

# ELECTRICAL SYSTEM

## SECTION **EL**

When you read wiring diagrams:

- Read GI section, "HOW TO READ WIRING DIAGRAMS".

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#### WIRING DIAGRAM REFERENCE CHART

Engine control system .....	EF & EC SECTION
Ignition system .....	EF & EC SECTION
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Injection pump control system .....	EF & EC SECTION
A/T control system .....	AT SECTION
Power window and power door lock .....	BF SECTION
Heater and air conditioner .....	HA SECTION
Electrical sun roof .....	BF SECTION
Electrical winch .....	SE SECTION

# HARNESS CONNECTOR

## Description

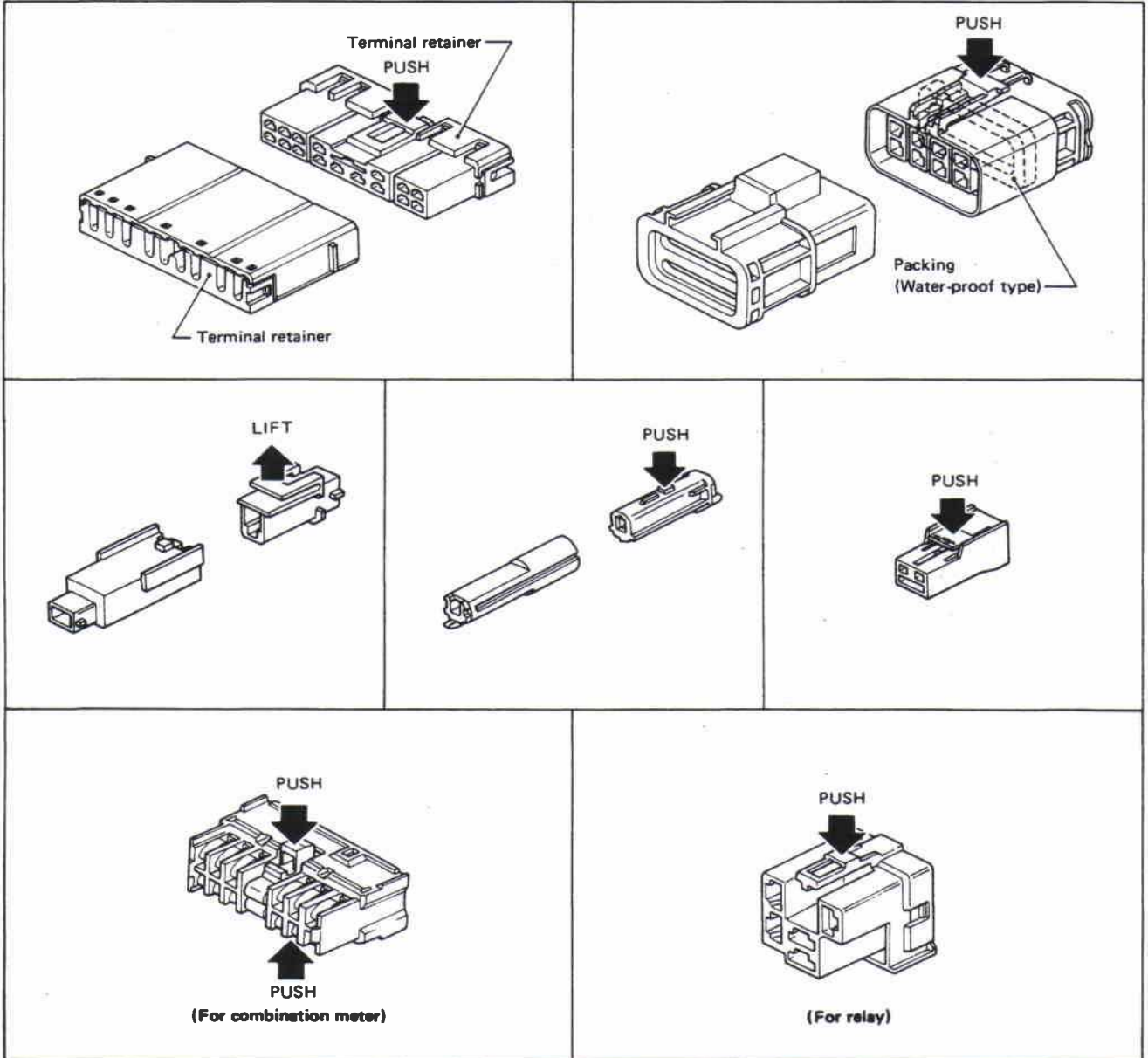
### HARNESS CONNECTOR

- All harness connectors 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

STANDARDIZED RELAY

Normal Open, Normal Closed and Mixed Type Relays

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

	NORMAL OPEN RELAY	NORMAL CLOSED RELAY	MIXED TYPE RELAY
SW 1 "OFF"			
SW 1 "ON"			

SEL881H

Type of Standardized Relays

- 1M .....

1T .....
- 1 Make

1 Transfer
- 2M .....

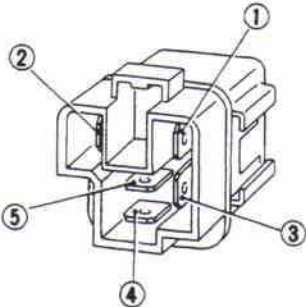
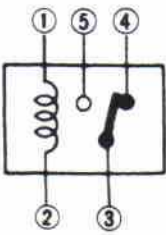
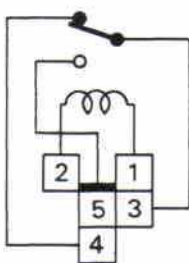
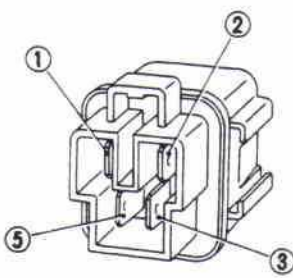
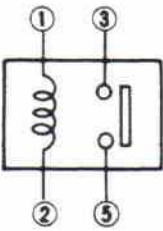
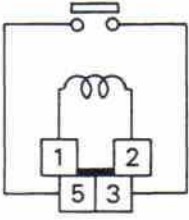
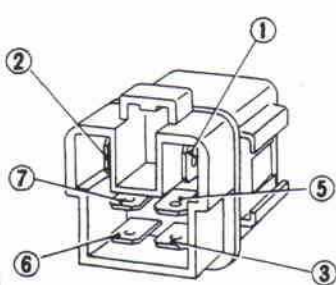
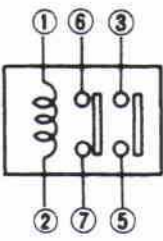
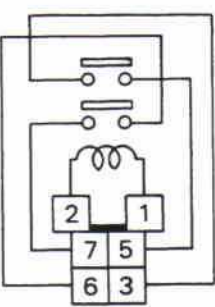
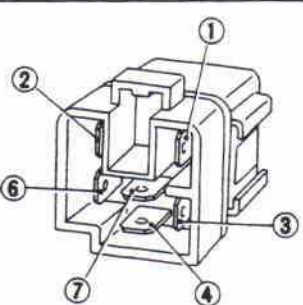
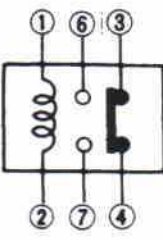
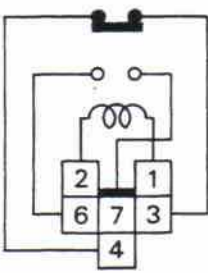
1M-1B .....
- 2 Make

1 Make 1 Break

1M	2M
1T	1M-1B

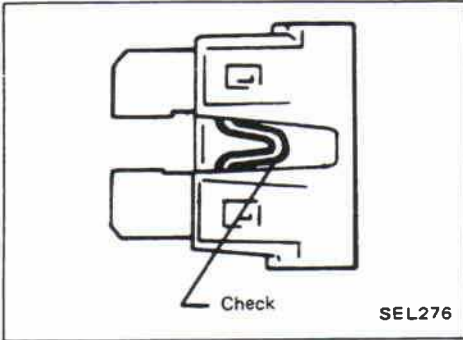
SEL882H

STANDARDIZED RELAY

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

SEL883H

## POWER SUPPLY ROUTING



### Fuse

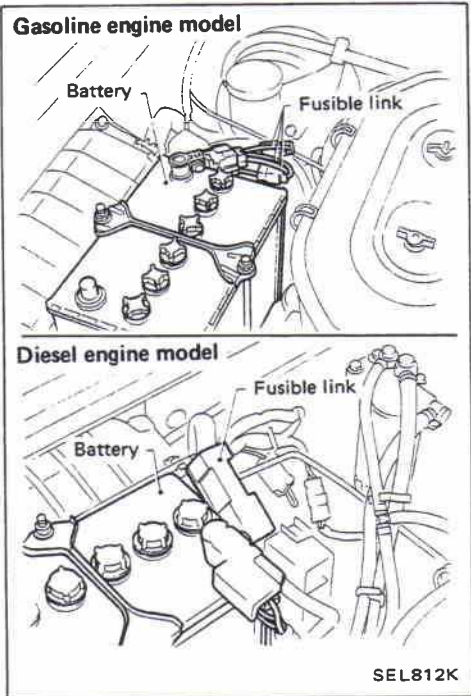
- If fuse is blown, be sure to eliminate cause of problem before installing new fuse.
- Use fuse of specified rating. Never use fuse of more than specified rating.
- Do not install fuse in oblique direction; always insert it into fuse holder properly.
- Remove fuse for clock if vehicle is not used for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

### Fusible Link

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

#### CAUTION:

- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of problem.
- Never wrap 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.

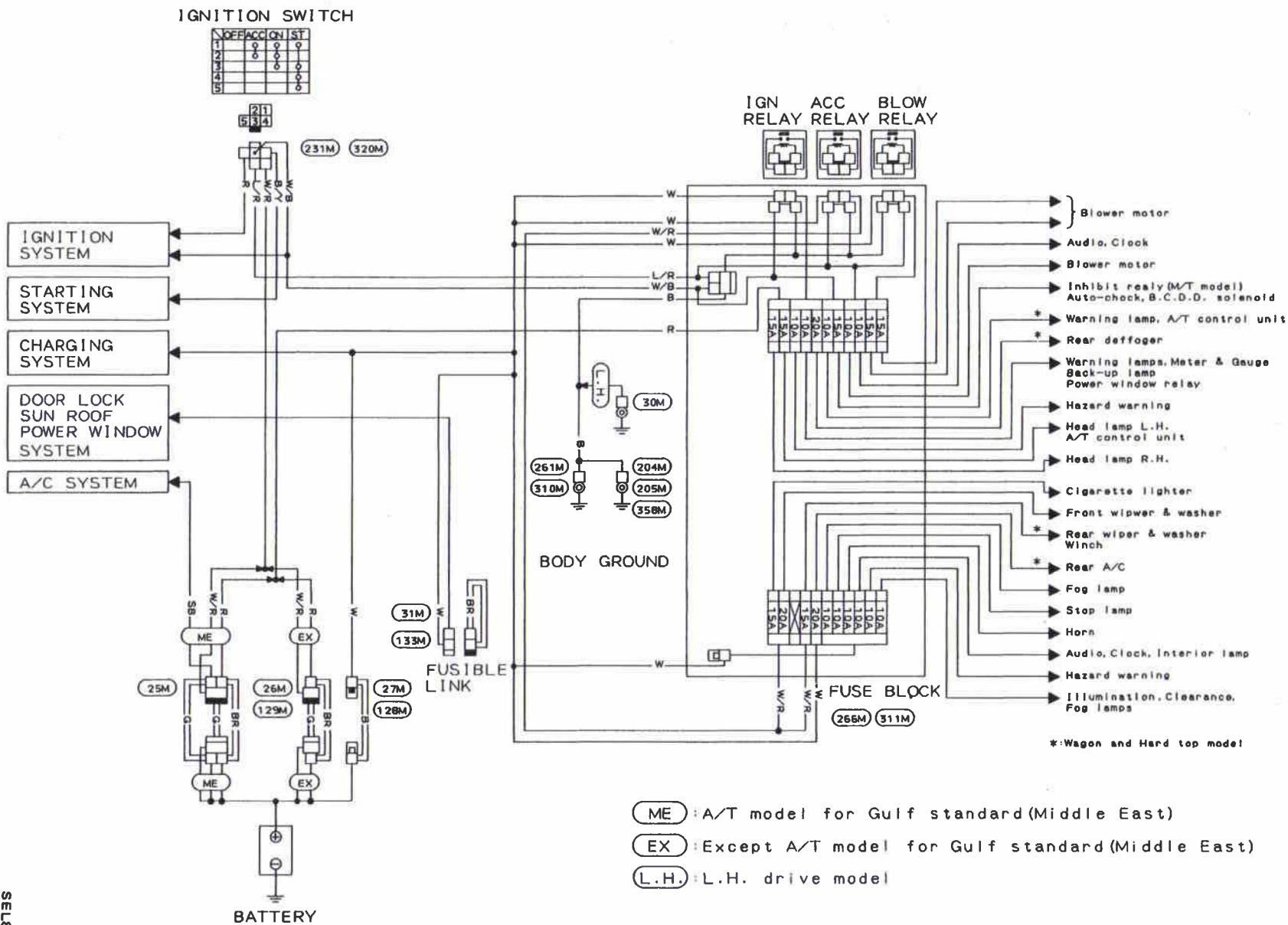




# POWER SUPPLY ROUTING

## Wiring Diagram

GASOLINE ENGINE MODEL



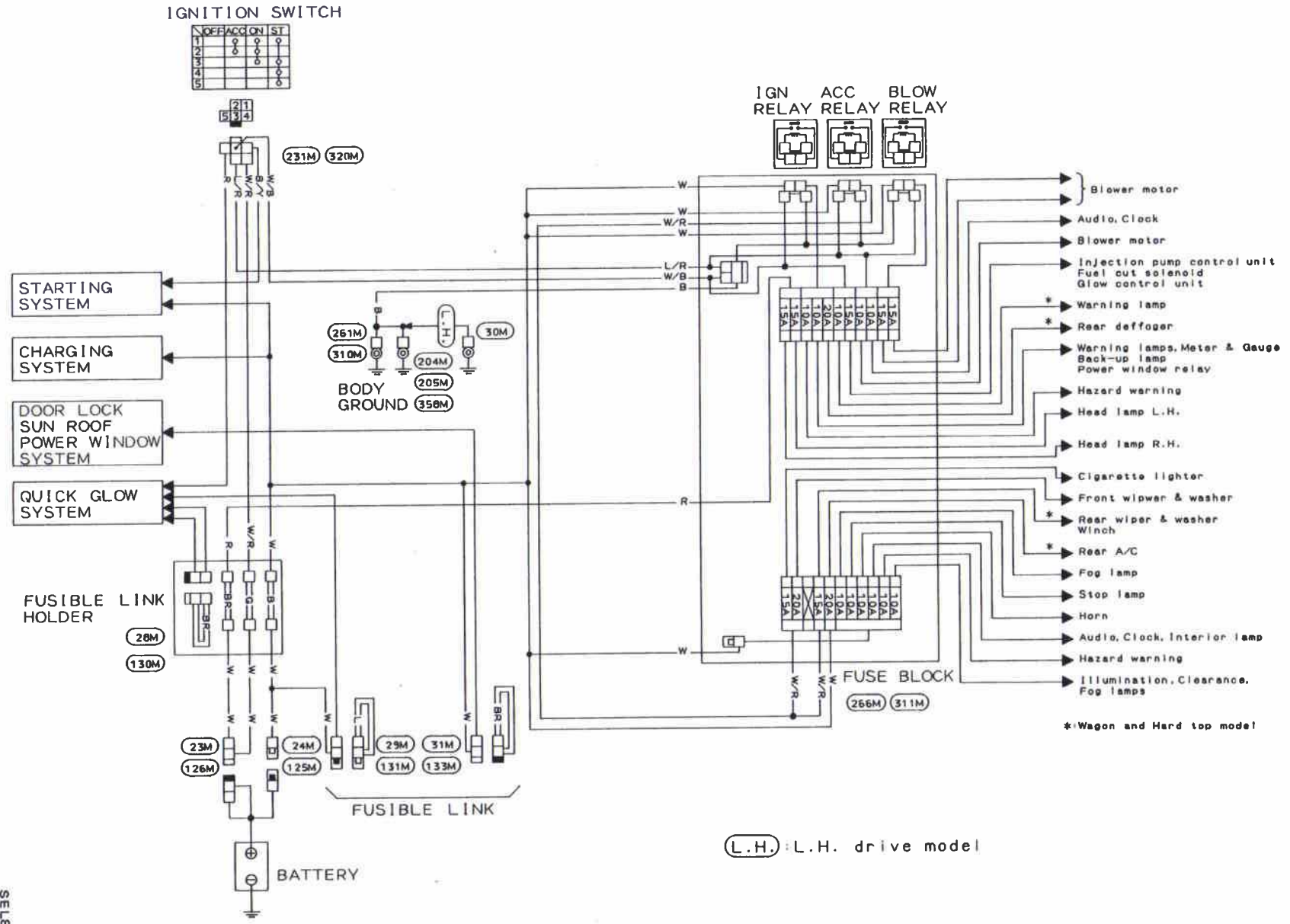
EL-6

SEL849K

# POWER SUPPLY ROUTING

DIESEL ENGINE MODEL

Wiring Diagram (Cont'd)



(L.H.) L.H. drive model

\* Wagon and Hard top model

EL-7

SEL850K

**POWER SUPPLY ROUTING**

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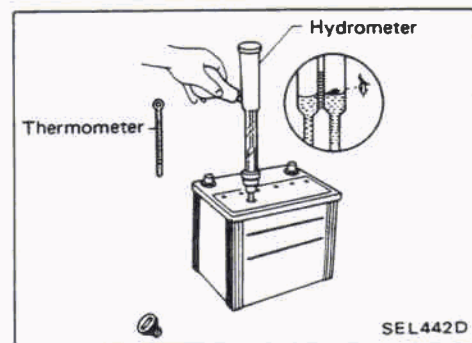
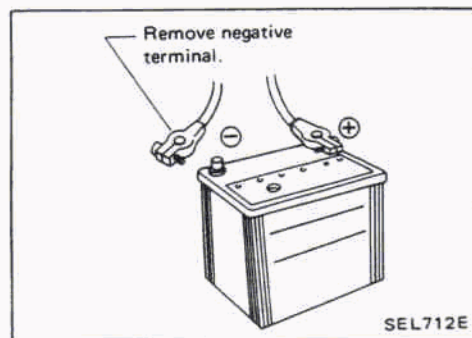
Note:



## BATTERY

### CAUTION:

- If it becomes necessary to start the engine with a booster battery and jumper cables, use a 12-volt booster battery.
- After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.
- 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.

## BATTERY

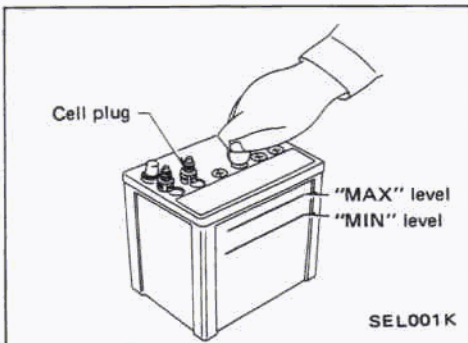
### How to Handle Battery (Cont'd)

#### CHECKING ELECTROLYTE LEVEL

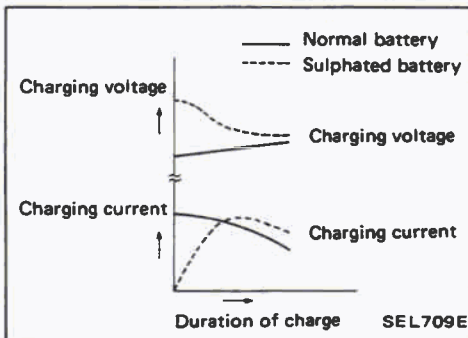
##### WARNING:

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.



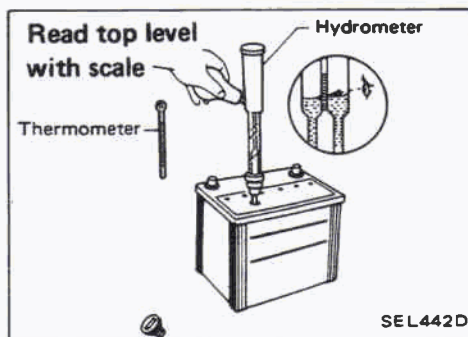
- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



#### 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.

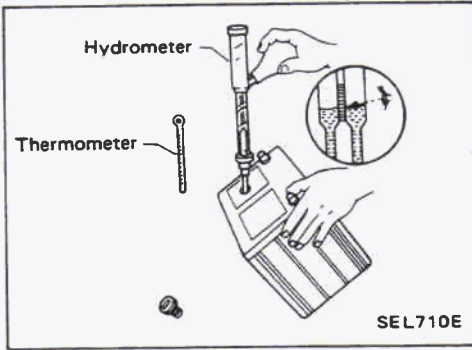


#### SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.

## BATTERY

### How to Handle Battery (Cont'd)

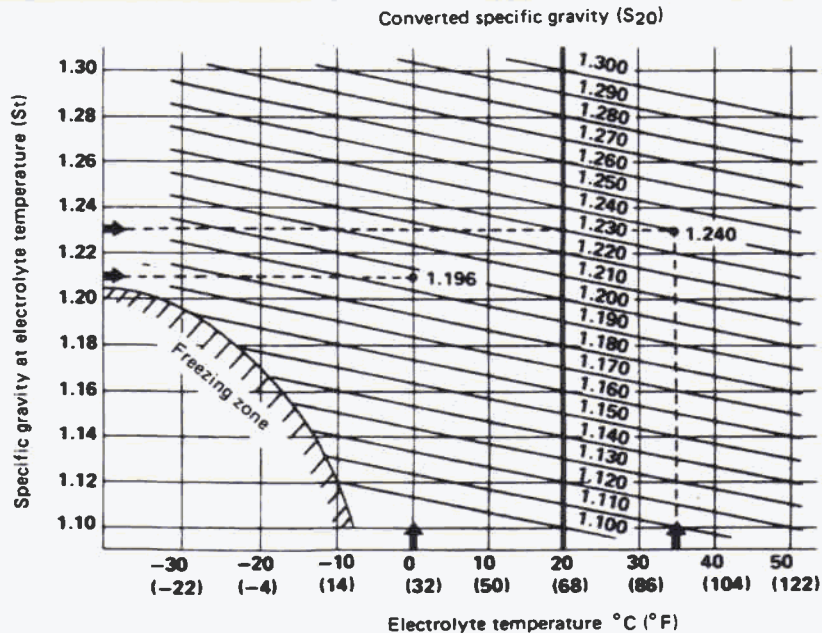


- When electrolyte level is too low, tilt battery case to raise it for easy measurement.

#### 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.

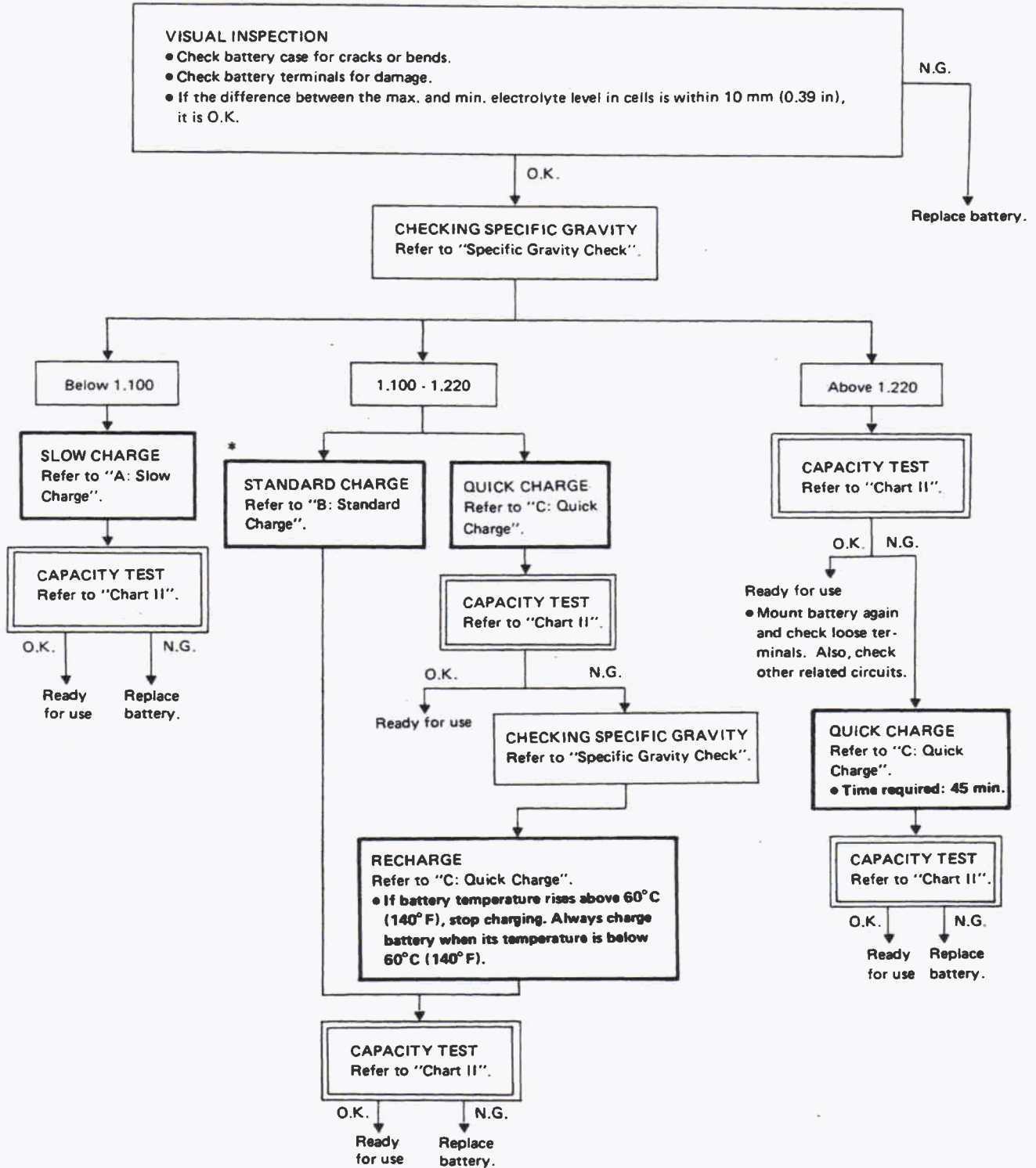


SEL042D

# BATTERY

## Battery Test and Charging Chart

Chart I

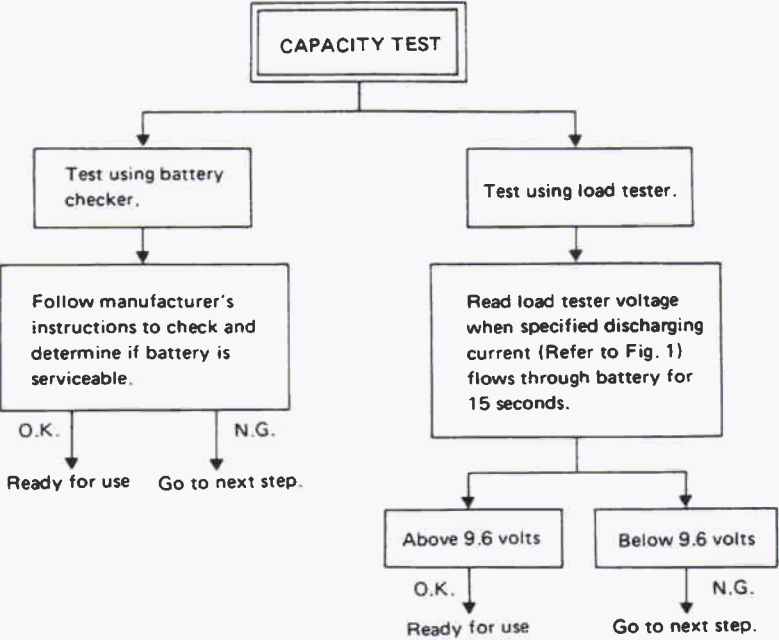


\* "STANDARD CHARGE" is recommended in case that the vehicle is in storage after charging.

# BATTERY

## Battery Test and Charging Chart (Cont'd)

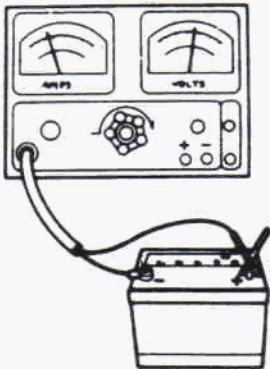
Chart II



- 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



SEL697B

# BATTERY

## Battery Test and Charging Chart (Cont'd)

### A: SLOW CHARGE

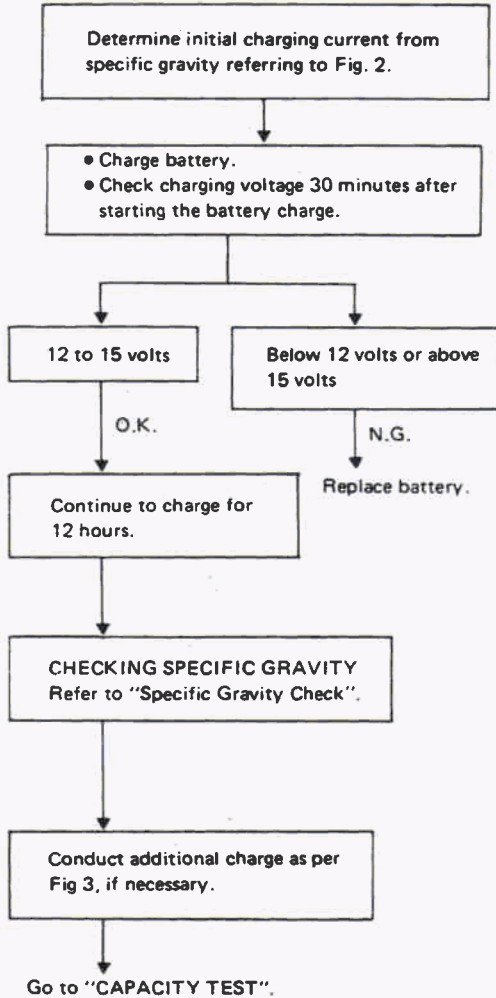
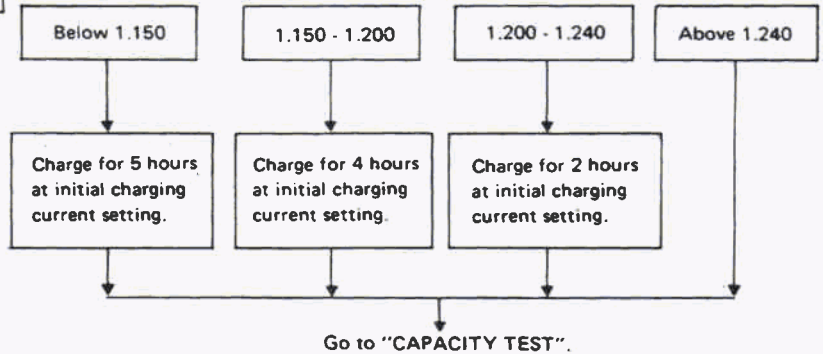


Fig. 2 INITIAL CHARGING CURRENT SETTING (Slow charge)

BATTERY TYPE CON- VERTED 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:

- 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.
- Keep battery away from open flame while it is being charged.
- When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.
- If battery temperature rises above 60°C (140°F), stop charging. Always charge battery when its temperature is below 60°C (140°F).



# BATTERY

## Battery Test and Charging Chart (Cont'd)

### B: STANDARD CHARGE

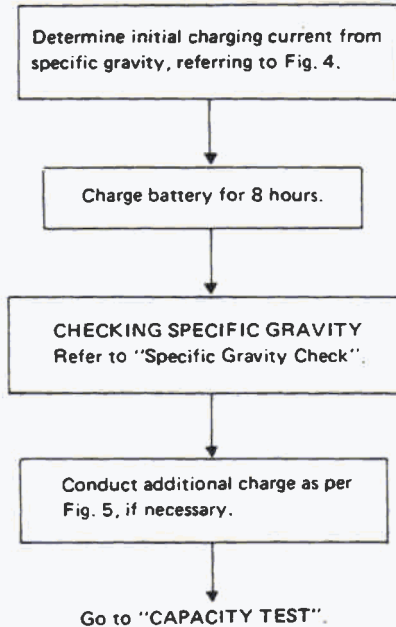
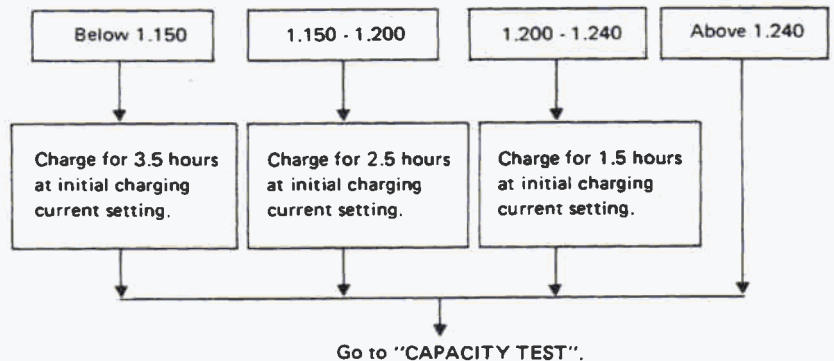


Fig. 4 INITIAL CHARGING CURRENT SETTING  
(Standard charge)

BATTERY TYPE CON- VERTED 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:

- Do not use standard charge method on a battery whose specific gravity is less than 1.100.
- 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.
- Keep battery away from open flame while it is being charged.
- When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.
- If battery temperature rises above 60°C (140°F), stop charging. Always charge battery when its temperature is below 60°C (140°F).

## BATTERY

### Battery Test and Charging Chart (Cont'd)

#### C: QUICK CHARGE

Determine initial charging current setting and charging time from specific gravity, referring to Fig. 6.

Charge battery

Go to "CAPACITY TEST".

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

BATTERY TYPE CON- VERTED SPECIFIC GRAVITY	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:

- Do not use quick charge method on a battery whose specific gravity is less than 1.100.
- 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.
- Keep battery away from open flame while it is being charged.
- When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.
- 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).
- Do not exceed the charging time specified in Fig. 6, because charging battery over the charging time can cause deterioration of the battery.

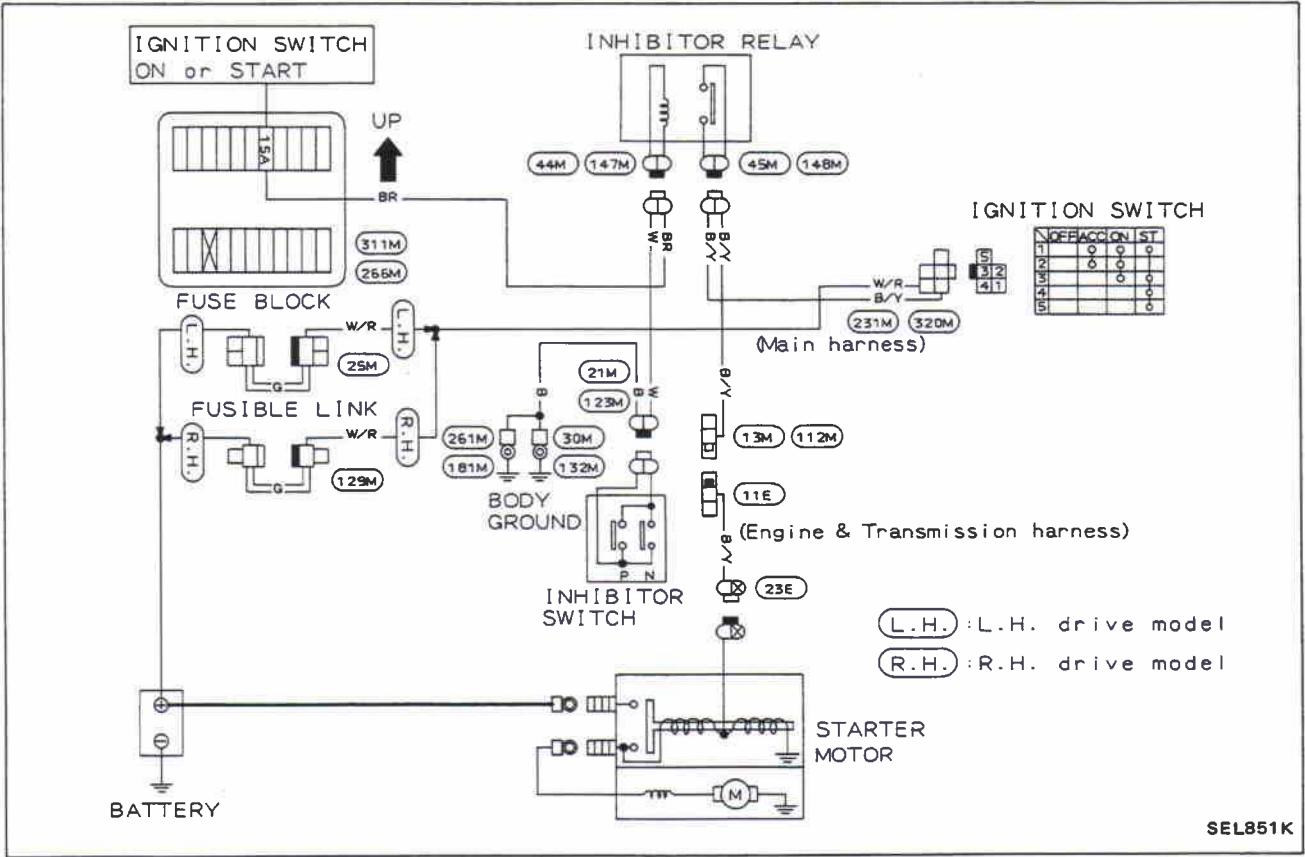
### Service Data and Specifications (S.D.S.)

Applied area	All		Except Australia and Middle East	Middle East	All
Applied model	Gasoline engine model				Diesel engine model
	Standard	Option		Optional for side facing rear seat model	Standard
Type	48D26L	55D23L	80D26L	95D31L	
Capacity	V-AH	12-50	12-60	12-65	12-80

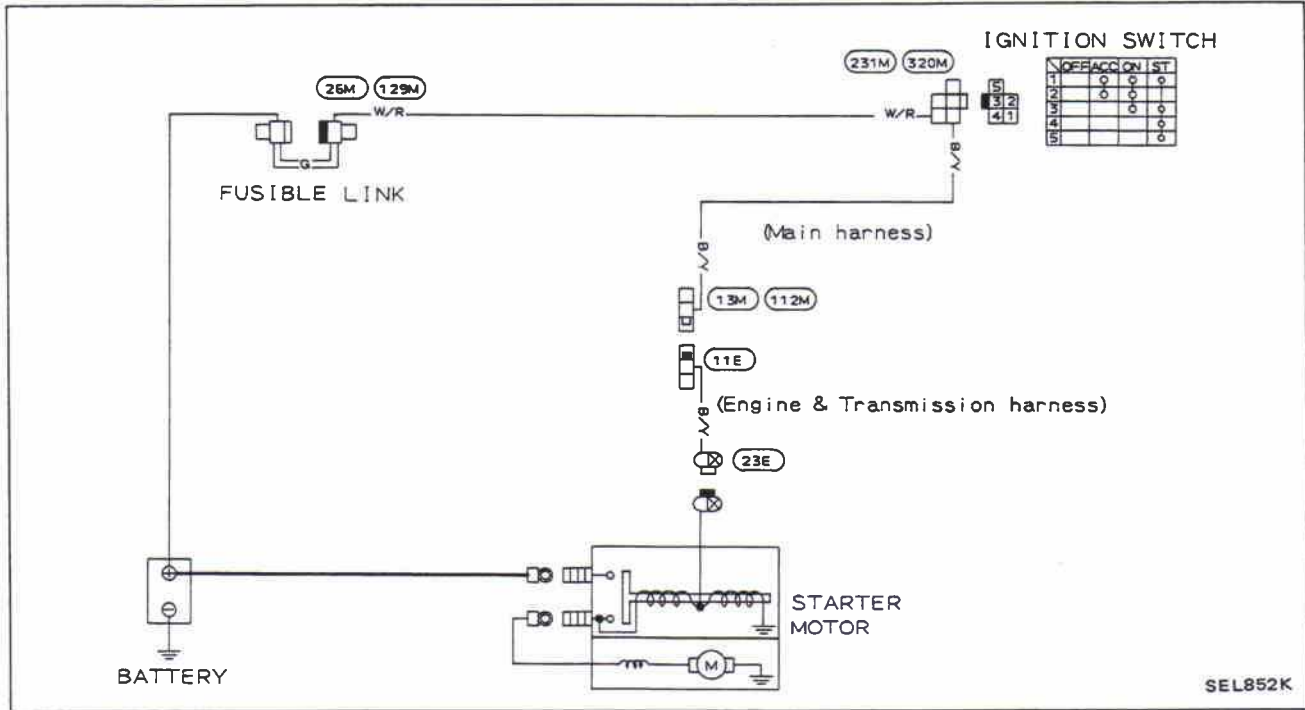
# STARTING SYSTEM

## Wiring Diagram

GASOLINE ENGINE MODEL  
A/T model



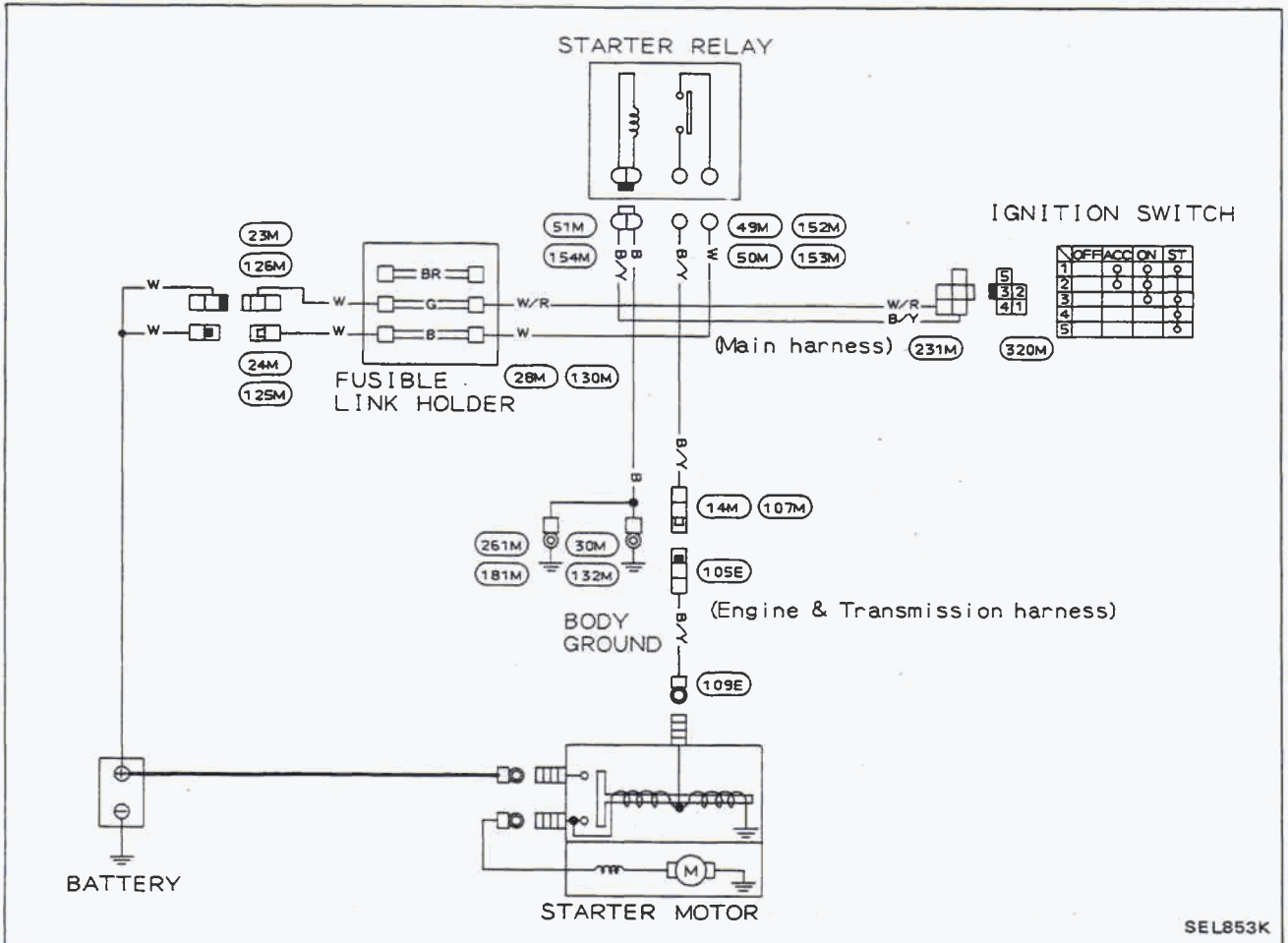
M/T model



# STARTING SYSTEM

## Wiring Diagram (Cont'd)

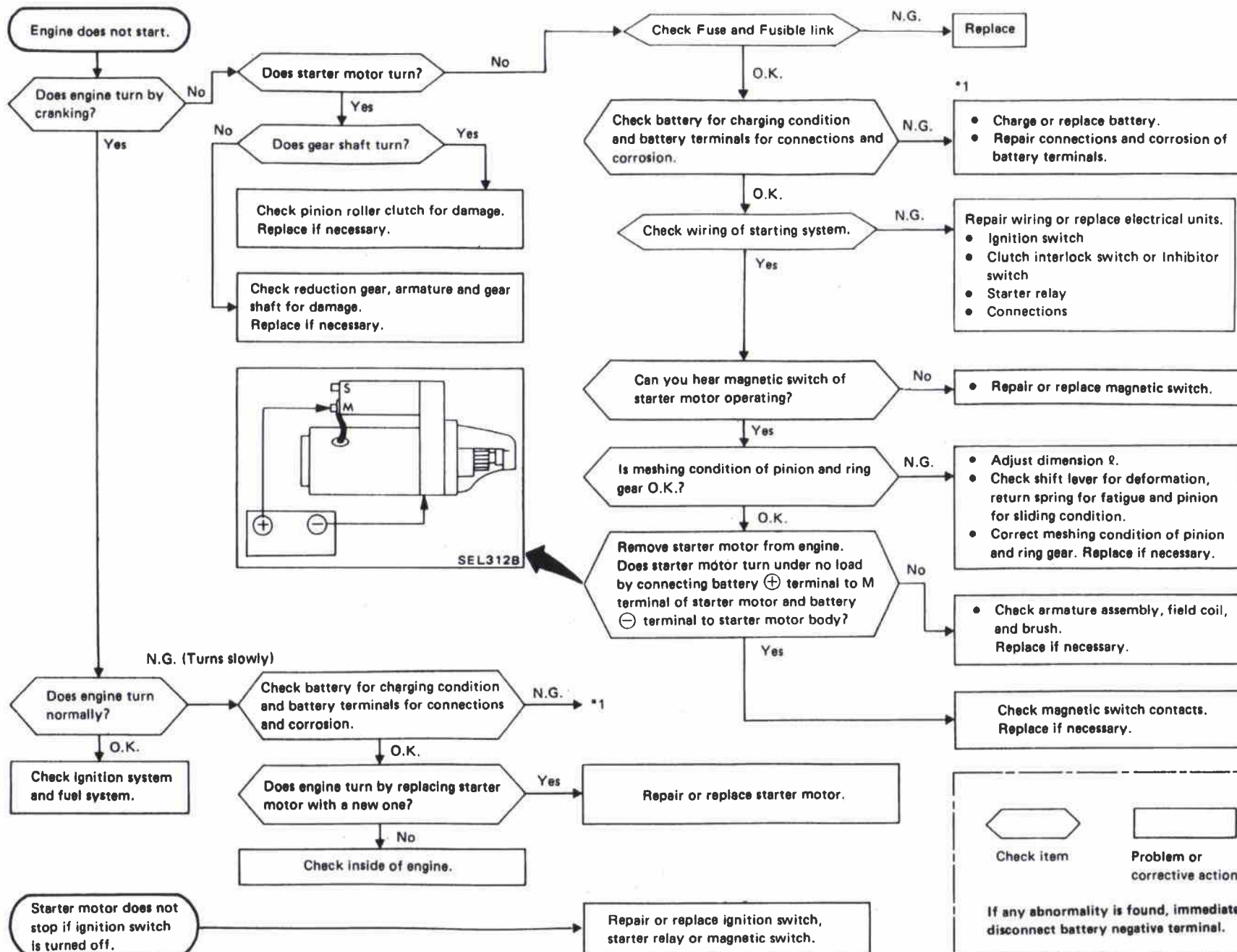
DIESEL ENGINE MODEL



SEL853K

## STARTING SYSTEM TROUBLE-SHOOTING

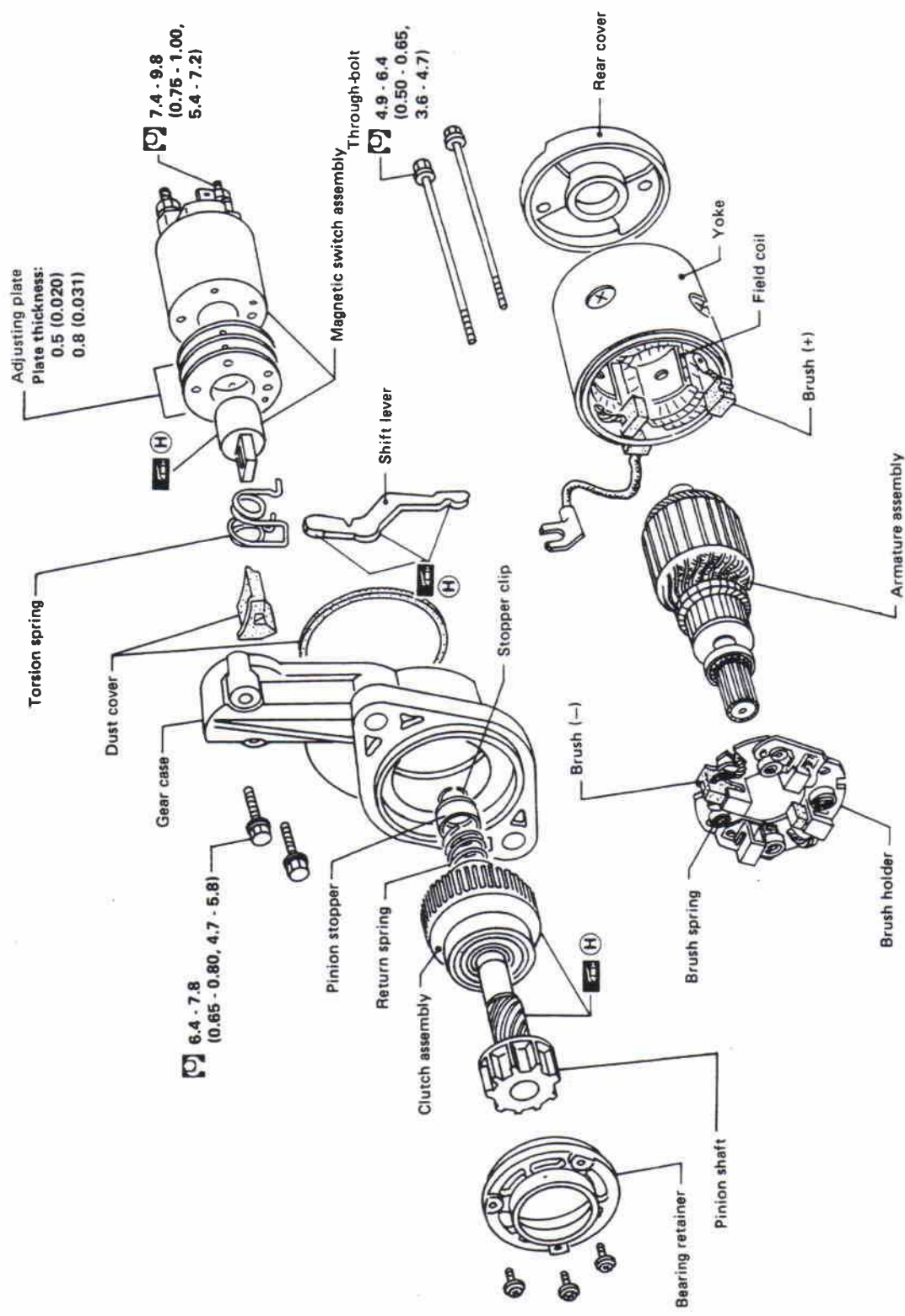
EL-19



STARTING SYSTEM —Starter—

Construction

S114-471, 472



Unit: mm (in)  
Ⓜ : N·m (kg·m, ft·lb)  
ⓂⓂ : High-temperature grease point

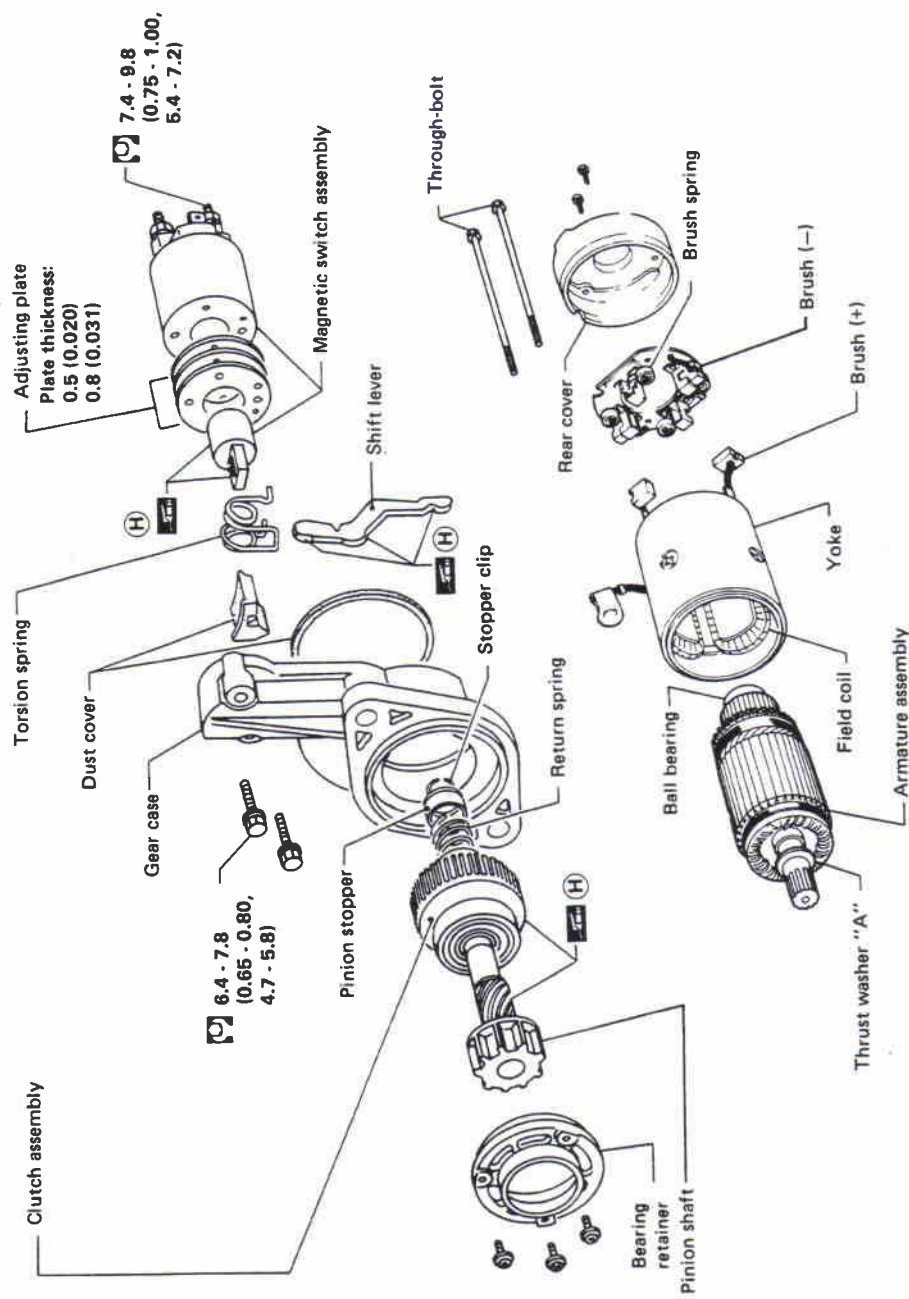
SEL557B



STARTING SYSTEM —Starter—

Construction (Cont'd)

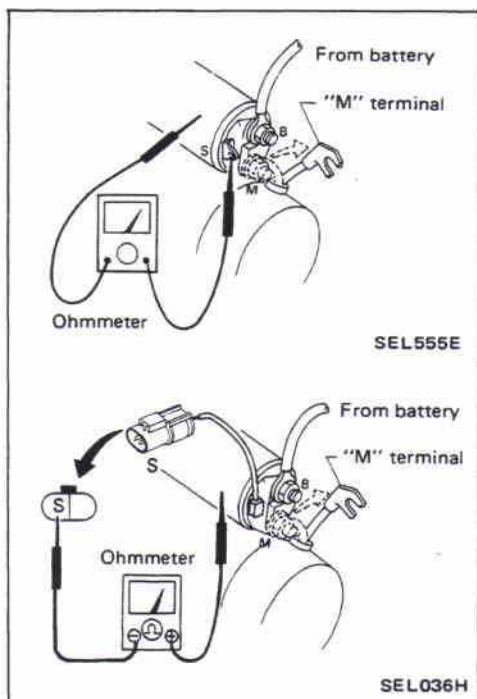
S13-118



Unit: mm (in)  
[Symbol] : N·m (kg·m, ft·lb)  
[Symbol] (H): High-temperature grease points

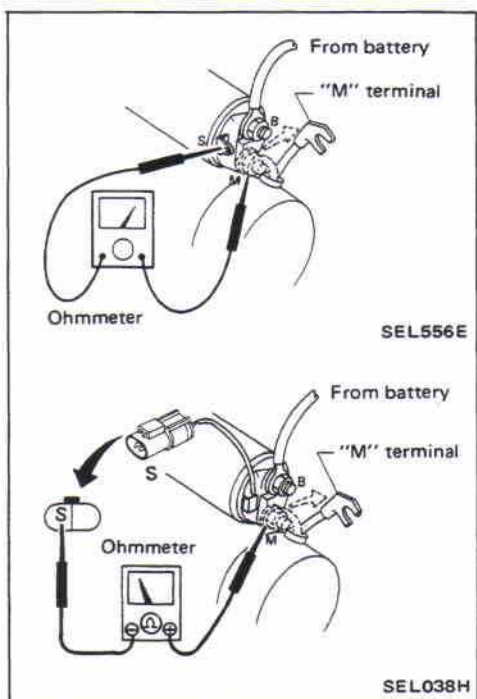
SEL125D

## STARTING SYSTEM —Starter—

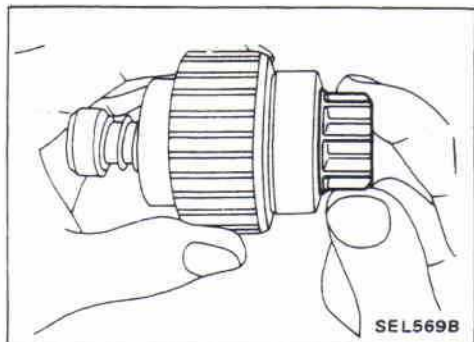


### Magnetic Switch Check

- 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.

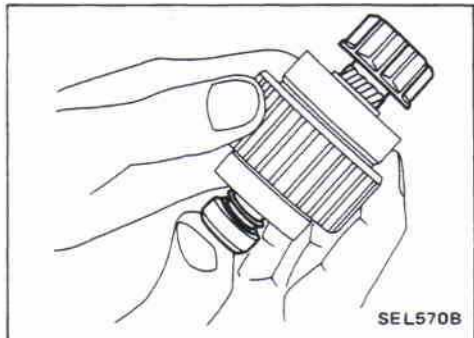


- 2. Continuity test (between "S" terminal and "M" terminal).
- No continuity ... Replace.

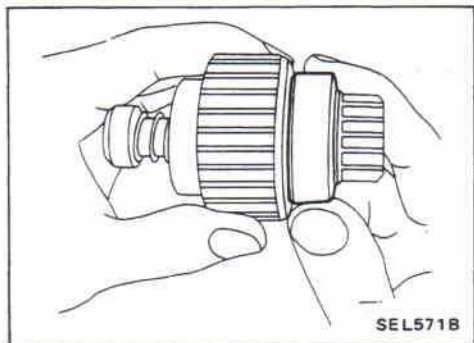


### Pinion/Clutch Check

1. 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.



2. Check pinion movement.
  - If it is hard to move, apply grease or, if necessary, replace.



3. Check ball bearing.

Spin outer race of ball bearing to ensure that it turns smoothly without binding.

  - Abnormal resistance ... Replace.
4. Inspect pinion teeth.
  - Replace pinion if teeth are worn or damaged. (Also check condition of ring gear teeth.)
5. Inspect reduction gear teeth.
  - Replace reduction gear if teeth are worn or damaged. (Also check condition of armature shaft gear teeth.)

### Brush Check

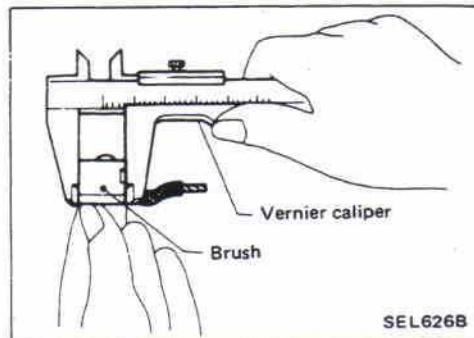
#### BRUSH

Check wear of brush.

Wear limit length:

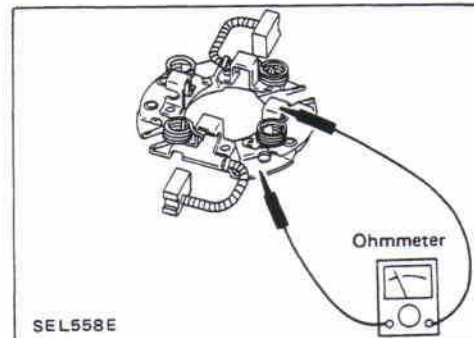
Refer to "Service Data and Specifications."

- Excessive wear ... Replace.

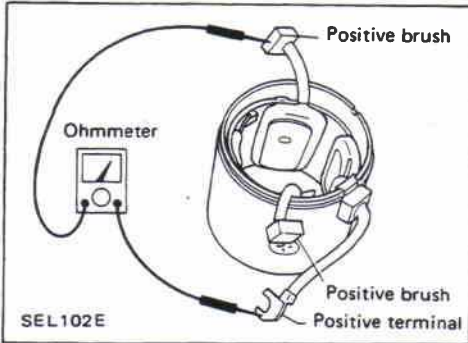


#### BRUSH HOLDER

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.

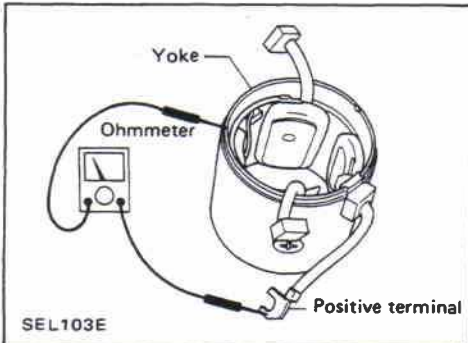


## STARTING SYSTEM — Starter—

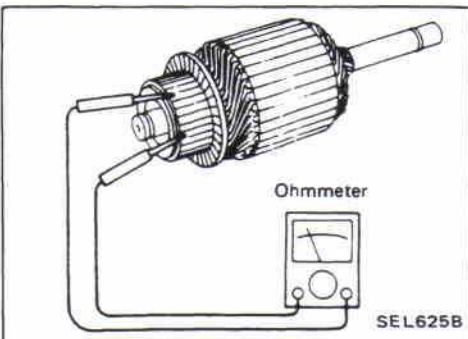


### Field Coil Check

1. Continuity test (between field coil positive terminal and positive brushes).
  - No continuity ... Replace field coil.

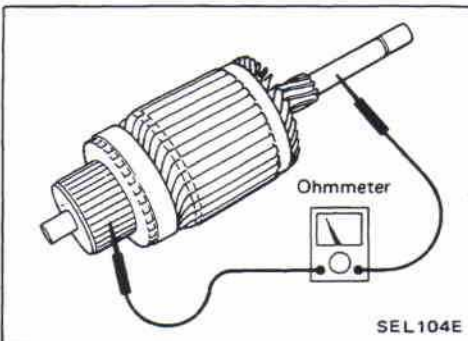


2. Insulation test (between field coil positive terminal and yoke).
  - Continuity exists ... Replace field coil.

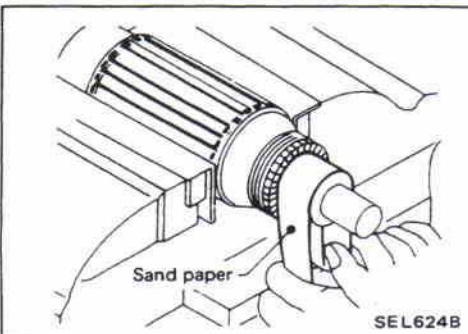


### Armature Check

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



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



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

## STARTING SYSTEM —Starter—

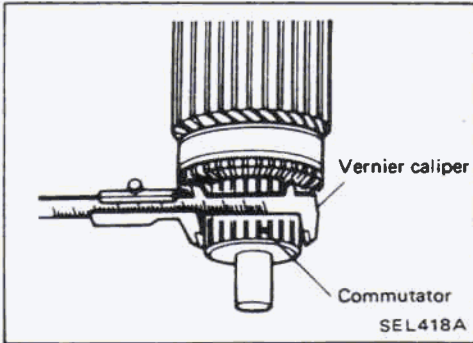
### Armature Check (Cont'd)

#### 4. Check diameter of commutator.

Commutator minimum diameter:

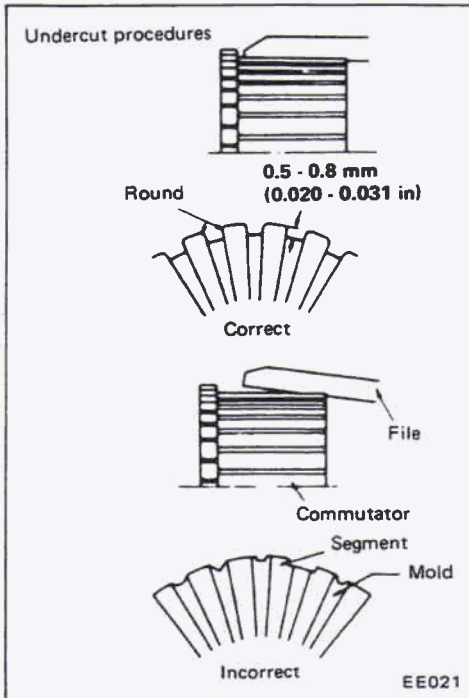
Refer to "Service Data and Specifications."

- 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 - 0.8 mm (0.020 - 0.031 in)



### Assembly

Carefully observe the following instructions.

#### HIGH TEMPERATURE GREASE POINT

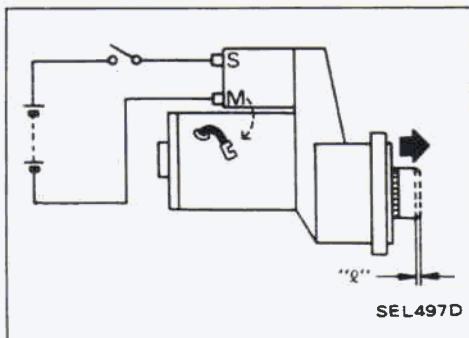
- Frictional surface of pinion
- Moving portion of shift lever
- Plunger of magnetic switch

#### PINION PROTRUSION LENGTH ADJUSTMENT

Measure movement "ℓ" in height of pinion when pinion is pushed out with magnetic switch energized and when pinion is pulled out by hand until it touches stopper.

Movement "ℓ":

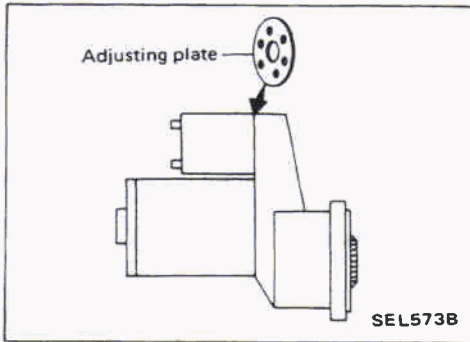
Refer to "Service Data and Specifications."



## STARTING SYSTEM —Starter—

### Assembly (Cont'd)

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



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

### STARTER

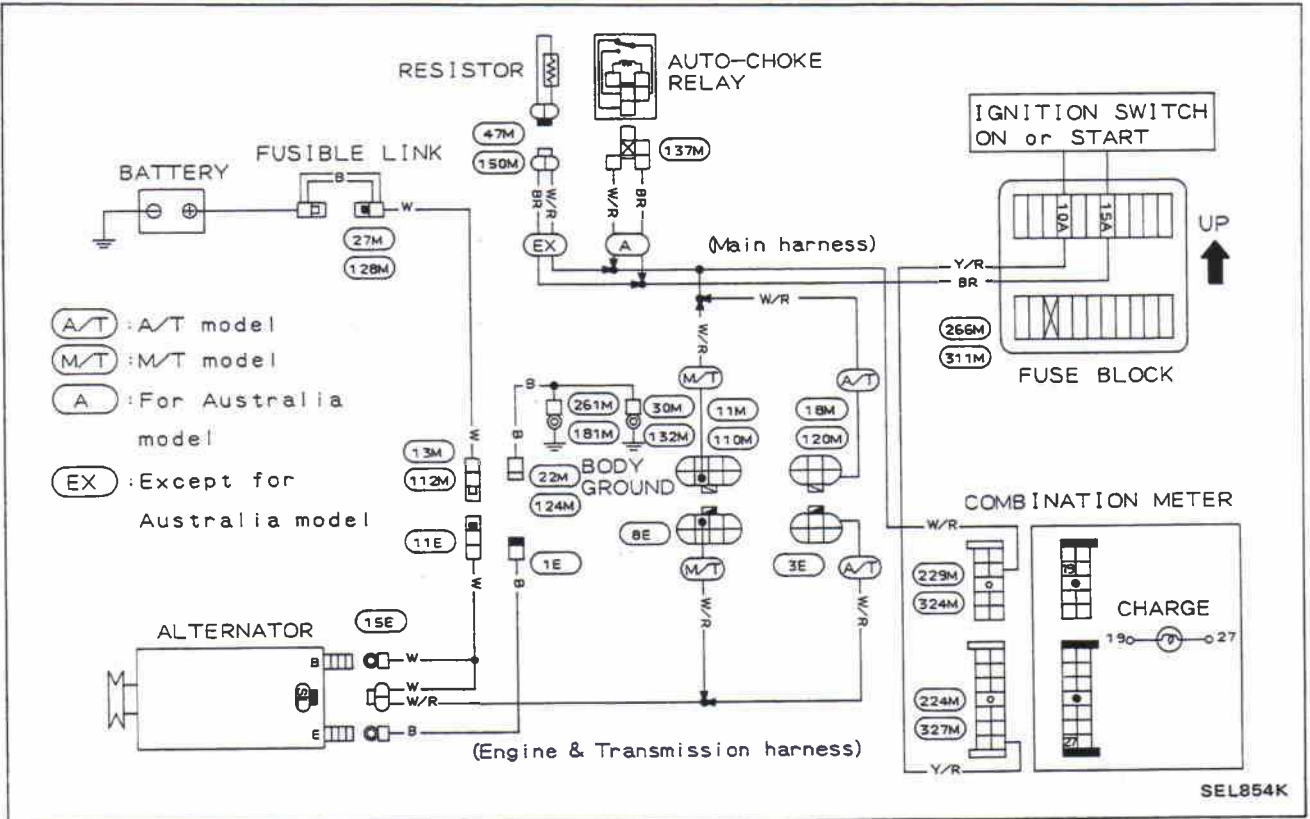
Type	S114-471		S114-472		S13-118		
	Reduction gear type						
Applied model		Gasoline engine		Optional for gasoline engine		Diesel engine	
System voltage		V		12			
No-load							
Terminal voltage		V		11.0			
Current		A		Less than 100		Less than 160	
Revolution		rpm		More than 3,900			
Outer diameter of commutator		mm (in)		More than 29.0 (1.142)		More than 35.5 (1.398)	
Minimum length of brush		mm (in)		11.0 (0.433)		9.0 (0.354)	
Brush spring tension		N (kg, lb)		15.7 - 19.6 (1.6 - 2.0, 3.5 - 4.4)		26.5 - 32.4 (2.7 - 3.3, 6.0 - 7.3)	
Clearance of bearing metal and armature shaft		mm (in)		Less than 0.2 (0.008)		—	
Movement “ℓ” in height of pinion assembly		mm (in)		0.3 - 1.5 (0.012 - 0.059)			



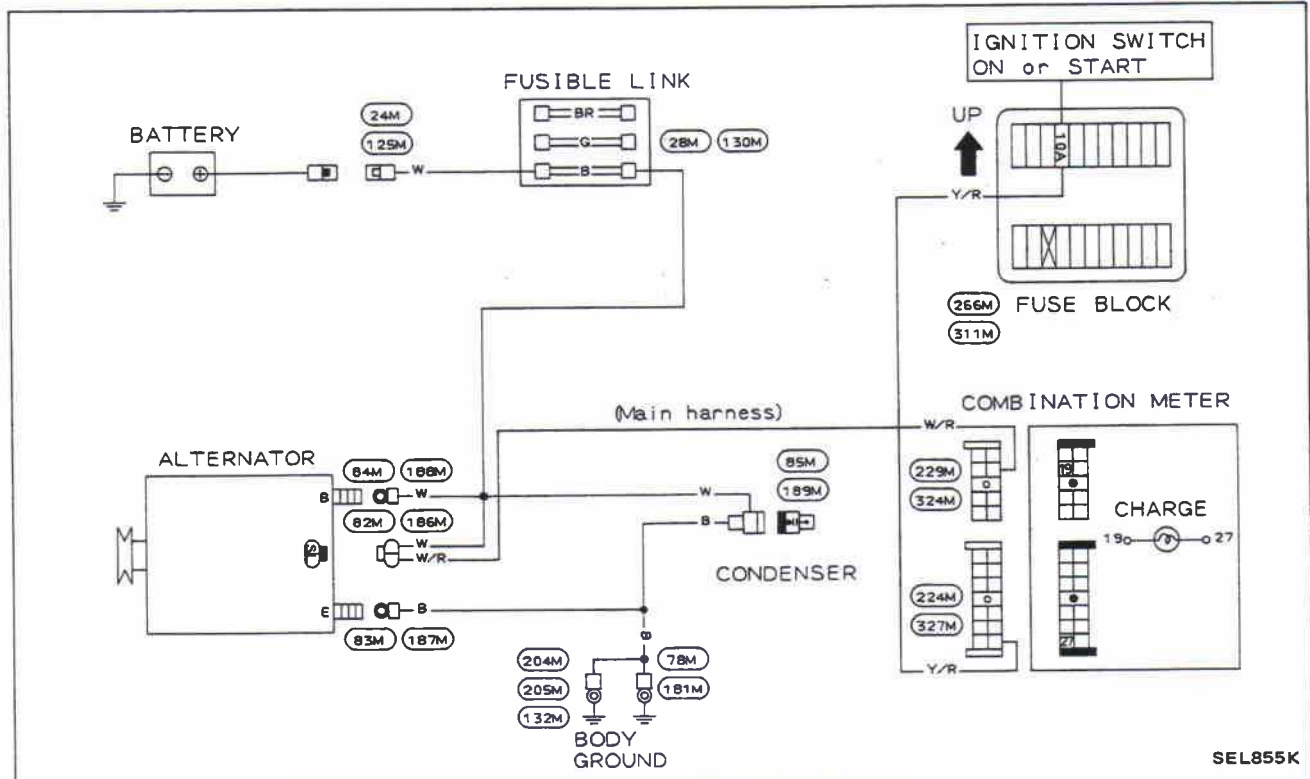
# CHARGING SYSTEM

## Wiring Diagram

### GASOLINE ENGINE MODEL



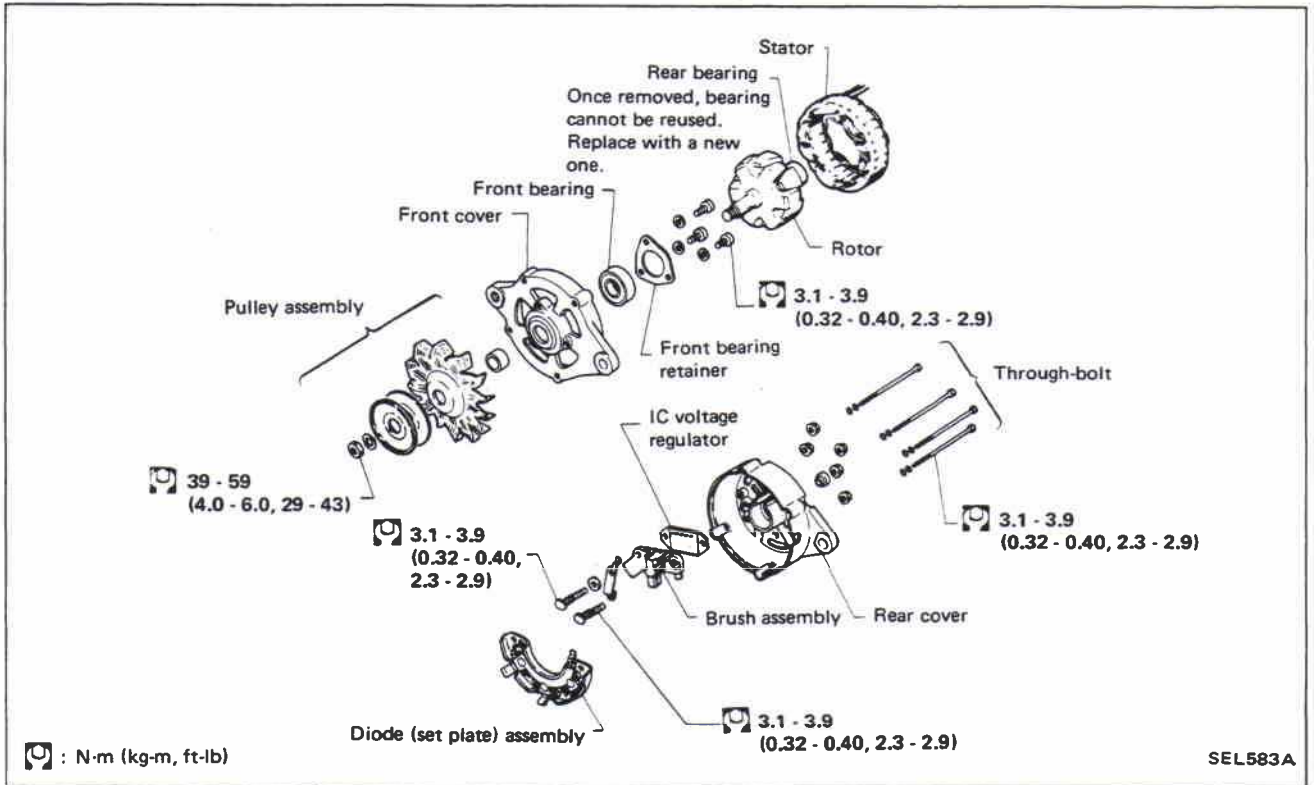
### DIESEL ENGINE MODEL



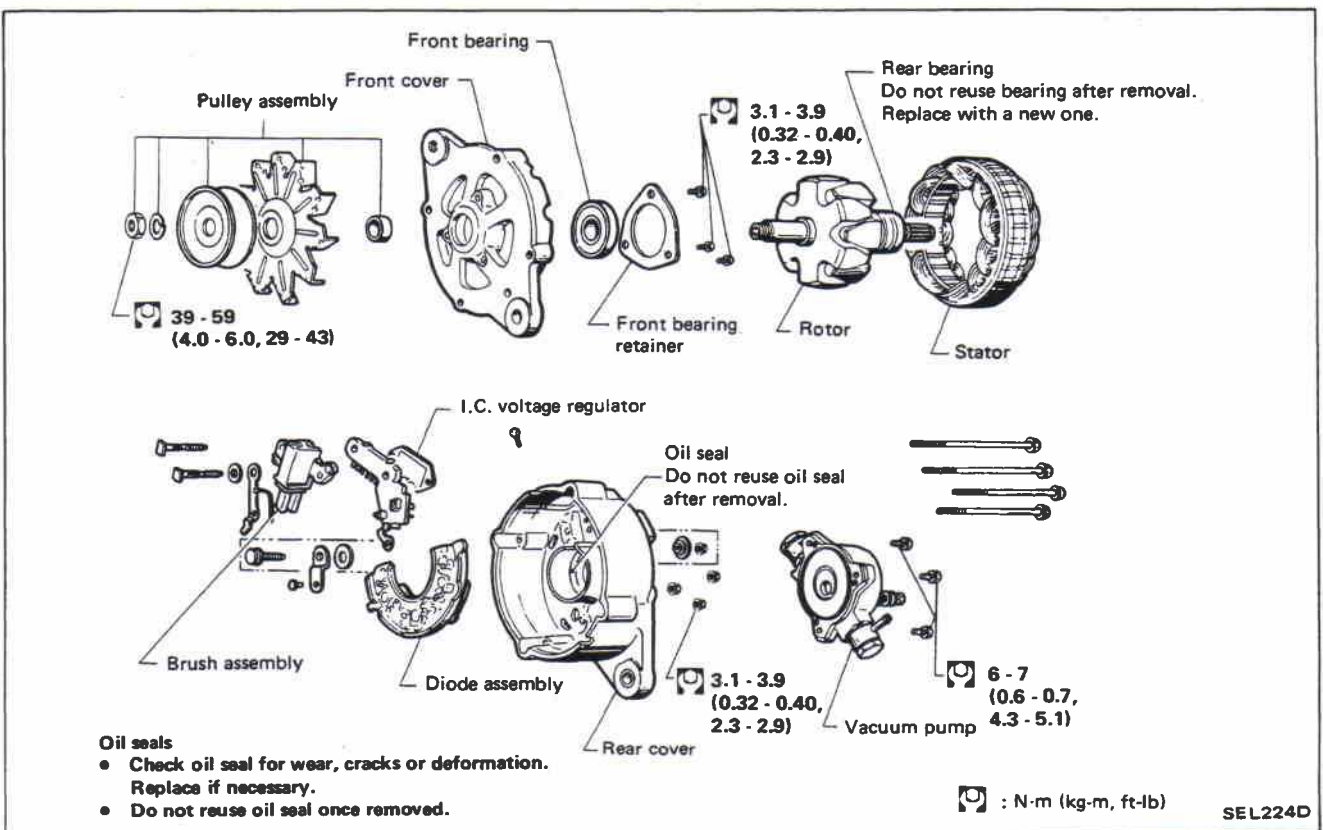
## CHARGING SYSTEM —Alternator—

### Construction

LR150-218, LR160-165



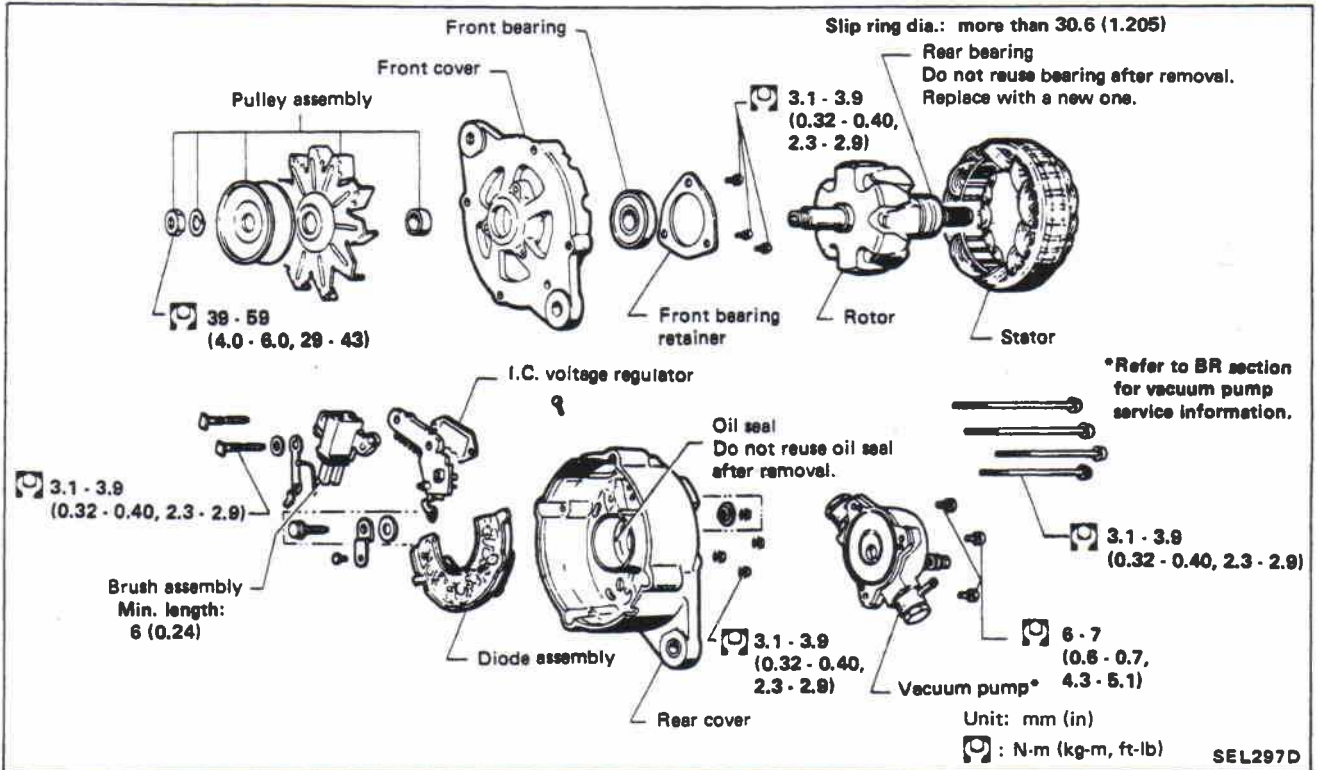
LR160-437, LR160-426E



## CHARGING SYSTEM —Alternator—

### Construction (Cont'd)

LR150-428E



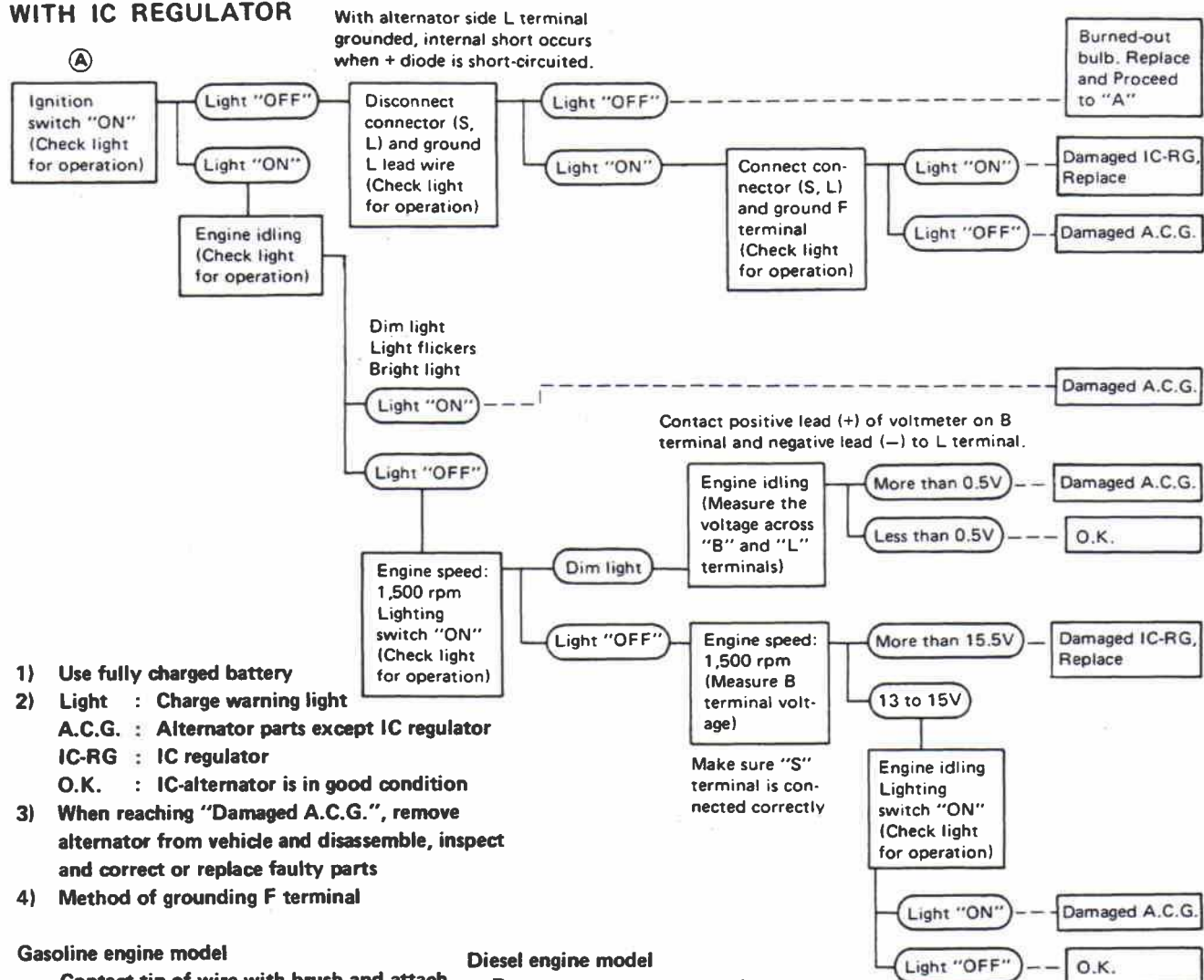
# CHARGING SYSTEM —Alternator—

## 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.

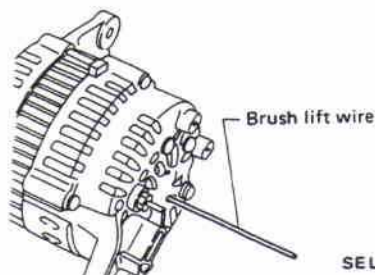
Before starting trouble-shooting, inspect the fusible link.

### WITH IC REGULATOR



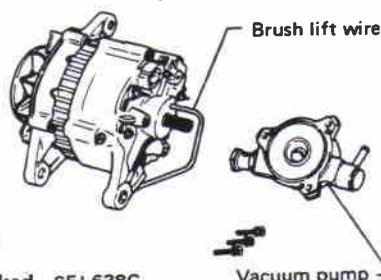
### Gasoline engine model

Contact tip of wire with brush and attach wire to alternator body.



### Diesel engine model

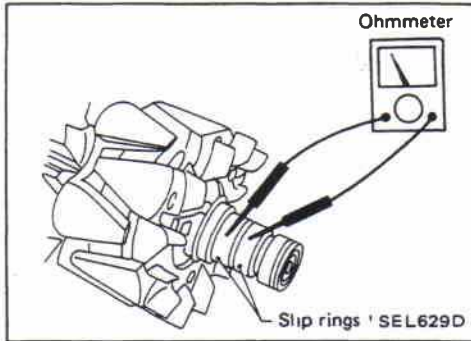
Remove vacuum pump and connect tip of wire with brush and attach wire to alternator body.



- 5) Terminals "S", "L", "BAT" and "E" are marked on rear cover of alternator.



## CHARGING SYSTEM —Alternator—

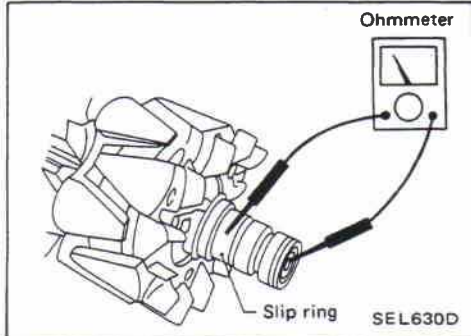


### Disassembly

#### ROTOR SLIP RING CHECK

1. Continuity test

- No continuity ... Replace rotor.



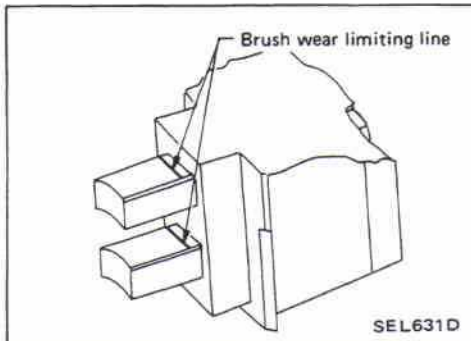
2. Insulator test

- Continuity exists ... Replace rotor.

3. Check slip ring for wear.

Slip ring minimum outer diameter:

Refer to "Service Data and Specifications."



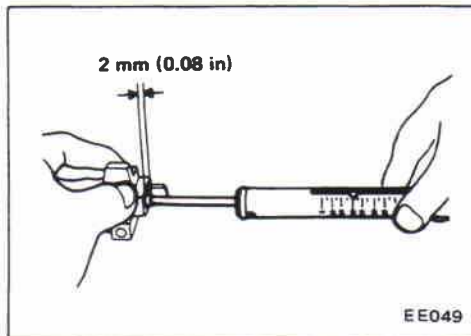
#### BRUSH CHECK

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.

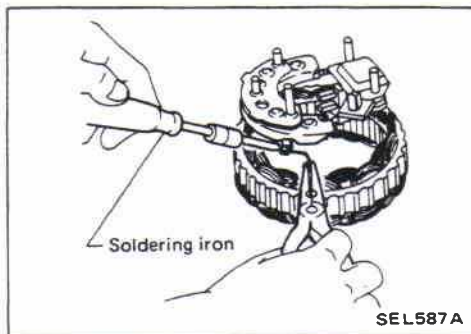
4. Check brush spring pressure.

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

Spring pressure:

Refer to "Service Data and Specifications."

- Not within the specified values ... Replace.



#### STATOR CHECK

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

#### CAUTION:

Use only as much heat as required to melt solder.

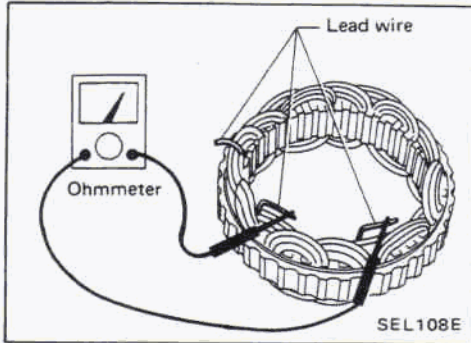
Diodes will be damaged by excessive heat.

## CHARGING SYSTEM —Alternator—

### Disassembly (Cont'd)

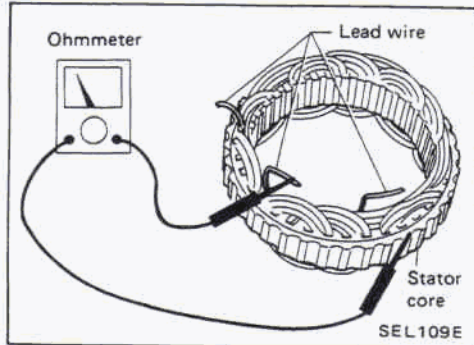
#### 1. Continuity test

- No continuity ... Replace stator.



#### 2. Ground test

- Continuity exists ... Replace stator.





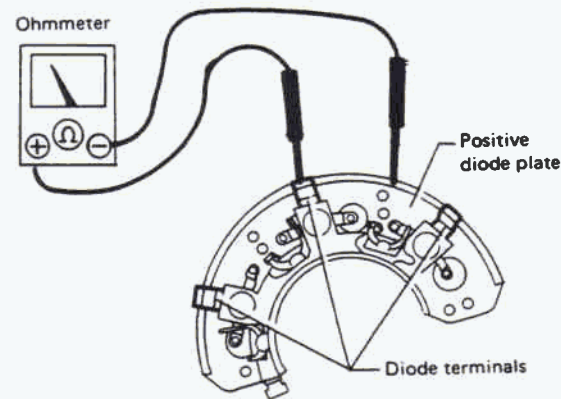
Diode Check

MAIN DIODES

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

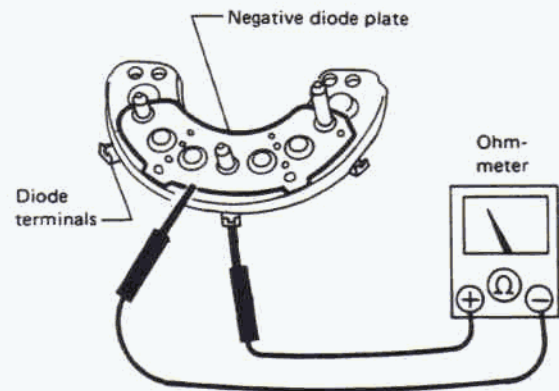
	Ohmmeter probes		Continuity
	Positive ⊕	Negative ⊖	
Diodes check (Positive side)	Positive diode plate	Diode terminals	Yes
	Diode terminals	Positive diode plate	No
Diodes check (Negative side)	Negative diode plate	Diode terminals	No
	Diode terminals	Negative diode plate	Yes

Positive side

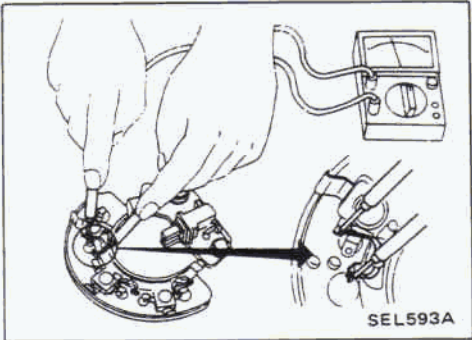


SEL319E

Negative side



SEL320E



SEL593A

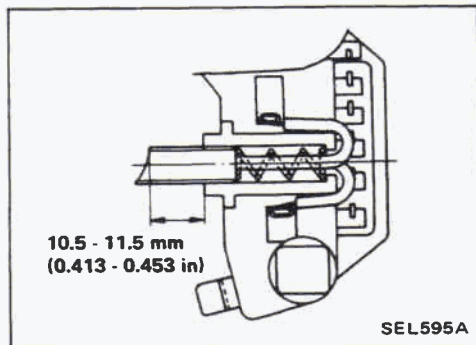
SUB-DIODES

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

### Assembly

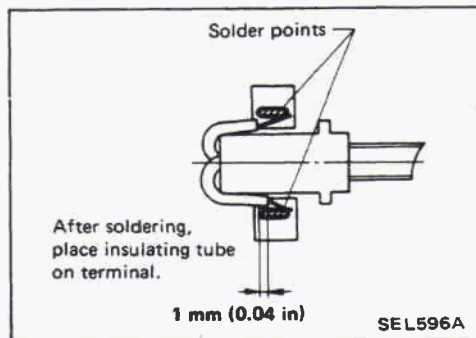
Carefully observe the following instructions.

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



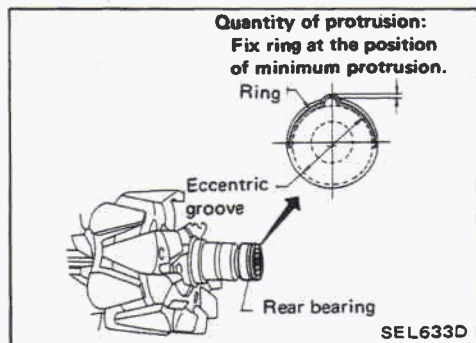
#### WHEN SOLDERING BRUSH LEAD WIRE

- (1) Position brush so that it extends 10.5 to 11.5 mm (0.413 to 0.453 in) from brush holder.



- (2) Coil lead wire 1.5 times around terminal groove. Solder outside of terminal.

When soldering, be careful not to let solder adhere to insulating tube as it will weaken the tube and cause it to break.



#### RING FITTING IN REAR BEARING

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

## CHARGING SYSTEM —Alternator—

### Assembly (Cont'd)

#### REAR COVER INSTALLATION

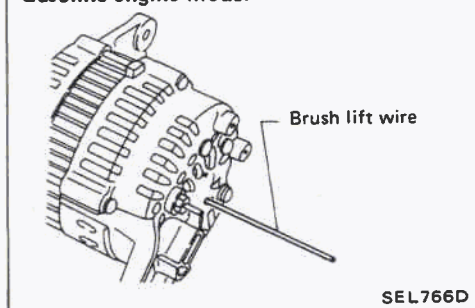
- (1) Before installing front cover with pulley and rotor with rear cover, push brush up with fingers and retain brush, by inserting brush lift into brush lift hole from outside.

After installing, remove wire for brush lift.

- (2) After installing front and rear sides of alternator, pull brush lift by pushing toward center.

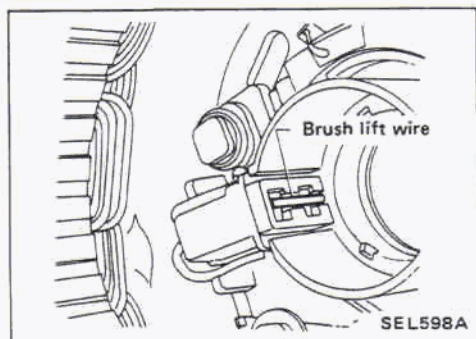
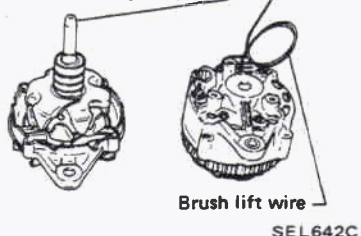
**Do not pull brush lift by pushing toward outside of cover as it will damage slip ring sliding surface.**

Gasoline engine model



Diesel engine model

Use serration cap (Attach vinyl tape) to prevent scratching oil seal



**CHARGING SYSTEM —Alternator—**

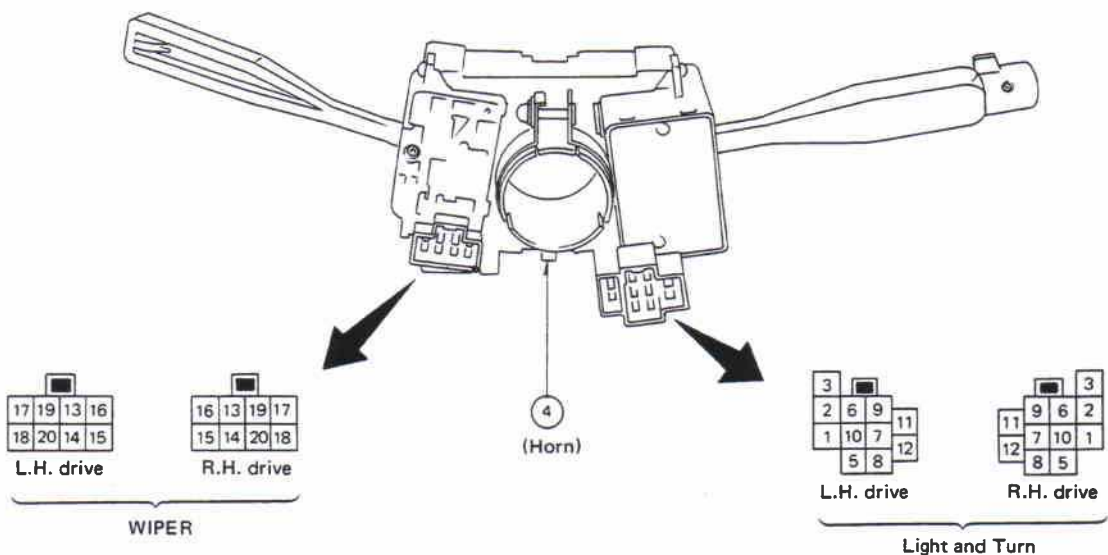
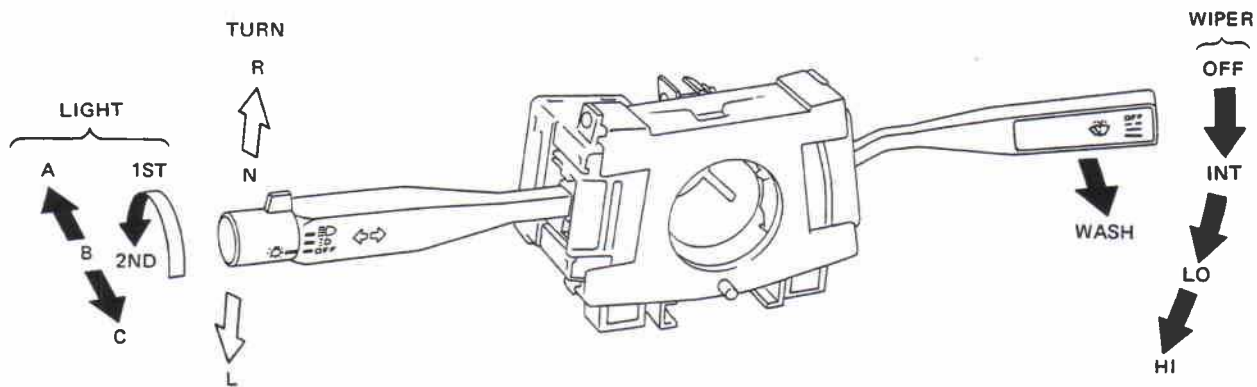
**Service Data and Specifications (S.D.S.)**

**ALTERNATOR**

Type		LR150-218	LR160-165	LR160-437	LR150-428E	LR160-426E
Applied model		Gasoline engine	Optional for gasoline engine	Diesel engine		
				Australia	Except Australia	Optional for except Australia
Nominal rating	V-A	12-50	12-60		12-50	12-60
Ground polarity		Negative				
Minimum revolution under no-load (When 14 volts is applied)	rpm	Less than 1,000	Less than 900	Less than 1,000		
Hot output current	A/rpm	More than 40/2,500 More than 50/5,000	More than 26/1,300 More than 52/2,500 More than 60/5,000	More than 26/1,300 More than 50/2,500 More than 58/5,000	More than 16/1,300 More than 42/2,500 More than 50/5,000	More than 26/1,300 More than 50/2,500 More than 58/5,000
Regulated output voltage	V	14.1 - 14.7		14.4 - 15.0		
Minimum length of brush	mm (in)	6.0 (0.236)				
Brush spring pressure	N (g, oz)	2.305 - 3.383 (235 - 345, 8.29 - 12.17)		1.569 - 3.334 (160 - 340, 5.64 - 11.99)	2.501 - 3.383 (255 - 345, 8.99 - 12.17)	1.569 - 3.334 (160 - 340, 5.64 - 11.99)
Slip ring outer diameter	mm (in)	30.6 (1.205)		33.6 (1.323)	30.6 (1.205)	33.6 (1.323)

# COMBINATION SWITCH

## Check



### WIPER SWITCH

#### LIGHTING SWITCH

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

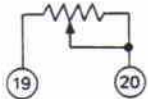
#### Without intermittent wiper

	OFF	LO	HI	WASH
13				
14				
15				
16				
17				
18				

#### With intermittent wiper

	OFF	INT	LO	HI	WASH
13					
14					
15					
16					
17					
18					

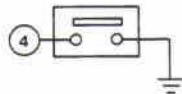
#### INTERMITTENT WIPER VOLUME



#### TURN SIGNAL SWITCH

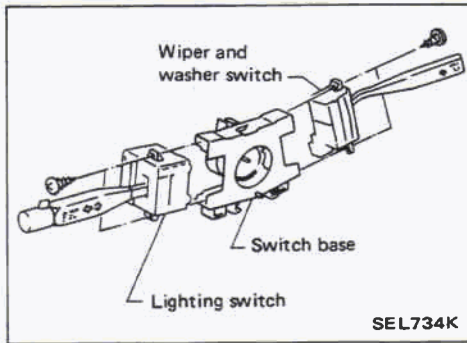
	R	N	L
1			
2			
3			

#### HORN SWITCH



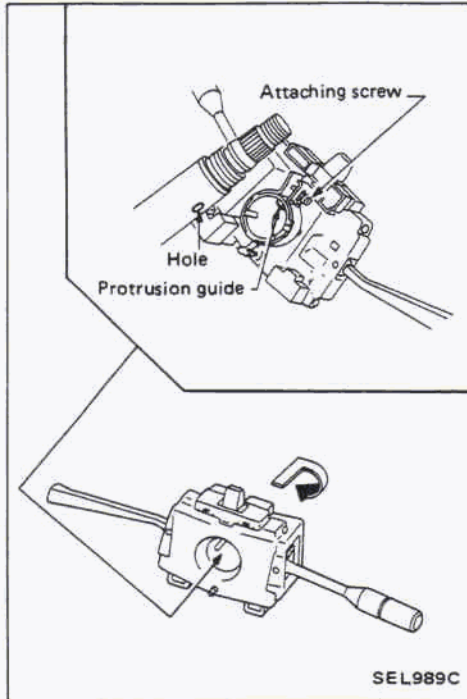
SEL813K

## COMBINATION SWITCH



### Replacement

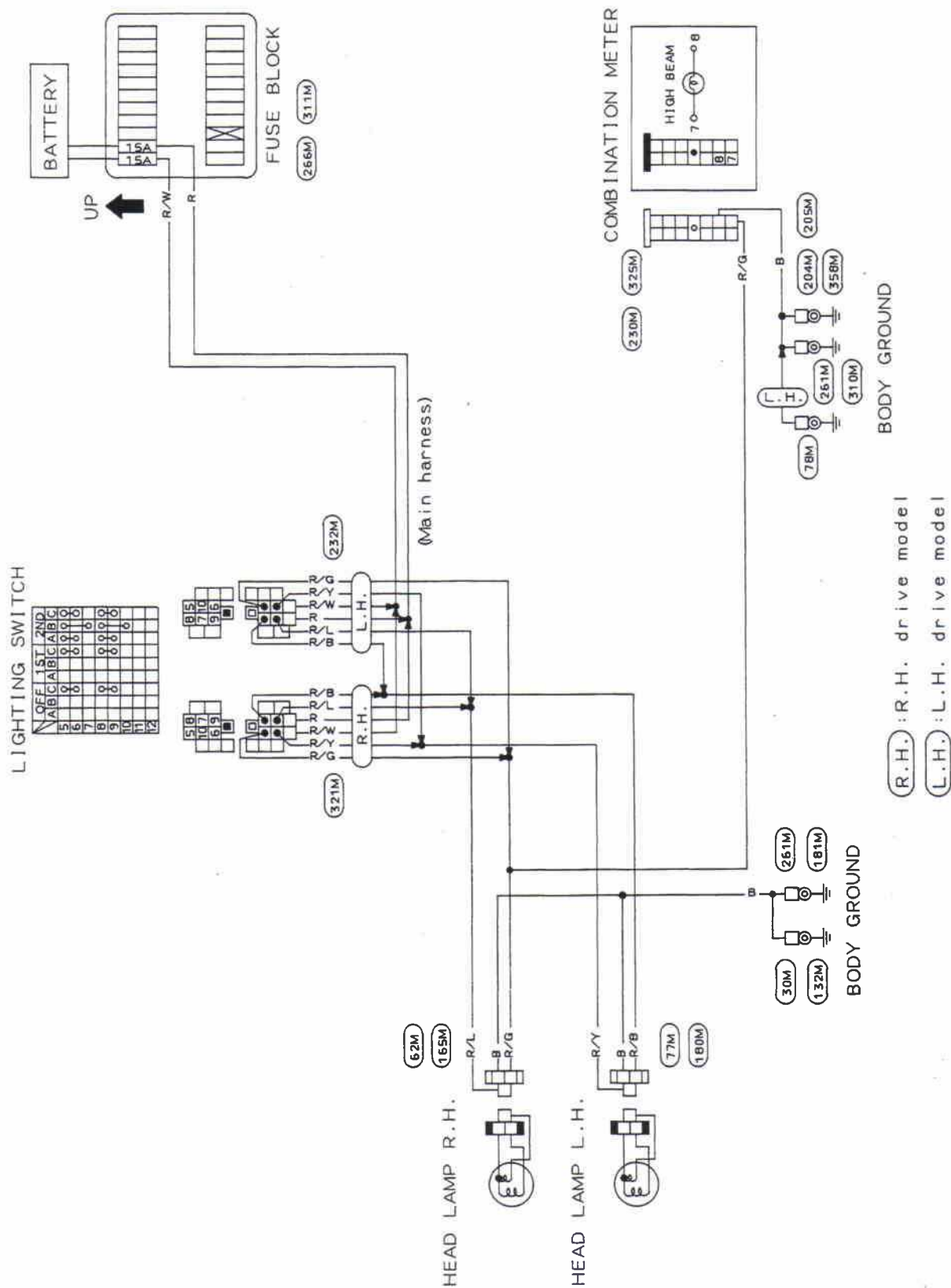
- Lighting switch and wiper & washer switch can be replaced without removing combination switch hose.
- To remove combination switch base, remove base attaching screw and turn after pushing on it.





HEADLAMP

Wiring Diagram



## HEADLAMP

### Aiming Adjustment

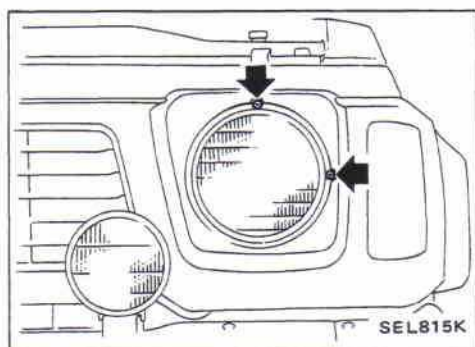
When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. For operating instructions of any aimer, it should be in good repair, calibrated and used according to respective operation manuals supplied with the unit.

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

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

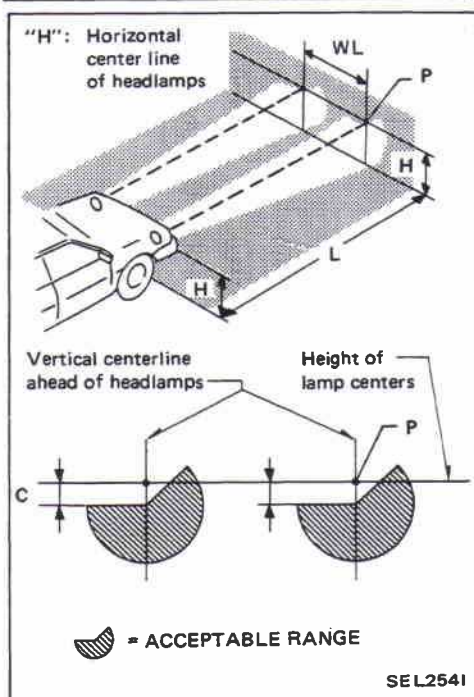
#### CAUTION:

- Keep all tires inflated to correct pressures.
- Place vehicle and tester on one and same flat surface.
- 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

- Turn headlamp low beam on.
  - Use adjusting screws to perform aiming adjustment.
- First tighten the adjust screw all the way and then make adjustment by loosening the screw.



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

- Dotted lines in illustration show center of headlamp.

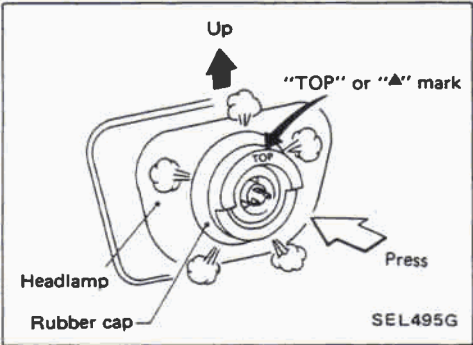
"H": Horizontal center line of headlamps

"WL": Distance between each headlamp center

"L": 5,000 mm (196.85 in)

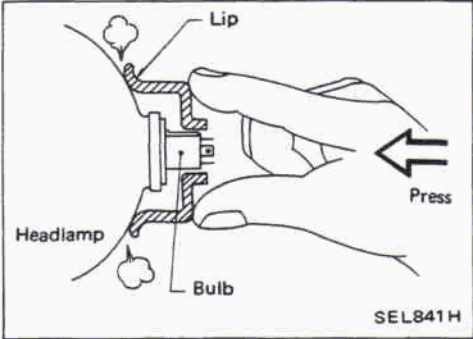
"C": 50 mm (1.97 in)

# HEADLAMP



## Installing Headlamp Rubber Cap

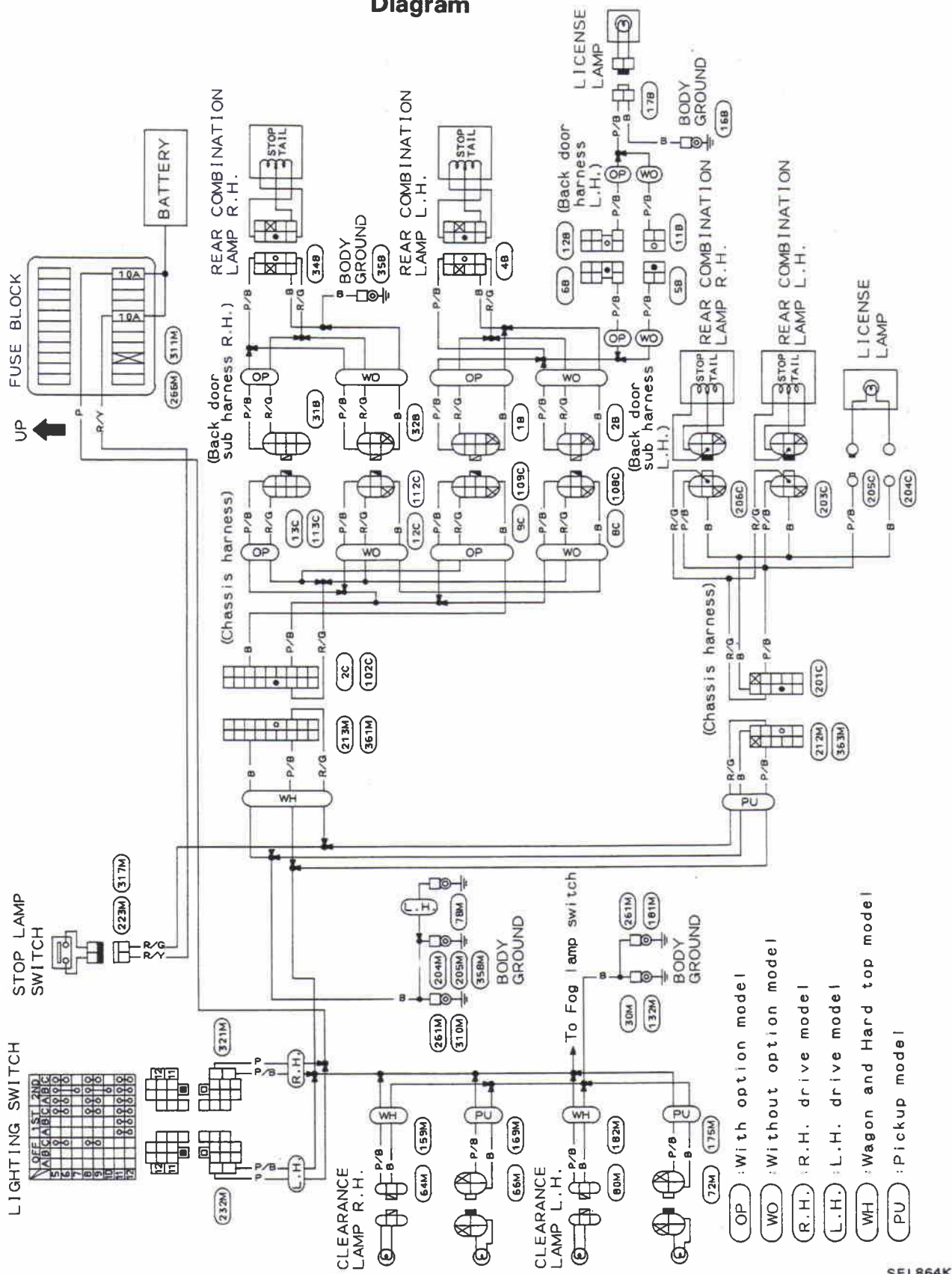
When installing the rubber cap, set the "TOP" or "▲" mark so it is facing up.



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

EXTERIOR LAMP

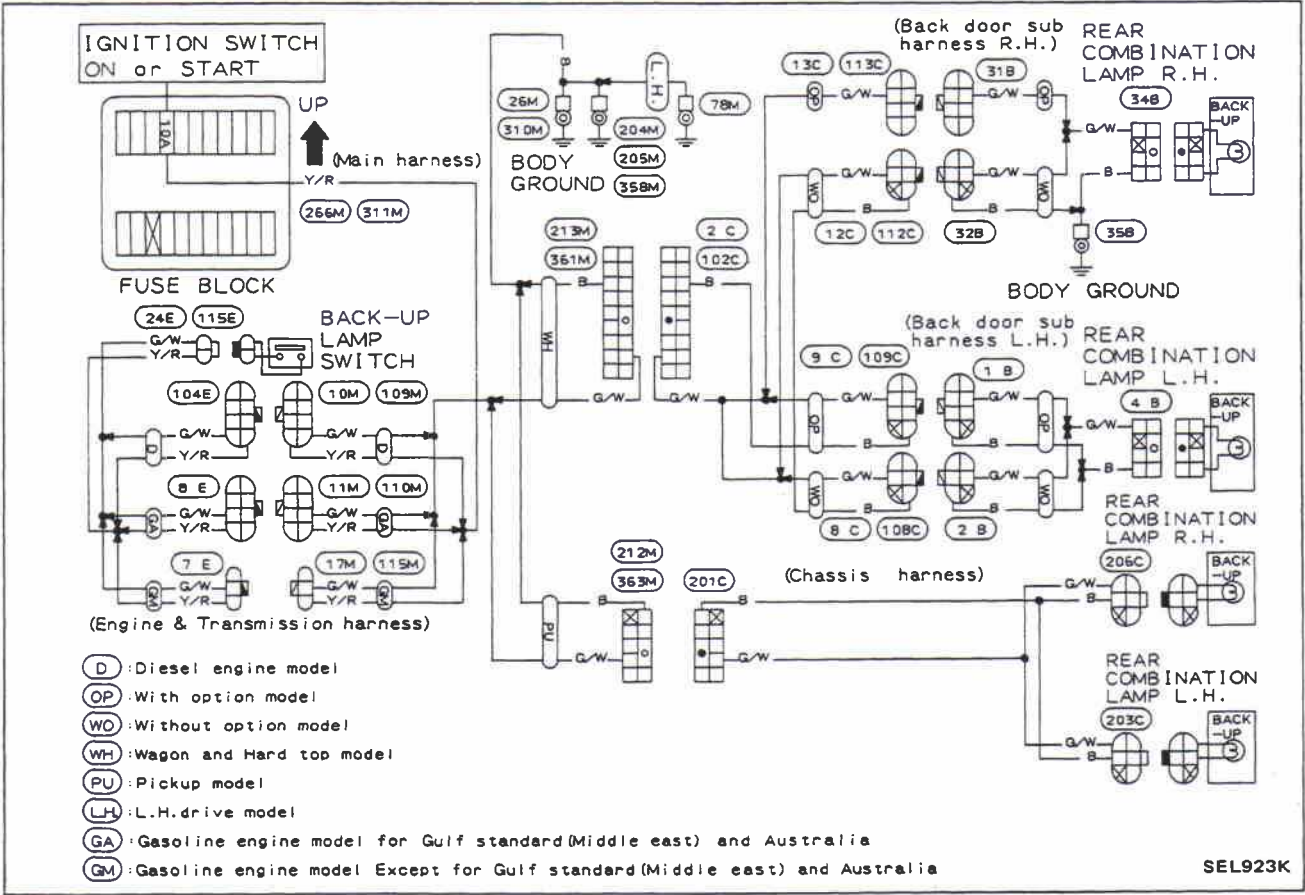
Clearance, License, Tail and Stop Lamps/Wiring Diagram



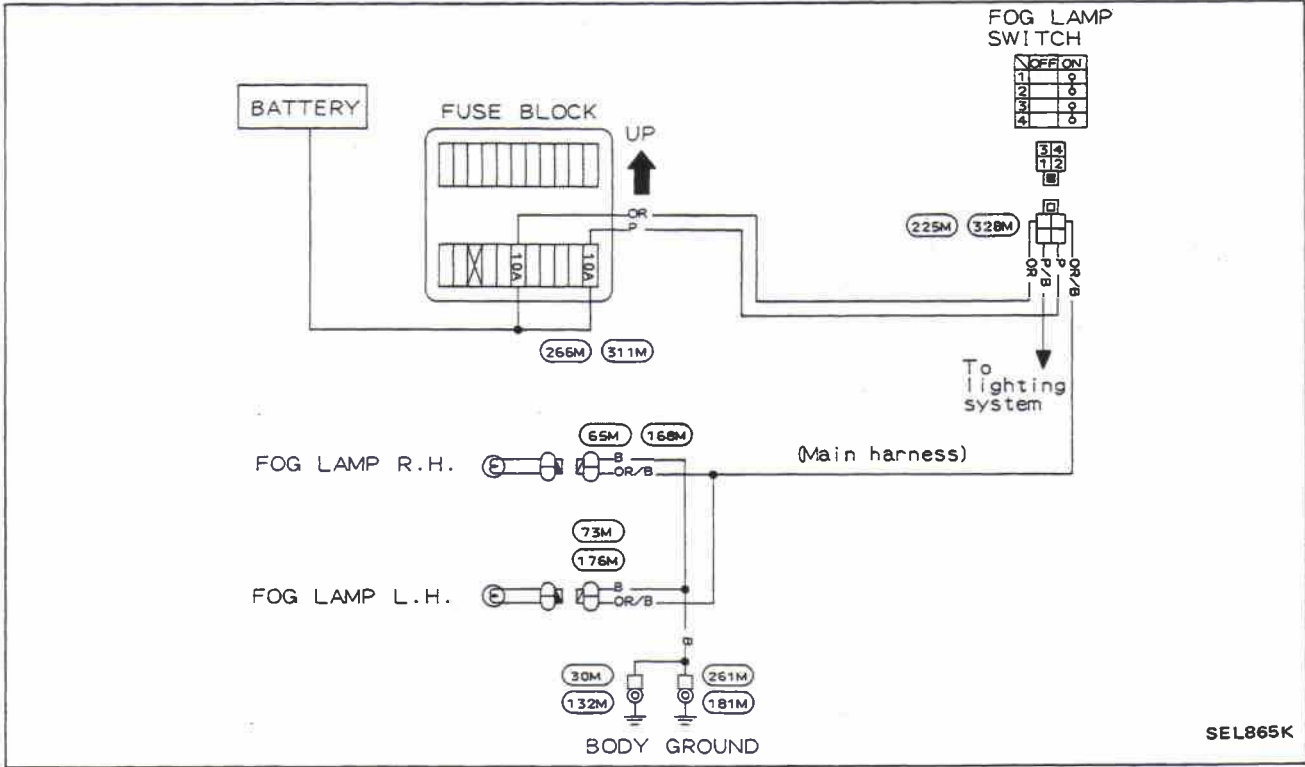
SEL864K

EXTERIOR LAMP

Back-up Lamp/Wiring Diagram



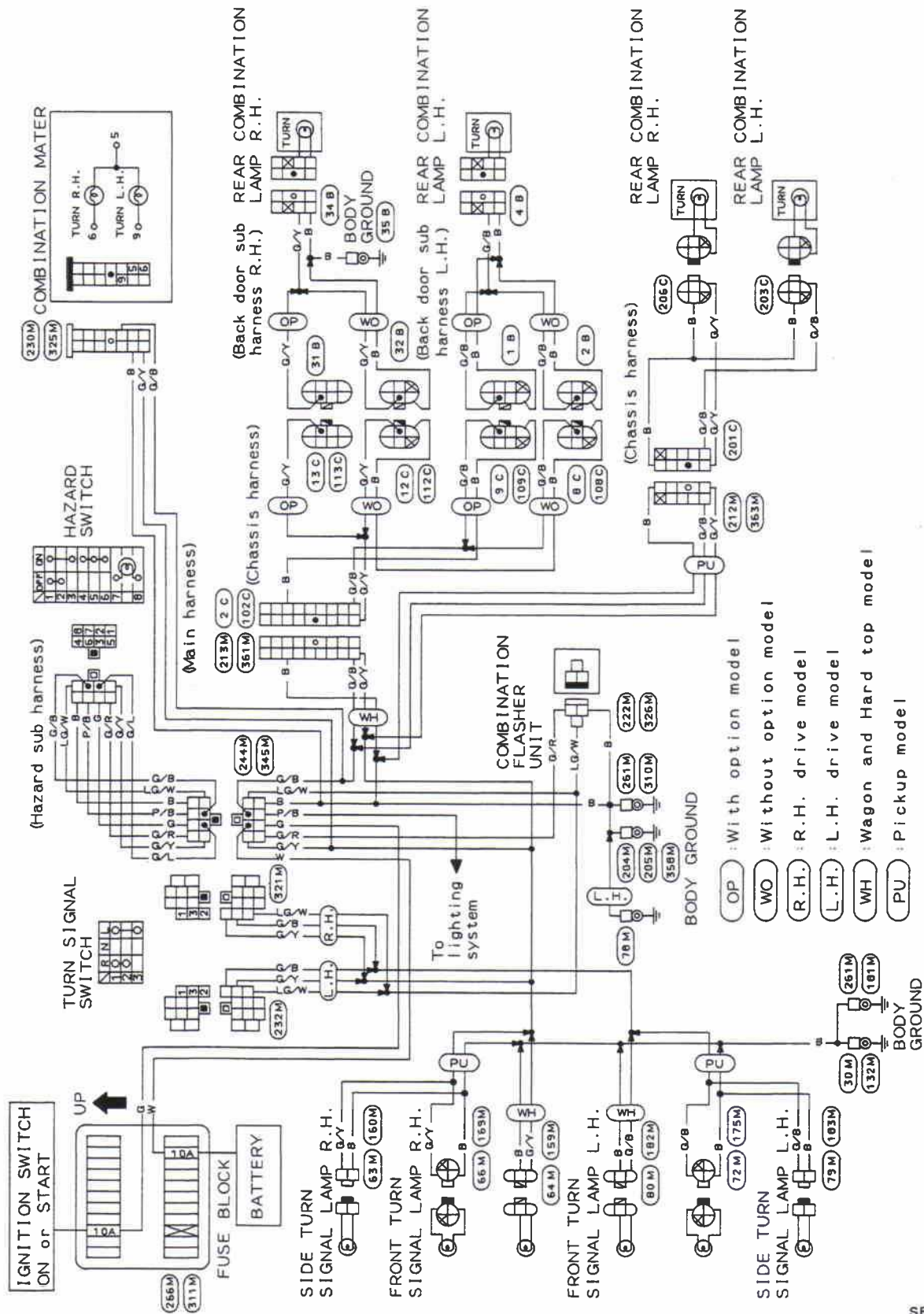
Fog Lamp/Wiring Diagram





EXTERIOR LAMP

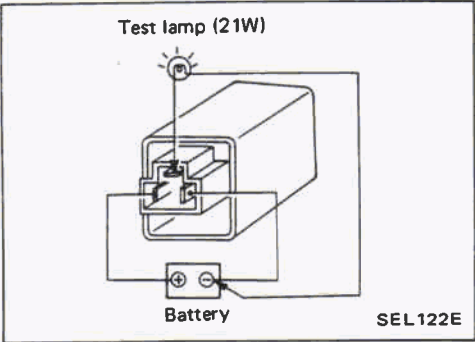
Turn Signal and Hazard Warning Lamps/Wiring Diagram



SEL866K



EXTERIOR LAMP



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

HEADLAMPS

	Wattage (W)
Sealed beam type	50/40, 45/40 (Yellow type)
Semi-sealed beam type	60/55

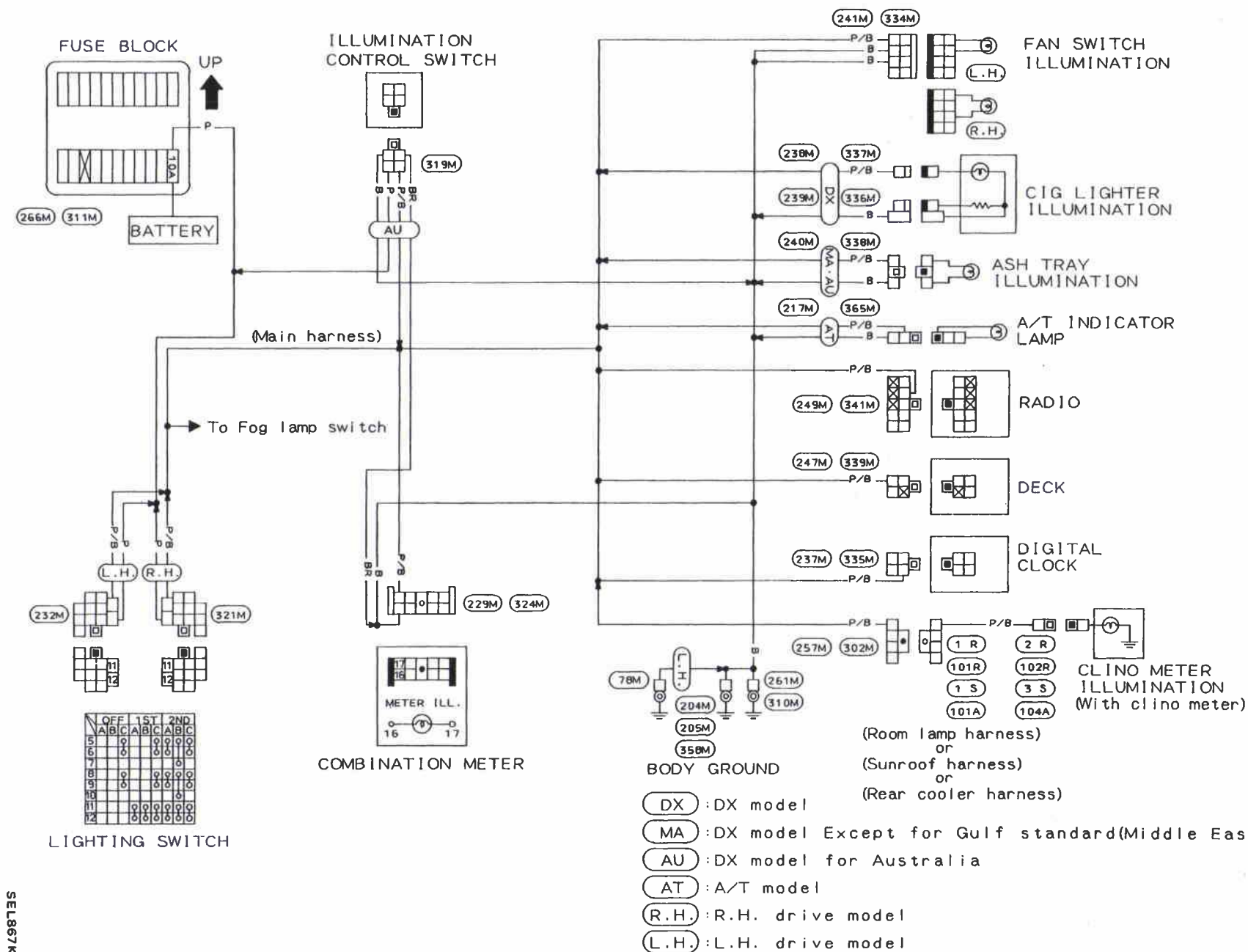
OTHER LAMPS

	Wattage (W)
Front turn signal light	21
Front clearance light	5
Side turn signal light (Pickup)	5
Rear combination light	
Turn signal	21
Stop/Tail	21/5
Back-up	21
License plate light	10
Interior light	10
Fog light (H3 type halogen)	35

# INTERIOR LAMP

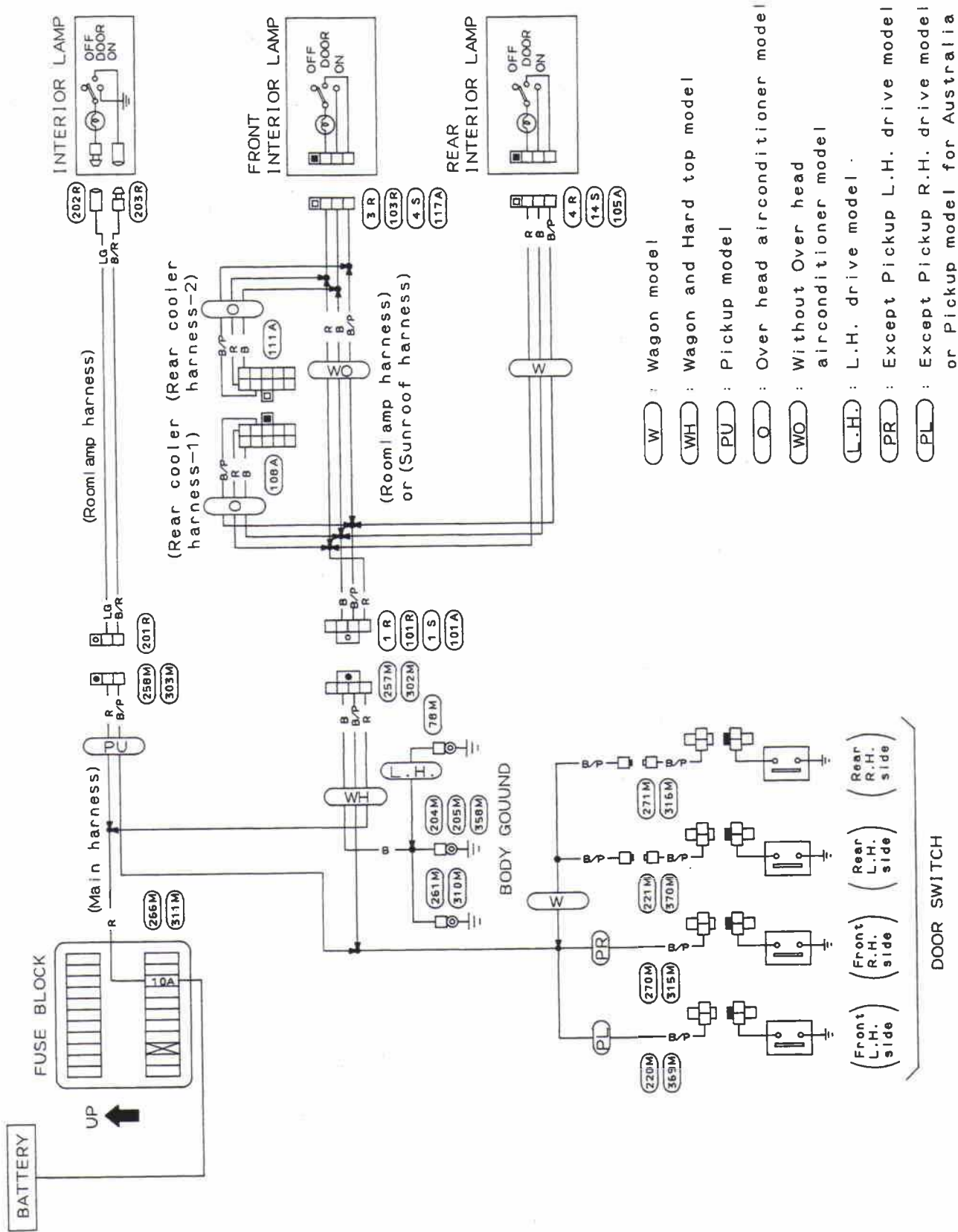
## Illumination/Wiring Diagram

EL-46



INTERIOR LAMP

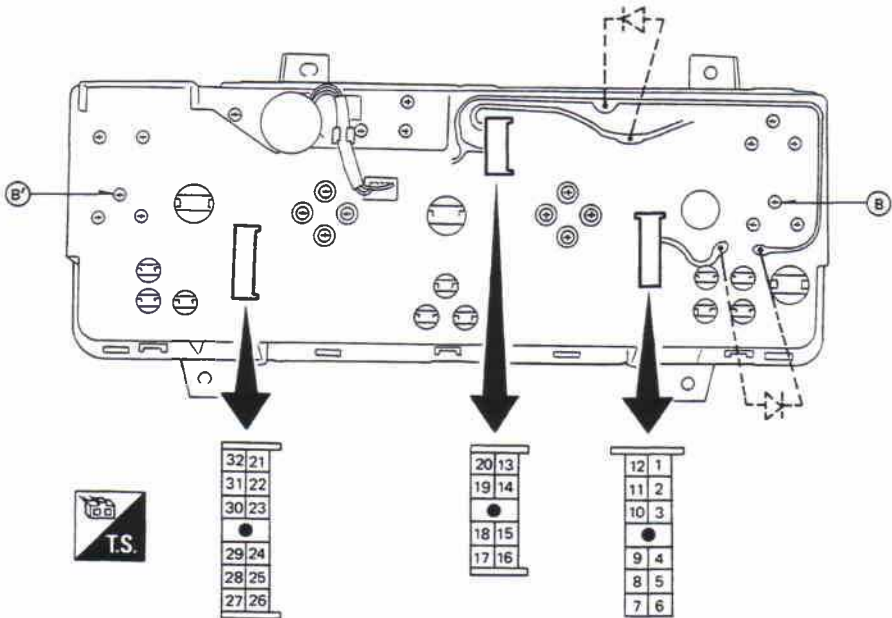
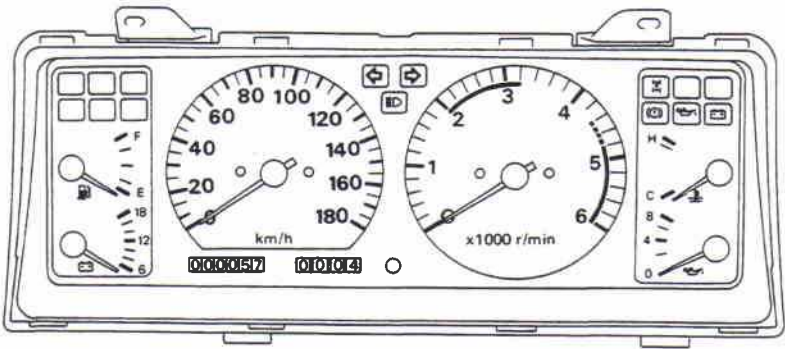
Interior Lamp/Wiring Diagram



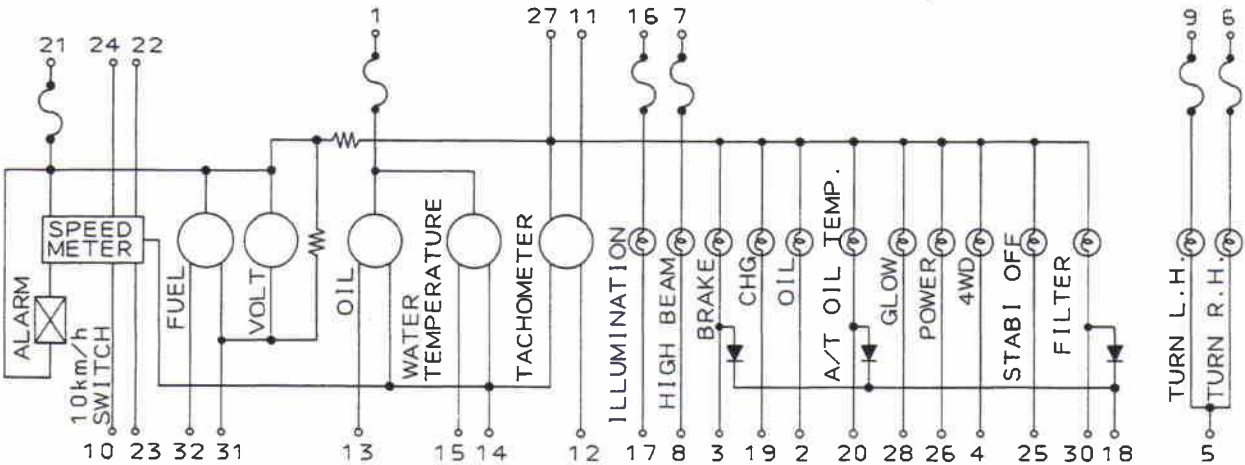
METER AND GAUGES

Combination Meter

TYPE A



SEL816K

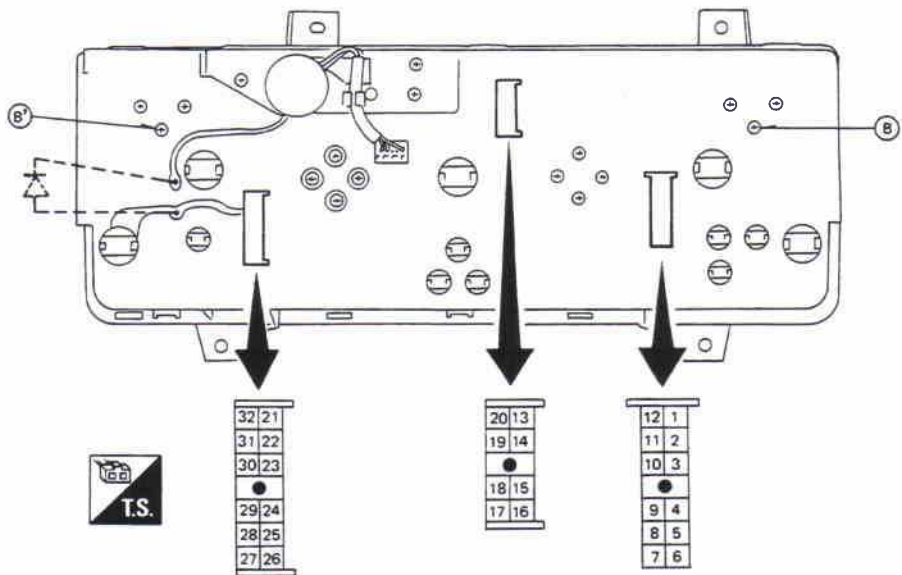
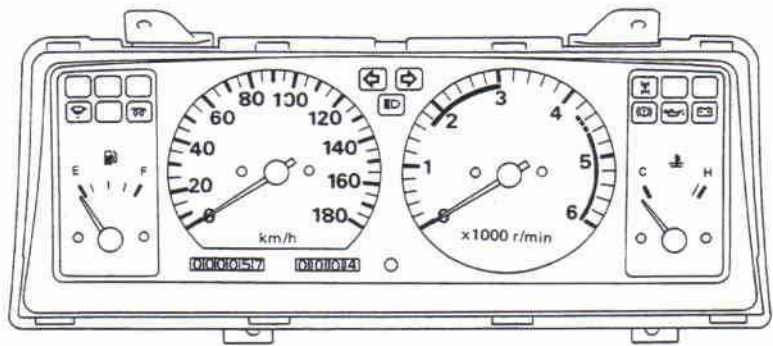


SEL890K

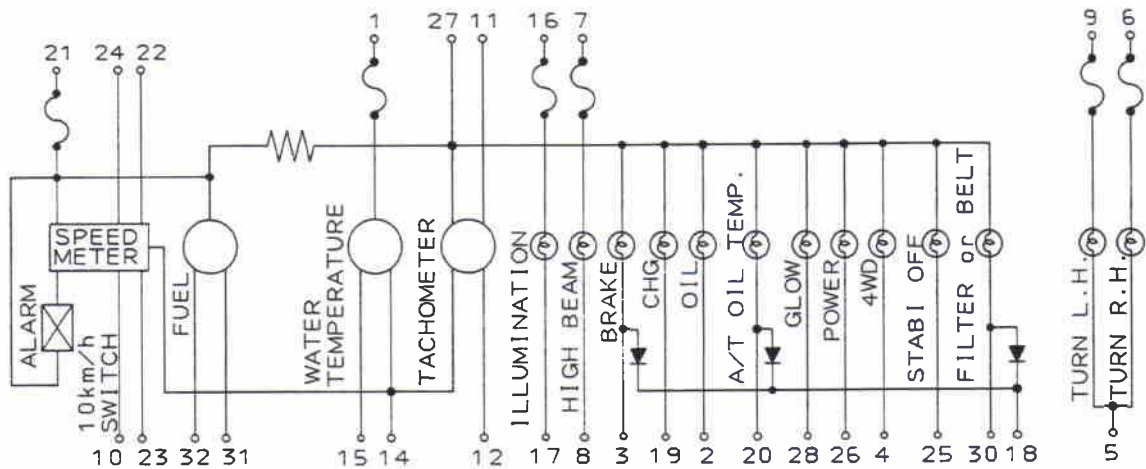
METER AND GAUGES

Combination Meter (Cont'd)

TYPE B



SEL817K



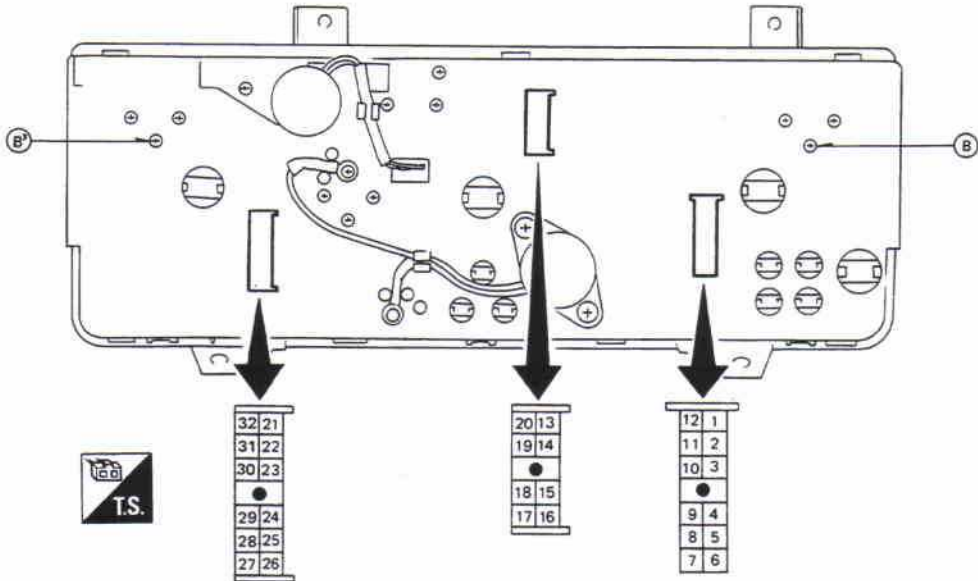
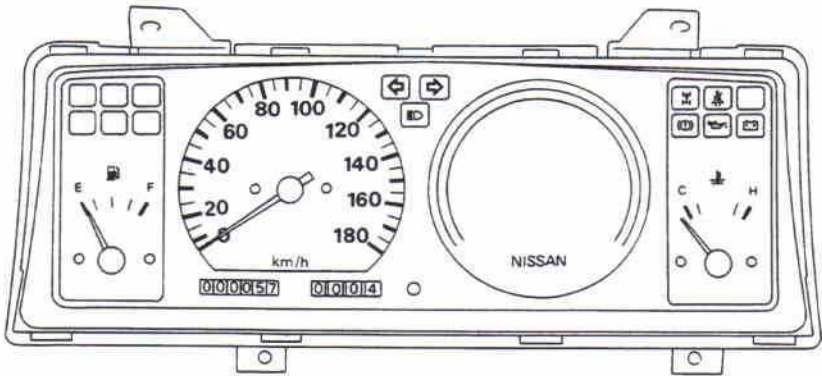
SEL889K



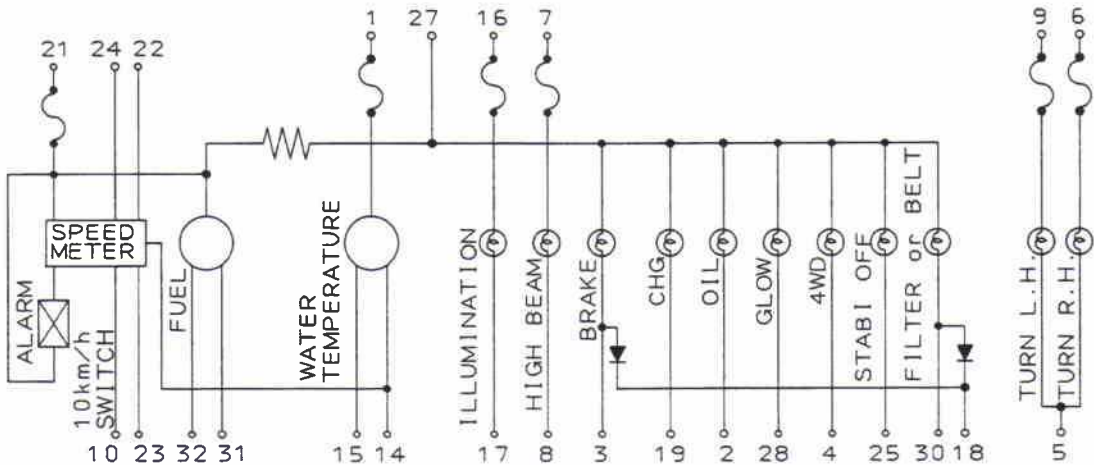
METER AND GAUGES

Combination Meter (Cont'd)

TYPE C



SEL818K

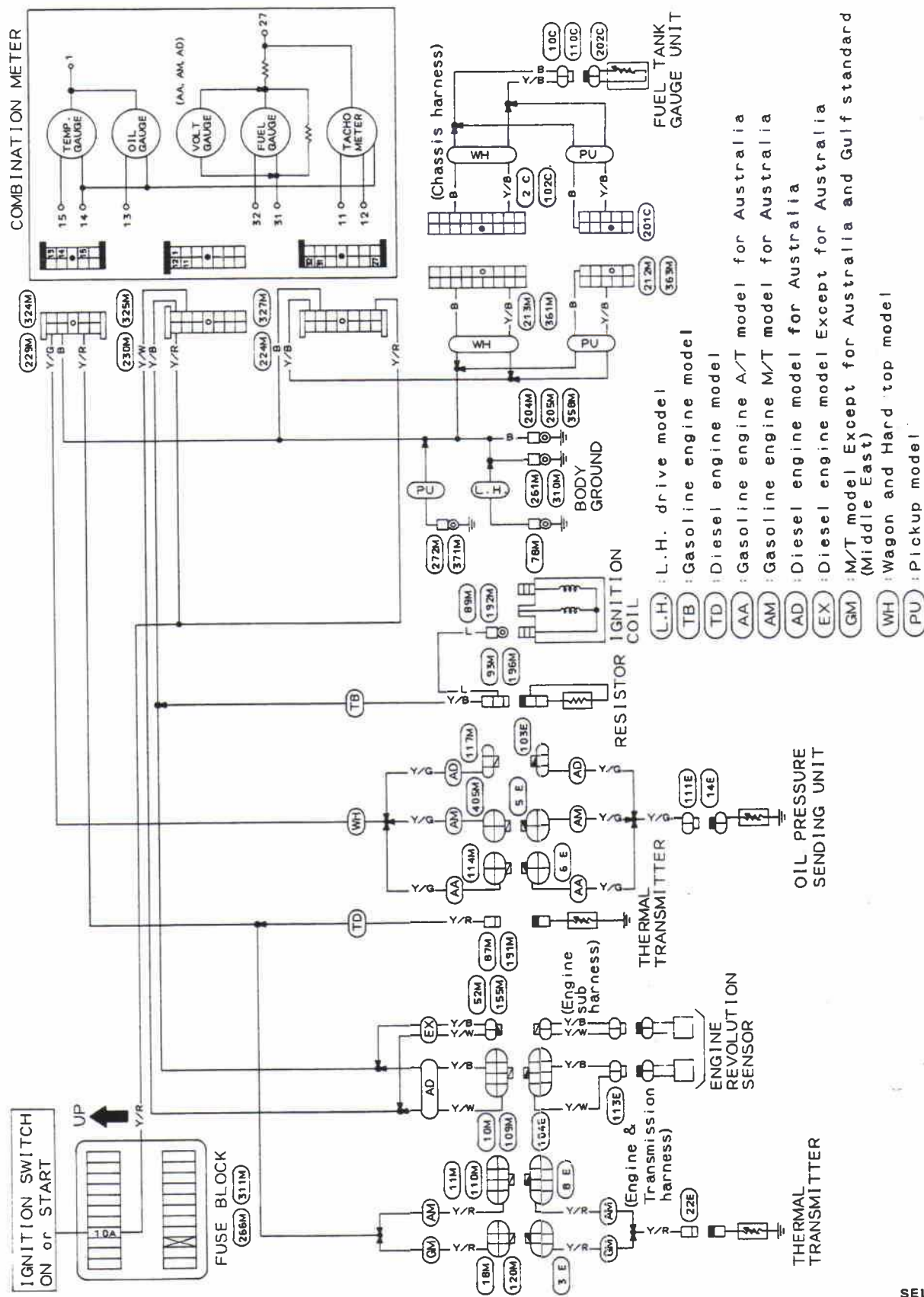


SEL869K



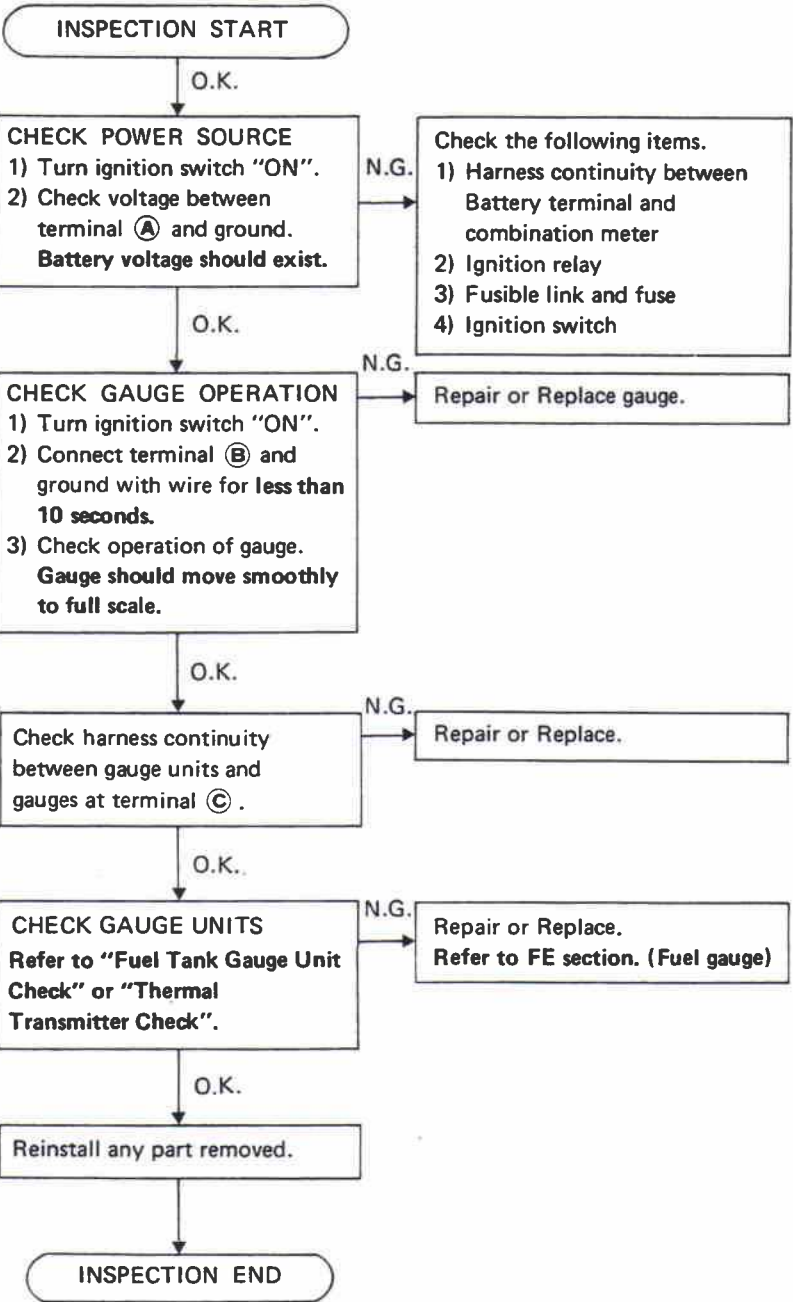
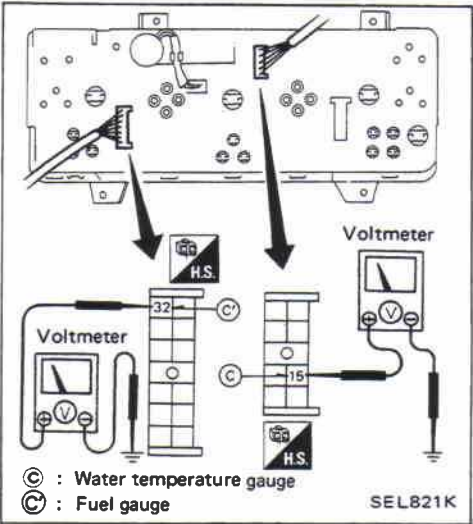
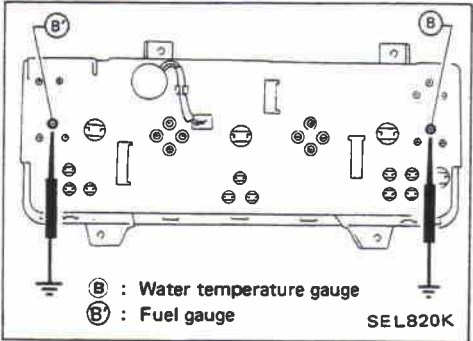
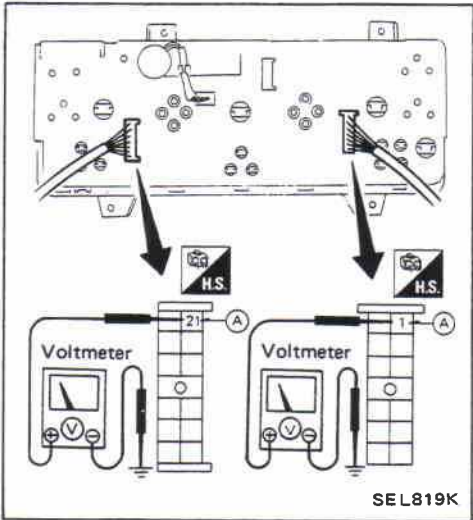
# METER AND GAUGES

## Wiring Diagram



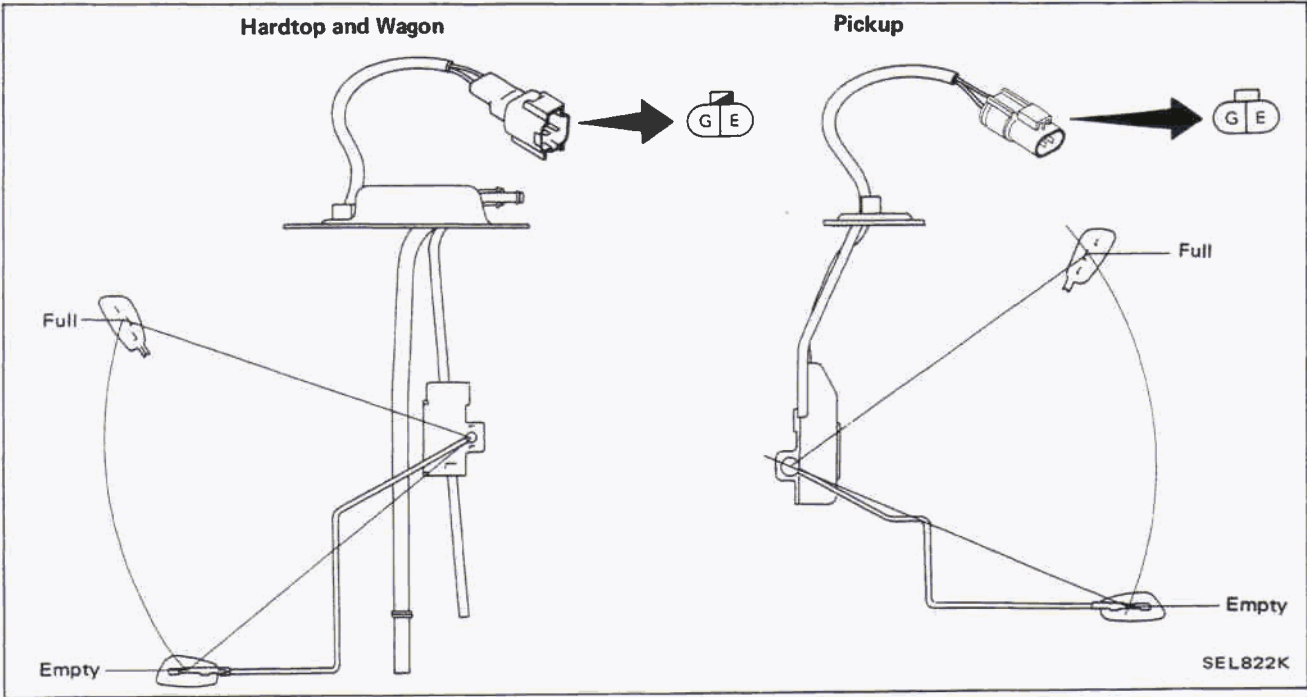
# METER AND GAUGES

## Inspection/Fuel Gauge and Water Temperature Gauge

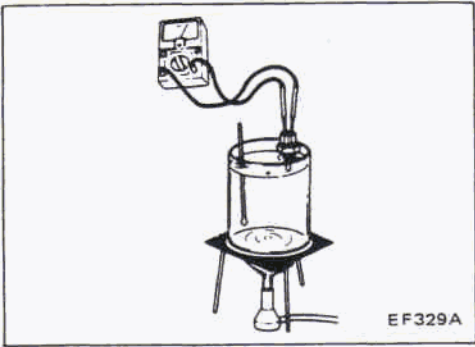


METER AND GAUGES

Fuel Tank Gauge Unit Check



Ohmmeter		Float position	Resistance value
(+)	(-)		
G	E	Full	Approx. 4.3 - 5.7Ω
		Empty	Approx. 74.3 - 84.8Ω

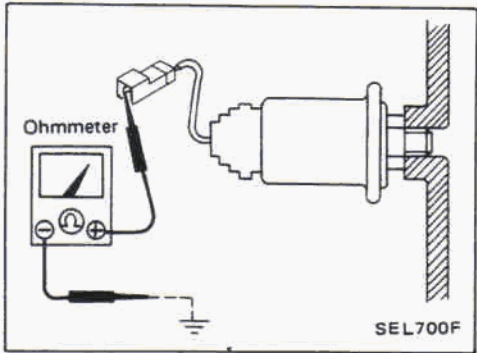


Thermal Transmitter Check

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

## METER AND GAUGES



### Oil Pressure Sending Unit Check

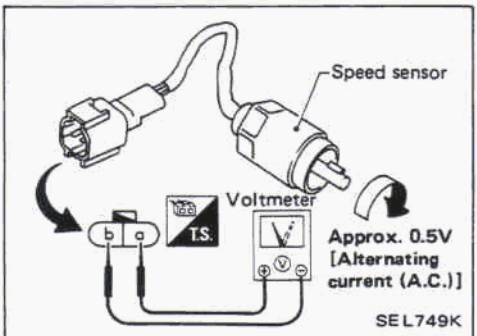
Check the resistance between the terminals of oil pressure sending unit and body ground.

Oil pressure kPa (bar, kg/cm <sup>2</sup> , psi)	Resistance value
0 (0, 0, 0) (Engine is stopped.)	71 - 74Ω
392 (3.9, 4, 57)	24 - 31Ω
588 (5.9, 6, 85)	13 - 20Ω

### Oil Pressure Switch Check

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

	Oil pressure kPa (bar, kg/cm <sup>2</sup> , psi)	Continuity
Engine running	More than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1.4 - 2.8)	NO
Engine stopped	Less than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1.4 - 2.8)	YES

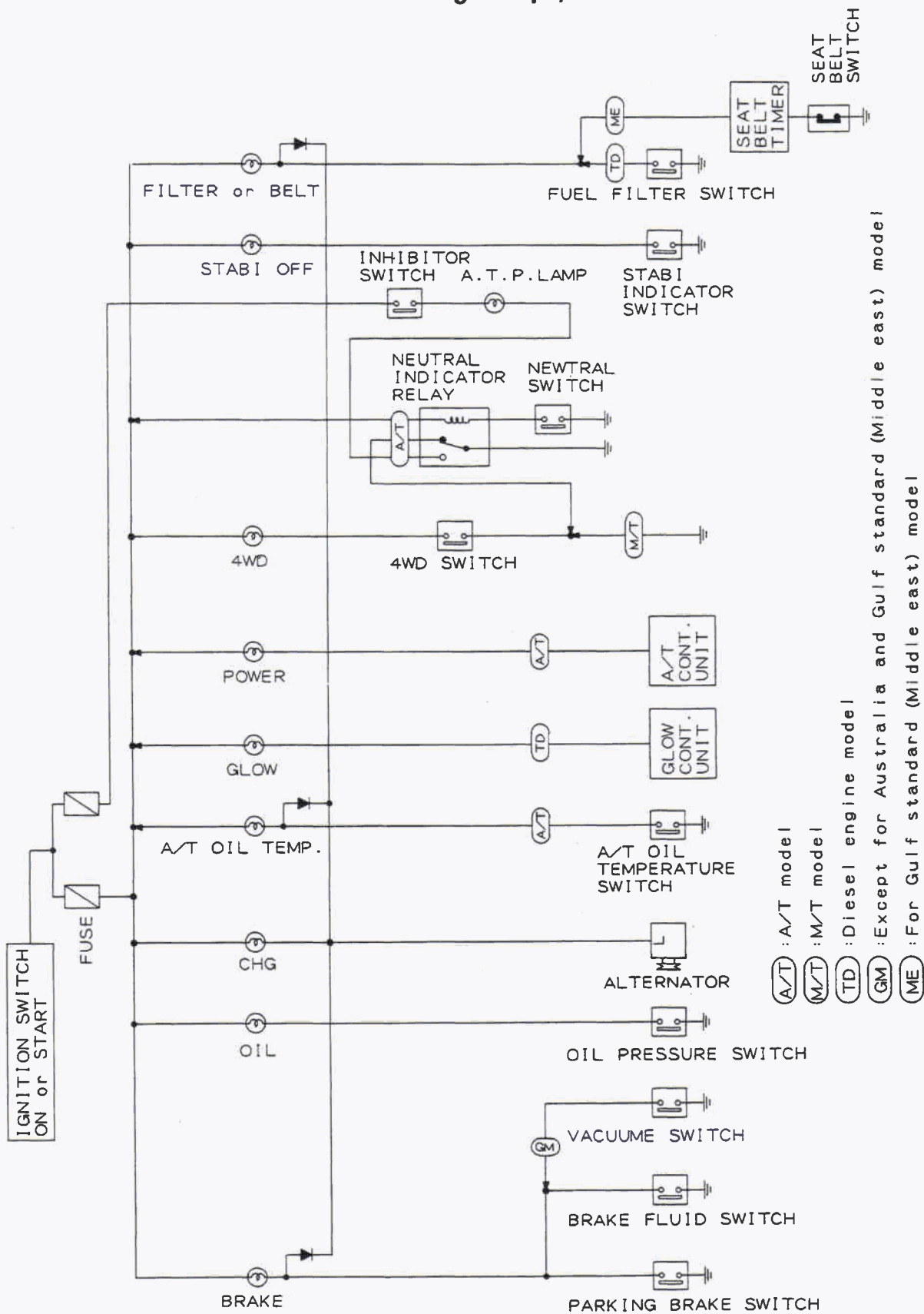


### Speed Sensor Signal Check

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

WARNING LAMPS AND CHIME

Warning Lamps/Schematic



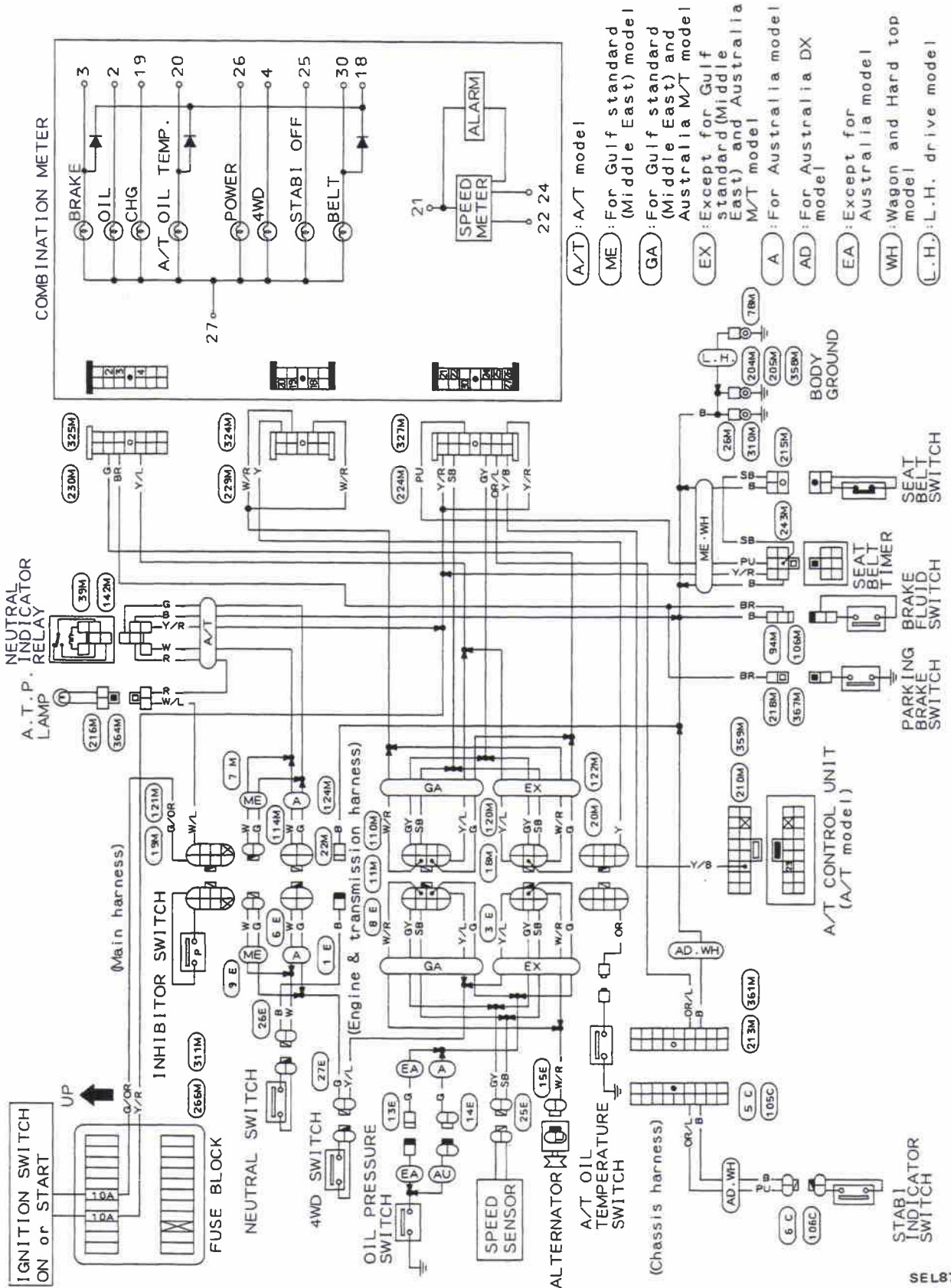
SEL871K



# WARNING LAMPS AND CHIME

## Warning Lamps/Wiring Diagram

### GASOLINE ENGINE MODEL

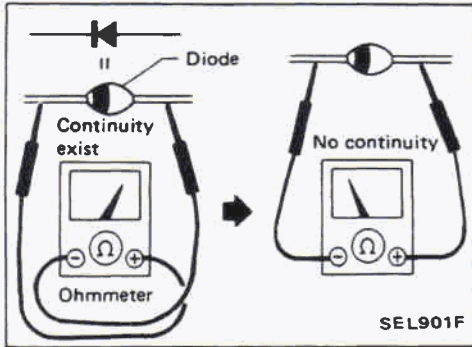


SEL872K



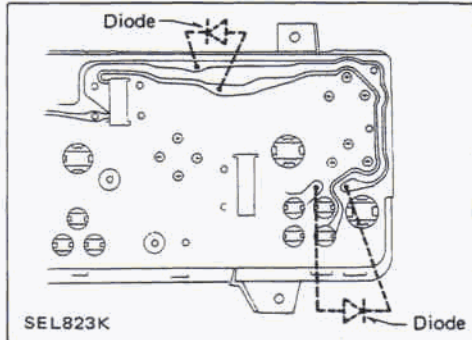
## Warning Lamps/Wiring Diagram (Cont'd)

## WARNING LAMPS AND CHIME

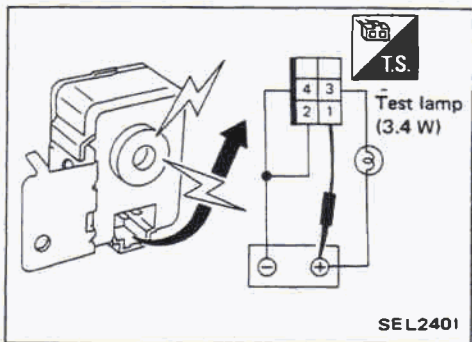


### Diode Check

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



- Diodes for warning lamps are built into the combination meter printed circuit.  
(Refer to "Combination Meter".)



### Seat Belt Timer Check

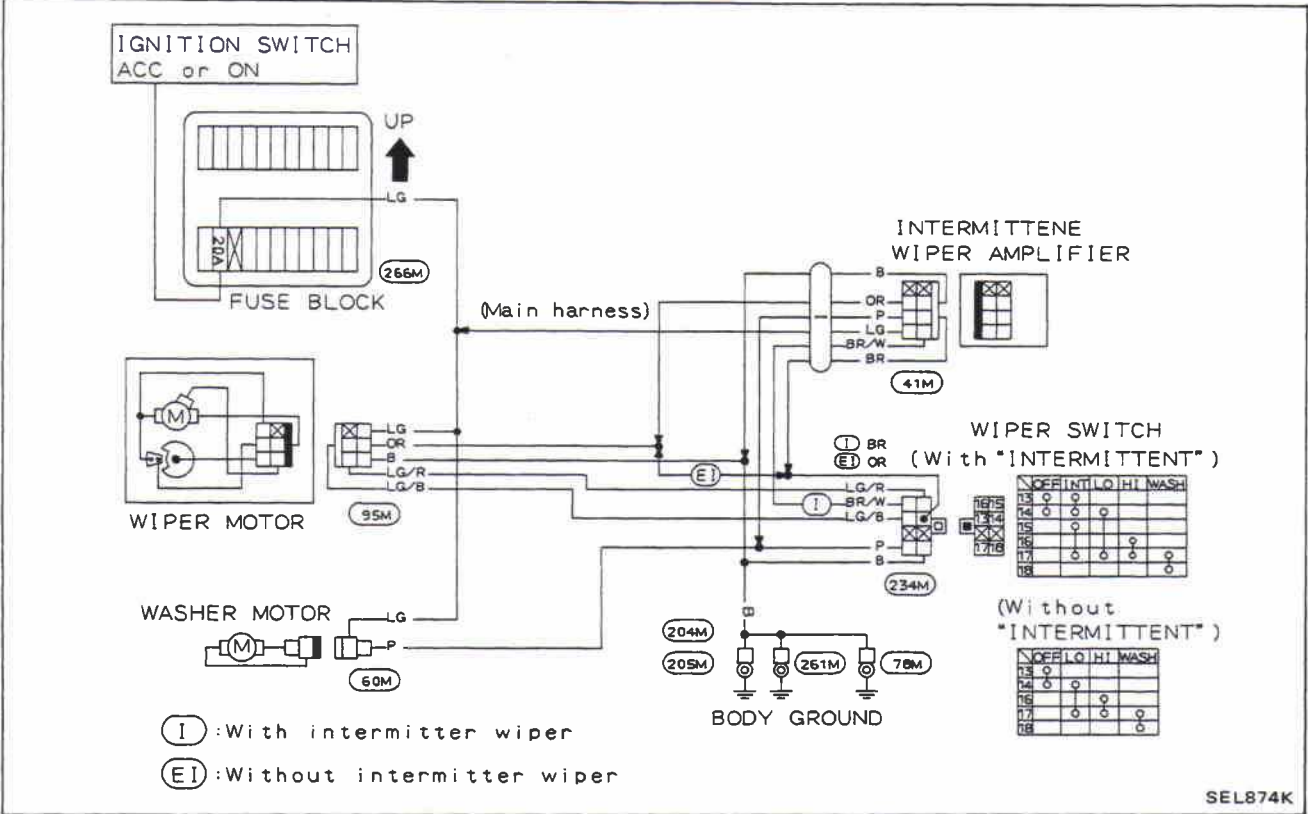
Connect as shown in the figure to the left.

If chime and test lamp come on for 4-8 seconds when connecting terminal ① to battery ⊕ terminal, seat belt timer is normal.

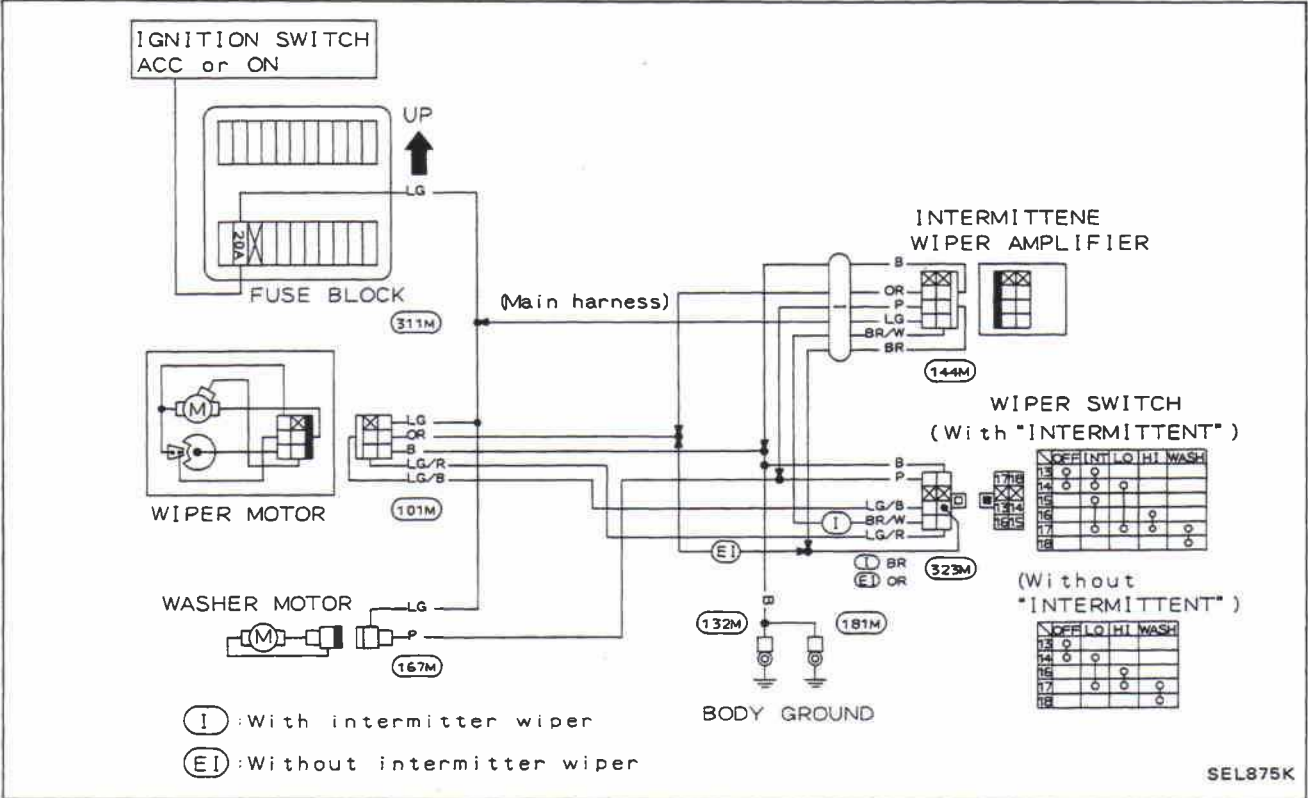
# WIPER AND WASHER

## Front Wiper and Washer/Wiring Diagram

### L.H. DRIVE MODEL

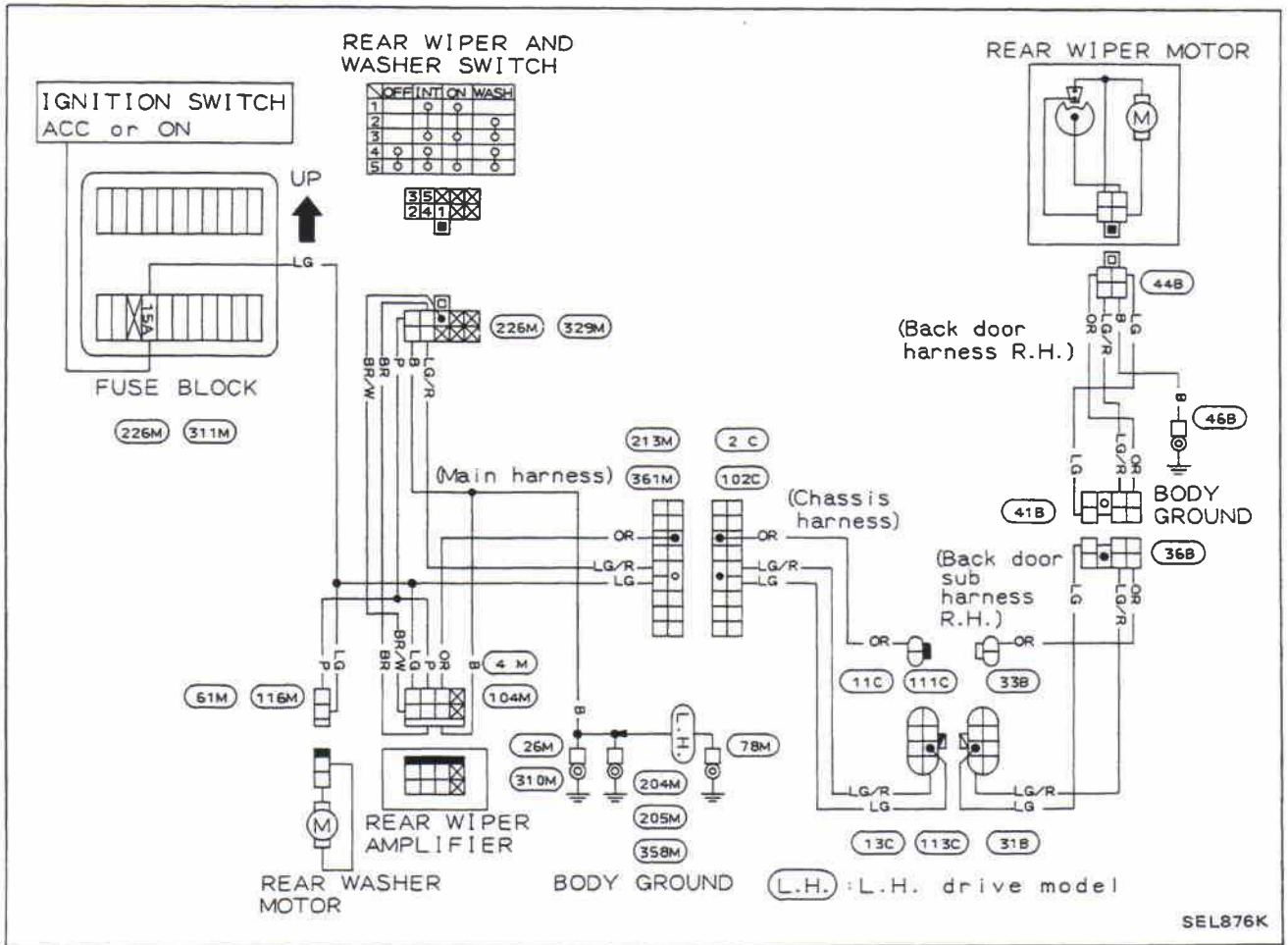


### R.H. DRIVE MODEL



# WIPER AND WASHER

## Rear Wiper and Washer/Wiring Diagram



## WIPER AND WASHER

### Windshield Wiper Installation

#### Adjustment

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

Clearance "C": 20 - 30 mm (0.79 - 1.18 in)

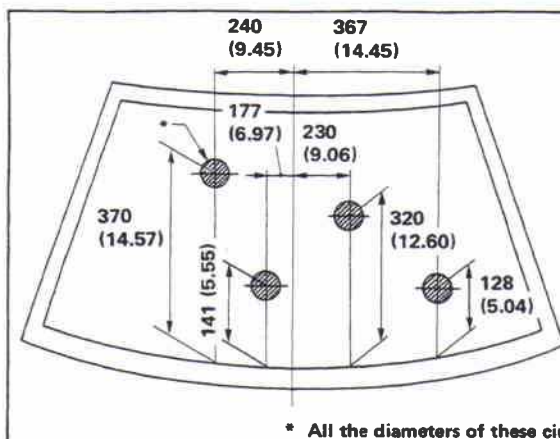
#### Installation

- Tighten windshield wiper arm nuts to specified torque.

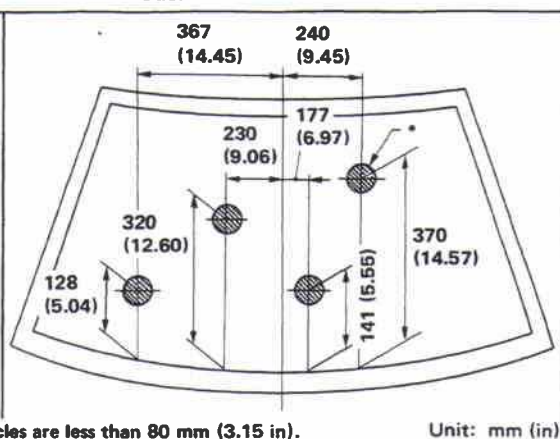
🔧 13 - 18 N·m (1.3 - 1.8 kg-m, 9 - 13 ft-lb)

#### Windshield wiper and washer

L.H. drive model

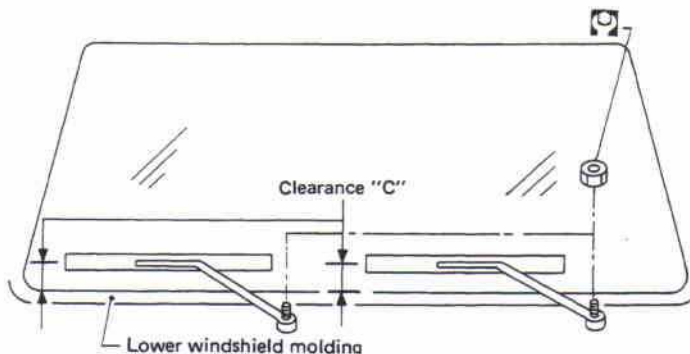


R.H. drive model



\* All the diameters of these circles are less than 80 mm (3.15 in).

Unit: mm (in)



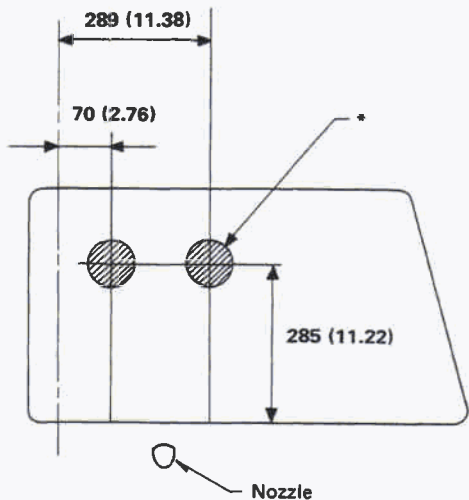
SEL825K



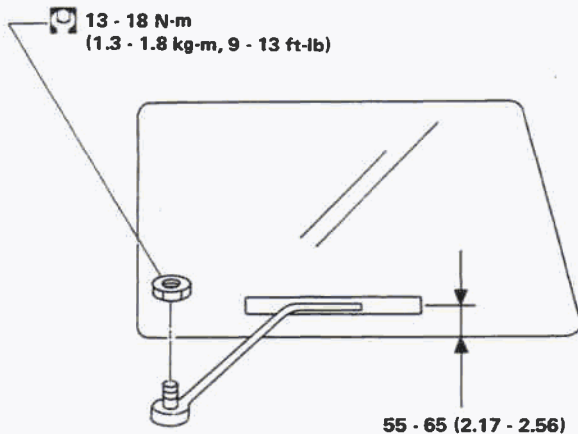
# WIPER AND WASHER

## Windshield Wiper Installation (Cont'd)

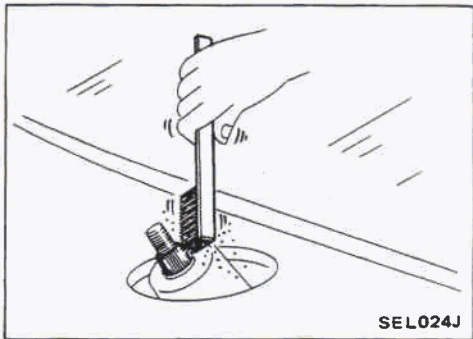
### Rear Wiper and Washer



\*: All the diameters of these circles are less than 50 mm (1.97 in).  
Unit: mm (in)



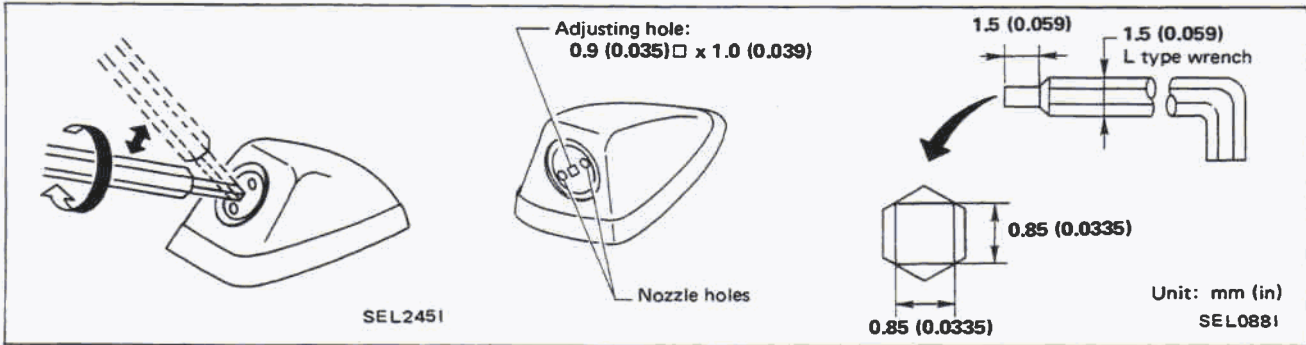
SEL826K



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

### Washer Nozzle Adjustment

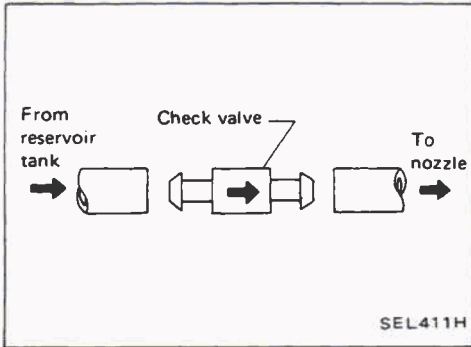
- Adjust washer nozzle with suitable tool as in the figure below.  
Details of tool are shown below.



Unit: mm (in)  
SEL088I

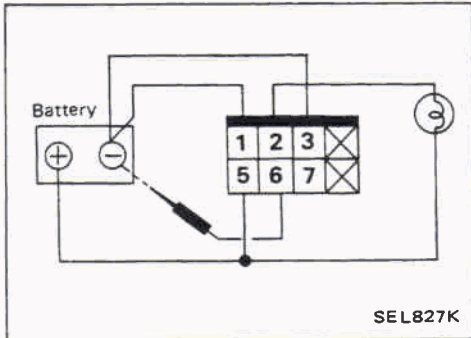


## WIPER AND WASHER



### Check Valve

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

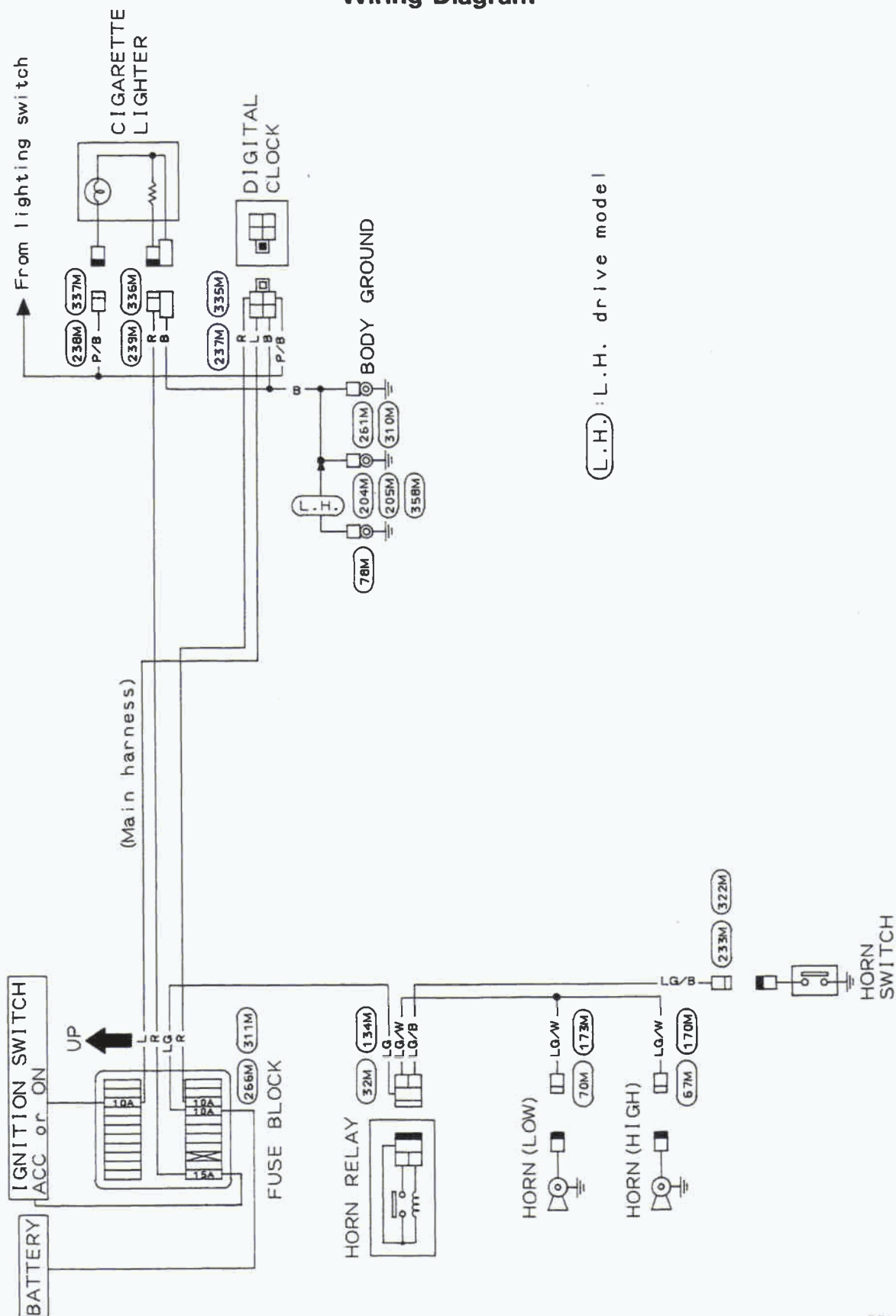


### Wiper Relay Check

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

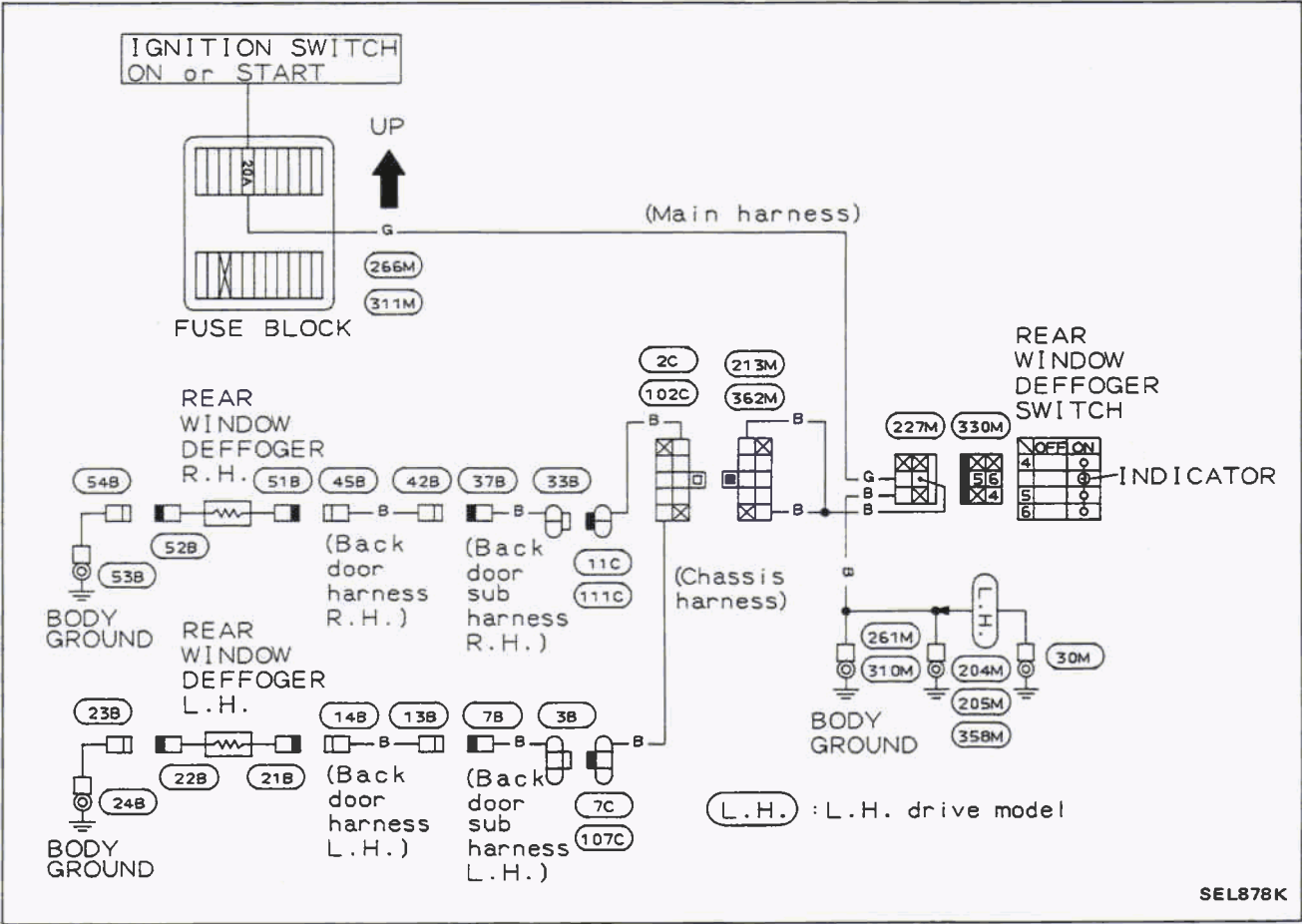
## HORN, CIGARETTE LIGHTER AND CLOCK

## Wiring Diagram

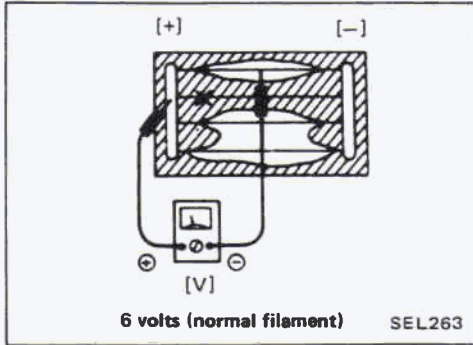


REAR WINDOW DEFOGGER

Wiring Diagram

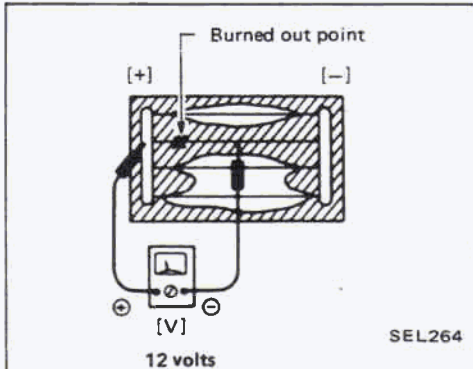


## REAR WINDOW DEFOGGER

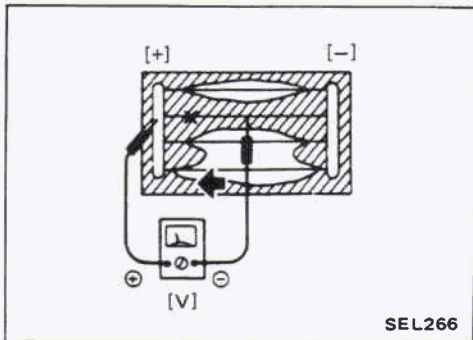
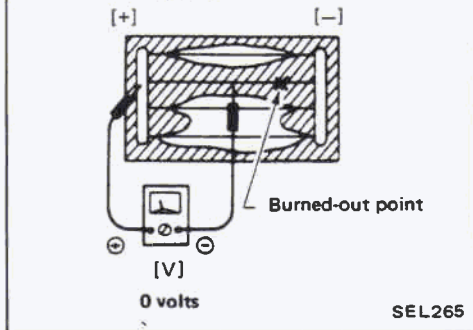


### Filament Check

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.

## REAR WINDOW DEFOGGER

### Filament Repair

#### REPAIR EQUIPMENT

1. Conductive silver composition (Dupont No. 4817 or equivalent)
2. Ruler 30 cm (11.8 in) long
3. Drawing pen
4. Heat gun
5. Alcohol
6. Cloth

#### REPAIRING PROCEDURE

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

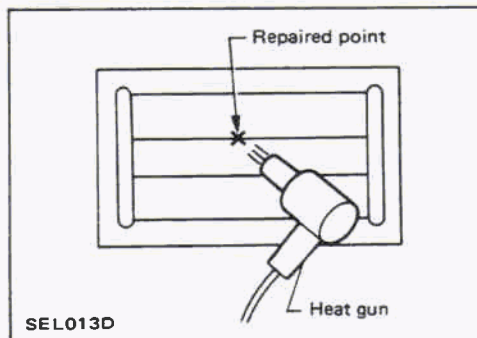
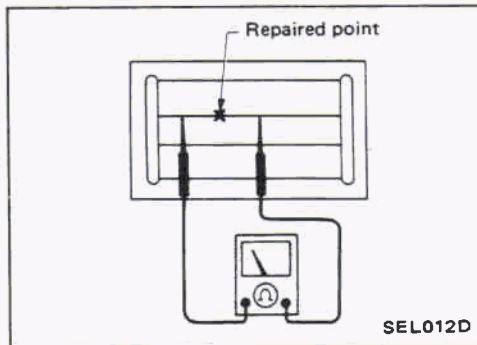
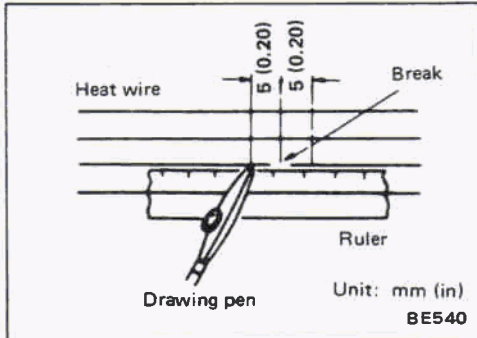
**Shake silver composition container before use.**

3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

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

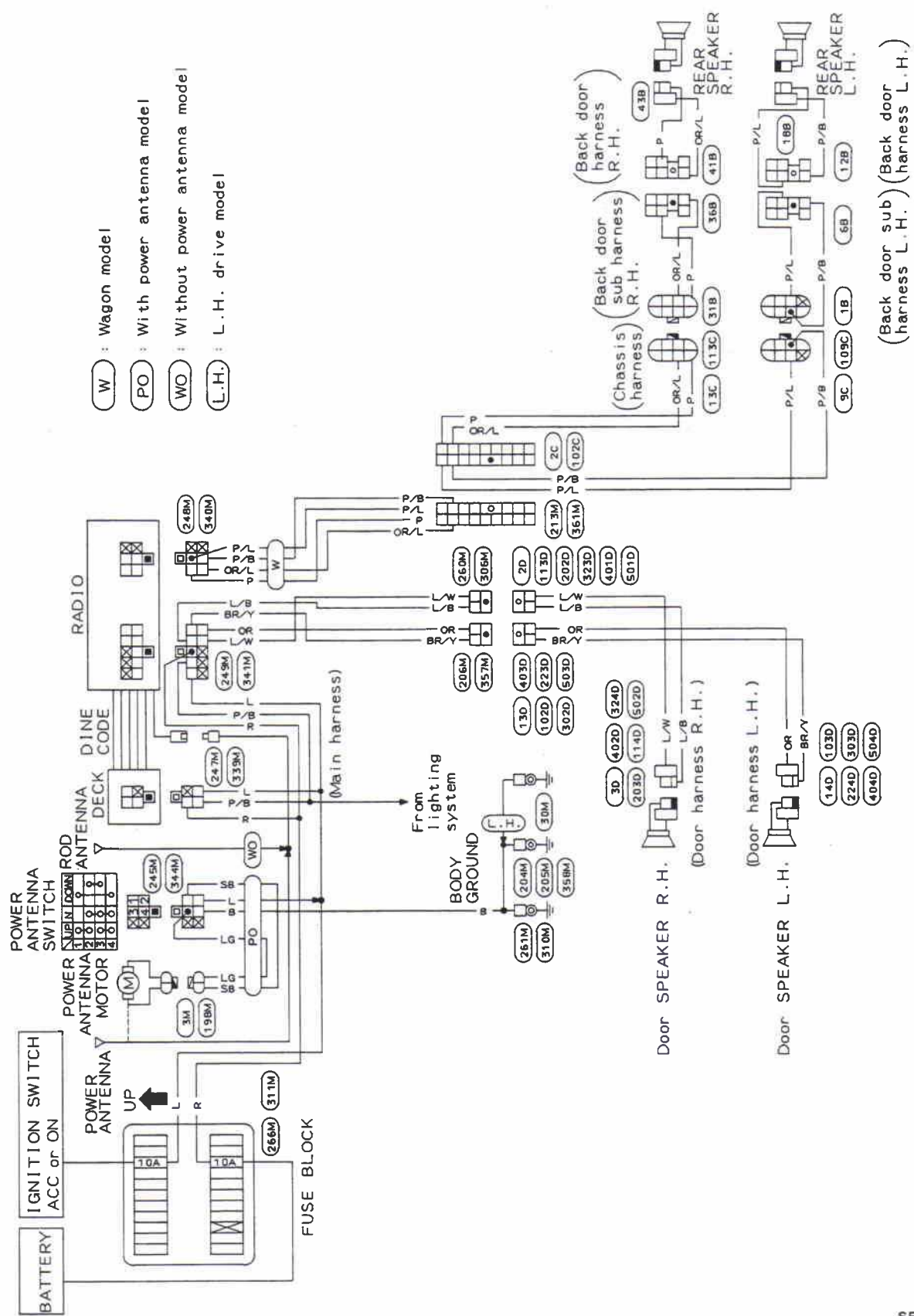
**Do not touch repaired area while test is being conducted.**

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



AUDIO

Audio/Wiring Diagram

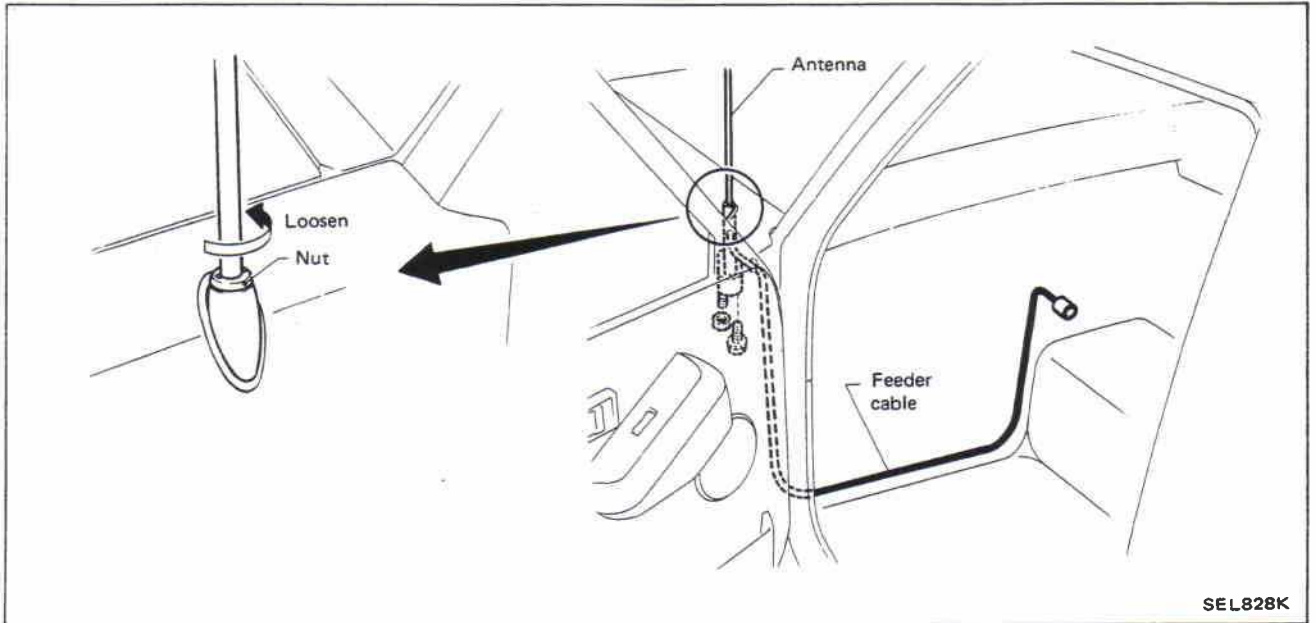


SEL879K

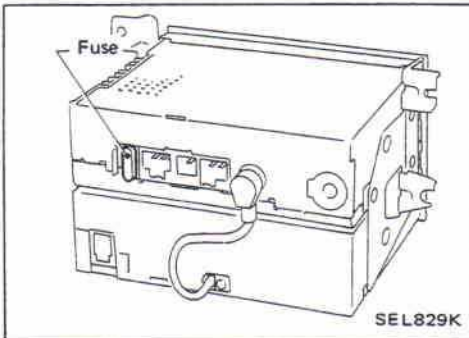


## AUDIO

### Location of Antenna



### Radio Fuse Check



### Antenna Trimmer Adjustment

The antenna trimmer should be adjusted in the following cases:

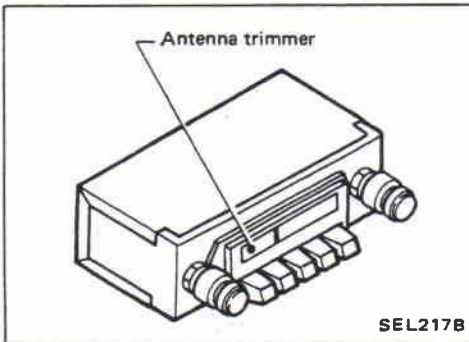
- Fading and weak MW (AM) reception.
- After installation of new antenna, feeder cable or radio receiver.

**Before adjusting, be sure to check harness and antenna feeder cable connectors for proper connection.**

1. Extend antenna completely.
2. Turn radio on, and turn volume control to increase speaker volume.
3. Tune in the weakest station (barely audible) on dial at the range around 14 (1,400 kHz).
4. Turn antenna trimmer to left or right slowly, and set it in the position where reception is strongest.

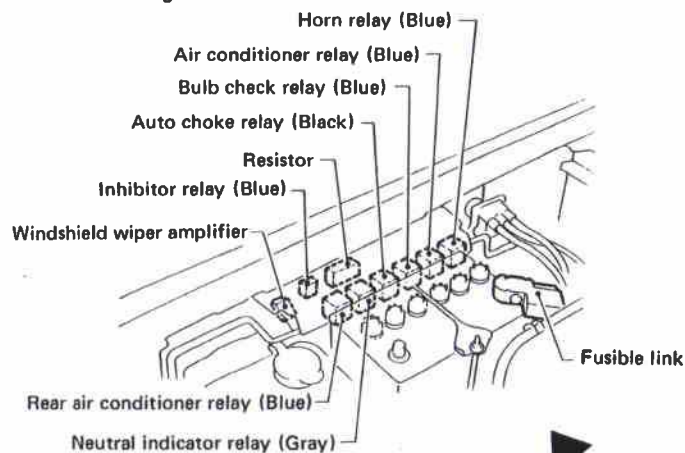
#### CAUTION:

**Do not turn antenna trimmer more than one-half turn.**

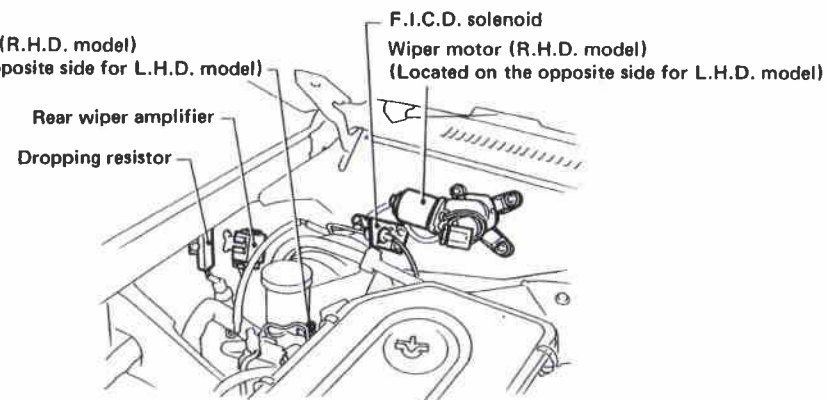


Engine Compartment

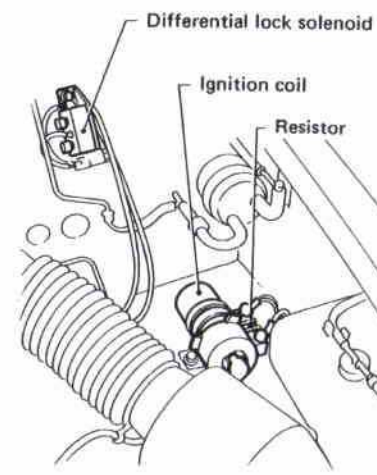
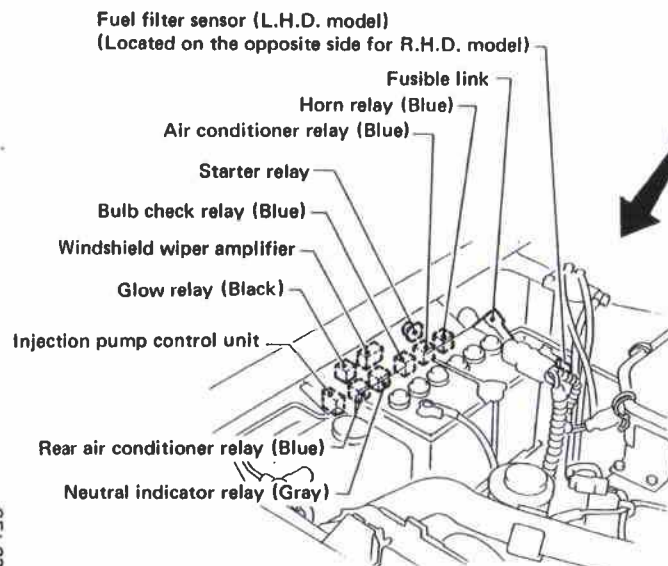
Gasoline engine model



Brake fluid switch (R.H.D. model)  
(Located on the opposite side for L.H.D. model)



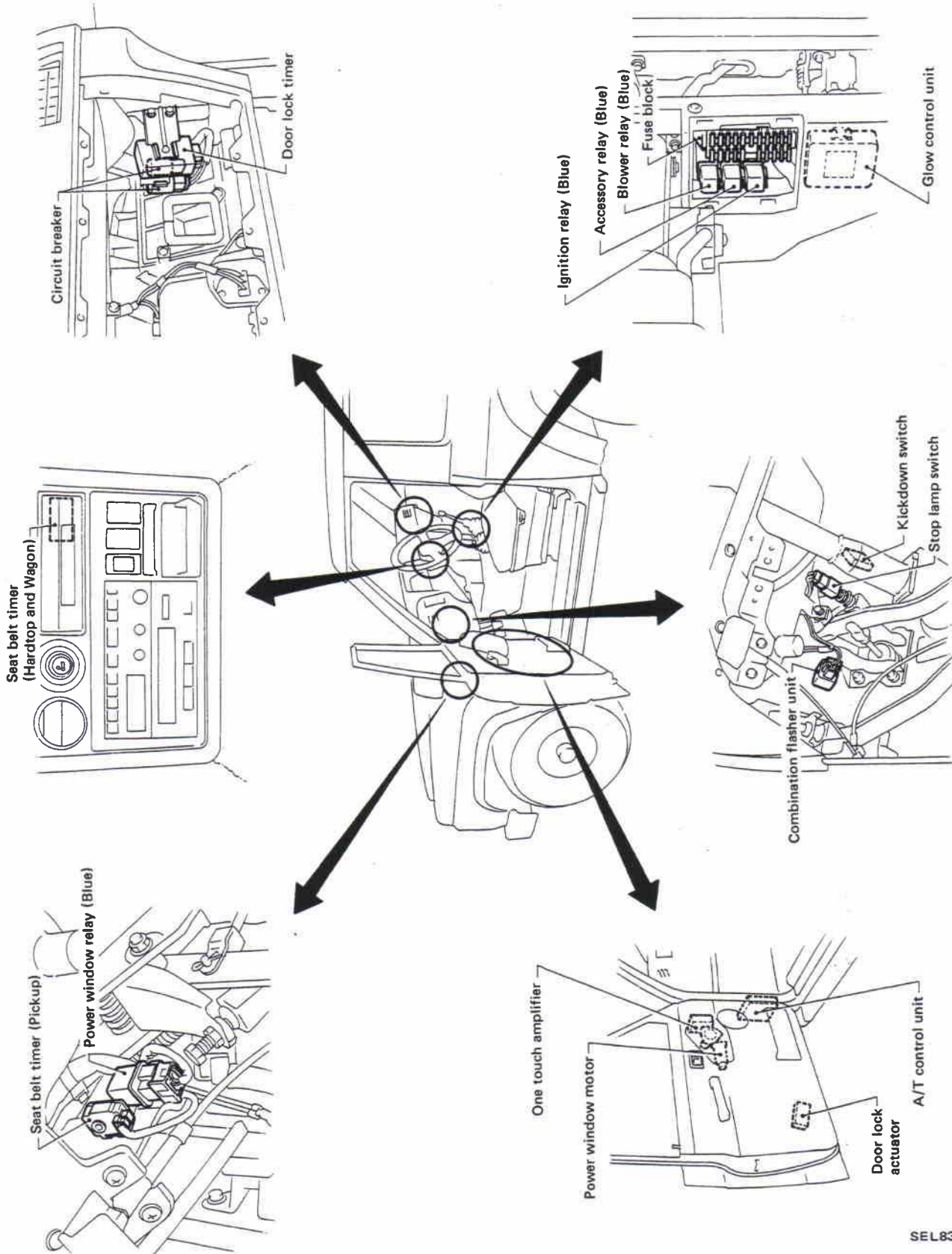
Diesel engine model



LOCATION OF ELECTRICAL UNITS

Passenger Compartment

L.H. DRIVE MODEL



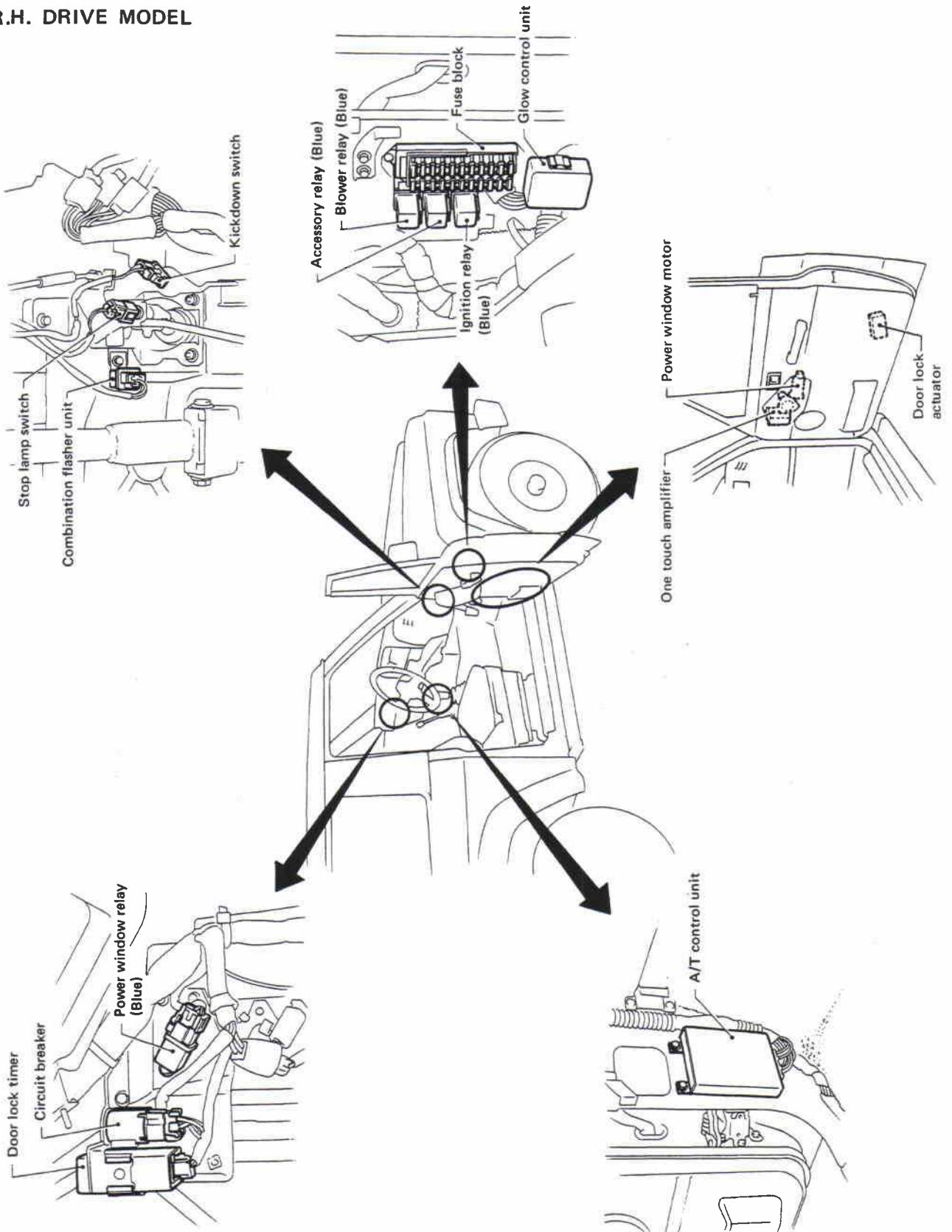
SEL831K



## LOCATION OF ELECTRICAL UNITS

### Passenger Compartment (Cont'd)

R.H. DRIVE MODEL

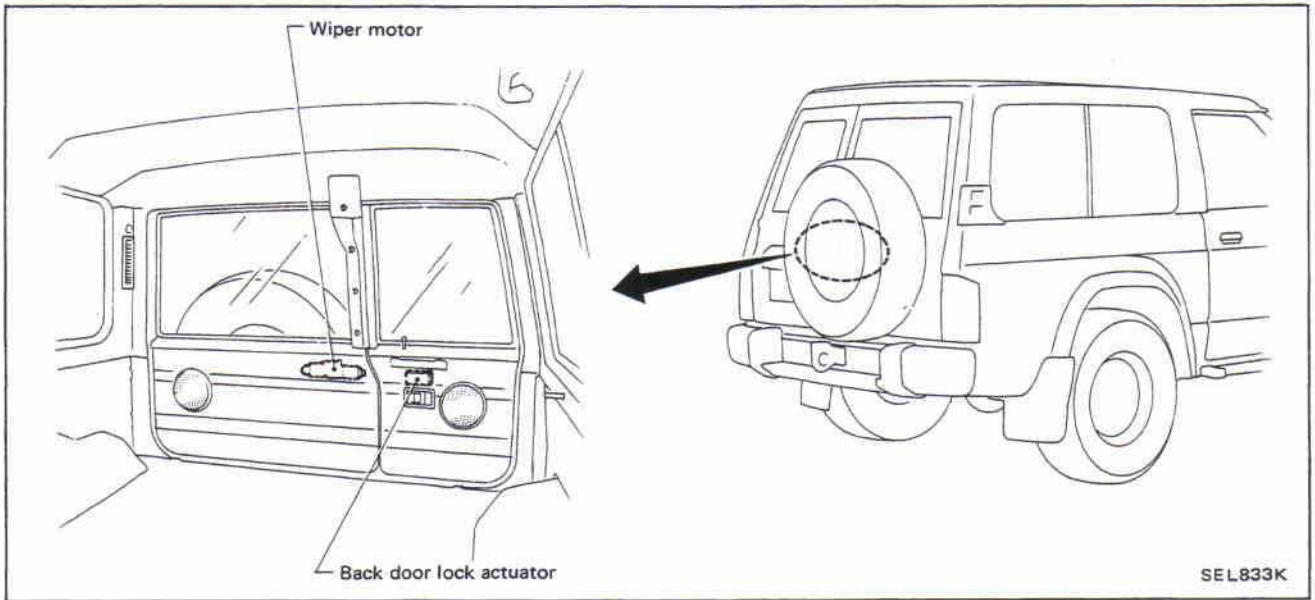


SEL832K

## LOCATION OF ELECTRICAL UNITS

### Passenger Compartment (Cont'd)

#### HARDTOP AND WAGON



# LOCATION OF ELECTRICAL UNITS

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Note:

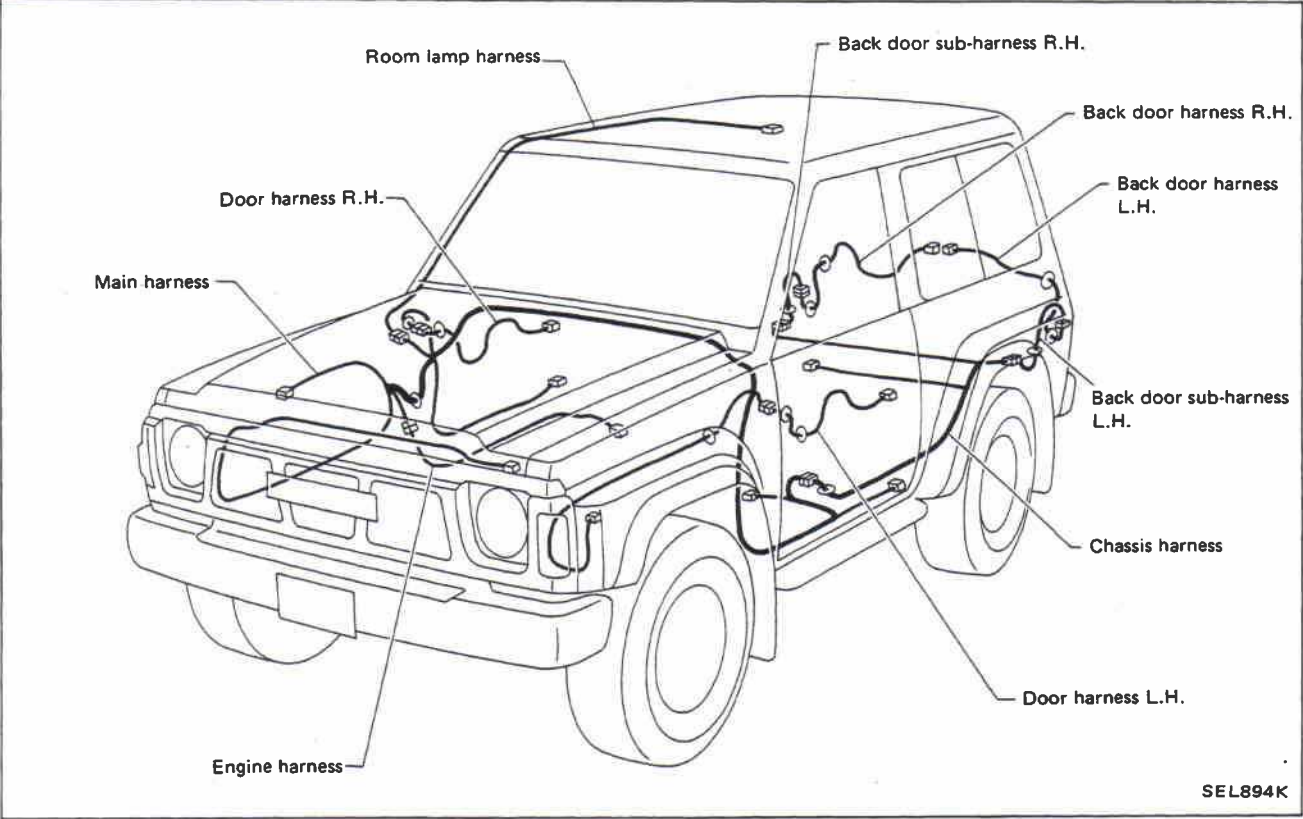


# HARNESS LAYOUT

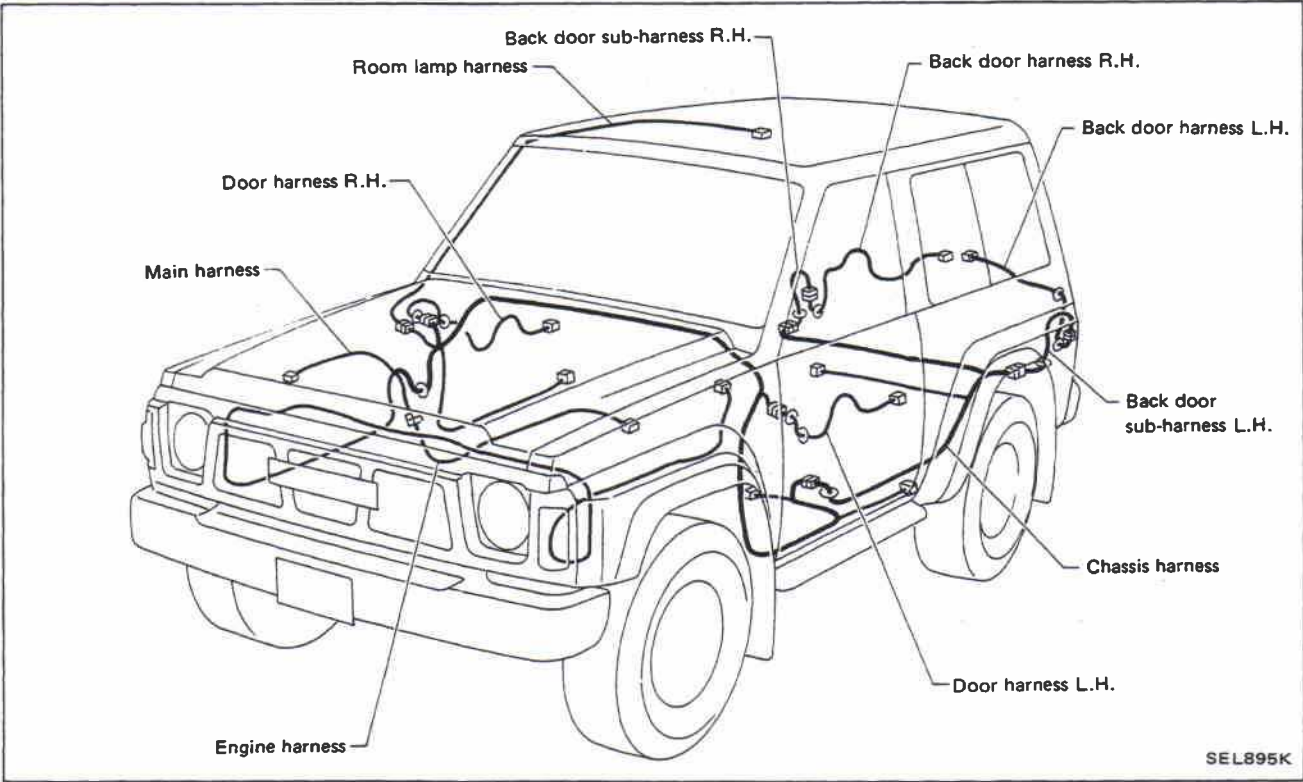
## Outline

HARDTOP

L.H. drive model



R.H. drive model

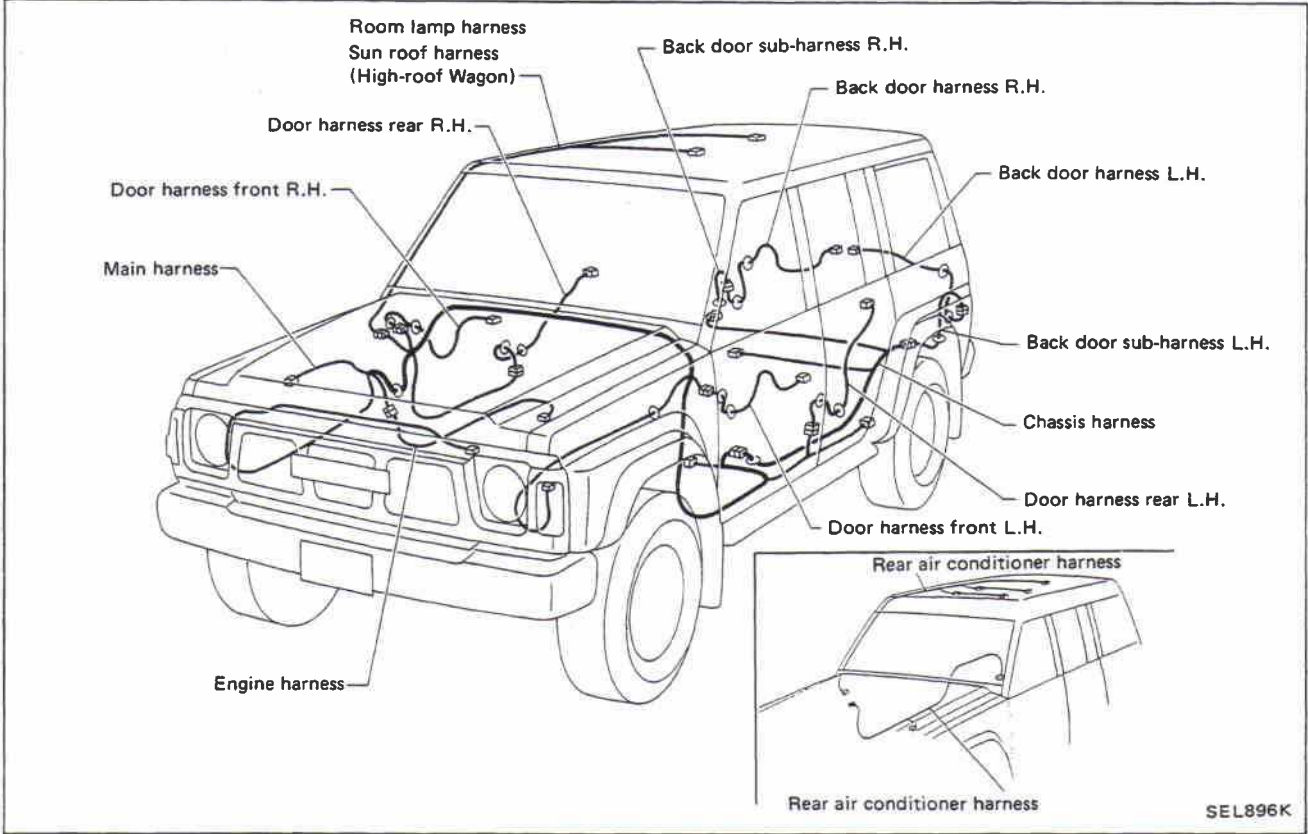


# HARNESS LAYOUT

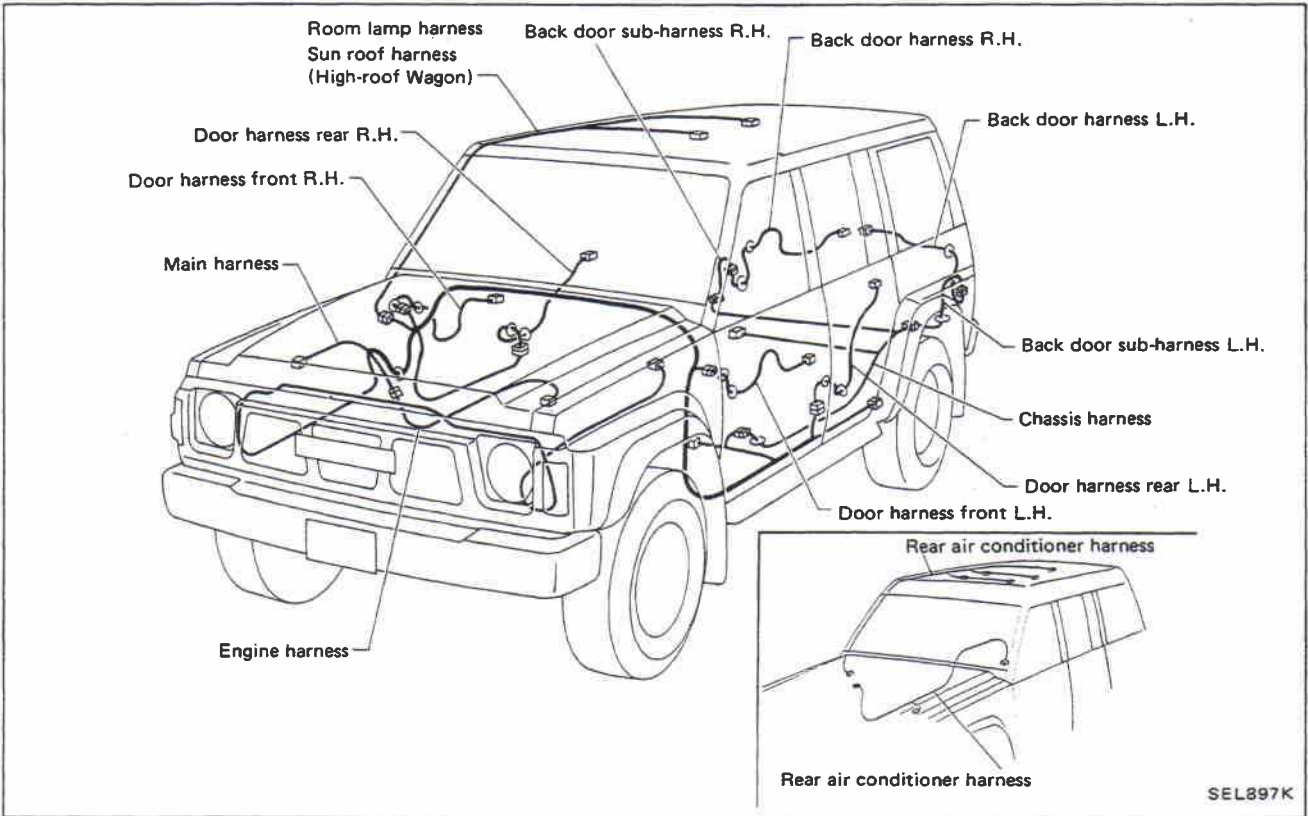
## Outline (Cont'd)

### WAGON

#### L.H. drive model



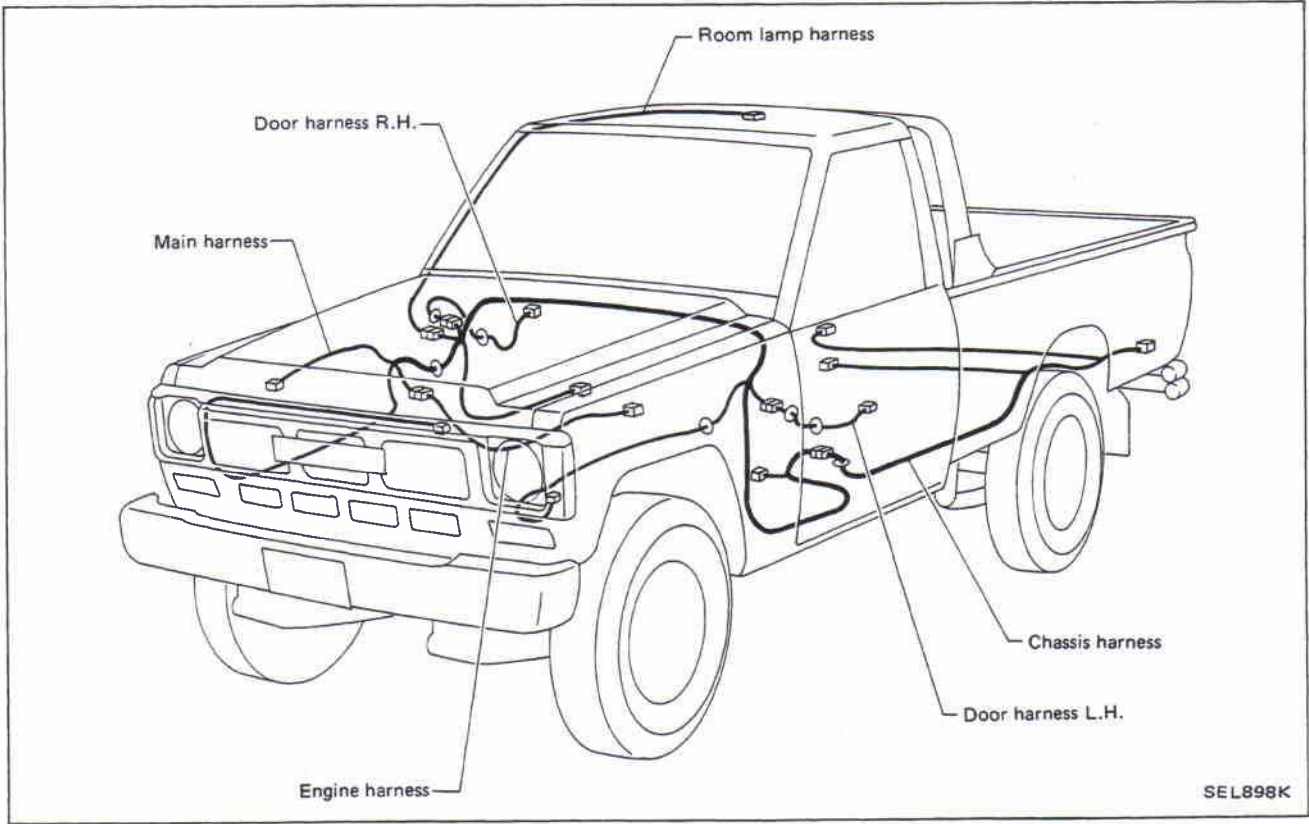
#### R.H. drive model



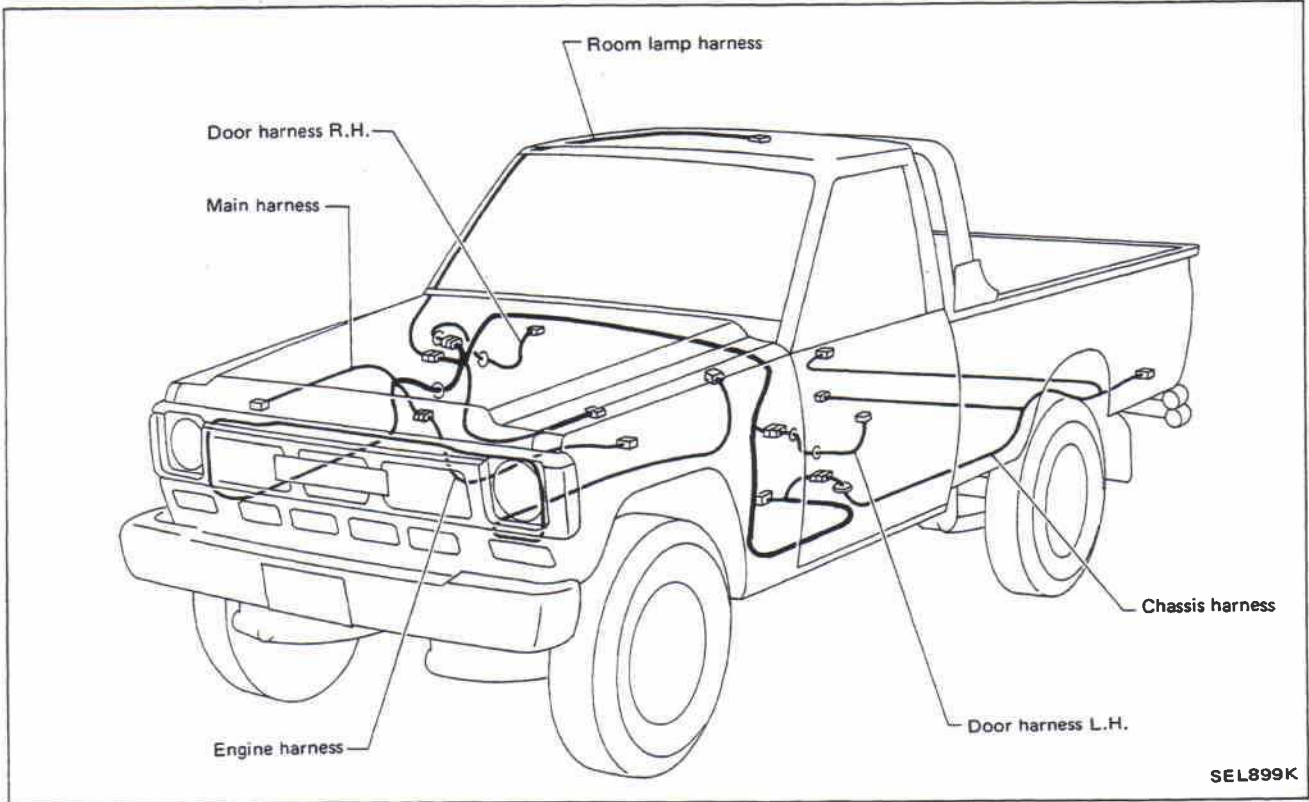
# HARNESS LAYOUT

## Outline (Cont'd)

PICKUP  
L.H. drive model



R.H. drive model





# HARNESS LAYOUT

## Main Harness

L.H. DRIVE MODEL



1M : F.I.C.D. solenoid  
 2M : F.I.C.D. solenoid  
 3M : Power antenna motor  
 4M : Rear wiper amplifier  
 5M : Fuel filter switch  
 6M : Dropping resistor  
 7M : To 9E  
 8M : To 10E  
 9M : To 4E  
 10M : To 104E  
 11M : To 8E  
 12M : Revolution sensor  
 13M : To 11E  
 14M : To 105E  
 15M : To 100E  
 16M : To 101E  
 17M : To 7E  
 18M : To 3E  
 19M : Inhibitor switch  
 20M : A/T oil temperature switch,  
 overrun clutch,  
 shift solenoid-A,  
 shift solenoid-B,  
 lock-up solenoid,  
 fluid temperature sensor,  
 line pressure solenoid  
 21M : Inhibitor switch  
 22M : To 1E  
 23M : Battery  
 24M : Battery  
 25M : Fusible link holder  
 26M : Fusible link holder  
 27M : Fusible link holder

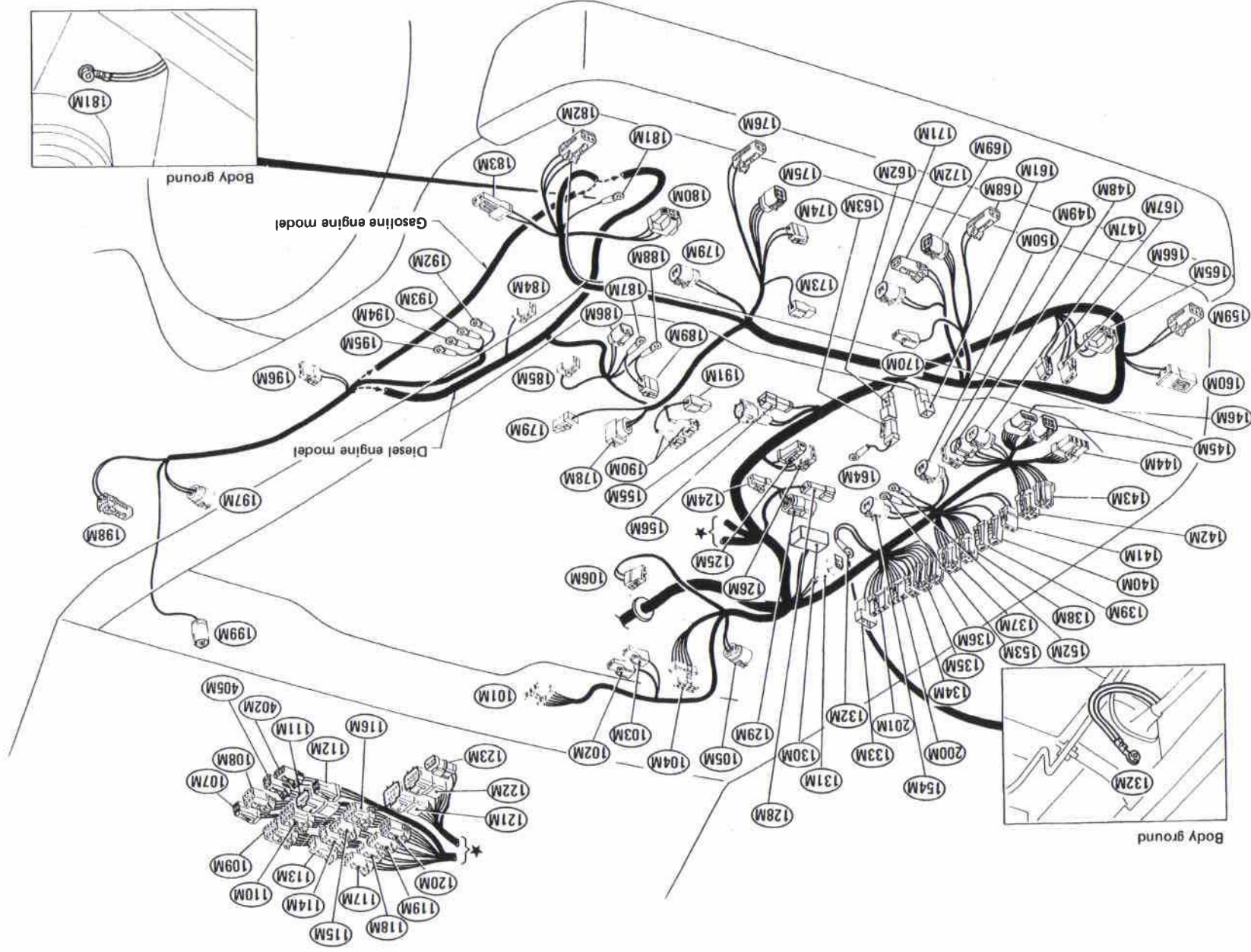
28M : Fusible link holder  
 29M : Fusible link holder  
 30M : Body ground  
 31M : Fusible link holder  
 32M : Horn relay  
 33M : A/C relay  
 34M : A/C relay  
 35M : A/C cut relay  
 36M : Glow relay  
 37M : Glow relay  
 38M : Glow relay  
 39M : Inhibitor relay  
 40M : Rear cooler relay  
 41M : Front wiper amplifier  
 42M : Injection pump control unit  
 43M : Injection pump control unit  
 44M : Inhibitor relay  
 45M : Inhibitor relay  
 46M : Diode  
 47M : Resistor  
 48M : Starter relay  
 49M : Starter relay  
 50M : Starter relay  
 51M : Starter relay  
 52M : Engine sub-harness  
 53M : Engine sub-harness  
 54M : To 57M  
 55M : To 56M  
 56M : Winch relay  
 57M : Winch unit  
 58M : Front washer motor  
 59M : Rear washer motor  
 60M : Headlamp R.H.  
 61M : Side turn signal lamp R.H.

62M : Front combination lamp R.H.  
 63M : Fog lamp R.H.  
 64M : Winch relay sub-harness  
 65M : Horn (High)  
 66M : Thermo switch  
 67M : Low-pressure switch  
 68M : Horn (Low)  
 69M : Not used  
 70M : Front combination lamp L.H.  
 71M : Fog lamp L.H.  
 72M : Thermo switch  
 73M : Distributor  
 74M : Compressor  
 75M : Headlamp L.H.  
 76M : Body ground  
 77M : Side turn signal lamp L.H.  
 78M : Front combination lamp L.H.  
 79M : Compressor  
 80M : Alternator  
 81M : Alternator  
 82M : Alternator  
 83M : Condenser  
 84M : Water temperature switch  
 85M : Thermal transmitter  
 86M : Vacuum switch  
 87M : Ignition coil  
 88M : Ignition coil  
 89M : Resistor  
 90M : Resistor  
 91M : Resistor  
 92M : Brake fluid LEVEL switch  
 93M : Wiper motor  
 94M : A/C relay  
 95M : A/C relay

# HARNES LAYOUT

## Main Harness (Cont'd)

R.H. DRIVE MODEL





101M : Wiper motor  
 102M : F.I.C.D. solenoid  
 103M : F.I.C.D. solenoid  
 104M : Rear wiper amplifier  
 105M : Dropping resistor  
 106M : Brake fluid switch  
 107M : To 105E  
 108M : To 106E  
 109M : To 104E  
 110M : To 8E  
 111M : Revolution sensor  
 112M : To 11E  
 114M : To 6E  
 116M : To 7E  
 118M : To 4E  
 117M : To 103E  
 118M : To 101E  
 119M : To 2E  
 120M : To 3E  
 121M : Inhibitor switch  
 122M : A/T oil temperature switch  
 123M : A/T oil temperature switch  
 124M : To 1E  
 126M : Battery  
 126M : Battery  
 128M : Fusible link holder  
 129M : Fusible link holder  
 130M : Fusible link holder  
 131M : Fusible link holder  
 132M : Body ground  
 133M : Fusible link  
 134M : Horn relay  
 135M : A/C relay

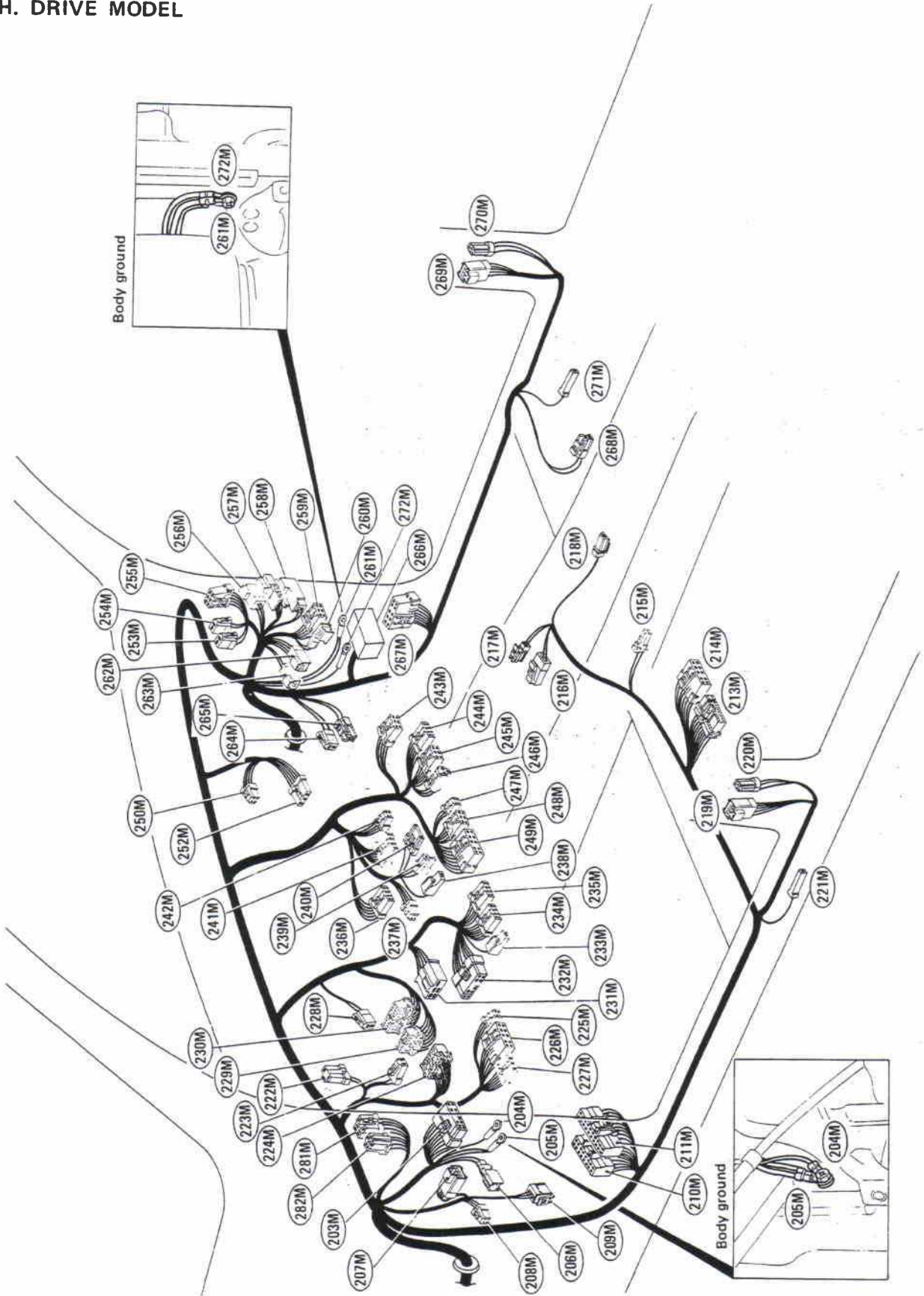
136M : A/C relay  
 137M : Auto-choke relay  
 138M : A/C relay  
 139M : Glow relay  
 140M : Glow relay  
 141M : Glow relay  
 142M : Inhibitor relay  
 143M : Rear cooler relay  
 144M : Wiper amplifier  
 145M : Injection pump control unit  
 146M : Injection pump control unit  
 147M : Inhibitor relay  
 148M : Inhibitor relay  
 149M : Diode  
 150M : Resistor  
 151M : Not used  
 152M : Starter relay  
 153M : Starter relay  
 154M : Starter relay  
 156M : Engine sub-harness  
 156M : Engine sub-harness  
 156M : Not used  
 159M : Not used  
 160M : Not used  
 161M : Winch unit  
 162M : To 163M  
 163M : To 162M  
 164M : Winch relay  
 165M : Headlamp R.H.  
 166M : Rear washer motor  
 167M : Front washer motor  
 168M : Low-pressure switch  
 169M : Front combination lamp R.H.

170M : Horn (High)  
 171M : Thermo switch  
 172M : Fog lamp R.H.  
 173M : Horn (Low)  
 174M : Not used  
 175M : Front combination lamp L.H.  
 176M : Fog lamp L.H.  
 177M : Thermo switch  
 178M : Distributor  
 179M : Compressor  
 180M : Headlamp L.H.  
 181M : Body ground  
 183M : Side turn signal lamp L.H.  
 184M : Vacuum switch  
 185M : Compressor  
 186M : Alternator  
 187M : Alternator  
 188M : Alternator  
 189M : Condenser  
 190M : Water temperature sensor  
 191M : Thermal transmitter  
 192M : Ignition coil  
 193M : Ignition coil  
 194M : Resistor  
 195M : Resistor  
 196M : Resistor  
 197M : Fuel filter sensor  
 198M : Power antenna motor  
 200M : A/C relay  
 201M : A/C relay  
 402M : To 102E  
 405M : To 5E

# HARNESS LAYOUT

## Main Harness (Cont'd)

L.H. DRIVE MODEL



(203M) : Check connector  
 (204M) : Body ground  
 (205M) : Body ground  
 (206M) : To (13D)  
           To (223D)  
           To (403D)  
 (207M) : To (11D)  
           To (221D)  
 (208M) : To (12D)  
           To (222D)  
 (209M) : A/T check switch  
 (210M) : A/T control unit  
 (211M) : A/T control unit  
 (212M) : To (201C)  
 (213M) : To (2C)  
           To (102C)  
 (214M) : To (1C)  
           To (101C)  
 (215M) : Seat belt switch  
 (216M) : A.T.P. lamp  
 (217M) : A/T indicator lamp  
 (218M) : Parking brake switch  
 (219M) : To (31D)  
 (220M) : Door switch (Front L.H.)  
 (221M) : Door switch (Front R.H. Wagon model)  
 (222M) : Combination flasher unit  
 (223M) : Stop lamp switch  
 (224M) : Combination meter

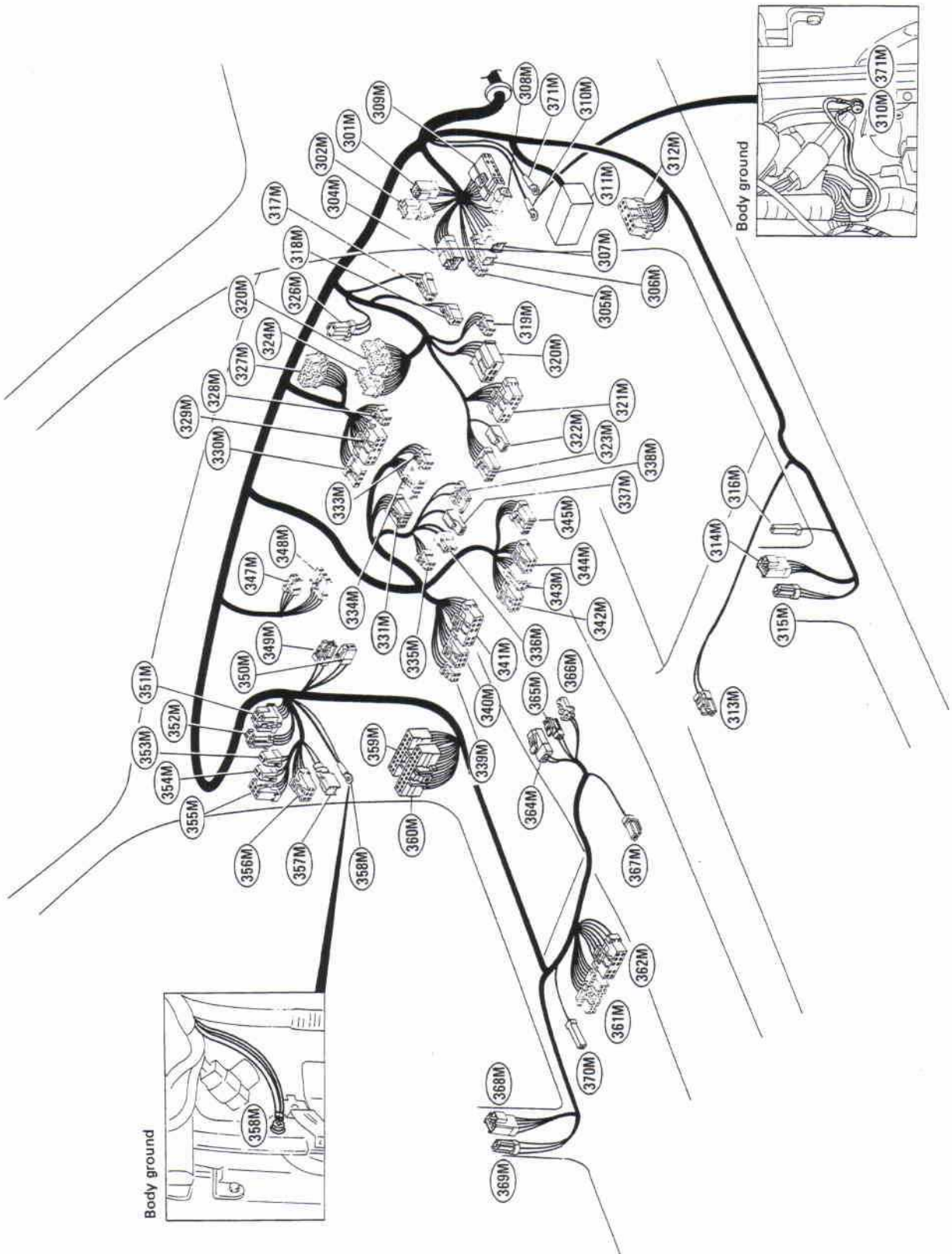
(225M) : Fog lamp switch  
 (226M) : Rear wiper and washer switch  
 (227M) : Rear defogger switch  
 (228M) : Kickdown switch  
 (228M) : Combination meter  
 (230M) : Combination meter  
 (231M) : Ignition switch  
 (232M) : Combination switch  
 (233M) : Horn switch  
 (234M) : Wiper switch  
 (235M) : Wiper switch  
 (236M) : Rear cooler switch  
 (237M) : A/C switch  
 (238M) : Cigarette lighter  
 (239M) : Cigarette lighter  
 (240M) : Ash tray illumination  
 (241M) : Fan switch  
 (242M) : Digital clock  
 (243M) : Seat belt timer  
 (244M) : Hazard switch  
 (245M) : Power antenna switch  
 (246M) : Front sun roof switch  
 (247M) : Cassette deck  
 (248M) : Radio  
 (249M) : Radio  
 (250M) : A/C thermo control amp.  
 (252M) : Resistor  
 (253M) : Circuit breaker

(254M) : Circuit breaker  
 (255M) : Door lock timer  
 (256M) : To (2S)  
 (257M) : To (1R) (Wagon model)  
           To (101R) (Hardtop model)  
           To (1S) (Sun roof)  
 (258M) : To (201R) (Pickup model)  
 (259M) : To (1D) (Wagon model)  
           To (201D) (Hardtop model)  
 (260M) : To (2D) (Wagon model)  
           To (202D) (Hardtop model)  
 (261M) : Body ground  
 (262M) : To (102A) (High-roof model)  
           To (1A) (Standard roof model)  
 (263M) : To (103A) (High-roof model)  
           To (2A) (Standard roof model)  
 (264M) : Blower motor  
 (265M) : Blower motor  
 (266M) : Fuse block  
 (267M) : Glow control unit  
 (268M) : Solenoid valve  
 (269M) : To (21D) (Wagon model)  
 (270M) : Front R.H. door switch  
 (271M) : Rear R.H. door switch (Wagon model)  
 (272M) : Body ground  
 (281M) : Power window relay  
 (282M) : Power window relay

# HARNESS LAYOUT

## Main Harness (Cont'd)

R.H. DRIVE MODEL





# HARNESS LAYOUT

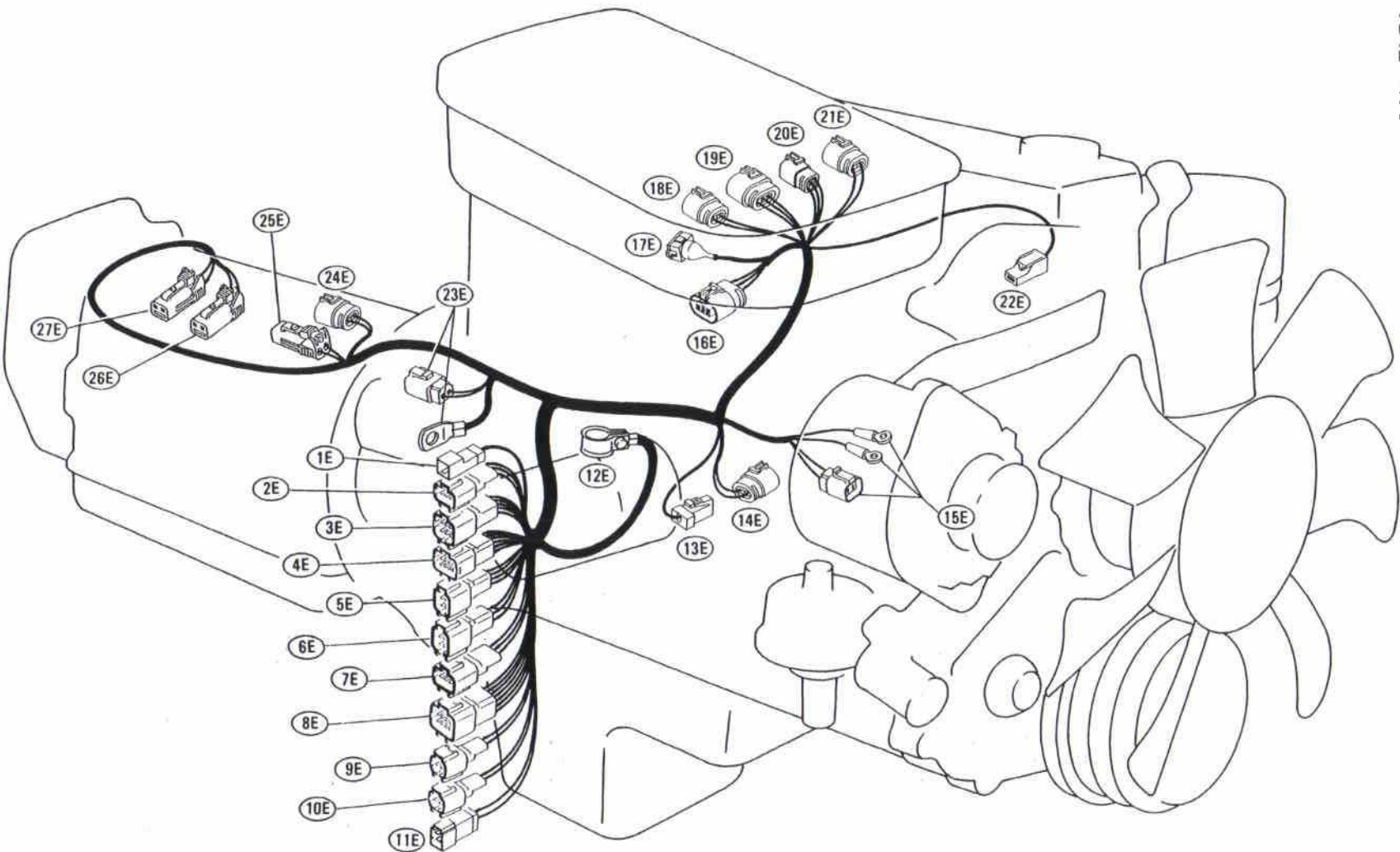
## Main Harness (Cont'd)

(301M) : To (2S) (Hardtop model)	(321M) : Lighting switch	(359M) : Blower motor
(302M) : To (1R) (Wagon model)	(322M) : Horn switch	(351M) : Power window relay
To (201R) (Pickup model)	(323M) : Wiper switch	(352M) : Power window relay
To (201M) (Wagon model)	(324M) : Combination switch	(353M) : Circuit breaker
To (211D) (Hardtop model)	(325M) : Combination switch	(354M) : Circuit breaker
To (212D) (Wagon model)	(326M) : Combination flasher unit	(355M) : Door lock timer
To (222D) (Hardtop model)	(327M) : Combination meter	(356M) : To (101D) (Wagon model)
To (232D) (Wagon model)	(328M) : Fog lamp switch	To (301D) (Hardtop model)
To (232D) (Wagon model)	(329M) : Rear wiper switch	To (202D) (Wagon model)
To (201D) (Pickup model)	(330M) : Rear defogger switch	To (302D) (Hardtop model)
To (202A) (High-roof model)	(331M) : Rear cooler switch	To (503D) (Pickup model)
To (1A) (Standard roof model)	(332M) : A/C switch	(358M) : Body ground
To (202A) (High-roof model)	(333M) : Fan switch	(359M) : A/T control unit
To (2A) (Standard roof model)	(334M) : Digital clock	(360M) : A/T control unit
Check connector	(335M) : Cigarette lighter	(361M) : To (2C) (Wagon Model)
(309M) : Body ground	(336M) : Cigarette lighter	To (102C) (Hardtop model)
(310M) : Fuse block	(337M) : Ash tray illumination	To (1C) (Wagon model)
(312M) : Glow control unit	(338M) : Cassette deck	To (101C) (Hardtop model)
(313M) : Solenoid valve	(340M) : Radio	To (201C) (Pickup model)
To (111D) (Wagon model)	(341M) : Radio	(363M) : A.T.P. lamp
Front R.H. door switch	(342M) : Not used	(364M) : A/T indicator lamp
Rear R.H. door switch	(343M) : Sun roof switch	(365M) : Power shift switch
Stop lamp switch	(344M) : Power antenna switch	(366M) : Parking lamp switch
Kickdown switch	(345M) : Hazard switch	To (211D) (Wagon model)
Illumination control switch	(347M) : A/C thermo control amp.	(368M) : Front L.H. door switch
Ignition switch	(348M) : Resistor	(369M) : Rear L.H. door switch (Wagon model)
	(349M) : Blower motor	(370M) : Body ground
		(371M) : Body ground

# HARNES LAYOUT

TB42 ENGINE

## Engine Harness



- ①E : To ②③M (L.H. drive model)  
To ①②④M (R.H. drive model)
- ②E : To ①⑨M (R.H. drive model)
- ③E : To ①⑧M (L.H. drive model)  
To ①②⑥M (R.H. drive model)
- ④E : To ⑨M (L.H. drive model)  
To ①①⑥M (R.H. drive model)
- ⑤E : To ⑨⑤M (R.H. drive model)
- ⑥E : To ①④M (R.H. drive model)

- ⑦E : To ①⑦M (L.H. drive model)  
To ①①⑤M (R.H. drive model)
- ⑧E : To ①①M (L.H. drive model)  
To ①①⑦M (R.H. drive model)
- ⑨E : To ⑦M (L.H. drive model)
- ⑩E : To ⑧M (L.H. drive model)
- ⑪E : To ①③M (L.H. drive model)  
To ①①②M (R.H. drive model)
- ⑫E : Battery

- ⑬E : Oil pressure switch
- ⑭E : Oil pressure sending unit
- ⑮E : Alternator
- ⑯E : Throttle sensor
- ⑰E : Throttle valve switch
- ⑱E : Auto-choke heater,  
fuel cut solenoid
- ⑲E : B.C.D.D. solenoid

- ⑳E : Fuel cut solenoid,  
auto-choke heater,  
B.C.D.D. solenoid
- ㉑E : Fuel cut solenoid
- ㉒E : Thermal transmitter
- ㉓E : Starter motor
- ㉔E : Back-up lamp switch (M/T model)
- ㉕E : Speed sensor
- ㉖E : Neutral switch (A/T model)
- ㉗E : 4WD switch

EL-86

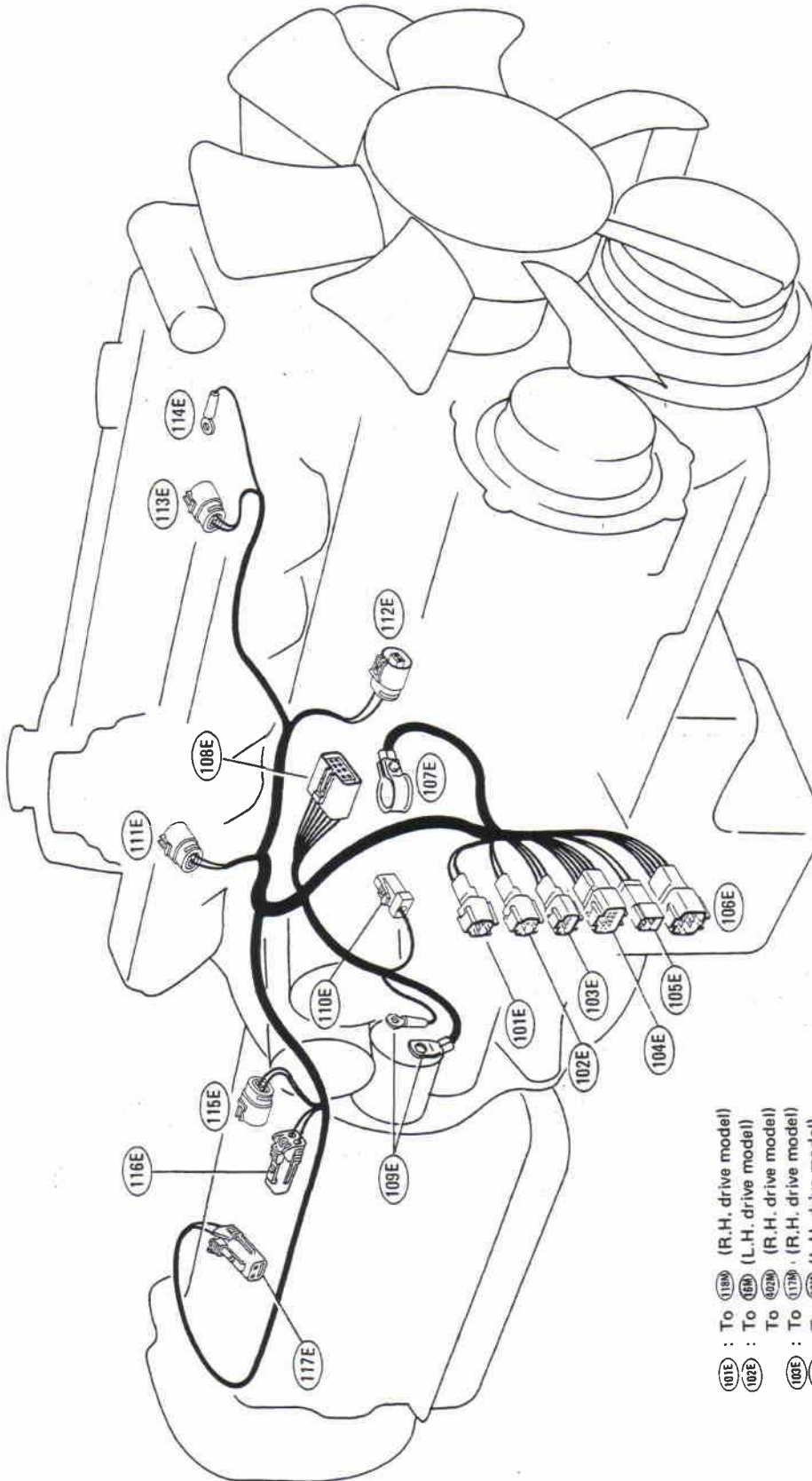
SEL905K



# HARNESS LAYOUT

## Engine Harness (Cont'd)

TD42 ENGINE



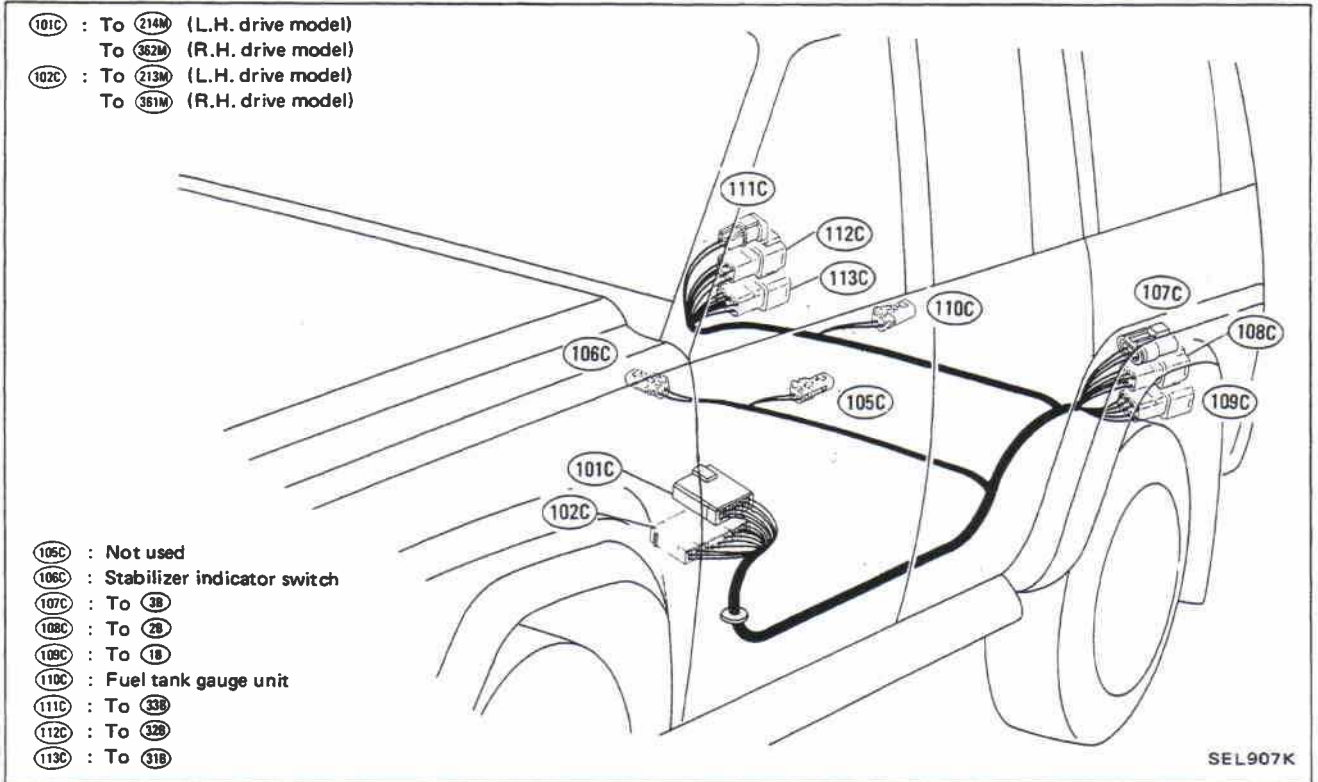
- (101E) : To (115M) (R.H. drive model)
- (102E) : To (15M) (L.H. drive model)
- To (323M) (R.H. drive model)
- (103E) : To (117M) (R.H. drive model)
- (104E) : To (10M) (L.H. drive model)
- To (103M) (R.H. drive model)
- (105E) : To (14M) (L.H. drive model)
- To (105M) (R.H. drive model)
- (107E) : Battery
- (108E) : Injection pump control unit
- (109E) : Starter motor
- (110E) : Oil pressure switch
- (111E) : Oil pressure sending unit
- (112E) : Fuel cut solenoid
- (113E) : Engine revolution sensor
- (114E) : Engine sub-harness
- (115E) : Back-up lamp switch (M/T model)
- (116E) : Speed sensor
- (117E) : 4WD switch

SEL906K

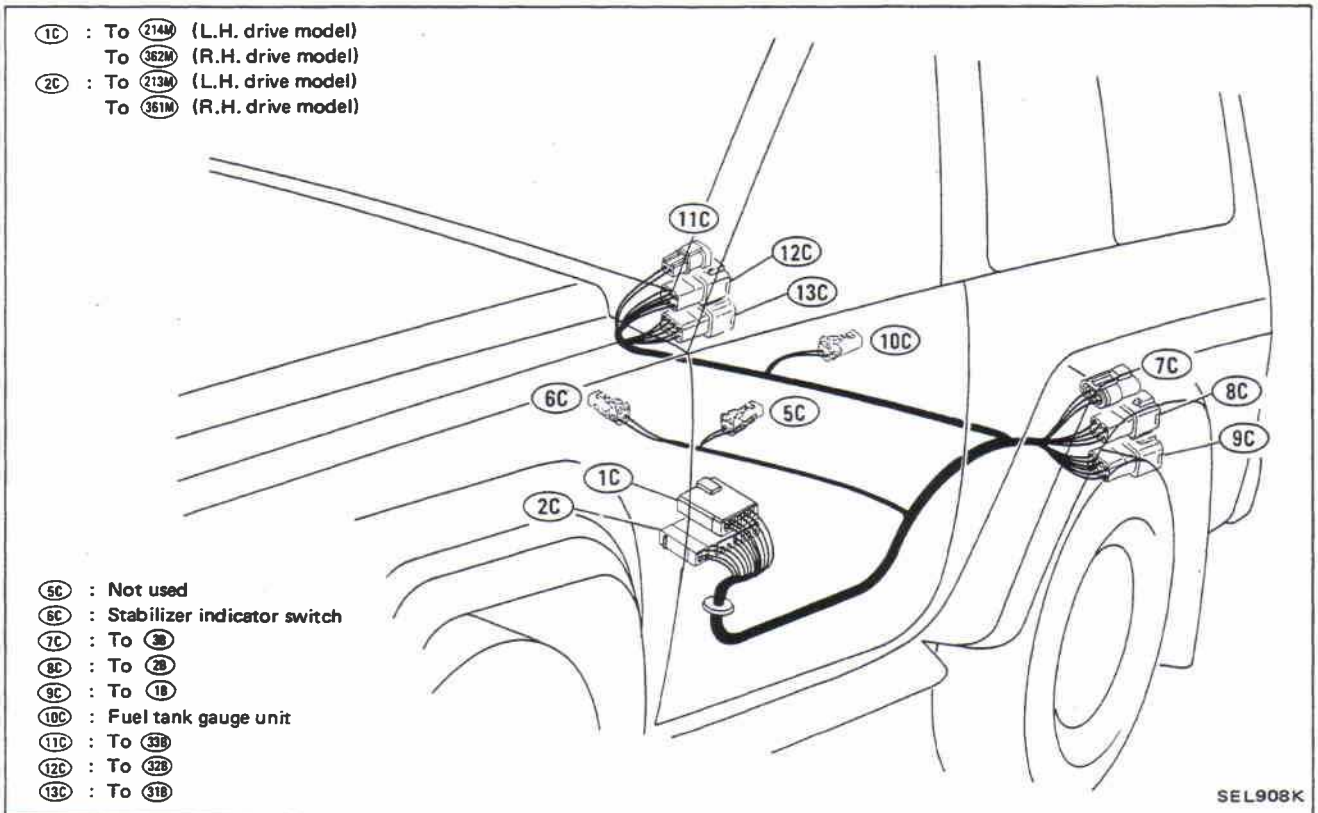
# HARNESS LAYOUT

## Chassis Harress

### WAGON MODEL



### HARDTOP MODEL

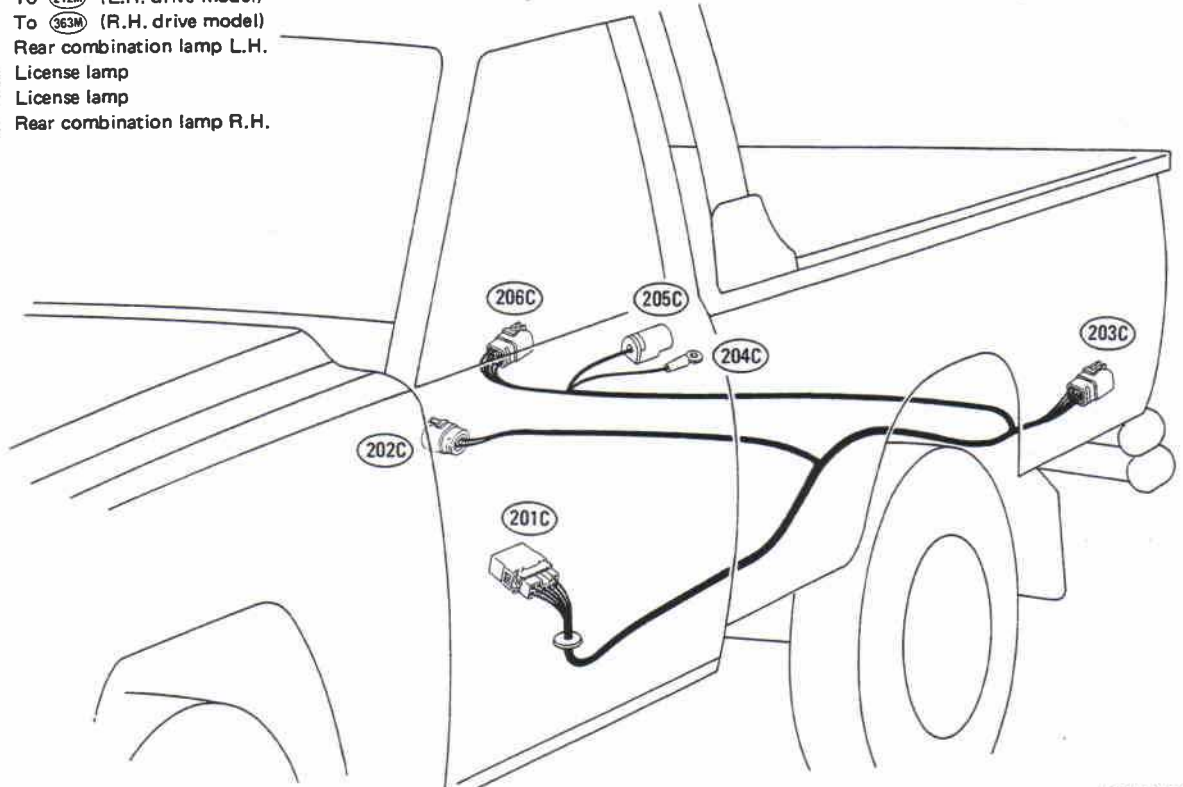


## HARNESS LAYOUT

### Chassis Harress (Cont'd)

#### PICKUP MODEL

- (201C) : To (212M) (L.H. drive model)
- (202C) : To (363M) (R.H. drive model)
- (203C) : Rear combination lamp L.H.
- (204C) : License lamp
- (205C) : License lamp
- (206C) : Rear combination lamp R.H.

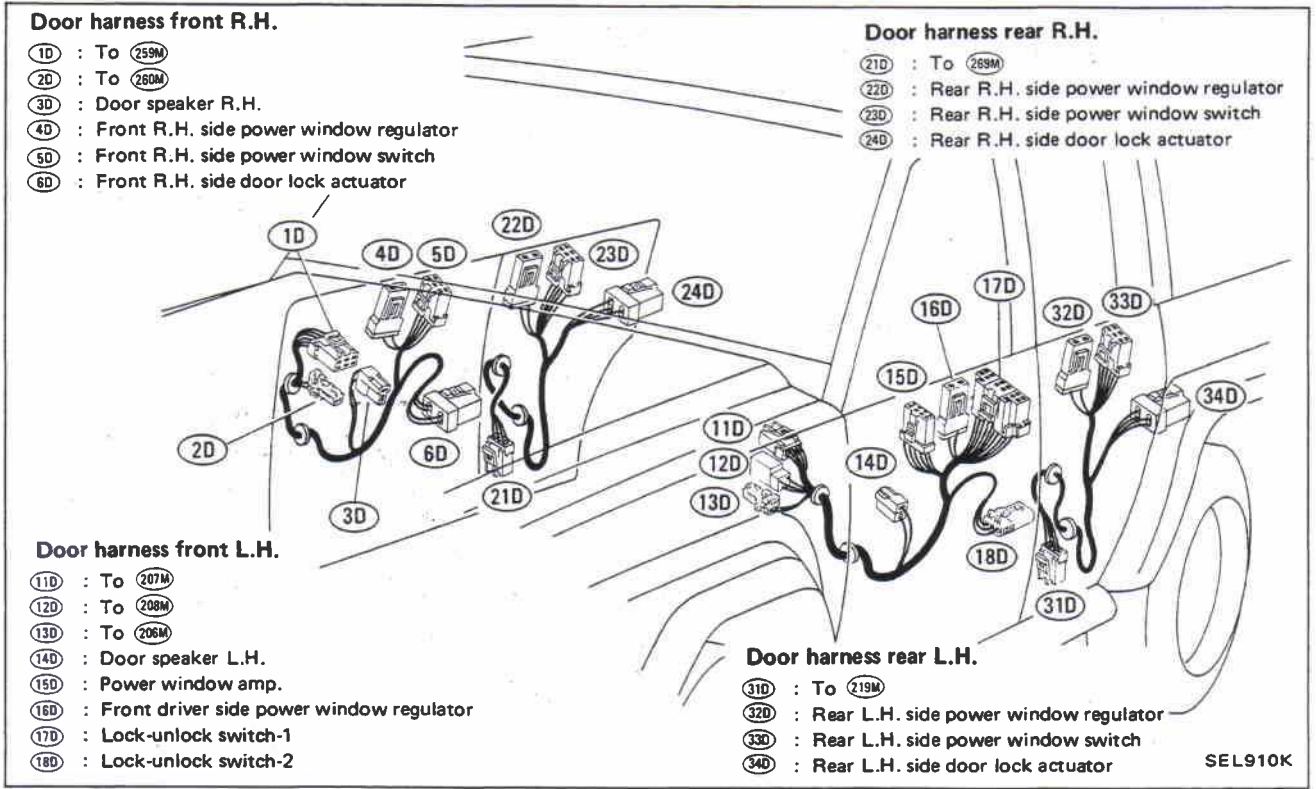


SEL909K

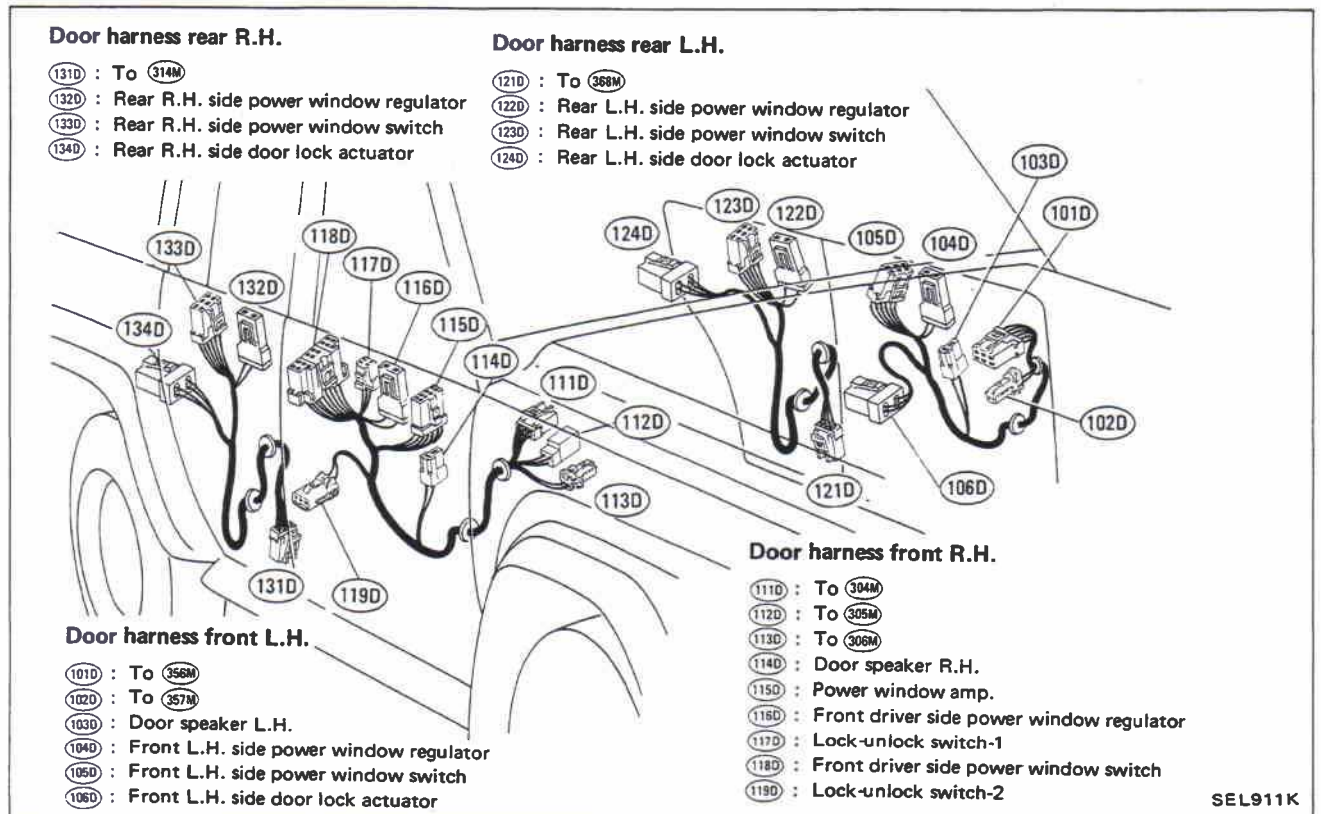
# HARNESS LAYOUT

## Door Harness

### WAGON L.H. DRIVE MODEL



### WAGON R.H. DRIVE MODEL

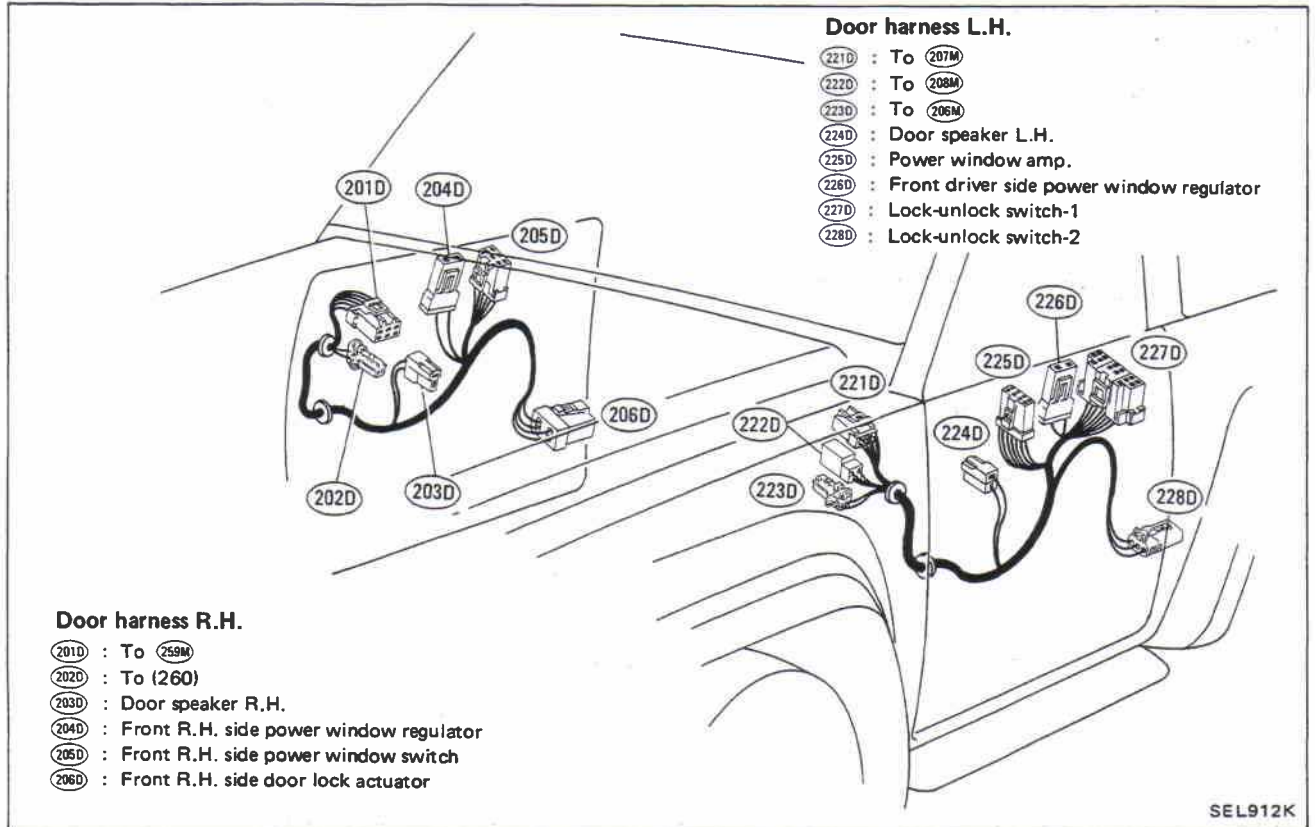




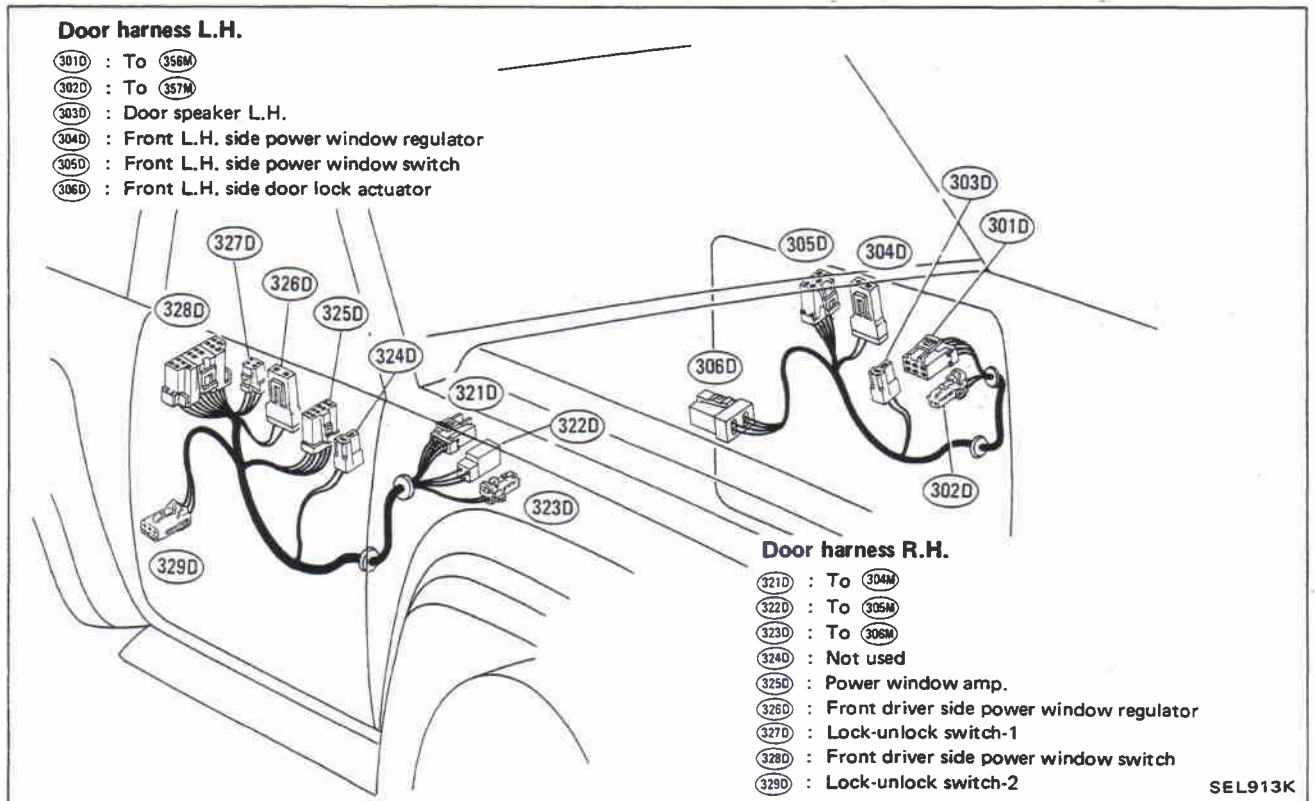
# HARNESS LAYOUT

## Door Harness (Cont'd)

### HARDTOP L.H. DRIVE MODEL



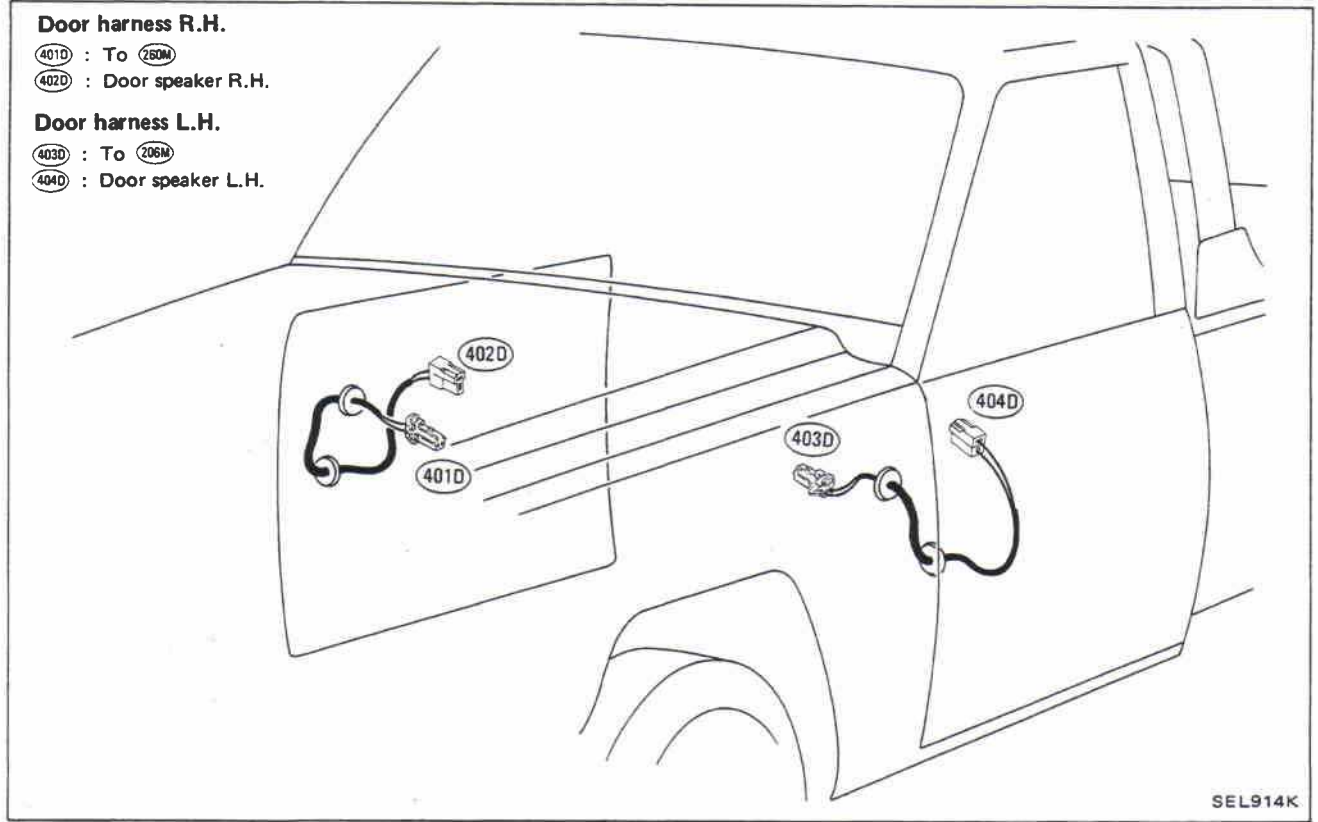
### HARDTOP R.H. DRIVE MODEL



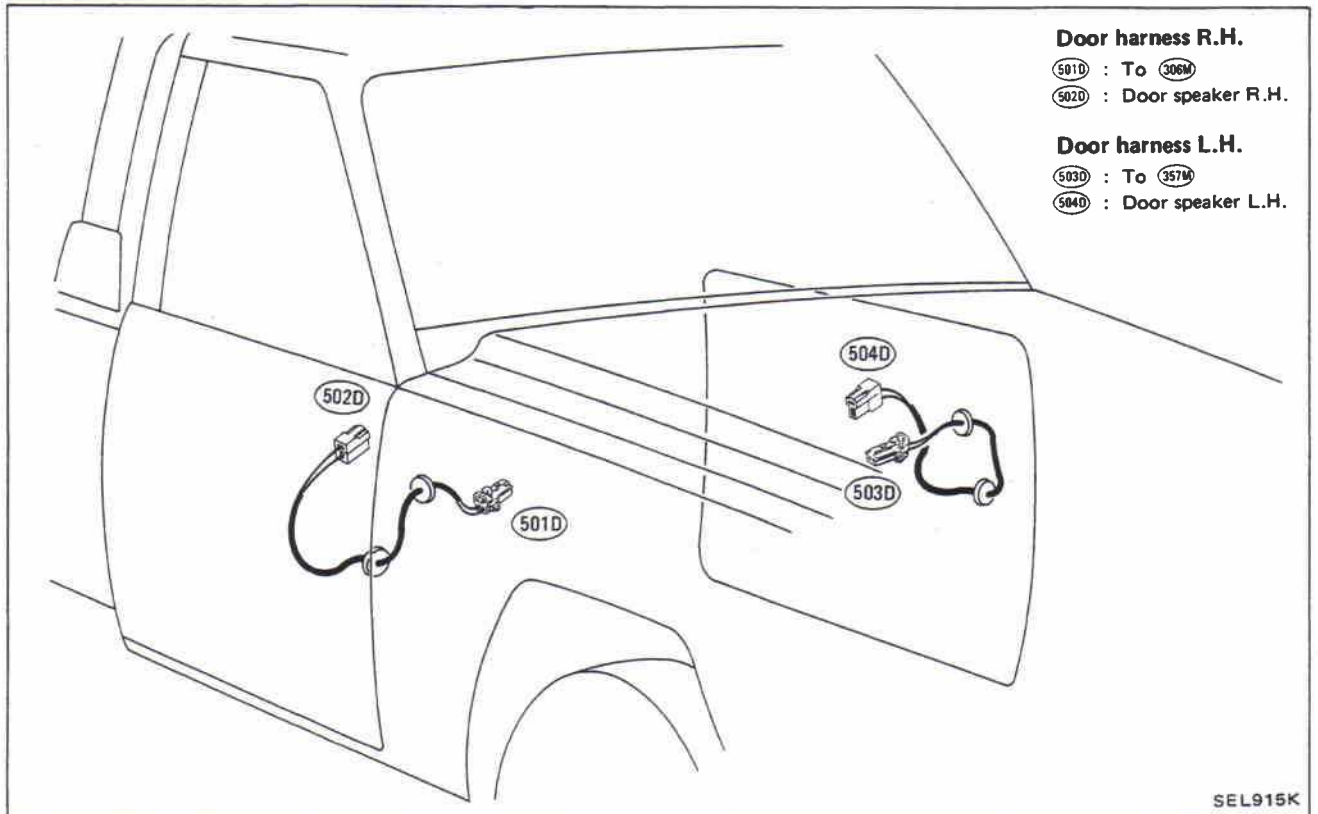
## HARNESS LAYOUT

### Door Harness (Cont'd)

#### PICKUP L.H. DRIVE MODEL



#### PICKUP R.H. DRIVE MODEL





## Back Door and Back Door Sub-Harness

### Back door L.H. sub-harness

- (1B) : To (9C) (Wagon model)
- To (109C) (Hardtop model)
- (2B) : To (8C) (Wagon model)
- To (108C) (Hardtop model)
- (3B) : To (7C) (Wagon model)
- To (107C) (Hardtop model)
- (4B) : Rear combination lamp L.H.
- (6B) : To (11B)
- (6B) : To (12B)
- (7B) : To (13B)

### Back door L.H. harness

- (11B) : To (6B)
- (12B) : To (6B)
- (13B) : To (7B)
- (14B) : To (21B)
- (16B) : Back door actuator
- (16B) : Body ground
- (17B) : License lamp
- (18B) : Rear speaker L.H.

### Rear defogger harness L.H.

- (21B) : To (14B)
- (22B) : Rear defogger L.H.
- (23B) : Rear defogger L.H.
- (24B) : Body ground

### Back door R.H. sub-harness

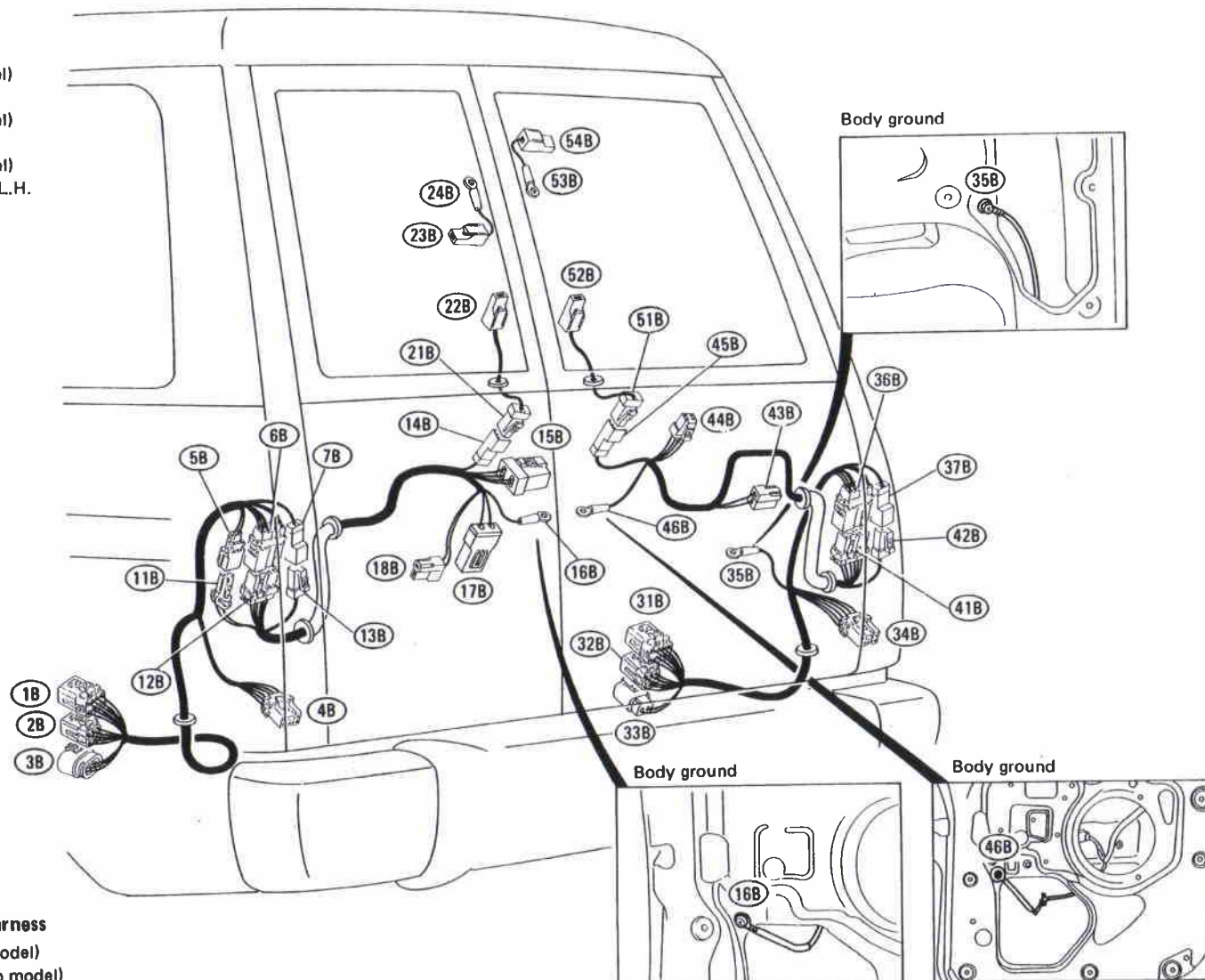
- (31B) : To (13C) (Wagon model)
- To (113C) (Hardtop model)
- (32B) : To (12C) (Wagon model)
- To (112C) (Hardtop model)
- (33B) : To (11C) (Wagon model)
- To (111C) (Hardtop model)
- (34B) : Rear combination lamp R.H.
- (35B) : Body ground
- (36B) : To (41B)
- (37B) : To (42B)

### Back door R.H. harness

- (41B) : To (36B)
- (42B) : To (37B)
- (43B) : Rear speaker R.H.
- (44B) : Rear wiper motor
- (45B) : To (51B)
- (46B) : Body ground

### Rear defogger harness L.H.

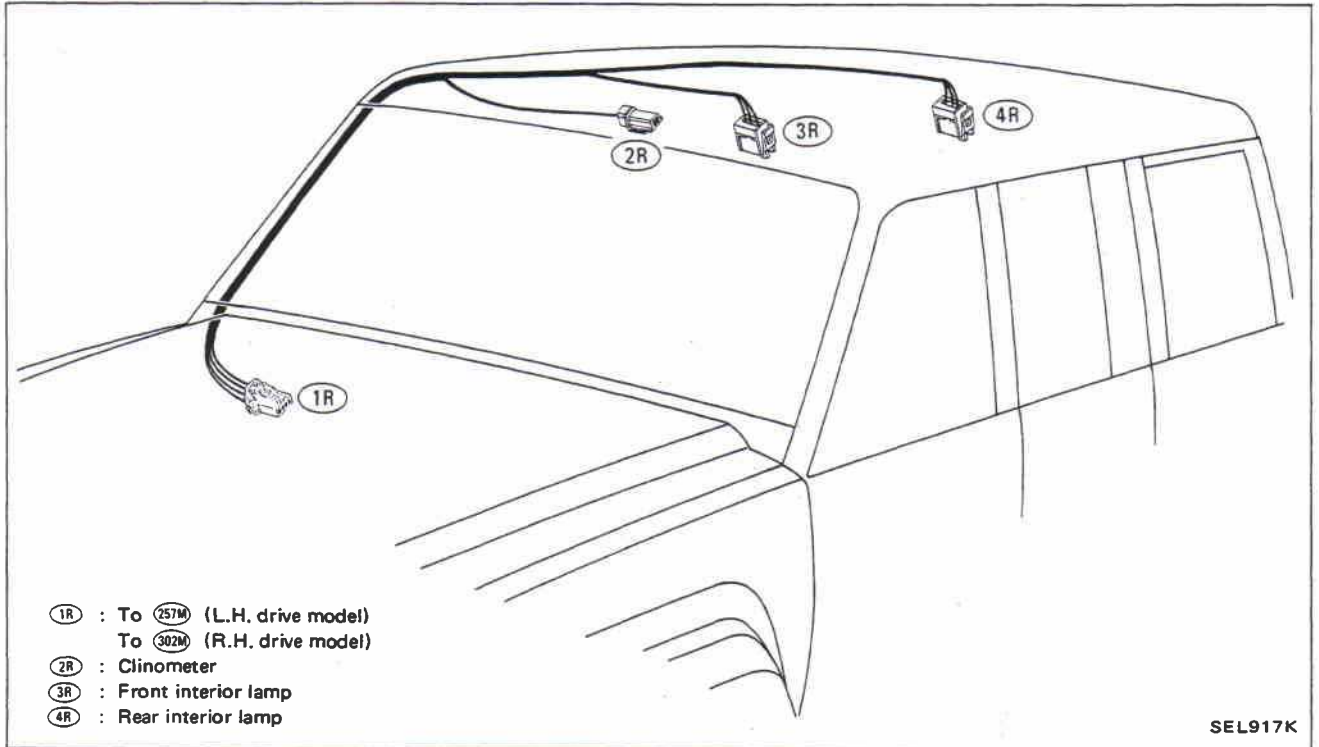
- (51B) : To (45B)
- (52B) : Rear defogger R.H.
- (53B) : Body ground
- (54B) : Rear defogger R.H.



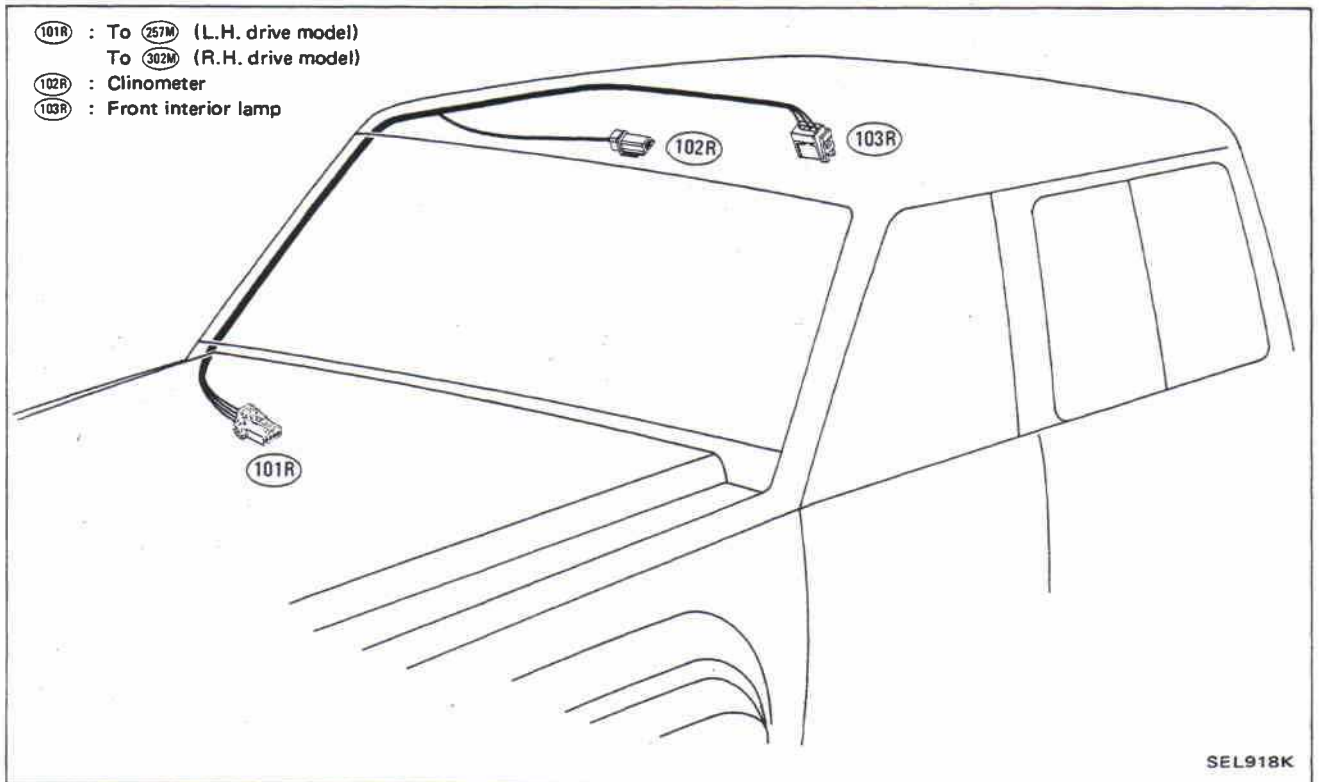
## HARNESS LAYOUT

### Room Lamp Harness

#### WAGON MODEL



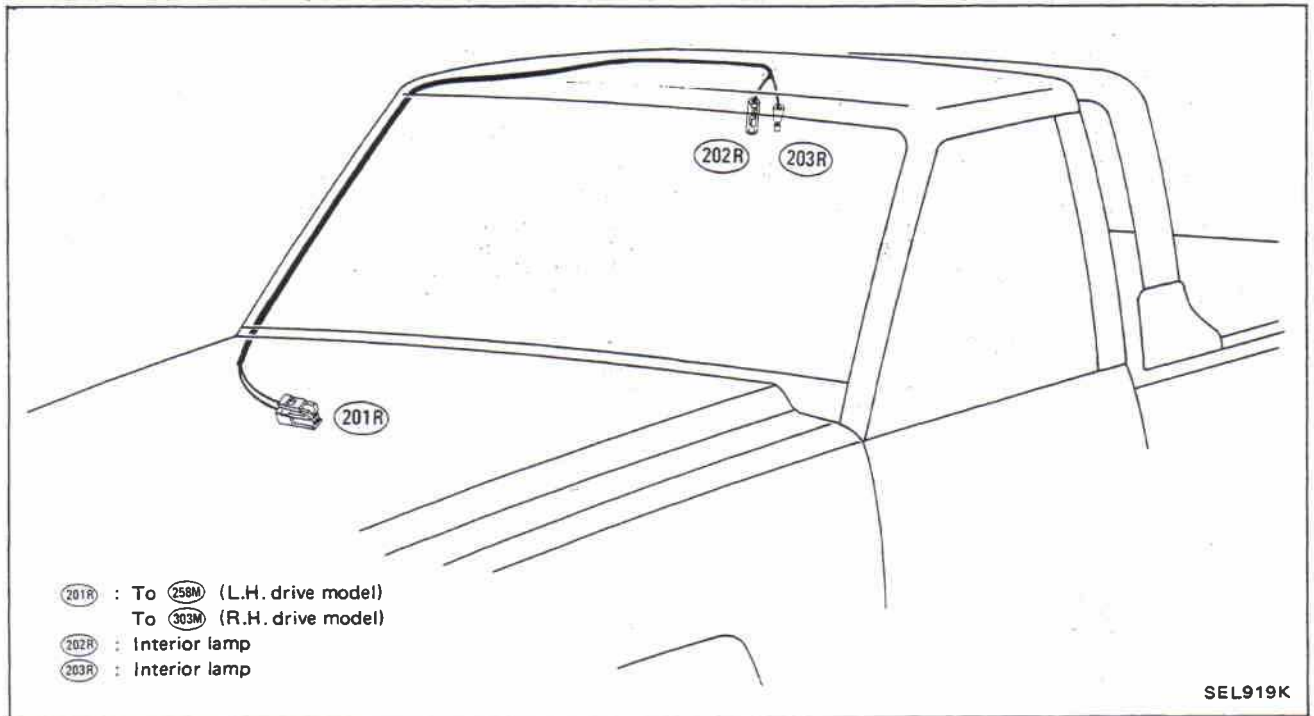
#### HARDTOP MODEL



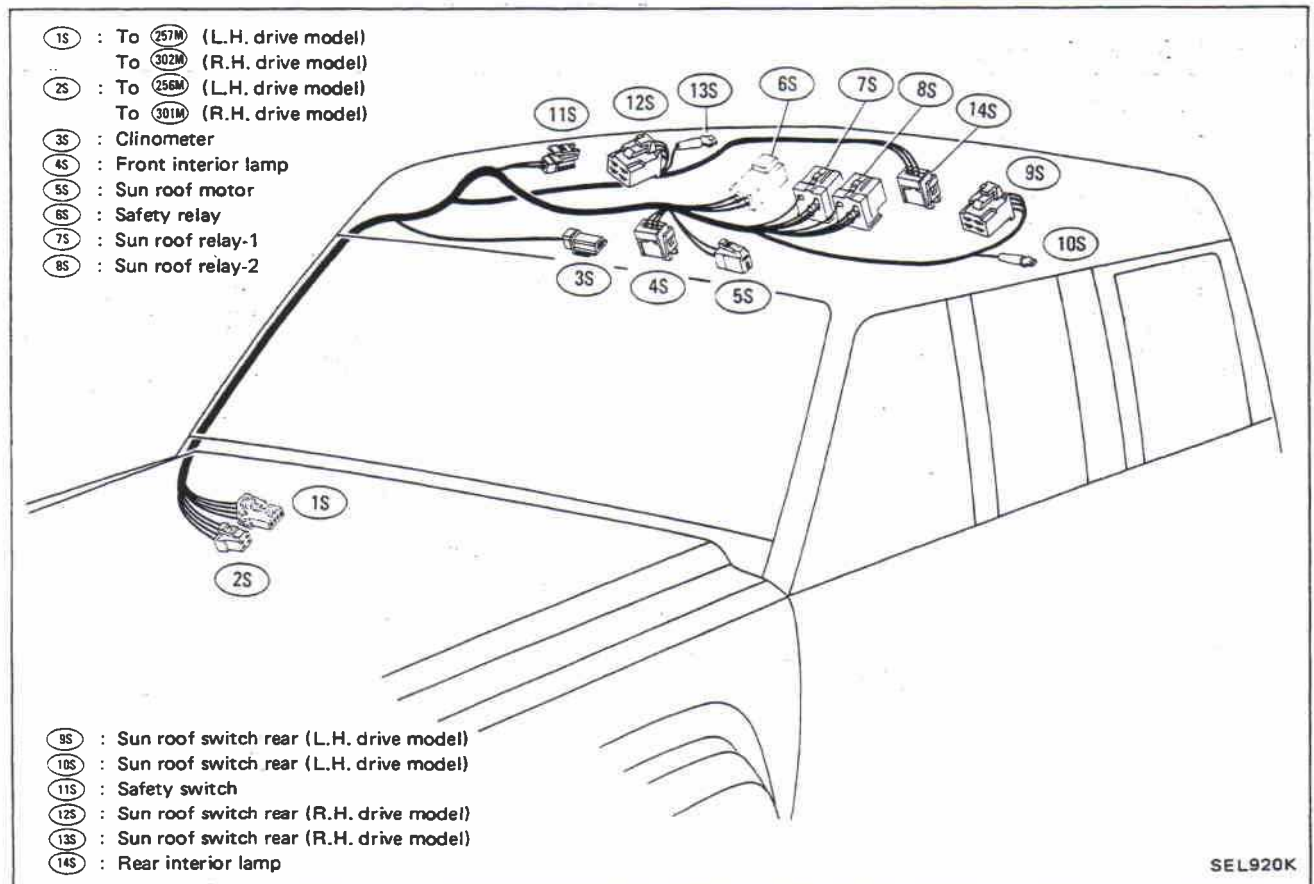
## HARNESS LAYOUT

### Room Lamp and Sun Roof Harness

#### PICKUP MODEL (Room lamp harness)



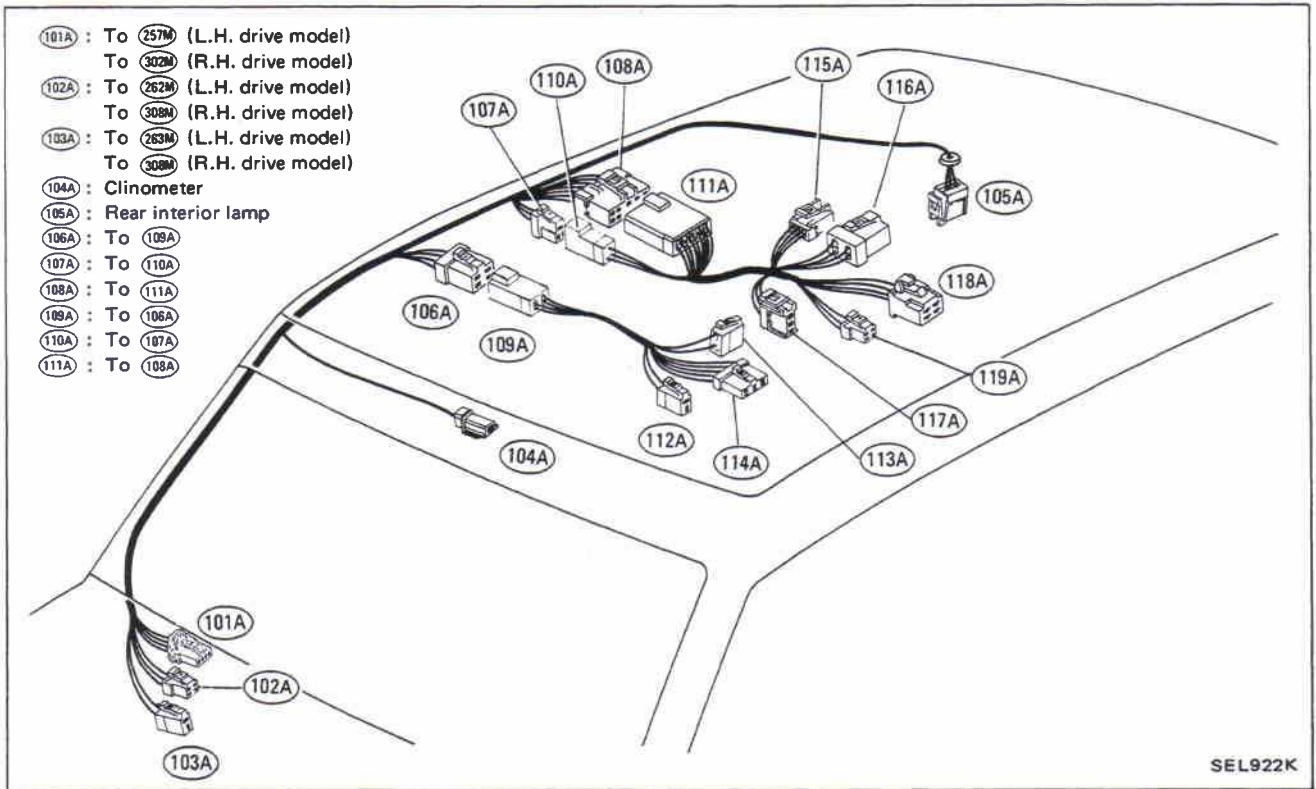
#### HI-ROOF WAGON (Sun roof harness)



## HARNESS LAYOUT

### Rear Air Conditioner Harness

#### OVERHEAD TYPE REAR COOLER (TYPE 1)



#### REAR COOLER (TYPE 2)

