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.**

MODIFICATION NOTICE:

- Power window (driver's side only) with an interruption detection function has been adopted.
- ID code entry procedure of multi-remote control system has been changed.
- NATS (Nissan Anti-Theft System) has been adopted on ZD engine model.

CONTENTS

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 for certain types of collision. The SRS system composition which is available to NISSAN MODEL Y61 is as follows (The composition varies according to the destination and optional equipment.):

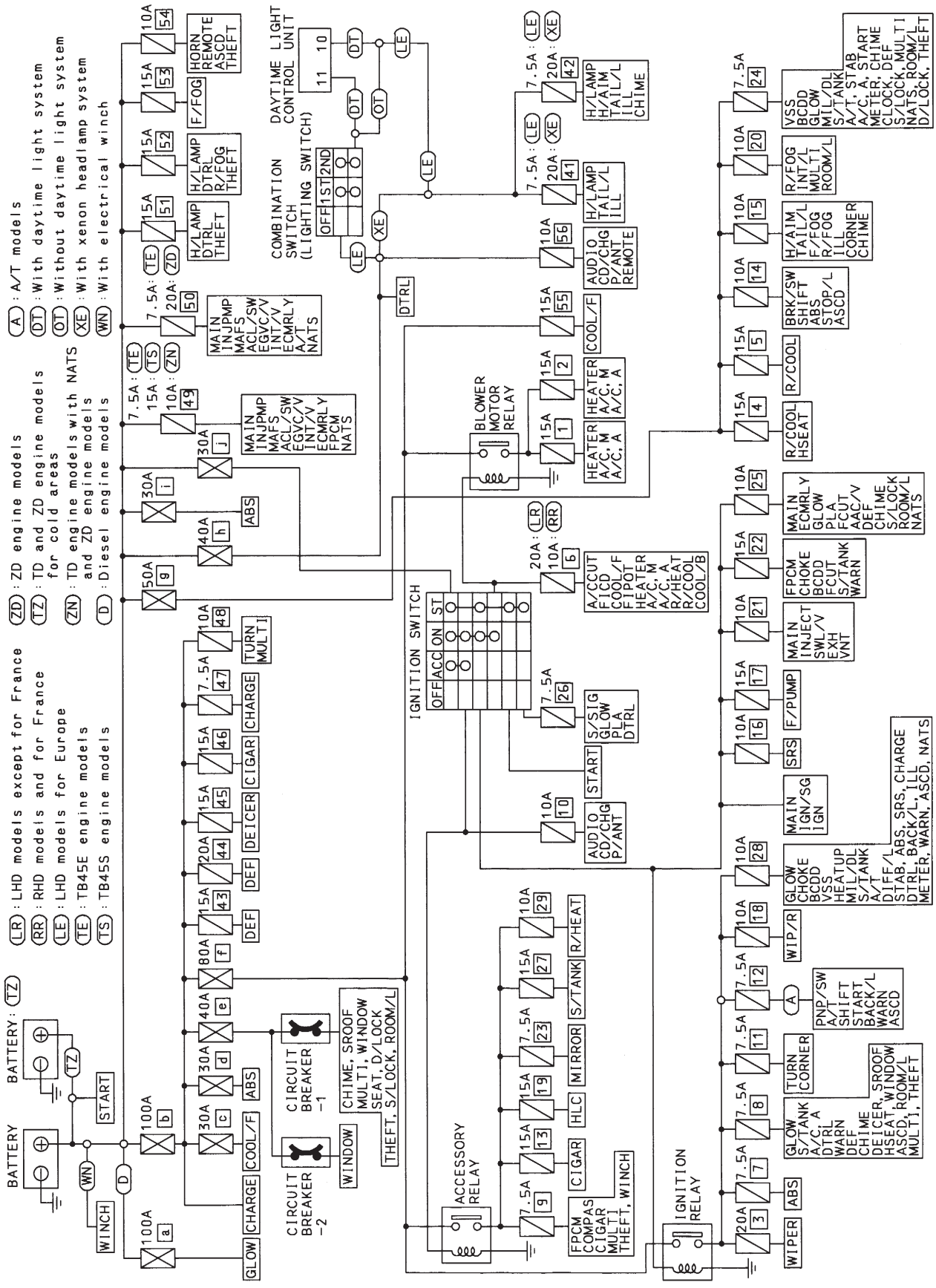
- For a frontal collision
  The Supplemental Restraint System consists of driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.
- For a side collision
  The Supplemental Restraint System consists of front side air bag module (located in the outer side of front seat), satellite sensor, diagnosis sensor unit (one of components of air bags for a frontal collision), wiring harness, warning lamp (one of components of air bags for a frontal collision).

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 should 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 tape either just before the harness connectors or for the complete harness are related to the SRS.**

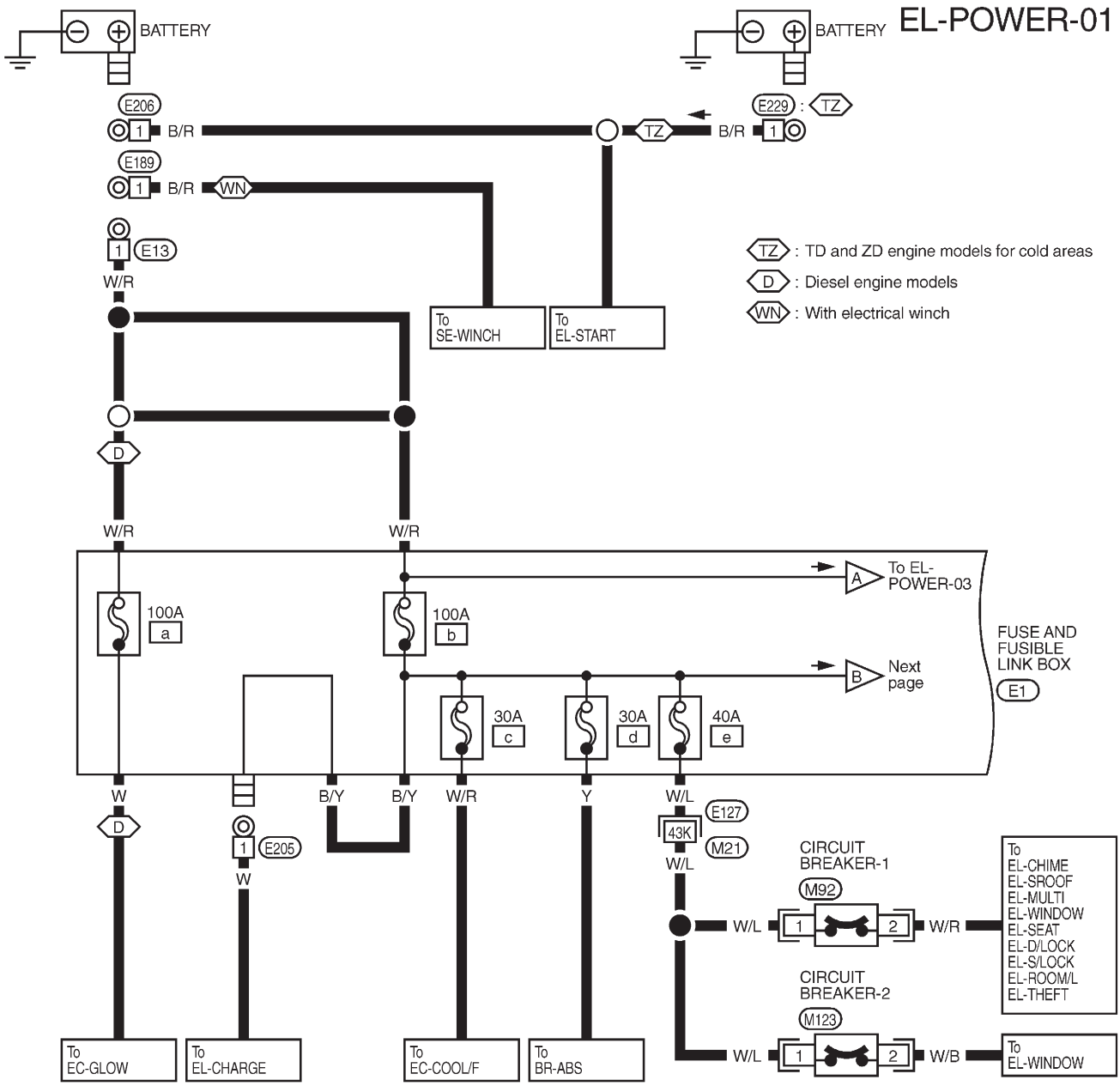
Schematic

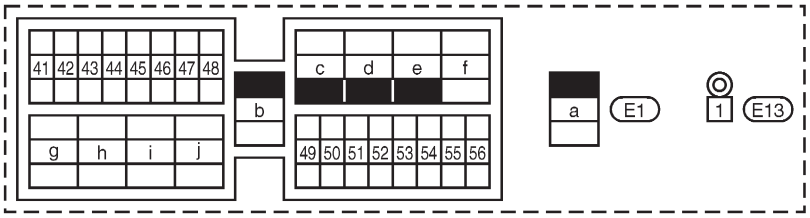


TEL201M

Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION





1 2 M92 , M123 W W

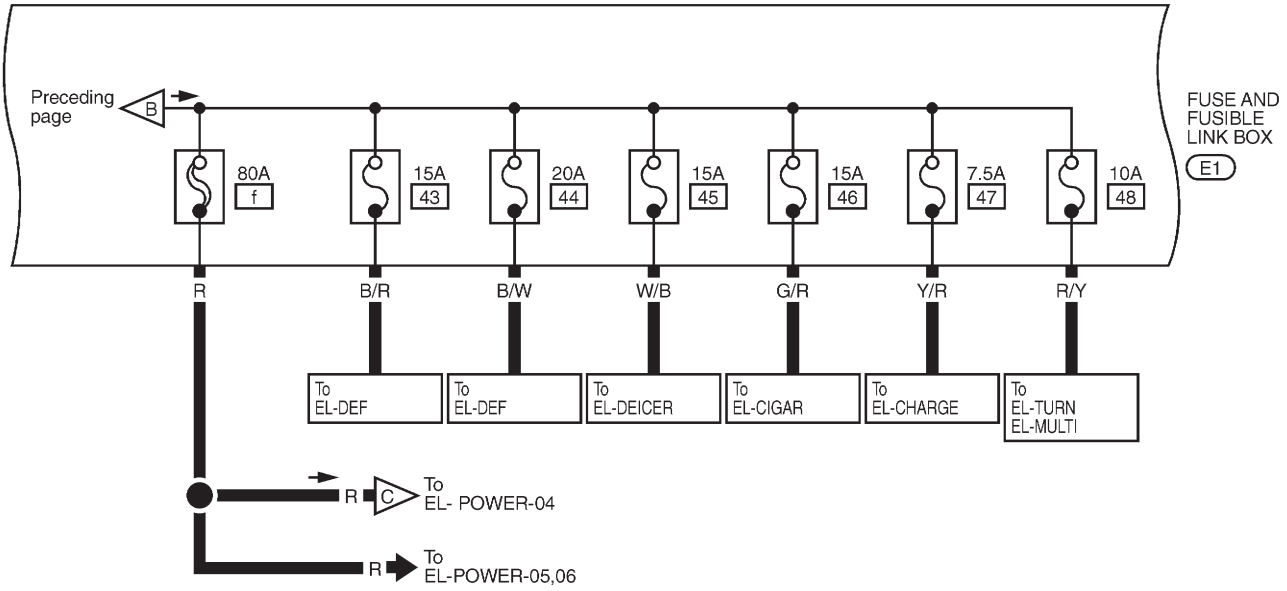
1 E189 , E205 , E206 , E229

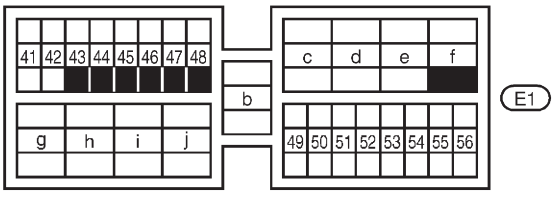
Refer to last page (Foldout page).
M21 , E127

TEL202M

Wiring Diagram — POWER — (Cont'd)

EL-POWER-02

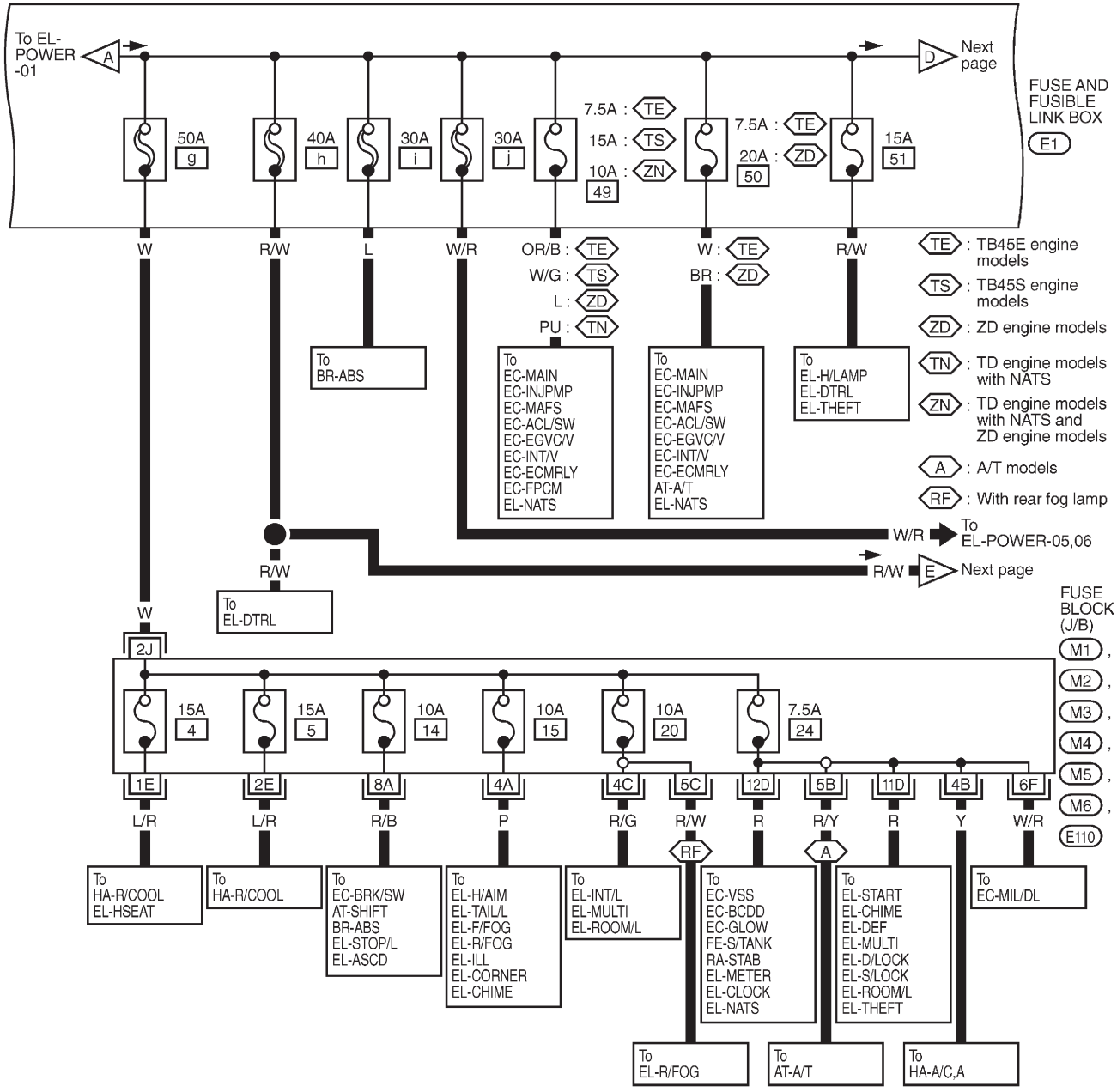


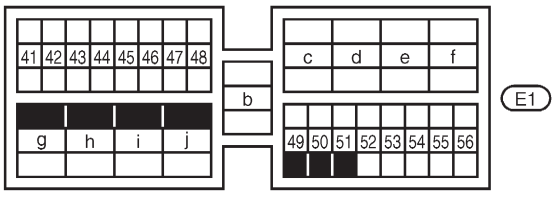


TEL480A

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03





Refer to last page (Foldout page).

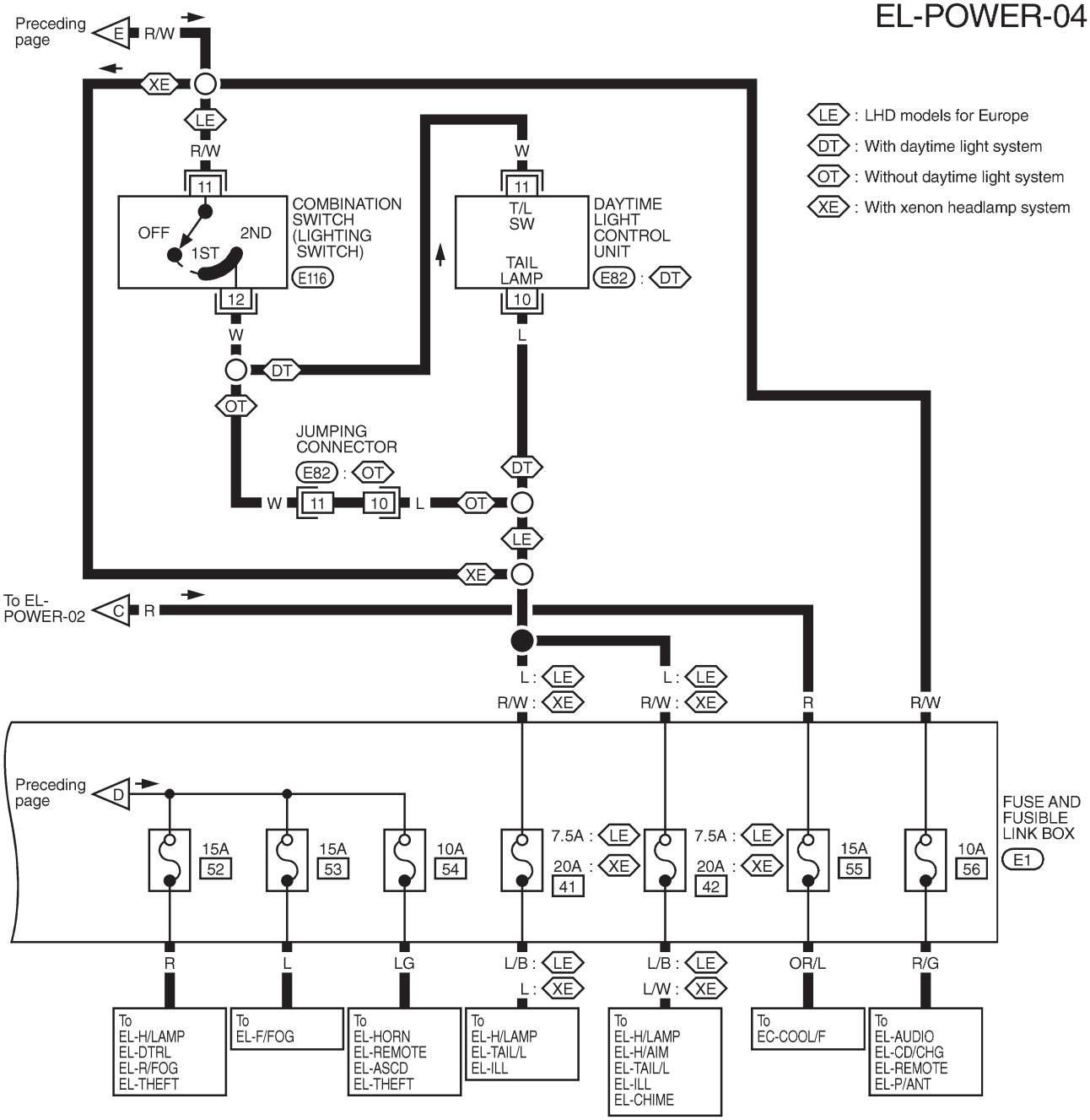
M1, M2, M3, M4, M5, M6, E110

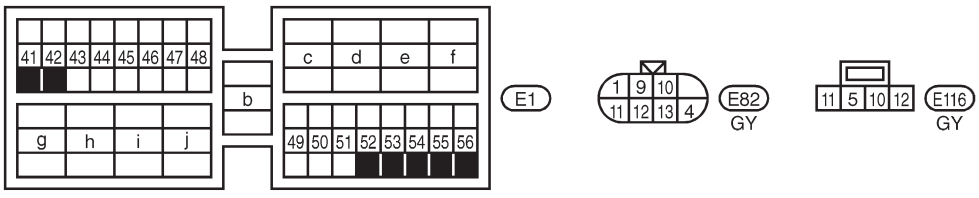
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

TEL203M

Wiring Diagram — POWER — (Cont'd)

EL-POWER-04



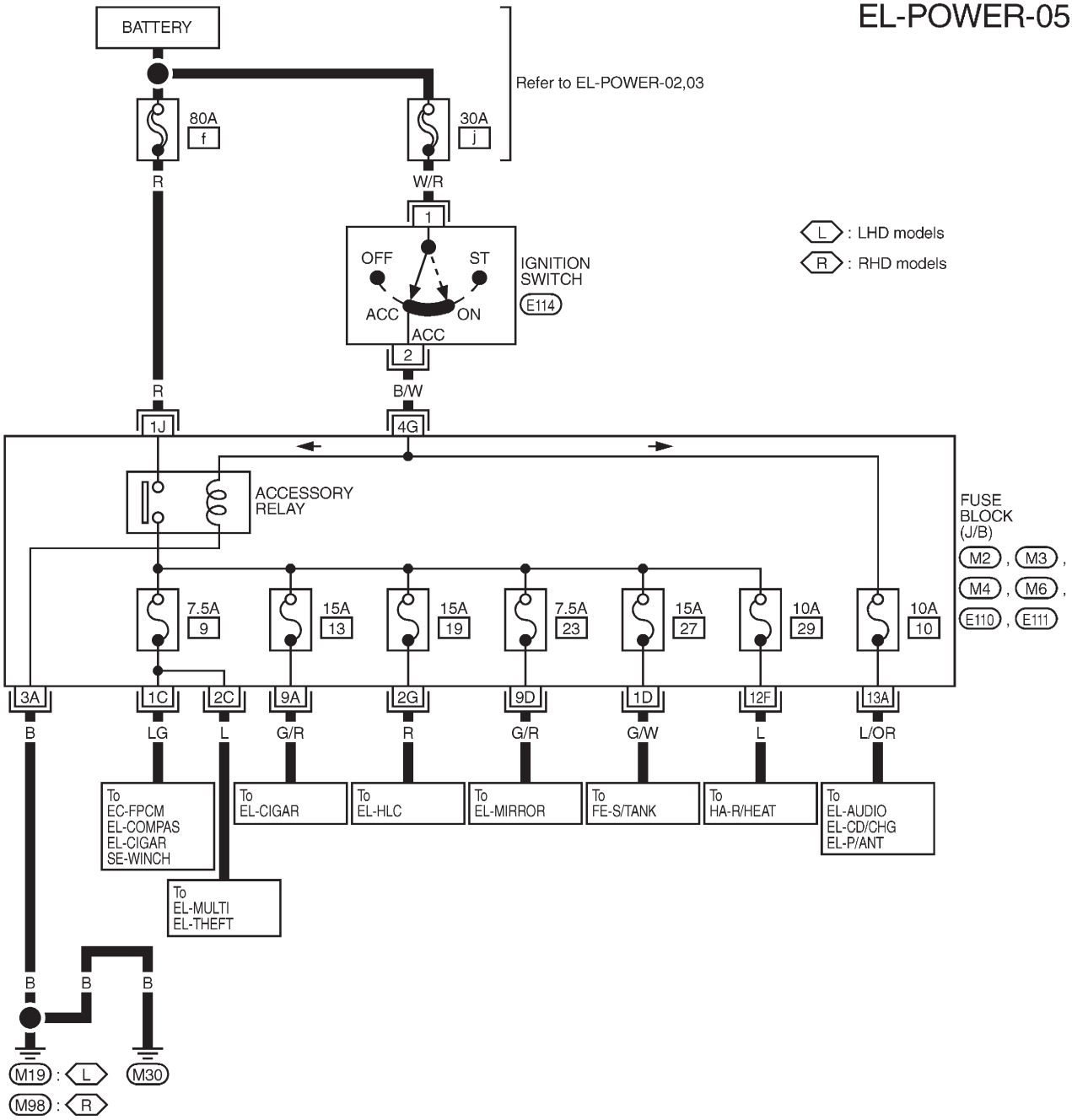


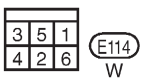
TEL204M

Wiring Diagram — POWER — (Cont'd)

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

EL-POWER-05





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M2 , M3 , M4 , M6 , E110 , E111

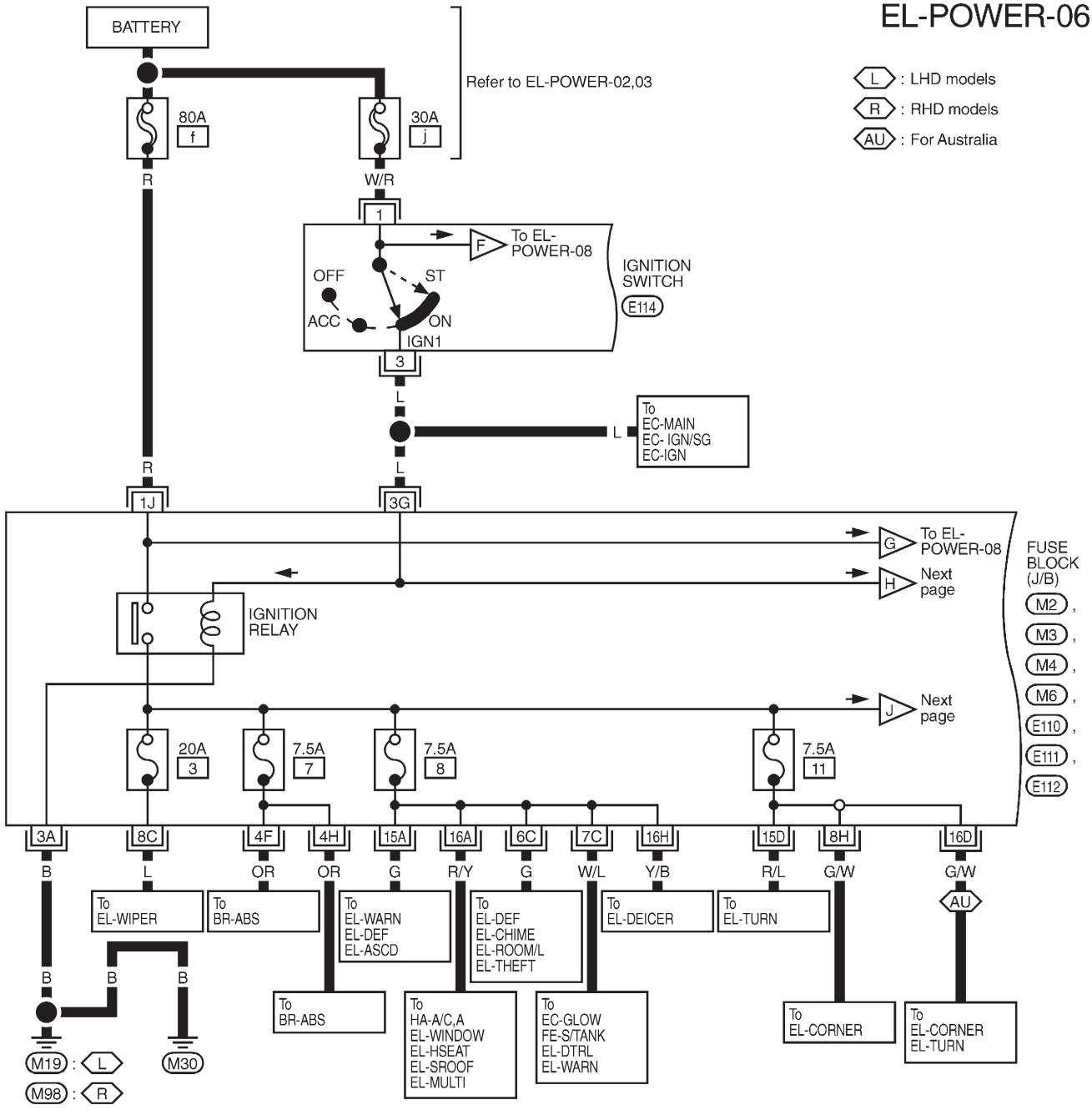
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

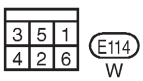
TEL606B

Wiring Diagram — POWER — (Cont'd)

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

EL-POWER-06





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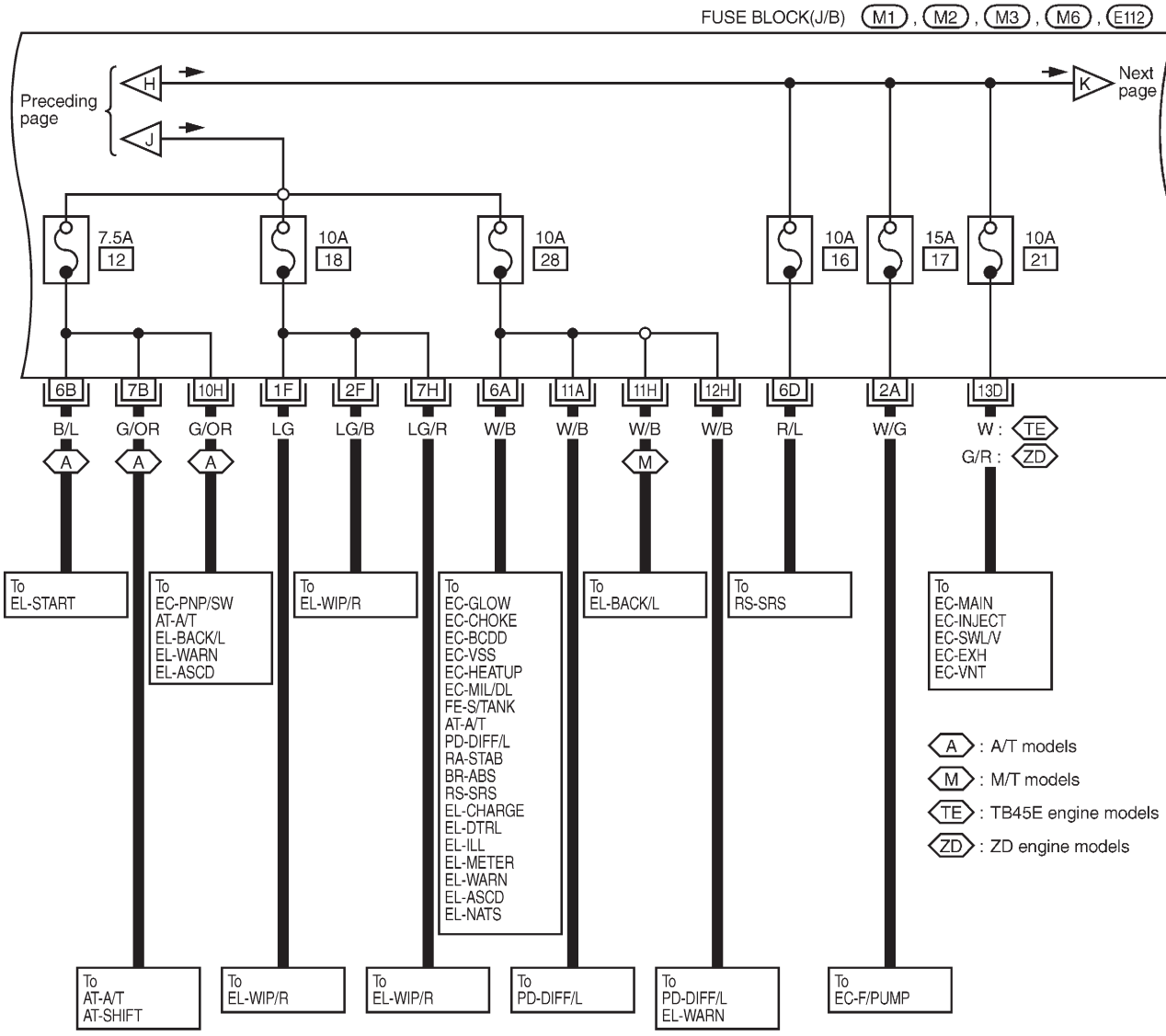
M2, M3, M4, M6, E110, E111, E112

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		

TEL205M

Wiring Diagram — POWER — (Cont'd)

EL-POWER-07



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M1 , M2 , M3 , M6 , E112

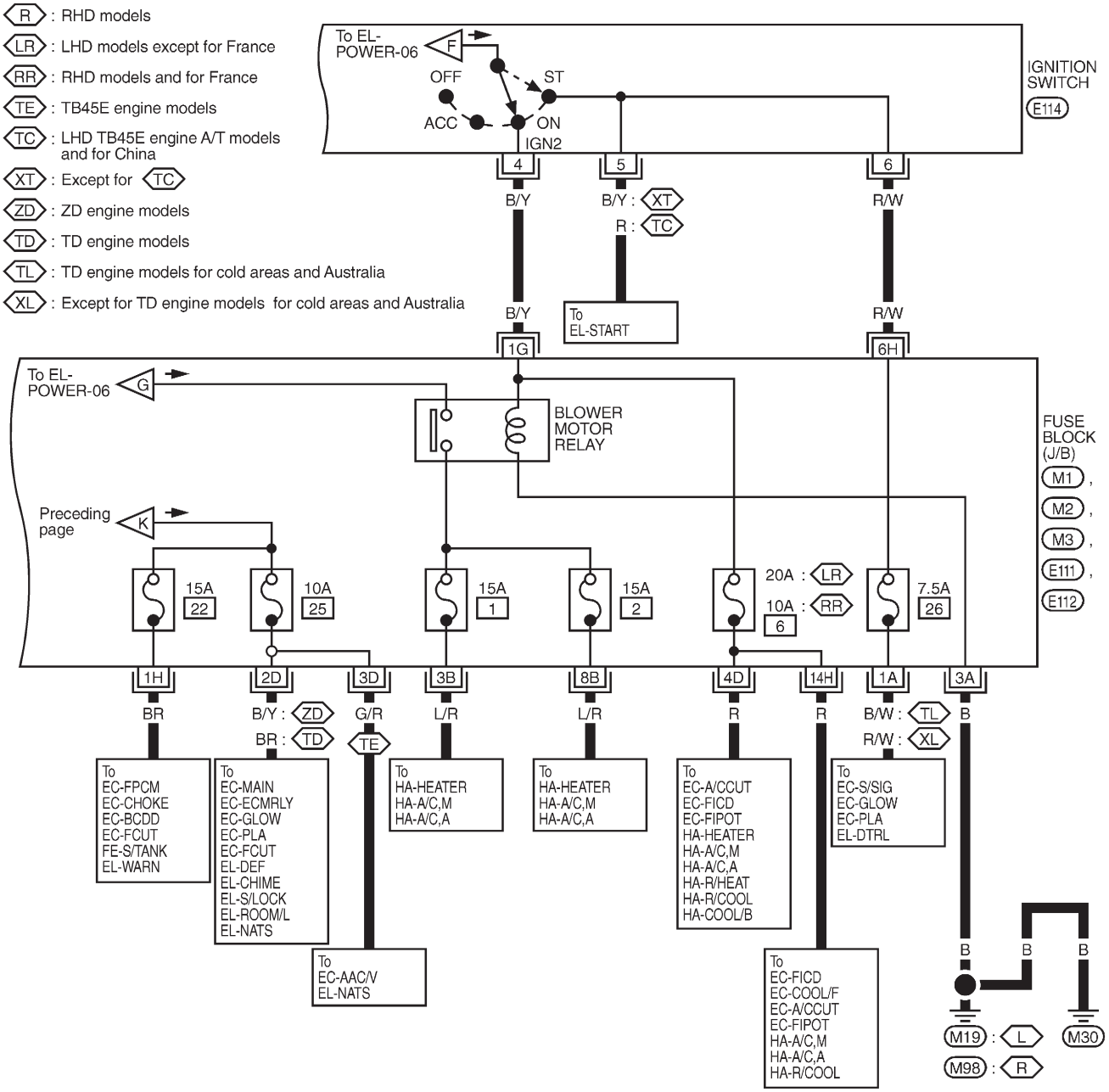
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

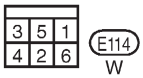
TEL206M

Wiring Diagram — POWER — (Cont'd)

EL-POWER-08

(L) : LHD models
(R) : RHD models
(LR) : LHD models except for France
(RR) : RHD models and for France
(TE) : TB45E engine models
(TC) : LHD TB45E engine A/T models and for China
(XT) : Except for (TC)
(ZD) : ZD engine models
(TD) : TD engine models
(TL) : TD engine models for cold areas and Australia
(XL) : Except for TD engine models for cold areas and Australia





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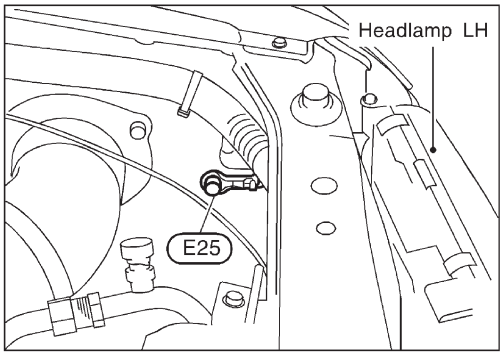
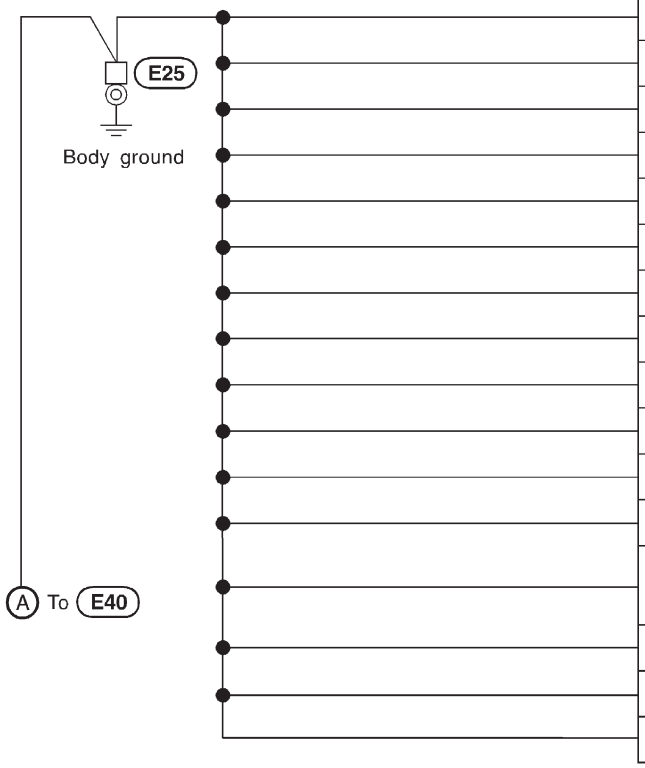
(M1) , (M2) , (M3) , (E111) , (E112)

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		

TEL207M

Engine Room Harness

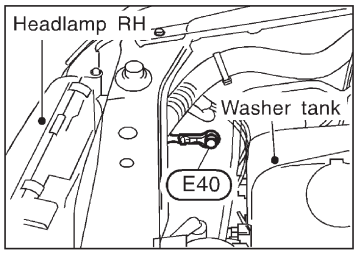


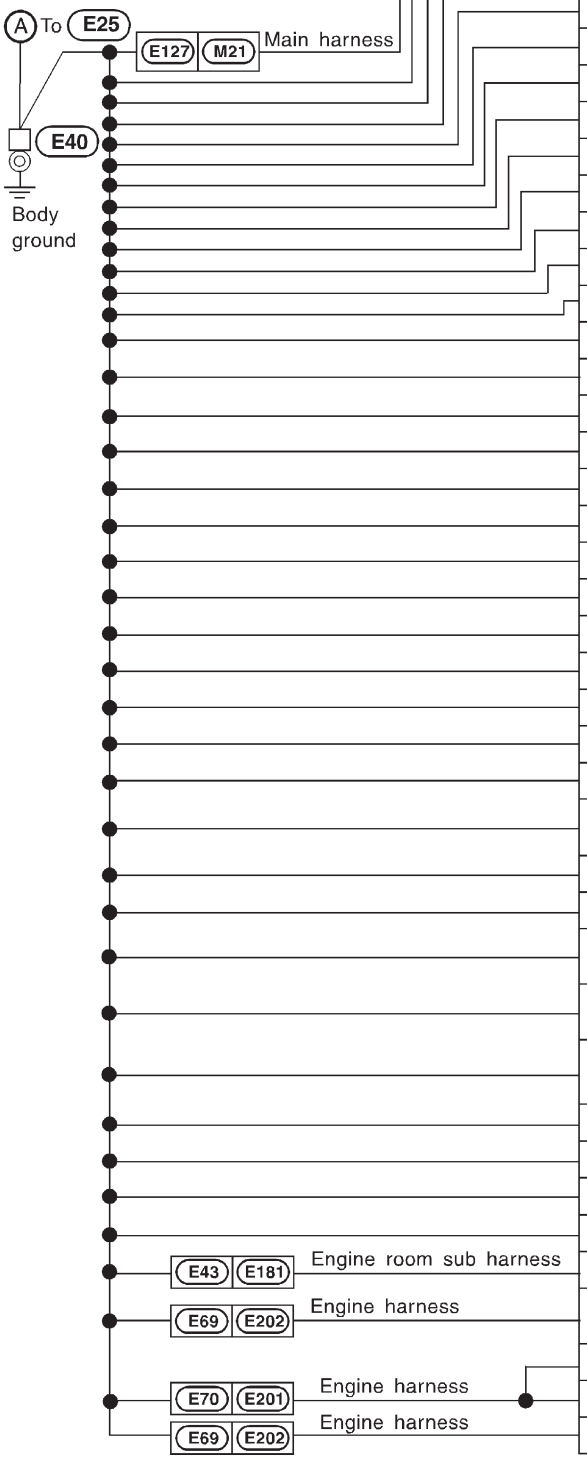


CON-NECTOR NUMBER	CONNECT TO
E10	Diff lock solenoid (Terminal No. 4)
E20	Side turn signal lamp LH
E24	Front combination lamp LH
E26	Headlamp aiming motor LH
E30	Headlamp LH (Without xenon headlamp system)
E31	Distributor (TB45S engine models)
E36	Cooling fan motor-1 (Terminal No. 2)
E36	Cooling fan motor-1 (Terminal No. 4)
E57	Wiper deicer
E58	Front wiper motor
E80	Front fog lamp LH
E84	Headlamp LH (With xenon headlamp system)
E90	Cool box solenoid valve (For the Middle East TB45E engine models)
E118	Combination switch (Rear wiper switch)
E121	Condenser (TB45S engine models)
E160	Hood switch (OPT) (For Europe)

CEL081M

Engine Room Harness (Cont'd)

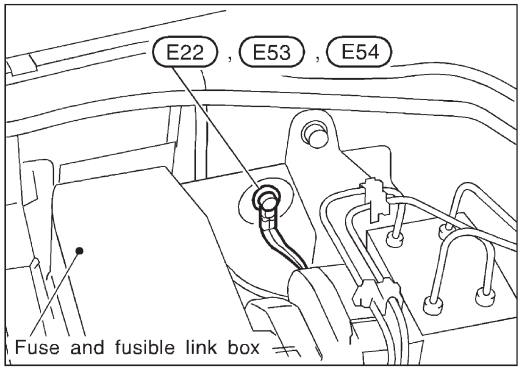


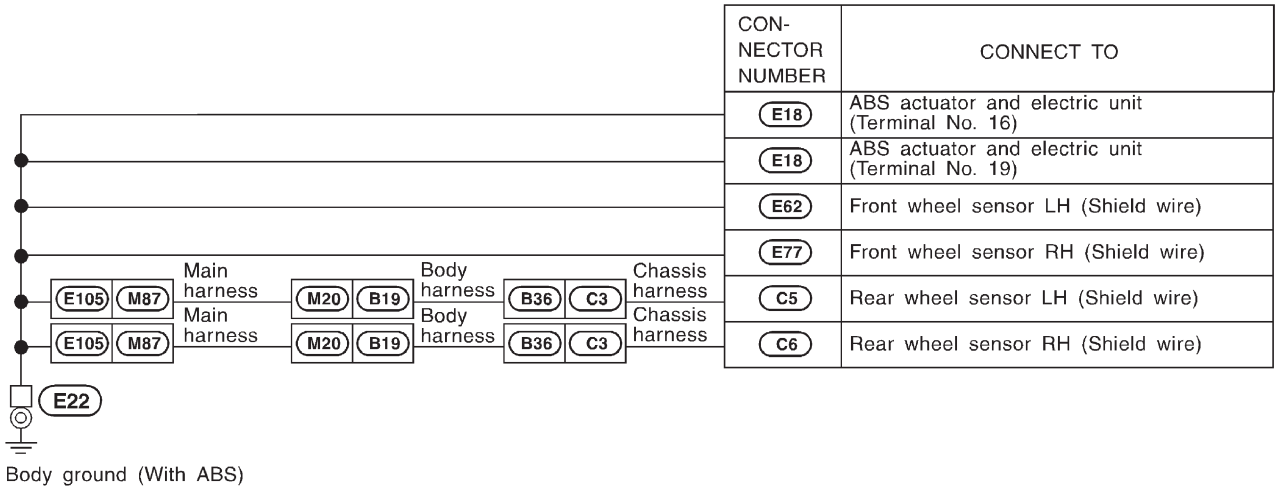


CONNECTOR NUMBER	CONNECT TO
M33	Combination meter (Terminal No. 19) (Without ABS)
E4	Cornering lamp relay
E5	Air conditioner relay
E6	Auto-choke relay (TB45S engine models)
E7	Bulb check relay (Except for TB45S engine models)
E10	Diff lock solenoid (Terminal No. 3)
E19	Power antenna
E33	Headlamp wiper 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	Park/Neutral position relay-1 (A/T models)
E55	Side turn signal lamp RH
E59	Glow relay-1 (TD engine models)
E63	Park/Neutral position relay-2 (A/T models with ASCD)
E75	Fuel filter switch (Diesel engine models)
E76	Brake fluid level switch
E79	Front fog lamp RH
E81	Headlamp RH (With xenon headlamp system)
E82	Daytime light control unit
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 ECM control engine models)
E94	Engine coolant temperature switch-1 (Except for ECM control engine models)
E96	IACV-FICD solenoid valve (TD engine models)
E100	ISC-FI POT control solenoid valve (TB45S engine models)
E119	Combination switch (Front wiper switch) (Without intermittent wiper)
E120	Combination switch (Front wiper switch) (With intermittent wiper)
E151	Ambient air temperature switch (For the Middle East TB45E engine models with front manual A/C and rear cooler)
E152	Front fog lamp relay (For China)
E153	Rear fog lamp relay
E159	Theft warning relay (For China)
E160	Hood switch (For China)
E183	Winch relay
E211	Park/Neutral position switch (ECM control engine M/T models)
E212	4WD switch
E213	Transfer neutral switch
E219	Engine coolant temperature sensor (TD engine models)

CEL082M

Engine Room Harness (Cont'd)



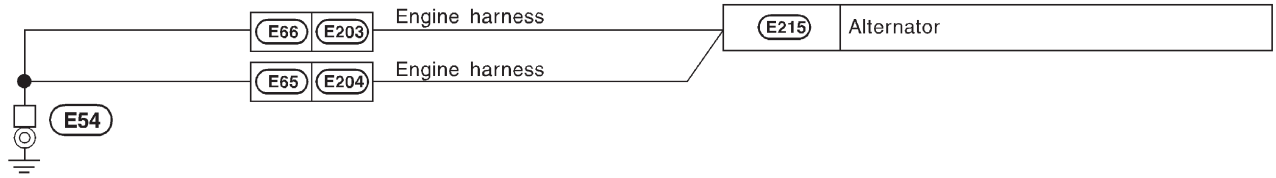


CON-NECTOR NUMBER	CONNECT TO
E18	ABS actuator and electric unit (Terminal No. 16)
E18	ABS actuator and electric unit (Terminal No. 19)
E62	Front wheel sensor LH (Shield wire)
E77	Front wheel sensor RH (Shield wire)
C5	Rear wheel sensor LH (Shield wire)
C6	Rear wheel sensor RH (Shield wire)

Body ground (With ABS)

E215	Alternator

Body ground (TB engine models)

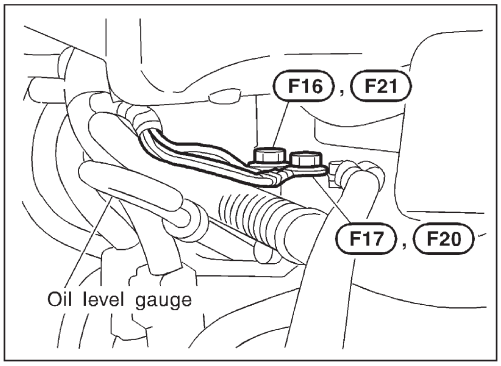


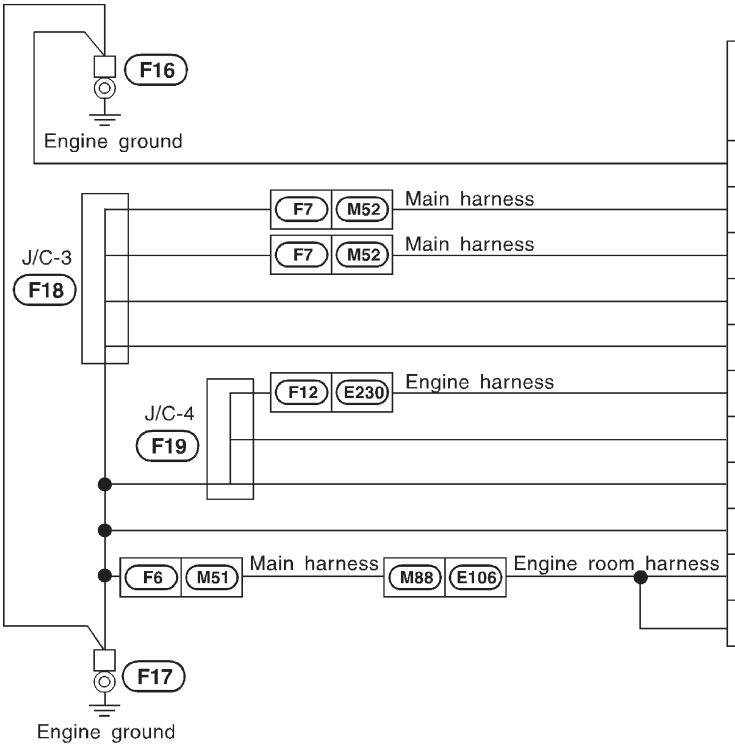
E215	Alternator

Body ground (Diesel engine models)

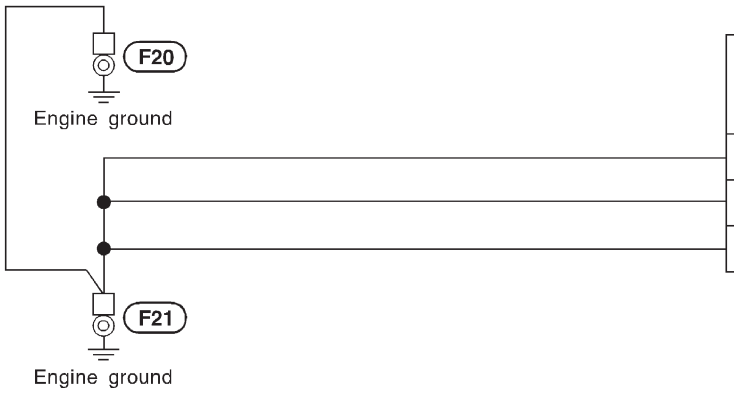
CEL083M

Engine Control Harness





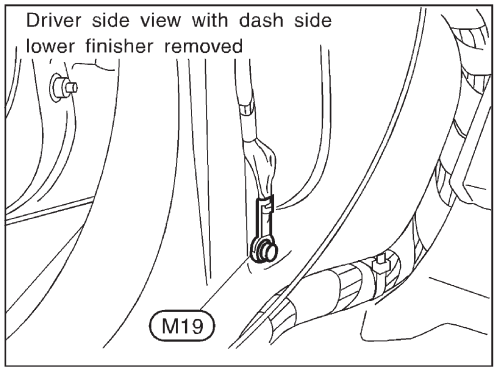
CON-NECTOR NUMBER	CONNECT TO
F4	Electronic control fuel injection pump
M10	Data link connector (Terminal No. 5)
M29	NATS IMMU
F8	ECM (Terminal No. 39)
F14	Accelerator switch (F/C)
E231	Mass air flow sensor (Shield wire)
F2	Accelerator position sensor (Shield wire)
F13	Crankshaft position sensor (TDC) (Shield wire)
F8	ECM (Terminal No. 43)
E102	TCM (Transmission control module) (Terminal No. 25)
E102	TCM (Transmission control module) (Terminal No. 48)

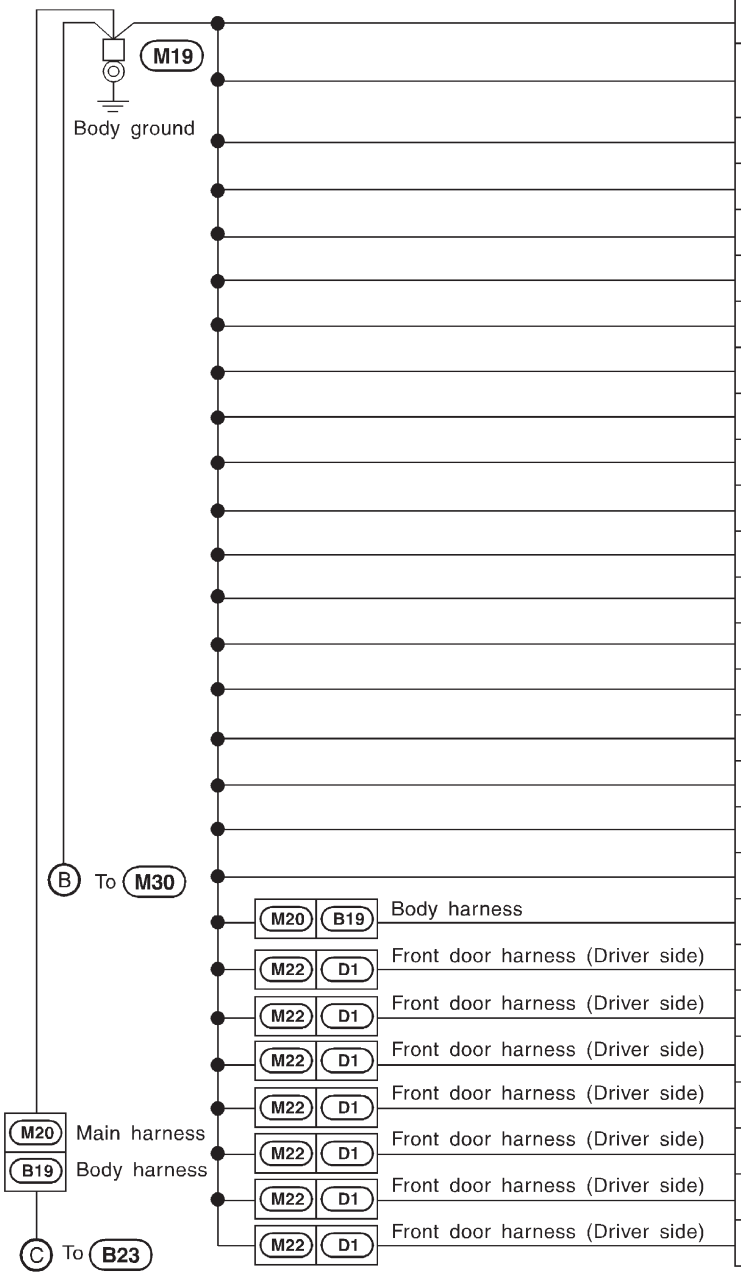


CON-NECTOR NUMBER	CONNECT TO
F8	ECM (Terminal No. 106)
F8	ECM (Terminal No. 112)
F8	ECM (Terminal No. 118)

CEL085M

Main Harness

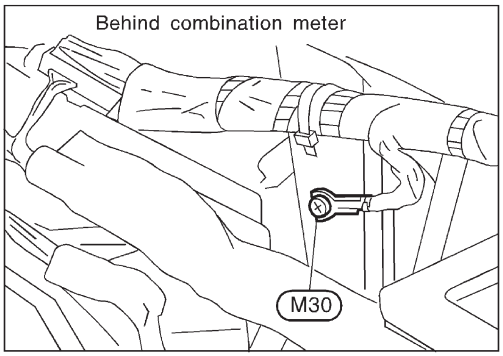


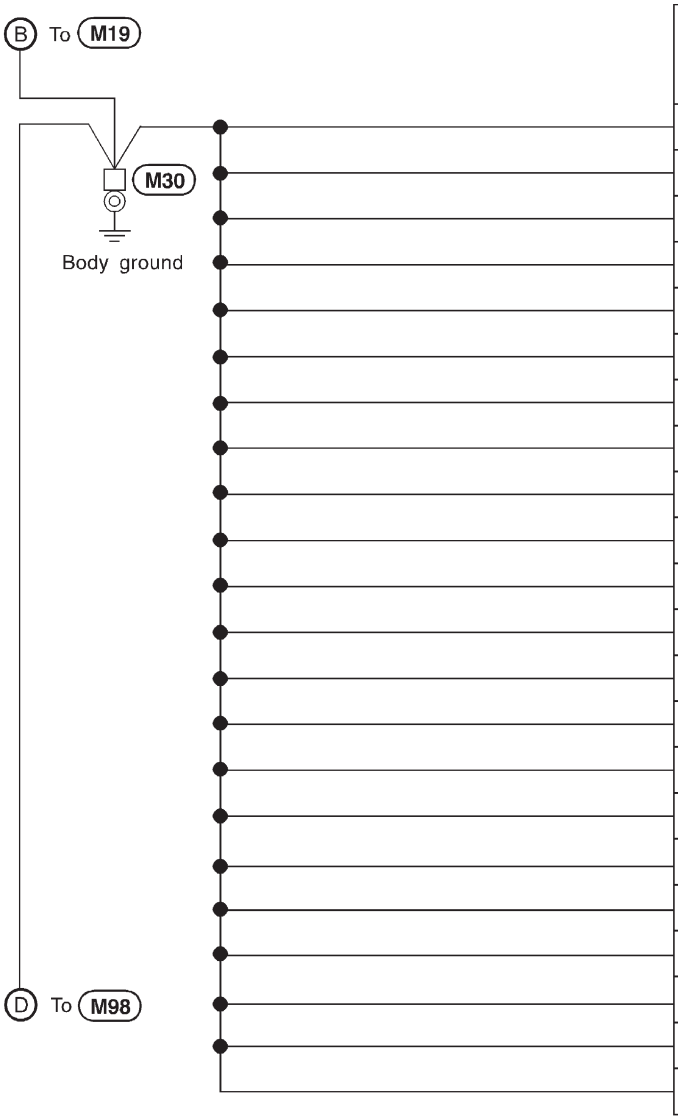


CON-NECTOR NUMBER	CONNECT TO
M3	Fuse block (J/B)
M10	Data link connector (Terminal No. 4) (TB, TD engine models except for the Middle East and except for China)
M11	Headlamp aiming switch
M12	ASCD main switch (Terminal No. 4)
M12	ASCD main switch (Terminal No. 6)
M13	Heat up switch (Terminal No. 2) (ZD engine models)
M13	Heat up switch (Terminal No. 4) (ZD engine models)
M14	Door mirror remote control switch
M15	ASCD hold relay
M17	ASCD control unit
M39	Illumination control switch
M107	A/T check switch
M108	Front fog lamp switch (Terminal No. 2)
M108	Front fog lamp switch (Terminal No. 6)
M111	Heated seat relay
M115	Check connector (TB45S engine models)
M116	Fuel pump control module (TB45S engine models)
M117	Super lock control unit
M130	Fuel pump relay (TB45S engine models)
B13	Rear cooler switch (Terminal No. 3) (With front auto A/C)
D3	Door mirror defogger (Driver side)
D5	Power window main switch (Hardtop models)
D6	Front door key cylinder switch (Driver side) (For China and with super lock)
D7	Front door lock actuator assembly LH (With super lock)
D8	Front door lock switch (Driver side) (Without multi-remote control system)
D9	Front door lock actuator (Driver side) (With multi-remote control system)
D10	Power window main switch (Wagon models)

CEL086M

Main Harness (Cont'd)

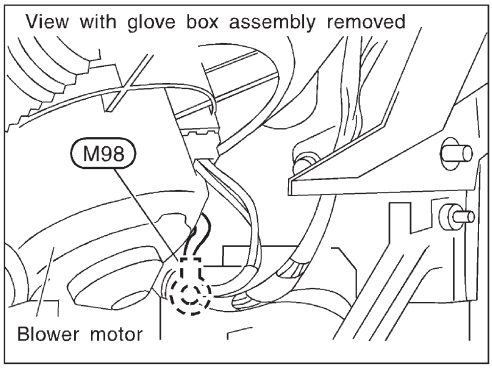


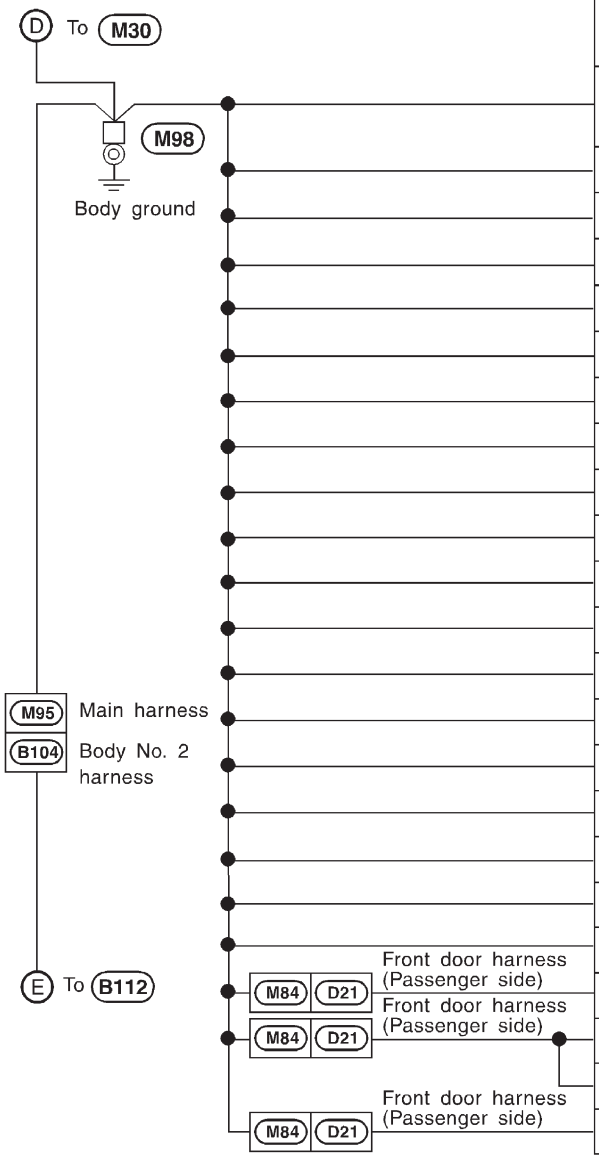


CON-NECTOR NUMBER	CONNECT TO
M32	Combination meter (Terminal No. 5)
M33	Combination meter (Terminal No. 13)
M33	Combination meter (Terminal No. 20)
M37	Combination flasher unit
M38	Mode door motor (With front auto A/C)
M40	Air mix door motor (With front auto A/C)
M41	Smart entrance control unit (Except for China)
M44	Stabilizer control unit
M46	Rear window defogger switch (Terminal No. 2)
M46	Rear window defogger switch (Terminal No. 4)
M46	Rear window defogger switch (Terminal No. 6)
M47	Headlamp wiper switch (Terminal No. 5)
M47	Headlamp wiper switch (Terminal No. 7)
M48	Sub fuel tank switch (Terminal No. 2)
M48	Sub fuel tank switch (Terminal No. 6)
M49	Hazard switch
M67	Diff lock switch
M69	Sub fuel tank control unit
M100	Stabilizer switch
M120	Steering wheel receiver control switch
M122	Radio and cassette player
M126	Smart entrance control unit (For China)

CEL232A

Main Harness (Cont'd)



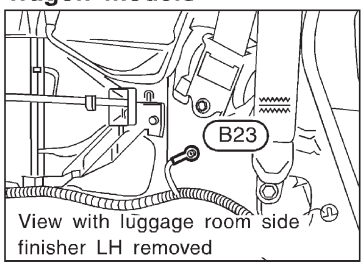


CON-NECTOR NUMBER	CONNECT TO
M16	Glow control unit (TD engine models except for cold areas)
M42	Cigarette lighter
M53	Rear heater front switch (Terminal No. 2)
M53	Rear heater front switch (Terminal No. 9)
M54	Air bag diagnosis sensor unit
M61	Rear cooler front switch (Terminal No. 7)
M61	Rear cooler front switch (Terminal No. 9)
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. (Terminal No. 3) (With front auto A/C)
M75	A/C auto amp. (Terminal No. 11) (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)
M125	Theft warning horn relay (For China)
M129	Multi-remote control unit (Except for Europe)
M133	Multi-remote control unit (For Europe)
D23	Door mirror defogger (Passenger side)
D26	Front door key cylinder switch (Passenger side) (For China and with super lock)
D28	Front door lock actuator assembly RH (With super lock)
D27	Front door lock actuator (For China)

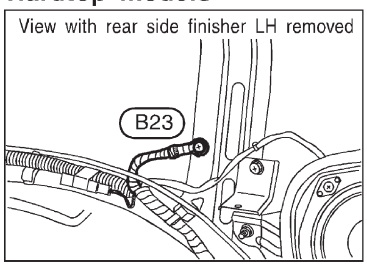
CEL087M

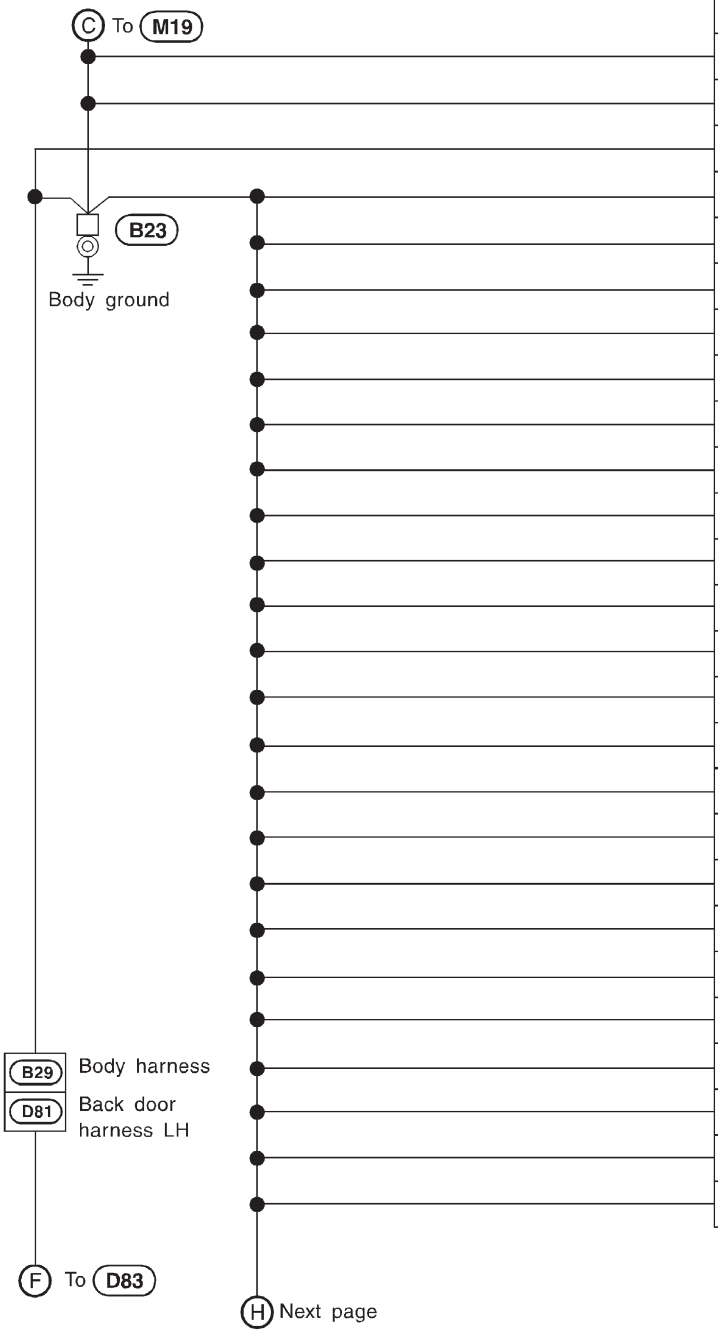
Body Harness

Wagon models



Hardtop models

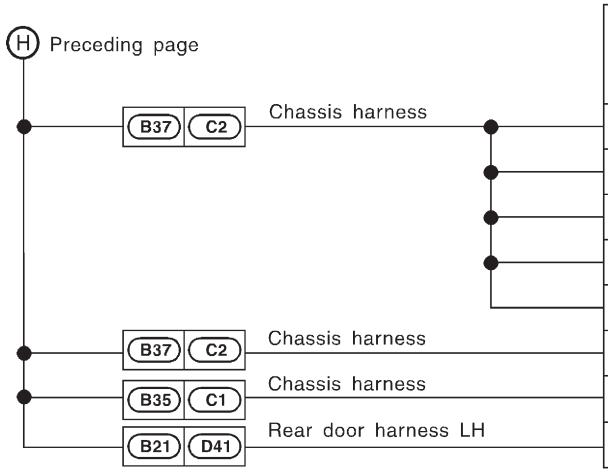




CON-NECTOR NUMBER	CONNECT TO
B13	Rear cooler switch (Terminal No. 3)
B14	Rear fan switch
B41	Power socket
B4	Power seat (Passenger side)
B5	Heated seat LH
B6	Wiper deicer switch (Terminal No. 4)
B6	Wiper deicer switch (Terminal No. 6)
B7	Heated seat switch LH
B8	Heated seat switch RH
B9	Ashtray illumination
B11	A/T device (Overdrive control switch) (Terminal No. 2)
B11	A/T device (Overdrive control switch) (Terminal No. 4)
B11	A/T device (Terminal No. 8)
B12	A/T mode switch
B13	Rear cooler switch (Terminal No. 6)
B15	Heated seat RH
B16	Seat belt buckle switch (Driver side)
B17	Power seat (Driver side)
B20	Front door switch (Driver side)
B26	CD auto changer (Hardtop models)
B30	Rear combination lamp LH
B32	Rear cooler solenoid valve
B38	Rear cooler unit
B40	Cool box
B42	Power socket relay
B43	Rear cooler cut relay (TB45E engine M/T models)

CEL088M

Body Harness (Cont'd)

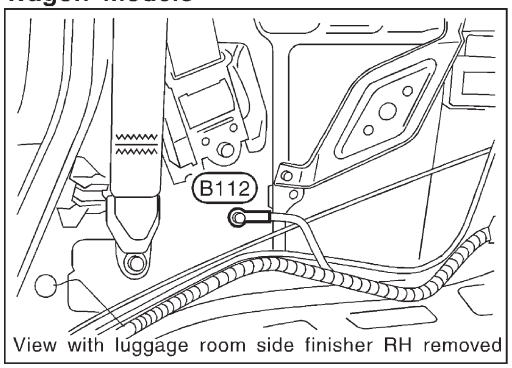


CON-NECTOR NUMBER	CONNECT TO
C7	Diff lock indicator switch
C9	Sub fuel tank gauge unit (Terminal No. 5)
C10	Rear bumper combination lamp LH
C11	Fuel tank gauge unit (Terminal No. 6)
C12	Rear bumper combination lamp RH
C8	Sub fuel tank gauge unit (Terminal No. 3)
C11	Fuel tank gauge unit (Terminal No. 2)
D46	Rear door lock actuator LH

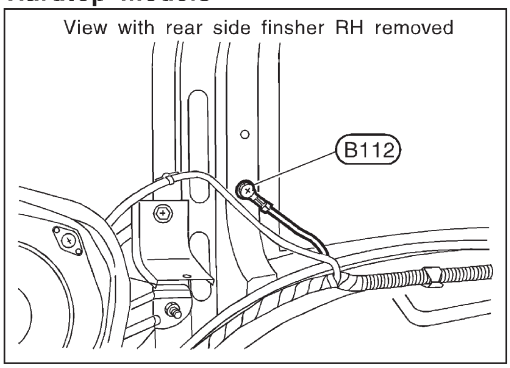
CEL247A

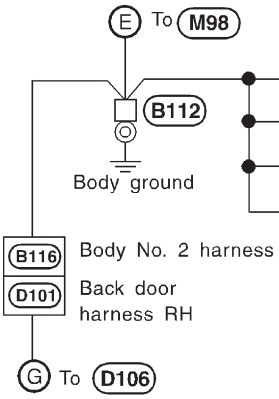
Body No. 2 Harness

Wagon models

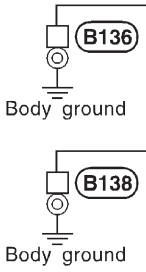


Hardtop models

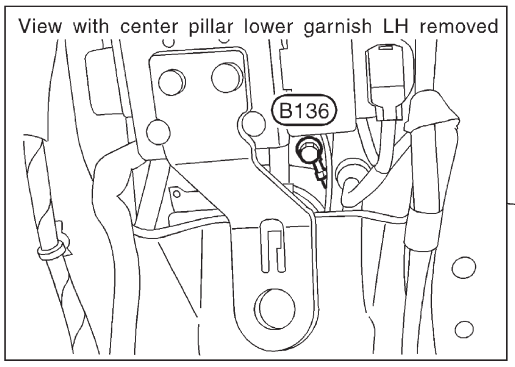


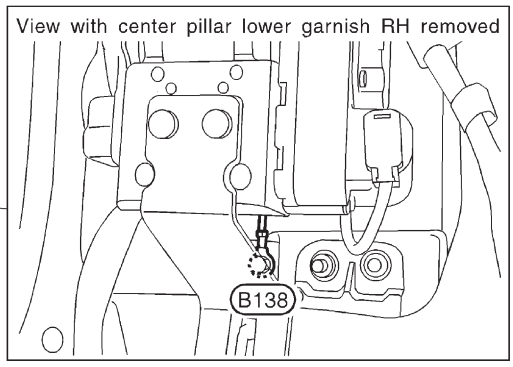


CON-NECTOR NUMBER	CONNECT TO
B107	Rear heater unit
B114	Rear wiper amp.
B117	Rear combination lamp RH
D66	Rear door lock actuator RH



B135	Satellite sensor LH (Shield wire)
B137	Satellite sensor RH (Shield wire)

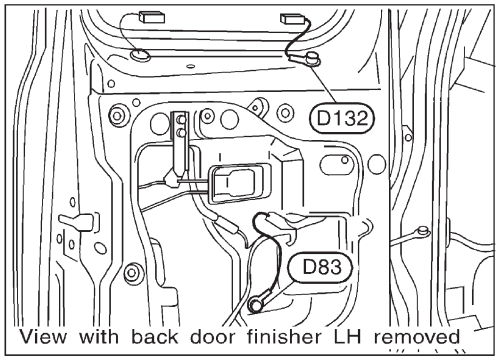




CEL248A

Back Door and Rear Window Defogger Harness

BACK DOOR HARNESS LH



F To B23

D83

Body ground

CONNECTOR NUMBER	CONNECT TO
D82	License plate lamp
D86	Back door lock actuator
D88	Back door key cylinder switch (For China)

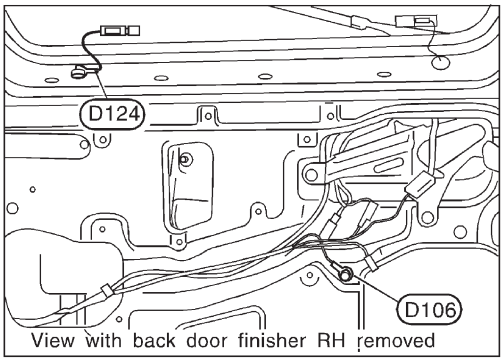
REAR WINDOW DEFOGGER HARNESS LH

D132

Body ground

D131	Rear window defogger LH

BACK DOOR HARNESS RH



G To B112

D106

Body ground

D104	High-mounted stop lamp
D105	Rear wiper motor
D107	Back door switch RH

REAR WINDOW DEFOGGER HARNESS RH

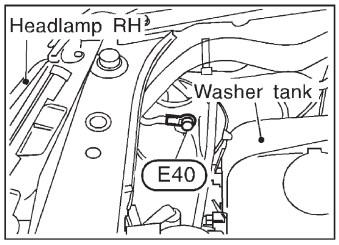
D124

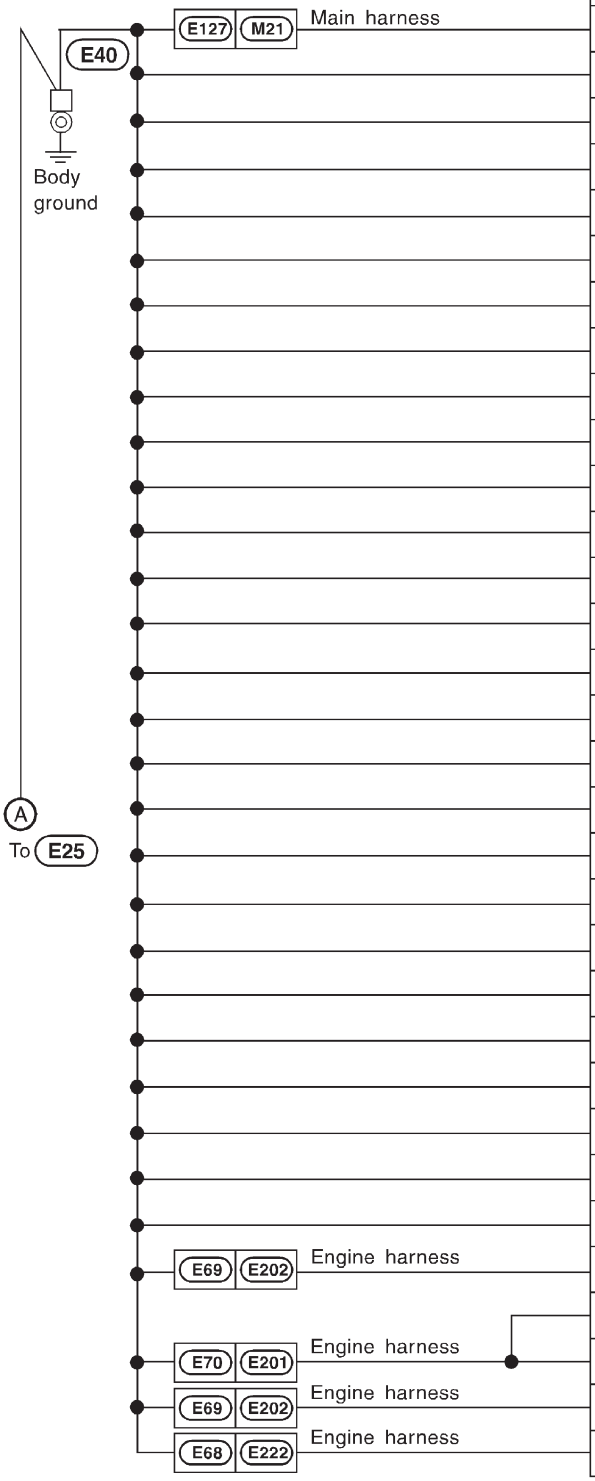
Body ground

D123	Rear window defogger RH

CEL249A

Engine Room Harness

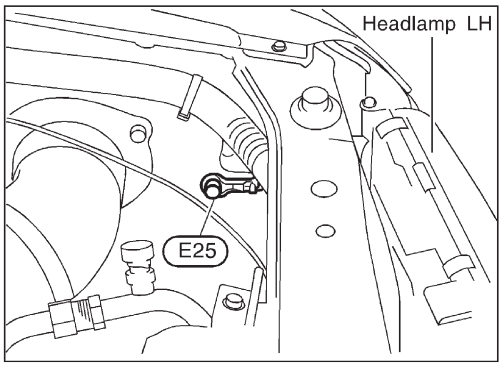


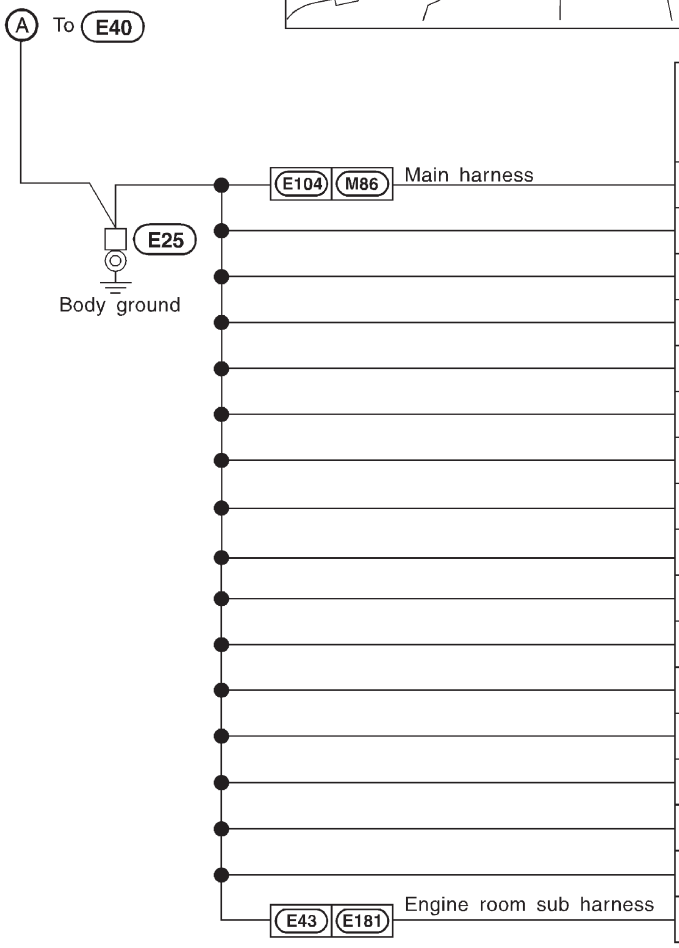


CONNECTOR NUMBER	CONNECT TO
M103	NATS IMMU (TD engine models for Australia)
E5	Air conditioner relay
E6	Auto-choke relay (TB45S engine models)
E7	Bulb check relay (Except for TB45S engine models)
E37	Cooling fan motor-2 (TB45E engine M/T models)
E38	Headlamp wiper motor RH
E41	Headlamp aiming motor RH
E45	Headlamp RH
E49	Front combination lamp RH
E52	Park/Neutral position relay-1 (A/T models)
E55	Side turn signal lamp RH
E57	Wiper deicer
E58	Front wiper motor
E59	Glow relay-1 (TD engine models)
E63	Park/Neutral position relay-2 (A/T models with ASCD)
E75	Fuel filter switch (Diesel engine models)
E76	Brake fluid level switch
E79	Front fog lamp RH
E87	Glow relay-2 (TD engine models for Australia)
E92	A/C cut relay (Except for ECM control engine models)
E96	IACV-FICD solenoid valve (TD engine models)
E100	ISC-FI POT control solenoid valve (TB45S engine models)
E115	Combination switch (Turn signal lamp switch) (For Australia)
E118	Combination switch (Rear wiper switch)
E119	Combination switch (Front wiper switch) (Without intermittent wiper)
E120	Combination switch (Front wiper switch) (With intermittent wiper)
E153	Rear fog lamp relay
E211	Park/Neutral position switch (ECM control engine M/T models)
E212	4WD switch
E213	Transfer neutral switch
E219	Engine coolant temperature sensor (TD engine models)
E230	Csolu (TD engine models for Australia)

CEL089M

Engine Room Harness (Cont'd)

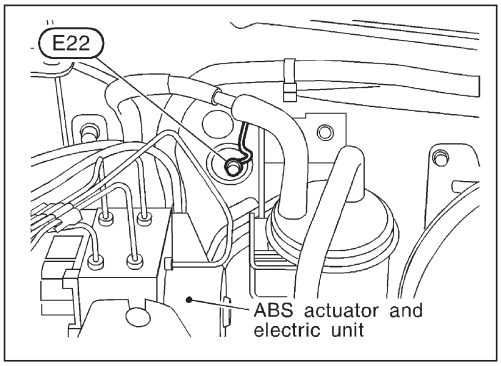


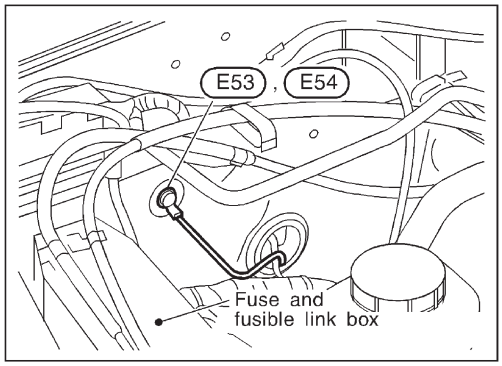


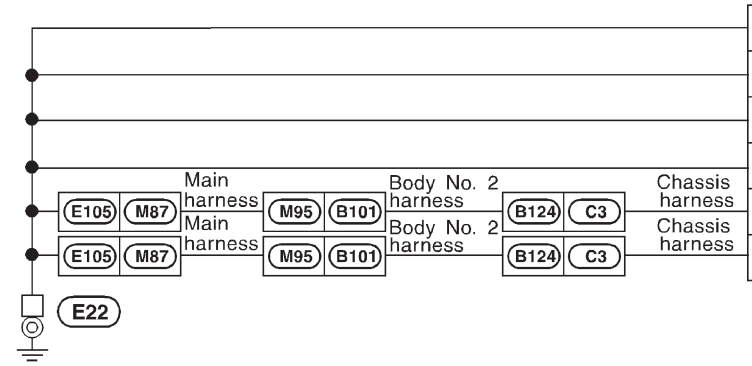
CON-NECTOR NUMBER	CONNECT TO
M33	Combination meter (Terminal No. 19) (Without ABS)
E10	Diff lock solenoid (Terminal No. 3)
E10	Diff lock solenoid (Terminal No. 4)
E19	Power antenna
E20	Side turn signal lamp LH
E24	Front combination lamp LH
E26	Headlamp aiming motor LH
E30	Headlamp LH
E31	Distributor (TB45S engine models)
E33	Headlamp wiper motor LH
E36	Cooling fan motor-1 (Terminal No. 2)
E36	Cooling fan motor-1 (Terminal No. 4)
E80	Front fog lamp LH
E94	Engine coolant temperature switch-1 (Except for ECM control engine models)
E121	Condenser (TB45S engine models)
E160	Hood switch (OPT) (For Europe)
E183	Winch relay

CEL090M

Engine Room Harness (Cont'd)





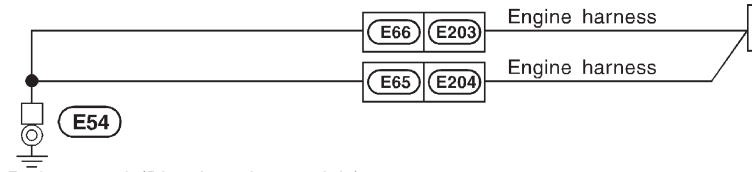


E18	ABS actuator and electric unit (Terminal No. 16)
E18	ABS actuator and electric unit (Terminal No. 19)
E62	Front wheel sensor LH (Shield wire)
E77	Front wheel sensor RH (Shield wire)
C5	Rear wheel sensor LH (Shield wire)
C6	Rear wheel sensor RH (Shield wire)

Body ground (With ABS)

E215	Alternator

Body ground (TB engine models)

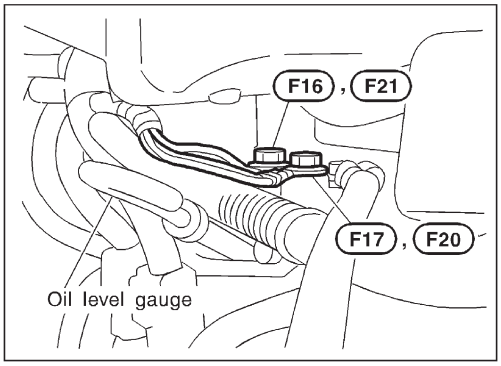


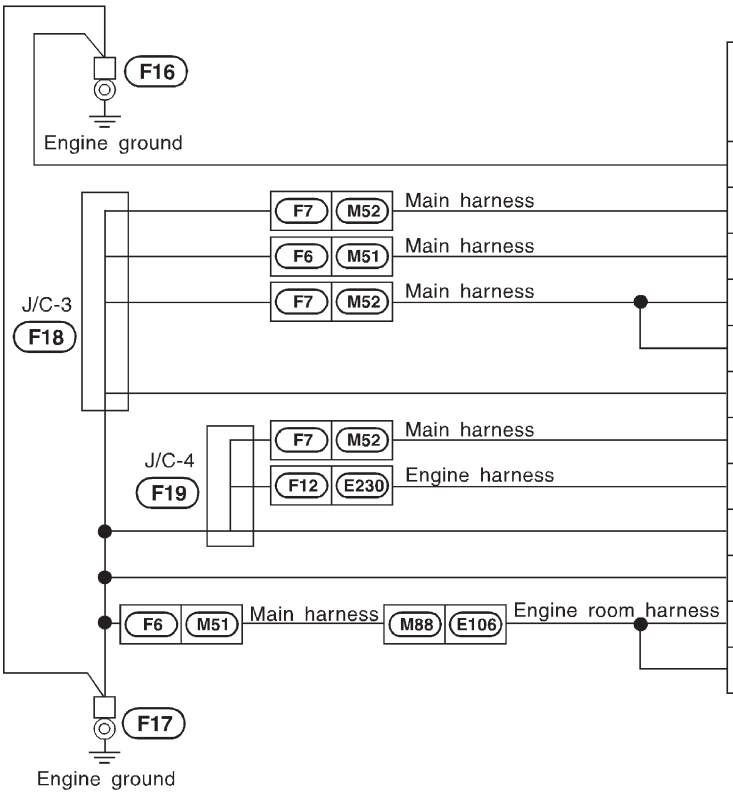
E215	Alternator

Body ground (Diesel engine models)

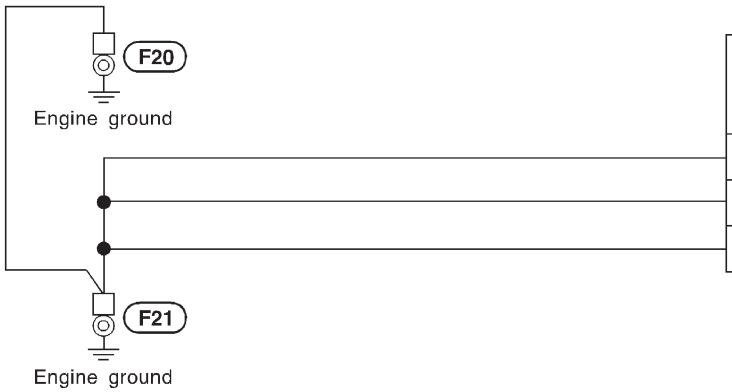
CEL091M

Engine Control Harness





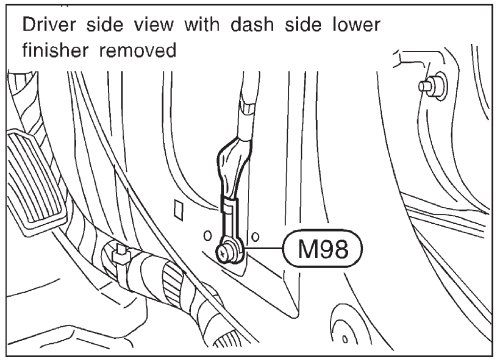
CONNECTOR NUMBER	CONNECT TO
F4	Electronic control fuel injection pump
M10	Data link connector (Terminal No. 5)
M27	Accelerator switch (F/C)
M29	NATS IMMU
M121	Dongle unit
F8	ECM (Terminal No. 39)
M25	Accelerator position sensor (Shield wire)
E231	Mass air flow sensor (Shield wire)
F13	Crankshaft position sensor (TDC) (Shield wire)
F8	ECM (Terminal No. 43)
E102	TCM (Transmission control module) (Terminal No. 25)
E102	TCM (Transmission control module) (Terminal No. 48)

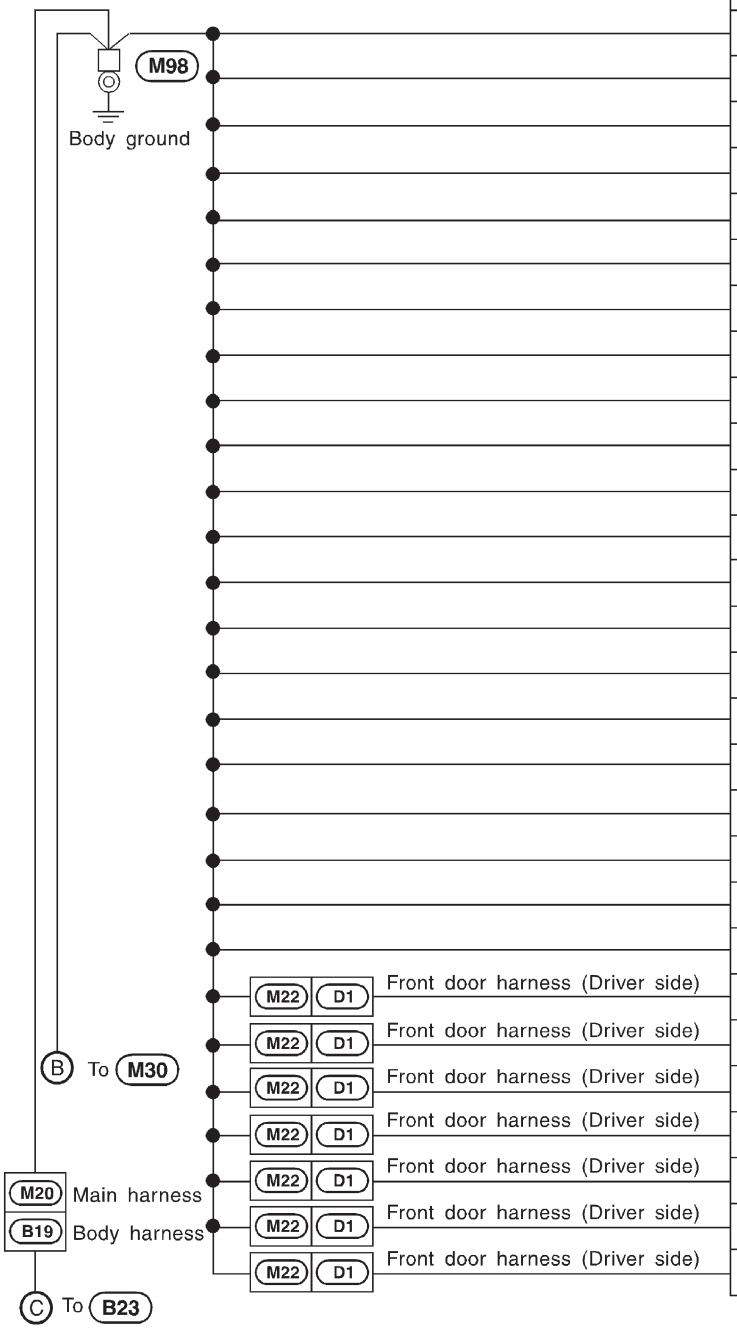


CONNECTOR NUMBER	CONNECT TO
F8	ECM (Terminal No. 106)
F8	ECM (Terminal No. 112)
F8	ECM (Terminal No. 118)

CEL093M

Main Harness

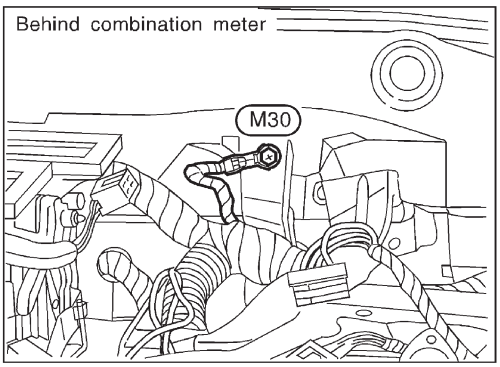


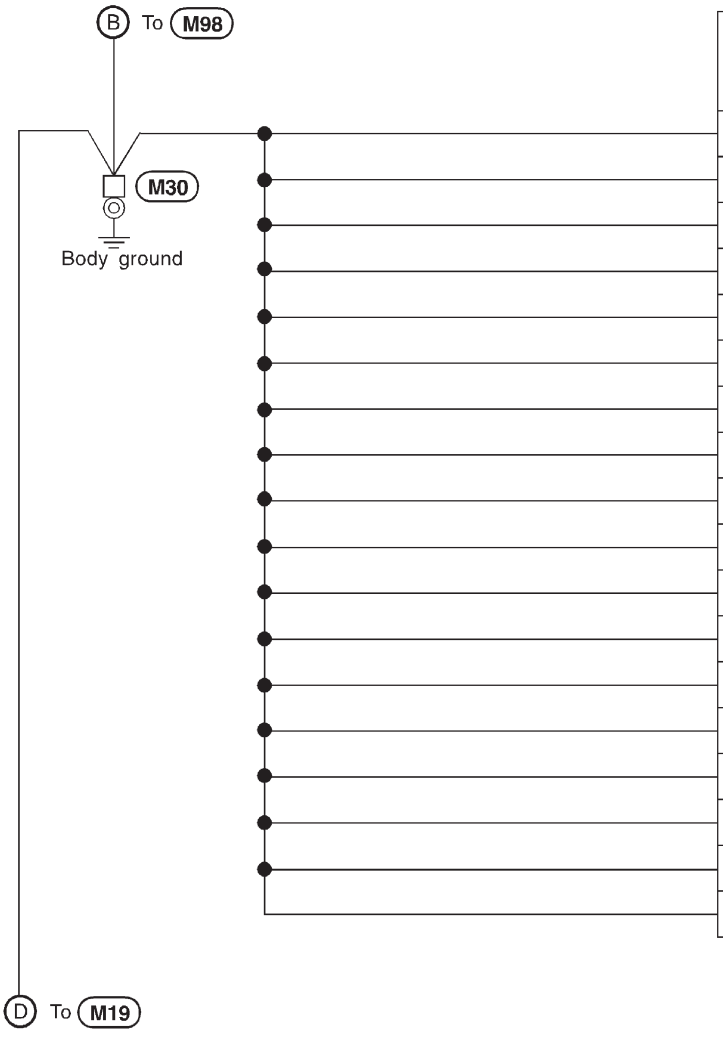


CON-NECTOR NUMBER	CONNECT TO
M3	Fuse block (J/B)
M10	Data link connector (Terminal No. 4) (Except for TD engine models for Australia)
M11	Headlamp aiming switch
M12	ASCD main switch (Terminal No. 4)
M12	ASCD main switch (Terminal No. 6)
M13	Heat up switch (Terminal No. 2) (ZD engine models)
M13	Heat up switch (Terminal No. 4) (ZD engine models)
M14	Door mirror remote control switch
M15	ASCD hold relay
M16	Glow control unit (TD engine models except for Australia)
M17	ASCD control unit
M32	Combination meter (Terminal No. 5)
M33	Combination meter (Terminal No. 13)
M33	Combination meter (Terminal No. 20)
M106	Glow control unit (TD engine models for Australia)
M108	Front fog lamp switch (Terminal No. 2)
M108	Front fog lamp switch (Terminal No. 6)
M115	Check connector (TB45S engine models)
M116	Fuel pump control module (TB45S engine models)
M117	Super lock control unit
M130	Fuel pump relay (TB45S engine models)
D3	Door mirror defogger (Driver side)
D5	Power window main switch (Hardtop)
D6	Front door key cylinder switch (Driver side) (With super lock)
D7	Front door lock actuator assembly RH (With super lock)
D8	Front door lock switch (Driver side) (Without multi-remote control system)
D9	Front door lock actuator (Driver side) (With multi-remote control system)
D10	Power window main switch (Wagon)

CEL094M

Main Harness (Cont'd)

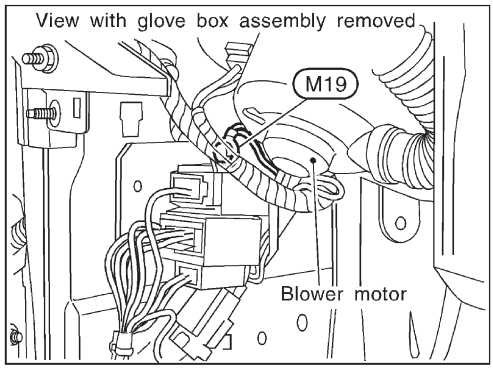


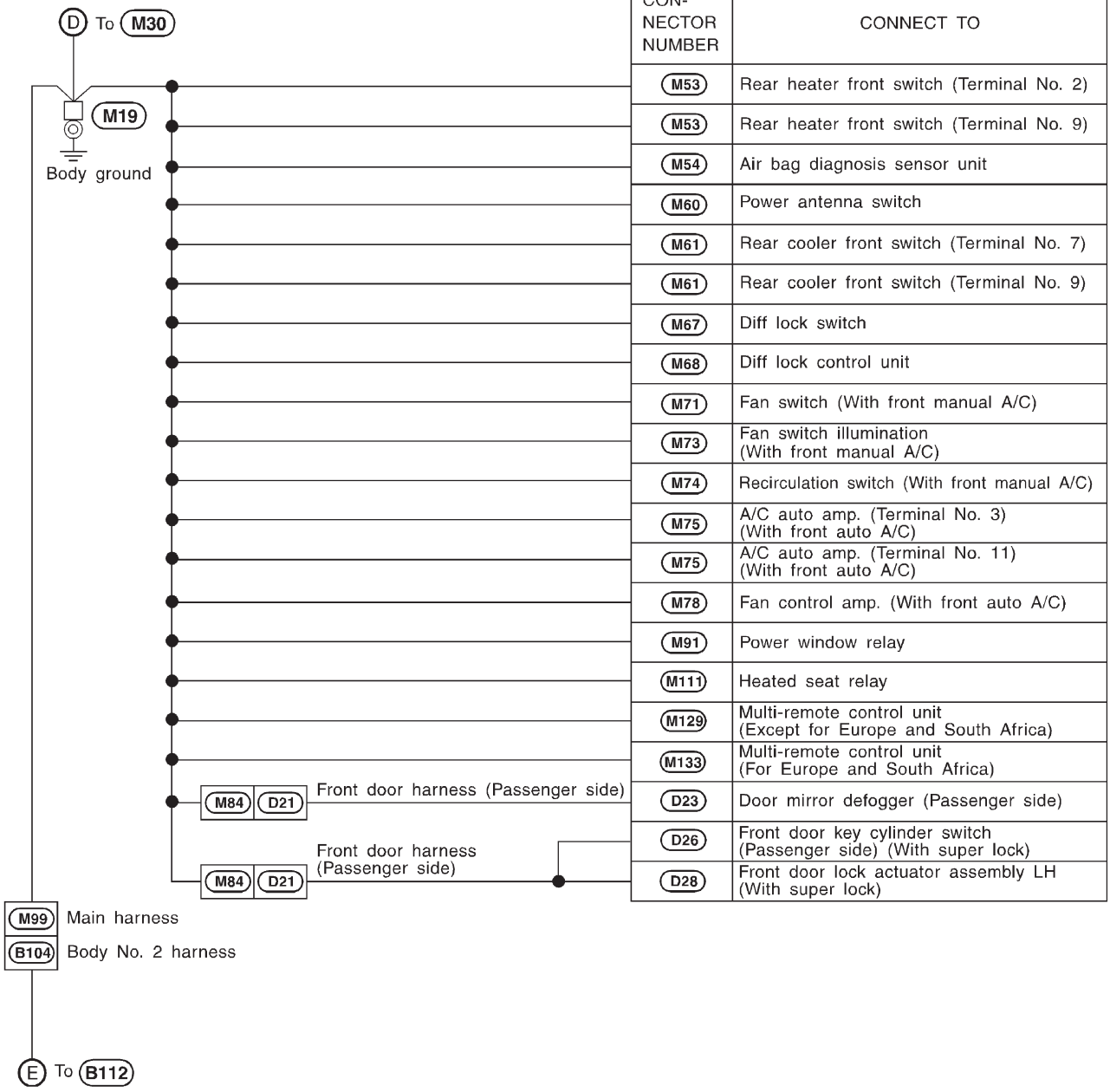


CON-NECTOR NUMBER	CONNECT TO
M37	Combination flasher unit
M38	Mode door motor (With front auto A/C)
M39	Illumination control switch
M40	Air mix door motor (With front auto A/C)
M41	Smart entrance control unit
M42	Cigarette lighter
M43	Seat belt timer (Without sub fuel tank for Australia)
M44	Stabilizer 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
M69	Sub fuel tank control unit
M100	Stabilizer switch

CEL804

Main Harness (Cont'd)



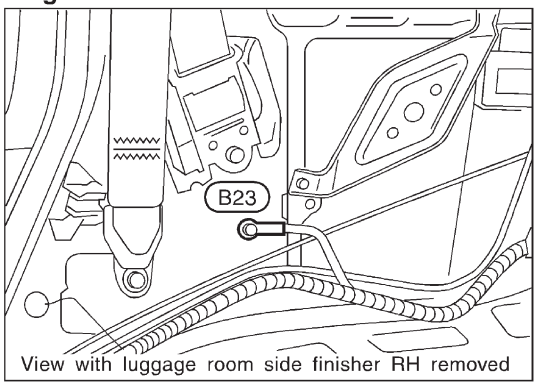


CONNECTOR NUMBER	CONNECT TO
M53	Rear heater front switch (Terminal No. 2)
M53	Rear heater front switch (Terminal No. 9)
M54	Air bag diagnosis sensor unit
M60	Power antenna switch
M61	Rear cooler front switch (Terminal No. 7)
M61	Rear cooler front switch (Terminal No. 9)
M67	Diff lock switch
M68	Diff 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. (Terminal No. 3) (With front auto A/C)
M75	A/C auto amp. (Terminal No. 11) (With front auto A/C)
M78	Fan control amp. (With front auto A/C)
M91	Power window relay
M111	Heated seat relay
M129	Multi-remote control unit (Except for Europe and South Africa)
M133	Multi-remote control unit (For Europe and South Africa)
D23	Door mirror defogger (Passenger side)
D26	Front door key cylinder switch (Passenger side) (With super lock)
D28	Front door lock actuator assembly LH (With super lock)

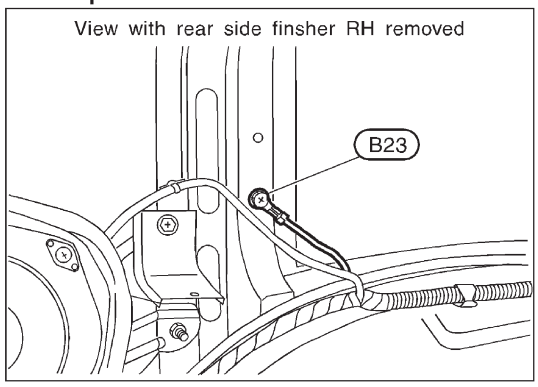
CEL095M

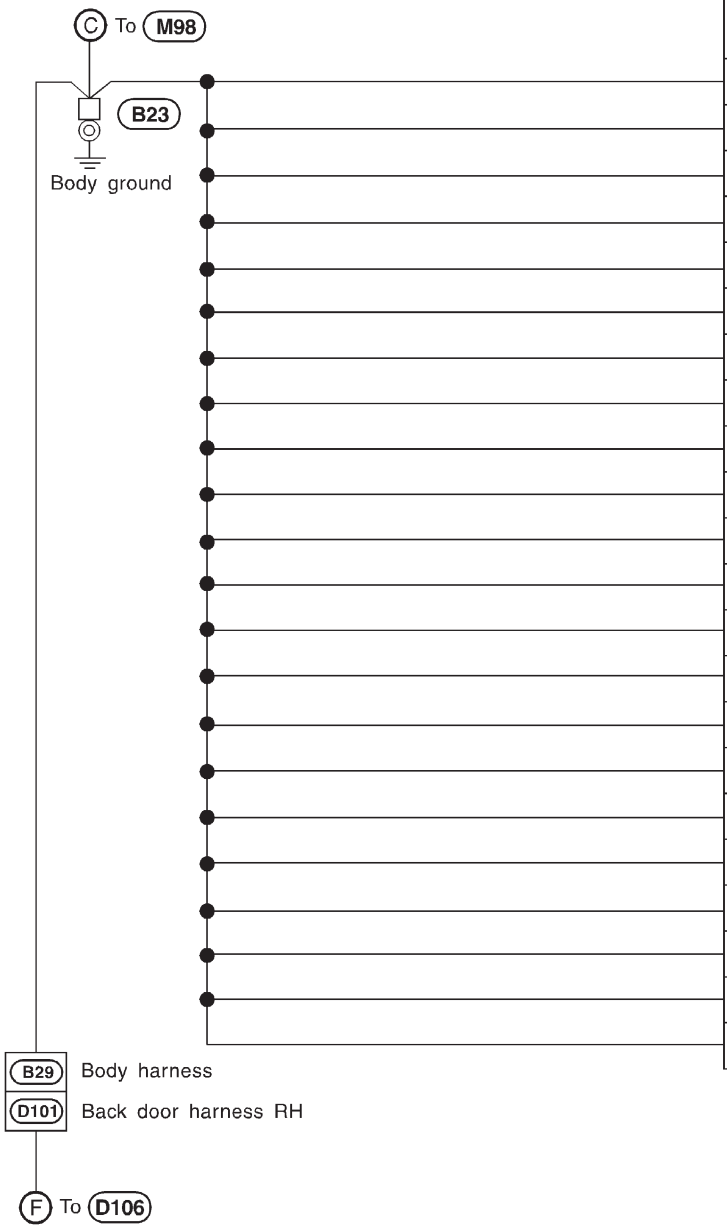
Body Harness

Wagon models



Hardtop models

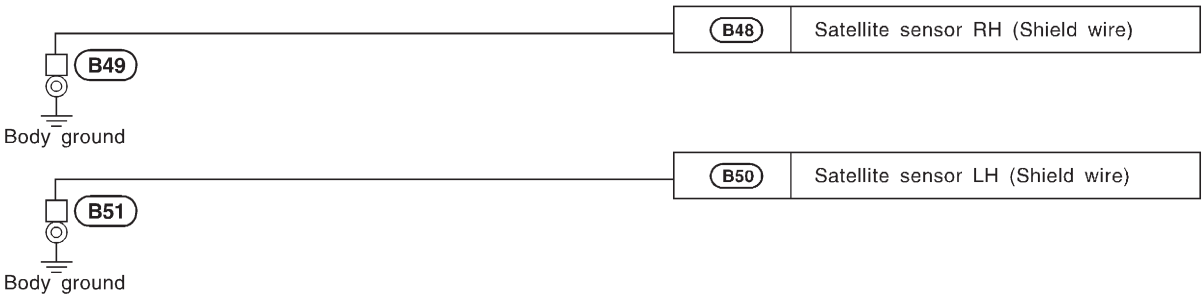


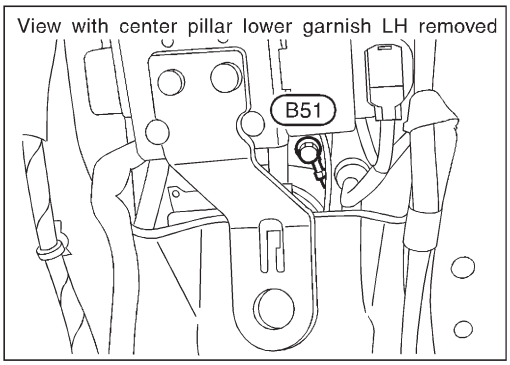


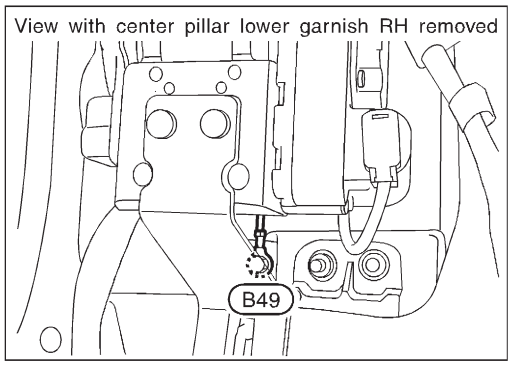
CON-NECTOR NUMBER	CONNECT TO
B4	Power seat (Passenger side)
B5	Heated seat LH
B6	Wiper deicer switch (Terminal No. 4)
B6	Wiper deicer switch (Terminal No. 6)
B7	Heated seat switch LH
B8	Heated seat switch RH
B9	Ashtray illumination
B11	A/T device (Overdrive control switch) (Terminal No. 2)
B11	A/T device (Overdrive control switch) (Terminal No. 4)
B11	A/T device (Terminal No. 8)
B12	A/T mode switch
B13	Rear cooler switch (Terminal No. 3)
B13	Rear cooler switch (Terminal 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)
B26	CD auto changer (Wagon models)
B27	Rear wiper amp.
B30	Rear combination lamp RH

CEL096M

Body Harness (Cont'd)

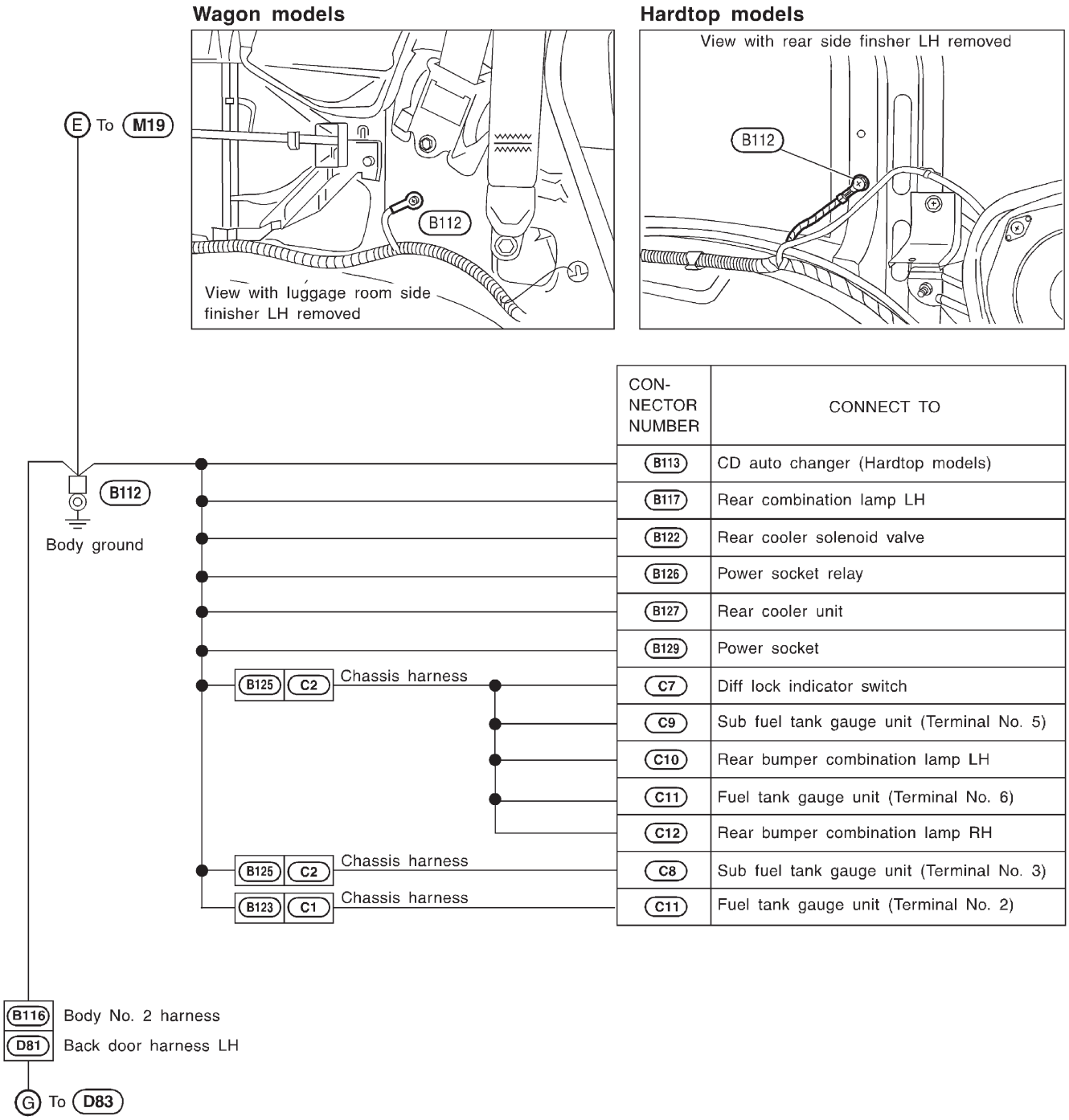






CEL097M

Body No. 2 Harness

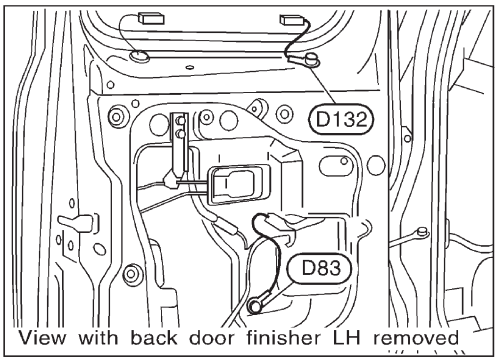


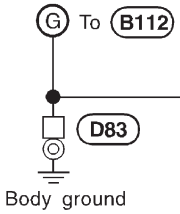
CONNECTOR NUMBER	CONNECT TO
B113	CD auto changer (Hardtop models)
B117	Rear combination lamp LH
B122	Rear cooler solenoid valve
B126	Power socket relay
B127	Rear cooler unit
B129	Power socket
C7	Diff lock indicator switch
C9	Sub fuel tank gauge unit (Terminal No. 5)
C10	Rear bumper combination lamp LH
C11	Fuel tank gauge unit (Terminal No. 6)
C12	Rear bumper combination lamp RH
C8	Sub fuel tank gauge unit (Terminal No. 3)
C11	Fuel tank gauge unit (Terminal No. 2)

CEL082A

Back Door and Rear Window Defogger Harness

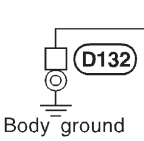
BACK DOOR HARNESS LH





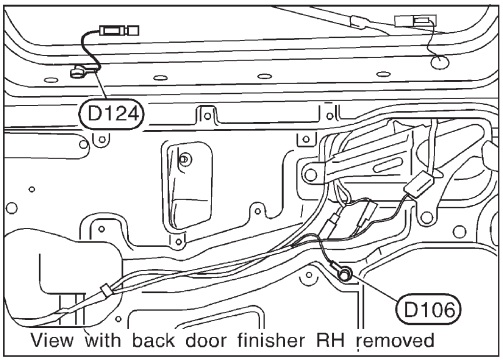
CONNECTOR NUMBER	CONNECT TO
D82	License plate lamp

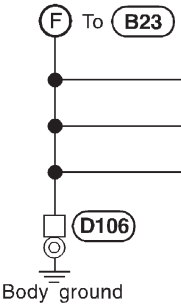
REAR WINDOW DEFOGGER HARNESS LH



D131	Rear window defogger LH

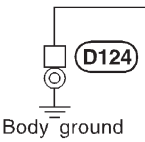
BACK DOOR HARNESS RH





D104	High-mounted stop lamp
D105	Rear wiper motor
D107	Back door switch RH

REAR WINDOW DEFOGGER HARNESS RH



D123	Rear window defogger RH

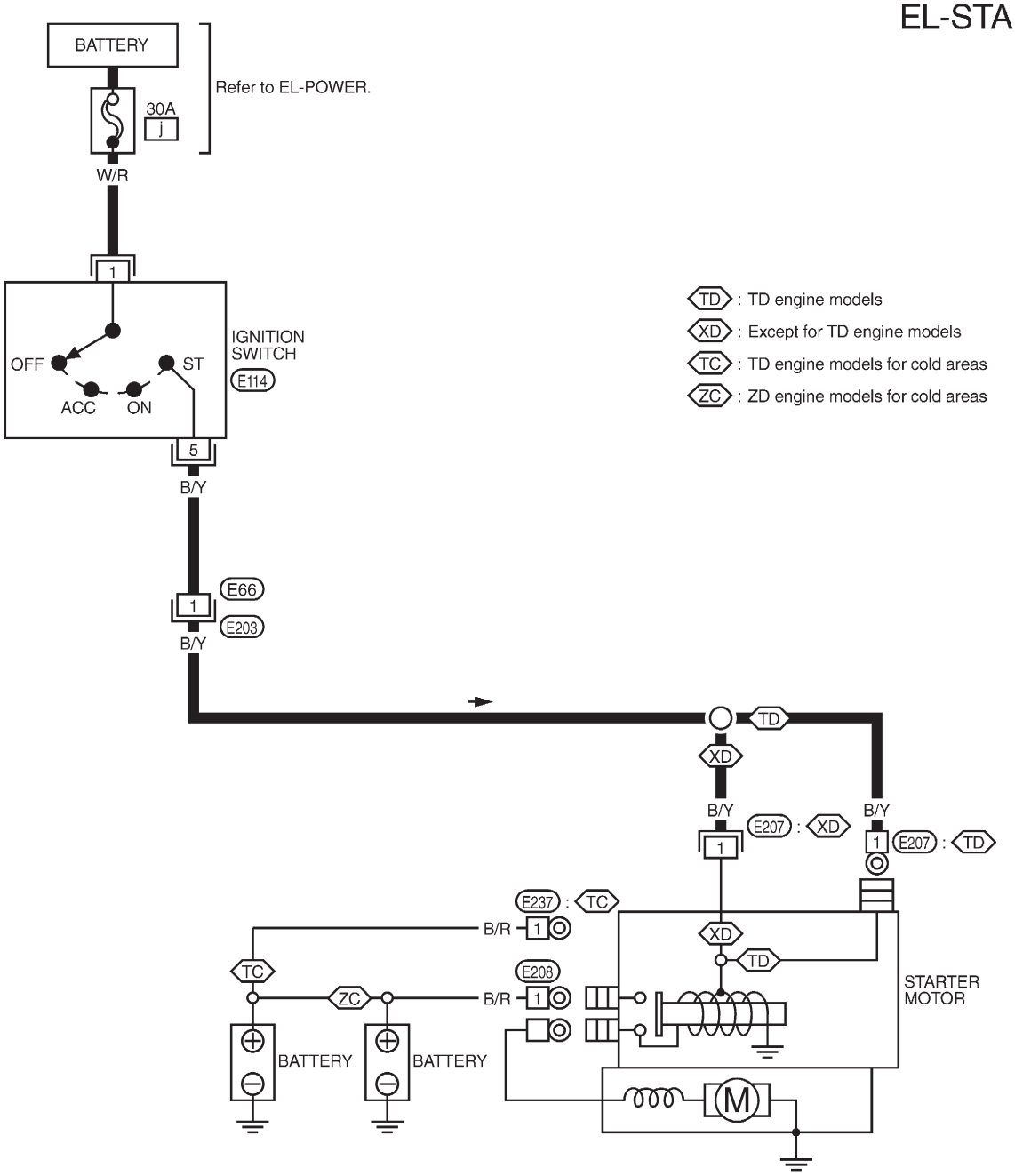
CEL098M

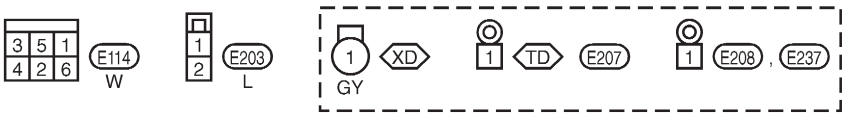
Service Data and Specifications (SDS)

Applied model	ZD30	
	Standard	Option
Type	115D31L	110D26L × 2
Capacity V-AH	12-80	12-75

Wiring Diagram — START —/M/T Models

EL-START-01

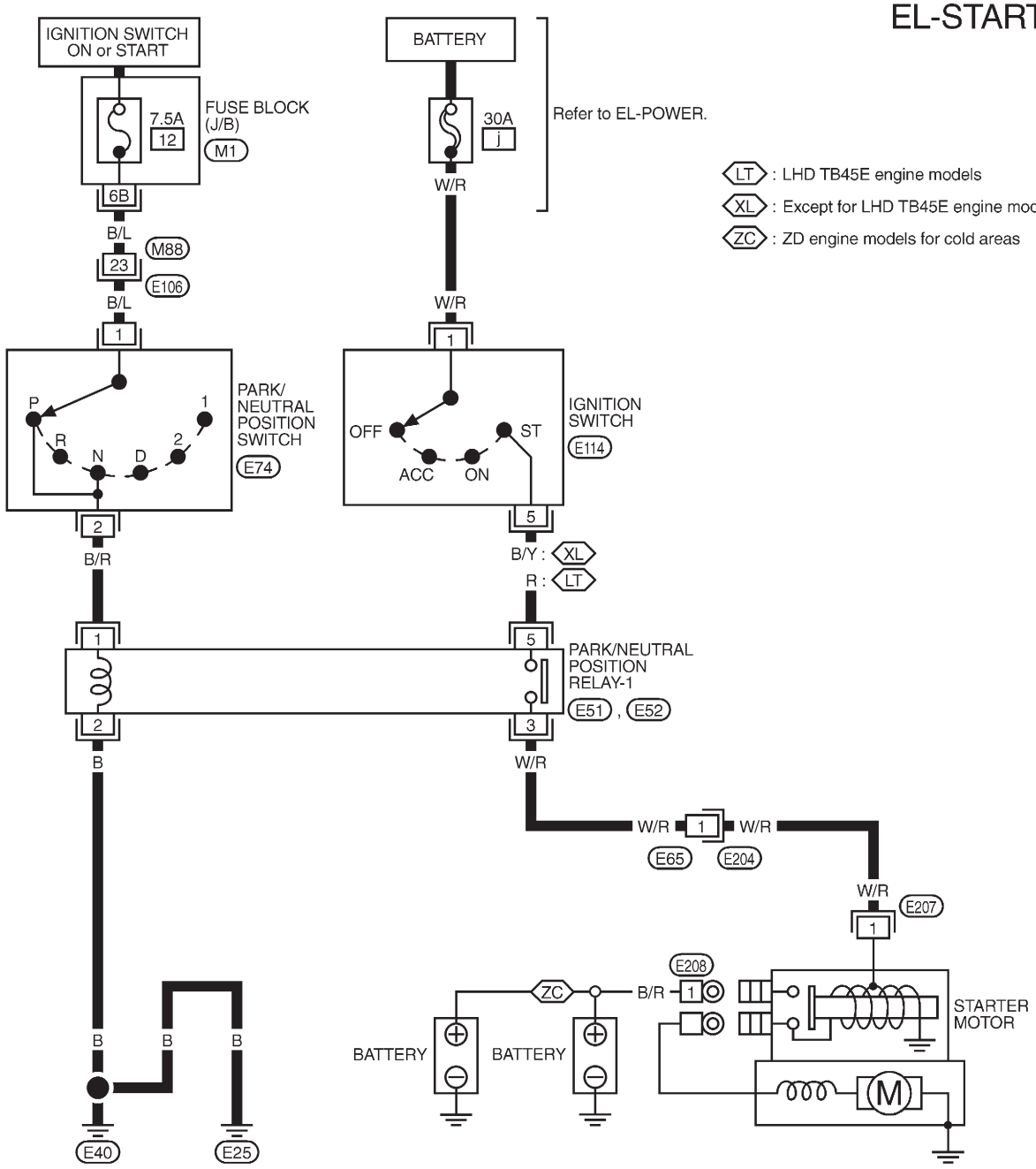


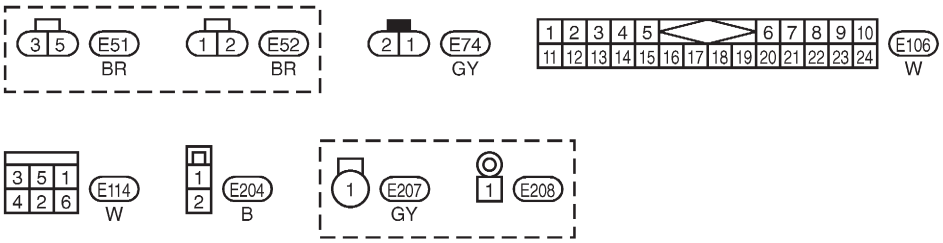


TEL208M

Wiring Diagram — START —/A/T Models

EL-START-02

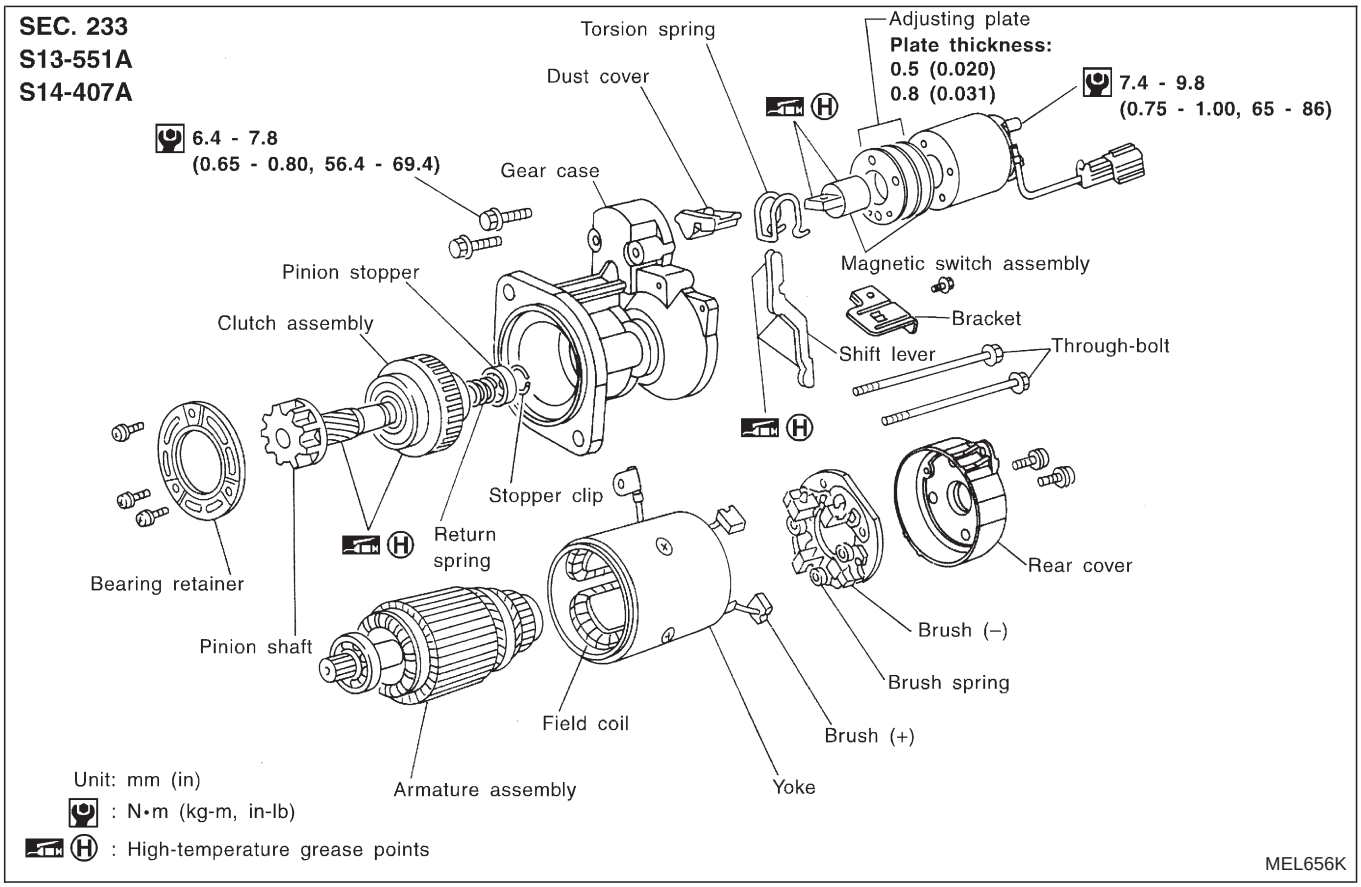




Refer to last page (Foldout page).
M1

TEL209M

Construction



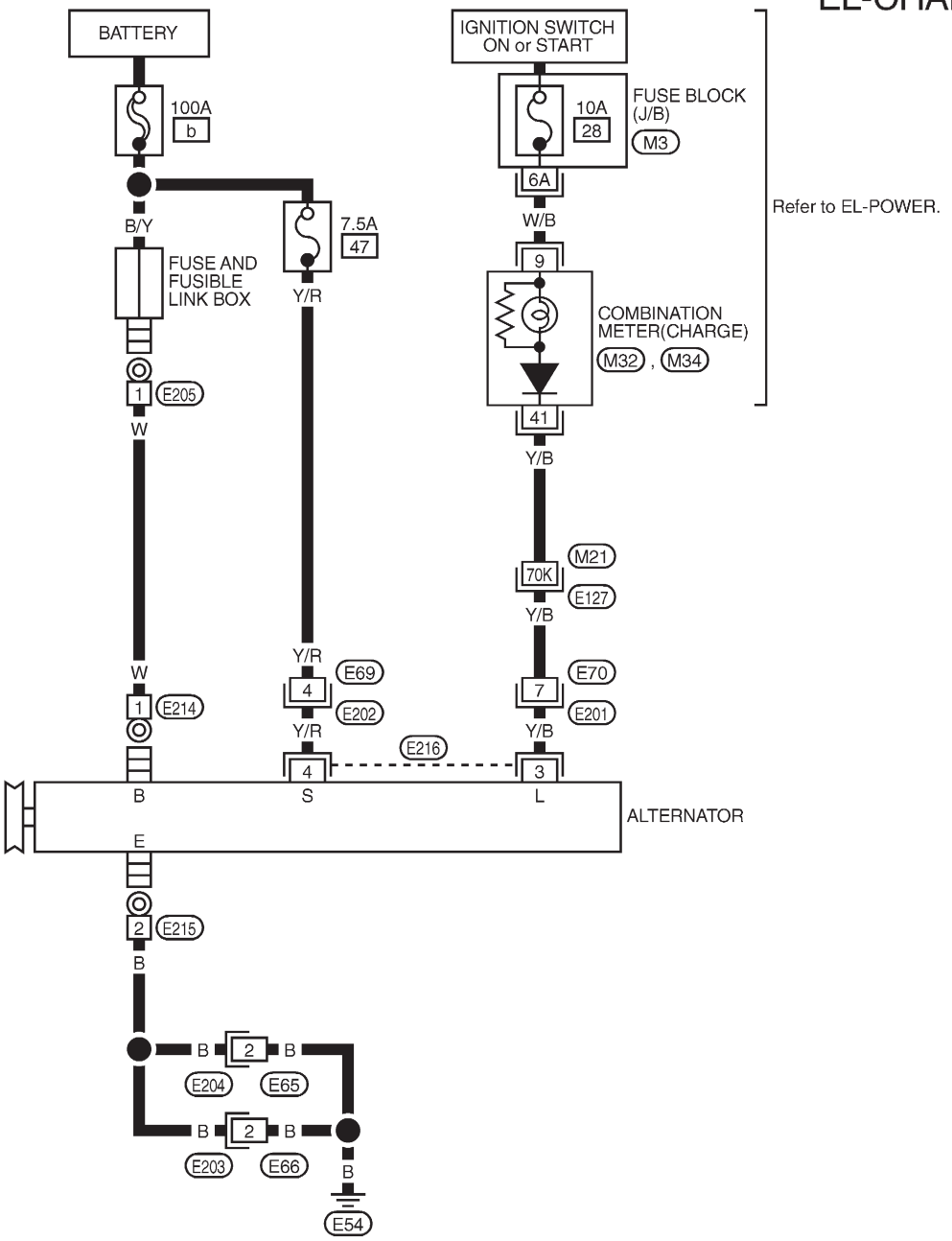
Service Data and Specifications (SDS)

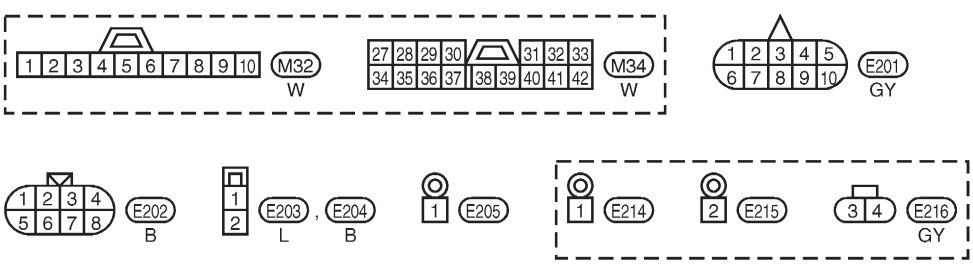
STARTER

Type		S13-551A	S14-407A
		HITACHI	
		Reduction	
Applied model		ZD30	
		Standard	Option
System voltage	V	12	
No-load			
Terminal voltage	V	11.0	
Current	A	Less than 160	
Revolution	rpm	More than 3,300	More than 3,400
Minimum diameter of commutator	mm (in)	35.5 (1.398)	
Minimum length of brush	mm (in)	11.0 (0.433)	
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)	

Wiring Diagram — CHARGE —

EL-CHARGE-01

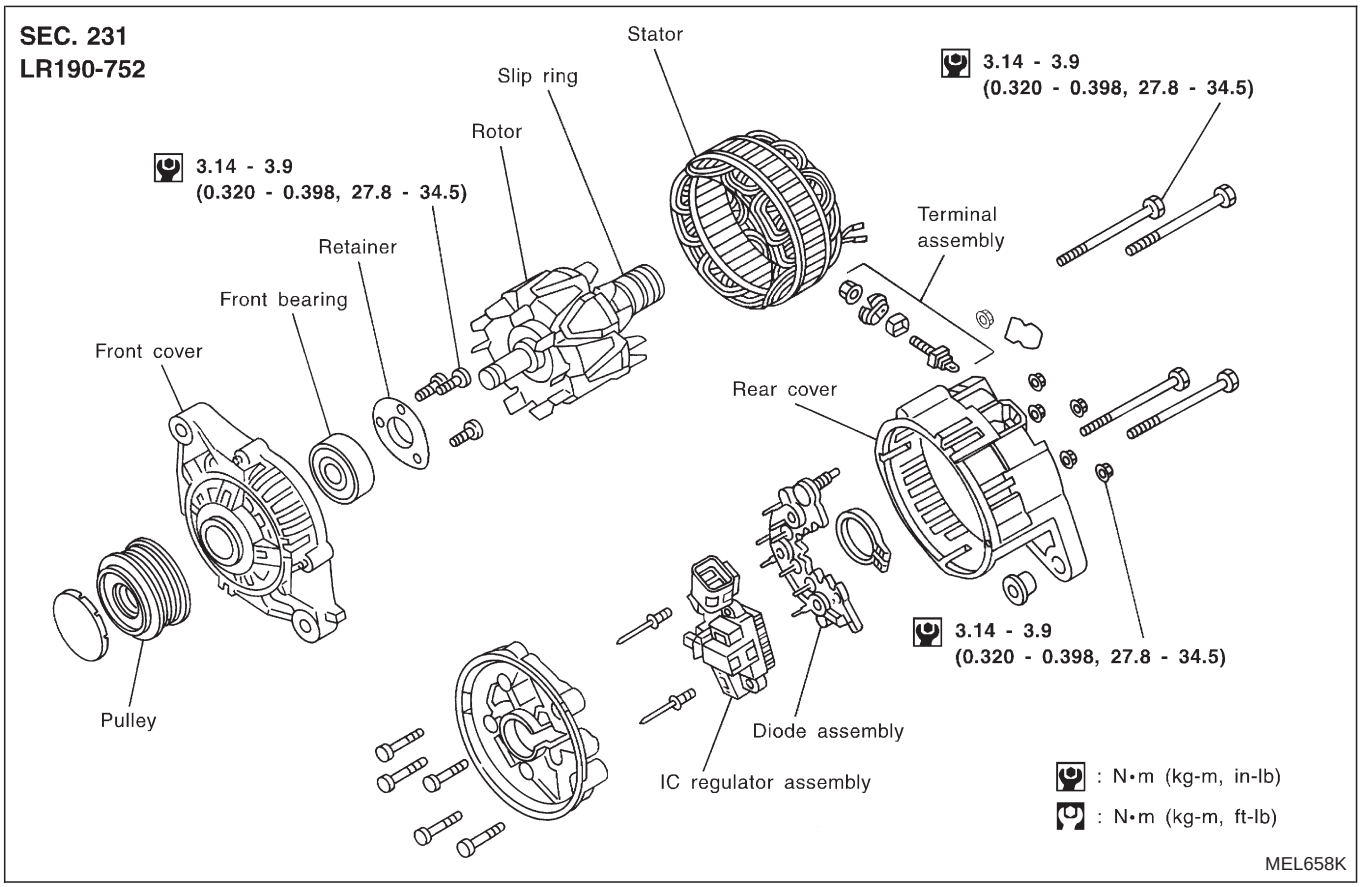




Refer to last page (Foldout page).
M21 , E127
M3

TEL210M

Construction

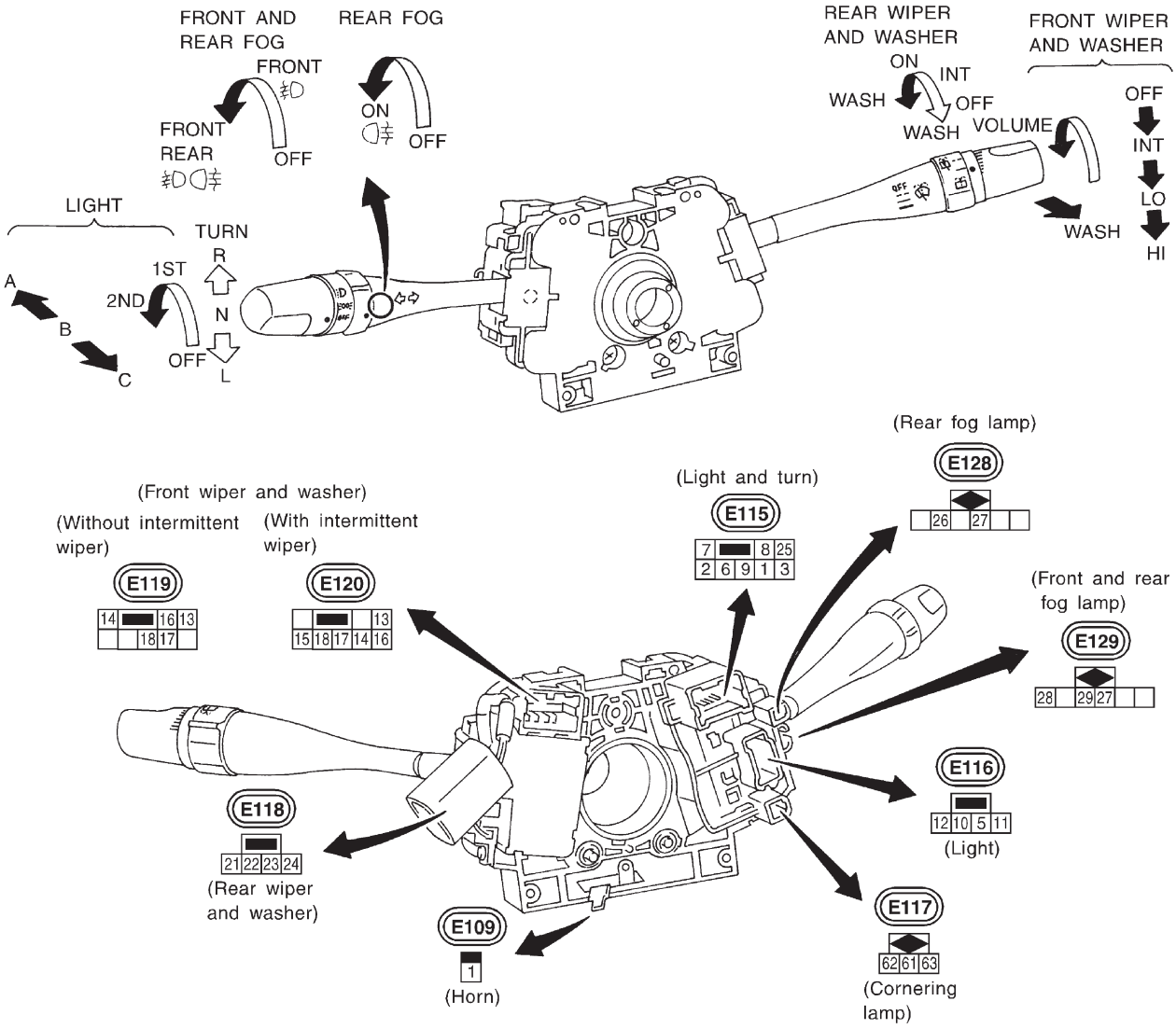


Service Data and Specifications (SDS)

ALTERNATOR

Type	LR190-752
	HITACHI
Applied model	ZD30
Nominal rating V-A	12-90
Ground polarity	Negative
Minimum revolution under no-load (When 13.5V is applied) rpm	Less than 1,000
Hot output current (When 13.5V is applied) A/rpm	More than 23/1,300 More than 65/2,500 More than 87/5,000
Regulated output voltage V	14.1 - 14.7
Minimum length of brush mm (in)	6.0 (0.236)
Brush spring pressure N (g, oz)	1.0 - 3.43 (102 - 350, 3.60 - 12.34)
Slip ring minimum outer diameter mm (in)	26.0 (1.024)
Rotor (Field coil) resistance Ω	2.67

Check



FRONT WIPER AND WASHER SWITCH

	LO	AUTO STOP	AMP	WASH	HI	EARTH
OFF	○	○				
INT	○	○	○			○
LO	○					○
HI					○	○
WASH				○		○

VARIABLE INTERMITTENT WIPER VOLUME

WIPER AMP.

⑭ ⑮ ⑬ ⑯ ⑰ ⑱

CORNERING LAMP SWITCH

	L	N	R
61	○		○
62			○
63	○		

FRONT AND REAR FOG LAMP SWITCH

	OFF	FRONT	FRONT REAR
28		○	○
29		○	○
27			○

LIGHTING SWITCH

	OFF			1ST			2ND		
	A	B	C	A	B	C	A	B	C
5			○			○	○	○	○
6			○			○	○		○
7								○	
25							○	○	○
8			○			○	○	○	○
9			○			○	○		○
10								○	
11				○	○	○	○	○	○
12				○	○	○	○	○	○

REAR FOG LAMP SWITCH

	OFF	ON
26		○
27		○

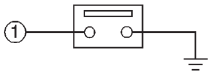
REAR WIPER AND WASHER SWITCH

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

TURN SIGNAL SWITCH

	L	N	R
1	○		○
2			○
3	○		

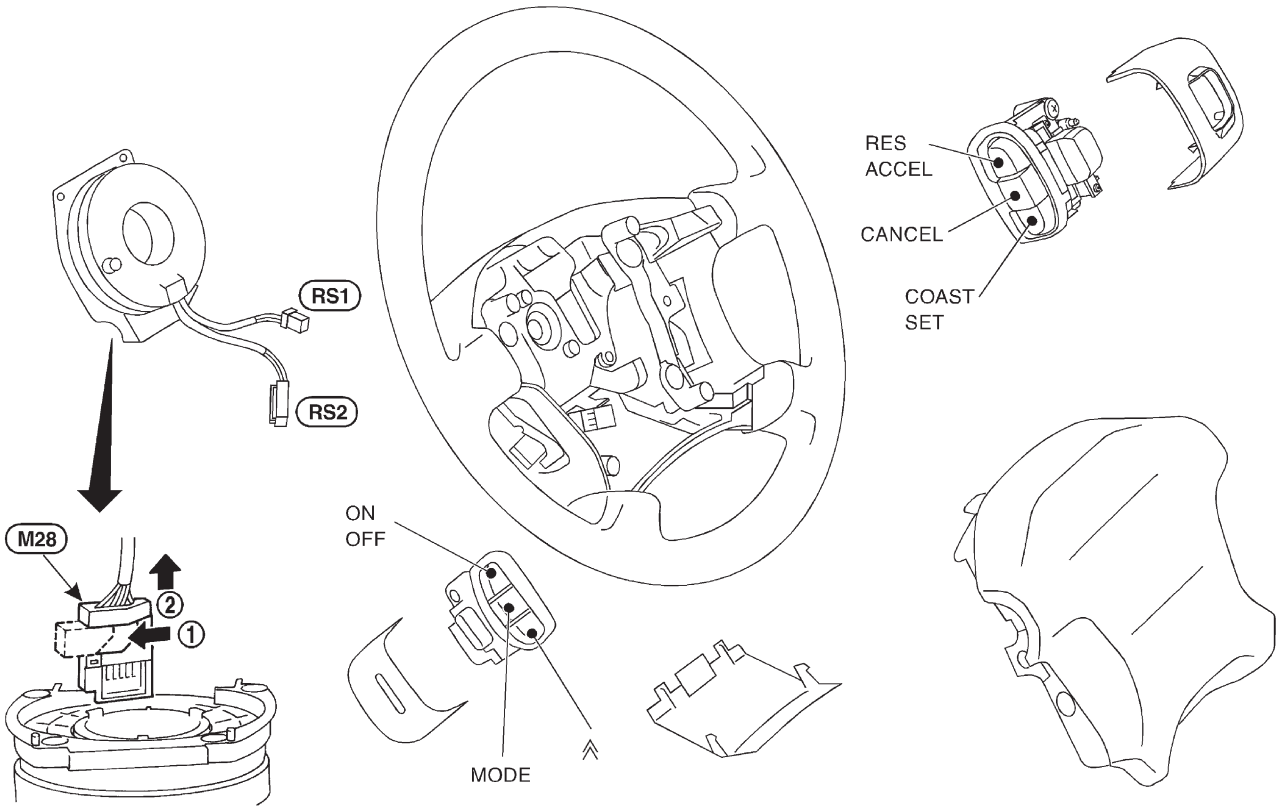
HORN SWITCH

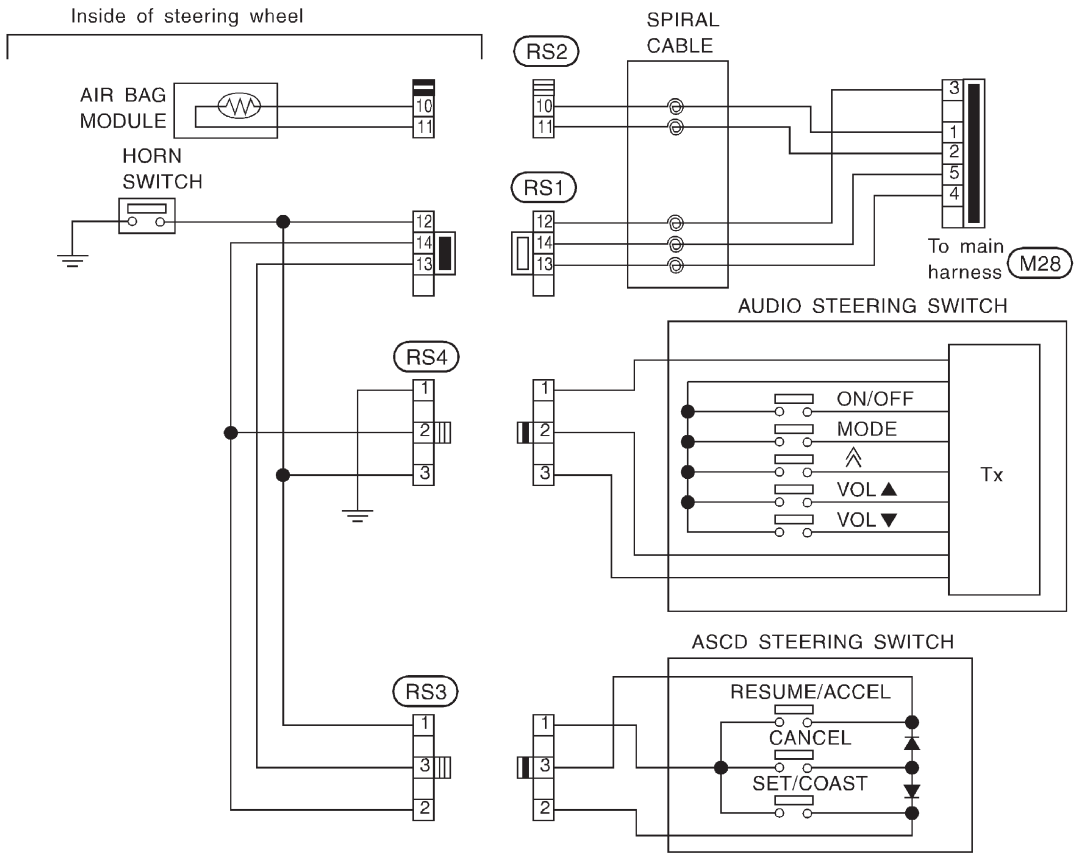


CEL099M

Check

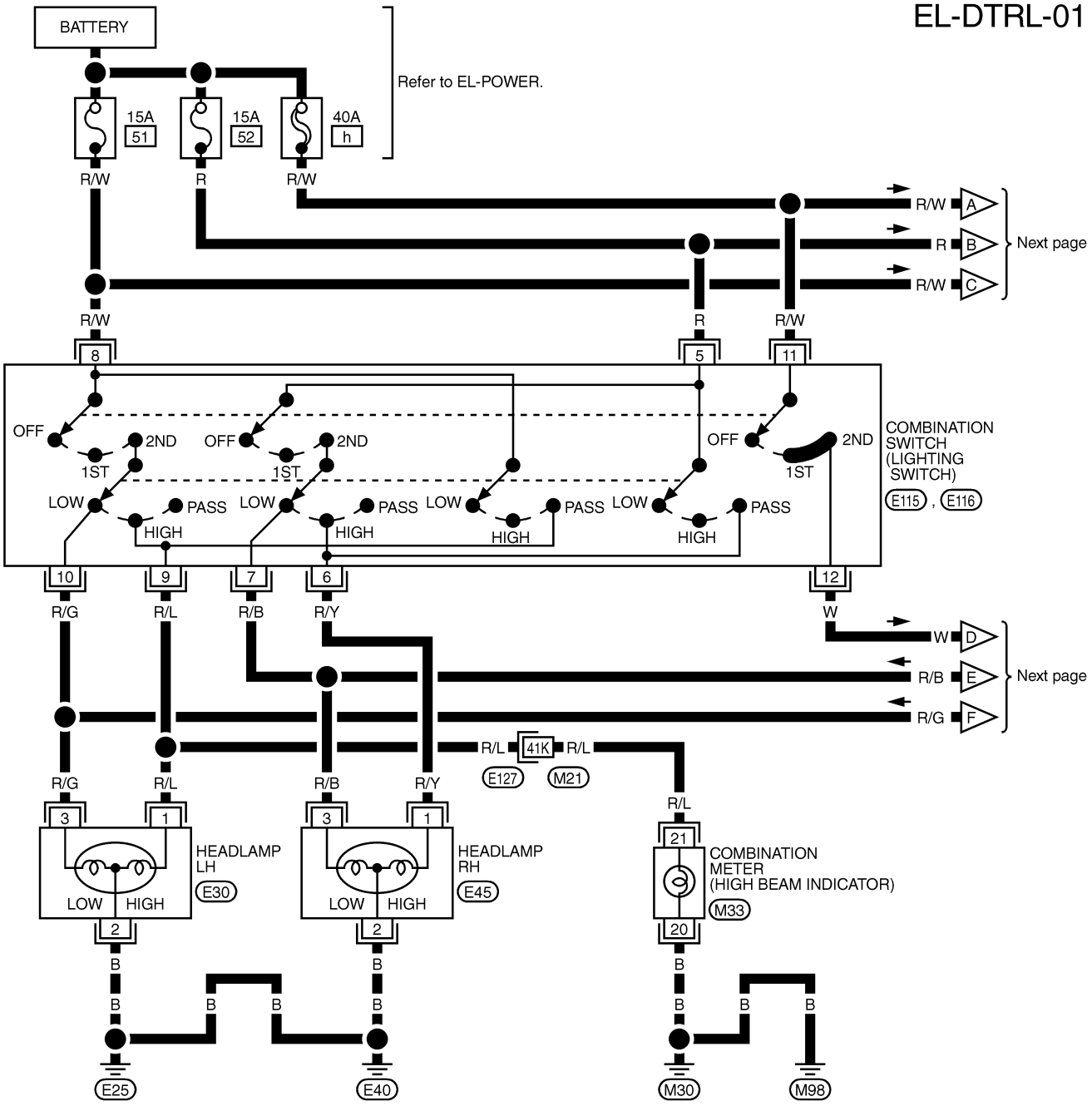
WITH ASCD AND AUDIO SWITCH

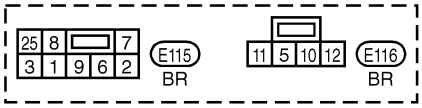




CEL205A

Wiring Diagram — DTRL —

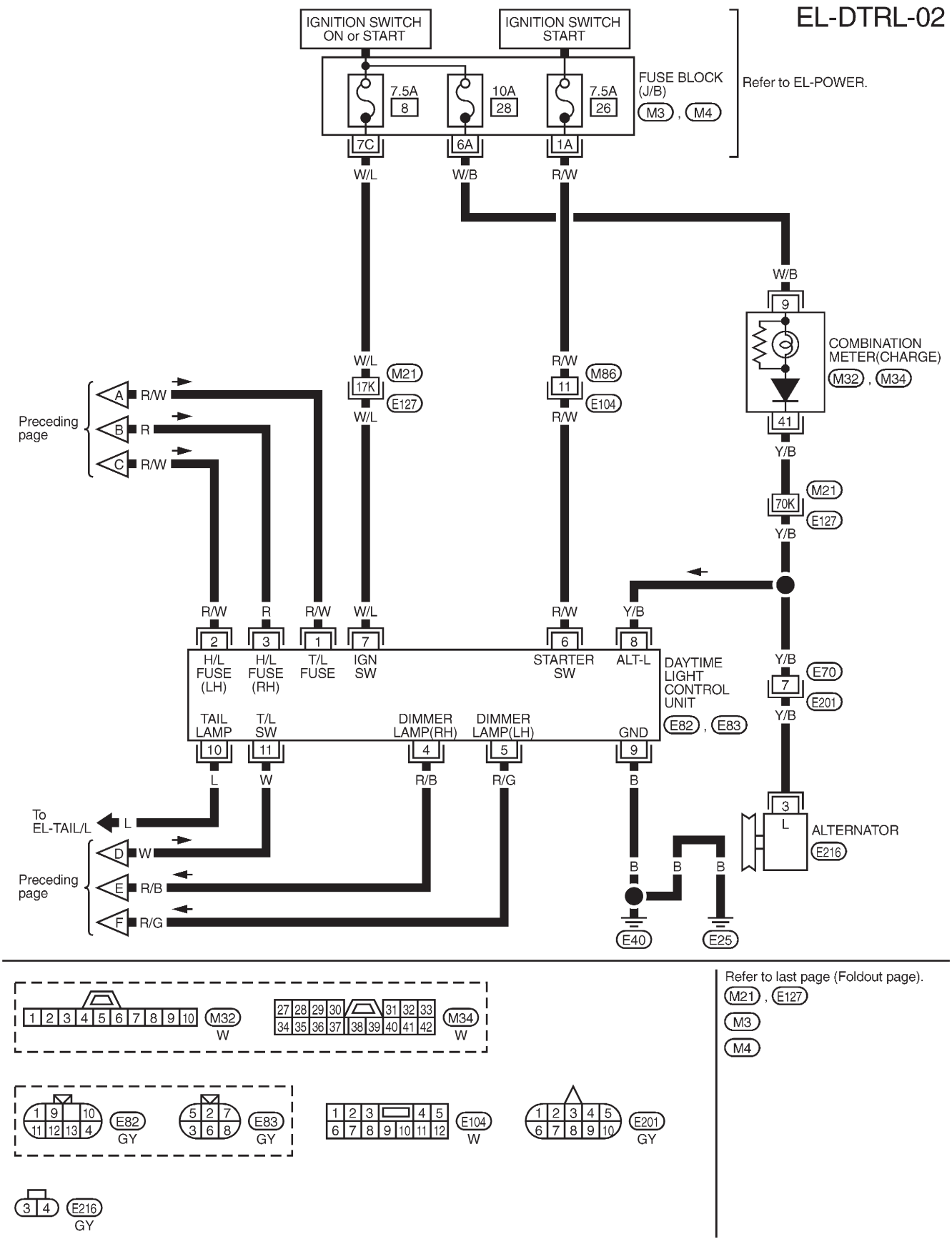




Refer to last page (Foldout page).
M21 , E127

TEL675B

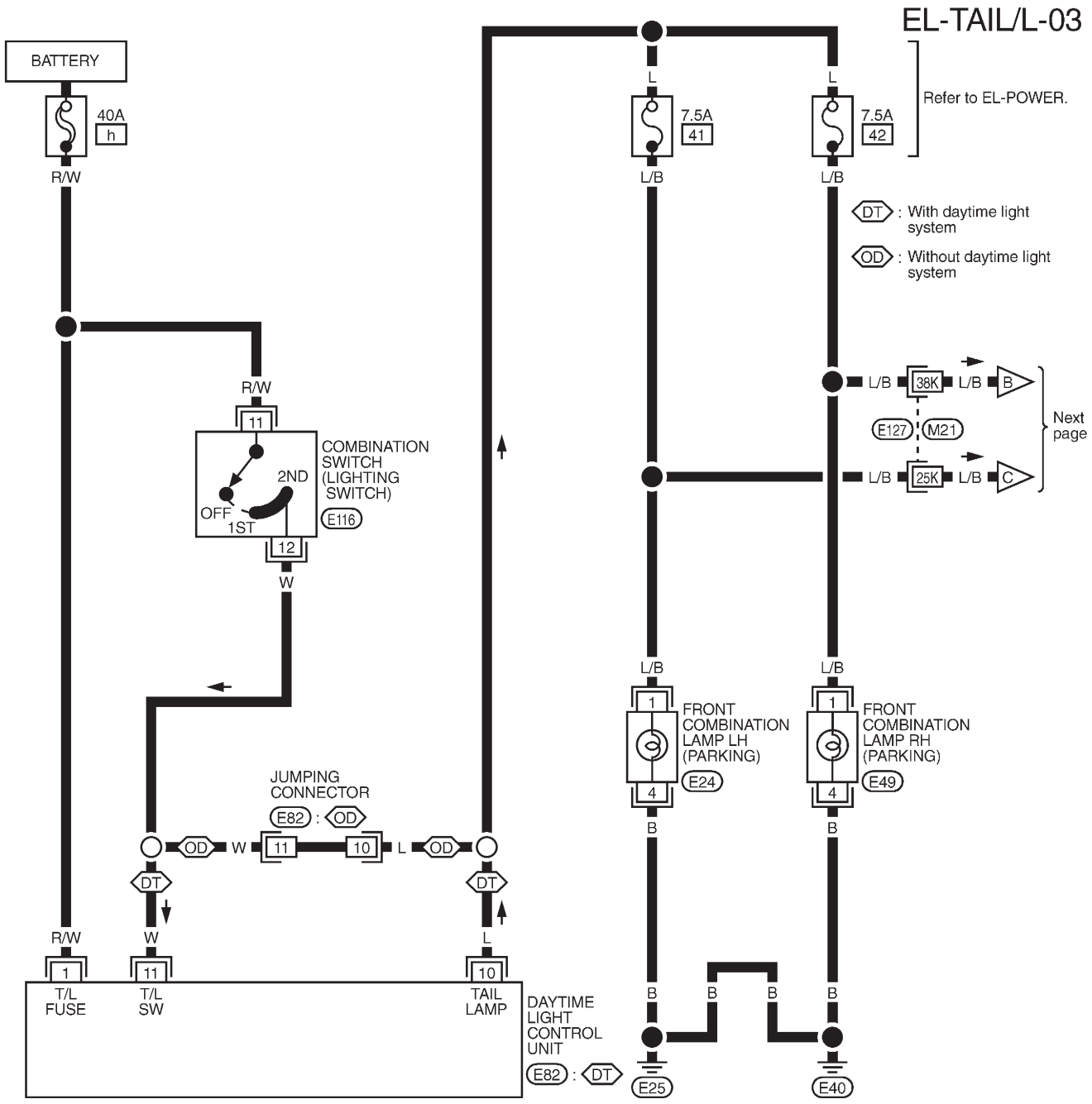
Wiring Diagram — DTRL — (Cont'd)

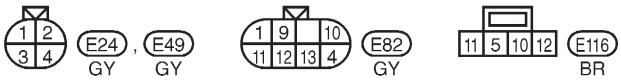


Refer to last page (Foldout page).
M21 , E127
M3
M4

TEL211M

Wiring Diagram — TAIL/L —/LHD Models



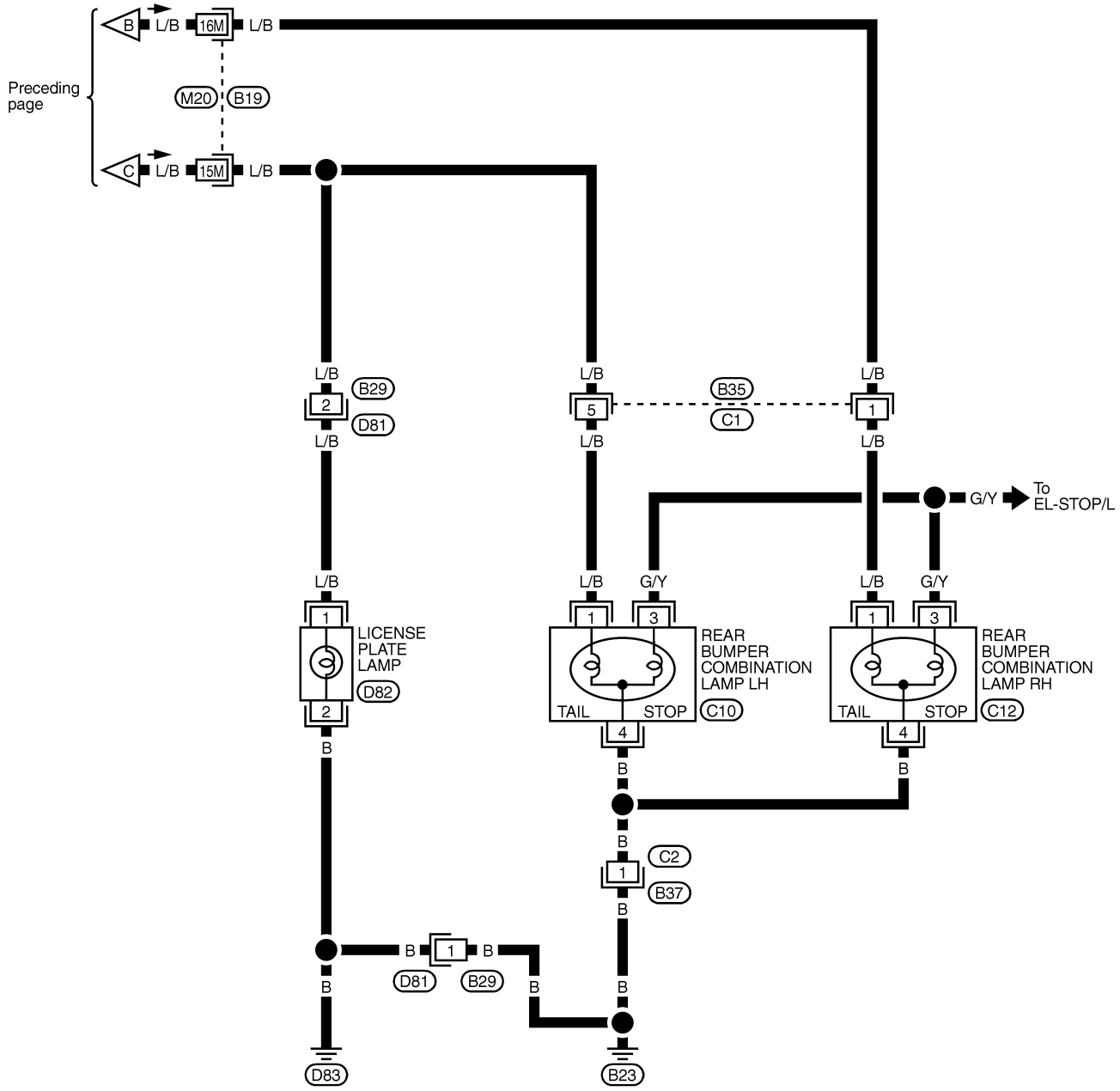


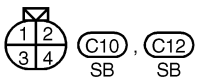
Refer to last page (Foldout page).
M21 , E127

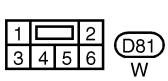
TEL637A

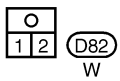
Wiring Diagram — TAIL/L —/LHD Models (Cont'd)

EL-TAIL/L-04







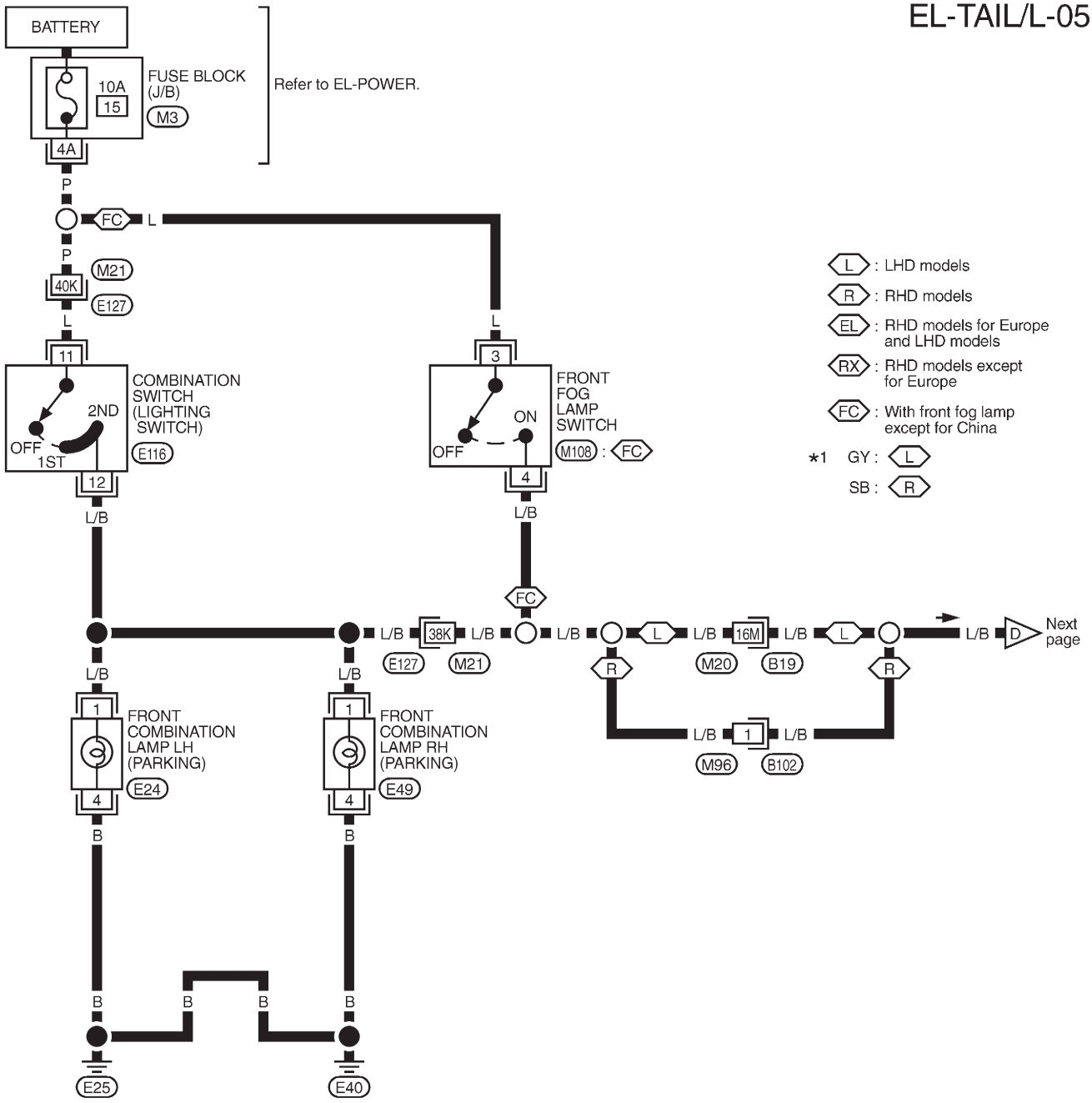


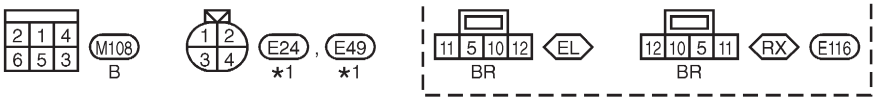
Refer to last page (Foldout page).
M20 , B19

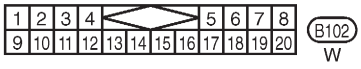
TEL213M

Wiring Diagram — TAIL/L —/RHD Models

EL-TAIL/L-05







Refer to last page (Foldout page).

M20 , B19

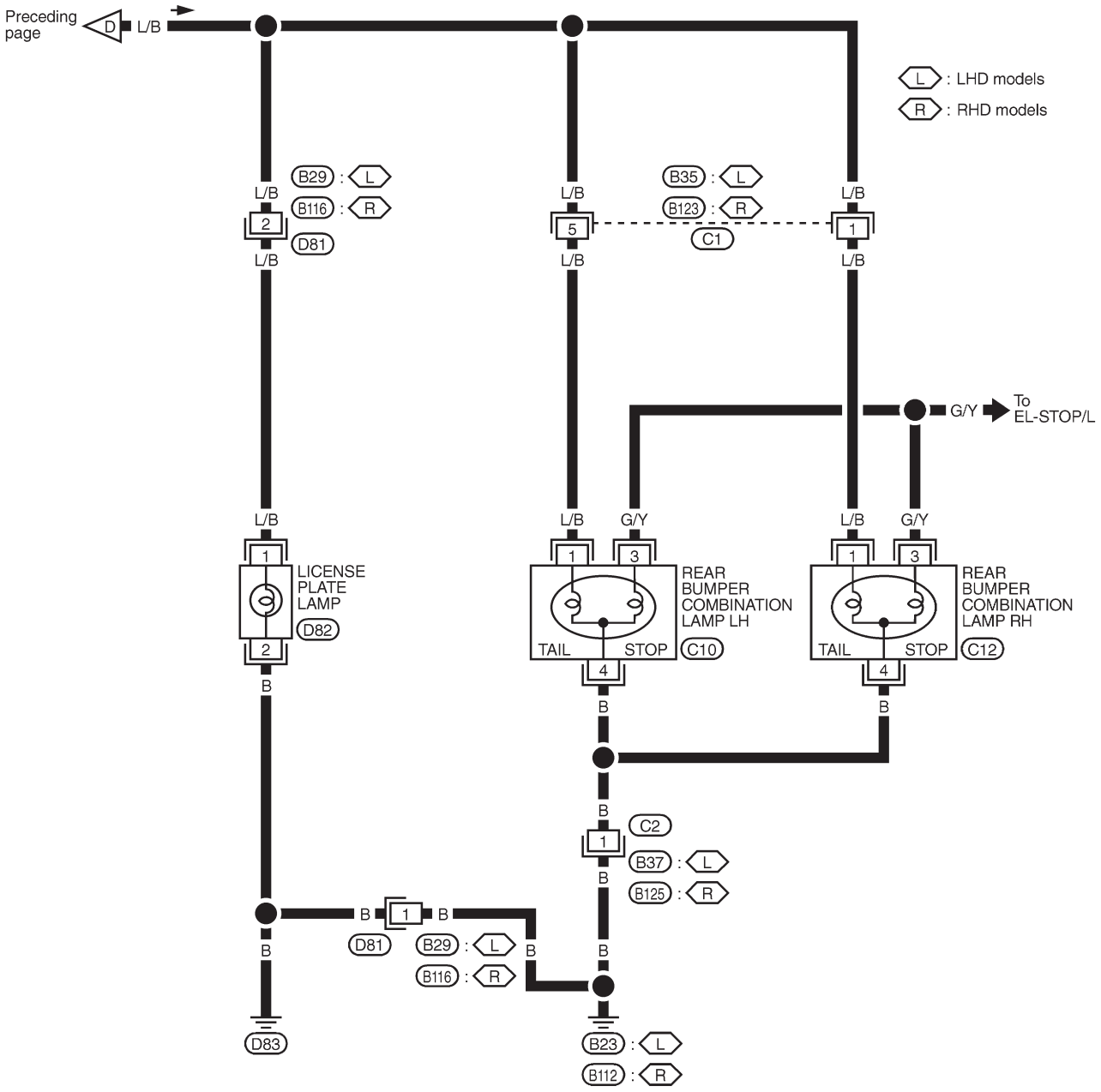
M21 , E127

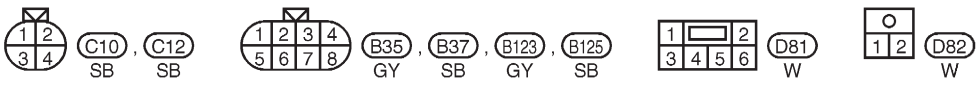
M3

TEL214M

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

EL-TAIL/L-06

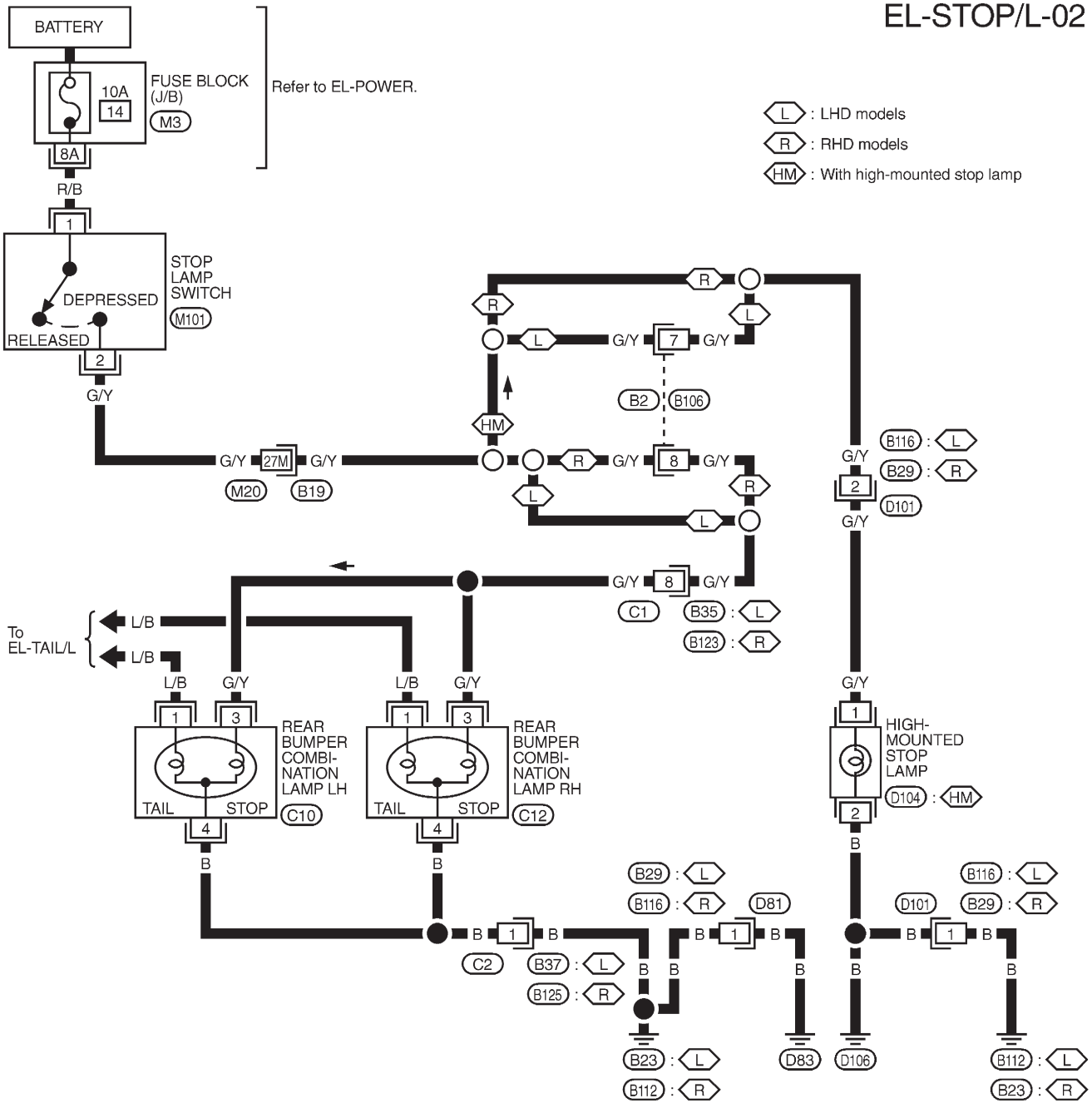


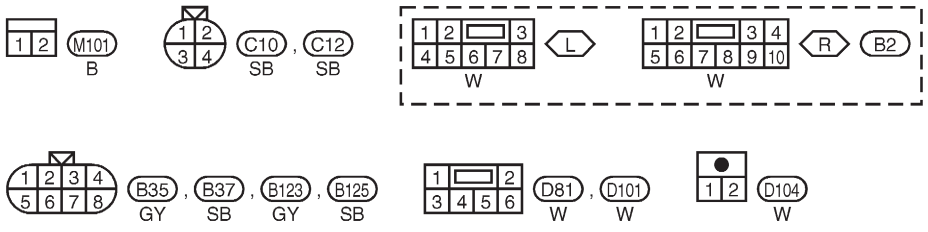


TEL215M

Wiring Diagram — STOP/L —

EL-STOP/L-02



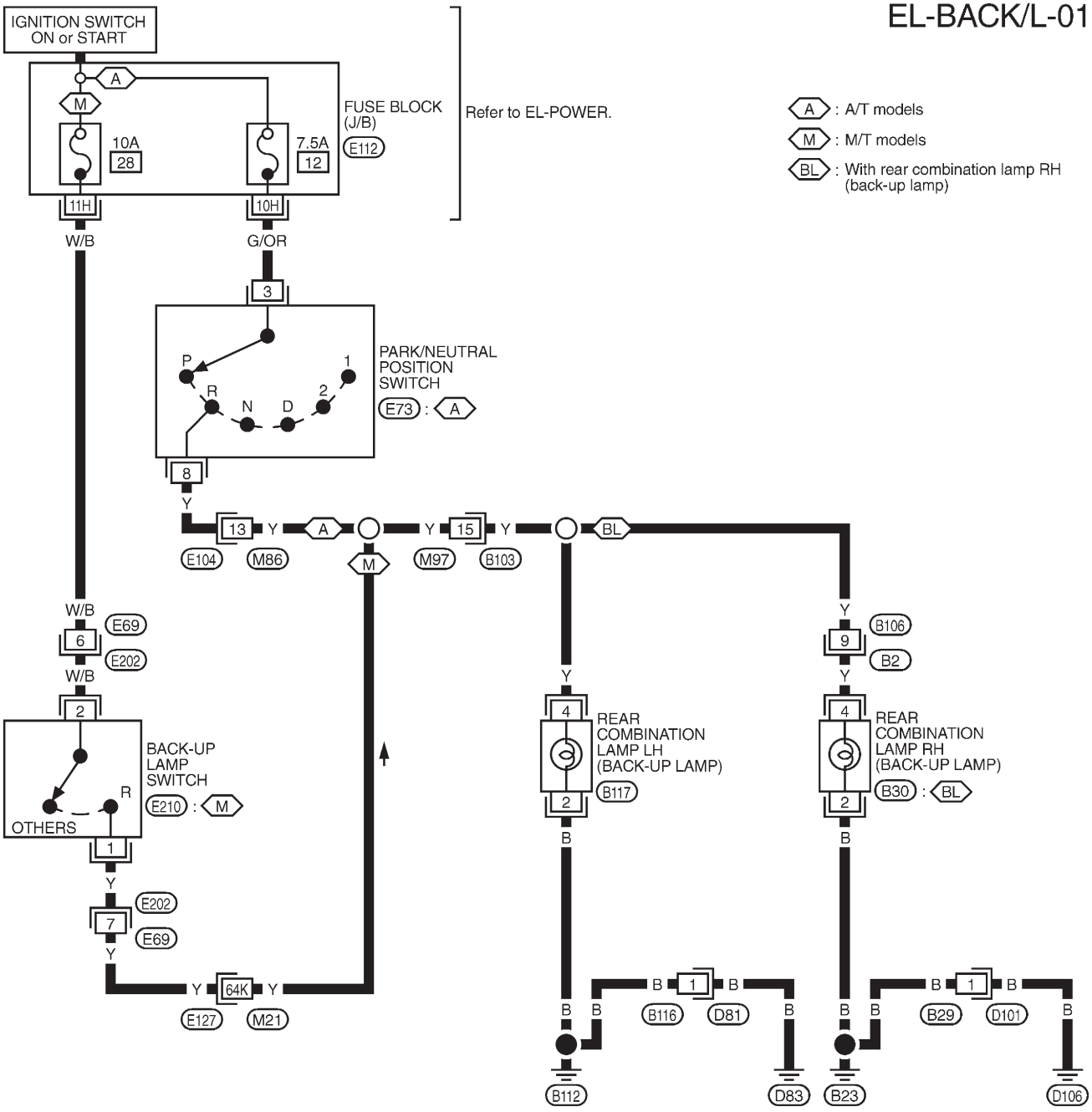


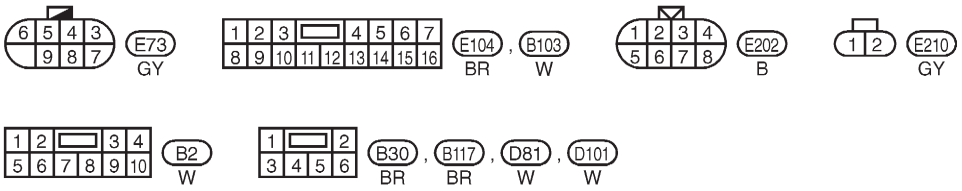
Refer to last page (Foldout page).
M20 , B19
M3

TEL217M

Wiring Diagram — BACK/L —/RHD Models

EL-BACK/L-01

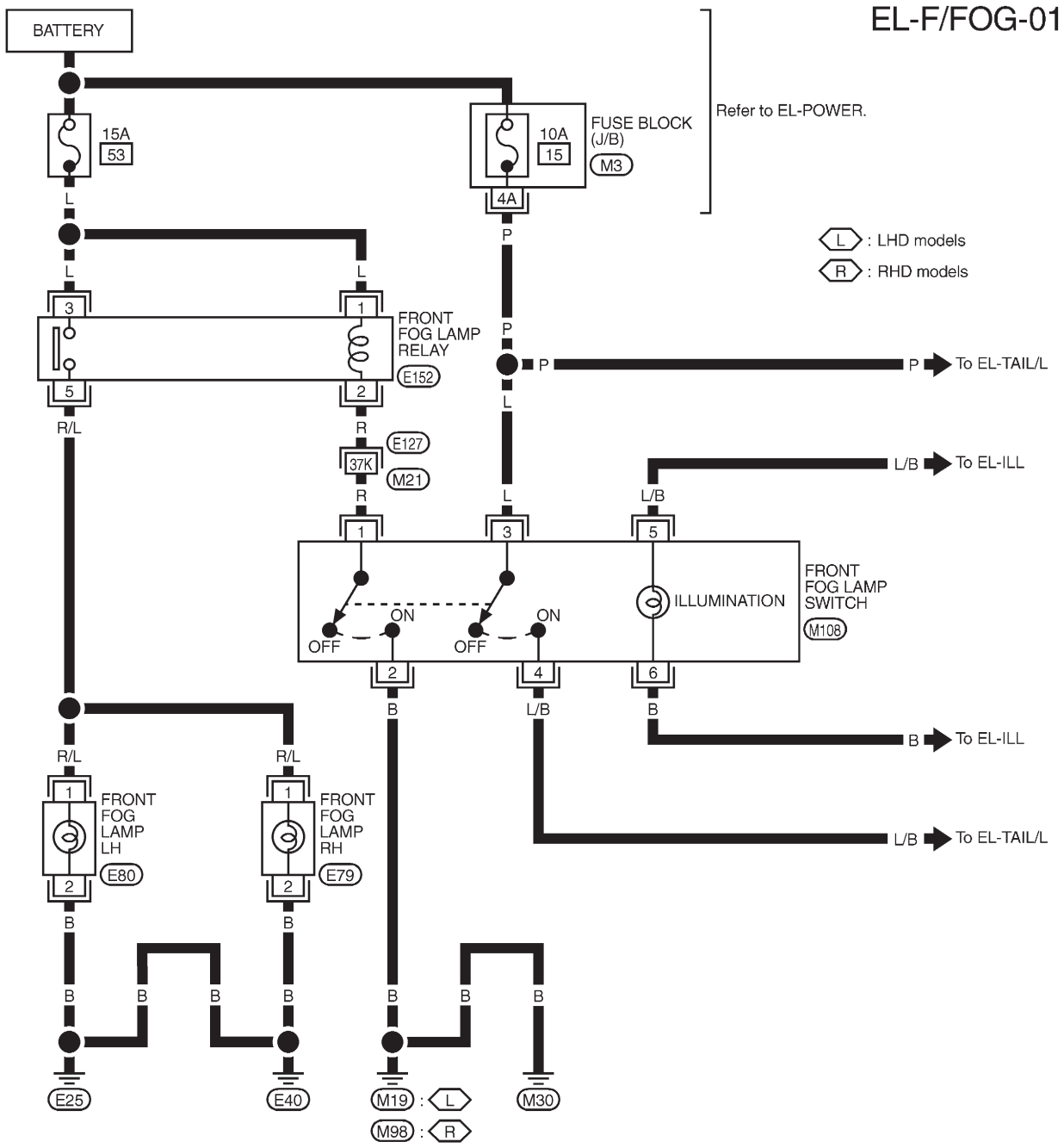




Refer to last page (Foldout page).
M21 , E127
E112

TEL218M

Wiring Diagram — F/FOG —



M108 B

E79 , E80 BR BR

E152 L

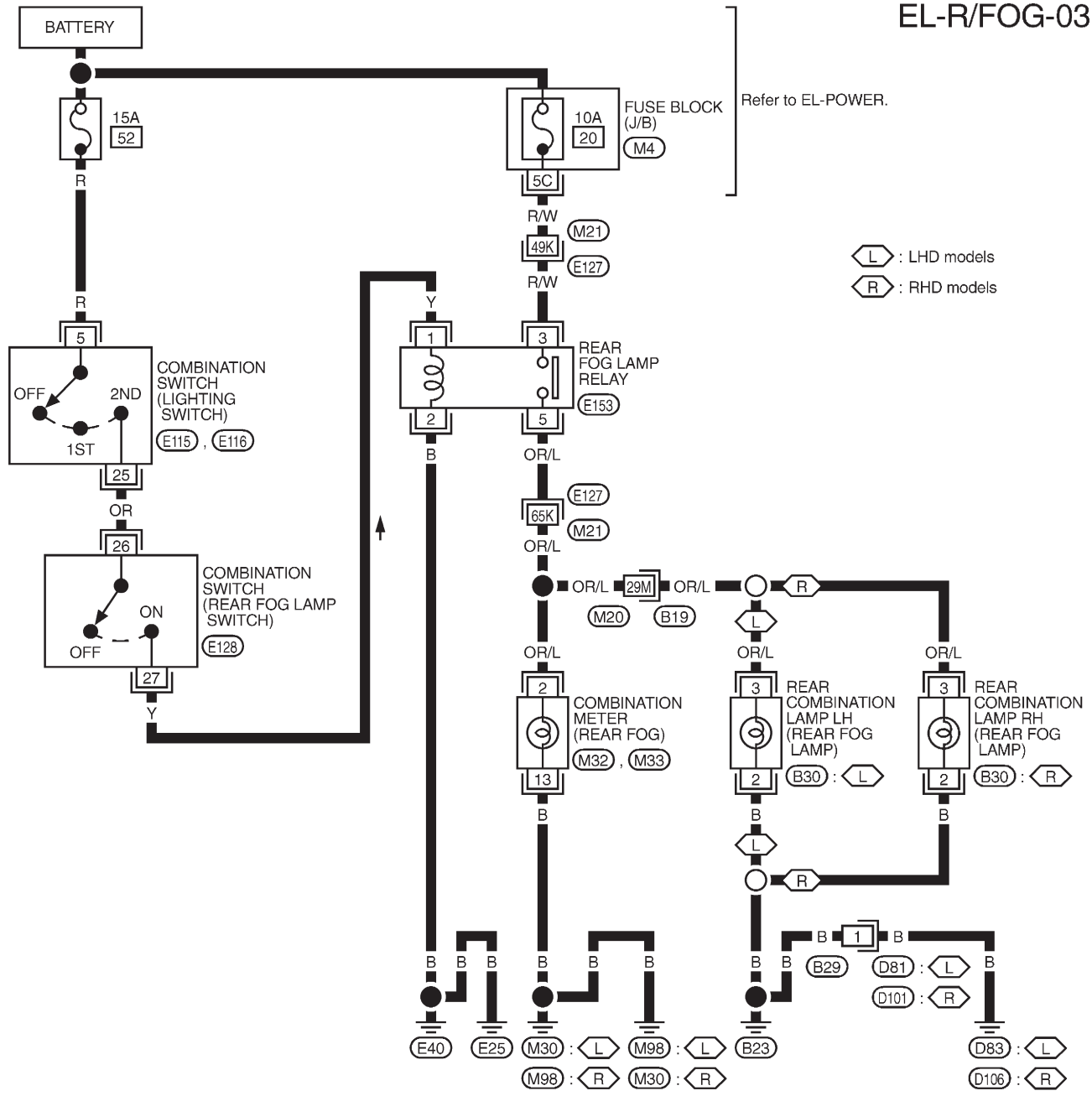
Refer to last page (Foldout page).

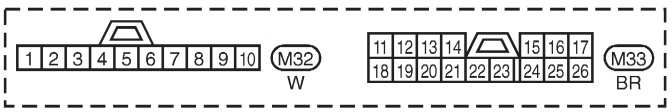
M21 , E127

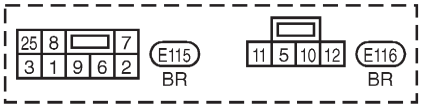
M3

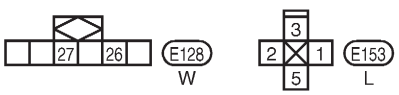
TEL219M

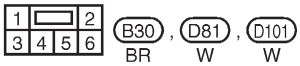
Wiring Diagram — R/FOG —







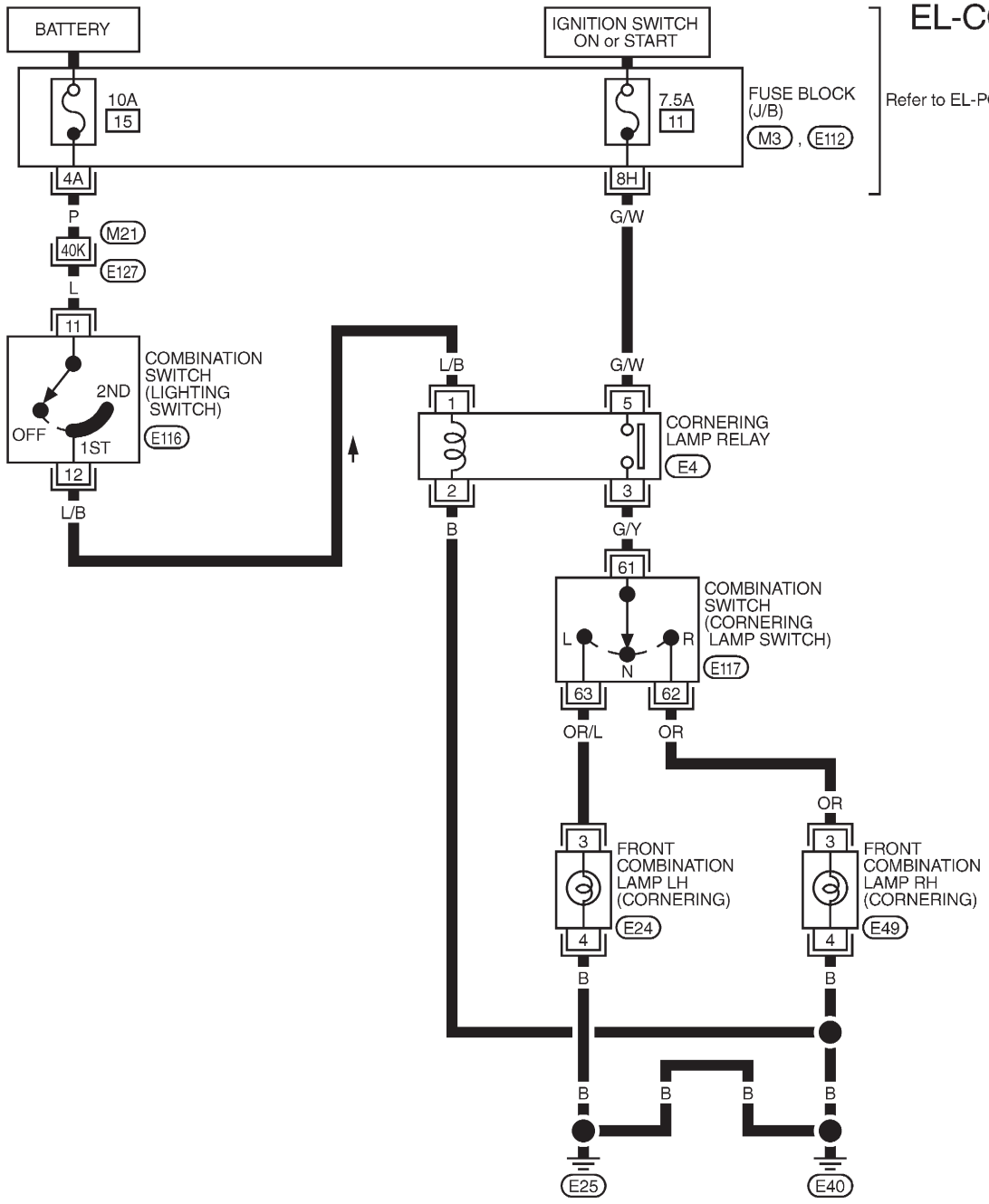


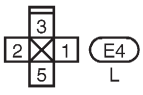


Refer to last page (Foldout page).
M20 , B19
M21 , E127
M4

TEL220M

Wiring Diagram — CORNER —/LHD Models





E4
L

E24 , E49
GY GY

E116
BR

E117
BR

Refer to last page (Foldout page).
M21 , E127
M3
E112

TEL221M

System Description/RHD Models

The cornering lamp operation is controlled by the lighting switch which is built into the combination switch and cornering lamp relay unit.
Power is supplied at all times
- to lighting switch terminal ⑪
- through 10A fuse [No. 15, located in the fuse block (J/B)].

Lighting operation by lighting switch

When lighting switch is in 1ST (or 2ND) position, power is supplied
- to cornering lamp relay unit terminal ③
- through lighting switch terminal ⑫.

With the ignition switch in the ON or START position, power is supplied to cornering lamp relay unit terminal ②
- through 7.5A fuse [No. 11, located in the fuse block (J/B)].

RH turn

When the turn signal lever is moved to the RH position, ground is supplied
- to cornering lamp relay unit terminal ⑥
- through turn signal lamp switch terminals ② and ①
- through body grounds E25 and E40.

Power is supplied
- from terminal ⑤ of the cornering lamp relay unit
- to front combination lamp RH terminal ③.

Ground is supplied to terminal ④ of front combination lamp RH through body grounds E25 and E40.
The RH cornering lamp illuminates until the turn signal lever returns to NEUTRAL position.

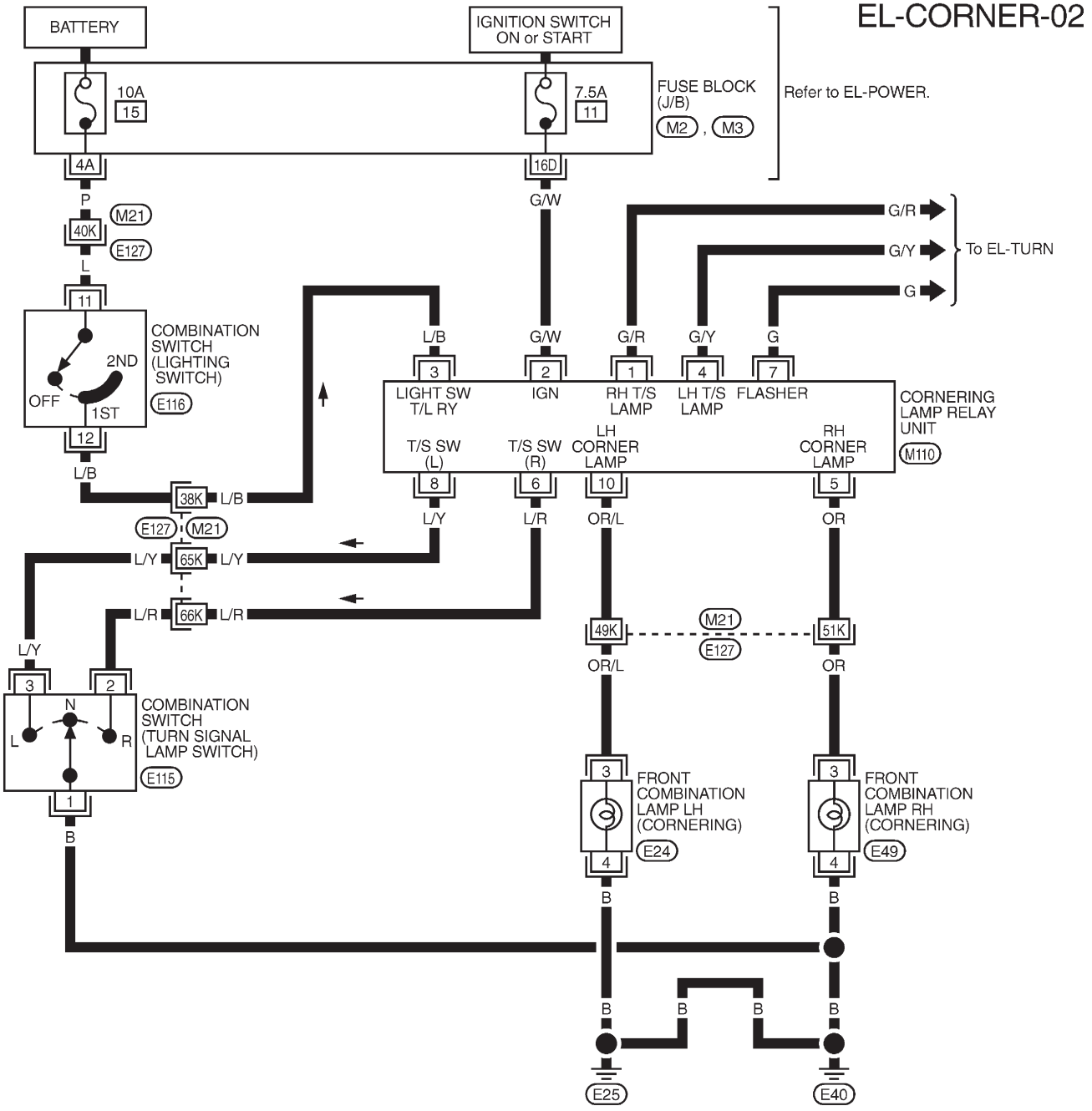
LH turn

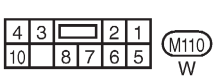
When the turn signal lever is moved to the LH position, ground is supplied
- to cornering lamp relay unit terminal ⑧
- through turn signal lamp switch terminals ③ and ①
- through body grounds E25 and E40.

Power is supplied
- from terminal ⑩ of the cornering lamp relay unit
- to front combination lamp LH terminal ③.

Ground is supplied to terminal ④ of front combination lamp LH through body grounds E25 and E40.
The LH cornering lamp illuminates until the turn signal lever returns to NEUTRAL position.

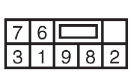
Wiring Diagram — CORNER —/RHD Models



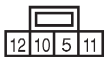


M110 W

E24 , E49 SB SB



E115 BR



E116 BR

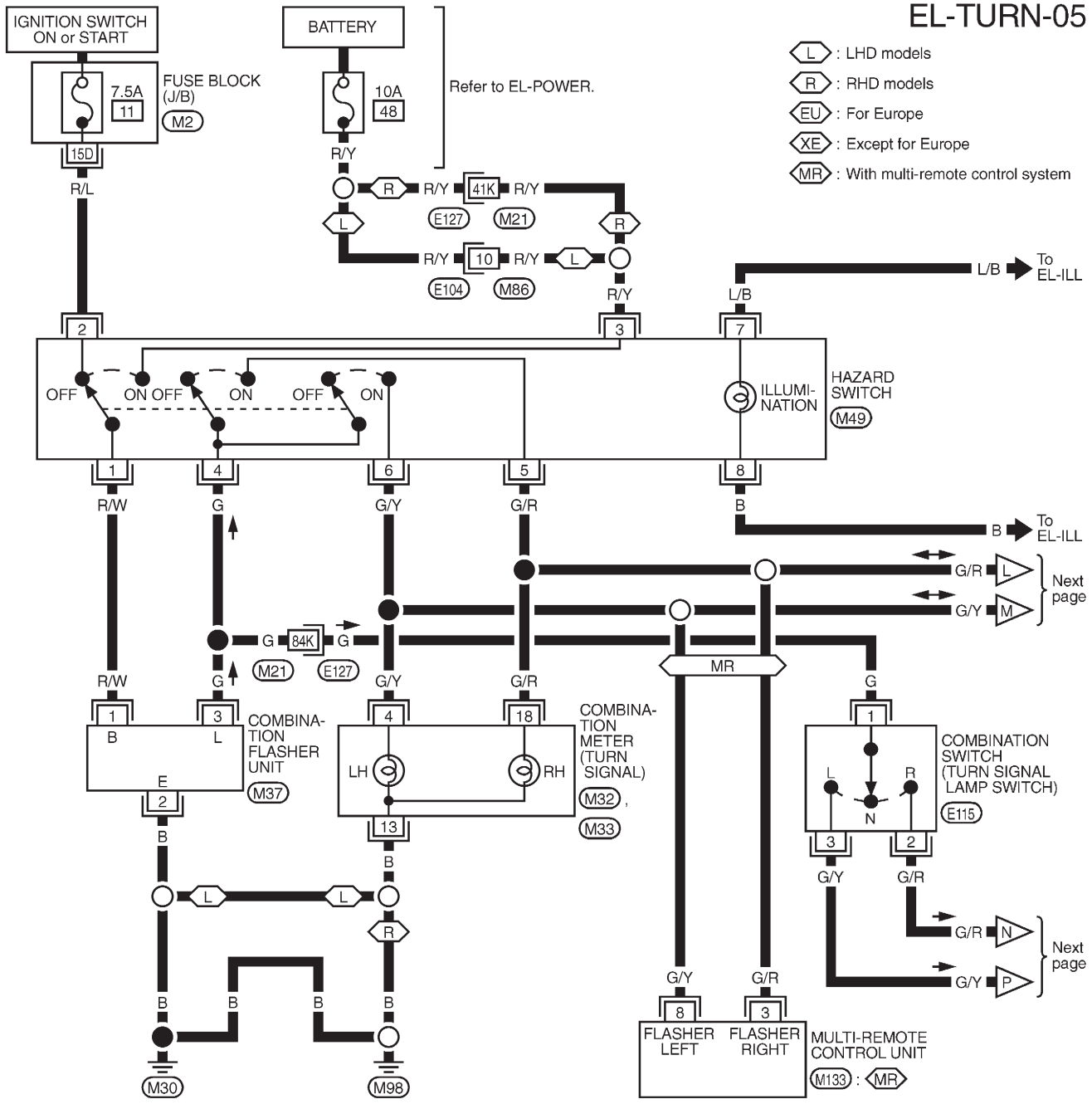
Refer to last page (Foldout page).
M21 , E127
M2
M3

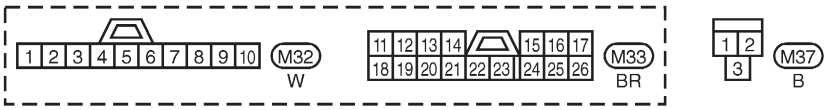
TEL222M

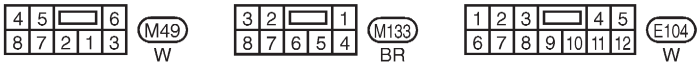
Trouble Diagnoses/RHD Models

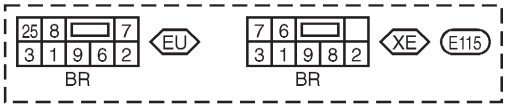
Symptom	Possible cause	Repair order
Cornering lamps do not operate but turn signal lamps operate.	1. 10A fuse	1. Chack 10A fuse [No. 15, located in fuse block (J/B).] Verify battery voltage is present at terminal ⑪ of lighting switch.
	2. Lighting switch circuit	2. Check harness for open or short between lighting switch and cornering lamp relay unit.
	3. Lighting switch	3. Check lighting switch.
	4. Cornering lamp relay unit	4. Replace the cornering lamp relay unit.
LH cornering lamp does not operate but RH cornering operates.	1. Bulb	1. Check bulb
	2. Cornering lamp LH circuit	2. Check harness for open or short between cornering lamp LH and cornering lamp relay unit.
	3. Cornering lamp ground LH circuit	3. Check harness for open or short between cornering lamp LH and ground.
RH cornering lamp does not operate but LH cornering operates.	1. Bulb	1. Check bulb
	2. Cornering lamp RH circuit	2. Check harness for open or short between cornering lamp RH and cornering lamp relay unit.
	3. Cornering lamp ground RH circuit	3. Check harness for open or short between cornering lamp RH and ground.

Wiring Diagram — TURN —





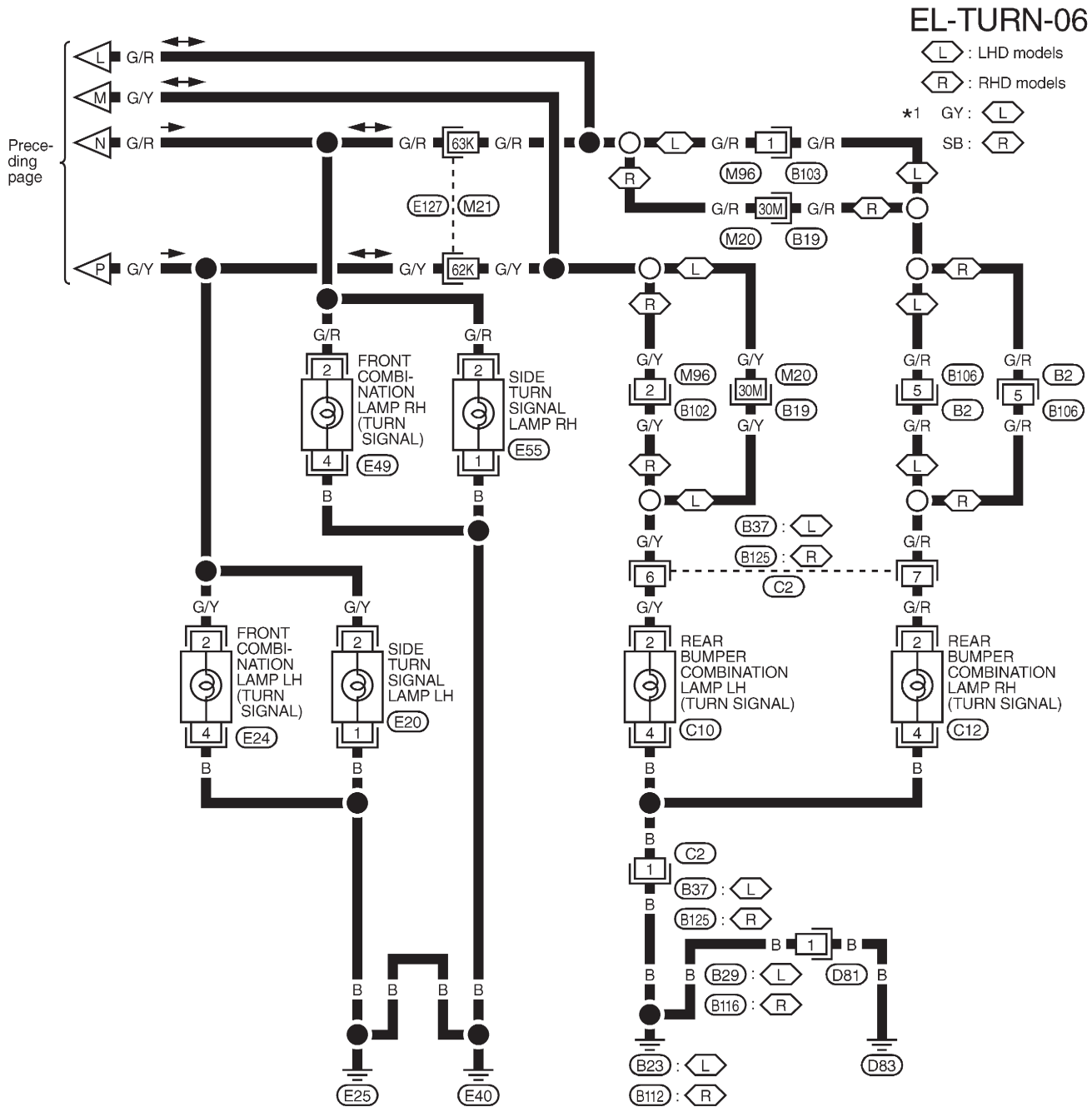


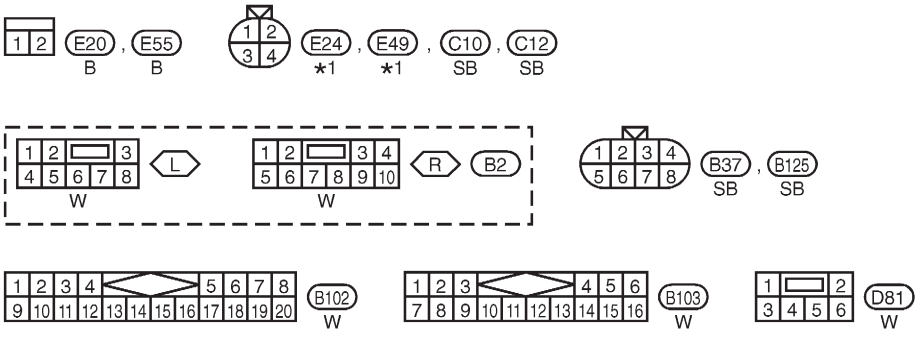


Refer to last page (Foldout page).
M21, E127
M2

TEL223M

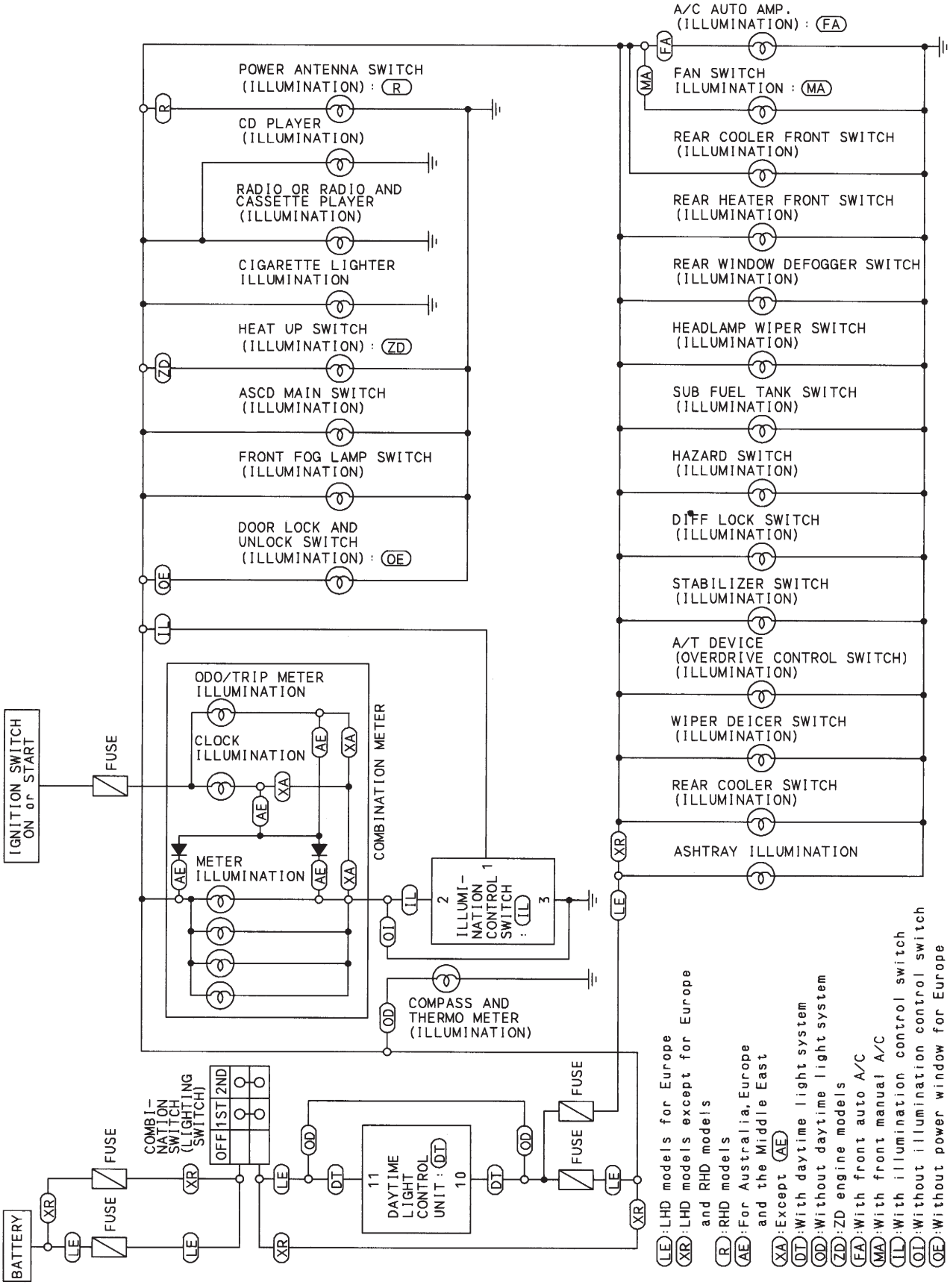
Wiring Diagram — TURN — (Cont'd)





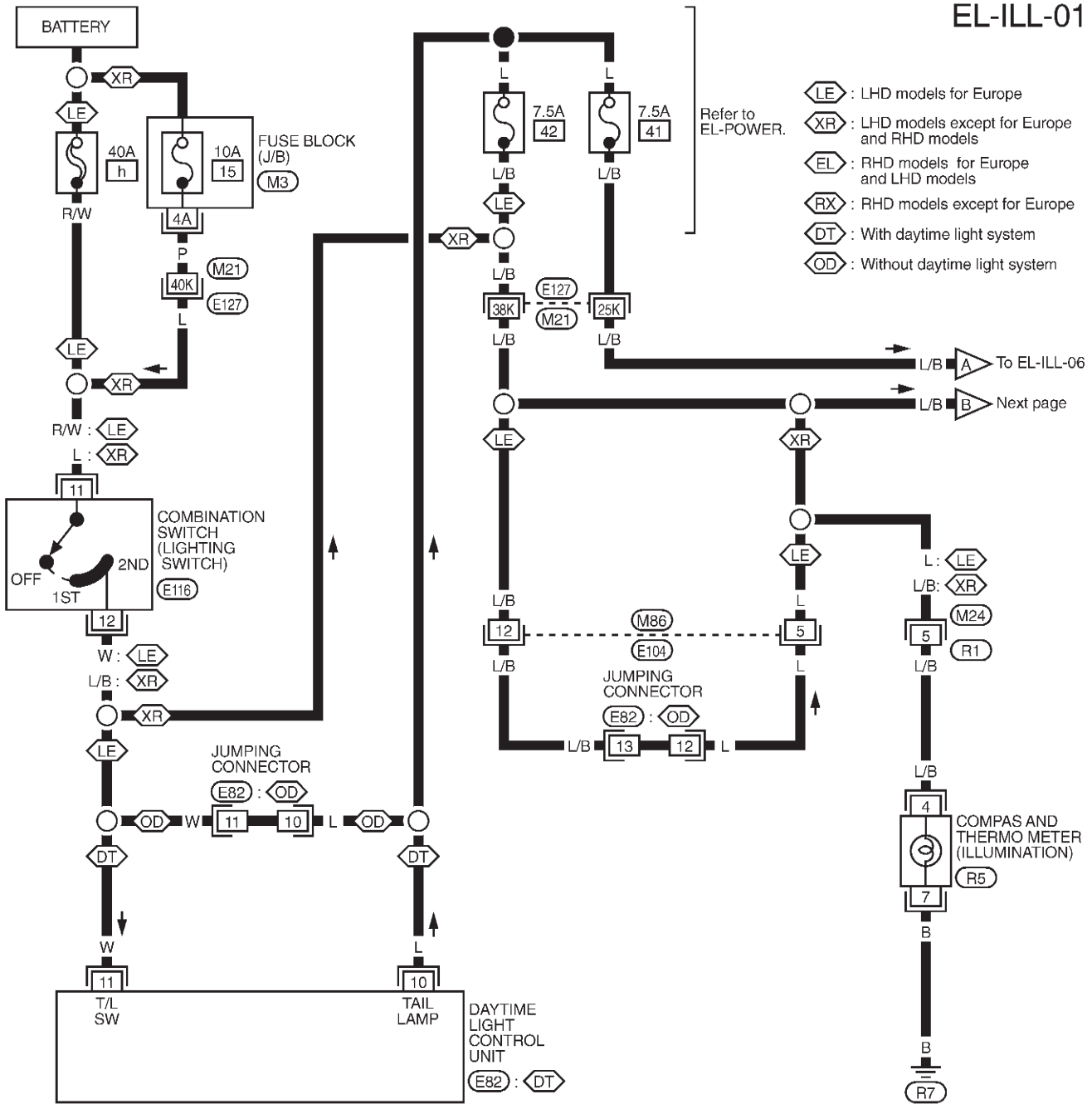
Refer to last page (Foldout page).
M20 , B19
M21 , E127

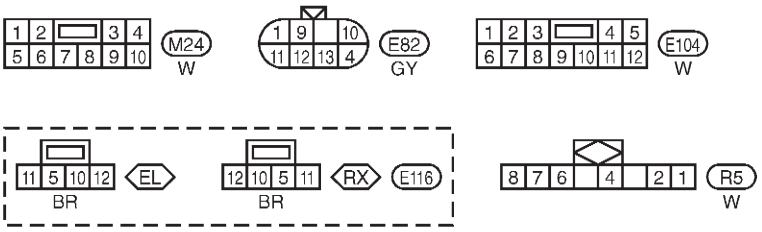
Schematic



TEL287M

Wiring Diagram — ILL —



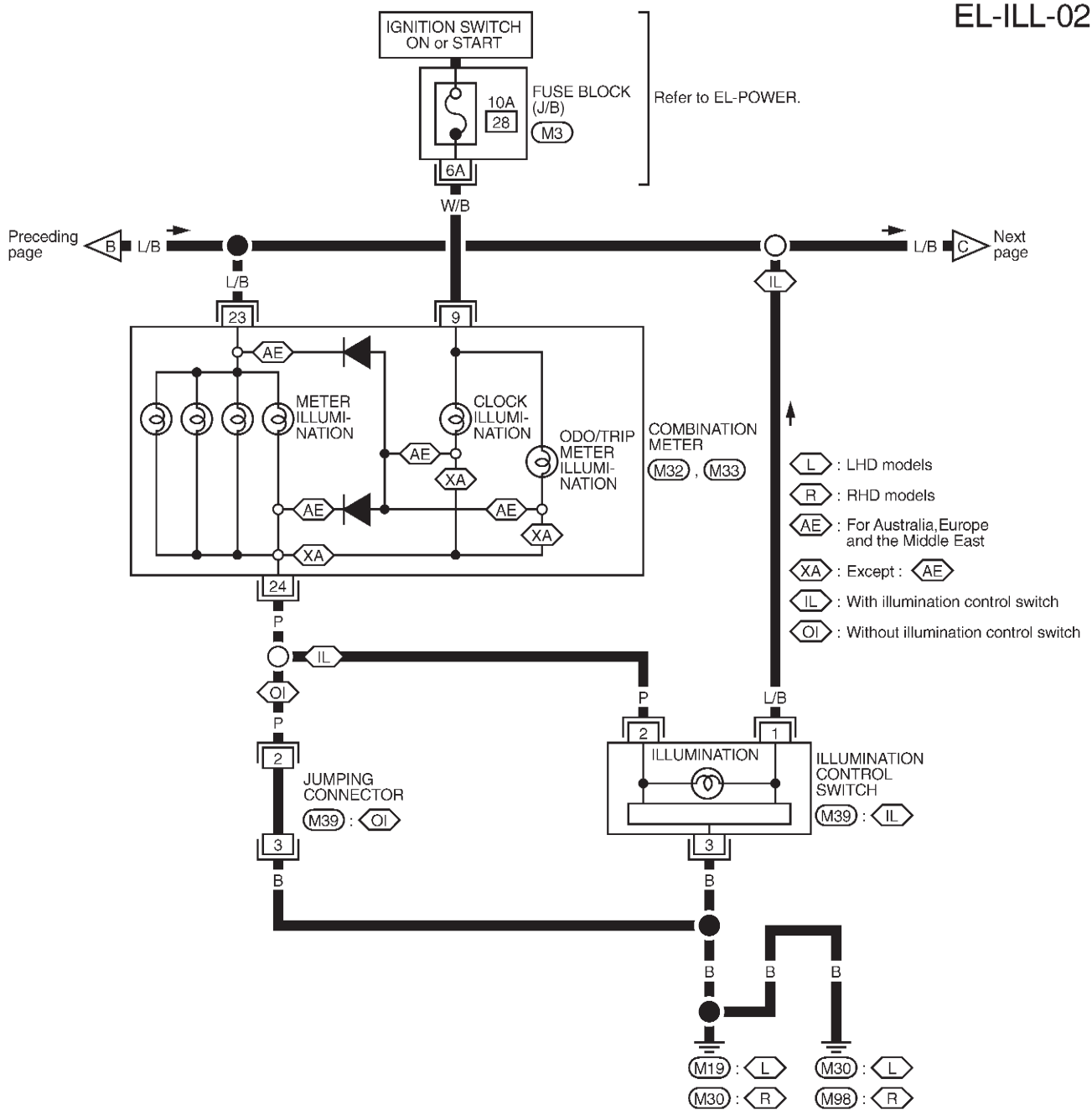


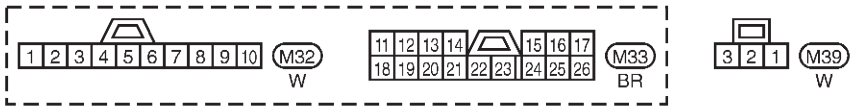
Refer to last page (Foldout page).
M21 , E127
M3

TEL418A

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02



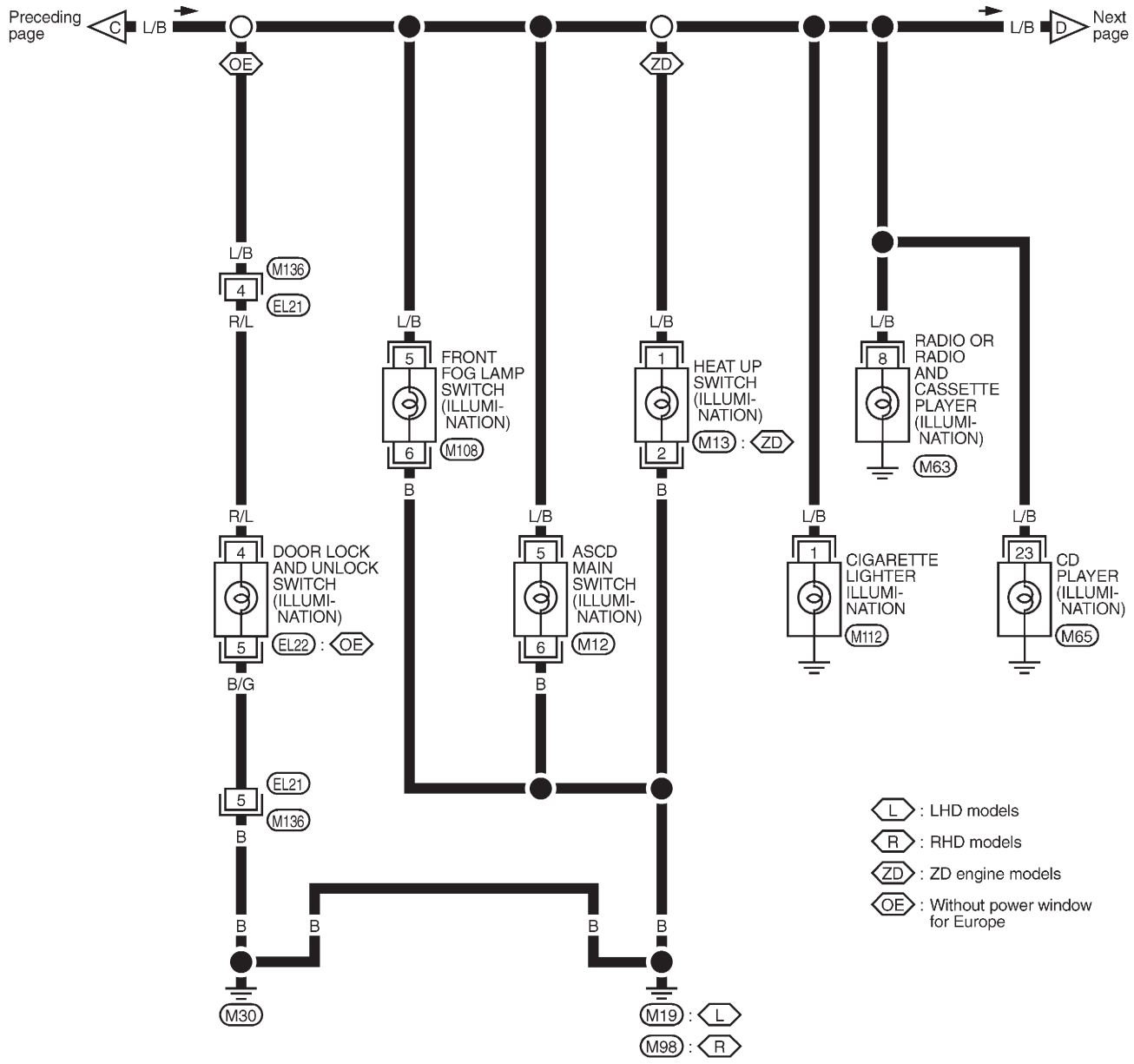


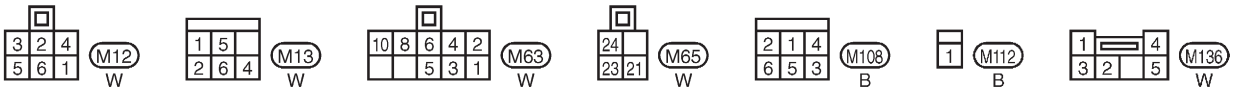
Refer to last page (Foldout page).
M3

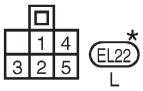
TEL419A

Wiring Diagram — ILL — (Cont'd)

EL-ILL-03





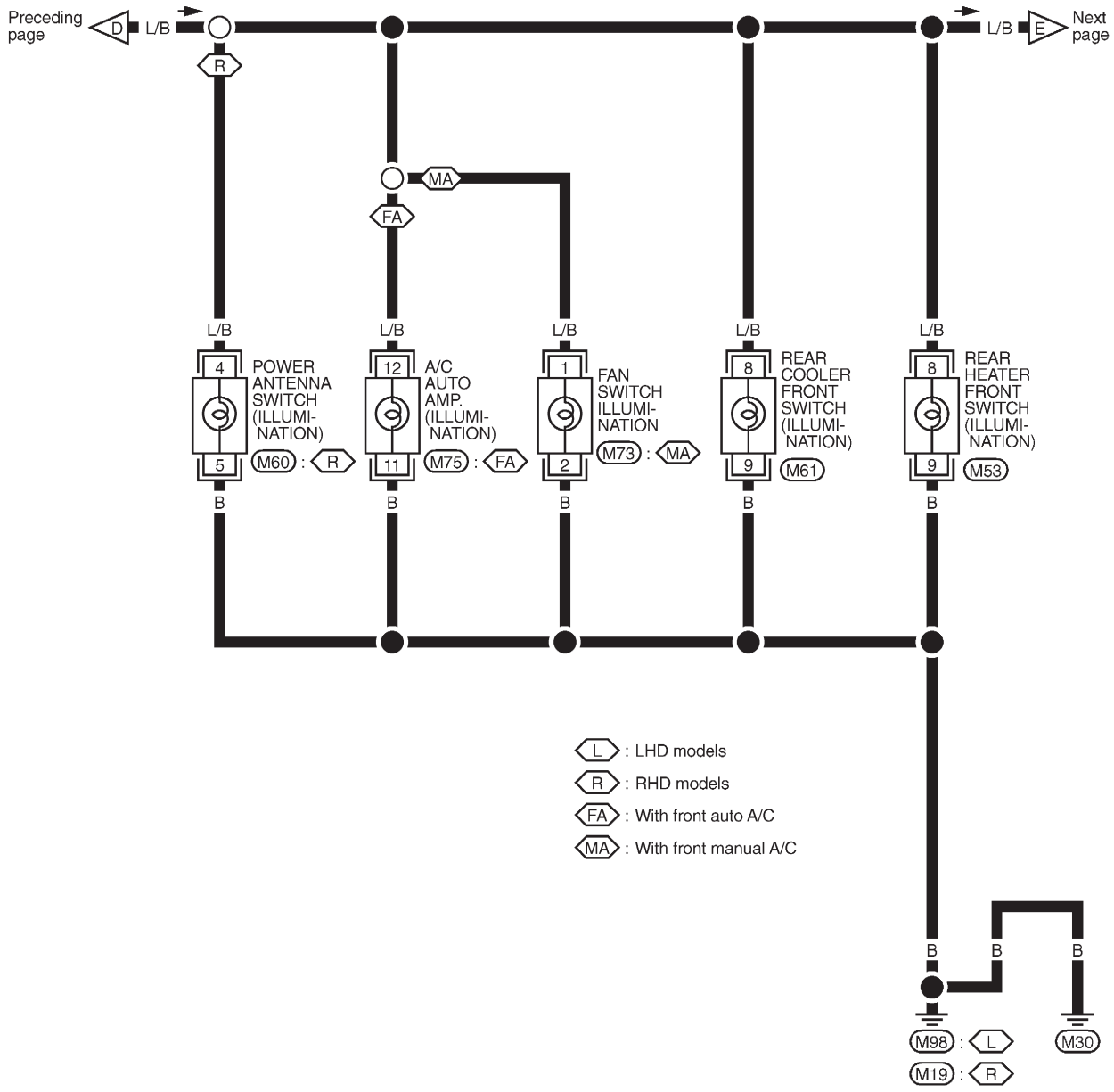


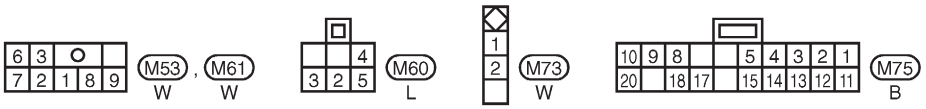
*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL288M

Wiring Diagram — ILL — (Cont'd)

EL-ILL-04

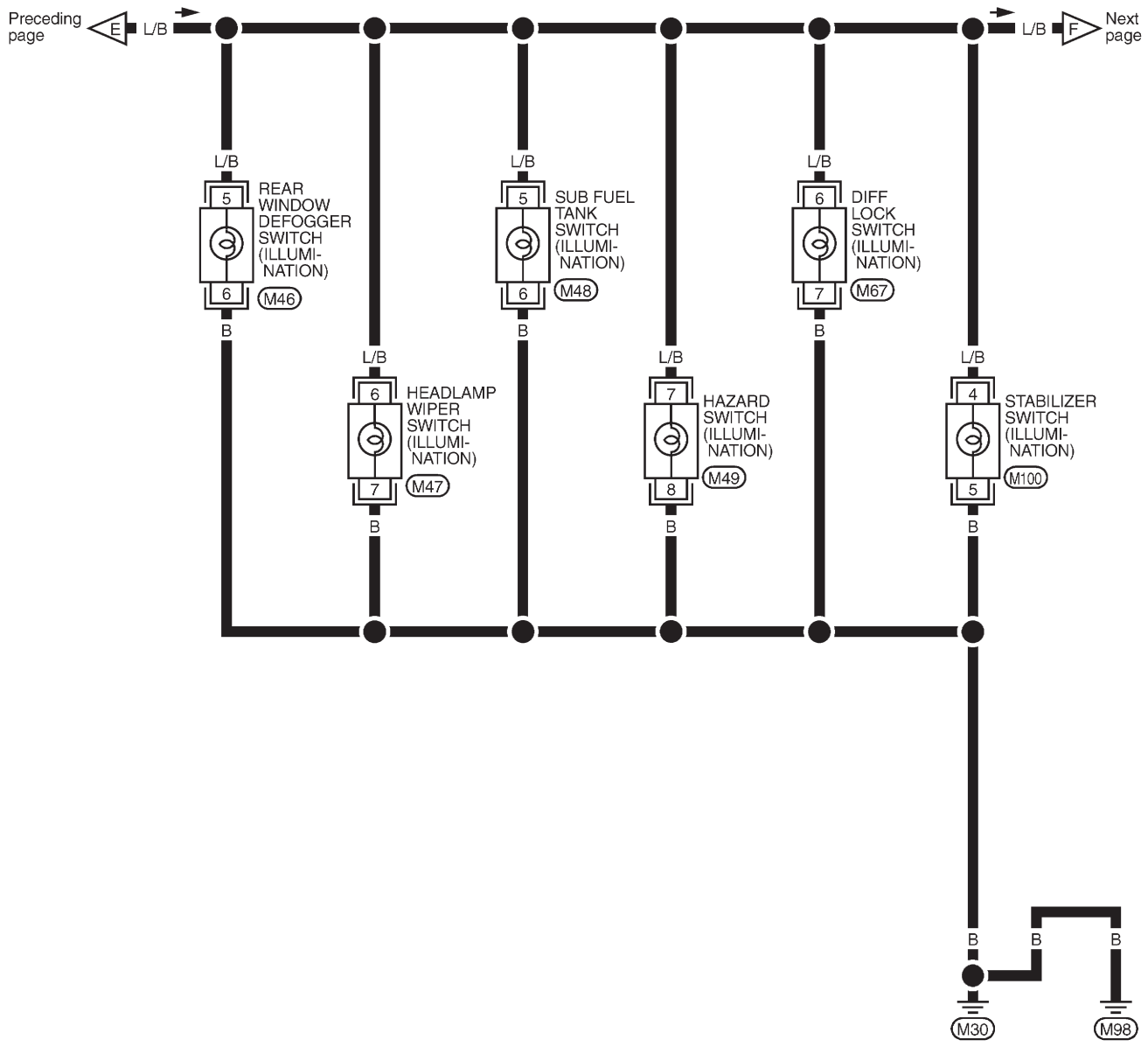


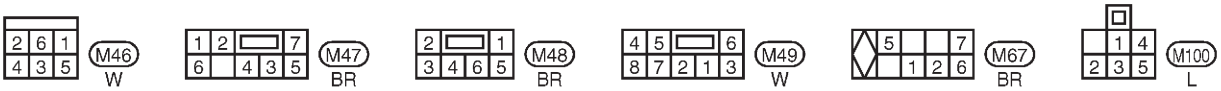


TEL600B

Wiring Diagram — ILL — (Cont'd)

EL-ILL-05

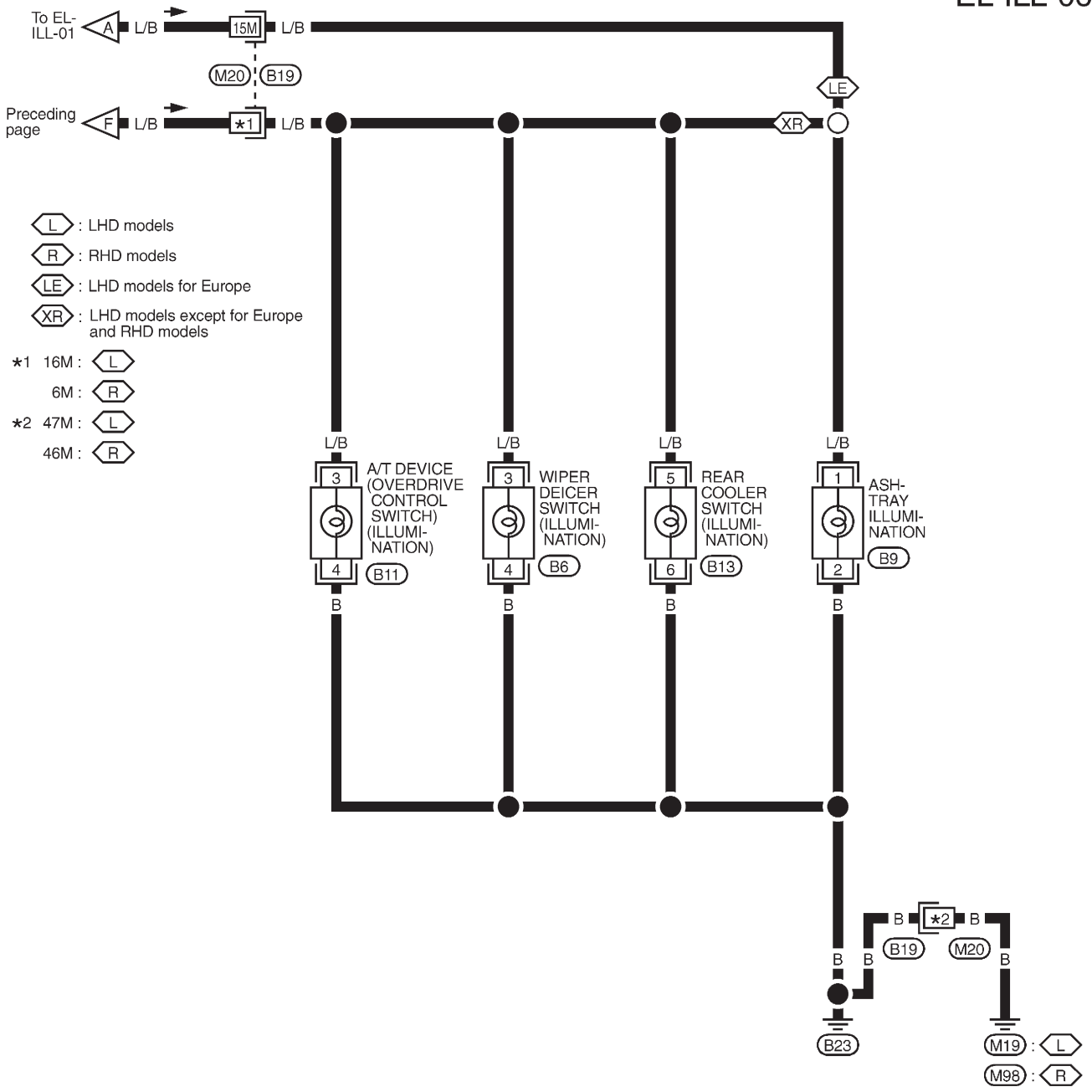


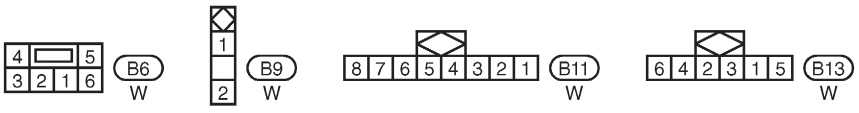


TEL422A

Wiring Diagram — ILL — (Cont'd)

EL-ILL-06





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

TEL601B

System Description

POWER SUPPLY AND GROUND

Power is supplied at all times:
- through 10A fuse [No. 20, located in the fuse block (J/B)]
- to front and rear interior room lamp terminal ①
- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to key switch terminal ② and
- to super lock control unit terminal ①.

When the key is removed from ignition key cylinder, power is interrupted:
- through key switch terminal ①
- to super lock control unit terminal ⑱.

With the ignition key switch in the ON or START position, power is supplied:
- through 10A fuse [No. 25, located in the fuse block (J/B)]
- to super lock control unit terminal ⑰.

Ground is supplied:
- to super lock control unit terminal ⑯
- through body grounds terminals M30 and M19 (LHD models) or M98 (RHD models).

When the front driver side door is opened, ground is supplied:
- through body grounds B23 and M19 (LHD models) or M98 (RHD models).
- to front door switch (driver side) terminal ③
- from front door switch (driver side) terminal ①
- to super lock control unit terminal ㉚.

When any other door is opened, ground is supplied to super lock control unit terminal ㉛ in the same manner as the driver door switch.

When the front driver side door is unlocked, the super lock control unit receives a ground signal:
- through body grounds terminals M30 and M19 (LHD models) or M98 (RHD models).
- to front door lock actuator (driver side) (door unlock sensor) terminal ⑤
- from front door lock actuator (driver side) (door unlock sensor) terminal ②
- to super lock control unit terminal ㉘.

When a signal, or combination of signals is received by the super lock control unit, ground is supplied:
- through super lock control unit terminal ㉖
- to front interior room lamp terminal ②.

With power and ground supplied, the front interior room lamp illuminates.

INTERIOR ROOM LAMP TIMER OPERATION

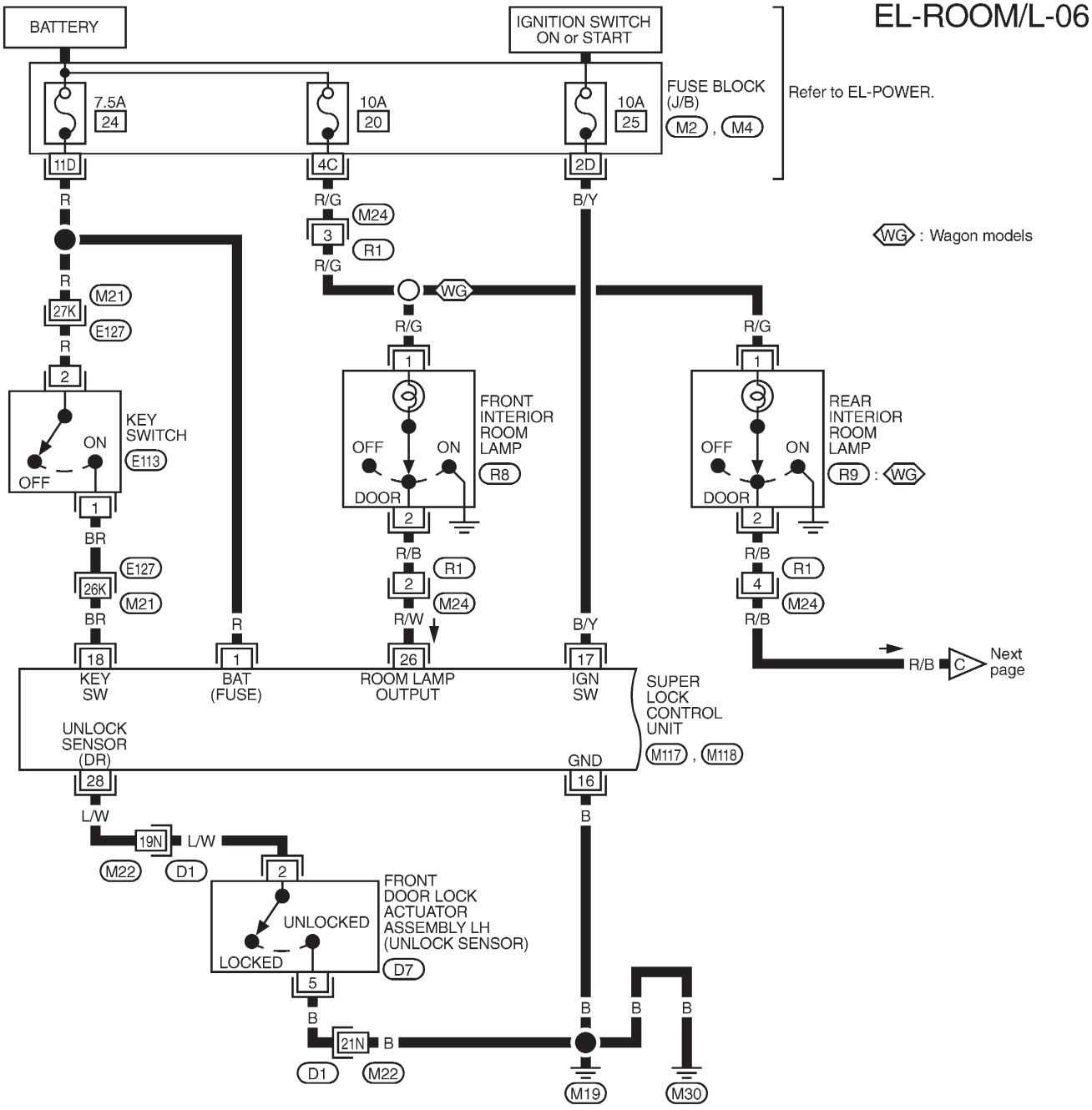
When front interior room lamp switch is in the “DOOR” position, the super lock control unit keeps the front interior room lamp illuminated for about 30 seconds when:
- unlock signal is supplied from driver’s door unlock sensor while all doors are closed and key is out of ignition key cylinder
- key is removed from ignition key cylinder while all doors are closed
- driver’s door is opened and then closed while key is out of the ignition key cylinder. (However, if the driver’s door is closed with the key inserted in the ignition key cylinder after the driver’s door is opened with the key removed, the timer is operated.)

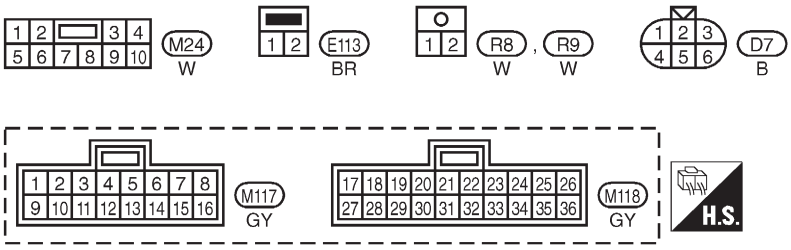
The timer is canceled when:
- driver’s door is locked or
- ignition switch is turned ON.

ON-OFF CONTROL

When the driver side door, front passenger door, rear LH or RH door, back door LH or RH is opened, the interior room lamp turns on while the interior room lamp switch is in the “DOOR” position.

Wiring Diagram — ROOM/L —/LHD Models





Refer to last page (Foldout page).

M21, E127

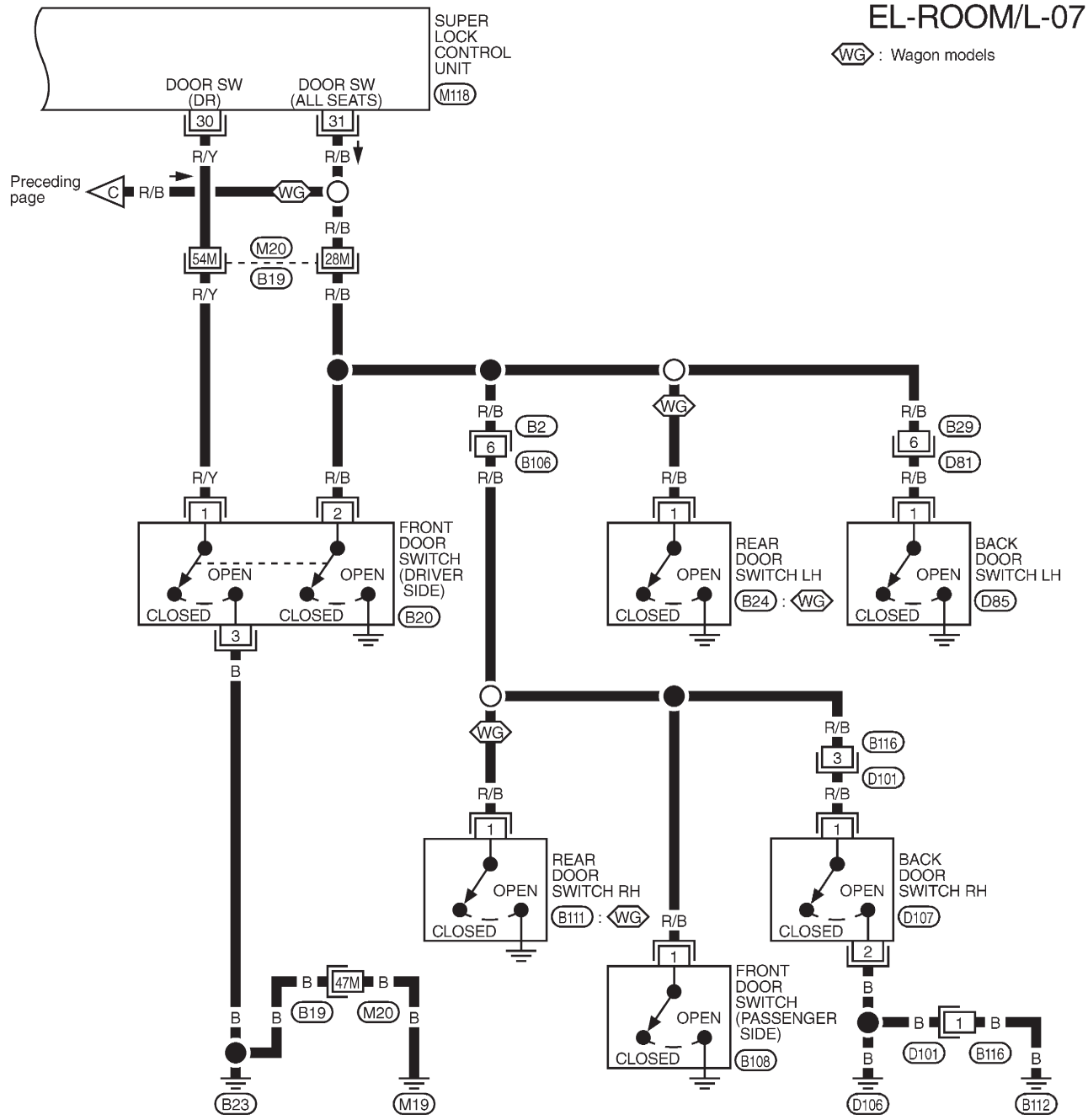
M22, D1

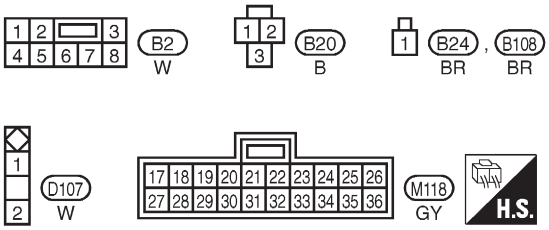
M2

M4

TEL230M

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



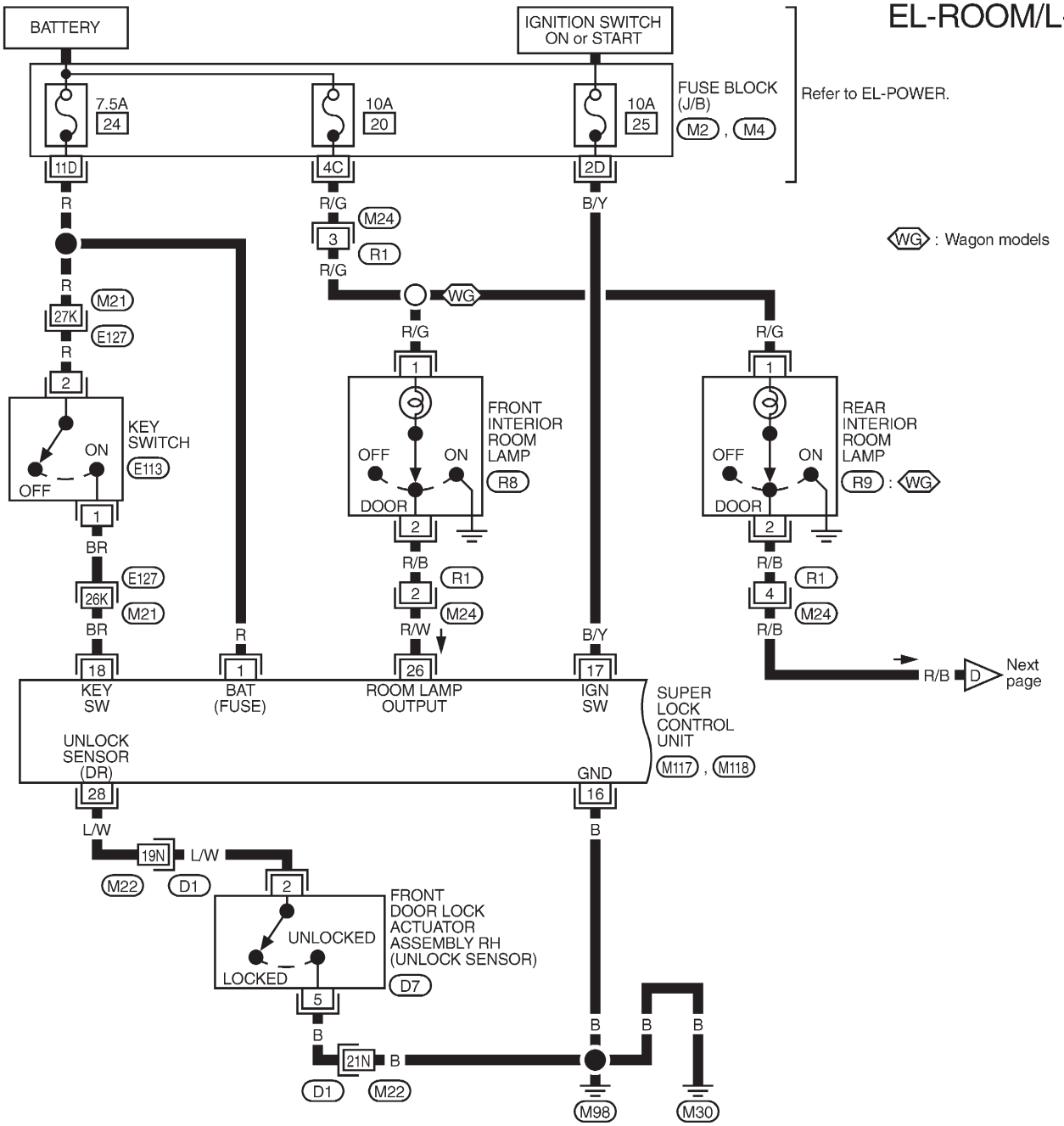


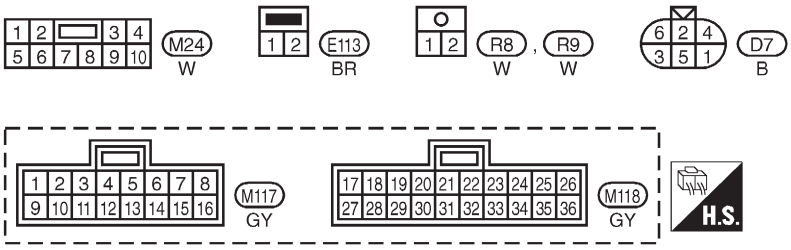
Refer to last page (Foldout page).
M20 , B19

TEL231M

Wiring Diagram — ROOM/L —/RHD Models

EL-ROOM/L-08





Refer to last page (Foldout page).

M21, E127

M22, D1

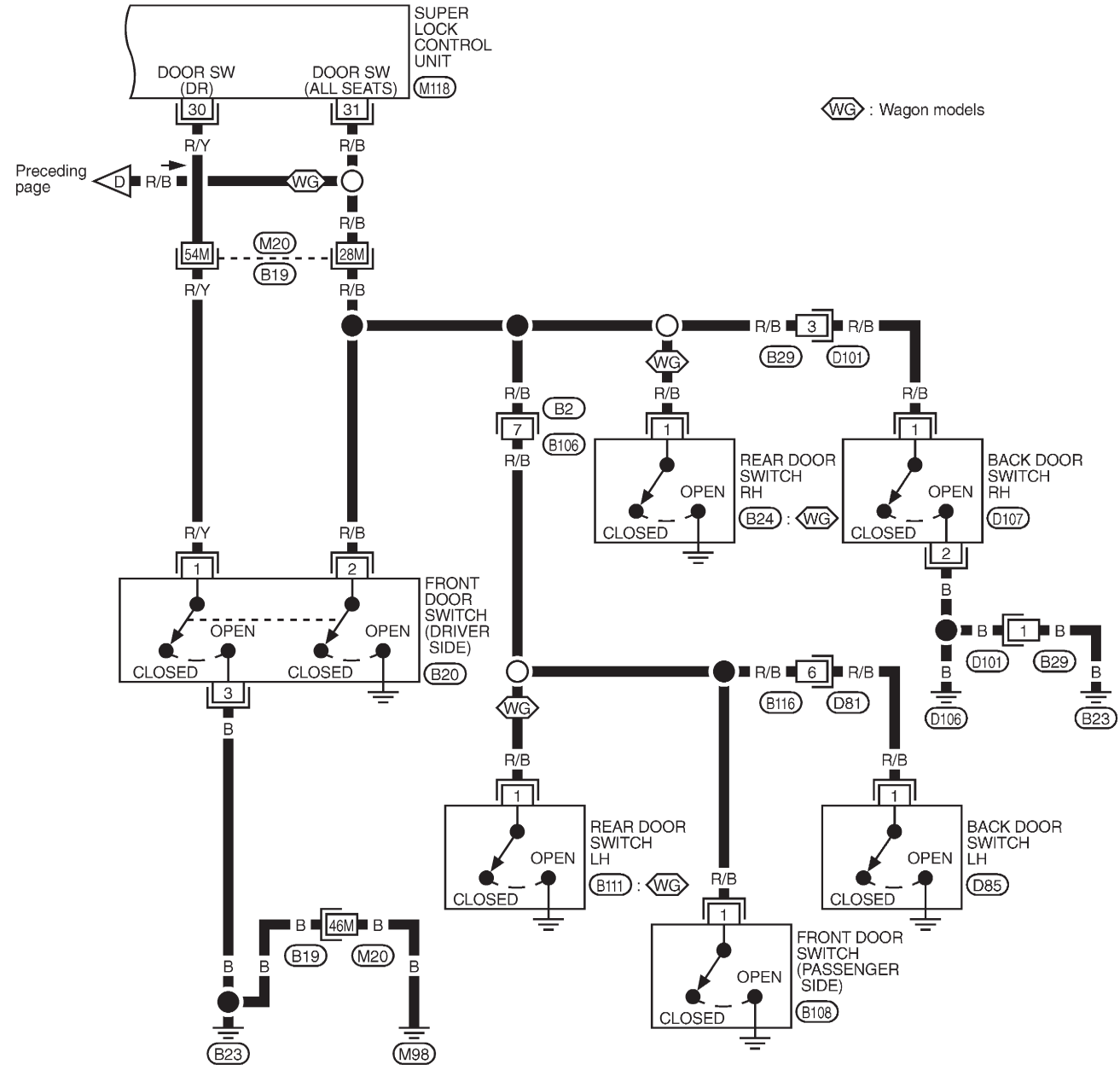
M2

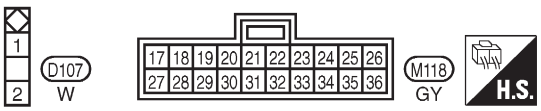
M4

TEL232M

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

EL-ROOM/L-09

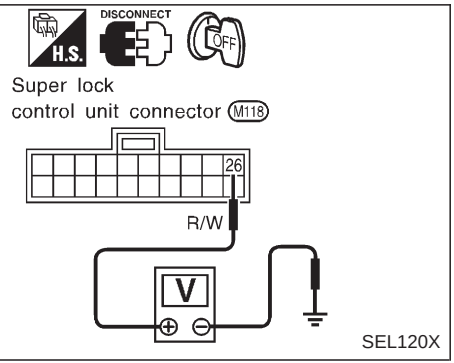




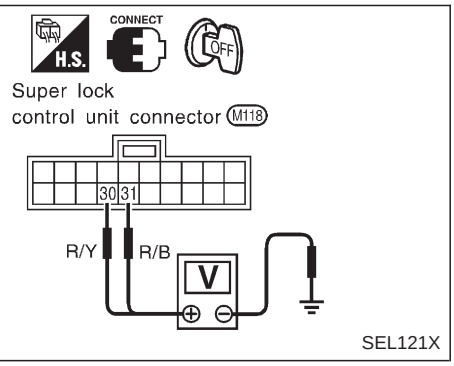
Refer to last page (Foldout page).
M20 , B19

TEL233M

A



B



Trouble Diagnoses

DIAGNOSTIC PROCEDURE

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

Does room lamp turn on when room lamp switch is in “ON” position?

No → Check the following.
- Bulb
- 10A fuse [No. 20, located in the fuse block (J/B)]
- Harness for open or short between fuse and front interior room lamp
- Front interior room lamp ground condition

Yes ↓

Does key warning chime operate properly?

No → Check “WARNING CHIME” system. (Refer to EL-1094.)

Yes ↓

A

CHECK ROOM LAMP OUTPUT SIGNAL.
1. Turn front interior room lamp switch to “DOOR” position.
2. Disconnect super lock control unit connector.
3. Check voltage between super lock control unit terminal ㉖ and ground.
   Battery voltage should exist.

NG → Check harness for open or short between front interior room lamp and super lock control unit.

OK ↓

B

CHECK DOOR SWITCH INPUT SIGNAL.
1. Connect super lock control unit connector.
2. Check voltage between super lock control unit terminals ㉚, ㉛ and ground.

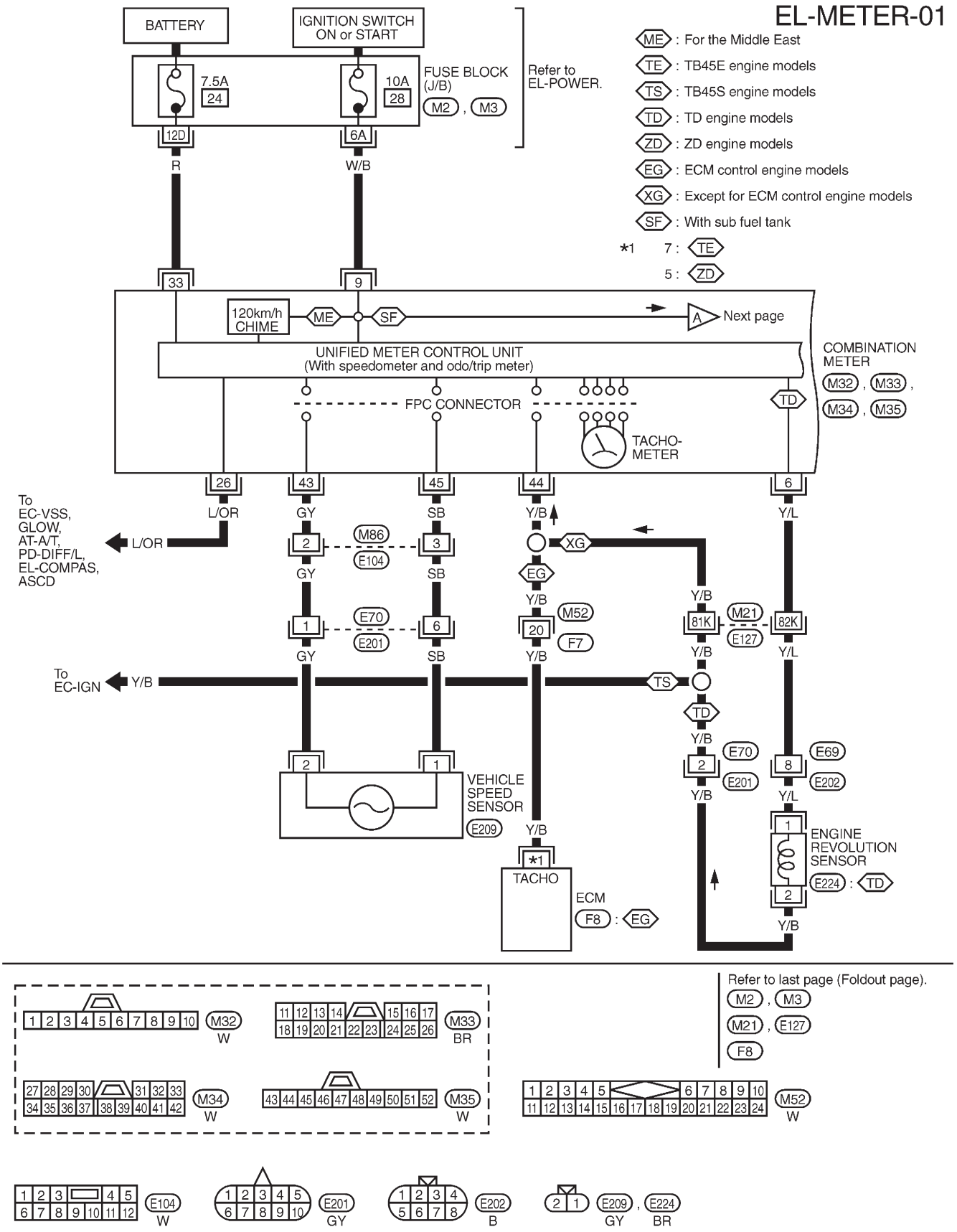
Terminals ⊕	Terminals ⊖	Condition	Voltage [V]
㉚	Ground	Driver side door is opened.	0
		Driver side door is closed.	Approx. 5
㉛	Ground	At least one door is opened.	0
		All doors are closed.	Approx. 5

NG → Check the following.
- Door switch
- Door switch ground condition
- Harness for open or short between super lock control unit and door switch

OK ↓

Replace control unit.

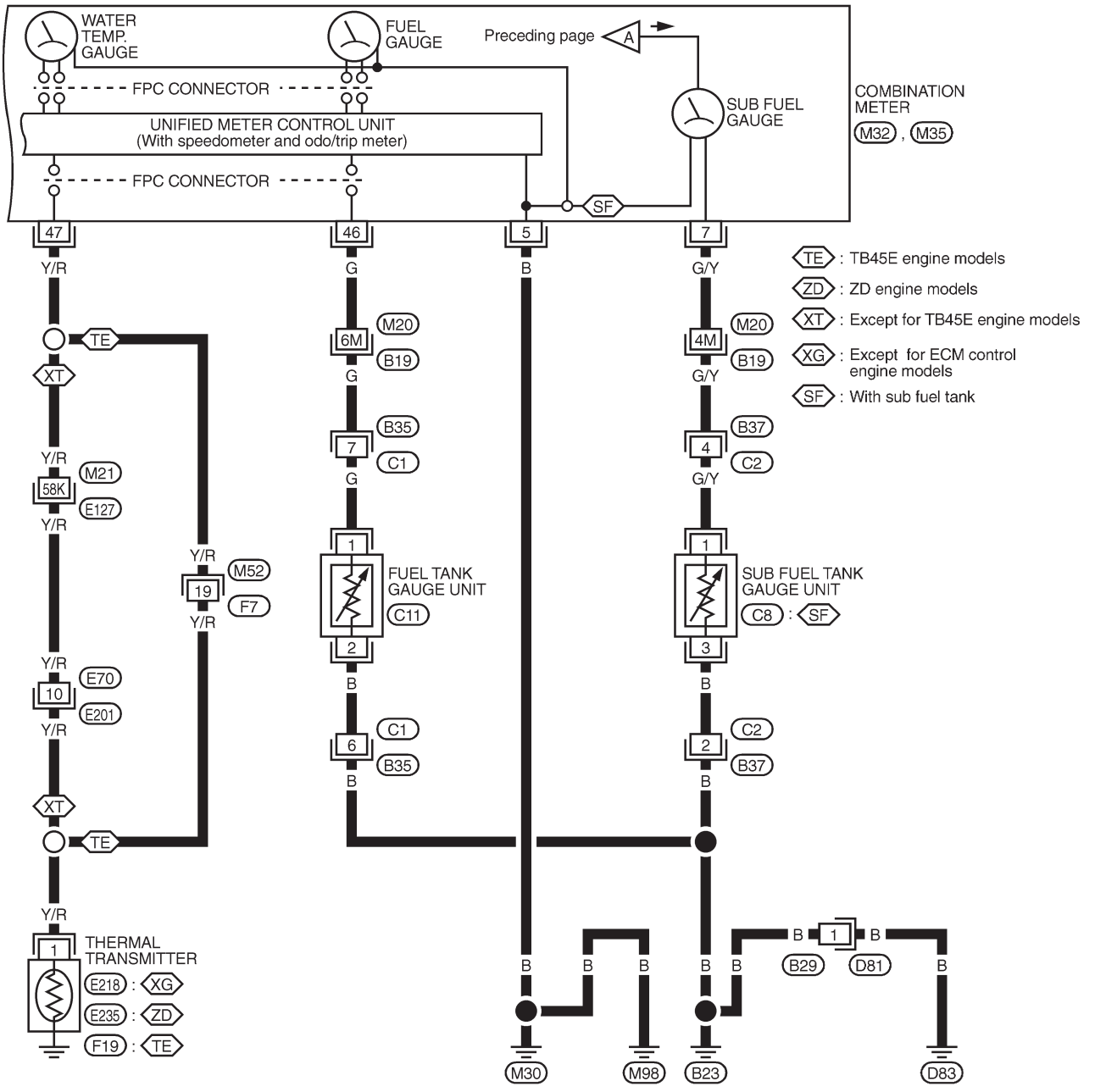
Wiring Diagram — METER —/LHD Models

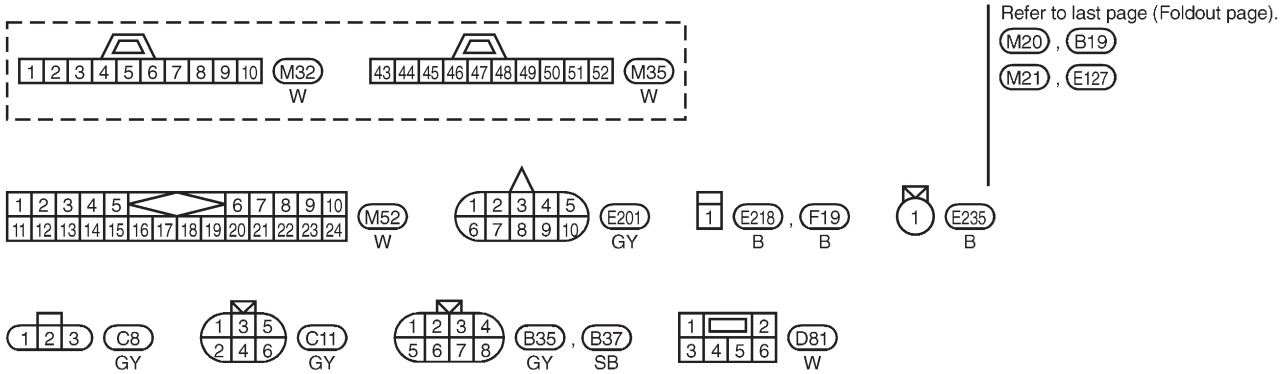


TEL236M

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

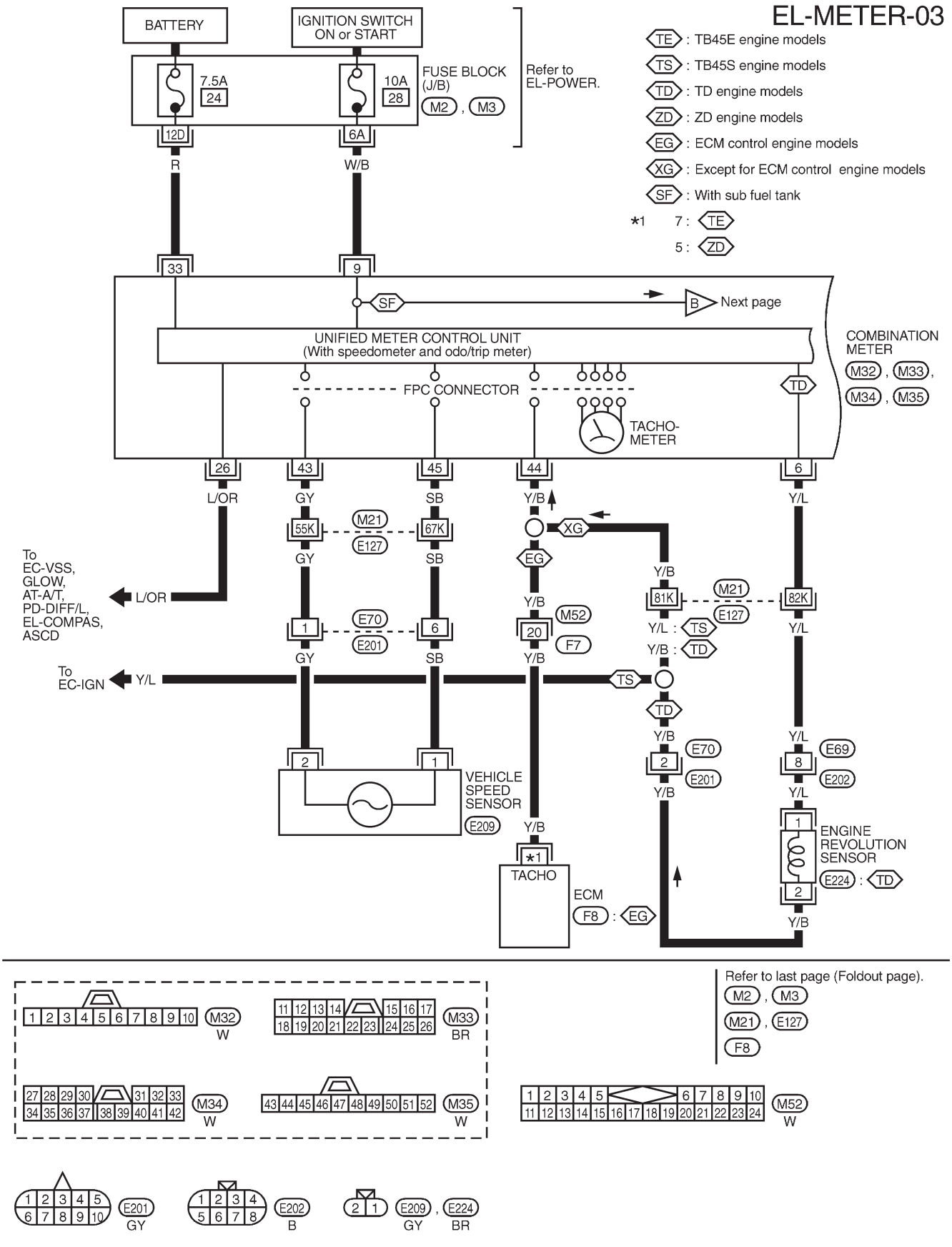
EL-METER-02





TEL237M

Wiring Diagram — METER —/RHD Models

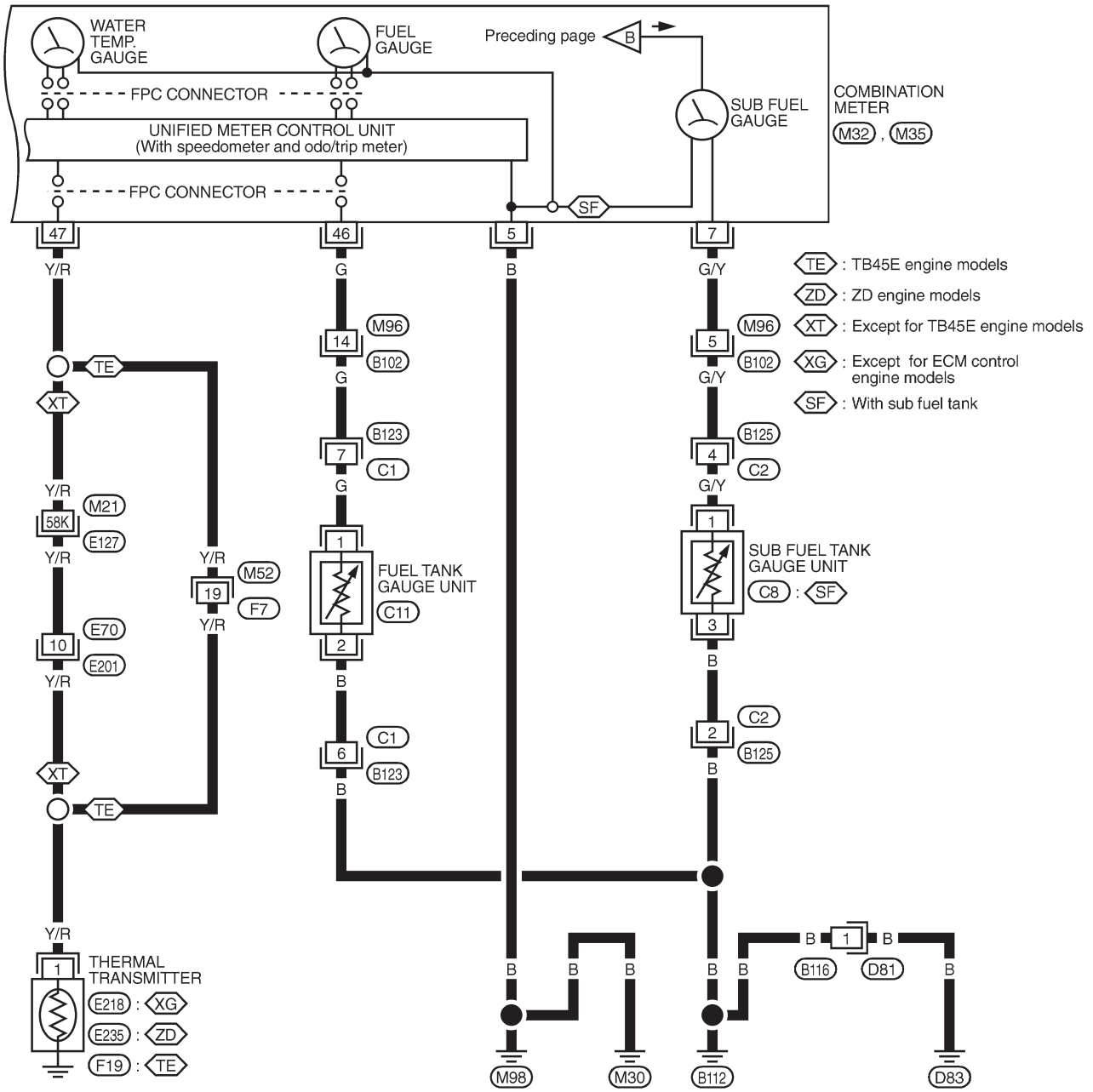


Refer to last page (Foldout page).
M2 , M3
M21 , E127
F8

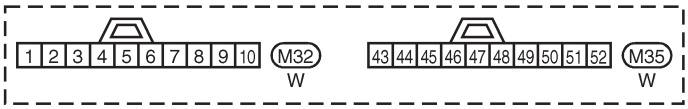
TEL238M

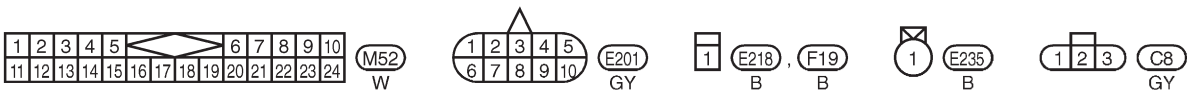
Wiring Diagram — METER —/RHD Models (Cont'd)

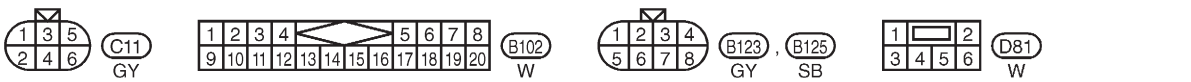
EL-METER-04



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



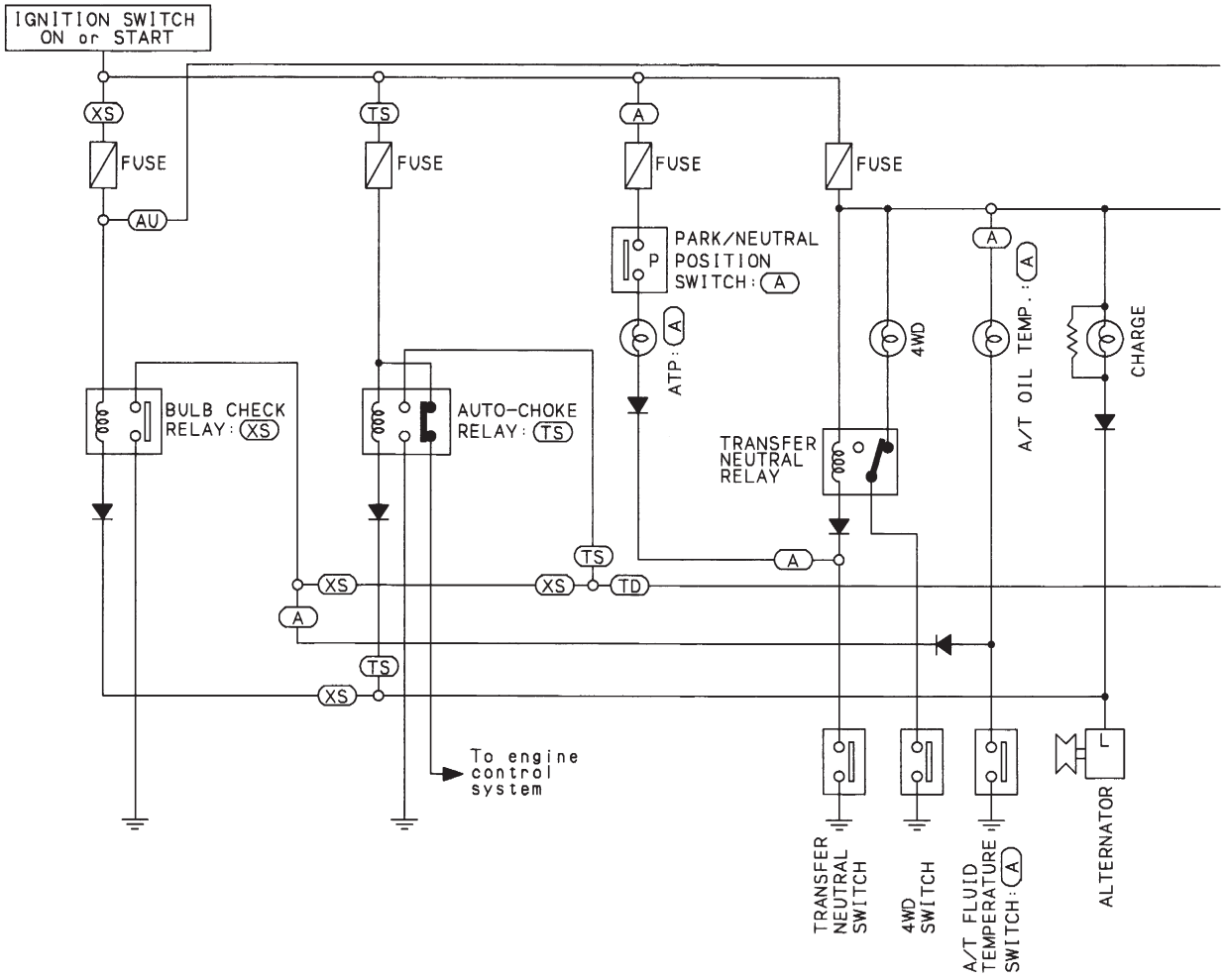




TEL239M

NOTE

Schematic

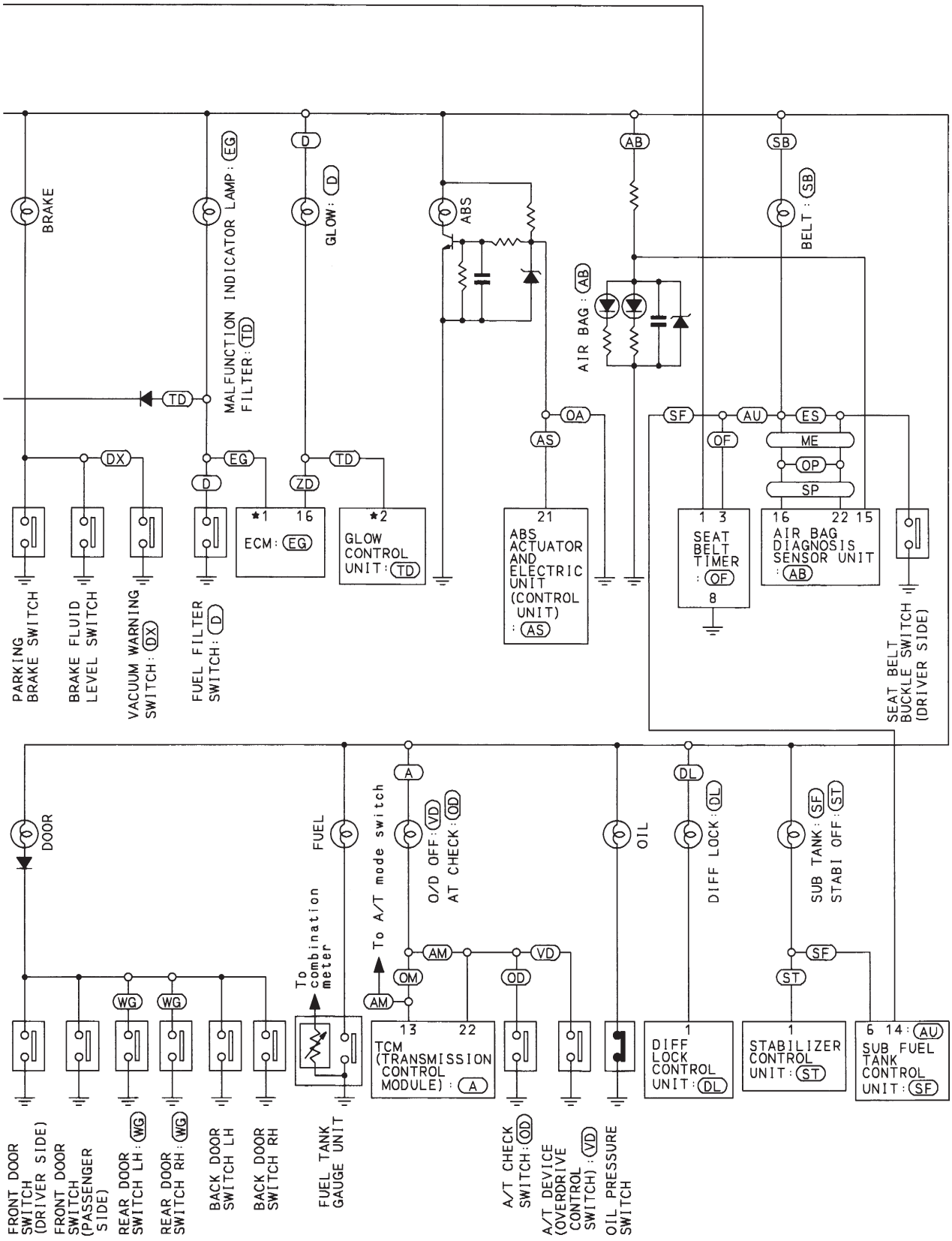


(AU) :For Australia
(ES) :For Europe and South Africa
(ME) :For the Middle East
(A) :A/T models
(TE) :TB45E engine models
(TS) :TB45S engine models
(XS) :Except for TB45S engine models
(TD) :TD engine models
(TL) :TD engine models for cold areas and Australia
(XL) :TD engine models except for cold areas and Australia
(ZD) :ZD engine models
(EG) :ECM control engine models
(D) :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
(ST) :With rear stabilizer release device
(VD) :With overdrive control switch
(OD) :Without overdrive control switch
(SP) :With seat belt pre-tensioner
(OP) :Without seat belt pre-tensioner

*1 18: (ZD)
32: (TE)
*2 3: (XL)
14: (TL)

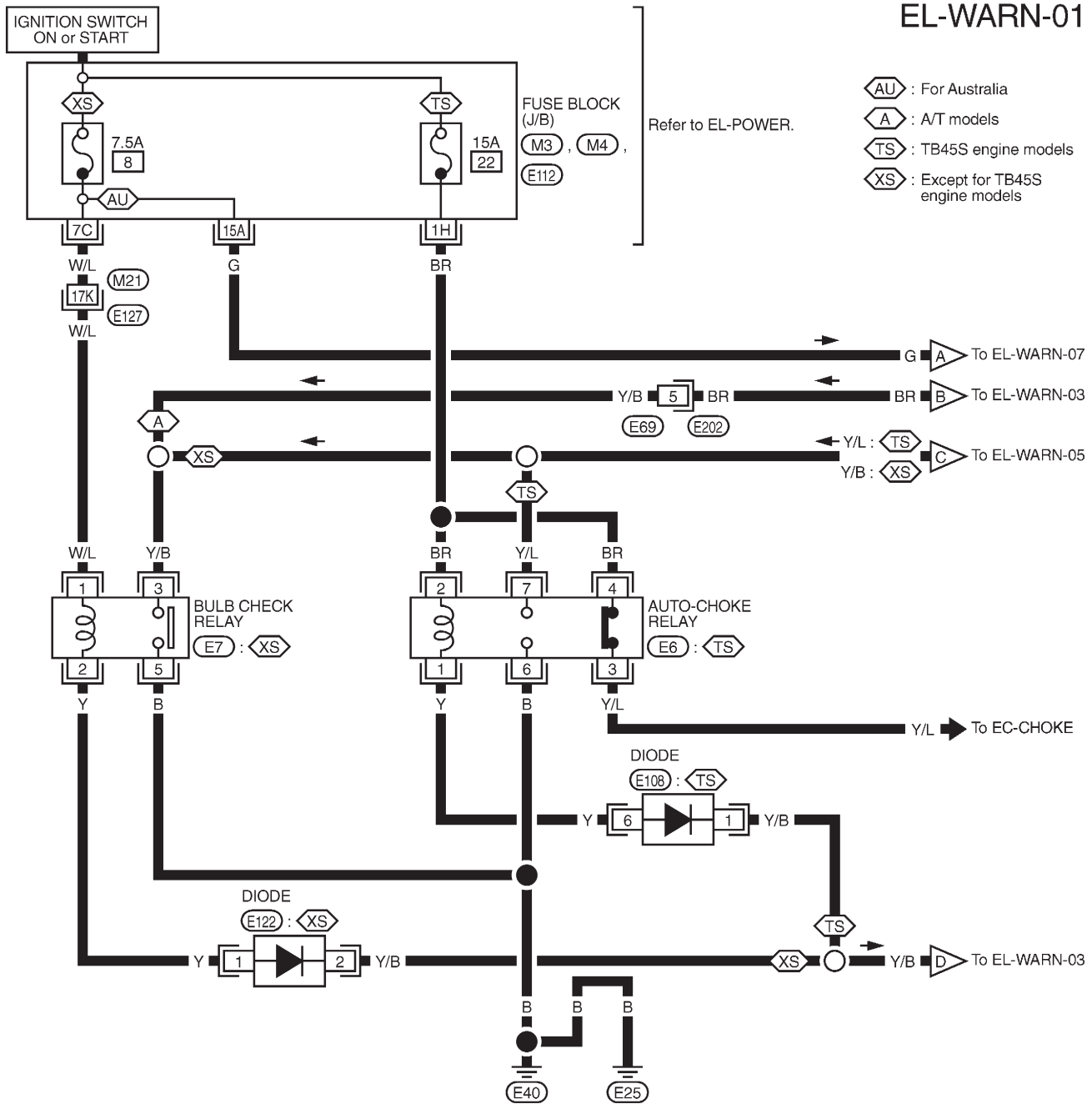
TEL240M

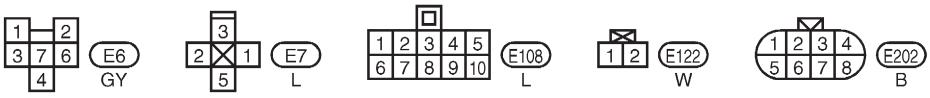
Schematic (Cont'd)



TEL241M

Wiring Diagram — WARN —



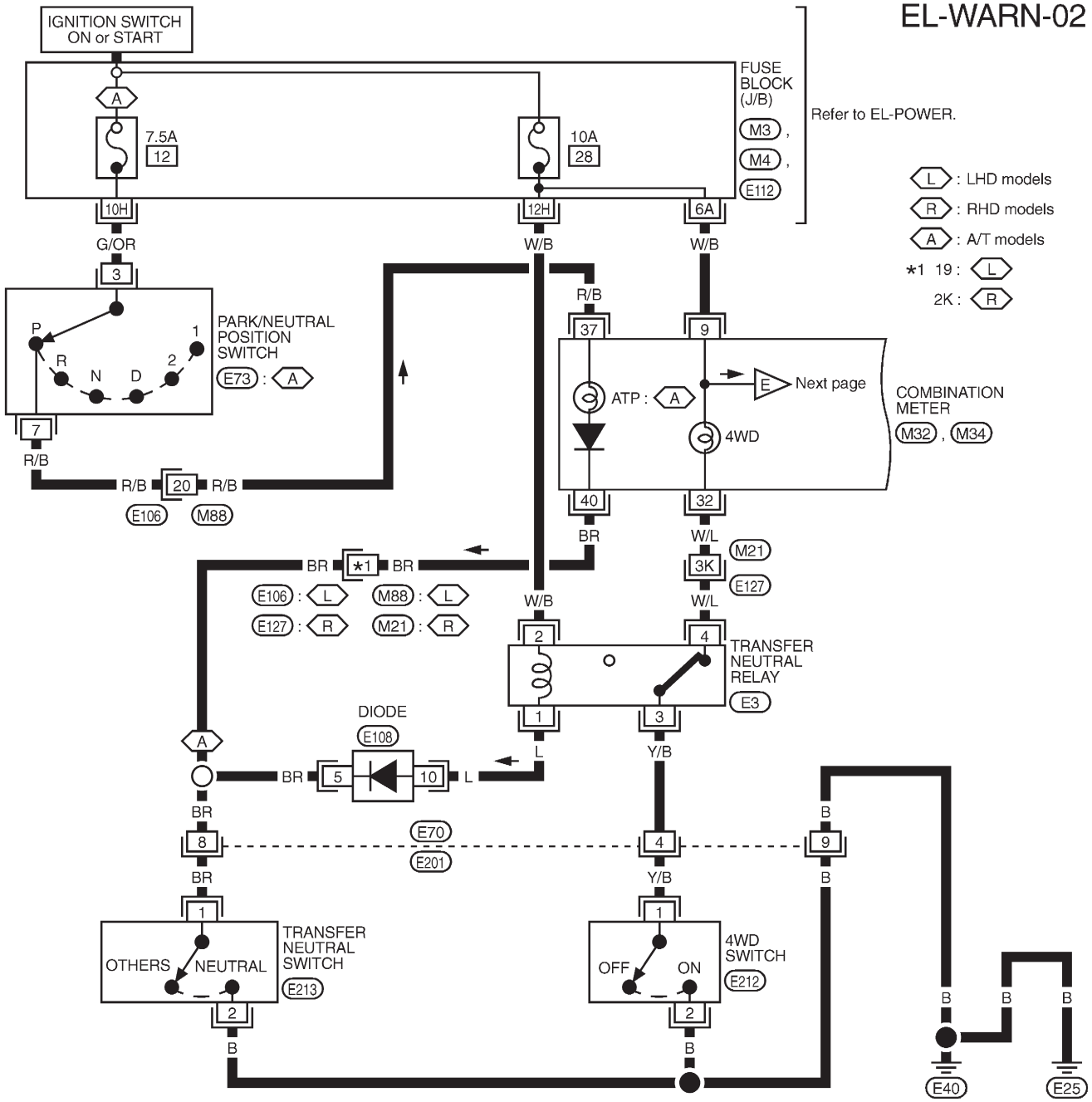


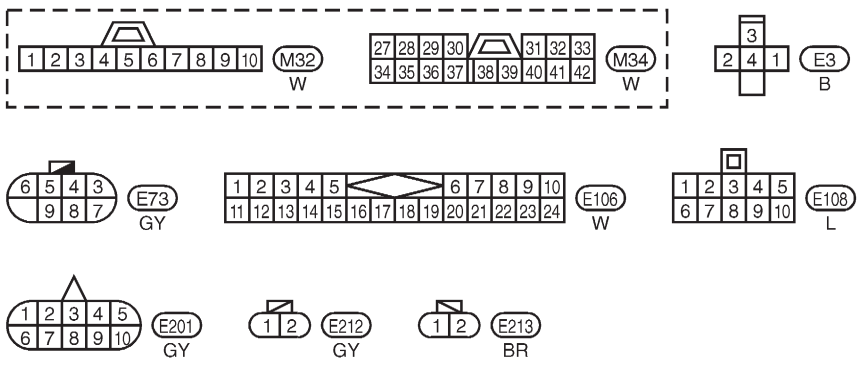
Refer to last page (Foldout page).
M21 , E127
M3
M4
E112

TEL566B

Wiring Diagram — WARN — (Cont'd)

EL-WARN-02



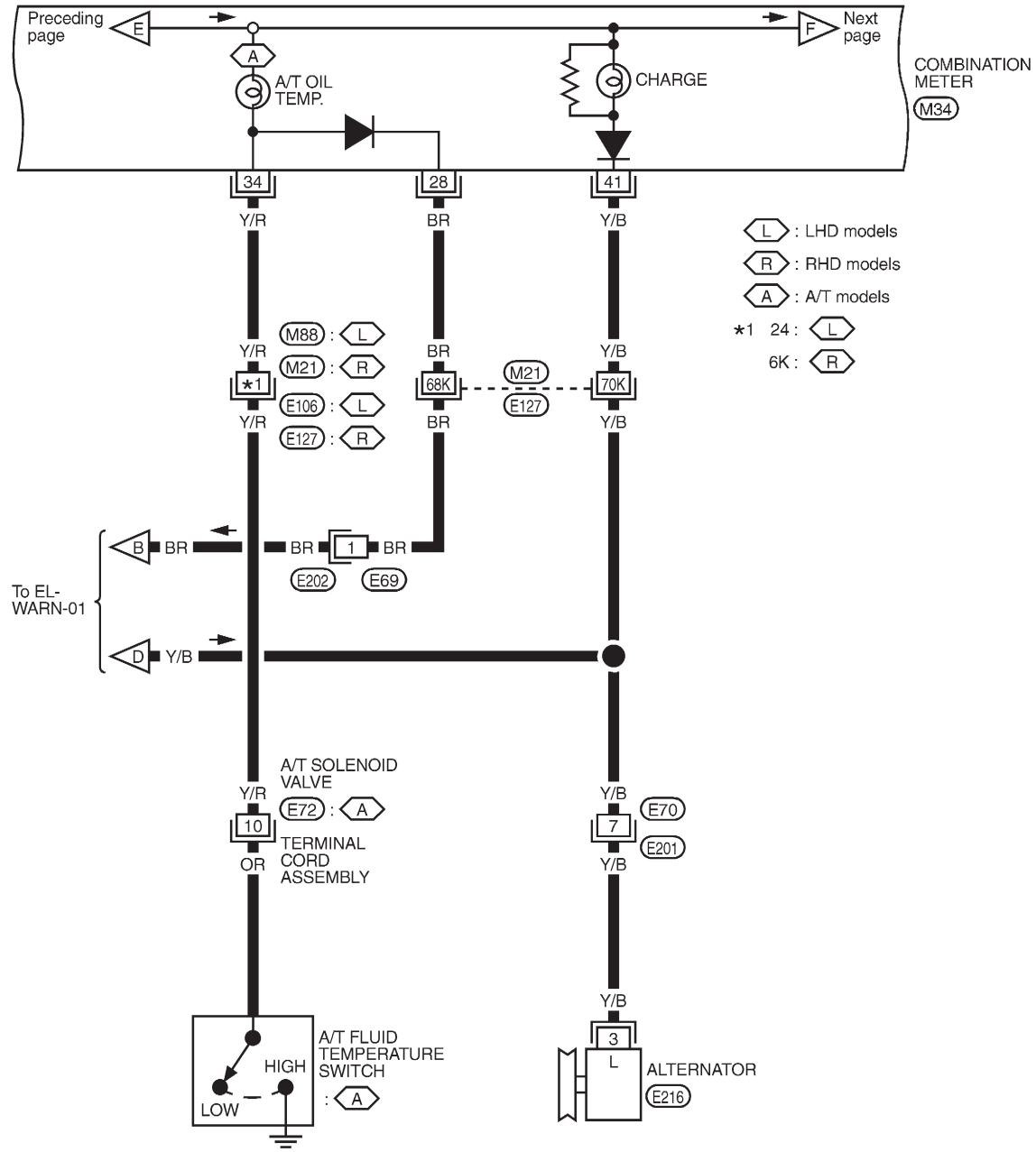


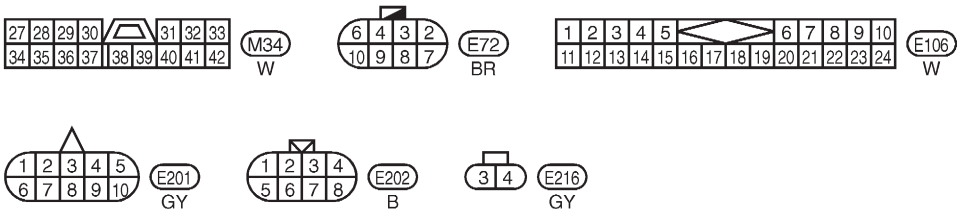
Refer to last page (Foldout page).
M21 , E127
M3
M4
E112

TEL567B

Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



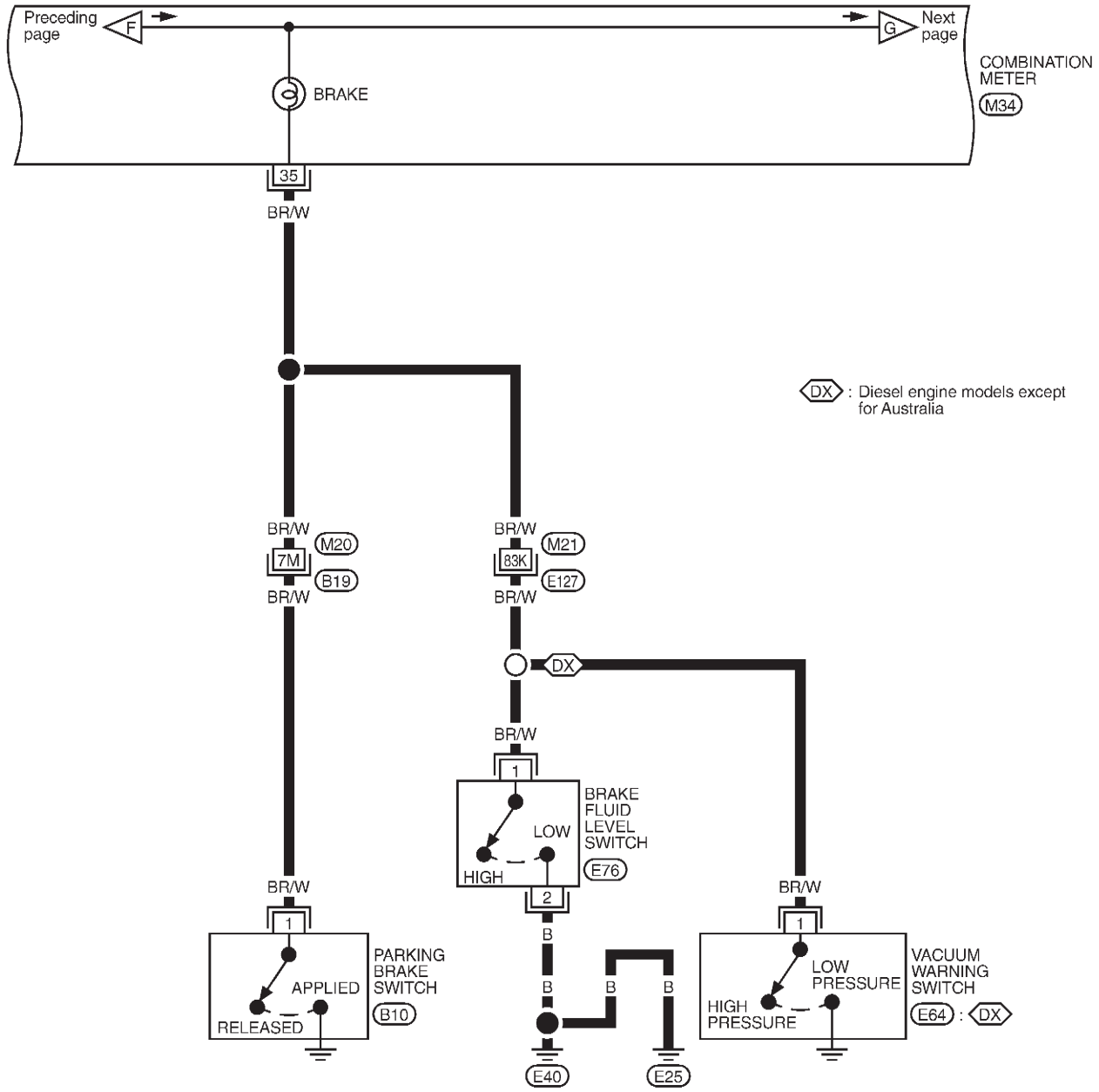


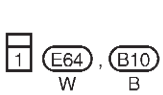
Refer to last page (Foldout page).
M21, E127

TEL242M

Wiring Diagram — WARN — (Cont'd)

EL-WARN-04





Refer to last page (Foldout page).

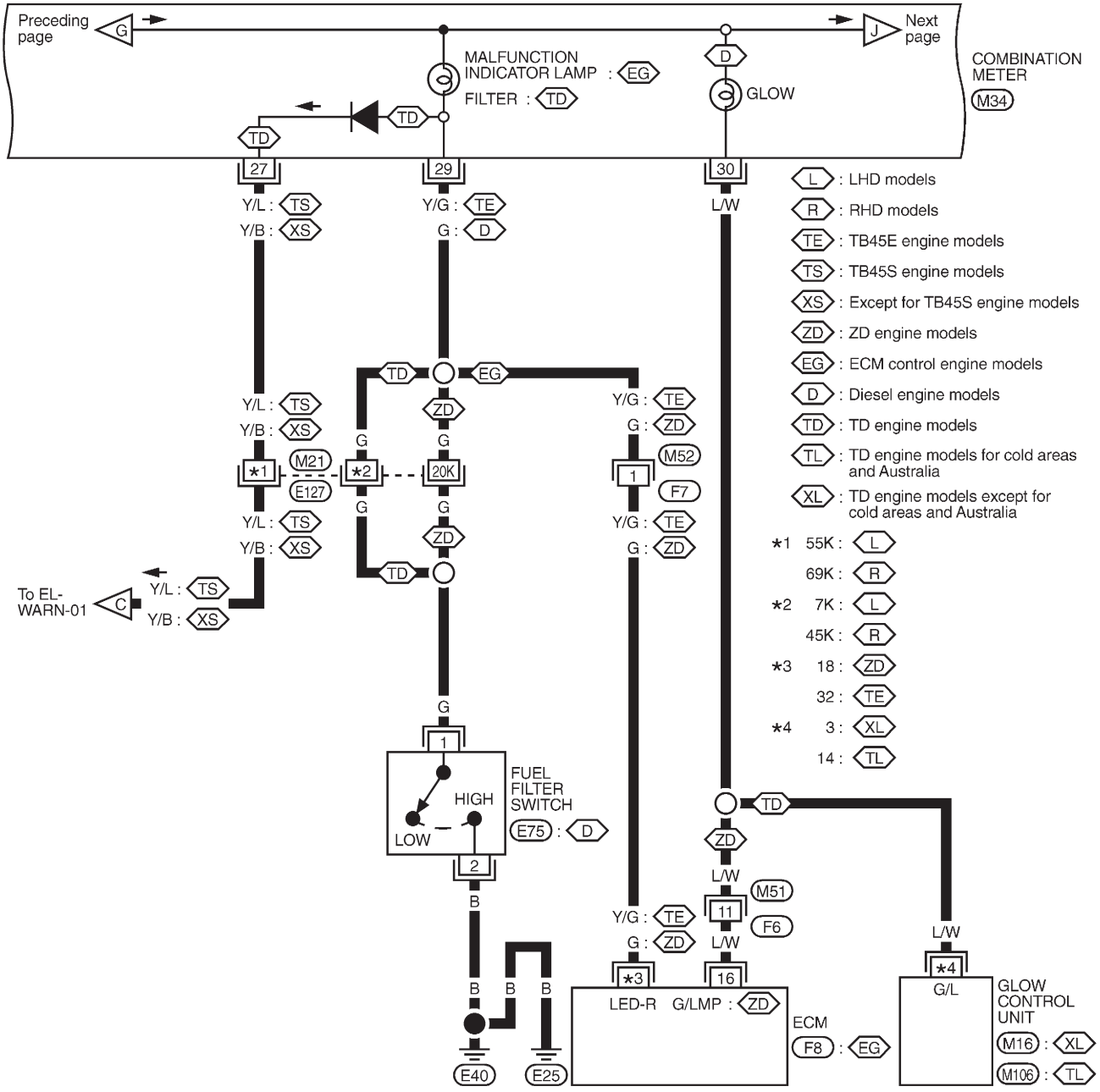
M20 , B19

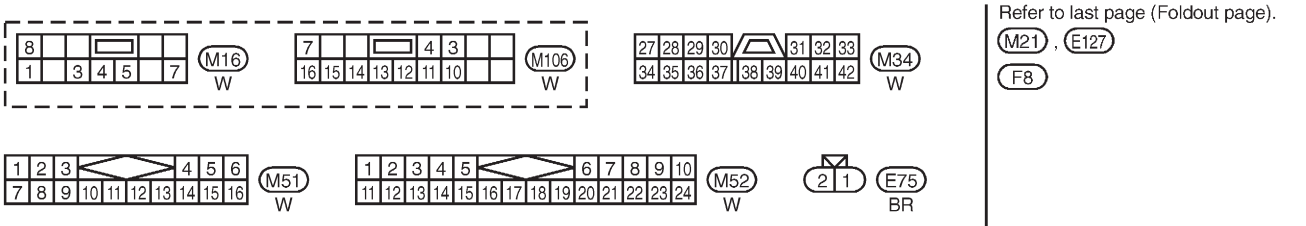
M21 , E127

TEL702A

Wiring Diagram — WARN — (Cont'd)

EL-WARN-05



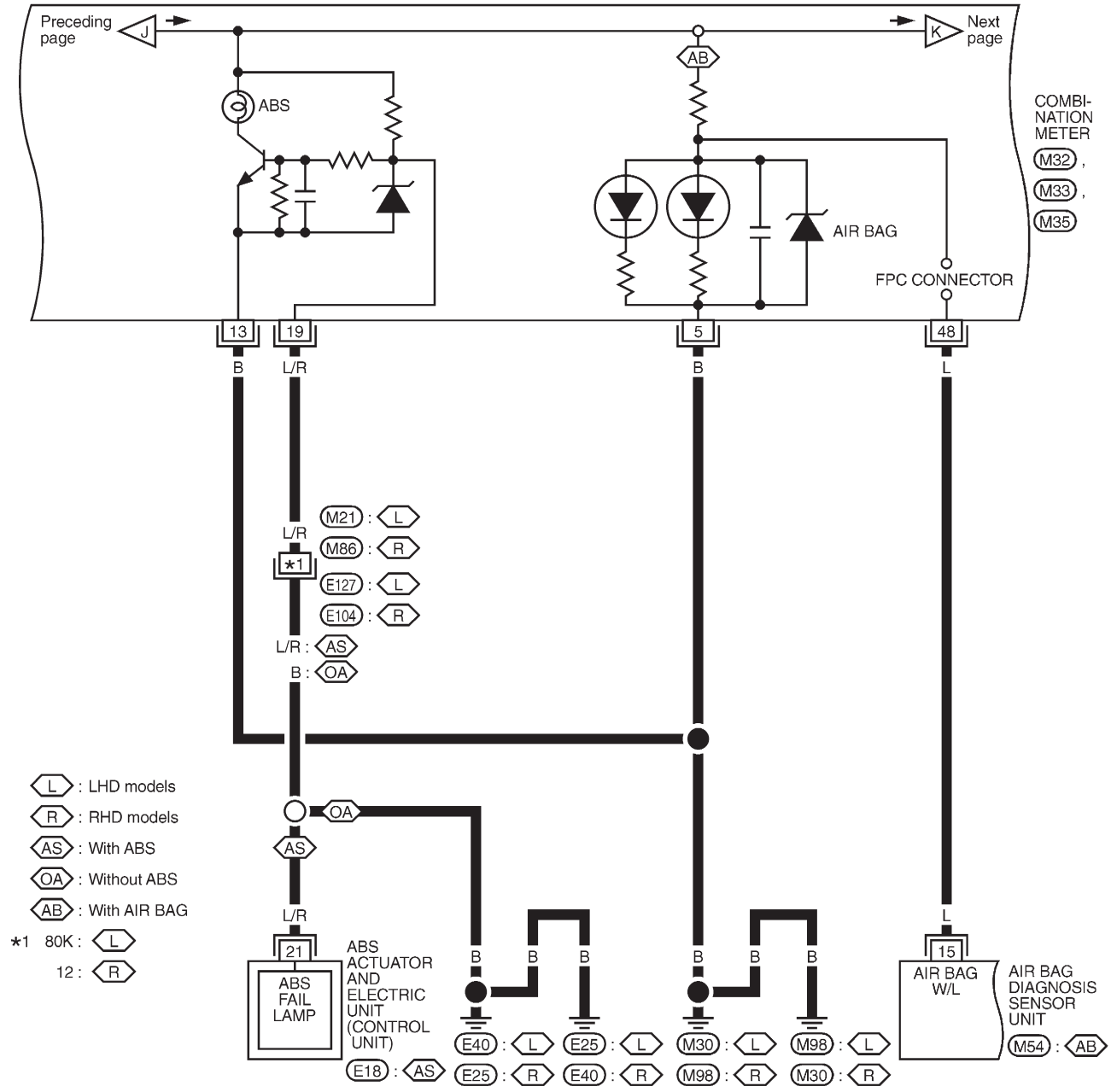


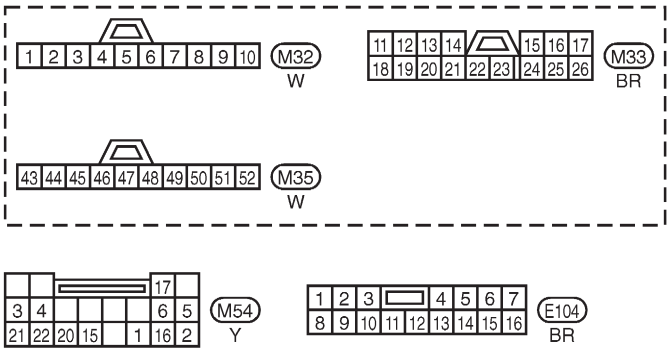
Refer to last page (Foldout page).
M21 , E127
F8

TEL243M

Wiring Diagram — WARN — (Cont'd)

EL-WARN-06



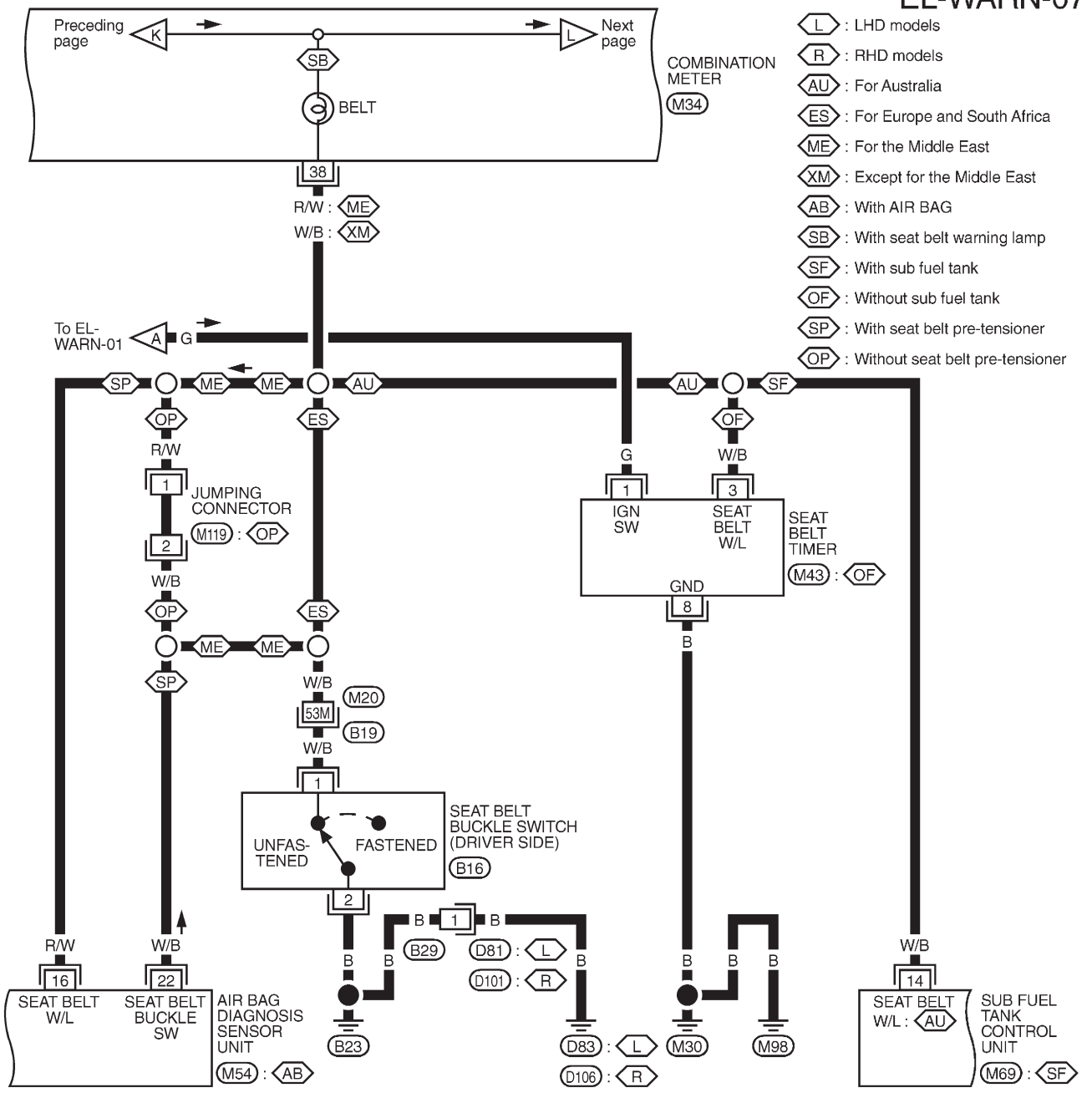


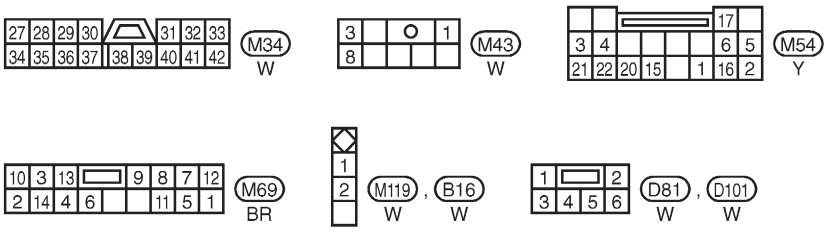
Refer to last page (Foldout page).
M21 , E127
E18

TEL570B

Wiring Diagram — WARN — (Cont'd)

EL-WARN-07





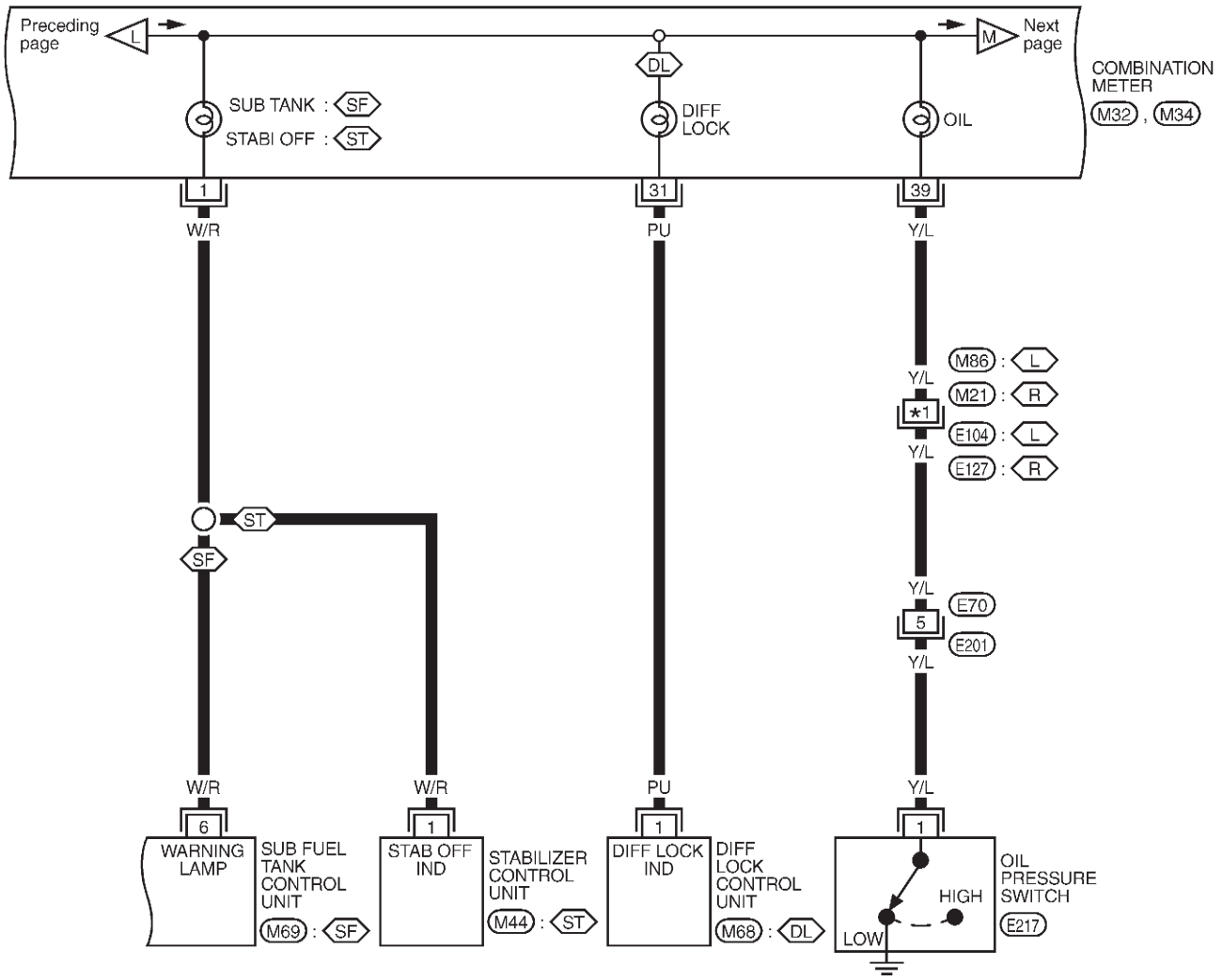
Refer to last page (Foldout page).
M20 , B19

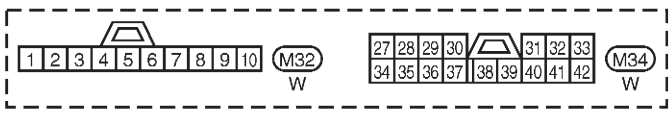
TEL571B

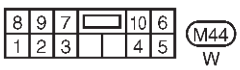
Wiring Diagram — WARN — (Cont'd)

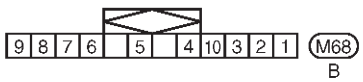
EL-WARN-08

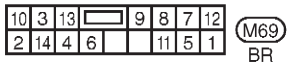
L : LHD models
R : RHD models
DL : With diff lock
SF : With sub fuel tank
ST : With rear stabilizer release device
*1 4 : L
80K : R

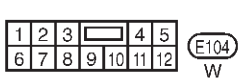


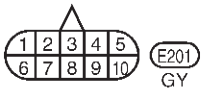










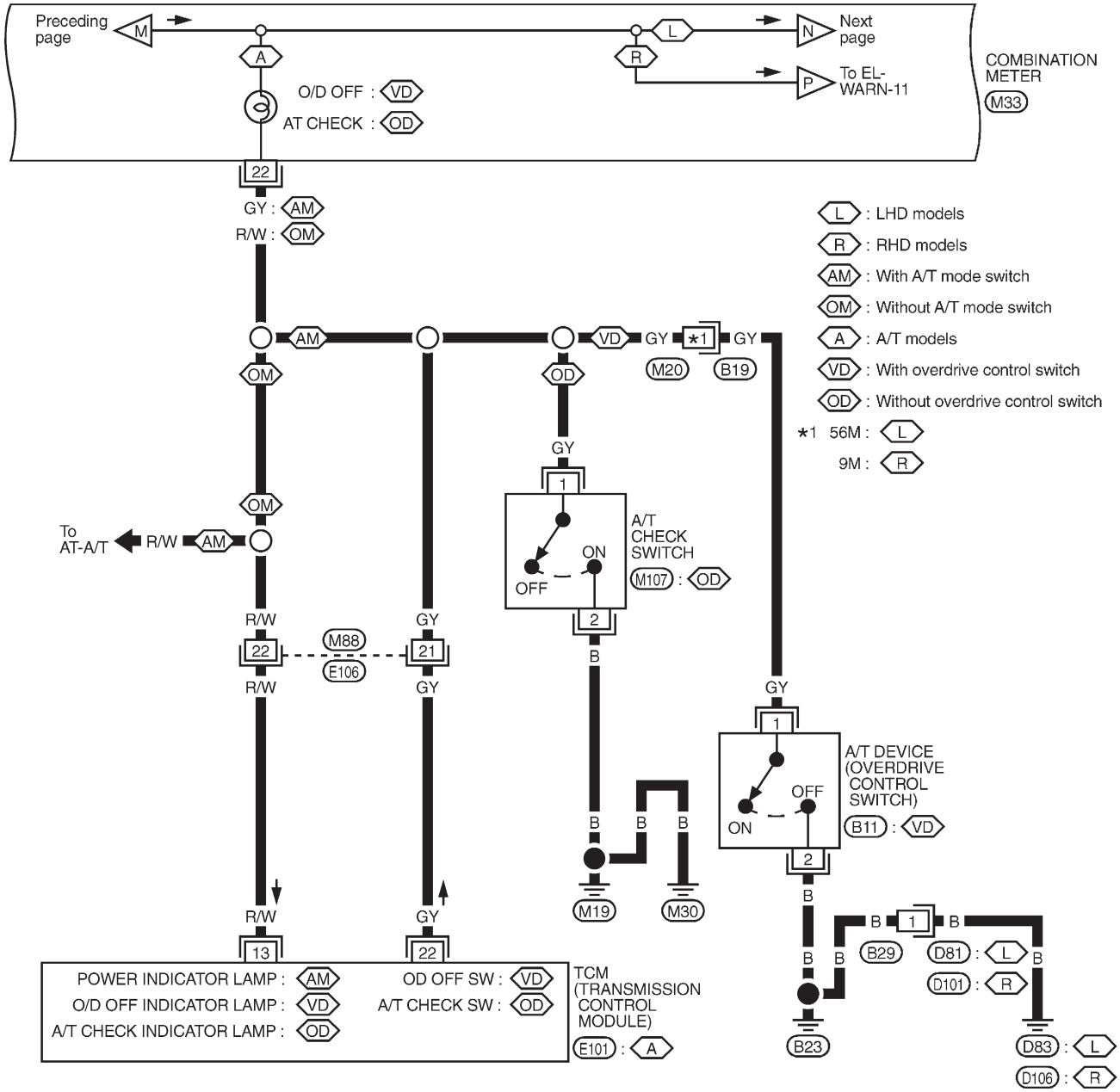


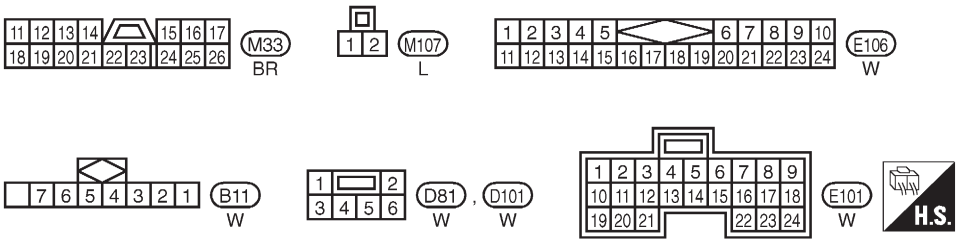
Refer to last page (Foldout page).
M21 , E127

TEL706A

Wiring Diagram — WARN — (Cont'd)

EL-WARN-09





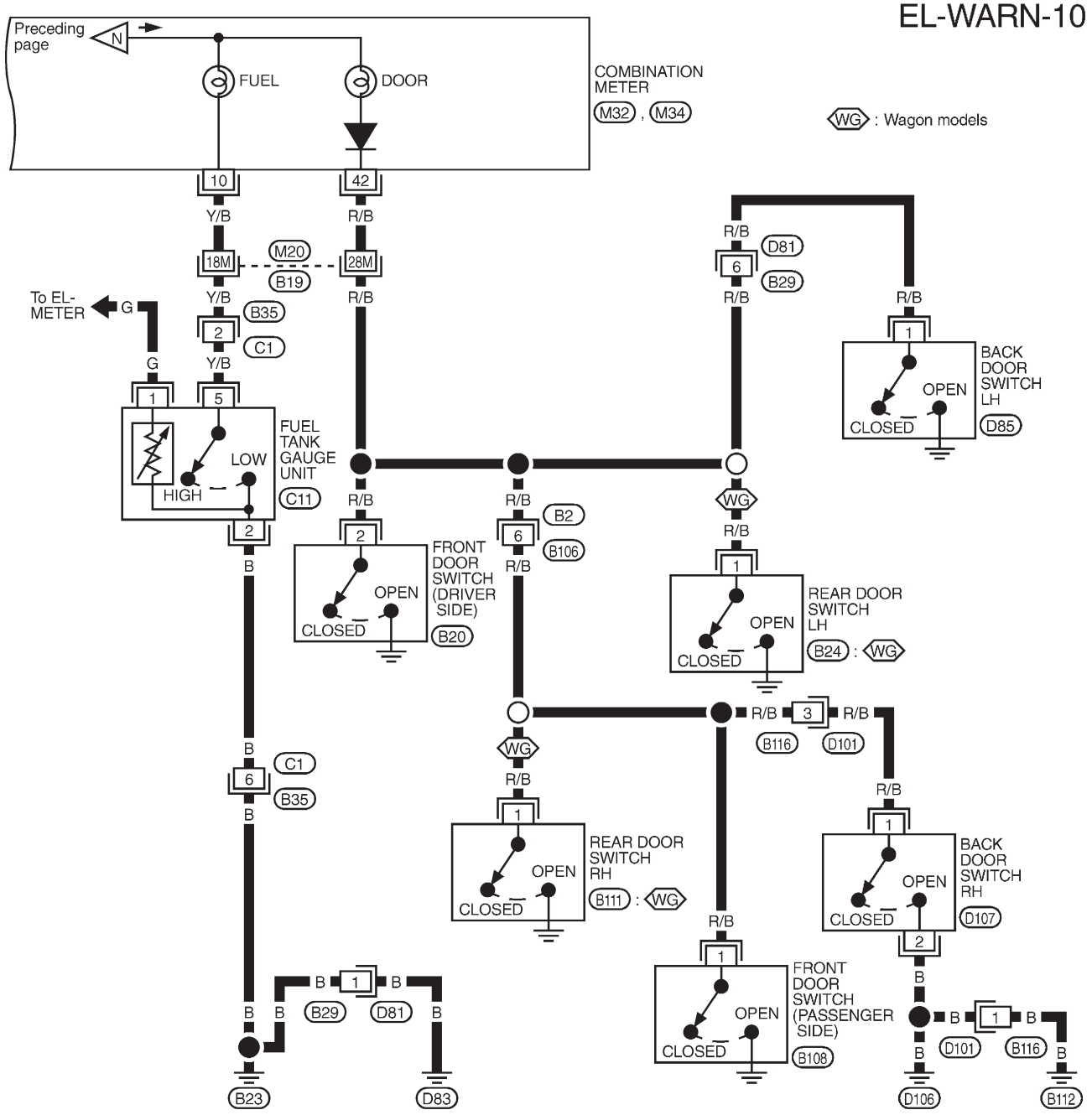
Refer to last page (Foldout page).
M20 , B19

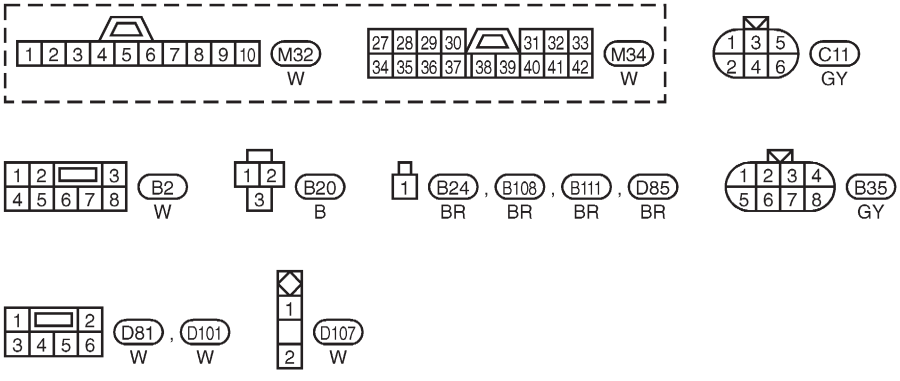
TEL573B

Wiring Diagram — WARN — (Cont'd)

LHD MODELS

EL-WARN-10





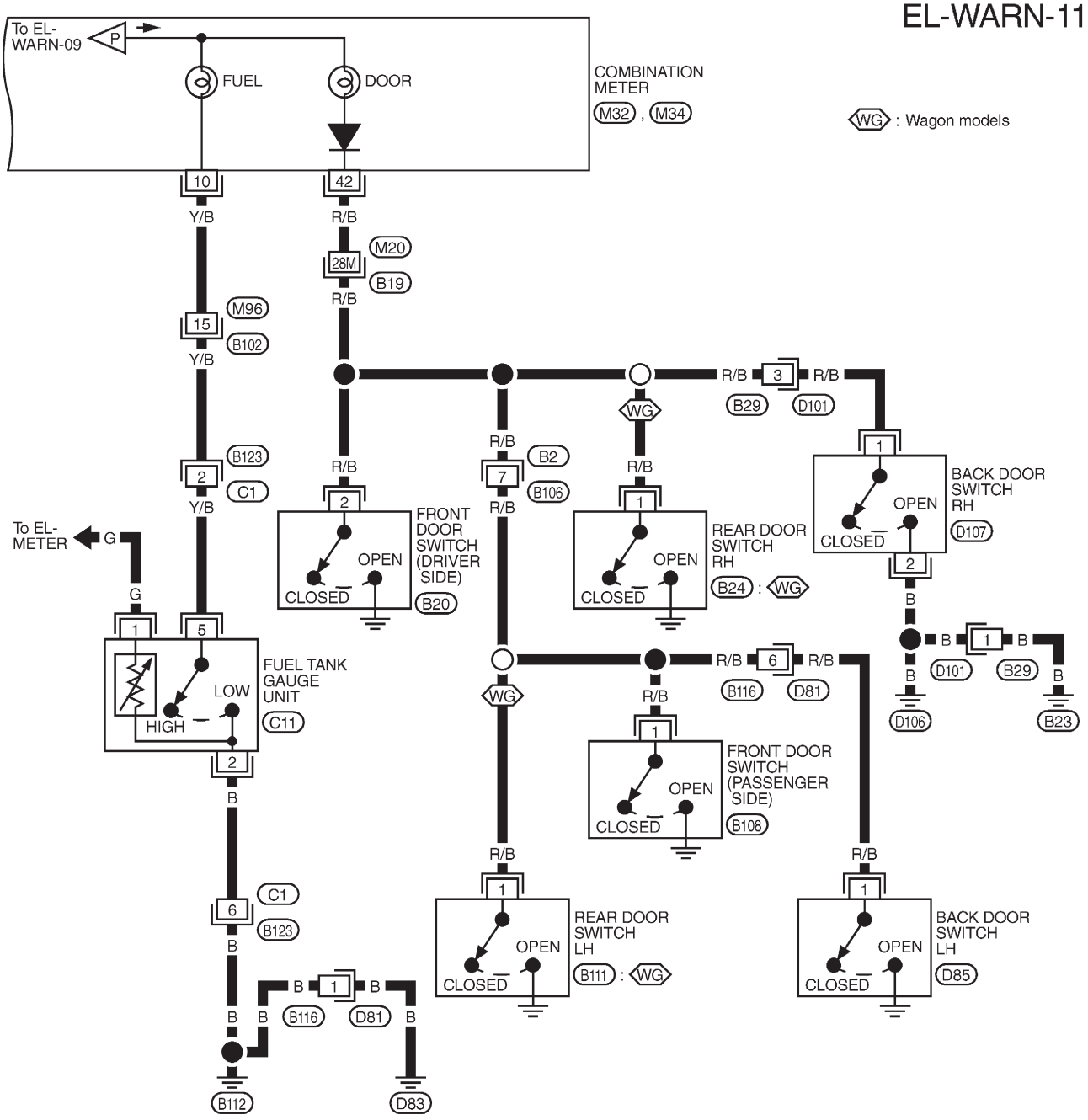
Refer to last page (Foldout page).
M20 , B19

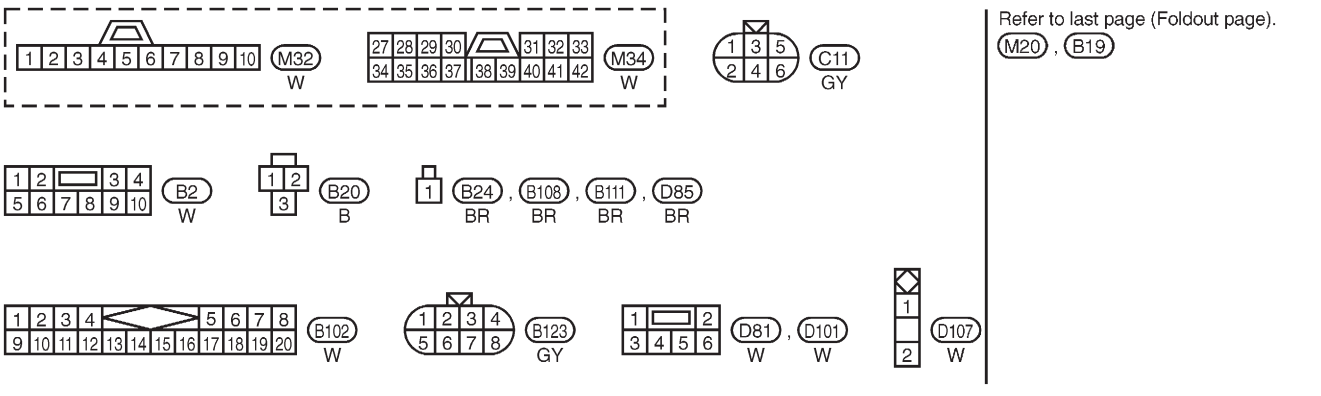
TEL244M

Wiring Diagram — WARN — (Cont'd)

RHD MODELS

EL-WARN-11





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

TEL245M

System Description

The warning chime is combined with the super lock 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 super lock control unit terminal ⑰).

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 and locked, the warning chime will sound. Power is supplied
- from key switch terminal ①
- to super lock control unit terminal ⑱.

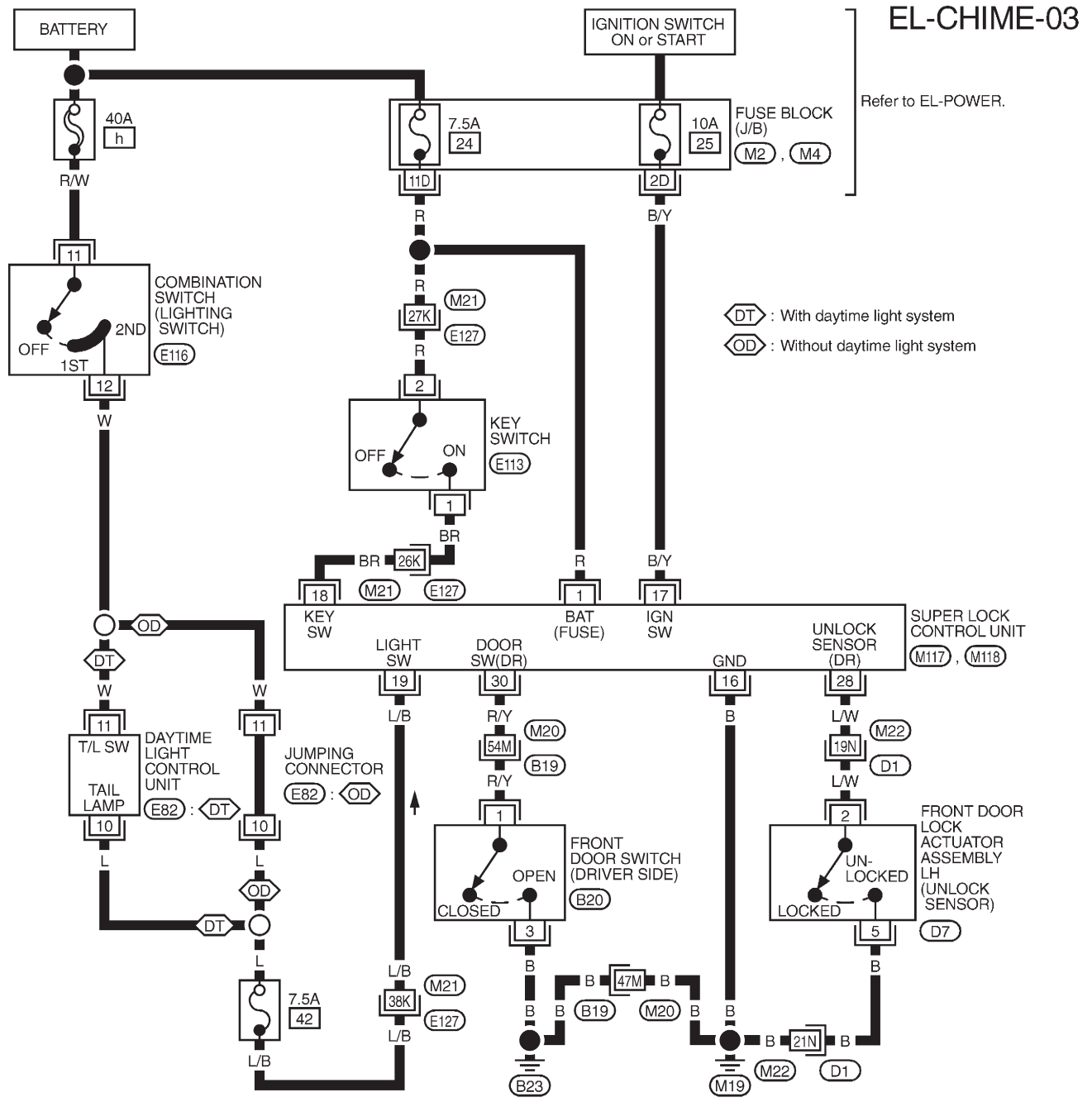
Ground is supplied
- through driver front door switch terminal ①
- to super lock control unit terminal ㉚, and
- through front door lock actuator assembly (driver side) (unlock sensor) terminal ②
- to super lock control unit terminal ㉘.

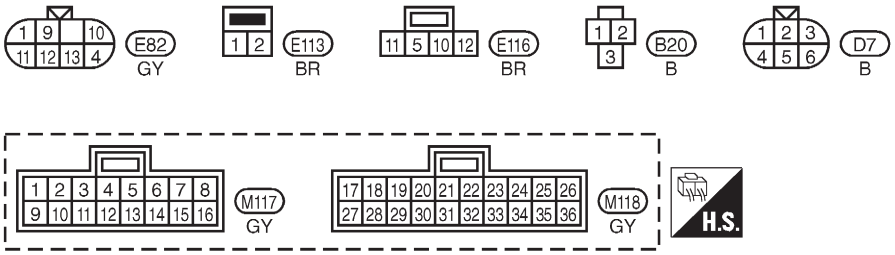
LIGHT WARNING CHIME

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. Power is supplied
- from combination switch terminal ⑫
- to super lock control unit terminal ⑲.

Ground is supplied
- through driver front door switch terminal ①
- to super lock control unit terminal ㉚.

Wiring Diagram — CHIME —/LHD Models





Refer to last page (Foldout page).

M20 , B19

M21 , E127

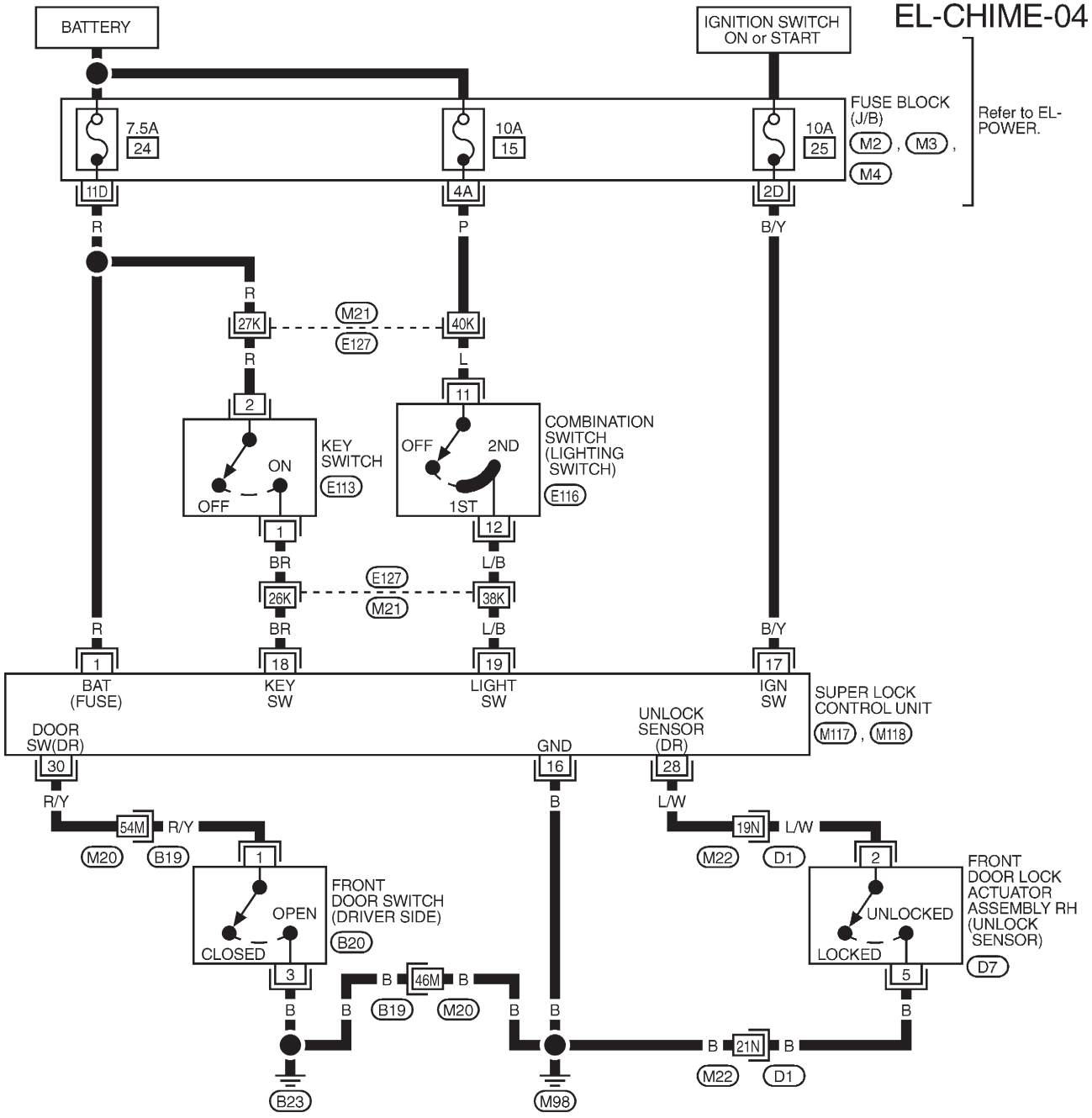
M22 , D1

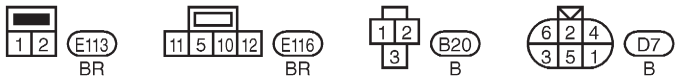
M2

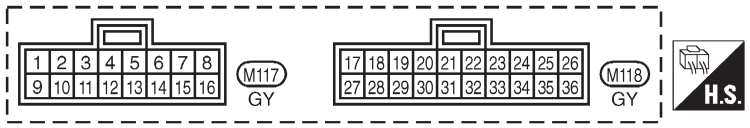
M4

TEL247M

Wiring Diagram — CHIME —/RHD Models







Refer to last page (Foldout page).

M20 , B19

M21 , E127

M22 , D1

M2

M3

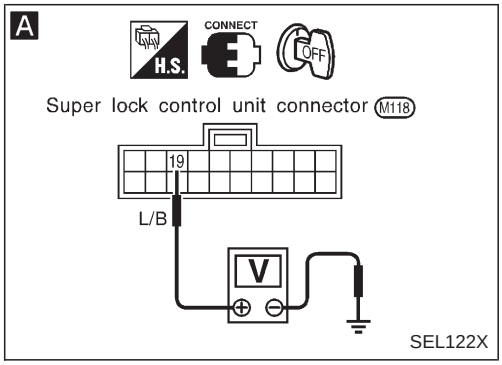
M4

TEL248M

Trouble Diagnoses

SYMPTOM CHART

REFERENCE PAGE	EL-1094	EL-1095	EL-1095	EL-1096
SYMPTOM	DIAGNOSTIC PROCEDURE 1 (Lighting switch input signal check)	DIAGNOSTIC PROCEDURE 2 (Key switch input signal check)	DIAGNOSTIC PROCEDURE 3 (Door unlock sensor check)	DIAGNOSTIC PROCEDURE 4
Light warning chime does not activate.	X			X
Ignition key warning chime does not activate.		X	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 super lock control unit terminal ⑲ and ground.

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

NG → Check the following.
- Harness for open or short between super lock control unit and combination switch (RHD models)
- Harness for open or short between super lock control unit and 7.5A fuse (LHD models)

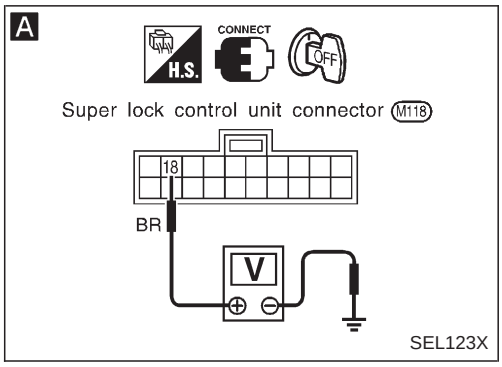
OK ↓

Go to DIAGNOSTIC PROCEDURE 4.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

(Key switch input signal check)



A

CHECK KEY SWITCH INPUT SIGNAL.
Check voltage between super lock control unit terminal (18) and ground.

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

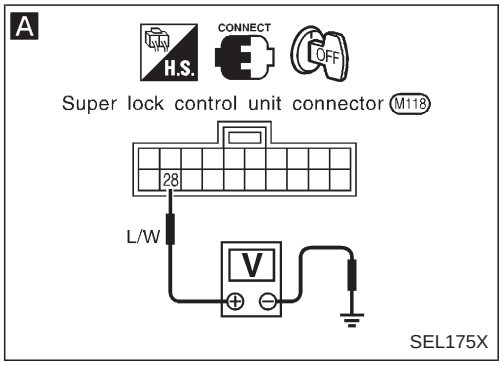
NG → Check the following.
- Key switch
  Refer to "Electrical Components Inspection" (EL-1097).
- 7.5A fuse [No. 24, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between super lock control unit and key switch

OK ↓

Go to DIAGNOSTIC PROCEDURE 4.

DIAGNOSTIC PROCEDURE 3

(Door unlock sensor check)



A

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.
Check voltage between super lock control unit terminal (28) and ground.

Terminals		Condition	Voltage [V]
⊕	⊖		
(28)	Ground	Locked	Approx. 5
		Unlocked	0

NG → Check the following.
- Door unlock sensor
  Refer to "Electrical Components Inspection" (EL-1097).
- Harness for open or short between super lock control unit and door unlock sensor

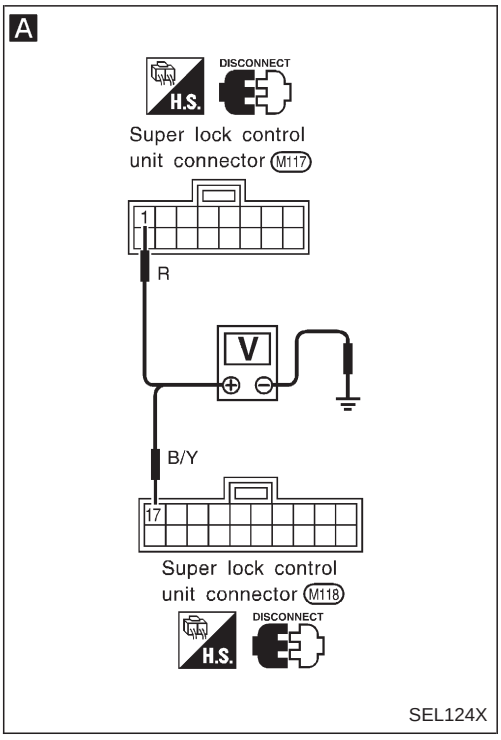
OK ↓

Go to DIAGNOSTIC PROCEDURE 4.

Trouble Diagnoses (Cont'd)

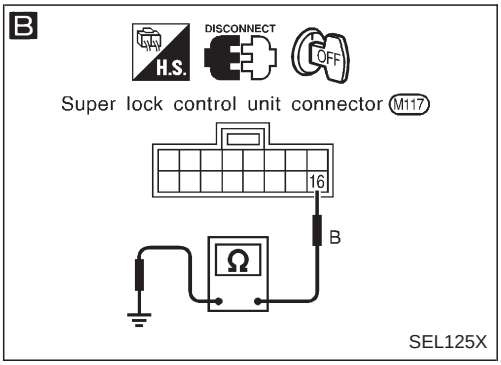
DIAGNOSTIC PROCEDURE 4

A



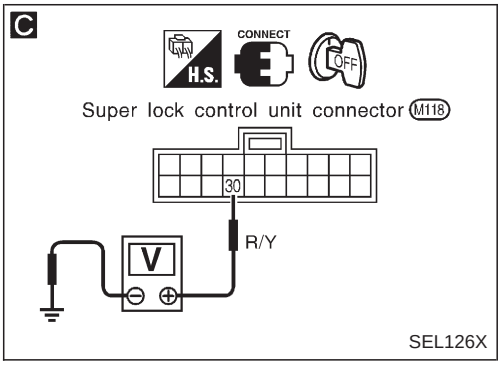
SEL124X

B



SEL125X

C



SEL126X

A

CHECK POWER SUPPLY CIRCUIT FOR SUPER LOCK CONTROL UNIT.
Check voltage between super lock control unit terminals ①, ⑰ and ground.

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
①	Ground	Approx. 12V		
⑰	Ground	0V	0V	Approx. 12V

NG → Check the following.
- 10A fuse [No. 25, located in the fuse block (J/B)]
- 7.5A fuse [No. 24, located in the fuse block (J/B)]
- Harness for open or short between super lock control unit and fuse

OK ↓

B

CHECK GROUND CIRCUIT FOR SUPER LOCK CONTROL UNIT.
Check continuity between super lock control unit terminal ⑯ and ground.
Continuity should exist.

NG → Repair harness or connectors.

OK ↓

C

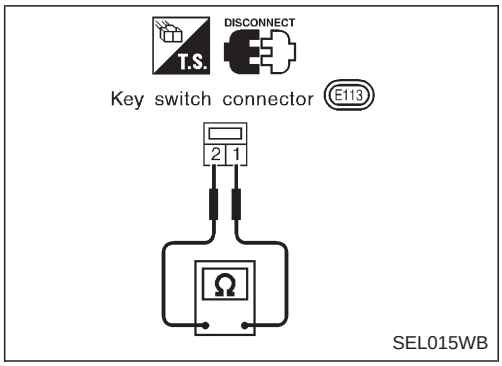
CHECK DOOR SWITCH INPUT SIGNAL.
Check voltage between super lock control unit terminal ㉚ and ground.

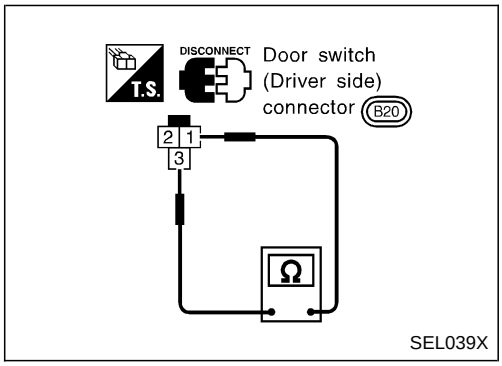
Condition of driver's door	Voltage [V]
Driver side door is closed.	Approx. 12
Driver side door is open.	0

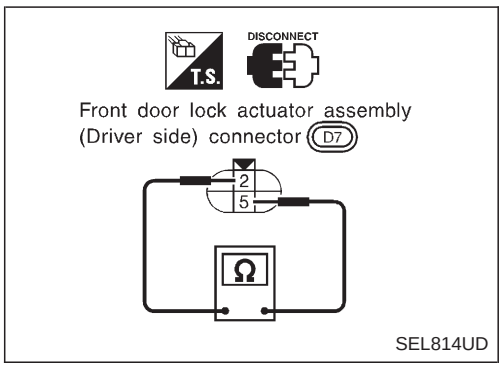
NG → Check the following.
- Driver side door switch Refer to "Electrical Components Inspection" (EL-1097).
- Door switch ground circuit
- Harness for open or short between super lock control unit and door switch

OK ↓

Replace super lock control unit.







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

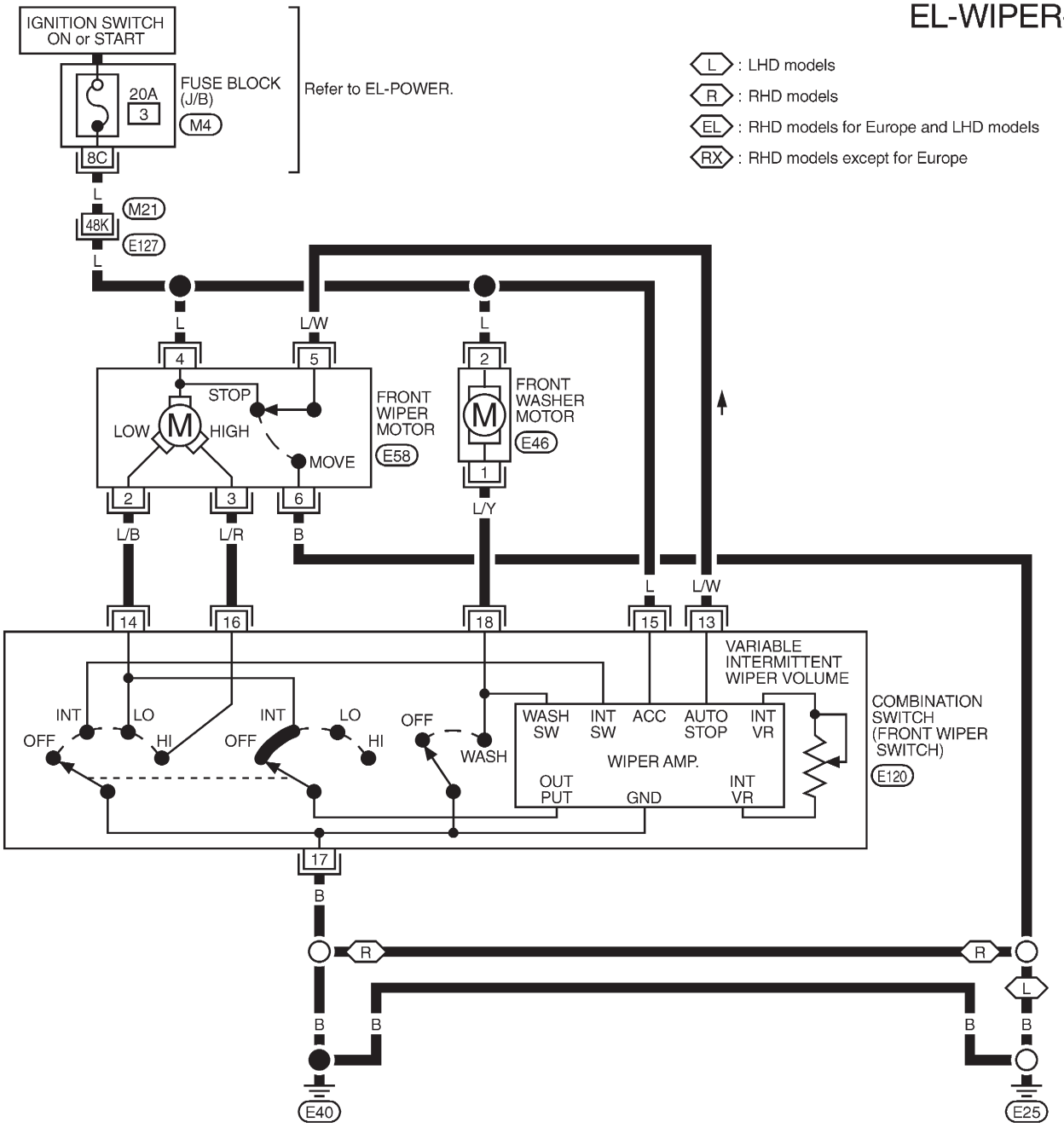
DRIVER SIDE DOOR UNLOCK SENSOR

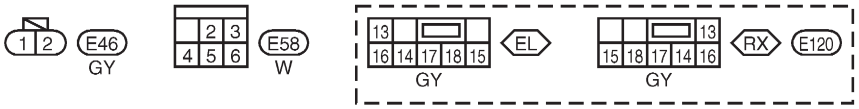
Check continuity between door unlock sensor terminals with the door locked and unlocked.

Terminal No.	Condition	Continuity
② - ⑤	Locked	No
	Unlocked	Yes

Wiring Diagram — WIPER —

EL-WIPER-01

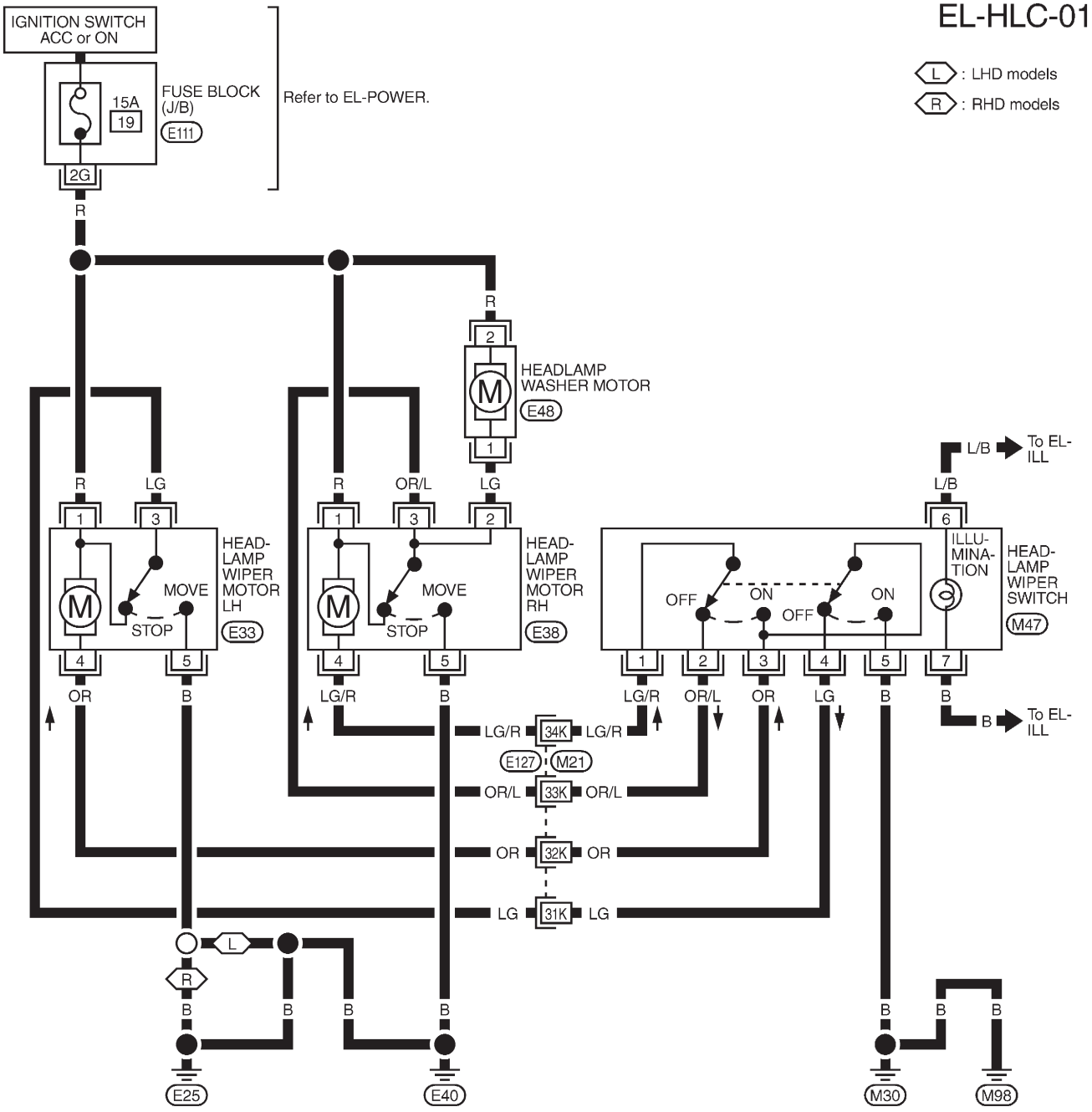




Refer to last page (Foldout page).
M21 , E127
M4

TEL575B

Wiring Diagram — HLC —

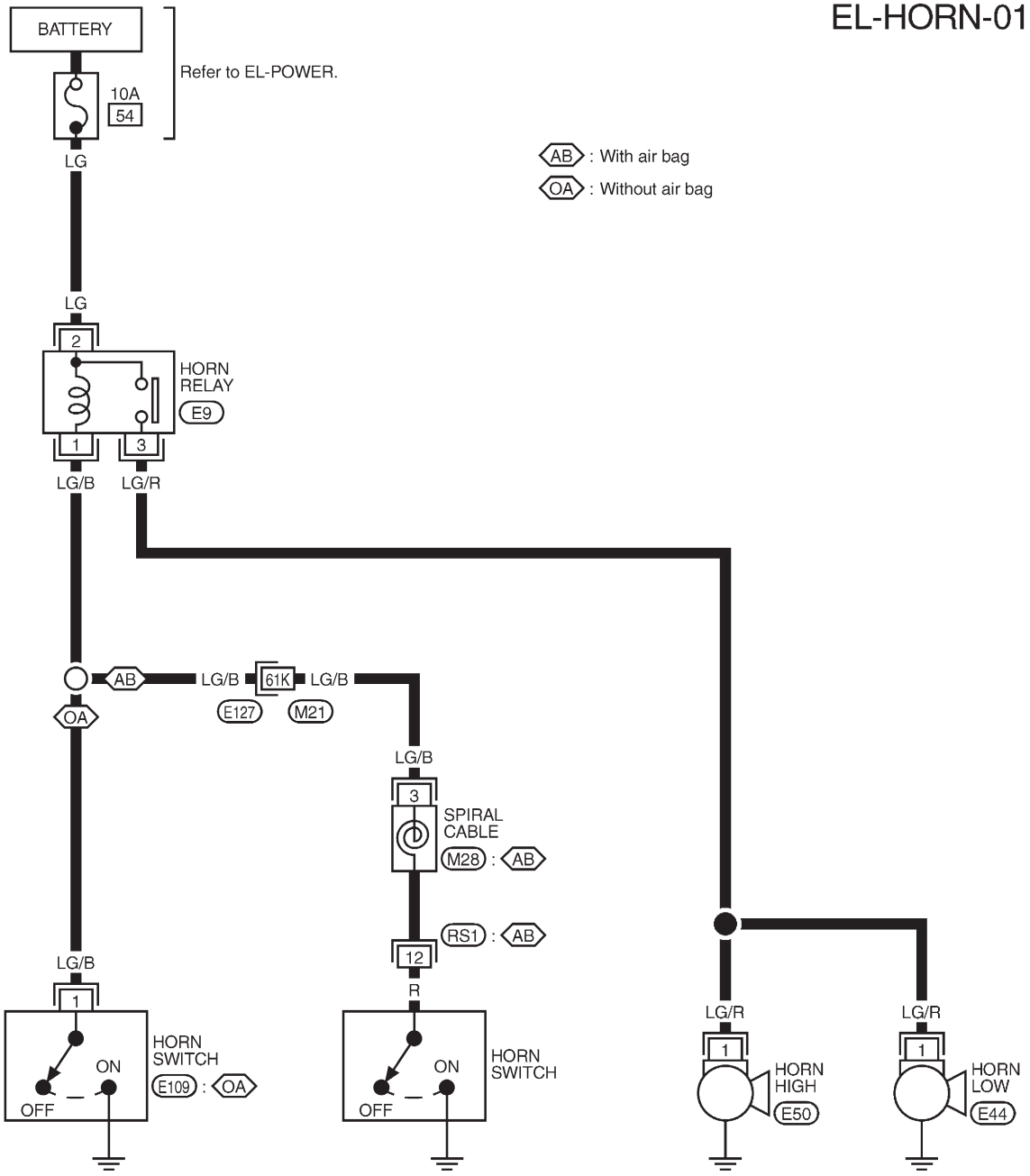


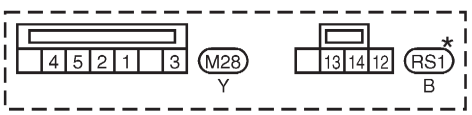
Refer to last page (Foldout page).
M21, E127
E111

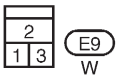
TEL289M

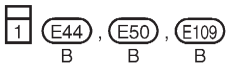
Wiring Diagram — HORN —

EL-HORN-01









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

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

TEL577B

System Description

The rear window defogger system is controlled by the super lock 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),
- to rear window defogger relay terminal ⑥
- through 20A fuse (No. 44, located in the fuse and fusible link box) and
- to super lock control unit terminal ①
- through 7.5A fuse [No. 24, located in the fuse block (J/B)].

With the ignition switch in the ON or START position, power is supplied
- to the rear window defogger relay terminal ①
- through 7.5A fuse [No. 8, located in the fuse block (J/B)] and
- to super lock control unit terminal ⑰
- through 10A fuse [No. 25, located in the fuse block (J/B)].

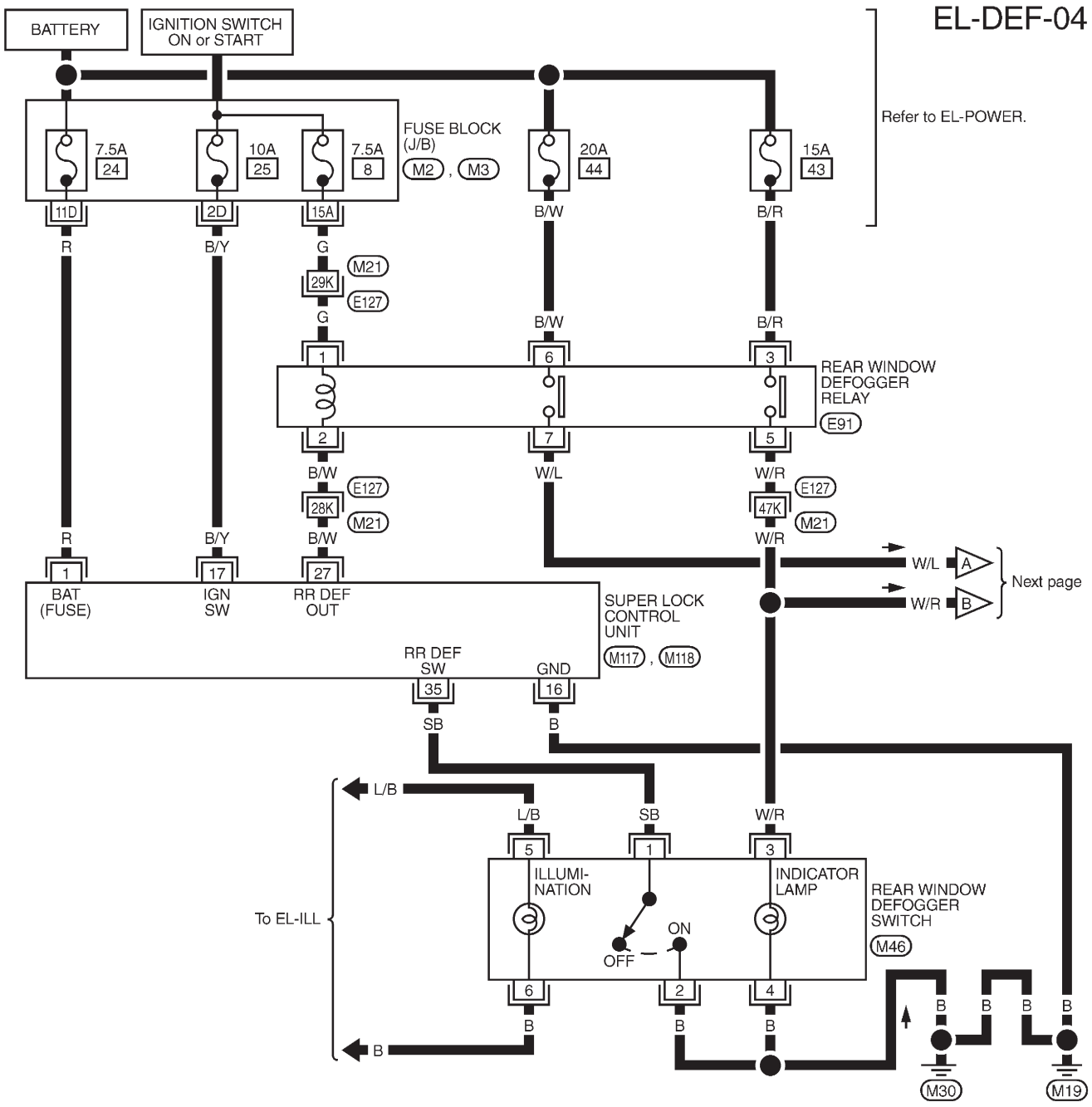
Ground is supplied to terminal ② of the rear window defogger switch through body grounds.
When the rear window defogger switch is turned ON, ground is supplied
- through terminal ① of the rear window defogger switch
- to super lock control unit terminal ㉟.

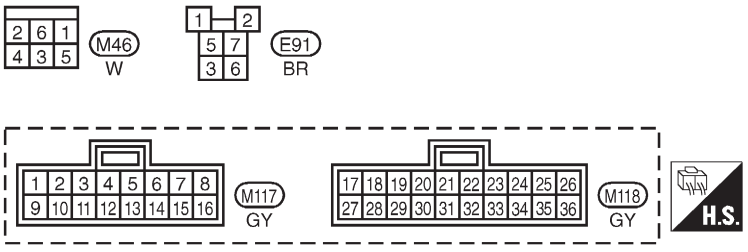
Terminal ㉗ of the super lock control unit then supplies ground to the rear window defogger relay terminal ②.
With power and ground supplied, the rear window defogger relay is energized.
Power is supplied
- through terminals ⑤ and ⑦ of the rear window defogger relay
- to the rear window defogger and door mirror defogger (with door mirror 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.

Wiring Diagram — DEF —/LHD Models



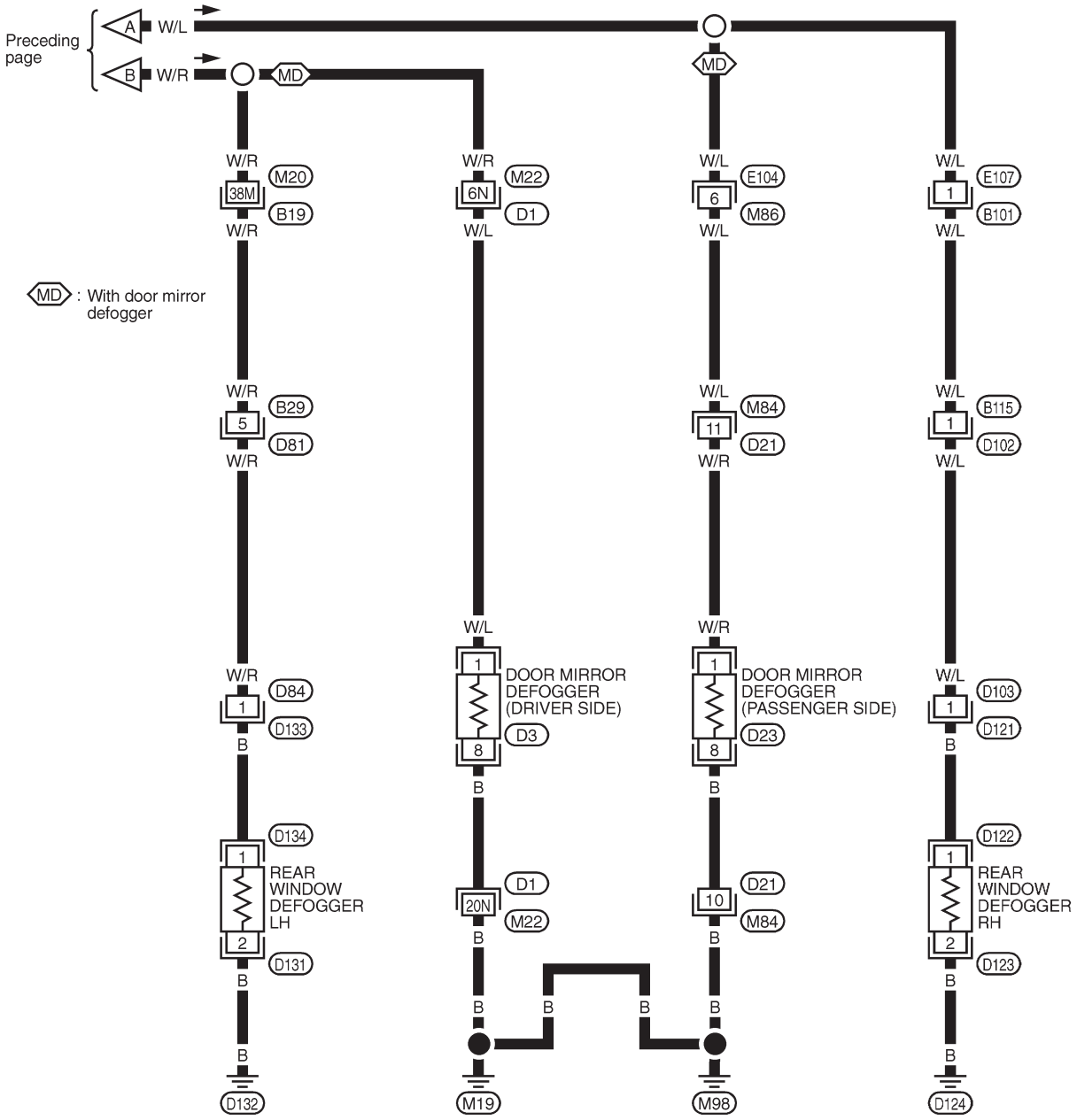


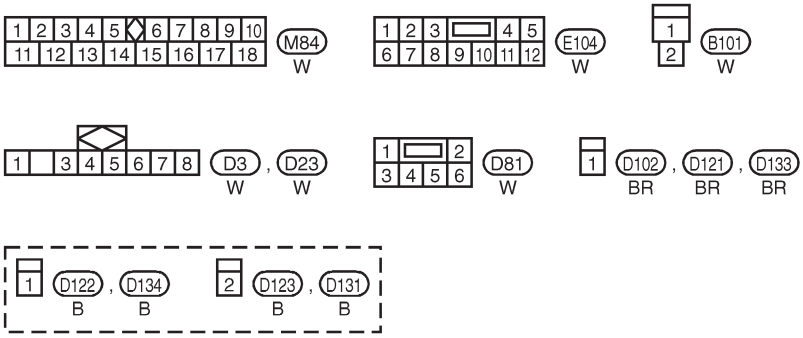
Refer to last page (Foldout page).
M21 , E127
M2
M3

TEL249M

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

EL-DEF-05





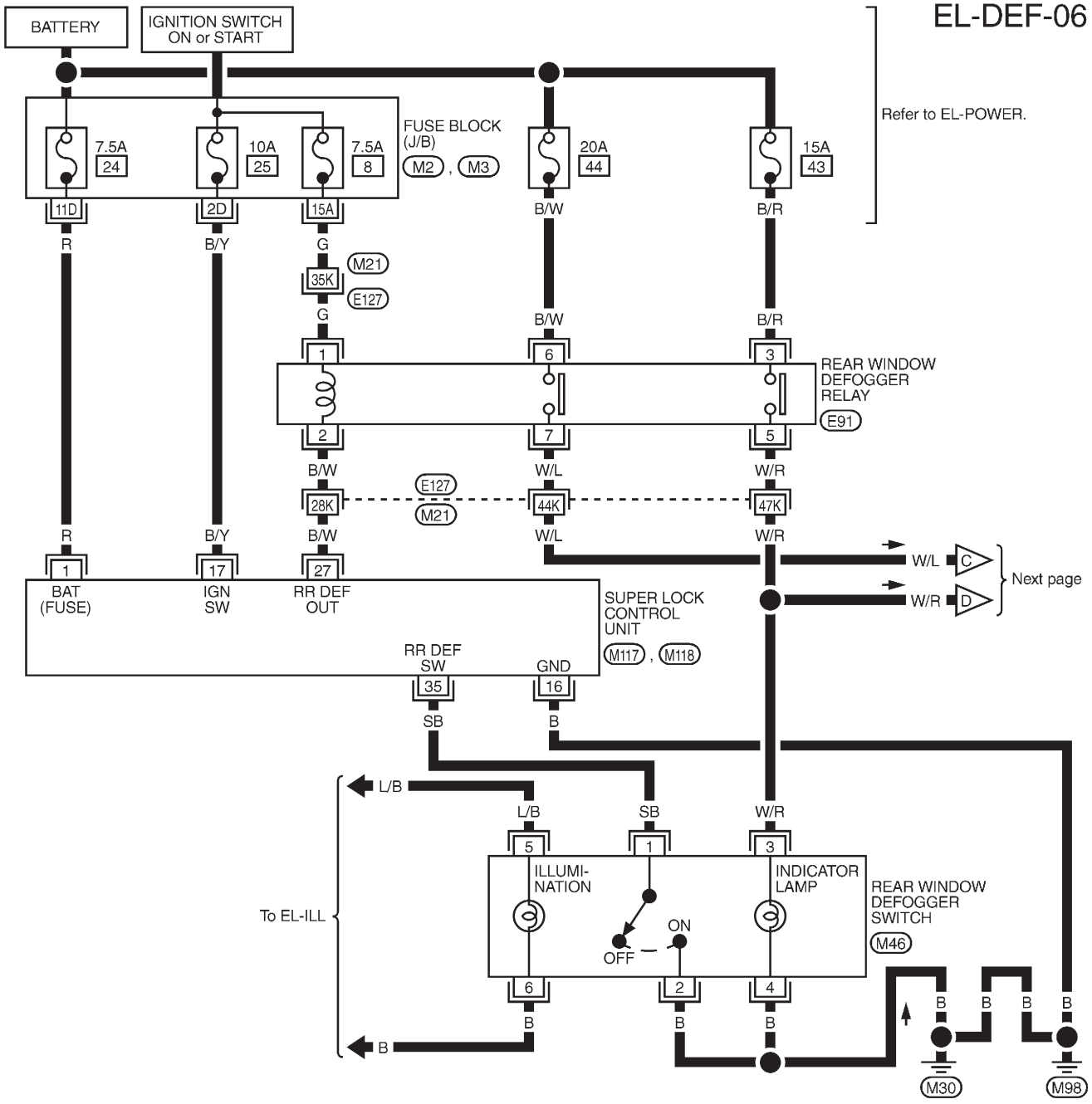
Refer to last page (Foldout page).

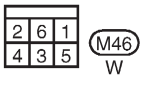
M20 , B19

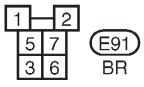
M22 , D1

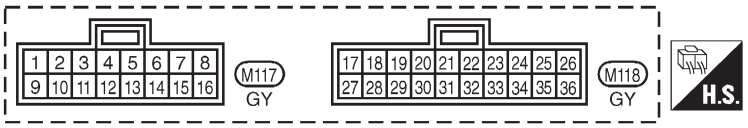
TEL674B

Wiring Diagram — DEF —/RHD Models







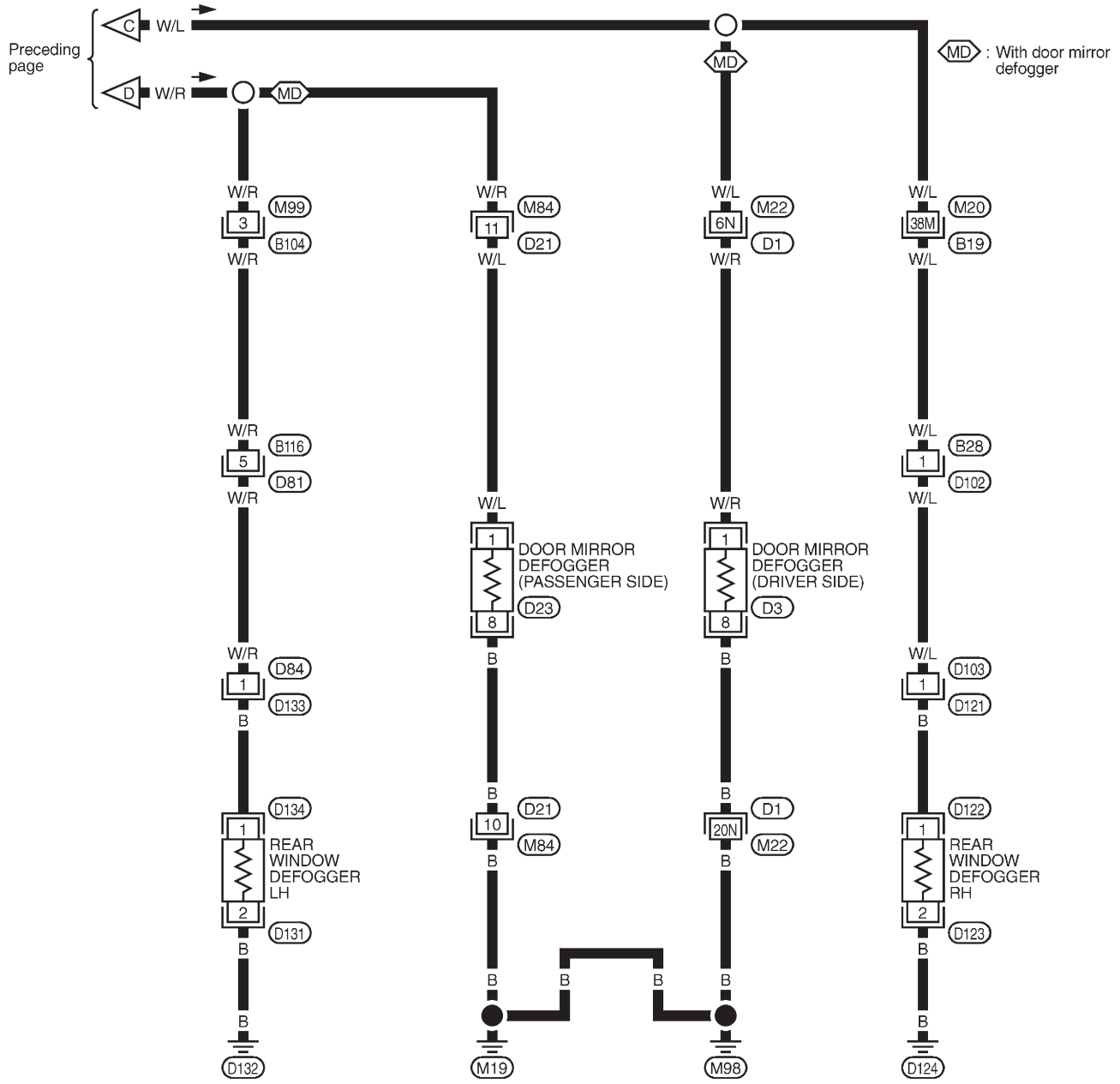


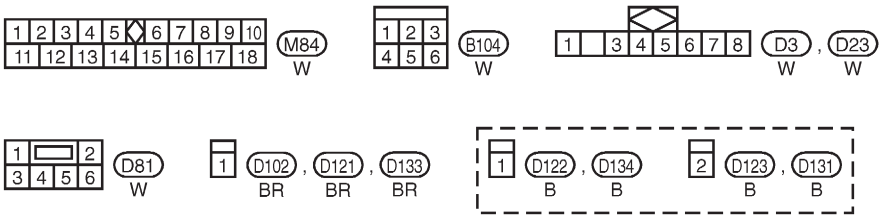
Refer to last page (Foldout page).
M21 , E127
M2
M3

TEL251M

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

EL-DEF-07





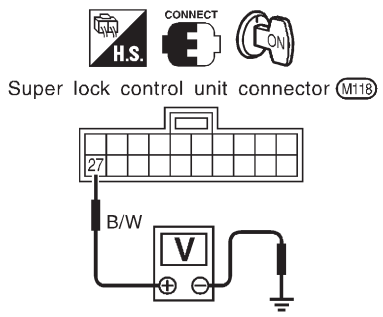
Refer to last page (Foldout page).

M20 , B19

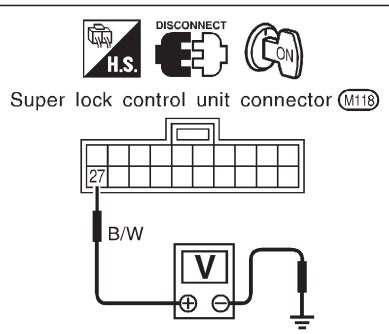
M22 , D1

TEL252M

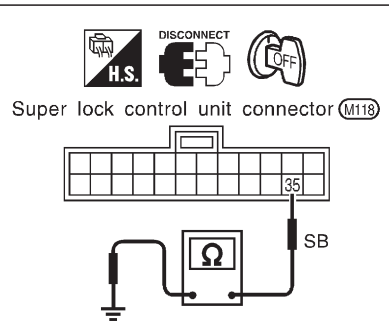
A



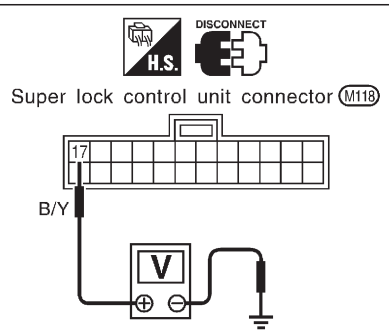
B



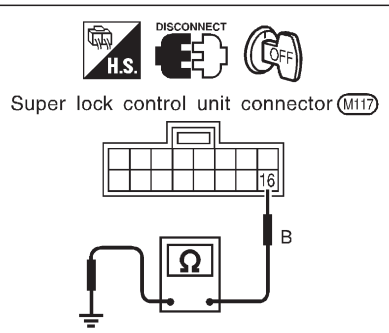
C



D



E



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 super lock control unit harness terminal (27) 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-1107.)
- Rear window defogger circuit
- Rear window defogger filament [Refer to "Filament Check" in Service Manual (SM7E-2Y61G1).]

NG ↓

B

1. Disconnect super lock control unit connector.
2. Turn ignition switch to ON position.
3. Check voltage between super lock control unit terminal (27) and ground.
   Battery voltage should exist.

NG → 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 super lock control unit and rear window defogger relay
- Harness for open or short between rear window defogger relay and fuse

OK ↓

C

CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL.
Check continuity between super lock control unit terminal (35) and ground.

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

NG → Check the following.
- Rear window defogger switch (Refer to EL-1107.)
- Harness for open or short between super lock control unit and rear window defogger switch
- Rear window defogger switch ground circuit

OK ↓

D

CHECK IGNITION INPUT SIGNAL.
Check voltage between super lock control unit terminal (17) and ground.

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

NG → Check the following.
- 10A fuse [No. 25 located in the fuse block (J/B)]
- Harness for open or short between super lock control unit and fuse

OK ↓

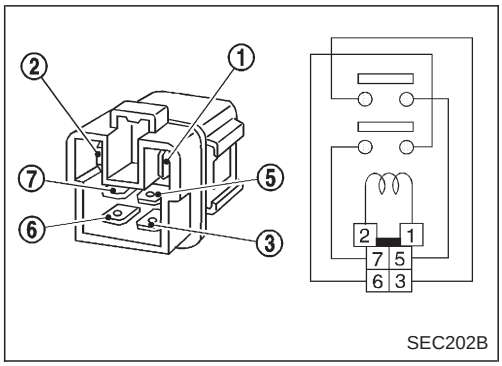
E

CHECK SUPER LOCK CONTROL UNIT GROUND CIRCUIT.
Check continuity between super lock control unit terminal (16) and ground.
Continuity should exist.

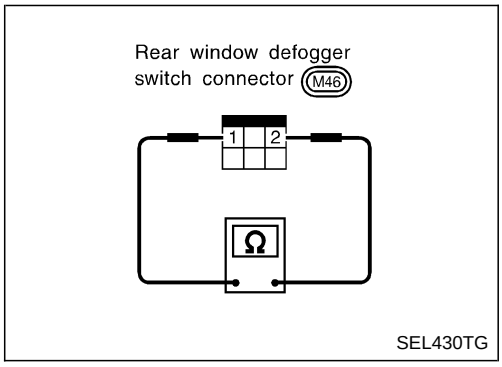
NG → Repair harness or connectors.

OK ↓

Replace super lock control unit.



SEC202B



SEL430TG

Electrical Components Inspection

REAR WINDOW DEFOGGER RELAY

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

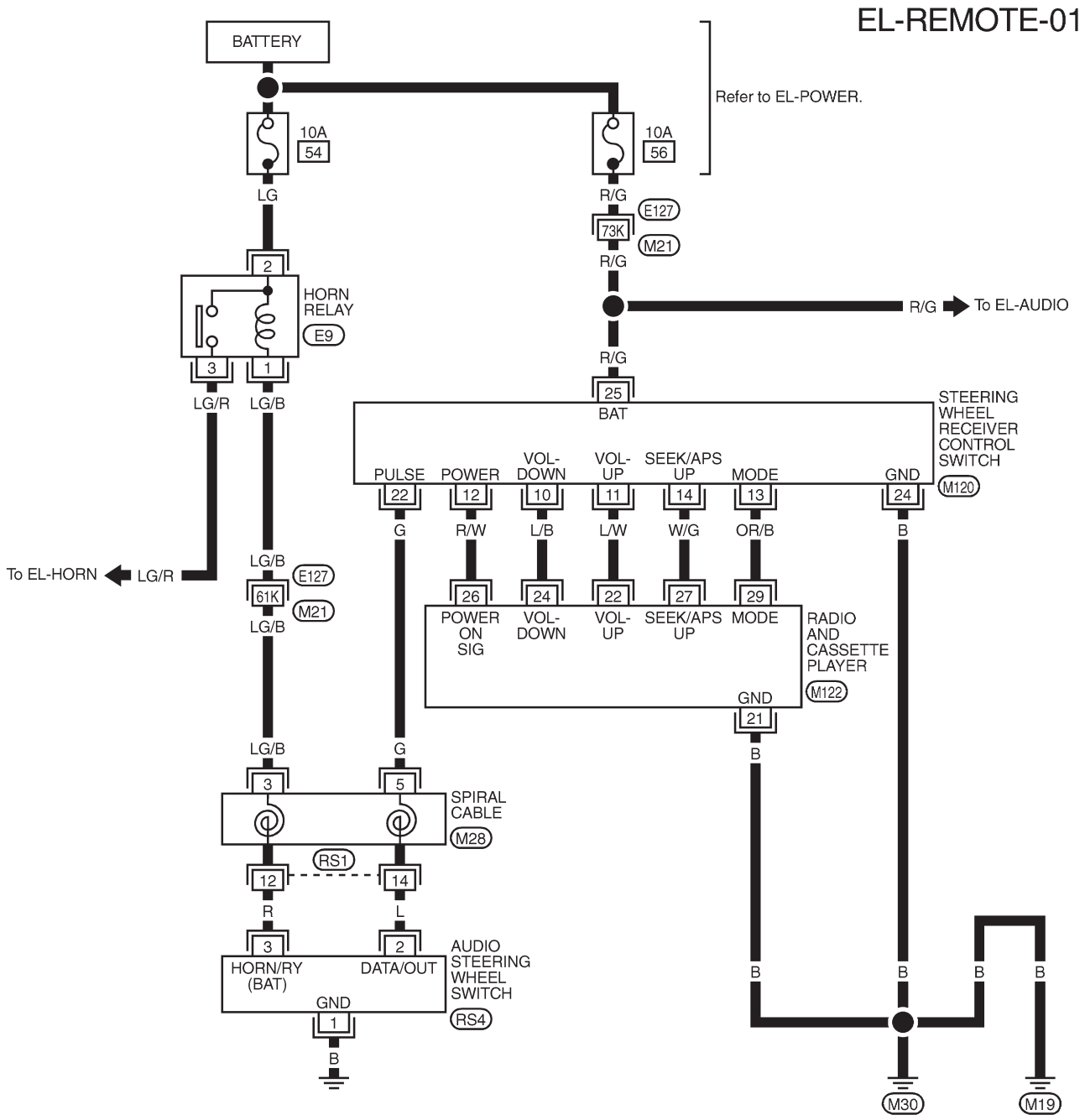
Condition	Continuity
12V direct current supply between terminals ① and ②	Yes
No current supply	No

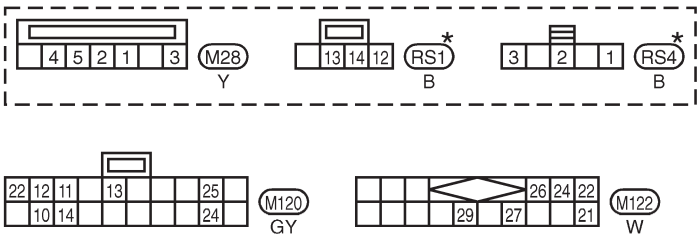
REAR WINDOW DEFOGGER SWITCH

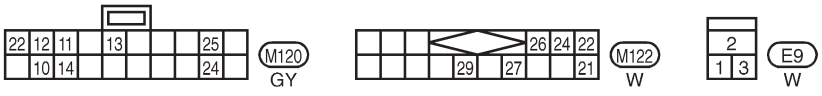
Check continuity between terminals when rear window defogger switch is pushed and released.

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

Wiring Diagram — REMOTE —







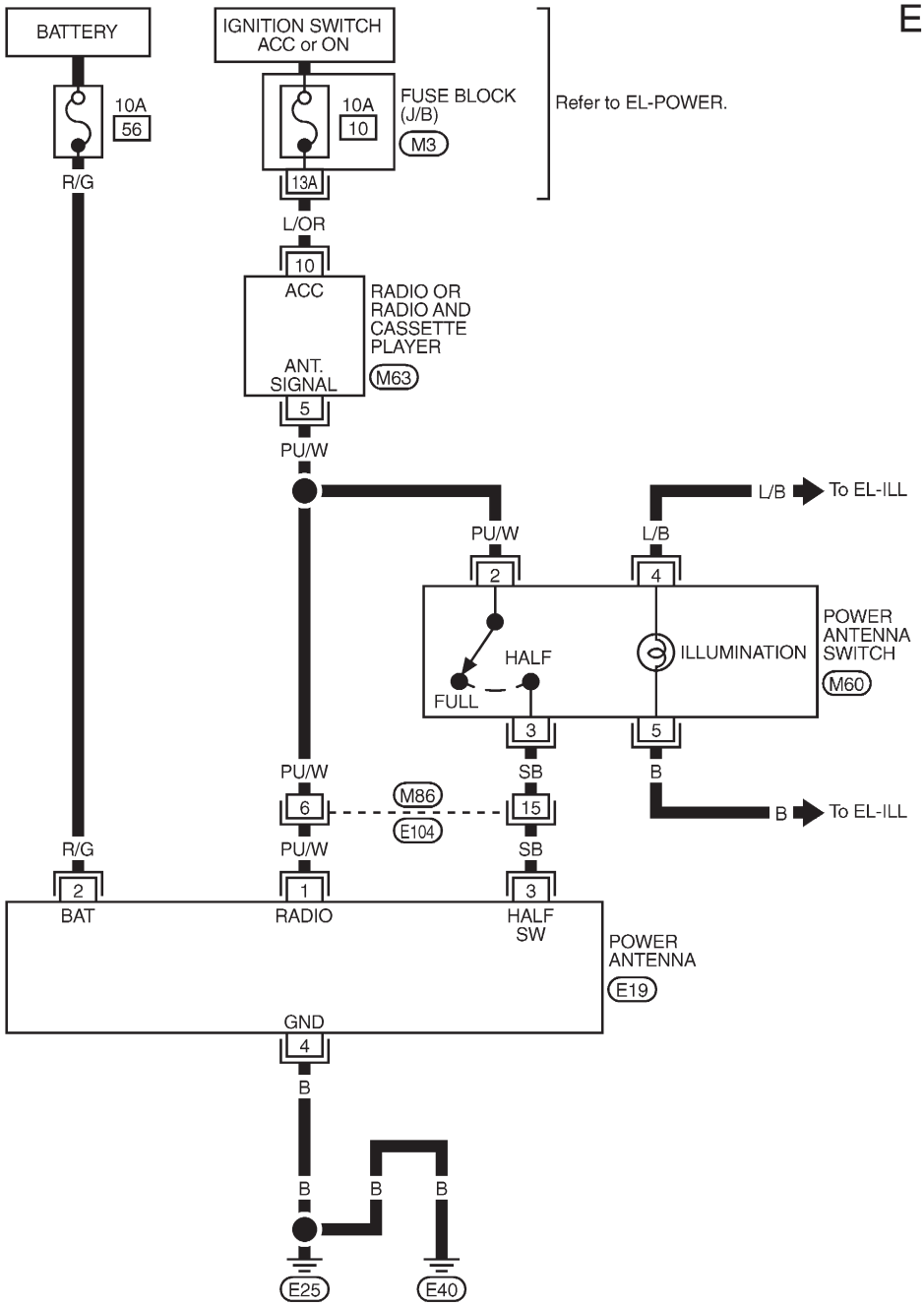
∗: This connector is not shown in "HARNESS LAYOUT", EL section.

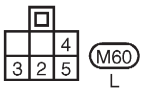
Refer to last page (Foldout page).
M21 , E127

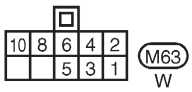
TEL581B

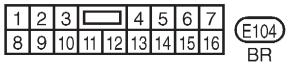
Wiring Diagram — P/ANT —/RHD Models

EL-P/ANT-01





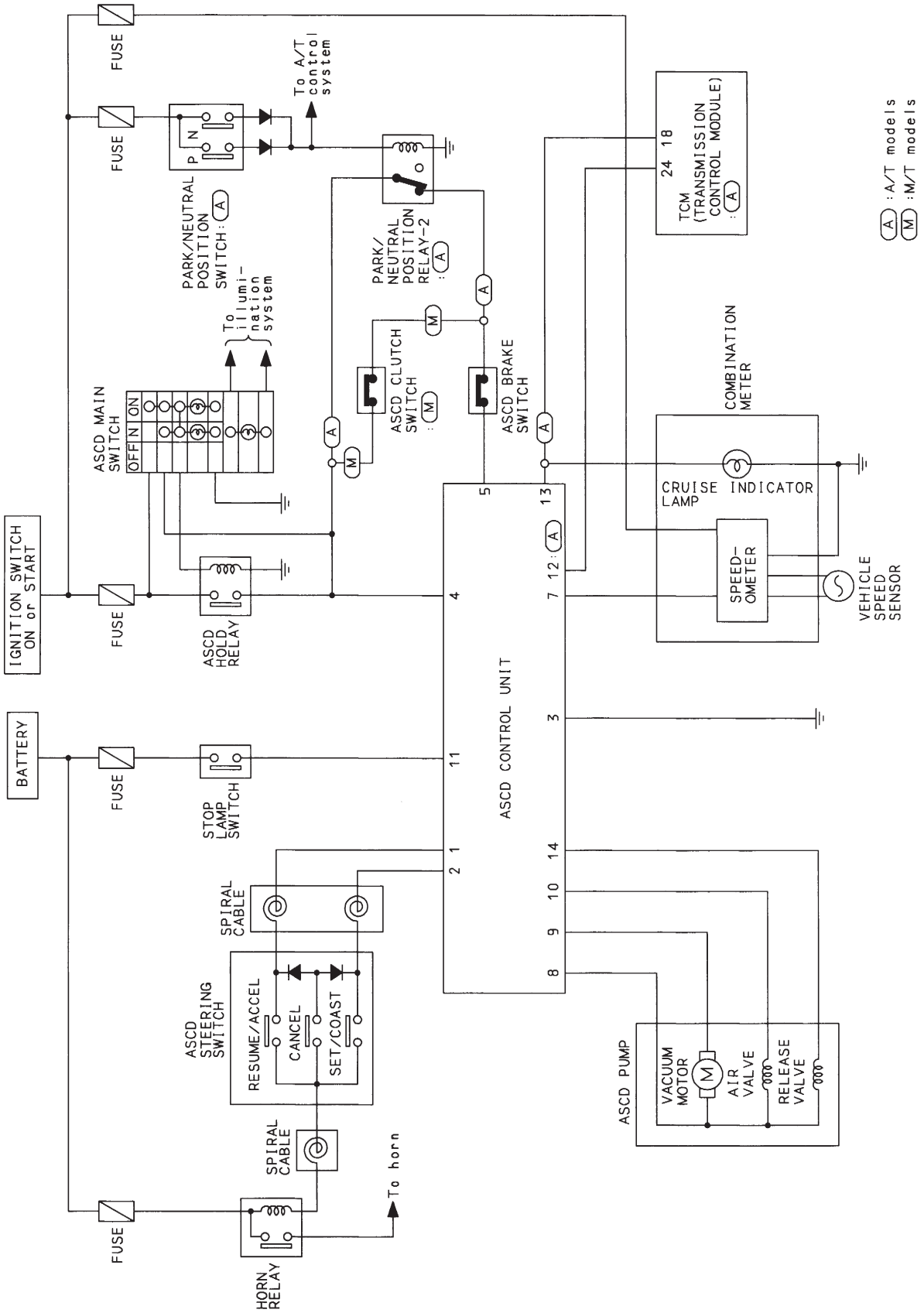




Refer to last page (Foldout page).
M3

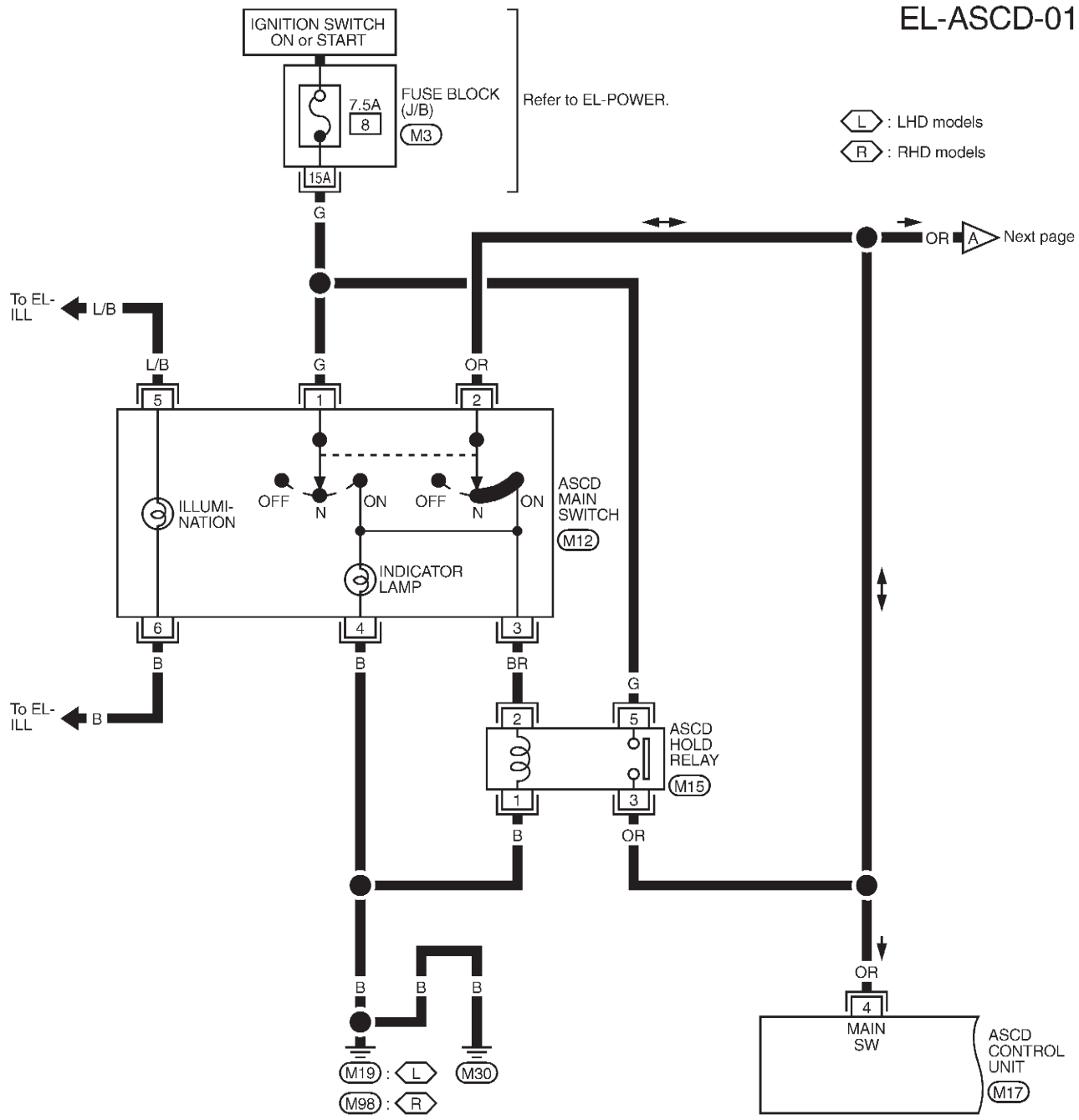
TEL290M

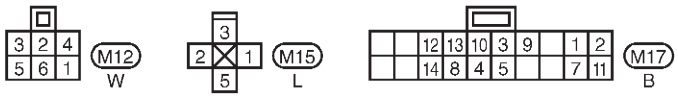
Schematic



TEL582B

Wiring Diagram — ASCD —



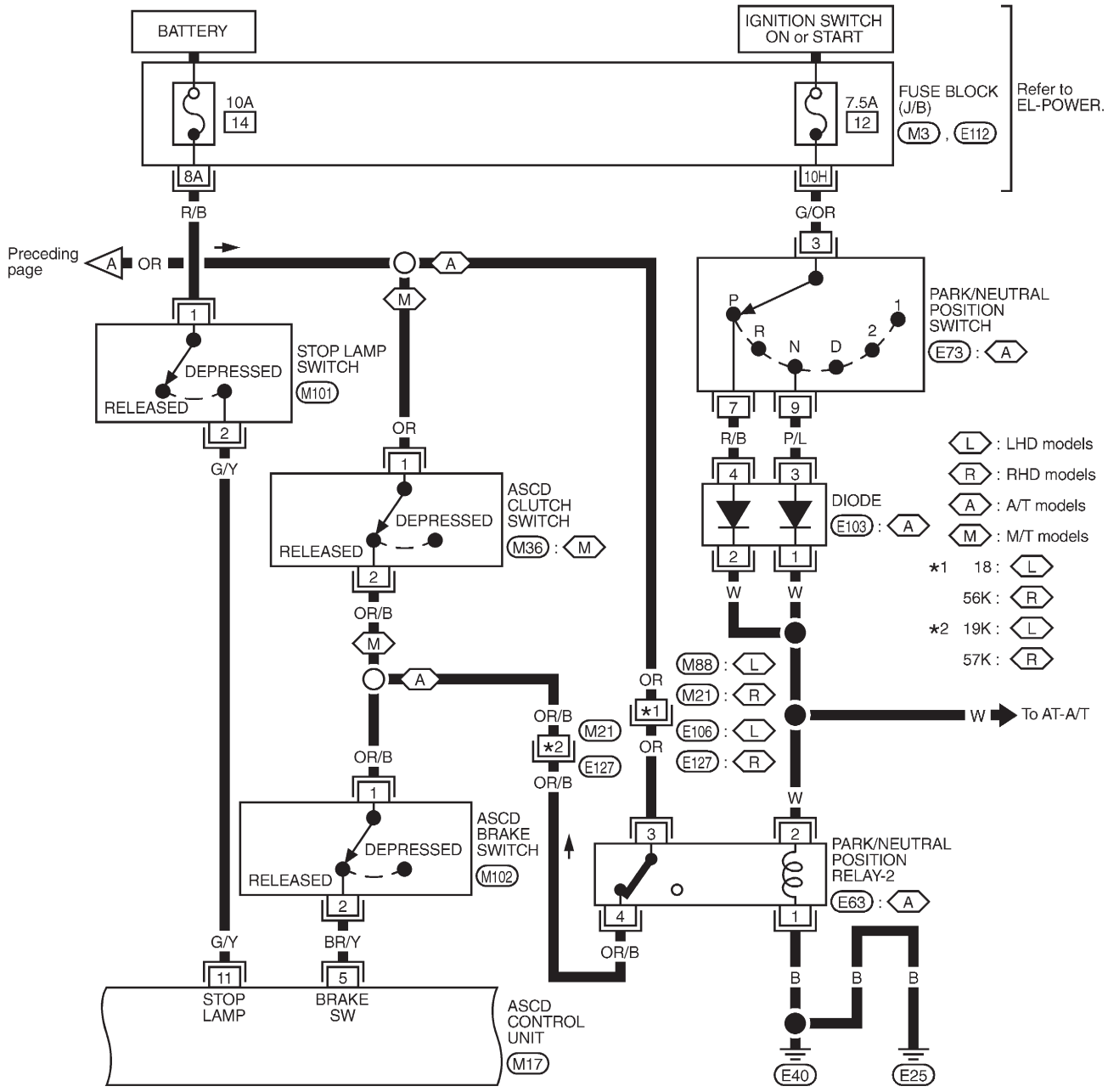


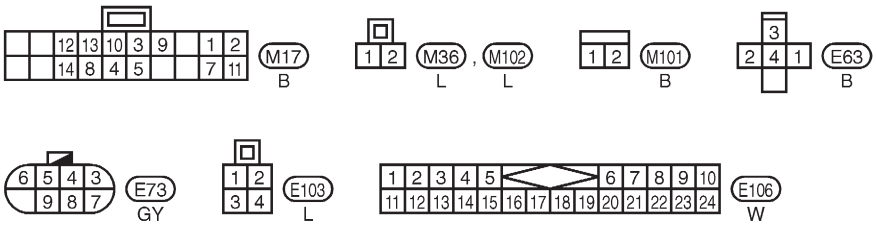
Refer to last page (Foldout page).
M3

TEL464A

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-02



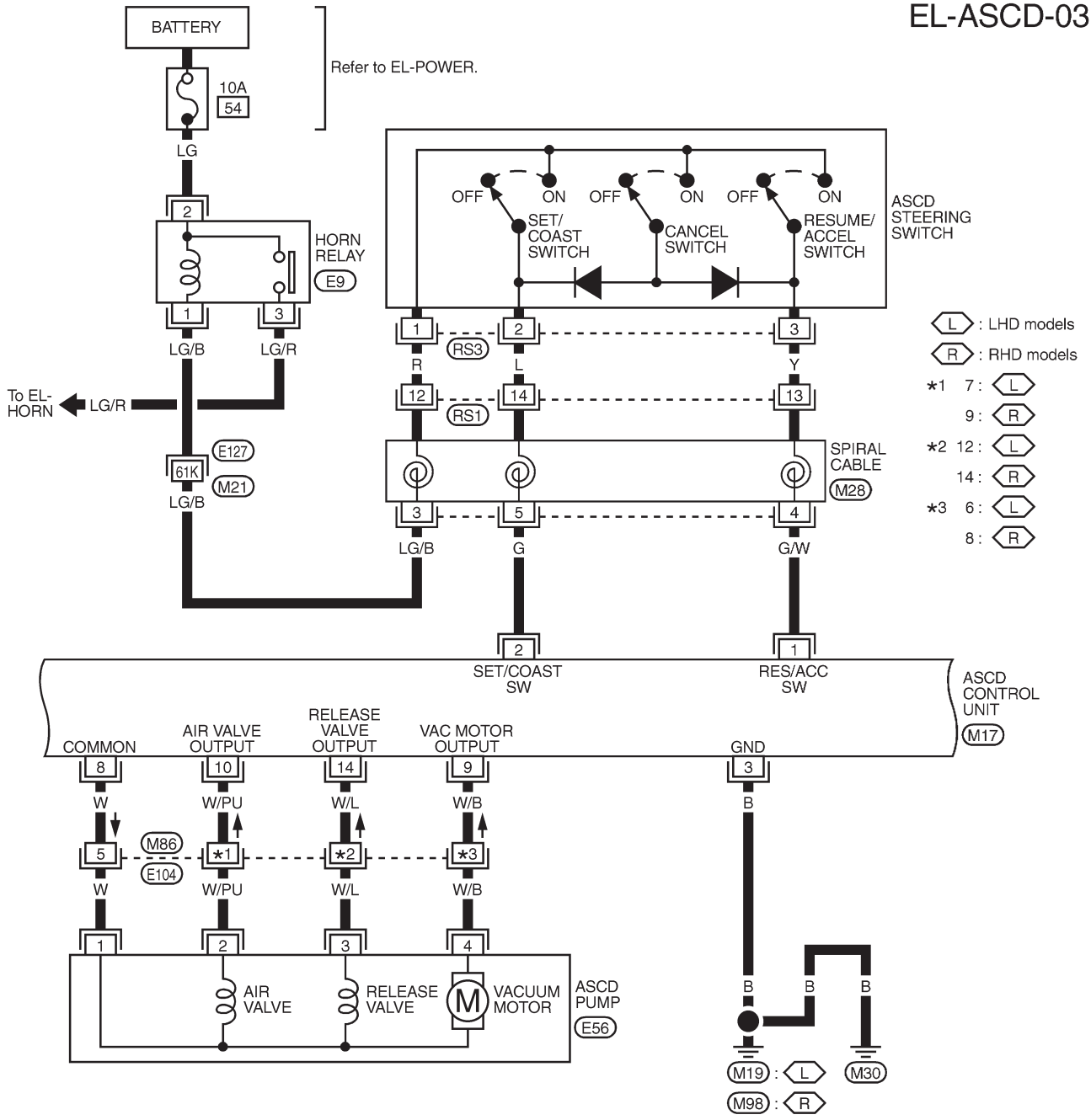


Refer to last page (Foldout page).
M21, E127
M3
E112

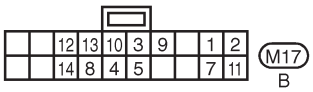
TEL583B

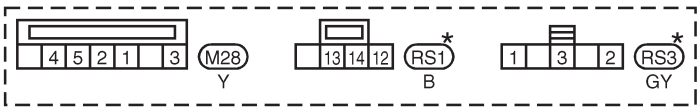
Wiring Diagram — ASCD — (Cont'd)

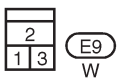
EL-ASCD-03

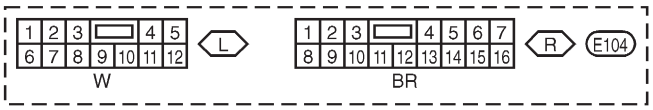


Refer to last page (Foldout page).
M21 , E127







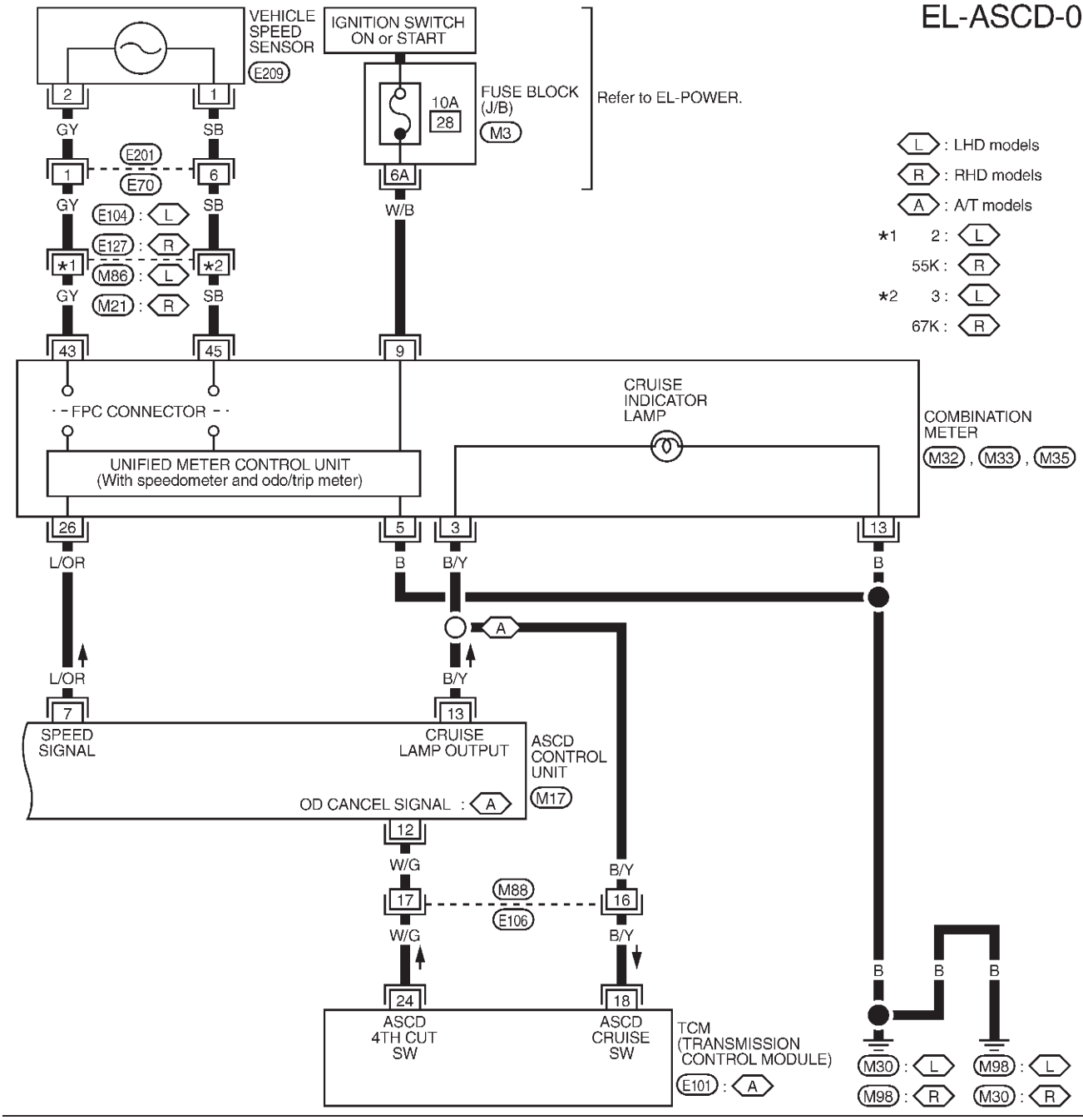


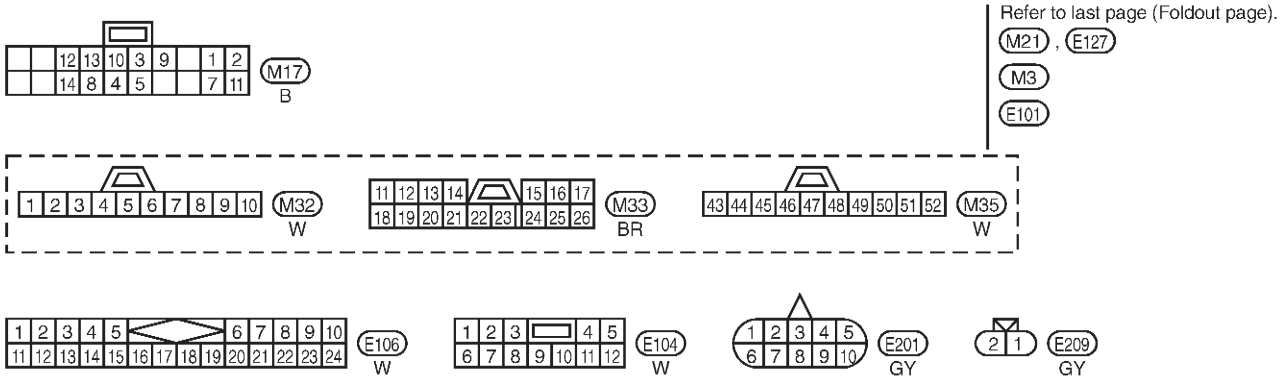
*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL584B

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-04





TEL467A

System Description

OUTLINE

Power window system consists of
- CPU (combined with power window main switch)
- four power window regulators

When ignition switch is in the “ON” position, power window can be operated depending on power window sub/main switch condition.

OPERATIVE CONDITION

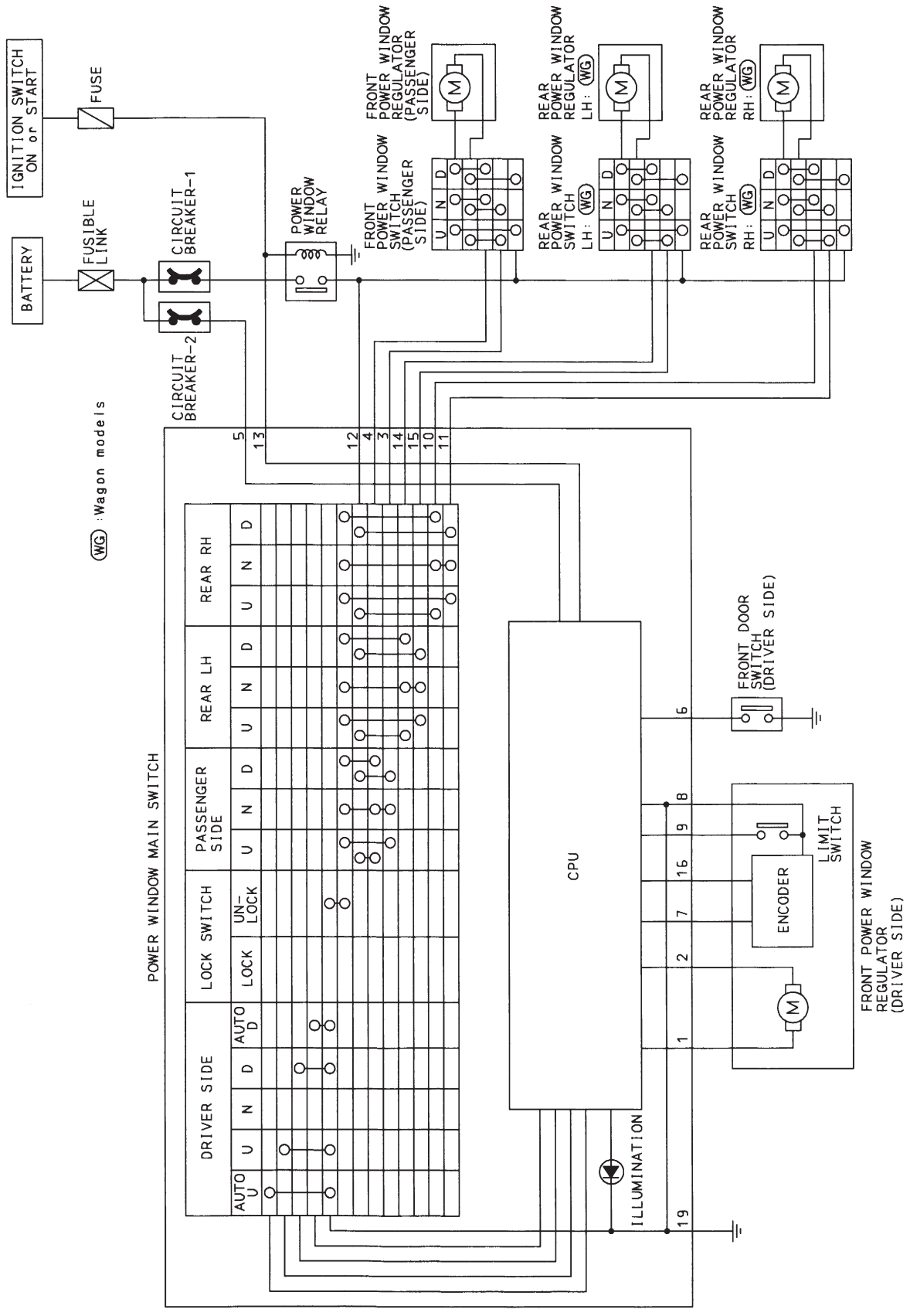
●Power windows can be raised or lowered with each sub-switch or the power window main switch located on the driver’s door trim when ignition switch is in the “ON” position and power window lock switch on the driver’s door trim is unlocked.
- When power window lock switch is locked, no windows can be raised or lowered except for driver’s side window.
- When ignition switch is in the “ON” position, to fully open/close the driver’s side window, press down/pull up completely on the automatic switch (main switch) and release it; it needs not be held. The window will automatically open/close all the way. To stop the window, pull up/press down then release the switch.
- After turning ignition switch to OFF, the driver’s side window can be raised or lowered for 15 minutes. The timer control for supplying power after turning ignition switch to OFF will be canceled when the driver’s side door is open and then closed.

INTERRUPTION DETECTION FUNCTION

CPU (combined with power window main switch) monitors the power window regulator motor operation and the power window position (full closed or other) for driver’s power window by the signals from encoder and limit switch in front power window regulator (driver’s side).
When CPU (combined with power window main switch) detects interruption during the following close operation in the driver’s side door,
- automatic close operation when ignition switch is in the “ON” position
- automatic close operation during power window timer operation
- manual close operation during power window timer operation

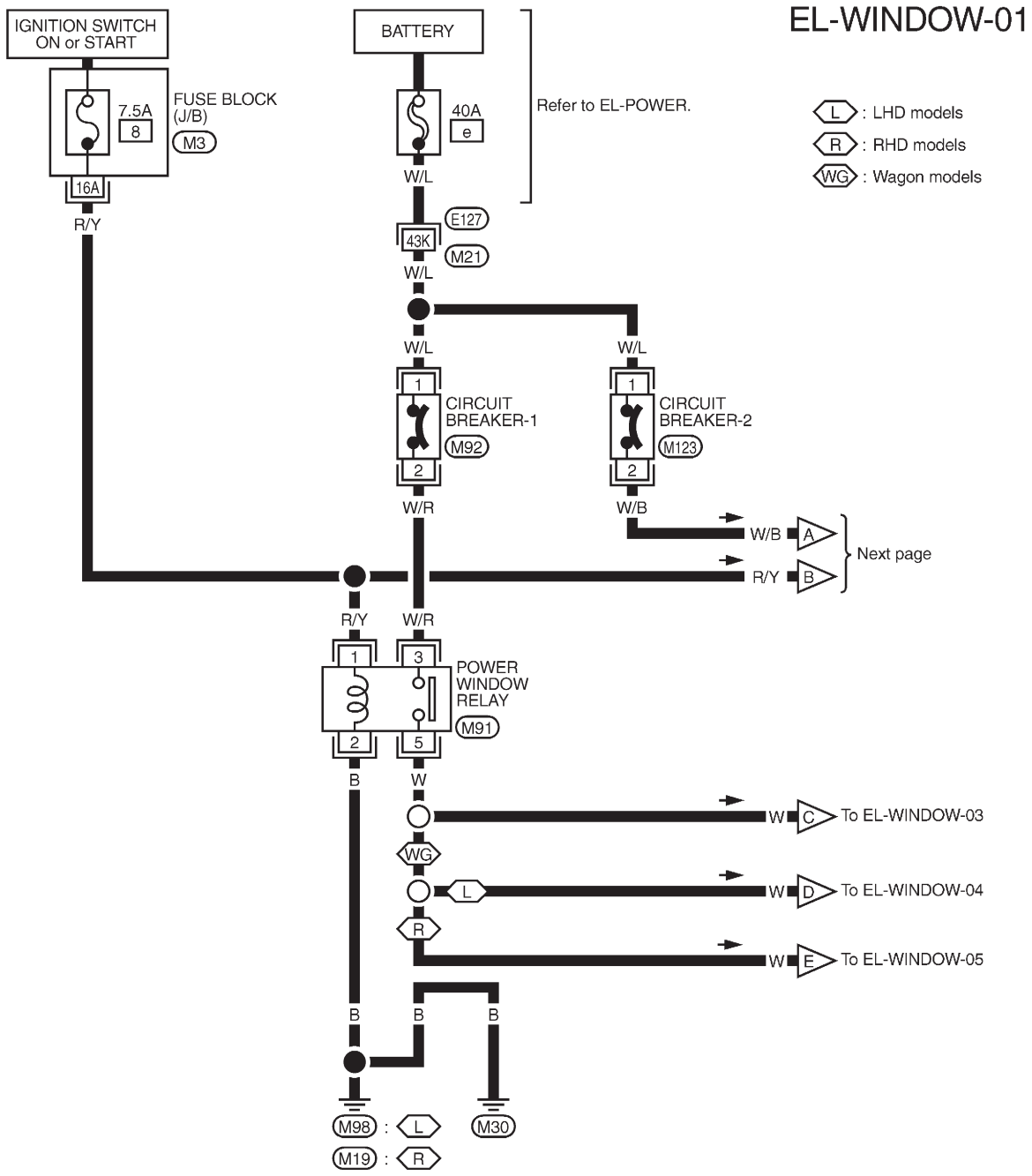
CPU (combined with power window main switch) controls driver’s power window regulator motor for open and the power window will be lowered about 150 mm (5.91 in).

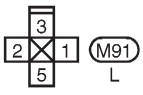
Schematic

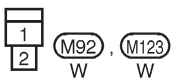


TEL585B

Wiring Diagram — WINDOW —





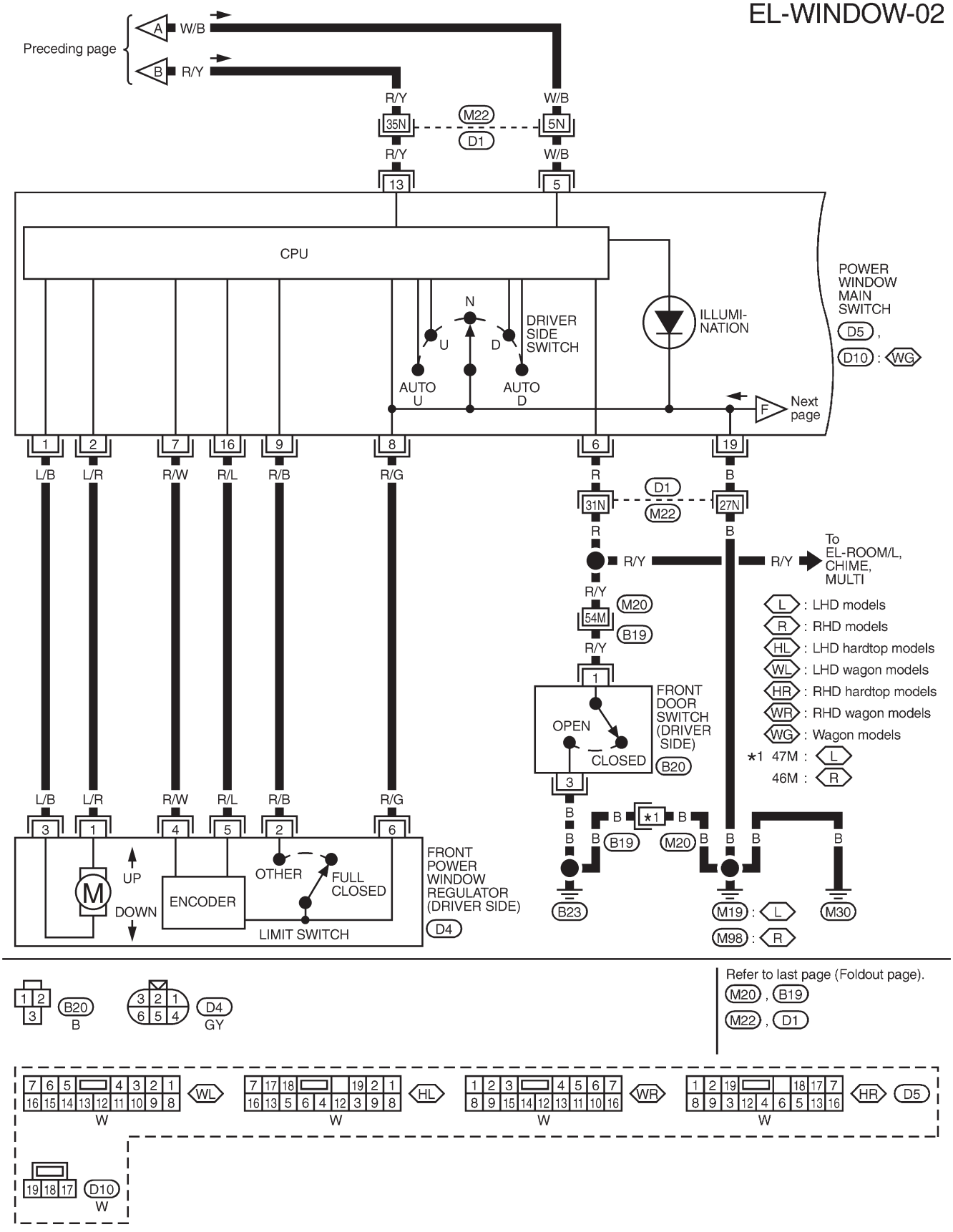


Refer to last page (Foldout page).
M21, E127
M3

TEL254M

Wiring Diagram — WINDOW — (Cont'd)

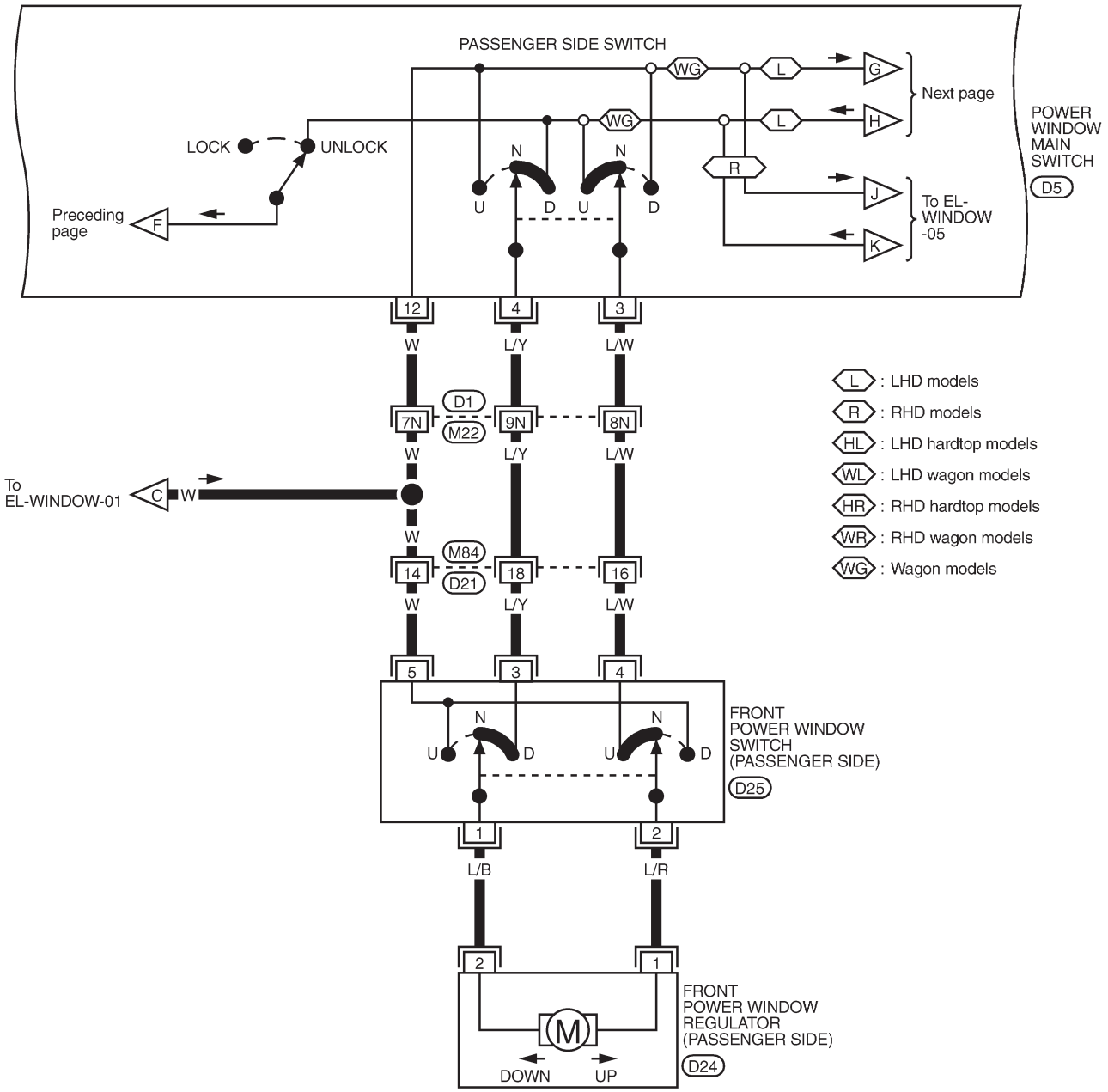
EL-WINDOW-02

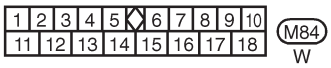


TEL255M

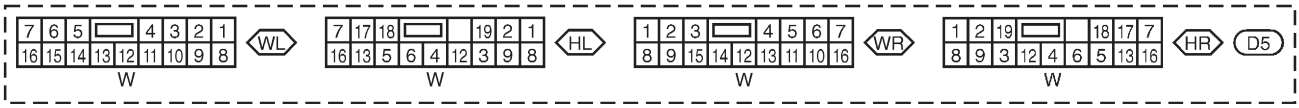
Wiring Diagram — WINDOW — (Cont'd)

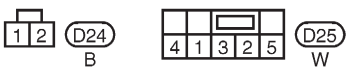
EL-WINDOW-03





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



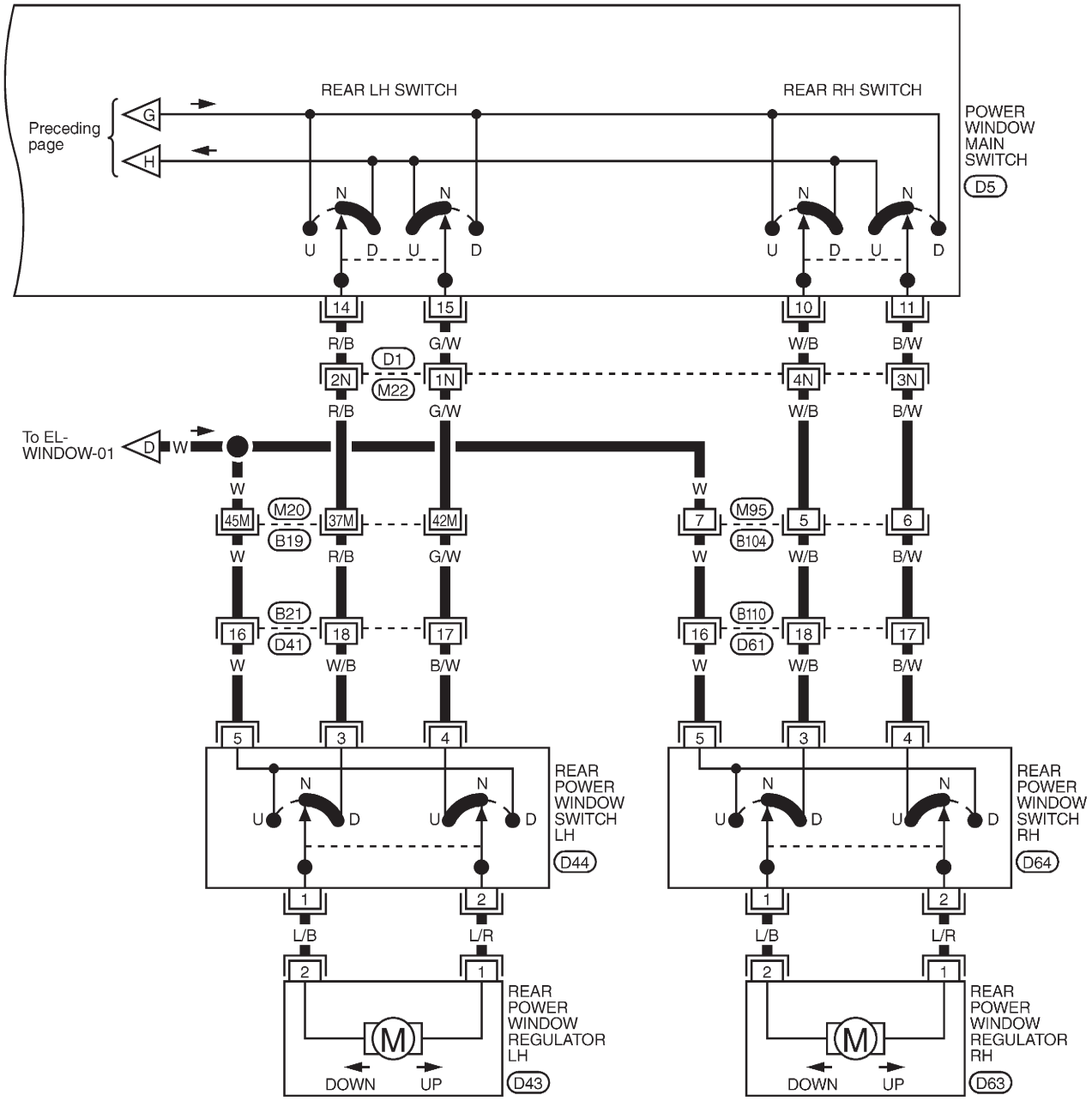


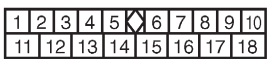
TEL256M

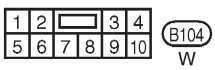
Wiring Diagram — WINDOW — (Cont'd)

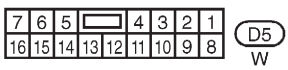
LHD WAGON MODELS

EL-WINDOW-04







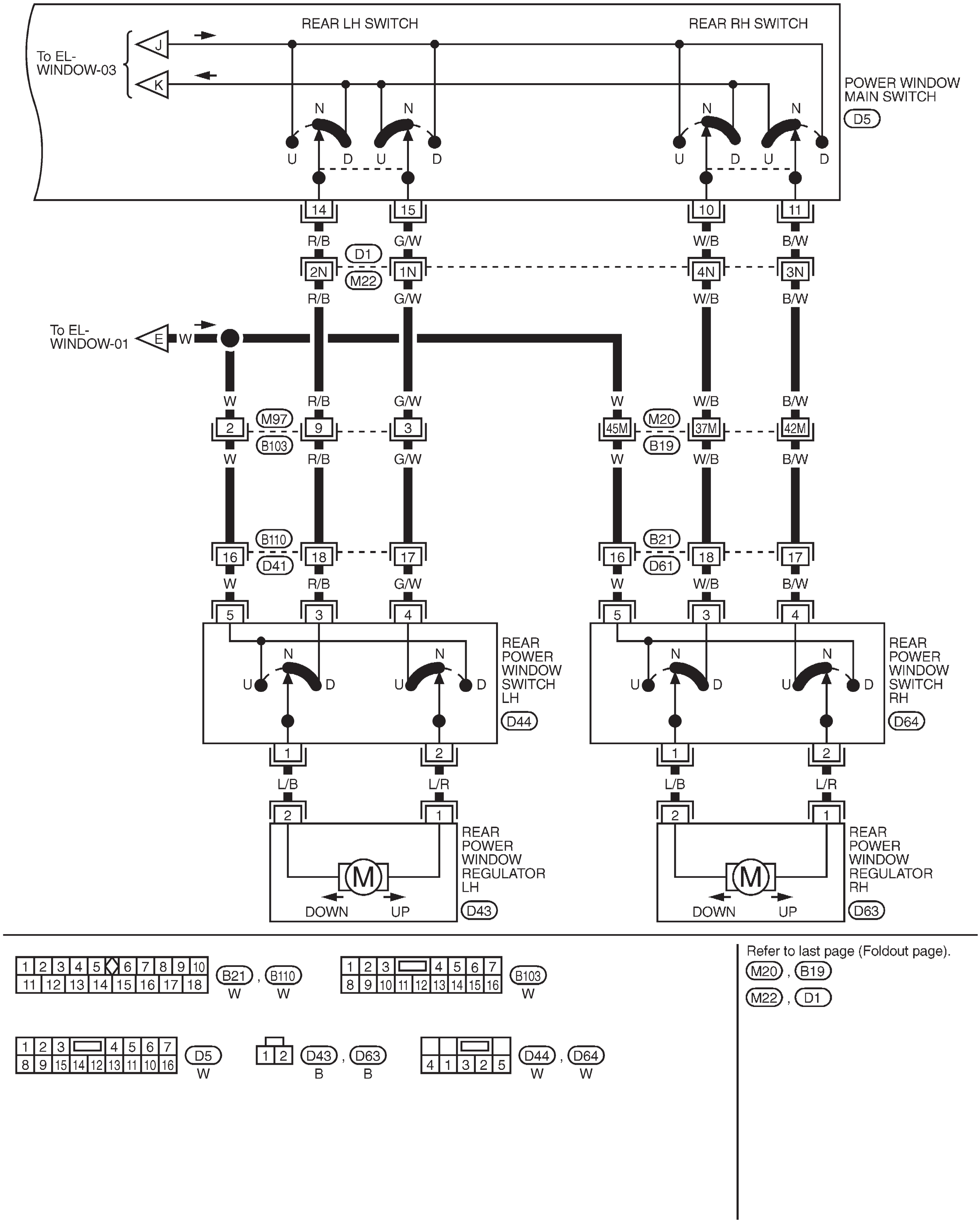


Refer to last page (Foldout page).
M20 , B19
M22 , D1

TEL257M

RHD WAGON MODELS

EL-WINDOW-05



TEL258M

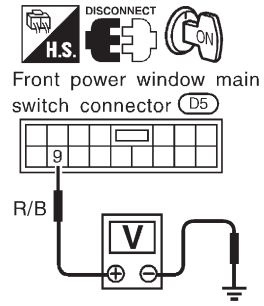
Trouble Diagnoses

Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	1. 7.5A fuse, 40A fusible link and (M123) circuit breaker	1. 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 (M123) circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminals ⑤ and ⑬ of power window main switch.
	2. Power window main switch ground circuit	2. Check ground circuit of power window main switch.
	3. Power window main switch	3. Check power window main switch.
Driver side power window cannot be operated but other windows can be operated.	1. Driver side power window regulator circuit	1. Check harness between power window main switch and power window regulator for open or short circuit.
	2. Driver side power window regulator	2. Check driver side power window regulator.
	3. Power window main switch	3. Check power window main switch.
Passenger power window cannot be operated.	1. (M92) circuit breaker	1. Check (M92) circuit breaker. Verify battery positive voltage is present at terminal ③ of power window relay.
	2. Power supply of power window relay	2. Check harness between 7.5A fuse and power window relay.
	3. Power window relay ground circuit	3. Check power window ground circuit.
	4. Power window relay	4. Check power window relay.
	5. Power window sub-switches	5. Check power window sub-switch.
	6. Passenger side power window regulators	6. Check passenger side power window regulator.
	7. Power window main switch	7. Check power window main switch.
	8. Power window circuit	8-1. Check harness between power window relay and power window sub-switch. 8-2. Check harnesses between power window main switch and power window sub-switch for open/ short circuit. 8-3. 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.	1. Power window main switch	1. Check power window main switch.
Driver side power window auto function cannot be operated properly.	1. Power window main switch	1. Check power window main switch.
	2. Encoder and limit switch	2. Check encoder and limit switch. (EL-1123)
Timer control for supplying power after turning ignition switch to OFF does not operate properly.	1. Driver side door switch circuit.	1-1. Check harness between driver side door switch and power window main switch. 1-2. Check ground circuit of driver side door switch.
	2. Driver side door switch	2. Check driver side door switch.
	3. Ignition switch ON signal circuit	3. Check ignition switch ON signal circuit to power window main switch.
	4. Power window main switch	4. Check power window main switch.

Trouble Diagnoses (Cont'd)

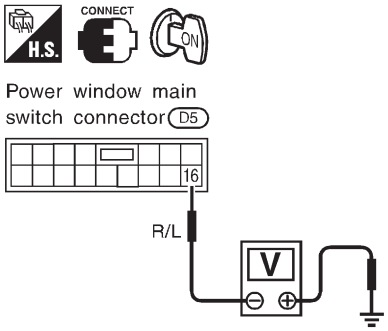
ENCODER AND LIMIT SWITCH CHECK

A



SEL641W

B



SEL642W

CHECK DRIVER SIDE DOOR WINDOW SLIDE MECHANISM
Check the following.
- Obstacles in window, glass molding, etc.
- Worn or deformed glass molding
- Door sash tilted too far inward or outward
- Door window regulator

NG → Remove obstacles or repair door window slide mechanism.

OK ↓

A

CHECK POWER SUPPLY TO LIMIT SWITCH
1. Disconnect driver side power window regulator connector.
2. Turn ignition switch ON.
3. Check voltage between power window main switch terminal ⑨ and ground.
   Approx. 5V should exist.

NG → Replace power window main switch.

OK ↓

A

CHECK LIMIT SWITCH OPERATION
1. Turn ignition switch OFF.
2. Connect driver side power window regulator connector.
3. Turn ignition switch ON.
4. Check voltage between power window main switch terminal ⑨ and ground during power window closing operation.

Terminal No.	Condition	Voltage (DCV)
⑨	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5
	Other positions	Approx. 0

OK → **CHECK ENCODER**
Measure voltage between power window main switch terminal ⑯ and ground with oscilloscope when power window is in automatic closing operation. If result is NG, replace power window regulator motor (front driver side). If result is OK, replace power window main switch.

NG ↓

A

RESET LIMIT SWITCH
Reset limit switch. Refer to BT section. Then check voltage between power window main switch terminal ⑨ and ground during power window closing operation at least ten times.

Terminal No.	Condition	Voltage (DCV)
⑨	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5
	Other positions	Approx. 0

NG → Replace power window regulator (front driver side).

OK ↓

B

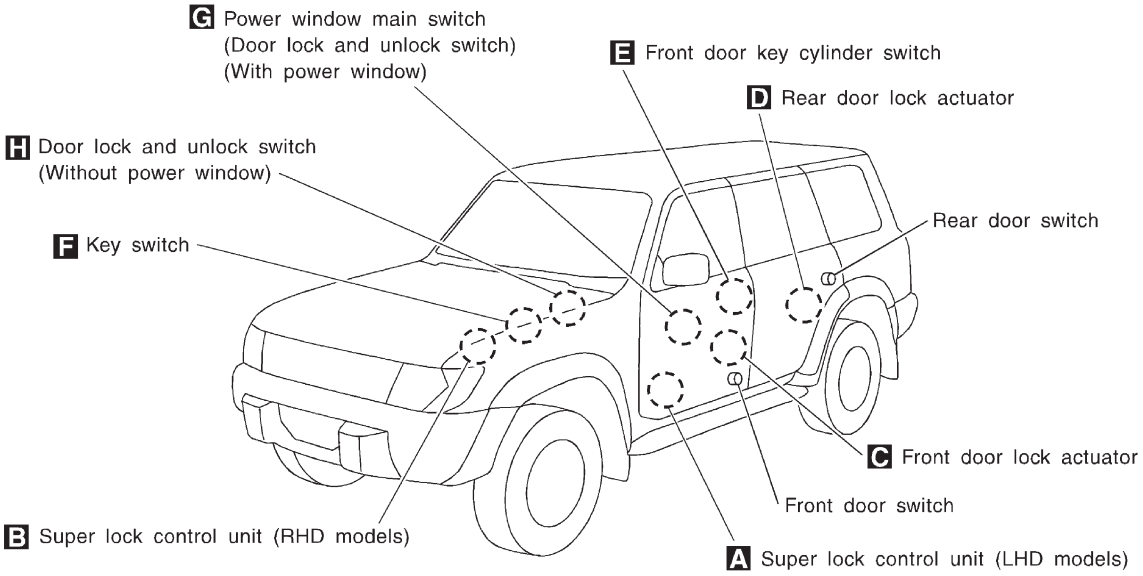
CHECK ENCODER
Measure voltage between power window main switch terminal ⑯ and ground with oscilloscope when power window is in automatic closing operation.

NG → Replace power window regulator (front driver side).

OK ↓

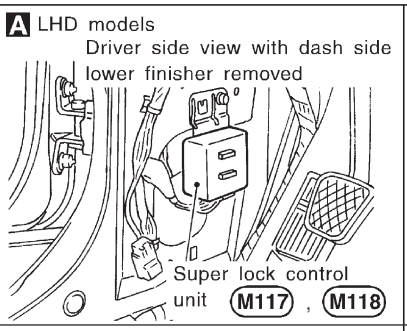
Replace power window main switch.

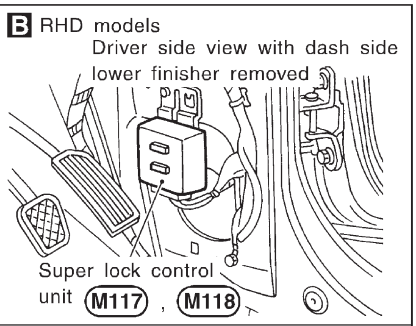
Component Parts and Harness Connector Location

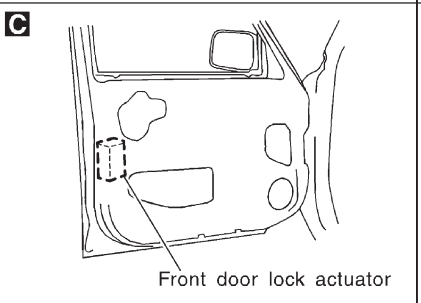


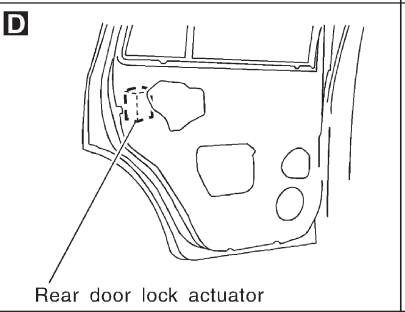
Fuse block (J/B)

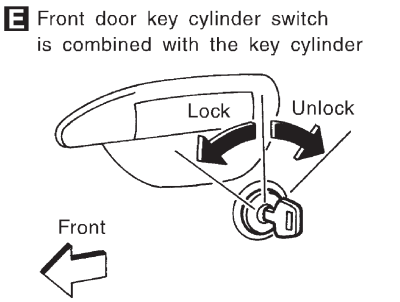
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

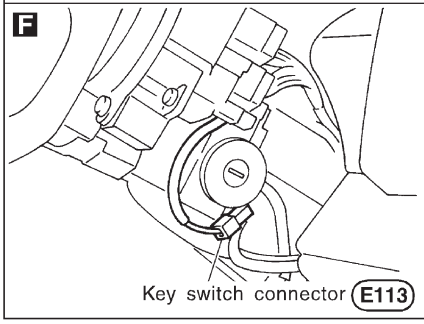


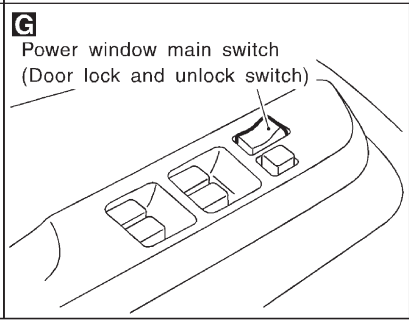


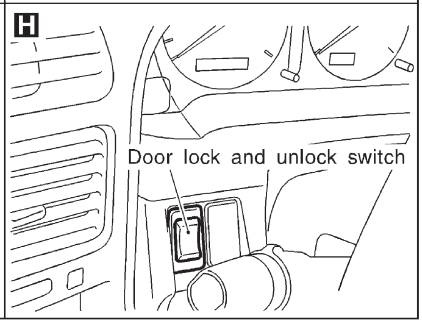












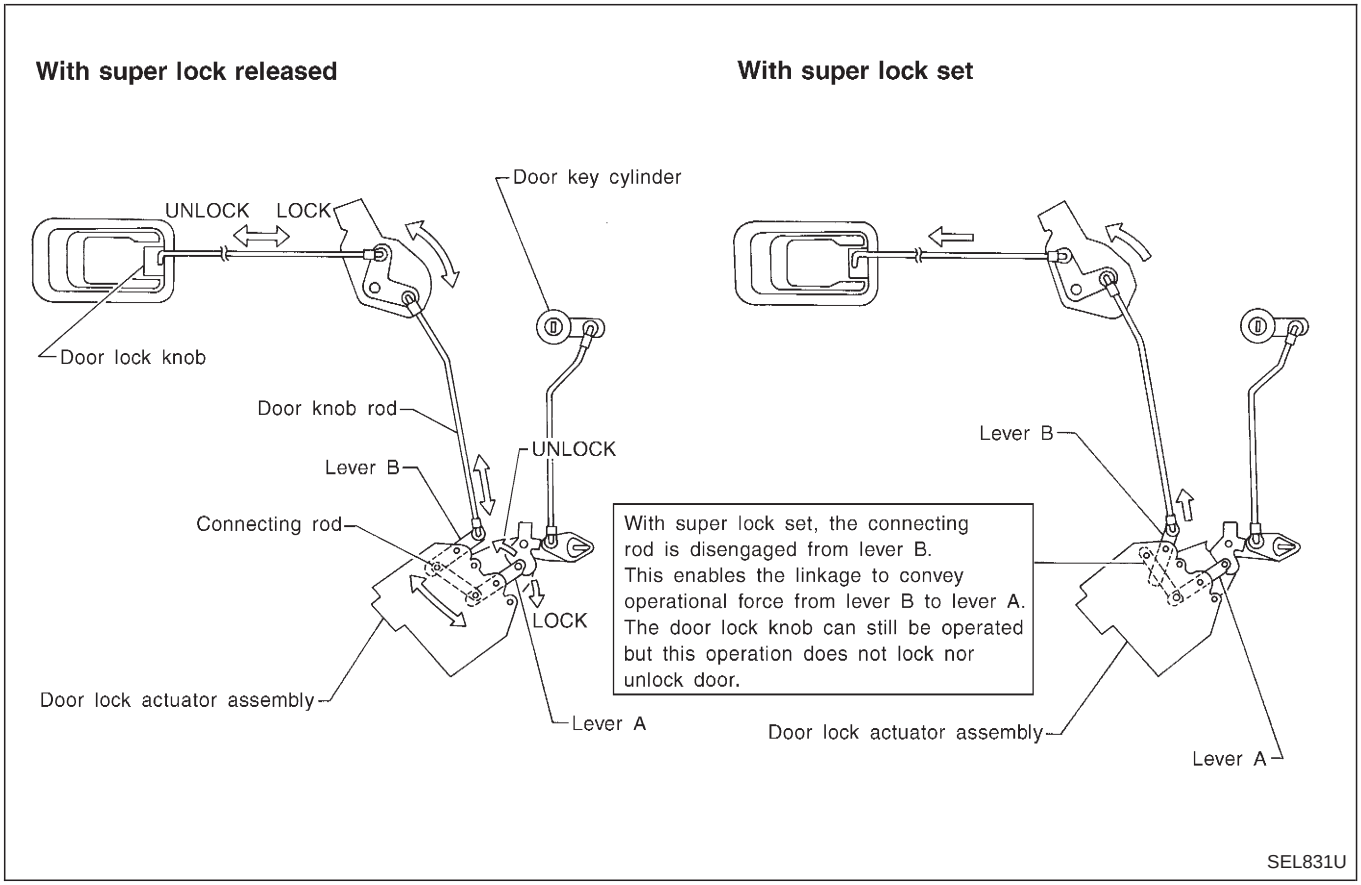
SEL625X

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. (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. (Super lock will not be set while key is inserted in the ignition key cylinder.)

- Pressing multi-remote controller UNLOCK button once will unlock the driver door and release super lock. If an unlock signal is sent from the remote controller again within 5 seconds, all other doors will be unlocked.

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 all doors will unlock once, but then immediately lock again.

Power door lock/unlock operation using the lock and unlock switch

- With lock and unlock switch set to LOCK, all doors will lock.
- With lock and unlock switch set to UNLOCK, all doors will unlock.

Lock and unlock switch operation cannot control the super lock.

System Description (Cont'd)

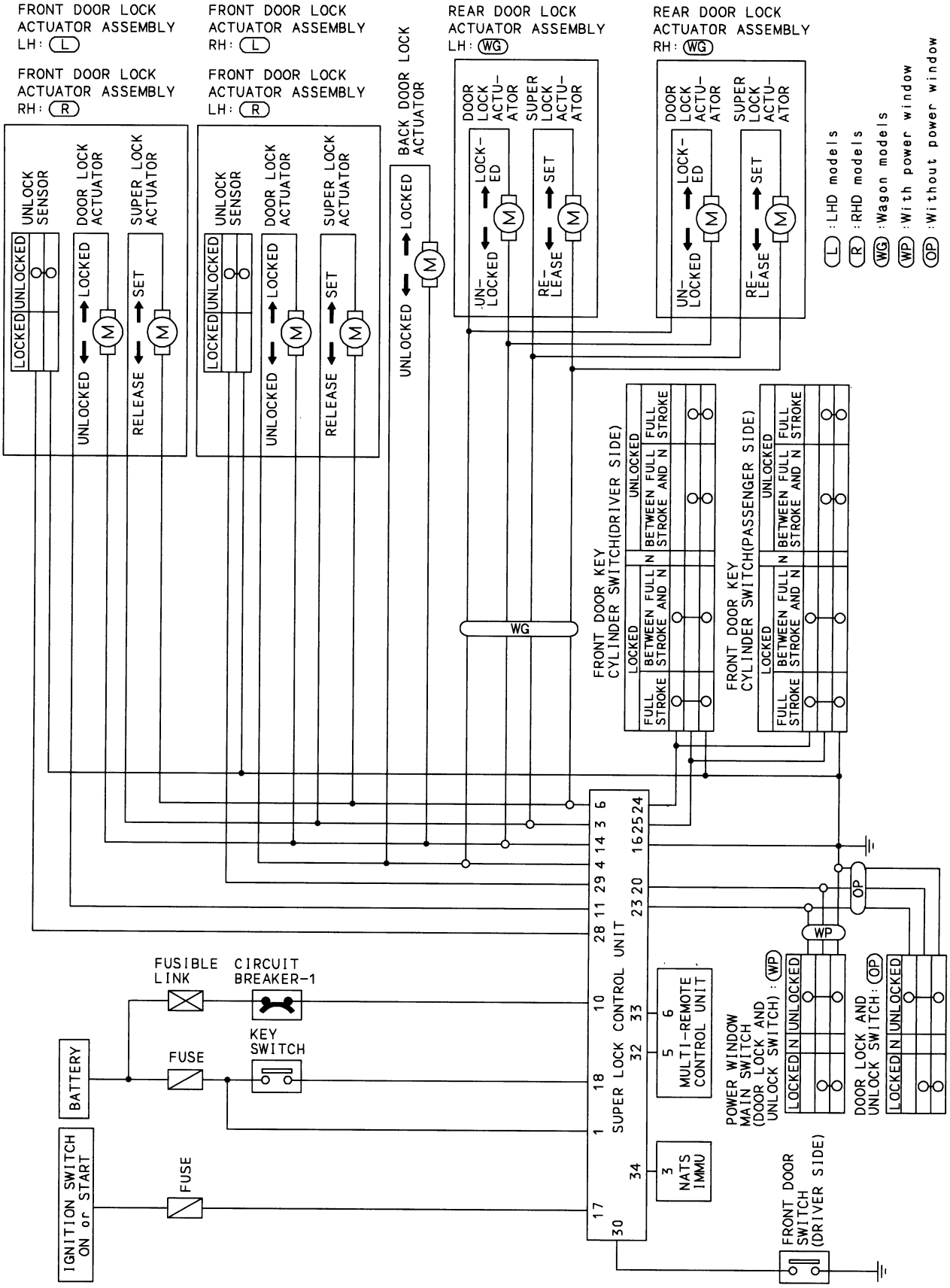
Key reminder system

●If the ignition key is in the ignition key cylinder and the driver door is open, setting lock knob on driver door, key or multi-remote controller to "LOCK" locks the door once but then immediately unlocks all doors. (Signal from unlock sensor driver side)

System initialization

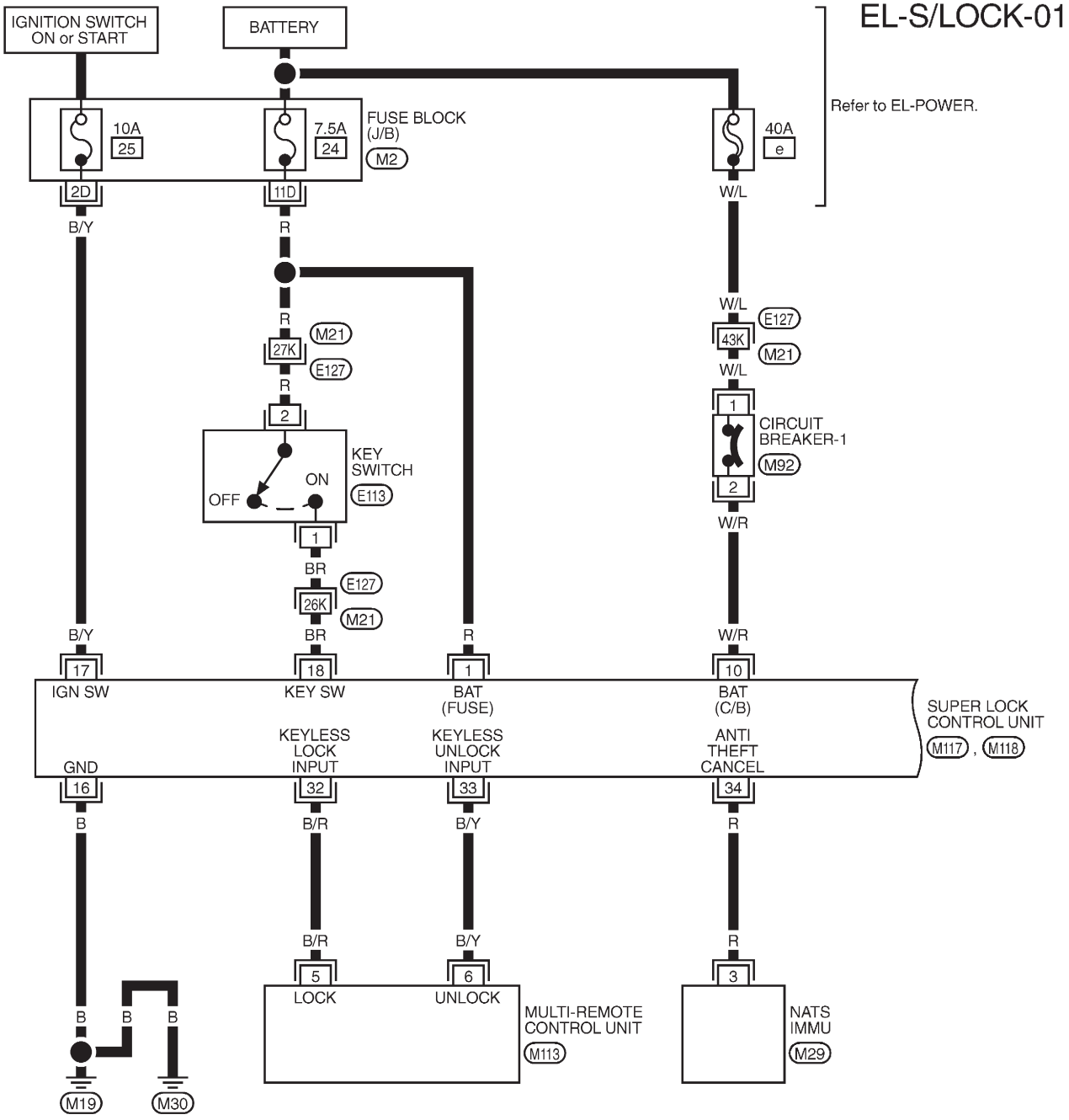
●System initialization is required when battery cables are reconnected. Conduct one of the followings to release super lock once;
— insert the key into ignition key cylinder and turn it to ON.
— LOCK/UNLOCK operation using door key cylinder or multi-remote controller.

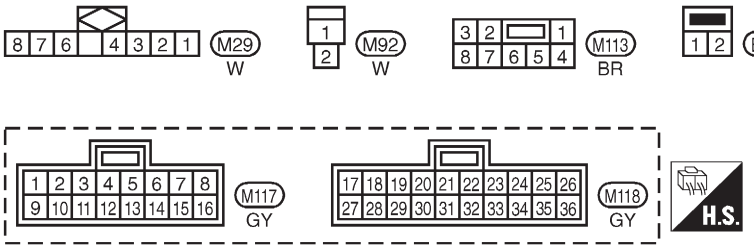
Schematic



TEL261M

Wiring Diagram — S/LOCK —/LHD Models



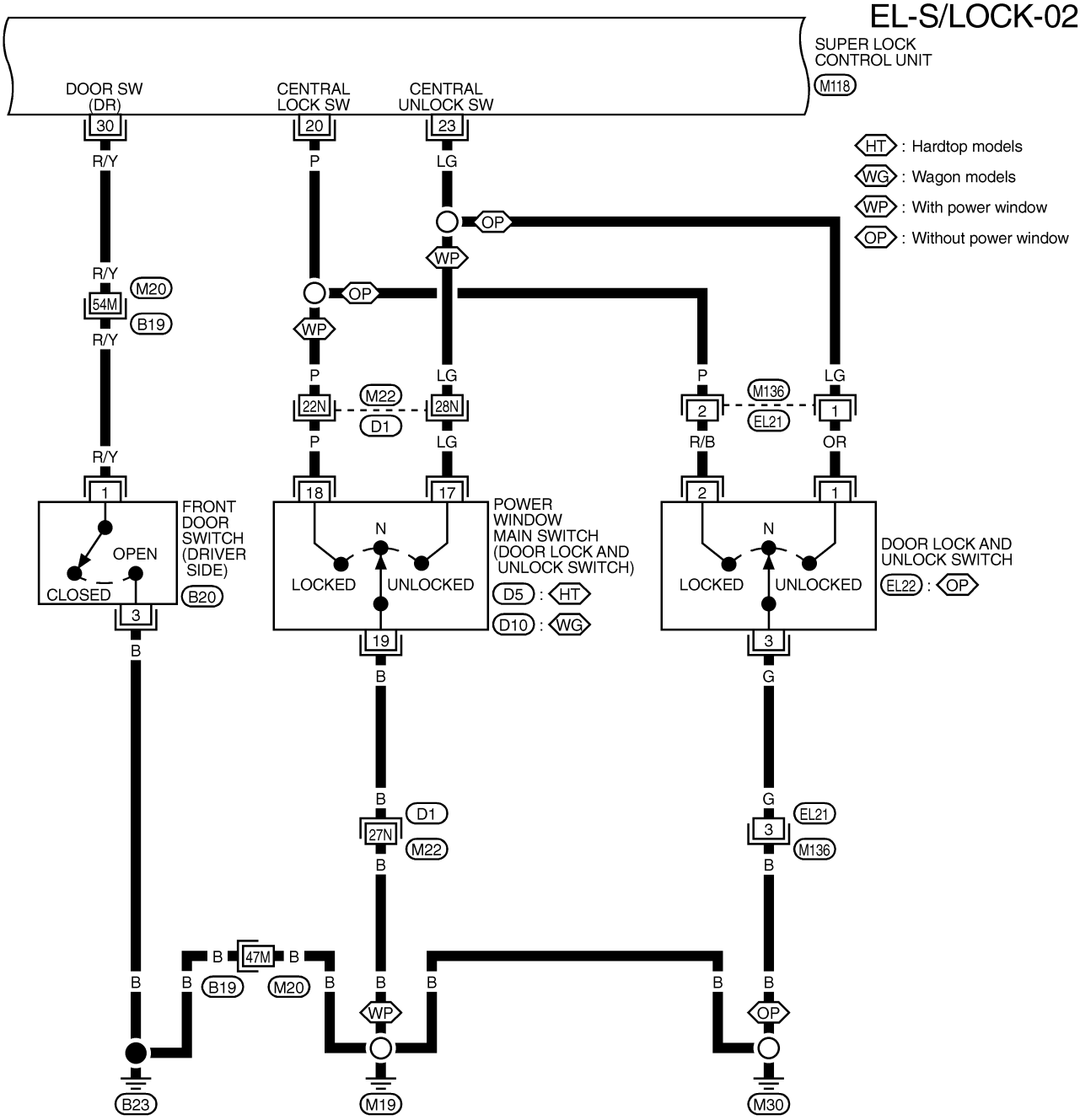


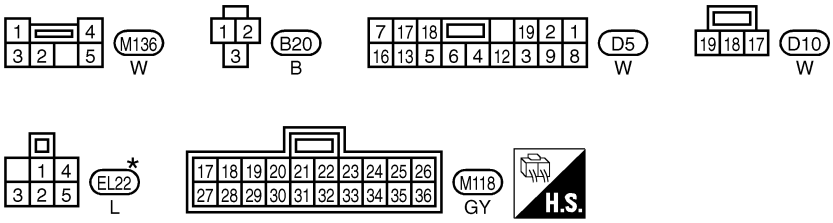
Refer to last page (Foldout page).
M21 , E127
M2

TEL262M

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

EL-S/LOCK-02





Refer to last page (Foldout page).

M20 , B19

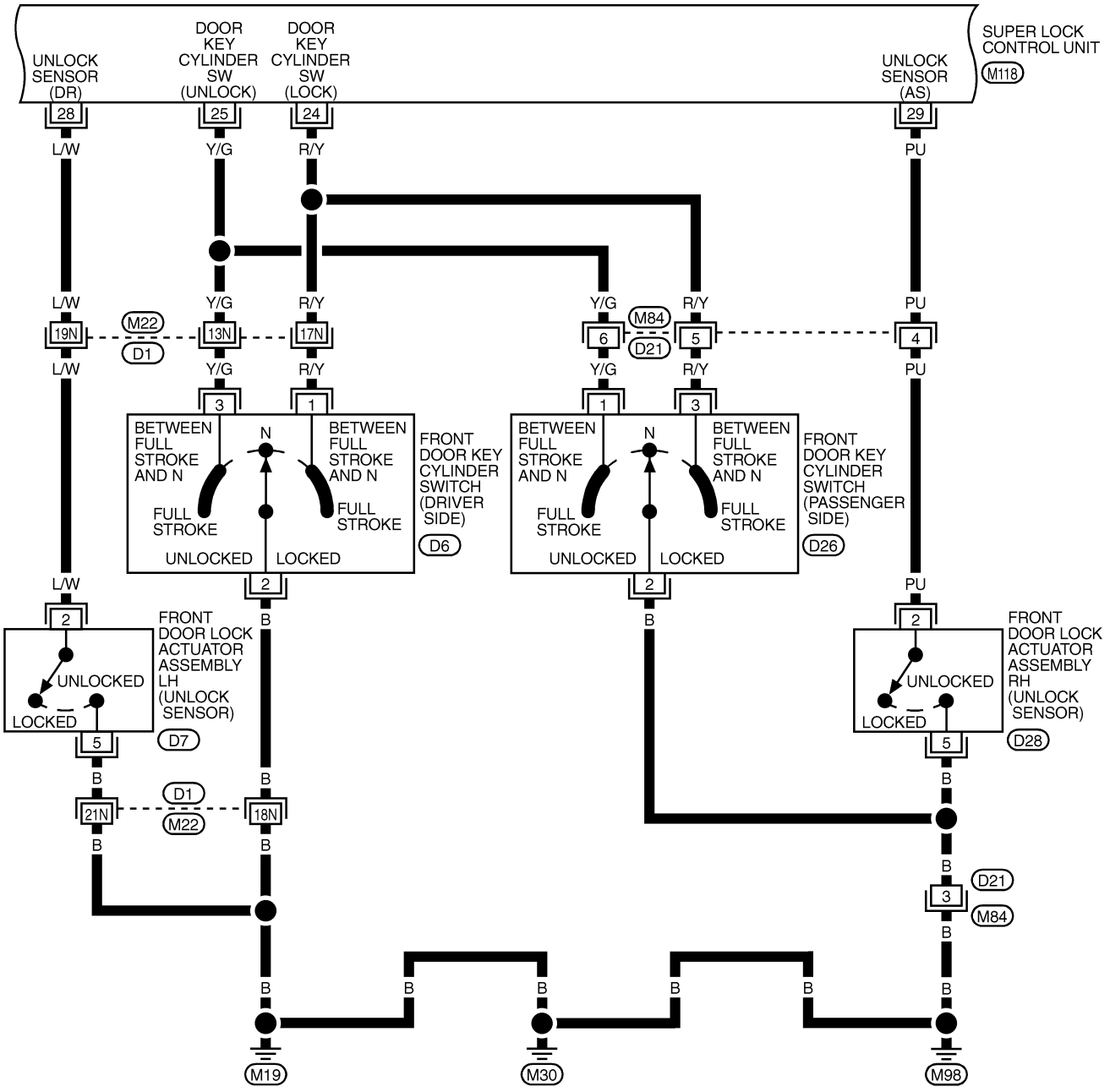
M22 , D1

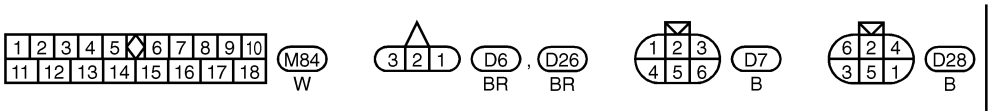
∗: This connector is not shown in "HARNESS LAYOUT", EL section.

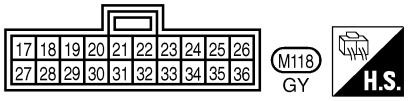
TEL263M

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

EL-S/LOCK-03







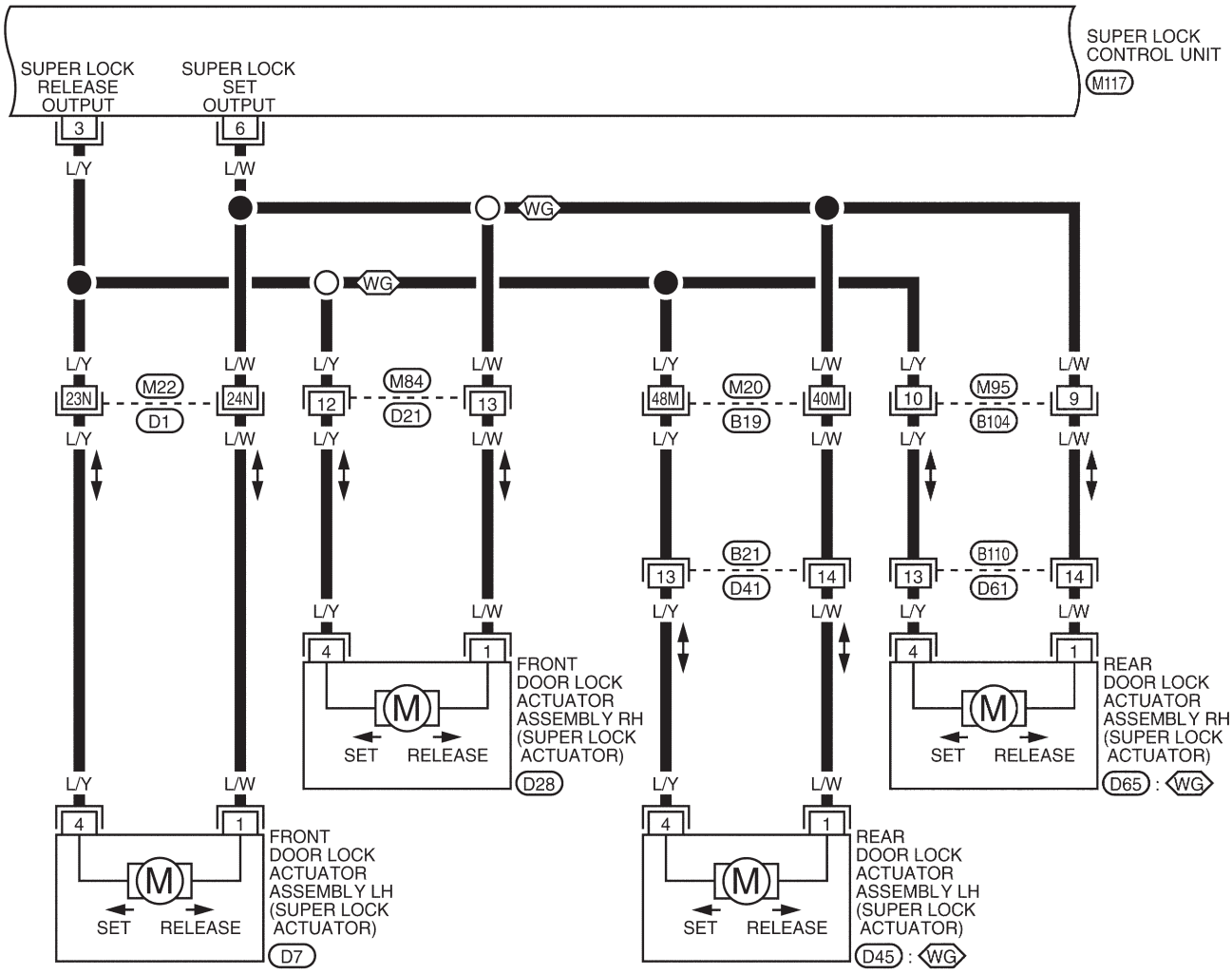
Refer to last page (Foldout page).
M22 , D1

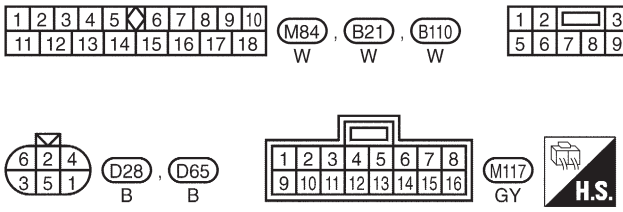
TEL264M

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

EL-S/LOCK-04

WG : Wagon models





Refer to last page (Foldout page).

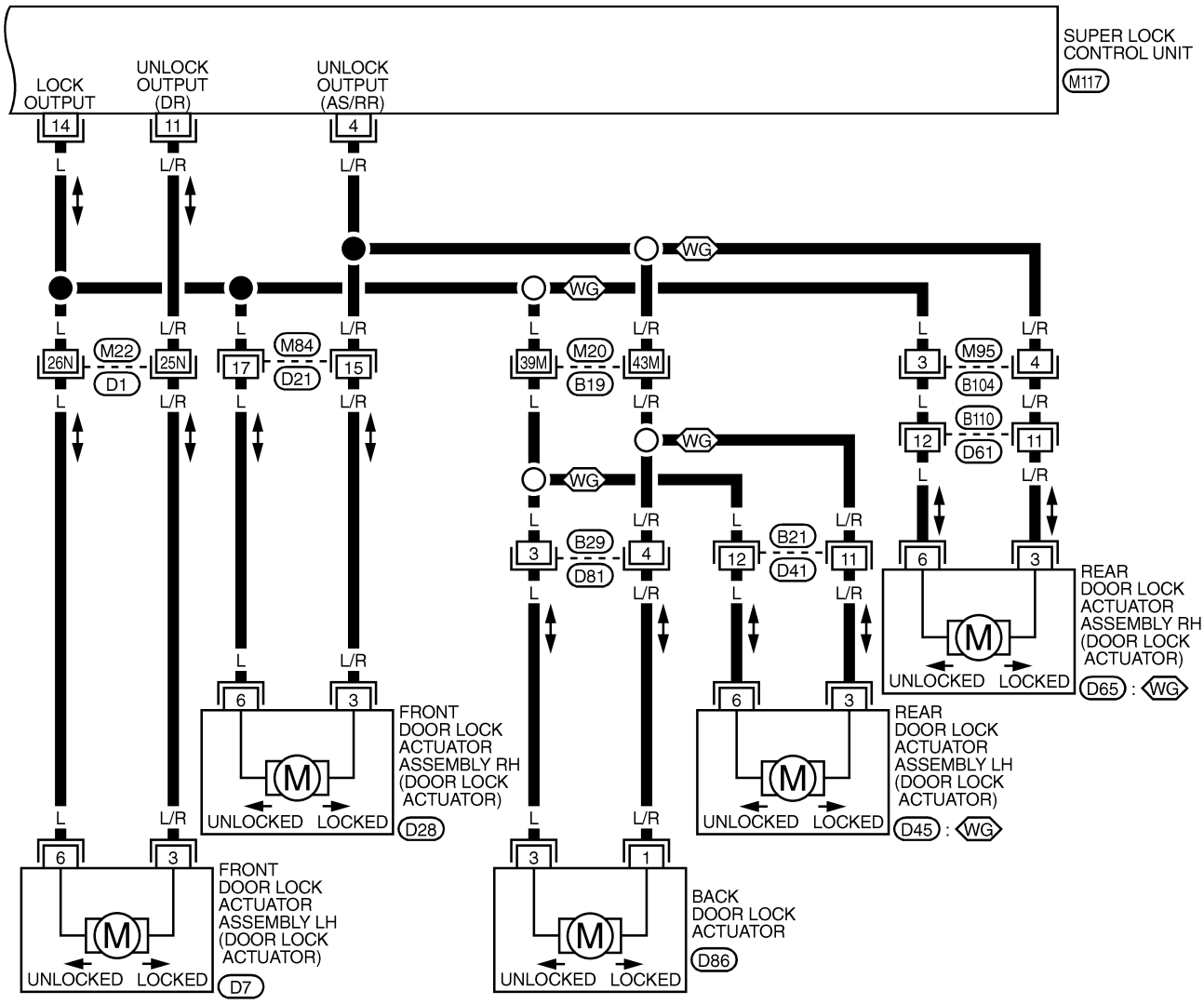
M20 , B19

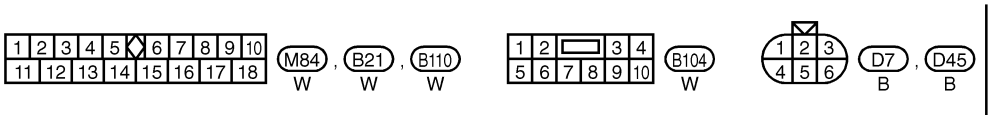
M22 , D1

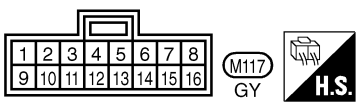
Wiring Diagram — S/LOCK —/LHD Models (Cont'd)

EL-S/LOCK-05

WG : Wagon models







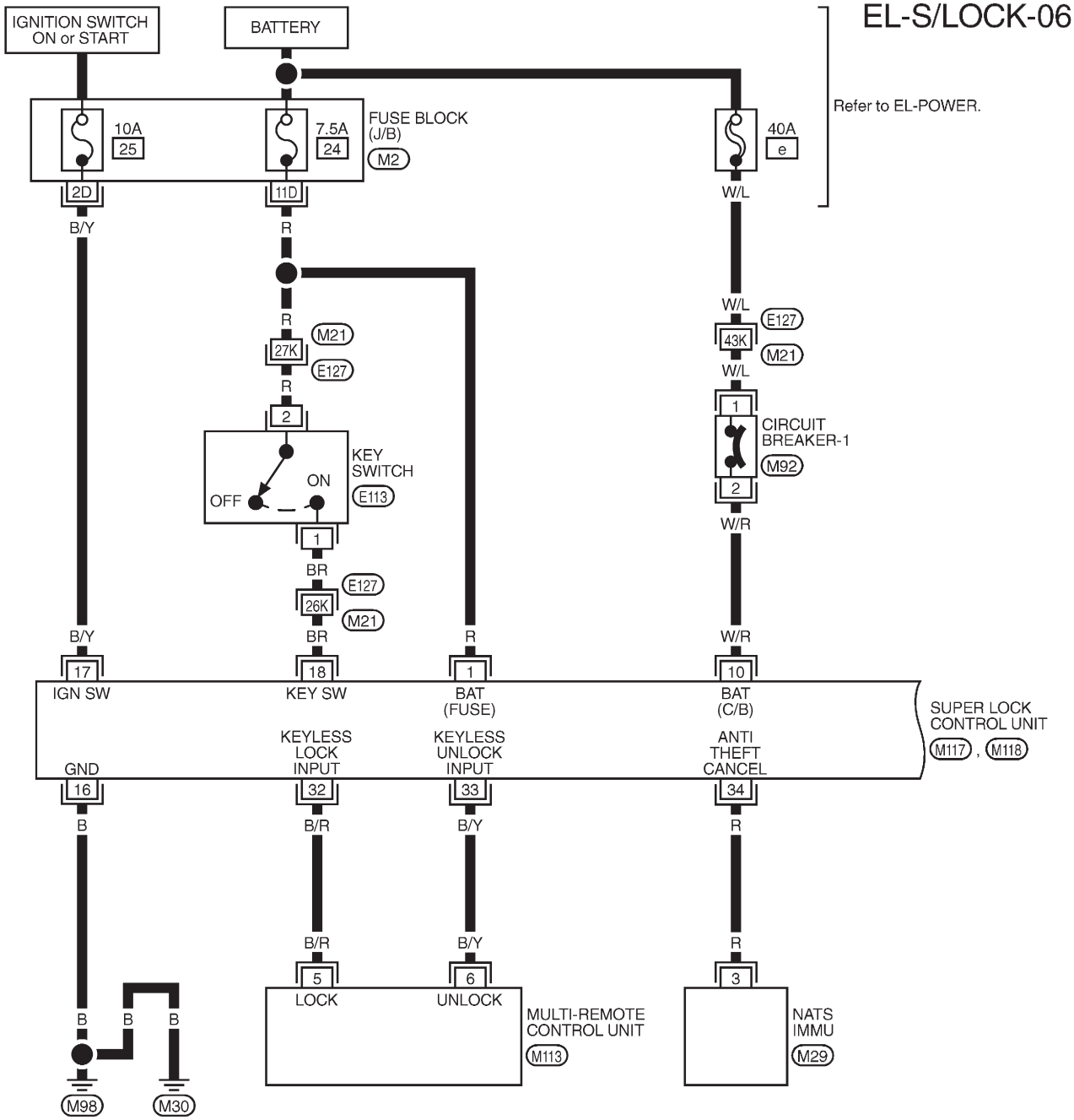
Refer to last page (Foldout page).

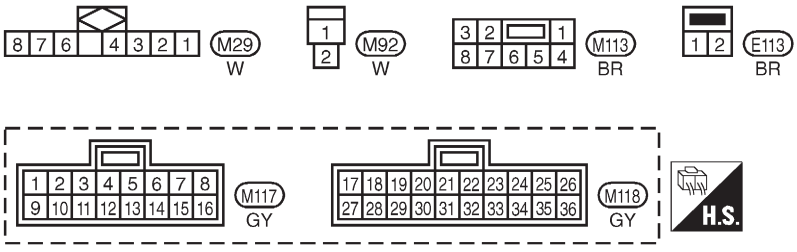
M20 , B19

M22 , D1

TEL266M

Wiring Diagram — S/LOCK —/RHD Models



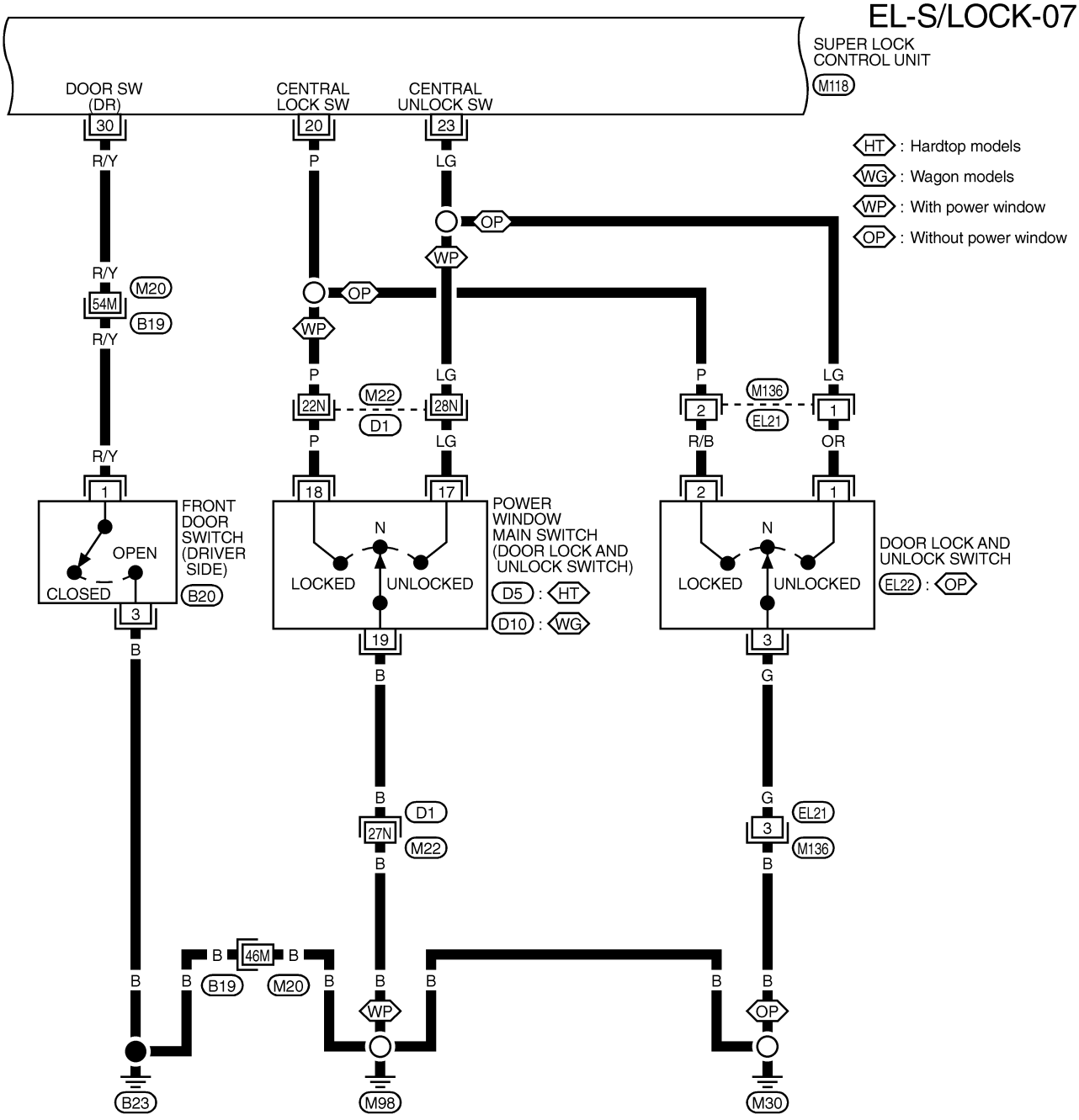


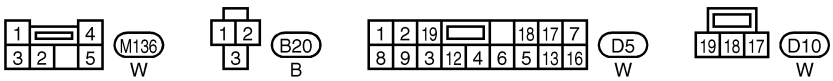
Refer to last page (Foldout page).
M21, E127
M2

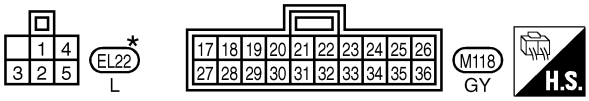
TEL267M

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

EL-S/LOCK-07







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

Refer to last page (Foldout page).

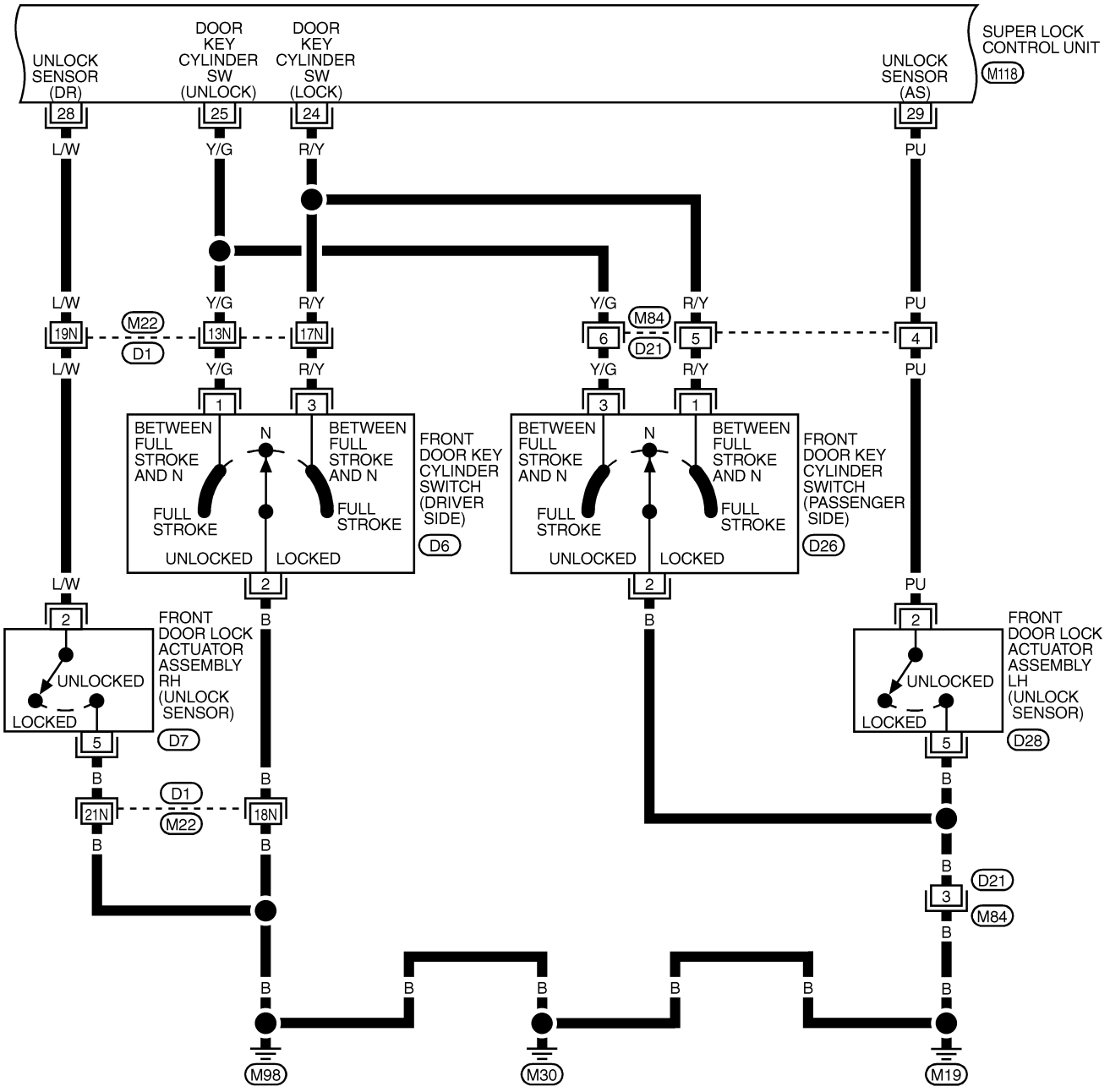
M20 , B19

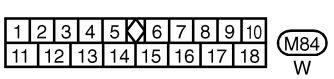
M22 , D1

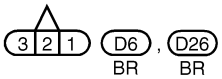
TEL268M

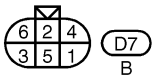
Wiring Diagram — S/LOCK —/RHD Models (Cont'd)

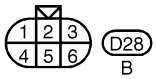
EL-S/LOCK-08

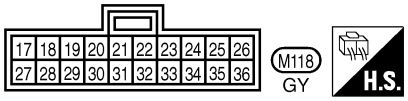












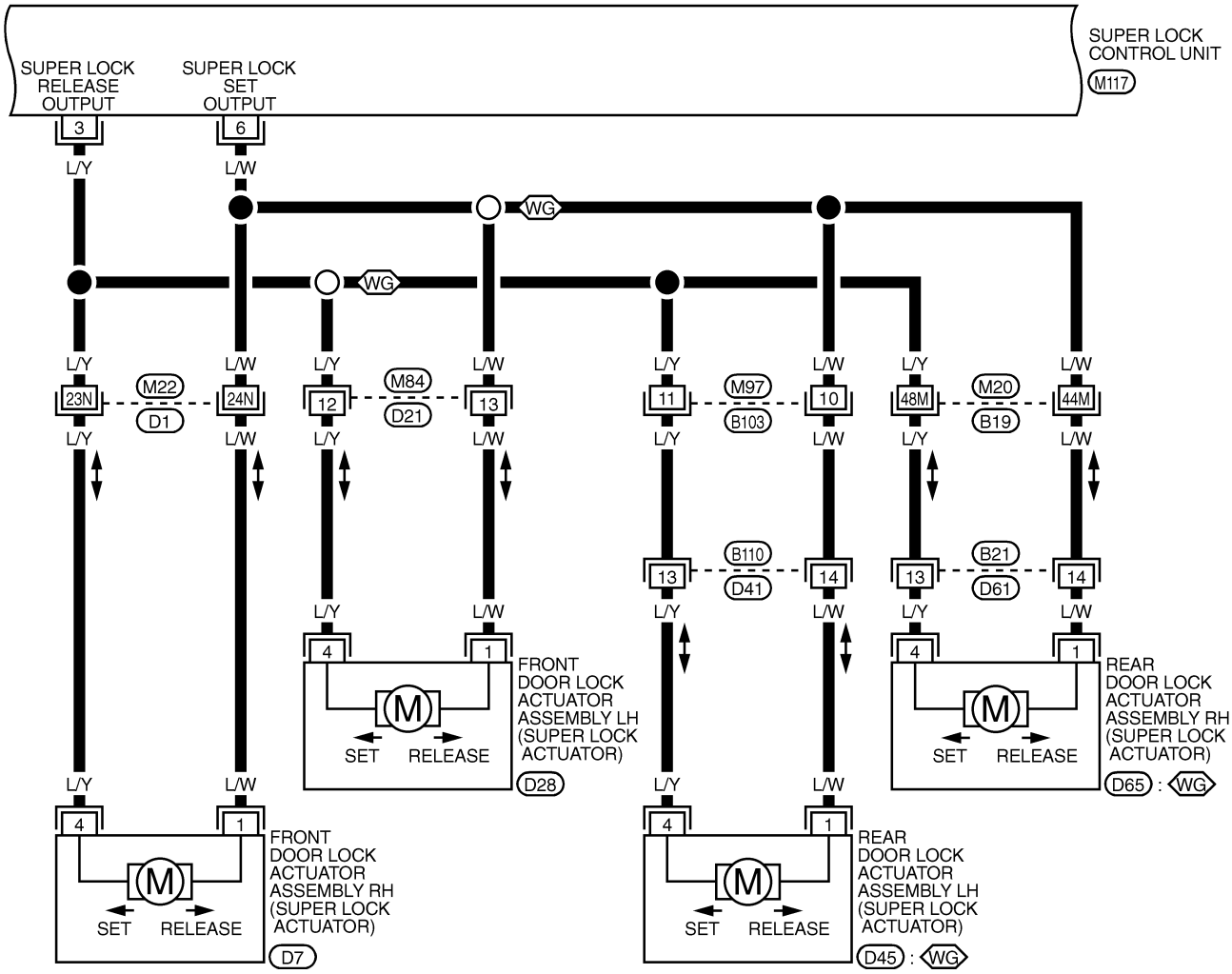
Refer to last page (Foldout page).
M22, D1

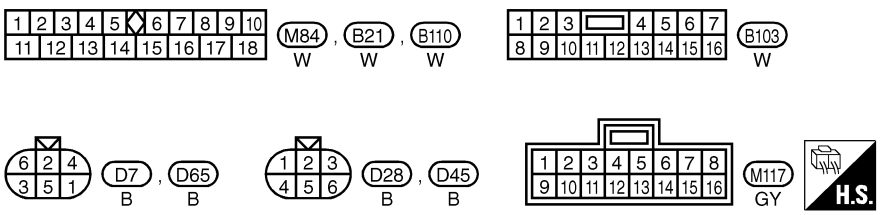
TEL269M

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

EL-S/LOCK-09

WG : Wagon models





Refer to last page (Foldout page).

M20 , B19

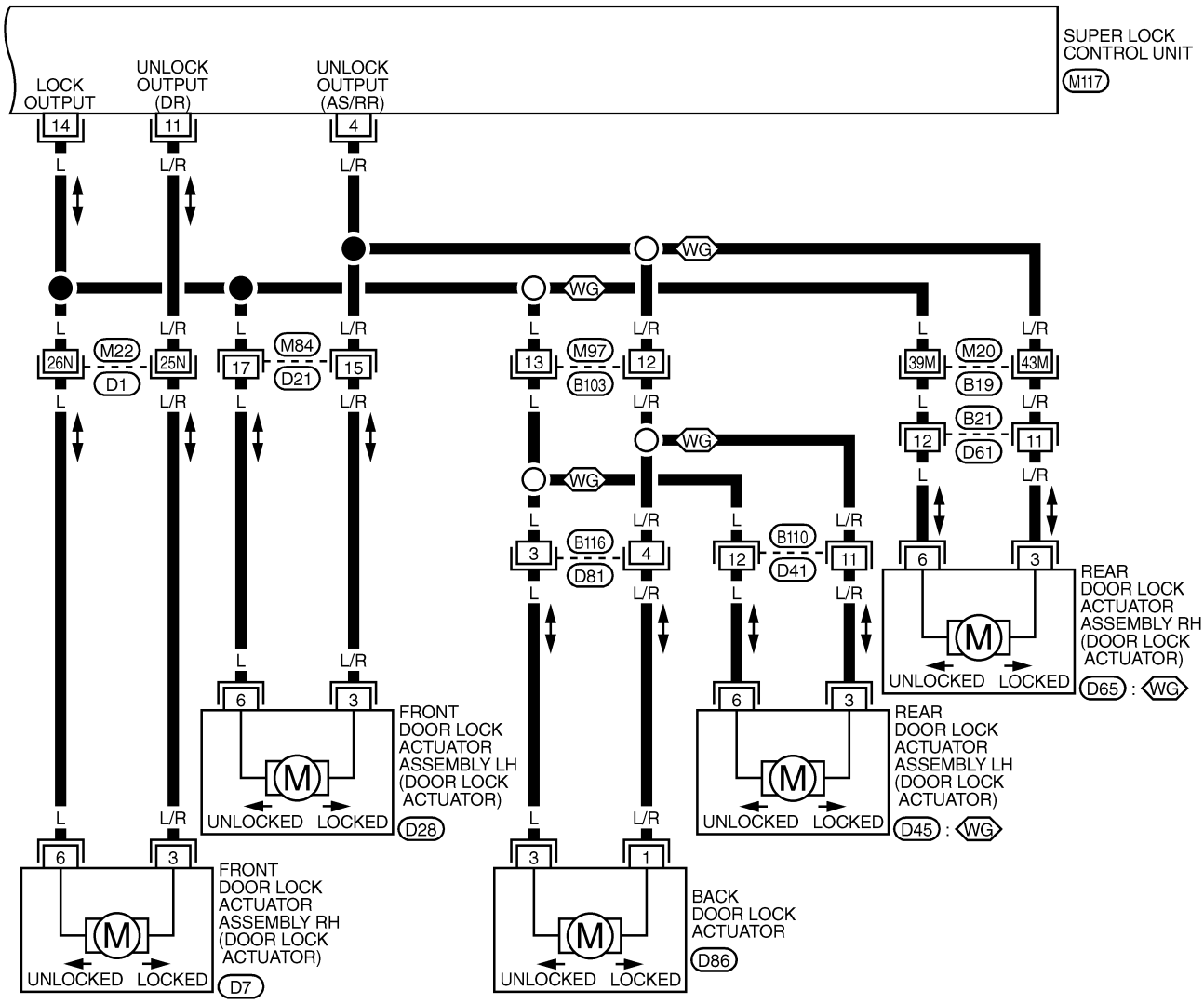
M22 , D1

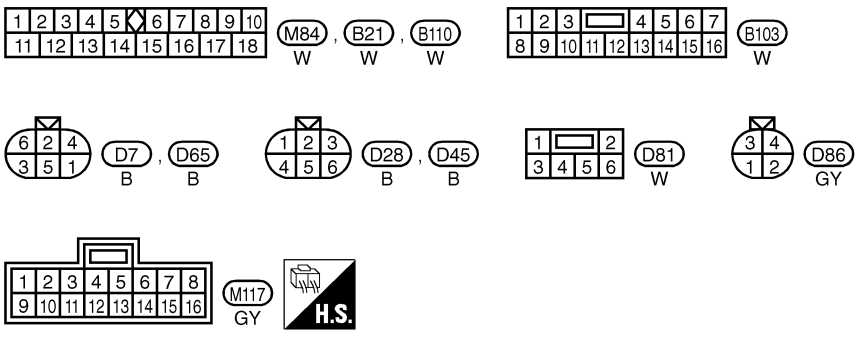
TEL270M

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

EL-S/LOCK-10

WG : Wagon models





Refer to last page (Foldout page).

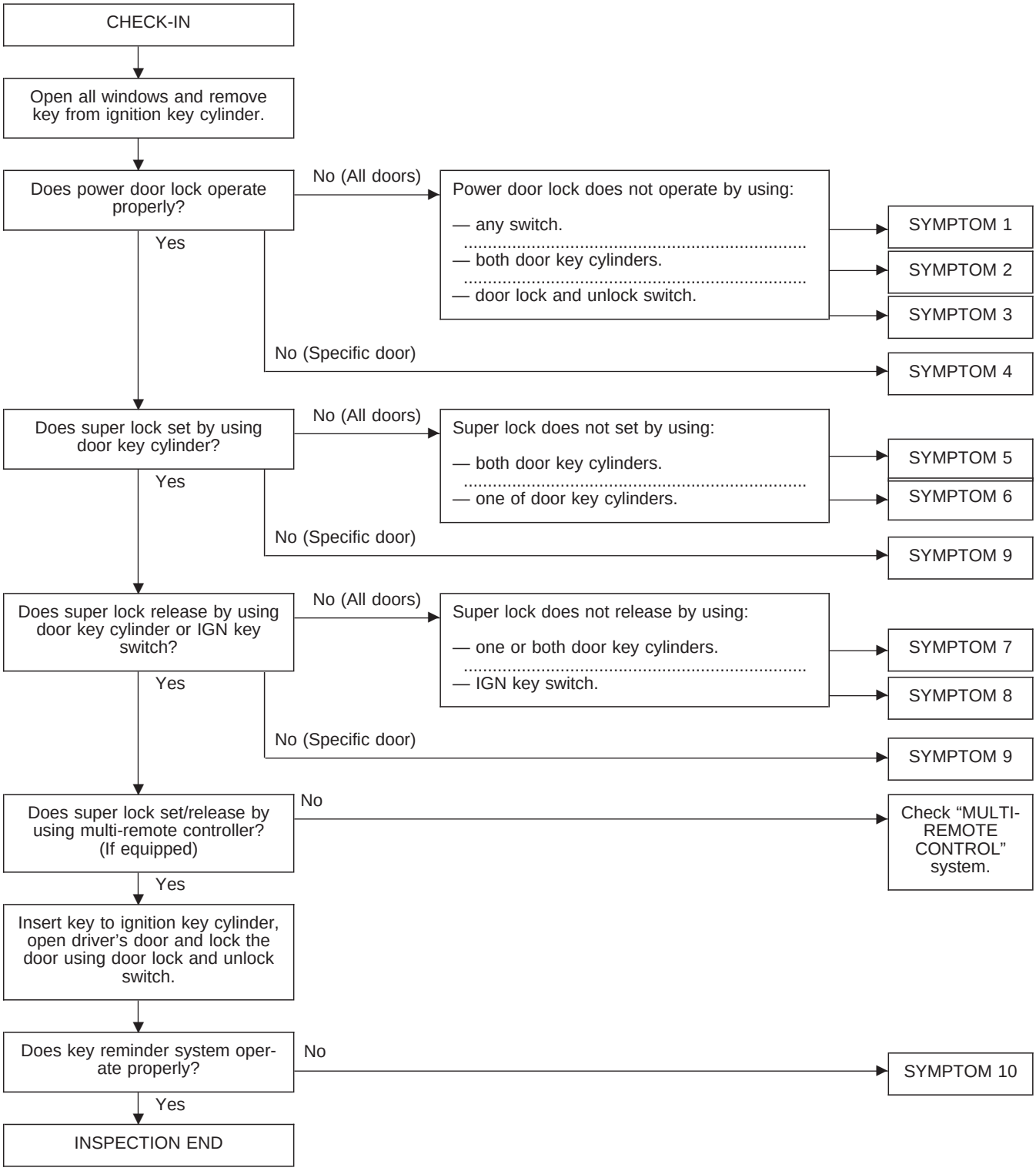
M20 , B19

M22 , D1

TEL271M

Trouble Diagnoses

PRELIMINARY CHECK



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

Trouble Diagnoses (Cont'd)

Before starting trouble diagnoses below, perform preliminary check, EL-1138.

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

SYMPTOM CHART

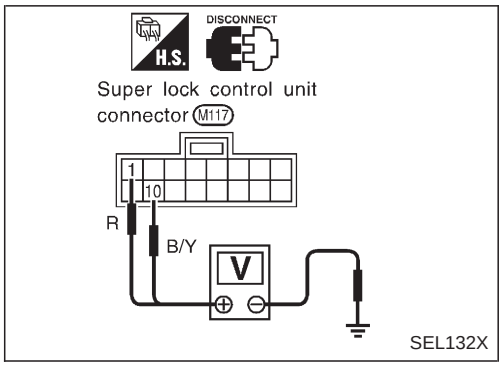
REFERENCE PAGE		EL-1140	EL-1141	EL-1142	EL-1143	EL-1144	EL-1145	EL-1146	EL-1147	EL-1148	EL-1148
SYMPTOM		Power supply and ground circuit check	Procedure 1 (Door unlock sensor check)	Procedure 2 (Door key cylinder switch check)	Procedure 3 (Door lock and unlock switch check)	Procedure 4 (Door lock actuator check)	Procedure 5 (Super lock actuator check)	Procedure 6 (Driver's door switch check)	Procedure 7 (NATS release signal check)	Procedure 8 (Key switch check)	Procedure 9 (Ignition switch "ON" circuit check)
1	Power door lock does not operate using any switch.	X				X					
2	Power door lock does not operate with both door key cylinders.			X							
3	Power door lock does not operate with door lock and unlock switch.				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 and ignition switch)		X						X		X
9	Specific super lock actuator does not operate.						X				
10	*Key reminder system does not operate.		X					X		X	

X: Applicable

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

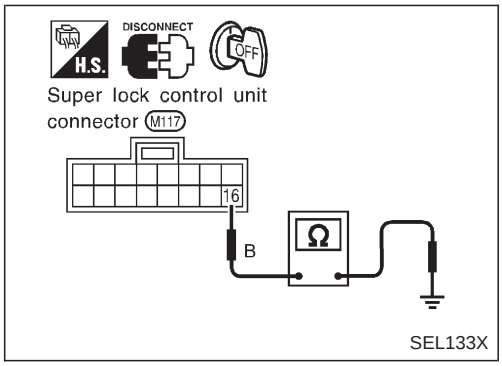
Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK



Main power supply circuit check

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
①	Ground	Battery voltage	Battery voltage	Battery voltage
⑩	Ground			



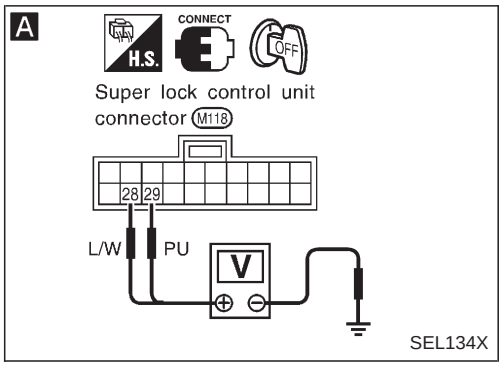
Ground circuit check

Terminals	Continuity
⑯ - Ground	Yes

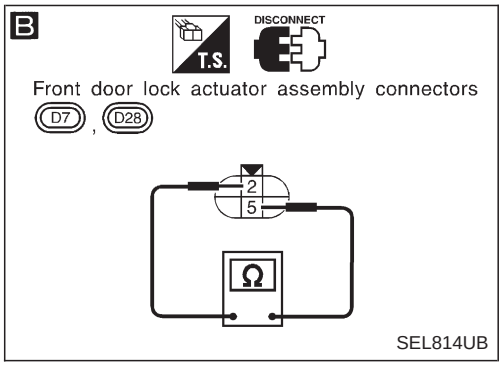
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1
(Door unlock sensor check)

A



B



A

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.
Check voltage between super lock control unit terminals 28 or 29 and ground.

	Terminals ⊕	Terminals ⊖	Condition	Voltage [V]
Driver side	28	Ground	Locked	Approx. 5
			Unlocked	0
Passenger side	29	Ground	Locked	Approx. 5
			Unlocked	0

Refer to wiring diagram in EL-1130 (LHD), EL-1135 (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.

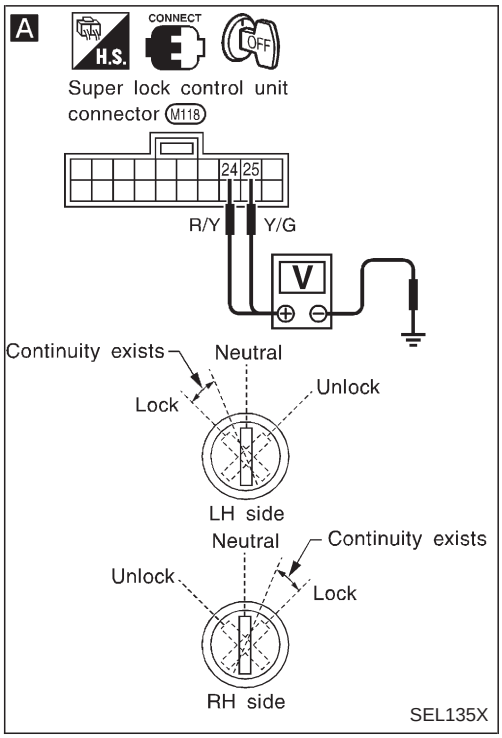
OK ↓

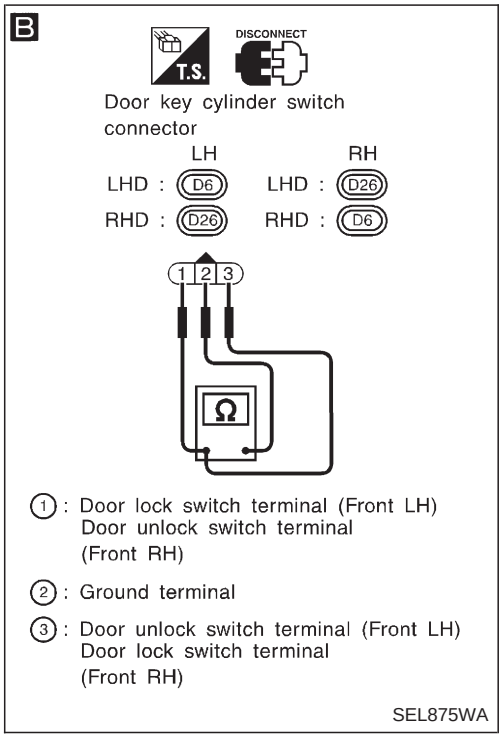
Check the following.
- Door unlock sensor ground circuit
- Harness for open or short between control unit and door unlock sensor

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

(Door key cylinder switch check)





A

CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL).
Check voltage between super lock control unit terminal ㉔ or ㉕ and ground.

Terminals ⊕	Terminals ⊖	Key position	Voltage [V]
㉔	Ground	Between neutral and lock	0
		Other positions	Approx. 5
㉕	Ground	Between neutral and unlock	0
		Other positions	Approx. 5

OK → Door key cylinder switch is OK.

NG ↓

B

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

Terminals	Key position	Continuity
Front LH: ① - ② Front RH: ③ - ②	Neutral	No
	Between neutral and lock	Yes
Front LH: ③ - ② Front RH: ① - ②	Neutral	No
	Between neutral and unlock	Yes

NG → Replace door key cylinder switch.

OK ↓

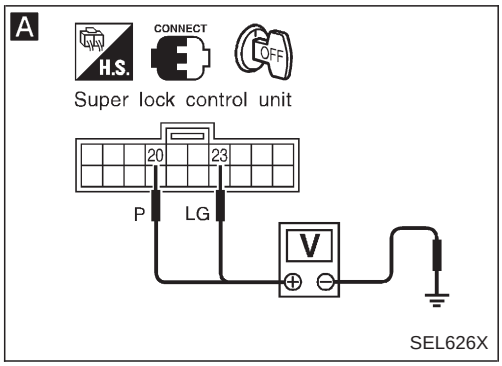
Check the following.
- Door key cylinder switch ground circuit
- Harness for open or short between super lock control unit and door key cylinder switch

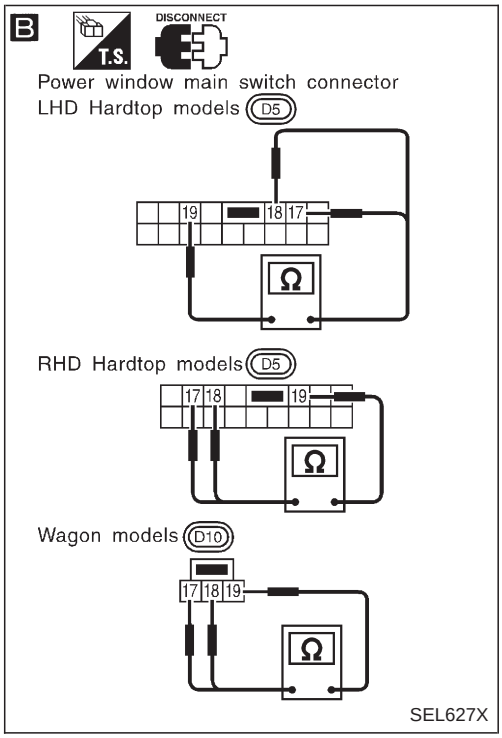
Trouble Diagnoses (Cont'd)

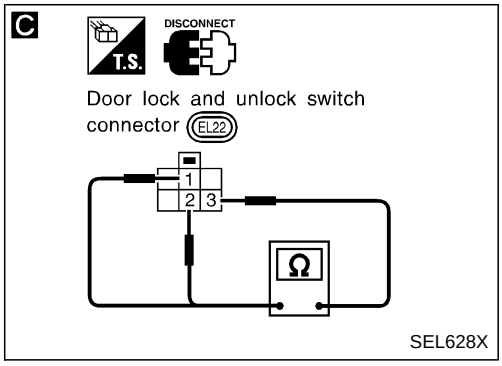
DIAGNOSTIC PROCEDURE 3

(Door lock and unlock switch check)

A







A

CHECK DOOR LOCK AND UNLOCK SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ⑳ or ㉓ and ground.

Terminals	Door lock and unlock switch condition	Voltage (V)
⑳ - Ground	Lock	0
	N and Unlock	Battery voltage
㉓ - Ground	Unlock	0
	N and Lock	Battery voltage

OK → Door lock and unlock switch is OK.

NG ↓

B C

CHECK DOOR LOCK AND UNLOCK SWITCH.
1. Disconnect door lock and unlock switch connector.
2. Check continuity between each door lock and unlock switch terminals.

B Power window main switch [Door lock and unlock switch (with power window)]

Condition	Terminals		
	17	18	19
Unlock	○		⊖
N	No continuity		
Lock		○	⊖

C Door lock and unlock switch (without power window)

Condition	Terminals		
	1	2	3
Lock		○	⊖
N	No continuity		
Unlock	○		⊖

NG → Replace power window main switch (with power window) or door lock and unlock switch (without power window).

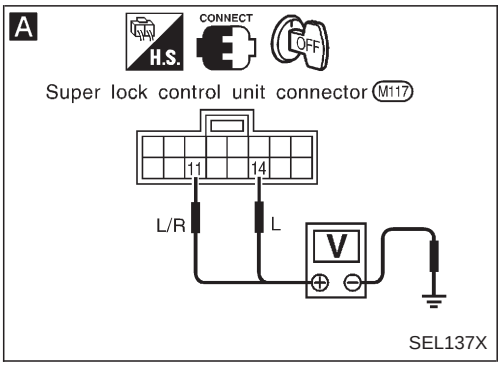
OK ↓

Check the following.
- Ground circuit for power window main switch [Door lock and unlock switch (with power window)] or door lock and unlock switch (without power window)
- Harness for open or short between power window main switch [Door lock and unlock switch (with power window)] or door lock and unlock switch (without power window) and control unit connector

Trouble Diagnoses (Cont'd)

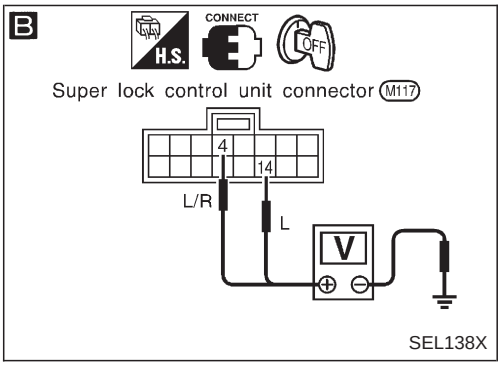
DIAGNOSTIC PROCEDURE 4 (Door lock actuator check)

A



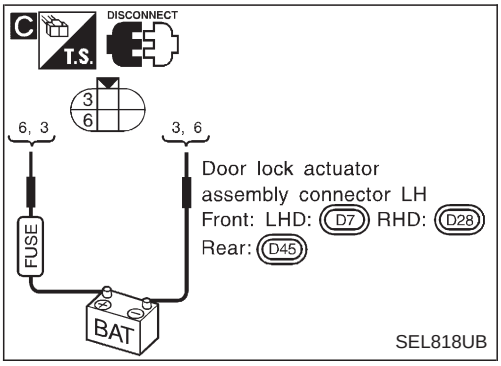
SEL137X

B



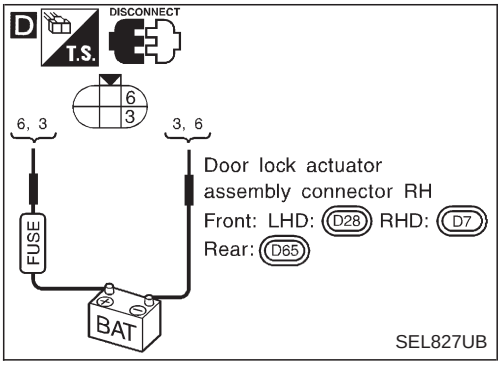
SEL138X

C



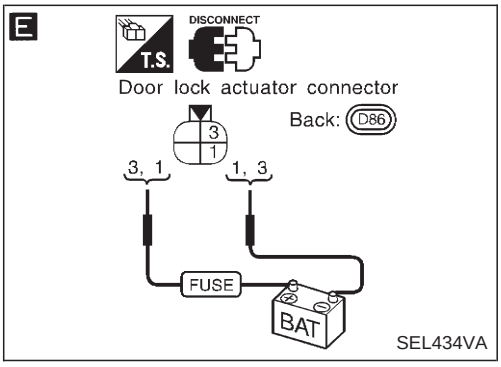
SEL818UB

D



SEL827UB

E



SEL434VA

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

A Door lock actuator driver

Door lock/unlock switch condition	Terminals ⊕	Terminals ⊖	Voltage (V)
Unlock → Lock	⑭	Ground	Battery voltage
Lock → Unlock	⑪	Ground	

B Door lock actuator passenger, rear and back

Door lock/unlock switch condition	Terminals ⊕	Terminals ⊖	Voltage (V)
Unlock → Lock	⑭	Ground	Battery voltage
Lock → Unlock	④	Ground	

Refer to wiring diagram in EL-1132 (LHD), EL-1137 (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.

C **D** **Door lock actuator operation**

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

E **Back door lock actuator operation**

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

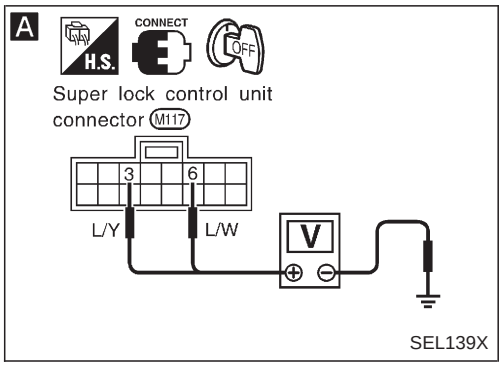
OK → Check harness between control unit and door lock actuator.

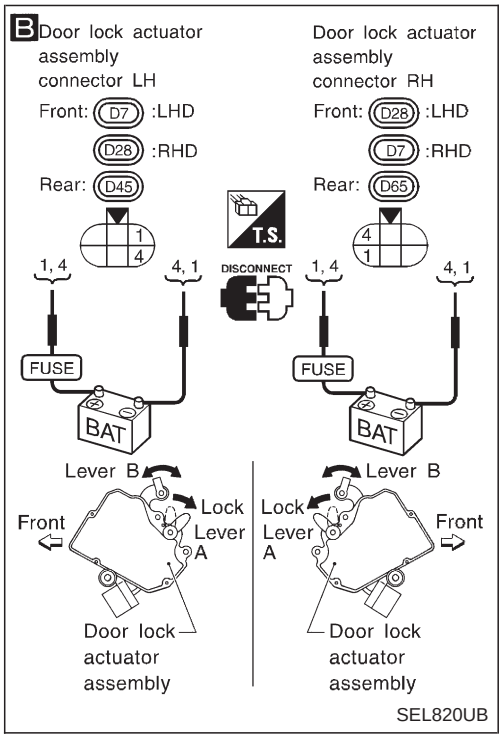
NG ↓

Replace door lock actuator assembly.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5
[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 ⊕	Terminals ⊖	Voltage (V)
Lock (Set)	⑥	Ground	Approx. 12
Unlock (Released)	③	Ground	

Put the system in set condition before checking release signal.
Refer to wiring diagram in EL-1131 (LHD), EL-1136 (RHD).

NG → Super lock actuator is OK.

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 ⊕	Terminals ⊖	Connection from lever B to lever A
Released → Set	①	④	Disconnect
Set → Released	④	①	Connect

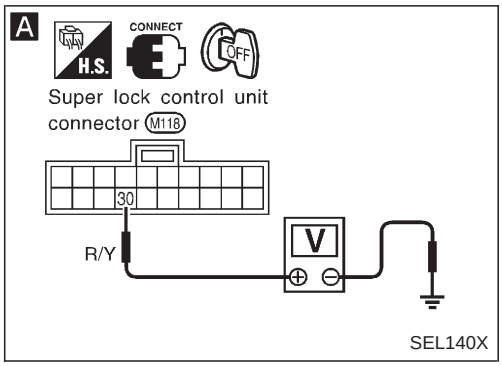
OK → Check harness between control unit and door lock actuator assembly.

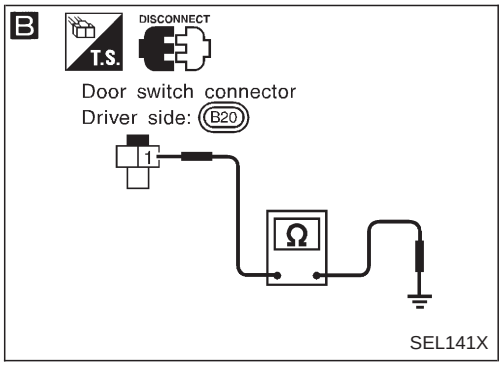
NG ↓

Replace door lock actuator assembly.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6
(Driver's door switch check)





A

CHECK DOOR SWITCH INPUT SIGNAL.
Check voltage between super lock control unit terminal ㉚ and ground.

Condition	Voltage [V]
Any door is opened.	0
Driver's door is closed.	Approx. 12

Refer to wiring diagram in EL-1129 (LHD), EL-1134 (RHD).

OK → Door switch is OK.

NG ↓

B

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

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

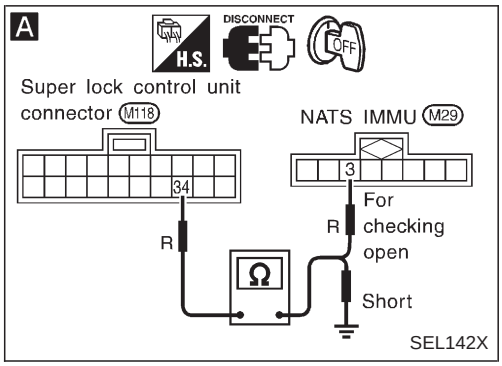
NG → Replace door switch.

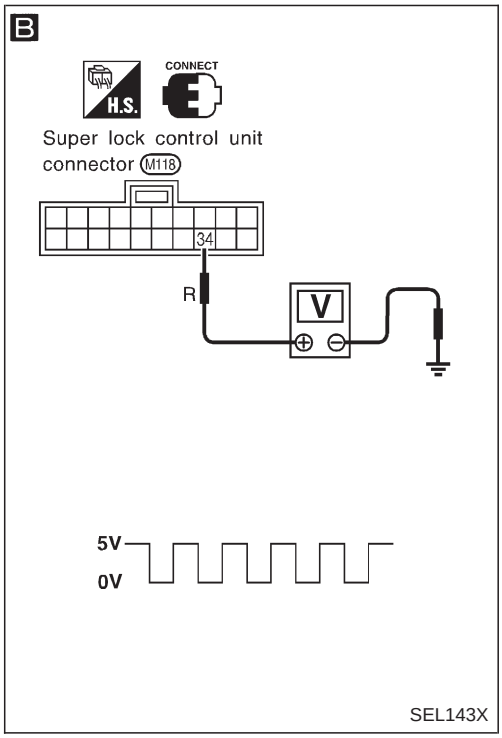
OK ↓

Check the following.
- Driver side door switch ground condition
- Harness for open or short between control unit and door switch

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7 (NATS release signal check)





Does engine start properly?

No → Check NATS system.

Yes ↓

A

CHECK NATS SIGNAL CIRCUIT.

1. Disconnect super lock control unit connector and NATS IMMU connector.
2. Check continuity between super lock control unit terminal ㉞ and NATS IMMU terminal ③.
   Continuity should exist.
3. Check continuity between super lock control unit terminal ㉞ and ground.
   Continuity should not exist.
   Refer to wiring diagram in EL-1128 (LHD), EL-1133 (RHD).

NG → Repair harness.

OK ↓

B

CHECK NATS RELEASE SIGNAL.

1. Connect super lock control unit connector and NATS IMMU connector.
2. Check voltage between super lock control unit terminal ㉞ and ground.

Ignition switch condition	Voltage [V]
OFF	5
More than 20 seconds after ignition switch turned ON	
For 20 seconds after ignition switch turned ON	Pulse

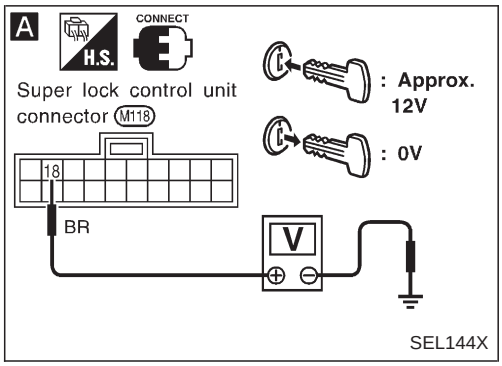
NG → Check NATS system.

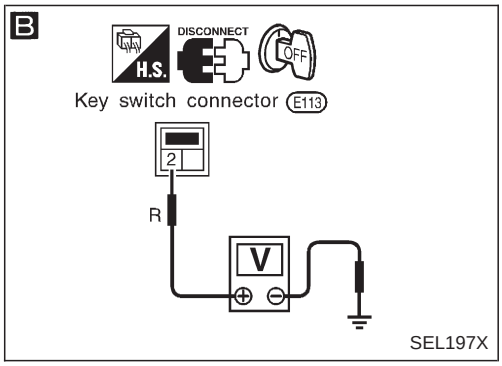
OK ↓

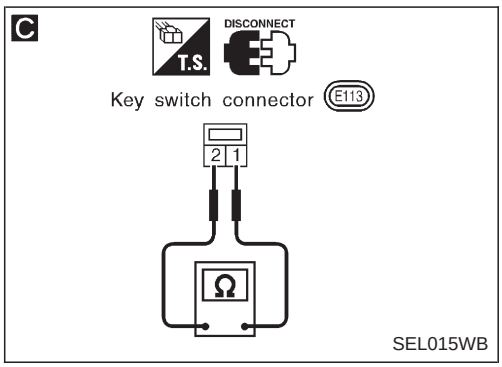
Replace super lock control unit.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8 (Key switch check)







A

CHECK KEY SWITCH INPUT SIGNAL.
Check voltage between super lock control unit terminal ⑱ and ground.

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

Refer to wiring diagram in EL-1128 (LHD), EL-1133 (RHD).

OK → Key switch is OK.

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

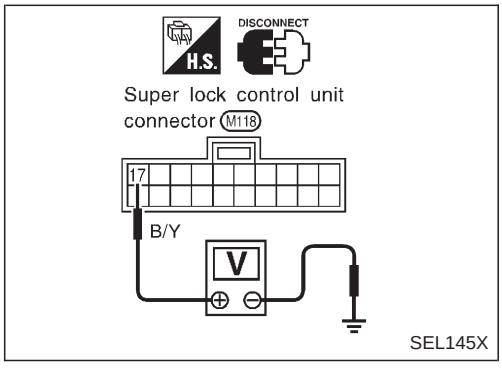
CHECK KEY SWITCH.
Check continuity between key switch terminals.

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

NG → Replace key switch.

OK ↓

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



DIAGNOSTIC PROCEDURE 9 (Ignition switch "ON" circuit check)

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
⑰	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

System Description

FUNCTION

Multi-remote control system has the following function.

- Door lock
- Door unlock
- Hazard reminder

LOCK OPERATION

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 ⑤
- to super lock control unit terminal ㉜.

Then super lock control unit locks all doors and set super lock. (Super lock will not be set while key is inserted in the ignition key cylinder.)

UNLOCK OPERATION

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

- through multi-remote control unit terminal ⑥
- to super lock control unit terminal ㉝.

Then super lock control unit unlocks driver's door and release super lock on all doors.
If the UNLOCK signal is sent to the multi-remote control unit again within 5 seconds, all other doors will be unlocked.

HAZARD REMINDER

When the doors are locked or unlocked (signal from front door unlock sensor LH) by multi-remote controller, power is supplied

- through multi-remote control unit terminals ③ and ⑧
- to the hazard warning lamps

Then hazard warning lamp flashes as follows.

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

MULTI-REMOTE CONTROLLER ID CODE ENTRY

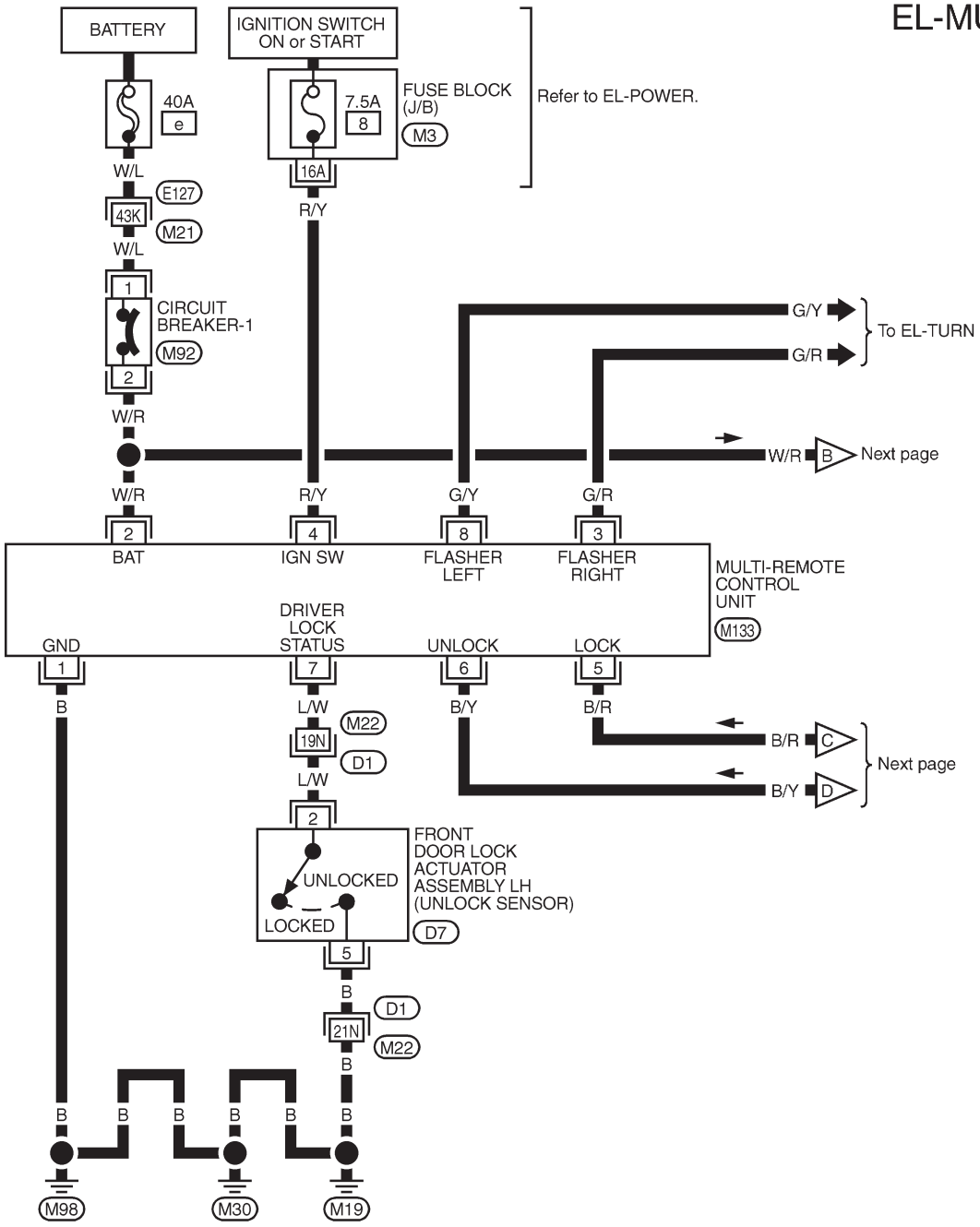
A maximum of four remote controllers can be entered. Any attempt to enter a remote controller will erase all ID codes previously entered. Therefore, be sure to receive all remote controllers from the vehicle owner when any ID code entry is performed.
To enter ID code entry, the following signals must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

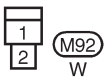
- Ignition switch ON signal
- Battery power supply
- Signal from remote controller

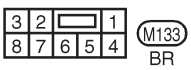
For detailed procedure, refer to "ID Code Entry Procedure" in EL-1156.

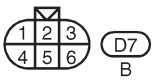
Wiring Diagram — MULTI —/LHD Models

EL-MULTI-09









Refer to last page (Foldout page).

M21 , E127

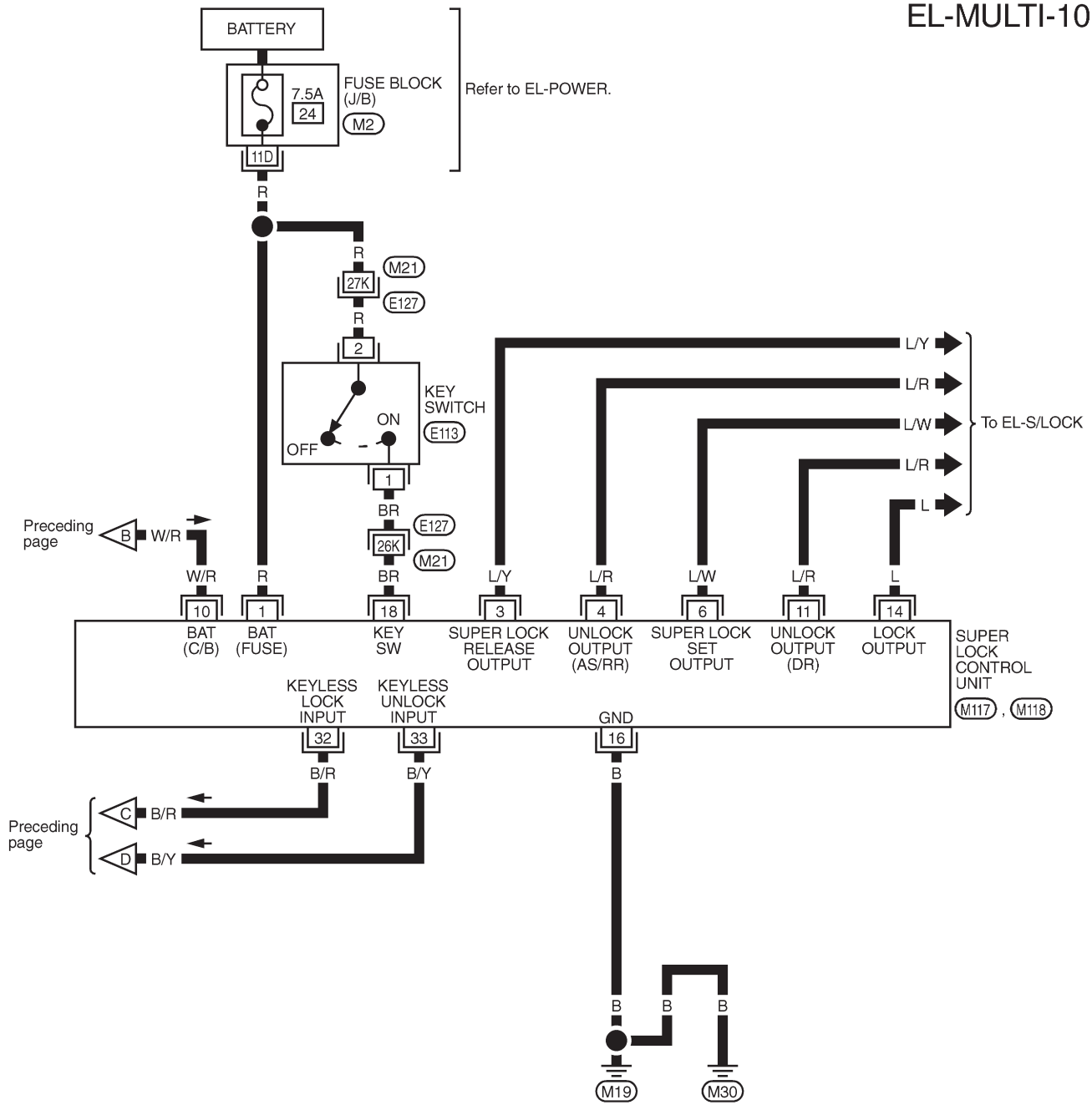
M22 , D1

M3

TEL274M

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

EL-MULTI-10

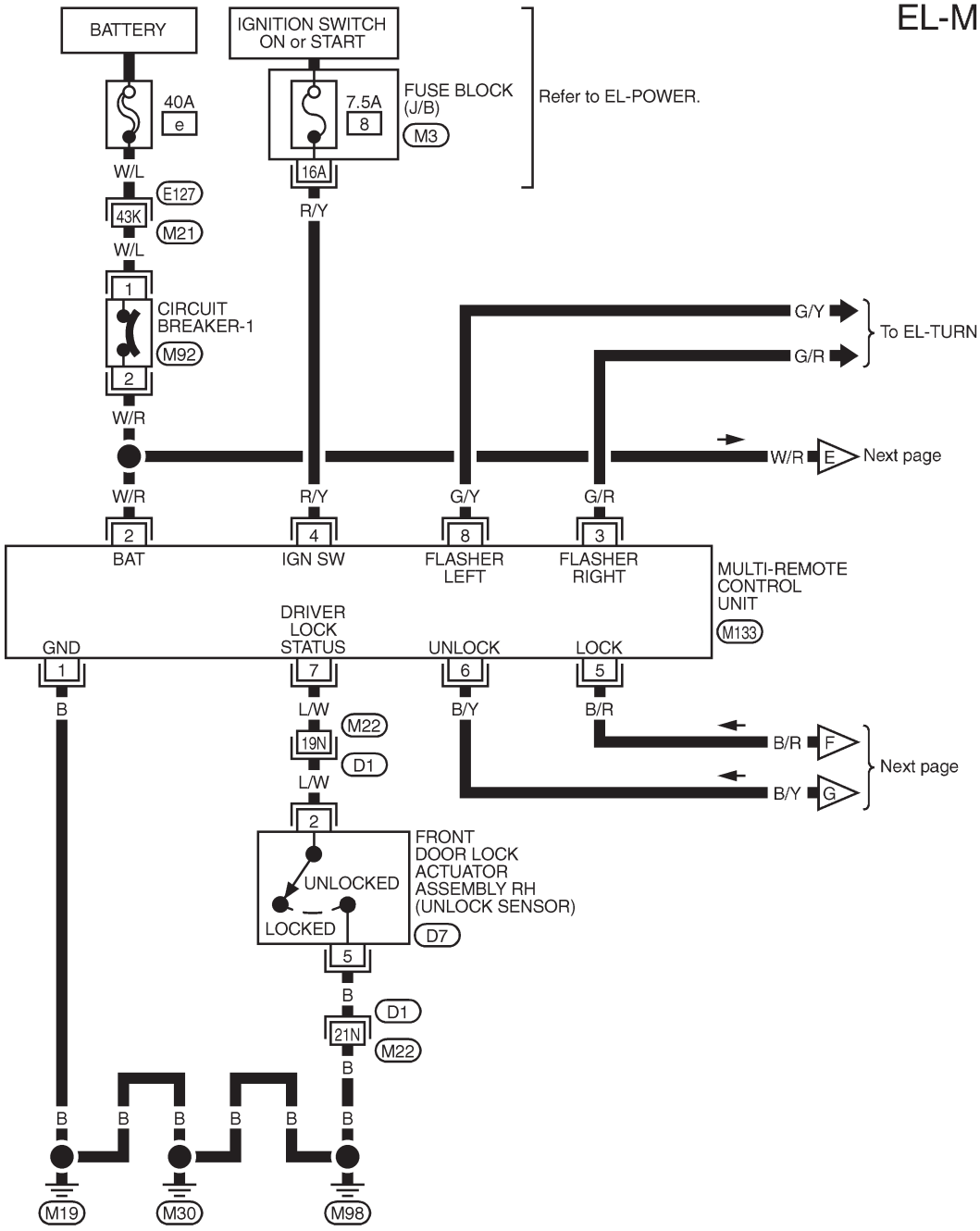


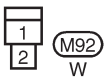
Refer to last page (Foldout page).
M21 , E127
M2

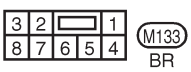
TEL275M

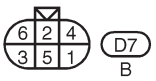
Wiring Diagram — MULTI —/RHD Models

EL-MULTI-11









Refer to last page (Foldout page).

(M21), (E127)

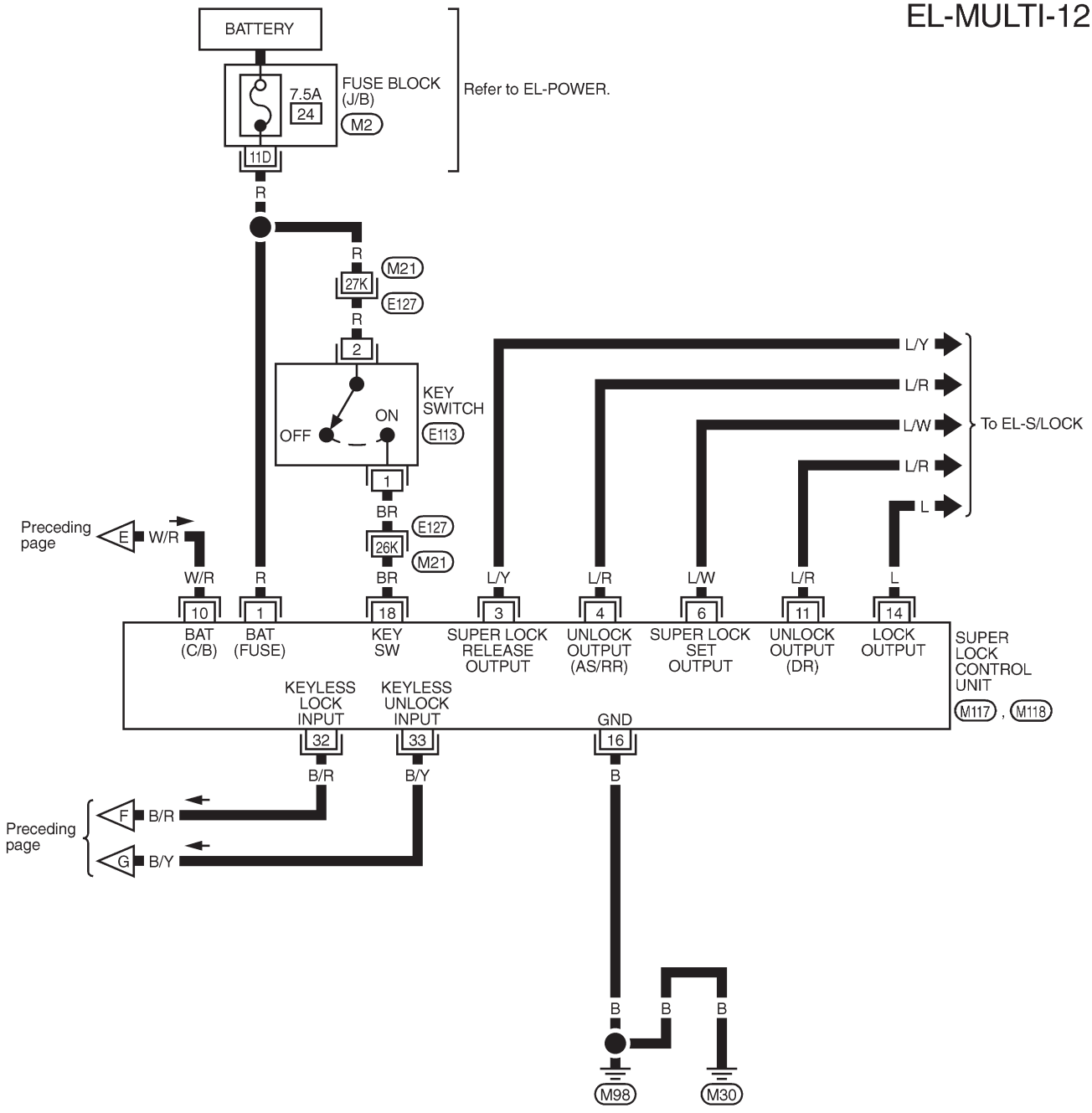
(M22), (D1)

(M3)

TEL278M

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

EL-MULTI-12



Refer to last page (Foldout page).
M21 , E127
M2

TEL279M

Trouble Diagnoses

SYMPTOM CHART

Symptom	Possible cause	Diagnoses/service order
No doors can be locked or unlocked by remote control operation. (See NOTE.)	1. Power door lock system 2. Remote controller battery 3. Door lock/unlock circuit 4. Ignition power supply circuit for multi-remote control unit 5. Power supply circuit for multi-remote control unit 6. Ground circuit for multi-remote control unit 7. Remote controller	1. Check power door lock operation. 2. Check remote controller battery. Refer to “Remote controller battery check” in EL section of Service Manual (SM7E-2Y61G1). 3. Check harness for open or short between multi-remote control unit and super lock control unit. 4. Make sure battery voltage is present at terminal ④ of multi-remote control unit while ignition switch is in IGN position. 5. Make sure battery voltage is present at terminal ② of multi-remote control unit. 6. Check continuity between terminal ① of multi-remote control unit and ground. 7. Replace remote controller. Refer to EL-1156.
Hazard reminder does not operate properly.	1. Hazard reminder output to hazard warning lamps 2. Hazard reminder circuit 3. Driver’s door unlock sensor	1. Check hazard reminder output to hazard warning lamps at terminals ③ and ⑧ of multi-remote control unit. 2. Check the harness for open or short between hazard warning lamps and multi-remote control unit. 3. Check driver’s door unlock sensor signal at terminal ⑦ of multi-remote control unit.
The new ID of remote controller cannot be entered.	1. Remote controller battery 2. Ignition power supply circuit for multi-remote control unit 3. Driver’s door unlock sensor 4. Remote controller	1. Check remote controller battery. Refer to “Remote controller battery check” in EL section of Service Manual (SM7E-2Y61G1). 2. Make sure battery voltage is present at terminal ④ of multi-remote control unit while ignition switch is in IGN position. 3. Check driver’s door unlock sensor signal at terminal ⑦ of multi-remote control unit. 4. Replace remote controller. Refer to EL-1156.

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

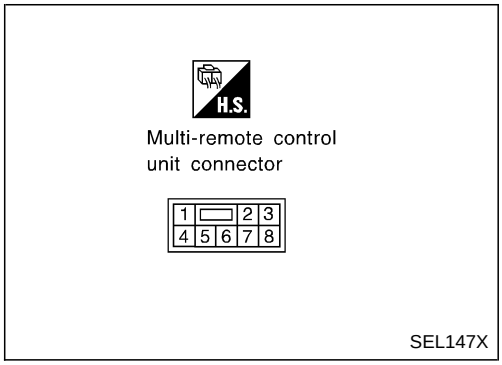
NOTE:

- The lock operation of multi-remote control system does not activate with the ignition key ON position.

Trouble Diagnoses (Cont'd)

MULTI-REMOTE CONTROL UNIT INSPECTION TABLE

Terminal No.	Connections	Condition		Voltage (V) (approximate values)
1	Ground	—		—
2	Power source (BAT)	—		12
3	Hazard warning lamp RH	Remote controller LOCK/UNLOCK button is pushed (All doors are closed and key is not in ignition key cylinder.)		12
		Other than above condition		0
4	Ignition power supply	Ignition switch	OFF	0
			ON or START	12
5	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
6	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
7	Driver side door unlock sensor	Driver side door	Locked	5
			Unlocked	0
8	Hazard warning lamp LH	Remote controller LOCK/UNLOCK button is pushed (All doors are closed and key is not in ignition key cylinder.)		12
		Other than above condition		0



ID Code Entry Procedure

Activation of the registration mode:

The vehicle must have been unlocked by either the multi-remote controller or a transponder OK signal (TPOK) from the vehicle's immobilizer.
Preparation: - Make sure all doors unlock.
- Make sure all multi-remote controllers to be registered are available.
- Make sure the batteries of all multi-remote controllers are in a good condition.
- Make sure all transmitting sources are out of the neighbourhood of the vehicle.
- Make sure the battery of the vehicle is in a good condition.

↓

Switch ignition-switch exactly six times from the "LOCK" to the "ON" position within 10 seconds and return the ignition switch to the "LOCK" position (leaving the key in the ignition switch).

↓

After 2 seconds the registration mode is activated. The turn signal lamps will flash twice.

NG → Switch ignition-switch exactly six times from the "LOCK" to the "ON" position within 10 seconds and return the ignition switch to the "LOCK" position (leaving the key in the ignition switch).

↓ OK

Proceed with the registration mode.

NOTE
The registration mode is operated when:
- The ignition-switch is turned to the "ON" position.
- 4 multi remote controllers have been learned.
- No multi-remote controller or ignition switch input is received within 120 seconds.

Registration mode

Press and hold the "UNLOCK" button of the multi-remote controller.

↓

Press the "LOCK" button 3 times.

↓

Release the "UNLOCK" button.

→ If the multi-remote controller code is registered correctly, the turn signal lamp will flash once.

NG → Press and hold the "UNLOCK" button of the multi-remote controller.

↓

Do you want to register another multi-remote controller? (max. 4)

OK ← If the multi-remote controller code is registered correctly, the turn signal lamp will flash once.

No ↓

Yes → Press and hold the "UNLOCK" button of the multi-remote controller.

After registration of the requested No. of multi-remote controller(s), confirm the ID-code(s) by switching the ignition switch to the "ON" position.

→ If the multi-remote controller registration is performed correctly, the turn signal lamp will flash twice.

OK ↓

Take the ignition key out of the ignition switch and confirm the functioning of all multi-remote controllers by locking and unlocking the vehicle with each of the multi-remote controllers.

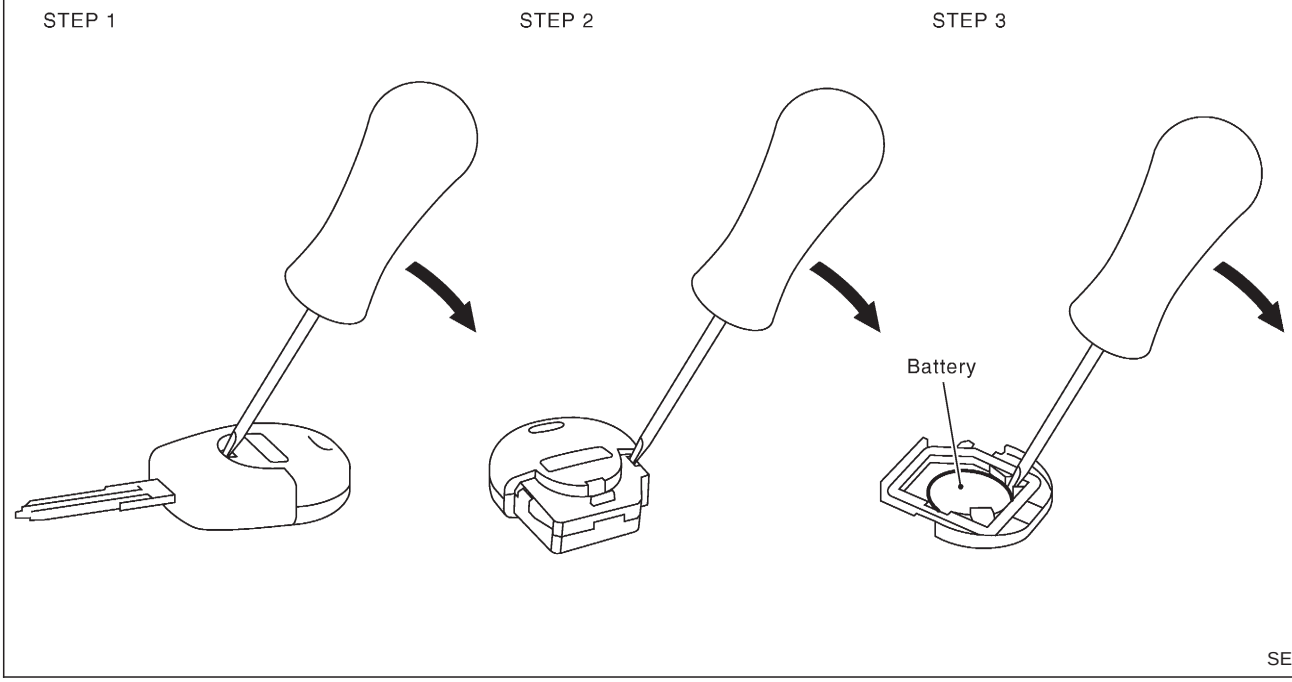
NG → Press and hold the "UNLOCK" button of the multi-remote controller.

↓

End

Remote Controller Battery Replacement

NOTE:
- **Be careful not to touch the circuit board or battery terminal.**
- **The remote controller is water-resistant. However, if it does get wet, immediately wipe it dry.**
- **Push the remote controller button two or three times to check its operation after replacing battery.**



NOTE

Description

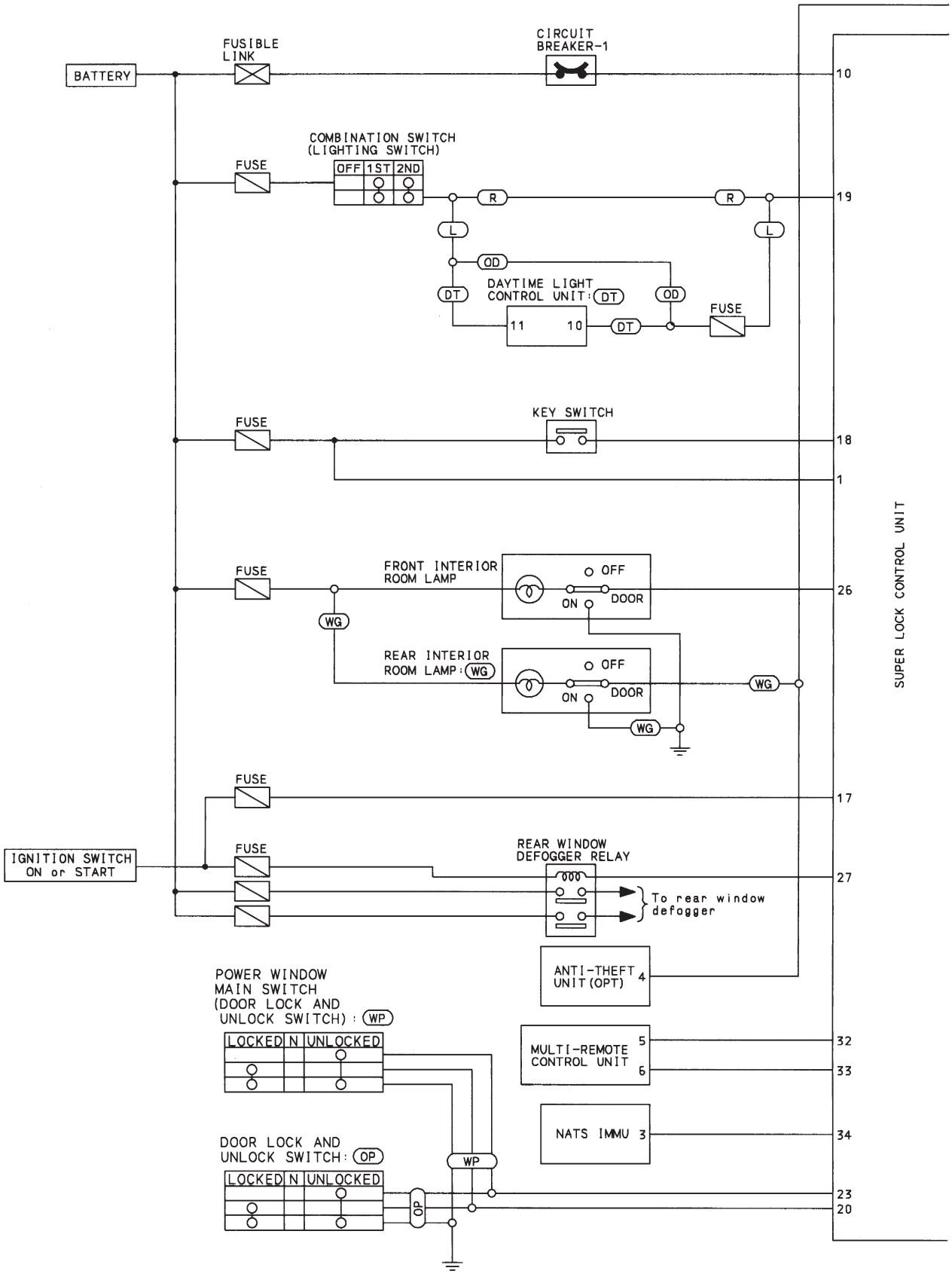
The following systems are controlled by the super lock control unit.

- Warning chime
- Rear window defogger timer
- Power door lock (super lock)
- Interior room lamp timer

For detailed description and wiring diagrams, refer to the relevant pages for the each system. The control unit receives data from the switches, control units and sensors to control their corresponding system relays and actuators.

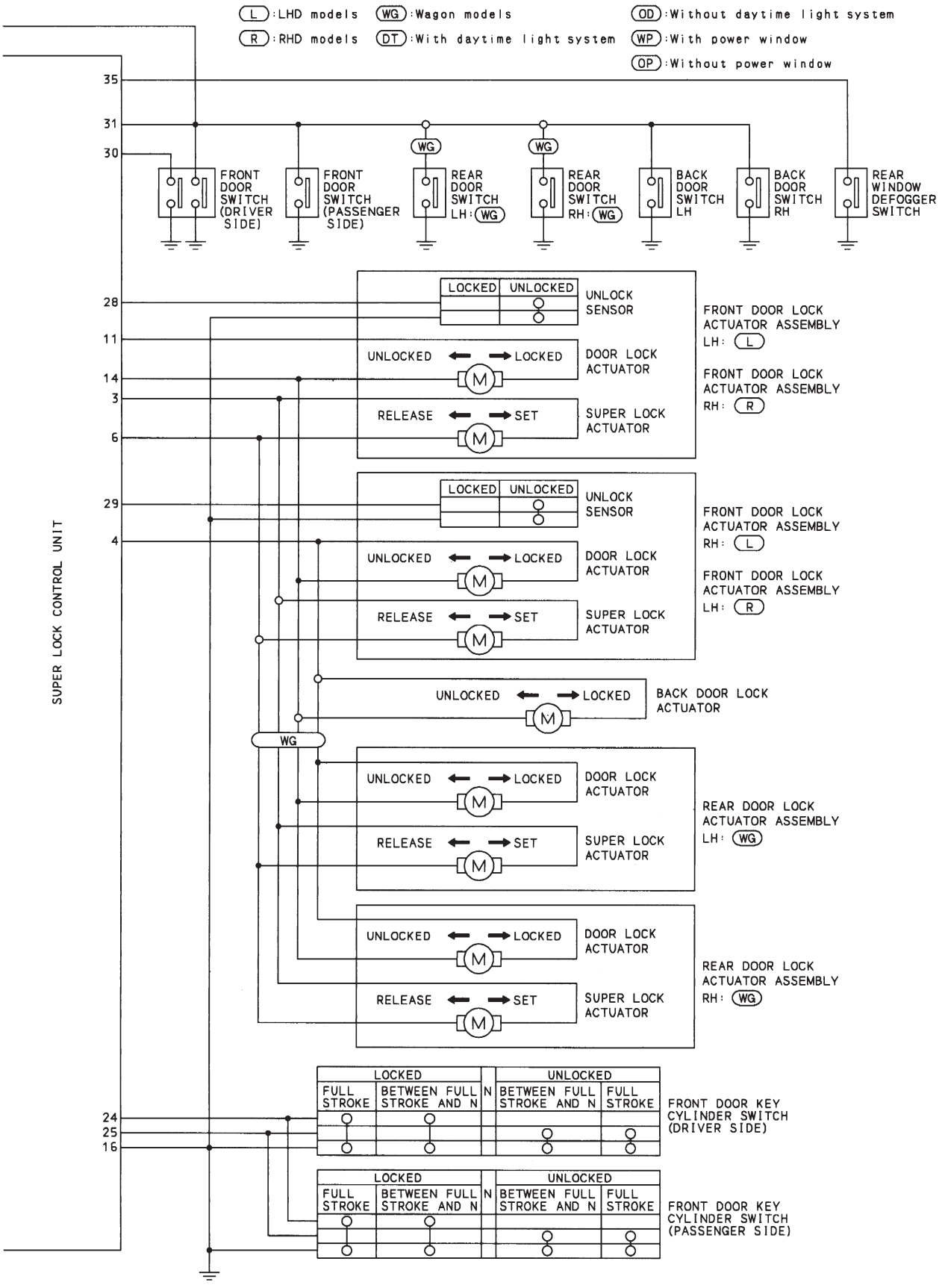
System	Input	Output
Power door lock (super lock)	Door switches Key switch (Insert) Door key cylinder switch (lock/unlock) Ignition switch (ON) Door unlock sensors Multi-remote control signals (lock/unlock) NATS IMMU signal (Anti-theft cancel)	Door lock actuator Super lock actuator
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st and 2nd) Front door switch (Driver side) Door unlock sensor (Driver side)	Warning chime
Rear window defogger timer	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Interior room lamp timer	Door switches Door unlock sensor (Driver side) Ignition switch (ON) Key switch (Insert)	Interior lamp

Schematic



TEL285M

Schematic (Cont'd)



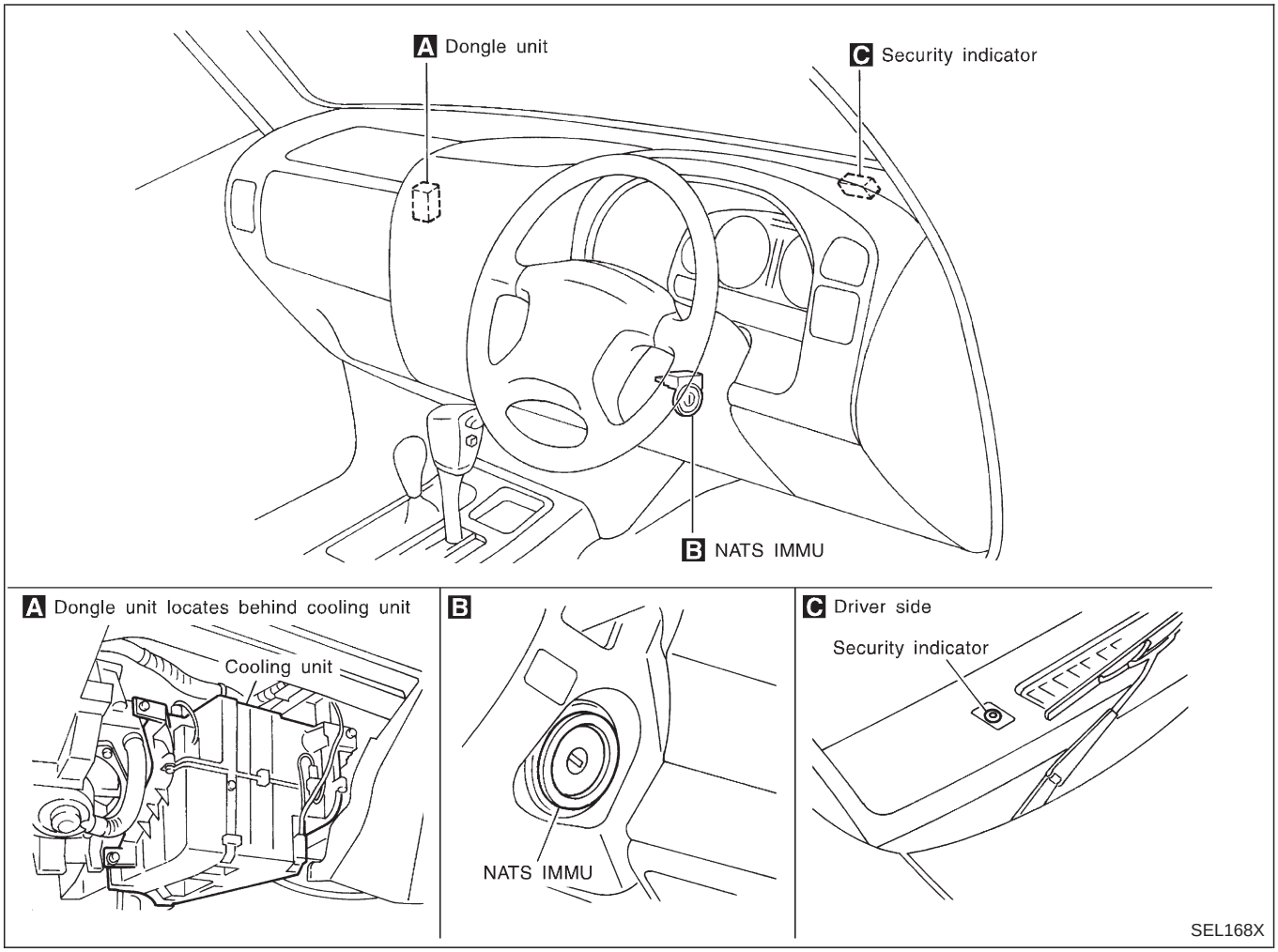
TEL286M

Input/Output Operation Signal

SUPER LOCK CONTROL UNIT INSPECTION TABLE

Terminal No.	Wire color	Connections	Operated condition		Voltage (Approximate values)
1	R	Power source (Fuse)	—		12V
3	L/Y	Super lock actuators	Key inserted into front door key cylinder, turning it to UNLOCK (Key is not in ignition key cylinder.)		5V
4	L/R	Passenger door lock actuator	Door lock & unlock switch	Unlocked	12V
6	L/W	Super lock actuators	Key inserted into front door key cylinder, turning it to LOCK (When super lock is in release condition)		12V
10	W/R	Power source (C/B)	—		12V
11	L/R	Driver door lock actuator	Door lock & unlock switch	Free	0V
14	L	Door lock actuators	Door lock & unlock switch	Free	0V
				Locked	12V
16	B	Ground	—		—
17	B/W	Ignition switch (ON)	Ignition key is in “ON” position		12V
18	BR	Ignition key switch (Insert)	key inserted → key removed from IGN key cylinder		12V → 0V
19	L/B	Lighting switch (1ST)	1ST, 2ND positions: ON → OFF		12V → 0V
20	P	Door lock/unlock switches	Neutral → Locked		5V → 0V
23	LG	Door lock/unlock switches	Neutral → Unlocked		5V → 0V
24	R/Y	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)		5V → 0V
25	Y/G	Door key cylinder unlock switch	OFF (Neutral) → ON (Unlocked)		5V → 0V
26	R/W	Interior room lamp	When interior lamp is operated with driver’s door is unlocked. (Lamp switch in “DOOR” position)	Locked	12V
				Unlocked	0V
27	B/W	Rear window defogger relay	OFF → ON (Ignition key is in “ON” position)		12V → 0V
28	L/W	Driver door unlock sensor	Driver door: Locked → Unlocked		12V → 0V
29	PU	Passenger door unlock sensor	Passenger and back door: Locked → Unlocked		5V → 0V
30	R/Y	Driver door switch	OFF (Closed) → ON (Open)		12V → 0V
31	R/B	All door switches	OFF (Closed) → ON (Open)		12V → 0V
32	B/R	Lock signal (from multi-remote control unit)	Remove controller LOCK button is pushed (Key is not in ignition key cylinder.)		0V
			Other than above condition		5V
33	B/Y	Unlock signal (from multi-remote control unit)	Remove controller UNLOCK button is pushed (When super lock is in release condition)		0V
			Other than above condition		12V
34	R	Anti-theft cancel signal	When super lock is in set condition with driver and passenger door is locked, insert the key into ignition key cylinder and turn it to ON.		5V
35	SB	Rear window defogger switch	OFF → ON		5V → 0V

Component Parts and Harness Connector Location



NOTE:
If customer reports a “No Start” condition, request ALL KEYS to be brought to the Dealer is case of a NATS malfunction.

System Description

NATS has the following immobilizer 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.
- This version of NATS has dongle unit to improve its anti-theft performance (RHD models). Dongle unit has its own ID which is registered into NATS IMMU. So it dongle unit is replaced, initialization must be carried out.
- When malfunction of dongle unit is detected:
  — The security indicator lamp illuminates for about 15 minutes after ignition switch is turned to ON.
  — When dongle unit has a malfunction and the indicator lamp is illuminated, engine can not be started. However, engine can be started only one time when security indicator turns off in about 15 minutes after ignition switch is turned to ON.
- Both of the originally supplied ignition key IDs have been NATS registered.
  If requested by the vehicle owner, a maximum of five 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 security indicator lamp lights up as follows.

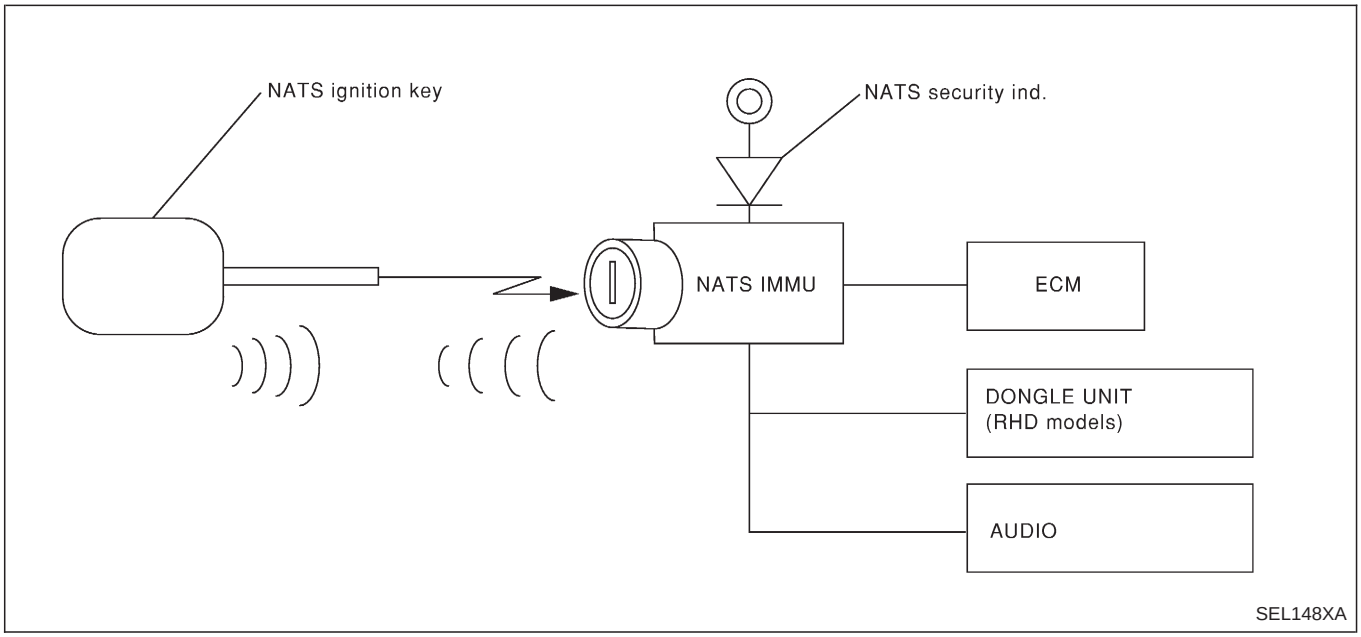
Condition IGN ON and	With Dongle		Without Dongle	
	MIL	Security Indicator	MIL	Security Indicator
NATS malfunction (except dongle unit) is detected	—	1. 6 times blinking 2. Staying ON after ignition switch is turned ON	—	Staying ON
Only malfunction of dongle unit is detected.	—	Staying ON **for about 15 minutes** after ignition switch is turned ON.	—	—
Malfunction of NATS and engine related parts are detected	Staying ON	1. 6 times blinking 2. Staying ON after ignition switch is turned ON	Staying ON	Staying ON
Only engine related part malfunction is detected	Staying ON	—	Staying ON	—
Just after initialization of NATS	—	6 times blinking	—	—

- NATS trouble diagnoses, system initialization and additional registration of other NATS ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NATS software.
  Regarding the procedures of NATS initialization and NATS ignition key ID registration, refer to CONSULT-II operation manual, NATS.
- **When servicing a malfunction of the NATS (indicated by lighting up of security Indicator Lamp) or registering another NATS ignition key ID no., it is necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**

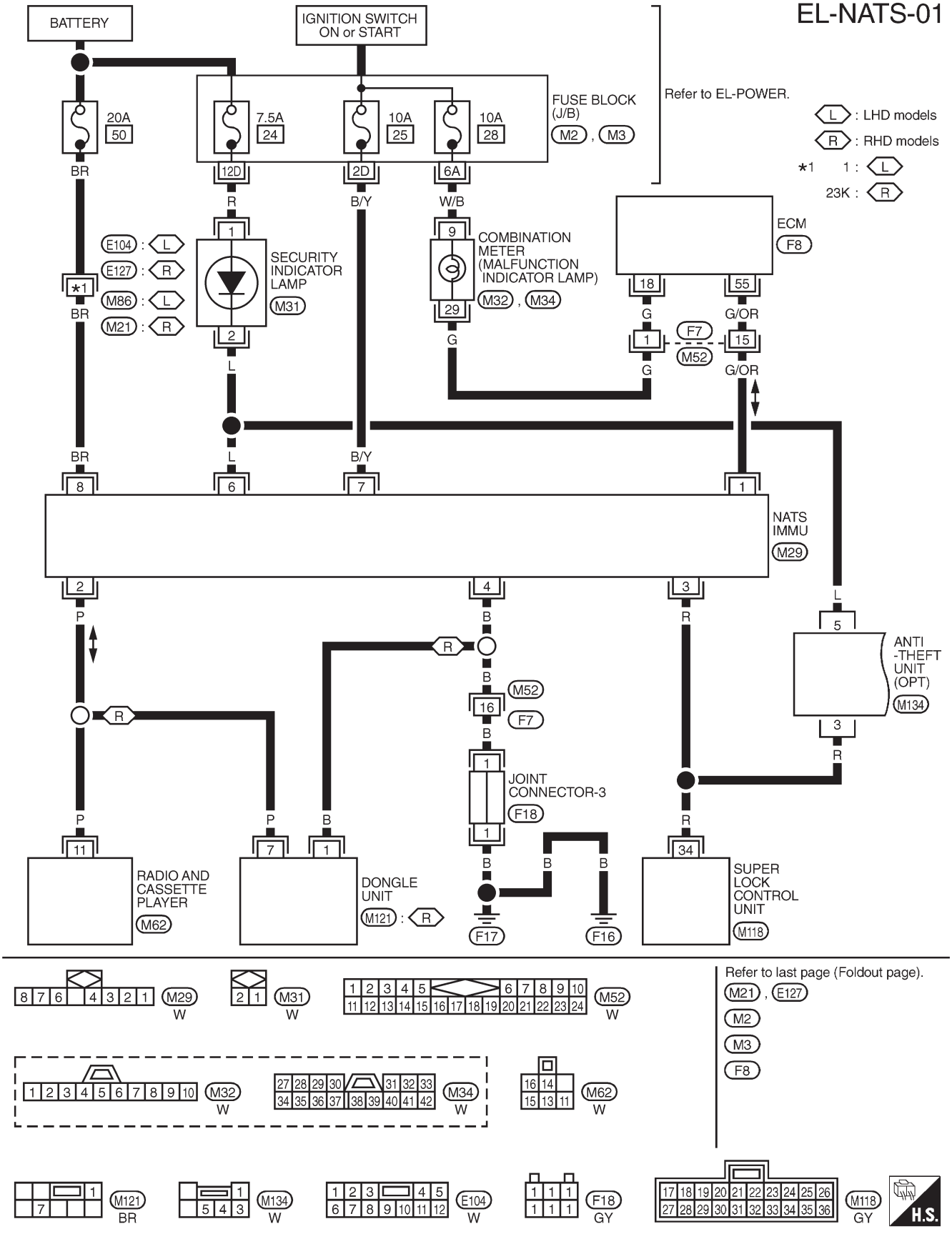
System Composition

The immobilizer function of the NATS consists of the following:

- NATS ignition key
- NATS immobilizer control unit (NATS IMMU), located in the ignition key cylinder
- Engine control module (ECM)
- Dongle unit (RHD models)
- NATS security indicator



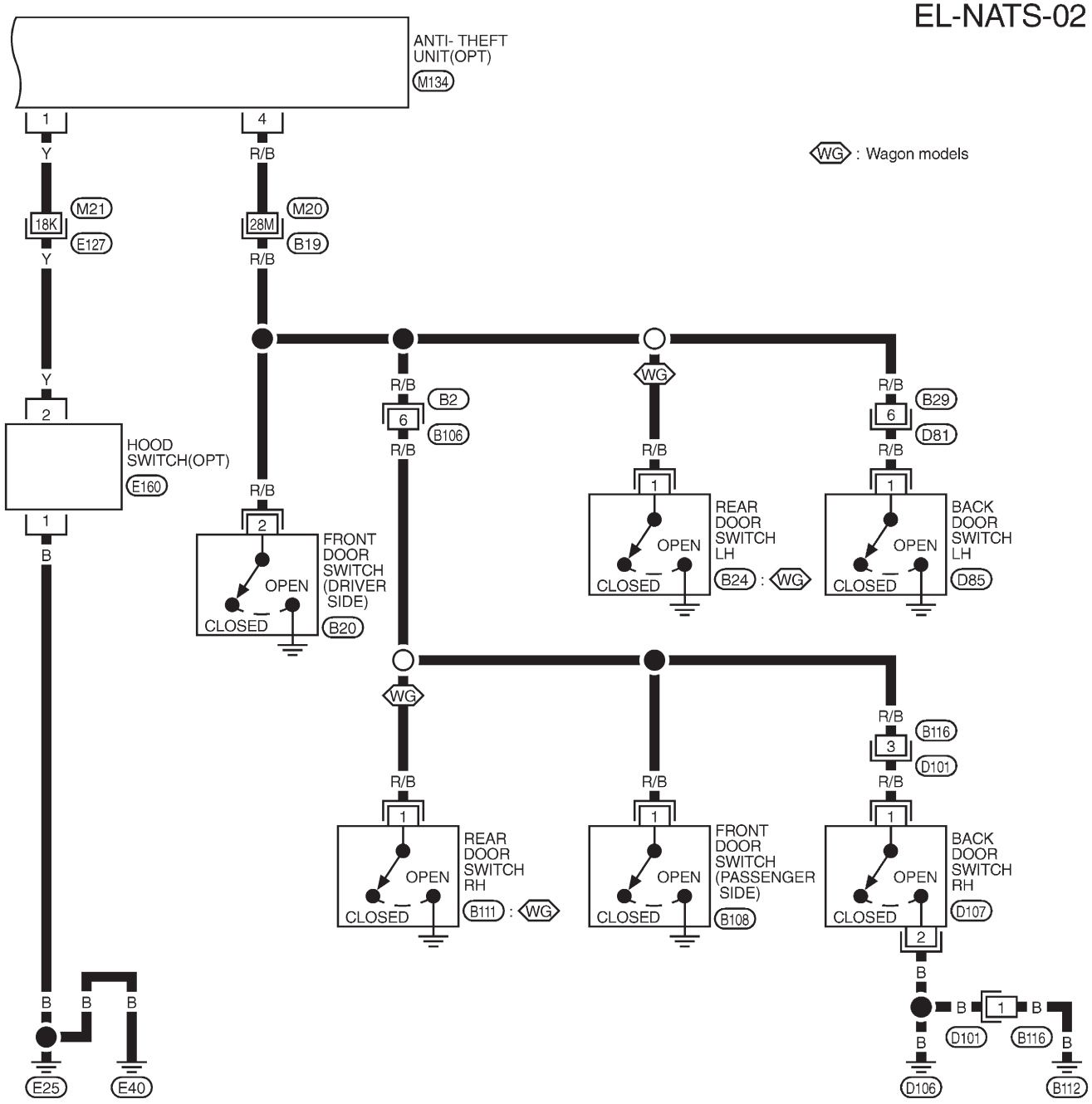
Wiring Diagram — NATS —

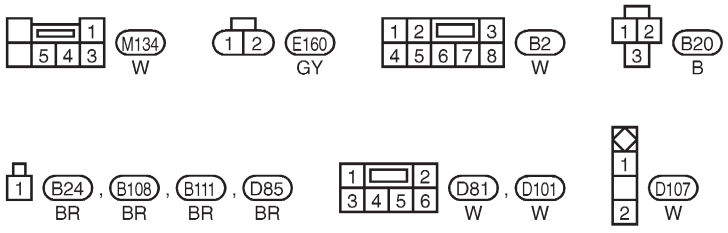


TEL280M

Wiring Diagram — NATS —/LHD Models

EL-NATS-02





Refer to last page (Foldout page).

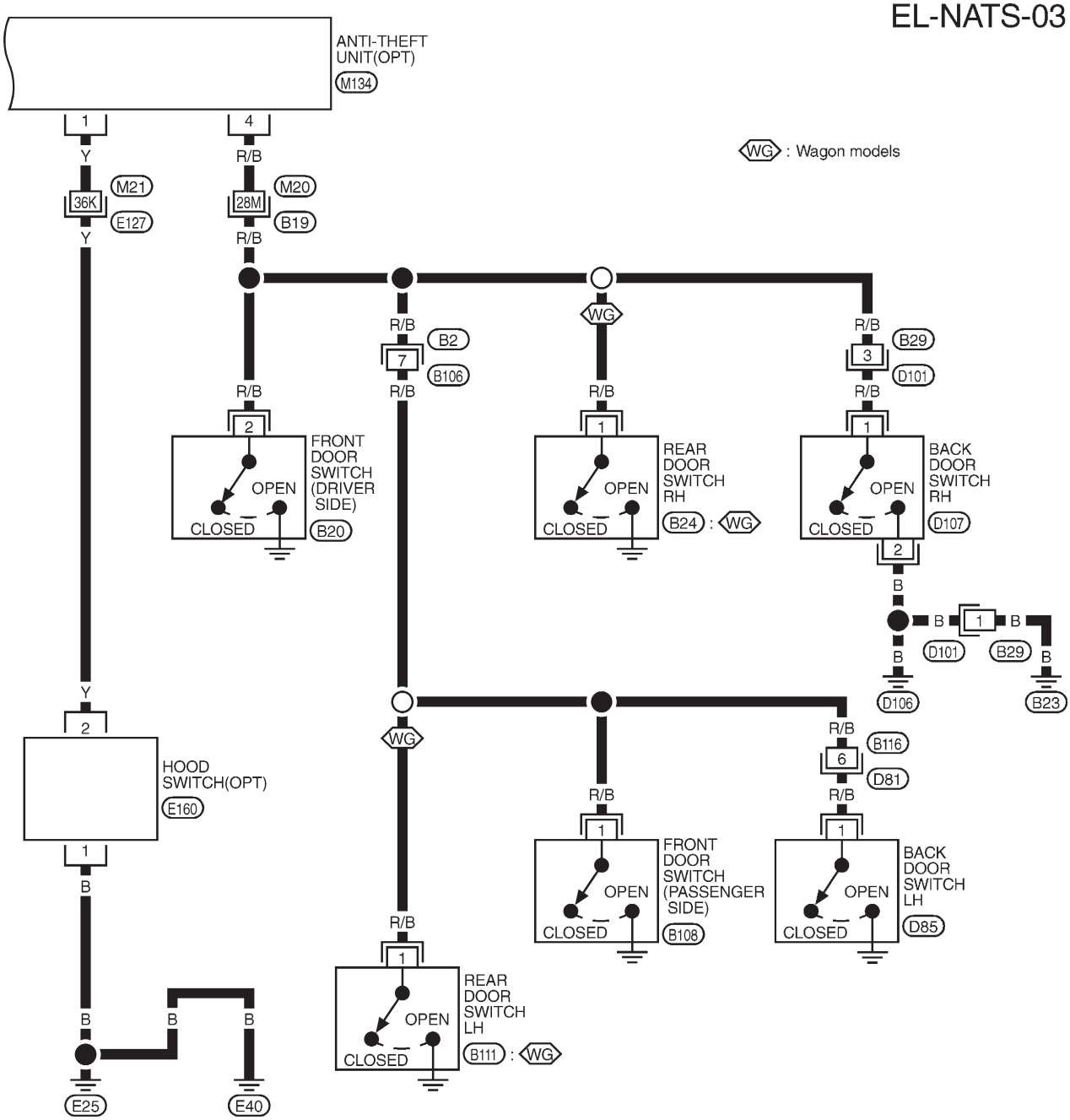
M20 , B19

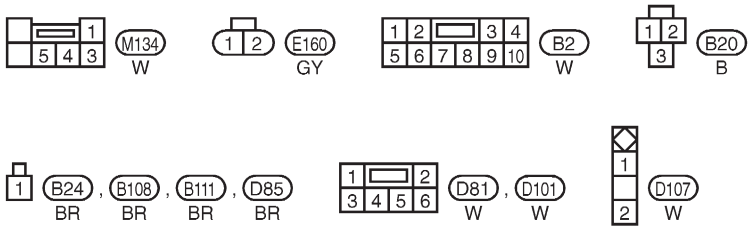
M21 , E127

TEL281M

Wiring Diagram — NATS —/RHD Models

EL-NATS-03





Refer to last page (Foldout page).

M20 , B19

M21 , E127

TEL294M

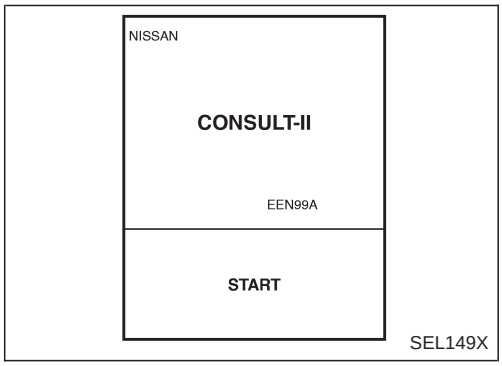
CONSULT-II

CONSULT-II INSPECTION PROCEDURE

1. Turn ignition switch OFF.
2. Insert NATS program card into CONSULT-II.

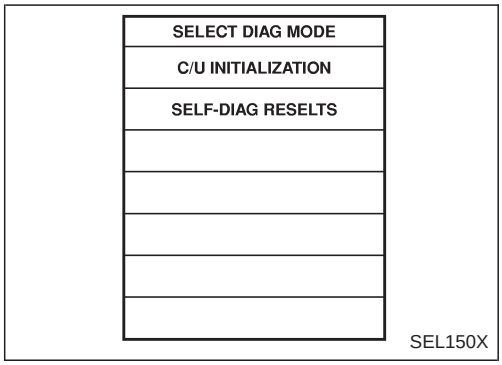
Program card
EEN99A

3. Connect CONSULT-II to Data link connector which is located behind the fuse box cover.



SEL149X

4. Turn ignition switch ON.
5. Touch “START”.



SEL150X

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

For further information, see the CONSULT-II Operation Manual, NATS.

CONSULT-II (Cont'd)

CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following components, C/U initialization is necessary. [NATS ignition key/IMMU/ECM/Dongle unit]
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart below.

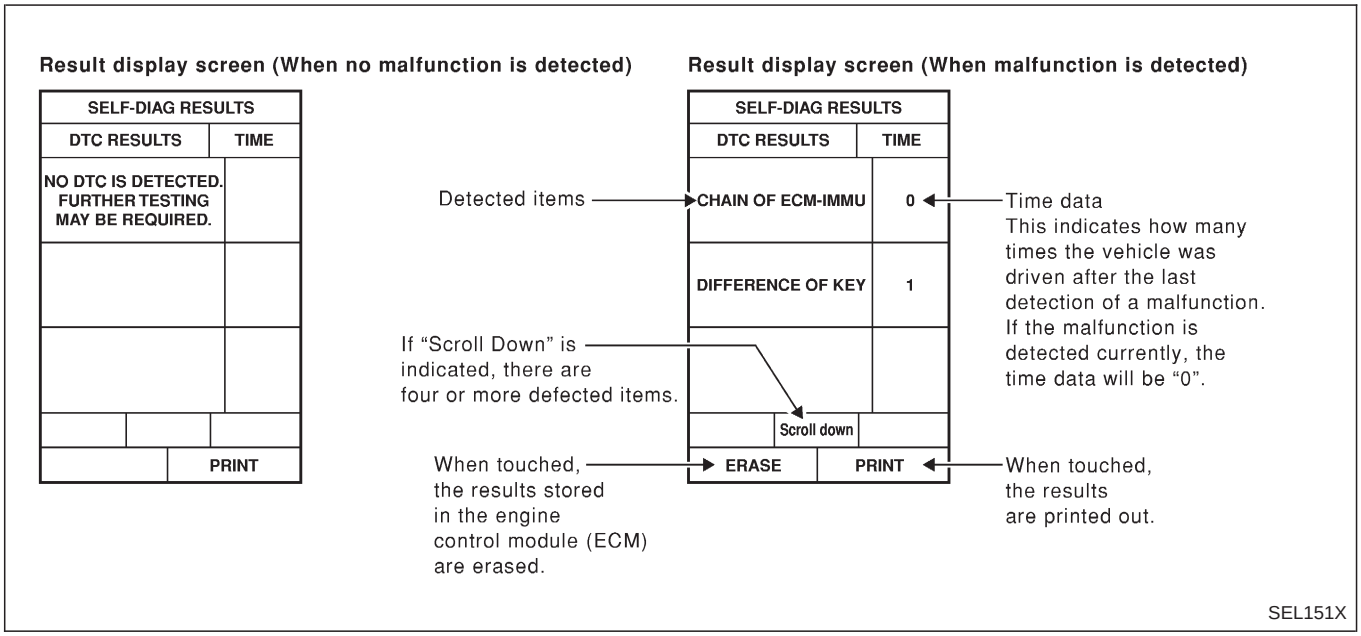
NOTE:

When any initialization 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-II screen.

When initialization is performed (for RHD models), security indicator will flash six times to demonstrate recognition of dongle unit ID.

HOW TO READ SELF-DIAGNOSTIC RESULTS



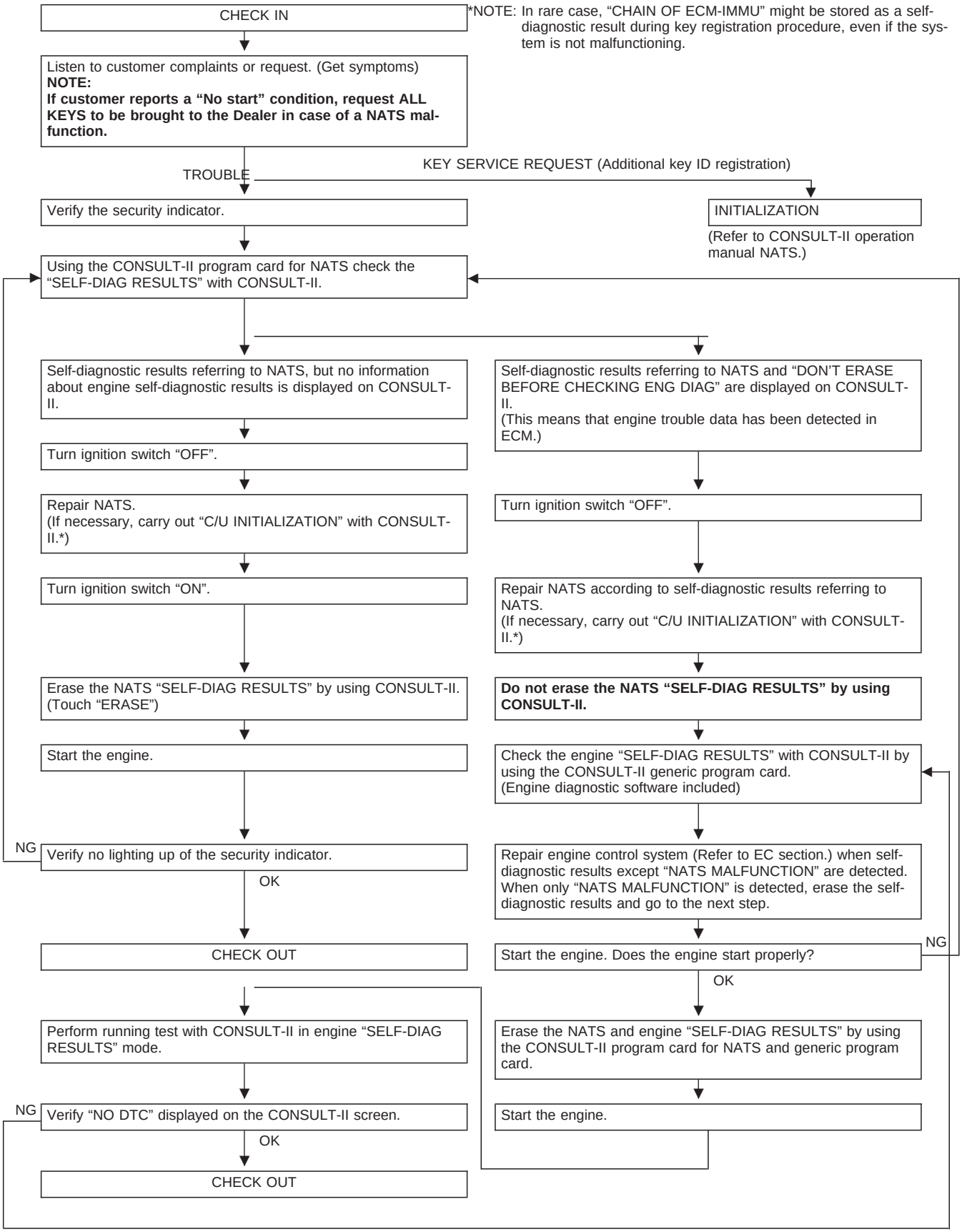
CONSULT-II (Cont'd)

SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (Screen terms)	Description	Reference page
ECM INT CIRC-IMMU	The malfunction of ECM internal circuit of IMMU communication line is detected.	EL-1175
CHAIN OF ECM-IMMU	Communication impossible between ECM and IMMU. (In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.)	EL-1176
DIFFERENCE OF KEY	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-1178
CHAIN OF IMMU-KEY	IMMU cannot receive the key ID signal. Otherwise, the registered ID signal from dongle unit cannot be received when the IMMU requests the ID.	EL-1179
ID DISCORD, IMM-ECM	The result of ID verification between IMMU and ECM is NG. System initialization is required.	EL-1180
DON'T ERASE BEFORE CHECKING ENG DIAG	Engine trouble data and NATS trouble data have been detected in ECM.	EL-1172
LOCK MODE	When the starting operation is carried out 5 or more times consecutively under the following conditions, NATS will shift the mode to one which prevents the engine from being started. ● unregistered ignition key is used ● IMMU or ECM malfunctioning	EL-1181

Trouble Diagnoses

WORK FLOW



SYMPTOM MATRIX CHART 1 (Self-diagnosis related item)

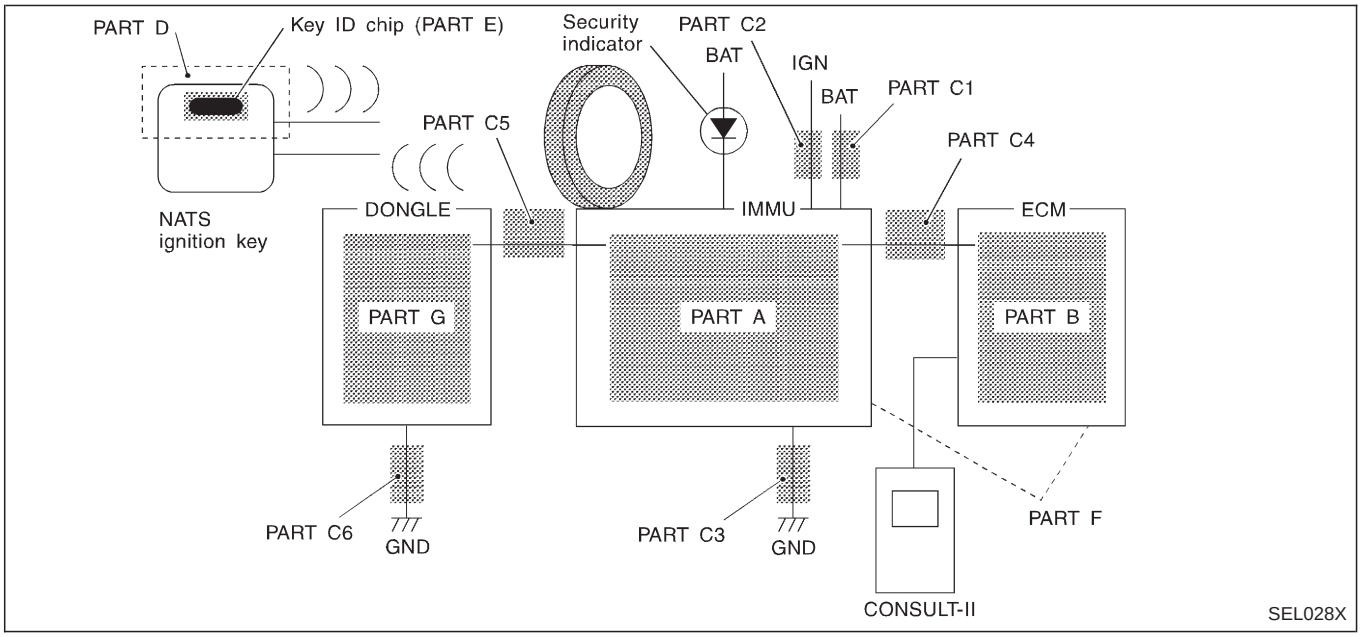
SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT-II screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON DIAGNOSTIC SYSTEM DIAGRAM
● Security indicator lighting up* ● Engine does not start	ECM INT CIRC-IMMU	PROCEDURE 1 (EL-1175)	ECM	B
	CHAIN OF ECM-IMMU	PROCEDURE 2 (EL-1176)	In rare case, "CHAIN OF ECM-IMMU might be stored during key registration procedure, even if the system is not malfunctioning.	—
			Open circuit in battery voltage line of IMMU circuit	C1
			Open circuit in ignition line of IMMU circuit	C2
			Open circuit in ground line of IMMU circuit	C3
			Open circuit in communication line between IMMU and ECM	C4
			Short circuit between IMMU and ECM communication line and battery voltage line	C4
			Short circuit between IMMU and ECM communication line and ground line	C4
			ECM	B
			IMMU	A
	DIFFERENCE OF KEY	PROCEDURE 3 (EL-1178)	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 4 (EL-1179)	Malfunction of key ID chip	E
			IMMU	A
			Open circuit in ground line of dongle unit circuit	C6
			Open or short circuit in communication line between IMMU and dongle unit	C5
			Dongle unit	G
● Security indicator lighting up* ● Engine hard to start	ID DISCORD, IMM-ECM	PROCEDURE 5 (EL-1180)	System initialization has not yet been completed.	F
			ECM	B
	LOCK MODE	PROCEDURE 6 (EL-1181)	LOCK MODE	D
● MIL staying ON ● Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-1172)	Engine trouble data and NATS trouble data have been detected in ECM	—

*: When NATS detects trouble, the security indicator lights up while ignition key is in the "ON" position.
*: When the vehicle is equipped with dongle unit, the security indicator blinks 6 times just after ignition switch is turned to ON. Then the security indicator will light up while ignition key is in the ON position.

SYMPTOM MATRIX CHART 2
(Non self-diagnosis related item)

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON DIAGNOSTIC SYSTEM DIAGRAM
Security ind. does not light up.	PROCEDURE 7 (EL-1182)	Security ind.	—
		Open circuit between Fuse and NATS IMMU	—
		Continuation of initialization mode	—
		NATS IMMU	A
Security ind. does not blink just after initialization even if the vehicle is equipped with dongle unit.	PROCEDURE 8 (EL-1183)	NATS might be initialized without connecting dongle unit properly.	—
		Open circuit in ground line of dongle unit circuit	C6
Security ind. does not blink just after ignition switch is turned to ON when some malfunction related to NATS is detected even if the vehicle is equipped with dongle unit.		Open or short circuit in communication line between IMMU and dongle unit	C5
		Dongle unit	G

DIAGNOSTIC SYSTEM DIAGRAM



Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

Self-diagnostic results: "ECM INT CIRC-IMMU" displayed on CONSULT-II screen

A

SELF-DIAG RESULTS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

SEL152X

A

Confirm SELF-DIAGNOSTIC RESULTS "ECM INT CIRC-IMMU" displayed on CONSULT-II screen.
Ref. part No. B.

↓

Replace ECM.

↓

Perform initialization with CONSULT-II.
For the operation of initialization, refer to "CONSULT-II operation manual NATS".

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

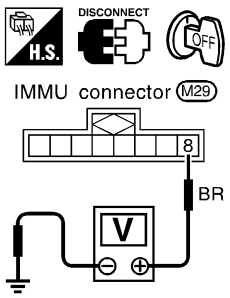
Self-diagnostic results: "CHAIN OF ECM-IMMU" displayed on CONSULT-II screen

A

SELF-DIAG RESULTS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

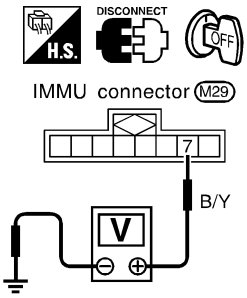
SEL153X

B



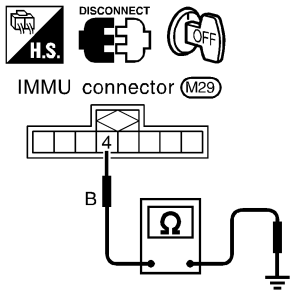
SEL154X

C



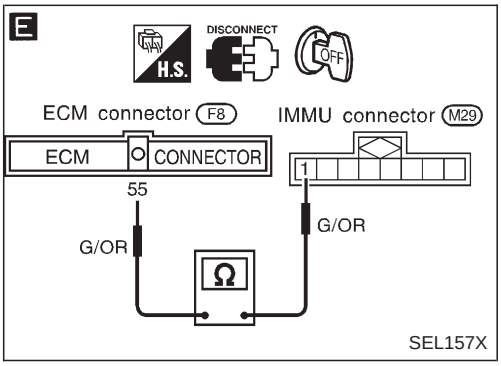
SEL155X

D



SEL156X

E



SEL157X

A

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF ECM-IMMU"* displayed on CONSULT-II screen.

*: In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.

OK ↓

B

CHECK POWER SUPPLY CIRCUIT FOR IMMU.
Check voltage between terminal ⑧ of IMMU and ground.
Voltage: Battery voltage

NG → Check the following:
- 20A fuse (No. 50, located in the fuse and fusible link box)
- Harness for open or short between fuse and IMMU connector

Ref. part No. C1

OK ↓

C

CHECK IGN SW. ON SIGNAL.
Check voltage between terminal ⑦ of IMMU and ground while ignition switch is in the "ON" position.
Voltage: Battery voltage

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

Ref. part No. C2

OK ↓

D

CHECK GROUND CIRCUIT FOR IMMU.
Check harness continuity between IMMU terminal ④ and ground.
Continuity should exist.

NG → Repair harness.
Ref. part No. C3

OK ↓

E

CHECK COMMUNICATION ON OPEN CIRCUIT.
Check harness continuity between the following ECM terminal and IMMU terminal.
ECM terminal ㊺ or IMMU terminal ①
Continuity should exist.

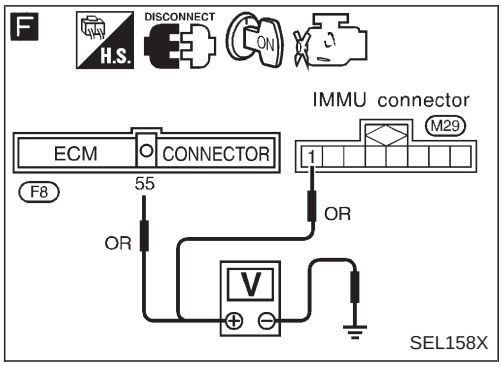
NG → Repair harness.
Ref. part No. C4

OK ↓

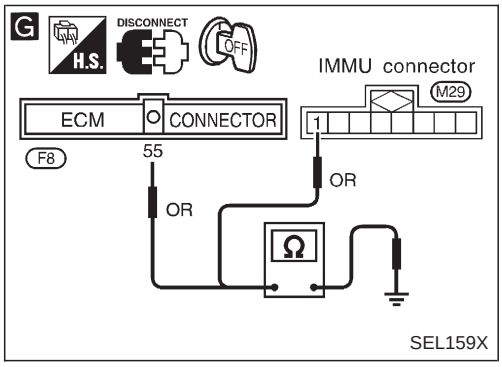
Ⓐ

Trouble Diagnoses (Cont'd)

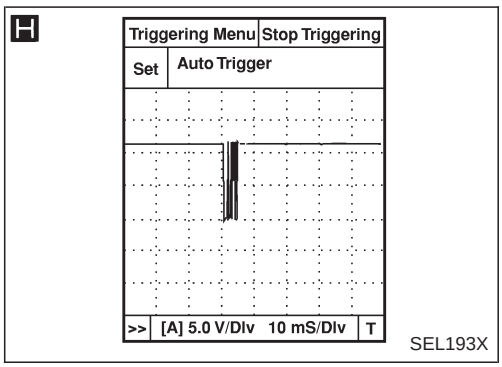
F



G



H



Ⓐ

F

CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT.
1. Disconnect ECM connector and IMMU connector.
2. Turn ignition switch to ON.
3. Check voltage between ECM terminal ⑤⑤ or IMMU terminal ① and ground.
   No voltage should exist.

NG → Repair harness. **Ref. part No. C4**

OK ↓

G

CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT.
1. Disconnect ECM connector and IMMU connector.
2. Turn ignition switch OFF.
3. Check continuity between ECM terminal ⑤⑤ or IMMU terminal ① and ground.
   Continuity should not exist.

NG → Repair harness. **Ref. part No. C4**

OK ↓

H

SIGNAL FROM ECM TO IMMU CHECK
1. Check the signal between ECM terminal ⑤⑤ and ground with CONSULT-II or oscilloscope when ignition switch is turned "ON".
2. Make sure signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned "ON".

NG →
- ECM is malfunctioning.
1. Replace ECM. **Ref. part No. B**
2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS".

OK ↓

- IMMU is malfunctioning.
  1. Replace IMMU. **Ref. part No. A**
  2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

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

A

SELF DIAG RESULTS	
DTC RESULTS	TIME
DIFFERENCE OF KEY	0

SEL163X

B

IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

SEL566W

A

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

OK

PERFORM INITIALIZATION.
Perform initialization with CONSULT-II.
Re-register all NATS ignition key IDs.
For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Initialization with CONSULT-II incomplete or failed → B

- IMMU is malfunctioning.

1. Replace IMMU. **Ref. part No. A**
2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Initialization completed

Start engine.

END.
(The ignition key was unregistered.)
Ref. part No. D

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

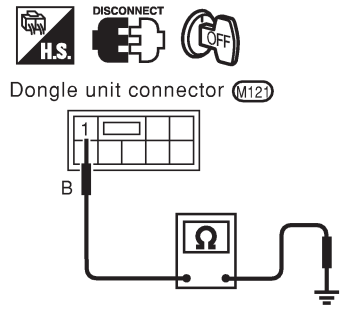
Self-diagnostic results:
"CHAIN OF IMMU-KEY" displayed on CONSULT-II screen

A

SELF DIAG RESULTS	
DTC RESULTS	TIME
CHAIN OF IMMU-KEY	0

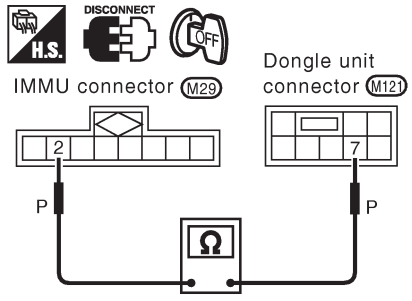
SEL165X

B



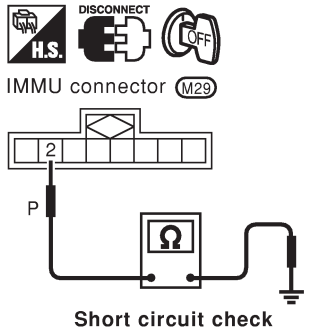
SEL160X

C



SEL161X

D



SEL162X

A

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT-II 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.
   Ref. part No. E
2. Perform initialization with CONSULT-II.
   For the initialization procedure, refer to "CONSULT-II operation manual NATS".

No

Is this vehicle equipped with dongle unit (RHD models)?

No →
- IMMU is malfunctioning.
1. Replace IMMU.
   Ref part No. A
2. Perform initialization with CONSULT-II.
   For the initialization procedure, refer to "CONSULT-II operation manual NATS".

yes

CHECK HARNESS CONNECTOR CONNECTION.
Check the following harness connector connection. (M29), (M121)
Does the engine start?

Yes →
System is OK.
(The malfunction is caused by improper connector connection.)

No

B

CHECK GROUND CIRCUIT FOR DONGLE UNIT.
Check continuity between dongle unit terminal ① and ground.
Continuity should exist.

No →
Repair harness.
Ref. part No. C6

Yes

C D

CHECK INTERFACE CIRCUIT.
1. Check continuity between IMMU terminal ② and dongle unit terminal ⑦ (Open circuit check)
   Continuity should exist.
2. Check continuity between IMMU terminal ② and ground. (Short circuit check)
   Continuity should not exist.

No →
Repair harness.
Ref. part No. C5

Yes

Dongle unit is malfunctioning.
1. Replace dongle unit. **Ref. part No. G**
2. Perform initialization with CONSULT-II.
   For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

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

A

SELF-DIAG RESULTS	
DTC RESULTS	TIME
ID DISCORD, IMM-ECM	0

SEL166X

B

IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

SEL566W

A

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

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

↓

PERFORM INITIALIZATION.
Perform initialization with CONSULT-II.
Re-register all NATS ignition key IDs.
For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Initialization with CONSULT-II incomplete or failed → B

- ECM is malfunctioning.
1. Replace ECM. **Ref. part No. B**
2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Initialization completed ↓

Start engine. (END)
(System initialization was not completed. **Ref. part No. F**)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

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

A

SELF DIAG RESULTS	
DTC RESULTS	TIME
LOCK MODE	0

SEL167X

B

IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

SEL566W

A

Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT-II screen.

1. Turn the ignition switch to OFF position.
2. Turn the ignition key switch to ON position with a registered key. (Do not start engine.) Wait 5 seconds.
3. Return the key to the OFF position.
4. Repeat steps 2 and 3 twice (total of three cycles).
5. Start the engine.

Does the engine start?

Yes → System is OK. (Now the system is escaped from "LOCK MODE".)

No

CHECK NATS IMMU INSTALLATION. Refer to "How to Replace NATS IMMU" in EL-1183.

NG → Reinstall NATS IMMU correctly.

OK

PERFORM INITIALIZATION.
Perform initialization with CONSULT-II.
For the initialization procedure, refer to "CONSULT-II operation manual NATS".
Can the system be initialized?
Note: If the initialization is incompleted or failed, CONSULT-II shows B message on the screen.

Yes → System is OK.

No

Go to DIAGNOSTIC PROCEDURE 4, EL-1179 to check "CHAIN OF IMMU-KEY".

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

"SECURITY IND. DOES NOT LIGHT UP"

Check 7.5A fuse [No. 24, located in the fuse block (J/B)].
- NG → Replace fuse.
- OK ↓

NATS INITIALIZATION
1) Install the 7.5A fuse.
2) Perform initialization with CONSULT-II.
For the operation of initialization, refer to "CONSULT-II operation manual NATS".

↓

Turn ignition switch "OFF".

↓

Start engine and turn ignition switch "OFF".

↓

Check the security ind. lighting.
- OK → END
- NG ↓

A

Check voltage between security ind. connector terminal ① and ground.
Voltage: Battery voltage
- NG → Check harness for open or short between fuse and security ind.
- OK ↓

CHECK INDICATOR LAMP.
- NG → Repair harness.
- OK ↓

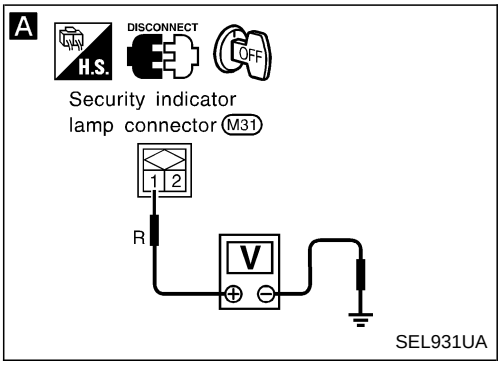
B

CHECK NATS IMMU FUNCTION.
1. Connect NATS IMMU connector.
2. Disconnect security ind. connector.
3. Check continuity between NATS IMMU terminal ⑥ and ground.
Continuity should exist intermittently.

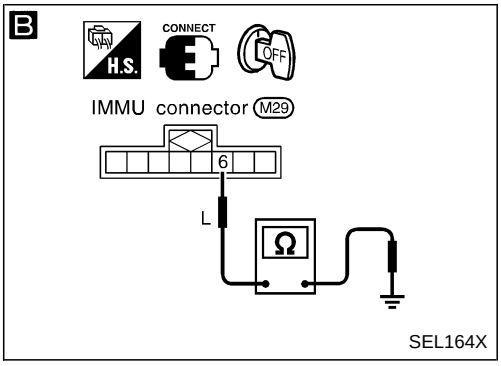
- NG → NATS IMMU is malfunctioning. Replace IMMU.
  - ↓ Perform initialization with CONSULT-II.
  For the operation of initialization, refer to "CONSULT-II operation manual NATS".
- OK ↓

Check harness for open or short between security indicator and NATS IMMU.

A

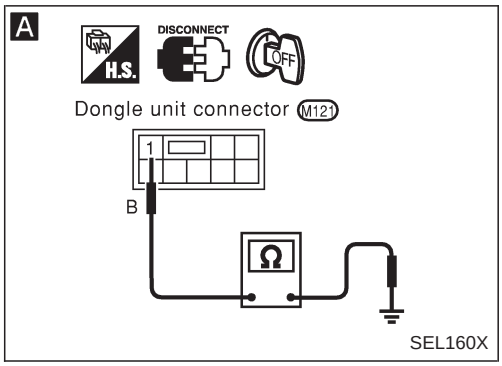


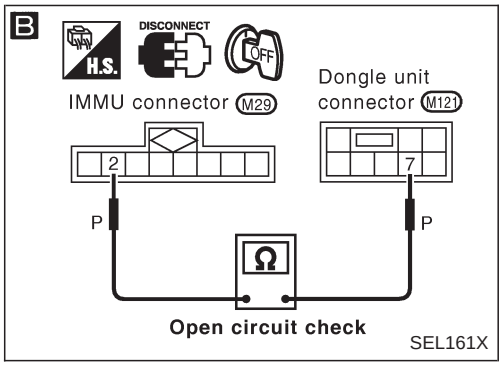
B

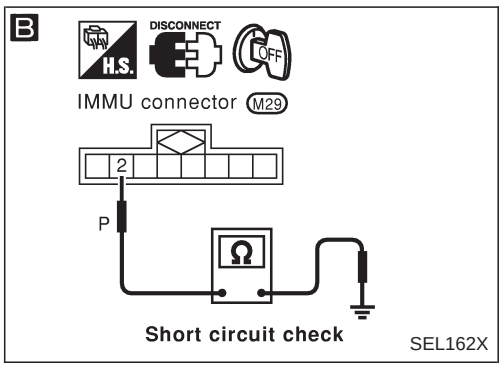


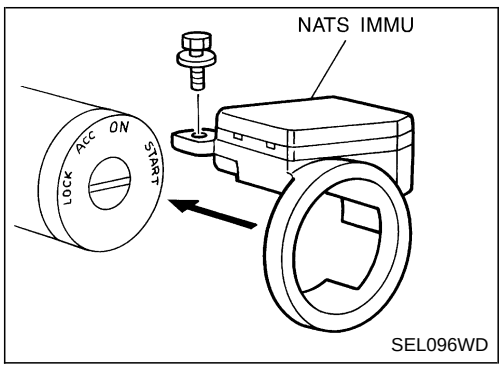
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8









A

CHECK GROUND CIRCUIT FOR DONGLE UNIT.
Check continuity between dongle unit terminal ① and ground.
Continuity should exist.

No → Repair harness.
Ref. part No. C6

Yes ↓

B

CHECK INTERFACE CIRCUIT.
1. Check continuity between IMMU terminal ② and dongle unit terminal ⑦. (Open circuit check)
   Continuity should exist.
2. Check continuity between IMMU terminal ② and ground. (Short circuit check)
   Continuity should exist.

No → Repair harness.
Ref. part No. C5

Yes ↓

Dongle unit is malfunctioning.
1. Replace dongle unit.
   Ref. part No. G
2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS".

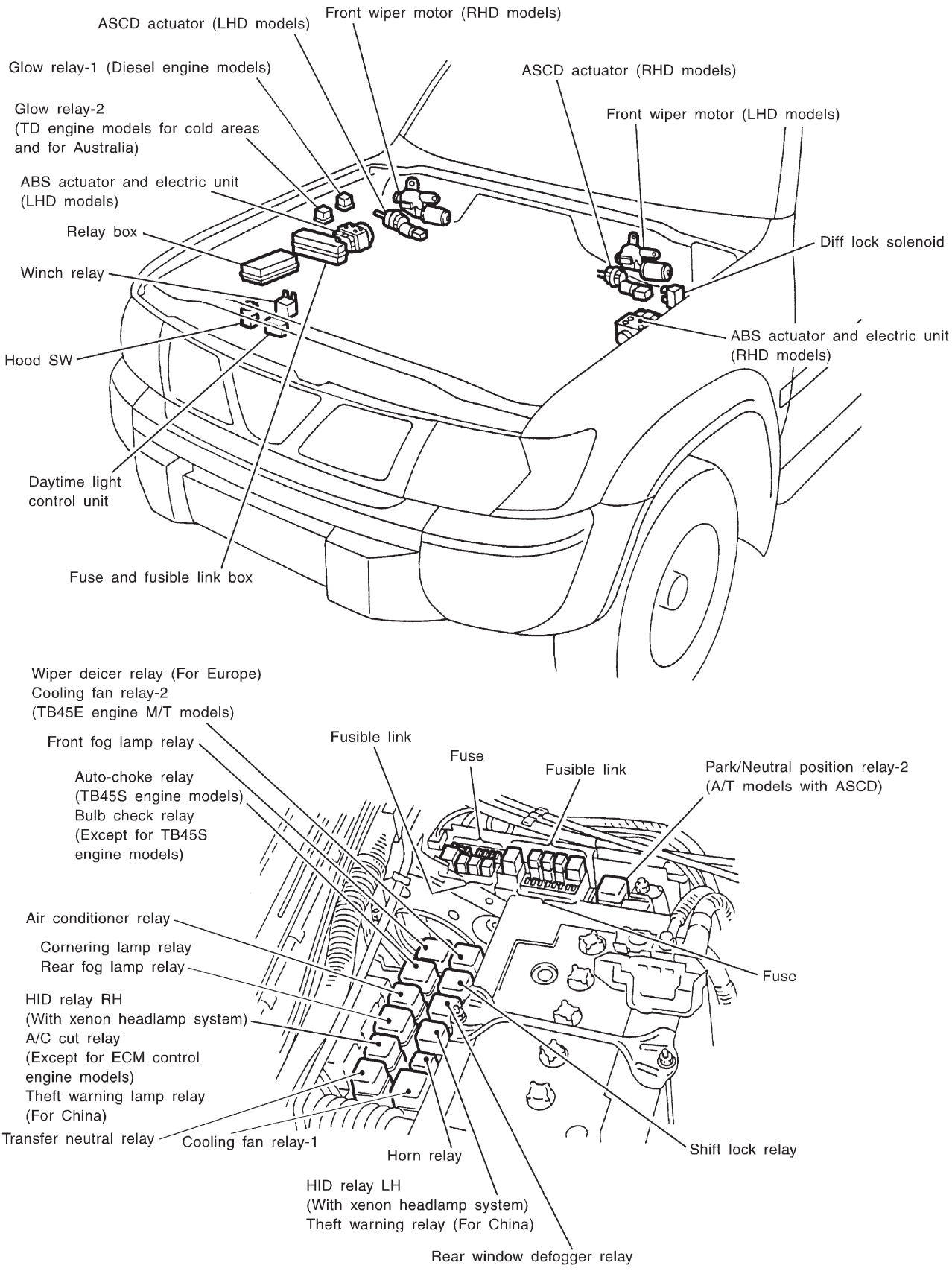
How to Replace NATS IMMU

NOTE:

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

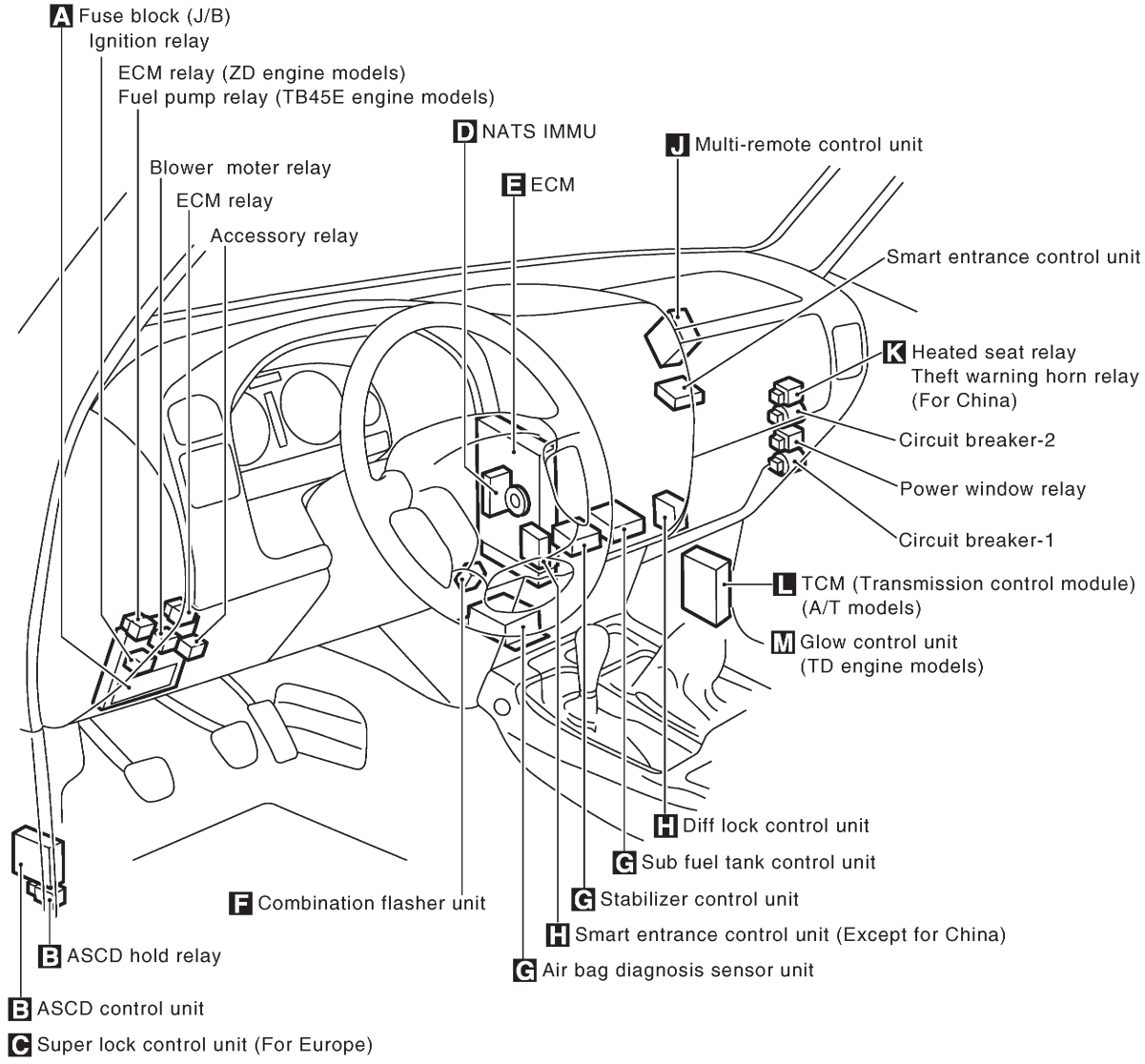
NOTE

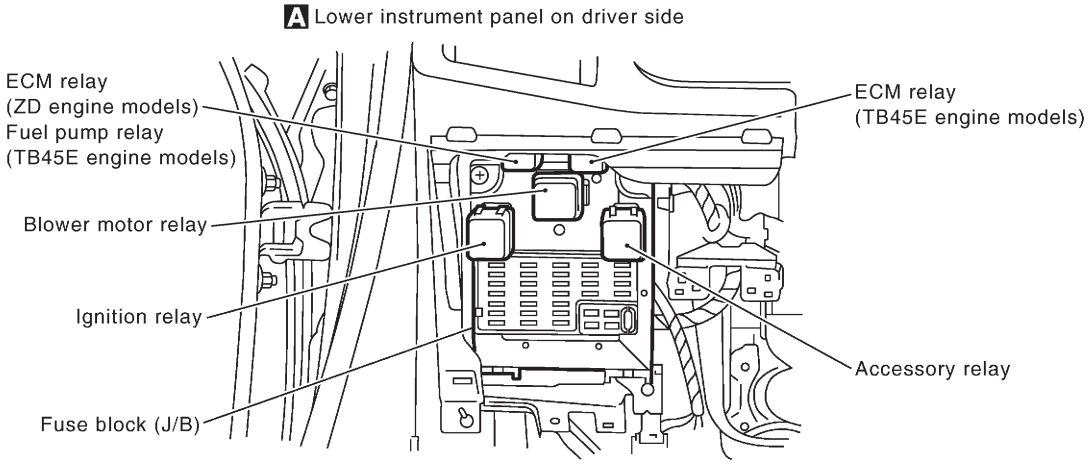
Engine Compartment



CEL101M

Passenger Compartment — LHD Models

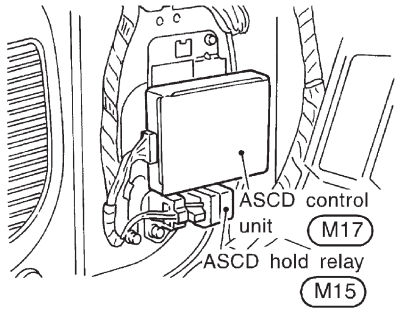




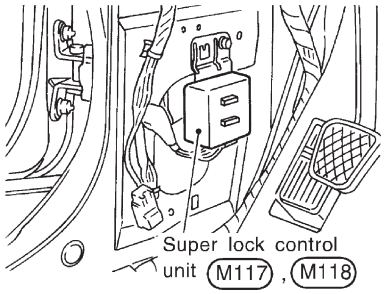
CEL102M

Passenger Compartment — LHD Models (Cont'd)

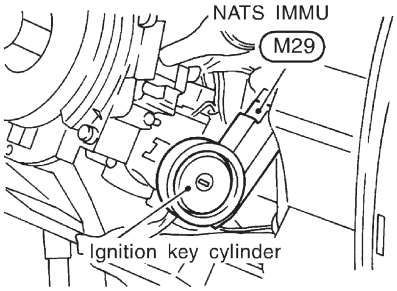
B Driver side view with dash side lower finisher removed



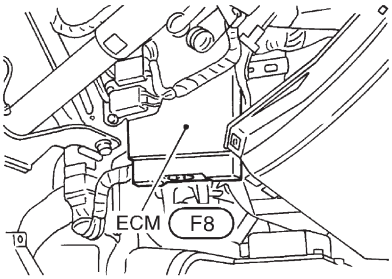
C Driver side view with dash side lower finisher removed



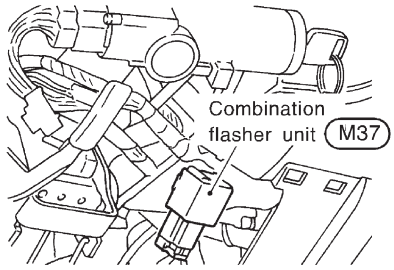
D



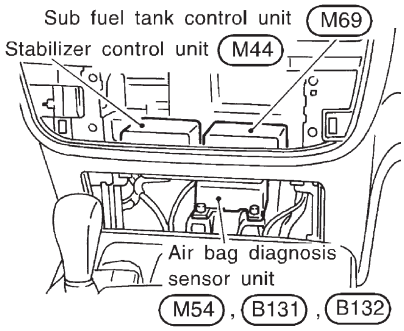
E Driver side view with lower instrument panel removed



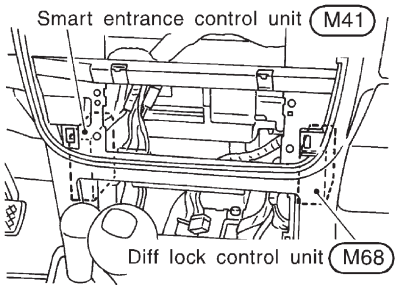
F Driver side view lower instrument panel removed



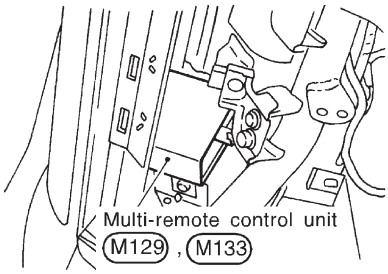
G



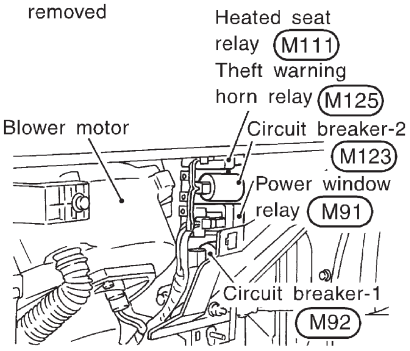
H



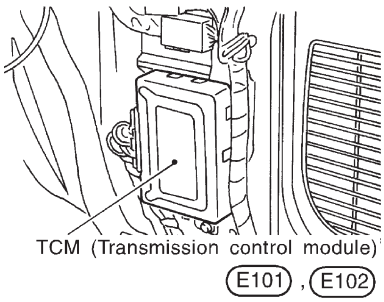
J View with glove box assembly removed



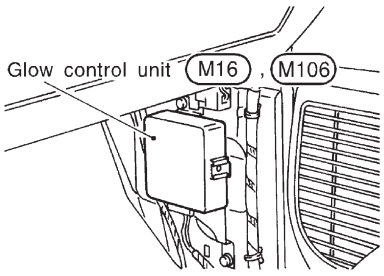
K View with glove box assembly removed



L Passenger side view with dash side lower finisher removed

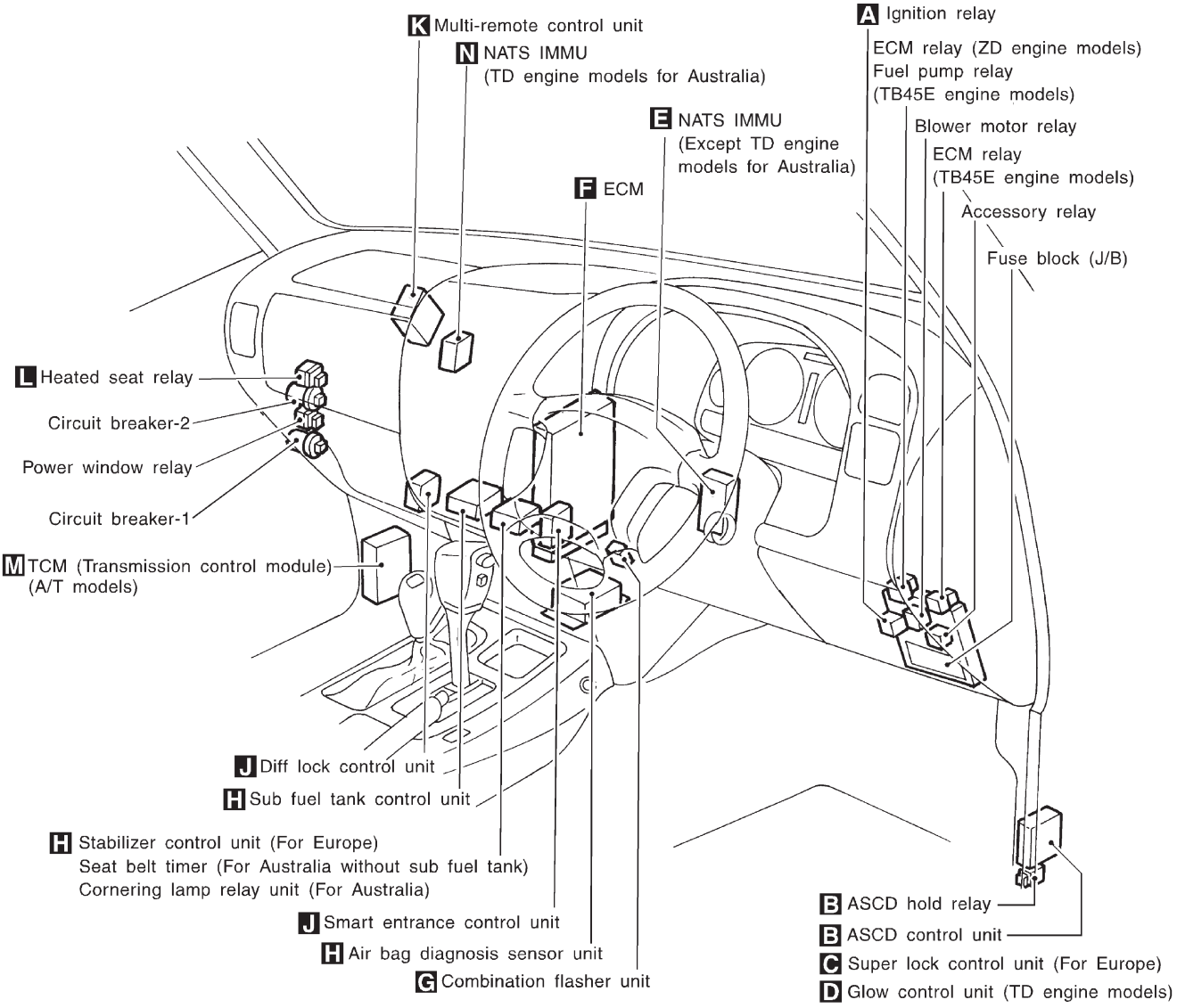


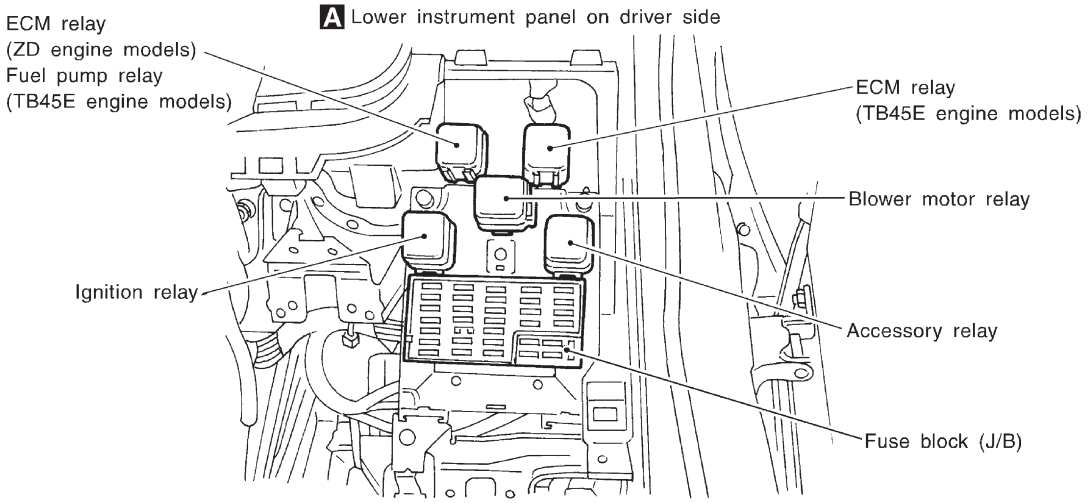
M Passenger side view with dash side lower finisher removed



CEL103M

Passenger Compartment — RHD Models

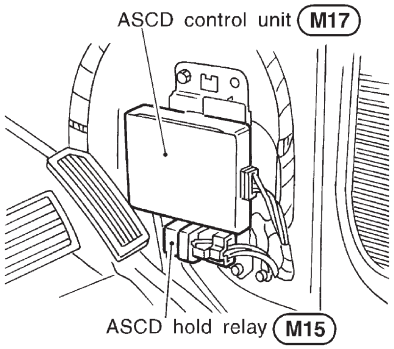




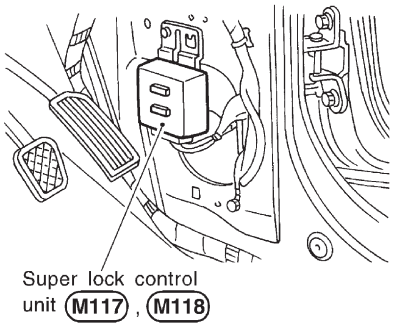
CEL104M

Passenger Compartment — RHD Models (Cont'd)

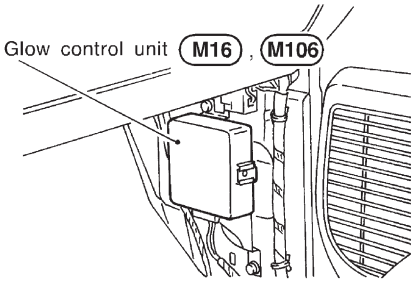
B Driver side view with dash side lower finisher removed



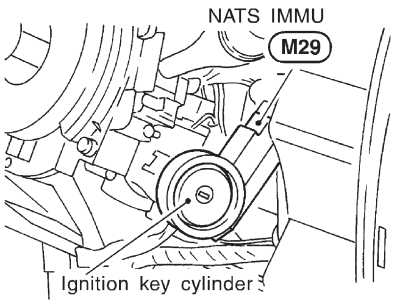
C Driver side view with dash side lower finisher removed



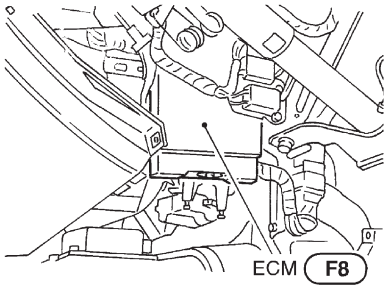
D Driver side view with dash side lower finisher removed



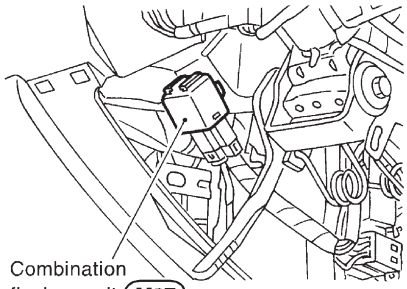
E Models except TD engine for Australia



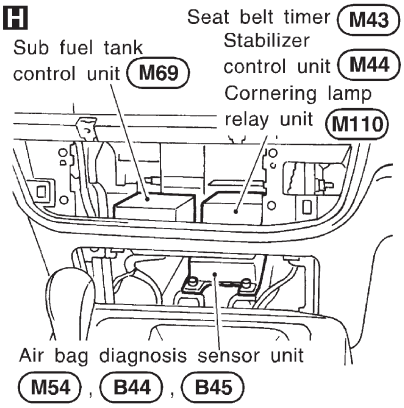
F Driver side view with lower instrument panel removed



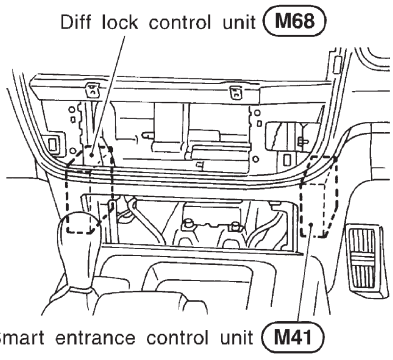
G Driver side view with lower instrument panel removed



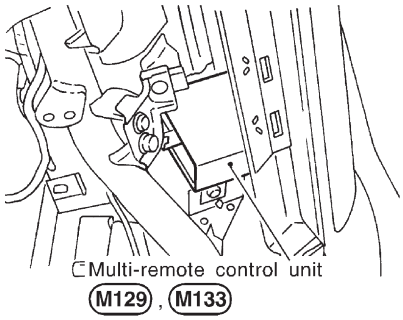
H



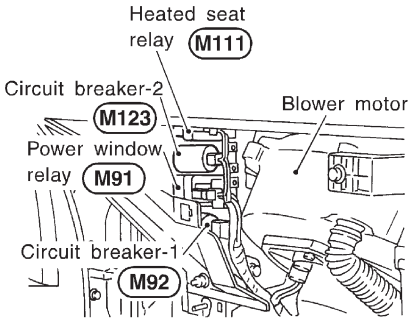
J



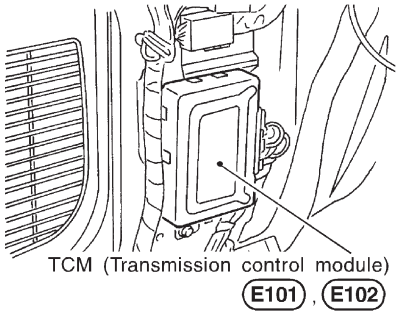
K View with glove box assembly removed



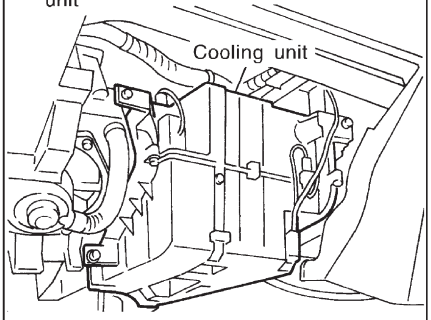
L View with glove box assembly removed



M Passenger side view with dash side lower finisher removed



N NATS IMMU locates behind cooling unit

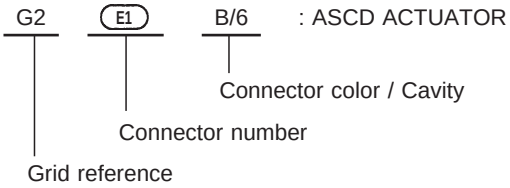


CEL105M

NOTE

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

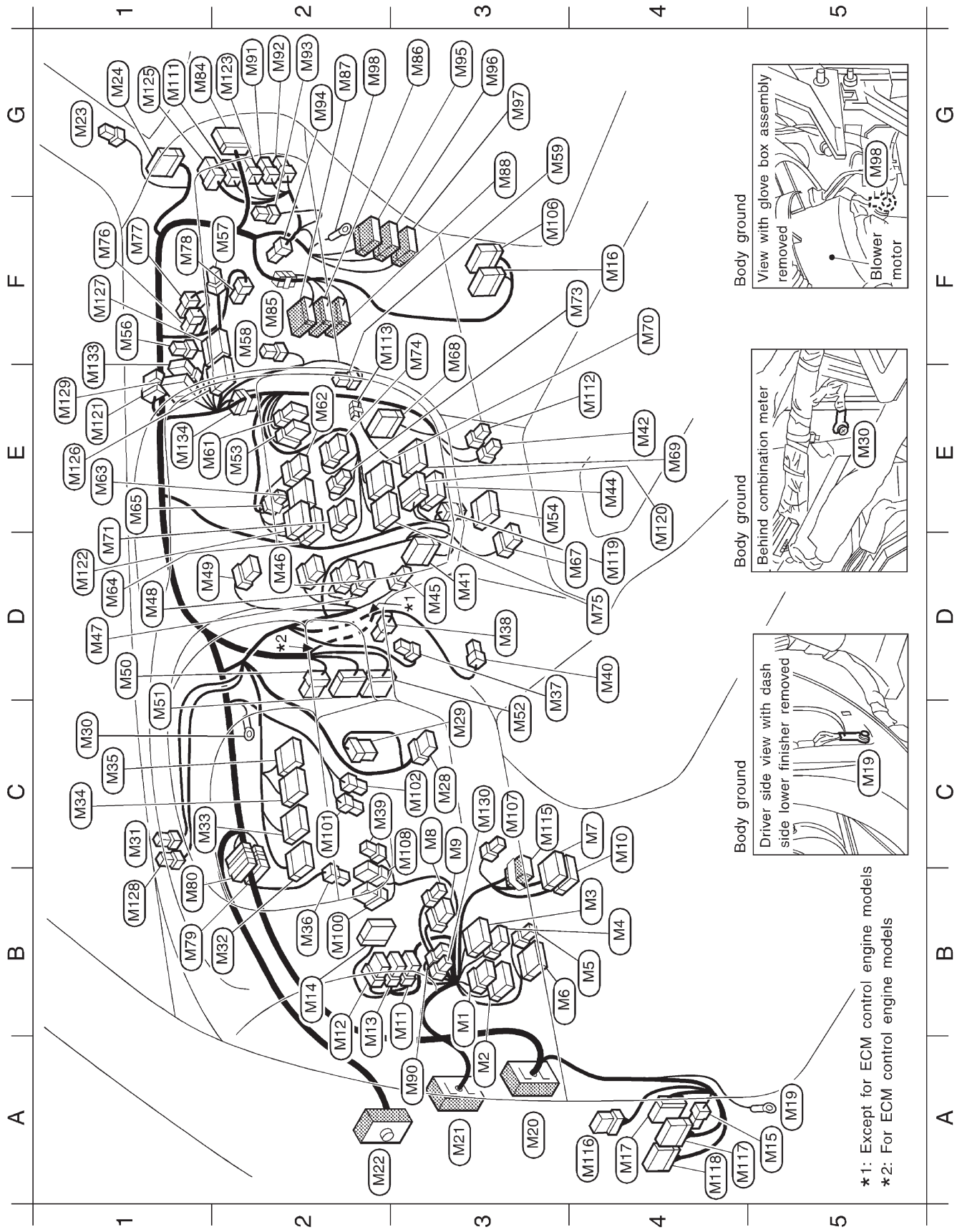
1)Find the desired connector number on the connector list.
2) Find the grid reference.
3) On the drawing, find the crossing of the grid reference letter column and number row.
4) Find the connector number in the crossing zone.
5) Follow the line (if used) to the connector.

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
● Cavity: Less than 4 ● Relay connector				
● Cavity: From 5 to 8				
● Cavity: More than 9	—	—		
● Ground terminal etc.	—			

Main Harness/LHD Models



CEL106M

Main Harness/LHD Models (Cont'd)

B3	M1	W/8	: Fuse block (J/B)
A3	M2	BR/16	: Fuse block (J/B)
B4	M3	GY/16	: Fuse block (J/B)
B4	M4	GY/8	: Fuse block (J/B)
B4	M5	B/2	: Fuse block (J/B)
B3	M6	W/12	: Fuse block (J/B)
C4	M7	GY/14	: Data link connector (TB, TD engine models for the Middle East and for China)
C3	M8	L/4	: ECM relay (TB45E engine models)
C3	M9	BR/6	: ECM relay (ZD engine models)
C4	M10	W/16	: Data link connector (TB, TD engine models except for the Middle East and except for China)
B3	M11	W/8	: Headlamp aiming switch
B2	M12	W/6	: ASCD main switch
B2	M13	W/6	: Heat up switch (ZD engine models)
B2	M14	GY/12	: Door mirror remote control switch
A5	M15	L/4	: ASCD hold relay
F4	M16	W/12	: Glow control unit (TD engine models except for cold areas)
A4	M17	B/20	: ASCD control unit
A5	M19	—	: Body ground
A3	M20	SMJ	: To B19
A3	M21	SMJ	: To E127
A2	M22	SMJ	: To D1
G1	M23	W/3	: Tweeter RH
G1	M24	W/10	: To R1
C3	M28	Y/7	: Spiral cable (With air bag)
C3	M29	W/8	: NATS IMMU (With NATS)
C1	M30	—	: Body ground
C1	M31	W/2	: Security indicator lamp (With NATS)
B2	M32	W/10	: Combination meter
C1	M33	BR/16	: Combination meter
C1	M34	W/16	: Combination meter
C1	M35	W/10	: Combination meter
B2	M36	L/2	: ASCD clutch switch (M/T models with ASCD)
D3	M37	B/3	: Combination flasher unit
D3	M38	W/3	: Mode door motor (With front auto A/C)
C2	M39	W/3	: Illumination control switch
D4	M40	W/3	: Air mix door motor (With front auto A/C)
D3	M41	W/18	: Smart entrance control unit (Except for China)
E4	M42	B/2	: Cigarette lighter
E4	M44	W/12	: Stabilizer control unit
D3	M45	W/2	: In-vehicle sensor (With front auto A/C)
D2	M46	W/6	: Rear window defogger switch
D1	M47	BR/8	: Headlamp wiper switch
D1	M48	BR/8	: Sub fuel tank switch
D1	M49	W/8	: Hazard switch
D1	M50	W/6	: To F5
C1	M51	W/16	: To F6
C3	M52	W/24	: To F7
E2	M53	W/8	: Rear heater front switch
E3	M54	Y/20	: Air bag diagnosis sensor unit
F1	M56	B/2	: Sunload sensor (With front auto A/C)
F2	M57	Y/2	: Air bag module (Passenger side) (With dual air bag system)
F2	M58	W/2	: Intake sensor (With front auto A/C)
G3	M59	W/3	: Thermo control amp.
E1	M61	W/8	: Rear cooler front switch
E2	M62	W/6	: Radio and cassette player
E1	M63	W/10	: Radio or radio and cassette player
D1	M64	W/12	: Radio and cassette player (With CD auto changer)
E1	M65	W/4	: CD player
D4	M67	BR/8	: Diff lock switch
F3	M68	B/12	: Diff lock control unit
E4	M69	BR/16	: Sub fuel tank control unit
F4	M70	B/16	: A/C auto amp. (With front auto A/C)
D1	M71	W/6	: Fan switch } (With front manual A/C)
F4	M73	W/3	: Fan switch illumination } (With front manual A/C)
F3	M74	W/8	: Recirculation switch } (With front manual A/C)
D4	M75	B/20	: A/C auto amp. } (With front auto A/C)
F1	M76	W/4	: Intake door motor } (With front auto A/C)
F1	M77	W/4	: Intake door motor (With front manual A/C)
F1	M78	W/4	: Fan control amp. (With front auto A/C)
B1	M79	W/20	: Joint connector-1
B1	M80	B/12	: Joint connector-2
G1	M84	W/18	: To D21
F2	M85	W/2	: Diode (With front manual A/C)
G3	M86	W/12	: To E104
G2	M87	W/16	: To E105
G3	M88	W/24	: To E106

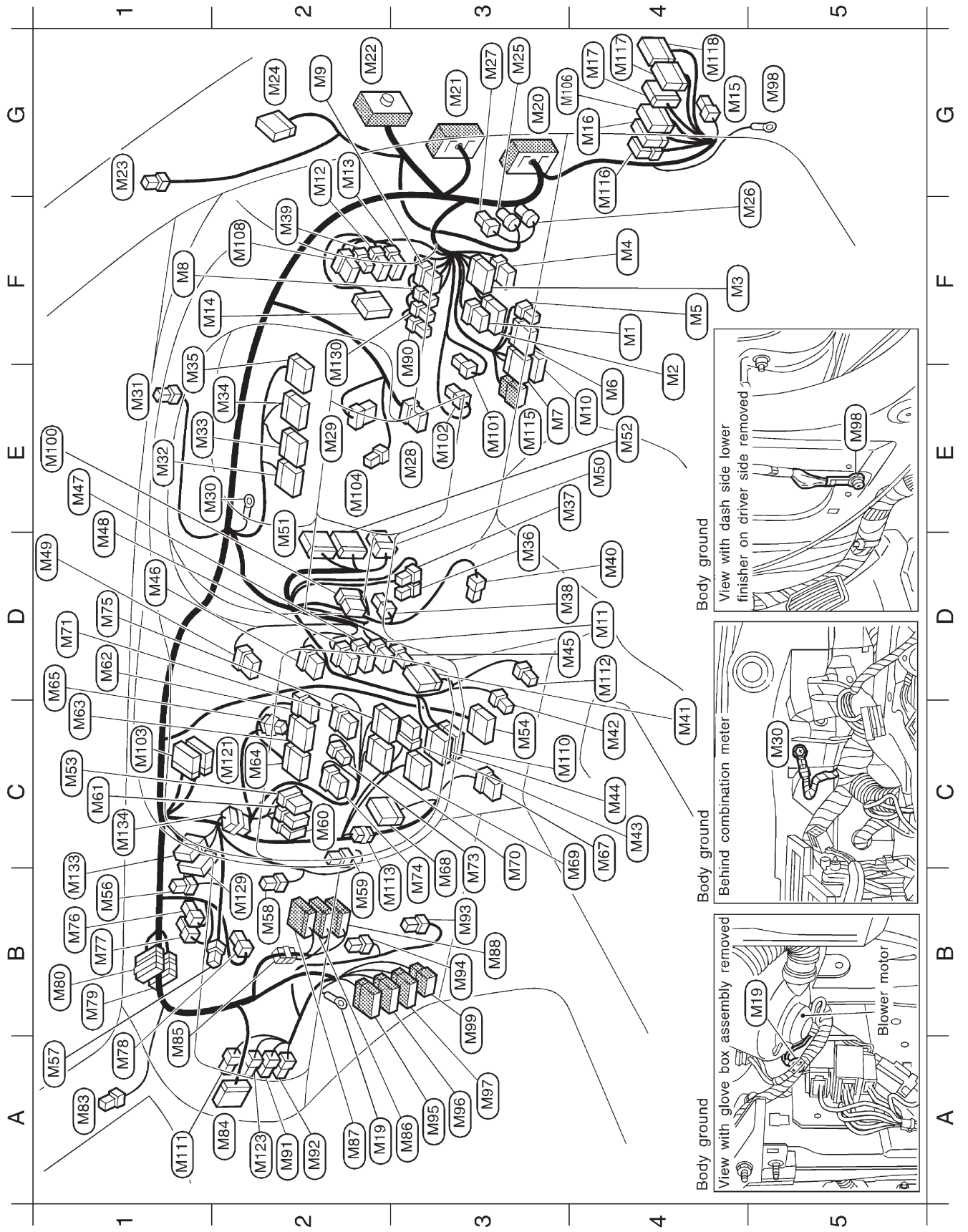
CEL107M

A3	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
G1	M111	L/4	: Heated seat relay
E4	M112	B/1	: Cigarette lighter illumination
F2	M113	W/2	: Resistor (With diff lock)
C3	M115	W/8	: Check connector (TB45S engine models)
A4	M116	W/6	: Fuel pump control module (FPCM) (TB45S engine models)
A4	M117	GY/16	: Super lock control unit
A4	M118	GY/20	: Super lock control unit
D4	M119	W/3	: Jumping connector
E4	M120	GY/20	: Steering wheel receiver control switch
E1	M121	BR/8	: Not used
D1	M122	W/16	: Radio
G2	M123	W/2	: Circuit breaker-2
G1	M125	BR/6	: Theft warning horn relay
E1	M126	W/18	: Smart entrance control unit (For China)
F1	M127	B/24	: Smart entrance control unit
B1	M128	BR/2	: Security indecator lamp
F1	M129	W/16	: Multi-remote control unit (Except for Europe)
C3	M130	L/4	: Fuel pump relay (TB45S engine models)
E1	M133	BR/8	: Multi-remote control unit (For Europe)
E1	M134	W/6	: Anti-theft unit (Opt)

CEL108M

NOTE

Main Harness/RHD Models



CEL109M

Main Harness/RHD Models (Cont'd)

F4 (M1) W/8 : Fuse block (J/B)
E4 (M2) BR/16 : Fuse block (J/B)
F4 (M3) GY/16 : Fuse block (J/B)
F4 (M4) GY/8 : Fuse block (J/B)
F4 (M5) B/2 : Fuse block (J/B)
E4 (M6) W/12 : Fuse block (J/B)
E3 (M7) GY/14 : Data link connector (TD engine models for Australia)
F1 (M8) L/4 : ECM relay (TB45E engine models)
G2 (M9) BR/6 : ECM relay (ZD engine models)
E4 (M10) W/16 : Data link connector (Except for TD engine models for Australia)
D4 (M11) W/8 : Headlamp aiming switch
G2 (M12) W/6 : ASCD main switch
G2 (M13) W/6 : Heat up switch (ZD engine models)
F1 (M14) GY/12 : Door mirror remote control switch
G4 (M15) L/4 : ASCD hold relay
G4 (M16) W/12 : Glow control unit (TD engine models except for Australia)
G4 (M17) B/20 : ASCD control unit
A2 (M19) — : Body ground
G3 (M20) SMJ : To (B19)
G3 (M21) SMJ : To (E127)
G2 (M22) SMJ : To (D1)
G1 (M23) W/3 : Tweeter RH
G2 (M24) W/10 : To (R1)
G3 (M25) BR/3 : Accelerator position sensor
F5 (M26) GY/3 : Accelerator position switch
G3 (M27) W/3 : Accelerator switch (F/C)
E3 (M28) Y/7 : Spiral cable (With air bag)
E2 (M29) W/8 : NATS IMMU (With NATS)
E2 (M30) — : Body ground
E1 (M31) W/2 : Security indicator lamp (With NATS)
E1 (M32) W/10 : Combination meter
E1 (M33) BR/16 : Combination meter
E2 (M34) W/16 : Combination meter
E1 (M35) W/10 : Combination meter
D3 (M36) L/2 : ASCD clutch switch (M/T models with ASCD)
E3 (M37) B/3 : Combination flasher unit
D3 (M38) W/3 : Mode door motor (With front auto A/C)
F2 (M39) W/3 : Illumination control switch
D4 (M40) W/3 : Air mix door motor (With front auto A/C)
C4 (M41) W/18 : Smart entrance control unit
C4 (M42) B/2 : Cigarette lighter
C4 (M43) W/8 : Seat belt timer (Without sub fuel tank for Australia)
C4 (M44) W/12 : Stabilizer control unit
D4 (M45) W/2 : In-vehicle sensor (With front auto A/C)
D1 (M46) W/6 : Rear window defogger switch
E1 (M47) BR/8 : Headlamp wiper switch
D1 (M48) BR/6 : Sub fuel tank switch
D1 (M49) W/8 : Hazard switch
E4 (M50) W/6 : To (F5)
D2 (M51) W/16 : To (F6)
E4 (M52) W/24 : To (F7)
C1 (M53) W/8 : Rear heater front switch
C3 (M54) Y/20 : Air bag diagnosis sensor unit
B1 (M56) B/2 : Sunload sensor (With front auto A/C)
A1 (M57) Y/2 : Air bag module (Passenger side) (With dual air bag system)
B2 (M58) W/2 : Intake sensor (With front auto A/C)
B2 (M59) W/3 : Thermo control amp.
C2 (M60) L/6 : Power antenna switch
C1 (M61) W/8 : Rear cooler front switch
D1 (M62) W/6 : Radio and cassette player
C1 (M63) W/10 : Radio or radio and cassette player
C2 (M64) W/12 : Radio and cassette player (With CD auto changer)
D1 (M65) W/4 : CD player
C4 (M67) BR/8 : Diff lock switch
B3 (M68) B/12 : Diff lock control unit
C4 (M69) BR/16 : Sub fuel tank control unit
C3 (M70) B/16 : A/C auto amp. (With front auto A/C)
D1 (M71) W/6 : Fan switch
C3 (M73) W/3 : Fan switch illumination } (With front manual A/C)
B3 (M74) W/8 : Recirculation switch }
D1 (M75) B/20 : A/C auto amp. } (With front auto A/C)
B1 (M76) W/4 : Intake door motor }
B1 (M77) W/4 : Intake door motor (With front manual A/C)
A1 (M78) W/4 : Fan control amp. (With front auto A/C)
B1 (M79) W/20 : Joint connector-1
B1 (M80) B/12 : Joint connector-2
A1 (M83) W/3 : Tweeter LH
A2 (M84) W/18 : To (D21)
A1 (M85) W/2 : Diode (With front manual A/C)
A3 (M86) BR/16 : To (E104)
A2 (M87) W/16 : To (E105)
B3 (M88) W/24 : To (E106)

CEL110M

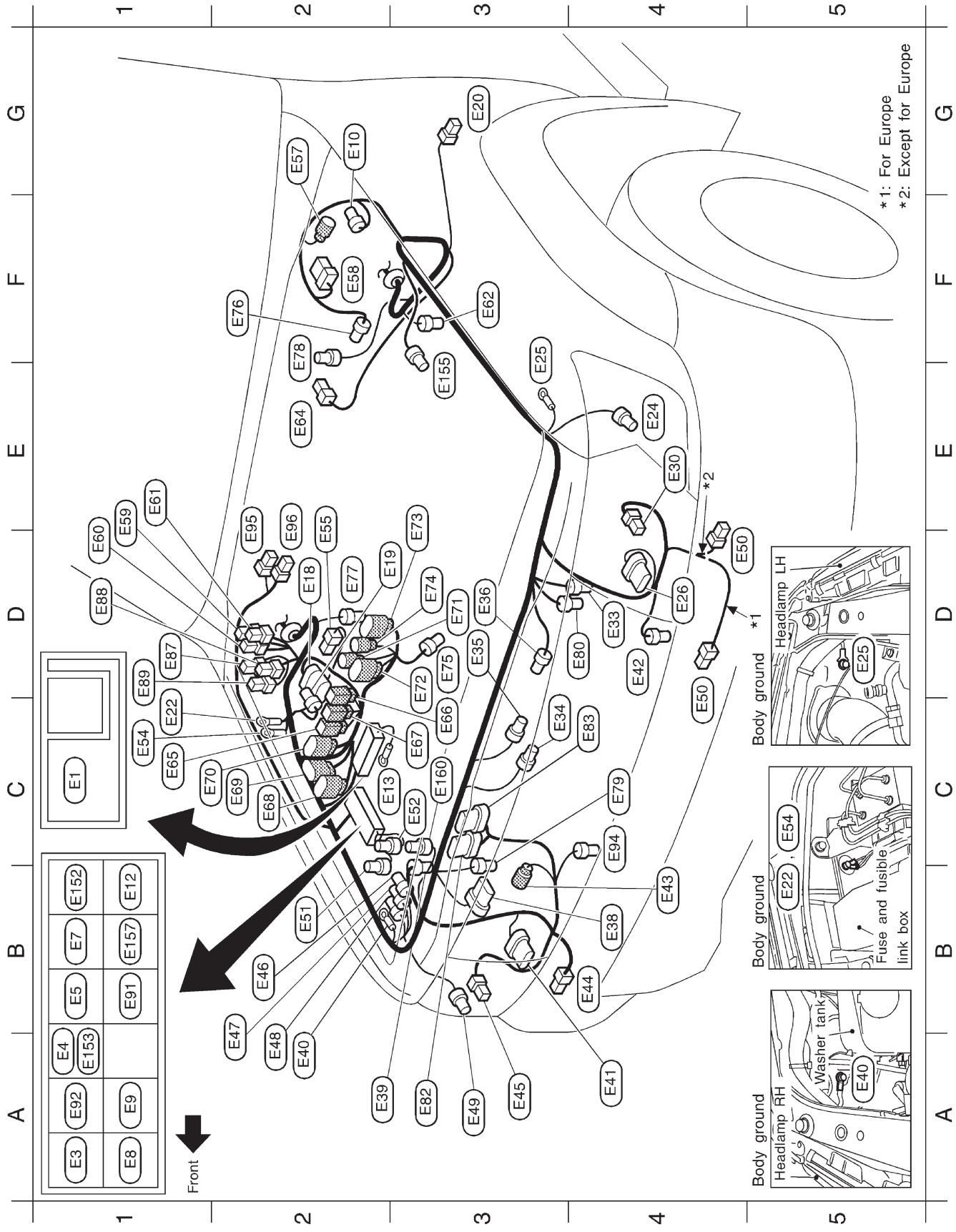
Main Harness/RHD Models (Cont'd)

F3 M90 L/4 : Fuel pump relay (TB45E engine models)
A2 M91 L/4 : Power window relay
A2 M92 W/2 : Circuit breaker-1
B3 M93 BR/4 : Blower resistor (With front manual A/C)
B3 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
E2 M104 W/4 : NATS antenna amp. } (TD engine models for Australia)
G4 M106 W/16 : Grow control unit
F2 M108 B/6 : Front fog lamp switch
C3 M110 W/10 : Cornering lamp relay unit
A1 M111 L/4 : Heated seat relay
D4 M112 B/1 : Cigarette lighter illumination
B2 M113 W/2 : Resistor (With diff lock)
E3 M115 W/8 : Check connector (TB45S engine models)
G4 M116 W/6 : Fuel pump control module (FPCM) (TB45S engine models)
G4 M117 GY/16 : Super lock control unit
G4 M118 GY/20 : Super lock control unit
C2 M121 BR/8 : Dongle unit
A2 M123 W/2 : Circuit breaker-2
B2 M129 W/16 : Multi-remote control unit (Except for Europe and South Africa)
F2 M130 L/4 : Fuel pump relay (TB45S engine models)
B1 M133 BR/8 : Multi-remote control unit (For Europe and South Africa)
C1 M134 W/6 : Anti-theft unit (Opt)

CEL111M

NOTE

Engine Room Harness/LHD Models



CEL112M

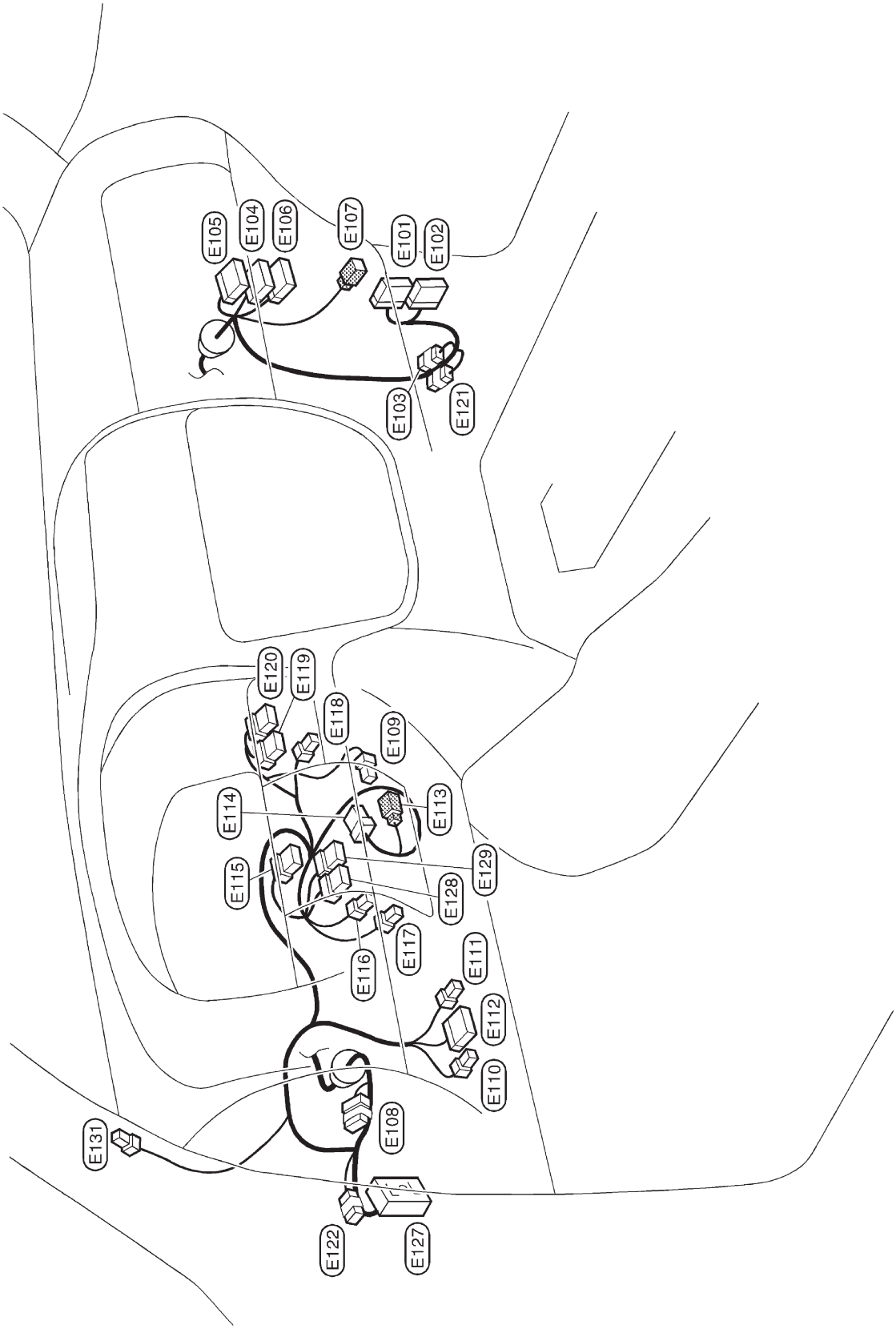
Engine Room Harness/LHD Models (Cont'd)

C1 (E1) — : Fuse and fusible link box
A1 (E3) B/5 : Transfer neutral relay
A1 (E4) L/4 : Cornering lamp relay
B1 (E5) BR/6 : Air conditioner relay
B1 (E7) L/4 : Bulb check relay
A1 (E8) L/4 : Cooling fan relay-1
A1 (E9) W/3 : Horn relay
G2 (E10) GY/4 : Diff lock solenoid
B1 (E12) L/4 : Wiper deicer relay
C2 (E13) — : Battery (+)
D2 (E18) SMJ : ABS actuator and electric unit
D3 (E19) GY/3 : Power antenna
G3 (E20) B/2 : Side turn signal lamp LH
C1 (E22) — : Body ground (With ABS)
E4 (E24) GY/4 : Front combination lamp LH
F3 (E25) — : Body ground
D4 (E26) GY/6 : Headlamp aiming motor LH
E4 (E30) B/3 : Headlamp LH
D4 (E33) GY/4 : Headlamp wiper motor LH
C3 (E34) B/2 : Ambient air temperature sensor (With compass and thermometer)
D3 (E35) B/2 : Ambient sensor (With front auto A/C)
D3 (E36) GY/4 : Cooling fan motor-1
B4 (E38) GY/6 : Headlamp wiper motor RH
A2 (E39) B/2 : Dual-pressure switch
A2 (E40) — : Body ground
A4 (E41) GY/6 : Headlamp aiming motor RH
D4 (E42) GY/2 : Engine coolant temperature switch-2 (TD engine models with A/C)
B4 (E43) GY/2 : To (E181) (With electrical winch)
B4 (E44) B/1 : Horn low
A3 (E45) B/3 : Headlamp RH
B2 (E46) GY/2 : Front washer motor
A2 (E47) BR/2 : Rear washer motor
A2 (E48) GY/2 : Headlamp washer motor
A3 (E49) GY/4 : Front combination lamp RH
D4 (E50) B/1 : Horn high
B2 (E51) BR/2 : Park/Neutral position relay-1 } (A/T models)
C3 (E52) BR/2 : Park/Neutral position relay-1 }

C1 (E54) — : Body ground
D2 (E55) B/2 : Side turn signal lamp RH
G2 (E57) B/2 : Wiper deicer
F2 (E58) W/6 : Front wiper motor
E1 (E59) G/2 : Grow relay-1
E1 (E60) W/1 : Grow relay-1
E1 (E61) W/1 : Grow relay-1
F3 (E62) BR/2 : Front wheel sensor LH (With ABS)
E2 (E64) W/1 : Vacuum warning switch
C1 (E65) B/2 : To (E204)
C3 (E66) L/2 : To (E203)
C3 (E67) R/2 : To (E223)
C2 (E68) GY/8 : To (E222) (TD engine models)
C2 (E69) B/8 : To (E202)
C2 (E70) GY/10 : To (E201)
D3 (E71) GY/3 : Revolution sensor } (A/T models)
D3 (E72) BR/8 : A/T solenoid valve }
D3 (E73) GY/8 : Park/Neutral position switch }
D3 (E74) GY/2 : Park/Neutral position switch }
D3 (E75) BR/2 : Fuel filter switch
F2 (E76) GY/2 : Brake fluid level switch
D2 (E77) GY/2 : Front wheel sensor RH (With ABS)
F2 (E78) GY/2 : Dropping resistor (A/T models)
C4 (E79) BR/2 : Front fog lamp RH
D4 (E80) BR/2 : Front fog lamp LH
A3 (E82) GY/8 : Daytime light control unit
C4 (E83) GY/6 : Daytime light control unit
D1 (E87) G/2 : Grow relay-2 } (TD engine models for cold areas)
D1 (E88) W/1 : Grow relay-2 }
D1 (E89) W/1 : Grow relay-2 }
B1 (E91) BR/6 : Rear window defogger relay
A1 (E92) B/5 : A/C cut relay
C4 (E94) GY/2 : Engine coolant temperature switch-1 } (TD engine models with A/C)
D2 (E95) B/1 : IACV-FICD solenoid valve }
D2 (E96) B/1 : IACV-FICD solenoid valve }
B1 (E152) L/4 : Front fog lamp relay
A1 (E153) L/4 : Rear fog lamp relay
E3 (E155) B/2 : Exhaust gas control valve control solenoid valve (ZD engine models)
B1 (E157) B/5 : Shift lock relay (A/T models)
C3 (E160) GY/2 : Hood switch (Opt) (For Europe)

CEL113M

PASSENGER COMPARTMENT

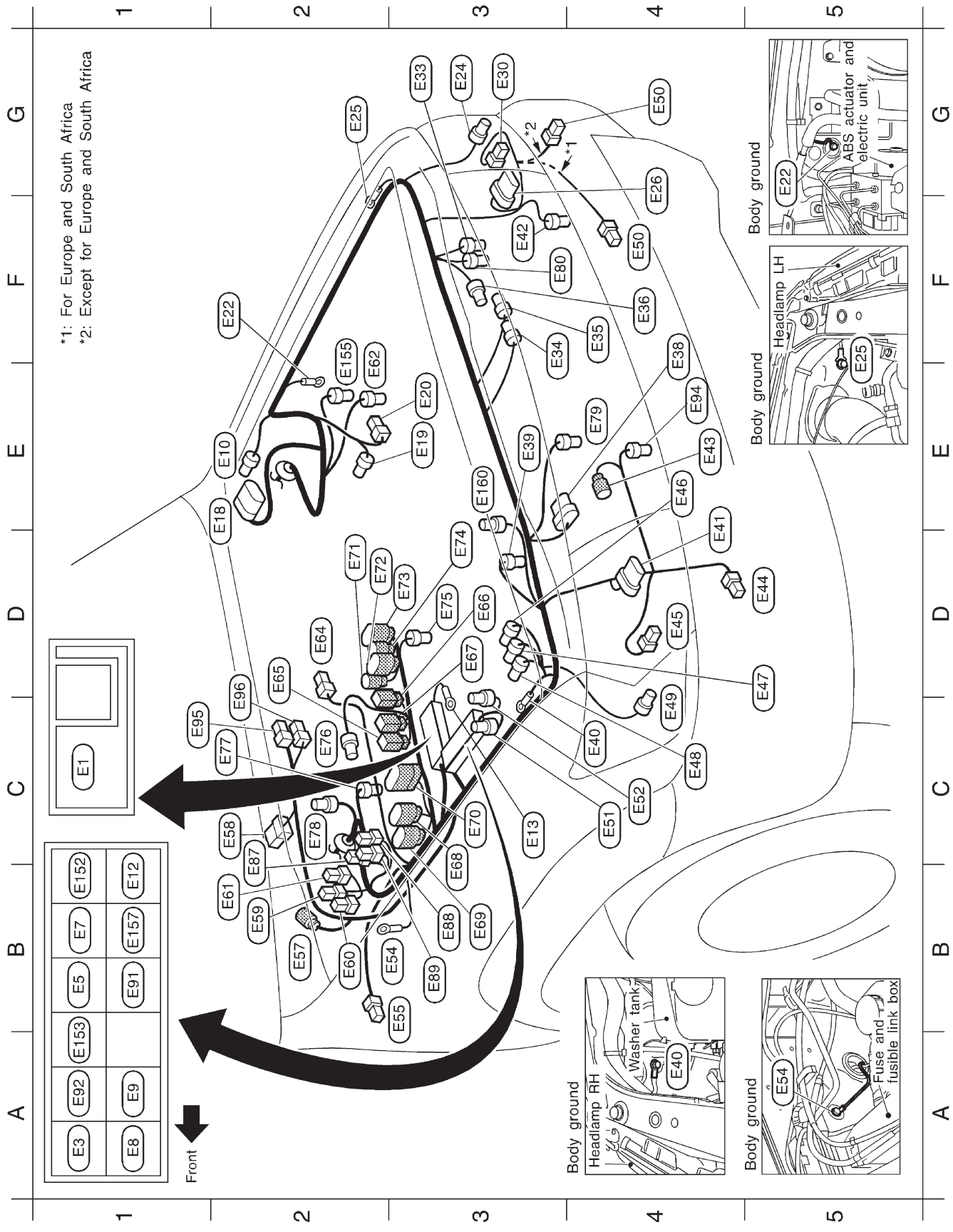


CEL114M

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 B101
E108 L/10 : Diode
E109 B/1 : Horn switch (Without air bag)
E110 B/2 : Fuse block (J/B)
E111 W/4 : Fuse block (J/B)
E112 W/16 : Fuse block (J/B)
E113 BR/2 : Key switch
E114 W/6 : Ignition switch
E115 BR/8 : Combination switch (Lighting switch)
E116 BR/4 : Combination switch (Lighting 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 (TB45S engine models)
E122 W/2 : Diode (Except for TB45S engine models)
E127 SMJ : To M21
E128 W/6 : Combination switch (Rear fog lamp switch)
E129 W/6 : Combination switch (Front and rear fog lamp switch)
E131 W/3 : Tweeter LH

CEL115M

Engine Room Harness/RHD Models



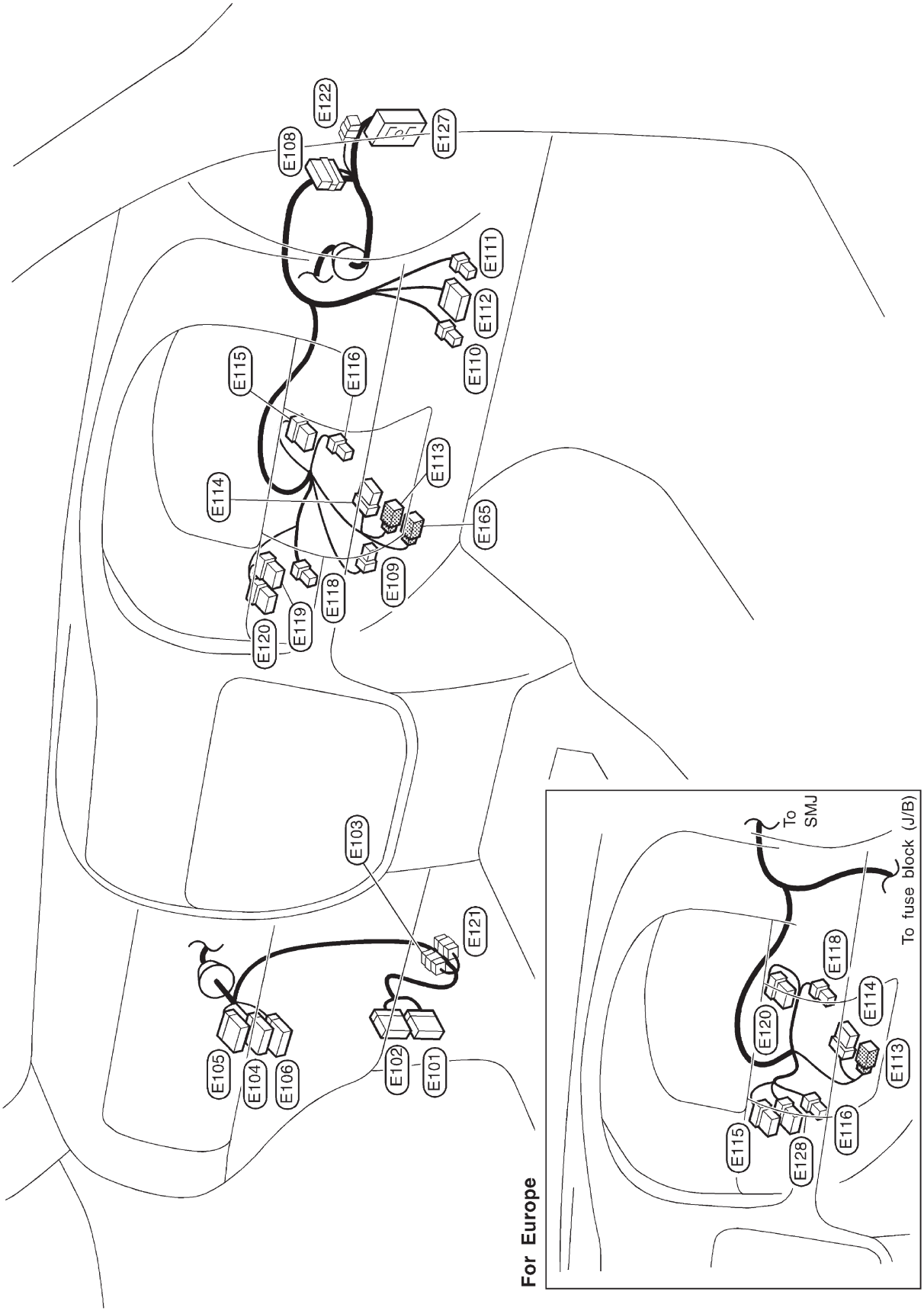
CEL118M

Engine Room Harness/RHD Models (Cont'd)

C1 (E1) — : Fuse and fusible link box
A1 (E3) B/5 : Transfer neutral relay
B1 (E5) BR/6 : Air conditioner relay
B1 (E7) L/4 : Bulb check relay
A1 (E8) L/4 : Cooling fan relay-1
A1 (E9) W/3 : Horn relay
E2 (E10) SB/4 : Diff lock solenoid
B1 (E12) L/4 : Wiper deicer relay
C3 (E13) — : Battery (+)
E2 (E18) SMJ : ABS actuator and electric unit
E3 (E19) SB/4 : Power antenna
E3 (E20) B/2 : Side turn signal lamp LH
F2 (E22) — : Body ground (With ABS)
G3 (E24) SB/4 : Front combination lamp LH
G2 (E25) — : Body ground
G4 (E26) GY/6 : Headlamp aiming motor LH
G3 (E30) B/3 : Headlamp LH
G3 (E33) GY/4 : Headlamp wiper motor LH
F3 (E34) B/2 : Ambient air temperature sensor (With compass and thermometer)
F4 (E35) B/2 : Ambient sensor (With auto A/C)
F4 (E36) GY/4 : Cooling fan motor-1
F4 (E38) GY/6 : Headlamp wiper motor RH
E3 (E39) B/2 : Dual-pressure switch
C4 (E40) — : Body ground
D4 (E41) GY/6 : Headlamp aiming motor RH
F3 (E42) GY/2 : Engine coolant temperature switch-2 (TD engine models with A/C)
E4 (E43) GY/2 : To (E181) (With electrical winch)
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
C4 (E49) SB/4 : Front combination lamp RH
F4, G4 (E50) B/1 : Horn high
C4 (E51) GY/2 : Park/Neutral position relay-1 } (A/T models)
C4 (E52) GY/2 : Park/Neutral position relay-1 }
B3 (E54) — : Body ground
B3 (E55) B/2 : Side turn signal lamp RH
B2 (E57) B/2 : Wiper deicer
C2 (E58) W/6 : Front wiper motor
B2 (E59) G/2 : Grow relay-1
B2 (E60) W/1 : Grow relay-1
B2 (E61) W/1 : Grow relay-1
E2 (E62) BR/2 : Front wheel sensor LH (With ABS)
D2 (E64) W/1 : Vacuum warning switch (Except for Australia)
D2 (E65) B/2 : To (E204)
D3 (E66) L/2 : To (E203)
D3 (E67) R/2 : To (E223)
C3 (E68) SB/8 : To (E222) (TD engine models)
B3 (E69) GY/8 : To (E202)
C3 (E70) GY/10 : To (E201)
D2 (E71) GY/3 : Revolution sensor } (A/T models)
D2 (E72) BR/8 : A/T solenoid valve }
D3 (E73) GY/8 : Park/Neutral position switch }
D3 (E74) GY/2 : Park/Neutral position switch }
D3 (E75) BR/2 : Fuel filter switch
C2 (E76) GY/2 : Brake fluid level switch
C2 (E77) GY/2 : Front wheel sensor RH (With ABS)
C2 (E78) GY/2 : Dropping resistor (A/T models)
E4 (E79) BR/2 : Front fog lamp RH
F3 (E80) BR/2 : Front fog lamp LH
B2 (E87) G/2 : Glow relay-2 } (TD engine models for Australia)
B3 (E88) W/1 : Glow relay-2 }
B3 (E89) W/1 : Glow relay-2 }
B1 (E91) BR/6 : Rear window defogger relay
A1 (E92) B/5 : A/C cut relay
E4 (E94) GY/2 : Engine coolant temperature switch-1 } (TD engine models with A/C)
C1 (E95) B/1 : IACV-FICD solenoid valve }
C2 (E96) B/1 : IACV-FICD solenoid valve }
B1 (E152) L/4 : Front fog lamp relay
A1 (E153) L/4 : Rear fog lamp relay
E2 (E155) B/2 : Exhaust gas control valve control solenoid valve (ZD engine models)
B1 (E157) B/5 : Shift lock relay (A/T models)
E3 (E160) GY/2 : Hood switch (Opt) (For Europe)

CEL119M

PASSENGER COMPARTMENT

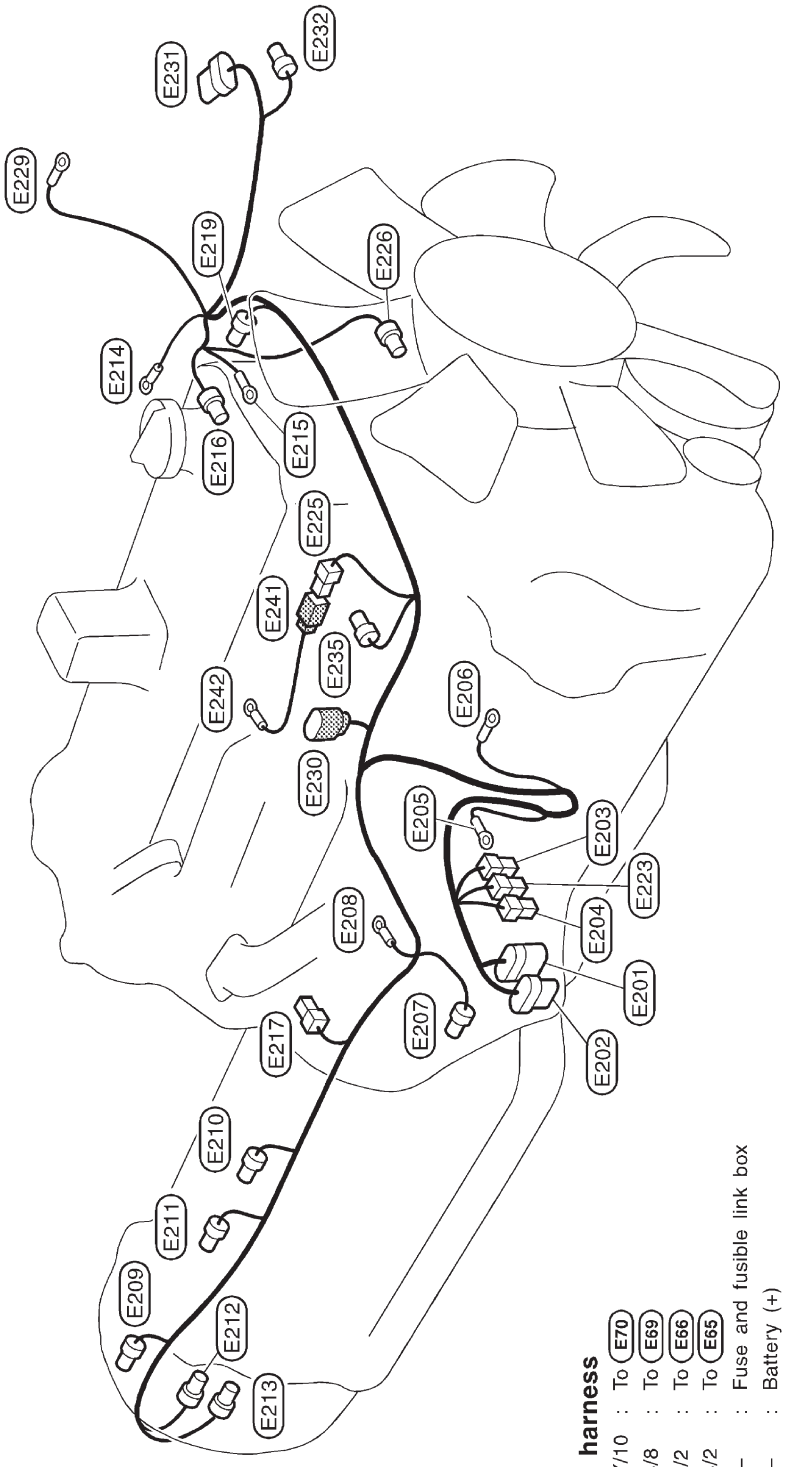


CEL120M

E101 W/24 : TCM (Transmission control module)
E102 GY/24 : TCM (Transmission control module)
E103 L/4 : Diode (A/T models)
E104 BR/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 W/4 : Fuse block (J/B)
E112 W/16 : Fuse block (J/B)
E113 BR/2 : Key switch (Except for TD engine models for Australia)
E114 W/6 : Ignition switch
E115 BR/8 : Combination switch } (Lighting switch)
E116 BR/4 : Combination 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 (TB45S engine models)
E122 W/2 : Diode (Except for TB45S engine models)
E127 SMJ : To M21
E128 W/6 : Combination switch (Rear fog lamp switch)
E165 W/2 : Key switch (TD engine models for Australia)

CEL121M

Engine Harness



Engine harness

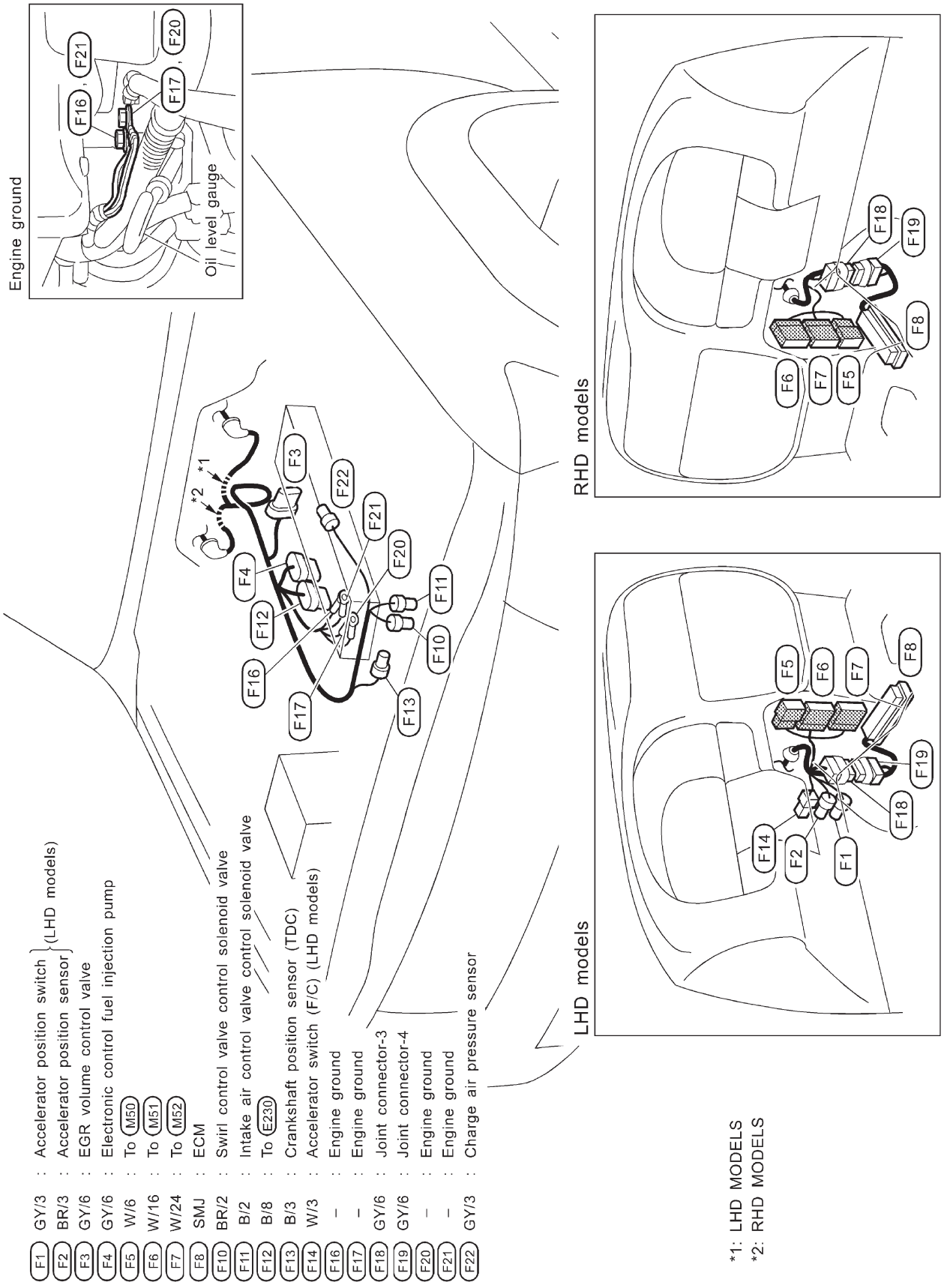
E201	GY/10	: To E70	
E202	B/8	: To E69	
E203	L/2	: To E66	
E204	B/2	: To E65	
E205	–	: Fuse and fusible link box	
E206	–	: Battery (+)	
E207	GY/1	: Starter motor	
E208	–	: Starter motor	
E209	GY/2	: Vehicle speed sensor	
E210	GY/2	: Back-up lamp switch	
E211	B/2	: Park/Neutral position switch	(M/T models)
E212	GY/2	: 4WD switch	
E213	BR/2	: Transfer neutral switch	
E214	–	: Alternator	
E215	–	: Alternator	
E216	GY/2	: Alternator	
E217	B/1	: Oil pressure switch	
E219	GY/2	: Engine coolant temperature sensor	
E223	R/2	: To E67	
E225	B/1	: To E241	
E226	B/1	: Compressor	
E229	–	: Battery (+) (For cold areas)	
E230	B/8	: To F12	
E231	GY/5	: Mass air flow sensor	
E232	BR/2	: Variable nozzle turbocharger control solenoid valve	
E235	B/1	: Thermal transmitter	

Glow sub-harness

E241	B/1	: To E225
E242	–	: Glow plug

CEL123M

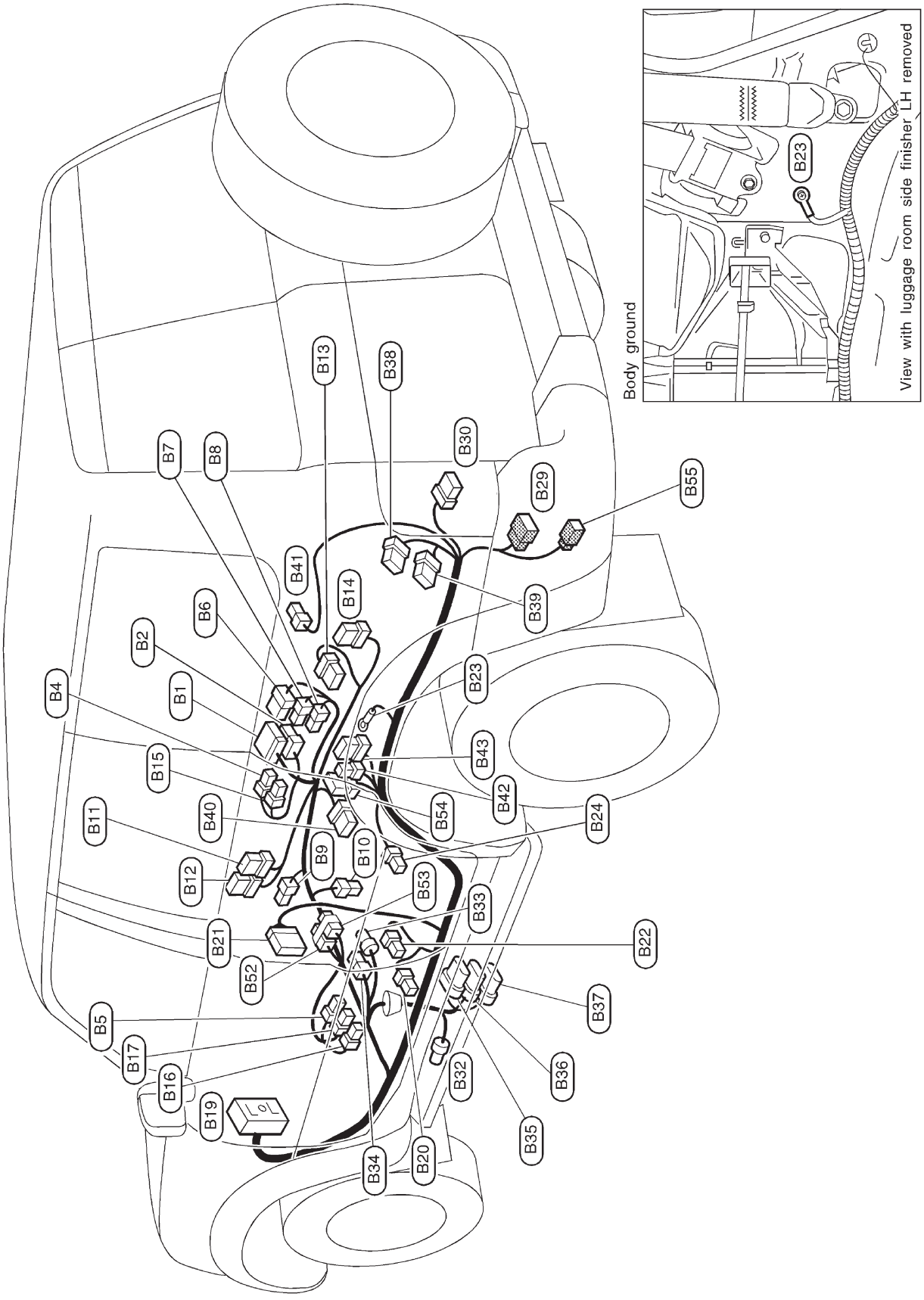
Engine Control Harness



CEL125M

Body Harness/LHD Models

WAGON



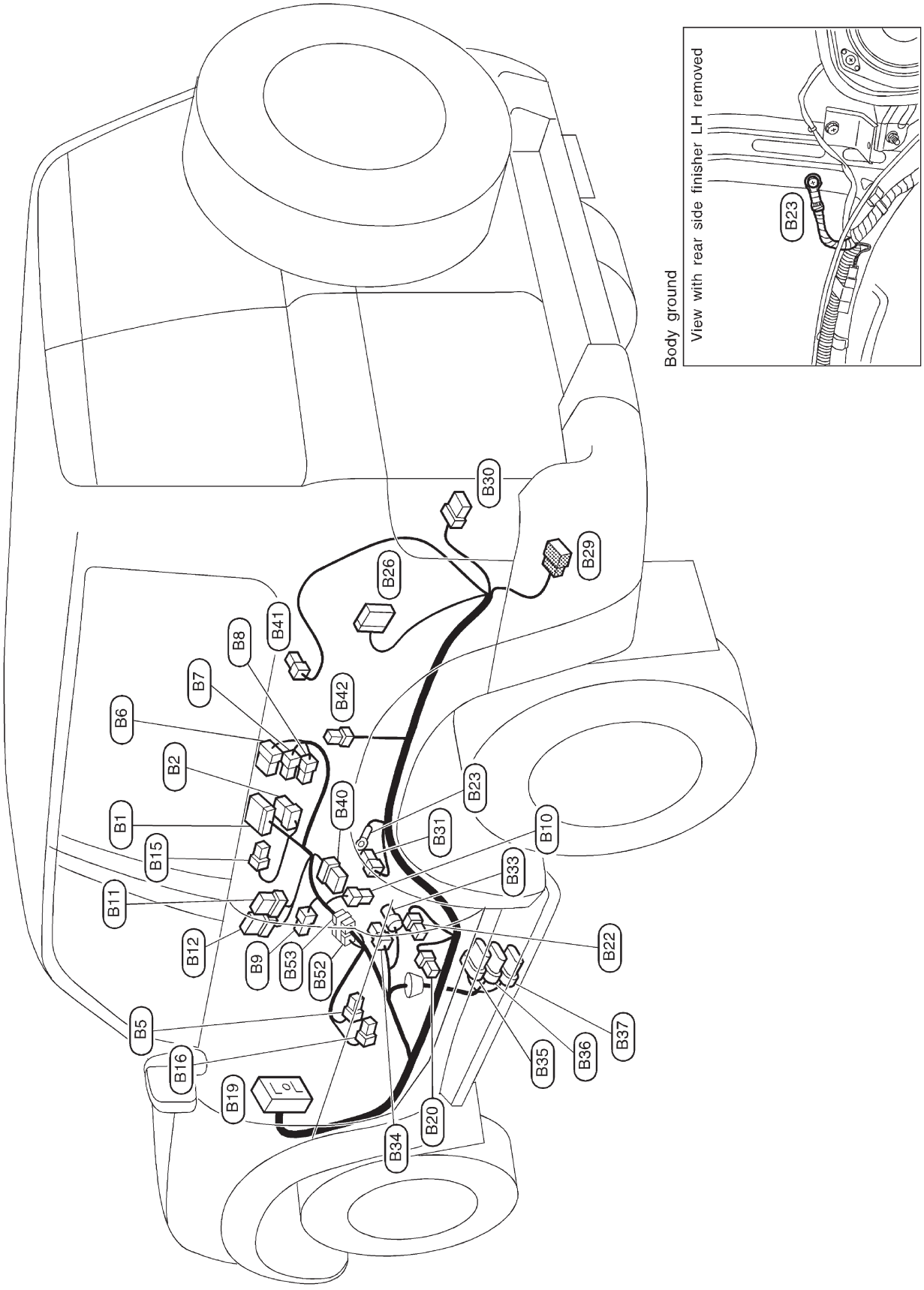
CEL126M

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 W/4 : Heated seat switch LH
B8 L/4 : Heated seat switch RH
B9 W/3 : Ashtray illumination
B10 B/1 : Parking brake switch
B11 W/8 : 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)
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
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 (With ABS)
B35 GY/8 : To C1
B36 SB/6 : To C3
B37 SB/8 : To C2
B38 W/8 : 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 (For the Middle East TB45E engine M/T models with rear cooler)
B52 W/2 : Diode-1 (A/T models)
B53 W/2 : Diode-2 (A/T models)
B54 BR/6 : Multi-remote control relay (For China)
B55 W/4 : To D87
Diode-1 B52
Shift lock relay
A/T device
(Park position switch)
Diode-2 B53
A/T device
(Shift lock solenoid)
A/T device
(Park position switch)

CEL127M

Body Harness/LHD Models (Cont'd)

HARDTOP



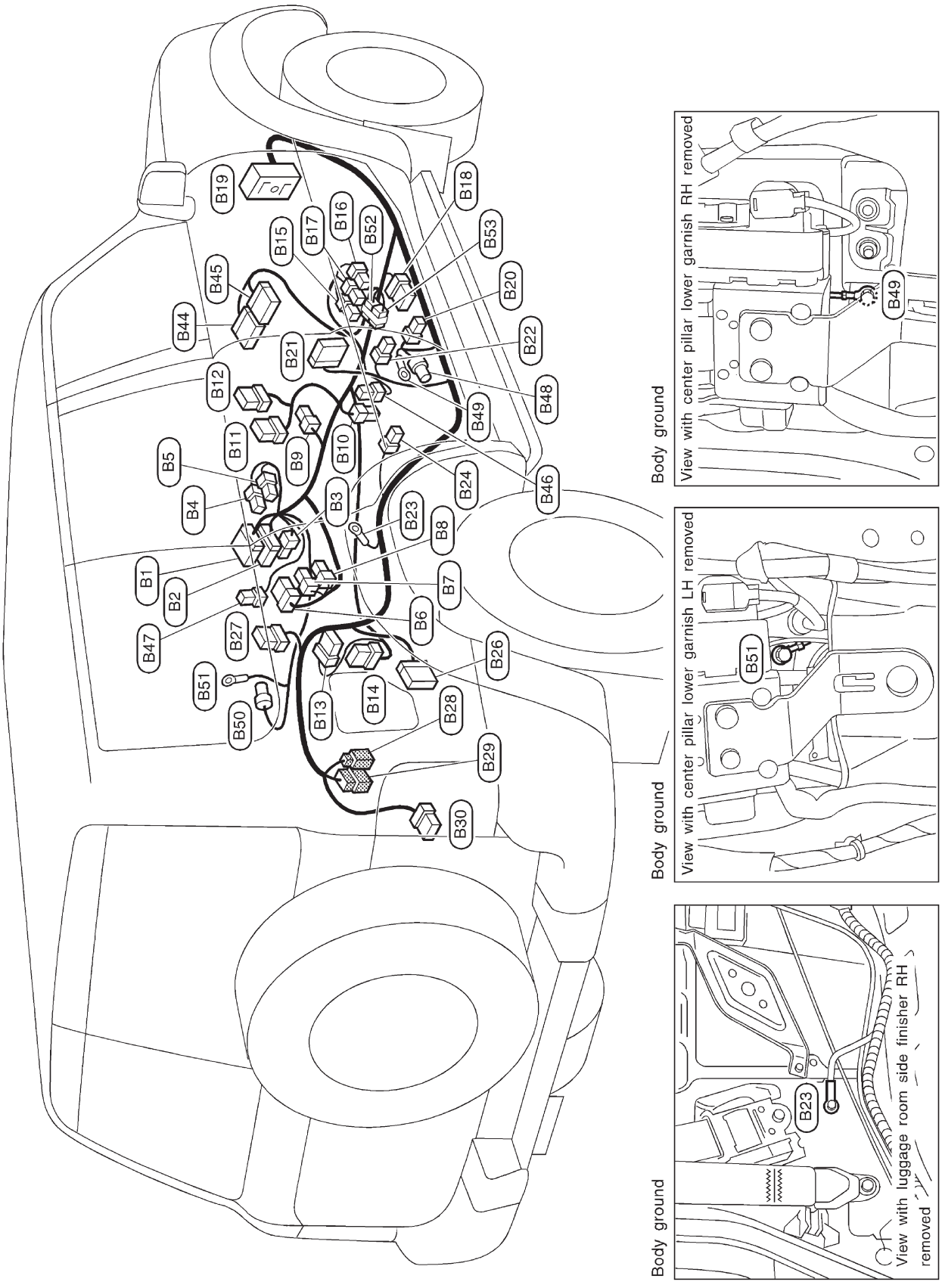
CEL128M

Diode-1 B52
Shift lock relay
A/T device
(Park position switch)
Diode-2 B53
A/T device
(Shift lock solenoid)
A/T device
(Park position switch)
B1 W/12 : To B105
B2 W/8 : To B106
B5 W/3 : Heated seat LH
B6 W/6 : Wiper deicer switch
B7 W/4 : Heated seat switch LH
B8 L/4 : Heated seat switch RH
B9 W/3 : Ashtray illumination
B10 B/1 : Parking brake switch
B11 W/8 : A/T device
B12 W/8 : A/T mode switch
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
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 } (With ABS)
B34 GY/2 : G sensor }
B35 GY/8 : To C1
B36 SB/6 : To C3
B37 SB/8 : To C2
B40 W/6 : Cool box
B41 B/2 : Power socket
B42 L/4 : Power socket relay
B52 W/2 : Diode-1 } (A/T models)
B53 W/2 : Diode-2 }

CEL129M

Body Harness/RHD Models

WAGON



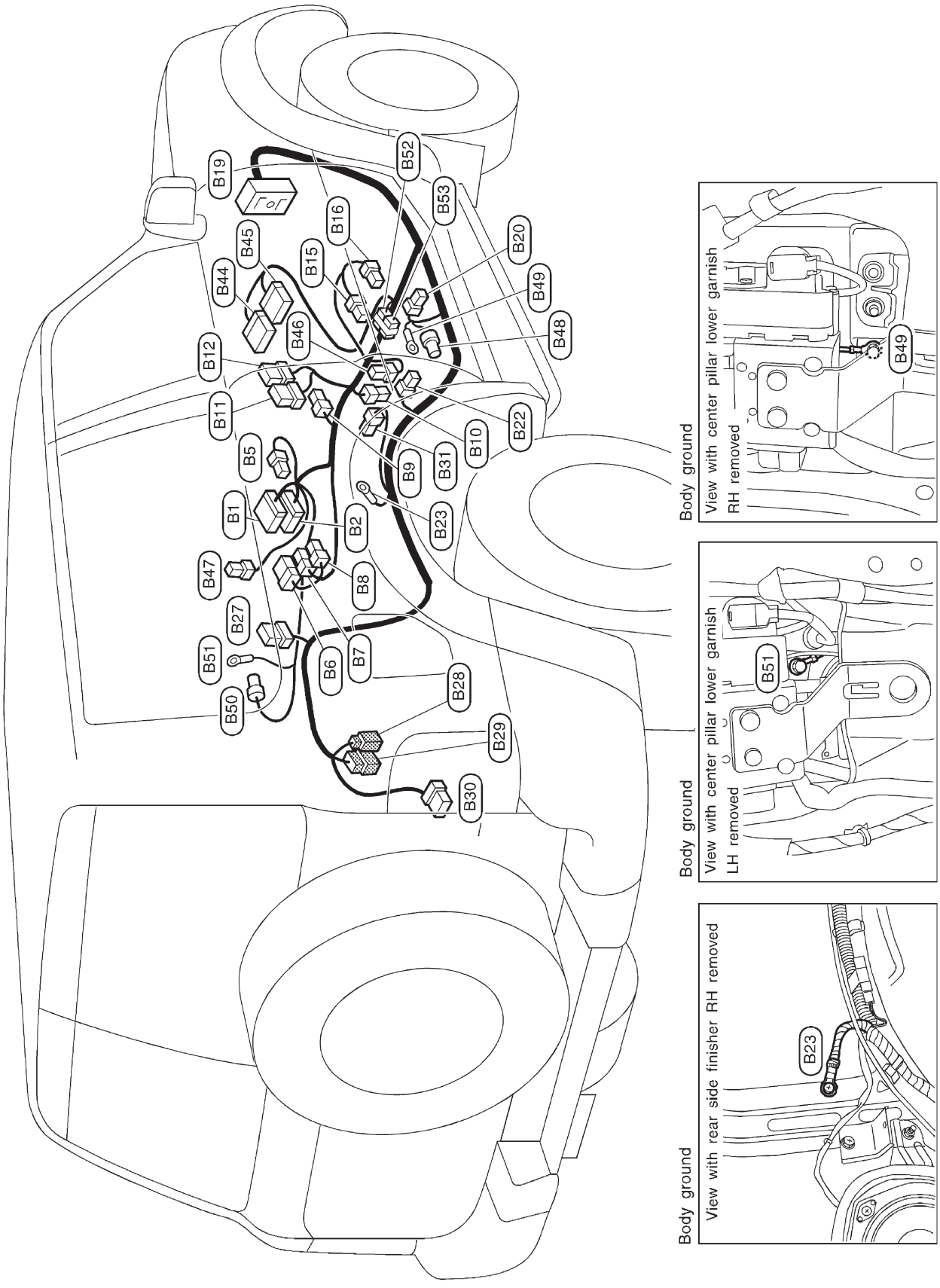
CEL130M

Diode-1 B52
Shift lock relay
A/T device
(Park position switch)
Diode-2 B53
A/T device
(Shift lock solenoid)
A/T device
(Park position switch)
B1 W/12 : To B105
B2 W/10 : To B106
B3 W/4 : To B130
B4 W/2 : Power seat (Passenger side)
B5 W/3 : Heated seat LH
B6 W/6 : Wiper deicer switch
B7 W/4 : Heated seat switch LH
B8 L/4 : Heated seat switch RH
B9 W/3 : Ashtray illumination
B10 B/1 : Parking brake switch
B11 W/8 : 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)
B21 W/18 : To D61
B22 W/4 : Seat belt pre-tensioner (Driver side)
B23 – : Body ground
B24 BR/1 : Rear door switch RH
B26 W/16 : CD auto changer
B27 B/8 : Rear wiper amp.
B28 BR/1 : To D102
B29 W/6 : To D101
B30 BR/6 : Rear combination lamp RH
B44 Y/12 : Air bag diagnosis sensor unit
B45 Y/12 : Air bag diagnosis sensor unit
B46 Y/2 : Side air bag module RH
B47 Y/2 : Side air bag module LH
B48 Y/2 : Satellite sensor RH
B49 – : Body ground
B50 Y/2 : Satellite sensor LH
B51 – : Body ground
B52 W/2 : Diode-1 } (A/T models)
B53 W/2 : Diode-2 }

CEL131M

Body Harness/RHD Models (Cont'd)

HARDTOP



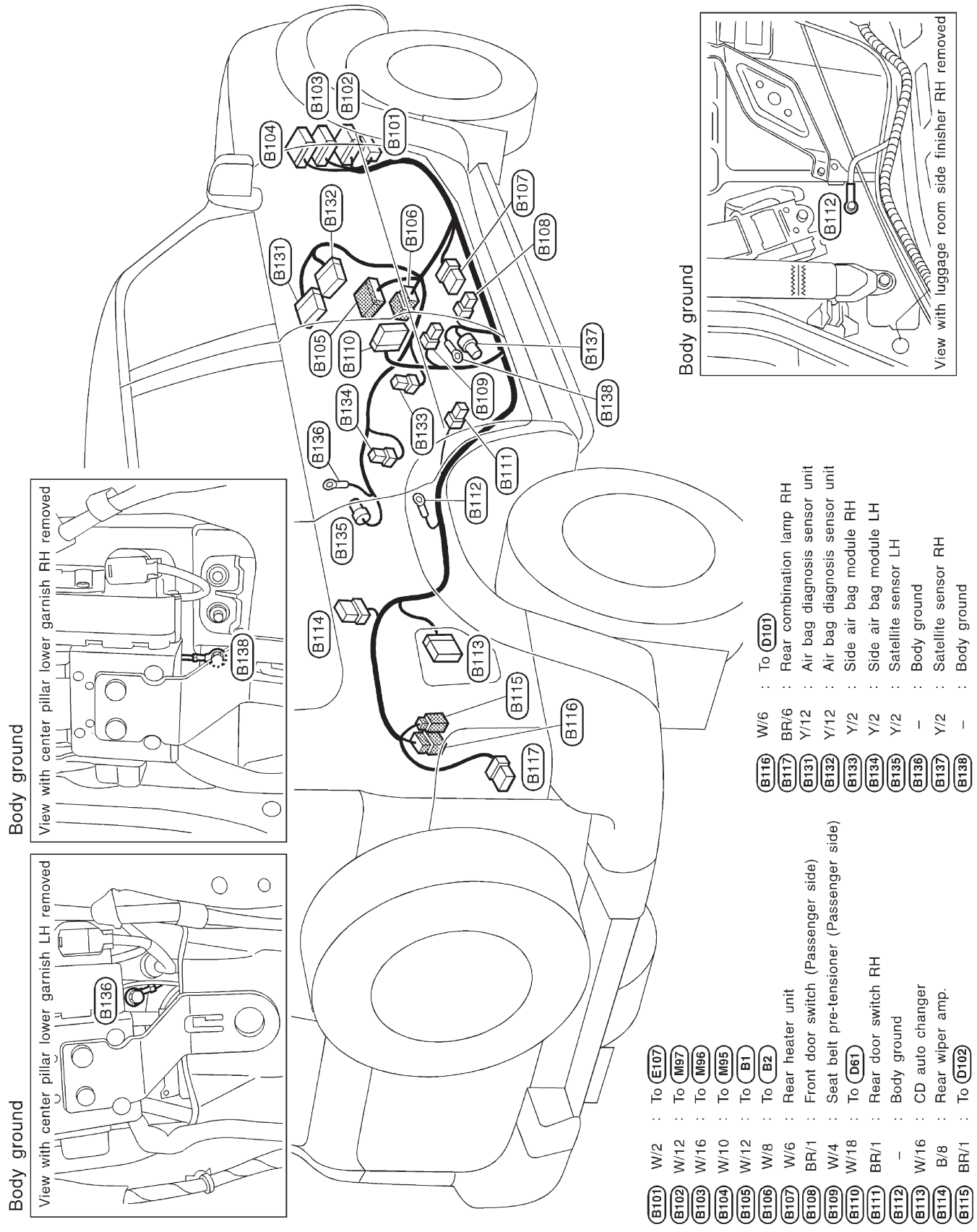
CEL132M

B1 W/12 : To B105
B2 W/10 : To B106
B5 W/3 : Heated seat LH
B6 W/6 : Wiper deicer switch
B7 W/4 : Heated seat switch LH
B8 L/4 : Heated seat switch RH
B9 W/3 : Ashtray illumination
B10 B/1 : Parking brake switch
B11 W/8 : A/T device
B12 W/8 : A/T mode switch
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
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
B44 Y/12 : Air bag diagnosis sensor unit
B45 Y/12 : Air bag diagnosis sensor unit
B46 Y/2 : Side air bag module RH
B47 Y/2 : Side air bag module LH
B48 Y/2 : Satellite sensor RH
B49 – : Body ground
B50 Y/2 : Satellite sensor LH
B51 – : Body ground
B52 W/2 : Diode-1 } (A/T models)
B53 W/2 : Diode-2 }
Diode-1 B52
Shift lock relay
A/T device
(Park position switch)
Diode-2 B53
A/T device
(Shift lock solenoid)
A/T device
(Park position switch)

CEL133M

Body No. 2 Harness/LHD Models

WAGON

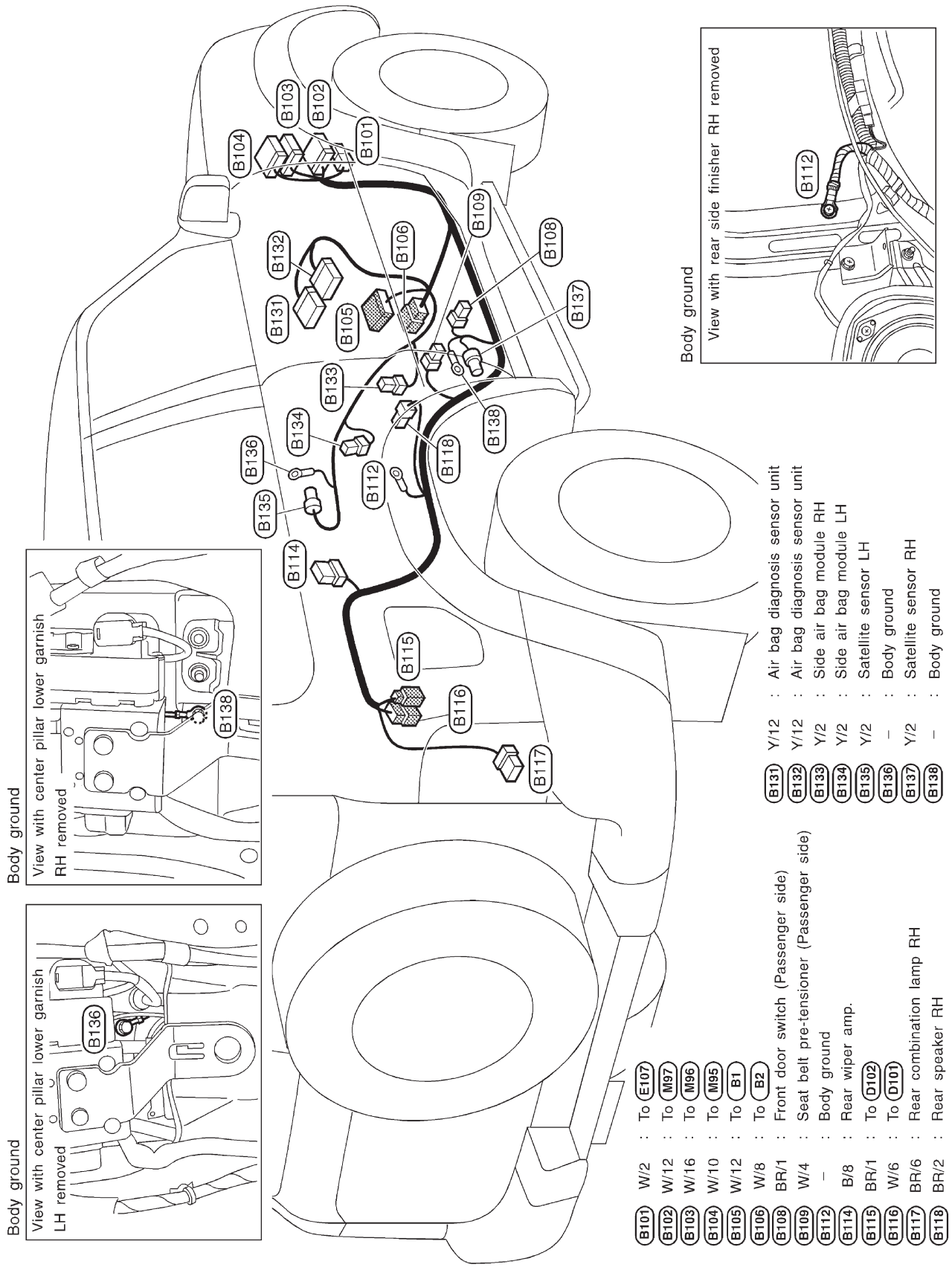


B101	W/2	To E107
B102	W/12	To M97
B103	W/16	To M96
B104	W/10	To M95
B105	W/12	To B1
B106	W/8	To B2
B107	W/6	Rear heater unit
B108	BR/1	Front door switch (Passenger side)
B109	W/4	Seat belt pre-tensioner (Passenger side)
B110	W/18	To D61
B111	BR/1	Rear door switch RH
B112	–	Body ground
B113	W/16	CD auto changer
B114	B/8	Rear wiper amp.
B115	BR/1	To D102
B116	W/6	To D101
B117	BR/6	Rear combination lamp RH
B131	Y/12	Air bag diagnosis sensor unit
B132	Y/12	Air bag diagnosis sensor unit
B133	Y/2	Side air bag module RH
B134	Y/2	Side air bag module LH
B135	Y/2	Satellite sensor LH
B136	–	Body ground
B137	Y/2	Satellite sensor RH
B138	–	Body ground

CEL226A

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

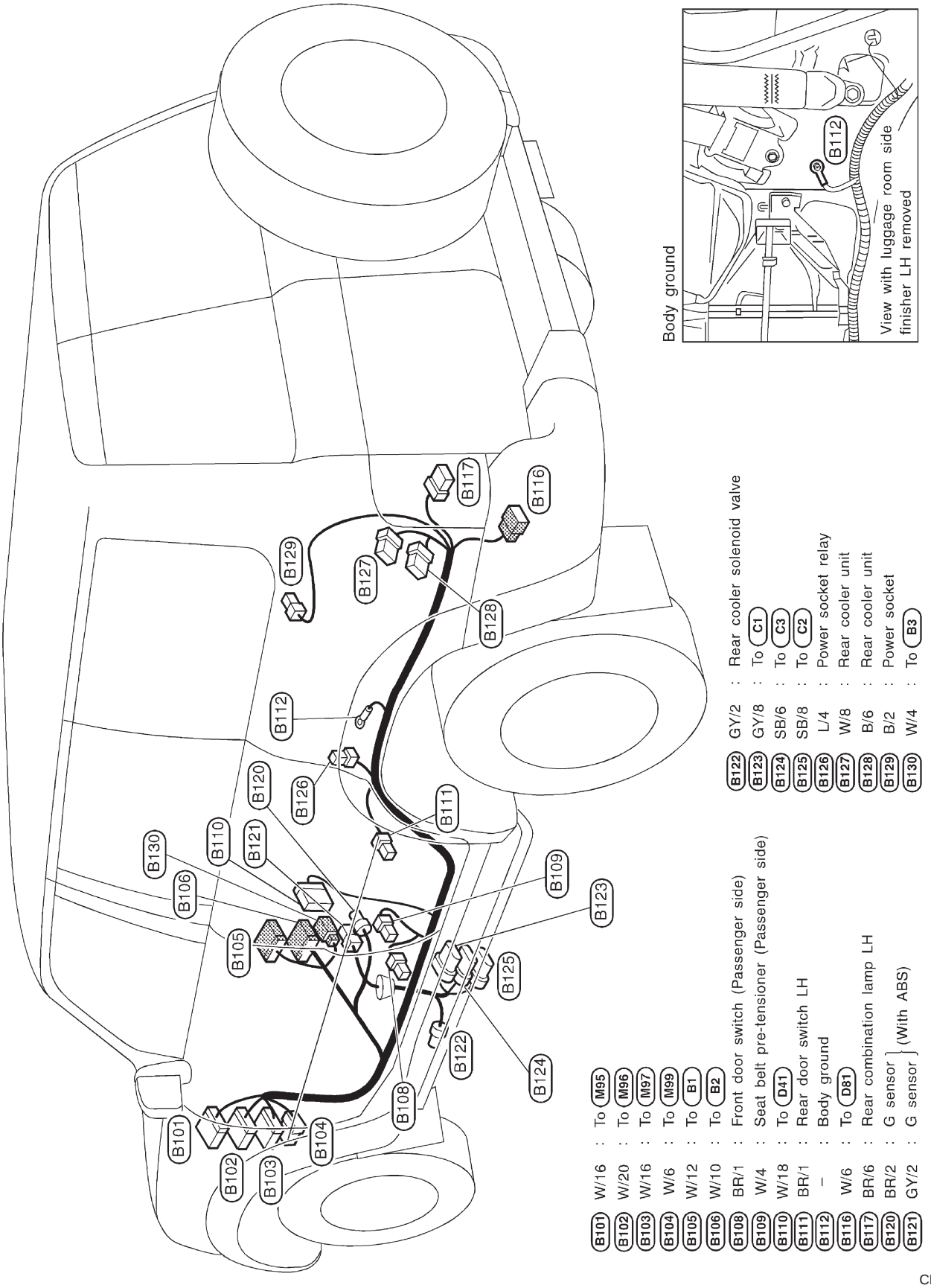
HARDTOP



CEL134M

Body No. 2 Harness/RHD Models

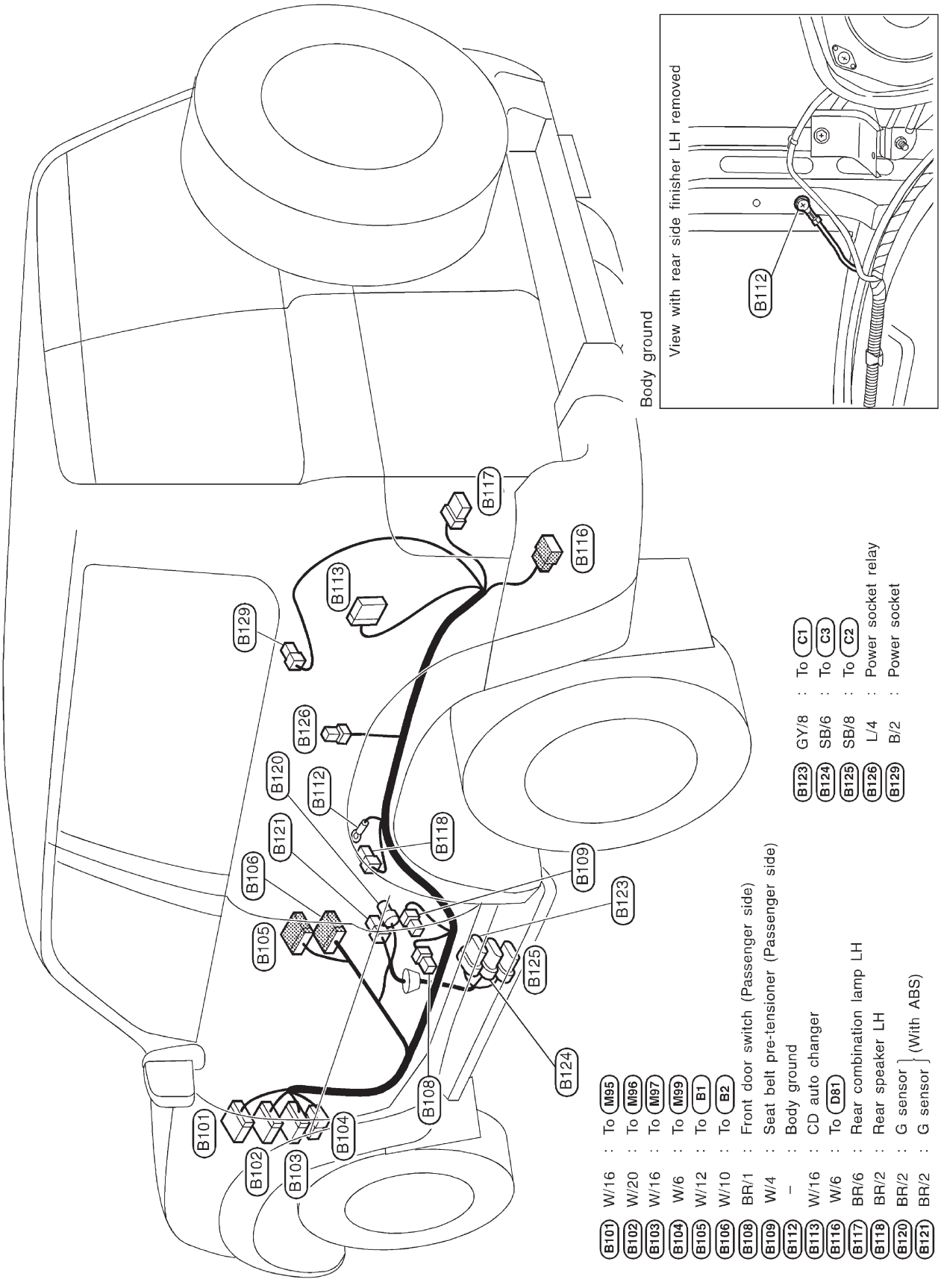
WAGON



CEL135M

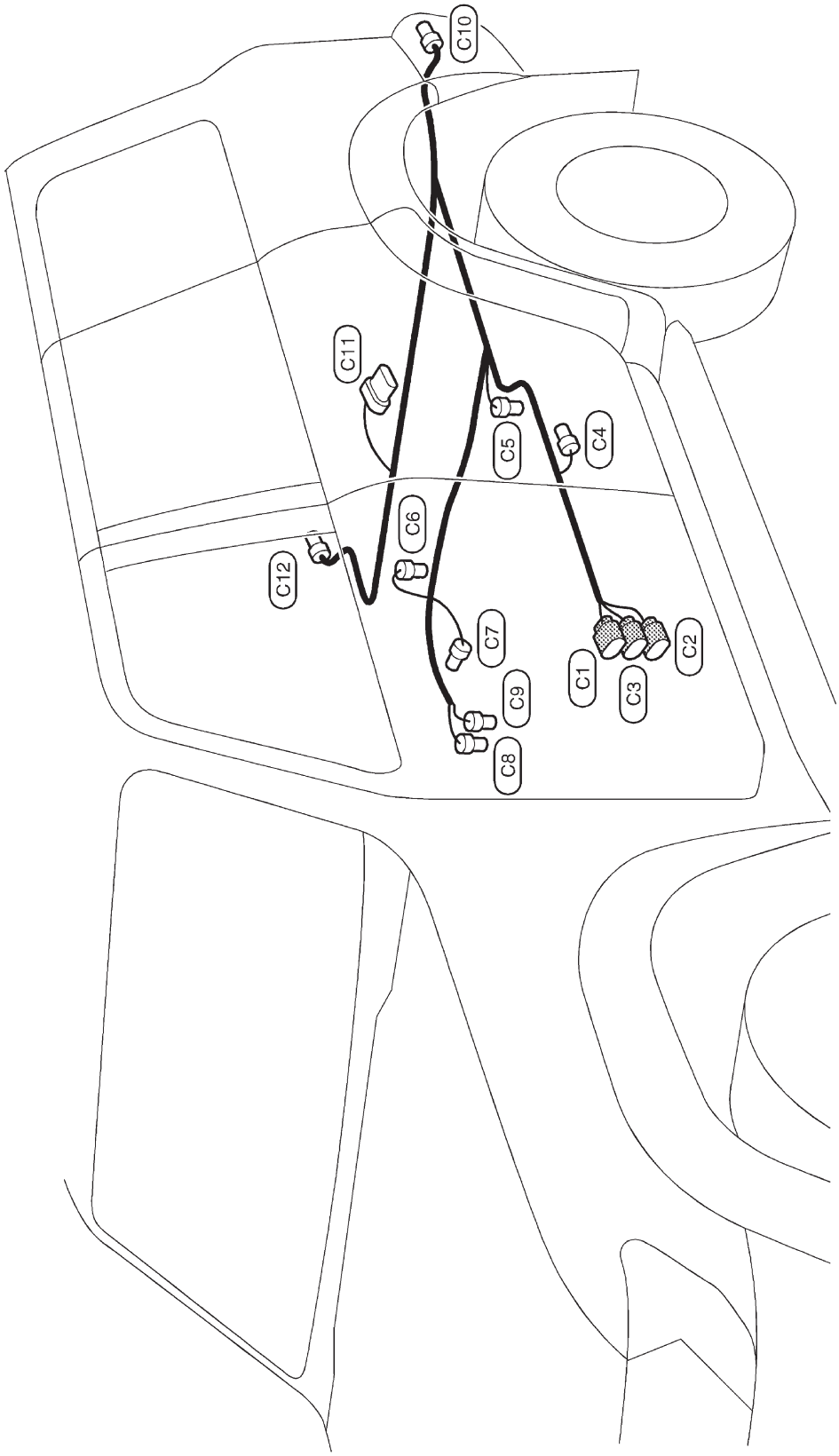
Body No. 2 Harness/RHD Models (Cont'd)

HARDTOP



CEL136M

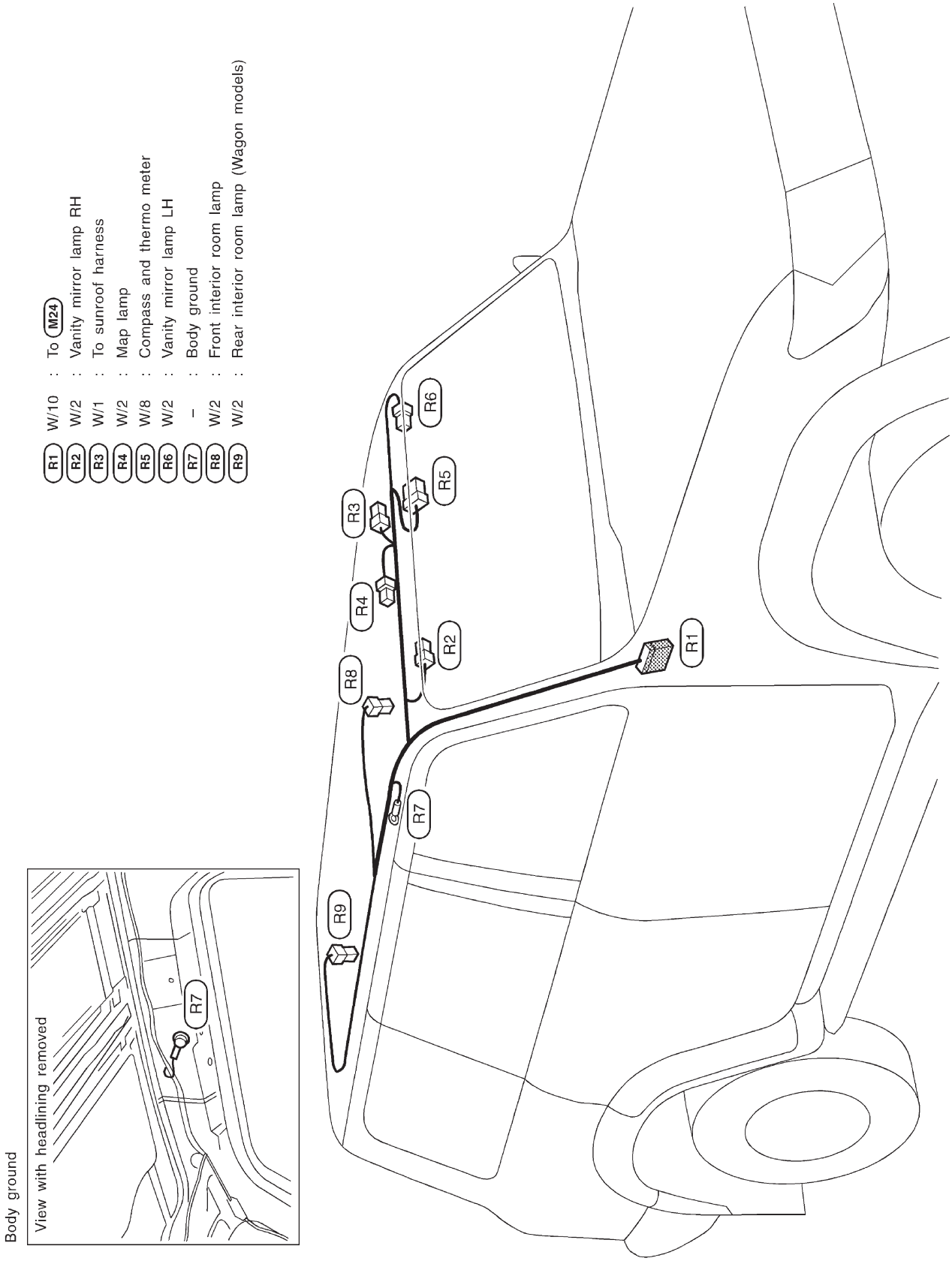
Chassis Harness



C1 GY/8 : To B35 (LHD models)
To B123 (RHD models)
C2 SB/8 : To B37 (LHD models)
To B125 (RHD models)
C3 GY/6 : To B36 (LHD models)
To B124 (RHD models)
C4 B/3 : Stabilizer actuator
C5 BR/2 : Rear wheel sensor LH
C6 GY/2 : Rear wheel sensor RH
C7 BR/2 : Diff lock indicator switch
C8 GY/3 : Sub fuel tank gauge unit
C9 GY/2 : Sub fuel tank gauge unit
C10 SB/4 : Rear bumper combination lamp LH
C11 GY/6 : Fuel tank gauge unit
C12 SB/4 : Rear bumper combination lamp RH

CEL250A

Room Lamp Harness

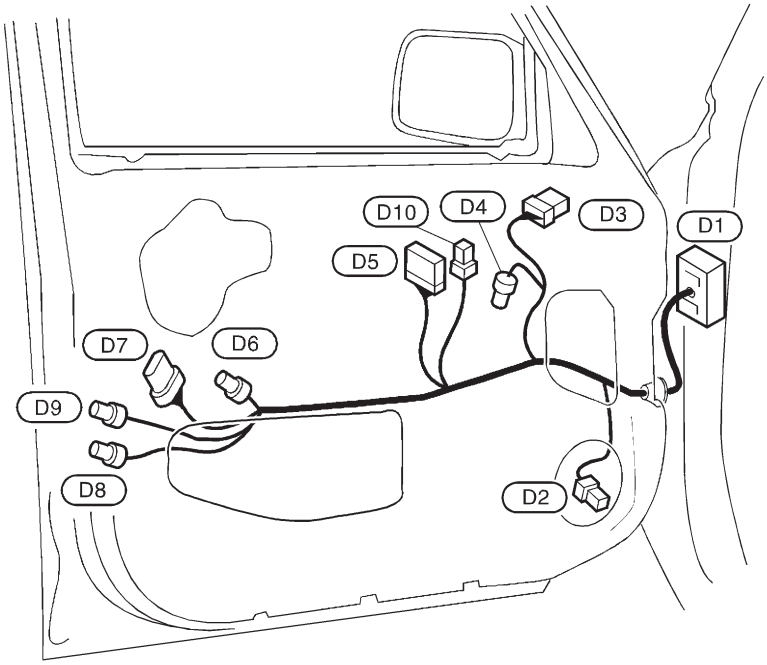


CEL137M

Front Door Harness (Driver side)

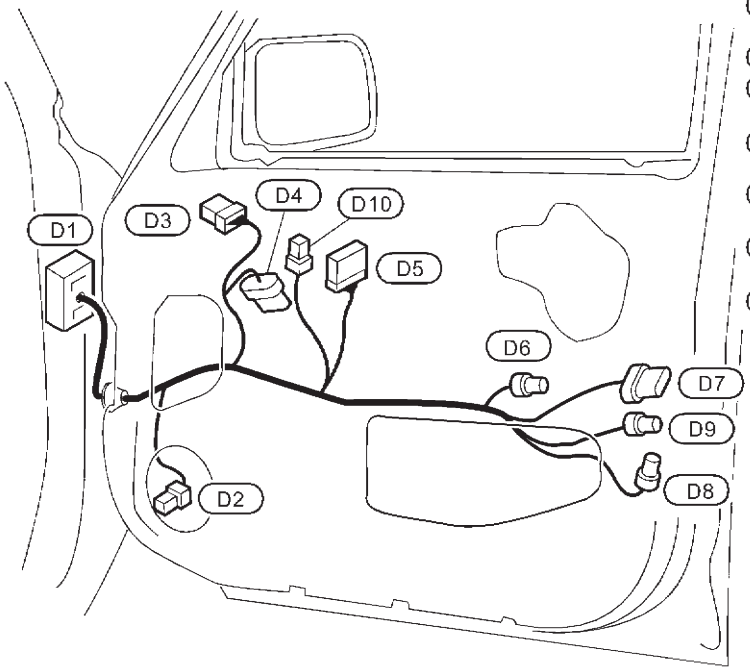
LHD MODELS

D1	SMJ	:	To M22
D2	BR/2	:	Front door speaker LH
D3	W/8	:	Door mirror (Driver side)
D4	GY/6	:	Front power window regulator (Driver side)
D5	W/16	:	Power window main switch
D6	BR/3	:	Front door key cylinder switch (Driver side) (For China and 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)
D10	W/3	:	Power window main switch (Wagon models)



CEL245A

RHD MODELS

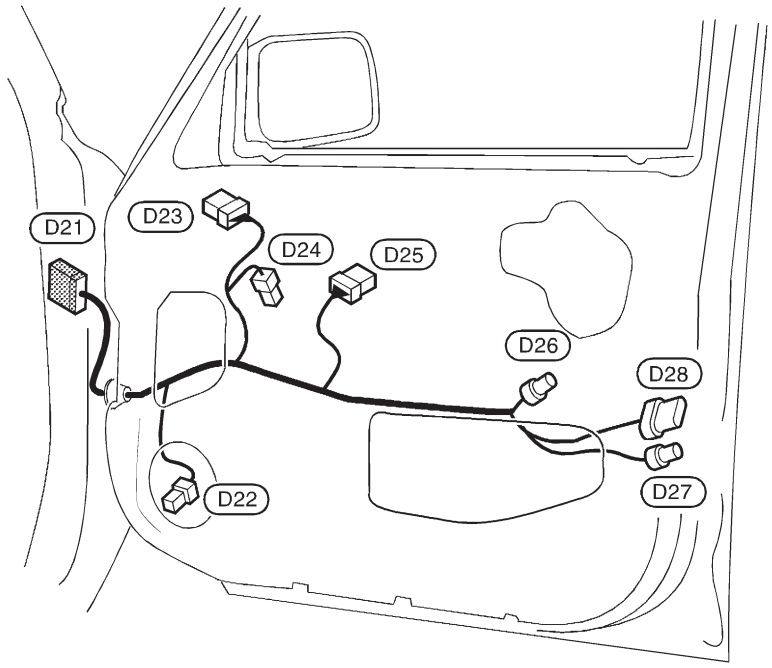


D1	SMJ	:	To M22
D2	BR/2	:	Front door speaker RH
D3	W/8	:	Door mirror (Driver side)
D4	GY/6	:	Front power window regulator (Driver side)
D5	W/16	:	Power window main switch
D6	BR/3	:	Front door key cylinder switch (Driver side) (With super lock)
D7	B/6	:	Front door lock actuator assembly RI (With super 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)
D10	W/3	:	Power window main switch (Wagon models)

CEL138M

Front Door Harness (Passenger side)

LHD MODELS

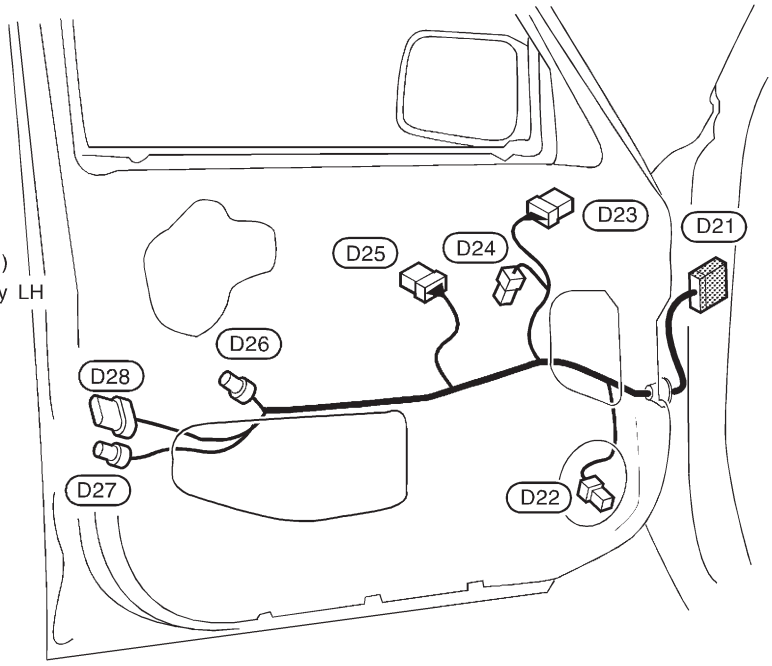


D21	W/18	:	To M84
D22	BR/2	:	Front door speaker RH
D23	W/8	:	Door mirror (Passenger side)
D24	B/2	:	Front power window regulator (Passenger side)
D25	W/8	:	Front power window switch (Passenger side)
D26	BR/3	:	Front door key cylinder switch (Passenger side) (For China and with super lock)
D27	GY/4	:	Front door lock actuator (Passenger side) (With multi-remote control system)
D28	B/6	:	Front door lock actuator assembly RH (With super lock)

CEL246A

RHD MODELS

D21	W/18	:	To M84
D22	BR/2	:	Front door speaker LH
D23	W/8	:	Door mirror (Passenger side)
D24	B/2	:	Front power window regulator (Passenger side)
D25	W/8	:	Front power window switch (Passenger side)
D26	BR/3	:	Front door key cylinder switch (Passenger side) (With super lock)
D27	GY/4	:	Front door lock actuator (Passenger side) (With multi-remote control system)
D28	B/6	:	Front door lock actuator assembly LH (With super lock)



CEL139M

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 LH	
D86	GY/4	: Back door lock actuator	
D87	W/4	: To B55	
D88	BR/3	: Back door key cylinder switch (For China)	

BACK DOOR HARNESS RH

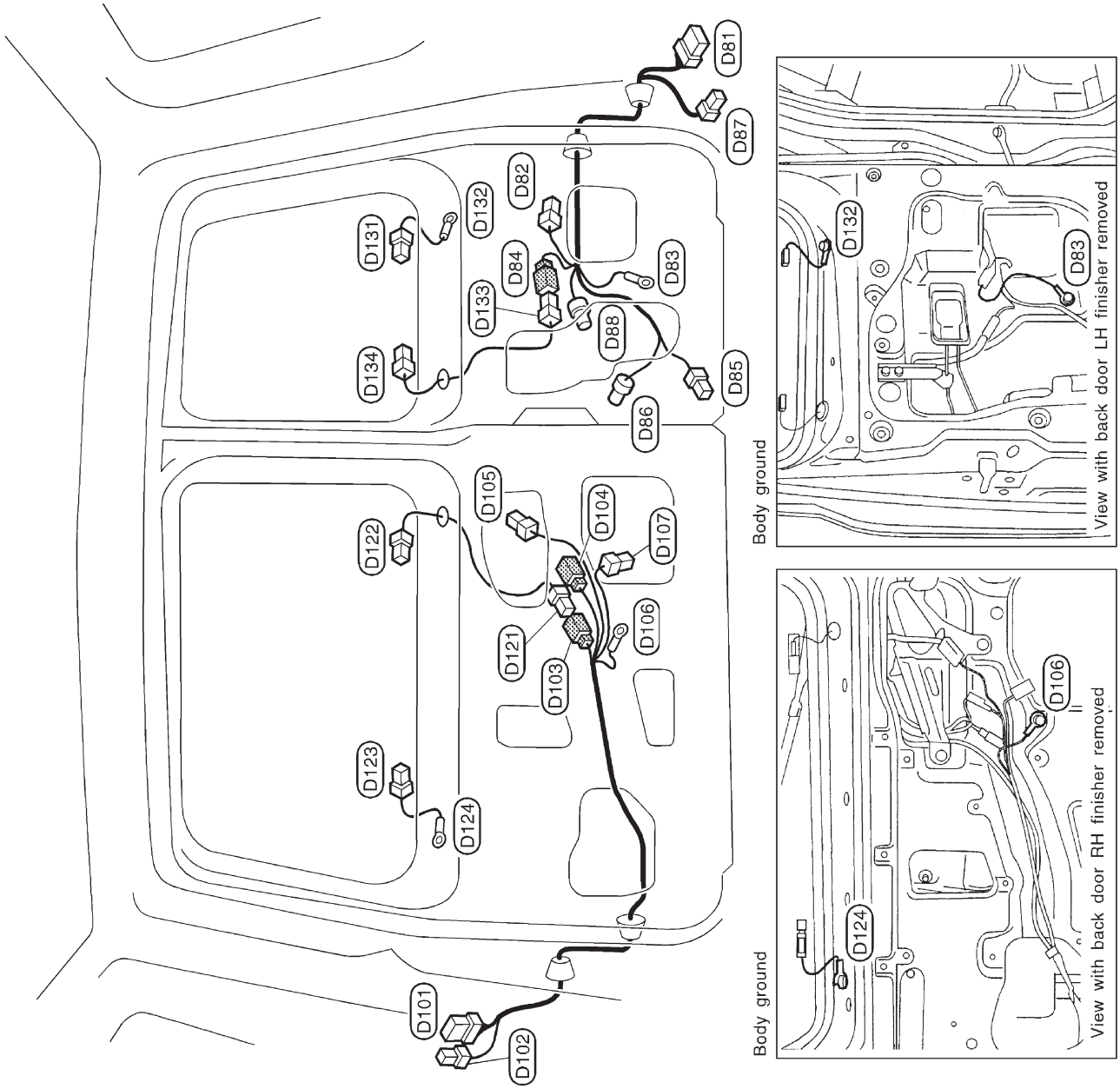
D101	W/6	: To B116 (LHD models)
		To B29 (RHD models)
D102	BR/1	: To B115 (LHD models)
		To B28 (RHD models)
D103	BR/1	: To D121
D104	W/2	: High-mounted stop lamp
D105	W/4	: Rear wiper motor
D106	–	: Body ground
D107	W/3	: Back door switch RH

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 (+)



CEL251A

Wiring Diagram Codes (Cell Codes)

Use the chart below to find out what each wiring diagram code stands for.
Refer to the wiring diagram code in the alphabetical index to find the location (Page number) of each wiring diagram.

Code	Section	Wiring Diagram Name
A/C,A	HA	Auto Air Conditioner
A/C,M	HA	Manual Air Conditioner
A/CCUT	EC	Air Conditioner Control
A/T	AT	A/T
ABS	BR	Anti-lock Brake System
ACC/SW	EC	Accelerator Switch (FC)
ACL/SW	EC	Accelerator Position Switch
APS	EC	Accelerator Position Sensor
ASCD	EL	Automatic Speed Control Device
AT/C	EC	A/T Control
BACK/L	EL	Back-up Lamp
BCDD	EC	BCDD System
BOOST	EC	Turbo Charger Boost Sensor
BRK/SW	EC	Brake Switch Signal
CHARGE	EL	Charging System
CHIME	EL	Warning Chime
CHOKE	EC	Automatic Choke
CKPS	EC	Crankshaft Position Sensor (OBD)
COOL/B	HA	Cool Box
COOL/F	EC	Cooling Fan Control
CORNER	EL	Cornering Lamp
DEF	EL	Rear Window Defogger
DIFF/L	PD	Differential Lock Control System
DTRL	EL	Headlamp — With Daytime Light System
ECMRLY	EC	ECM Relay
ECTS	EC	Engine Coolant Temperature Sensor
EGVC/V	EC	EGR Volume Control Valve
EXH	EC	Exhaust Gas Control Valve Control Solenoid Valve
F/FOG	EL	Front Fog Lamp
F/PUMP	EC	Fuel Pump
FCUT	EC	Fuel Cut System
FICD	EC	IACV-FICD Solenoid Valve
FIPOT	EC	ISC-FI POT
FPCM	EC	Fuel Pump Control Module
GLOW	EC	Quick Glow System
HEATER	HA	Heater System
HEATUP	EC	Heat up Switch
HLC	EL	Headlamp Wiper and Washer
HORN	EL	Horn
IGN	EC	Ignition Control System
ILL	EL	Illumination
INJPMP	EC	Electronic Control Fuel Injection Pump
INT/V	EC	Intake Air Control Valve Control Solenoid Valve
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
MULTI	EL	Multi-remote Control System
NATS	EL	Nissan Anti-Theft System
P/ANT	EL	Power Antenna
PNP/SW	EC	Park/Neutral Position Switch
POWER	EL	Power Supply Routing
R/COOL	HA	Rear Cooler System
R/FOG	EL	Rear Fog Lamp
R/HEAT	HA	Rear Heater System
REMOTE	EL	Audio (Remote Control Switch)
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
SHIFT	AT	A/T Shift Lock System
SRS	RS	Supplemental Restraint System
STAB	RA	Stabilizer Release Device
START	EL	Starting System
STOP/L	EL	Stop Lamp
SWL/V	EC	Swirl Control Valve Control Solenoid Valve
TAIL/L	EL	Parking, License and Tail Lamps
TURN	EL	Turn Signal and Hazard Warning Lamps
VSS	EC	Vehicle Speed Sensor
WARN	EL	Warning Lamps

Wiring Diagram Codes (Cell Codes) (Cont'd)

Code	Section	Wiring Diagram Name
VNT	EC	Variable Nozzle Turbocharger Control Solenoid Valve
WINCH	SE	Electrical Winch
WINDOW	EL	Power Window
WIPER	EL	Front Wiper and Washer