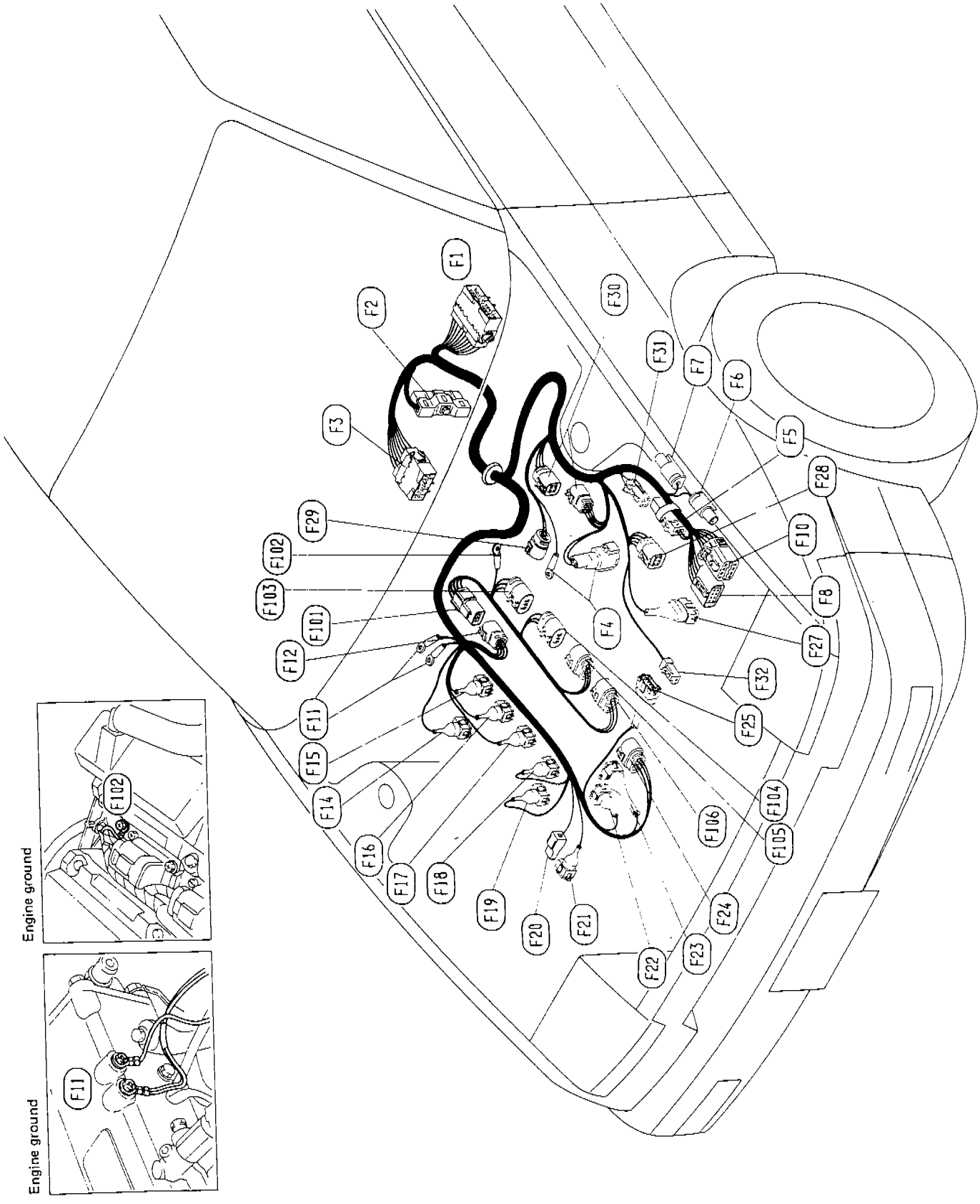
E.F.I. Harness (Cont'd)

(F1) : To main harness (M53)
(F2) : E.C.C.S. control unit
(F3) : To engine room harness (E116)
(F4) : Front brake skid sensor R.H.
(F5) : Resistor
(F6) : Check connector
(F7) : Check connector
(F8) : To engine room harness (E8) (White)
(F9) : To engine room harness (E9) (Gray)
(F10) : To engine room harness (E10) (Brown)
(F11) : Engine ground
(F12) : To ignition coil sub-harness (F101)
(F13) : Exhaust gas sensor (For model with catalyzer)
(F14) : F.I.C.D. solenoid valve
(F15) : Injector-4
(F16) : Injector-3
(F17) : Injector-2
(F18) : Injector-1
(F19) : A.A.C. solenoid valve
(F20) : Thermal transmitter
(F21) : Engine temperature sensor
(F22) : Air regulator
(F23) : Throttle valve switch
(F24) : Throttle sensor
(F25) : Crank angle sensor
(F26) : Air flow meter (For model with catalyzer)
(F27) : Air flow meter (Except for model with catalyzer)
(F28) : Dropping resistor
(F10) : To E.F.I. harness (F12)
(G102) : Engine ground
(F103) : Ignition coil-4
(F104) : Ignition coil-3
(F105) : Ignition coil-2
(F106) : Ignition coil-1

SEL808L

E.F.I. Harness (Cont'd)

R.H. DRIVE MODEL

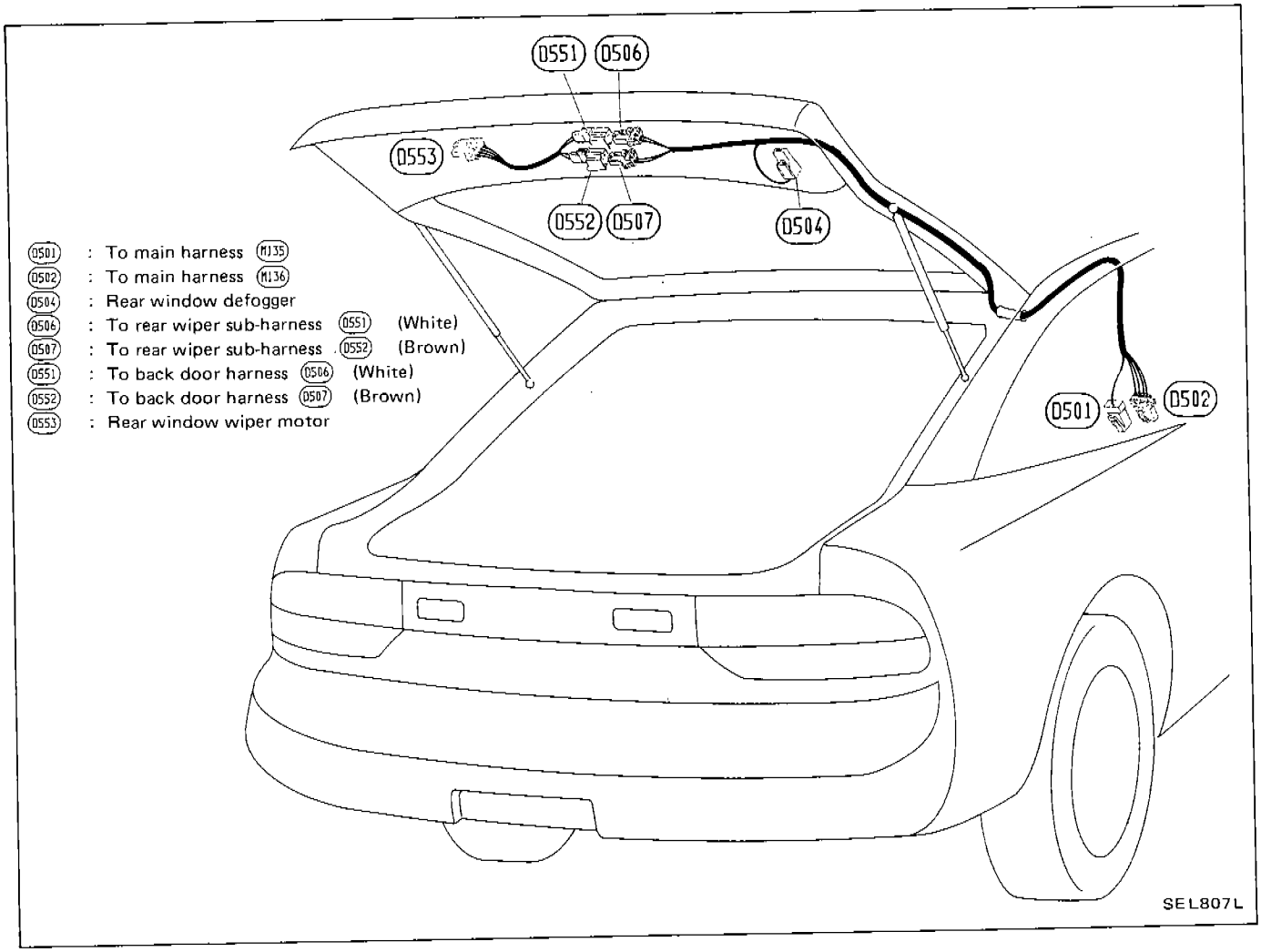


E.F.I. Harness (Cont'd)

(F1) : To main harness (M53)
(F2) : E.C.C.S. control unit
(F3) : To engine room harness (E116)
(F4) : Front brake skid sensor L.H.
(F5) : Resistor
(F6) : Check connector
(F7) : Check connector
(F8) : To engine room harness (E8) (White)
(F10) : To engine room harness (E10) (Brown)
(F11) : Engine ground
(F12) : To ignition coil sub-harness (F101)
(F14) : F.I.C.D. solenoid valve
(F15) : Injector-4
(F16) : Injector-3
(F17) : Injector-2
(F18) : Injector-1
(F19) : A.A.C. solenoid valve
(F20) : Thermal transmitter
(F21) : Engine temperature sensor
(F22) : Air regulator
(F23) : Throttle valve switch
(F24) : Throttle sensor
(F25) : Crank angle sensor
(F27) : Air flow meter
(F28) : Dropping resistor
(F29) : Pressure regulator control solenoid valve
(F30) : Power transistor unit
(F31) : Dropping resistor (A/T model)
(F32) : Compressor
(F101) : To E.F.I. harness (F12)
(F102) : Engine ground
(F103) : Ignition coil-4
(F104) : Ignition coil-3
(F105) : Ignition coil-2
(F106) : Ignition coil-1

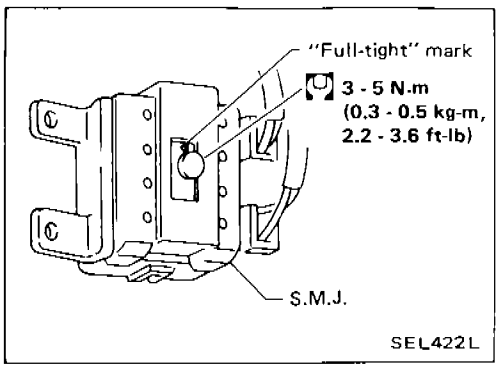
SEL810L

Back Door Harness



REMOVAL

- Remove fuse block retaining screws to gain access to S.M.J.
- Slide fuse block to the side, and remove S.M.J. retaining bolts to detach S.M.J.



INSTALLATION

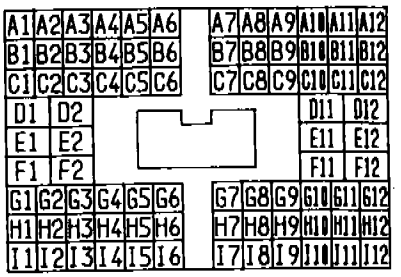
To install S.M.J., tighten bolts until orange "full-tight" mark appears and then retighten to specified torque as required.

: 3 - 5 N·m
(0.3 - 0.5 kg-m, 2.2 - 3.6 ft-lb)

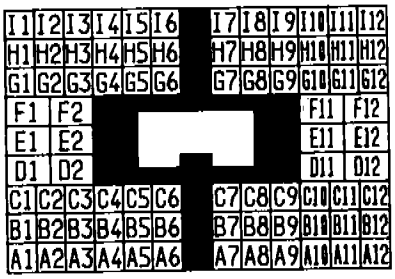
CAUTION:
Do not overtighten bolts, otherwise, they may be damaged.

Terminal Arrangement

MAIN HARNESS

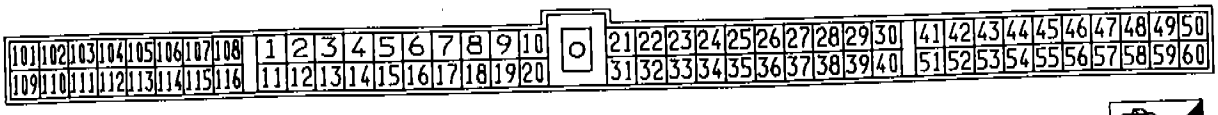


T.S.



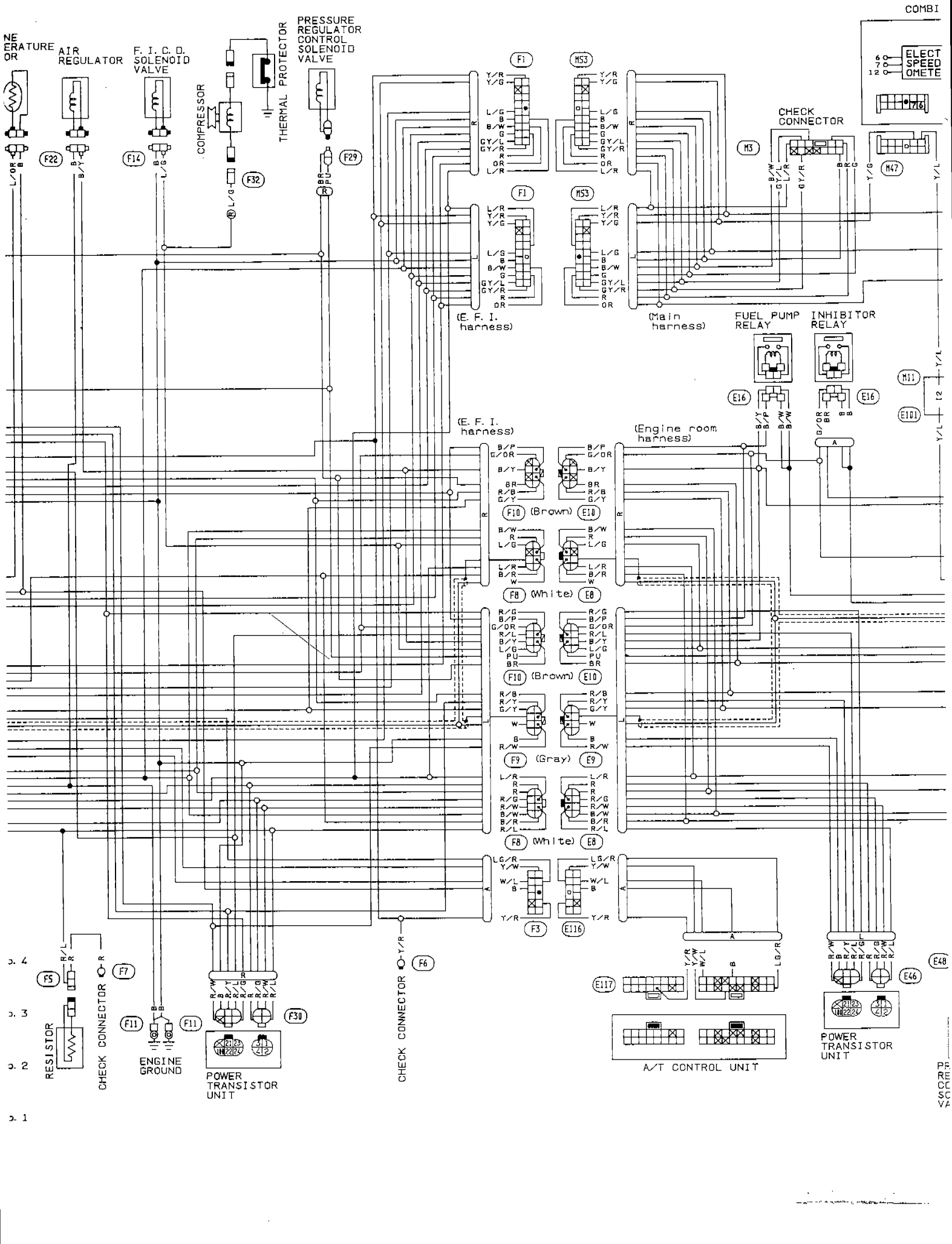
ENGINE ROOM HARNESS

E.C.C.S. CONTROL UNIT

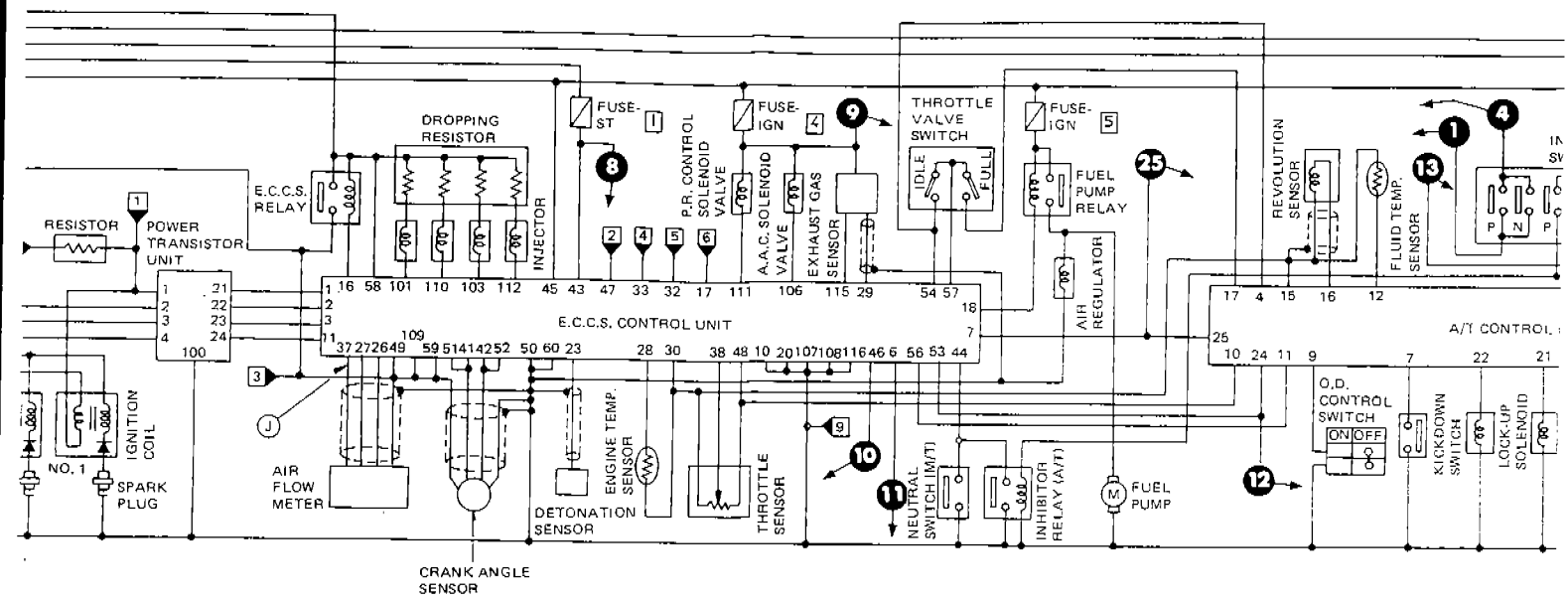


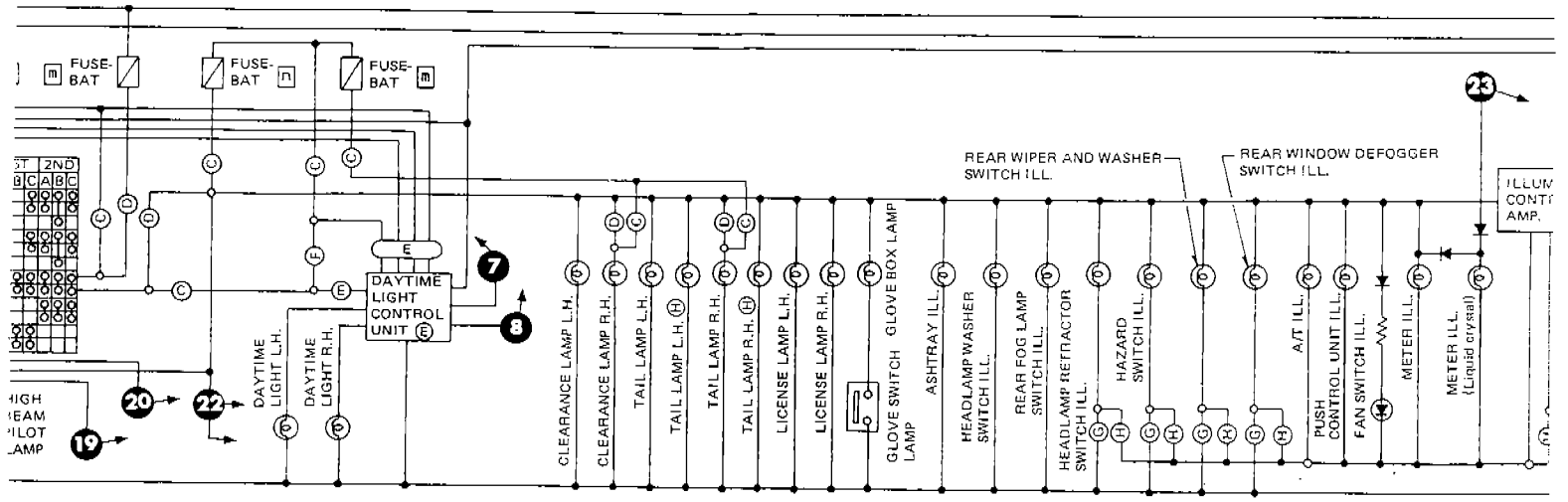
View from harness side

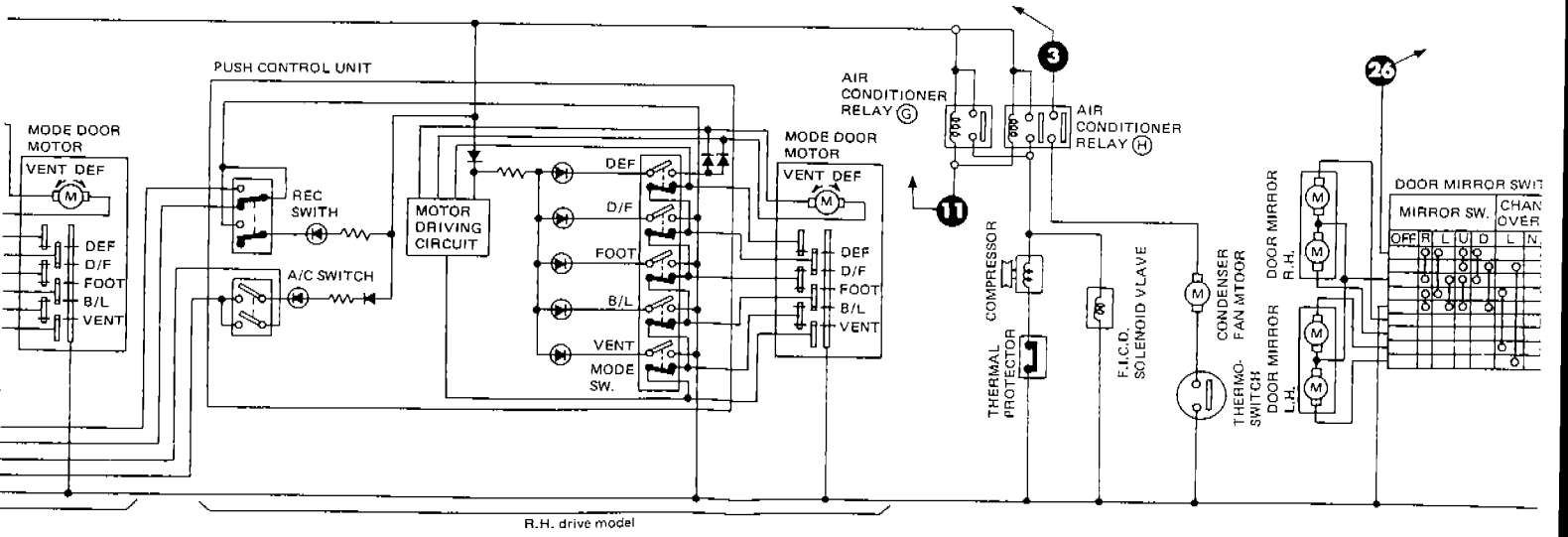
H.S.

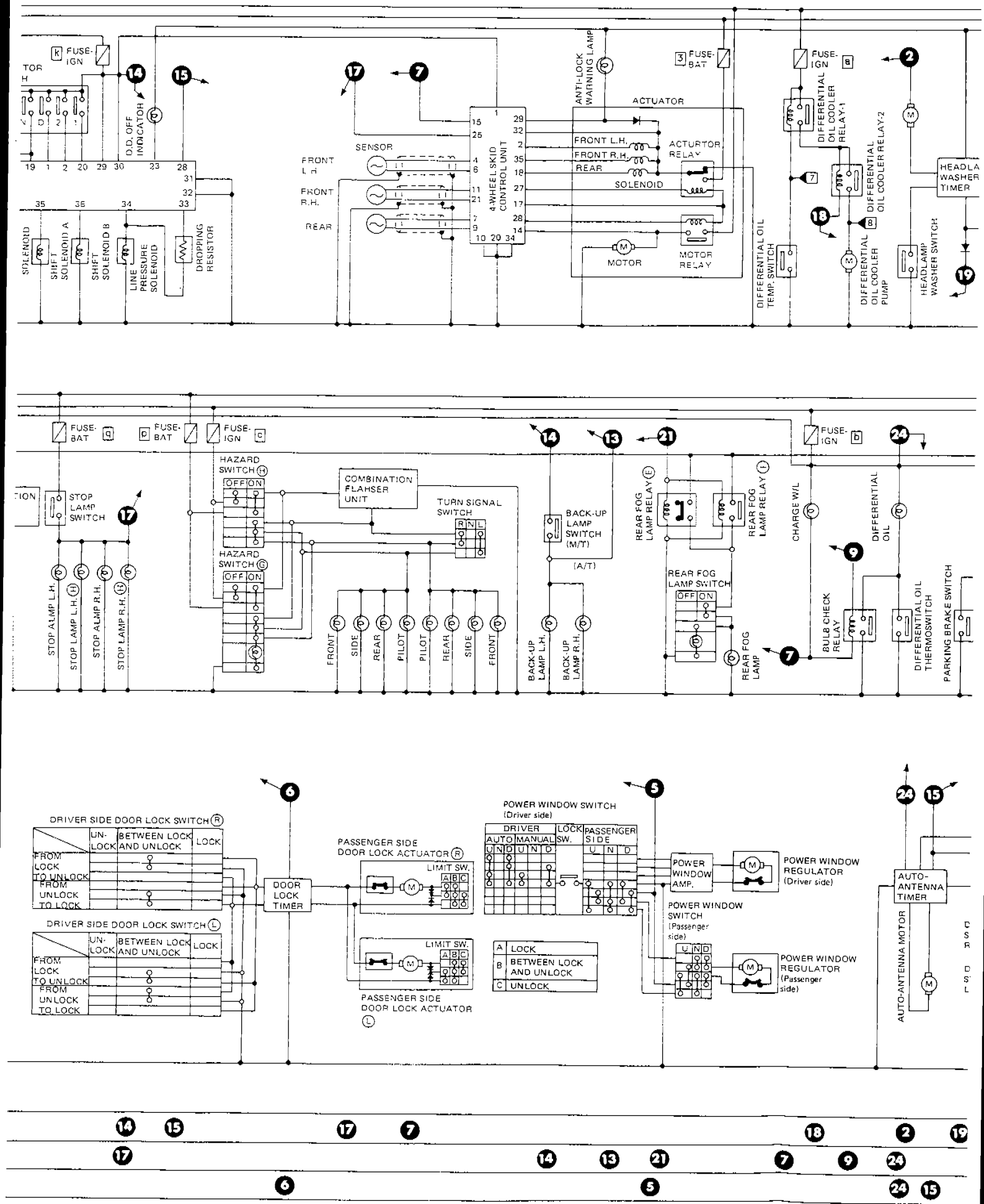

COMBI
ELECT
SPEED
OMETE
CHECK CONNECTOR
PRESSURE REGULATOR CONTROL SOLENOID VALVE
THERMAL PROTECTOR
COMPRESSOR
AIR REGULATOR
F. I. C. D. SOLENOID VALVE
(E. F. I. harness)
(Main harness)
(Engine room harness)
FUEL PUMP RELAY
INHIBITOR RELAY
(Brown)
(White)
(Gray)
RESISTOR
CHECK CONNECTOR
ENGINE GROUND
POWER TRANSISTOR UNIT
A/T CONTROL UNIT

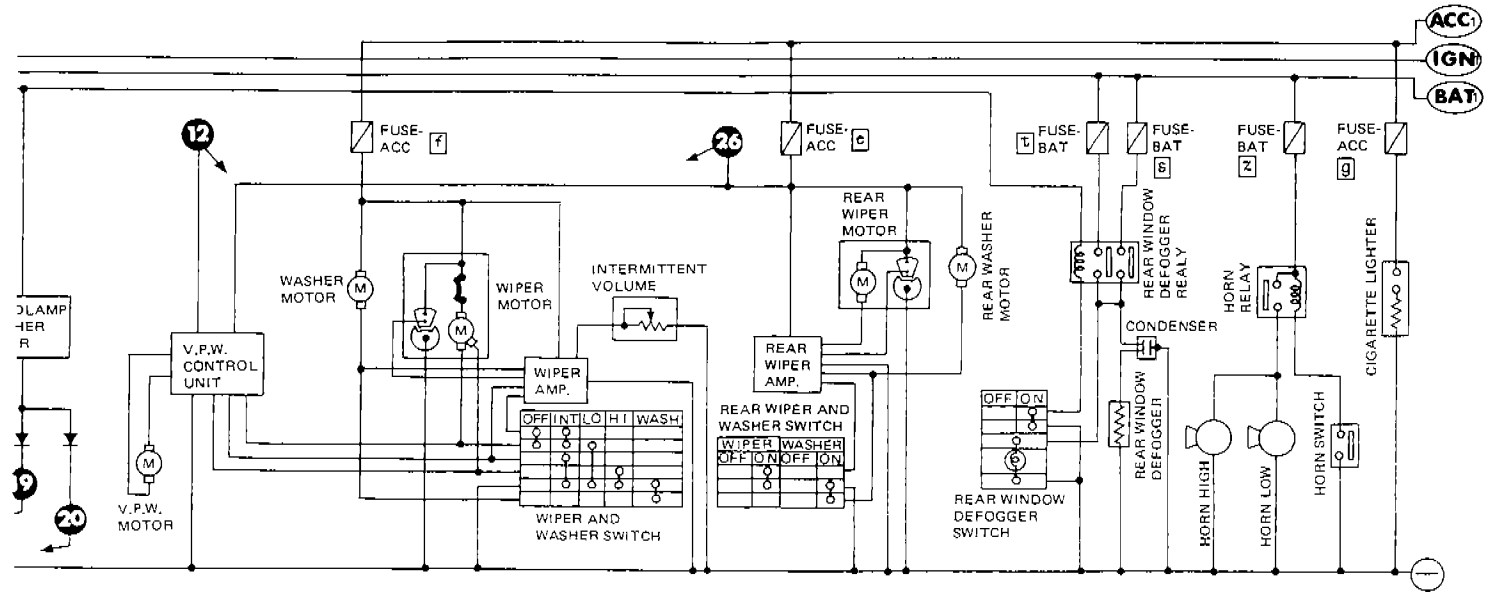
NISSAN 200SX (S13 series)
CIRCUIT DIAGRAM

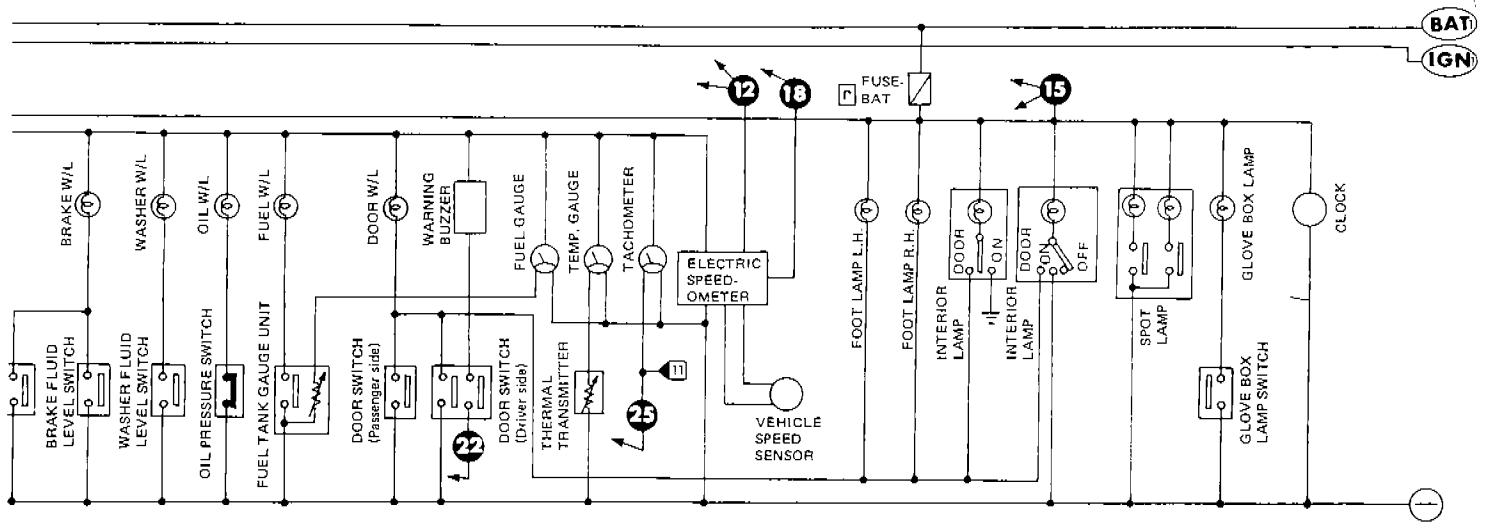

RESISTOR
POWER TRANSISTOR UNIT
E.C.C.S. RELAY
DROPPING RESISTOR
INJECTOR
FUSE- ST
FUSE- IGN
P.R. CONTROL SOLENOID VALVE
A.A.C. SOLENOID VALVE
EXHAUST GAS SENSOR
THROTTLE VALVE SWITCH
IDLE
FULL
FUSE- IGN
FUEL PUMP RELAY
AIR REGULATOR
REVOLUTION SENSOR
FLUID TEMP. SENSOR
E.C.C.S. CONTROL UNIT
A/T CONTROL
IGNITION COIL
NO. 1
SPARK PLUG
AIR FLOW METER
DETONATION SENSOR
ENGINE TEMP. SENSOR
THROTTLE SENSOR
CRANK ANGLE SENSOR
NEUTRAL SW (M/T)
INHIBITOR RELAY (A/T)
FUEL PUMP
O.D. CONTROL SWITCH
ON OFF
KICKDOWN SWITCH
LOCK-UP SOLENOID

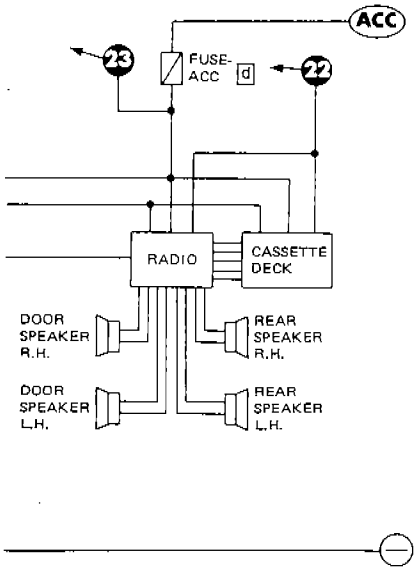

FUSE- BAT
FUSE- BAT
FUSE- BAT
DAYTIME LIGHT CONTROL UNIT
DAYTIME LIGHT L.H.
DAYTIME LIGHT R.H.
REAR WIPER AND WASHER SWITCH ILL.
REAR WINDOW DEFOGGER SWITCH ILL.
CLEARANCE LAMP L.H.
CLEARANCE LAMP R.H.
TAIL LAMP L.H.
TAIL LAMP R.H.
LICENSE LAMP L.H.
LICENSE LAMP R.H.
GLOVE SWITCH LAMP
GLOVE BOX LAMP
ASHTRAY ILL.
HEADLAMP WASHER SWITCH ILL.
REAR FOG LAMP SWITCH ILL.
HEADLAMP RETRACTOR SWITCH ILL.
HAZARD SWITCH ILL.
A/T ILL.
PUSH CONTROL UNIT ILL.
FAN SWITCH ILL.
METER ILL.
METER ILL. (Liquid crystal)


PUSH CONTROL UNIT
MODE DOOR MOTOR
VENT DEF
DEF
D/F
FOOT
B/L
VENT
REC SWITH
A/C SWITCH
MOTOR DRIVING CIRCUIT
MODE SW.
AIR CONDITIONER RELAY
AIR CONDITIONER RELAY
COMPRESSOR
THERMAL PROTECTOR
F.I.C.D. SOLENOID VLAVE
CONDENSER FAN MTOR
THERMO-SWITCH
DOOR MIRROR R.H.
DOOR MIRROR L.H.
DOOR MIRROR SWIT
MIRROR SW.
R.H. drive model

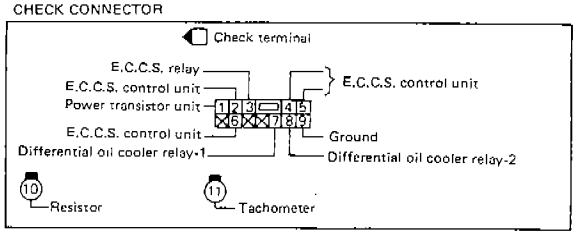

FUSE-IGN
O.D. OFF INDICATOR
SOLENOID
SHIFT SOLENOID A
SHIFT SOLENOID B
LINE PRESSURE SOLENOID
DROPPING RESISTOR
SENSOR
FRONT L.H.
FRONT R.H.
REAR
4-WHEEL SKID CONTROL UNIT
ANTI-LOCK WARNING LAMP
ACTUATOR
FRONT L.H.
FRONT R.H.
REAR
SOLENOID
ACTURTOR RELAY
MOTOR
MOTOR RELAY
FUSE-BAT
DIFFERENTIAL OIL TEMP. SWITCH
DIFFERENTIAL OIL COOLER RELAY-1
DIFFERENTIAL OIL COOLER RELAY-2
DIFFERENTIAL OIL COOLER PUMP
HEADLAMP WASHER TIMER
HEADLAMP WASHER SWITCH
FUSE-BAT
FUSE-IGN
STOP LAMP SWITCH
HAZARD SWITCH
COMBINATION FLASHER UNIT
TURN SIGNAL SWITCH
BACK-UP LAMP SWITCH (M/T)
(A/T)
REAR FOG LAMP RELAY
REAR FOG LAMP SWITCH
REAR FOG LAMP
CHARGE W/L
DIFFERENTIAL OIL
BULB CHECK RELAY
DIFFERENTIAL OIL THERMOSWITCH
PARKING BRAKE SWITCH
STOP ALMP L.H.
STOP LAMP L.H.
STOP ALMP R.H.
STOP LAMP R.H.
FRONT
SIDE
REAR
PILOT
BACK-UP LAMP L.H.
BACK-UP LAMP R.H.
DRIVER SIDE DOOR LOCK SWITCH
UNLOCK
BETWEEN LOCK AND UNLOCK
LOCK
FROM LOCK TO UNLOCK
FROM UNLOCK TO LOCK
DOOR LOCK TIMER
PASSENGER SIDE DOOR LOCK ACTUATOR
LIMIT SW.
POWER WINDOW SWITCH (Driver side)
DRIVER
LOCK SW.
PASSENGER SIDE
AUTO
MANUAL
POWER WINDOW AMP.
POWER WINDOW REGULATOR (Driver side)
POWER WINDOW SWITCH (Passenger side)
POWER WINDOW REGULATOR (Passenger side)
A LOCK
B BETWEEN LOCK AND UNLOCK
C UNLOCK
AUTO-ANTENNA TIMER
AUTO-ANTENNA MOTOR



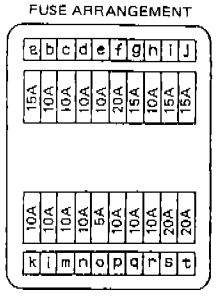


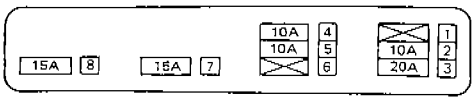


CHECK CONNECTOR

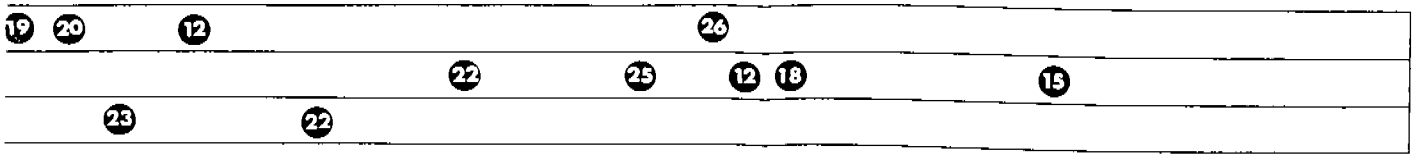


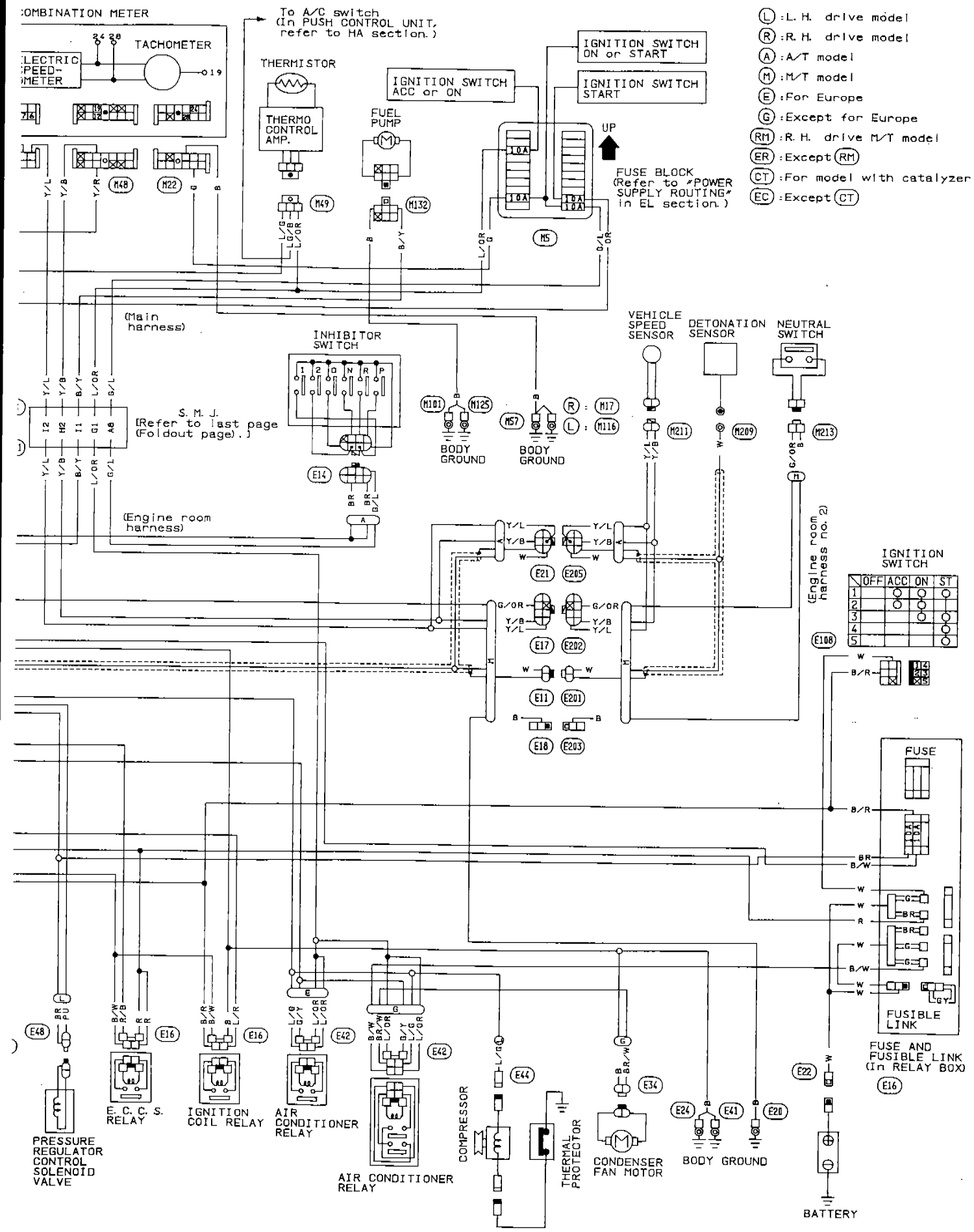
FUSE ARRANGEMENT





(M/T) : M/T model
(A/T) : A/T model
Ⓐ : Model with dim-dip lamp system
Ⓑ : Except Ⓐ
Ⓒ : L.H. drive model for Europe
Ⓓ : Except Ⓒ
Ⓔ : Model with daytime light system
Ⓕ : L.H. drive model for Europe without daytime light system
Ⓛ : L.H. drive model
Ⓡ : R.H. drive model
Ⓖ : For Europe
Ⓗ : Except for Europe
Ⓘ : Except Ⓔ
Ⓙ : Model without catalyzer




COMBINATION METER
TACHOMETER
To A/C switch (In PUSH CONTROL UNIT, refer to HA section.)
THERMISTOR
THERMO CONTROL AMP.
FUEL PUMP
IGNITION SWITCH ON or START
IGNITION SWITCH ACC or ON
IGNITION SWITCH START
UP
FUSE BLOCK (Refer to "POWER SUPPLY ROUTING" in EL section.)
Ⓛ :L.H. drive model
Ⓡ :R.H. drive model
Ⓐ :A/T model
Ⓜ :M/T model
Ⓔ :For Europe
Ⓖ :Except for Europe
RM :R.H. drive M/T model
ER :Except RM
CT :For model with catalyzer
EC :Except CT
(Main harness)
INHIBITOR SWITCH
VEHICLE SPEED SENSOR
DETONATION SENSOR
NEUTRAL SWITCH
S.M.J. (Refer to last page (Foldout page).)
BODY GROUND
BODY GROUND
(Engine room harness)
(Engine room harness no. 2)
IGNITION SWITCH
OFF ACC ON ST
FUSE
FUSIBLE LINK
FUSE AND FUSIBLE LINK (In RELAY BOX)
PRESSURE REGULATOR CONTROL SOLENOID VALVE
E.C.C.S. RELAY
IGNITION COIL RELAY
AIR CONDITIONER RELAY
AIR CONDITIONER RELAY
COMPRESSOR
THERMAL PROTECTOR
CONDENSER FAN MOTOR
BODY GROUND
BATTERY

NISSAN 200SX
E. C. C. S. WIRING DIAGRAM