

ELECTRICAL SYSTEM

SECTION **EL**

When you read wiring diagrams:

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

CONTENTS

HARNESS CONNECTOR	EL- 2
STANDARDIZED RELAY	EL- 3
POWER SUPPLY ROUTING	EL- 5
BATTERY	EL- 9
STARTING SYSTEM	EL-17
STARTING SYSTEM — Starter —	EL-20
CHARGING SYSTEM	EL-27
CHARGING SYSTEM — Alternator —	EL-28
COMBINATION SWITCH	EL-37
HEADLAMP	EL-39
EXTERIOR LAMP	EL-42
INTERIOR LAMP	EL-46
METER AND GAUGES	EL-48
WARNING LAMPS AND CHIME	EL-55
WIPER AND WASHER	EL-59
HORN, CIGARETTE LIGHTER AND CLOCK	EL-64
REAR WINDOW DEFOGGER	EL-65
AUDIO	EL-68
LOCATION OF ELECTRICAL UNITS	EL-70
HARNESS LAYOUT	EL-75

WIRING DIAGRAM REFERENCE CHART

Engine control system	EF & EC SECTION
Ignition system	EF & EC SECTION
Quick-glow system	EF & EC SECTION
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

EL

HARNESS CONNECTOR

Description

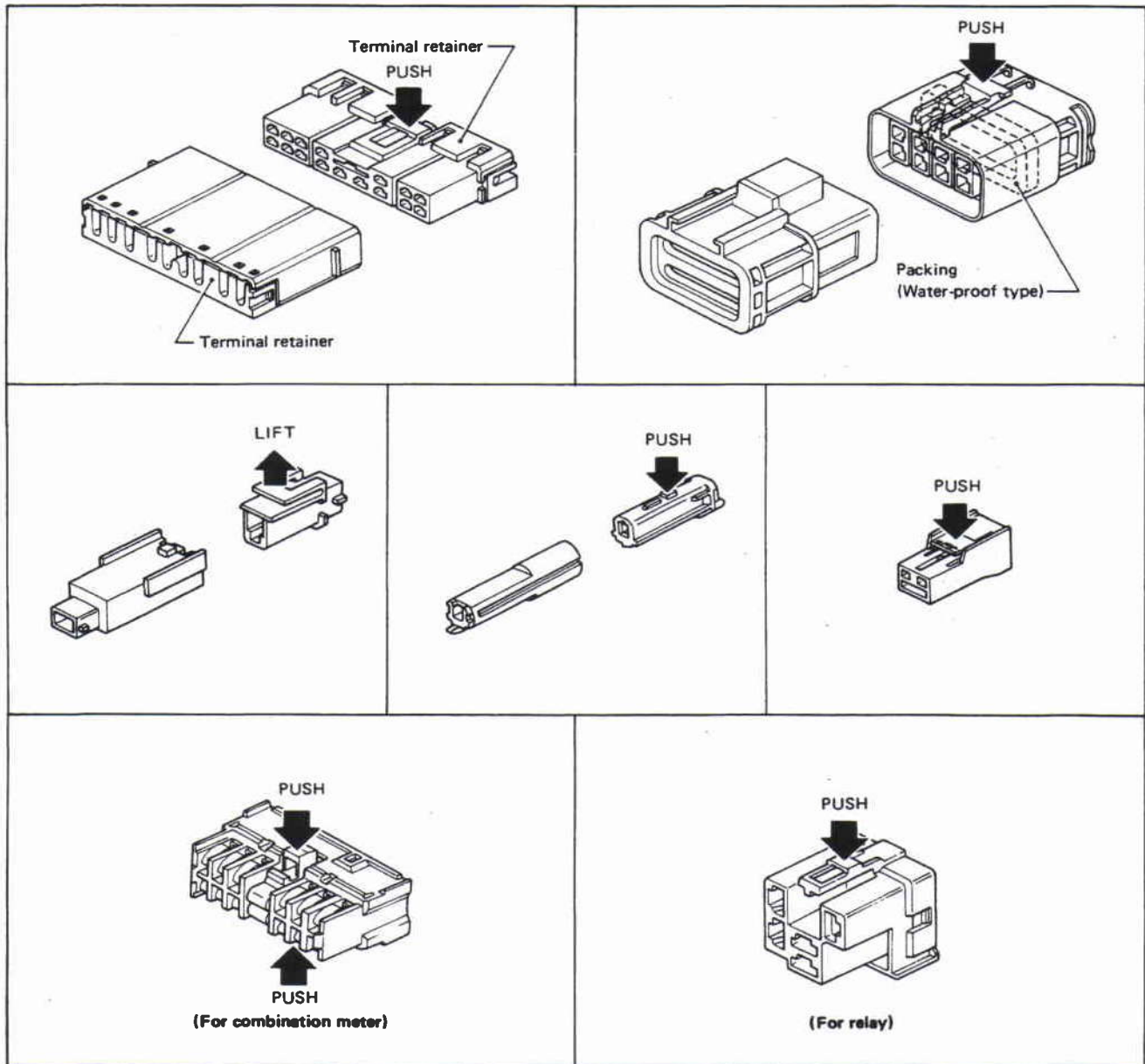
HARNESS CONNECTOR

- 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

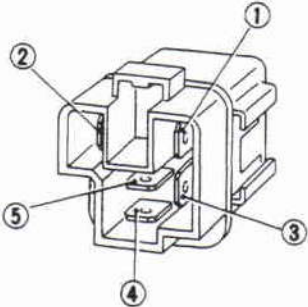
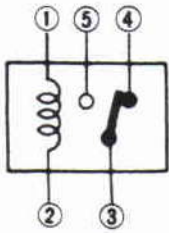
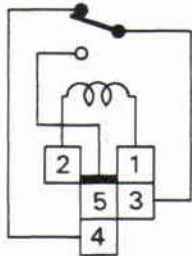
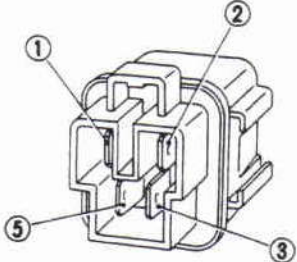
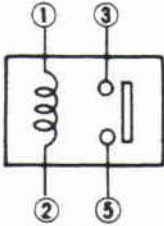
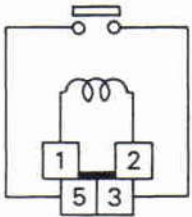
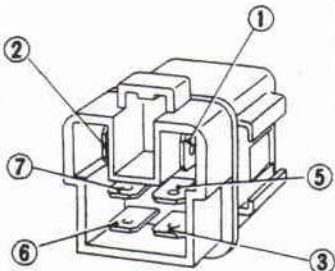
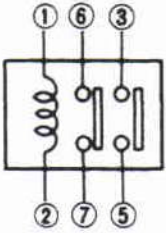
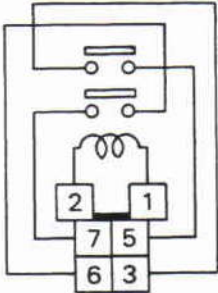
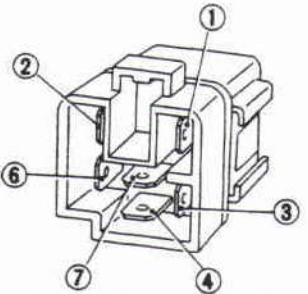
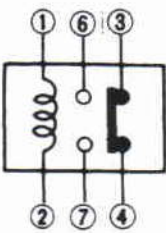
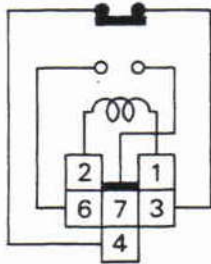
Type of Standardized Relays

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

1M	2M
1T	1M-1B

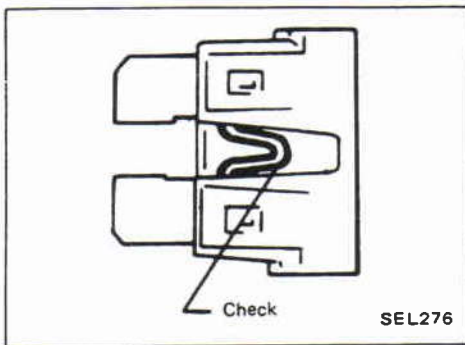
SEL882H

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

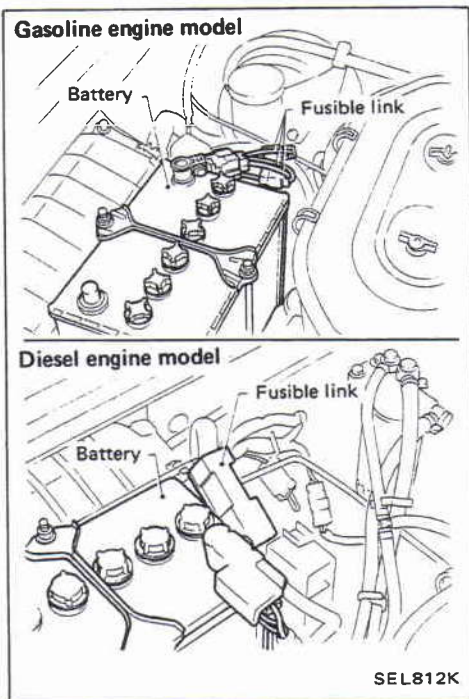
- If fuse is blown, be sure to eliminate cause of problem before installing new fuse.
- Use fuse of specified rating. Never use fuse of more than specified rating.
- Do not install fuse in oblique direction; always insert it into fuse holder properly.
- Remove fuse for clock if vehicle is not used for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

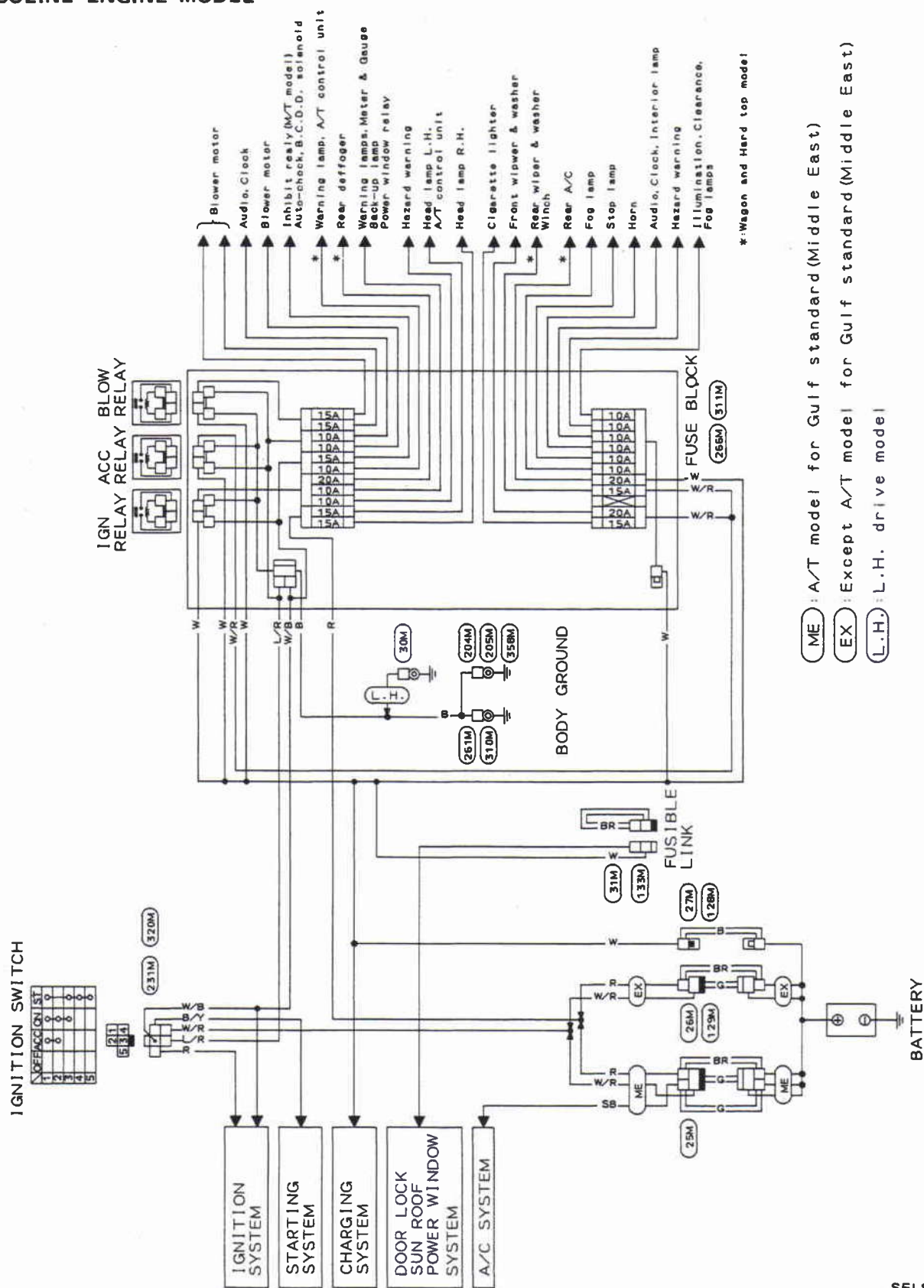
- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of problem.
- Never wrap periphery of fusible link with vinyl tape. Extreme care should be taken with this link to ensure 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



ME : A/T model for Gulf standard (Middle East)

EX : Except A/T model for Gulf standard (Middle East)

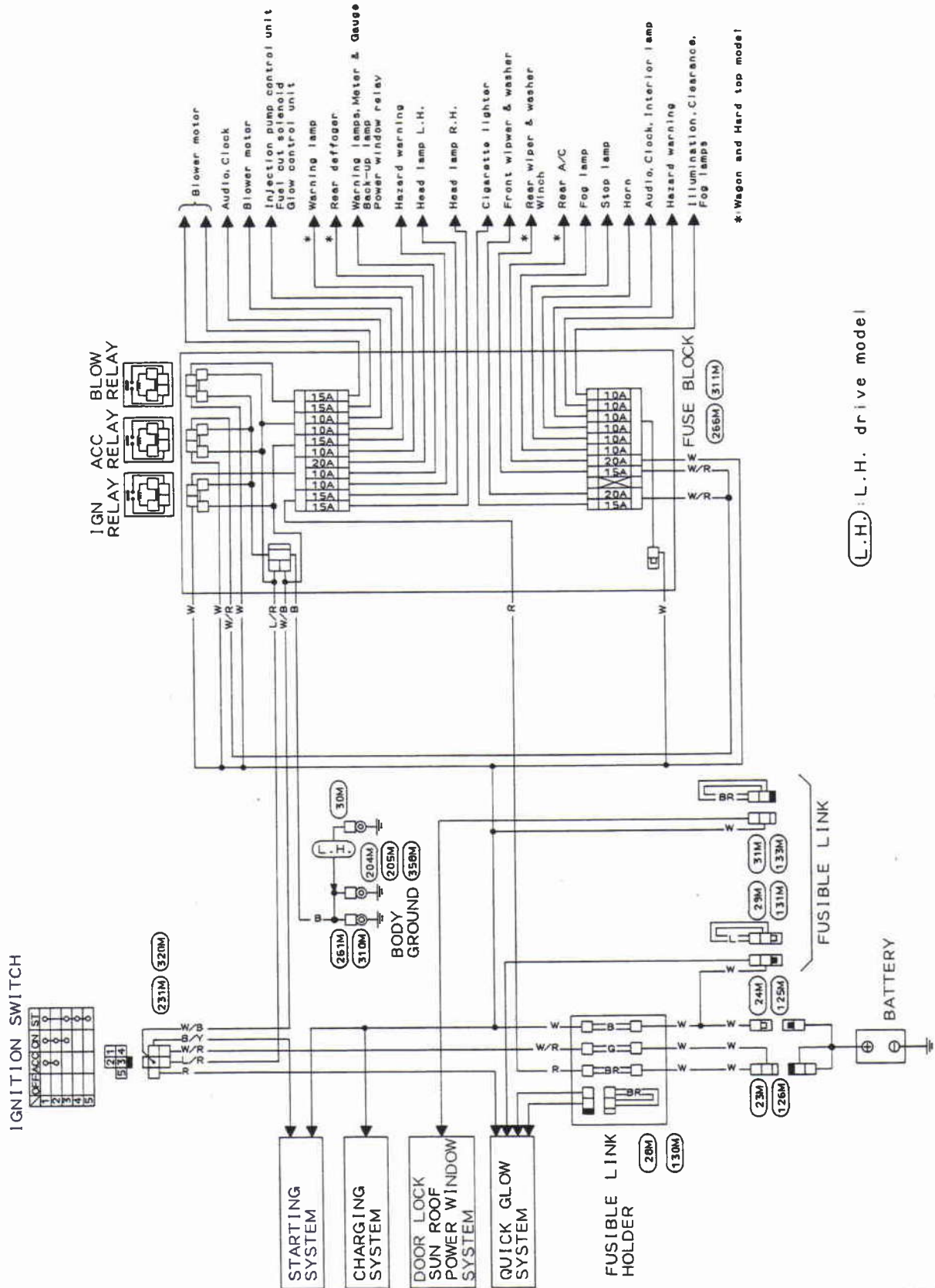
L.H. : L.H. drive model

Model: Wagon and Hard top model

POWER SUPPLY ROUTING

Wiring Diagram (Cont'd)

DIESEL ENGINE MODEL



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

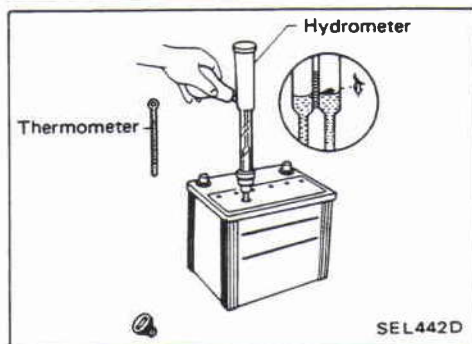
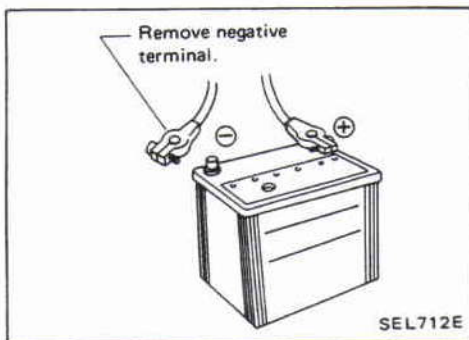
POWER SUPPLY ROUTING

Note:

BATTERY

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.

BATTERY

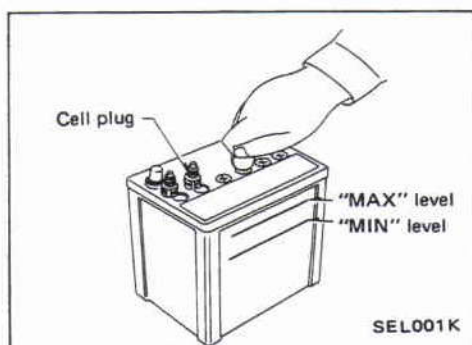
How to Handle Battery (Cont'd)

CHECKING ELECTROLYTE LEVEL

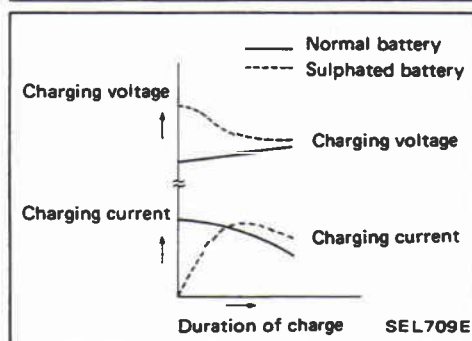
WARNING:

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.



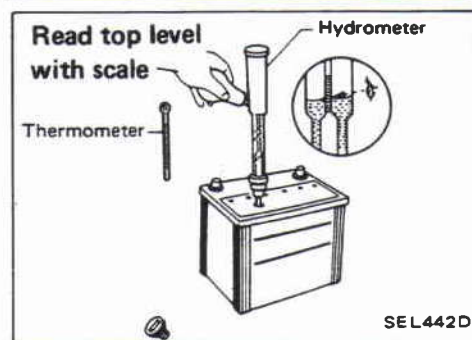
- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



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.

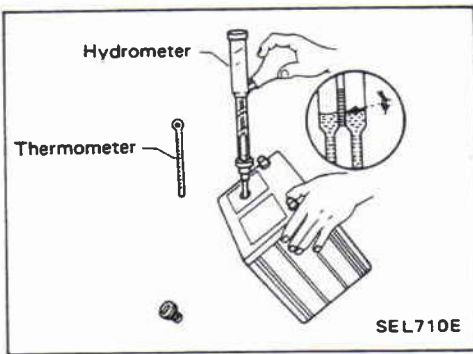


SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.

BATTERY

How to Handle Battery (Cont'd)

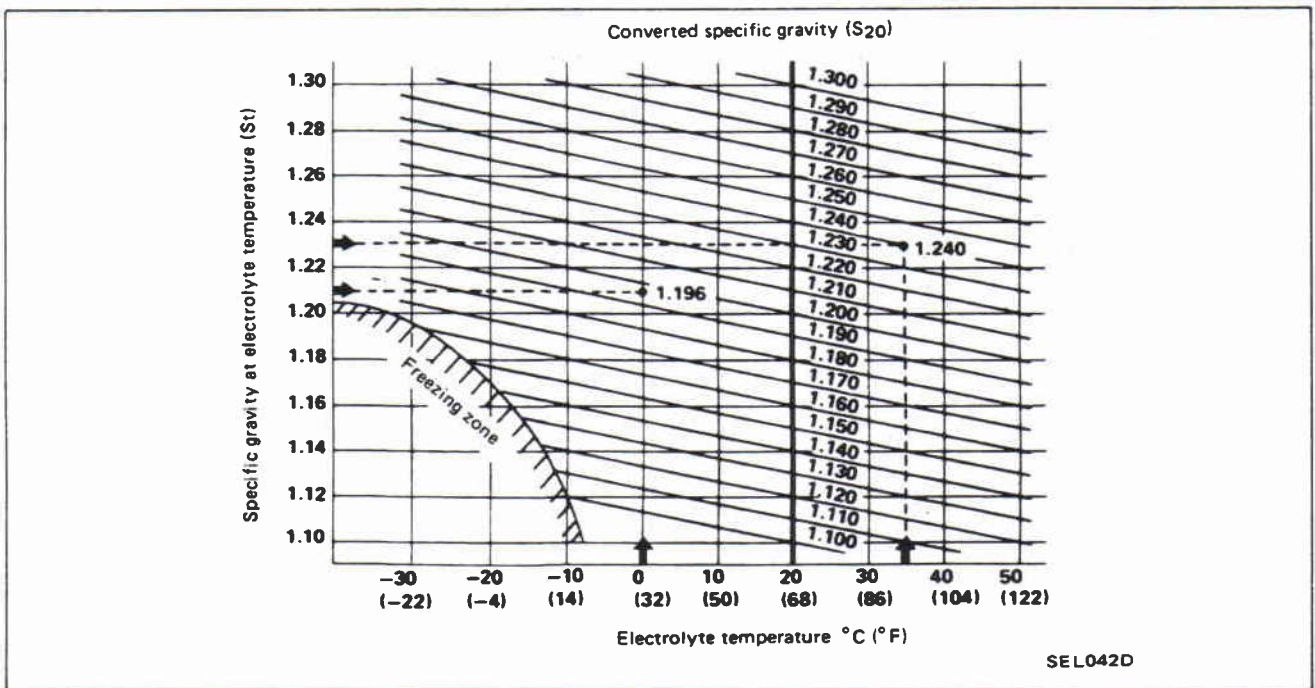


- When electrolyte level is too low, tilt battery case to raise it for easy measurement.

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

Example:

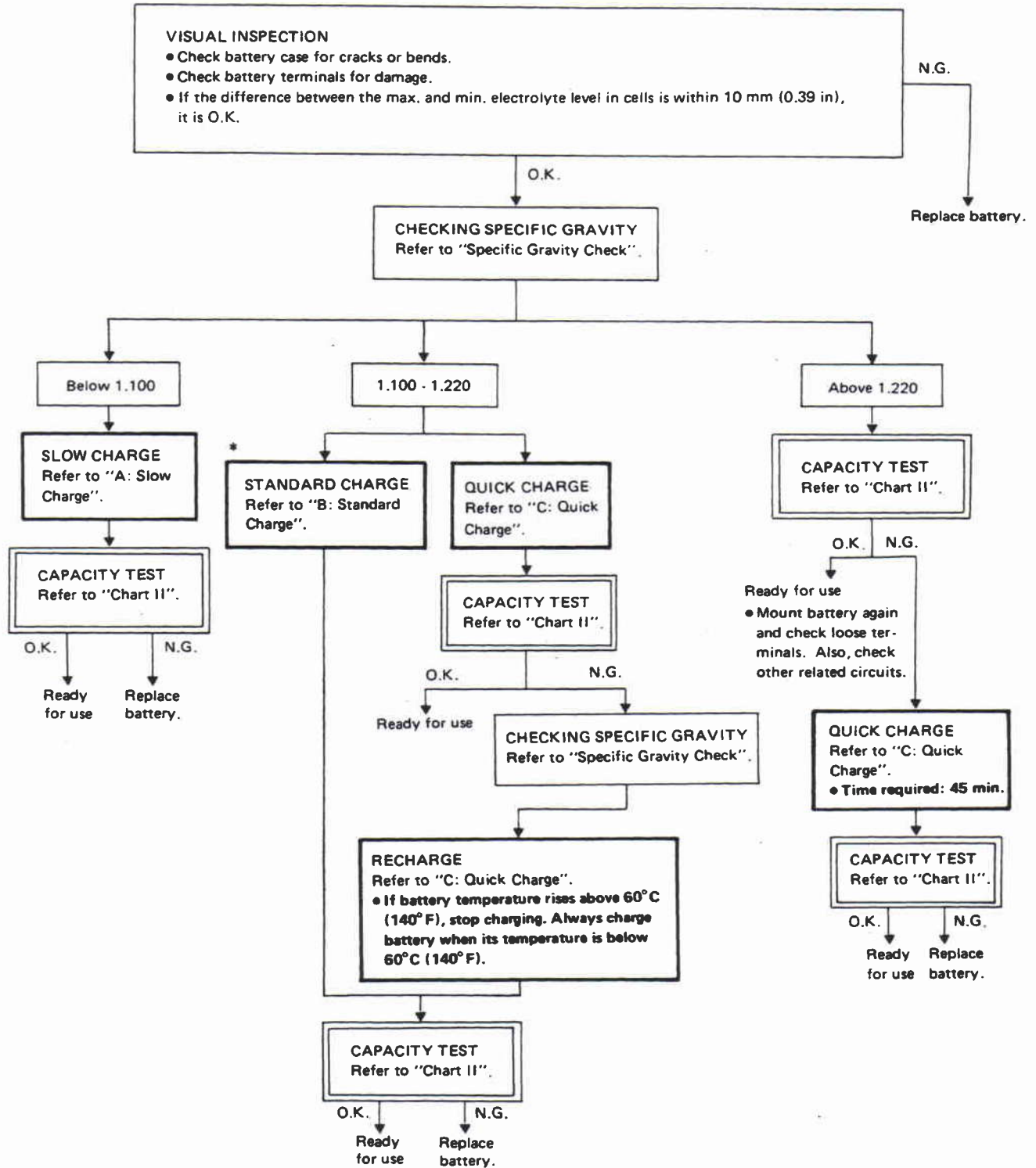
- When electrolyte temperature is 35°C (95°F) and specific gravity of electrolyte is 1.230, converted specific gravity at 20°C (68°F) is 1.240.
- When electrolyte temperature is 0°C (32°F) and specific gravity of electrolyte is 1.210, converted specific gravity at 20°C (68°F) is 1.196.



BATTERY

Battery Test and Charging Chart

Chart I

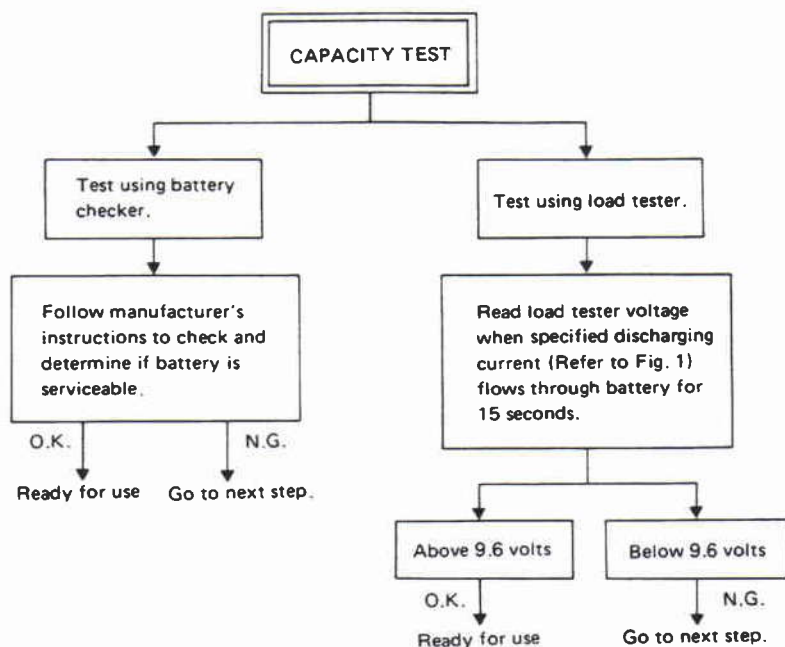


* "STANDARD CHARGE" is recommended in case that the vehicle is in storage after charging.

BATTERY

Battery Test and Charging Chart (Cont'd)

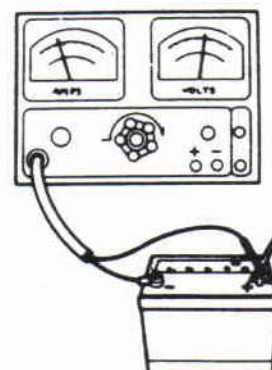
Chart II



- 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

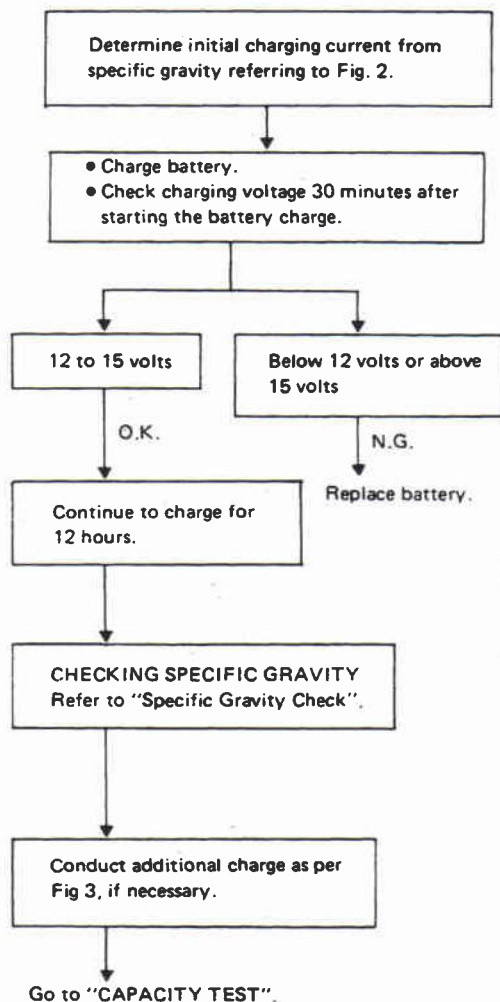
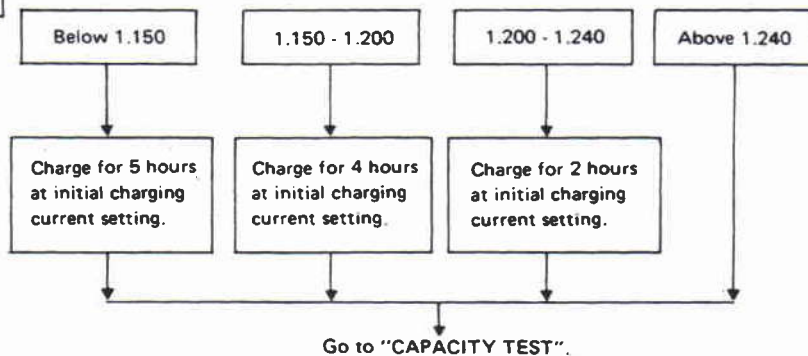


Fig. 2 INITIAL CHARGING CURRENT SETTING (Slow charge)

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

Determine initial charging current from specific gravity, referring to Fig. 4.

Charge battery for 8 hours.

CHECKING SPECIFIC GRAVITY
Refer to "Specific Gravity Check".

Conduct additional charge as per Fig. 5, if necessary.

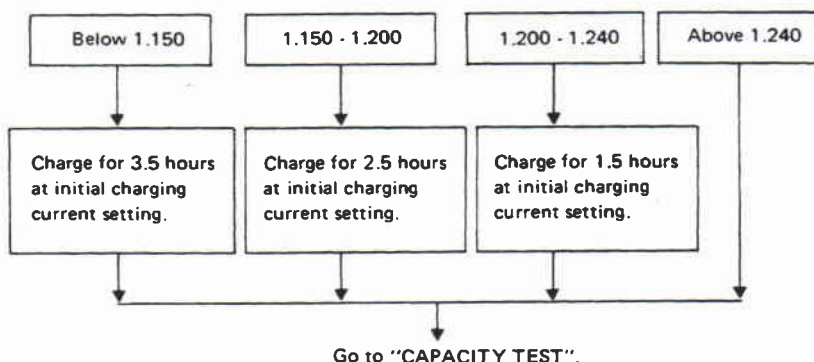
Go to "CAPACITY TEST".

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

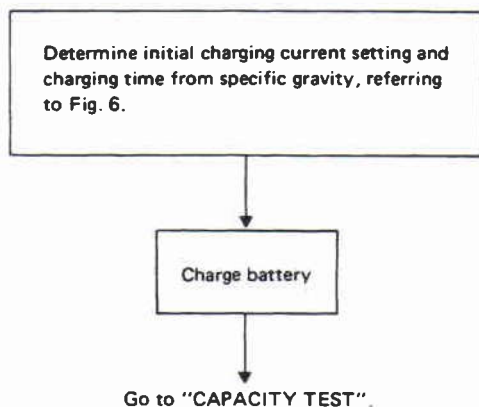


Fig. 6 INITIAL CHARGING CURRENT SETTING AND CHARGING TIME (Quick charge)

CON- VERTED SPECIFIC GRAVITY	BATTERY TYPE	CUR- RENT [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.)

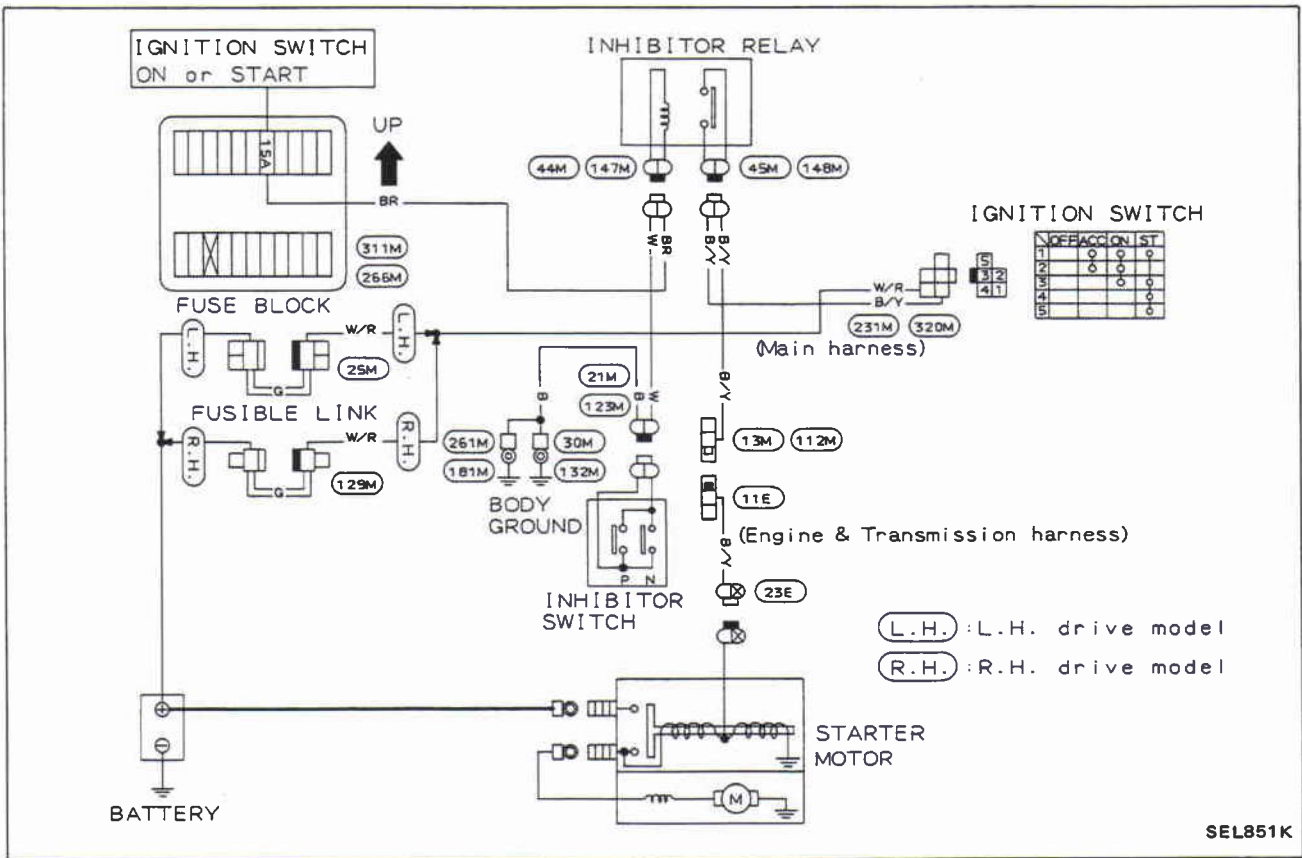
Applied area	All		Except Australia and Middle East	Middle East	All
Applied model	Gasoline engine model				Diesel engine model
	Standard	Option		Optional for side facing rear seat model	Standard
Type	48D26L	55D23L	80D26L	95D31L	
Capacity V-AH	12-50	12-60	12-65	12-80	

STARTING SYSTEM

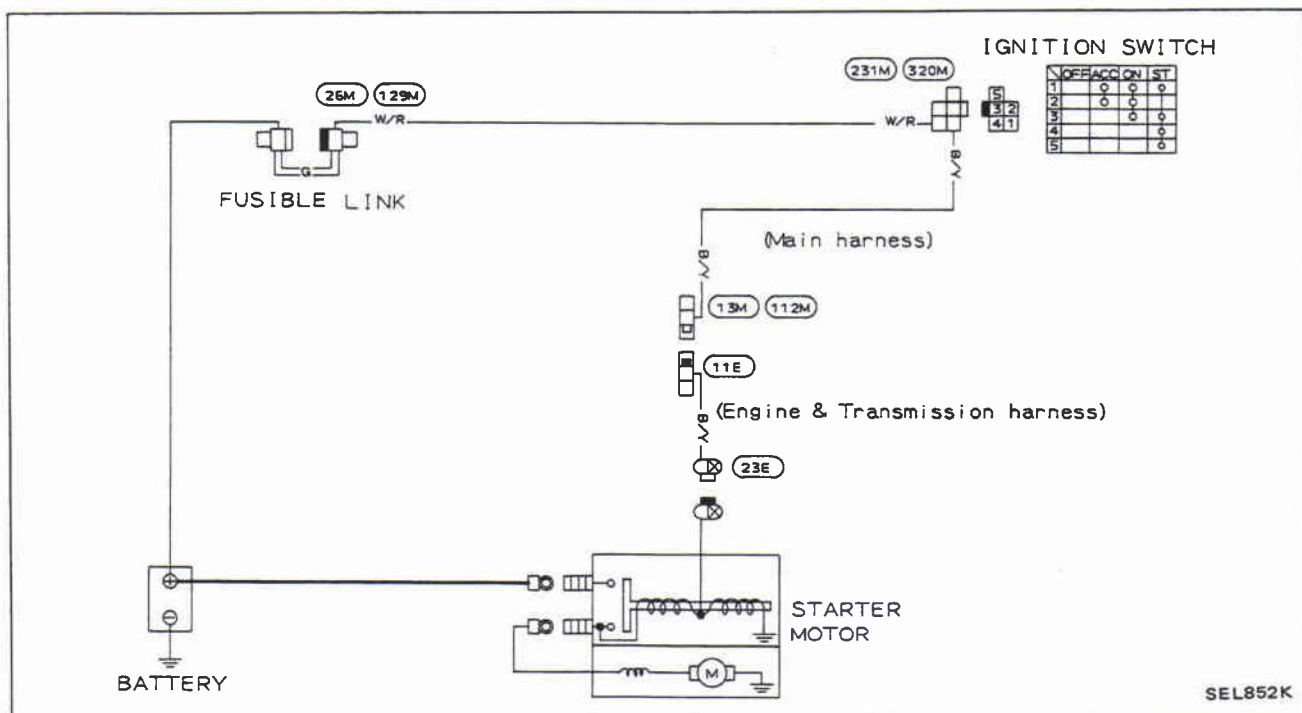
Wiring Diagram

GASOLINE ENGINE MODEL

A/T model



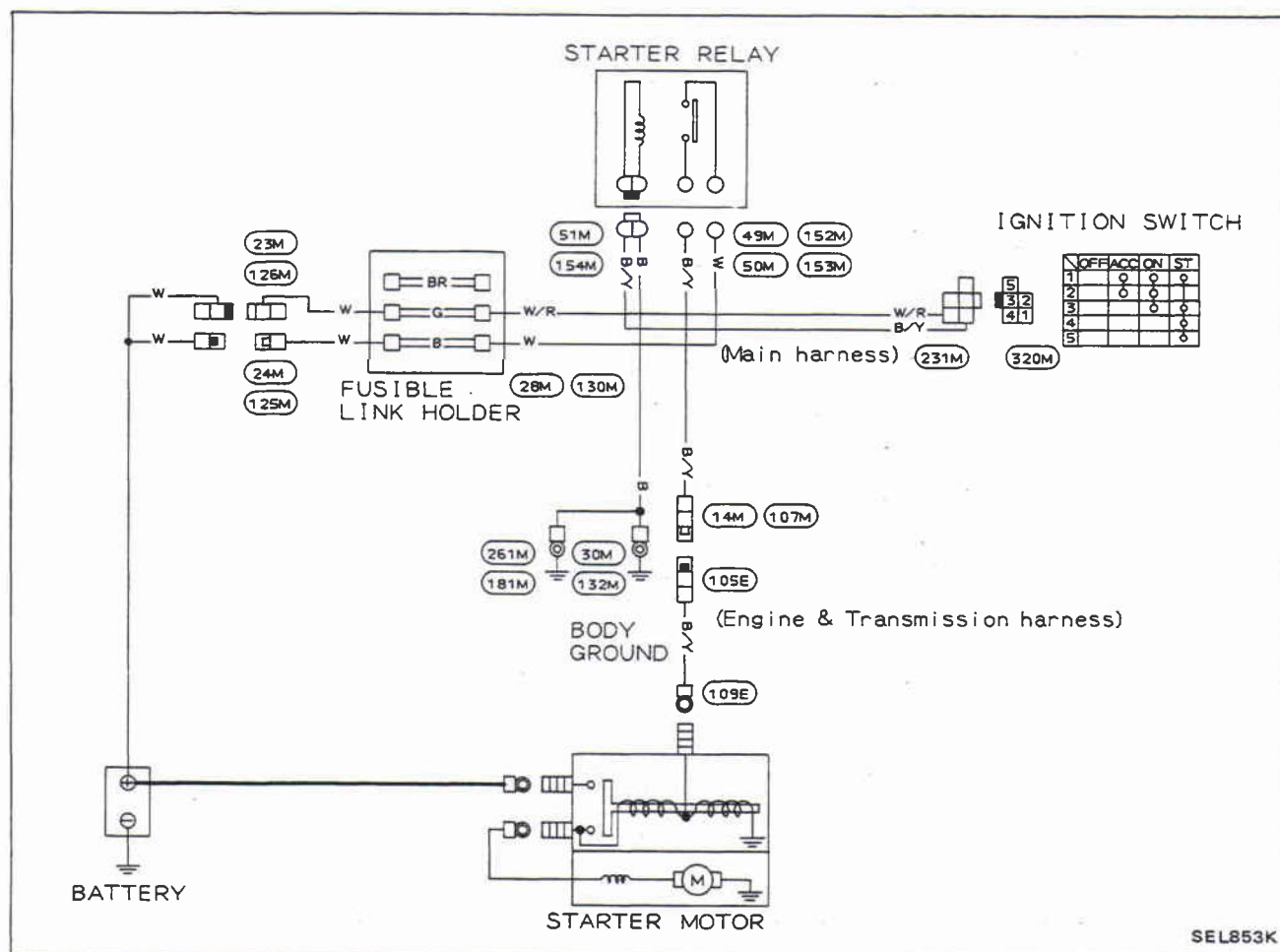
M/T model



STARTING SYSTEM

Wiring Diagram (Cont'd)

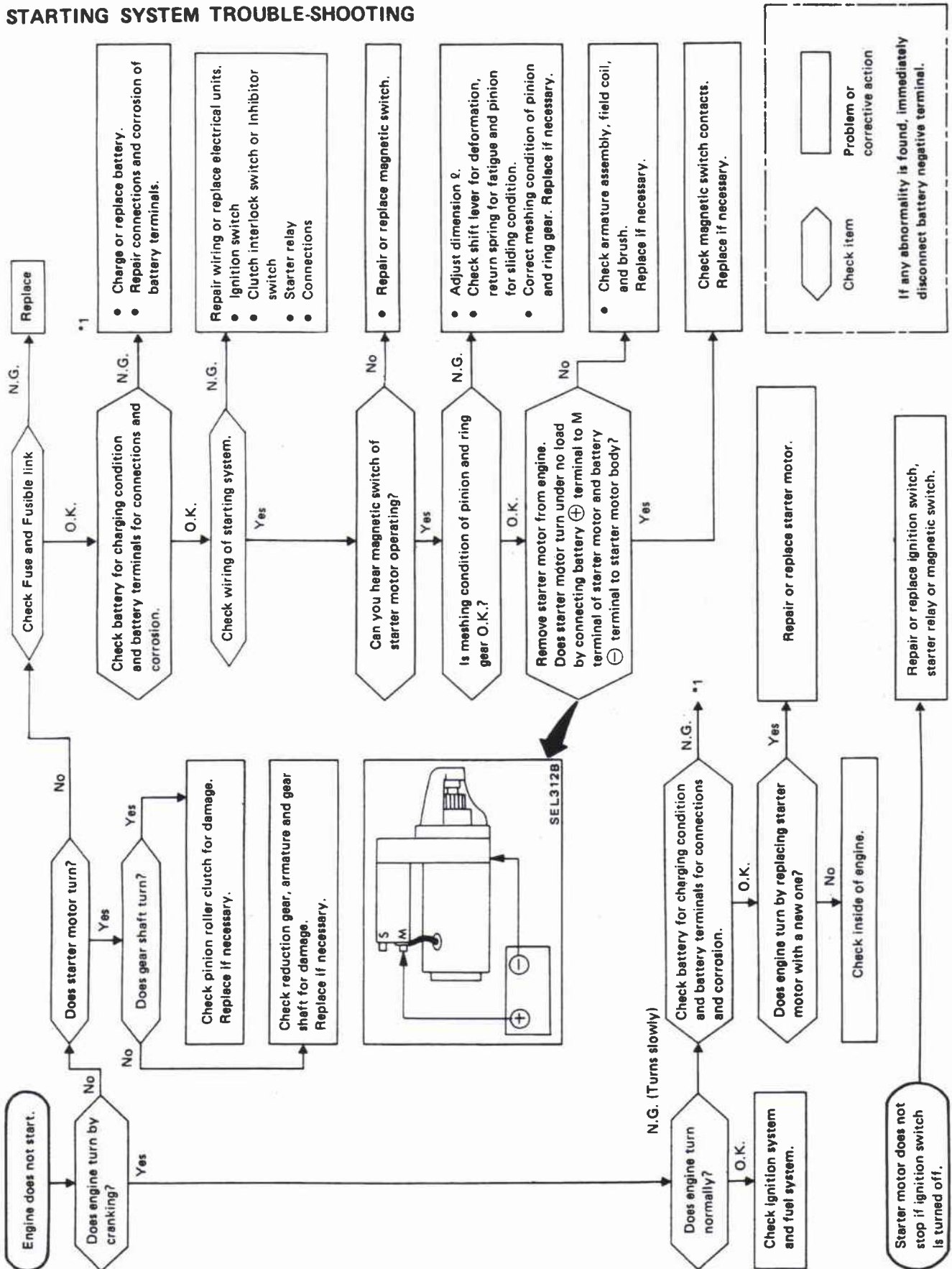
DIESEL ENGINE MODEL



SEL853K

STARTING SYSTEM

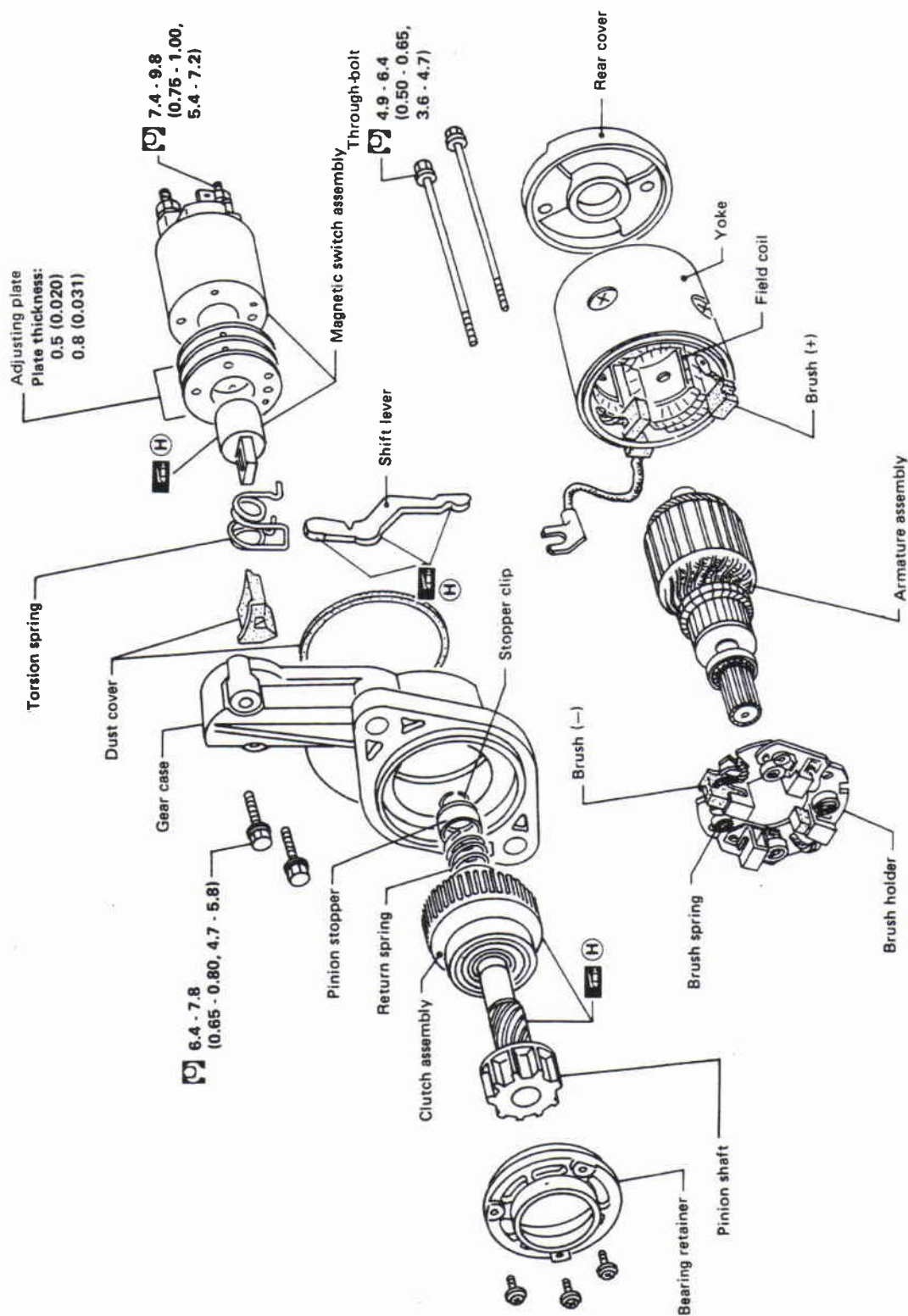
STARTING SYSTEM TROUBLE-SHOOTING



STARTING SYSTEM —Starter—

Construction

S114-471, 472



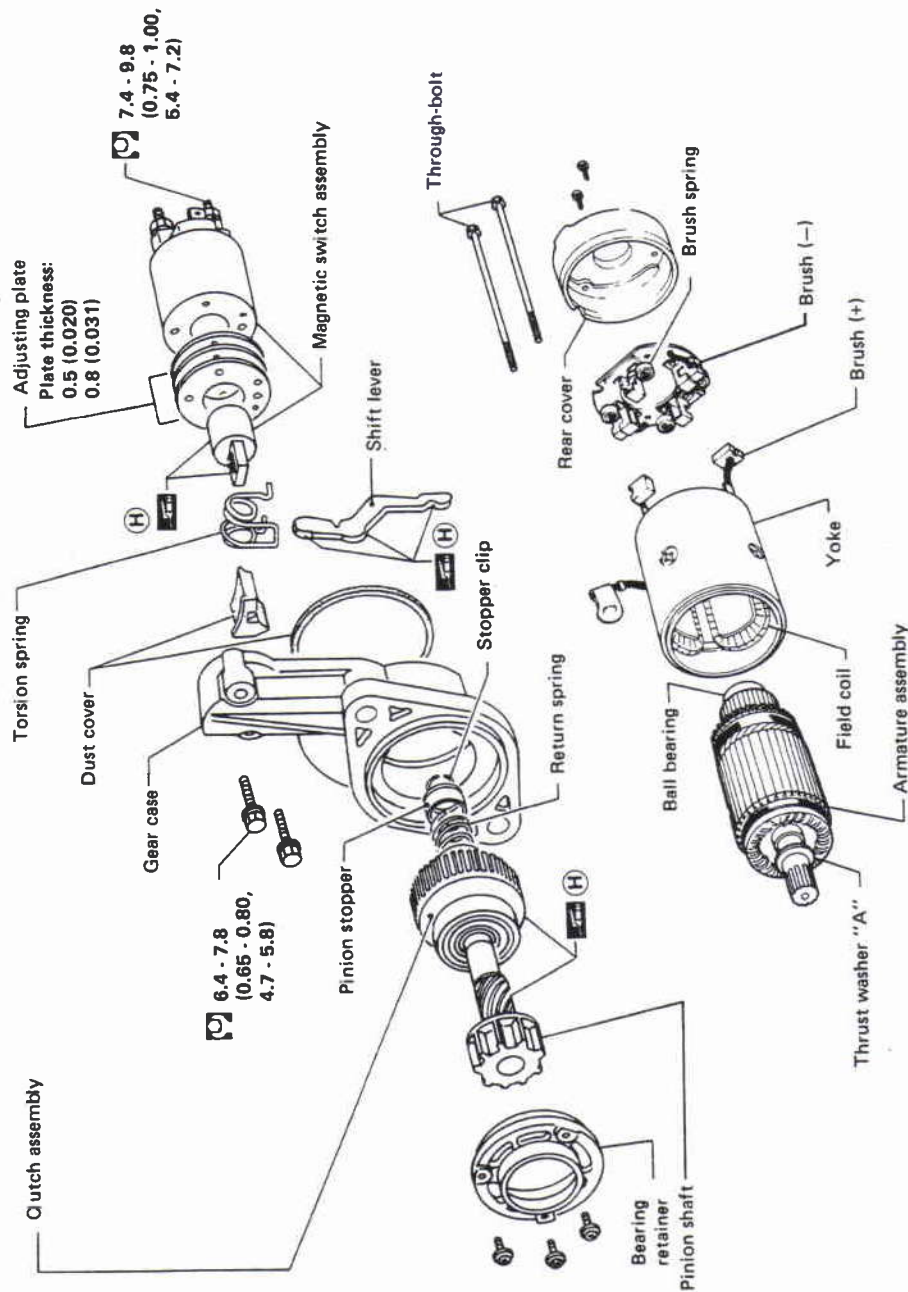
Unit: mm (in)
 : N·m (kg-m, ft-lb)
 : High-temperature grease point

SEL557B

STARTING SYSTEM —Starter—

Construction (Cont'd)

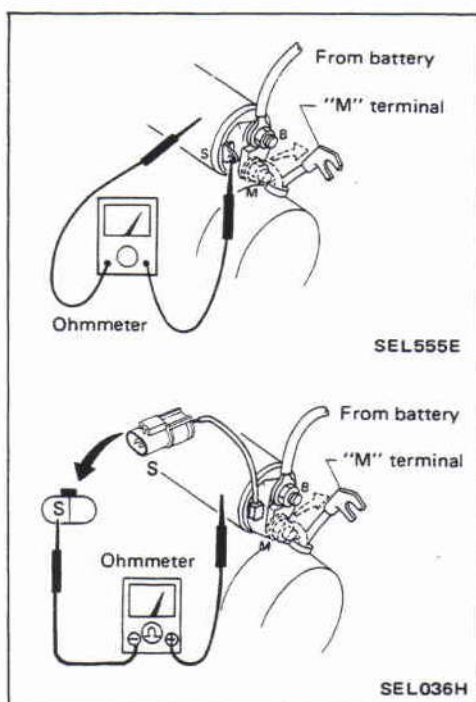
S13-118



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

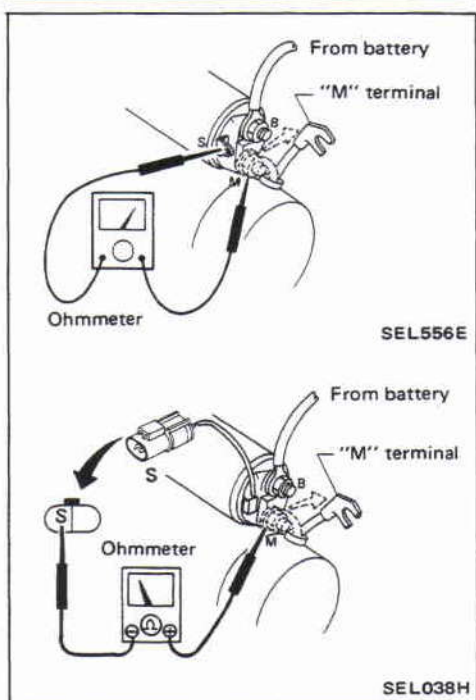
SEL125D

STARTING SYSTEM —Starter—



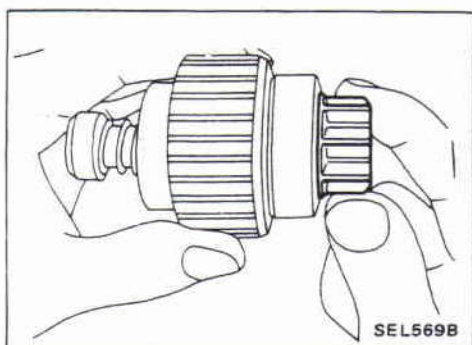
Magnetic Switch Check

- 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.



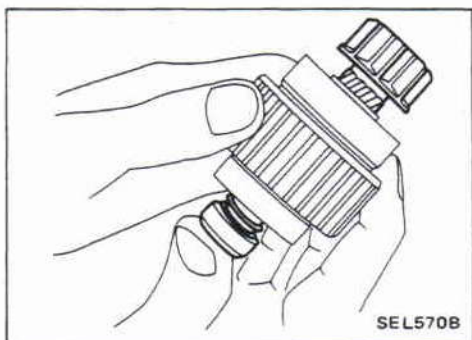
- 2. Continuity test (between "S" terminal and "M" terminal).
- No continuity ... Replace.

STARTING SYSTEM — Starter —

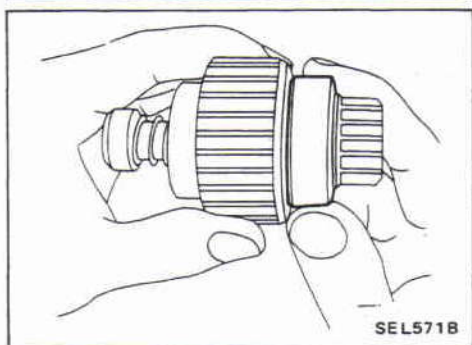


Pinion/Clutch Check

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

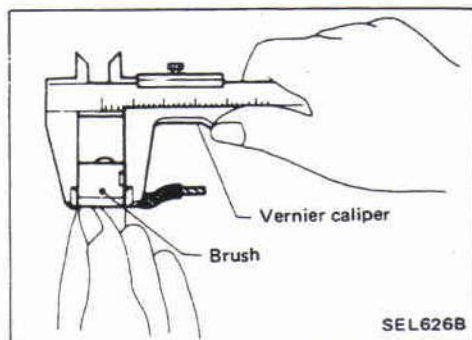
BRUSH

Check wear of brush.

Wear limit length:

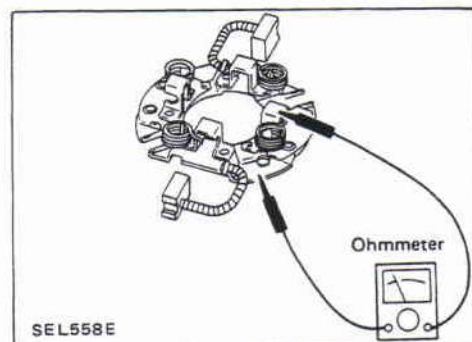
Refer to "Service Data and Specifications."

- Excessive wear ... Replace.

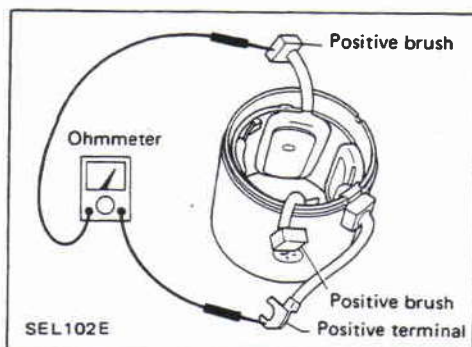


BRUSH HOLDER

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.



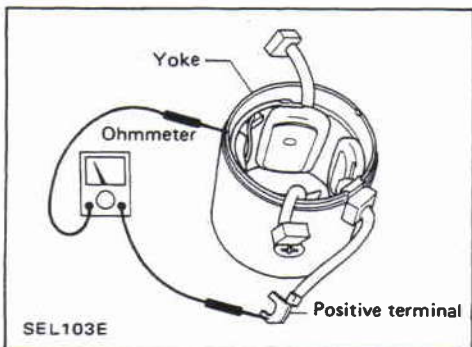
STARTING SYSTEM —Starter—



Field Coil Check

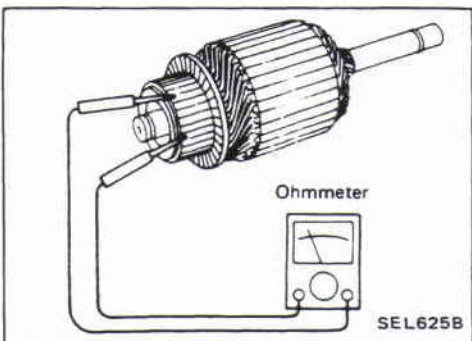
1. Continuity test (between field coil positive terminal and positive brushes).

- No continuity ... Replace field coil.



2. Insulation test (between field coil positive terminal and yoke).

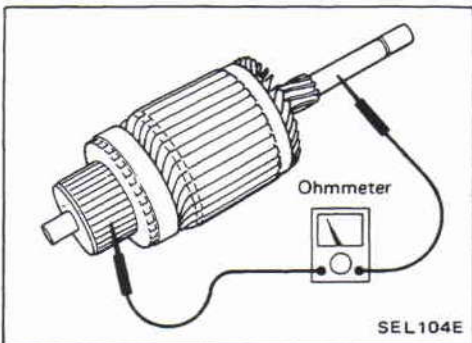
- Continuity exists ... Replace field coil.



Armature Check

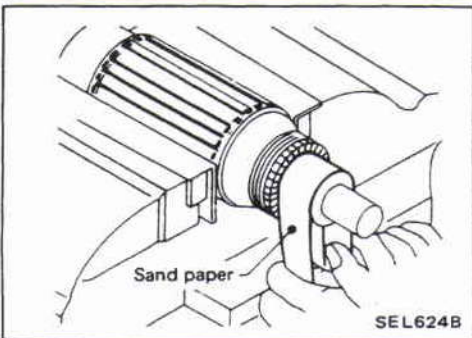
1. Continuity test (between two segments side by side).

- 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—

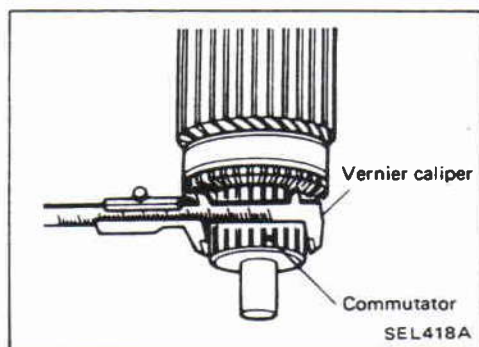
Armature Check (Cont'd)

4. Check diameter of commutator.

Commutator minimum diameter:

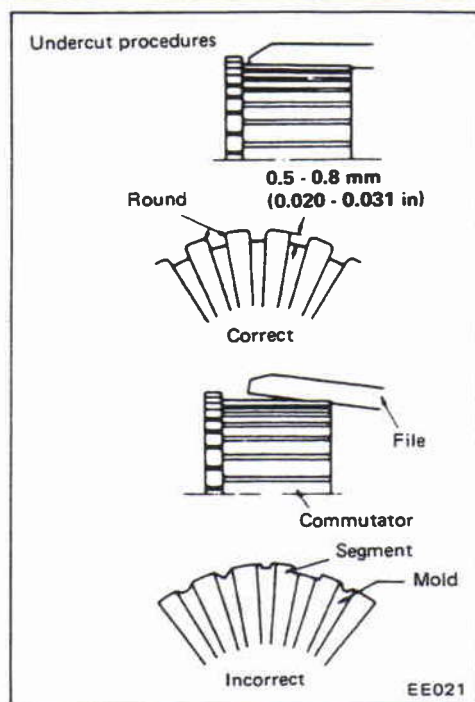
Refer to "Service Data and Specifications."

- 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

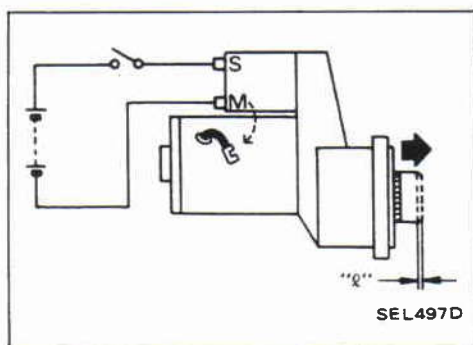
- Frictional surface of pinion
- Moving portion of shift lever
- Plunger of magnetic switch

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":

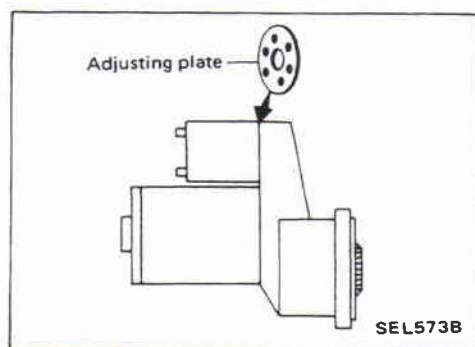
Refer to "Service Data and Specifications."



STARTING SYSTEM — Starter—

Assembly (Cont'd)

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



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

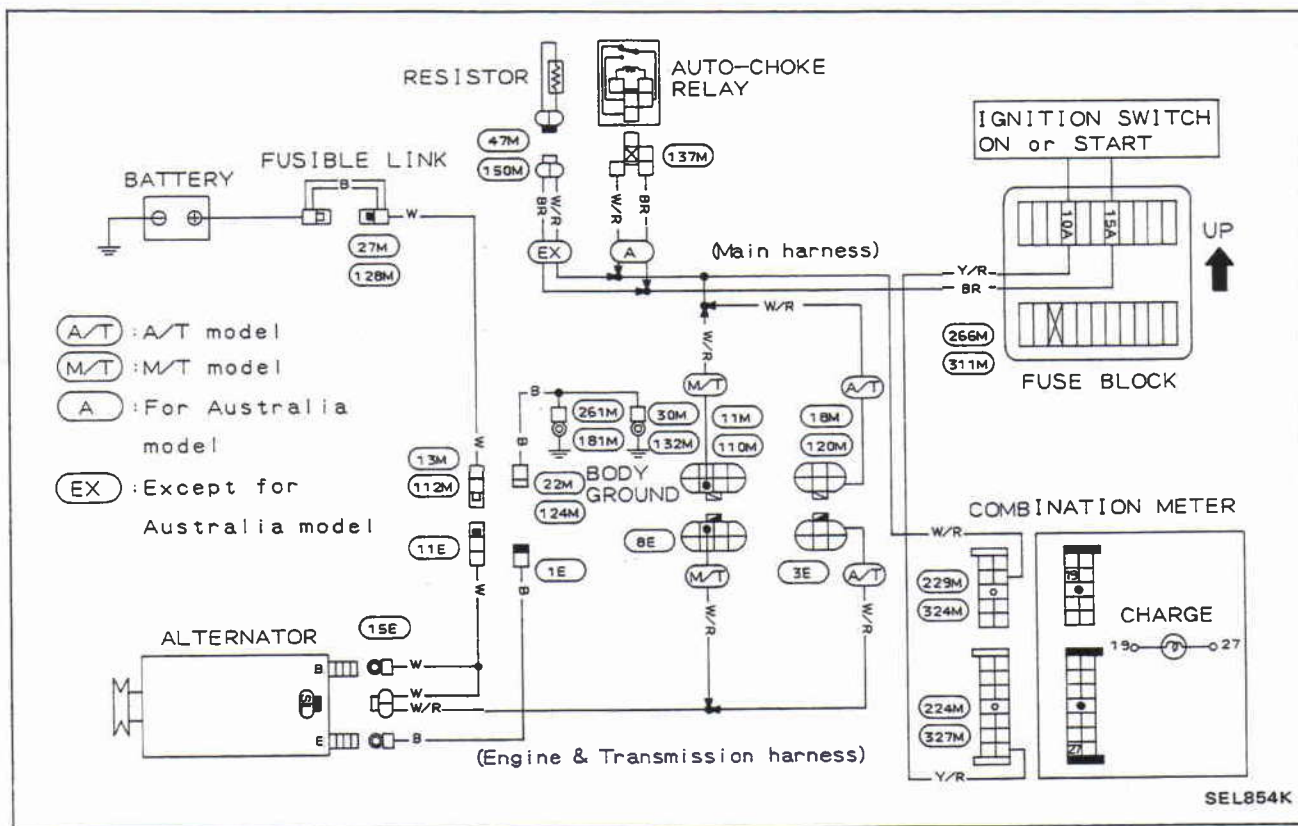
STARTER

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 "x" in height of pinion assembly	mm (in)	0.3 - 1.5 (0.012 - 0.059)		

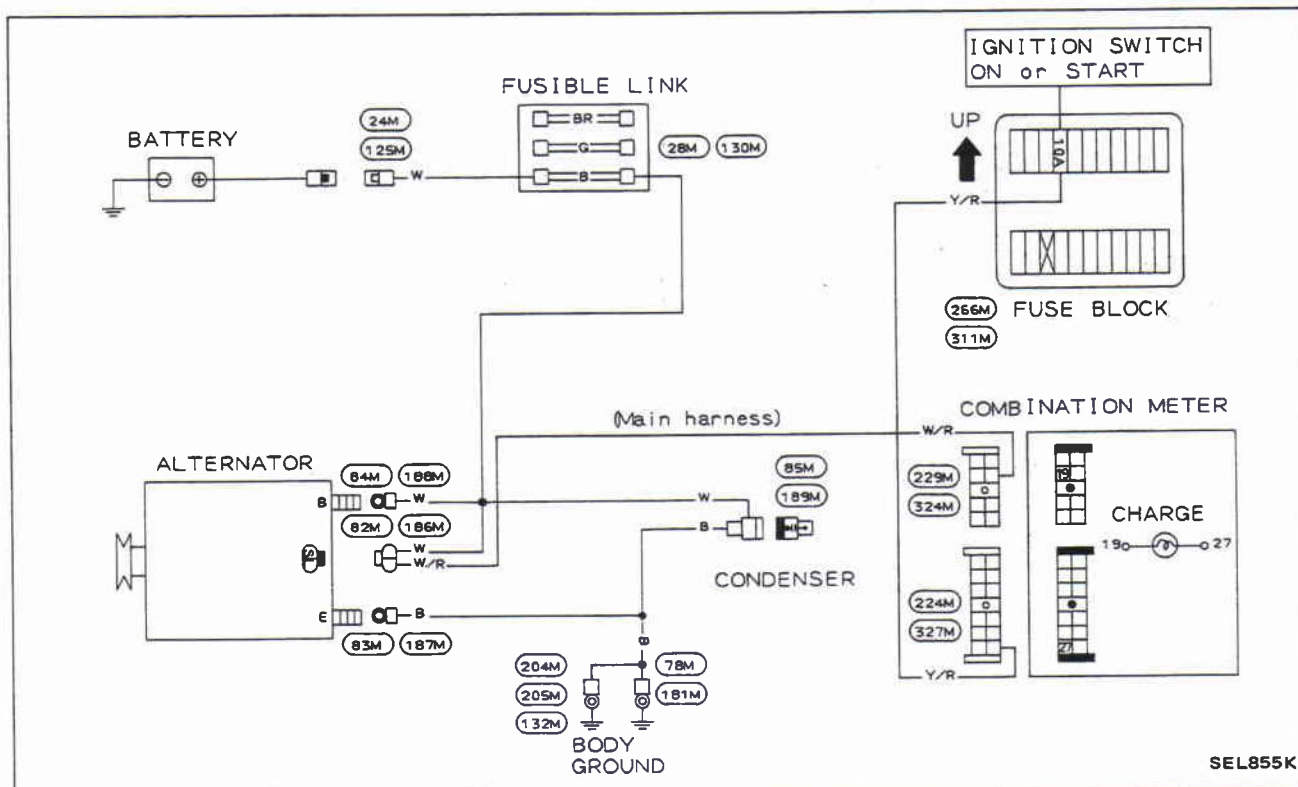
CHARGING SYSTEM

Wiring Diagram

GASOLINE ENGINE MODEL



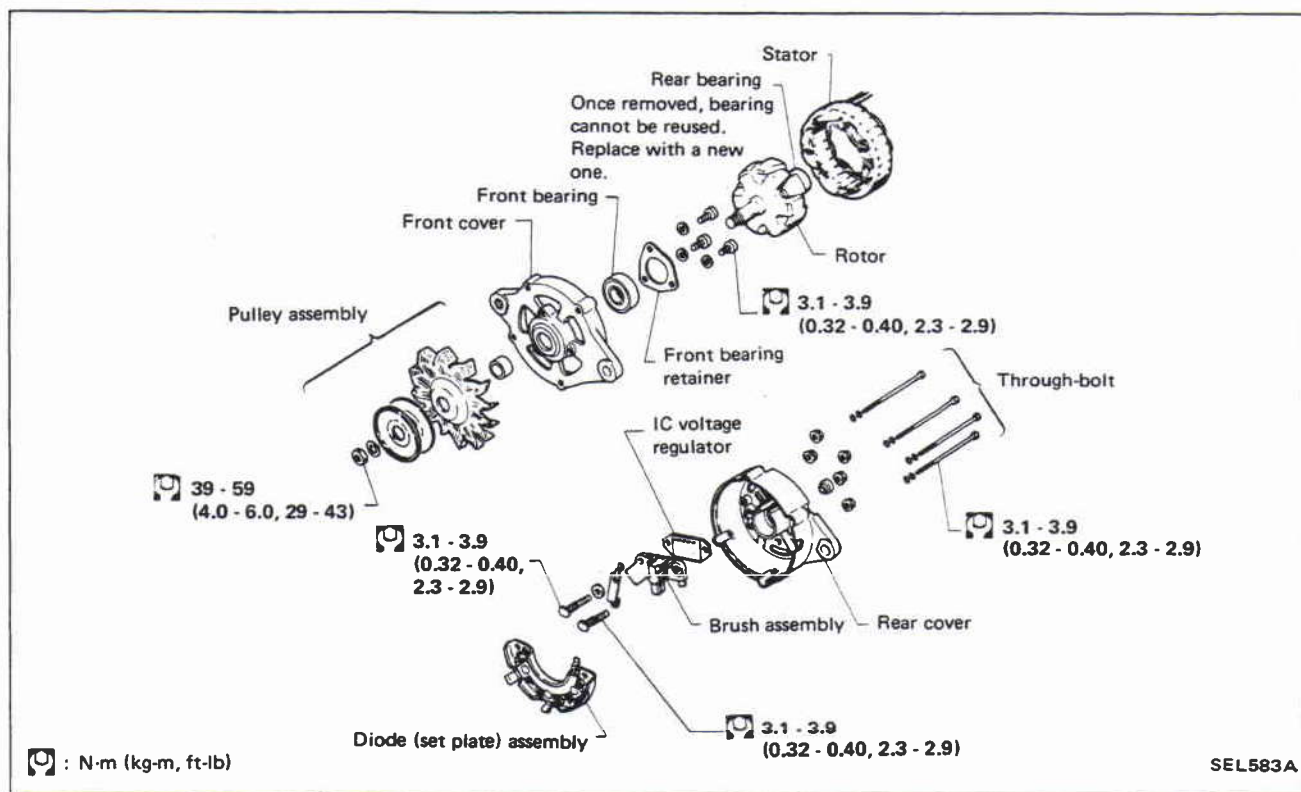
DIESEL ENGINE MODEL



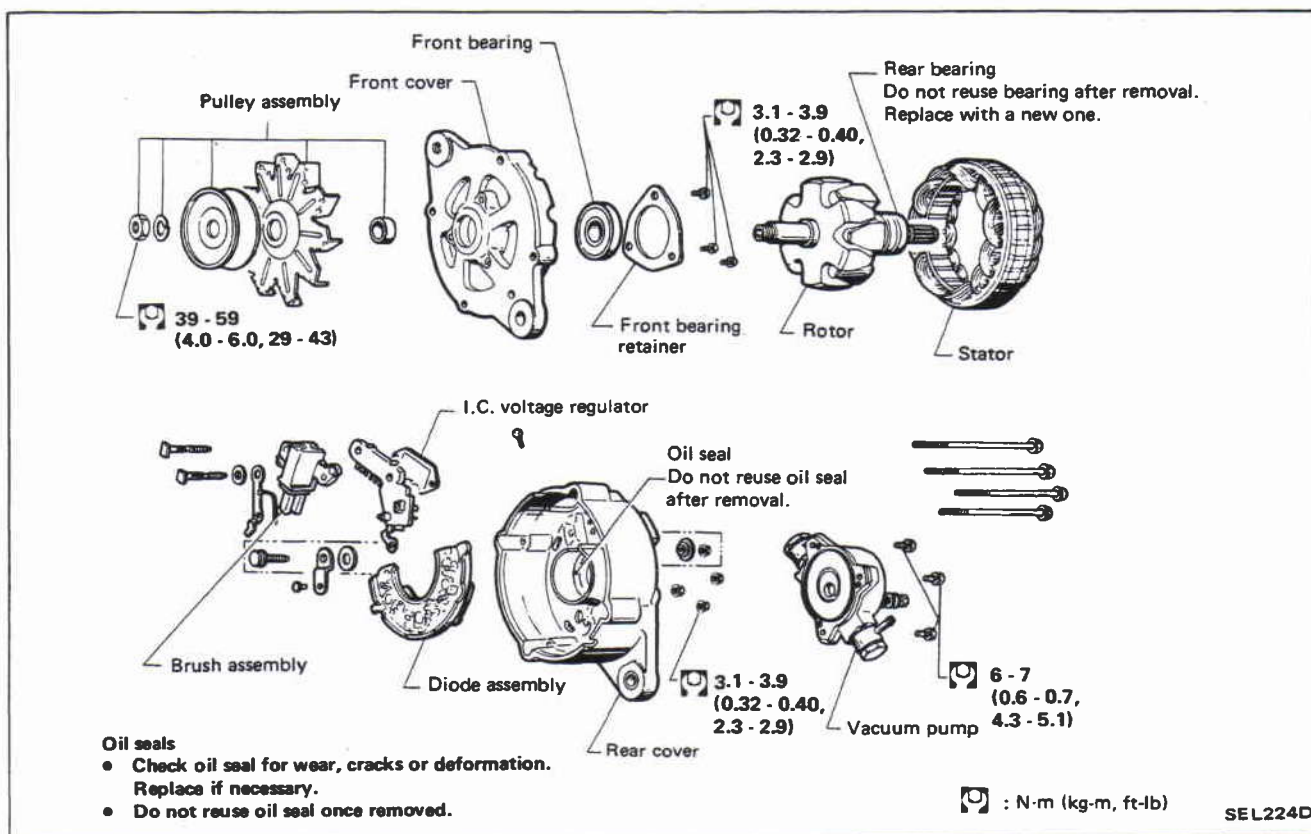
CHARGING SYSTEM —Alternator—

Construction

LR150-218, LR160-165



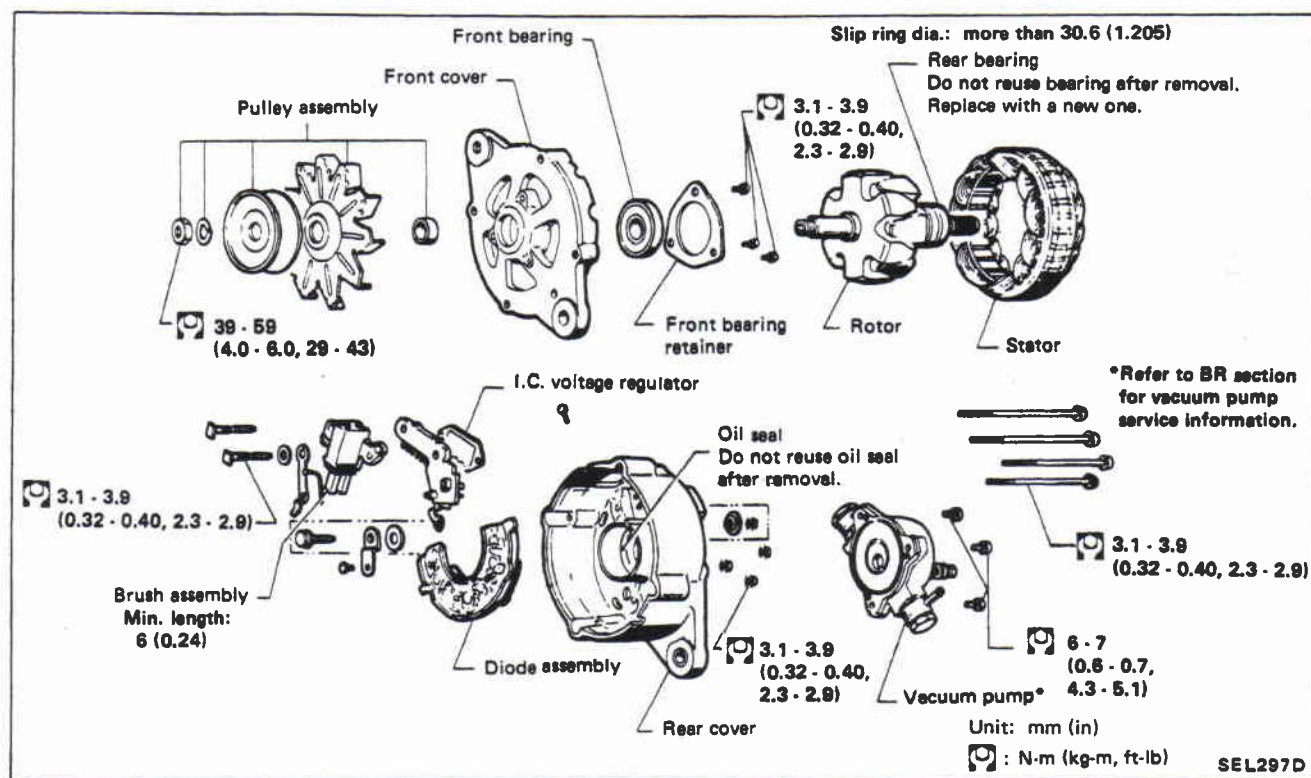
LR160-437, LR160-426E



CHARGING SYSTEM — Alternator —

Construction (Cont'd)

LR150-428E



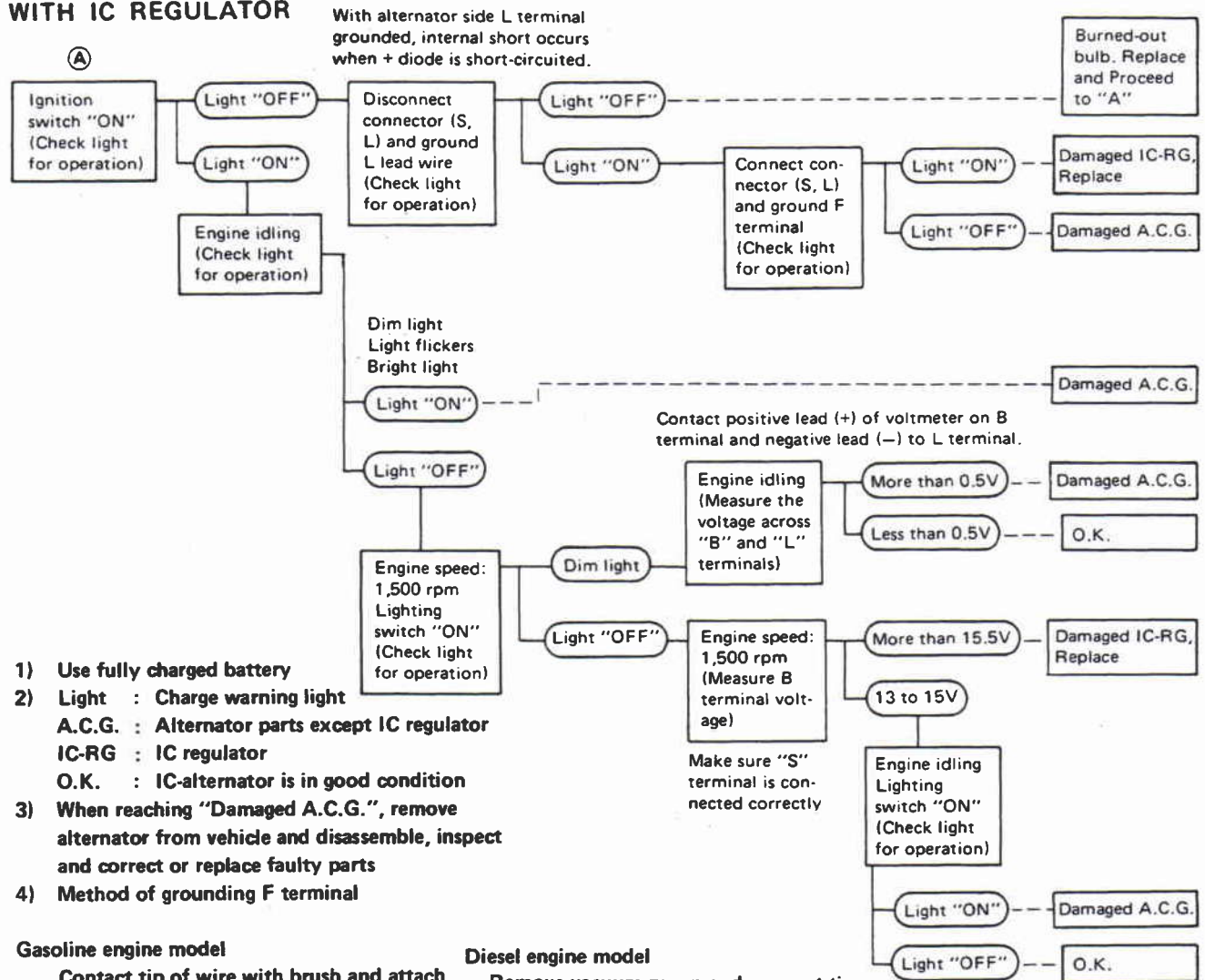
CHARGING SYSTEM — Alternator —

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.

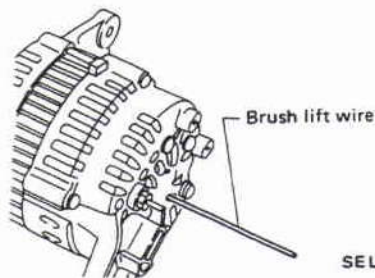
Before starting trouble-shooting, inspect the fusible link.

WITH IC REGULATOR



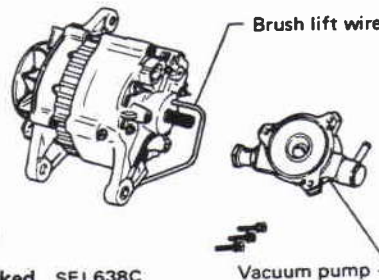
Gasoline engine model

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



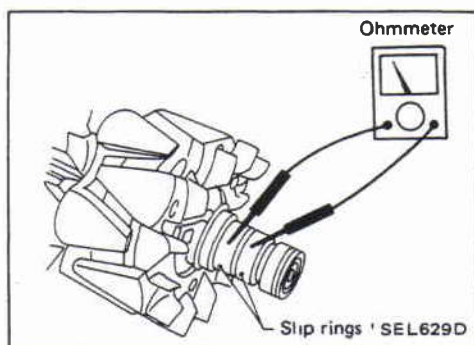
Diesel engine model

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.

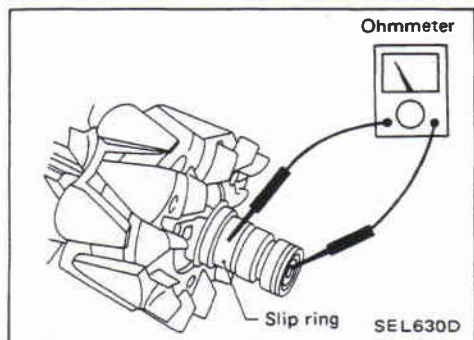
CHARGING SYSTEM —Alternator—



Disassembly

ROTOR SLIP RING CHECK

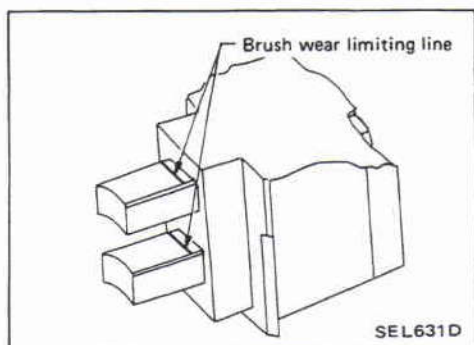
1. Continuity test
 - No continuity ... Replace rotor.



2. Insulator test
 - Continuity exists ... Replace rotor.
3. Check slip ring for wear.

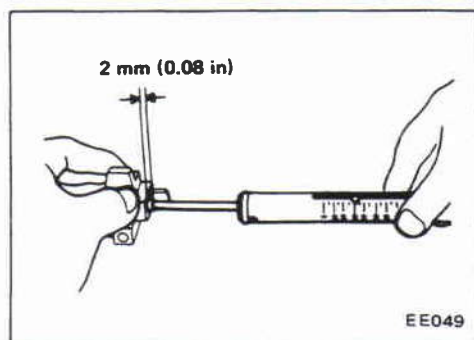
Slip ring minimum outer diameter:

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.



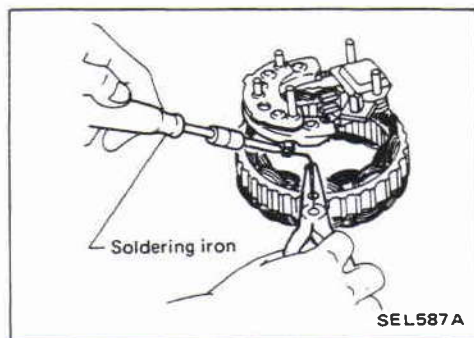
3. Check brush lead wire for damage.
 - Damaged ... Replace.
4. Check brush spring pressure.

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.

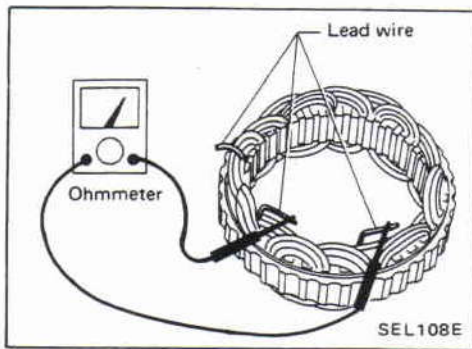
Diodes will be damaged by excessive heat.

CHARGING SYSTEM —Alternator—

Disassembly (Cont'd)

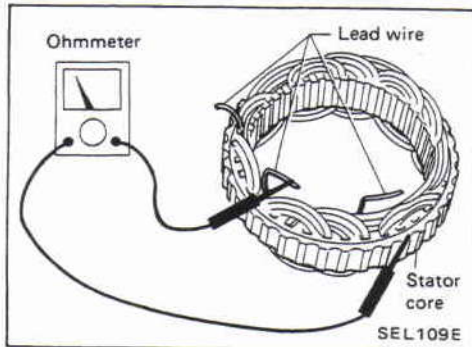
1. Continuity test

- No continuity ... Replace stator.



2. Ground test

- Continuity exists ... Replace stator.



CHARGING SYSTEM —Alternator—

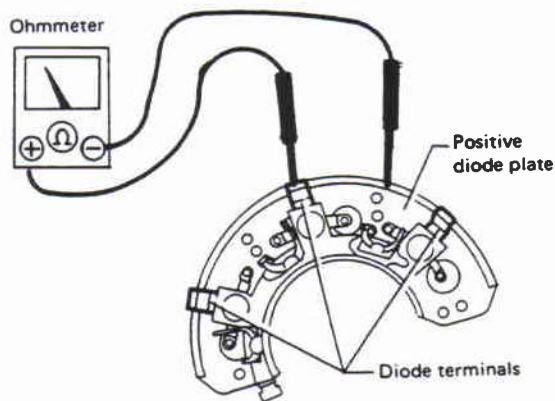
Diode Check

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.

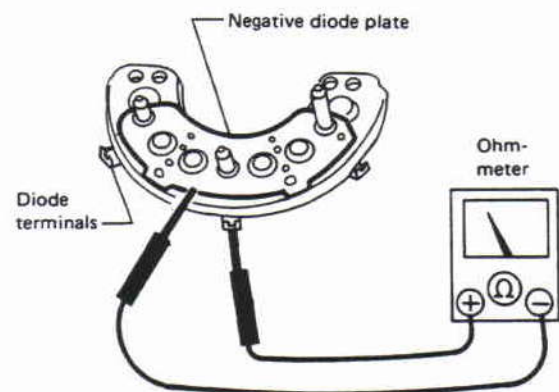
	Ohmmeter probes		Continuity
	Positive ⊕	Negative ⊖	
Diodes check (Positive side)	Positive diode plate	Diode terminals	Yes
	Diode terminals	Positive diode plate	No
Diodes check (Negative side)	Negative diode plate	Diode terminals	No
	Diode terminals	Negative diode plate	Yes

Positive side

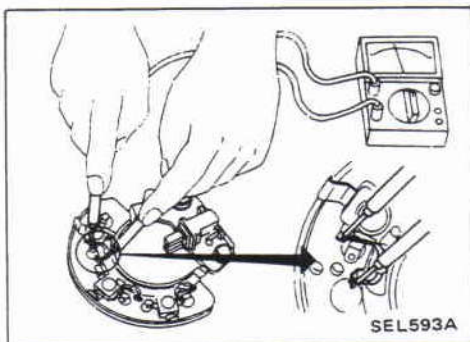


SEL319E

Negative side



SEL320E



SUB-DIODES

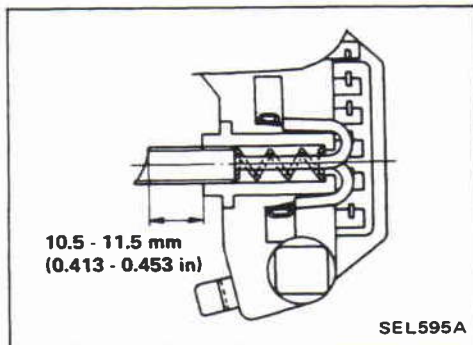
- Attach ohmmeter's probe to each end of diode to check for continuity.
- Continuity is N.G. ... Replace diode assembly.

CHARGING SYSTEM —Alternator—

Assembly

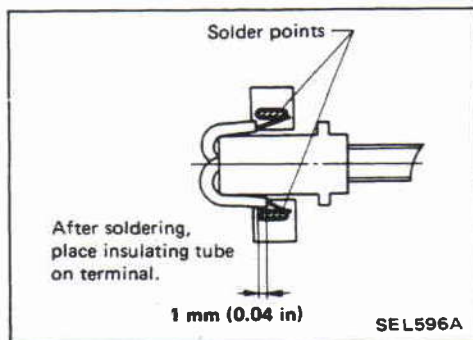
Carefully observe the following instructions.

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



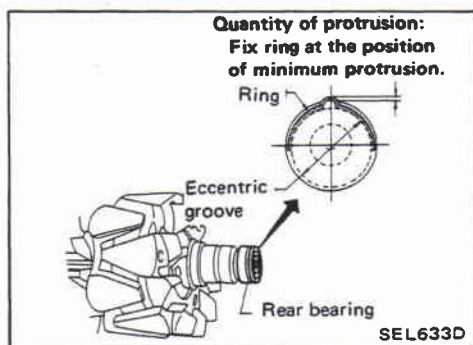
WHEN SOLDERING BRUSH LEAD WIRE

- (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

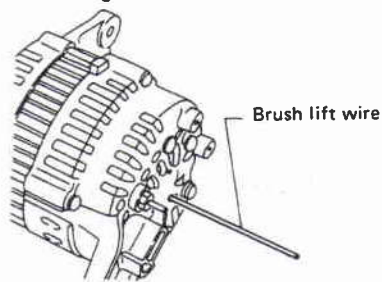
- (1) Before installing front cover with pulley and rotor with rear cover, push brush up with fingers and retain brush, by inserting brush lift into brush lift hole from outside.

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.

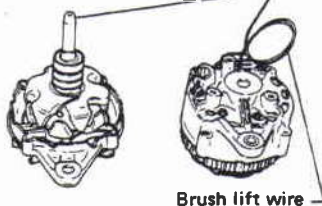
Gasoline engine model



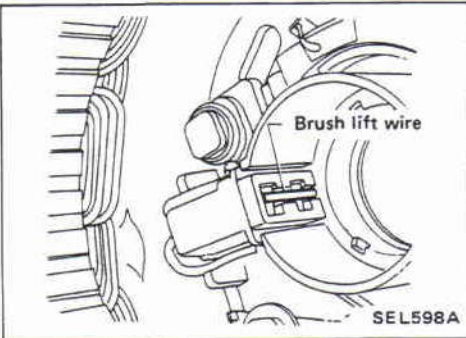
SEL766D

Diesel engine model

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



SEL642C



SEL598A

CHARGING SYSTEM —Alternator—

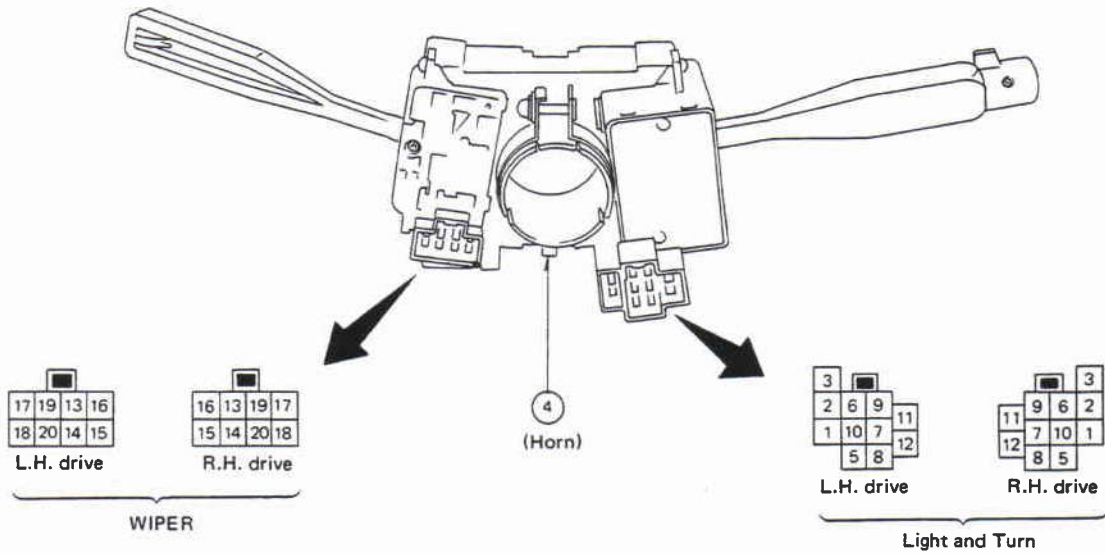
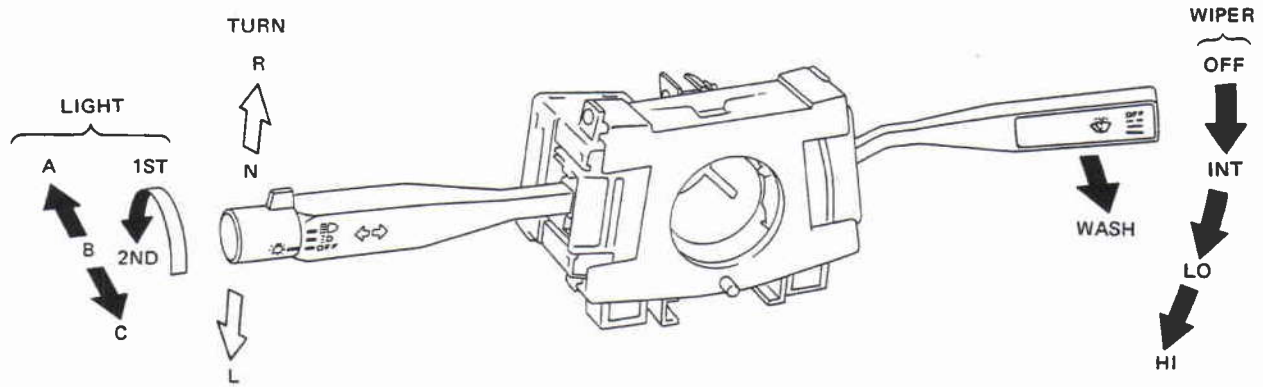
Service Data and Specifications (S.D.S.)

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									

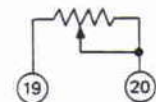
Without intermittent wiper

	OFF	LO	HI	WASH
13				
14				
15				
16				
17				
18				

With intermittent wiper

	OFF	INT	LO	HI	WASH
13					
14					
15					
16					
17					
18					

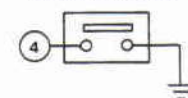
INTERMITTENT WIPER VOLUME



TURN SIGNAL SWITCH

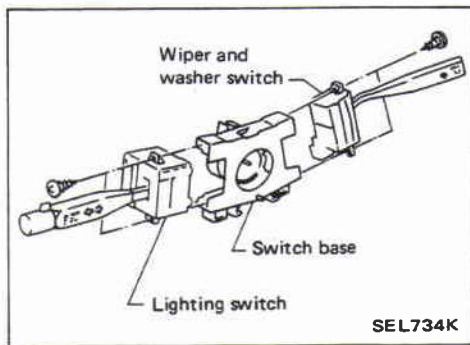
	R	N	L
1			
2			
3			

HORN SWITCH



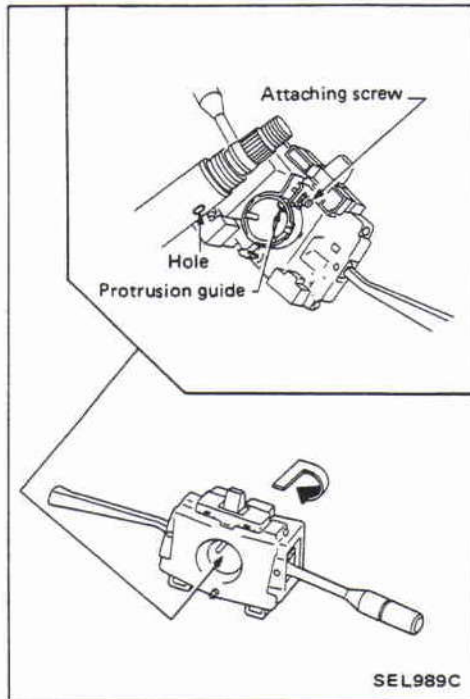
SEL813K

COMBINATION SWITCH



Replacement

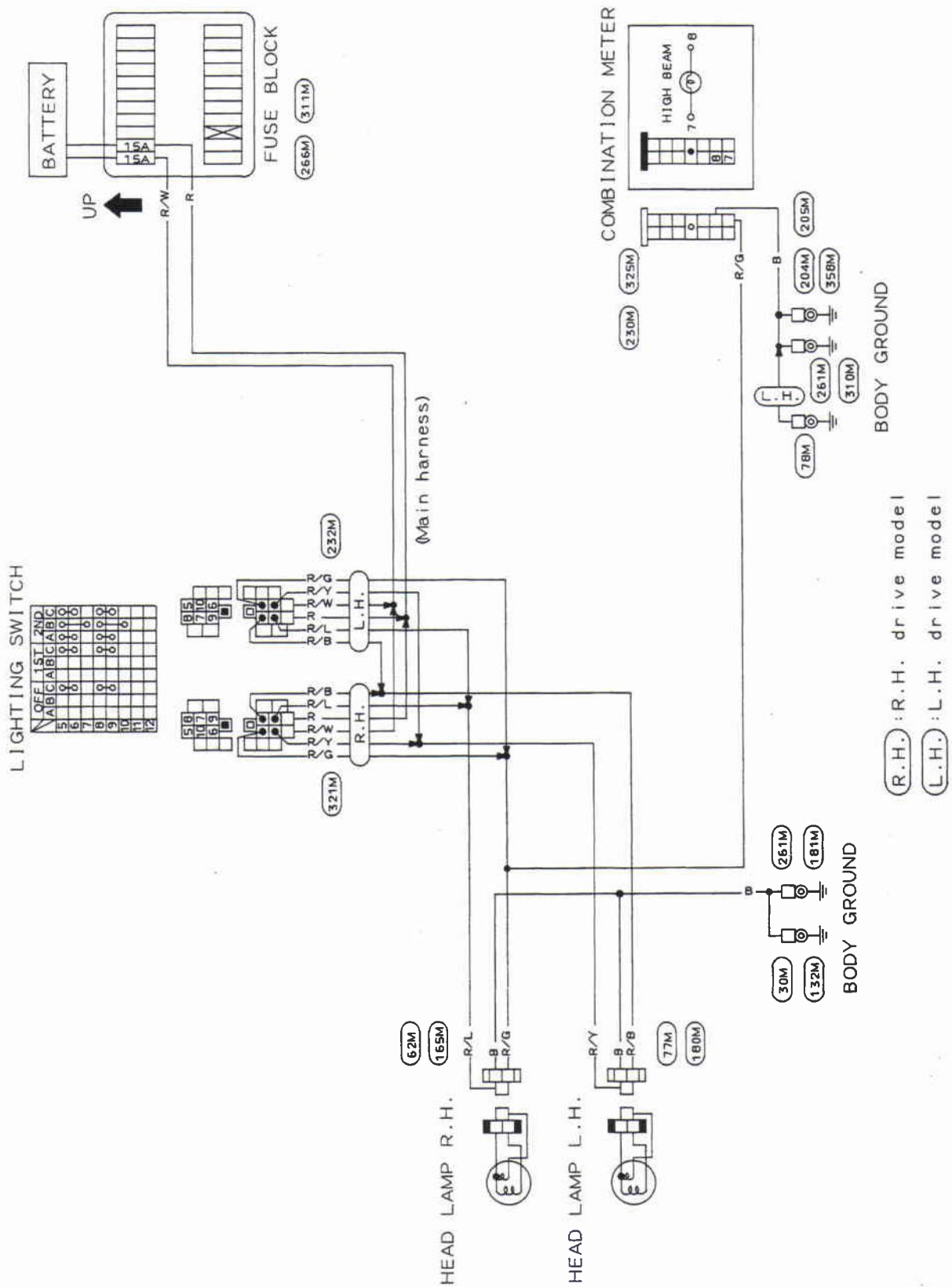
- Lighting switch and wiper & washer switch can be replaced without removing combination switch hose.



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

HEADLAMP

Wiring Diagram



HEADLAMP

Aiming Adjustment

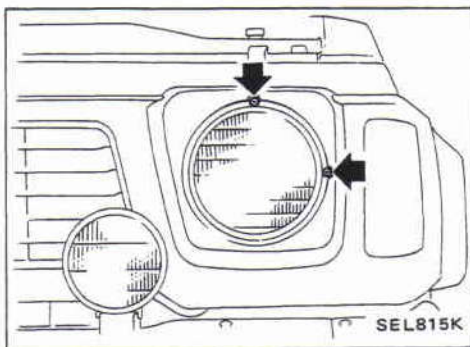
When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. For operating instructions of any aimer, it should be in good repair, calibrated and used according to respective operation manuals supplied with the unit.

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

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

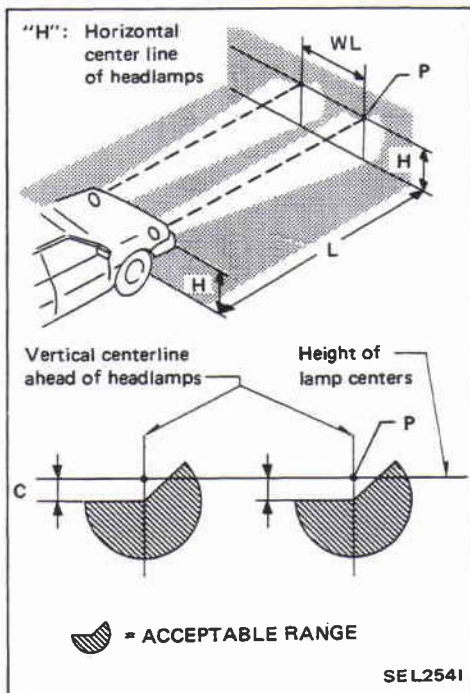
CAUTION:

- 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.

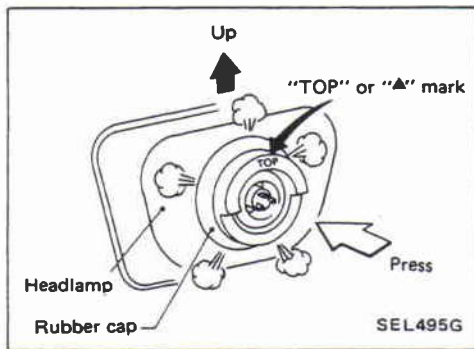
"H": Horizontal center line of headlamps

"WL": Distance between each headlamp center

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

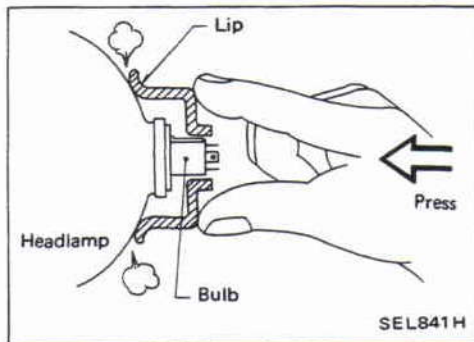
"C": 50 mm (1.97 in)

HEADLAMP



Installing Headlamp Rubber Cap

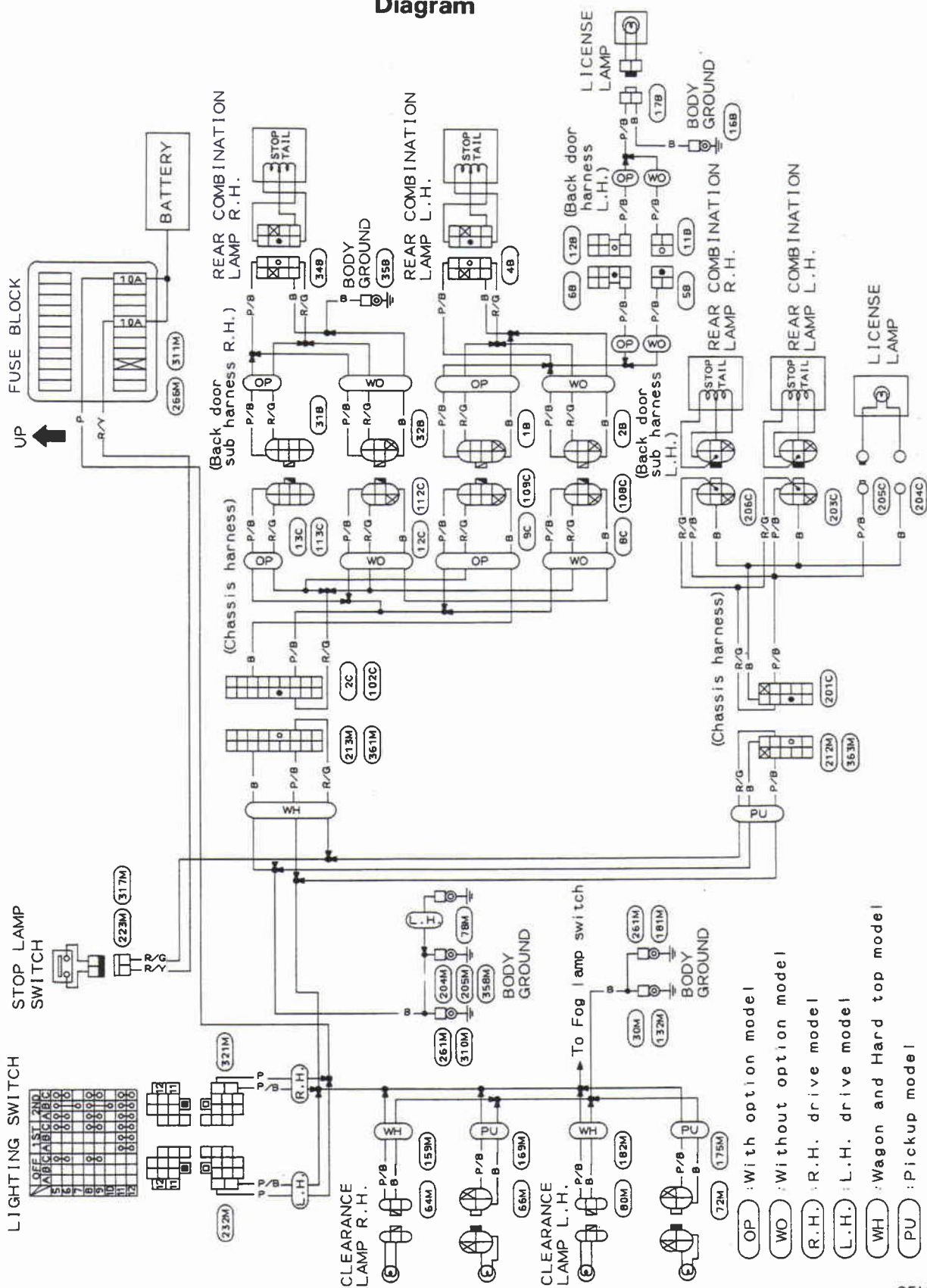
When installing the rubber cap, set the "TOP" or "▲" mark so it is facing up.



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

EXTERIOR LAMP

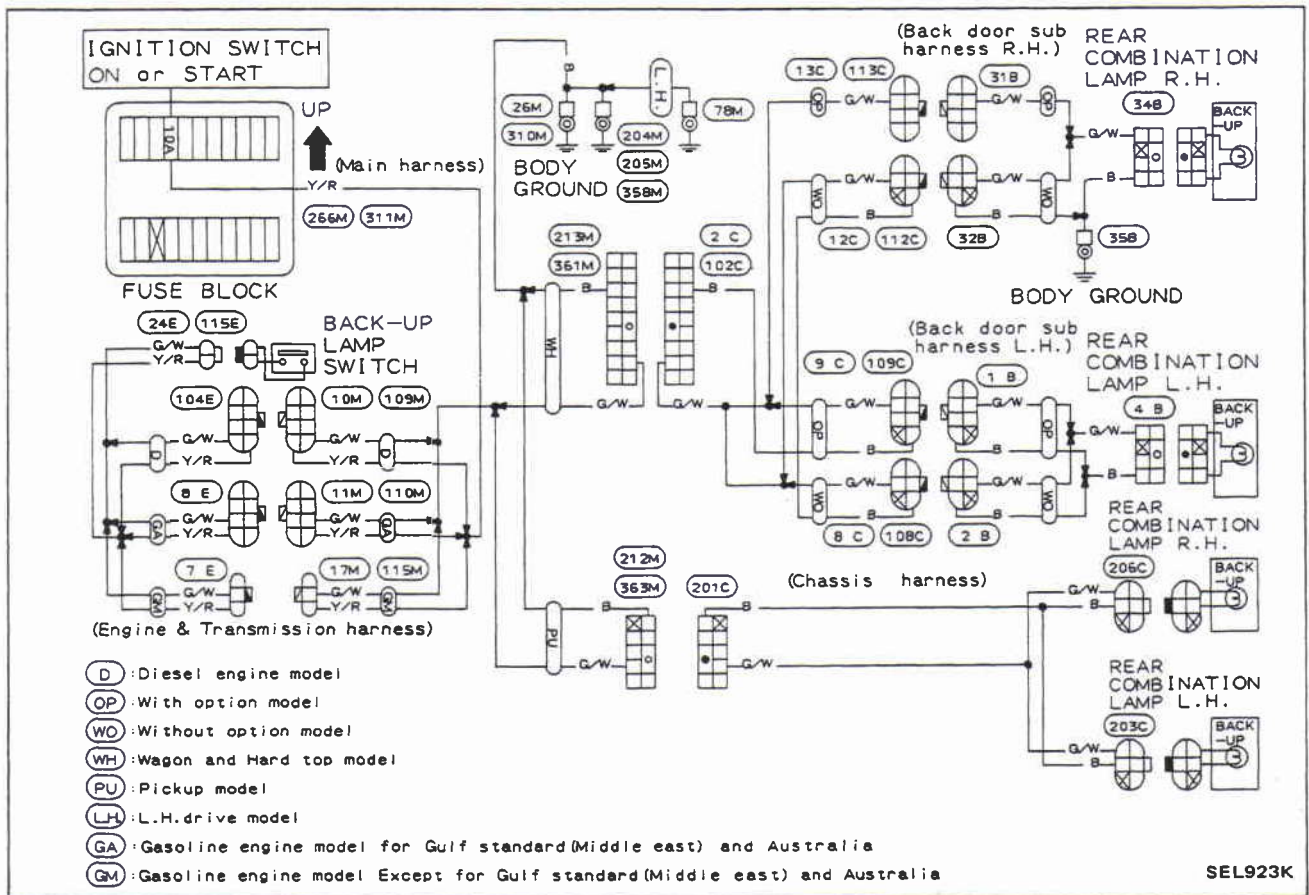
Clearance, License, Tail and Stop Lamps/Wiring Diagram



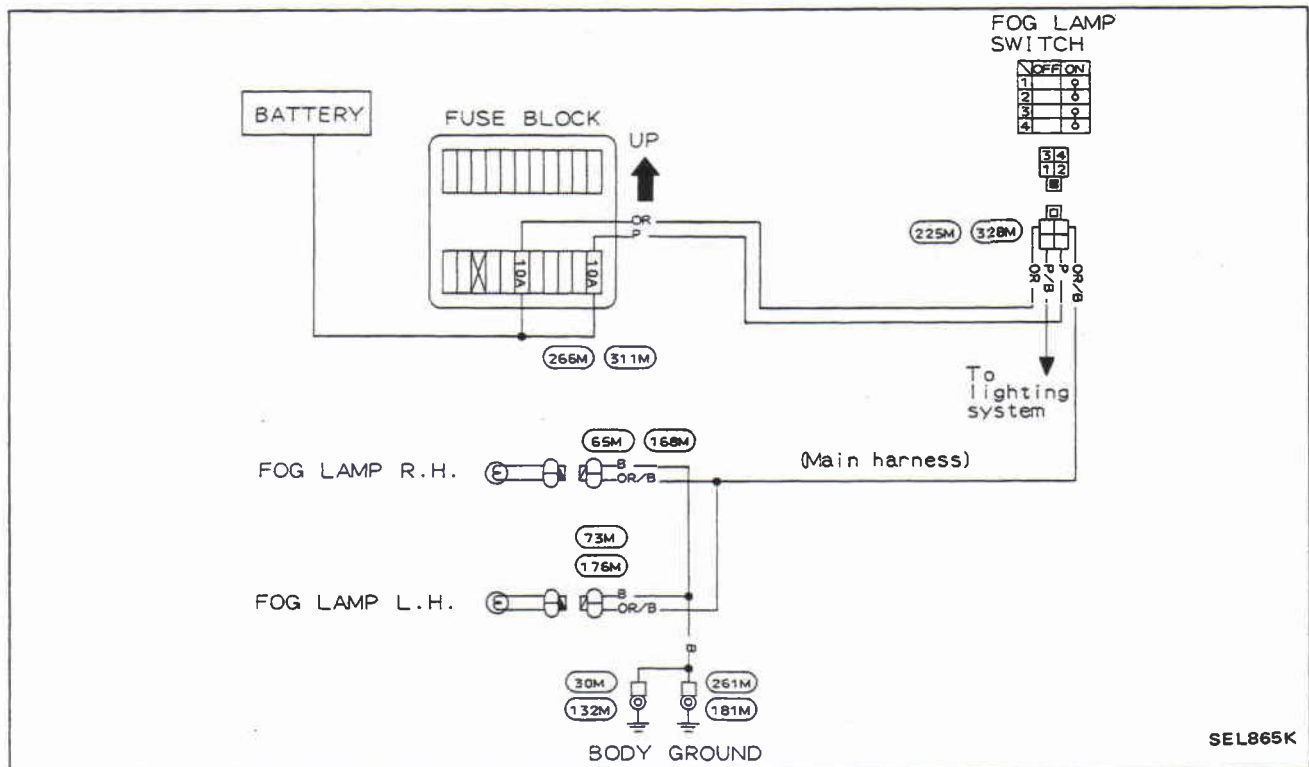
SEL864K

EXTERIOR LAMP

Back-up Lamp/Wiring Diagram

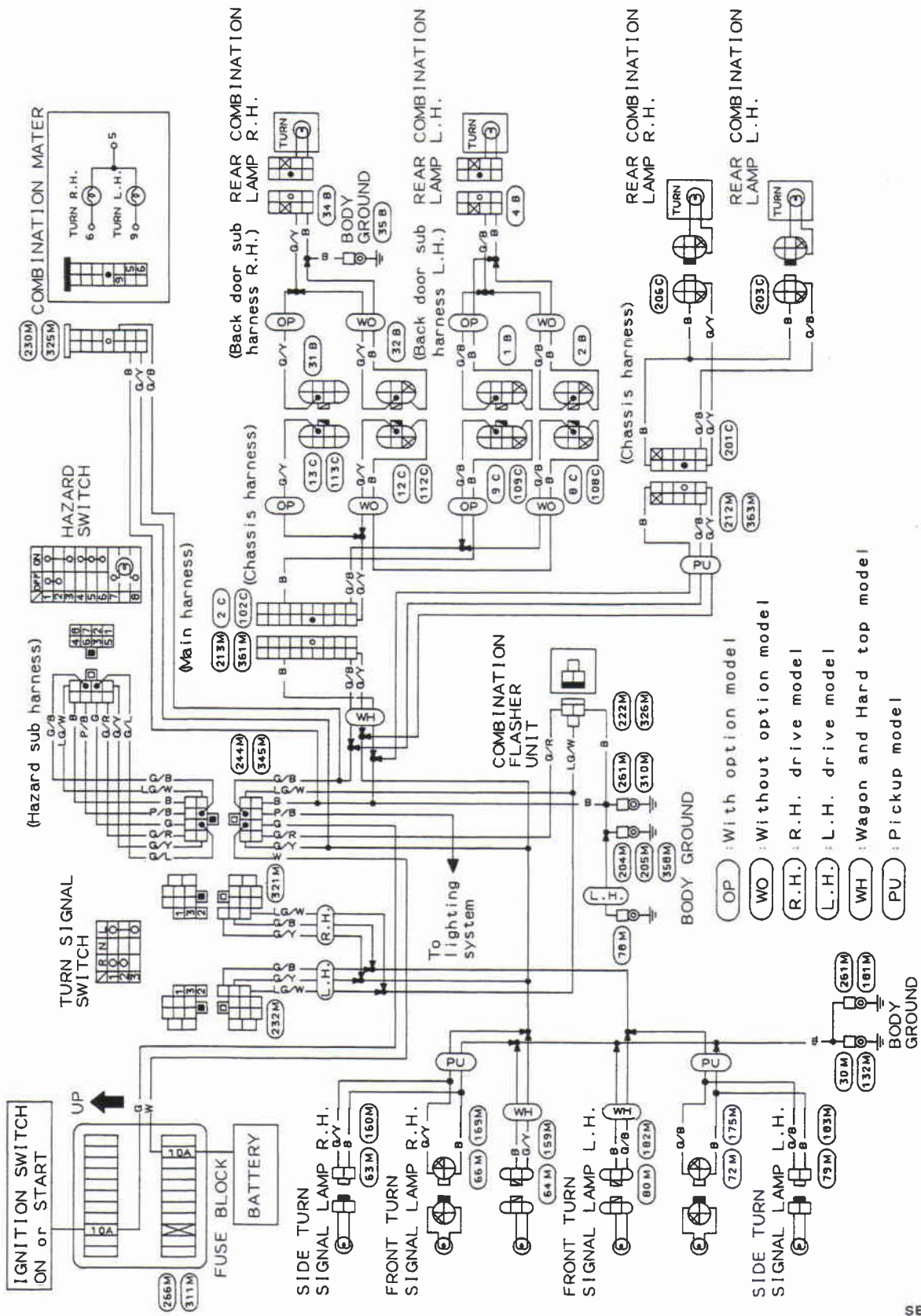


Fog Lamp/Wiring Diagram



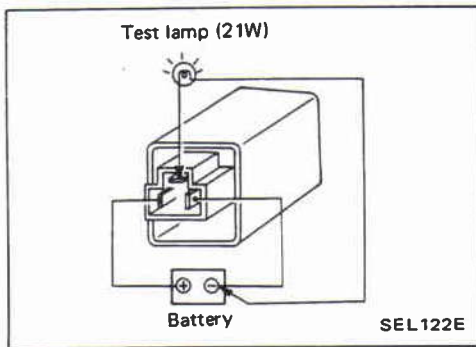
EXTERIOR LAMP

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

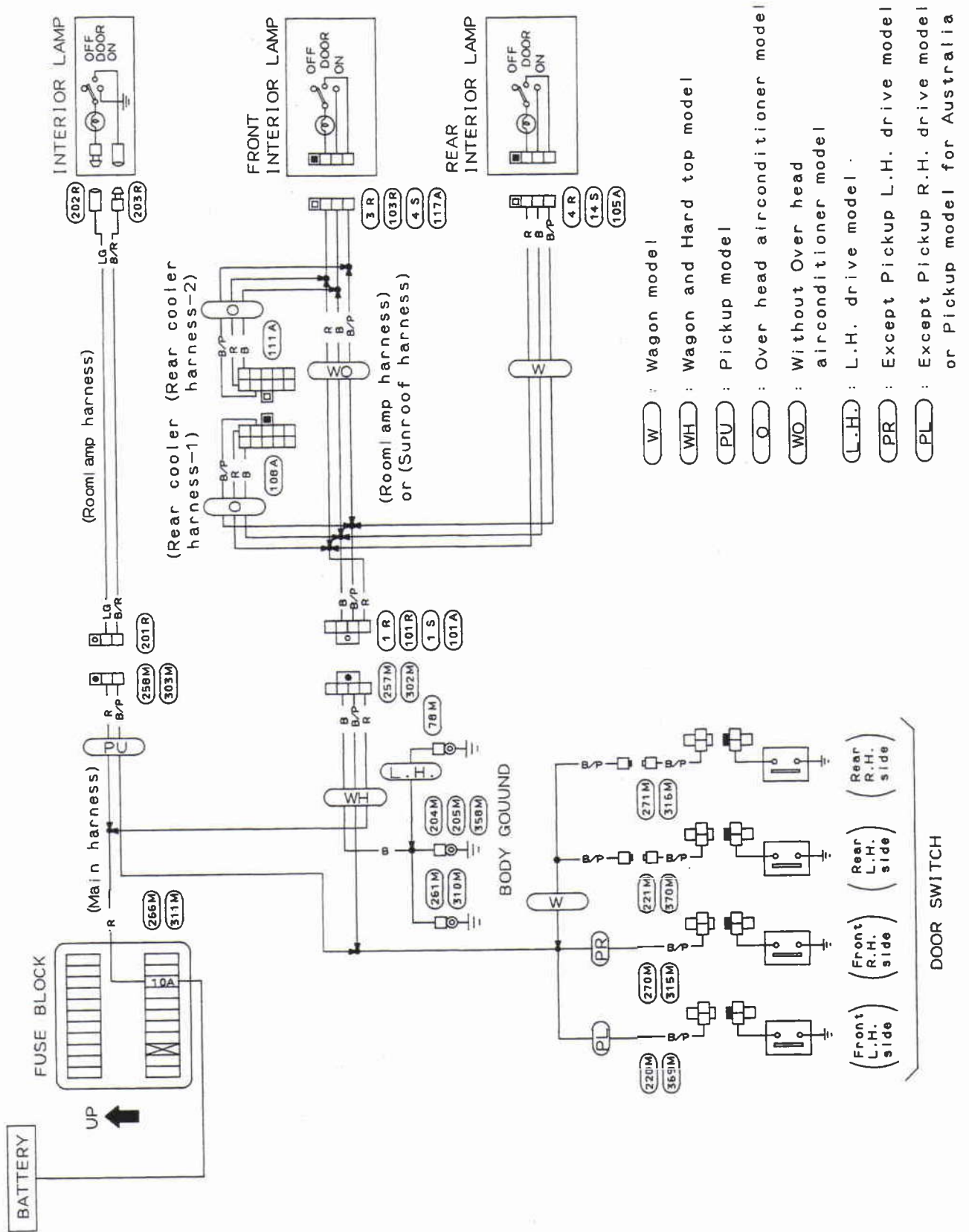
	Wattage (W)
Front turn signal light	21
Front clearance light	5
Side turn signal light (Pickup)	5
Rear combination light	
Turn signal	21
Stop/Tail	21/5
Back-up	21
License plate light	10
Interior light	10
Fog light (H3 type halogen)	35

Illumination/Wiring Diagram



INTERIOR LAMP

Interior Lamp/Wiring Diagram

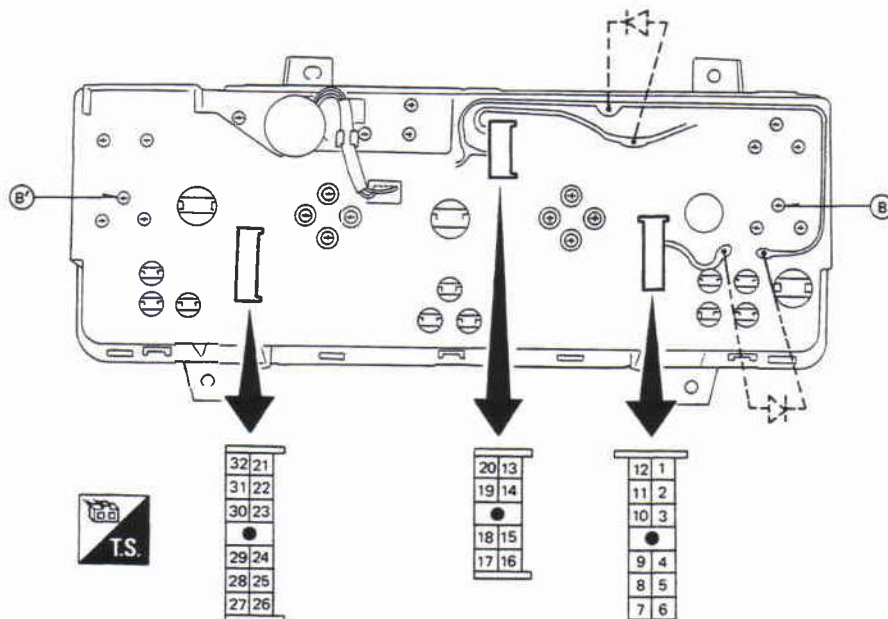
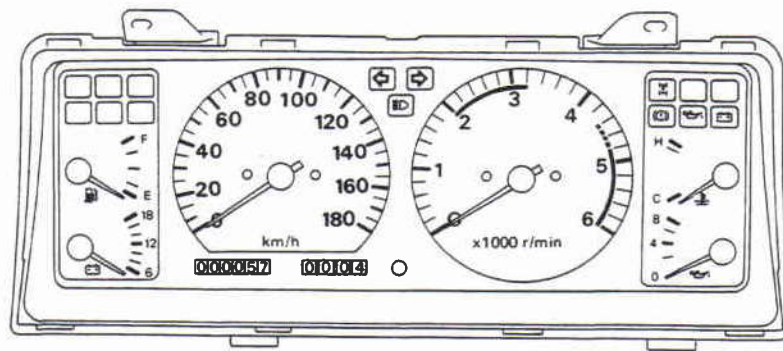


SEL868K

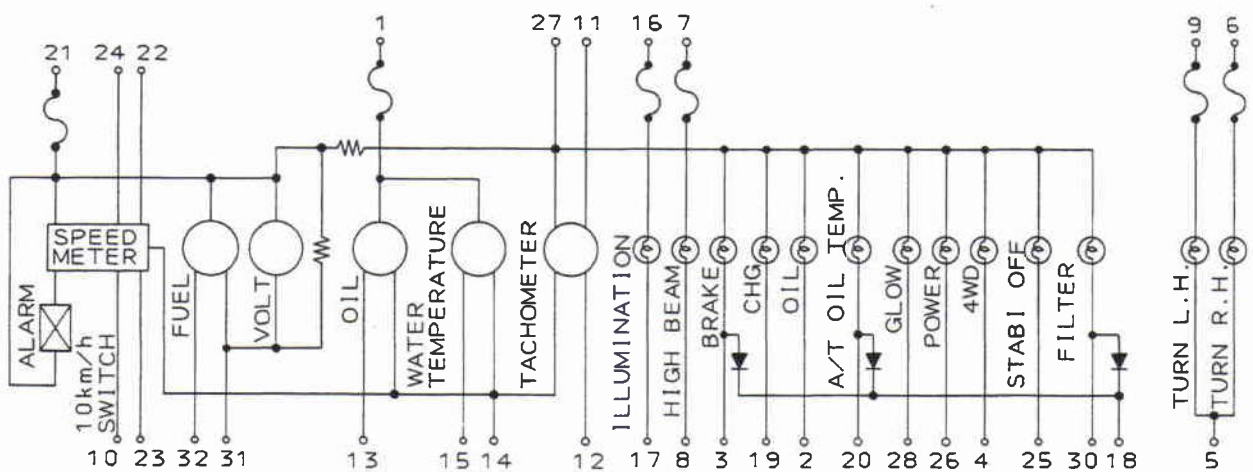
METER AND GAUGES

Combination Meter

TYPE A



SEL816K

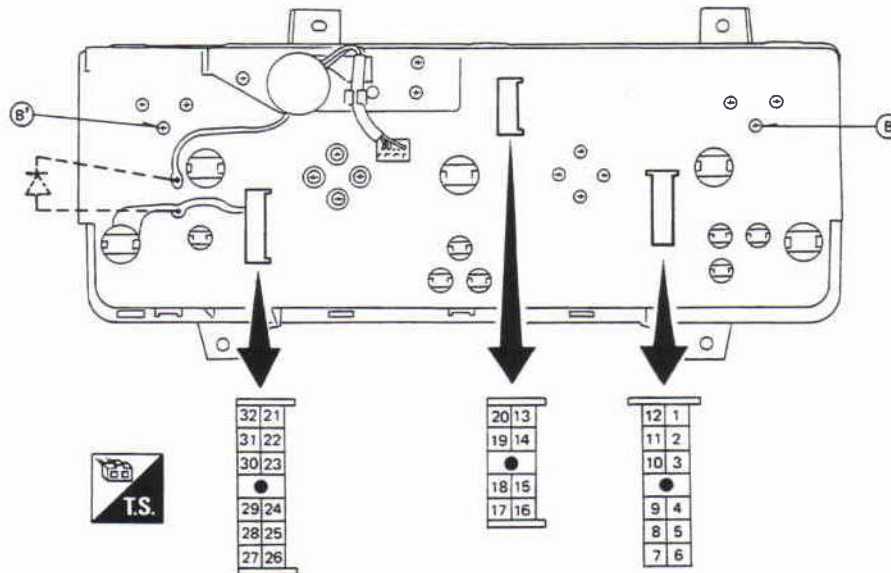
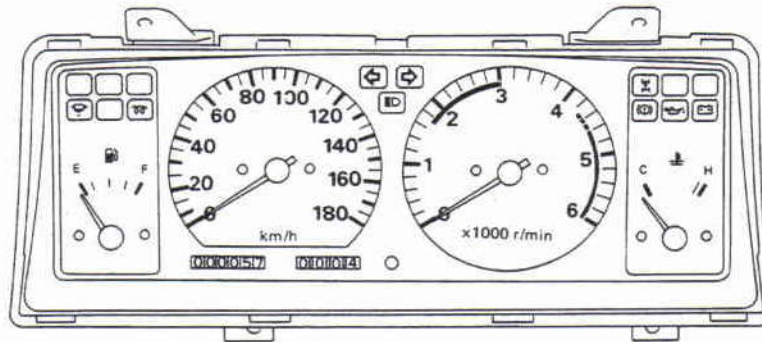


SEL890K

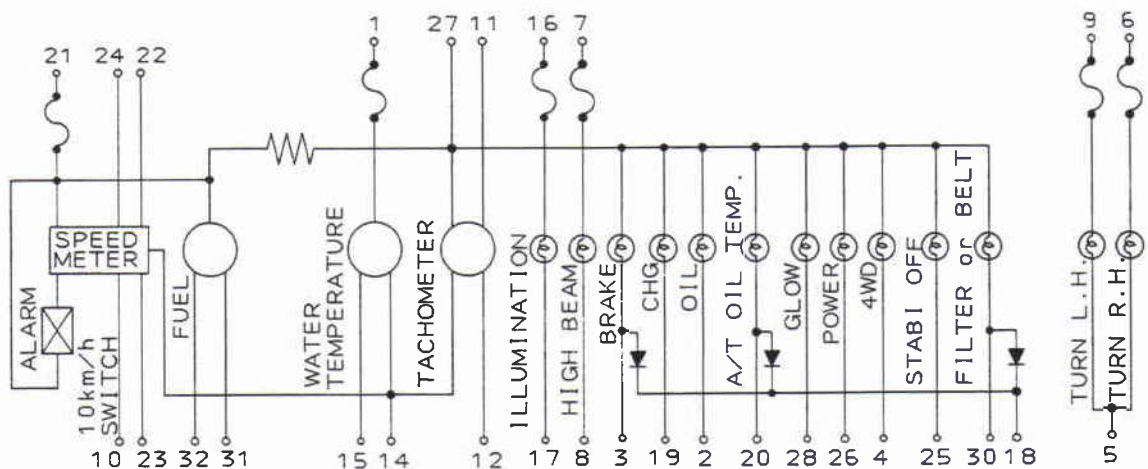
METER AND GAUGES

Combination Meter (Cont'd)

TYPE B



SEL817K

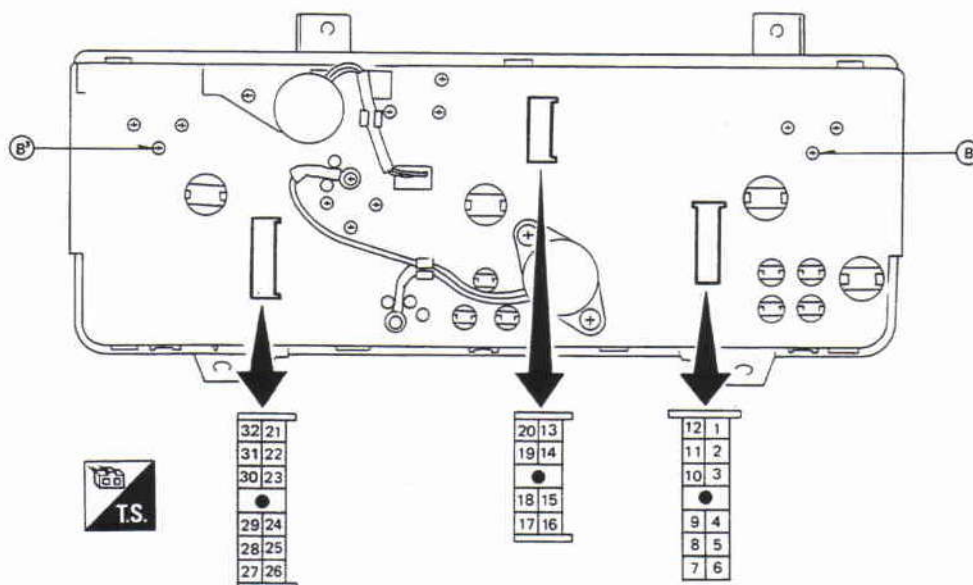
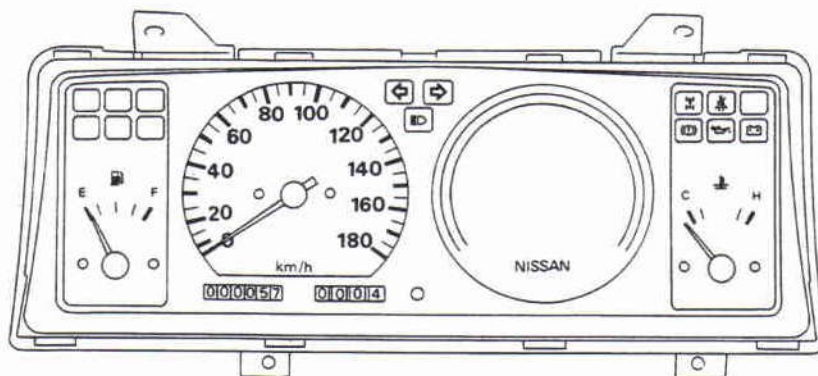


SEL889K

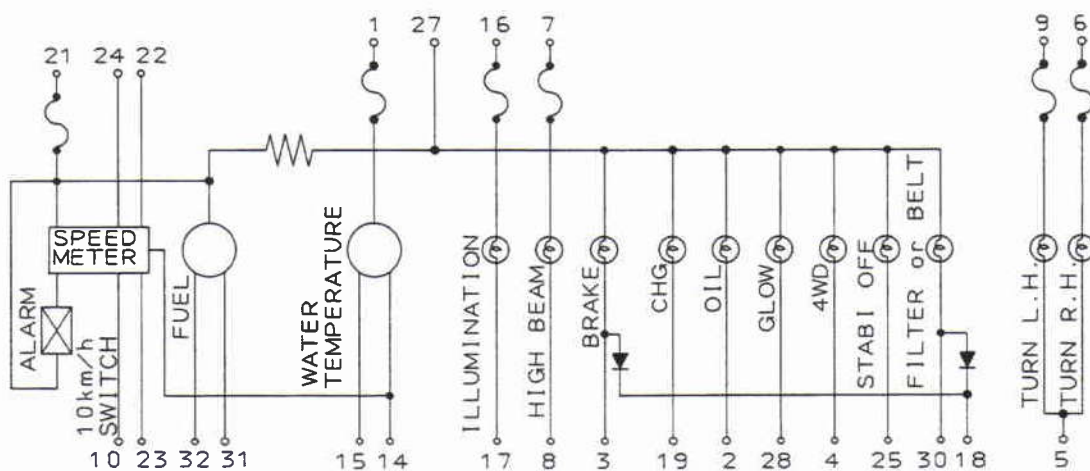
METER AND GAUGES

Combination Meter (Cont'd)

TYPE C



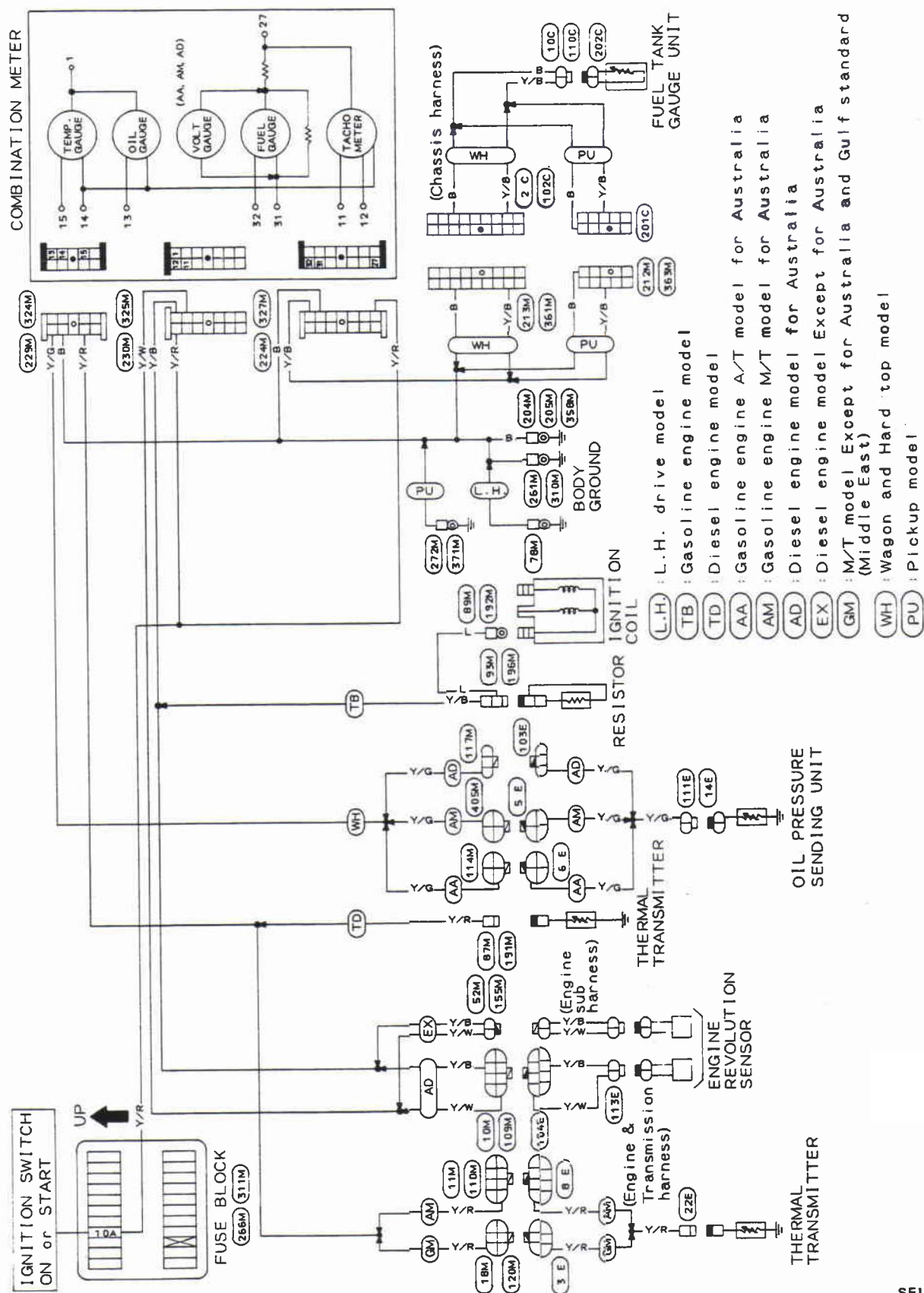
SEL818K



SEL869K

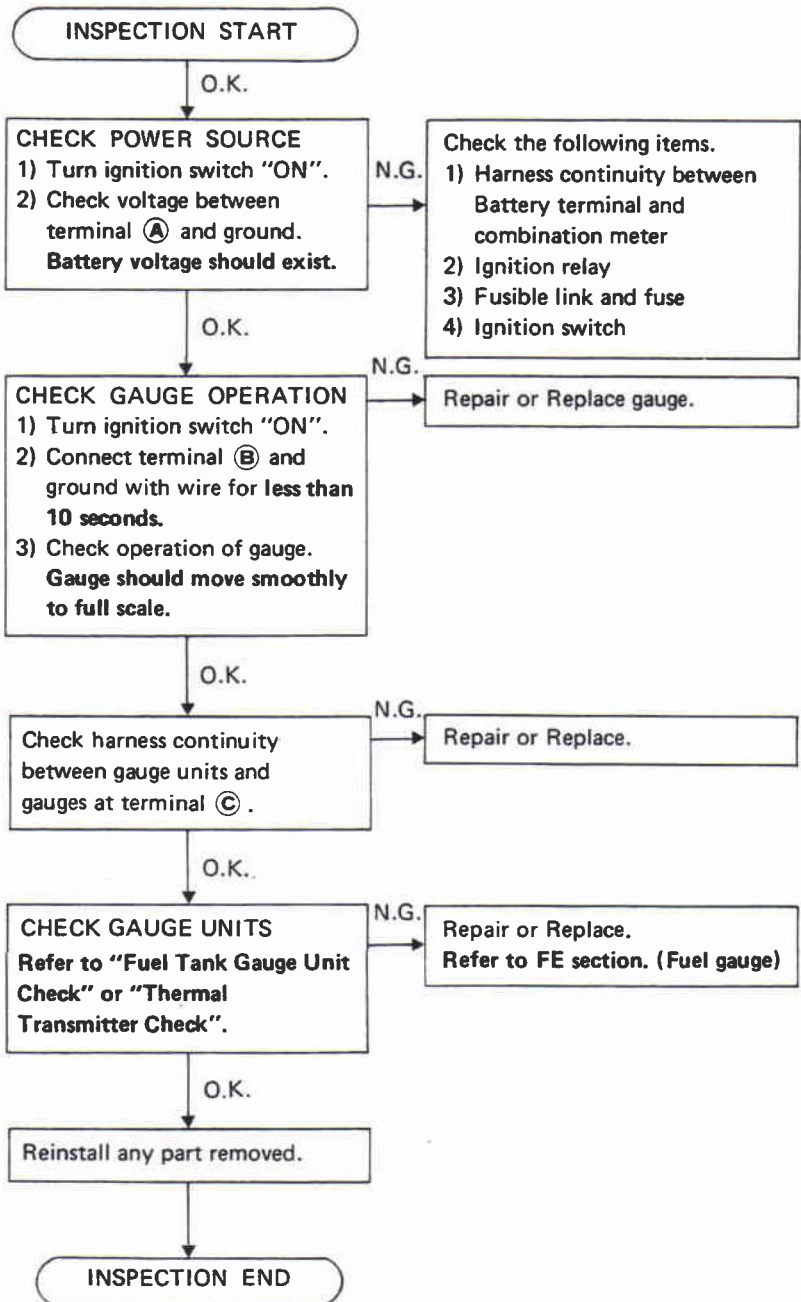
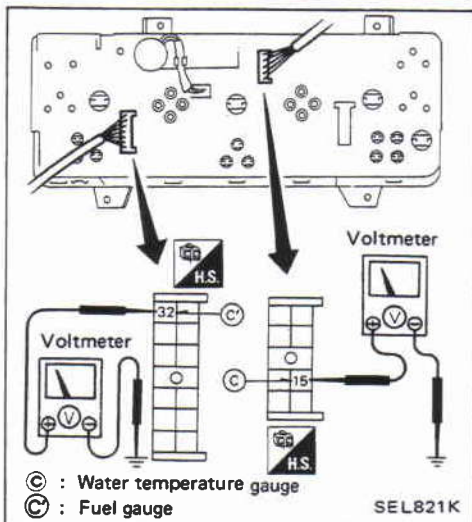
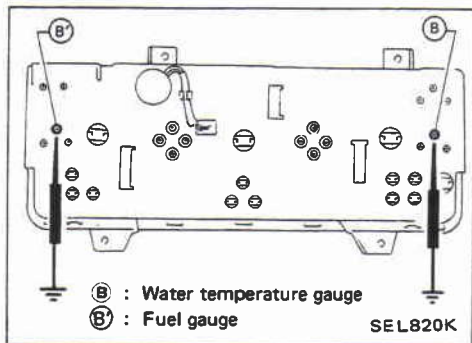
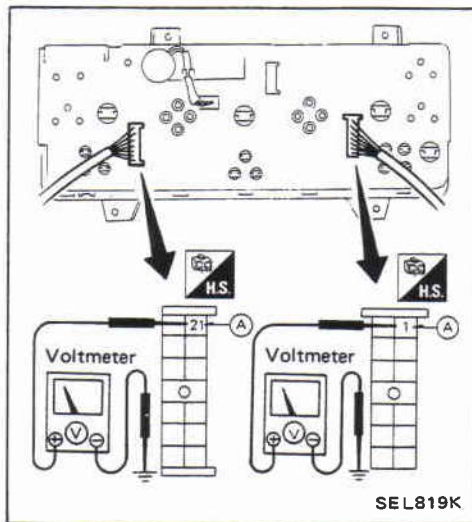
METER AND GAUGES

Wiring Diagram



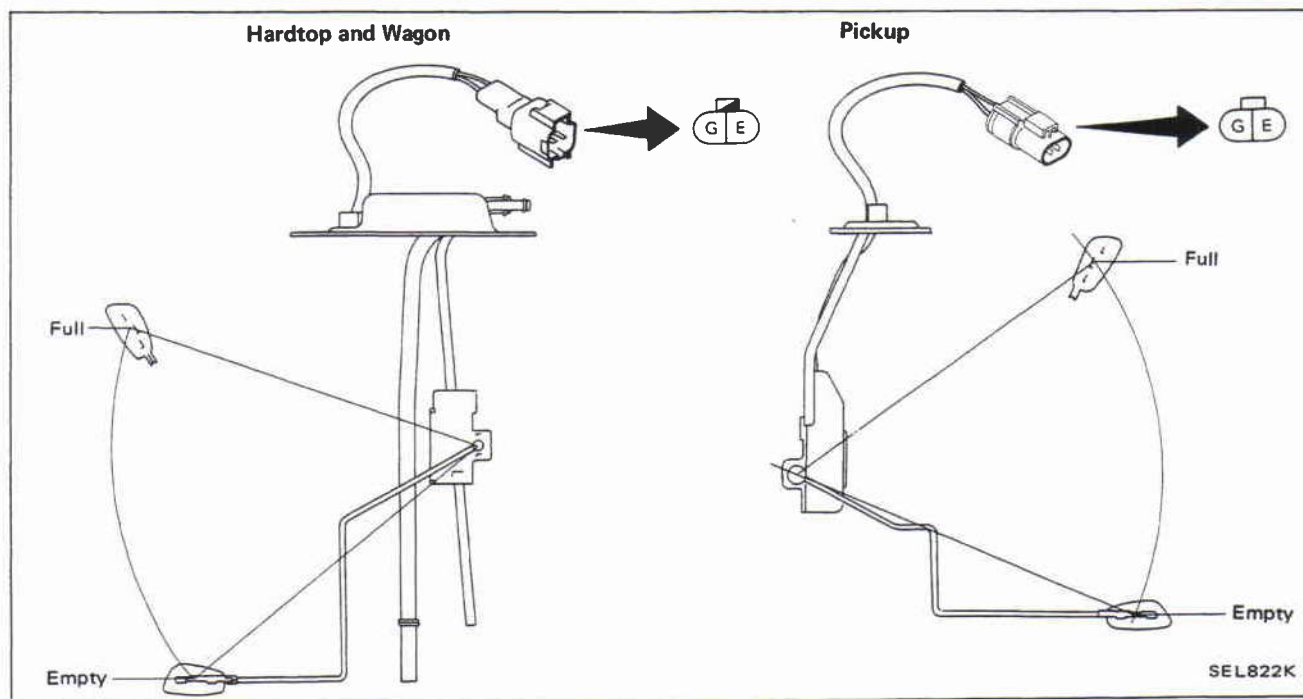
METER AND GAUGES

Inspection/Fuel Gauge and Water Temperature Gauge

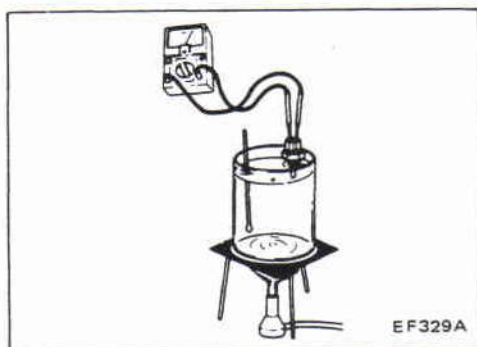


METER AND GAUGES

Fuel Tank Gauge Unit Check



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

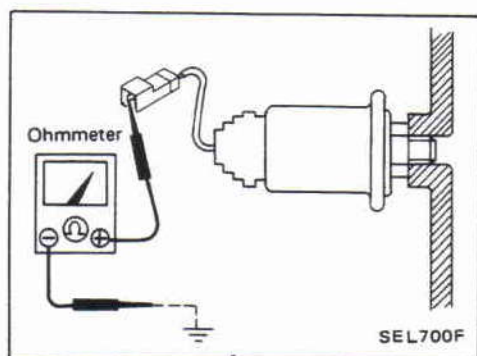


Thermal Transmitter Check

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

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

METER AND GAUGES



Oil Pressure Sending Unit Check

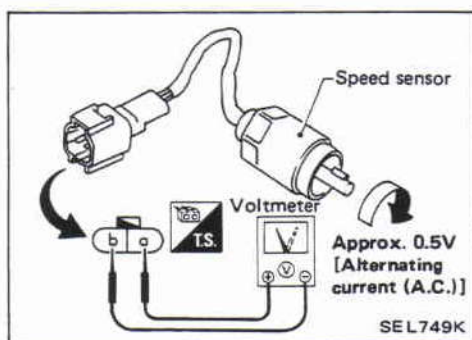
Check the resistance between the terminals of oil pressure sending unit and body ground.

Oil pressure kPa (bar, kg/cm ² , 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 ² , 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

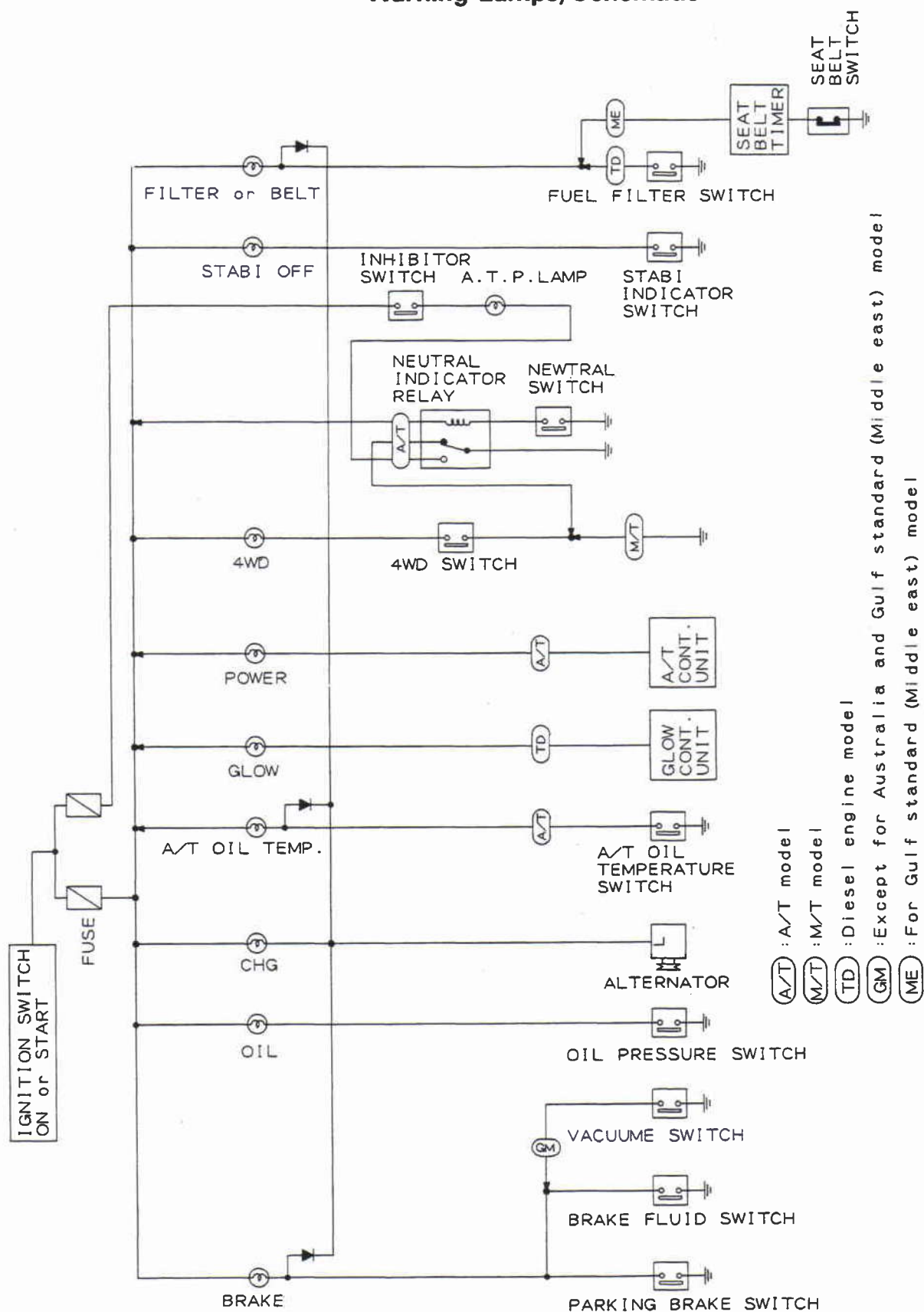


Speed Sensor Signal Check

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

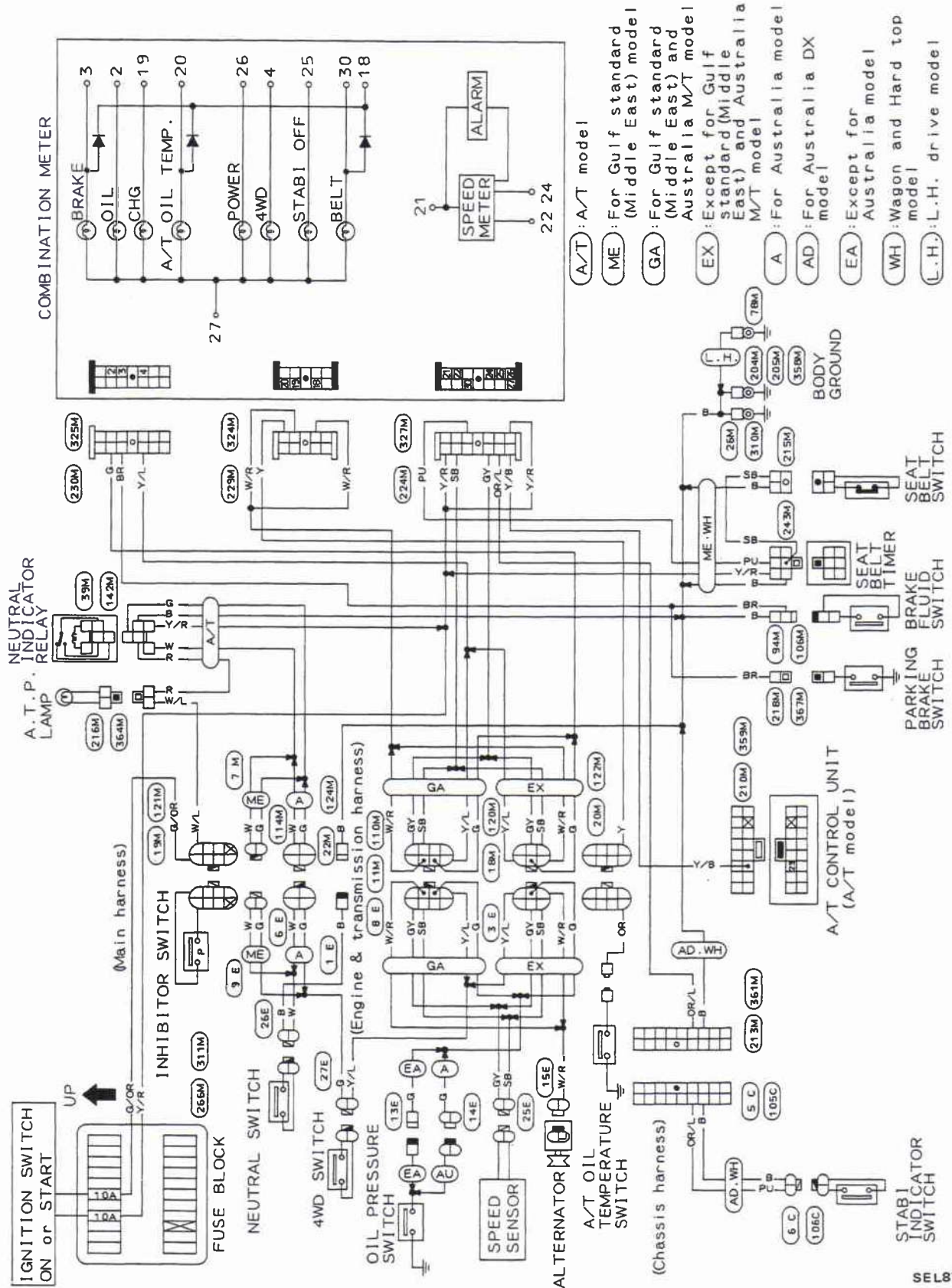
Warning Lamps/Schematic

**SEL871K**

WARNING LAMPS AND CHIME

Warning Lamps/Wiring Diagram

GASOLINE ENGINE MODEL

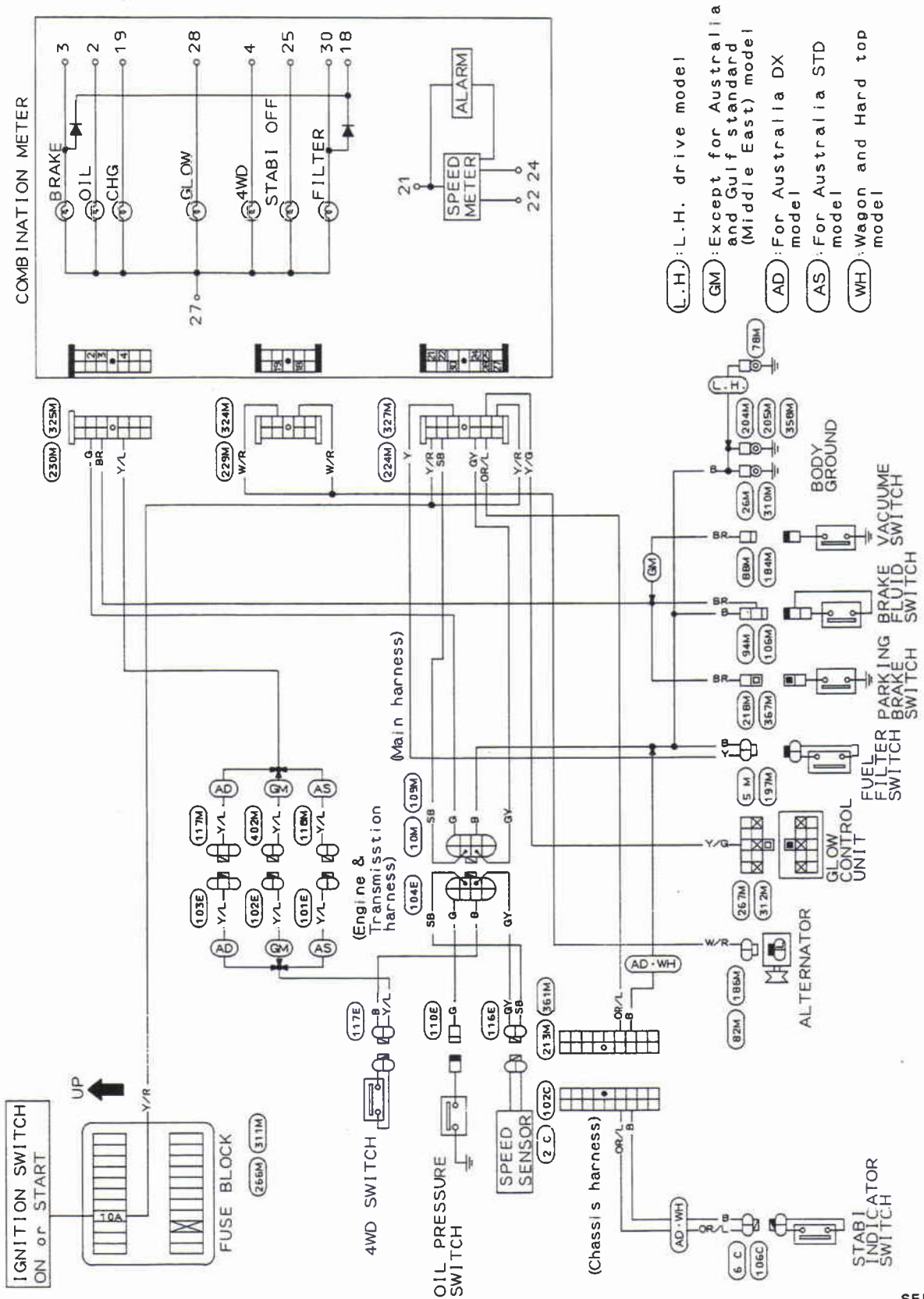


SEL872K

WARNING LAMPS AND CHIME

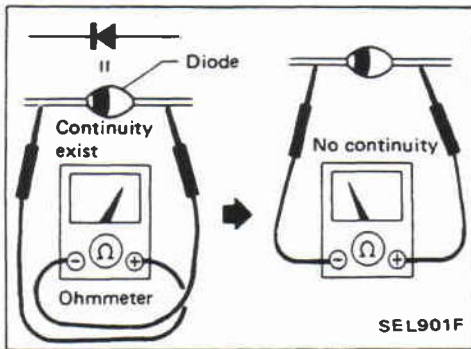
Warning Lamps/Wiring Diagram (Cont'd)

DIESEL ENGINE MODEL



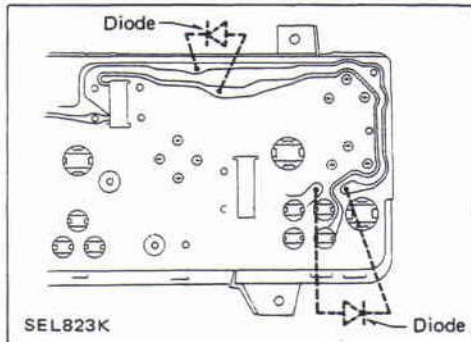
SEL873K

WARNING LAMPS AND CHIME

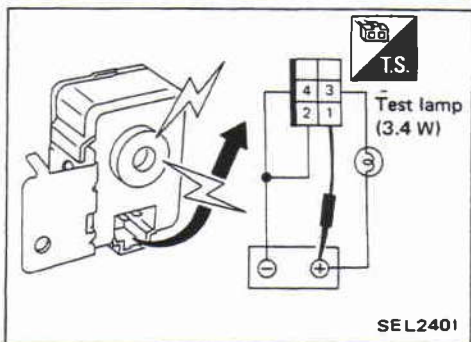


Diode Check

- 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

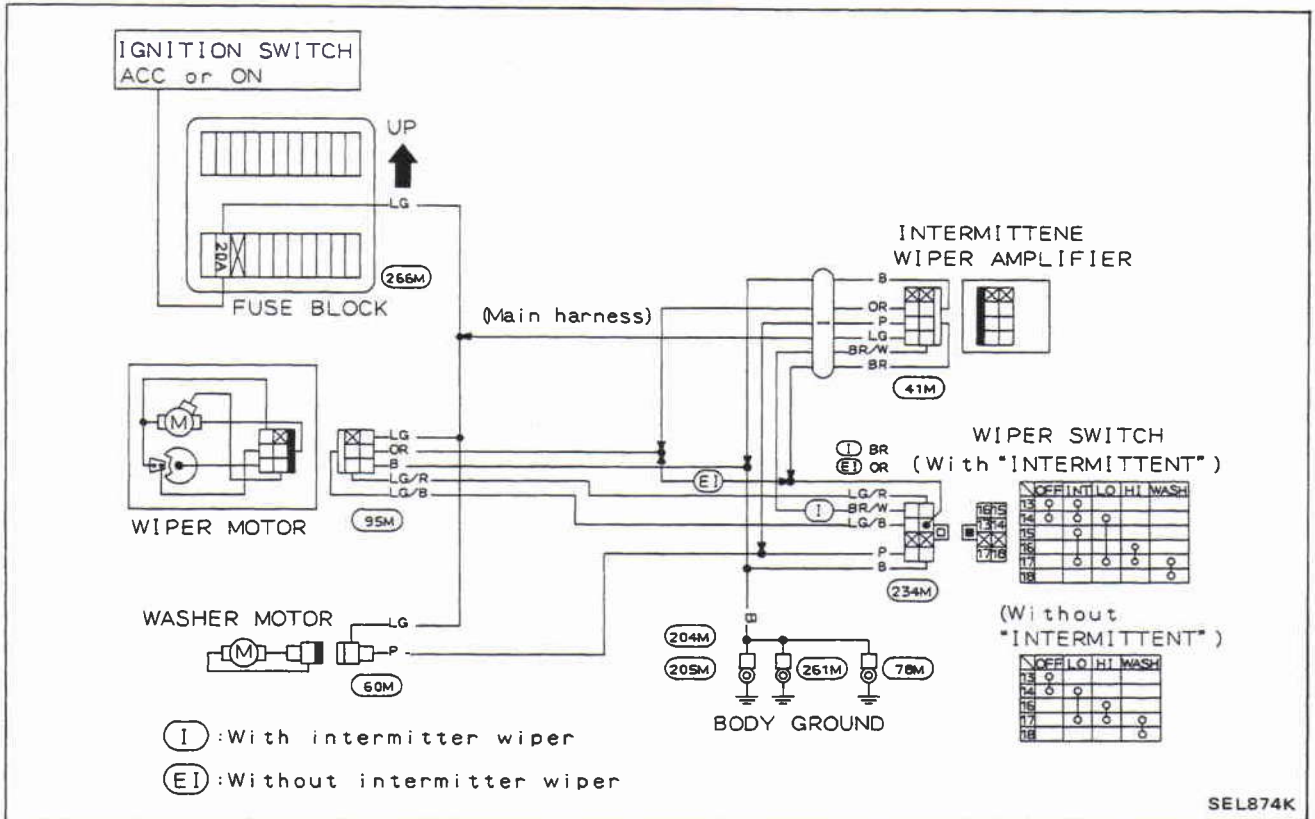
Connect as shown in the figure to the left.

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

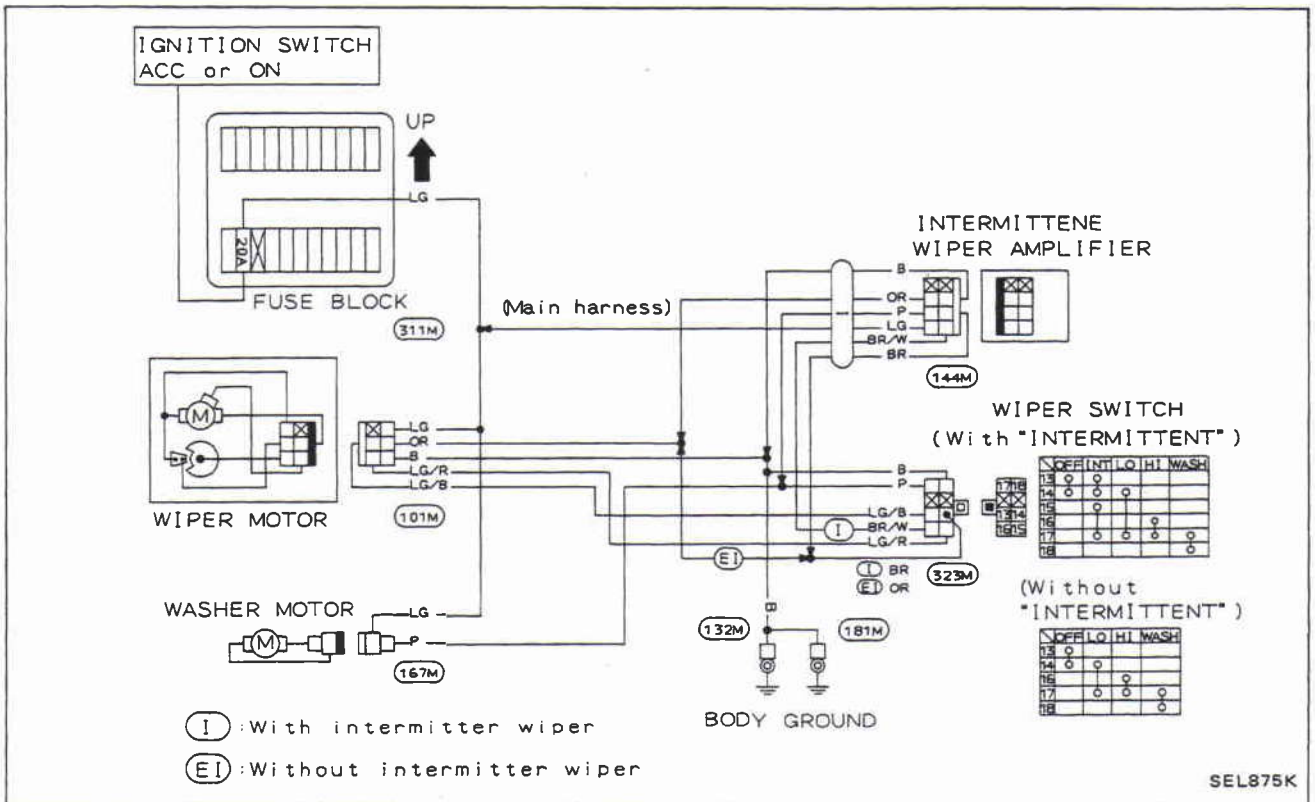
WIPER AND WASHER

Front Wiper and Washer/Wiring Diagram

L.H. DRIVE MODEL

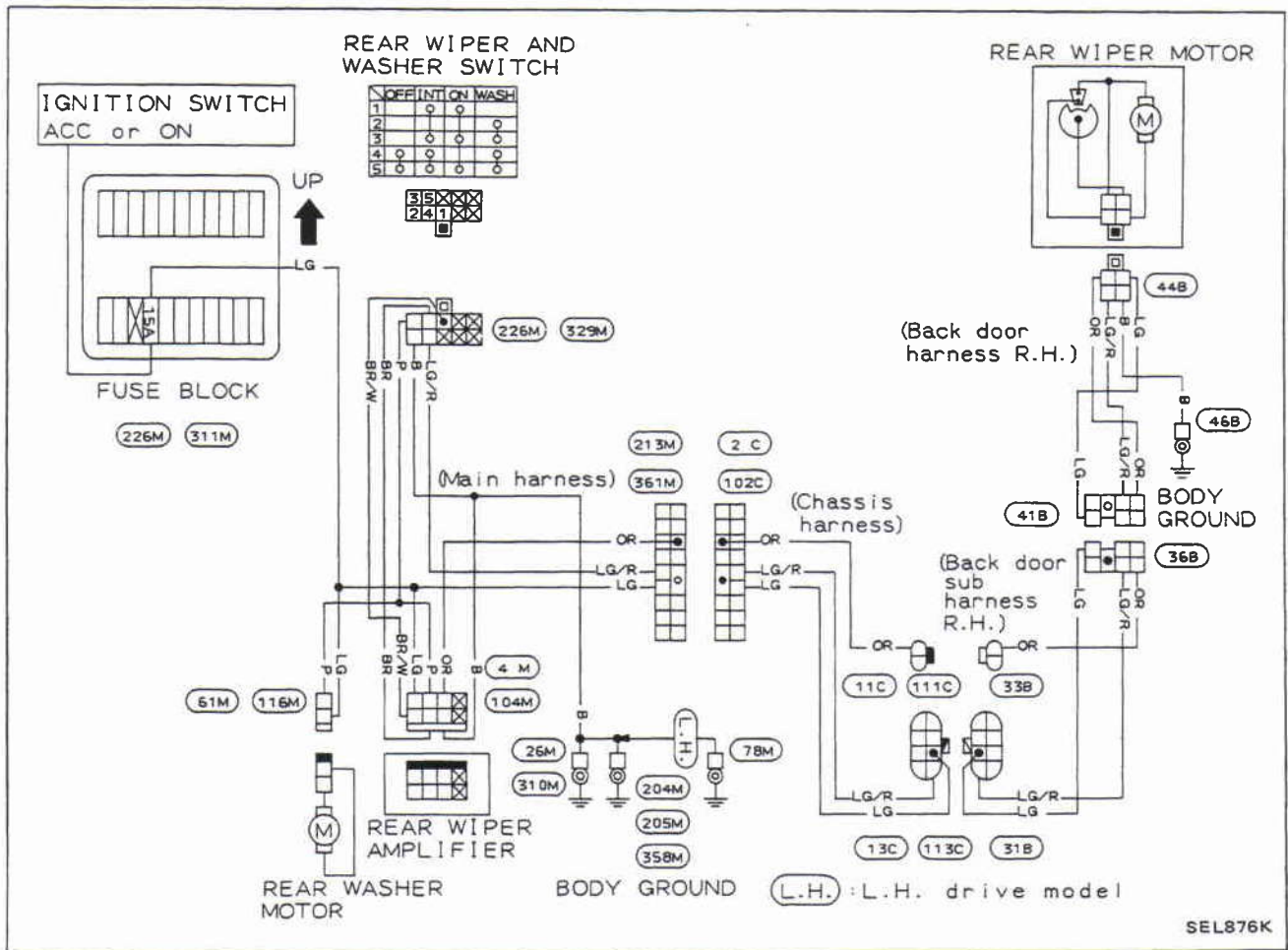


R.H. DRIVE MODEL



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".

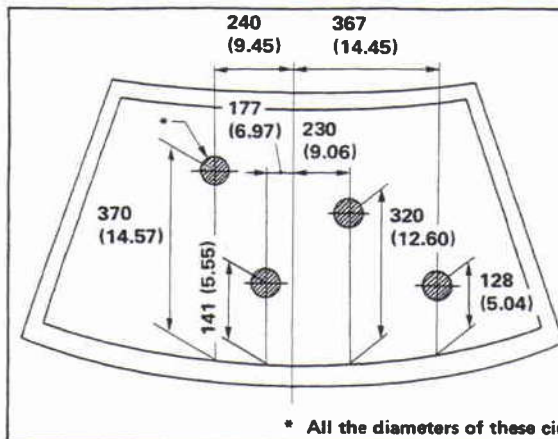
Clearance "C": 20 - 30 mm (0.79 - 1.18 in)

Installation

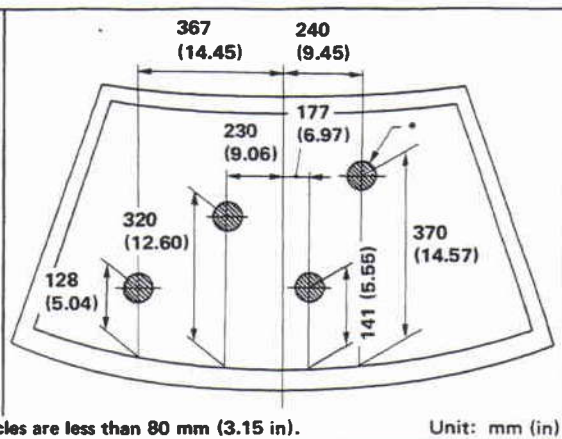
- Tighten windshield wiper arm nuts to specified torque.
☞ 13 - 18 N·m (1.3 - 1.8 kg·m, 9 - 13 ft·lb)

Windshield wiper and washer

L.H. drive model

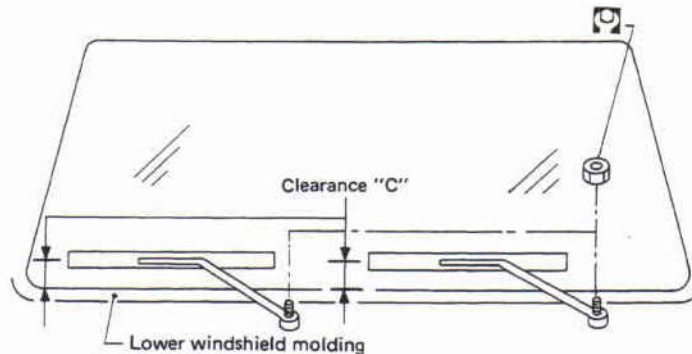


R.H. drive model



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

Unit: mm (in)

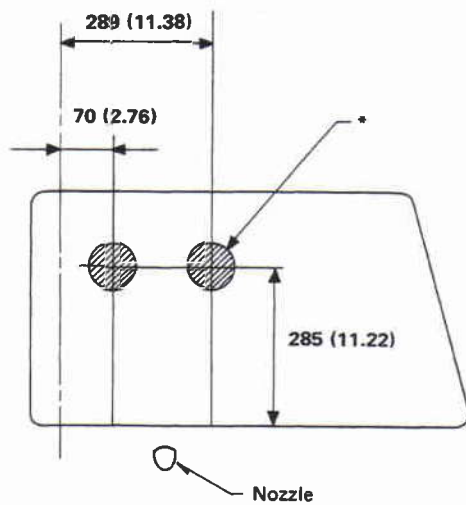


SEL825K

WIPER AND WASHER

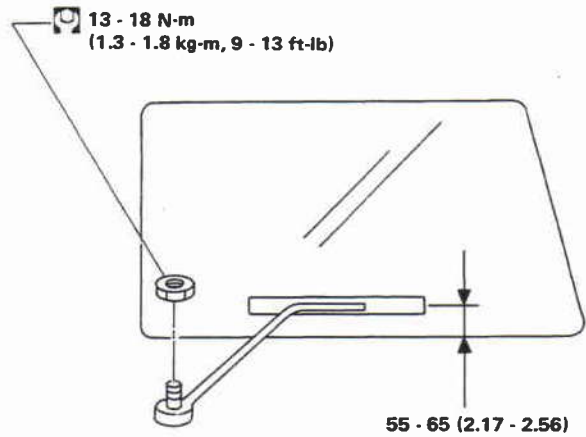
Windshield Wiper Installation (Cont'd)

Rear Wiper and Washer

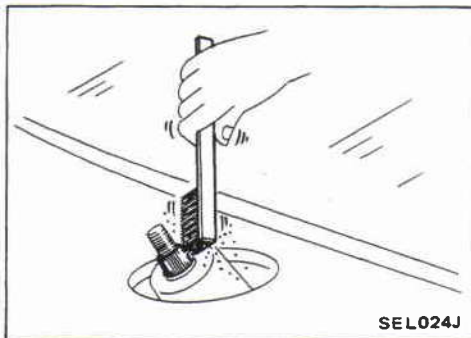


*: All the diameters of these circles are less than 50 mm (1.97 in).

Unit: mm (in)



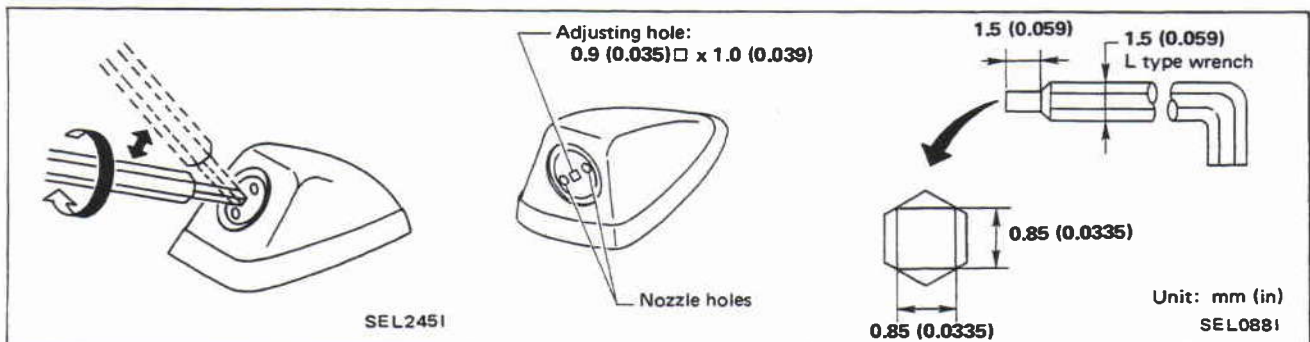
SEL826K



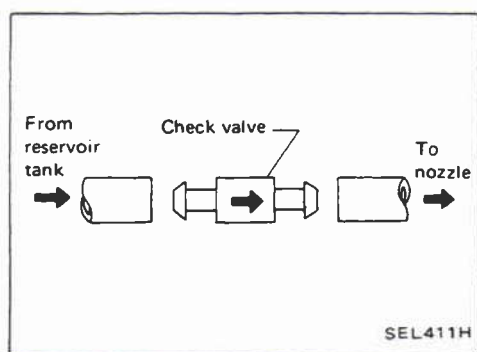
- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.

Washer Nozzle Adjustment

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

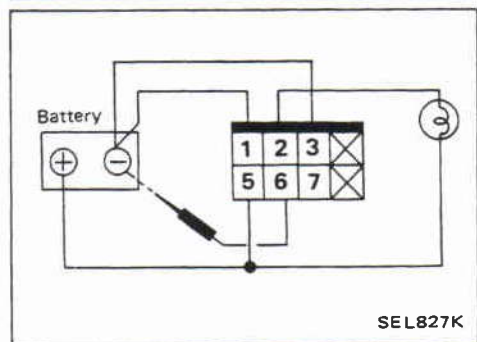


WIPER AND WASHER



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.

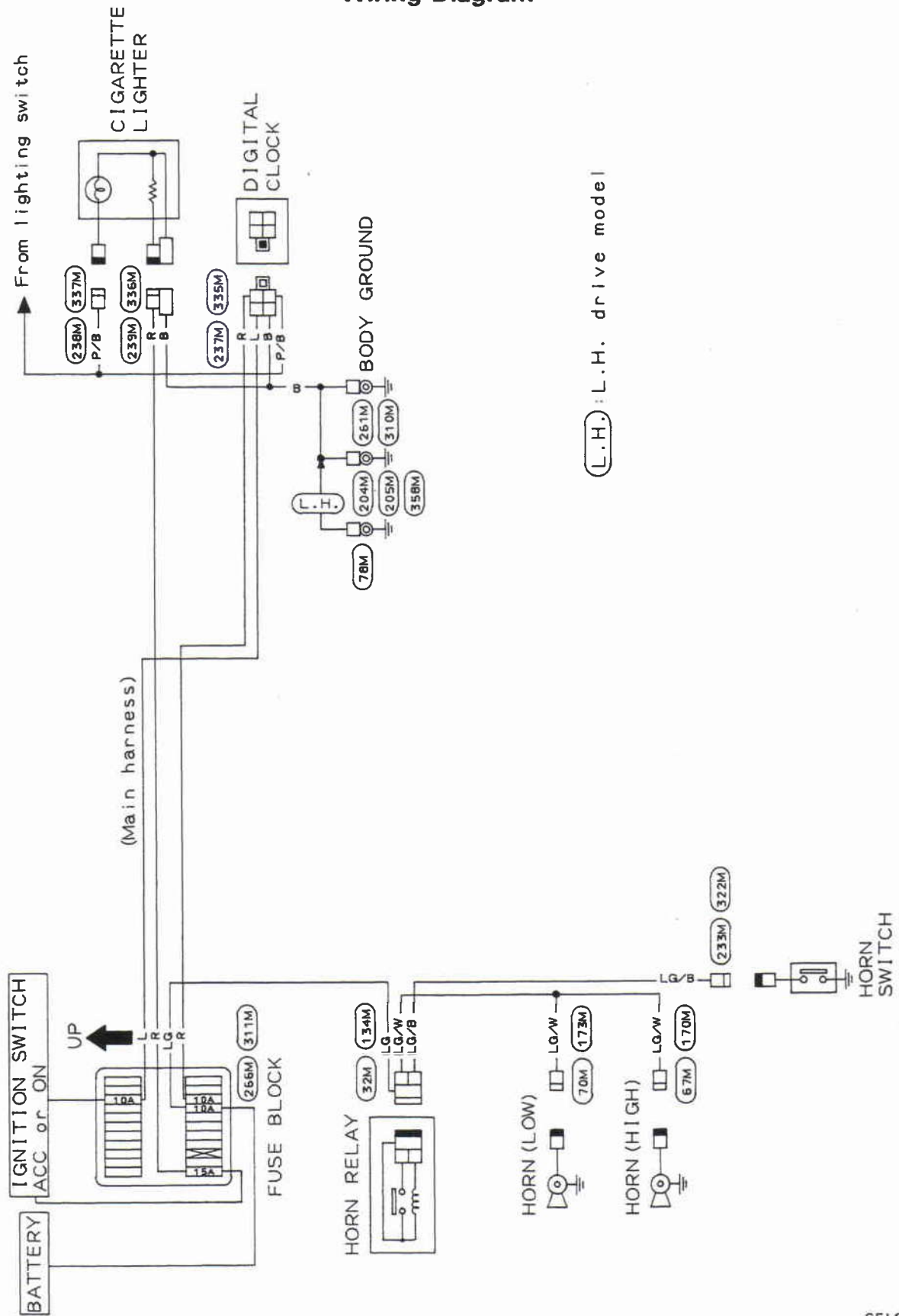


Wiper Relay Check

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.

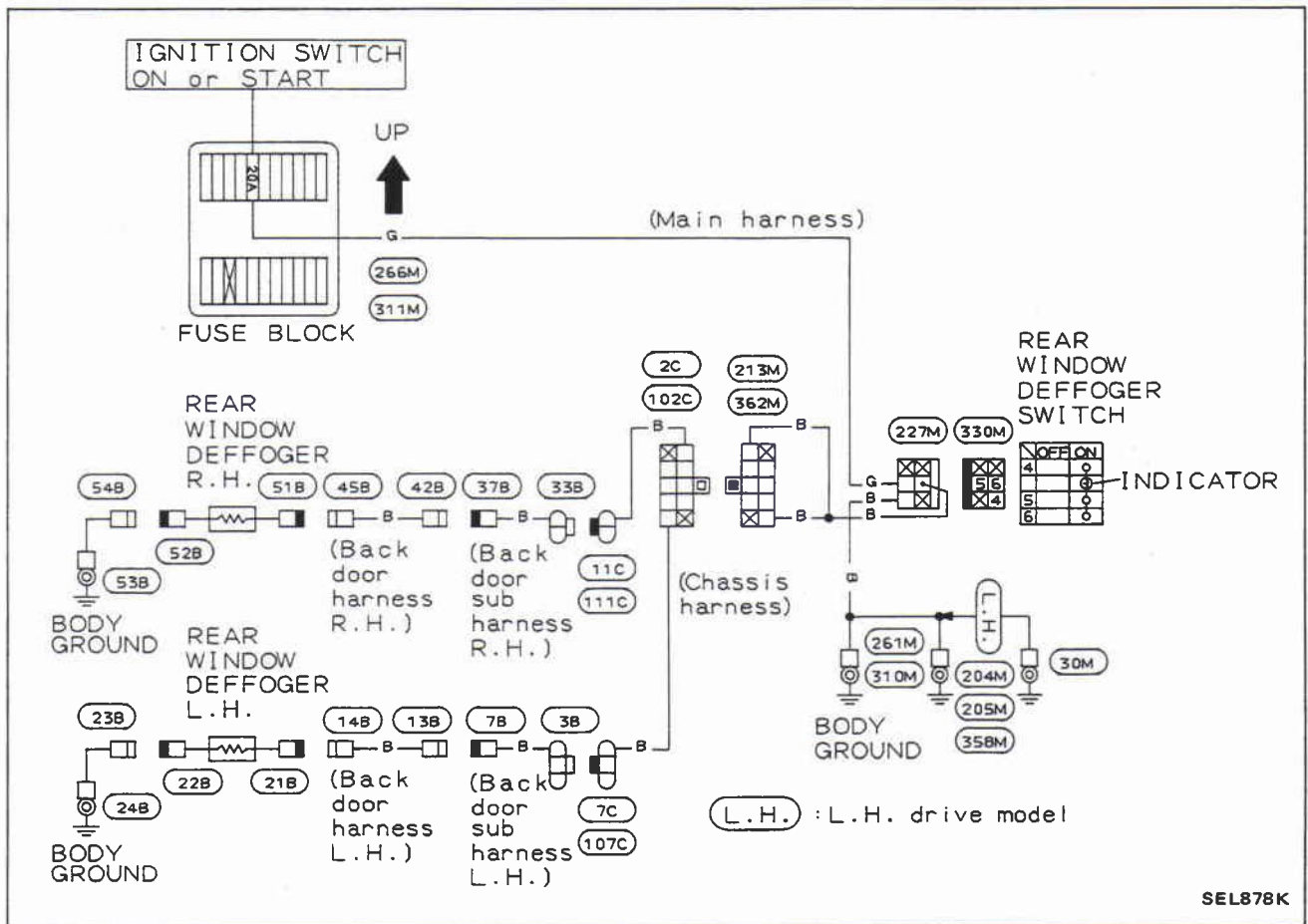
HORN, CIGARETTE LIGHTER AND CLOCK

Wiring Diagram

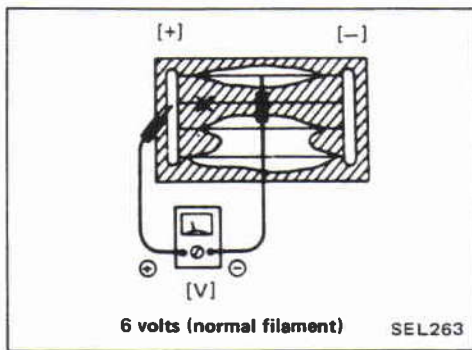


REAR WINDOW DEFOGGER

Wiring Diagram

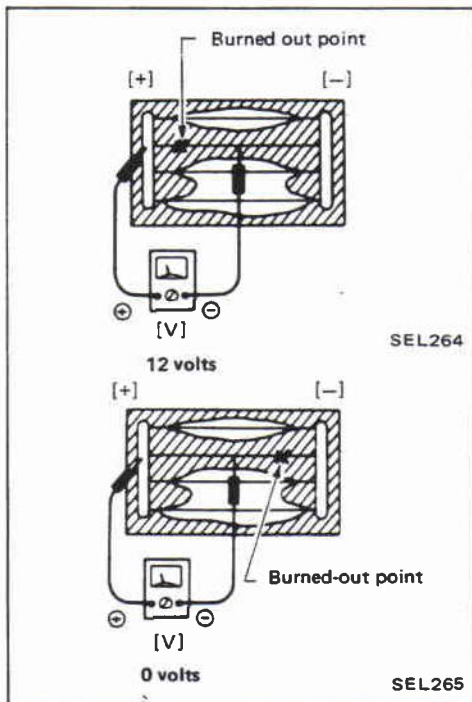


REAR WINDOW DEFOGGER

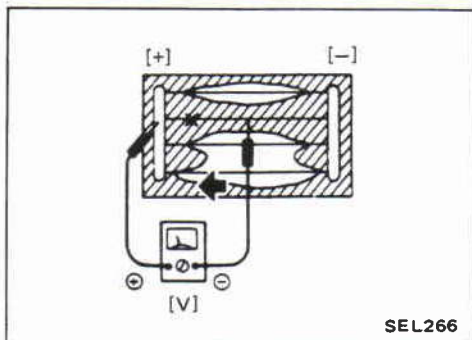


Filament Check

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

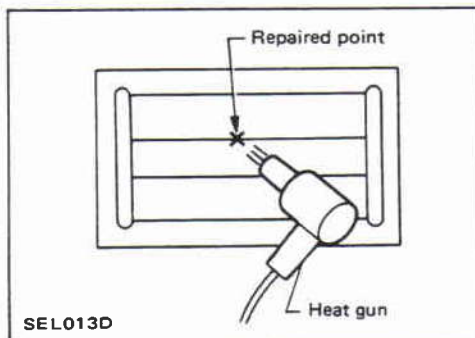
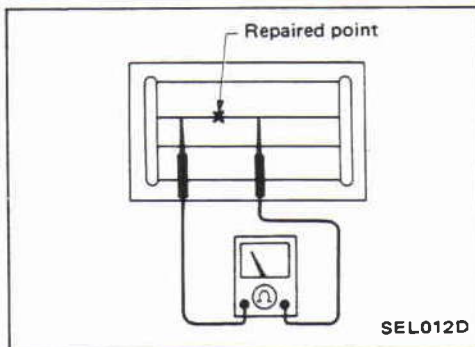
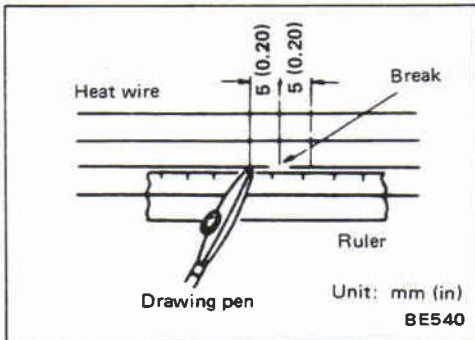
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

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.

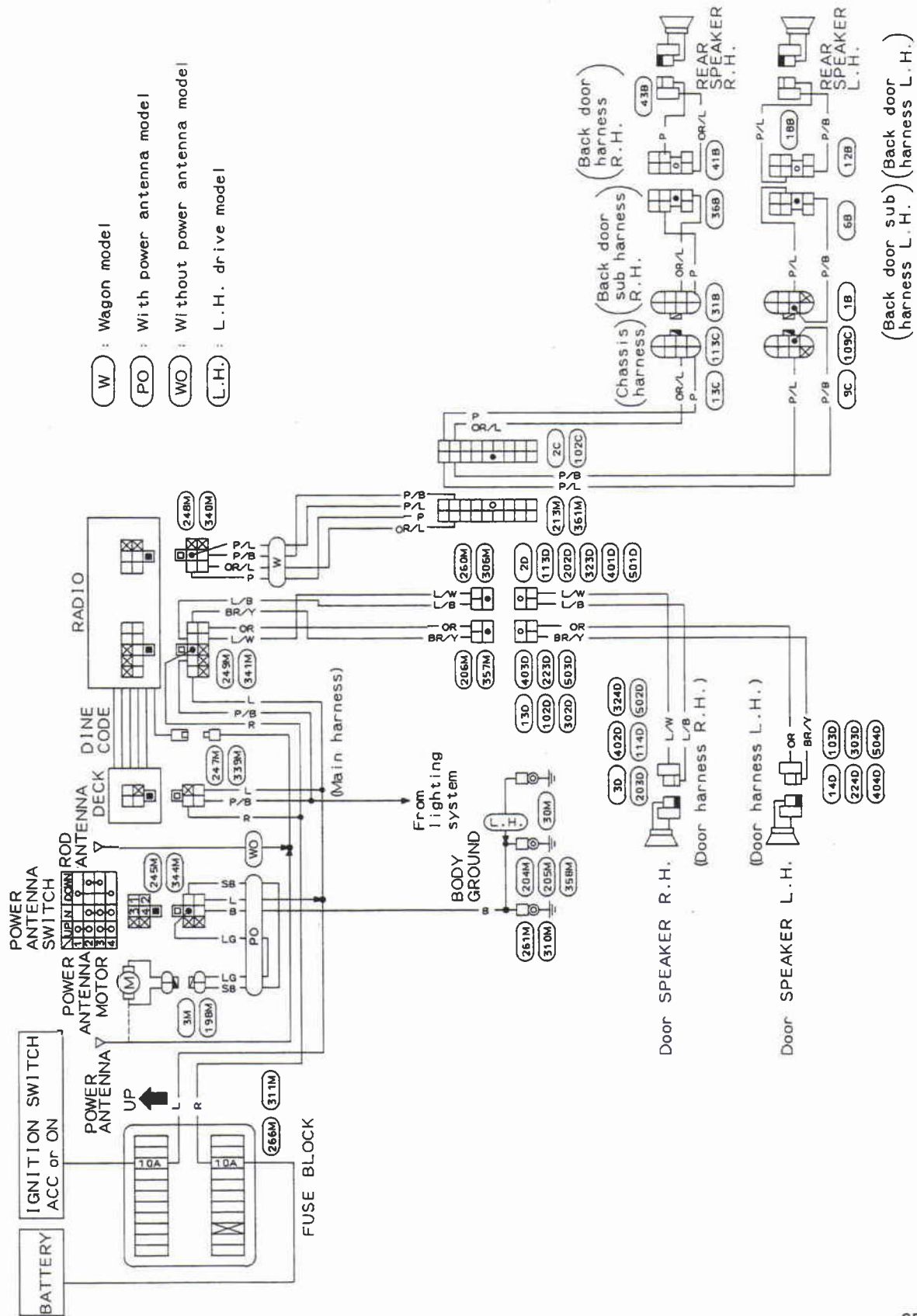
Do not touch repaired area while test is being conducted.

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

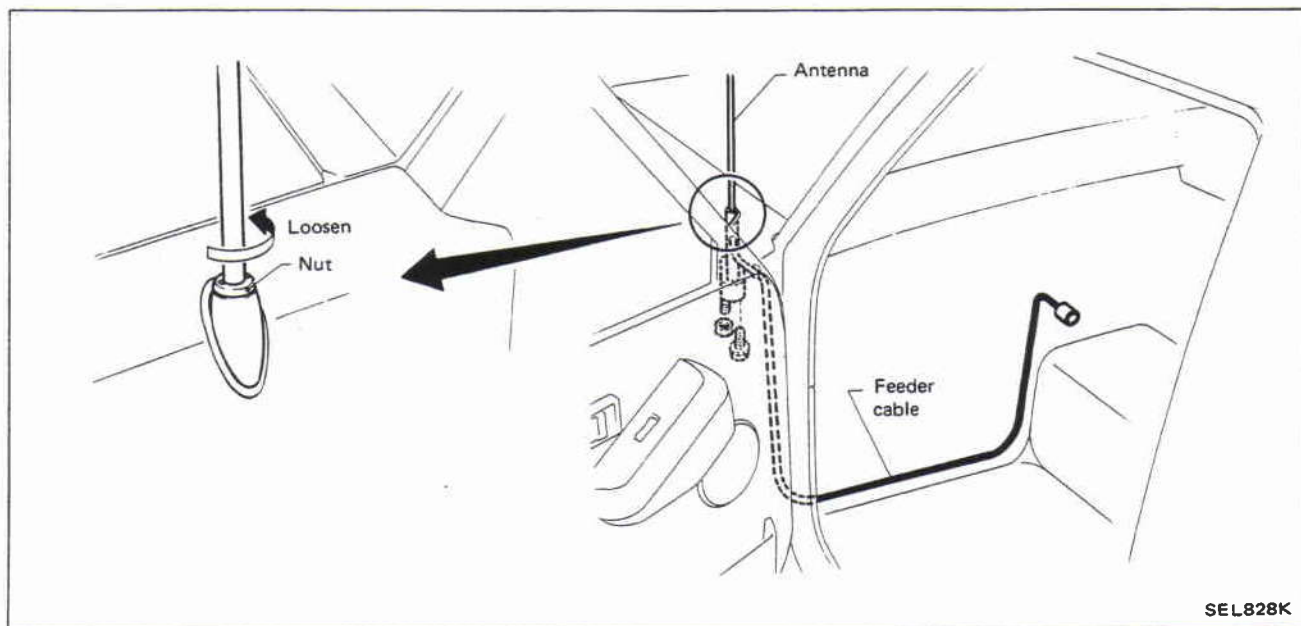
Audio/Wiring Diagram



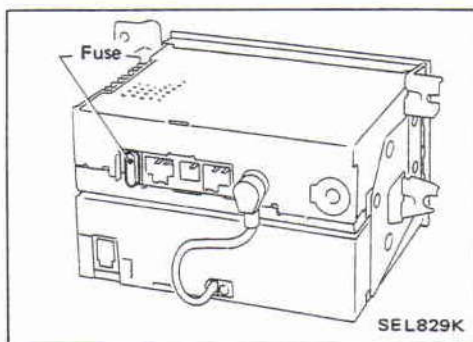
SEL879K

AUDIO

Location of Antenna



Radio Fuse Check



Antenna Trimmer Adjustment

The antenna trimmer should be adjusted in the following cases:

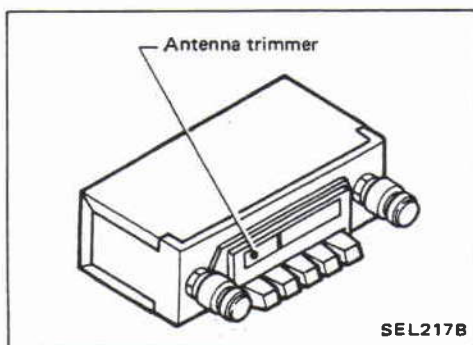
- Fading and weak MW (AM) reception.
- After installation of new antenna, feeder cable or radio receiver.

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:

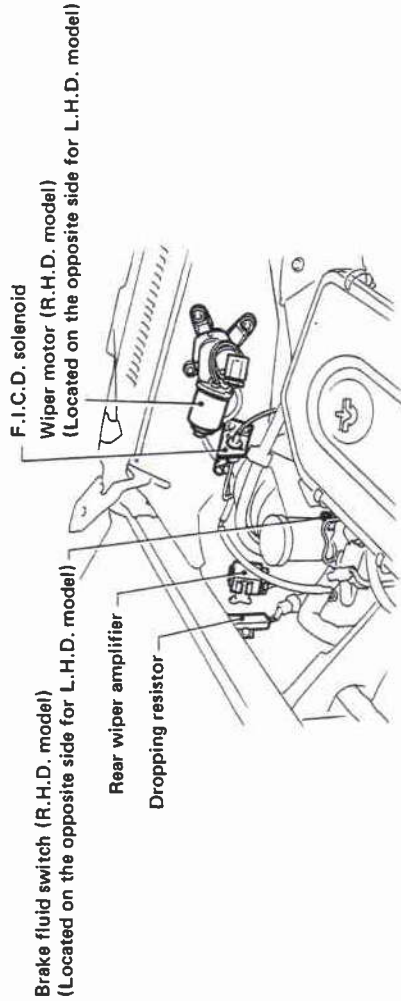
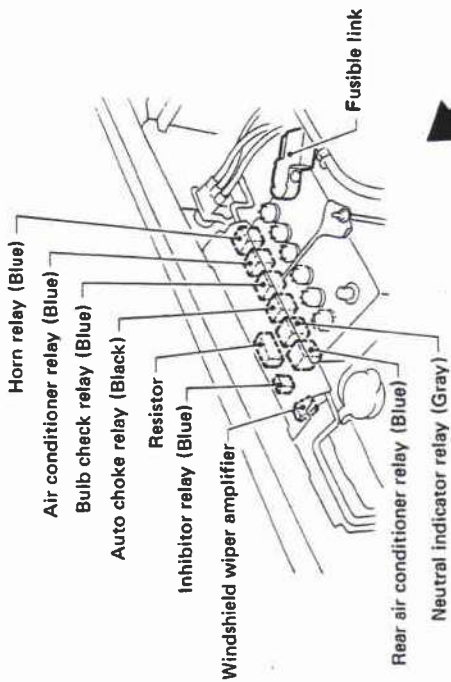
Do not turn antenna trimmer more than one-half turn.



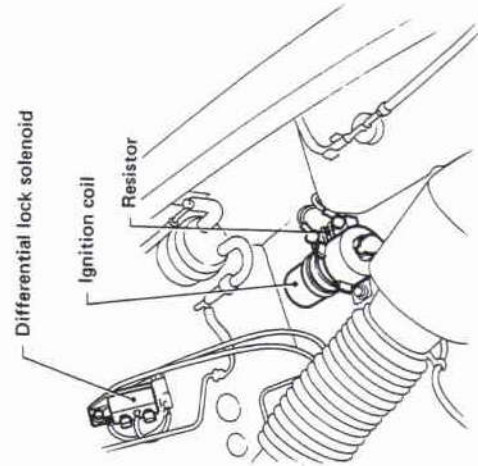
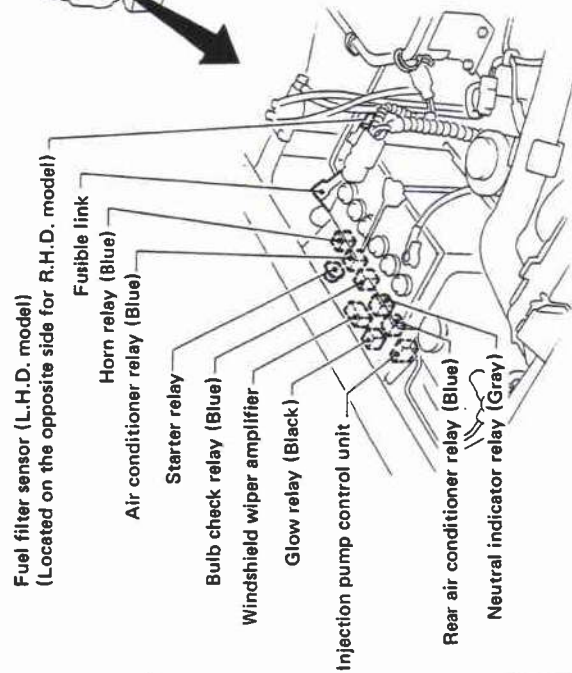
LOCATION OF ELECTRICAL UNITS

Engine Compartment

Gasoline engine model



Diesel engine model

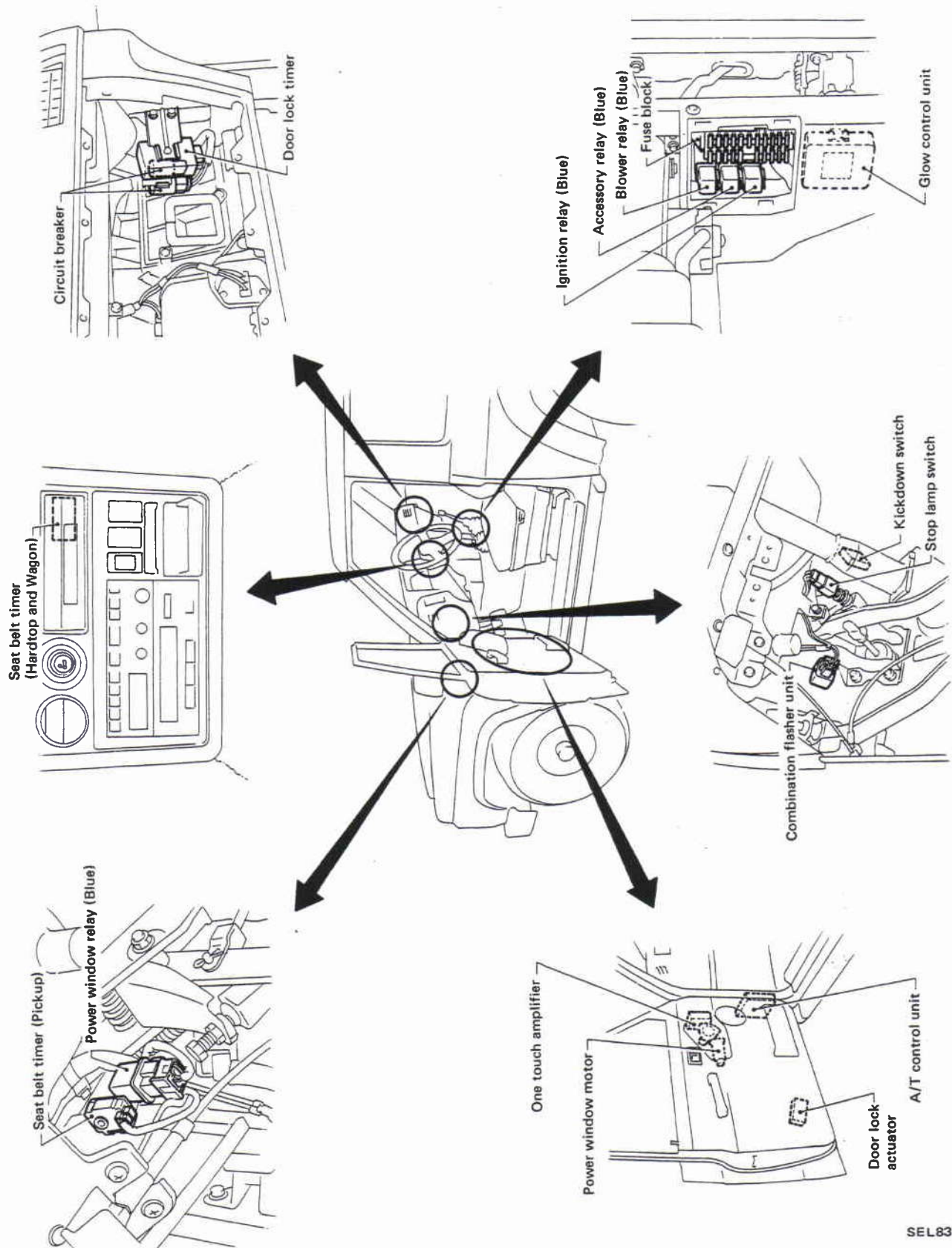


SEL830K

LOCATION OF ELECTRICAL UNITS

Passenger Compartment

L.H. DRIVE MODEL

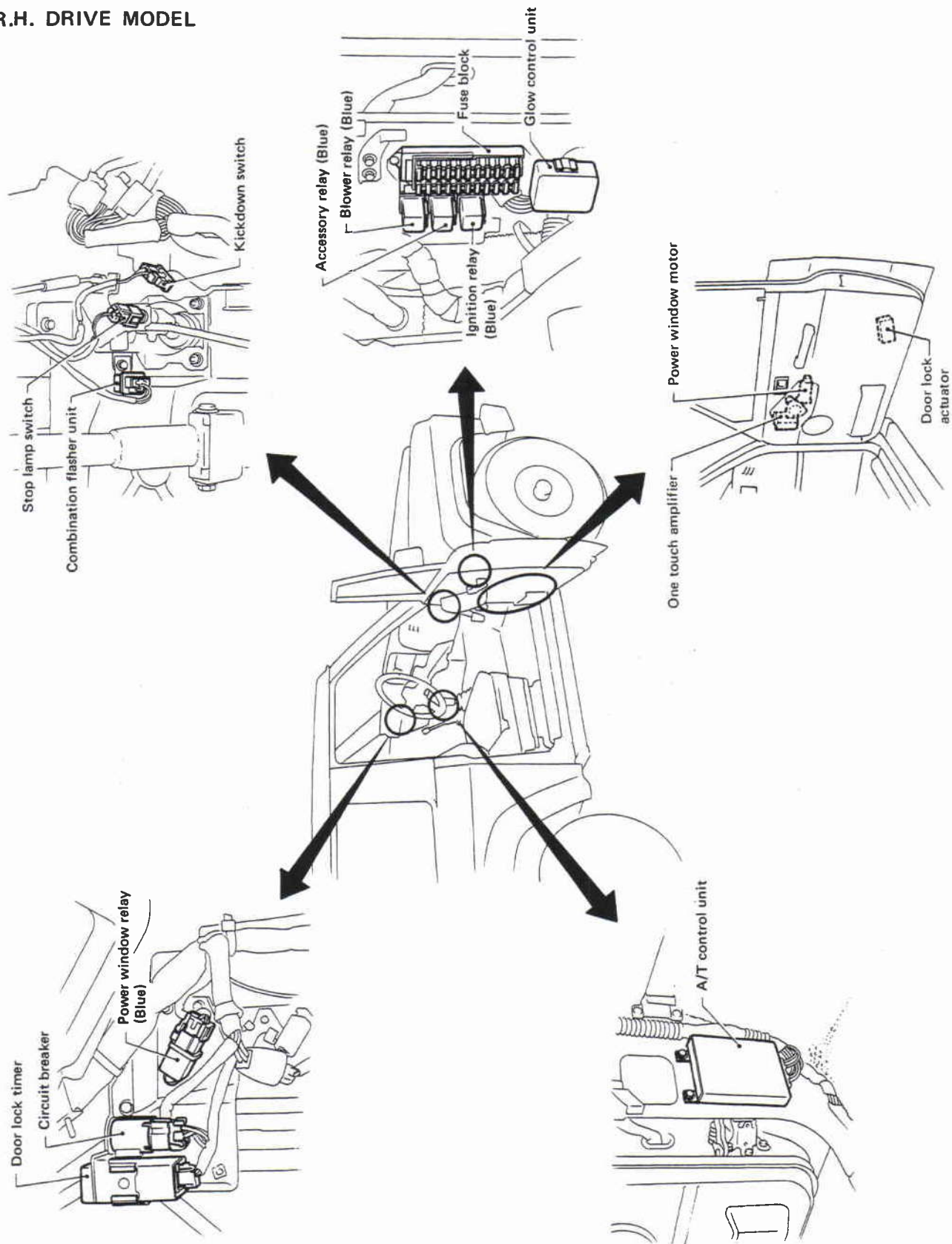


SEL831K

LOCATION OF ELECTRICAL UNITS

Passenger Compartment (Cont'd)

R.H. DRIVE MODEL

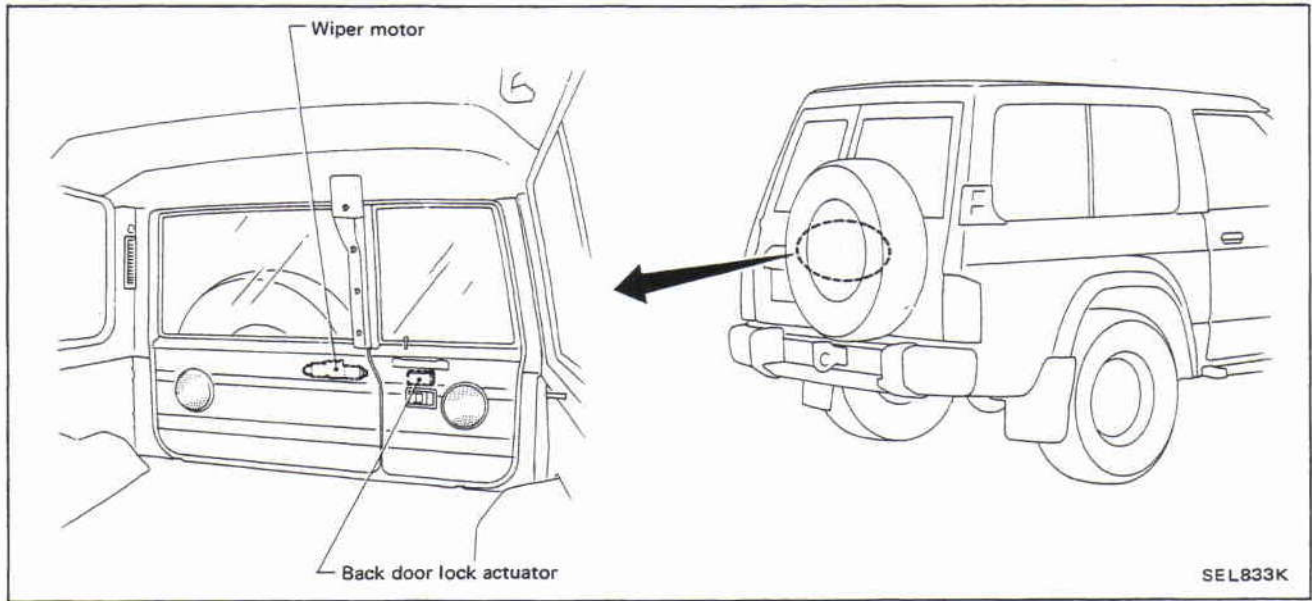


SEL832K

LOCATION OF ELECTRICAL UNITS

Passenger Compartment (Cont'd)

HARDTOP AND WAGON



LOCATION OF ELECTRICAL UNITS

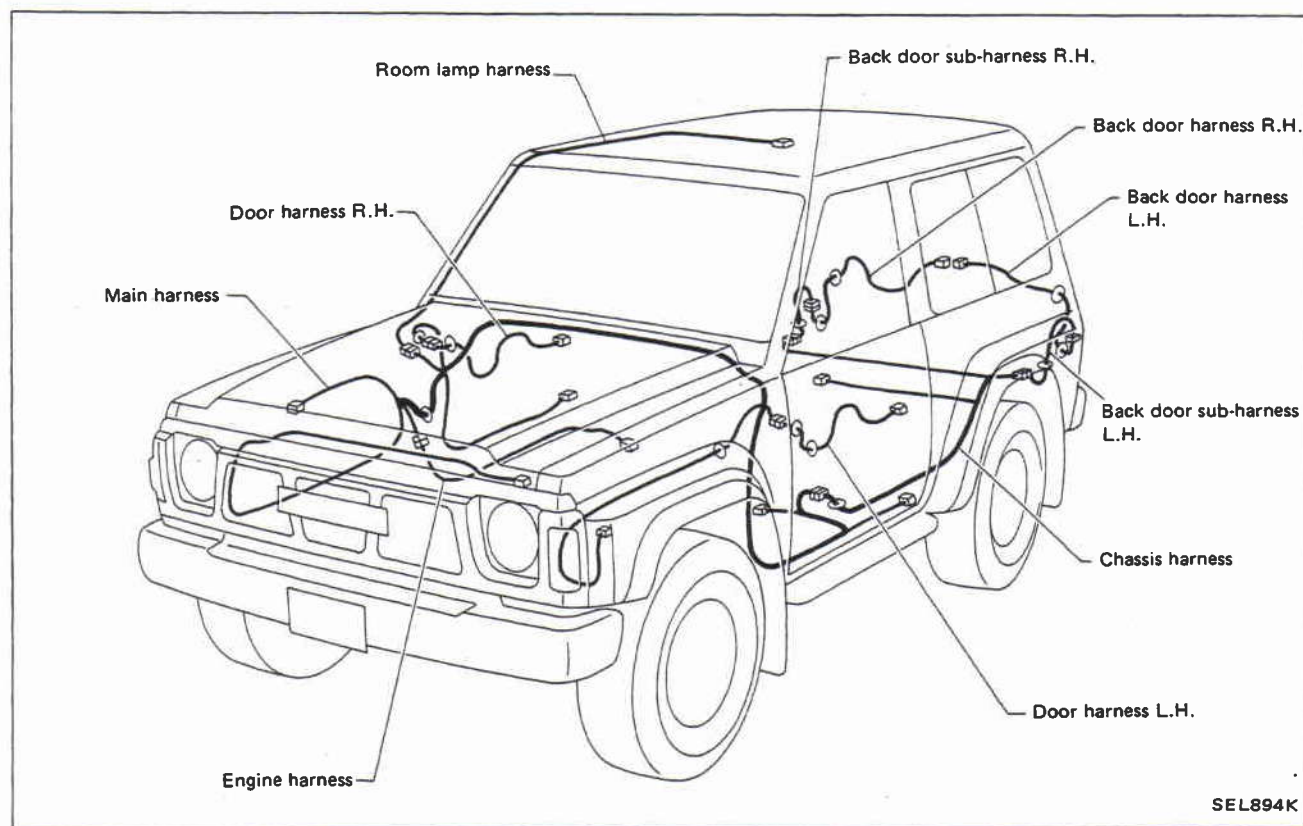
Note:

HARNESS LAYOUT

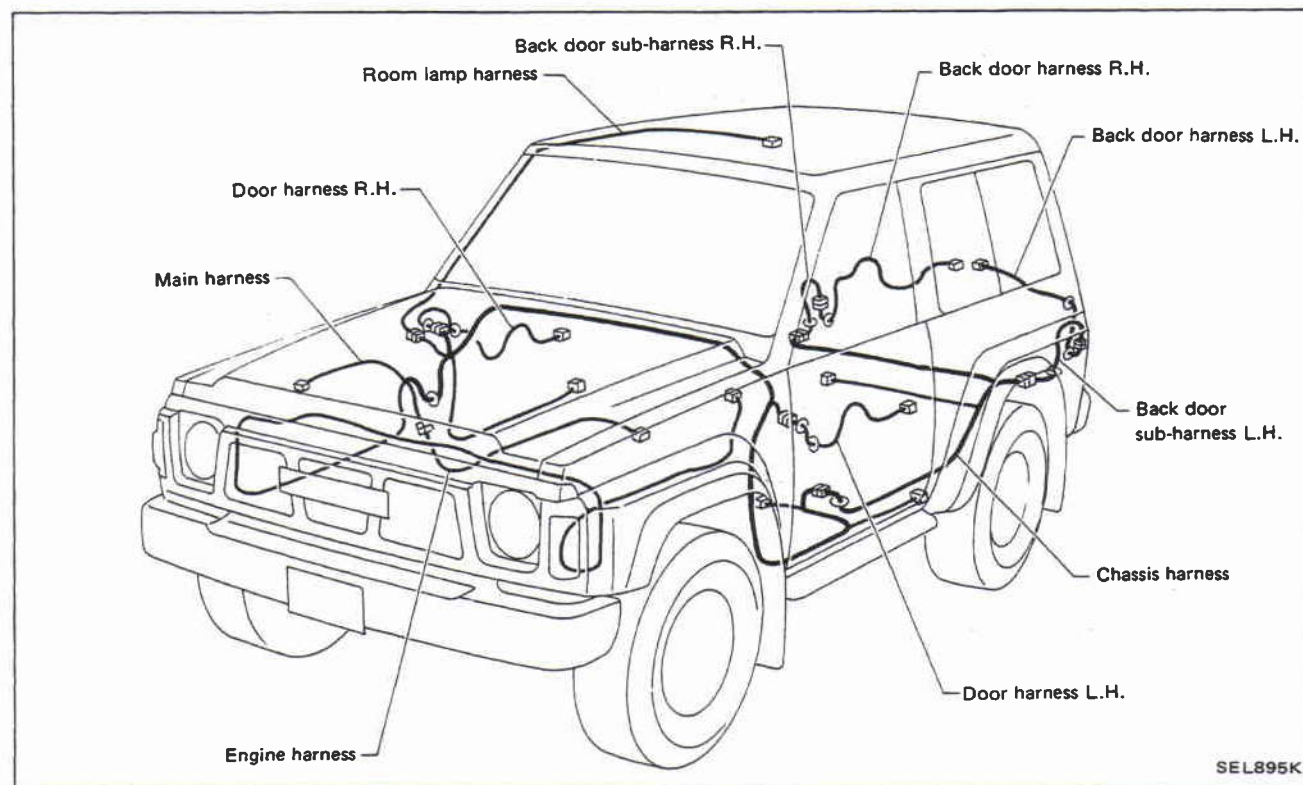
Outline

HARDTOP

L.H. drive model



R.H. drive model

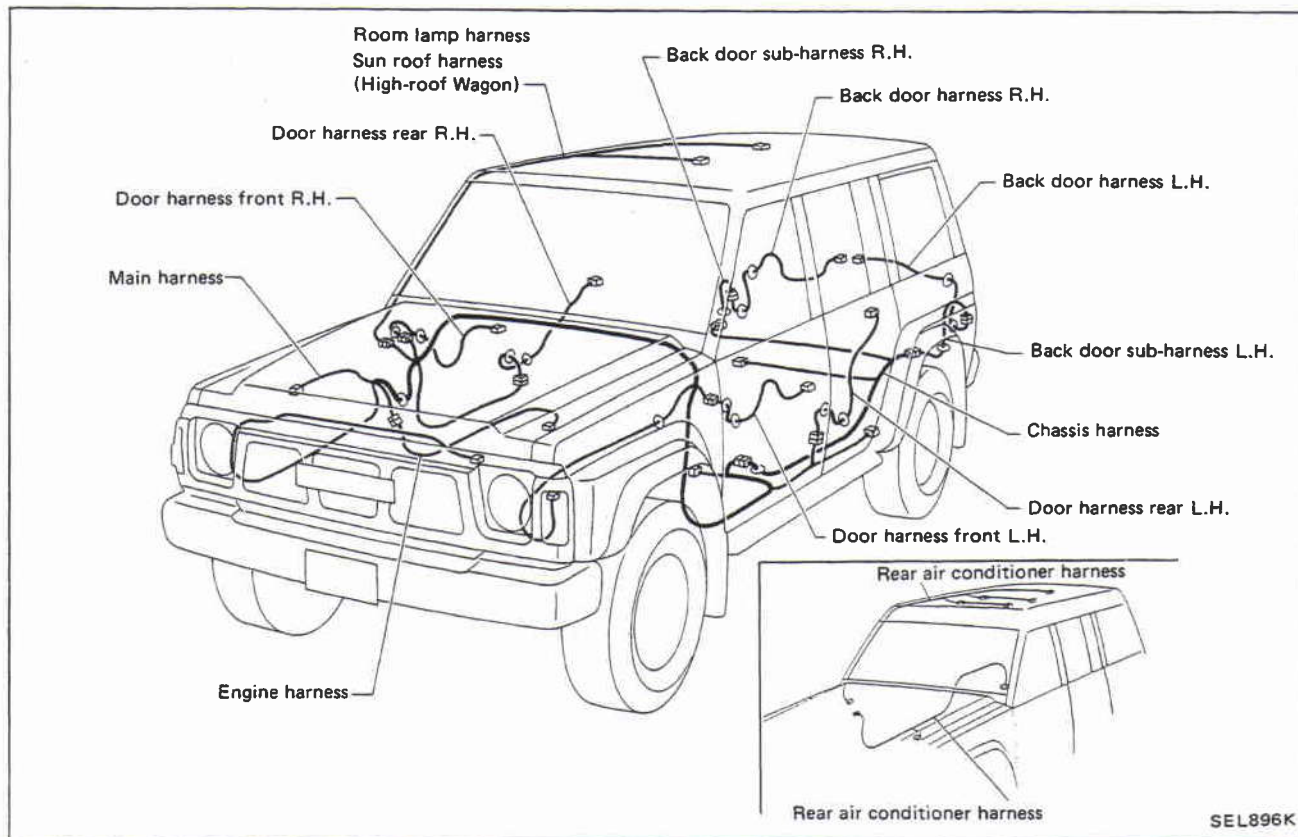


HARNESS LAYOUT

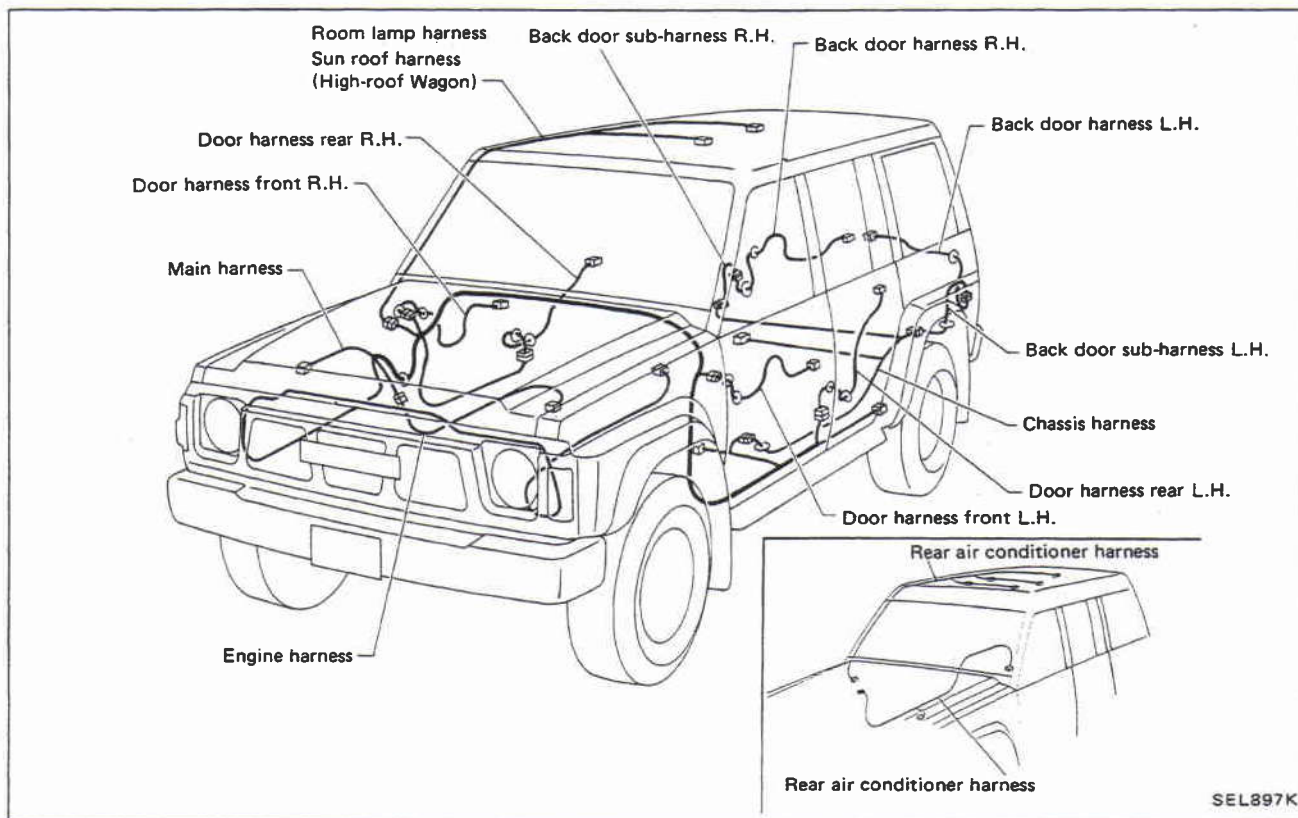
WAGON

L.H. drive model

Outline (Cont'd)



R.H. drive model

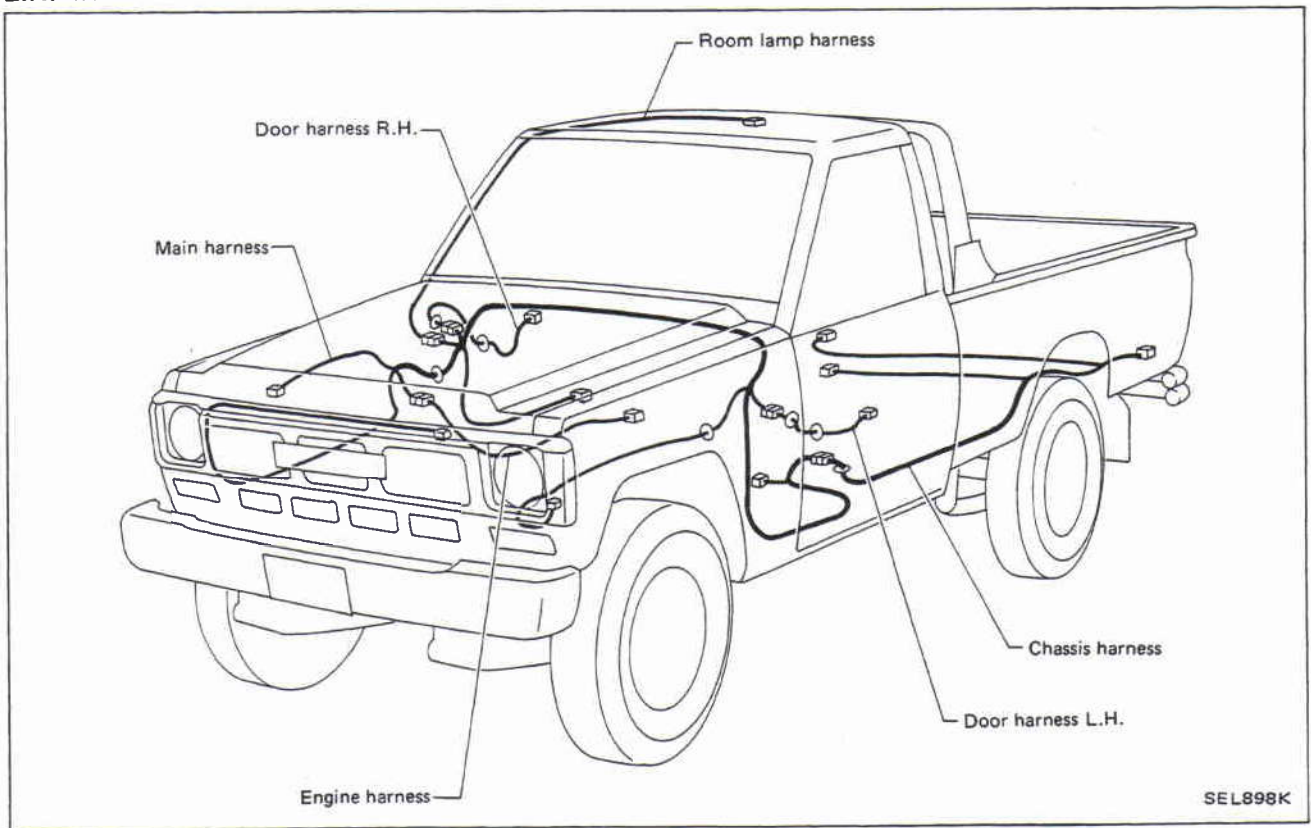


HARNESS LAYOUT

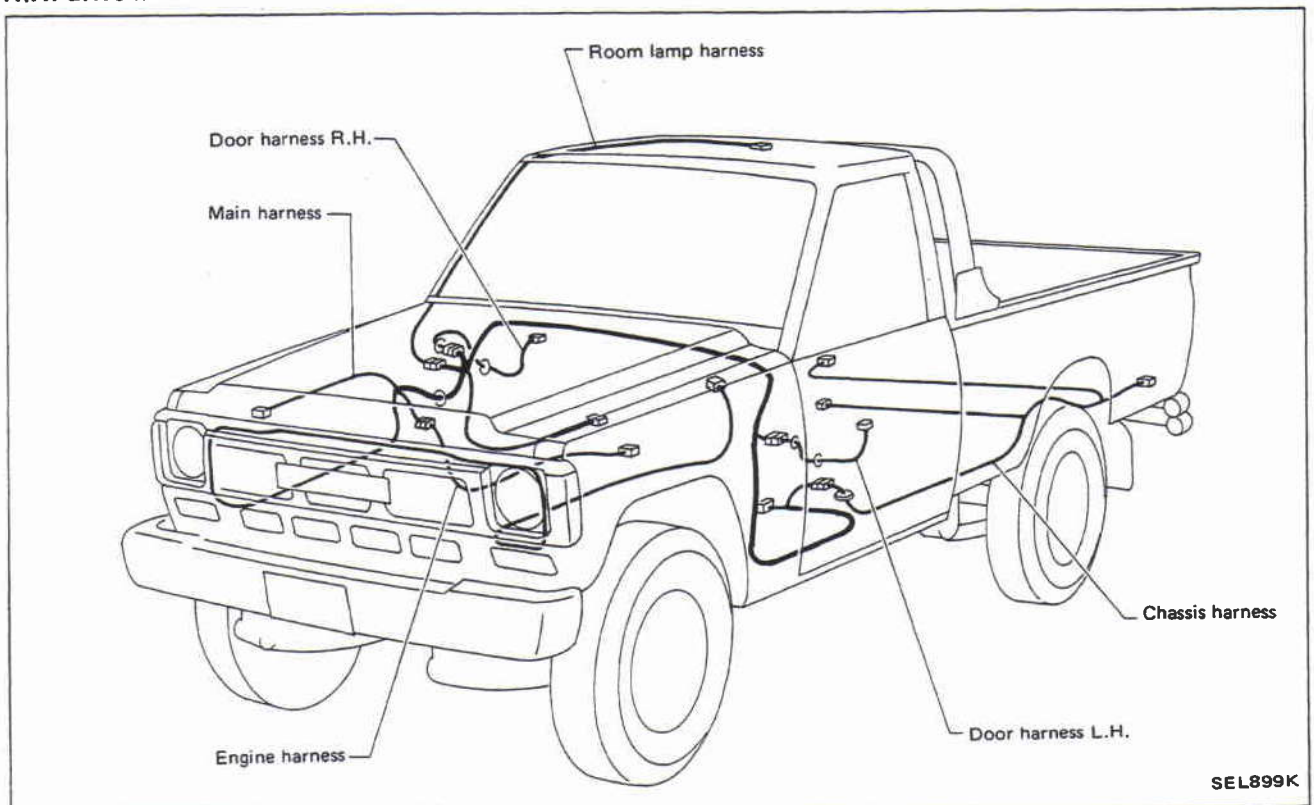
Outline (Cont'd)

PICKUP

L.H. drive model



R.H. drive model



HARNESS LAYOUT

Main Harness

L.H. DRIVE MODEL



HARNESS LAYOUT

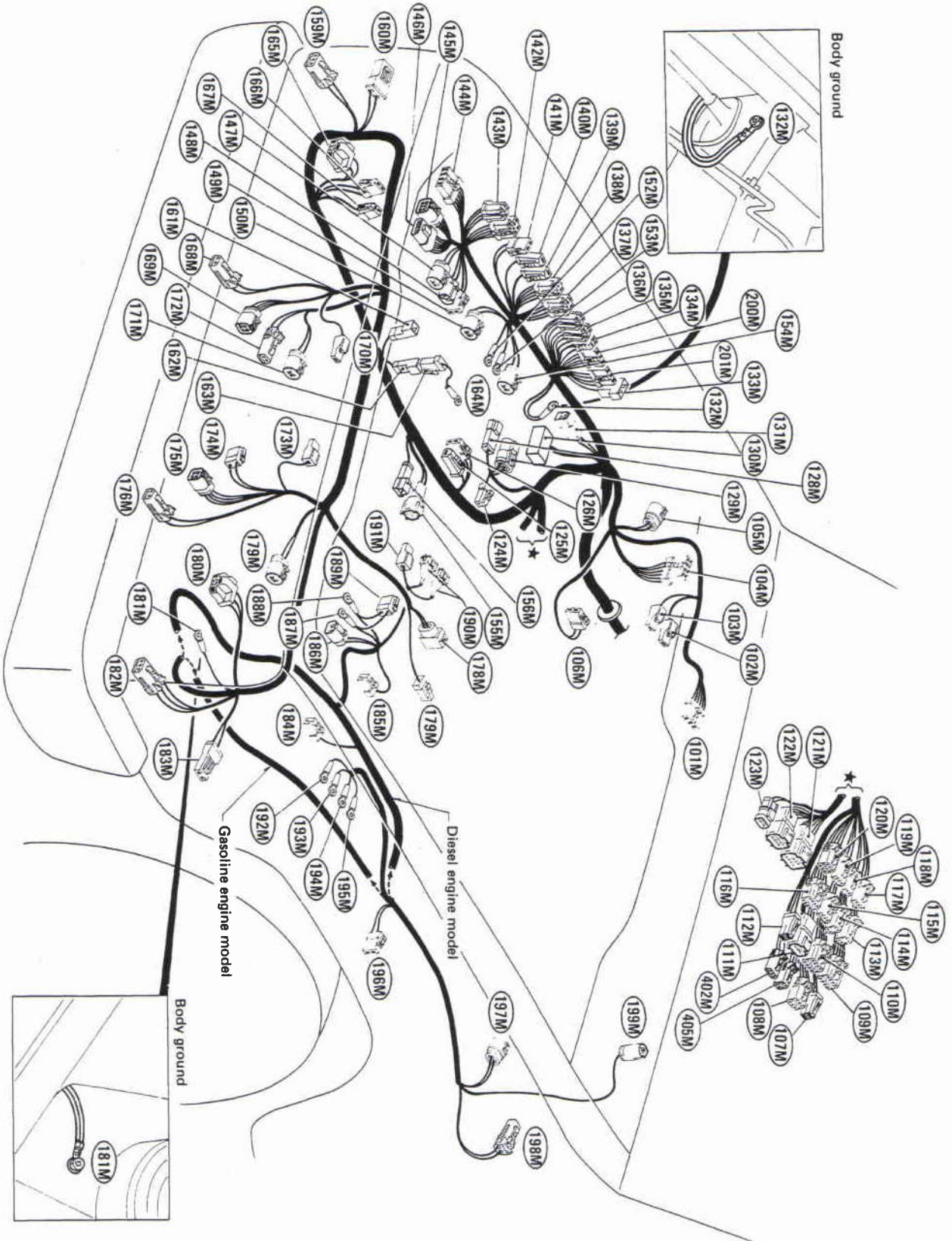
Main Harness (Cont'd)

1M	: F.I.C.D. solenoid	64M	: Front combination lamp R.H.
2M	: F.I.C.D. solenoid	65M	: Fog lamp R.H.
3M	: Power antenna motor	66M	: Winch relay sub-harness
4M	: Rear wiper amplifier	67M	: Horn (High)
5M	: Fuel filter switch	68M	: Thermo switch
6M	: Dropping resistor	69M	: Low-pressure switch
7M	: To 9E	70M	: Horn (Low)
8M	: To 10E	71M	: Not used
9M	: To 4E	72M	: Front combination lamp L.H.
10M	: To 104E	73M	: Fog lamp L.H.
11M	: To 9E	74M	: Thermo switch
12M	: Revolution sensor	75M	: Distributor
13M	: To 11E	76M	: Compressor
14M	: To 105E	77M	: Headlamp L.H.
15M	: To 106E	78M	: Body ground
16M	: To 107E	79M	: Side turn signal lamp L.H.
17M	: To 7E	80M	: Front combination lamp L.H.
18M	: To 3E	81M	: Compressor
19M	: Inhibitor switch	82M	: Alternator
20M	: A/T oil temperature switch, overrun clutch, shift solenoid-A, shift solenoid-B, lock-up solenoid, fluid temperature sensor, line pressure solenoid	83M	: Alternator
21M	: Inhibitor switch	84M	: Alternator
22M	: To 1E	85M	: Condenser
23M	: Battery	86M	: Water temperature switch
24M	: Battery	87M	: Thermal transmitter
25M	: Fusible link holder	88M	: Vacuum switch
26M	: Fusible link holder	89M	: Ignition coil
27M	: Fusible link holder	90M	: Ignition coil
		91M	: Resistor
		92M	: Resistor
		93M	: Resistor
		94M	: Brake fluid LEVEL switch
		95M	: Wiper motor
		96M	: A/C relay
		97M	: A/C relay
28M	: F.I.C.D. solenoid		
29M	: F.I.C.D. solenoid		
30M	: Power antenna motor		
31M	: Rear wiper amplifier		
32M	: Fuel filter switch		
33M	: Dropping resistor		
34M	: To 9E		
35M	: To 10E		
36M	: To 4E		
37M	: To 104E		
38M	: To 9E		
39M	: Revolution sensor		
40M	: To 11E		
41M	: To 105E		
42M	: To 106E		
43M	: To 107E		
44M	: To 7E		
45M	: To 3E		
46M	: Inhibitor switch		
47M	: A/T oil temperature switch, overrun clutch, shift solenoid-A, shift solenoid-B, lock-up solenoid, fluid temperature sensor, line pressure solenoid		
48M	: Inhibitor switch		
49M	: To 1E		
50M	: Battery		
51M	: Battery		
52M	: Fusible link holder		
53M	: Fusible link holder		
54M	: Fusible link holder		

Main Harness (Cont'd)

HARNESS LAYOUT

R.H. DRIVE MODEL



HARNESS LAYOUT

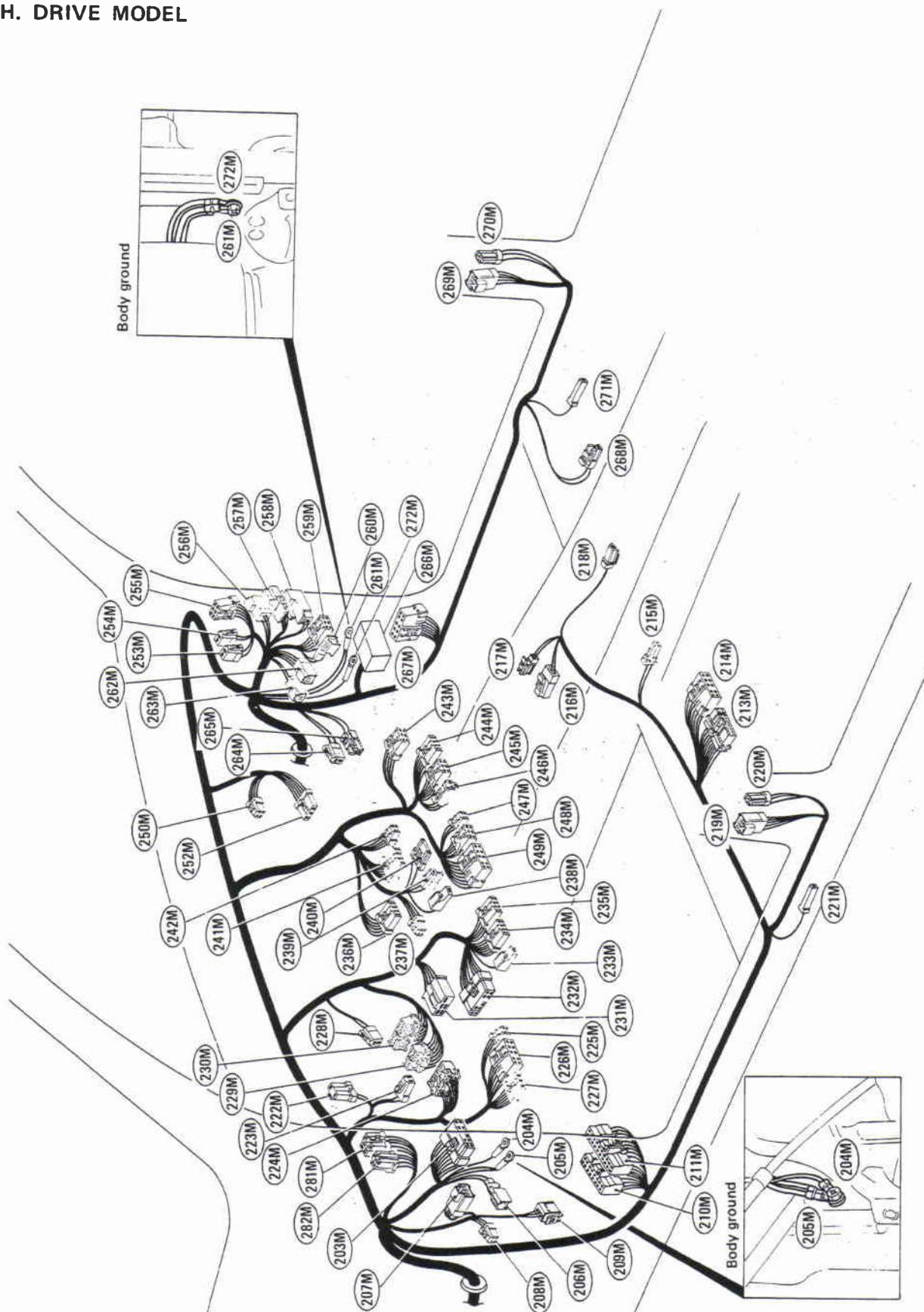
Main Harness (Cont'd)

(101M)	: Wiper motor	(170M)	: Horn (High)
(102M)	: F.I.C.D. solenoid	(171M)	: Thermo switch
(103M)	: F.I.C.D. solenoid	(172M)	: Fog lamp R.H.
(104M)	: Rear wiper amplifier	(173M)	: Horn (Low)
(105M)	: Dropping resistor	(174M)	: Not used
(106M)	: Brake fluid switch	(175M)	: Front combination lamp L.H.
(107M)	: To (105E)	(176M)	: Fog lamp L.H.
(108M)	: To (106E)	(177M)	: Thermo switch
(109M)	: To (106E)	(178M)	: Distributor
(110M)	: To (8E)	(179M)	: Compressor
(111M)	: Revolution sensor	(180M)	: Headlamp L.H.
(112M)	: To (11E)	(181M)	: Body ground
(113M)	: To (8E)	(182M)	: Side turn signal lamp L.H.
(114M)	: To (7E)	(183M)	: Vacuum switch
(115M)	: To (4E)	(184M)	: Compressor
(116M)	: To (103E)	(185M)	: Alternator
(117M)	: To (101E)	(187M)	: Alternator
(118M)	: To (2E)	(188M)	: Alternator
(120M)	: To (3E)	(189M)	: Condenser
(121M)	: Inhibitor switch	(190M)	: Water temperature sensor
(122M)	: A/T oil temperature switch	(191M)	: Thermal transmitter
(123M)	: A/T oil temperature switch	(192M)	: Ignition coil
(124M)	: To (1E)	(193M)	: Ignition coil
(125M)	: Battery	(194M)	: Resistor
(126M)	: Battery	(195M)	: Resistor
(127M)	: Fusible link holder	(196M)	: Resistor
(128M)	: Fusible link holder	(197M)	: Fuel filter sensor
(129M)	: Fusible link holder	(198M)	: Power antenna motor
(130M)	: Fusible link holder	(200M)	: A/C relay
(131M)	: Body ground	(201M)	: A/C relay
(132M)	: Fusible link	(402M)	: To (102E)
(133M)	: Horn relay	(403M)	: To (8E)
(134M)	: A/C relay		
		(135M)	: A/C relay
		(137M)	: Auto-choke relay
		(138M)	: A/C relay
		(139M)	: Glow relay
		(400M)	: Glow relay
		(411M)	: Glow relay
		(421M)	: Inhibitor relay
		(433M)	: Rear cooler relay
		(443M)	: Wiper amplifier
		(444M)	: Injection pump control unit
		(445M)	: Injection pump control unit
		(447M)	: Inhibitor relay
		(448M)	: Inhibitor relay
		(449M)	: Diode
		(450M)	: Resistor
		(451M)	: Not used
		(452M)	: Starter relay
		(453M)	: Starter relay
		(454M)	: Starter relay
		(455M)	: Engine sub-harness
		(456M)	: Engine sub-harness
		(457M)	: Not used
		(458M)	: Not used
		(459M)	: Not used
		(460M)	: Winch unit
		(462M)	: To (453M)
		(463M)	: To (452M)
		(464M)	: Winch relay
		(465M)	: Headlamp R.H.
		(466M)	: Rear washer motor
		(467M)	: Front washer motor
		(468M)	: Low-pressure switch
		(469M)	: Front combination lamp R.H.

HARNESS LAYOUT

Main Harness (Cont'd)

L.H. DRIVE MODEL



HARNESS LAYOUT

Main Harness (Cont'd)

(203M)	: Check connector	(254M)	: Circuit breaker
(204M)	: Body ground	(255M)	: Door lock timer
(205M)	: Body ground	(256M)	: To (2S)
(206M)	: To (13D)	(257M)	: To (1R) (Wagon model)
	To (223D)		To (101R) (Hardtop model)
	To (403D)		To (1S) (Sun roof)
(207M)	: To (11D)	(258M)	: To (201R) (Pickup model)
	To (211D)	(259M)	: To (1D) (Wagon model)
(208M)	: To (12D)		To (201D) (Hardtop model)
	To (222D)	(260M)	: To (2D) (Wagon model)
	To (222D)		To (202D) (Hardtop model)
(209M)	: A/T check switch	(261M)	: Body ground
(210M)	: A/T control unit	(262M)	: To (102A) (High-roof model)
(211M)	: A/T control unit		To (1A) (Standard roof model)
(212M)	: To (201C)	(263M)	: To (103A) (High-roof model)
(213M)	: To (2C)		To (2A) (Standard roof model)
	To (102C)	(264M)	: Blower motor
(214M)	: To (1C)	(265M)	: Blower motor
	To (101C)	(266M)	: Fuse block
(215M)	: Seat belt switch	(267M)	: Glow control unit
(216M)	: A.T.P. lamp	(268M)	: Solenoid valve
(217M)	: A/T indicator lamp	(269M)	: To (21D) (Wagon model)
(218M)	: Parking brake switch	(270M)	: Front R.H. door switch
(219M)	: To (31D)	(271M)	: Rear R.H. door switch (Wagon model)
(220M)	: Door switch (Front L.H.)	(272M)	: Body ground
(221M)	: Door switch (Front R.H. Wagon model)	(281M)	: Power window relay
(222M)	: Combination flasher unit	(282M)	: Power window relay
(223M)	: Stop lamp switch		
(224M)	: Combination meter		
		(225M)	: Fog lamp switch
		(226M)	: Rear wiper and washer switch
		(227M)	: Rear defogger switch
		(228M)	: Kickdown switch
		(229M)	: 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.
		(251M)	: Resistor
		(252M)	: Resistor
		(253M)	: Circuit breaker

Main Harness (Cont'd)

HARNESS LAYOUT

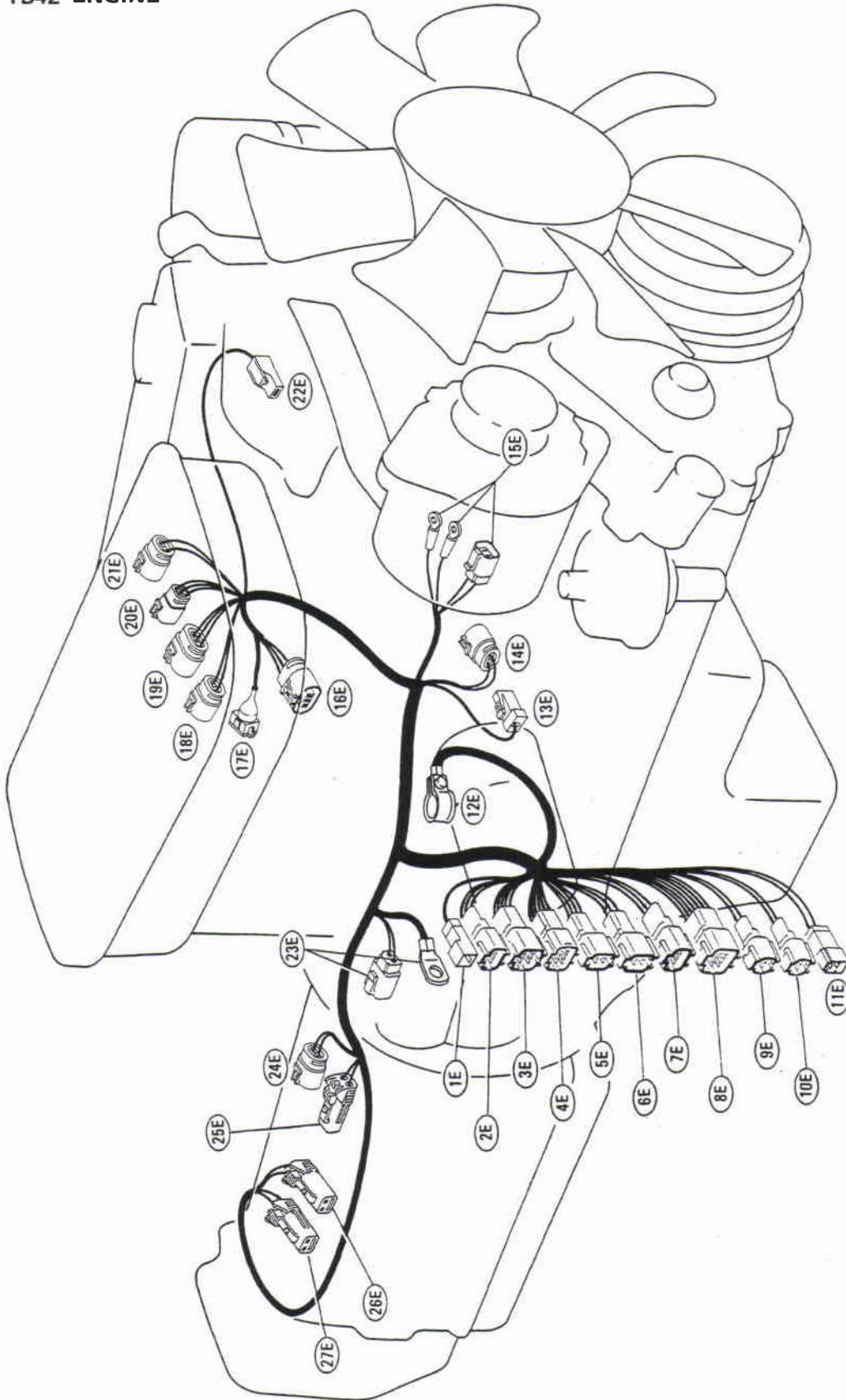
Main Harness (Cont'd)

301M : To 2S (Hardtop model)	321M : Lighting switch	350M : Blower motor
302M : To 1R (Wagon model)	322M : Horn switch	351M : Power window relay
303M : To 101R (Pickup model)	323M : Wiper switch	352M : Power window relay
304M : To 111D (Wagon model)	324M : Combination switch	353M : Circuit breaker
305M : To 121D (Hardtop model)	325M : Combination switch	354M : Circuit breaker
306M : To 132D (Wagon model)	326M : Combination flasher unit	355M : Door lock timer
307M : To 143D (Hardtop model)	327M : Combination meter	356M : To 101D (Wagon model)
308M : To 153D (Wagon model)	328M : Fog lamp switch	357M : To 101D (Hardtop model)
309M : To 163D (Hardtop model)	329M : Rear wiper switch	358M : To 102D (Wagon model)
310M : To 173D (Pickup model)	330M : Rear defogger switch	359M : To 102D (Hardtop model)
311M : To 182A (High-roof model)	331M : Rear cooler switch	360M : Body ground
312M : To 192A (Standard roof model)	332M : A/C switch	361M : A/T control unit
313M : To 202A (Standard roof model)	333M : Fan switch	362M : A/T control unit
314M : Check connector	334M : Digital clock	363M : To 2C (Wagon Model)
315M : Body ground	335M : Cigarette lighter	364M : To 102C (Hardtop model)
316M : Fuse block	336M : Cigarette lighter	365M : To 1C (Wagon model)
317M : Glow control unit	337M : Ash tray illumination	366M : To 101C (Hardtop model)
318M : Solenoid valve	338M : Cassette deck	367M : To 201C (Pickup model)
319M : To 131D (Wagon model)	339M : Radio	368M : A.T.P. lamp
320M : Front R.H. door switch	340M : Radio	369M : A/T indicator lamp
321M : Rear R.H. door switch	341M : Not used	370M : Power shift switch
322M : Stop lamp switch	342M : Sun roof switch	371M : Parking lamp switch
323M : Kickdown switch	343M : Power antenna switch	372M : To 121D (Wagon model)
324M : Illumination control switch	344M : Hazard switch	373M : Front L.H. door switch
325M : Ignition switch	345M : A/C thermo control amp.	374M : Rear L.H. door switch (Wagon model)
	346M : Resistor	375M : Body ground
	347M : Blower motor	

HARNESS LAYOUT

Engine Harness

TB42 ENGINE



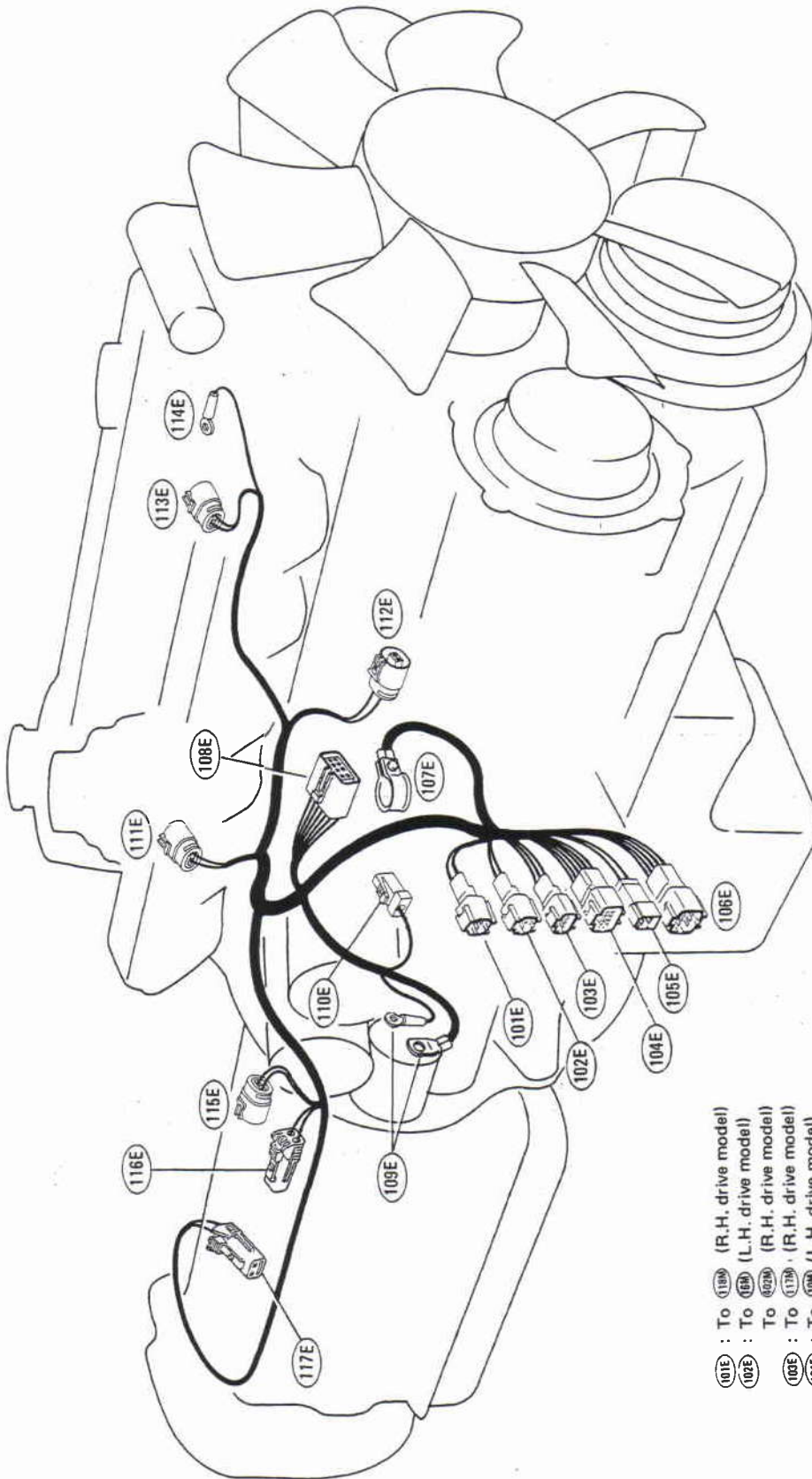
- | | | |
|---|---|---|
| 1E : To 22N (L.H. drive model)
To 24N (R.H. drive model) | 13E : Oil pressure switch | 20E : Fuel cut solenoid,
auto-choke heater,
B.C.D.D. solenoid |
| 2E : To 21N (L.H. drive model)
To 23N (R.H. drive model) | 14E : Oil pressure sending unit | 21E : Fuel cut solenoid |
| 3E : To 18N (L.H. drive model)
To 20N (R.H. drive model) | 15E : Alternator | 22E : Thermal transmitter |
| 4E : To 17N (L.H. drive model)
To 19N (R.H. drive model) | 16E : Throttle sensor | 23E : Starter motor |
| 5E : To 16N (L.H. drive model)
To 18N (R.H. drive model) | 17E : Throttle valve switch | 24E : Back-up lamp switch (M/T model) |
| 6E : To 15N (L.H. drive model)
To 17N (R.H. drive model) | 18E : Auto-choke heater,
fuel cut solenoid | 25E : Speed sensor |
| 7E : To 14N (L.H. drive model)
To 16N (R.H. drive model) | 19E : B.C.D.D. solenoid | 26E : Neutral switch (A/T model) |
| 8E : To 13N (L.H. drive model)
To 15N (R.H. drive model) | | 27E : 4WD switch |
| 9E : To 12N (R.H. drive model) | | |
| 10E : To 11N (R.H. drive model) | | |
| 11E : To 10N (R.H. drive model) | | |
| 12E : Battery | | |

SEL905K

HARNESS LAYOUT

Engine Harness (Cont'd)

TD42 ENGINE



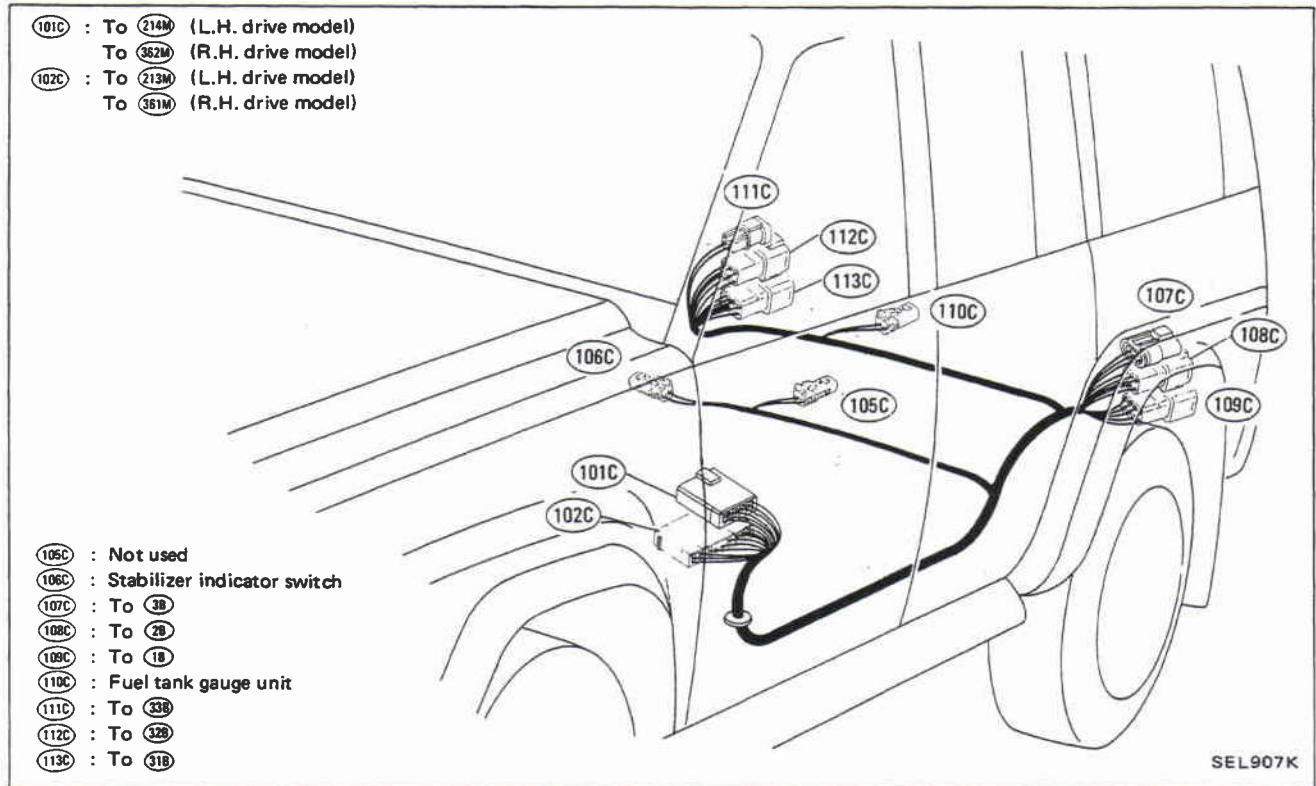
- (101E) : To (118M) (R.H. drive model)
- (102E) : To (16A) (L.H. drive model)
- To (322M) (R.H. drive model)
- (103E) : To (113M) (R.H. drive model)
- (104E) : To (10P) (L.H. drive model)
- To (162M) (R.H. drive model)
- (105E) : To (44M) (L.H. drive model)
- To (163M) (R.H. drive model)
- (107E) : 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

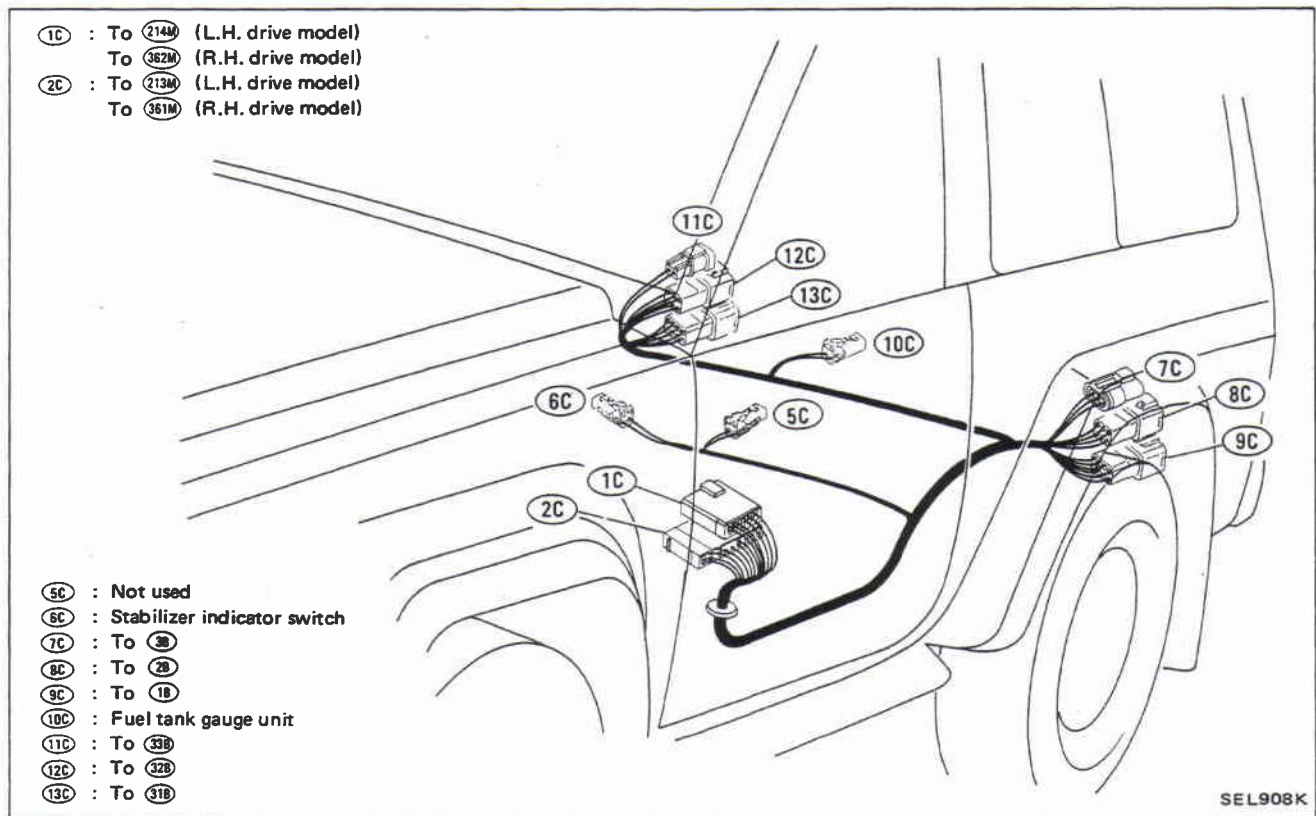
HARNESS LAYOUT

Chassis Harress

WAGON MODEL



HARDTOP MODEL

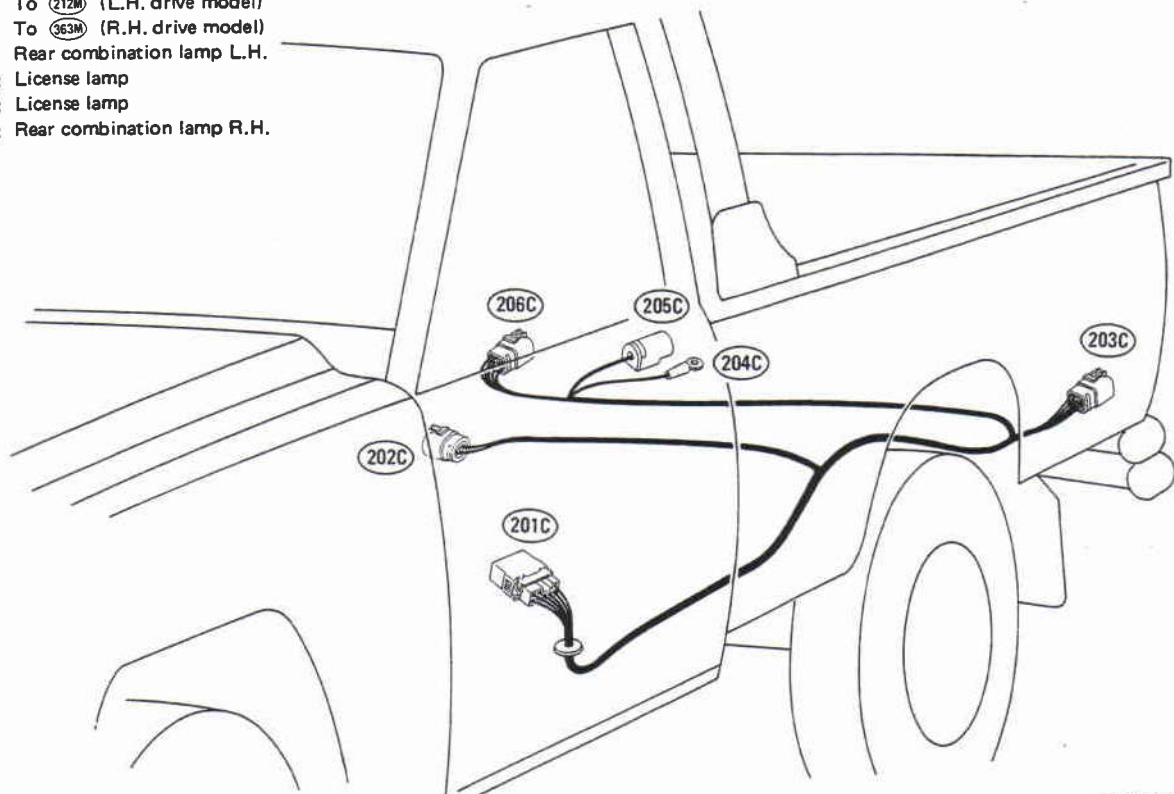


HARNESS LAYOUT

Chassis Harress (Cont'd)

PICKUP MODEL

- (201C) : To (212M) (L.H. drive model)
- (202C) : To (963M) (R.H. drive model)
- (203C) : Rear combination lamp L.H.
- (204C) : License lamp
- (205C) : License lamp
- (206C) : Rear combination lamp R.H.

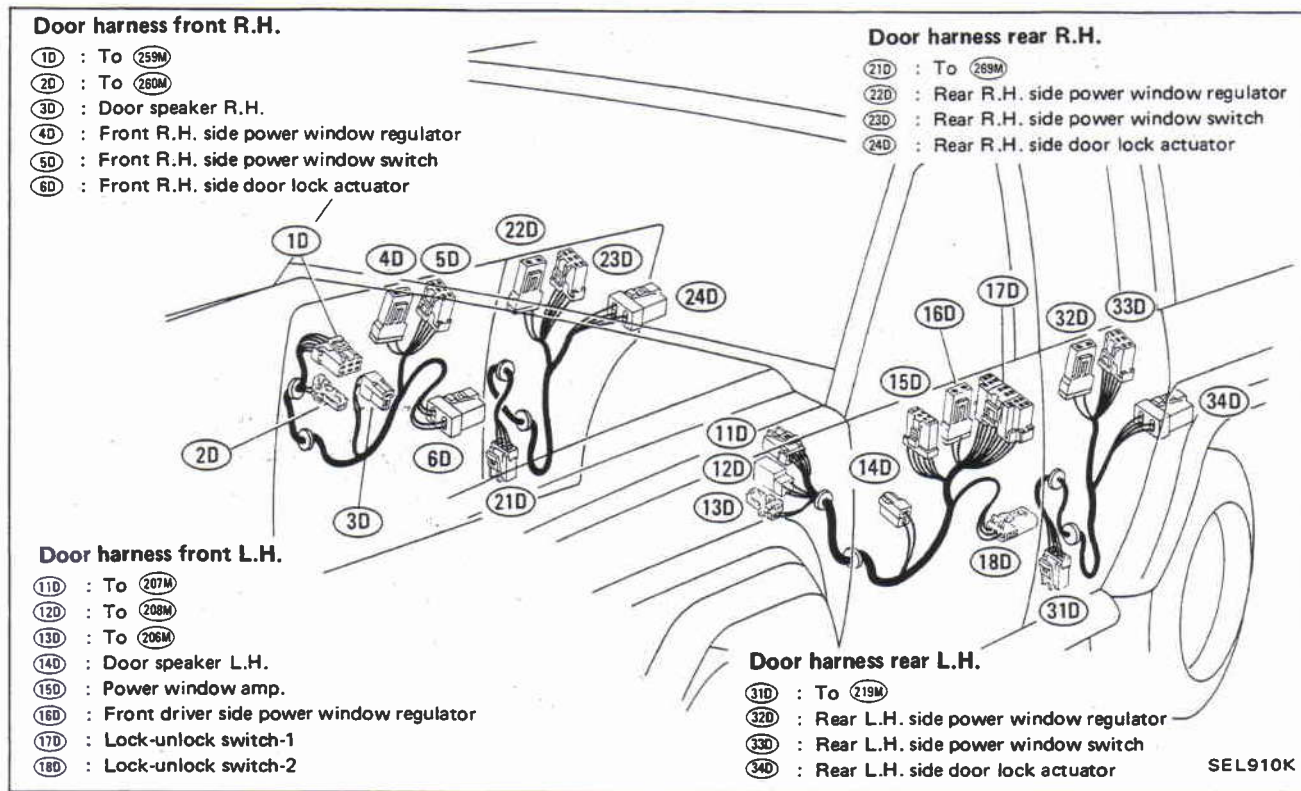


SEL909K

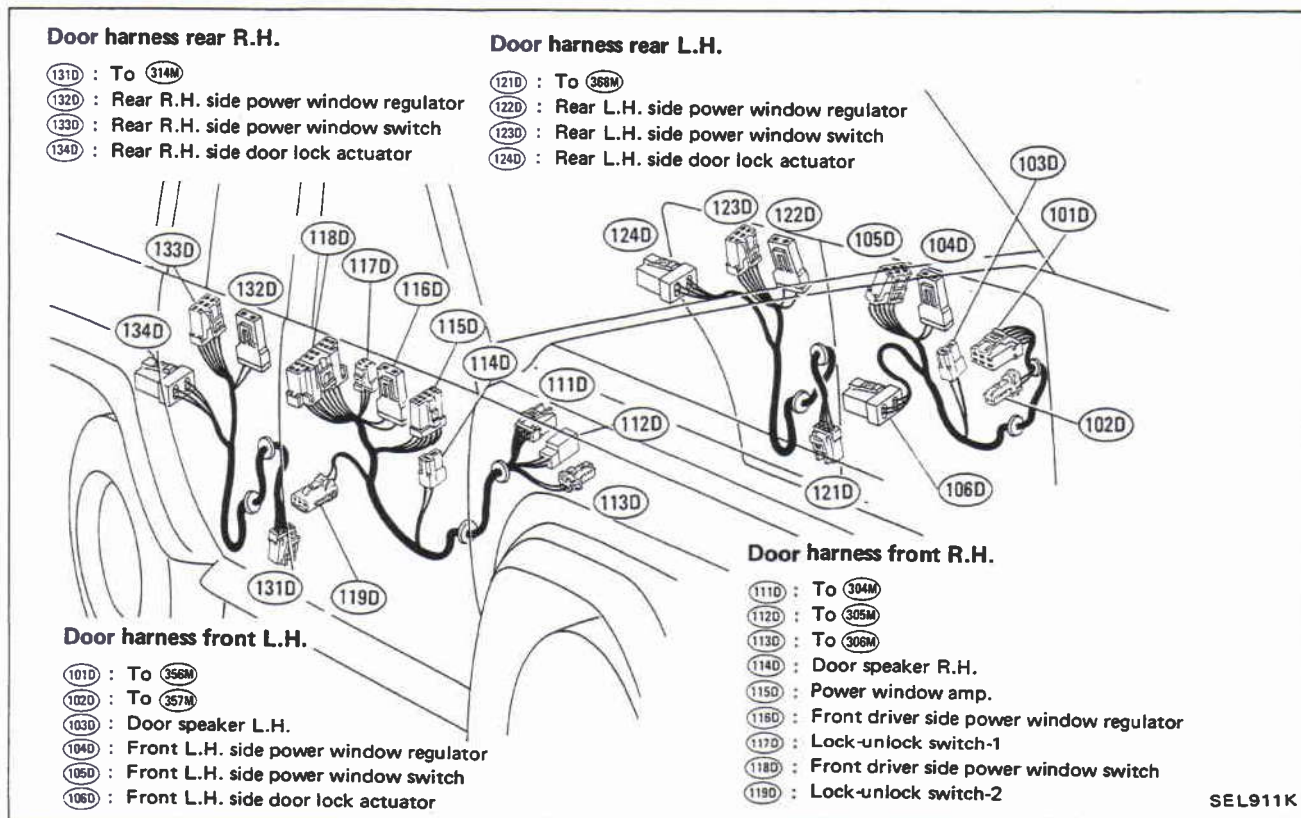
HARNESS LAYOUT

Door Harness

WAGON L.H. DRIVE MODEL



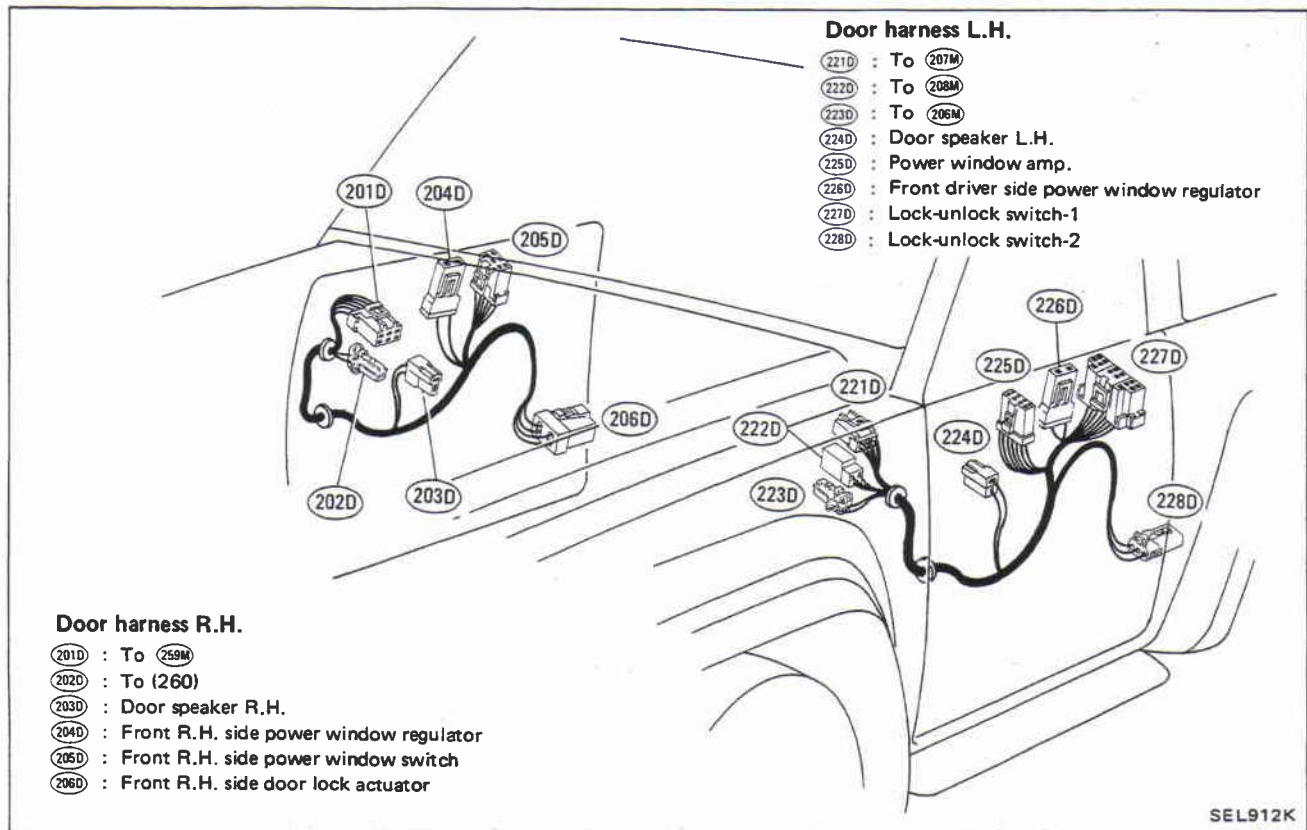
WAGON R.H. DRIVE MODEL



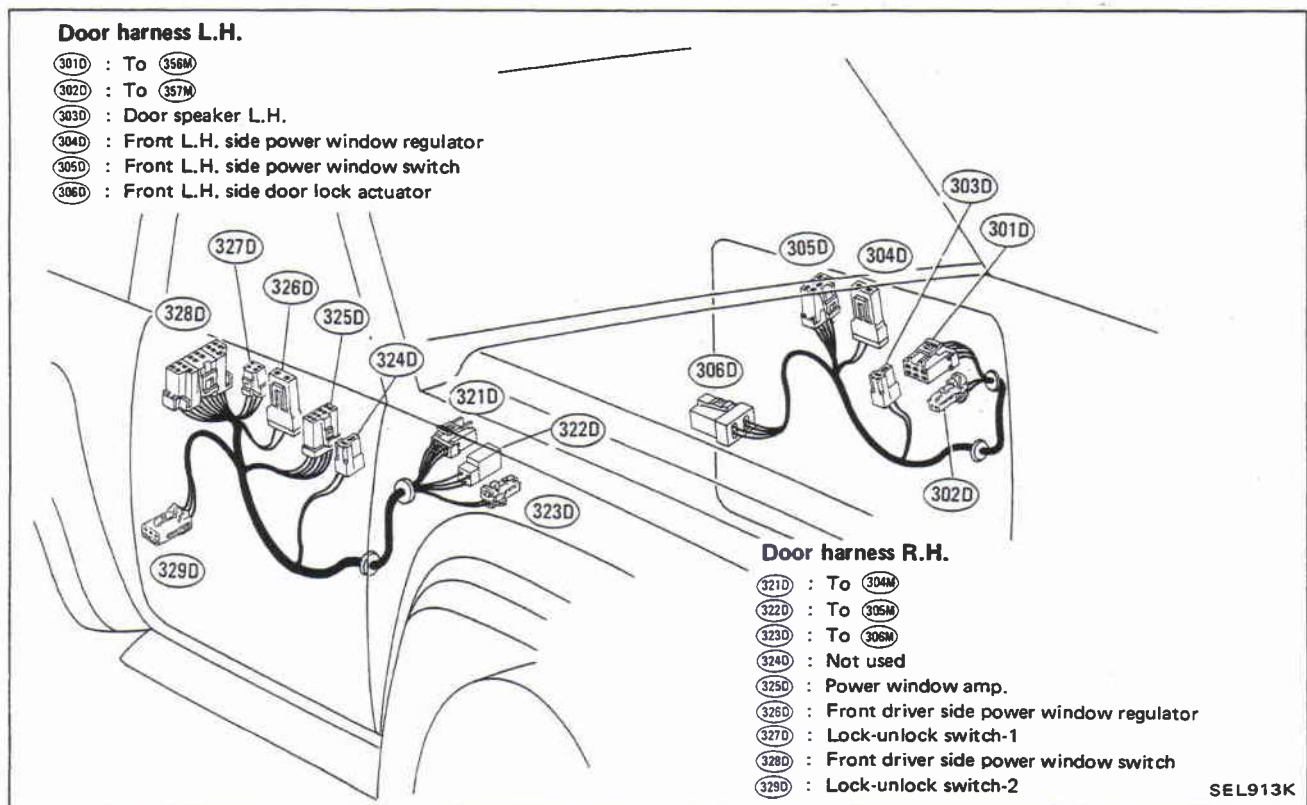
HARNESS LAYOUT

Door Harness (Cont'd)

HARDTOP L.H. DRIVE MODEL



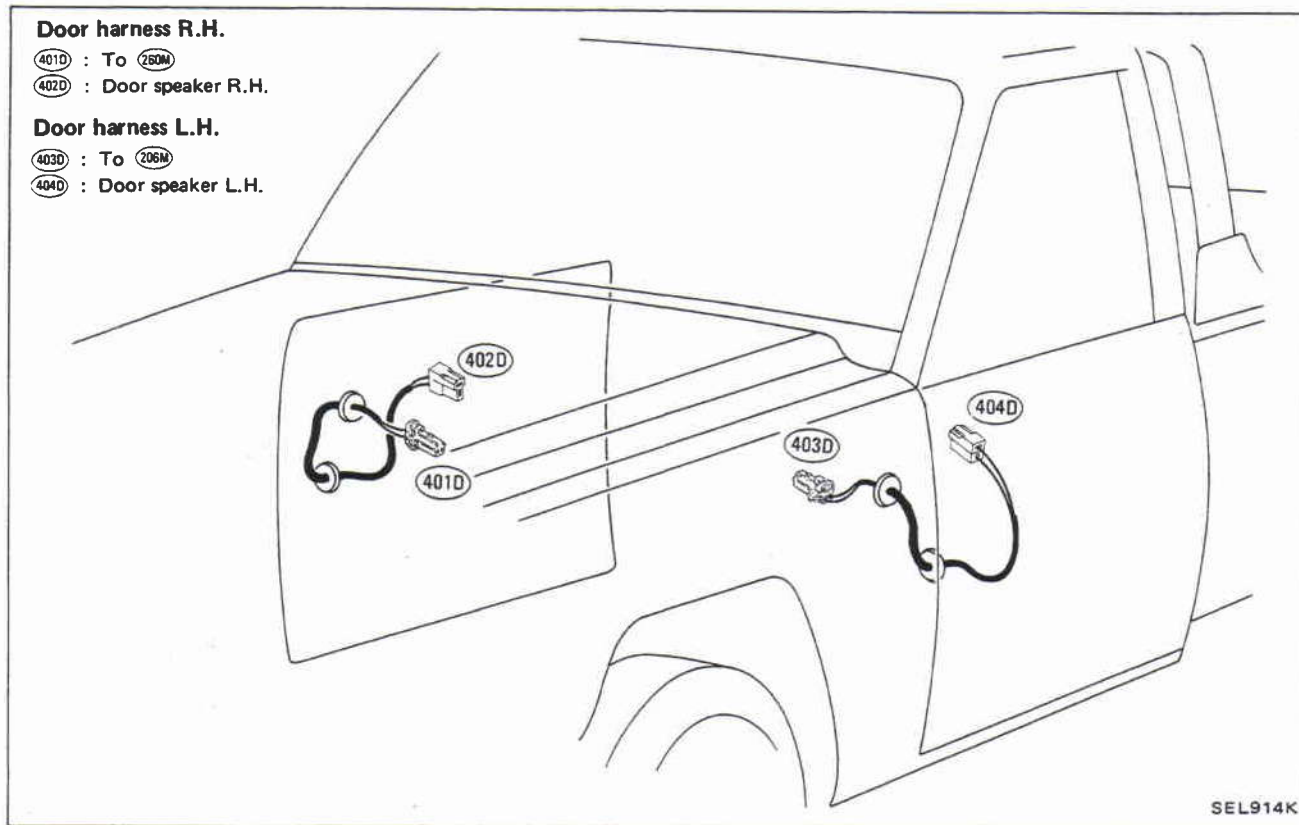
HARDTOP R.H. DRIVE MODEL



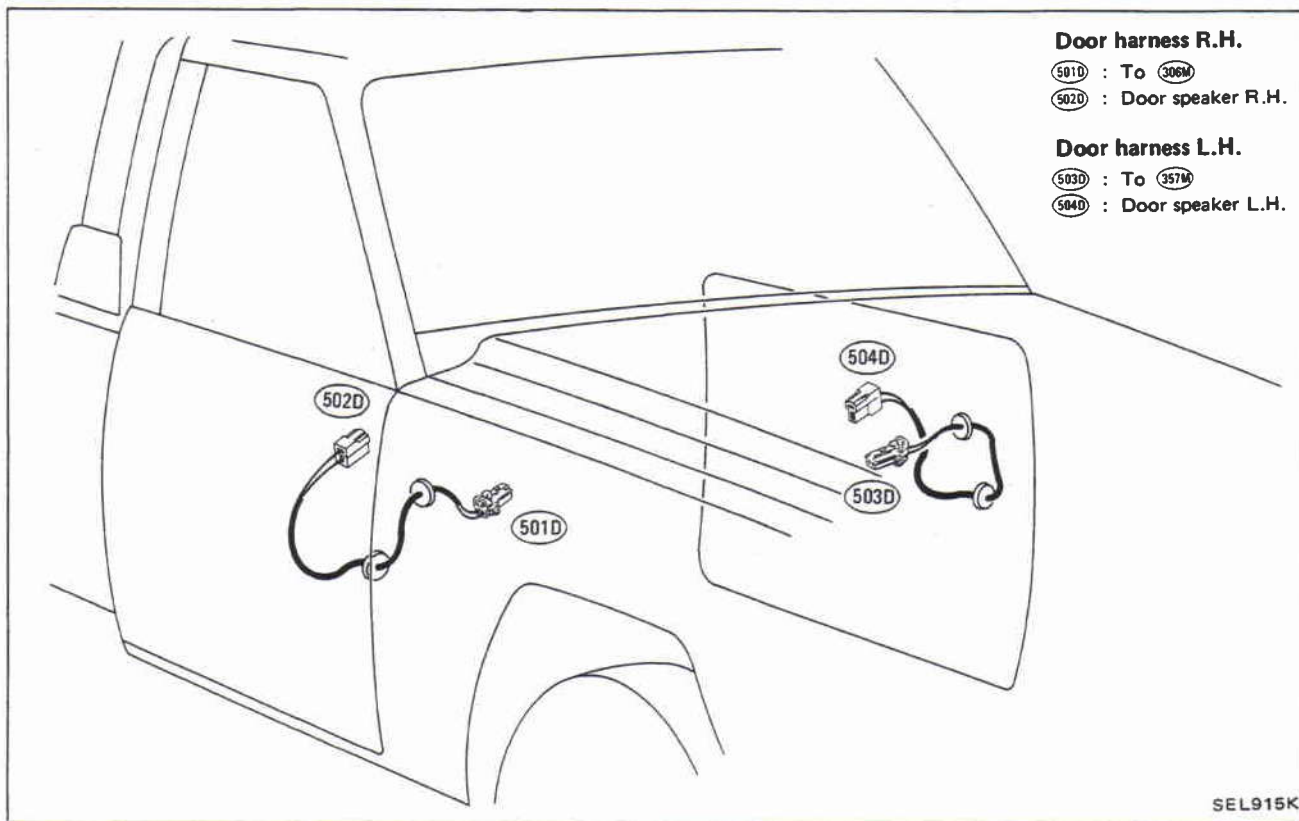
HARNESS LAYOUT

Door Harness (Cont'd)

PICKUP L.H. DRIVE MODEL

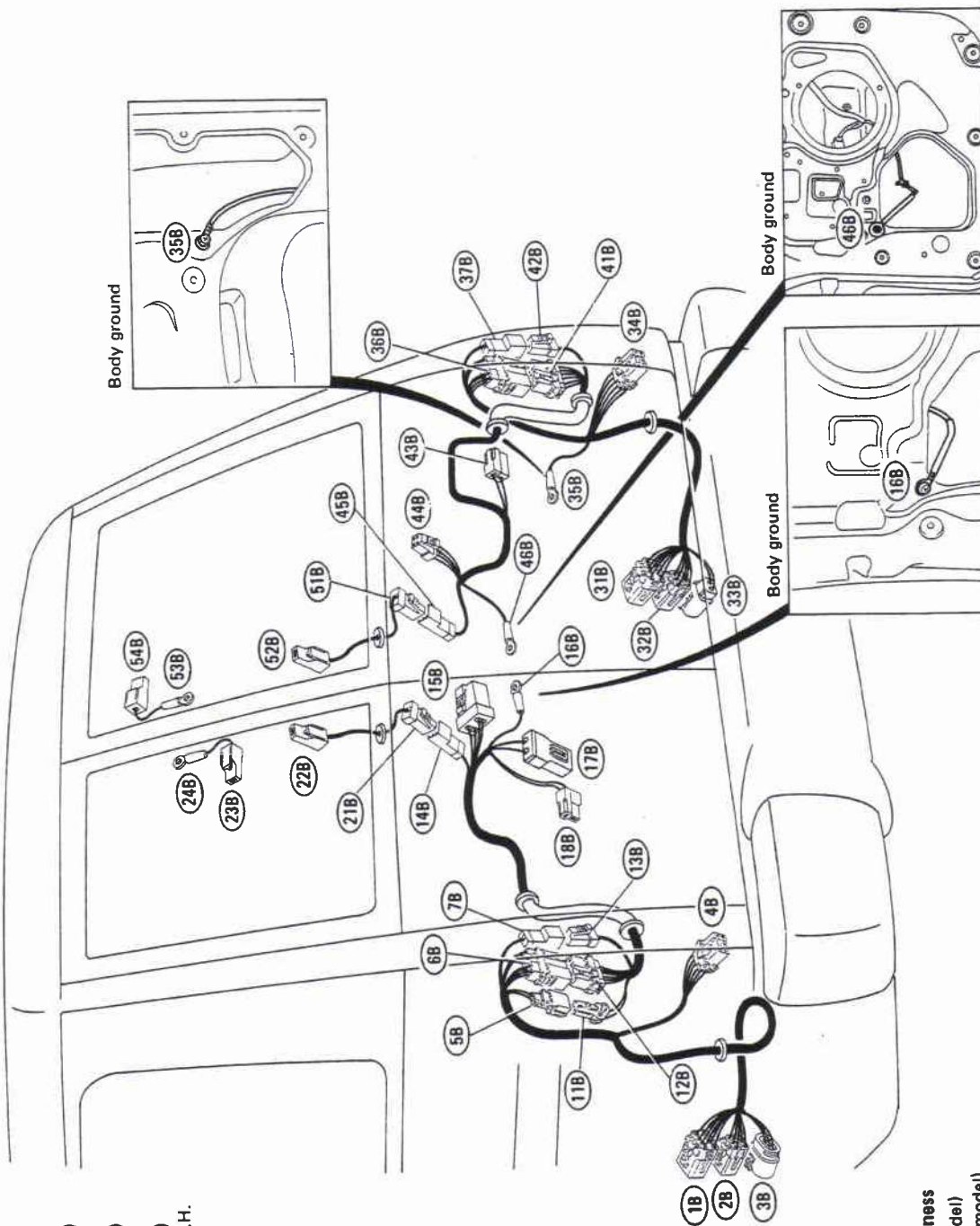


PICKUP R.H. DRIVE MODEL



HARNESS LAYOUT

Back Door and Back Door Sub-Harness



Back door L.H. sub-harness

- 1B : To 8C (Wagon model)
- To 109C (Hardtop model)
- 2B : To 8C (Wagon model)
- To 109C (Hardtop model)
- 3B : To 7C (Wagon model)
- To 107C (Hardtop model)
- 4B : Rear combination lamp L.H.
- 5B : To 11B
- 6B : To 12B
- 7B : To 13B

Back door L.H. harness

- 11B : To 6B
- 12B : To 6B
- 13B : To 1B
- 14B : To 21B
- 15B : Back door actuator
- 16B : Body ground
- 17B : License lamp
- 18B : Rear speaker L.H.

Rear defogger harness L.H.

- 21B : To 46B
- 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

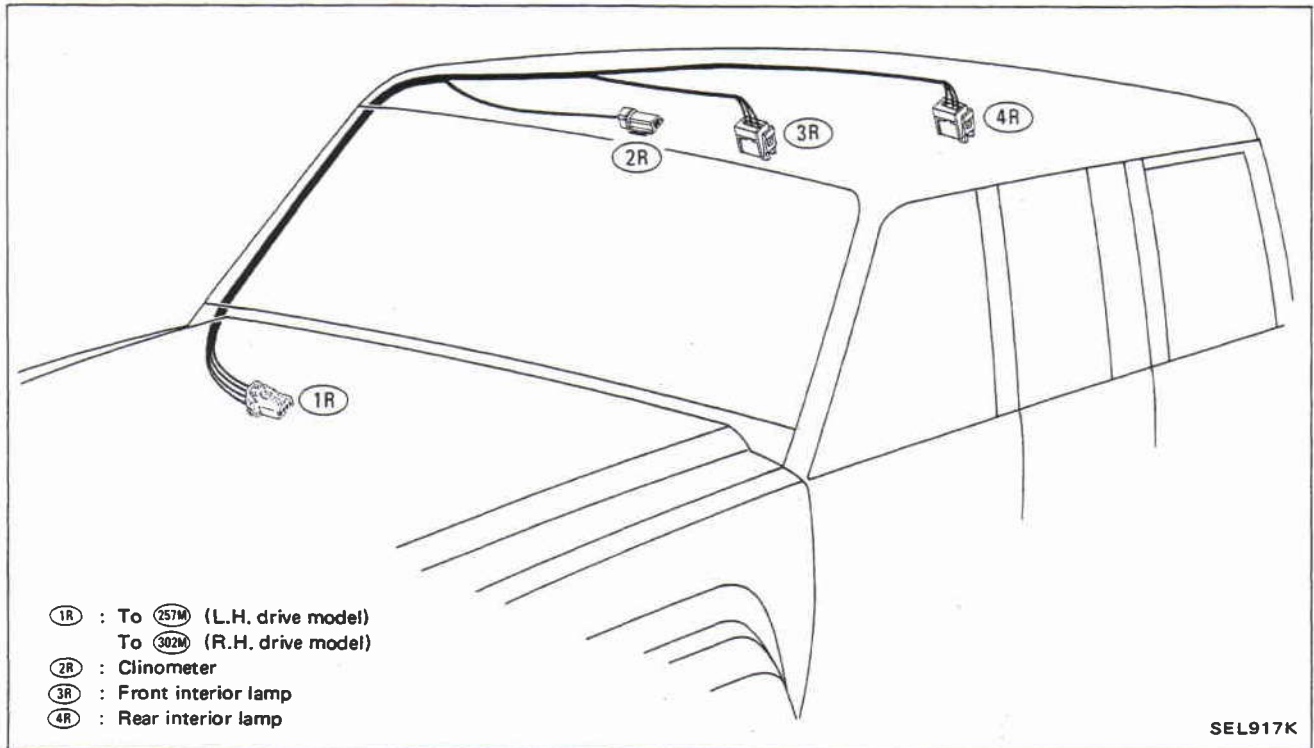
Rear defogger harness L.H.

- 51B : To 46B
- 52B : Rear defogger R.H.
- 53B : Body ground
- 54B : Rear defogger R.H.

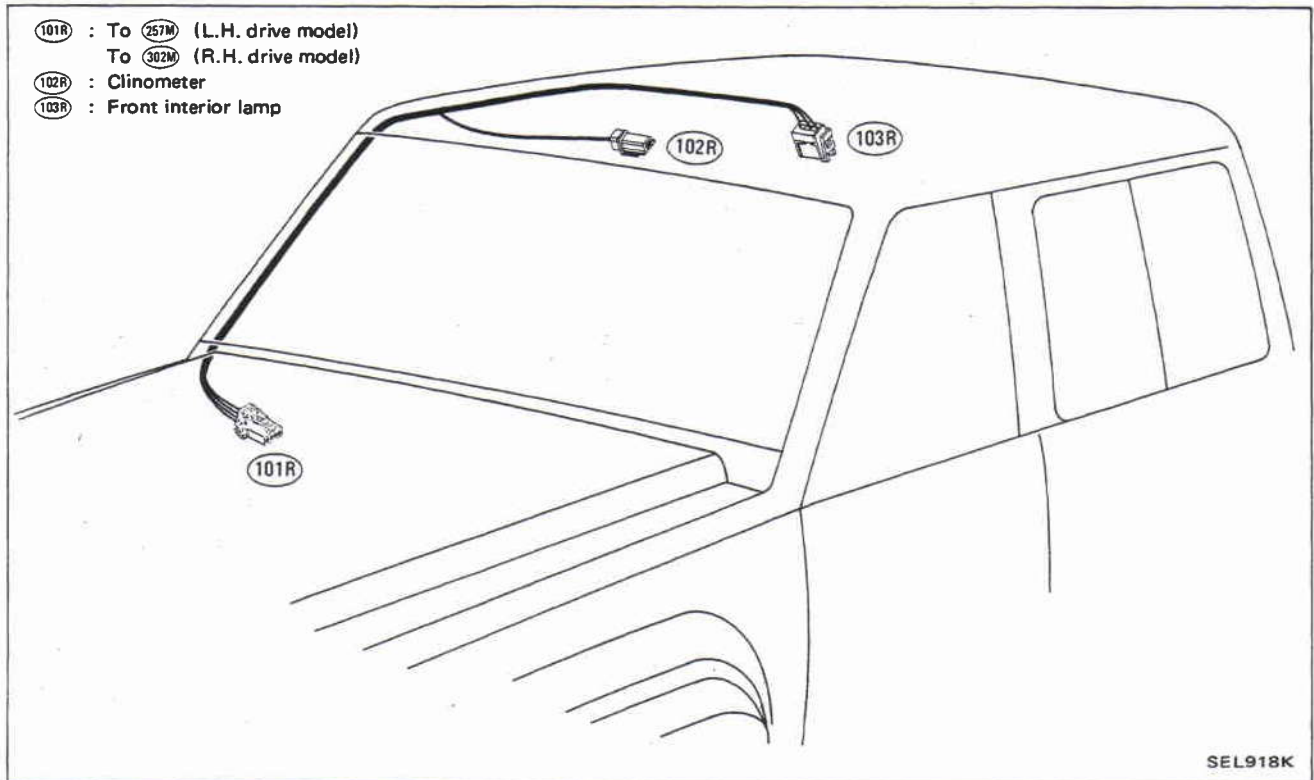
HARNESS LAYOUT

Room Lamp Harness

WAGON MODEL



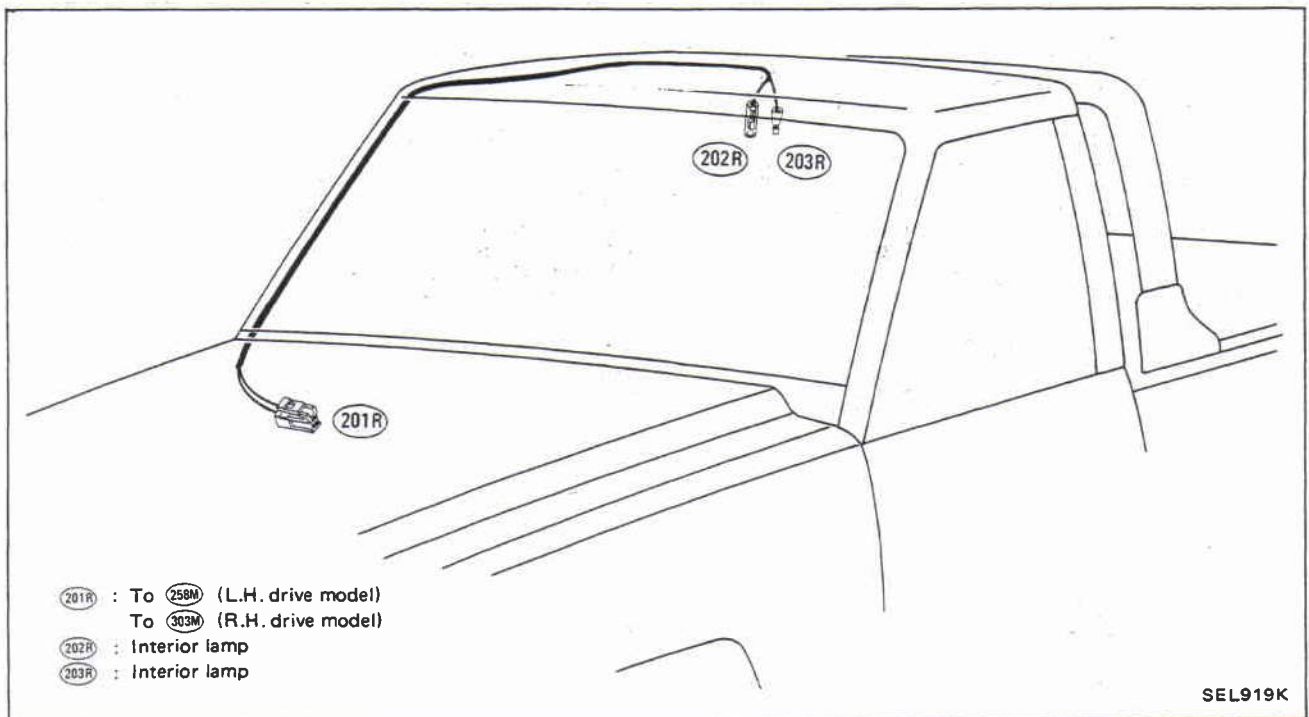
HARDTOP MODEL



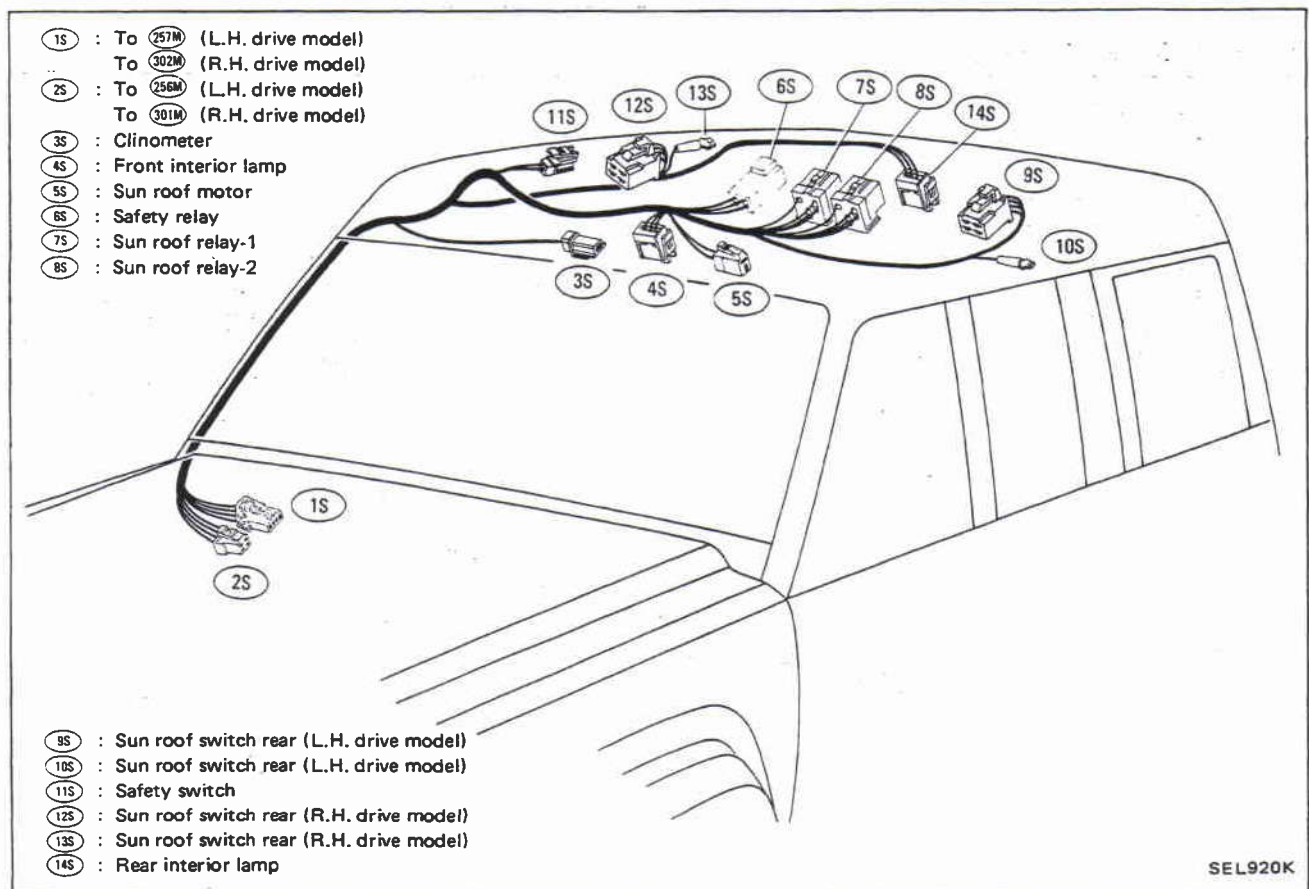
HARNESS LAYOUT

Room Lamp and Sun Roof Harness

PICKUP MODEL (Room lamp harness)



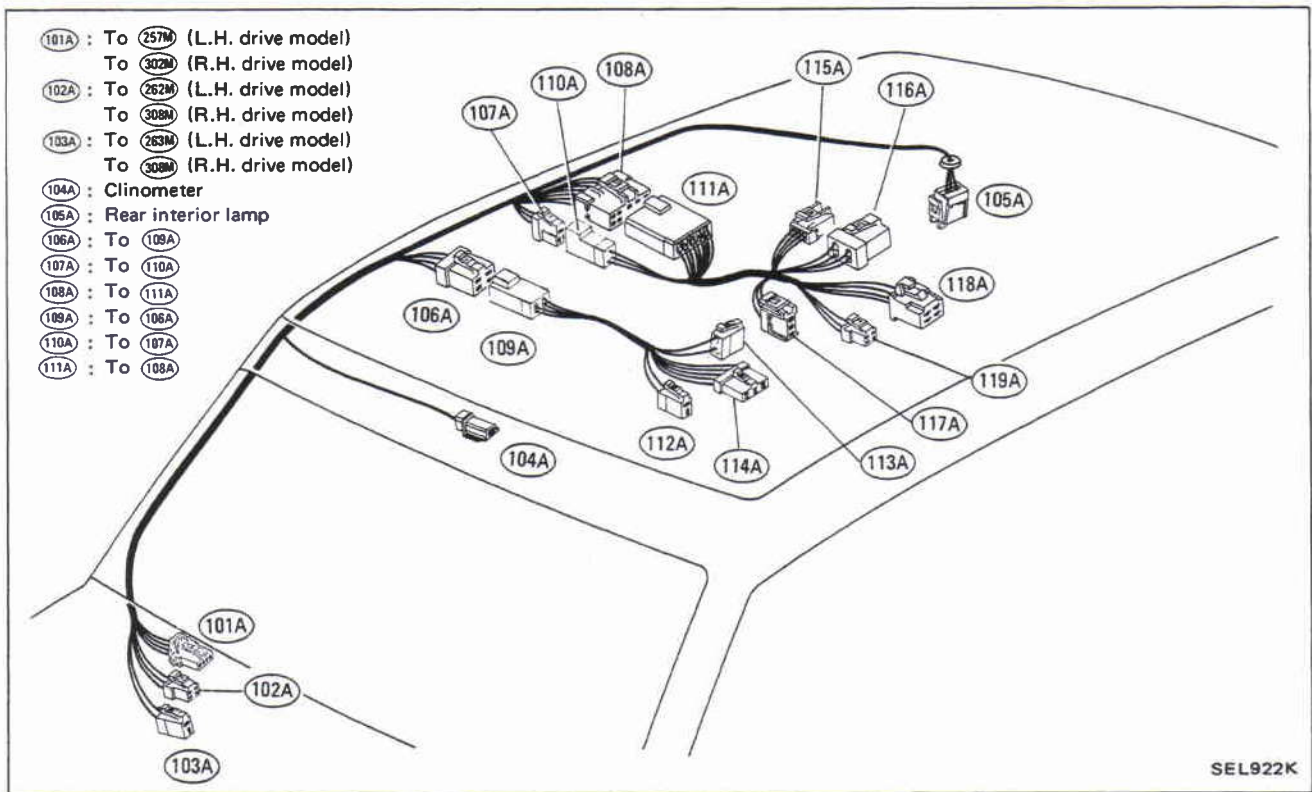
HI-ROOF WAGON (Sun roof harness)



HARNESS LAYOUT

Rear Air Conditioner Harness

OVERHEAD TYPE REAR COOLER (TYPE 1)



REAR COOLER (TYPE 2)

