

ELECTRICAL SYSTEM

SECTION **EL**

When you read wiring diagrams:

- Read GI section, “HOW TO READ WIRING DIAGRAMS”.

When you perform trouble diagnoses, read GI section, “HOW TO FOLLOW FLOW CHART IN TROUBLE DIAGNOSES” and “HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT”.

- Check for any service bulletins before servicing the vehicle.

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WIRING DIAGRAM REFERENCE CHART

ECCS, IGNITION SYSTEM	EC SECTION
ANTI-LOCK BRAKE SYSTEM	BR SECTION
SRS "AIR BAG"	RS SECTION
HEATER AND AIR CONDITIONER	HA SECTION
DIFFERENTIAL CARRIER	PD SECTION
REAR SUSPENSION	RA SECTION
FUEL SYSTEM	FE SECTION

PRECAUTIONS

Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER” used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The SRS system composition which is available to NISSAN MODEL Y61 is as follows (The composition varies according to the destination.):

Driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioner, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.

Information necessary to service the system safely is included in the **RS section** of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the RS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses covered with yellow insulation either just before the harness connectors or for the complete harness are related to the SRS.**

HARNESS CONNECTOR

Description

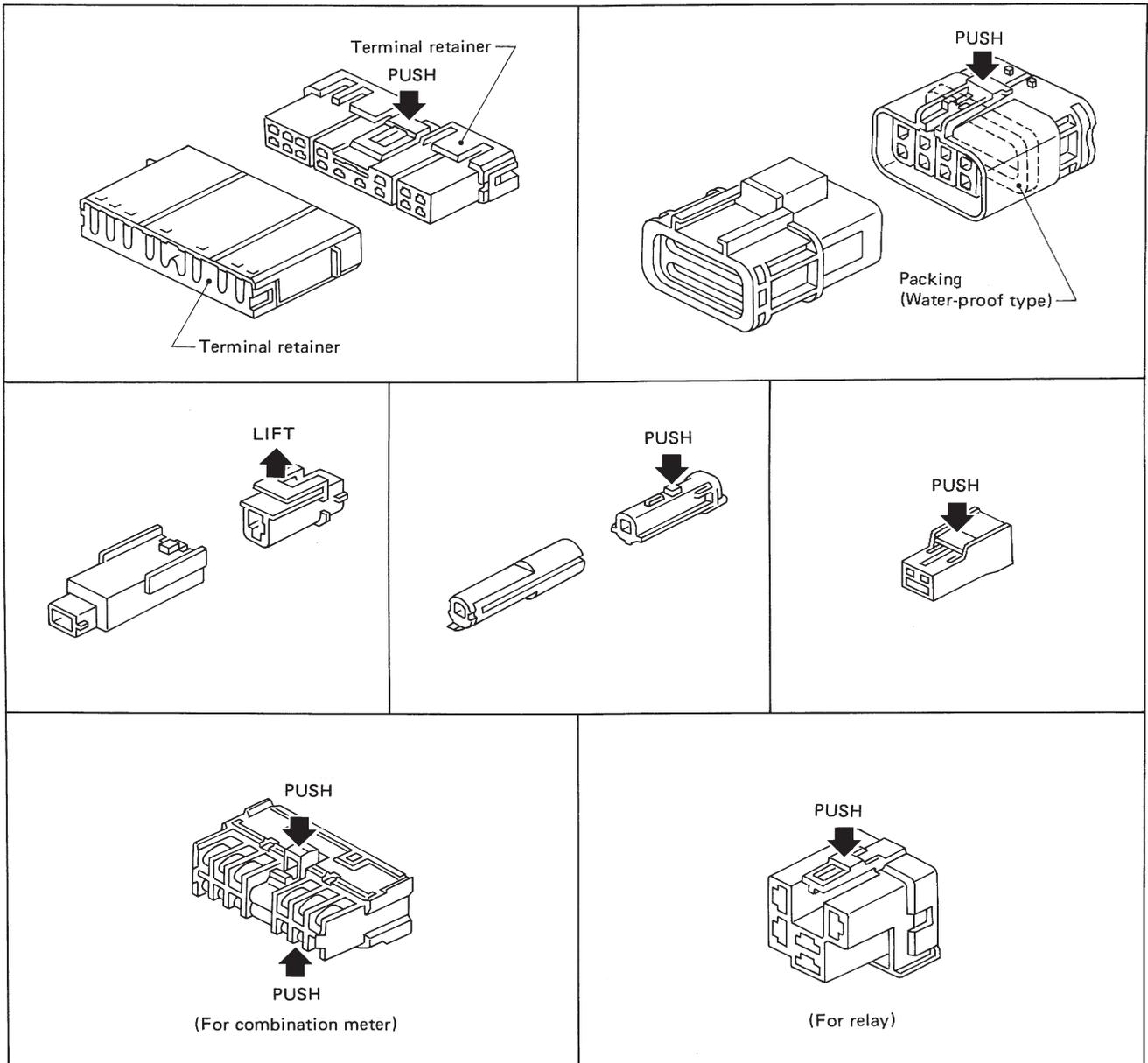
HARNESS CONNECTOR

- All harness connectors have been modified to prevent accidental looseness or disconnection.
- The connector can be disconnected by pushing or lifting the locking section.

CAUTION:

Do not pull the harness when disconnecting the connector.

[Example]



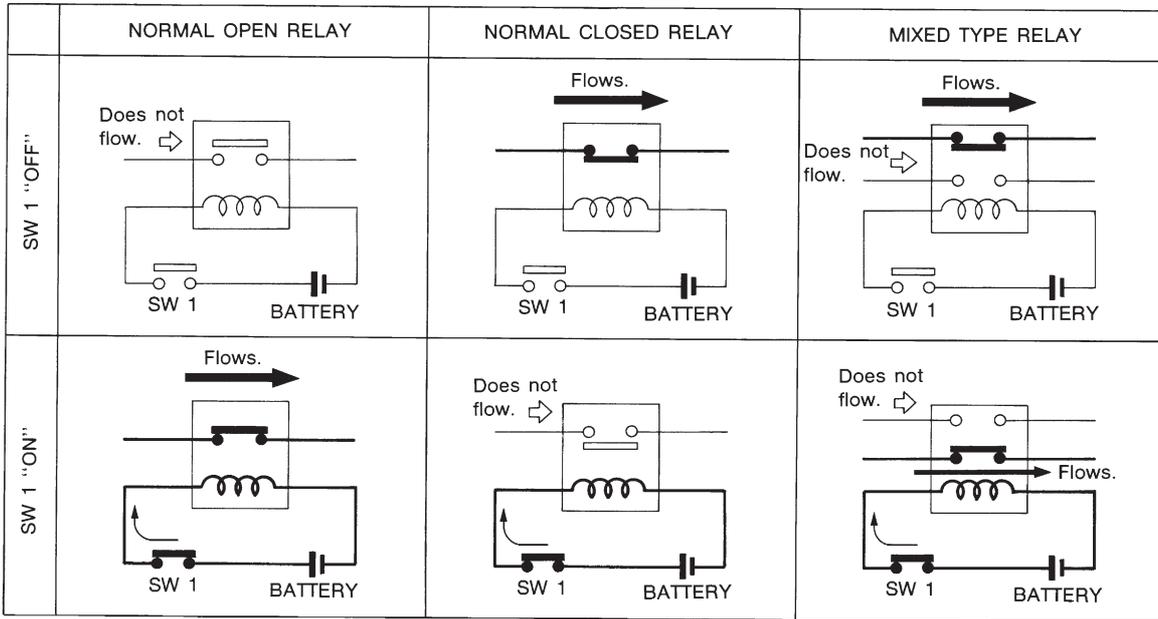
SEL769D

STANDARDIZED RELAY

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

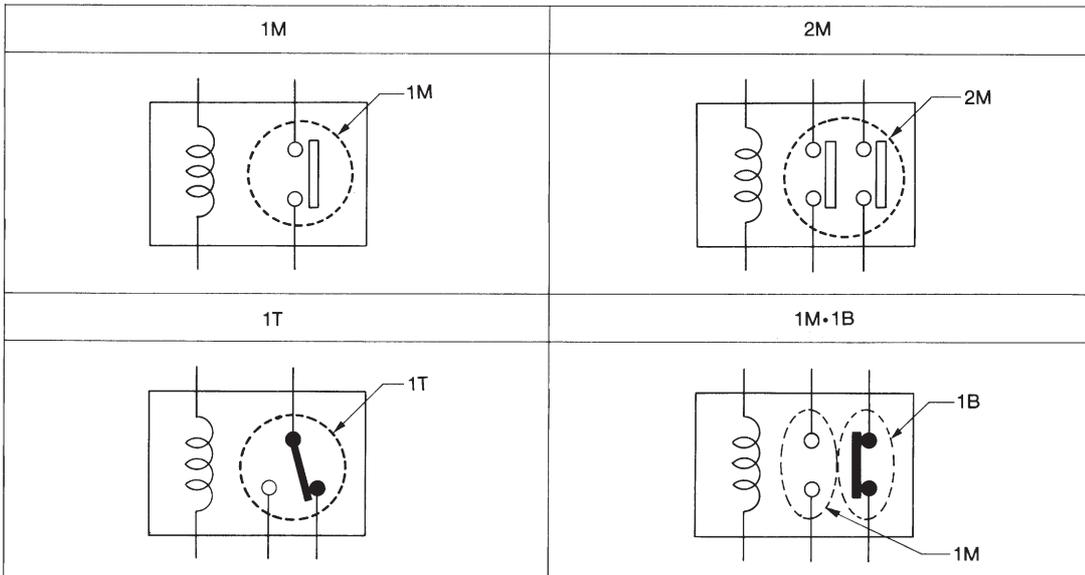
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



SEL881H

TYPE OF STANDARDIZED RELAYS

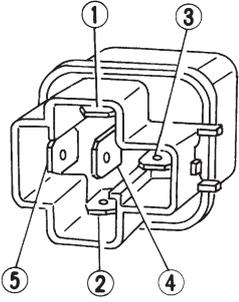
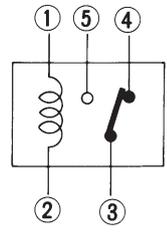
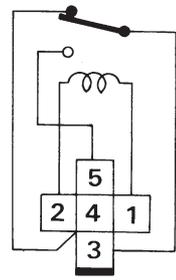
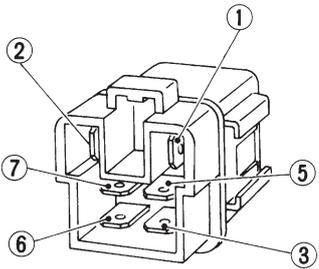
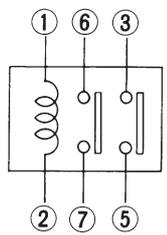
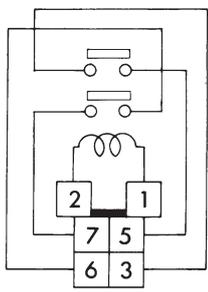
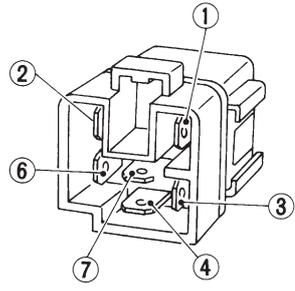
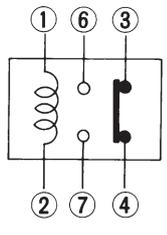
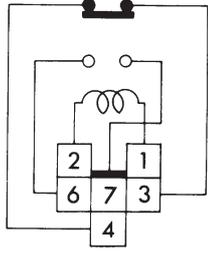
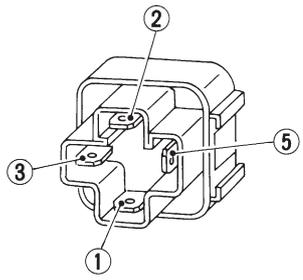
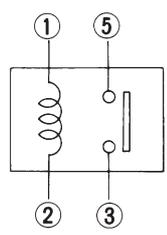
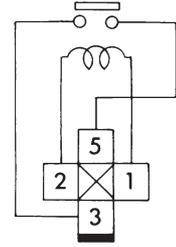
- 1M 1 Make 2M 2 Make
- 1T 1 Transfer 1M·1B 1 Make 1 Break



SEL882H

STANDARDIZED RELAY

Description (Cont'd)

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

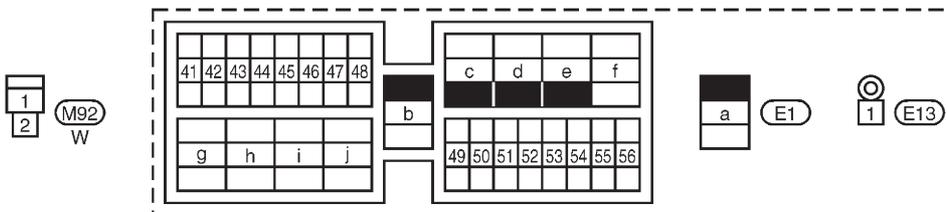
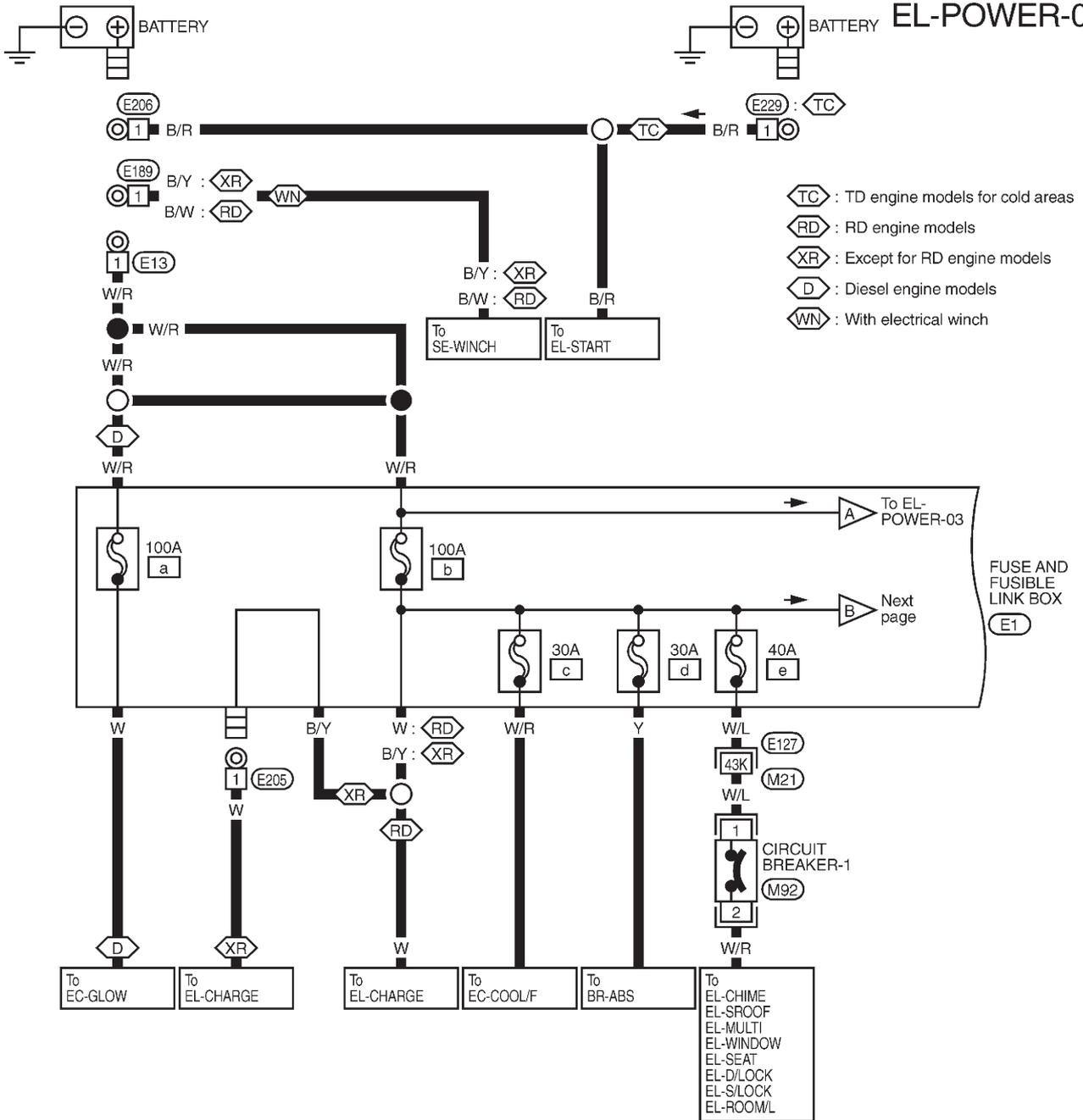
The arrangement of terminal numbers on the actual relays may differ from those shown above.

POWER SUPPLY ROUTING

Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

EL-POWER-01



Refer to last page (Foldout page).

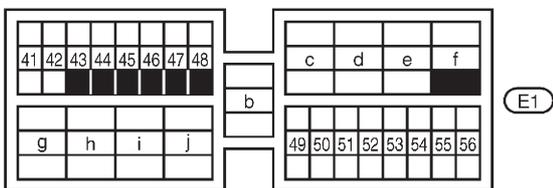
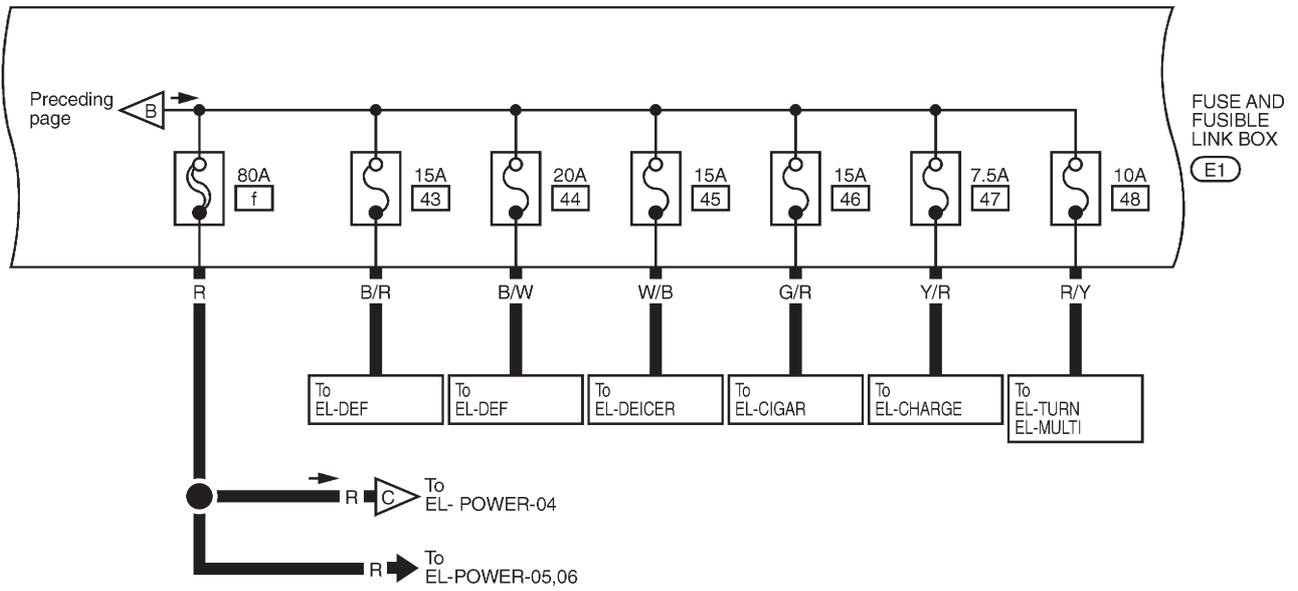
M21, E127

1 E189, E205, E206, E229

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

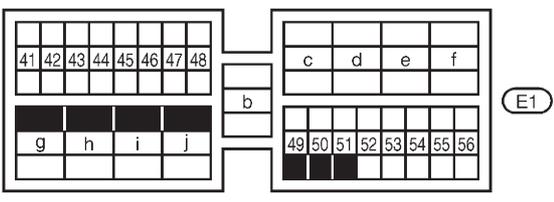
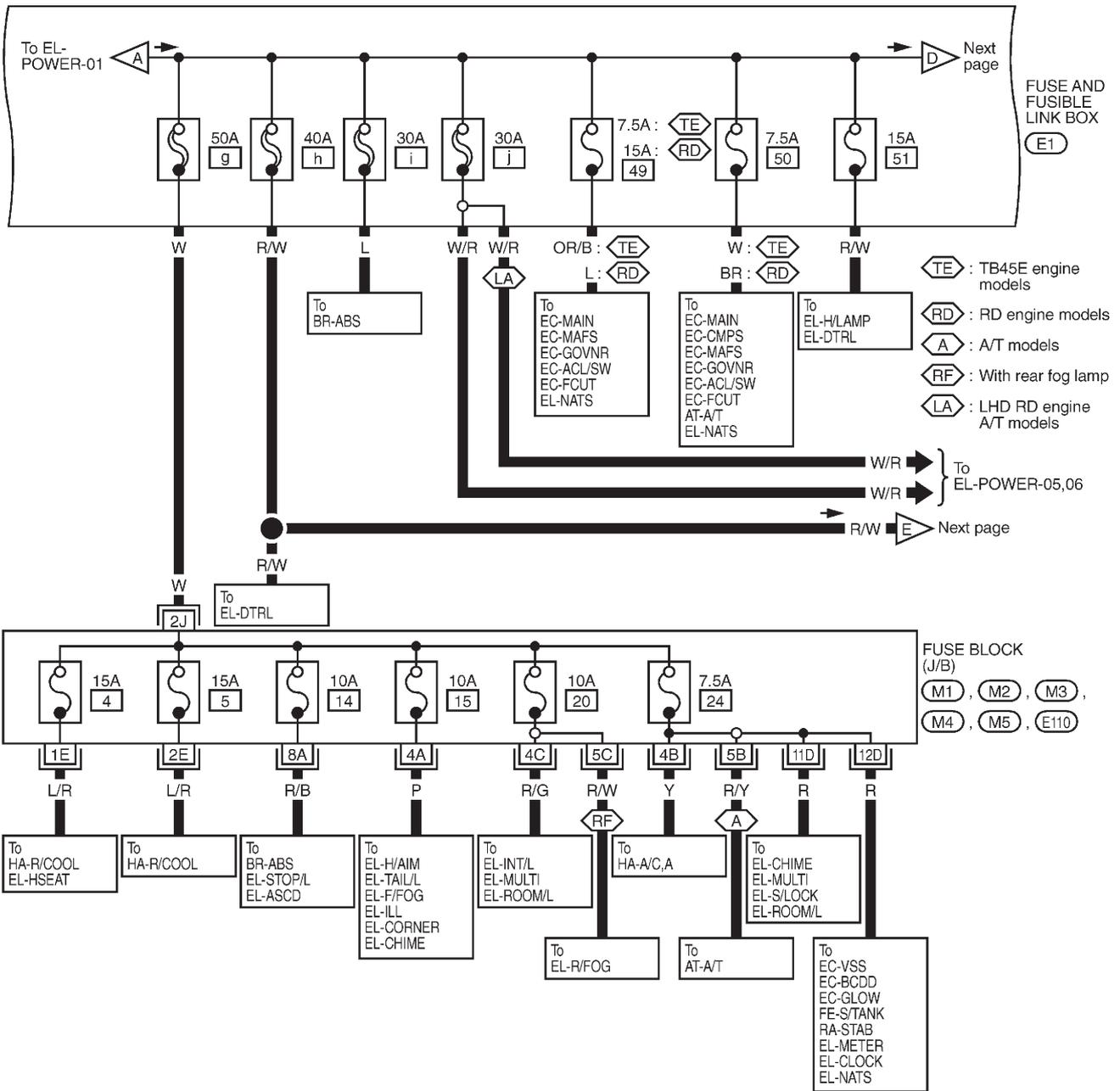
EL-POWER-02



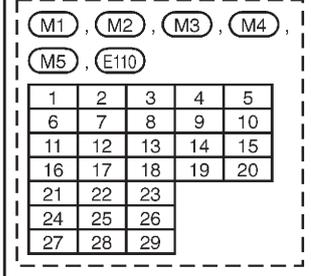
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03



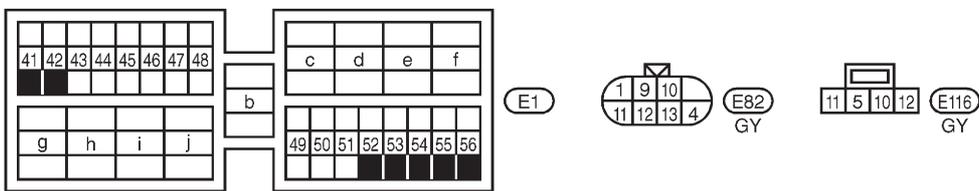
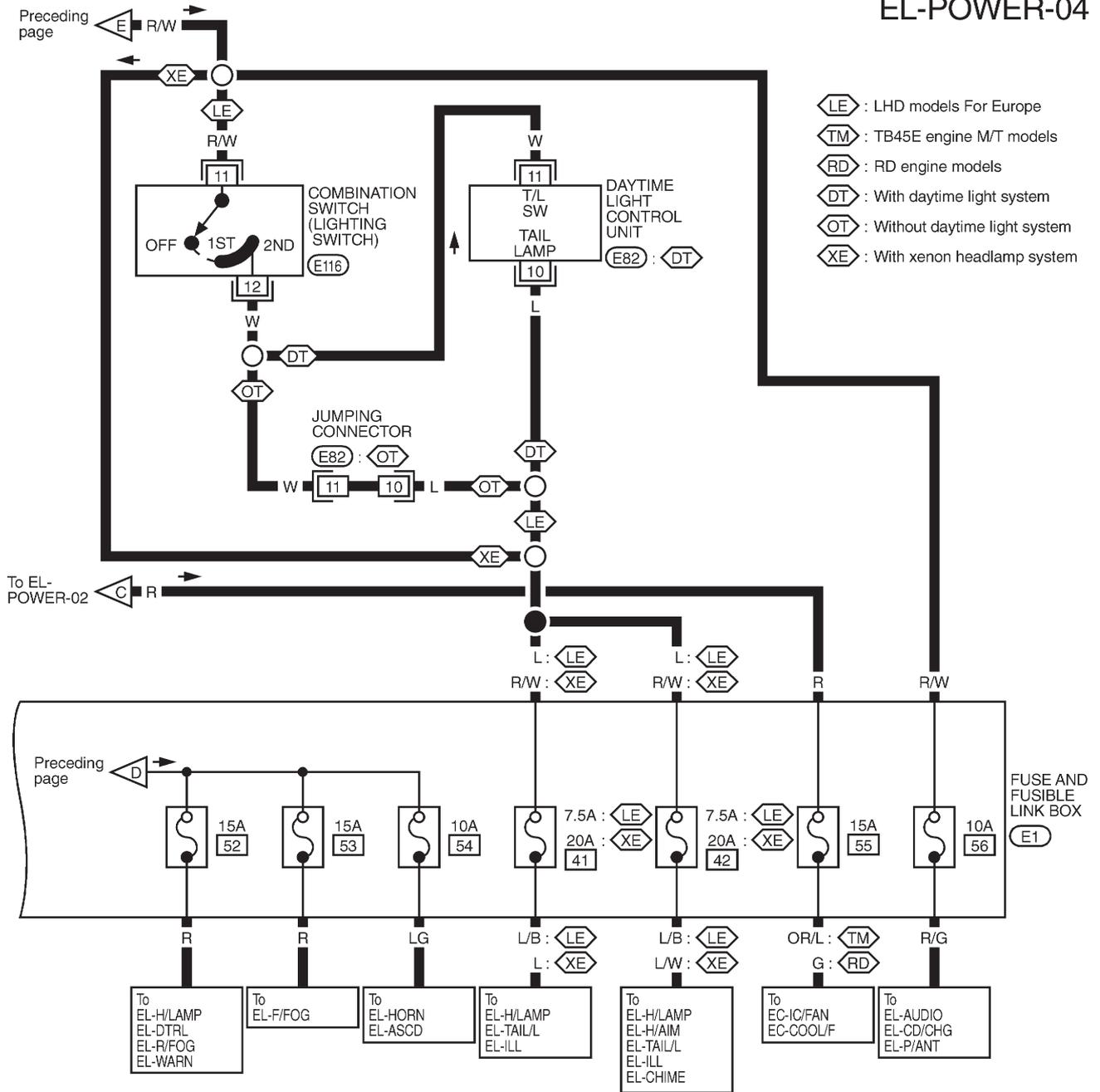
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-04

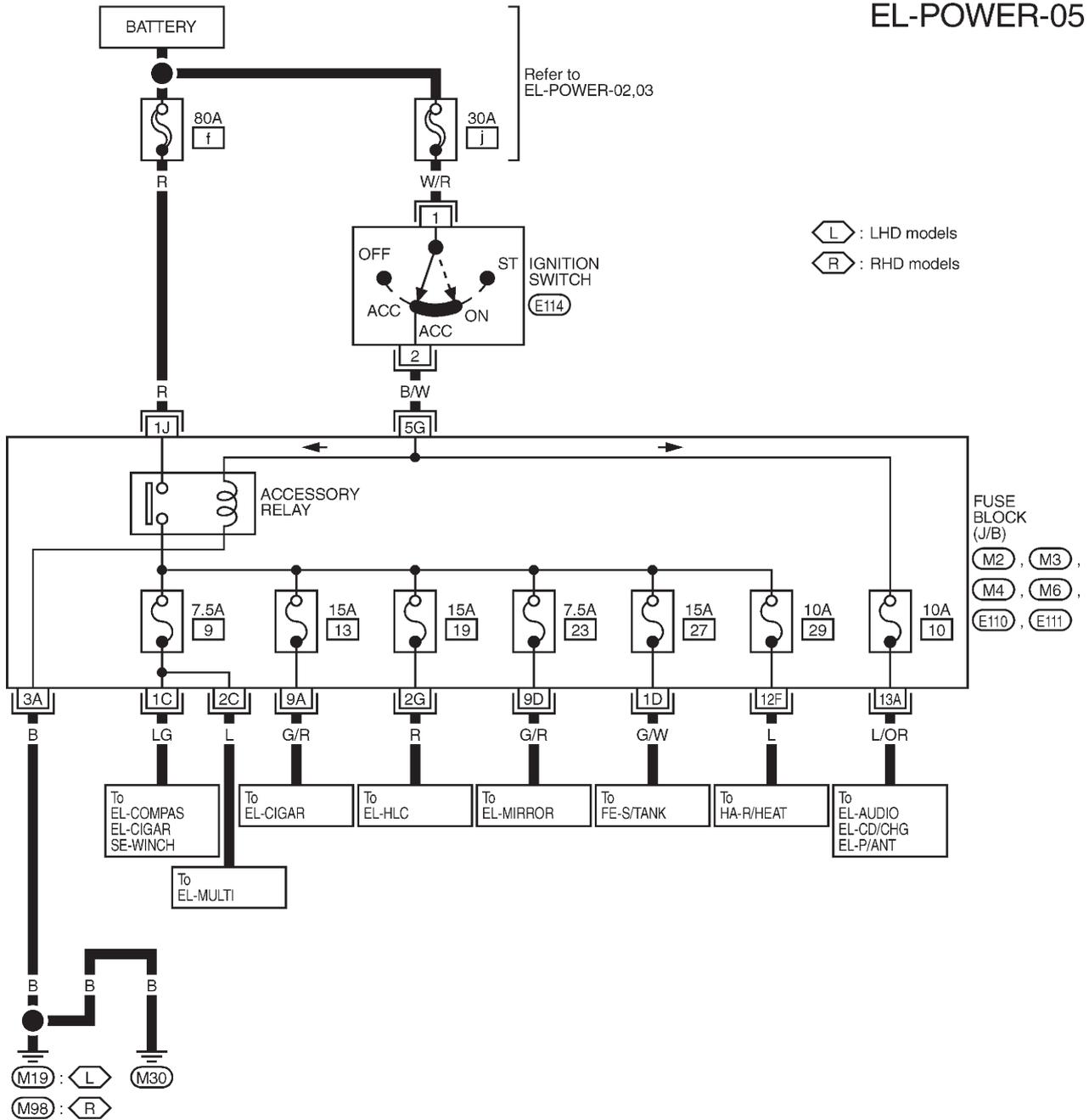


POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

ACCESSORY POWER SUPPLY — IGNITION SW. IN "ACC" OR "ON"

EL-POWER-05



3	5	1
4	2	6

E114
W

Refer to last page (Foldout page).

M2, M3, M4
M6, E110, E111

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

TEL483A

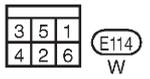
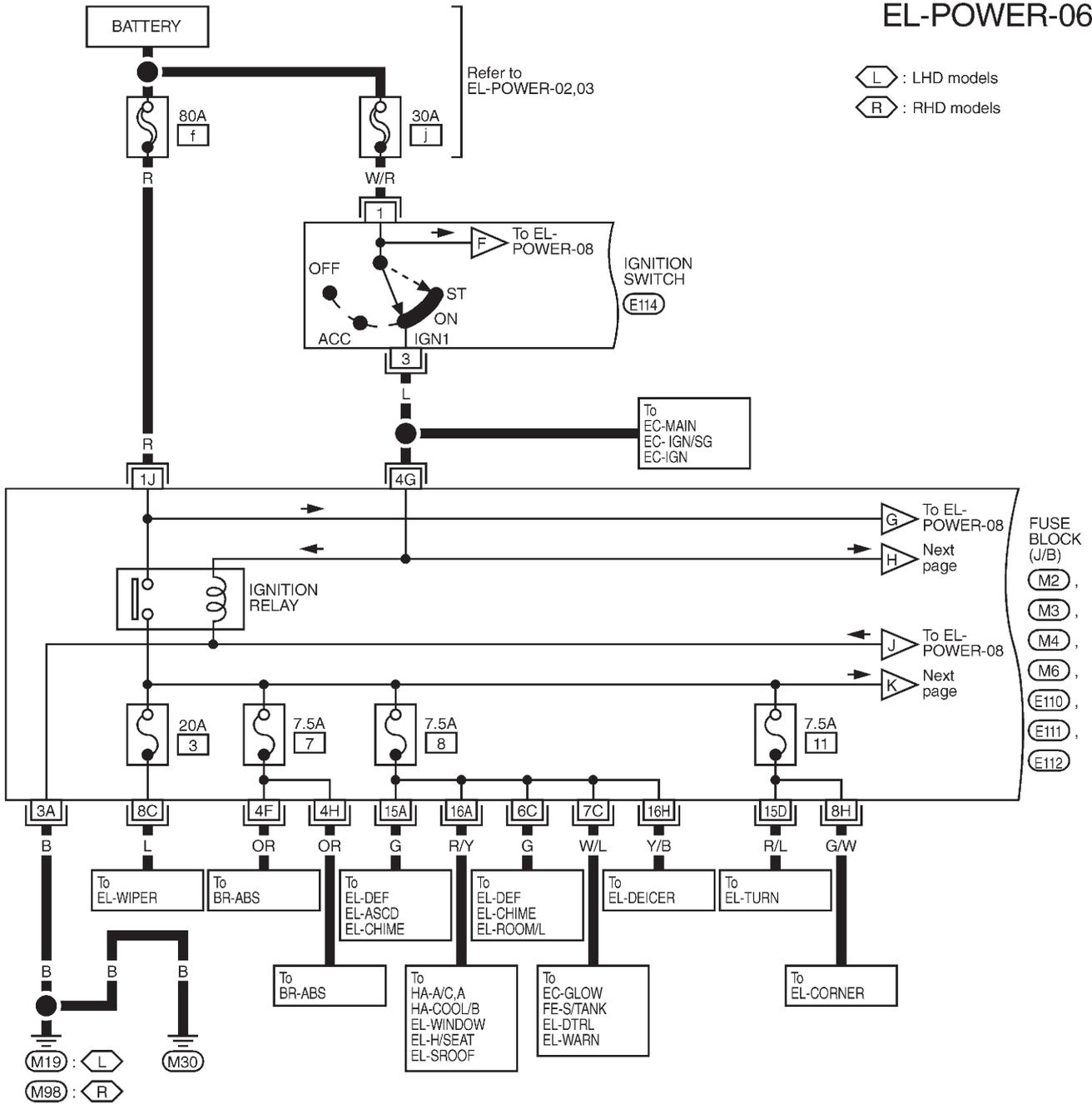
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

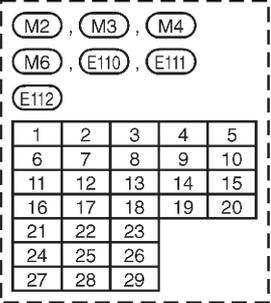
IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START"

EL-POWER-06

⬡ : LHD models
 ⬢ : RHD models



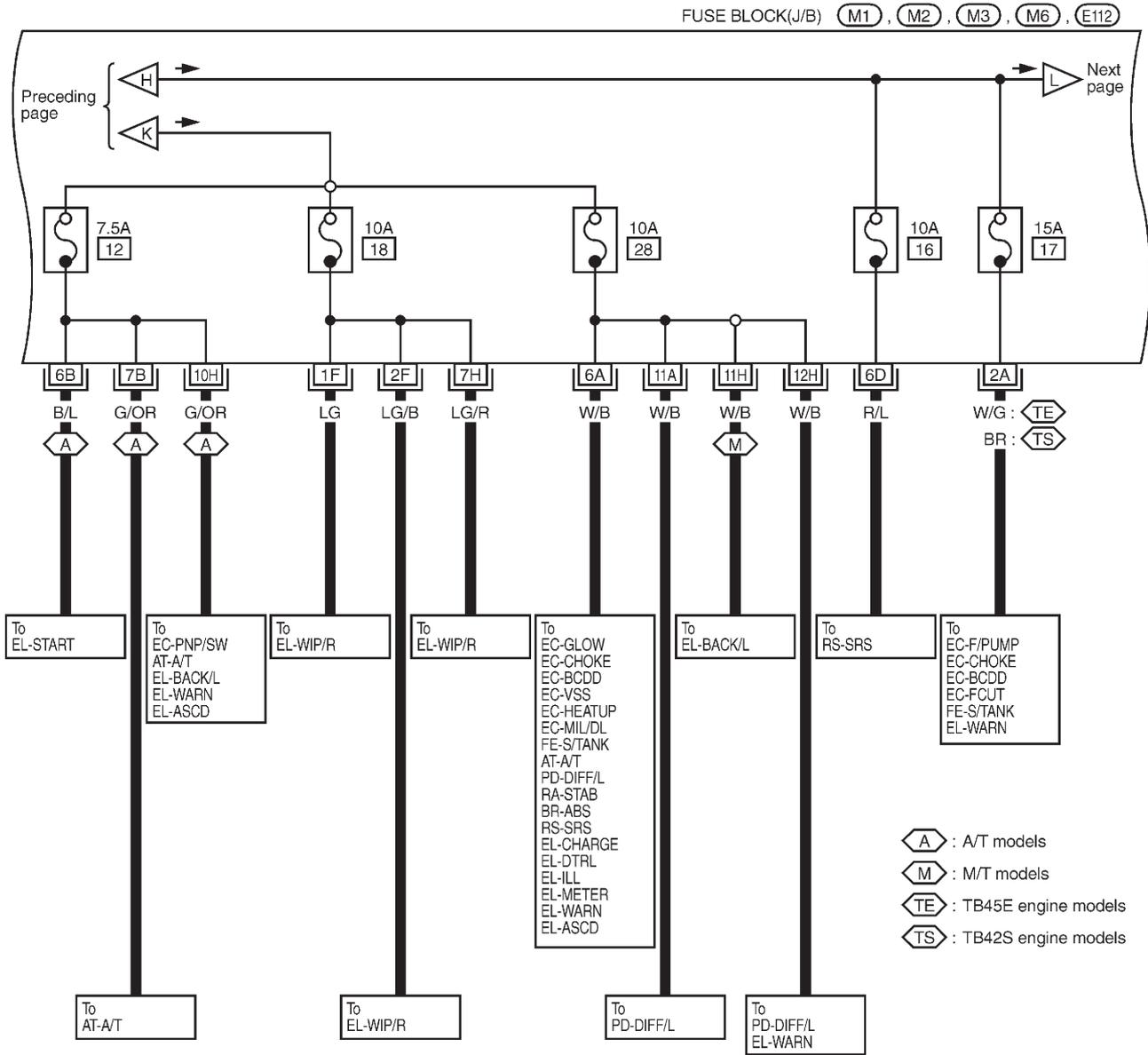
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-07



Refer to last page (Foldout page).

(M1), (M2), (M3)

(M6), (E112)

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

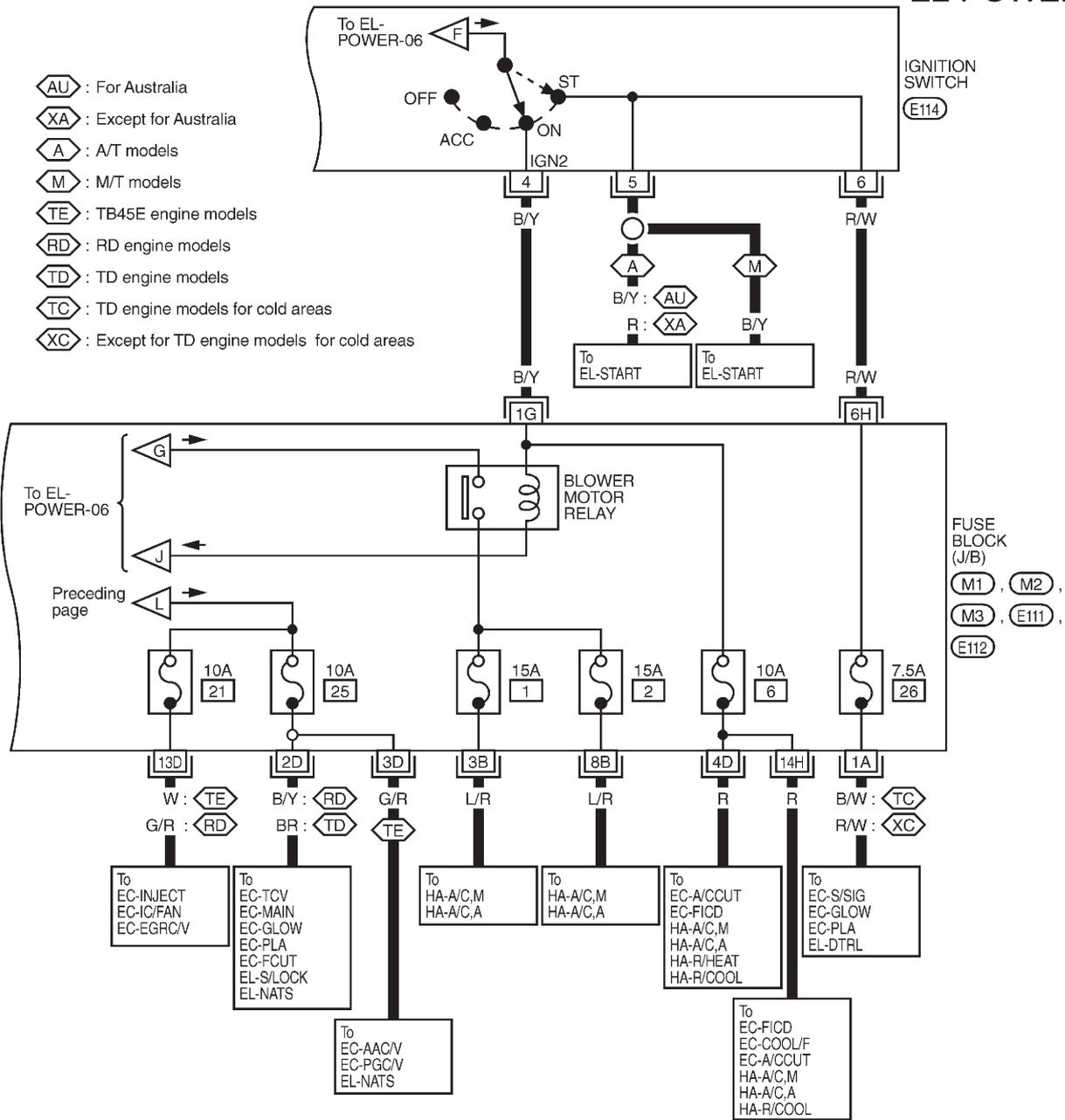
TEL485A

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-08

- AU : For Australia
- XA : Except for Australia
- A : A/T models
- M : M/T models
- TE : TB45E engine models
- RD : RD engine models
- TD : TD engine models
- TC : TD engine models for cold areas
- XC : Except for TD engine models for cold areas

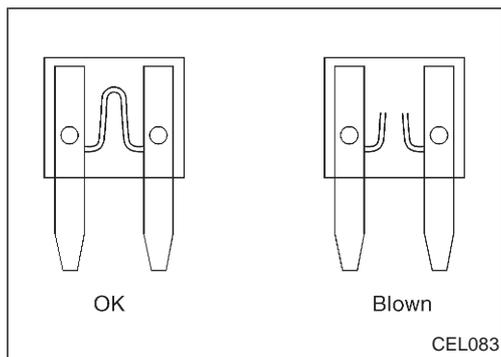


3	5	1	E114 W
4	2	6	

Refer to last page (Foldout page).

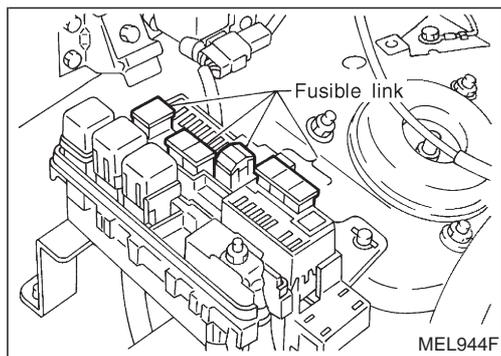
M1 , M2 , M3 , E111				
E112				
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

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 partially install fuse; always insert it into fuse holder properly.
- Remove fuse for "ELECTRICAL PARTS (BAT)" if vehicle is not used for a long period of time.

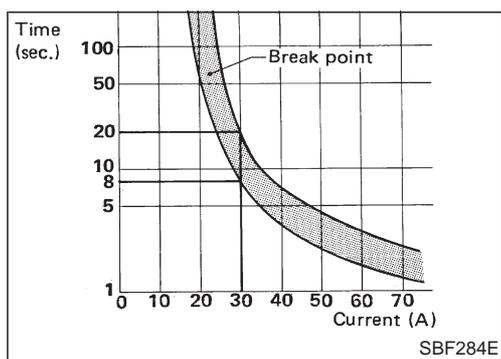


Fusible Link

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 outside of fusible link with vinyl tape. Important: Never let fusible link touch any other wiring harness, vinyl or rubber parts.

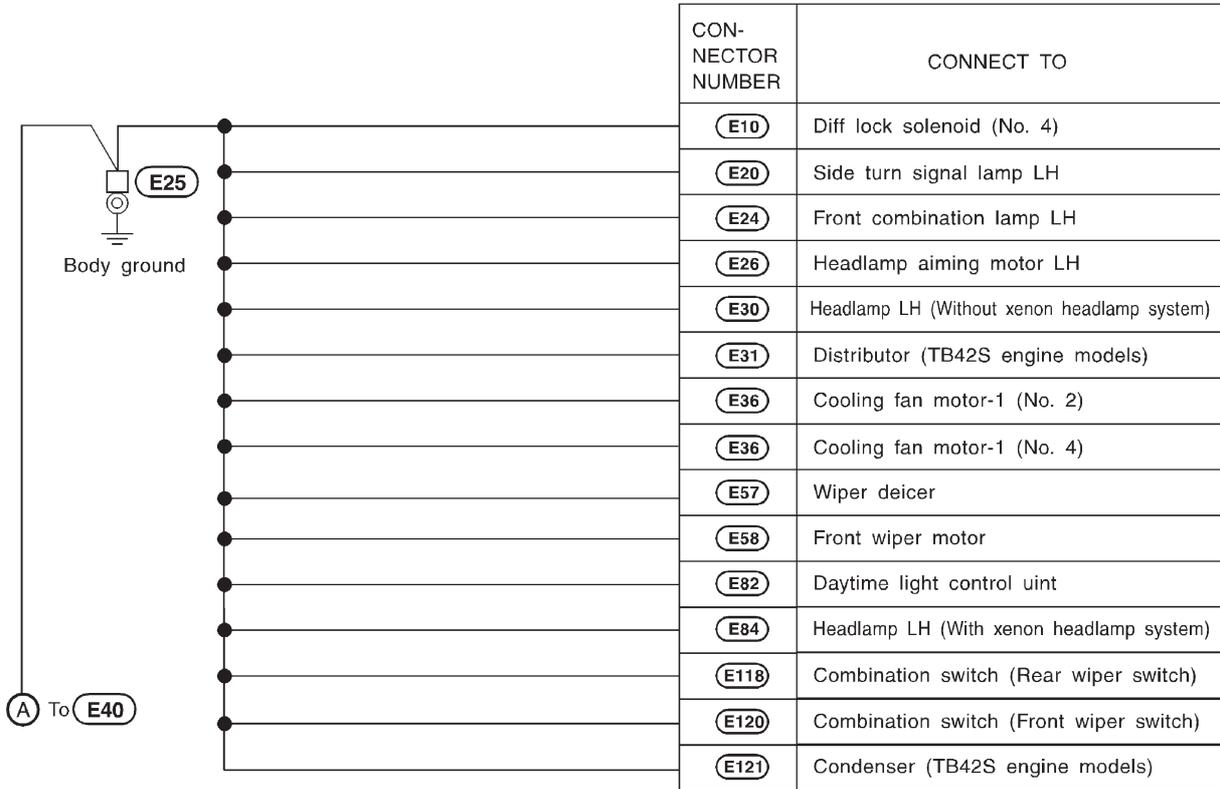
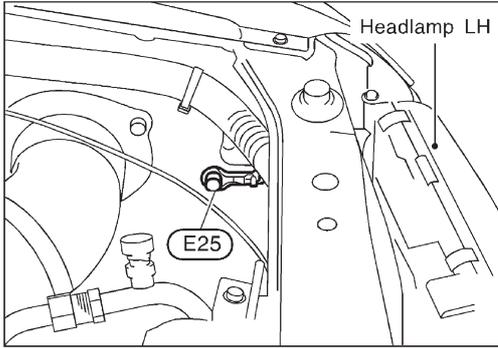


Circuit Breaker Inspection

For example, when current is 30A, the circuit is broken within 8 to 20 seconds.

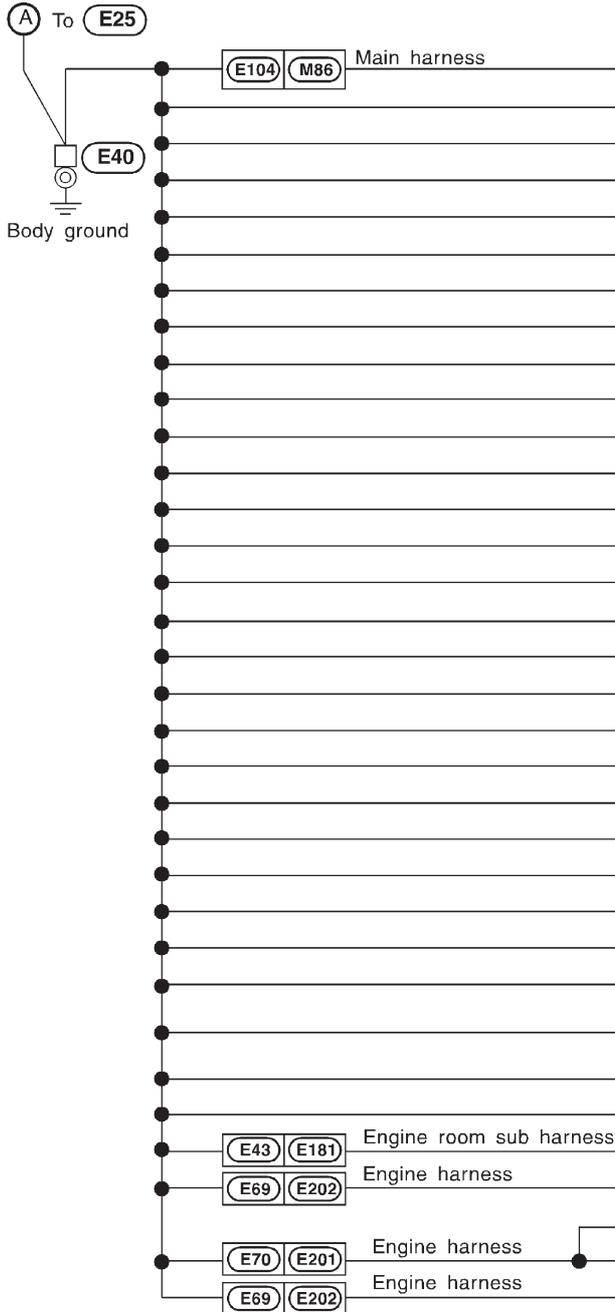
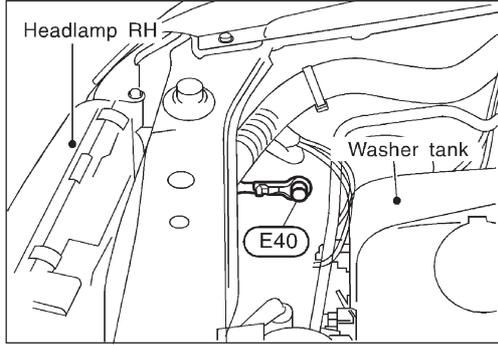
GROUND DISTRIBUTION/LHD MODELS

Engine Room Harness



GROUND DISTRIBUTION/LHD MODELS

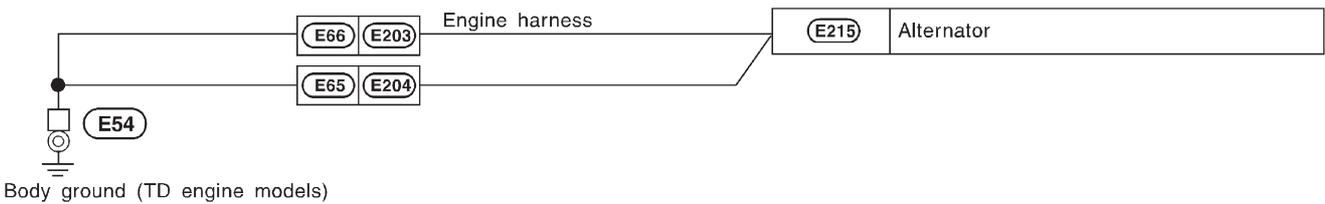
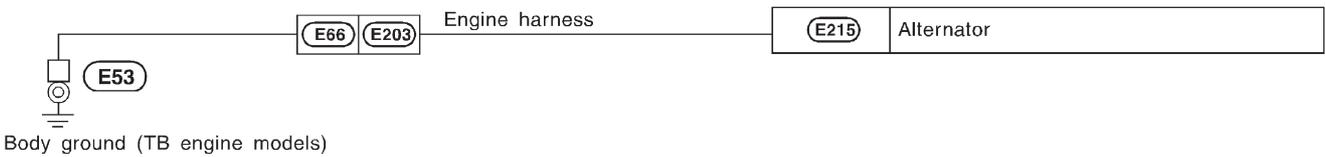
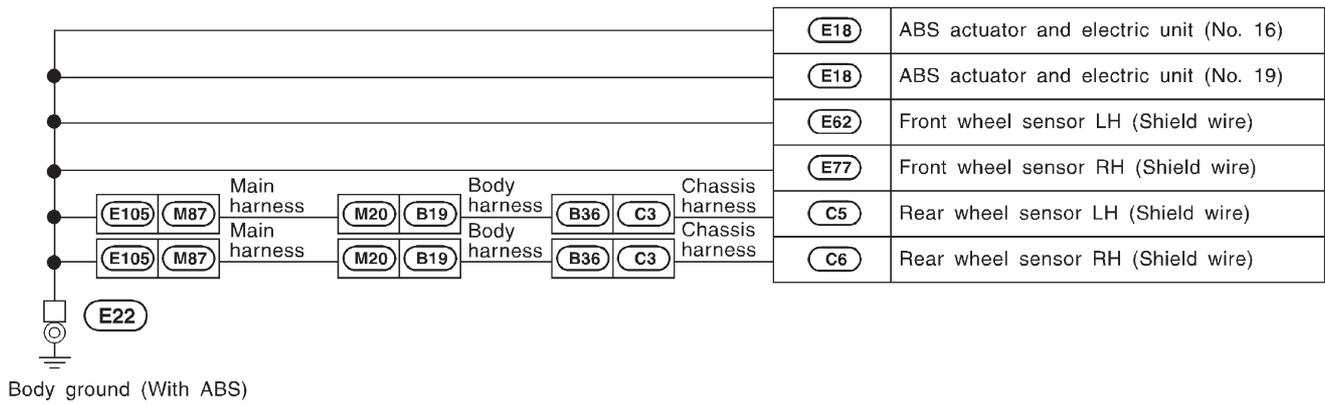
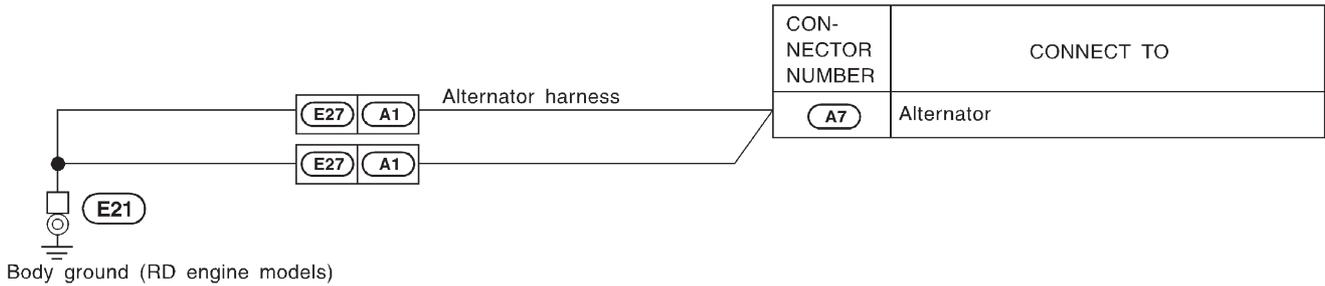
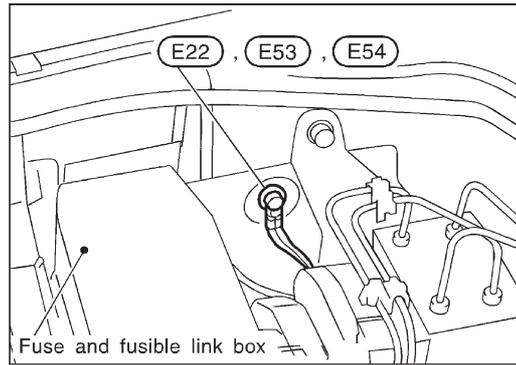
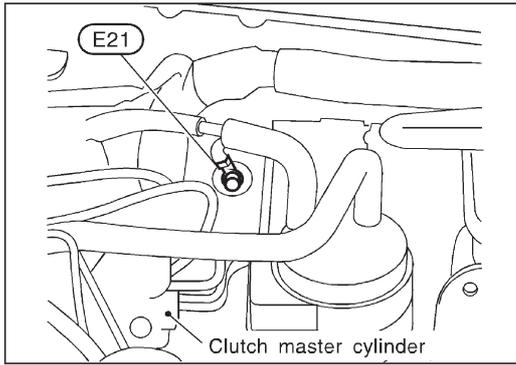
Engine Room Harness (Cont'd)



CON-NECTOR NUMBER	CONNECT TO
M33	Combination meter (No. 19) (Without ABS)
E4	Cornering lamp relay
E5	Air conditioner relay
E6	Auto-choke relay (TB42S engine models)
E7	Bulb check relay (Except for TB42S engine models)
E10	Diff lock solenoid (No. 3)
E19	Power antenna
E33	Headlamp wiper motor LH
E37	Cooling fan motor-2 (TB45E engine M/T models)
E38	Headlamp wiper motor RH
E41	Headlamp aiming motor RH
E45	Headlamp RH (Without xenon headlamp system)
E49	Front combination lamp RH
E52	Inhibitor relay (A/T models)
E55	Side turn signal lamp RH
E59	Glow relay-1 (TD engine models)
E63	Park/Neutral position relay (A/T models with ASCD)
E75	Fuel filter switch (Diesel engine models)
E76	Brake fluid level switch
E79	Front fog lamp RH
E80	Front fog lamp LH
E81	Headlamp RH (With xenon headlamp system)
E85	HID relay RH (With xenon headlamp system)
E86	HID relay LH (With xenon headlamp system)
E87	Glow relay-2 (TD engine models for cold areas)
E92	A/C cut relay (Except for ECCS engine models)
E94	Engine coolant temperature switch-1 (Except for ECCS engine models)
E96	IACV-FICD solenoid valve (TD engine models)
E100	ISC-FI POT control solenoid valve (TB42S engine models)
E183	Winch relay
E211	Neutral position switch (ECCS engine M/T models)
E212	4WD switch
E213	Transfer neutral switch
E219	Engine coolant temperature sensor (TD engine models)

GROUND DISTRIBUTION/LHD MODELS

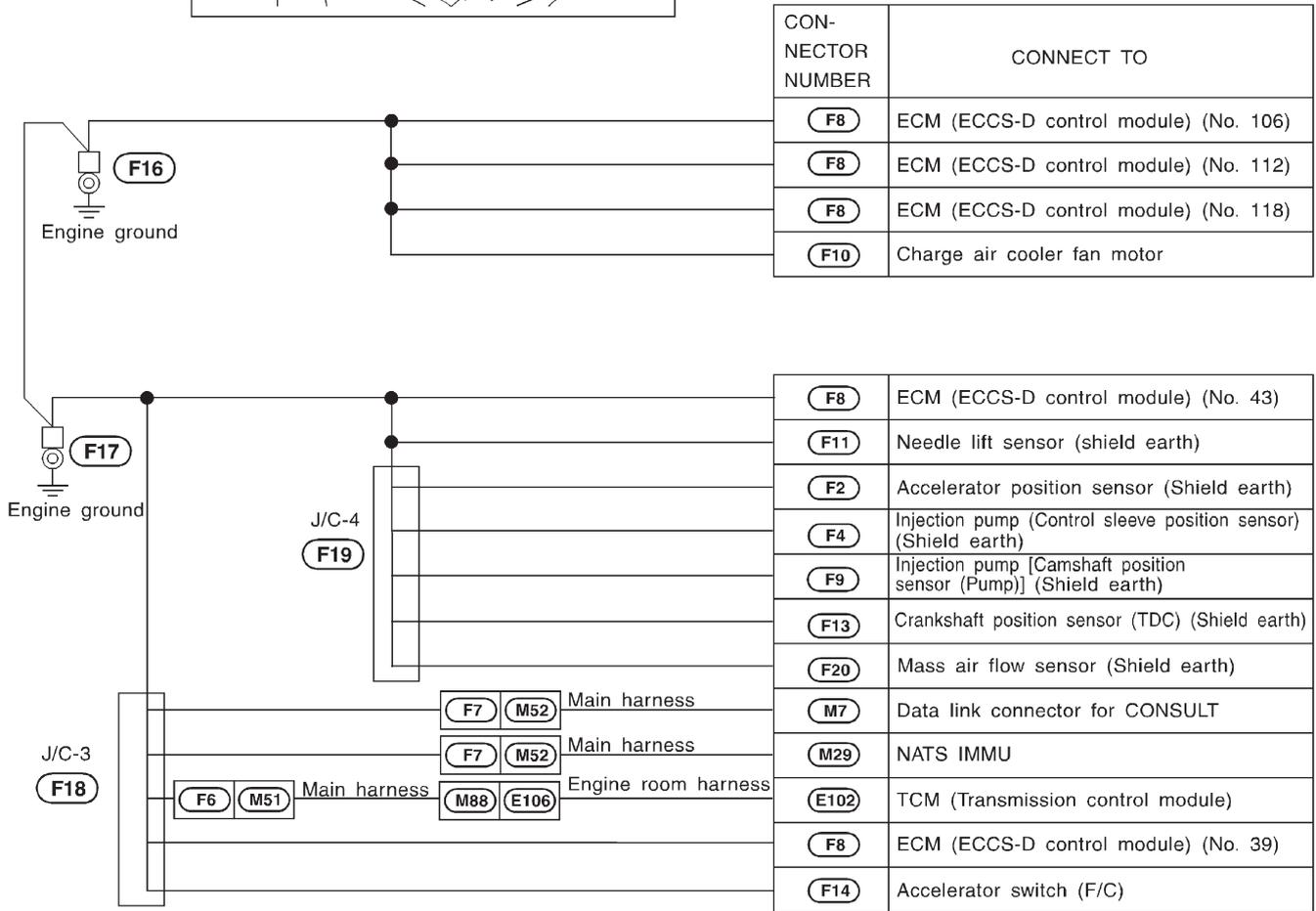
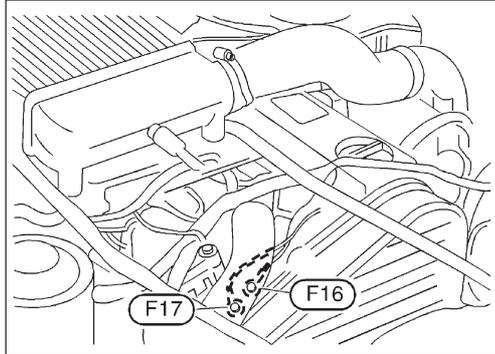
Engine Room Harness (Cont'd)



GROUND DISTRIBUTION/LHD MODELS

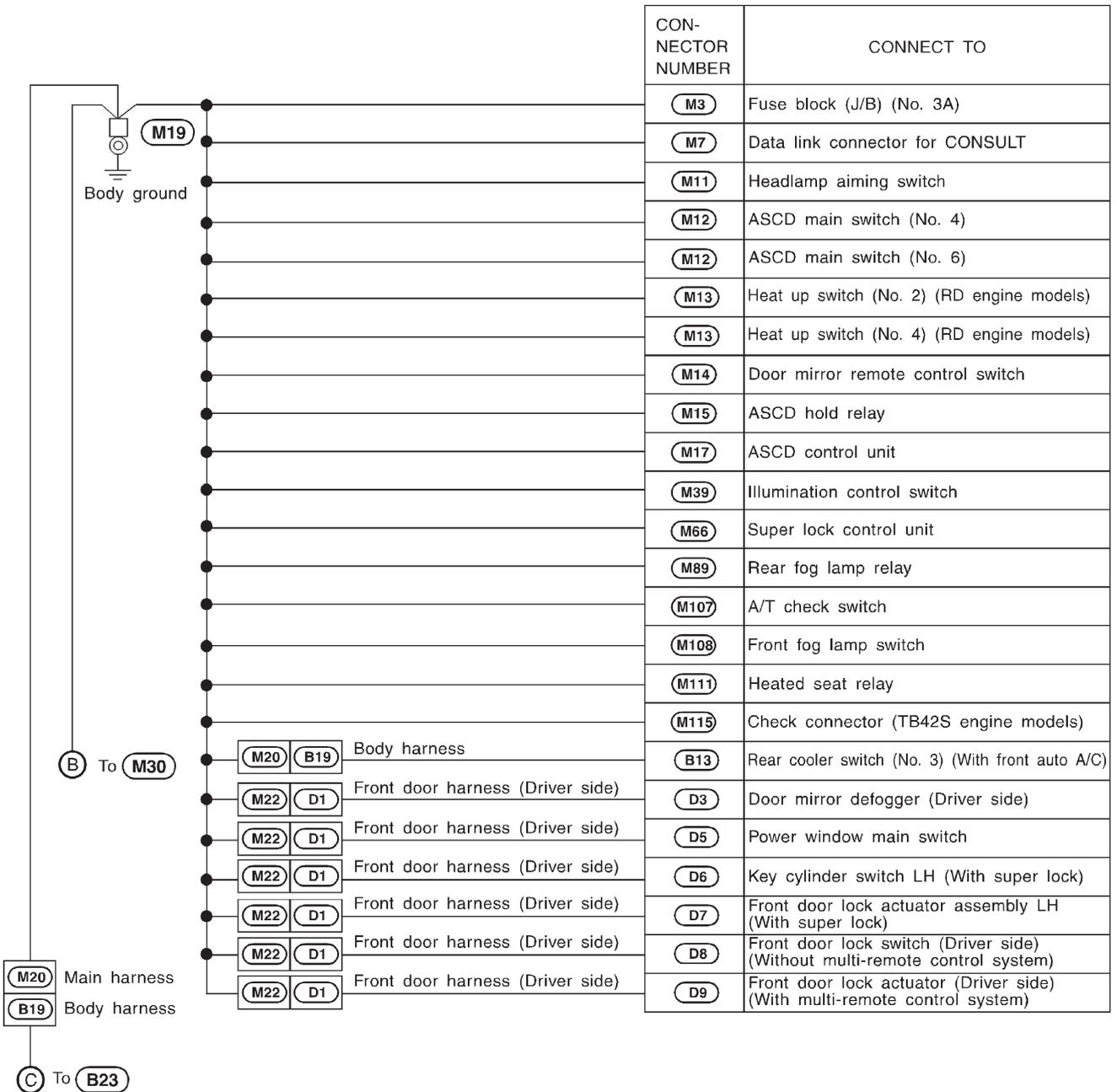
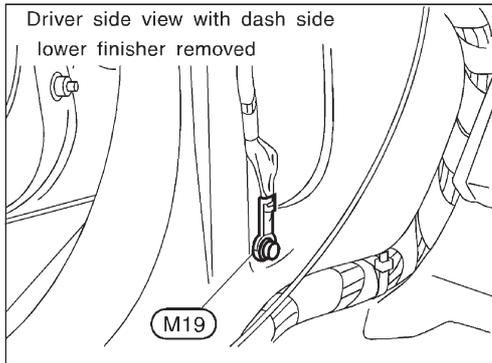
Engine Room Harness (Cont'd)

RD ENGINE



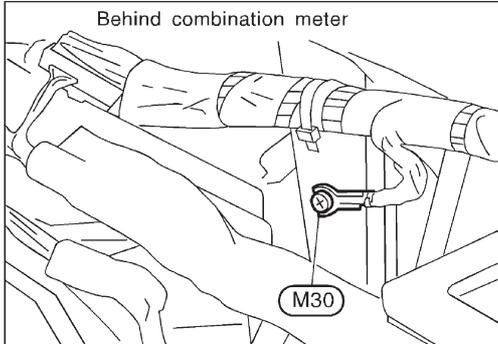
GROUND DISTRIBUTION/LHD MODELS

Main Harness

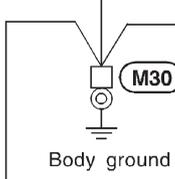


GROUND DISTRIBUTION/LHD MODELS

Main Harness (Cont'd)



(B) To (M19)

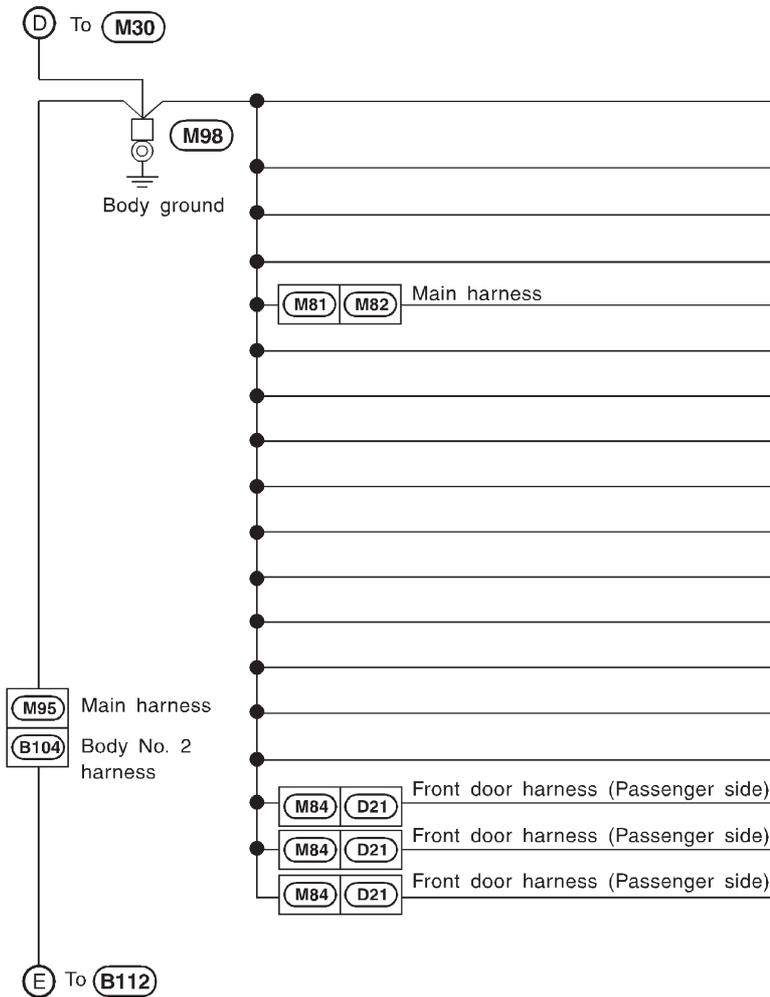
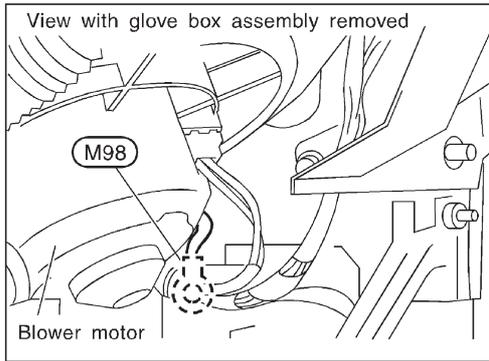


(D) To (M98)

CON- NECTOR NUMBER	CONNECT TO
(M32)	Combination meter (No. 5)
(M33)	Combination meter (No. 13)
(M33)	Combination meter (No. 20)
(M37)	Combination flasher unit
(M38)	Mode door motor (With front auto A/C)
(M40)	Air mix door motor (With front auto A/C)
(M41)	Smart entrance control unit
(M44)	Stabilizer control unit
(M46)	Rear window defogger switch (No. 2)
(M46)	Rear window defogger switch (No. 4)
(M46)	Rear window defogger switch (No. 6)
(M47)	Headlamp wiper switch (No. 5)
(M47)	Headlamp wiper switch (No. 7)
(M48)	Sub fuel tank switch (No. 2)
(M48)	Sub fuel tank switch (No. 6)
(M49)	Hazard switch
(M67)	Diff lock switch
(M69)	Sub fuel tank control unit
(M100)	Stabilizer switch

GROUND DISTRIBUTION/LHD MODELS

Main Harness (Cont'd)

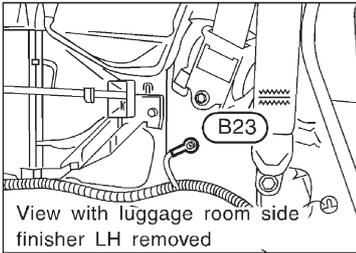


CON-NECTOR NUMBER	CONNECT TO
M16	Glow control unit (TD engine models except for cold areas)
M42	Cigarette lighter
M53	Rear heater front switch (No. 2)
M53	Rear heater front switch (No. 9)
M54	Air bag diagnosis sensor unit
M55	Multi-remote control unit
M61	Rear cooler front switch (Wagon models with front manual A/C)
M68	Diff lock control unit
M71	Fan switch (With front manual A/C)
M73	Fan switch illumination (With front manual A/C)
M74	Recirculation switch (With front manual A/C)
M75	A/C auto amp. (With front auto A/C)
M78	Fan control amp. (With front auto A/C)
M91	Power window relay
M106	Glow control unit (TD engine models for cold areas)
M109	Rear cooler front switch (Wagon models with front auto A/C for the Middle East)
D23	Door mirror defogger (Passenger side)
D26	Key cylinder switch RH (With super lock)
D28	Front door lock actuator assembly RH (With super lock)

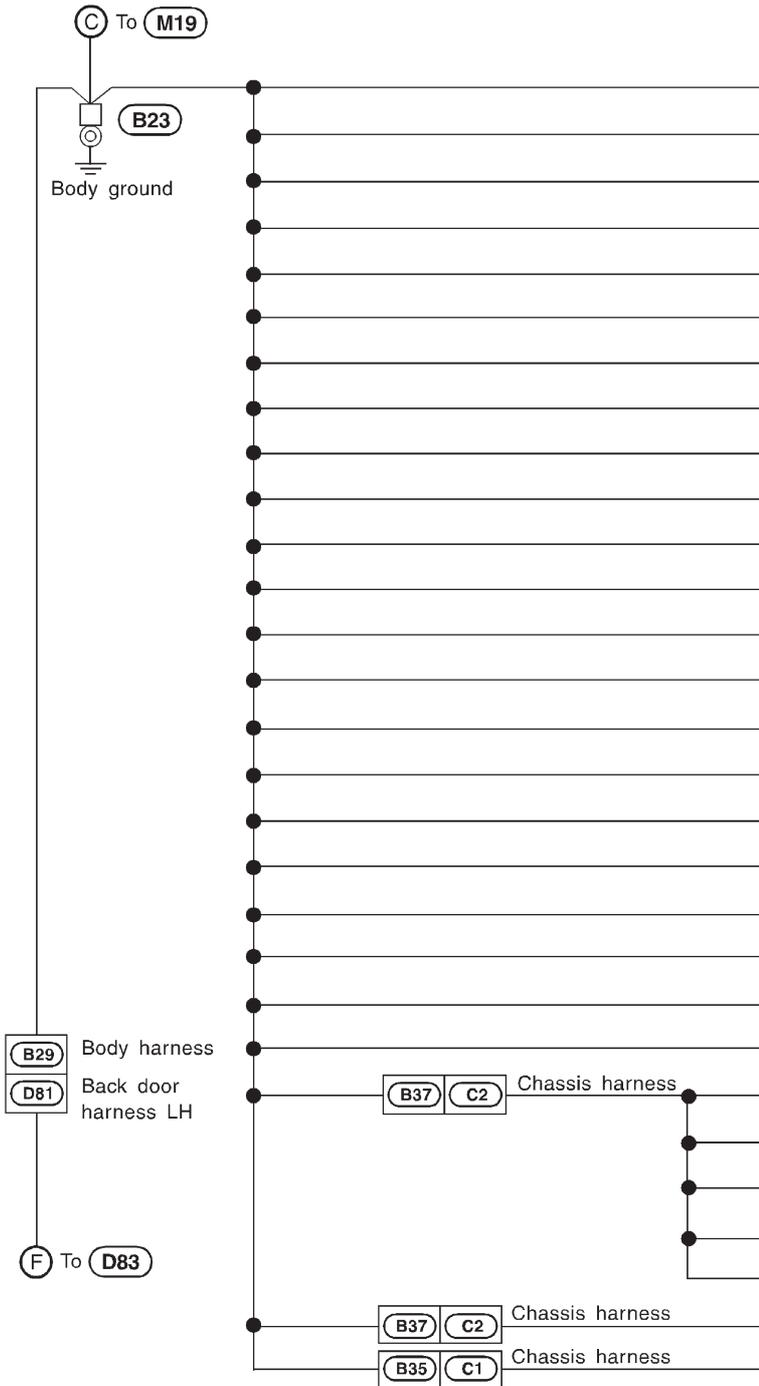
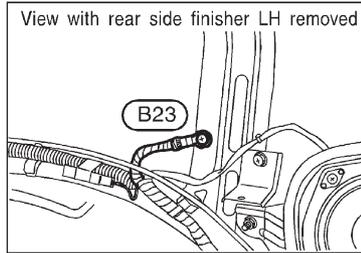
GROUND DISTRIBUTION/LHD MODELS

Body Harness

Wagon models



Hardtop models

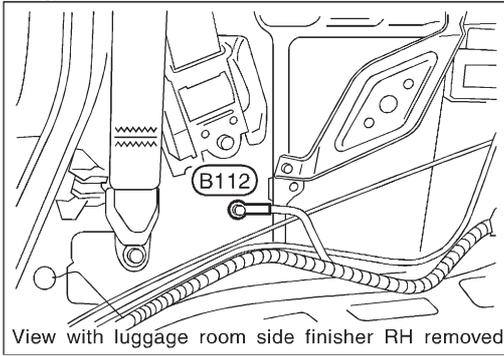


CON-NECTOR NUMBER	CONNECT TO
B4	Power seat (Passenger side)
B5	Heated seat LH
B6	Wiper deicer switch (No. 4)
B6	Wiper deicer switch (No. 6)
B7	Heated seat switch LH
B8	Heated seat switch RH
B9	Ashtray illumination
B11	A/T device (Overdrive control switch) (No. 2)
B11	A/T device (Overdrive control switch) (No. 4)
B13	Rear cooler switch (No. 6)
B14	Rear fan switch
B15	Heated seat RH
B16	Seat belt buckle switch (Driver side)
B17	Power seat (Driver side)
B20	Front door switch (Driver side)
B30	Rear combination lamp LH
B32	Rear cooler solenoid valve
B38	Rear cooler unit
B40	Cool box
B41	Power socket
B42	Power socket relay
B43	Rear cooler cut relay (TB45E engine M/T models)
C7	Diff lock indicator switch
C9	Sub fuel tank gauge unit (No. 5)
C10	Rear bumper combination lamp LH
C11	Fuel tank gauge unit (No. 6)
C12	Rear bumper combination lamp RH
C8	Sub fuel tank gauge unit (No. 3)
C11	Fuel tank gauge unit (No. 2)

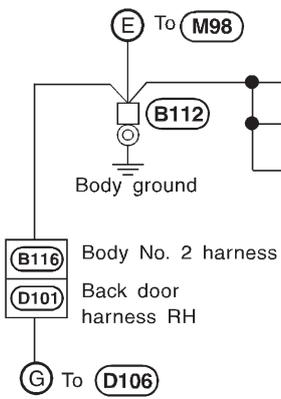
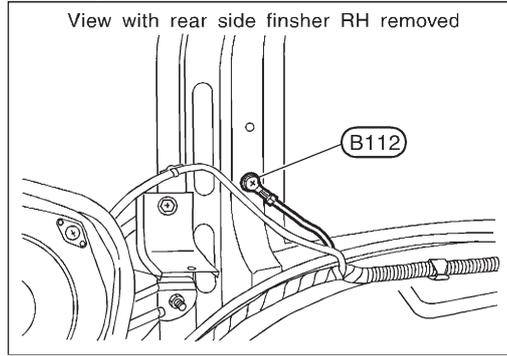
GROUND DISTRIBUTION/LHD MODELS

Body No. 2 Harness

Wagon models



Hardtop models



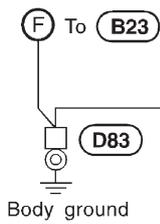
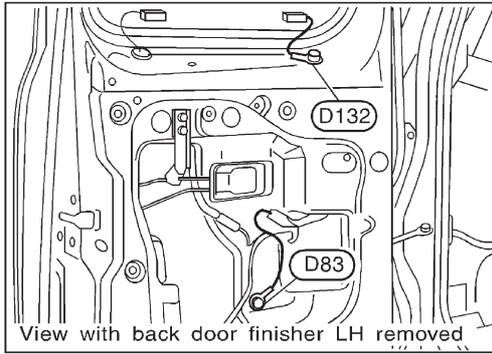
CON-NECTOR NUMBER	CONNECT TO
B107	Rear heater unit
B114	Rear wiper amp.
B117	Rear combination lamp RH

CEL730

GROUND DISTRIBUTION/LHD MODELS

Back Door and Rear Window Defogger Harness

BACK DOOR HARNESS LH



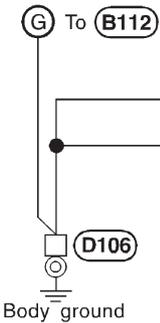
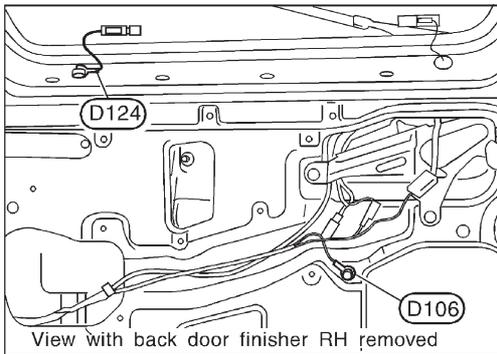
CON-NECTOR NUMBER	CONNECT TO
D82	License plate lamp

REAR WINDOW DEFOGGER HARNESS LH



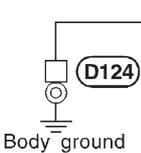
D131	Rear window defogger LH
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BACK DOOR HARNESS RH



D104	High-mounted stop lamp
D105	Rear wiper motor

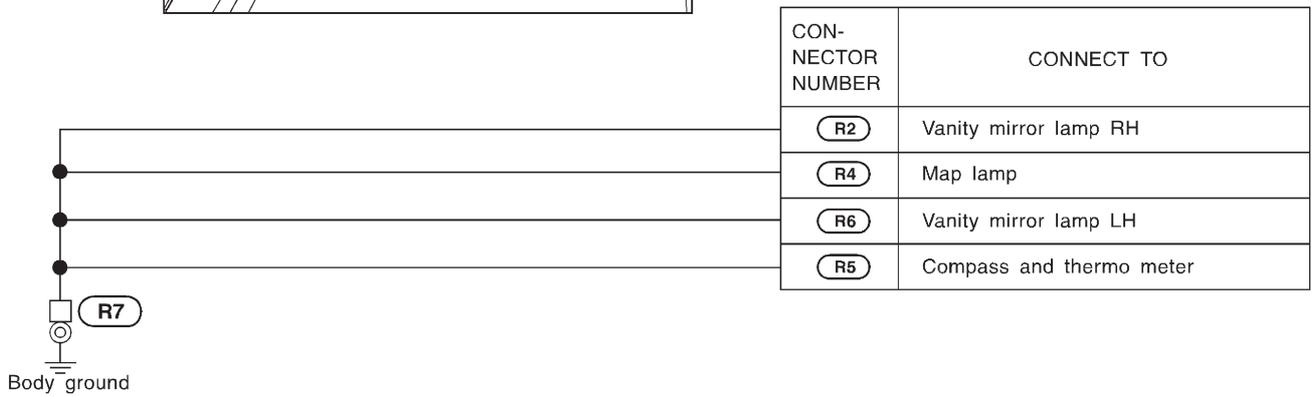
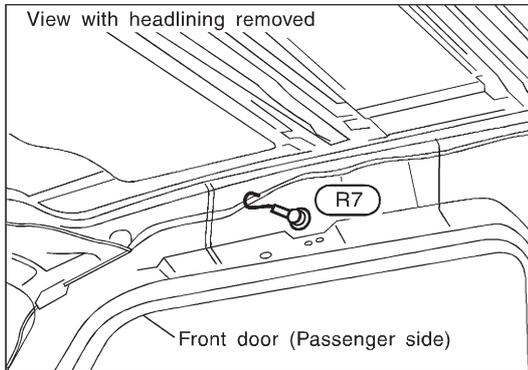
REAR WINDOW DEFOGGER HARNESS RH



D123	Rear window defogger RH
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GROUND DISTRIBUTION/LHD MODELS

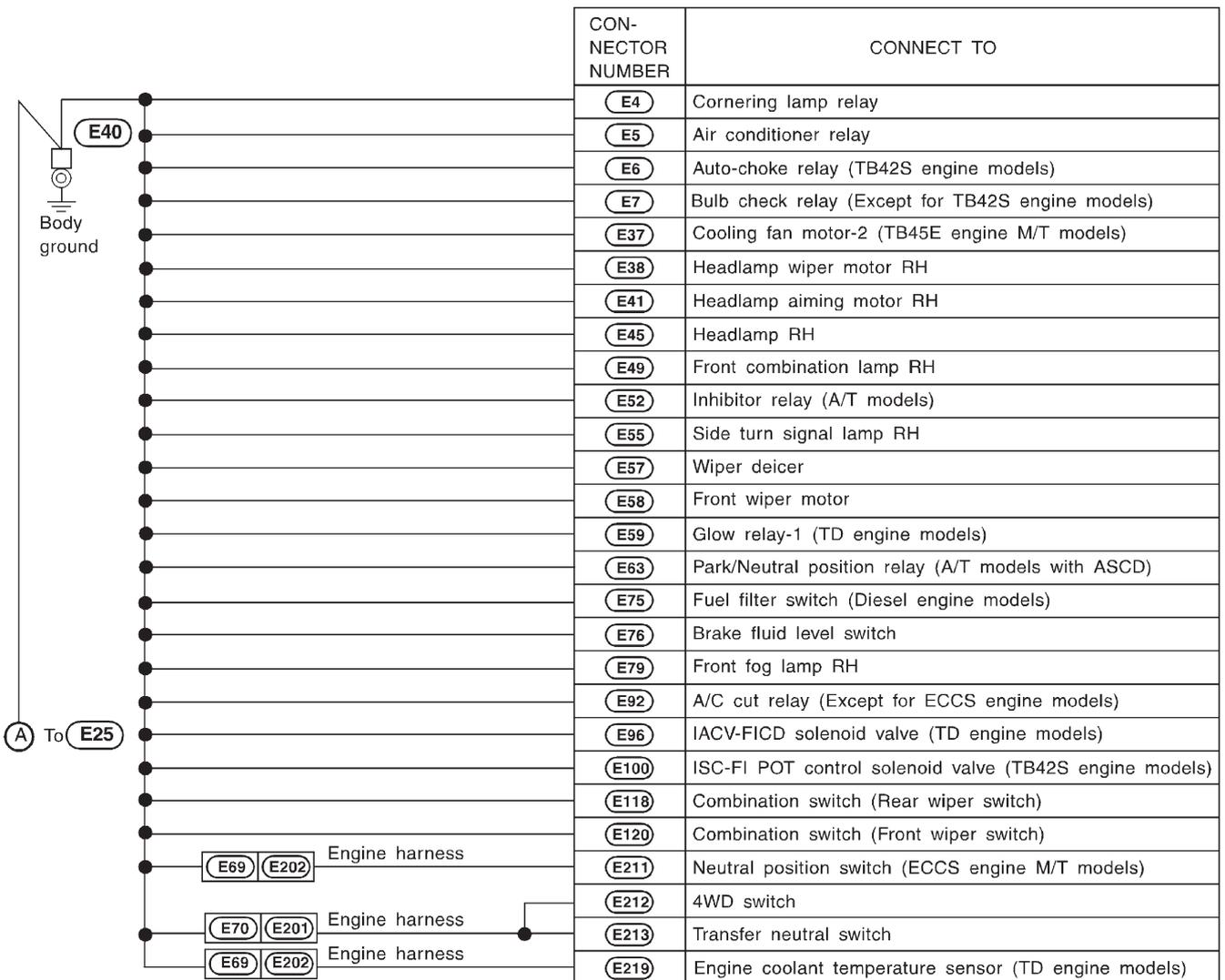
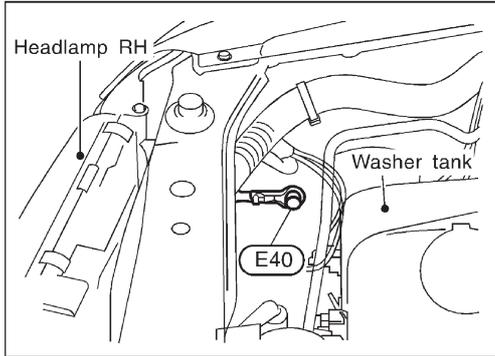
Room Lamp Harness



CEL734

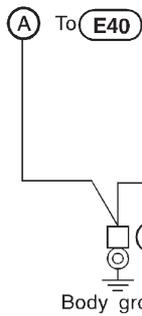
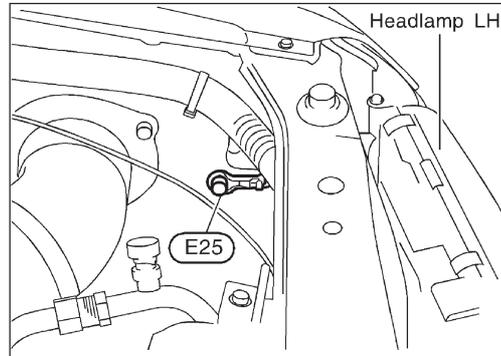
GROUND DISTRIBUTION/RHD MODELS

Engine Room Harness



GROUND DISTRIBUTION/RHD MODELS

Engine Room Harness (Cont'd)

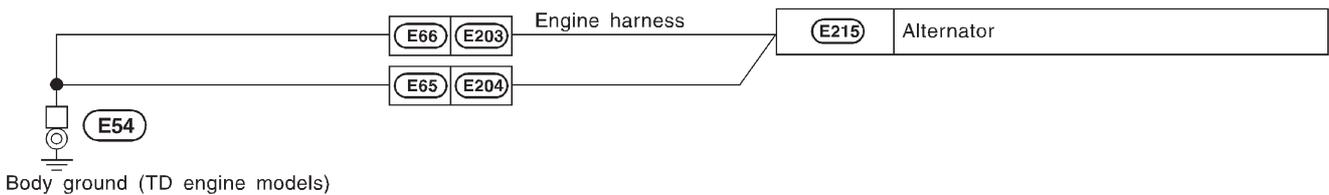
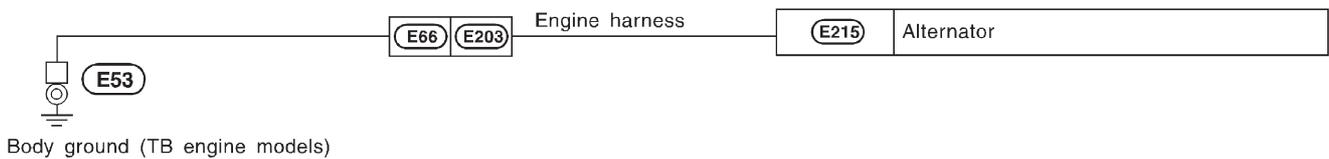
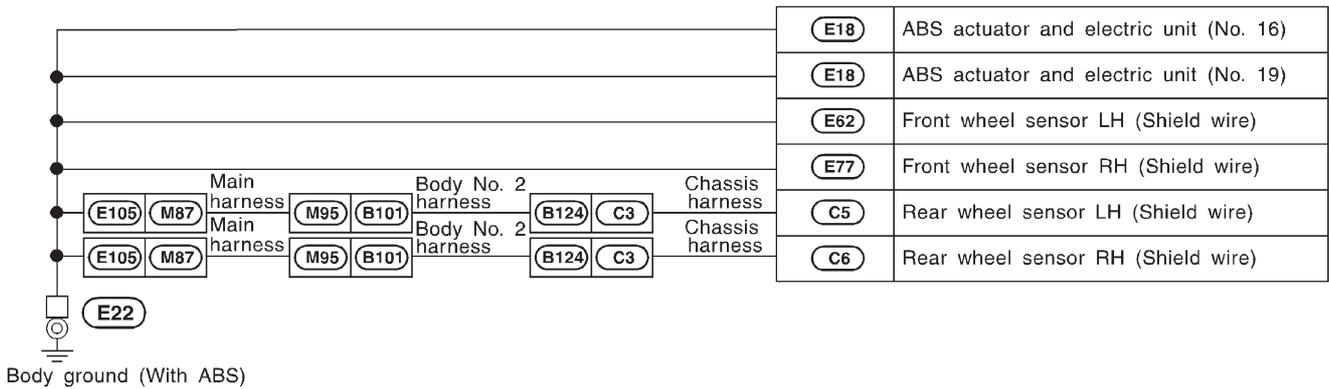
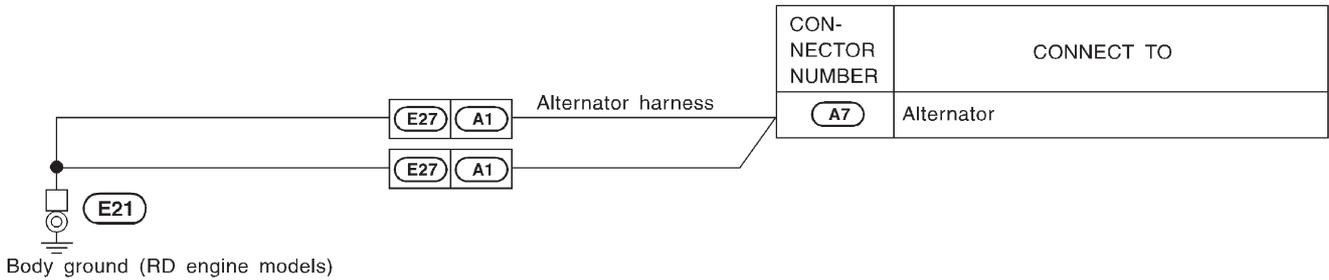
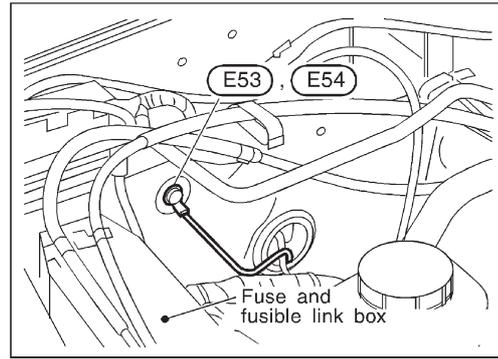
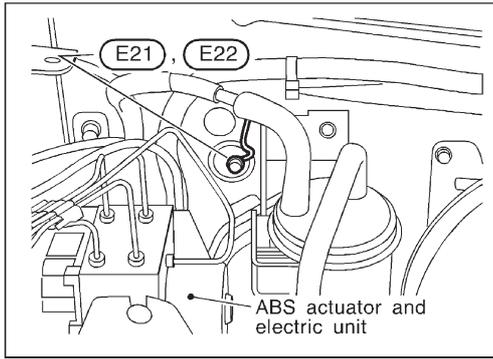


CON-NECTOR NUMBER	CONNECT TO
(M33)	Combination meter (No. 19) (Without ABS)
(E10)	Diff lock solenoid (No. 3)
(E10)	Diff lock solenoid (No. 4)
(E19)	Power antenna
(E20)	Side turn signal lamp LH
(E24)	Front combination lamp LH
(E26)	Headlamp aiming motor LH
(E30)	Headlamp LH
(E31)	Distributor (TB42S engine models)
(E33)	Headlamp wiper motor LH
(E36)	Cooling fan motor-1 (No. 2)
(E36)	Cooling fan motor-1 (No. 4)
(E80)	Front fog lamp LH
(E94)	Engine coolant temperature switch-1 (Except for ECCS engine models)
(E121)	Condenser (TB42S engine models)
(E183)	Winch relay



GROUND DISTRIBUTION/RHD MODELS

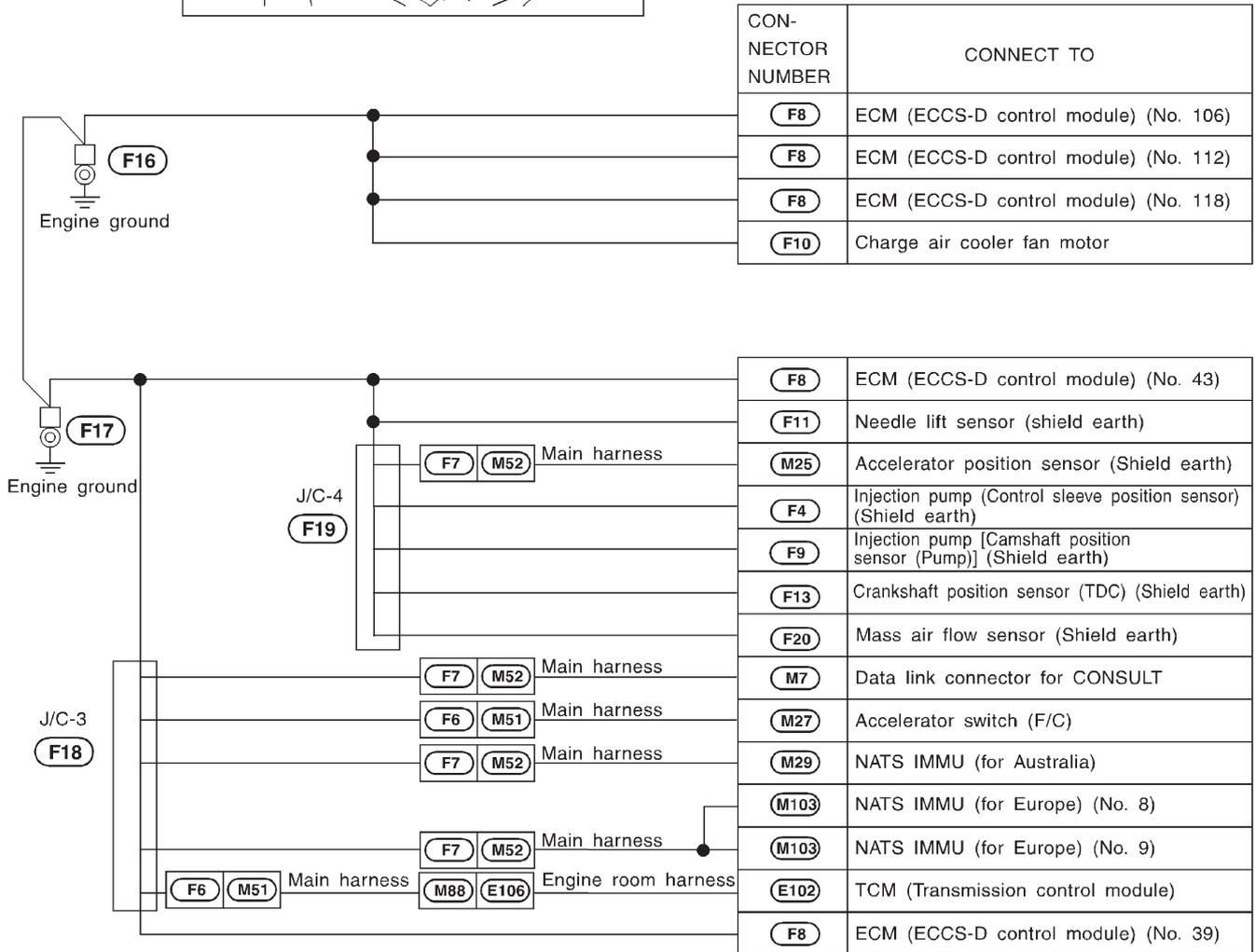
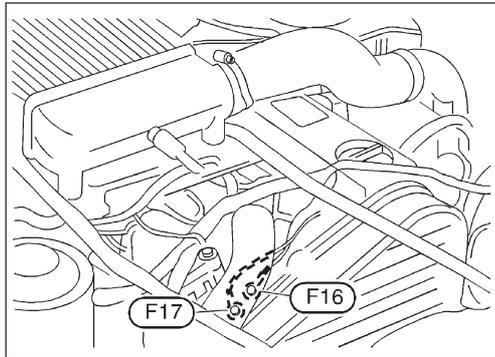
Engine Room Harness (Cont'd)



GROUND DISTRIBUTION/RHD MODELS

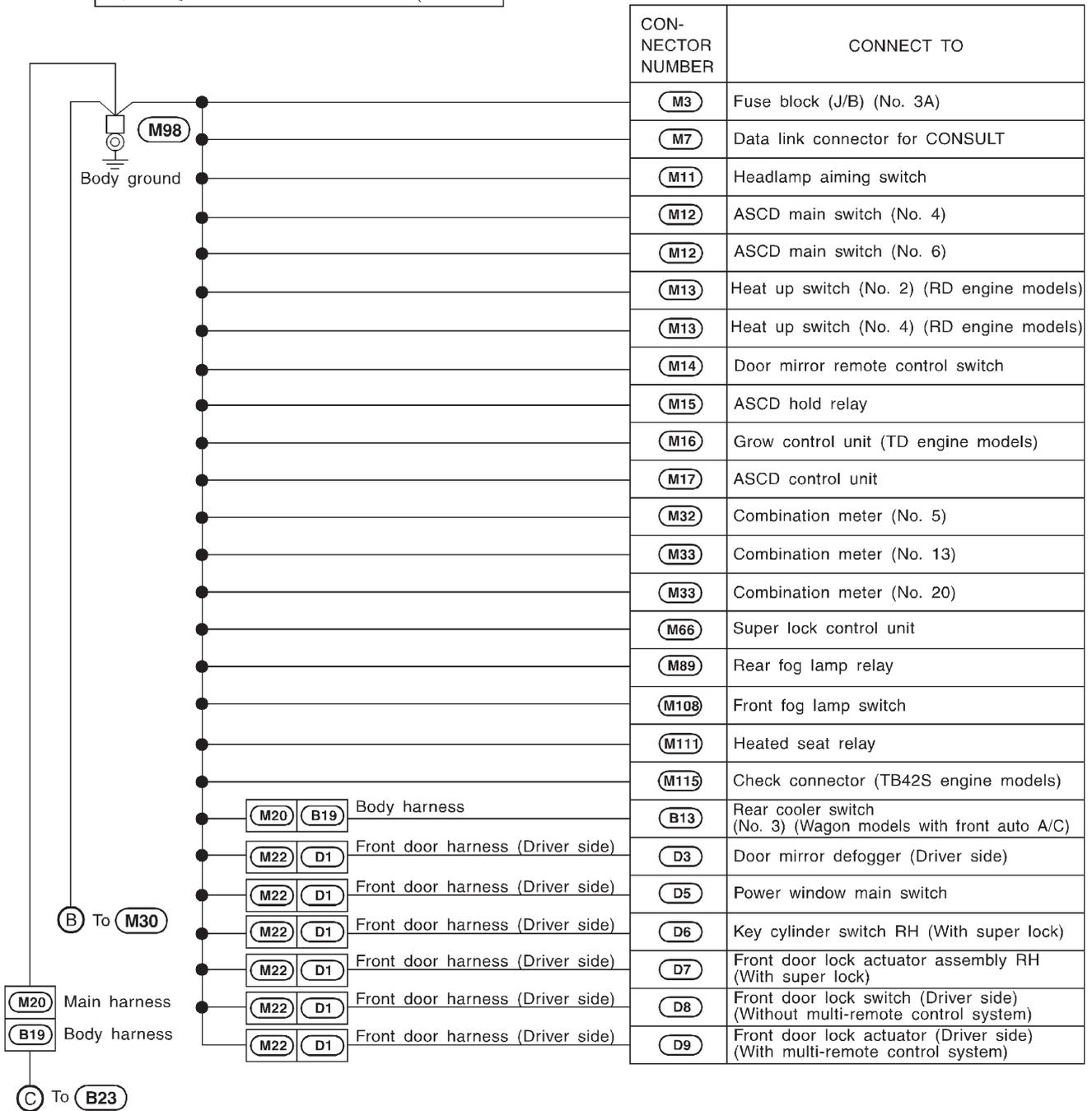
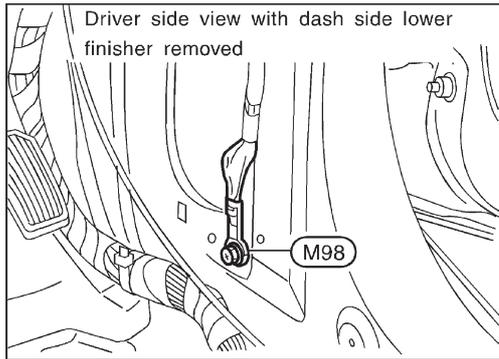
Engine Room Harness (Cont'd)

RD ENGINE



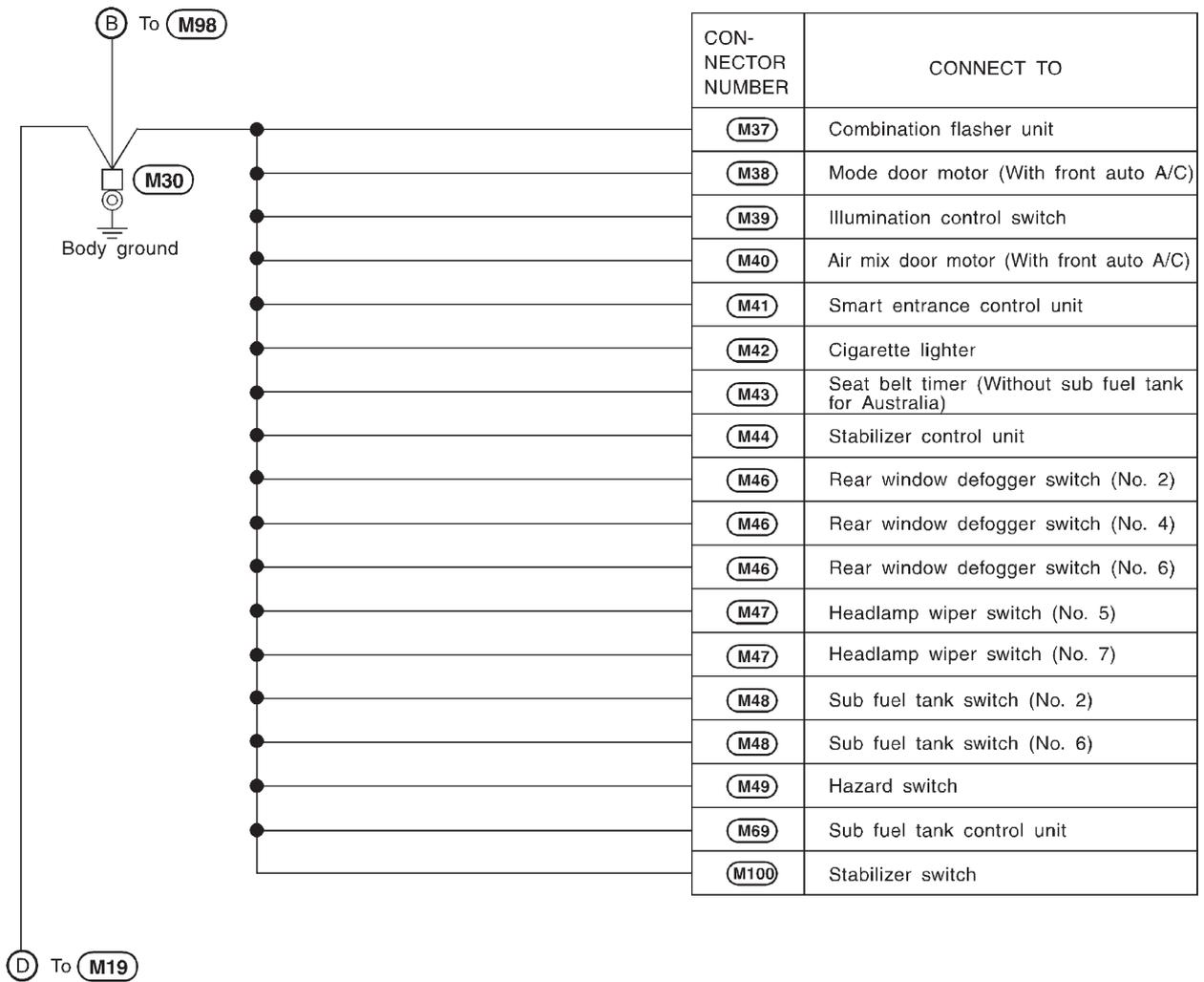
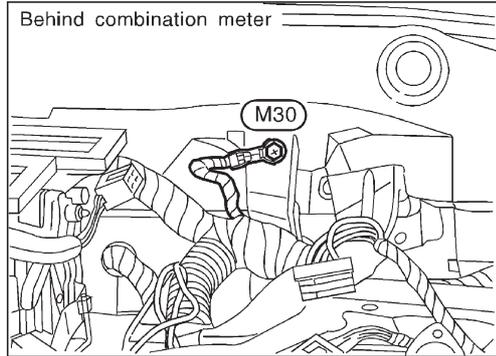
GROUND DISTRIBUTION/RHD MODELS

Main Harness



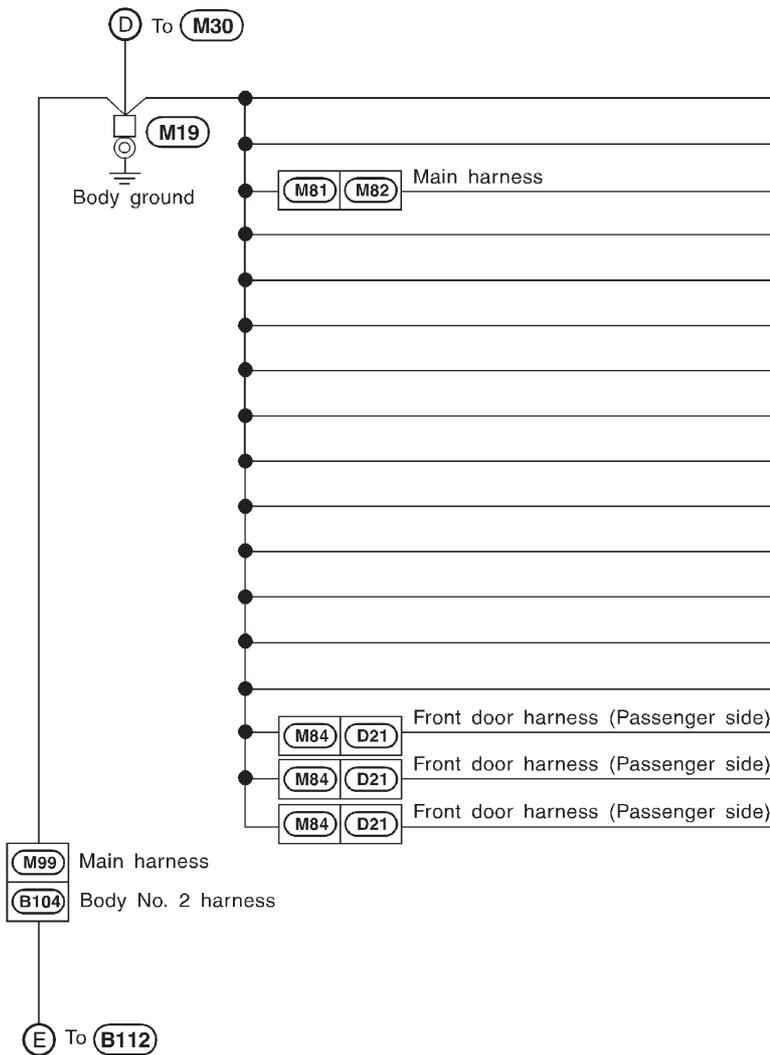
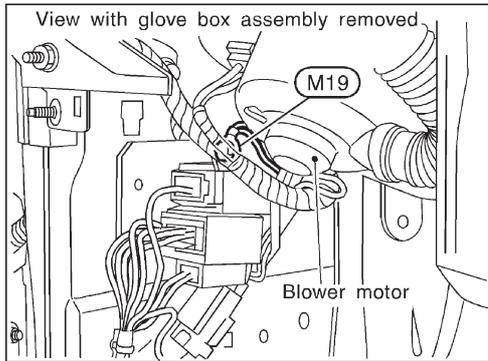
GROUND DISTRIBUTION/RHD MODELS

Main Harness (Cont'd)



GROUND DISTRIBUTION/RHD MODELS

Main Harness (Cont'd)

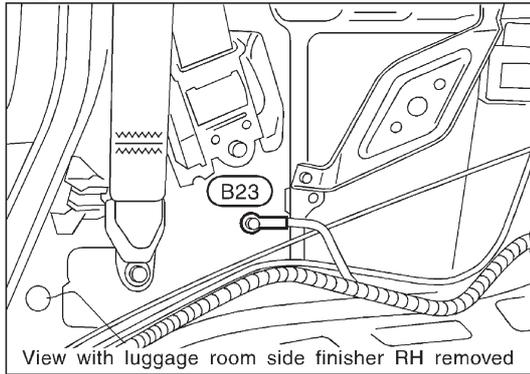


CON- NECTOR NUMBER	CONNECT TO
M53	Rear heater front switch (No. 2)
M53	Rear heater front switch (No. 9)
M54	Air bag diagnosis sensor unit
M55	Multi-remote control unit
M60	Power antenna switch
M61	Rear cooler front switch (With front manual A/C)
M67	Diff lock switch
M68	Diff lock control unit
M71	Fan switch (With front manual A/C)
M73	Fan switch illumination (With front manual A/C)
M74	Recirculation switch (With front manual A/C)
M75	A/C auto amp. (With front auto A/C)
M78	Fan control amp. (With front auto A/C)
M91	Power window relay
D23	Door mirror defogger (Passenger side)
D26	Key cylinder switch LH (With super lock)
D28	Front door lock actuator assembly LH (With super lock)

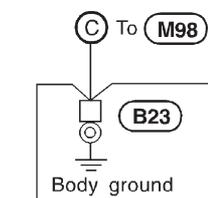
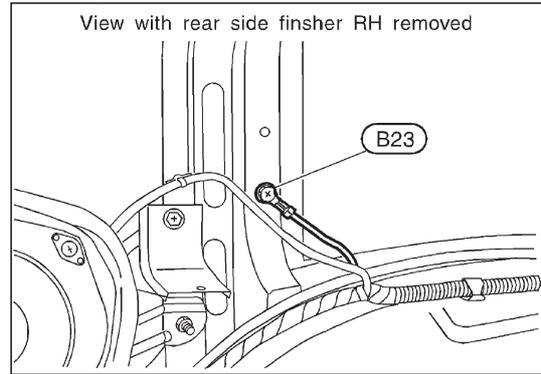
GROUND DISTRIBUTION/RHD MODELS

Body Harness

Wagon models



Hardtop models



CON-NECTOR NUMBER	CONNECT TO
B4	Power seat (Passenger side)
B5	Heated seat LH
B6	Wiper deicer switch (No. 4)
B6	Wiper deicer switch (No. 6)
B7	Heated seat switch LH
B8	Heated seat switch RH
B9	Ashtray illumination
B11	A/T device (Overdrive control switch) (No. 2)
B11	A/T device (Overdrive control switch) (No. 4)
B12	A/T mode switch
B13	Rear cooler switch (No. 6)
B14	Rear fan switch
B15	Heated seat RH
B16	Seat belt buckle switch (Driver side)
B17	Power seat (Driver side)
B18	Rear heater unit
B20	Front door switch (Driver side)
B27	Rear wiper amp.
B30	Rear combination lamp RH

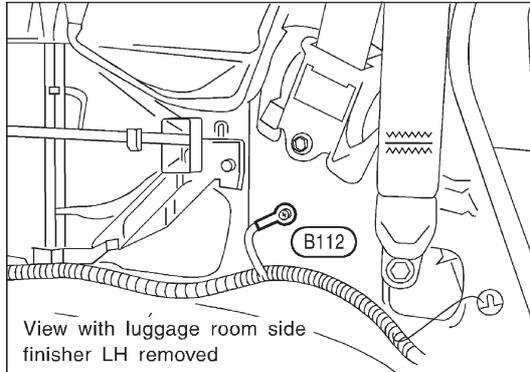
- B29 Body harness
- D101 Back door harness RH



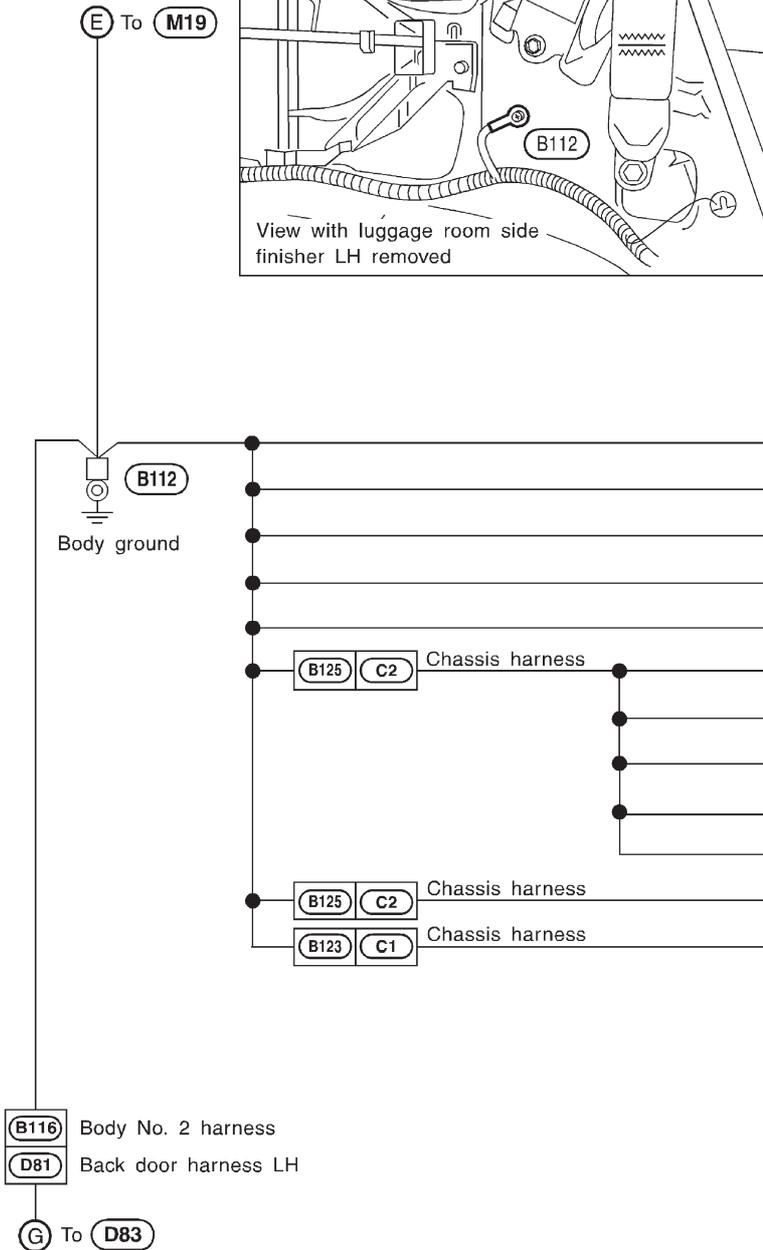
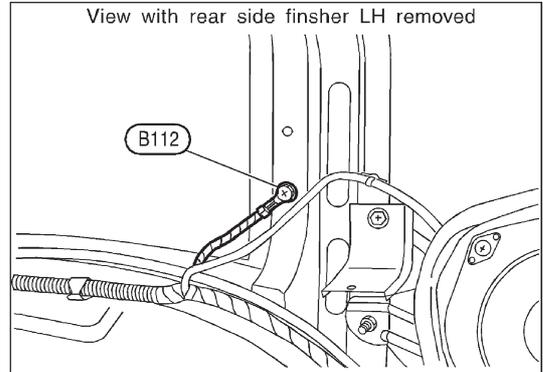
GROUND DISTRIBUTION/RHD MODELS

Body No. 2 Harness

Wagon models



Hardtop models

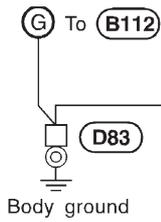
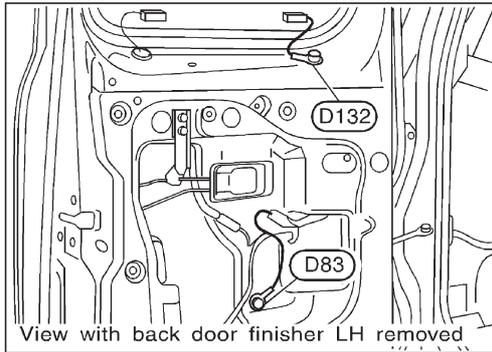


CON-NECTOR NUMBER	CONNECT TO
(B117)	Rear combination lamp LH
(B122)	Rear cooler solenoid valve
(B126)	Power socket relay
(B127)	Rear cooler unit
(B129)	Power socket
(C7)	Diff lock indicator switch
(C9)	Sub fuel tank gauge unit (No. 5)
(C10)	Rear bumper combination lamp LH
(C11)	Fuel tank gauge unit (No. 6)
(C12)	Rear bumper combination lamp RH
(C8)	Sub fuel tank gauge unit (No. 3)
(C11)	Fuel tank gauge unit (No. 2)

GROUND DISTRIBUTION/RHD MODELS

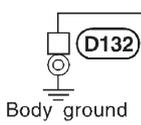
Back Door and Rear Window Defogger Harness

BACK DOOR HARNESS LH



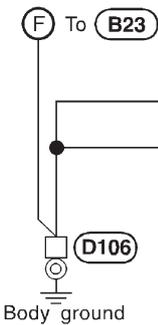
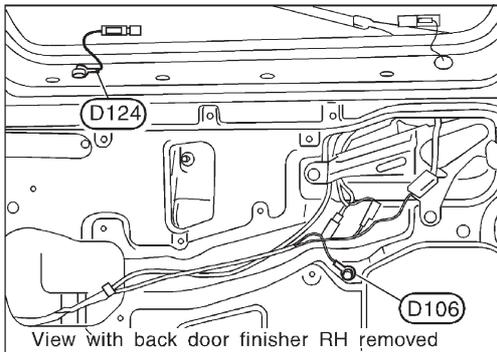
CON-NECTOR NUMBER	CONNECT TO
D82	License plate lamp

REAR WINDOW DEFOGGER HARNESS LH



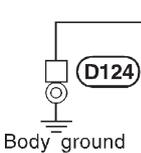
D131	Rear window defogger LH
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BACK DOOR HARNESS RH



D104	High-mounted stop lamp
D105	Rear wiper motor

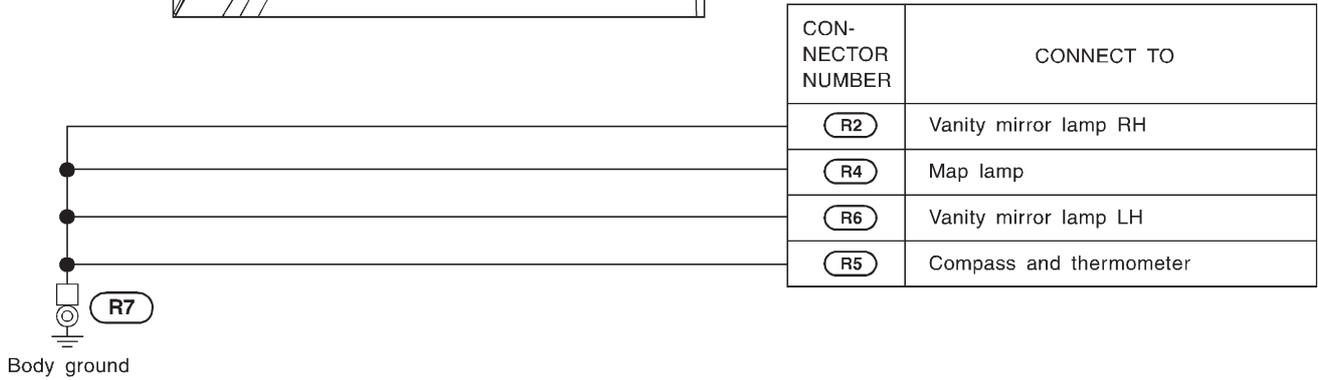
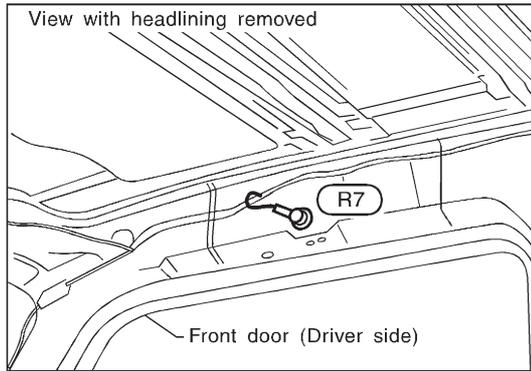
REAR WINDOW DEFOGGER HARNESS RH



D123	Rear window defogger RH
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GROUND DISTRIBUTION/RHD MODELS

Room Lamp Harness



CEL799

BATTERY

CAUTION:

If it becomes necessary to start the engine with a booster battery and jumper cables,

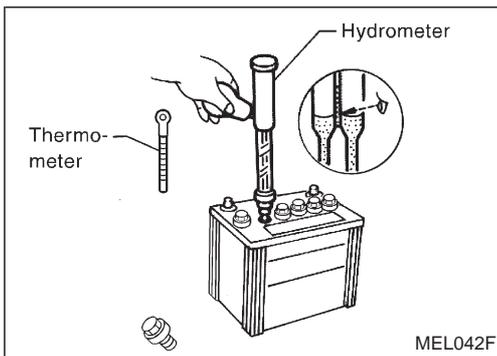
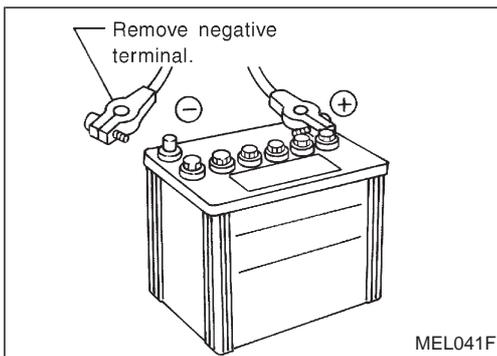
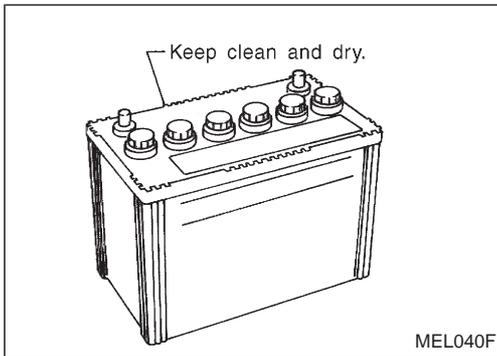
- Use a 12-volt booster battery.
- After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.
- Never add distilled water through the hole used to check specific gravity.

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.
- The terminal connections should be clean and tight.
- At every routine maintenance, check the electrolyte level. This also applies to batteries designated as “low maintenance” and “maintenance-free”.
- When the vehicle is not going to be used over a long period of time, disconnect the negative battery terminal.



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

CHECKING ELECTROLYTE LEVEL

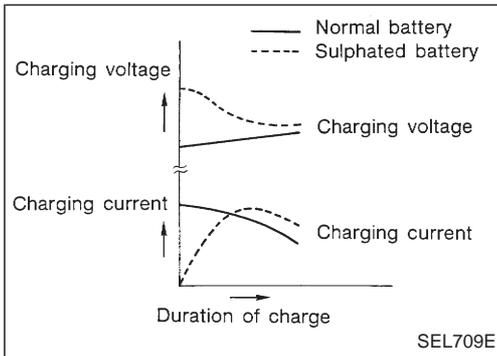
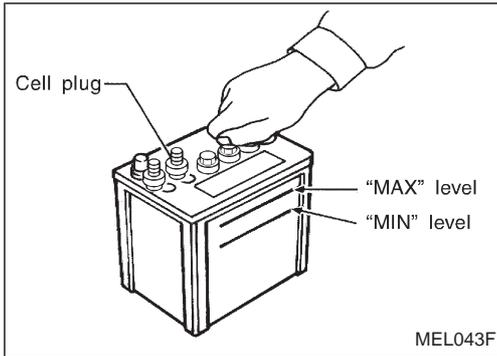
WARNING:

Do not allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. After touching a battery, do not touch or rub your eyes until you have thoroughly washed your hands. If acid contacts eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention.

BATTERY

How to Handle Battery (Cont'd)

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

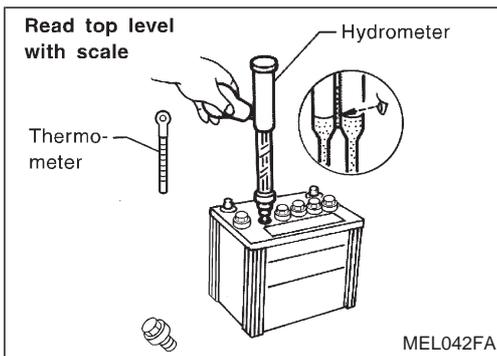


SULPHATION

A battery will be completely discharged if it is left unattended for a long time and the specific gravity will become less than 1.100. This may result in sulphation on the cell plates.

To determine if a battery has been "sulphated", note its voltage and current when charging it. As shown in the figure, less current and higher voltage are observed in the initial stage of charging sulphated batteries.

A sulphated battery may sometimes be brought back into service by means of a long, slow charge, 12 hours or more, followed by a battery capacity test.



SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.

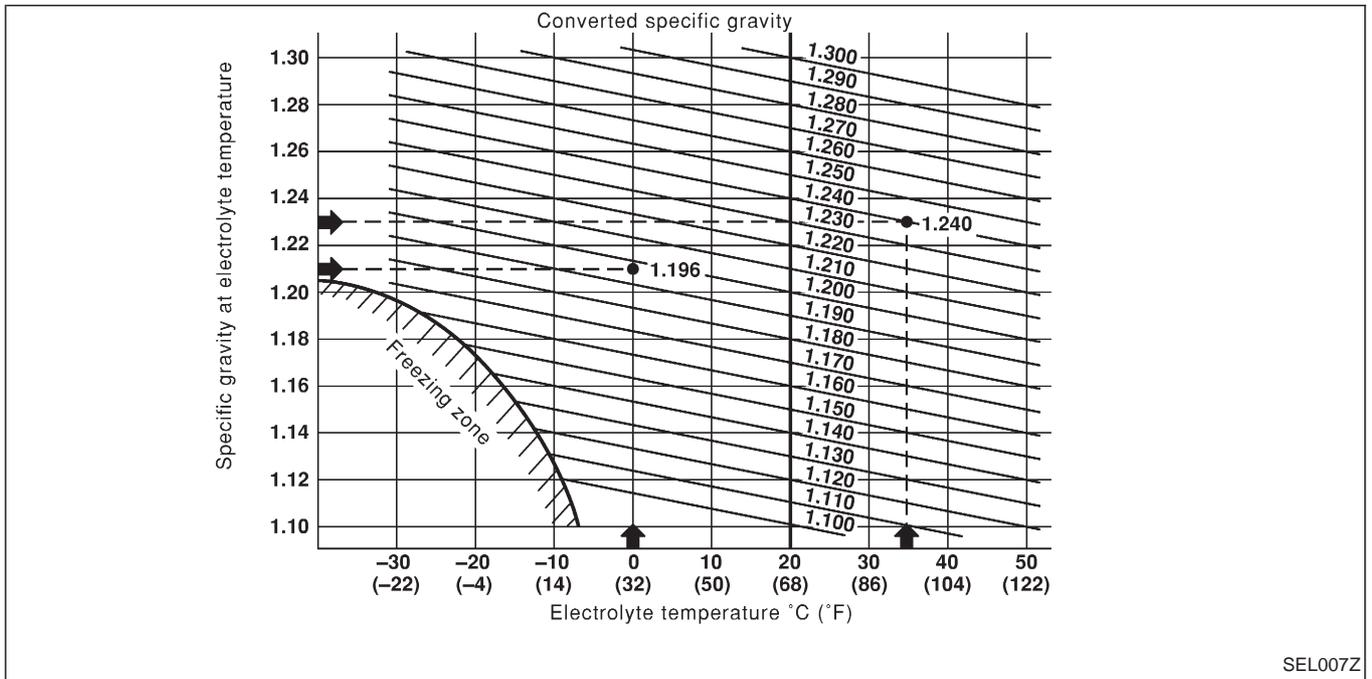
BATTERY

How to Handle Battery (Cont'd)

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.

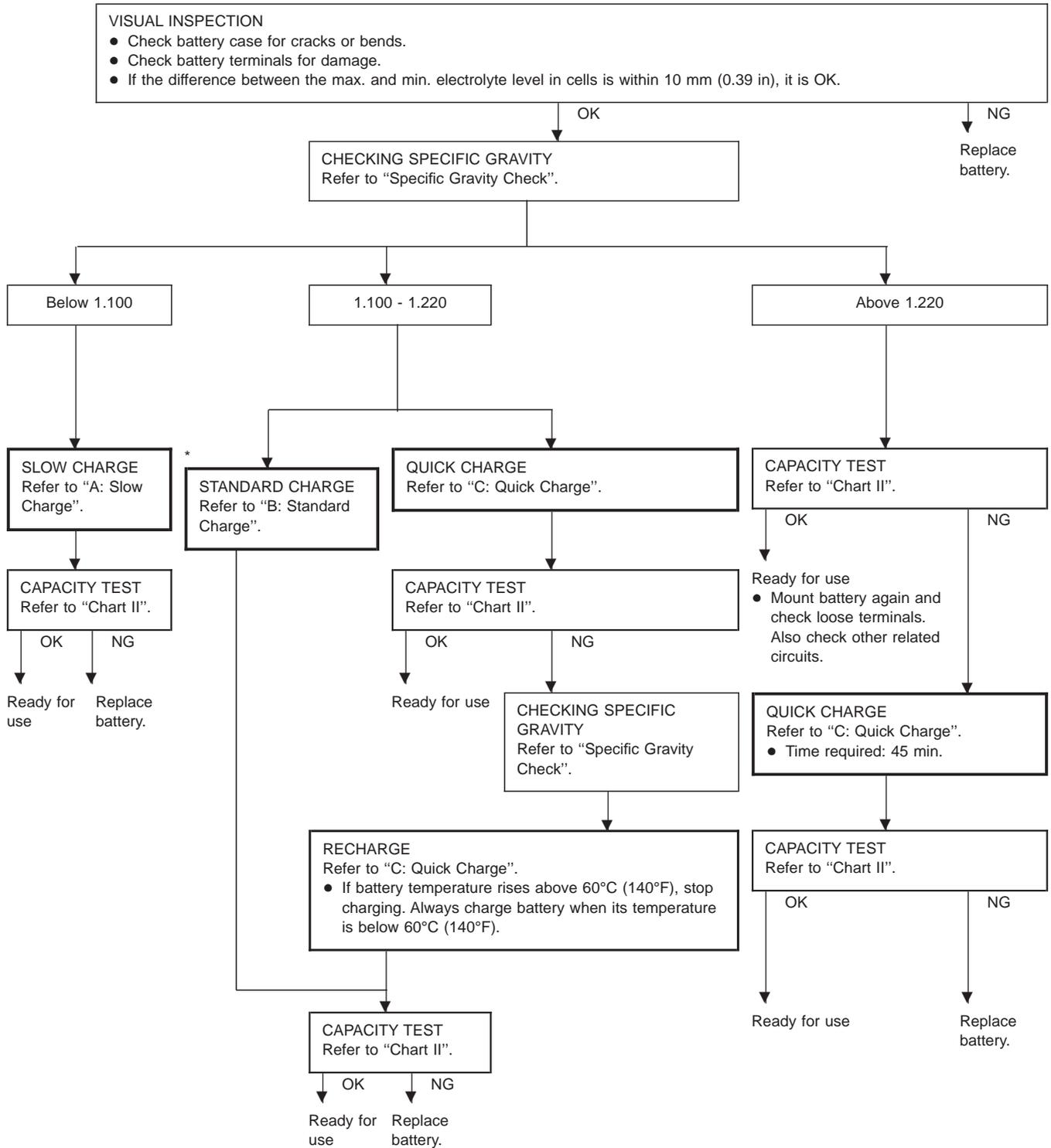


SEL007Z

BATTERY

Battery Test and Charging Chart

Chart I

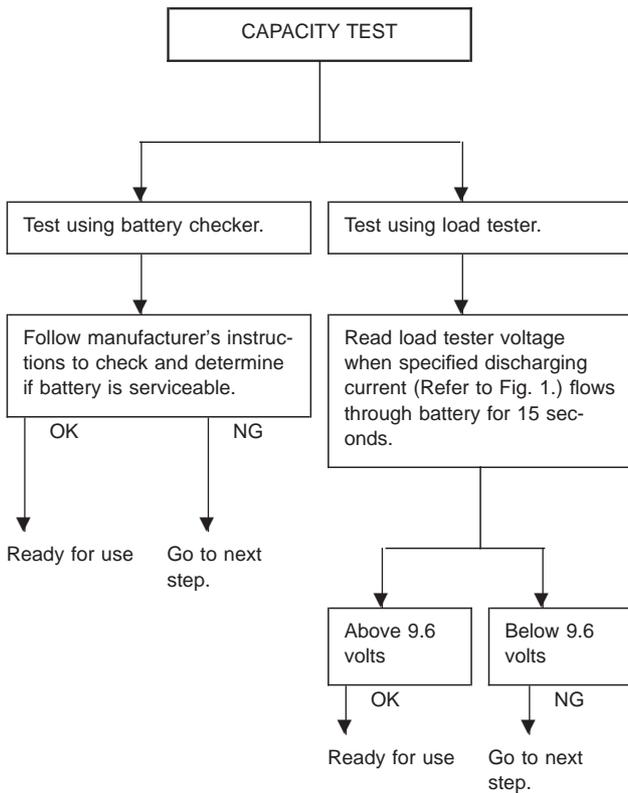


* "STANDARD CHARGE" is recommended if the vehicle is in storage after charging.

BATTERY

Battery Test and Charging Chart (Cont'd)

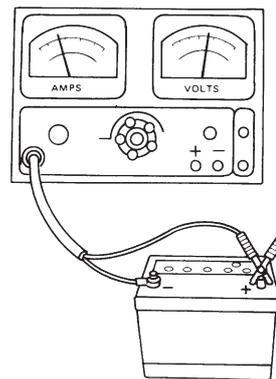
Chart II



- 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
115D31R(L)	240
95E41R(L)	300
130E41R(L)	330



SEL008Z

BATTERY

Battery Test and Charging Chart (Cont'd)

A: SLOW CHARGE

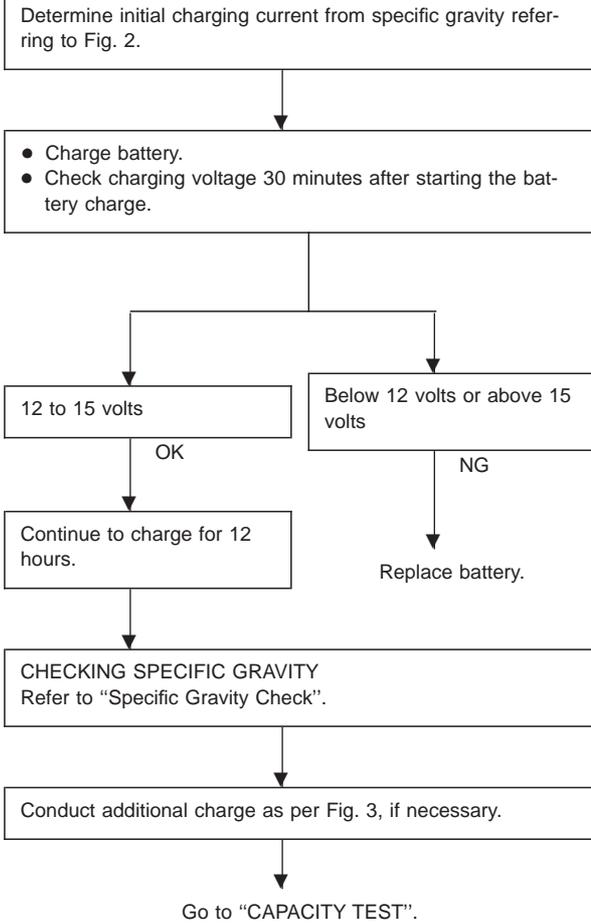
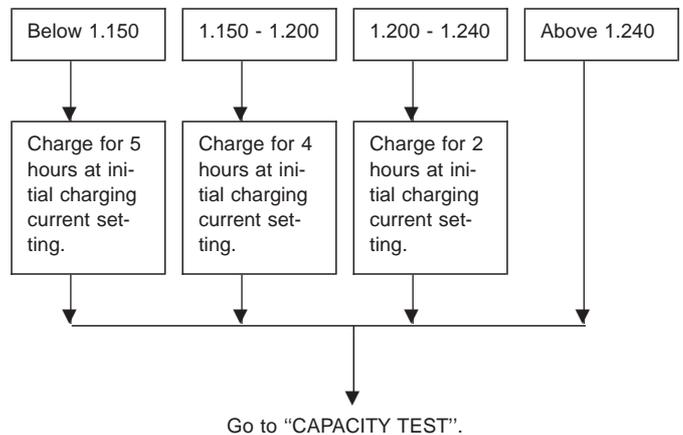


Fig. 2 INITIAL CHARGING CURRENT SETTING (Slow charge)

CON- VERTED SPECIFIC GRAVITY	BATTERY TYPE												
	28B19R(L)	34B19R(L)	46B24R(L)	55B24R(L)	50D23R(L)	55D23R(L)	65D26R(L)	80D26R(L)	75D31R(L)	95D31R(L)	115D31R(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

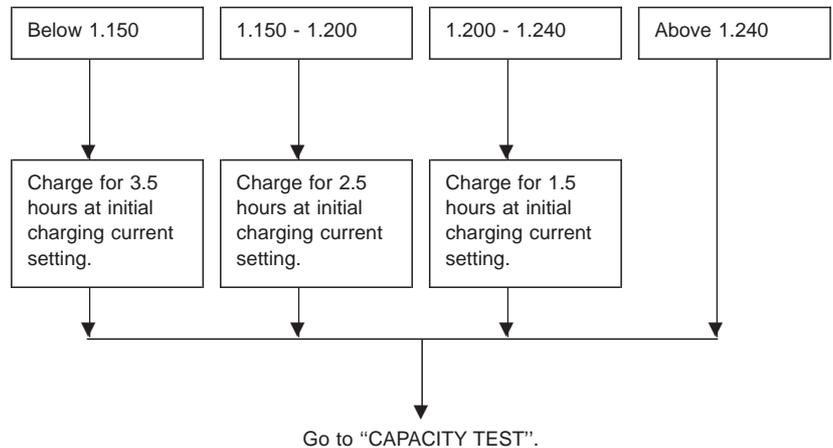
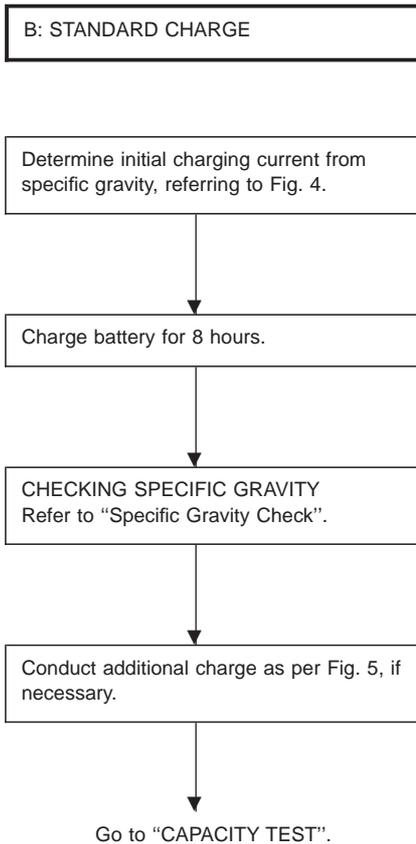
Battery Test and Charging Chart (Cont'd)

Fig. 4 INITIAL CHARGING CURRENT SETTING
(Standard charge)

CON- VERTED SPECIFIC GRAVITY	BATTERY TYPE												
	28B19R(L)	34B19R(L)	46B24R(L)	55B24R(L)	50D23R(L)	55D23R(L)	65D26R(L)	80D26R(L)	75D31R(L)	95D31R(L)	115D31R(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)	10.0 (A)	11.0 (A)	12.0 (A)	13.0 (A)	14.0 (A)	15.0 (A)	16.0 (A)
1.130 - 1.160	3.0 (A)	4.0 (A)	5.0 (A)	6.0 (A)	7.0 (A)	8.0 (A)	9.0 (A)	10.0 (A)	11.0 (A)	12.0 (A)	13.0 (A)	14.0 (A)	15.0 (A)
1.160 - 1.190	2.0 (A)	3.0 (A)	4.0 (A)	5.0 (A)	6.0 (A)	7.0 (A)	8.0 (A)	9.0 (A)	10.0 (A)	11.0 (A)	12.0 (A)	13.0 (A)	14.0 (A)
1.190 - 1.220	2.0 (A)	2.0 (A)	3.0 (A)	4.0 (A)	5.0 (A)	6.0 (A)	7.0 (A)	8.0 (A)	9.0 (A)	10.0 (A)	11.0 (A)	12.0 (A)	13.0 (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		28B19R(L)	34B19R(L)	46B24R(L)	55B24R(L)	50D23R(L)	55D23R(L)	65D26R(L)	80D26R(L)	75D31R(L)	95D31R(L)	115D31R(L)	95E41R(L)	130E41R(L)
CURRENT [A]		10 (A)		15 (A)			20 (A)			30 (A)				40 (A)
CONVERTED SPECIFIC GRAVITY	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.

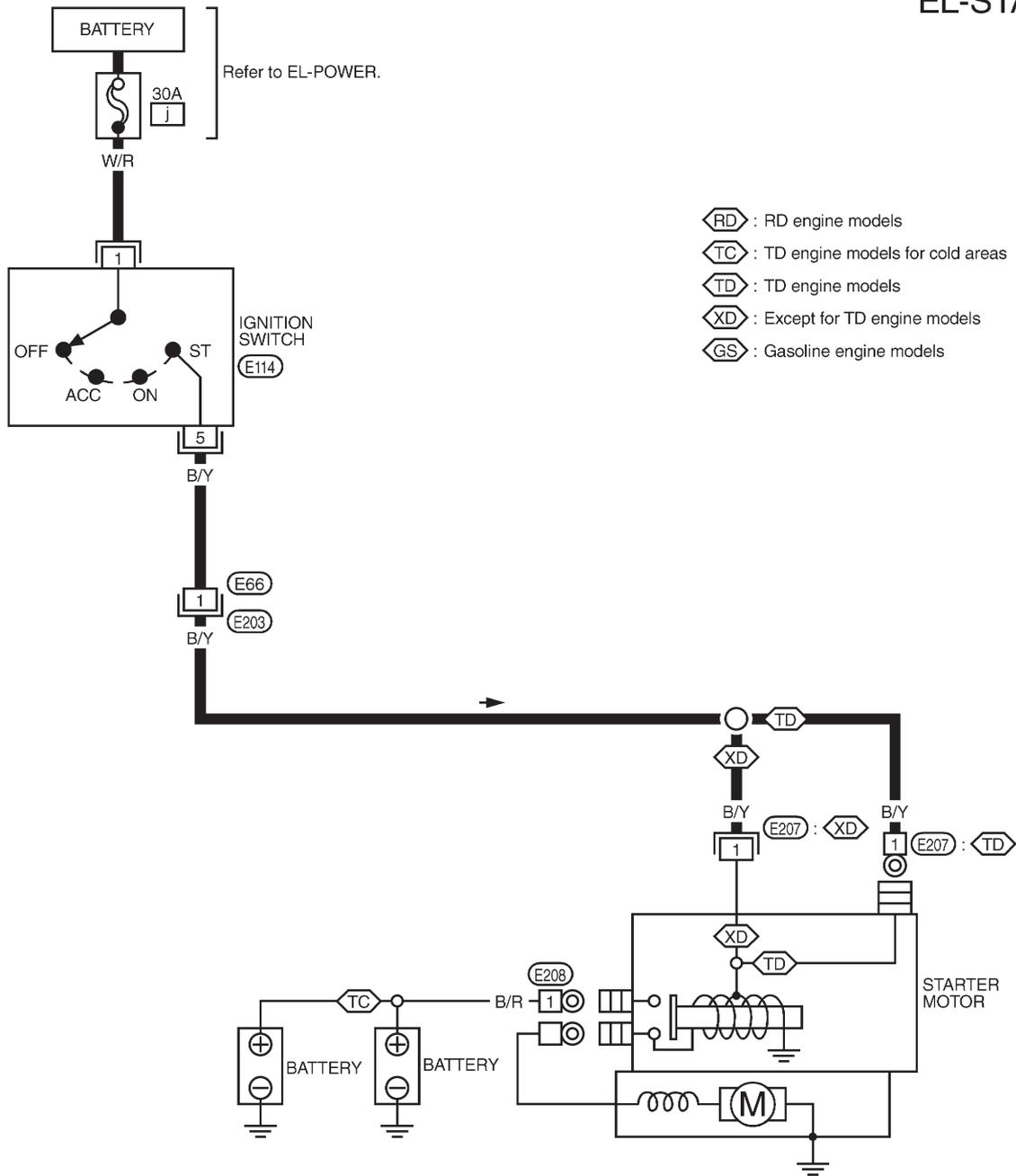
Service Data and Specifications (SDS)

Applied model	RD28	
	Standard	Cold areas for Europe
Type	95D31L	115D31L
Capacity V-AH	12-80	12-80

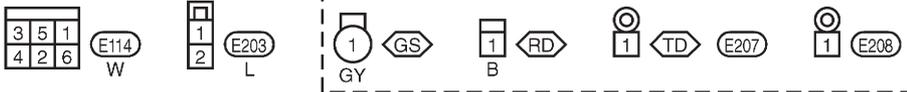
STARTING SYSTEM

Wiring Diagram — START —

EL-START-01



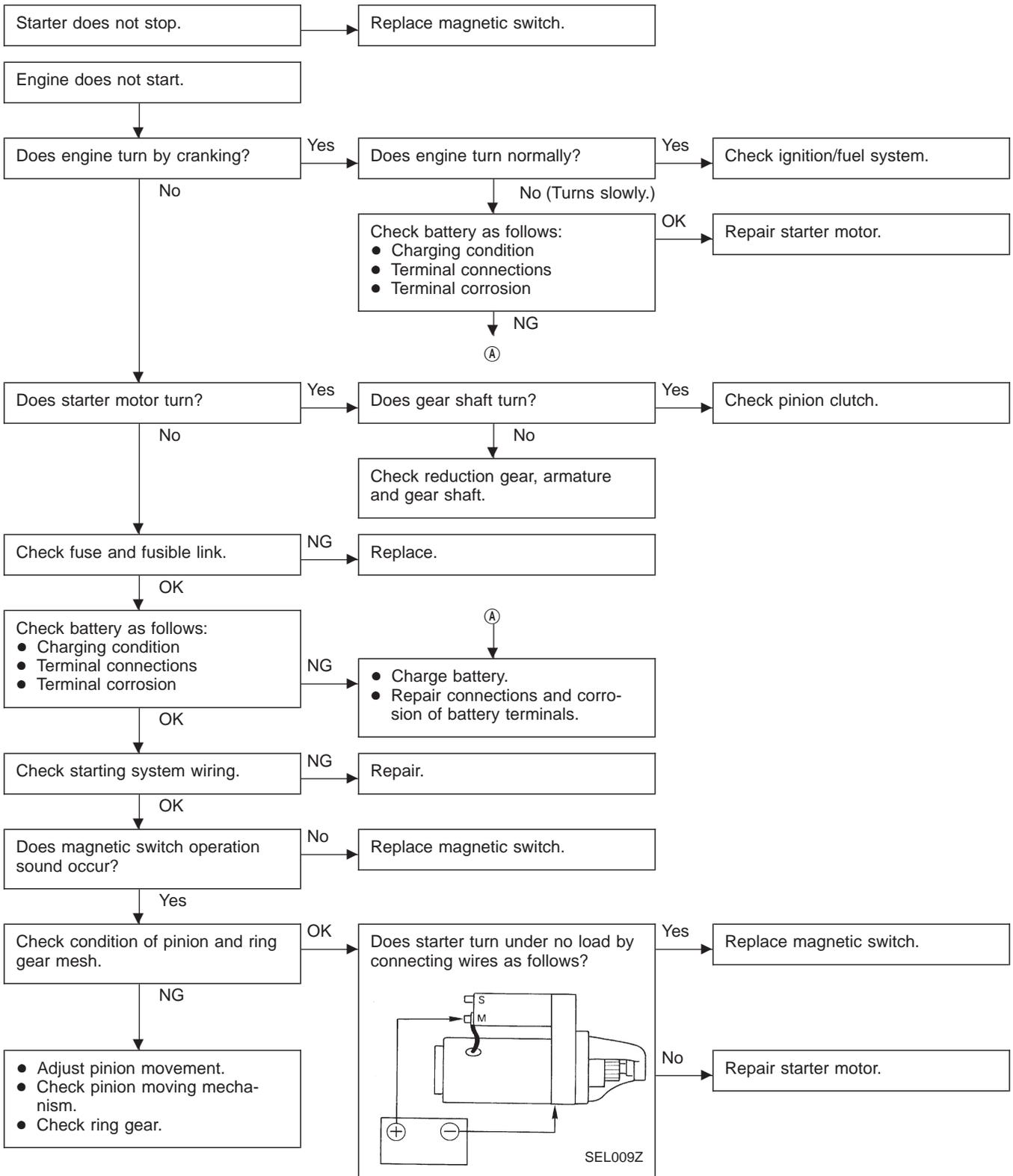
- RD : RD engine models
- TC : TD engine models for cold areas
- TD : TD engine models
- XD : Except for TD engine models
- GS : Gasoline engine models



STARTING SYSTEM

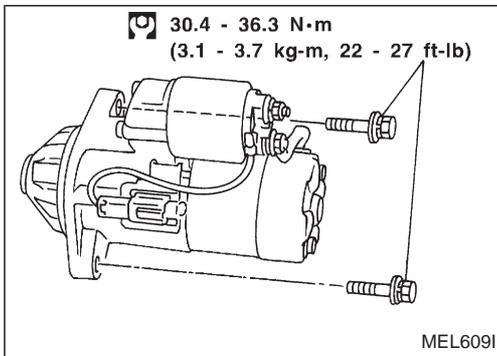
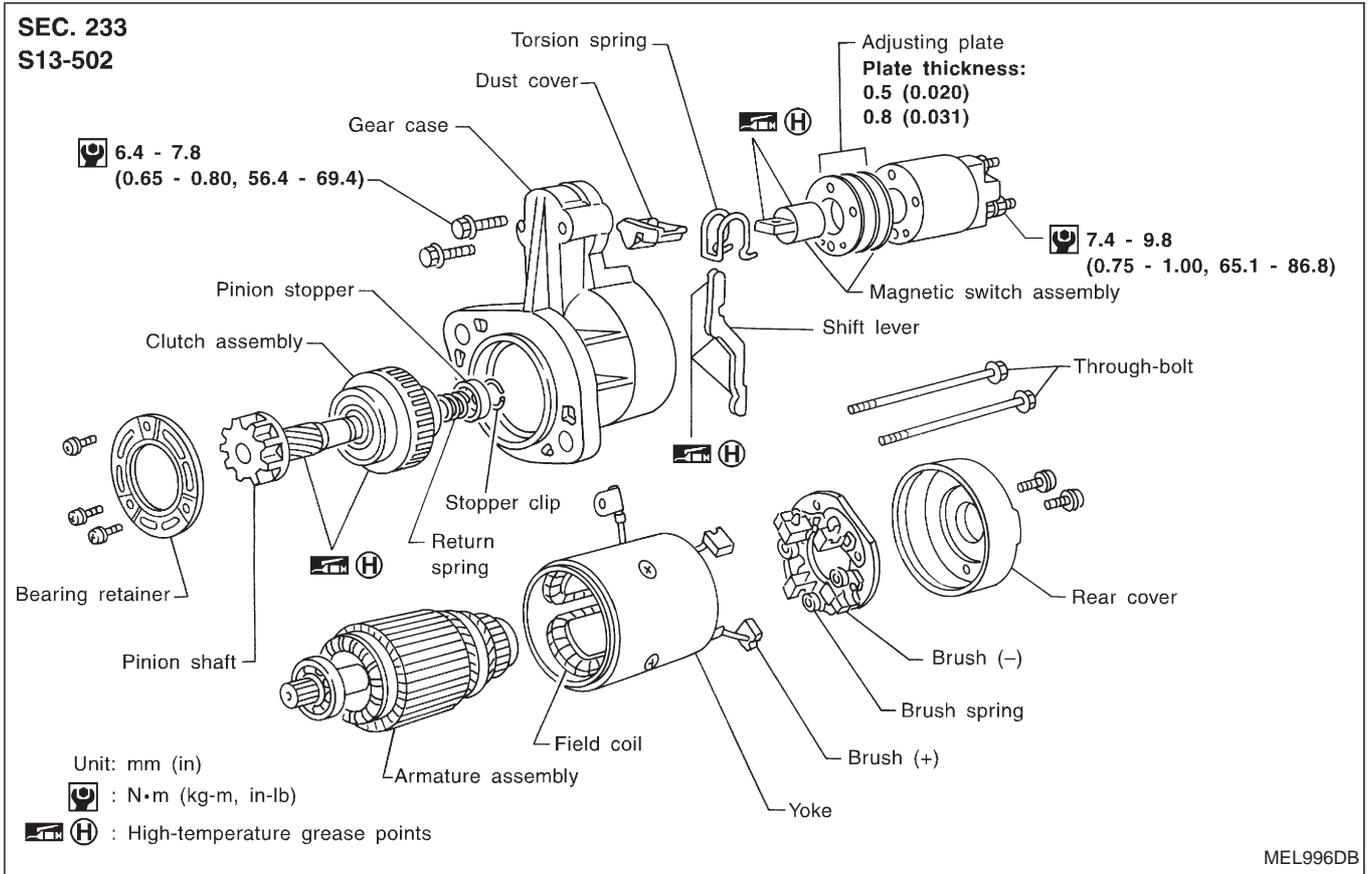
Trouble Diagnoses

If any abnormality is found, immediately disconnect battery negative terminal.

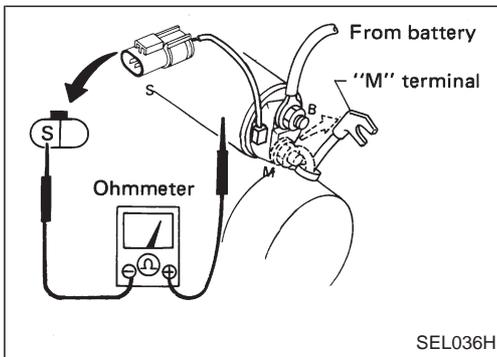


STARTING SYSTEM

Construction



Removal and Installation



Inspection

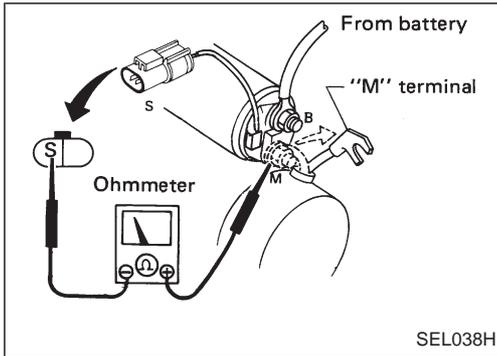
MAGNETIC SWITCH CHECK

- 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.

STARTING SYSTEM

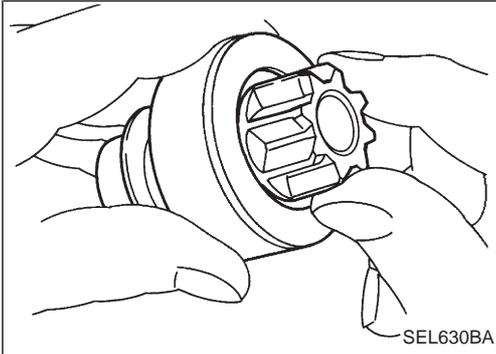
Inspection (Cont'd)

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



PINION/CLUTCH CHECK

1. Inspect pinion teeth.
 - Replace pinion if teeth are worn or damaged. (Also check condition of ring gear teeth.)
2. Inspect reduction gear teeth (If equipped).
 - Replace reduction gear if teeth are worn or damaged. (Also check condition of armature shaft gear teeth.)
3. Check to see if pinion locks in one direction and rotates smoothly in the opposite direction.
 - If it locks or rotates in both directions, or unusual resistance is evident. ... Replace.



BRUSH CHECK

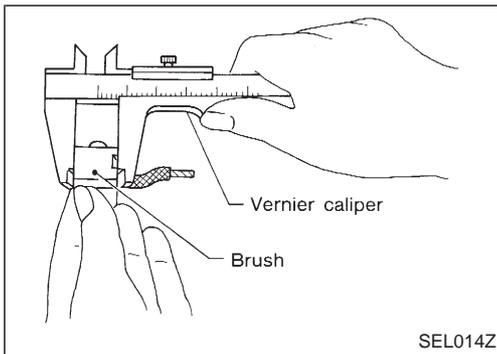
Brush

Check wear of brush.

Wear limit length:

Refer to SDS (EL-51).

- Excessive wear ... Replace.



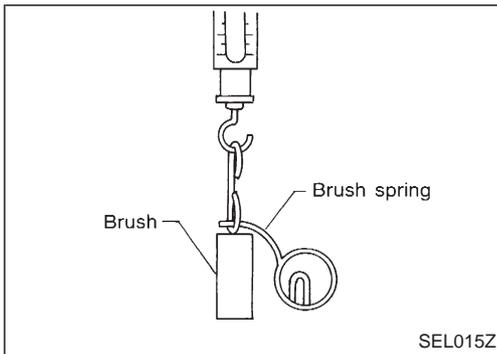
Brush spring pressure

Check brush spring pressure with brush spring detached from brush.

Spring pressure (with new brush):

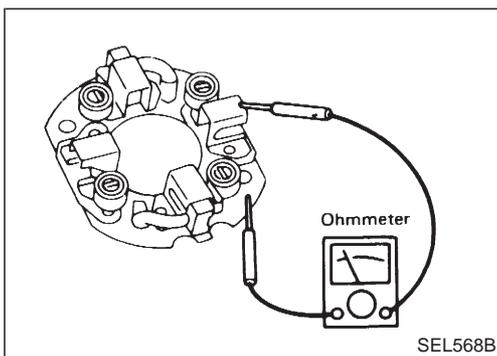
Refer to SDS (EL-51).

- Not within the specified values ... 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

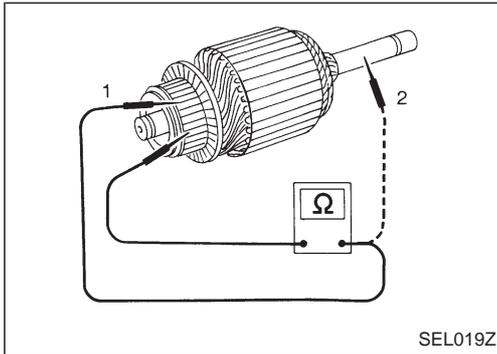
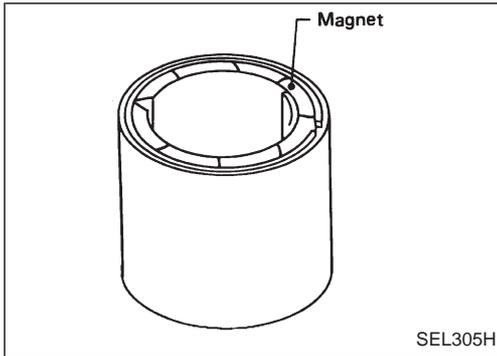
Inspection (Cont'd)

YOKE CHECK

Magnet is secured to yoke by bonding agent. Check magnet to see that it is secured to yoke and for any cracks. Replace malfunctioning parts as an assembly.

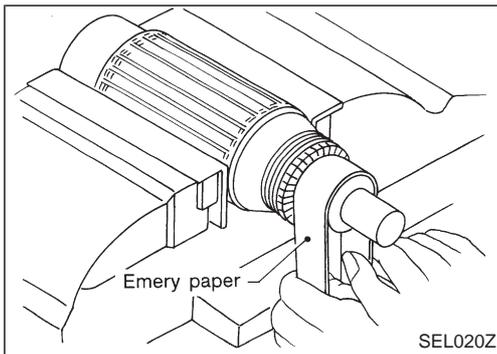
CAUTION:

Do not clamp yoke in a vice or strike it with a hammer.

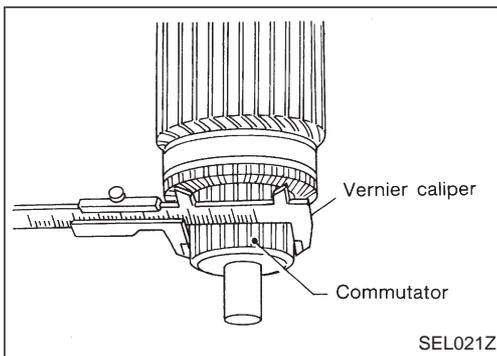


ARMATURE CHECK

1. Continuity test (between two segments side by side).
 - No continuity ... Replace.
2. Insulation test (between each commutator bar and shaft).
 - Continuity exists. ... Replace.



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



4. Check diameter of commutator.

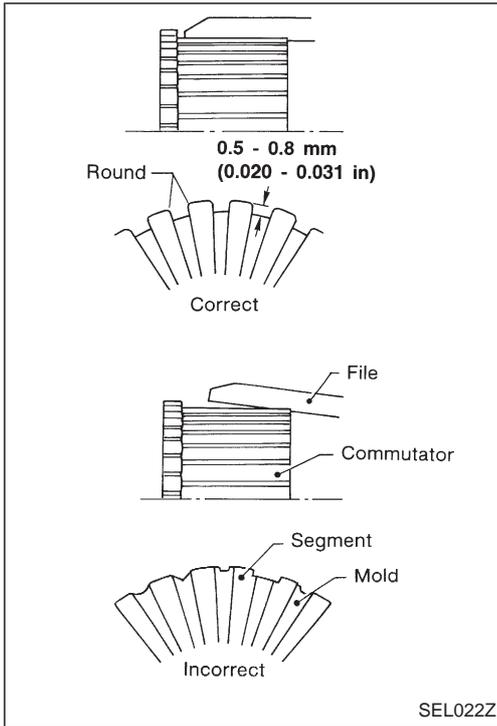
**Commutator minimum diameter:
Refer to SDS (EL-51).**

 - Less than specified value ... Replace.

STARTING SYSTEM

Inspection (Cont'd)

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



Assembly

Apply high-temperature grease to lubricate the bearing, gears and frictional surface when assembling the starter. Carefully observe the following instructions.

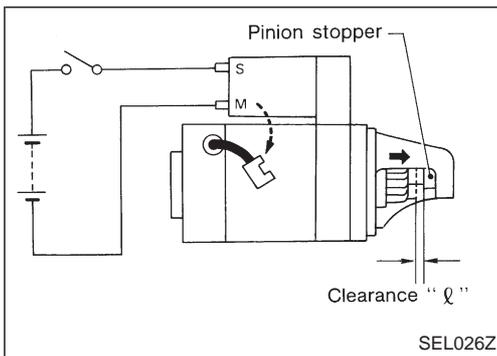
PINION PROTRUSION LENGTH ADJUSTMENT

Clearance "ℓ"

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

Clearance "ℓ":

Refer to SDS (EL-51).

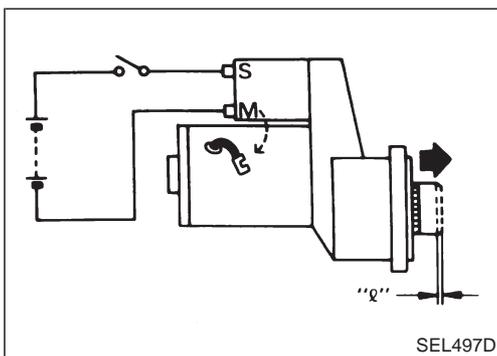


Movement "ℓ"

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

Movement "ℓ":

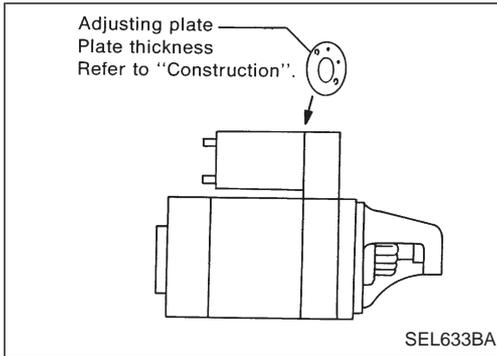
Refer to SDS (EL-51).



STARTING SYSTEM

Assembly (Cont'd)

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



Service Data and Specifications (SDS)

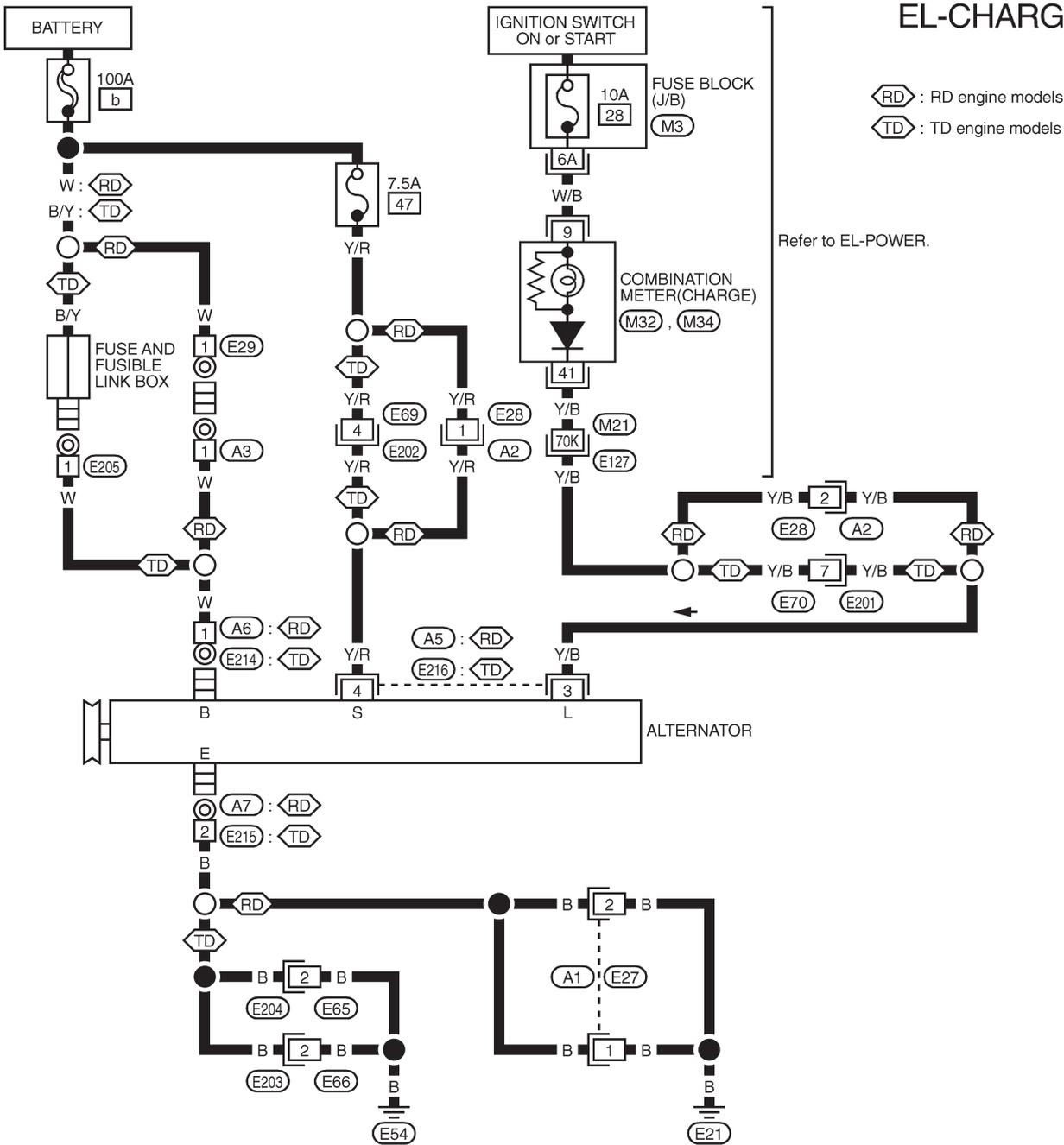
STARTER

Type	S13-502	
	HITACHI make	
	Reduction gear type	
Applied model	RD28	
System voltage	V	12
No-load		
Terminal voltage	V	11
Current	A	Less than 125
Revolution	rpm	4,000
Minimum diameter of commutator	mm (in)	35.5 (1.398)
Minimum length of brush	mm (in)	11 (0.43)
Brush spring tension	N (kg, lb)	28.4 - 34.3 (2.9 - 3.5, 6.4 - 7.7)
Clearance between bearing metal and armature shaft	mm (in)	—
Clearance "ℓ" between pinion front edge and pinion stopper	mm (in)	—
Movement "ℓ" in height of pinion assembly	mm (in)	0.3 - 2.0 (0.012 - 0.079)

CHARGING SYSTEM

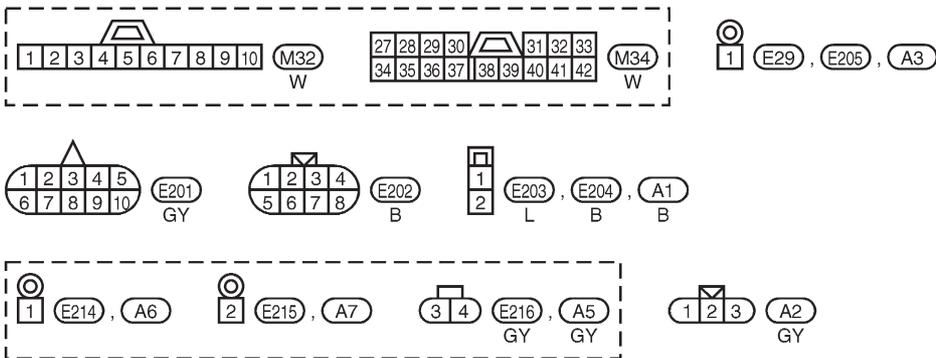
Wiring Diagram — CHARGE —

EL-CHARGE-01



RD : RD engine models
TD : TD engine models

Refer to EL-POWER.



Refer to last page (Foldout page).

M21, E127
M3

YEL782A

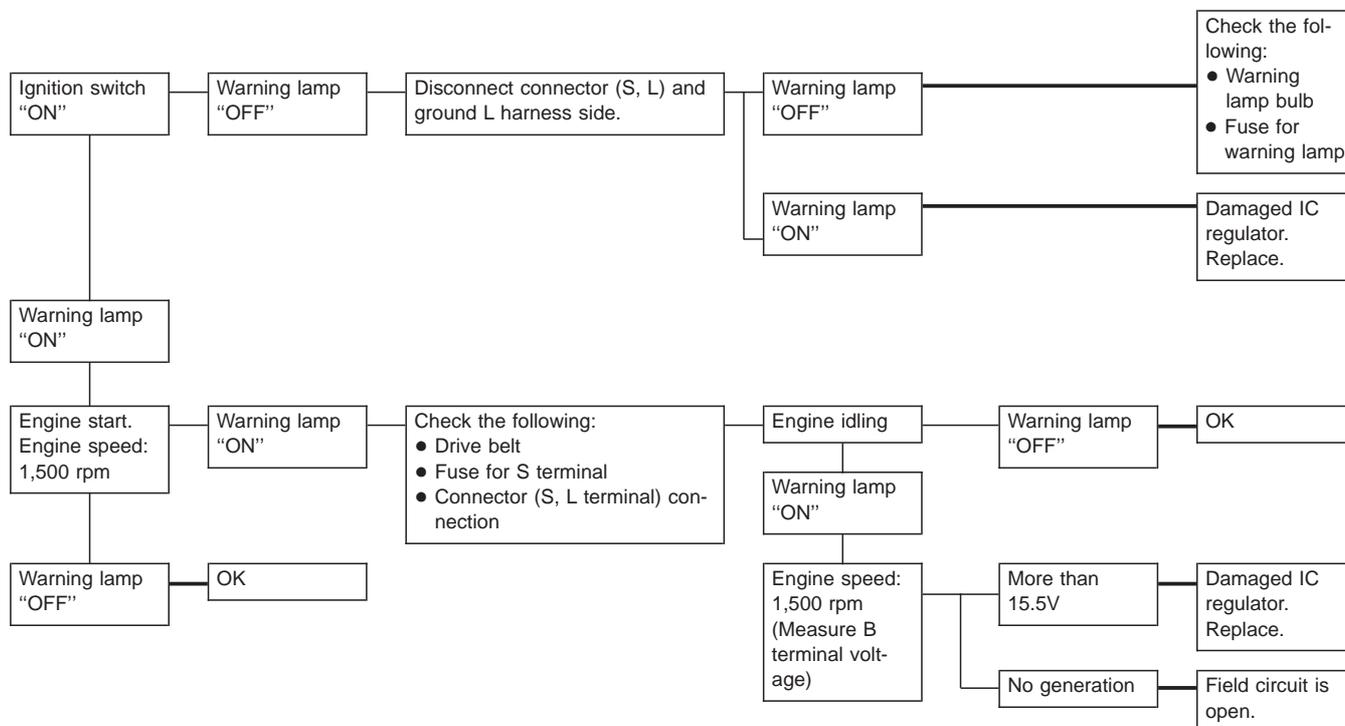
CHARGING SYSTEM

Trouble Diagnoses

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, inspect the fusible link.
- Use fully charged battery.

WITH IC REGULATOR



Warning lamp: "CHARGE" warning lamp in combination meter

Note:

- If the inspection result is OK even though the charging system is malfunctioning, check the B terminal connection. (Check the tightening torque.)
- When field circuit is open, check condition of rotor coil, rotor slip ring and brush. If necessary, replace faulty parts with new ones.

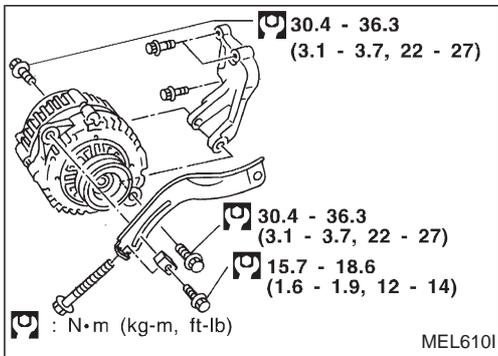
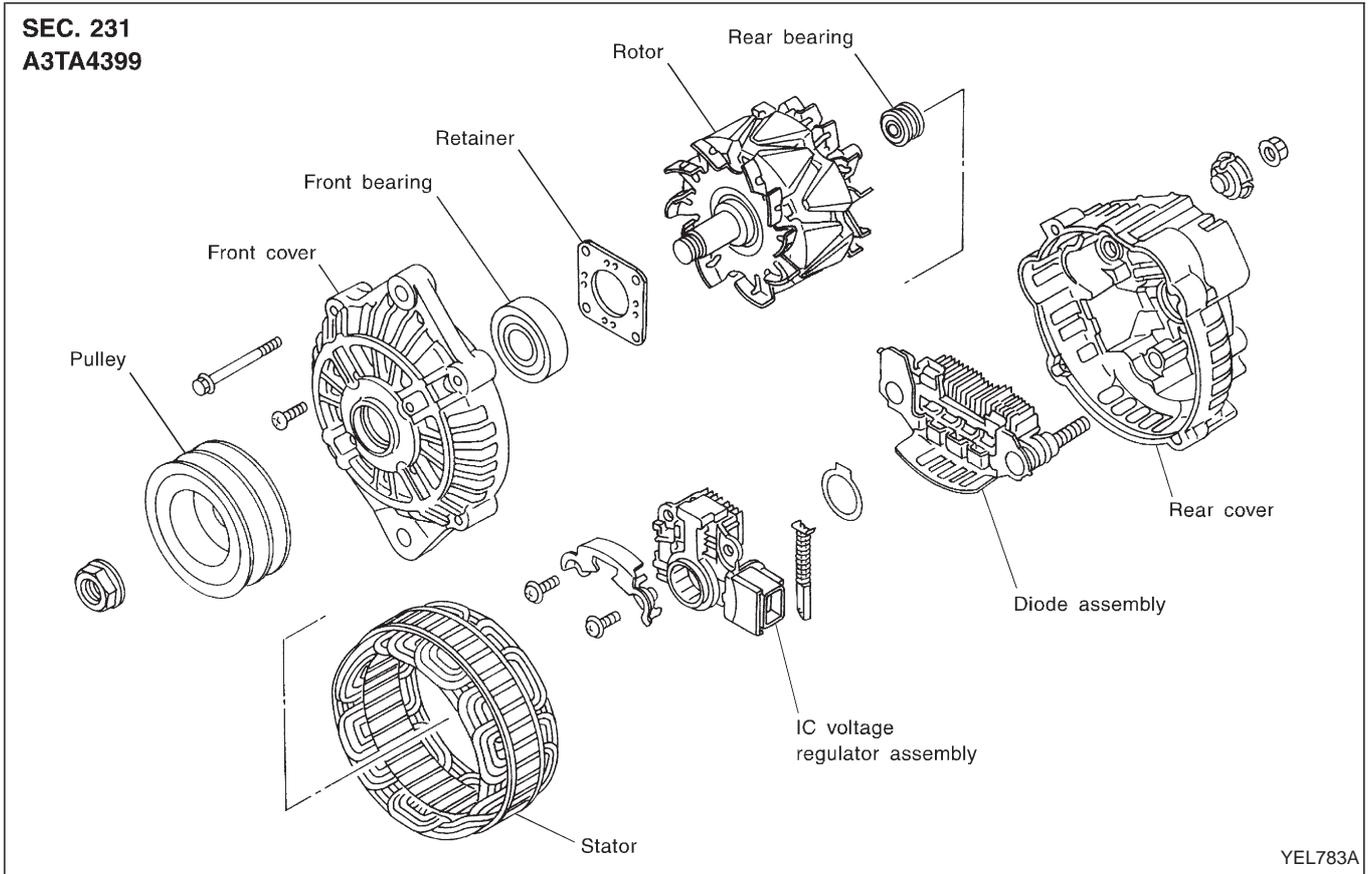
MALFUNCTION INDICATOR

The IC regulator warning function activates to illuminate "CHARGE" warning lamp, if any of the following symptoms occur while alternator is operating:

- Excessive voltage is produced.
- No voltage is produced.

CHARGING SYSTEM

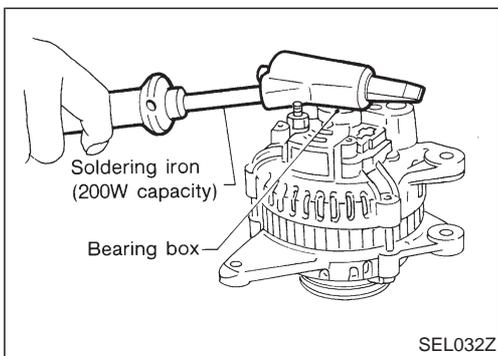
Construction



Removal and Installation

CAUTION:

- Start service operation after removing the negative terminal from the battery.
- Also remove the undercover, if equipped, before servicing.



Disassembly

REAR COVER

CAUTION:

Rear cover may be hard to remove because a ring is used to lock outer race of rear bearing. To facilitate removal of rear cover, heat just bearing box section with a 200W soldering iron.

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

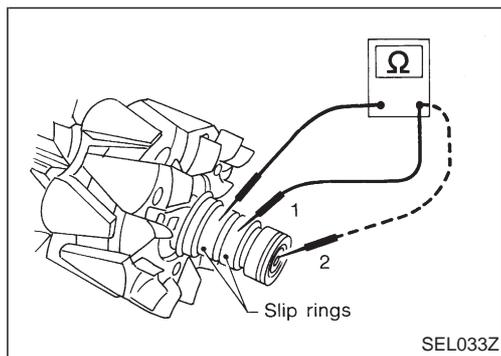
CHARGING SYSTEM

Disassembly (Cont'd)

REAR BEARING

CAUTION:

- Do not reuse rear bearing after removal. Replace with a new one.
- Do not lubricate rear bearing outer race.



Inspection

ROTOR CHECK

1. Resistance test

Resistance: Refer to SDS (EL-56).

- Not within the specified values ... Replace rotor.
2. Insulator test
 3. Check slip ring for wear.

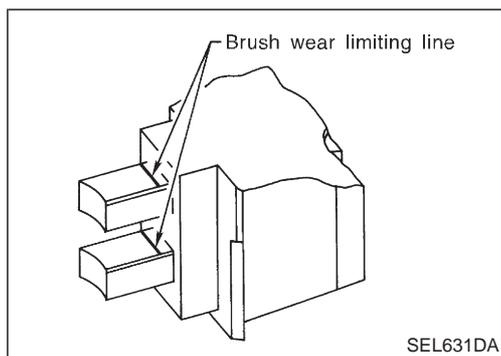
Slip ring minimum outer diameter:

Refer to SDS (EL-56).

- Not within the specified values ... Replace rotor.

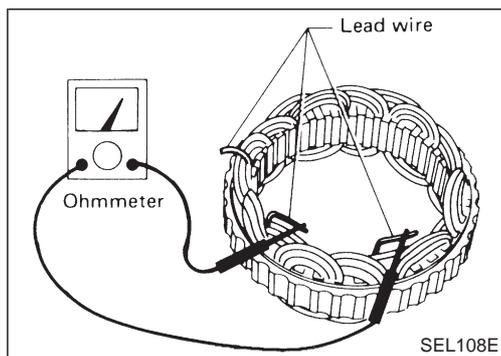
BRUSH CHECK

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

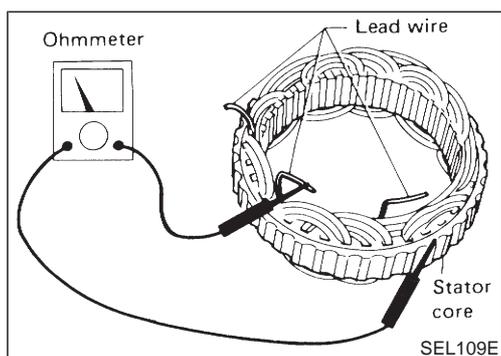


STATOR CHECK

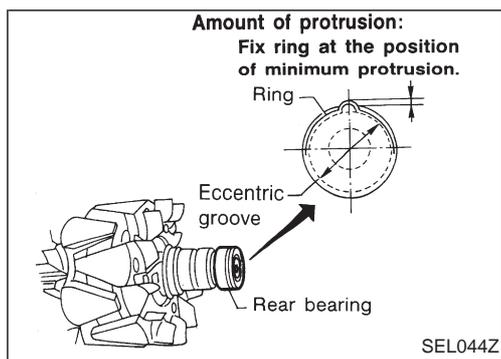
1. Continuity test
- No continuity ... Replace stator.



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



CHARGING SYSTEM



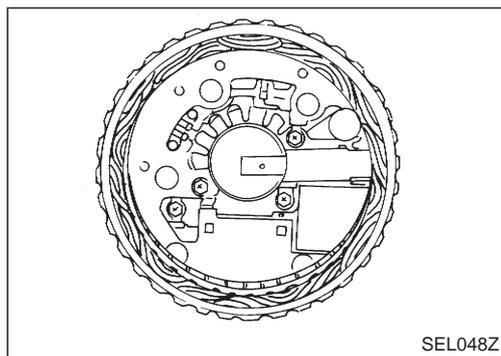
Assembly

RING FITTING IN REAR BEARING

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

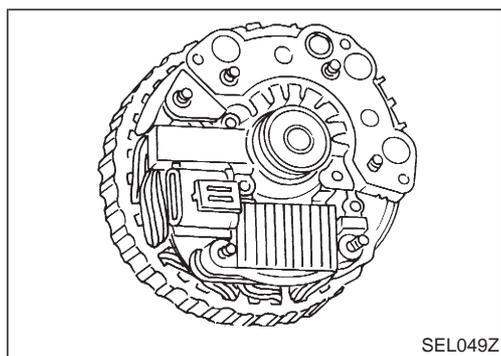
CAUTION:

Do not reuse rear bearing after removal.



REAR COVER INSTALLATION

1. Fit brush assembly, diode assembly, regulator assembly and stator.
 2. Push brushes up with fingers and install them to rotor.
- Take care not to damage slip ring sliding surface.**



Service Data and Specifications (SDS)

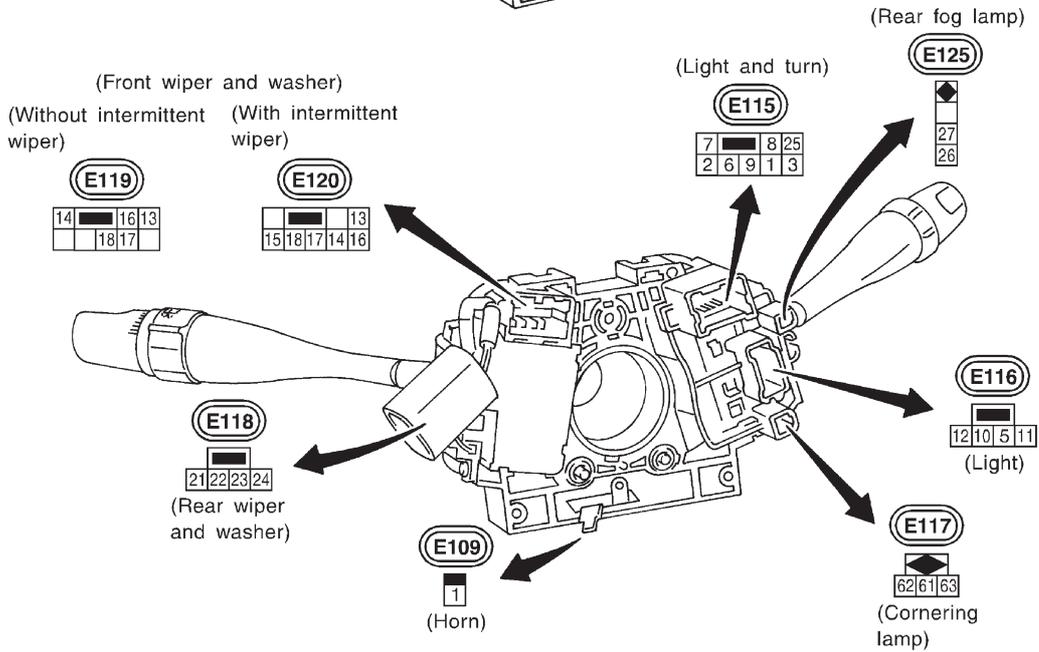
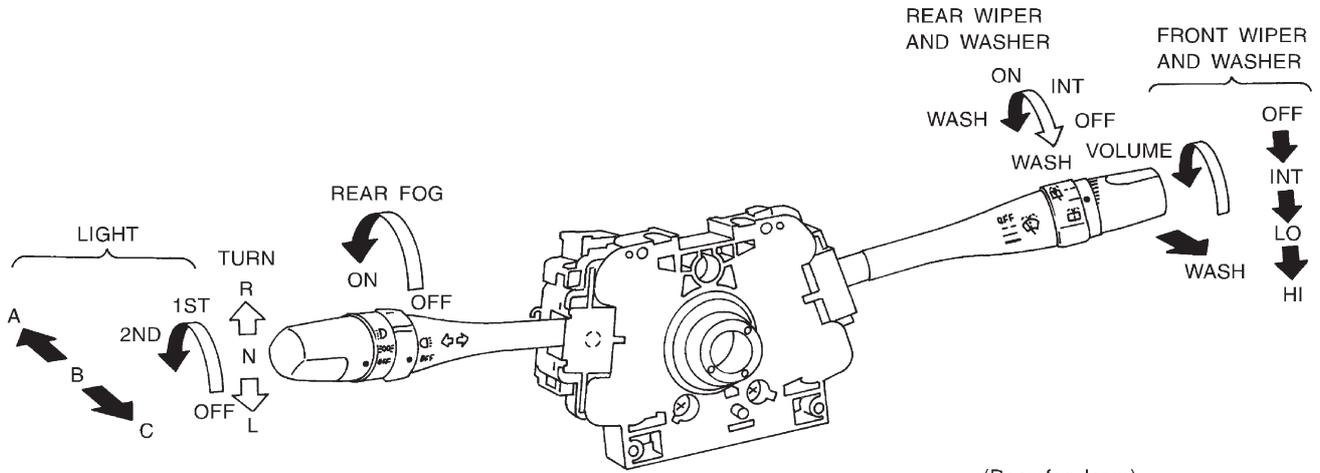
ALTERNATOR

Type		A3TA4399
		MITSUBISHI
Applied model		RD28
Nominal rating	V-A	12-100
Ground polarity		Negative
Minimum revolution under no-load (When 13.5V is applied)	rpm	Less than 1,300
Hot output current (When 13.5V is applied)	A/rpm	More than 35/1,300 More than 72/2,500
Regulated output voltage	V	14.1 - 14.7
Minimum length of brush	mm (in)	5 (0.20)
Brush spring pressure	N (g, oz)	4.6 - 5.8 (470 - 590, 16.58 - 20.81)
Slip ring minimum outer diameter	mm (in)	22.1 (0.870)
Rotor (Field coil) resistance	Ω	2.1 - 2.5

COMBINATION SWITCH

Check

RHD MODELS AND LHD MODELS



FRONT WIPER AND WASHER SWITCH

	LO	AUTO STOP	AMP	WASH	HI	EARTH
OFF	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>
INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
LO	<input type="checkbox"/>					<input type="checkbox"/>
HI					<input type="checkbox"/>	<input type="checkbox"/>
WASH				<input type="checkbox"/>		<input type="checkbox"/>

WIPER AMP.

14 15 13 16 17 18

VARIABLE INTERMITTENT WIPER VOLUME



CORNERING LAMP SWITCH

	L	N	R
61	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

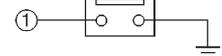
REAR FOG LAMP SWITCH

	ON	OFF
26	<input type="checkbox"/>	<input type="checkbox"/>
27	<input type="checkbox"/>	<input type="checkbox"/>

LIGHTING SWITCH

	OFF			1ST			2ND		
	A	B	C	A	B	C	A	B	C
5		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
6		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
7		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
25		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
8		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
9		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
10		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
11		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
12		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	

HORN SWITCH



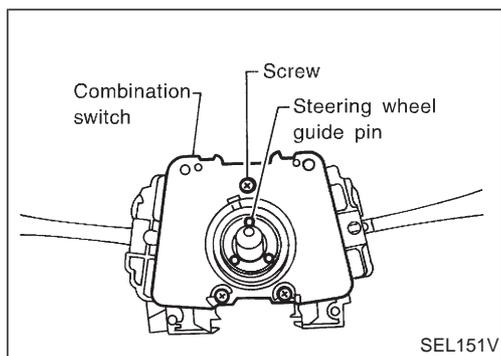
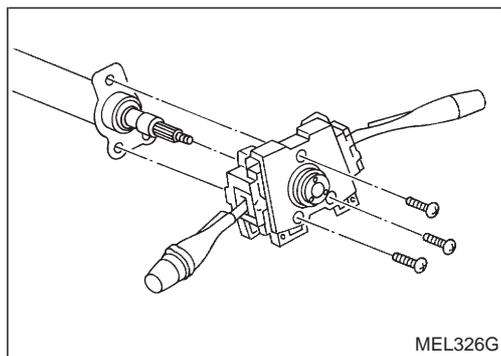
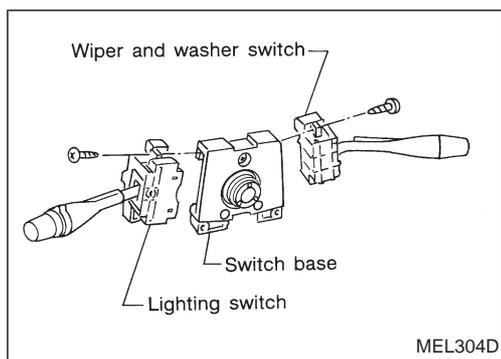
REAR WIPER AND WASHER SWITCH

	WASH	OFF	INT	ON	WASH
21			<input type="checkbox"/>		
22			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TURN SIGNAL SWITCH

	L	N	R
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMBINATION SWITCH



Replacement

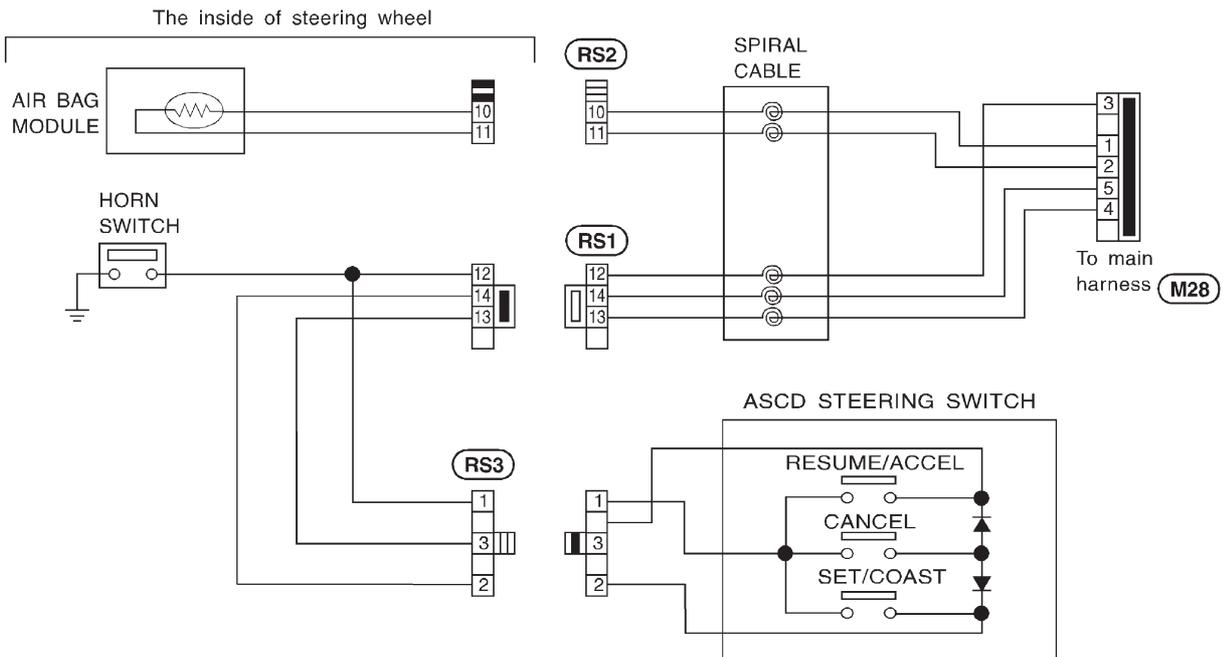
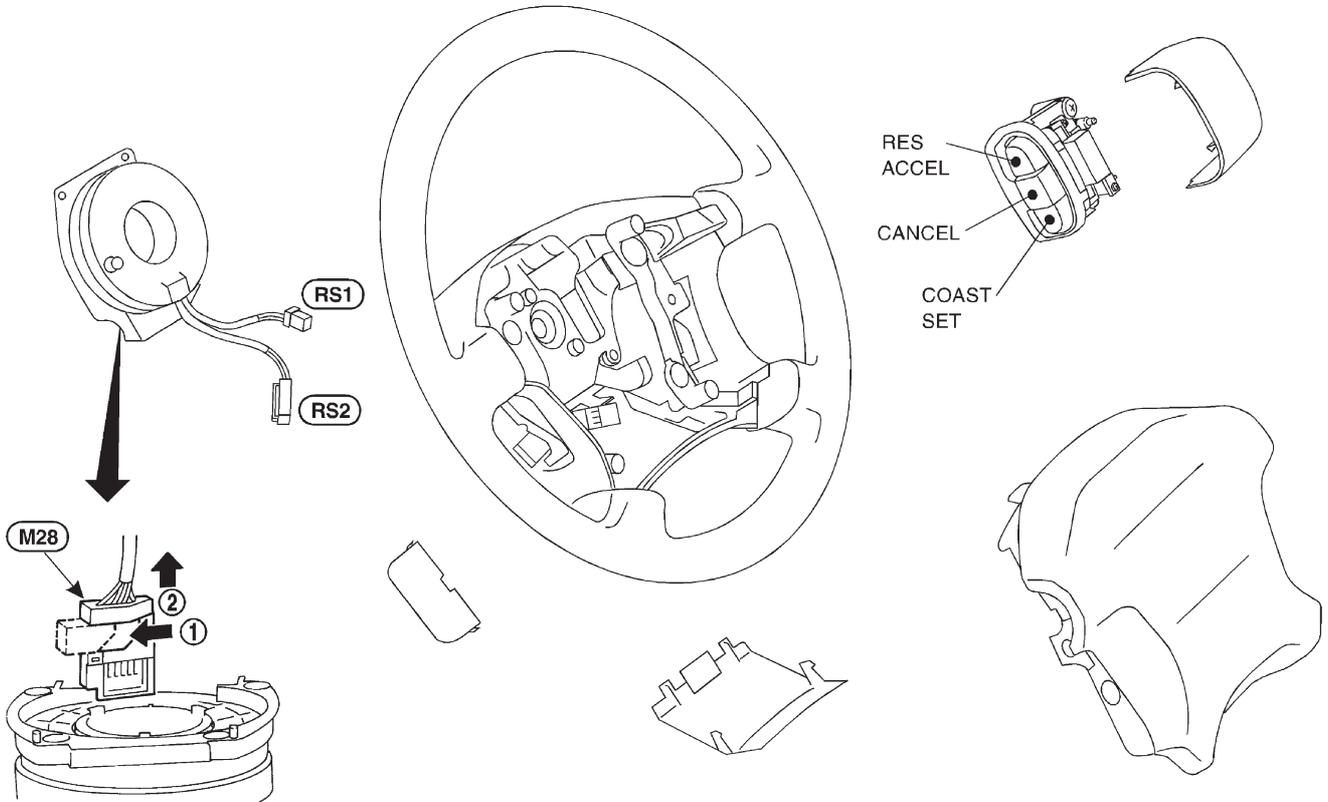
For removal and installation of spiral cable, refer to RS section [“Installation — Air Bag Module and Spiral Cable”, “SUPPLEMENTAL RESTRAINT SYSTEM (SRS)”].

- Each switch can be replaced without removing combination switch base.
- To remove combination switch base, remove base attaching screw.
- Before installing the steering wheel, align the steering wheel guide pins with the screws which secure the combination switch as shown in the left figure.

STEERING SWITCH

Check

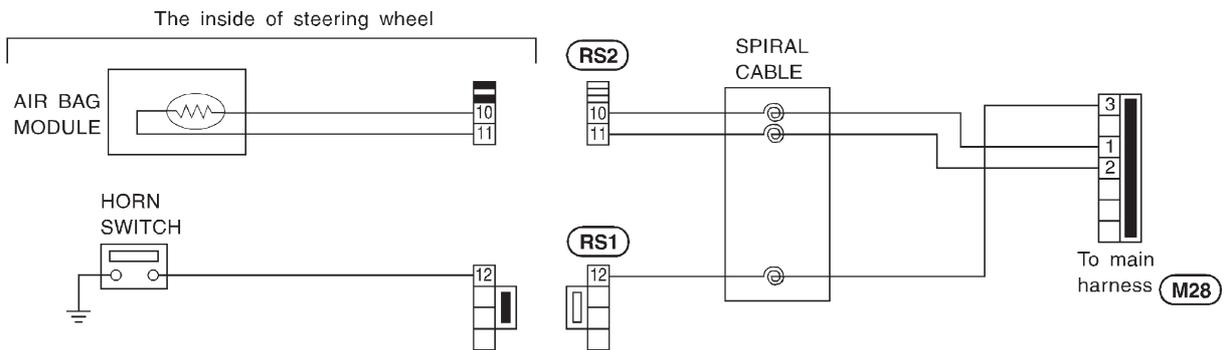
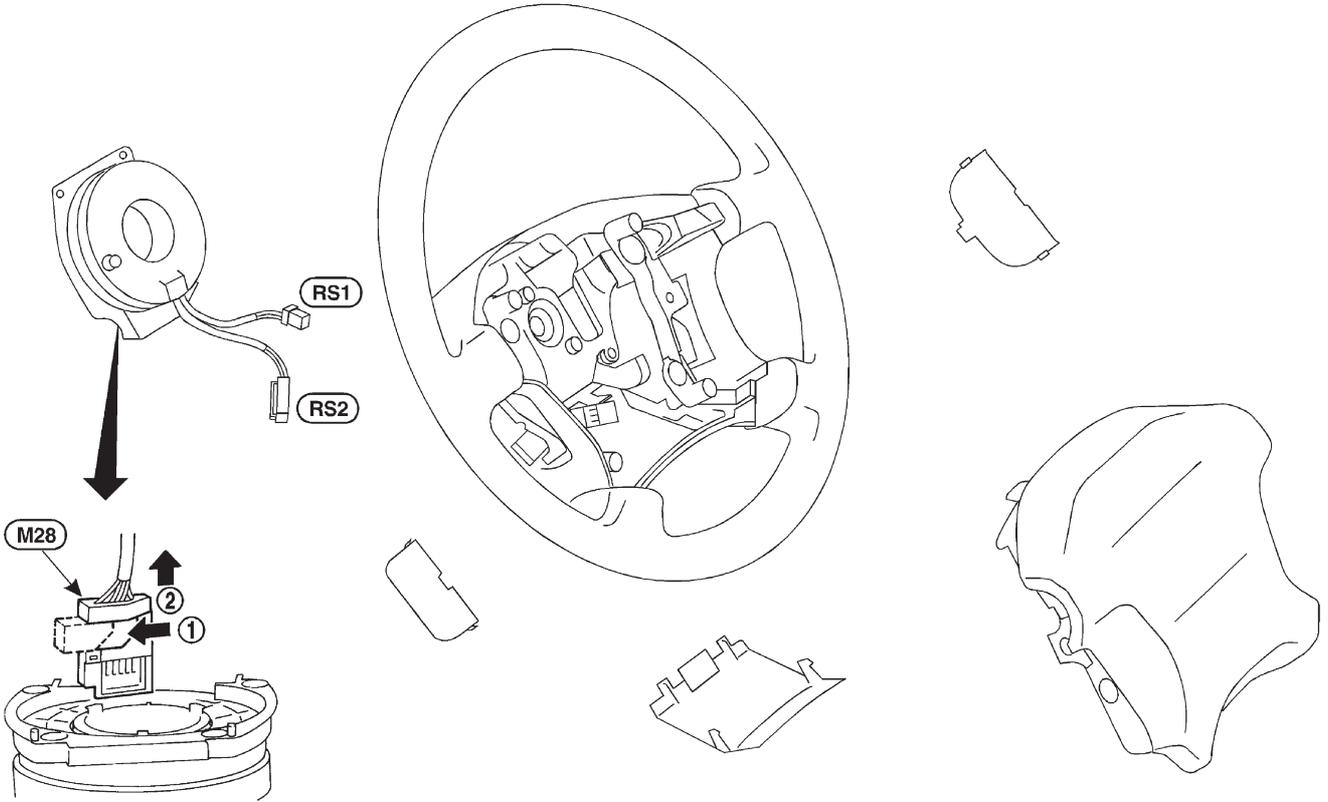
WITH ASCD



STEERING SWITCH

Check (Cont'd)

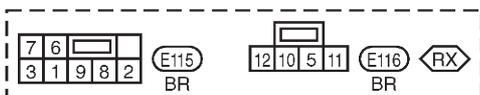
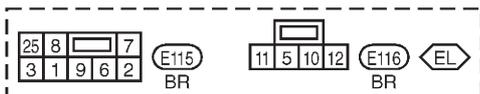
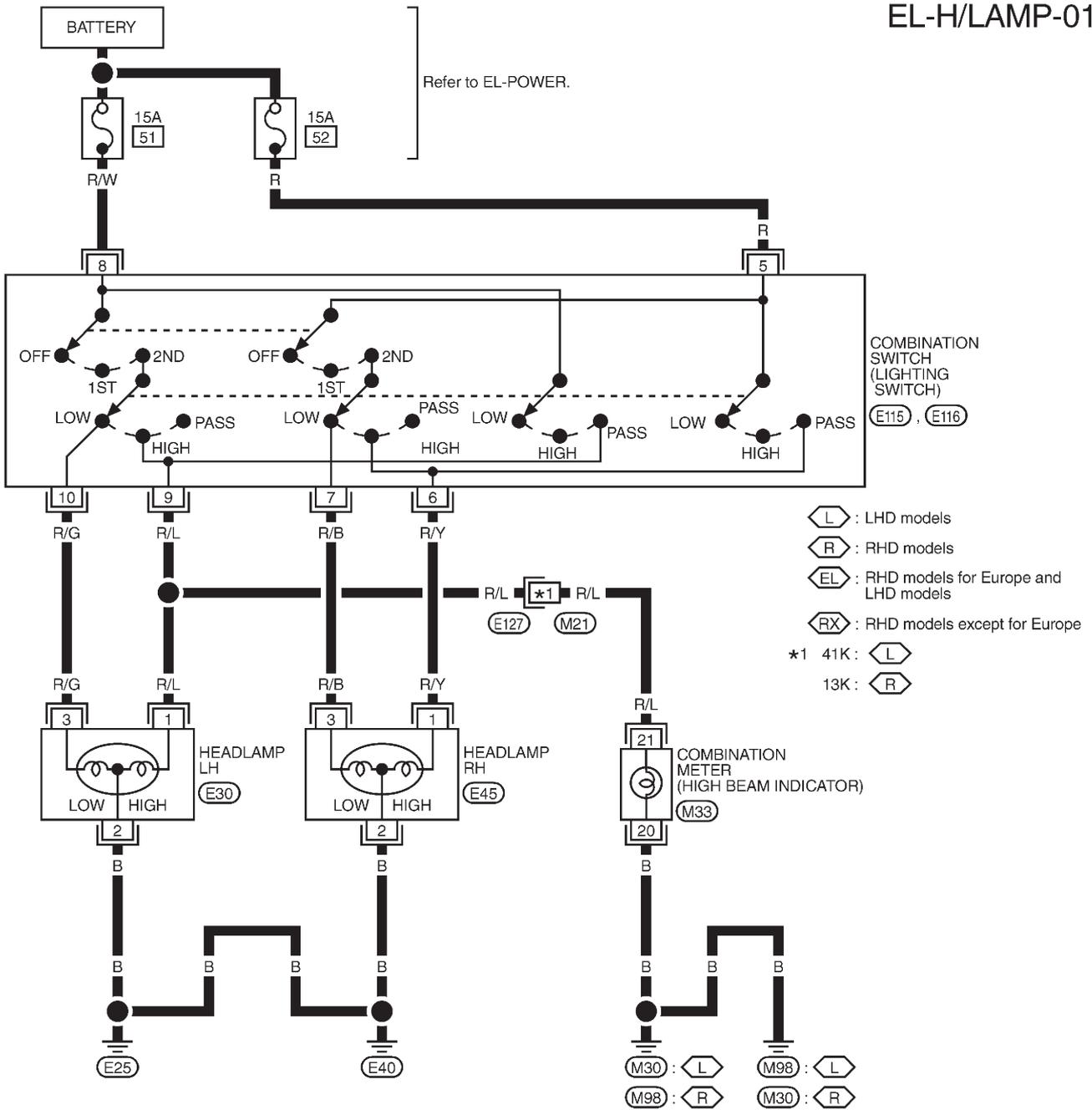
WITHOUT ASCD



HEADLAMP — Conventional Type —

Wiring Diagram — H/LAMP —

EL-H/LAMP-01



Refer to last page (Foldout page).

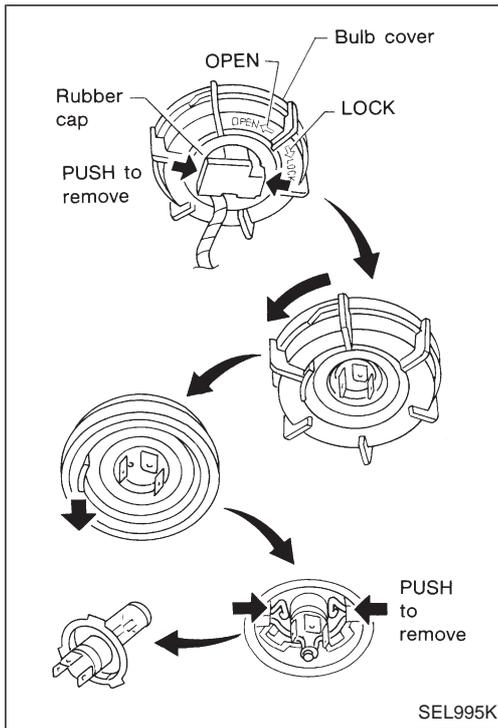
(M21), (E127)

HEADLAMP — Conventional Type —

Trouble Diagnoses

Symptom	Possible cause	Repair order
LH headlamps do not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E25) and (E40) 3. 15A fuse 4. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E25) and (E40). 3. Check 15A fuse (No. 51), located in fuse and fusible link box). Verify battery positive voltage is present at terminal ⑧ of lighting switch. 4. Check lighting switch.
RH headlamps do not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E25) and (E40) 3. 15A fuse 4. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E25) and (E40). 3. Check 15A fuse (No. 52), located in fuse and fusible link box). Verify battery positive voltage is present at terminal ⑤ of lighting switch. 4. Check lighting switch.
LH high beams do not operate, but LH low beam operates.	<ol style="list-style-type: none"> 1. Bulbs 2. Open in LH high beams circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulbs. 2. Check R/L wire between lighting switch and LH headlamps for an open circuit. 3. Check lighting switch.
LH low beam does not operate, but LH high beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in LH low beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check R/G wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
RH high beams do not operate, but RH low beam operates.	<ol style="list-style-type: none"> 1. Bulbs 2. Open in RH high beams circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulbs. 2. Check R/Y wire between lighting switch and RH headlamps for an open circuit. 3. Check lighting switch.
RH low beam does not operate, but RH high beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in RH low beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check R/B wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
High beam indicator does not work.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (M30) and (M98) 3. Open in high beam circuit 	<ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check grounds (M30) and (M98). 3. Check R/L wire between lighting switch and combination meter for an open circuit.

HEADLAMP — Conventional Type —



Bulb Replacement

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

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

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

CAUTION:

Do not leave headlamp reflector without bulb for a long period of time. Dust, moisture, smoke, etc. entering headlamp body may affect the performance of the headlamp. Remove headlamp bulb from the headlamp reflector just before a replacement bulb is installed.

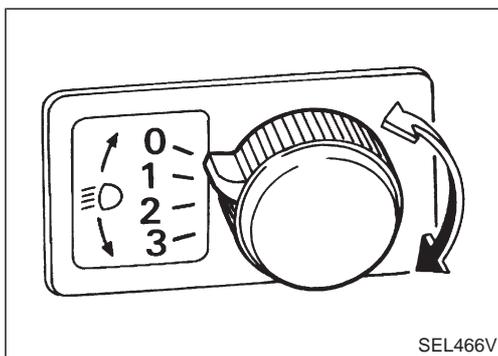
Aiming Adjustment

When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. Aimers should be in good repair, calibrated and operated in accordance with respective operation manuals.

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

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

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



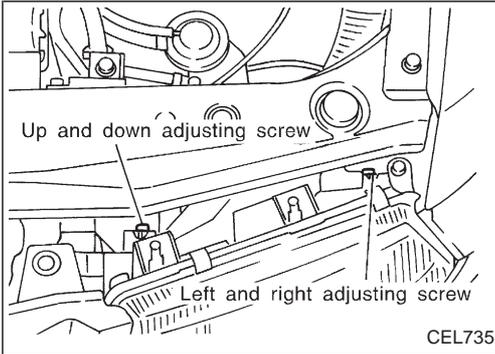
CAUTION:

Be sure aiming switch is set to "0" when performing aiming adjustment on vehicles equipped with headlamp aiming control.

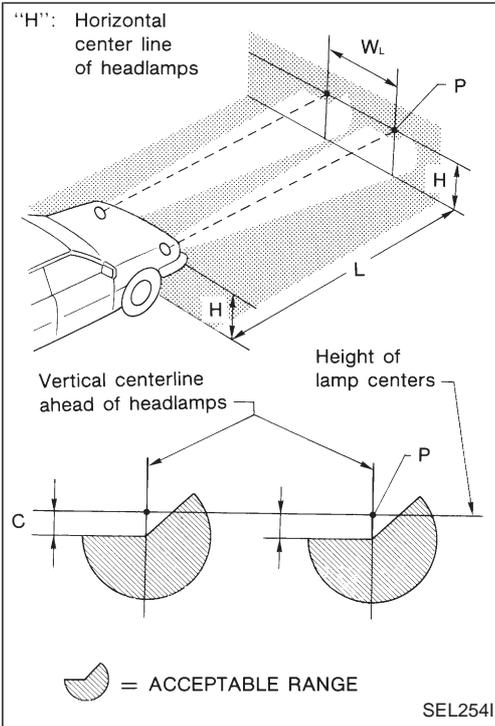
HEADLAMP — Conventional Type —

Aiming Adjustment (Cont'd)

LOW BEAM



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



- **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

"W_L": Distance between each headlamp center

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

"C": 63 mm (2.48 in)

HEADLAMP — Daytime Light System —

System Description

OPERATION

Headlamp system on vehicles for North Europe contains a daytime light system. The unit operates to illuminate headlamps low beam, parking, tail, license lamps and illuminations automatically in the following conditions.

- The engine is running with lighting switch in OFF position.

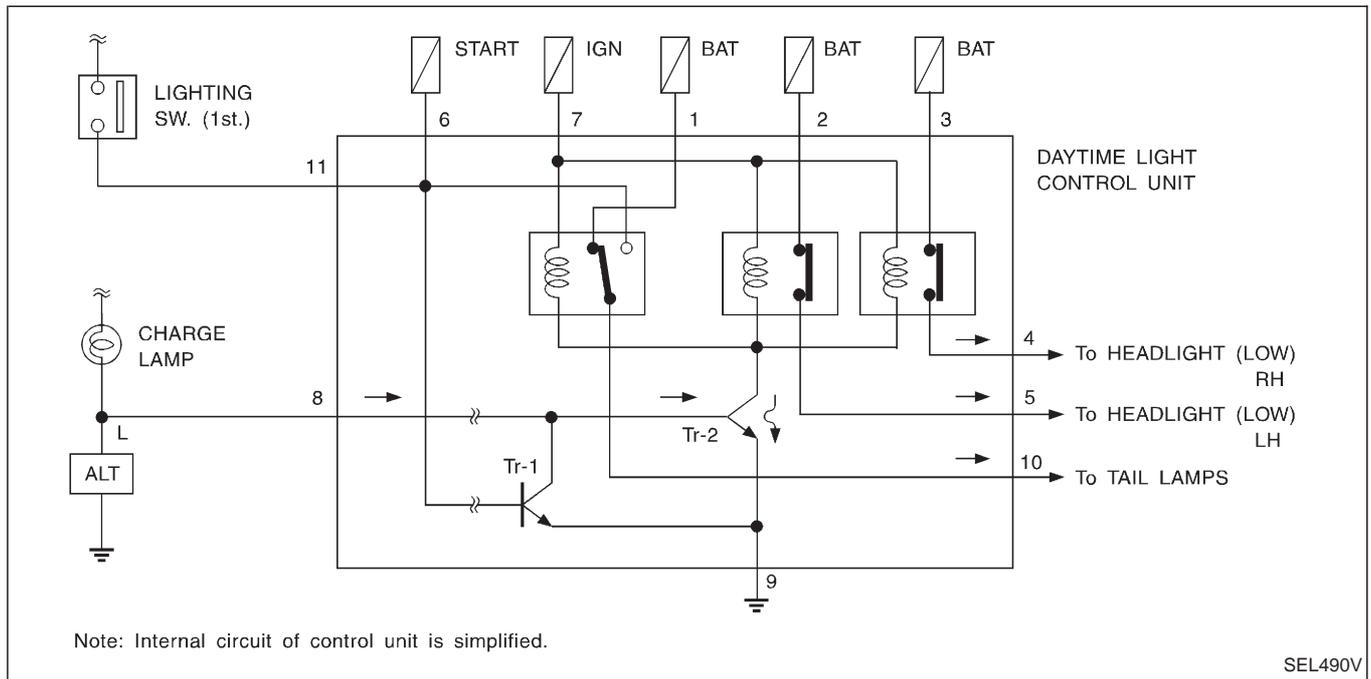
When the any of following conditions exists, the daytime light operation will be canceled.

- Ignition switch is in any position other than ON
- Engine is stopped
- Lighting switch is turned to 1st or 2nd position.

If the daytime light system is canceled, lighting switch operations are the same as for conventional light system.

DAYTIME LIGHT IS OPERATING

(With engine running and lighting switch in OFF position)



With engine running, power is supplied

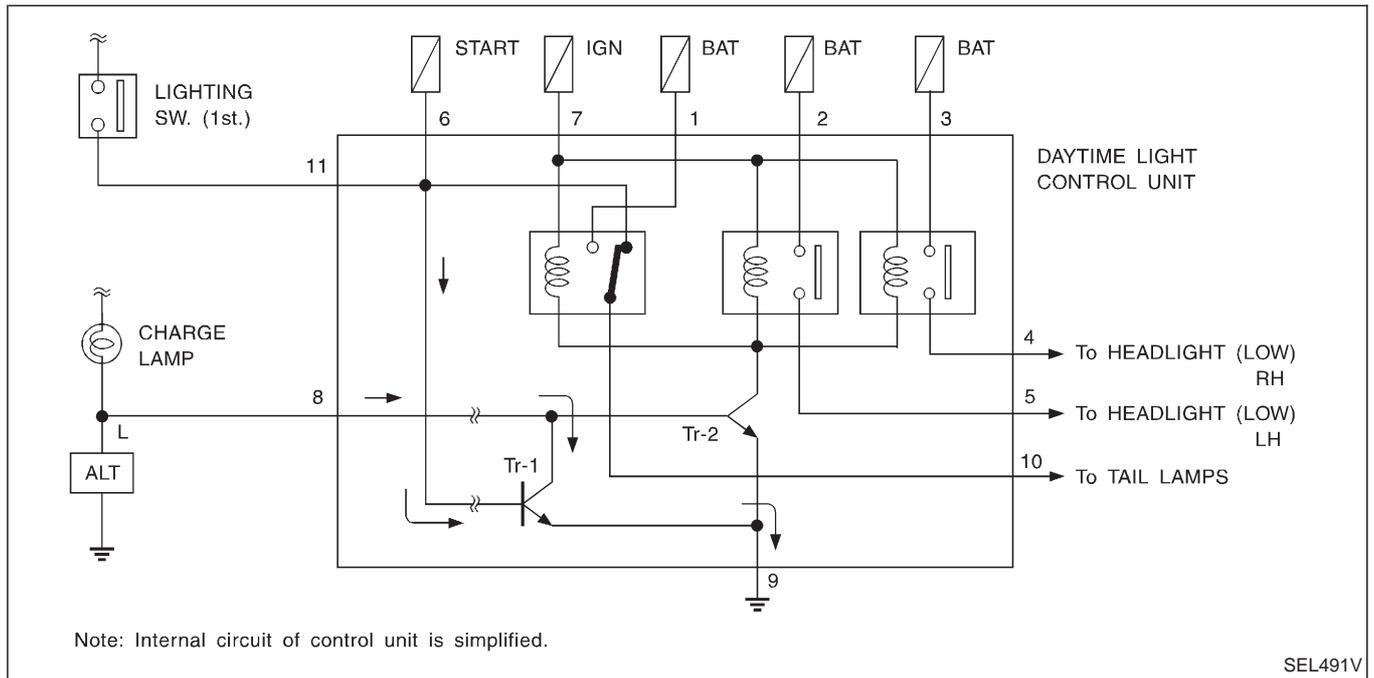
- from alternator terminal L
- through daytime light control unit terminal ⑧
- to base of transistor-2 in the daytime light unit.

The transistor-2 supplies ground path to all relays. Then the relays energize to illuminate lamps.

HEADLAMP — Daytime Light System — System Description (Cont'd)

DAYTIME LIGHT IS CALCELED

(Lighting switch in 1st or 2nd position or ignition switch in START position)



- Ignition switch is in START position
- Lighting switch is in 1st or 2nd position.

When one of the above conditions exists, power is supplied

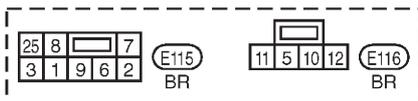
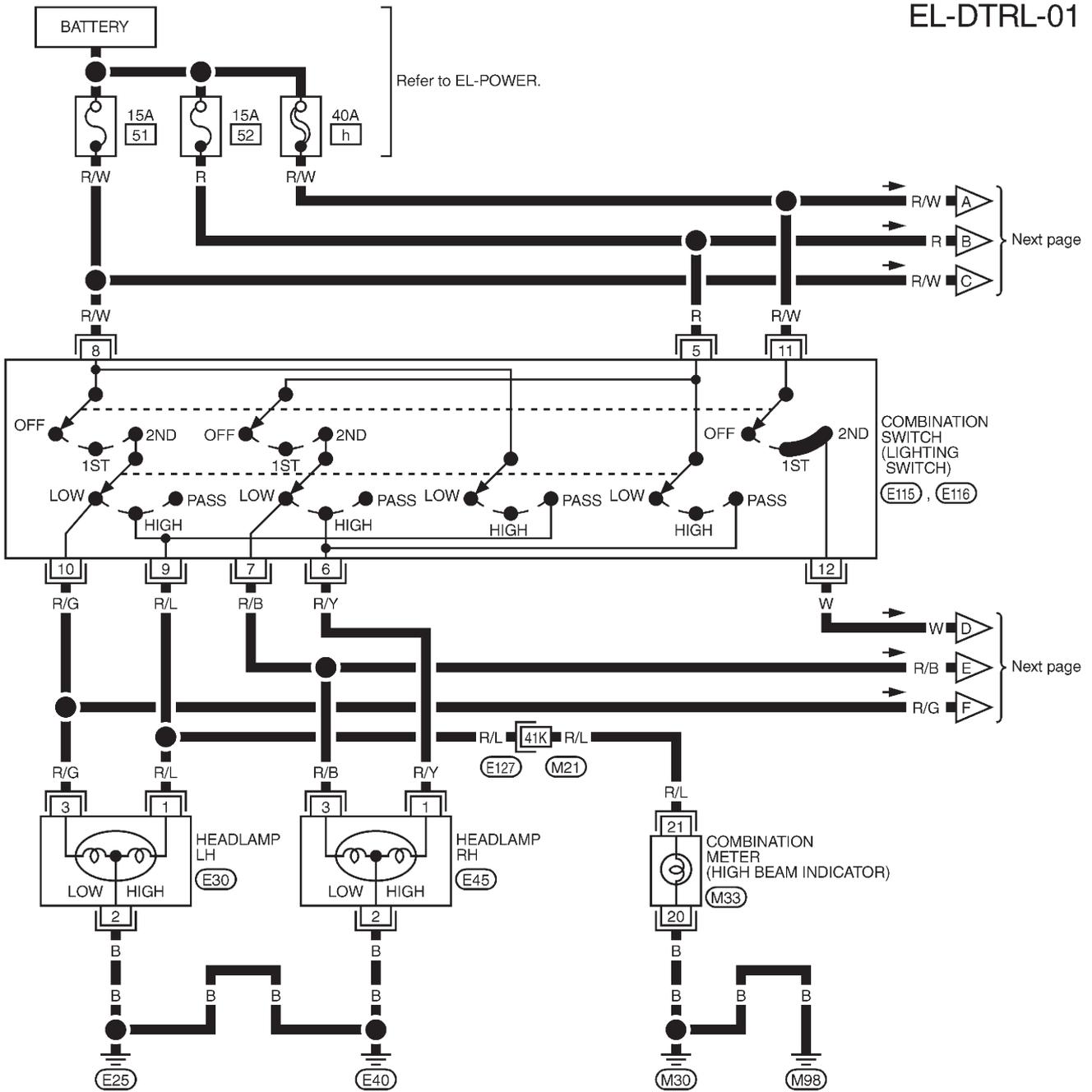
- to base of the transistor-1 in daytime light control unit
- through daytime light control unit terminal ⑪ or ⑥ .

And then, power supply path to the base transistor-2 is interrupted to cancel daytime light operation.

HEADLAMP — Daytime Light System —

Wiring Diagram — DTRL —

EL-DTRL-01

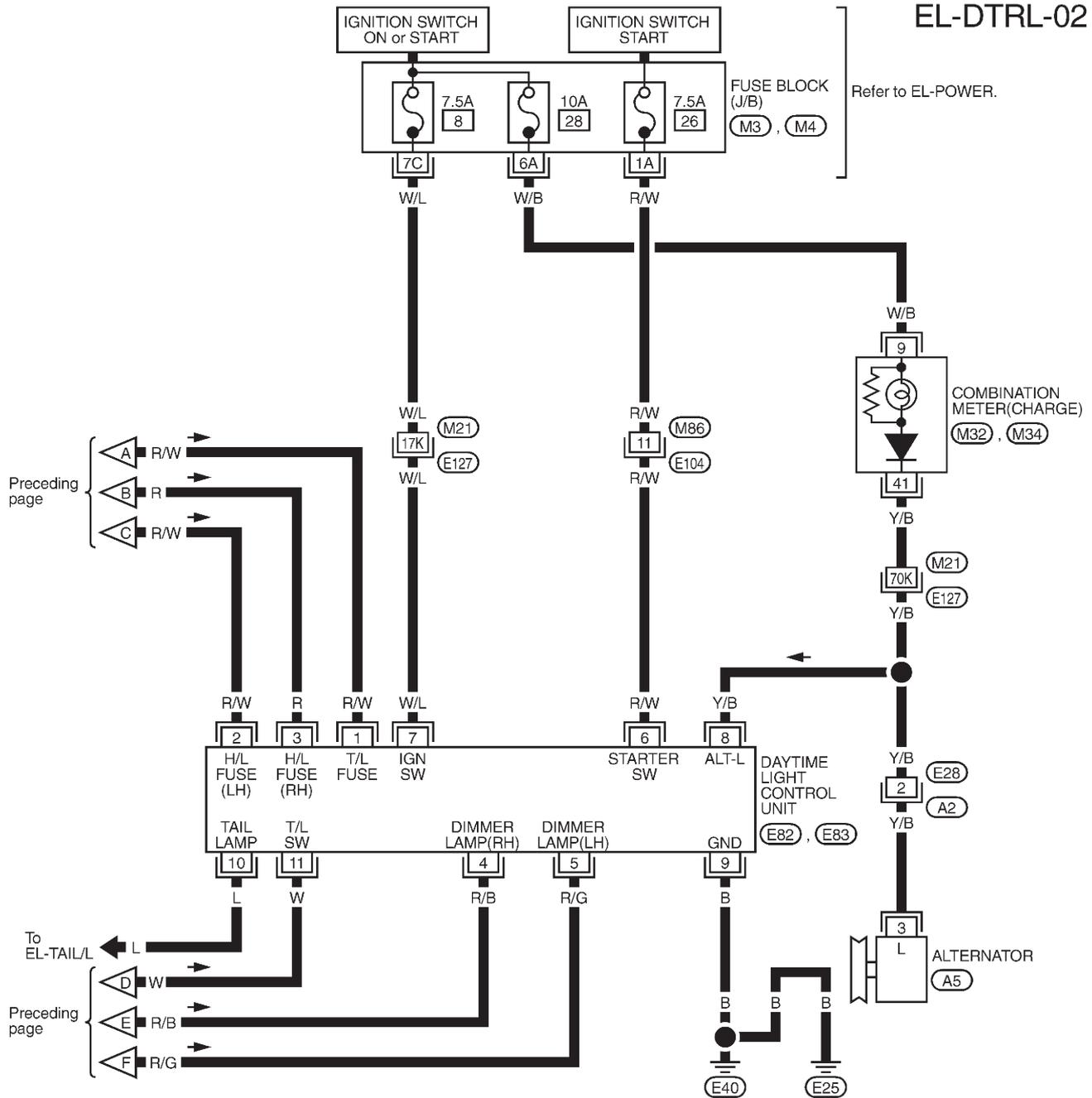


Refer to last page (Foldout page).
(M21), (E127)

HEADLAMP — Daytime Light System —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02

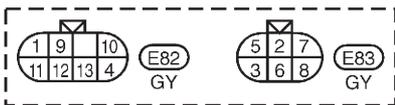
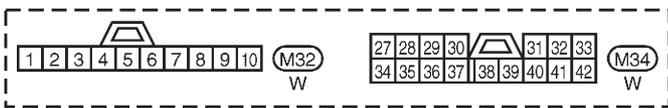


Refer to EL-POWER.

Preceding page

Preceding page

Refer to last page (Foldout page).



- M21, E127
- M3
- M4

HEADLAMP — Daytime Light System —

Trouble Diagnoses

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition		Voltage (V) (Approximate values)
1	Power source for illumination & tail lamp	—	—		12
2	Power source for headlamp LH	—	—		12
3	Power source for headlamp RH	—	—		12
4	Headlamp RH	O	ON (daytime light operating*)		12
			OFF		0
5	Headlamp LH	O	ON (daytime light operating*)		12
			OFF		0
6	Start signal	I	Ignition switch	START	12
				ON, ACC or OFF	0
7	Power source	—	Ignition switch	ON or START	12
				ACC or OFF	0
8	Alternator "L" terminal	I	Engine	Running	12
				Stopped	0
9	Ground	—	—		—
10	Illumination & tail lamp	O	ON (daytime light operating*)		12
			OFF		0
11	Lighting switch	I	1ST-2ND position		12
			OFF		0

*: Daytime light operating: Lighting switch in "OFF" position with engine running.

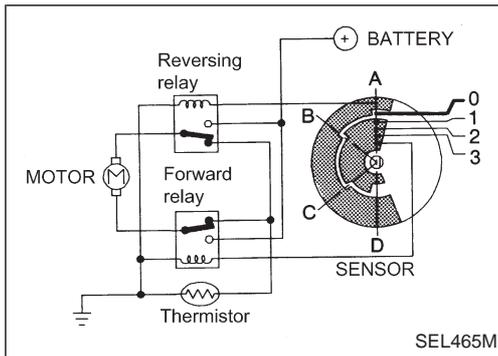
Bulb Replacement

Refer to "HEADLAMP" (EL-63).

Aiming Adjustment

Refer to "HEADLAMP" (EL-63).

HEADLAMP — Headlamp Aiming Control —



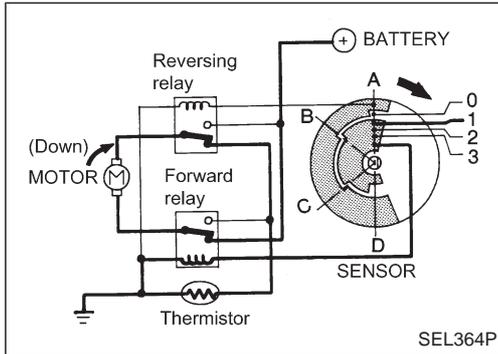
System Description

CIRCUIT OPERATION

[Example]

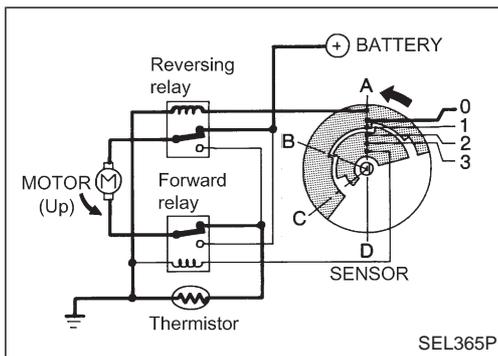
Aiming switch “0”

- When the aiming switch is set to “0”, the motor will not start. This is because the power terminals are positioned at the non-conductive section of the sensor’s rotary unit.



Aiming switch “0” → “1”

- When the aiming switch is moved from “0” to “1”, the sensor’s conductive section activates the relay. Power is supplied through the relay to the motor. The headlamps will then move in the “DOWN” direction.
- The motor continues to rotate while the rotary unit of the sensor moves from point A to point B.
- The power terminals will then be positioned at the nonconductive section, disconnecting the power to the motor. The motor will then stop.



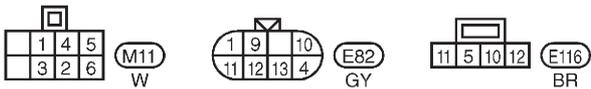
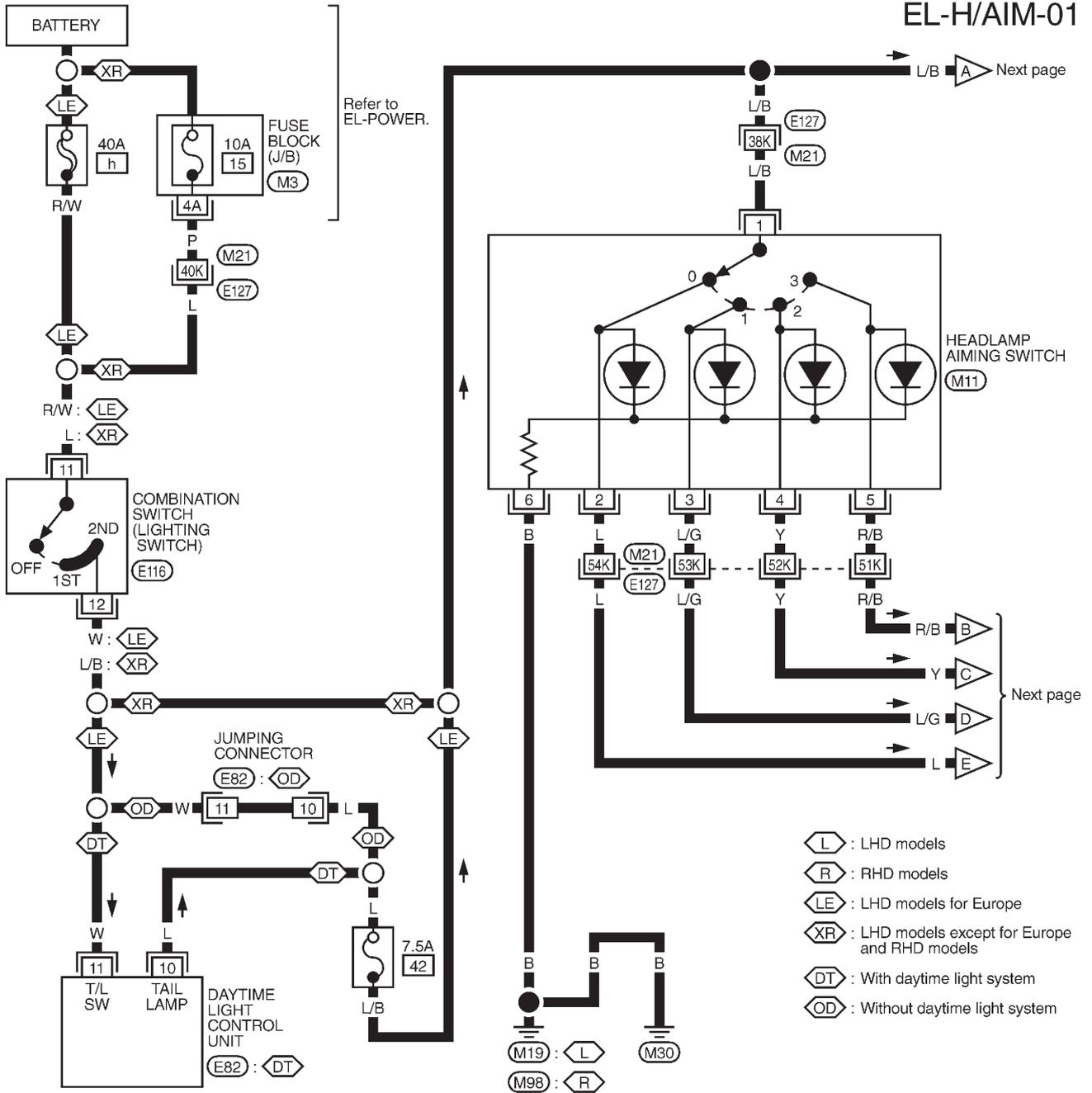
Aiming switch “1” → “0”

- When the aiming switch is moved from “1” to “0”, the sensor’s conductive section activates the relay. Power is supplied through the relay to the motor. The motor will rotate to move the headlamps in the “UP” direction.
- When the rotary unit of the sensor moves from point B to point A, the motor will stop.

HEADLAMP — Headlamp Aiming Control —

Wiring Diagram — H/AIM —

EL-H/AIM-01



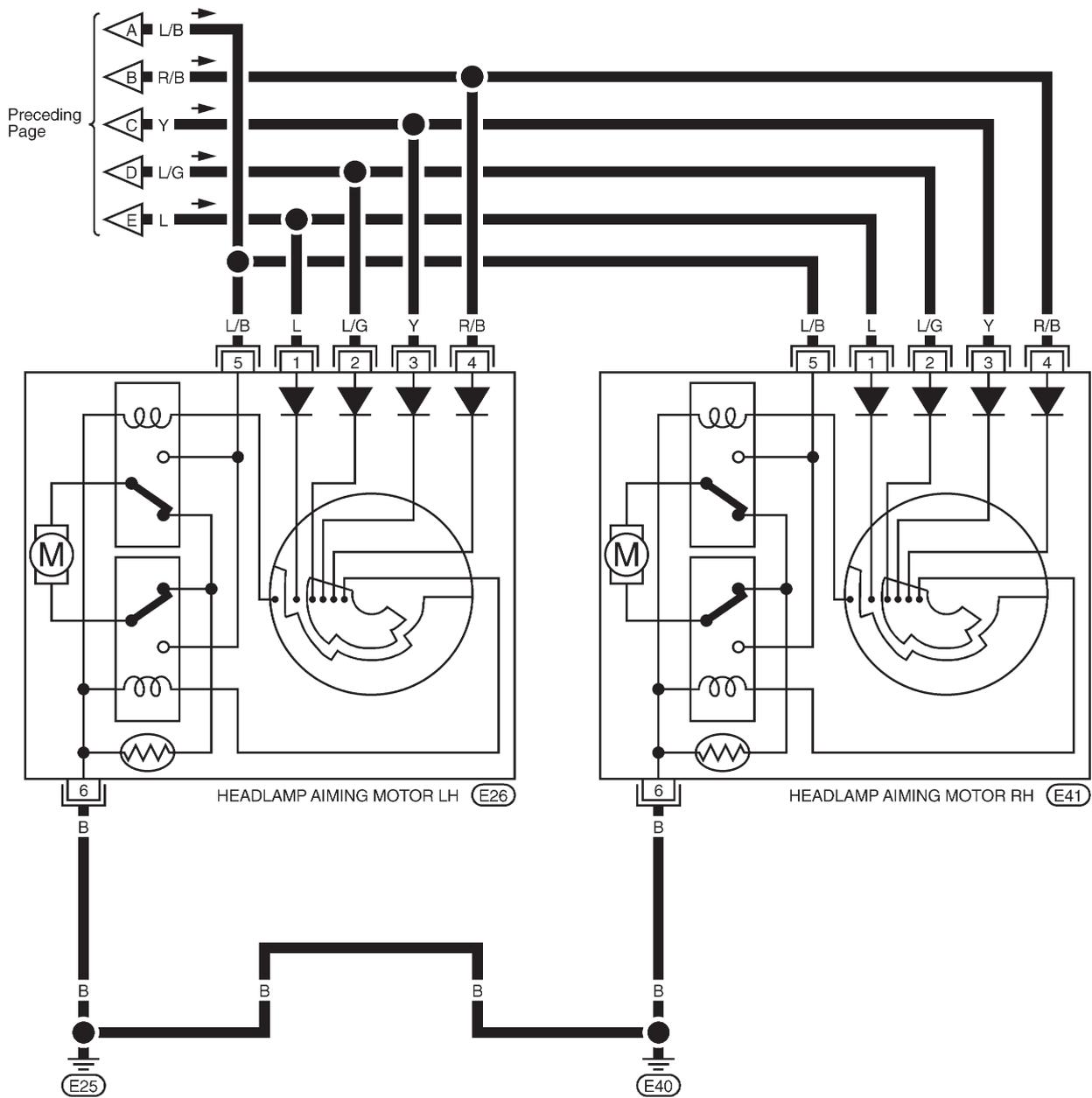
Refer to last page (Foldout page).

M21, E127

M3

HEADLAMP — Headlamp Aiming Control — Wiring Diagram — H/AIM — (Cont'd)

EL-H/AIM-02

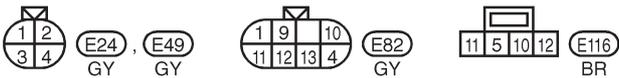
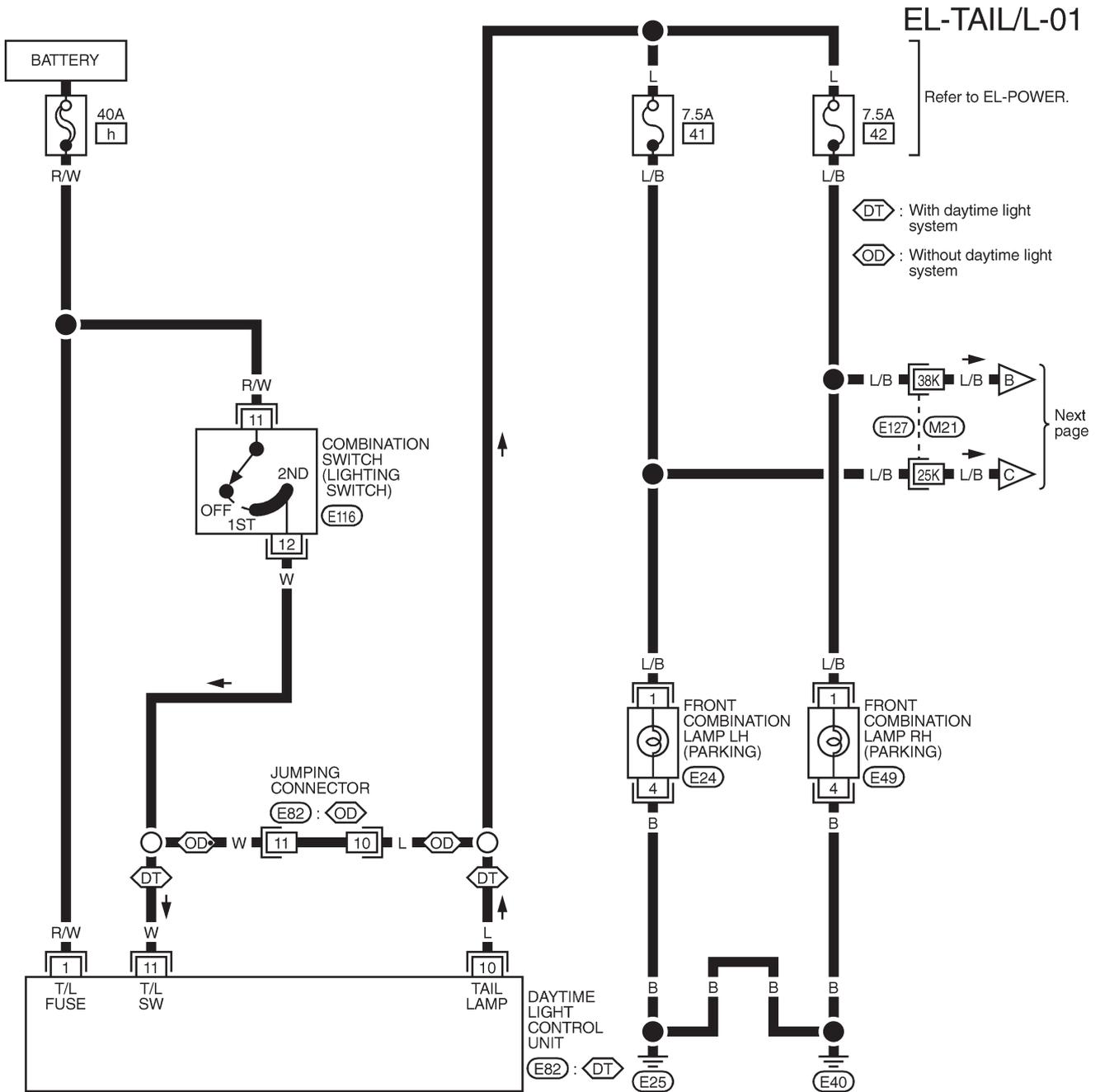


PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —/Type A

LHD MODELS

Rear combination lamps are located on rear bumper.



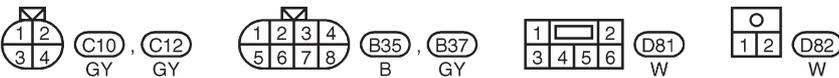
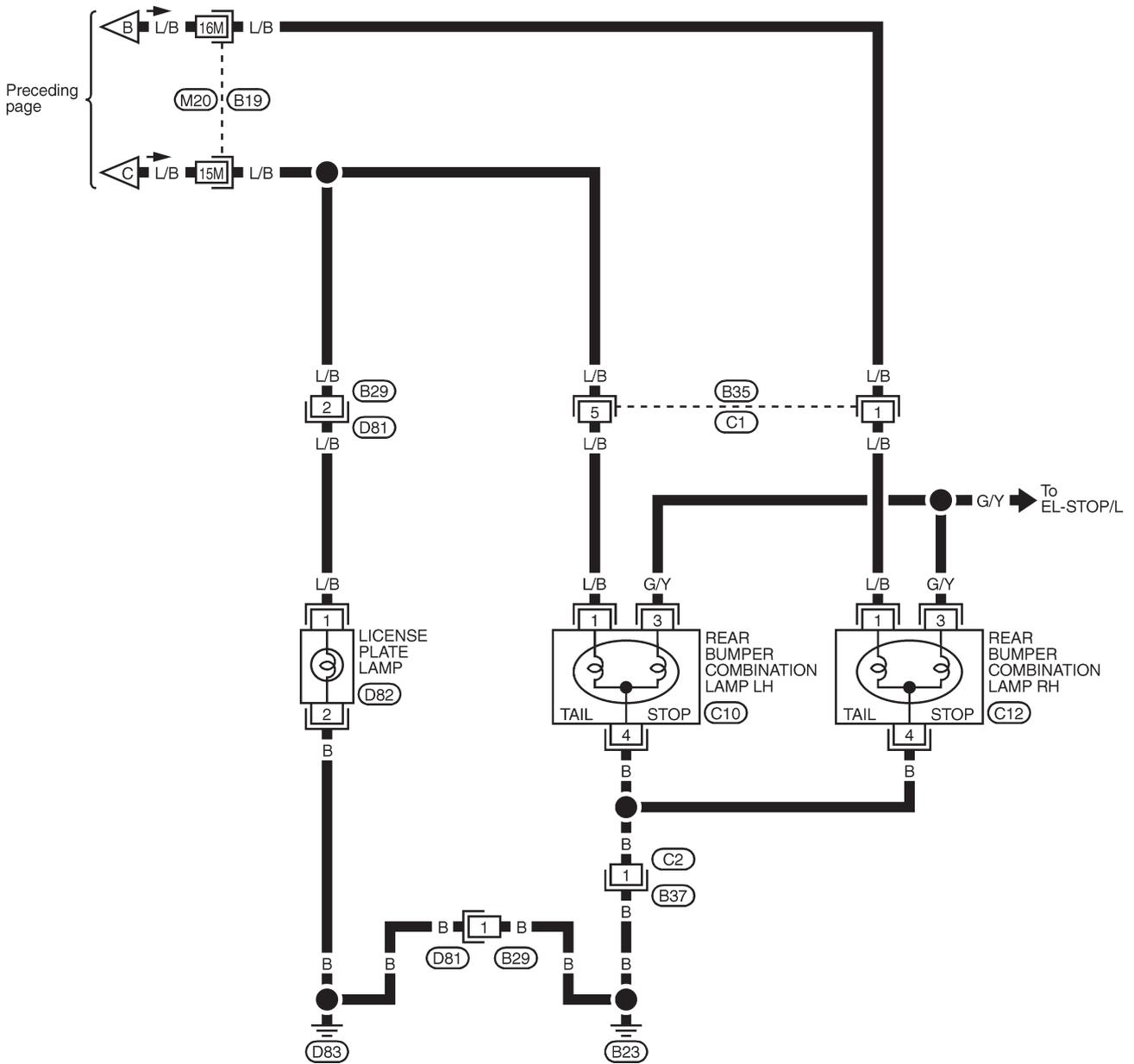
Refer to last page (Foldout page).

M21, E127

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —/Type A (Cont'd)

EL-TAIL/L-02



Refer to last page (Foldout page).

M20, B19

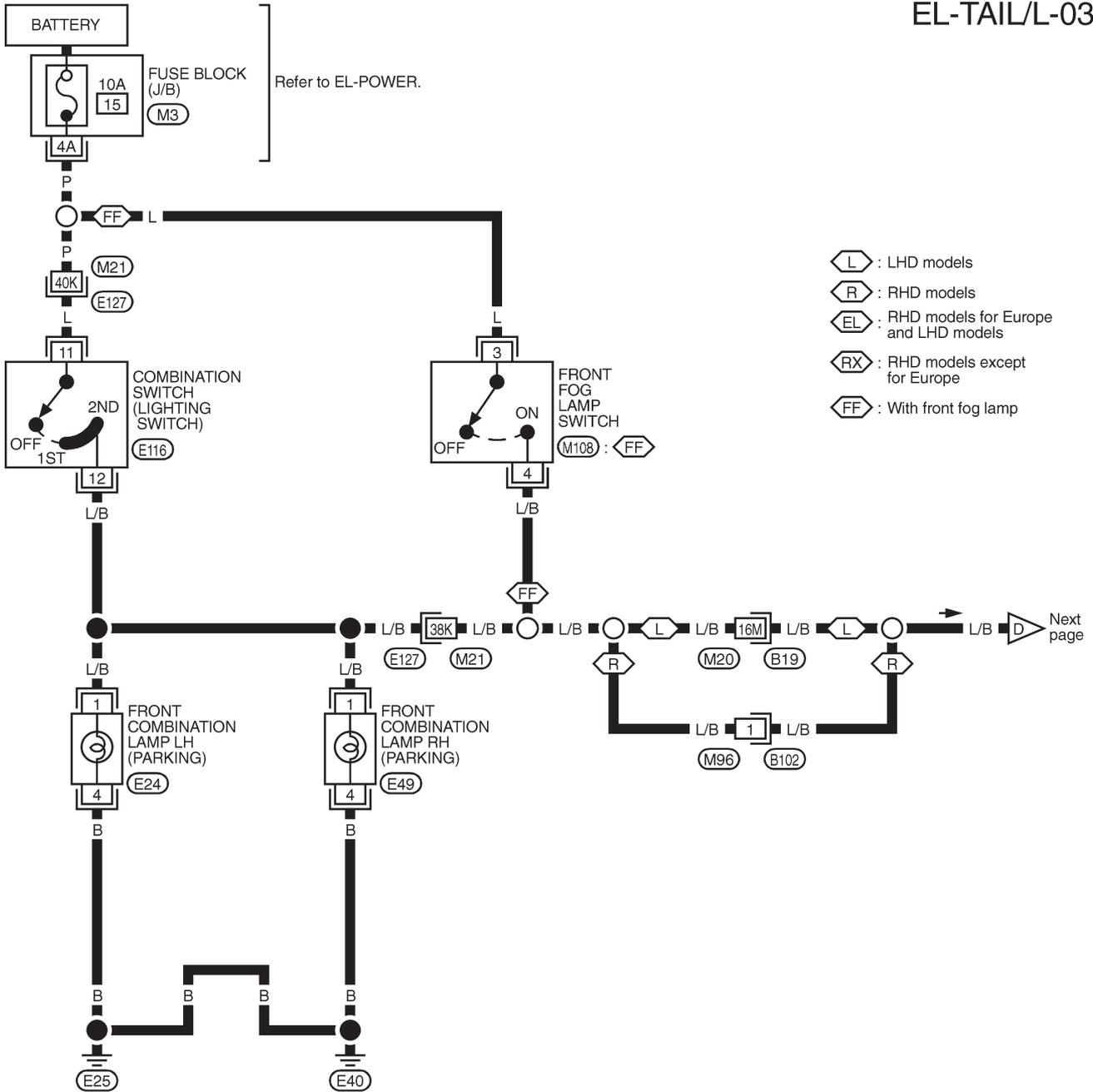
PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —/Type B

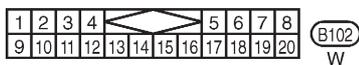
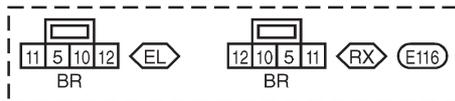
RHD MODELS

Rear combination lamps are located on rear bumper.

EL-TAIL/L-03



- (L) : LHD models
- (R) : RHD models
- (EL) : RHD models for Europe and LHD models
- (RX) : RHD models except for Europe
- (FF) : With front fog lamp



Refer to last page (Foldout page).

(M20), (B19)

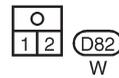
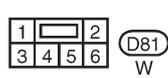
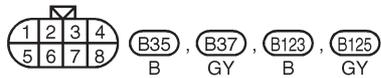
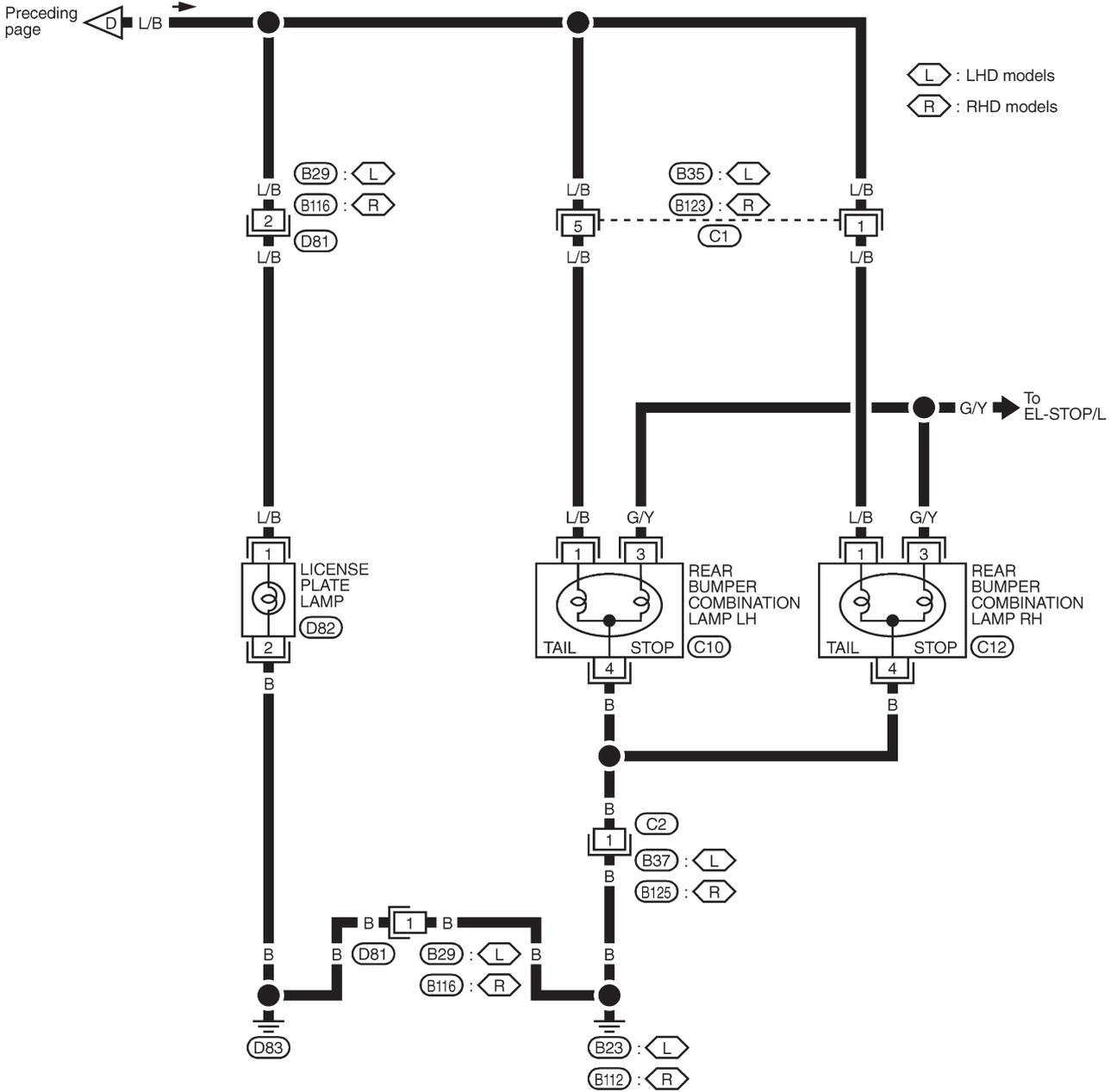
(M21), (E127)

(M3)

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —/Type B (Cont'd)

EL-TAIL/L-04

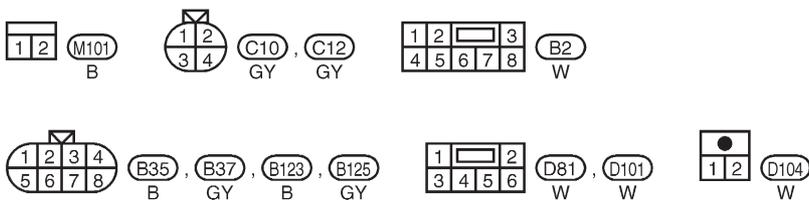
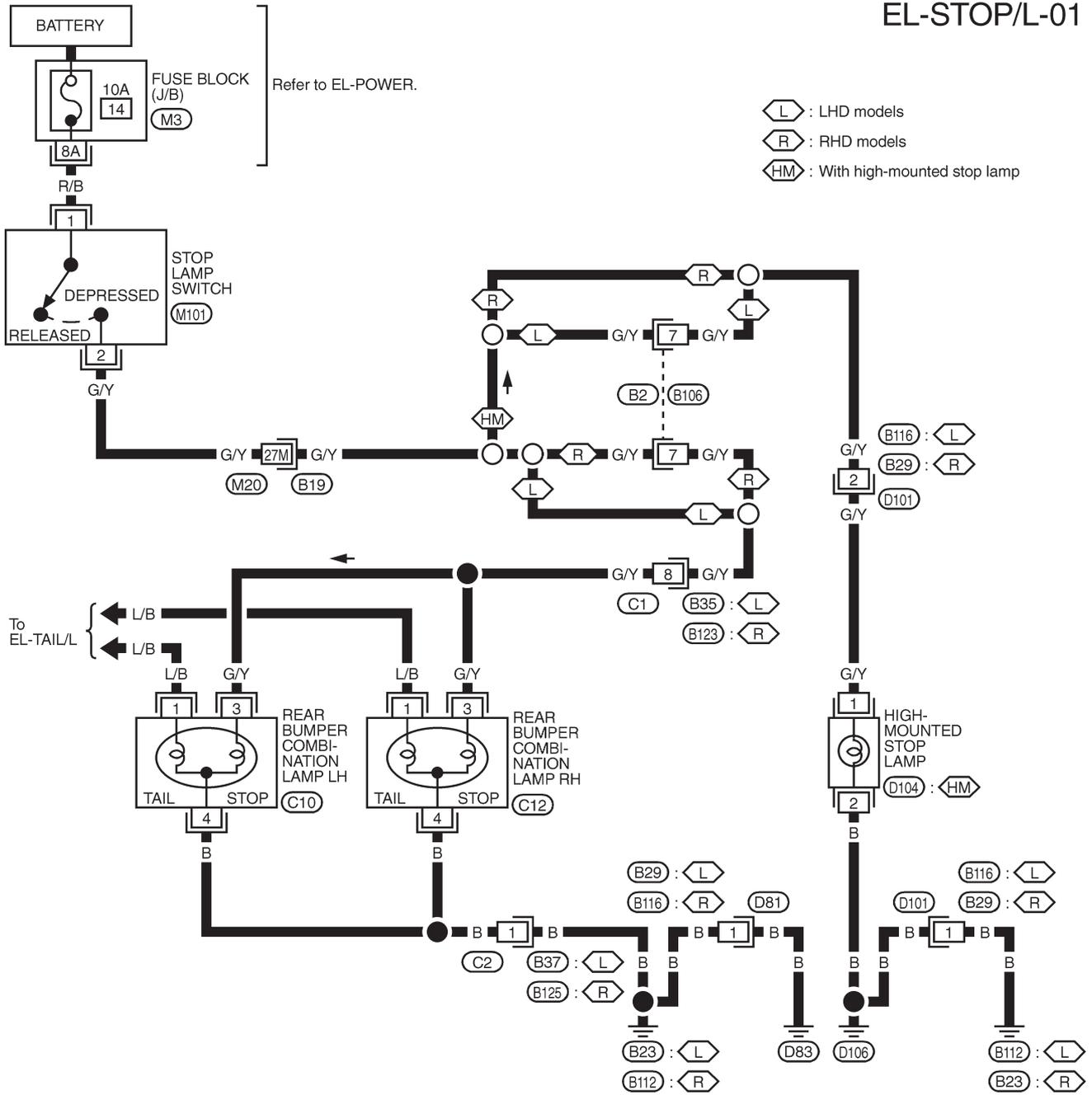


Stop Lamp

Wiring Diagram — STOP/L —/Type A

Rear combination lamps are located on rear bumper.

EL-STOP/L-01



Refer to last page (Foldout page).

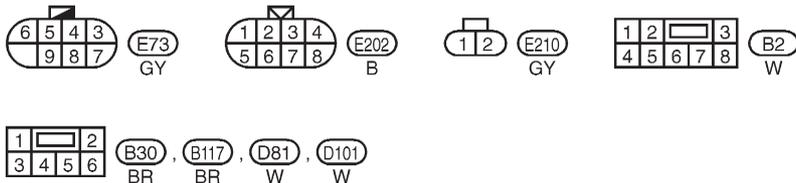
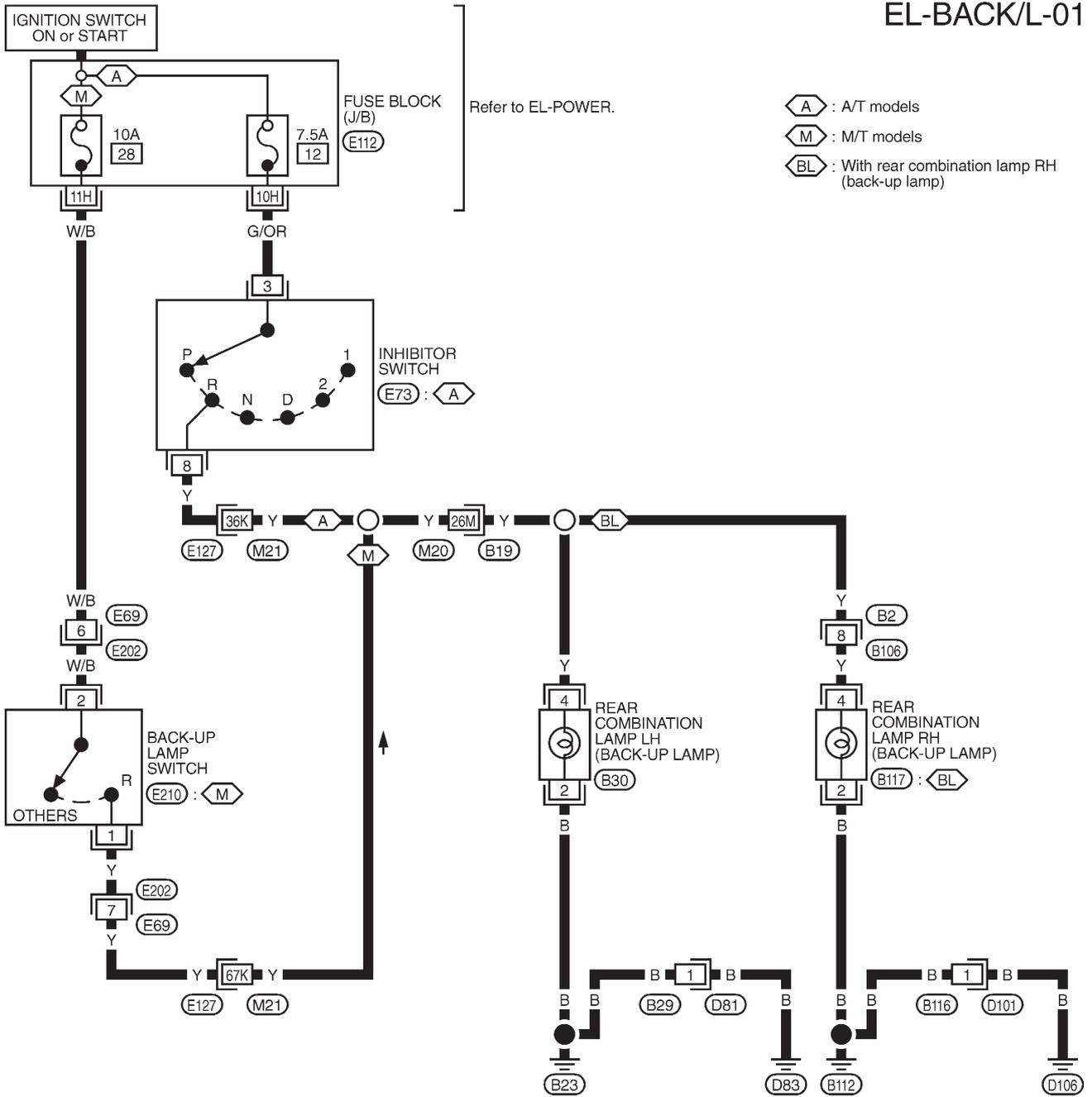
(M20), (B19)

(M3)

BACK-UP LAMP

Wiring Diagram — BACK/L —/LHD Models

EL-BACK/L-01



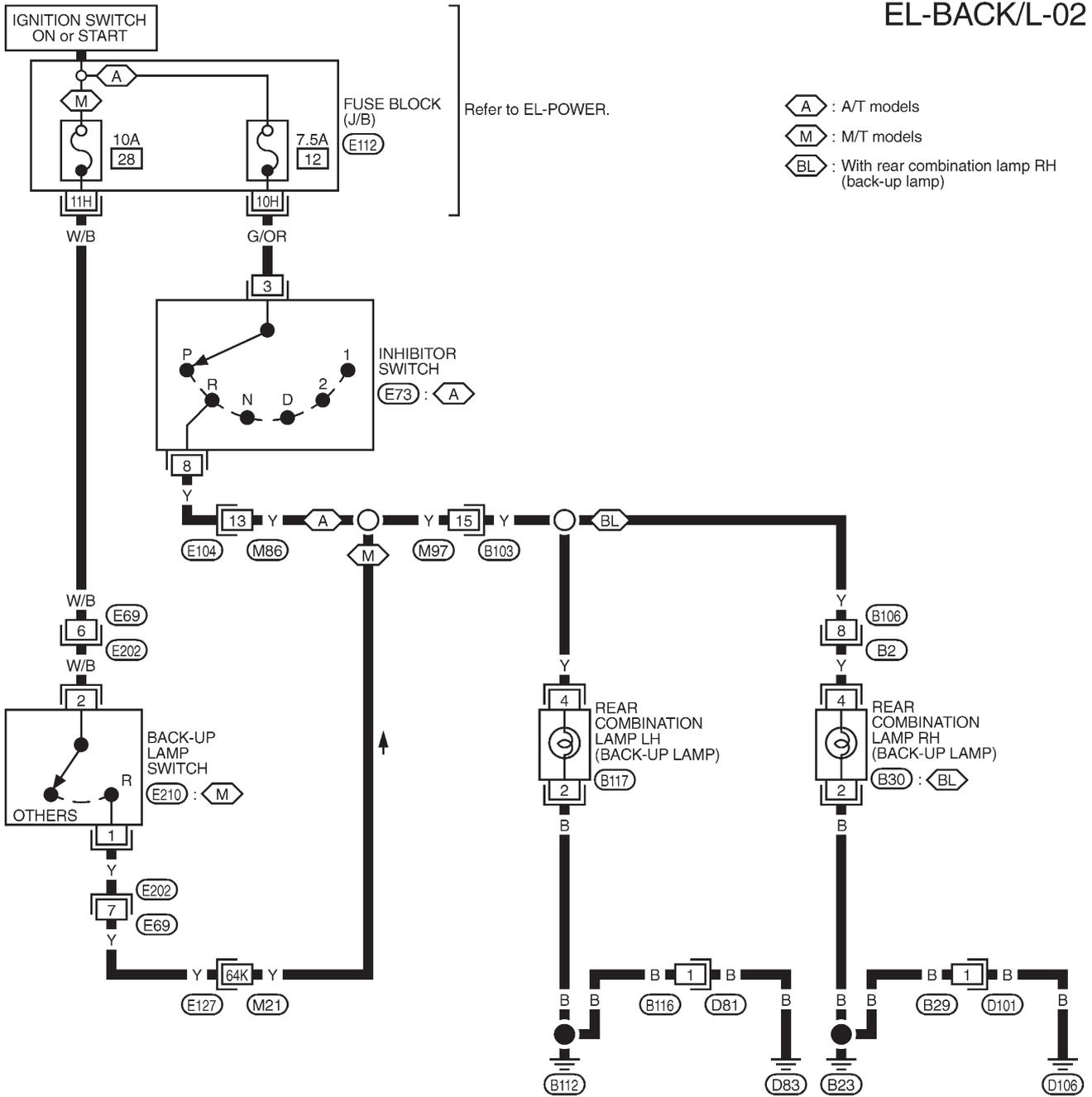
Refer to last page (Foldout page).

(M20), (B19)
 (M21), (E127)
 (E112)

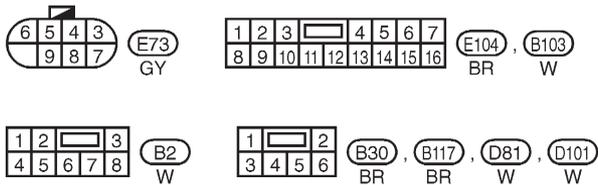
BACK-UP LAMP

Wiring Diagram — BACK/L —/RHD Models

EL-BACK/L-02



- A : A/T models
- M : M/T models
- BL : With rear combination lamp RH (back-up lamp)



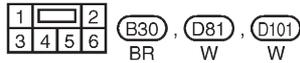
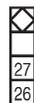
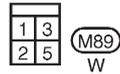
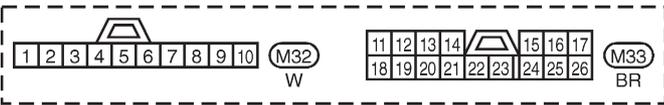
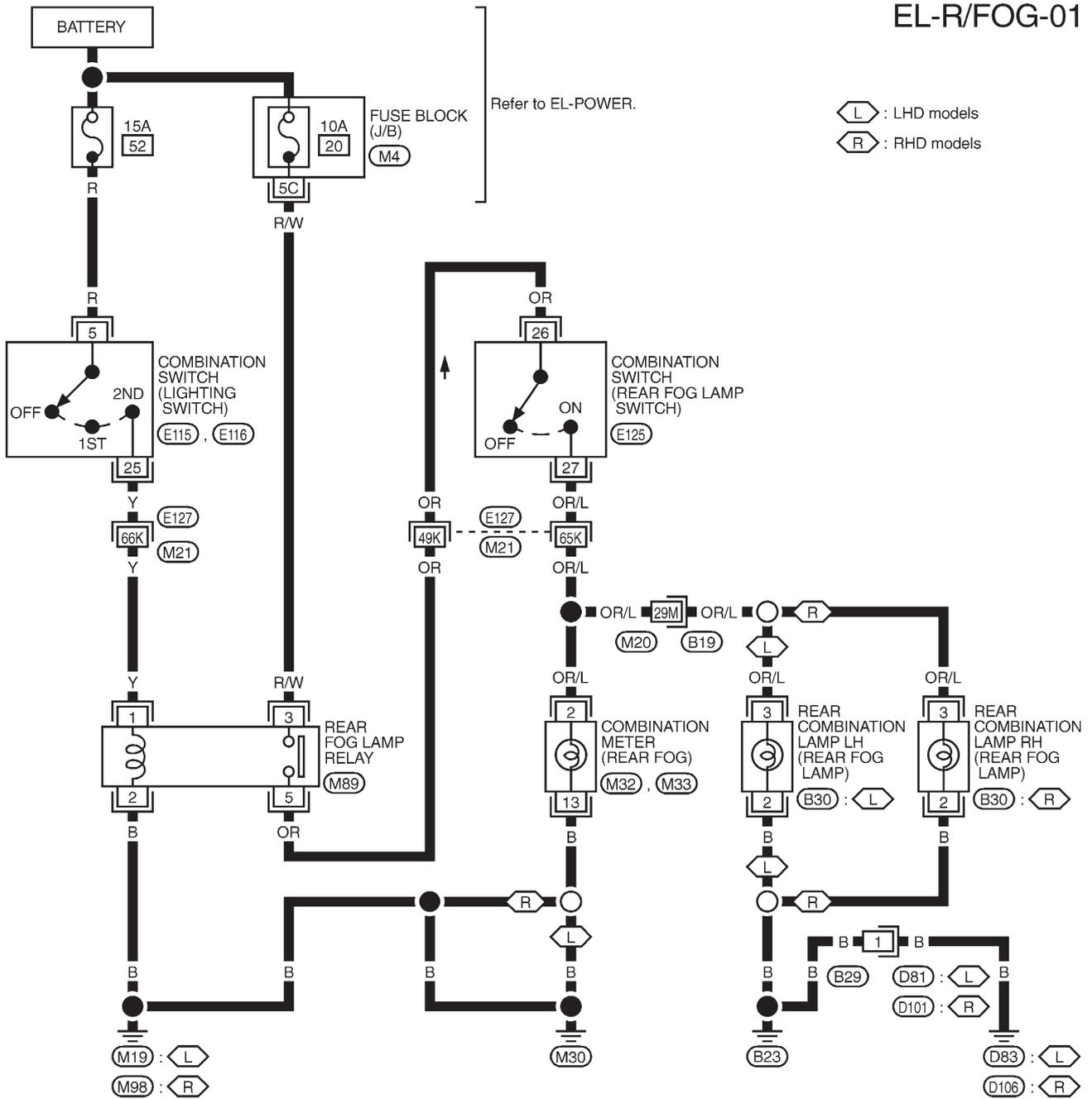
Refer to last page (Foldout page).

M21, E127
E112

REAR FOG LAMP

Wiring Diagram — R/FOG —

EL-R/FOG-01



Refer to last page (Foldout page).

M20, B19

M21, E127

M4

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —/Type A

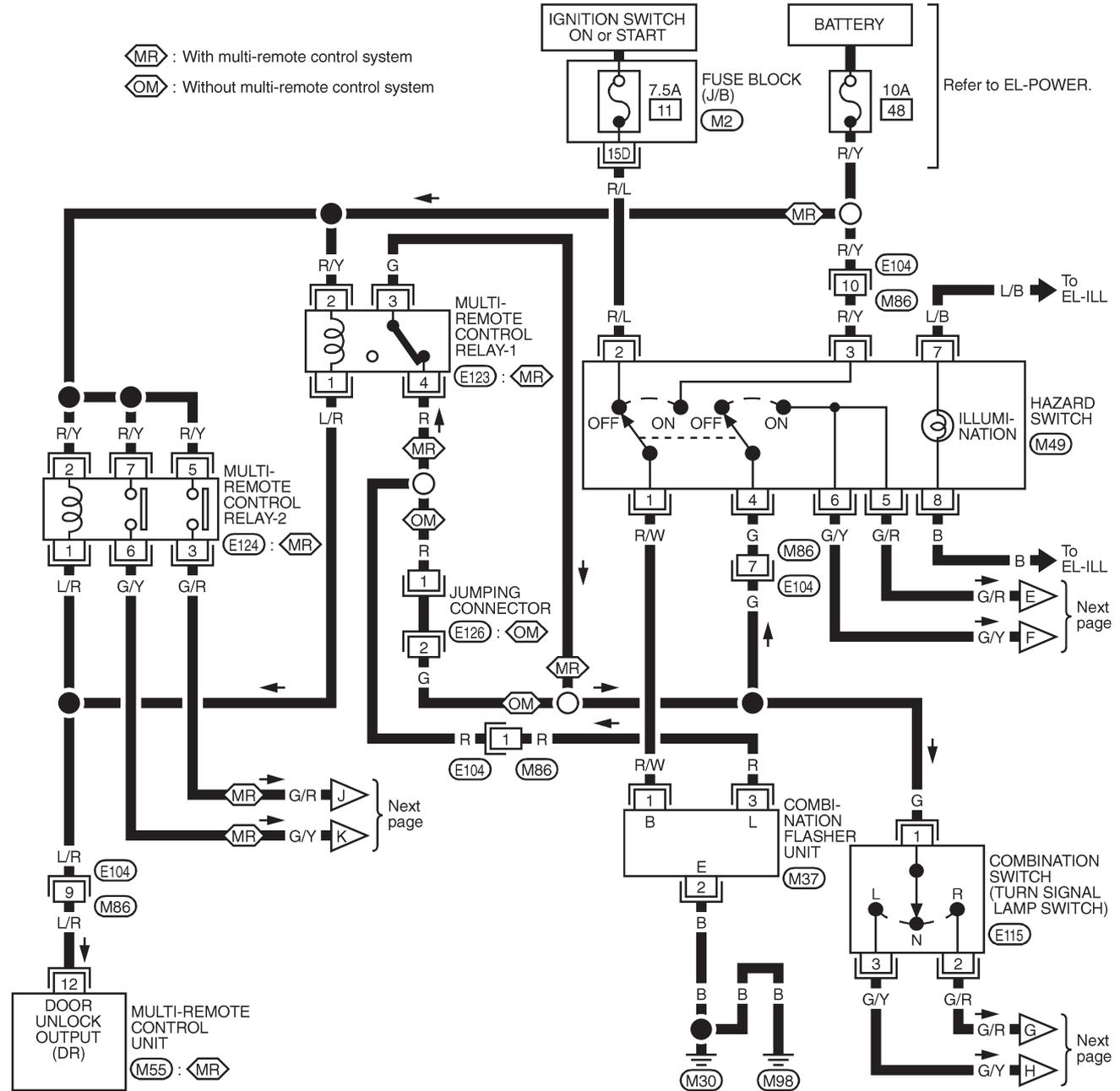
LHD MODELS

Rear combination lamps are located on rear bumper.

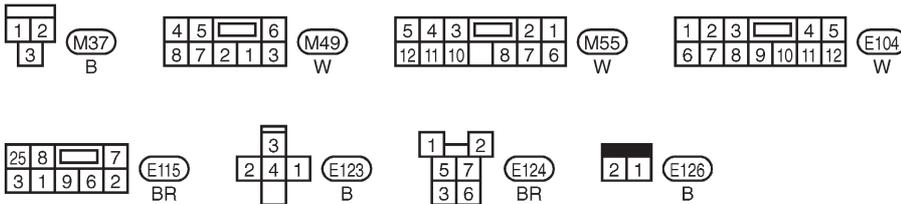
EL-TURN-01

MR : With multi-remote control system

OM : Without multi-remote control system



Refer to last page (Foldout page).

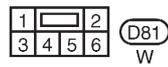
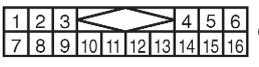
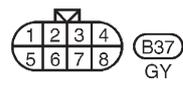
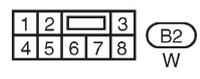
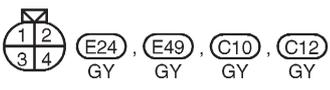
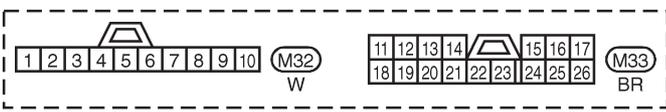
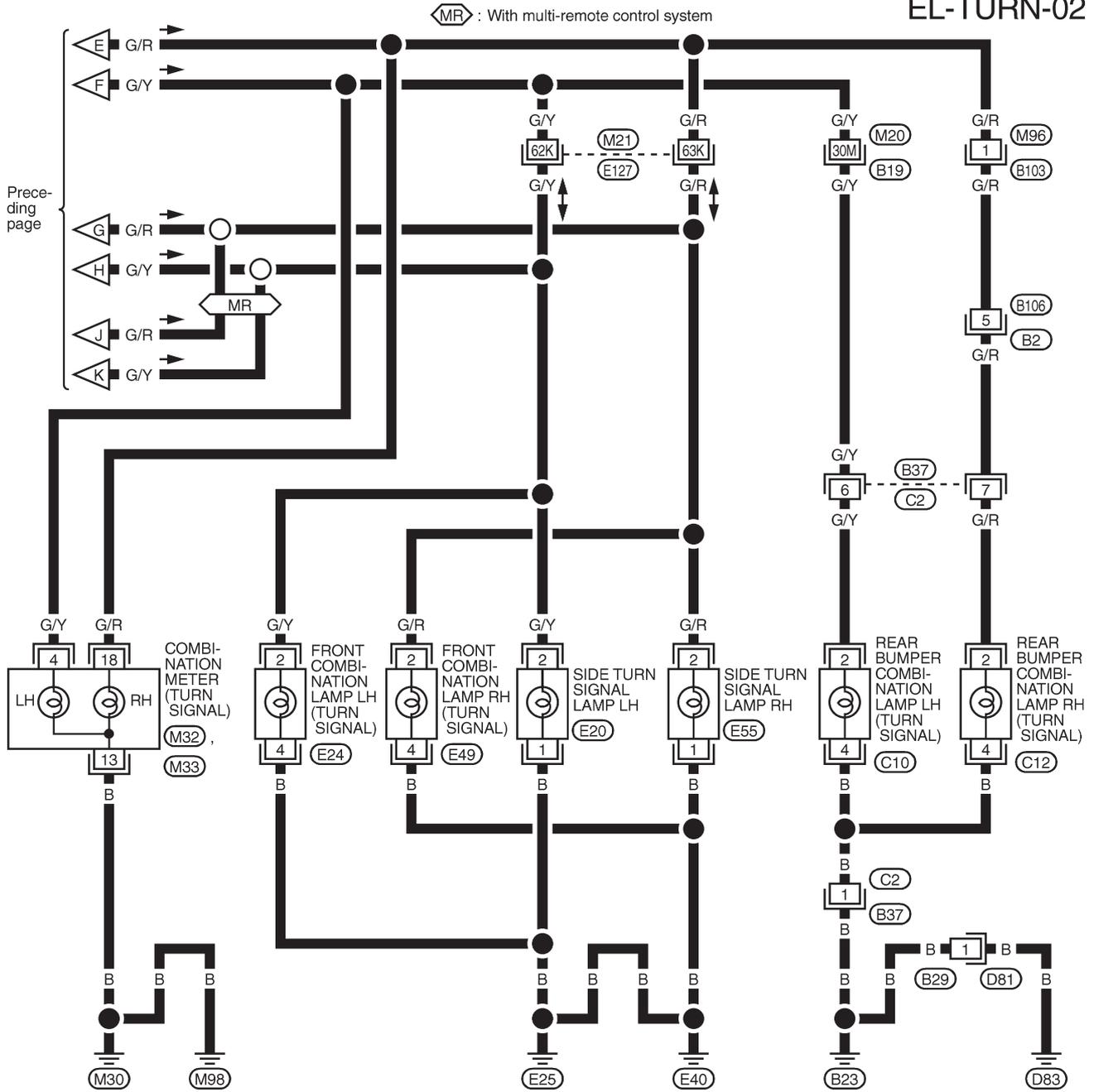


M2

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —/Type A (Cont'd)

EL-TURN-02



Refer to last page (Foldout page).

M20, B19
M21, E127

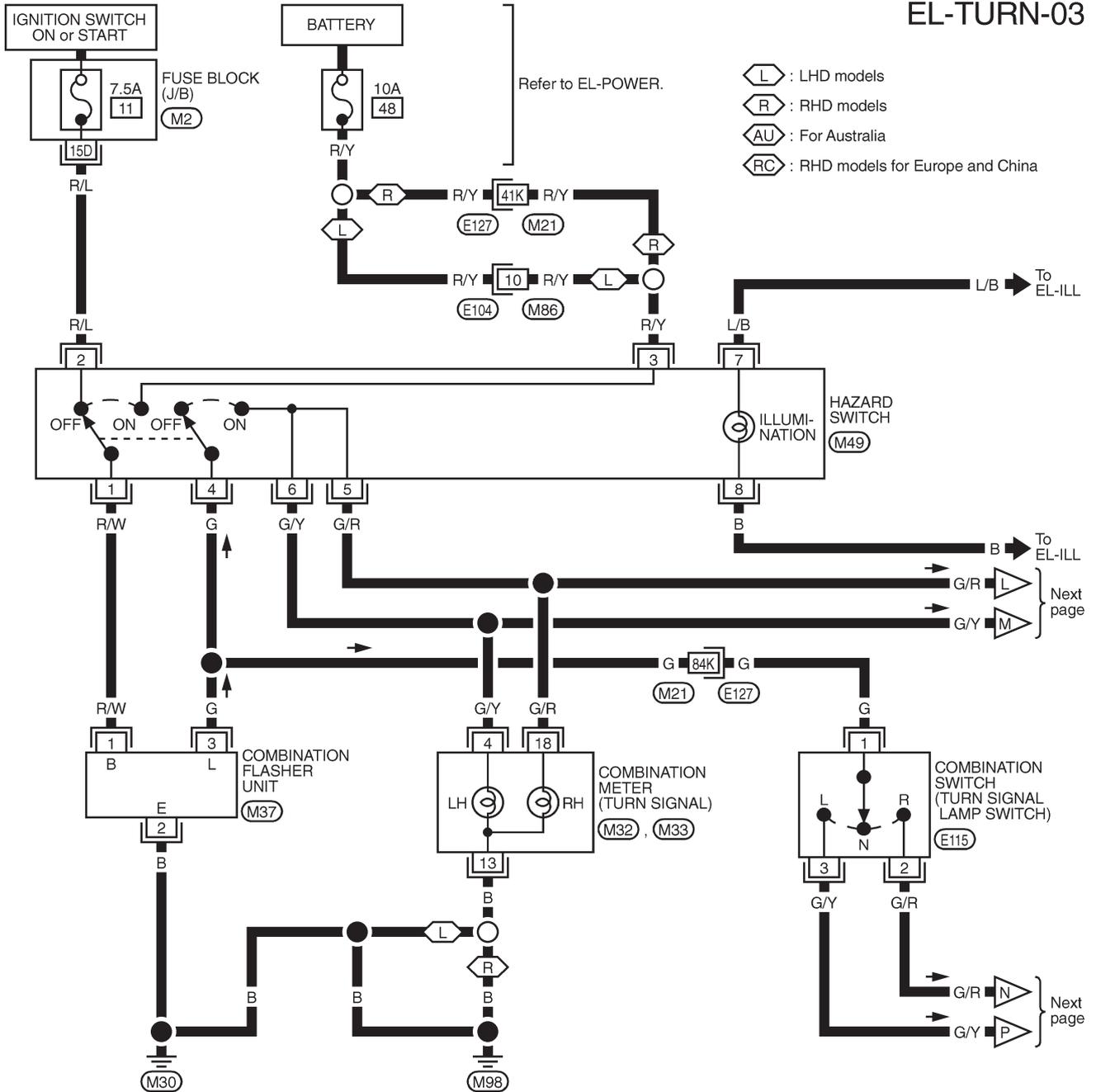
TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —/Type B

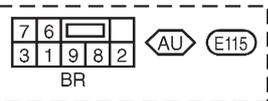
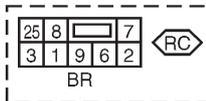
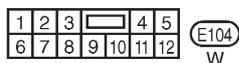
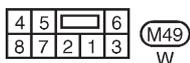
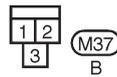
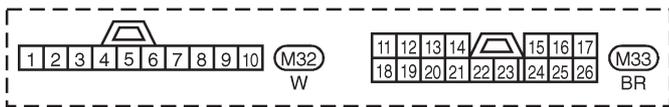
RHD MODELS

Rear combination lamps are located on rear bumper.

EL-TURN-03



- L : LHD models
- R : RHD models
- AU : For Australia
- RC : RHD models for Europe and China



Refer to last page (Foldout page).

M21, E127

M2

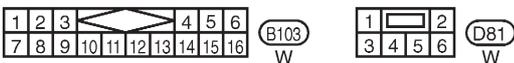
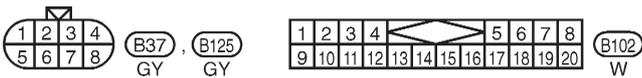
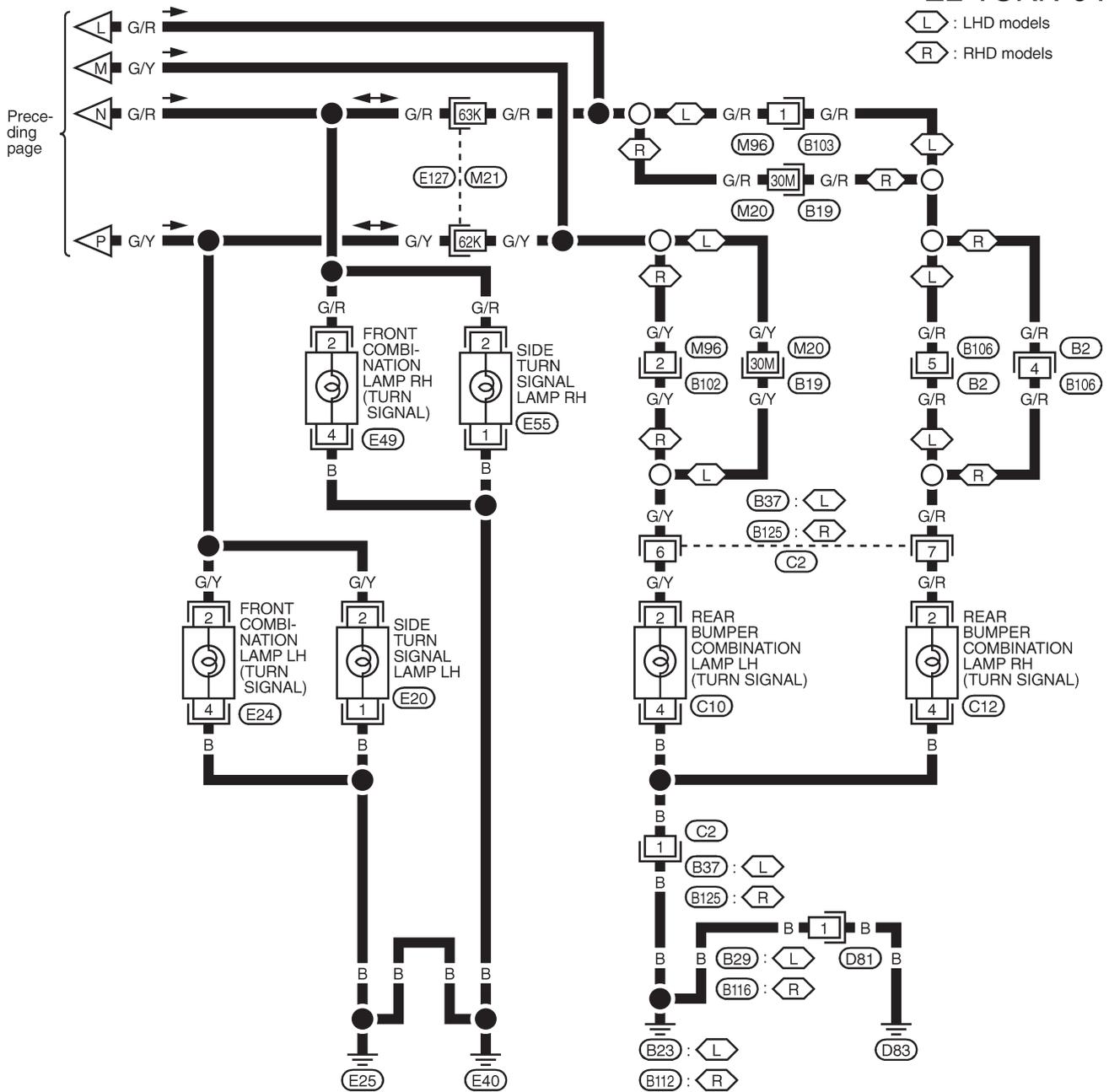
TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —/Type B (Cont'd)

EL-TURN-04

: LHD models

: RHD models



Refer to last page (Foldout page).

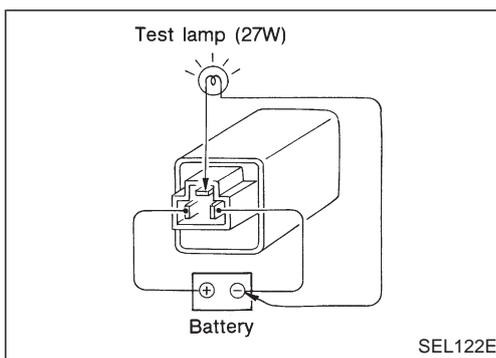
M20, B19

M21, E127

TURN SIGNAL AND HAZARD WARNING LAMPS

Trouble Diagnoses

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> Hazard switch Combination flasher unit Open in combination flasher unit circuit 	<ol style="list-style-type: none"> Check hazard switch. Refer to combination flasher unit check. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> 7.5A fuse Hazard switch Turn signal switch Open in turn signal switch circuit 	<ol style="list-style-type: none"> Check 7.5A fuse [No. 11], located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal ② of hazard switch. Check hazard switch. Check turn signal switch. Check harness between combination flasher unit and turn signal switch for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	<ol style="list-style-type: none"> 15A fuse Hazard switch Open in hazard switch circuit 	<ol style="list-style-type: none"> Check 10A fuse (No. 48), located in fuse and fusible link box). Verify battery positive voltage is present at terminal ③ of hazard switch. Check hazard switch. Check harness between combination flasher unit and hazard switch for open circuit.
Front turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> Bulb Grounds (E25) and (E40) 	<ol style="list-style-type: none"> Check bulb. Check grounds (E25) and (E40).
Rear turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> Bulb Grounds (B23) and (D83) or (B112) and (D106) 	<ol style="list-style-type: none"> Check bulb. Check grounds (B23) and (D83) or (B112) and (D106).
LH and RH turn indicators do not operate.	<ol style="list-style-type: none"> Ground 	<ol style="list-style-type: none"> Check grounds (M30) and (M98).
LH or RH turn indicator does not operate.	<ol style="list-style-type: none"> Bulb 	<ol style="list-style-type: none"> Check bulb in combination meter.



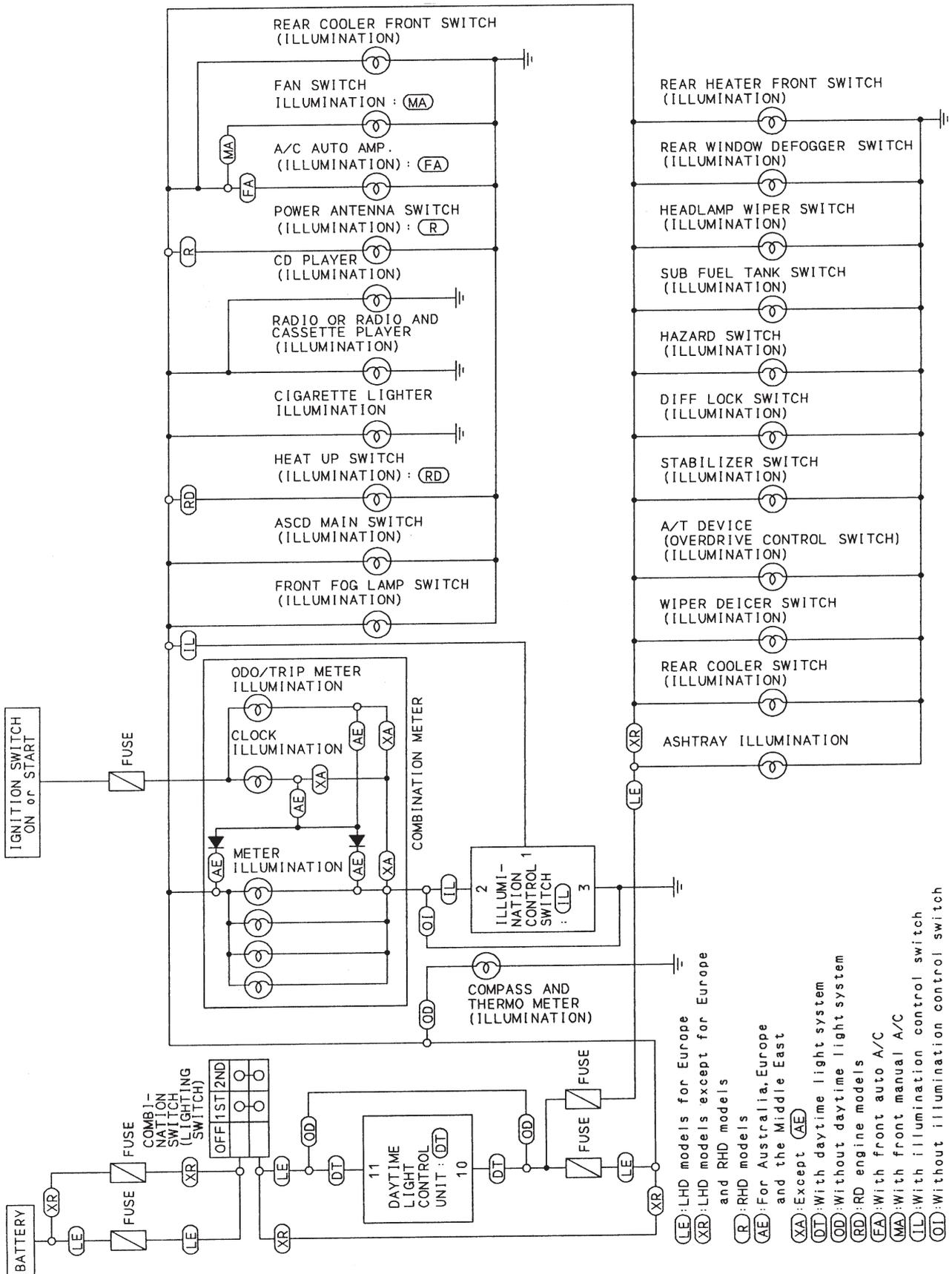
Electrical Components Inspection

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.

ILLUMINATION

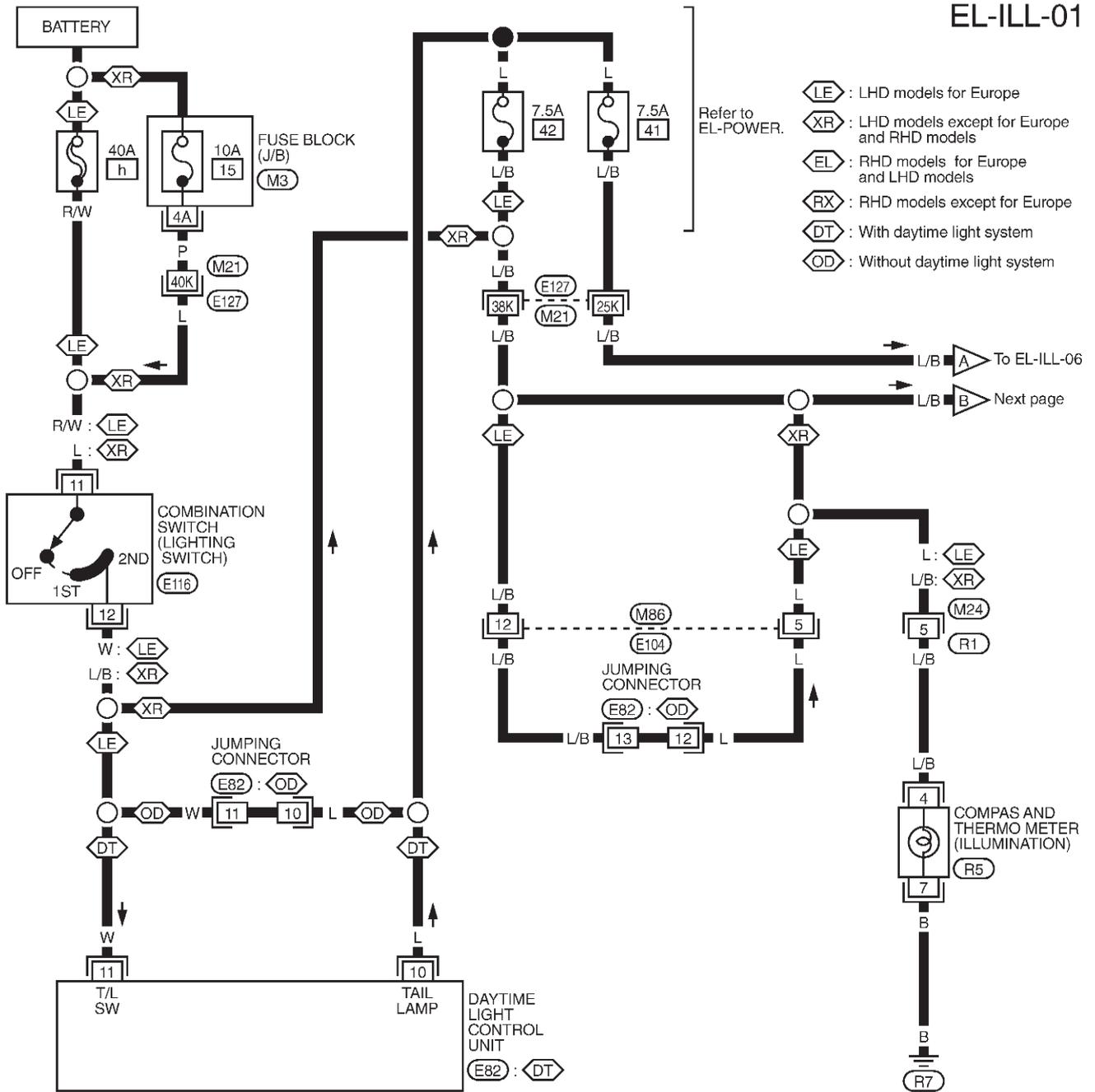
Schematic



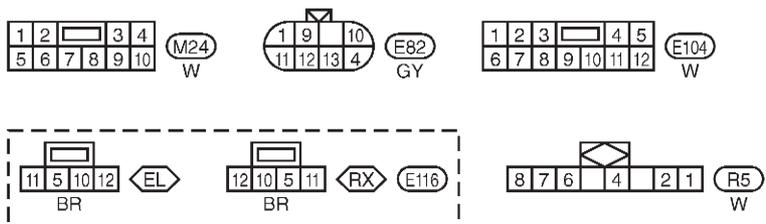
ILLUMINATION

Wiring Diagram — ILL —

EL-ILL-01



- ⬡ LE : LHD models for Europe
- ⬡ XR : LHD models except for Europe and RHD models
- ⬡ EL : RHD models for Europe and LHD models
- ⬡ RX : RHD models except for Europe
- ⬡ DT : With daytime light system
- ⬡ OD : Without daytime light system

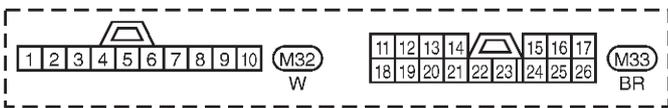
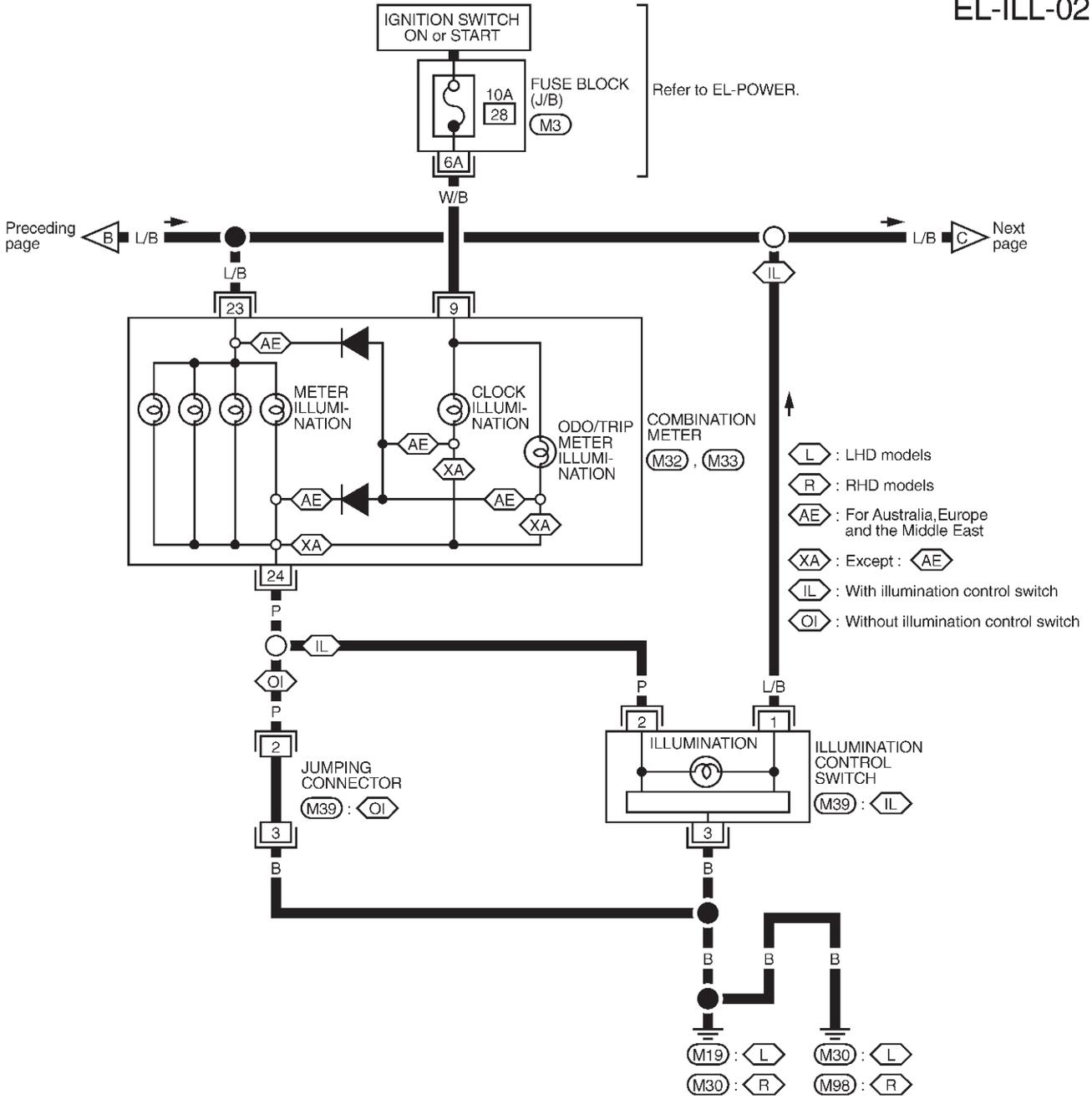


Refer to last page (Foldout page).
 (M21), (E127)
 (M3)

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02

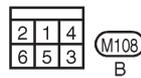
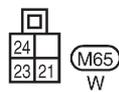
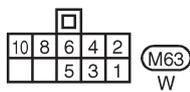
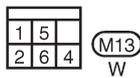
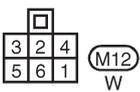
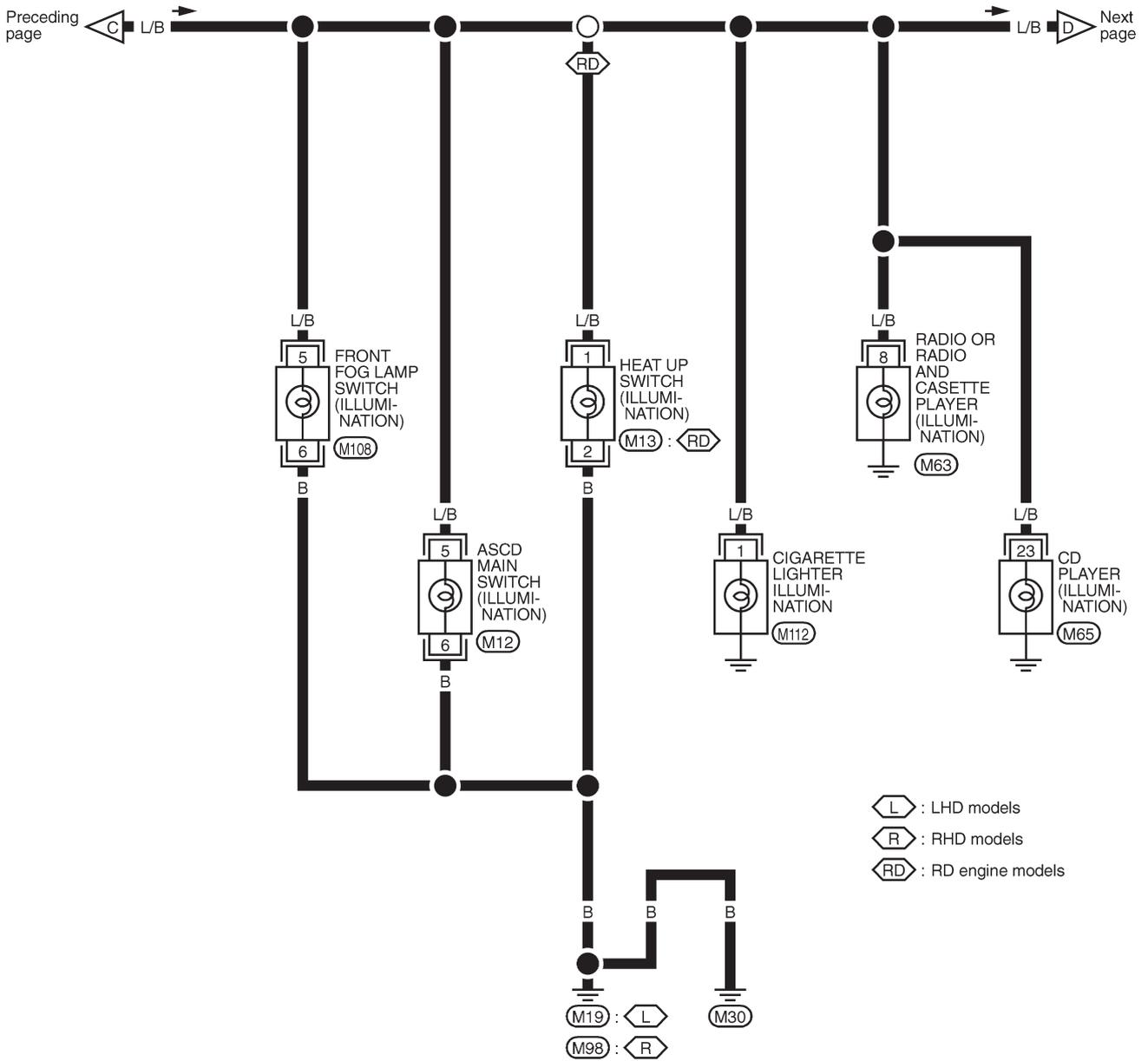


Refer to last page (Foldout page).
M3

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

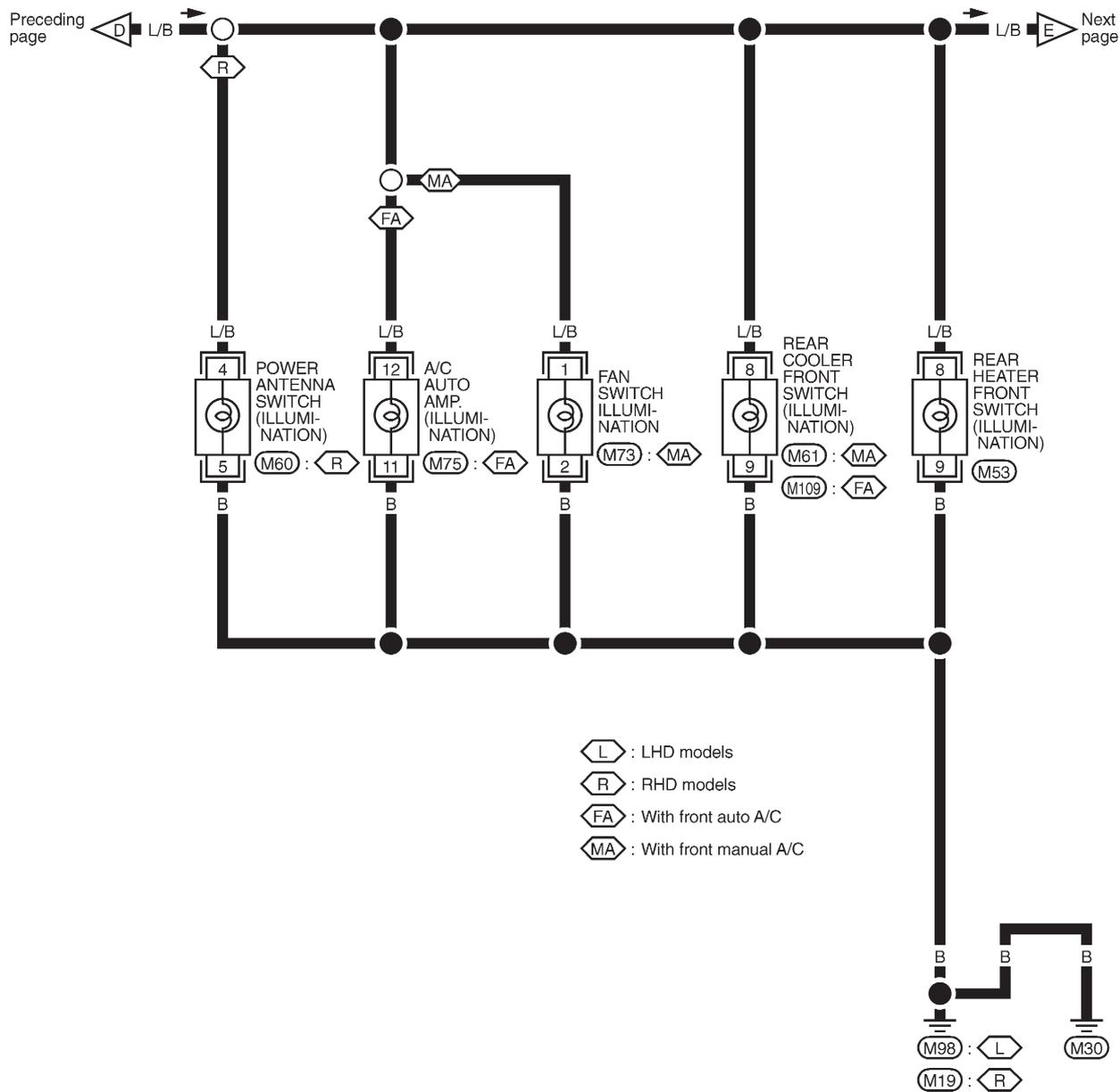
EL-ILL-03



ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

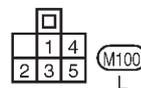
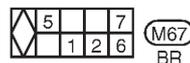
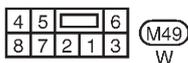
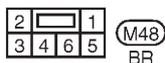
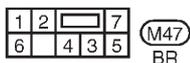
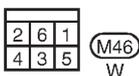
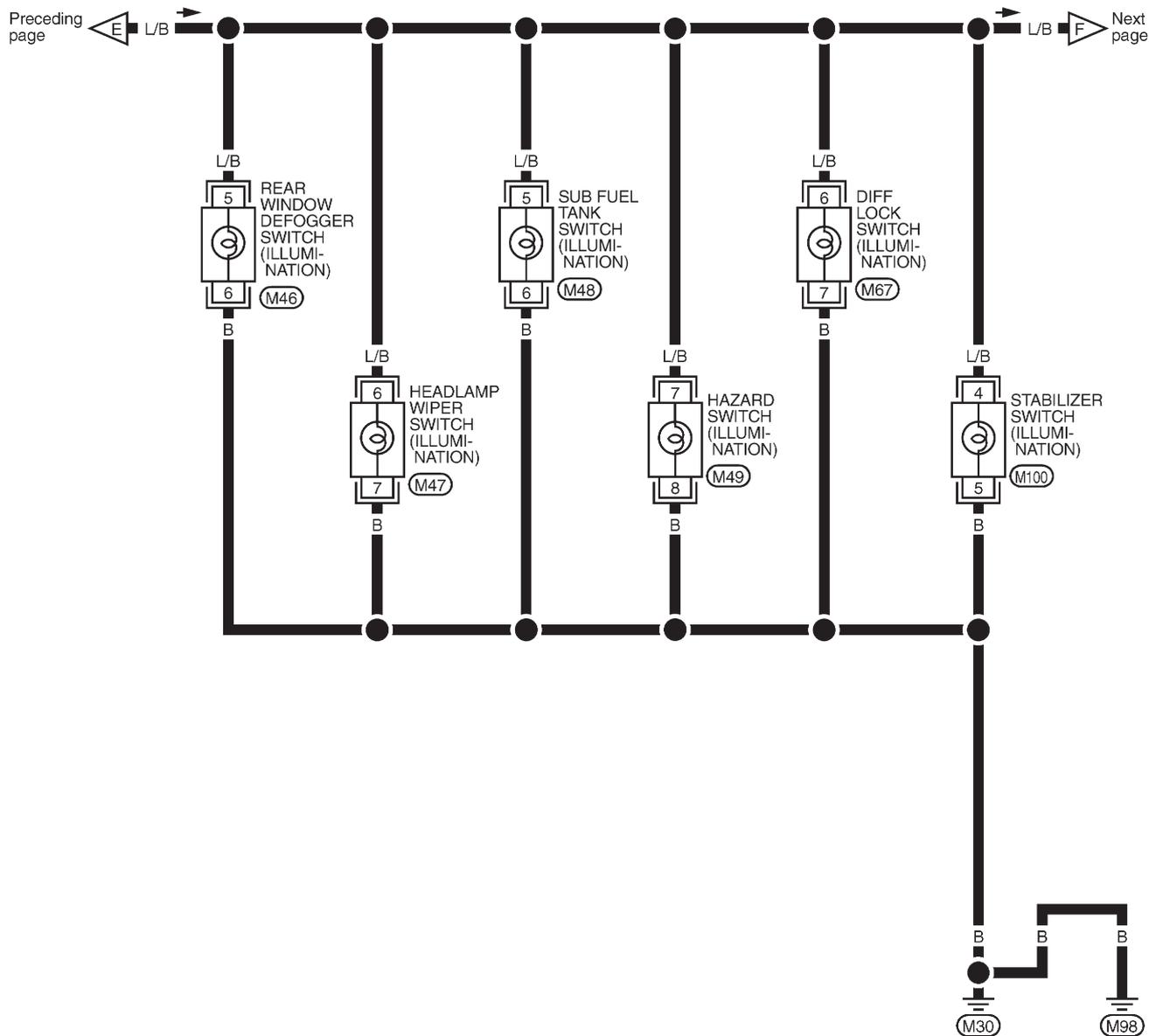
EL-ILL-04



ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

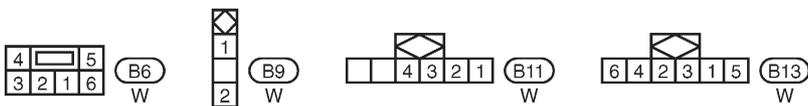
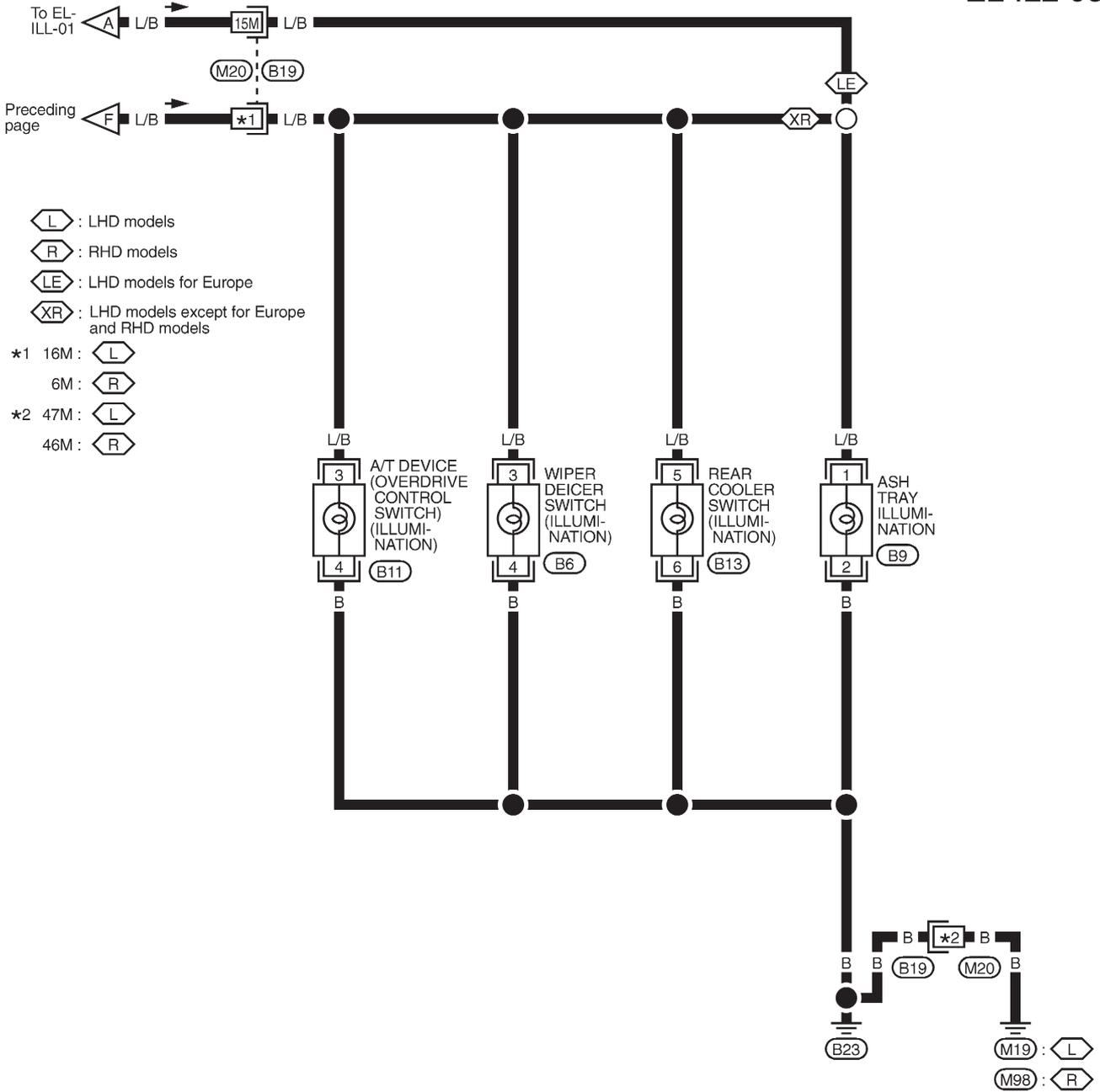
EL-ILL-05



ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-06



Refer to last page (Foldout page).
 M20, B19

System Description

Front interior room lamp timer is controlled by smart entrance control unit while interior room lamp switch is in the “DOOR” position.

Smart entrance control unit does not control rear interior room lamp.

TIMER OPERATION

Interior room lamp timer keeps interior room lamp illuminated for about 15 seconds when:

- driver’s door is unlocked while key is out of ignition key cylinder,
- key is withdrawn from ignition key cylinder while driver’s door is closed, and
- driver’s door is opened and then closed while ignition switch is not in the “ON” position.

The timer is cancelled, and interior room lamp turns off when:

- driver’s door is locked, or
- ignition switch is turned “ON”.

ON-OFF CONTROL

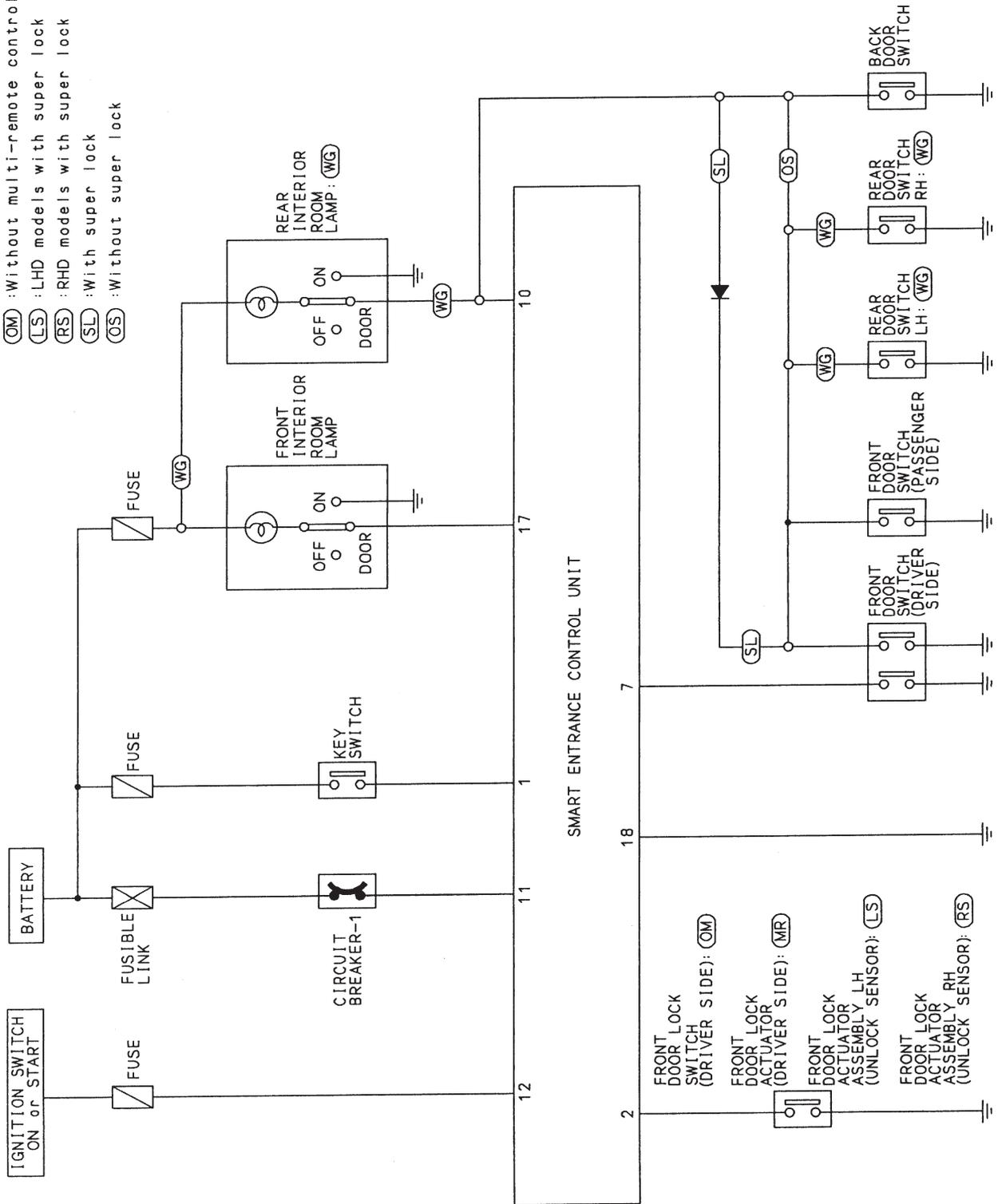
When the front driver side door, front passenger side door, rear LH door, rear RH door or back door is opened, interior room lamp turns on.

When driver side door is opened and then closed while ignition switch is not in the ON position, interior room lamp timer operates. (Timer does not operate when doors other than the driver side door is opened and closed.)

INTERIOR ROOM LAMP — With Timer —

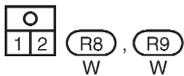
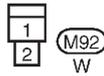
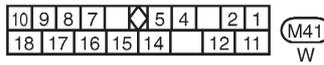
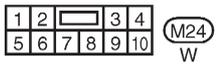
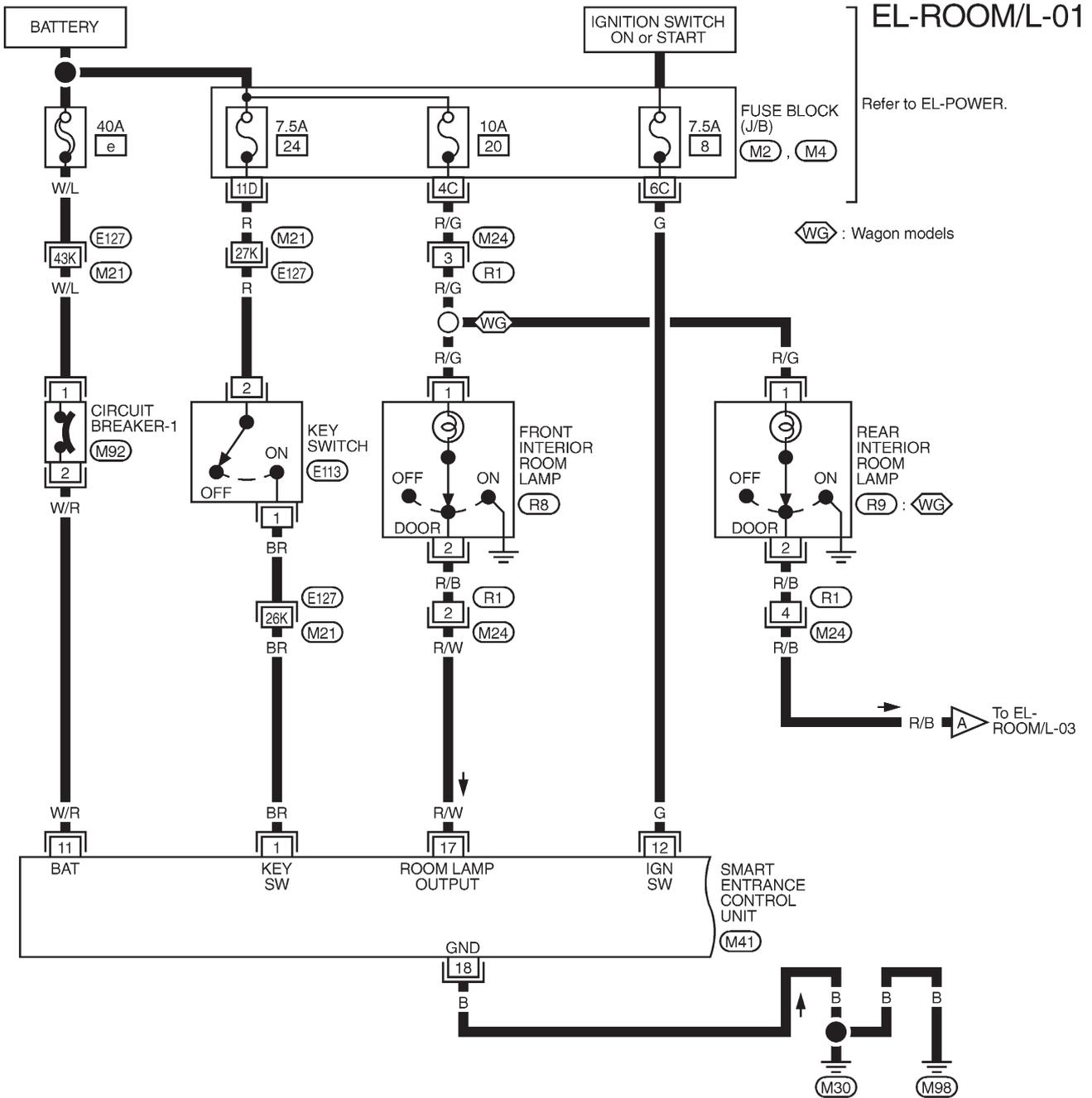
Schematic

- (WG) : Wagon models
- (MR) : With multi-remote control system
- (OM) : Without multi-remote control system
- (LS) : LHD models with super lock
- (RS) : RHD models with super lock
- (SL) : With super lock
- (OS) : Without super lock



INTERIOR ROOM LAMP — With Timer —

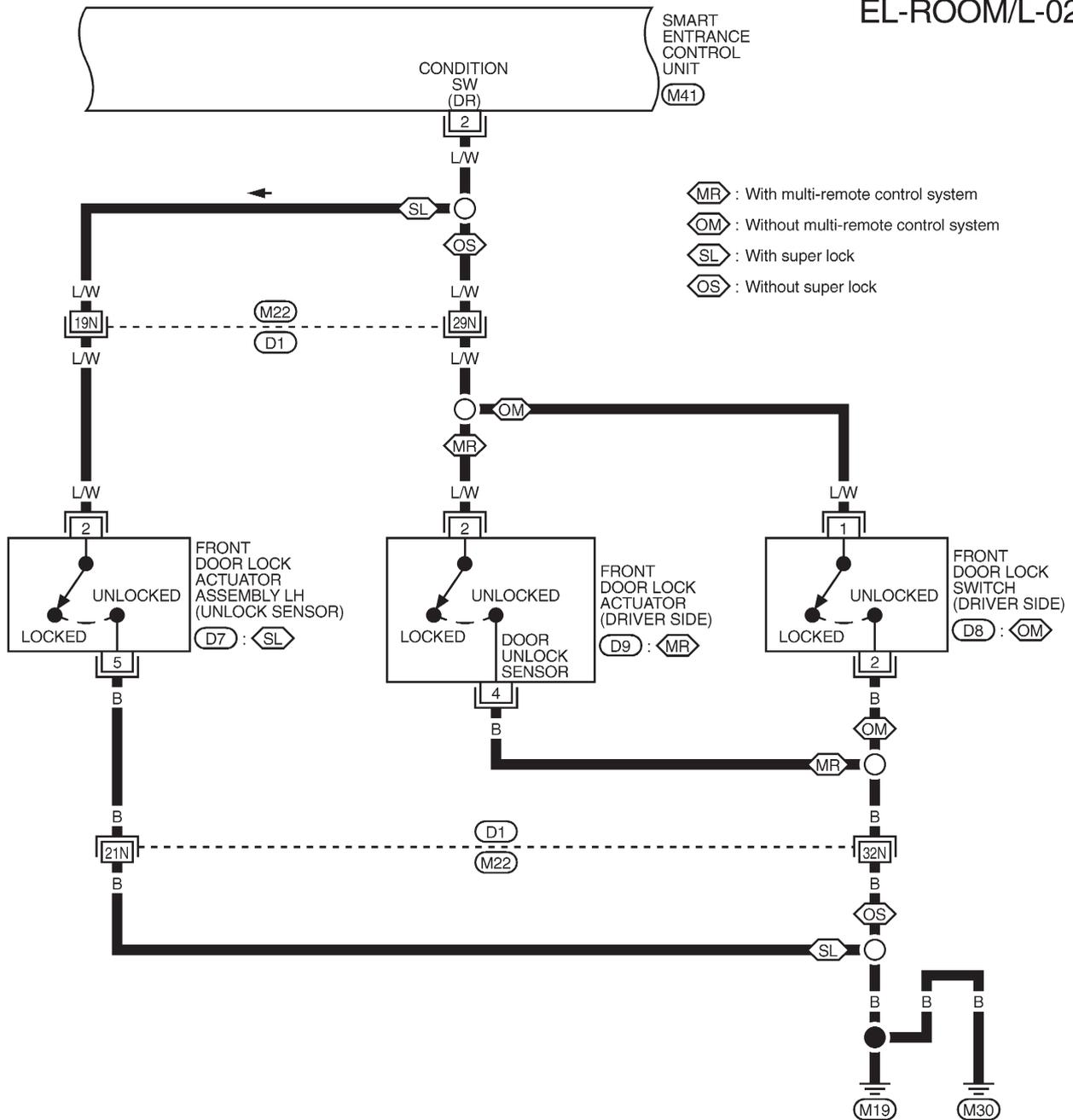
Wiring Diagram — ROOM/L —/LHD Models



INTERIOR ROOM LAMP — With Timer —

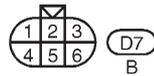
Wiring Diagram — ROOM/L —/LHD Models (Cont'd)

EL-ROOM/L-02



10	9	8	7	5	4	2	1
18	17	16	15	14	12	11	

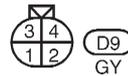
(M41)
W



(D7)
B



(D8)
GY



(D9)
GY

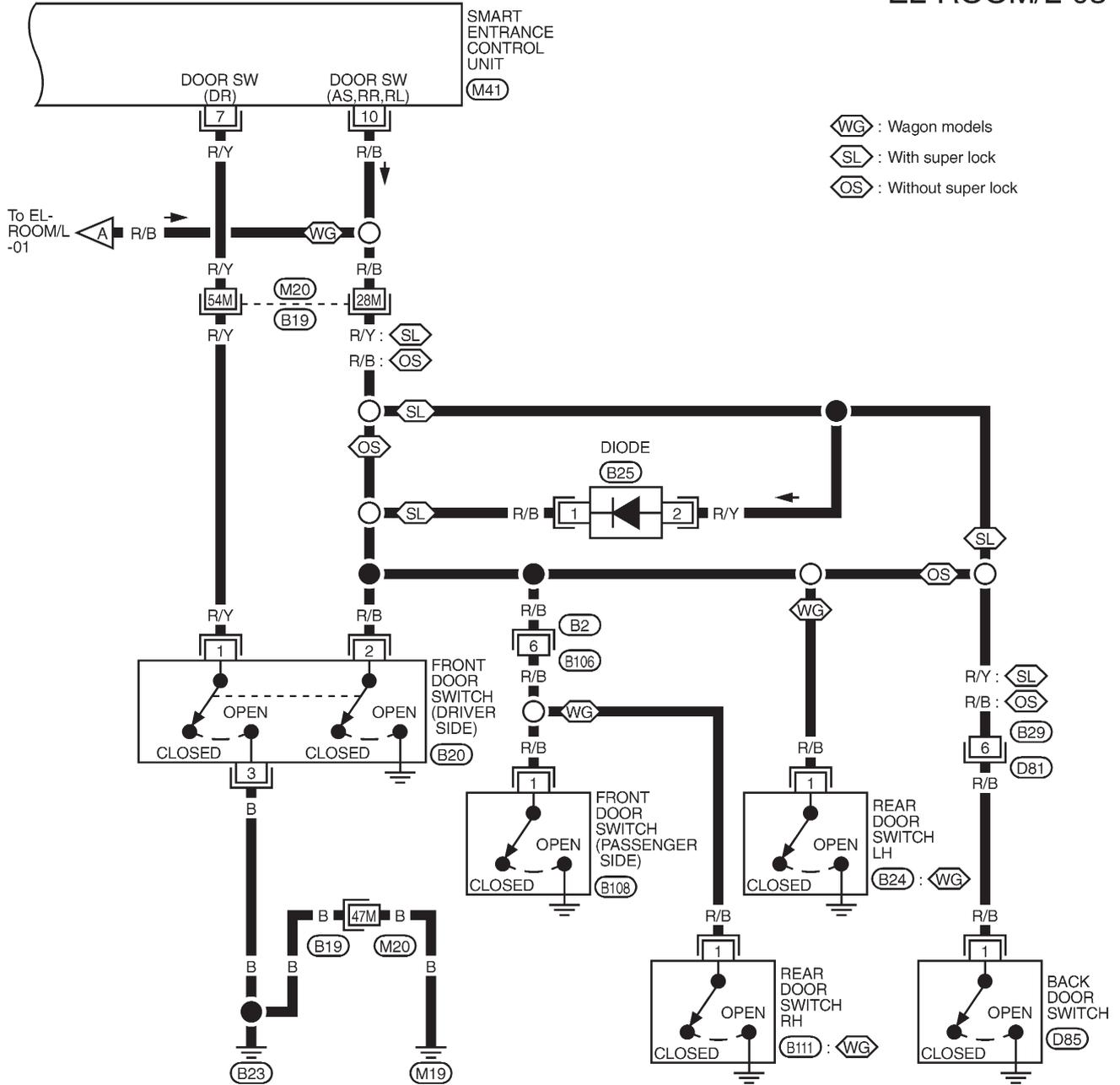
Refer to last page (Foldout page).

(M22), (D1)

INTERIOR ROOM LAMP — With Timer —

Wiring Diagram — ROOM/L —/LHD Models (Cont'd)

EL-ROOM/L-03



10	9	8	7	5	4	2	1
18	17	16	15	14		12	11

(M41)
W

1	2	3
4	5	6

(B2)
W

1	2
3	

(B20)
B

1	(B24)	(B108)	(B111)	(D85)
	BR	BR	BR	BR

1
2

(B25)
W

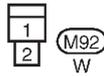
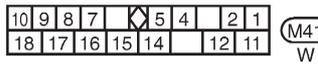
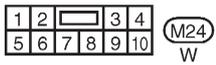
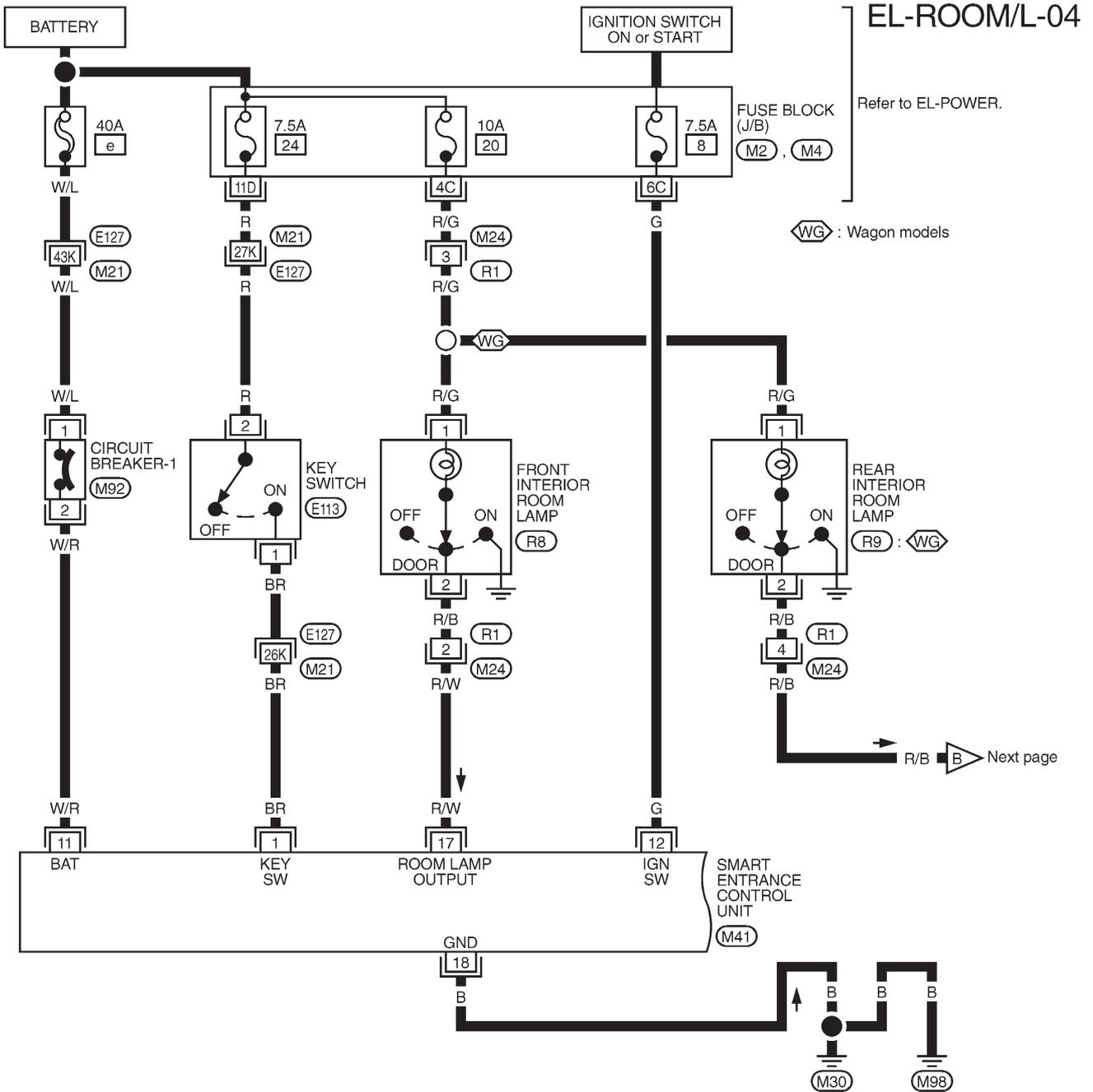
1	2
3	4
5	6

(D81)
W

Refer to last page (Foldout page).
(M20), (B19)

INTERIOR ROOM LAMP — With Timer —

Wiring Diagram — ROOM/L —/RHD Models



Refer to last page (Foldout page).

(M21), (E127)

(M2)

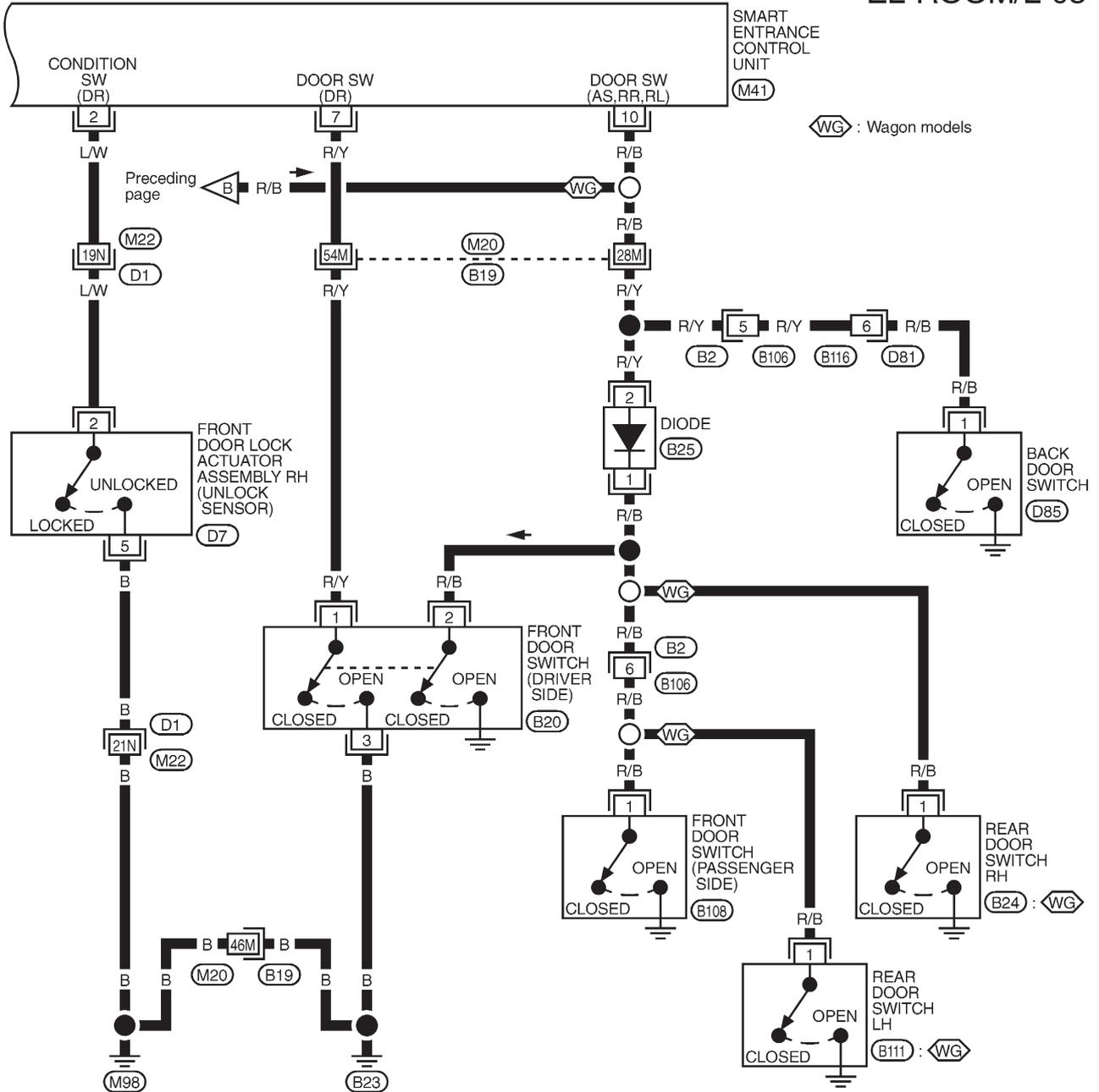
(M4)



INTERIOR ROOM LAMP — With Timer —

Wiring Diagram — ROOM/L —/RHD Models (Cont'd)

EL-ROOM/L-05



10	9	8	7	5	4	2	1
18	17	16	15	14	12	11	

(M41)
W

1	2	3
4	5	6

(B2)
W

1	2
3	

(B20)
B

(1) (B24), (B108), (B111), (D85)
BR, BR, BR, BR

(1) (2) (B25)
W

(6) (2) (4) (D7)
3 5 1 B

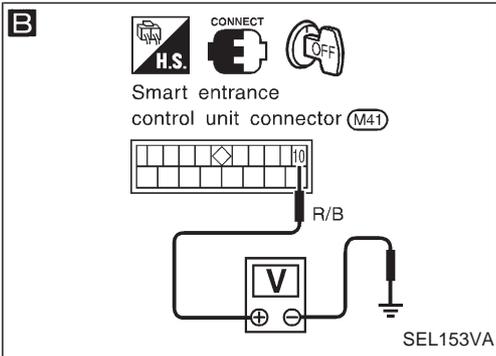
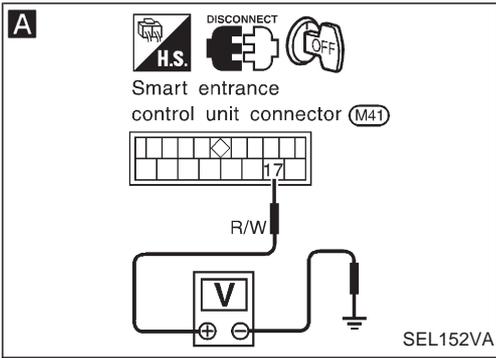
(1) (2) (D81)
3 4 5 6 W

Refer to last page (Foldout page).

(M20), (B19)

(M22), (D1)

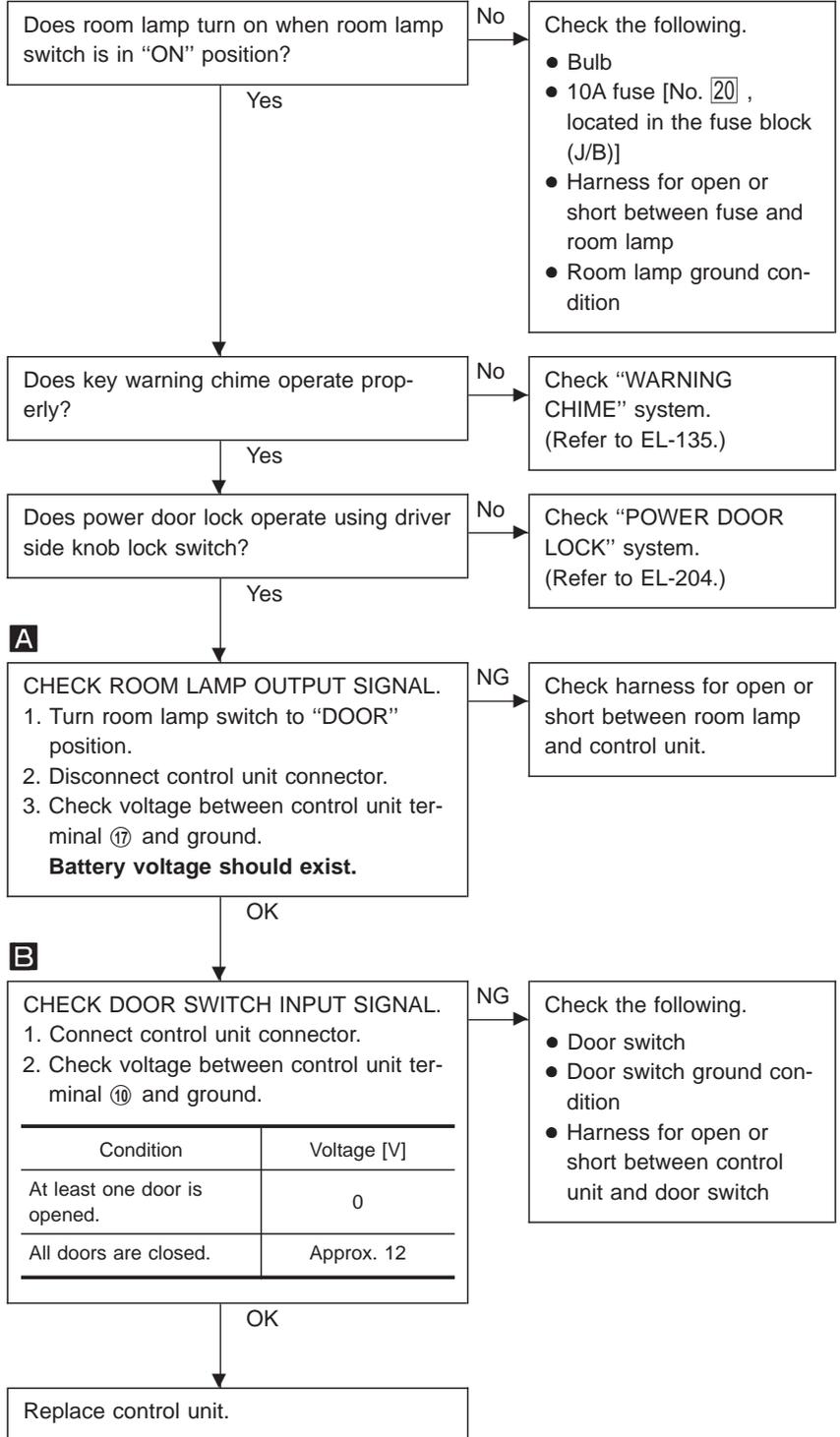
INTERIOR ROOM LAMP — With Timer —



Trouble Diagnoses

DIAGNOSTIC PROCEDURE

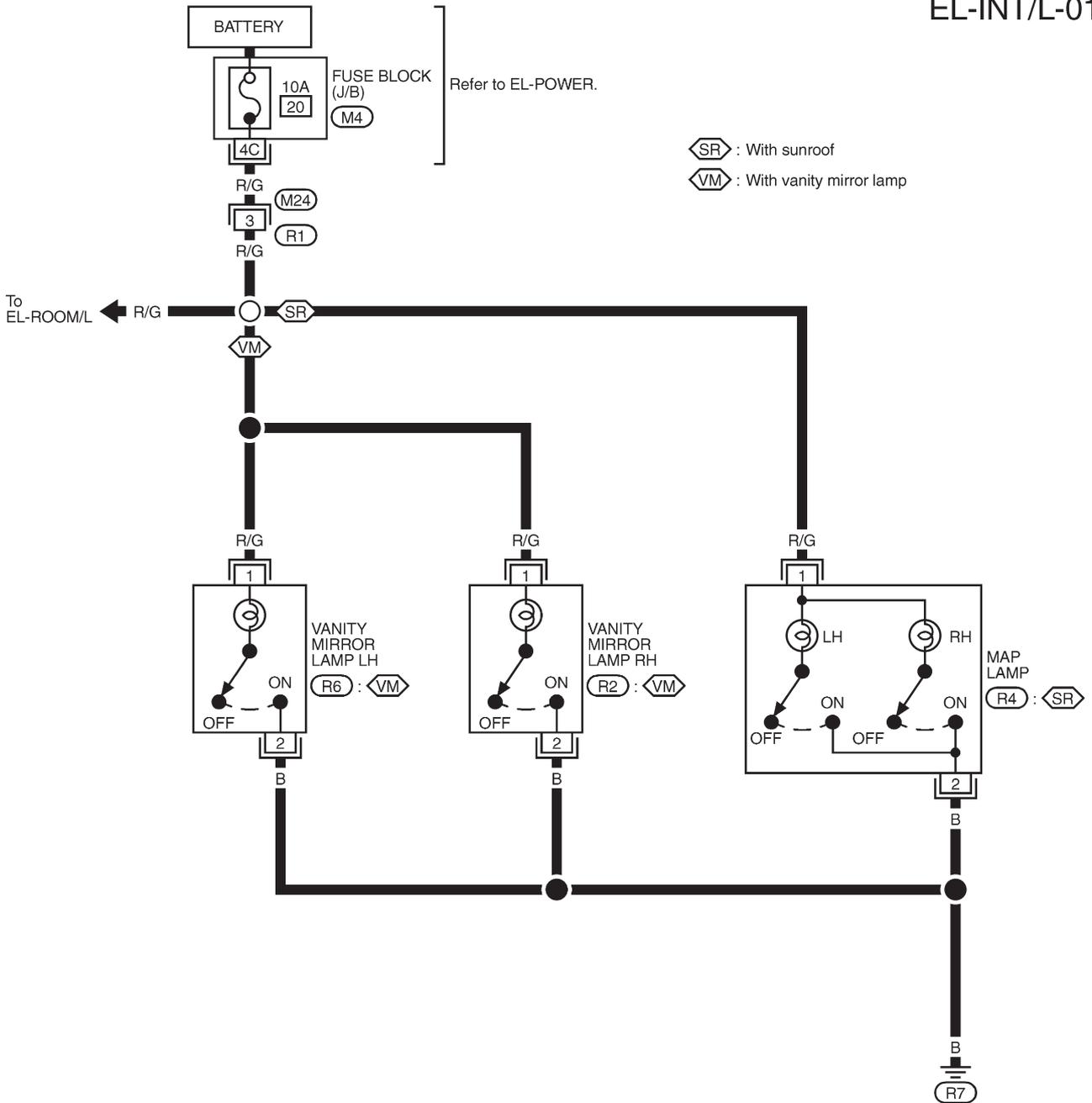
SYMPTOM: Front interior room lamp does not turn on when any door is opened, or timer does not operate properly.



MAP AND VANITY MIRROR LAMPS

Wiring Diagram — INT/L —

EL-INT/L-01



⬡SR⬡ : With sunroof
 ⬡VM⬡ : With vanity mirror lamp



Refer to last page (Foldout page).

ⓂM4

METER AND GAUGES

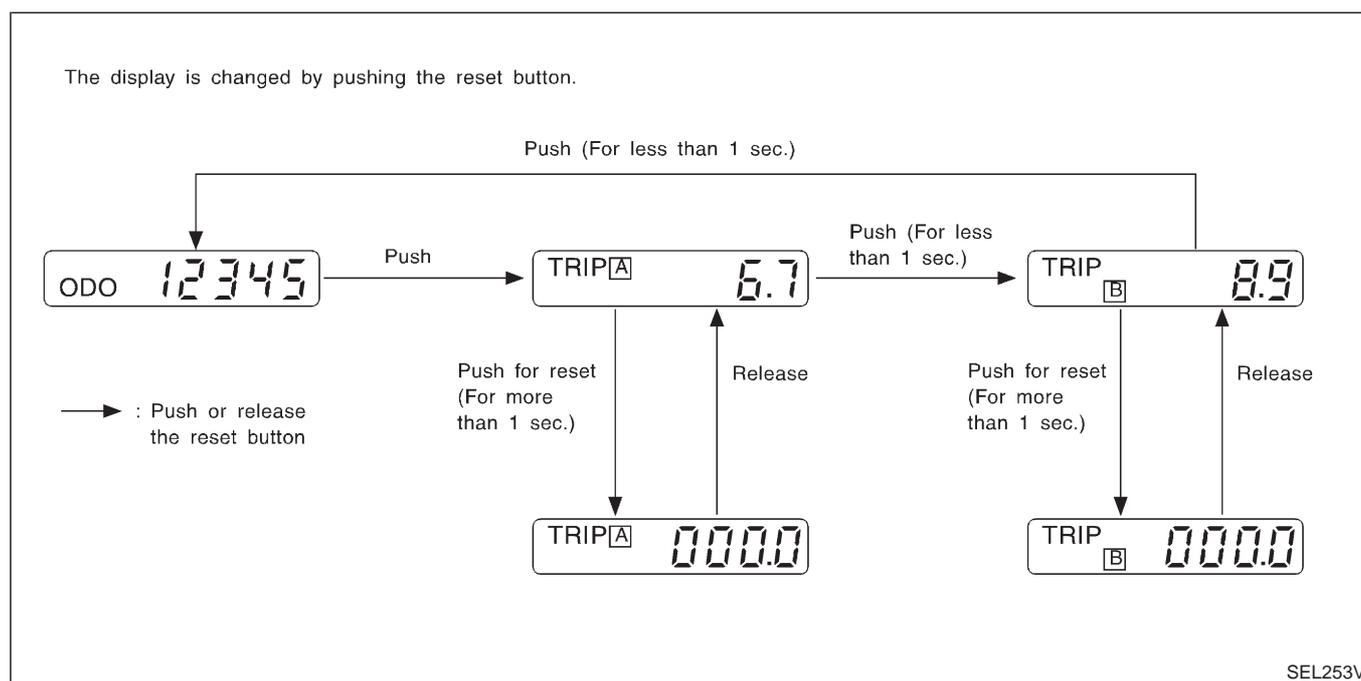
System Description

UNIFIED CONTROL METER

- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by control unit combined with speedometer.
- Digital meter is adopted for odo/trip meter.*
*The record of the odo meter is kept even if the battery cable is disconnected. The record of the trip meter is erased when the battery cable is disconnected.
- Odo/trip meter segment can be checked in diagnosis mode.
- Meter/gauge can be checked in diagnosis mode.

Note: Sub fuel gauge is not controlled by the control unit.

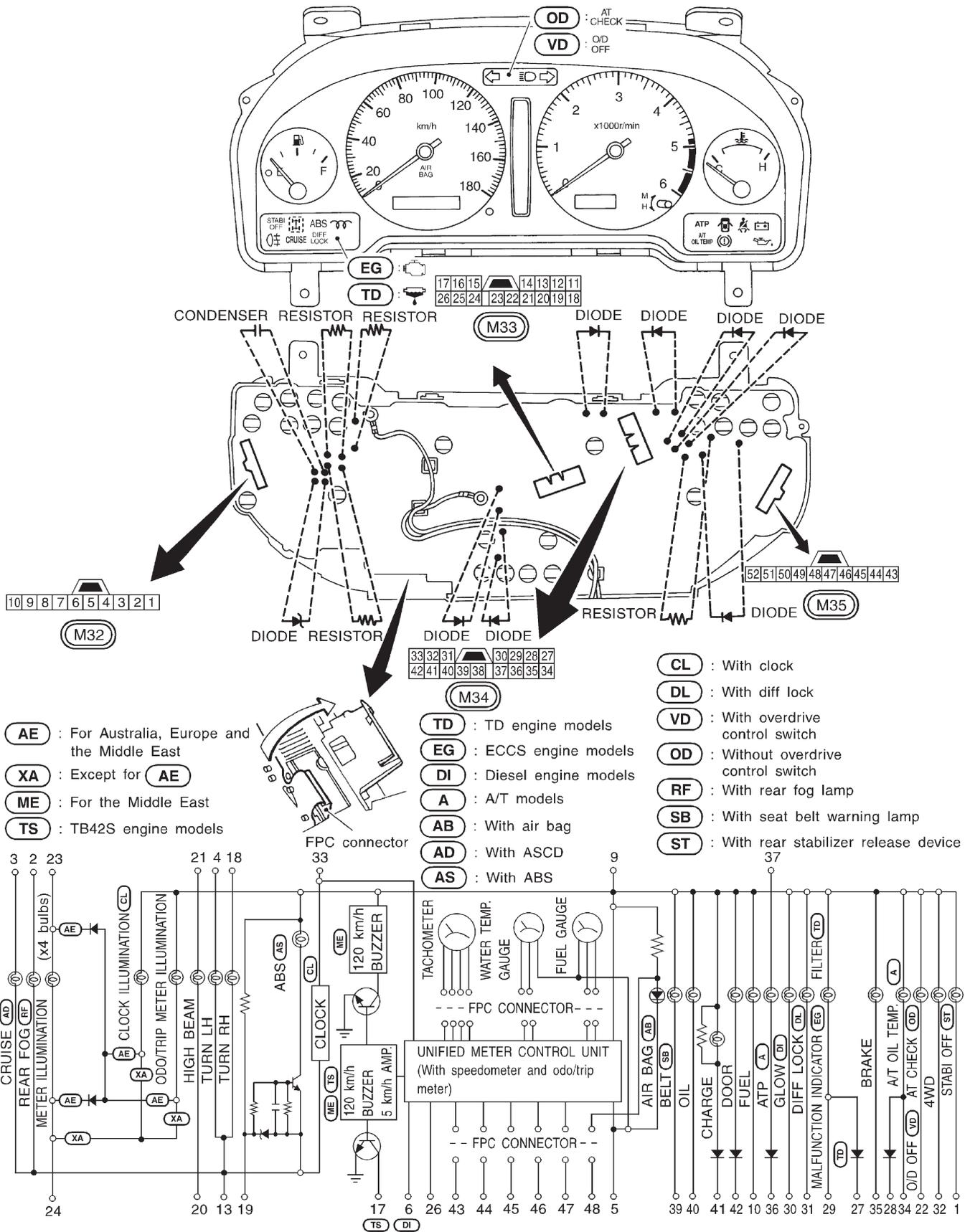
HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER



Note: Turn ignition switch to the "ON" position to operate odo/trip meter.

METER AND GAUGES

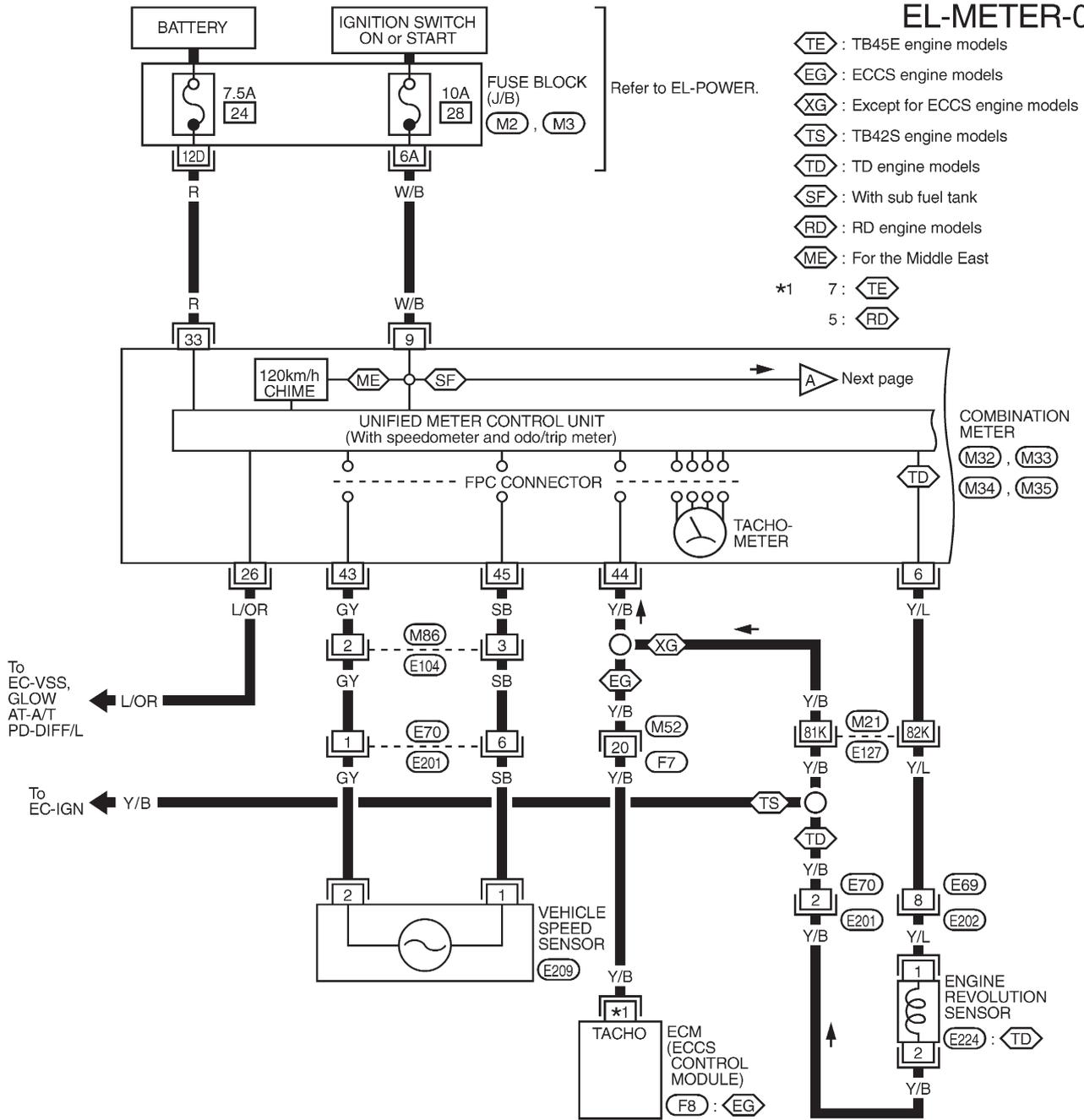
Combination Meter



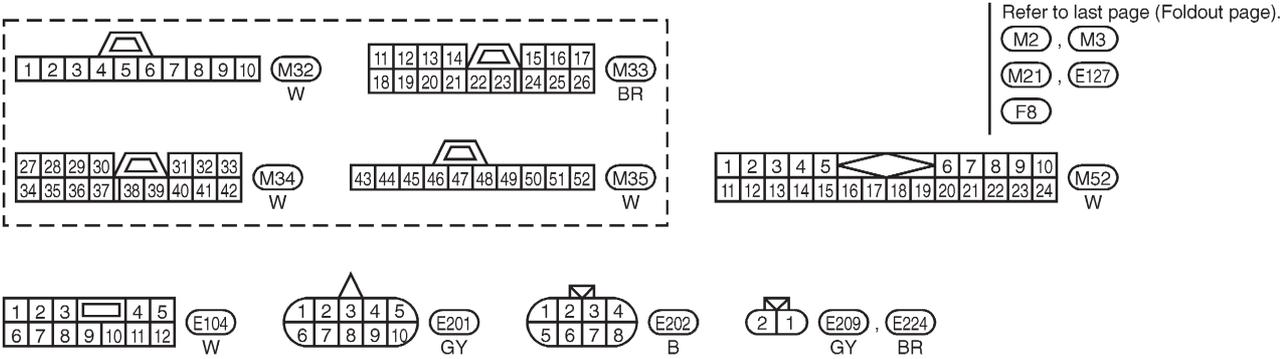
METER AND GAUGES

Wiring Diagram — METER —/LHD Models

EL-METER-01



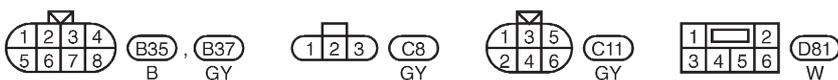
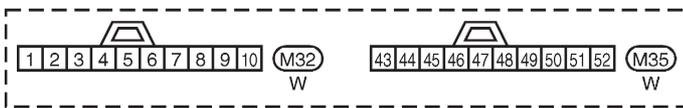
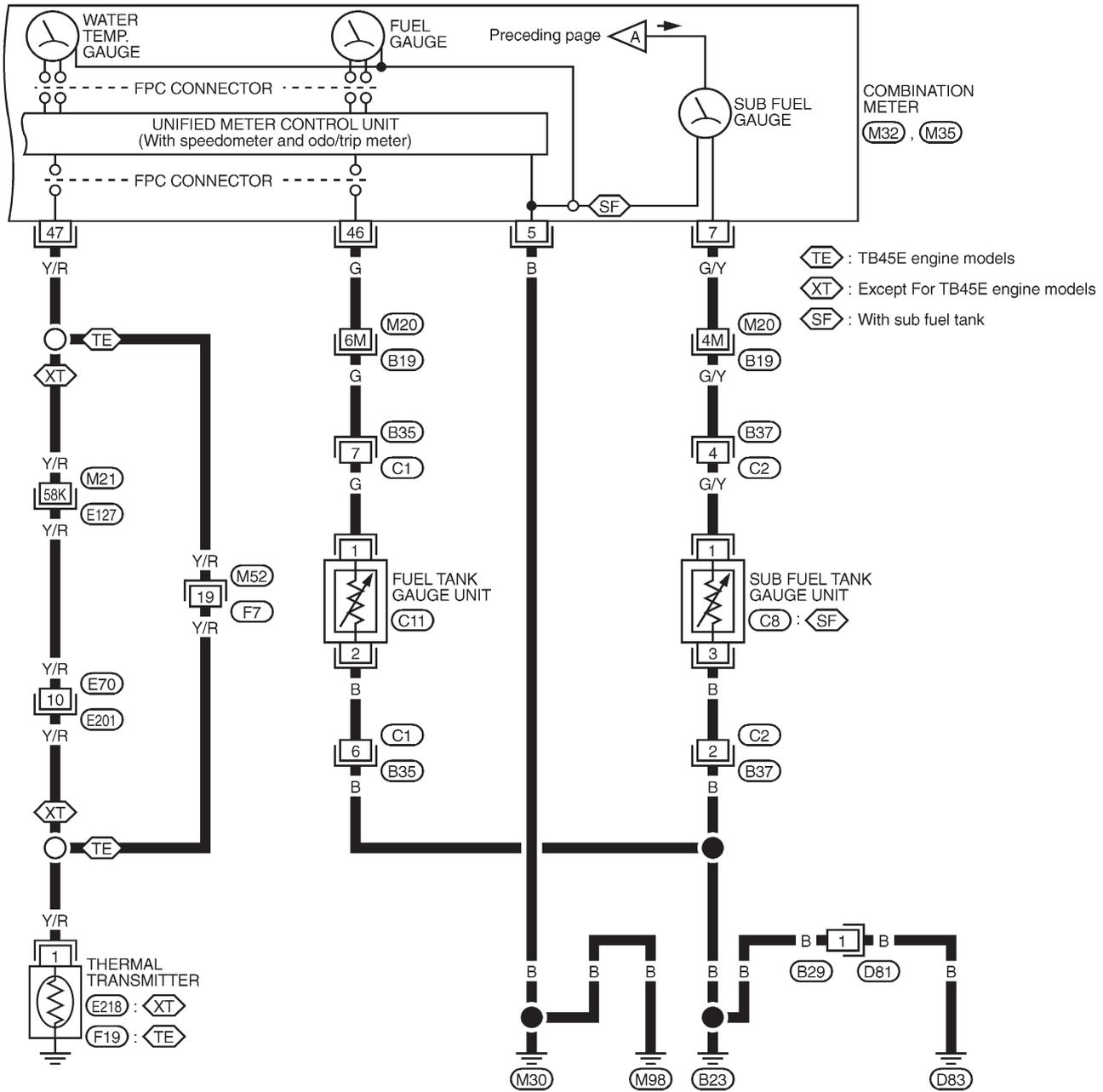
- TE : TB45E engine models
 - EG : ECCS engine models
 - XG : Except for ECCS engine models
 - TS : TB42S engine models
 - TD : TD engine models
 - SF : With sub fuel tank
 - RD : RD engine models
 - ME : For the Middle East
- *1 7 : TE
5 : RD



METER AND GAUGES

Wiring Diagram — METER —/LHD Models (Cont'd)

EL-METER-02



Refer to last page (Foldout page).

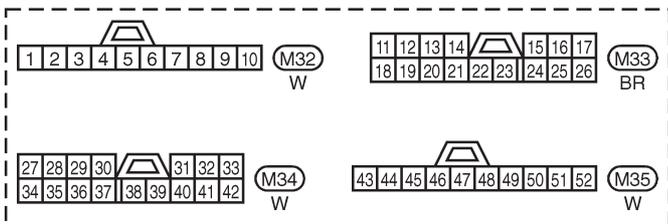
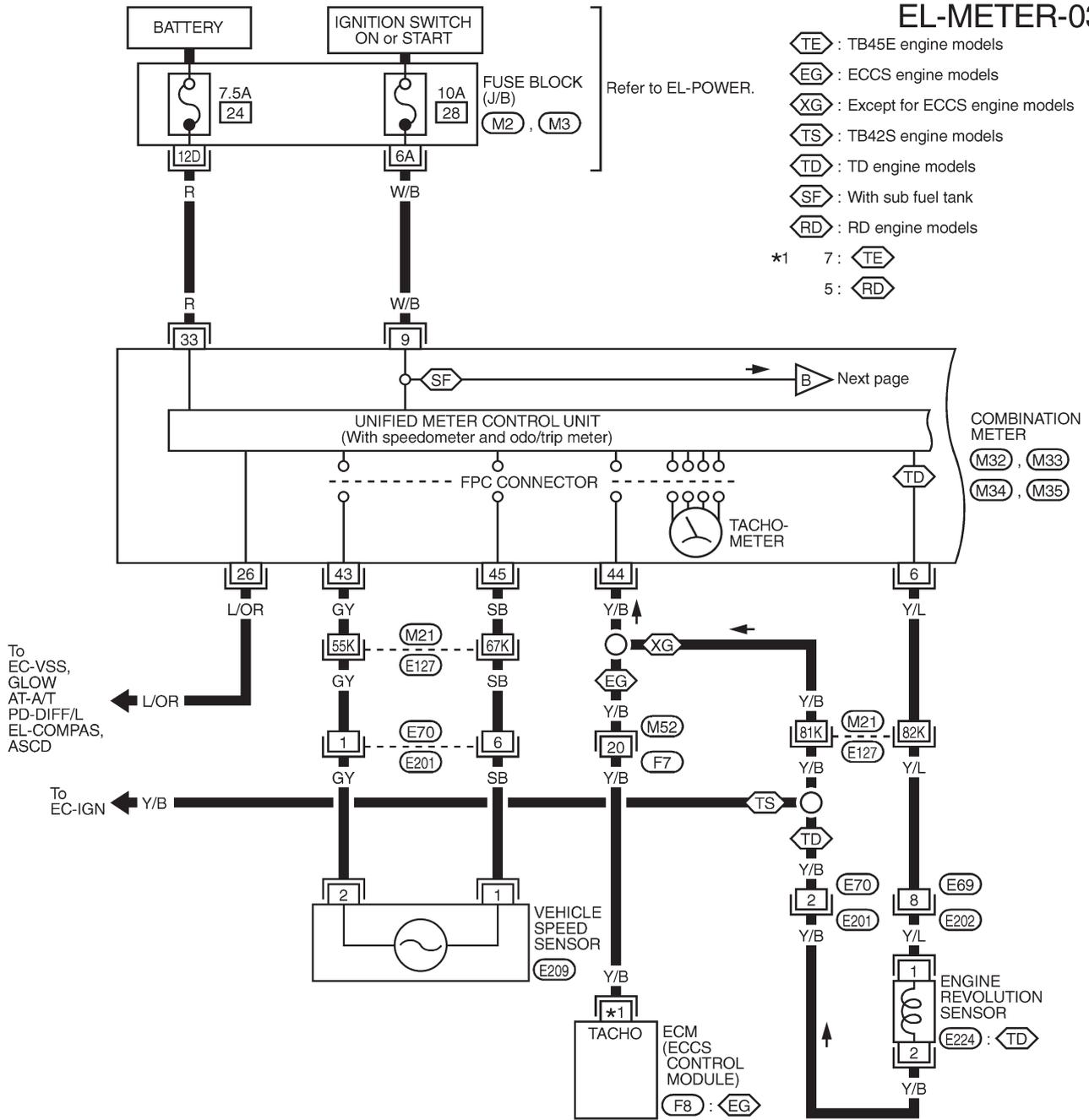
M20, B19

M21, E127

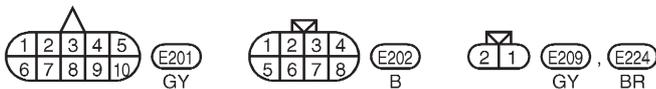
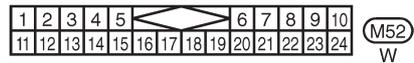
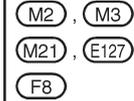
METER AND GAUGES

Wiring Diagram — METER —/RHD Models

EL-METER-03



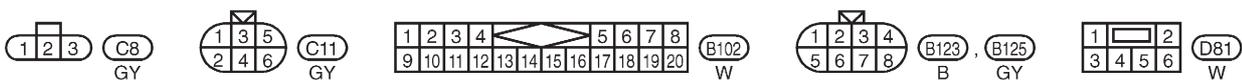
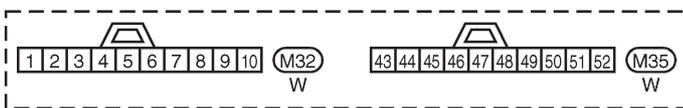
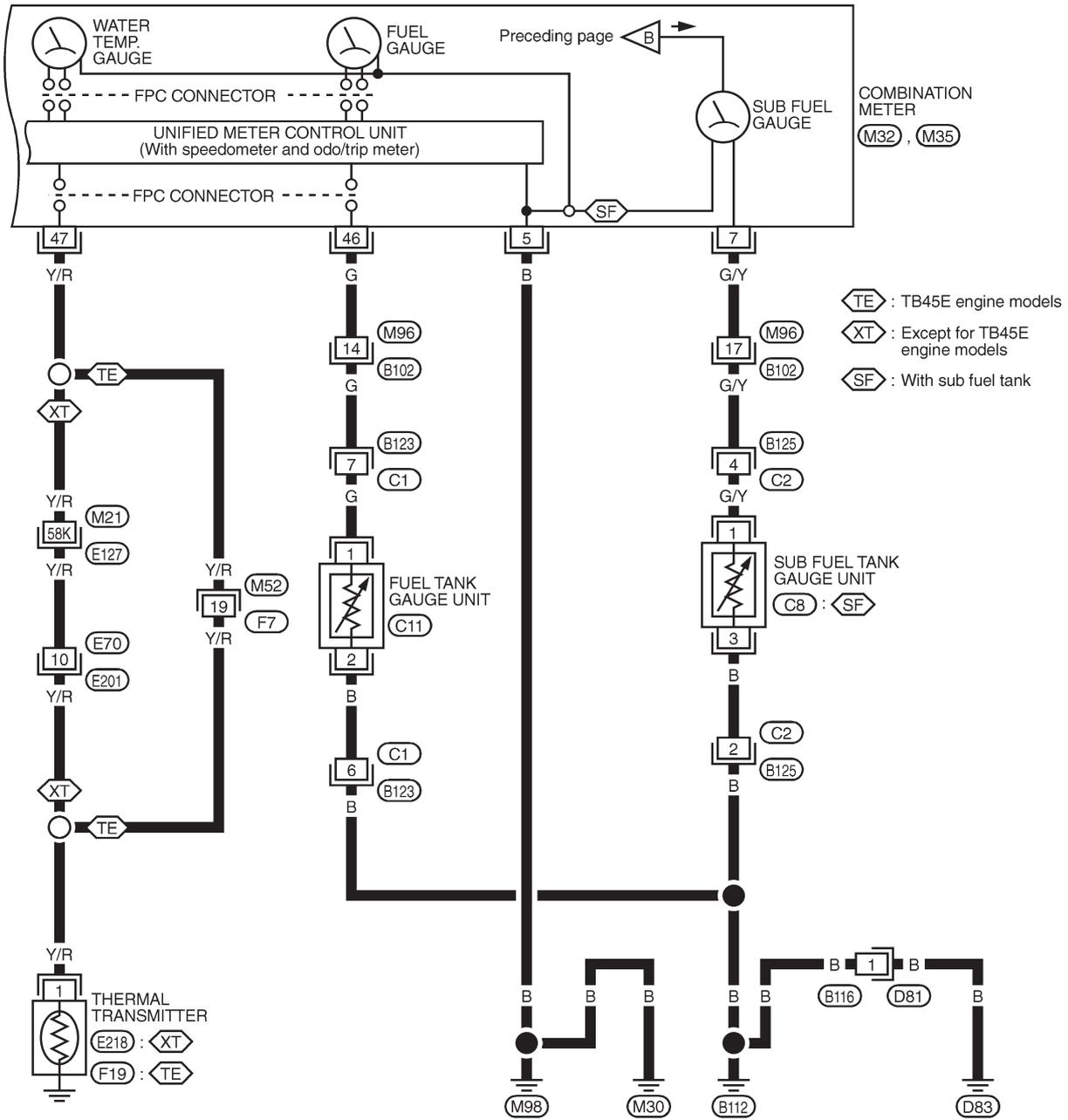
Refer to last page (Foldout page).



METER AND GAUGES

Wiring Diagram — METER —/RHD Models (Cont'd)

EL-METER-04



Refer to last page (Foldout page).
M21, E127

METER AND GAUGES

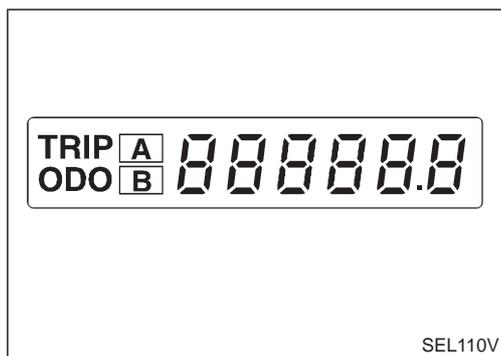
Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode

DIAGNOSIS FUNCTION

- Odo/trip meter segment can be checked in diagnosis mode.
- Meters/gauges (except for sub fuel gauge) can be checked in diagnosis mode.

HOW TO ALTERNATE DIAGNOSIS MODE

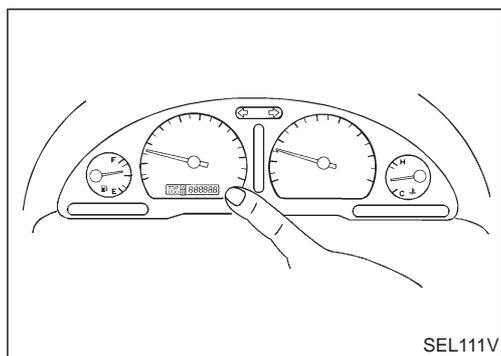
1. Turn ignition switch to ON and change odo/trip meter to "TRIP A" or "TRIP B".
2. Turn ignition switch to OFF.
3. Turn ignition switch to ON when pushing odo/trip meter switch.
4. Confirm that trip meter indicates "000.0".
5. Push odo/trip meter switch more than three times within 5 seconds.



6. All odo/trip meter segments should be turned on.

NOTE: If some segments are not turned on, speedometer (unified meter control unit) with odo/trip meter should be replaced.

At this point, the unified control meter is turned to diagnosis mode.



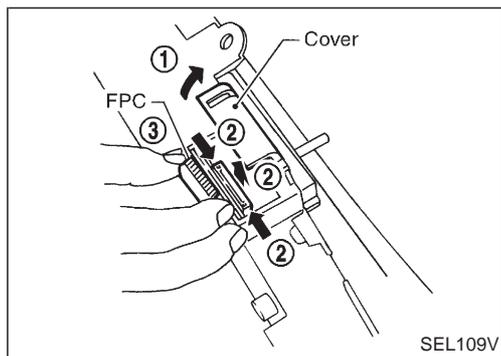
7. Push odo/trip meter switch. Indication of each meter/gauge should be as shown left during pushing odo/trip meter switch if it is no malfunctioning.

NOTE: It takes about 1 minute for indication of fuel gauge to become stable.

METER AND GAUGES

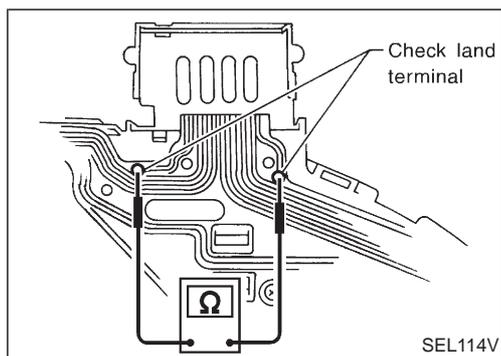
Flexible Print Circuit (FPC)

Tachometer, fuel gauge and water temperature gauge are connected with unified meter control unit (speedometer) by Flexible Print Circuit (FPC) connector. When replace or remove and install unified control unit (speedometer), disconnect and connect FPC connector according to the following steps.



DISCONNECT

1. Open connector cover.
2. Release connector lock by holding both ends of it and pulling it up.
3. Disconnect FPC by pulling it up.



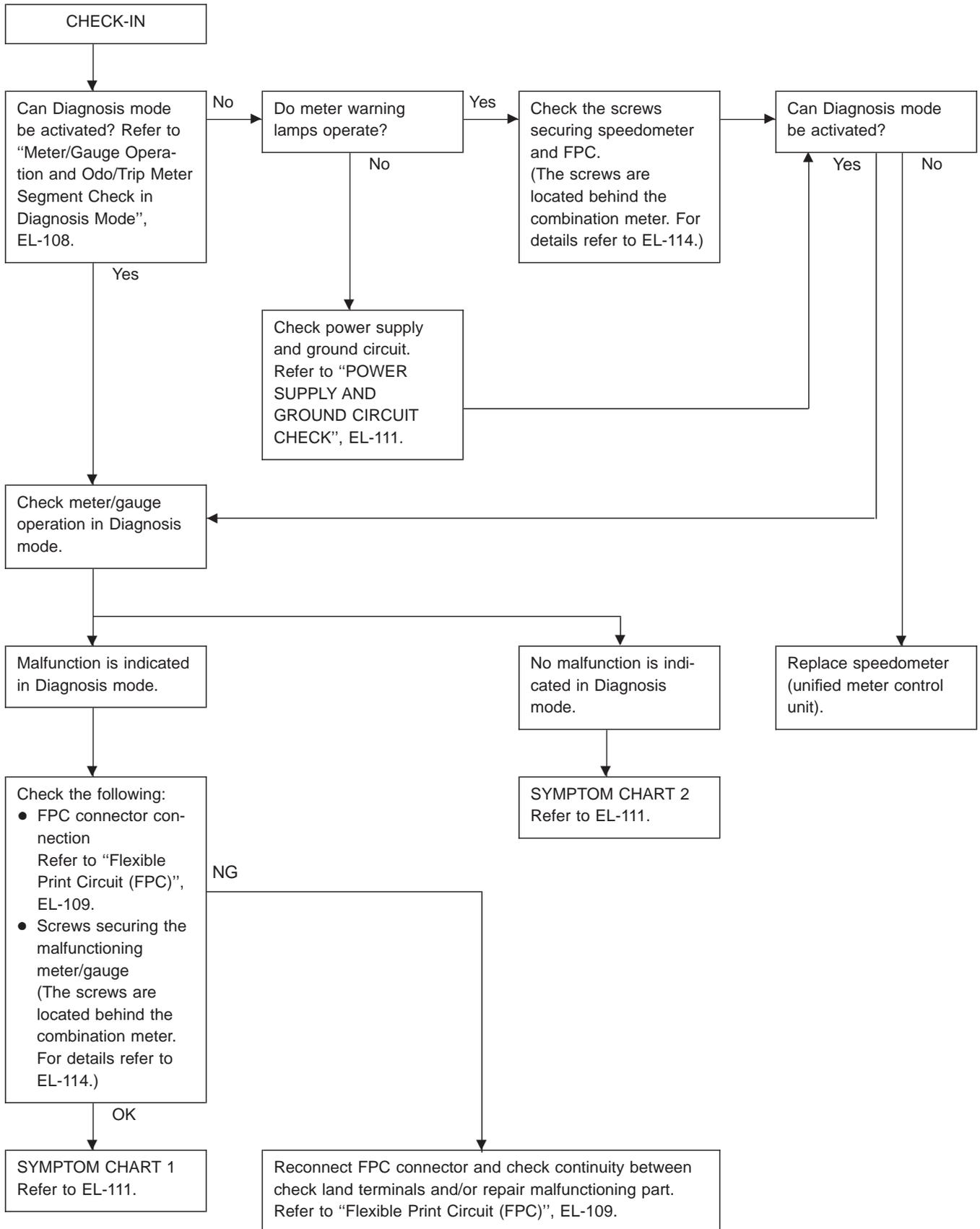
CONNECT

1. Insert FPC into connector and lock connector pushing FPC downward.
2. Check secure connection of FPC.
3. Check continuity of check land terminal for secure connection of FPC.
Resistance: 0Ω
4. Close connector cover.

METER AND GAUGES

Trouble Diagnoses

PRELIMINARY CHECK



METER AND GAUGES

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

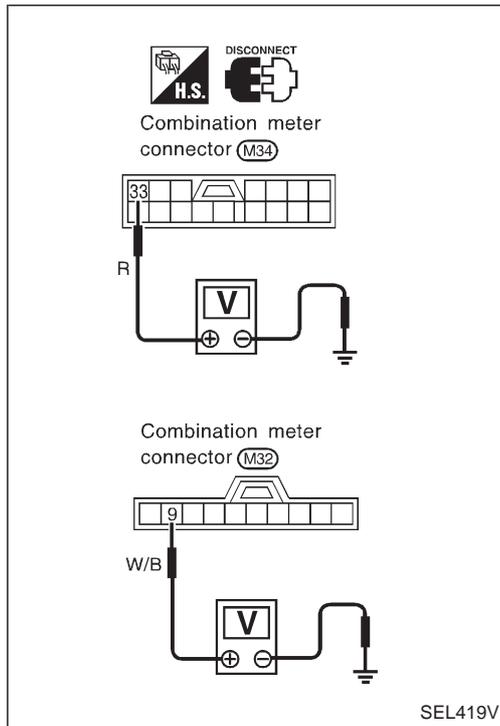
Symptom chart 1 (Malfunction is indicated in Diagnosis mode)

Symptom	Possible causes	Repair order
Speedometer and/or odo/trip meter indicate(s) malfunction in Diagnosis mode.	<ul style="list-style-type: none"> Speedometer (Unified meter control unit) 	<ul style="list-style-type: none"> Replace speedometer (unified meter control unit).
Multiple meter/gauge indicate malfunction in Diagnosis mode.		
One of tachometer/fuel gauge/water temp. gauge indicates malfunction in Diagnosis mode.	<ul style="list-style-type: none"> Meter/Gauge Speedometer (Unified meter control unit) 	<ol style="list-style-type: none"> Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-114. If the resistance is OK, replace speedometer (unified meter control unit).

Symptom chart 2 (No malfunction is indicated in Diagnosis mode)

Symptom	Possible causes	Repair order
Speedometer and odo/trip meter are malfunctioning.	<ol style="list-style-type: none"> Sensor <ul style="list-style-type: none"> Speedometer, Odo/Trip meter FPC connector Speedometer (Unified meter control unit) 	<ol style="list-style-type: none"> Check vehicle speed sensor. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-112.) Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-109. Replace speedometer (unified meter control unit).
Multiple meter/gauge are malfunctioning. (except speedometer, odo/trip meter)	<ol style="list-style-type: none"> FPC connector Speedometer (Unified meter control unit) 	<ol style="list-style-type: none"> Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-109. Replace speedometer (unified meter control unit).
One of tachometer/fuel gauge/water temp. gauge is malfunctioning.	<ol style="list-style-type: none"> Sensor/Engine revolution signal <ul style="list-style-type: none"> Tachometer Fuel gauge Water temp. gauge FPC connector Speedometer (Unified meter control unit) 	<ol style="list-style-type: none"> Check the sensor for malfunctioning meter/gauge. INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-113.) INSPECTION/FUEL TANK GAUGE (Refer to EL-113.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-114.) Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-109. Replace speedometer (unified meter control unit).

Before starting trouble diagnoses above, perform PRELIMINARY CHECK, EL-110.



POWER SUPPLY AND GROUND CIRCUIT CHECK

Power supply circuit check

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
Ⓧ	Ground	Battery voltage	Battery voltage	Battery voltage
⑨	Ground	0V	0V	Battery voltage

If NG, check the following.

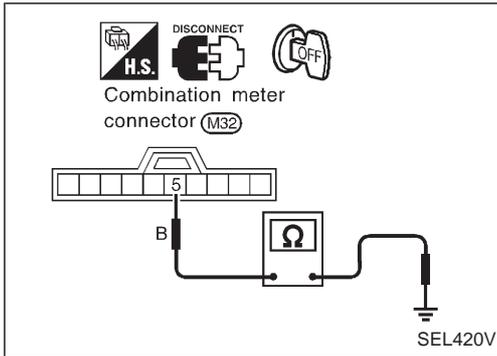
- 7.5A fuse [No. 24], located in fuse block (J/B)]
- 10A fuse [No. 28], located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter

METER AND GAUGES

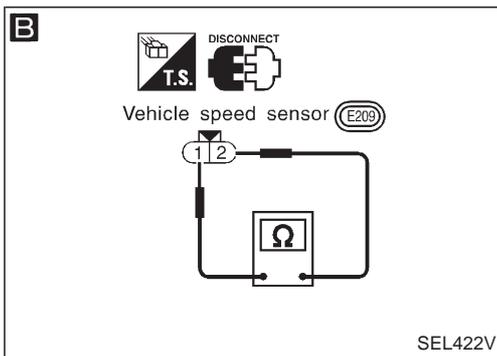
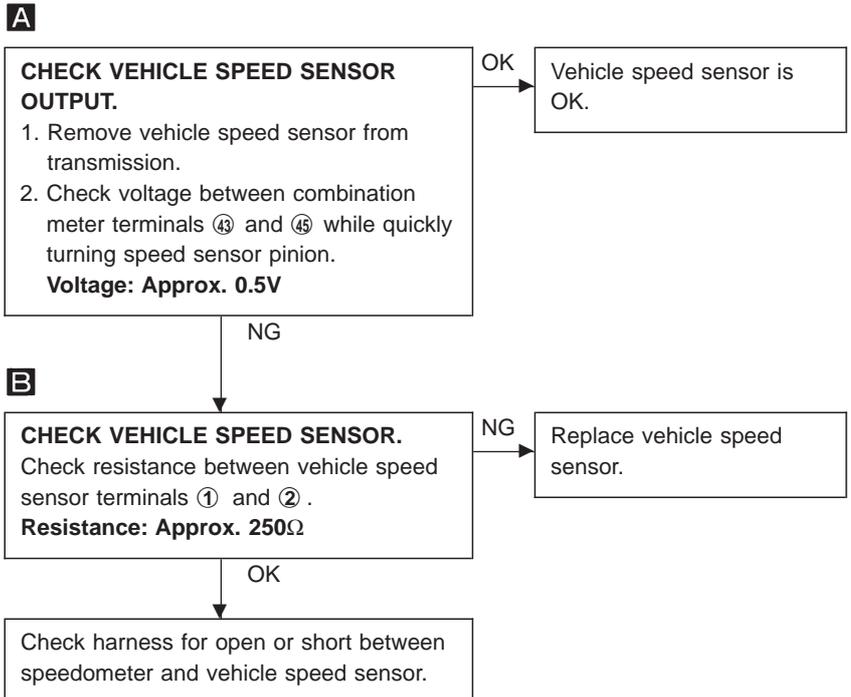
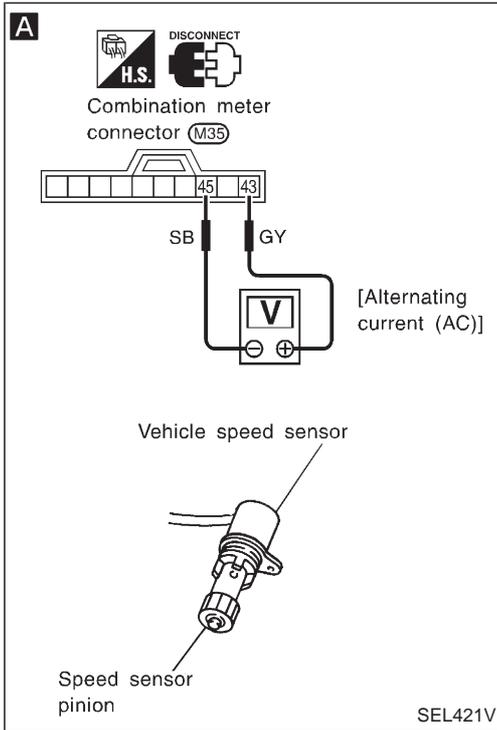
Trouble Diagnoses (Cont'd)

Ground circuit check

Terminals	Continuity
⑤ - Ground	Yes



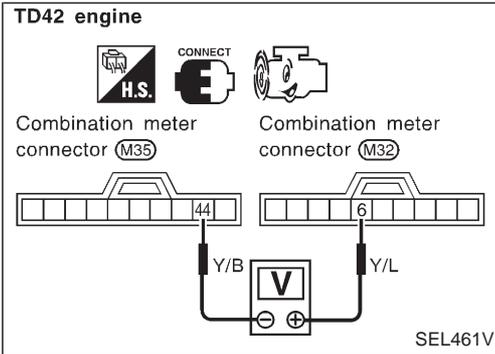
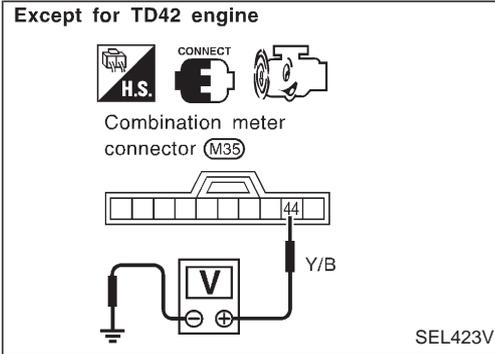
INSPECTION/VEHICLE SPEED SENSOR



METER AND GAUGES

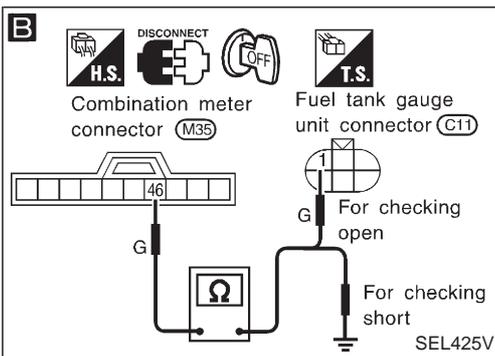
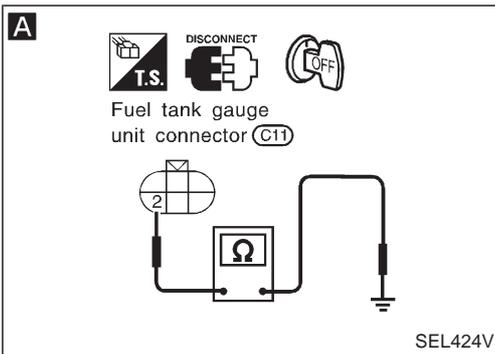
Trouble Diagnoses (Cont'd)

INSPECTION/ENGINE REVOLUTION SIGNAL

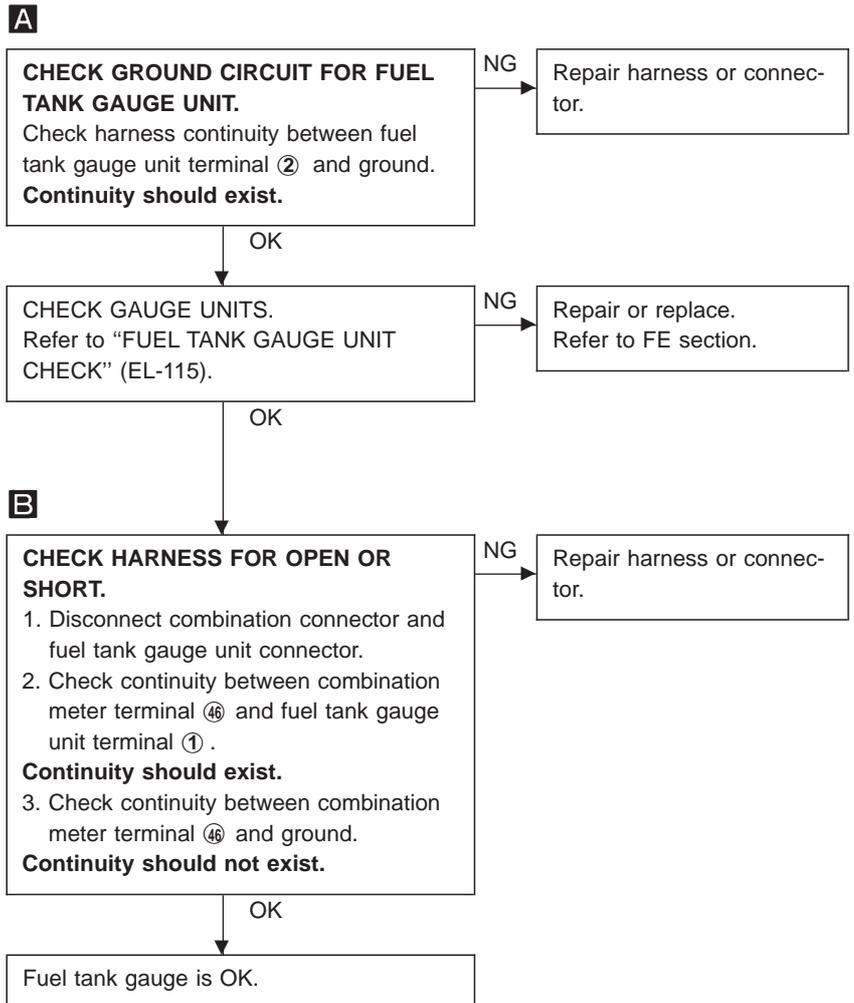


Engine	Check item	Terminals		Explanation
		⊕	⊖	
RD28 (Injection)	DC voltage	④④	Ground	Higher rpm = Higher voltage Lower rpm = Lower voltage Voltage should change with rpm.

Engine	Check item
TB45E, RD28 (Injection)	<ul style="list-style-type: none"> • Harness for open or short and connection



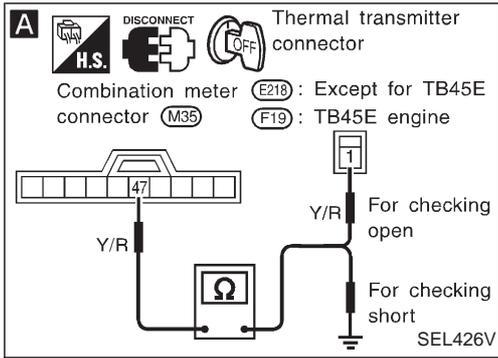
INSPECTION/FUEL TANK GAUGE (MAIN)



METER AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/THERMAL TRANSMITTER



```

    graph TD
      Start[CHECK THERMAL TRANSMITTER. Refer to "THERMAL TRANSMITTER CHECK" (EL-115).] -- NG --> NG1[Repair or replace.]
      Start -- OK --> StepA[CHECK HARNESS FOR OPEN OR SHORT.]
      StepA -- NG --> NG2[Repair harness or connector.]
      StepA -- OK --> End[Thermal transmitter is OK.]
  
```

A

CHECK HARNESS FOR OPEN OR SHORT.

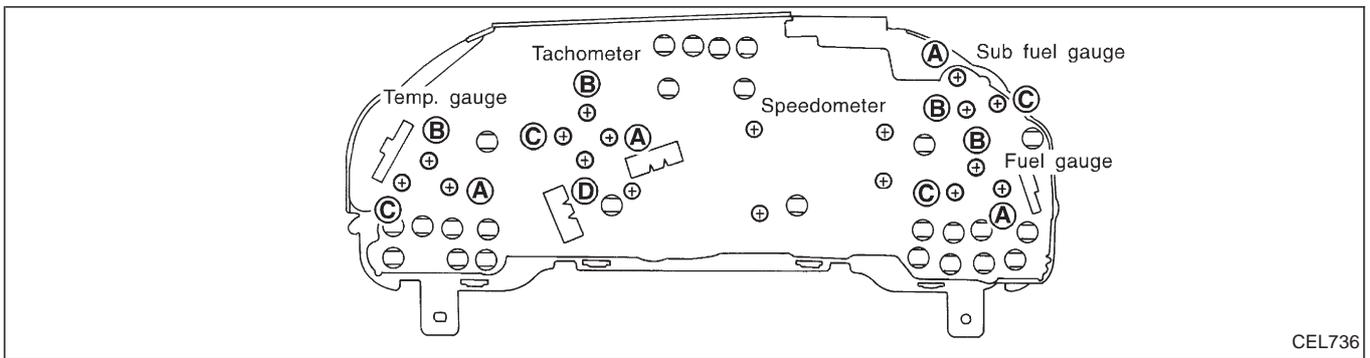
1. Disconnect combination connector and thermal transmitter connector.
2. Check continuity between combination meter terminal 47 and thermal transmitter terminal 1. **Continuity should exist.**
3. Check continuity between combination meter terminal 47 and ground. **Continuity should not exist.**

Electrical Components Inspection

METER/GAUGE RESISTANCE CHECK

1. Disconnect FPC connector. Refer to "Flexible Print Circuit (FPC)" (EL-109).
2. Check resistance between installation screws of meter/gauge.

	Screws		Resistance Ω
	Tachometer	Fuel/Temp. gauge Sub fuel gauge	
A - C	A - C	—	Approx. 104 (±5)
B - D	B - C	—	Approx. 134 (±5)
—	—	A - C	Approx. 174 (±5)
—	—	B - C	Approx. 100 (±5)



METER AND GAUGES

Electrical Components Inspection (Cont'd)

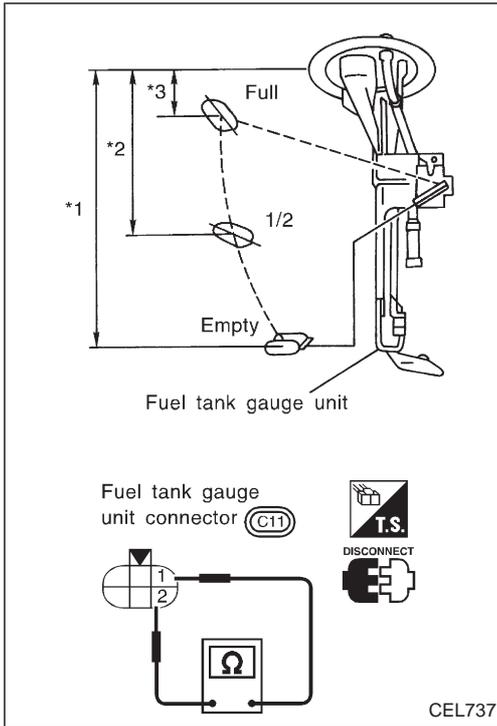
FUEL TANK GAUGE UNIT CHECK

- For removal, refer to FE section.

Check the resistance between terminals ① and ②.

Ohmmeter		Float position mm (in)		Resistance value (Ω)
(+)	(-)			
①	②	*1	Full 60 (2.36)	Approx. 4 - 6
		*2	1/2 179 (7.05)	32 - 33
		*3	Empty 270 (10.63)	80 - 83

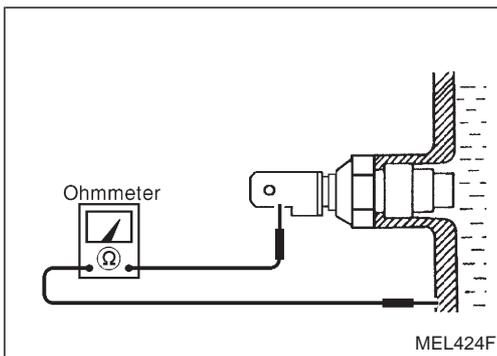
*1 and *3: When float rod is in contact *with stopper.



THERMAL TRANSMITTER CHECK

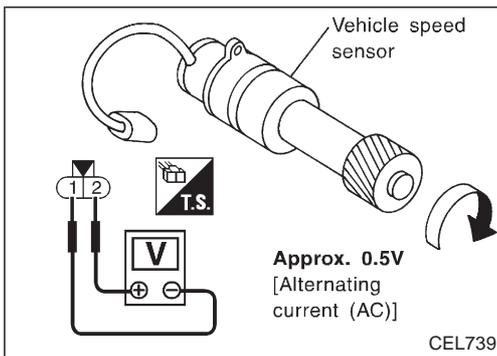
Check the resistance between the terminals of thermal transmitter and body ground.

Water temperature	Resistance (Ω)
60°C (140°F)	Approx. 170 - 210
100°C (212°F)	Approx. 47 - 53

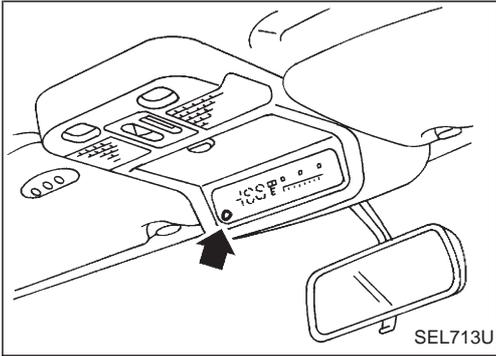


VEHICLE SPEED SENSOR CHECK

- Remove vehicle speed sensor from transmission.
- Turn vehicle speed sensor pinion quickly and measure voltage between terminals ② and ①.



COMPASS AND THERMOMETER



System Description

This unit displays the following items:

- Earth magnetism and heading direction of vehicle.
- Outside air temperature.
- Caution for frozen road surfaces.

OUTSIDE TEMPERATURE DISPLAY

Push the switch when the ignition key is in the “ACC” or “ON” position. The outside temperature will be displayed in “°F”.

- Selecting the indication range
Push the switch to change from “°F” to “°C”.
- When the outside temperature drops below freezing point, ICE is displayed on the unit.
- When the outside temperature is between 55°C (130°F) and 70°C (158°F), the display shows 55°C (130°F).
- When the outside temperature is lower than -30°C (-20°F) or higher than 70°C (158°F), the display shows only “---” though it is operating. This is not a problem.
- The indicated temperature on the thermometer is not readily affected by engine heat. It changes only when one of the following conditions is present.
 - a) The temperature detected by the ambient air temperature sensor is lower than the indicated temperature on the thermometer.
 - b) The difference in temperature detected during a period of 40 seconds is less than 1°C (1.8°F) when vehicle speed has been greater than 24 km/h (15 MPH) for more than 100 seconds.
(This is to prevent the indicated temperature from being affected by engine heat or cooling fan operation during low-speed driving.)
 - c) The ignition key has been turned to the “OFF” position for more than 4 hours. (The engine is cold.)

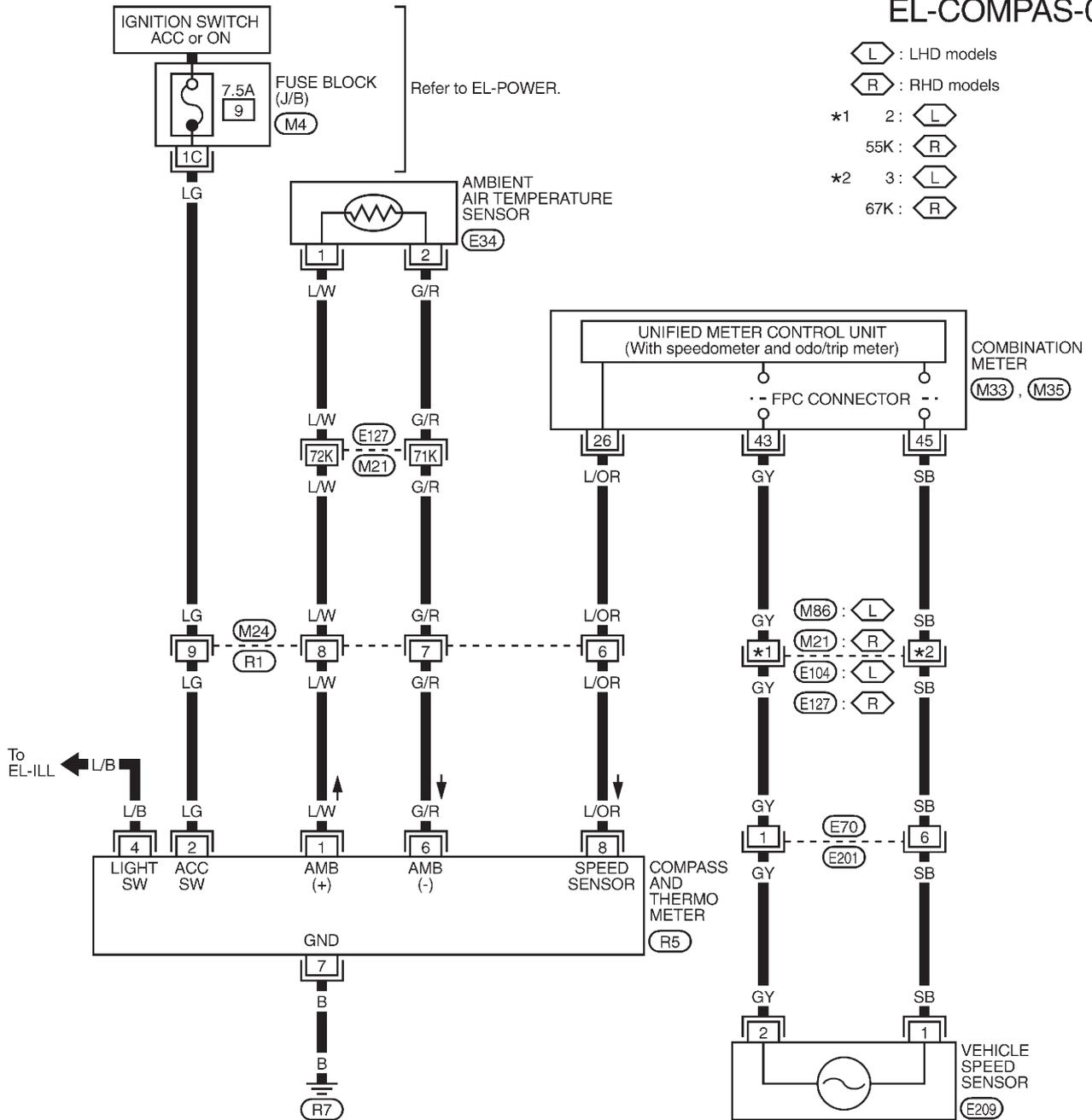
DIRECTION DISPLAY

Push the switch when the ignition key is in the “ACC” or “ON” position. The direction will be displayed.

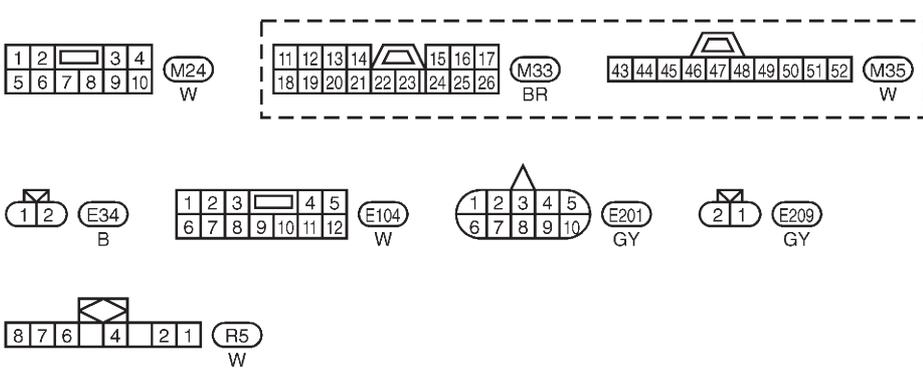
COMPASS AND THERMOMETER

Wiring Diagram — COMPAS —

EL-COMPAS-01



- ⬇ : LHD models
- ⬆ : RHD models
- *1 2: ⬇
- 55K: ⬆
- *2 3: ⬇
- 67K: ⬆



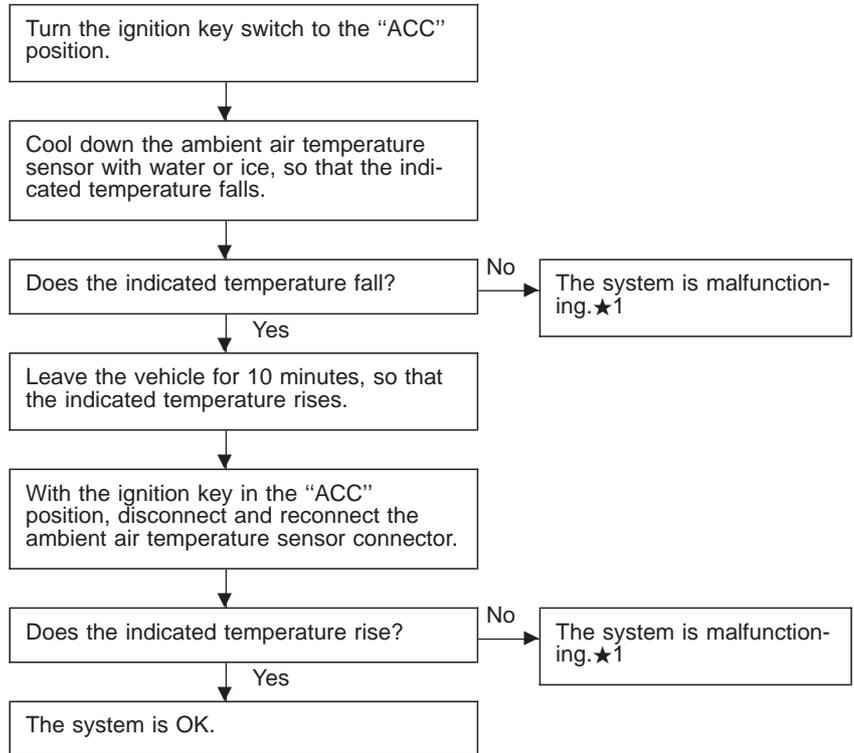
Refer to last page (Foldout page).

- ⬆, ⬇
- ⬆

COMPASS AND THERMOMETER

Trouble Diagnoses

PRELIMINARY CHECK FOR THERMOMETER



★1: Check the system following "INSPECTION/COMPASS AND THERMOMETER".

INSPECTION/COMPASS AND THERMOMETER

Symptom	Possible causes	Repair order
No display at all	1. 7.5A fuse 2. Ground circuit 3. Compass and thermometer	1. Check 7.5A fuse [No. 9], located in fuse block (J/B). Turn the ignition switch ON and verify that battery positive voltage is at terminal ② of compass and thermometer. 2. Check ground circuit for compass and thermometer. 3. Replace compass and thermometer.
Forward direction indication slips off the mark or incorrect.	1. In manual correction mode (Bar and display vanish.) 2. Zone variation change is not done.	1. Drive the vehicle and turn at an angle of 90°. 2. Perform the zone variation change.
Compass reading remains unchanged.	1. Vehicle speed sensor is not entered. 2. Compass and thermometer	1. Check harness for open or short between combination meter terminal ⑥ and compass and thermometer terminal ⑧. 2. Replace compass and thermometer.
Displays wrong temperature when ambient temperature is between -30°C (-20°F) and 55°C (130°F). (See NOTE)	1. Check operation 2. Ambient air temperature sensor circuit 3. Vehicle speed sensor is not entered. 4. Ambient air temperature sensor 5. Compass and thermometer	1. Perform preliminary check shown below. 2. Check harness for open or short between ambient air temperature sensor and compass and thermometer. 3. Check harness for open or short between combination meter terminal ⑥ and compass and thermometer terminal ⑧. 4. Replace ambient air temperature sensor. 5. Replace compass and thermometer.

NOTE:

- When the outside temperature is between 55°C (130°F) and 70°C (158°F), the display shows 55°C (130°F). When the outside temperature is lower than -30°C (-20°F) or higher than 70°C (158°F), the display shows only "---".
- The indicated temperature on the thermometer is not readily affected by engine heat. It changes only when one of the following conditions (shown on next page) is present.

COMPASS AND THERMOMETER

Trouble Diagnoses (Cont'd)

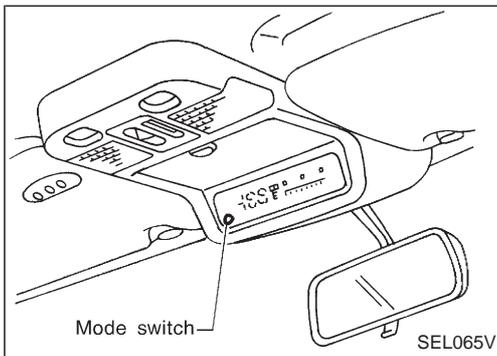
- a) The temperature detected by the ambient air temperature sensor is lower than the indicated temperature on the thermometer.
- b) The difference in temperature detected during a period of 40 seconds is less than 1°C (1.8°F) when vehicle speed has been greater than 24 km/h (15 MPH) for more than 100 seconds. (This is to prevent the indicated temperature from being affected by engine heat or cooling fan operation during low-speed driving.)
- c) The ignition key has been turned to the "OFF" position for more than 4 hours. (The engine is cold.)

Calibration Procedure For Compass

The difference between magnetic North and geographical North can sometimes be great enough to cause false compass readings. In order for the compass to operate accurately in a particular zone, it must be calibrated using the following procedure.

1. Determine your location on the worldwide magnetic variation map on next page. Record your zone number.
2. Turn the ignition switch to ACC or ON position.
3. Push the "Mode" switch continuously for five seconds until the current zone entry number is displayed.
4. Press the "Mode" switch repeatedly until the desired zone number is displayed.

Once the desired zone number is displayed, stop pressing the "Mode" switch and the display will show compass direction after a few seconds.



CORRECTION FUNCTIONS OF COMPASS

The direction display is equipped with automatic correction function. If the direction is not shown correctly, carry out initial correction.

INITIAL CORRECTION PROCEDURE FOR COMPASS

1. Pushing the "Mode" switch for about 10 seconds will enter the initial correction mode. The direction bar starts blinking.
2. Turn the vehicle slowly in an open, safe place. The initial correction is completed in one or two turns.

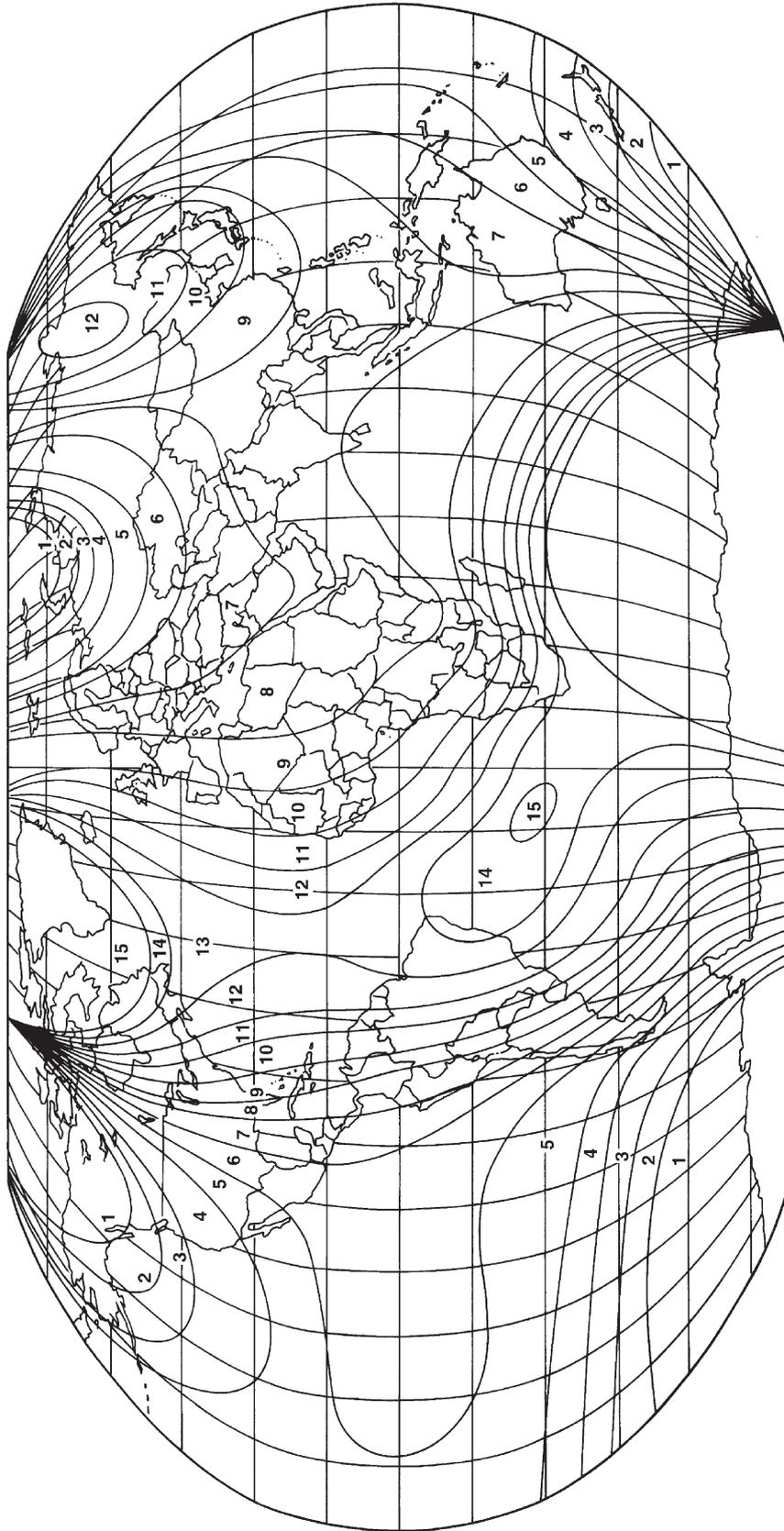
NOTE:

In places where the terrestrial magnetism is extremely disturbed, the initial correction may start automatically.

COMPASS AND THERMOMETER

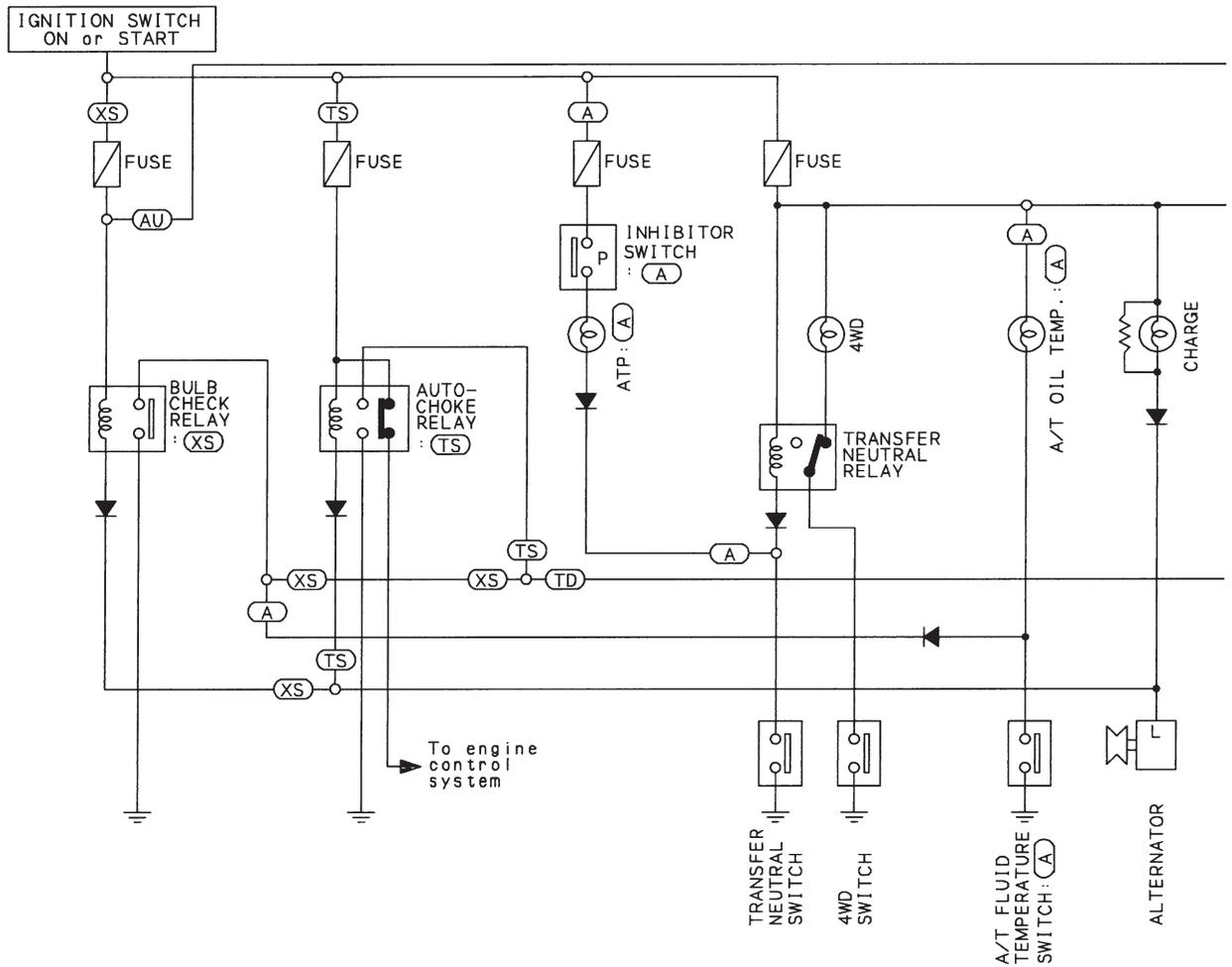
Calibration Procedure For Compass (Cont'd)

Worldwide Magnetic Variation Map



WARNING LAMPS

Schematic



(AU) : For Australia

(EU) : For Europe

(ME) : For the Middle East

(A) : A/T models

(TE) : TB45E engine models

(RD) : RD engine models

(TS) : TB42S engine models

(XS) : Except for TB42S engine models

(TD) : TD engine models

(TC) : TD engine models for cold areas

(TX) : TD engine models except for cold areas

(EG) : ECCS engine models

(DI) : Diesel engine models

(DX) : Diesel engine models except for Australia

(WG) : Wagon models

(AB) : With air bag

(AS) : With ABS

(OA) : Without ABS

(AM) : With A/T mode switch

(OM) : Without A/T mode switch

(DL) : With diff lock

(SB) : With seat belt warning lamp

(SF) : With sub fuel tank

(OF) : Without sub fuel tank

(SL) : With super lock

(OS) : Without super lock

(ST) : With rear stabilizer release device

(VD) : With overdrive control switch

(OD) : Without overdrive control switch

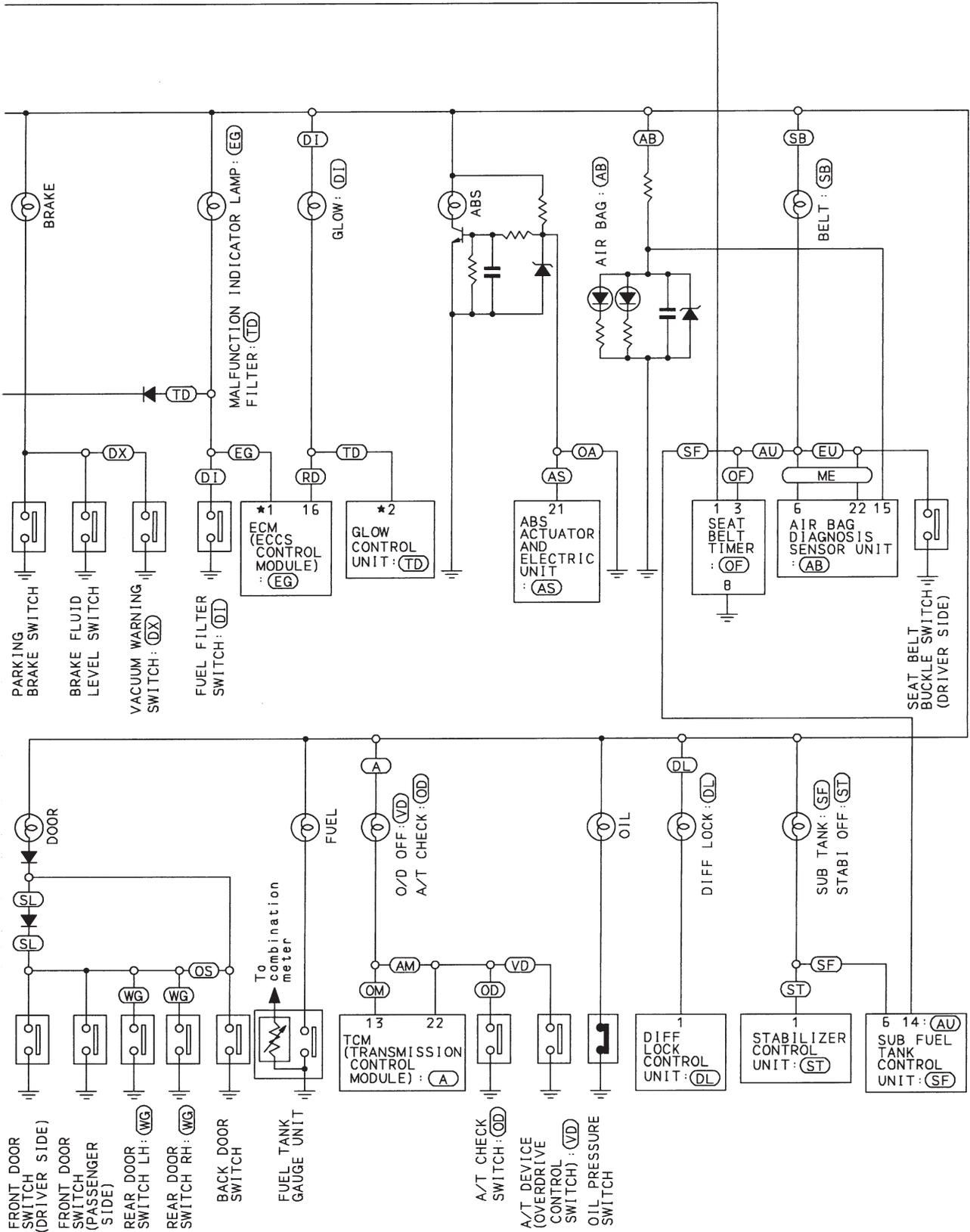
*1 18: (RD)

32: (TE)

*2 3: (TX)

14: (TC)

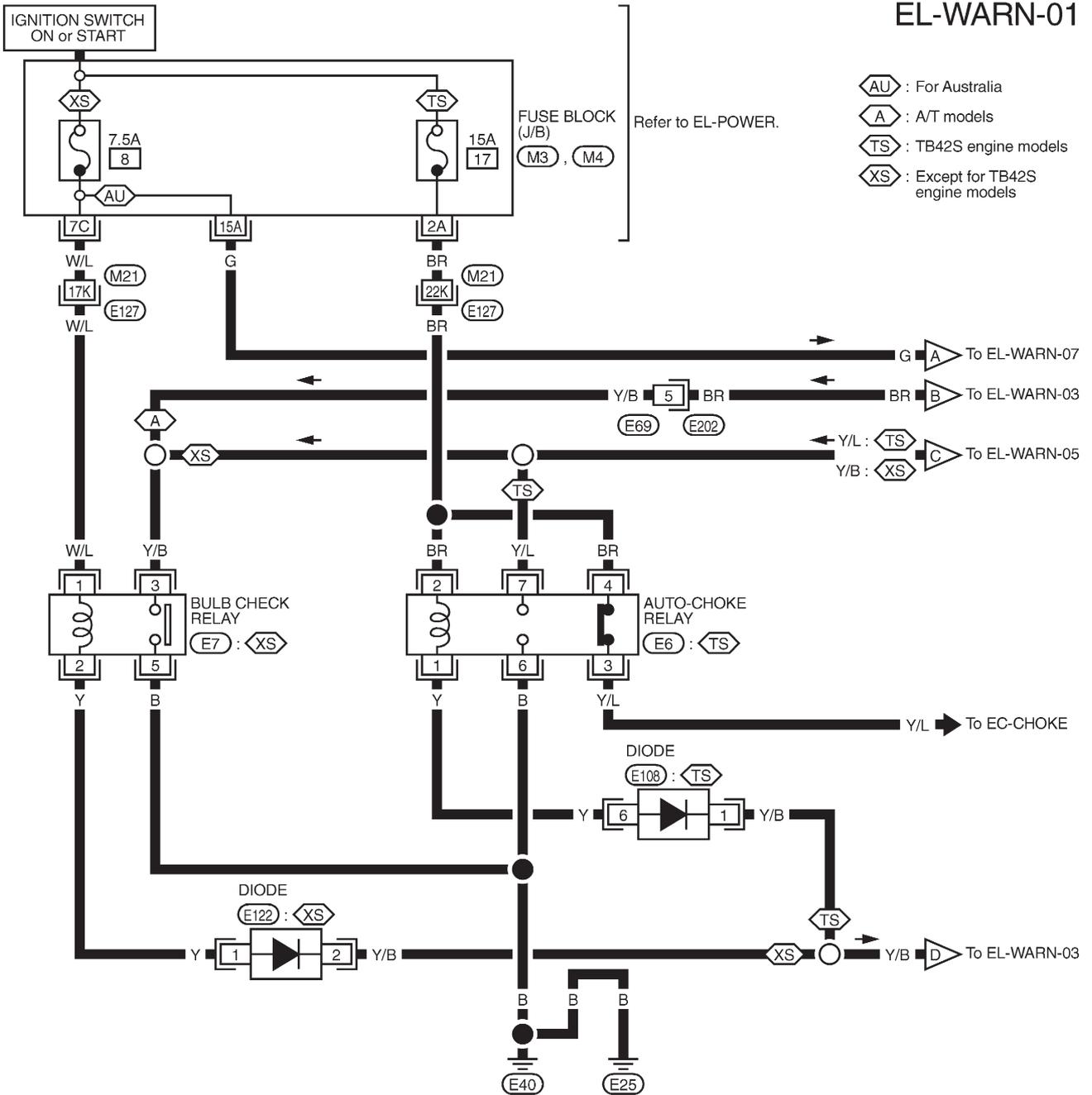
WARNING LAMPS Schematic (Cont'd)



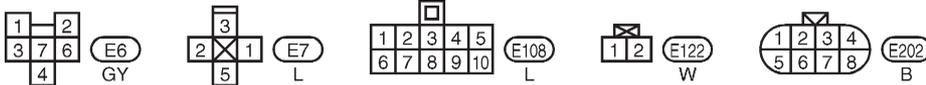
WARNING LAMPS

Wiring Diagram — WARN —

EL-WARN-01



- AU** : For Australia
- A** : AT models
- TS** : TB42S engine models
- XS** : Except for TB42S engine models



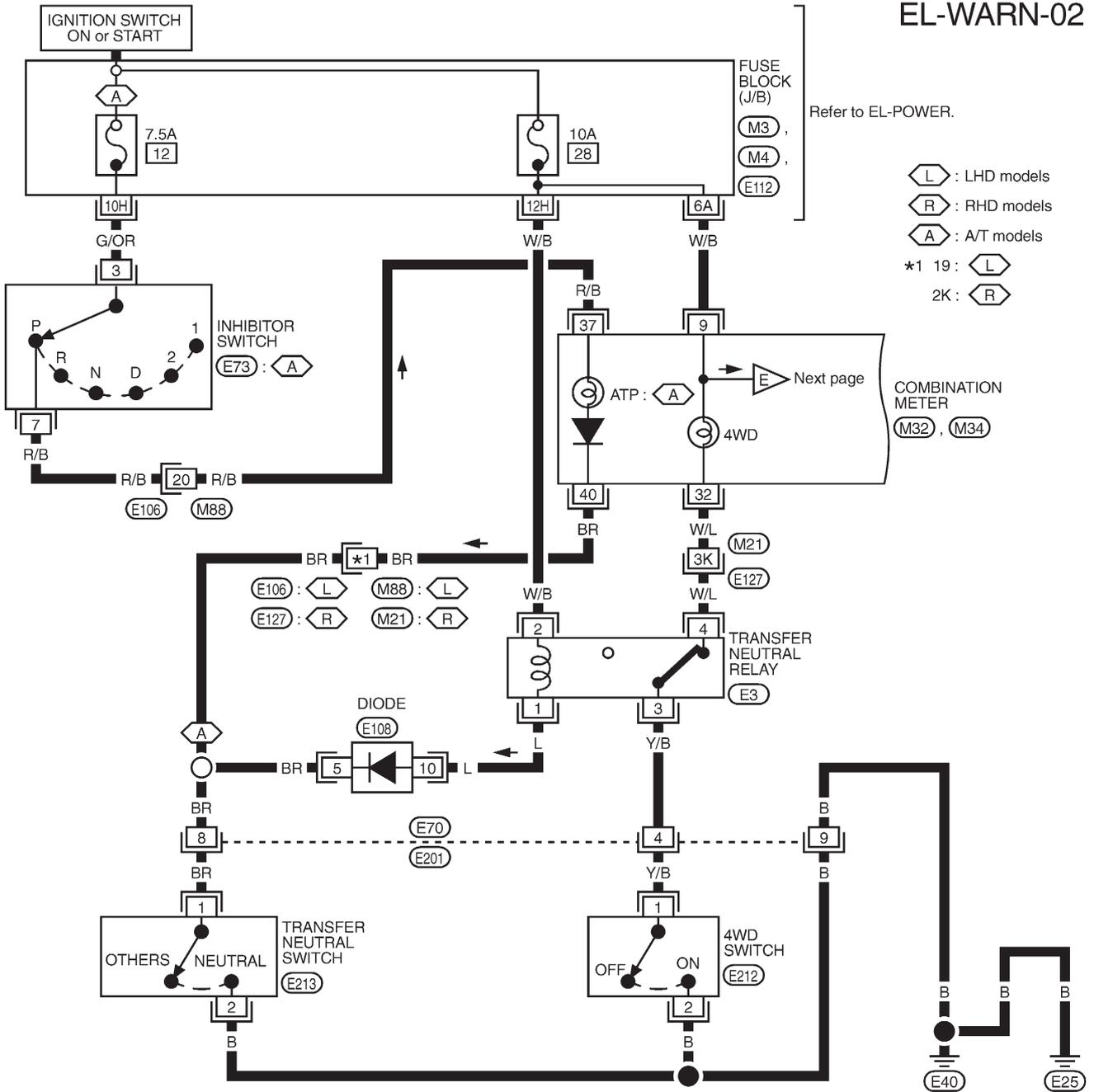
Refer to last page (Foldout page).

- M21, E127**
- M3**
- M4**

WARNING LAMPS

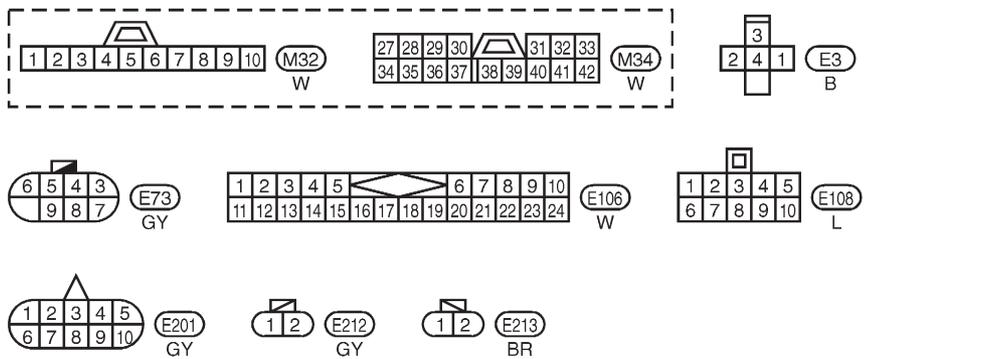
Wiring Diagram — WARN — (Cont'd)

EL-WARN-02



- ⬡ : LHD models
- ⬢ : RHD models
- ⬠ : A/T models
- *1 19 : ⬡
- 2K : ⬢

COMBINATION METER
M32, M34



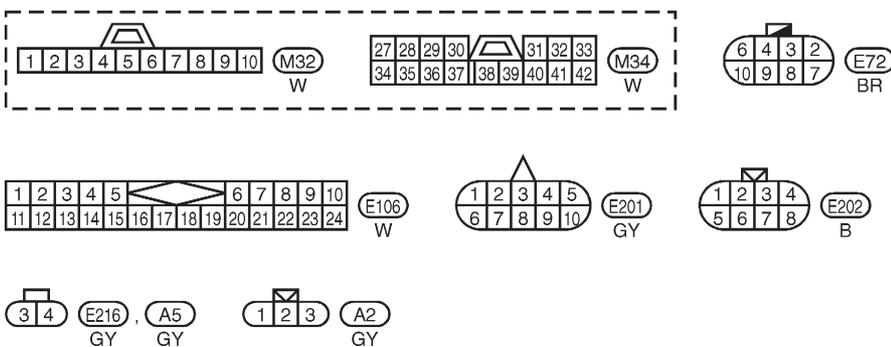
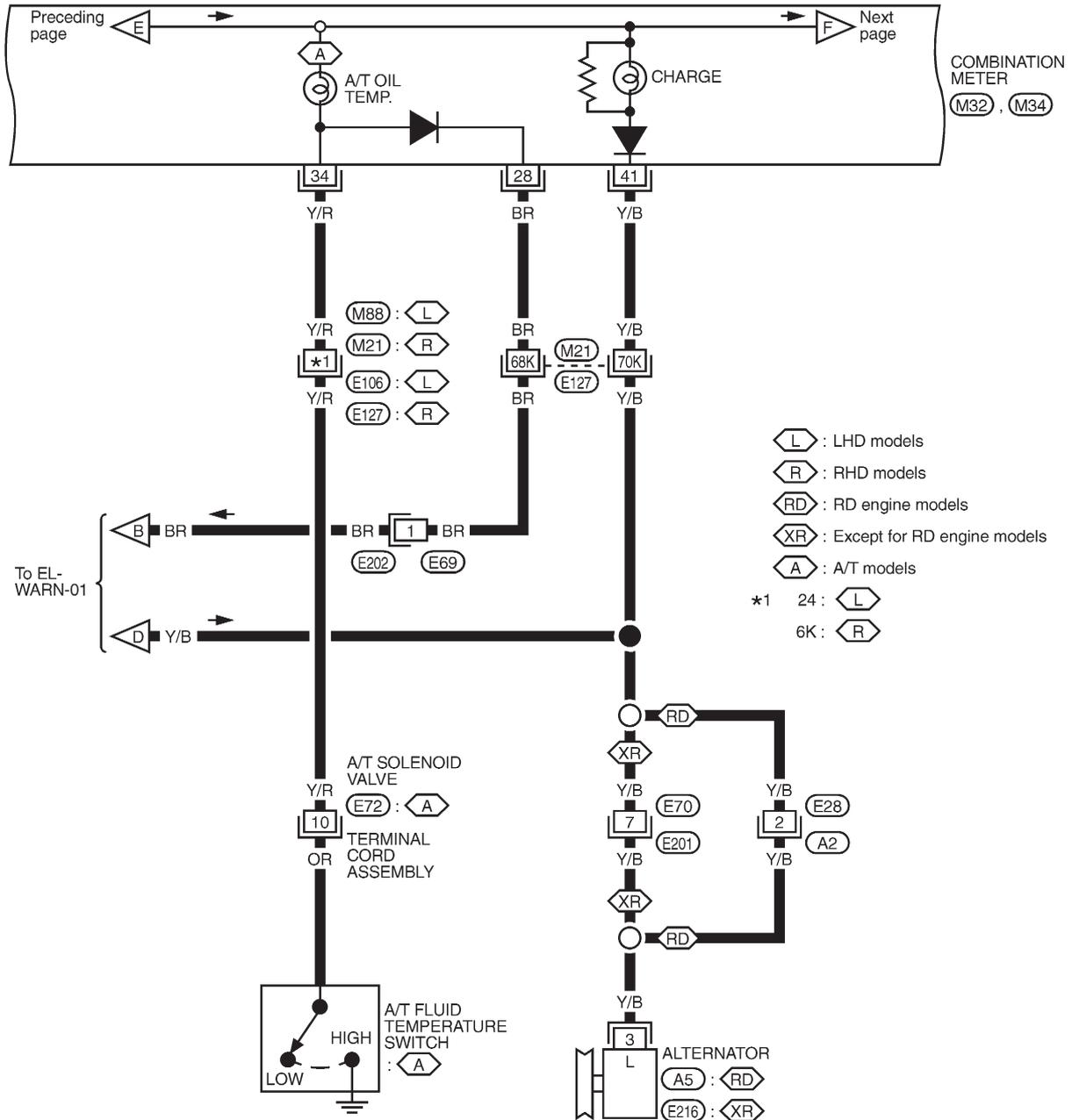
Refer to last page (Foldout page).

- M21, E127
- M3
- M4
- E112

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



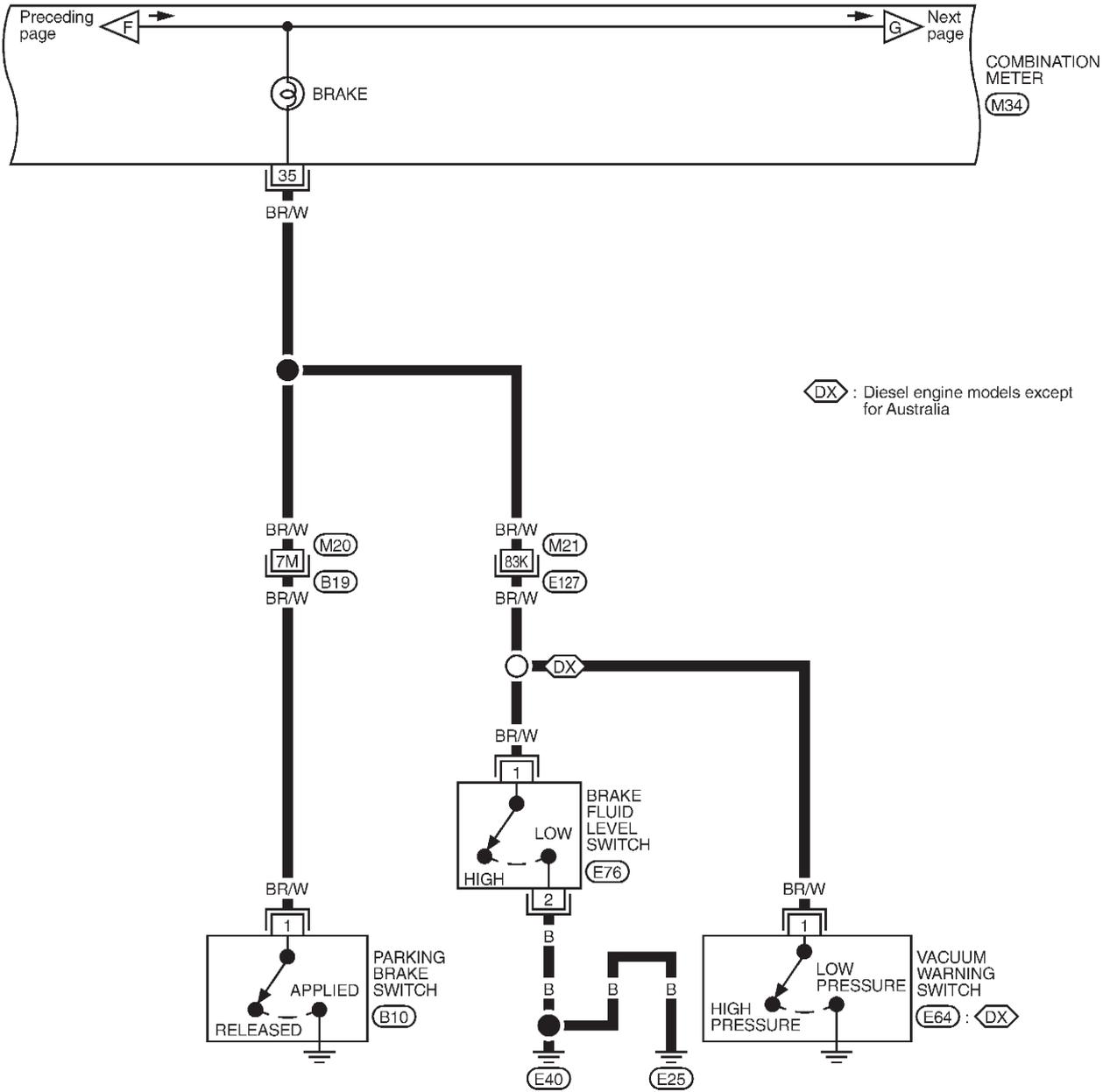
Refer to last page (Foldout page).

(M21), (E127)

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-04



DX : Diesel engine models except for Australia

27	28	29	30	31	32	33
34	35	36	37	38	39	40
41	42					

(M34)
W

1 (E64), (B10)
W B

1 (E76)
2 GY

Refer to last page (Foldout page).

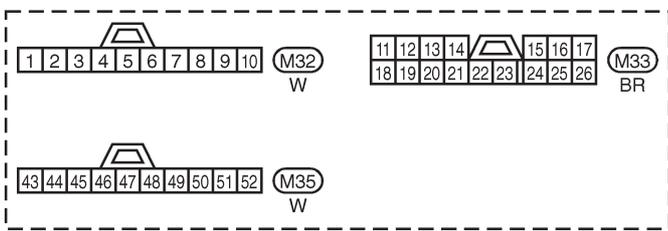
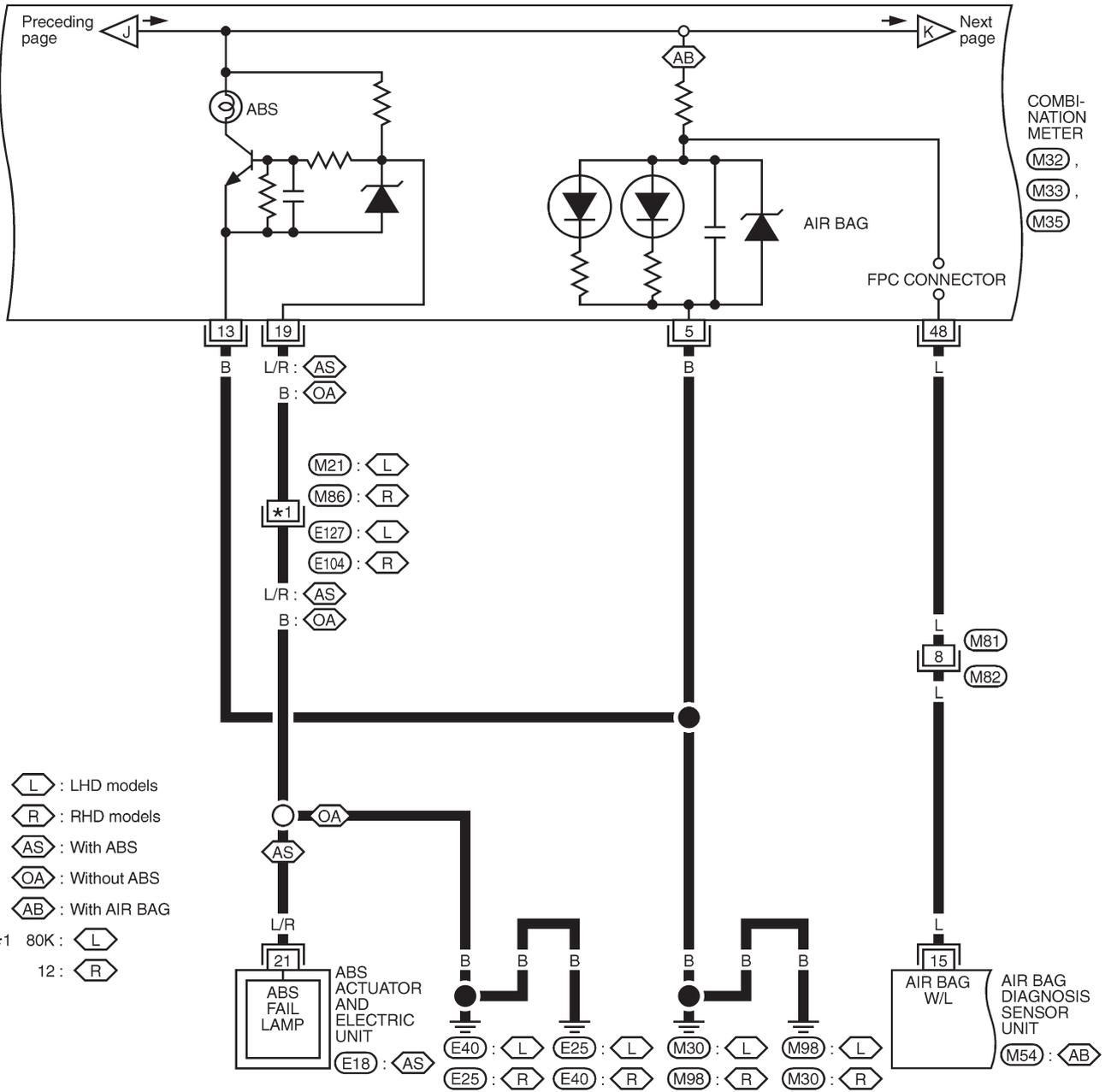
(M20), (B19)

(M21), (E127)

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

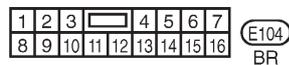
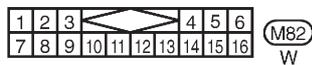
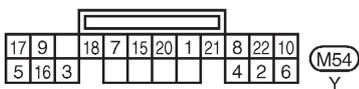
EL-WARN-06



Refer to last page (Foldout page).

M21, E127

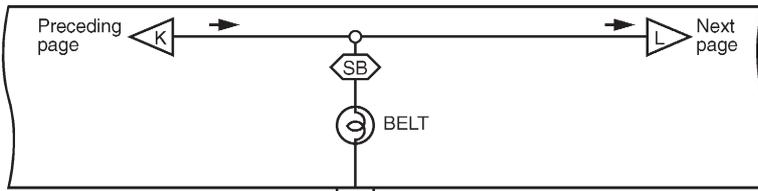
E18



WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

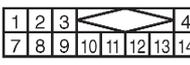
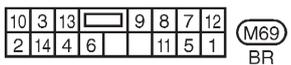
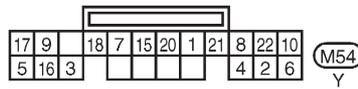
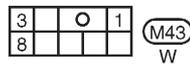
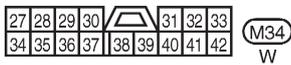
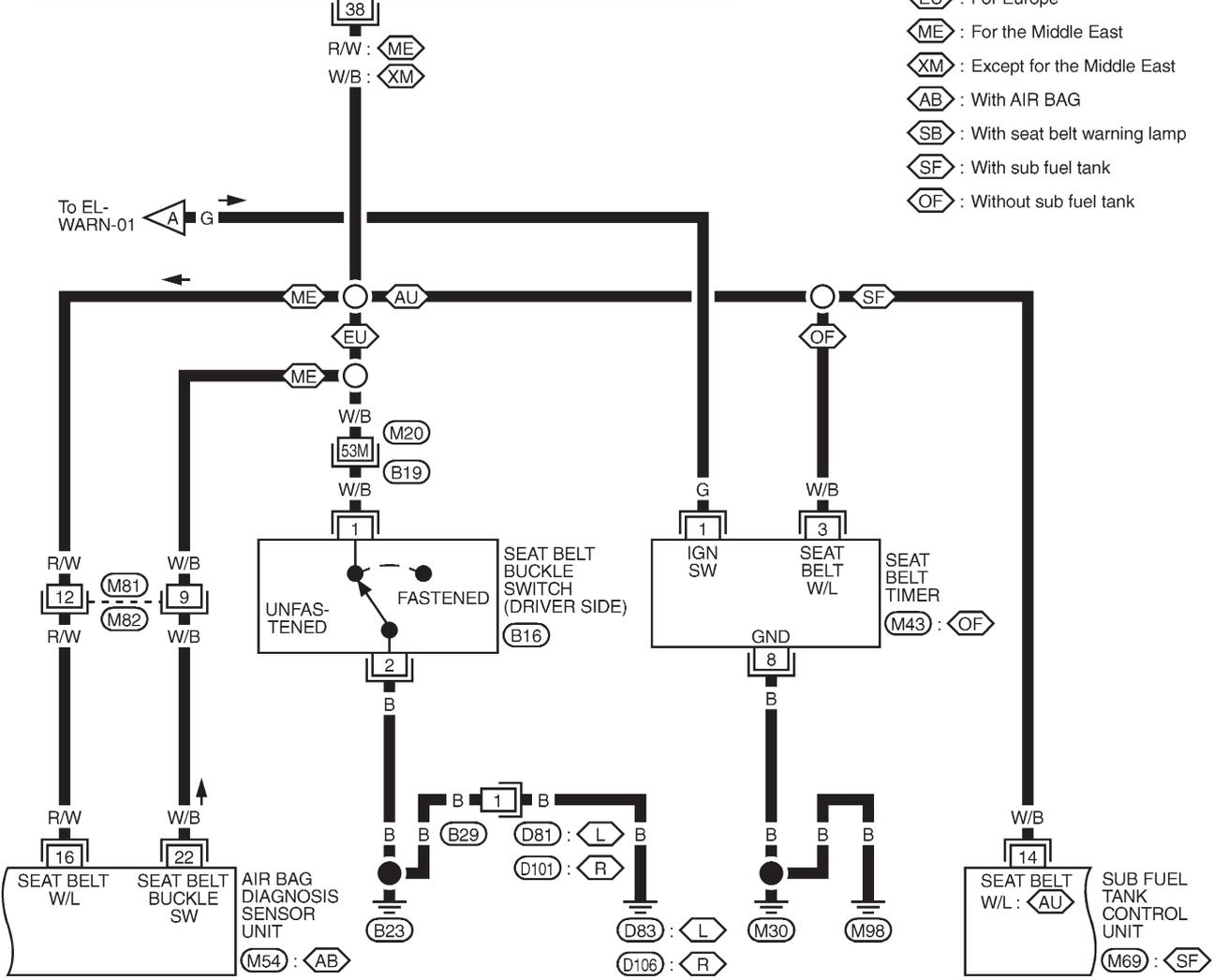
EL-WARN-07



COMBINATION METER (M34)

- ◊ L : LHD models
- ◊ R : RHD models
- ◊ AU : For Australia
- ◊ EU : For Europe
- ◊ ME : For the Middle East
- ◊ XM : Except for the Middle East
- ◊ AB : With AIR BAG
- ◊ SB : With seat belt warning lamp
- ◊ SF : With sub fuel tank
- ◊ OF : Without sub fuel tank

To EL-WARN-01



Refer to last page (Foldout page).
M20, B19

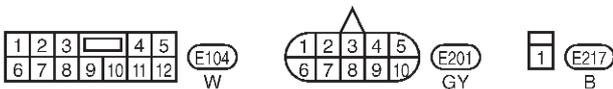
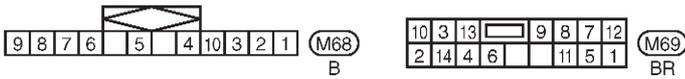
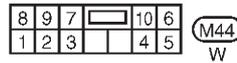
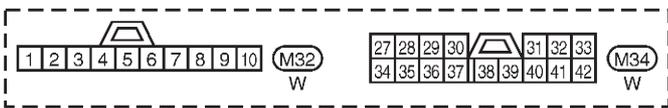
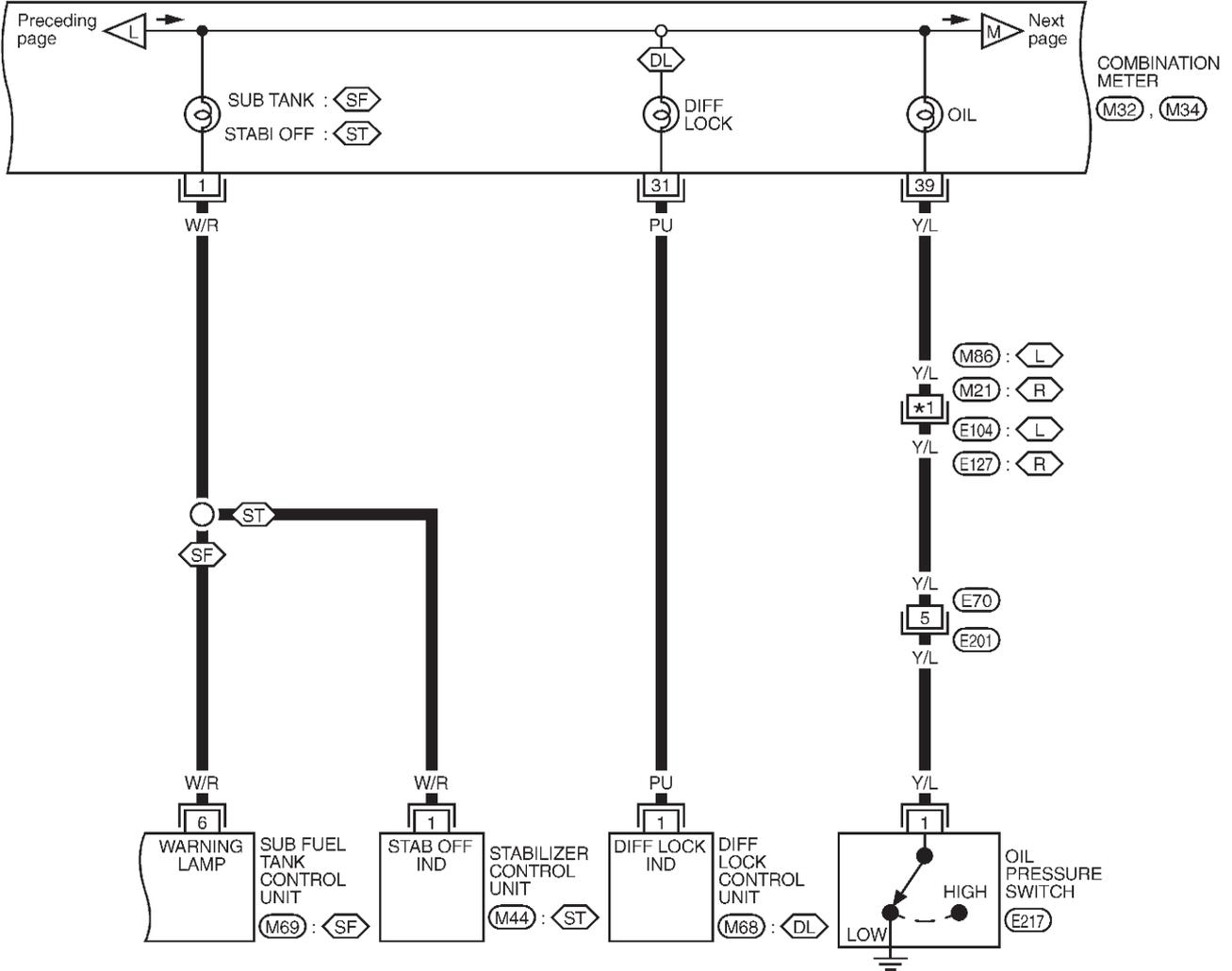
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-08

- : LHD models
- : RHD models
- : With diff lock
- : With sub fuel tank
- : With rear stabilizer release device

- *1 4 :
- 80K :

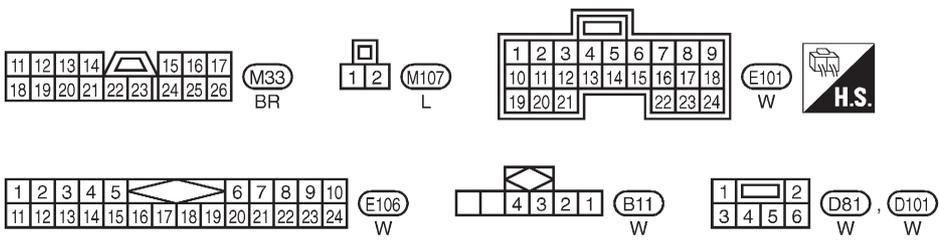
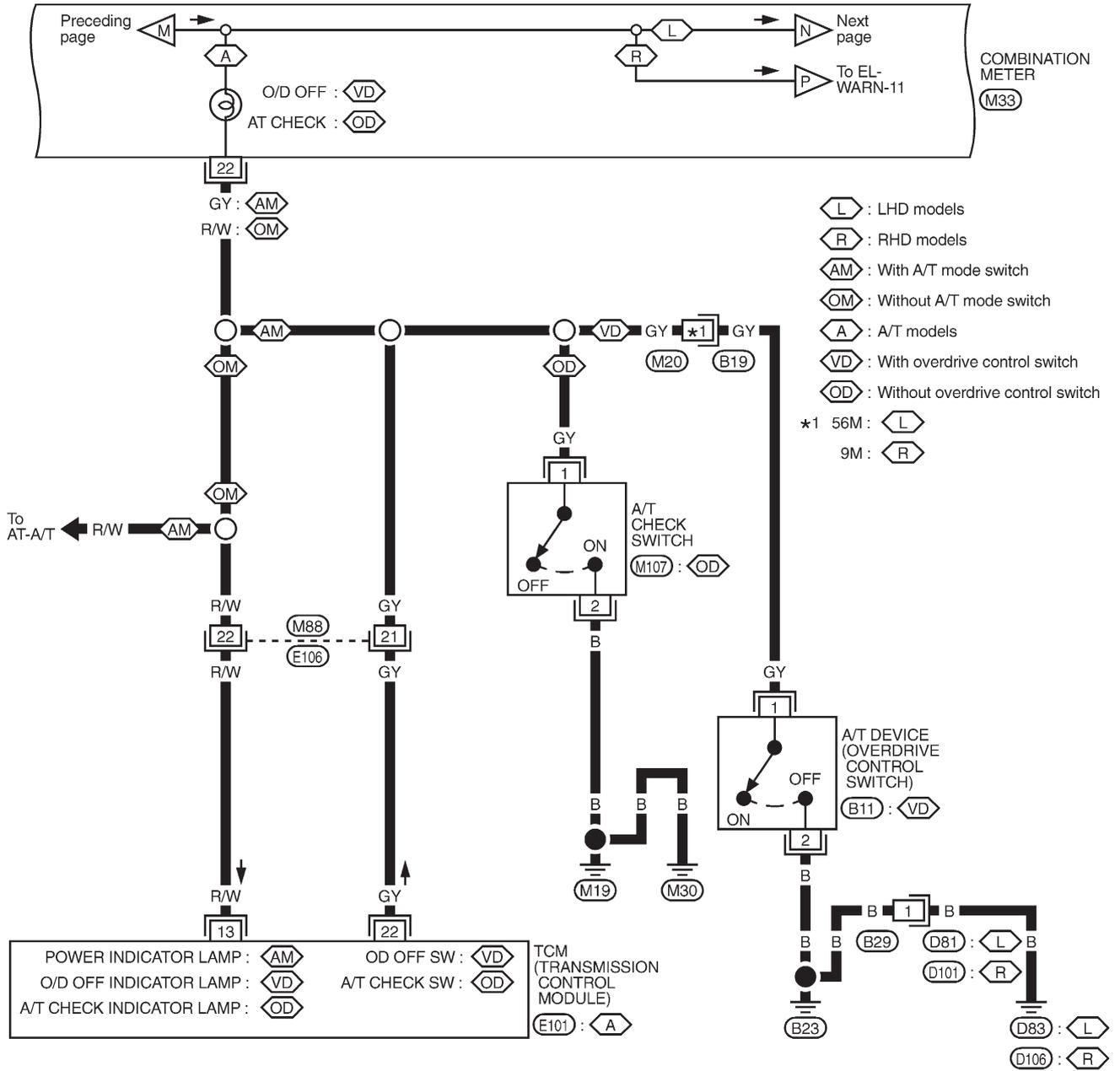


Refer to last page (Foldout page).
 ,

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-09



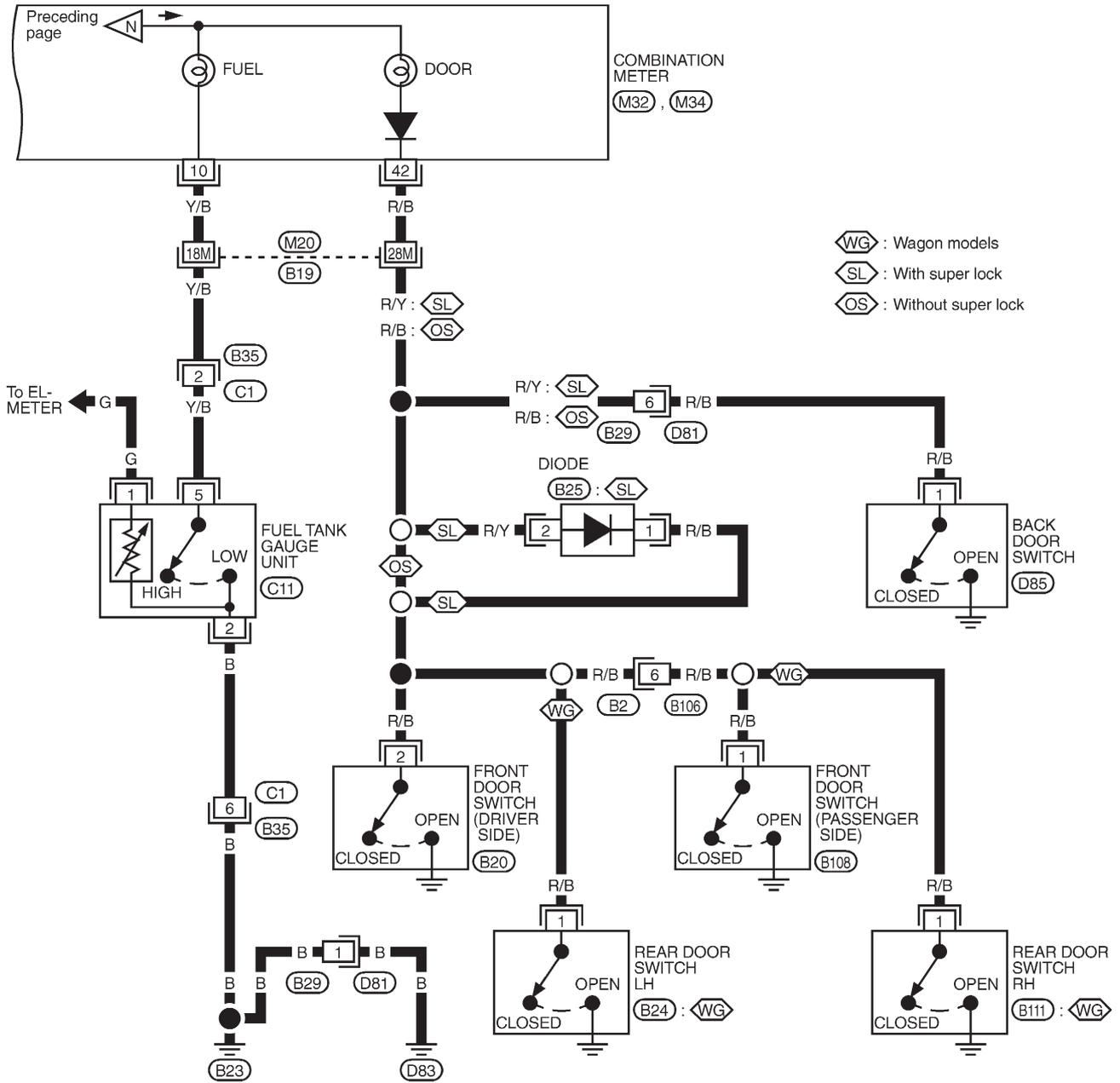
Refer to last page (Foldout page).
(M20, B19)

WARNING LAMPS

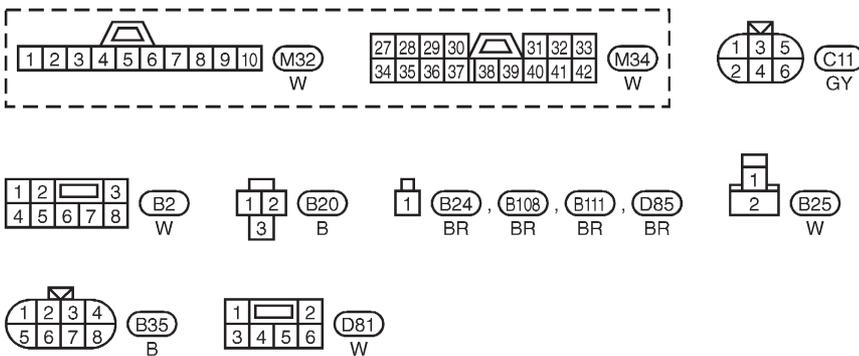
Wiring Diagram — WARN — (Cont'd)

LHD MODELS

EL-WARN-10



- WG : Wagon models
- SL : With super lock
- OS : Without super lock



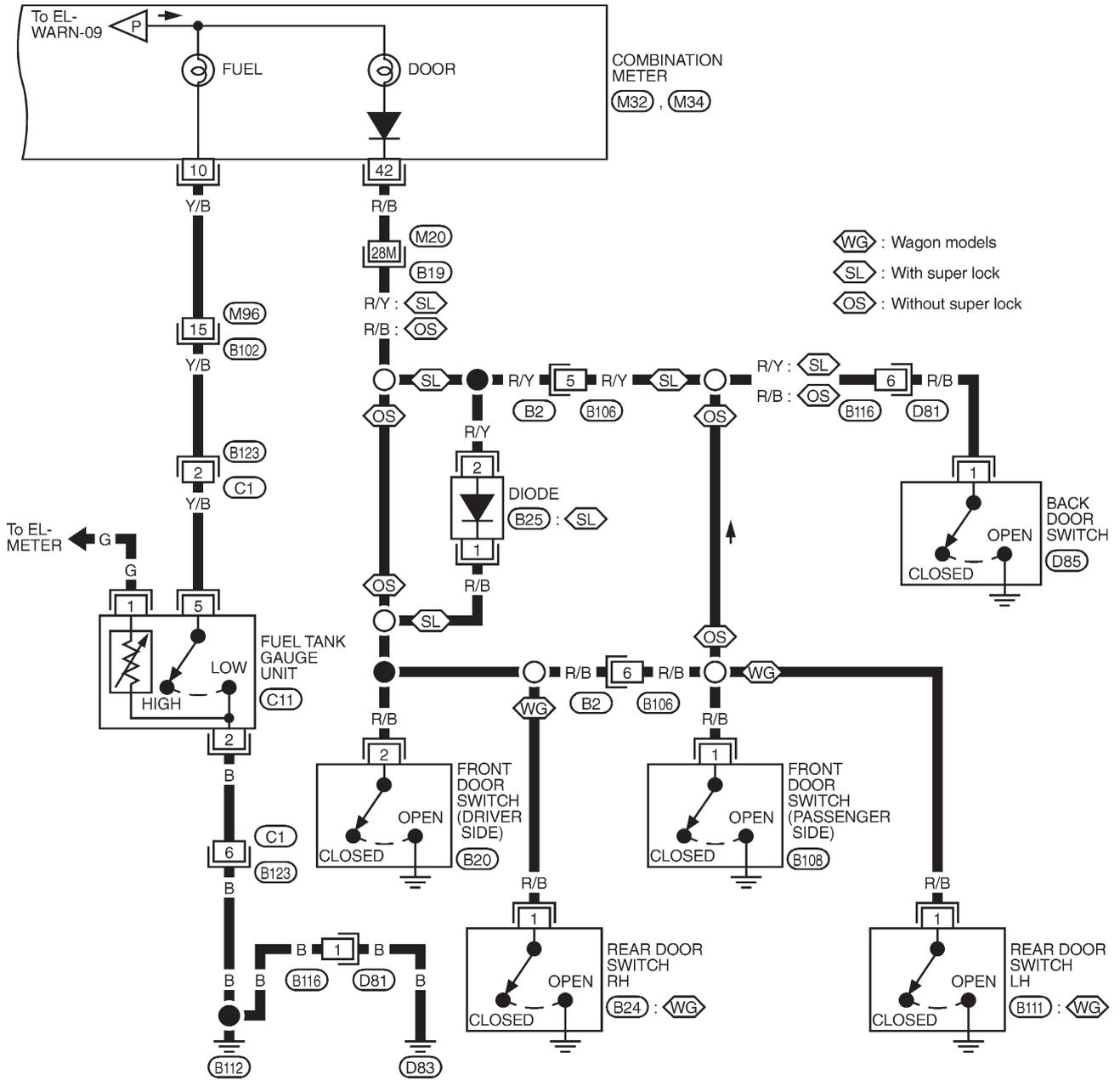
Refer to last page (Foldout page).
(M20), (B19)

WARNING LAMPS

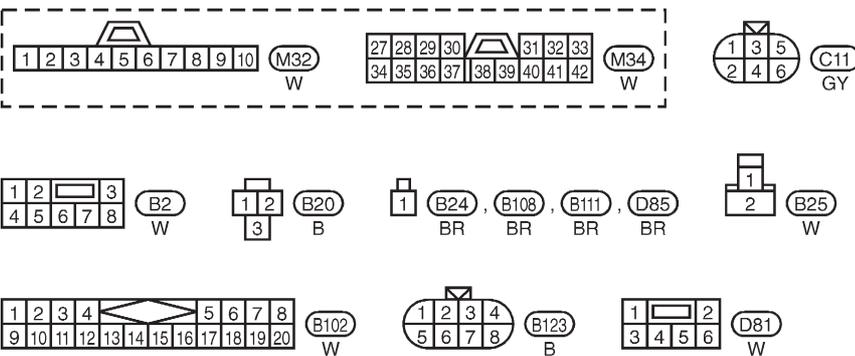
Wiring Diagram — WARN — (Cont'd)

RHD MODELS

EL-WARN-11



- WG : Wagon models
- SL : With super lock
- OS : Without super lock



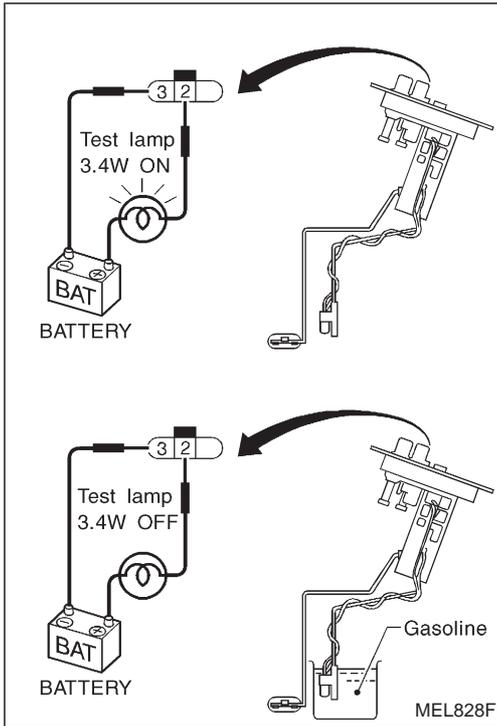
Refer to last page (Foldout page).
M20 , B19

WARNING LAMPS

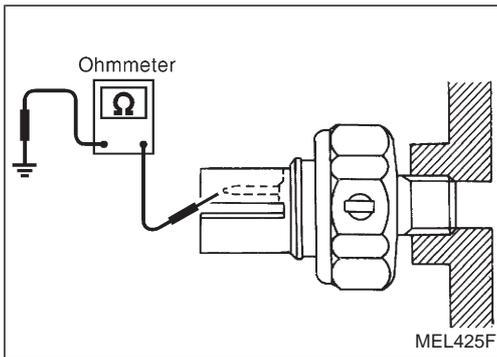
Electrical Components Inspection

FUEL WARNING LAMP SENSOR CHECK

- It will take a short time for the bulb to light.
- NOTE:** Inspection for sub fuel warning lamp sensor is the same as for fuel warning lamp sensor.



OIL PRESSURE SWITCH CHECK



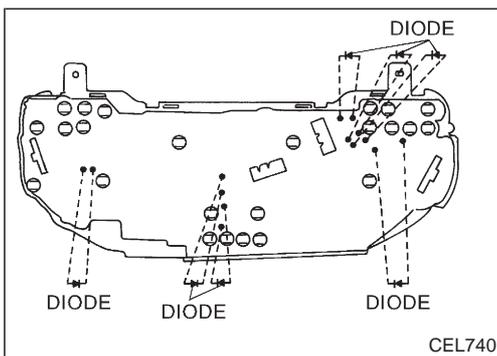
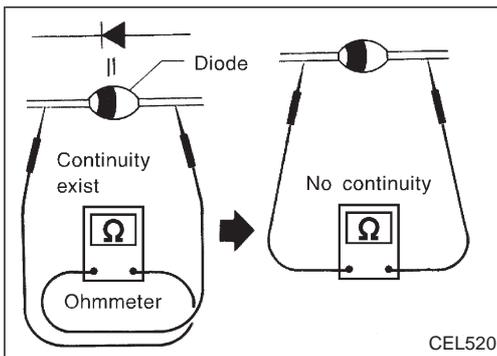
	Oil pressure kPa (bar, kg/cm ² , psi)	Continuity
Engine start	More than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1 - 3)	NO
Engine stop	Less than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1 - 3)	YES

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

DIODE CHECK

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

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



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

WARNING CHIME

System Description

The warning chime is combined with the smart entrance control unit. Both the ignition key and light warning chime will not sound, when ignition switch in the ON or START position. (When power supply exists at smart entrance control unit terminal ⑫.)

IGNITION KEY WARNING CHIME

With the key in the ignition key cylinder, the ignition switch in the OFF or ACC position, and the driver's door open, the warning chime will sound. A battery positive voltage is supplied

- from key switch terminal ①
- to smart entrance control unit terminal ① .

Ground is supplied

- through driver side door switch
- to smart entrance control unit terminal ⑦ .

LIGHT WARNING CHIME

With ignition switch in the OFF or ACC position, driver's door open, and lighting switch in 1ST or 2ND position, warning chime will sound. A battery positive voltage is supplied

- from lighting switch terminal ⑫ or daytime light control unit
- to smart entrance control unit terminal ⑭ .

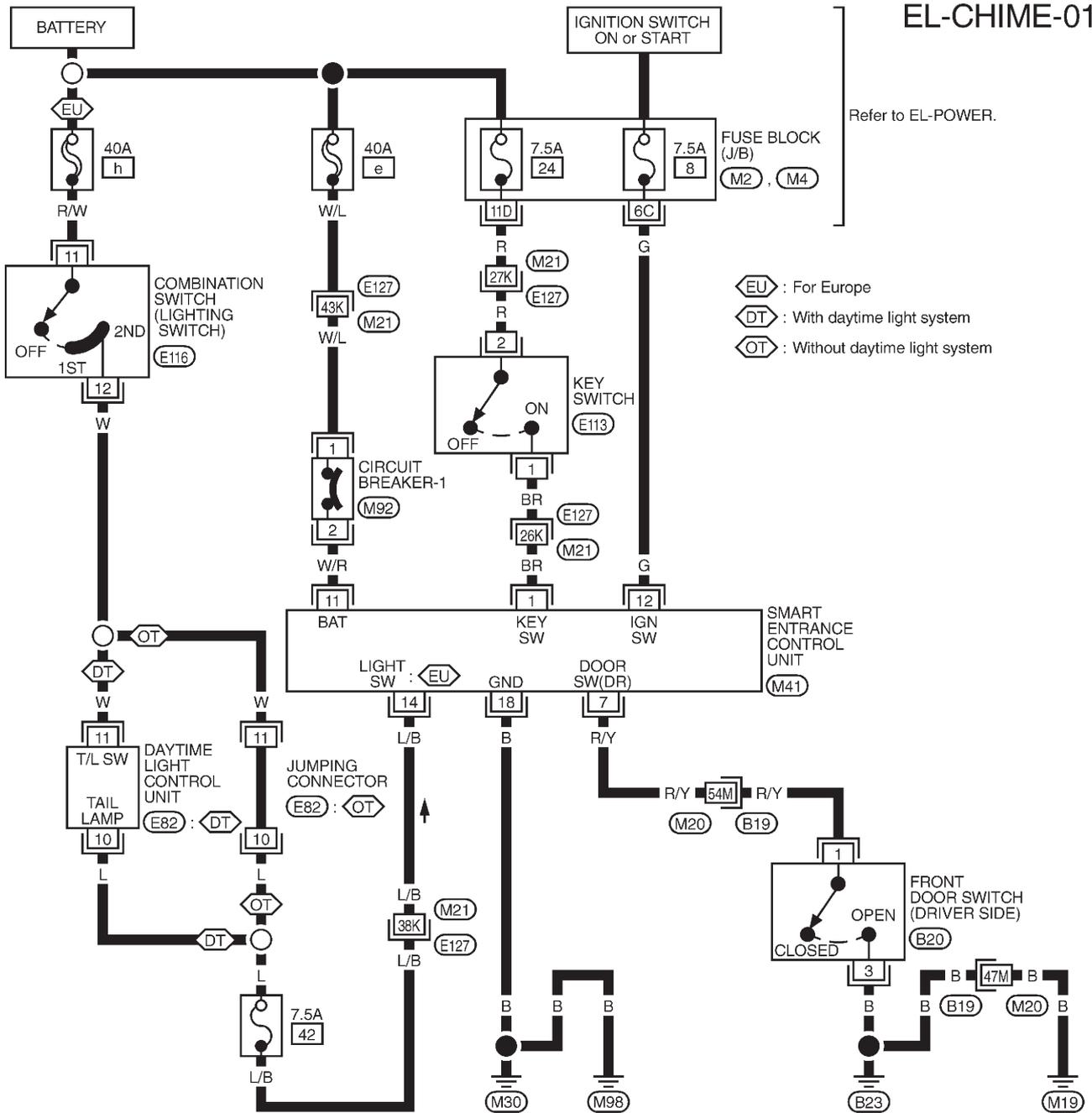
Ground is supplied

- through driver side door switch
- to smart entrance control unit terminal ⑦ .

WARNING CHIME

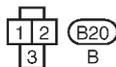
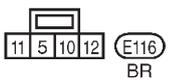
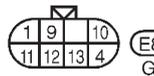
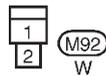
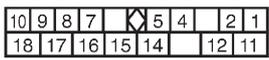
Wiring Diagram — CHIME —/LHD Models

EL-CHIME-01



Refer to EL-POWER.

- ⬡ EU : For Europe
- ⬡ DT : With daytime light system
- ⬡ OT : Without daytime light system



Refer to last page (Foldout page).

(M20), (B19)

(M21), (E127)

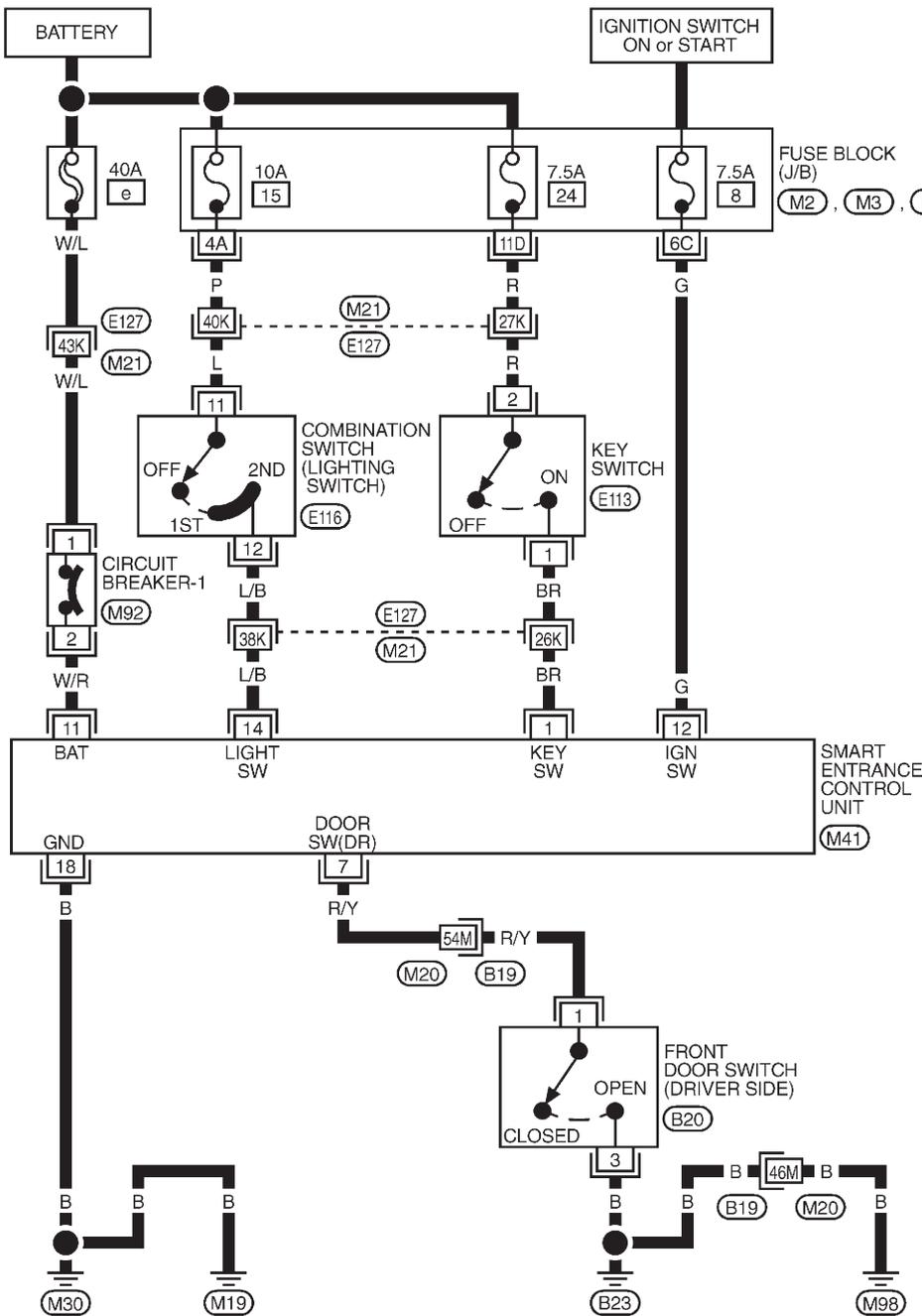
(M2)

(M4)

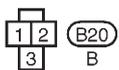
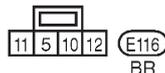
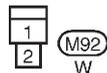
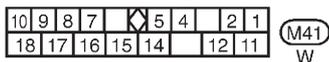
WARNING CHIME

Wiring Diagram — CHIME —/RHD Models

EL-CHIME-02



Refer to EL-POWER.



Refer to last page (Foldout page).

M20, B19

M21, E127

M2

M3

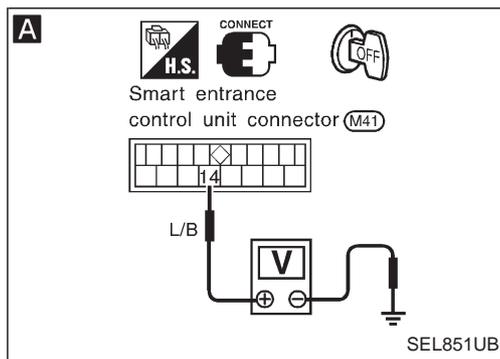
M4

WARNING CHIME

Trouble Diagnoses

SYMPTOM CHART

REFERENCE PAGE	EL-138	EL-139	EL-139
SYMPTOM	DIAGNOSTIC PROCEDURE 1 (Lighting switch input signal check)	DIAGNOSTIC PROCEDURE 2 (Key switch input signal check)	DIAGNOSTIC PROCEDURE 3
Light warning chime does not activate.	X		X
Ignition key warning chime does not activate.		X	X
All warning chimes do not activate.			X



DIAGNOSTIC PROCEDURE 1

(Lighting switch input signal check)

A

CHECK LIGHTING SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ⑭ and ground.

Condition of lighting switch	Voltage [V]
1ST or 2ND	Approx. 12
OFF	0

NG

Check the following.

- 7.5A fuse (No. 42), located in the fuse and fusible link box) for LHD models
- Harness for open or short between control unit and lighting switch/ daytime light control unit

OK

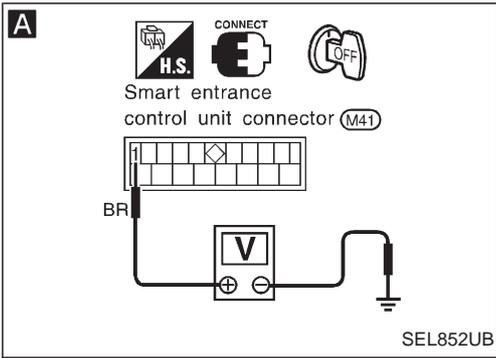
Go to DIAGNOSTIC PROCEDURE 3.

WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

(Key switch input signal check)



A

CHECK KEY SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ① and ground.

Condition of key switch	Voltage [V]
Key is inserted.	Approx. 12
Key is withdrawn.	0

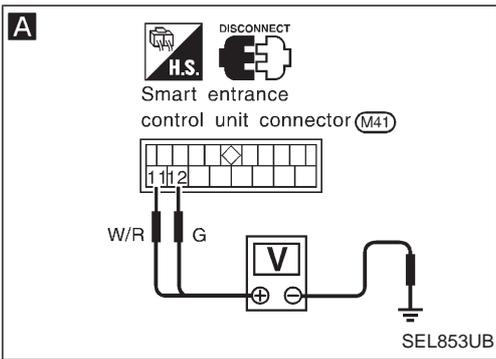
NG

Check the following.

- Key switch
Refer to “Electrical Components Inspection” (EL-140).
- 7.5A fuse [No. 24], located in fuse block (J/B)
- Harness for open or short between key switch and fuse
- Harness for open or short between control unit and key switch

OK

Go to DIAGNOSTIC PROCEDURE 3.



DIAGNOSTIC PROCEDURE 3

A

CHECK POWER SUPPLY CIRCUIT FOR CONTROL UNIT.
Check voltage between control unit terminals ⑪, ⑫ and ground.

Terminals	Ignition switch position			
	OFF	ACC	ON	
⑪	Ground	Approx. 12V		
⑫	Ground	0V	0V	Approx. 12V

NG

Check the following.

- (M92) circuit breaker
- 7.5A fuse [No. 8], located in the fuse block (J/B)
- Harness for open or short

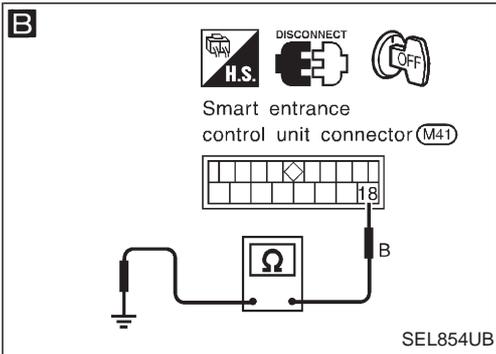
OK

B

CHECK GROUND CIRCUIT FOR CONTROL UNIT.
Check continuity between control unit terminal ⑬ and ground.
Continuity should exist.

NG

Repair harness or connectors.



C

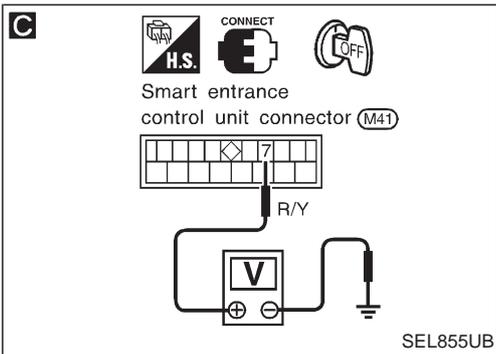
CHECK DOOR SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ⑰ and ground.

Condition of driver's door	Voltage [V]
Driver side door is closed.	Approx. 12
Driver side door is open.	0

NG

Check the following.

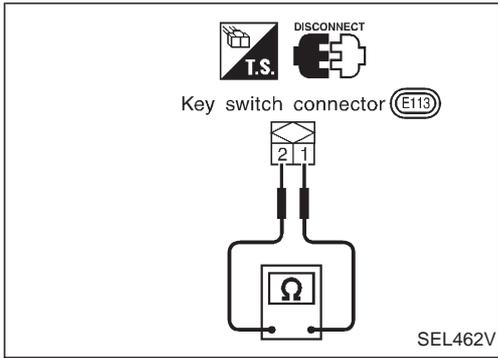
- Driver side door switch
Refer to “Electrical Components Inspection” (EL-140).
- Door switch ground circuit
- Harness for open or short between control unit and door switch



OK

Replace control unit.

WARNING CHIME

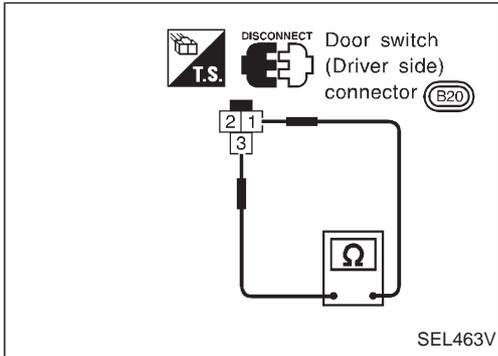


Electrical Components Inspection

KEY SWITCH (insert)

Check continuity between terminals when key is inserted in ignition key cylinder and key is removed from ignition key cylinder.

Terminal No.	Condition	Continuity
① - ②	Key is inserted.	Yes
	Key is removed.	No



DRIVER SIDE DOOR SWITCH

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

Terminal No.	Condition	Continuity
① - ③	Door switch is pushed.	No
	Door switch is released.	Yes

FRONT WIPER AND WASHER

System Description

WIPER OPERATION

The wiper switch is controlled by a lever built into the combination switch.

There are three wiper switch positions:

- LO speed
- HI speed
- INT (Intermittent)

With the ignition switch in the ACC or ON position, power is supplied

- through 20A fuse [No. ③], located in the fuse block (J/B)]
- to wiper motor terminal ④.

Low and high speed wiper operation

Ground is supplied to wiper switch terminal ⑰ through body grounds.

When the wiper switch is placed in the LO position, ground is supplied

- through terminal ⑭ of the wiper switch
- to wiper motor terminal ②.

With power and ground supplied, the wiper motor operates at low speed.

When the wiper switch is placed in the HI position, ground is supplied

- through terminal ⑯ of the wiper switch
- to wiper motor terminal ③.

With power and ground supplied, the wiper motor operates at high speed.

Auto stop operation

With wiper switch turned OFF, wiper motor will continue to operate until wiper arms reach windshield base.

When wiper arms are not located at base of windshield with wiper switch OFF, ground is provided

- from terminal ⑭ of the wiper switch
- to wiper motor terminal ②, in order to continue wiper motor operation at low speed.
- through wiper amplifier (OUTPUT) combined with wiper switch and (with intermittent wiper)
- through terminal ⑬ of wiper switch
- to wiper motor terminal ⑤
- through terminal ⑥ of the wiper motor, and
- through body grounds.

When wiper arms reach base of windshield, wiper motor terminals ④ and ⑤ are connected instead of terminals ⑤ and ⑥. Wiper motor will then stop wiper arms at the PARK position.

Intermittent operation

The wiper motor operates the wiper arms one time at low speed at a set interval of approximately 3 to 13 seconds. This feature is controlled by the wiper amplifier (INT SW) combined with wiper switch.

When the wiper switch is placed in the INT position, ground is supplied to wiper amplifier.

The desired interval time is input to wiper amplifier (INT VR) from wiper volume switch combined with wiper switch.

Then intermittent ground is supplied

- to wiper motor terminal ②
- from terminal ⑭ of wiper switch
- through wiper amplifier (OUTPUT).

The wiper motor operates at low speed at the desired interval.

WASHER OPERATION

With the ignition switch in the ACC or ON position, power is supplied

- through 20A fuse [No. ③], located in the fuse block (J/B)]
- to washer motor terminal ②.

When the lever is pulled to the WASH position, ground is supplied through wiper switch

- to washer motor terminal ①, and
- to wiper amplifier (WASH SW) combined with wiper switch.

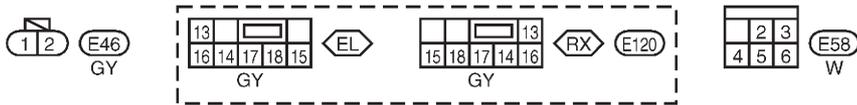
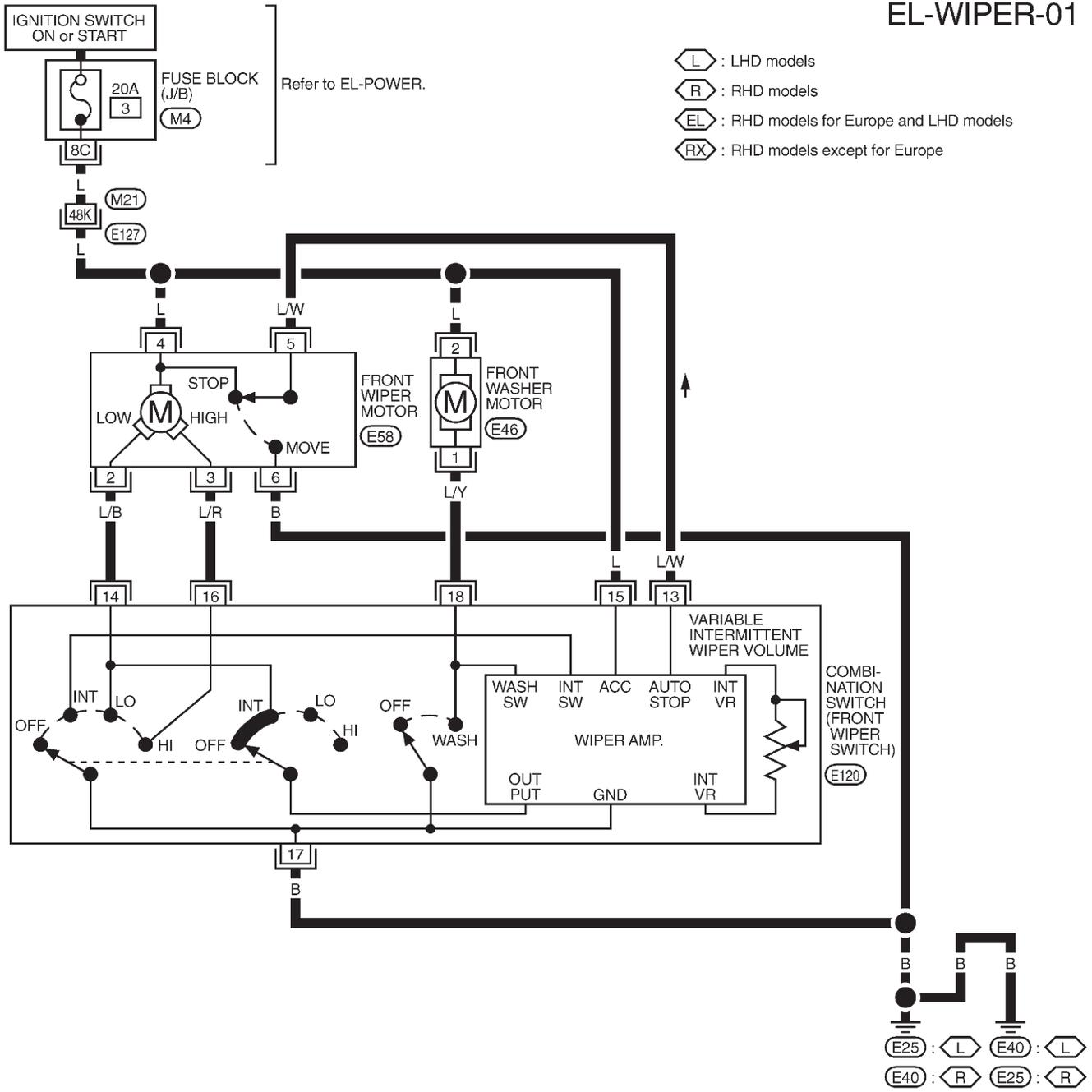
With power and ground supplied, the washer motor operates.

When the lever is pulled to the WASH position for one second or more, the wiper motor operates at low speed for approximately 3 seconds to clean windshield. This feature is controlled by the wiper amplifier in the same manner as the intermittent operation.

FRONT WIPER AND WASHER

Wiring Diagram — WIPER —/With Intermittent Wiper

EL-WIPER-01

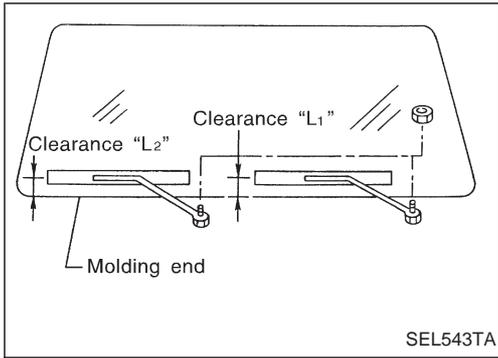


Refer to last page (Foldout page).

M21, E127

M4

FRONT WIPER AND WASHER



Removal and Installation

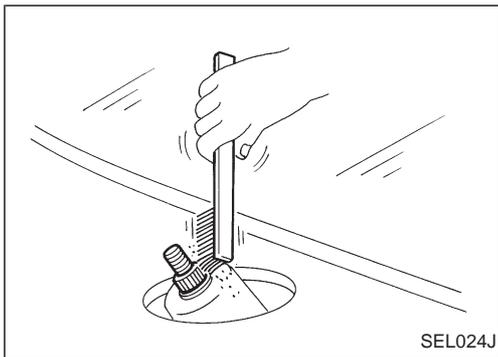
WIPER ARMS

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 "L₁" & "L₂" 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 "L₁" & "L₂".

Clearance "L₁": 25 mm (0.98 in)

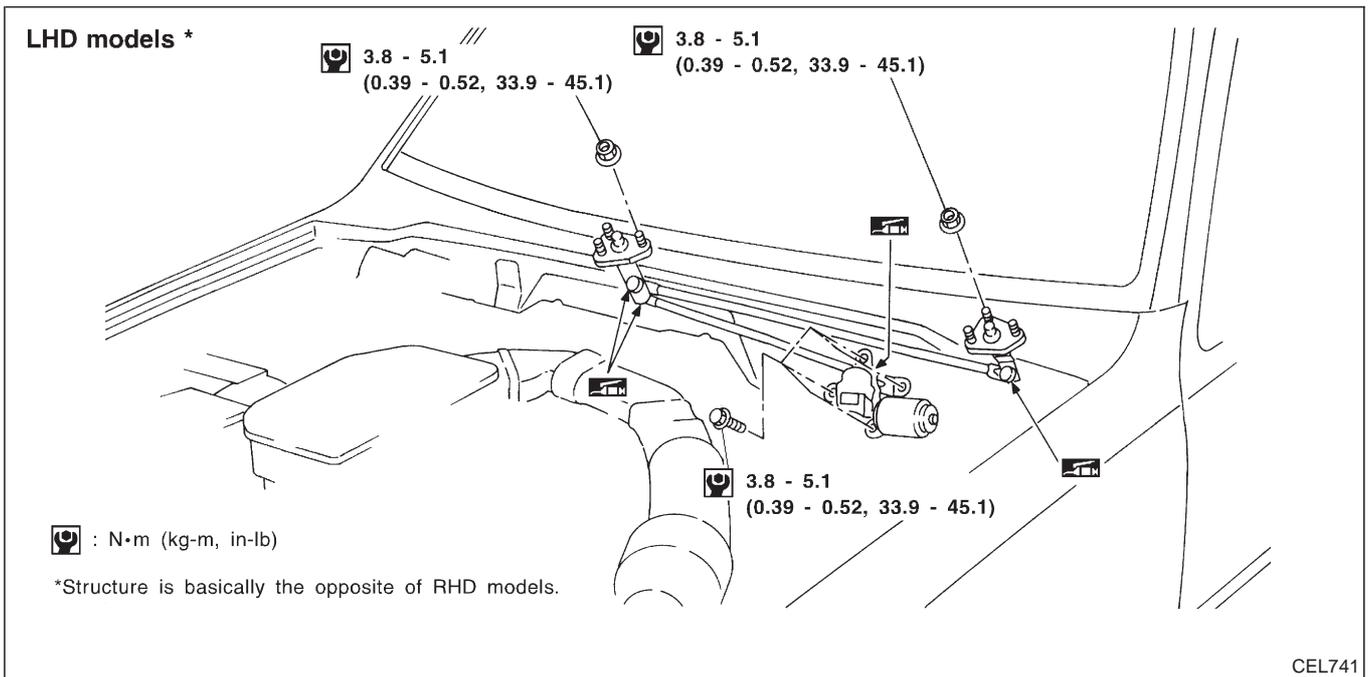
Clearance "L₂": 23 mm (0.91 in)

- Tighten wiper arm nuts to specified torque.
Front wiper: 21 - 26 N·m (2.1 - 2.7 kg-m, 15 - 20 ft-lb)



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

WIPER LINKAGE



FRONT WIPER AND WASHER

Removal and Installation (Cont'd)

Removal

1. Remove 4 bolts that secure wiper motor.
2. Detach wiper motor from wiper linkage at ball joint.
3. Remove wiper linkage.

Be careful not to break ball joint rubber boot.

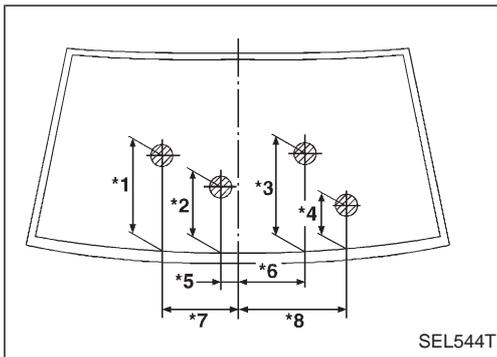
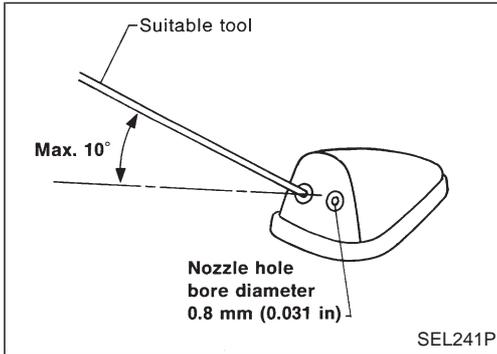
Installation

- Grease ball joint portion before installation.
1. Installation is the reverse order of removal.

Washer Nozzle Adjustment

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

Adjustable range: $\pm 10^\circ$

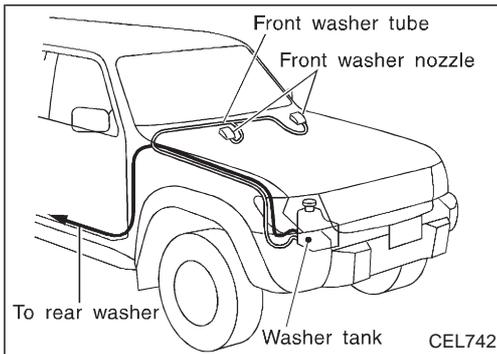


Unit: mm (in)

*1	180 (7.09)	*5	70 (2.76)
*2	170 (6.69)	*6	40 (1.57)
*3	290 (11.42)	*7	370 (14.57)
*4	200 (7.87)	*8	470 (18.50)

*: The diameters of these circles are less than 100 mm (3.94 in).

Washer Tube Layout



REAR WIPER AND WASHER

System Description

WIPER OPERATION

The rear wiper switch is controlled by a ring built into the combination switch. There are two wiper switch positions:

- ON (LO speed)
- INT (Intermittent)

With the ignition switch in the ON position, power is supplied

- through 10A fuse (No. 18 , located in the fuse block)
- to rear wiper motor terminal ④ , and
- to rear wiper amplifier terminal ⑤ .

Low speed wiper operation

Ground is supplied to rear wiper switch terminal ⑭ through body grounds.

When the rear wiper is placed in the ON position, ground is supplied

- through rear wiper switch terminal ⑱
- to rear wiper relay terminal ⑥ .

Then ground is supplied

- to rear wiper motor terminal ①
- through rear wiper amplifier terminals ② and ③ .

With power and ground supplied, the wiper motor operates.

Auto stop operation

With the rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arm reaches rear window base.

When wiper arm is not located at base of rear window with rear wiper switch OFF, ground is supplied

- to rear wiper motor terminal ①
- through rear wiper amplifier terminals ② , ⑦ and
- through rear wiper motor terminal ③ , in order to continue rear wiper motor operation at low speed.

Ground is also supplied

- to rear wiper motor terminal ②
- through body grounds.

When wiper arm reaches base of rear window, rear wiper motor terminals ③ and ④ are connected instead of terminals ② and ③ . Rear wiper motor will then stop wiper arm at the PARK position.

Intermittent operation

The rear wiper motor operates the wiper arm one time at low speed at an interval of approximately 7 seconds.

When the rear wiper switch is placed in the INT position, ground is supplied

- to rear wiper amplifier terminal ①
- through rear wiper switch terminal ⑳ .

Then the rear wiper motor operates intermittently in the same manner as the low speed wiper operation.

WASHER OPERATION

With the ignition switch in the ACC or ON position, power is supplied

- through 10A fuse (No. 18 , located in the fuse block)
- to rear washer motor terminal ② .

When the ring is turned WASH position, ground is supplied

- to rear washer motor terminal ① , and
- to rear wiper amplifier terminal ④
- through terminal ㉓ of rear wiper switch.

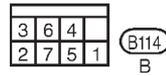
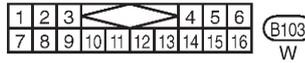
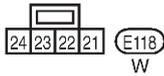
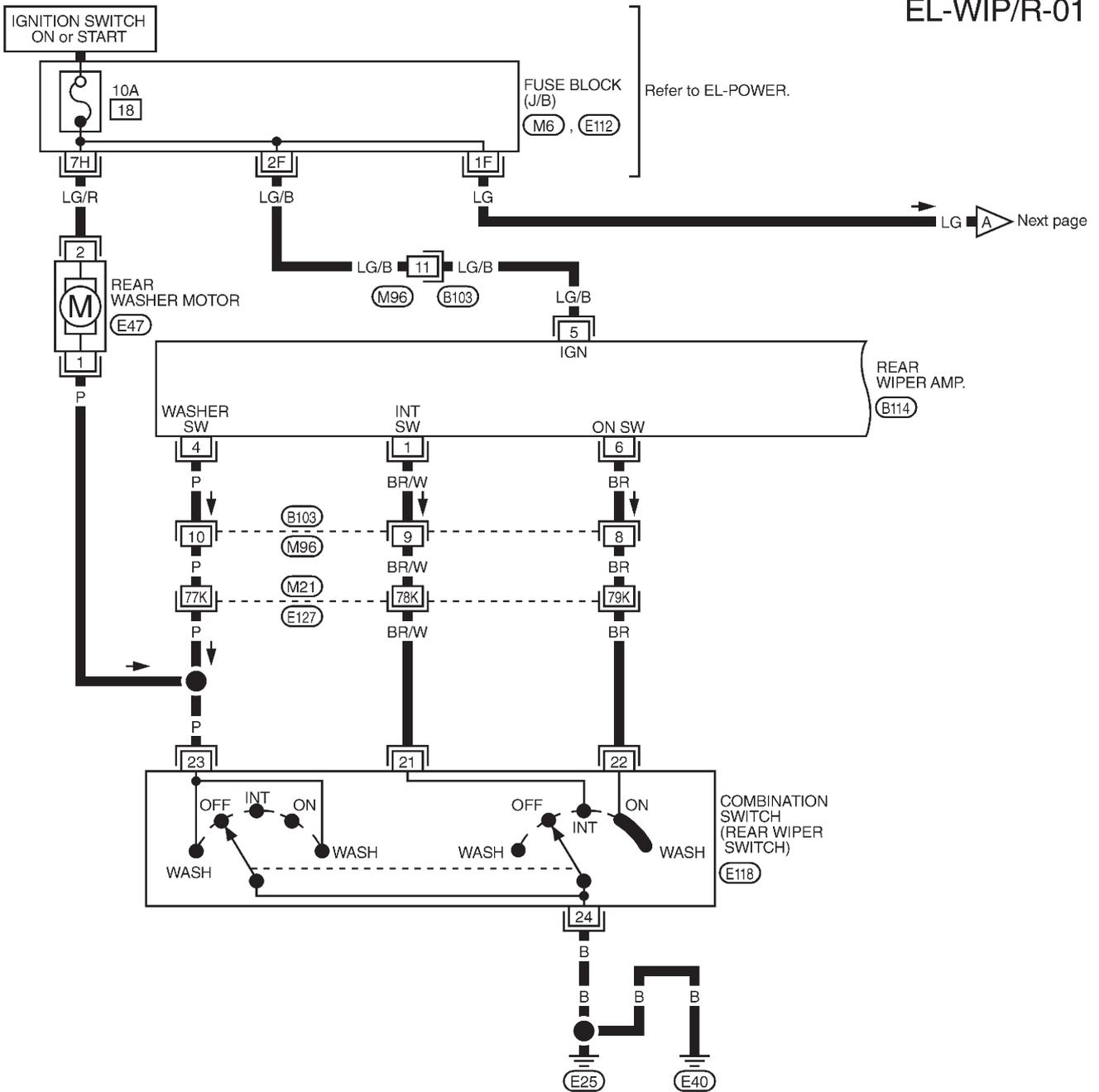
With power and ground is supplied, the rear washer motor operates.

The rear wiper motor operates when the ring is turned to WASH position for one second or more and for approximately 3 seconds after the ring is released. This feature is controlled by the rear wiper amplifier in the same manner as the low speed wiper operation.

REAR WIPER AND WASHER

Wiring Diagram — WIP/R —/LHD Models

EL-WIP/R-01



Refer to last page (Foldout page).

M21, E127

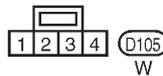
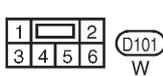
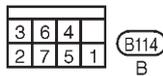
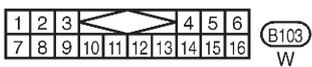
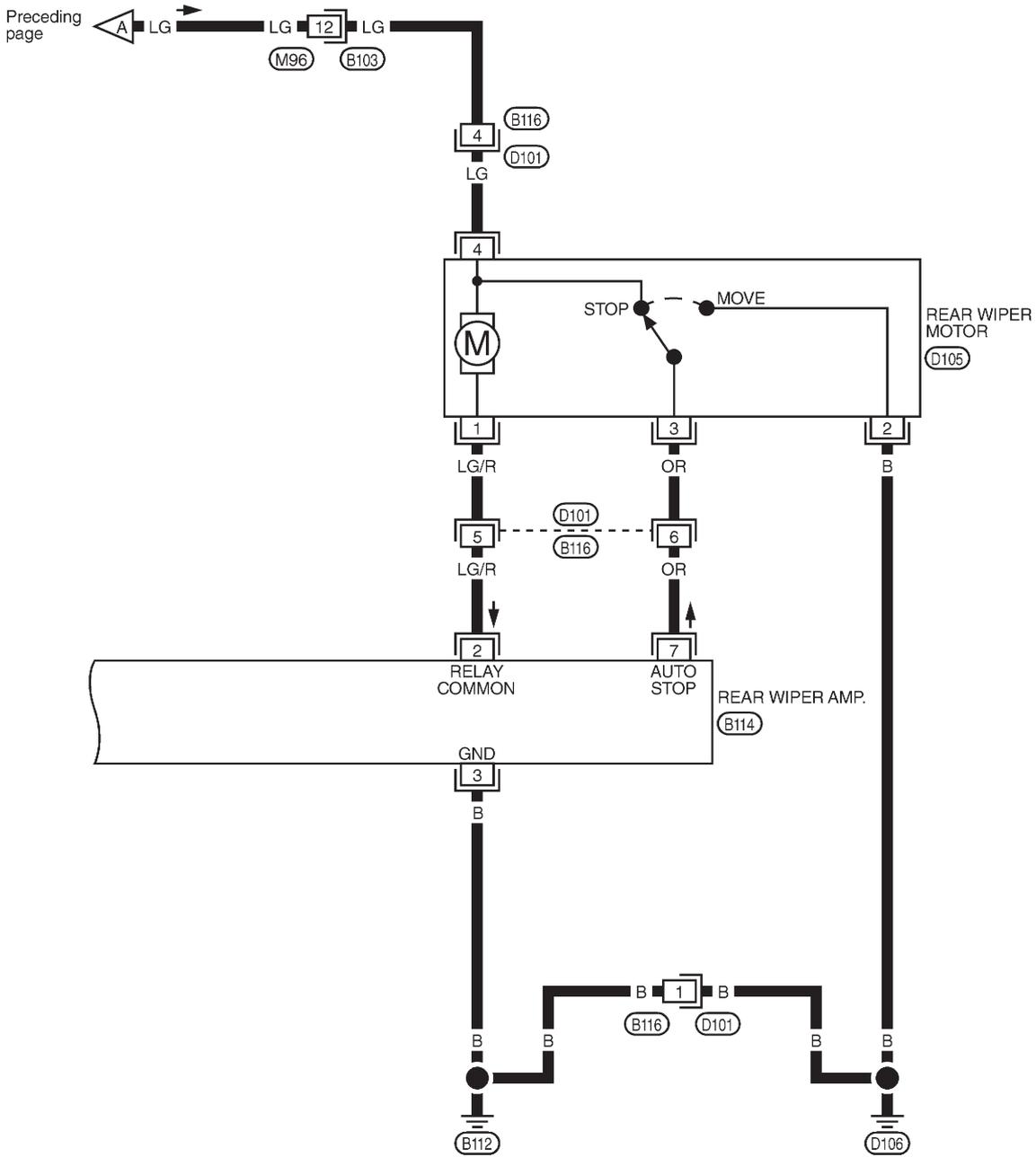
M6

E112

REAR WIPER AND WASHER

Wiring Diagram — WIP/R —/LHD Models (Cont'd)

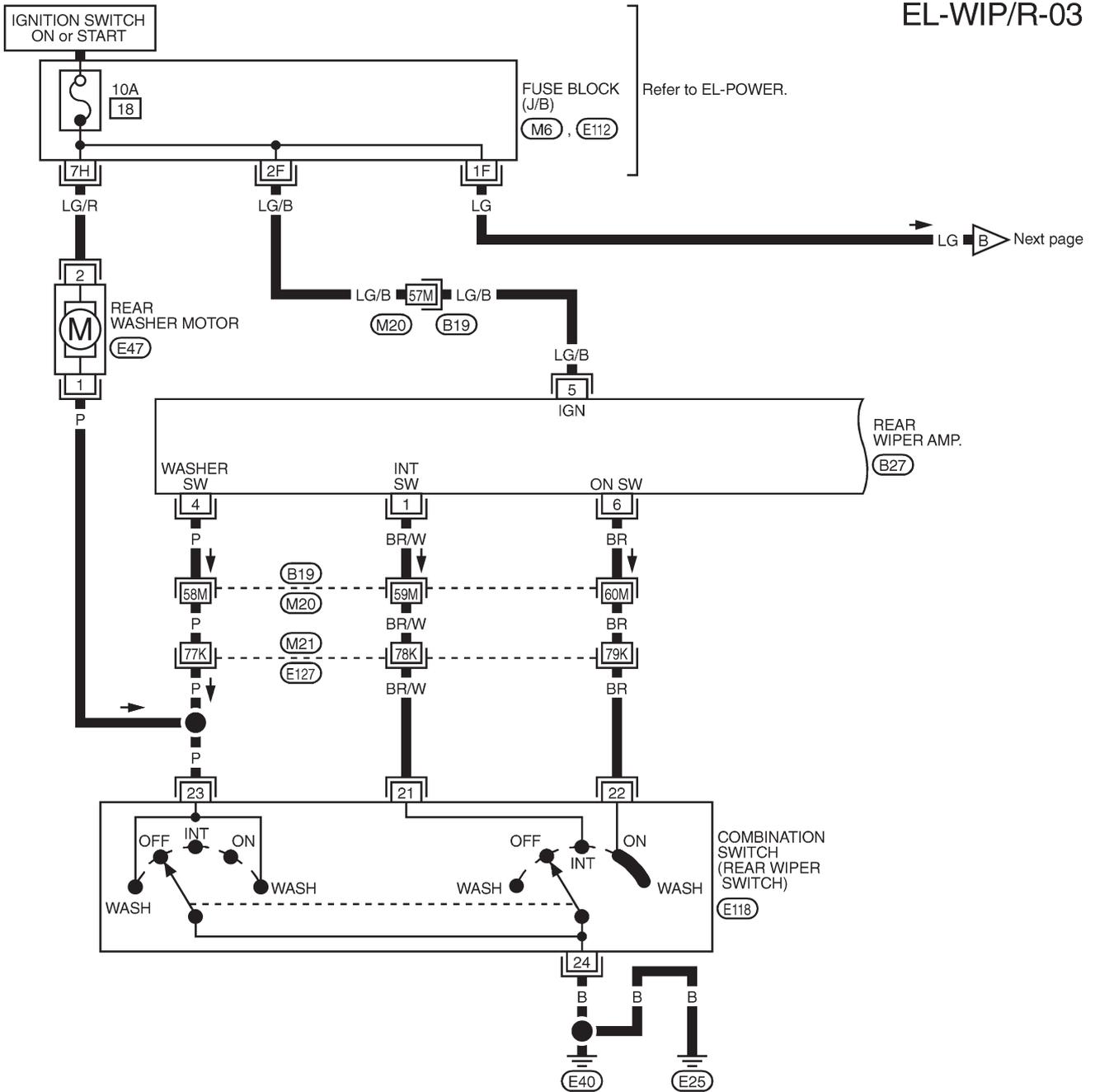
EL-WIP/R-02



REAR WIPER AND WASHER

Wiring Diagram — WIP/R —/RHD Models

EL-WIP/R-03



Refer to last page (Foldout page).

M21, E127

M20, B19

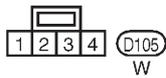
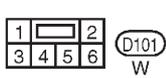
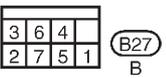
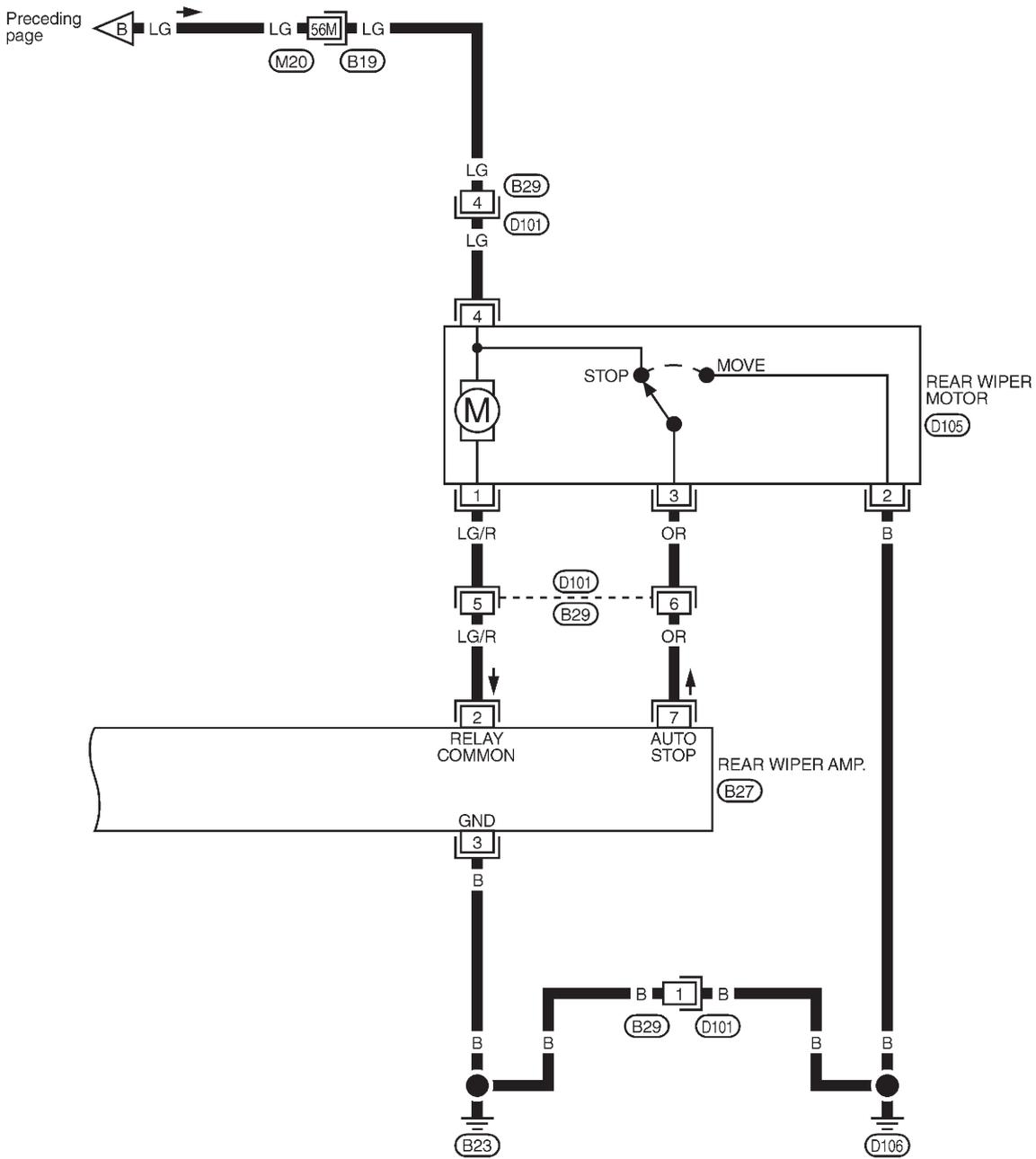
M6

E112

REAR WIPER AND WASHER

Wiring Diagram — WIP/R —/RHD Models (Cont'd)

EL-WIP/R-04



Refer to last page (Foldout page).
M20, B19

REAR WIPER AND WASHER

Trouble Diagnoses

REAR WIPER AMP. INSPECTION TABLE (Data are reference values.)

Terminal No.	Item	Condition		Voltage (Approximate value)	
1	Intermittent switch		Rear wiper switch	INT	Less than 1V
				OFF, ON or WASH	Approx. 10V
2	Wiper motor (Ground)		Rear wiper switch	ON	Less than 1V
				OFF	Approx. 12V
3	Ground	—		—	
4	Washer switch		Rear wiper switch	WASH	Less than 1V
				OFF	Approx. 12V
5	Power supply		—		Approx. 12V
6	Wiper on switch		Rear wiper switch	ON or WASH	Less than 1V
				OFF or INT	Approx. 12V
7	Wiper amp. output		Rear wiper switch should be placed in "WASH" or "INT" to inspect the value for wiper movement.	Wiper is moving	Less than 1V
				Wiper stop	Approx. 12V

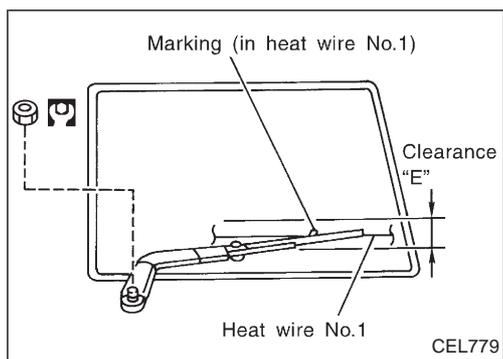


Rear wiper amp.
connector

4	6	3
1	5	7

SEL428V

REAR WIPER AND WASHER



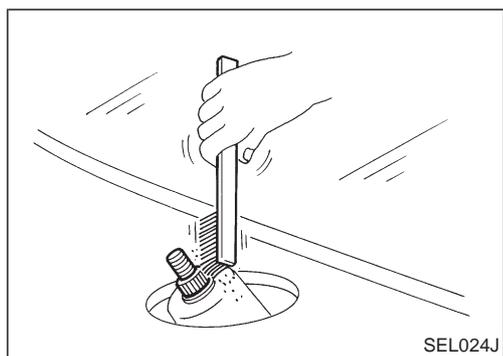
Removal and Installation

WIPER ARM

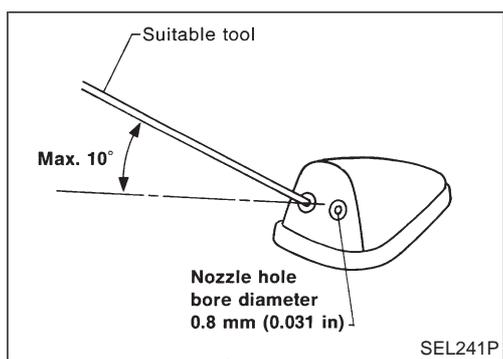
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface. Set the blade center to clearance "E" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch to operate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

Clearance "E": 20 mm (0.79 in)

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

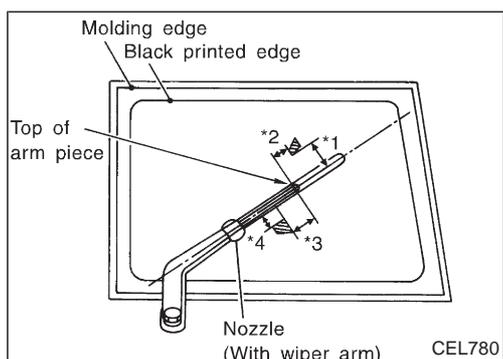


- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.



Washer Nozzle Adjustment

- Adjust washer nozzle with suitable tool as shown in the figure at left.
Adjustable range: ±10° (In any direction)

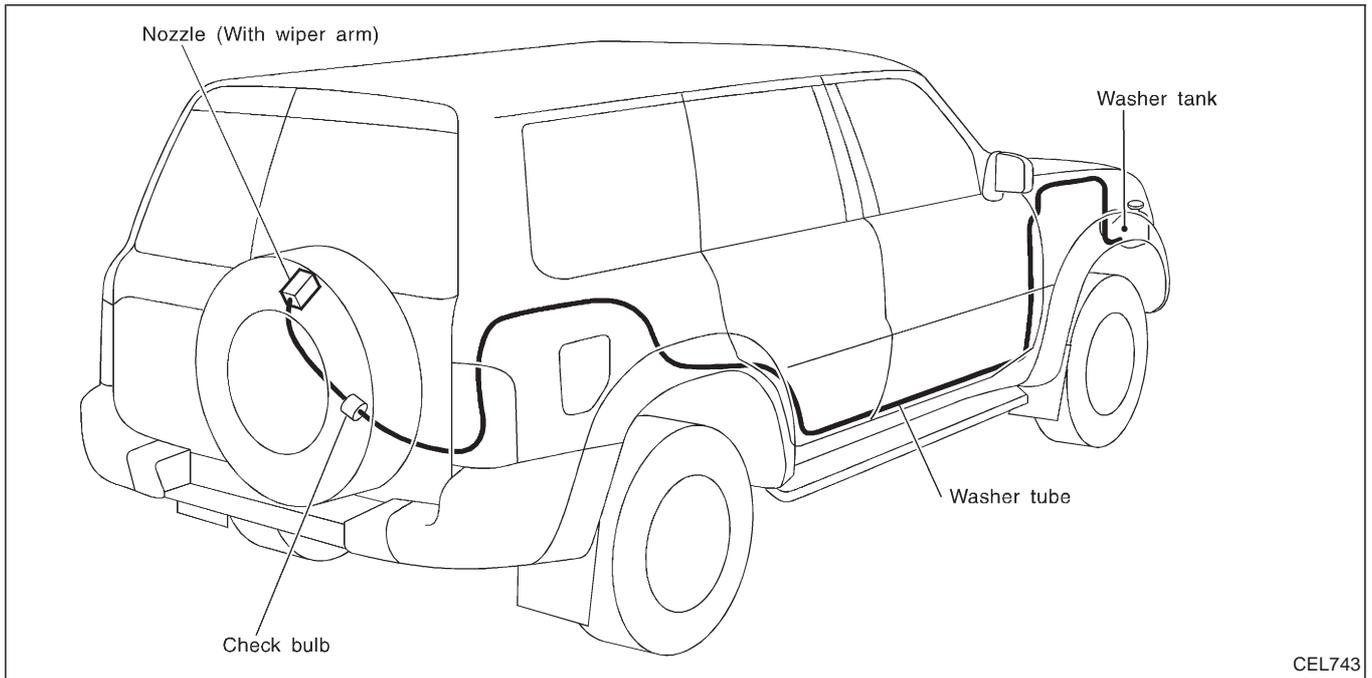


Unit: mm (in)

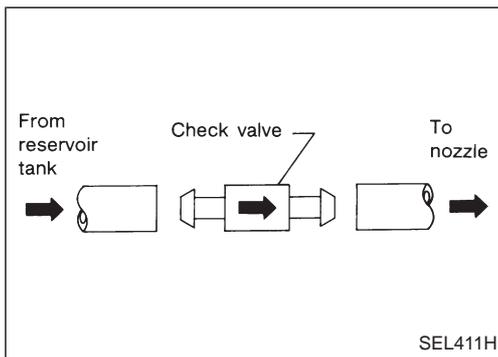
*1	30 (1.18)	*3	40 (1.57)
*2	30 (1.18)	*4	20 (0.79)

REAR WIPER AND WASHER

Washer Tube Layout



CEL743



SEL411H

Check Valve

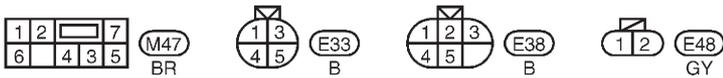
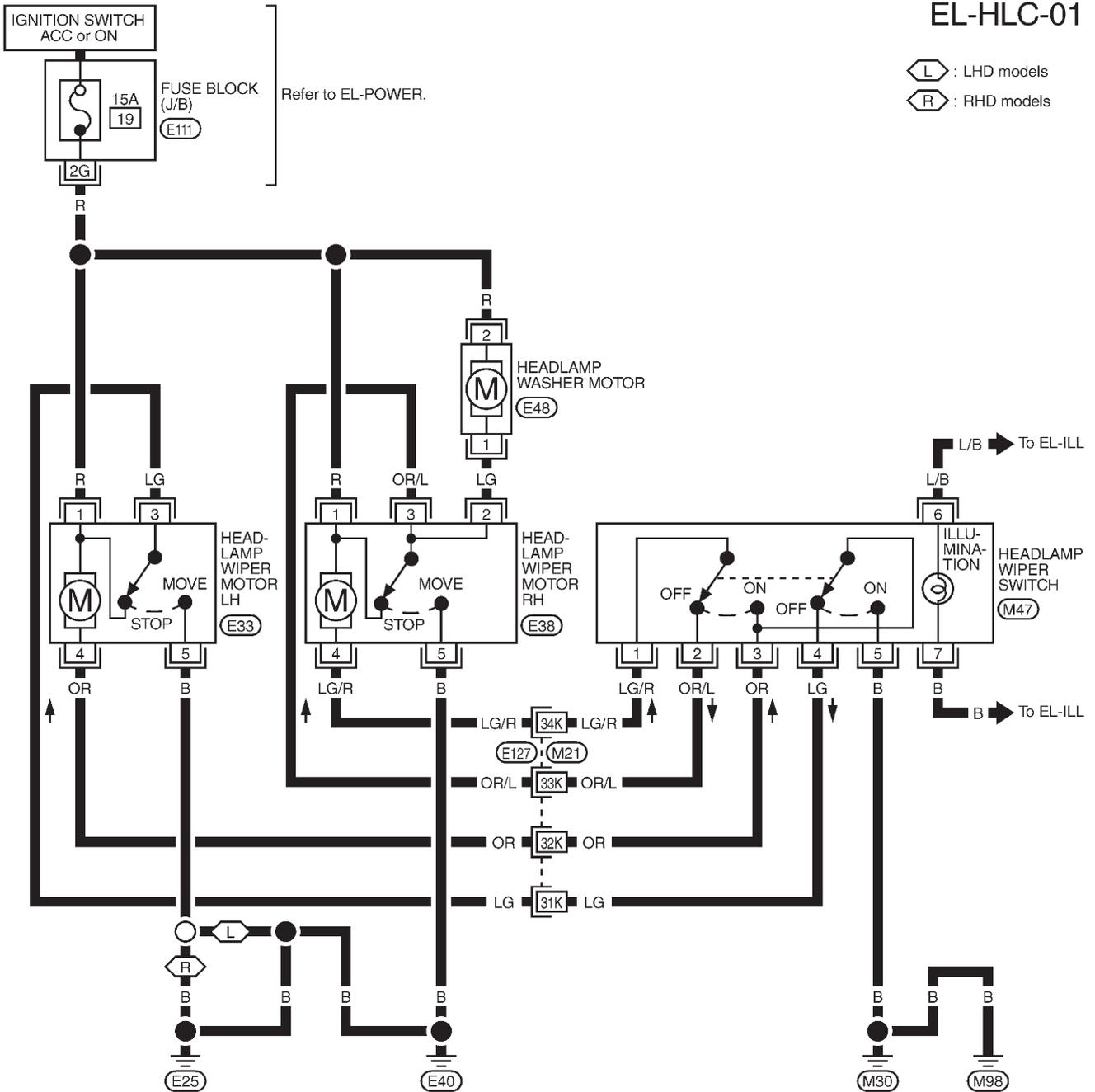
- A check valve is provided in the washer fluid line. Be careful not to connect check valve to washer tube in the wrong direction.

HEADLAMP WIPER AND WASHER

Wiring Diagram — HLC —

EL-HLC-01

⬡ : LHD models
 ⬢ : RHD models



Refer to last page (Foldout page).

M21, E127

E111

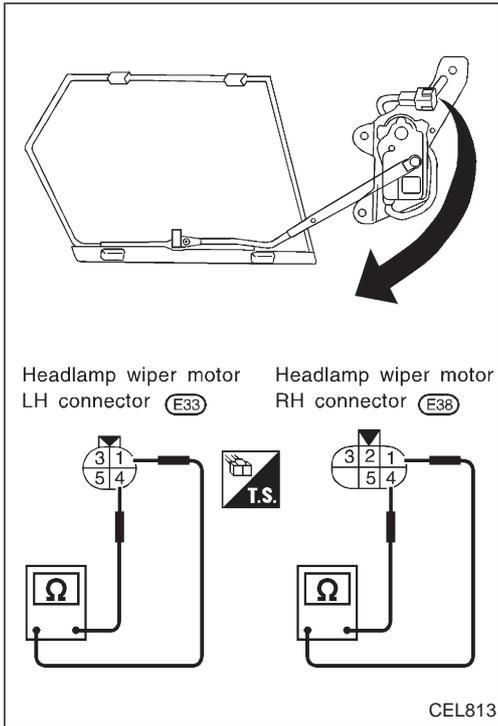
HEADLAMP WIPER AND WASHER

Electrical Components Inspection

HEADLAMP WIPER MOTOR CHECK

When wiper motor is locked, a protective circuit built into wiper motor activates to stop wiper motor. If wiper motor will not restart even after cause of problems has been eliminated, turn ignition switch OFF and leave it off for approx. 1 to 3 minutes.

1. Turn headlamp wiper switch OFF.
2. Connect ohmmeter and check continuity.



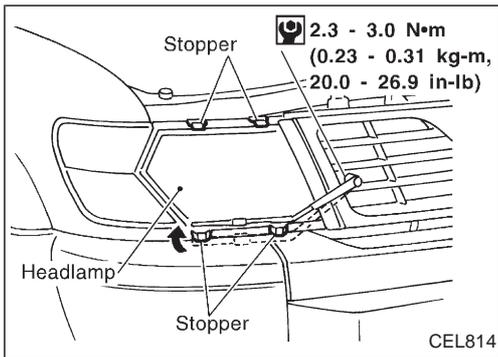
Headlamp wiper motor	Ohmmeter probe		Continuity
	(+)	(-)	
Stop position	①	④	Yes
	①	②	Yes
	①	③	Yes
	③	⑤	No

Removal and Installation

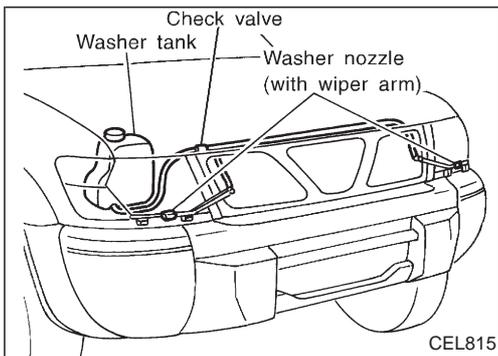
WIPER ARM

Tighten nut to secure wiper arm with wiper blade held below lower stopper. After installing wiper arm, position wiper blade on stopper upper surface.

- Tighten headlamp wiper arm nut to the specified torque.
 : 2.3 - 3.0 N·m (0.23 - 0.31 kg-m, 20.0 - 26.9 in-lb)

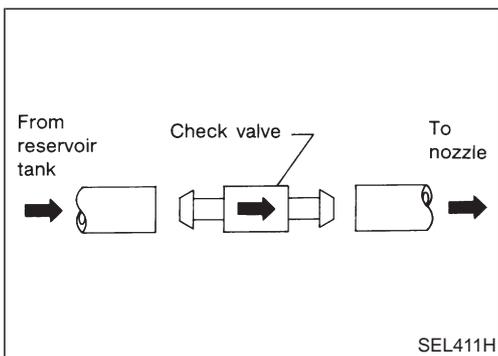


Washer Tube Layout



Check Valve

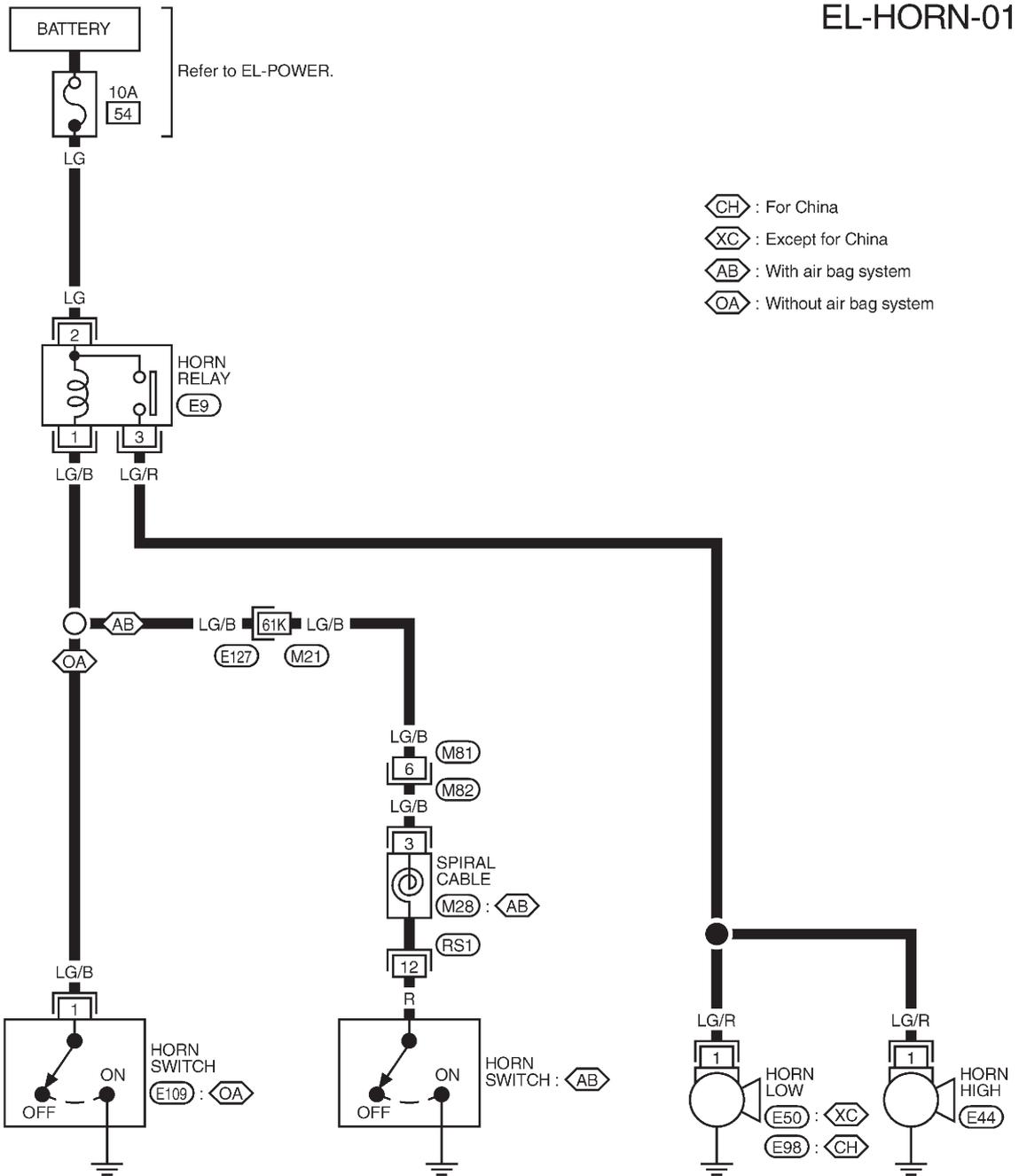
- A check valve is provided in the washer fluid line. Be careful not to connect check valve to washer tube in the wrong direction.



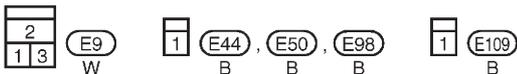
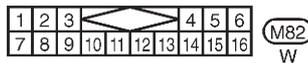
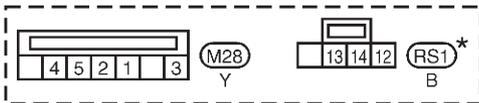
HORN

Wiring Diagram — HORN —

EL-HORN-01



- ⬡CH⬡ : For China
- ⬡XC⬡ : Except for China
- ⬡AB⬡ : With air bag system
- ⬡OA⬡ : Without air bag system



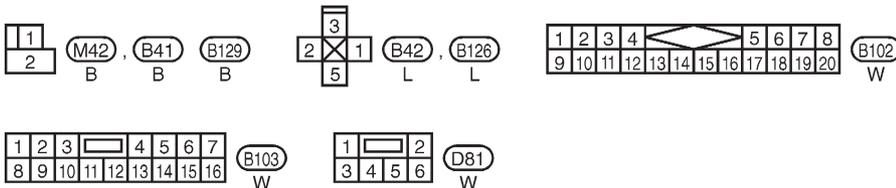
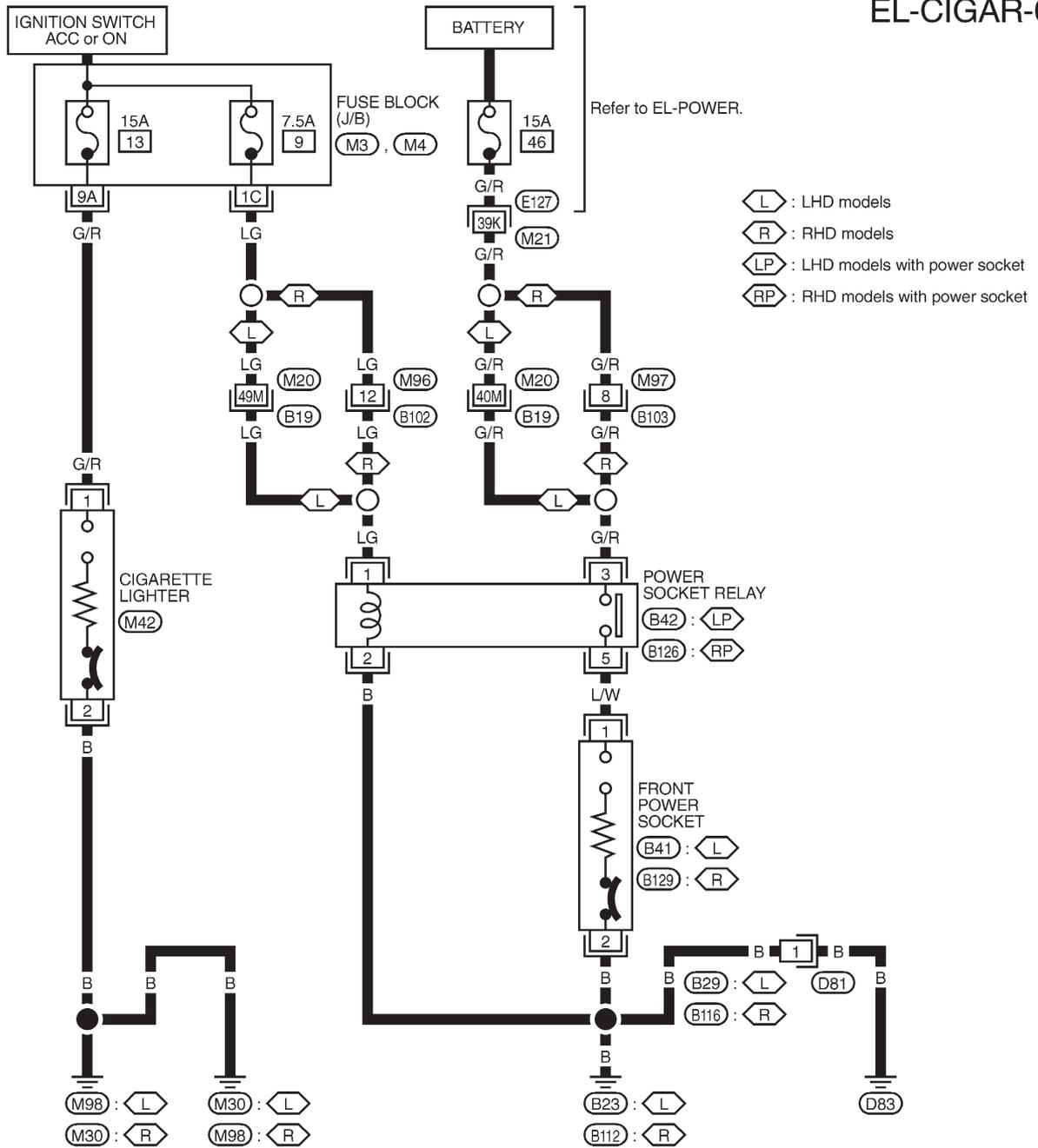
Refer to last page (Foldout page).
 (M21), (E127)

* : This connector is not shown in "HARNES LAYOUT", EL section.

CIGARETTE LIGHTER

Wiring Diagram — CIGAR —

EL-CIGAR-01



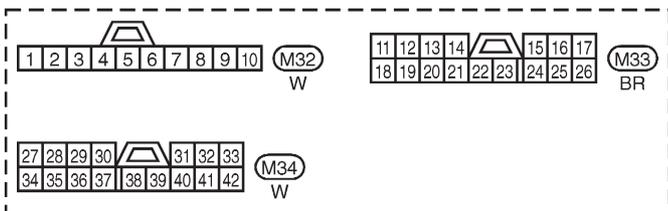
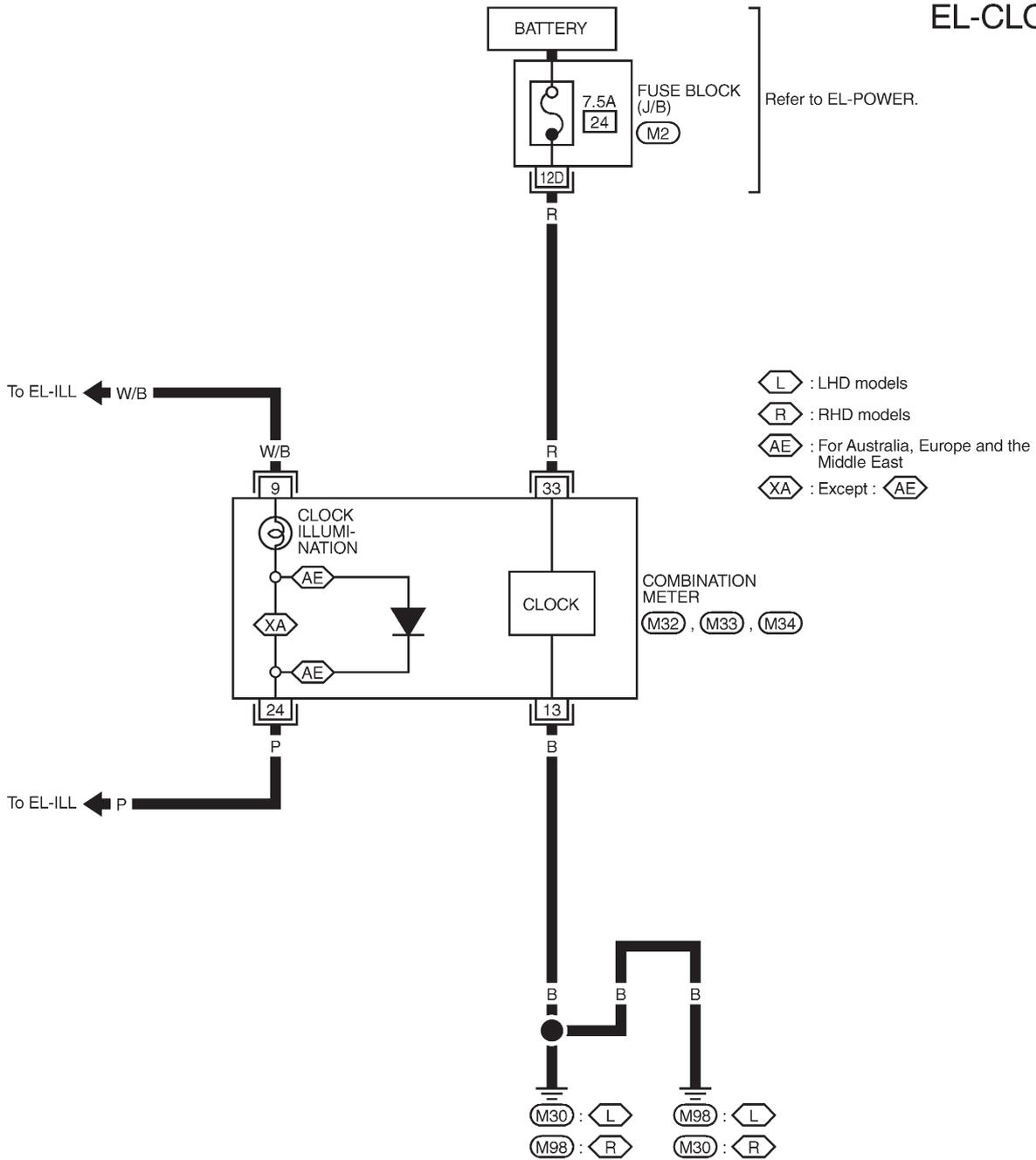
Refer to last page (Foldout page).

- ◊M20, ◊B19
- ◊M21, ◊E127
- ◊M3
- ◊M4

CLOCK

Wiring Diagram — CLOCK —

EL-CLOCK-01



Refer to last page (Foldout page).

(M2)

REAR WINDOW DEFOGGER

System Description

The rear window defogger system is controlled by the smart entrance control unit. The rear window defogger operates only for approximately 15 minutes.

Power is supplied at all times

- to rear window defogger relay terminal ③
- through 15A fuse (No. ④③, located in the fuse and fusible link box) and
- to rear window defogger relay terminal ⑥
- through 20A fuse (No. ④④, located in the fuse and fusible link box).

With the ignition switch in the ON or START position, power is supplied

- to the rear window defogger relay terminal ① and
- to smart entrance control unit terminal ⑫
- through 7.5A fuse [No. ⑧, located in the fuse block (J/B)].

Ground is supplied to terminal ② of the rear window defogger switch through body grounds.

When the rear window defogger switch is turned ON, ground is supplied

- through terminal ① of the rear window defogger switch
- to smart entrance control unit terminal ⑧.

Terminal ⑨ of the smart entrance control unit then supplies ground to the rear window defogger relay terminal ②.

With power and ground supplied, the rear window defogger relay is energized.

Power is supplied

- through terminals ⑤ and ⑦ of the rear window defogger relay
- to the rear window defogger.

The rear window defogger has an independent ground.

With power and ground supplied, the rear window defogger filaments heat and defog the rear window.

When the system is activated, the rear window defogger indicator illuminates in the rear window defogger switch.

Power is supplied

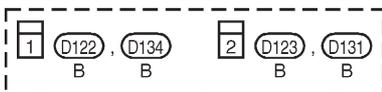
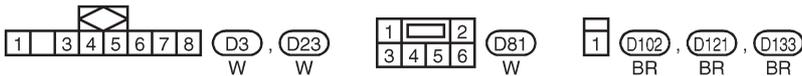
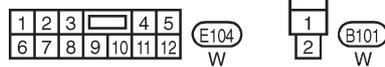
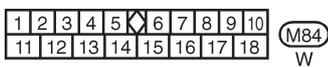
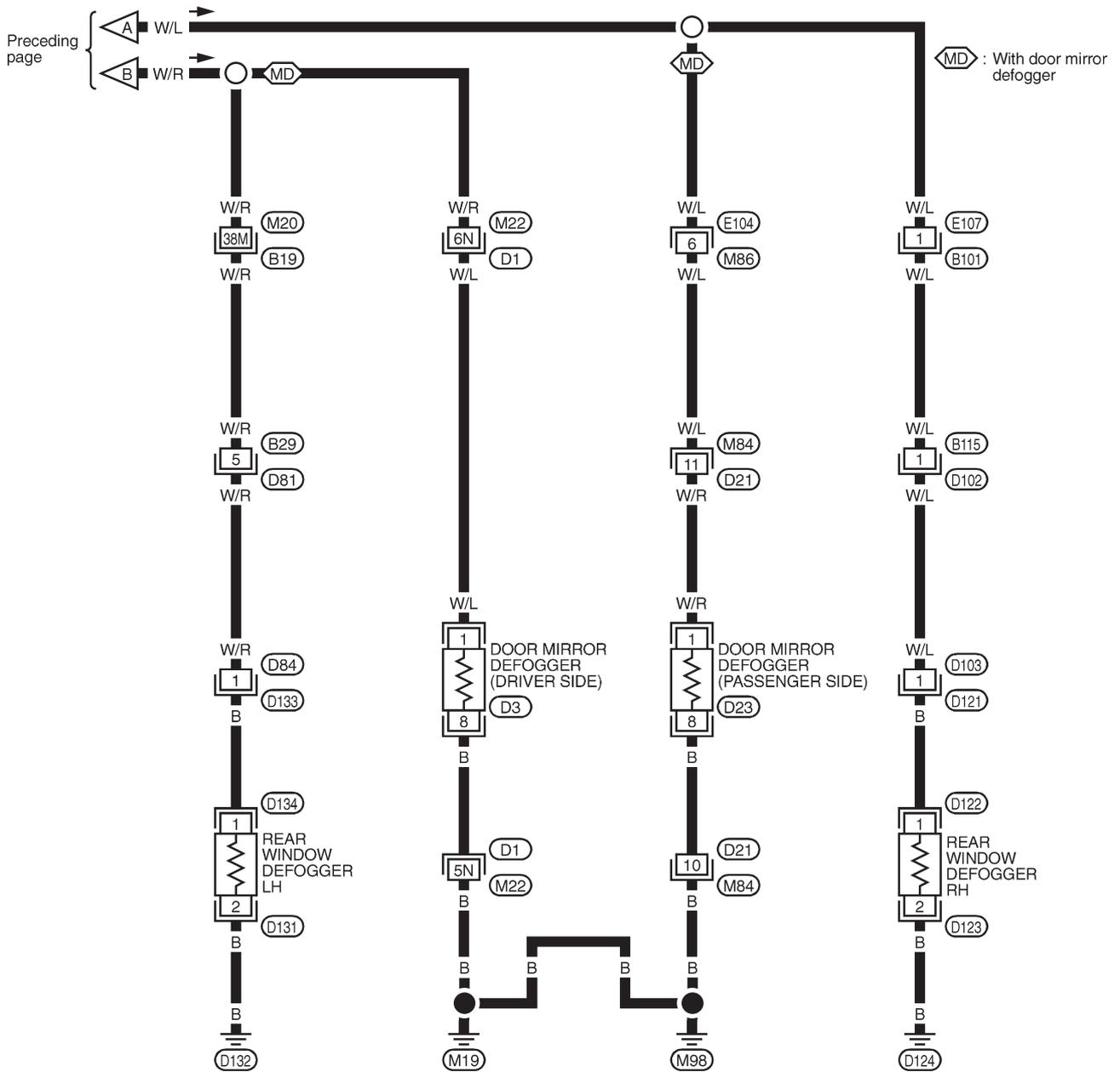
- to terminal ③ of the rear window defogger switch
- from terminal ⑤ of the rear window defogger relay.

Terminal ④ of the rear window defogger switch is grounded through body grounds.

REAR WINDOW DEFOGGER

Wiring Diagram — DEF —/LHD Models (Cont'd)

EL-DEF-02



Refer to last page (Foldout page).

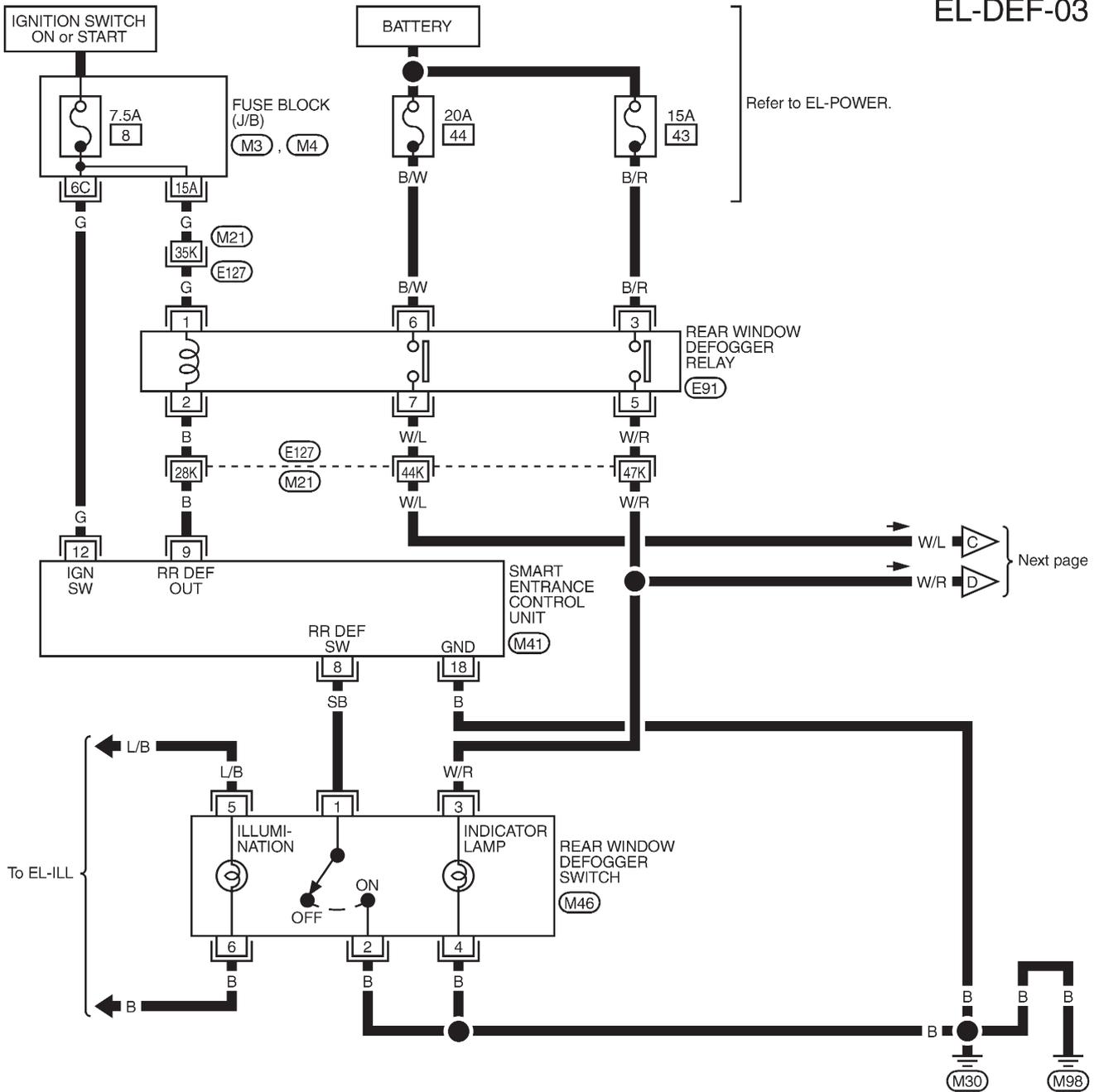
(M20), (B19)

(M22), (D1)

REAR WINDOW DEFOGGER

Wiring Diagram — DEF —/RHD Models

EL-DEF-03



10	9	8	7	5	4	2	1
18	17	16	15	14	12	11	

(M41) W

2	6	1
4	3	5

(M46) W

1	2
5	7
3	6

(E91) BR

Refer to last page (Foldout page).

(M21), (E127)

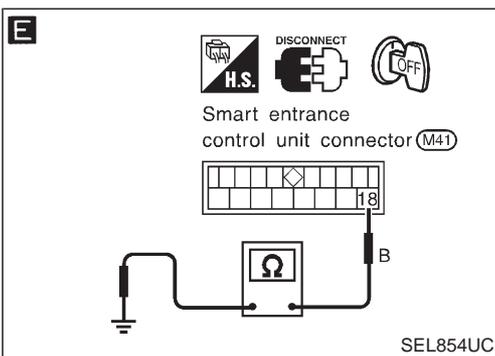
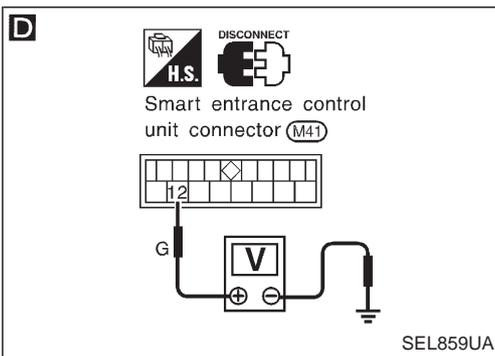
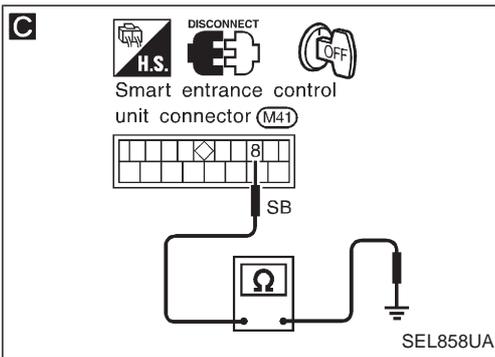
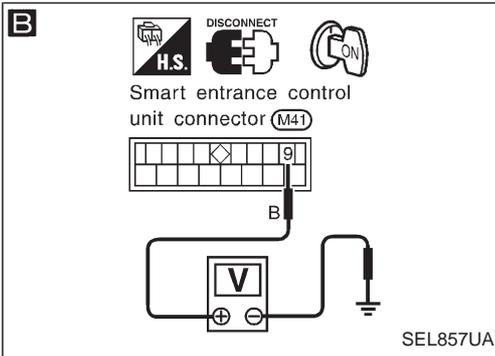
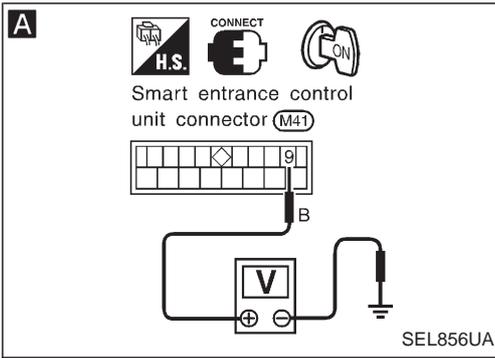
(M3)

(M4)

REAR WINDOW DEFOGGER

Trouble Diagnoses

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



A

CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL.

1. Turn ignition switch to ON position.
2. Check voltage between control unit harness terminals ⑨ and ground.

Condition	Voltage [V]
Rear window defogger switch is released.	Approx. 12
Rear window defogger switch is pushed.	0

OK →

- Check the following.
- Rear window defogger relay (Refer to EL-164.)
 - Rear window defogger circuit
 - Rear window defogger filament (Refer to EL-164.)

B

1. Disconnect control unit connector.
2. Turn ignition switch to ON position.
3. Check voltage between control unit terminal ⑨ and ground.

Battery voltage should exist.

NG →

OK ↓

- Check the following.
- 7.5A fuse [No. 8], located in the fuse block (J/B)
 - Rear window defogger relay
 - Harness for open or short between control unit and fuse

C

CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL.

Check continuity between control unit terminal ⑧ and ground.

Condition of defogger switch	Continuity
Rear window defogger switch is pushed.	Yes
Rear window defogger switch is released.	No

NG →

OK ↓

- Check the following.
- Rear window defogger switch (Refer to EL-164.)
 - Harness for open or short between control unit and rear window defogger switch
 - Rear window defogger switch ground circuit

D

CHECK IGNITION INPUT SIGNAL.

Check voltage between control unit terminal ⑫ and ground.

Condition	Voltage [V]
Ignition switch is "ON".	Approx. 12
Ignition switch is "OFF".	0

NG →

OK ↓

- Check the following.
- 7.5A fuse [No. 8] located in the fuse block (J/B)
 - Harness for open or short between control unit and fuse

E

CHECK CONTROL UNIT GROUND CIRCUIT.

Check continuity between control unit terminal ⑩ and ground.

Continuity should exist.

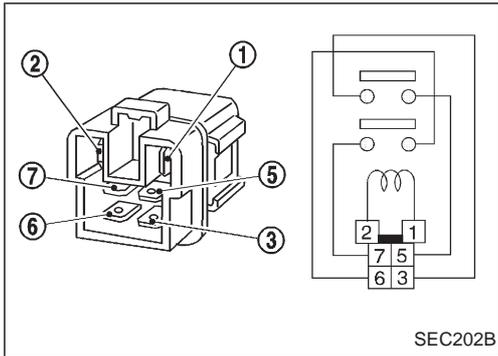
NG →

OK ↓

Repair harness or connectors.

Replace control unit.

REAR WINDOW DEFOGGER

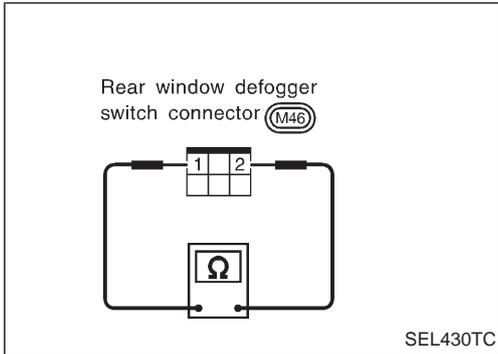


Electrical Components Inspection

REAR WINDOW DEFOGGER RELAY

Check continuity between terminals ③ and ⑤, ⑥ and ⑦.

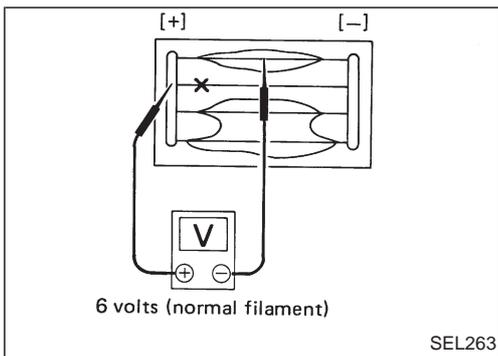
Condition	Continuity
12V direct current supply between terminals ① and ②	Yes
No current supply	No



REAR WINDOW DEFOGGER SWITCH

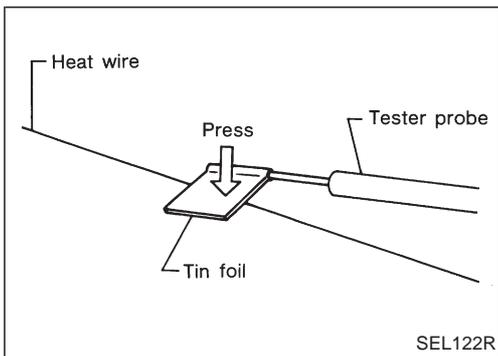
Check continuity between terminals when rear window defogger switch is pushed and released.

Terminals	Condition	Continuity
① - ②	Rear window defogger switch is pushed	Yes
	Rear window defogger switch is released	No

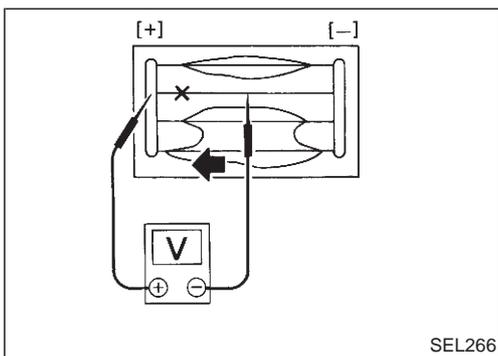


Filament Check

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



- When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



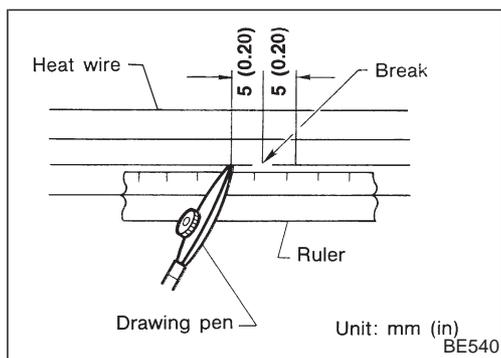
2. To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.
- If a filament is burned out, circuit tester registers 0 or 12 volts.

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

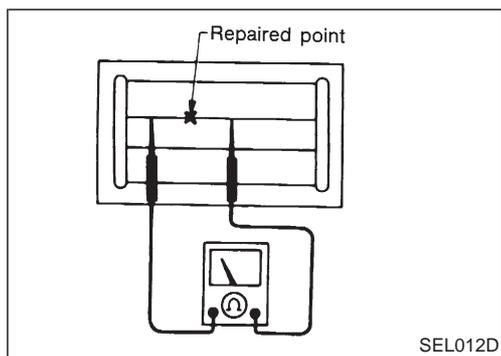
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

Shake silver composition container before use.

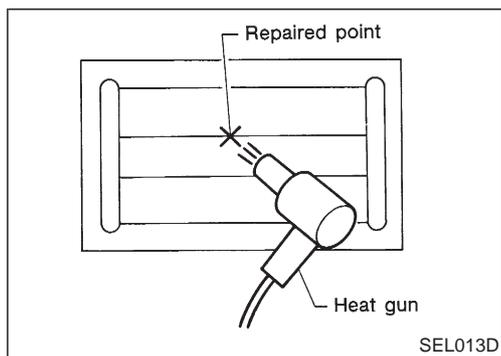
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

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.

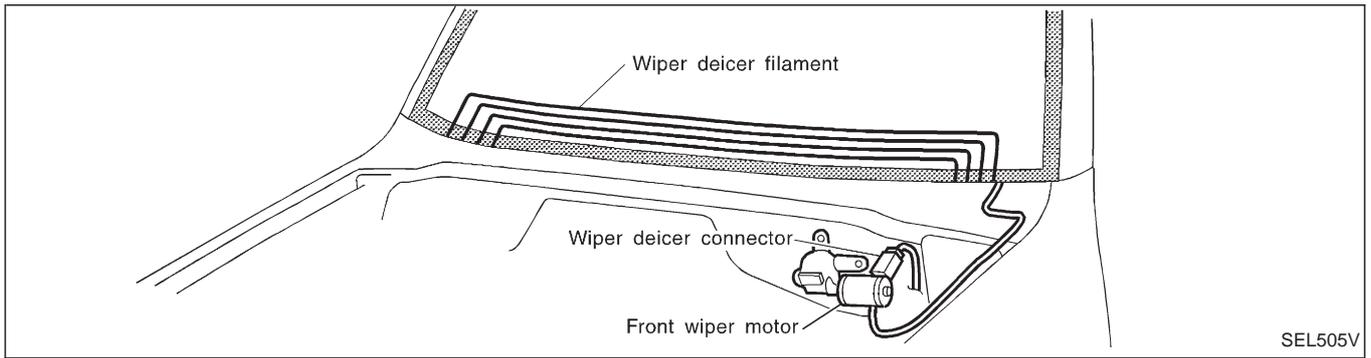


5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



WIPER DEICER

System Description

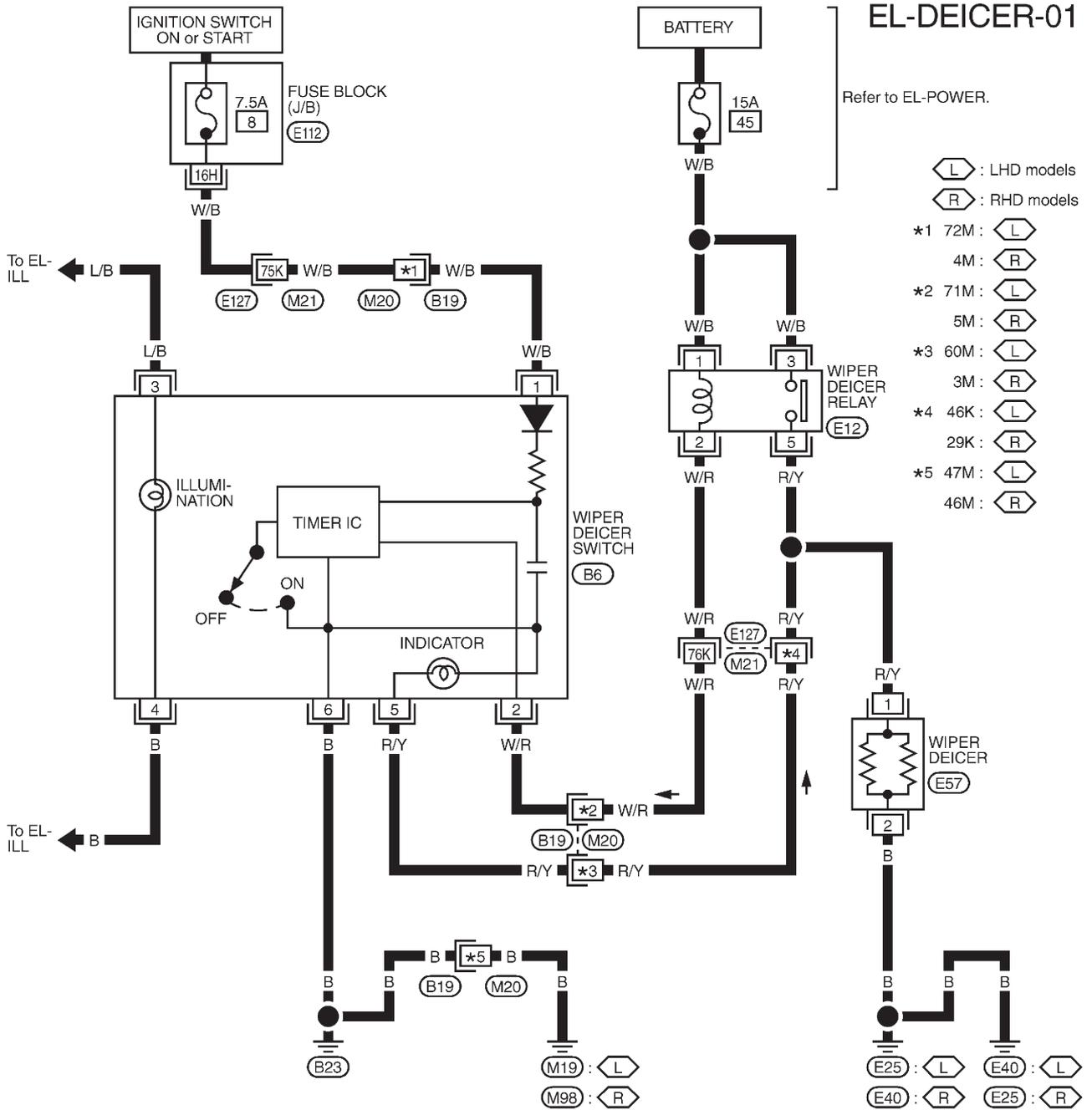


- A heat line has been added to the lower portion of the windshield.
- During cold weather, water can freeze between the wiper blades and windshield. Turning the wiper deicer switch ON melts the ice between the blades and windshield.
- During snowfall, packed snow can accumulate around the windshield lower surface and surrounding areas. Turning the wiper deicer switch ON melts the snow to allow the wiper blades to more easily remove it.
- The wiper deicer operates only for approximately 15 minutes while ignition switch is in ON position. The timer is combined with wiper deicer switch.

WIPER DEICER

Wiring Diagram — DEICER —

EL-DEICER-01



Refer to last page (Foldout page).

M20, B19

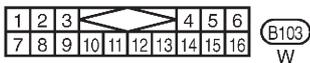
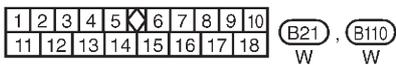
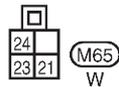
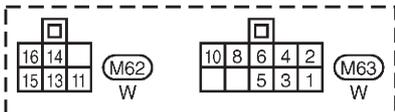
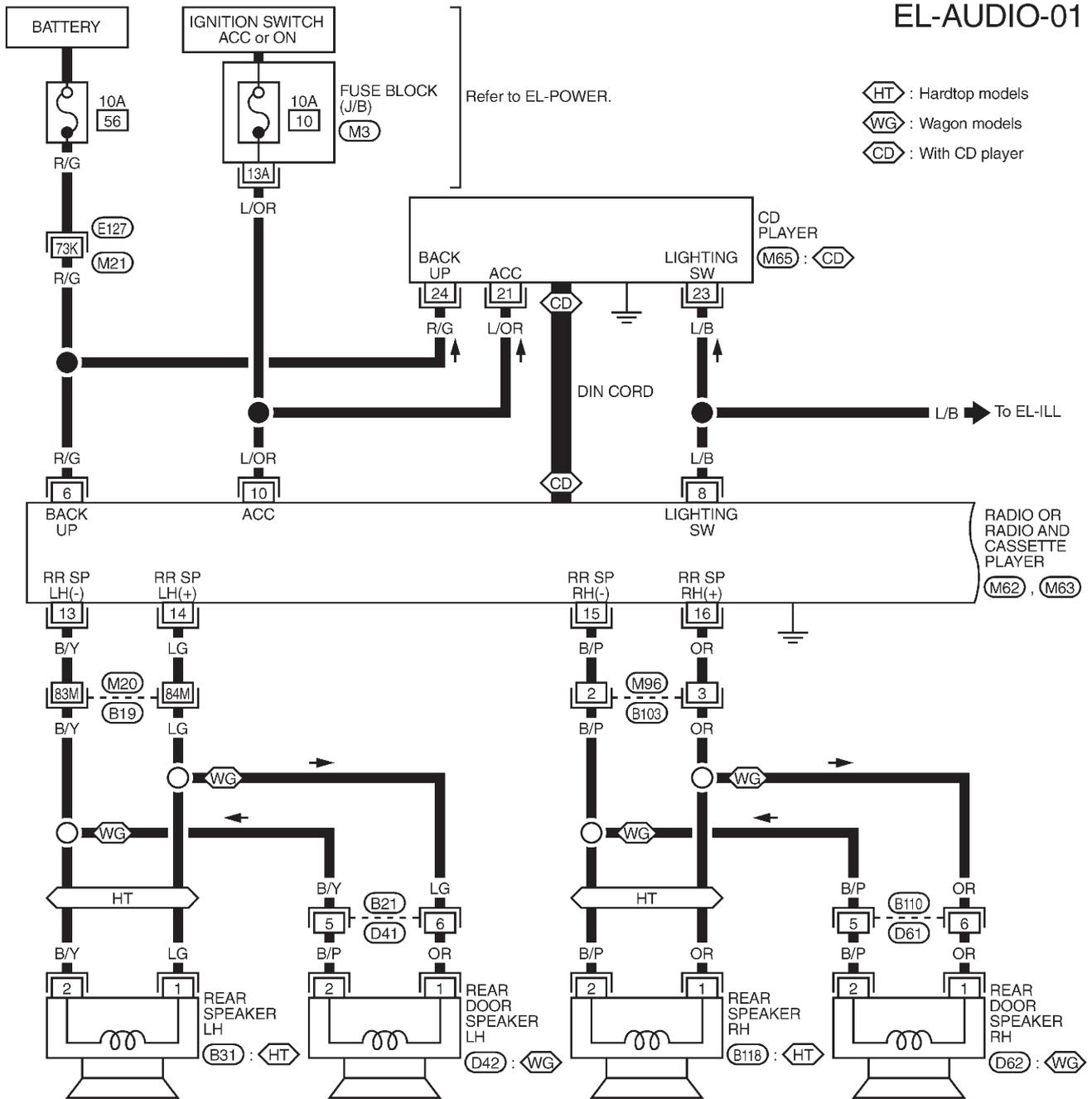
M21, E127

E112

AUDIO

Wiring Diagram — AUDIO —/LHD Models

EL-AUDIO-01



Refer to last page (Foldout page).

M20, B19

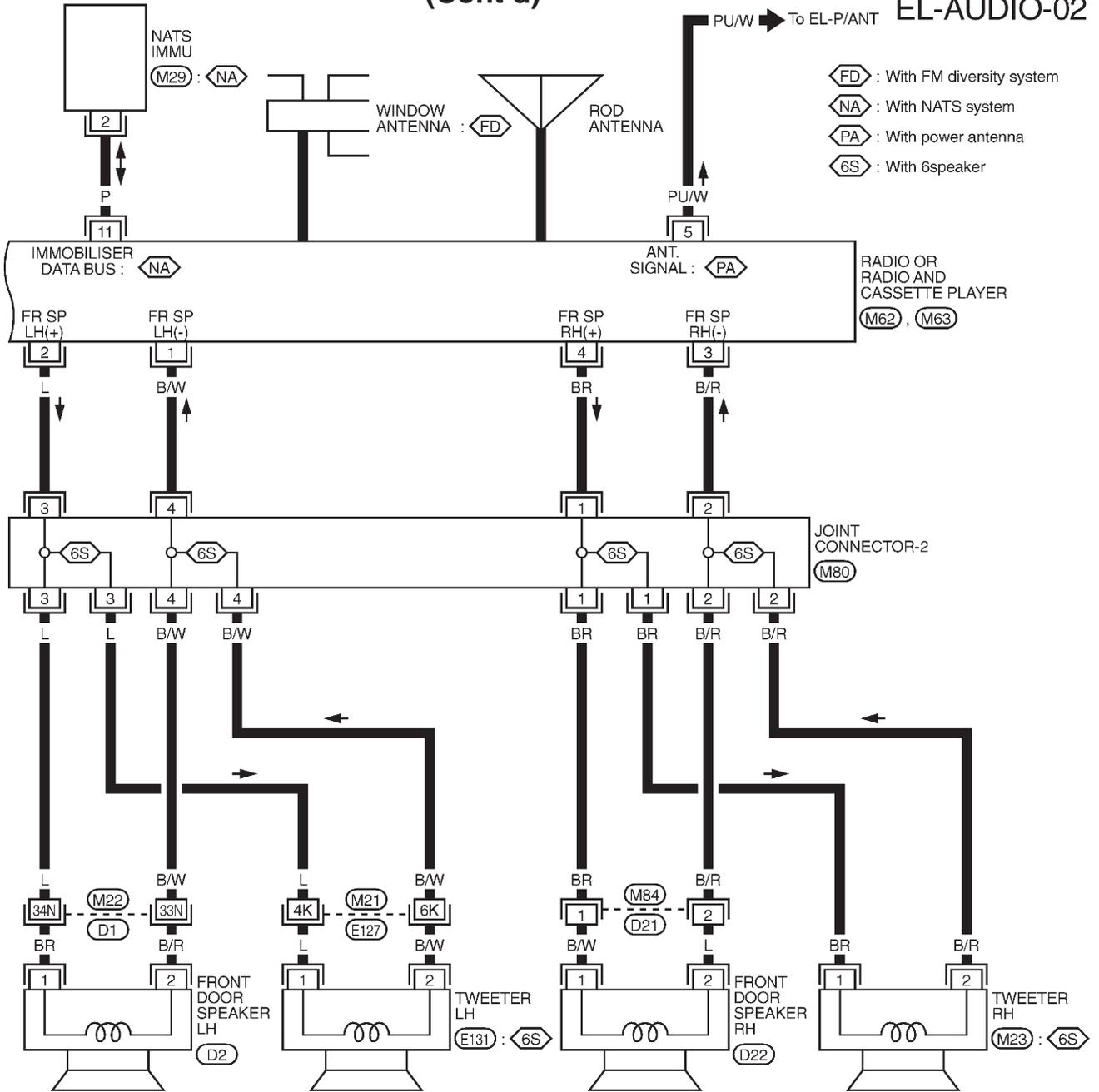
M21, E127

M3

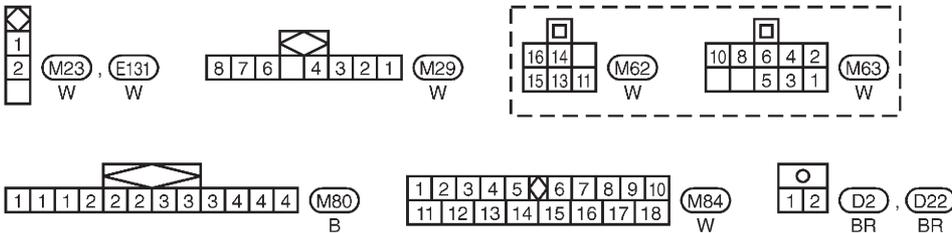
AUDIO

Wiring Diagram — AUDIO —/LHD Models (Cont'd)

EL-AUDIO-02



- ⬡FD : With FM diversity system
- ⬡NA : With NATS system
- ⬡PA : With power antenna
- ⬡6S : With 6speaker



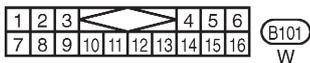
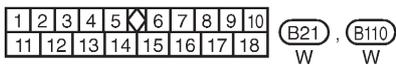
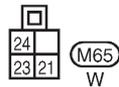
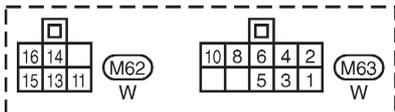
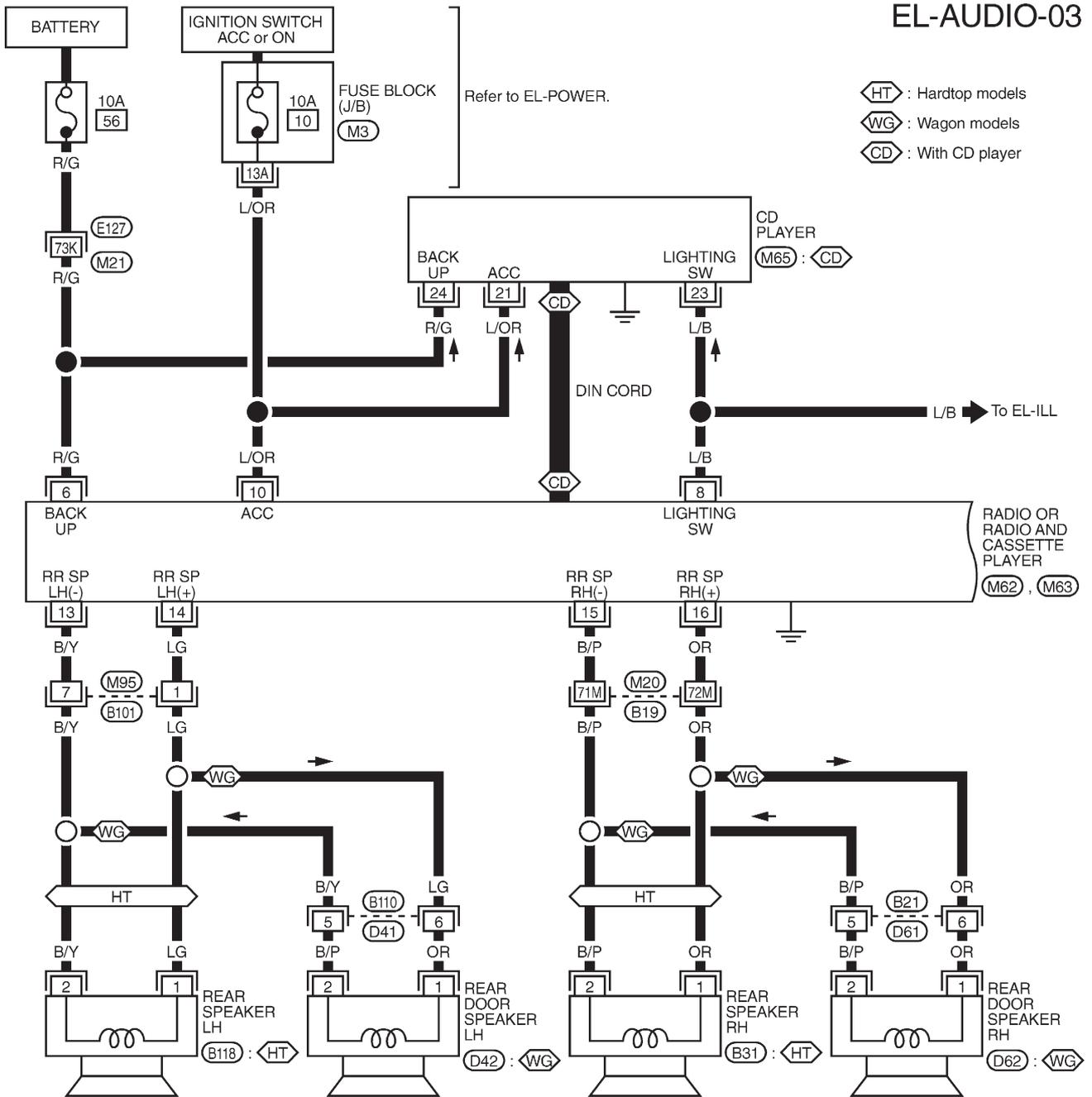
Refer to last page (Foldout page).

- ⬡M21, E127
- ⬡M22, D1

AUDIO

Wiring Diagram — AUDIO —/RHD Models

EL-AUDIO-03



Refer to last page (Foldout page).

M20, B19

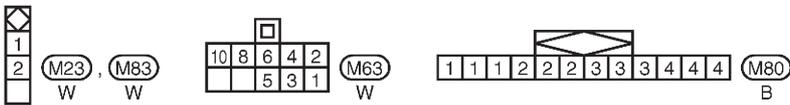
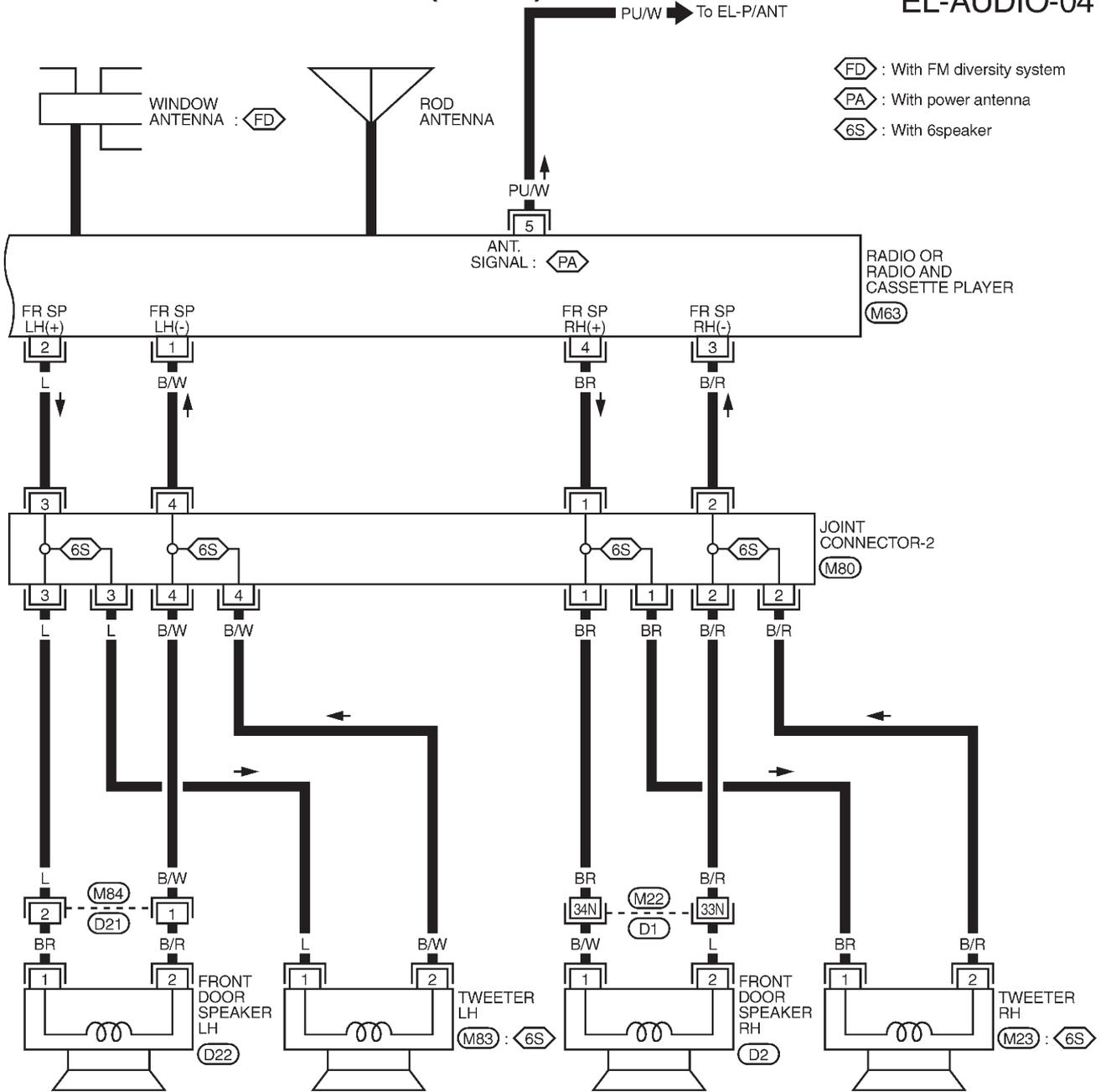
M21, E127

M3

AUDIO

Wiring Diagram — AUDIO —/RHD Models (Cont'd)

EL-AUDIO-04



Refer to last page (Foldout page).

M22, D1

AUDIO

Trouble Diagnoses

RADIO

Symptom	Possible causes	Repair order
Radio inoperative (no digital display and no sound from speakers). See NOTE.	1. 10A fuse 2. Poor radio case ground 3. Radio	1. Check 10A fuse [No. 10], located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal ⑩ of radio. 2. Check radio case ground. 3. Remove radio for repair.
Radio controls are operational, but no sound is heard from any speaker.	1. Radio output 2. Radio	1. Check radio output voltages. 2. Remove radio for repair.
Radio presets are lost when ignition switch is turned OFF.	1. 10A fuse 2. Radio	1. Check 10A fuse (No. 56), located in fuse and fusible link box) and verify battery positive voltage is present at terminal ⑥ of radio. 2. Remove radio for repair.
Individual speaker is noisy or inoperative.	1. Speaker 2. Radio output 3. Speaker circuit 4. Radio	1. Check speaker. 2. Check radio output voltages. 3. Check wires for open or short between radio and speaker. 4. Remove radio for repair.
Radio stations are weak or noisy.	1. Antenna 2. Poor radio ground 3. Radio	1. Check antenna. 2. Check radio ground. 3. Remove radio for repair.
FM stations are weak or noisy but AM stations are OK. (with window antenna)	1. Window antenna 2. Radio	1. Check window antenna. 2. Remove radio for repair.
Radio generates noise in AM and FM modes with engine running.	1. Poor radio ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Alternator 5. Ignition coil or secondary wiring 6. Radio	1. Check radio ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check alternator. 5. Check ignition coil and secondary wiring. 6. Remove radio for repair.
Radio generates noise in AM and FM modes with accessories on (switch pops and motor noise).	1. Poor radio ground 2. Antenna 3. Accessory ground 4. Faulty accessory	1. Check radio ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.

NOTE:

If the radio has anti-theft function, check the anti-theft function of the radio before circuit inspection. (Radios which have anti-theft function are equipped with a code indicator. For details, refer to EL-173.)

Speaker inspection

1. Disconnect speaker harness connector.
2. Measure the resistance between speaker terminals ① and ② .
 - The resistance should be 2 - 4Ω.
3. Using jumper wires, momentarily connect a 9V battery between speaker terminals ① and ② .
 - A momentary hum or pop should be heard.

Antenna inspection

Using a jumper wire, clip an auxiliary ground between antenna and body.

- If reception improves, check antenna ground (at body surface).
- If reception does not improve, check main feeder cable for short circuit or open circuit.

Radio inspection

All voltage inspections are made with:

- Ignition switch ON or ACC
- Radio ON
- Radio connected (If removed for inspection, supply a ground to the case using a jumper wire.)

CATS (Code) System/RHD

NOTE:

- This system is used for code indicator-equipped radios on all models except the Europe LHD model.
- The Europe LHD model has a NATS-linked anti-theft function that renders the code system inoperable.

DESCRIPTION

By using a personal 4-digit code known only to the vehicle owner, the possibility of the audio unit being stolen is effectively reduced, because without the code the unit can not be activated. When in normal use, the unit is unlocked and accessible in the usual way.

If however, someone attempts to remove the unit or the battery cable is disconnected, the anti-theft system activates and the unit "locks". The only way it can be unlocked is by entering a personal code number known only by the owner.

UNLOCKING THE UNIT (How to enter a personal code number)

- If the battery supply to the vehicle is interrupted by accident for some reason, the unit will lock. To unlock the unit, proceed as follows:
 1. Press the power/volume control knob to turn the unit on.
 2. "CODE IN" is displayed.
 3. Input your personal code by pressing the preset buttons (1 to 4).
 4. Press the  button.
 5. If the entered code number is correct, the radio turns on.

When the code is incorrect

1. If the entered code is incorrect, the unit becomes inoperable for 10 seconds for the first three attempts, then the code input mode is automatically set ("CODE IN" is displayed).
2. If the code is incorrect the fourth time, the unit becomes inoperable for 60 minutes and "----" is displayed. After 60 minutes, the code input mode is automatically set ("CODE IN" is displayed).

NOTE:

If the above is repeated 17 times, the unit will lock and "LOCKED" is displayed.

3. After "LOCKED" is displayed, radio can be returned to the code input mode only within three attempts as follows. (Only three attempts are allowed to unlock the unit.)
 - a. Press the power/volume control knob while pushing both the MOD and TA switches.
 - b. The unit then returns to the code input mode.

CAUTION:

If the third attempt is unsuccessful, the unit will lock permanently.

AUDIO

NATS Audio Link/LHD

DESCRIPTION

The link with the NATS IMMU implies that the radio can basically only be operated if connected to the matching NATS IMMU to which the radio was initially fitted on the production line.

Since radio operation is impossible after the link with the NATS is disrupted theft of the radio unit is basically useless since special equipment is required to reset the radio.

Initialisation process for radios that are linked to the NATS IMMU

New radios will be delivered to the factories in the "NEW" state, i.e. ready to be linked with the vehicle's NATS. When the radio in "NEW" state is first switched on at the factory, it will start up communication with the vehicle's immobiliser control unit (IMMU) and send a code (the "Radio Code") to the IMMU. The IMMU will then store this code, which is unique to each radio, in its (permanent) memory.

Upon receipt of the code by the IMMU, the NATS will confirm correct receipt of the radio code to the radio. Hereafter, the radio will operate as normal.

During the initialisation process, "NEW" is displayed on the radio display. Normally though, communication between Radio and IMMU takes such a short time (300 ms) that the radio seems to switch on directly without showing "NEW" on its display.

Normal operation

Each time the radio is switched on afterwards, the radio code will be verified between the radio unit and the NATS before the radio becomes operational. During the code verification process, "WAIT" is shown on the radio display. Again, the communication takes such a short time (300 ms) that the radio seems to switch on directly without showing "WAIT" on its display.

When the radio is locked

In case of a radio being linked with the vehicle's NATS (immobiliser system), disconnection of the link between the radio and the IMMU will cause the radio to switch into the lock ("SECURE") mode in which the radio unit is fully inoperative. Hence, repair of the radio is basically impossible, unless the radio is reset to the "NEW" state for which special decoding equipment is required.

Both Blaupunkt and Clarion have provided their authorized service representatives with so called "decoder boxes" which can bring the radio unit back to the "NEW" state, enabling the radio to be switched on after which repair can be carried out. Subsequently, when the repaired radio is delivered to the final user again, it will be in the "NEW" state as to enable re-linking the radio to the vehicle's immobiliser system. As a result of the above, repair of the radio can only be done by an authorized Blaupunkt or Clarion representative.

Note:

Radio manufacturer of Nissan Y61 models for Europe is "Clarion".

SERVICE PROCEDURE

Item	Service procedure	Description
Battery disconnection	No additional action required.	—
Radio needs repair	Repair needs to be done by authorized representative of radio manufacturer since radio cannot be operated unless it is reset to NEW state, using special decoding equipment.	—
Replacement of radio by new part	No additional action required.	Radio is delivered in NEW state.
Transferring radio to another vehicle/replacement of radio by an "old" part	Radio needs to be reset to NEW state by authorized representative of radio manufacturer.	—
Replacement of IMMU by new part	No additional action required.	The new IMMU will be recognized by the radio since a 'blank' code is stored in the memory of the IMMU. In case the radio recognizes this 'blank' code, it will request for input of the correct CATS code after which the radio will switch back to the initialisation process.

AUDIO

NATS Audio Link/LHD (Cont'd)

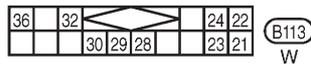
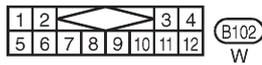
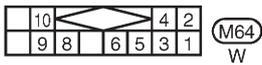
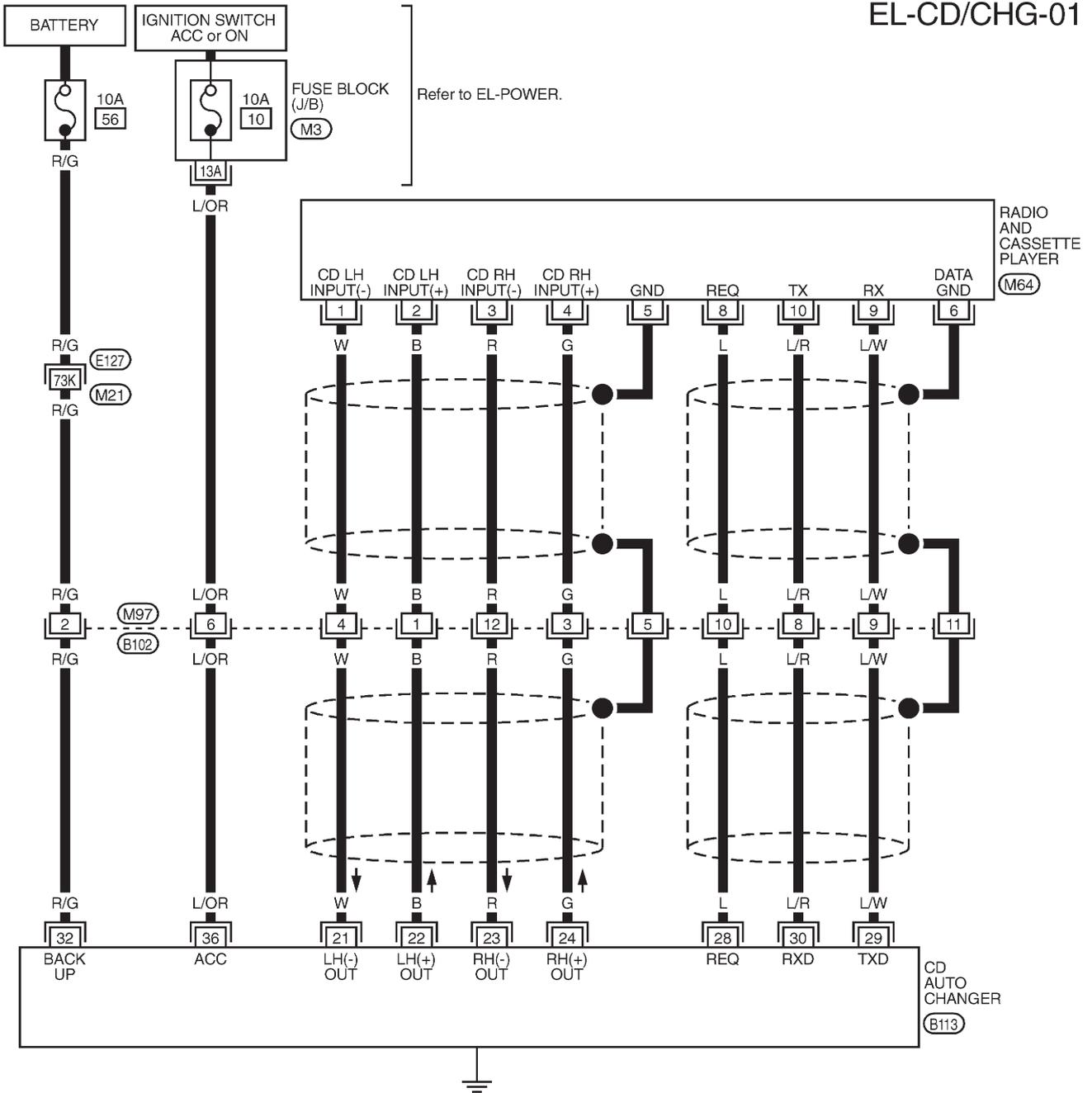
Item	Service procedure	Description
Replacement of IMMU by old part	Radio needs to be reset to NEW state by authorized representative of radio manufacturer.	If a radio code has already been stored in memory of the IMMU, the radio cannot be linked to it. After switching on the radio, it will display "SECURE" after 1 minute.
No communication from IMMU to radio	<ol style="list-style-type: none"><li data-bbox="440 383 946 439">1. If NATS is malfunctioning, check NATS system.<li data-bbox="440 439 946 528">2. After NATS is repaired, reset radio to NEW state by authorized representative of radio manufacture.	After switching on the radio, the radio will display "SECURE" after 1 minute. Further use of radios impossible until communication is established again, or after radio is reset by authorized representative of (radio) manufacturer.

NOTE: Authorized radio manufacturer representatives in Europe are listed in the technical bulletin TB-EL 96-001 issued by Nissan Europe N.V.

AUDIO — CD AUTO CHANGER —

Wiring Diagram — CD/CHG —/LHD Wagon

EL-CD/CHG-01



Refer to last page (Foldout page).

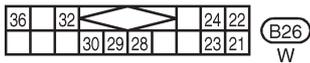
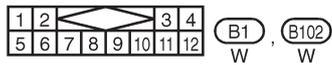
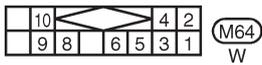
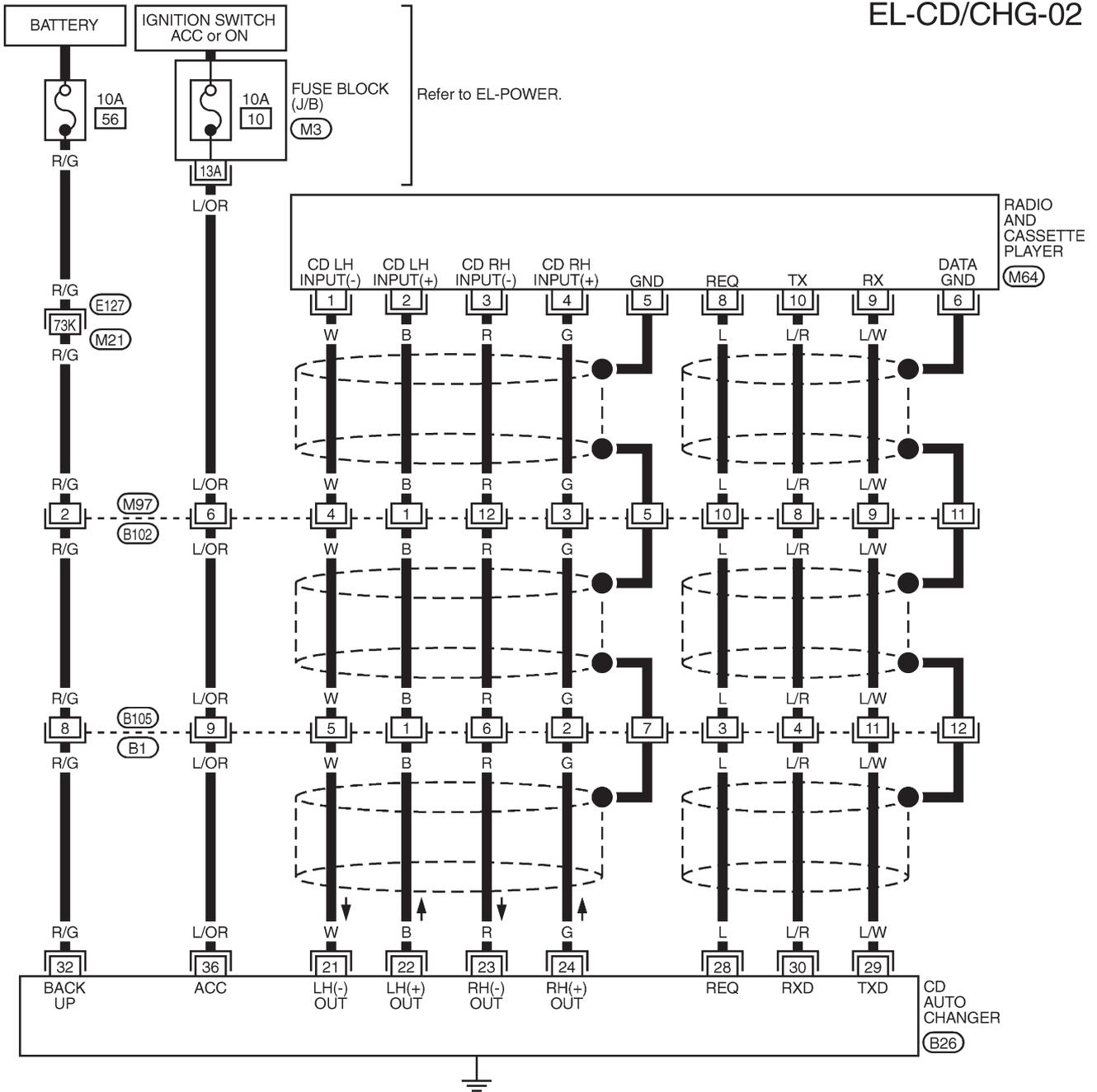
(M21), (E127)

(M3)

AUDIO — CD AUTO CHANGER —

Wiring Diagram — CD/CHG —/LHD Hardtop

EL-CD/CHG-02



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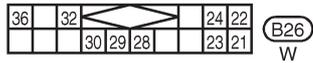
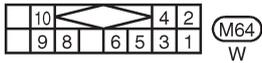
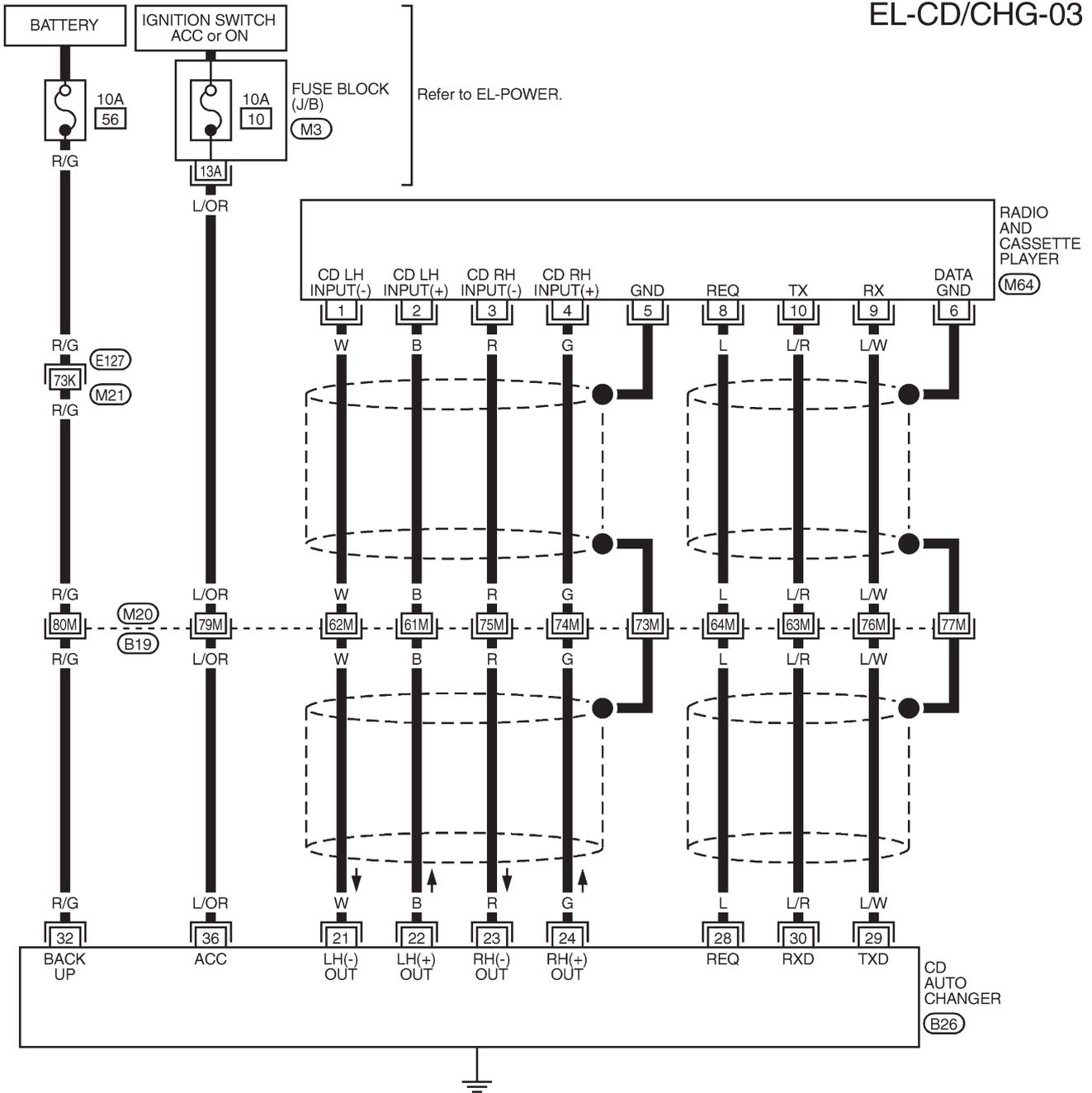
(M21), (E127)

(M3)

AUDIO — CD AUTO CHANGER —

Wiring Diagram — CD/CHG —/RHD Wagon

EL-CD/CHG-03



Refer to last page (Foldout page).

(M20), (B19)

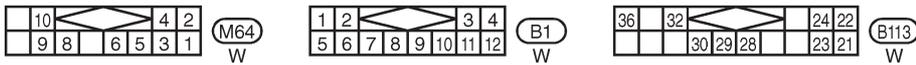
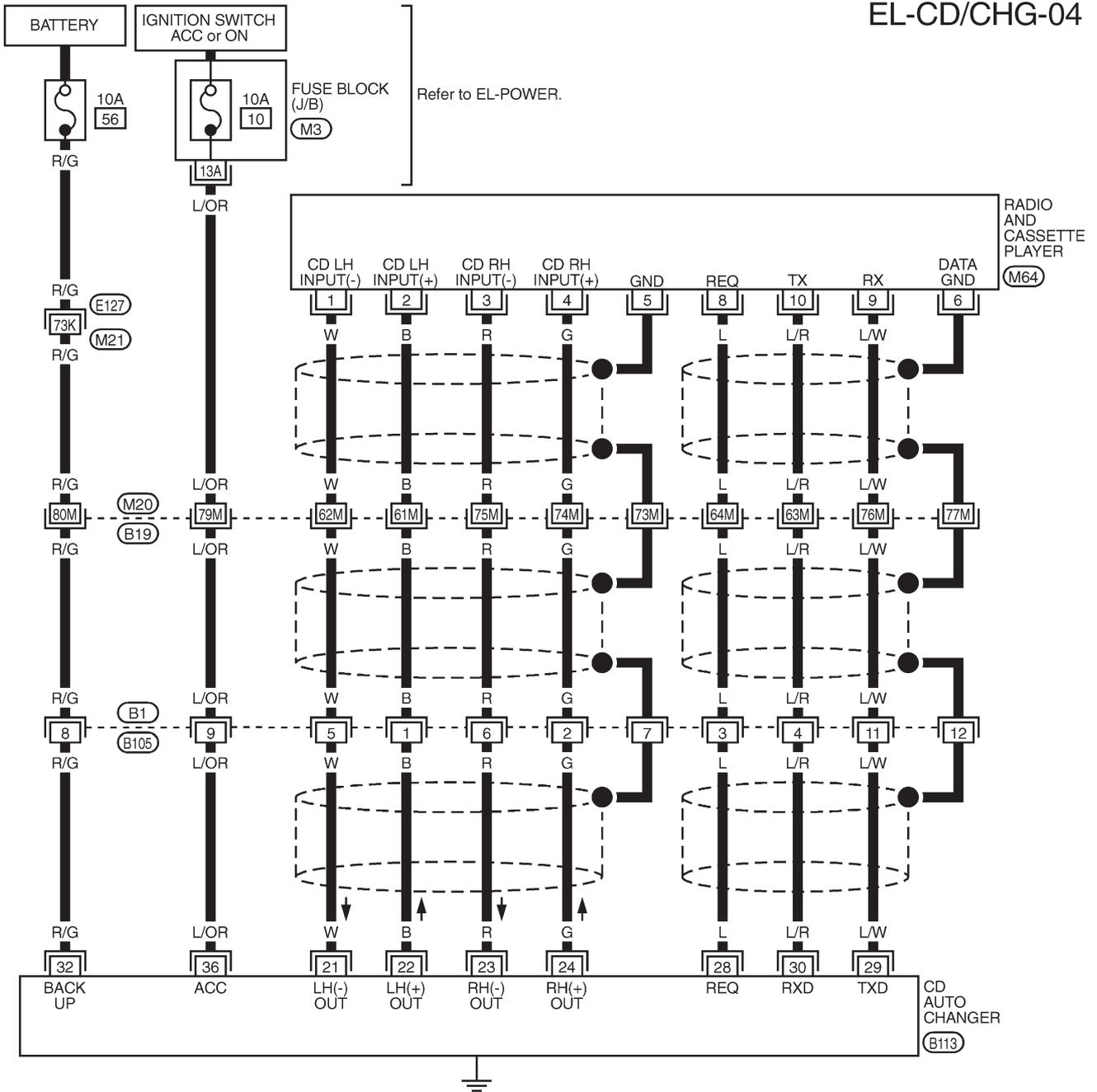
(M21), (E127)

(M3)

AUDIO — CD AUTO CHANGER —

Wiring Diagram — CD/CHG —/RHD Hardtop

EL-CD/CHG-04



Refer to last page (Foldout page).

- (M20), (B19)
- (M21), (E127)
- (M3)

Trouble Diagnoses

CD AUTOCHANGER

Symptom	Possible causes	Repair order
No play of the CD after CD play button is pushed.		
There is no error code shown on the radio.	<ol style="list-style-type: none"> 1. Radio (The radio is not working.) 2. Harness connection (Magazine does not eject.) 3. Changer 	<ol style="list-style-type: none"> 1. Remove the radio for repair. 2. Check harness connection. 3. Remove the changer for repair.
Error code [ERR] is shown on the radio.	<ol style="list-style-type: none"> 1. Discs 2. Magazine does not eject or a disc remains in CD player. 3. Changer 	<ol style="list-style-type: none"> 1. Inspect discs. (Refer to testing magazines and discs.) 2. Reset the changer. (Disconnect harness connector at the changer and reconnect after 30 sec.) 3. Remove the changer for repair.
CD skipping.	<ol style="list-style-type: none"> 1. Rough road driving 2. Discs 3. Bracket 4. Changer 	<ol style="list-style-type: none"> 1. System is not malfunctioning. 2. Inspect discs. (Refer to testing magazines and discs.) 3. Check and repair bracket and installation of changer. 4. Remove the changer for repair.
Error code [NO DISC] is shown on the radio after CD play button is pressed.	<ol style="list-style-type: none"> 1. Magazine setting 2. Magazine 3. Changer 	<ol style="list-style-type: none"> 1. Confirm the magazine is pushed completely. 2. Inspect magazine. (Refer to testing magazines and discs.) 3. Remove the changer for repair.

Testing magazines and discs

1. Confirm discs are installed correctly into the magazine (not upside down).
2. Visually inspect/compare the customer's discs with each other and other discs.
Identify any of the following conditions:
 - Discs with a large outside diameter. [Normal size is 120 mm (4.72 in).]
 - Discs with rough or lipped edges.
 - Discs with excessive thickness [Normal size is 1.2 mm (0.047 in).]
 - Discs with scratches, abrasions, or pits on the surface.
 - Discs with grease/oil, fingerprints, foreign material.
 - Discs are warped due to excessive heat exposure.
3. Slide/place the discs in and out of the various magazine positions.
Identify any discs and/or positions that require additional force for placement/ejection. If interference (sticking, excessive tensions) is found, replace the magazine or the discs.

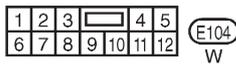
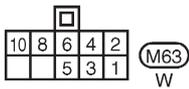
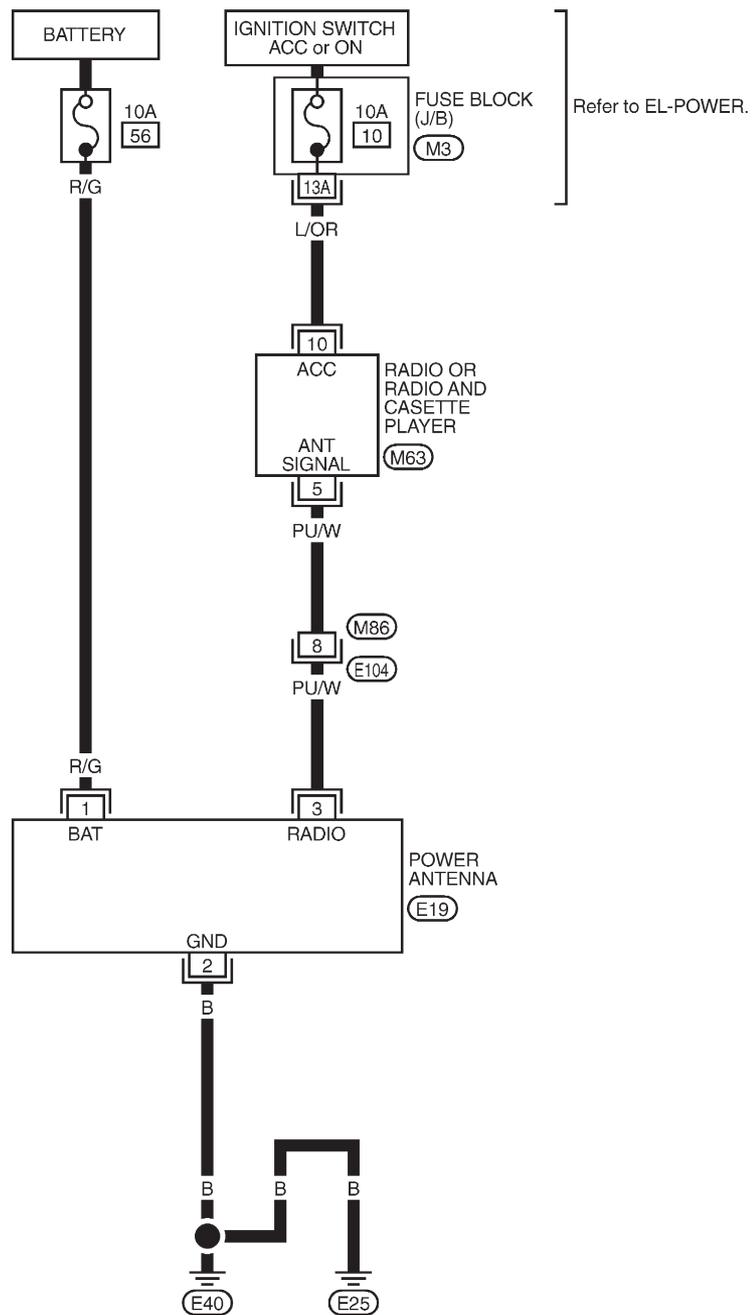
Note:

- **Discs which are marginally out of specification (ex. dirty, scratched and so on) may play correctly on a home stereo.**
However, when used in the automotive environment skipping may occur due to the added vehicle movement and/or vibration due to road conditions. Autochangers should not be replaced when discs are at fault.
- **Use a soft damp cloth to wipe the discs starting from the center outward in radial direction. Never use chemical cleaning solutions to clean the discs.**

AUDIO ANTENNA

Wiring Diagram — P/ANT —/LHD Models

EL-P/ANT-01



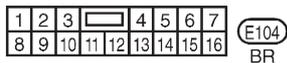
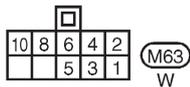
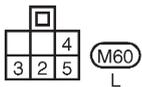
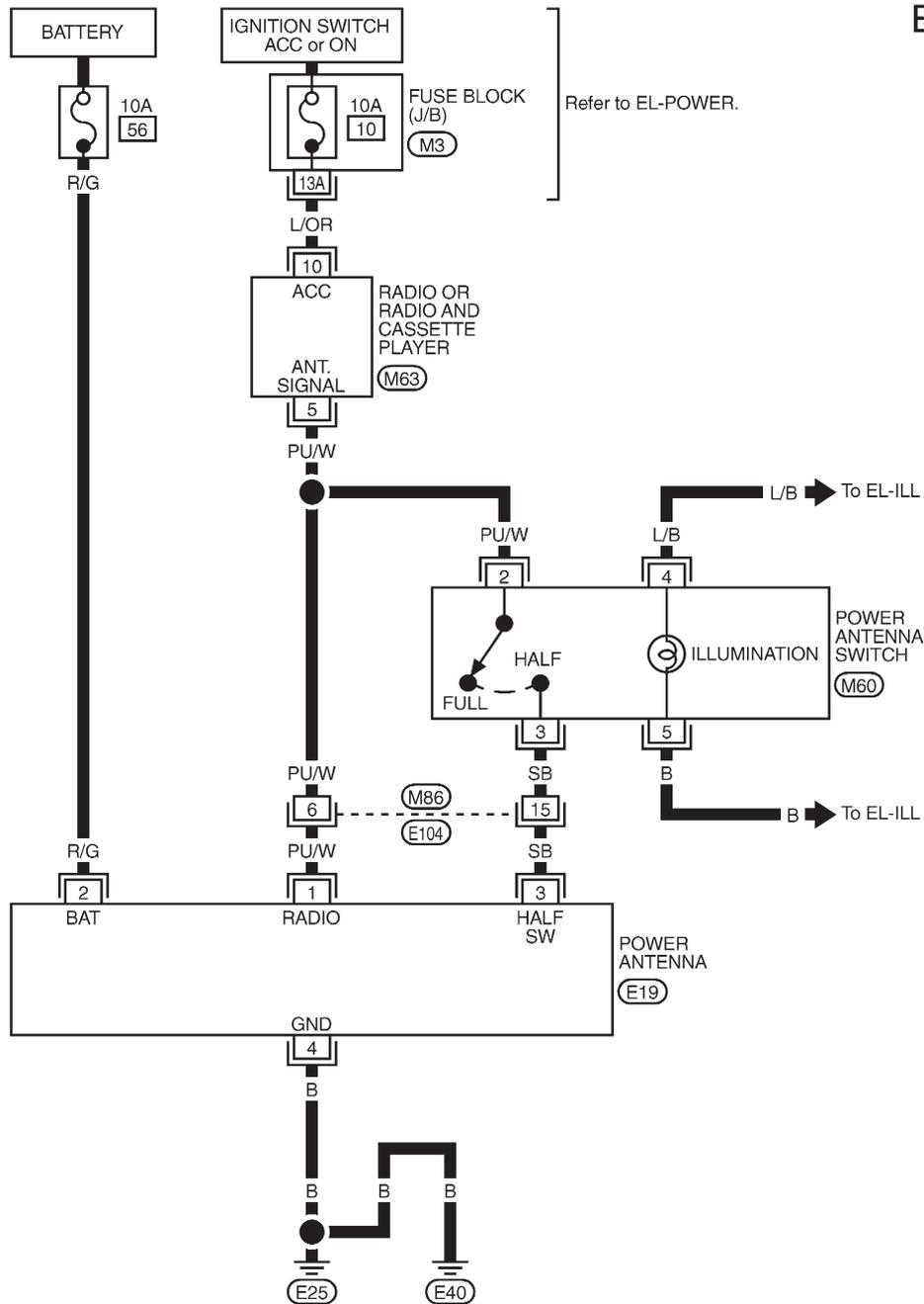
Refer to last page (Foldout page).

M3

AUDIO ANTENNA

Wiring Diagram — P/ANT —/RHD Models

EL-P/ANT-02



Refer to last page (Foldout page).

(M3)

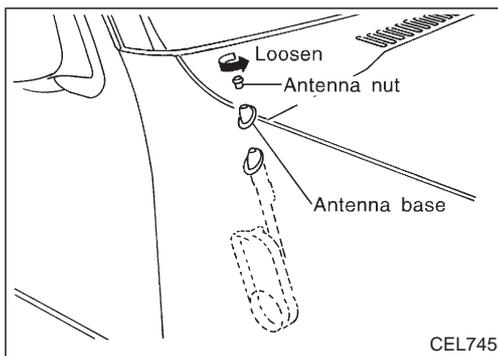
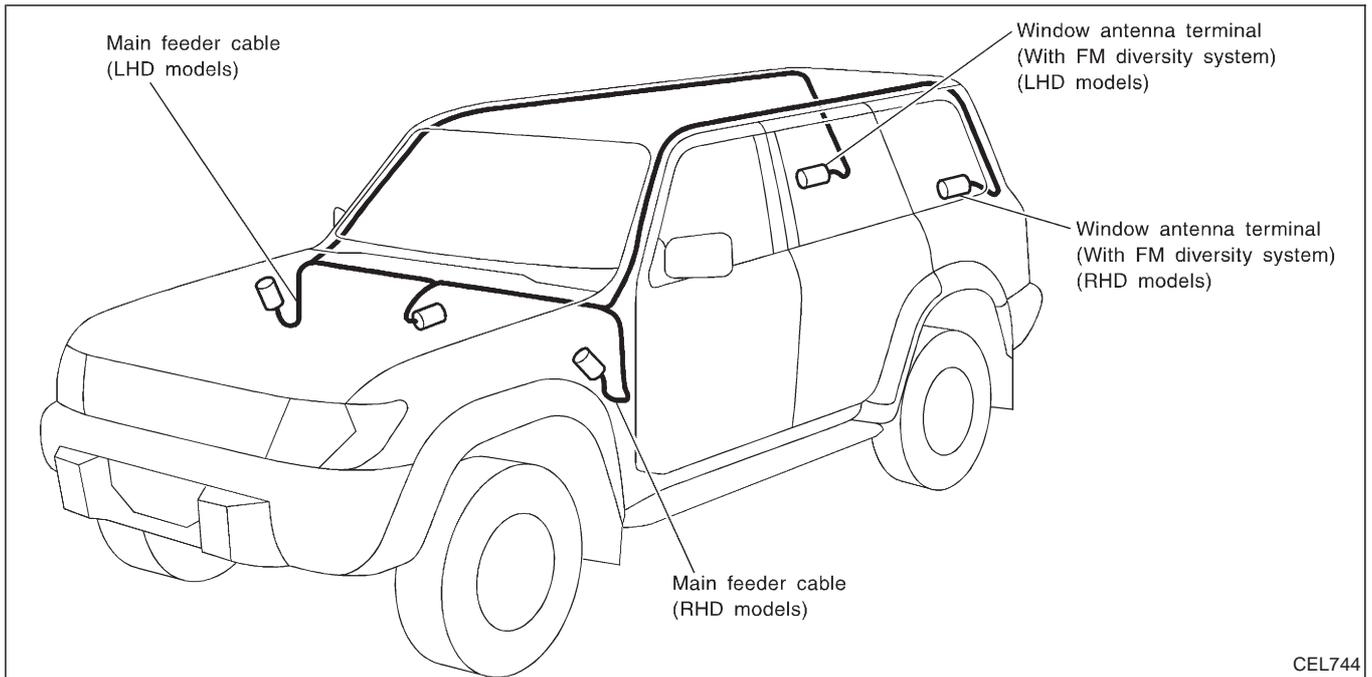
AUDIO ANTENNA

Trouble Diagnoses

POWER ANTENNA

Symptom	Possible causes	Repair order
Power antenna does not operate.	<ol style="list-style-type: none">10A fuseRadio signalGrounds (E25) and (E40)	<ol style="list-style-type: none">Check 10A fuse (No. 56), located in fuse and fusible link box). Verify that battery positive voltage is present at terminal ① : LHD, ② : RHD of power antenna.Turn ignition switch and radio ON. Verify that battery positive voltage is present at terminal ③ : LHD, ① : RHD of power antenna.Check grounds (E25) and (E40).

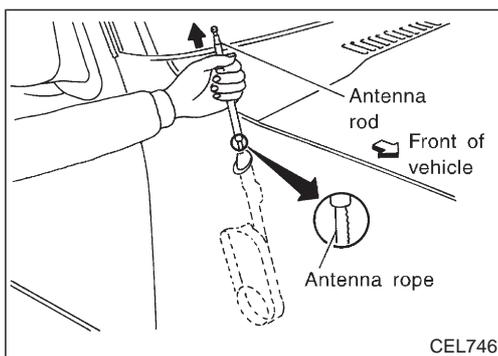
Location of Antenna



Antenna Rod Replacement

REMOVAL

1. Remove antenna nut and antenna base.



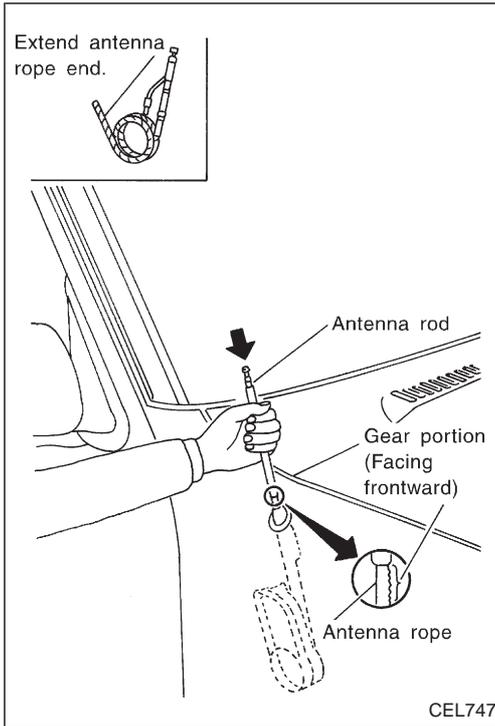
2. Withdraw antenna rod while raising it by operating antenna motor.

AUDIO ANTENNA

Antenna Rod Replacement (Cont'd)

INSTALLATION

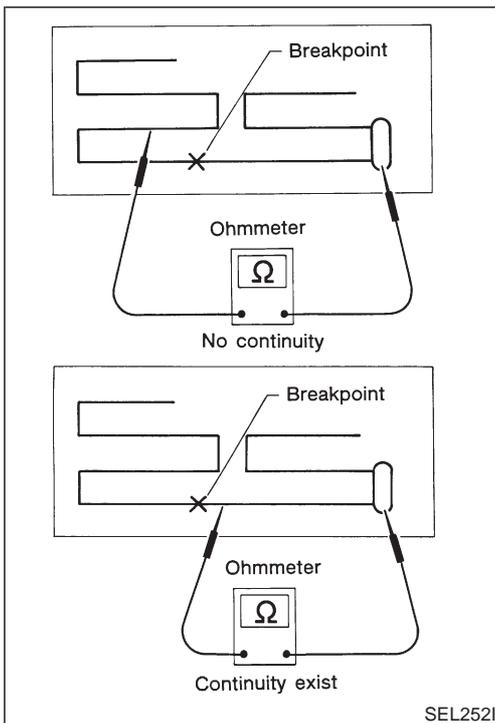
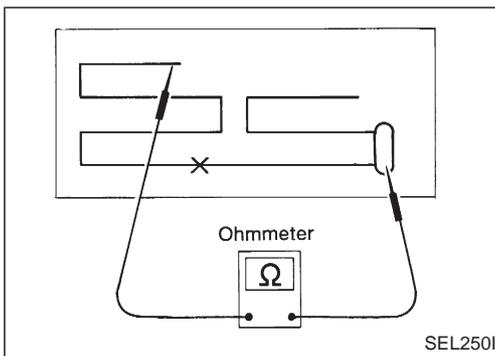
1. Lower antenna rod by operating antenna motor.
2. Insert gear section of antenna rope into place with it facing toward antenna motor.
3. As soon as antenna rope is wound on antenna motor, stop antenna motor. Insert antenna rod lower end into antenna motor pipe.
4. Retract antenna rod completely by operating antenna motor.
5. Install antenna nut and base.



Window Antenna Repair

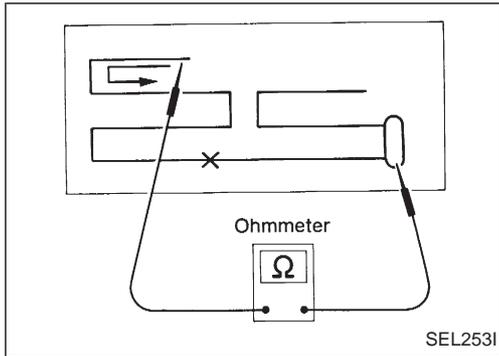
ELEMENT CHECK

1. Attach probe circuit tester (in ohm range) to antenna terminal on each side.
2. If an element is broken, no continuity will exist.



AUDIO ANTENNA

Window Antenna Repair (Cont'd)



3. To locate broken point, move probe along element. Tester needle will swing abruptly when probe passes the point.

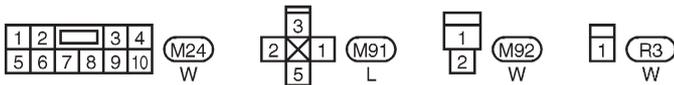
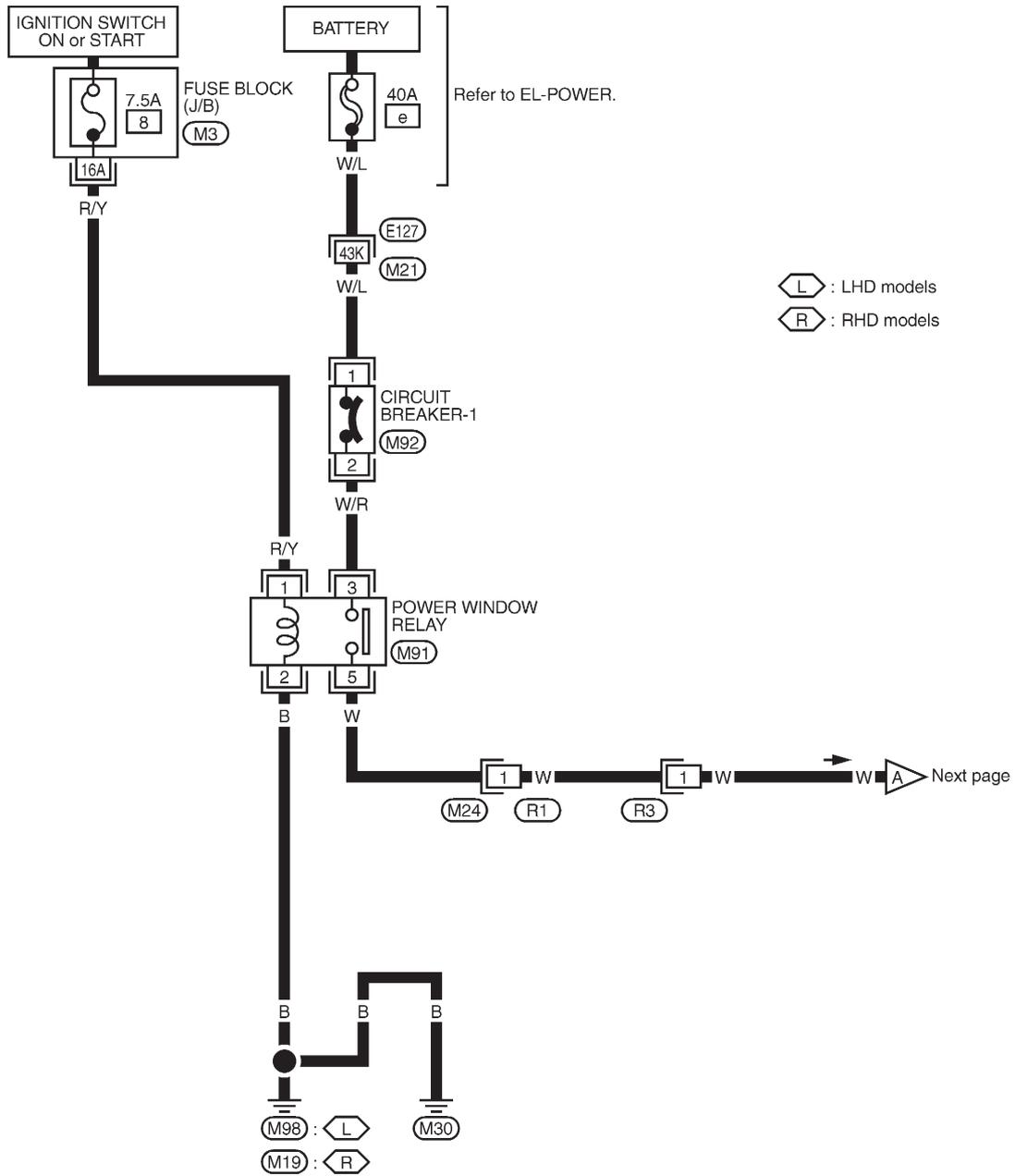
ELEMENT REPAIR

Refer to "Filament Repair", "REAR WINDOW DEFOGGER" (EL-165).

ELECTRIC SUNROOF

Wiring Diagram — SROOF —

EL-SROOF-01



Refer to last page (Foldout page).

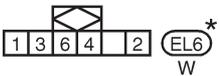
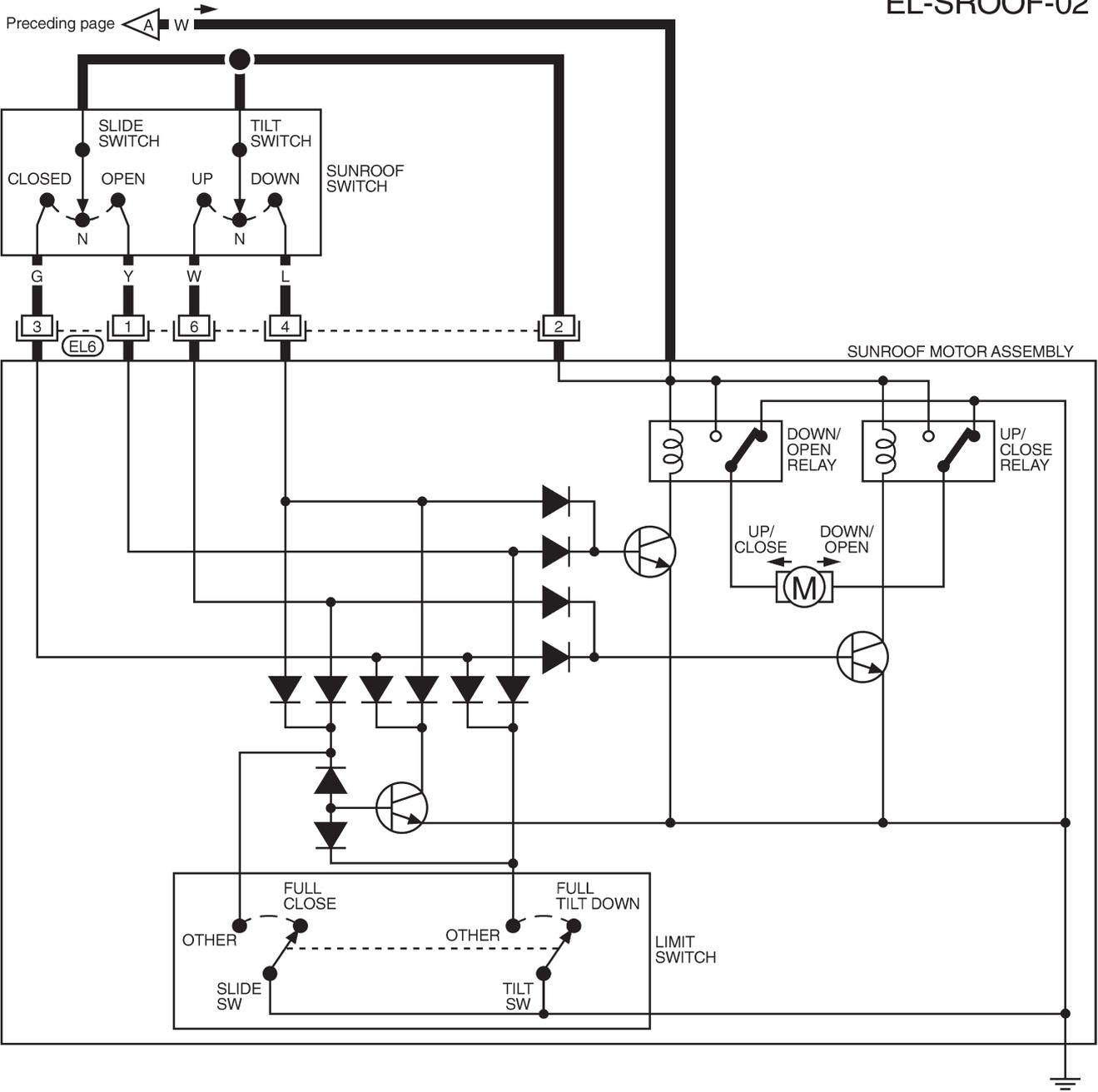
M21, E127

M3

ELECTRIC SUNROOF

Wiring Diagram — SROOF — (Cont'd)

EL-SROOF-02

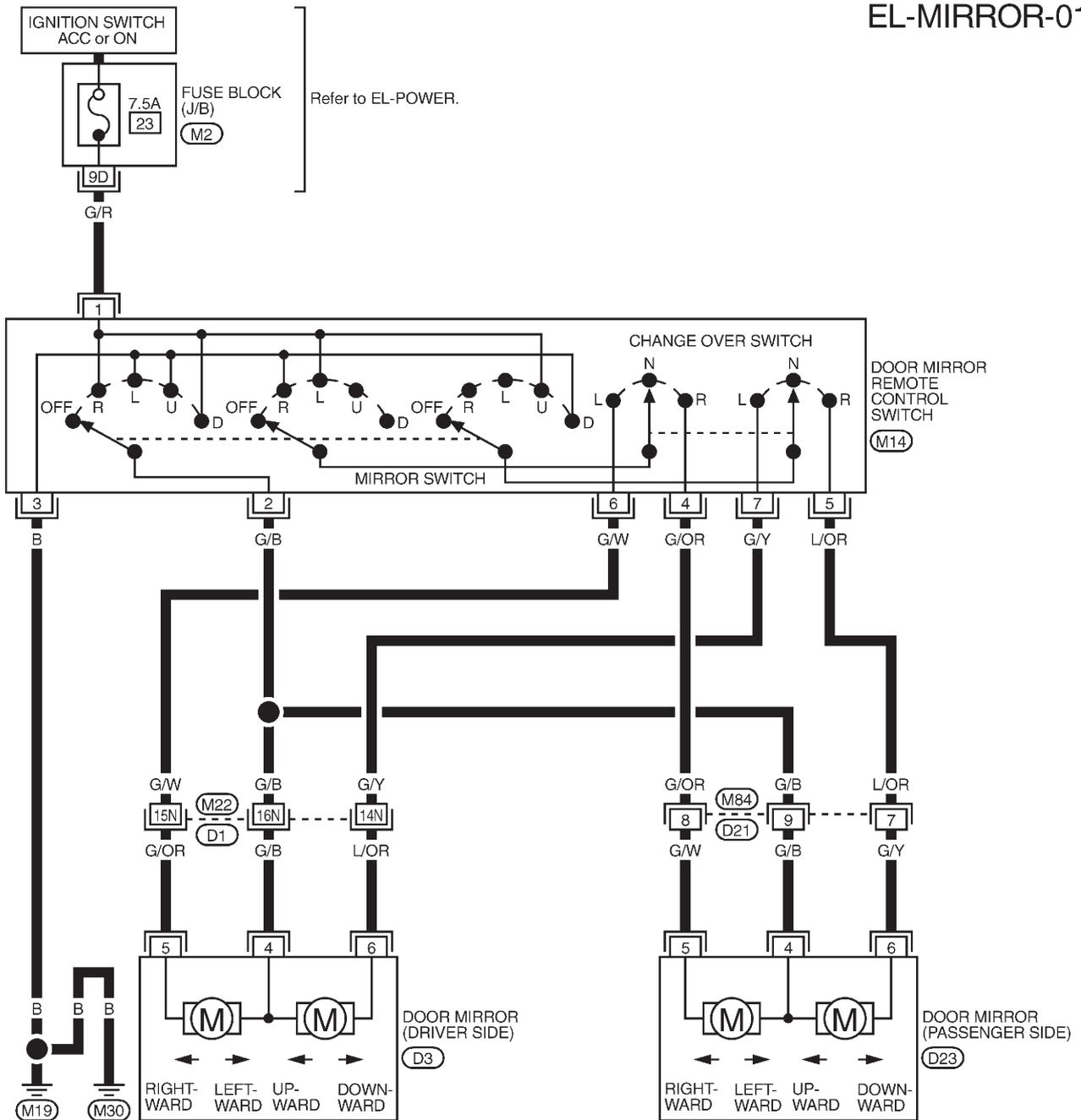


*: This connector is not shown in "HARNES LAYOUT", EL section.

POWER DOOR MIRROR

Wiring Diagram — MIRROR —/LHD Models

EL-MIRROR-01



2	3		1
5	7	4	6

M14
GY

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		

M84
W

1	3	4	5	6	7	8
---	---	---	---	---	---	---

D3
W

D23
W

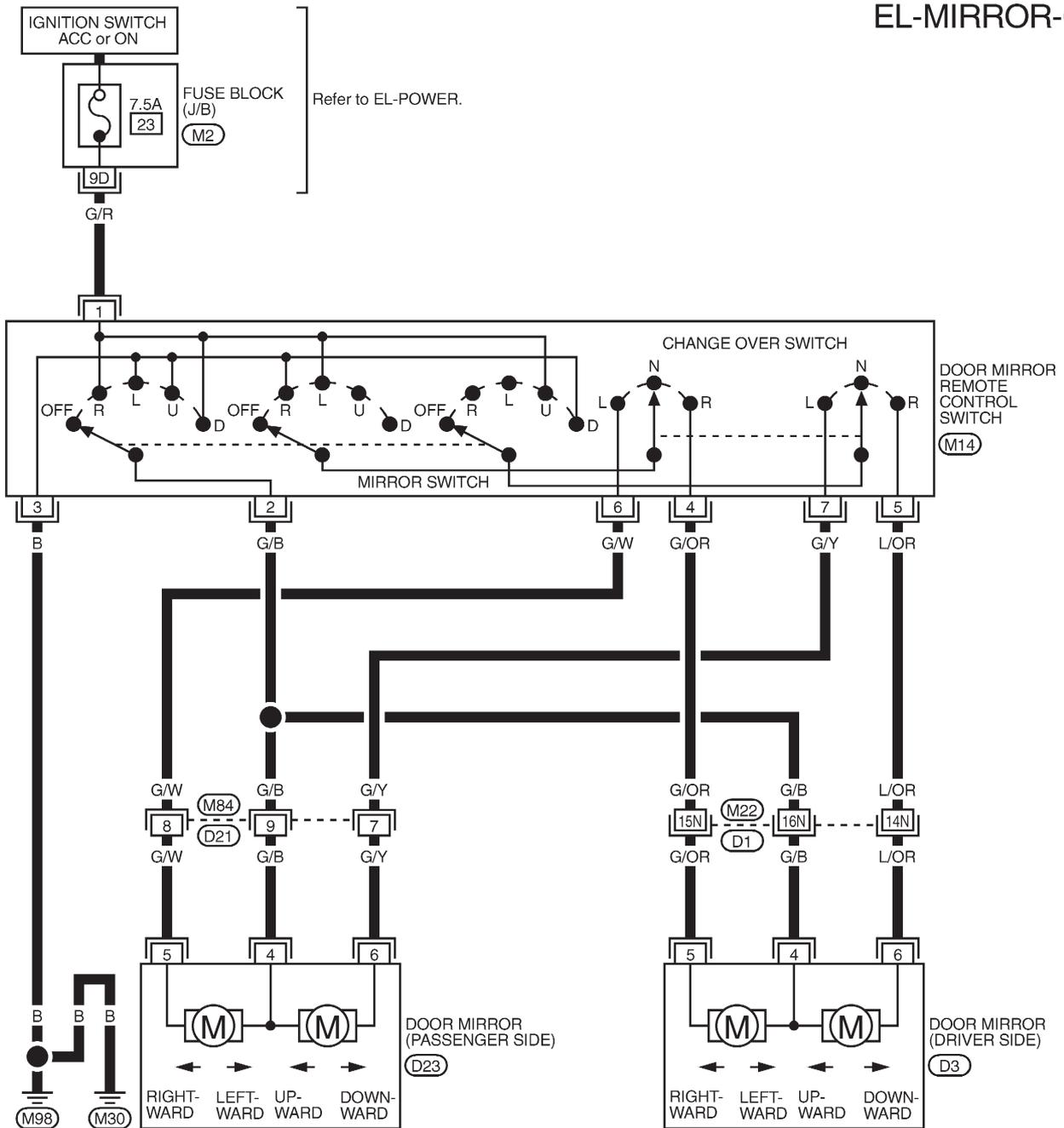
Refer to last page (Foldout page).

M22, D1
M2

POWER DOOR MIRROR

Wiring Diagram — MIRROR —/RHD Models

EL-MIRROR-02



2	3		1
5	7	4	6

M14
GY

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		

M84
W

1	3	4	5	6	7	8
---	---	---	---	---	---	---

D3, D23
W

D23
W

Refer to last page (Foldout page).

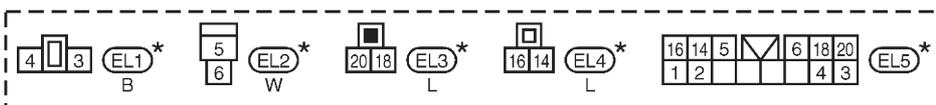
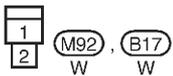
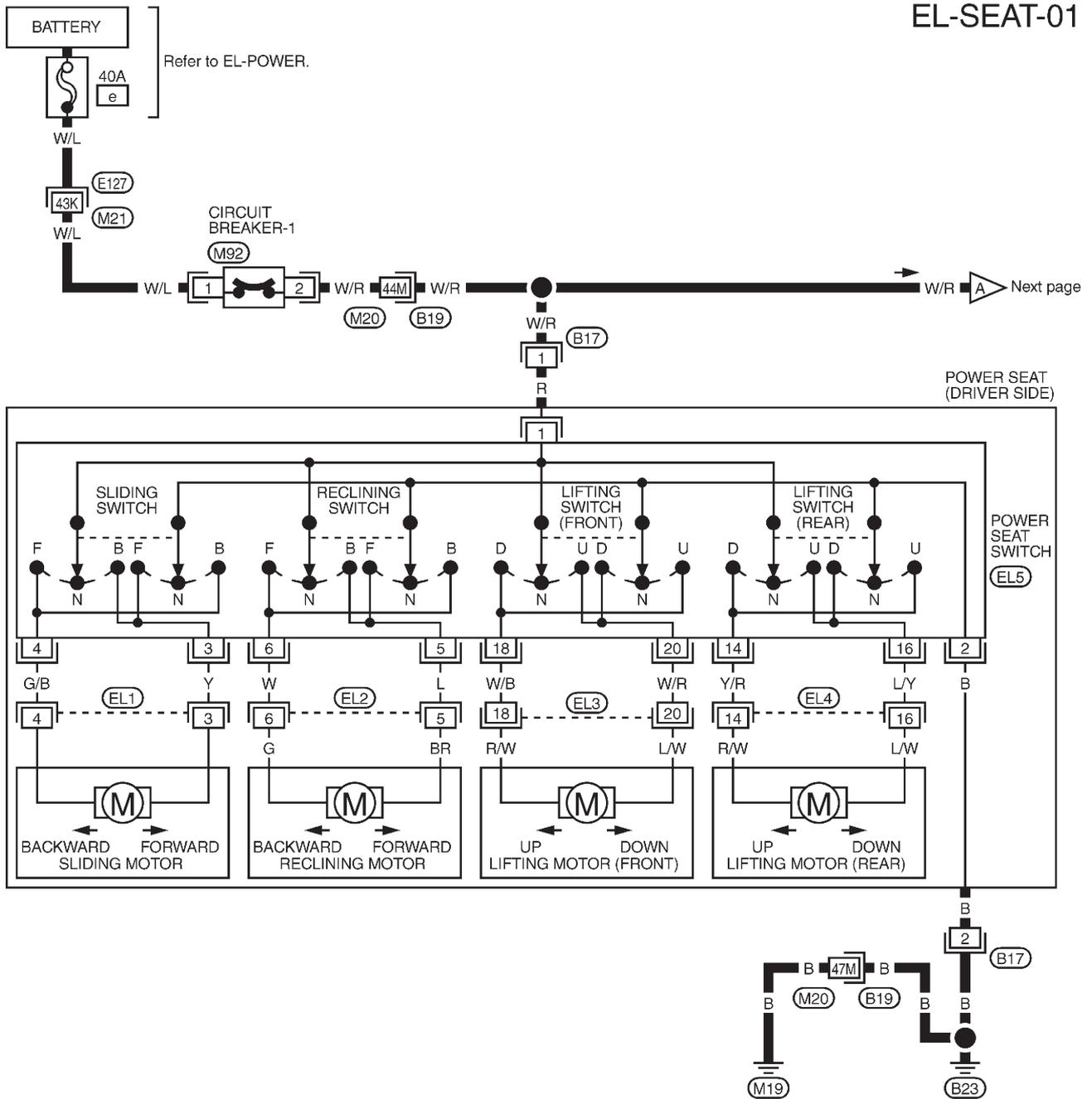
M22, D1

M2

POWER SEAT

Wiring Diagram — SEAT —/LHD Models

EL-SEAT-01



*: This connector is not shown in "HARNESS LAYOUT", EL section.

Refer to last page (Foldout page).

(M20), (B19)

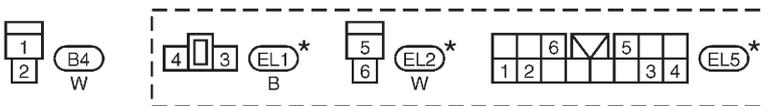
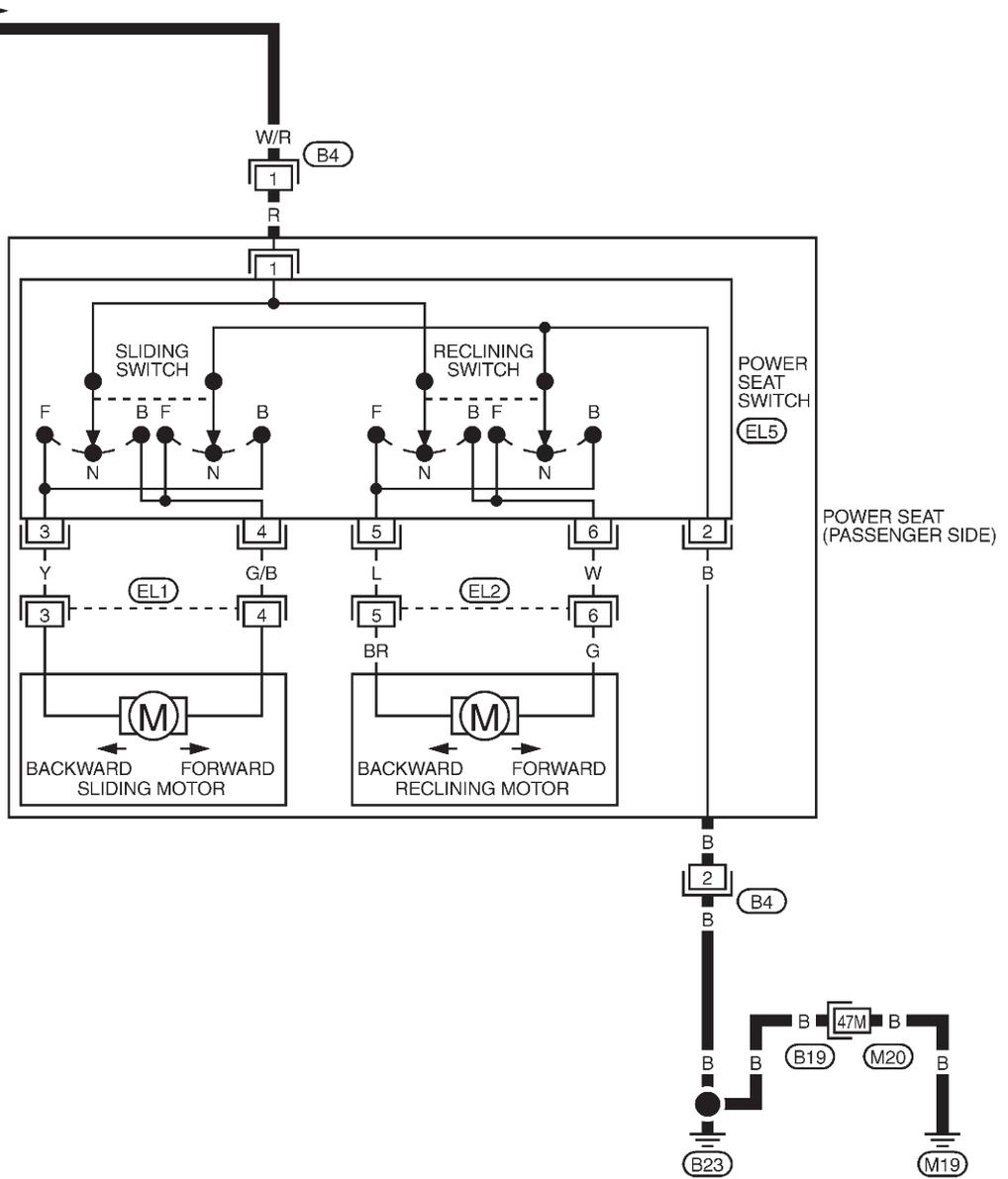
(M21), (E127)

POWER SEAT

Wiring Diagram — SEAT —/LHD Models (Cont'd)

EL-SEAT-02

Preceding page A W/R



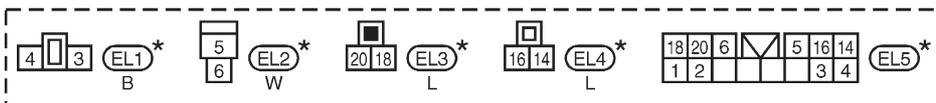
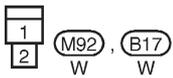
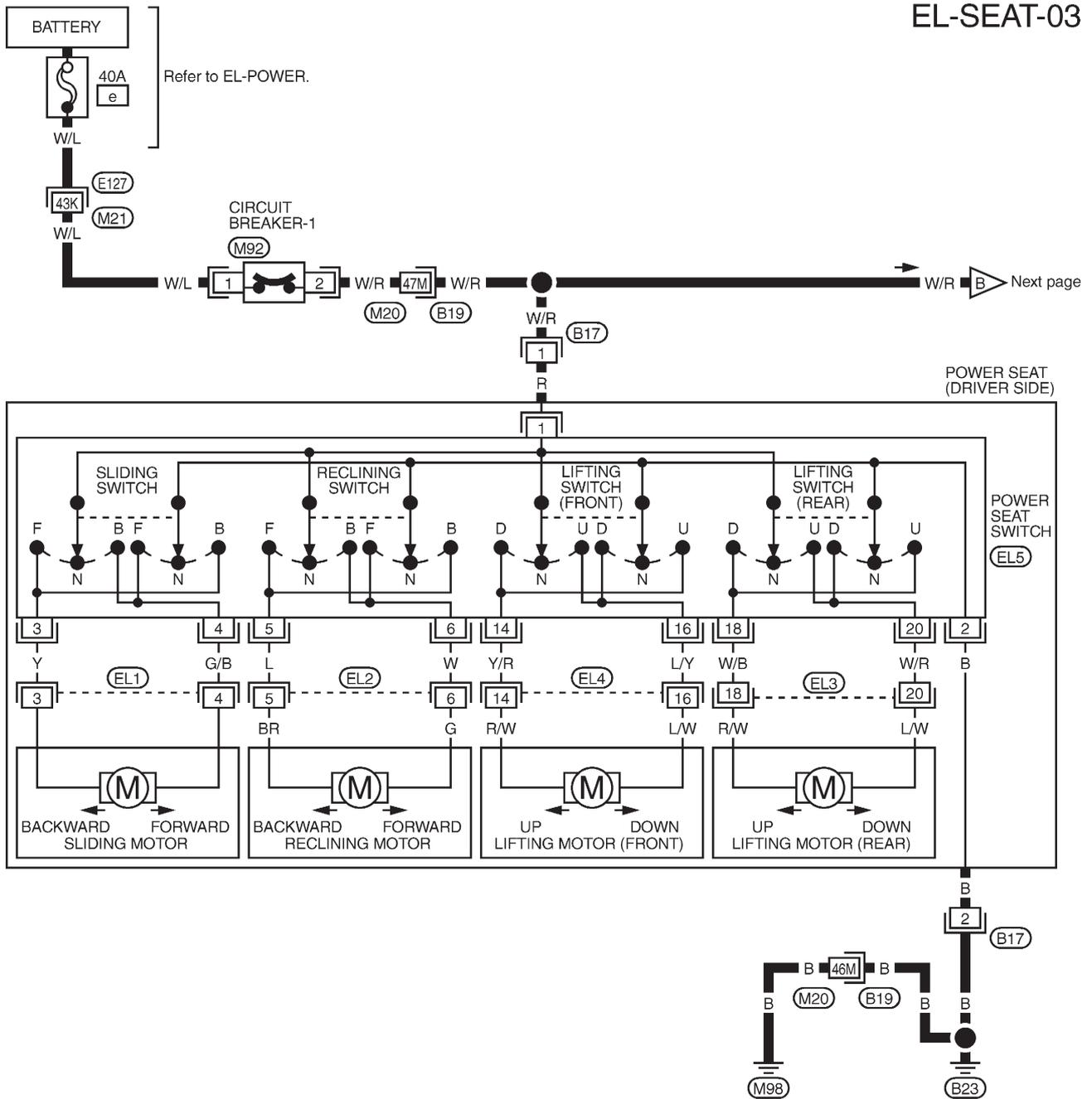
Refer to last page (Foldout page).
M20, B19

*: This connector is not shown in "HARNES LAYOUT", EL section.

POWER SEAT

Wiring Diagram — SEAT —/RHD Models

EL-SEAT-03



*: This connector is not shown in "HARNESS LAYOUT", EL section.

Refer to last page (Foldout page).

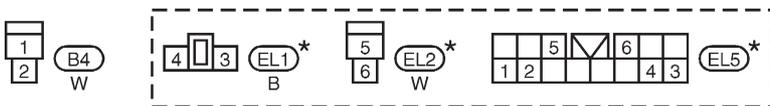
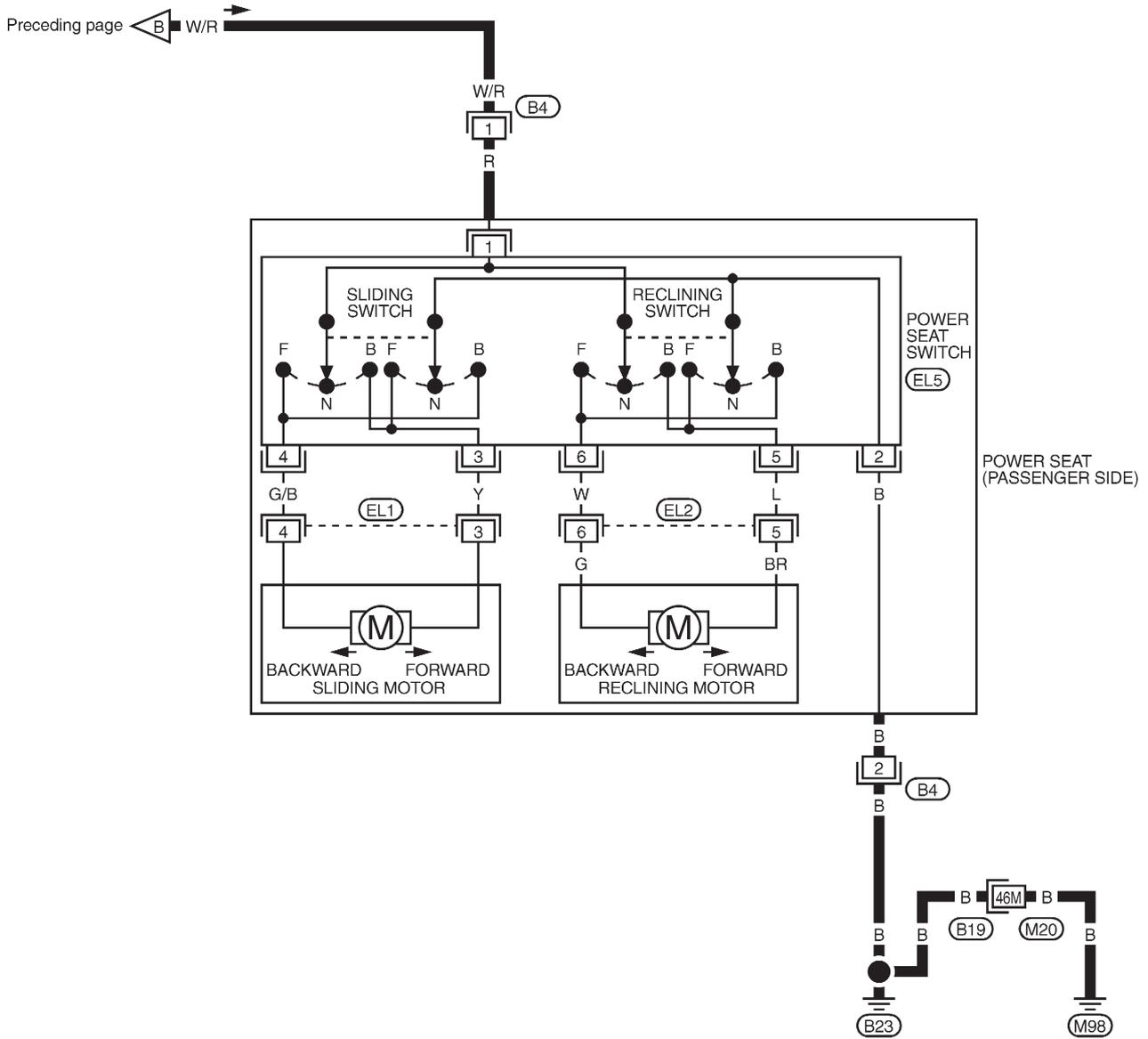
(M20), (B19)

(M21), (E127)

POWER SEAT

Wiring Diagram — SEAT —/RHD Models (Cont'd)

EL-SEAT-04



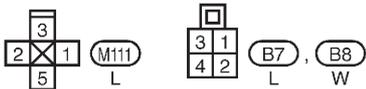
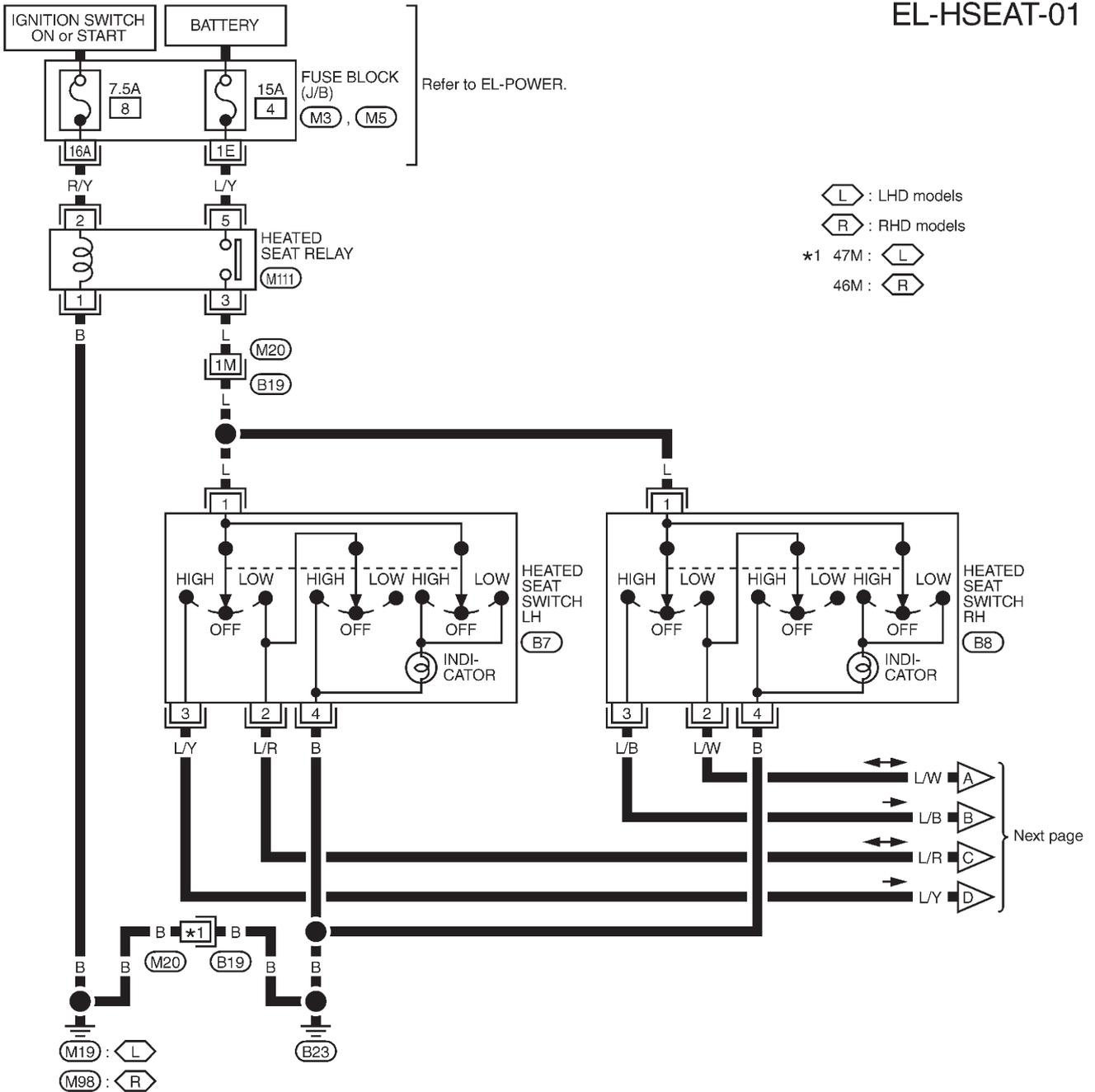
Refer to last page (Foldout page).
M20, B19

*: This connector is not shown in "HARNES LAYOUT", EL section.

HEATED SEAT

Wiring Diagram — HSEAT —

EL-HSEAT-01



Refer to last page (Foldout page).

M20, B19

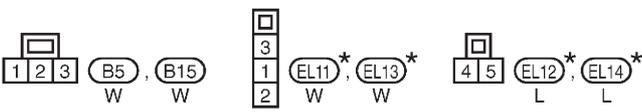
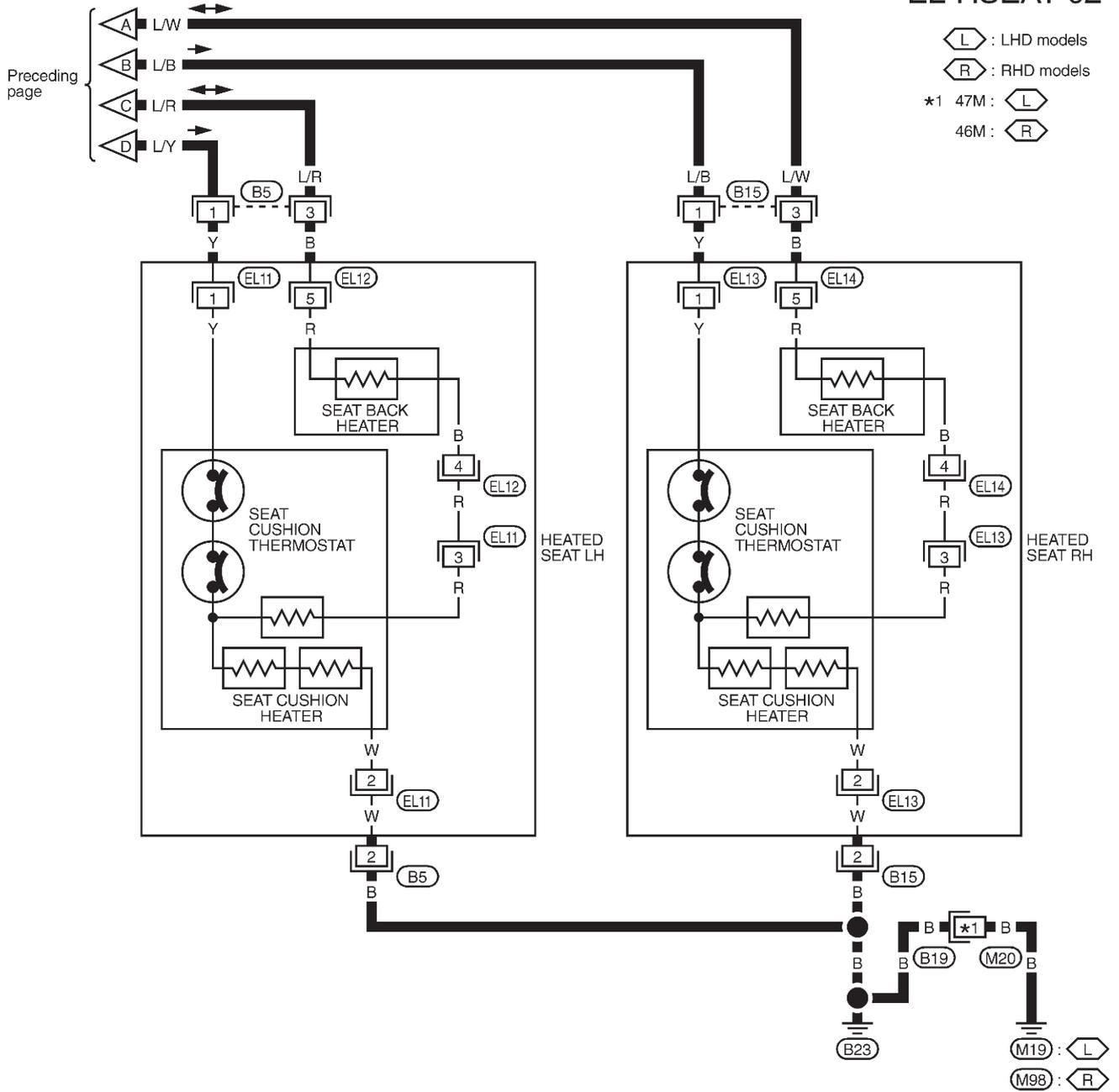
M3

M5

HEATED SEAT

Wiring Diagram — HSEAT — (Cont'd)

EL-HSEAT-02



Refer to last page (Foldout page).
 (M20), (B19)

* : This connector is not shown in "HARNESS LAYOUT", EL section.

POWER WINDOW

System Description

With ignition switch in ON or START position, power is supplied

- through 7.5A fuse [No. 8], located in the fuse block (J/B)]
- to power window relay terminal ① .

The power window relay is energized and power is supplied

- through power window relay terminal ⑤
- to power window main switch terminal ① ,
- to power window sub switch terminal ⑤ .

MANUAL OPERATION

NOTE:

Numbers in parentheses are terminal numbers, when power window switch is pressed in the UP and DOWN positions respectively.

Driver side

When the driver side switch in the power window main switch is pressed in the up position, power is supplied

- to driver side power window regulator terminal (② , ①)
- through power window main switch terminal (⑨ , ⑧).

Ground is supplied

- to driver side power window regulator terminal (① , ②)
- through power window main switch terminal (⑧ , ⑨).

Then, the motor raises or lowers the window until the switch is released.

Passenger side

MAIN SWITCH OPERATION

Power is supplied

- through power window main switch (⑤ , ⑥)
- to front power window sub-switch (③ , ④).

The subsequent operation is the same as the sub-switch operation.

SUB-SWITCH OPERATION

Power is supplied

- through front power window sub-switch (① , ②)
- to passenger side power window regulator (② , ①).

Ground is supplied

- to passenger side power window regulator (① , ②)
- through front power window sub-switch (② , ①)
- to front power window sub-switch (④ , ③)
- through power window main switch (⑥ , ⑤).

Then, the motor raises or lowers the window until the switch is released.

Rear door

Rear door windows will raise and lower in the same manner as passenger side door window.

AUTO OPERATION

The power window AUTO feature enables the driver to open or close the driver's window without holding the window switch in the respective position.

When the AUTO switch in the main switch is pressed and released, the driver's window will travel to the fully open or closed position.

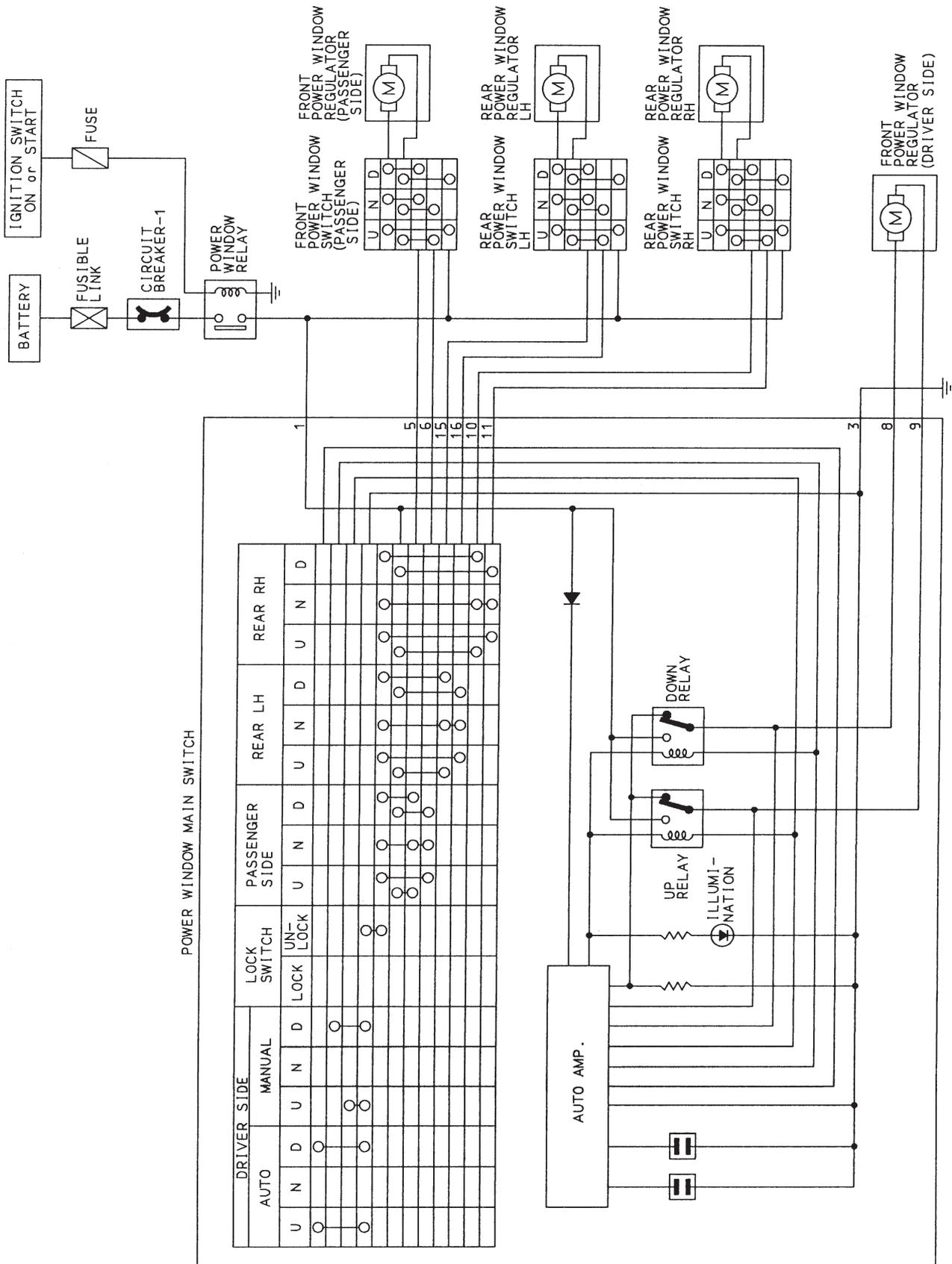
POWER WINDOW LOCK

The power window lock is designed to lock operation of all windows except for driver's door window.

When the lock switch is pressed to lock position, ground of the sub-switches in the power window main switch is disconnected. This prevents the power window motors from operating.

POWER WINDOW

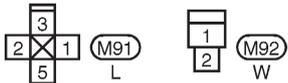
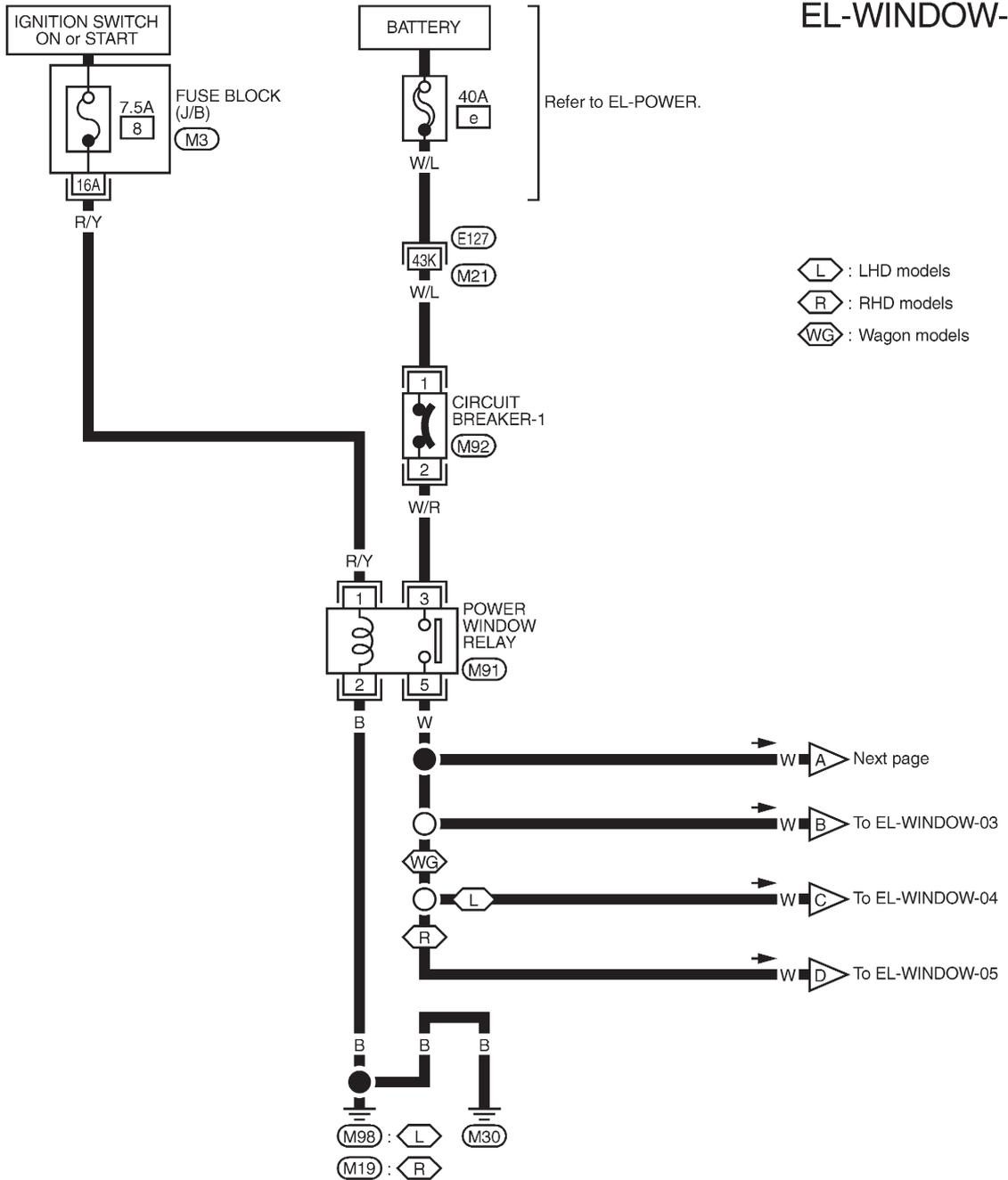
Schematic



POWER WINDOW

Wiring Diagram — WINDOW —

EL-WINDOW-01



Refer to last page (Foldout page).

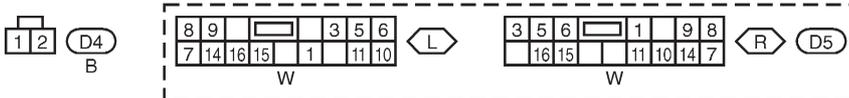
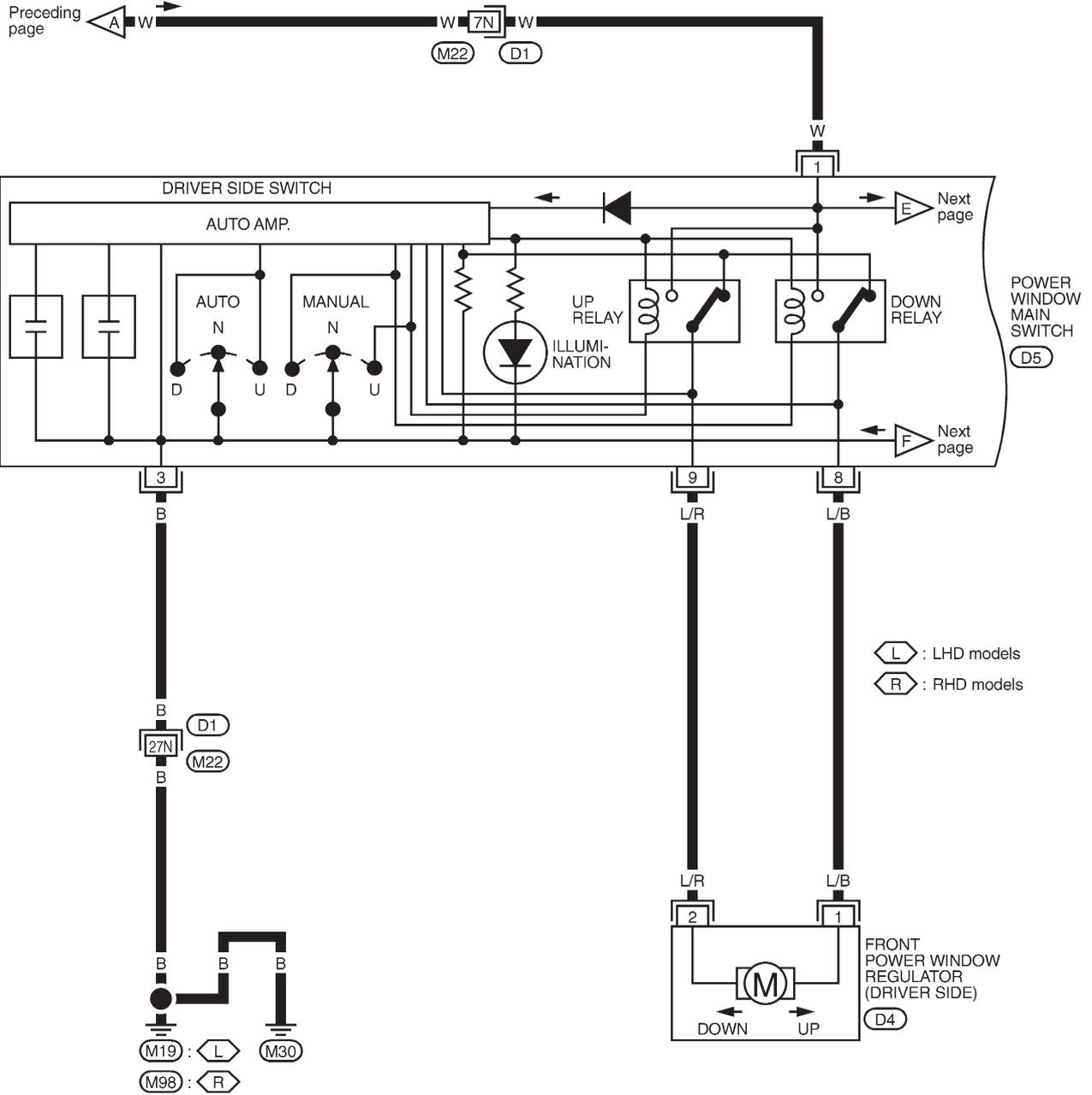
M21, E127

M3

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02

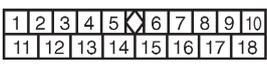
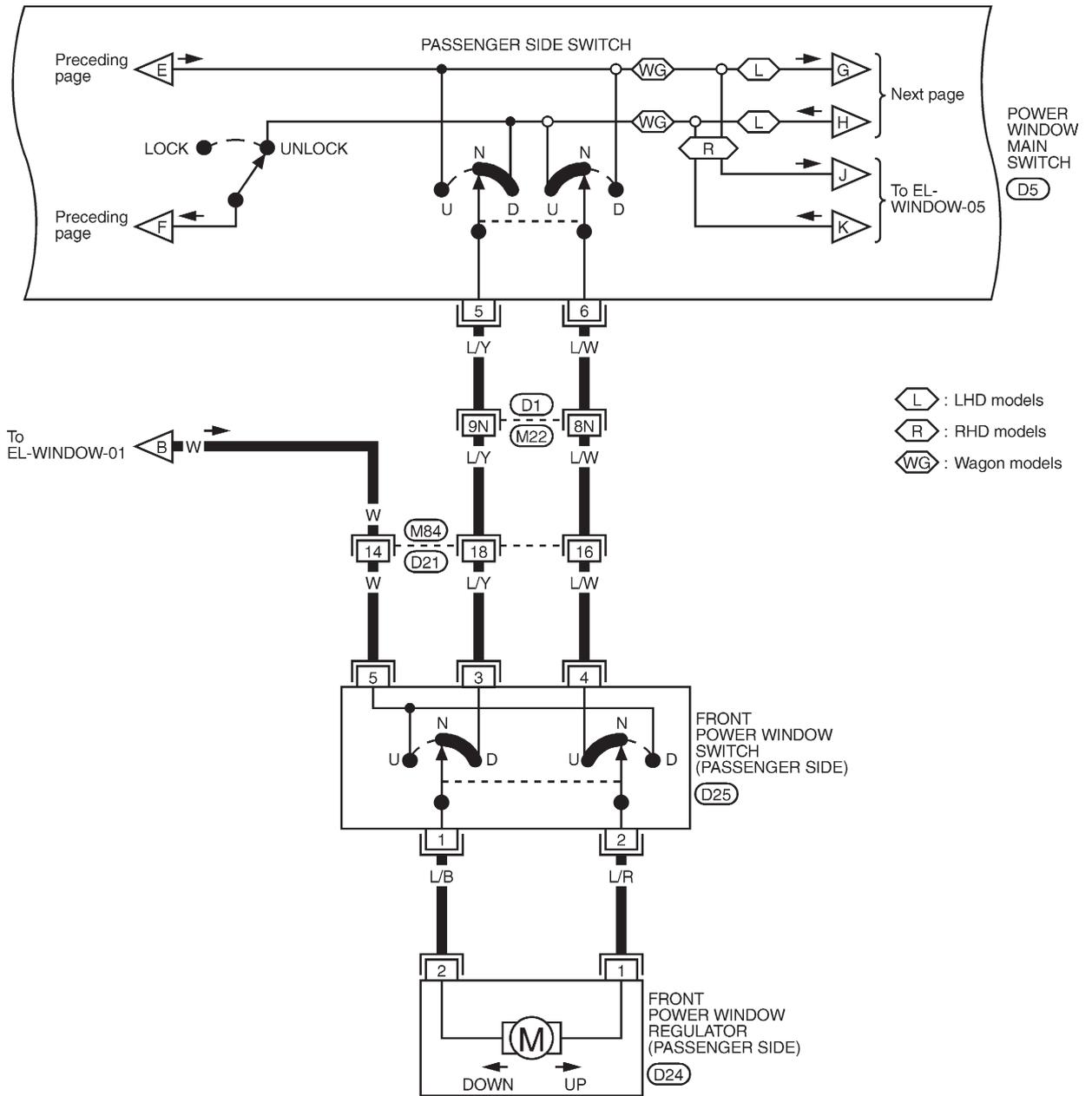


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(M22), (D1)

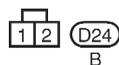
POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

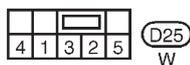
EL-WINDOW-03



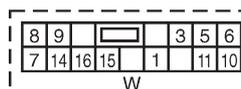
(M84)
W



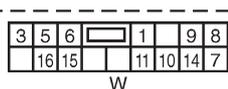
(D24)
B



(D25)
W



(L)
W



(R)
W

(D5)

Refer to last page (Foldout page).

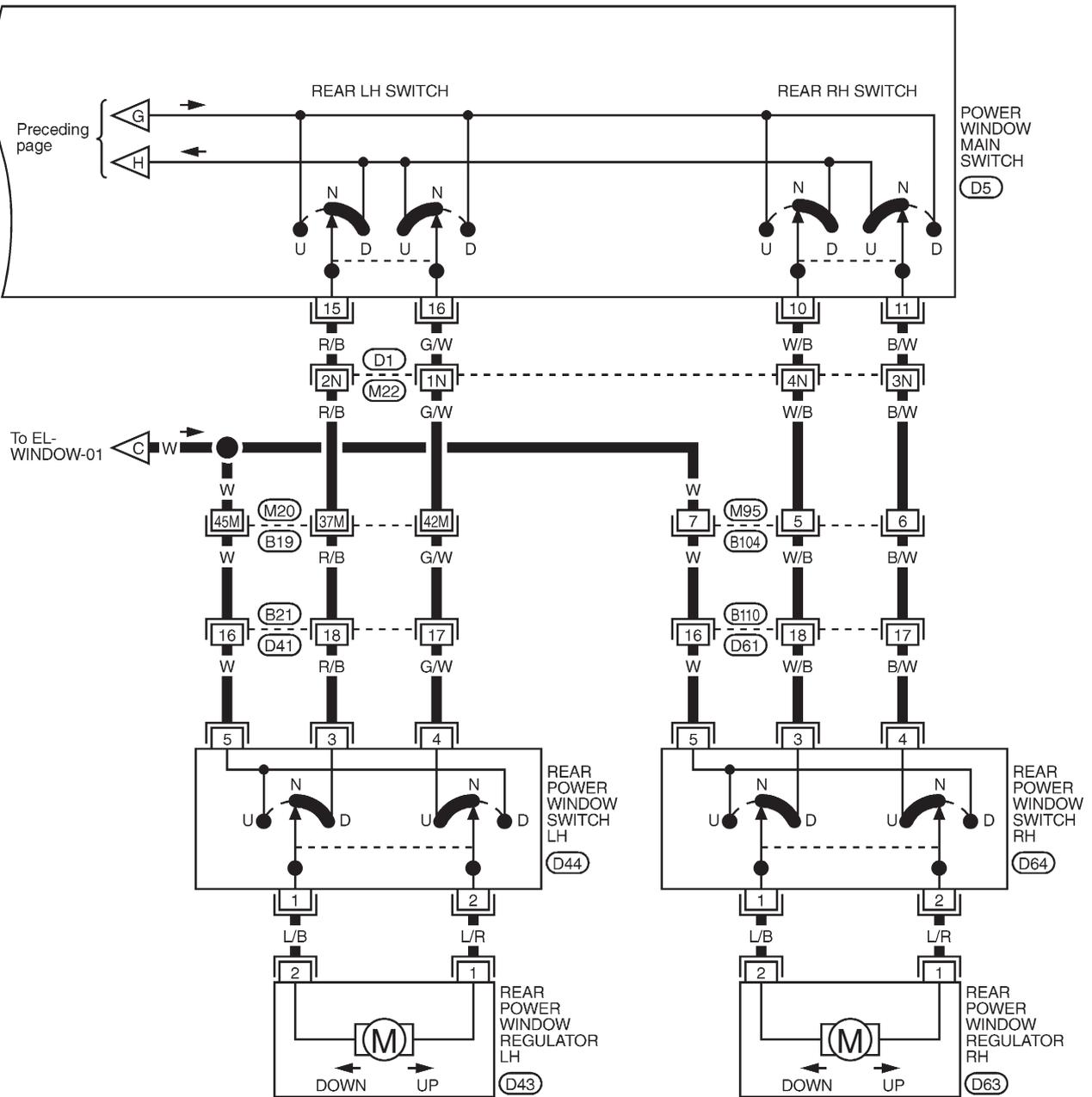
(M22), (D1)

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

LHD MODELS

EL-WINDOW-04



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		

(B21), (B110)
W W

1	2	3	4
5	6	7	8

(B104)
W

8	9	3	5	6
7	14	16	15	1

(D5)
W

Refer to last page (Foldout page).

(M20), (B19)
(M22), (D1)

1	2
---	---

(D43), (D63)
B B

4	1	3	2	5
---	---	---	---	---

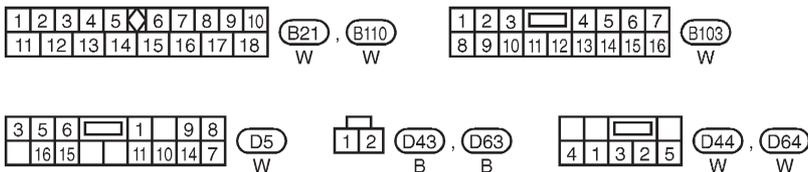
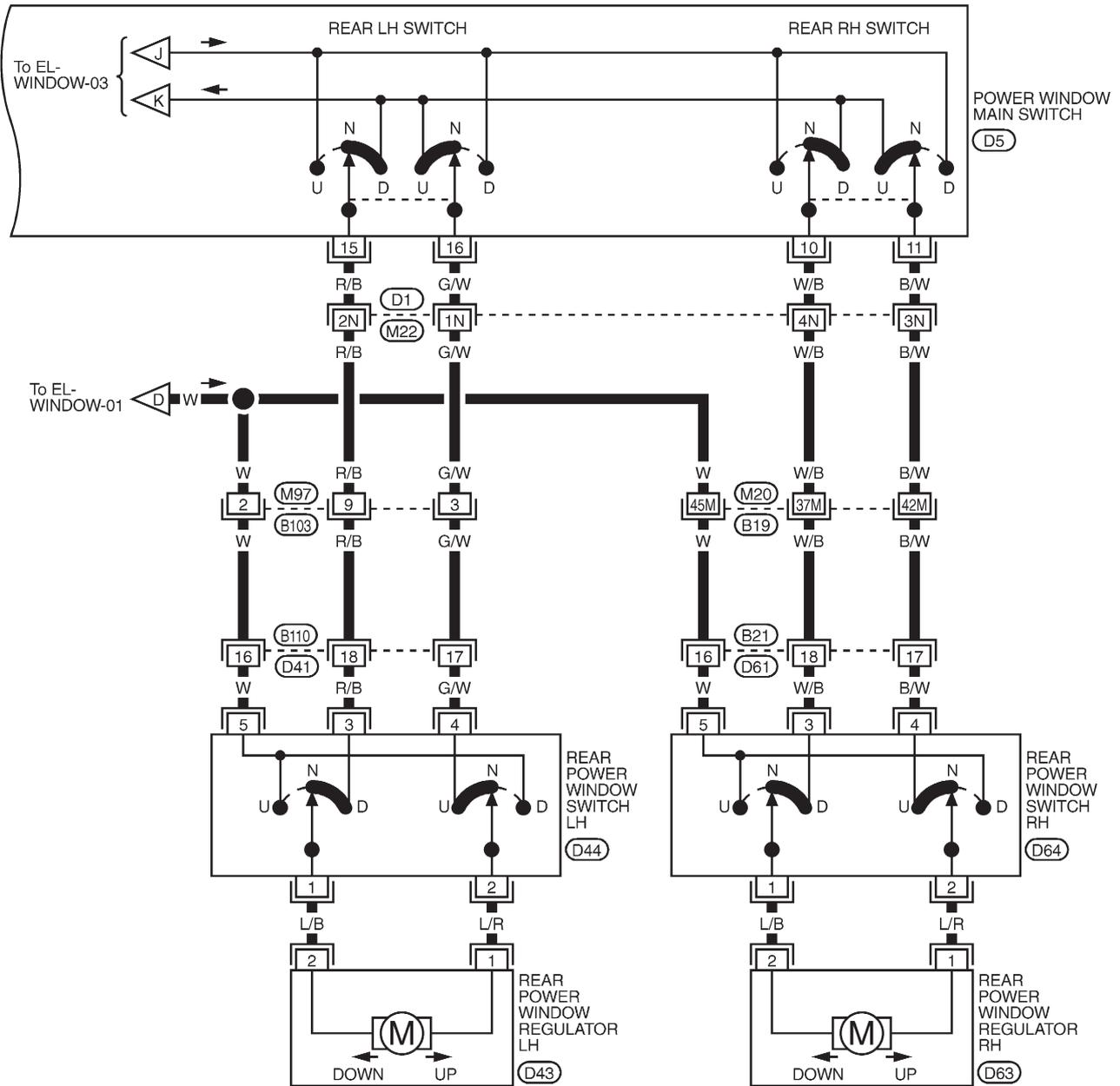
(D44), (D64)
W W

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

RHD MODELS

EL-WINDOW-05



Refer to last page (Foldout page).

M20, B19
M22, D1

POWER WINDOW

Trouble Diagnoses

Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	<ol style="list-style-type: none"> 7.5A fuse, 40A fusible link and (M92) circuit breaker Grounds (M30) and (M19) or (M98) Power window relay Open/short in power window main switch circuit 	<ol style="list-style-type: none"> Check 7.5A fuse [No. 8], located in fuse block (J/B), 40A fusible link (letter e), located in fuse and fusible link box) and (M92) circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminal ① of power window main switch and terminal ⑤ of sub-switch. Check grounds (M30) and (M19) or (M98). Check power window relay. Check W wire between power window relay and power window main switch for open/short circuit.
Driver side power window cannot be operated but other windows can be operated.	<ol style="list-style-type: none"> Driver side power window regulator circuit Driver side power window regulator 	<ol style="list-style-type: none"> Check harness between power window main switch and power window regulator for open or short circuit. Check driver side power window regulator.
Passenger power window cannot be operated.	<ol style="list-style-type: none"> Power window sub-switches Passenger side power window regulators Power window main switch Power window circuit 	<ol style="list-style-type: none"> Check power window sub-switch. Check passenger side power window regulator. Check power window main switch. 4-1. Check harnesses between power window main switch and power window sub-switch for open/short circuit. 4-2. Check harnesses between power window sub-switch and power window regulator for open/short circuit.
Passenger power window cannot be operated using power window main switch but can be operated by power window sub-switch.	<ol style="list-style-type: none"> Power window main switch 	<ol style="list-style-type: none"> Check power window main switch.
Driver side power window auto function cannot be operated using power window main switch.	<ol style="list-style-type: none"> Power window main switch 	<ol style="list-style-type: none"> Check power window main switch.

POWER DOOR LOCK

System Description

Power is supplied at all times

- through 40A fusible link (Letter **e**, located in the fuse and fusible link box)
- to circuit breaker terminal **①**
- through circuit breaker terminal **②**
- to smart entrance control unit terminal **⑪**.

Ground is supplied to smart entrance control unit terminal **⑱** through body grounds.

INPUT

When the door lock & unlock switch (power window main switch) is in LOCKED position, ground signal is supplied

- to smart entrance control unit terminal **④**
- through door lock & unlock switch terminal **⑭**.

When the door lock & unlock switch (power window main switch) is in UNLOCKED position, ground signal is supplied

- to smart entrance control unit terminal **⑤**
- through door lock & unlock switch terminal **⑦**.

Driver side door key cylinder and driver side lock knob are connected to driver side door lock switch with a rod. When driver side door lock switch is in UNLOCKED position, ground signal is supplied

- to smart entrance control unit terminal **②**
- through driver side door lock switch terminal **①** (without multi-remote control system) or
- through driver side door lock actuator terminal **②** (with multi-remote control system).

When driver side door lock switch is in LOCKED position, ground signal is interrupted.

Door lock operates according to the conditions of the door lock & unlock switch (power window main switch) and driver side door lock switch.

OUTPUT

Unlock

Ground is supplied

- to passenger side door lock actuator, rear door lock actuator LH and RH terminal **③**
- through smart entrance control unit terminal **⑮**.

Power is supplied

- to passenger side door lock actuator, rear door lock actuator LH and RH terminal **①**
- through smart entrance control unit terminal **⑯**.

Then, the doors are unlocked.

Lock

Ground is supplied

- to passenger side door lock actuator, rear door lock actuator LH and RH terminal **①**
- through smart entrance control unit terminal **⑯**.

Power is supplied

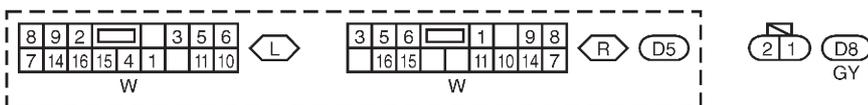
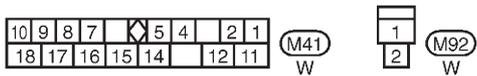
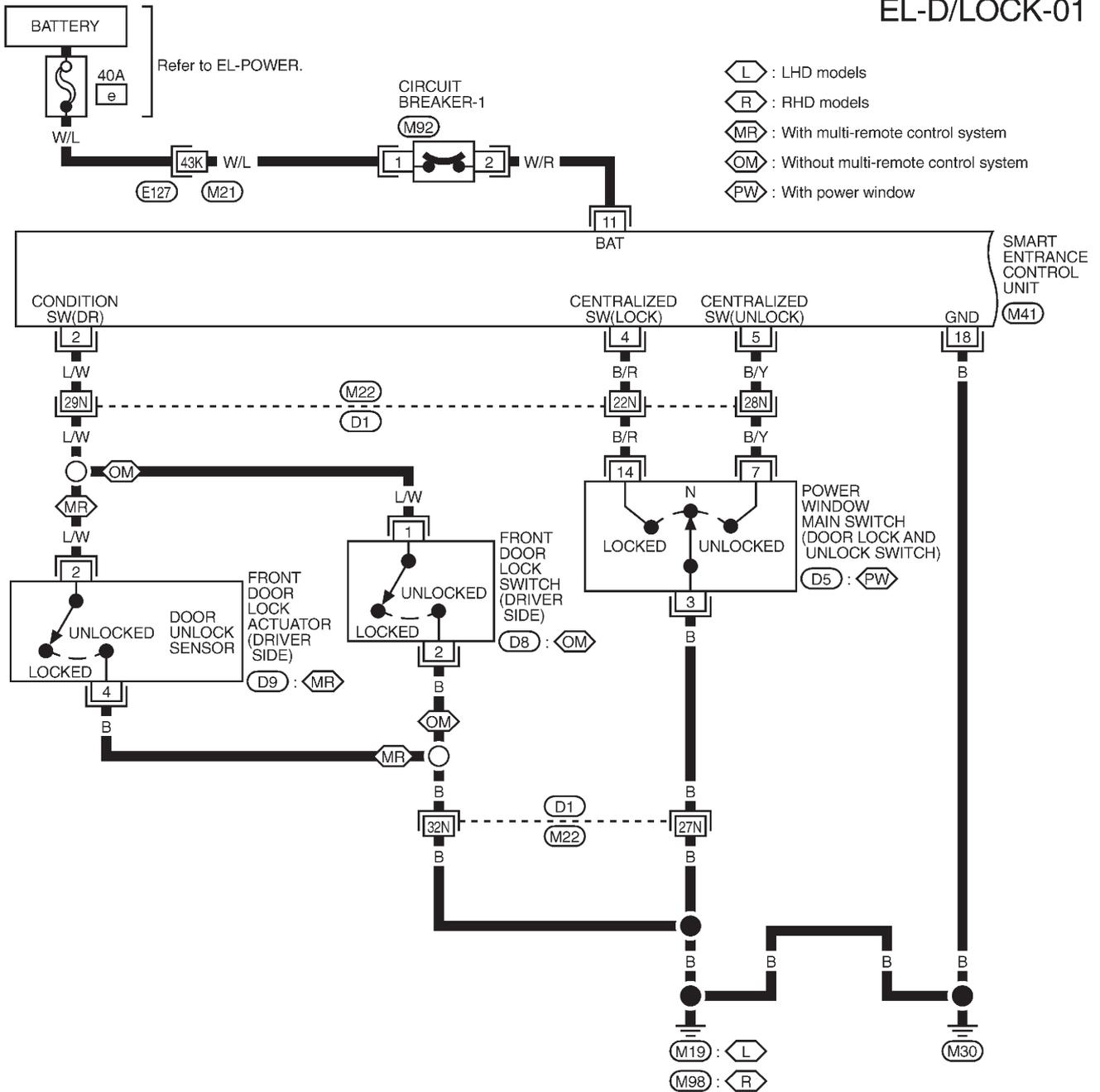
- to passenger side door lock actuator, rear door lock actuator LH and RH terminal **③**
- through smart entrance control unit terminal **⑮**.

Then, the doors are locked.

POWER DOOR LOCK

Wiring Diagram — D/LOCK —

EL-D/LOCK-01



Refer to last page (Foldout page).

M21, E127

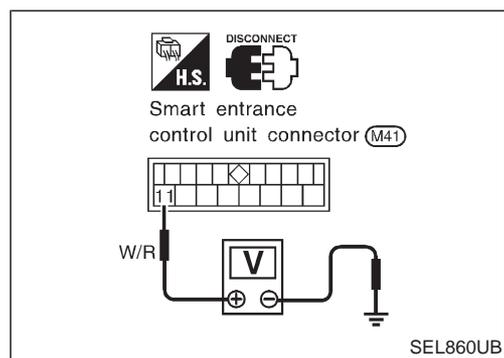
M22, D1

POWER DOOR LOCK

Trouble Diagnosis

SYMPTOM CHART

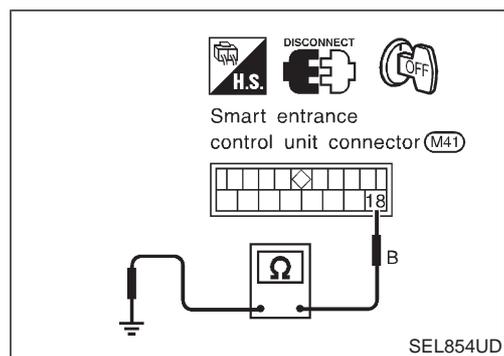
REFERENCE PAGE	EL-207	EL-208	EL-209	EL-210
SYMPTOM	MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK	DIAGNOSTIC PROCEDURE 1 (Door lock/unlock switch check)	DIAGNOSTIC PROCEDURE 2 (Door lock actuator check)	DIAGNOSTIC PROCEDURE 3 (Driver side door lock switch check)
None of the doors lock/unlock when operating any switch.	X		X	
One or more doors are not locked and/or unlocked.			X	
Door lock/unlock switch does not operate.		X		
Door knob lock switch/key cylinder on driver's door does not operate.				X
Driver side door does not lock/unlock when operating remote controller. (With multi-remote control system)			X	



POWER SUPPLY AND GROUND CIRCUIT CHECK

Power supply circuit check

Terminal		Ignition switch		
⊕	⊖	OFF	ACC	ON
⑪	Ground	Battery voltage	Battery voltage	Battery voltage



Ground circuit check

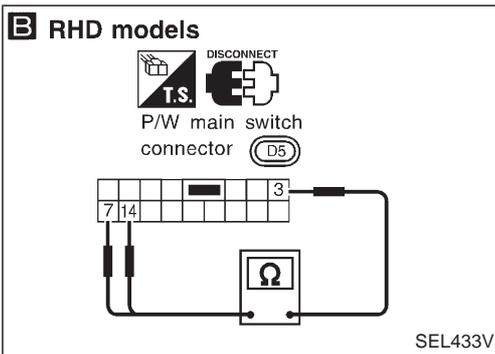
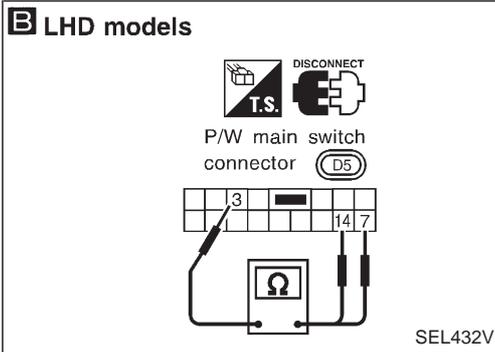
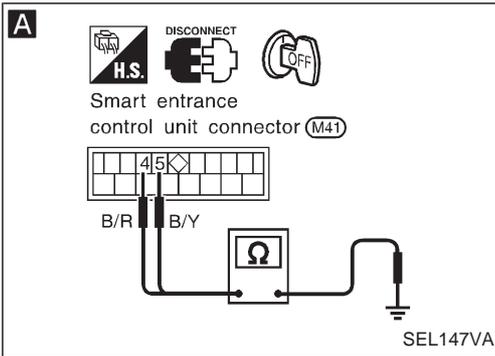
Terminals	Continuity
⑱ - Ground	Yes

POWER DOOR LOCK

Trouble Diagnosis (Cont'd)

DIAGNOSTIC PROCEDURE 1

(Door lock/unlock switch check)



A

CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL.

1. Disconnect control unit connector.
2. Check continuity between control unit terminal ④ or ⑤ and ground.

Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
④ - Ground	Lock	Yes
	N and Unlock	No
⑤ - Ground	Unlock	Yes
	N and Lock	No

OK

Door lock/unlock switch is OK.

NG

B

CHECK DOOR LOCK/UNLOCK SWITCH.

1. Disconnect door lock/unlock switch connector.
2. Check continuity between power window main switch (Door lock/unlock switch) terminals.

Condition	Terminals		
	3	7	14
Unlock	○	○	
N	No continuity		
Lock	○		○

NG

Replace door lock/unlock switch.

OK

Check the following.

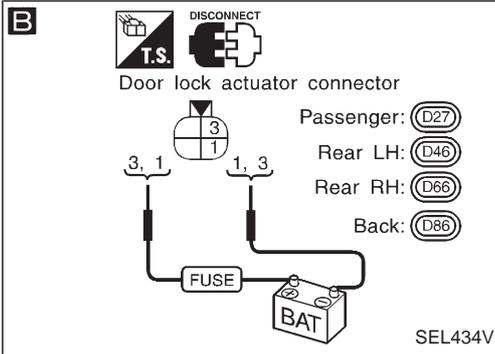
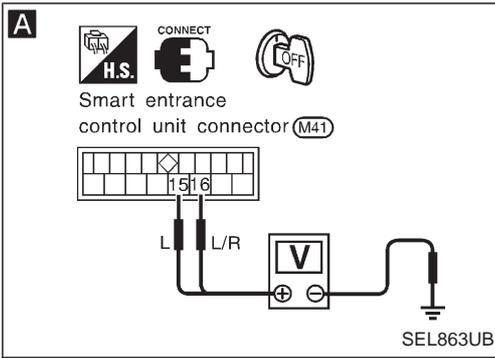
- Ground circuit for door lock/unlock switch
- Harness for open or short between door lock/unlock switch and control unit connector

POWER DOOR LOCK

Trouble Diagnosis (Cont'd)

DIAGNOSTIC PROCEDURE 2

(Door lock actuator check)



A

CHECK DOOR LOCK ACTUATOR CIRCUIT.
Check voltage for door lock actuator.

Door lock/unlock switch condition	Terminals		Voltage (V)
	⊕	⊖	
Lock	⓫	ground	Battery voltage
Unlock	⓬	ground	Battery voltage

NG

Replace control unit.
(Before replacing control unit, perform DIAGNOSTIC PROCEDURE 1.)

OK

B

CHECK DOOR LOCK ACTUATOR.
1. Disconnect door lock actuator connector.
2. Apply 12V direct current to door lock actuator and check operation.

Door lock actuator operation	Terminals	
	⊕	⊖
Unlocked → Locked	⓫	⓫
Locked → Unlocked	⓫	⓫

NG

Replace door lock actuator.

OK

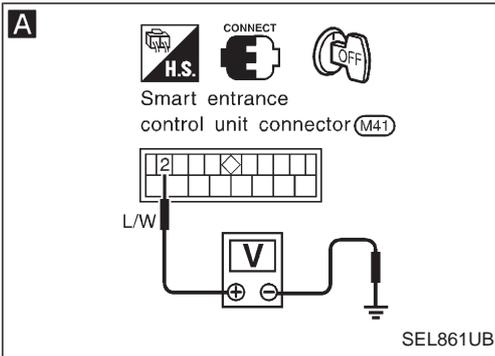
Repair harness between control unit connector and door lock actuator.

POWER DOOR LOCK

Trouble Diagnosis (Cont'd)

DIAGNOSTIC PROCEDURE 3

(Driver side door lock switch check)



A

CHECK DOOR LOCK SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ② and ground.

OK

Driver side door lock switch is OK.

Driver side door lock switch condition	Voltage (V)
Lock	Approx. 12
Unlock	0

NG

B

CHECK DOOR LOCK SWITCH.
1. Disconnect driver side door lock switch or door lock actuator connector.
2. Check continuity between door lock switch terminals.

NG

Replace door lock switch.

Without multi-remote control system

Terminals	Condition	Continuity
① - ②	Locked	No
	Unlocked	Yes

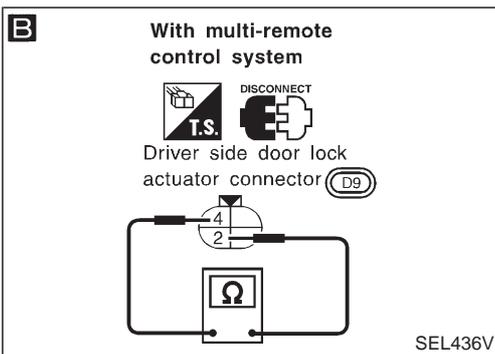
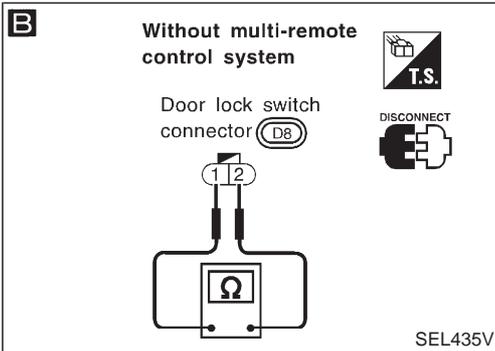
With multi-remote control system

Terminals	Condition	Continuity
② - ④	Locked	No
	Unlocked	Yes

OK

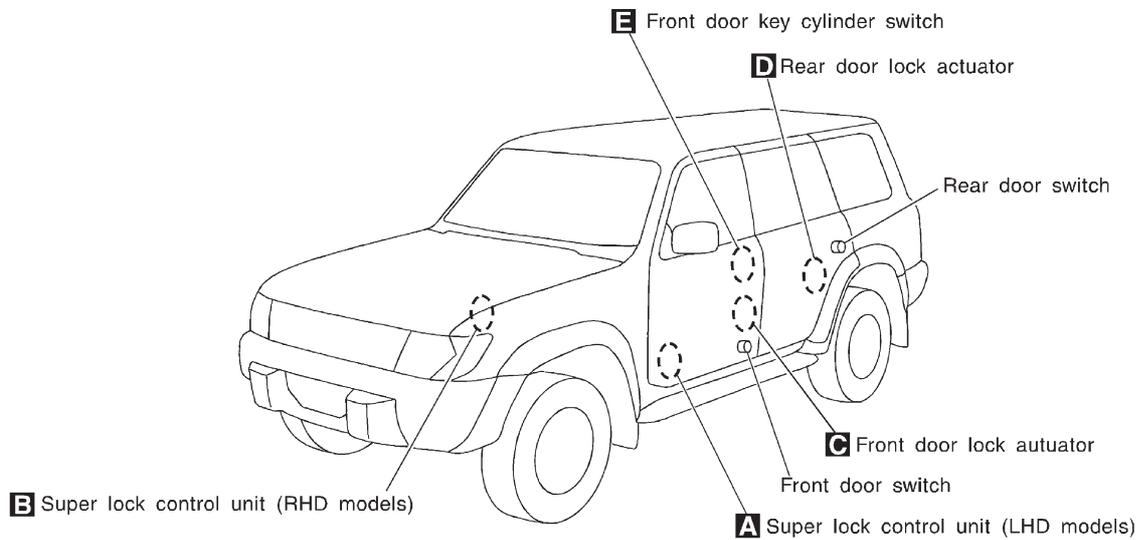
Check the following.

- Ground circuit for door lock switch
- Harness for open or short between door lock switch and control unit



POWER DOOR LOCK — Super Lock —

Component Parts and Harness Connector Location



<p>Fuse block (J/B)</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td></td><td></td></tr> <tr><td>24</td><td>25</td><td>26</td><td></td><td></td></tr> <tr><td>27</td><td>28</td><td>29</td><td></td><td></td></tr> </table>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			24	25	26			27	28	29			<p>A LHD models Driver side view with dash side lower finisher removed</p> <p>Super lock control unit M66</p>	<p>B RHD models Driver side view with dash side lower finisher removed</p> <p>Super lock control unit M66</p>
1	2	3	4	5																																	
6	7	8	9	10																																	
11	12	13	14	15																																	
16	17	18	19	20																																	
21	22	23																																			
24	25	26																																			
27	28	29																																			
<p>C</p> <p>Front door lock actuator</p>	<p>D</p> <p>Rear door lock actuator</p>	<p>E Front door key cylinder switch is combined with the key cylinder</p> <p>Lock Unlock</p> <p>Front</p>																																			
<p>F</p> <p>Key switch connector E113</p>																																					

SEL548V

POWER DOOR LOCK — Super Lock —

System Description

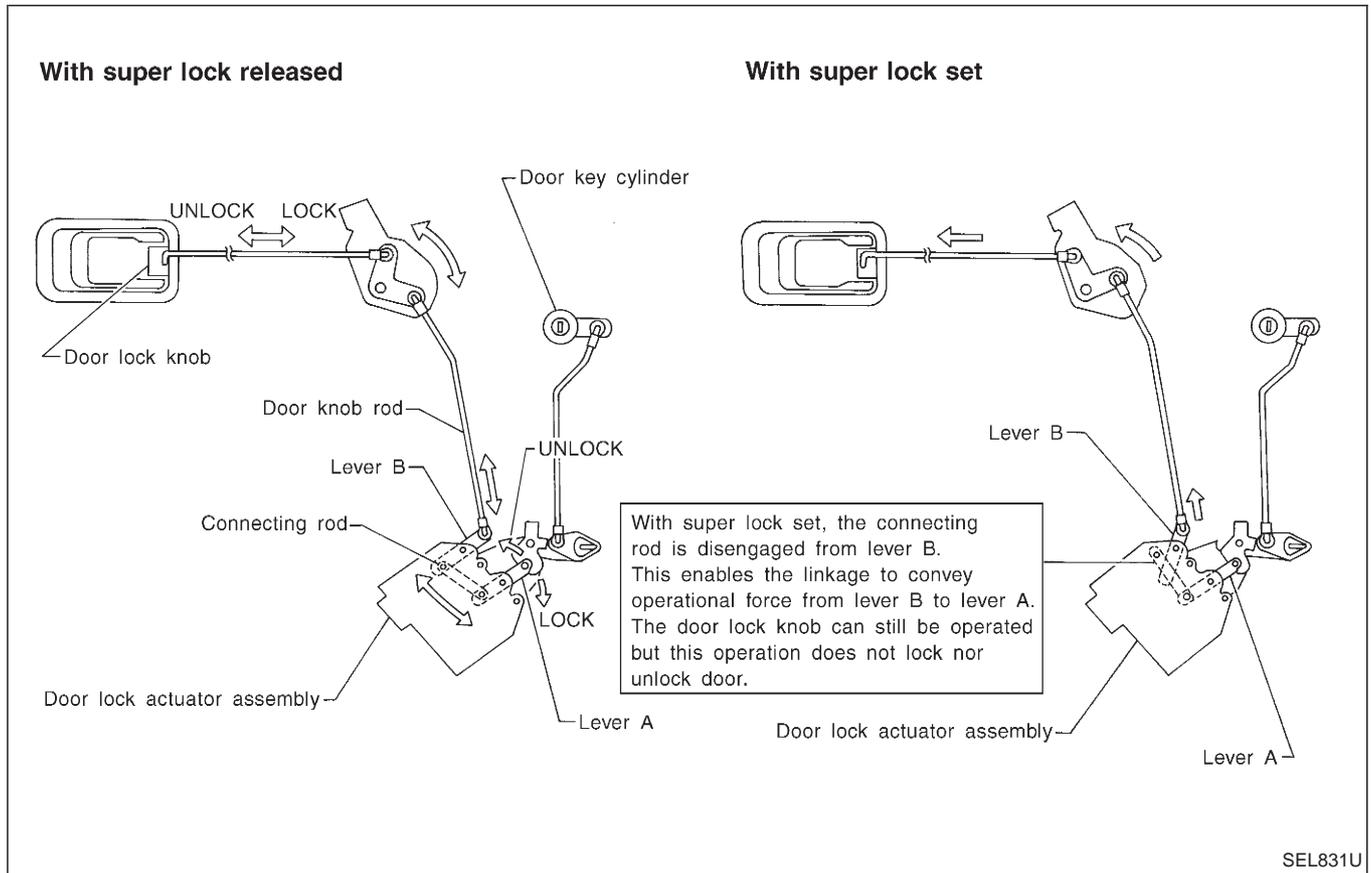
OUTLINE

Power door lock system with super lock and key reminder is controlled by super lock control unit. Super lock has a higher anti-theft performance than conventional power door lock systems.

When super lock is in released condition, lock knob operation locks or unlocks door.

When super lock is in set condition, lock knob operation cannot lock nor unlock door.

NOTE: Super lock function is not applied to back door. (Power door lock only)



OPERATION

Power door lock/unlock and super lock set/release operation by door key cylinder

- With the key inserted into front door key cylinder, turning it to LOCK will lock all doors and set super lock while all doors are closed or one or more door is open. (Super lock will not be set while key is inserted in the ignition key cylinder.)
- With the key inserted into front door key cylinder, turning it to UNLOCK will unlock all doors and release super lock.

Power door lock/unlock and super lock set/release operation by multi-remote controller

- Pressing multi-remote controller LOCK button will lock all doors and set super lock while all doors are closed and key is not inserted in the ignition key cylinder.
- Pressing multi-remote controller UNLOCK button will unlock all doors and release super lock with key not inserted in the ignition key cylinder.

Power door lock and super lock release operation (by NATS IMMU signal)

- When the super lock is set, turning ignition key switch to ON will release super lock and unlock all doors.

POWER DOOR LOCK — Super Lock —

System Description (Cont'd)

Power door lock/unlock operation by lock knob

- With lock knob on driver or passenger door setting to LOCK while all doors are closed will lock all doors. **When one or more door is opened, with lock knob on passenger door setting to LOCK will lock passenger door only. (Power door lock system will not operate.)**
- With lock knob on driver or passenger door setting to UNLOCK while all doors are closed will unlock all doors.

Lock knob operation cannot control super lock.

Key reminder system

- If the ignition key is in the ignition key cylinder and any door is open, setting lock/unlock switch or lock knob on driver or passenger door to “LOCK” locks the door once but then immediately unlocks all doors.

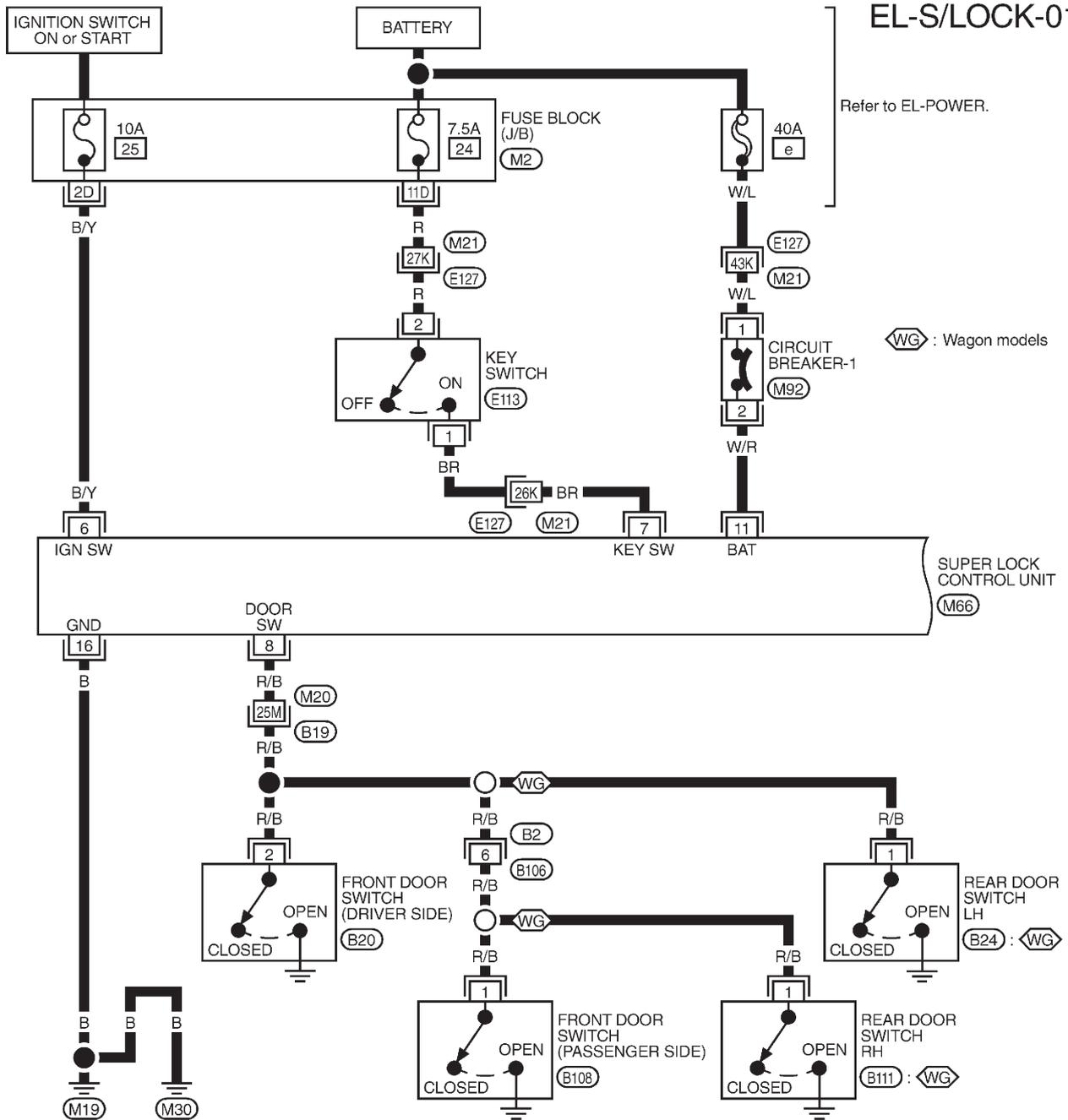
System initialisation

- System initialisation is required when battery cables are reconnected. Conduct one of the followings to release super lock once;
 - insert the key into ignition key cylinder and turn it to ON.
 - LOCK/UNLOCK operation using door key cylinder.

POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK —/LHD Models

EL-S/LOCK-01



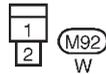
Refer to EL-POWER.

WG : Wagon models

SUPER LOCK CONTROL UNIT (M66)



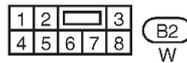
(M66)
W



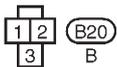
(M92)
W



(E113)
W



(B2)
W



(B20)
B



(B24), (B108), (B111)
BR

Refer to last page (Foldout page).

(M20), (B19)

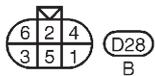
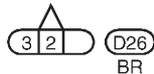
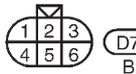
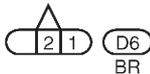
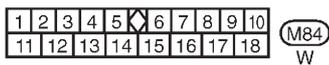
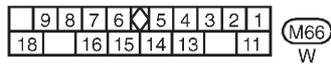
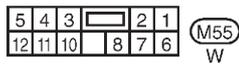
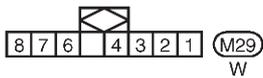
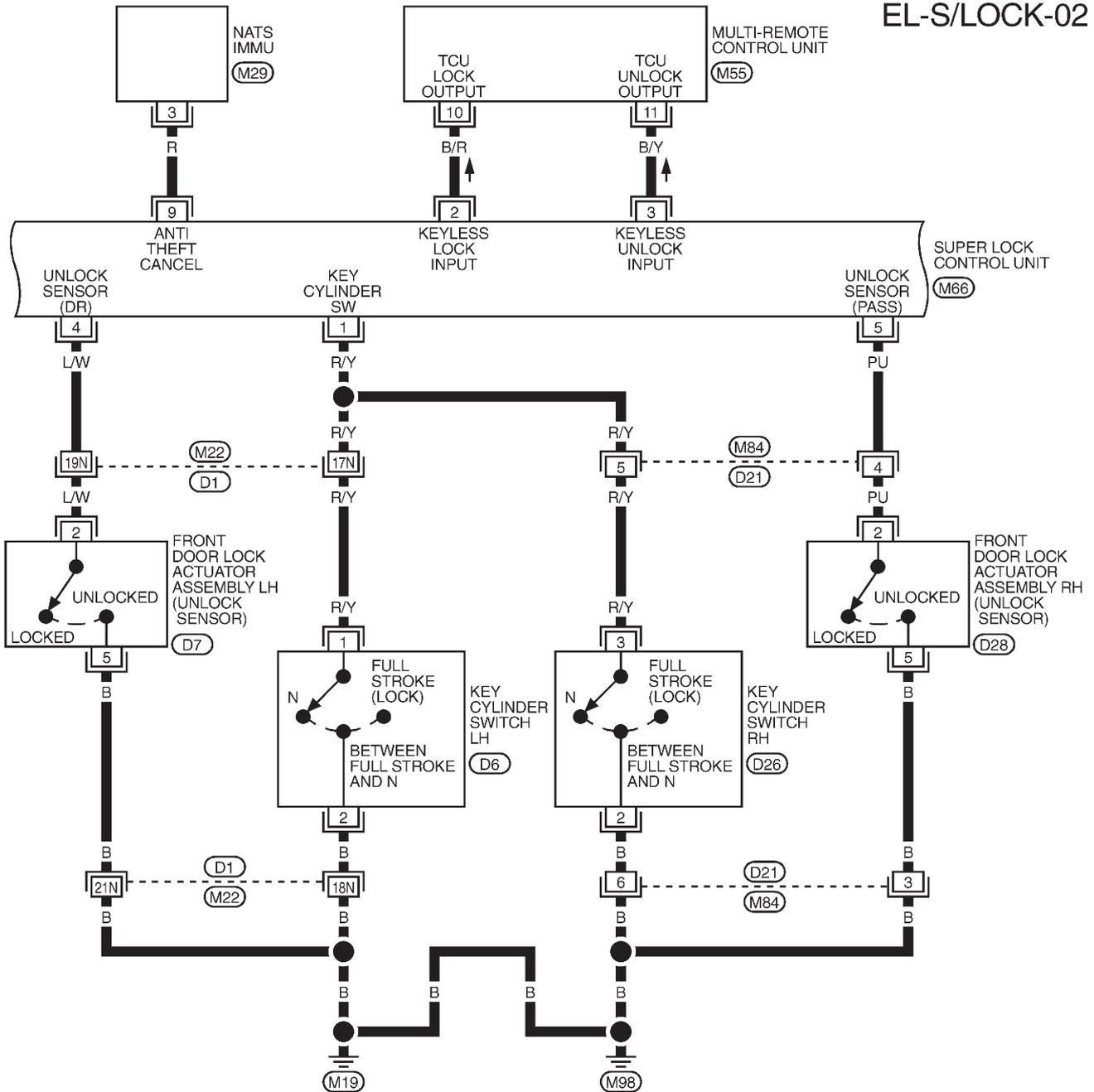
(M21), (E127)

(M2)

POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK —/LHD Models (Cont'd)

EL-S/LOCK-02



Refer to last page (Foldout page).

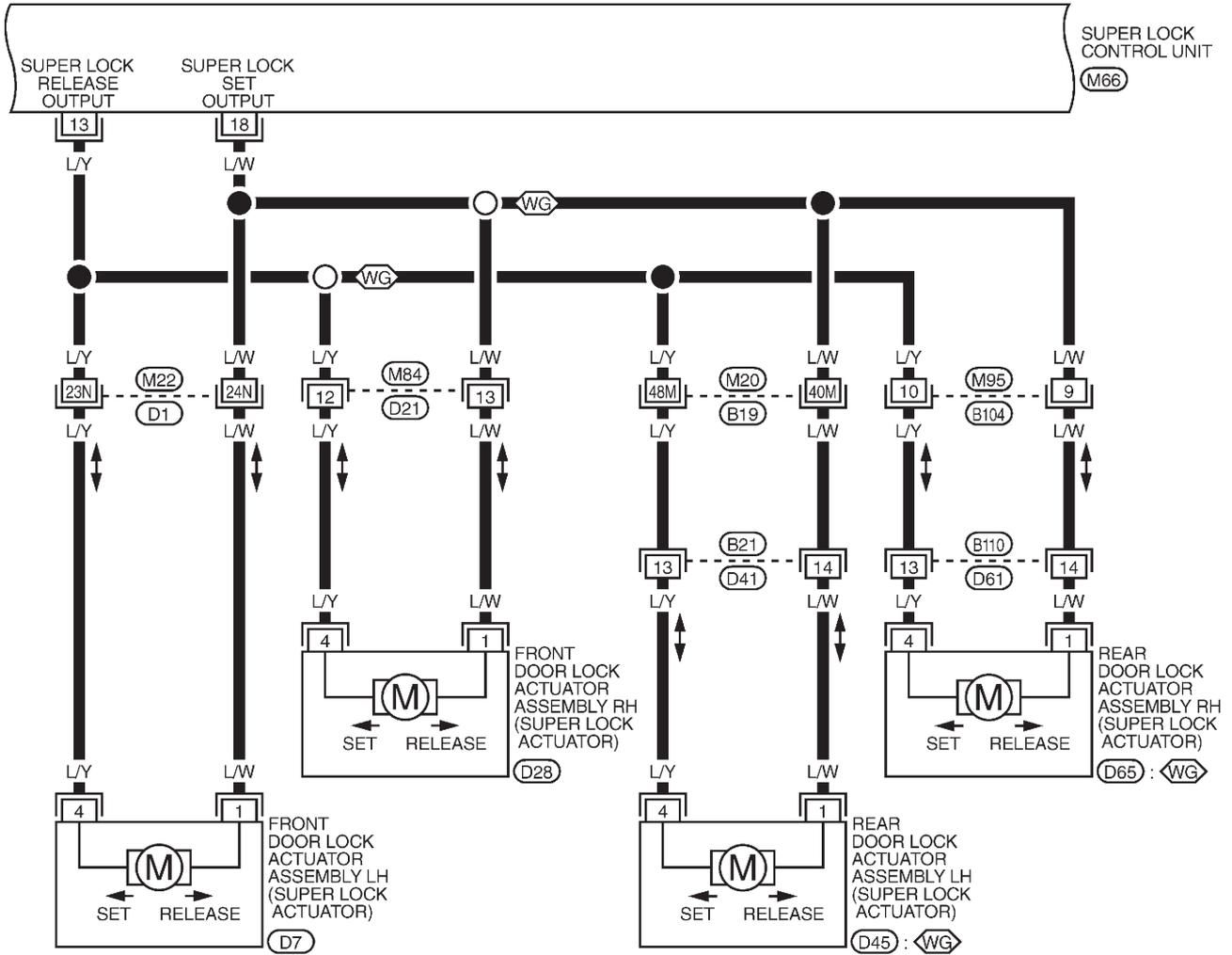
M22, D1

POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK —/LHD Models (Cont'd)

EL-S/LOCK-03

WG : Wagon models



9	8	7	6	5	4	3	2	1
18	16	15	14	13	11			

M66
W

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		

M84
W

B21
W

B110
W

Refer to last page (Foldout page).

M20, B19

M22, D1

1	2	3	4
5	6	7	8

B104
W

1	2	3
4	5	6

D7
B

D45
B

6	2	4
3	5	1

D28
B

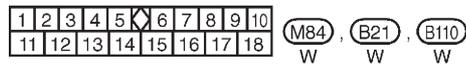
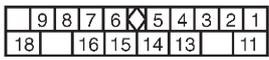
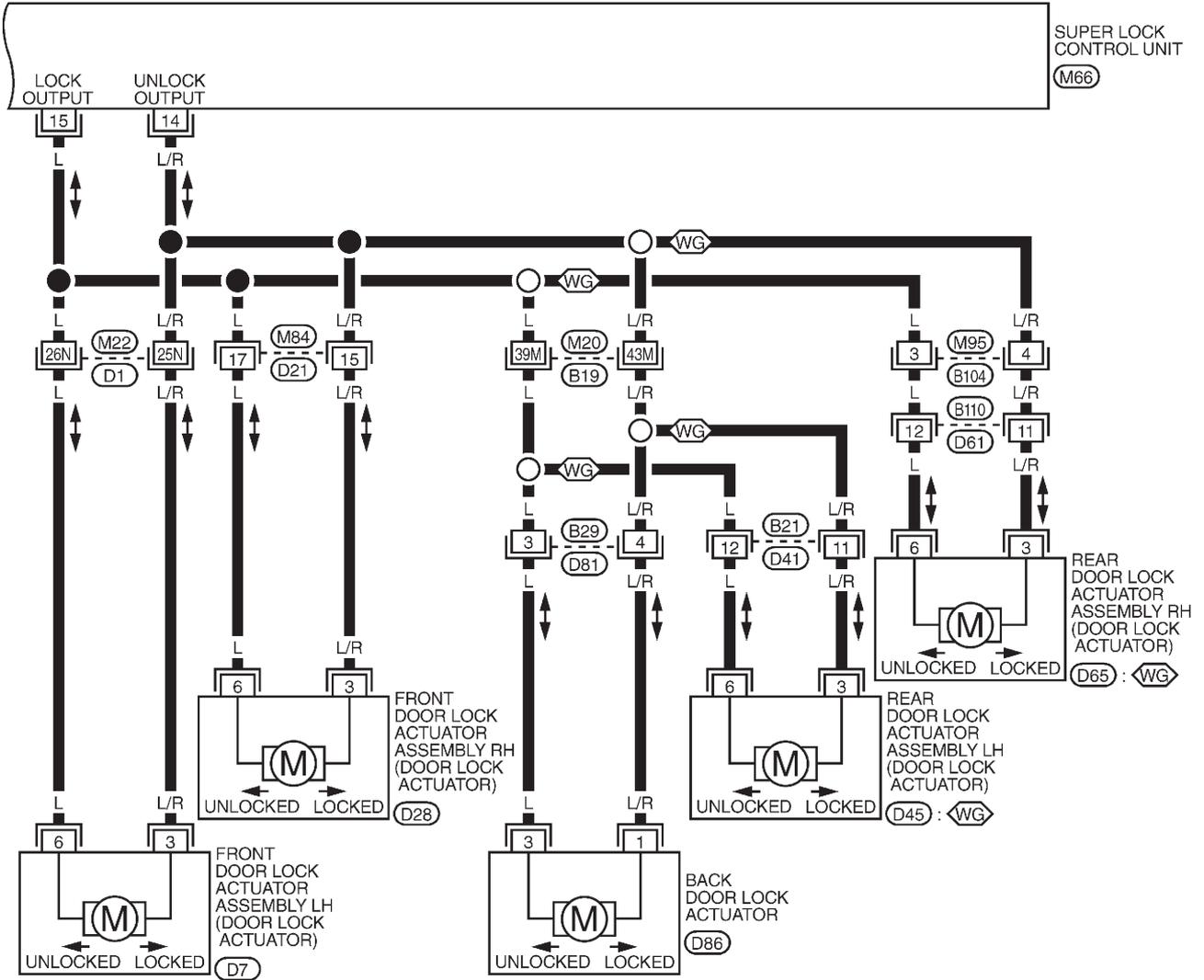
D65
B

POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK —/LHD Models (Cont'd)

EL-S/LOCK-04

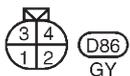
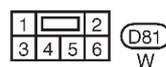
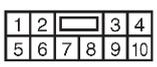
WG : Wagon models



Refer to last page (Foldout page).

(M20), (B19)

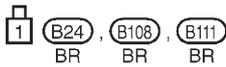
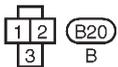
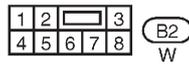
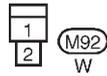
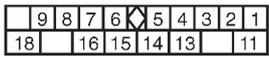
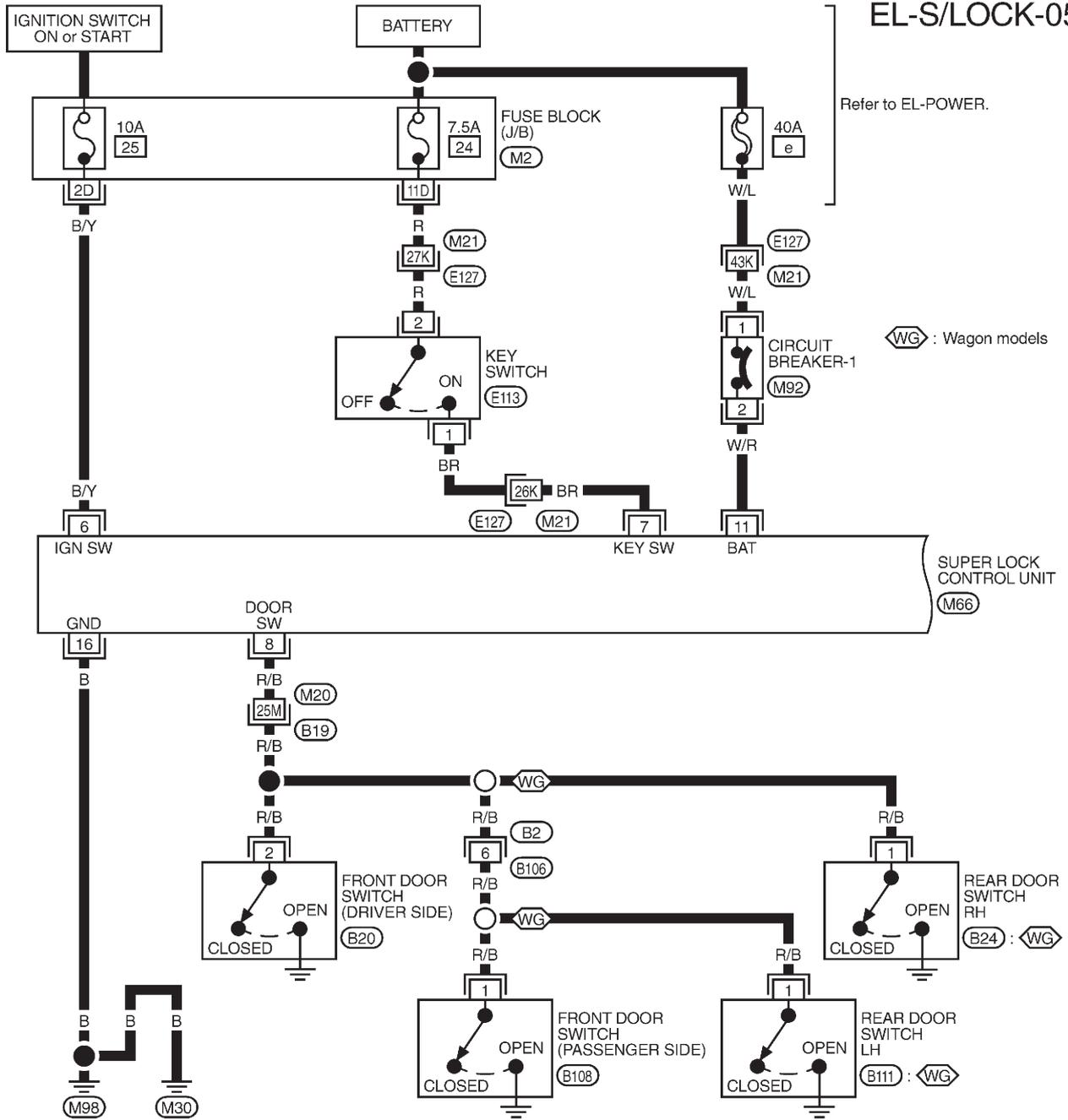
(M22), (D1)



POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK —/RHD Models

EL-S/LOCK-05



Refer to last page (Foldout page).

(M20), (B19)

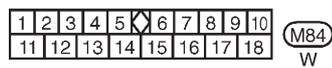
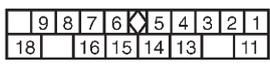
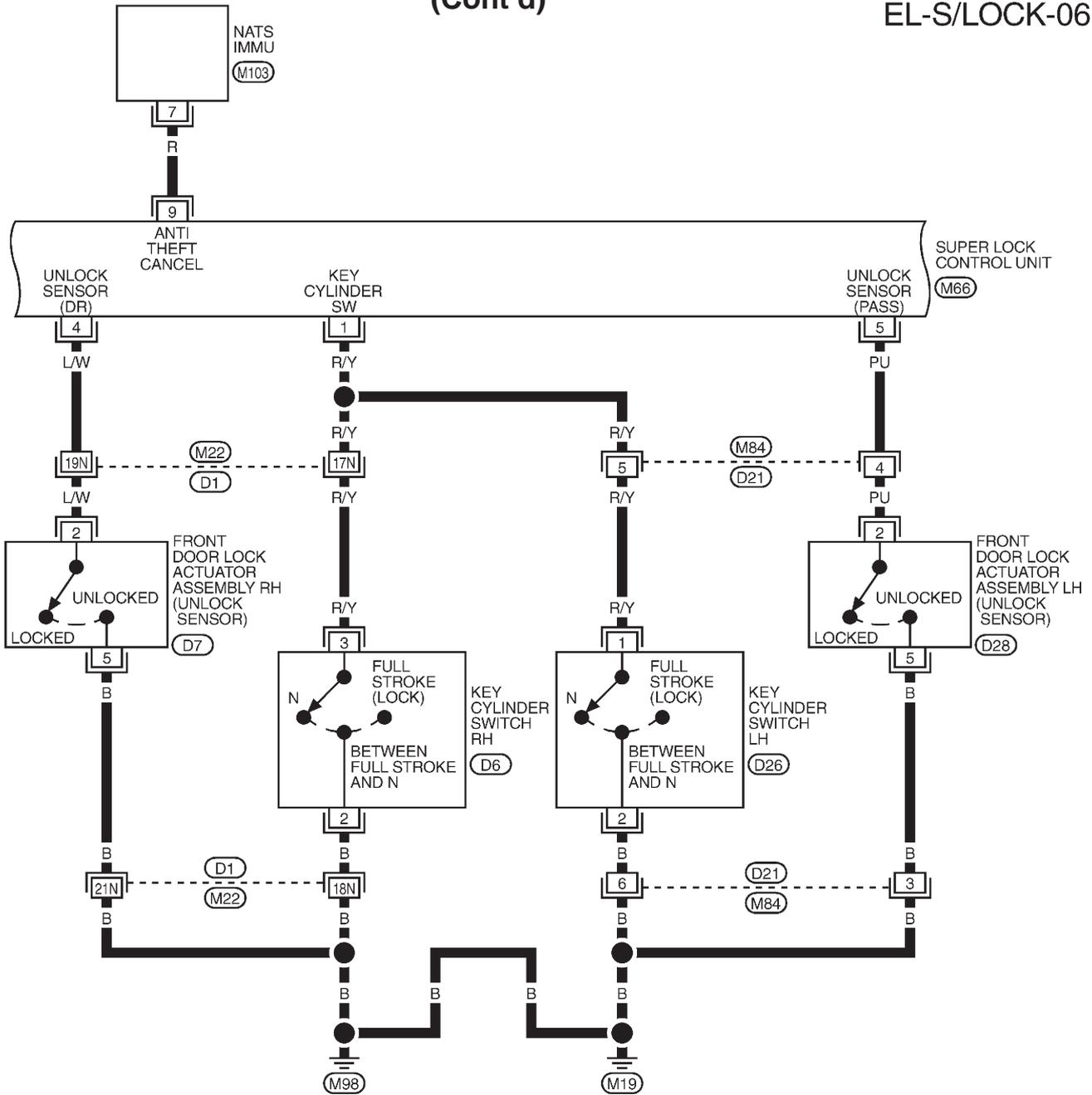
(M21), (E127)

(M2)

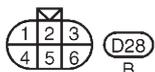
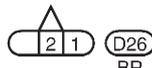
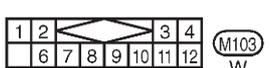
POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK —/RHD Models (Cont'd)

EL-S/LOCK-06



Refer to last page (Foldout page).
(M22), (D1)

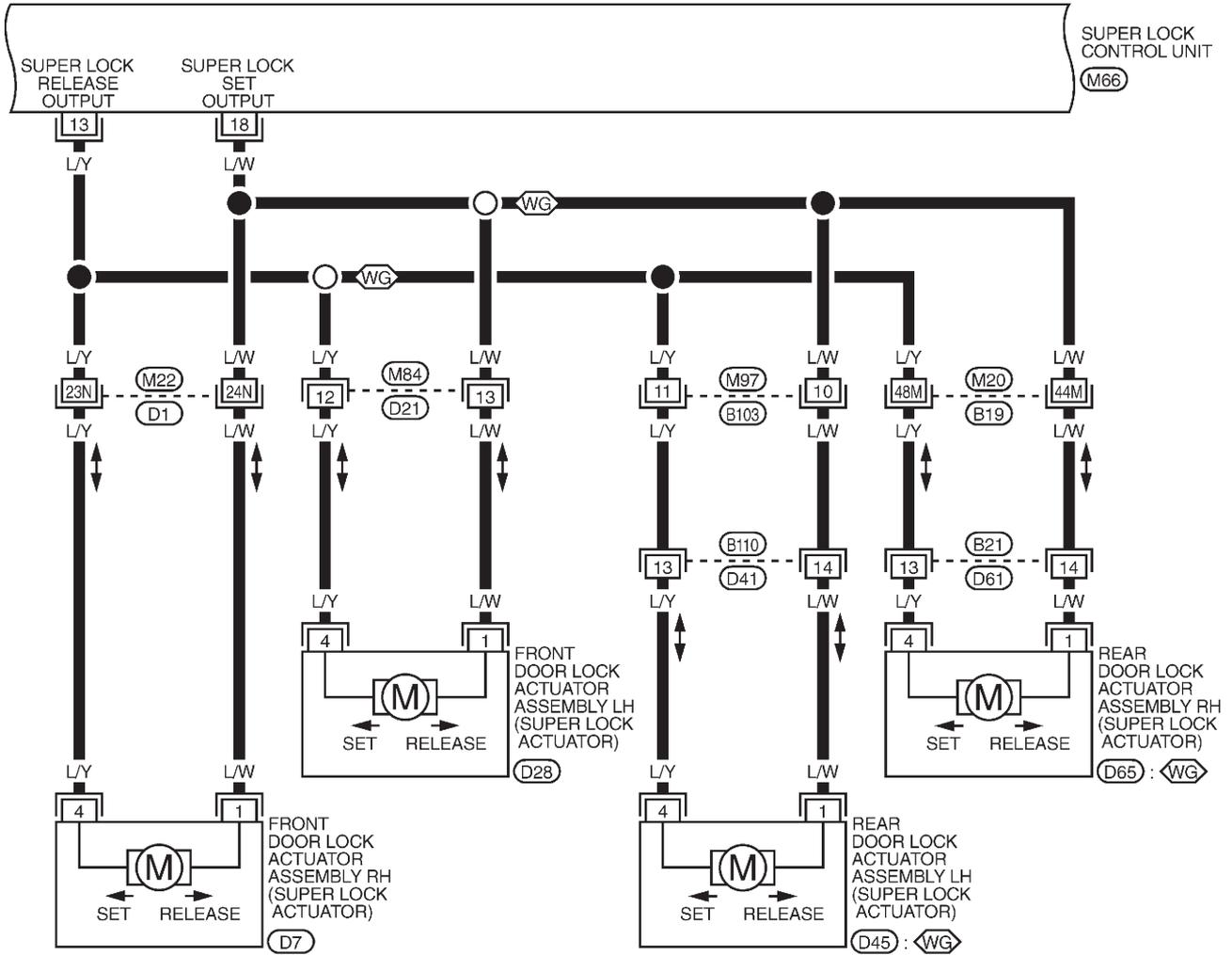


POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK —/RHD Models (Cont'd)

EL-S/LOCK-07

: Wagon models



9	8	7	6	5	4	3	2	1
18	16	15	14	13	11			

M66
W

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		

M84, B21, B110
W W W

1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16

B103
W

6	2	4
3	5	1

D7, D65
B B

1	2	3
4	5	6

D28, D45
B B

Refer to last page (Foldout page).

M20, B19

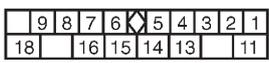
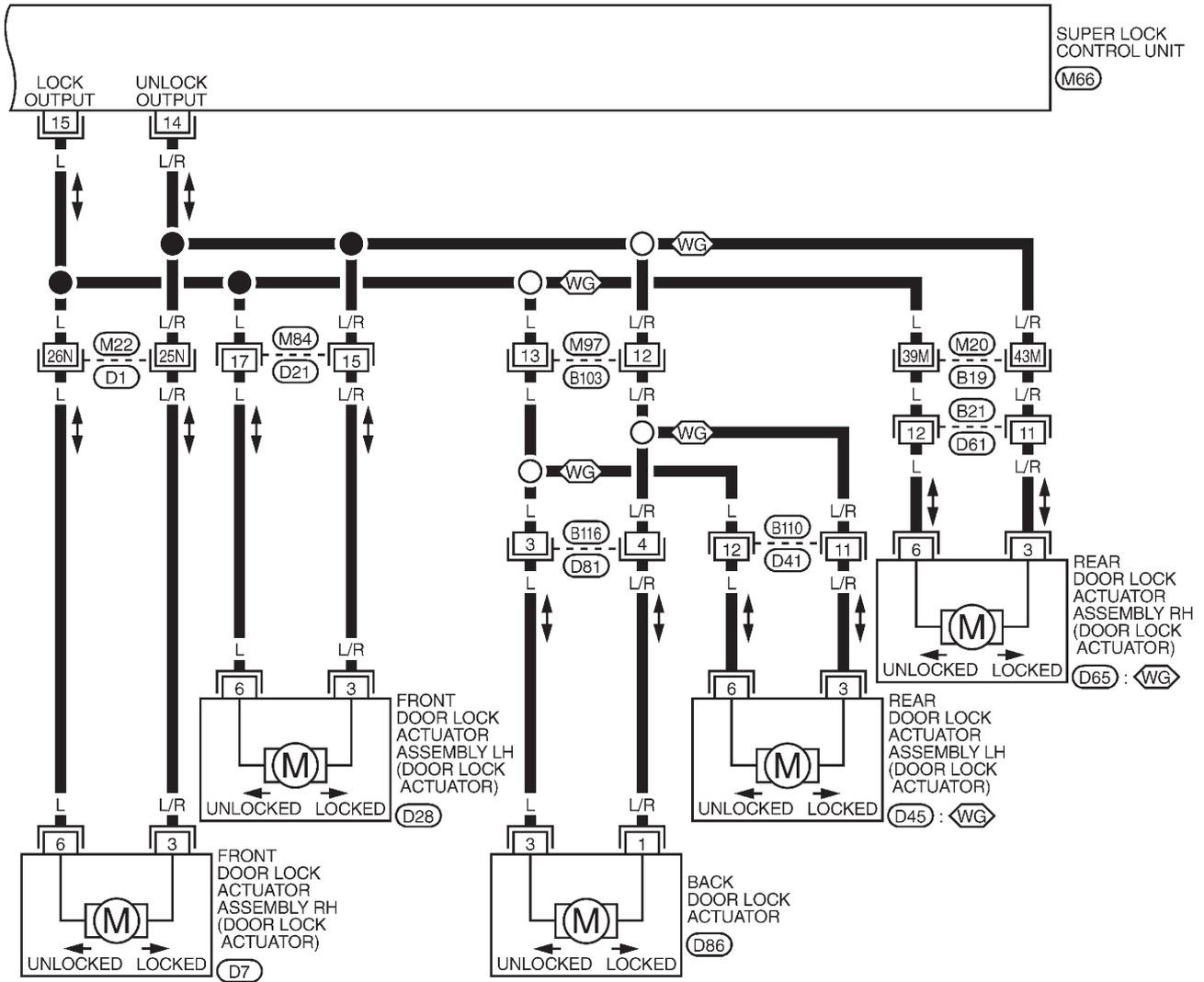
M22, D1

POWER DOOR LOCK — Super Lock —

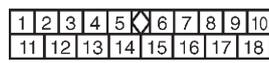
Wiring Diagram — S/LOCK —/RHD Models (Cont'd)

EL-S/LOCK-08

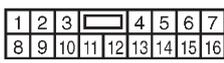
WG : Wagon models



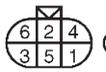
M66
W



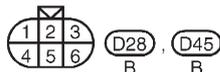
M84, B21, B110
W W W



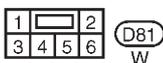
B103
W



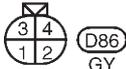
D7, D65
B B



D28, D45
B B



D81
W



D86
GY

Refer to last page (Foldout page).

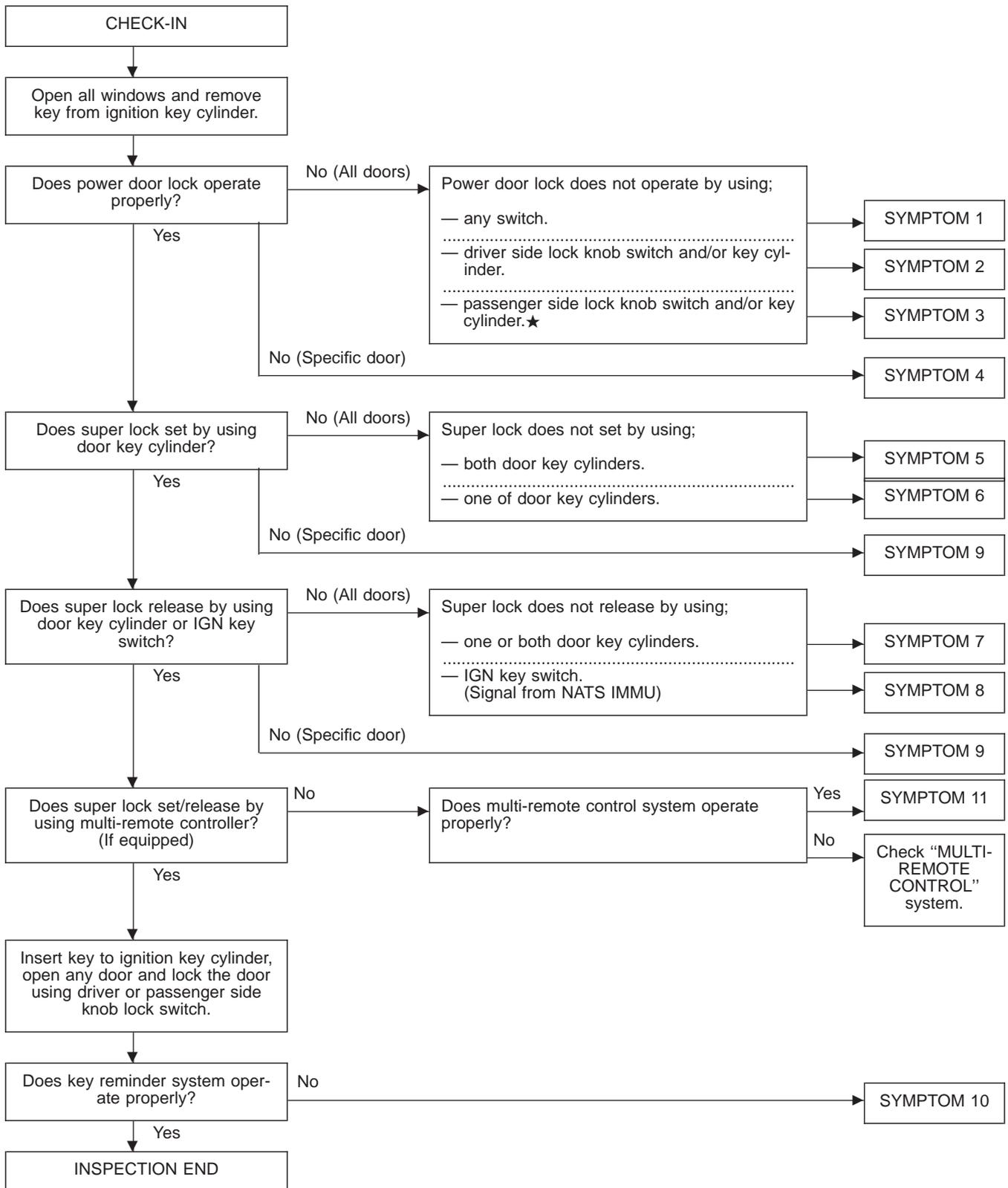
M20, B19

M22, D1

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses

PRELIMINARY CHECK



After performing preliminary check, go to symptom chart on the next page.

★ When one or more doors are opened, with lock knob on passenger door setting to LOCK, will lock passenger door only. (Power door lock system will not operate.)

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

Before starting trouble diagnoses below, perform preliminary check, EL-223.

Symptom numbers in the symptom chart correspond with those of Preliminary check.

SYMPTOM CHART

REFERENCE PAGE	EL-225	EL-226	EL-227	EL-228	EL-229	EL-230	EL-231	EL-232	EL-232	EL-233
SYMPTOM	Power supply and ground circuit check	Procedure 1 (Door unlock sensor check)	Procedure 2 (Door key cylinder switch check)	Procedure 3 (Door lock actuator check)	Procedure 4 (Super lock actuator check)	Procedure 5 (Door switch check)	Procedure 6 (NATS release signal check)	Procedure 7 (Key switch check)	Procedure 8 (Ignition switch "ON" circuit check)	Procedure 9 (Remote controller signal check)
1	Power door lock does not operate using any switch.	X	X		X					
2	Power door lock does not operate with any switch of driver side.		X							
3	Power door lock does not operate with any switch of passenger side.		X			X				
4	Specific door lock actuator does not operate.				X					
5	Super lock cannot be set by both door key cylinders.	X		X		X		X	X	
6	Super lock cannot be set by one of door key cylinders.			X						
7	*Super lock cannot be released by one or both door key cylinders.		X							
8	*Super lock cannot be released by ignition key switch. (Signal from NATS IMMU)						X			
9	Specific super lock actuator does not operate.					X				
10	*Key reminder system does not operate.						X		X	
11	Super lock cannot be set/released by using multi-remote controller.									X

X: Applicable

*: Make sure the power door lock system operates properly.

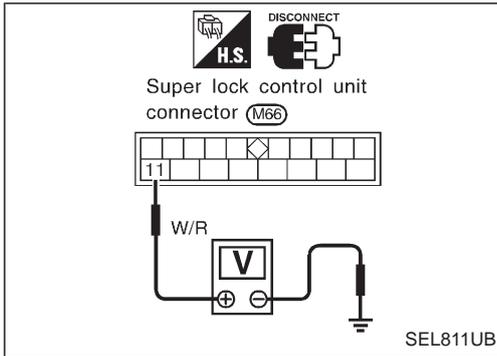
POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

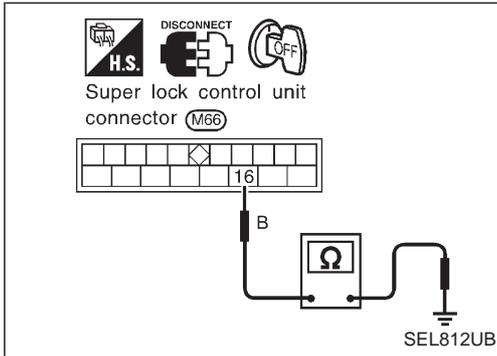
Main power supply circuit check

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
⑪	Ground	Battery voltage	Battery voltage	Battery voltage



Ground circuit check

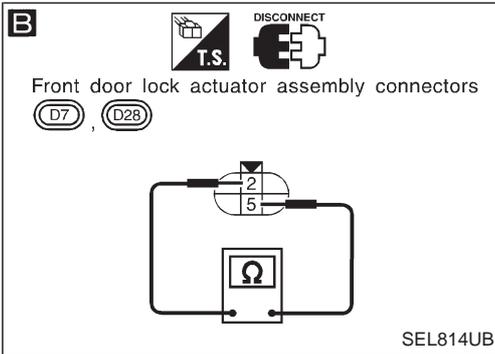
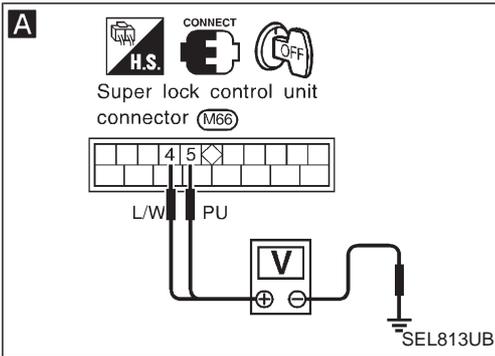
Terminals	Continuity
⑫ - Ground	Yes



POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1 (Door unlock sensor check)



A

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.
Check voltage between control unit terminals ④ or ⑤ and ground.

	Terminals		Condition	Voltage [V]
	⊕	⊖		
Driver side	④	Ground	Locked	Approx. 5
			Unlocked	0
Pas-senger side	⑤	Ground	Locked	Approx. 5
			Unlocked	0

Refer to wiring diagram in EL-215 (LHD), EL-219 (RHD).

OK

Door unlock sensor is OK.

NG

B

CHECK DOOR UNLOCK SENSOR.
1. Disconnect door unlock sensor connector.
2. Check continuity between door unlock sensor terminals.

Terminals	Condition	Continuity
② - ⑤	Locked	No
	Unlocked	Yes

NG

Replace door lock actuator assembly.

OK

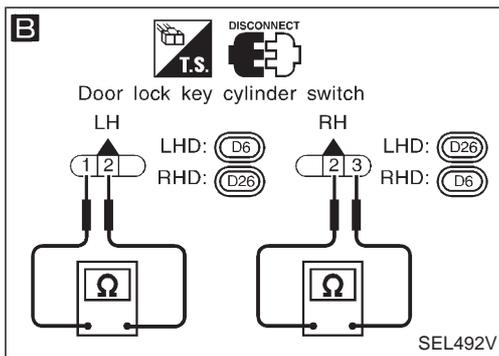
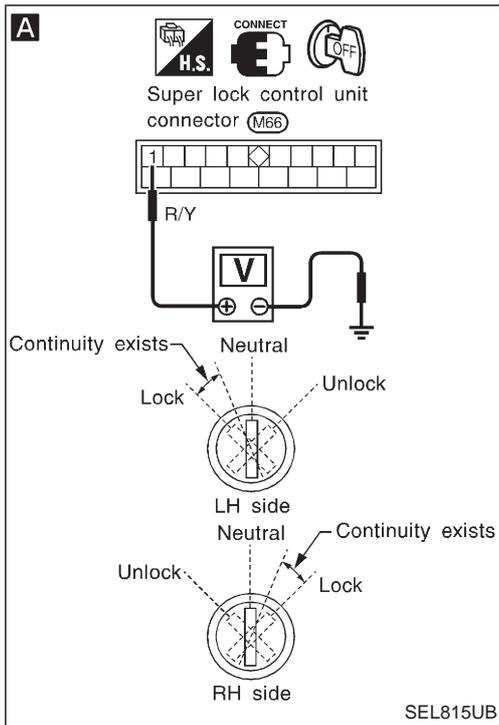
Check the following.

- Door unlock sensor ground circuit
- Harness for open or short between control unit and door unlock sensor

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2 (Door key cylinder switch check)



A

CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK SIGNAL).
Check voltage between control unit terminal ① and ground.

OK

Door key cylinder switch is OK.

Key cylinder switch operation	Voltage [V]
Between neutral and lock	0
Unlock/neutral	Approx. 5

Refer to wiring diagram in EL-215 (LHD), EL-219 (RHD).

NG

B

CHECK DOOR KEY CYLINDER SWITCH.
1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder switch terminals.

NG

Replace key cylinder switch.

Terminals	Key position	Continuity
① - ② (LH side)	Neutral	No
	Between neutral and lock	Yes
② - ③ (RH side)	Unlock/neutral	No

OK

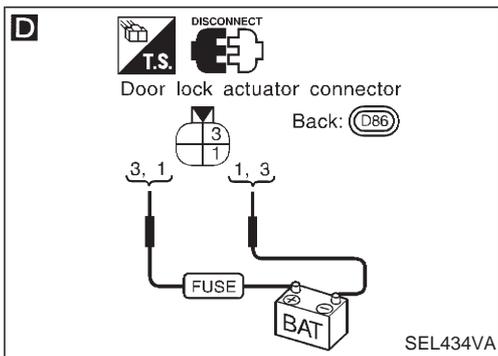
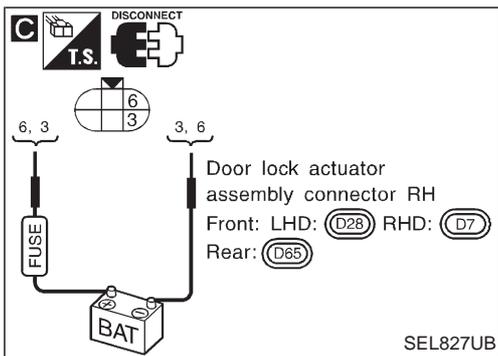
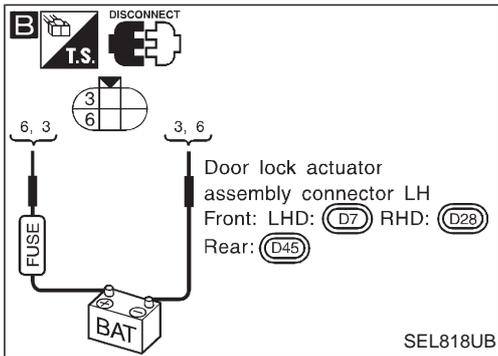
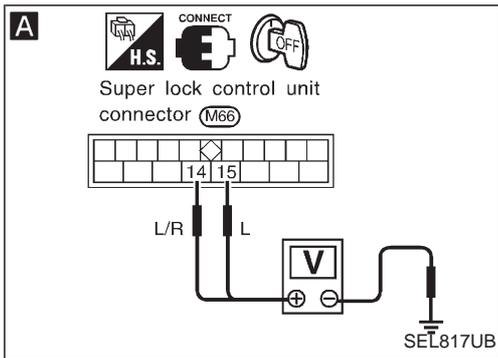
Check the following.

- Door key cylinder switch ground circuit
- Harness for open or short between control unit and door key cylinder

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3 (Door lock actuator check)



A

CHECK OUTPUT SIGNAL FOR DOOR LOCK ACTUATOR.
Check voltage for door lock actuator.

Knob lock switch condition	Terminals		Voltage (V)
	⊕	⊖	
Unlock → Lock	(19)	Ground	Approx. 12 (Approx. 5 seconds)
Lock → Unlock	(14)	Ground	

Before operating passenger side knob lock switch, close all doors.
Refer to wiring diagram in EL-215 (LHD), EL-219 (RHD).

NG → Door lock actuator is OK.

OK

CHECK DOOR LOCK ACTUATOR.
1. Disconnect door lock actuator connector.
2. Apply 12V direct current to door lock actuator and check operation.

B C Door lock actuator operation

Door lock actuator operation	Terminals	
	⊕	⊖
Unlocked → Locked	(6)	(3)
Locked → Unlocked	(3)	(6)

D Back door lock actuator operation

Back door lock actuator operation	Terminals	
	⊕	⊖
Unlocked → Locked	(3)	(1)
Locked → Unlocked	(1)	(3)

OK → Check harness between control unit and door lock actuator.

NG

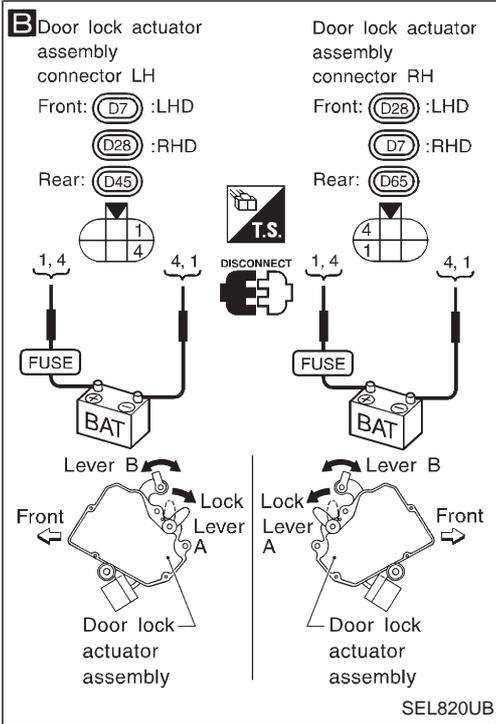
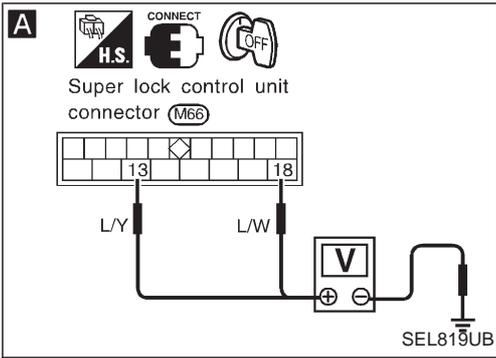
Replace door lock actuator assembly.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

[Super lock actuator (in door lock actuator assembly) check]



A

CHECK OUTPUT SIGNAL FOR SUPER LOCK ACTUATOR.
Check voltage for super lock actuator.

Door key cylinder switch condition	Terminals		Voltage (V)
	⊕	⊖	
Lock (Set)	(18)	Ground	Approx. 12
Unlock (Released)	(13)	Ground	

Put the system in set condition before checking release signal.
Refer to wiring diagram in EL-215 (LHD), EL-219 (RHD).

NG → Super lock actuator is OK.

B

CHECK SUPER LOCK ACTUATOR.

1. Disconnect door lock actuator assembly connector.
2. Set lever A in Lock position.
3. Apply 12V direct current to door lock actuator assembly and check operation.

Super lock actuator operation	Terminals		Connection from lever B to lever A
	⊕	⊖	
Released → Set	(1)	(4)	Disconnect
Set → Released	(4)	(1)	Connect

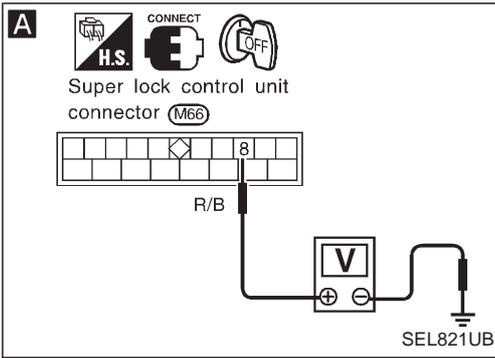
OK → Check harness between control unit and door lock actuator assembly.

NG → Replace door lock actuator assembly.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5 (Door switch check)



A

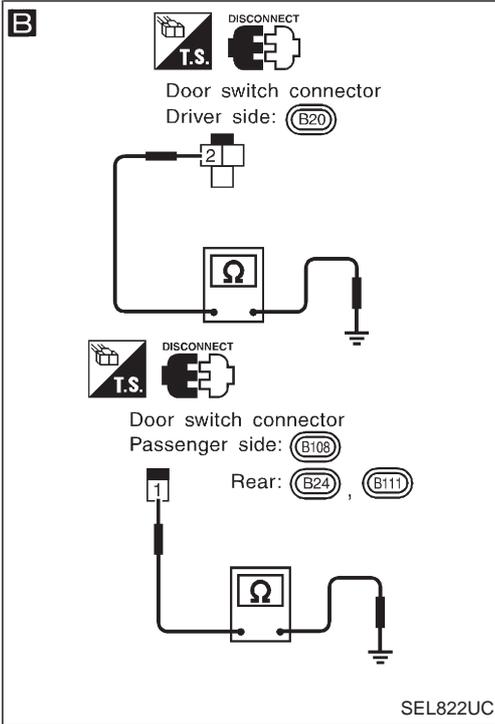
CHECK DOOR SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ⑧ and ground.

OK → Door switch is OK.

Condition	Voltage [V]
Any door is opened.	0
All doors are closed.	Approx. 12

Refer to wiring diagram in EL-215 (LHD), EL-219 (RHD).

NG



B

CHECK DOOR SWITCH.
1. Disconnect door switch connector.
2. Check continuity between door switch terminals.

NG → Replace door switch.

	Terminals	Condition	Continuity
Driver side door switch	② - ground	Closed	No
		Open	Yes
Other door switches	① - ground	Closed	No
		Open	Yes

OK

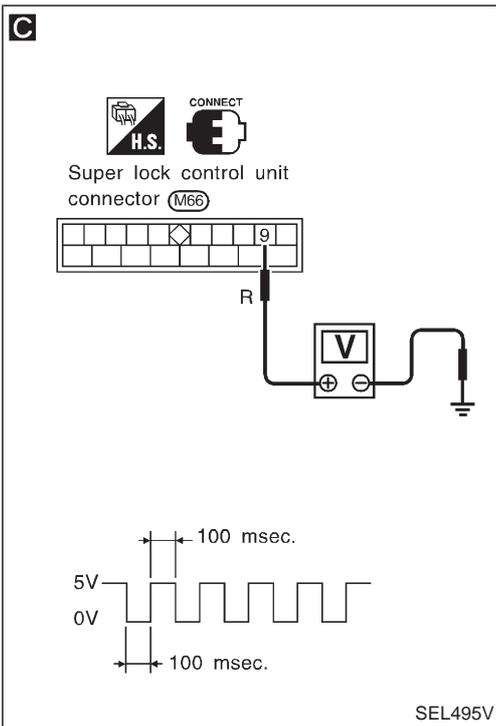
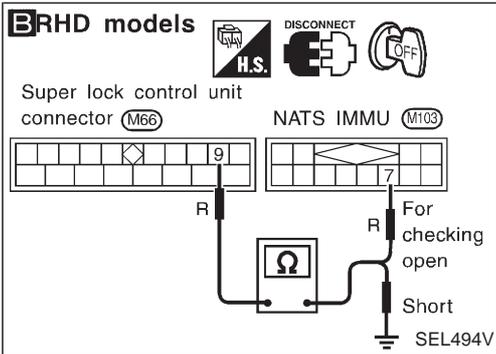
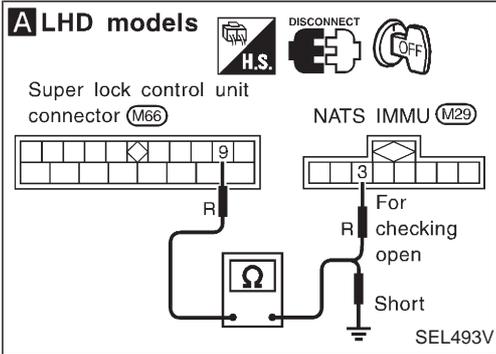
Check the following.

- Door switch ground condition
- Harness for open or short between control unit and door switch

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6 (NATS release signal check)



Does engine start properly? No → Check NATS system.

Yes

A B

CHECK NATS SIGNAL CIRCUIT.

1. Disconnect control unit connector and NATS IMMU connector.

2. Check continuity between control unit terminal ⑨ and NATS IMMU terminal ③ (LHD models), ⑦ (RHD models). **Continuity should exist.**

3. Check continuity between control unit terminal ⑨ and ground. **Continuity should not exist.**

Refer to wiring diagram in EL-215 (LHD), EL-219 (RHD).

NG → Repair harness.

OK

C

CHECK NATS RELEASE SIGNAL.

1. Connect control unit connector and NATS IMMU connector.

2. Check voltage between control unit terminal ⑨ and ground.

NG → Check NATS system.

Ignition switch condition	Voltage [V]
OFF	5
More than 10 seconds after ignition switch turned ON	
For 10 seconds after ignition switch turned ON	Pulse

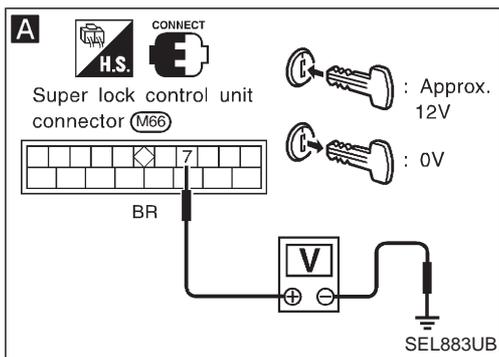
OK

Replace super lock control unit.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7 (Key switch check)



A

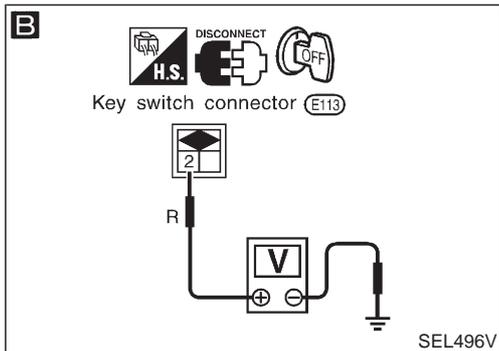
CHECK KEY SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ⑦ and ground.

OK → Key switch is OK.

Condition of key switch	Voltage [V]
Key is inserted.	Approx. 12
Key is withdrawn.	0

Refer to wiring diagram in EL-215 (LHD), EL-219 (RHD).

NG



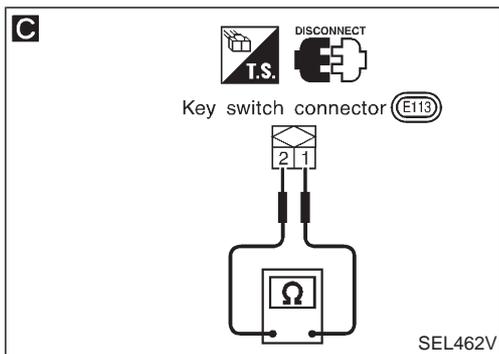
B

CHECK KEY SWITCH POWER SUPPLY.
1. Disconnect key switch connector.
2. Check voltage between key switch harness terminal ② and ground.
Battery voltage should exist.

NG → Check the following.

- 7.5A fuse [No. 24], located in fuse block (J/B)
- Harness for open or short between key switch and fuse

OK



C

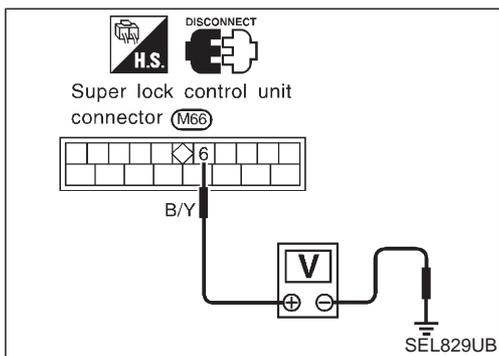
CHECK KEY SWITCH.
Check continuity between key switch terminals.

NG → Replace key switch.

Terminals	Condition	Continuity
① - ②	Key is inserted.	Yes
	Key is withdrawn.	No

OK

Check harness for open or short between control unit and key switch.



DIAGNOSTIC PROCEDURE 8 (Ignition switch "ON" circuit check)

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
⑥	Ground	0V	0V	Battery voltage

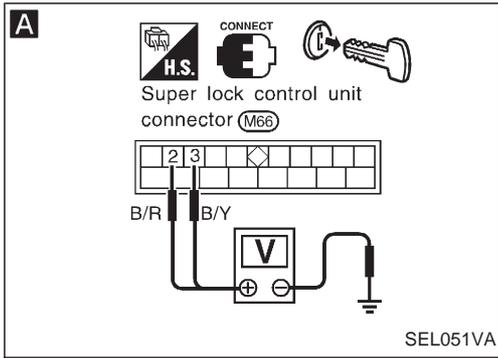
If NG, check the following.

- 10A fuse [No. 25], located in the fuse block (J/B)
- Harness for open or short

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 9 (Remote controller signal check)



A

CHECK REMOTE CONTROLLER INPUT SIGNAL.

1. Withdraw key from ignition key cylinder.
2. Check voltage between control unit terminal ② or ③ and ground.

NOTE: The multi-remote control system does not activate with key inserted in ignition key cylinder or if one of the doors is opened.

Terminals		Condition of remote controller button	Voltage [V]
⊕	⊖		
②	Ground	LOCK button is pressed	0 (Approx. 0.5 seconds)
		LOCK button is released	5
③	Ground	UNLOCK button is pressed	0 (Approx. 0.5 seconds)
		UNLOCK button is released	5

Refer to Wiring Diagram in EL-216.

OK

Replace super lock control unit.

NG

Check harness for open or short between super lock control unit and multi-remote control unit.

MULTI-REMOTE CONTROL SYSTEM

System Description

FUNCTION

Multi-remote control system has the following function.

- Door lock (and set super lock)
- Door unlock (and release super lock)
- Hazard reminder

LOCK OPERATION

To lock door by multi-remote controller, the following two signals must be received.

- Key switch OFF (when ignition key is not in ignition key cylinder.)
- All door switches CLOSED

When the LOCK signal is input to multi-remote control unit (the antenna of the system is combined with multi-remote control unit), ground is supplied

- through multi-remote control unit terminal ⑩
- to super lock control unit terminal ② .

Then super lock control unit operates to lock doors and set super lock.

UNLOCK OPERATION

To unlock door by multi-remote controller, the following signal must be received.

- Key switch OFF (when ignition key is not in ignition key cylinder)

When the UNLOCK signal is input to multi-remote control unit (the antenna of the system is combined with multi-remote control unit), ground is supplied

- through multi-remote control unit terminal ⑪
- to super lock control unit terminal ③ .

Then super lock control unit operates to unlock doors and release super lock.

HAZARD REMINDER

When the doors are locked or unlocked by multi-remote controller, ground is supplied

- to terminal ① of multi-remote control relay-1 and 2
- through multi-remote control unit terminal ⑫ .

Then the relays are energized and hazard warning lamp flashes as follows

- Lock operation: Flash once
- Unlock operation: Flash twice

MULTI-REMOTE CONTROLLER ID CODE ENTRY

A maximum of four remote controllers can be entered. Any attempt to enter a remote controller will erase all ID codes previously entered. Therefore, be sure to receive all remote controllers from the vehicle owner when any ID code entry is performed.

To enter ID code entry, the following signals must be input to the multi-remote control unit.

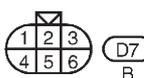
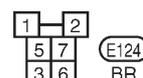
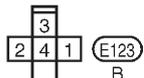
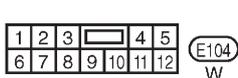
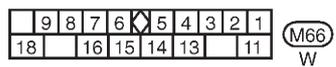
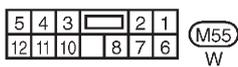
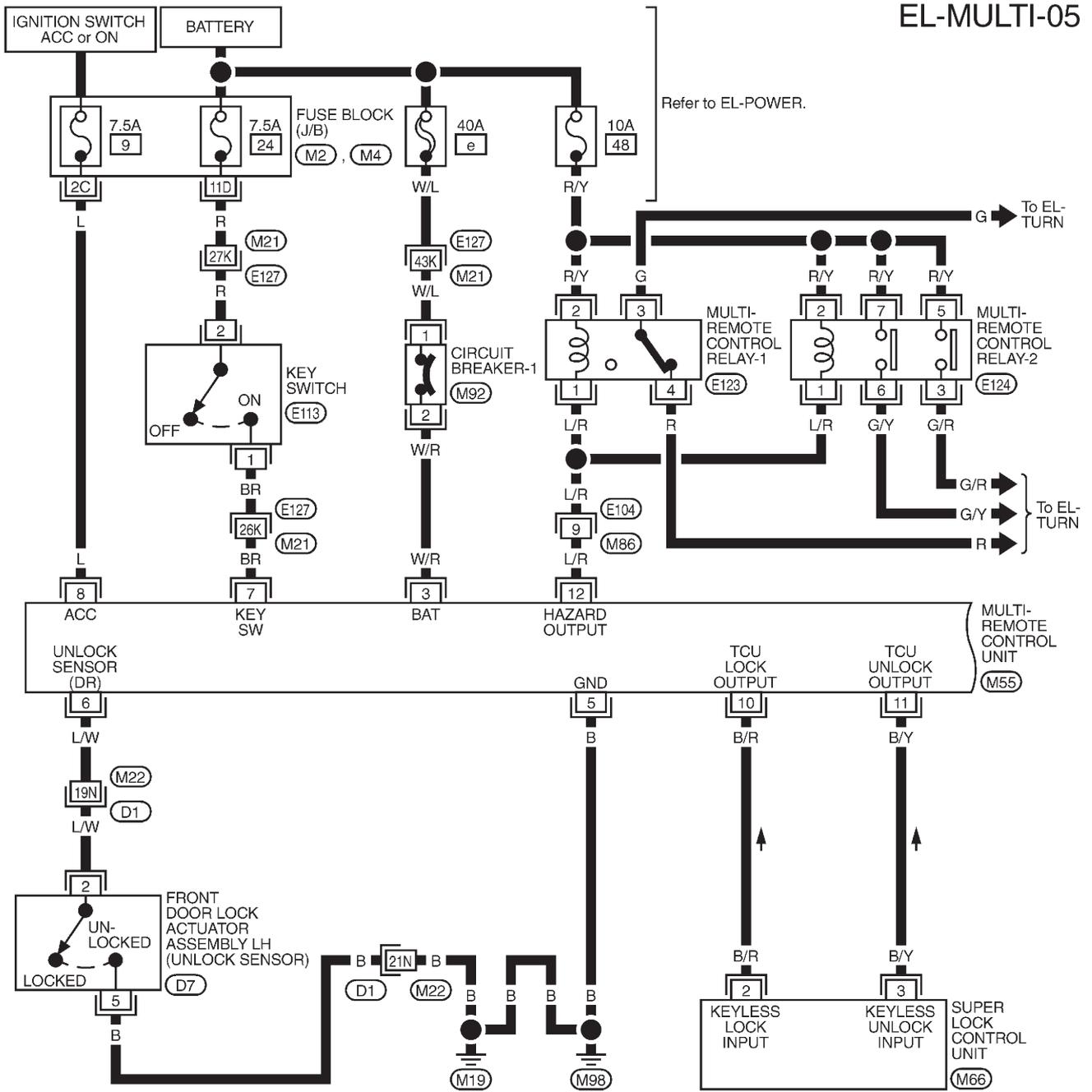
- Driver side LOCKED signal (from driver side door unlock sensor)
- Door switch CLOSED signal
- Key switch signal (INSERTED/WITHDRAWN)
- Accessory power supply
- Signal from remote controller

For detailed procedure, refer to "ID Code Entry Procedure" in EL-239.

MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI —/LHD Models

EL-MULTI-05



Refer to last page (Foldout page).

(M21), (E127)

(M22), (D1)

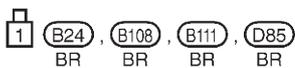
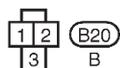
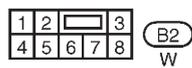
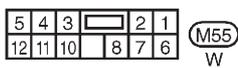
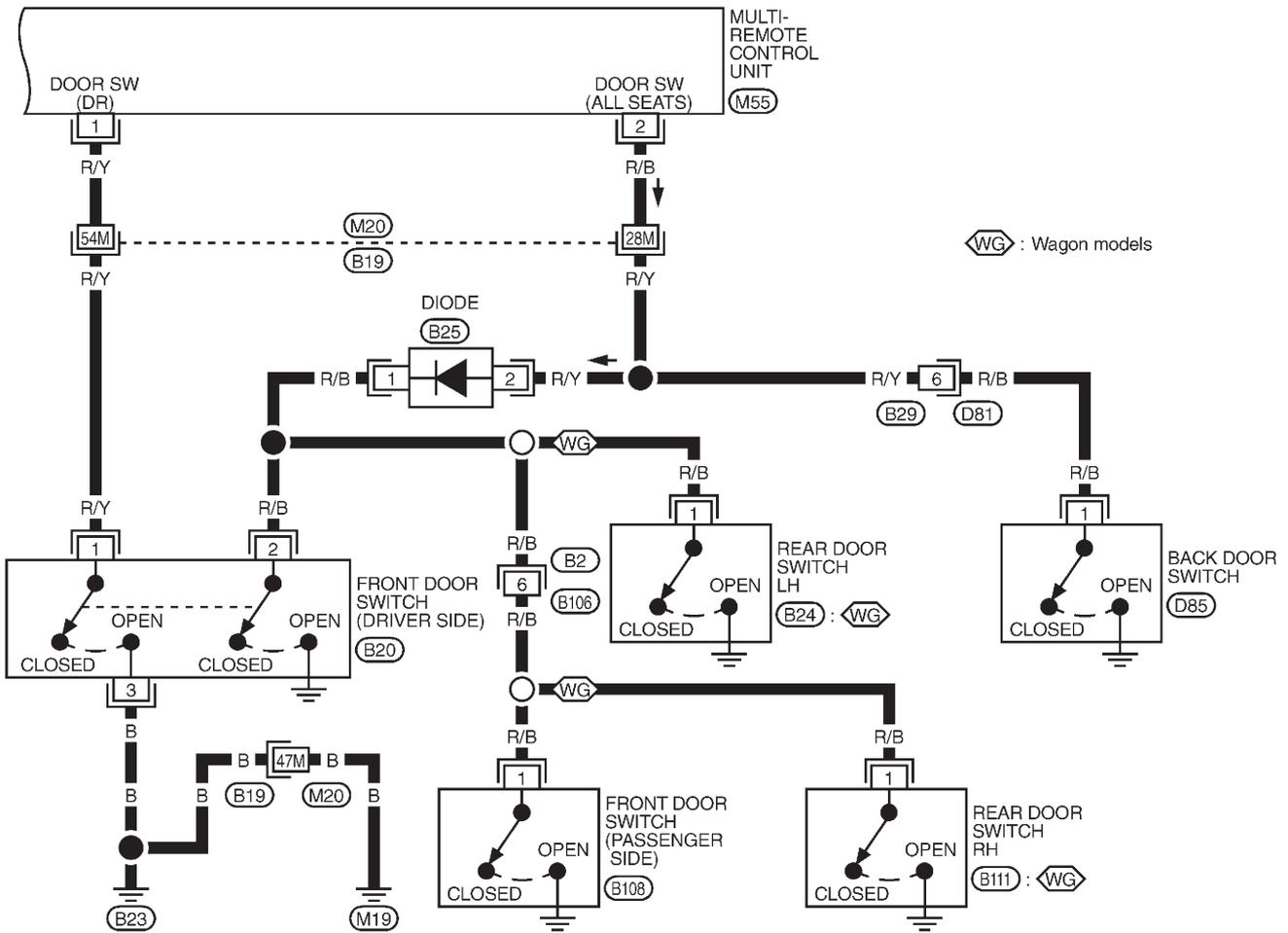
(M2)

(M4)

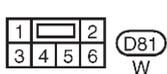
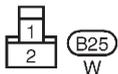
MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI —/LHD Models (Cont'd)

EL-MULTI-06



Refer to last page (Foldout page).
M20, B19



MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses

SYMPTOM CHART

Symptom		Possible cause	Diagnoses/service order
No doors can be locked or unlocked by remote control operation.	Hazard reminder also does not operate either.	<ol style="list-style-type: none"> 1. Remote controller battery 2. Key switch (insert) 3. Door switch 4. Power supply circuit for multi-remote control unit 5. Ground circuit for multi-remote control unit 6. Remote controller 	<ol style="list-style-type: none"> 1. Check remote controller battery. Refer to EL-238. 2. Check key switch (insert) signal at terminal ⑦ of multi-remote control unit. 3. Check door switch signal at terminals ① and ② of multi-remote control unit. 4. Make sure battery voltage is present at terminal ③ of multi-remote control unit. 5. Check continuity between terminal ⑤ of multi-remote control unit and ground. 6. Replace remote controller. Refer to EL-239.
	Hazard reminder operates properly.	<ol style="list-style-type: none"> 1. Super lock system 2. Lock/unlock signal to super lock control unit 	<ol style="list-style-type: none"> 1. Check that power door lock operates properly. If NG, check super lock, EL-211. 2. Check lock/unlock signal to super lock control unit at terminals ⑩ and ⑪ of multi-remote control unit. (See NOTE.)
Hazard reminder does not operate properly.		<ol style="list-style-type: none"> 1. 10A fuse 2. Multi-remote control relay-1 and 2 3. Hazard reminder circuit 	<ol style="list-style-type: none"> 1. Check 10A fuse (No. 48), located in the fuse and fusible link box). 2. Check multi-remote control relay-1 and 2. 3. Check harness for open or short between relays and multi-remote control unit terminal ⑫.
The new ID of remote controller cannot be entered.		<ol style="list-style-type: none"> 1. Remote controller battery 2. Key switch (insert) 3. Door switch 4. Driver's door unlock sensor 5. Accessory power supply circuit for multi-remote control unit 6. Remote controller 	<ol style="list-style-type: none"> 1. Check remote controller battery. Refer to EL-238. 2. Check key switch (insert) signal at terminal ⑦ of multi-remote control unit. 3. Check door switch signal at terminals ① and ② of multi-remote control unit. 4. Check driver's door unlock sensor signal at terminal ⑥ of multi-remote control unit. 5. Make sure battery voltage is present at terminal ⑧ of multi-remote control unit while ignition switch is in ACC position. 6. Replace remote controller. Refer to EL-239.

Refer to "MULTI-REMOTE CONTROL UNIT INSPECTION TABLE" on next page to check the control unit signals.

NOTE:

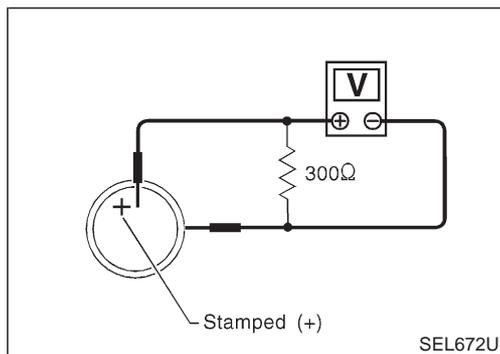
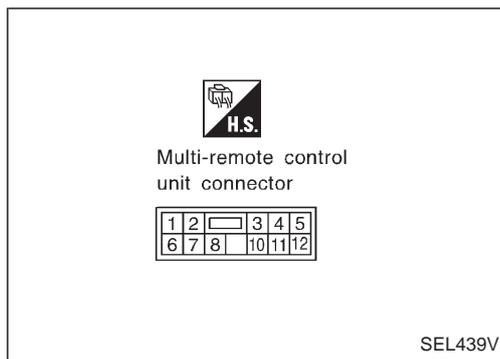
- The unlock operation of multi-remote control system does not activate with key inserted in the ignition key cylinder.
- The lock operation of multi-remote controller does not activate with the key inserted ignition key cylinder or if one of the door is opened.

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

MULTI-REMOTE CONTROL UNIT INSPECTION TABLE

Terminal No.	Connections	Condition		Voltage (V) (approximate values)
1	Driver side door switch	Driver side door	Opened	0
			Closed	12
2	Door switch (all doors)	One of doors is opened		0
		All doors are closed		12
3	Power source (BAT)	—		12
5	Ground	—		—
6	Driver side door unlock sensor	Driver side door	Locked	5
			Unlocked	0
7	Key switch (insert)	Key is in ignition key cylinder		12
		Key is not in ignition key cylinder		0
8	Accessory power supply	Ignition switch	OFF	0
			ACC or ON	12
10	Lock signal (to super lock control unit)	Remote controller LOCK button is pushed (All doors are closed and key is not in ignition key cylinder.)		0
		Other than above condition		5
11	Unlock signal (to super lock control unit)	Remote controller UNLOCK button is pushed (Key is not in ignition key cylinder.)		0
		Other than above condition		5
12	Multi-remote control relay-1, 2	Remote controller LOCK/UNLOCK button is pushed (All doors are closed and key is not in ignition key cylinder.)		0
		Other than above condition		12



REMOTE CONTROLLER BATTERY CHECK

Remove battery and measure voltage across battery positive and negative terminals, ⊕ and ⊖.

Measuring terminal		Standard value
⊕	⊖	
Battery positive terminal ⊕	Battery negative terminal ⊖	2.5 - 3.0V

Note:
Remote controller does not function if battery is not set correctly.

MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure

Note:

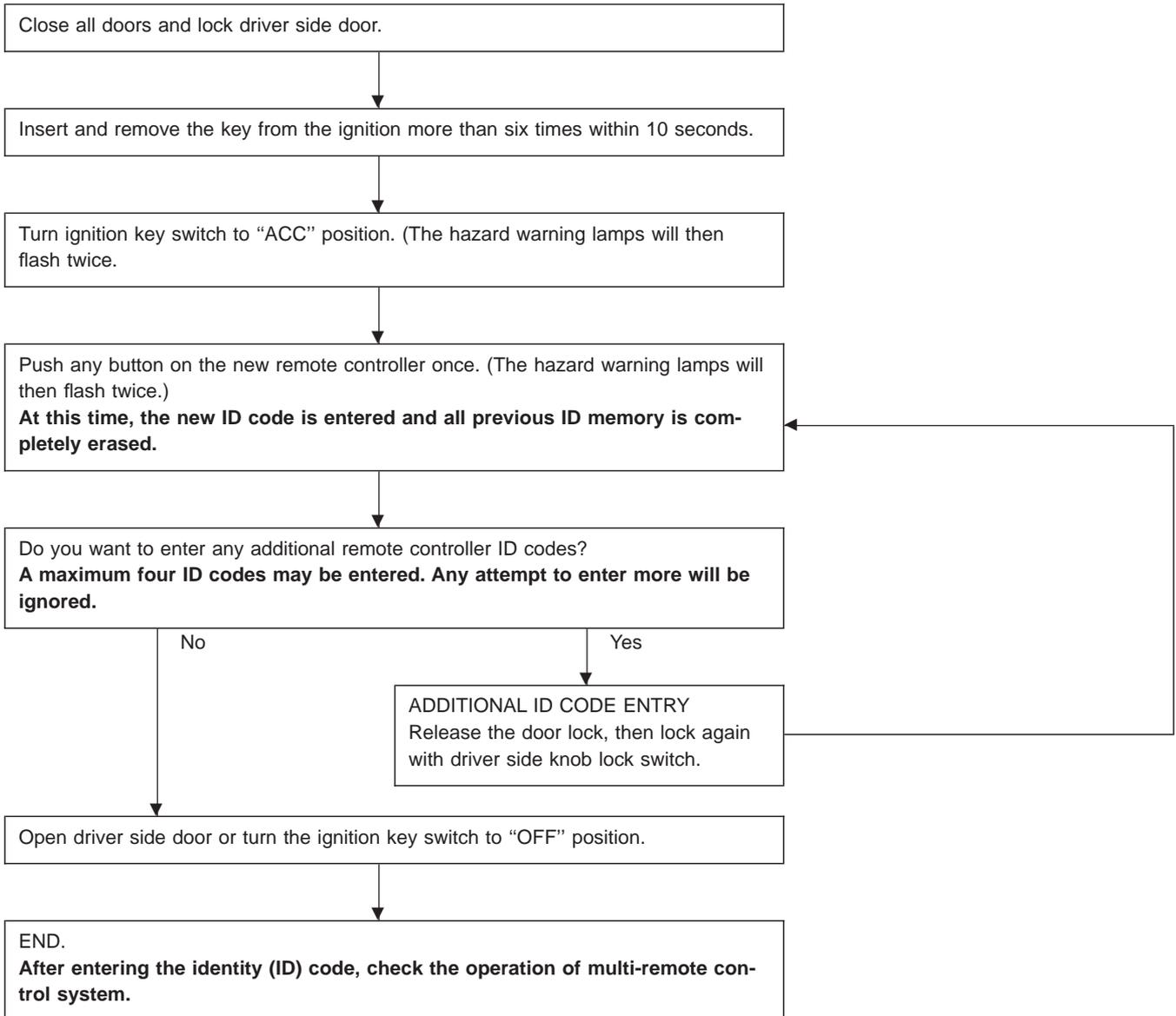
A maximum of four remote controllers can be entered. Any attempt to enter a remote controller will erase all ID codes previously entered. Therefore, be sure to receive all remote controllers from the vehicle owner when any ID code entry is performed.

Enter the identity (ID) code manually when:

- remote controller or control unit is replaced.
- an additional remote controller is activated.

To enter the ID code, follow the procedures below.

PROCEDURE



NOTE:

- If you need to activate more than two additional new remote controllers, repeat the procedure "Additional ID code entry" for each new remote controller.
- If the same ID code that exists in the memory is input, the entry will be ignored.
- Entry of maximum four ID codes is allowed and any attempt to enter more will be ignored.
- Any ID codes cannot be entered after termination of the "setting mode".

NATS (Nissan Anti-Theft System)/LHD MODELS

System Description

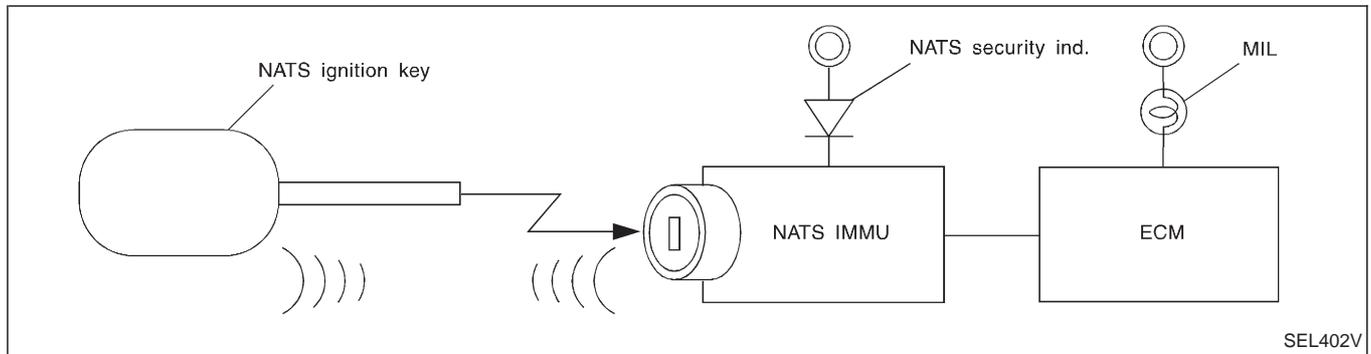
NATS has the following immobiliser functions:

- Since only NATS ignition keys, whose ID nos. have been registered into the ECM and IMMU of NATS, allow the engine to run, operation of a stolen vehicle without a NATS registered key is prevented by NATS. That is to say, NATS will immobilize the engine if someone tries to start it without the registered key of NATS.
- Both of the originally supplied ignition key IDs have been NATS registered. If requested by the vehicle owner, a maximum of four key IDs can be registered into the NATS components.
- The NATS security indicator (NATS security ind.) blinks when the ignition switch is in "OFF" or "ACC" position. Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- When NATS detects trouble, the malfunction indicator lamp (MIL) blinks.
- NATS trouble diagnoses, system initialisation and additional registration of other NATS ignition key IDs must be carried out using CONSULT hardware and CONSULT NATS software. When NATS initialisation has been completed, the ID of the inserted ignition key is automatically NATS registered. Then, if necessary, additional registration of other NATS ignition key IDs can be carried out. Regarding the procedures of NATS initialisation and NATS ignition key ID registration, refer to CONSULT operation manual, NATS.
- **When servicing a malfunction of the NATS (indicated by flashing of Malfunction Indicator Lamp) or registering another NATS ignition key ID no., it may be necessary to re-register original key identification. Therefore, be sure to receive all keys from vehicle owner.**

System Composition

The immobiliser function of the NATS consists of the following:

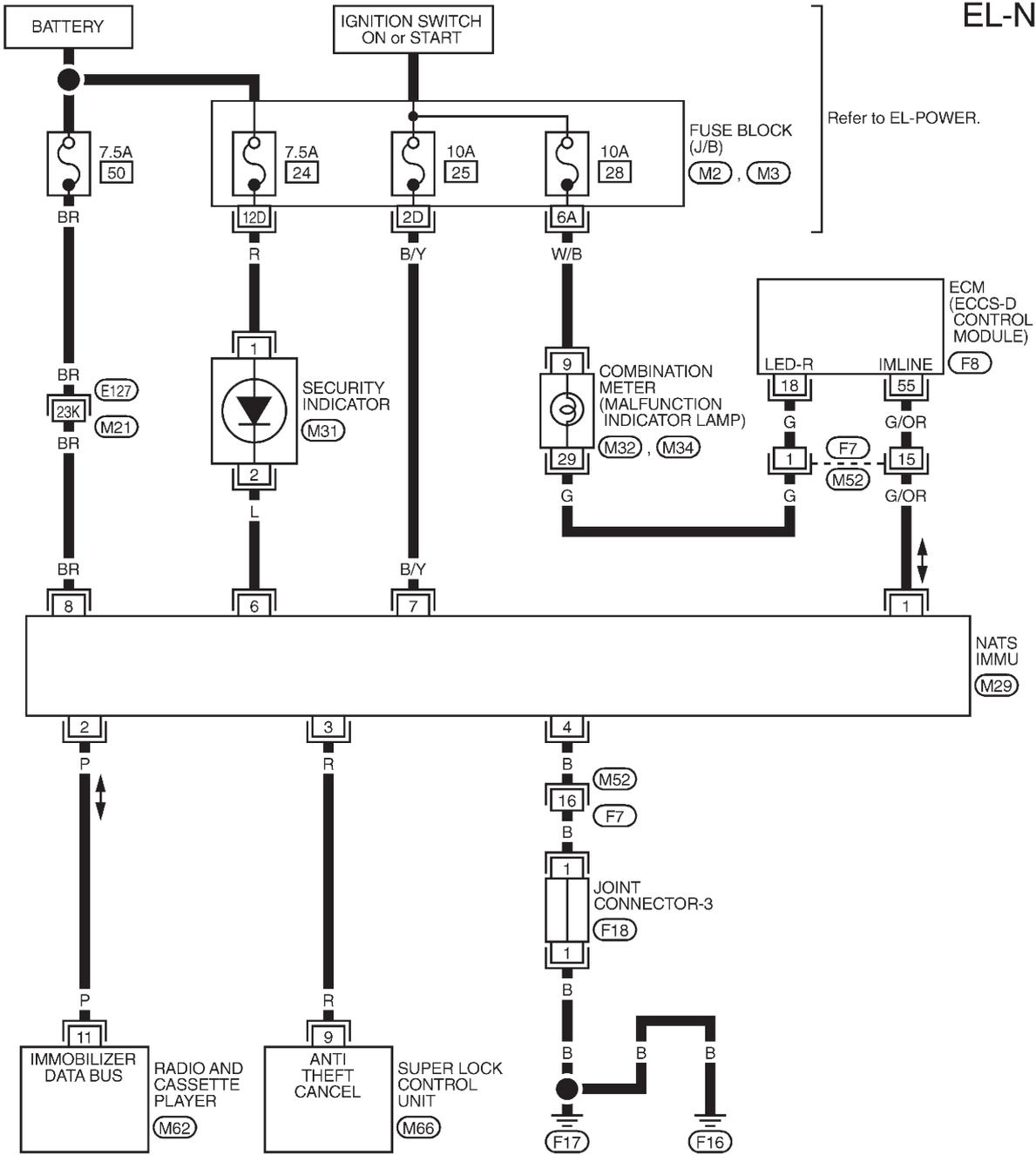
- NATS ignition key
- NATS immobiliser control unit (NATS IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- NATS security indicator
- Malfunction indicator lamp (MIL)



NATS (Nissan Anti-Theft System)/LHD MODELS

Wiring Diagram — NATS —

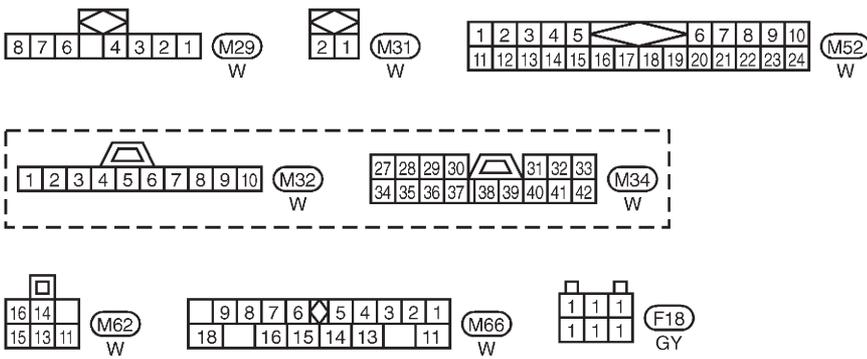
EL-NATS-01



Refer to EL-POWER.

ECM (ECCS-D CONTROL MODULE)

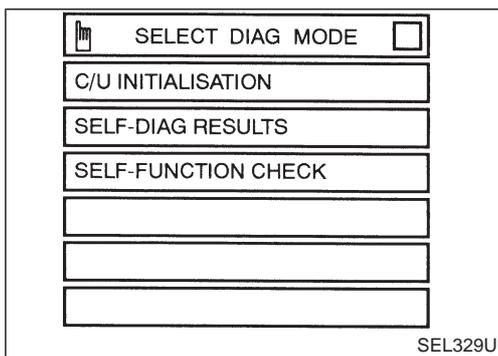
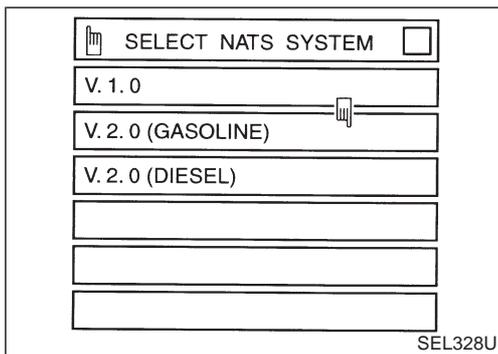
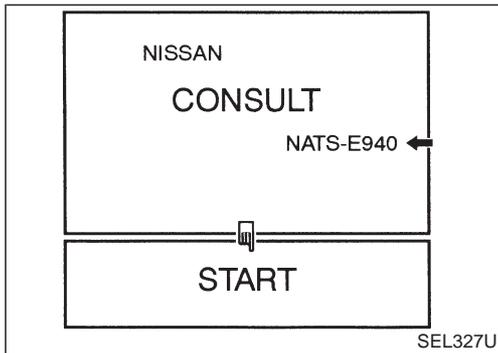
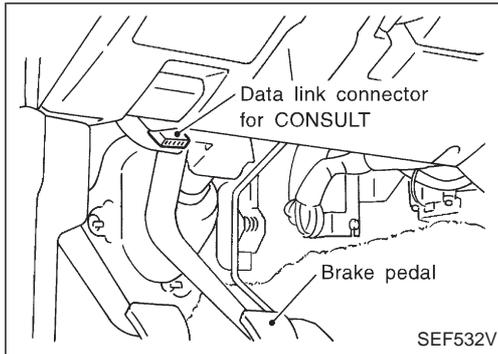
NATS IMMU (M29)



Refer to last page (Foldout page).

- (M21), (E127)
- (M2)
- (M3)
- (F8)

NATS (Nissan Anti-Theft System)/LHD MODELS



CONSULT

CONSULT INSPECTION PROCEDURE

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

3. Insert NATS program card into CONSULT.

←: Program card
NATS-E940

4. Turn on ignition switch.
5. Touch "START".

6. Touch "V.2.0 (GASOLINE)".

NOTE: "V.2.0 (GASOLINE)" should be selected for electrically controlled diesel and gasoline engines.

7. Perform each diagnostic test mode according to each service procedure.

For further information, see the CONSULT Operation Manual, NATS V2.0 (GASOLINE).

NATS (Nissan Anti-Theft System)/LHD MODELS

CONSULT (Cont'd)

CONSULT DIAGNOSTIC TEST MODE FUNCTION

CONSULT DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following three components, C/U initialization is necessary. [NATS ignition key/IMMU/ECM]
SELF-FUNCTION CHECK	ECM checks its own NATS communication interface by itself.
SELF-DIAGNOSTIC RESULTS	Detected items (screen terms) are as shown in the chart below.

NOTE:

When any initialisation is performed, all ID previously registered will be erased. So all NATS ignition keys must be registered again.

The engine cannot be started with an unregistered key. In this case, the system may show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT screen.

HOW TO READ SELF-DIAGNOSTIC RESULTS

Result display screen (When no malfunction is detected)

■ SELF-DIAG RESULTS ■ □

FAILURE DETECTED TIME
* NO SELF DIAGNOSTIC FAILURE INDICATED.

FURTHER TESTING MAY BE REQUIRED.**

ERASE PRINT

Result display screen (When malfunction is detected)

■ SELF-DIAG RESULTS ■ □ ← Page mark

FAILURE DETECTED TIME
IMMU 0 ← Time data (See NOTE)
This indicates how many times the vehicle was driven after the last detection of a malfunction. If the malfunction is being detected currently, the time data will be "0".

DIFFERENCE OF KEY 1

ERASE PRINT ← When touched, the self-diagnostic results are printed out.

Detected items →

When touched, the self-diagnostic results stored in the engine control module (ECM) are erased.

SEL332UE

NOTE:

- If trip number is more than 1, MIL does not blink.
- Time data is not indicated for TB45E engine models.

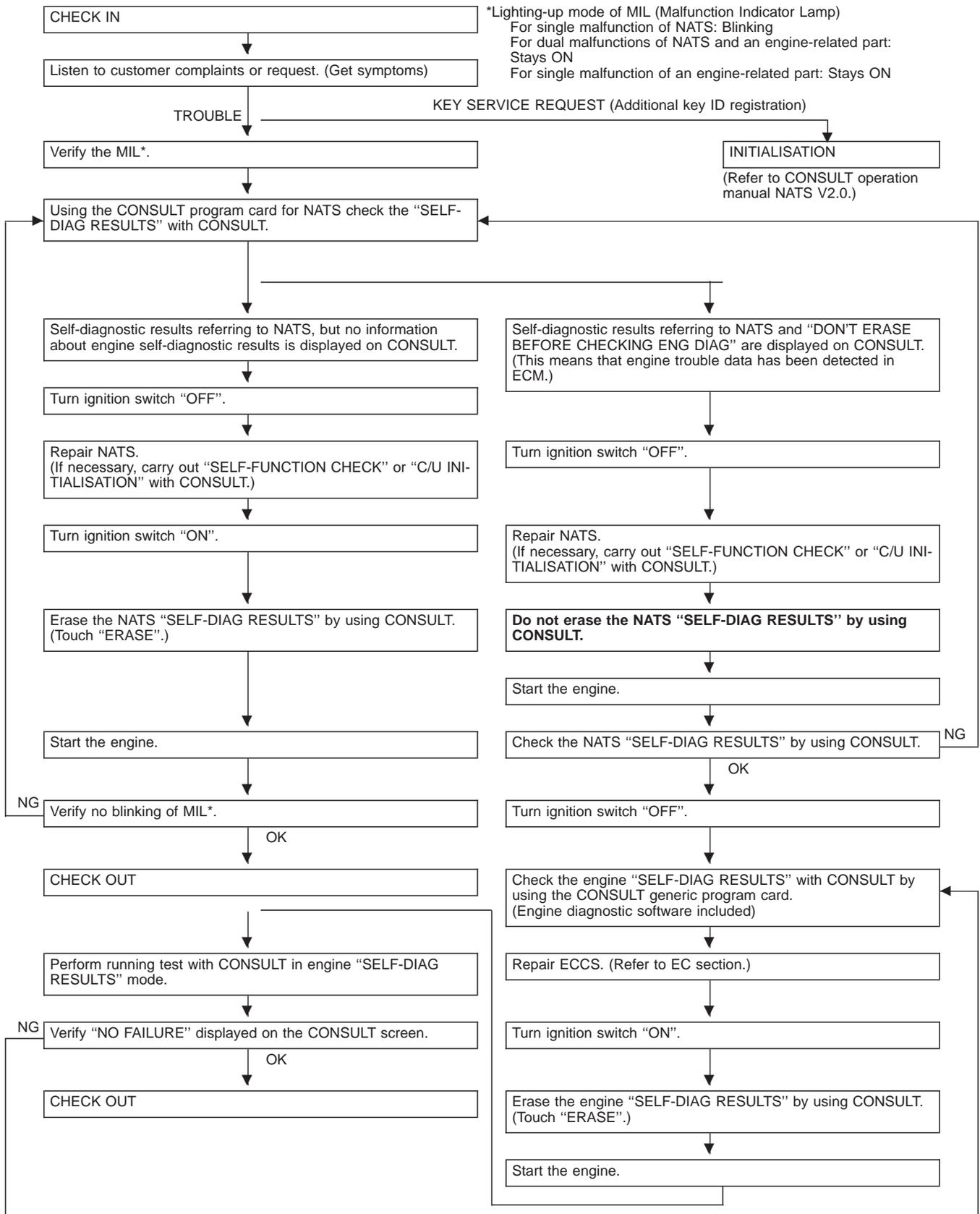
SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (Screen terms)	Description	Reference page
IMMU	ECM received the signal from IMMU that IMMU is malfunctioning.	EL-246
ECM	ECM is malfunctioning.	EL-246
CHAIN OF ECM-IMMU	Communication impossible between ECM and IMMU.	EL-247
DIFFERENCE OF KEY	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-249
CHAIN OF IMMU-KEY	IMMU cannot receive the key ID signal.	EL-250
ID DISCORD, IMM-ECM	The result of ID verification between IMMU and ECM is NG. System initialisation is required.	EL-250
MINGLE NOISE	Noise (interference) mingled into NATS communication lines during communicating.	EL-251
DON'T ERASE BEFORE CHECKING ENG DIAG	Engine trouble data and NATS trouble data have been detected in ECM.	EL-244
LOCK MODE	When an unregistered ignition key is used, or if the starting operation is carried out two or more times consecutively with the ignition key, IMMU or ECM malfunctioning, NATS will shift the mode to one which prevents the engine from being started.	EL-252

NATS (Nissan Anti-Theft System)/LHD MODELS

Trouble Diagnoses

WORK FLOW



NATS (Nissan Anti-Theft System)/LHD MODELS

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
<ul style="list-style-type: none"> ● MIL blinking ● Engine will start 	IMMU	PROCEDURE 1 (EL-246)	IMMU
	ECM	PROCEDURE 2 (EL-246)	ECM
<ul style="list-style-type: none"> ● MIL blinking ● Engine does not start 	CHAIN OF ECM-IMMU	PROCEDURE 3 (EL-247)	Open circuit in battery voltage line of IMMU circuit
			Open circuit in ignition line of IMMU circuit
			Open circuit in ground line of IMMU circuit
			Open or short circuit in communication line between IMMU and ECM
			ECM
	DIFFERENCE OF KEY	PROCEDURE 4 (EL-249)	Unregistered key
			IMMU
	CHAIN OF IMMU-KEY	PROCEDURE 5 (EL-250)	Malfunction of key ID chip
	ID DISCORD, IMM-ECM	PROCEDURE 6 (EL-250)	System initialisation has not yet been completed.
			ECM
MINGLE NOISE	PROCEDURE 7 (EL-251)	Noise interference in communication line	
LOCK MODE	PROCEDURE 8 (EL-252)	LOCK MODE	
<ul style="list-style-type: none"> ● MIL staying ON 	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-244)	Engine trouble data and NATS trouble data have been detected in ECM.
<ul style="list-style-type: none"> ● Security indicator does not operate properly. ● Engine starts properly. 	—	PROCEDURE 9 (EL-253)	Security indicator circuit
			Security indicator
			Continuation of initialisation mode

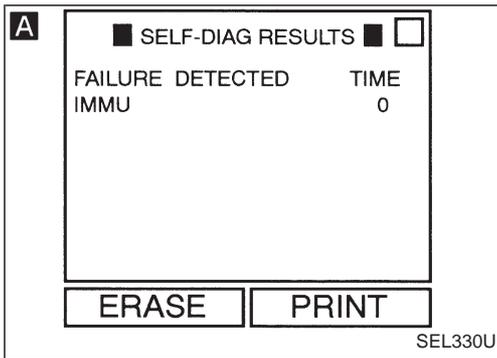
*Lighting-up mode of MIL (Malfunction Indicator Lamp)
 For single malfunction of NATS: Blinking
 For dual malfunctions of NATS and an engine-related part: Stays ON
 For single malfunction of an engine-related part: Stays ON

NATS (Nissan Anti-Theft System)/LHD MODELS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

Self-diagnostic results:
"IMMU" displayed on CONSULT screen



A



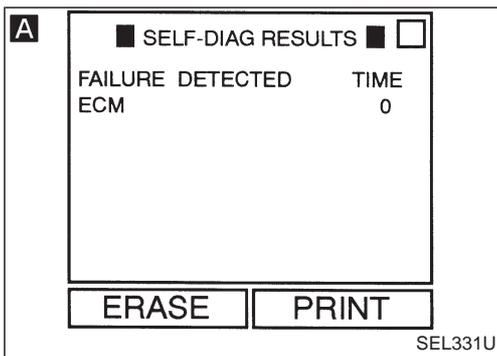
Confirm SELF-DIAGNOSTIC RESULTS "IMMU" displayed on CONSULT screen.

● IMMU is malfunctioning.

1. Replace IMMU.

2. Perform initialisation with CONSULT.

For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".



DIAGNOSTIC PROCEDURE 2

Self-diagnostic results:
"ECM" displayed on CONSULT screen

A



Confirm SELF-DIAGNOSTIC RESULTS "ECM" displayed on CONSULT screen.

● ECM is malfunctioning.

1. Replace ECM.

2. Perform initialisation with CONSULT.

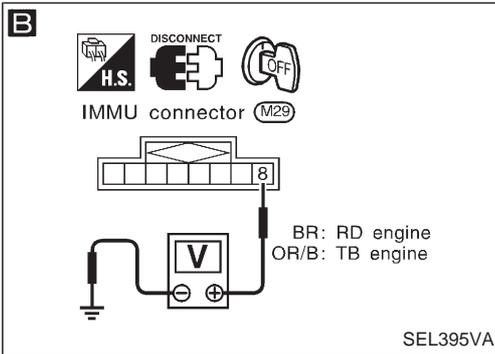
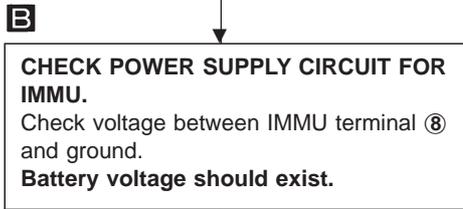
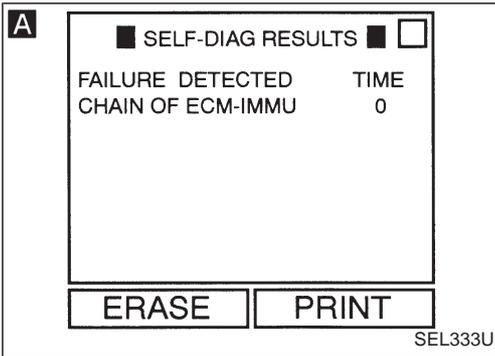
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

NATS (Nissan Anti-Theft System)/LHD MODELS

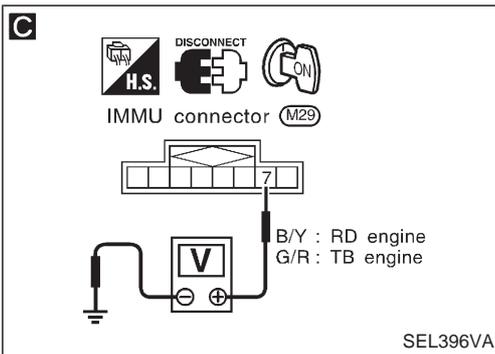
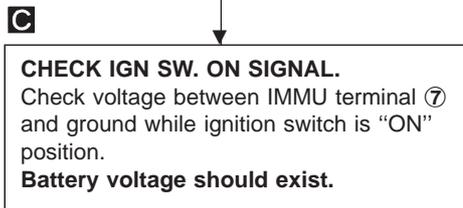
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

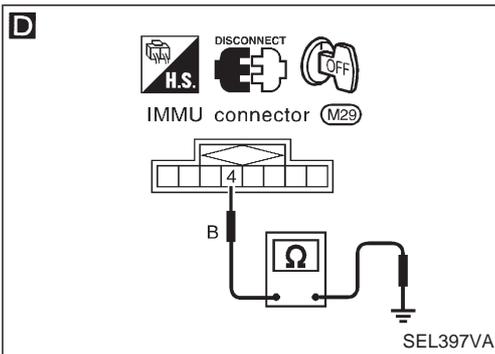
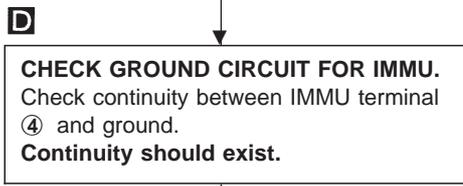
Self-diagnostic results:
 "CHAIN OF ECM-IMMU" displayed on CONSULT screen



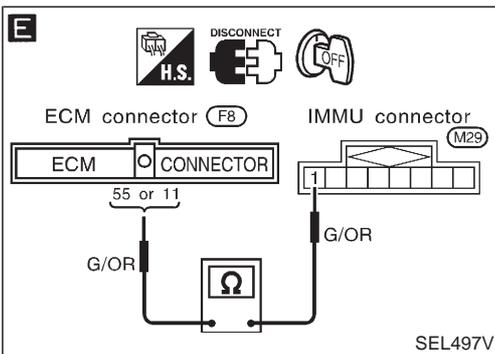
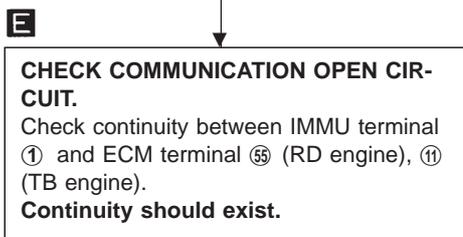
- Check the following.
- 7.5A fuse (No. 50) : RD engine, 49 : TB engine, located in the fuse and fusible link box
 - Harness for open or short between fuse and IMMU connector



- Check the following.
- 10A fuse [No. 25] , located in the fuse block (J/B)
 - Harness for open or short between fuse and IMMU connector



Repair harness.

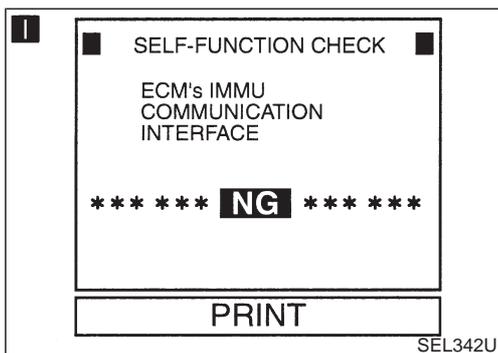
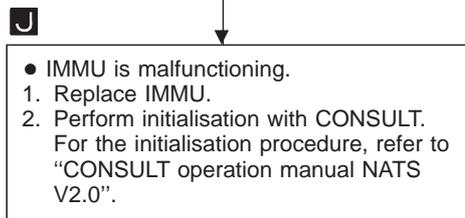
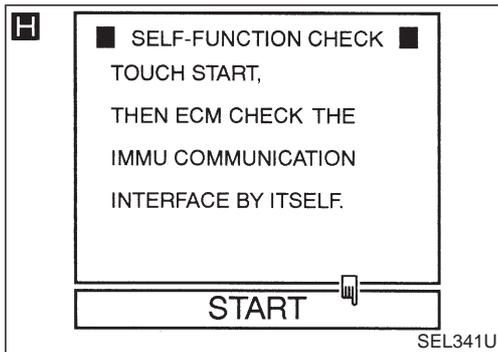
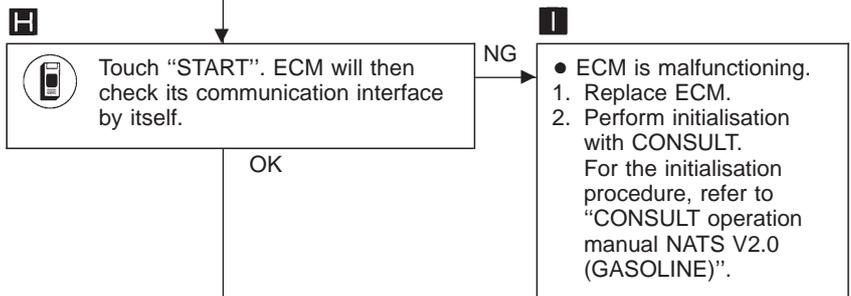
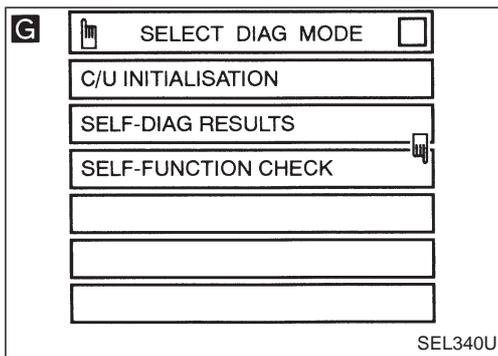
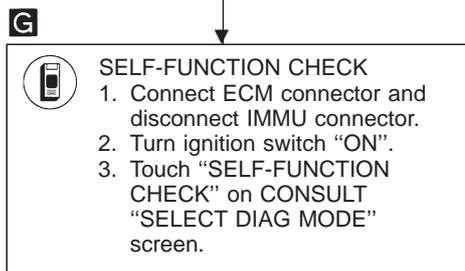
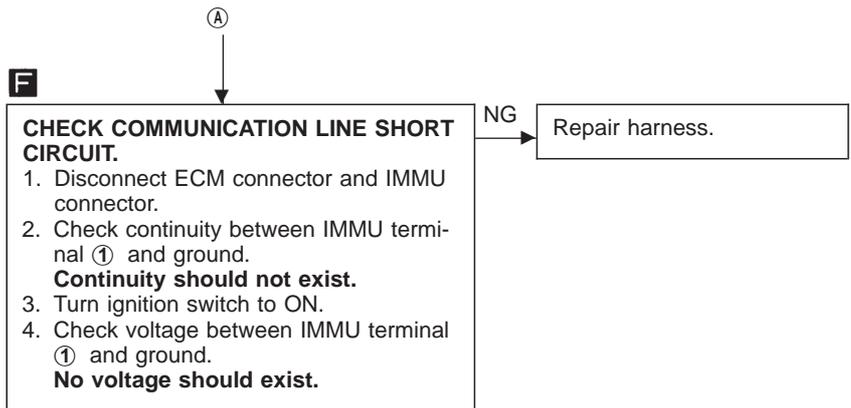
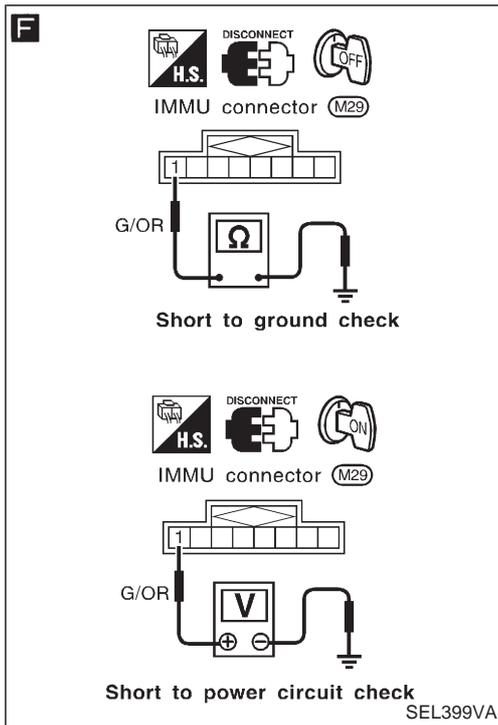


Repair harness.

Ⓐ

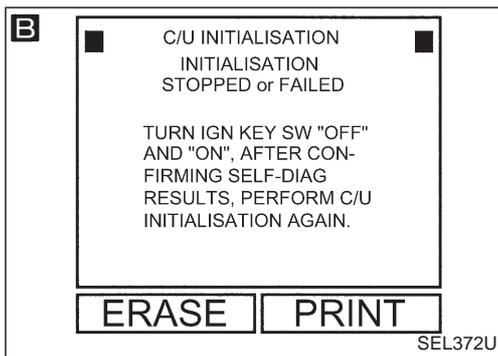
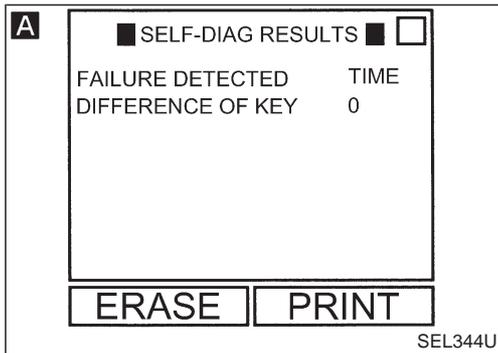
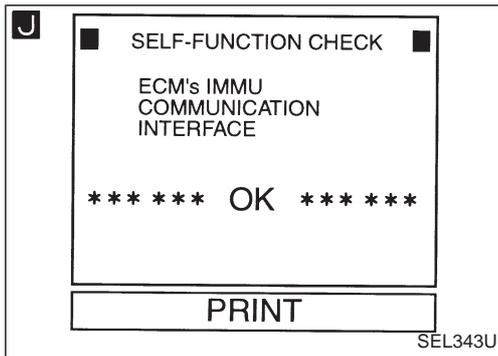
NATS (Nissan Anti-Theft System)/LHD MODELS

Trouble Diagnoses (Cont'd)



NATS (Nissan Anti-Theft System)/LHD MODELS

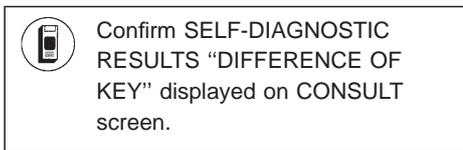
Trouble Diagnoses (Cont'd)



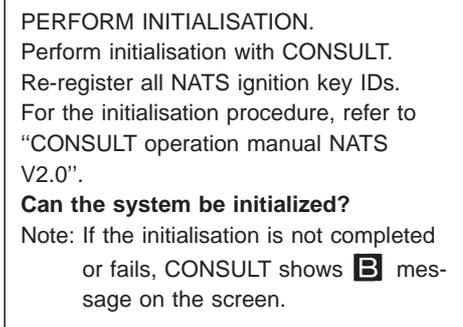
DIAGNOSTIC PROCEDURE 4

Self-diagnostic results:
"DIFFERENCE OF KEY" displayed on CONSULT screen

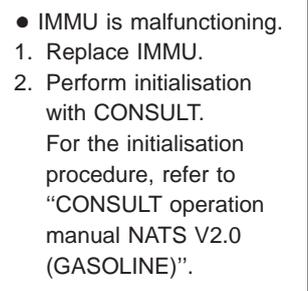
A



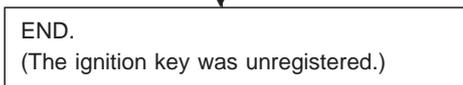
OK



No



Yes

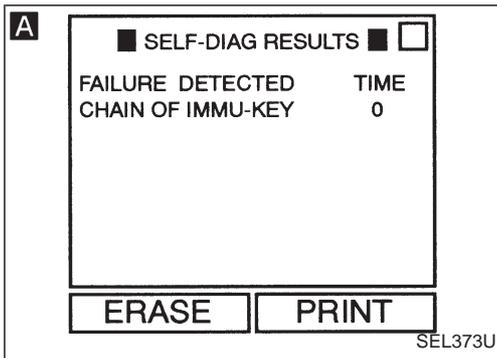


NATS (Nissan Anti-Theft System)/LHD MODELS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

Self-diagnostic results:
"CHAIN OF IMMU-KEY" displayed on CONSULT screen



A
 Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT screen.

OK

CHECK NATS IGNITION KEY ID CHIP.
 Can the engine start with another registered NATS ignition key?

Yes

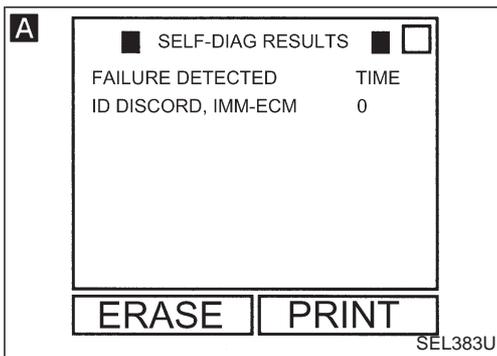
- Ignition key ID chip is malfunctioning.
1. Replace the ignition key.
 2. Perform initialisation with CONSULT. For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

No

- IMMU is malfunctioning.
1. Replace IMMU.
 2. Perform initialisation with CONSULT. For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0".

DIAGNOSTIC PROCEDURE 6

Self-diagnostic results:
"ID DISCORD, IMM-ECM" displayed on CONSULT screen



A
 Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM*" displayed on CONSULT screen.

* "ID DISCORD, IMM-ECM": Registered ID of IMMU is in discord with that of ECM.

PERFORM INITIALISATION.
 Perform initialisation with CONSULT. Re-register all NATS ignition key IDs. For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0".

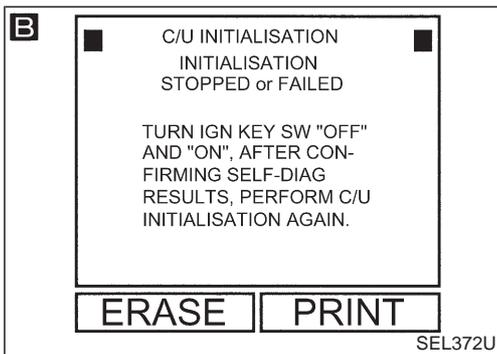
No

- ECM is malfunctioning.
1. Replace ECM.
 2. Perform initialisation with CONSULT. For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

Can the system be initialized?
 Note: If the initialisation is not completed or fails, CONSULT shows **B** message on the screen.

Yes

END.
 (System initialisation was not completed.)

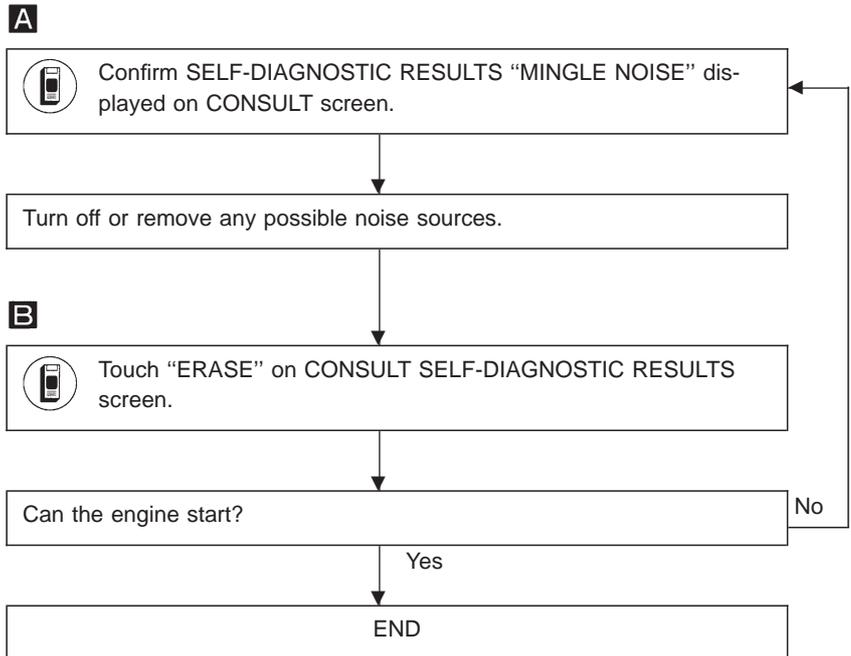
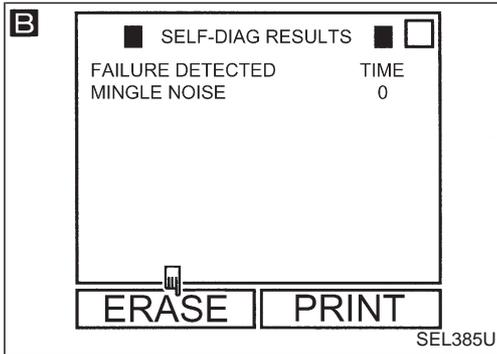
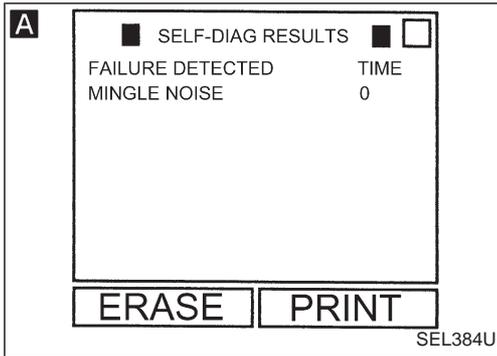


NATS (Nissan Anti-Theft System)/LHD MODELS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

Self-diagnostic results:
"MINGLE NOISE" displayed on CONSULT screen

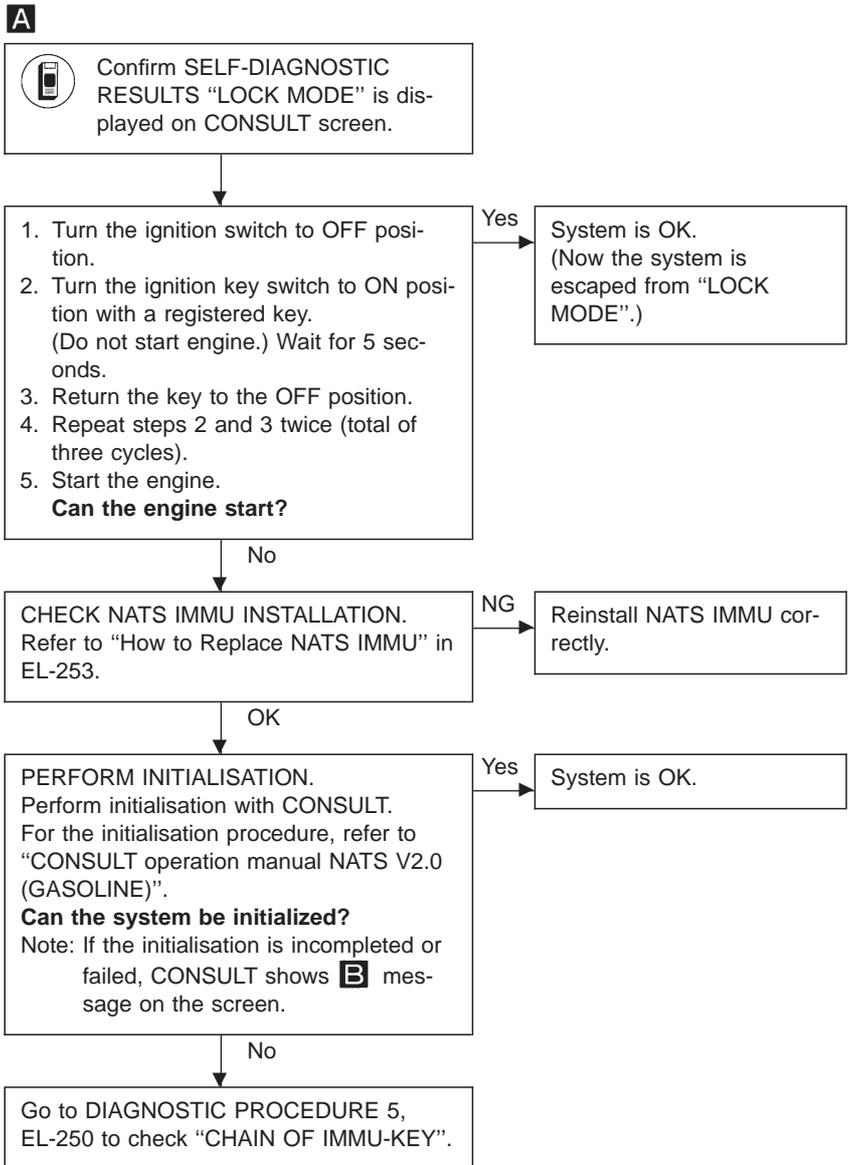
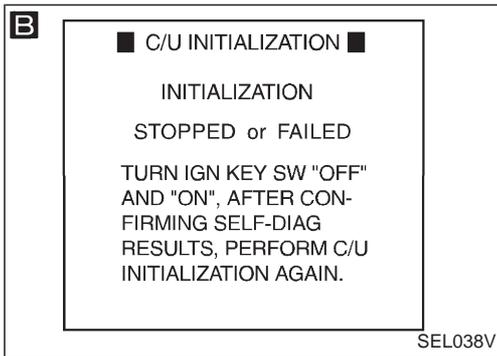
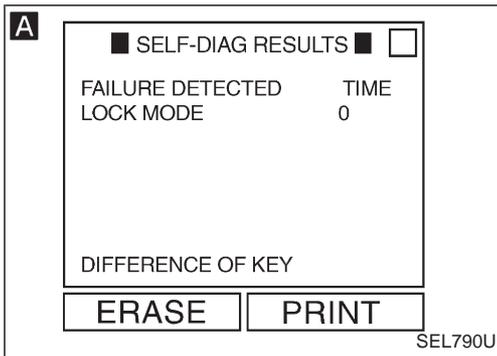


NATS (Nissan Anti-Theft System)/LHD MODELS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

Self-diagnostic results:
“LOCK MODE” displayed on CONSULT screen

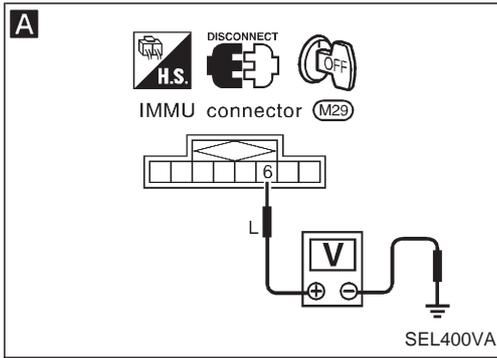


NATS (Nissan Anti-Theft System)/LHD MODELS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 9

Security indicator check



A

CHECK INDICATOR CIRCUIT.

1. Disconnect NATS IMMU connector.
2. Check voltage between NATS IMMU terminal ⑥ and ground.
Battery voltage should exist.

NG

Check the following.

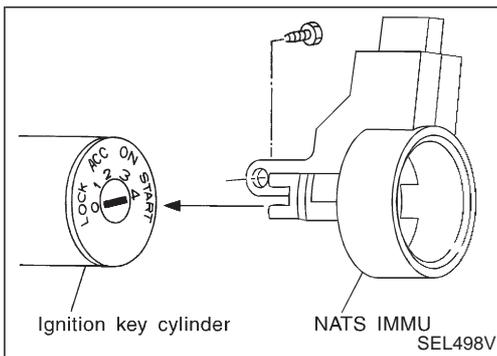
- 7.5A fuse [No. 24], located in the fuse block (J/B)
- Security indicator
- Harness for open or short between fuse and security indicator
- Harness for open or short between NATS IMMU and security indicator

OK

PERFORM INITIALISATION.

Perform initialisation with CONSULT.

For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".



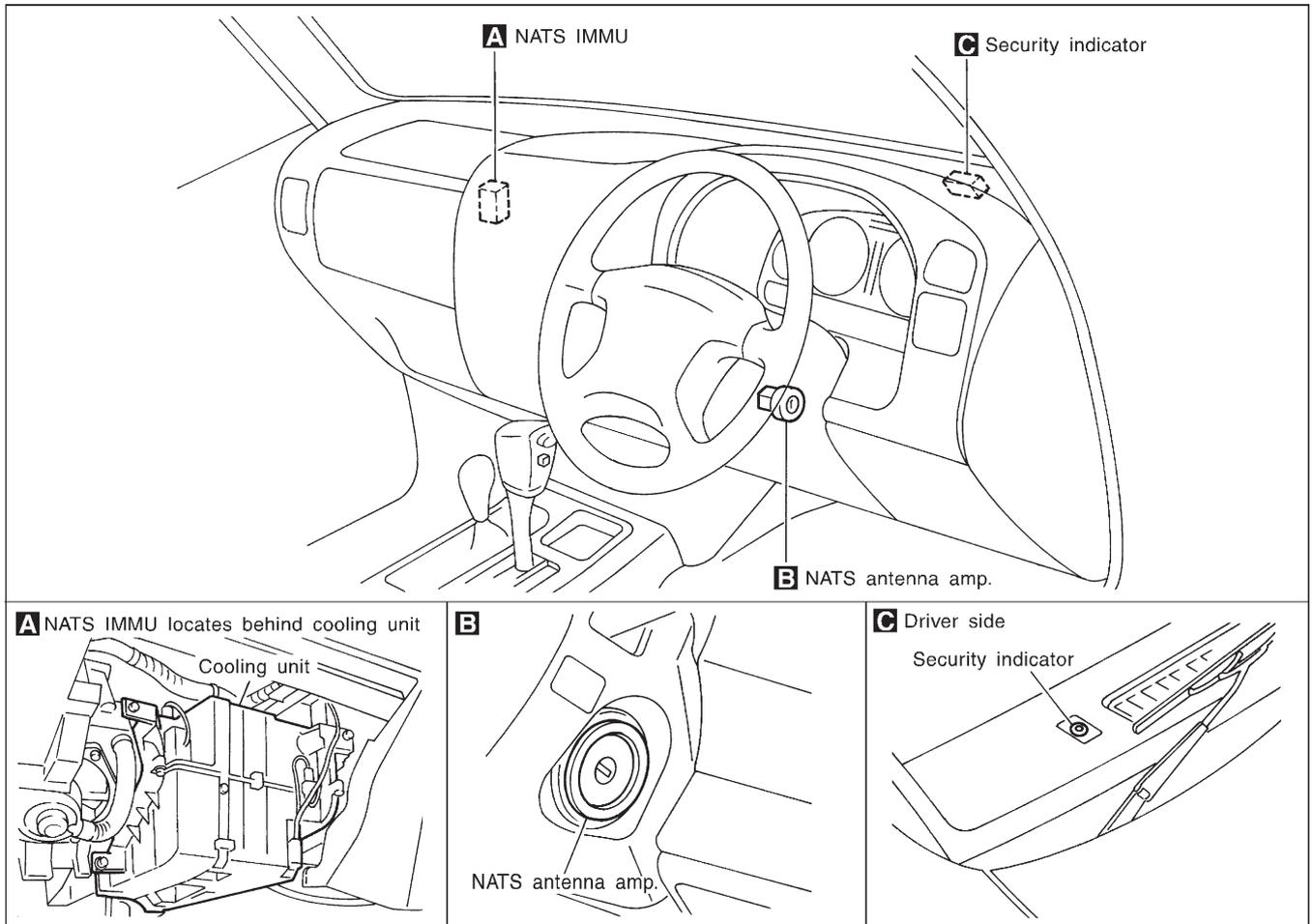
How to Replace NATS IMMU

NOTE:

- If NATS IMMU is not installed correctly, NATS system will not operate properly and SELF-DIAG RESULTS on CONSULT screen will show "LOCK MODE" or "CHAIN OF IMMU-KEY".

NATS (Nissan Anti-Theft System)/RHD MODELS

Component Parts and Harness Connector Location



SEL549V

NATS (Nissan Anti-Theft System)/RHD MODELS

System Description

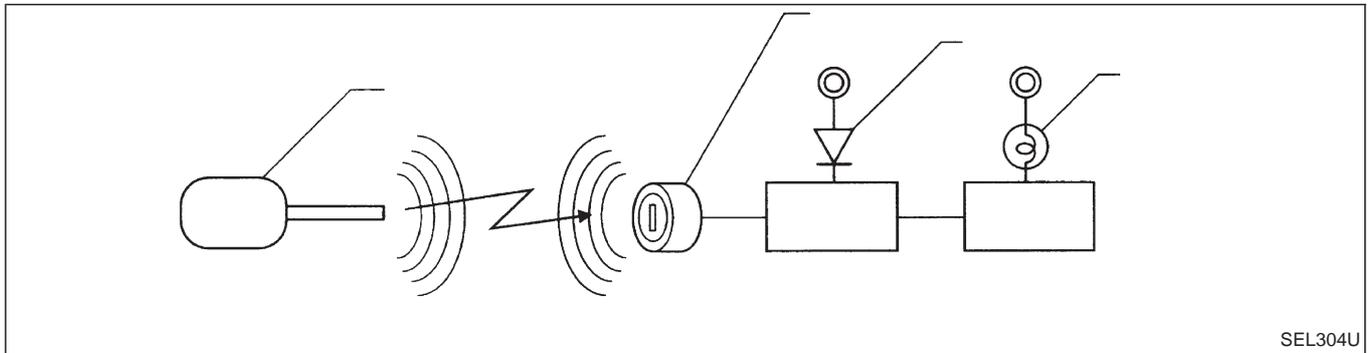
NATS has the following immobiliser functions:

- Since only NATS ignition keys, whose ID nos. have been registered into the ECM and IMMU of NATS, allow the engine to run, operation of a stolen vehicle without a NATS registered key is prevented by NATS. That is to say, NATS will immobilize the engine if someone tries to start it without the registered key of NATS.
- Both of the originally supplied ignition key IDs have been NATS registered. If requested by the vehicle owner, a maximum of four key IDs can be registered into the NATS components.
- The NATS security indicator (NATS security ind.) blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- When NATS detects trouble, the malfunction indicator lamp (MIL) blinks.
- NATS trouble diagnoses, system initialisation and additional registration of other NATS ignition key IDs must be carried out using CONSULT hardware and CONSULT NATS software. When NATS initialisation has been completed, the ID of the inserted ignition key is automatically NATS registered. Then, if necessary, additional registration of other NATS ignition key IDs can be carried out. Regarding the procedures of NATS initialisation and NATS ignition key ID registration, refer to CONSULT operation manual, NATS.
- **When servicing a malfunction of the NATS (indicated by flashing of Malfunction Indicator Lamp) or registering another NATS ignition key ID no., it may be necessary to re-register original key identification. Therefore, be sure to receive all keys from vehicle owner.**

System Composition

The immobiliser function of the NATS consists of the following:

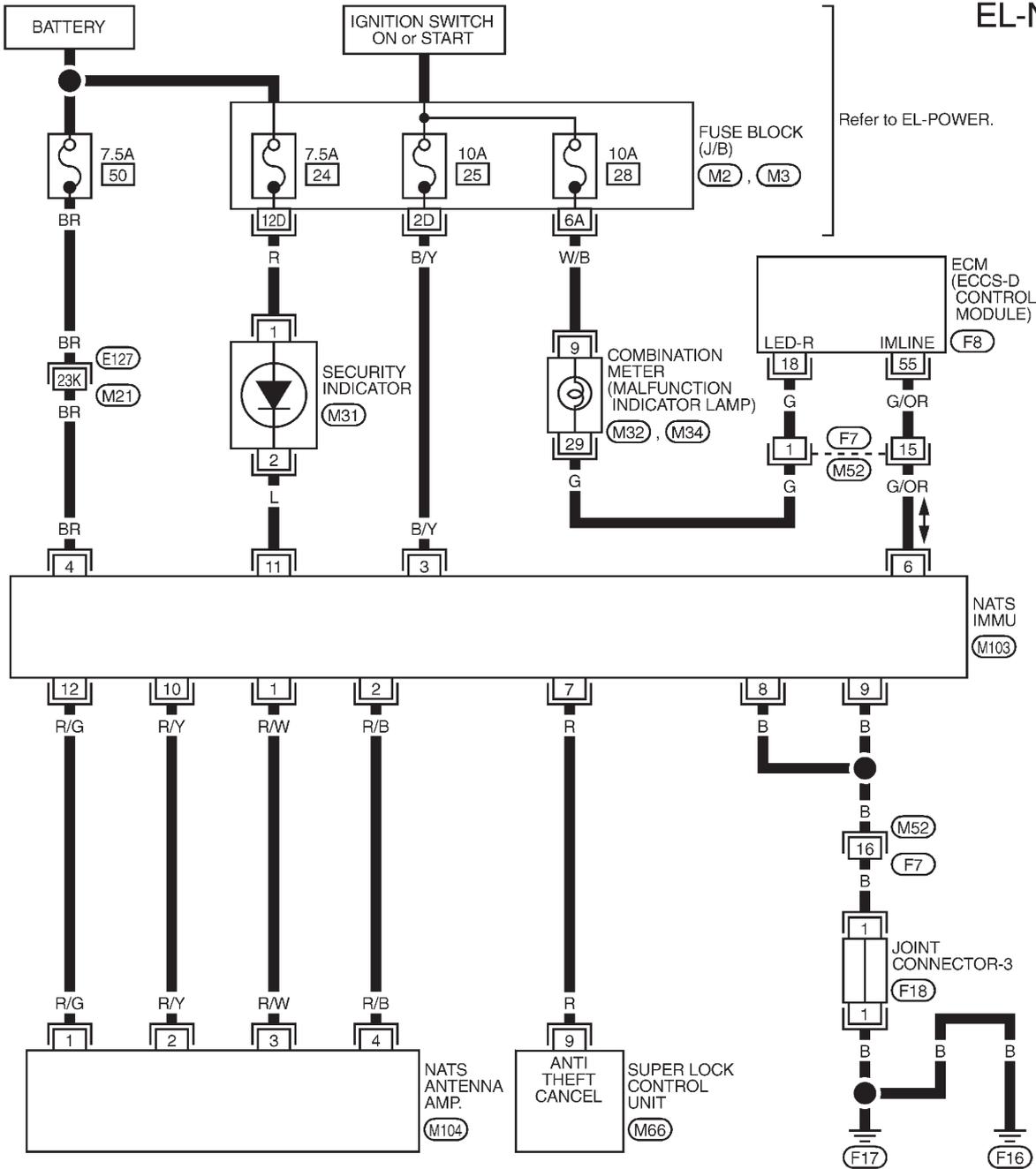
- NATS ignition key
- NATS antenna amp. located in the ignition key cylinder
- NATS immobiliser control unit (NATS IMMU)
- Engine control module (ECM)
- NATS security indicator
- Malfunction indicator lamp (MIL)



NATS (Nissan Anti-Theft System)/RHD MODELS

Wiring Diagram — NATS —

EL-NATS-03



Refer to EL-POWER.

ECM (ECCS-D CONTROL MODULE) (F8)

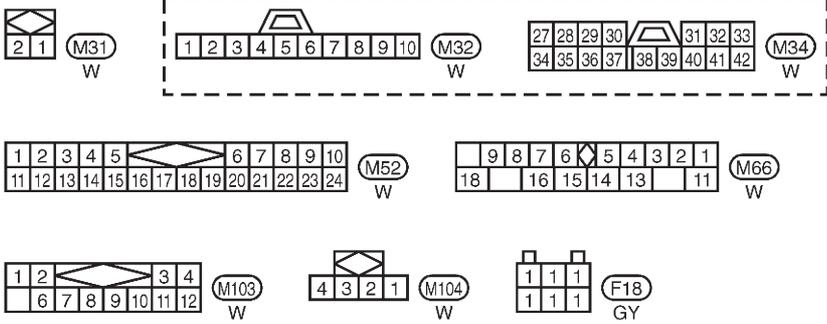
NATS IMM (M103)

NATS ANTENNA AMP. (M104)

ANTI THEFT CANCEL (M66)

SUPER LOCK CONTROL UNIT (M66)

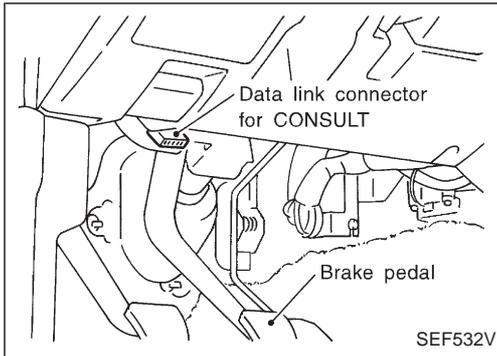
JOINT CONNECTOR-3 (F18)



Refer to last page (Foldout page).

- (M21), (E127)
- (M2)
- (M3)
- (F8)

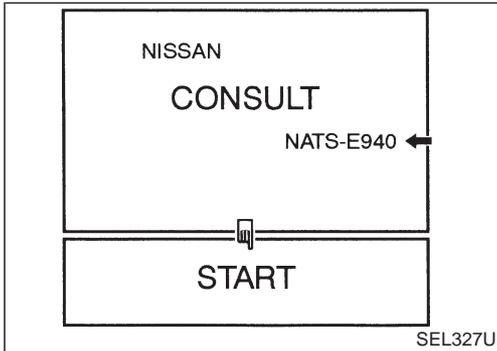
NATS (Nissan Anti-Theft System)/RHD MODELS



CONSULT

CONSULT INSPECTION PROCEDURE

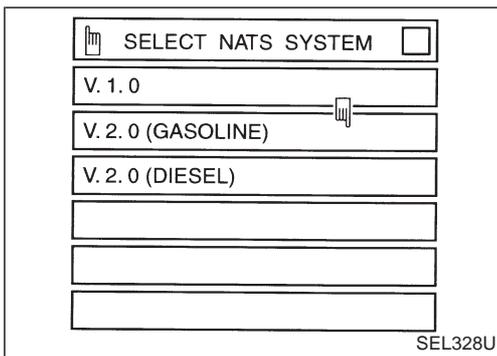
1. Turn off ignition switch.
2. Connect "CONSULT" to Data link connector for CONSULT. (Data link connector for CONSULT is located behind the fuse box cover.)



3. Insert NATS program card into CONSULT.

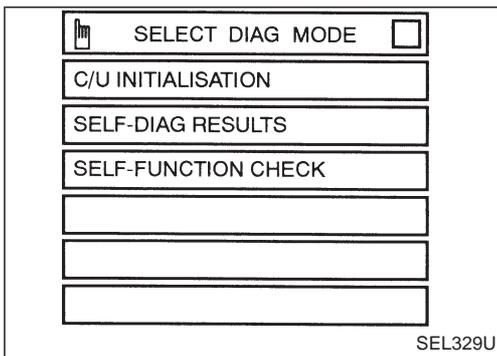
←: Program card NATS-E940

4. Turn on ignition switch.
5. Touch "START".



6. Touch "V.2.0 (GASOLINE)".

NOTE: "V.2.0 (GASOLINE)" should be selected for electrically controlled diesel and gasoline engines.



7. Perform each diagnostic test mode according to each service procedure.

For further information, see the CONSULT Operation Manual, NATS V2.0 (GASOLINE).

NATS (Nissan Anti-Theft System)/RHD MODELS

CONSULT (Cont'd)

CONSULT DIAGNOSTIC TEST MODE FUNCTION

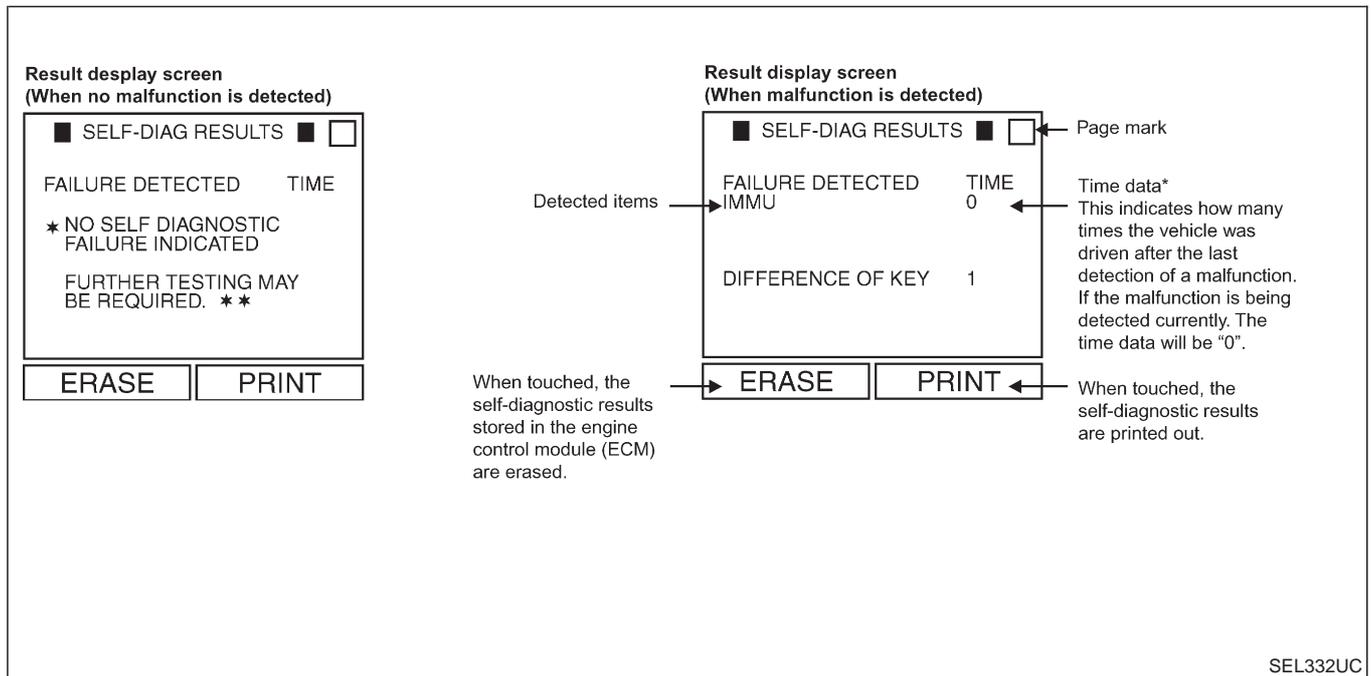
CONSULT DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following three components, C/U initialization is necessary. [NATS ignition key/IMMU/ECM]
SELF-FUNCTION CHECK	ECM checks its own NATS communication interface by itself.
SELF-DIAGNOSTIC RESULTS	Detected items (screen terms) are as shown in the chart below.

NOTE:

When any initialisation is performed, all ID previously registered will be erased. So all NATS ignition keys must be registered again.

The engine cannot be started with an unregistered key. In this case, the system may show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT screen.

HOW TO READ SELF-DIAGNOSTIC RESULTS



* If trip number is more than 1, MIL does not blink.

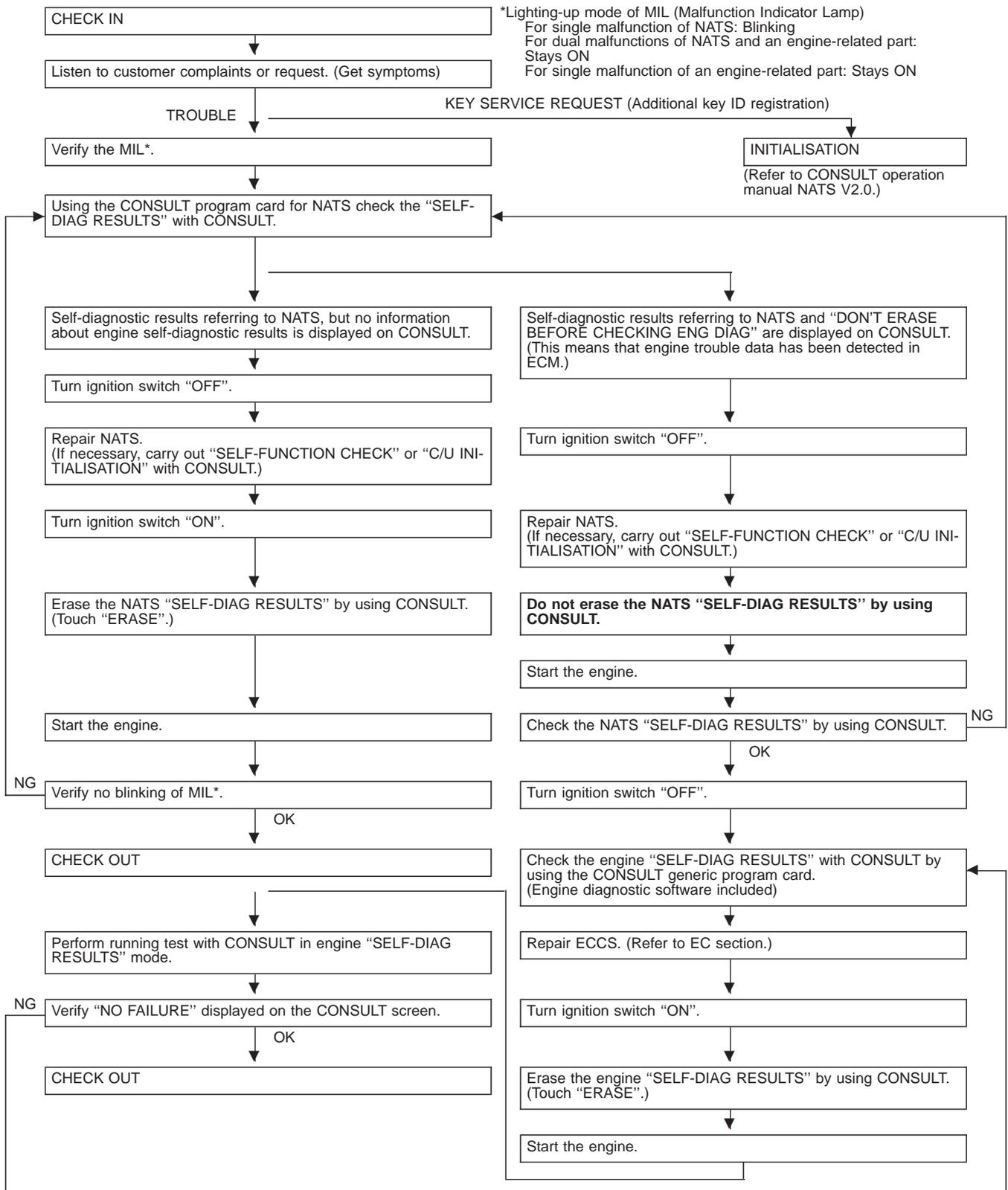
SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (Screen terms)	Description	Reference page
IMMU	ECM received the signal from IMMU that IMMU is malfunctioning.	EL-261
ECM	ECM is malfunctioning.	EL-261
CHAIN OF ECM-IMMU	Communication impossible between ECM and IMMU.	EL-262
DIFFERENCE OF KEY	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-264
CHAIN OF IMMU-KEY	IMMU cannot receive the key ID signal.	EL-265
ID DISCORD, IMM-ECM	The result of ID verification between IMMU and ECM is NG. System initialisation is required.	EL-266
MINGLE NOISE	Noise (interference) mingled into NATS communication lines during communicating.	EL-267
DON'T ERASE BEFORE CHECKING ENG DIAG	Engine trouble data and NATS trouble data have been detected in ECM.	EL-259
LOCK MODE	When an unregistered ignition key is used, or if the starting operation is carried out two or more times consecutively with the ignition key, IMMU or ECM malfunctioning, NATS will shift the mode to one which prevents the engine from being started.	EL-268

NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses

WORK FLOW



NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
<ul style="list-style-type: none"> ● MIL blinking ● Engine can start. 	IMMU	PROCEDURE 1 (EL-261)	IMMU
	ECM	PROCEDURE 2 (EL-261)	ECM
<ul style="list-style-type: none"> ● MIL blinking ● Engine hard to start 	CHAIN OF ECM-IMMU	PROCEDURE 3 (EL-262)	Open circuit in battery voltage line of IMMU circuit
			Open circuit in ignition line of IMMU circuit
			Open circuit in ground line of IMMU circuit
			Open or short circuit in communication line between IMMU and ECM
			Open circuit in power source line of ANT/AMP circuit
			ECM
	DIFFERENCE OF KEY	PROCEDURE 4 (EL-264)	Unregistered key
			IMMU
	CHAIN OF IMMU-KEY	PROCEDURE 5 (EL-265)	Open or short circuit in communication line between ANT/AMP and IMMU
			Open circuit in power source line of ANT/AMP circuit
Open circuit in ground line of ANT/AMP circuit			
Malfunction of key ID chip			
IMMU			
ID DISCORD, IMM-ECM	PROCEDURE 6 (EL-266)	System initialisation has not yet been completed.	
		ECM	
MINGLE NOISE	PROCEDURE 7 (EL-267)	Noise interference in communication line	
<ul style="list-style-type: none"> ● MIL blinking ● Engine hard to start ● NATS security indicator does not blink for 1 minute after ignition switch is turned to "OFF". 	LOCK MODE	PROCEDURE 9 (EL-268)	LOCK MODE
<ul style="list-style-type: none"> ● MIL staying ON 	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-259)	Engine trouble data and NATS trouble data have been detected in ECM
<ul style="list-style-type: none"> ● NATS security ind. does not light up. ● Engine can start. 	—	PROCEDURE 8 (EL-267)	NATS security ind.
			Open circuit between Fuse and NATS IMMU
			Continuation of initialisation mode
			NATS IMMU

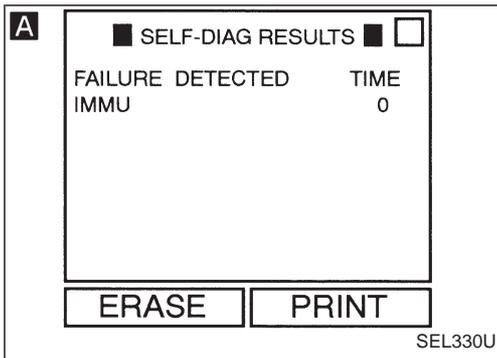
*Lighting-up mode of MIL (Malfunction Indicator Lamp)
 For single malfunction of NATS: Blinking
 For dual malfunctions of NATS and an engine-related part: Stays ON
 For single malfunction of an engine-related part: Stays ON

NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

Self-diagnostic results:
"IMMU" displayed on CONSULT screen



A



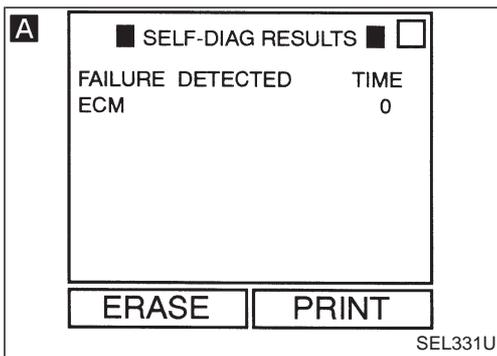
Confirm SELF-DIAGNOSTIC RESULTS "IMMU" displayed on CONSULT screen.



● IMMU is malfunctioning.

1. Replace IMMU.
2. Perform initialisation with CONSULT.

For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".



A



Confirm SELF-DIAGNOSTIC RESULTS "ECM" displayed on CONSULT screen.



● ECM is malfunctioning.

1. Replace ECM.
2. Perform initialisation with CONSULT.

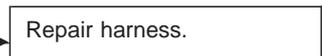
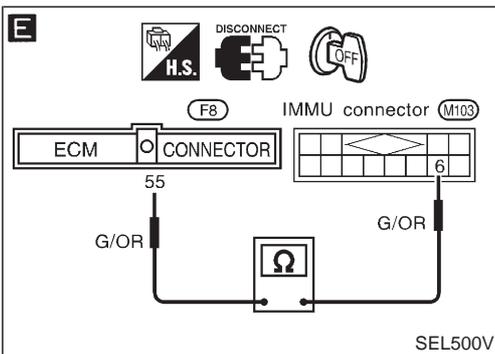
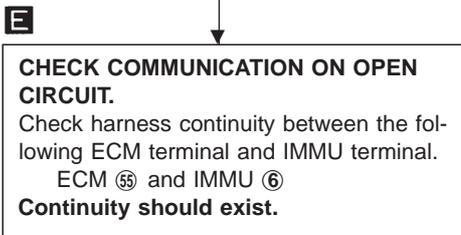
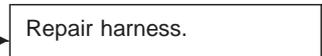
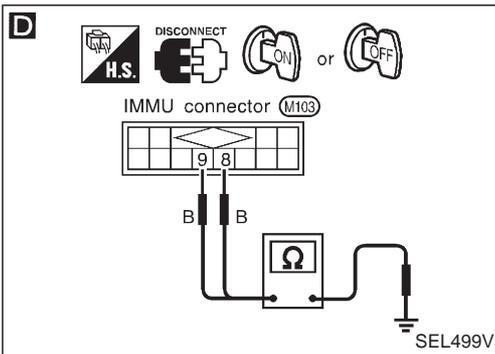
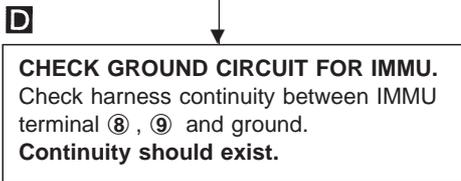
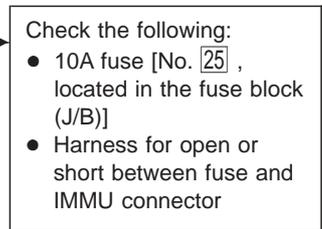
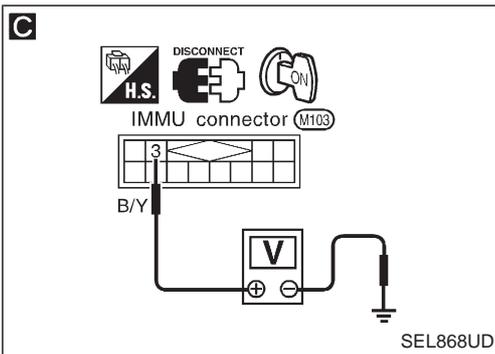
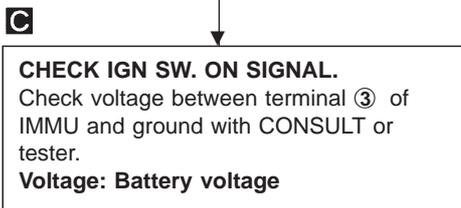
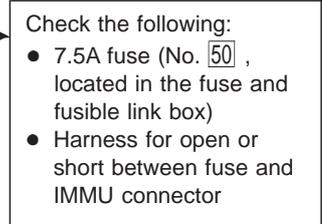
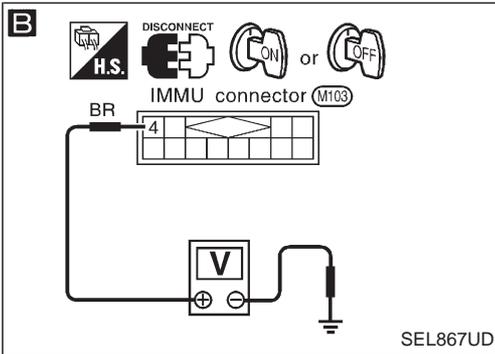
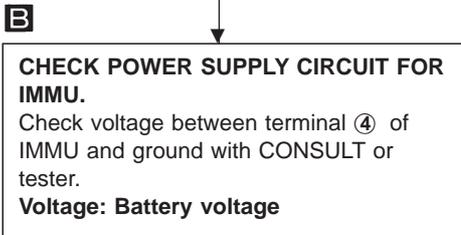
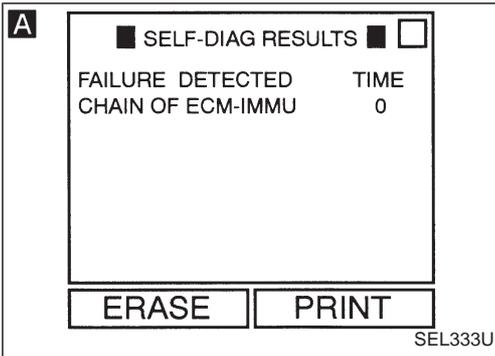
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

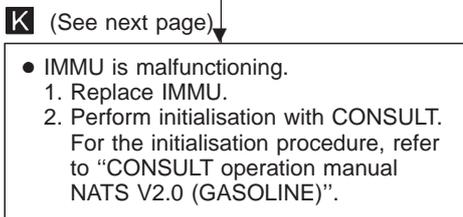
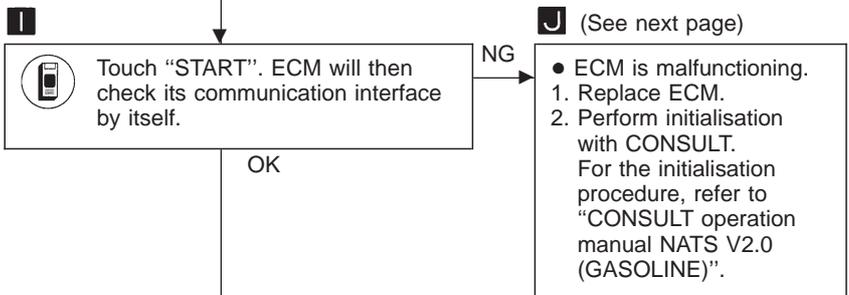
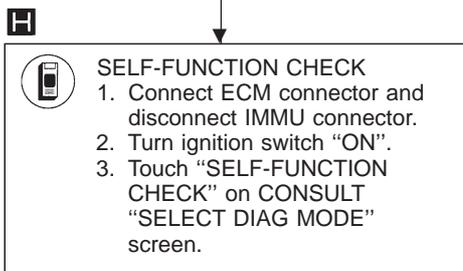
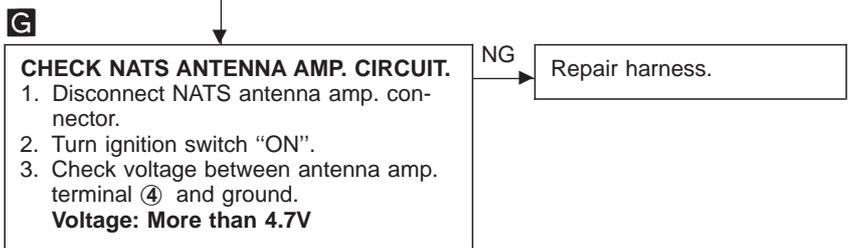
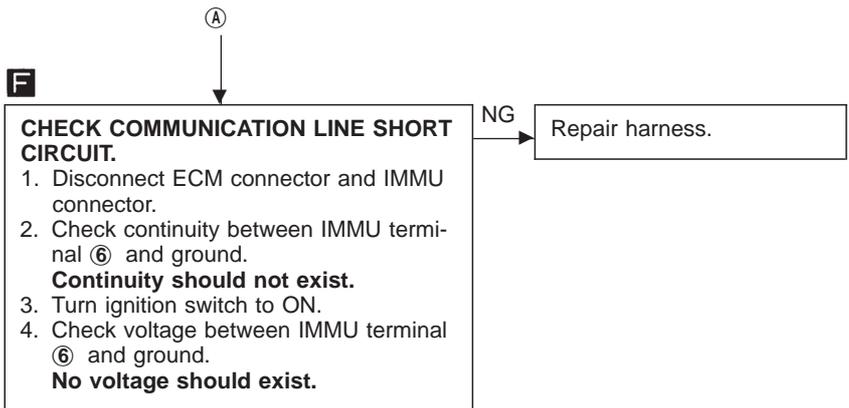
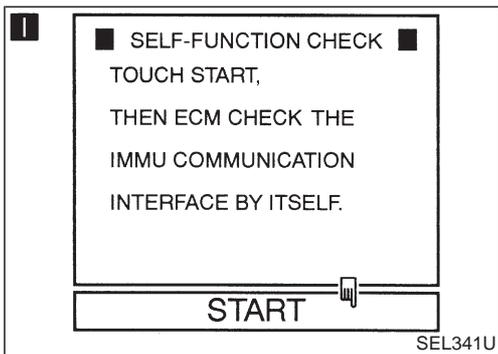
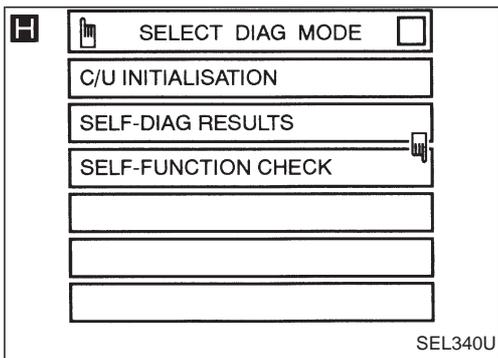
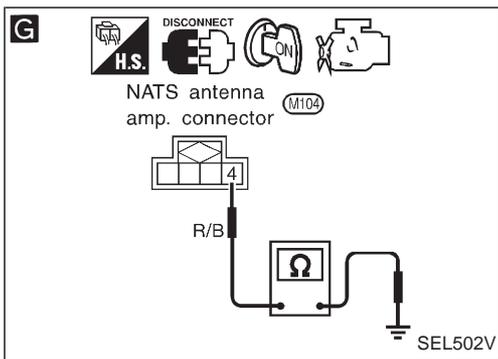
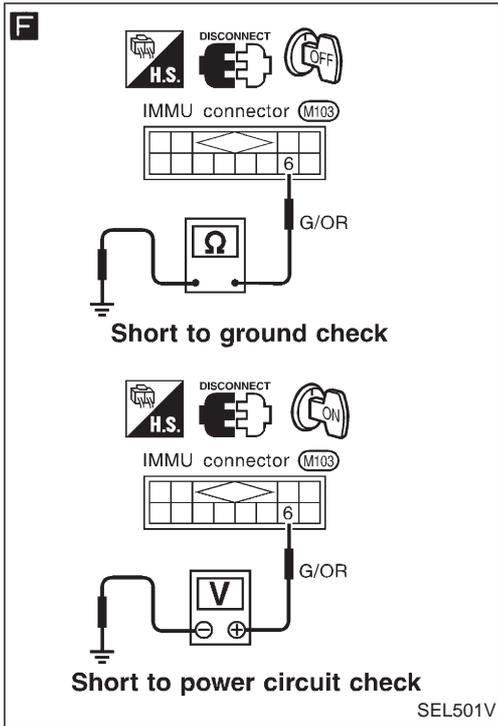
Self-diagnostic results:
 "CHAIN OF ECM-IMMU" displayed on CONSULT screen



Ⓐ

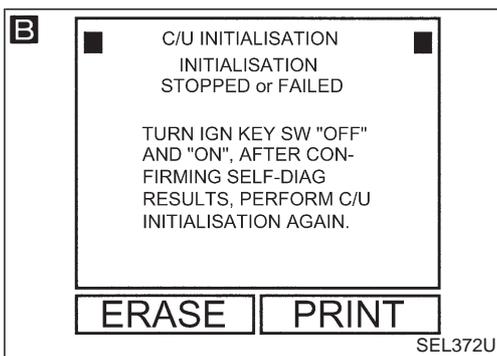
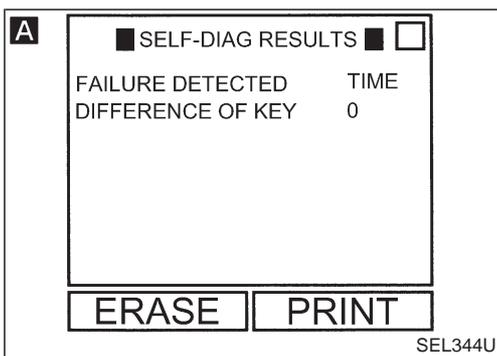
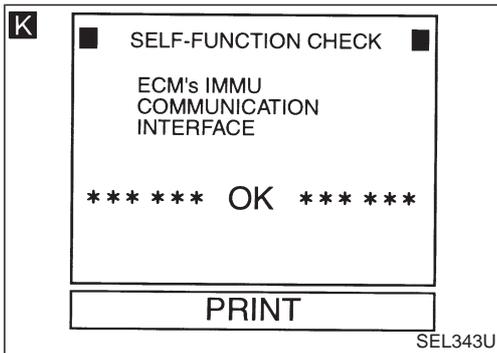
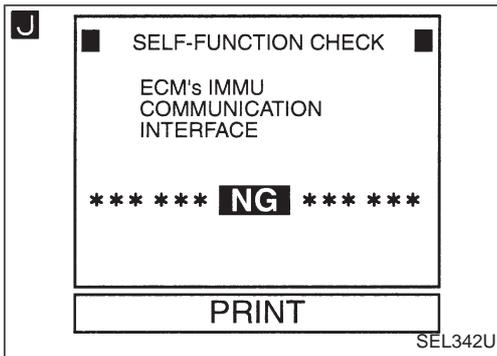
NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)



NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)



DIAGNOSTIC PROCEDURE 4

Self-diagnostic results:
"DIFFERENCE OF KEY" displayed on CONSULT screen

A

 Confirm SELF-DIAGNOSTIC RESULTS "DIFFERENCE OF KEY" displayed on CONSULT screen.

OK

PERFORM INITIALISATION.
Perform initialisation with CONSULT.
Re-register all NATS ignition key IDs.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0".

Can the system be initialized?
Note: If the initialisation is not completed or fails, CONSULT shows **B** message on the screen.

No

- IMMU is malfunctioning.
1. Replace IMMU.
 2. Perform initialisation with CONSULT.
- For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

Yes

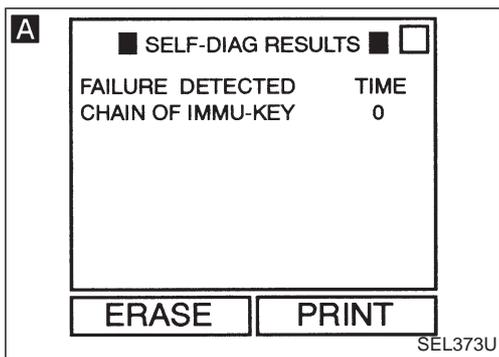
END.
(The ignition key was unregistered.)

NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

Self-diagnostic results:
 "CHAIN OF IMMU-KEY" displayed on CONSULT screen



A Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT screen.

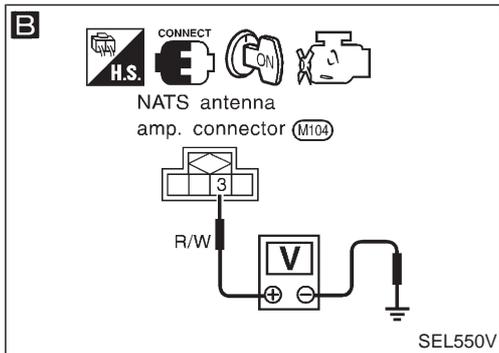
OK

CHECK NATS IGNITION KEY ID CHIP.
 Start engine with another registered NATS ignition key.
Does the engine start?

Yes

● Ignition key ID chip is malfunctioning.
 1. Replace the ignition key.
 2. Perform initialisation with CONSULT.
 For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

No



B **CHECK IMMU FUNCTION 1.**
 1. Turn ignition switch to "ON".
 2. Check voltage between NATS antenna amp. terminal ③ and ground.

Voltage

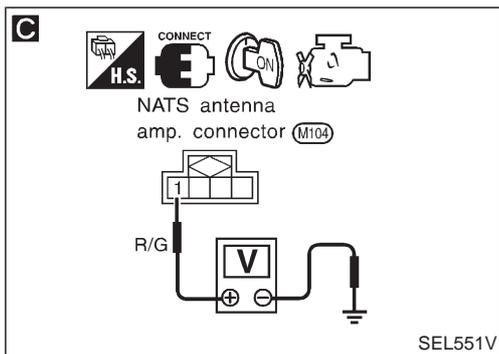
Time (After turning ignition switch "ON".)	Voltage [V]
For approx. 0.5 sec.	Approx. 2.3 - 5
After 1 sec.	0

NOTE:
 Do not remove NATS antenna amp. from the ignition key cylinder.

NG

Check harness for open or short between IMMU and NATS antenna amp. If harness is OK, replace IMMU. After replacing IMMU, perform initialisation with CONSULT. For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

OK

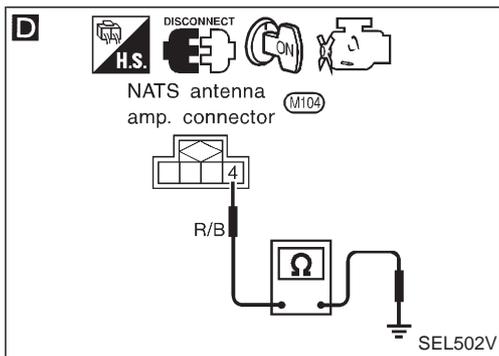


C **CHECK IMMU FUNCTION 2.**
 1. Turn ignition switch "ON".
 2. Check voltage between NATS antenna amp. terminal ① and ground.

Voltage:
6 sec. after turning ignition switch "ON"
Approx. 4.5 - 5V

NOTE:
 Do not remove NATS antenna amp. from the ignition key cylinder.

NG



D **CHECK IMMU OUTPUT VOLTAGE.**
 1. Turn the ignition switch "ON".
 2. Check voltage between NATS antenna amp. terminal ④ and ground.
Voltage: More than 4.7V

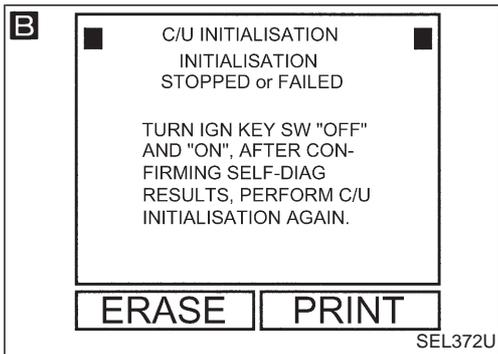
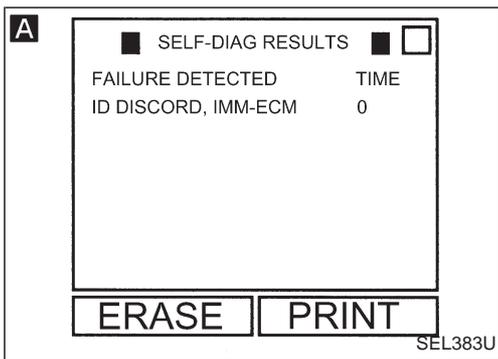
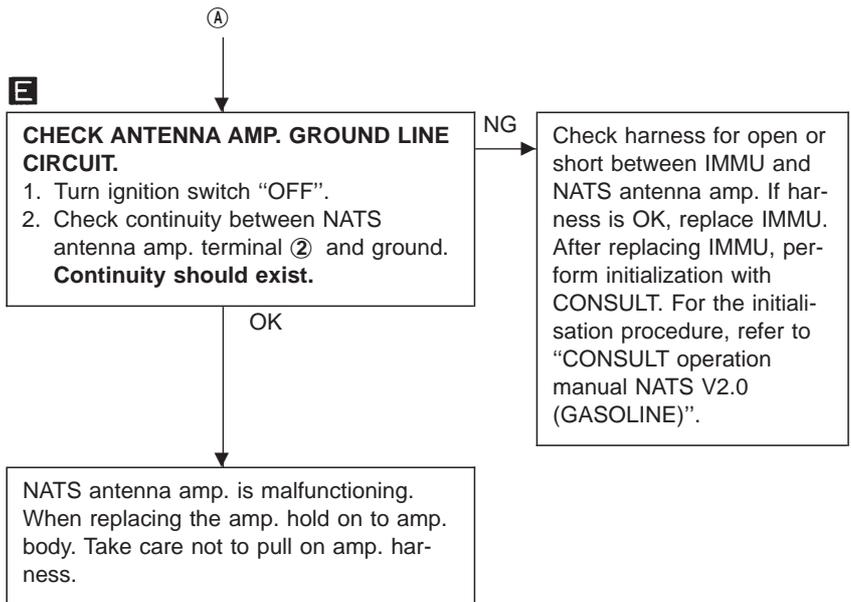
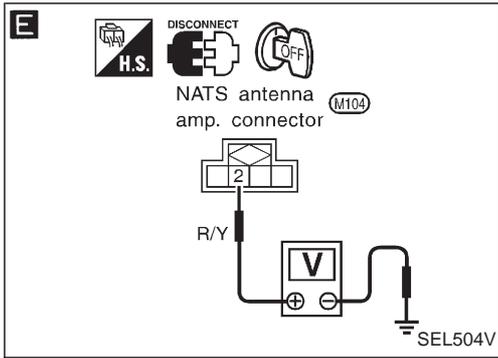
NG

OK

Ⓐ

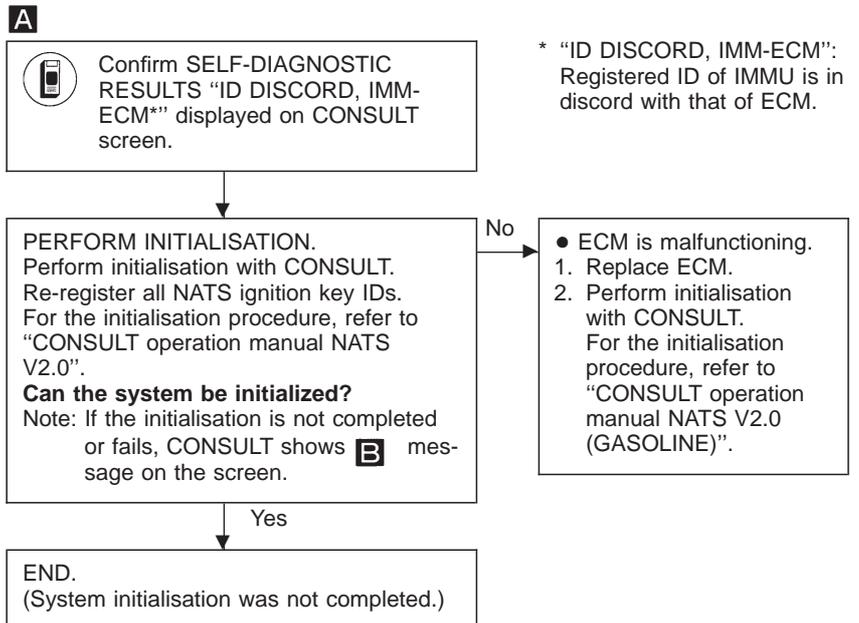
NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)



DIAGNOSTIC PROCEDURE 6

Self-diagnostic results:
"ID DISCORD, IMM-ECM" displayed on CONSULT screen

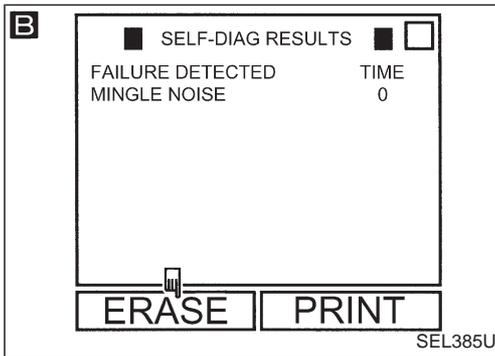
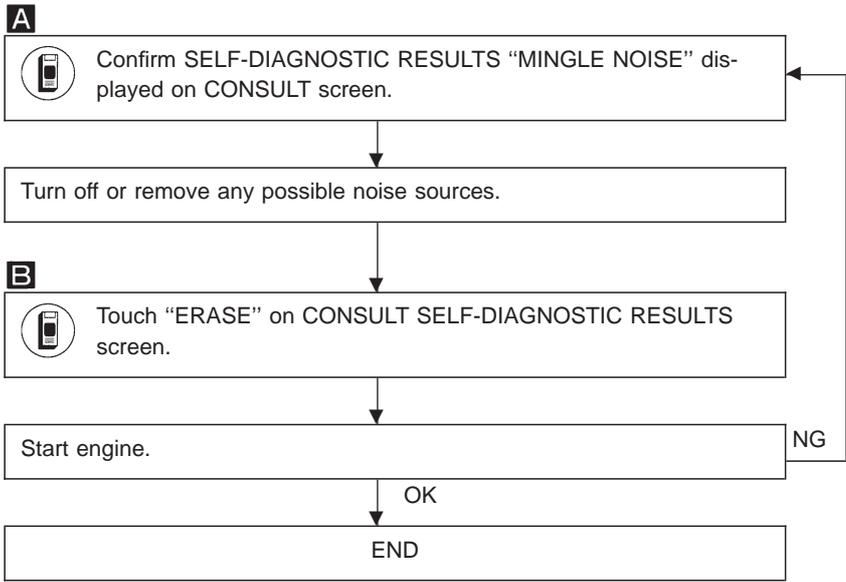
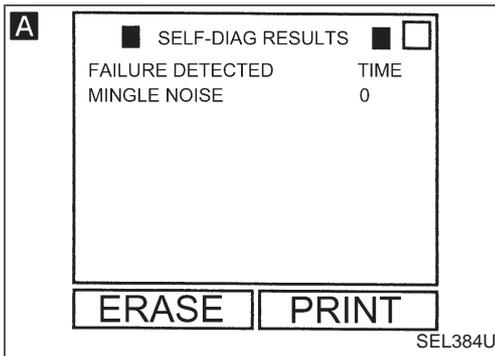


NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)

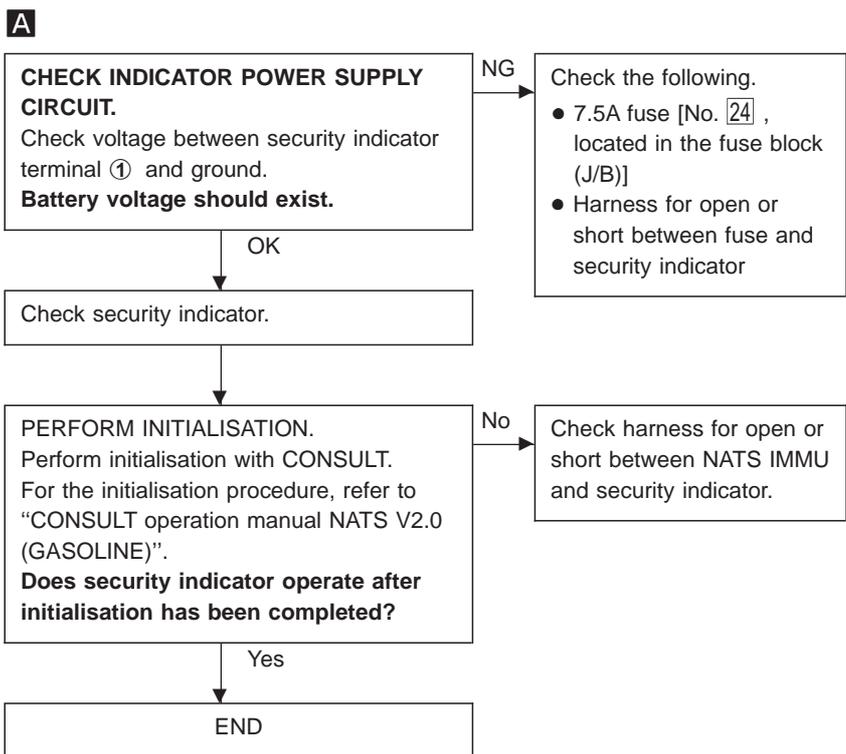
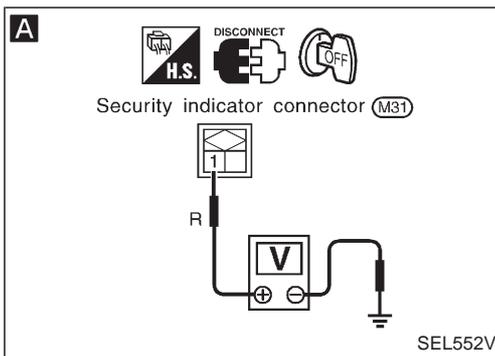
DIAGNOSTIC PROCEDURE 7

Self-diagnostic results:
"MINGLE NOISE" displayed on CONSULT screen



DIAGNOSTIC PROCEDURE 8

"NATS SECURITY IND. DOES NOT LIGHT UP"

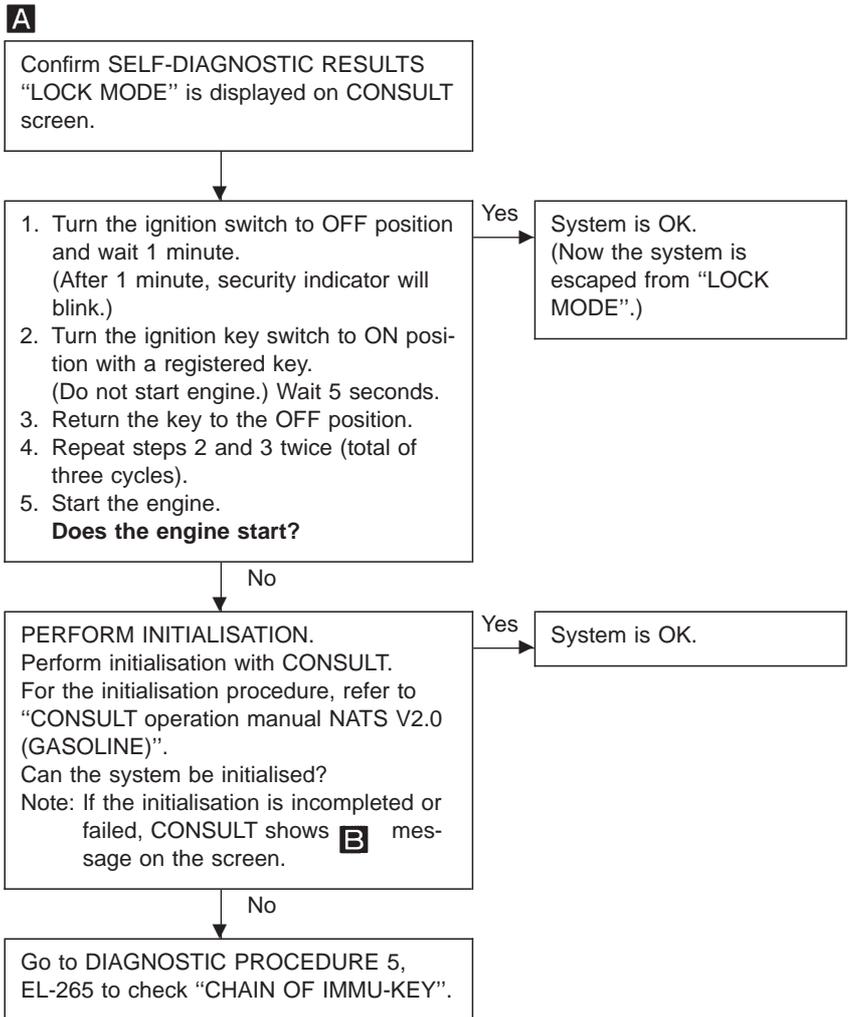
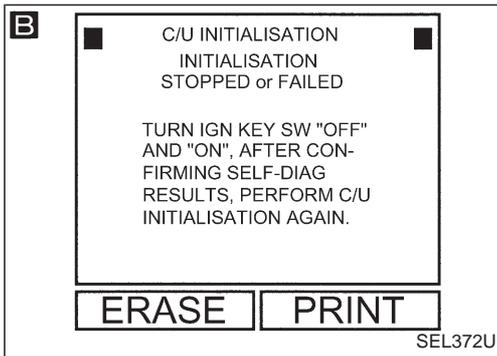
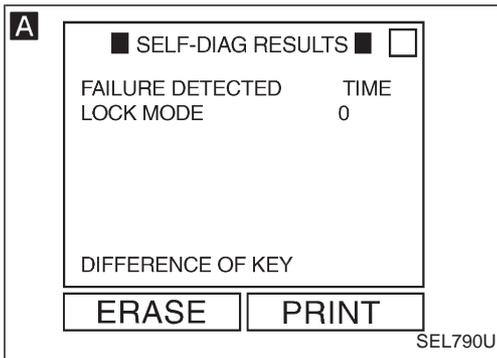


NATS (Nissan Anti-Theft System)/RHD MODELS

Trouble Diagnoses (Cont'd)

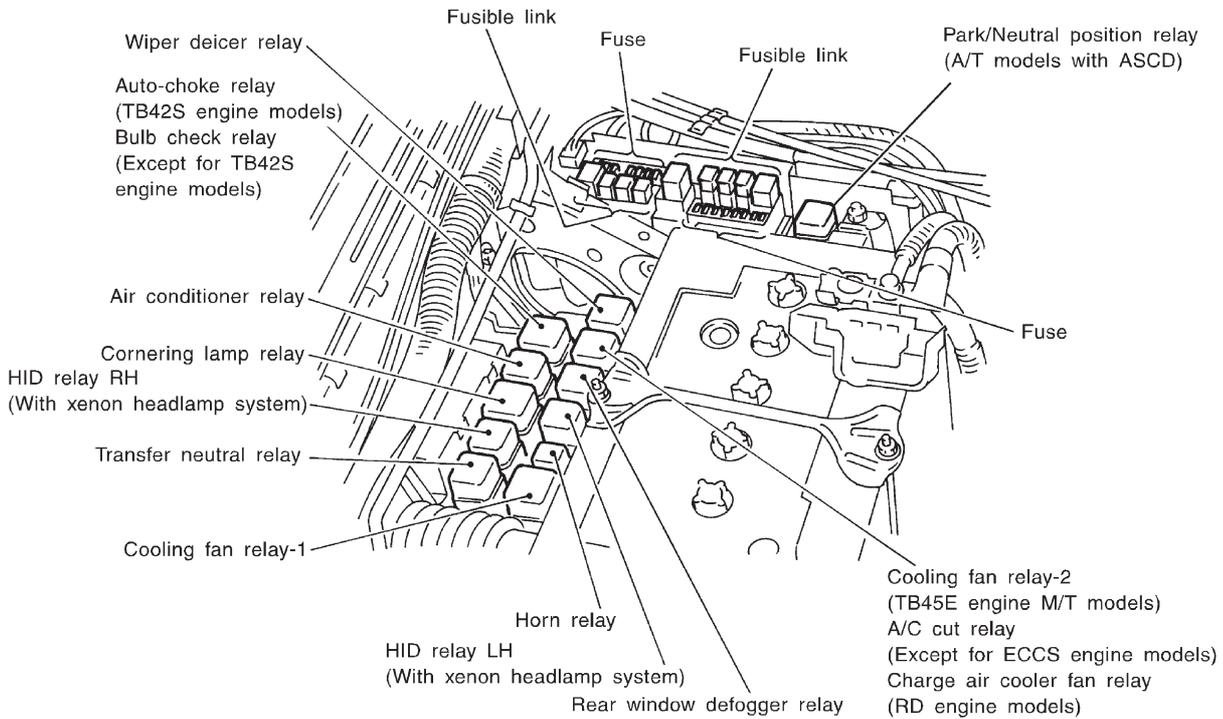
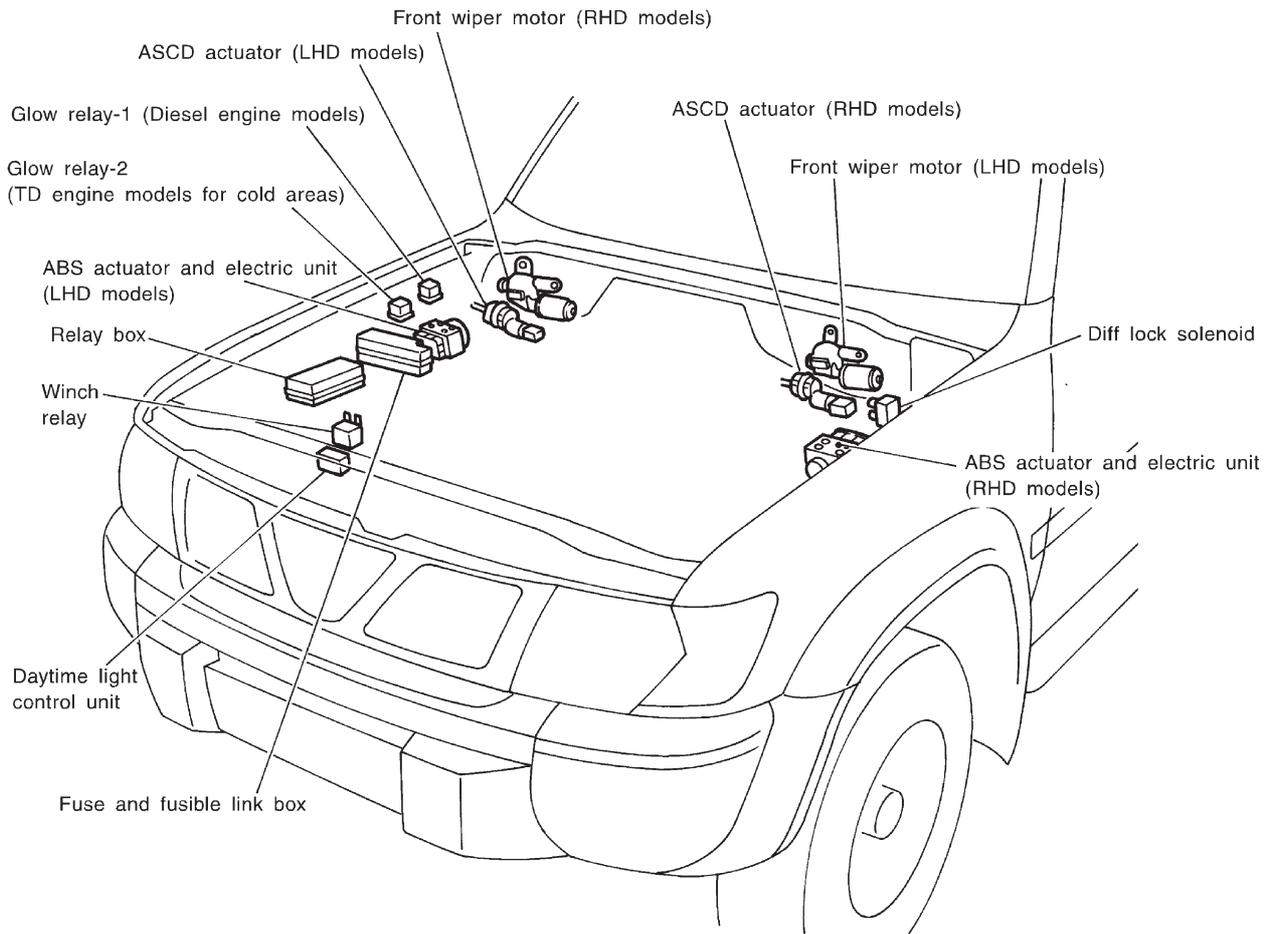
DIAGNOSTIC PROCEDURE 9

Self-diagnostic results:
"LOCK MODE" displayed on CONSULT screen



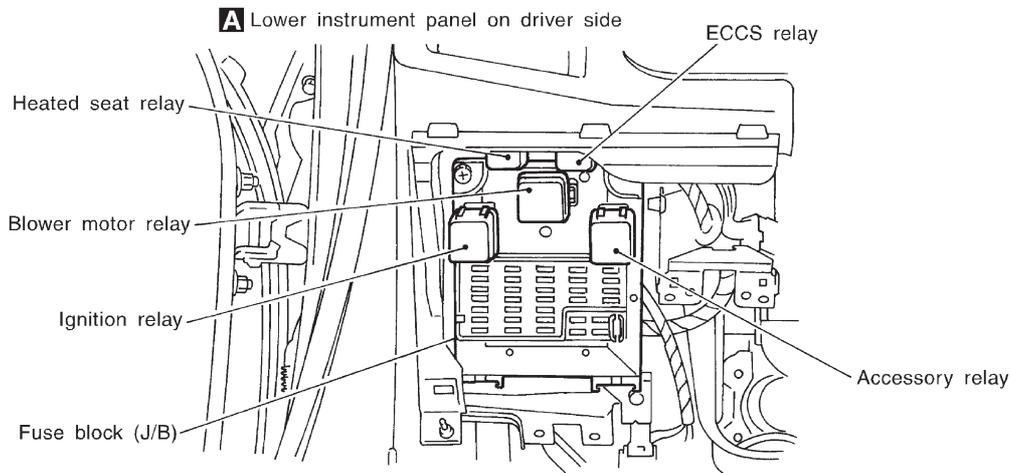
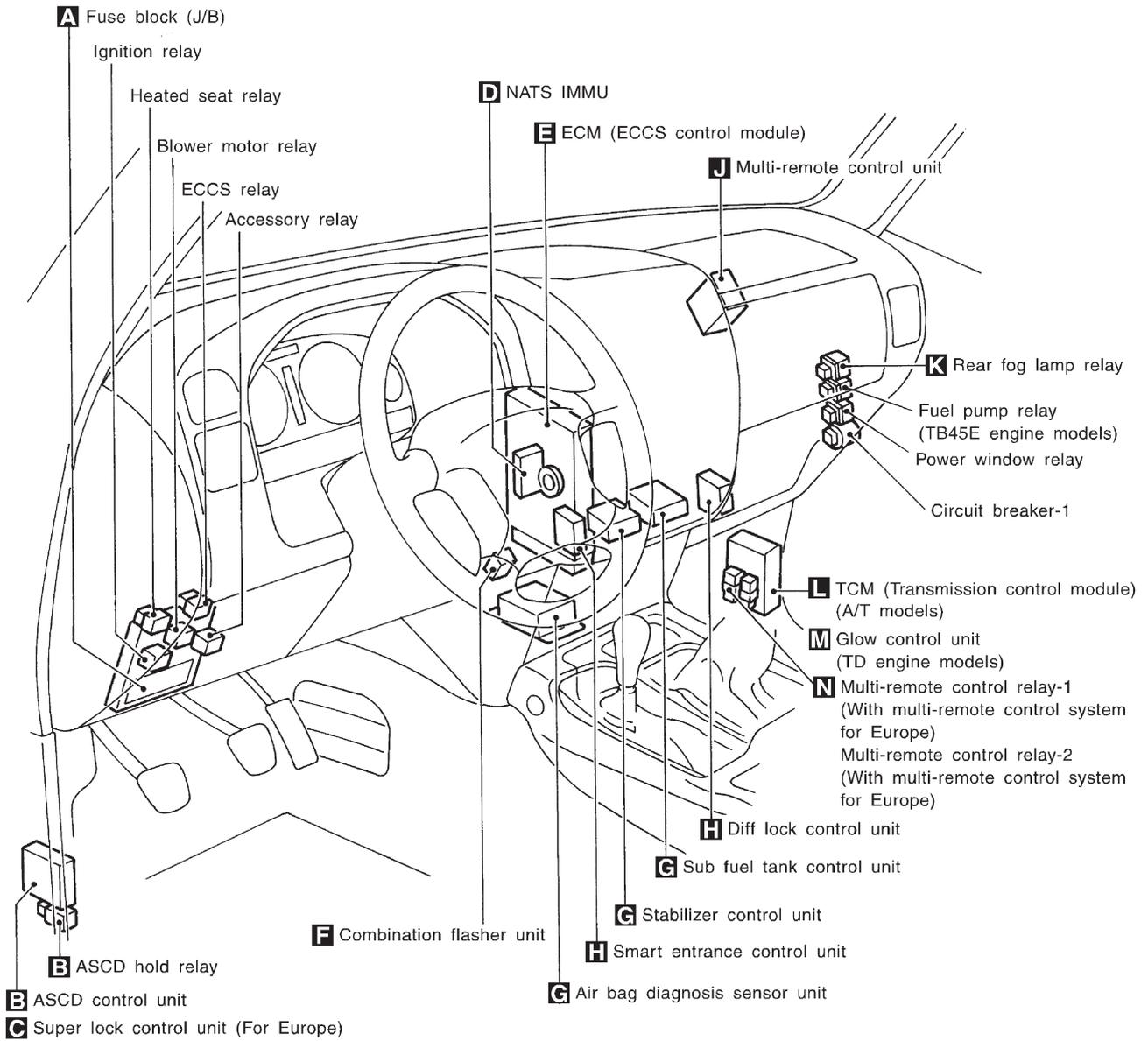
LOCATION OF ELECTRICAL UNITS

Engine Compartment



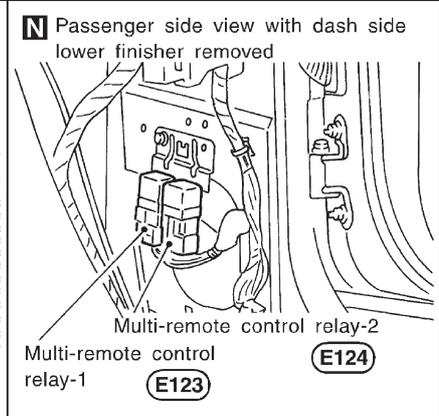
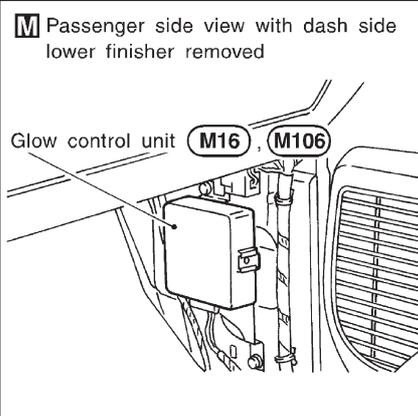
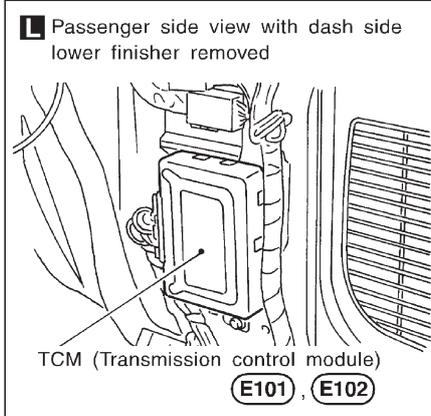
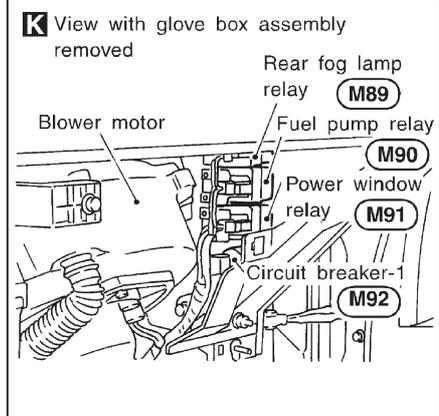
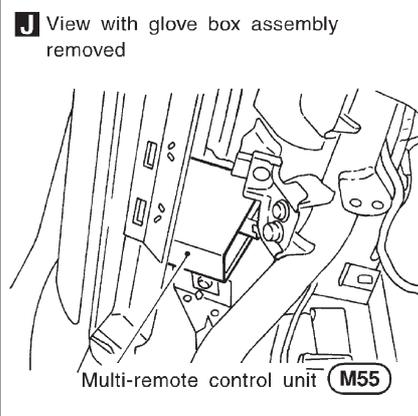
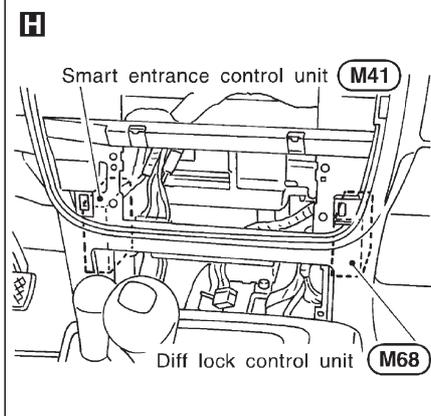
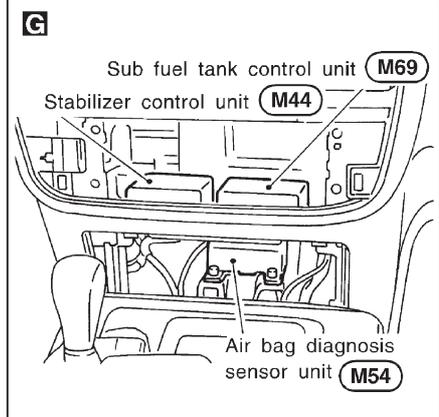
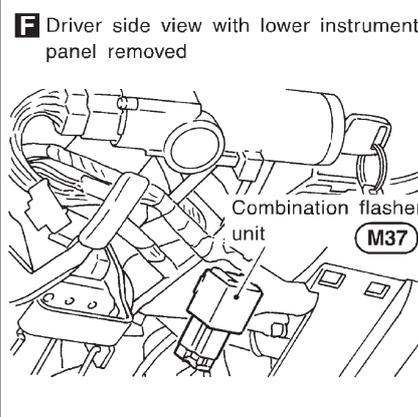
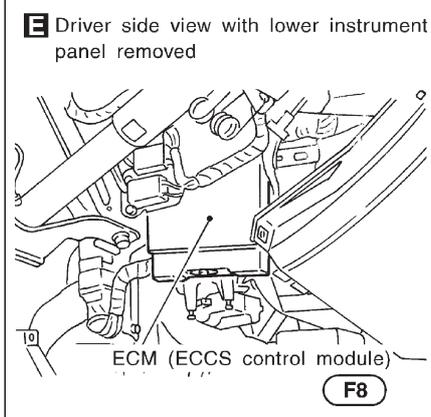
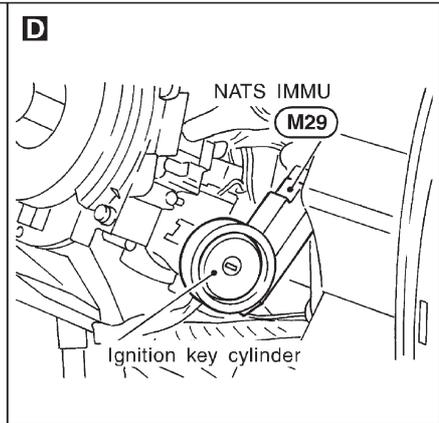
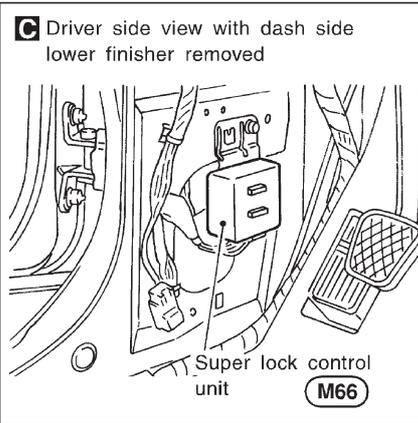
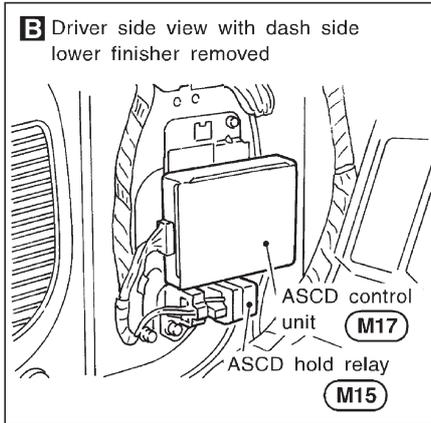
LOCATION OF ELECTRICAL UNITS

Passenger Compartment — LHD Models



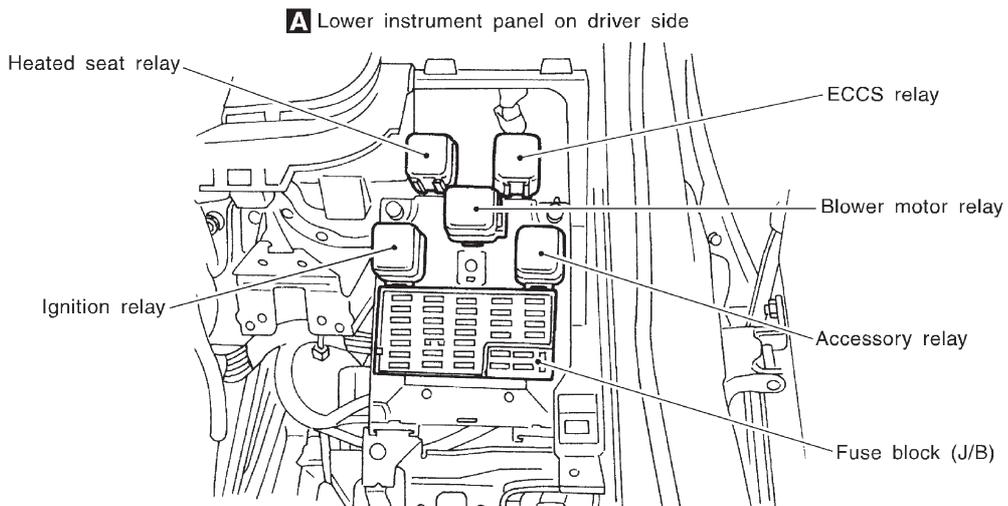
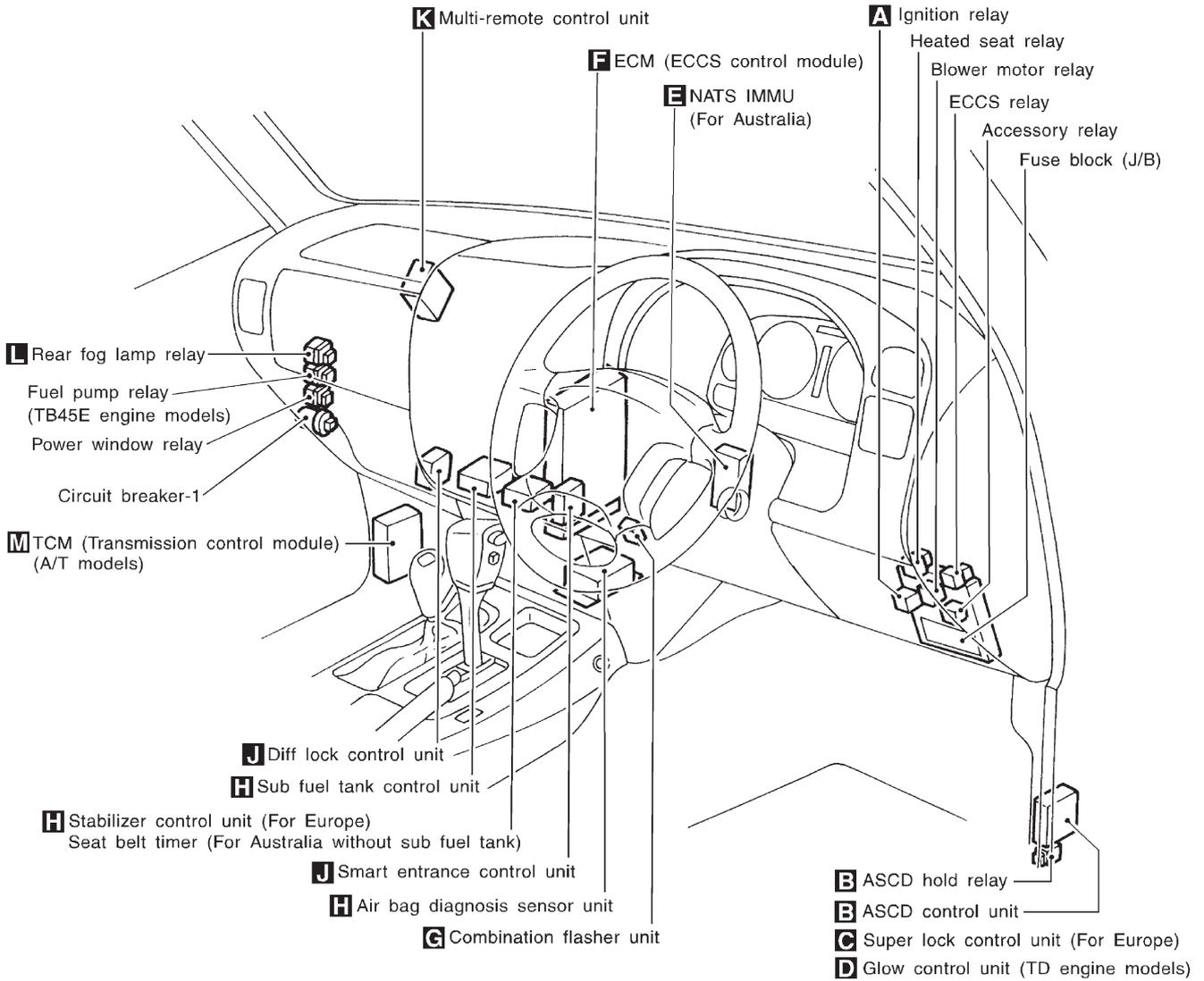
LOCATION OF ELECTRICAL UNITS

Passenger Compartment — LHD Models (Cont'd)



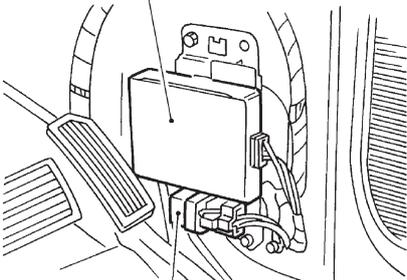
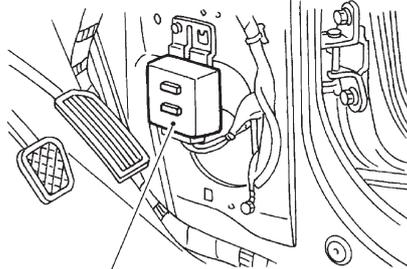
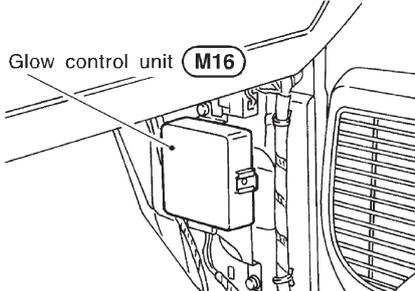
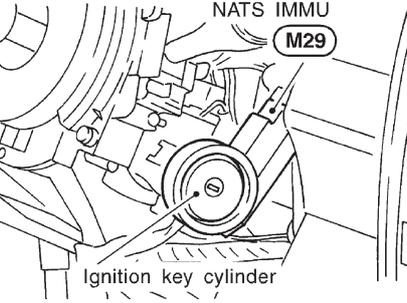
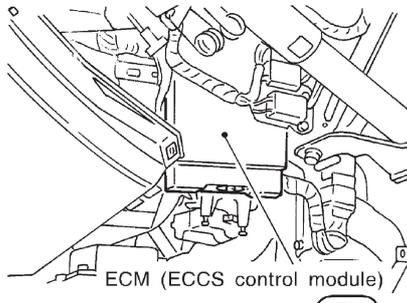
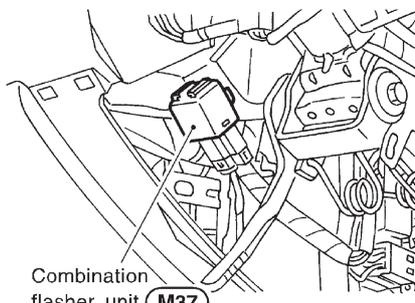
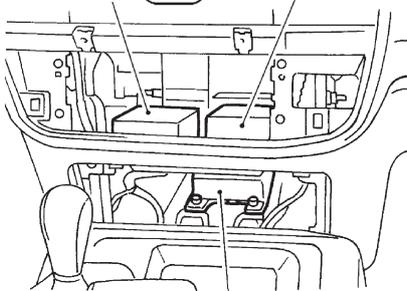
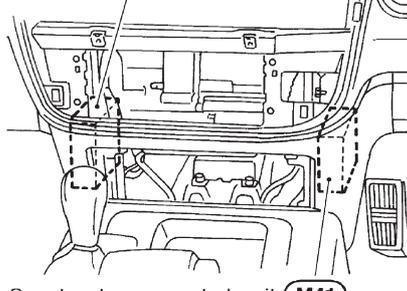
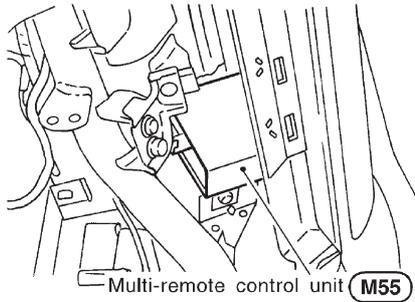
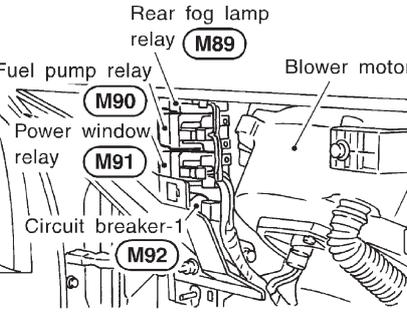
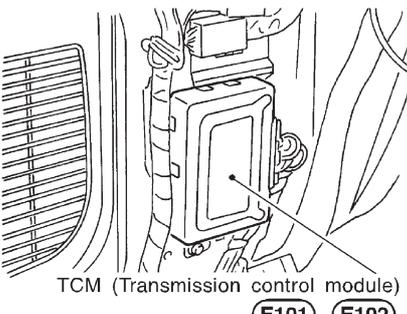
LOCATION OF ELECTRICAL UNITS

Passenger Compartment — RHD Models



LOCATION OF ELECTRICAL UNITS

Passenger Compartment — RHD Models (Cont'd)

<p>B Driver side view with dash side lower finisher removed</p> <p>ASC control unit (M17)</p>  <p>ASC hold relay (M15)</p>	<p>C Driver side view with dash side lower finisher removed</p>  <p>Super lock control unit (M66)</p>	<p>D Driver side view with dash side lower finisher removed</p>  <p>Glow control unit (M16)</p>
<p>E Models for Australia</p>  <p>NATS IMMU (M29)</p> <p>Ignition key cylinder</p>	<p>F Driver side view with lower instrument panel removed</p>  <p>ECM (ECSS control module) (F8)</p>	<p>G Driver side view with lower instrument panel removed</p>  <p>Combination flasher unit (M37)</p>
<p>H</p> <p>Seat belt timer (M43)</p> <p>Sub fuel tank control unit (M69)</p> <p>Stabilizer control unit (M44)</p>  <p>Air bag diagnosis sensor unit (M54)</p>	<p>J</p> <p>Diff lock control unit (M68)</p>  <p>Smart entrance control unit (M41)</p>	<p>K View with glove box assembly removed</p>  <p>Multi-remote control unit (M55)</p>
<p>L View with glove box assembly removed</p> <p>Rear fog lamp relay (M89)</p> <p>Fuel pump relay (M90)</p> <p>Power window relay (M91)</p> <p>Circuit breaker-1 (M92)</p> <p>Blower motor</p> 	<p>M Passenger side view with dash side lower finisher removed</p>  <p>TCM (Transmission control module) (E101, E102)</p>	

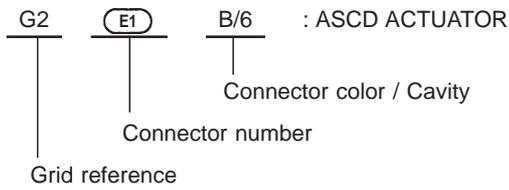
LOCATION OF ELECTRICAL UNITS

NOTE

HARNESS LAYOUT

How to Read Harness Layout

Example:



The following Harness Layouts use a map style grid to help locate connectors on the drawings:

- Main Harness
- Engine Room Harness (Engine Compartment)

To use the grid reference

- 1) Find the desired connector number on the connector list.
- 2) Find the grid reference.
- 3) On the drawing, find the crossing of the grid reference letter column and number row.
- 4) Find the connector number in the crossing zone.
- 5) Follow the line (if used) to the connector.

CONNECTOR SYMBOL

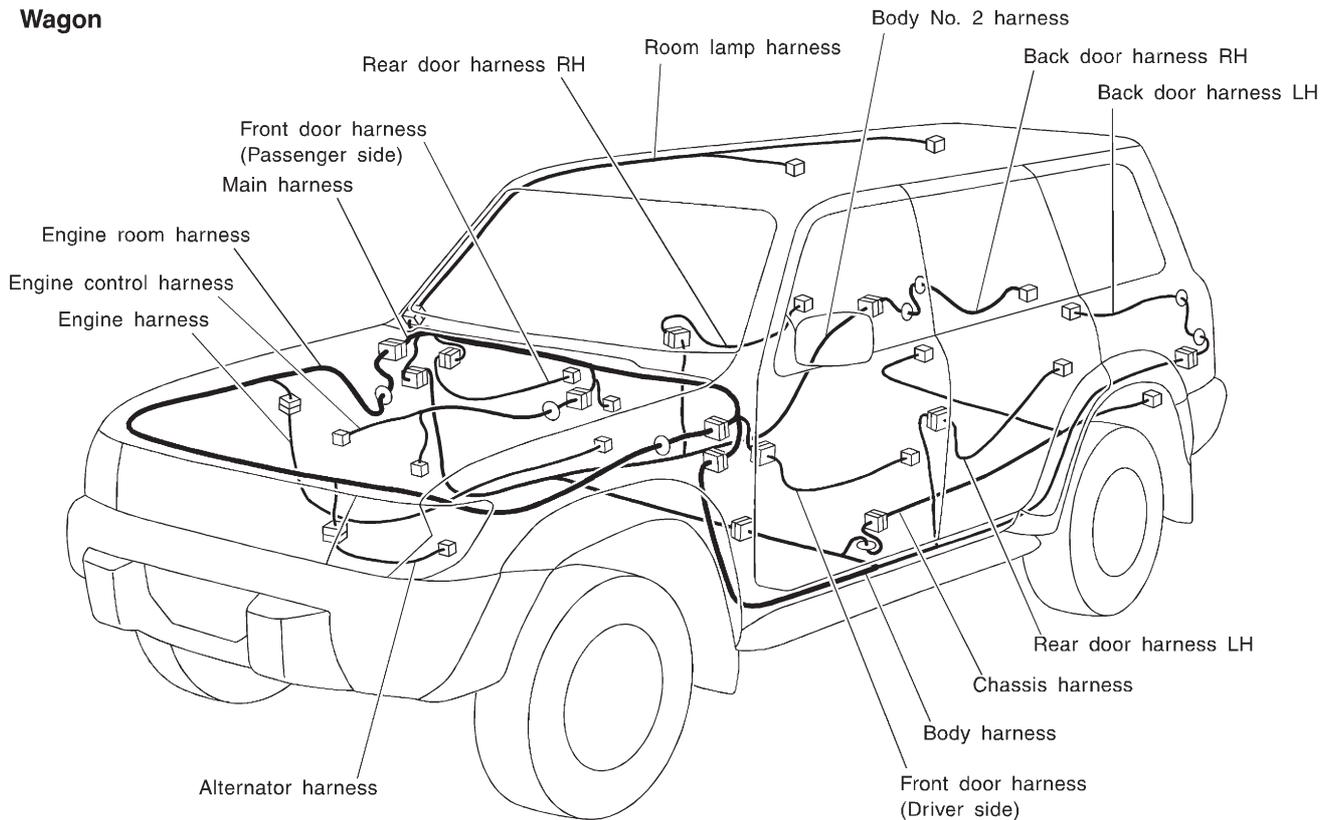
Main symbols of connector (in Harness Layout) are indicated in the below.

Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
<ul style="list-style-type: none"> ● Cavity: Less than 4 ● Relay connector 				
<ul style="list-style-type: none"> ● Cavity: From 5 to 8 				
<ul style="list-style-type: none"> ● Cavity: More than 9 	—	—		
<ul style="list-style-type: none"> ● Ground terminal etc. 	—			

HARNESS LAYOUT

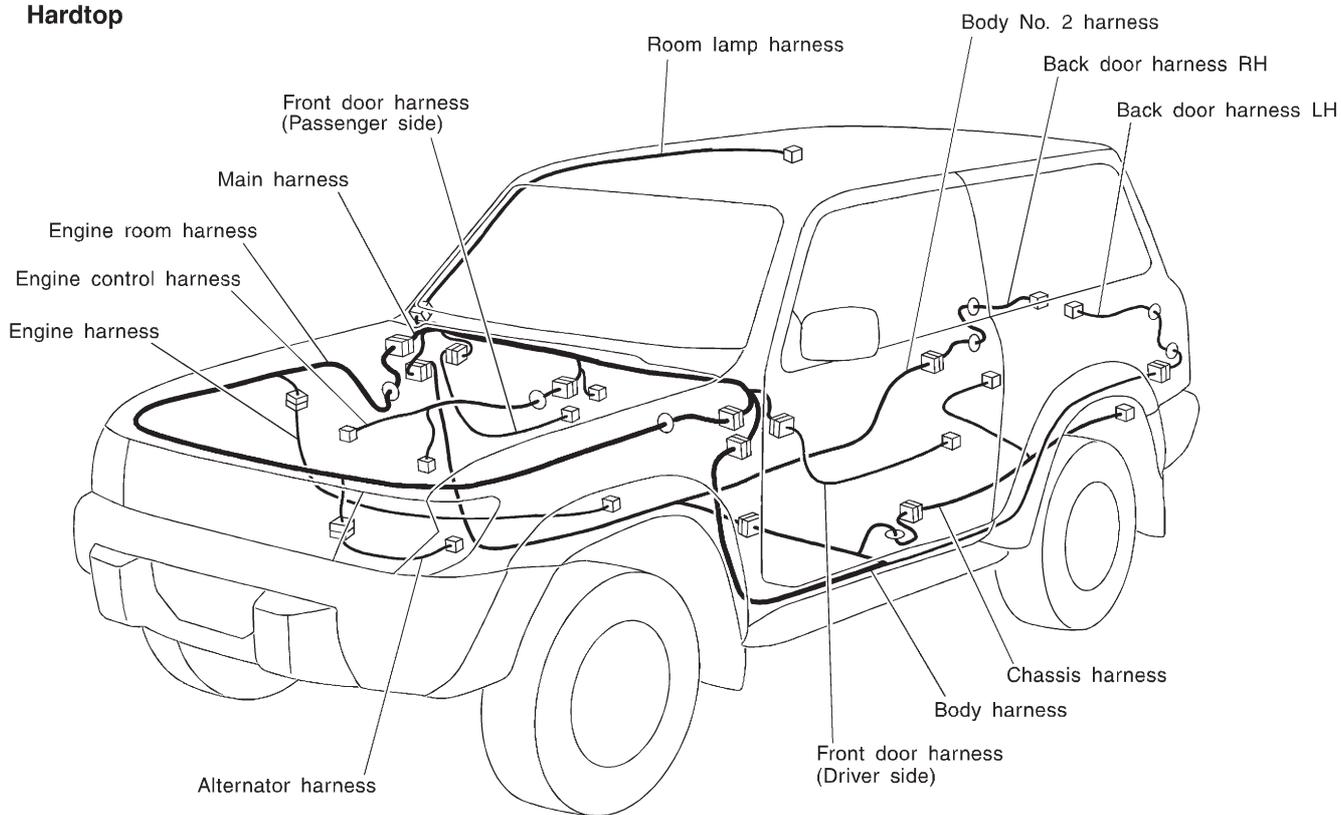
Outline/LHD Models

Wagon



CEL753

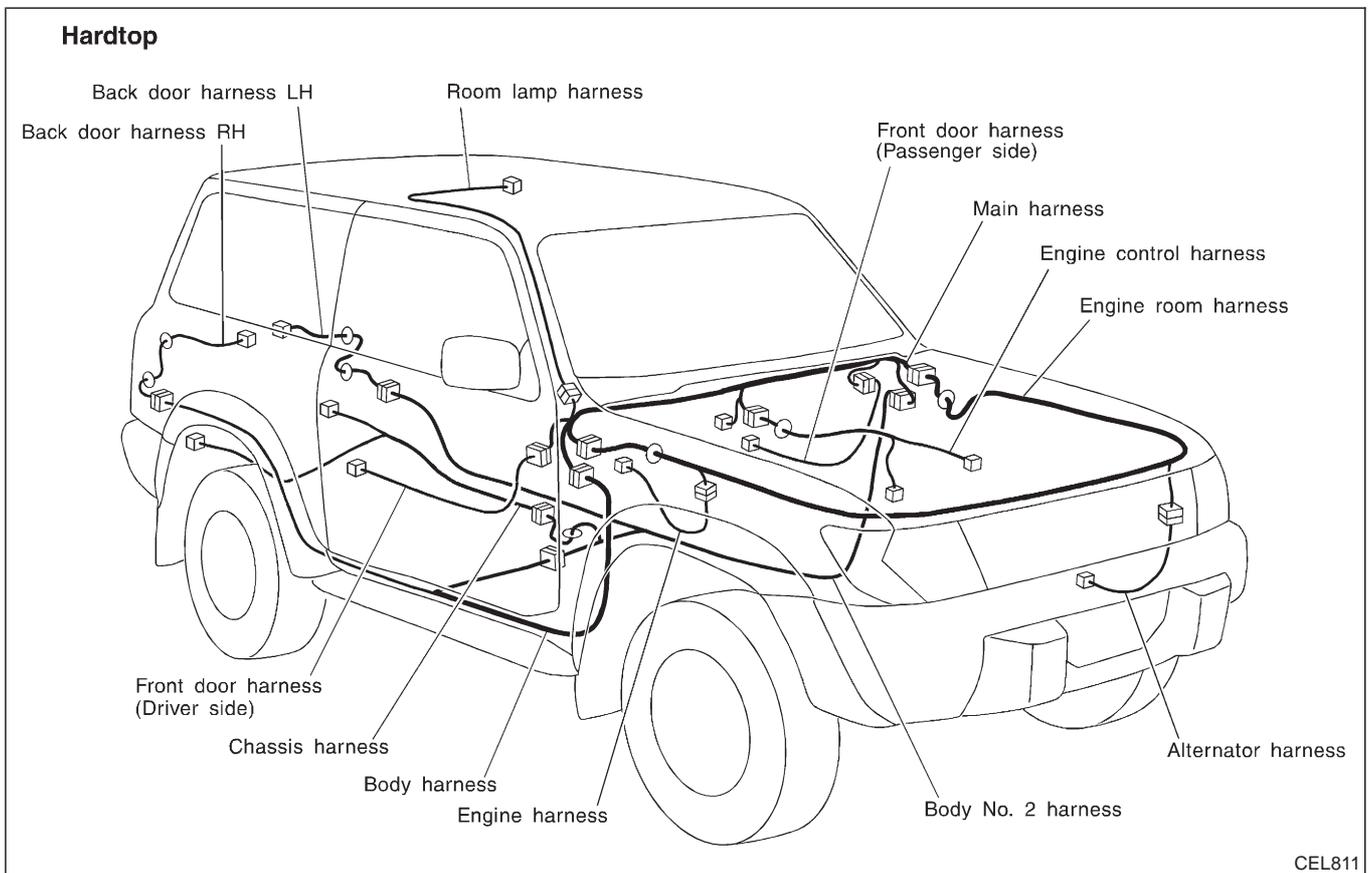
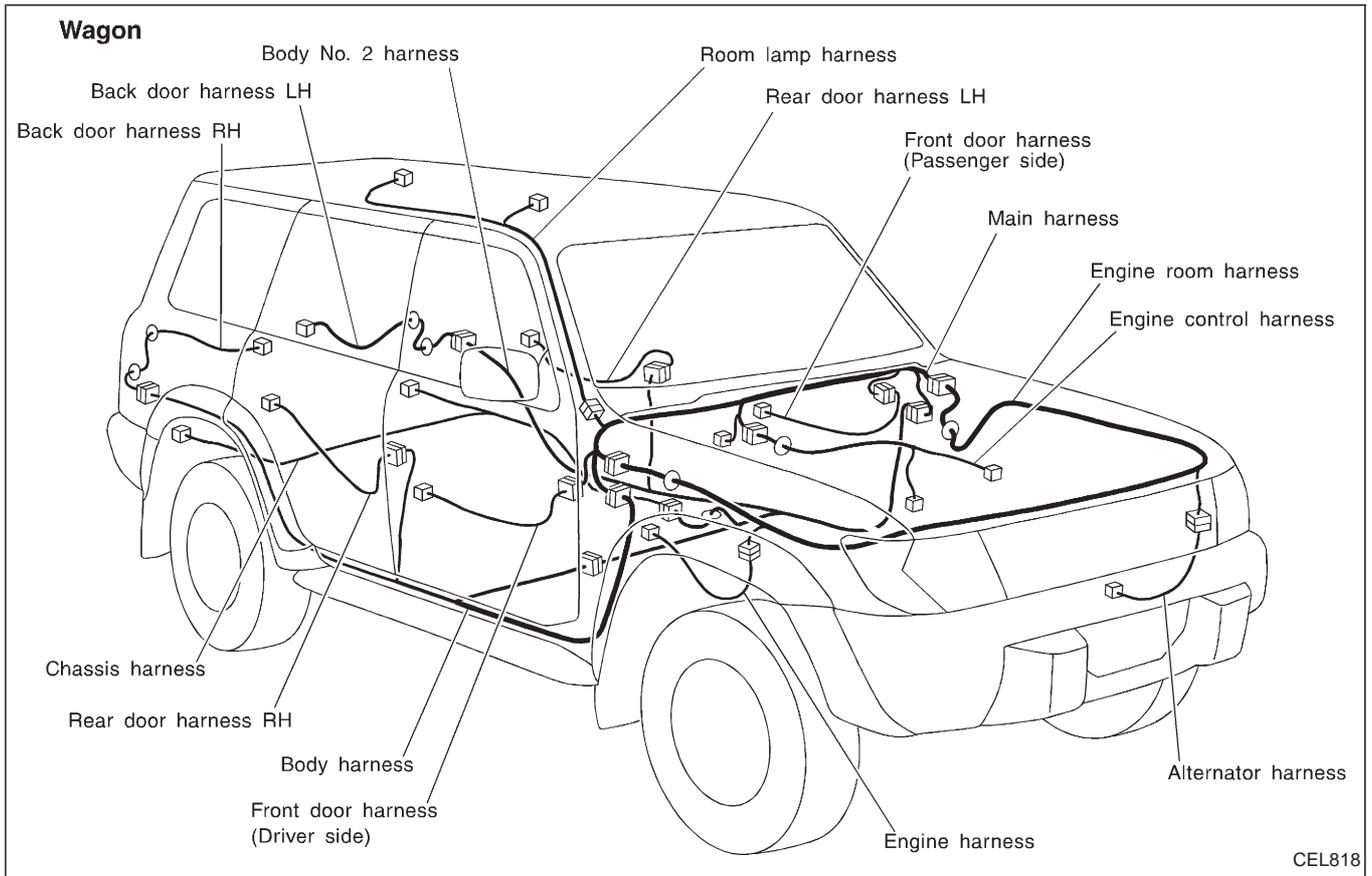
Hardtop



CEL809

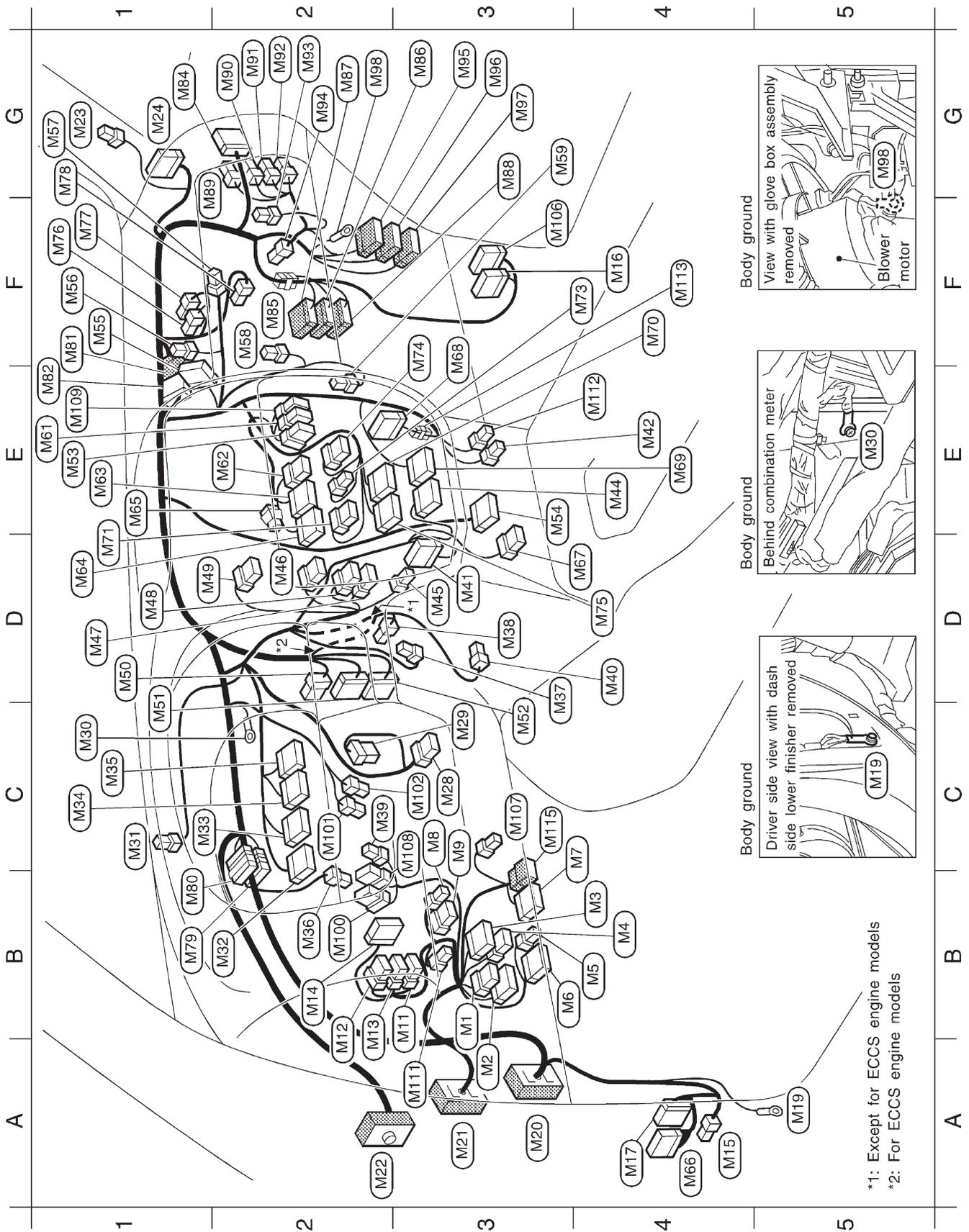
HARNES LAYOUT

Outline/RHD Models



HARNESS LAYOUT

Main Harness/LHD Models



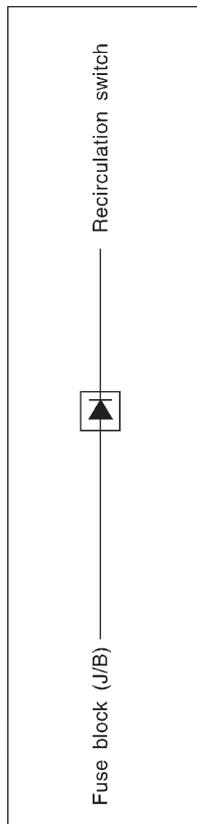
*1: Except for ECCS engine models
 *2: For ECCS engine models

HARNESS LAYOUT

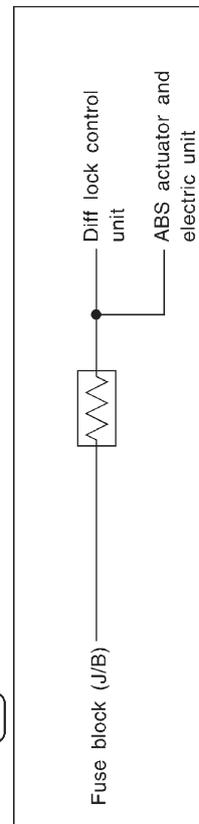
Main Harness/LHD Models (Cont'd)

G2	(M90)	L/4	: Fuel pump relay (TB45E engine models)
G2	(M91)	L/4	: Power window relay
G2	(M92)	W/2	: Circuit breaker-1
G2	(M93)	BR/4	: Blower resistor (With front manual A/C)
G2	(M94)	W/2	: Blower motor
G3	(M95)	W/10	: To (B104)
G3	(M96)	W/16	: To (B103)
G3	(M97)	W/12	: To (B102)
G2	(M98)	—	: Body ground
B2	(M100)	L/6	: Stabilizer switch
C2	(M101)	B/2	: Stop lamp switch
C3	(M102)	L/2	: ASCD brake switch
F3	(M106)	W/16	: Glow control unit (TD engine models for cold areas)
C3	(M107)	L/2	: A/T check switch (A/T models for the Middle East)
C3	(M108)	B/6	: Front fog lamp switch
E1	(M109)	W/8	: Rear cooler front switch (Wagon models with front auto A/C for the Middle East)
A3	(M111)	L/4	: Heated seat relay
E4	(M112)	B/1	: Cigarette lighter illumination
F4	(M113)	W/2	: Resistor (With diff lock)
C3	(M115)	W/8	: Check connector (TB42S engine models)

Diode (M85)



Resistor (M113)

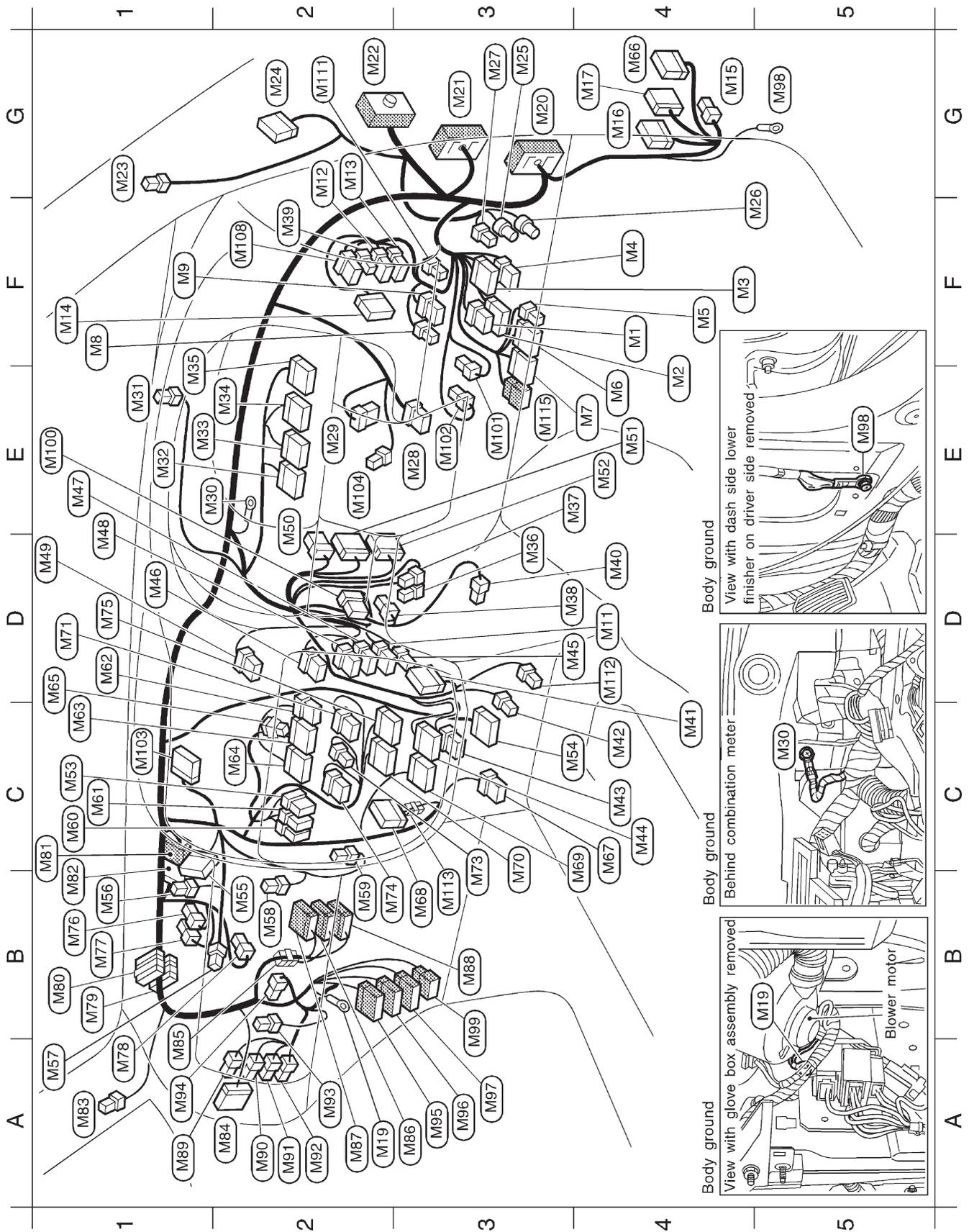


HARNESS LAYOUT

NOTE

HARNESS LAYOUT

Main Harness/RHD Models



HARNESS LAYOUT

Main Harness/RHD Models (Cont'd)

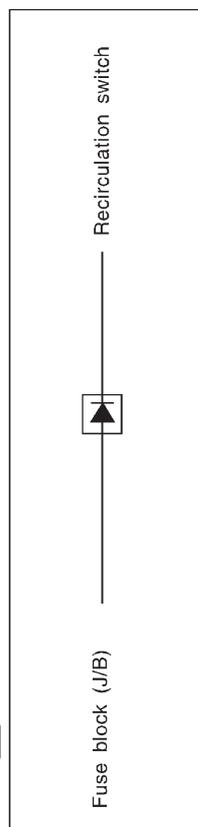
F4	(M1)	W/8	: Fuse block (J/B)	E1	(M47)	BR/8	: Headlamp wiper switch
E4	(M2)	BR/16	: Fuse block (J/B)	D1	(M48)	BR/6	: Sub fuel tank switch
F4	(M3)	GY/16	: Fuse block (J/B)	D1	(M49)	W/8	: Hazard switch
F4	(M4)	GY/8	: Fuse block (J/B)	D2	(M50)	W/6	: To (F5)
F4	(M5)	B/2	: Fuse block (J/B)	E4	(M51)	W/16	: To (F6)
E4	(M6)	W/12	: Fuse block (J/B)	E4	(M52)	W/24	: To (F7)
E4	(M7)	GY/14	: Data link connector for CONSULT	C1	(M53)	W/8	: Rear heater front switch (Wagon models for Europe)
F1	(M8)	L/4	: ECSS relay (TB45E engine models)	C4	(M54)	Y/22	: Air bag diagnosis sensor unit
F1	(M9)	BR/6	: ECSS relay (RD engine models)	B2	(M55)	W/12	: Multi-remote control unit
D4	(M11)	W/8	: Headlamp aiming switch	B1	(M56)	B/2	: Sunload sensor (With front auto A/C)
G2	(M12)	W/6	: ASCD main switch	A1	(M57)	Y/2	: Air bag module (Passenger side) (With dual air bag system)
G2	(M13)	W/6	: Heat up switch (RD engine models)	B2	(M58)	W/2	: Intake sensor (With front auto A/C)
F1	(M14)	GY/12	: Door mirror remote control switch	B2	(M59)	W/3	: Thermo control amp.
G4	(M15)	L/4	: ASCD hold relay	C1	(M60)	L/6	: Power antenna switch
G4	(M16)	W/12	: Glow control unit	C1	(M61)	W/8	: Rear cooler front switch (Wagon models with front manual A/C)
G4	(M17)	B/20	: ASCD control unit	D1	(M62)	W/6	: Radio and cassette player
A2	(M19)	—	: Body ground	C1	(M63)	W/10	: Radio or radio and cassette player
G3	(M20)	SMJ	: To (B19)	C2	(M64)	W/12	: Radio and cassette player (With CD auto changer)
G3	(M21)	SMJ	: To (E127)	D1	(M65)	W/4	: CD player
G2	(M22)	SMJ	: To (D1)	G4	(M66)	W/18	: Super lock control unit
G1	(M23)	W/3	: Tweeter RH	C4	(M67)	BR/8	: Diff lock switch
G2	(M24)	W/10	: To (R1)	B3	(M68)	B/12	: Diff lock control unit
G3	(M25)	BR/3	: Accelerator position sensor	C4	(M69)	BR/16	: Sub fuel tank control unit
F5	(M26)	GY/3	: Accelerator position switch	C3	(M70)	B/16	: A/C auto amp. (With front auto A/C)
G3	(M27)	W/3	: Accelerator switch (F/C)	D1	(M71)	W/6	: Fan switch
E3	(M28)	Y/7	: Spiral cable (With air bag)	C3	(M73)	W/3	: Fan switch illumination } (With front manual A/C)
E2	(M29)	W/8	: NATS IMMUI (For Australia)	B2	(M74)	W/8	: Recirculation switch
E2	(M30)	—	: Body ground	D1	(M75)	B/20	: A/C auto amp. } (With front auto A/C)
E1	(M31)	W/2	: Security indicator (With NATS)	B1	(M76)	W/4	: Intake door motor
E1	(M32)	W/10	: Combination meter	B1	(M77)	W/4	: Intake door motor (With front manual A/C)
E1	(M33)	BR/16	: Combination meter	A1	(M78)	W/4	: Fan control amp. (With front auto A/C)
E2	(M34)	W/16	: Combination meter	B1	(M79)	W/22	: Joint connector-1
E1	(M35)	W/10	: Combination meter	B1	(M80)	B/12	: Joint connector-2
D3	(M36)	L/2	: ASCD clutch switch (M/T models with ASCD)	C1	(M81)	W/16	: To (M82)
E3	(M37)	B/3	: Combination flasher unit	B1	(M82)	W/16	: To (M81)
D3	(M38)	W/3	: Mode door motor (With front auto A/C)	A1	(M83)	W/3	: Tweeter LH
F2	(M39)	W/3	: Illumination control switch	A2	(M84)	W/18	: To (D21)
D4	(M40)	W/3	: Air mix door motor (With front auto A/C)	A1	(M85)	W/2	: Diode (With front manual A/C)
C4	(M41)	W/18	: Smart entrance control unit	A3	(M86)	BR/16	: To (E104)
C4	(M42)	B/2	: Cigarette lighter	A2	(M87)	W/16	: To (E105)
C4	(M43)	W/8	: Seat belt timer (Without sub fuel tank for Australia)	B3	(M88)	W/24	: To (E106)
C4	(M44)	W/12	: Stabilizer control unit	A1	(M89)	W/4	: Rear fog lamp relay
D4	(M45)	W/2	: In-vehicle sensor (With front auto A/C)				
D1	(M46)	W/6	: Rear window defogger switch				

HARNESS LAYOUT

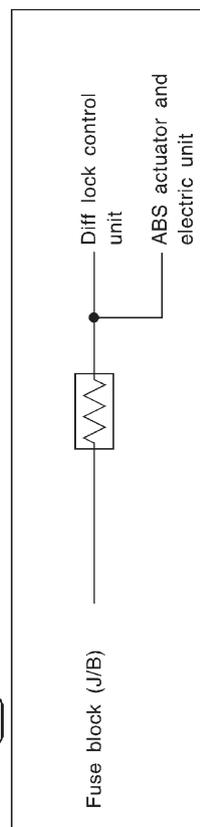
Main Harness/RHD Models (Cont'd)

A2	(M90)	L/4	: Fuel pump relay (TB45E engine models)
A2	(M91)	L/4	: Power window relay
A2	(M92)	W/2	: Circuit breaker-1
A2	(M93)	BR/4	: Blower resistor (With front manual A/C)
A1	(M94)	W/2	: Blower motor
A3	(M95)	W/16	: To (B101)
A3	(M96)	W/20	: To (B102)
A3	(M97)	W/16	: To (B103)
G5	(M98)	—	: Body ground
B3	(M99)	W/6	: To (B104)
E1	(M100)	L/6	: Stabilizer switch
E3	(M101)	B/2	: Stop lamp switch
E3	(M102)	L/2	: ASCD brake switch
C1	(M103)	W/12	: NATS IMMU } (For Europe)
E2	(M104)	W/4	: NATS antenna amp. }
F2	(M108)	B/6	: Front fog lamp switch
G2	(M111)	L/4	: Heated seat relay
D4	(M112)	B/1	: Cigarette lighter illumination
B3	(M113)	W/2	: Resistor (With diff lock)
E3	(M115)	W/8	: Check connector (TB42S engine models)

Diode (M85)



Resistor (M113)

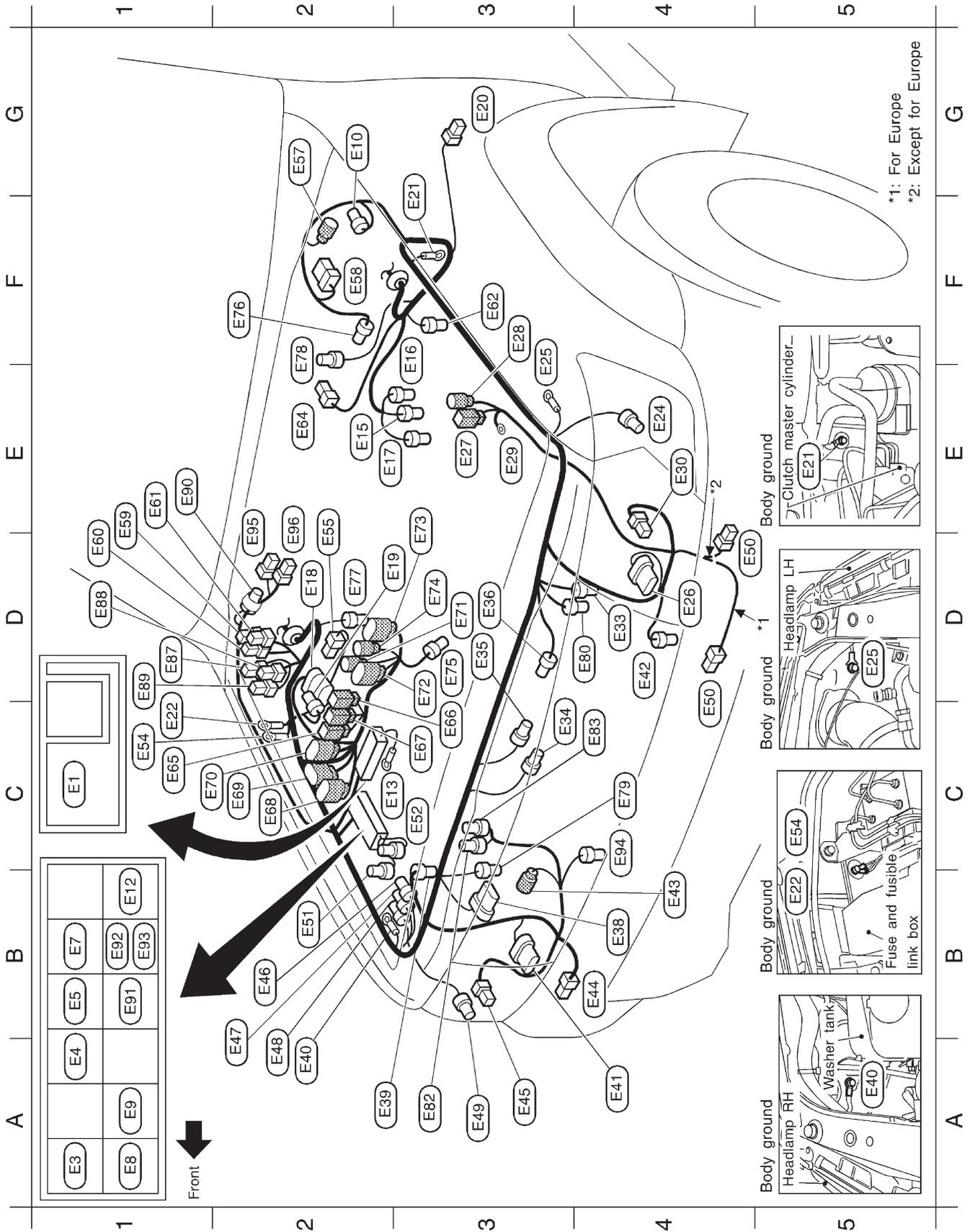


HARNESS LAYOUT

NOTE

HARNESS LAYOUT

Engine Room Harness/LHD Models



HARNES LAYOUT

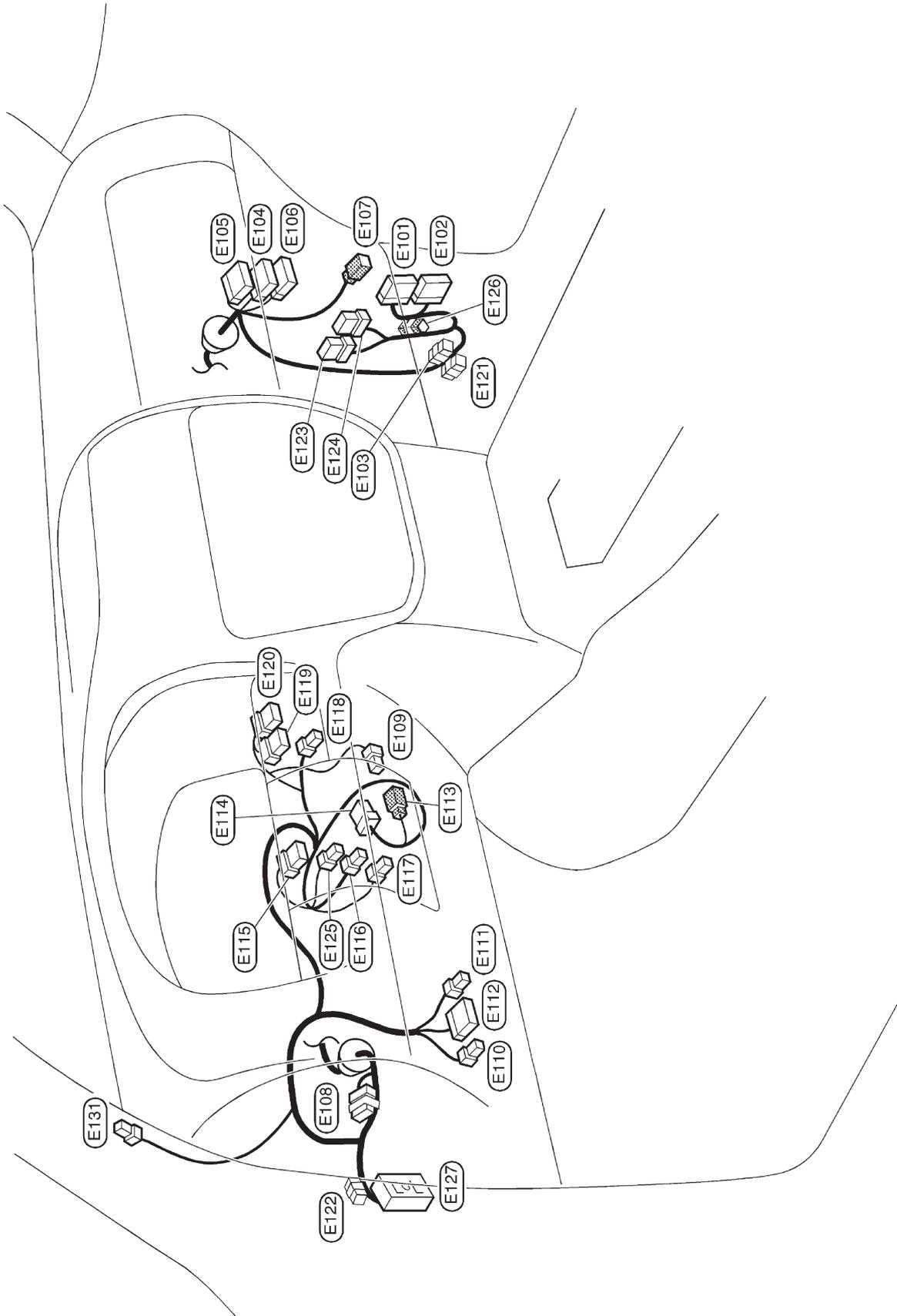
Engine Room Harness/LHD Models (Cont'd)

C1	: Fuse and fusible link box	A3	GY/4	: Front combination lamp RH
A1	: Transfer neutral relay	D4	B/1	: Horn high
A1	: Cornering lamp relay	B2	GY/2	: Inhibitor relay } (A/T models)
B1	: Air conditioner relay	C3	GY/2	: Inhibitor relay } (A/T models)
B1	: Bulb check relay	C1	—	: Body ground (TD engine models)
A1	: Cooling fan relay-1	D2	B/2	: Side turn signal lamp RH
A1	: Horn relay	G2	B/2	: Wiper deicer
G2	: Diff lock solenoid	F2	W/6	: Front wiper motor
B1	: Wiper deicer relay	E1	G/2	: Grow relay-1
C2	: Battery (+)	E1	W/1	: Grow relay-1
E2	: EGRC-solenoid valve A	E1	W/1	: Grow relay-1
F3	: EGRC-solenoid valve B	F3	BR/2	: Front wheel sensor LH (With ABS)
E3	: Throttle control solenoid valve	E2	W/1	: Vacuum warning switch
D2	: ABS actuator and electric unit	C1	B/2	: To (E204)
D3	: Power antenna	C3	L/2	: To (E203)
G3	: Side turn signal lamp LH	C3	R/2	: To (E223)
G3	: Body ground (RD engine models)	C2	GY/8	: To (E222)
C1	: Body ground (With ABS)	C2	B/8	: To (E202)
E4	: Front combination lamp LH	C2	GY/10	: To (E201)
F3	: Body ground	D3	GY/3	: Revolution sensor
D4	: Headlamp aiming motor LH	D3	BR/8	: A/T solenoid valve } (A/T models)
E3	: To (A1)	D3	GY/8	: Inhibitor switch
F3	: To (A2)	D3	GY/2	: Inhibitor switch
E3	: To (A3)	D3	BR/2	: Fuel filter switch
E4	: Headlamp LH	D2	GY/2	: Brake fluid level switch
D4	: Headlamp wiper motor LH	F2	GY/2	: Front wheel sensor RH (With ABS)
C3	: Ambient air temperature sensor (With compass and thermometer)	F2	GY/2	: Dropping resistor (A/T models)
D3	: Ambient sensor (With auto A/C)	C4	BR/2	: Front fog lamp RH
D3	: Cooling fan motor-1	D4	BR/2	: Front fog lamp LH
B4	: Headlamp wiper motor RH	A3	GY/8	: Daytime light control unit
A2	: Dual-pressure switch	C4	GY/6	: Daytime light control unit
A2	: Body ground	D1	G/2	: Grow relay-2 } (TD engine models for cold areas)
A4	: Headlamp aiming motor RH	D1	W/1	: Grow relay-2 } (TD engine models for cold areas)
D4	: Engine coolant temperature switch-2 (TD engine models with A/C)	D1	W/1	: Grow relay-2 } (TD engine models for cold areas)
B4	: To (E181) (With electrical winch)	E1	GY/2	: Not used
B4	: Horn low	B1	BR/6	: Rear window defogger relay
A3	: Headlamp RH	B1	B/5	: A/C cut relay (TD engine models with A/C)
B2	: Front washer motor	B1	L/4	: Charge air cooler fan relay (RD engine models)
A2	: Rear washer motor	C4	GY/2	: Engine coolant temperature switch-1 } (TD engine models
A2	: Headlamp washer motor	D2	B/1	: IACV-FICD solenoid valve } (TD engine models
		D2	B/1	: IACV-FICD solenoid valve } (TD engine models with A/C)

HARNESS LAYOUT

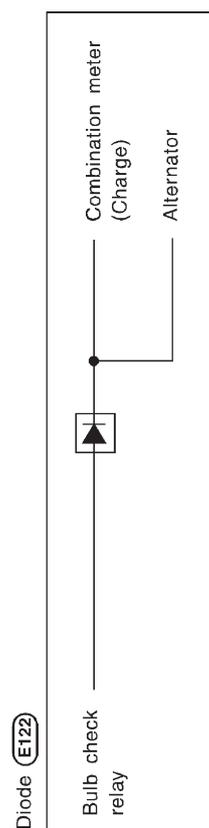
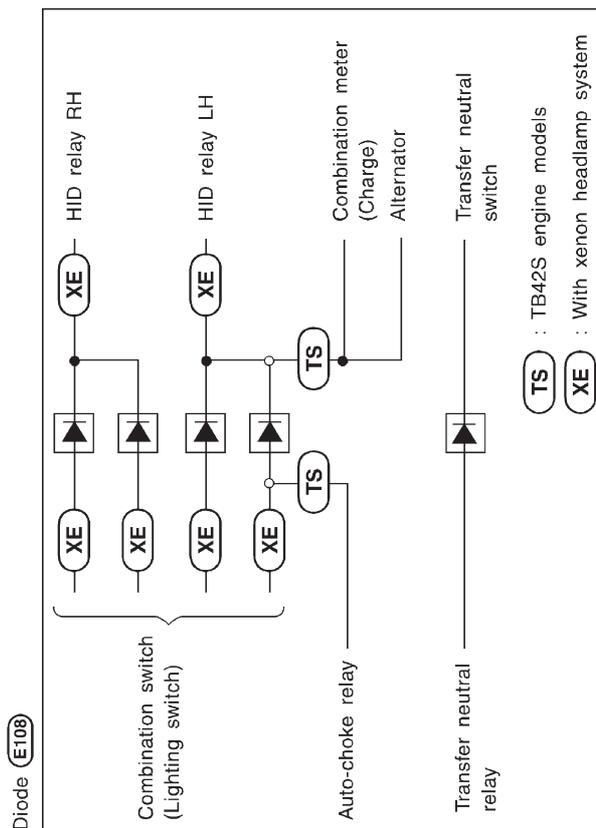
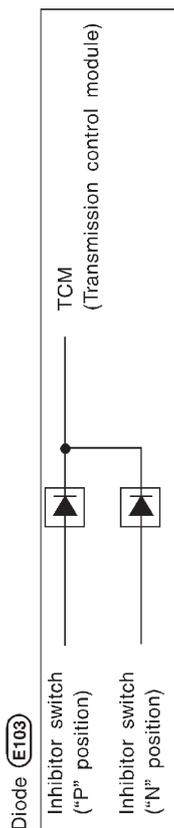
Engine Room Harness/LHD Models (Cont'd)

PASSENGER COMPARTMENT



HARNESS LAYOUT

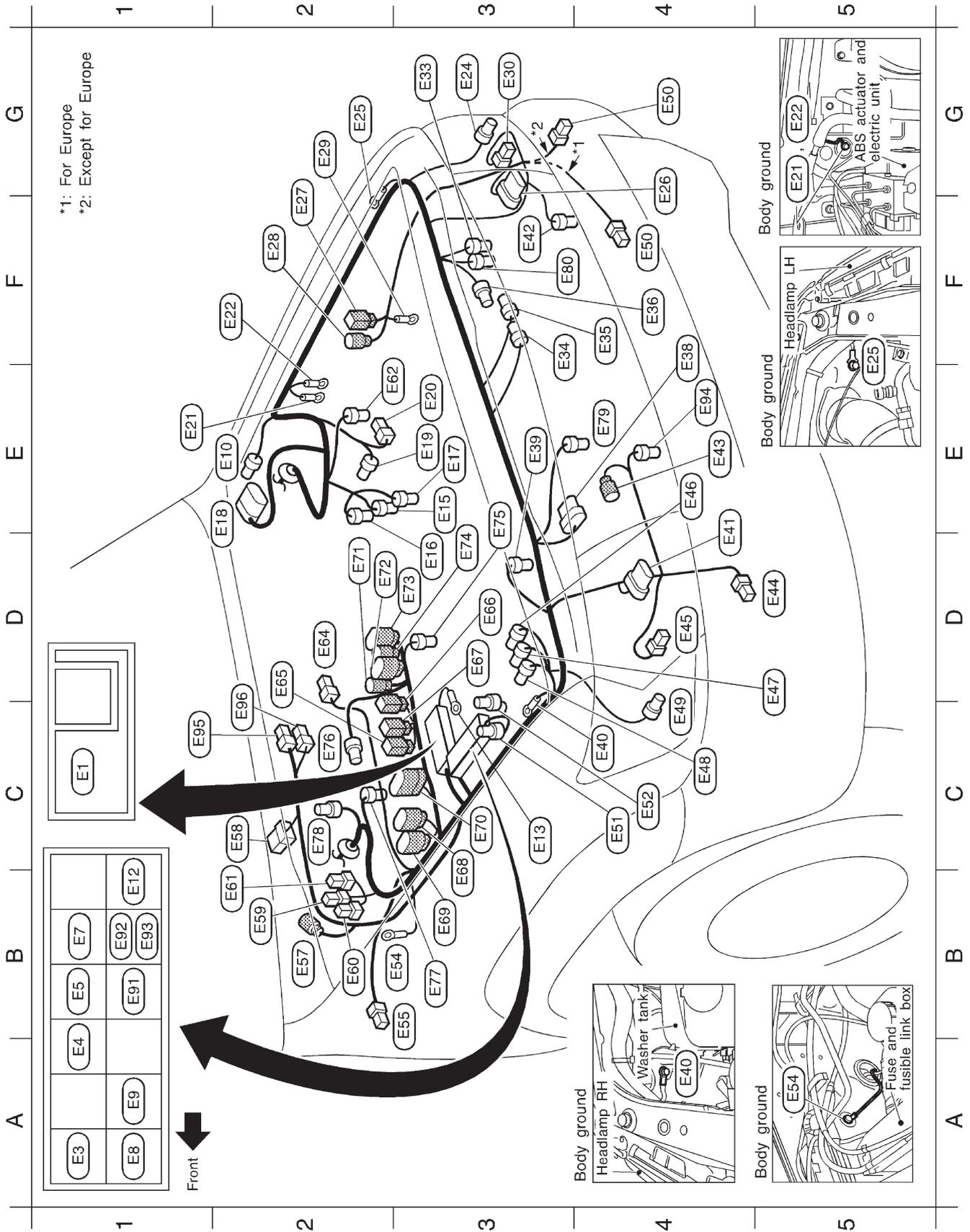
Engine Room Harness/LHD Models (Cont'd)



- (E101) W/24 : TCM (Transmission control module)
- (E102) GY/24 : TCM (Transmission control module)
- (E103) L/4 : Diode (A/T models)
- (E104) W/12 : To (M86)
- (E105) W/16 : To (M87)
- (E106) W/24 : To (M88)
- (E107) W/2 : To (E101)
- (E108) L/10 : Diode
- (E109) B/1 : Horn switch (Without air bag)
- (E110) B/2 : Fuse block (J/B)
- (E111) L/4 : Fuse block (J/B)
- (E112) W/16 : Fuse block (J/B)
- (E113) W/2 : Key switch
- (E114) W/6 : Ignition switch
- (E115) BR/8 : Combination switch } (Lighting switch)
- (E116) BR/4 : Combination switch }
- (E117) BR/3 : Combination switch (Cornering lamp switch)
- (E118) W/4 : Combination switch (Rear wiper switch)
- (E119) GY/8 : Combination switch (Front wiper switch) (Without intermittent wiper)
- (E120) GY/8 : Combination switch (Front wiper switch) (With intermittent wiper)
- (E121) W/2 : Condenser (TB42S engine models)
- (E122) W/2 : Diode (Except for TB42S engine models)
- (E123) B/5 : Multi-remote control relay-1 } (For Europe with multi-remote control system)
- (E124) BR/6 : Multi-remote control relay-2 }
- (E125) W/3 : Combination switch (Rear fog lamp switch)
- (E126) B/2 : Jumping connector (For Europe)
- (E127) SMJ : To (M21)
- (E131) W/3 : Tweeter LH

HARNESS LAYOUT

Engine Room Harness/RHD Models



HARNES LAYOUT

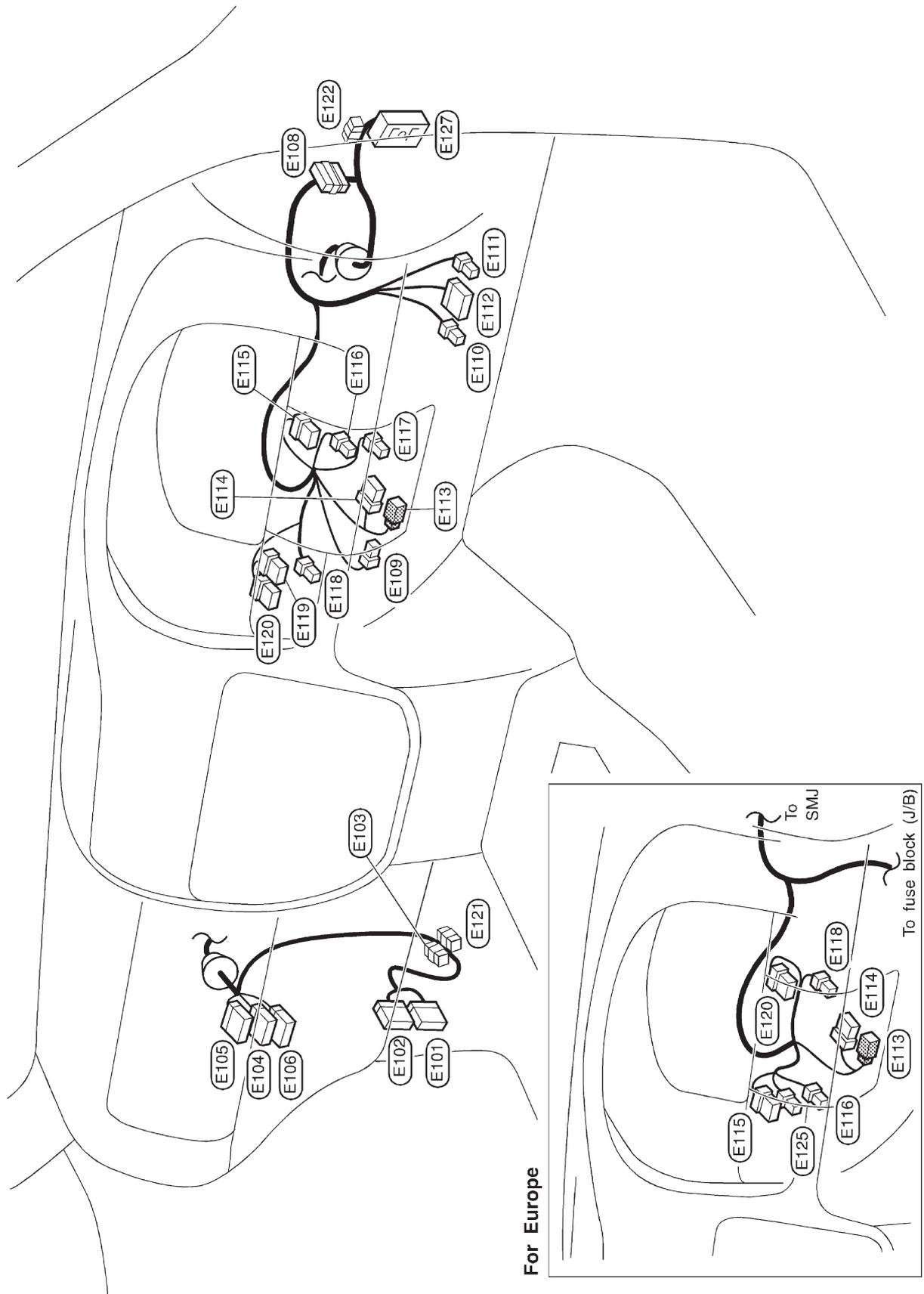
Engine Room Harness/RHD Models (Cont'd)

C1	(E1)	—	: Fuse and fusible link box	C4	(E49)	GY/4	: Front combination lamp RH
A1	(E3)	B/5	: Transfer neutral relay	F4	(E50)	B/1	: Horn high
A1	(E4)	L/4	: Cornering lamp relay	C4	(E51)	GY/2	: Inhibitor relay } (A/T models)
B1	(E5)	BR/6	: Air conditioner relay	C4	(E52)	GY/2	: Inhibitor relay }
B1	(E7)	L/4	: Bulb check relay	B3	(E54)	—	: Body ground
A1	(E8)	L/4	: Cooling fan relay-1	B3	(E55)	B/2	: Side turn signal lamp RH
A1	(E9)	W/3	: Horn relay	B2	(E57)	B/2	: Wiper deicer
E2	(E10)	GY/4	: Diff lock solenoid	C2	(E58)	W/6	: Front wiper motor
B1	(E12)	L/4	: Wiper deicer relay	B2	(E59)	G/2	: Grow relay-1
C3	(E13)	—	: Battery (+)	B2	(E60)	W/1	: Grow relay-1
E3	(E15)	BR/2	: EGRC-solenoid valve A	B2	(E61)	W/1	: Grow relay-1
D3	(E16)	G/2	: EGRC-solenoid valve B	E2	(E62)	BR/2	: Front wheel sensor LH (With ABS)
E3	(E17)	B/2	: Throttle control solenoid valve	D2	(E64)	W/1	: Vacuum warning switch (Except for Australia)
E2	(E18)	SMJ	: ABS actuator and electric unit	D2	(E65)	B/2	: To (E204)
E3	(E19)	GY/4	: Power antenna	D3	(E66)	L/2	: To (E203)
E3	(E20)	B/2	: Side turn signal lamp LH	D3	(E67)	R/2	: To (E223)
E1	(E21)	—	: Body ground	C3	(E68)	GY/8	: To (E222)
F2	(E22)	—	: Body ground (With ABS)	B3	(E69)	B/8	: To (E202)
G3	(E24)	GY/4	: Front combination lamp LH	C3	(E70)	GY/10	: To (E201)
G2	(E25)	—	: Body ground	D2	(E71)	GY/3	: Revolution sensor
G4	(E26)	GY/6	: Headlamp aiming motor LH	D2	(E72)	BR/8	: A/T solenoid valve } (A/T models)
G2	(E27)	B/2	: To (A1)	D3	(E73)	GY/8	: Inhibitor switch
F2	(E28)	GY/3	: To (A2)	D3	(E74)	GY/2	: Inhibitor switch
G2	(E29)	—	: To (A3)	E3	(E75)	BR/2	: Fuel filter switch
G3	(E30)	B/3	: Headlamp LH	C2	(E76)	GY/2	: Brake fluid level switch
G3	(E33)	B/4	: Headlamp wiper motor LH	B3	(E77)	GY/2	: Front wheel sensor RH (With ABS)
F3	(E34)	B/2	: Ambient air temperature sensor (With compass and thermometer)	C2	(E78)	GY/2	: Dropping resistor (A/T models)
F4	(E35)	B/2	: Ambient sensor (With auto A/C)	E4	(E79)	BR/2	: Front fog lamp RH
F4	(E36)	GY/4	: Cooling fan motor-1	F3	(E80)	BR/2	: Front fog lamp LH
F4	(E38)	B/6	: Headlamp wiper motor RH	B1	(E91)	BR/6	: Rear window defogger relay
E3	(E39)	B/2	: Dual-pressure switch	B1	(E92)	B/5	: A/C cut relay (TD engine models with A/C)
C4	(E40)	—	: Body ground	B1	(E93)	L/4	: Charge air cooler fan relay (RD engine models)
D4	(E41)	GY/6	: Headlamp aiming motor RH	E4	(E94)	GY/2	: Engine coolant temperature switch-1 } (TD engine models
F3	(E42)	GY/2	: Engine coolant temperature sensor (With auto A/C)	C1	(E95)	B/1	: IACV-FICD solenoid valve } with A/C)
E4	(E43)	GY/2	: To (E181) (With electrical wintch)	C2	(E96)	B/1	: IACV-FICD solenoid valve
D5	(E44)	B/1	: Horn low				
D4	(E45)	B/3	: Headlamp RH				
E4	(E46)	GY/2	: Front washer motor				
D5	(E47)	BR/2	: Rear washer motor				
C4	(E48)	GY/2	: Headlamp washer motor				

HARNESS LAYOUT

Engine Room Harness/RHD Models (Cont'd)

PASSENGER COMPARTMENT

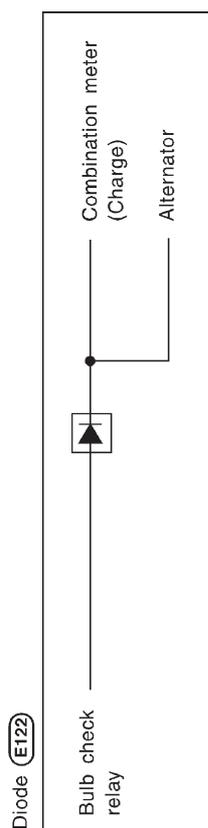
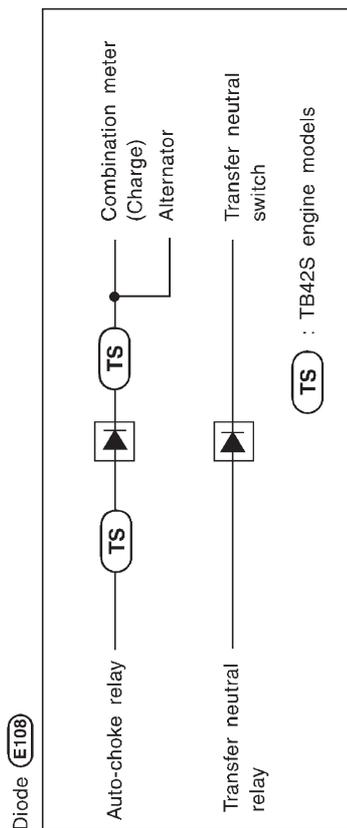
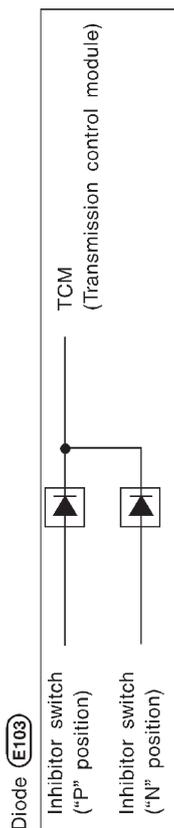


For Europe

HARNESS LAYOUT

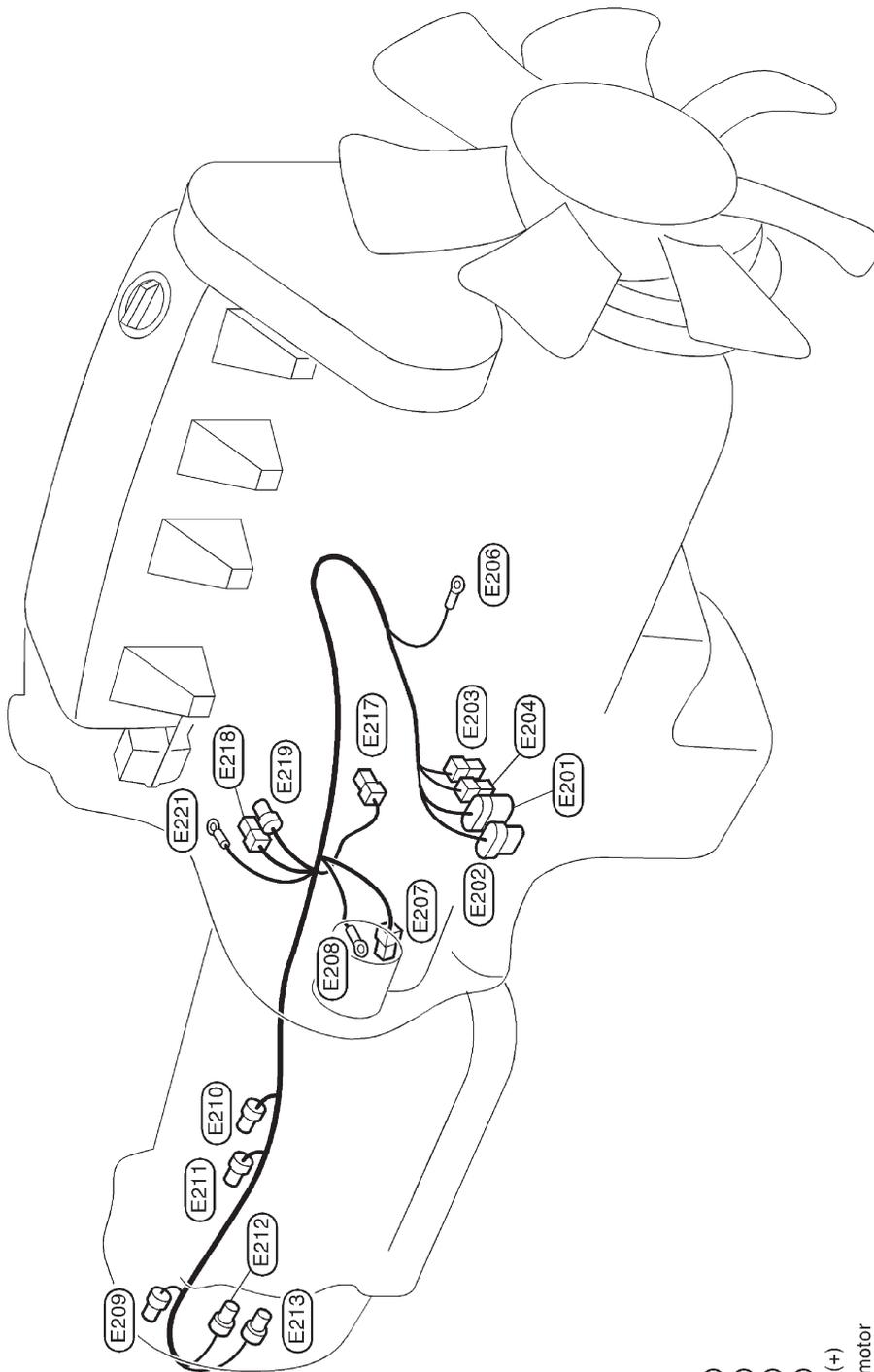
Engine Room Harness/RHD Models (Cont'd)

- (E101) W/24 : TCM (Transmission control module)
- (E102) GY/24 : TCM (Transmission control module)
- (E103) L/4 : Diode (A/T models)
- (E104) W/16 : To (M86)
- (E105) W/16 : To (M87)
- (E106) W/24 : To (M88)
- (E108) L/10 : Diode
- (E109) B/1 : Horn switch (Without air bag)
- (E110) B/2 : Fuse block (J/B)
- (E111) L/4 : Fuse block (J/B)
- (E112) W/16 : Fuse block (J/B)
- (E113) W/2 : Key switch
- (E114) W/6 : Ignition switch
- (E115) BR/8 : Combination switch } (Lighting switch)
- (E116) BR/4 : Combination switch }
- (E117) BR/3 : Combination switch (Cornering lamp switch)
- (E118) W/4 : Combination switch (Rear wiper switch)
- (E119) GY/8 : Combination switch (Front wiper switch)
(Without intermittent wiper)
- (E120) GY/8 : Combination switch (Front wiper switch)
(With intermittent wiper)
- (E121) W/2 : Condenser (TB42S engine models)
- (E122) W/2 : Diode (Except for TB42S engine models)
- (E125) W/3 : Combination switch (Rear fog lamp switch)
- (E127) SMJ : To (M21)



HARNESS LAYOUT

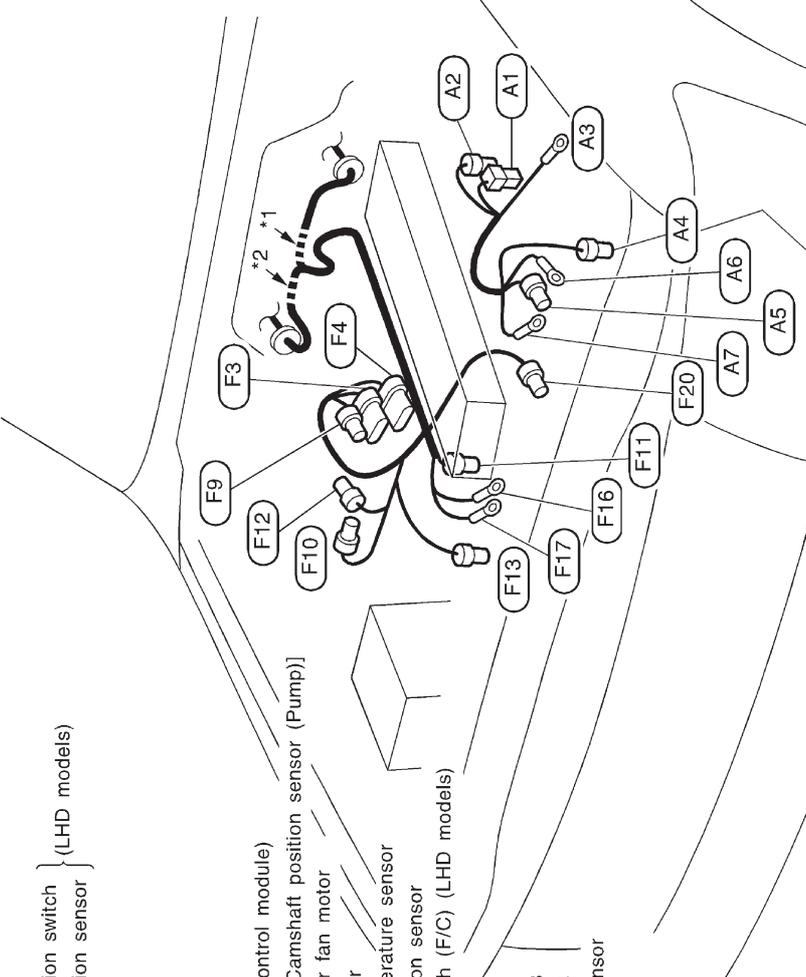
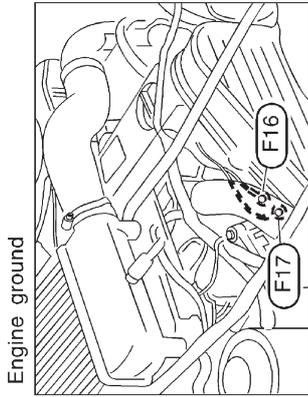
Engine Harness



E201	GY/10	:	To E70
E202	B/8	:	To E69
E203	L/2	:	To E66
E204	B/2	:	To E65
E206	-	:	Battery (+)
E207	B/1	:	Starter motor
E208	-	:	Starter motor
E209	GY/2	:	Vehicle speed sensor
E210	GY/2	:	Back-up lamp switch (M/T models)
E211	B/2	:	Neutral position switch (M/T models)
E212	GY/2	:	4WD switch
E213	BR/2	:	Transfer neutral switch
E217	B/1	:	Oil pressure switch
E218	B/1	:	Thermal transmitter
E219	GY/2	:	Engine coolant temperature sensor
E221	-	:	Glow plug

HARNESS LAYOUT

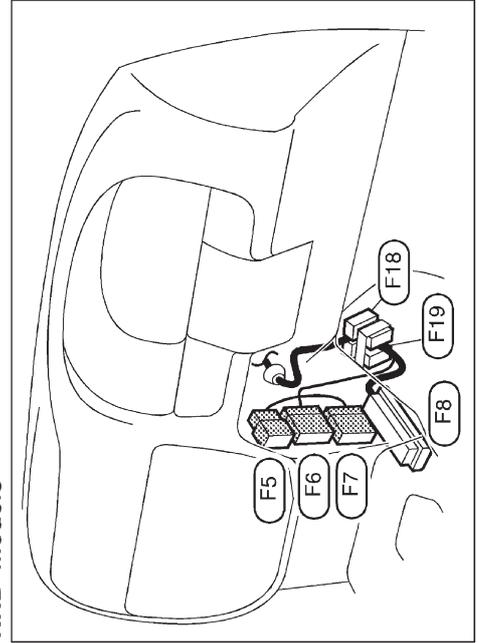
Engine Control Harness and Alternator Harness



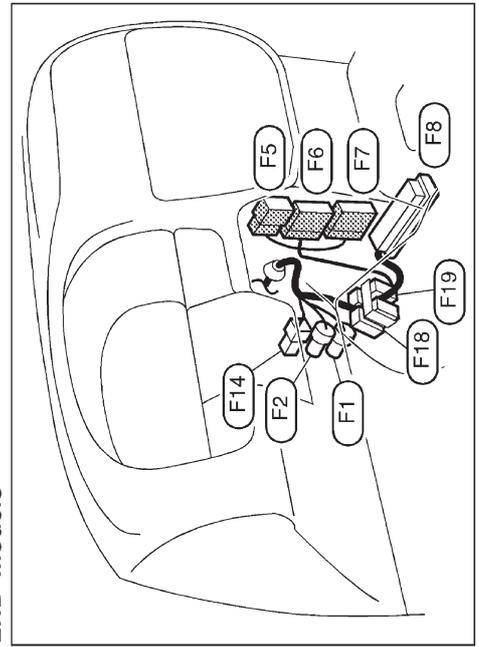
- Engine control harness**
- F1 GY/3 : Accelerator position switch (LHD models)
 - F2 BR/3 : Accelerator position sensor (LHD models)
 - F3 B/8 : Injection pump
 - F4 GY/8 : Injection pump
 - F5 W/6 : To M50
 - F6 W/16 : To M51
 - F7 W/24 : To M52
 - F8 SMJ : ECM (ECCS-D control module)
 - F9 GY/3 : Injection pump [Camshaft position sensor (Pump)]
 - F10 B/2 : Charge air cooler fan motor
 - F11 BR/2 : Needle lift sensor
 - F12 GY/2 : Charge air temperature sensor
 - F13 B/3 : Crankshaft position sensor
 - F14 W/3 : Accelerator switch (F/C) (LHD models)
 - F16 - : Engine ground
 - F17 - : Engine ground
 - F18 GY/6 : Joint connector-3
 - F19 GY/6 : Joint connector-4
 - F20 GY/3 : Mass air flow sensor

- Alternator harness**
- A1 B/2 : To E27
 - A2 GY/3 : To E28
 - A3 - : To E29
 - A4 B/1 : Compressor
 - A5 GY/2 : Alternator
 - A6 - : Alternator
 - A7 - : Alternator

RHD models



LHD models

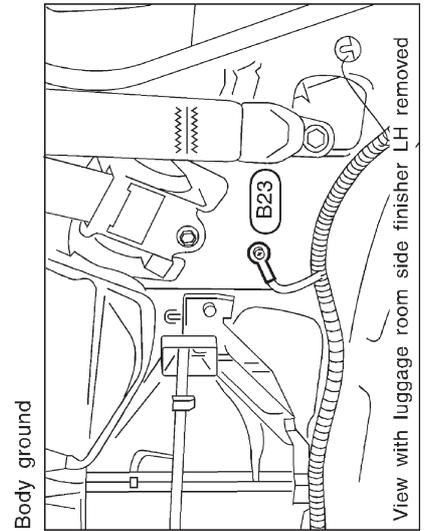
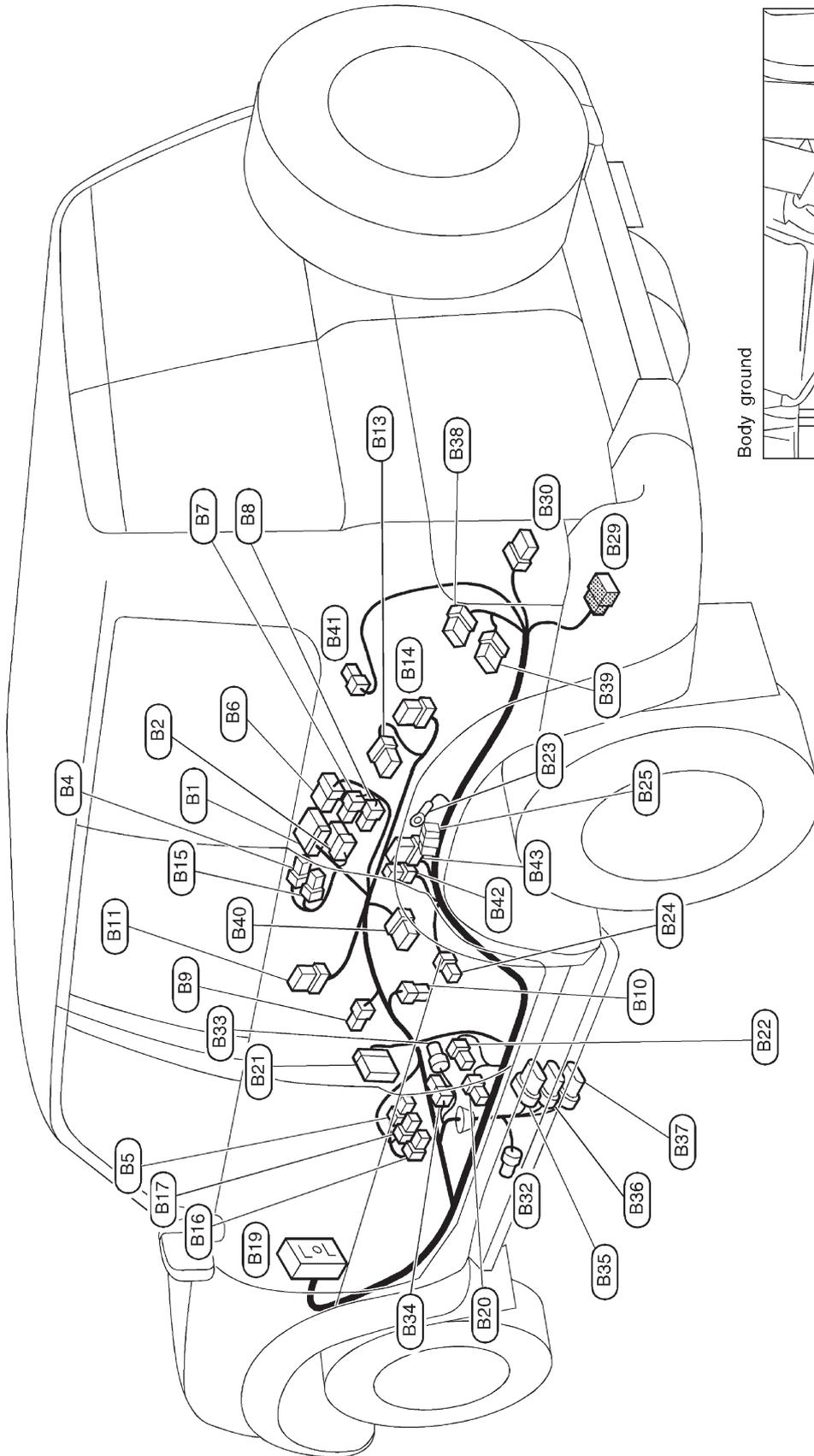


*1: LHD MODELS
*2: RHD MODELS

HARNESS LAYOUT

Body Harness/LHD Models

WAGON

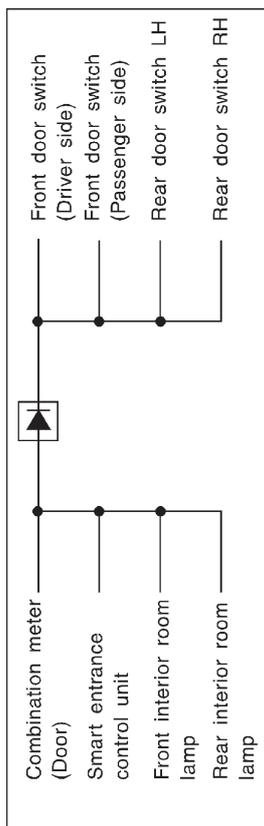


HARNESS LAYOUT

Body Harness/LHD Models (Cont'd)

(B1)	W/12	:	To (B105)
(B2)	W/8	:	To (B106)
(B4)	W/2	:	Power seat (Passenger side)
(B5)	W/3	:	Heated seat LH
(B6)	W/6	:	Wiper deicer switch
(B7)	L/4	:	Heated seat switch LH
(B8)	W/4	:	Heated seat switch RH
(B9)	W/3	:	Ashtray illumination
(B10)	B/1	:	Parking brake switch
(B11)	W/6	:	A/T device
(B13)	W/6	:	Rear cooler switch
(B14)	W/6	:	Rear fan switch
(B15)	W/3	:	Heated seat RH
(B16)	W/3	:	Seat belt buckle switch
(B17)	W/2	:	Power seat (Driver side)
(B19)	SMJ	:	To (M20)
(B20)	B/3	:	Front door switch (Driver side)
(B21)	W/18	:	To (D41)
(B22)	W/4	:	Seat belt pre-tensioner (Driver side)
(B23)	—	:	Body ground
(B24)	BR/1	:	Rear door switch LH
(B25)	W/2	:	Diode (With super lock)
(B29)	W/6	:	To (D81)
(B30)	BR/6	:	Rear combination lamp LH
(B32)	GY/2	:	Rear cooler solenoid valve
(B33)	BR/2	:	G sensor } (With ABS)
(B34)	GY/2	:	G sensor }
(B35)	B/8	:	To (C1)
(B36)	GY/6	:	To (C3)
(B37)	GY/8	:	To (C2)
(B38)	W/6	:	Rear cooler unit
(B39)	B/6	:	Rear cooler unit
(B40)	W/6	:	Cool box
(B41)	B/2	:	Power socket
(B42)	L/4	:	Power socket relay
(B43)	B/5	:	Rear cooler cut relay (TB45E engine M/T models with rear cooler)

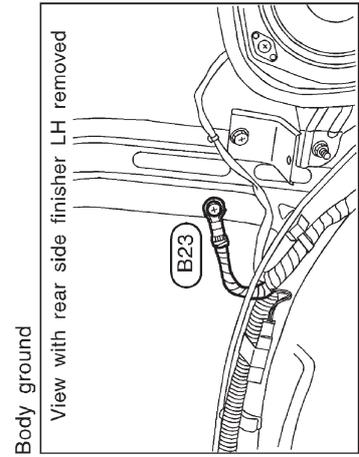
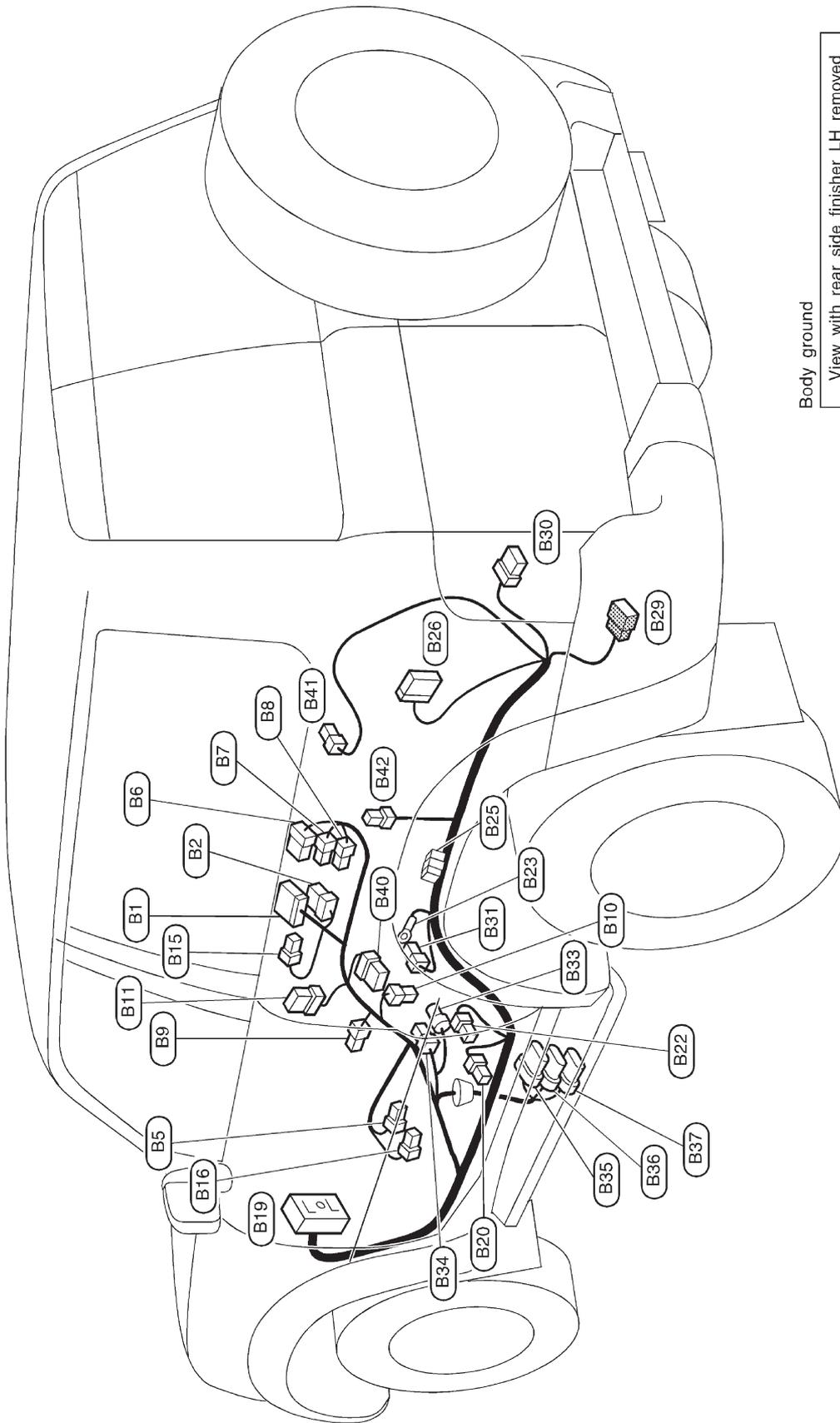
Diode (B25)



HARNESS LAYOUT

Body Harness/LHD Models (Cont'd)

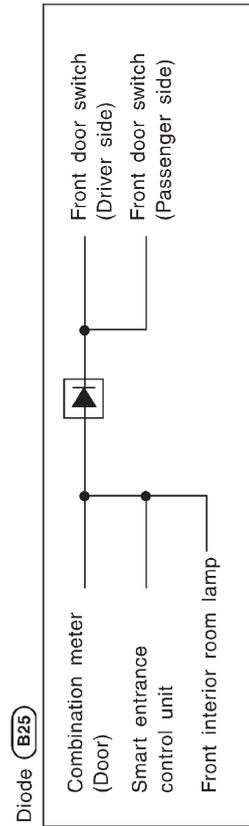
HARDTOP



HARNESS LAYOUT

Body Harness/LHD Models (Cont'd)

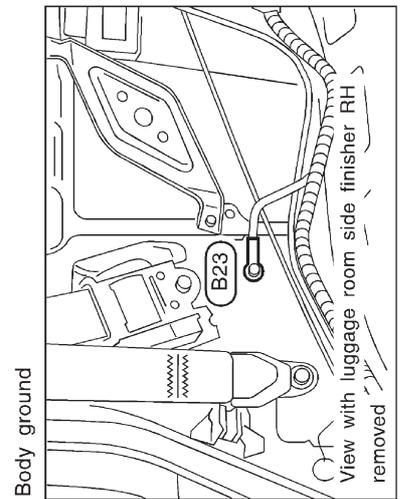
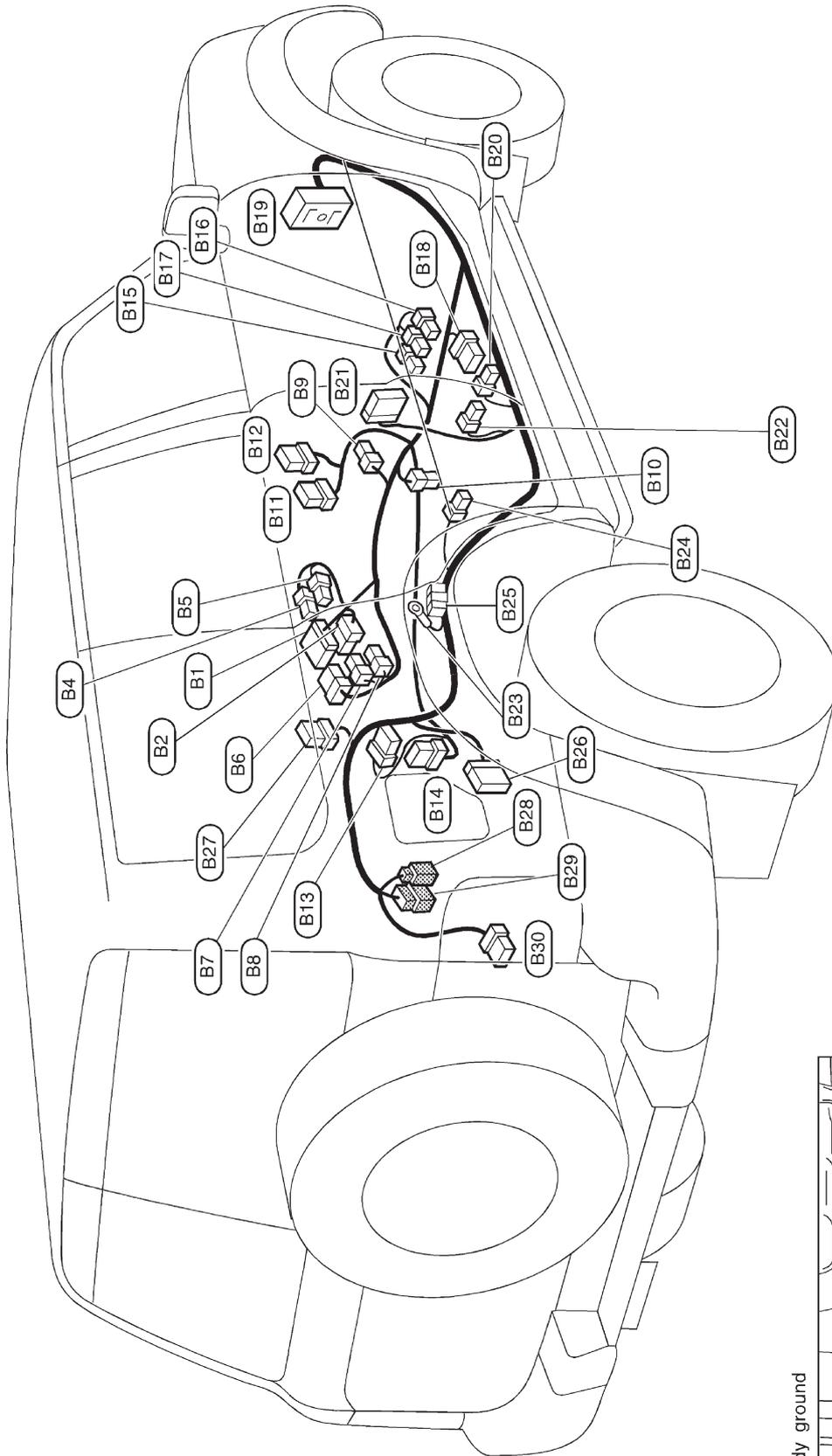
B1	W/12	:	To (B105)
B2	W/8	:	To (B106)
B5	W/3	:	Heated seat LH
B6	W/6	:	Wiper deicer switch
B7	L/4	:	Heated seat switch LH
B8	W/4	:	Heated seat switch RH
B9	W/3	:	Ashtray illumination
B10	B/1	:	Parking brake switch
B11	W/6	:	A/T device
B15	W/3	:	Heated seat RH
B16	W/3	:	Seat belt buckle switch
B19	SMJ	:	To (M20)
B20	B/3	:	Front door switch (Driver side)
B22	W/4	:	Seat belt pre-tensioner (Driver side)
B23	-	:	Body ground
B25	W/2	:	Diode (With super lock)
B26	W/16	:	CD auto changer
B29	W/6	:	To (D81)
B30	BR/6	:	Rear combination lamp LH
B31	BR/2	:	Rear speaker LH
B33	BR/2	:	G sensor
B34	GY/2	:	G sensor } (With ABS)
B35	B/8	:	To (C1)
B36	GY/6	:	To (C3)
B37	GY/8	:	To (C2)
B40	W/6	:	Cool box
B41	B/2	:	Power socket
B42	L/4	:	Power socket relay



HARNESS LAYOUT

Body Harness/RHD Models

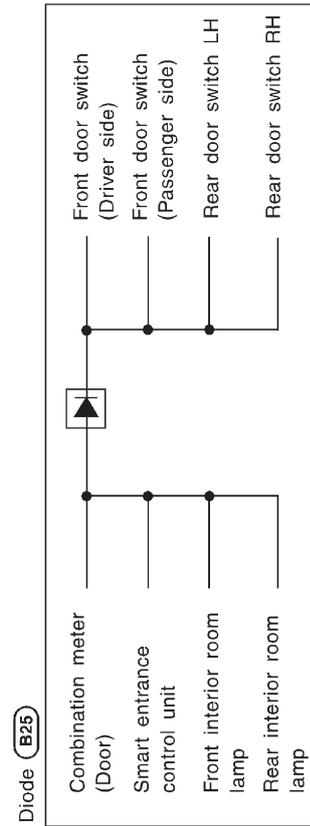
WAGON



HARNESS LAYOUT

Body Harness/RHD Models (Cont'd)

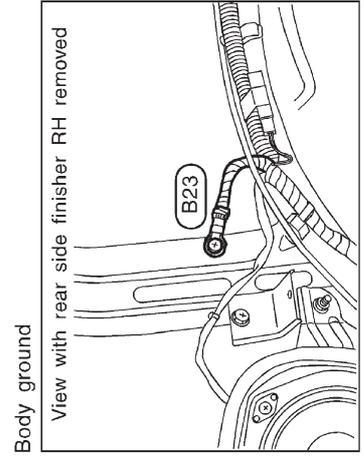
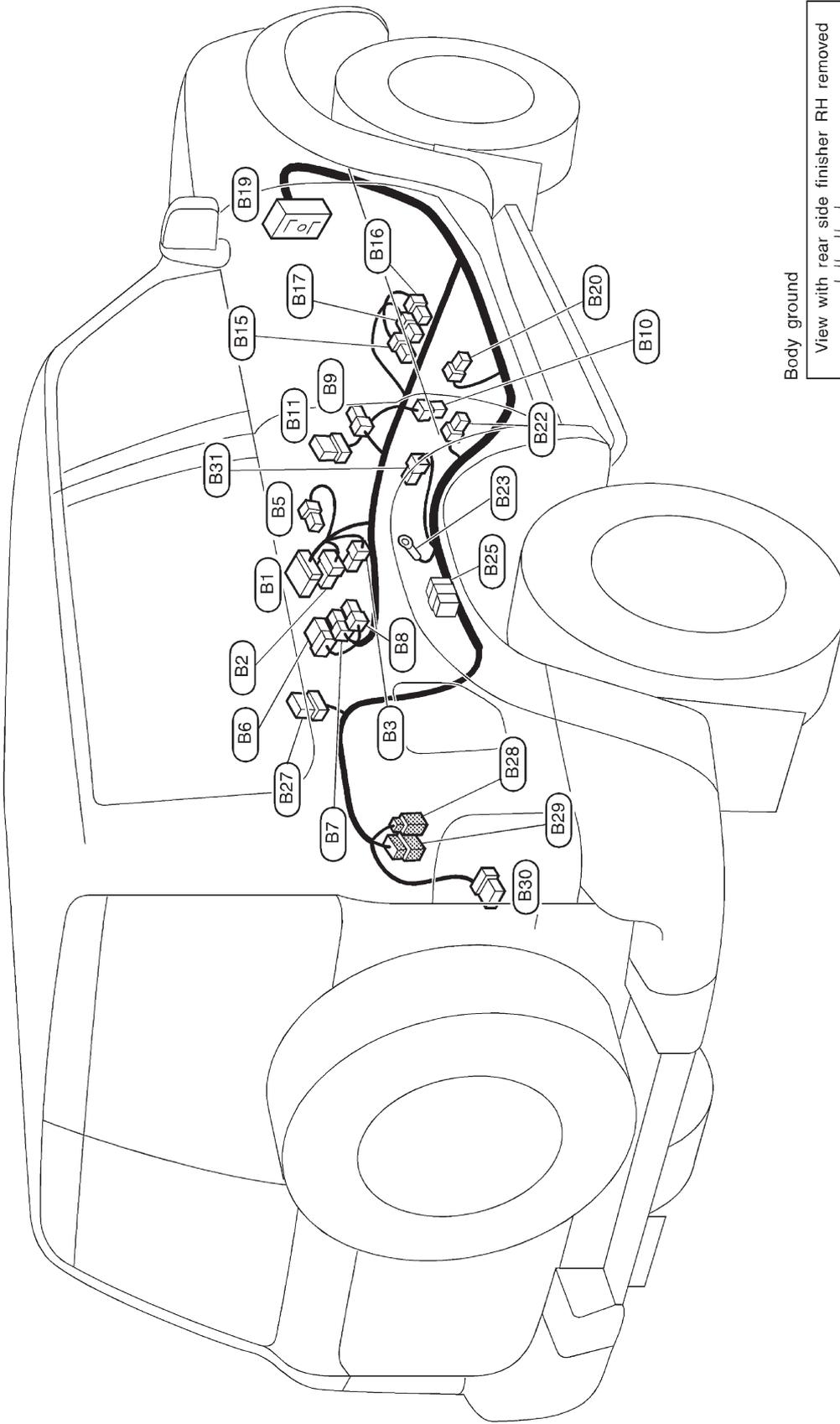
B1	W/12	:	To (B105)	B21	W/18	:	To (D61)
B2	W/8	:	To (B106)	B22	W/4	:	Seat belt pre-tensioner (Driver side)
B3	W/4	:	To (B130)	B23	-	:	Body ground
B4	W/2	:	Power seat (Passenger side)	B24	BR/1	:	Rear door switch RH
B5	W/3	:	Heated seat LH	B25	W/2	:	Diode (With super lock)
B6	W/6	:	Wiper deicer switch	B26	W/16	:	CD auto changer
B7	L/4	:	Heated seat switch LH	B27	B/8	:	Rear wiper amp.
B8	W/4	:	Heated seat switch RH	B28	BR/1	:	To (D102)
B9	W/3	:	Ashtray illumination	B29	W/6	:	To (D101)
B10	B/1	:	Parking brake switch	B30	BR/6	:	Rear combination lamp RH
B11	W/6	:	A/T device				
B12	W/8	:	A/T mode switch				
B13	W/6	:	Rear cooler switch				
B14	W/6	:	Rear fan switch				
B15	W/3	:	Heated seat RH				
B16	W/3	:	Seat belt buckle switch				
B17	W/2	:	Power seat (Driver side)				
B18	W/6	:	Rear heater unit				
B19	SMJ	:	To (M20)				
B20	B/3	:	Front door switch (Driver side)				



HARNESS LAYOUT

Body Harness/RHD Models (Cont'd)

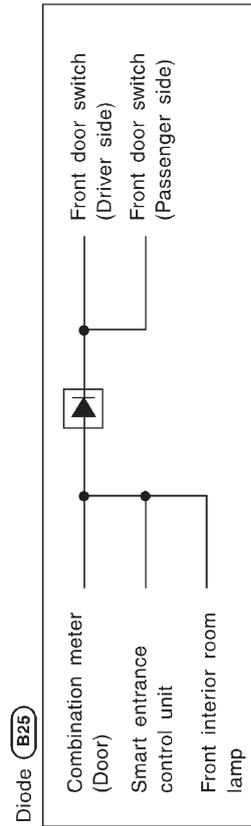
HARDTOP



HARNESS LAYOUT

Body Harness/RHD Models (Cont'd)

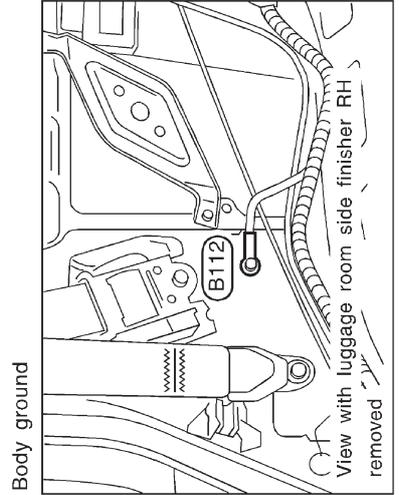
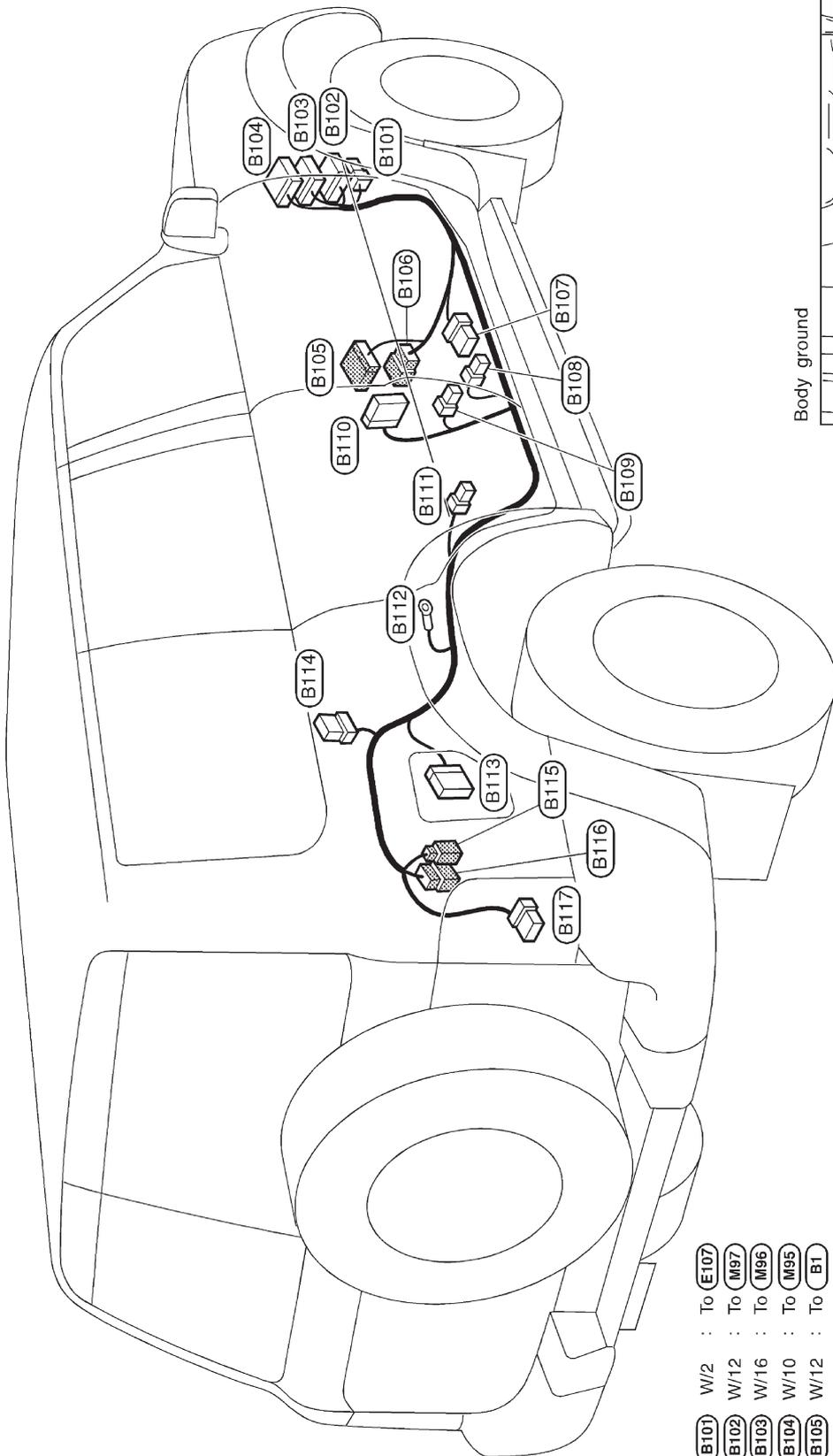
B1	W/12	:	To (B105)
B2	W/8	:	To (B106)
B3	W/4	:	To (B130)
B5	W/3	:	Heated seat LH
B6	W/6	:	Wiper deicer switch
B7	L/4	:	Heated seat switch LH
B8	W/4	:	Heated seat switch RH
B9	W/3	:	Ashtray illumination
B10	B/1	:	Parking brake switch
B11	W/6	:	A/T device
B15	W/3	:	Heated seat RH
B16	W/3	:	Seat belt buckle switch
B17	W/2	:	Power seat (Driver side)
B19	SMJ	:	To (M20)
B20	B/3	:	Front door switch (Driver side)
B22	W/4	:	Seat belt pre-tensioner (Driver side)
B23	-	:	Body ground
B25	W/2	:	Diode (With super lock)
B27	B/8	:	Rear wiper amp.
B28	BR/1	:	To (D102)
B29	W/6	:	To (D101)
B30	BR/6	:	Rear combination lamp RH
B31	BR/2	:	Rear speaker RH



HARNESS LAYOUT

Body No. 2 Harness/LHD Models

WAGON

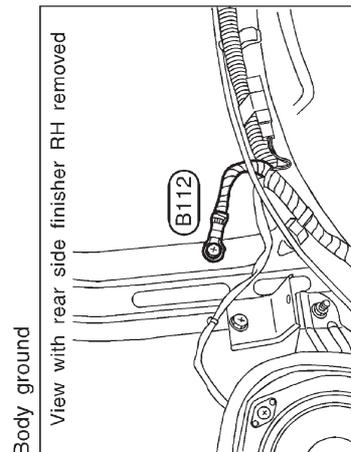
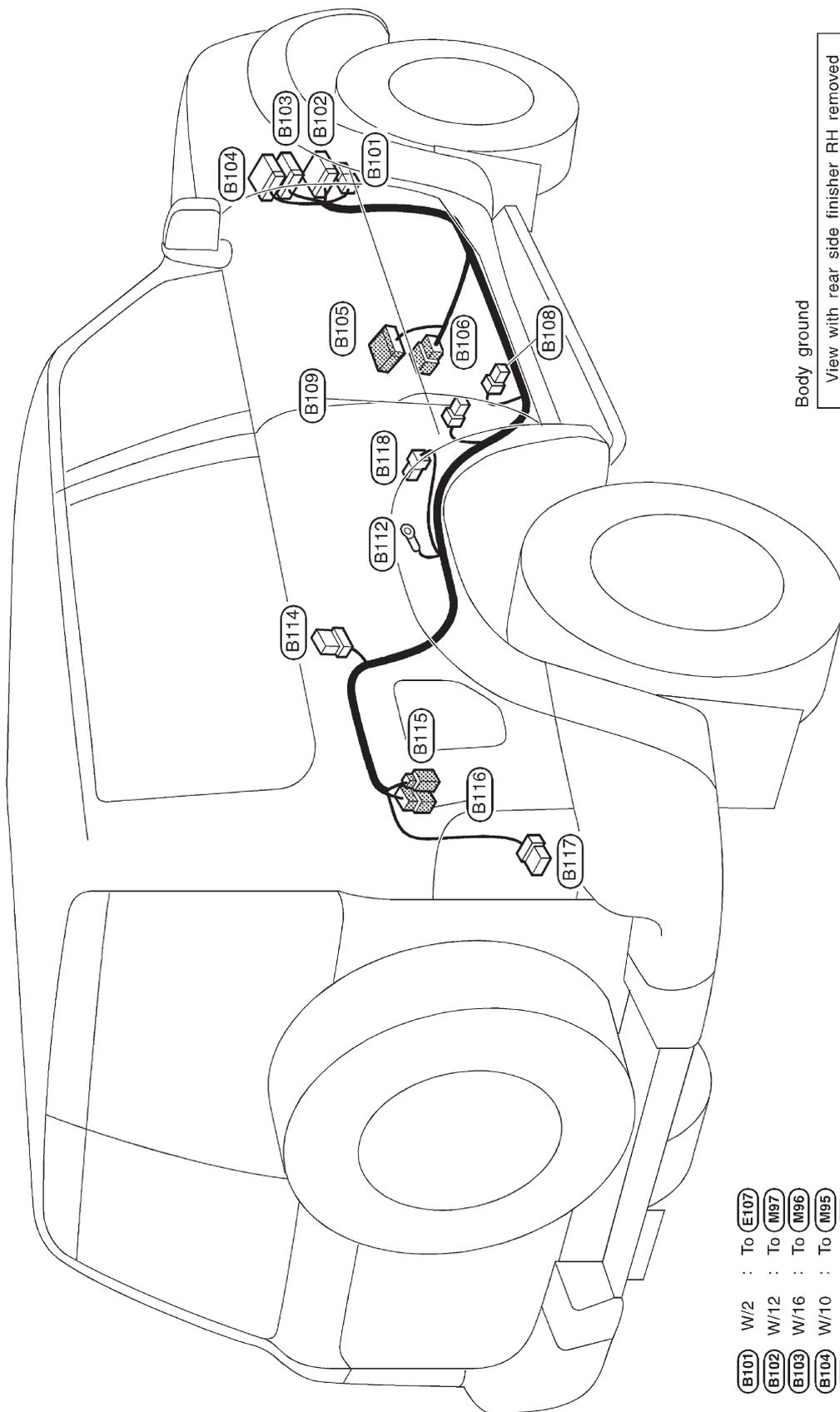


- (B101) W/2 : To (E107)
- (B102) W/12 : To (M97)
- (B103) W/16 : To (M96)
- (B104) W/10 : To (M95)
- (B105) W/12 : To (B1)
- (B106) W/8 : To (B2)
- (B107) W/6 : Rear heater unit
- (B108) BR/1 : Front door switch (Passenger side)
- (B109) W/4 : Seat belt pre-tensioner (Passenger side)
- (B110) W/18 : To (D61)
- (B111) BR/1 : Rear door switch RH
- (B112) - : Body ground
- (B113) W/16 : CD auto changer
- (B114) B/8 : Rear wiper amp.
- (B115) BR/1 : To (D102)
- (B116) W/6 : To (D101)
- (B117) BR/6 : Rear combination lamp RH

HARNESS LAYOUT

Body No. 2 Harness/LHD Models (Cont'd)

HARDTOP

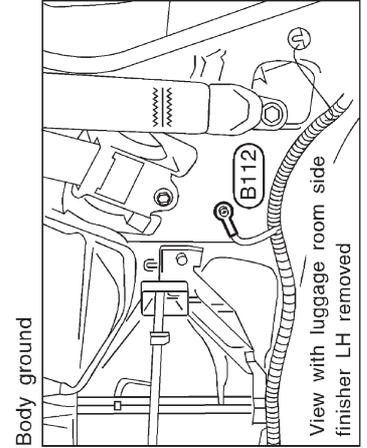
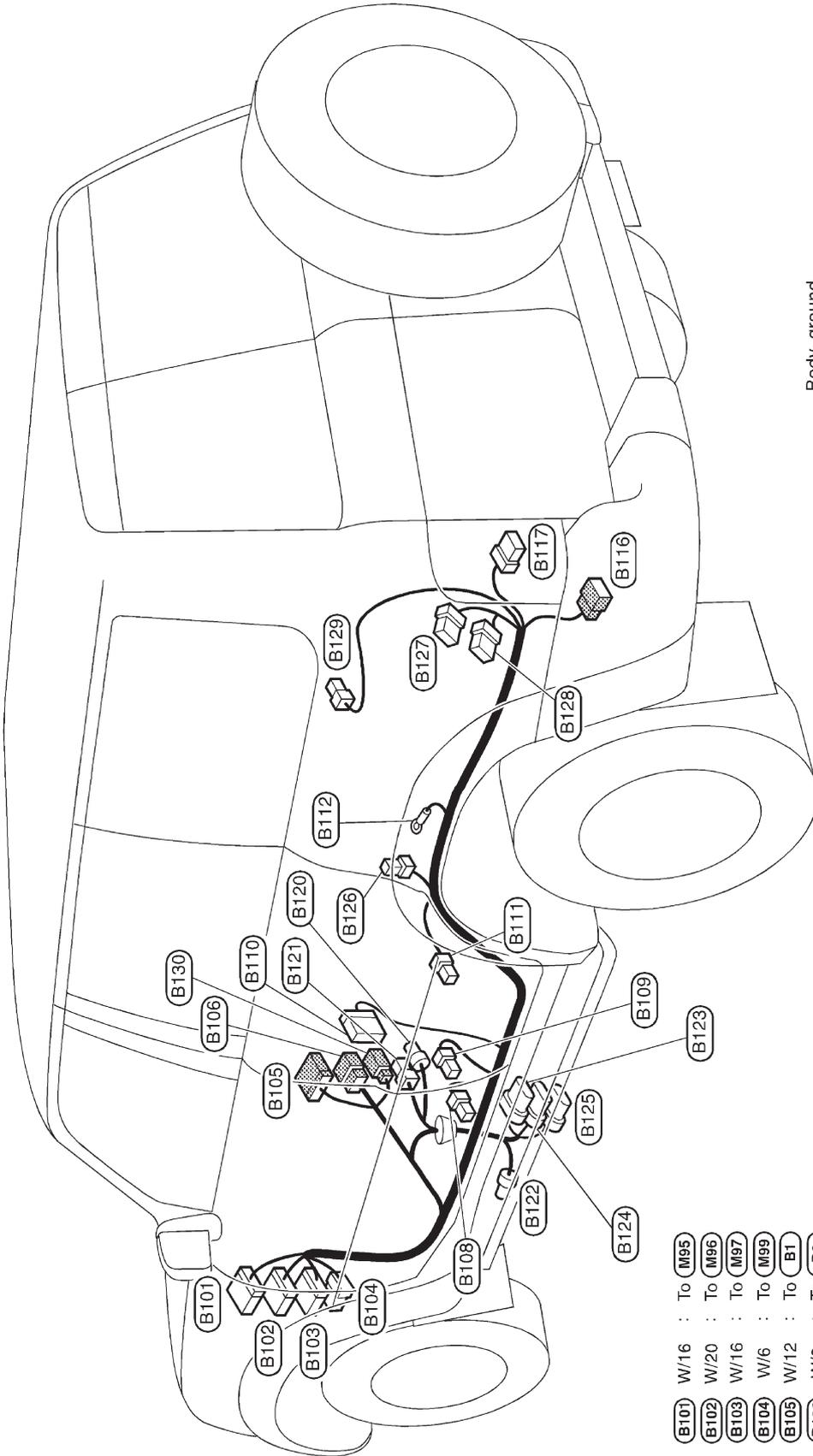


- | | | | | |
|--------|------|---|--|--------|
| (B101) | W/2 | : | To | (E107) |
| (B102) | W/12 | : | To | (M97) |
| (B103) | W/16 | : | To | (M96) |
| (B104) | W/10 | : | To | (M95) |
| (B105) | W/12 | : | To | (B1) |
| (B106) | W/8 | : | To | (B2) |
| (B108) | BR/1 | : | Front door switch (Passenger side) | |
| (B109) | W/4 | : | Seat belt pre-tensioner (Passenger side) | |
| (B112) | - | : | Body ground | |
| (B114) | B/8 | : | Rear wiper amp. | |
| (B115) | BR/1 | : | To (D102) | |
| (B116) | W/6 | : | To (D101) | |
| (B117) | BR/6 | : | Rear combination lamp RH | |
| (B118) | BR/2 | : | Rear speaker RH | |

HARNESS LAYOUT

Body No. 2 Harness/RHD Models

WAGON

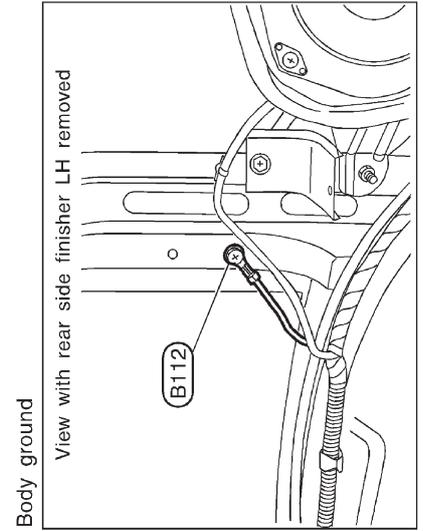
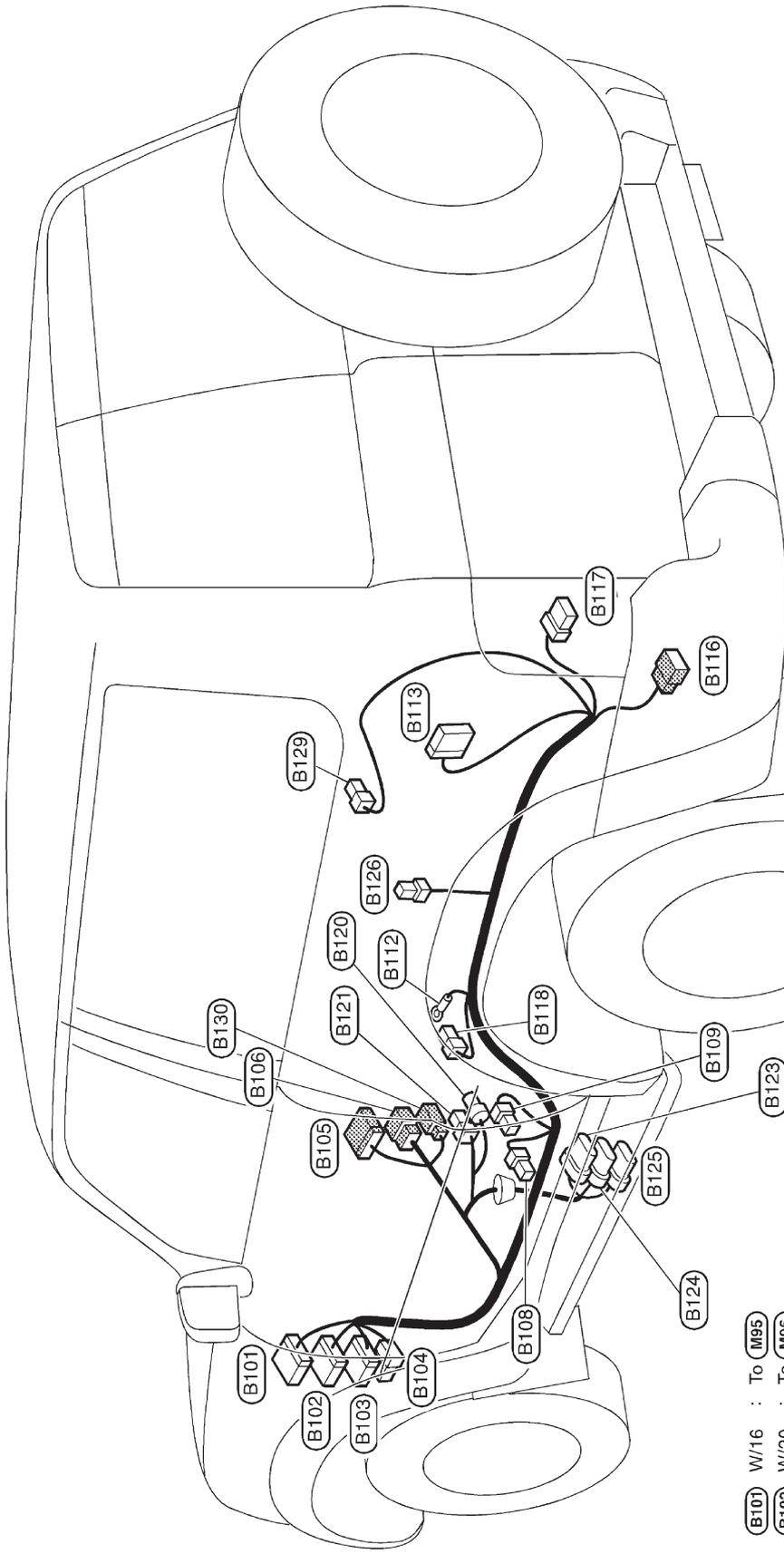


- | | | | |
|--------|------|---|--|
| (B101) | W/16 | : | To (M95) |
| (B102) | W/20 | : | To (M96) |
| (B103) | W/16 | : | To (M97) |
| (B104) | W/6 | : | To (M99) |
| (B105) | W/12 | : | To (B1) |
| (B106) | W/8 | : | To (B2) |
| (B108) | BR/1 | : | Front door switch (Passenger side) |
| (B109) | W/4 | : | Seat belt pre-tensioner (Passenger side) |
| (B110) | W/18 | : | To (D41) |
| (B111) | BR/1 | : | Rear door switch LH |
| (B112) | - | : | Body ground |
| (B116) | W/6 | : | To (D81) |
| (B117) | BR/6 | : | Rear combination lamp LH |
| (B120) | BR/2 | : | G sensor |
| (B121) | GY/2 | : | G sensor (With ABS) |
| (B122) | GY/2 | : | Rear cooler solenoid valve |
| (B123) | B/8 | : | To (C1) |
| (B124) | GY/6 | : | To (C3) |
| (B125) | GY/8 | : | To (C2) |
| (B126) | L/4 | : | Power socket relay |
| (B127) | W/6 | : | Rear cooler unit |
| (B128) | B/6 | : | Rear cooler unit |
| (B129) | B/2 | : | Power socket |
| (B130) | W/4 | : | To (B3) |

HARNESS LAYOUT

Body No. 2 Harness/RHD Models (Cont'd)

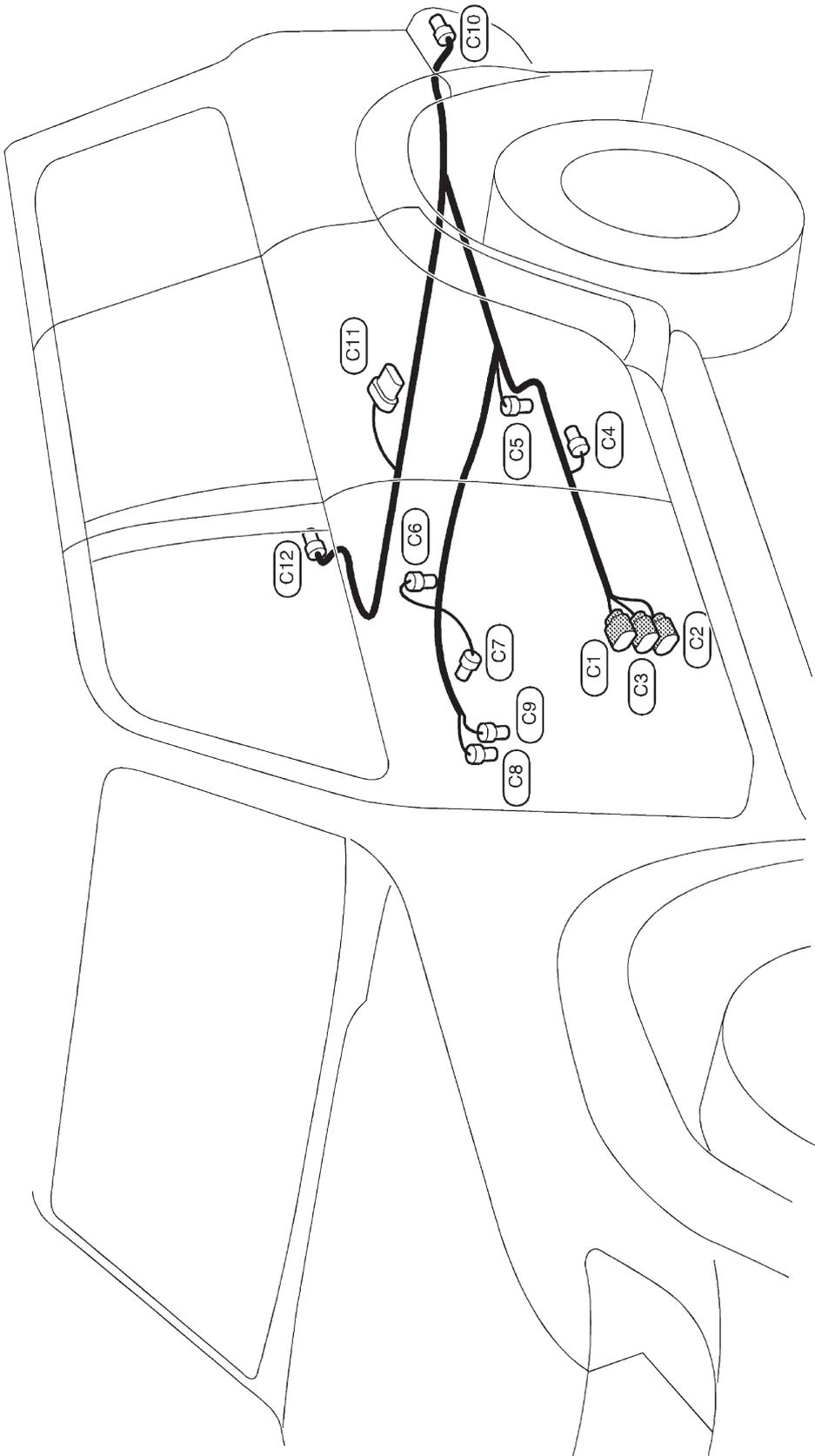
HARDTOP



- (B101) W/16 : To (M95)
- (B102) W/20 : To (M96)
- (B103) W/16 : To (M97)
- (B104) W/6 : To (M99)
- (B105) W/12 : To (B1)
- (B106) W/8 : To (B2)
- (B108) BR/1 : Front door switch (Passenger side)
- (B109) W/4 : Seat belt pre-tensioner (Passenger side)
- (B112) - : Body ground
- (B113) W/16 : CD auto changer
- (B116) W/6 : To (D81)
- (B117) BR/6 : Rear combination lamp LH
- (B118) BR/2 : Rear speaker LH
- (B120) BR/2 : G sensor } (With ABS)
- (B121) BR/2 : G sensor }
- (B123) B/8 : To (C1)
- (B124) GY/6 : To (C3)
- (B125) GY/8 : To (C2)
- (B126) L/4 : Power socket relay
- (B129) B/2 : Power socket
- (B130) W/4 : To (B3)

HARNES LAYOUT

Chassis Harness



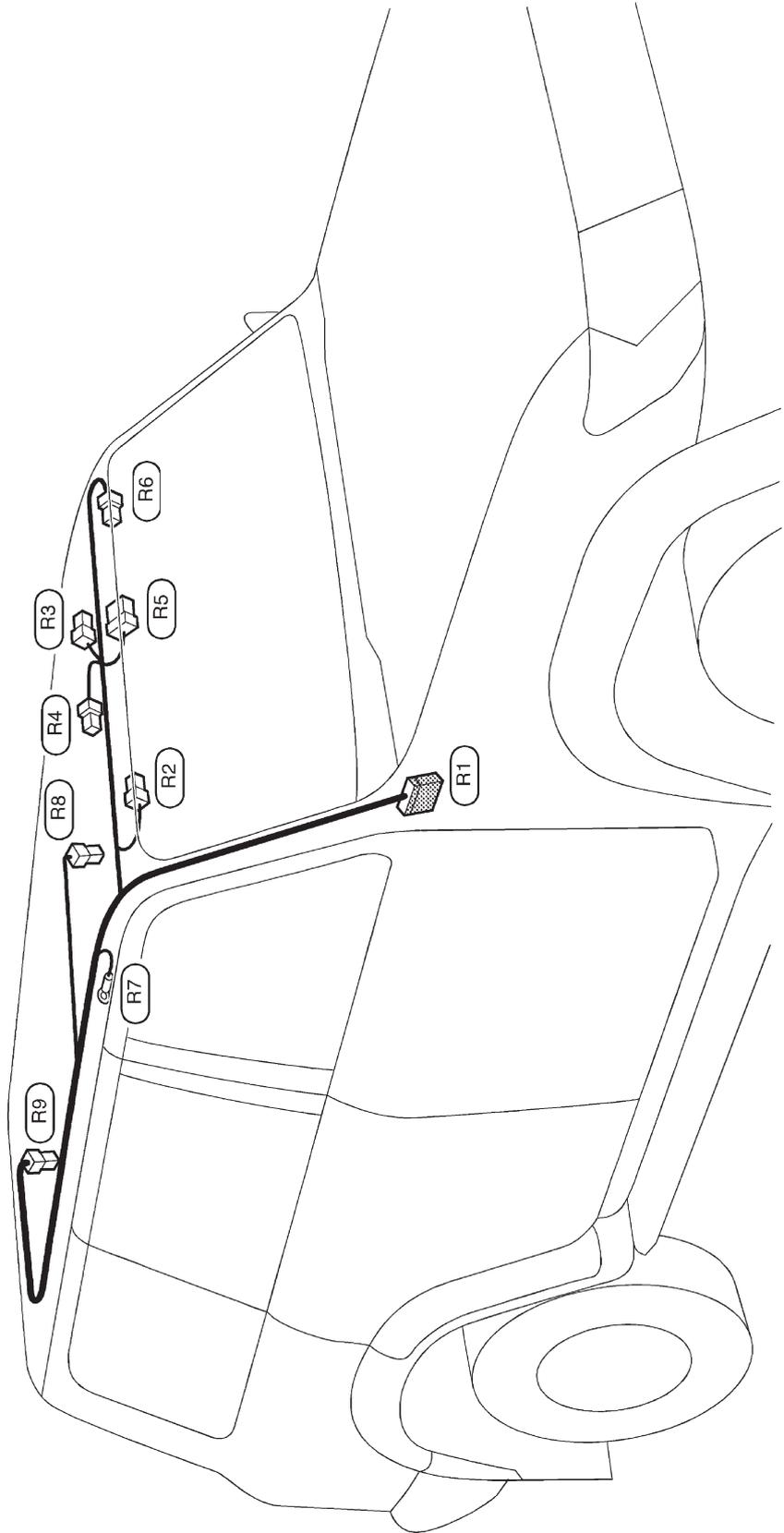
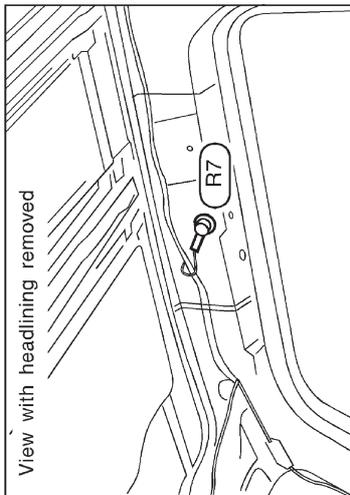
- | | | | |
|-----------|-------------------------------|------------|--|
| C1 | : To B35 (LHD models) | C6 | : GY/2 : Rear wheel sensor RH |
| C2 | : To B123 (RHD models) | C7 | : BR/2 : Diff lock indicator switch |
| C3 | : To B37 (LHD models) | C8 | : GY/3 : Sub fuel tank gauge unit |
| C4 | : To B125 (RHD models) | C9 | : GY/2 : Sub fuel tank gauge unit |
| C5 | : To B36 (LHD models) | C10 | : GY/4 : Rear bumper combination lamp LH |
| | : To B124 (RHD models) | C11 | : GY/6 : Fuel tank gauge unit |
| | : Stabilizer actuator | C12 | : GY/4 : Rear bumper combination lamp RH |
| | : Rear wheel sensor LH | | |

HARNESS LAYOUT

Room Lamp Harness

R1	W/10	:	To M24
R2	W/2	:	Vanity mirror lamp RH
R3	W/1	:	To sunroof harness
R4	W/2	:	Map lamp
R5	W/8	:	Compass and thermo meter
R6	W/2	:	Vanity mirror lamp LH
R7	-	:	Body ground
R8	W/2	:	Front interior room lamp
R9	W/2	:	Rear interior room lamp (Wagon models)

Body ground

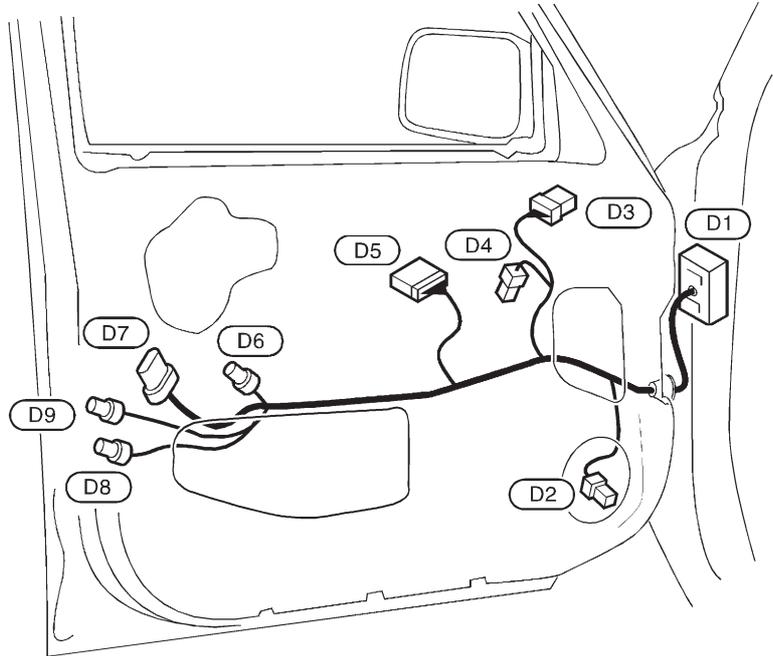


HARNESS LAYOUT

Front Door Harness (Driver side)

LHD MODELS

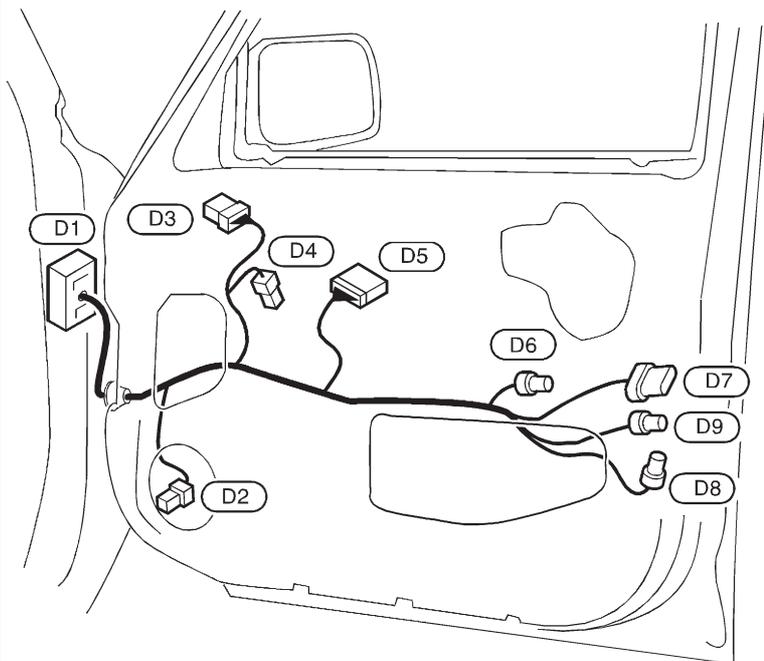
- (D1) SMJ : To (M22)
- (D2) BR/2 : Front door speaker LH
- (D3) W/8 : Door mirror (Driver side)
- (D4) B/2 : Front power window regulator (Driver side)
- (D5) W16 : Power window main switch
- (D6) BR/3 : Key cylinder switch LH (With super lock)
- (D7) B/6 : Front door lock actuator assembly LH (With super lock)
- (D8) GY/2 : Front door lock switch (Driver side) (Without multi-remote control system)
- (D9) GY/4 : Front door lock actuator (Driver side) (With multi-remote control system)



CEL769

RHD MODELS

- (D1) SMJ : To (M22)
- (D2) BR/2 : Front door speaker RH
- (D3) W/8 : Door mirror (Driver side)
- (D4) B/2 : Front power window regulator (Driver side)
- (D5) W16 : Power window main switch
- (D6) BR/3 : Key cylinder switch RH (With super lock)
- (D7) B/6 : Front door lock actuator assembly RH (With super lock)
- (D8) GY/2 : Front door lock switch (Driver side) (Without multi-remote control system)
- (D9) GY/4 : Front door lock actuator (Driver side) (With multi-remote control system)

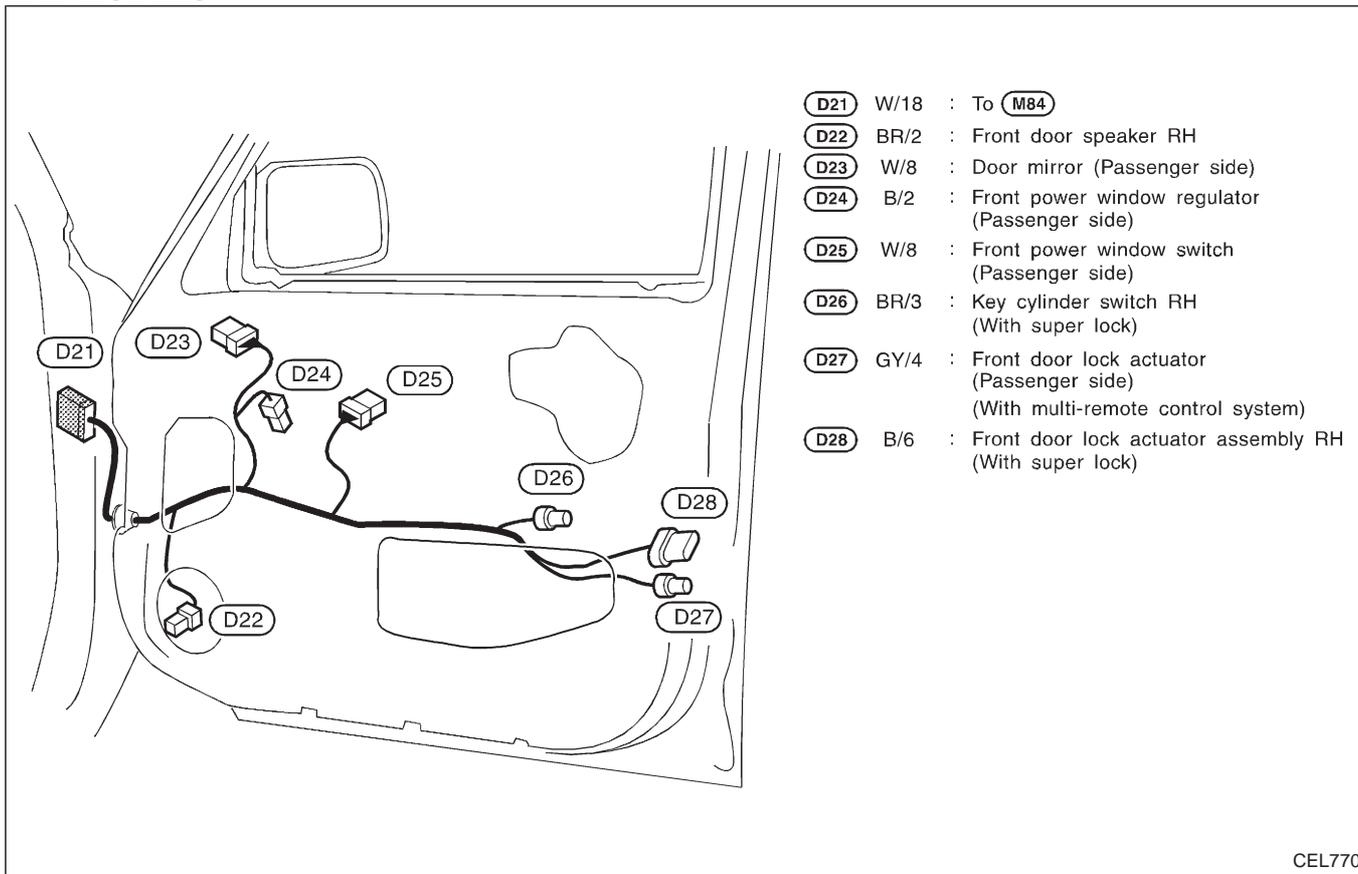


CEL786

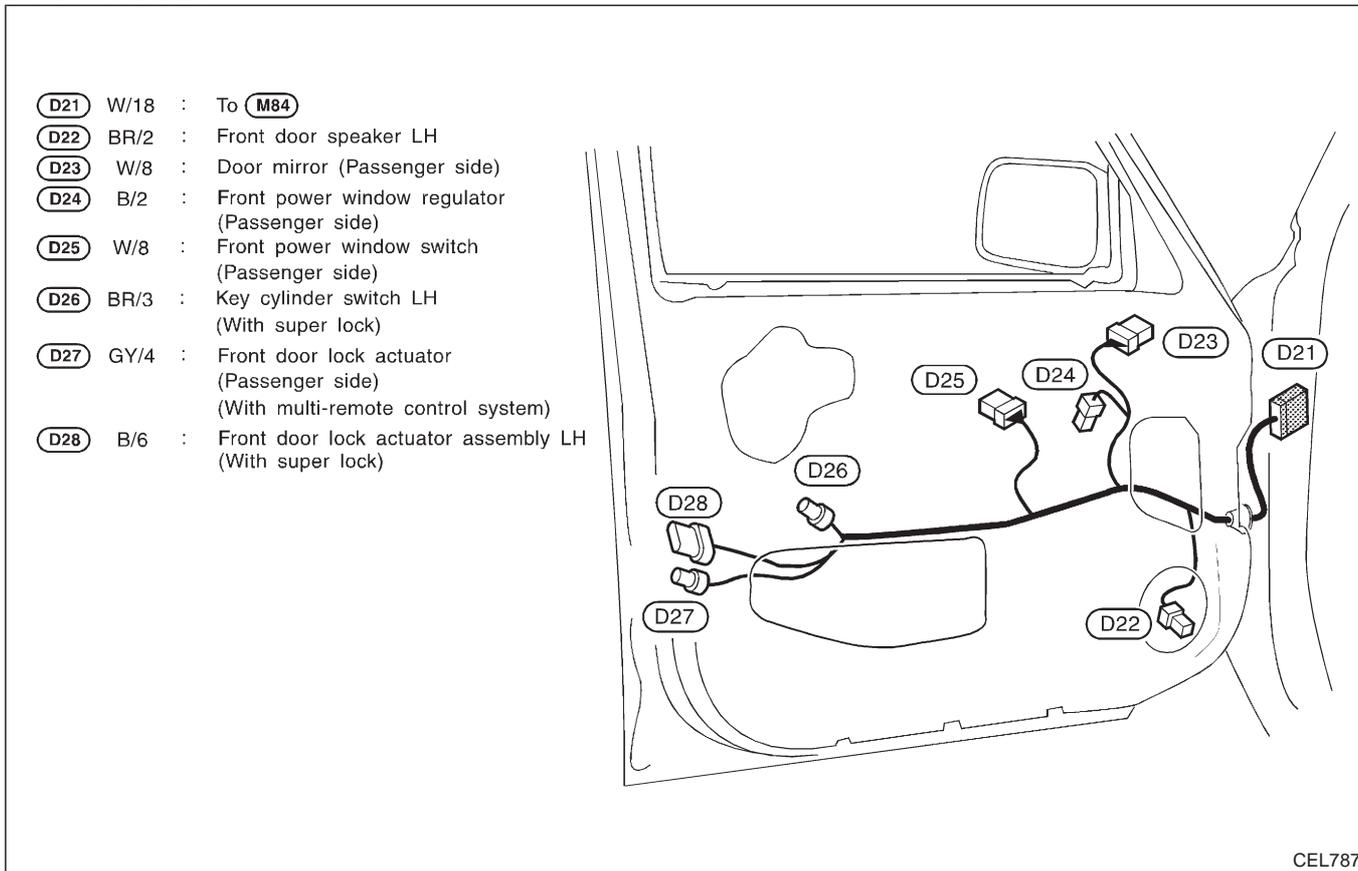
HARNESS LAYOUT

Front Door Harness (Passenger side)

LHD MODELS



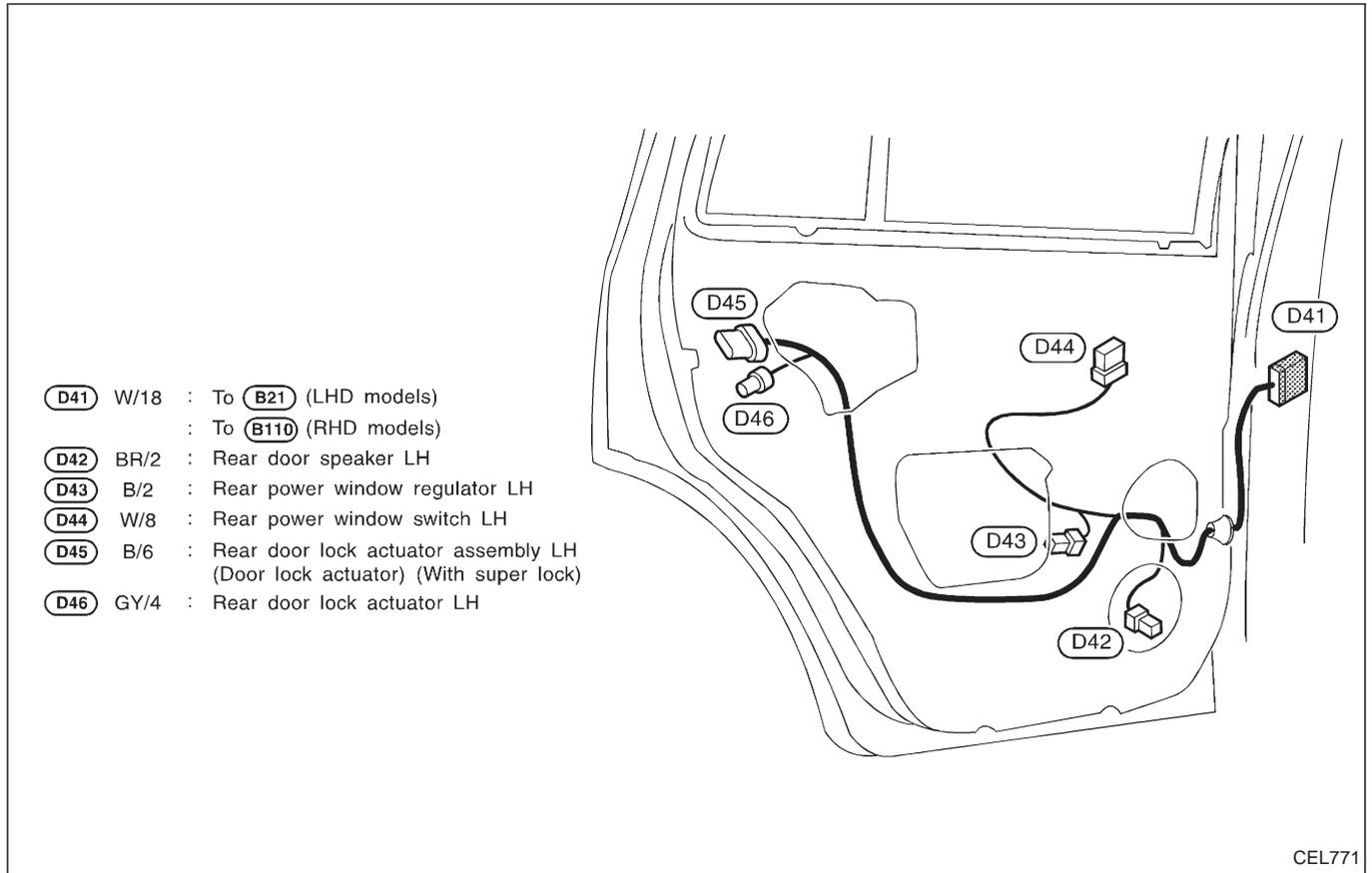
RHD MODELS



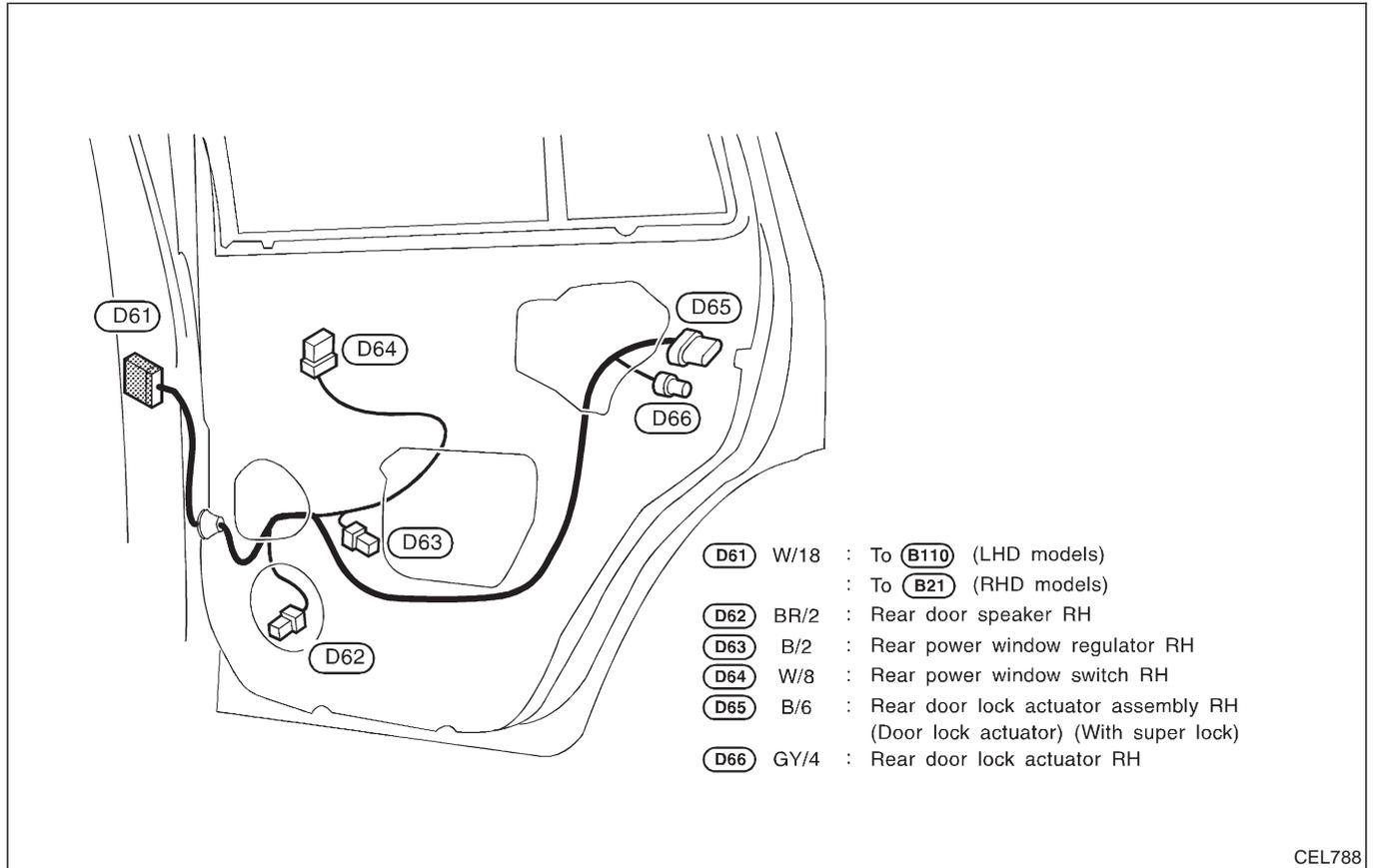
HARNESS LAYOUT

Rear Door Harness

LH SIDE



RH SIDE



HARNESS LAYOUT

Back Door Harness and Rear Window Defogger Harness

BACK DOOR HARNESS LH

- D81 W/6 : To B29 (LHD models)
To B116 (RHD models)
- D82 W/2 : License plate lamp
- D83 - : Body ground
- D84 BR/1 : To D133
- D85 BR/1 : Back door switch
- D86 GY/4 : Back door lock actuator

BACK DOOR HARNESS RH

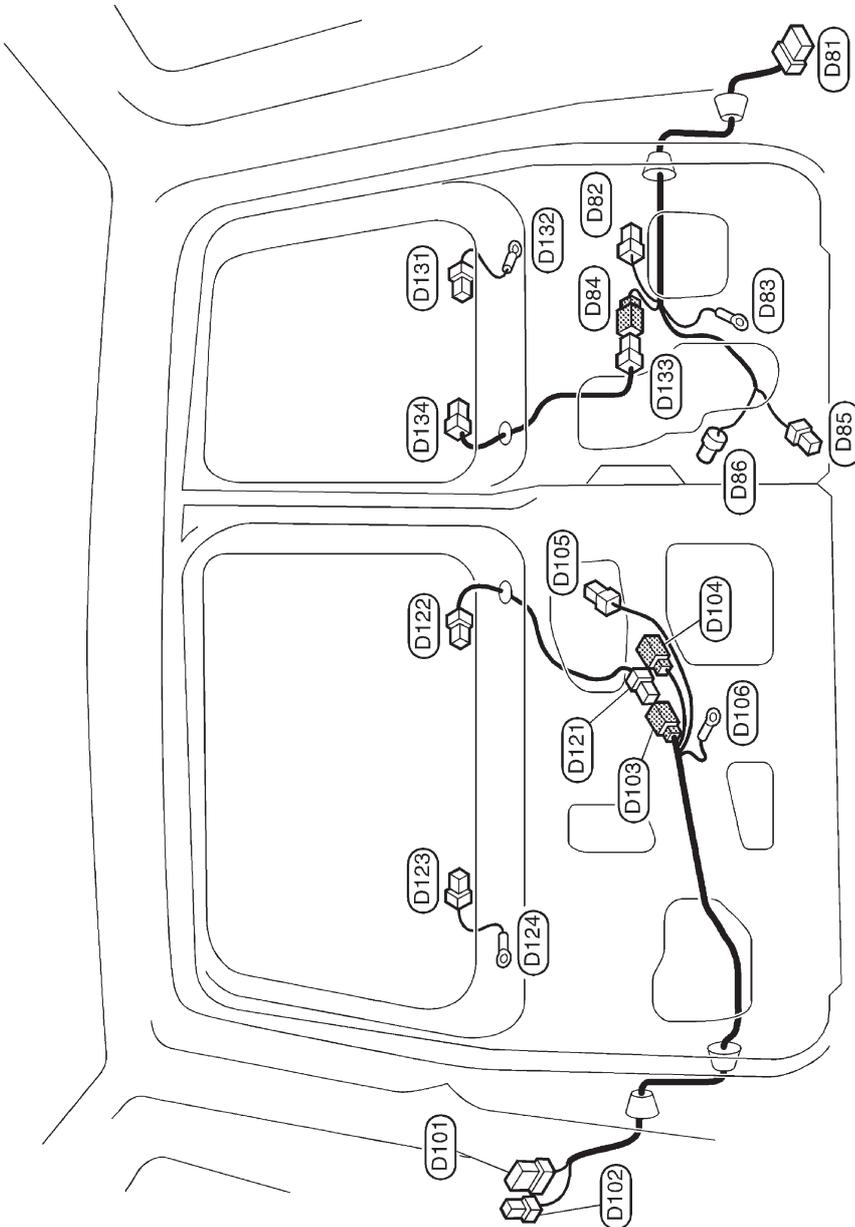
- D101 W/6 : To B116 (LHD models)
To B29 (RHD models)
- D102 BR/1 : To B119 (LHD models)
To B28 (RHD models)
- D103 BR/1 : To D121
- D104 W/2 : High-mounted stop lamp
- D105 W/4 : Rear wiper motor
- D106 - : Body ground

REAR DEFOGGER HARNESS RH

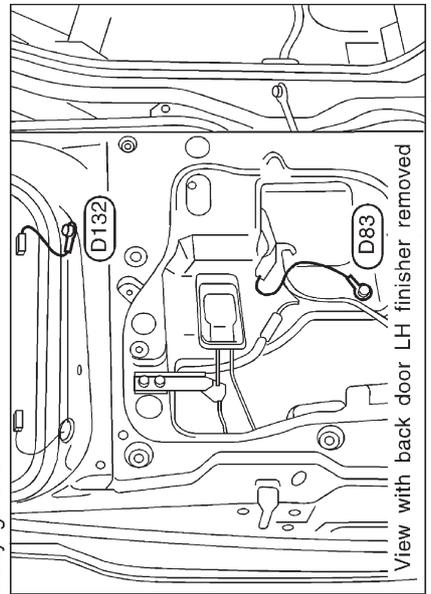
- D121 BR/1 : To D103
- D122 B/1 : Rear window defogger RH (+)
- D123 B/1 : Rear window defogger RH (-)
- D124 - : Body ground

REAR DEFOGGER HARNESS LH

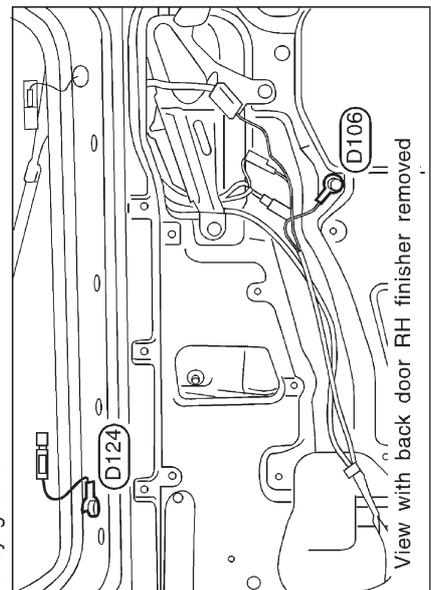
- D131 B/1 : Rear window defogger LH (-)
- D132 - : Body ground
- D133 BR/1 : To D84
- D134 B/1 : Rear window defogger LH (+)



Body ground



Body ground



BULB SPECIFICATIONS

Headlamp

	Wattage (12 volt)
High/low (without xenon headlamp)	60/55 (H4)

Exterior Lamp

	Wattage (12 volt)	
Front combination lamp	Front turn signal	21
	Parking	5
Side turn signal lamp		5
Rear combination lamp	Turn signal	21
	Stop/Tail	21/5
	Back-up	21
	Fog	21
Rear bumper combination lamp	Turn signal	21
	Stop/Tail	21/5
License plate lamp		5
High-mounted stop lamp		21

Interior Lamp

	Wattage (12 volt)
Interior room lamp	10
Map lamp	10
Vanity mirror lamp	3

WIRING DIAGRAM CODES (CELL CODES)

Use the chart below to find out what each wiring diagram code stands for.

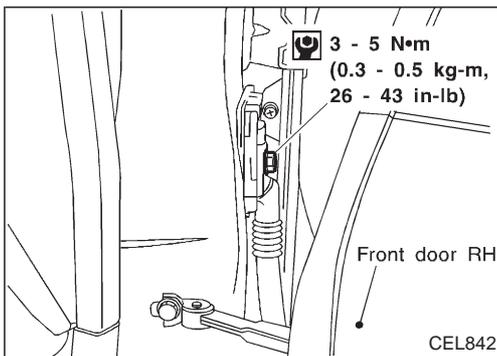
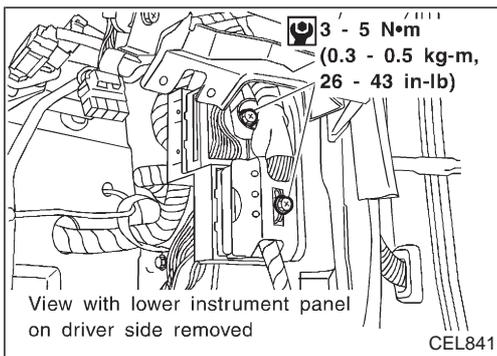
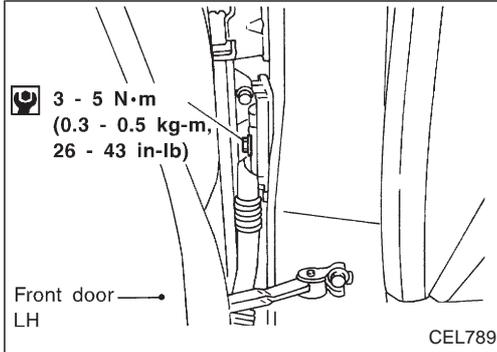
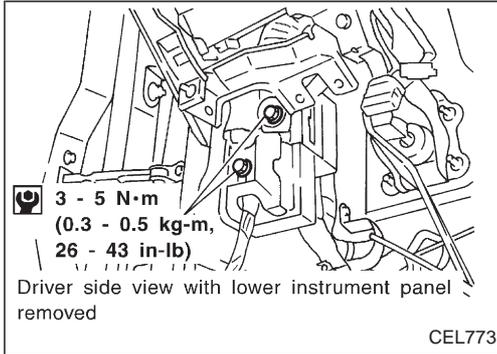
Code	Section	Wiring Diagram Name
A/C,A	HA	Auto Air Conditioner
A/C CUT	EC	Air Conditioner Cut Control
A/C,M	HA	Manual Air Conditioner
A/T	AT	A/T
AAC/V	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
ACC/SW	EC	Accelerator Switch (FC)
ACL/SW	EC	Accelerator Position Switch
ADJRES	EC	Adjustment Resistor
APS	EC	Accelerator Position Sensor
ASCD	EL	Automatic Speed Control Device
AT/C	EC	A/T Control
AUDIO	EL	Audio
BACK/L	EL	Back-up Lamp
BCDD	EC	BCDD System
CD/CHG	EL	CD Auto Changer
CHARGE	EL	Charging System
CHIME	EL	Warning Chime
CHOKE	EC	Automatic Choke
CIGAR	EL	Cigarette Lighter
CKPS	EC	Crankshaft Position Sensor (OBD)
CLOCK	EL	Clock
CMPS	EC	Camshaft Position Sensor
COMPAS	EL	Compass and Thermometer
COOL/B	HA	Cool Box
COOL/F	EC	Cooling Fan Control
CORNER	EL	Cornering Lamp
CSPS	EC	Control Sleeve Position Sensor
D/LOCK	EL	Power Door Lock
DEICER	EL	Wiper Deicer
DEF	EL	Rear Window Defogger
DIFF/L	PD	Differential Lock Control System
DTRL	EL	Headlamp — With Daytime Light System
ECTS	EC	Engine Coolant Temperature Sensor
EGRC/V	EC	EGRC-Solenoid Valve
F/FOG	EL	Front Fog Lamp
F/PUMP	EC	Fuel Pump
FCUT	EC	Fuel Cut Solenoid Valve
FICD	EC	IACV-FICD Solenoid Valve
FTS	EC	Fuel Temperature Sensor

Code	Section	Wiring Diagram Name
GLOW	EC	Quick Glow System
GOVNR	EC	Electric Governor
H/AIM	EL	Headlamp Aiming Control System
H/LAMP	EL	Headlamp
HEATUP	EC	Heat up Switch
HLC	EL	Headlamp Cleaner
HORN	EL	Horn
HSEAT	EL	Heated Seat
IATS	EC	Intake Air Temperature Sensor
IC/FAN	EC	Charge Air Cooler Fan
IGN	EC	Ignition System
IGN/SG	EC	Ignition Signal
ILL	EL	Illumination
INJECT	EC	Injector
INT/L	EL	Spot, Vanity Mirror Lamps
KS	EC	Knock Sensor
MAFS	EC	Mass Air Flow Sensor
MAIN	EC	Main Power Supply and Ground Circuit
METER	EL	Speedometer, Tachometer, Temp., Oil and Fuel Gauges
MIL/DL	EC	Mil and Data Link Connectors
MIRROR	EL	Door Mirror
MULTI	EL	Multi-remote Control System
NATS	EL	Nissan Anti-Theft System
NLS	EC	Needle Lift Sensor
P/ANT	EL	Power Antenna
PLA	EC	Partial Load Advance Control
PNP/SW	EC	Park/Neutral Position Switch
POWER	EL	Power Supply Routing
PST/SW	EC	Power Steering Oil Pressure Switch
R/COOL	HA	Rear Cooler System
R/FOG	EL	Rear Fog Lamp
R/HEAT	HA	Rear Heater System
ROOM/L	EL	Interior Room Lamp
S/LOCK	EL	Power Door Lock — Super Lock
S/SIG	EC	Start Signal
S/TANK	FE	Sub Fuel Tank Control System
SEAT	EL	Power Seat
SROOF	EL	Sunroof
SRS	RS	Supplemental Restraint System

WIRING DIAGRAM CODES (CELL CODES)

Code	Section	Wiring Diagram Name
STAB	RA	Rear Stabilizer Release Device Control System
START	EL	Starting System
STOP/L	EL	Stop Lamp
TAIL/L	EL	Parking, License, Tail and Stop Lamps
TCV	EC	Injection Timing Control Valve
TPS	EC	Throttle Position Sensor
TURN	EL	Turn Signal and Hazard Warning Lamps
VSS	EC	Vehicle Speed Sensor
WARN	EL	Warning Lamps
WINCH	SE	Electrical Winch
WINDOW	EL	Power Window
WIP/R	EL	Rear Wiper and Washer
WIPER	EL	Front Wiper and Washer

SUPER MULTIPLE JUNCTION (SMJ)



LHD MODELS

Installation

To install SMJ, tighten bolts until orange “fulltight” mark appears and then retighten to specified torque as required.

 : 3 - 5 N·m
(0.3 - 0.5 kg-m, 26 - 43 in-lb)

CAUTION:

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

RHD MODELS

Installation

To install SMJ, tighten bolts until orange “fulltight” mark appears and then retighten to specified torque as required.

 : 3 - 5 N·m
(0.3 - 0.5 kg-m, 26 - 43 in-lb)

CAUTION:

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

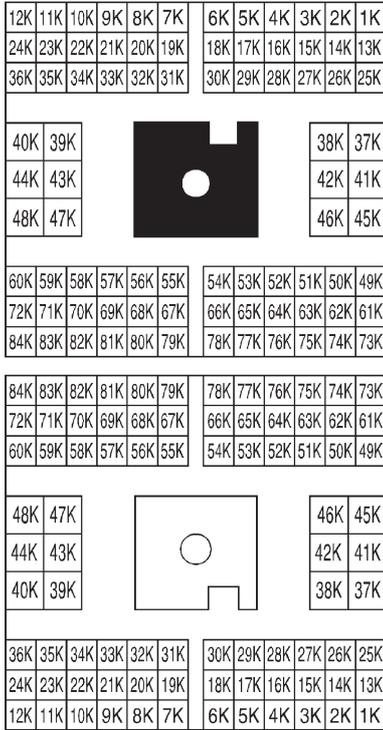
SUPER MULTIPLE JUNCTION (SMJ)

Terminal Arrangement

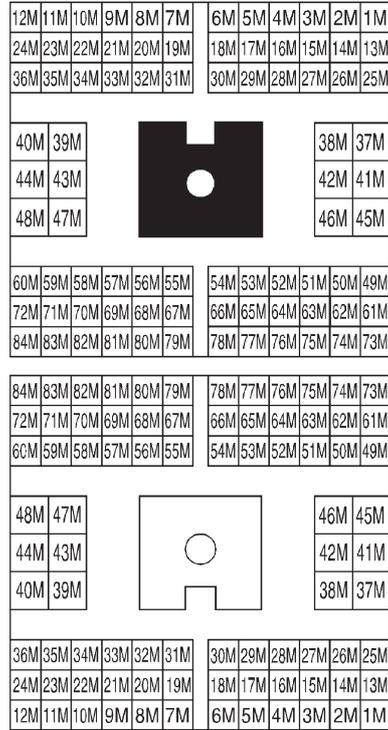
MAIN HARNESS



E127 (White)



M20 (Gray)



M21 (White)

ENGINE ROOM HARNESS

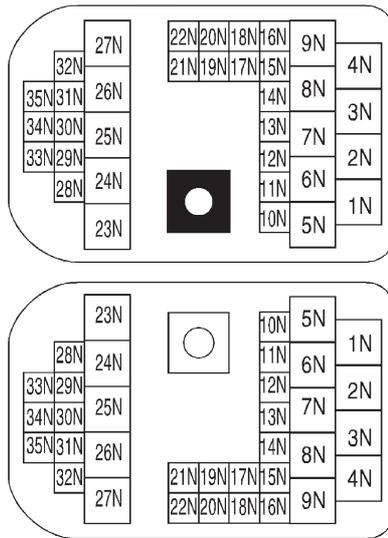
B19 (Gray)

BODY HARNESS

MAIN HARNESS



M22 (White)

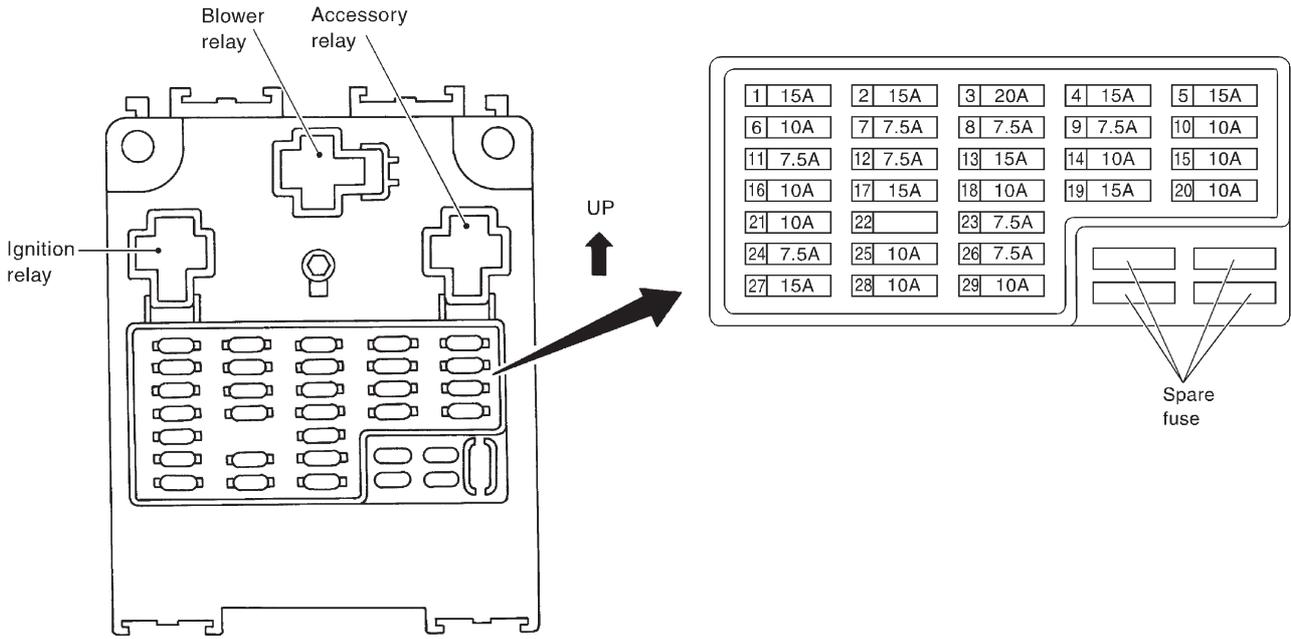


D1 (White)

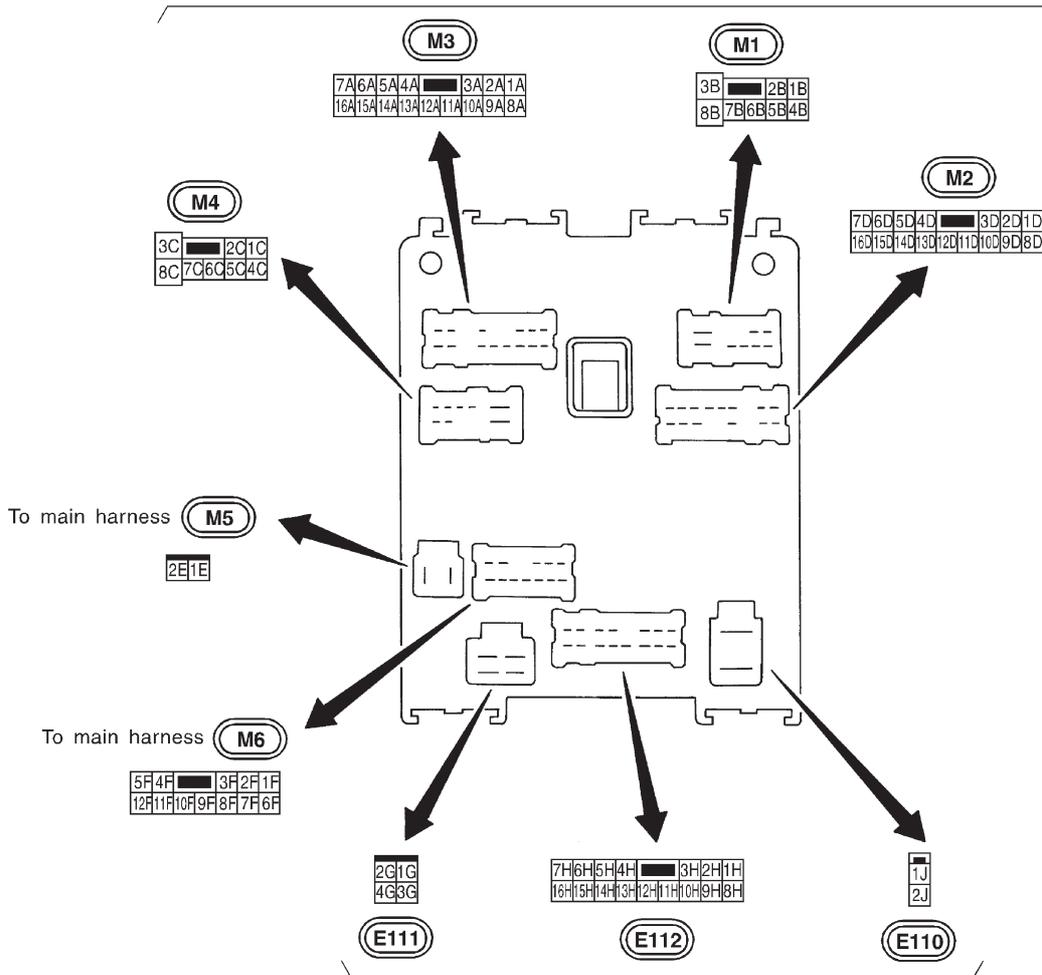
FRONT DOOR HARNESS
(DRIVER SIDE)

FUSE BLOCK — Junction Box (J/B)

Terminal Arrangement

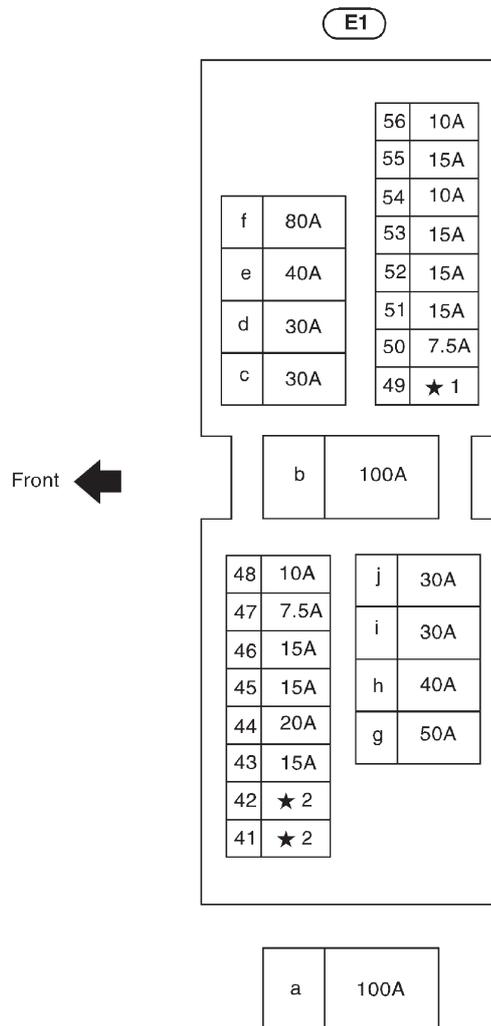


To main harness



FUSE AND FUSIBLE LINK BOX

Terminal Arrangement



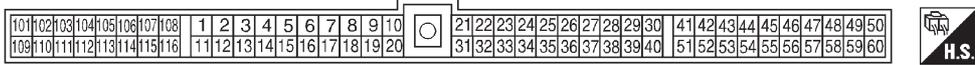
No. 41 - 56: FUSE
a - j: FUSIBLE LINK

- ★ 1 7.5A: TB45E engine models
15A: RD engine models
- ★ 2 20A: With xenon headlamp system
7.5A: LHD models for Europe

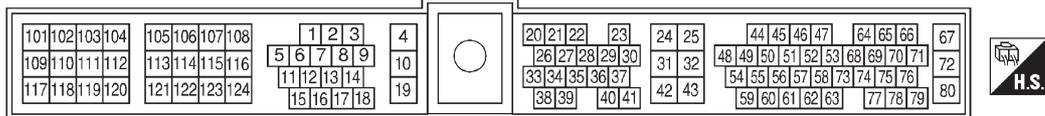
ELECTRICAL UNITS

Terminal Arrangement

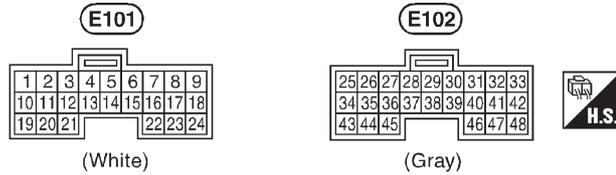
ECM (ECCS CONTROL MODULE) **F8** (TB45E engine)



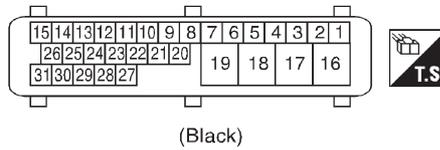
ECM (ECCS CONTROL MODULE) **F8** (RD28ETi engine)



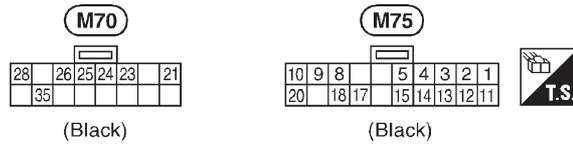
TCM (TRANSMISSION CONTROL MODULE)



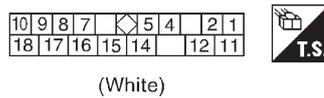
ABS ACTUATOR AND ELECTRIC UNIT **E18**



A/C AUTO AMP.

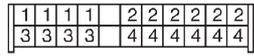
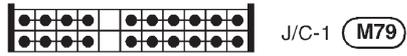


SMART ENTRANCE CONTROL UNIT **M41**

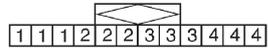
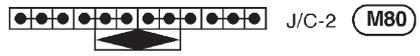


JOINT CONNECTOR (J/C)

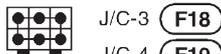
Terminal Arrangement



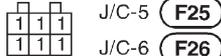
(White)



(Black)



J/C-4 (F19)



J/C-6 (F26)

(Gray)