ELECTRICAL SYSTEM

SECTION EL

MODIFICATION NOTICE:

- Unified combination meter (digital odo/trip) has been adopted.
- Room lamp timer has been adopted as an option on RHD models except for Europe and Australia.
- Multi-remote control system has been adopted to models for Europe.
- Rear fog lamp warning buzzer has been deleted on models for Europe.
- Control unit for power door lock system has been changed on RHD models except for Europe and Australia.
- NATS has been changed as follows:

a. For LHD models, NATS antenna amp. has been integrated with NATS IMMU which is located on the ignition key cylinder.
b. For LHD and RHD models, trouble diagnoses for NATS have been changed.

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

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Terminal Arrangement ..... Foldout

WIRING DIAGRAM REFERENCE CHART

ECCS (Ignition system, Cooling fan system) ..... **EC SECTION**
AUTOMATIC TRANSAXLE CONTROL SYSTEM ..... **AT SECTION**
ANTI-LOCK BRAKE SYSTEM ..... **BR SECTION**
SRS "AIR BAG" ..... **RS SECTION**
HEATER AND AIR CONDITIONER ..... **HA SECTION**

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER (Mechanically activated type)" 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 N15 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 (Mechanically activated type), 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 (which is one of components of air bags for a frontal collision), wiring harness, warning lamp (which is one of components of air bags for a frontal collision).

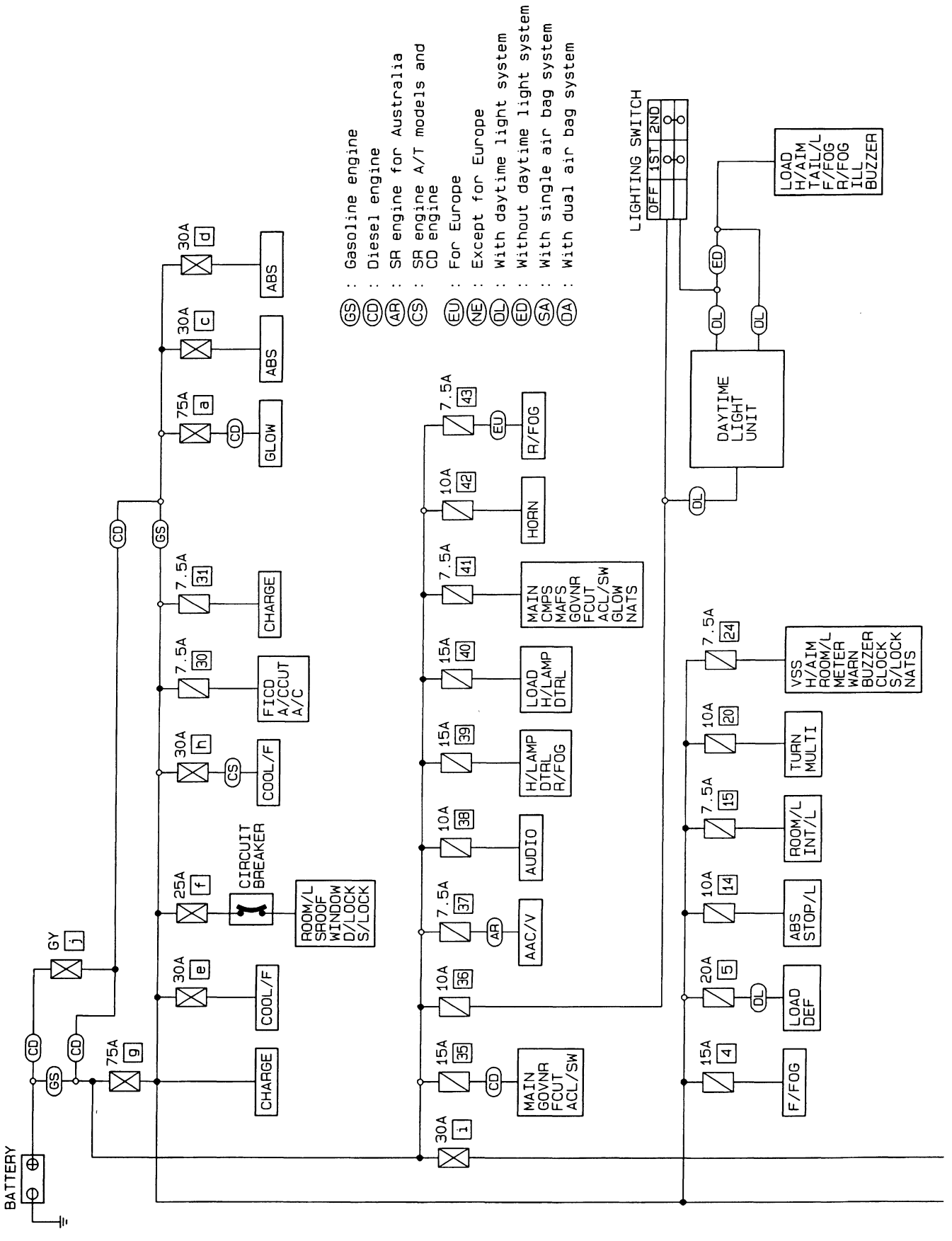
Information necessary to service the system safely is included in the **RS section** of this Service Manual.

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

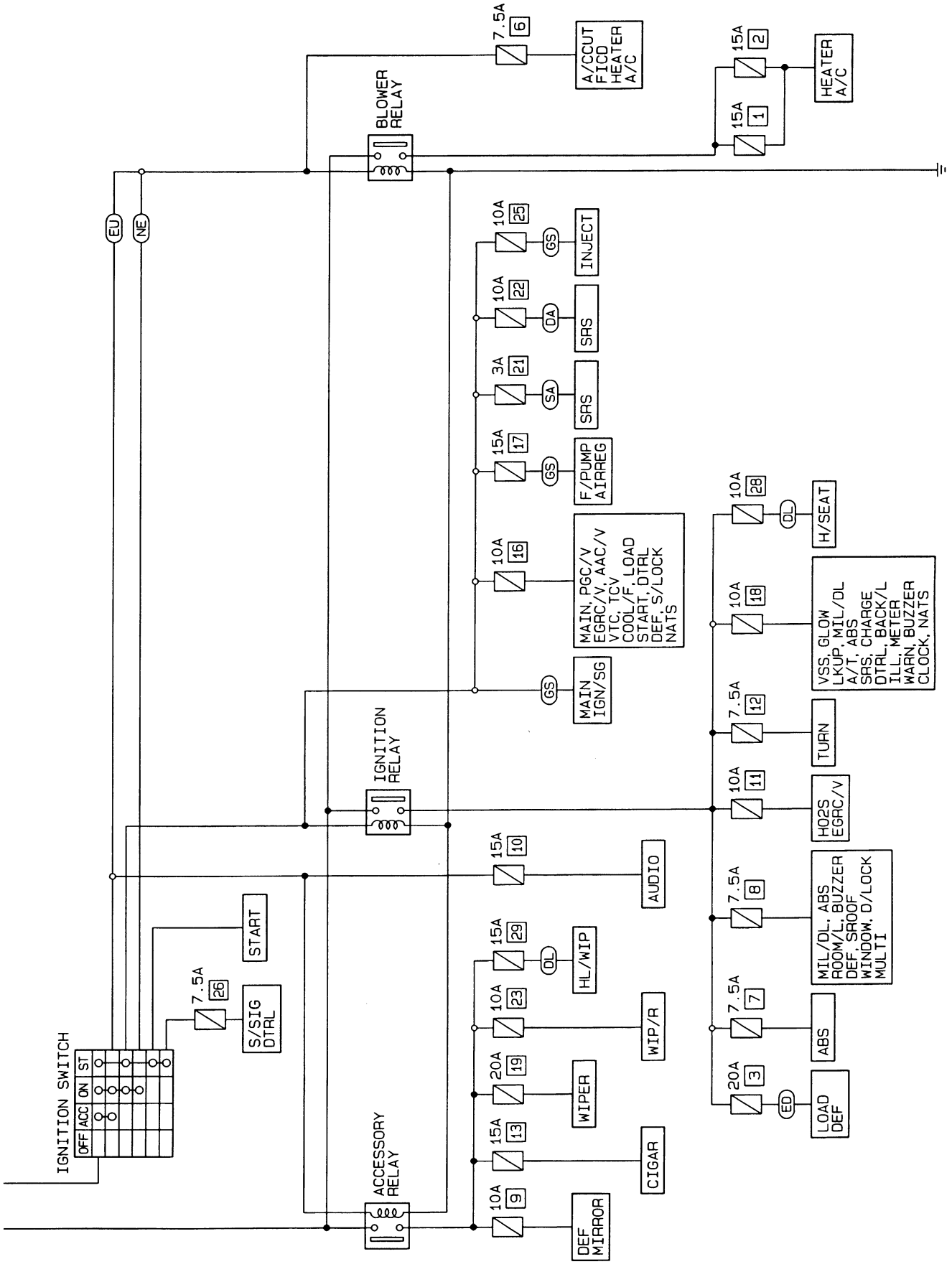
NOTE

Schematic



HEL126A

Schematic (Cont'd)

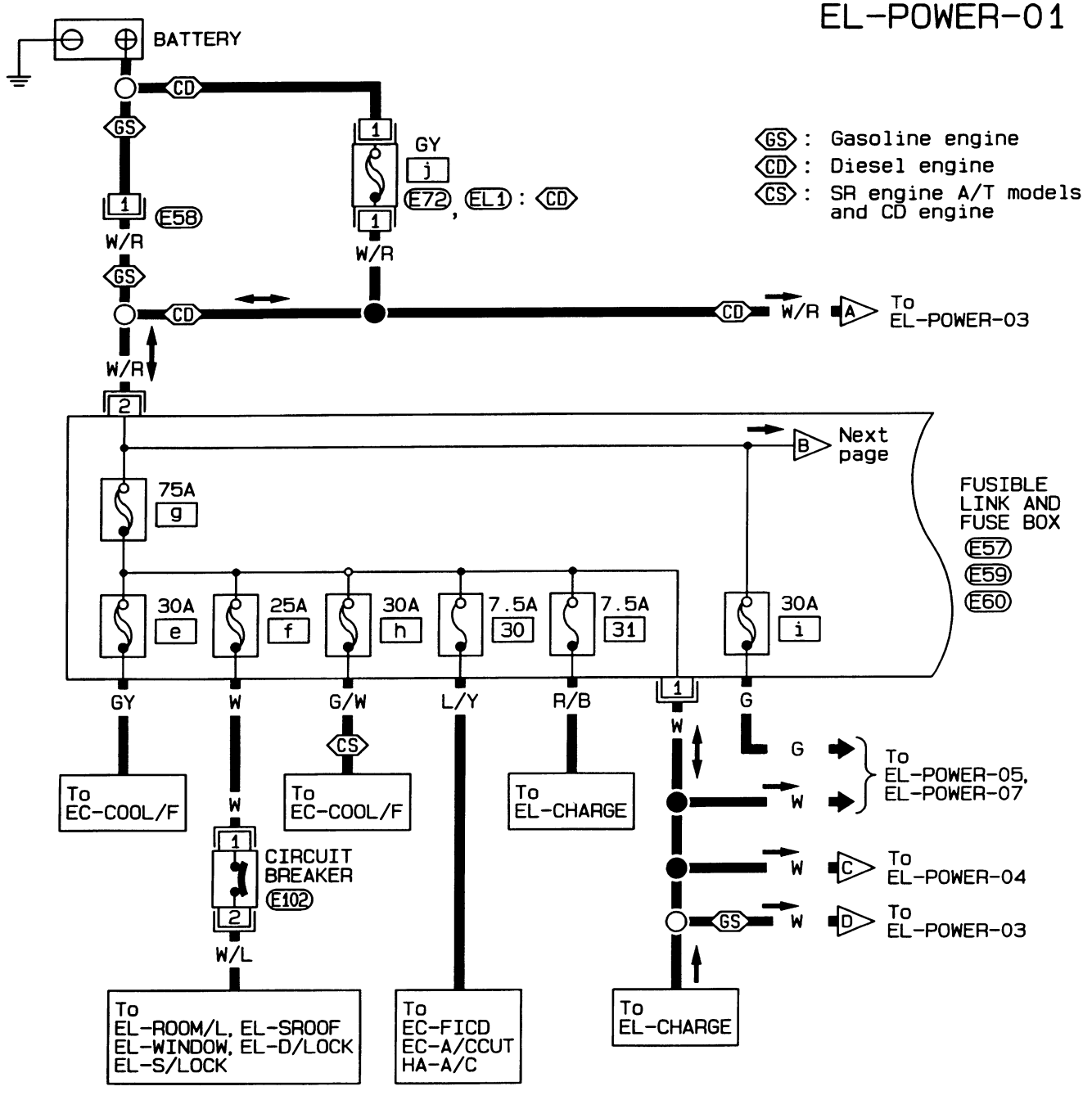


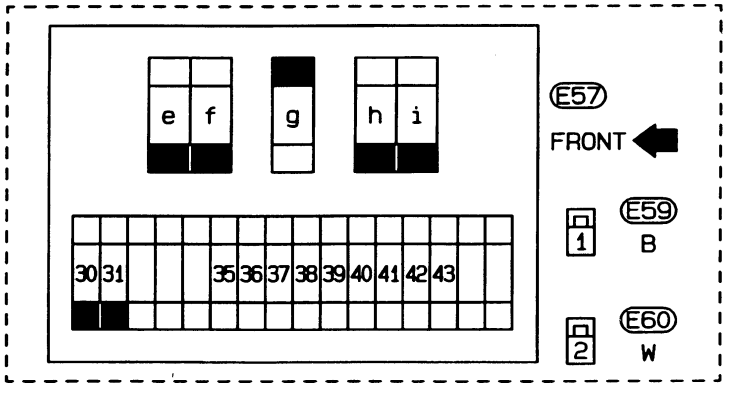
HEL127A

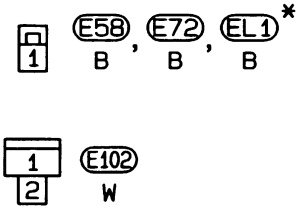
Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

EL-POWER-01





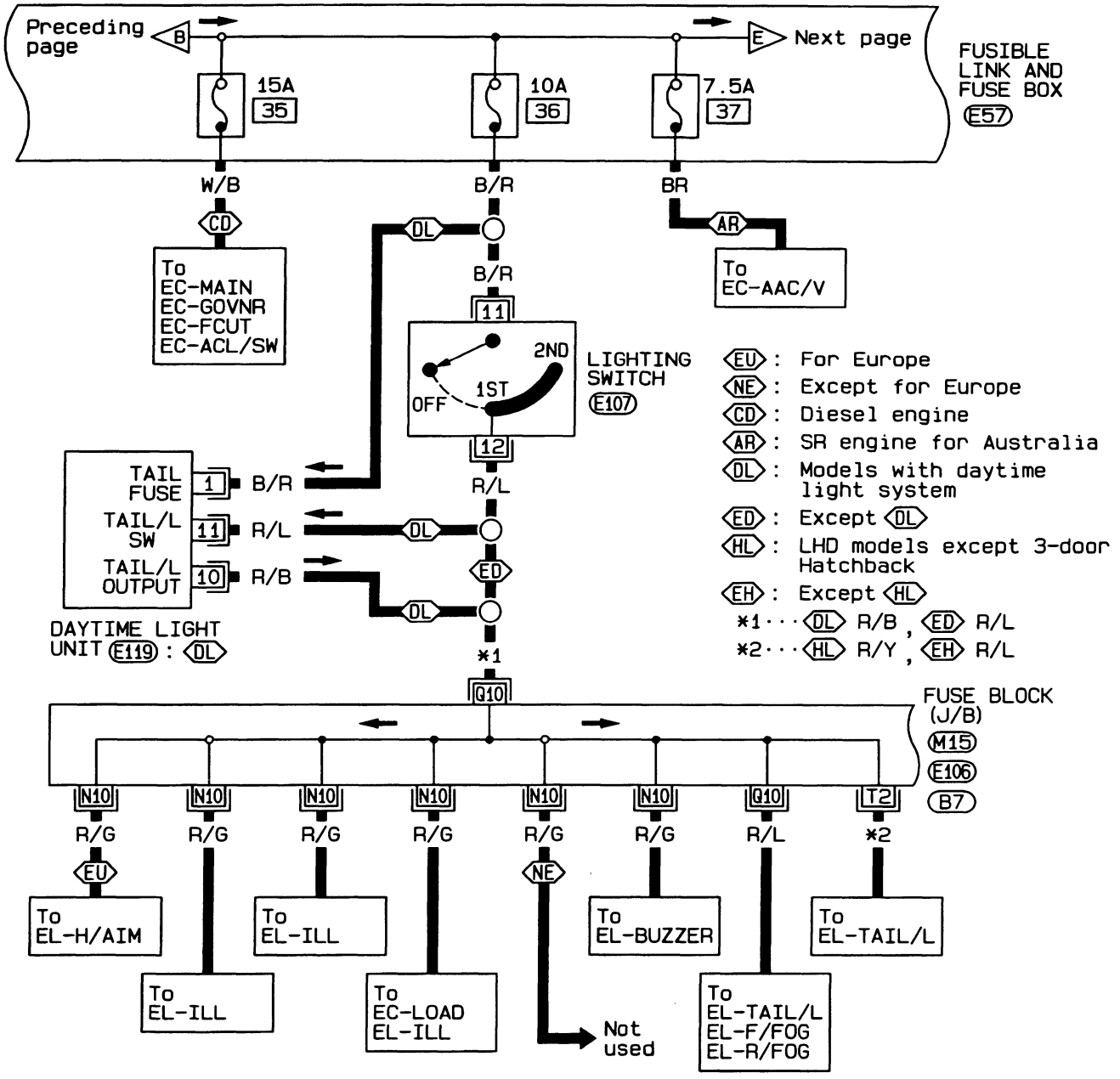


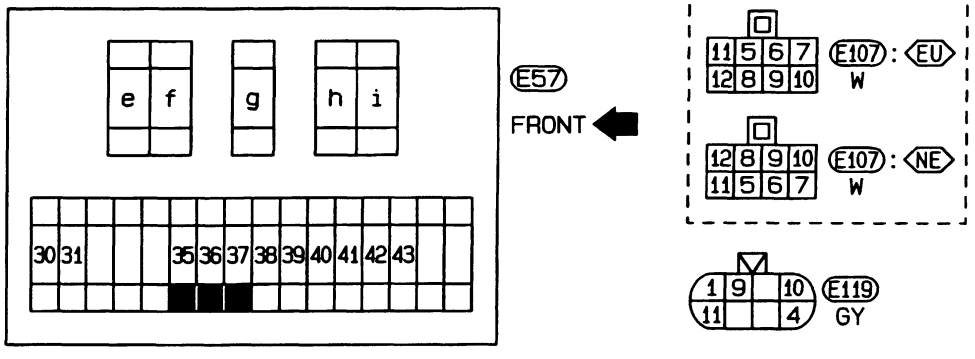
*: This connector is not shown in "HARNESS LAYOUT".

HEL128A

Wiring Diagram — POWER — (Cont'd)

EL-POWER-02



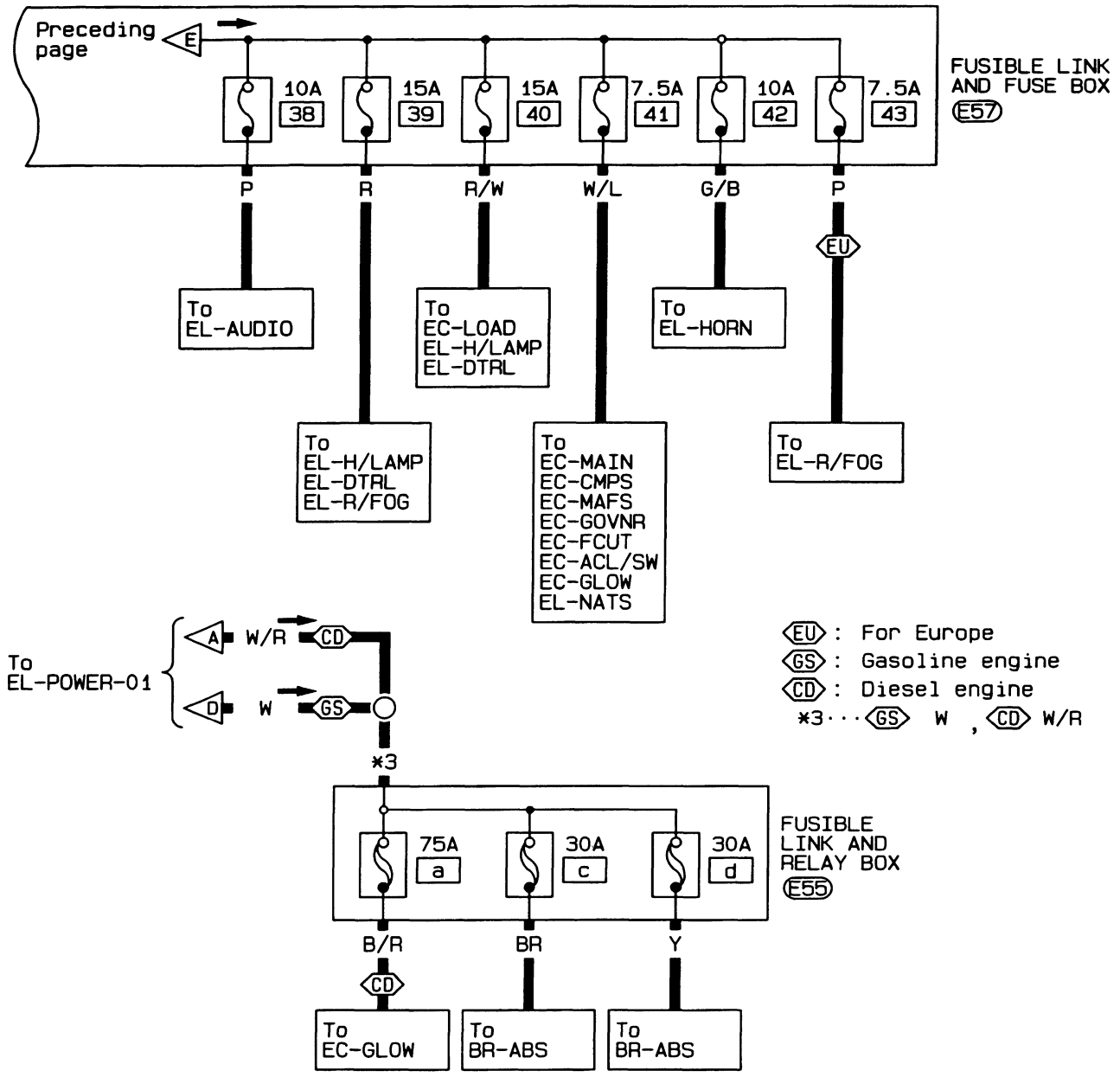


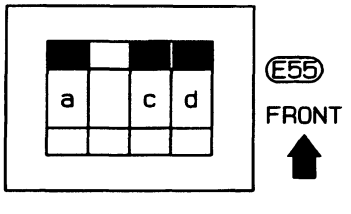
Refer to last page (Foldout page).
M15, E106, B7

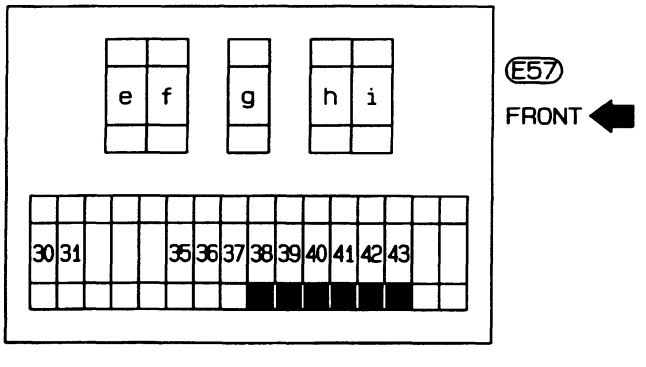
HEL129A

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03



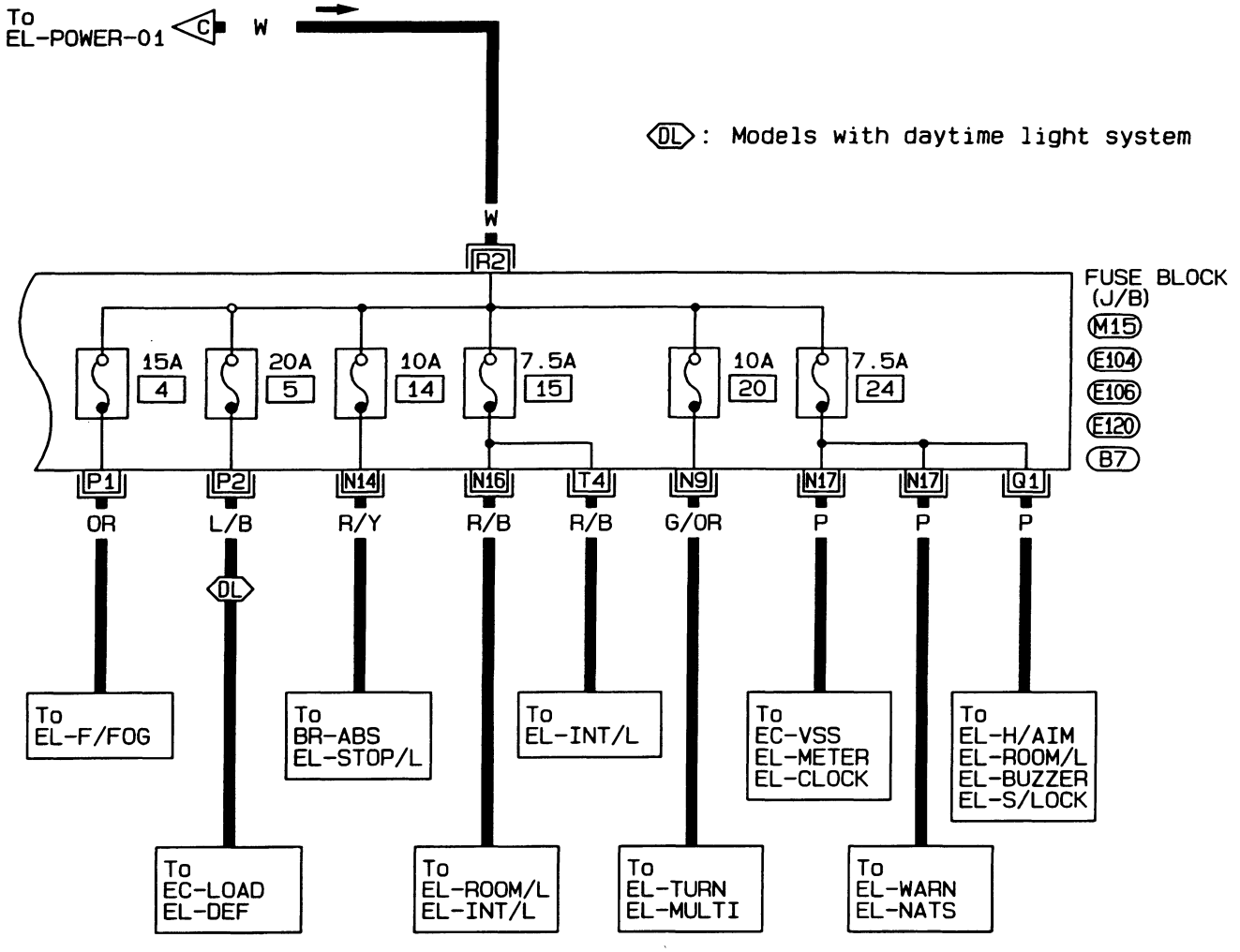




HEL130A

Wiring Diagram — POWER — (Cont'd)

EL-POWER-04



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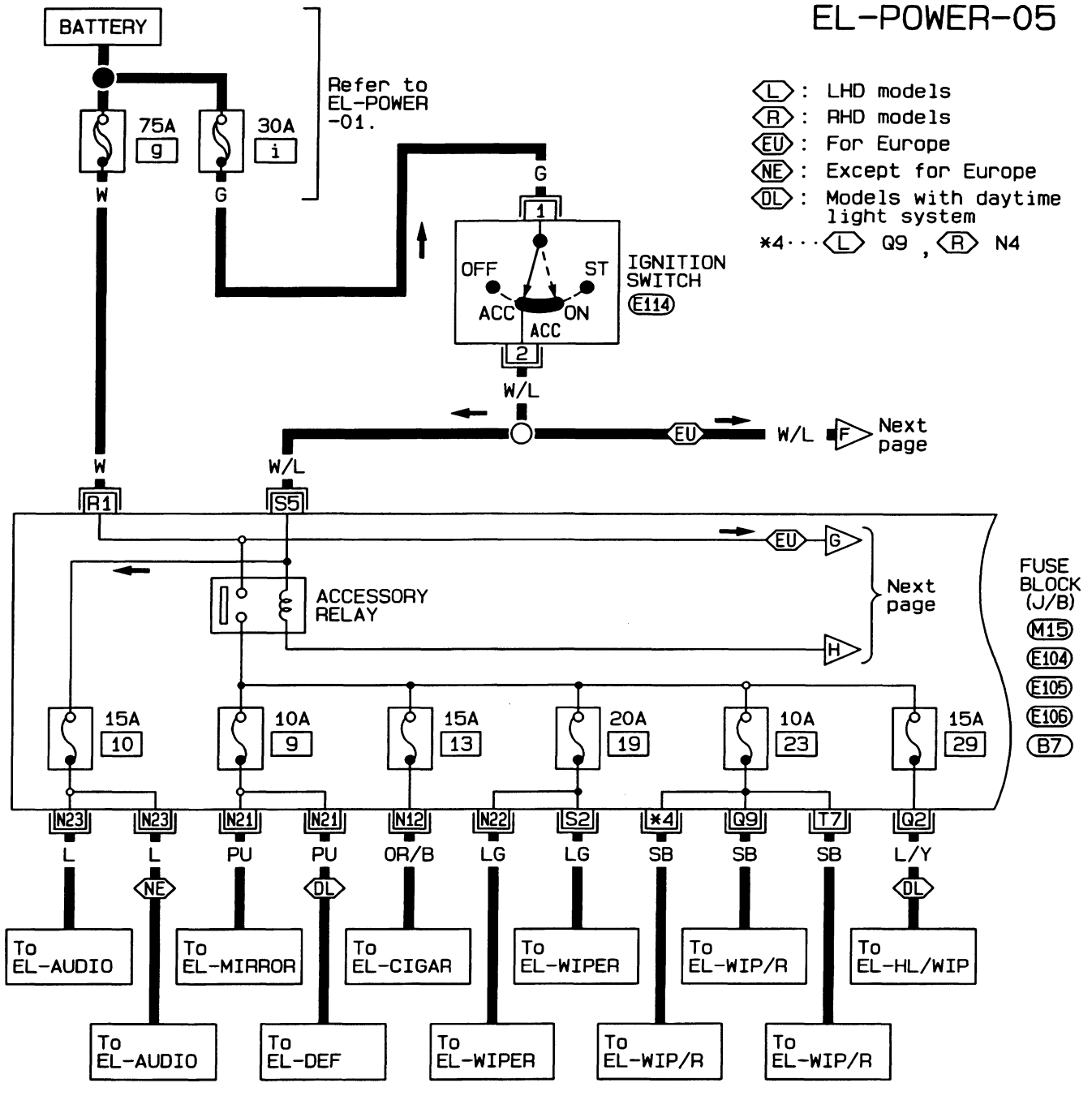
M15, E104, E106, E120, B7

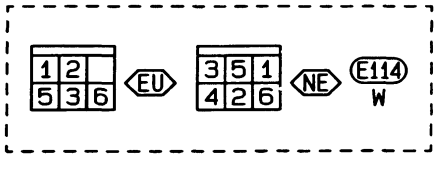
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HEL131A

Wiring Diagram — POWER — (Cont'd)

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





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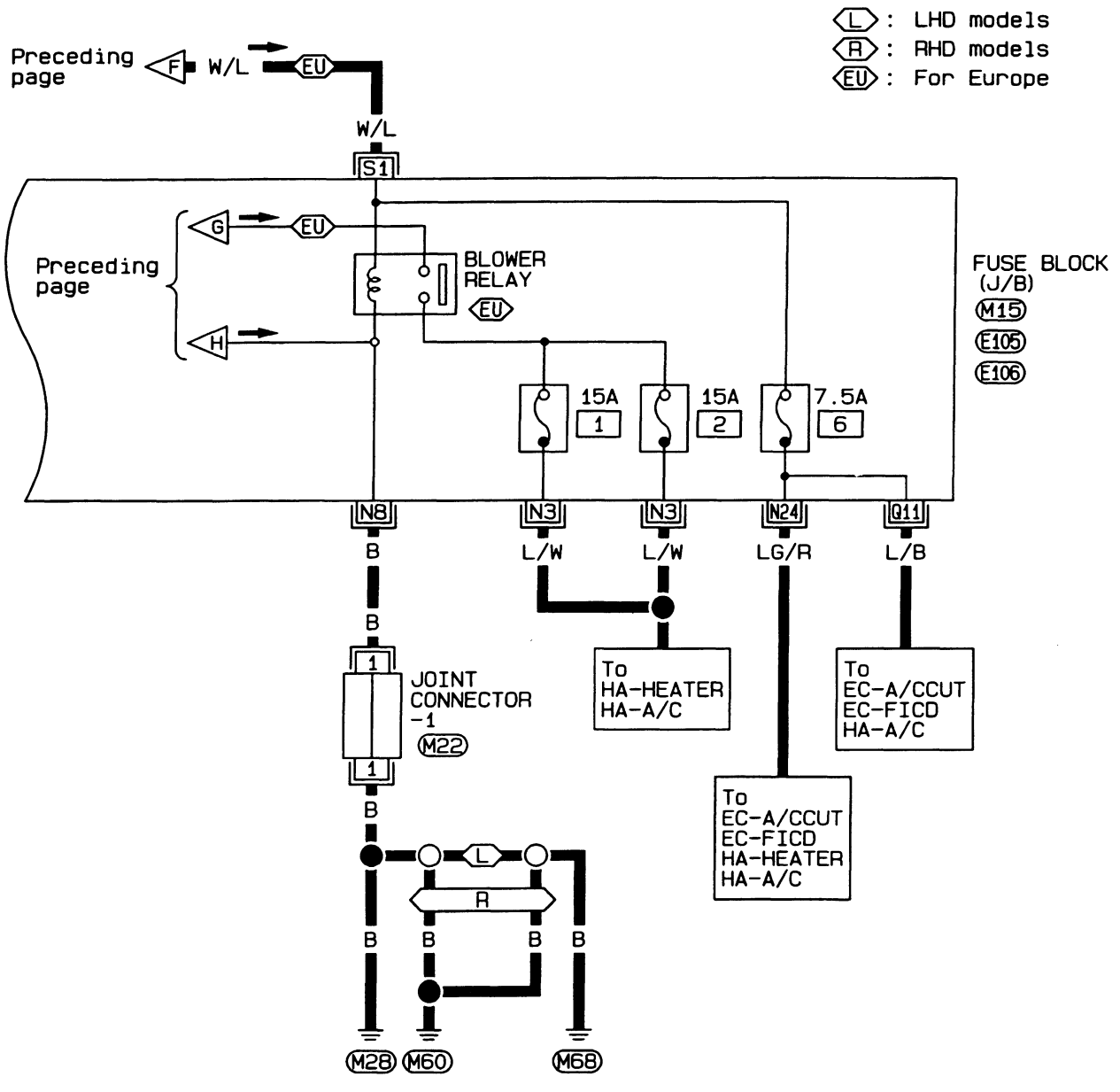
M15 , E104 , E105 , E106 , B7

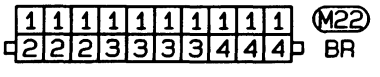
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HEL132A

Wiring Diagram — POWER — (Cont'd)

EL-POWER-06





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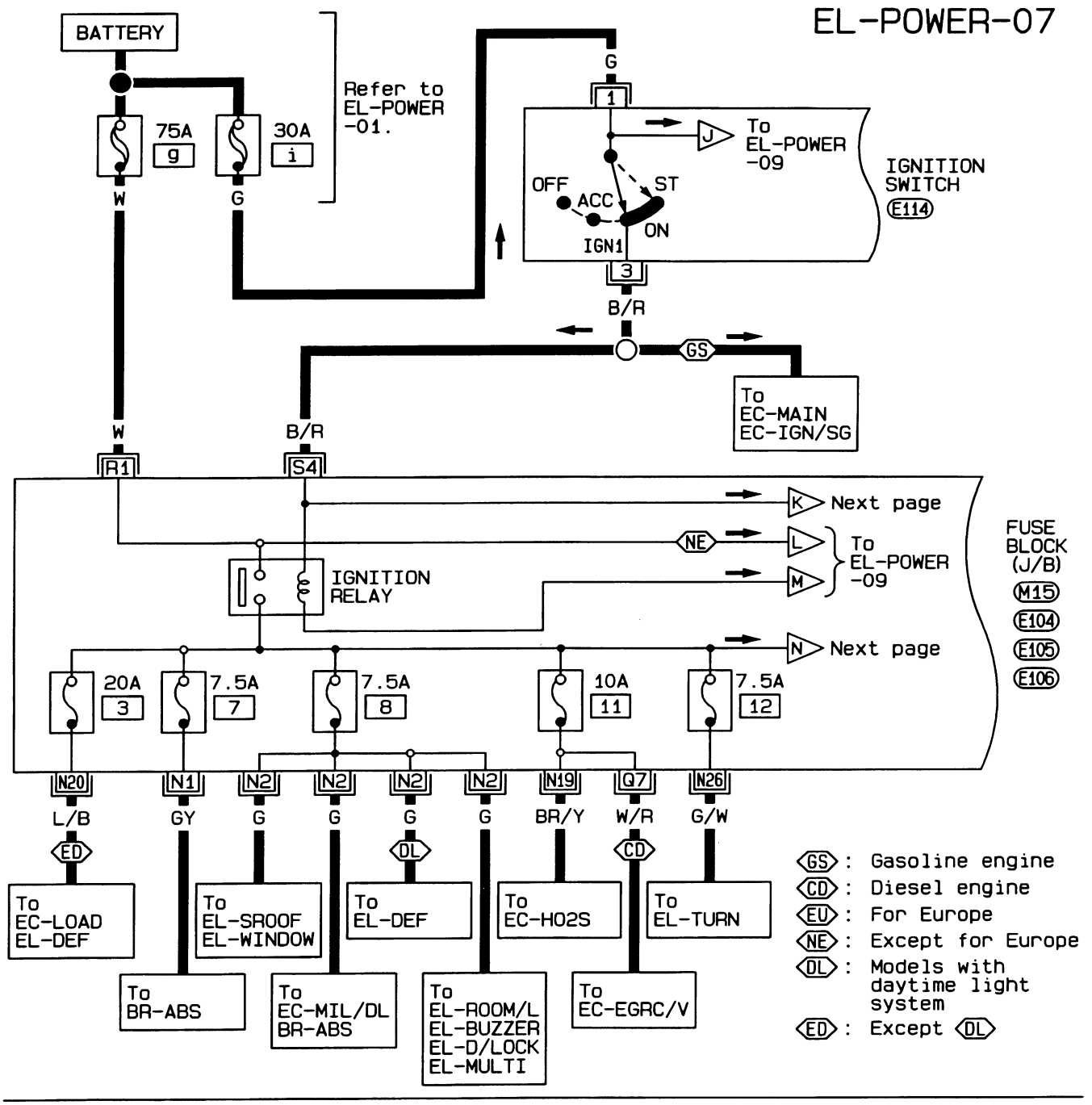
M15, E105, E106

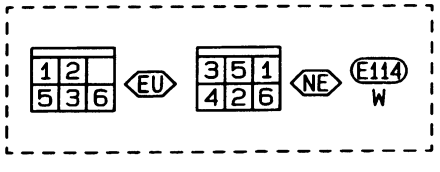
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HEL133A

Wiring Diagram — POWER — (Cont'd)

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





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M15, E104, E105, E106

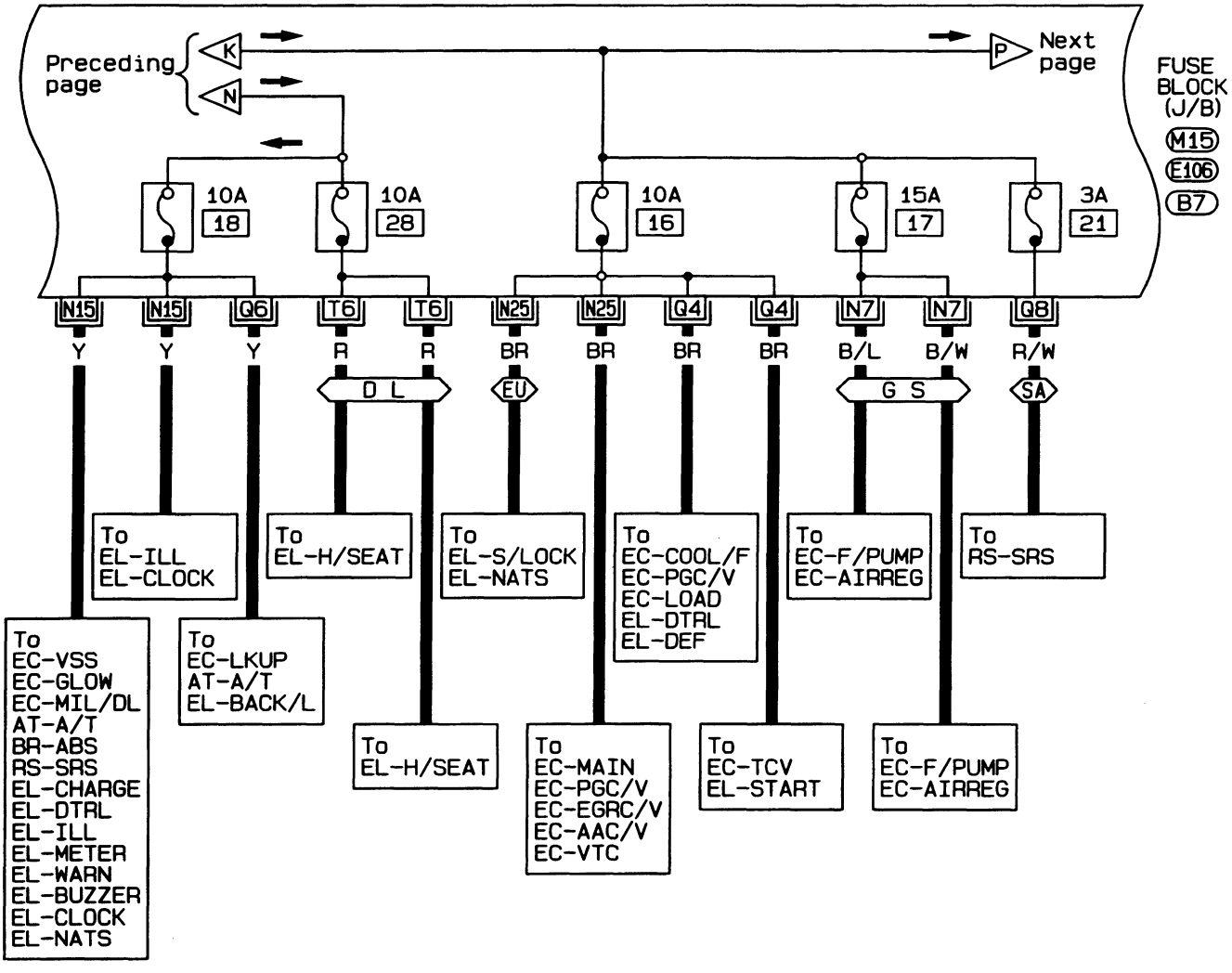
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HEL134A

Wiring Diagram — POWER — (Cont'd)

EL-POWER-08

GS : Gasoline engine
EU : For Europe
DL : Models with daytime light system
SA : With single air bag system



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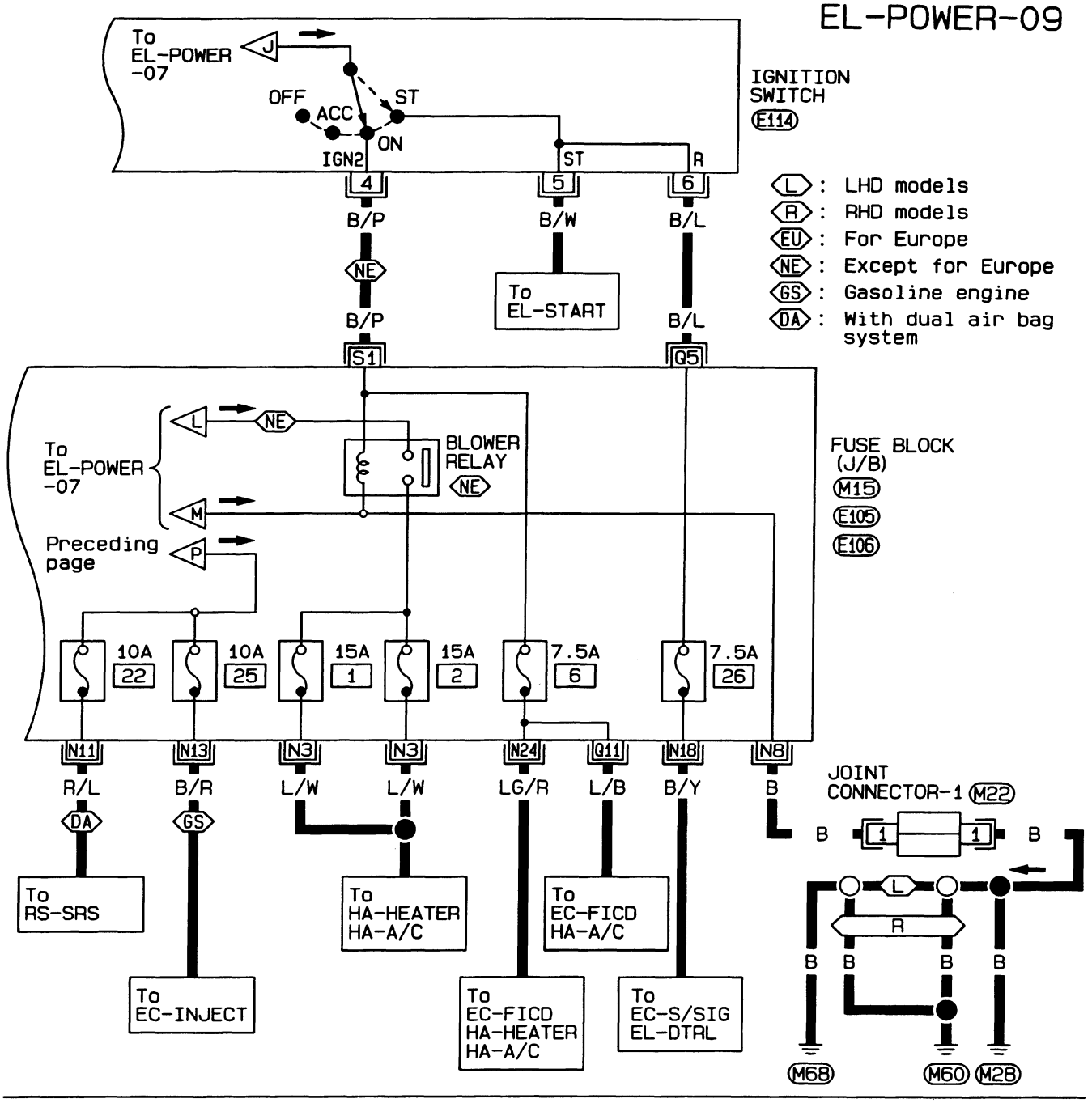
M15, E106, B7

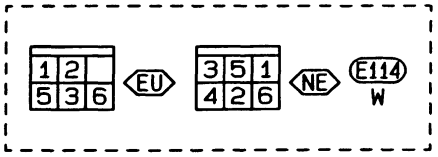
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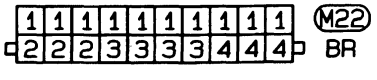
HEL135A

Wiring Diagram — POWER — (Cont'd)

EL-POWER-09







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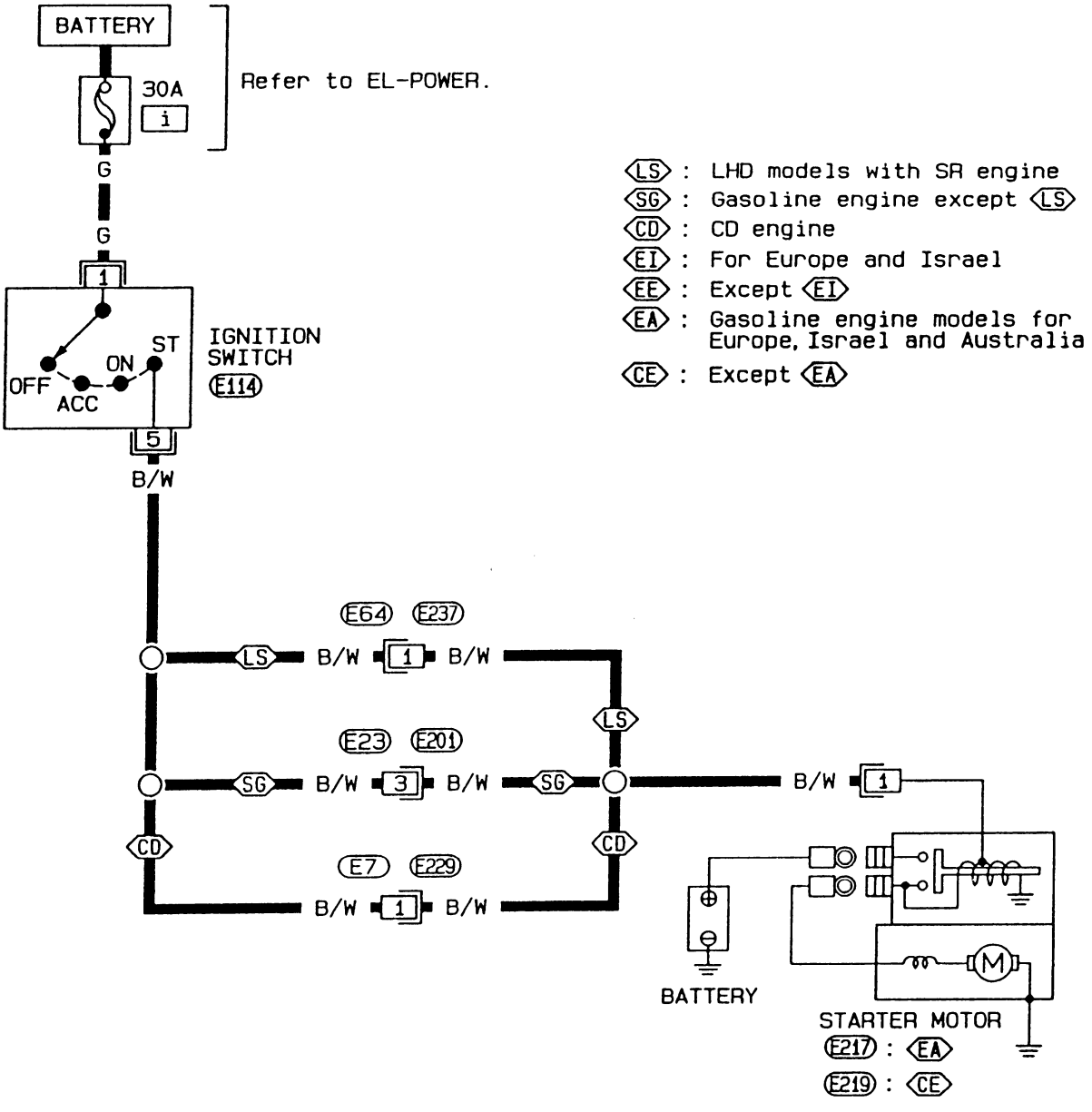
M15, E105, E106

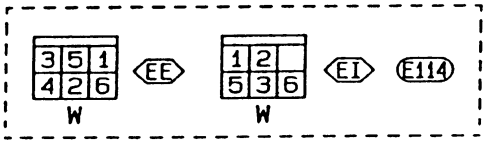
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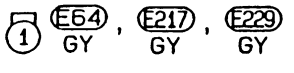
HEL136A

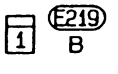
Wiring Diagram — START —/M/T Models

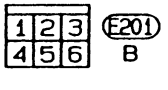
EL-START-01







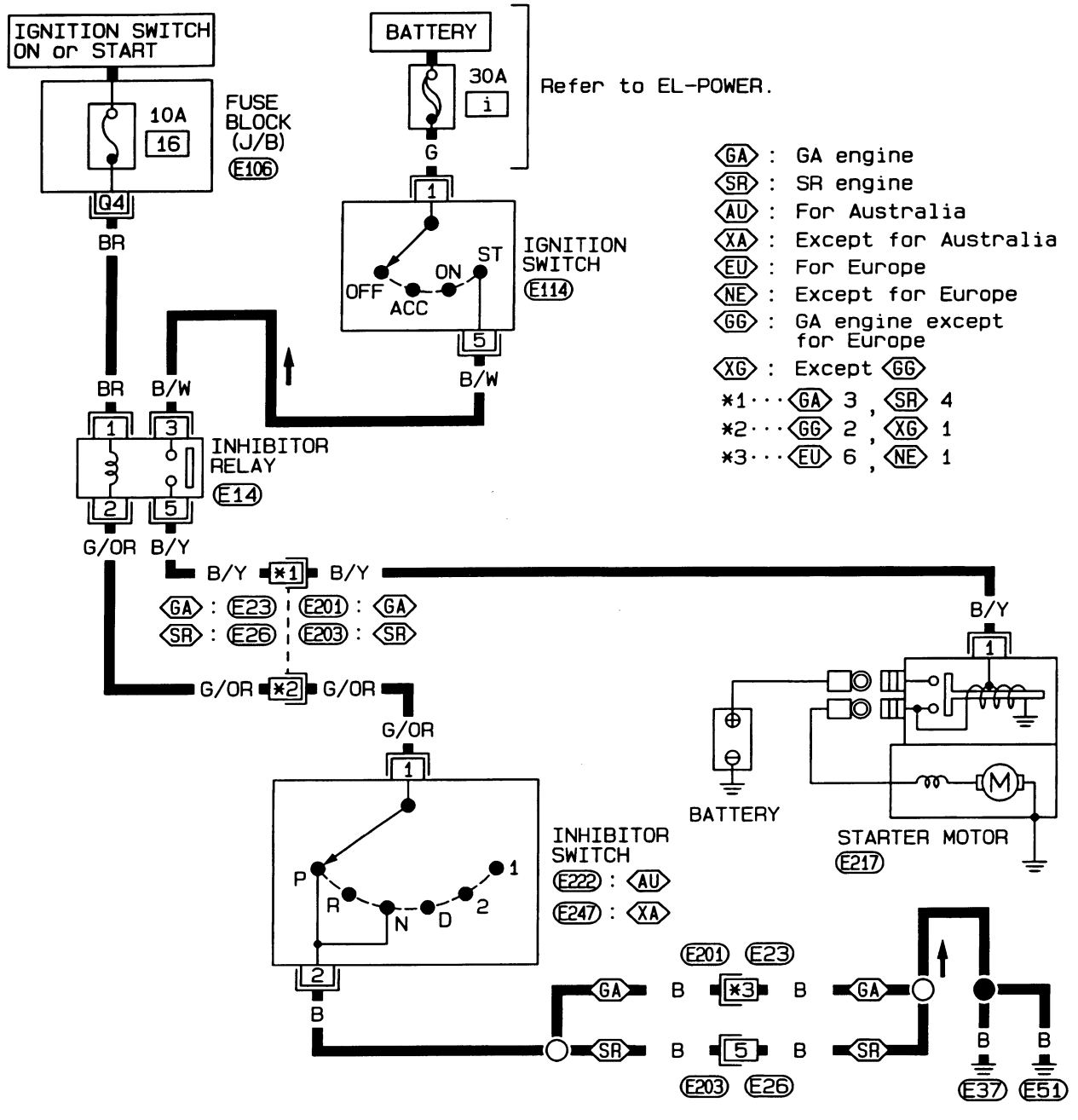


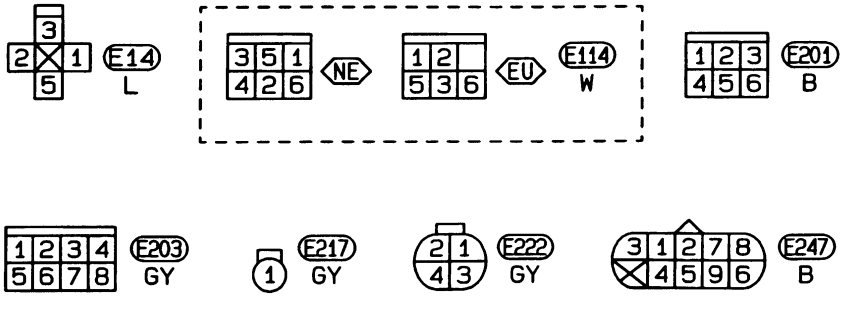


HEL507

Wiring Diagram — START —/A/T Models

EL-START-02





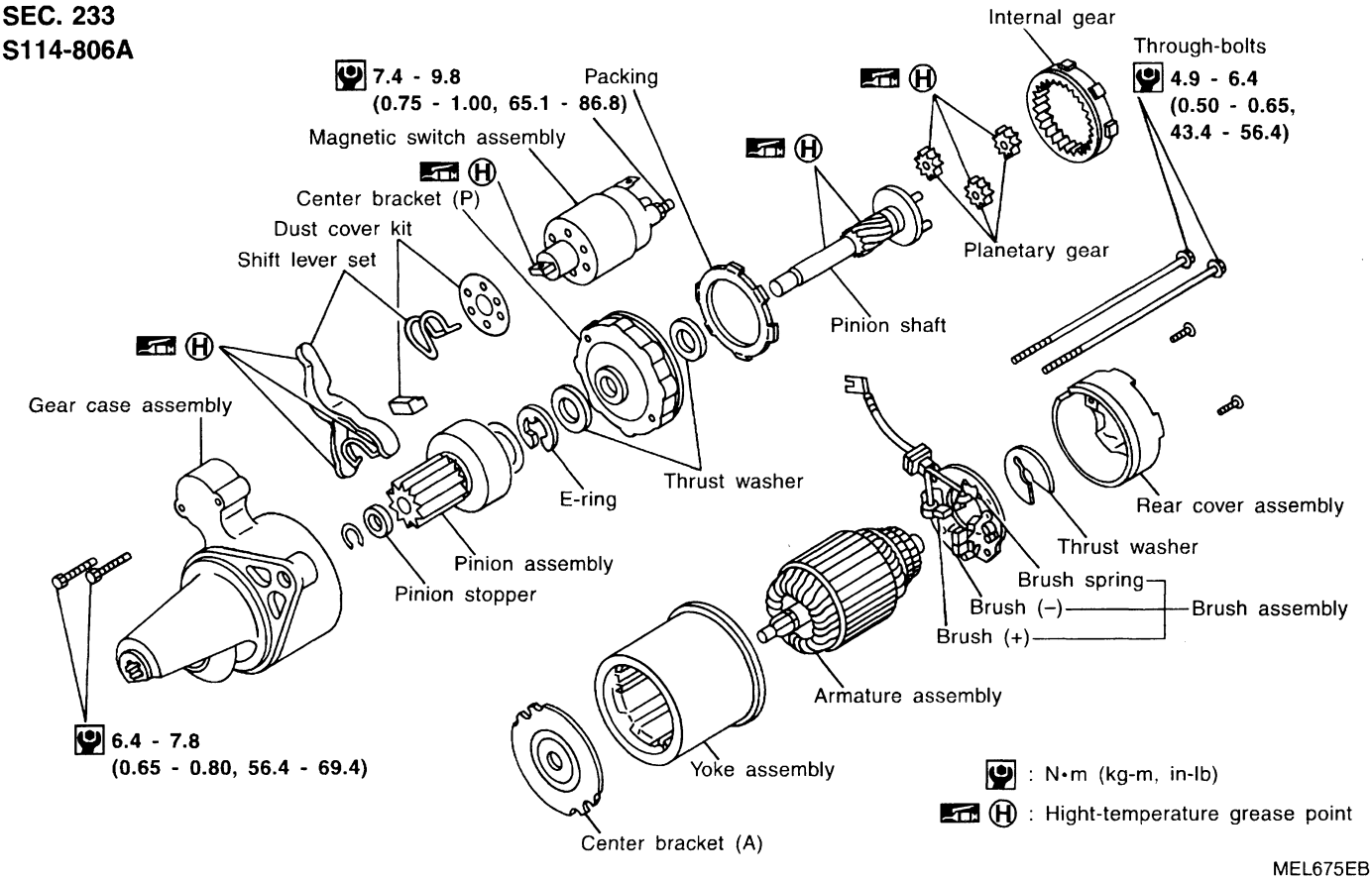
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E106

HEL137A

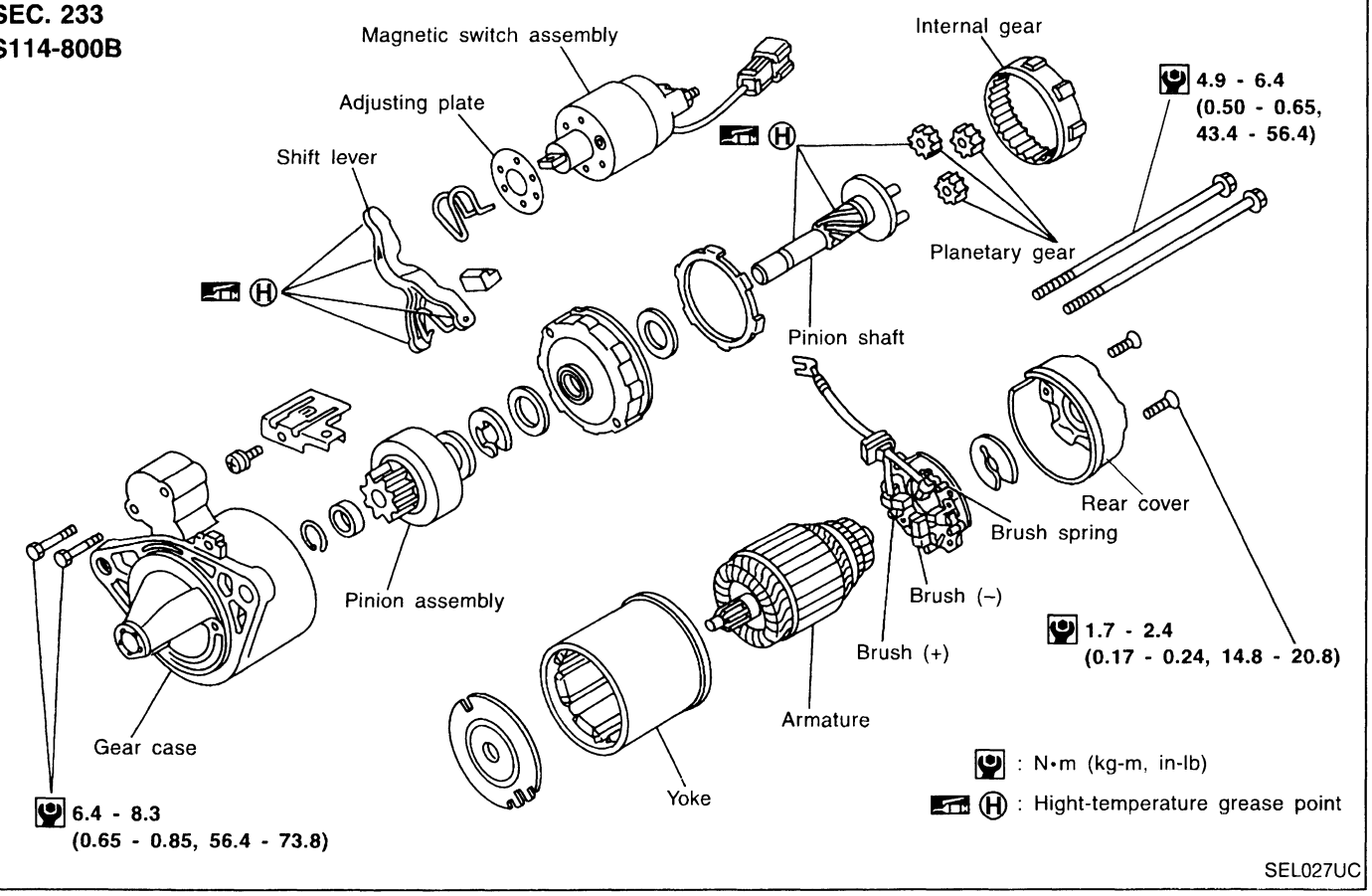
Construction

SEC. 233
S114-806A



MEL675EB

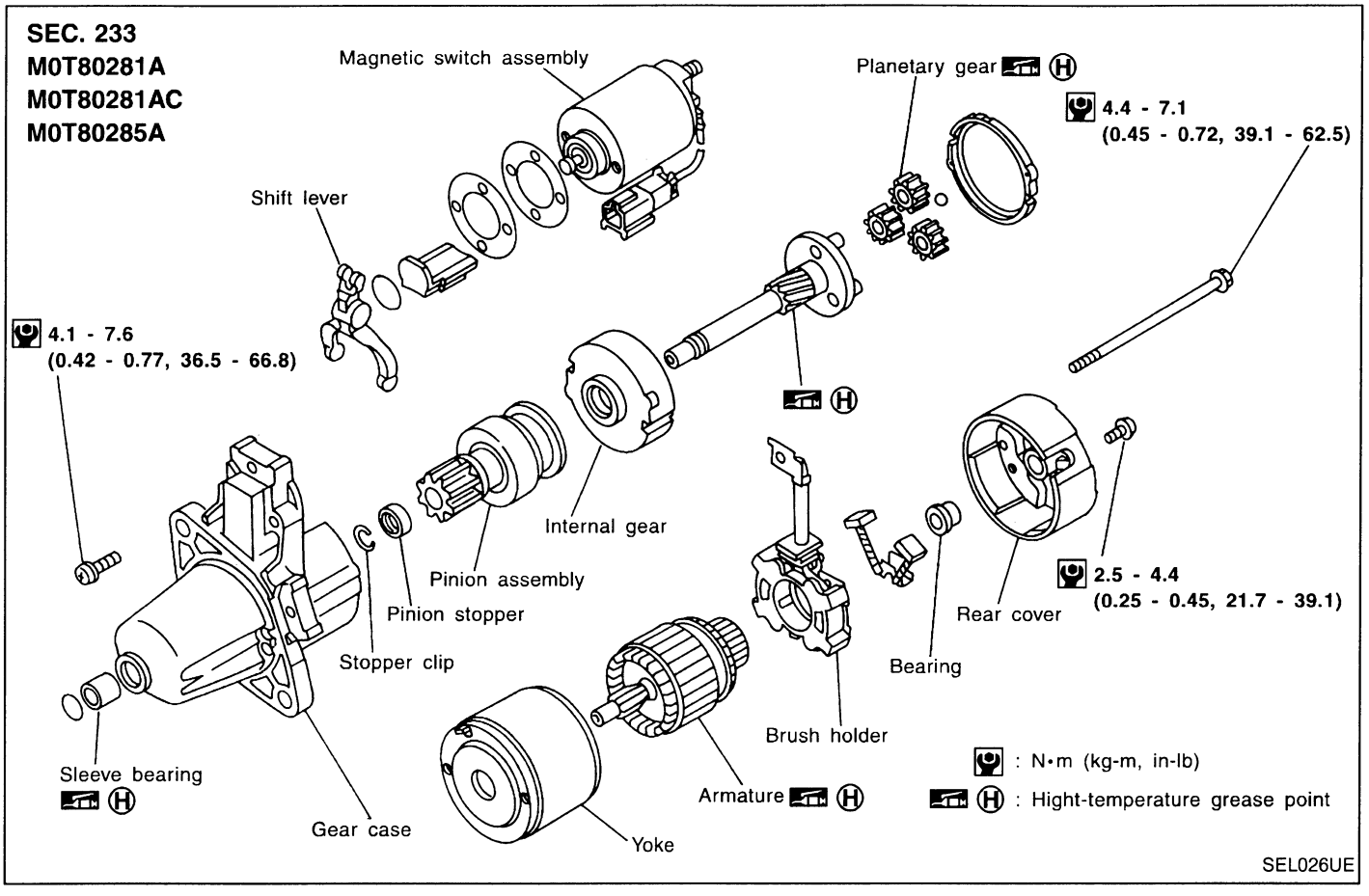
SEC. 233
S114-800B



SEL027UC

Construction (Cont'd)

SEC. 233
M0T80281A
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Service Data and Specifications (SDS)

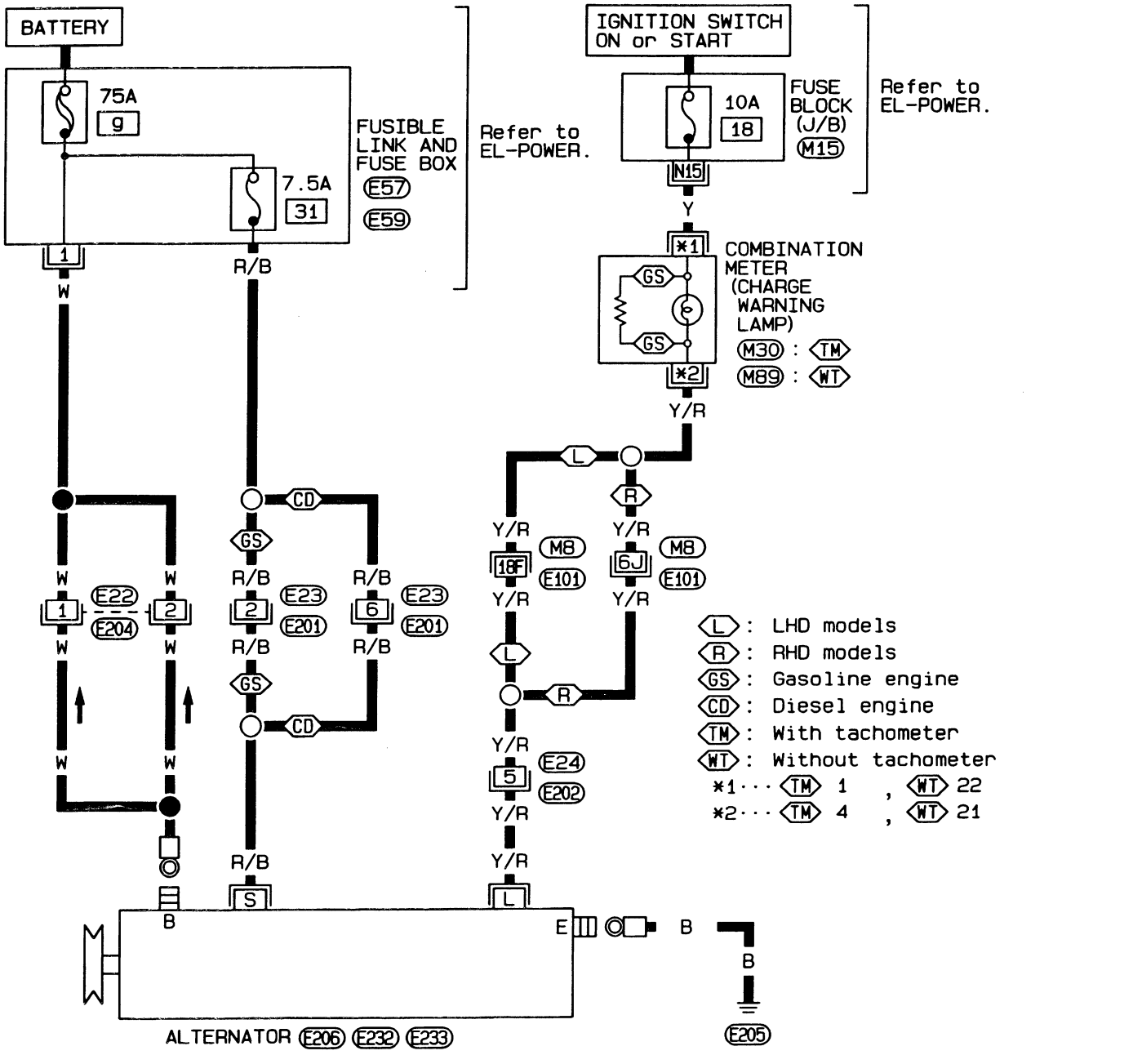
STARTER

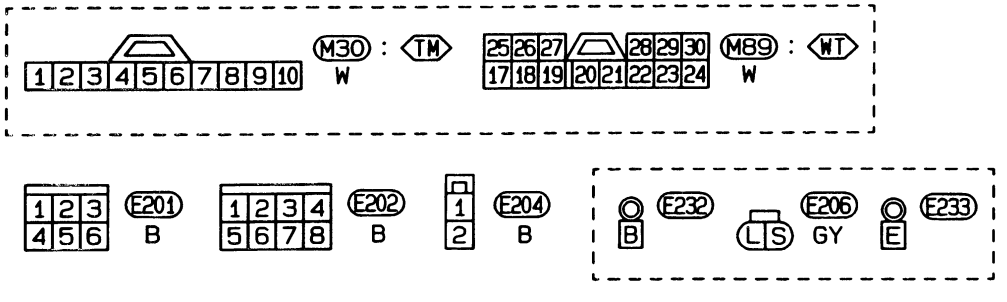
Type		S114-806A	S114-800B	M0T80281AC	M0T80281A	M0T80285A
		HITACHI		MITSUBISHI		
		Reduction		Non-reduction		
Applied model		SR20DE engine	GA engine			
			A/T	M/T		
		Standard				Option
System voltage	V	12				
No-load						
	Terminal voltage V	11.0				
	Current A	Less than 90				
	Revolution rpm	More than 2,700		More than 2,750		
Minimum diameter of commutator	mm (in)	28.0 (1.102)		28.8 (1.134)		
Minimum length of brush	mm (in)	10.5 (0.413)		7.0 (0.276)		
Brush spring tension	N (kg, lb)	12.7 - 17.7 (1.3 - 1.8, 2.9 - 4.0)		11.8 - 23.5 (1.2 - 2.4, 2.6 - 5.3)		18.3 - 24.8 (1.87 - 2.53, 4.12 - 5.58)
Clearance between bearing metal and armature shaft	mm (in)	Less than 0.2 (0.008)				
Clearance "ℓ" between pinion front edge and pinion stopper	mm (in)	0.3 - 2.5 (0.012 - 0.098)		0.5 - 2.0 (0.020 - 0.079)		

Wiring Diagram — CHARGE —/For Europe Type A

FOR EUROPE — Except LHD models with SR engine

EL-CHARGE-01





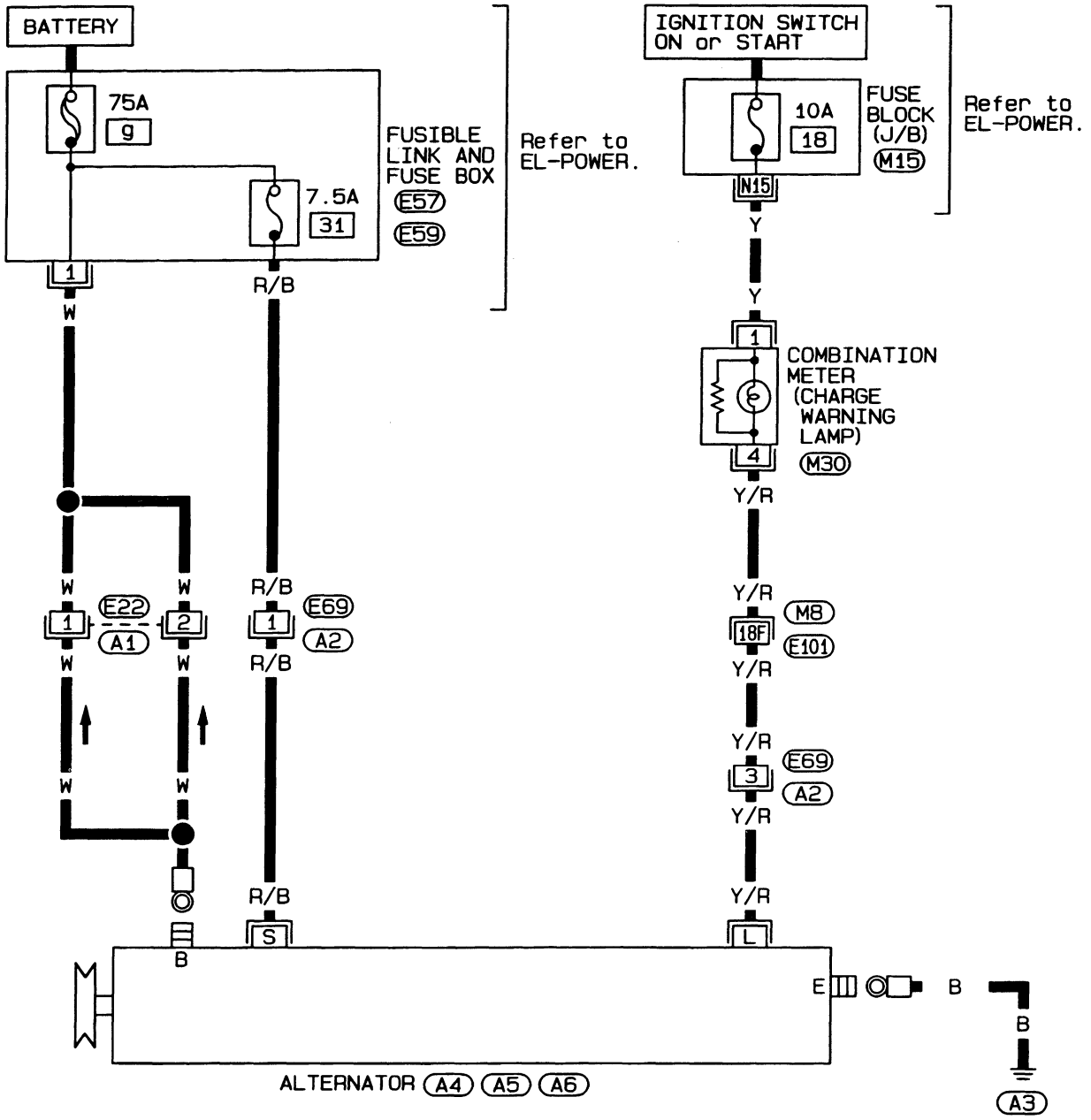
Refer to last page (Foldout page).
M8 , E101
M15
E57 , E59

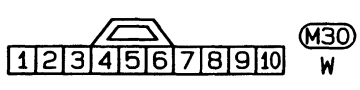
HEL138A

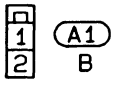
Wiring Diagram — CHARGE —/For Europe Type B

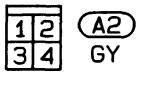
FOR EUROPE — LHD models with SR engine

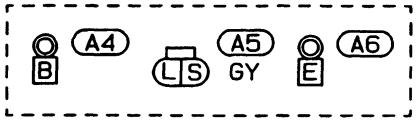
EL-CHARGE-02











Refer to last page (Foldout page).

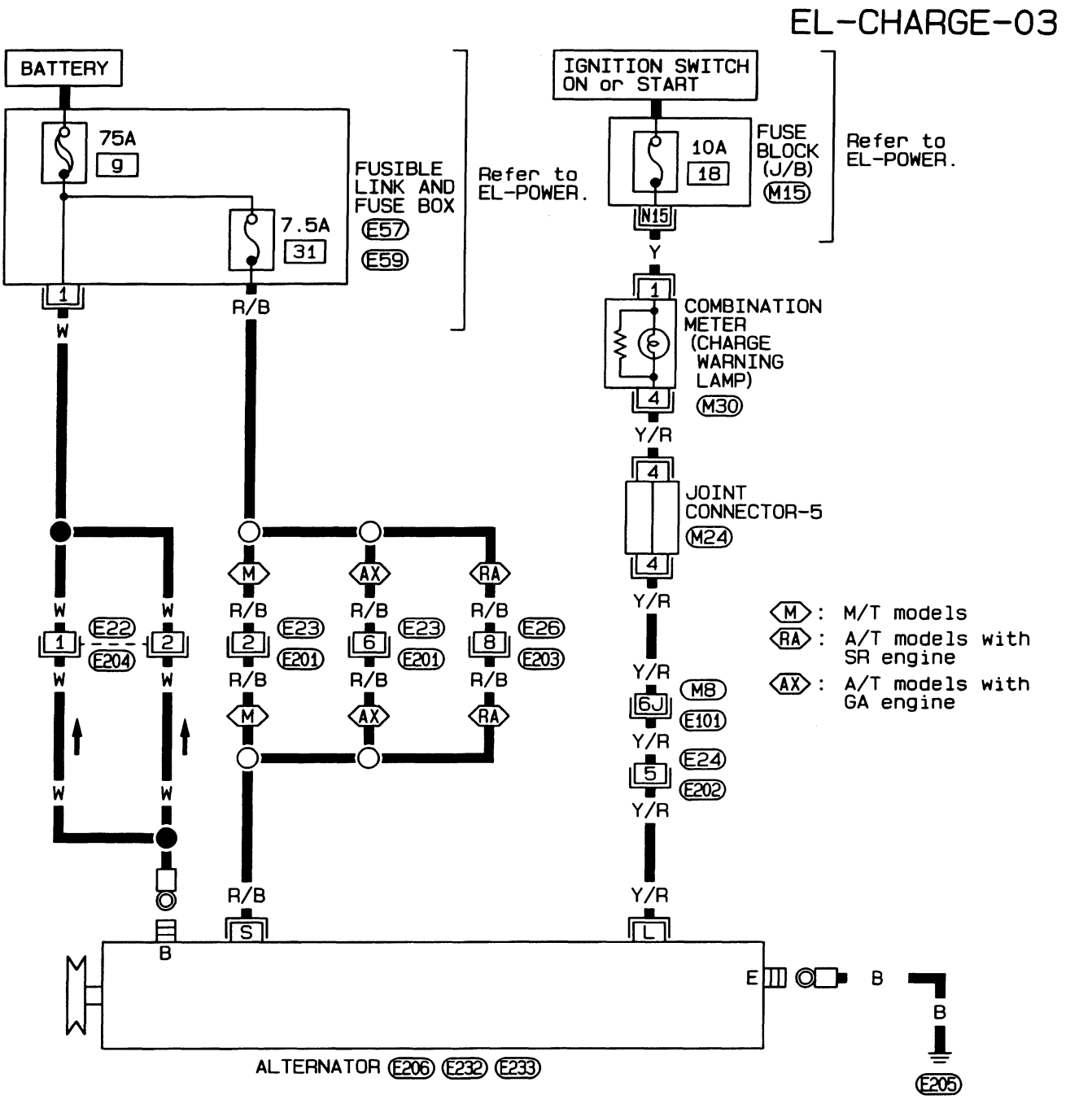
M8, E101

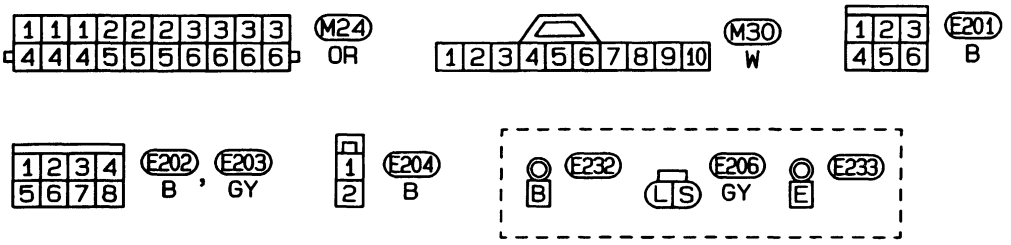
M15

E57, E59

HEL139A

Wiring Diagram — CHARGE —/Except For Europe

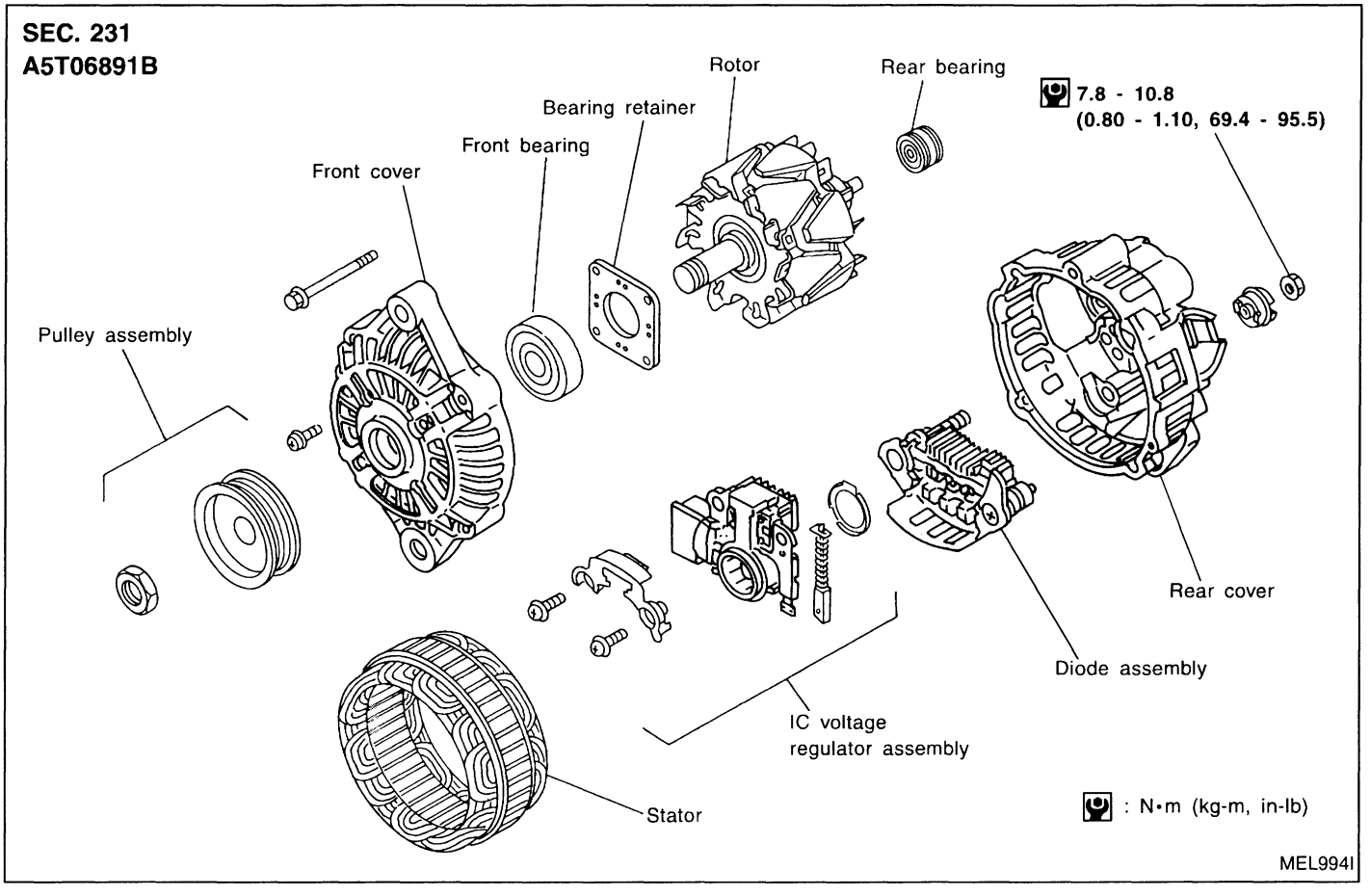


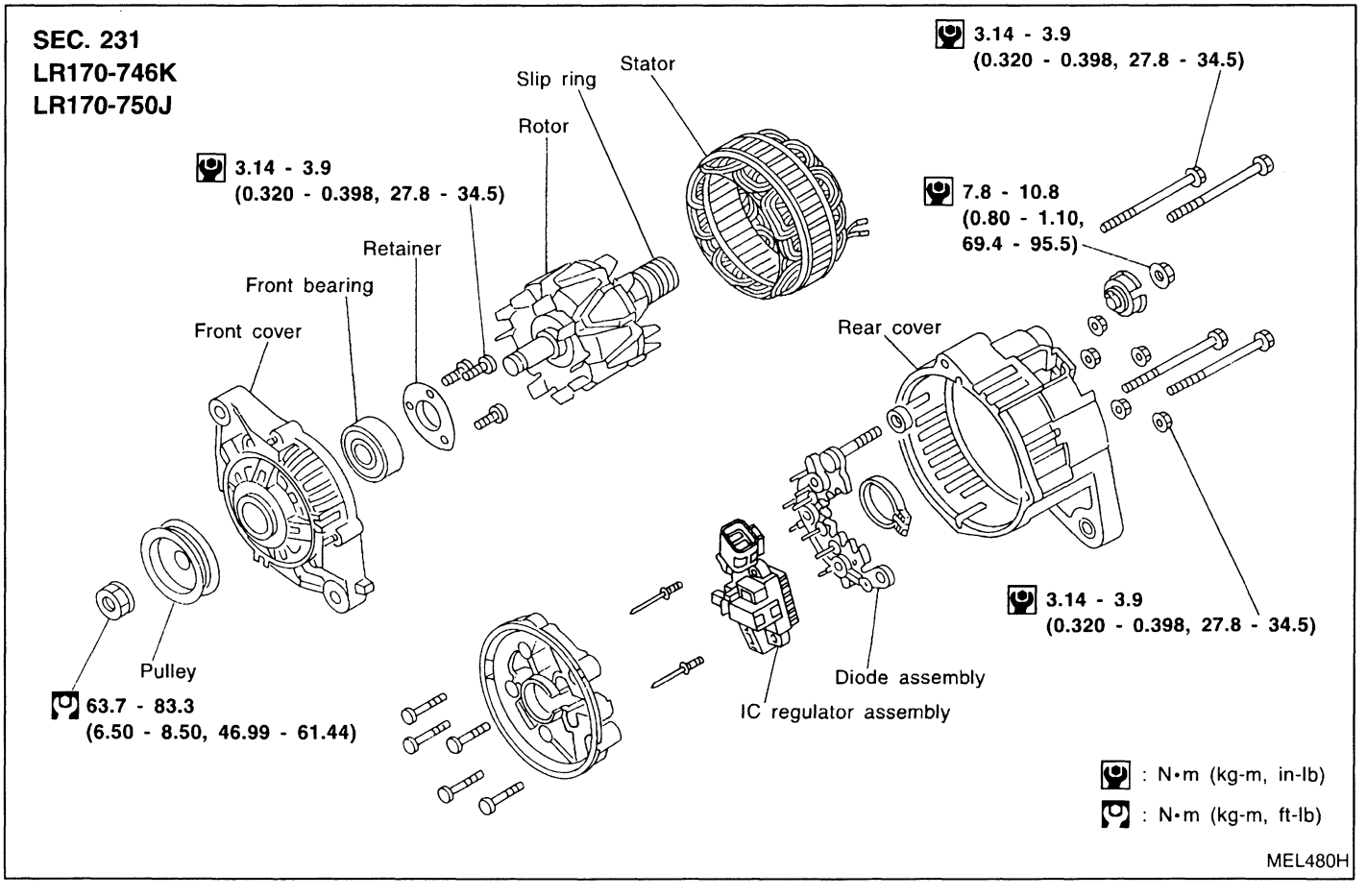


Refer to last page (Foldout page).
M8, E101
M15
E57, E59

HEL140A

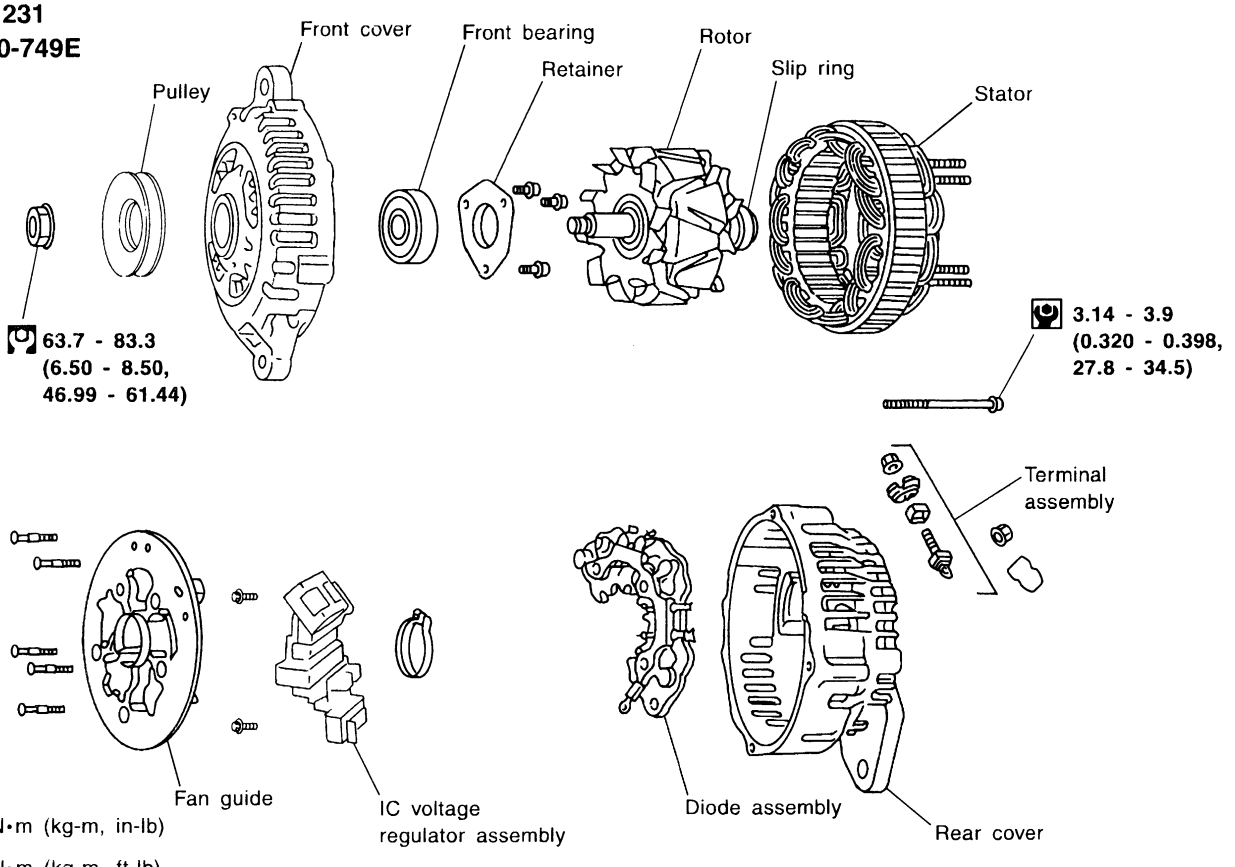
Construction





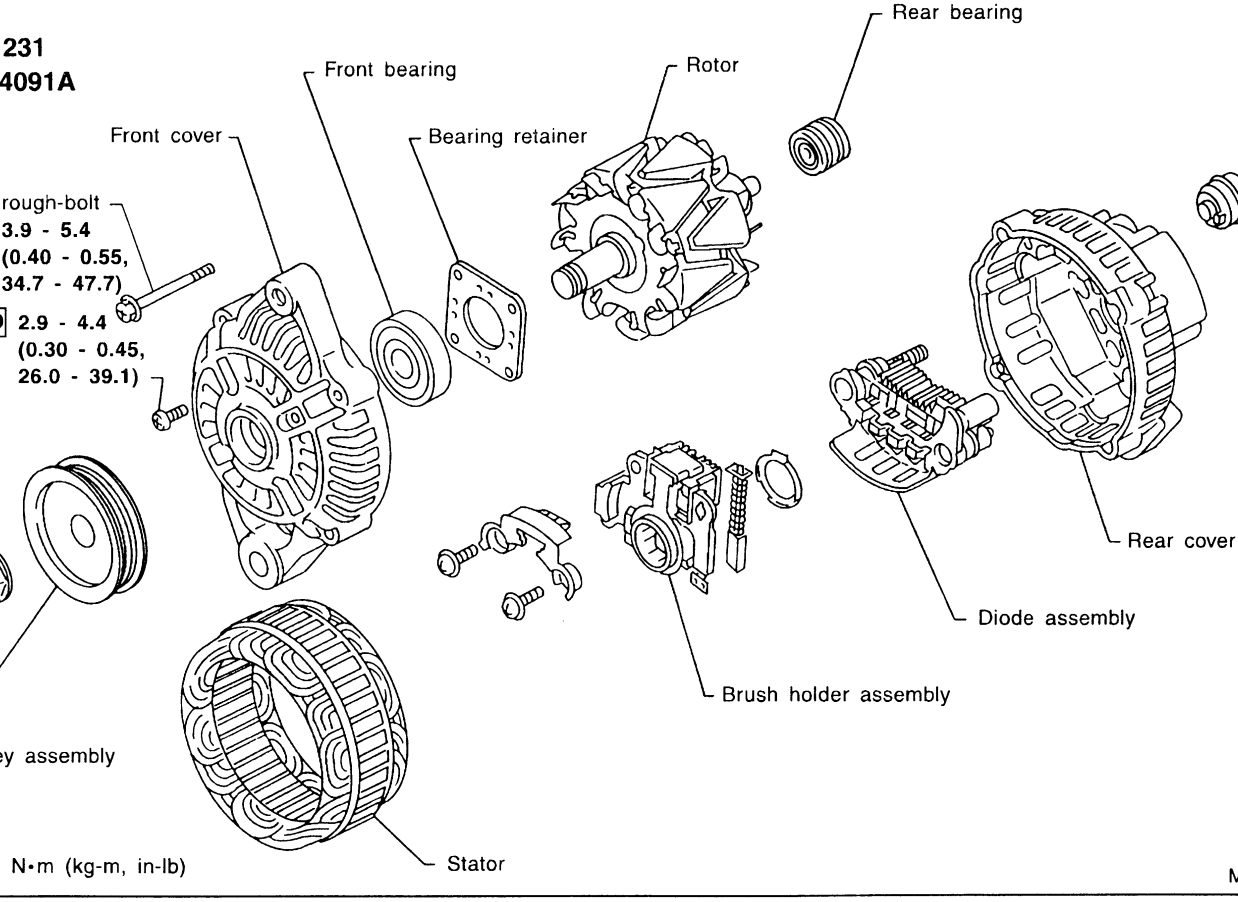
Construction (Cont'd)

SEC. 231
LR180-749E



SEL543VA

SEC. 231
A2TA4091A



MEL272H

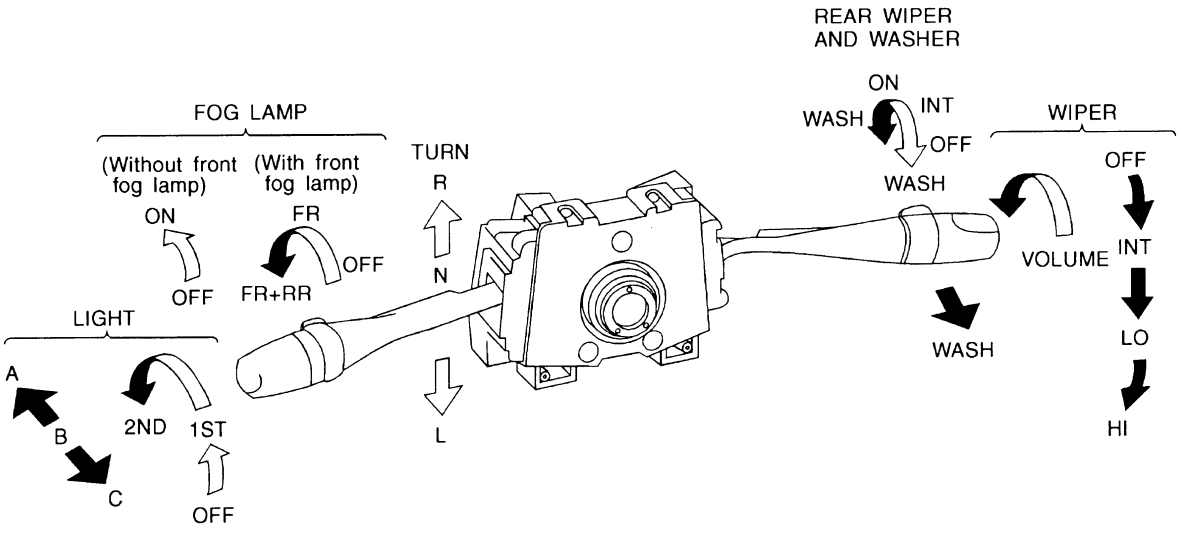
Service Data and Specifications (SDS)

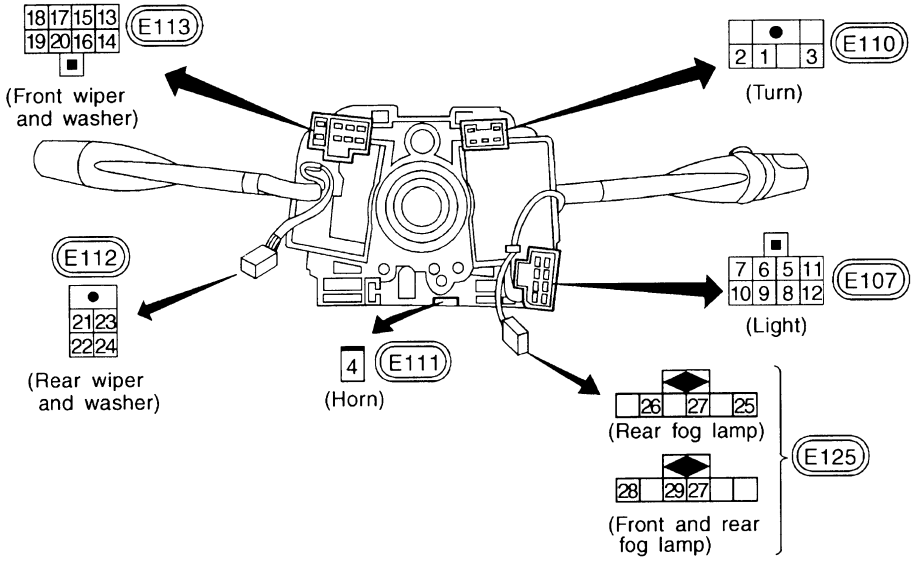
ALTERNATOR

Type		A5T06891B	LR170-746K	LR170-750J	LR180-749E	A2TA4091A
		MITSUBISHI	HITACHI			MITSUBISHI
Applied model		GA engines			CD20	SR20DE
Nominal rating	V-A	12-70			12-80	
Ground polarity		Negative				
Minimum revolutions under no-load (when 13.5V is applied)	rpm	Less than 1,300	Less than 1,000			Less than 1,300
Hot output current (When 13.5V is applied)	A/rpm	More than 14/1,300 More than 54/2,500	More than 22/1,300 More than 50/2,500 More than 67/5,000		More than 31/1,300 More than 68/2,500 More than 77/5,000	More than 22/1,300 More than 65/2,500
Regulated output voltage	V	14.1 - 14.7				
Minimum length of brush	mm (in)	5.0 (0.197)	6.0 (0.236)			5.0 (0.197)
Brush spring pressure	N (g, oz)	4.609 - 5.786 (470 - 590, 16.58 - 20.81)	1.000 - 3.432 (102 - 350, 3.60 - 12.34)		1.000 - 3.432 (102 - 350, 3.60 - 12.34)	4.599 - 5.796 (469 - 591, 16.54 - 20.84)
Slip ring minimum diameter	mm (in)	22.1 (0.870)	26.0 (1.024)		26.0 (1.024)	22.1 (0.870)
Rotor coil resistance at 20°C (68°F)	Ω	2.5 - 2.9	2.58		3.70	2.1 - 2.5

Check

FOR EUROPE





FOG LAMP SWITCH

	OFF	ON
26		○
27		○

(Without front fog lamp)

	OFF	FR	FR+RR
27			○
28		○	○
29		○	○

(With front fog lamp)

LIGHTING SWITCH

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

FRONT WIPER AND WASHER SWITCH

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

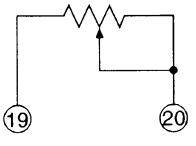
TURN SIGNAL SWITCH

	L	N	R
1	○		○
2			○
3	○		

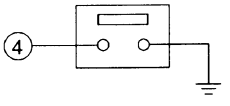
REAR WIPER AND WASHER SWITCH

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

INTERMITTENT WIPER VOLUME



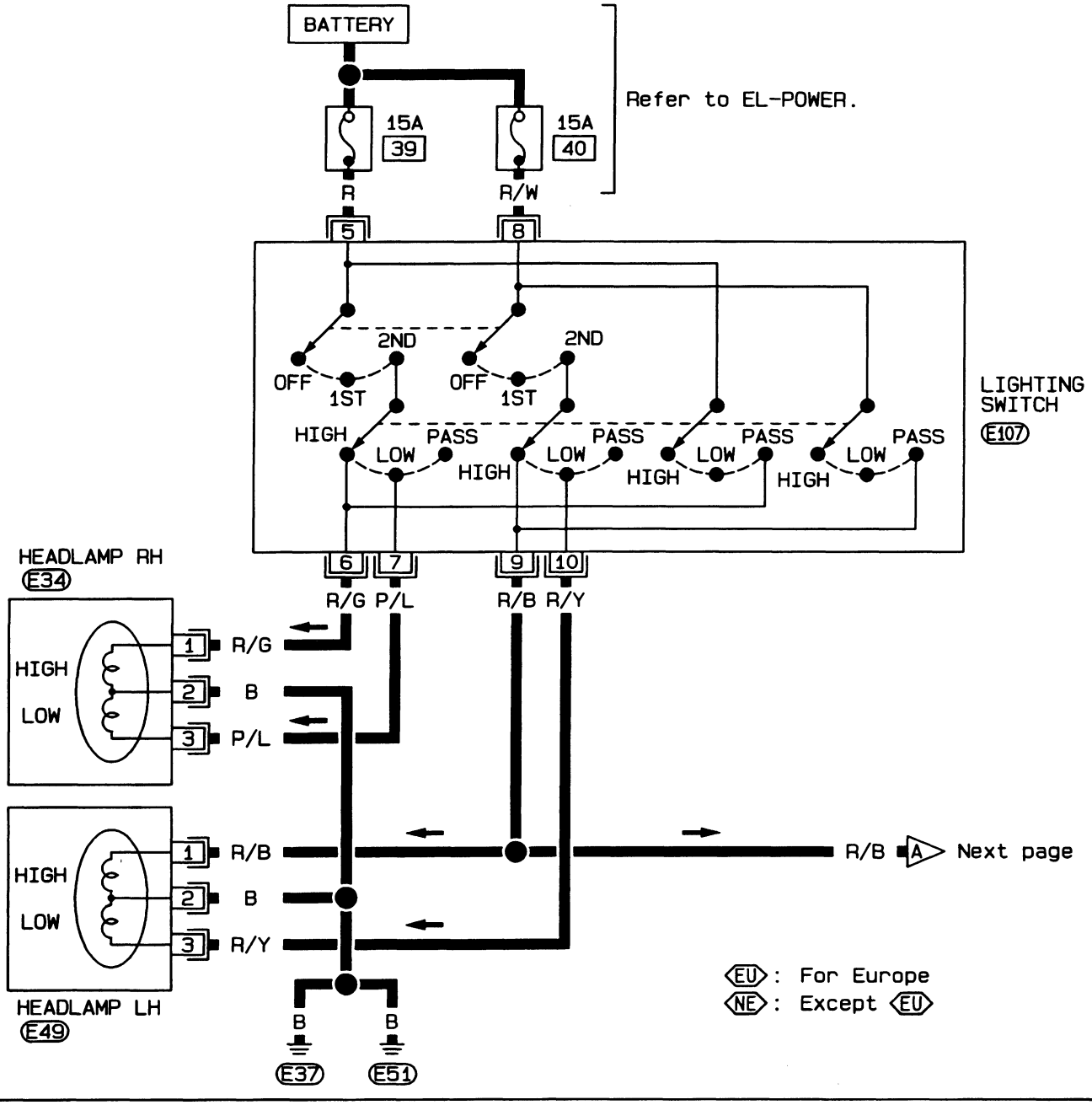
HORN SWITCH (Without air bag)



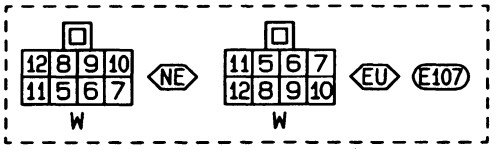
HEL141A

Wiring Diagram — H/LAMP —

EL-H/LAMP-01



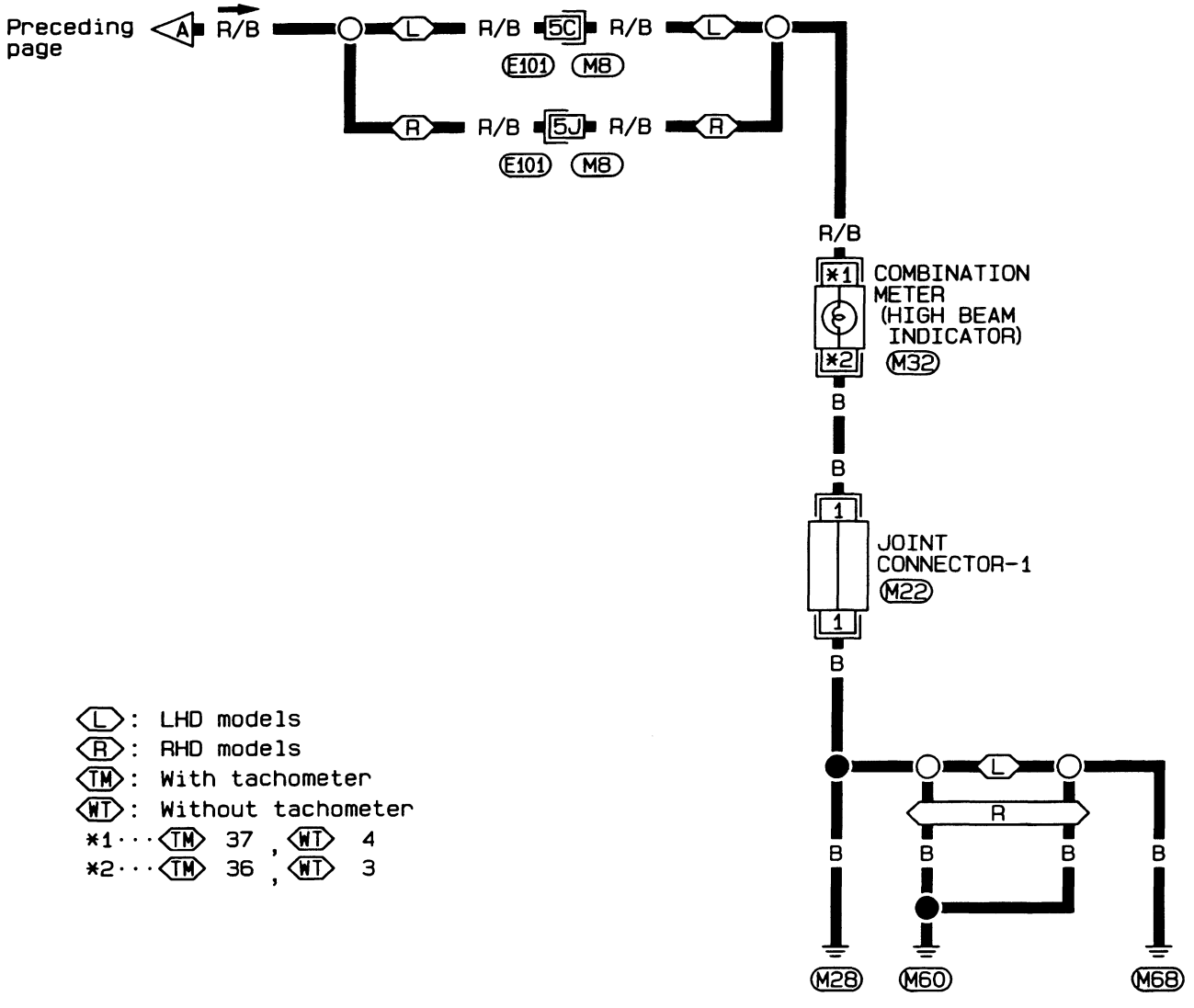


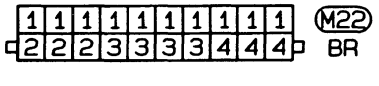


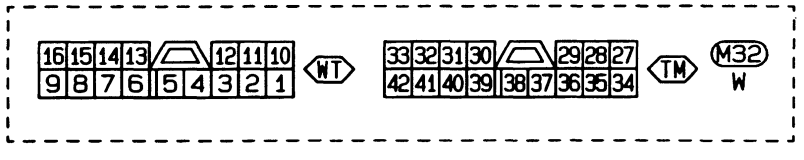
HEL307A

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-02





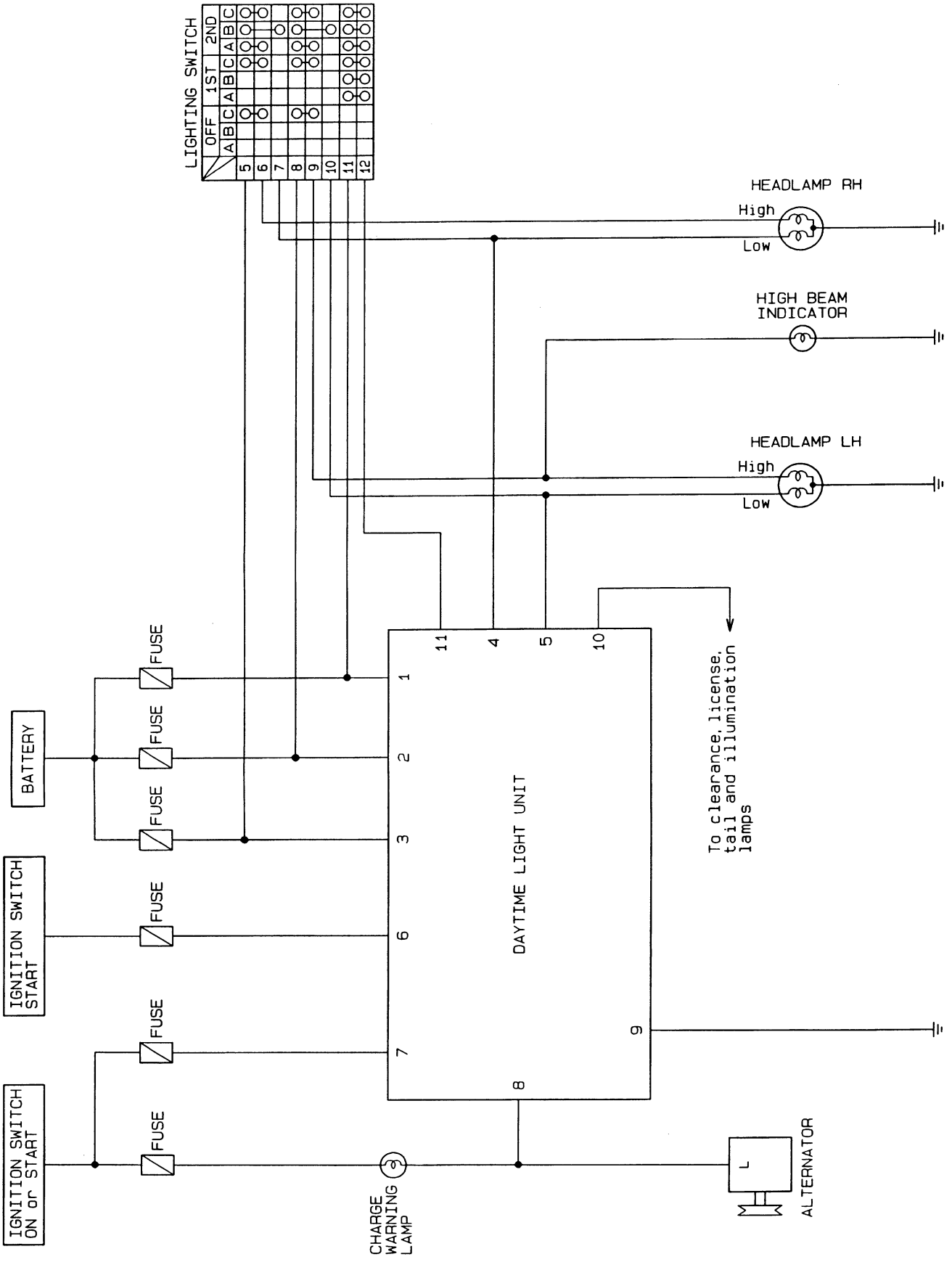


Refer to last page (Foldout page).

M8, E101

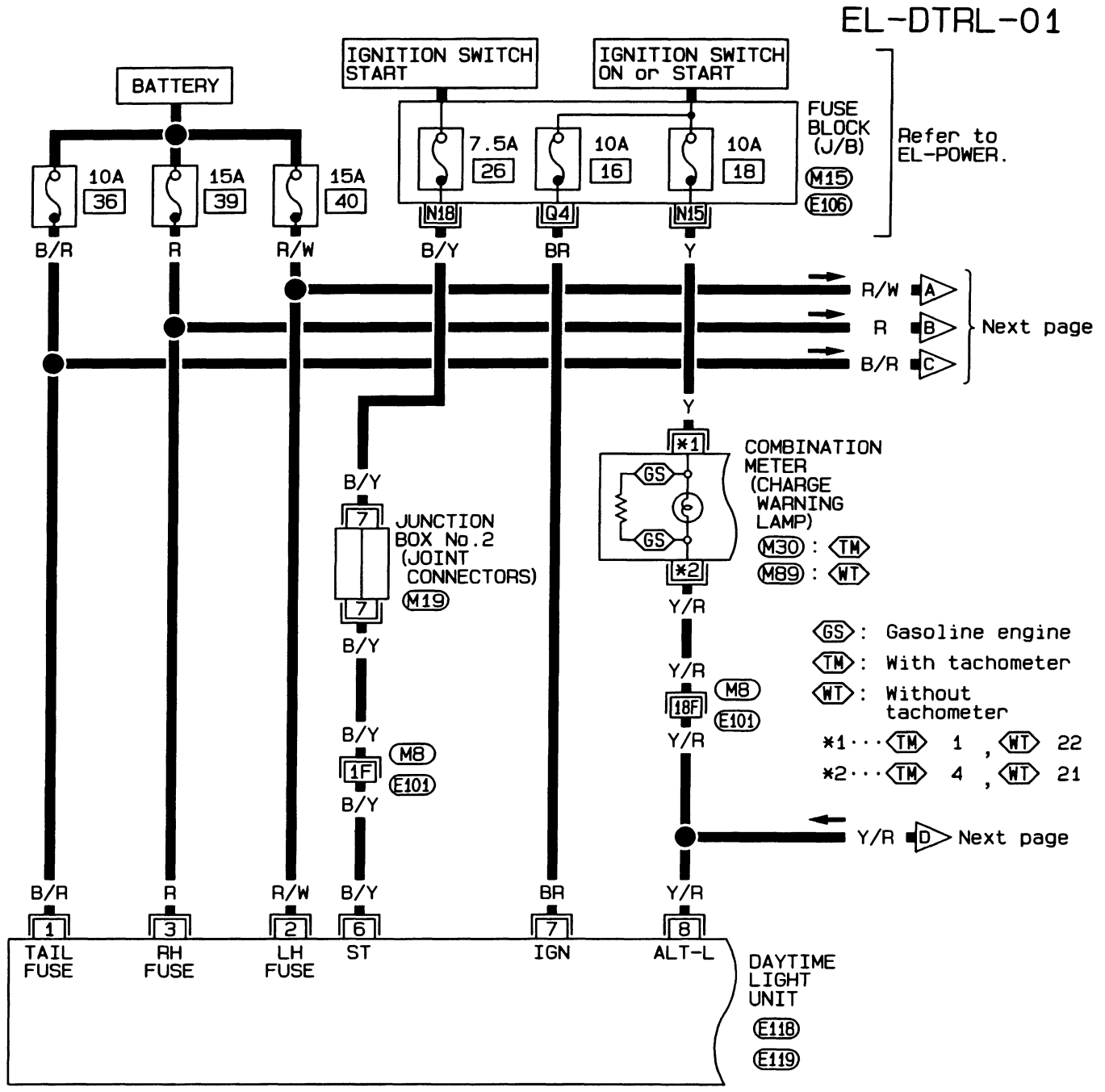
HEL142A

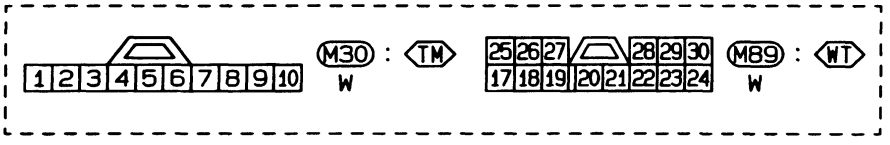
Schematic

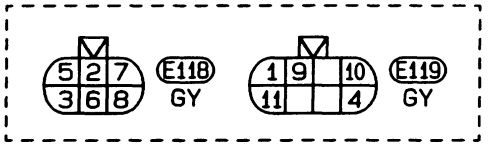


HEL015

Wiring Diagram — DTRL —







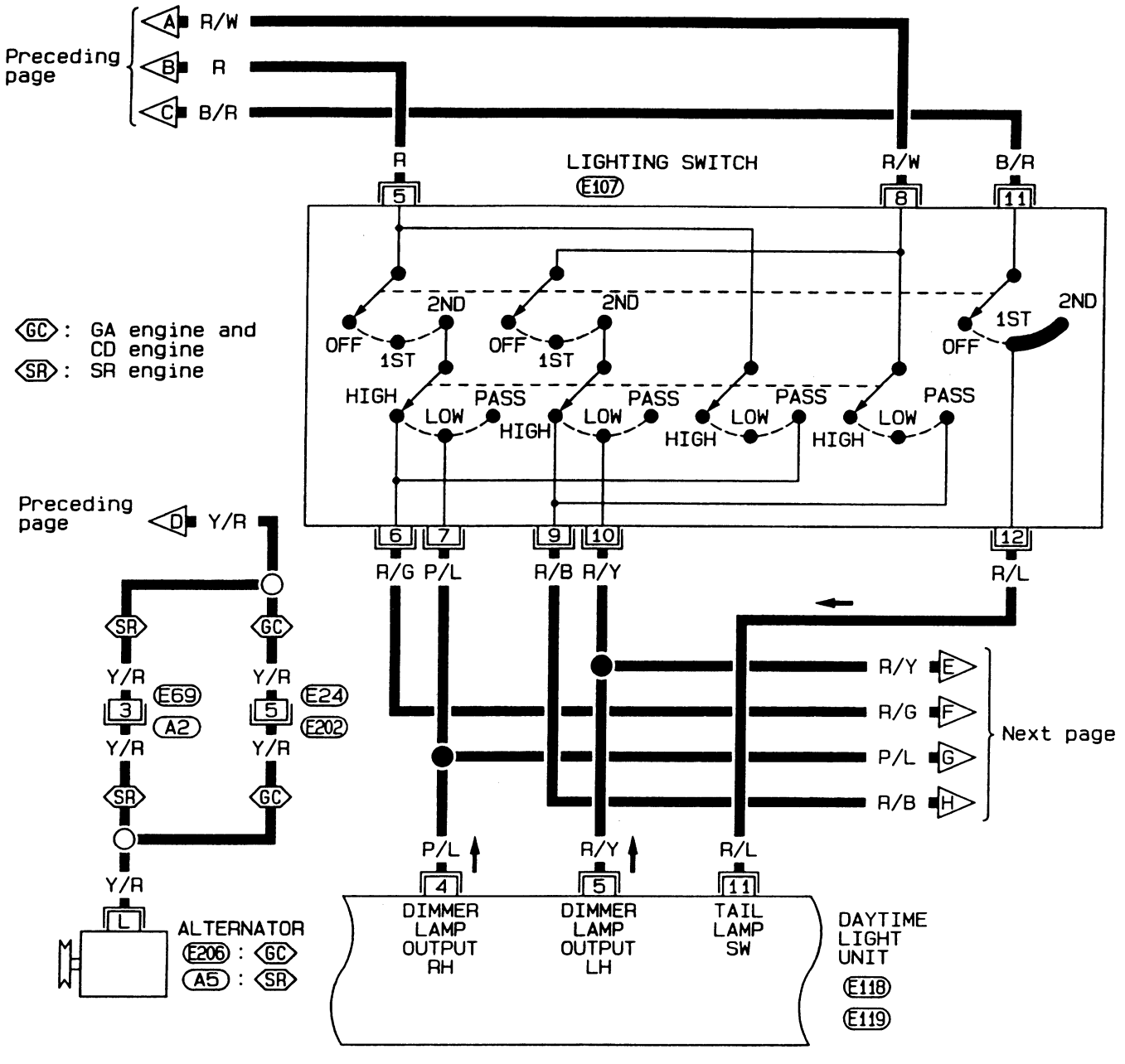
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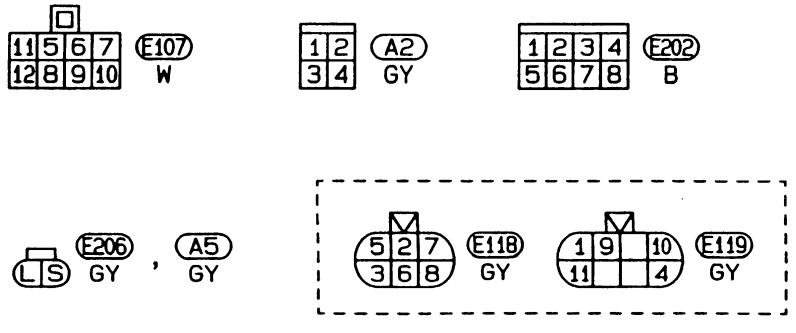
M8, E101
M15, E106
M19

HEL143A

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02

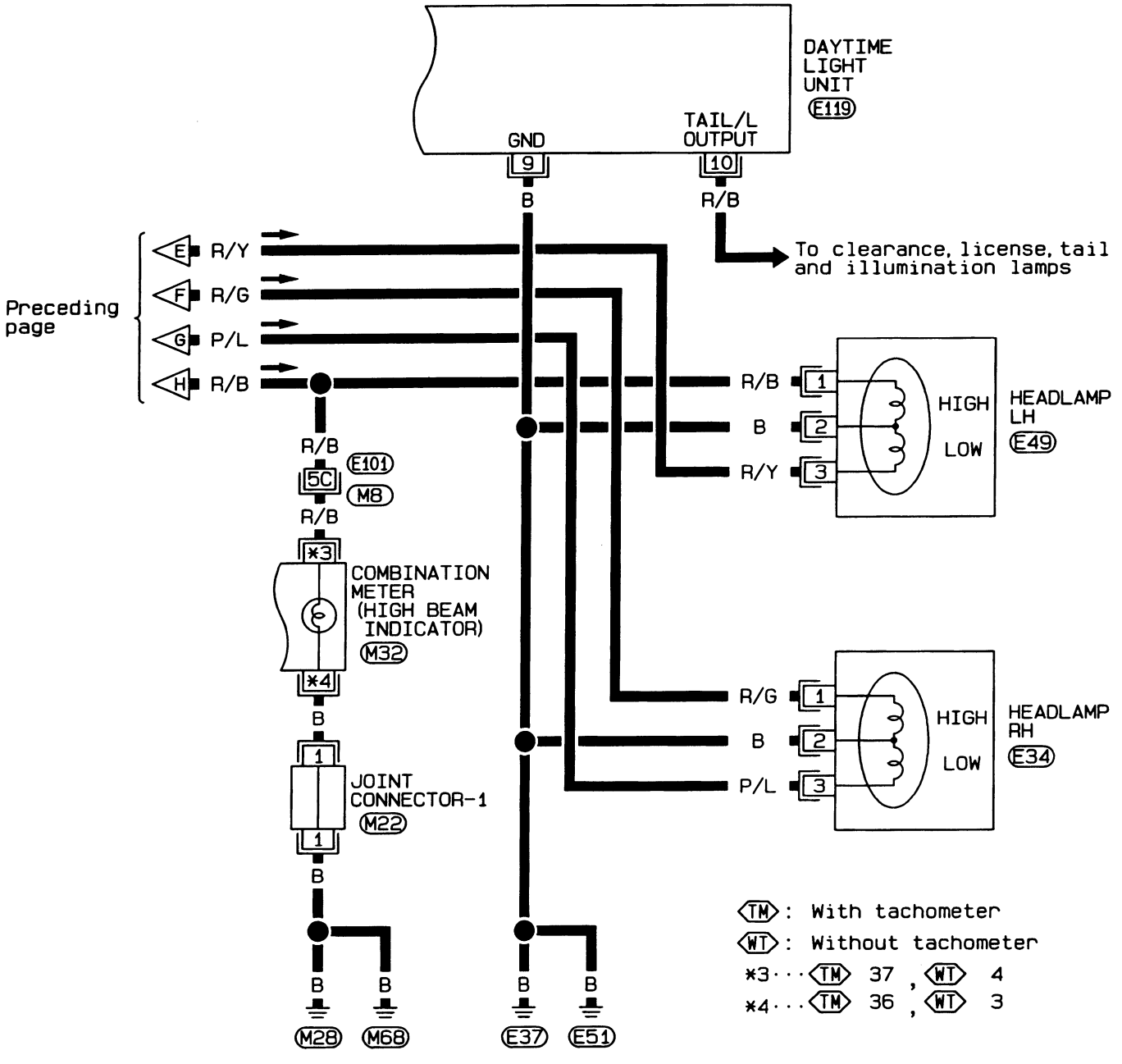


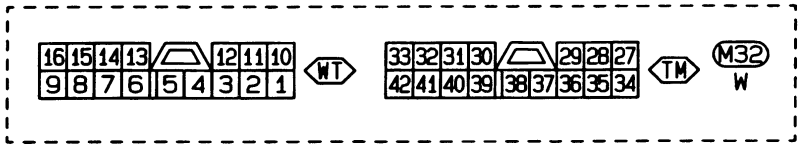


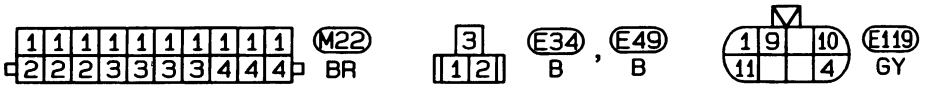
HEL504

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-03







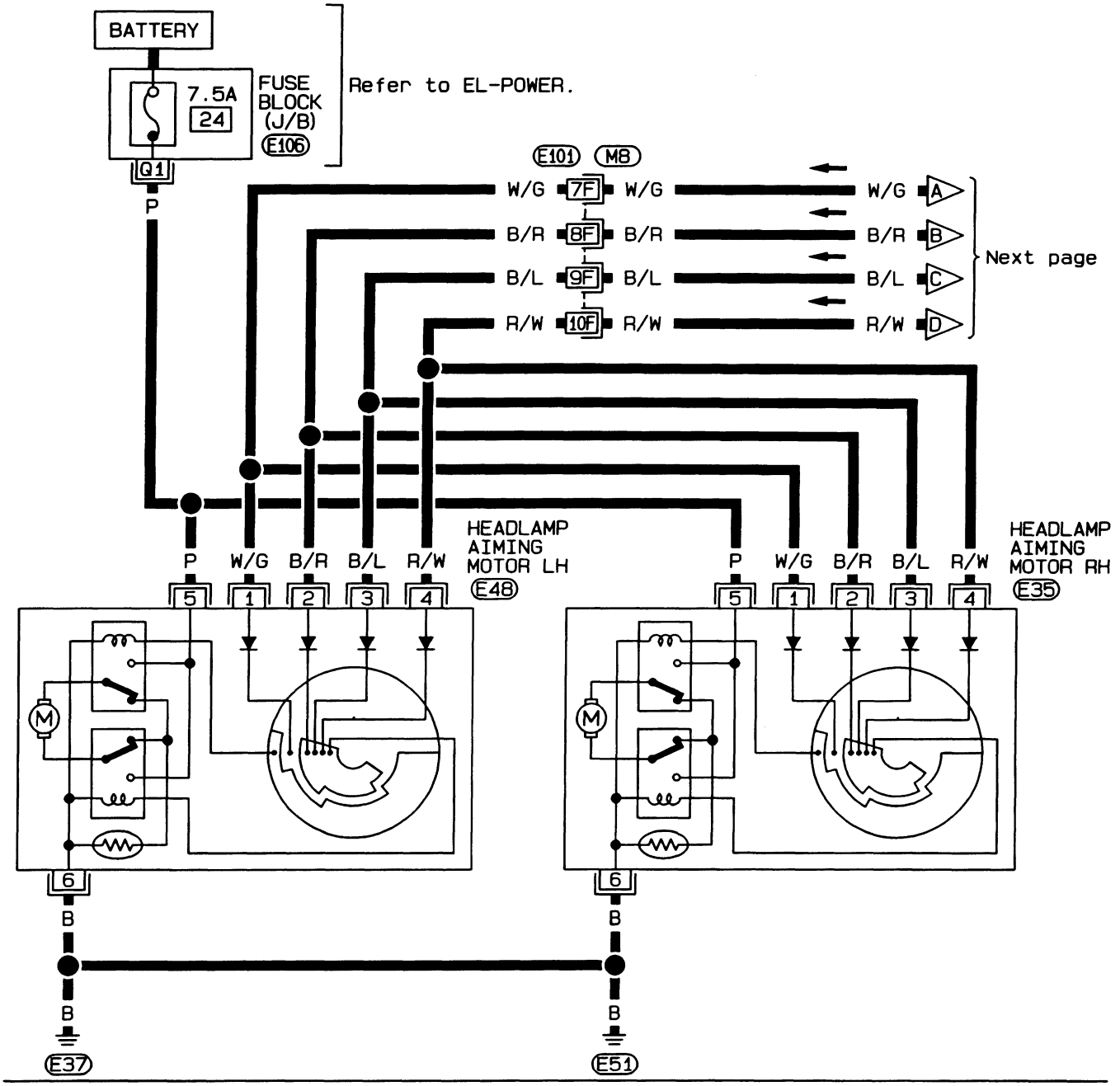
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M8, E101

HEL144A

Wiring Diagram — H/AIM —/LHD Models

EL-H/AIM-01





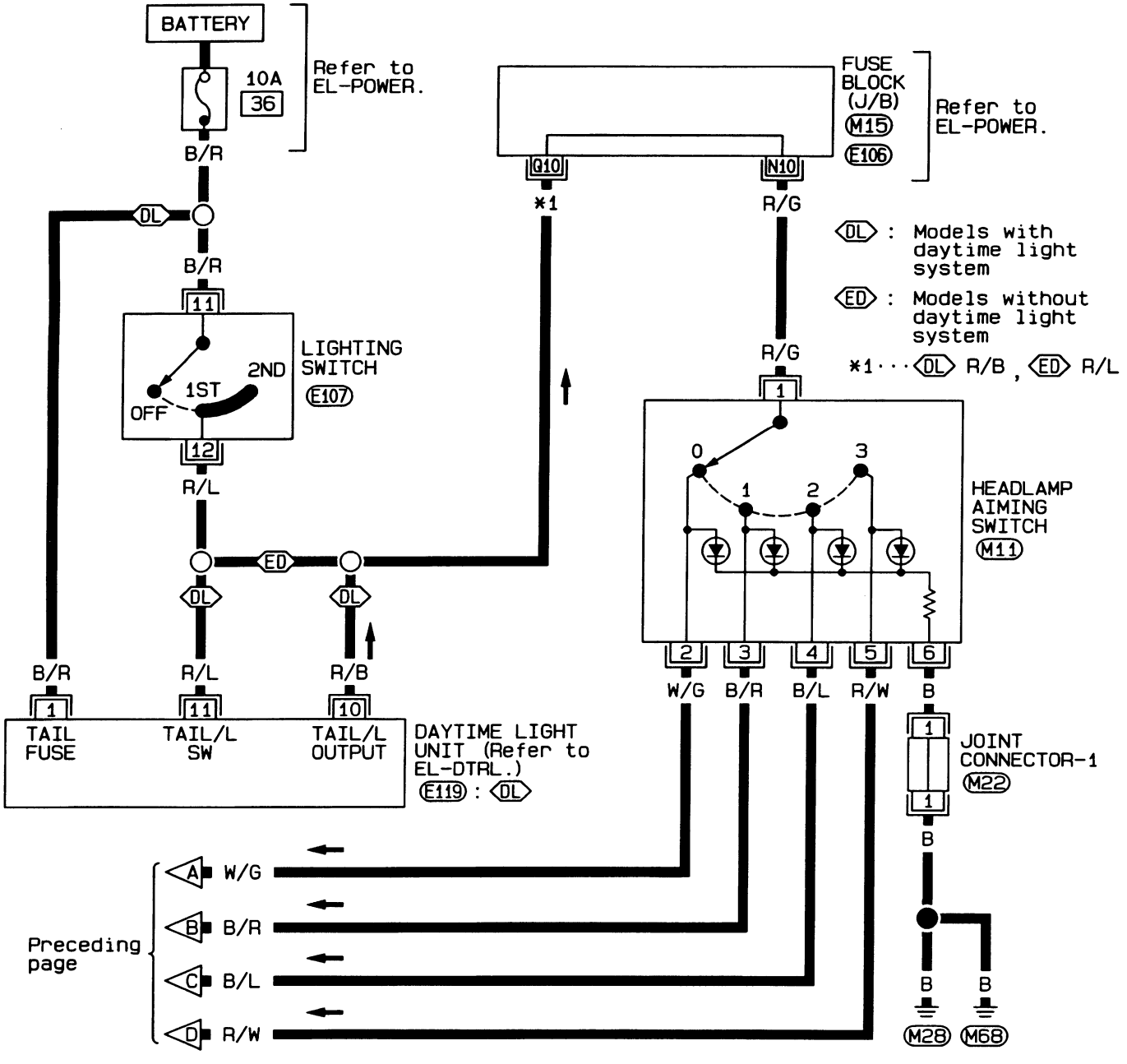
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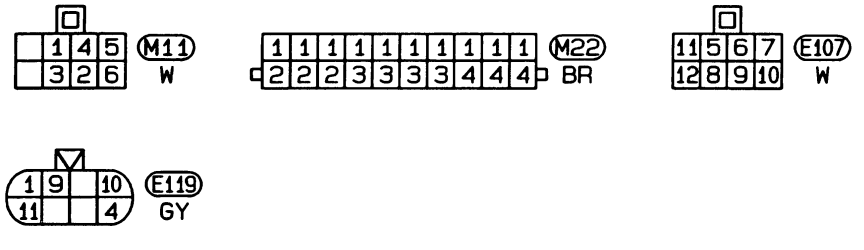
M8, E101, E106

HEL145A

Wiring Diagram — H/AIM —/LHD Models (Cont'd)

EL-H/AIM-02



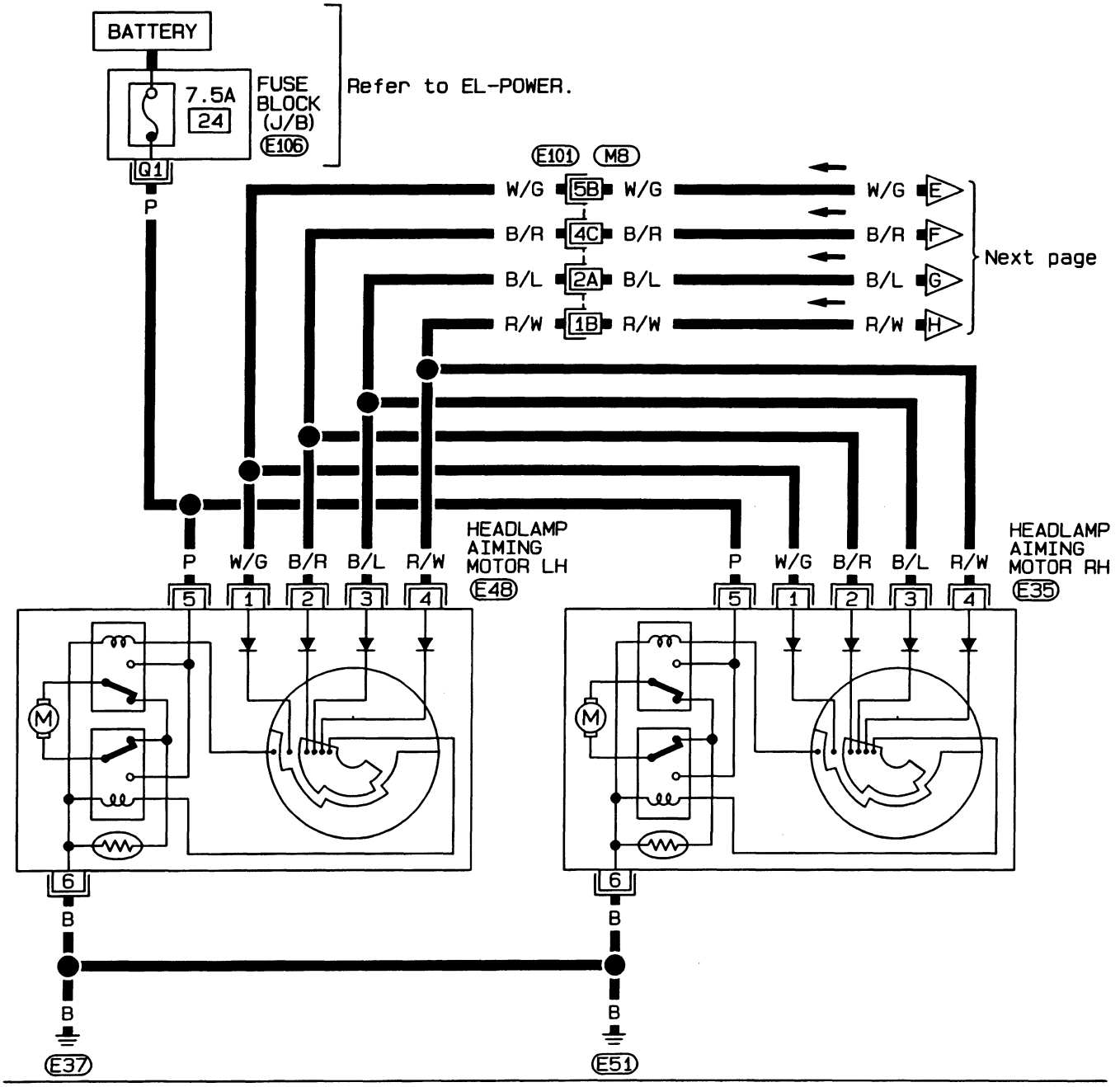


Refer to last page (Foldout page).

M15, E106

Wiring Diagram — H/AIM —/RHD Models

EL-H/AIM-03





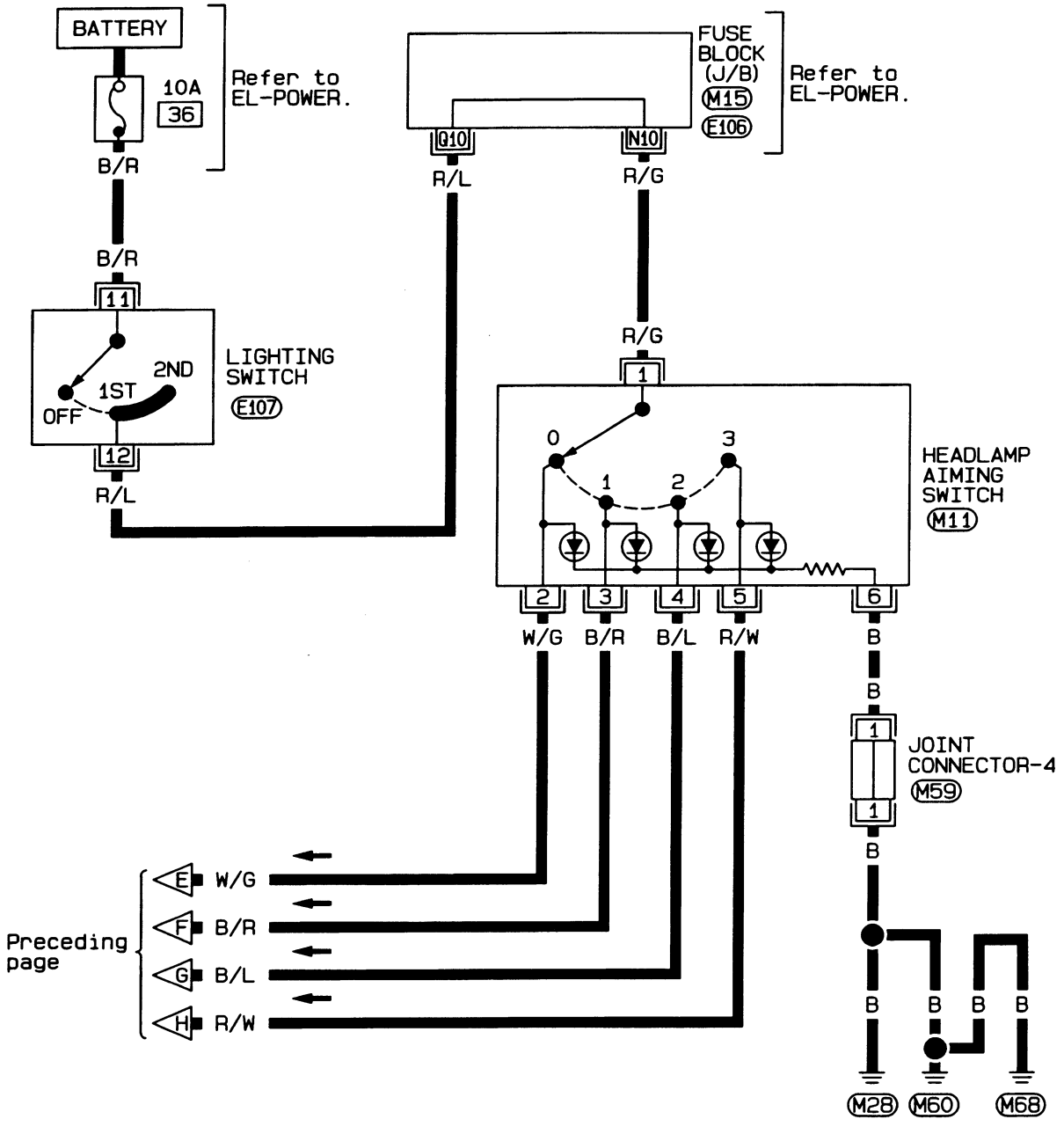
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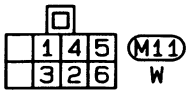
M8, E101, E106

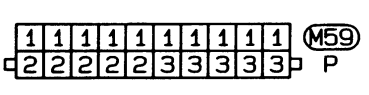
HEL147A

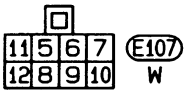
Wiring Diagram — H/AIM —/RHD Models (Cont'd)

EL-H/AIM-04







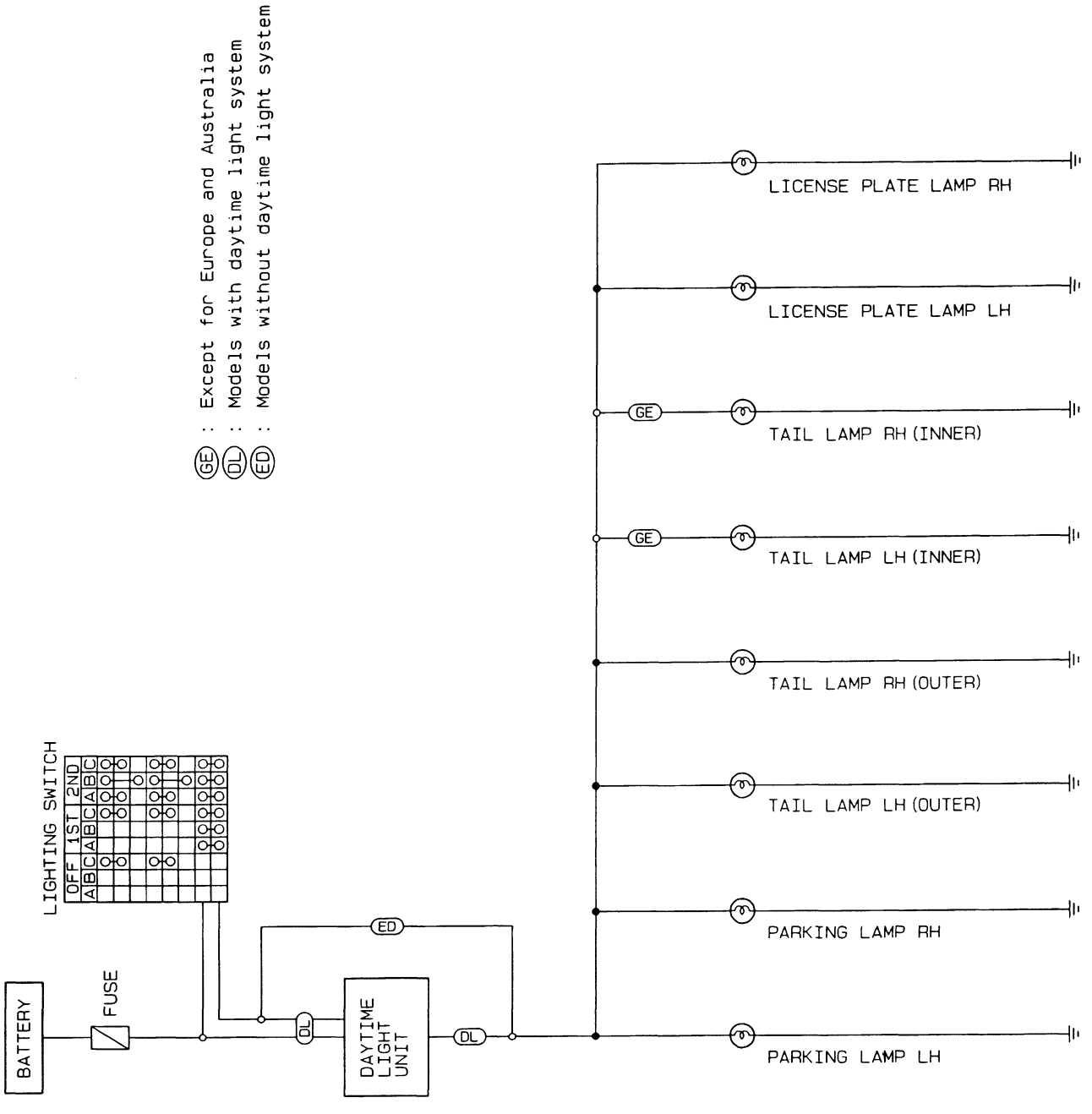


Refer to last page (Foldout page).

M15, E106

HEL148A

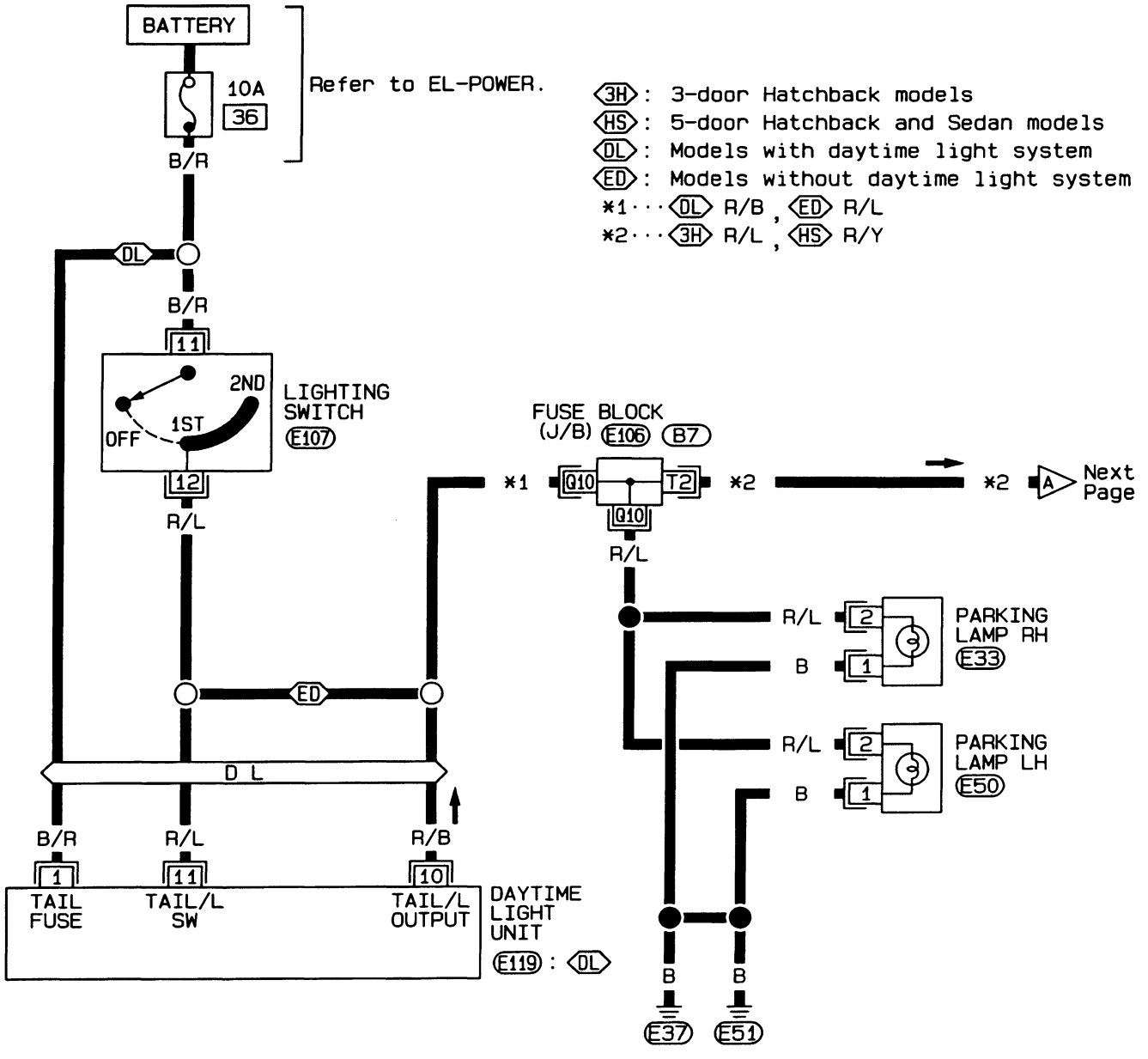
Schematic

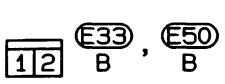


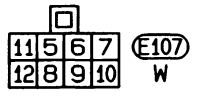
HEL149A

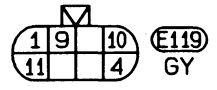
Wiring Diagram — TAIL/L —/LHD Models

EL-TAIL/L-01









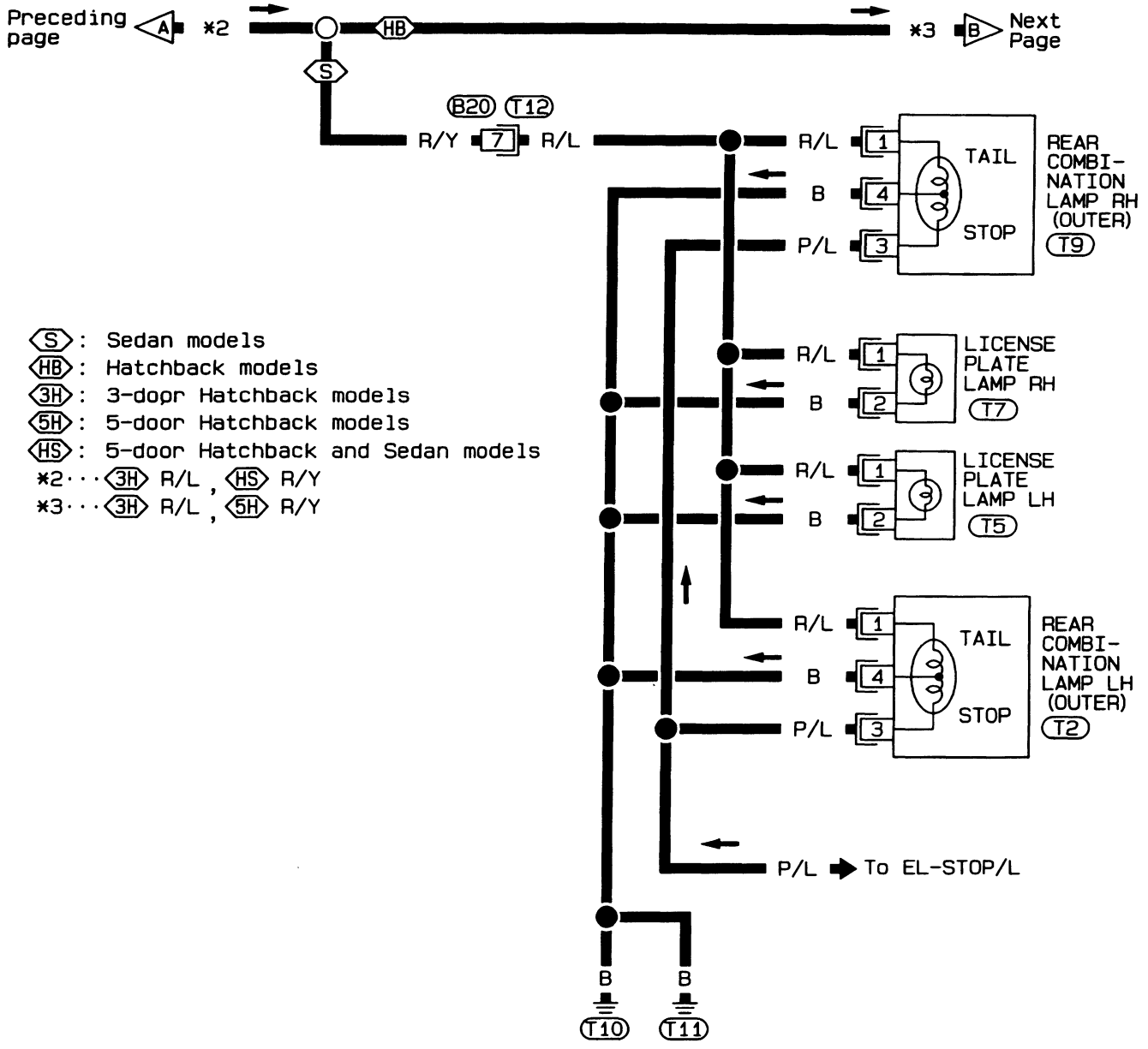
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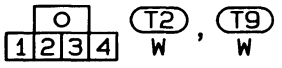
E106 , B7

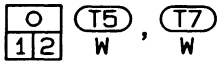
HEL150A

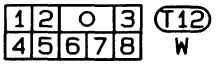
Wiring Diagram — TAIL/L —/LHD Models (Cont'd)

EL-TAIL/L-02





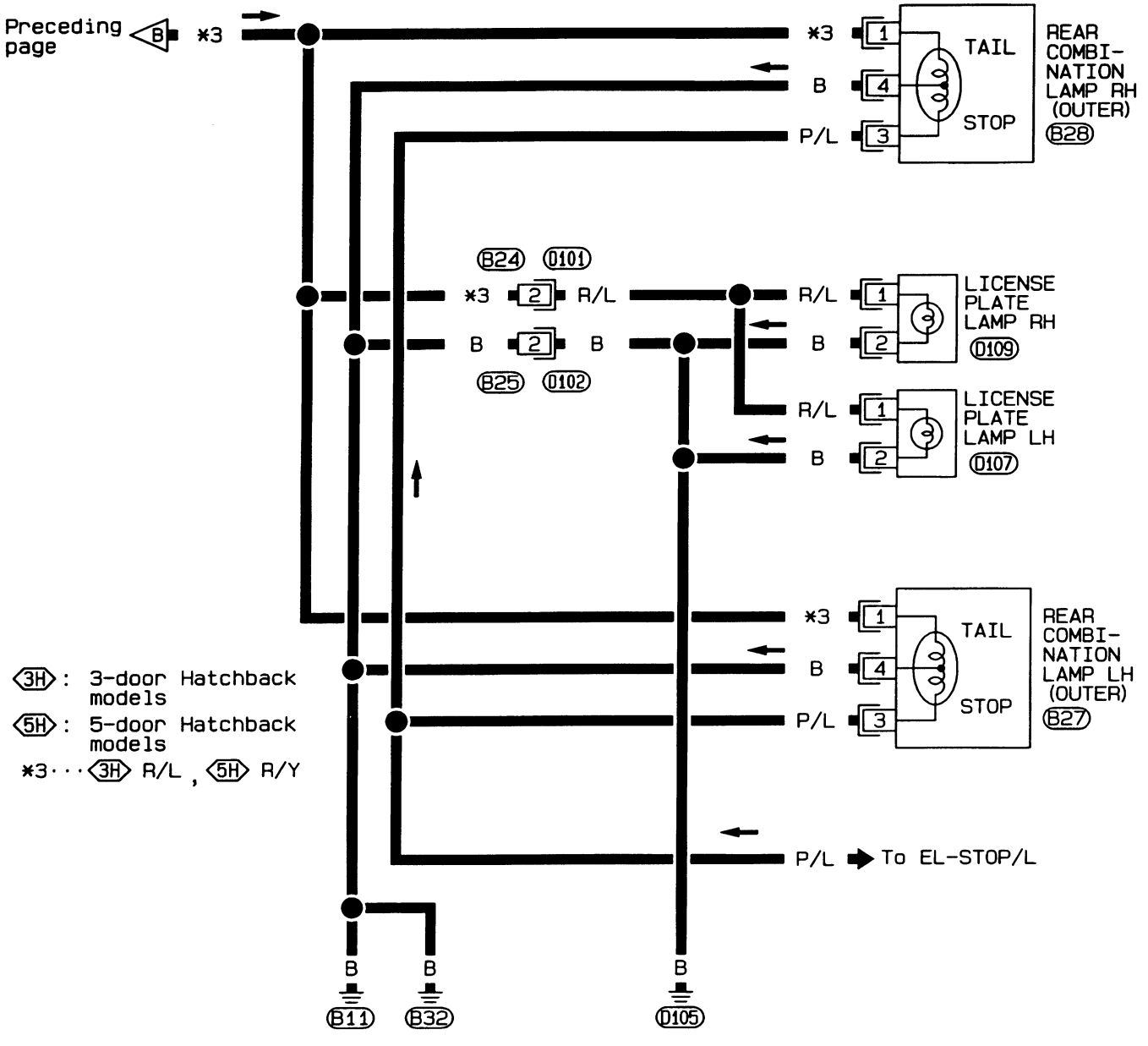


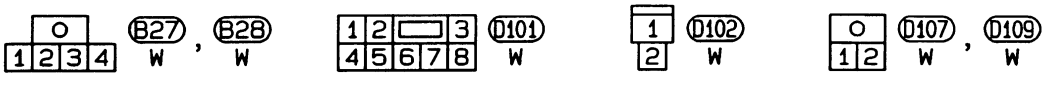


HEL151A

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

EL-TAIL/L-03

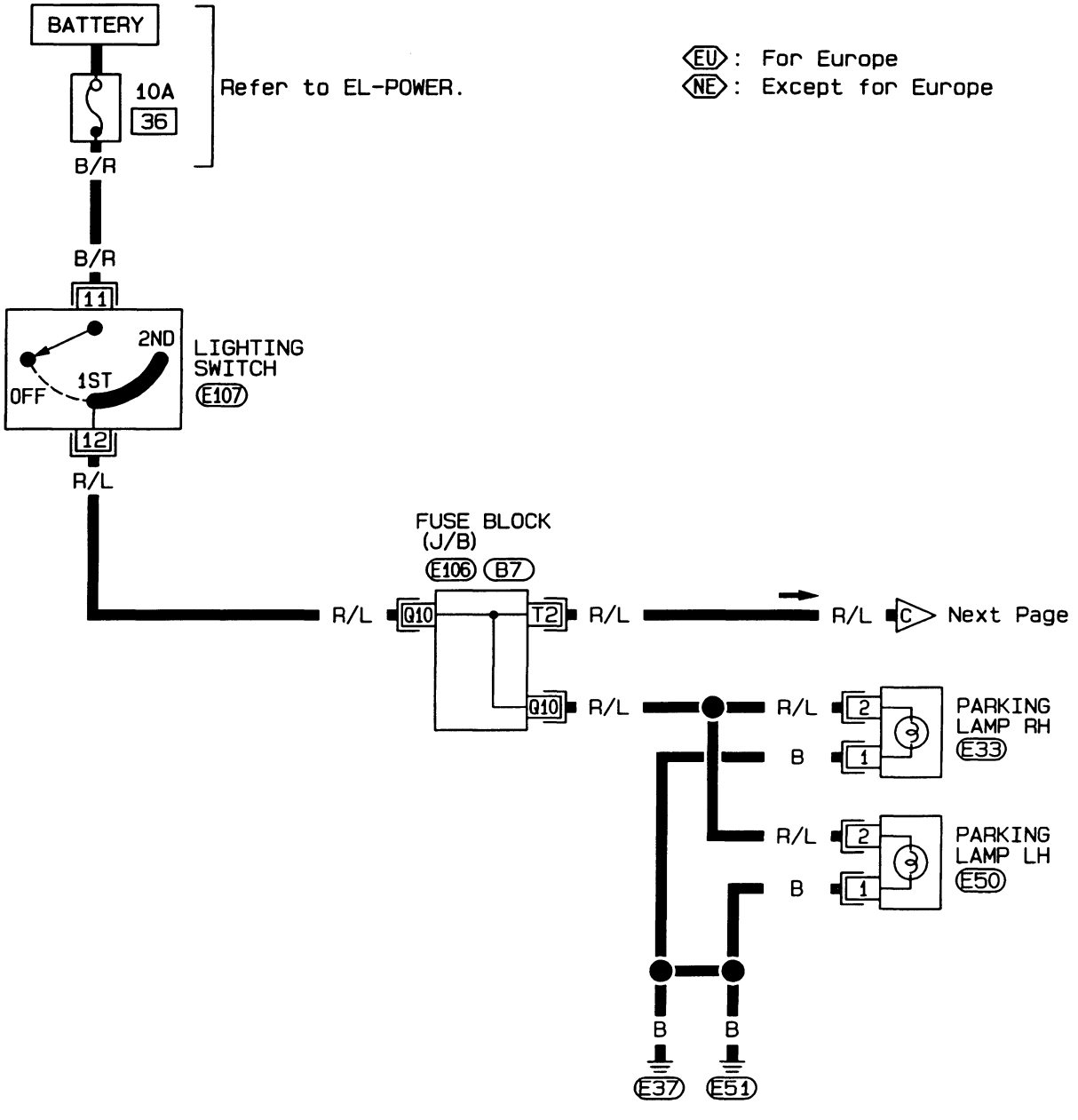


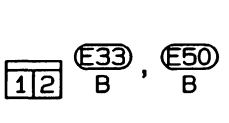


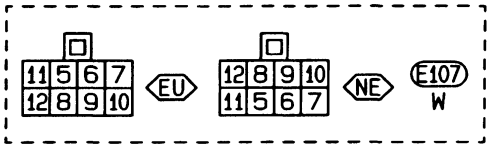
HEL152A

Wiring Diagram — TAIL/L —/RHD Models

EL-TAIL/L-04







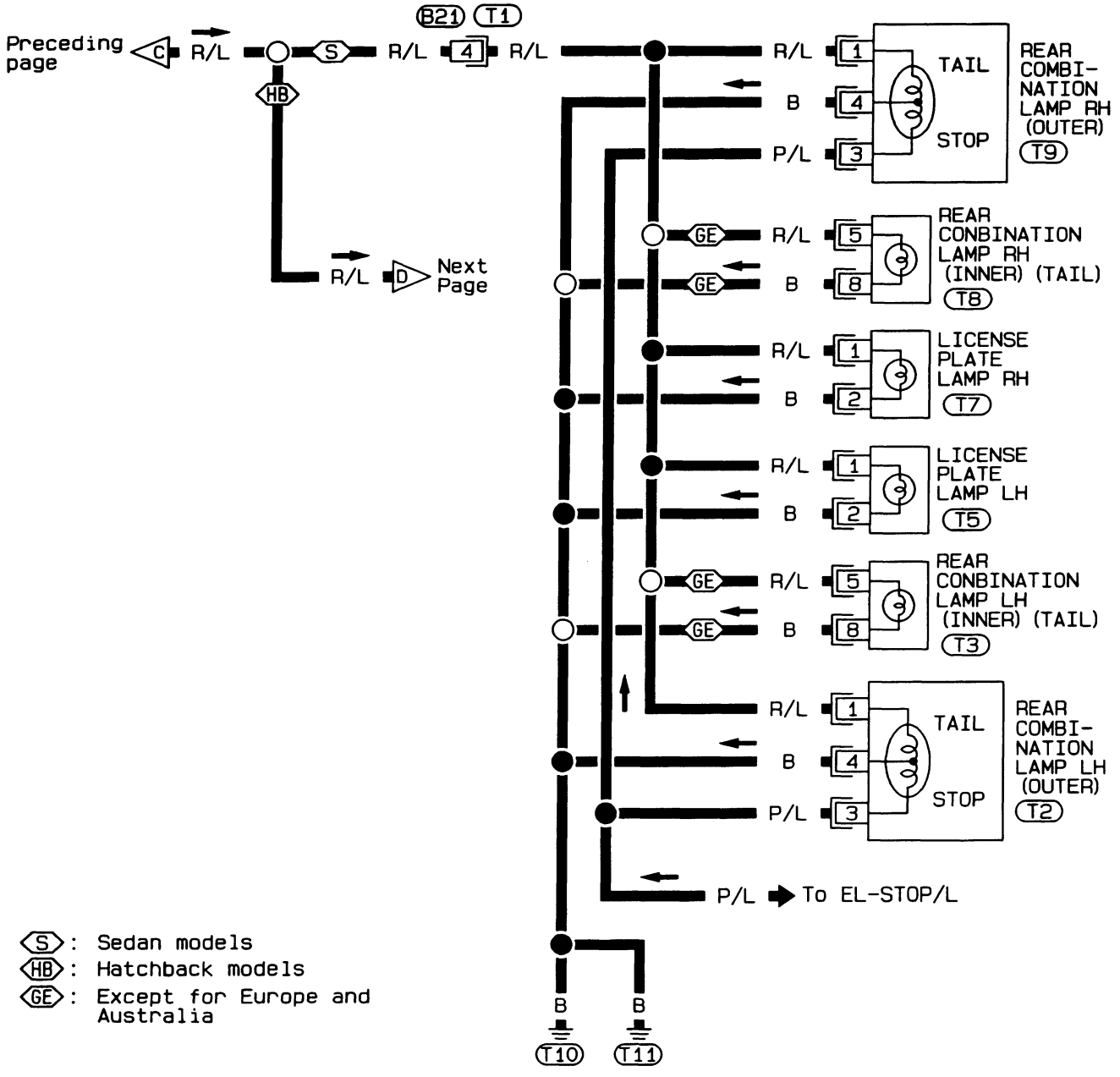
Refer to last page (Foldout page).

E106, B7

HEL153A

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

EL-TAIL/L-05

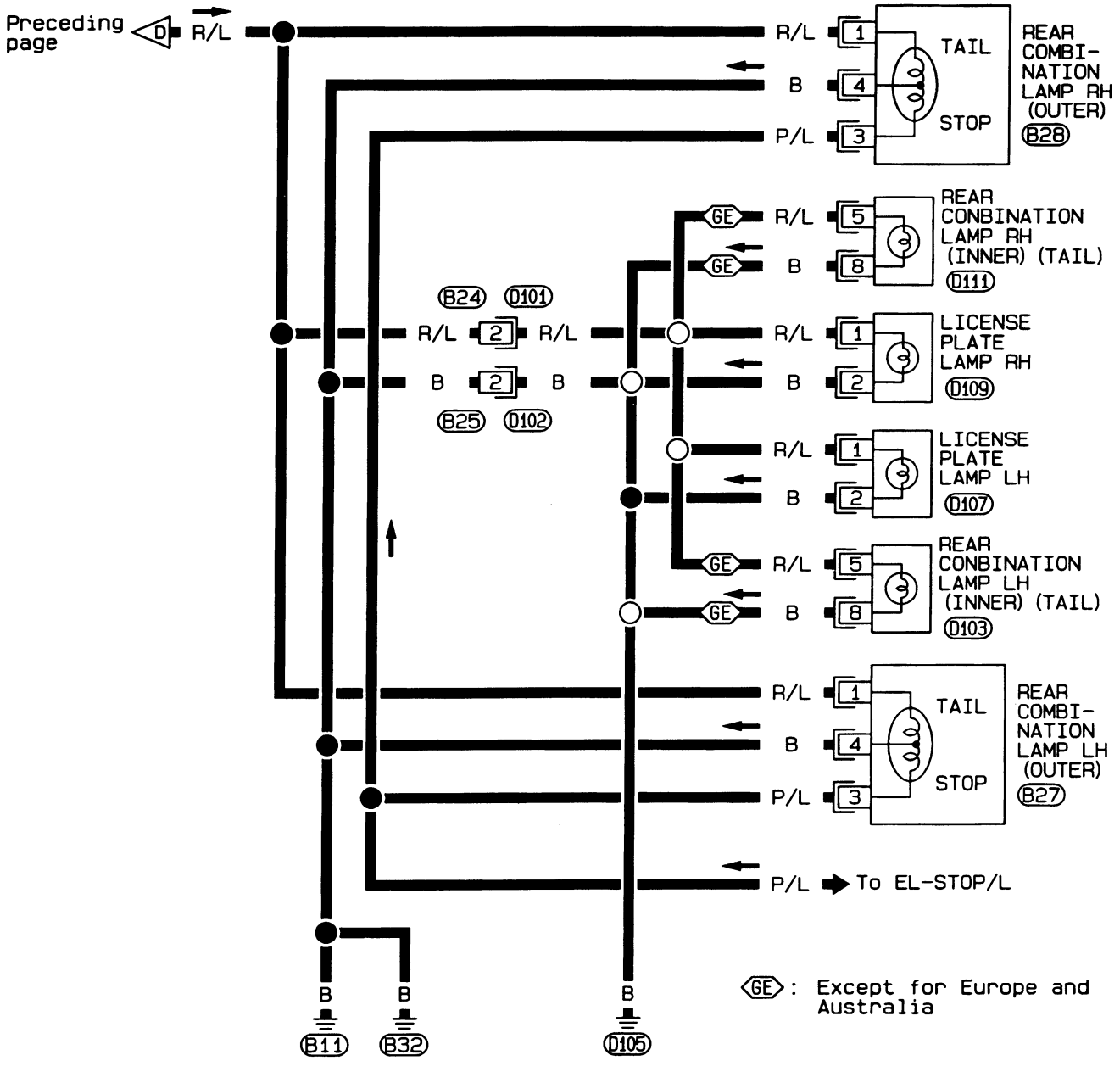


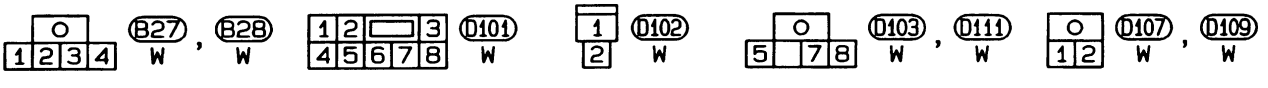


HEL154A

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

EL-TAIL/L-06

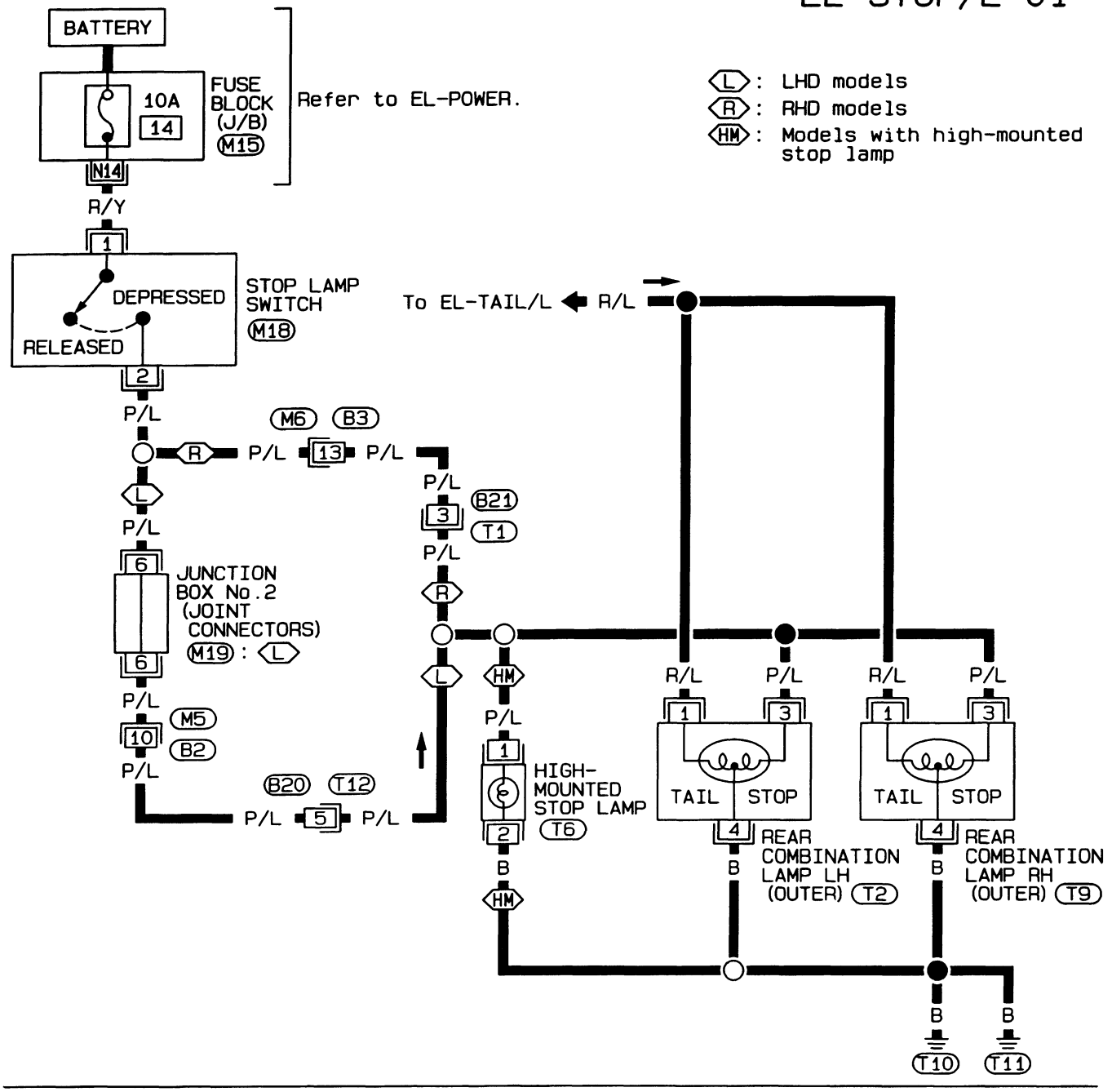


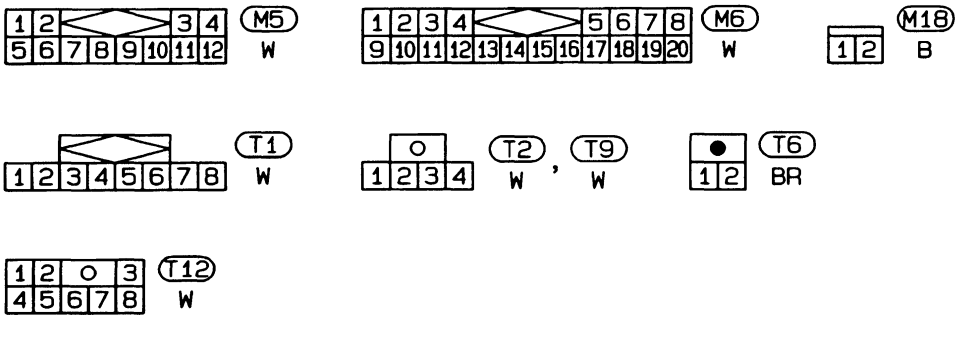


HEL155A

Wiring Diagram — STOP/L —/Sedan Models

EL-STOP/L-01





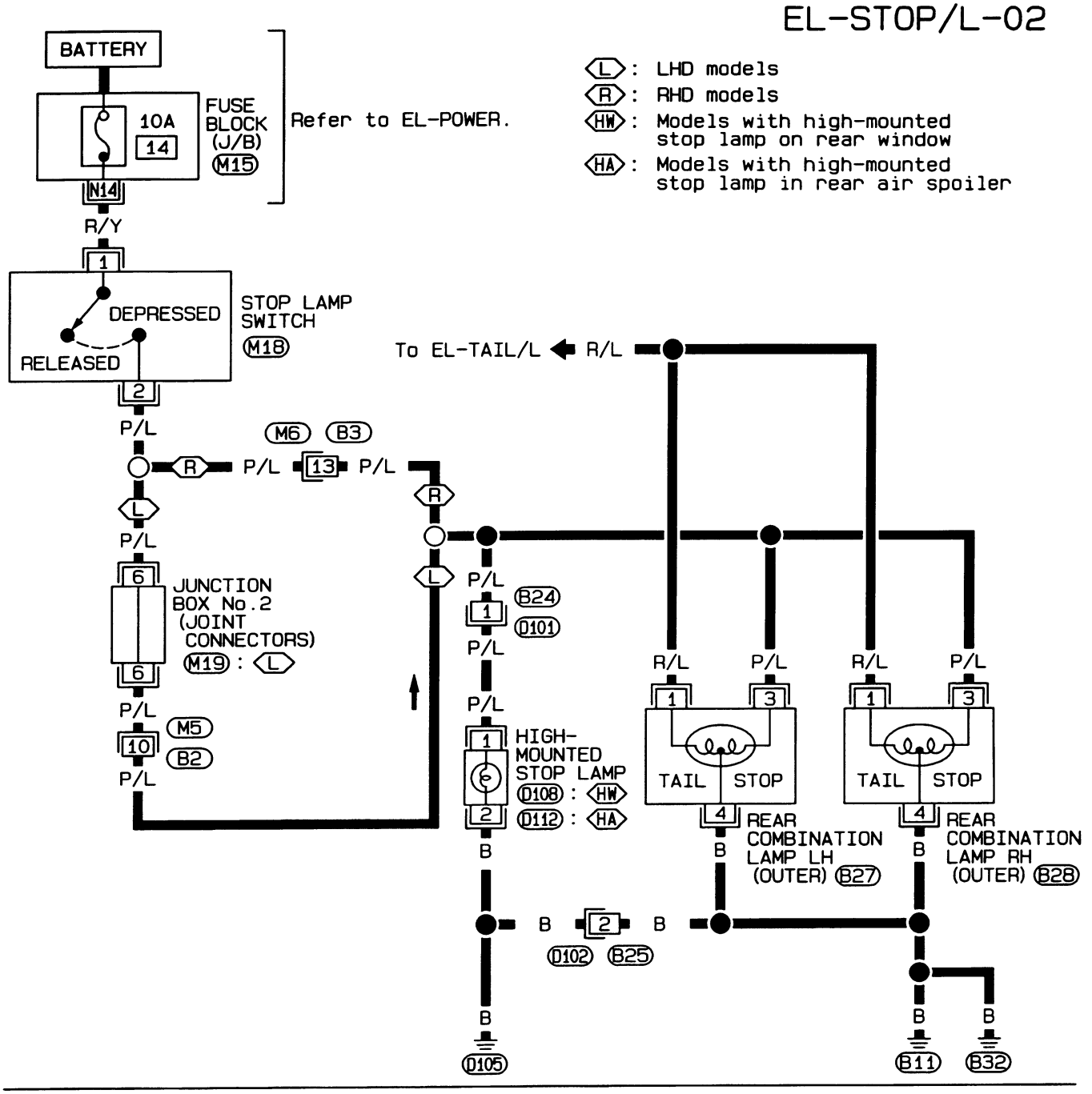
Refer to last page (Foldout page).

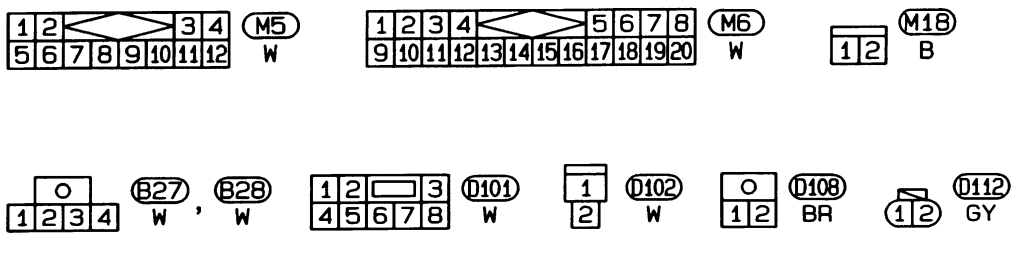
M15

M19

HEL156A

Wiring Diagram — STOP/L —/Hatchback Models





Refer to last page (Foldout page).

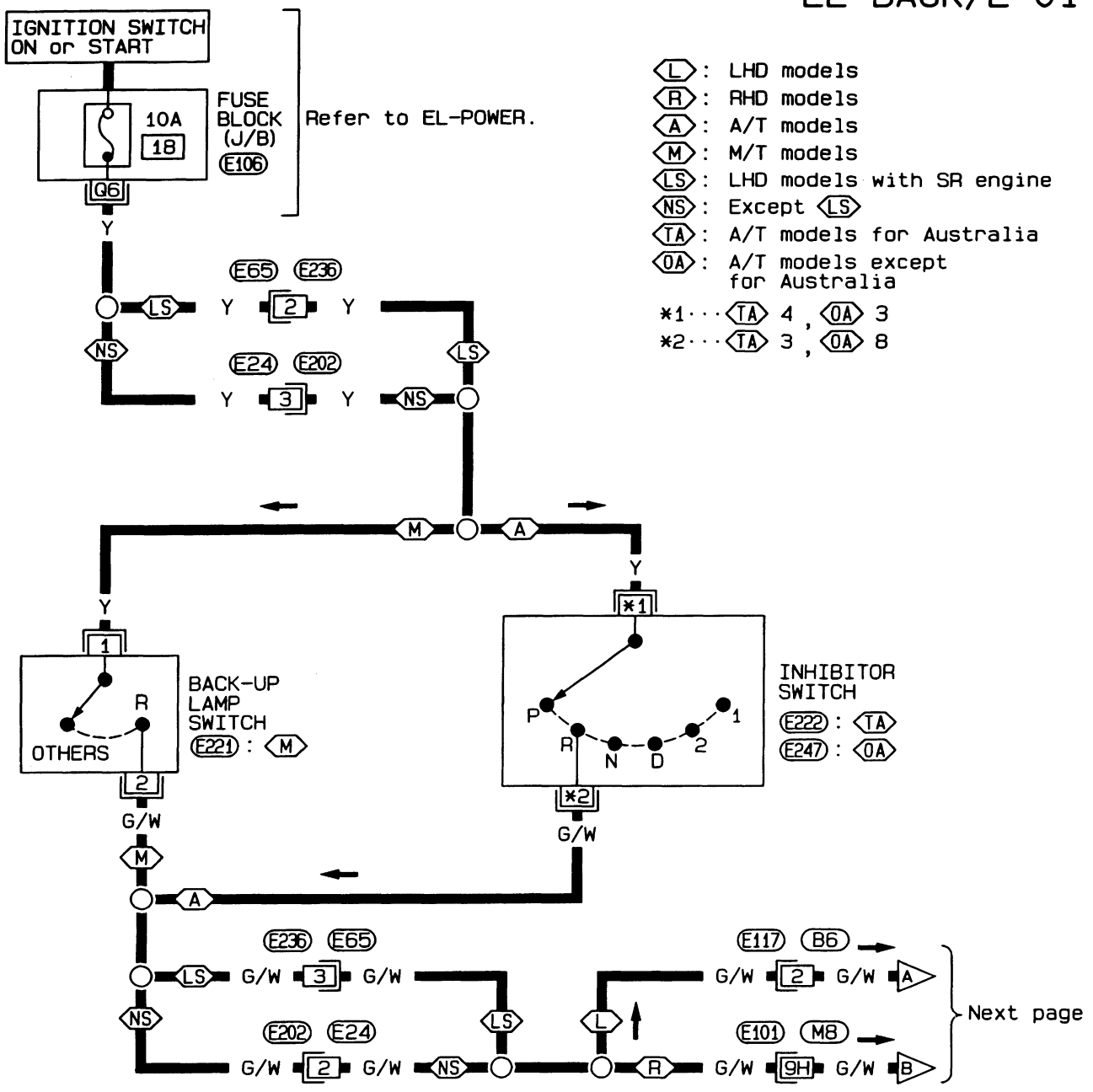
M15

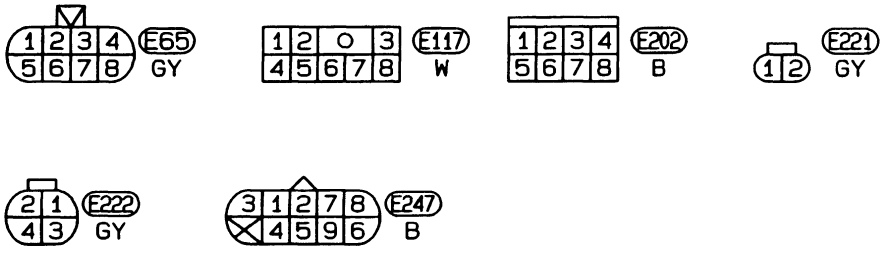
M19

HEL157A

Wiring Diagram — BACK/L —

EL-BACK/L-01





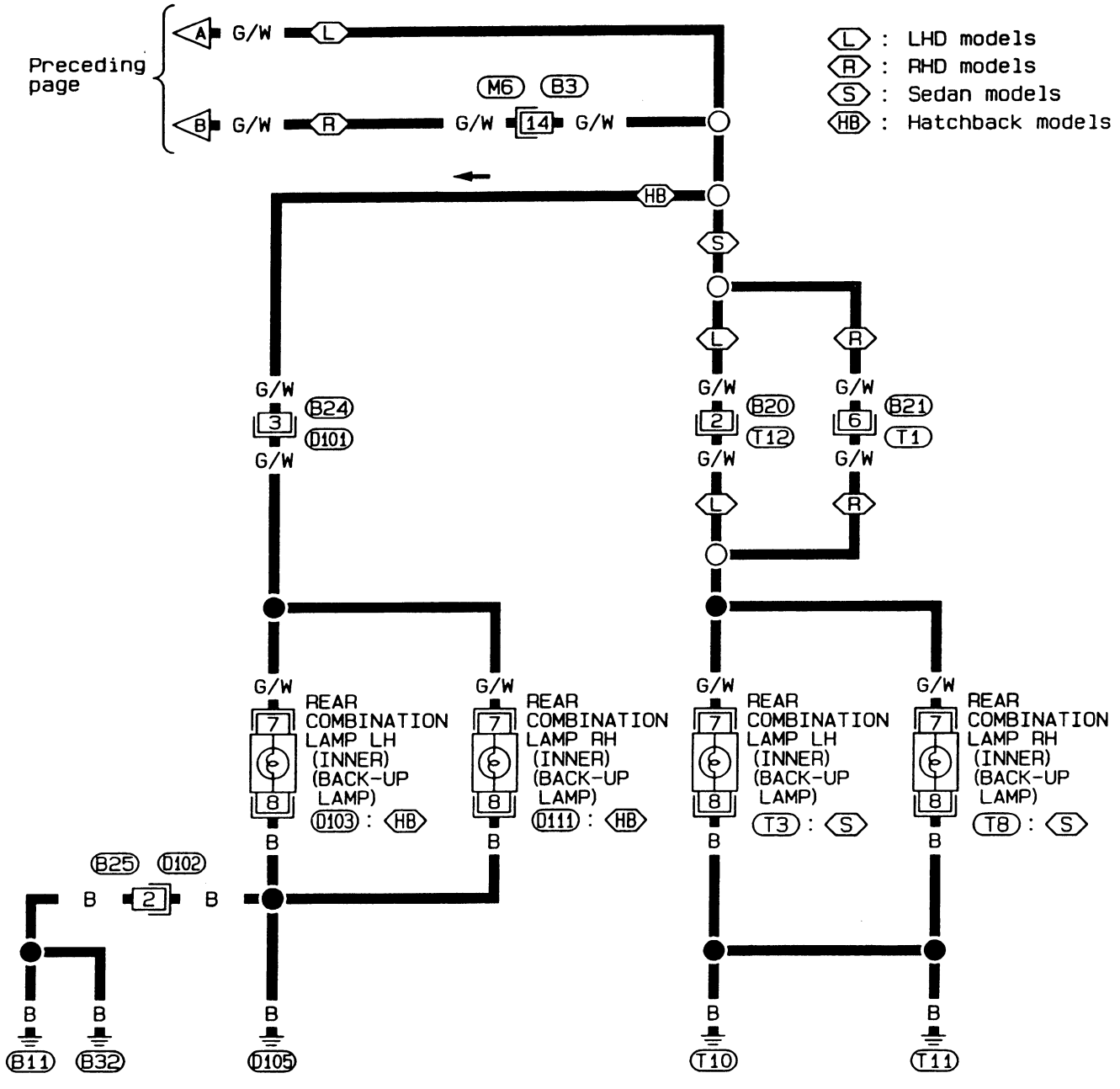
Refer to last page (Foldout page).

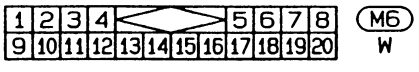
M8 , E101

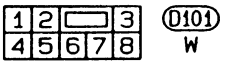
E106

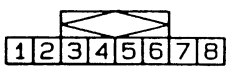
Wiring Diagram — BACK/L — (Cont'd)

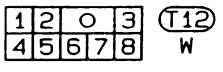
EL-BACK/L-02

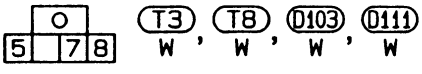


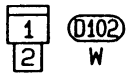






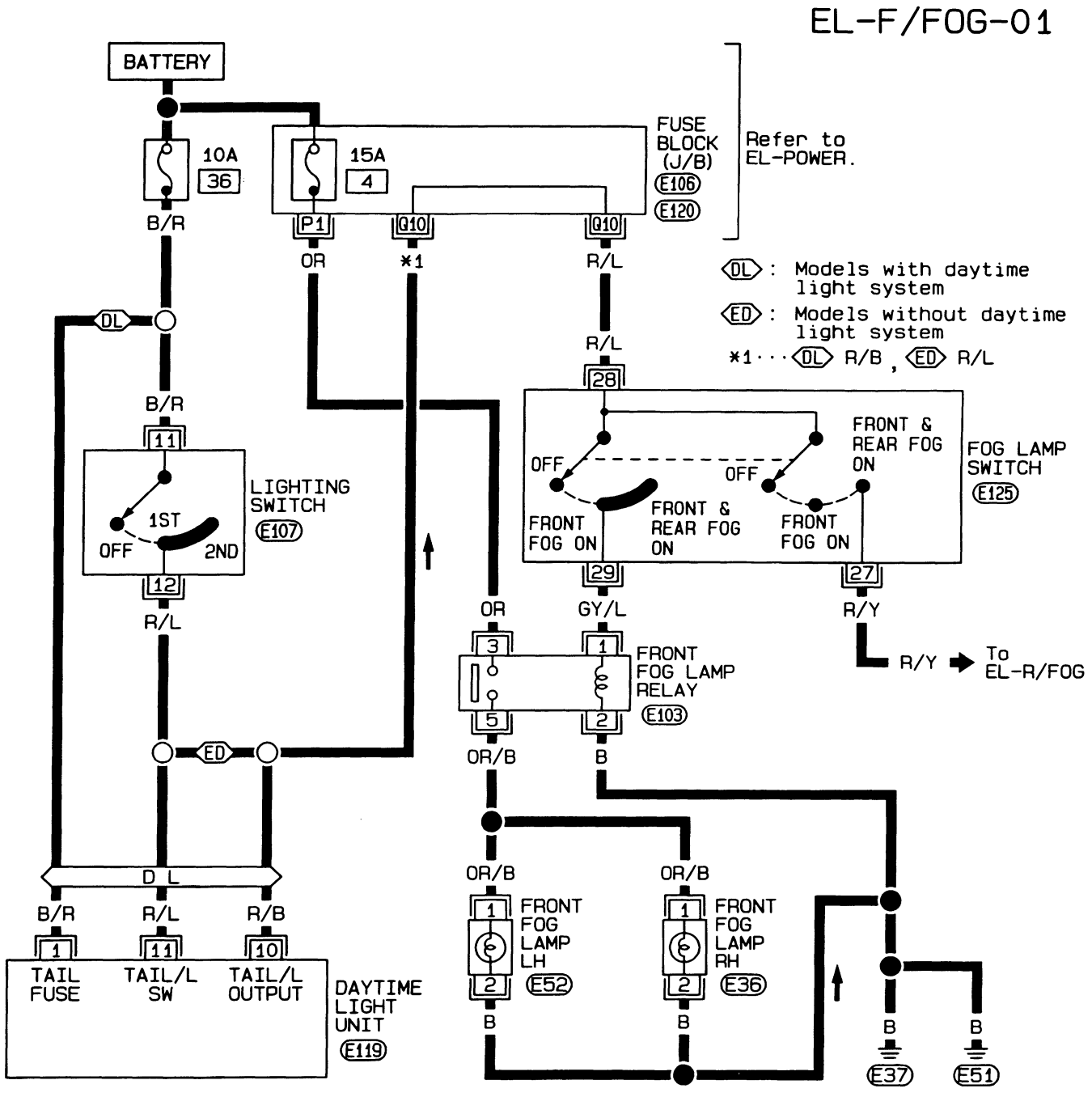


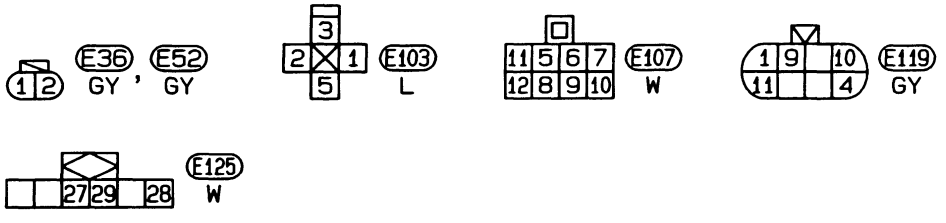




HEL513

Wiring Diagram — F/FOG —/For Europe

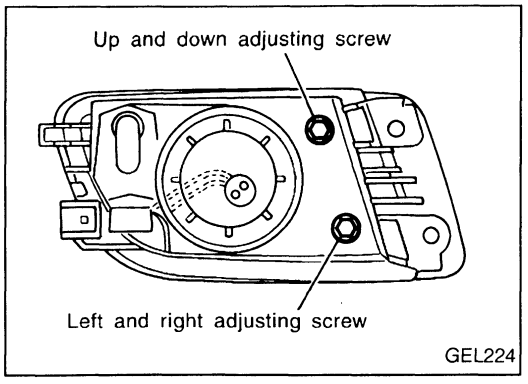




Refer to last page (Foldout page).

E106, E120

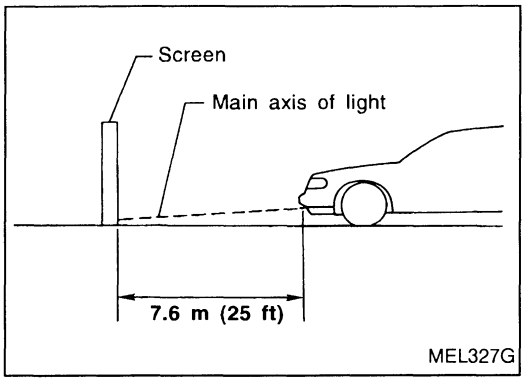
HEL159A



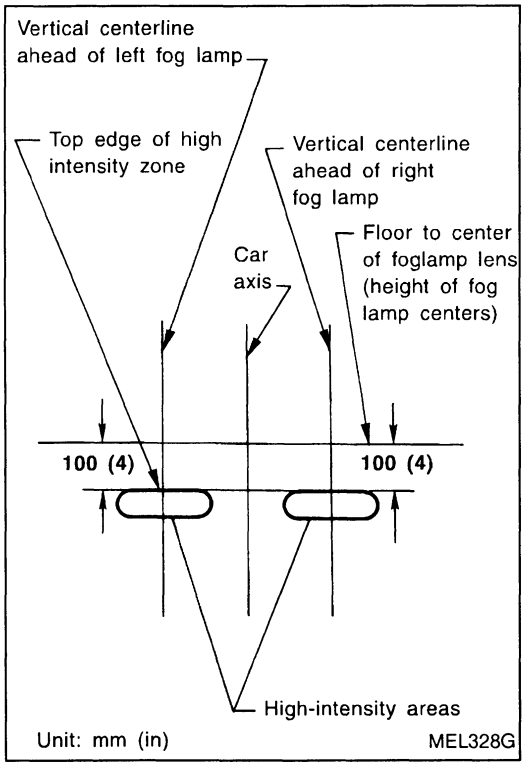
Aiming Adjustment

Before performing aiming adjustment, make sure of the following.

a. Keep all tires inflated to correct pressure.
b. Place vehicle on level ground.
c. Check that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver's seat.



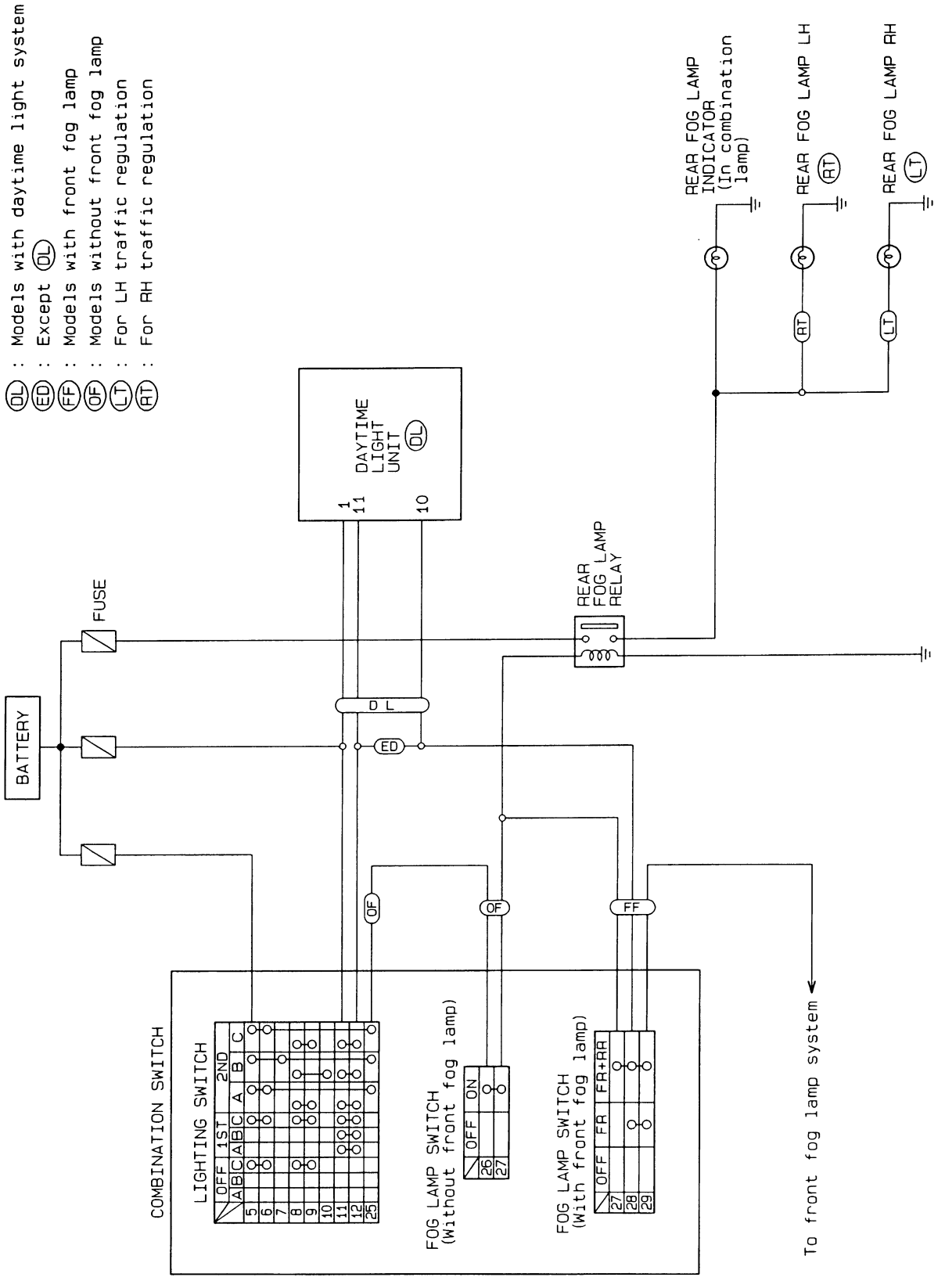
1. Set the distance between the screen and the center of the fog lamp lens as shown at left.
2. Turn front fog lamps ON.



3. Adjust front fog lamps so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown at left.

- When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.

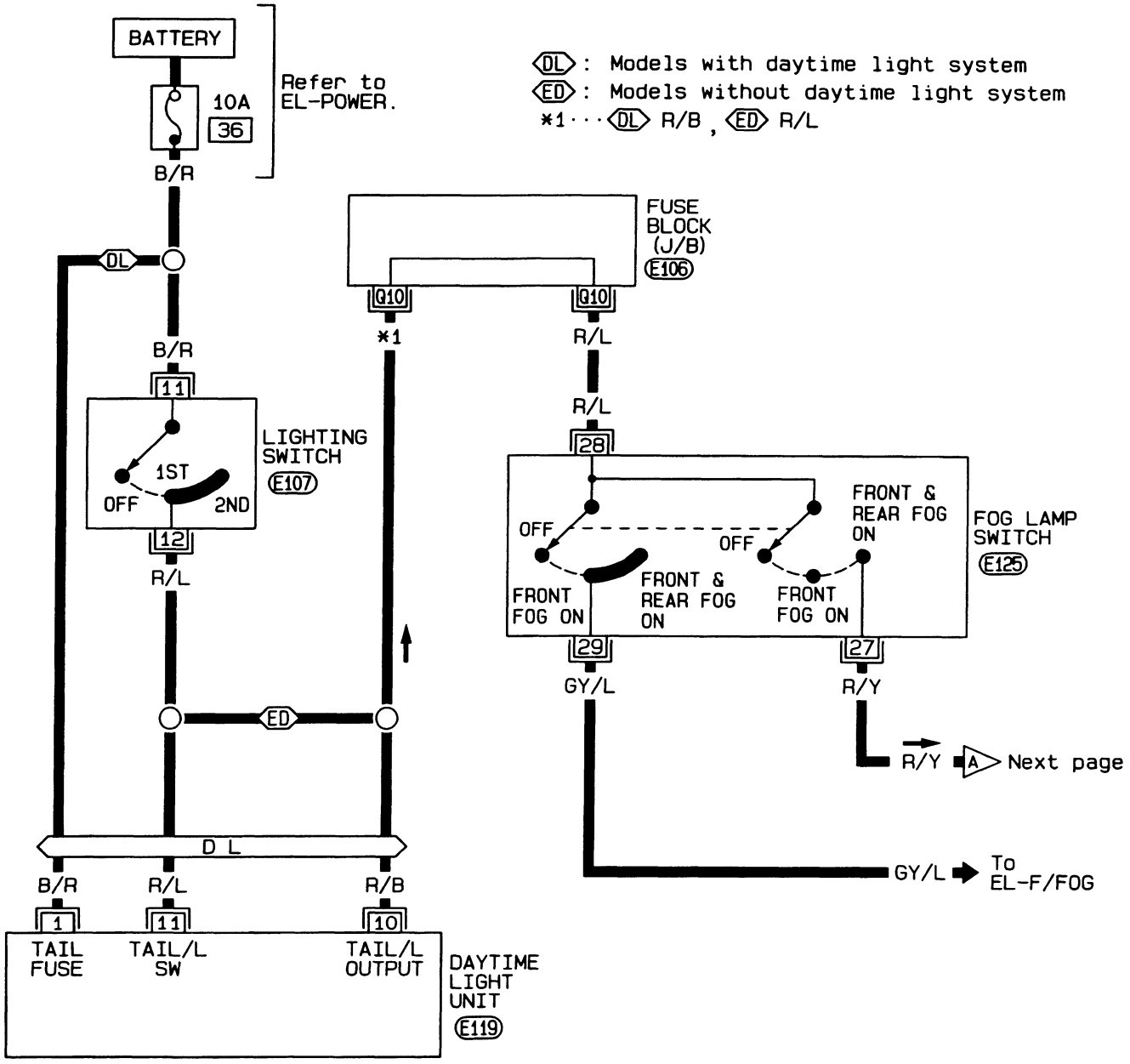
Schematic

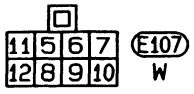


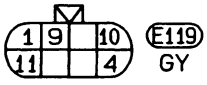
HEL269A

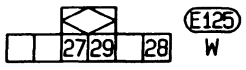
Wiring Diagram — R/FOG —/With Front Fog Lamp

EL-R/FOG-01









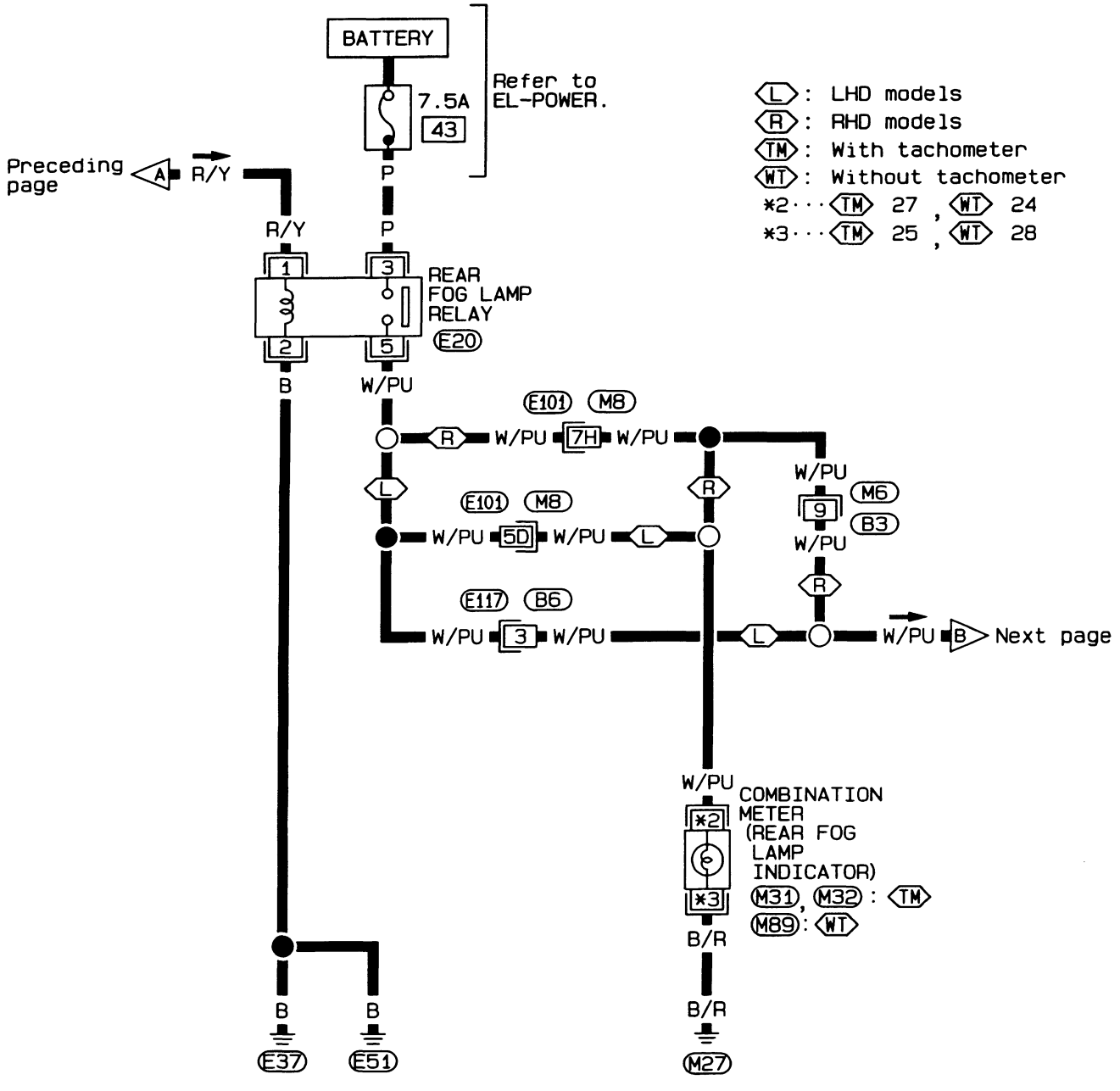
Refer to last page (Foldout page).

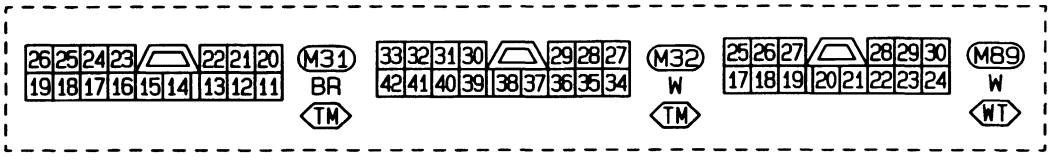
E106

HEL160A

Wiring Diagram — R/FOG —/With Front Fog Lamp (Cont'd)

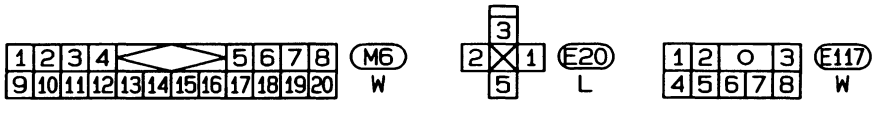
EL-R/FOG-02





Refer to last page (Foldout page).

M8, E101

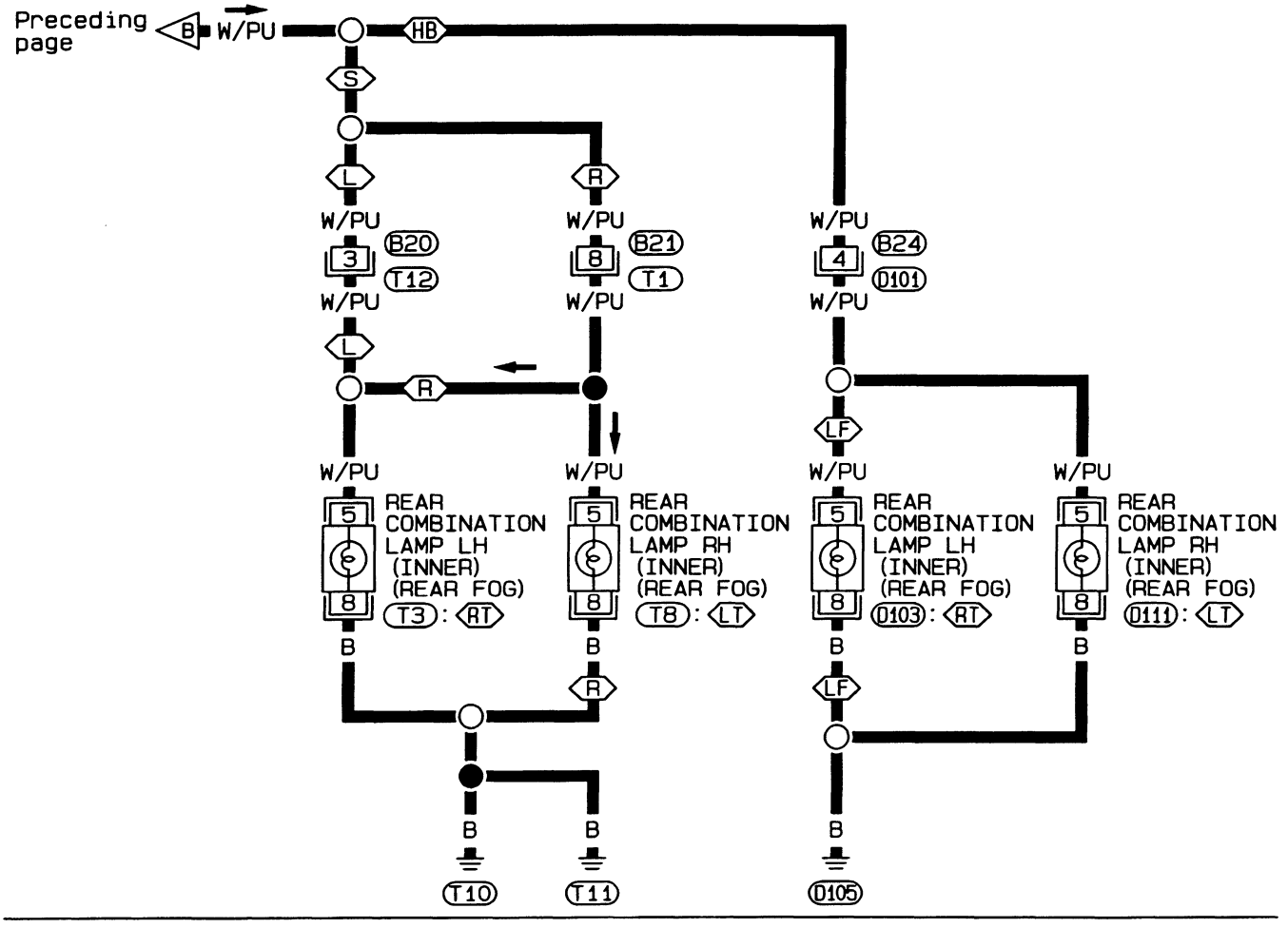


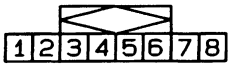
HEL161A

Wiring Diagram — R/FOG —/With Front Fog Lamp (Cont'd)

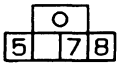
EL-R/FOG-03

(L): LHD models
(R): RHD models
(S): Sedan models
(HB): Hatchback models
(LF): RHD models with high-mounted stop lamp and LHD models
(RT): For RH traffic regulation
(LT): For LH traffic regulation

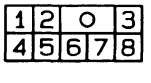




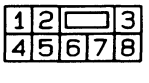
T1
W



T3, T8, D103, D111
W W W W



T12
W

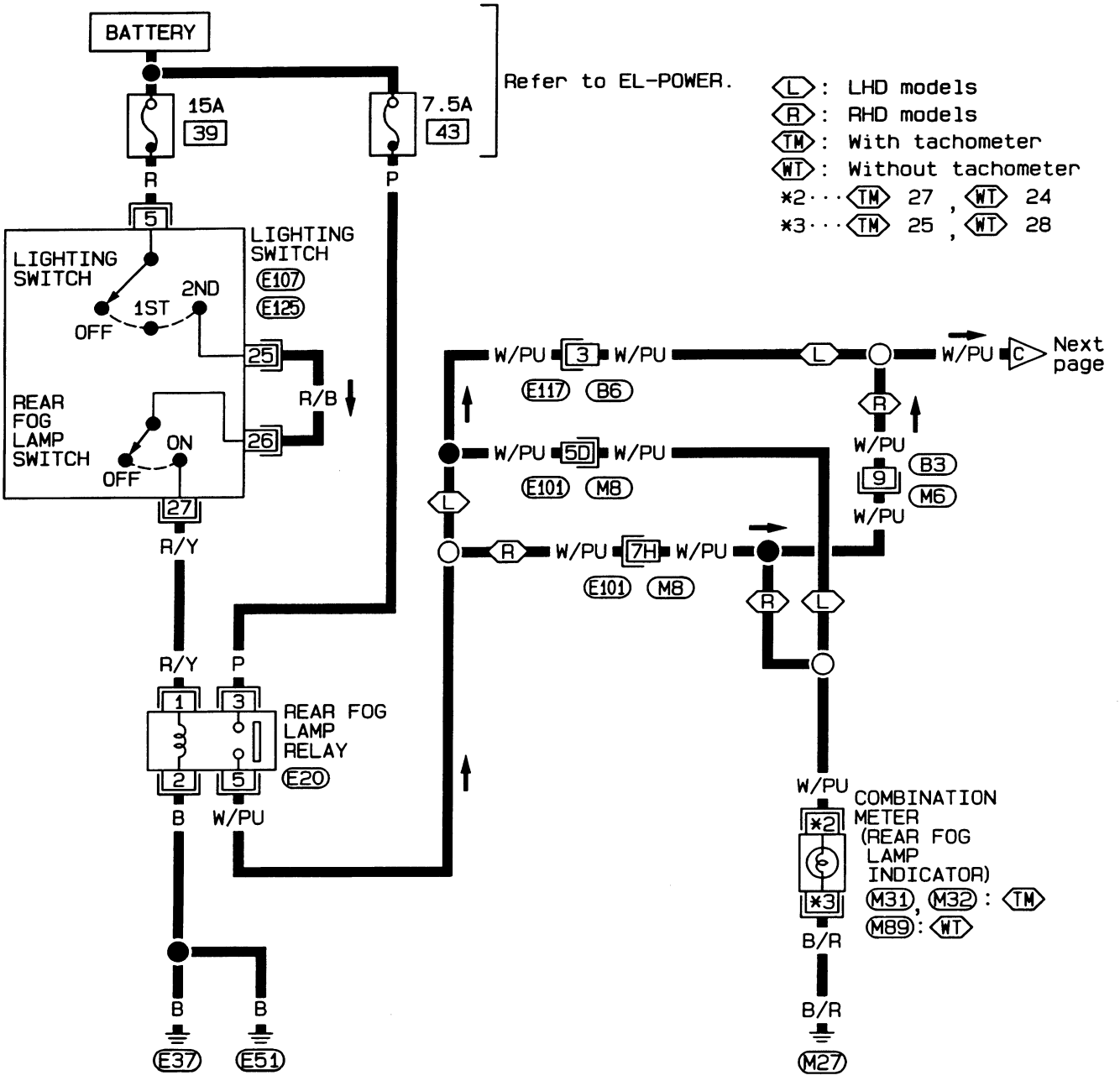


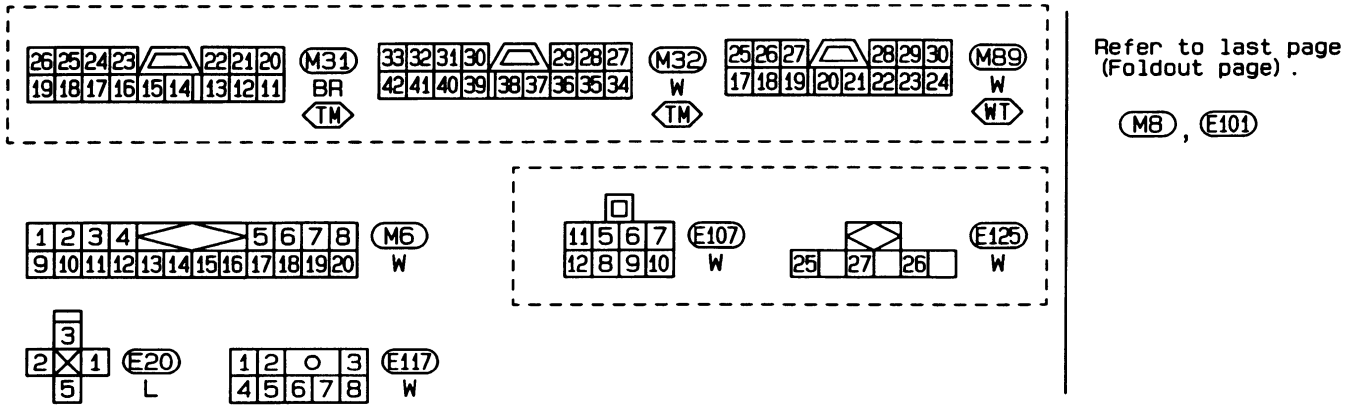
D101
W

HEL162A

Wiring Diagram — R/FOG —/Without Front Fog Lamp

EL-R/FOG-04



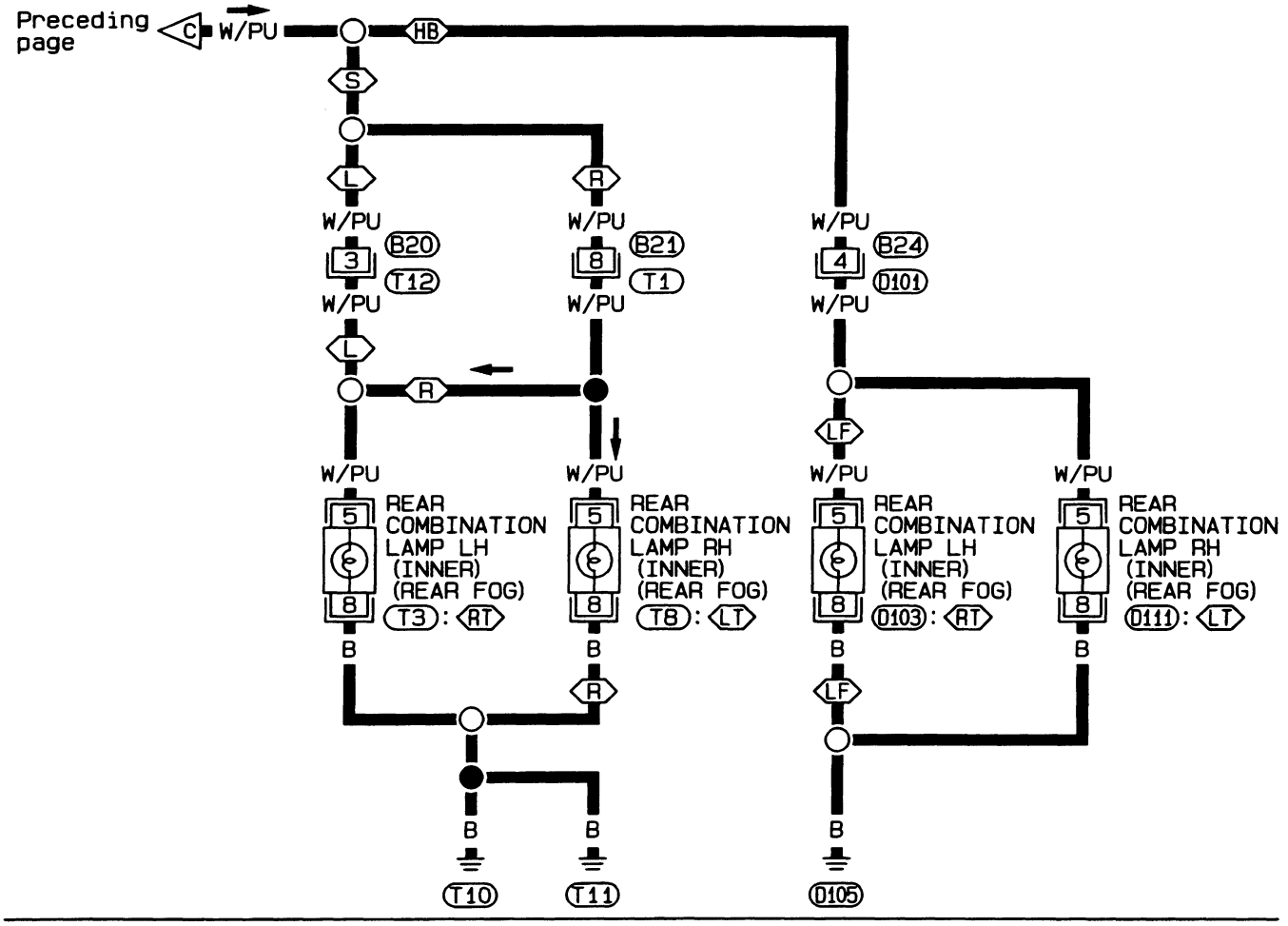


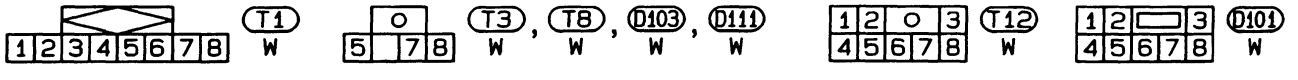
HEL163A

Wiring Diagram — R/FOG —/Without Front Fog Lamp (Cont'd)

EL-R/FOG-05

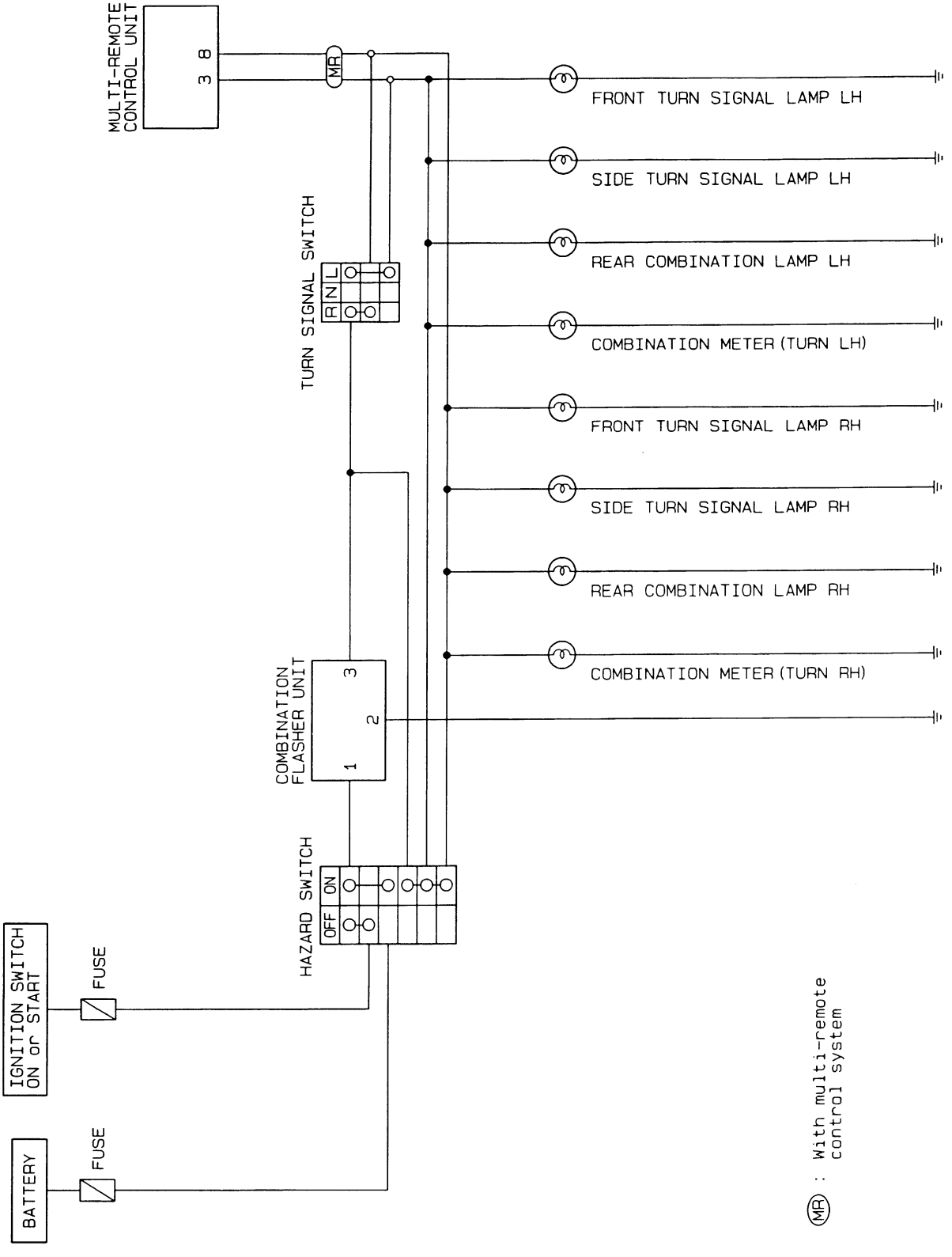
(L): LHD models
(R): RHD models
(S): Sedan models
(HB): Hatchback models
(LF): RHD models with high-mounted stop lamp and LHD models
(RT): For RH traffic regulation
(LT): For LH traffic regulation





HEL164A

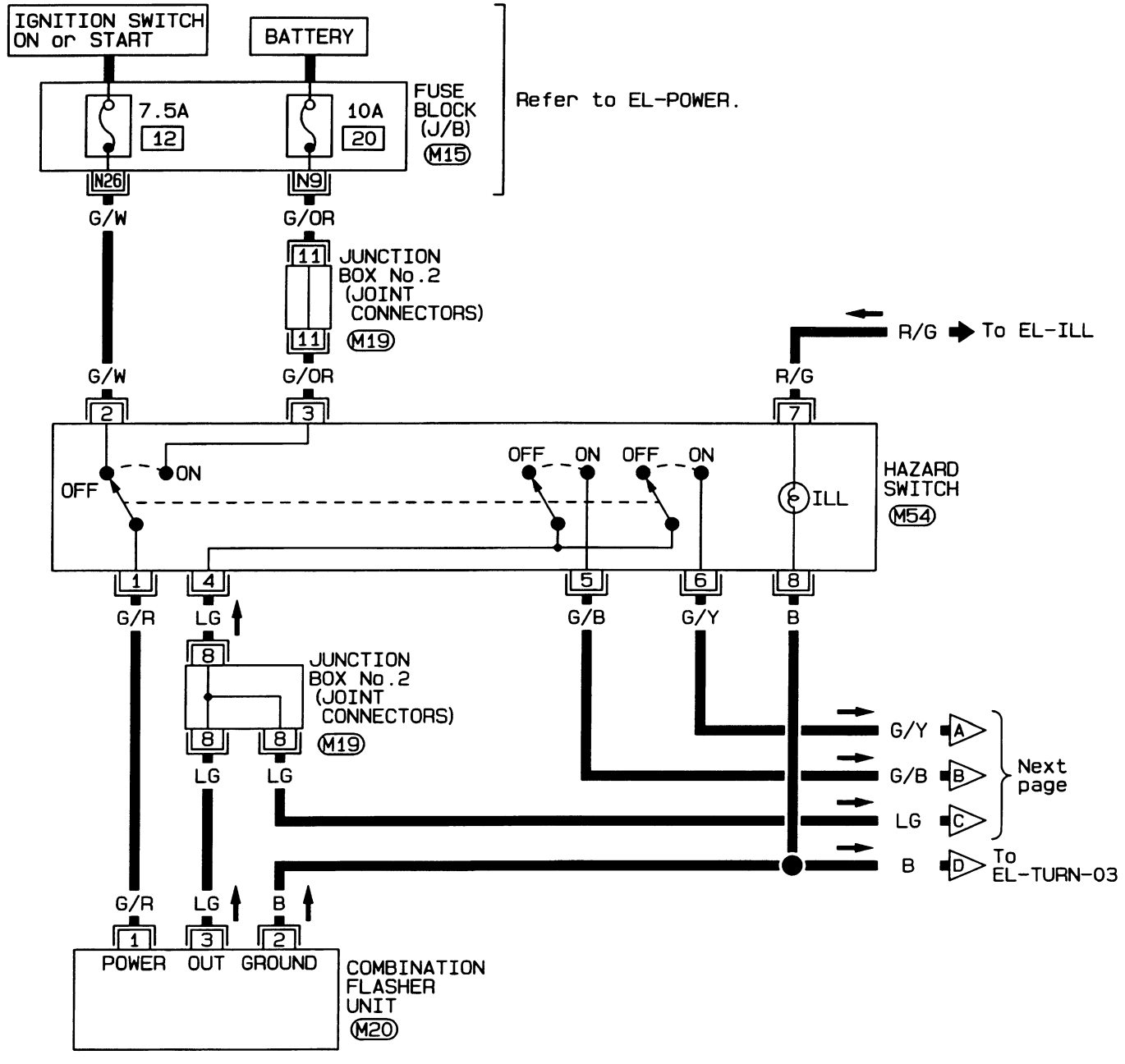
Schematic



HEL165A

Wiring Diagram — TURN —/LHD Models

EL-TURN-01



M54 W

M20 B

Refer to last page (Foldout page).

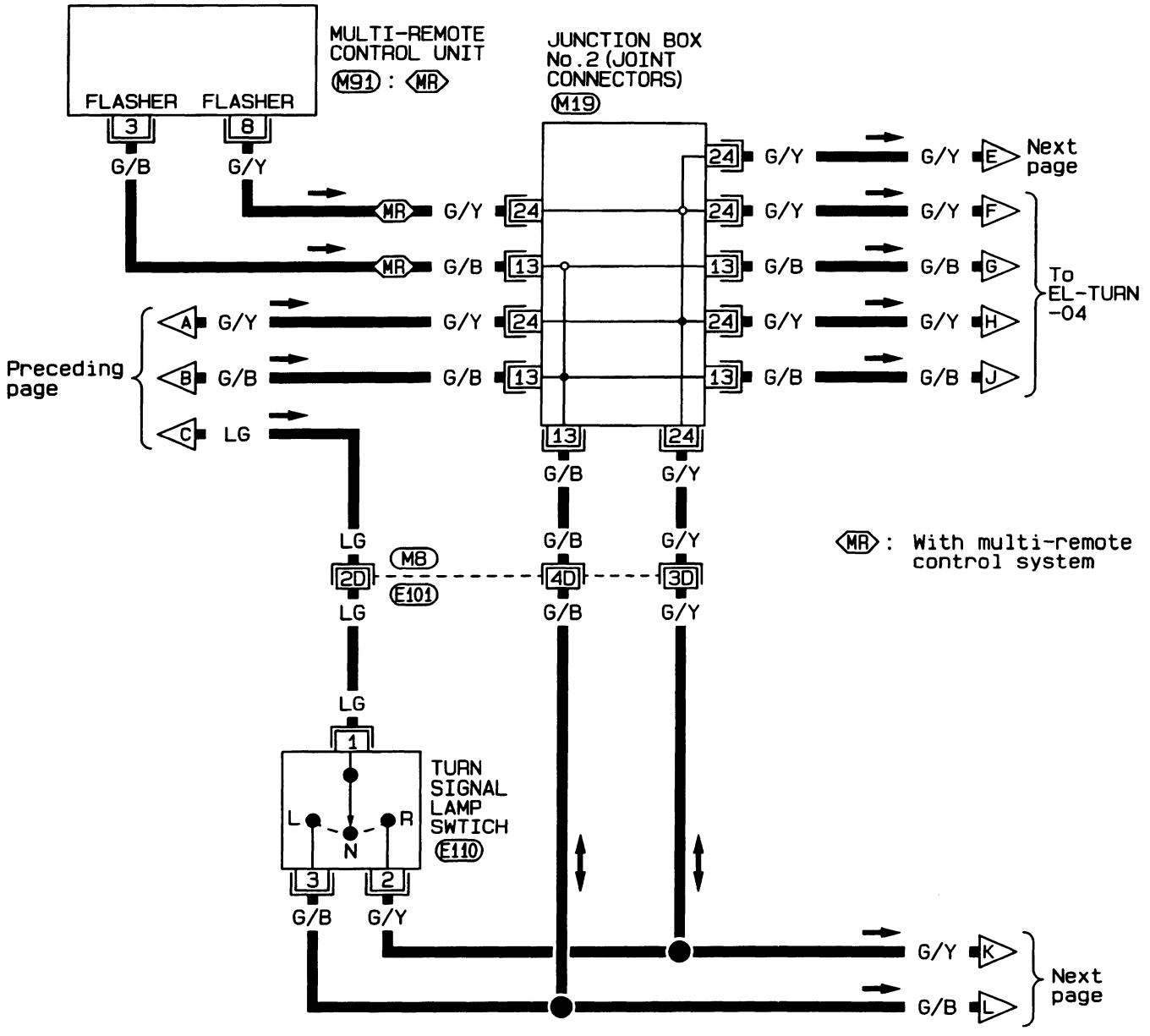
M15

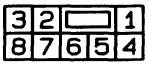
M19

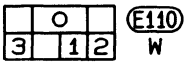
HEL166A

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

EL-TURN-02







Refer to last page (Foldout page).

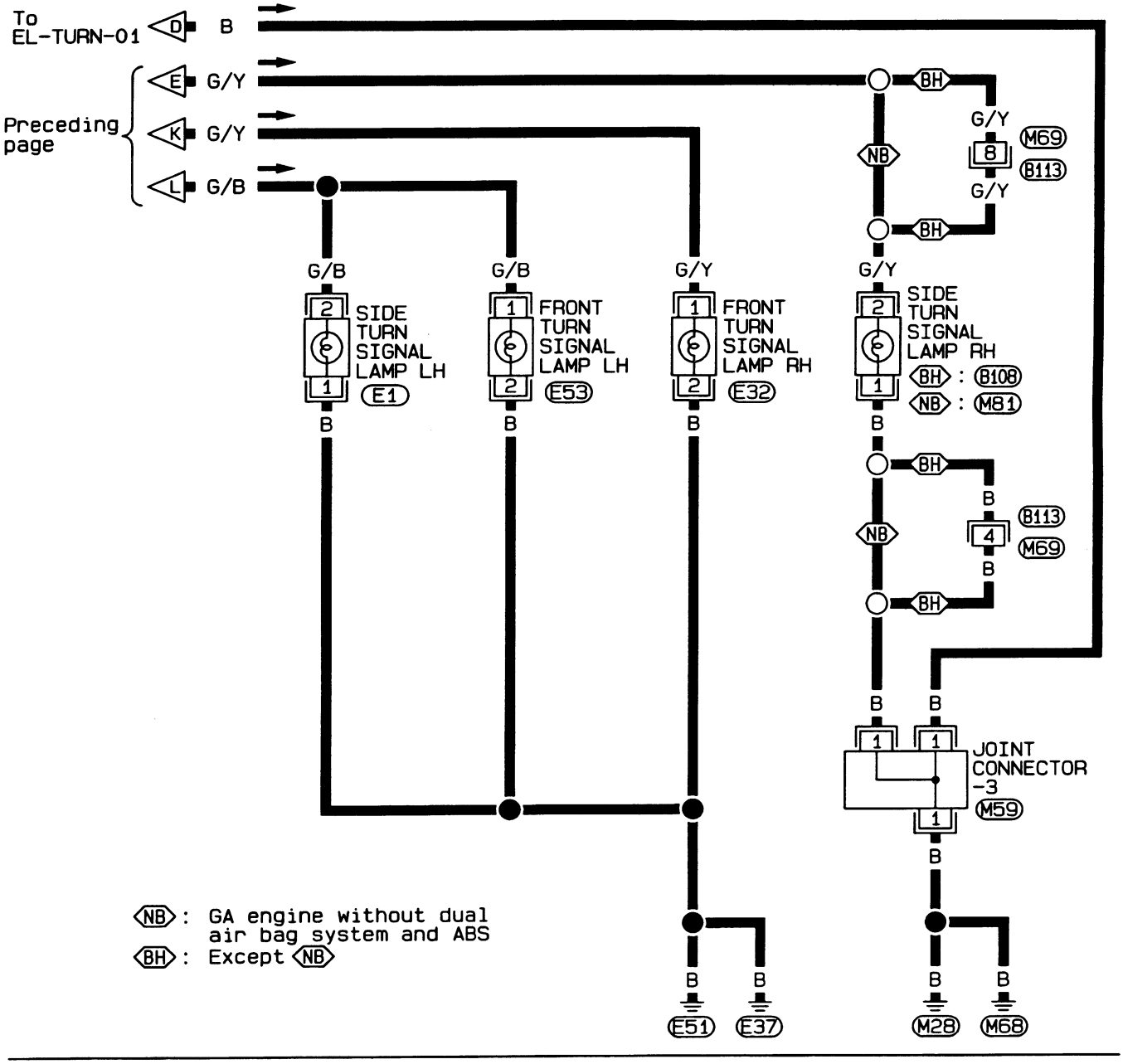
M8, E101

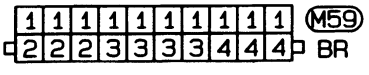
M19

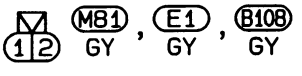
HEL167A

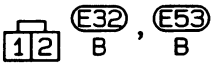
Wiring Diagram — TURN —/LHD Models (Cont'd)

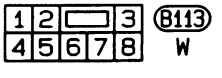
EL-TURN-03







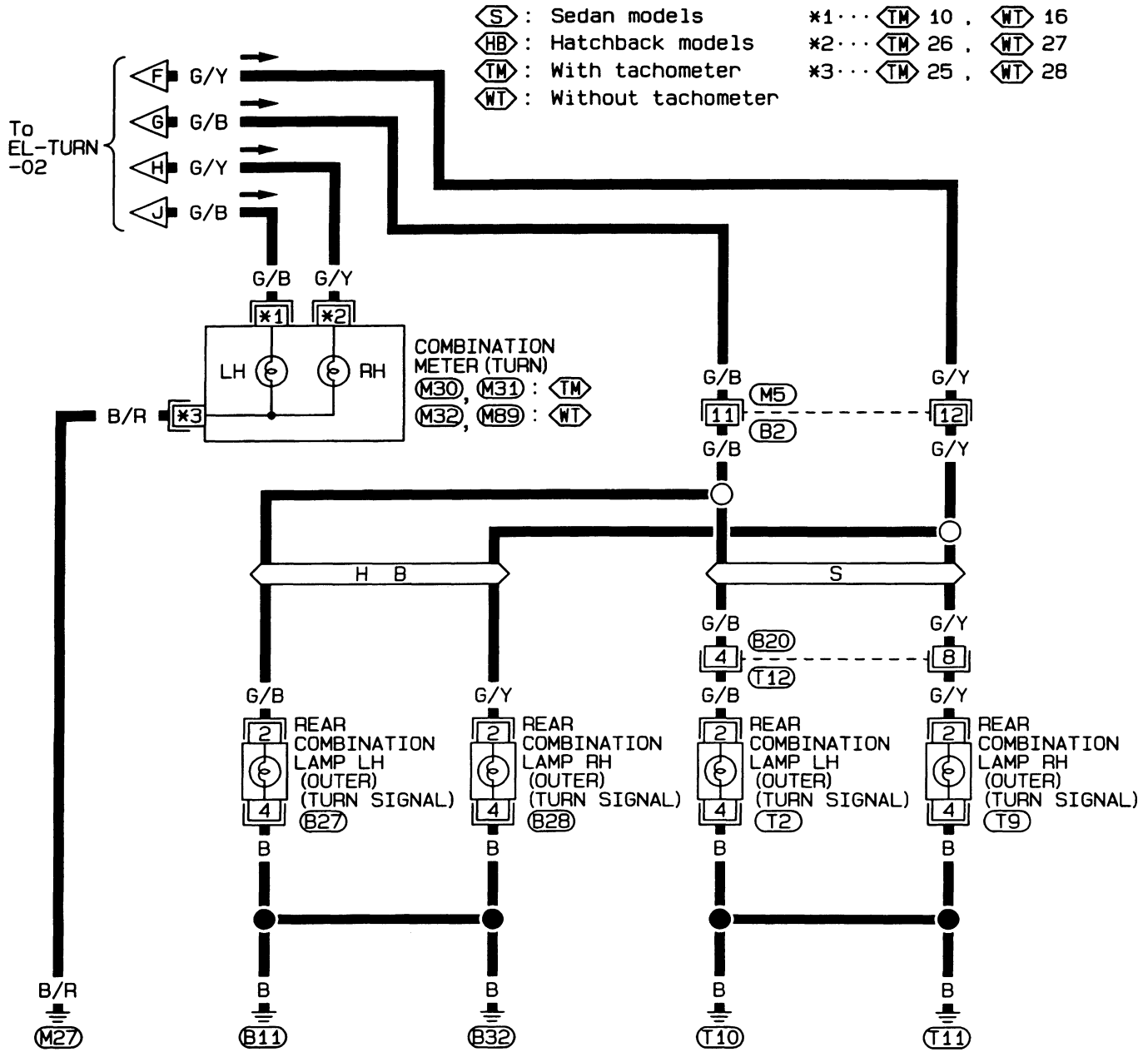


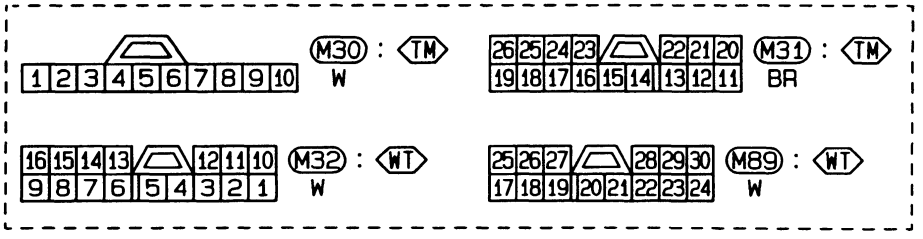


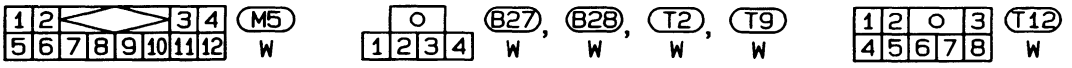
HEL168A

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

EL-TURN-04

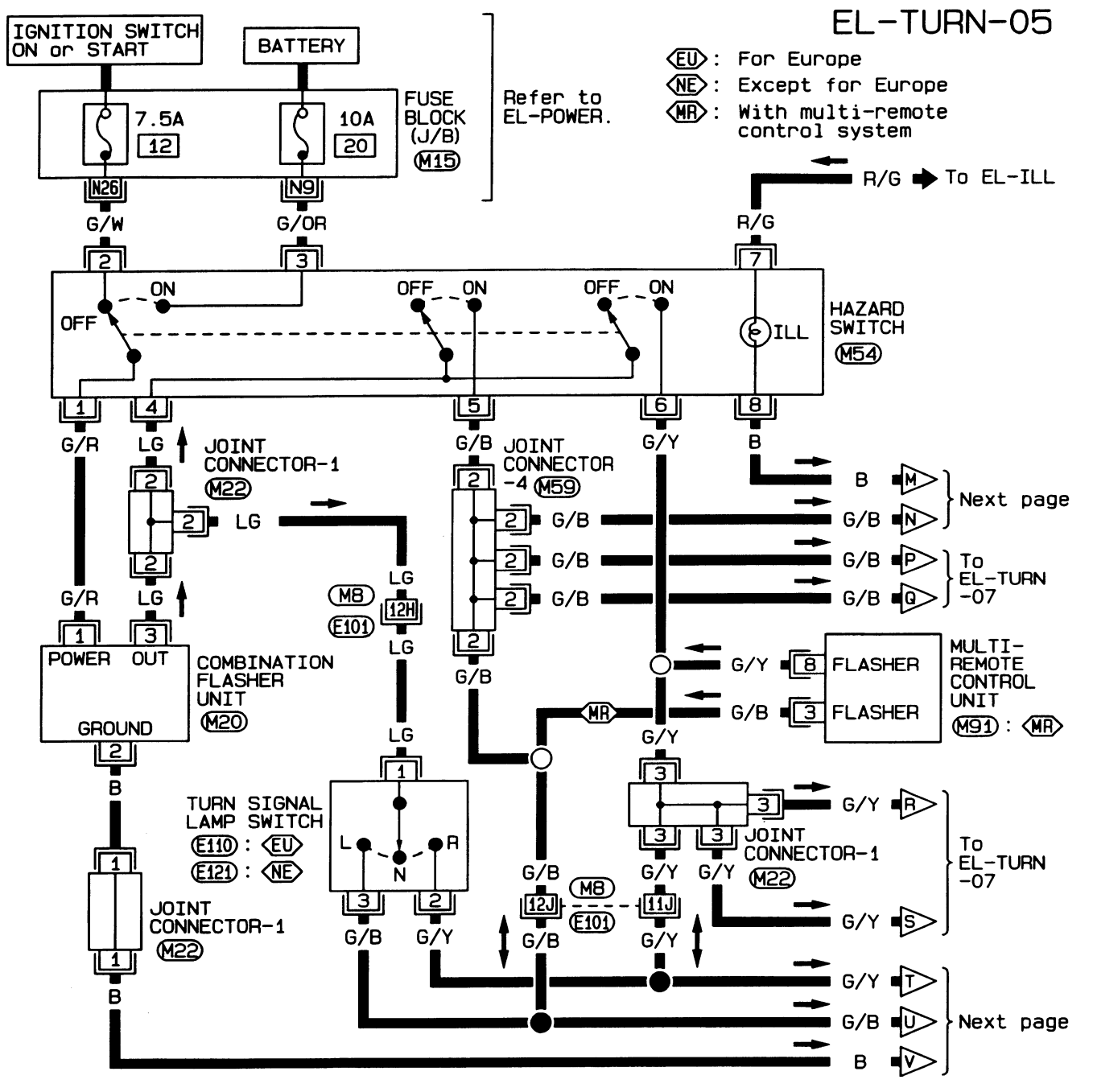


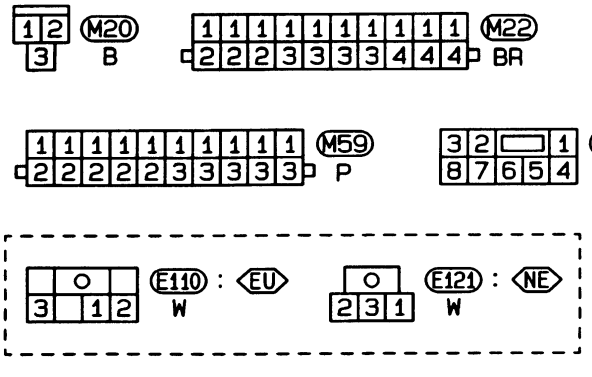




HEL169A

Wiring Diagram — TURN —/RHD Models



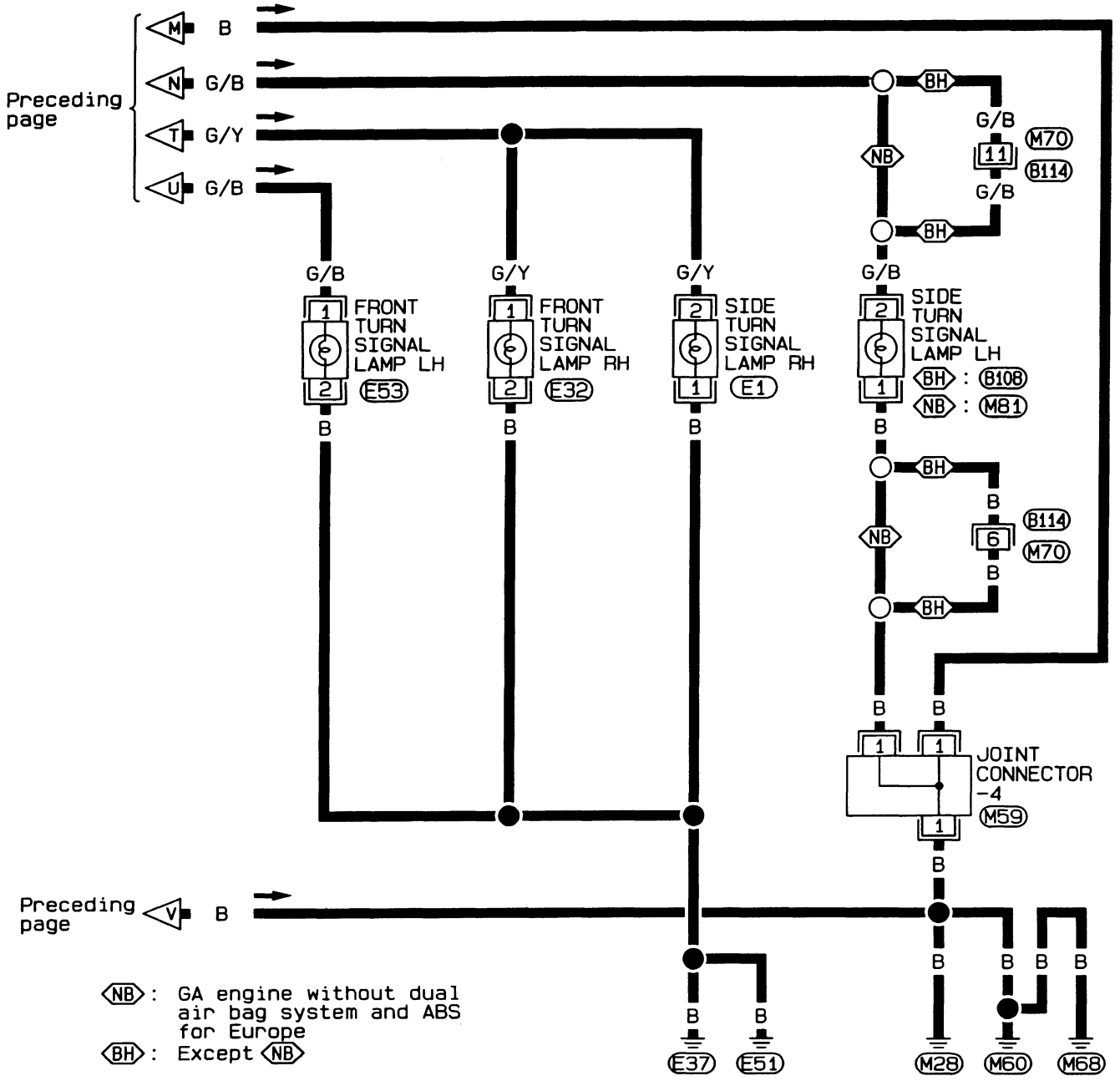


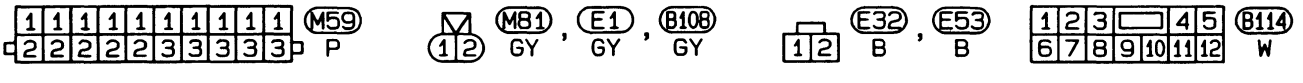
Refer to last page (Foldout page).
M8, E101
M15

HEL170A

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

EL-TURN-06





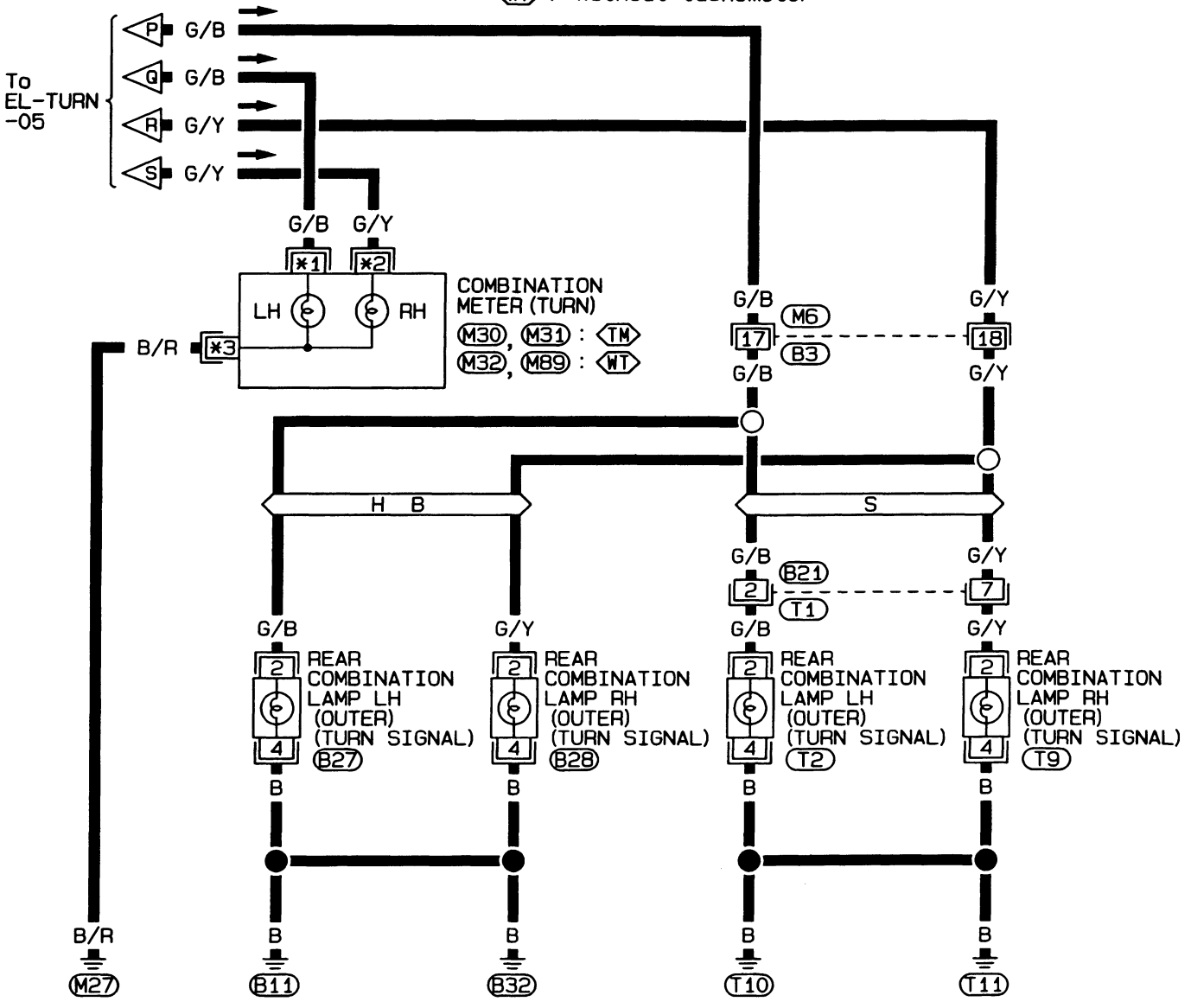
HEL171A

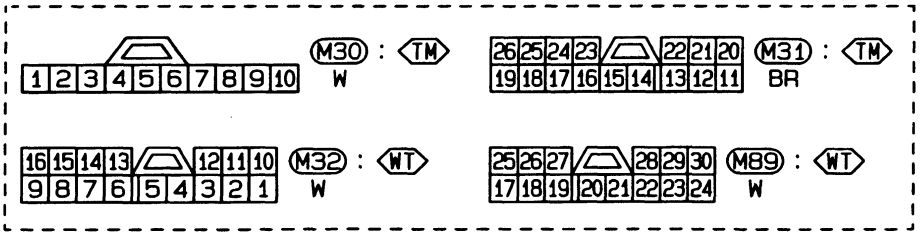
Wiring Diagram — TURN —/RHD Models (Cont'd)

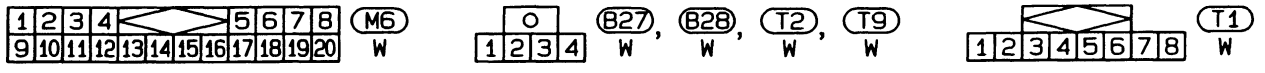
EL-TURN-07

Ⓢ : Sedan models
Ⓗ Ⓑ : Hatchback models
Ⓣ Ⓜ : With tachometer
Ⓦ Ⓣ : Without tachometer

*1 ··· Ⓣ Ⓜ 10 , Ⓦ Ⓣ 16
*2 ··· Ⓣ Ⓜ 26 , Ⓦ Ⓣ 27
*3 ··· Ⓣ Ⓜ 25 , Ⓦ Ⓣ 28

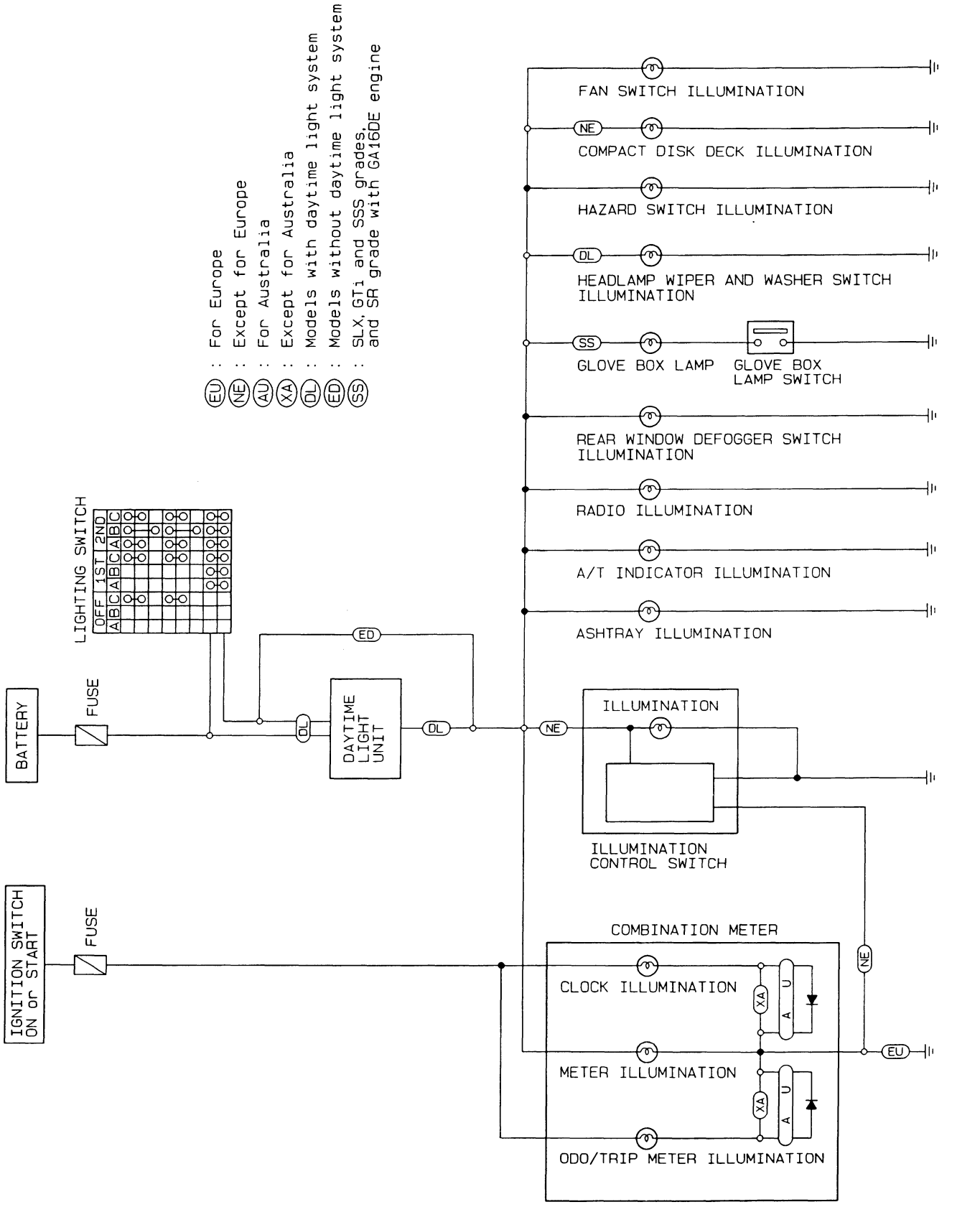






HEL172A

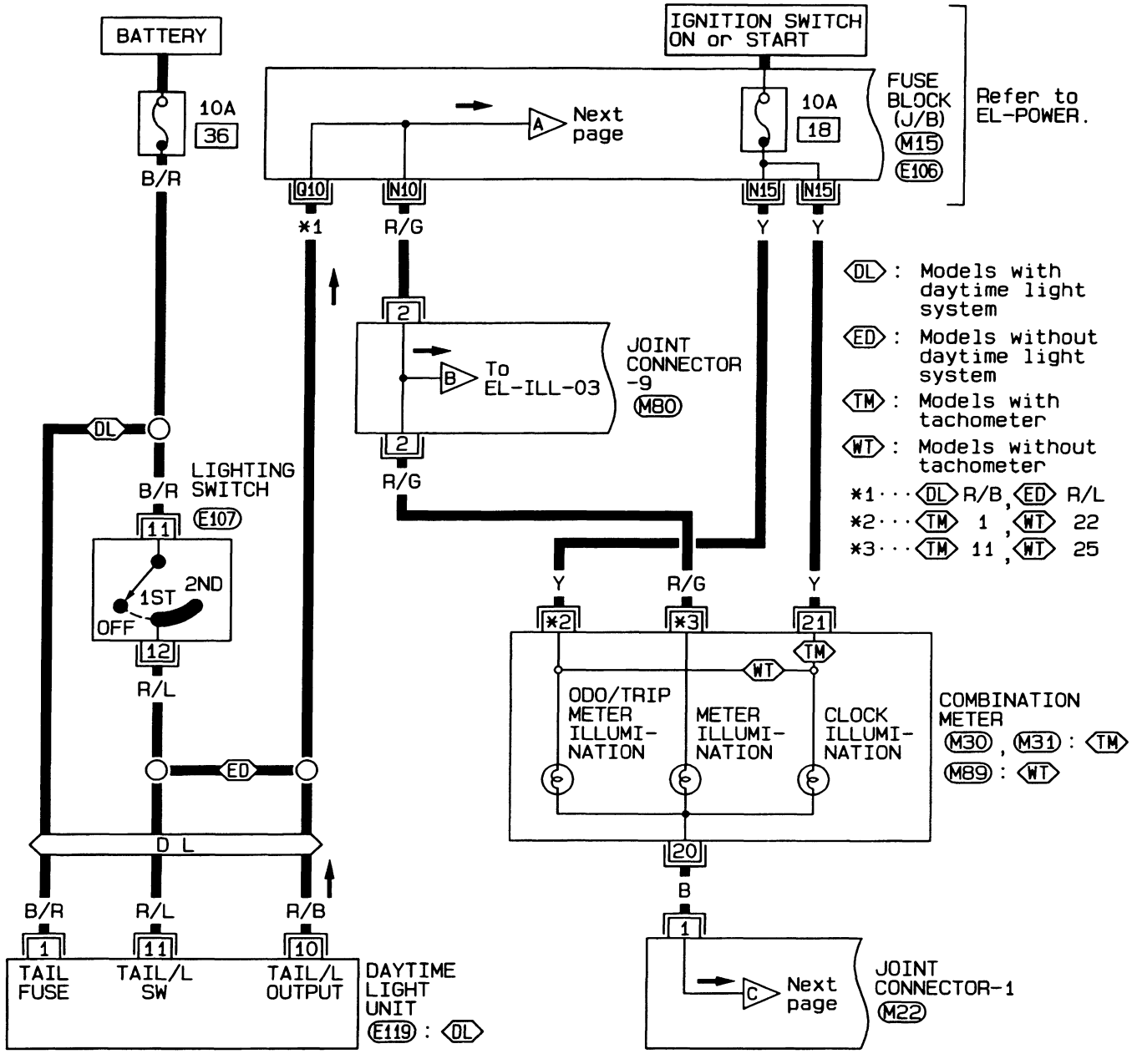
Schematic

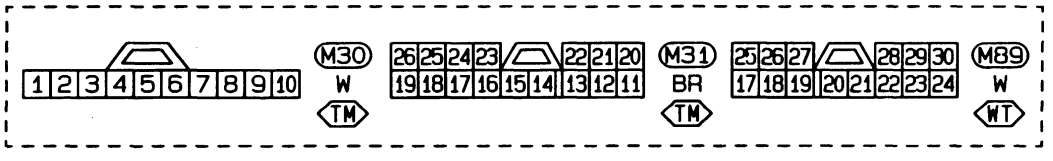


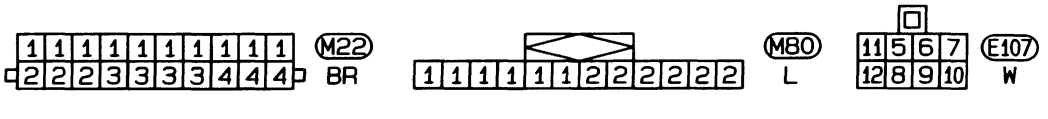
HEL173A

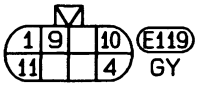
Wiring Diagram — ILL —/LHD Models

EL-ILL-01









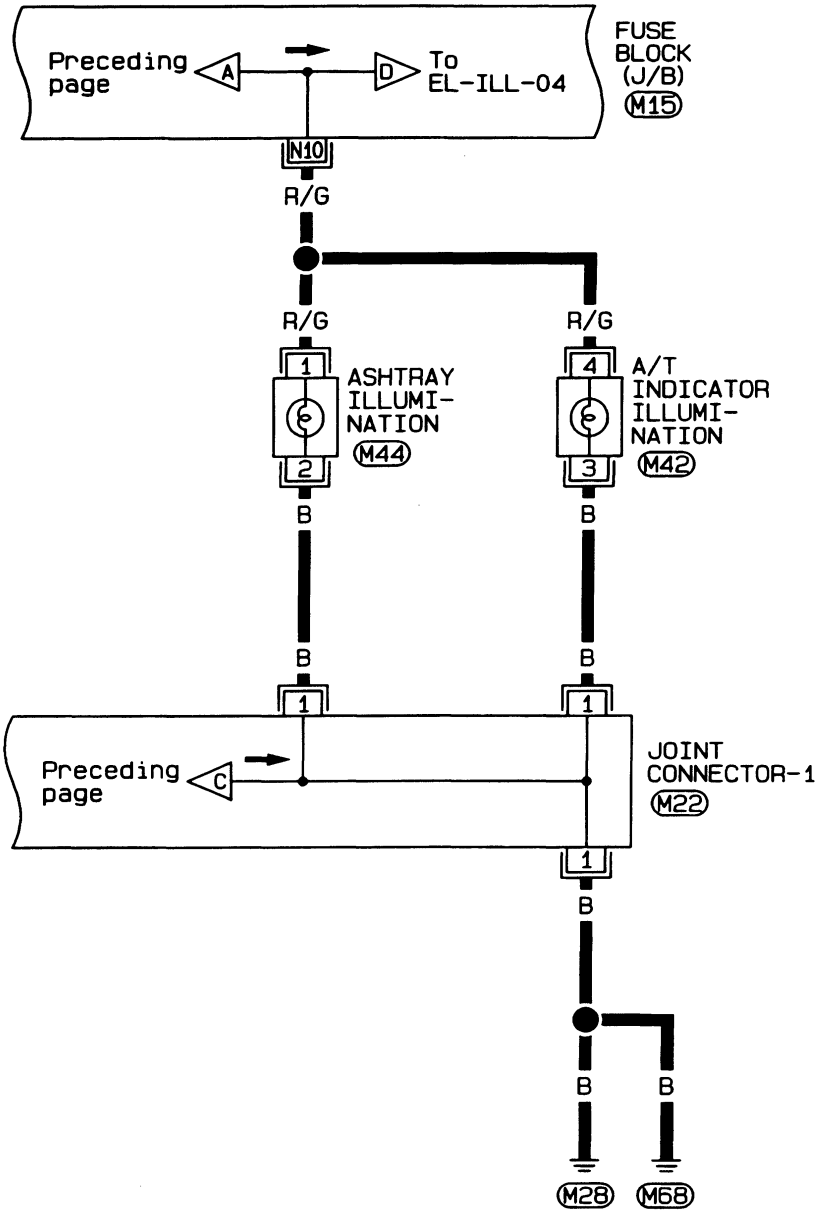
Refer to last page (Foldout page).

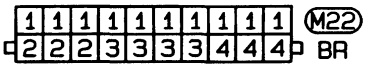
M15 , E106

HEL174A

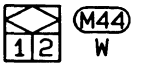
Wiring Diagram — ILL —/LHD Models (Cont'd)

EL-ILL-02









Refer to last page (Foldout page).

M15

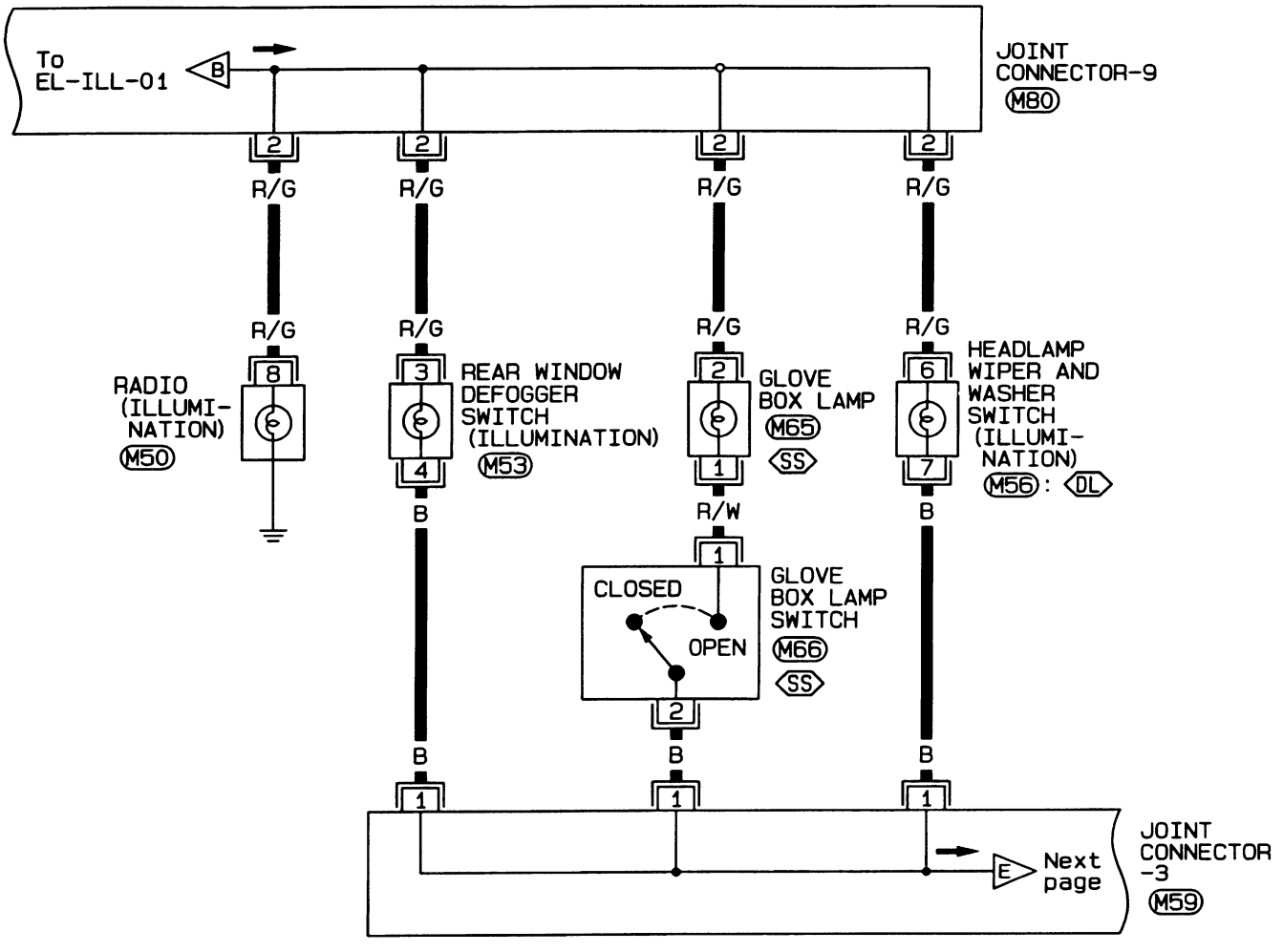
HEL175A

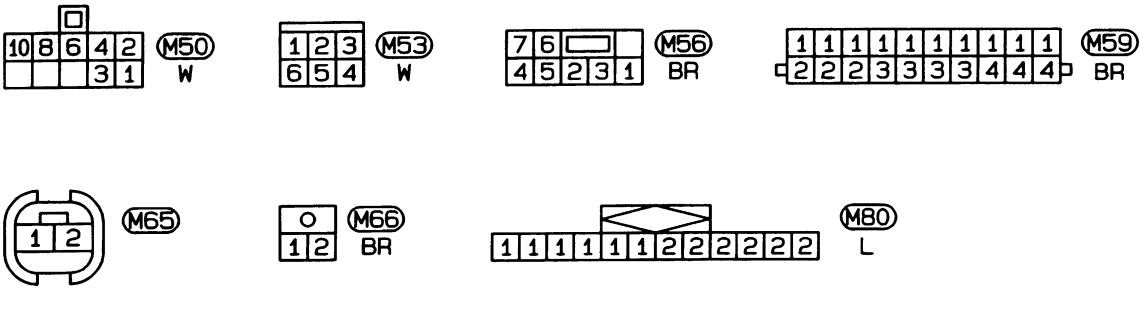
Wiring Diagram — ILL —/LHD Models (Cont'd)

EL-ILL-03

DL : Models with daytime light system

SS : SLX and GTi grades, and SR grade with GA16DE engine

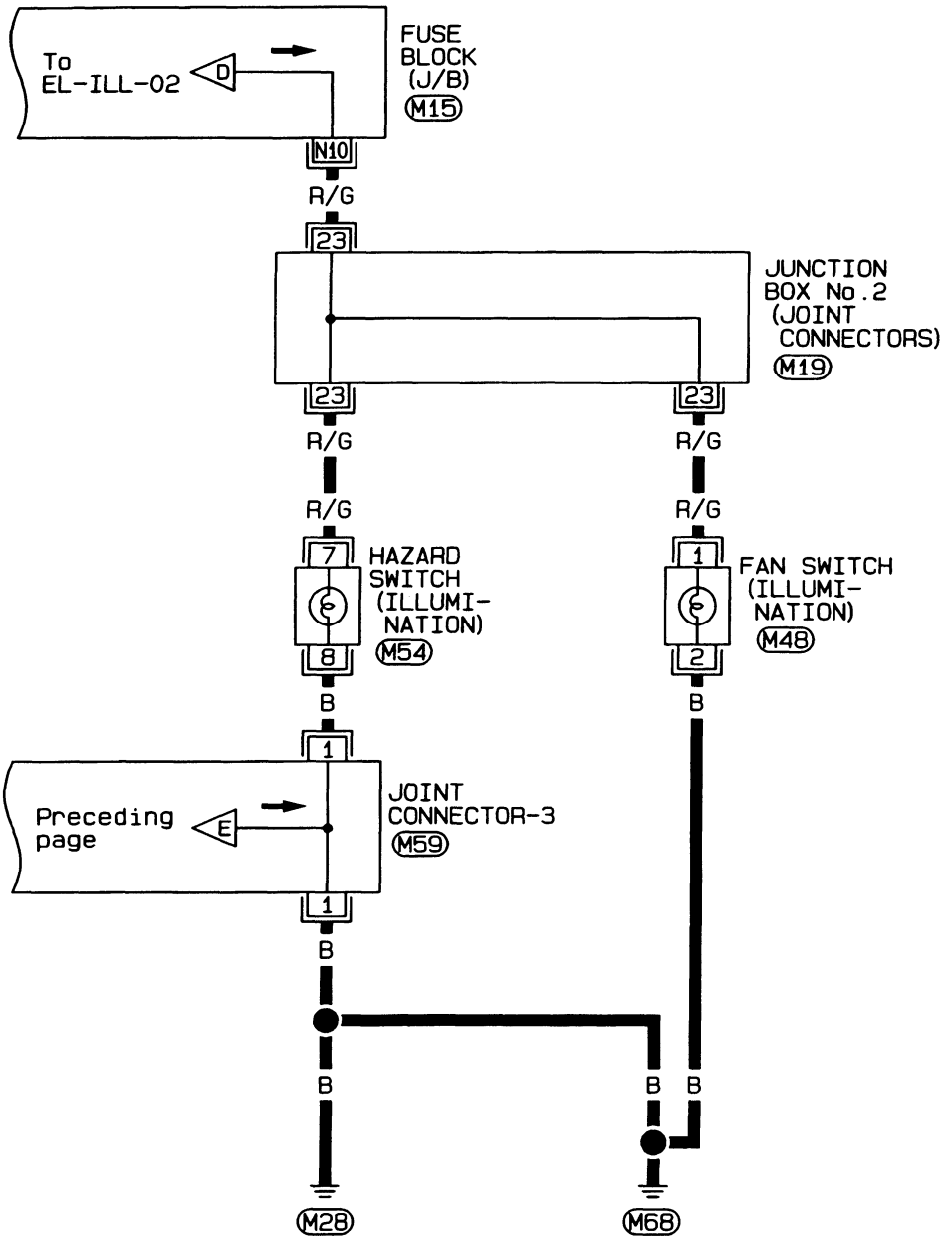


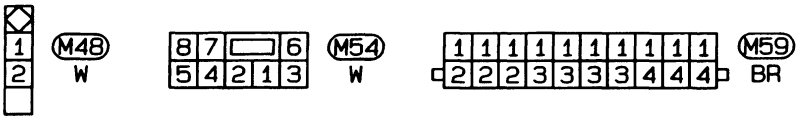


HEL176A

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

EL-ILL-04





Refer to last page (Foldout page).

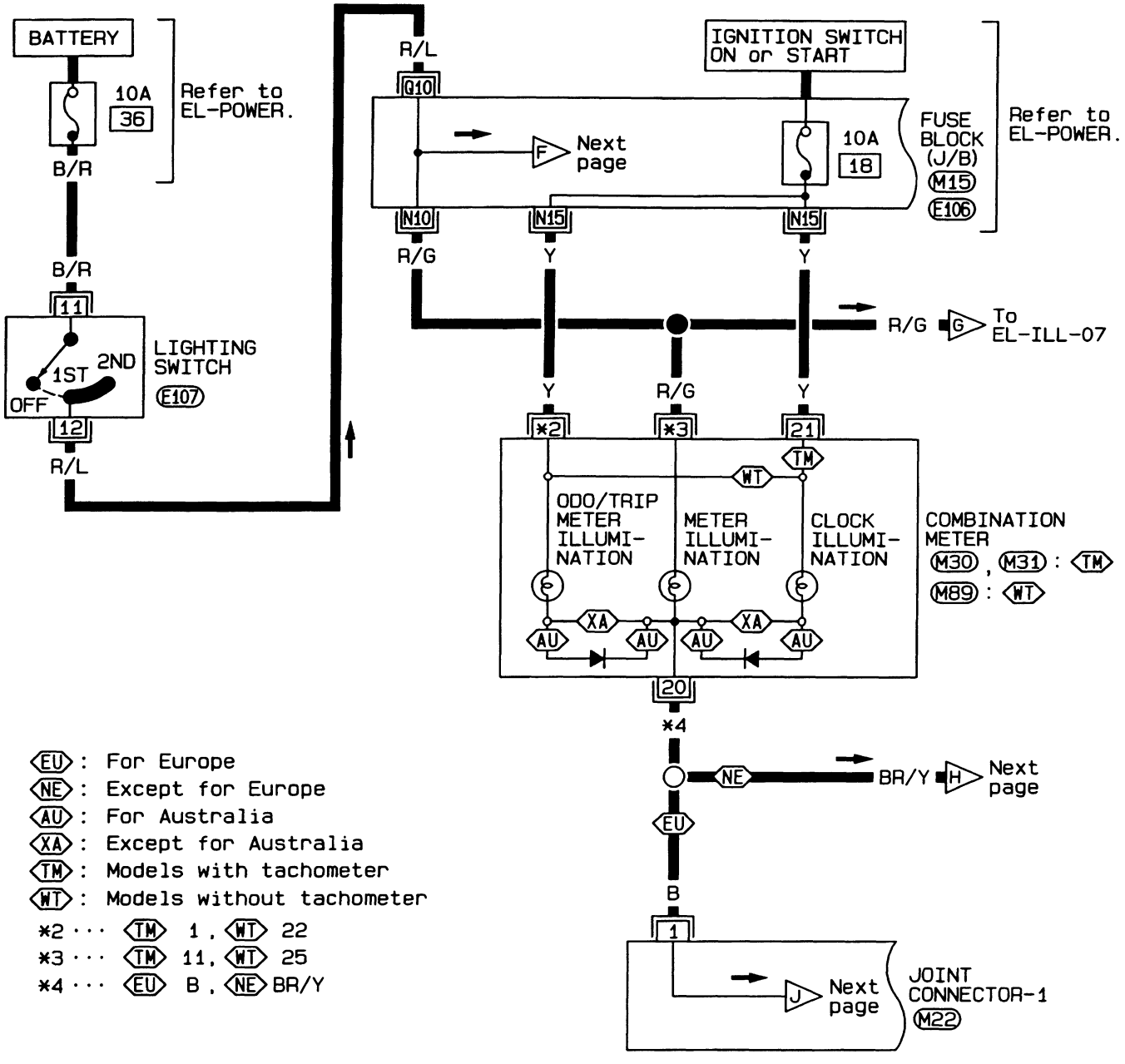
M15

M19

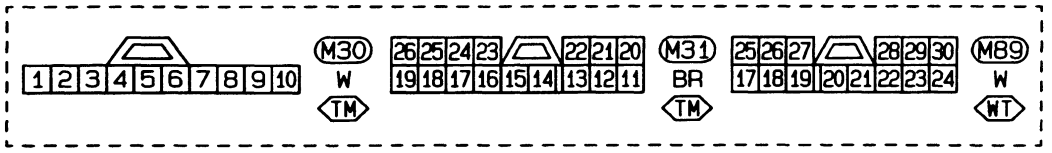
HEL177A

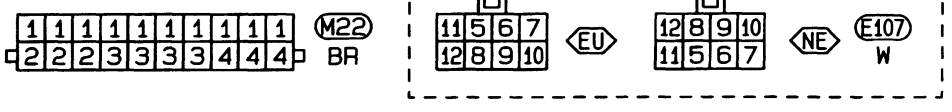
Wiring Diagram — ILL —/RHD Models

EL-ILL-05



EU : For Europe
NE : Except for Europe
AU : For Australia
XA : Except for Australia
TM : Models with tachometer
WT : Models without tachometer
*2 ··· TM 1 , WT 22
*3 ··· TM 11 , WT 25
*4 ··· EU B , NE BR/Y



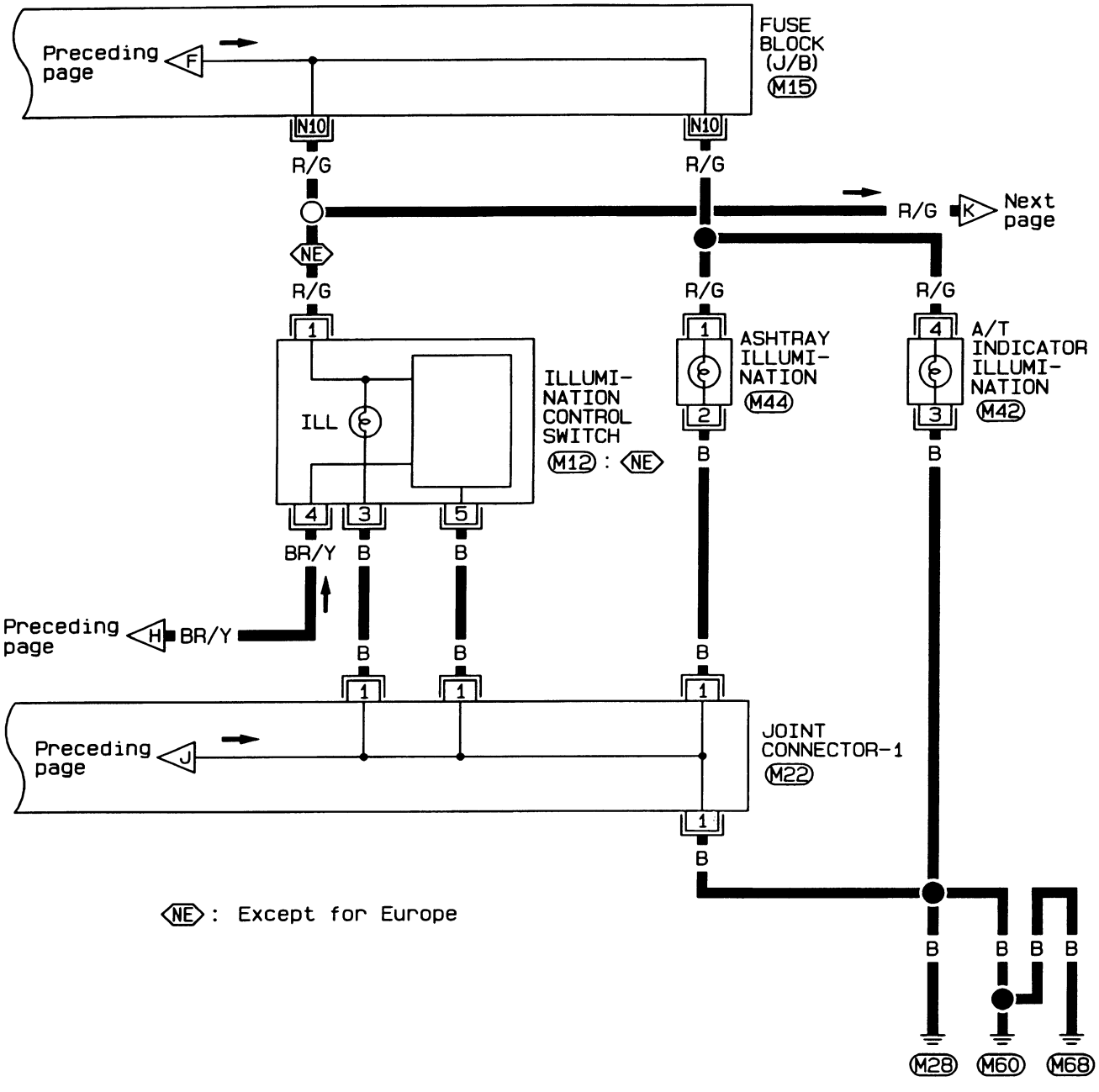


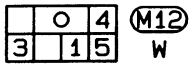
Refer to last page (Foldout page) .
M15 , E106

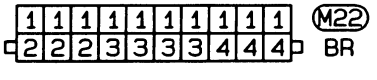
HEL178A

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

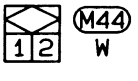
EL-ILL-06











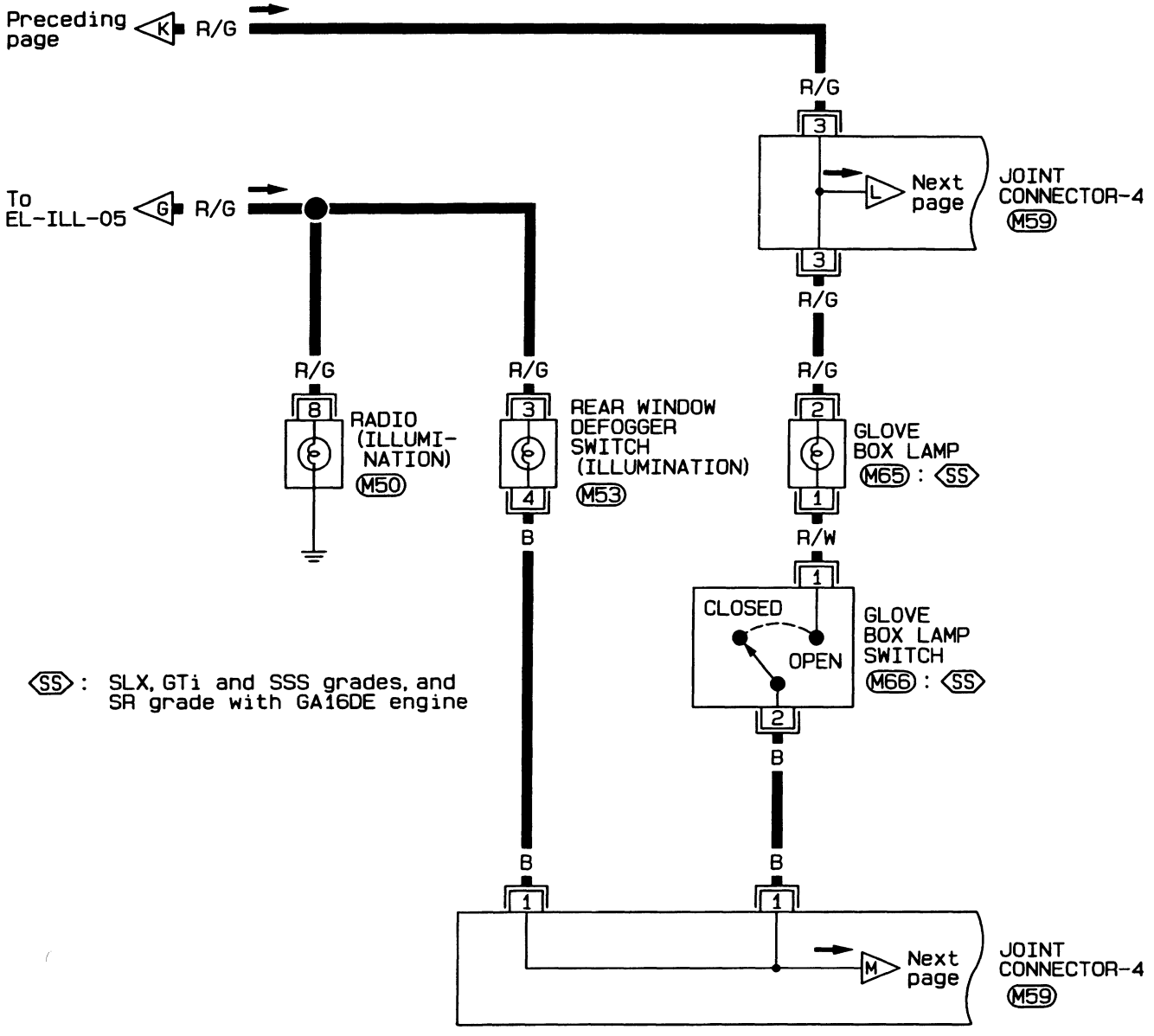
Refer to last page (Foldout page).

M15

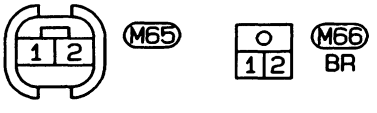
HEL179A

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

EL-ILL-07



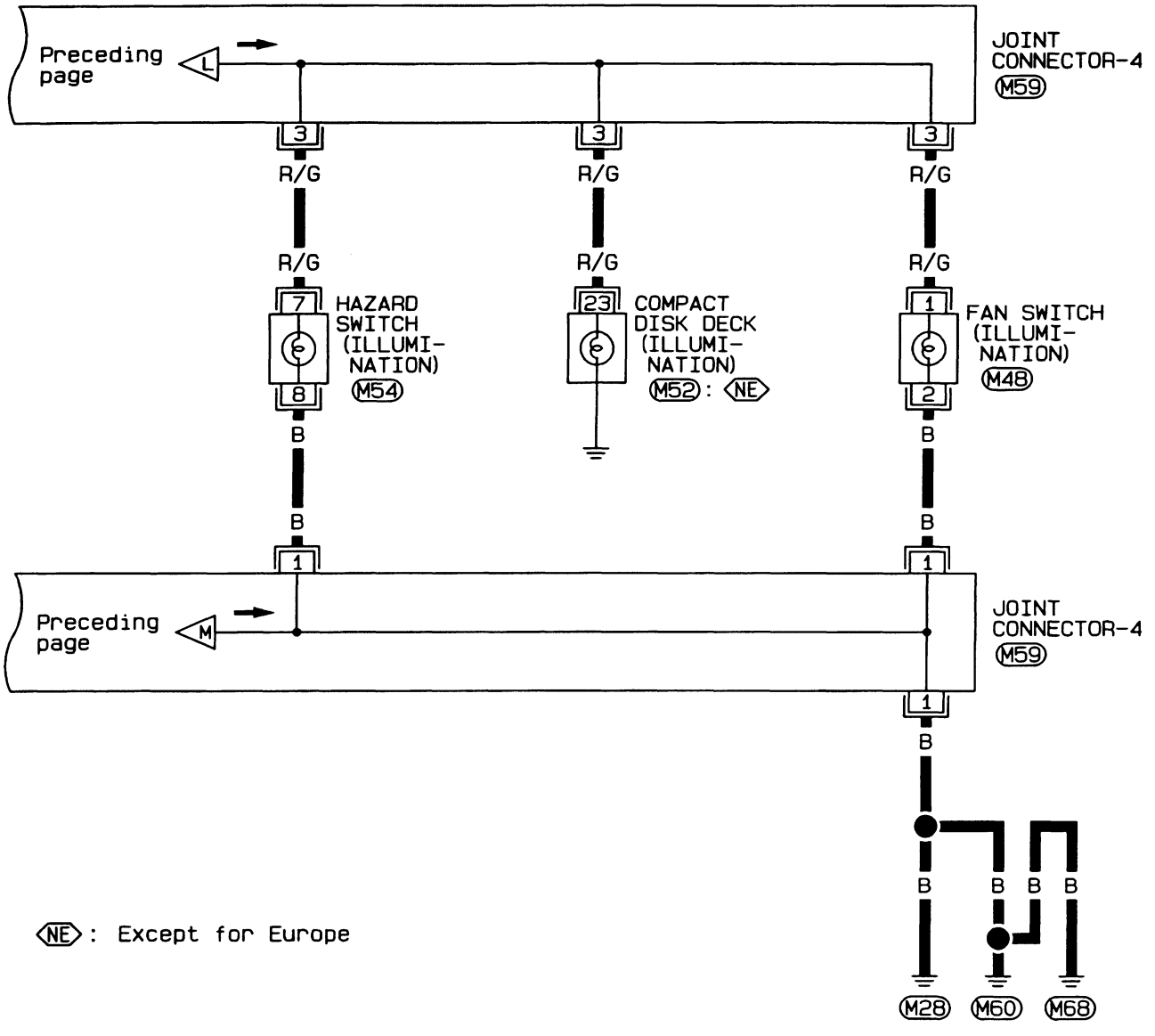


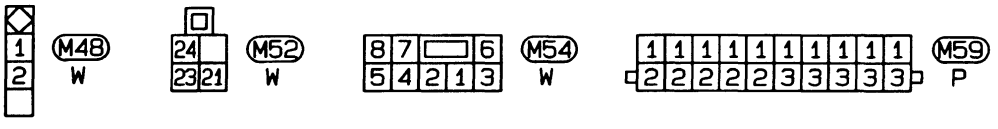


HEL180A

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

EL-ILL-08

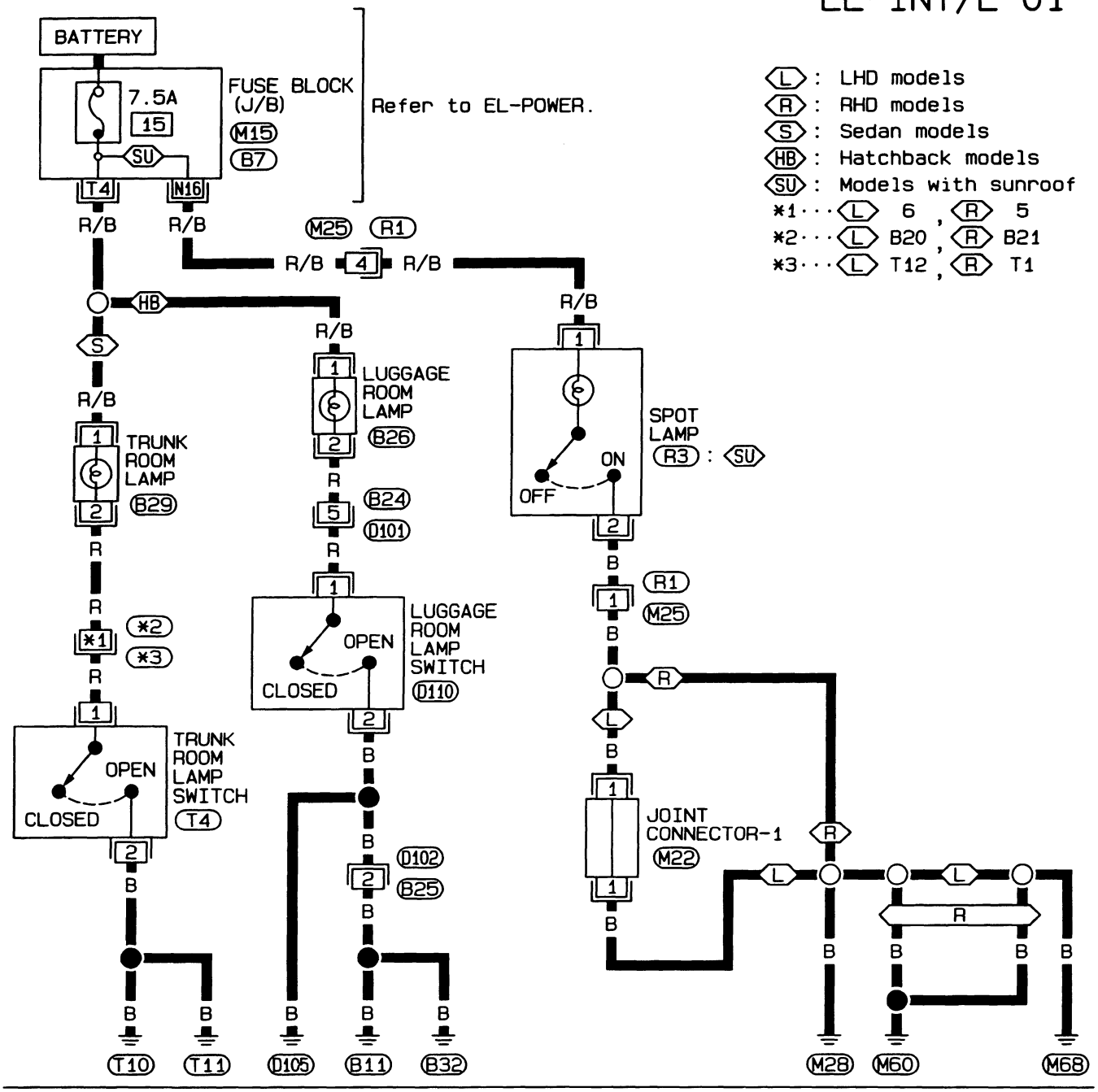


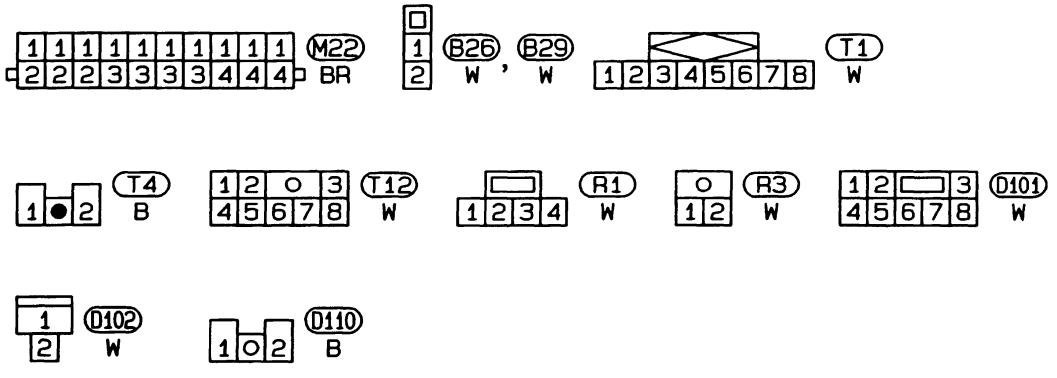


HEL181A

Wiring Diagram — INT/L —

EL-INT/L-01





Refer to last page (Foldout page).

M15 , B7

HEL187A

System Description

Interior room lamp timer is applied to RHD models except for Europe and Australia as an option.
Front interior room lamp timer is controlled by time control unit while interior room lamp switch is in the "DOOR" position.

TIMER OPERATION

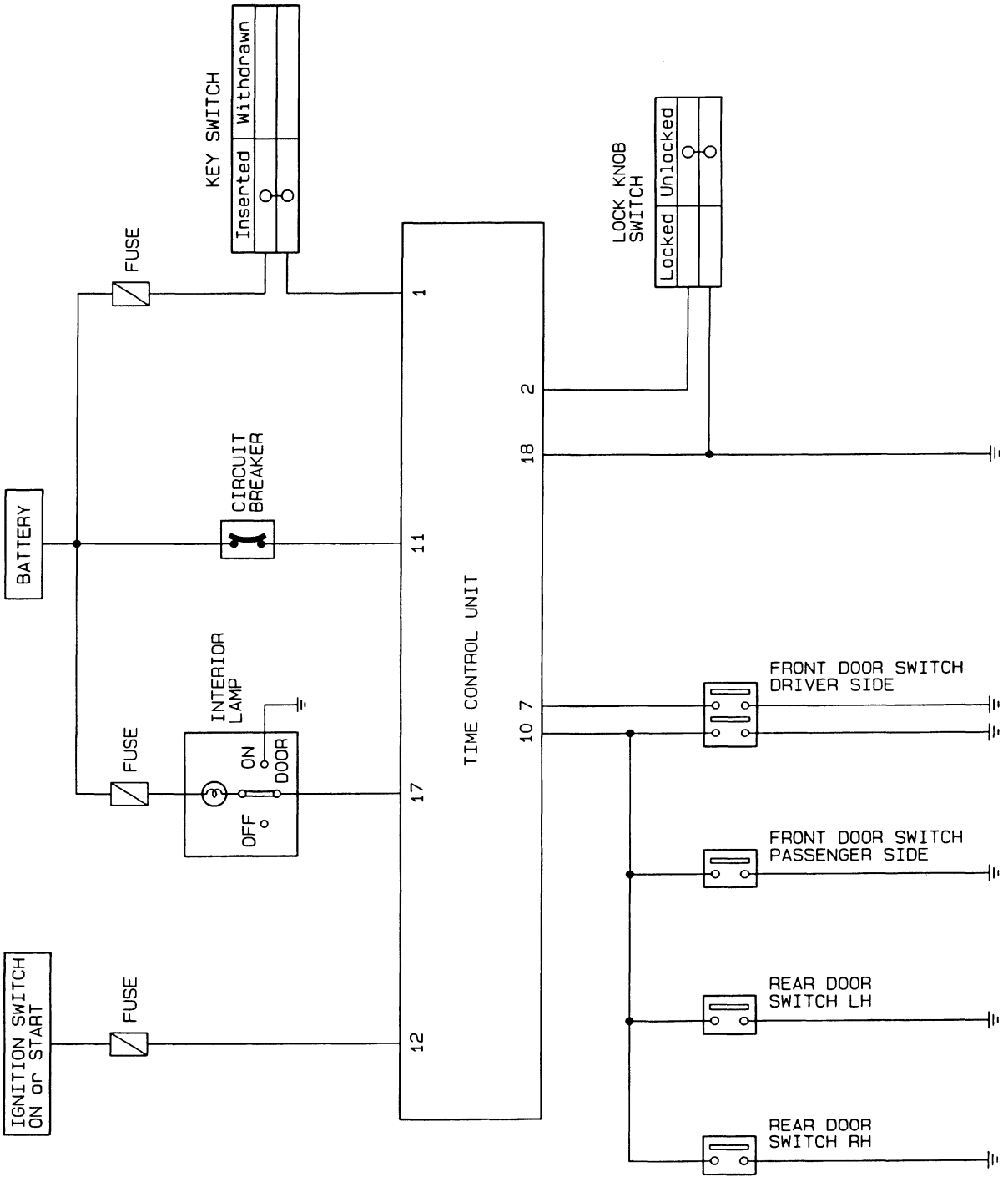
Interior room lamp timer keeps interior room lamp illuminated for about 30 seconds when:
- driver's door is unlocked while key is out of ignition key cylinder,
- key is withdrawn from ignition key cylinder while driver's door is closed, and
- driver's door is opened and then closed while ignition switch is not in the "ON" position.

The timer is cancelled, and interior room lamp turns off when:
- driver's door is locked, or
- ignition switch is turned "ON".

ON-OFF CONTROL

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

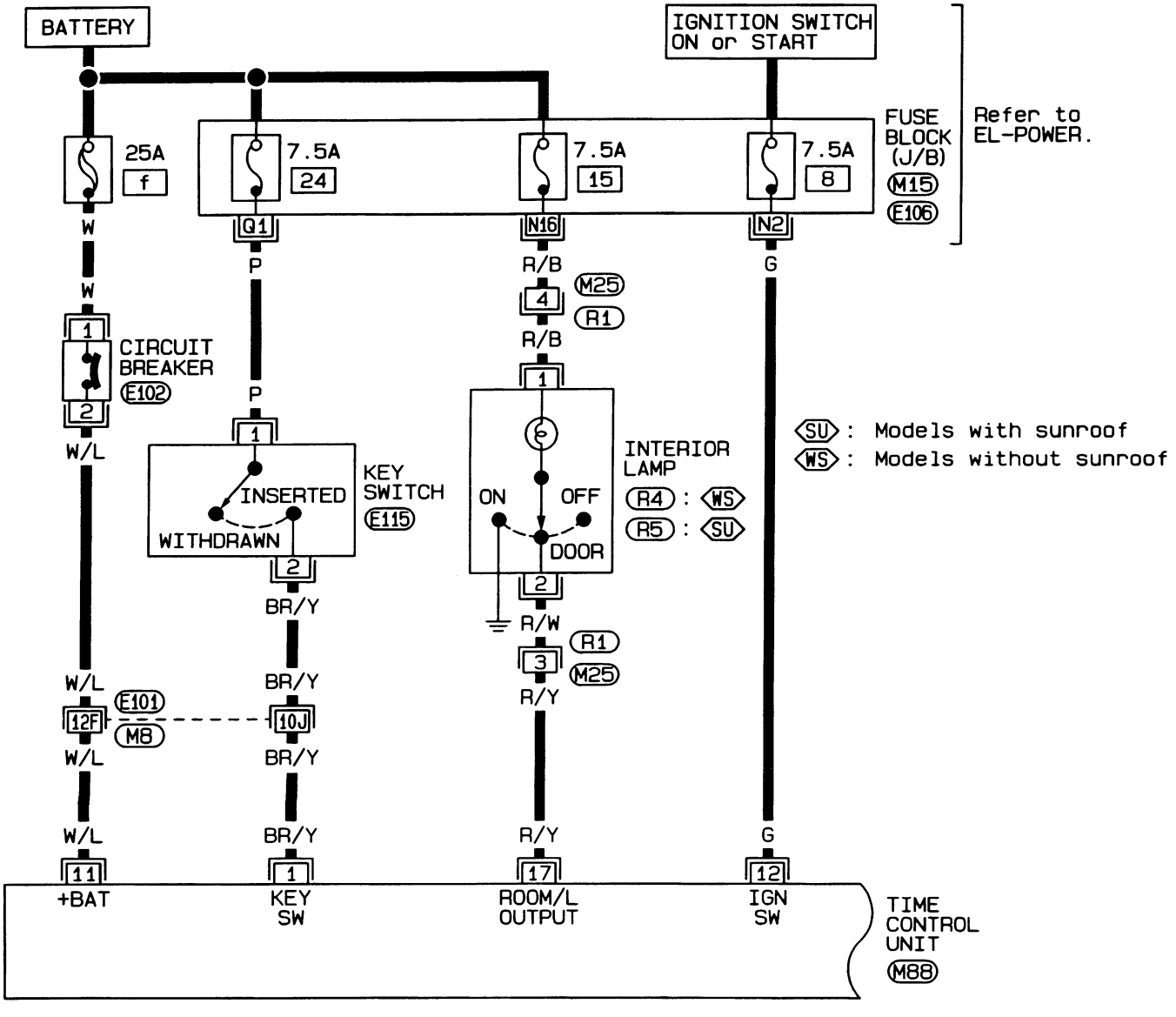
Schematic



HEL182A

Wiring Diagram — ROOM/L —

EL-ROOM/L-01



M88 W

E102 W

E115 W

R1 W

R4 W, R5 W

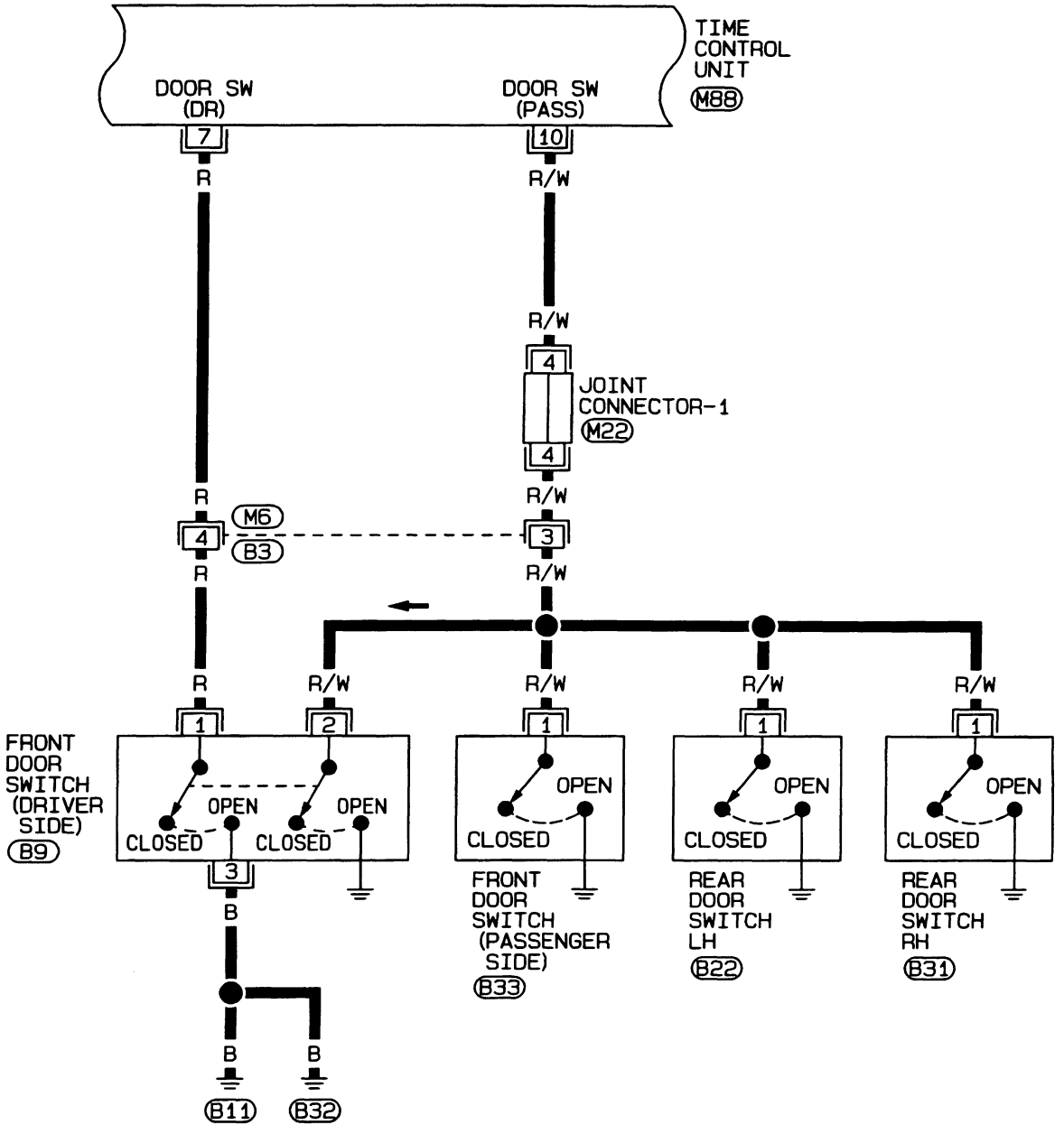
Refer to last page (Foldout page).

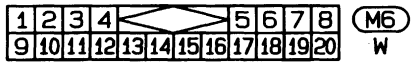
M15, E106

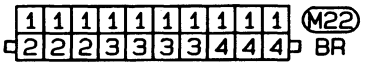
M8, E101

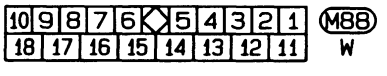
HEL184A

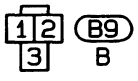
EL-ROOM/L-02

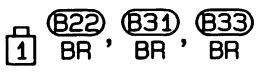








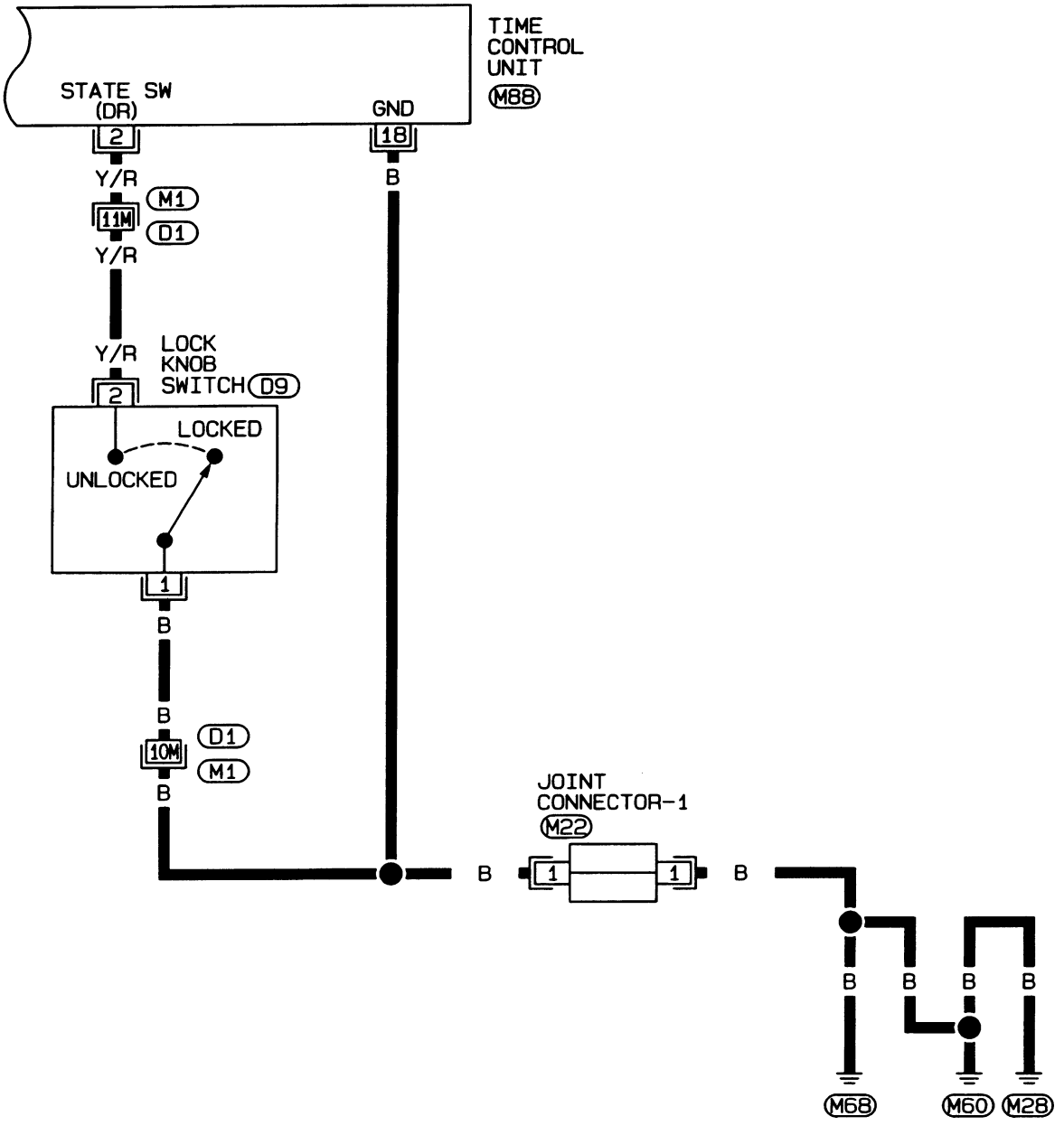


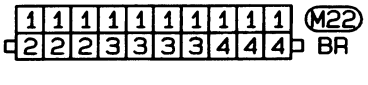


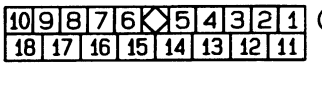
HEL185A

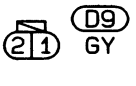
Wiring Diagram — ROOM/L — (Cont'd)

EL-ROOM/L-03







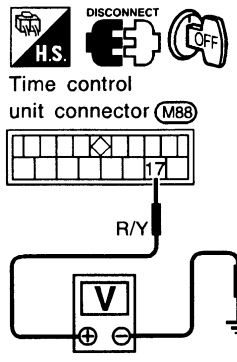


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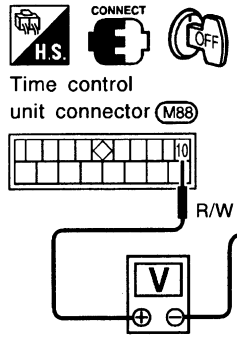
M1, D1

HEL186A

A



B



Trouble Diagnoses

DIAGNOSTIC PROCEDURE

SYMPTOM: 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
- 7.5A fuse [No. 15, located in the fuse block (J/B)]
- Harness for open or short between fuse and room lamp
- Room lamp ground condition

Yes ↓

Does key warning chime operate properly?

No → Check "WARNING CHIME" system. (Refer to EL-114.)

Yes ↓

Does power door lock operate using driver side knob lock switch?

No → Check "POWER DOOR LOCK" system. (Refer to EL-174.)

Yes ↓

A

CHECK ROOM LAMP OUTPUT SIGNAL.
1. Turn room lamp switch to "DOOR" position.
2. Disconnect control unit connector.
3. Check voltage between control unit terminal ⑰ and ground.
   Battery voltage should exist.

NG → Check harness for open or short between room lamp and control unit.

OK ↓

B

CHECK DOOR SWITCH INPUT SIGNAL.
1. Connect control unit connector.
2. Check voltage between control unit terminal ⑩ and ground.

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

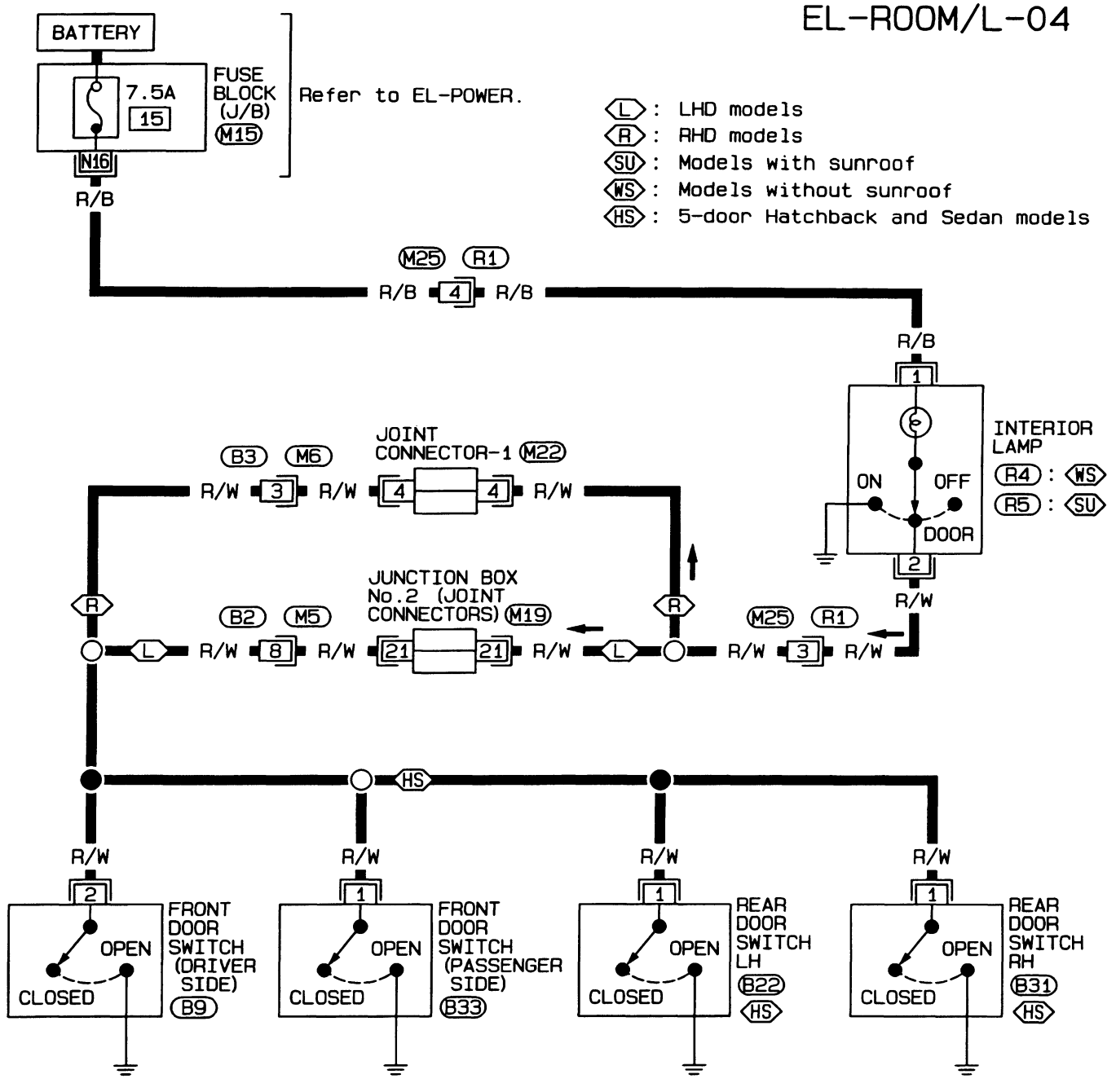
NG → Check the following.
- Door switch
- Door switch ground condition
- Harness for open or short between control unit and door switch

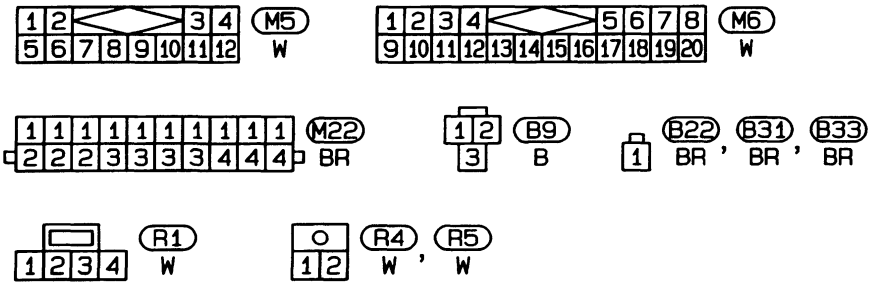
OK ↓

Replace control unit.

Wiring Diagram — ROOM/L —

EL-ROOM/L-04





Refer to last page (Foldout page).
M15
M19

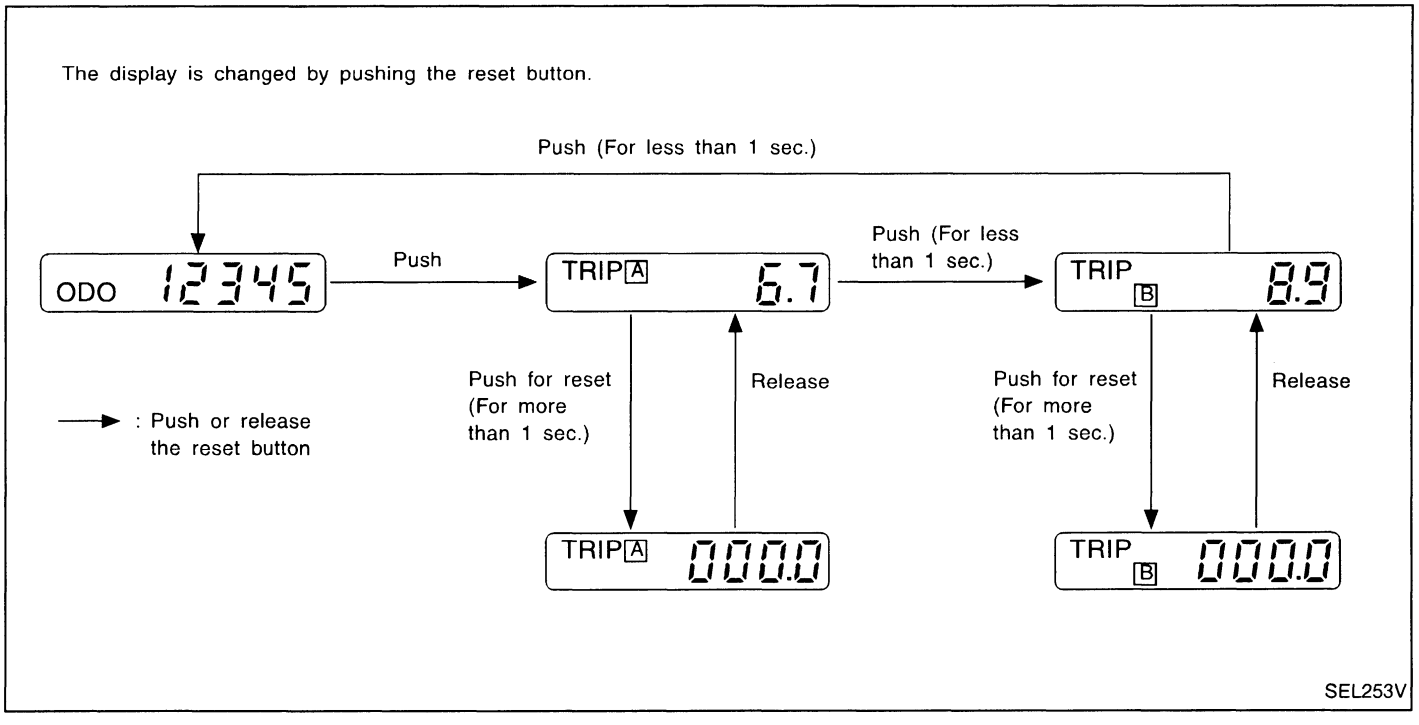
HEL183A

System Description

UNIFIED CONTROL METER

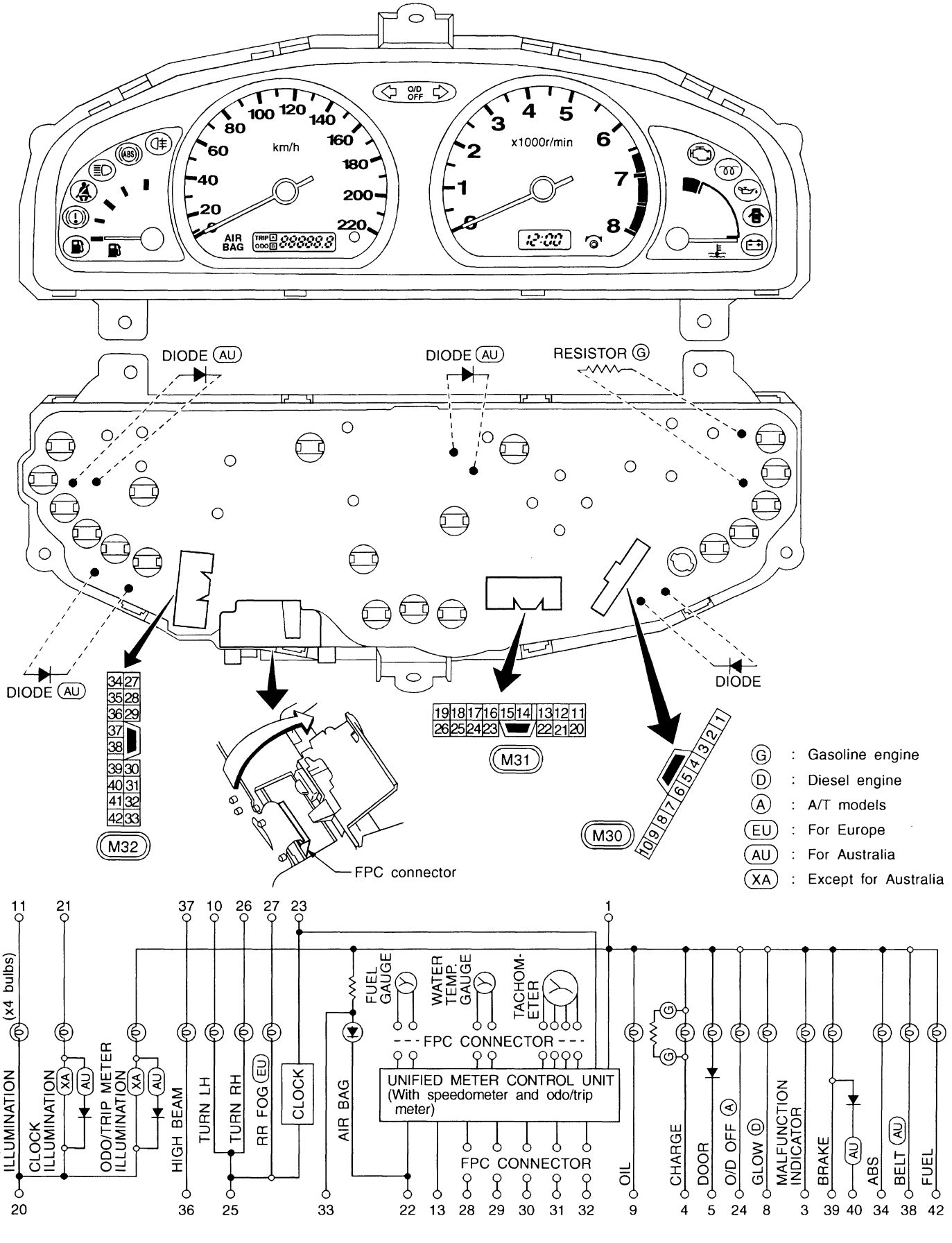
- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by control unit combined with speedometer.
- Digital meter is adopted for odo/trip meter.*
  *The record of the odo meter is kept even if the battery cable is disconnected. The record of the trip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

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER



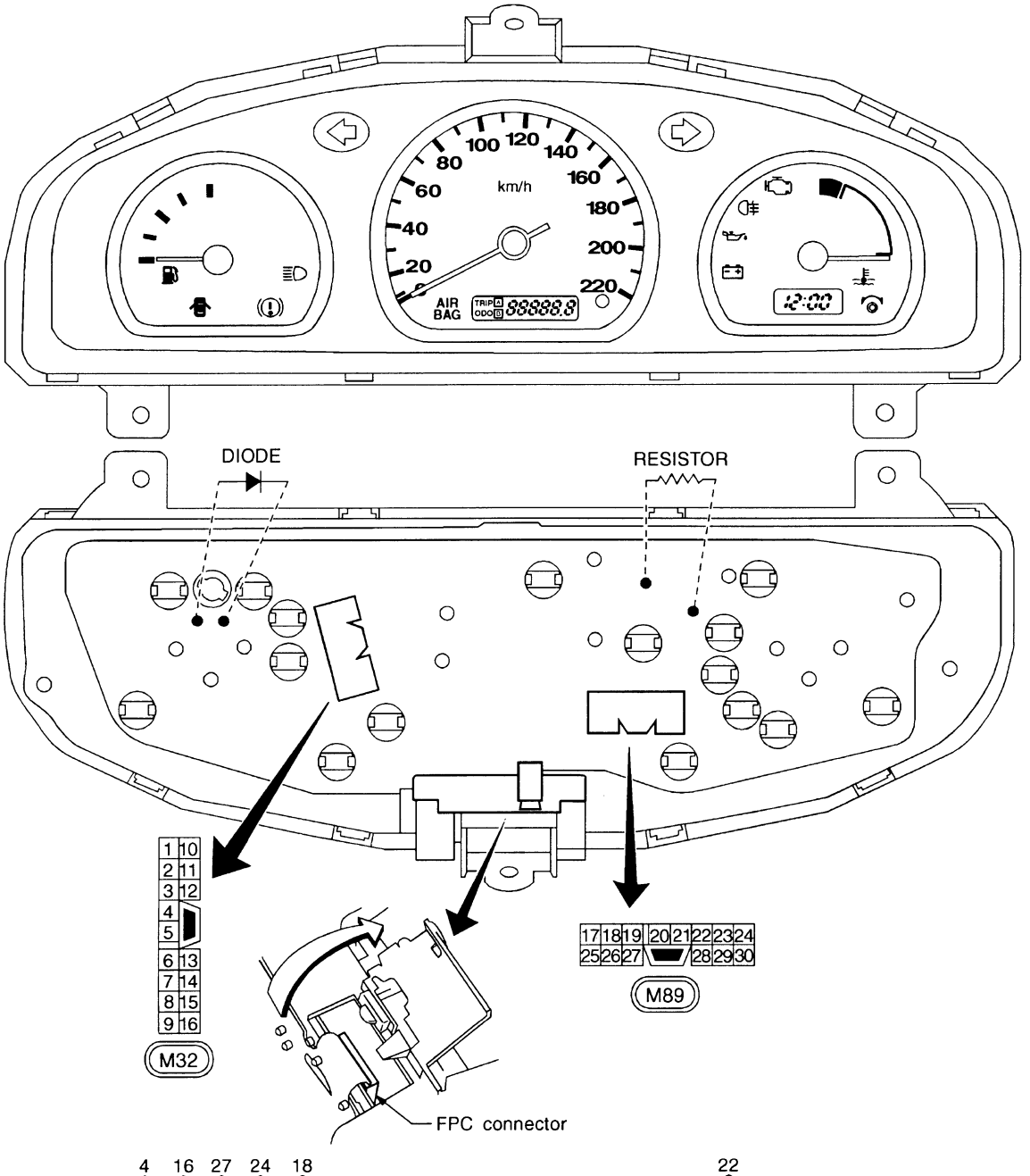
Note: Turn ignition switch to "ON" position to operate odo/trip meter.

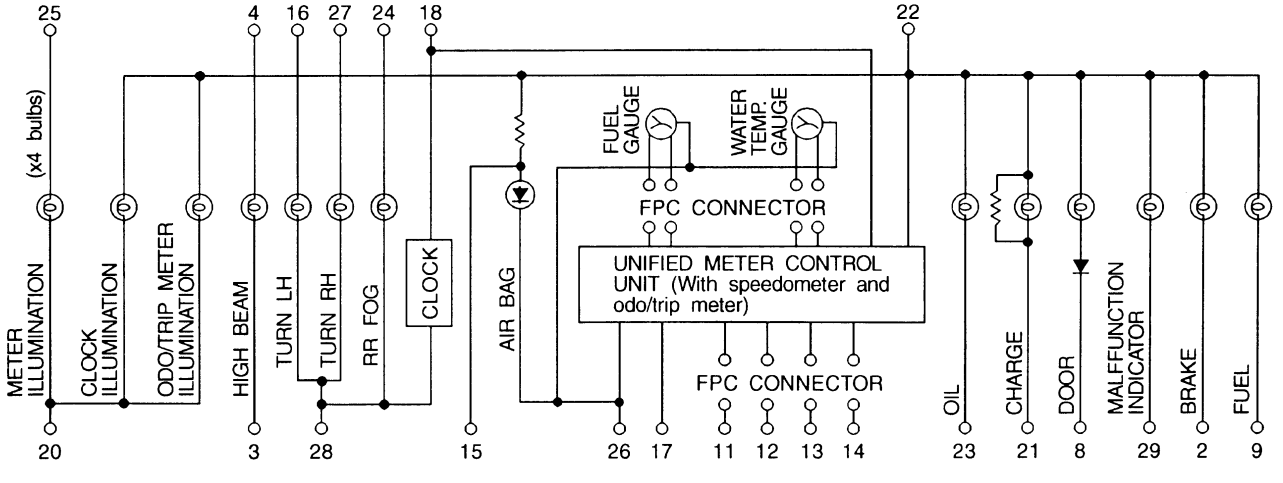
Combination Meter/With Tachometer



HEL188A

Combination Meter/Without Tachometer

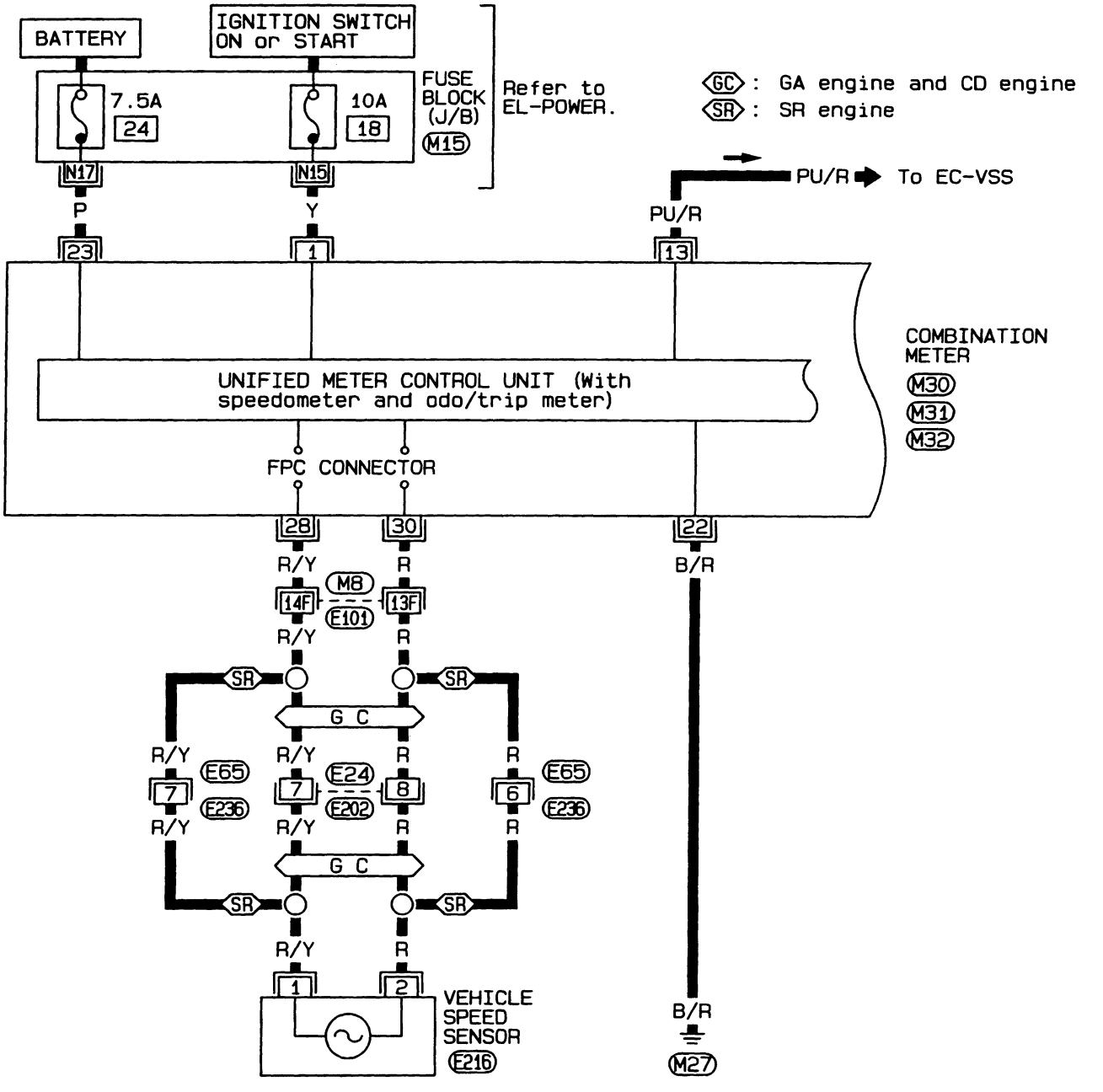




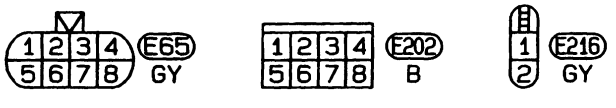
HEL189A

Wiring Diagram — METER —/LHD Models With Tachometer

EL-METER-01







Refer to last page (Foldout page).

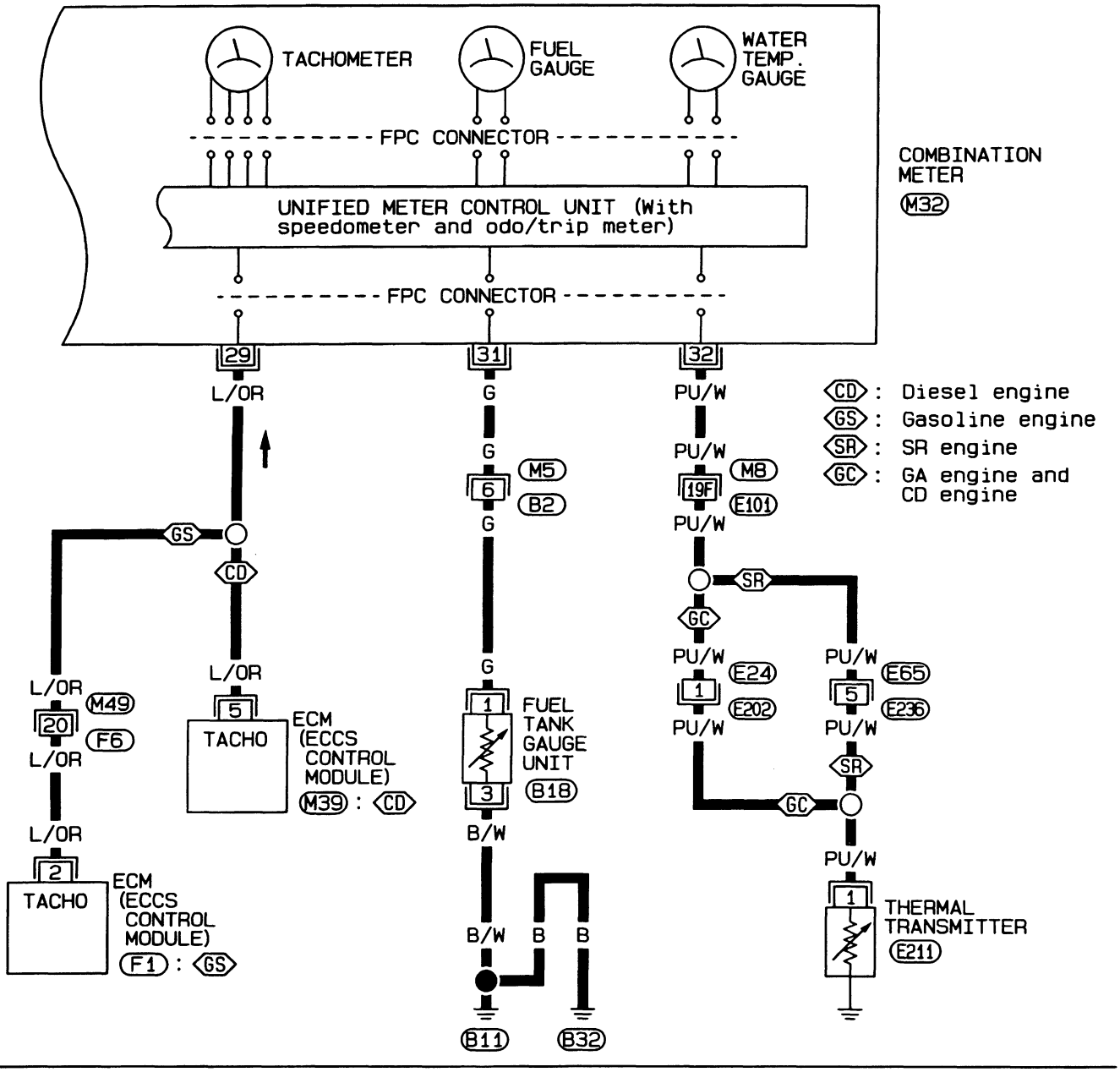
M8, E101

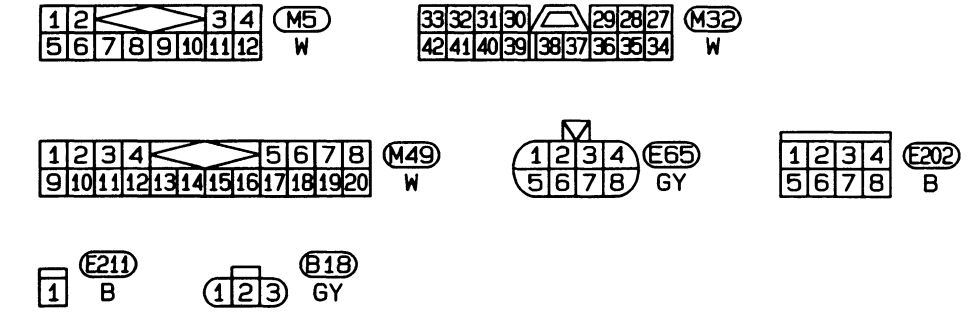
M15

HEL190A

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

EL-METER-02





Refer to last page (Foldout page).

M8, E101

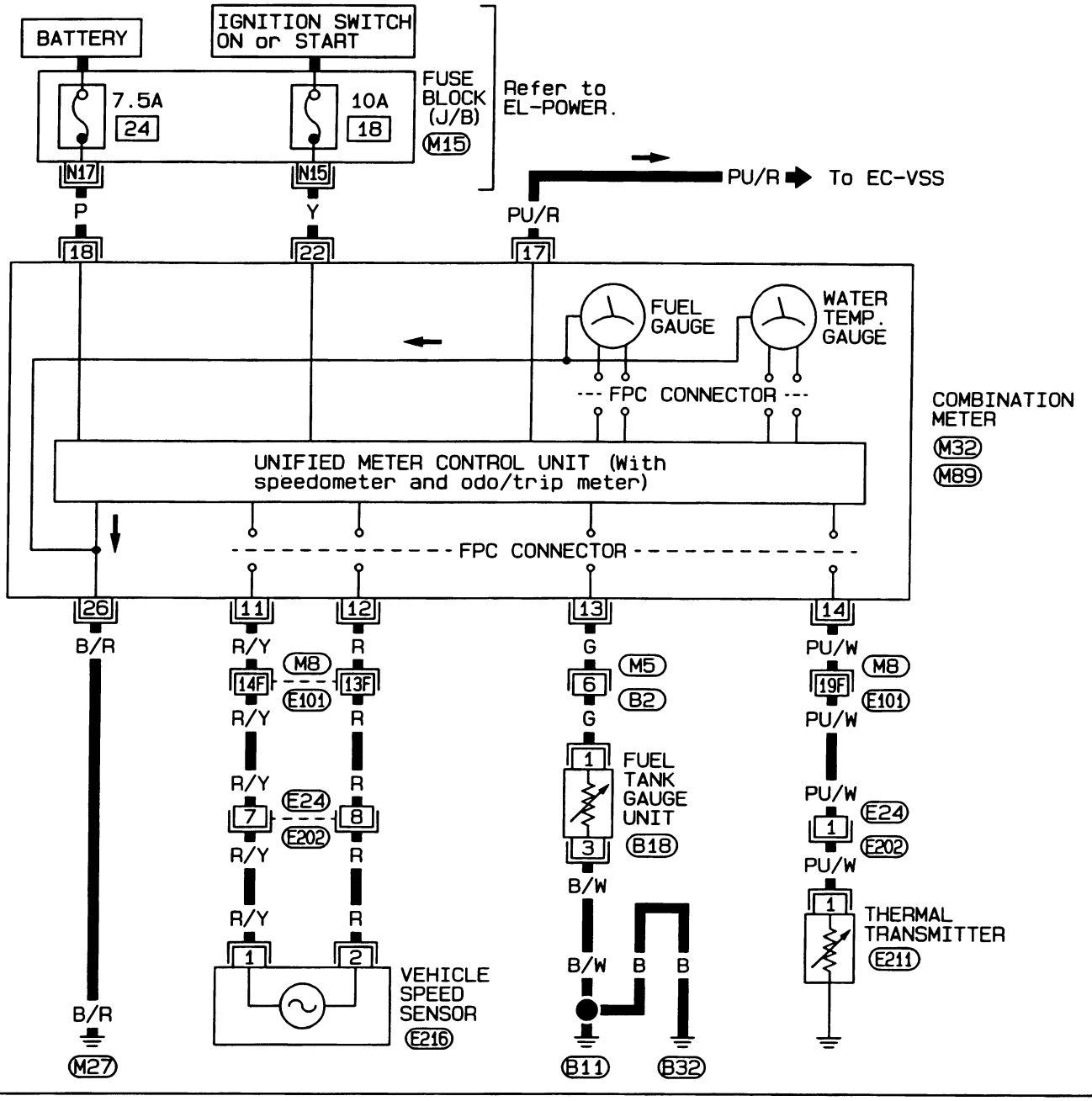
M39

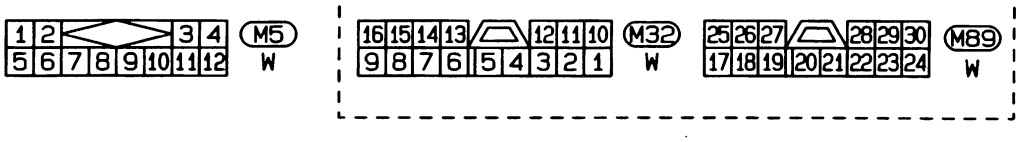
F1

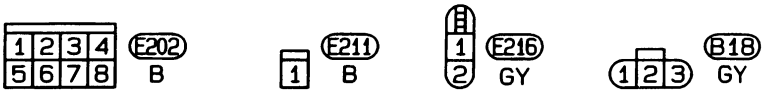
HEL191A

Wiring Diagram — METER —/LHD Models Without Tachometer

EL-METER-03





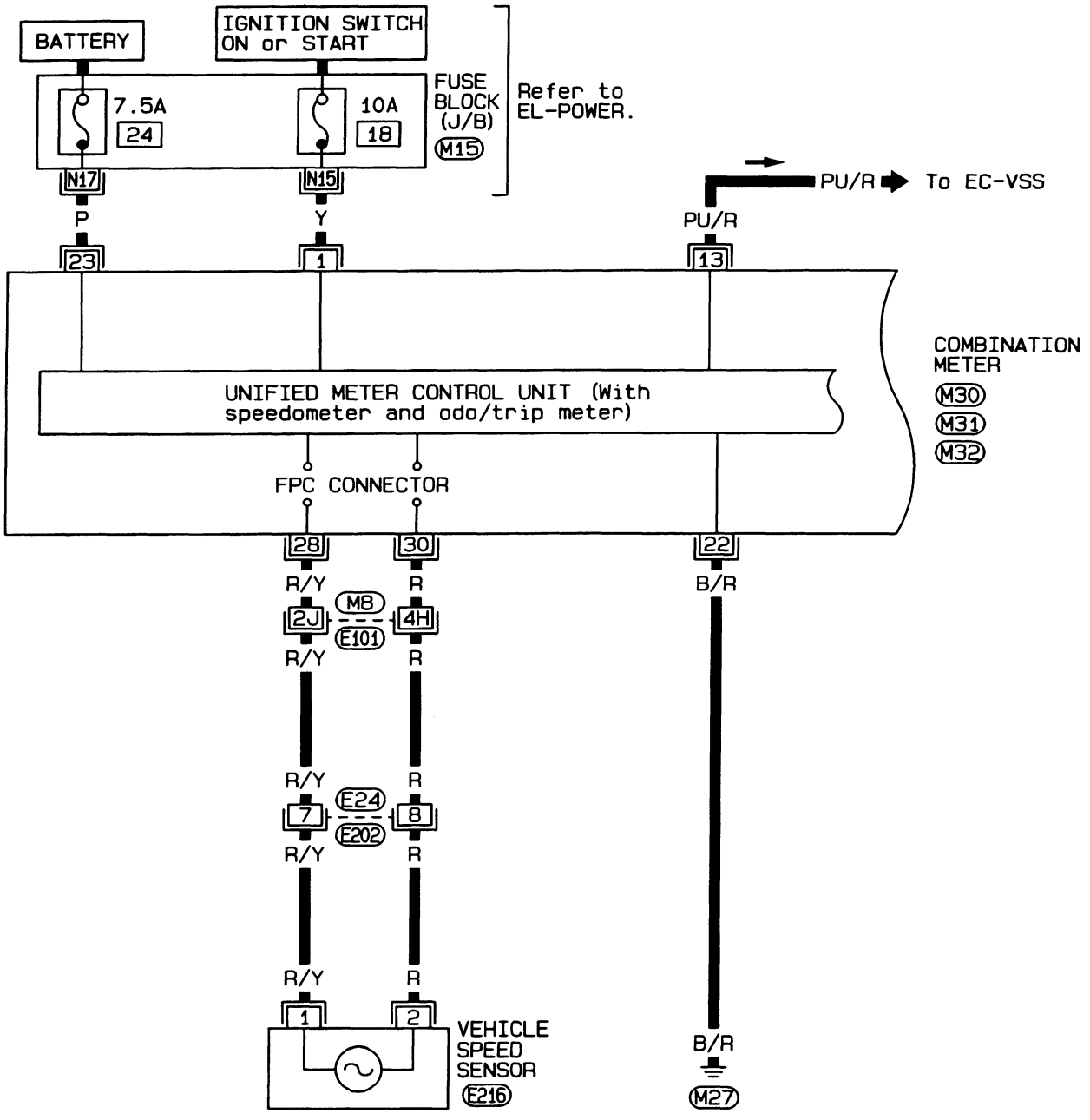


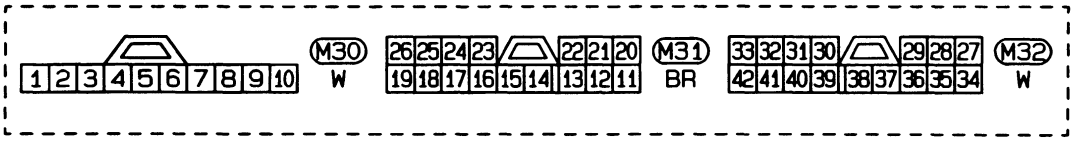
Refer to last page (Foldout page).
M8, E101
M15

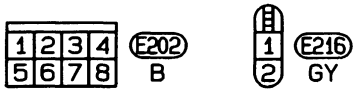
HEL192A

Wiring Diagram — METER —/RHD Models With Tachometer

EL-METER-04







Refer to last page (Foldout page).

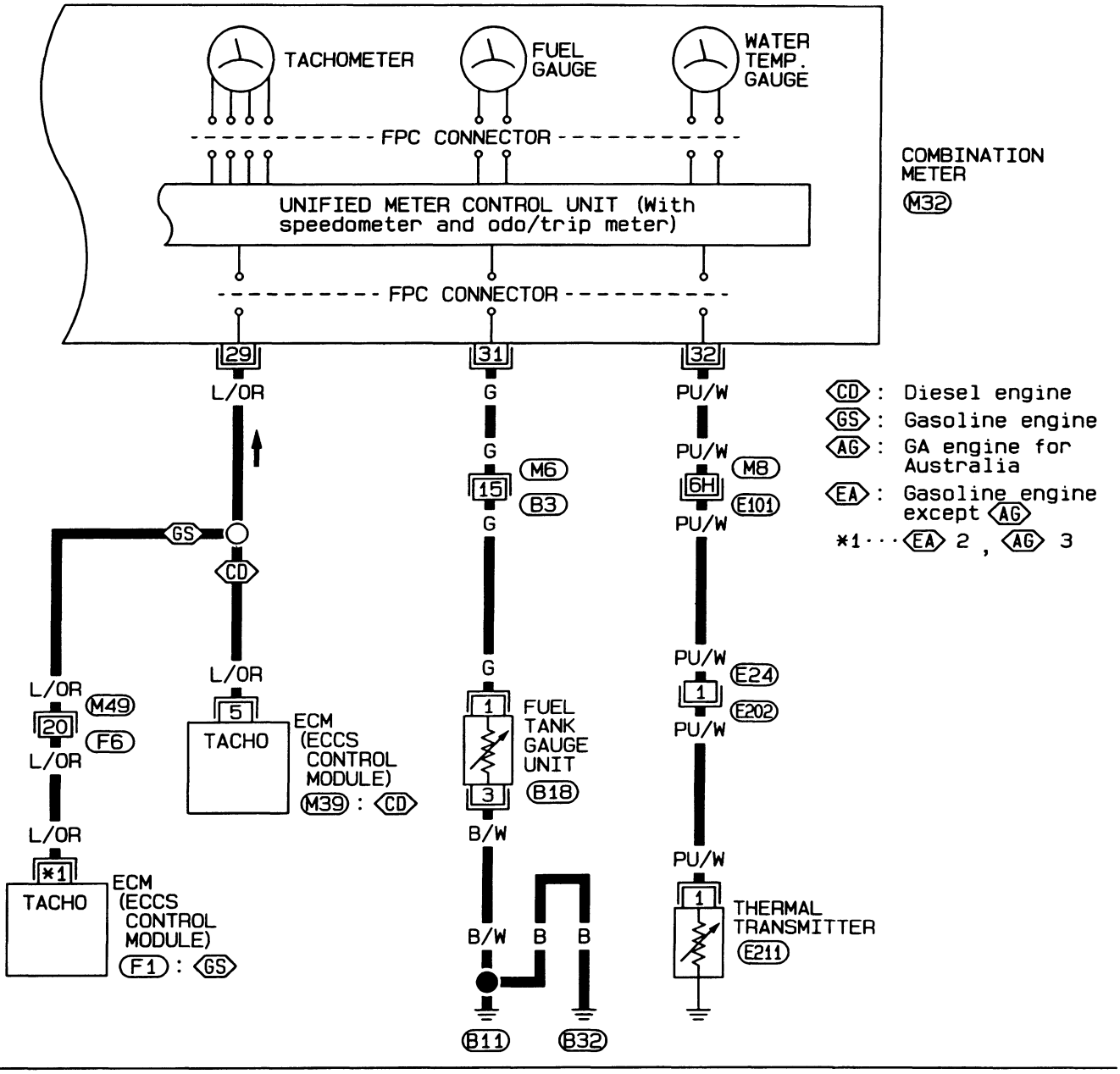
M8, E101

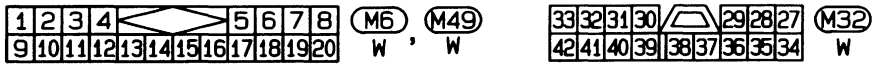
M15

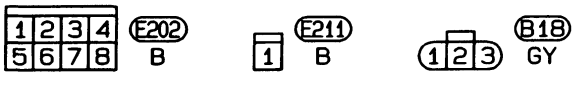
HEL193A

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

EL-METER-05







Refer to last page (Foldout page).

M8, E101

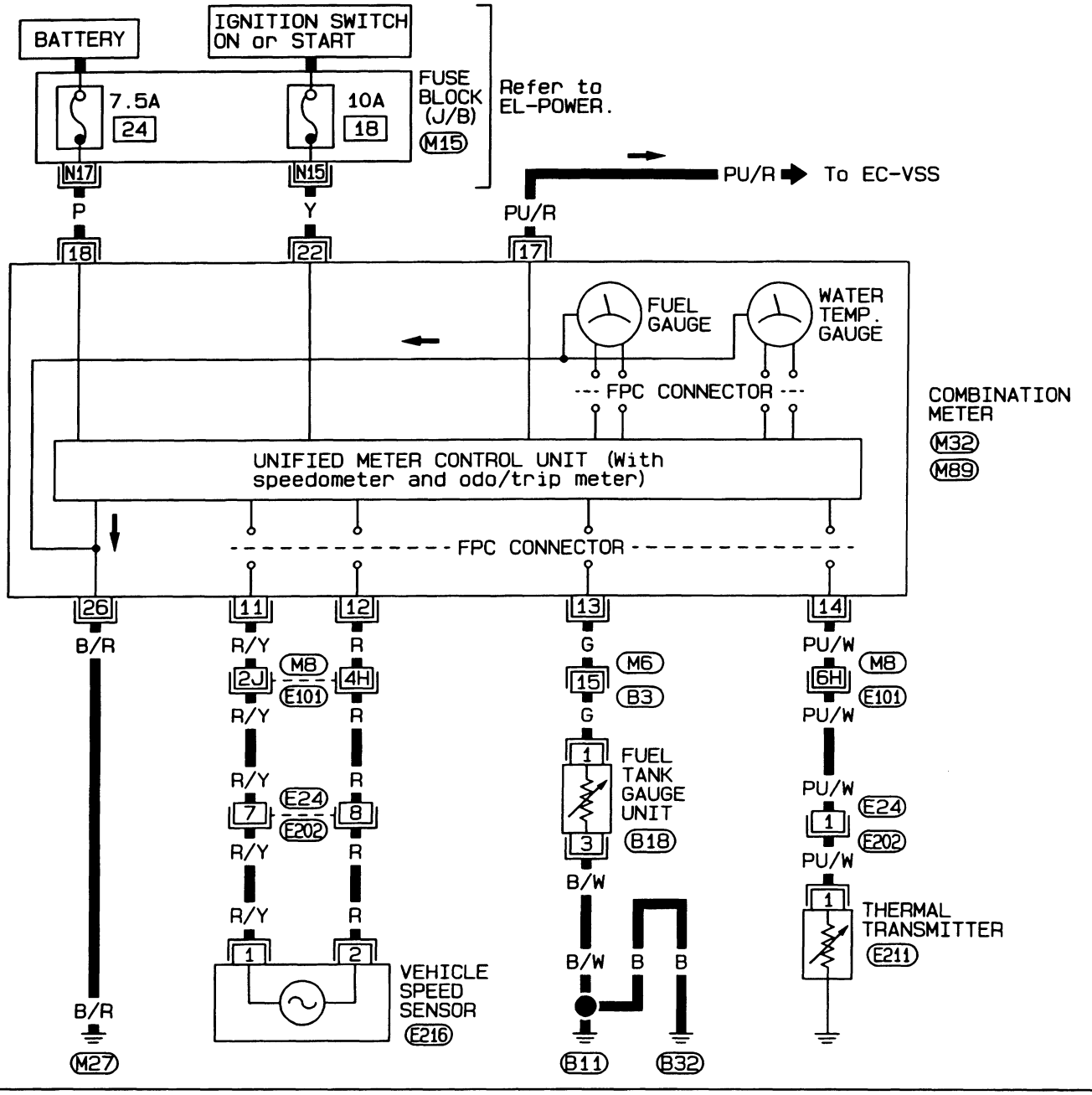
M39

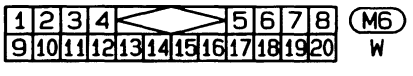
F1

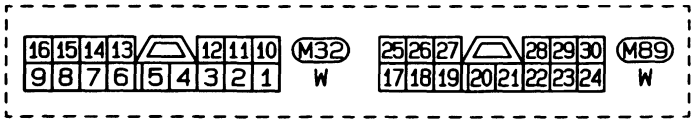
HEL194A

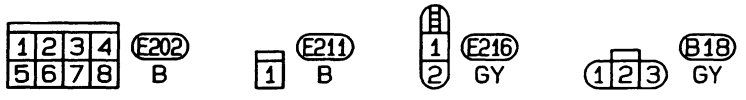
Wiring Diagram — METER —/RHD Models Without Tachometer

EL-METER-06









Refer to last page (Foldout page).

M8, E101

M15

HEL195A

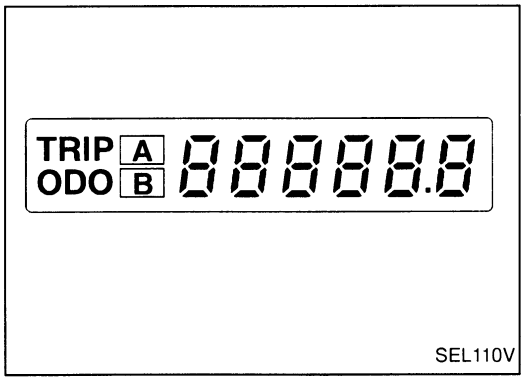
Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode

DIAGNOSIS FUNCTION

- Odo/trip meter segment can be checked in diagnosis mode.
- Meters/gauges can be checked in diagnosis mode.

HOW TO ALTERNATE DIAGNOSIS MODE

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

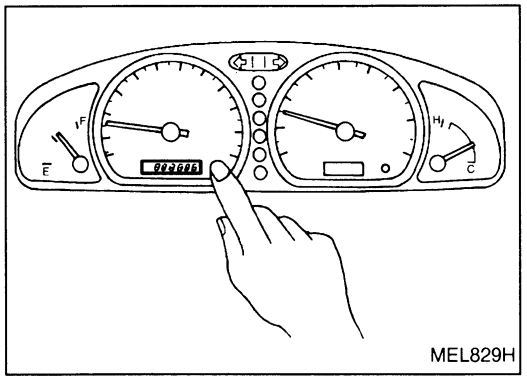


SEL110V

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

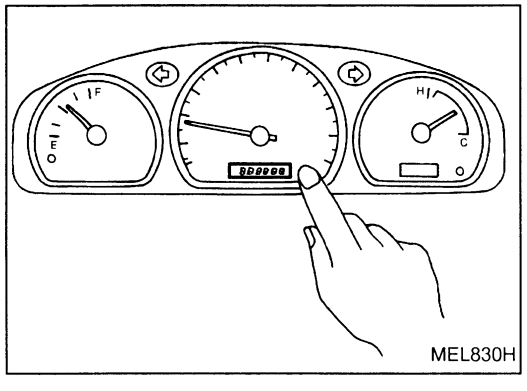
NOTE: If some segments are not turned on, speedometer (unified meter control unit) with odo/trip meter should be replaced.

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


MEL829H

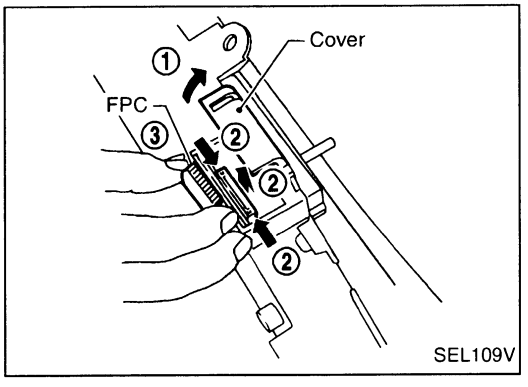
7. Push odo/trip meter switch. Indication of each meter/gauge should be as shown left during pushing odo/trip meter switch if it is no malfunctioning.

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


MEL830H

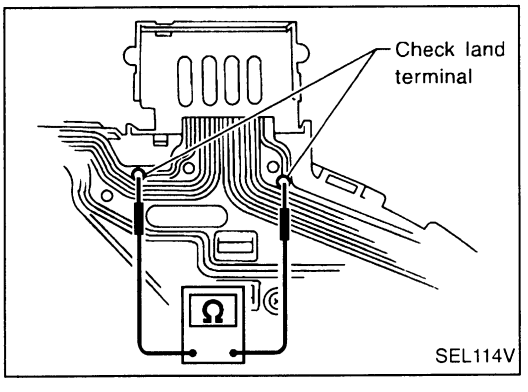
Flexible Print Circuit (FPC)

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



DISCONNECT

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

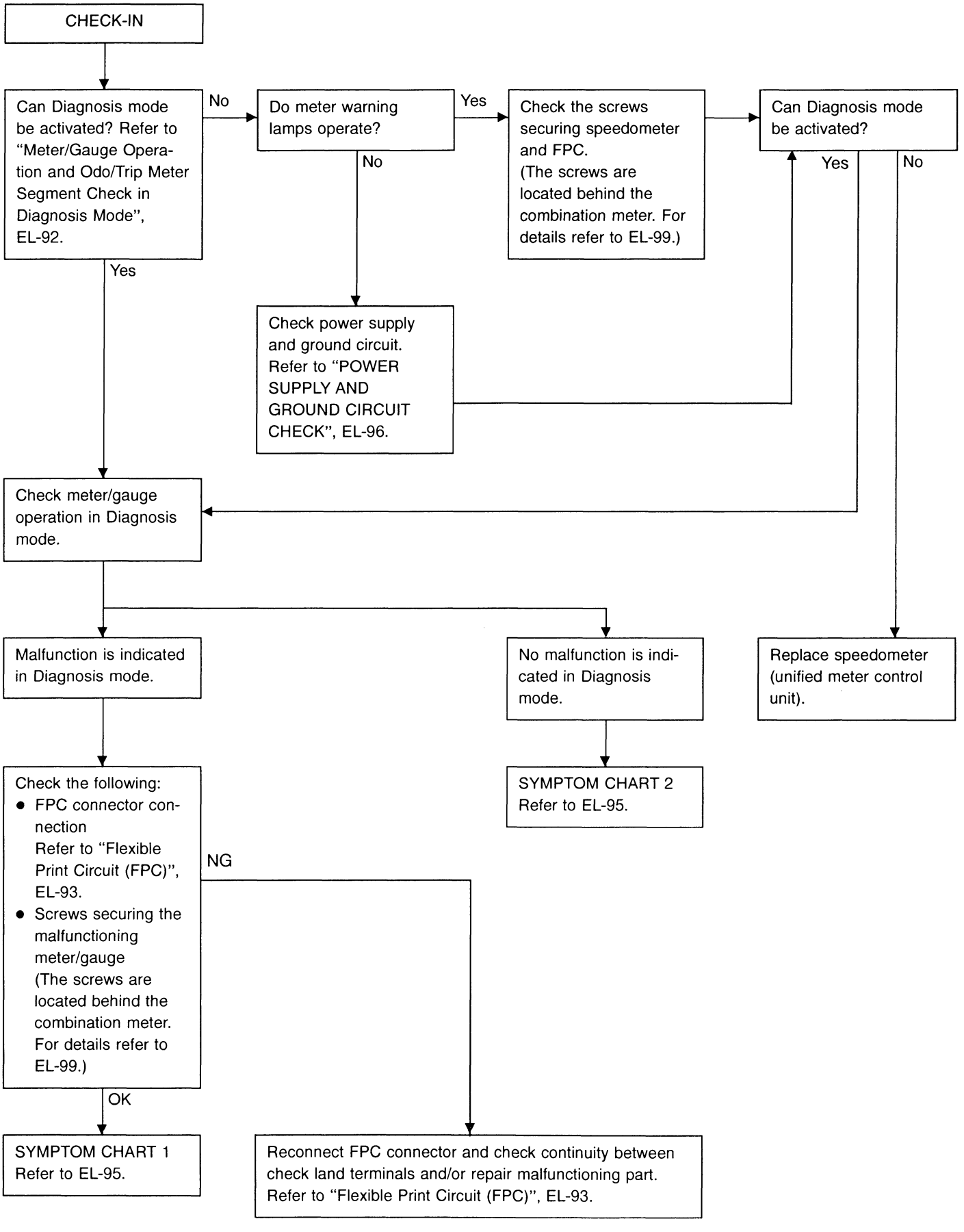


CONNECT

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

Trouble Diagnoses

PRELIMINARY CHECK



Trouble Diagnoses (Cont'd)

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-94.

SYMPTOM CHART 1 (MALFUNCTION IS INDICATED IN DIAGNOSIS MODE)

Symptom	Possible causes	Repair order
Speedometer and/or odo/trip meter indicate(s) malfunction in Diagnosis mode. Multiple meter/gauge indicate malfunction in Diagnosis mode.	• Speedometer (Unified meter control unit)	• Replace speedometer (unified meter control unit).
One of tachometer/fuel gauge/ water temp. gauge indicates malfunction in Diagnosis mode.	• Meter/Gauge • Speedometer (Unified meter control unit)	1. Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-99. 2. If the resistance is OK, replace speedometer (unified meter control unit).

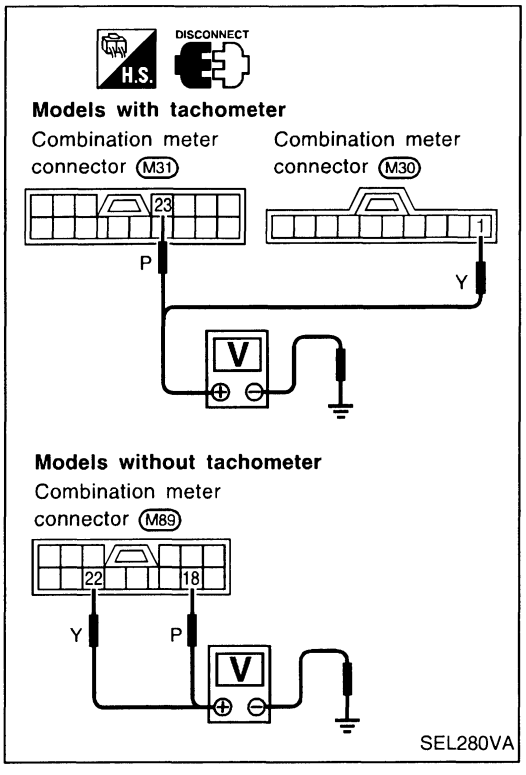
SYMPTOM CHART 2 (NO MALFUNCTION IS INDICATED IN DIAGNOSIS MODE)

Symptom	Possible causes	Repair order
Speedometer and odo/trip meter are malfunctioning.	1. Sensor - Speedometer, Odo/Trip meter 2. FPC connector 3. Speedometer (Unified meter control unit)	1. Check vehicle speed sensor. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-97.) 2. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-93. 3. Replace speedometer (unified meter control unit).
Multiple meter/gauge are malfunctioning. (except speedometer, odo/trip meter)	1. FPC connector 2. Speedometer (Unified meter control unit)	1. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-93. 2. Replace speedometer (unified meter control unit).
One of tachometer/fuel gauge/ water temp. gauge is malfunctioning.	1. Sensor/Engine revolution signal - Tachometer - Fuel gauge - Water temp. gauge 2. FPC connector 3. Speedometer (Unified meter control unit)	1. Check the sensor for malfunctioning meter/gauge. INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-97.) INSPECTION/FUEL TANK GAUGE (Refer to EL-98.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-98.) 2. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-93. 3. Replace speedometer (unified meter control unit).

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

Power supply circuit check



Models with tachometer

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
㉓	Ground	Battery voltage	Battery voltage	Battery voltage
①	Ground	0V	0V	Battery voltage

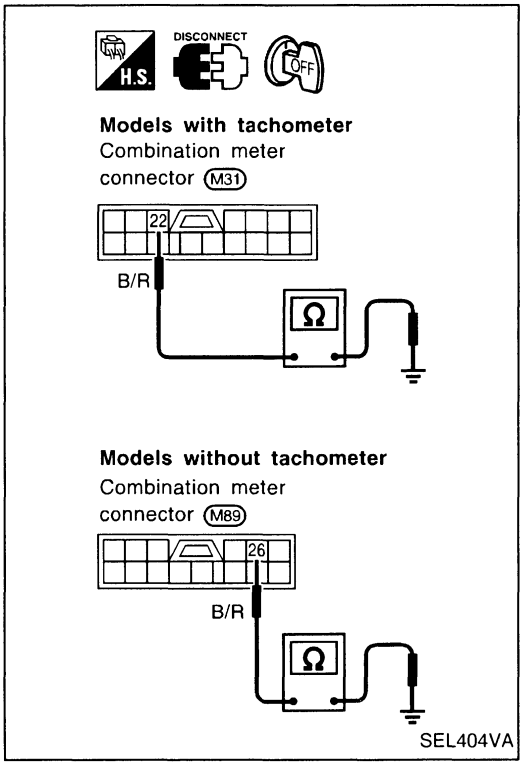
Models without tachometer

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
⑱	Ground	Battery voltage	Battery voltage	Battery voltage
㉒	Ground	0V	0V	Battery voltage

If NG, check the following.

- 7.5A fuse [No. 24, located in fuse block (J/B)]
- 10A fuse [No. 18, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter

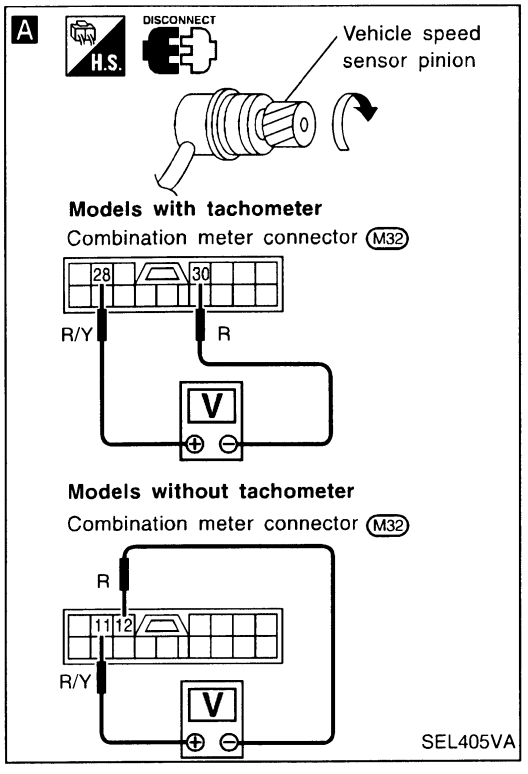
Ground circuit check

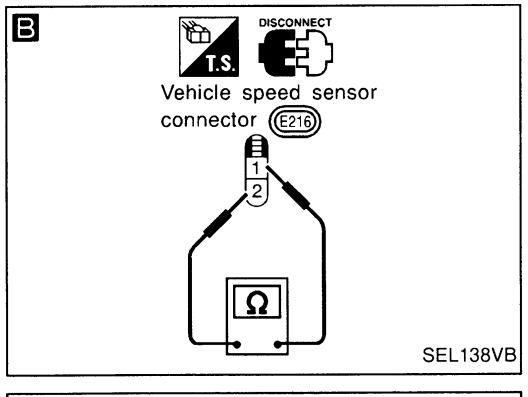


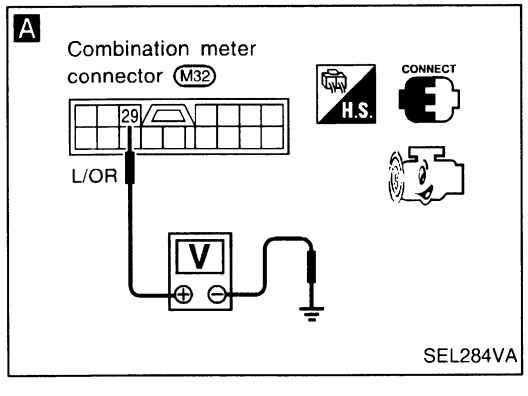
	Terminals	Continuity
Models with tachometer	㉒ - Ground	Yes
Models without tachometer	㉖ - Ground	

Trouble Diagnoses (Cont'd)

INSPECTION/VEHICLE SPEED SENSOR







A

CHECK VEHICLE SPEED SENSOR OUTPUT.
1. Remove vehicle speed sensor from transmission.
2. Check voltage between combination meter terminals ㉘ and ㉚ (Models with tachometer), ⑪ and ⑫ (Models without tachometer) while quickly turning speed sensor pinion.
   Voltage: Approx. 0.5V

OK → Vehicle speed sensor is OK.

NG ↓

B

CHECK VEHICLE SPEED SENSOR.
Check resistance between vehicle speed sensor terminals ① and ② .
Resistance: Approx. 250Ω

NG → Replace vehicle speed sensor.

OK ↓

Check harness for open or short between speedometer and vehicle speed sensor.

INSPECTION/ENGINE REVOLUTION SIGNAL (Models with tachometer)

A

CHECK ECM OUTPUT.
1. Start engine.
2. Check voltage between combination meter terminal ㉙ and ground at idle and 2,000 rpm.
   Higher rpm = Higher voltage
   Lower rpm = Lower voltage
   Voltage should change with rpm.

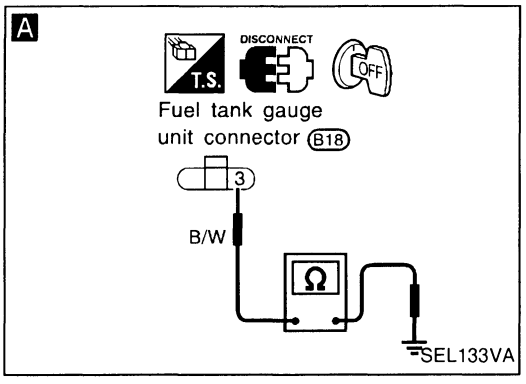
OK → Engine revolution signal is OK.

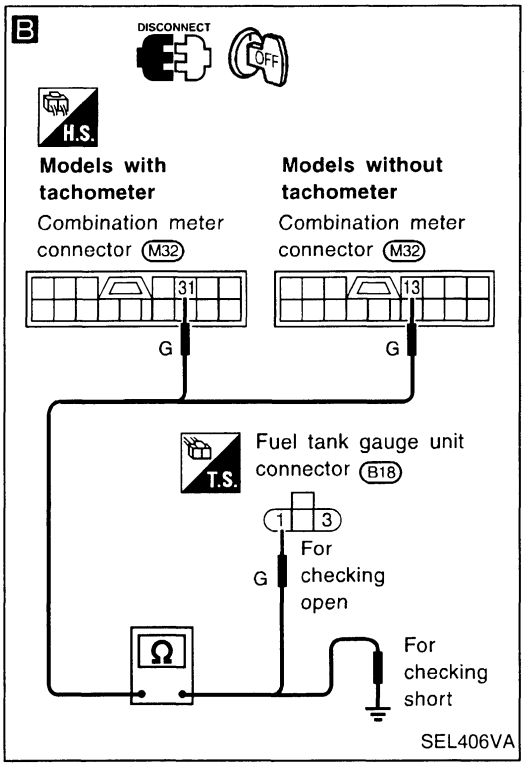
NG ↓

Check the following
- Harness for open or short between ECM and combination meter

Trouble Diagnoses (Cont'd)

INSPECTION/FUEL TANK GAUGE





A

CHECK GROUND CIRCUIT FOR FUEL TANK GAUGE UNIT.
Check harness continuity between fuel tank gauge unit terminal ③ and ground.
Continuity should exist.

NG → Repair harness or connector.

OK ↓

CHECK GAUGE UNITS.
Refer to "FUEL TANK GAUGE UNIT CHECK" (EL-99).

NG → Repair or replace.
Refer to FE section in Service Manual.

OK ↓

B

CHECK HARNESS FOR OPEN OR SHORT.
1. Disconnect combination meter connector and fuel tank gauge unit connector.
2. Check continuity between combination meter terminal ㉛ (Models with tachometer), ⑬ (Models without tachometer) and fuel tank gauge unit terminal ① .

Continuity should exist.

3. Check continuity between combination meter terminal ㉛ (Models with tachometer), ⑬ (Models without tachometer) and ground.

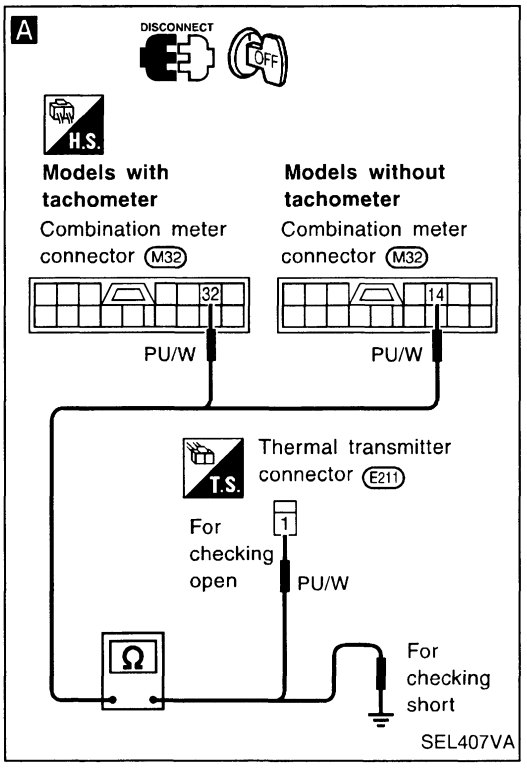
Continuity should not exist.

NG → Repair harness or connector.

OK ↓

Fuel tank gauge is OK.

INSPECTION/THERMAL TRANSMITTER



CHECK THERMAL TRANSMITTER.
Refer to "THERMAL TRANSMITTER CHECK" (EL-100).

NG → Repair or replace.

OK ↓

A

CHECK HARNESS FOR OPEN OR SHORT.
1. Disconnect combination meter connector and thermal transmitter connector.
2. Check continuity between combination meter terminal ㉜ (Models with tachometer), ⑭ (Models without tachometer) and thermal transmitter terminal ① .

Continuity should exist.

3. Check continuity between combination meter terminal ㉜ (Models with tachometer), ⑭ (Models without tachometer) and ground.

Continuity should not exist.

NG → Repair harness or connector.

OK ↓

Thermal transmitter is OK.

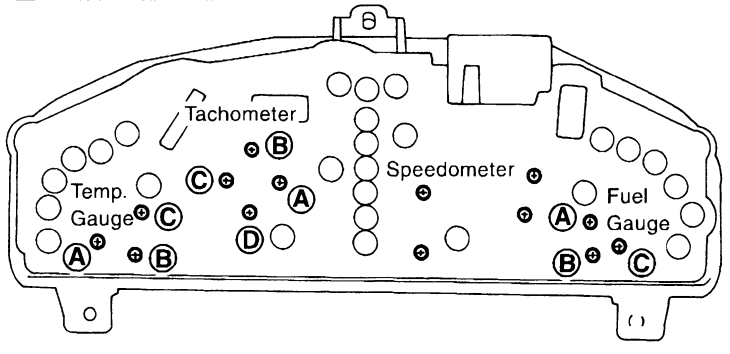
Electrical Components Inspection

METER/GAUGE RESISTANCE CHECK

1. Disconnect FPC connector. Refer to "Flexible Print Circuit (FPC)" (EL-93).
2. Check resistance between installation screws of meter/gauge.

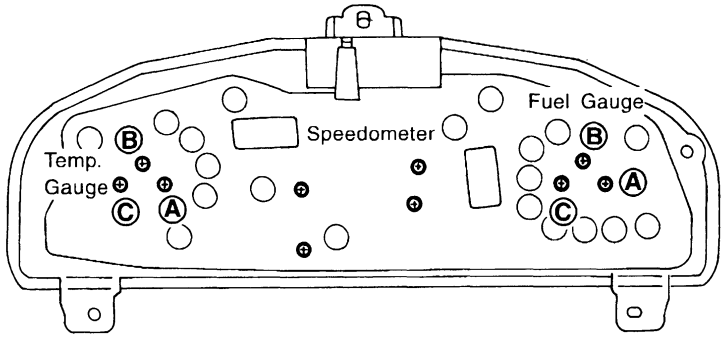
Screws		Resistance
Tachometer	Fuel/Temp. gauge	Ω
A - C	A - C	Approx. 70 - Approx. 140
B - D	B - C	Approx. 90 - Approx. 170

With tachometer

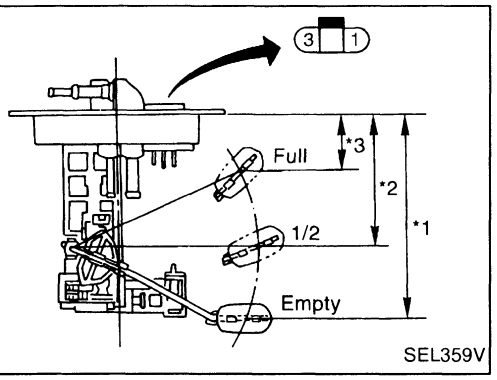


MEL827H

Without tachometer



MEL828H



SEL359V

FUEL TANK GAUGE UNIT CHECK

- For removal, refer to FE section in Service Manual.

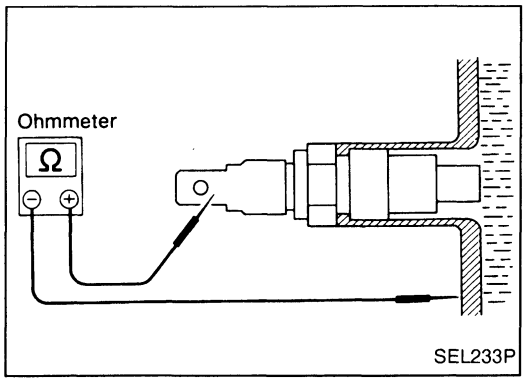
Check the resistance between terminals ① and ③.

Ohmmeter		Float position			Resistance value
(+)	(−)		mm (in)		(Ω)
①	③	*1	Full	36 (1.42)	Approx. 4 - 6
		*2	1/2	86 (3.39)	27 - 35
		*3	Empty	131 (5.16)	78 - 85

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

Electrical Components Inspection (Cont'd)

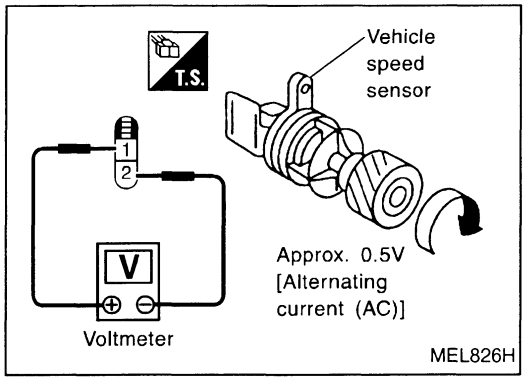
THERMAL TRANSMITTER CHECK



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

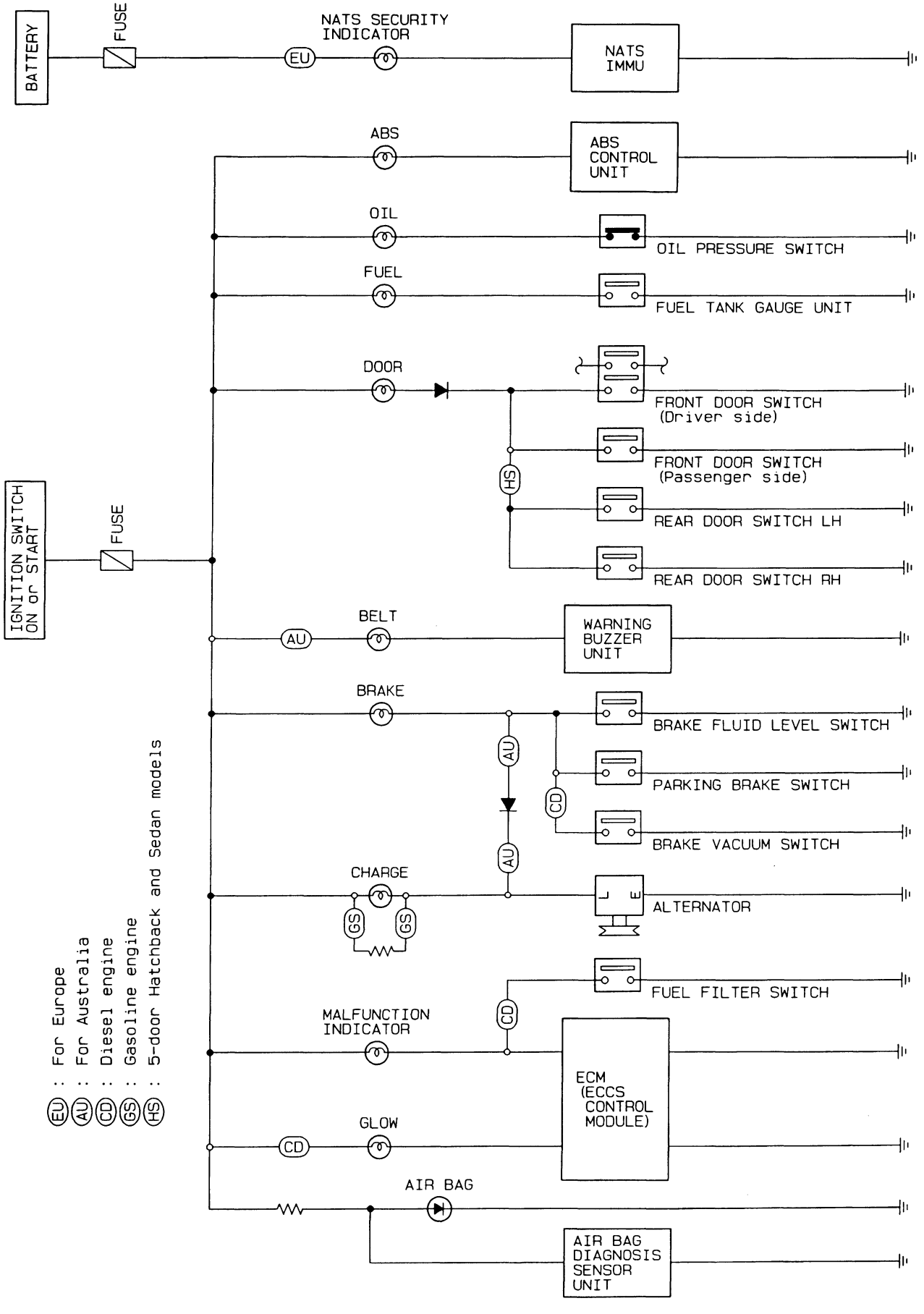
Water temperature	Resistance (Ω)
60°C (140°F)	Approx. 167 - 211
100°C (212°F)	Approx. 47 - 53

VEHICLE SPEED SENSOR SIGNAL CHECK



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

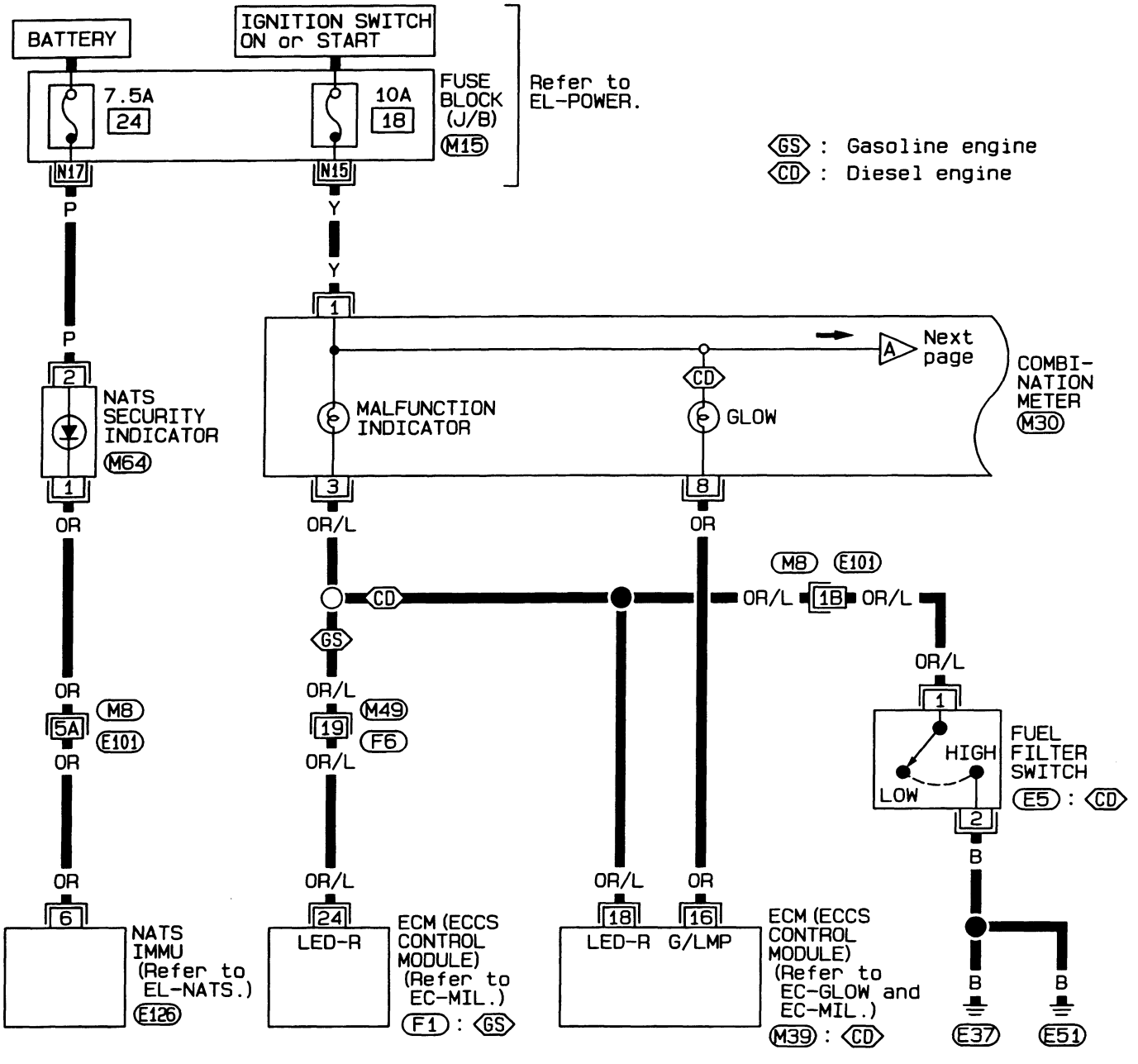
Schematic

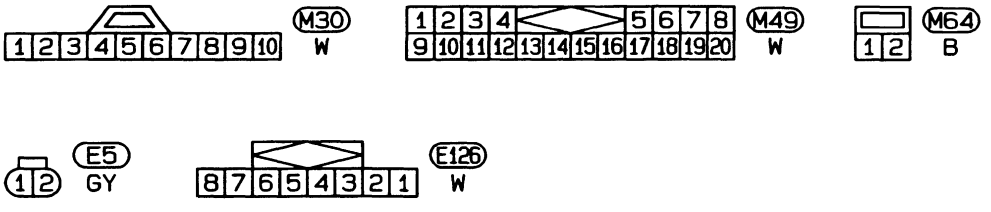


HEL196A

Wiring Diagram — WARN —/LHD Models With Tachometer

EL-WARN-01





Refer to last page (Foldout page).

M8, E101

M15

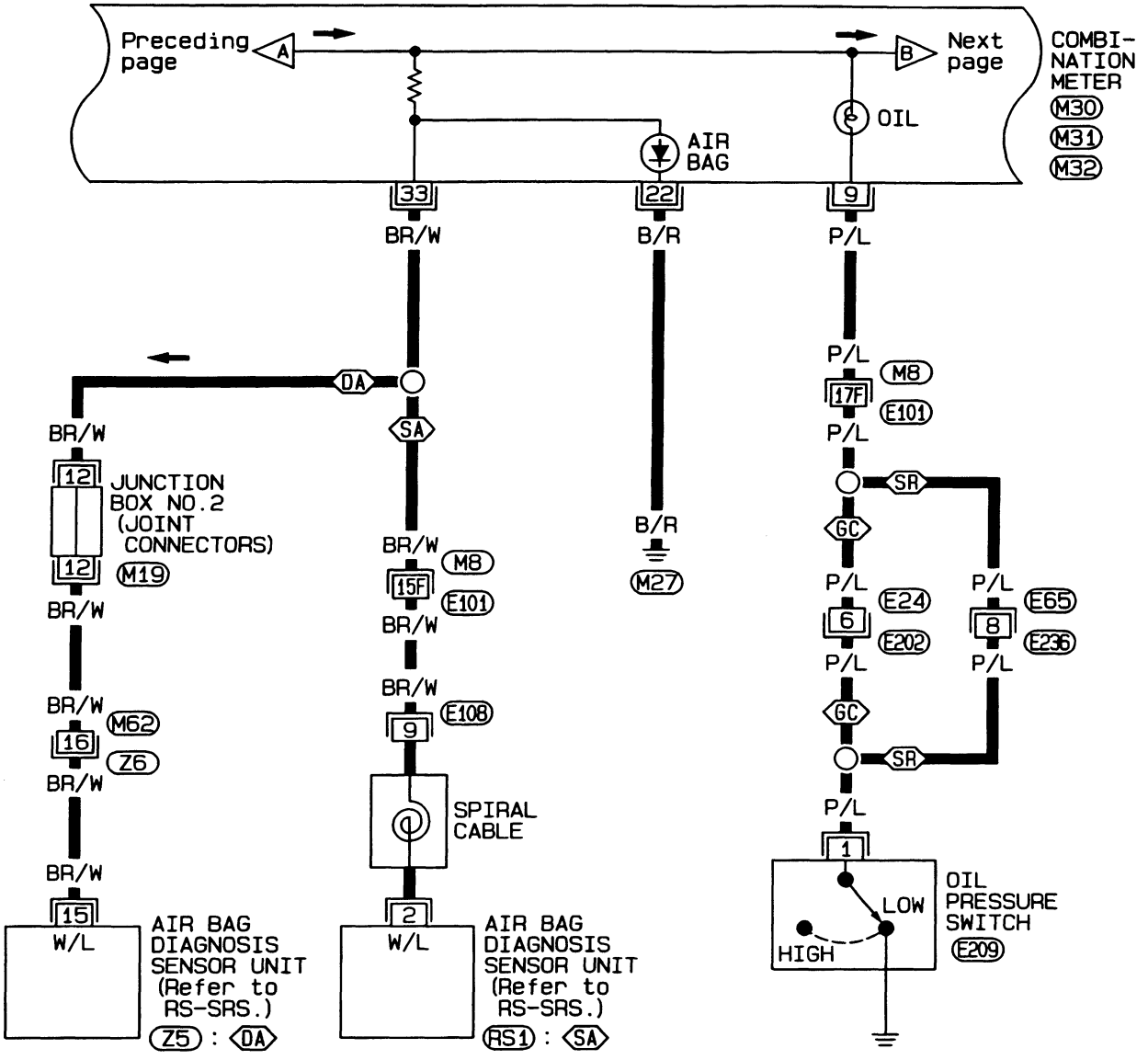
F1

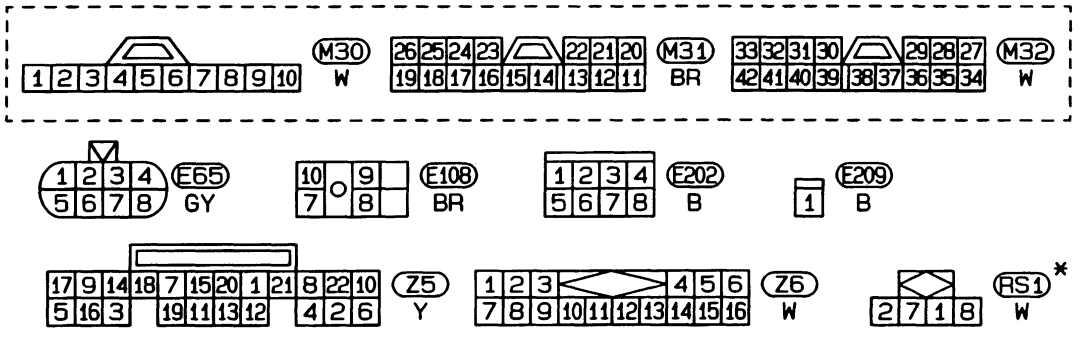
M39

Wiring Diagram — WARN —/LHD Models With Tachometer (Cont'd)

EL-WARN-02

GC : GA engine and CD engine
SR : SR engine
DA : Models with dual air bag system
SA : Models with single air bag system





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

Refer to last page (Foldout page).

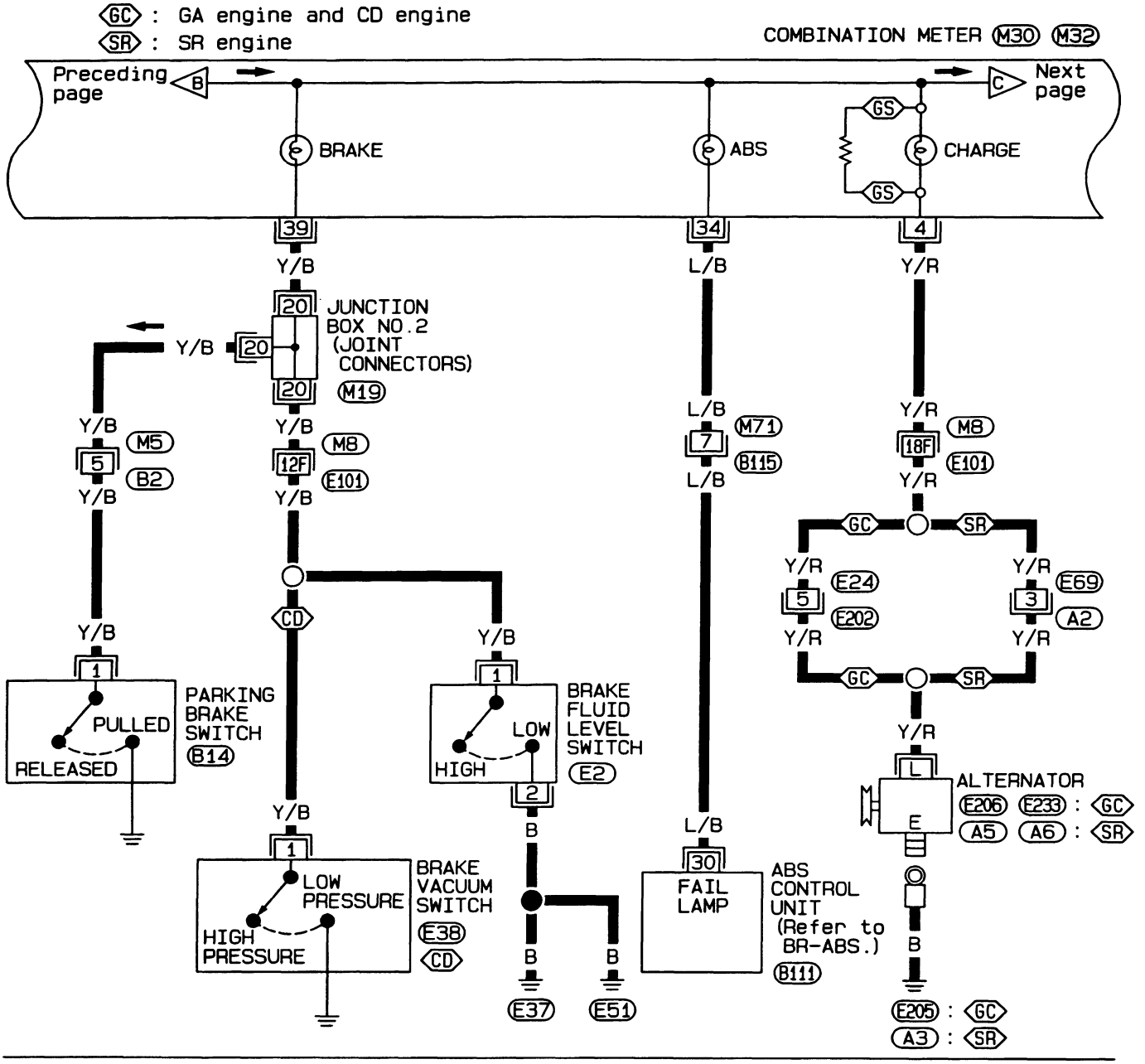
M8, E101
M19

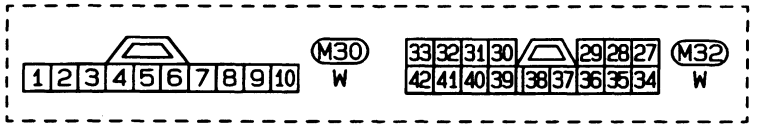
HEL198A

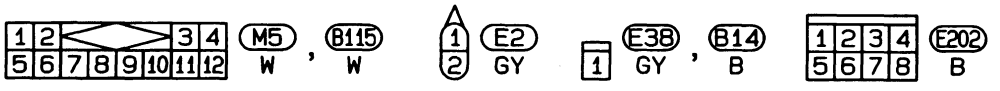
Wiring Diagram — WARN —/LHD Models With Tachometer (Cont'd)

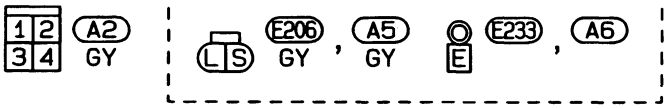
EL-WARN-03

GS : Gasoline engine
CD : Diesel engine
GC : GA engine and CD engine
SR : SR engine









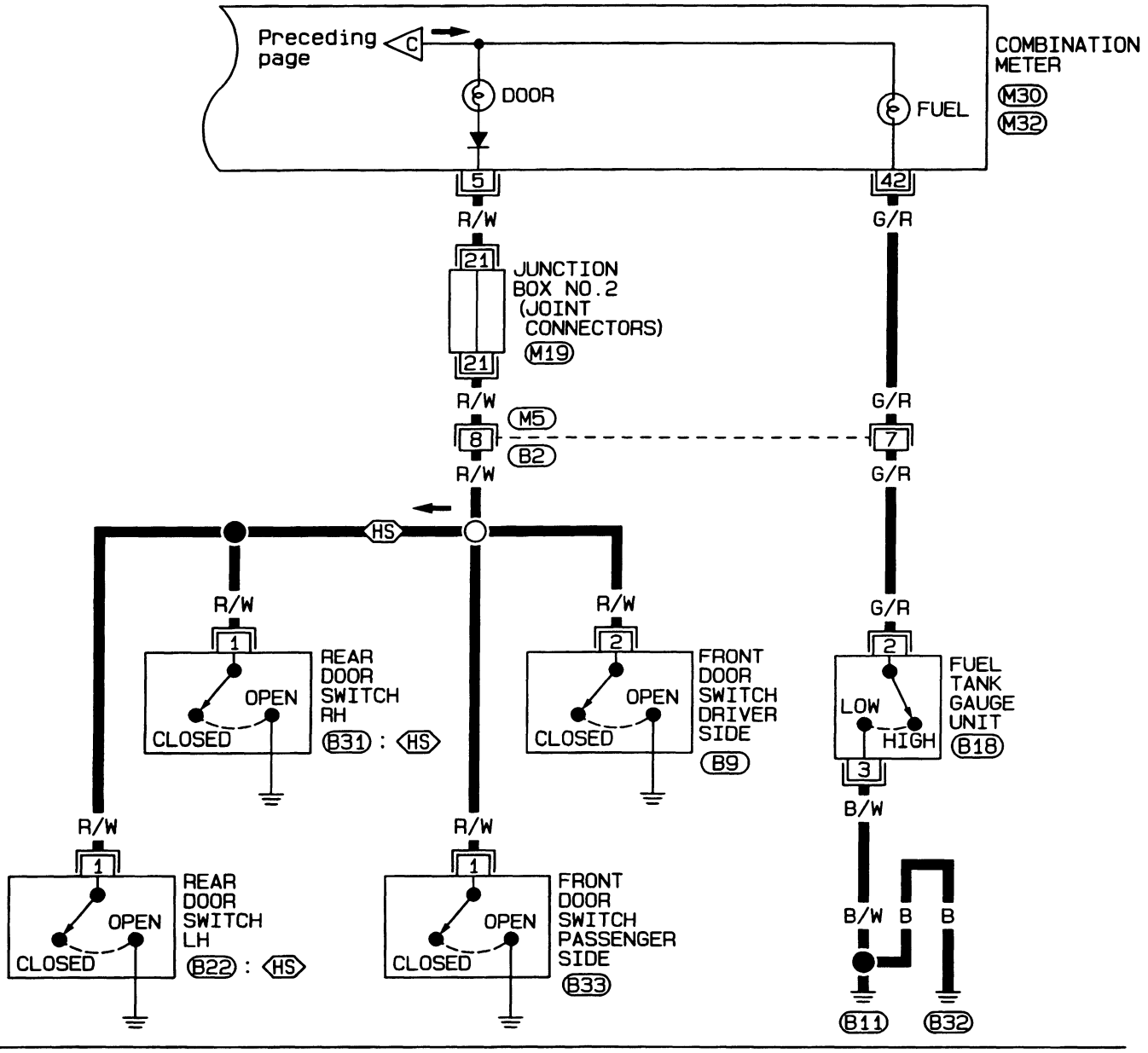
Refer to last page (Foldout page).

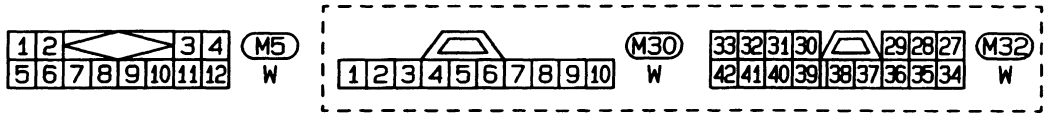
M8, E101
M19
B111

Wiring Diagram — WARN —/LHD Models With Tachometer (Cont'd)

EL-WARN-04

(HS) : 5-door Hatchback and Sedan models







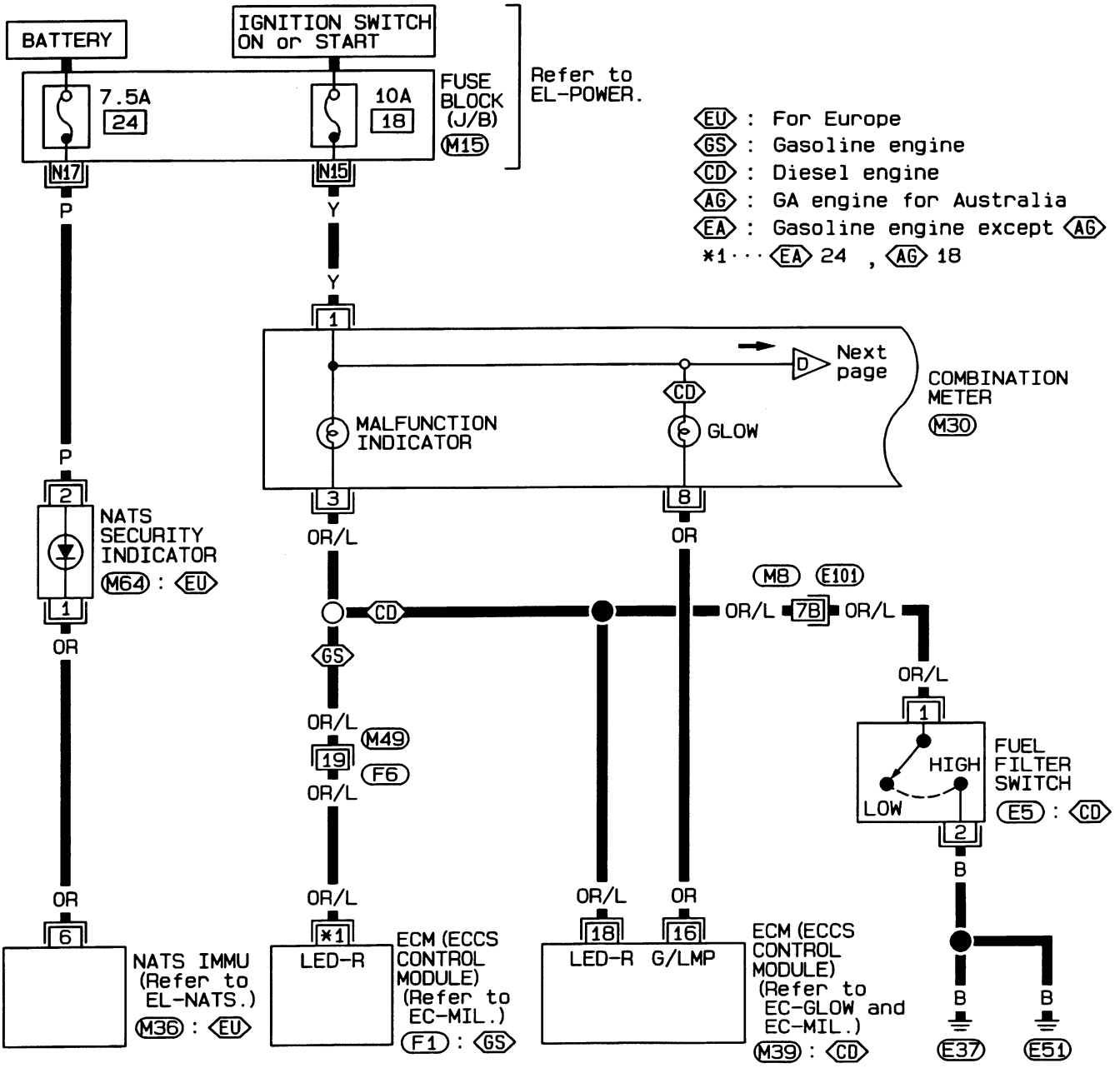
Refer to last page (Foldout page).

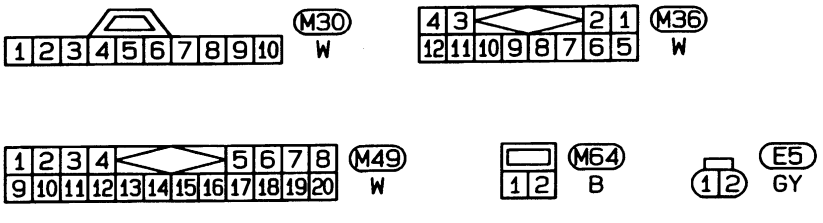
M19

HEL200A

Wiring Diagram — WARN —/RHD Models With Tachometer

EL-WARN-05





Refer to last page (Foldout page).

M8 , E101

M15

F1

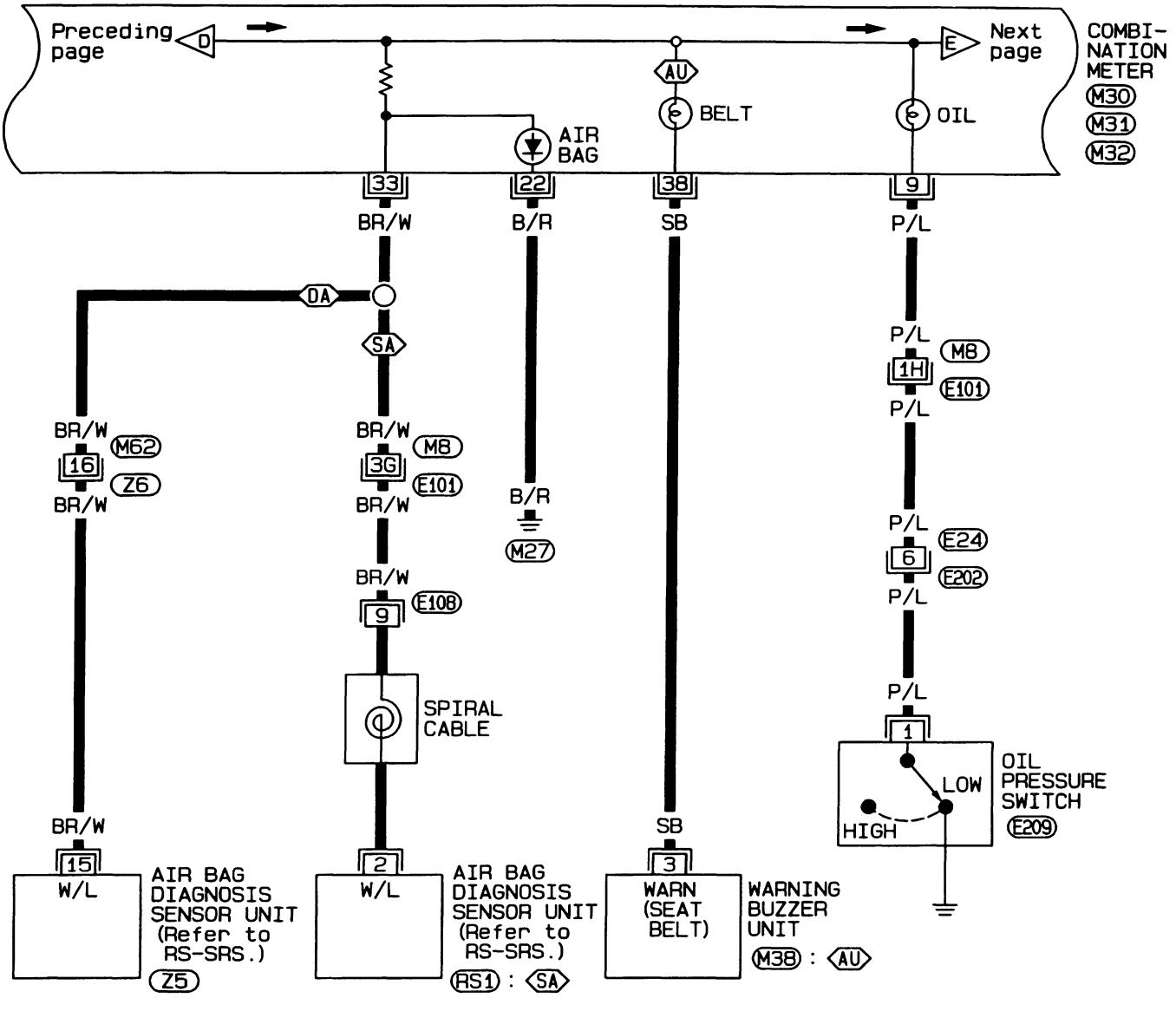
M39

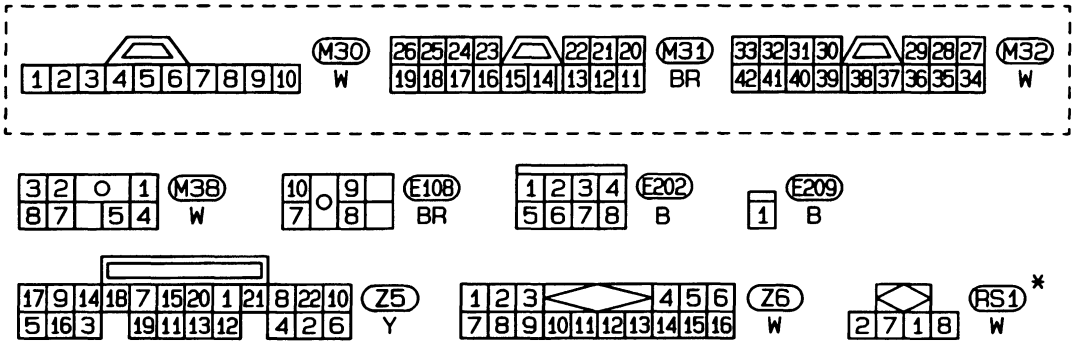
HEL201A

Wiring Diagram — WARN —/RHD Models With Tachometer (Cont'd)

EL-WARN-06

AU : For Australia
SA : Models with single air bag system
DA : Models with dual air bag system





Refer to last page (Foldout page).

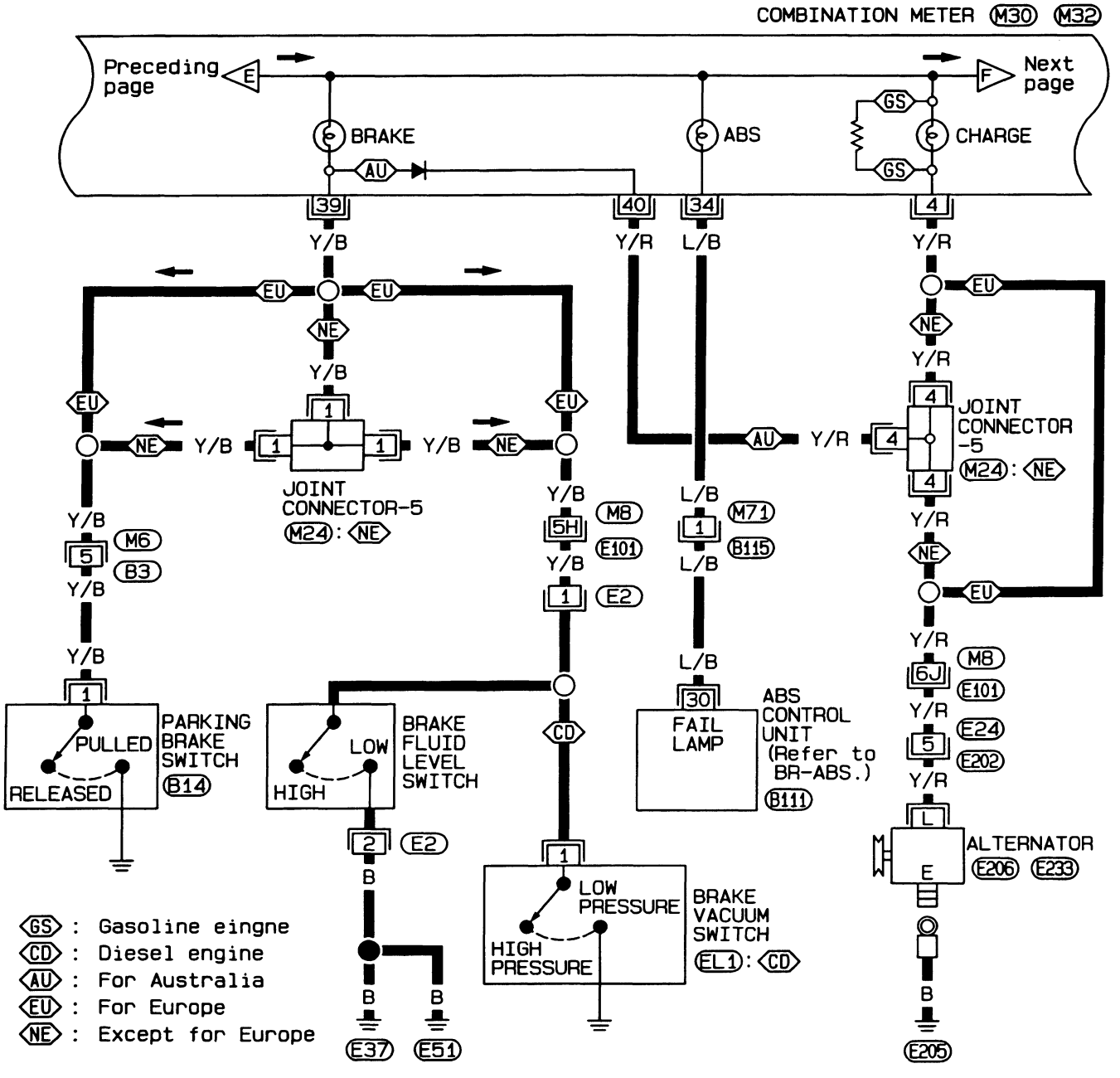
M8, E101

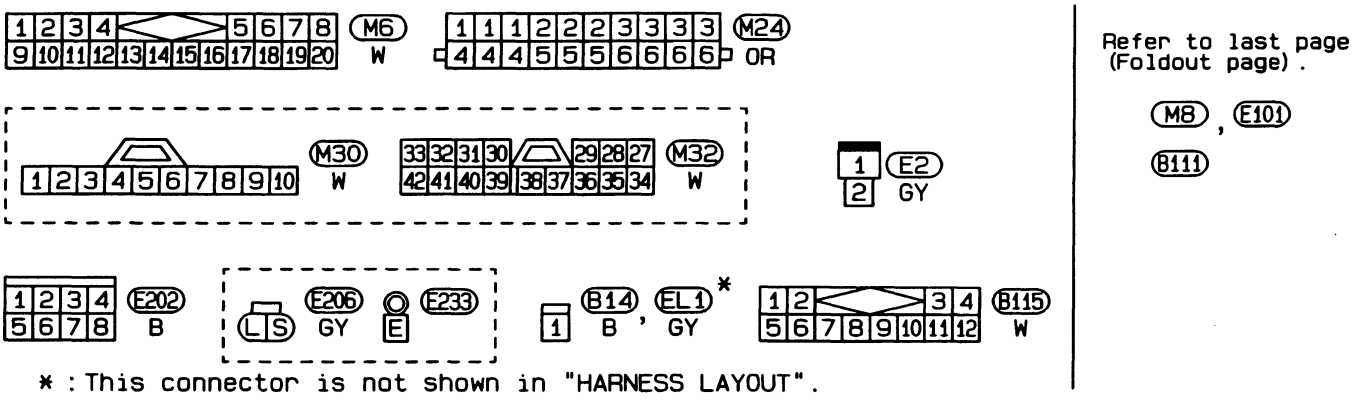
* : This connector is not shown in "HARNESS LAYOUT".

HEL202A

Wiring Diagram — WARN —/RHD Models With Tachometer (Cont'd)

EL-WARN-07





Refer to last page (Foldout page).

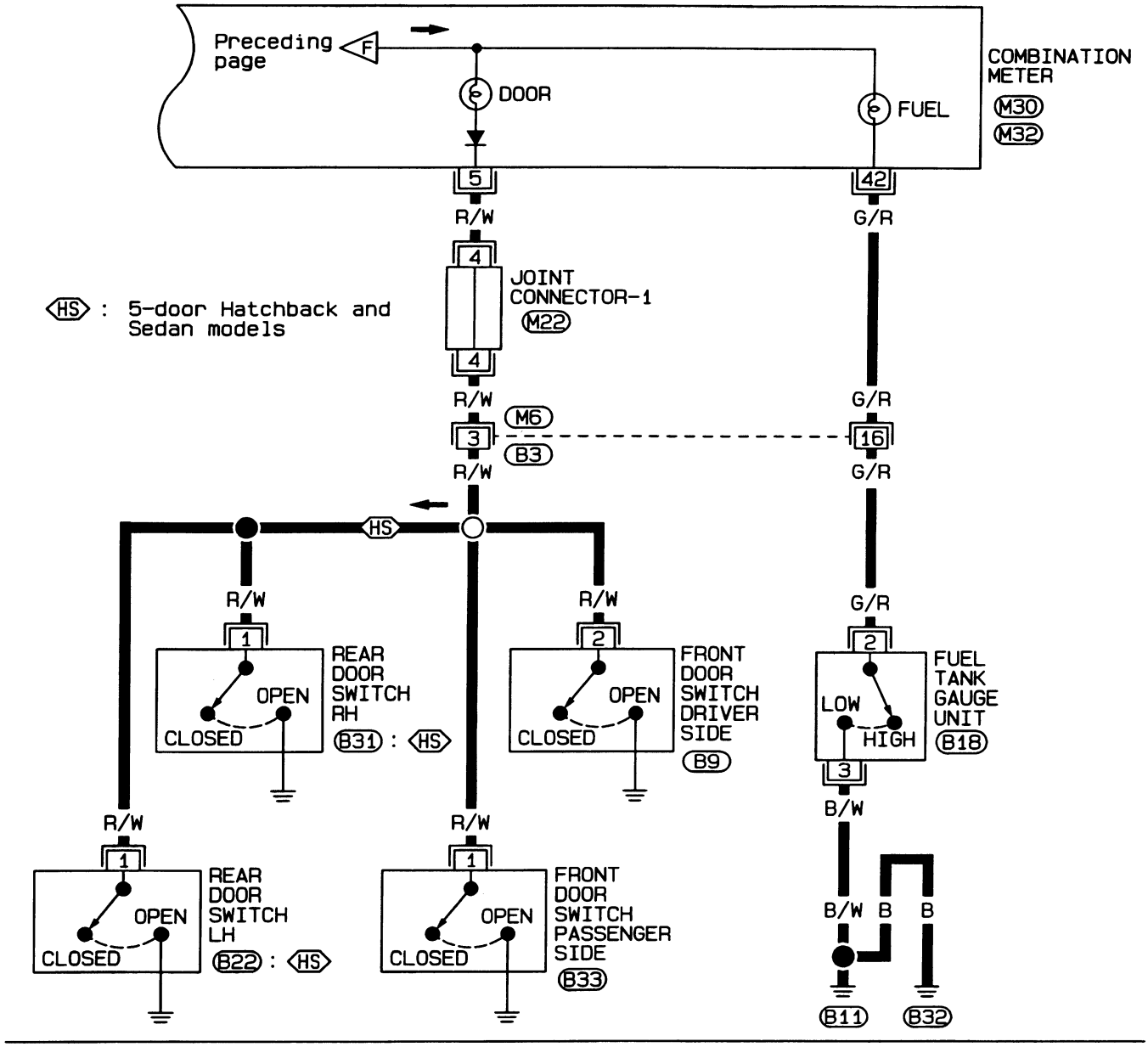
M8, E101

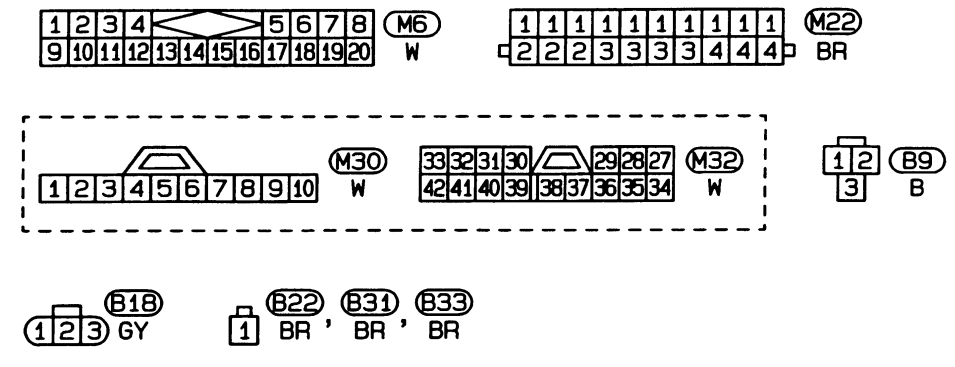
B111

HEL203A

Wiring Diagram — WARN —/RHD Models With Tachometer (Cont'd)

EL-WARN-08

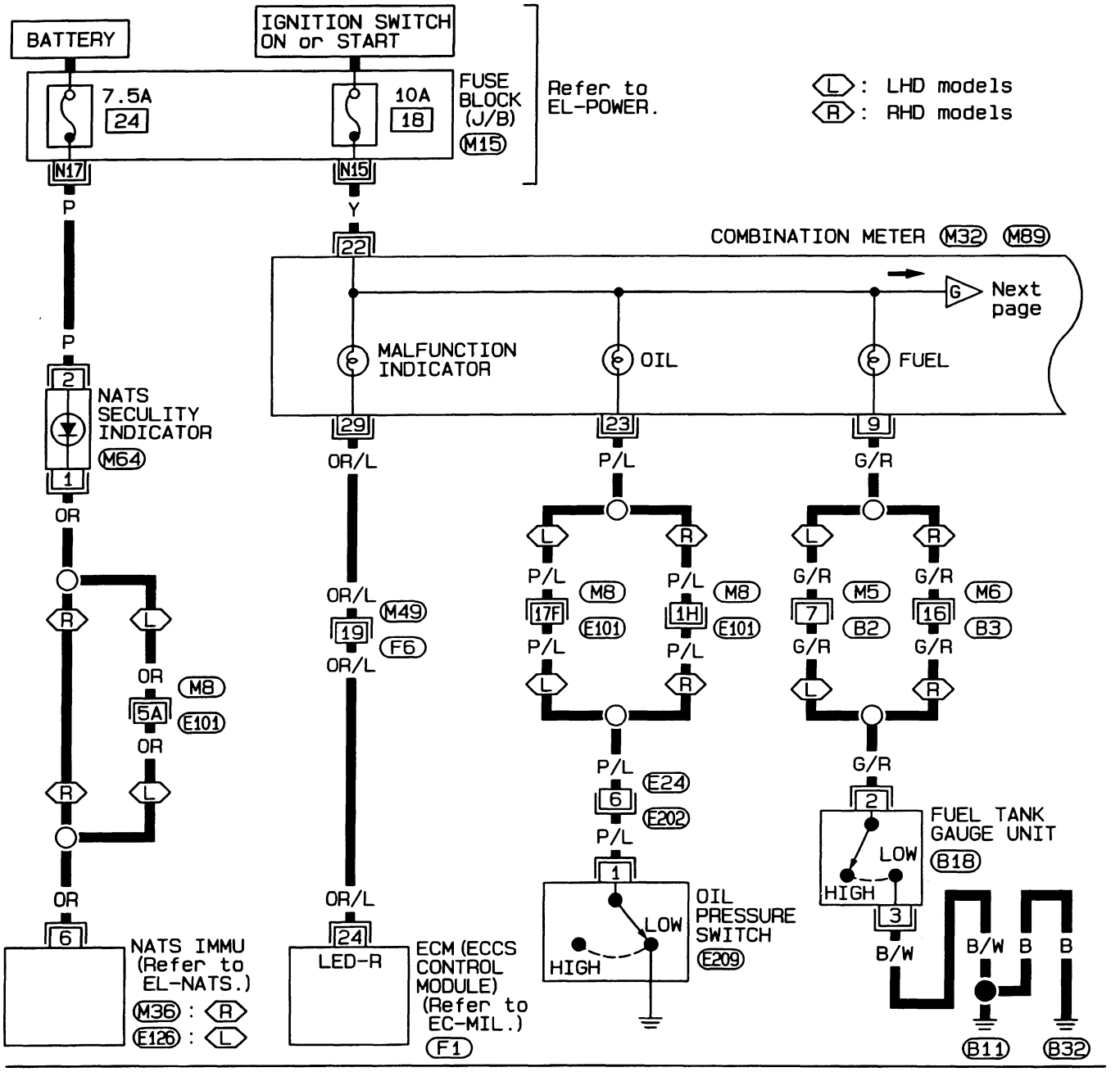


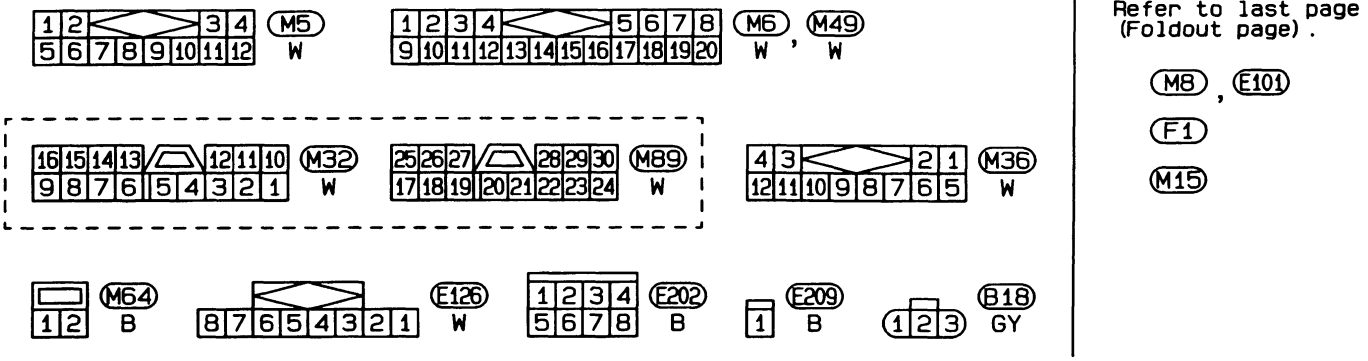


HEL204A

Wiring Diagram — WARN —/Without Tachometer

EL-WARN-09





Refer to last page (Foldout page).

M8, E101

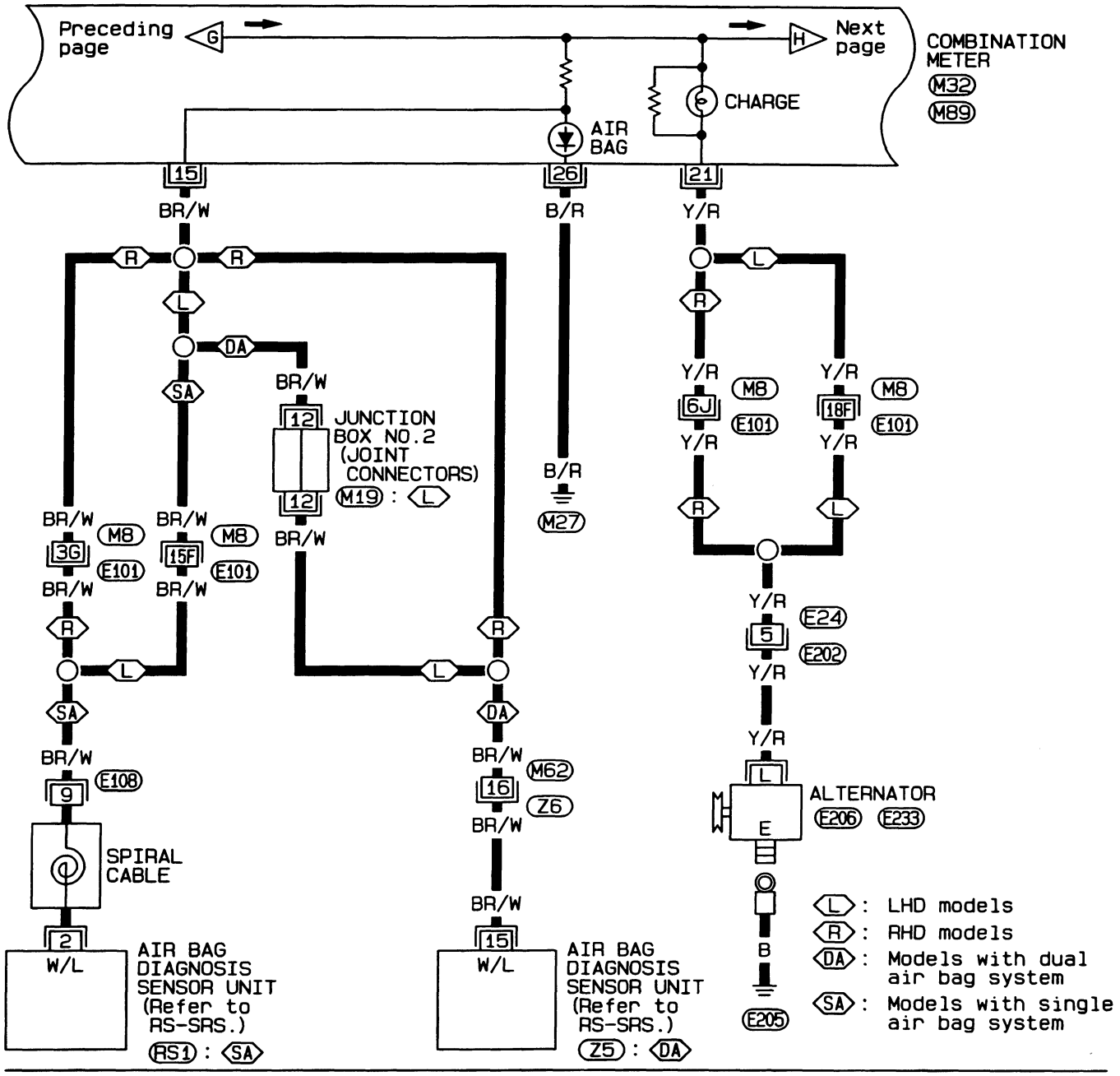
F1

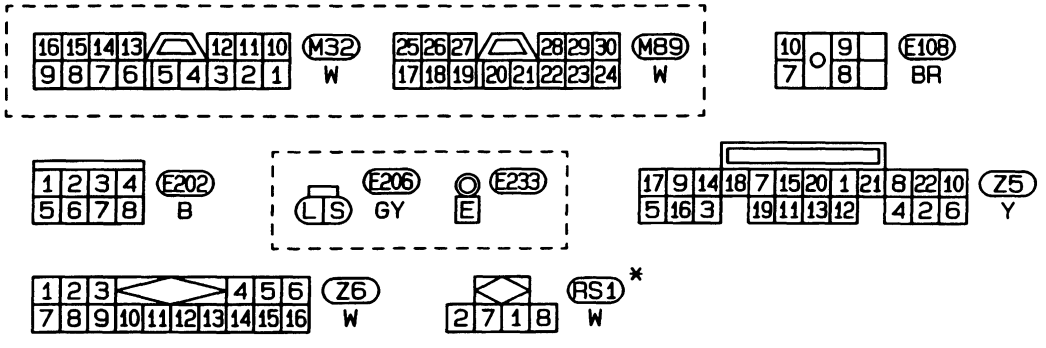
M15

HEL205A

Wiring Diagram — WARN —/Without Tachometer (Cont'd)

EL-WARN-10





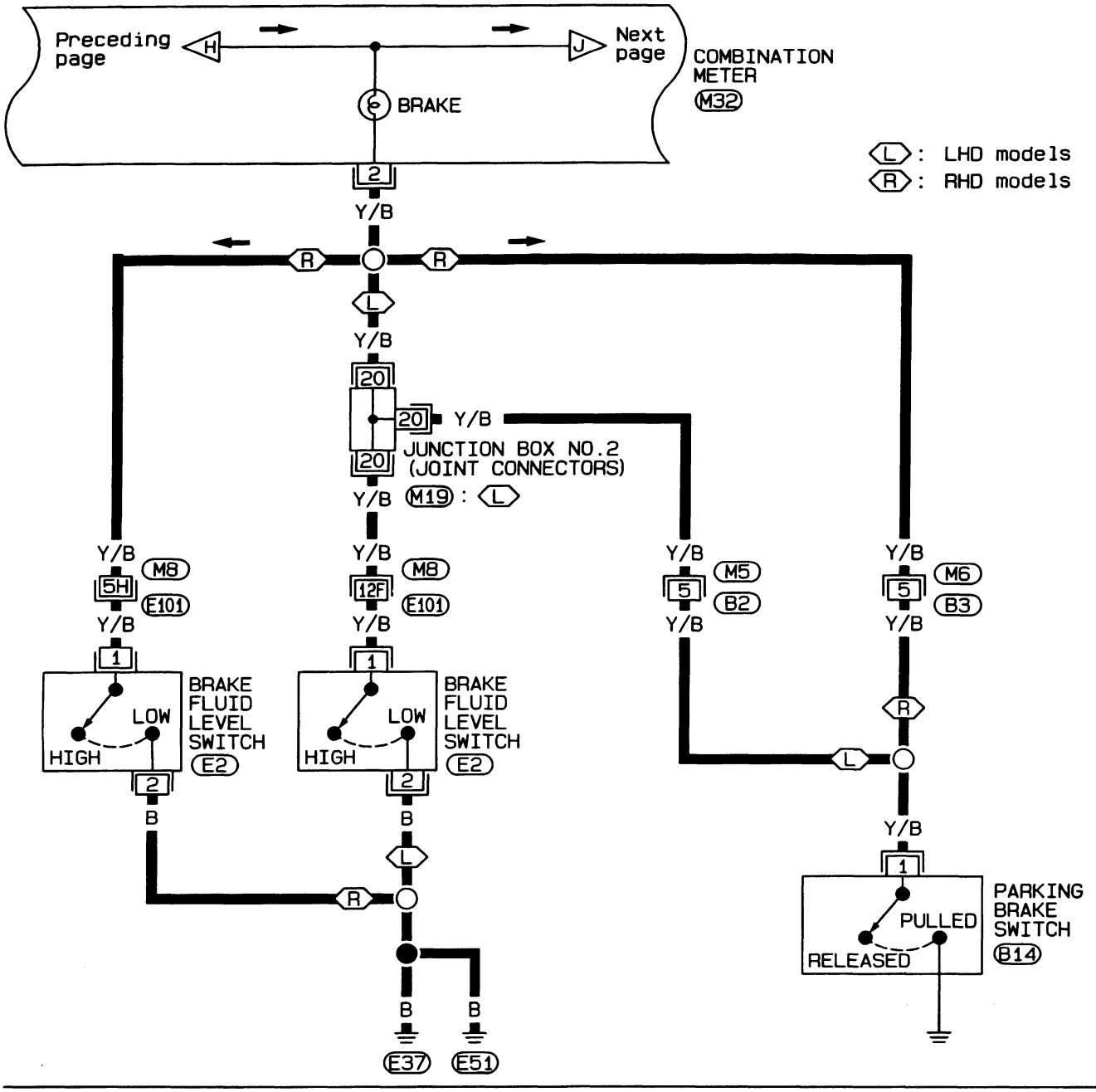
* : This connector is not shown in "HARNESS LAYOUT".

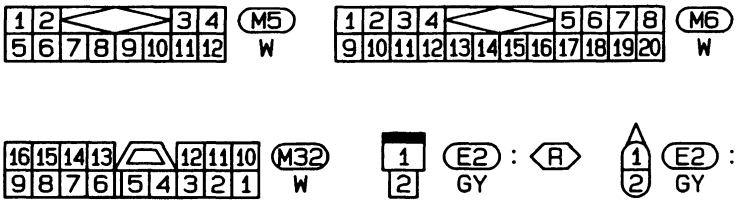
Refer to last page (Foldout page).
M8, E101
M19

HEL206A

Wiring Diagram — WARN —/Without Tachometer (Cont'd)

EL-WARN-11





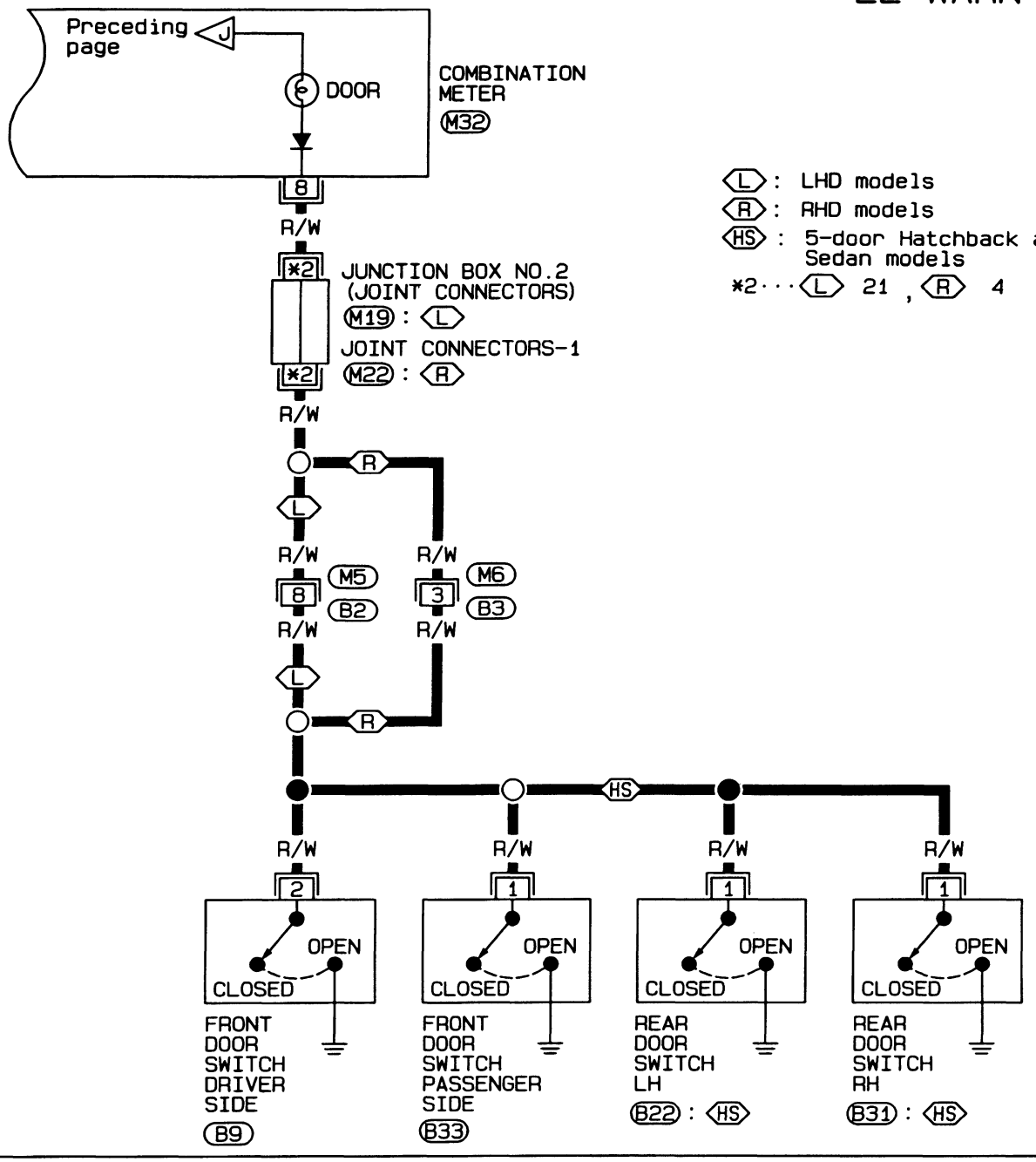
Refer to last page (Foldout page).

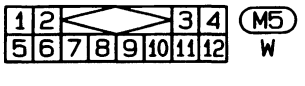
M8, E101

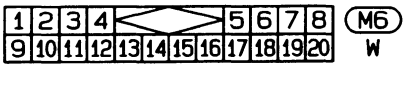
M19

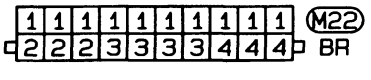
Wiring Diagram — WARN —/Without Tachometer (Cont'd)

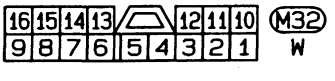
EL-WARN-12

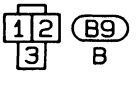


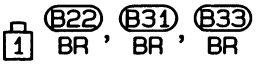












Refer to last page (Foldout page).

M19

HEL208A

System Description

OPERATION

Light warning buzzer

With ignition switch in the ACC or OFF position, and the driver's door open, the warning buzzer will sound.
NOTE: Rear fog warning lamp buzzer for Europe has been deleted.

Ignition warning buzzer

With the key inserted in the ignition key cylinder, ignition switch in the ACC or OFF position, and the driver's door open, the warning buzzer will sound.

Seat belt warning lamp (For Australia)

With ignition switch turned ON warning lamp will illuminate for approximately 6 seconds.

For Europe and Australia

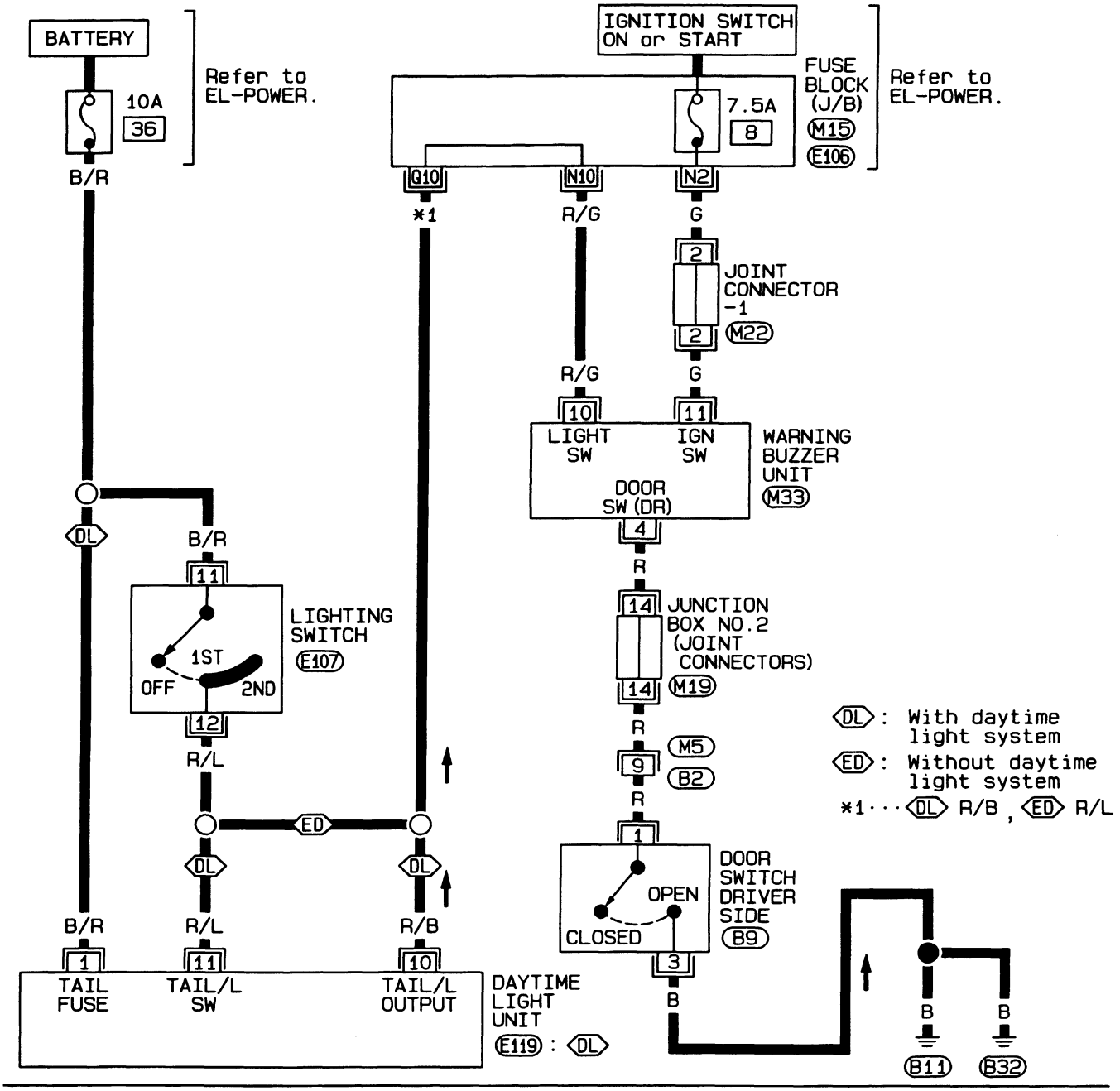
Warning buzzer is controlled by warning buzzer unit which has an internal buzzer unit.
Refer to wiring diagram on EL-115: LHD models, EL-116: RHD models for EUROPE, EL-117: for Australia.

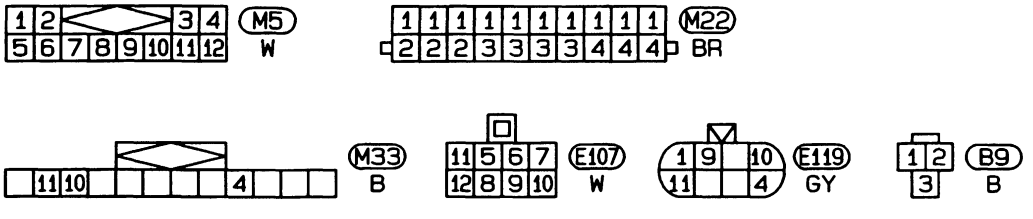
RHD models (Except for Europe and Australia)

Warning buzzer for models with power door lock is controlled by time control unit. The time control unit has an internal buzzer unit. Refer to wiring diagram on EL-118.
Warning buzzer for models without power door lock is the same as models for EUROPE. Refer to wiring diagram on EL-116.

Wiring Diagram — BUZZER —/LHD Models

EL-BUZZER-01



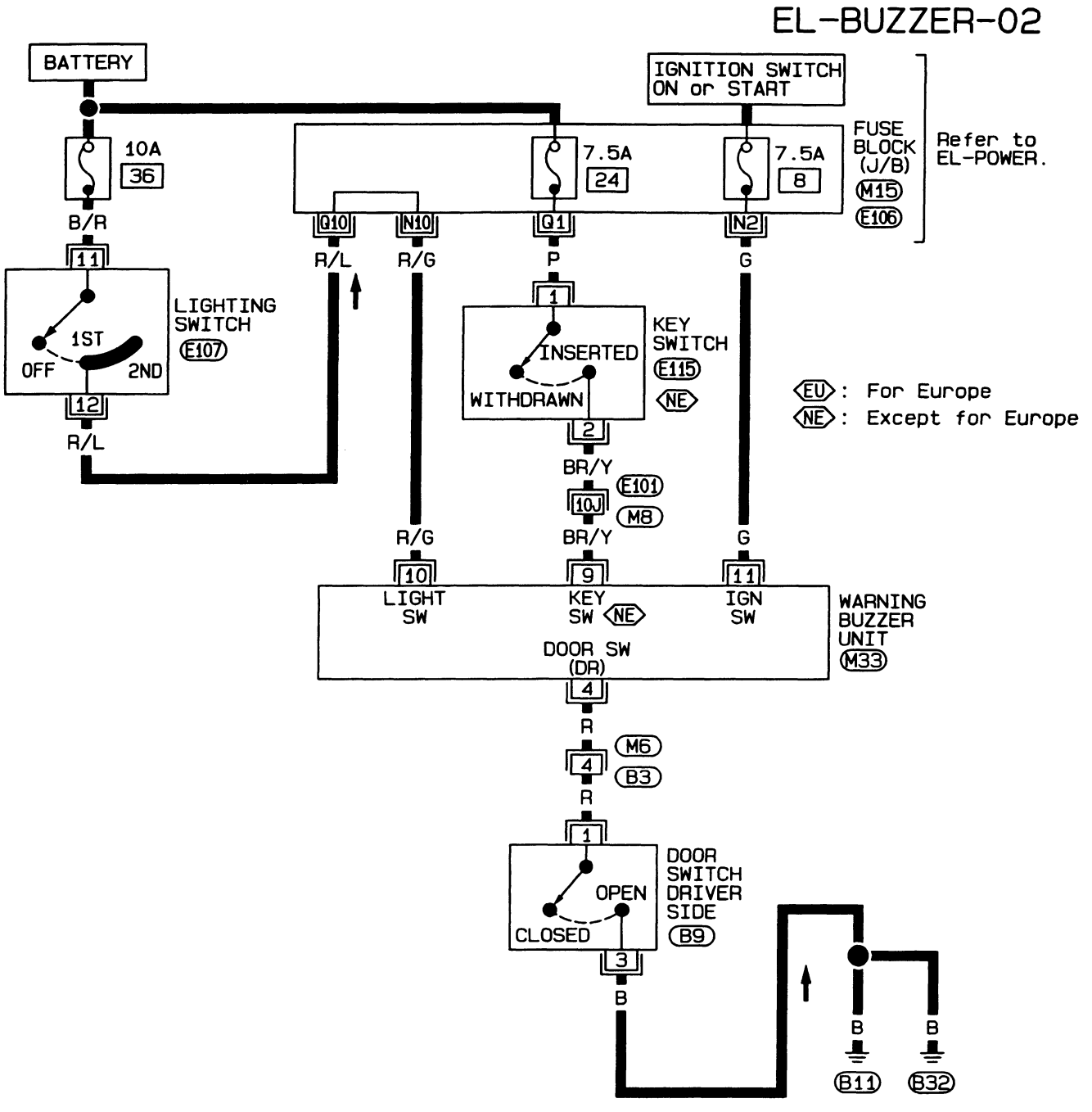


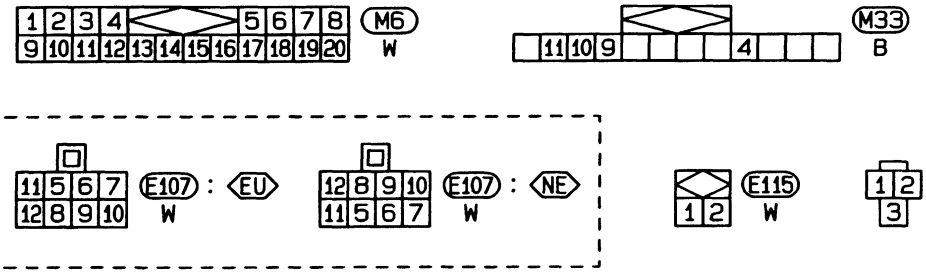
Refer to last page (Foldout page).
M15 , E106
M19

HEL209A

Wiring Diagram — BUZZER —/RHD Models Type A

FOR EUROPE AND MODELS WITHOUT POWER DOOR LOCK EXCEPT FOR AUSTRALIA





Refer to last page (Foldout page).

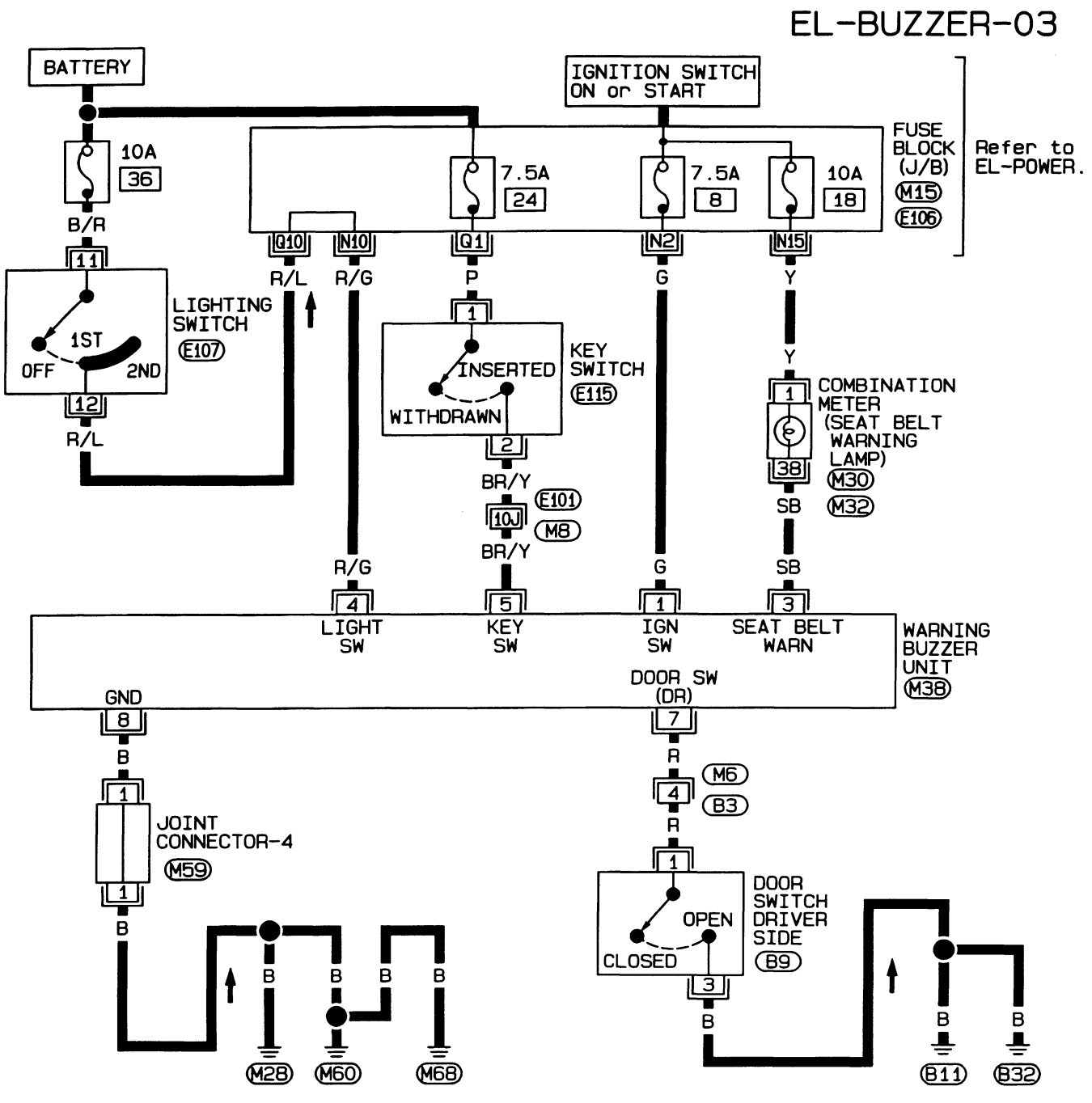
M8, E101

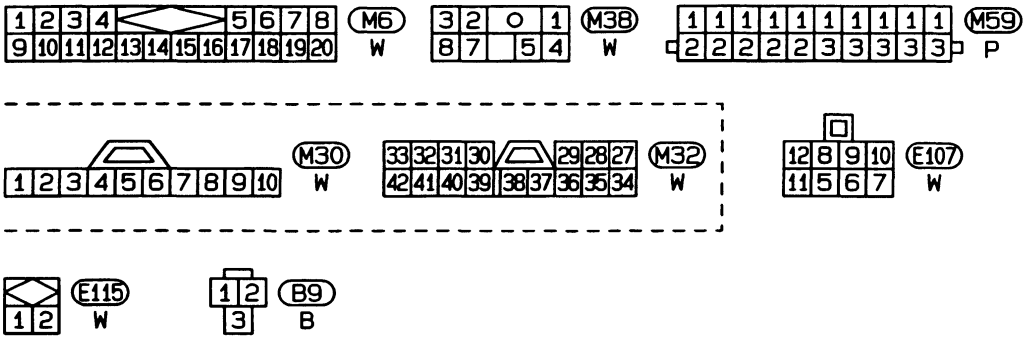
M15, E106

HEL210A

Wiring Diagram — BUZZER —/RHD Models Type B

FOR AUSTRALIA





Refer to last page (Foldout page).

M8, E101

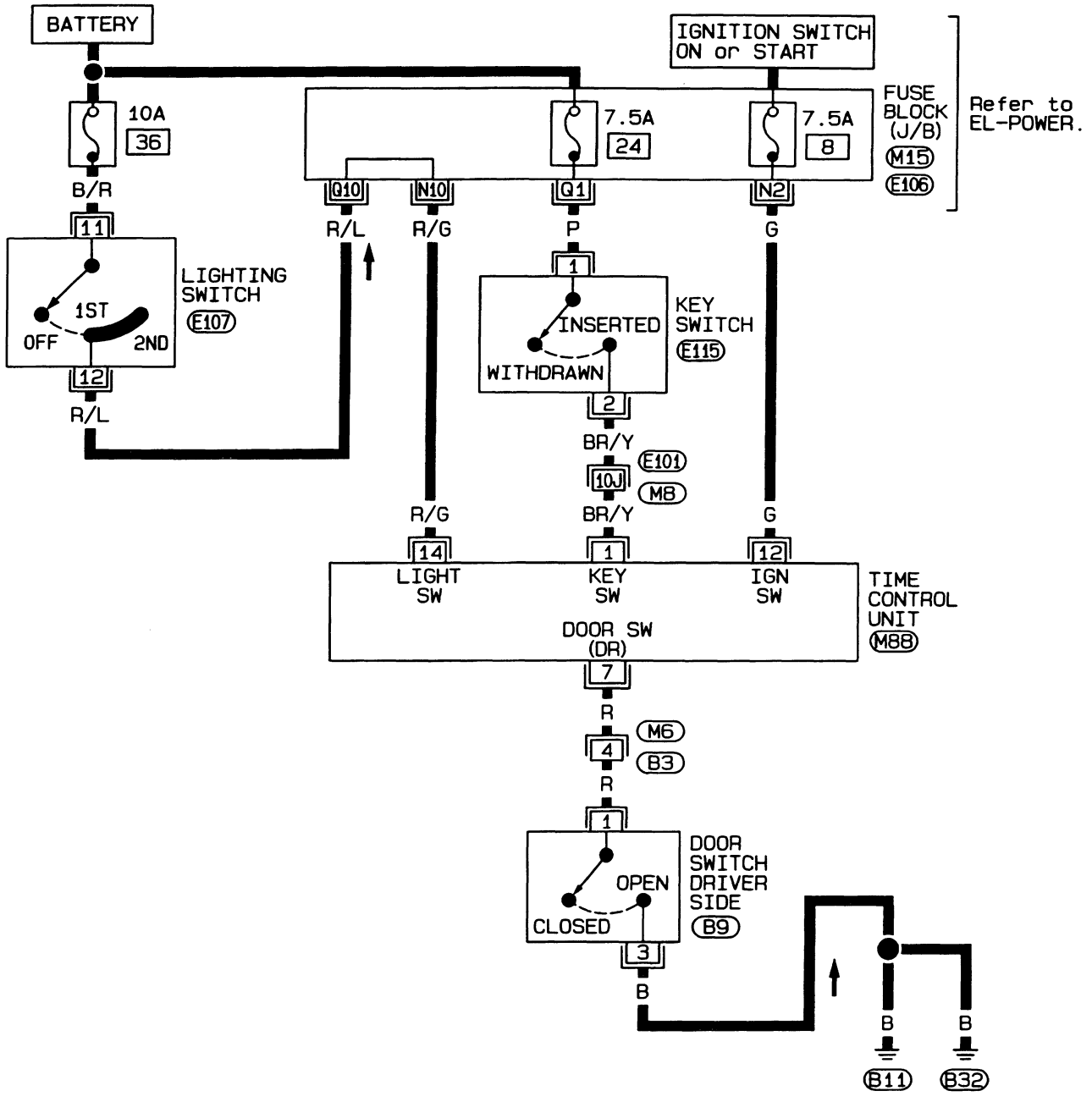
M15, E106

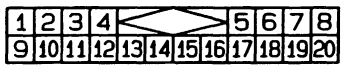
HEL211A

Wiring Diagram — BUZZER —/RHD Models Type C

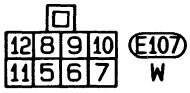
MODELS WITH POWER DOOR LOCK EXCEPT FOR EUROPE AND AUSTRALIA

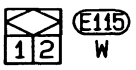
EL-BUZZER-04

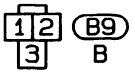












Refer to last page (Foldout page).

M8, E101

M15, E106

HEL212A

System Description

WIPER OPERATION

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

- ON (LO speed)
- INT (Intermittent)

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

- through 10A fuse (No. 23 , located in the fuse block)
- to rear wiper motor terminal ④ , and
- to rear wiper relay terminal ① .

Low speed wiper operation

Ground is supplied to rear wiper switch terminal ㉔ through body grounds.
When the rear wiper is placed in the ON position, ground is supplied

- through rear wiper switch terminal ㉒
- to rear wiper relay terminal ② .

The rear wiper relay is energized and ground is supplied

- to rear wiper motor terminal ①
- through rear wiper relay terminals ③ and ⑤ .

Auto stop operation

With the rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arm reaches rear window base.
When wiper arm is not located at base of rear window with rear wiper switch OFF, rear wiper relay is not energized and ground is supplied

- to rear wiper motor terminal ①
- through rear wiper relay terminal ③
- to rear wiper relay terminal ④
- through rear wiper motor terminals ③ and ② , in order to continue rear wiper motor operation at low speed.

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

Intermittent operation

The rear wiper motor operates the wiper arm one time at low speed at an interval of approximately 7 seconds. This feature is controlled by rear wiper amplifier.
When the rear wiper switch is placed in the INT position, ground is supplied

- to rear wiper amplifier terminal ②
- through rear wiper switch terminal ㉑ .

Ground is also supplied

- to rear wiper relay terminal ②
- through rear wiper amplifier terminal ⑥

Then the rear wiper relay is energized and ground is supplied

- to rear wiper motor terminal ①
- through rear wiper relay terminal ③

With power and ground supplied, the rear wiper motor operates intermittently.

WASHER OPERATION

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

- through 10A fuse (No. 23 , located in the fuse block)
- to rear washer motor terminal ① .

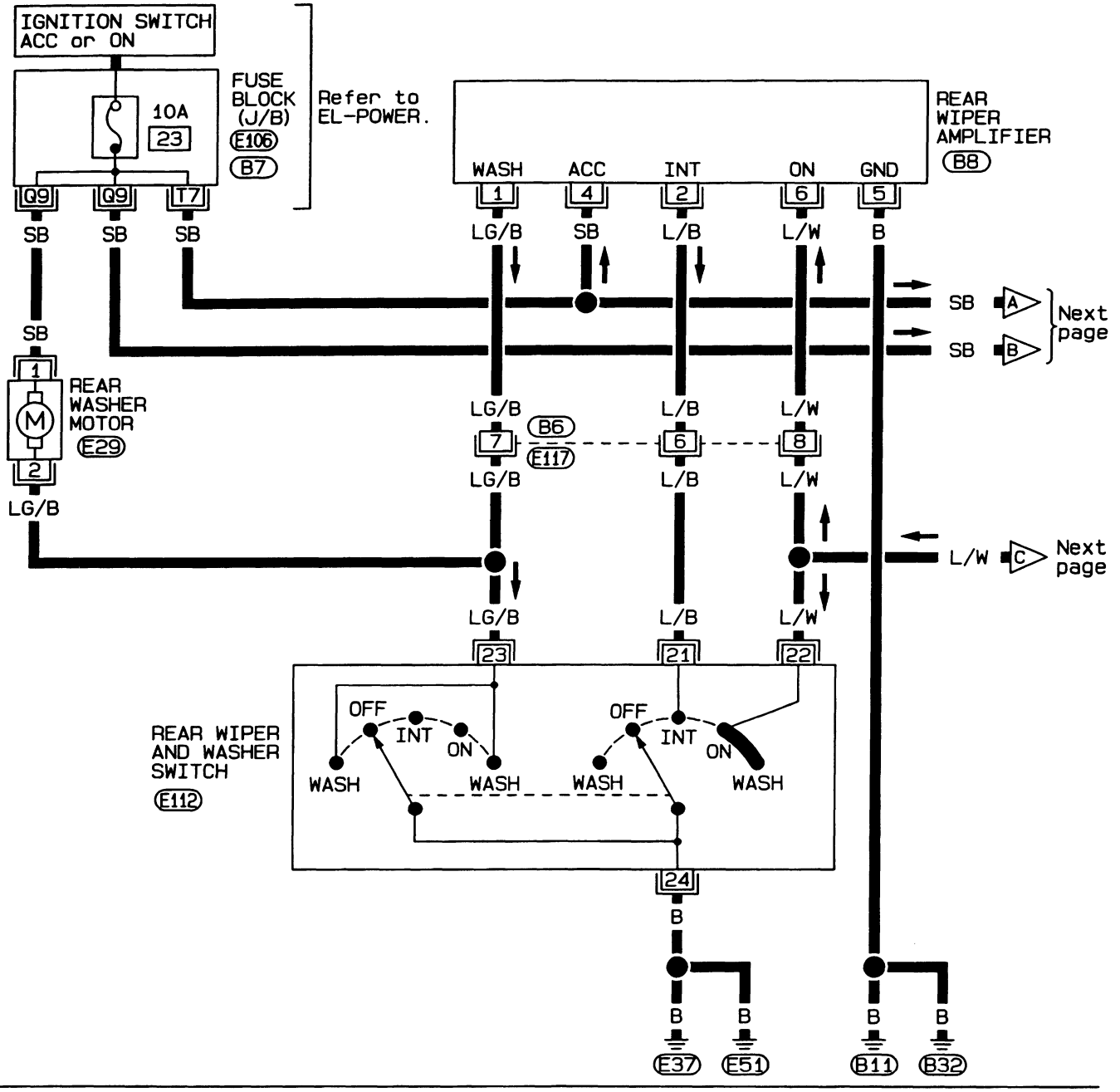
When the ring is turned WASH position, ground is supplied

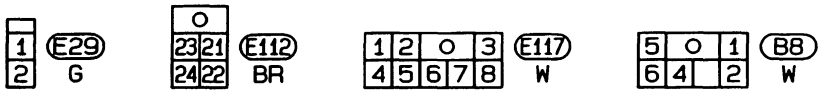
- to rear washer motor terminal ② , and
- to rear wiper amplifier terminal ①
- through terminal ㉓ of rear wiper switch.

With power and ground is supplied, the rear washer motor operates.
The rear wiper motor operates when the ring is turned to WASH position for one second or more and for approximately 3 seconds after the ring is released. This feature is controlled by the rear wiper amplifier in the same manner as the intermittent operation.

Wiring Diagram — WIP/R —

EL-WIP/R-01





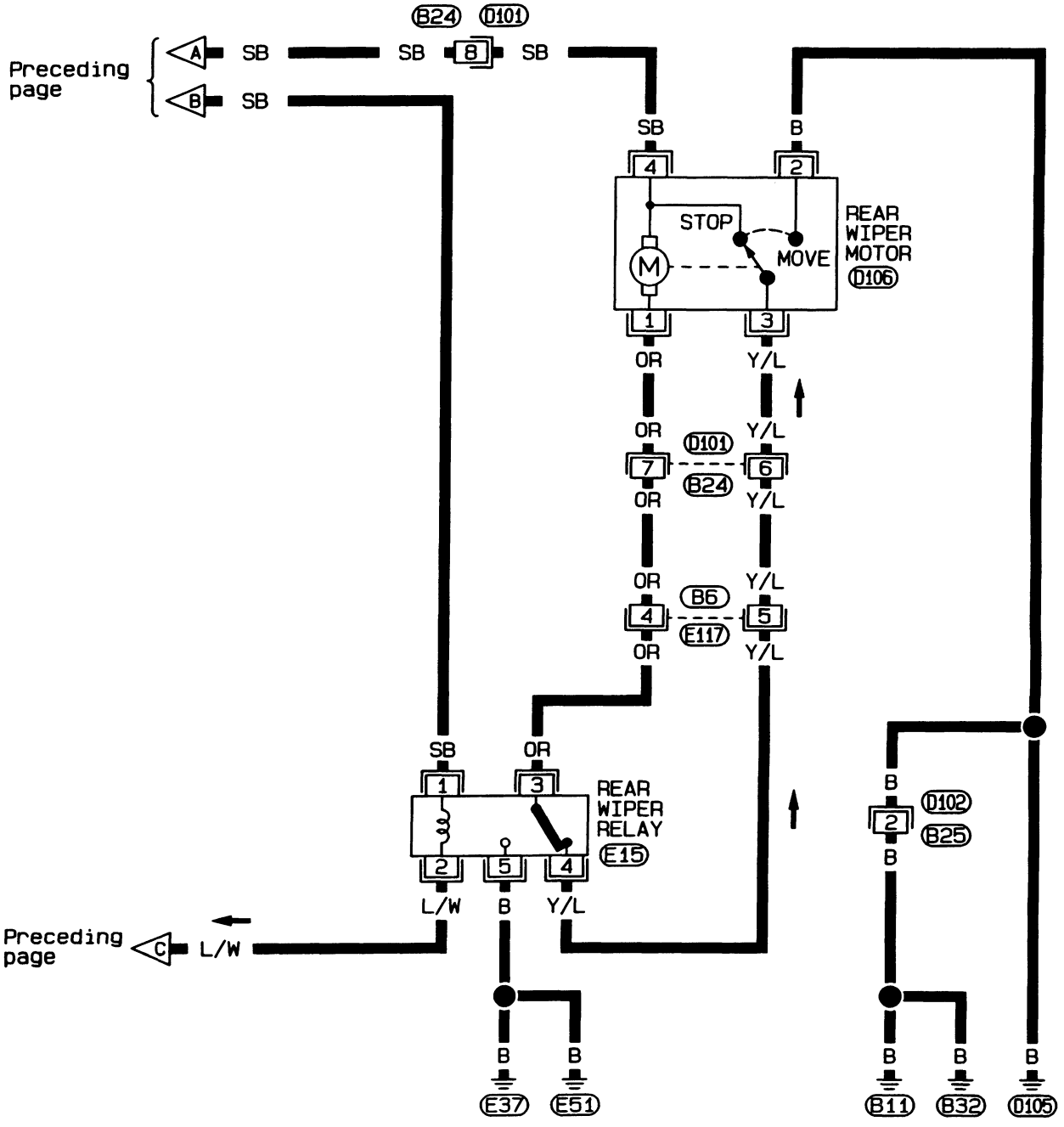
Refer to last page (Foldout page).

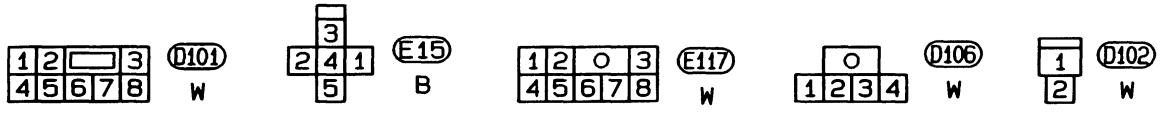
E106, B7

HEL213A

Wiring Diagram — WIP/R — (Cont'd)

EL-WIP/R-02

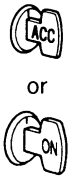
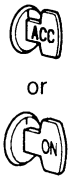
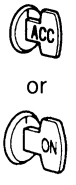
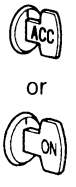


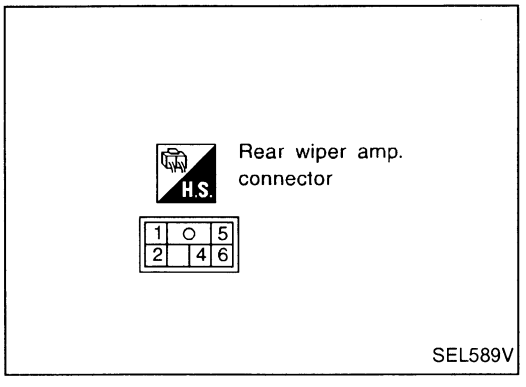


HEL091

Trouble Diagnoses

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

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



System Description

WIPER OPERATION

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

- ON (LO speed)
- INT (Intermittent)

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

- through 10A fuse (No. 23 , located in the fuse block)
- to rear wiper motor terminal ④ , and
- to rear wiper amplifier terminal ⑤ .

Low speed wiper operation

Ground is supplied to rear wiper switch terminal ㉔ through body grounds.
When the rear wiper is placed in the ON position, ground is supplied

- through rear wiper switch terminal ㉒
- to rear wiper amplifier terminal ⑥ .

Then ground is supplied

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

With power and ground supplied, the wiper motor operates.

Auto stop operation

With the rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arm reaches rear window base.
When wiper arm is not located at base of rear window with rear wiper switch OFF, ground is supplied

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

Ground is also supplied

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

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

Intermittent operation

The rear wiper motor operates the wiper arm one time at low speed at an interval of approximately 7 seconds.
When the rear wiper switch is placed in the INT position, ground is supplied

- to rear wiper amplifier terminal ①
- through rear wiper switch terminal ㉑ .

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

WASHER OPERATION

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

- through 10A fuse (No. 23 , located in the fuse block)
- to rear washer motor terminal ① .

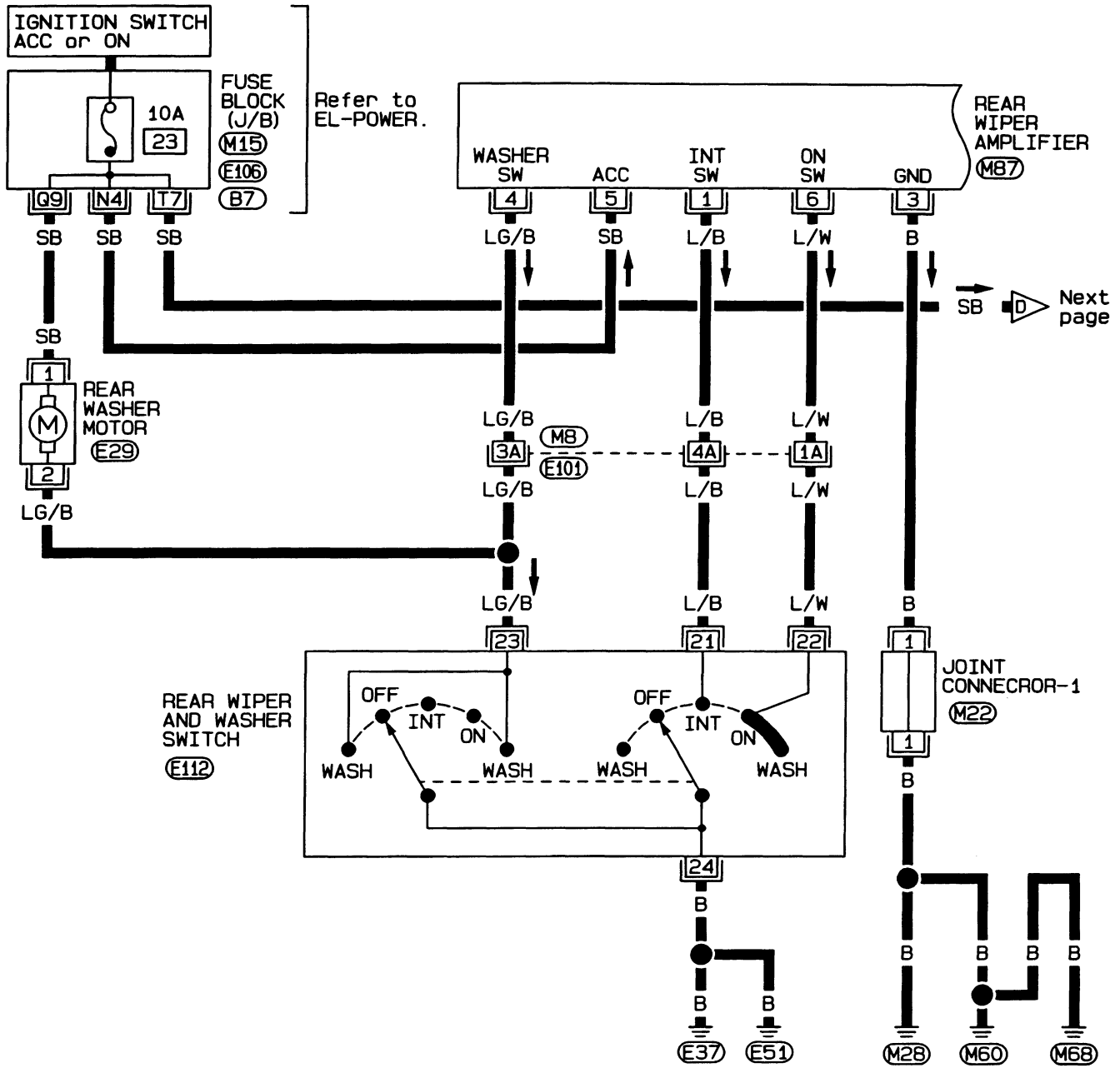
When the ring is turned WASH position, ground is supplied

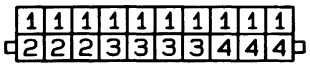
- to rear washer motor terminal ② , and
- to rear wiper amplifier terminal ④
- through terminal ㉓ of rear wiper switch.

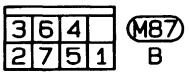
With power and ground is supplied, the rear washer motor operates.
The rear wiper motor operates when the ring is turned to WASH position for one second or more and for approximately 3 seconds after the ring is released. This feature is controlled by the rear wiper amplifier in the same manner as the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

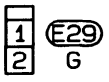
Wiring Diagram — WIP/R —

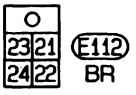
EL-WIP/R-03











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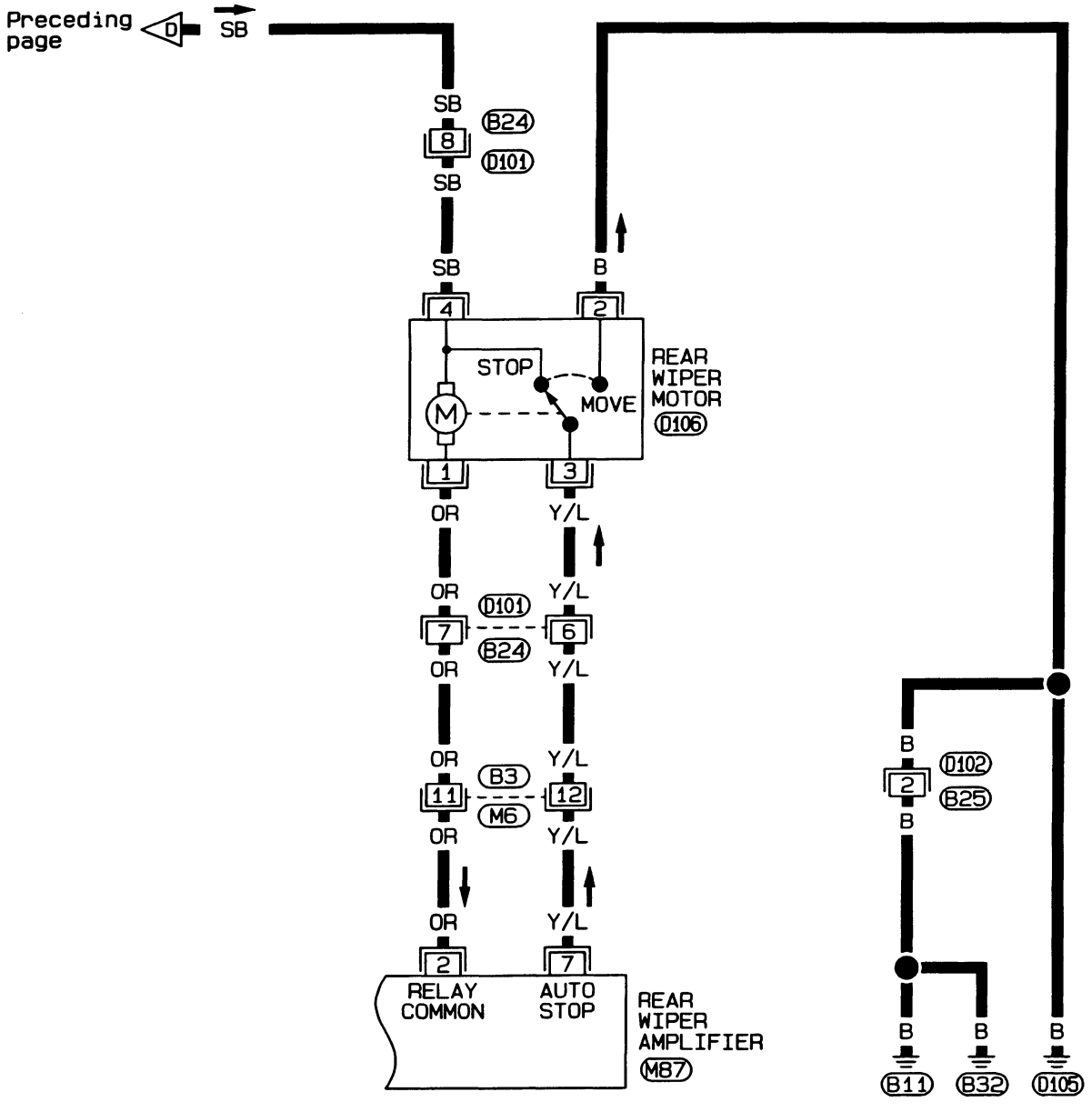
M8, E101

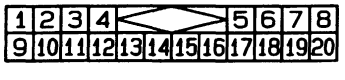
M15, E106, B7

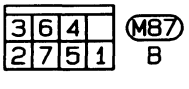
HEL214A

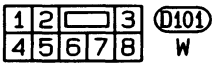
Wiring Diagram — WIP/R — (Cont'd)

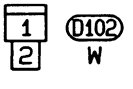
EL-WIP/R-04

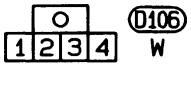








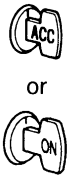
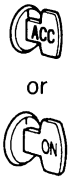
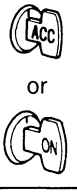
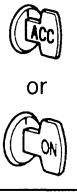
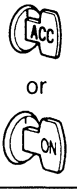
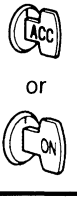


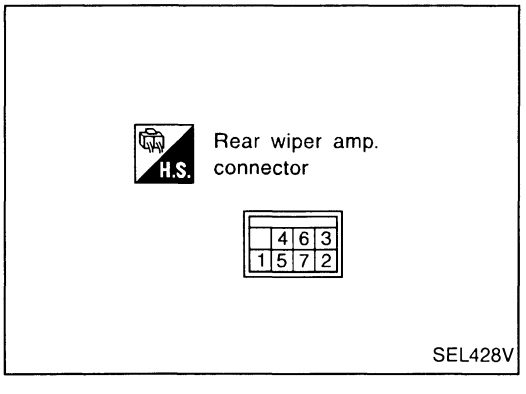


HEL215A

Trouble Diagnoses

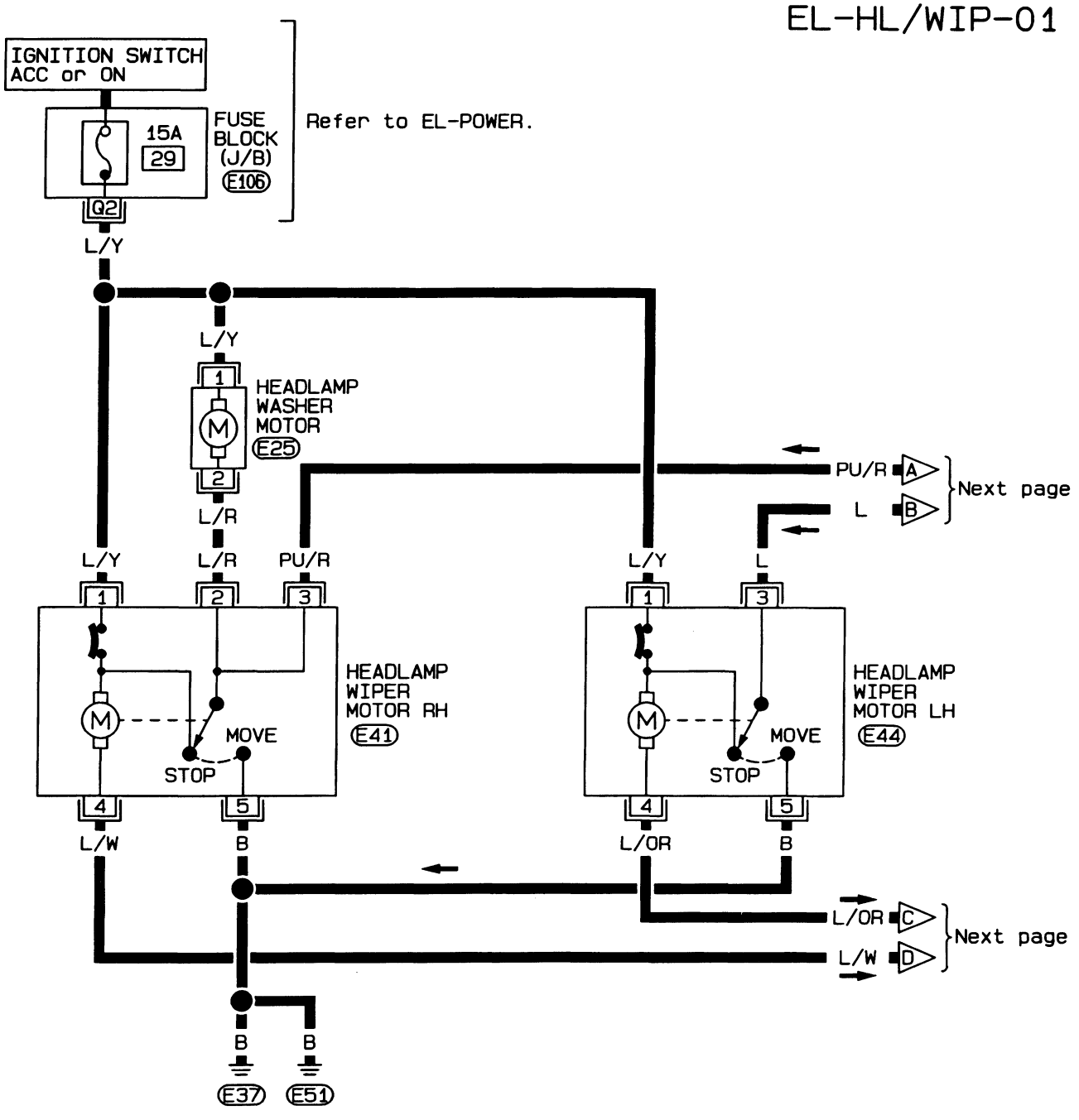
REAR WIPER AMP. INSPECTION TABLE
(Data are reference values.)

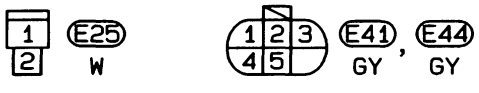
Terminal No.	Item	Condition			Voltage (Approximate value)
1	Intermittent switch		Rear wiper switch	INT	Less than 1V
				OFF, ON or WASH	Approx. 10V
2	Wiper motor (Ground)		Rear wiper switch	ON	Less than 1V
				OFF	Approx. 12V
3	Ground	—			—
4	Washer switch		Rear wiper switch	WASH	Less than 1V
				OFF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



Wiring Diagram — HL/WIP —

EL-HL/WIP-01





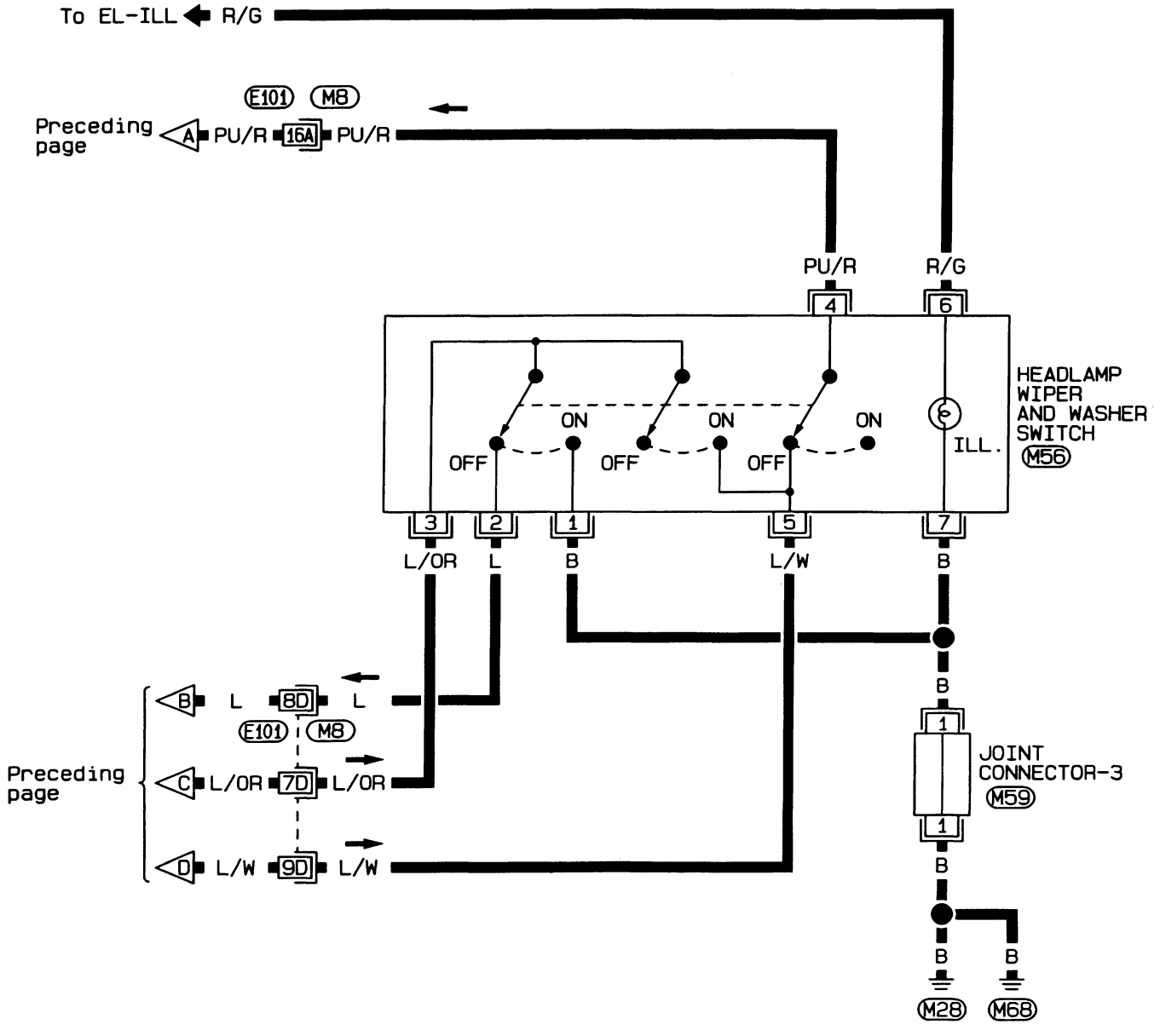
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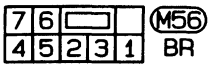
E106

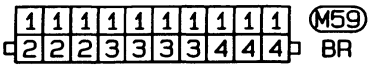
HEL216A

Wiring Diagram — HL/WIP — (Cont'd)

EL-HL/WIP-02







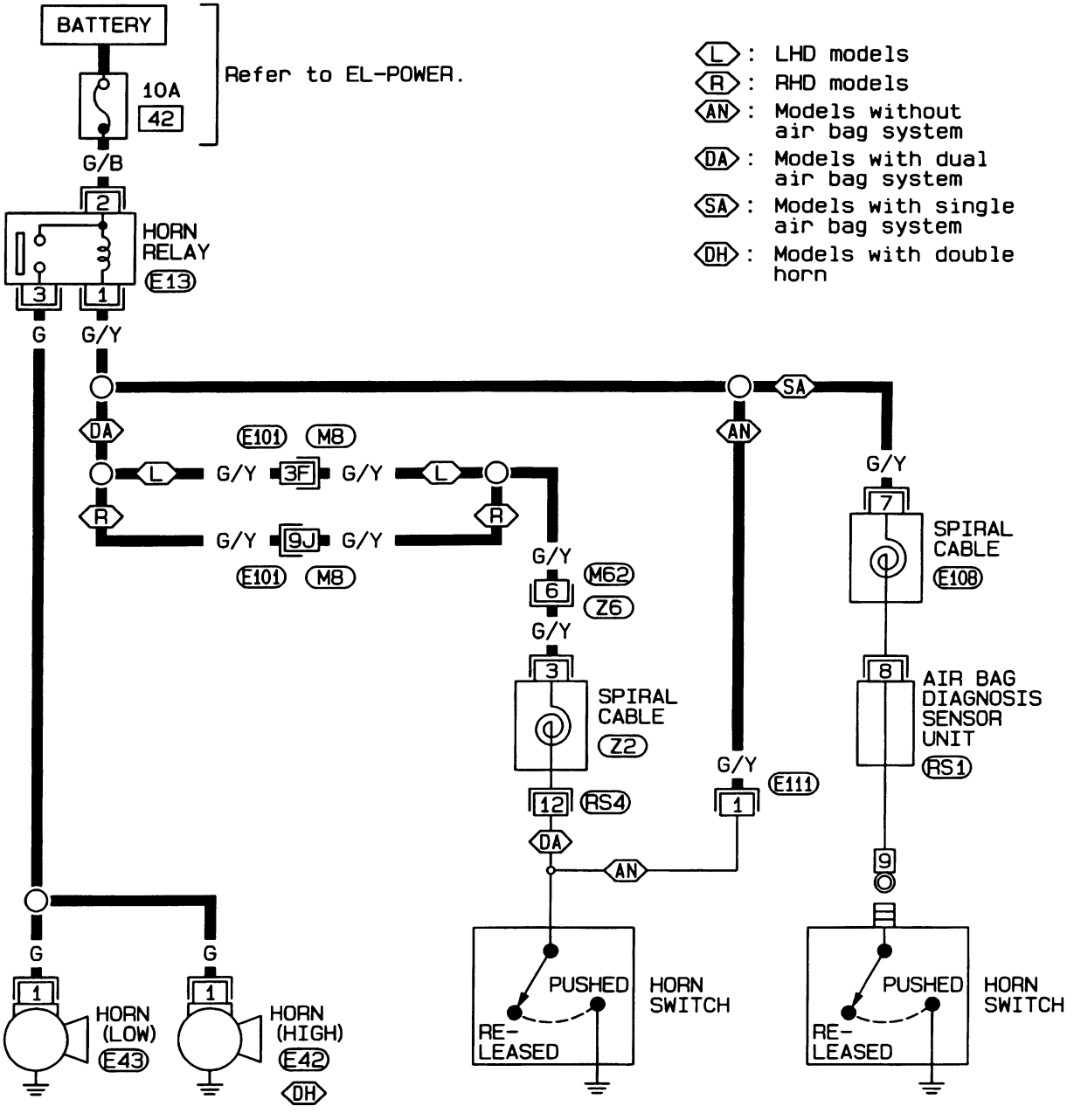
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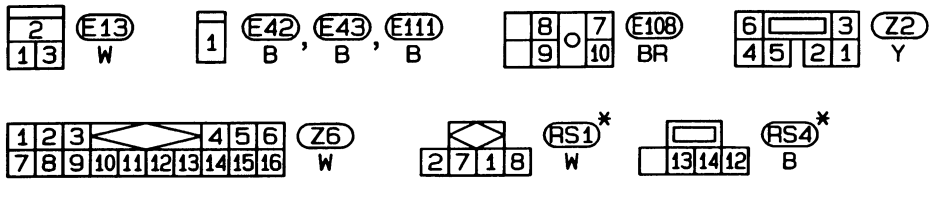
M8, E101

HEL217A

Wiring Diagram — HORN —

EL-HORN-01





Refer to last page (Foldout page).

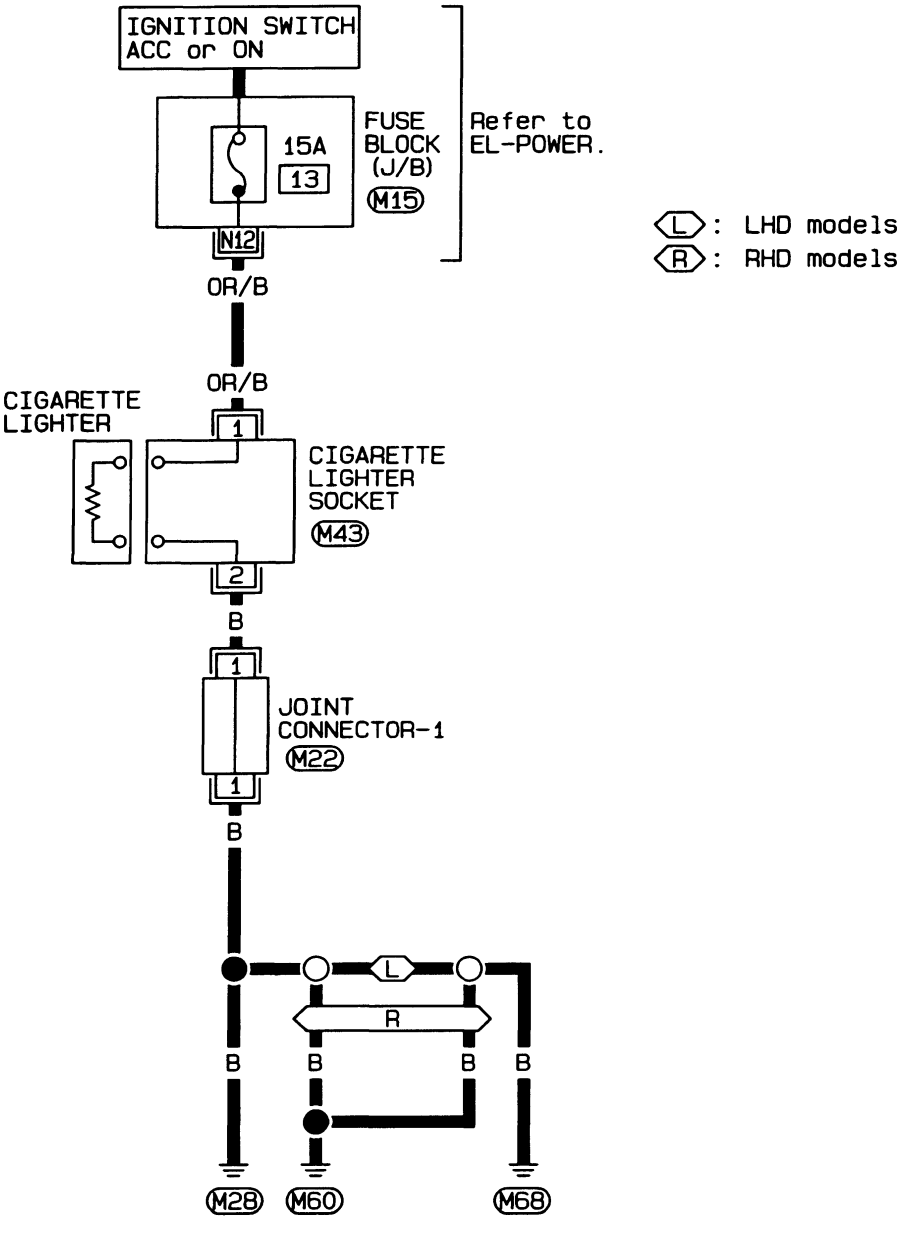
M8, E101

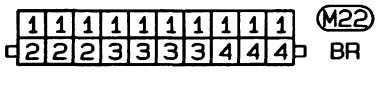
* : This connector is not shown in "HARNESS LAYOUT".

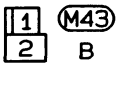
HEL218A

Wiring Diagram — CIGAR —

EL-CIGAR-01





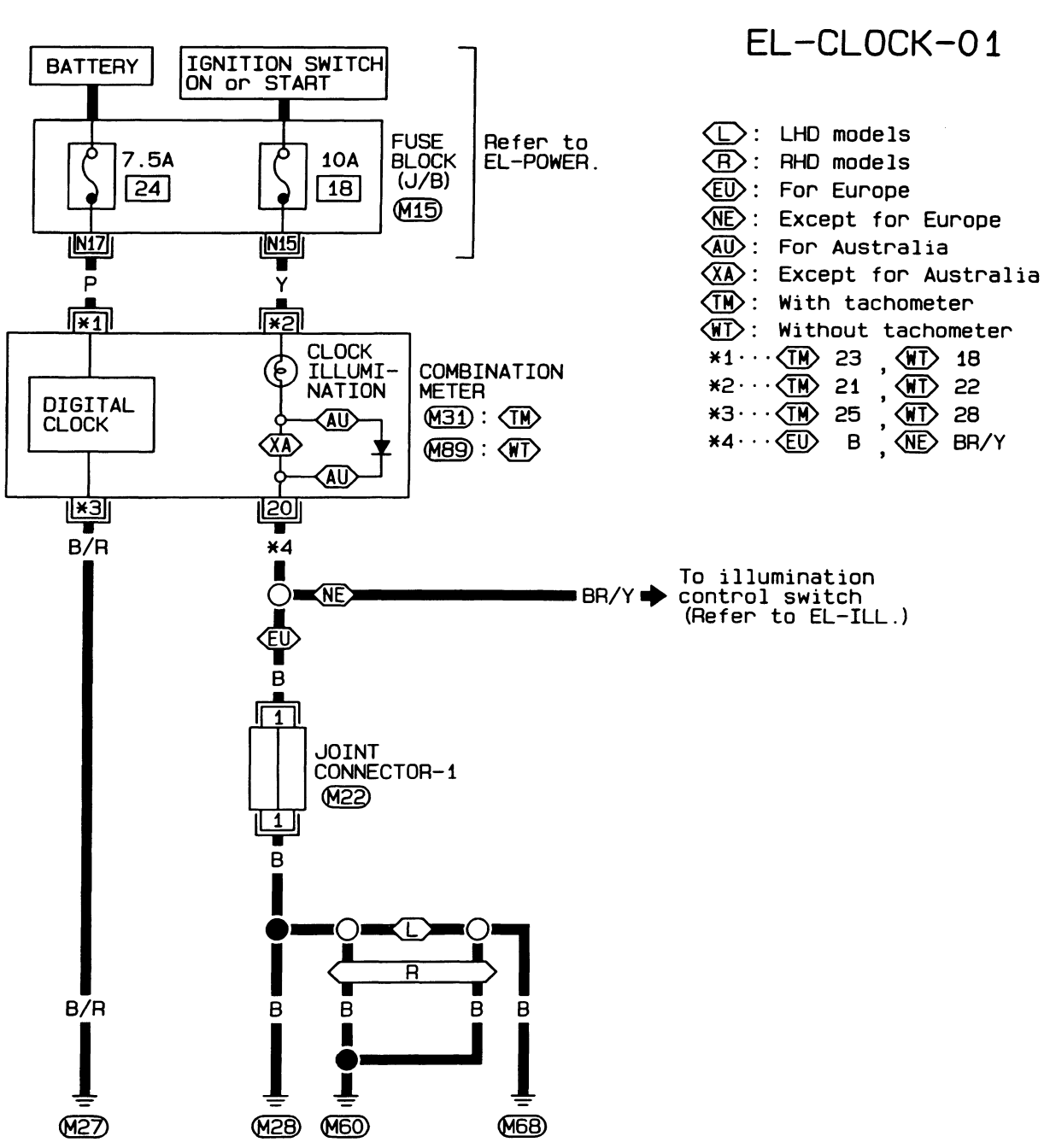


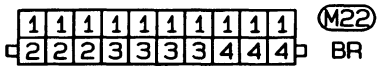
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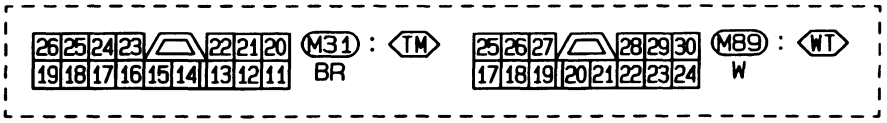
M15

HEL219A

Wiring Diagram — CLOCK —







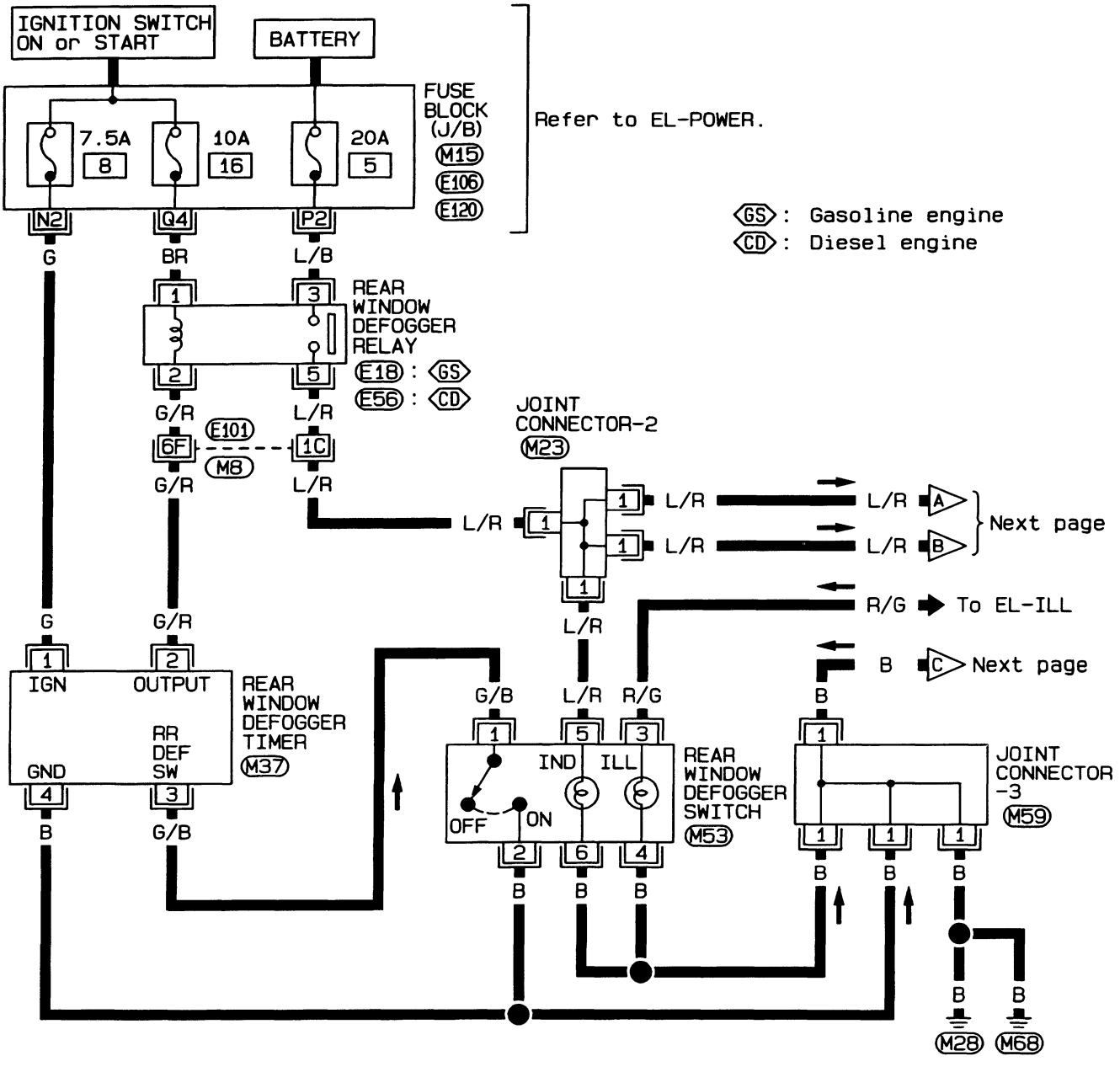
Refer to last page (Foldout page).

M15

HEL220A

Wiring Diagram — DEF —/LHD Models with Daytime Light System

EL-DEF-01



M23 GY

M37 W

M53 W

M59 BR

E18 , E56 L

Refer to last page (Foldout page).

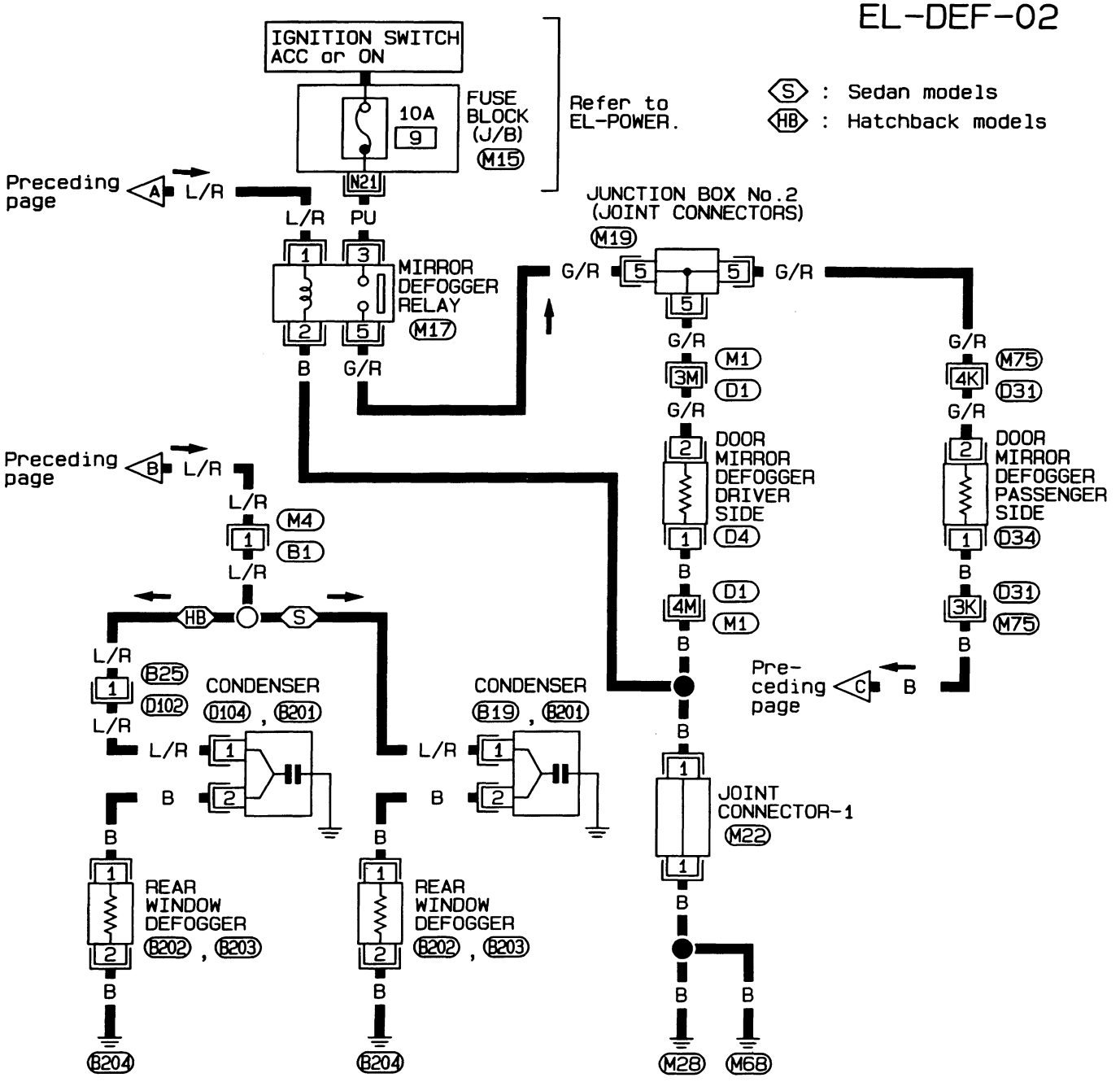
M8 , E101

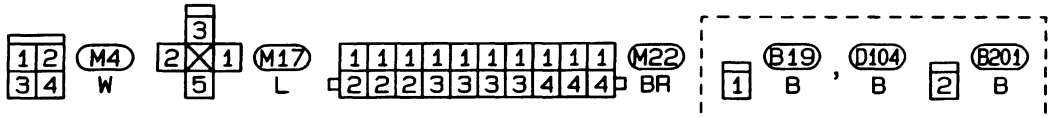
M15 , E106 , E120

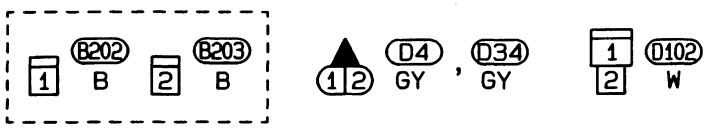
HEL221A

Wiring Diagram — DEF —/LHD Models with Daytime Light System (Cont'd)

EL-DEF-02







Refer to last page (Foldout page).

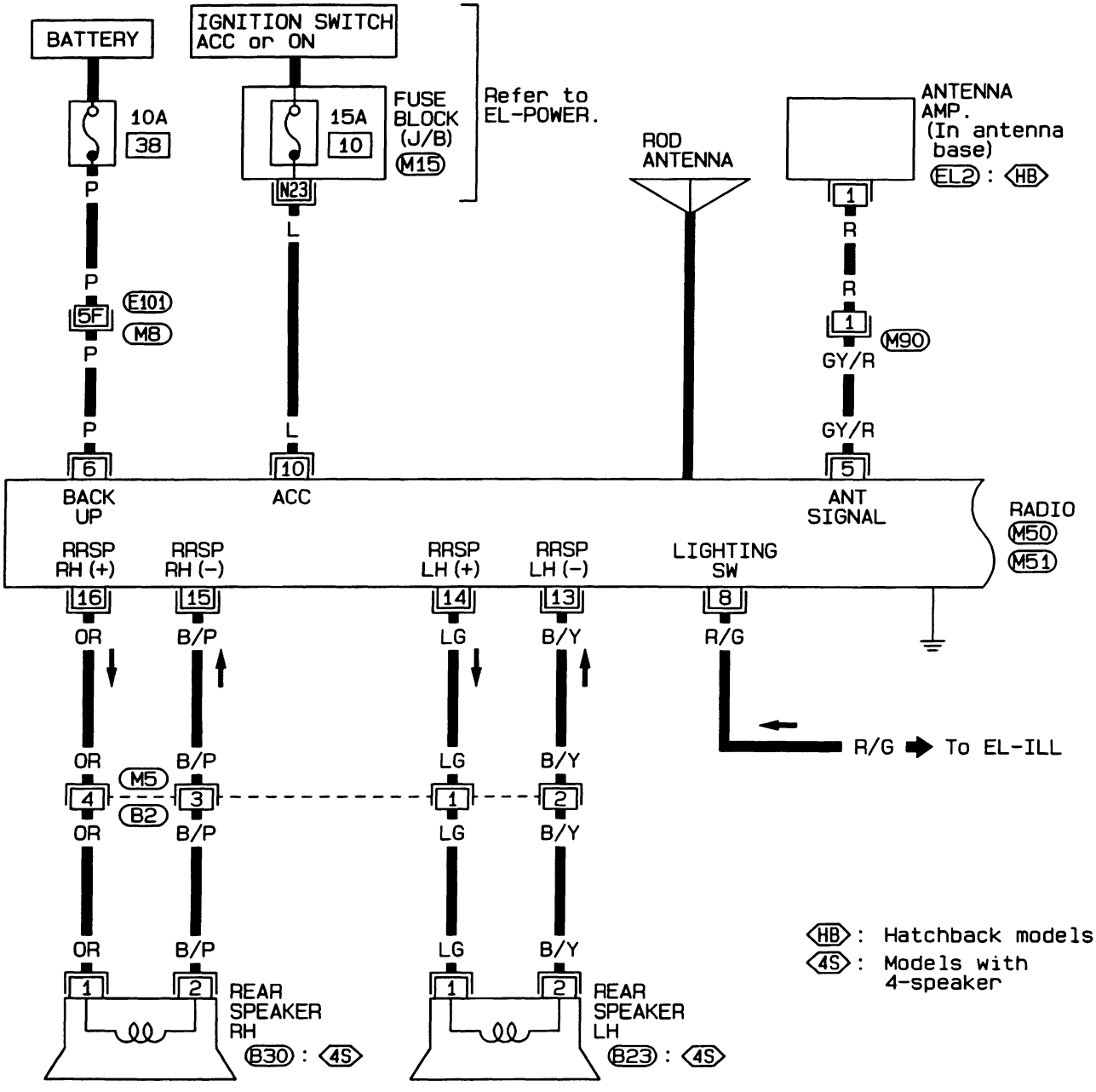
M1 , D1
M75 , D31
M15
M19

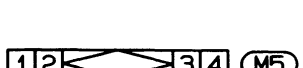
CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

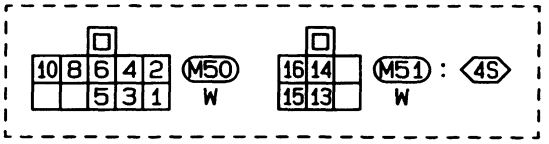
HEL222A

Wiring Diagram — AUDIO —/LHD Models

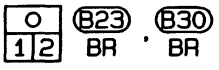
EL-AUDIO-01

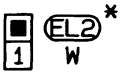












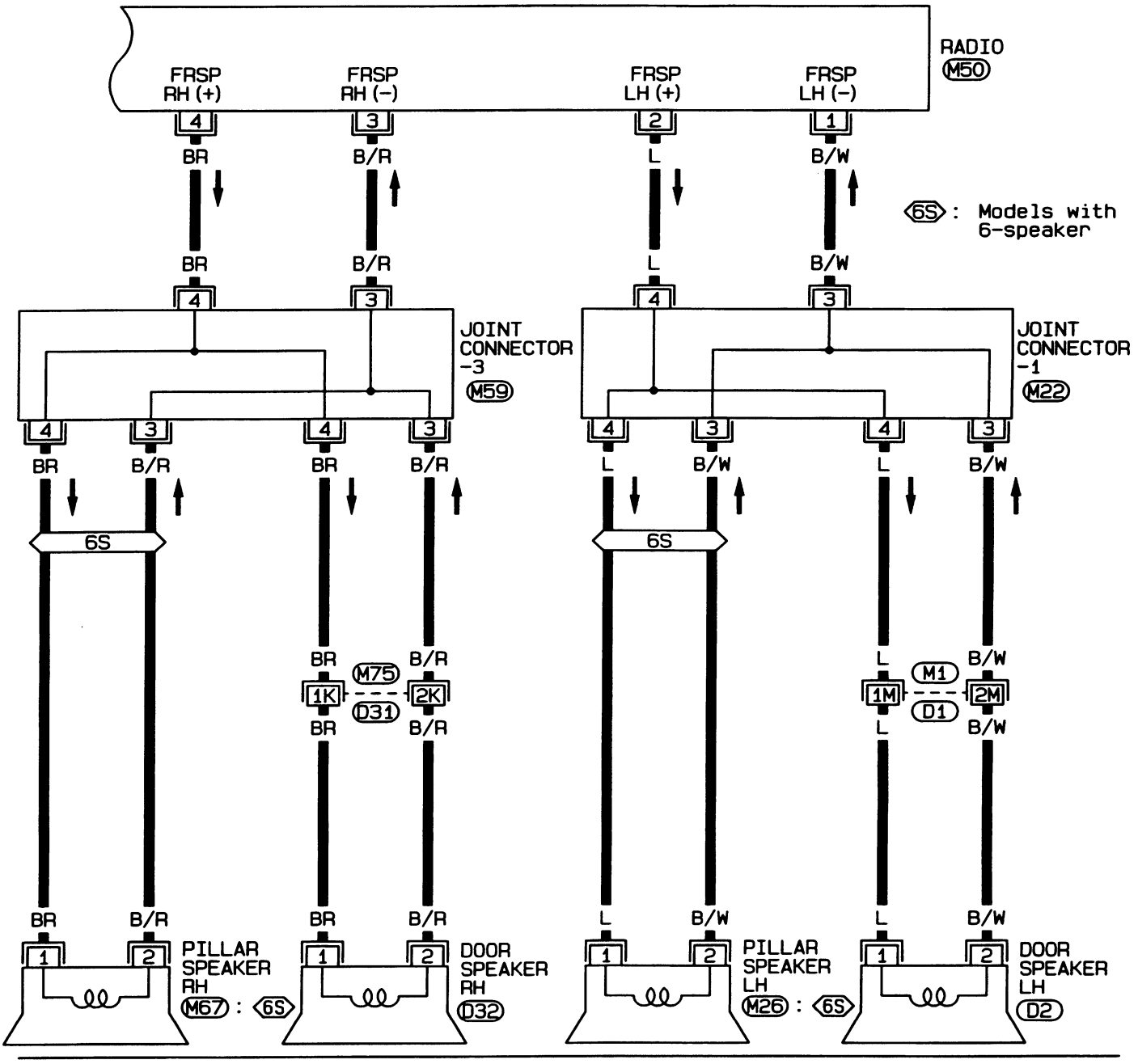
* : This connector is not shown in "HARNESS LAYOUT".

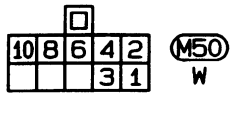
Refer to last page (Foldout page).
M8, E101
M15

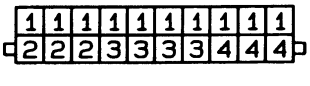
HEL223A

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

EL-AUDIO-02









CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

Refer to last page (Foldout page).

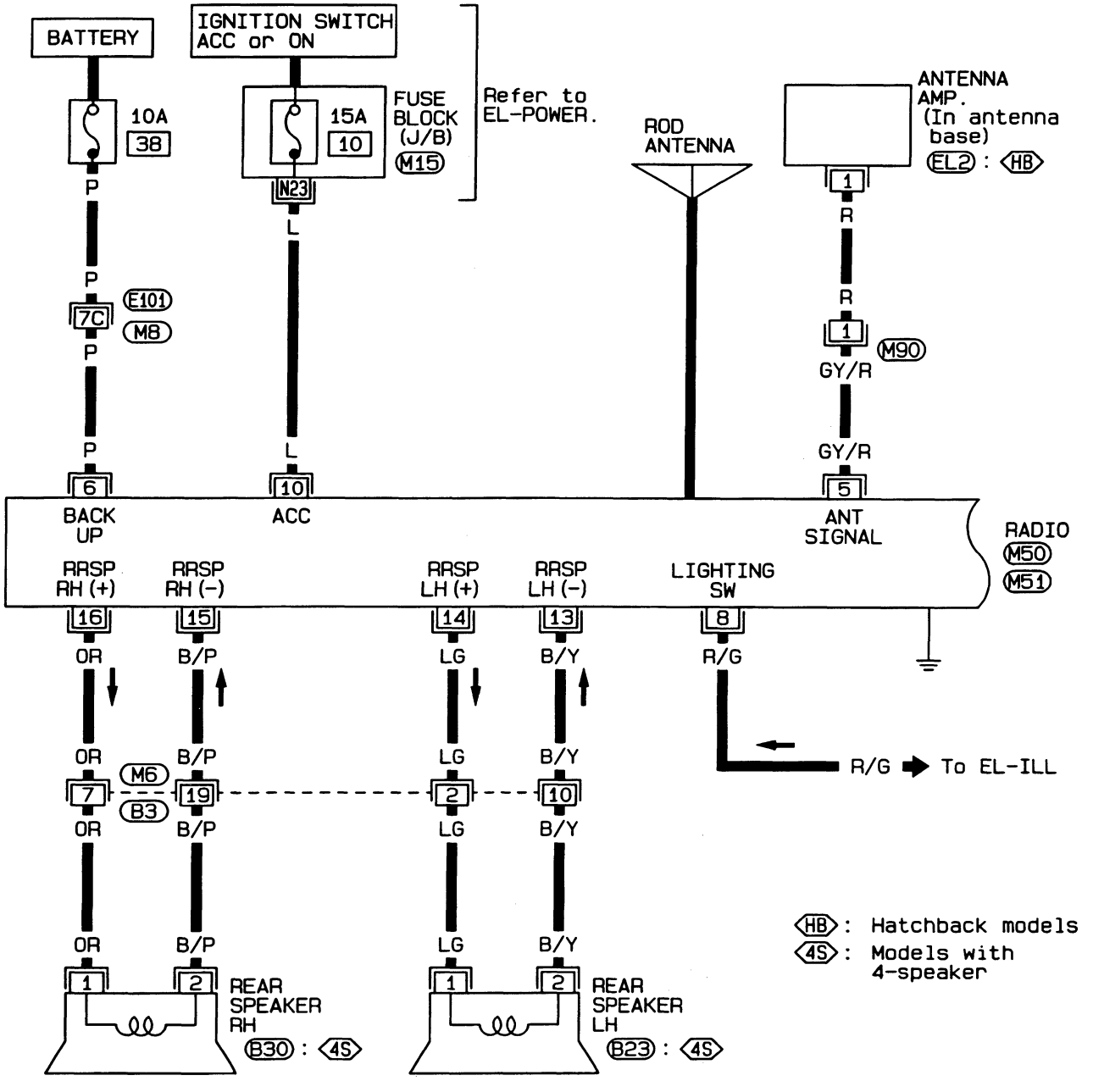
M1 , D1

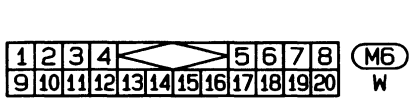
M75 , D31

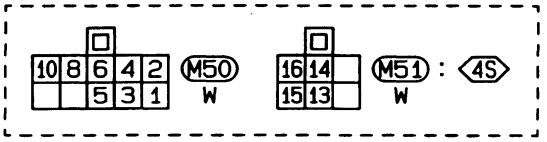
HEL141

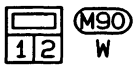
Wiring Diagram — AUDIO —/RHD Models For Europe

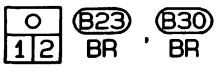
EL-AUDIO-03













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

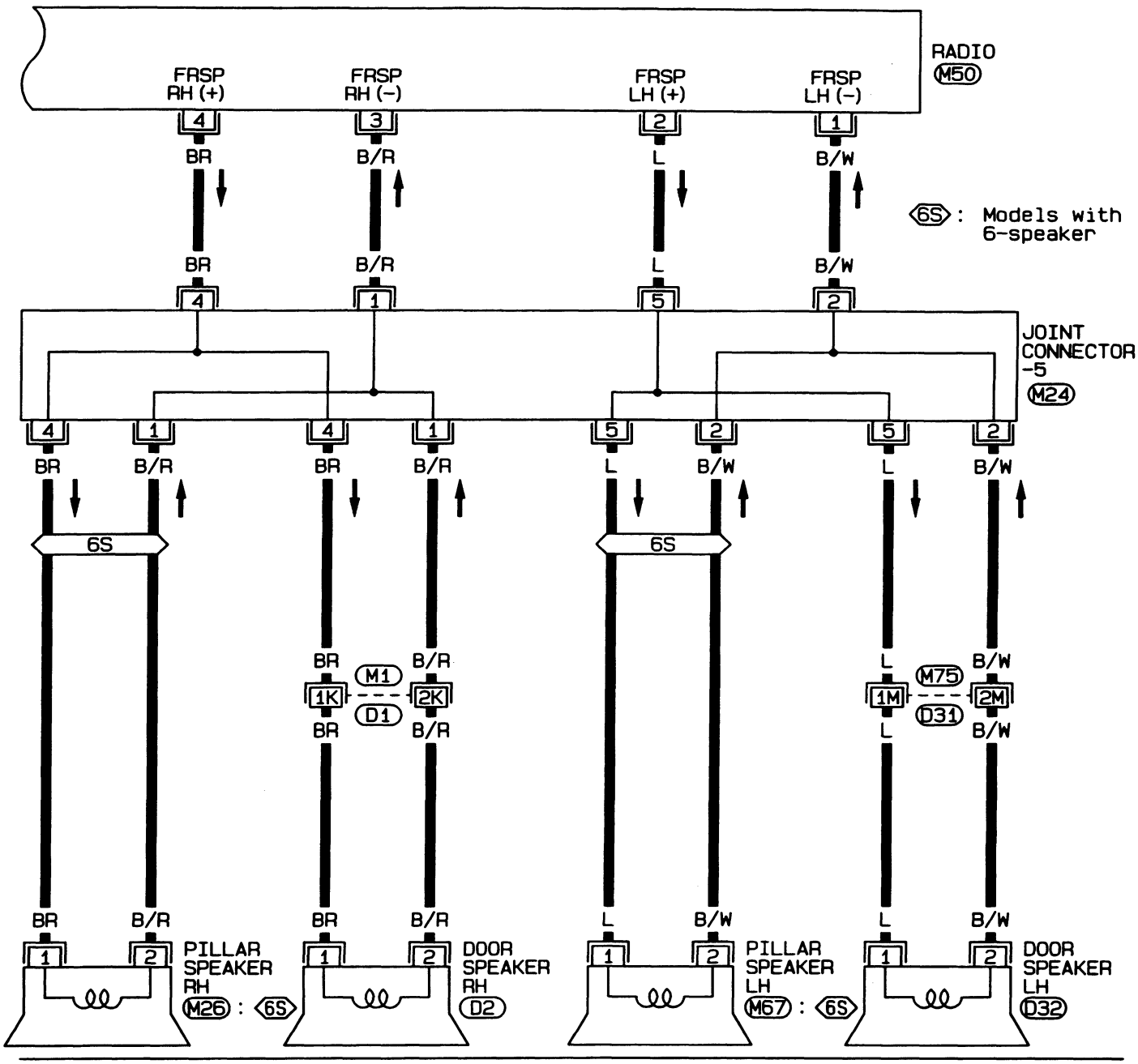
Refer to last page (Foldout page).

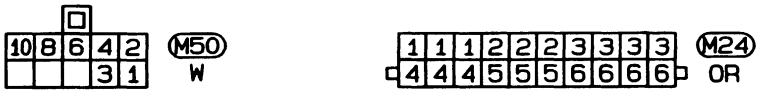
M8, E101
M15

HEL224A

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

EL-AUDIO-04







CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

Refer to last page (Foldout page).

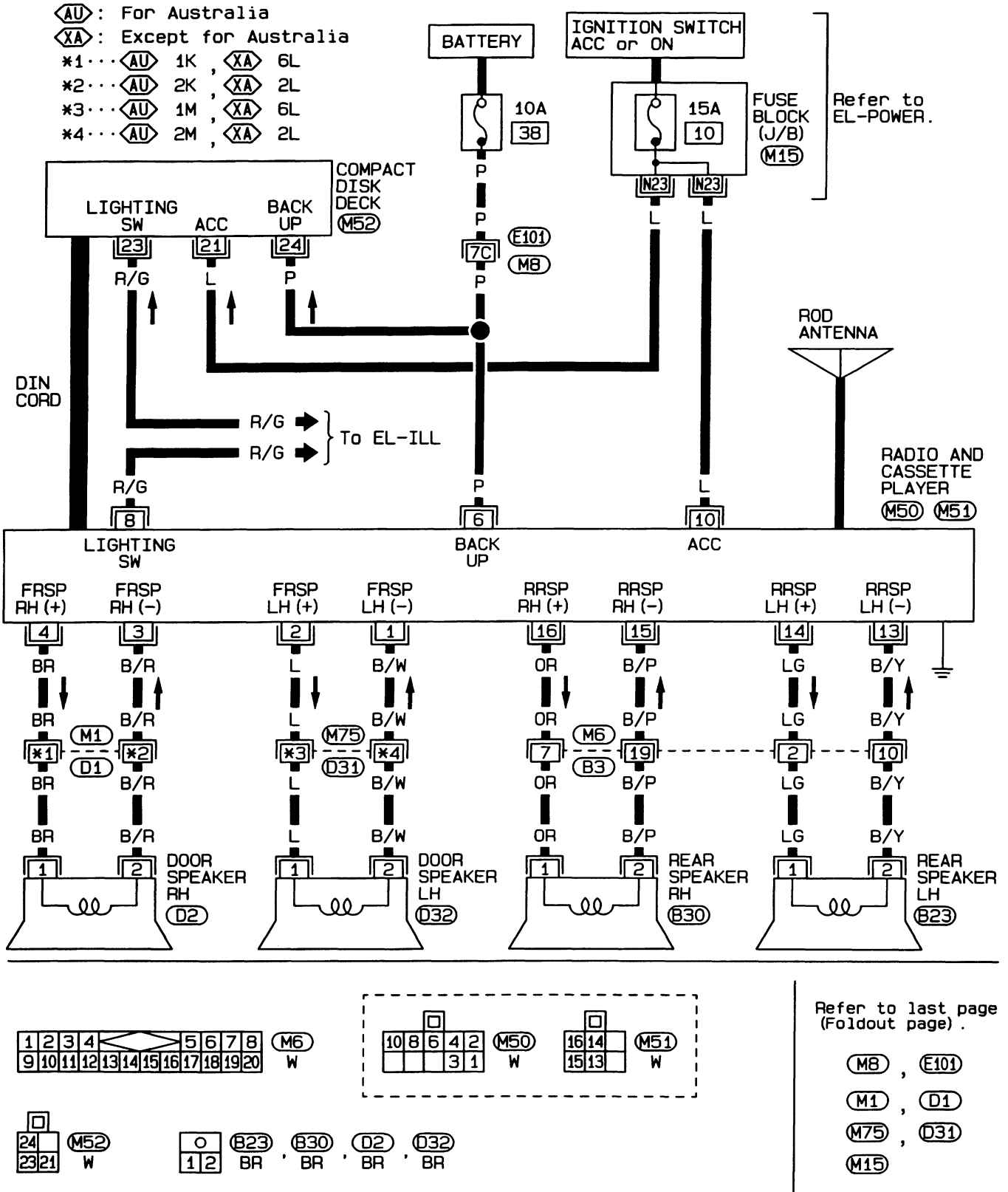
M1 , D1

M75 , D31

HEL143

Wiring Diagram — AUDIO —/RHD Models Except For Europe

EL-AUDIO-05

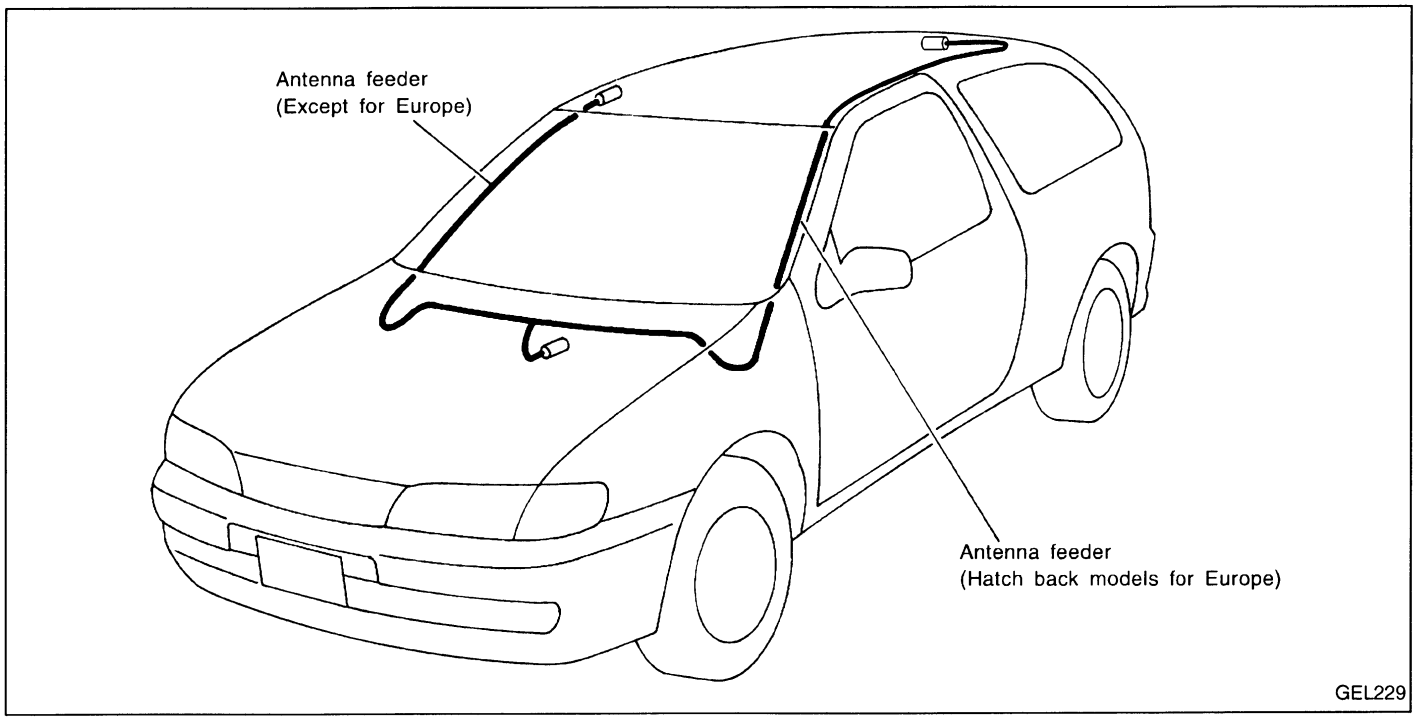


Refer to last page (Foldout page).

M8 , E101
M1 , D1
M75 , D31
M15

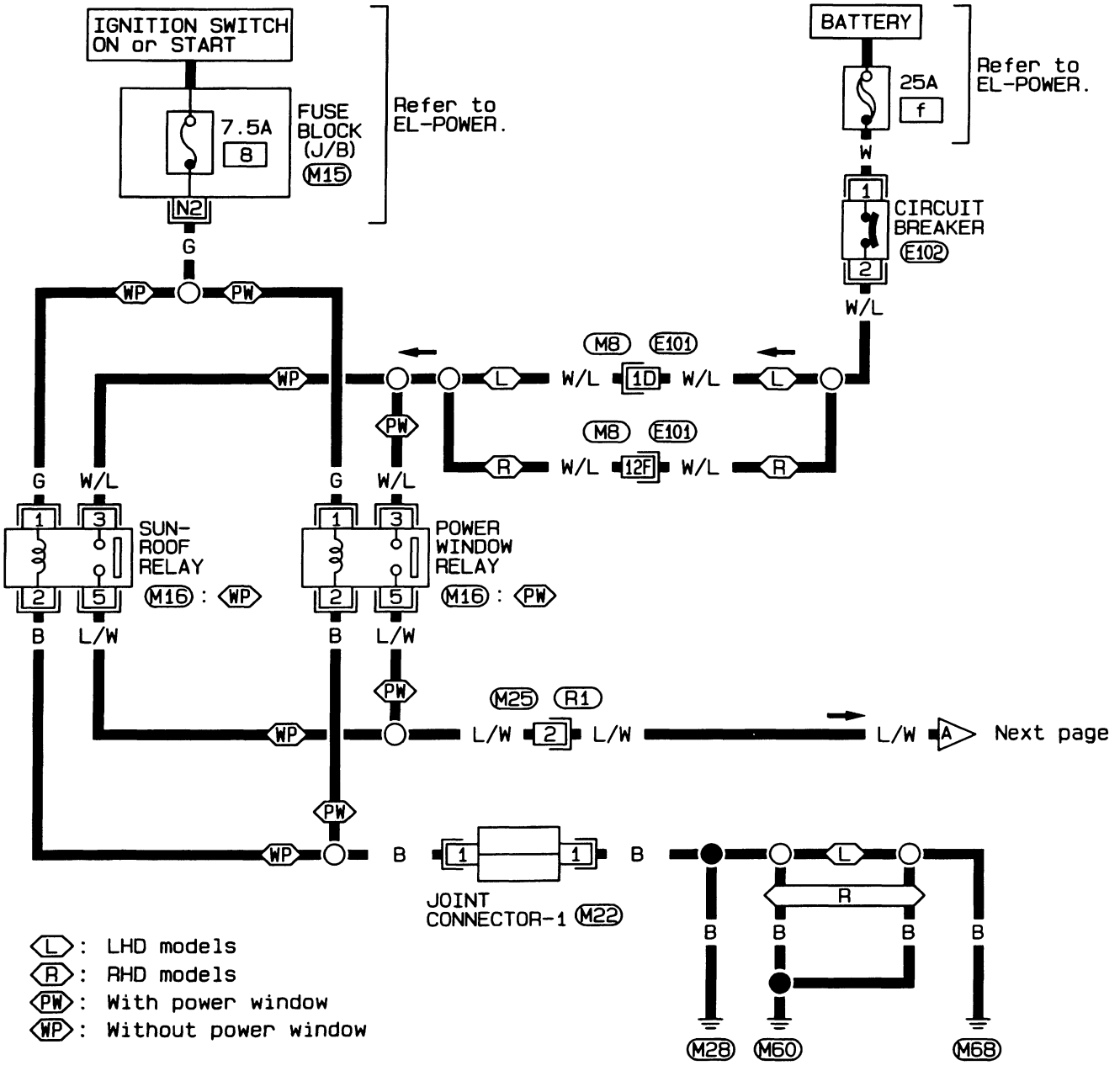
HEL225A

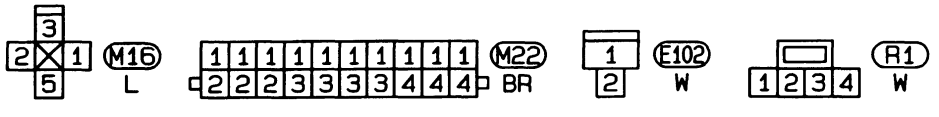
Location of Antenna



Wiring Diagram — SROOF —

EL-SROOF-01



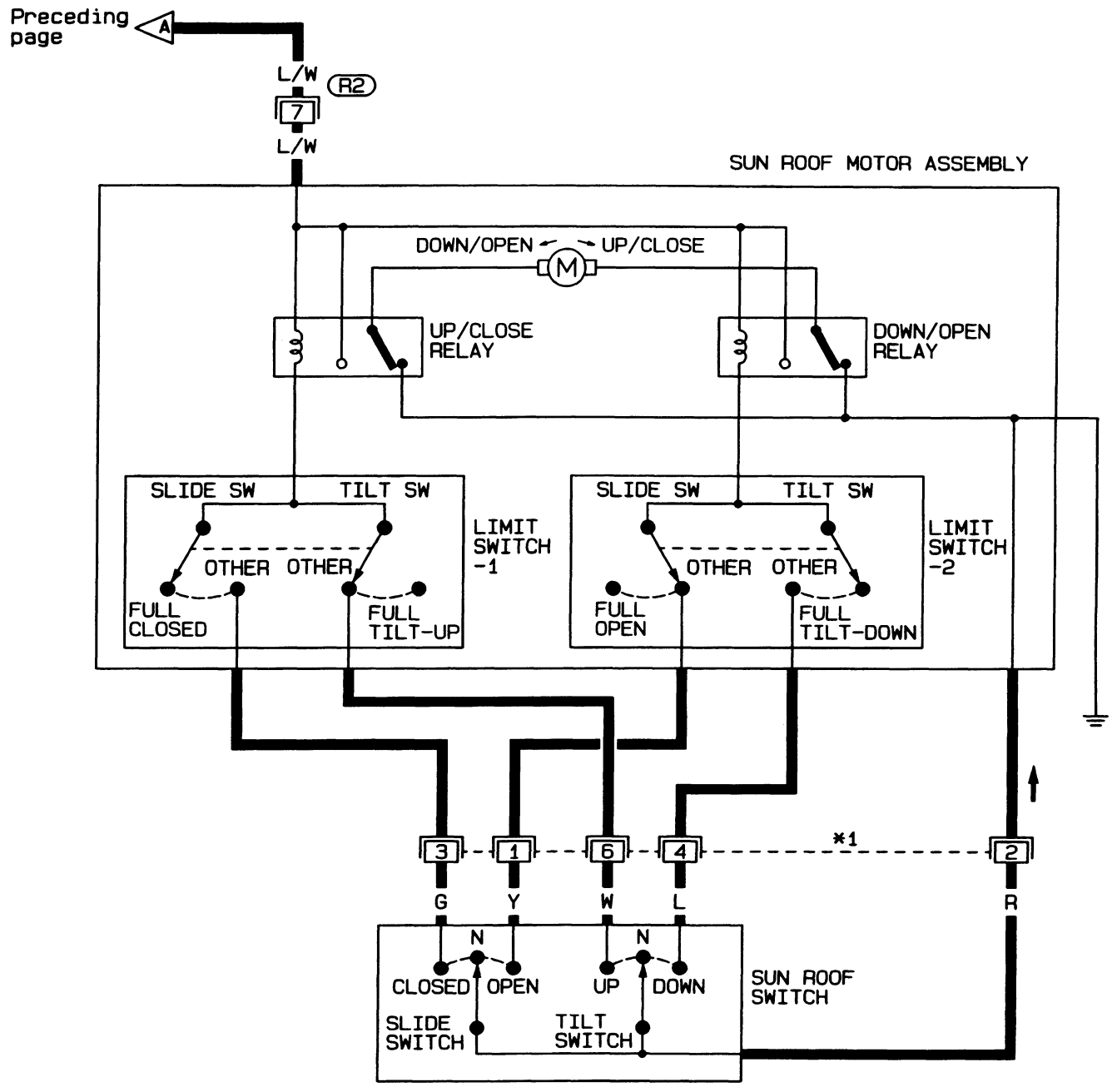


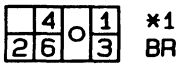
Refer to last page (Foldout page).
M8 , E101
M15

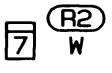
HEL226A

Wiring Diagram — SROOF — (Cont'd)

EL-SROOF-02



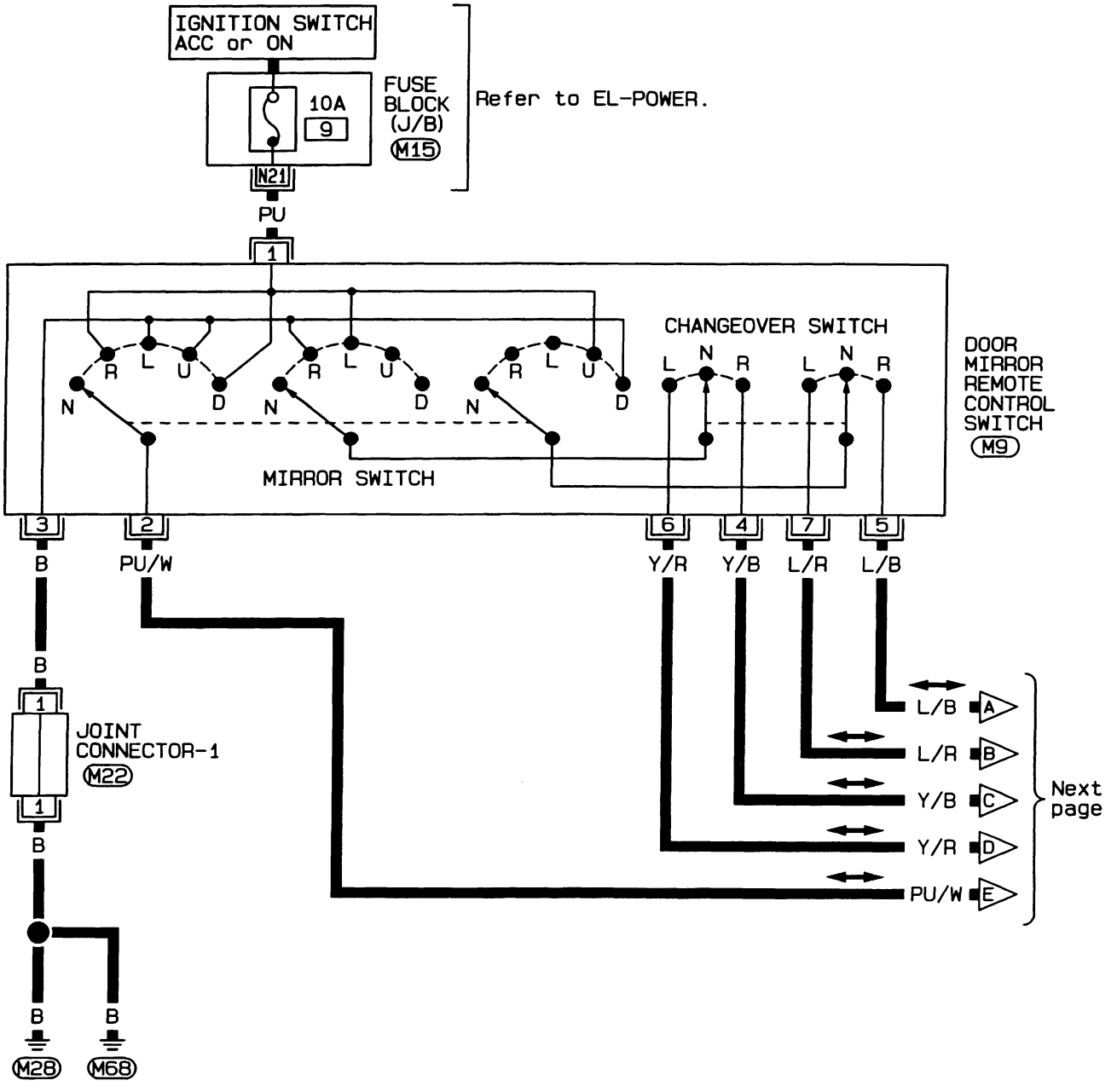


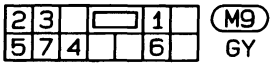


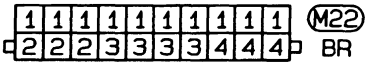
HEL131

Wiring Diagram — MIRROR —/LHD Models

EL-MIRROR-01







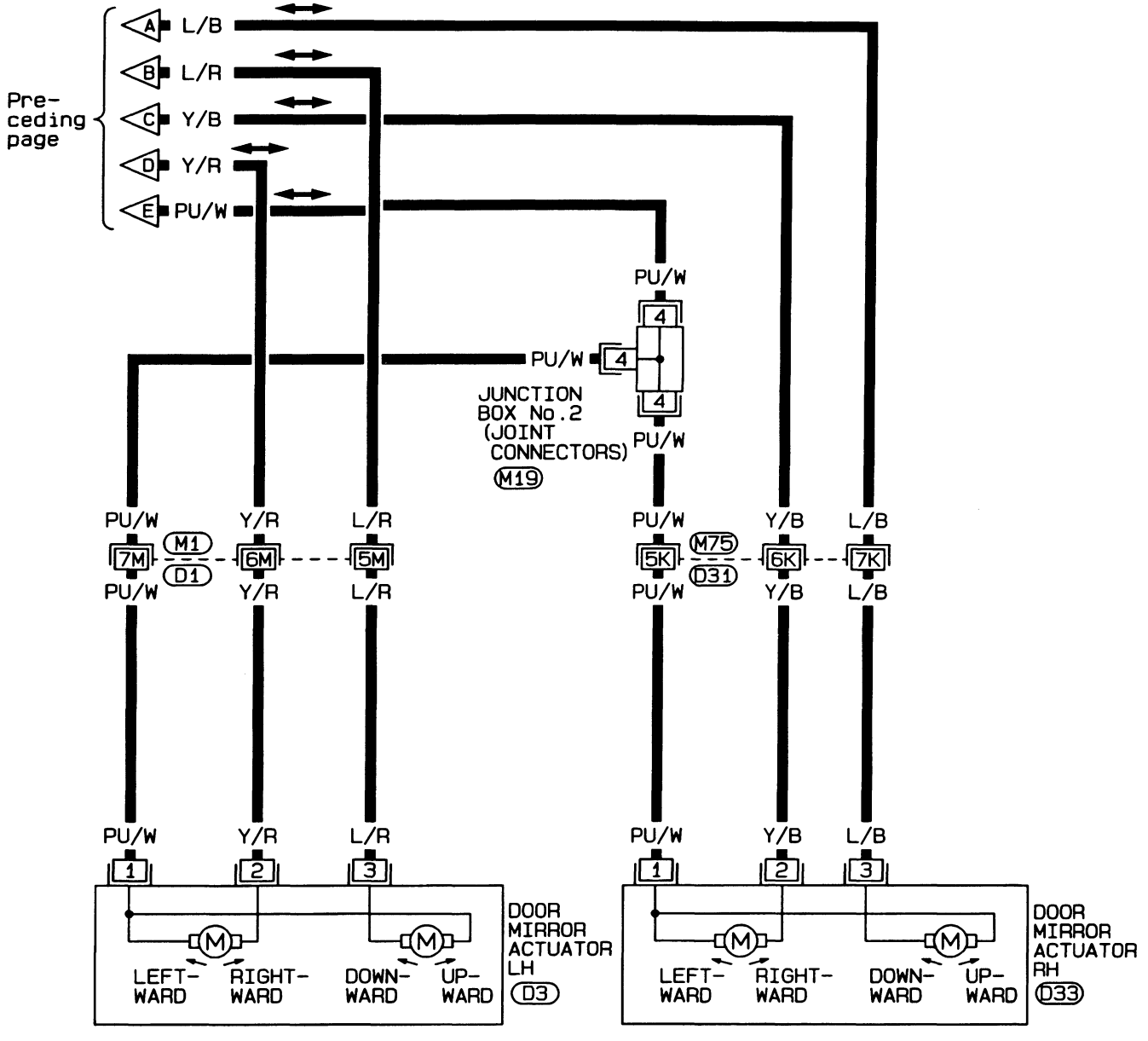
Refer to last page (Foldout page).

M15

HEL227A

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

EL-MIRROR-02



1 2 3 D3 BR , D33 BR

Refer to last page (Foldout page).

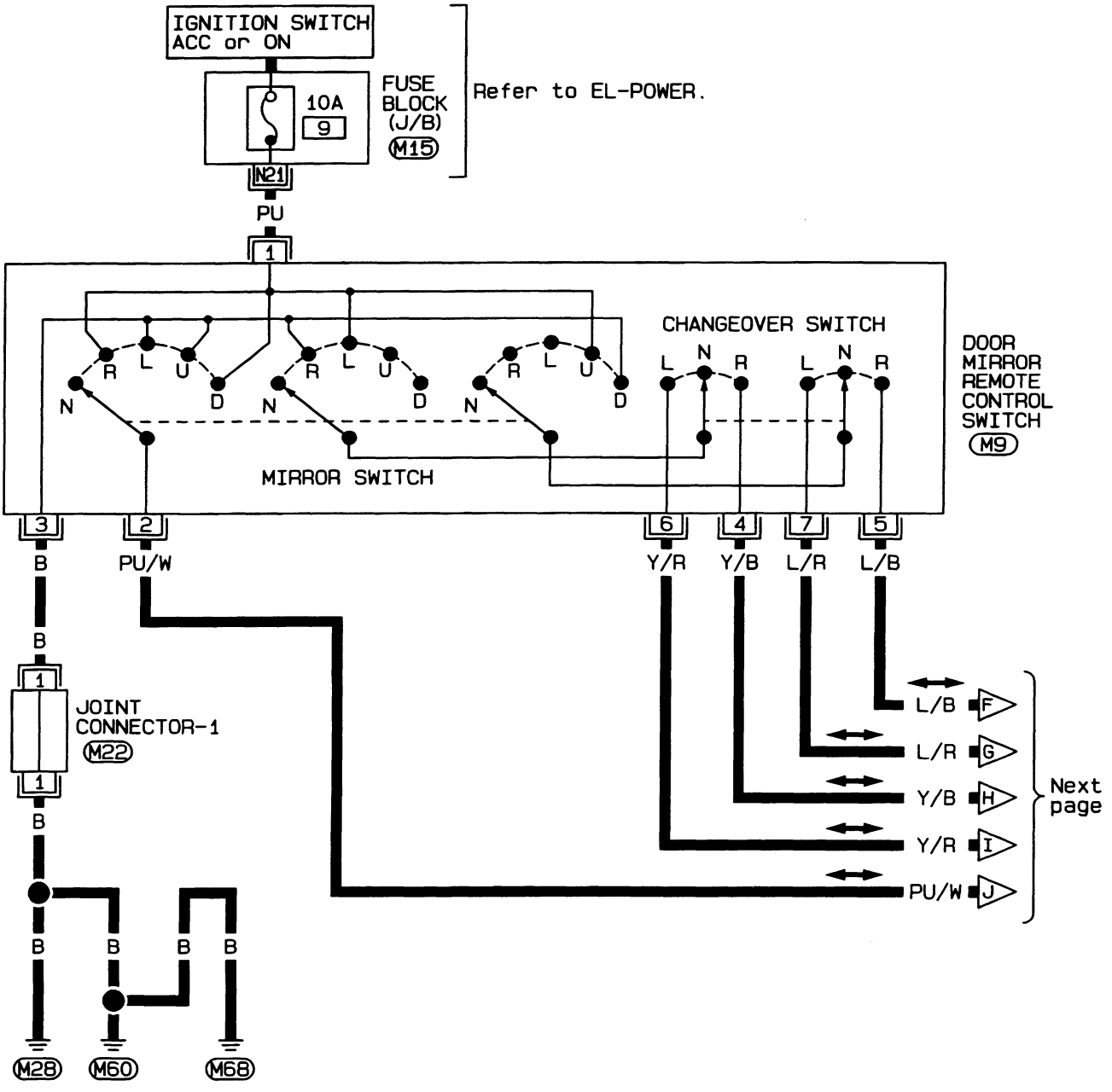
M1 , D1
M75 , D31
M19

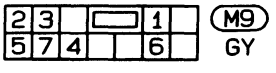
CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

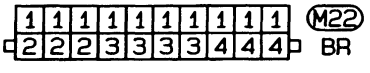
HEL228A

Wiring Diagram — MIRROR —/RHD Models

EL-MIRROR-03







Refer to last page (Foldout page).

M15

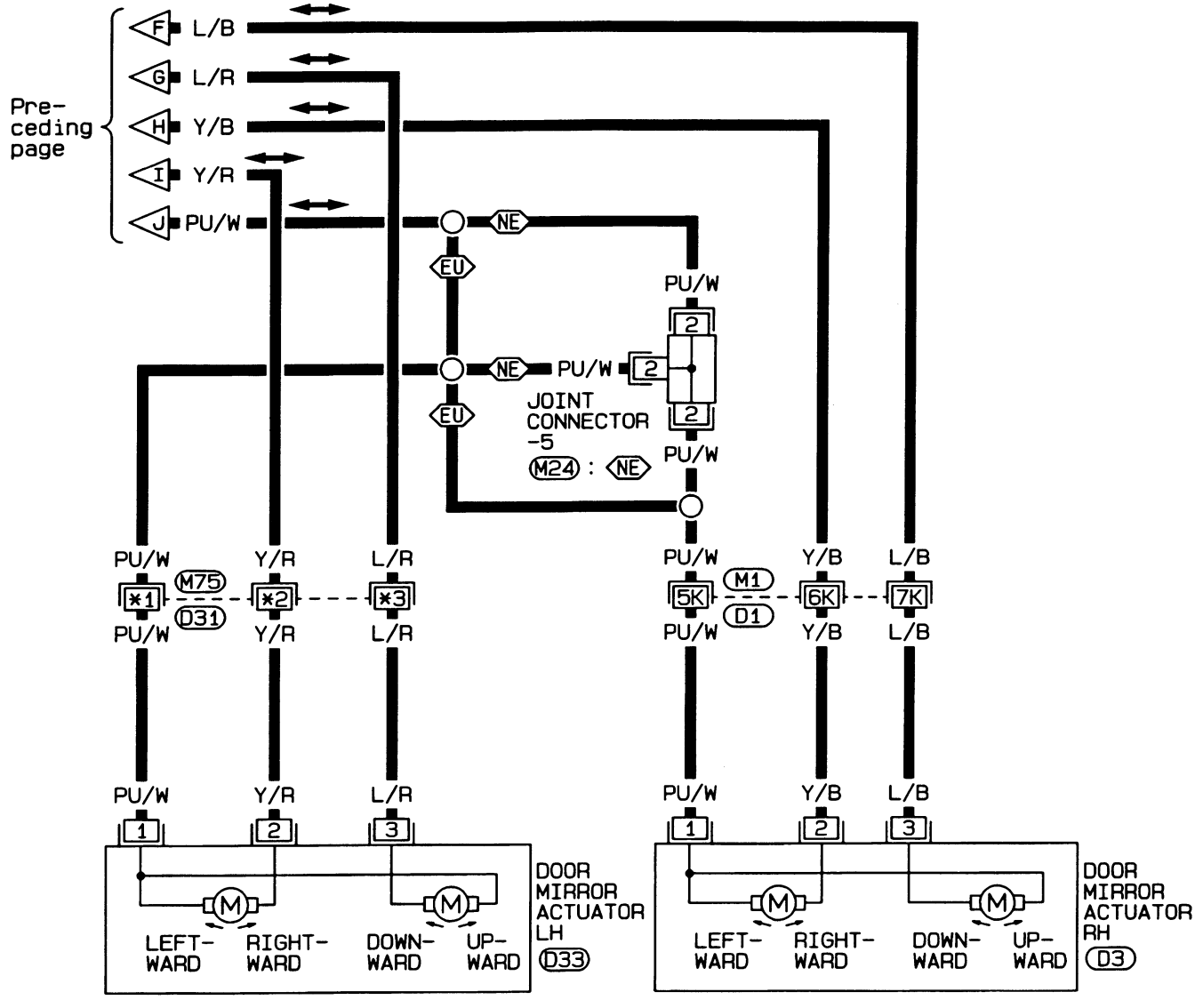
HEL229A

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

EL-MIRROR-04

(EU): For Europe
(NE): Except for Europe
(UA): For Europe and Australia
(GE): Except for Europe and Australia

*1 ··· (UA) 7M, (GE) 5M
*2 ··· (UA) 6M, (GE) 4M
*3 ··· (UA) 5M, (GE) 3M



1 1 1 2 2 2 3 3 3 3
4 4 4 5 5 5 6 6 6 6
M24
OR

1 2 3
D3, D33
BR, BR

Refer to last page (Foldout page).

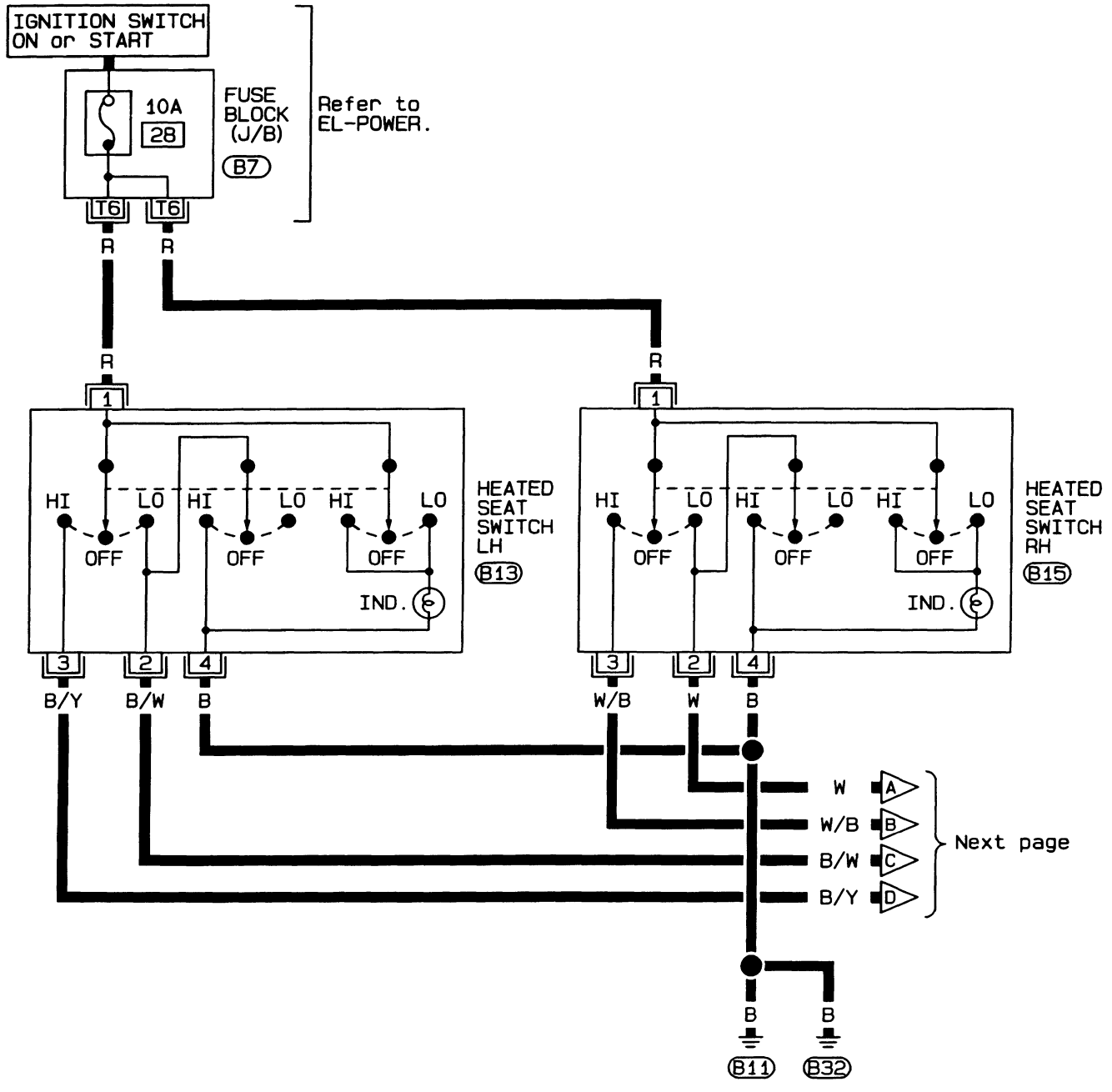
M1, D1
M75, D31

CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

HEL230A

Wiring Diagram — H/SEAT —

EL-H/SEAT-01



3 1
4 2
B13, B15
L, W

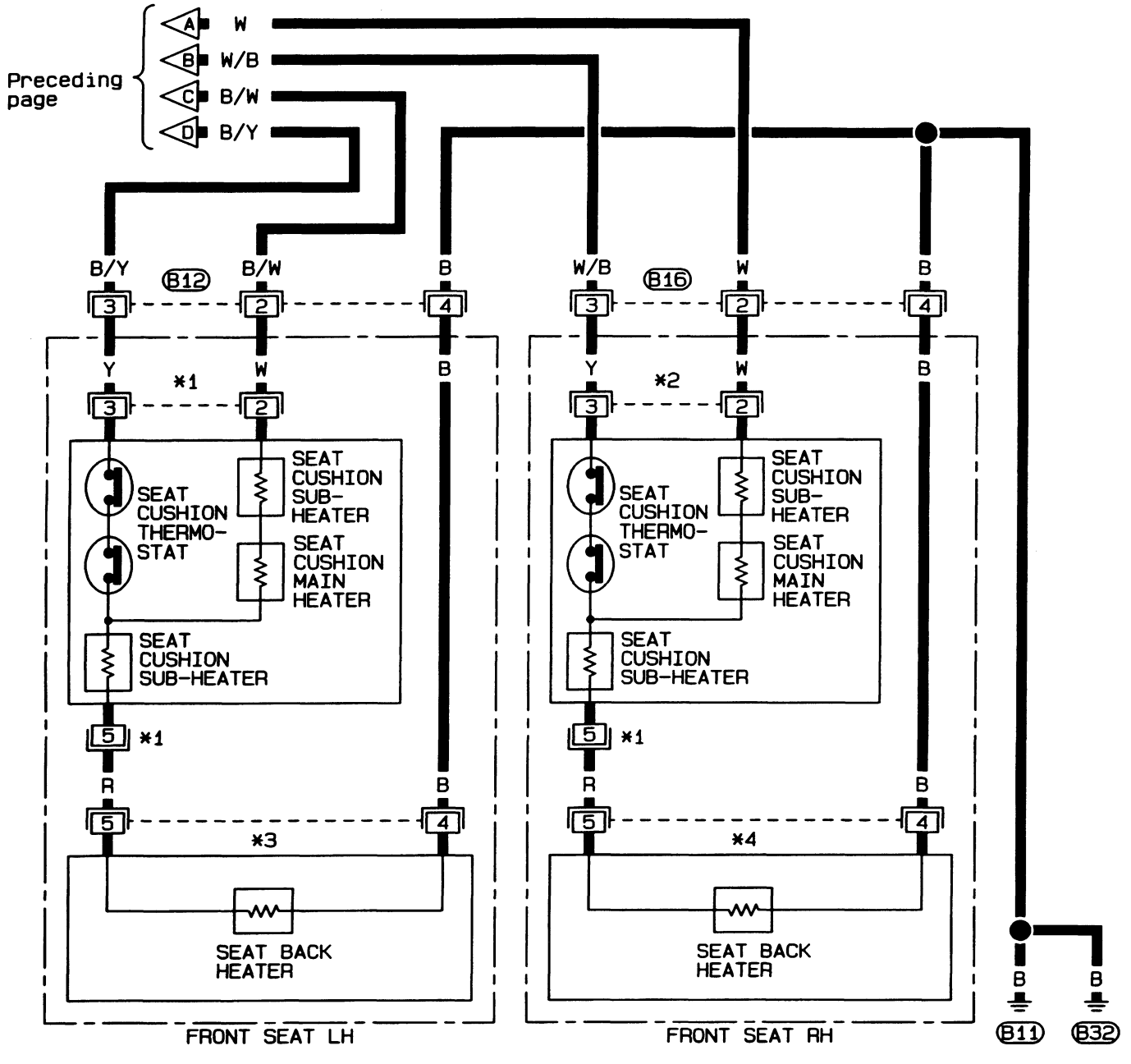
Refer to last page (Foldout page).

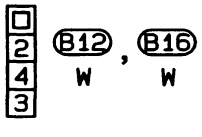
B7

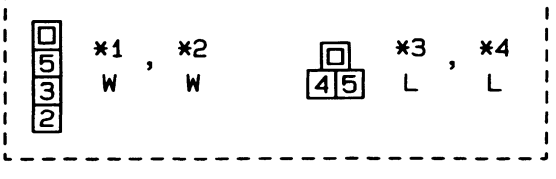
HEL231A

Wiring Diagram — H/SEAT — (Cont'd)

EL-H/SEAT-02







HEL146

System Description

With ignition switch in ON or START position, power is supplied
- through 7.5A fuse [No. 8], located in the fuse block (J/B)]
- to power window relay terminal ① .

The power window relay is energized and power is supplied
- through power window relay terminal ⑤
- to power window main switch terminals ① and ② (LHD, 3-door Hatchback models),
- to power window sub switch terminals ⑤ and ⑥ (3-door Hatchback models).

MANUAL OPERATION

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

Driver side

When the driver side switch in the power window main switch is pressed in the up position, power is supplied
- to driver side power window regulator terminal (② , ①)
- through power window main switch terminal (⑨ , ⑧).

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

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

Passenger side

MAIN SWITCH OPERATION
Power is supplied
- through power window main switch terminal (⑤ , ⑥)
- to front power window sub-switch terminal (④ , ③).

The subsequent operation is the same as the sub-switch operation.
SUB-SWITCH OPERATION
Power is supplied
- through front power window sub-switch terminal (② , ①)
- to passenger side power window regulator terminal (② , ①).

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

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

Rear door

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

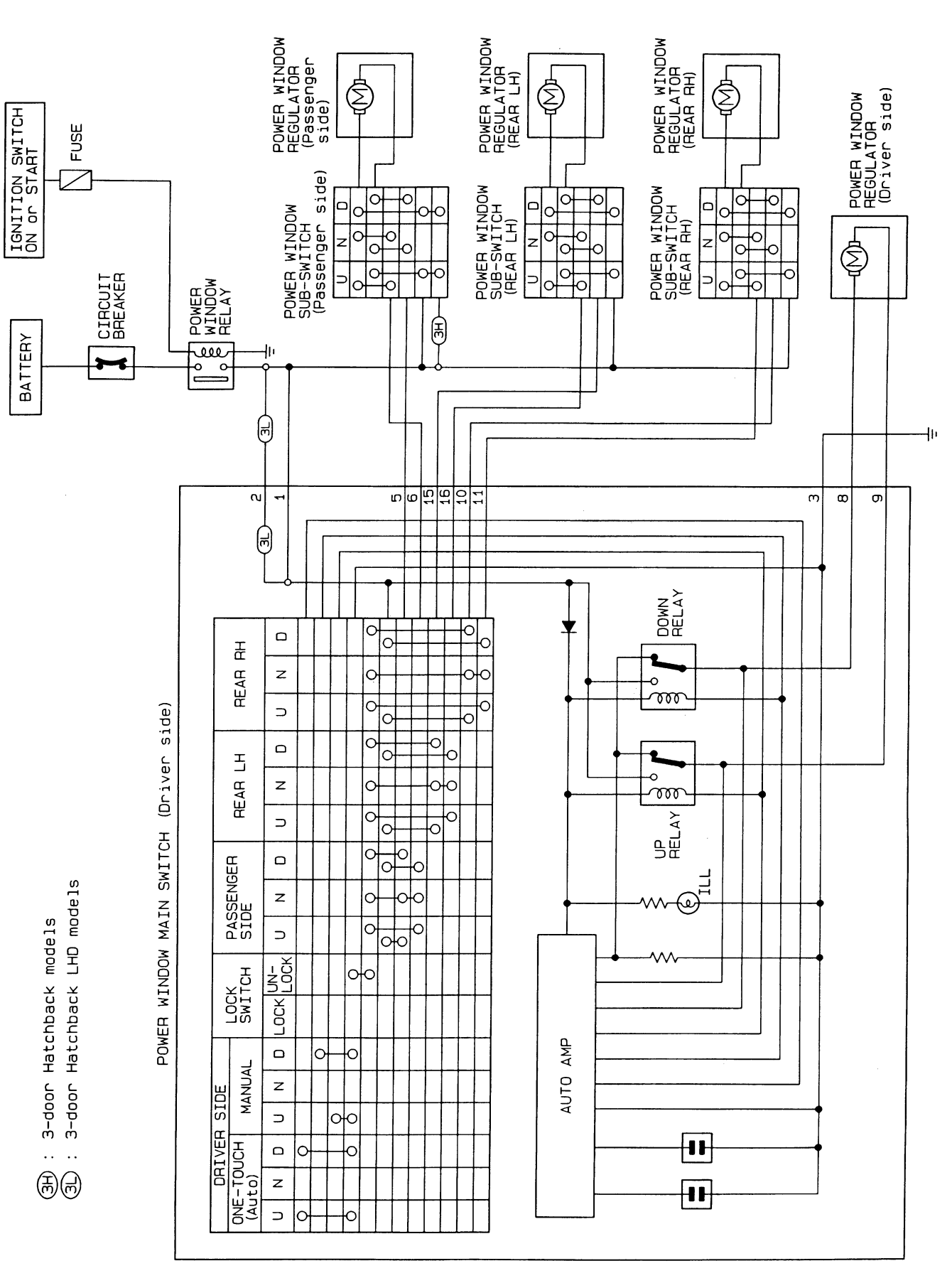
AUTO OPERATION

The power window AUTO feature enables the driver to open or close the driver's window without holding the window switch in the respective position.
When the AUTO switch in the main switch is pressed and released, the driver's window will travel to the fully open or closed position.

POWER WINDOW LOCK

The power window lock is designed to lock operation of all windows except for driver's door window.
When the lock switch is pressed to lock position, ground of the sub-switches in the power window main switch is disconnected. This prevents the power window motors from operating.

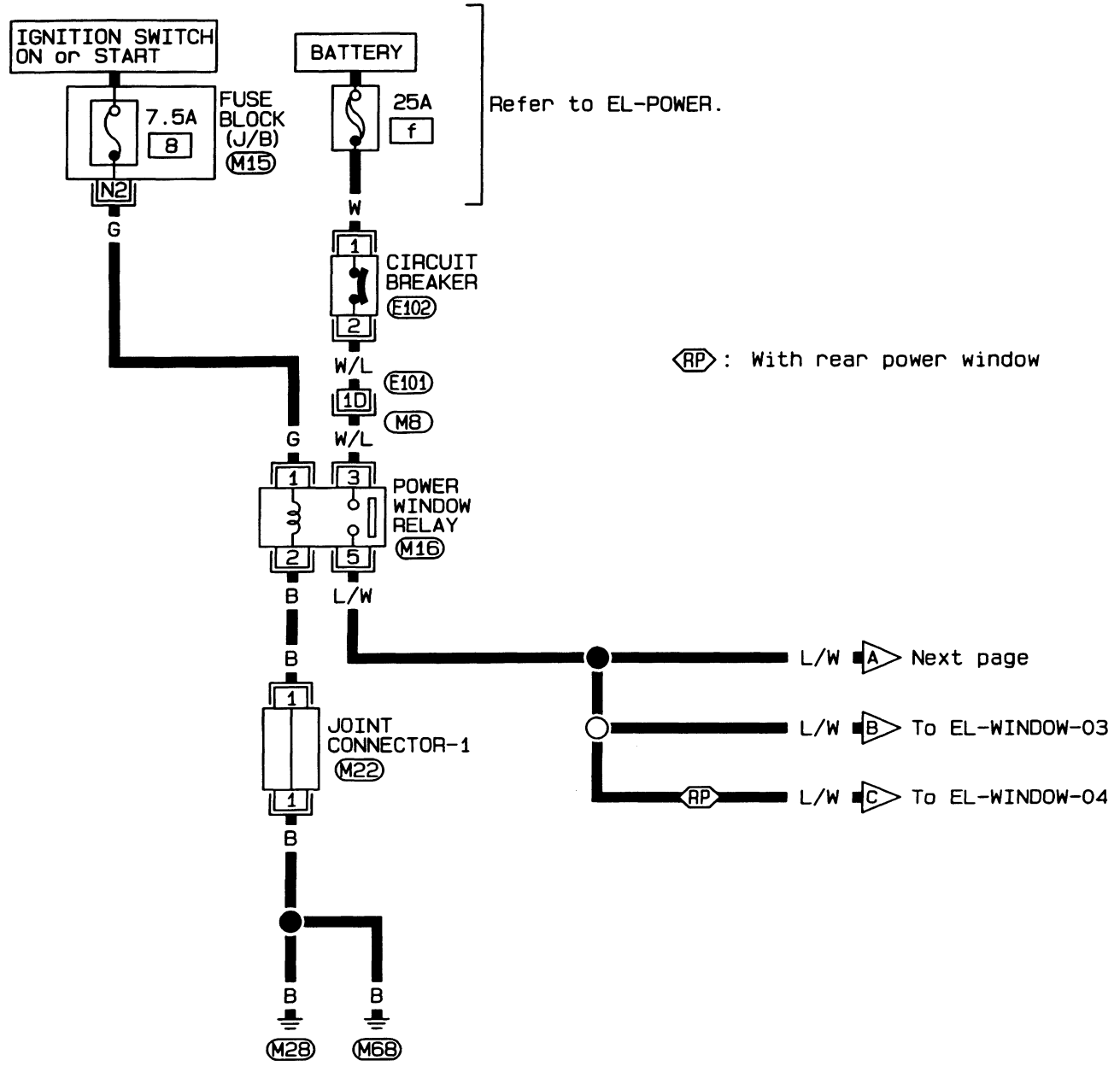
Schematic

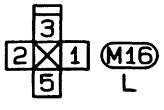


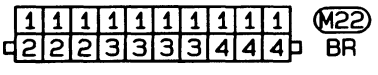
HEL270A

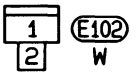
Wiring Diagram — WINDOW —/LHD Models

EL-WINDOW-01









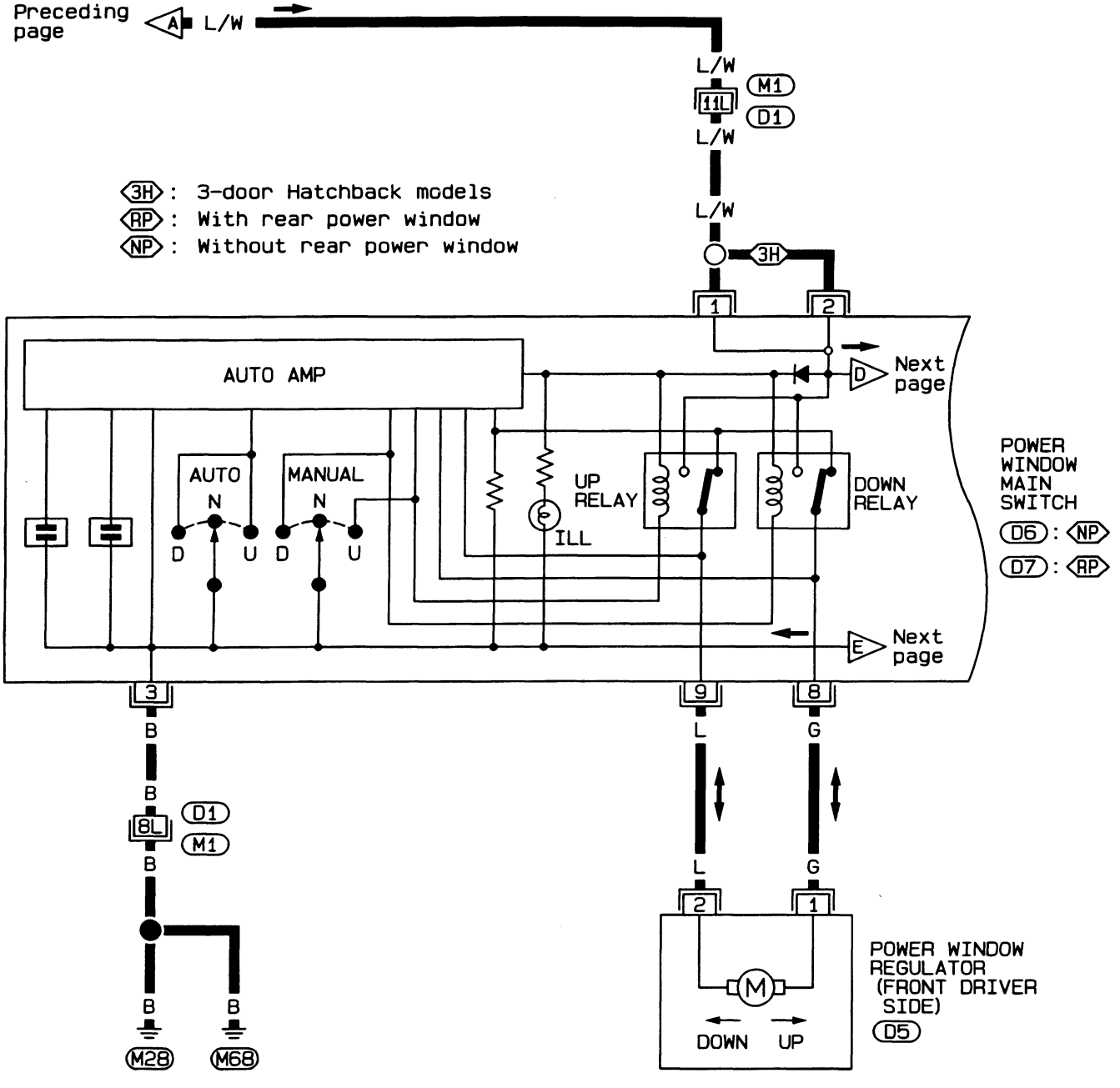
Refer to last page (Foldout page).

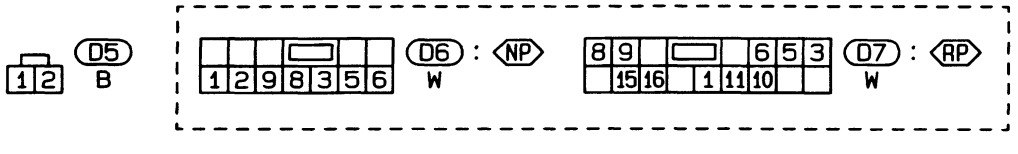
M8, E101
M15

HEL232A

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

EL-WINDOW-02





Refer to last page (Foldout page).

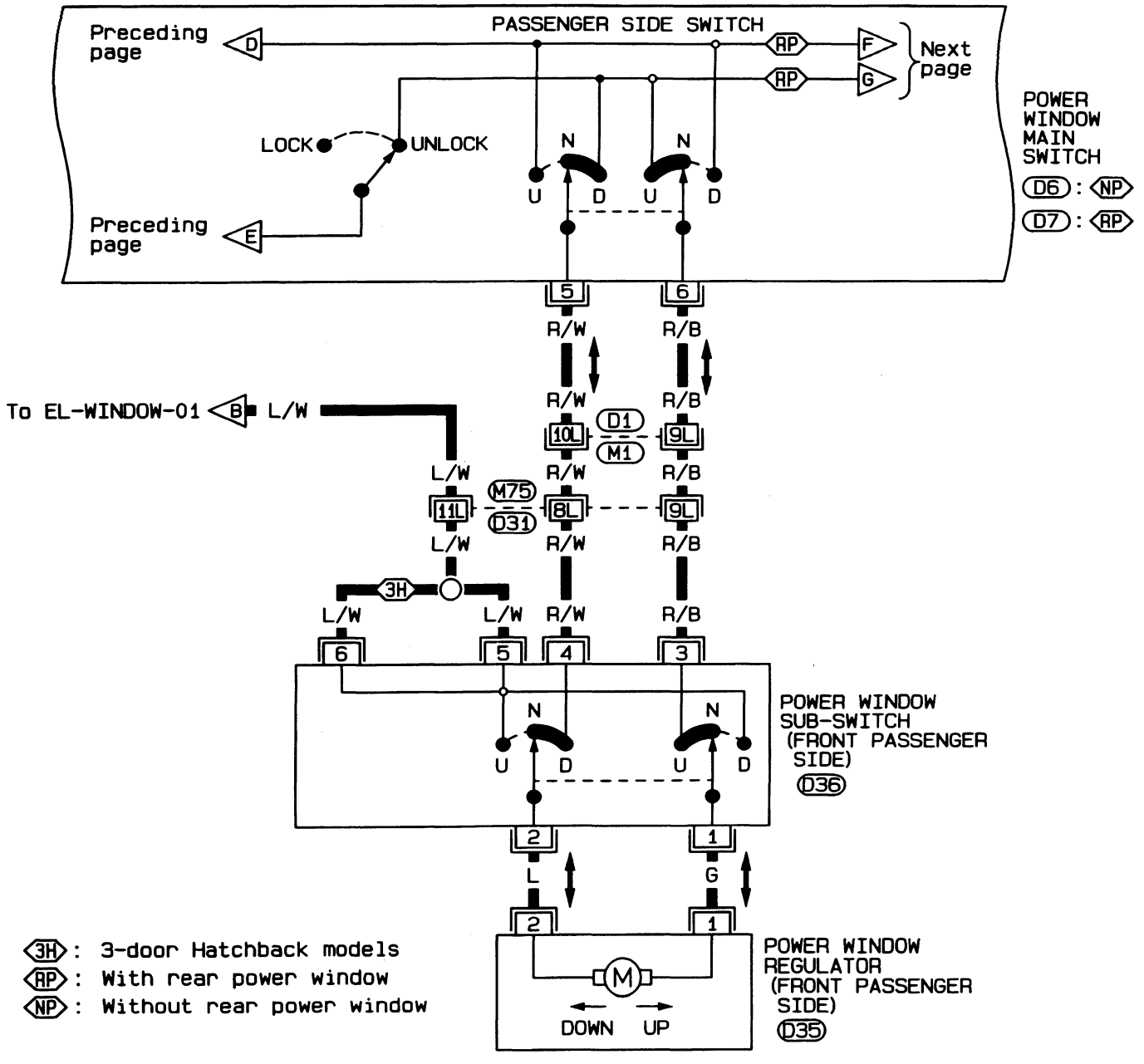
M1, D1

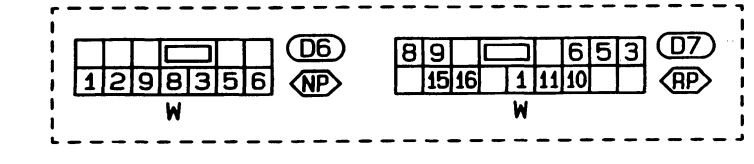
CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

HEL233A

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

EL-WINDOW-03







CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

Refer to last page (Foldout page).

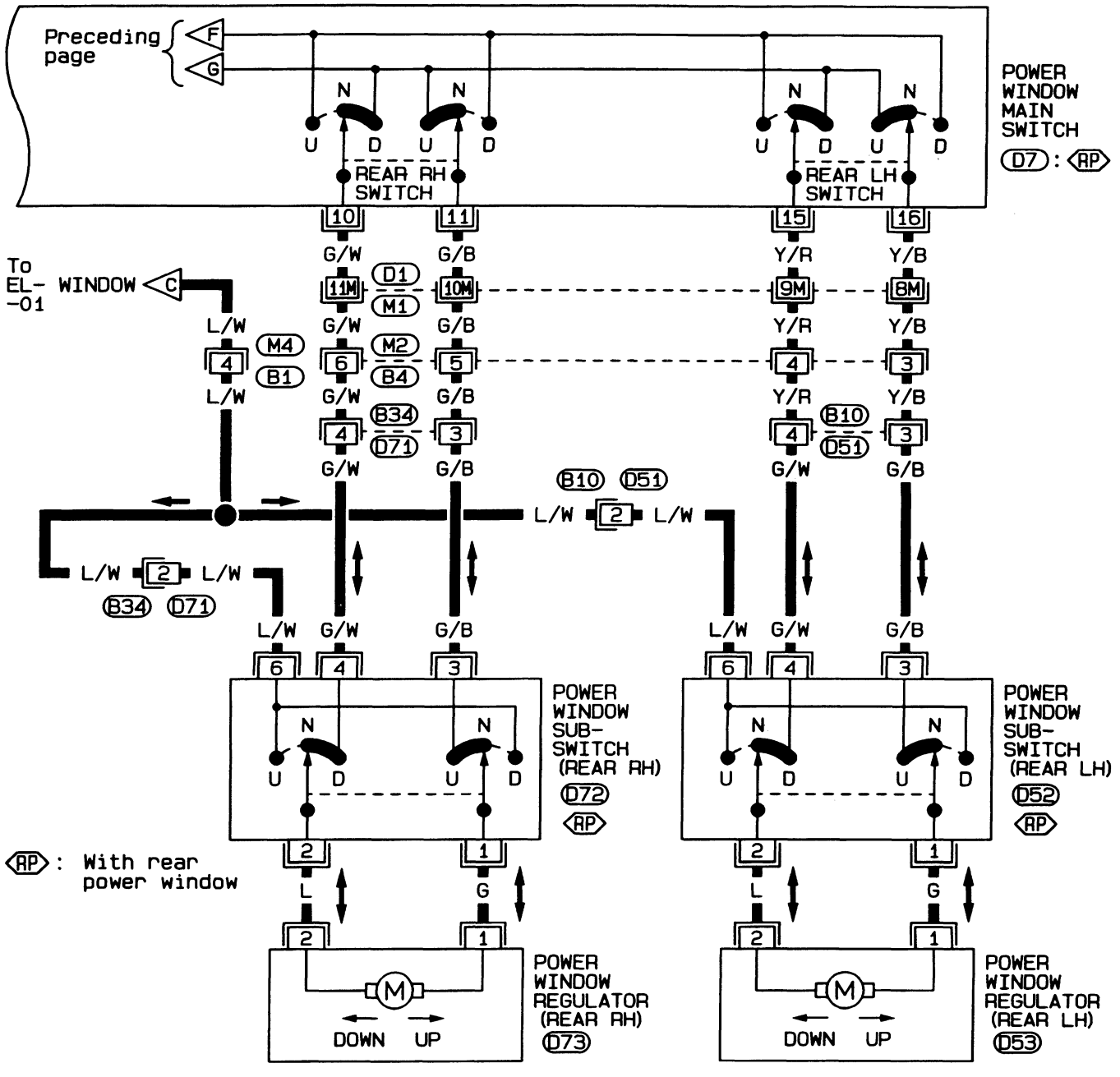
M1, D1

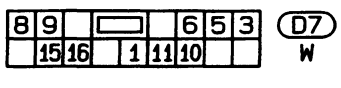
M75, D31

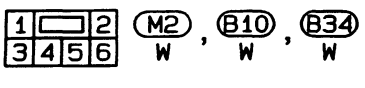
HEL101

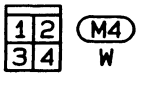
Wiring Diagram — WINDOW —/LHD Models (Cont'd)

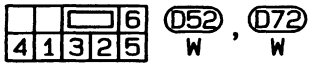
EL-WINDOW-04

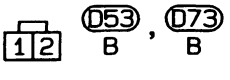












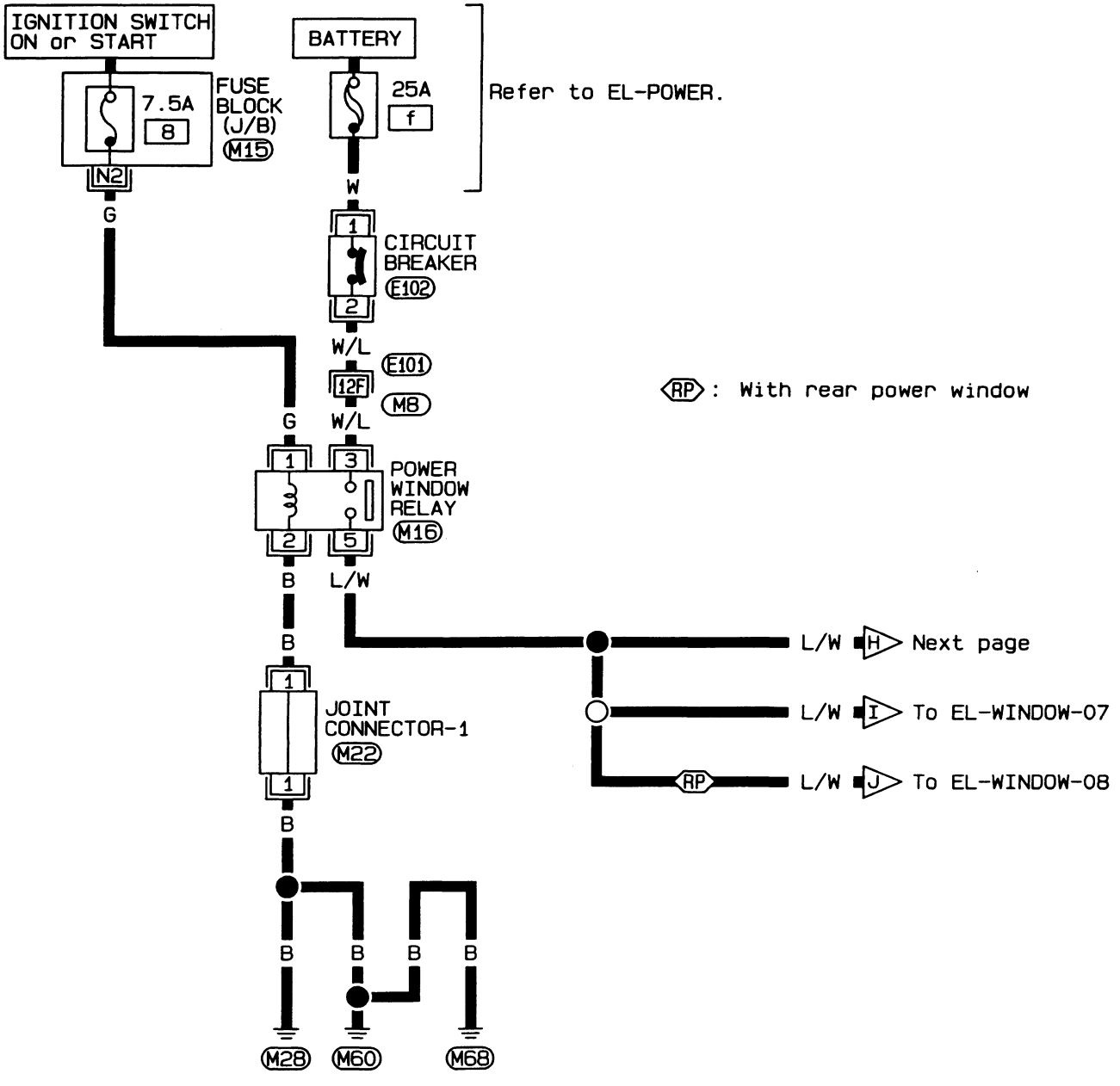
Refer to last page (Foldout page).

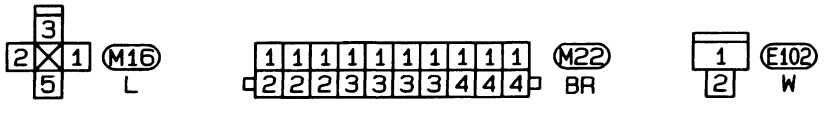
M1 , D1

HEL102

Wiring Diagram — WINDOW —/RHD Models

EL-WINDOW-05



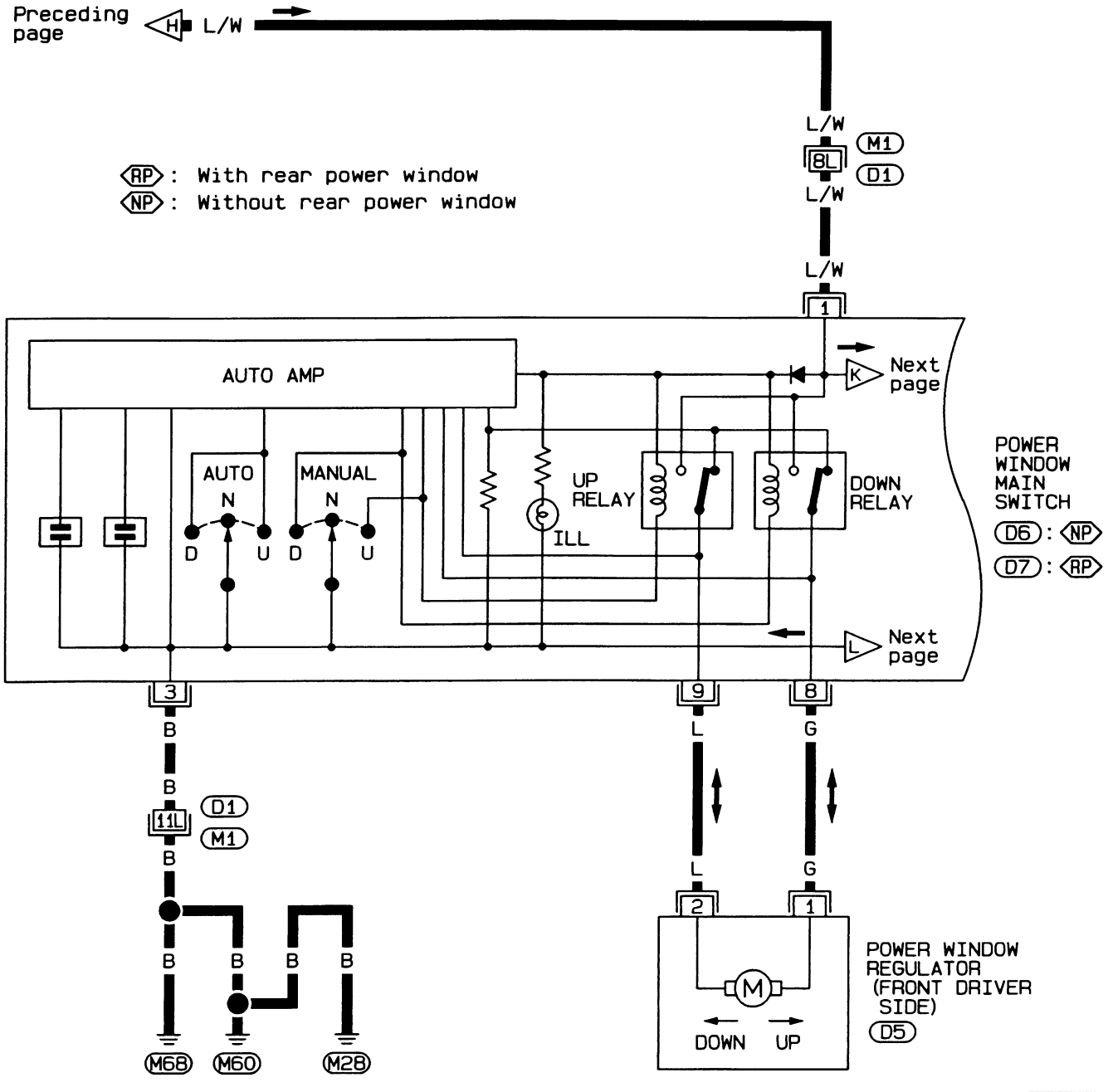


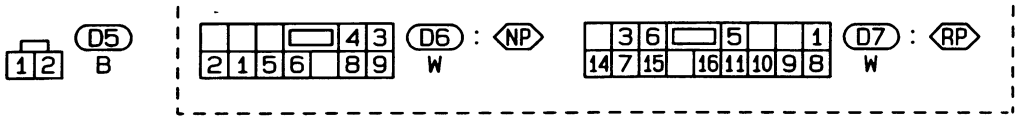
Refer to last page (Foldout page).
M8, E101
M15

HEL234A

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

EL-WINDOW-06





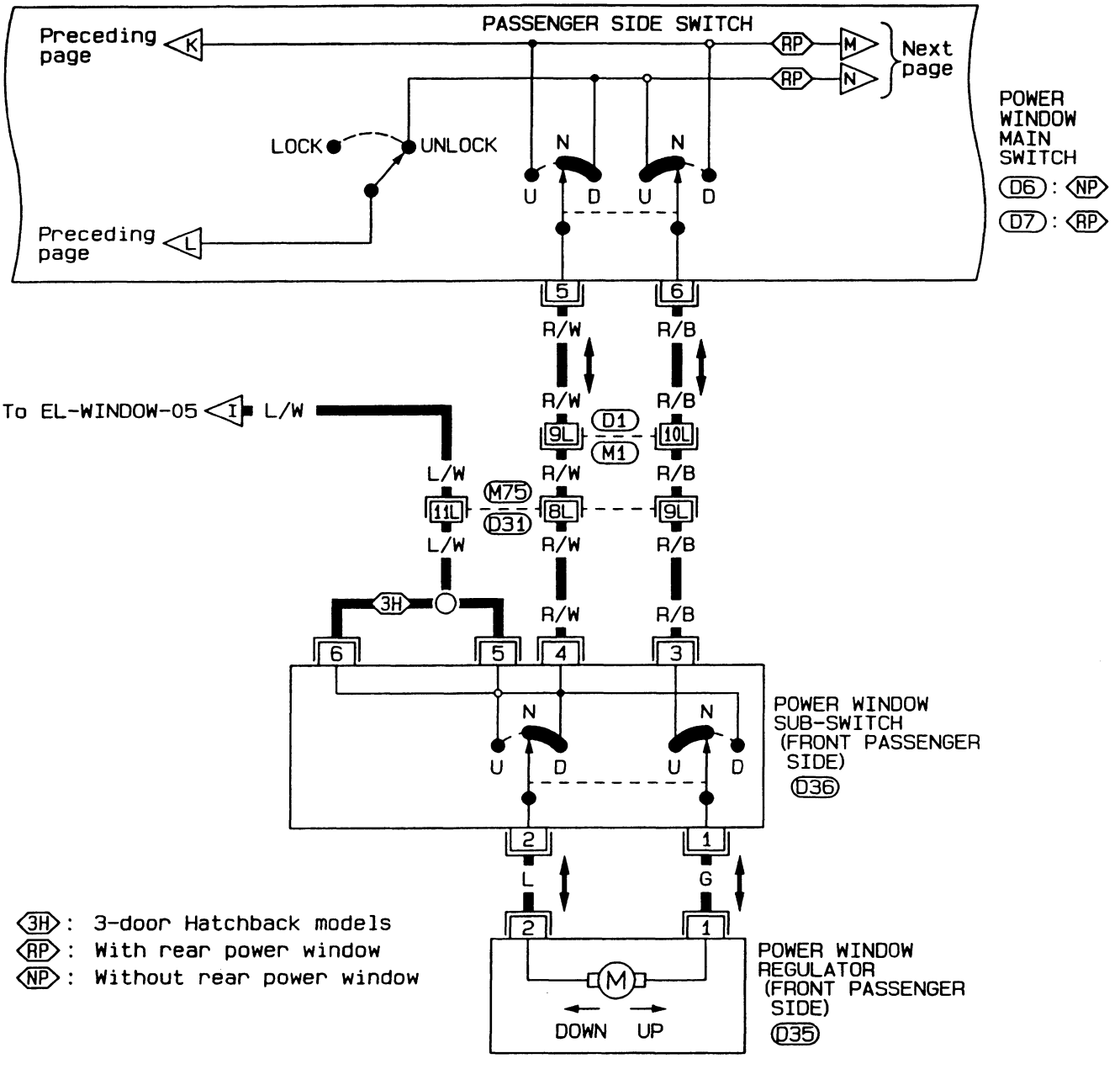
Refer to last page (Foldout page).
M1, D1

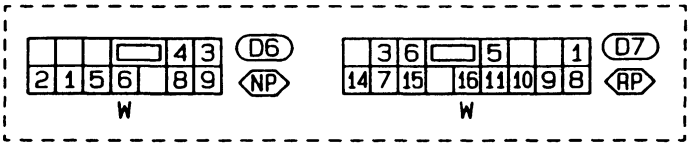
CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

HEL235A

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

EL-WINDOW-07







CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

Refer to last page (Foldout page).

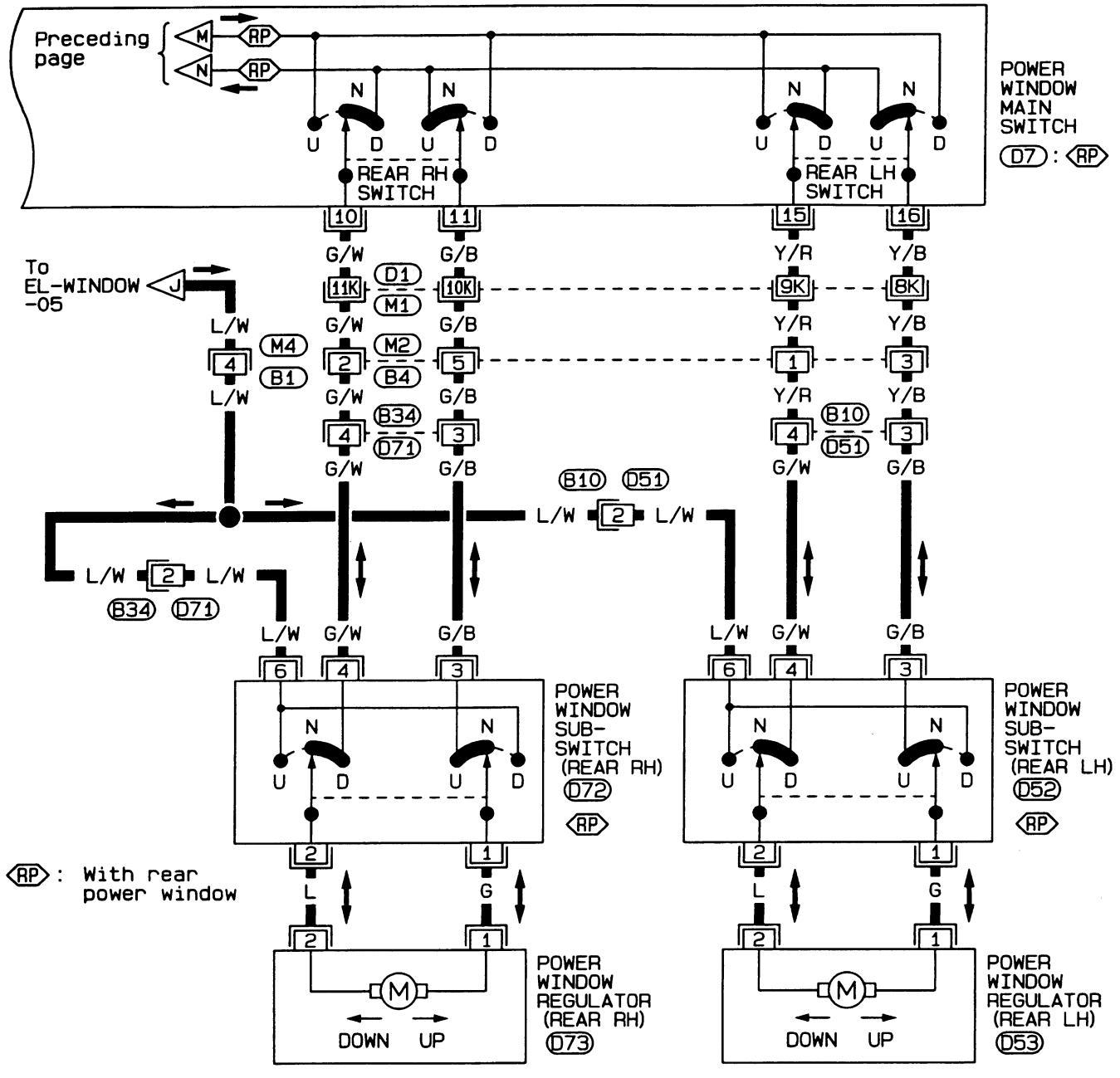
M1, D1

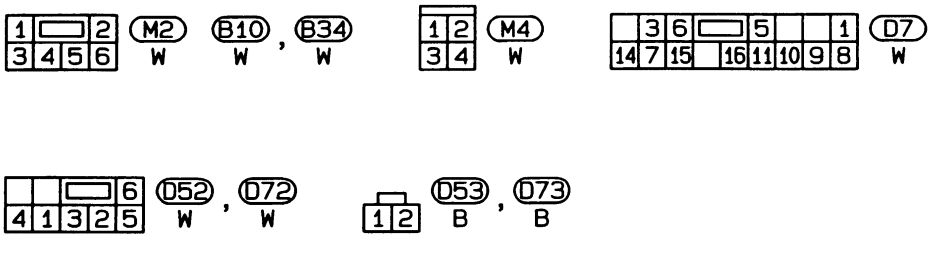
M75, D31

HEL545

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

EL-WINDOW-08





Refer to last page (Foldout page).

M1, D1

HEL236A

Trouble Diagnoses

Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	1. 7.5A fuse, 25A fusible link and (E102) circuit breaker	1. Check 7.5A fuse [No. 8, located in fuse block (J/B)], 25A fusible link (letter f, located in fuse and fusible link box) and (E102) circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminal ① of power window main switch and terminal ⑤ of sub-switch.
	2. Grounds (M28), (M68) and (M60) (RHD)	2. Check grounds (M28), (M68) and (M60) (RHD).
	3. Power window relay	3. Check power window relay.
	4. Open/short in power window main switch circuit	4. Check L/W wire between power window relay and power window main switch for open/short circuit.
Driver side power window cannot be operated but other windows can be operated.	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.
Passenger power window cannot be operated.	1. Power window sub-switches	1. Check power window sub-switch.
	2. Passenger side power window regulators	2. Check passenger side power window regulator.
	3. Power window main switch	3. Check power window main switch.
	4. Power window circuit	4-1. Check harnesses between power window main switch and power window sub-switch for open/short circuit. 4-2. Check harnesses between power window sub-switch and power window regulator for open/short circuit.
Passenger power window cannot be operated using power window main switch but can be operated by power window sub-switch.	1. Power window main switch	1. Check power window main switch.
Driver side power window auto function cannot be operated using power window main switch.	1. Power window main switch	1. Check power window main switch.

System Description

Power is supplied at all times
- through 25A fusible link (Letter [f], located in the fuse and fusible link box)
- to circuit breaker terminal ①
- through circuit breaker terminal ②
- to door lock timer terminal ⑪.

Ground is supplied to door lock timer terminal ⑯ through body grounds.

INPUT

Driver side door key cylinder and driver side lock knob are connected to door unlock sensor with a rod. When driver side door lock switch is in UNLOCKED position, ground signal is supplied
- to door lock timer terminal ④
- through driver side door lock actuator (door unlock sensor) terminal ④.

When driver side door unlock sensor is in LOCKED position, ground signal is interrupted.
Passenger side door key cylinder and passenger side lock knob are also connected to door unlock sensor.
Passenger door unlock sensor signal is input to door lock timer terminal ⑤ in the same manner as for the driver side.
Door lock operates according to the conditions of driver or passenger door unlock sensor.

NOTE: When any door is opened, both the passenger side lock knob switch and door key cylinder operation will lock only the passenger door. (Power door lock system will not operate.)

OUTPUT

Unlock

Ground is supplied
- to passenger side door lock actuator, rear door lock actuator LH and RH terminal ③
- through door lock timer terminal ⑮.

Power is supplied
- to passenger side door lock actuator, rear door lock actuator LH and RH terminal ①
- through door lock timer terminal ⑭.

Then, the doors are unlocked.

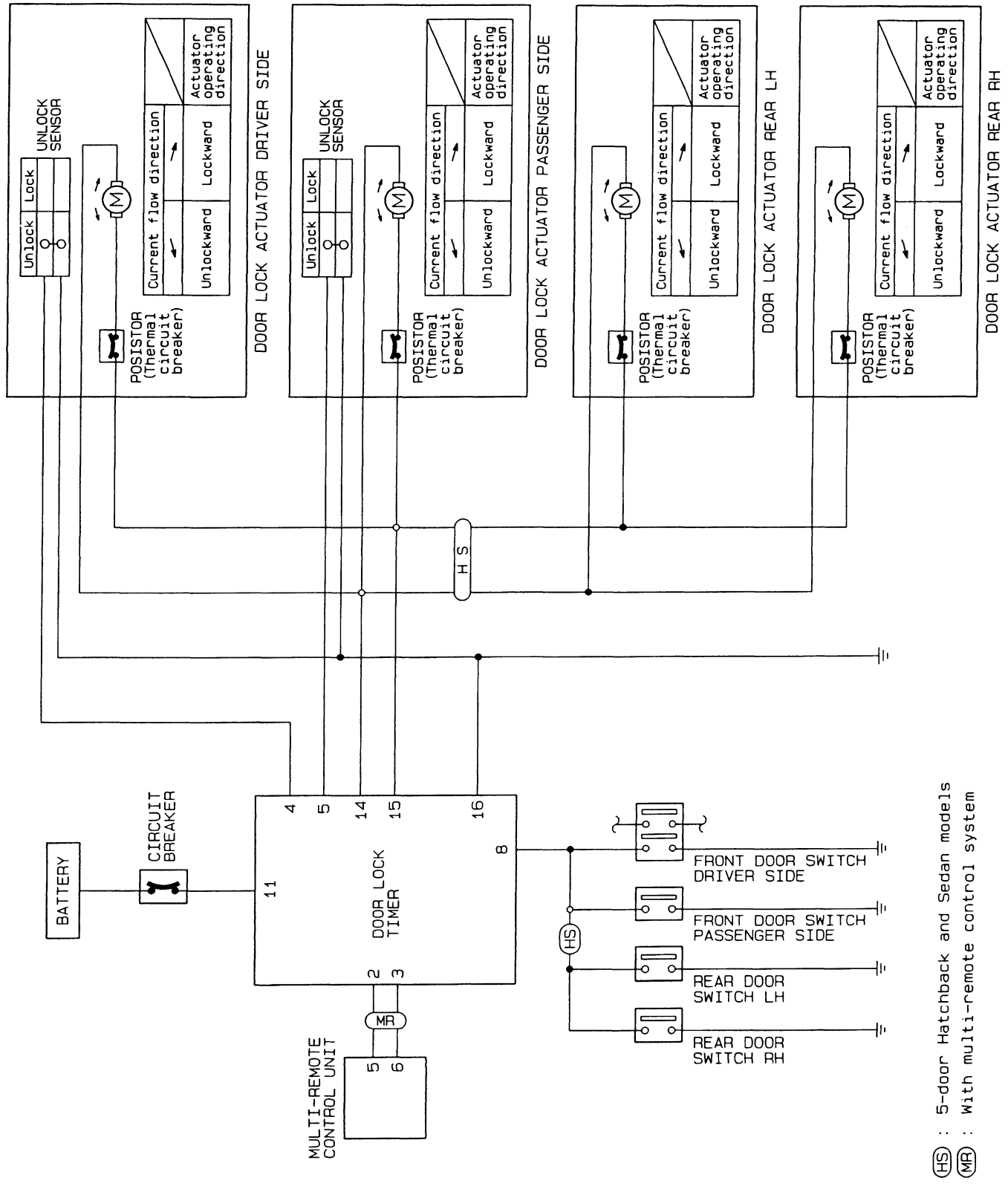
Lock

Ground is supplied
- to passenger side door lock actuator, rear door lock actuator LH and RH terminal ①
- through door lock timer terminal ⑭.

Power is supplied
- to passenger side door lock actuator, rear door lock actuator LH and RH terminal ③
- through door lock timer terminal ⑮.

Then, the doors are locked.

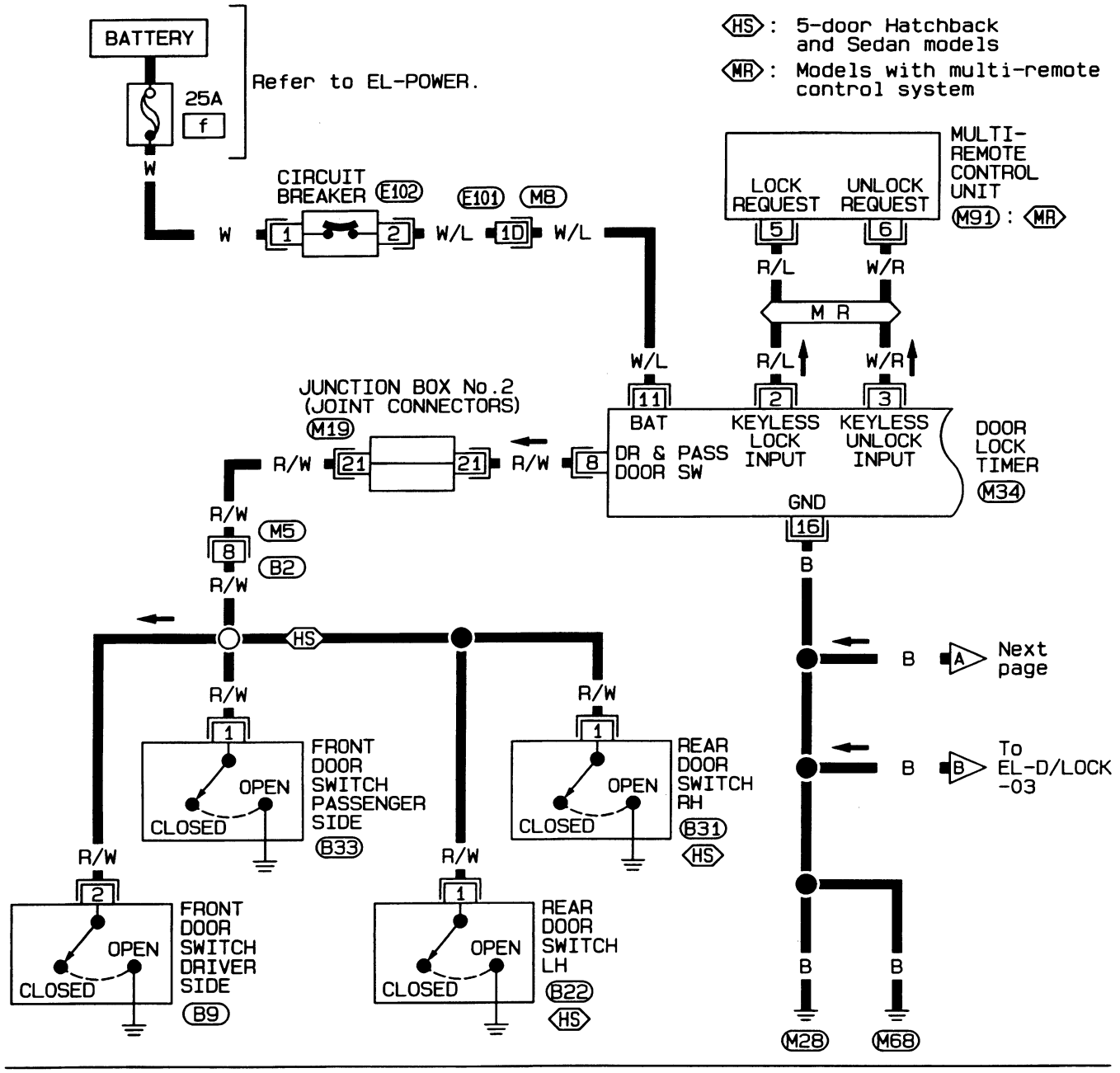
Schematic

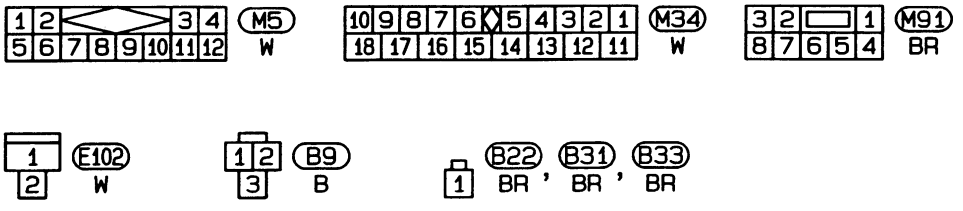


HEL237A

Wiring Diagram — D/LOCK —/LHD Models

EL-D/LOCK-01





Refer to last page (Foldout page).

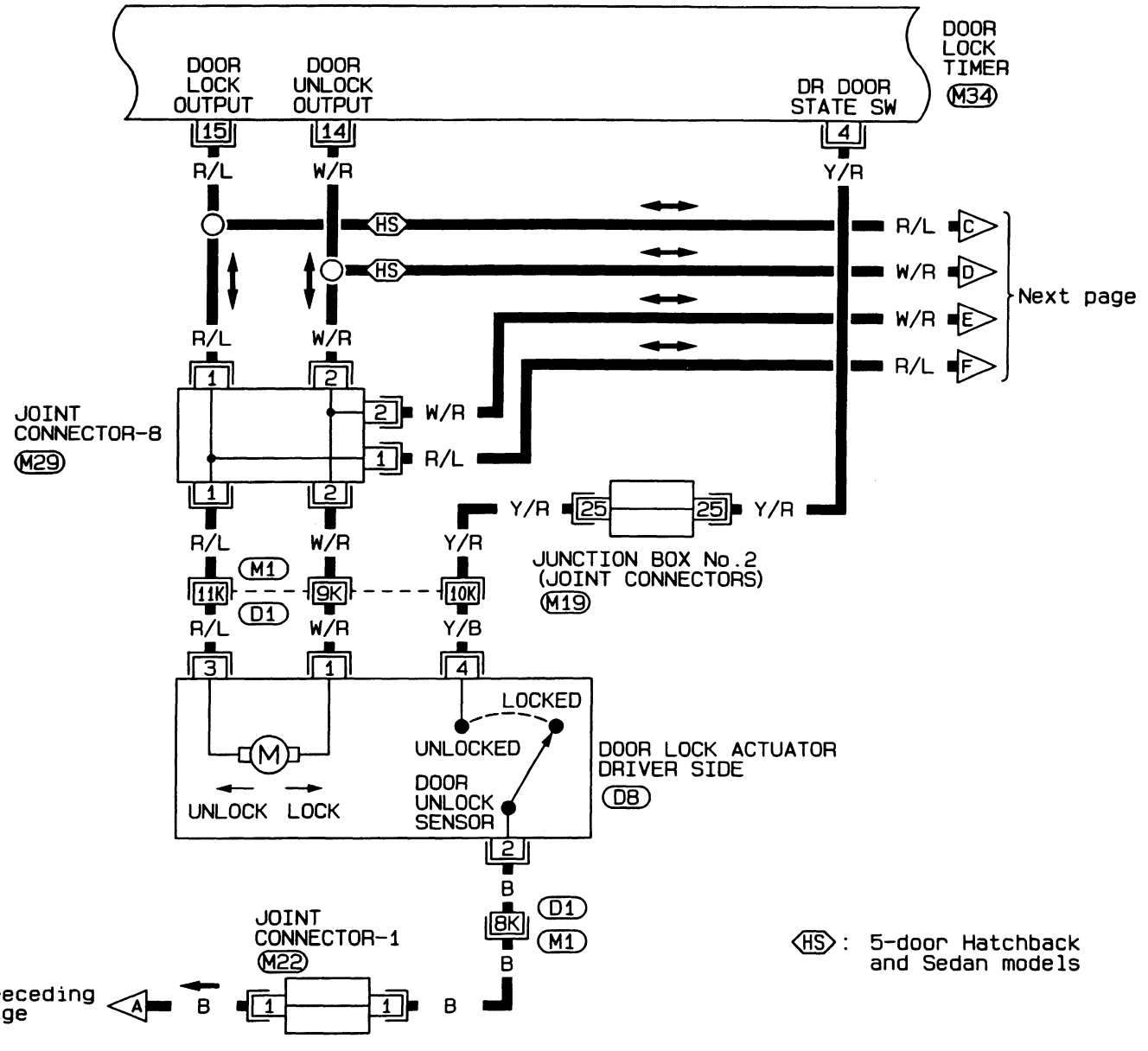
M8, E101

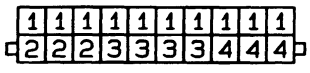
M19

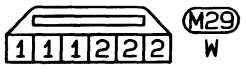
HEL238A

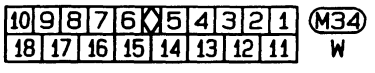
Wiring Diagram — D/LOCK —/LHD Models (Cont'd)

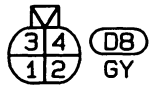
EL-D/LOCK-02











CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

Refer to last page (Foldout page).

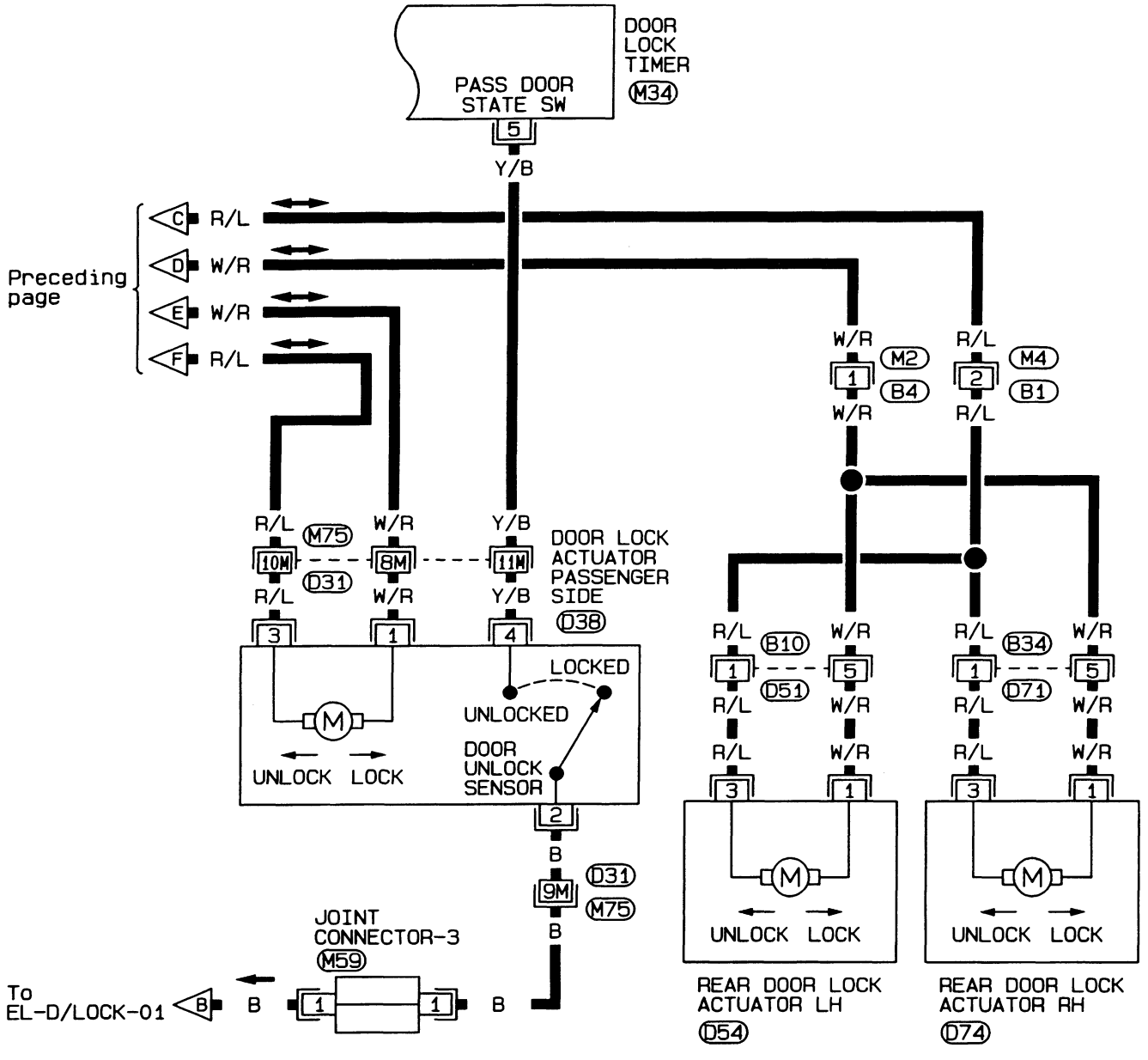
M1, D1

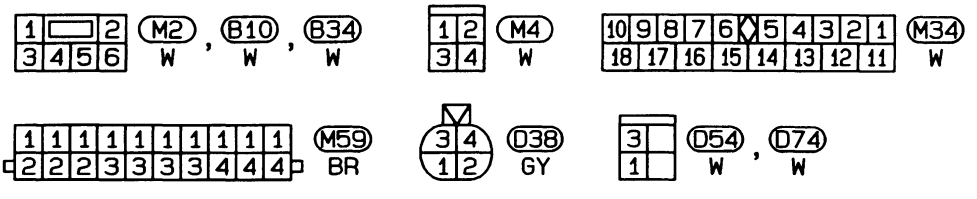
M19

HEL239A

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

EL-D/LOCK-03





Refer to last page (Foldout page).

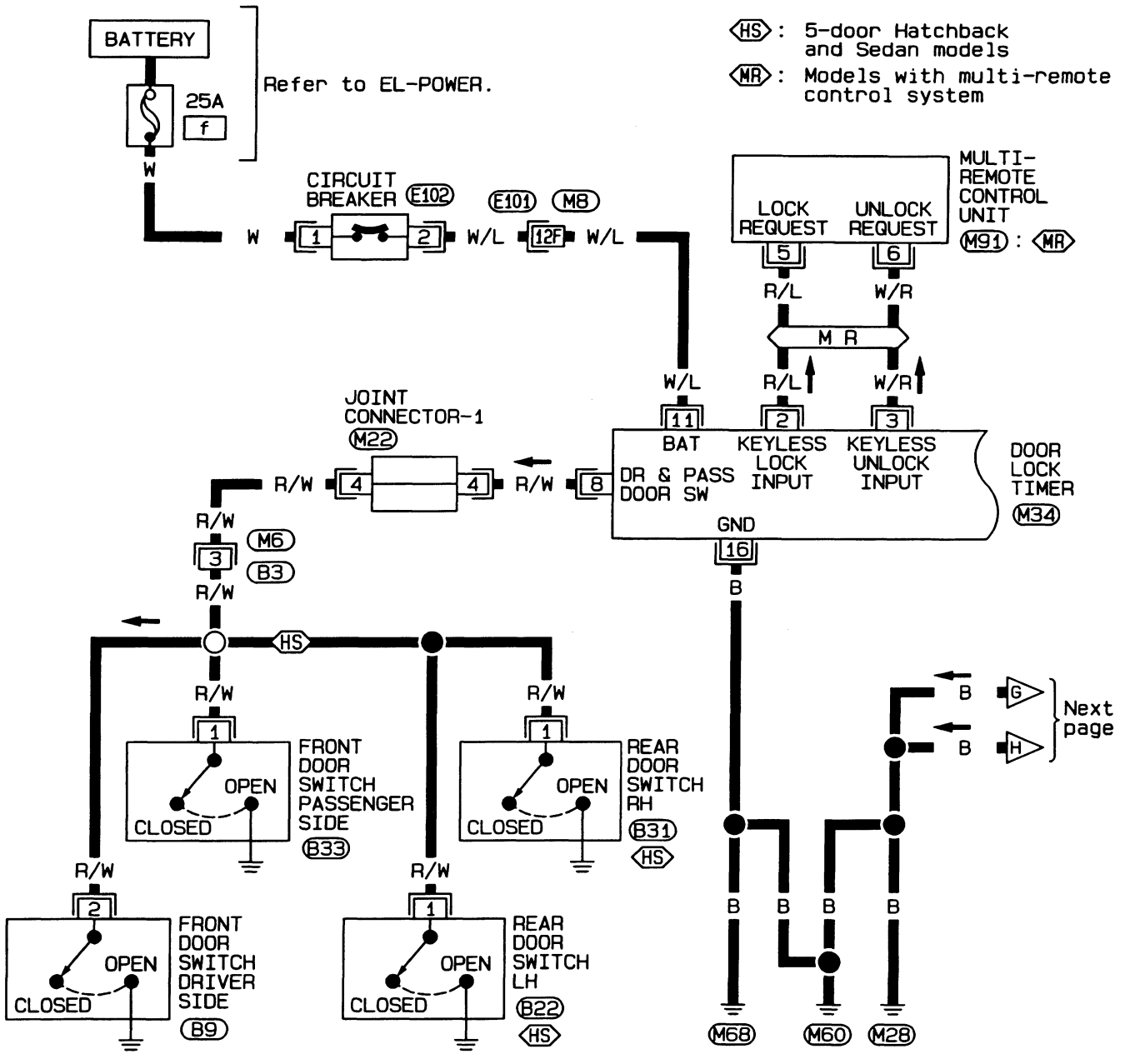
M75 , D31

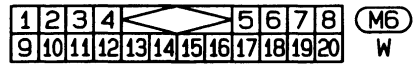
CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

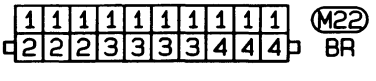
HEL240A

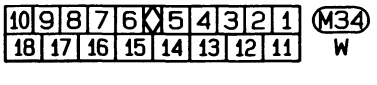
Wiring Diagram — D/LOCK —/RHD Models

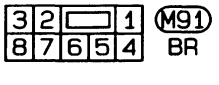
EL-D/LOCK-04

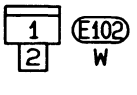


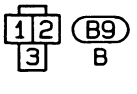

M6 W

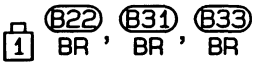

M22 BR


M34 W


M91 BR


E102 W


B9 B

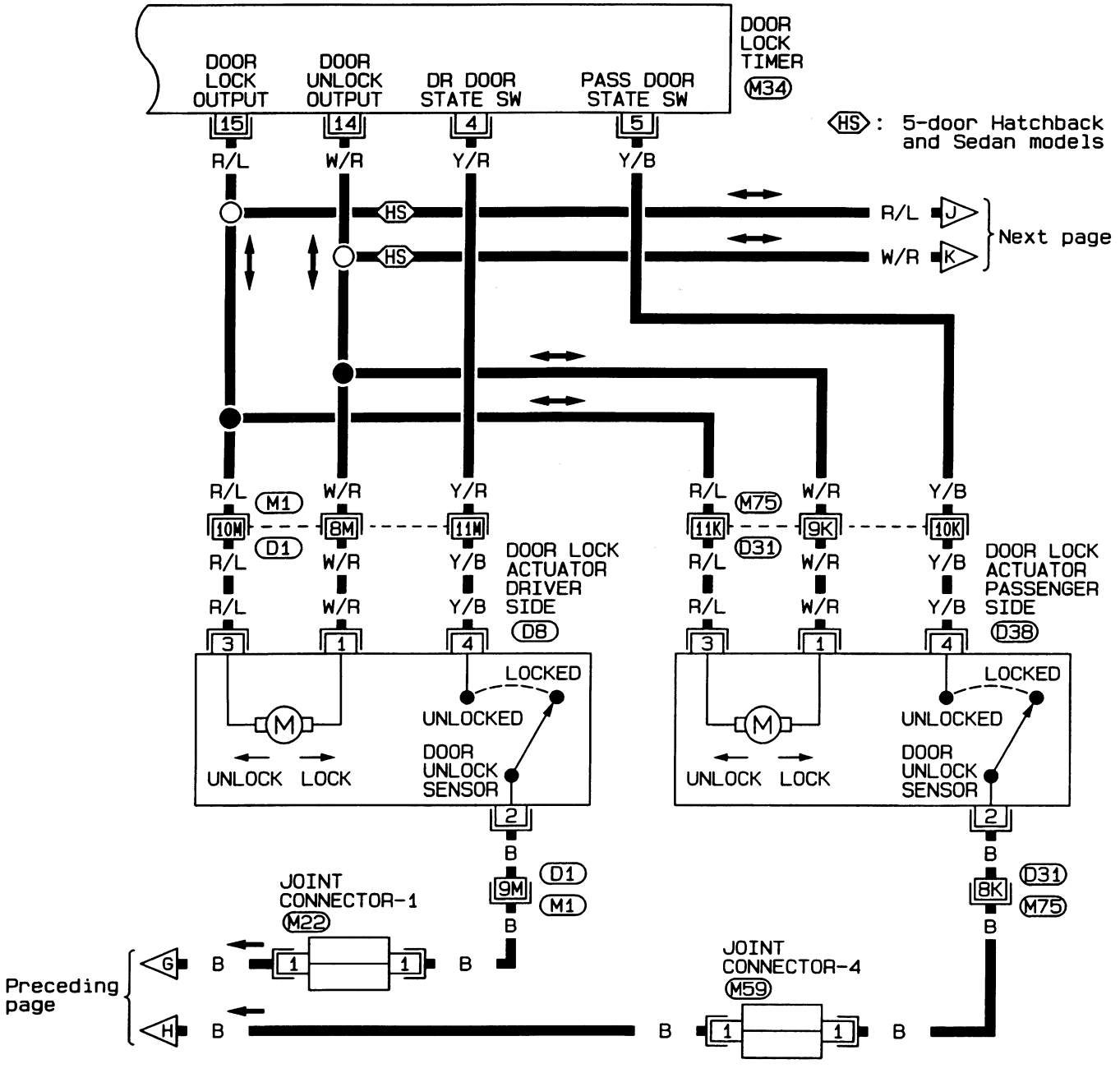

B22 BR, B31 BR, B33 BR

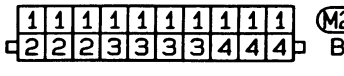
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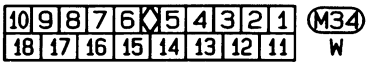
M8, E101

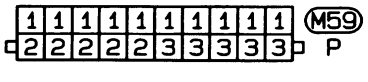
Wiring Diagram — D/LOCK —/RHD Models (Cont'd)

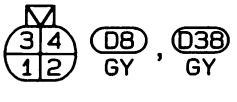
EL-D/LOCK-05











CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

Refer to last page (Foldout page).

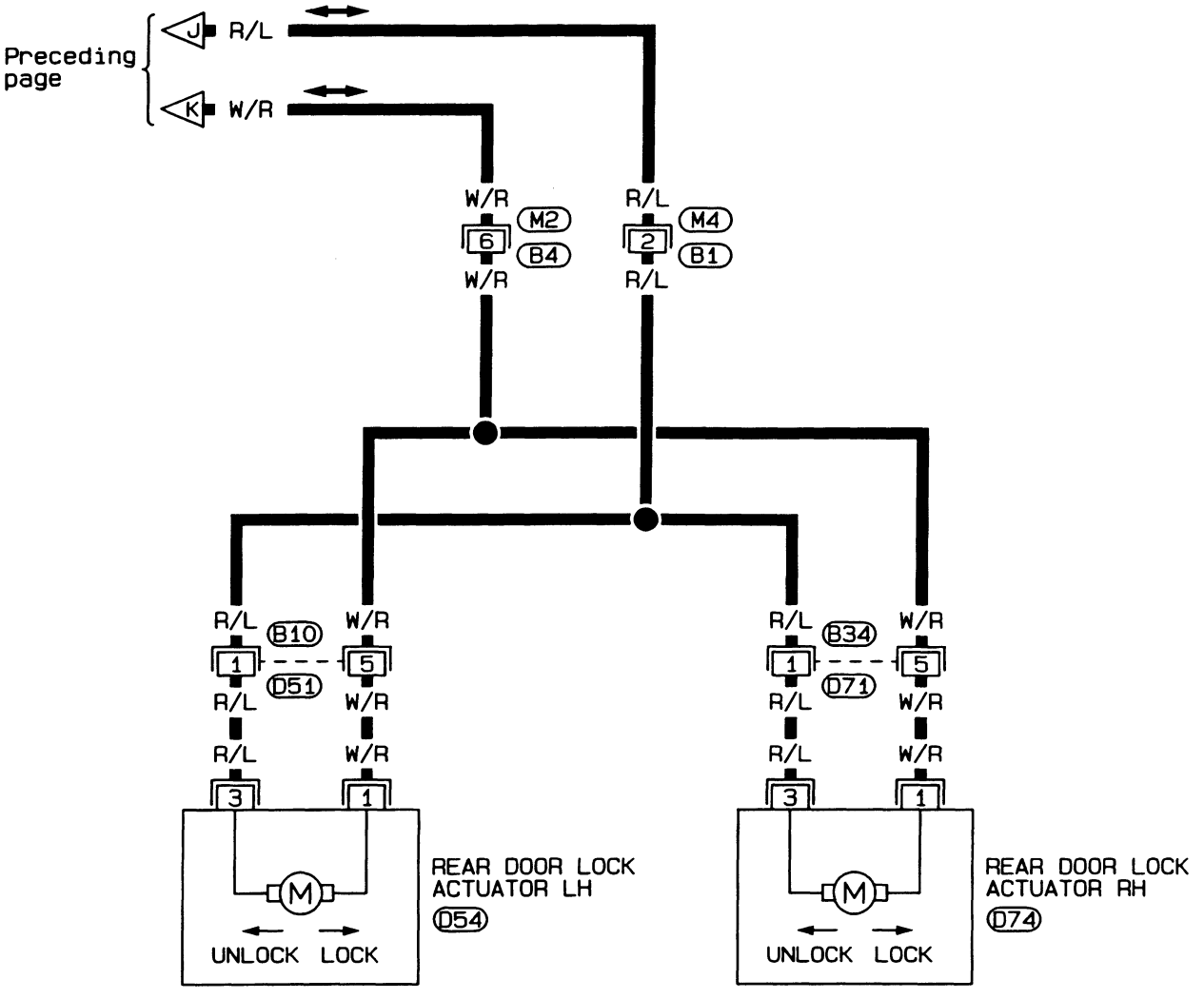
M1, D1

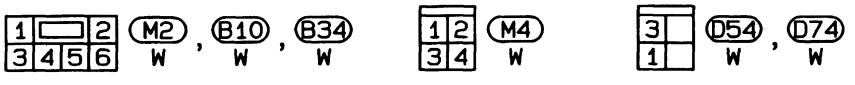
M75, D31

HEL242A

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

EL-D/LOCK-06



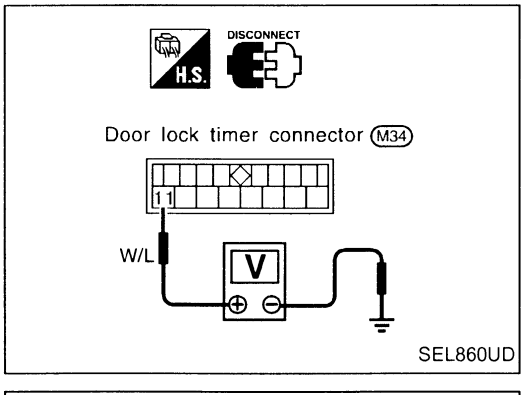


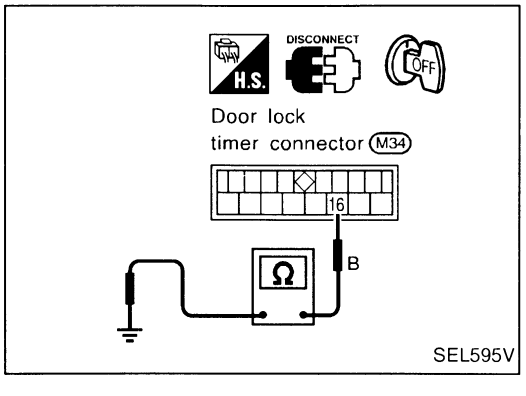
HEL243A

Trouble Diagnosis

SYMPTOM CHART

REFERENCE PAGE	EL-167	EL-168	EL-169	EL-170
SYMPTOM	MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK	DIAGNOSTIC PROCEDURE 1 (Door lock actuator check)	DIAGNOSTIC PROCEDURE 2 (Front door unlock sensor switch check)	DIAGNOSTIC PROCEDURE 3 (Door switch check)
None of the doors lock/unlock when operating any switch.	X	X		
One or more doors are not locked and/or unlocked.		X		
Door knob lock switch/key cylinder on driver's door does not operate.			X	
Door knob lock switch/key cylinder on passenger door does not operate.		X	X	X





POWER SUPPLY AND GROUND CIRCUIT CHECK

Power supply circuit check

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

Ground circuit check

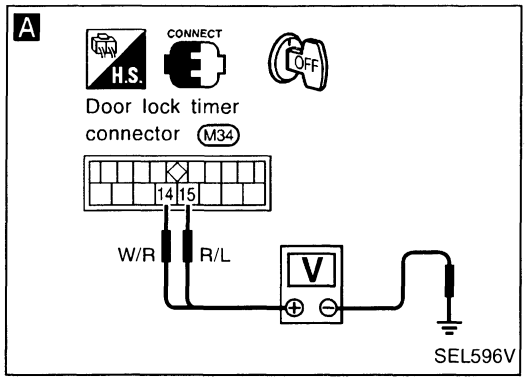
Terminals	Continuity
⑱ - Ground	Yes

Trouble Diagnosis (Cont'd)

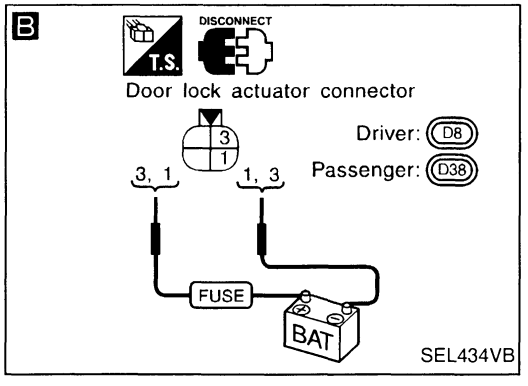
DIAGNOSTIC PROCEDURE 1

(Door lock actuator check)

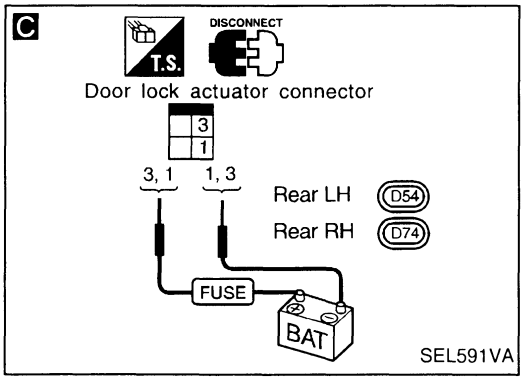
A



B



C



A

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

Door knob lock switch condition	Terminals ⊕	Terminals ⊖	Voltage (V)
Lock	⑮	ground	Battery voltage
Unlock	⑭	ground	

NG → Replace control unit.

OK ↓

B C

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

Door lock actuator operation	Terminals ⊕	Terminals ⊖
Unlocked → Locked	③	①
Locked → Unlocked	①	③

NG → Replace door lock actuator.

OK ↓

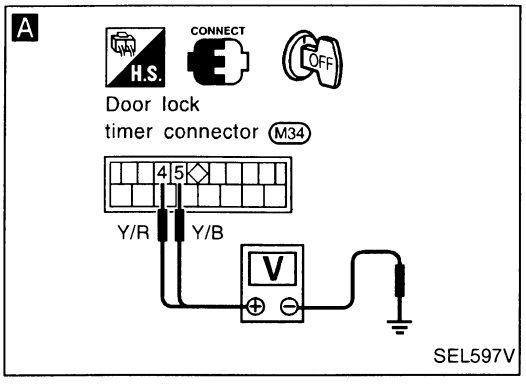
Repair harness between control unit connector and door lock actuator.

Trouble Diagnosis (Cont'd)

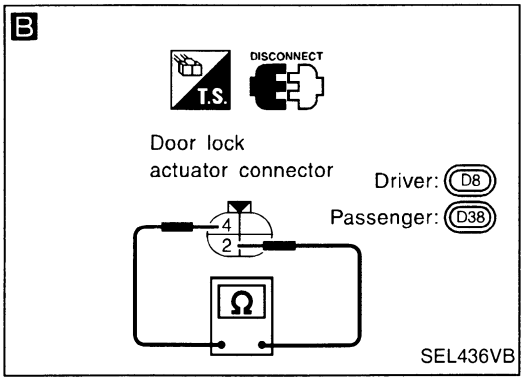
DIAGNOSTIC PROCEDURE 2

(Front door unlock sensor check)

A



B



A

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

Front door lock knob switch condition	Voltage (V)
Lock	Approx. 12
Unlock	0

OK → Front door unlock sensor is OK.

NG

B

CHECK DOOR UNLOCK SENSOR.
1. Disconnect door lock actuator connector.
2. Check continuity between door lock actuator terminals.

Terminals	Condition	Continuity
② - ④	Locked	No
	Unlocked	Yes

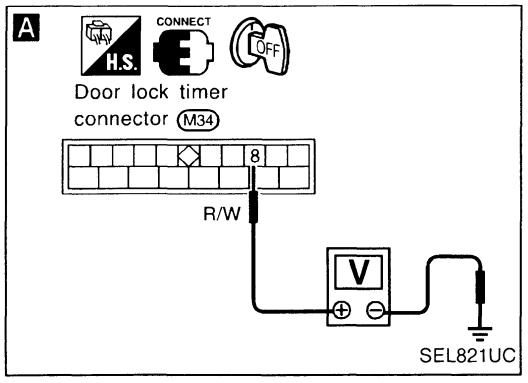
NG → Replace door unlock sensor.

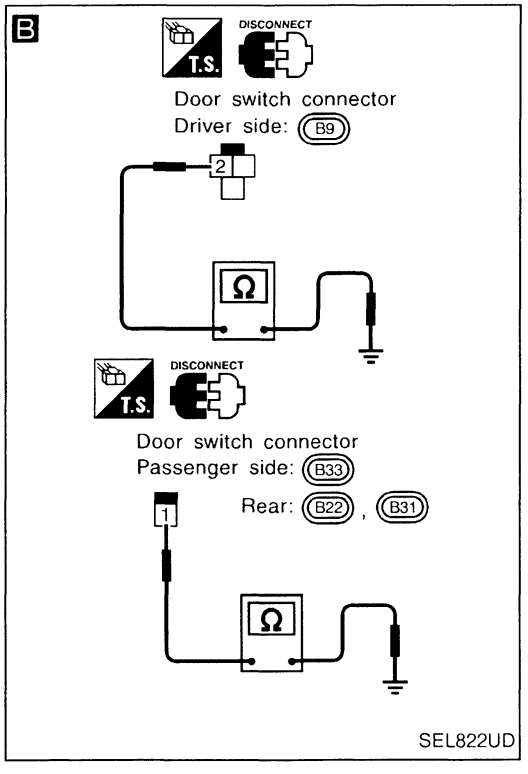
OK

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

Trouble Diagnosis (Cont'd)

DIAGNOSTIC PROCEDURE 3
(Door switch check)





A

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

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

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	② - ground	Closed	No
		Open	Yes
Other door switches	① - ground	Closed	No
		Open	Yes

NG → Replace door switch.

OK

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

System Description

Power is supplied at all times
- through 25A fusible link (Letter [f], located in the fuse and fusible link box)
- to circuit breaker terminal ①
- through circuit breaker terminal ②
- to time control unit terminal ⑪.

Ground is supplied to time control unit terminal ⑱ through body grounds.

INPUT

When the door lock & unlock switch (power window main switch) is in LOCKED position, ground signal is supplied
- to time control unit terminal ④
- through door lock & unlock switch terminal ⑦.

When the door lock & unlock switch (power window main switch) is in UNLOCKED position, ground signal is supplied
- to time control unit terminal ⑤
- through door lock & unlock switch terminal ⑭.

Driver side door key cylinder and driver side lock knob are connected to driver side door lock switch with a rod. When driver side door lock switch is in UNLOCKED position, ground signal is supplied
- to time control unit terminal ②
- through driver side door lock knob switch terminal ②.

When driver side door lock knob switch is in LOCKED position, ground signal is interrupted.
Door lock operates according to the conditions of the door lock & unlock switch (power window main switch) and driver side door lock switch.

OUTPUT

Unlock

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

Power is supplied
- to passenger side door lock actuator, rear door lock actuator LH and RH terminal ①
- through time control unit terminal ⑯.

Then, the doors are unlocked.

Lock

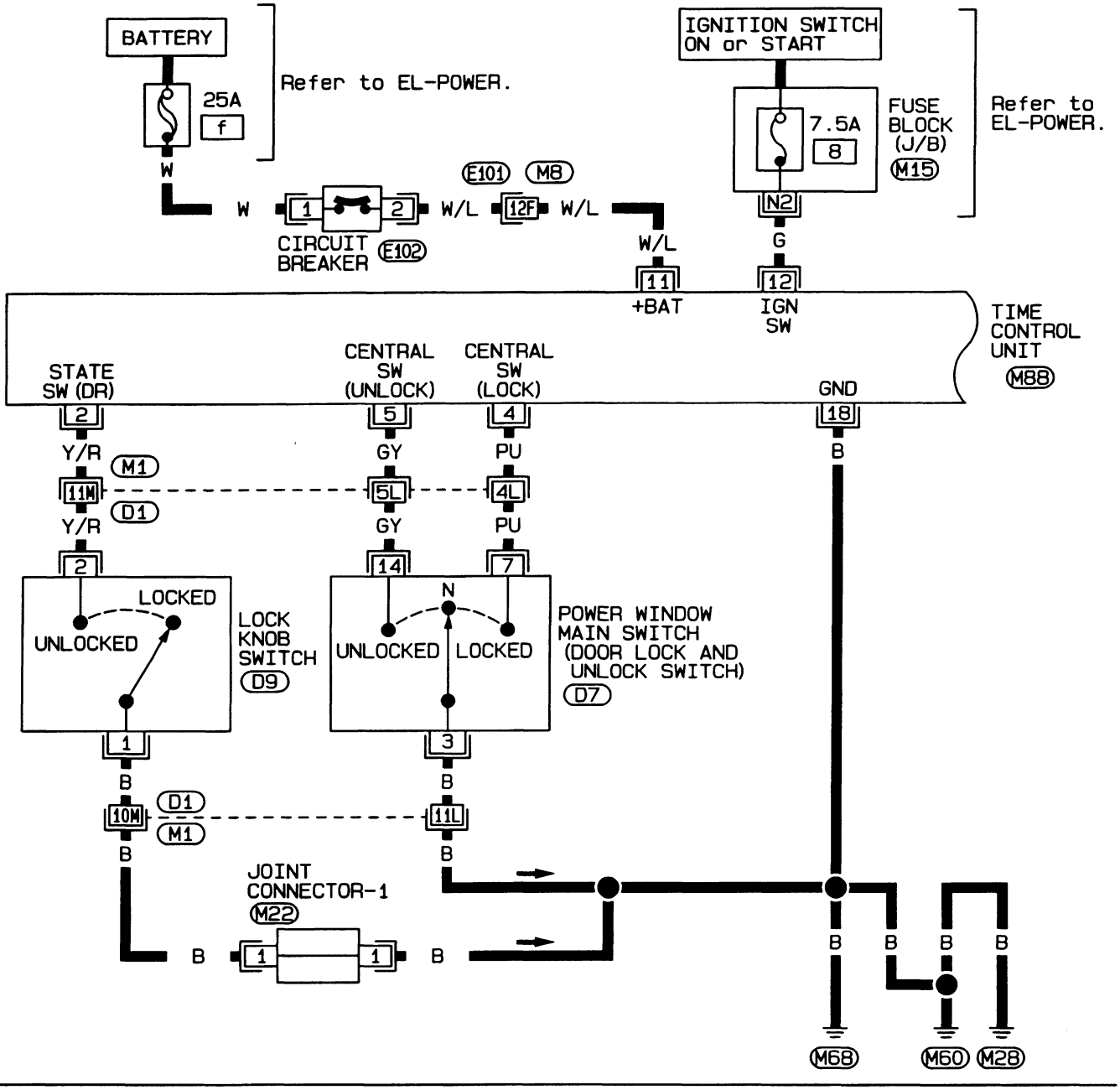
Ground is supplied
- to passenger side door lock actuator, rear door lock actuator LH and RH terminal ①
- through time control unit terminal ⑯.

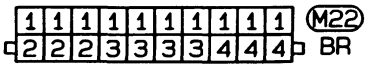
Power is supplied
- to passenger side door lock actuator, rear door lock actuator LH and RH terminal ③
- through time control unit terminal ⑮.

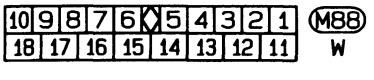
Then, the doors are locked.

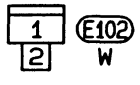
Wiring Diagram — D/LOCK —

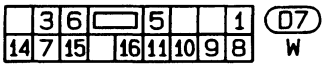
EL-D/LOCK-07

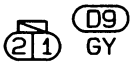










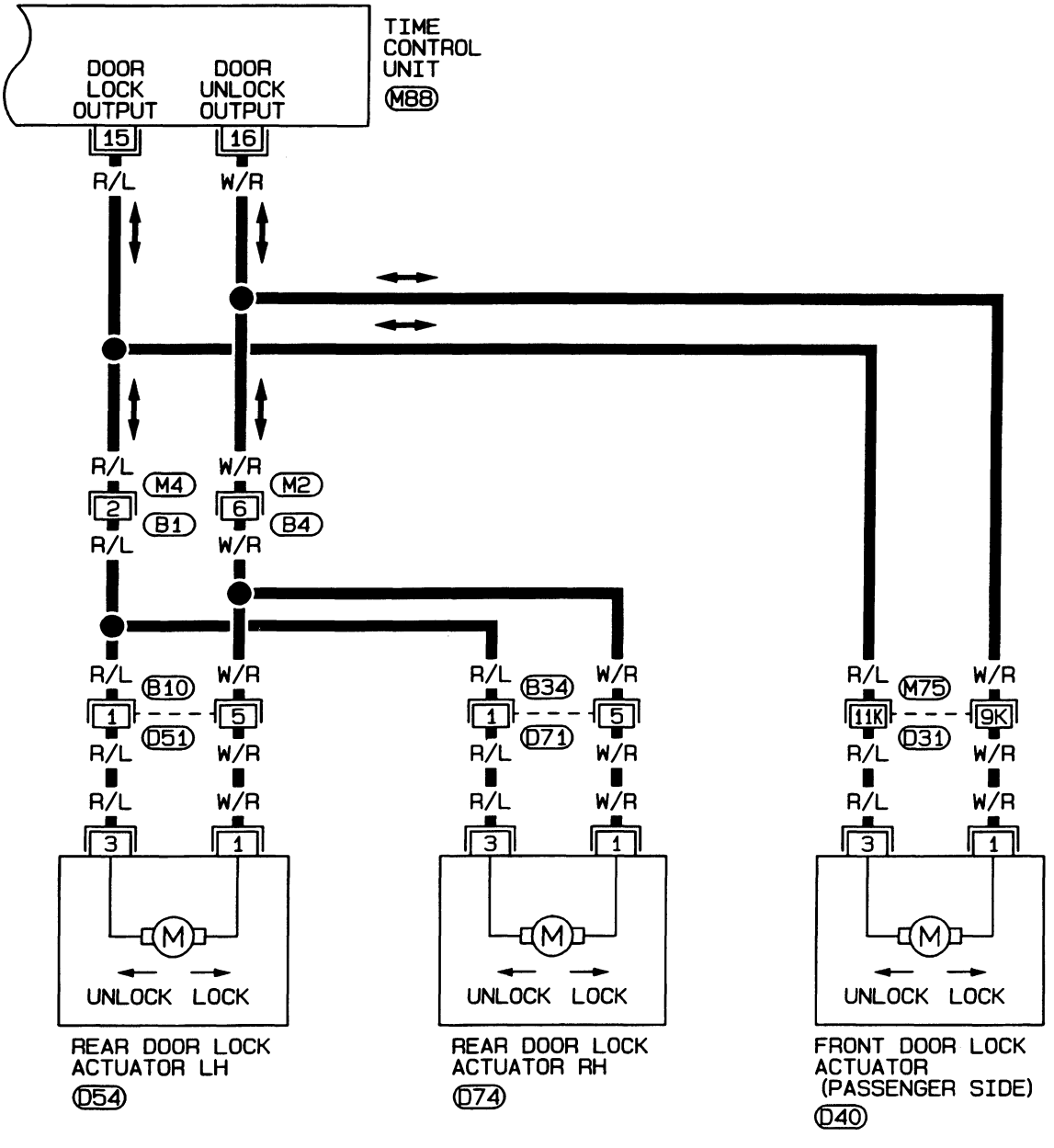


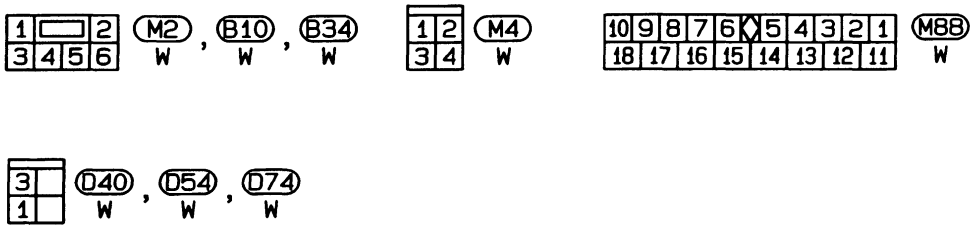
Refer to last page (Foldout page).

M8, E101
M1, D1
M15

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-08





Refer to last page (Foldout page).

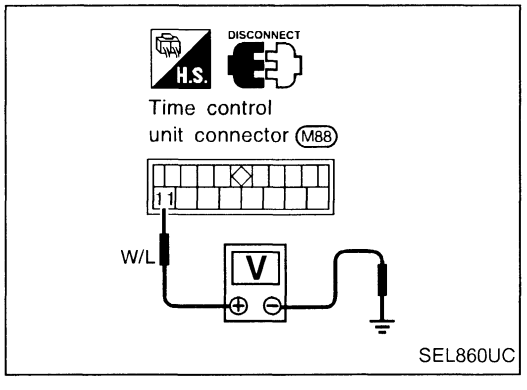
M75, D31

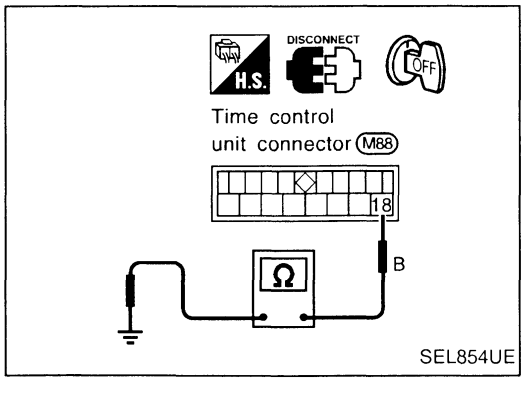
HEL246A

Trouble Diagnosis

SYMPTOM CHART

REFERENCE PAGE	EL-174	EL-175	EL-176	EL-177
SYMPTOM	MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK	DIAGNOSTIC PROCEDURE 1 (Door lock/unlock switch check)	DIAGNOSTIC PROCEDURE 2 (Door lock actuator check)	DIAGNOSTIC PROCEDURE 3 (Driver side door lock knob switch check)
None of the doors lock/unlock when operating any switch.	X		X	
One or more doors are not locked and/or unlocked.			X	
Door lock/unlock switch does not operate.		X		
Door knob lock switch/key cylinder on driver's door does not operate.				X





POWER SUPPLY AND GROUND CIRCUIT CHECK

Power supply circuit check

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

Ground circuit check

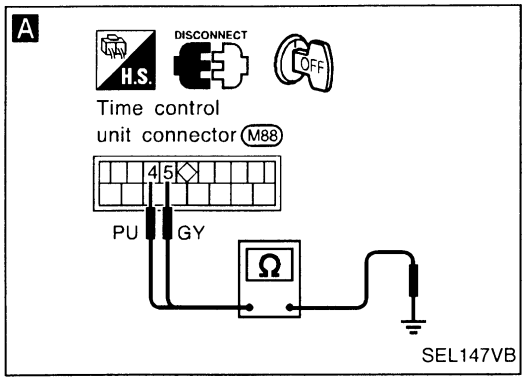
Terminals	Continuity
⑱ - Ground	Yes

Trouble Diagnosis (Cont'd)

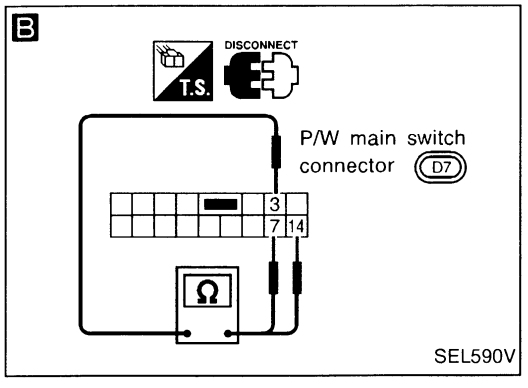
DIAGNOSTIC PROCEDURE 1

(Door lock/unlock switch check)

A



B



A

CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL.
1. Disconnect control unit connector.
2. Check continuity between control unit terminal ④ or ⑤ and ground.

Terminals	Door lock/unlock switch condition	Continuity
④ - Ground	Lock	Yes
	N and Unlock	No
⑤ - Ground	Unlock	Yes
	N and Lock	No

OK → Door lock/unlock switch is OK.

NG ↓

B

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

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

NG → Replace door lock/unlock switch.

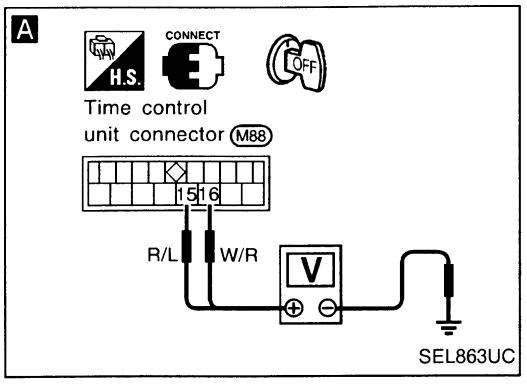
OK ↓

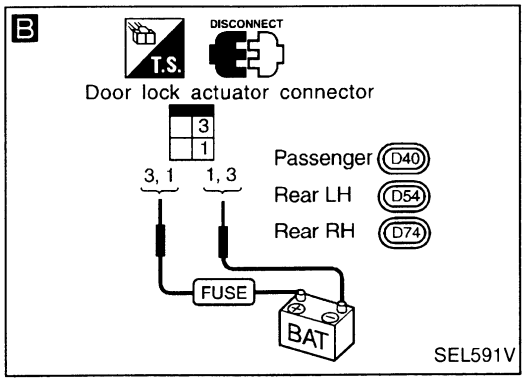
Check the following.
- Ground circuit for door lock/unlock switch
- Harness for open or short between door lock/unlock switch and control unit connector

Trouble Diagnosis (Cont'd)

DIAGNOSTIC PROCEDURE 2

(Door lock actuator check)





A

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

Door lock/unlock switch condition	Terminals ⊕	Terminals ⊖	Voltage (V)
Lock	⑮	ground	Battery voltage
Unlock	⑯	ground	

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

OK ↓

B

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

Door lock actuator operation	Terminals ⊕	Terminals ⊖
Unlocked → Locked	③	①
Locked → Unlocked	①	③

NG → Replace door lock actuator.

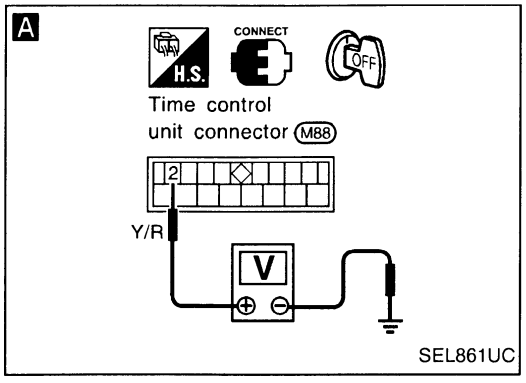
OK ↓

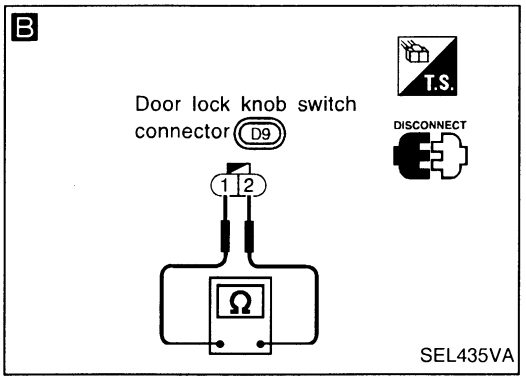
Repair harness between control unit connector and door lock actuator.

Trouble Diagnosis (Cont'd)

DIAGNOSTIC PROCEDURE 3

(Driver side door lock knob switch check)





A

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

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

OK → Driver side door lock knob switch is OK.

NG ↓

B

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

Terminals	Condition	Continuity
① - ②	Locked	No
	Unlocked	Yes

NG → Replace door lock knob switch.

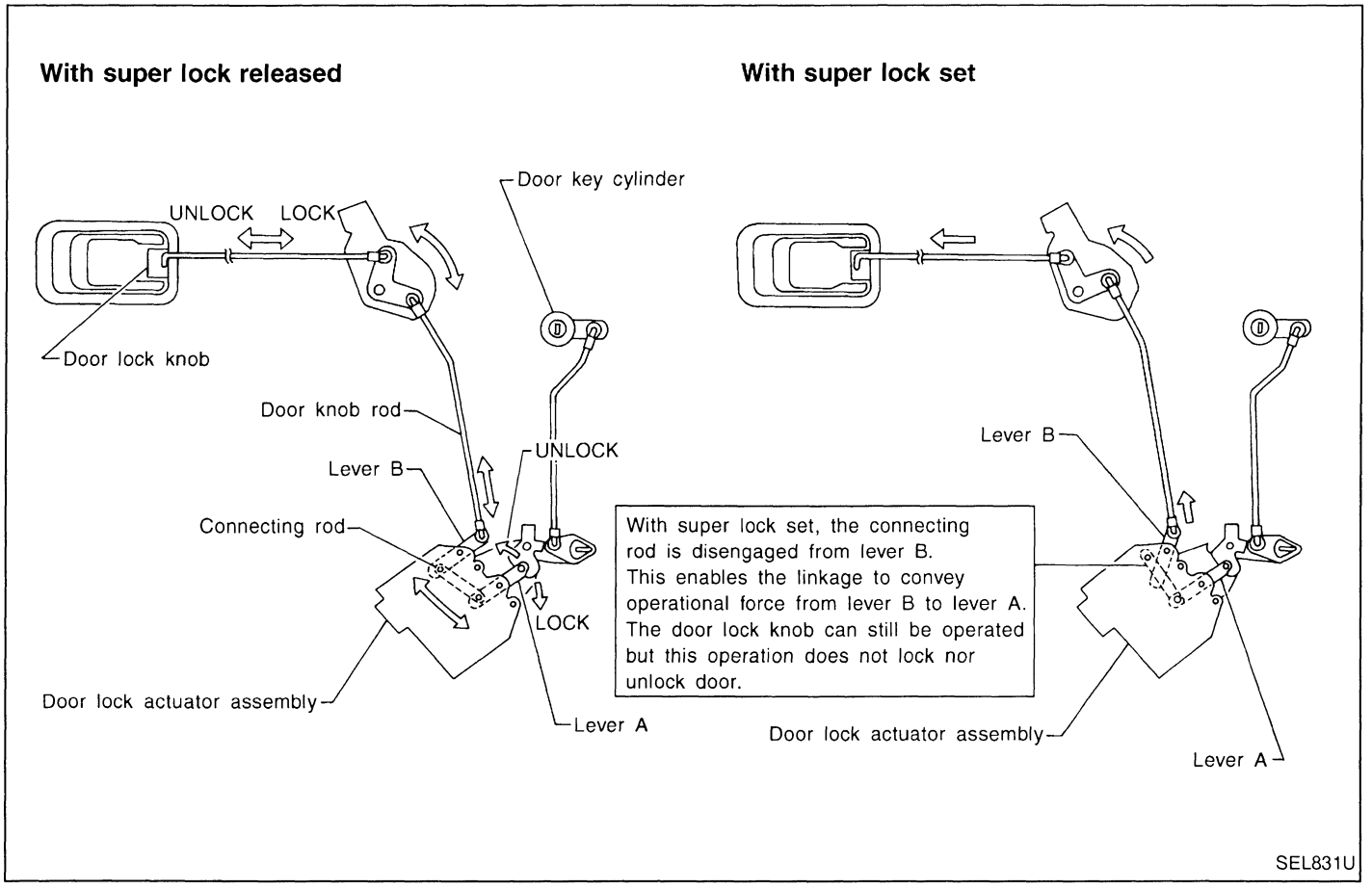
OK ↓

Check the following.
- Ground circuit for door lock knob switch
- Harness for open or short between door lock knob switch and control unit

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.



OPERATION

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

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

Power door lock/unlock and super lock set/release operation by multi-remote controller (If equipped)

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

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

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

System Description (Cont'd)

Power door lock/unlock operation by lock knob

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

Lock knob operation cannot control super lock.

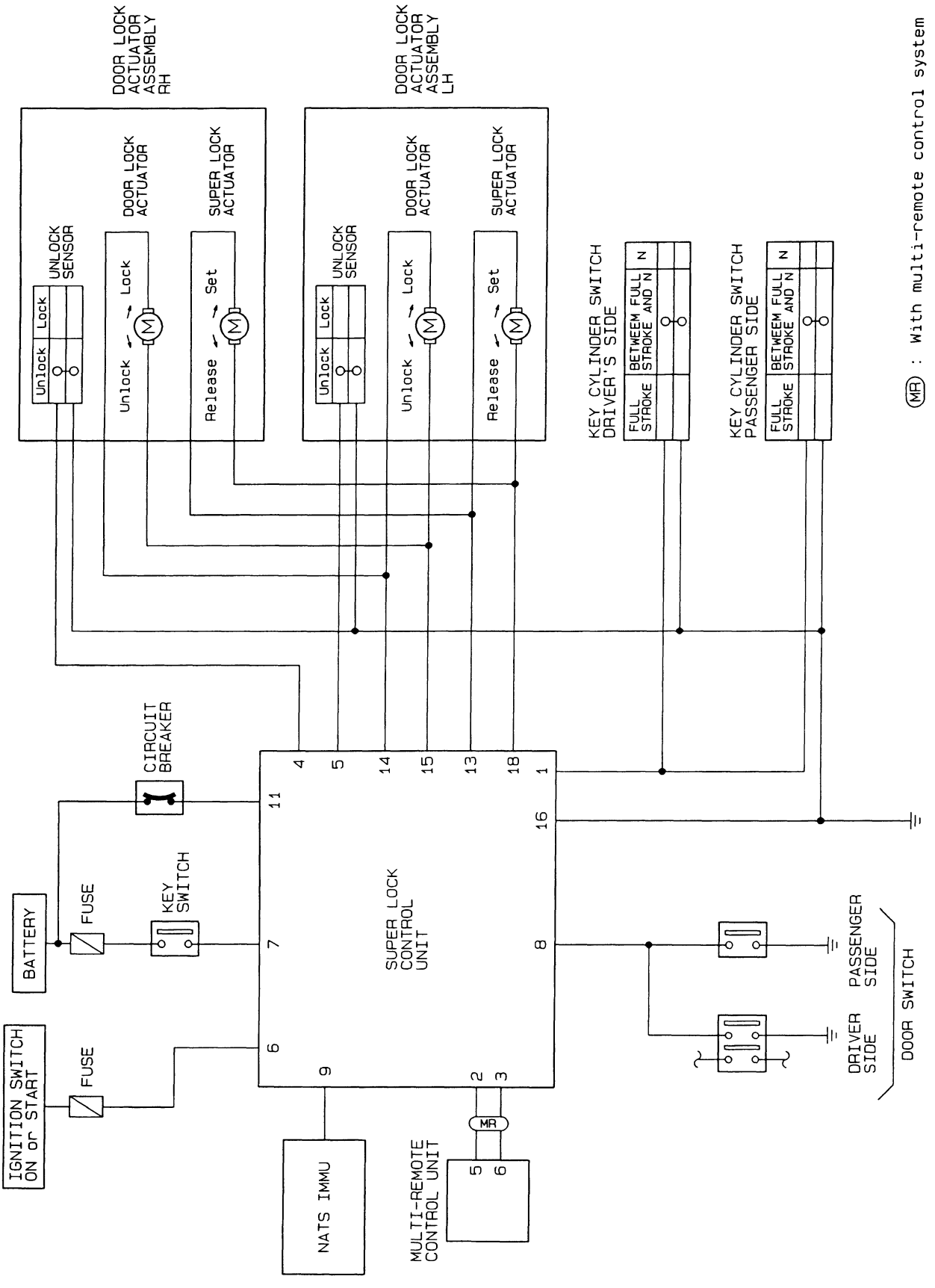
Key reminder system

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

System initialisation

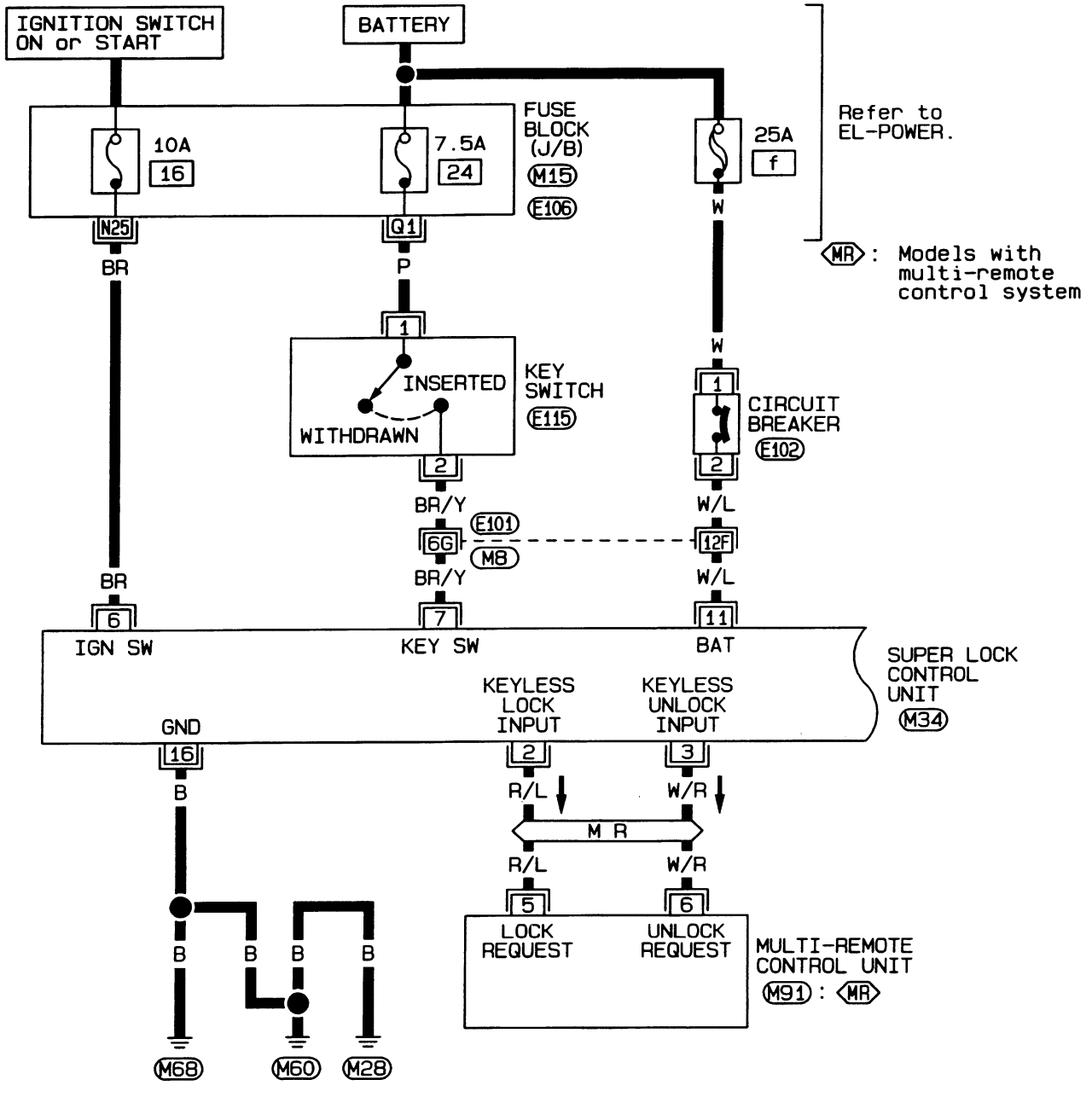
- System initialisation is required when battery cables are reconnected. Conduct one of the followings to release super lock once;
  — insert the key into ignition key cylinder and turn it to ON.
  — LOCK/UNLOCK operation using door key cylinder.

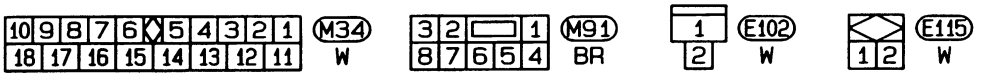
Schematic


DOOR LOCK ACTUATOR ASSEMBLY RH
DOOR LOCK ACTUATOR ASSEMBLY LH
UNLOCK SENSOR
DOOR LOCK ACTUATOR
SUPER LOCK ACTUATOR
Unlock
Lock
Release
Set
KEY CYLINDER SWITCH DRIVER'S SIDE
KEY CYLINDER SWITCH PASSENGER SIDE
FULL STROKE
BETWEEN FULL STROKE AND N
N
(MR) : With multi-remote control system
CIRCUIT BREAKER
BATTERY
FUSE
KEY SWITCH
IGNITION SWITCH ON or START
SUPER LOCK CONTROL UNIT
NATS IMMU
MULTI-REMOTE CONTROL UNIT
DOOR SWITCH
PASSENGER SIDE
DRIVER SIDE
HEL251A

Wiring Diagram — S/LOCK —

EL-S/LOCK-01





Refer to last page (Foldout page).

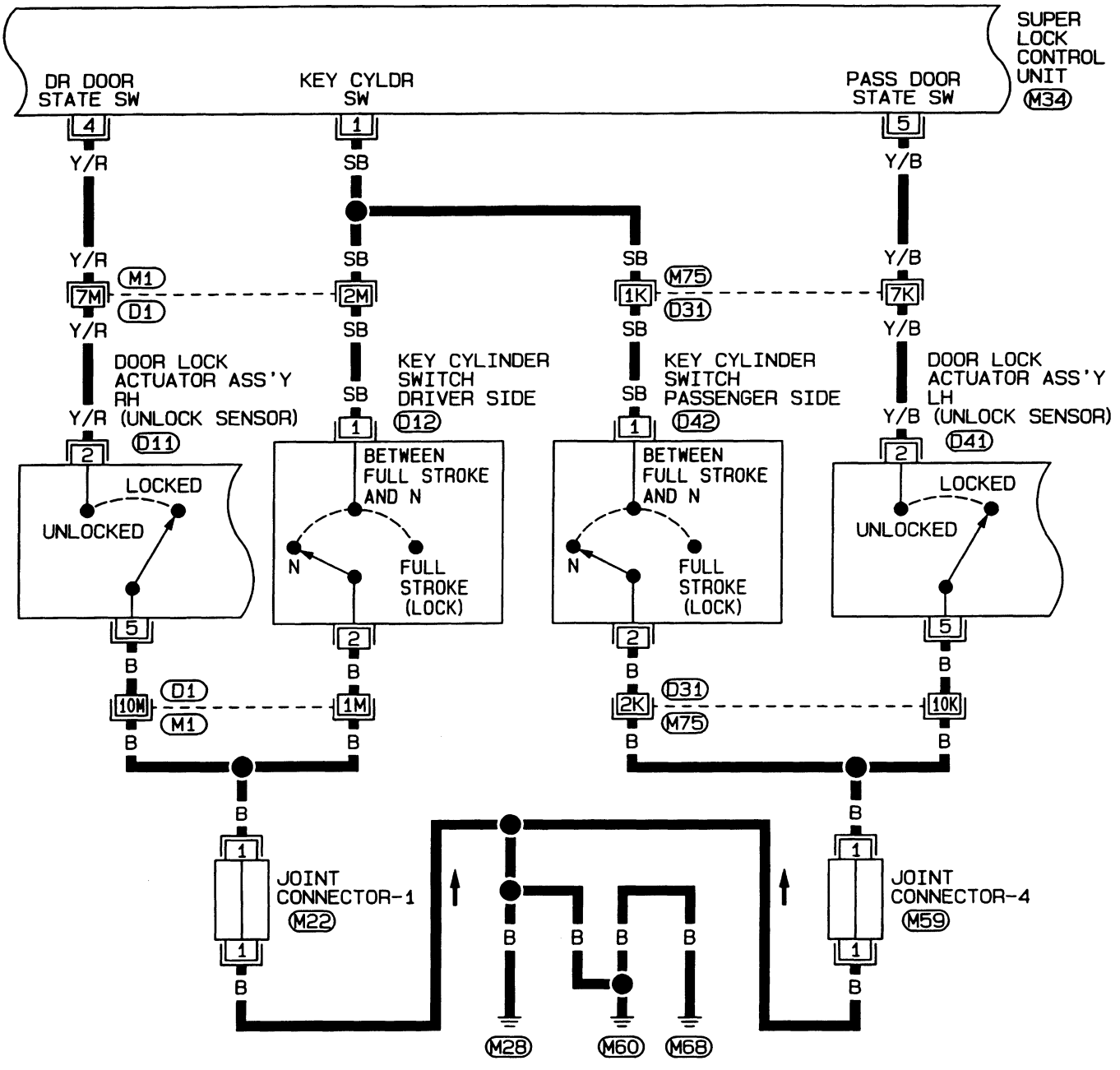
M8, E101

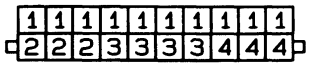
M15, E106

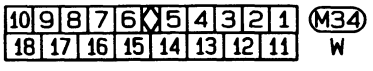
HEL247A

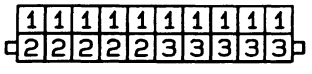
Wiring Diagram — S/LOCK — (Cont'd)

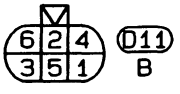
EL-S/LOCK-02



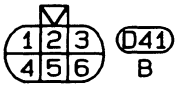

M22 BR


M34 W


M59 P


D11 B


D12, D42 GY, GY


D41 B

CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

Refer to last page (Foldout page).

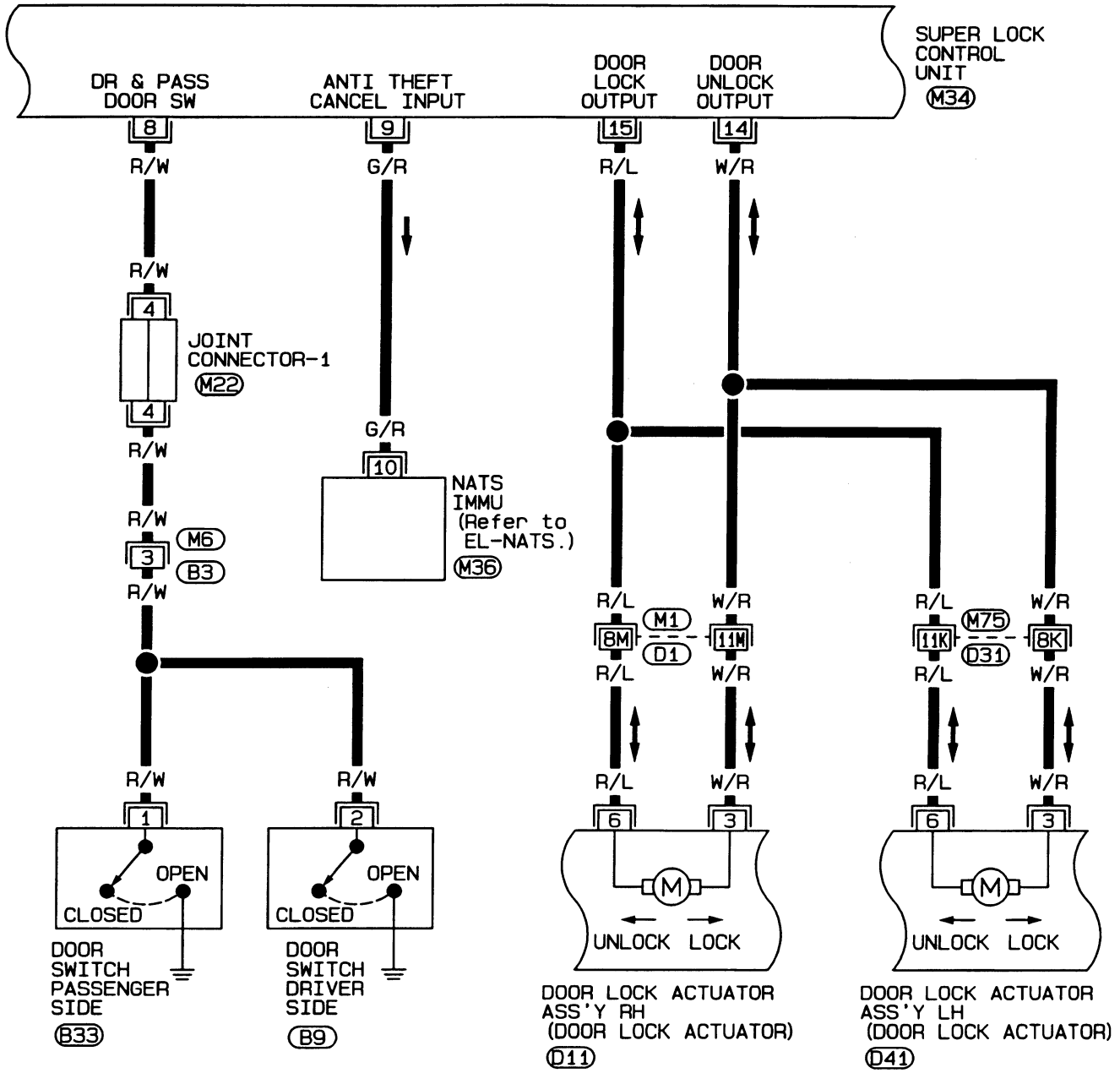
M1, D1

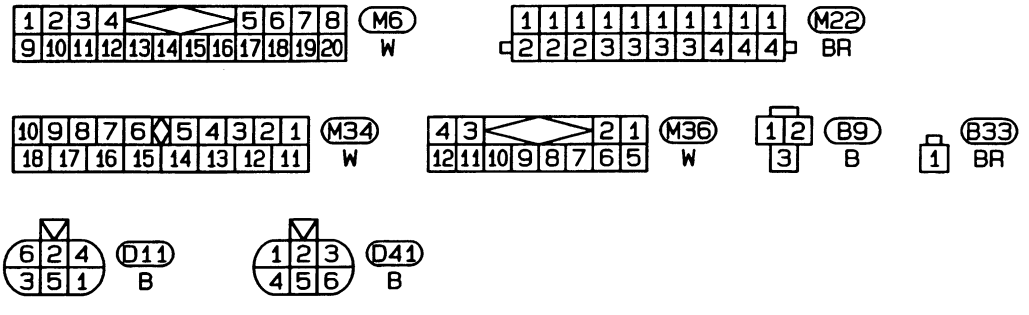
M75, D31

HEL248A

Wiring Diagram — S/LOCK — (Cont'd)

EL-S/LOCK-03





Refer to last page (Foldout page).

M1, D1

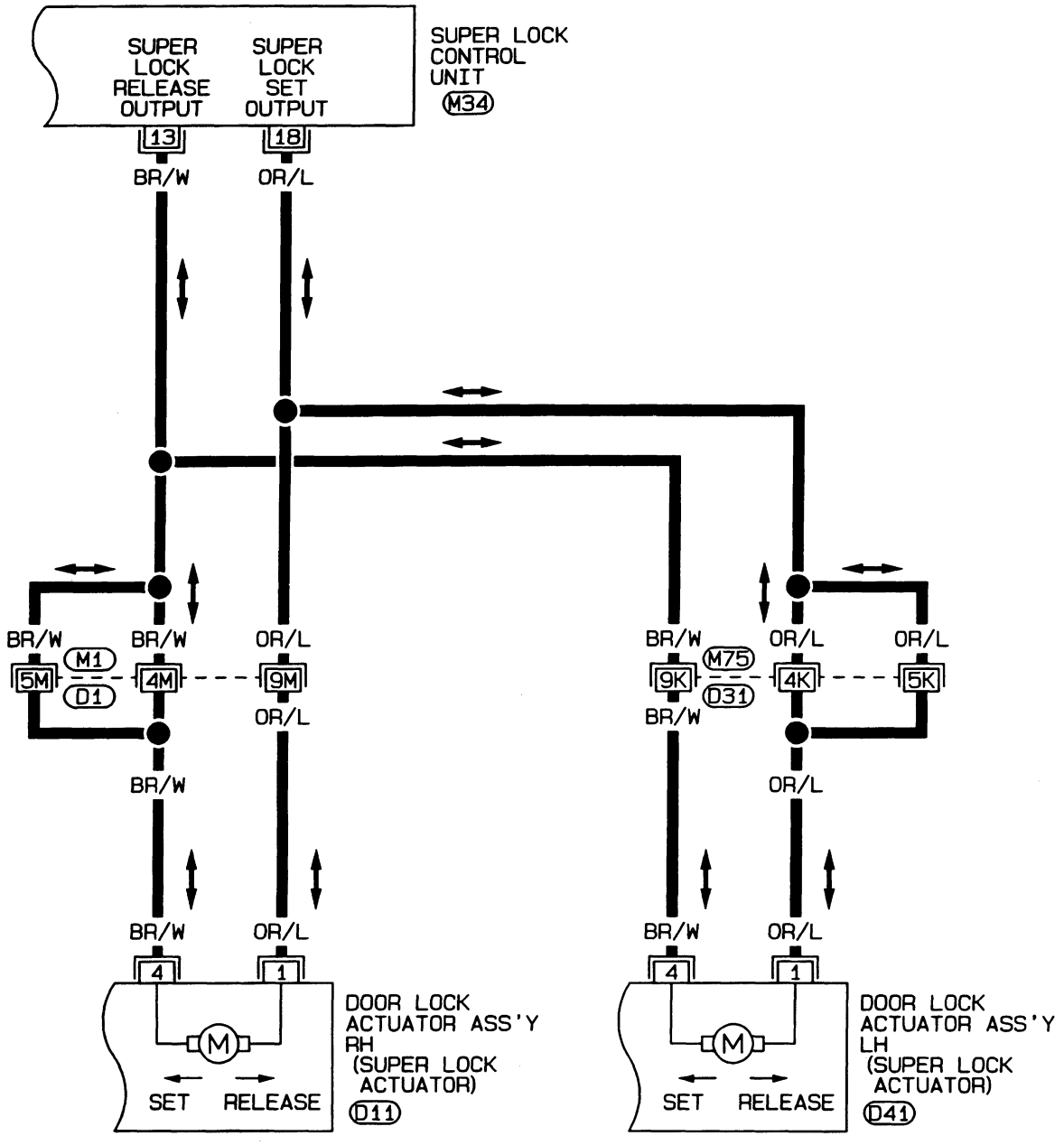
M75, D31

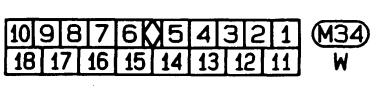
CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

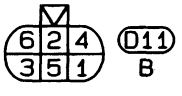
HEL249A

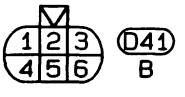
Wiring Diagram — S/LOCK — (Cont'd)

EL-S/LOCK-04









Refer to last page (Foldout page).

M1, D1

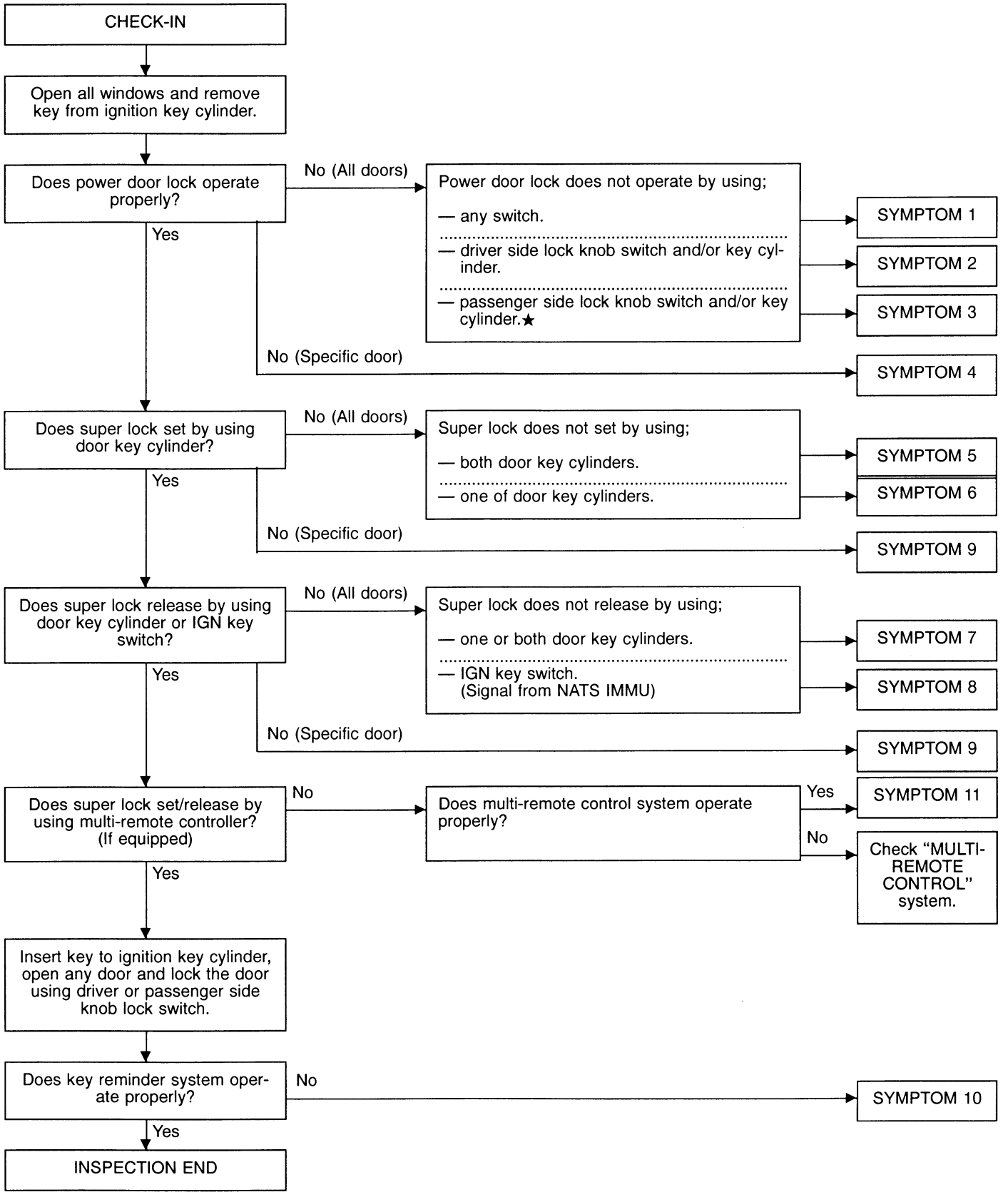
M75, D31

CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

HEL250A

Trouble Diagnoses

PRELIMINARY CHECK



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

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

Trouble Diagnoses (Cont'd)

Before starting trouble diagnoses below, perform preliminary check, EL-185.

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

SYMPTOM CHART

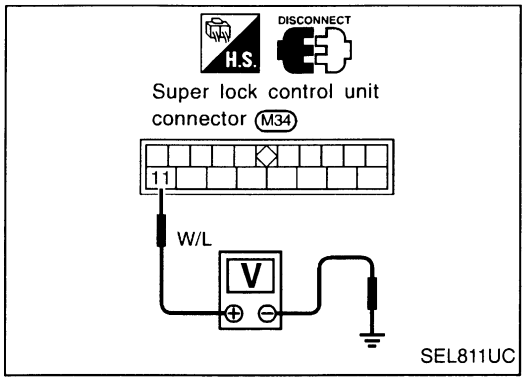
REFERENCE PAGE		EL-187	EL-188	EL-189	EL-190	EL-191	EL-192	EL-193	EL-194	EL-194	EL-195
SYMPTOM		Power supply and ground circuit check	Procedure 1 (Door unlock sensor check)	Procedure 2 (Door key cylinder switch check)	Procedure 3 (Door lock actuator check)	Procedure 4 (Super lock actuator check)	Procedure 5 (Door switch check)	Procedure 6 (NATS release signal check)	Procedure 7 (Key switch check)	Procedure 8 (Ignition switch "ON" circuit check)	Procedure 9 (Remote controller signal check)
1	Power door lock does not operate using any switch.	X	X		X						
2	Power door lock does not operate with any switch of driver side.		X								
3	Power door lock does not operate with any switch of passenger side.		X				X				
4	Specific door lock actuator does not operate.				X						
5	Super lock cannot be set by both door key cylinders.	X		X		X			X	X	
6	Super lock cannot be set by one of door key cylinders.			X							
7	*Super lock cannot be released by one or both door key cylinders.		X								
8	*Super lock cannot be released by ignition key switch. (Signal from NATS IMMU)							X			
9	Specific super lock actuator does not operate.					X					
10	*Key reminder system does not operate.						X		X		
11	Super lock cannot be set/released by using multi-remote controller.										X

X: Applicable

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

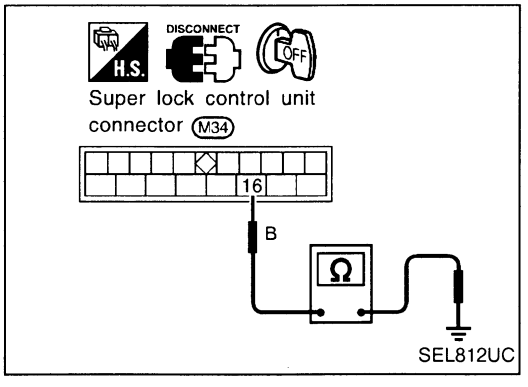
Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK



Main power supply circuit check

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



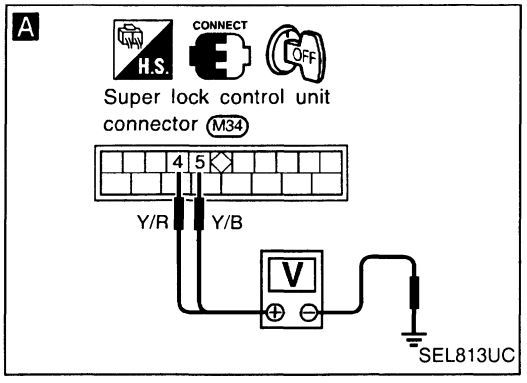
Ground circuit check

Terminals	Continuity
⑯ - Ground	Yes

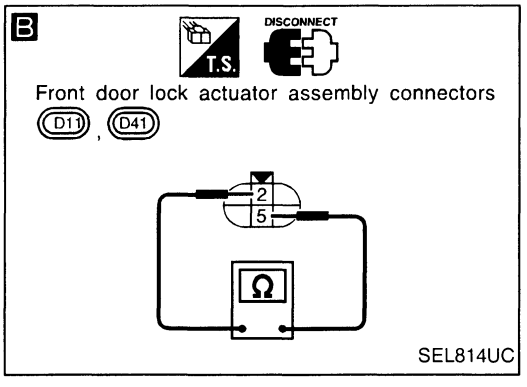
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1
(Door unlock sensor check)

A



B



A

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

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

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

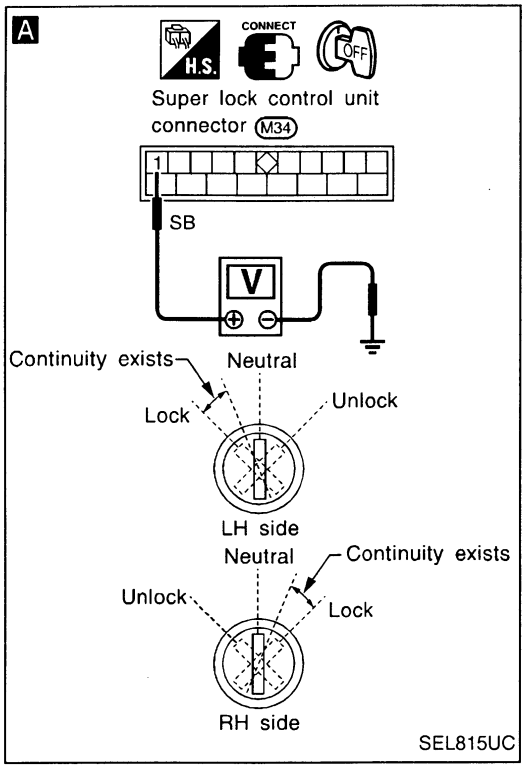
NG → Replace door lock actuator assembly.

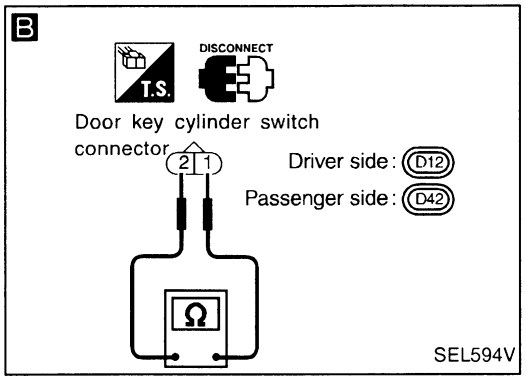
OK ↓

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 SIGNAL).
Check voltage between control unit terminal ① and ground.

Key cylinder switch operation	Voltage [V]
Between neutral and lock	0
Unlock/neutral	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
① - ②	Neutral	No
	Between neutral and lock	Yes
	Unlock/ neutral	No

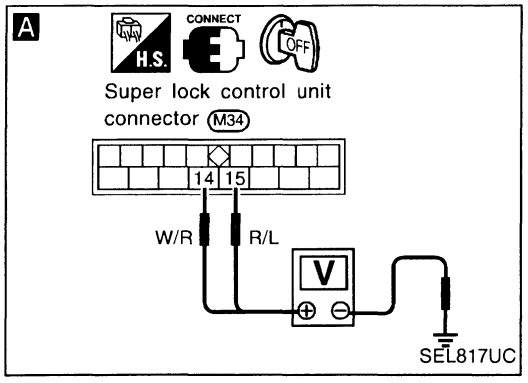
NG → Replace key cylinder switch.

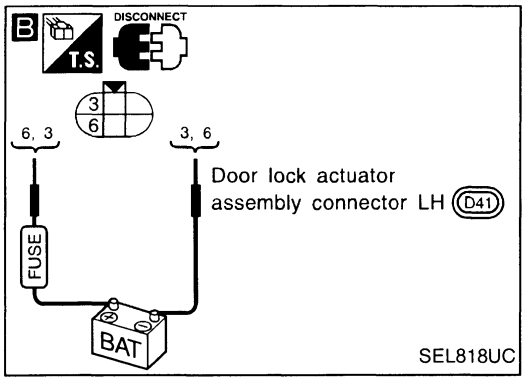
OK ↓

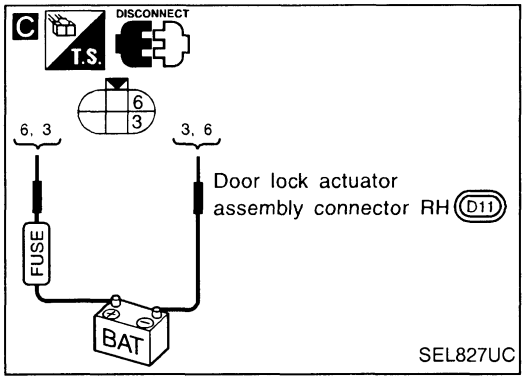
Check the following.
- Door key cylinder switch ground circuit
- Harness for open or short between control unit and door key cylinder

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3
(Door lock actuator check)







A

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

Knob lock switch condition	Terminals ⊕	Terminals ⊖	Voltage (V)
Unlock → Lock	⑮	Ground	Approx. 12 (Approx. 5 seconds)
Lock → Unlock	⑭	Ground	

Before operating passenger side knob lock switch, close all doors.

NG → Door lock actuator is OK.

OK ↓

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

B C Door lock actuator operation

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

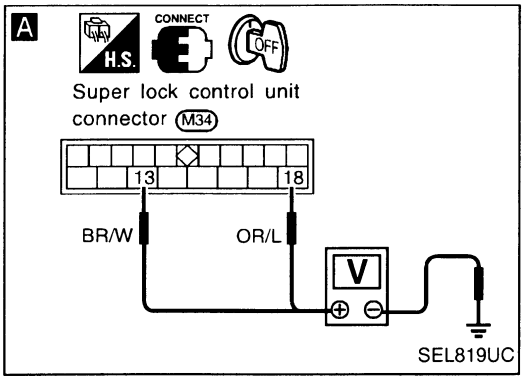
OK → Check harness between control unit and door lock actuator.

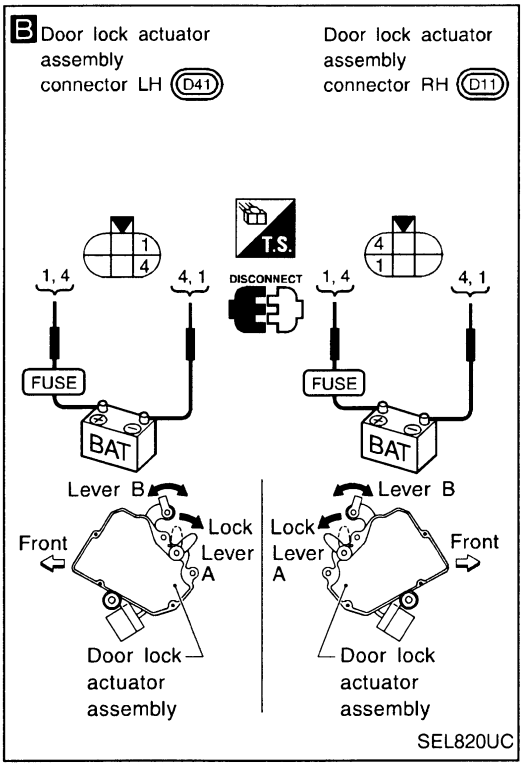
NG ↓

Replace door lock actuator assembly.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4
[Super lock actuator (in door lock actuator assembly) check]





A

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

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

Put the system in set condition before checking release signal.

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

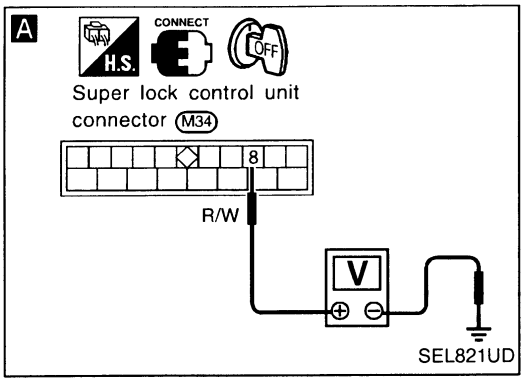
OK → Check harness between control unit and door lock actuator assembly.

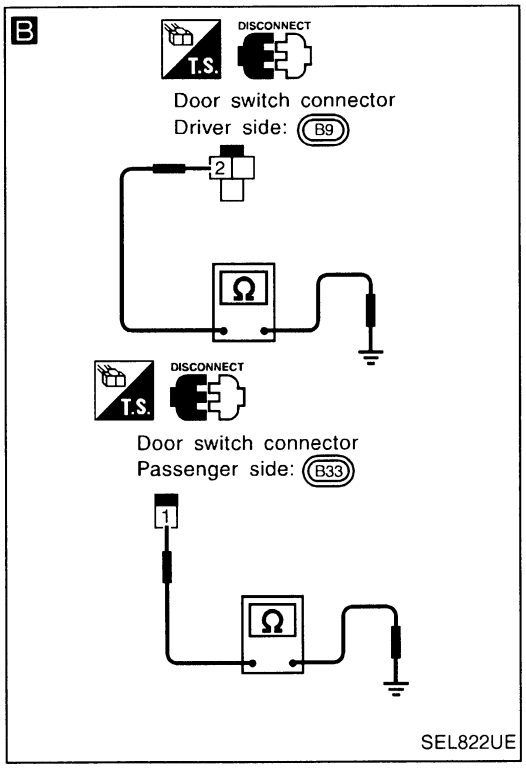
NG ↓

Replace door lock actuator assembly.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5
(Door switch check)





A

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

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

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	② - ground	Closed	No
		Open	Yes
Other door switches	① - ground	Closed	No
		Open	Yes

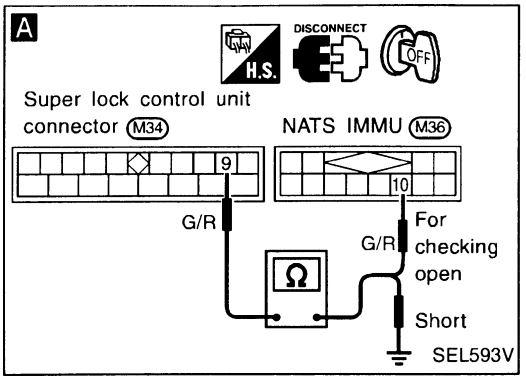
NG → Replace door switch.

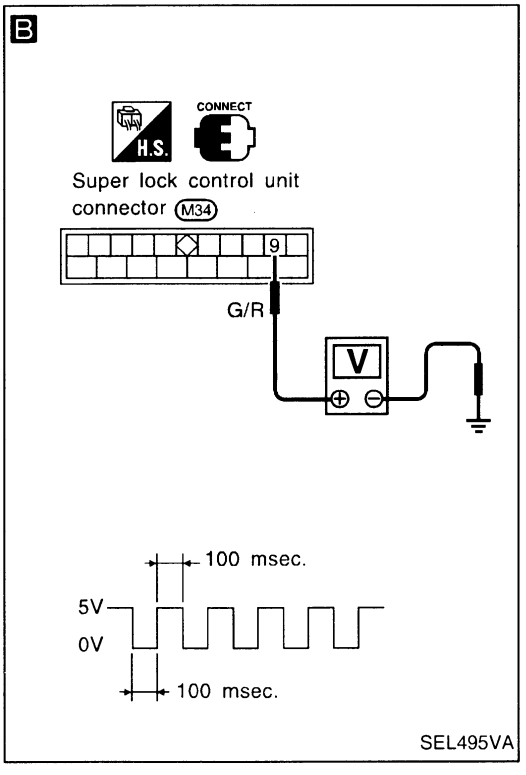
OK

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

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6
(NATS release signal check)





Does engine start properly?
- No → Check NATS system.
- Yes ↓

A

CHECK NATS SIGNAL CIRCUIT.
1. Disconnect control unit connector and NATS IMMU connector.
2. Check continuity between control unit terminal ⑨ and NATS IMMU terminal ⑩.
   Continuity should exist.
3. Check continuity between control unit terminal ⑨ and ground.
   Continuity should not exist.

- NG → Repair harness.
- OK ↓

B

CHECK NATS RELEASE SIGNAL.
1. Connect control unit connector and NATS IMMU connector.
2. Check voltage between control unit terminal ⑨ and ground.

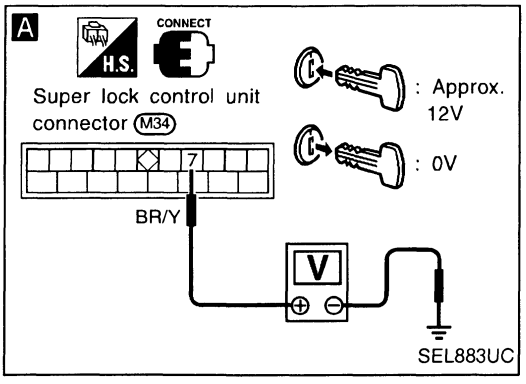
Ignition switch condition	Voltage [V]
OFF	5
More than 10 seconds after ignition switch turned ON	
For 10 seconds after ignition switch turned ON	Pulse

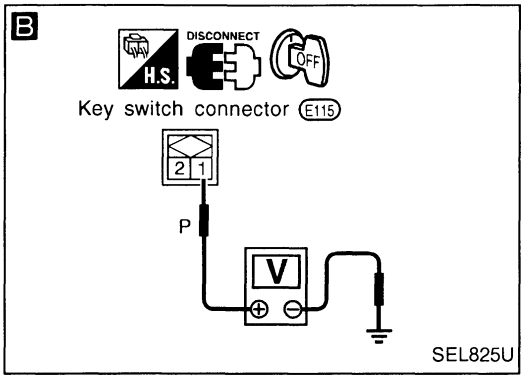
- NG → Check NATS system.
- OK ↓

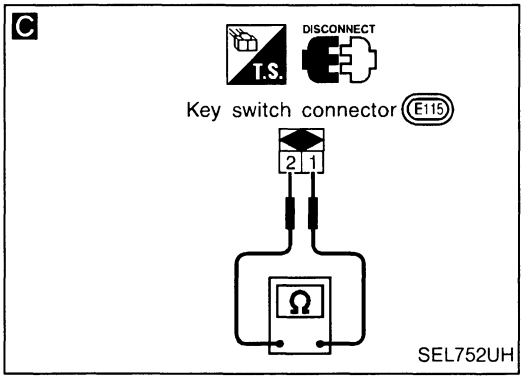
Replace super lock control unit.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7 (Key switch check)







A

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

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

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 ① 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

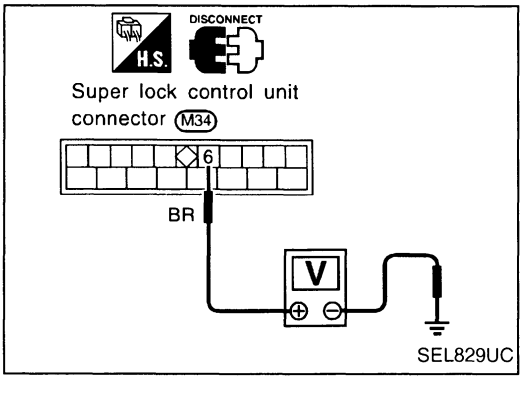
CHECK KEY SWITCH.
Check continuity between key switch terminals.

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 8 (Ignition switch "ON" circuit check)

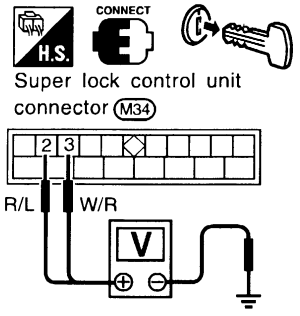
Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
⑥	Ground	0V	0V	Battery voltage

If NG, check the following.
- 10A fuse [No. 16 , located in the fuse block (J/B)]
- Harness for open or short

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 9
(Remote controller signal check)

A



A

CHECK REMOTE CONTROLLER INPUT SIGNAL.

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

NOTE: The multi-remote control system does not activate with key inserted in ignition key cylinder.

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

OK → Replace super lock control unit.

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

System Description

FUNCTION

Multi-remote control system has the following function.

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

LOCK OPERATION

To lock door by multi-remote controller, the ignition switch must be in a position other than ON.
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/door lock timer terminal ② .

Then super lock control unit/door lock timer operates to lock doors and set super lock (models with super lock).

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), ground is supplied

- through multi-remote control unit terminal ⑥
- to super lock control unit/door lock timer terminal ③ .

Then super lock control unit/door lock timer operates to unlock doors and release super lock (models with super lock).

HAZARD REMINDER

When the doors are locked or unlocked by multi-remote controller, supply power to turn lamps hazard reminder flashes as follows

- Lock operation: Flash once (When driver's door unlock sensor detects "LOCK".)
- Unlock operation: Flash twice

MULTI-REMOTE CONTROLLER ID CODE ENTRY

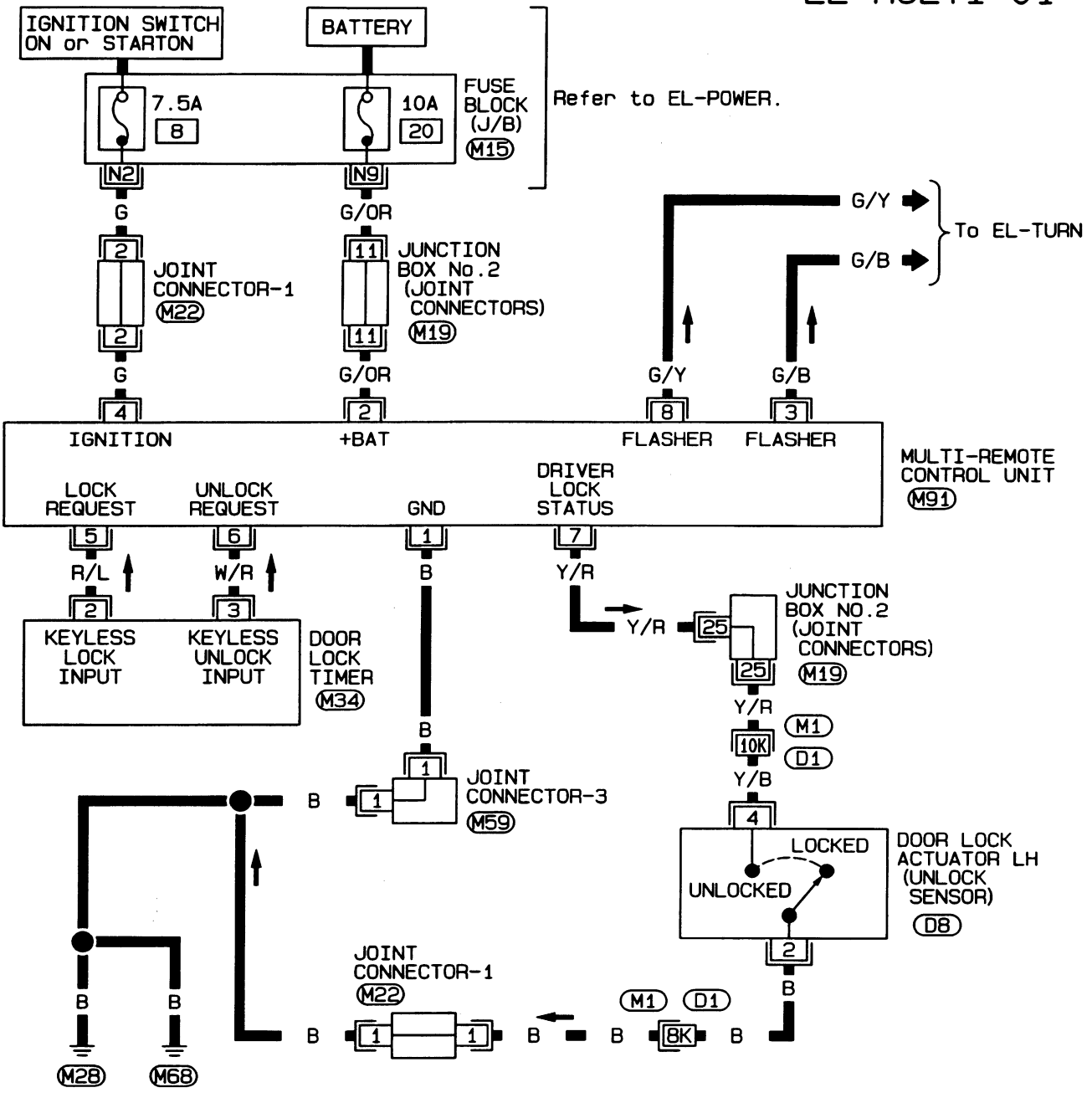
A maximum of four remote controllers can be entered.
To enter ID code entry, the following signals must be input to the multi-remote control unit.

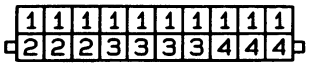
- Ignition switch (ON)
- Signal from remote controller

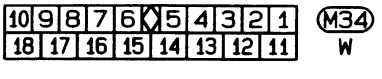
For detailed procedure, refer to "ID Code Entry Procedure" in EL-201.

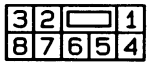
Wiring Diagram — MULTI —/LHD Models

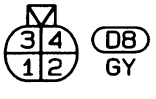
EL-MULTI-01




M22, M59 BR, BR


M34 W


M91 BR


D8 GY

Refer to last page (Foldout page).

M1, D1

M15

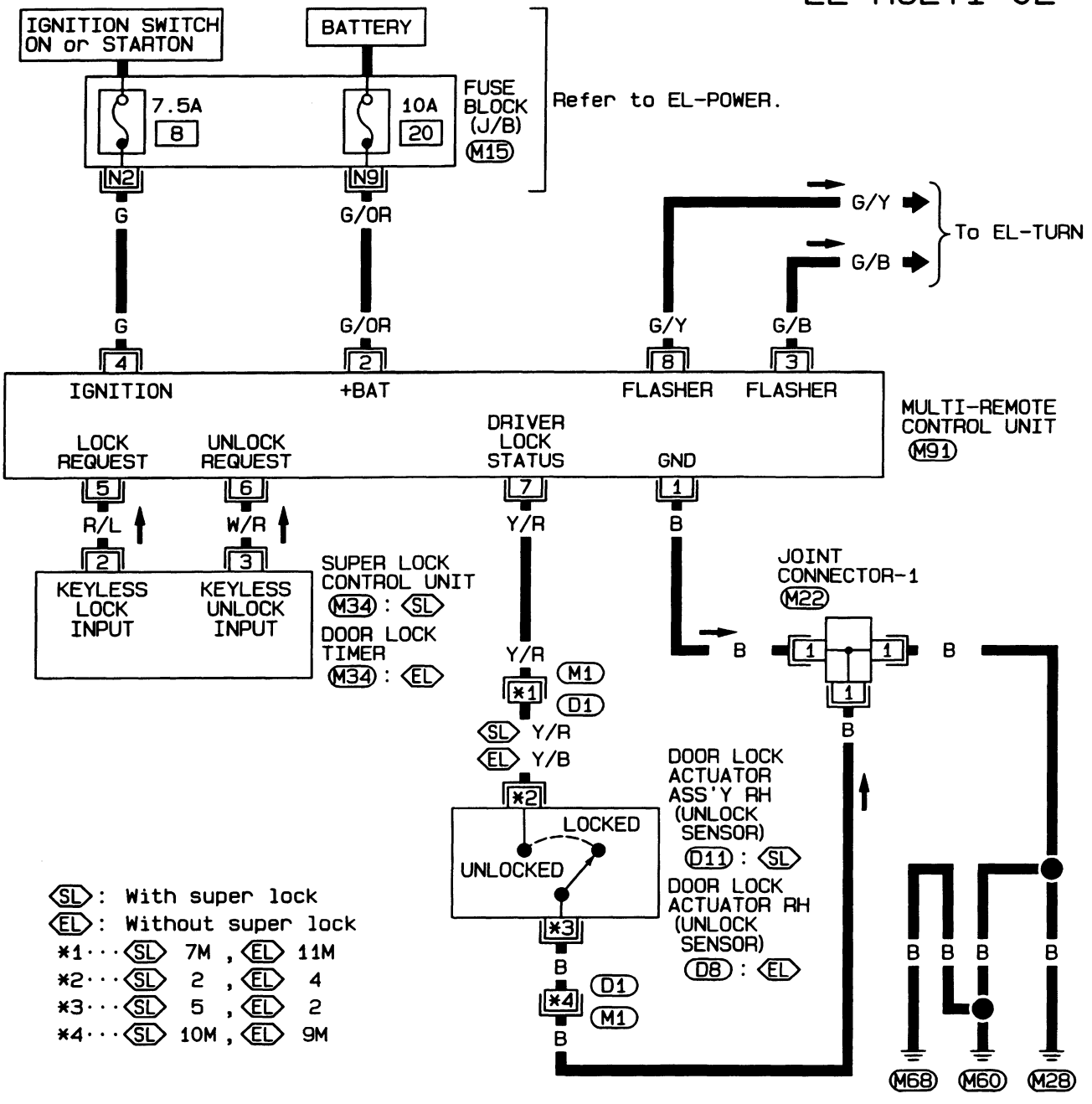
M19

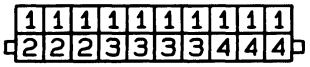
CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

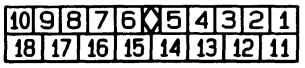
HEL253A

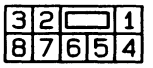
Wiring Diagram — MULTI —/RHD Models

EL-MULTI-02




M22 BR


M34 W


M91 BR


D8 GY D11 B

CAUTION : Don't attempt to repair, splice or modify the flexible flat circuit (FFC). If the FFC is damaged, replace with a new one.

Refer to last page (Foldout page).

M1 , D1

M15

HEL257A

Trouble Diagnoses

SYMPTOM CHART

Symptom		Possible cause	Diagnoses/service order
No doors can be locked or unlocked by remote control operation.	Hazard reminder also does not operate either.	1. Remote controller battery 2. Power supply circuit for multi-remote control unit 3. Ground circuit for multi-remote control unit 4. Remote controller	1. Check remote controller battery. Refer to EL-200. 2. Make sure battery voltage is present at terminal ② of multi-remote control unit. 3. Check continuity between terminal ① of multi-remote control unit and ground. 4. Replace remote controller. Refer to EL-201.
	Hazard reminder operates properly.	1. Super lock/door lock system 2. Lock/unlock signal to super lock control unit/door lock timer	1. Check that power door lock operates properly. If NG, check super lock/door lock. 2. Check lock/unlock signal to super lock control unit/door lock timer at terminals ⑤ and ⑥ of multi-remote control unit. (See NOTE.)
Hazard reminder does not operate properly.		1. Hazard signal from multi-remote control unit 2. Driver's door unlock sensor 3. Hazard reminder circuit	1. Check hazard reminder signal to turn lamps at terminals ③ and ⑧ . (See NOTE.) 2. Check driver's door unlock sensor signal at terminal ⑦ of multi-remote control unit. 3. Check harness for open or short between turn lamps and 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. Remote controller	1. Check remote controller battery. Refer to EL-200. 2. Make sure battery voltage is present at terminal ④ of multi-remote control unit while ignition switch is in ON position. 3. Replace remote controller. Refer to EL-201.

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

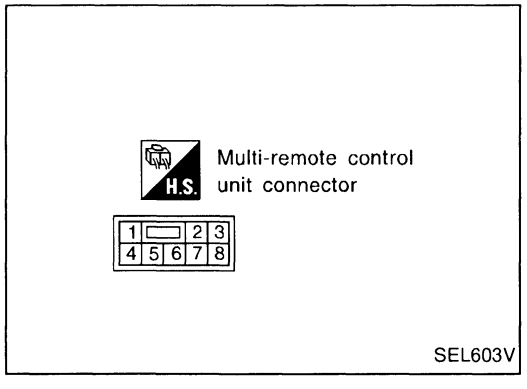
NOTE:

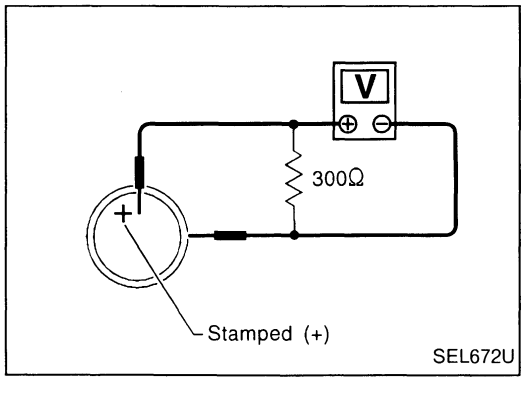
The lock operation of multi-remote controller does not activate with the ignition switch is in ON position.

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	Turn lamps LH	Remote controller LOCK/UNLOCK button is pushed (Ignition switch is not in ON position.)		12
		Other than above condition		0
4	Ignition power supply	Ignition switch	OFF or ACC	0
			ON	12
5	Lock signal (to super lock control unit/door lock timer)	Remote controller LOCK button is pushed (Ignition switch is not in ON position.)		0
		Other than above condition		5
6	Unlock signal (to super lock control unit/door lock timer)	Remote controller UNLOCK button is pushed		0
		Other than above condition		5
7	Driver side door unlock sensor	Driver side door	Locked	5
			Unlocked	0
8	Turn lamps RH	Remote controller LOCK/UNLOCK button is pushed (Ignition switch is not in ON position.)		12
		Other than above condition		0





REMOTE CONTROLLER BATTERY CHECK

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

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

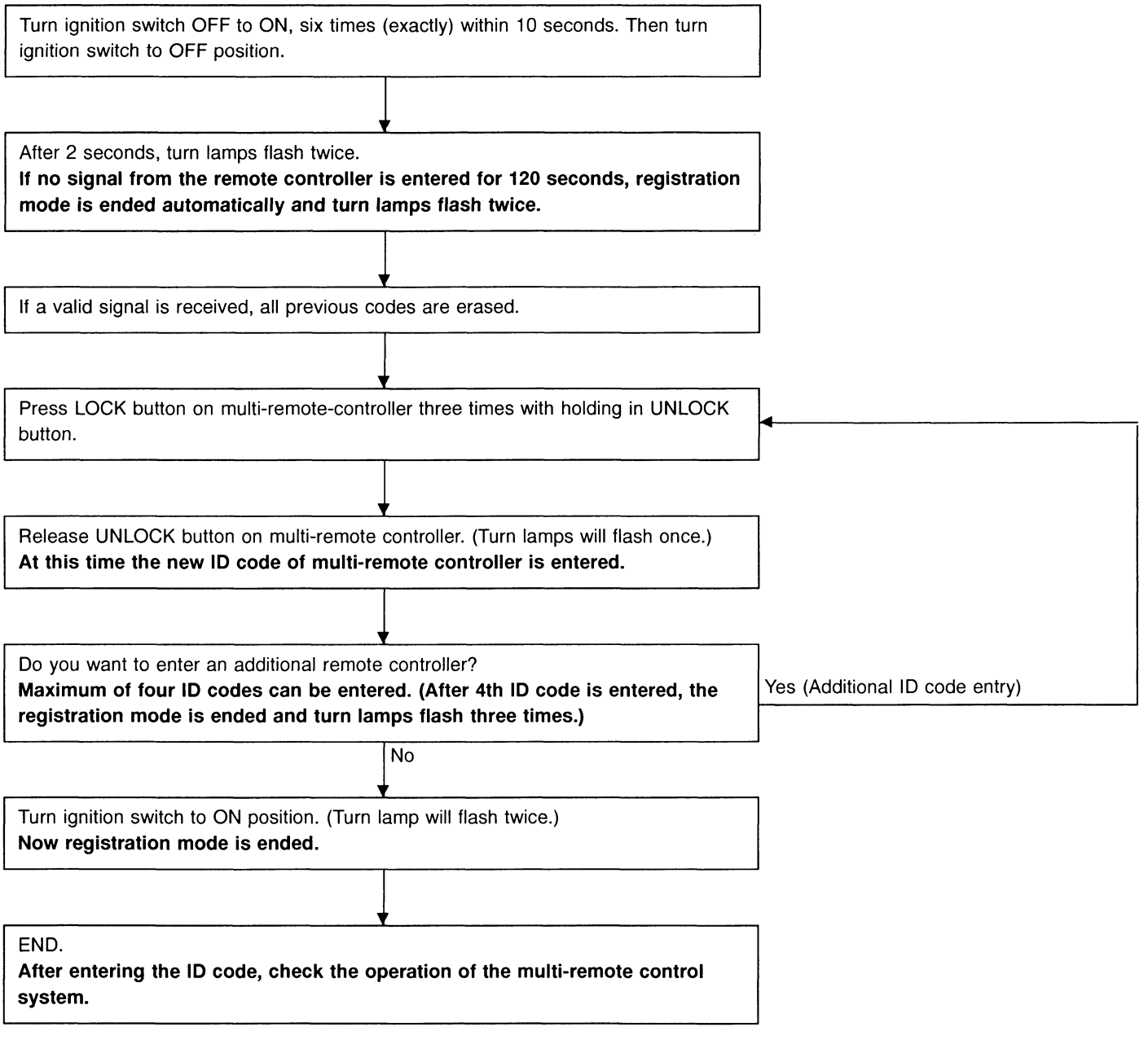
Note:
Remote controller does not function if battery is not set correctly.

ID Code Entry Procedure

Enter the identity (ID) code manually when:
- remote controller or control unit is replaced.
- an additional remote controller is activated.

To enter the ID code, follow the procedures below.

PROCEDURE



NOTE:
- **A maximum of four remote controllers can be entered.**
- **If you need to activate more than two additional new remote controllers, repeat the procedure "Additional ID code entry" for each new remote controller.**
- **Any ID codes cannot be entered after termination of the "registration mode".**

System Description

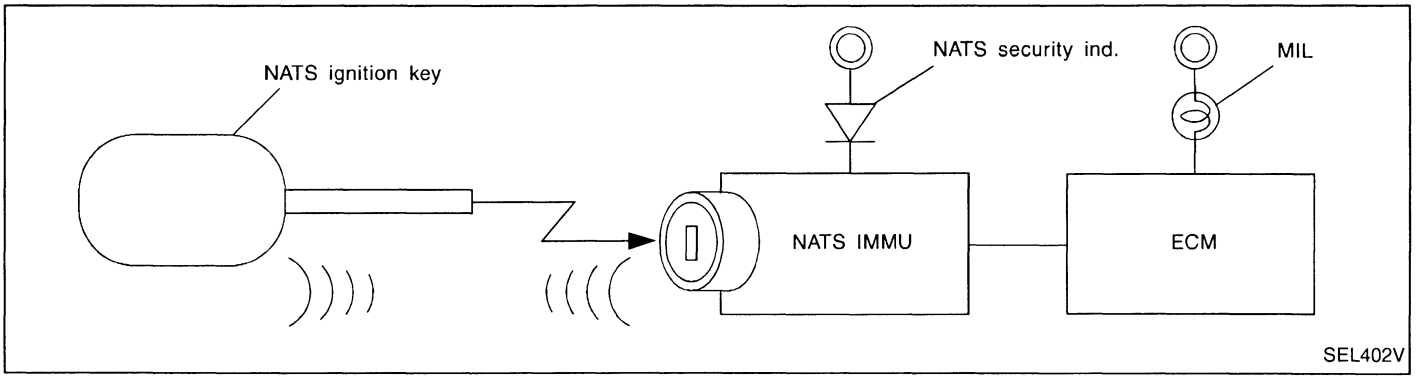
NATS has the following immobiliser functions:

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

System Composition

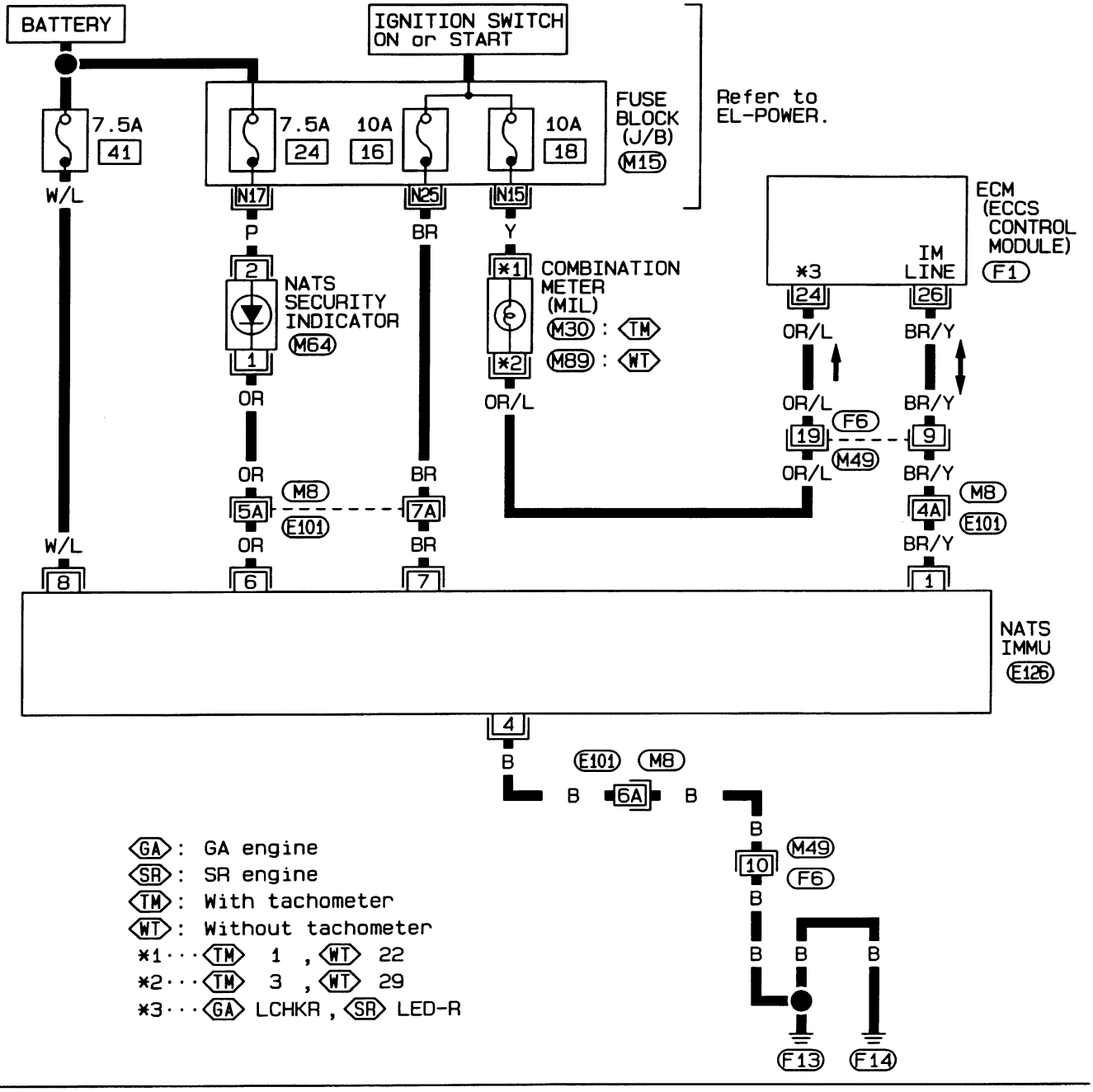
The immobiliser function of the NATS consists of the following:

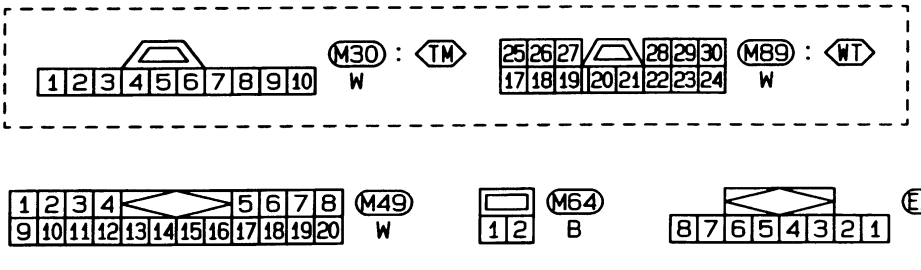
- NATS ignition key
- NATS immobiliser control unit (NATS IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- NATS security indicator
- Malfunction indicator lamp (MIL)



Wiring Diagram — NATS —/Gasoline Engine

EL-NATS-01





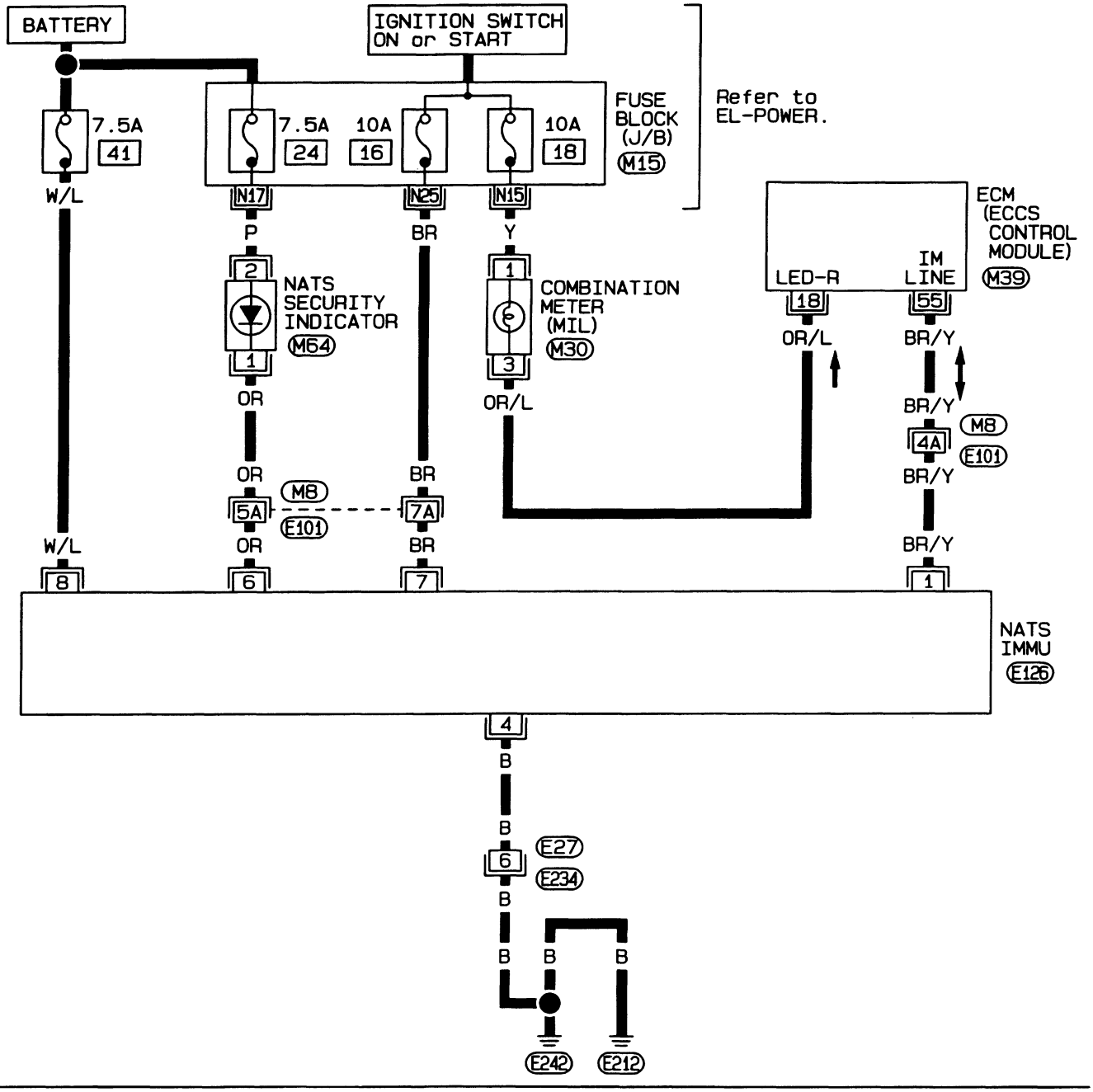
Refer to last page (Foldout page).

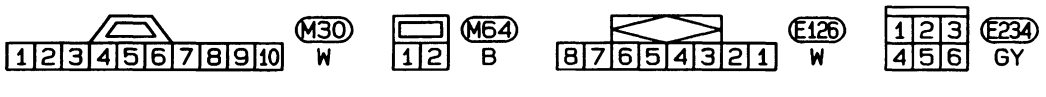
M8, E101
M15
F1

HEL265A

Wiring Diagram — NATS —/Diesel Engine

EL-NATS-02





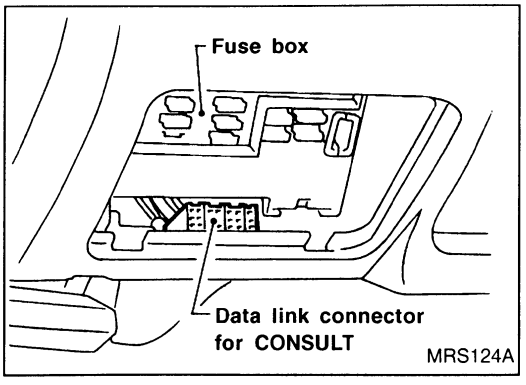
Refer to last page (Foldout page).

M8, E101

M15

M39

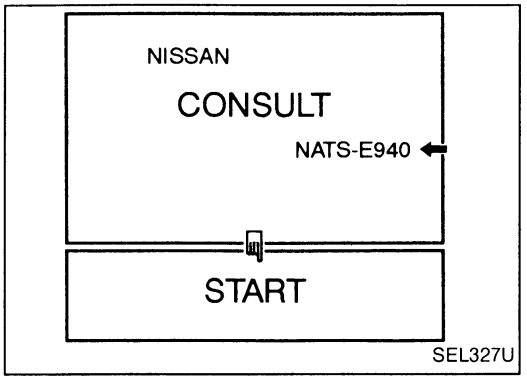
HEL266A



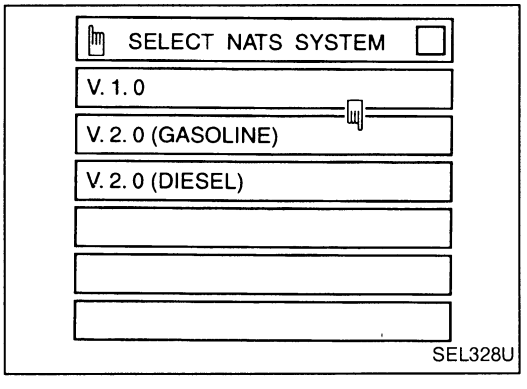
CONSULT

CONSULT INSPECTION PROCEDURE

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

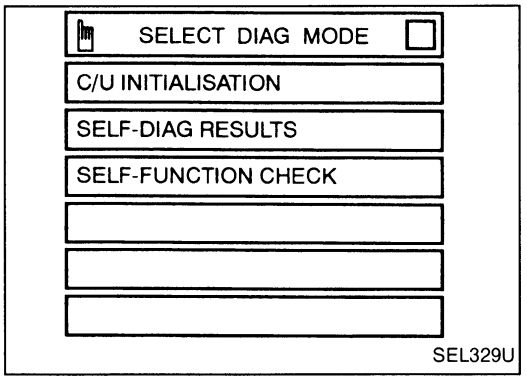


3. Insert NATS program card into CONSULT.
   ◀: Program card
   NATS-E940
4. Turn on ignition switch.
5. Touch "START".



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

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



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

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

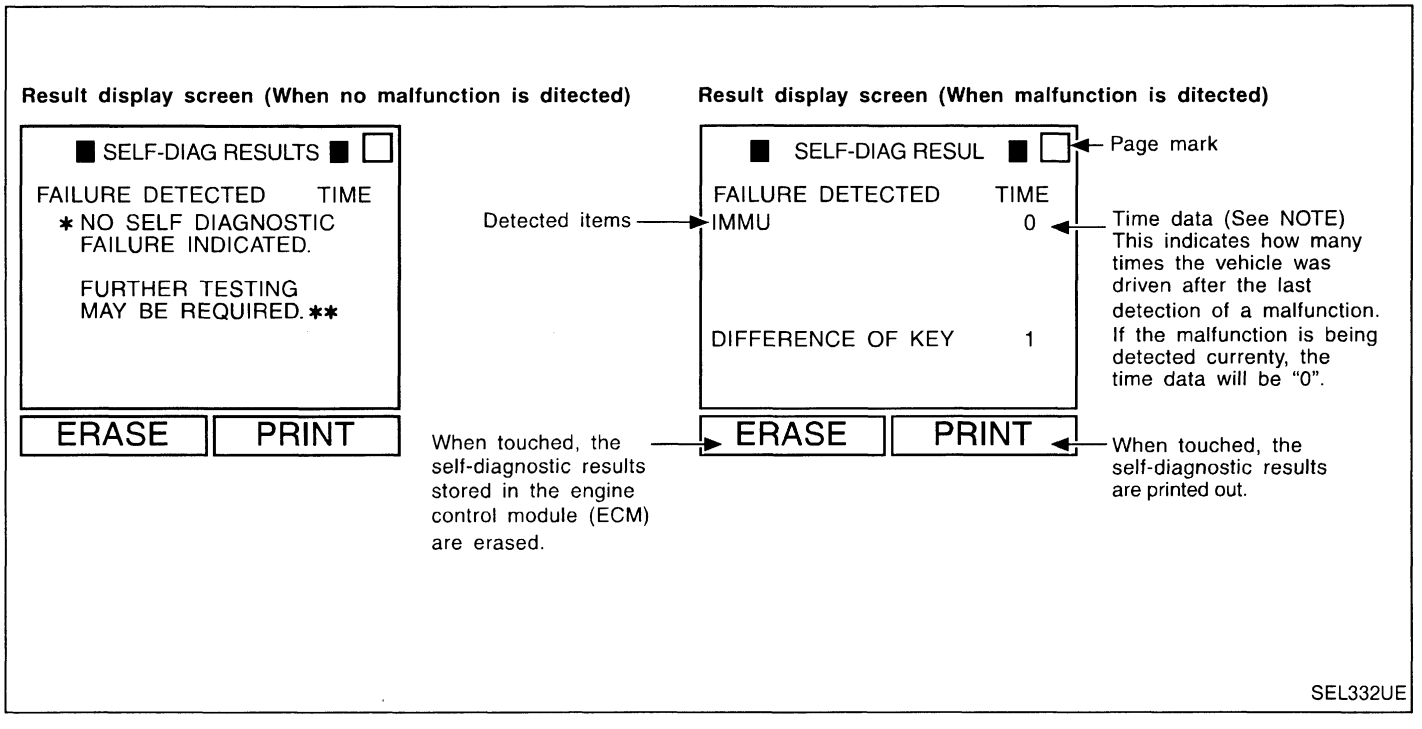
CONSULT (Cont'd)

CONSULT DIAGNOSTIC TEST MODE FUNCTION

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

NOTE:
When any initialisation is performed, all ID previously registered will be erased. So all NATS ignition keys must be registered again.
The engine cannot be started with an unregistered key. In this case, the system may show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT screen.

HOW TO READ SELF-DIAGNOSTIC RESULTS



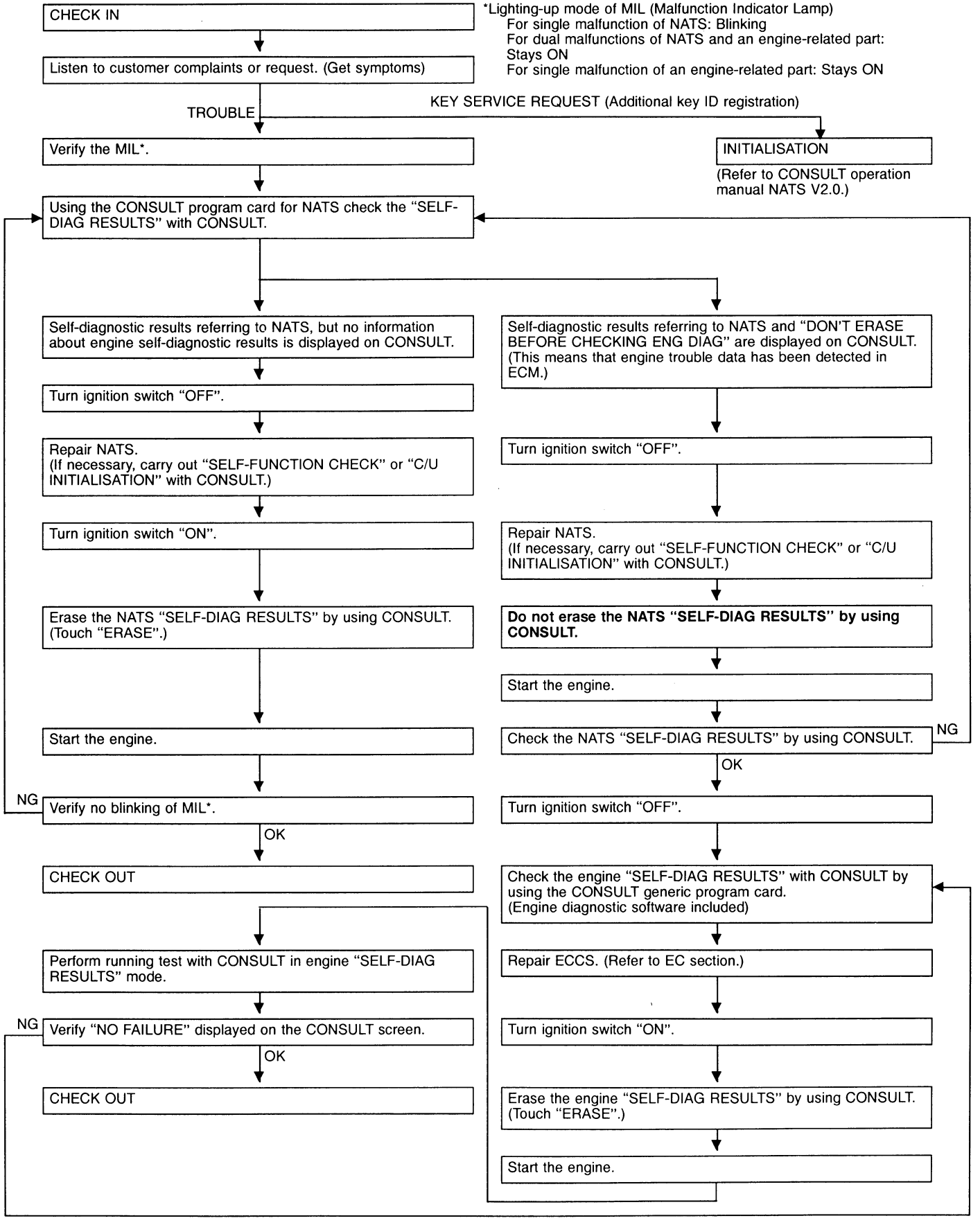
NOTE:
If trip number is more than 1, MIL does not blink.

SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (Screen terms)	Description	Reference page
IMMU	ECM received the signal from IMMU that IMMU is malfunctioning.	EL-209
ECM	ECM is malfunctioning.	EL-209
CHAIN OF ECM-IMMU	Communication impossible between ECM and IMMU.	EL-210
DIFFERENCE OF KEY	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-212
CHAIN OF IMMU-KEY	IMMU cannot receive the key ID signal.	EL-213
ID DISCORD, IMM-ECM	The result of ID verification between IMMU and ECM is NG. System initialisation is required.	EL-213
MINGLE NOISE	Noise (interference) mingled into NATS communication lines during communicating.	EL-214
DON'T ERASE BEFORE CHECKING ENG DIAG	Engine trouble data and NATS trouble data have been detected in ECM.	EL-207
LOCK MODE	When an unregistered ignition key is used, or if the starting operation is carried out two or more times consecutively with the ignition key, IMMU or ECM malfunctioning, NATS will shift the mode to one which prevents the engine from being started.	EL-215

Trouble Diagnoses

WORK FLOW



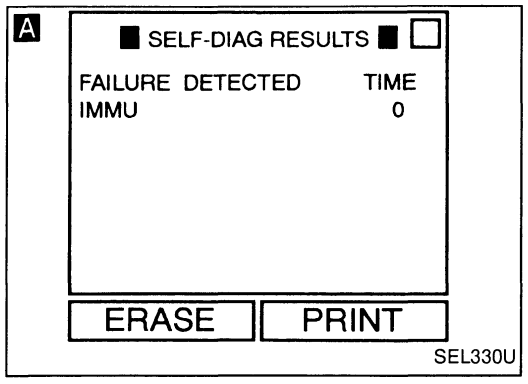
Trouble Diagnoses (Cont'd)

SYMPTOM CHART

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
• MIL blinking • Engine will start	IMMU	PROCEDURE 1 (EL-209)	IMMU
	ECM	PROCEDURE 2 (EL-209)	ECM
• MIL blinking • Engine does not start	CHAIN OF ECM-IMMU	PROCEDURE 3 (EL-210)	Open circuit in battery voltage line of IMMU circuit
			Open circuit in ignition line of IMMU circuit
			Open circuit in ground line of IMMU circuit
			Open or short circuit in communication line between IMMU and ECM
			ECM
			IMMU
	DIFFERENCE OF KEY	PROCEDURE 4 (EL-212)	Unregistered key
			IMMU
	CHAIN OF IMMU-KEY	PROCEDURE 5 (EL-213)	Malfunction of key ID chip
			IMMU
	ID DISCORD, IMM-ECM	PROCEDURE 6 (EL-213)	System initialisation has not yet been completed.
			ECM
			IMMU
	MINGLE NOISE	PROCEDURE 7 (EL-214)	Noise interference in communication line
	LOCK MODE	PROCEDURE 8 (EL-215)	LOCK MODE
• MIL staying ON	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-207)	Engine trouble data and NATS trouble data have been detected in ECM.
• Security indicator does not operate properly. • Engine starts properly.	—	PROCEDURE 9 (EL-216)	Security indicator circuit
			Security indicator
			Continuation of initialisation mode

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

Trouble Diagnoses (Cont'd)



DIAGNOSTIC PROCEDURE 1

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

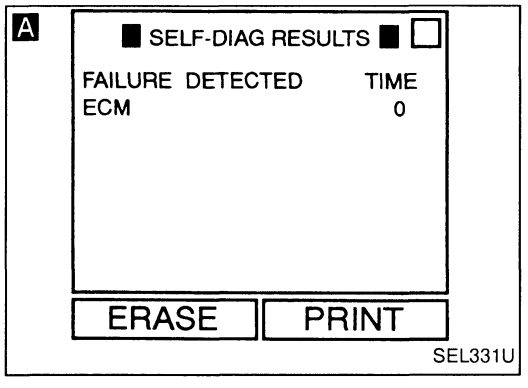
A

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

↓

- IMMU is malfunctioning.

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



DIAGNOSTIC PROCEDURE 2

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

A

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

↓

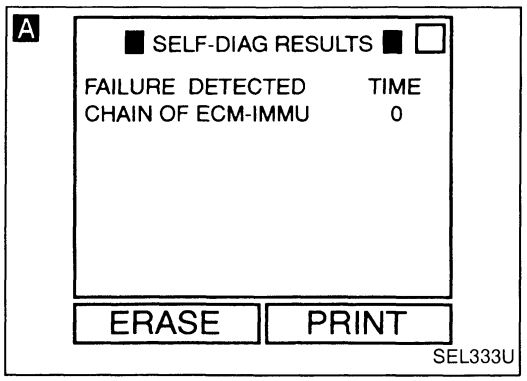
- ECM is malfunctioning.

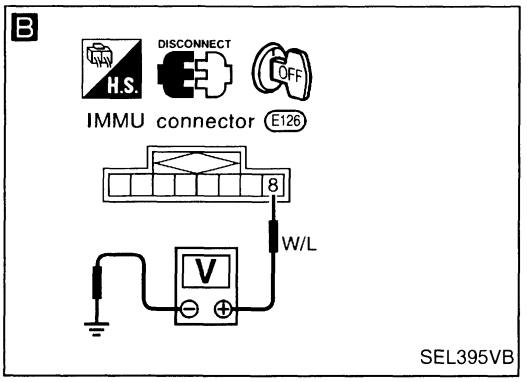
1. Replace ECM.
2. Perform initialisation with CONSULT.
   For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

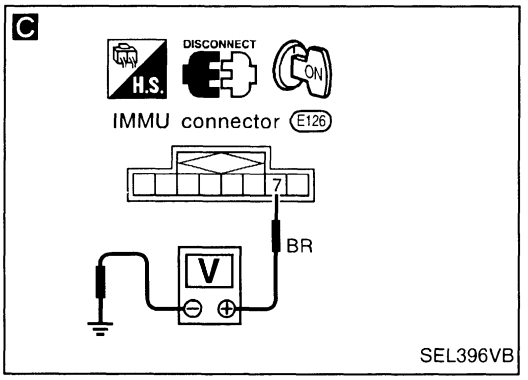
Trouble Diagnoses (Cont'd)

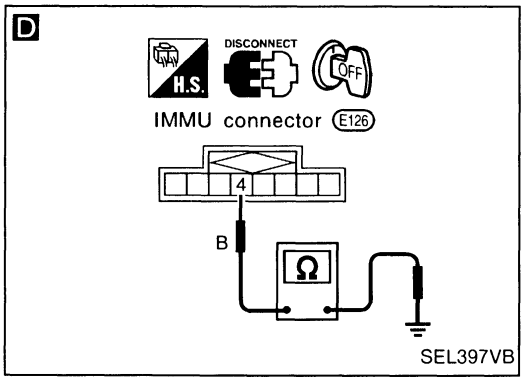
DIAGNOSTIC PROCEDURE 3

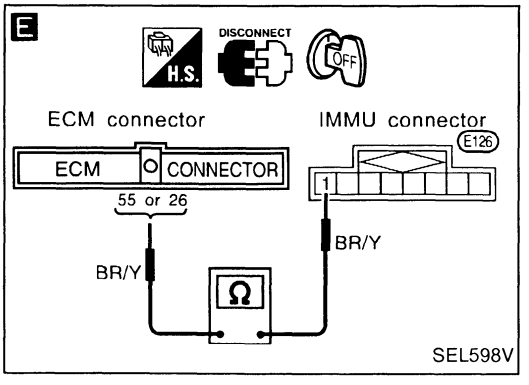
Self-diagnostic results:
"CHAIN OF ECM-IMMU" displayed on CONSULT screen











A

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

OK

B

CHECK POWER SUPPLY CIRCUIT FOR IMMU.
Check voltage between IMMU terminal ⑧ and ground.
Battery voltage should exist.

NG → Check the following.
- 7.5A fuse (No. 41, located in the fuse and fusible link box)
- Harness for open or short between fuse and IMMU connector

OK

C

CHECK IGN SW. ON SIGNAL.
Check voltage between IMMU terminal ⑦ and ground while ignition switch is "ON" position.
Battery voltage should exist.

NG → Check the following.
- 10A fuse [No. 16, located in the fuse block (J/B)]
- Harness for open or short between fuse and IMMU connector

OK

D

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

NG → Repair harness.

OK

E

CHECK COMMUNICATION OPEN CIRCUIT.
Check continuity between IMMU terminal ① and ECM terminal ⑤⑤ (Diesel engine), ㉖ (Gasoline engine).
Continuity should exist.

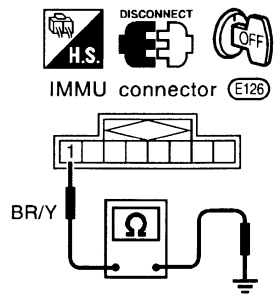
NG → Repair harness.

OK

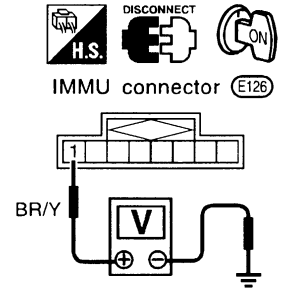
Ⓐ

Trouble Diagnoses (Cont'd)

F



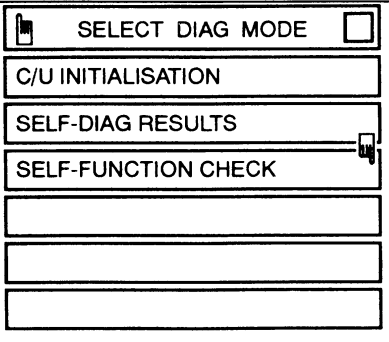
Short to ground check



Short to power circuit check

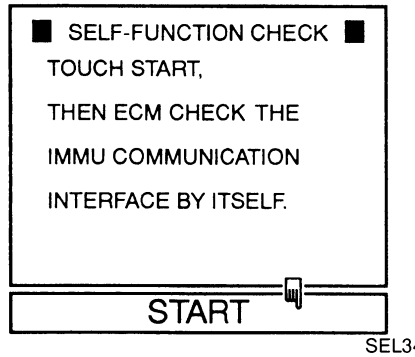
SEL399VB

G



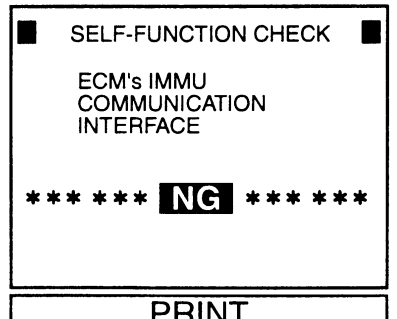
SEL340U

H



SEL341U

I



SEL342U

Ⓐ

F

CHECK COMMUNICATION LINE SHORT CIRCUIT.

1. Disconnect ECM connector and IMMU connector.
2. Check continuity between IMMU terminal ① and ground.
   Continuity should not exist.
3. Turn ignition switch to ON.
4. Check voltage between IMMU terminal ① and ground.
   No voltage should exist.

NG → Repair harness.

OK ↓

G

SELF-FUNCTION CHECK

1. Connect ECM connector and disconnect IMMU connector.
2. Turn ignition switch "ON".
3. Touch "SELF-FUNCTION CHECK" on CONSULT "SELECT DIAG MODE" screen.

H

Touch "START". ECM will then check its communication interface by itself.

NG → I

- ECM is malfunctioning.

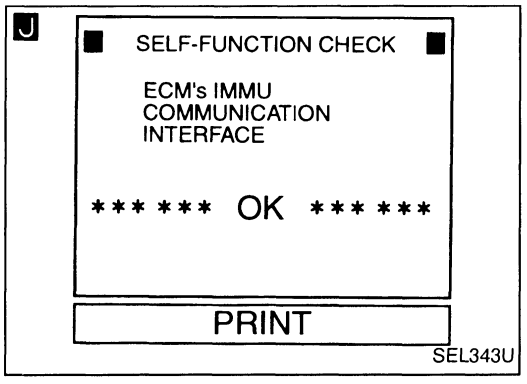
1. Replace ECM.
2. Perform initialisation with CONSULT. For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

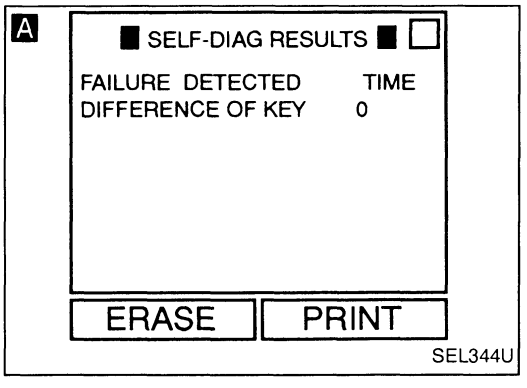
OK ↓

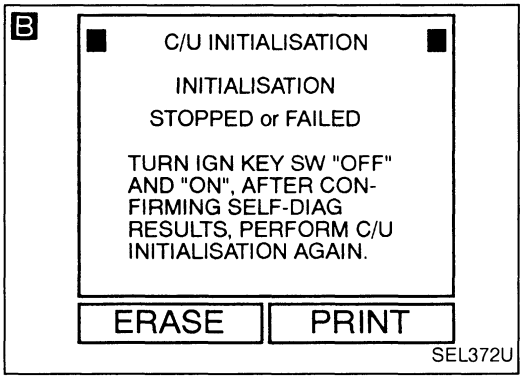
J

- IMMU is malfunctioning.

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







DIAGNOSTIC PROCEDURE 4

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

A

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

OK ↓

PERFORM INITIALISATION.
Perform initialisation with CONSULT.
Re-register all NATS ignition key IDs.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0".
Can the system be initialized?
Note: If the initialisation is not completed or fails, CONSULT shows B message on the screen.

No →

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

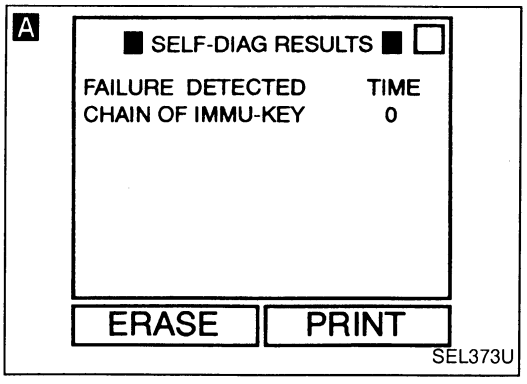
Yes ↓

END.
(The ignition key was unregistered.)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

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



A

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

OK

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

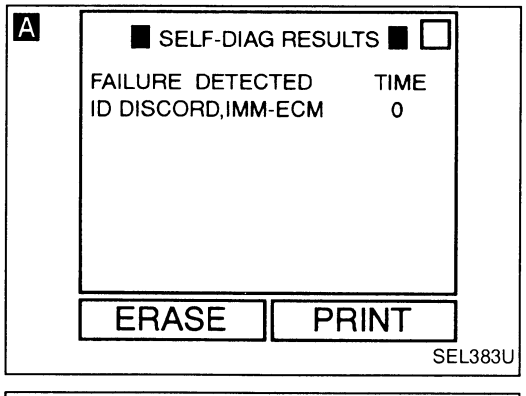
Yes →
- Ignition key ID chip is malfunctioning.
1. Replace the ignition key.
2. Perform initialisation with CONSULT.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

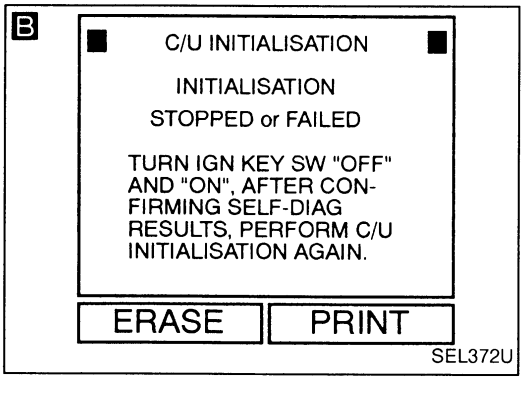
No

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

DIAGNOSTIC PROCEDURE 6

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





A

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

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

PERFORM INITIALISATION.
Perform initialisation with CONSULT.
Re-register all NATS ignition key IDs.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0".
Can the system be initialized?
Note: If the initialisation is not completed or fails, CONSULT shows B message on the screen.

No →
- ECM is malfunctioning.
1. Replace ECM.
2. Perform initialisation with CONSULT.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

Yes

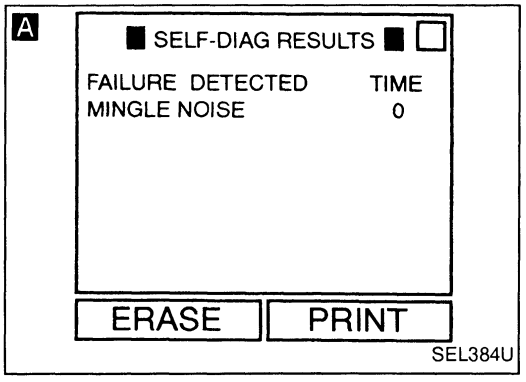
END.
(System initialisation was not completed.)

Trouble Diagnoses (Cont'd)

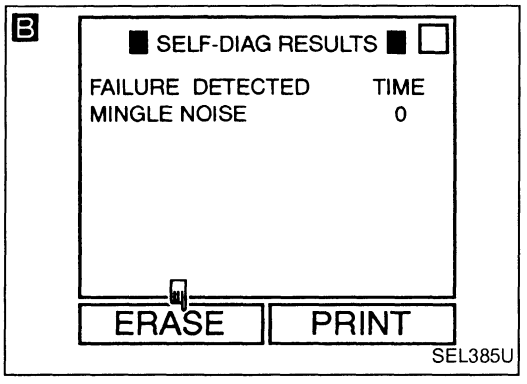
DIAGNOSTIC PROCEDURE 7

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

A



B



A

Confirm SELF-DIAGNOSTIC RESULTS "MINGLE NOISE" displayed on CONSULT screen.

↓

Turn off or remove any possible noise sources.

↓

B

Touch "ERASE" on CONSULT SELF-DIAGNOSTIC RESULTS screen.

↓

Can the engine start? — No → (back to A)

Yes

↓

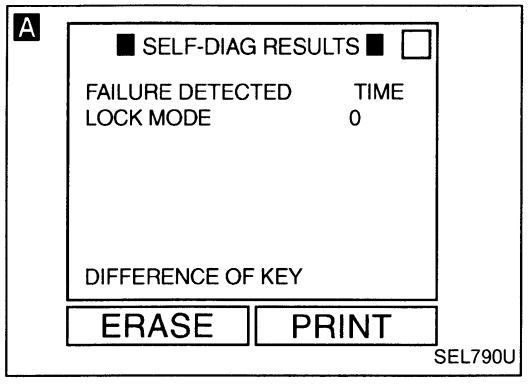
END

Trouble Diagnoses (Cont'd)

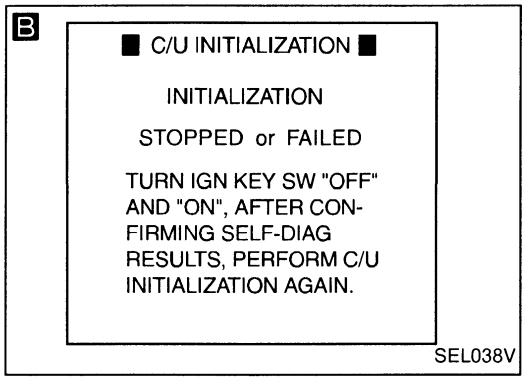
DIAGNOSTIC PROCEDURE 8

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

A



B



A

Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT 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 two times (total of three cycles).
5. Start the engine.
   Can 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-216.

NG → Reinstall NATS IMMU correctly.

↓ OK

PERFORM INITIALISATION.
Perform initialisation with CONSULT.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".
Can the system be initialized?
Note: If the initialisation is incompleted or failed, CONSULT shows B message on the screen.

Yes → System is OK.

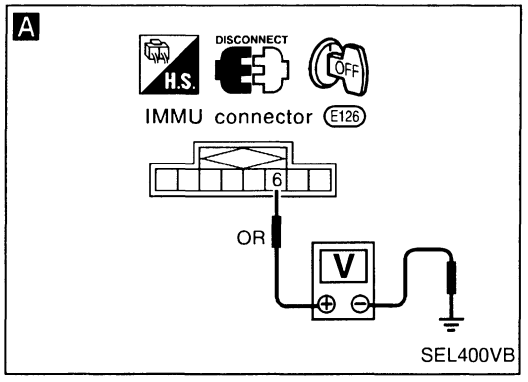
↓ No

Go to DIAGNOSTIC PROCEDURE 5, EL-213 to check "CHAIN OF IMMU-KEY".

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 9

Security indicator check



A

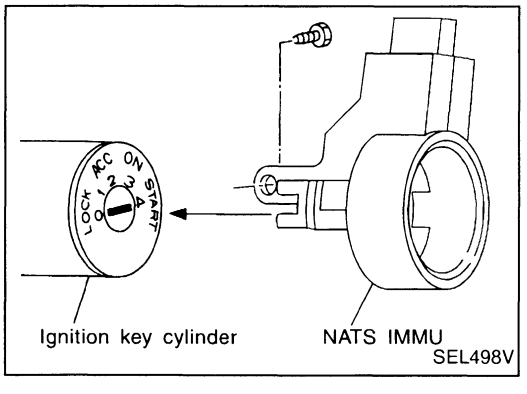
CHECK INDICATOR CIRCUIT.
1. Disconnect NATS IMMU connector.
2. Check voltage between NATS IMMU terminal ⑥ and ground.
   Battery voltage should exist.

NG →

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

OK ↓

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



How to Replace NATS IMMU

NOTE:

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

System Description

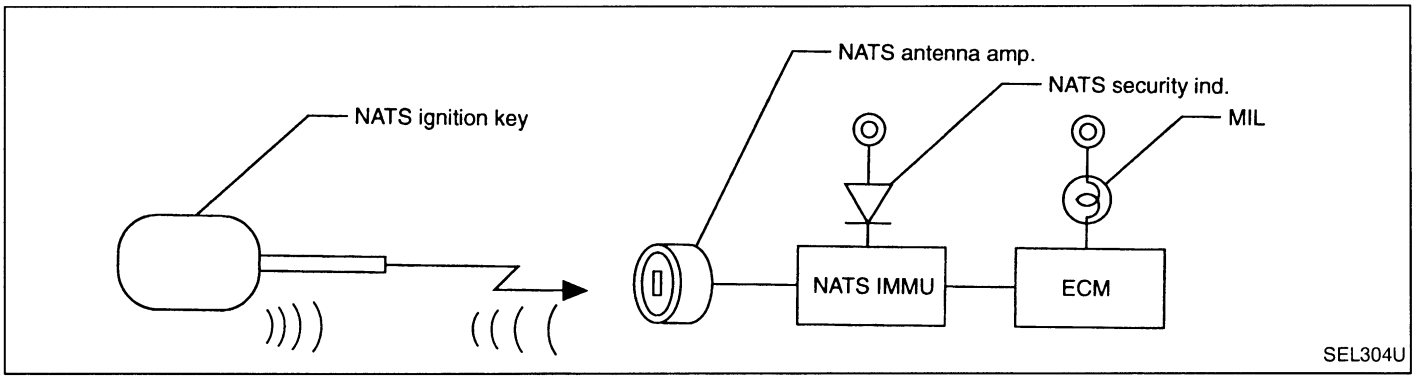
NATS has the following immobiliser functions:

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

System Composition

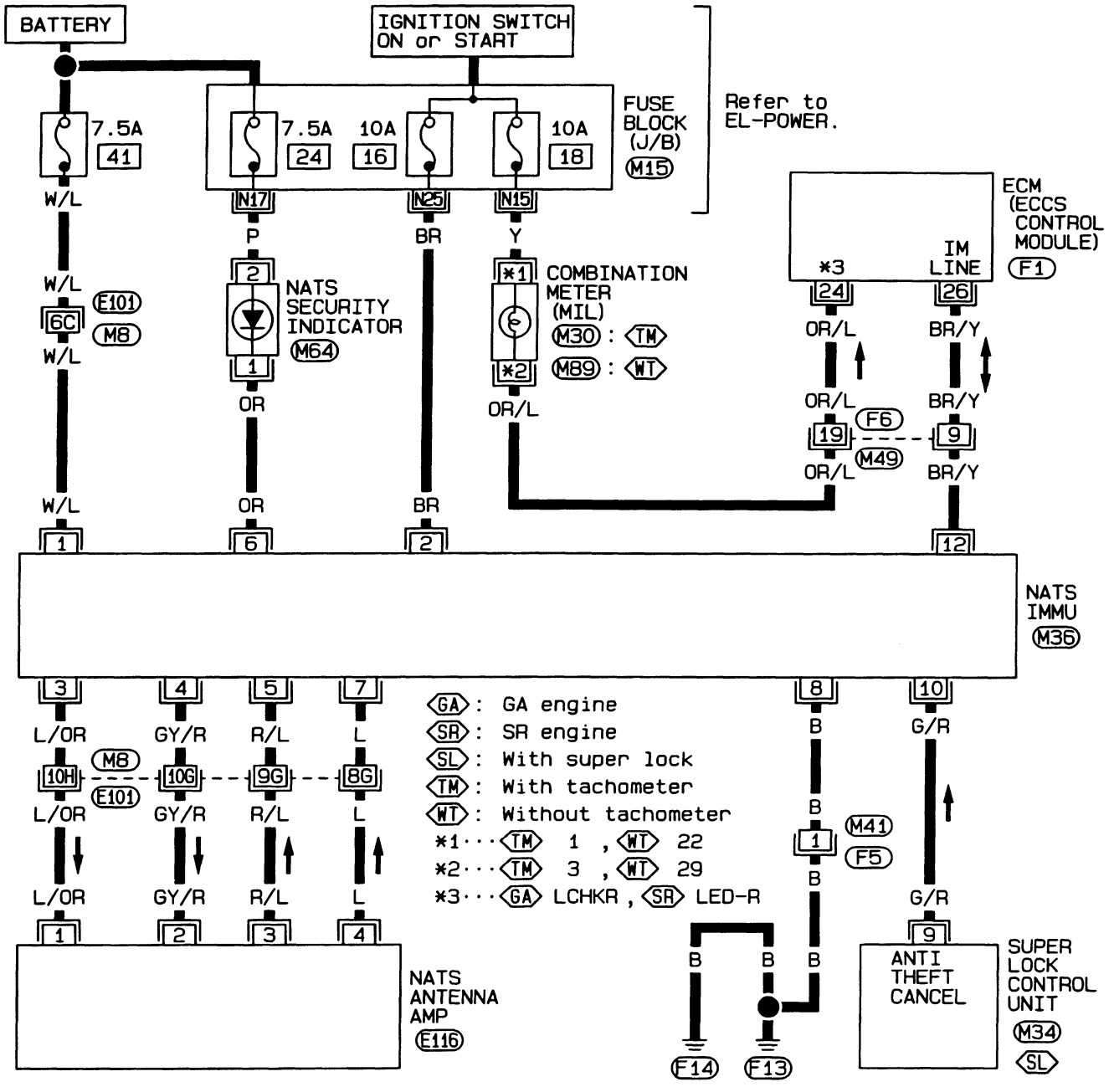
The immobiliser function of the NATS consists of the following:

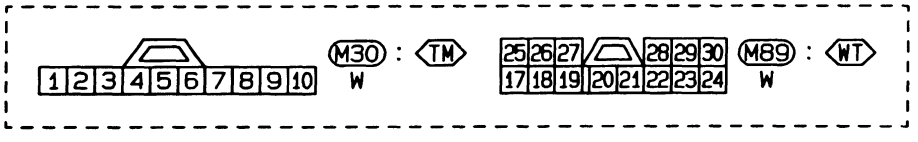
- NATS ignition key
- NATS antenna amp. located in the ignition key cylinder
- NATS immobiliser control unit (NATS IMMU)
- Engine control module (ECM)
- NATS security indicator
- Malfunction indicator lamp (MIL)

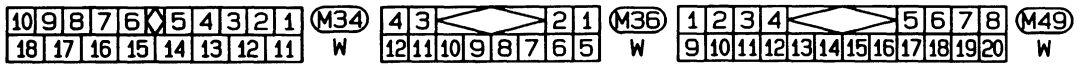


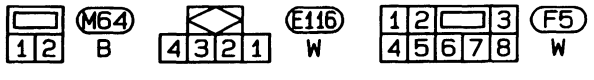
Wiring Diagram — NATS —/Gasoline Engine

EL-NATS-03









Refer to last page (Foldout page).

M8, E101

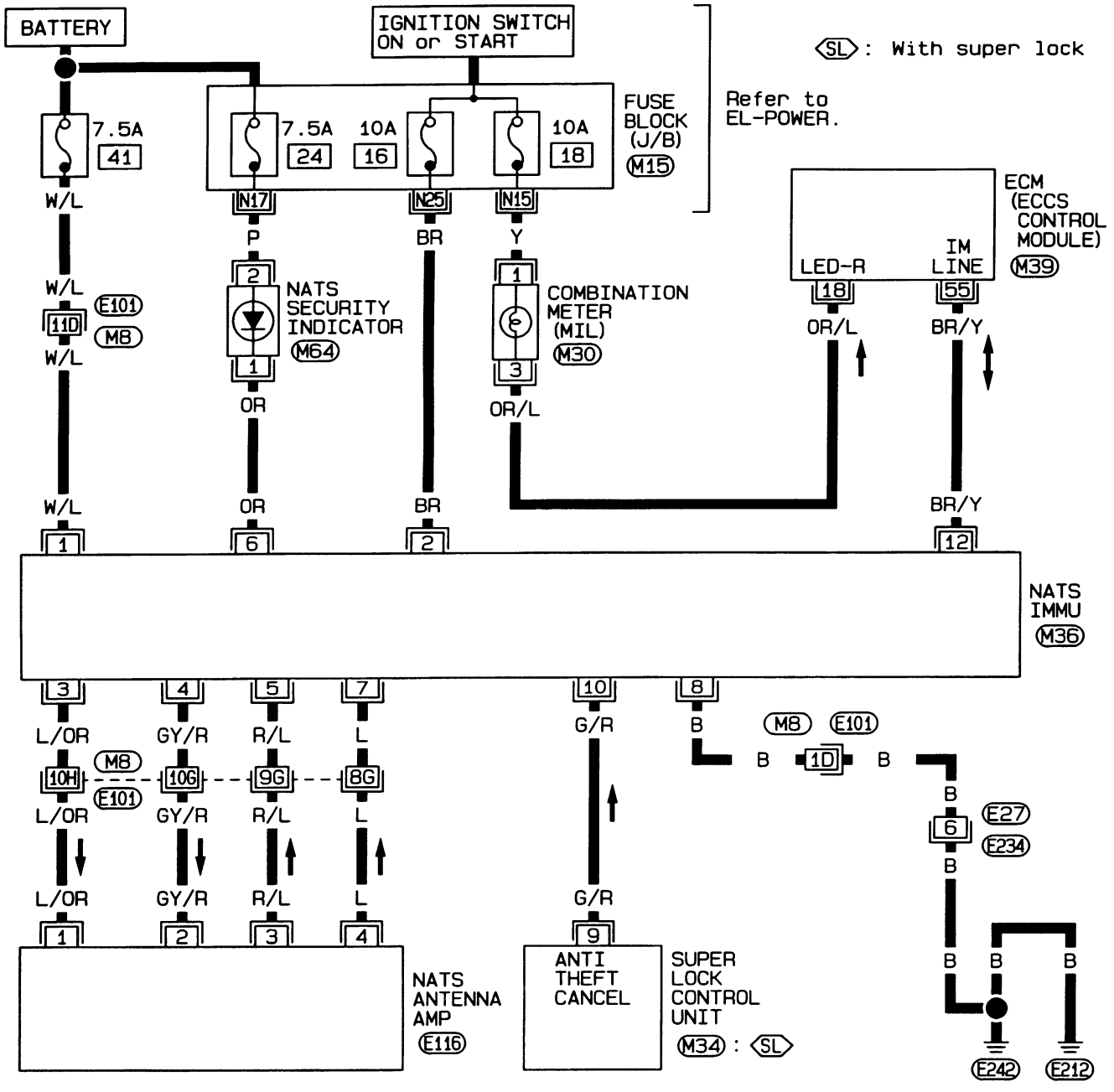
M15

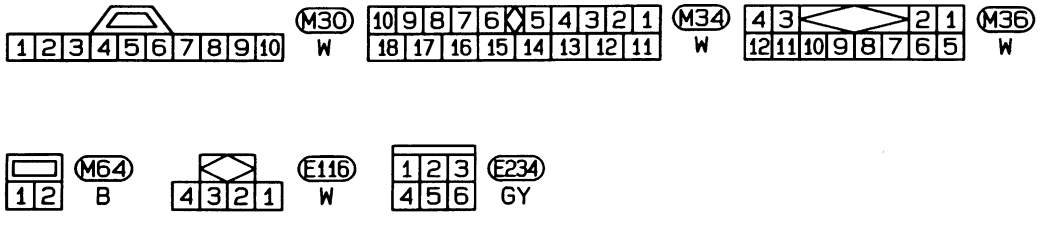
F1

HEL267A

Wiring Diagram — NATS —/Diesel Engine

EL-NATS-04



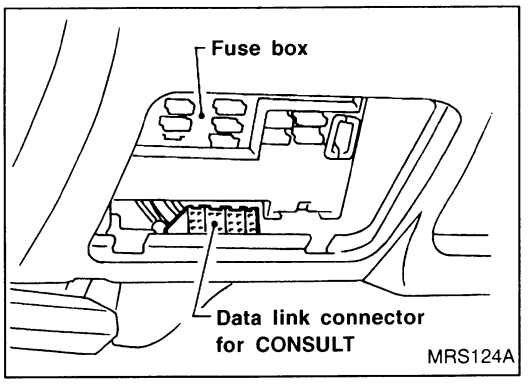


Refer to last page (Foldout page).

M8, E101

M15

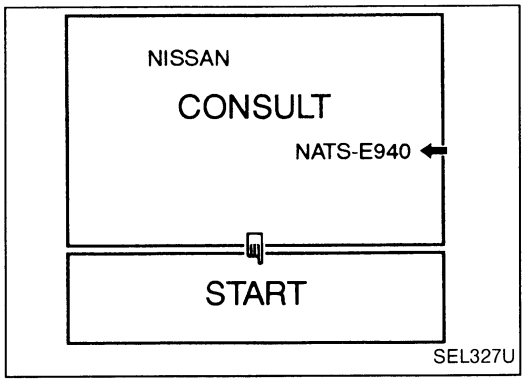
M39



CONSULT

CONSULT INSPECTION PROCEDURE

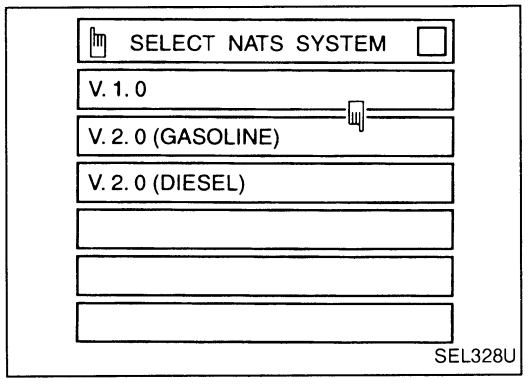
1. Turn off ignition switch.
2. Connect "CONSULT" to Data link connector for CONSULT. (Data link connector for CONSULT is located behind the fuse box cover.)



3. Insert NATS program card into CONSULT.

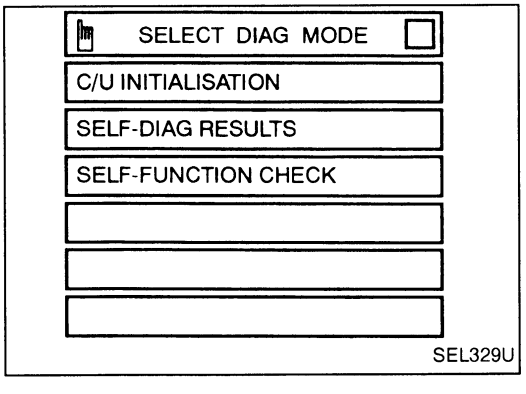
◀: Program card
NATS-E940

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



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

NOTE: "V2.0 (GASOLINE)" should be selected for electrically controlled diesel and gasoline engines.



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

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

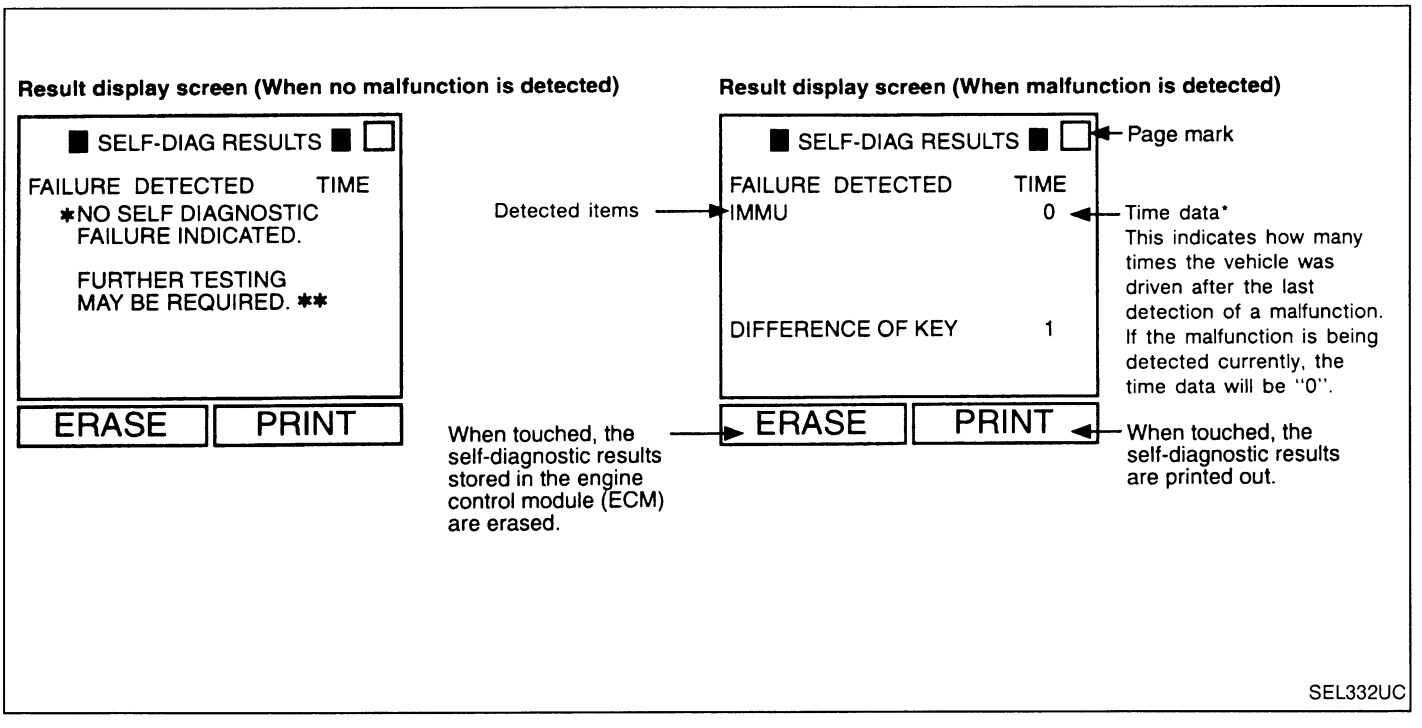
CONSULT (Cont'd)

CONSULT DIAGNOSTIC TEST MODE FUNCTION

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

NOTE:
When any initialisation is performed, all ID previously registered will be erased. So all NATS ignition keys must be registered again.
The engine cannot be started with an unregistered key. In this case, the system may show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT screen.

HOW TO READ SELF-DIAGNOSTIC RESULTS



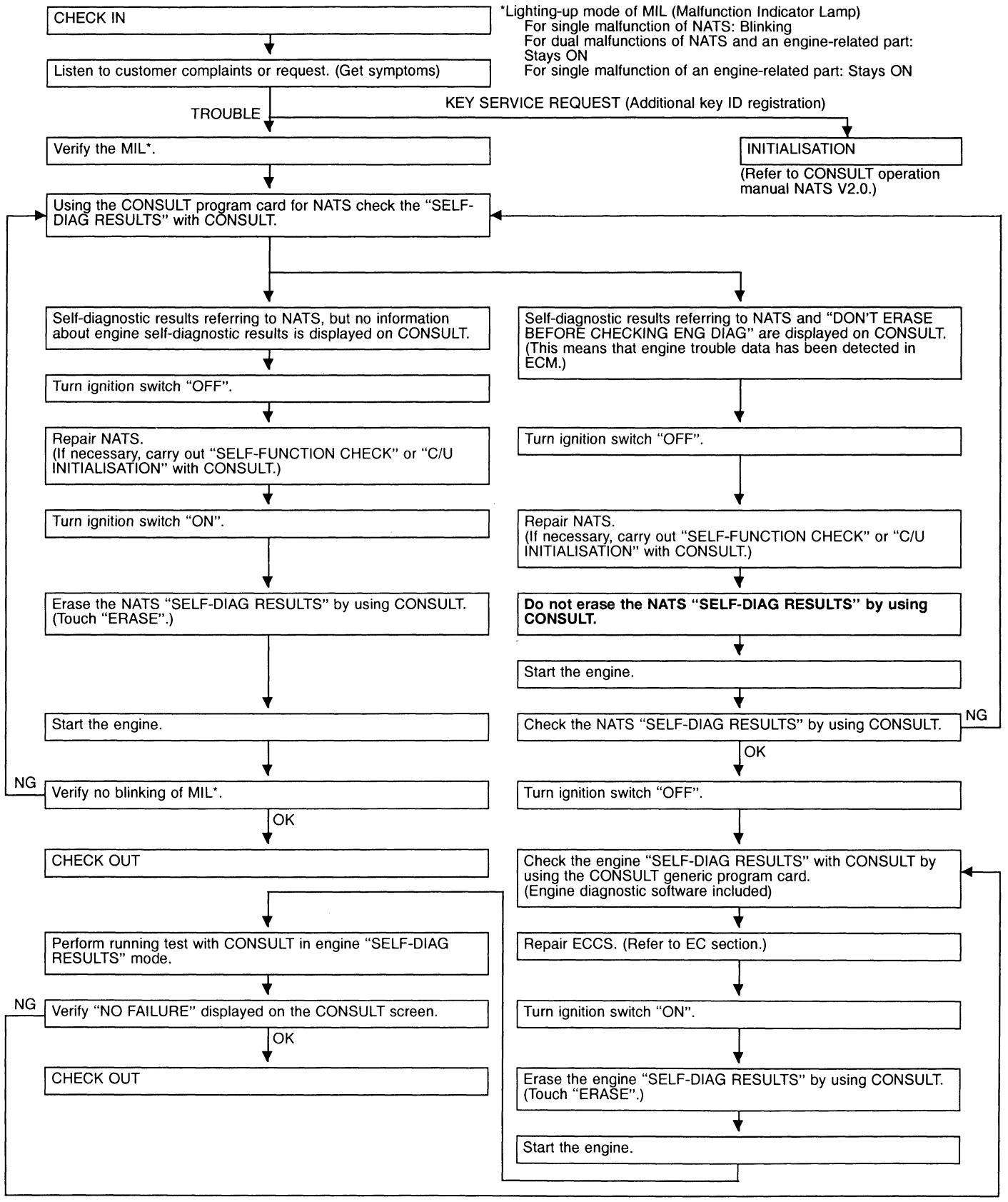
* If trip number is more than 1, MIL does not blink.

SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (Screen terms)	Description	Reference page
IMMU	ECM received the signal from IMMU that IMMU is malfunctioning.	EL-224
ECM	ECM is malfunctioning.	EL-224
CHAIN OF ECM-IMMU	Communication impossible between ECM and IMMU.	EL-225
DIFFERENCE OF KEY	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-227
CHAIN OF IMMU-KEY	IMMU cannot receive the key ID signal.	EL-228
ID DISCORD, IMM-ECM	The result of ID verification between IMMU and ECM is NG. System initialisation is required.	EL-229
MINGLE NOISE	Noise (interference) mingled into NATS communication lines during communicating.	EL-230
DON'T ERASE BEFORE CHECKING ENG DIAG	Engine trouble data and NATS trouble data have been detected in ECM.	EL-222
LOCK MODE	When an unregistered ignition key is used, or if the starting operation is carried out two or more times consecutively with the ignition key, IMMU or ECM malfunctioning, NATS will shift the mode to one which prevents the engine from being started.	EL-231

Trouble Diagnoses

WORK FLOW



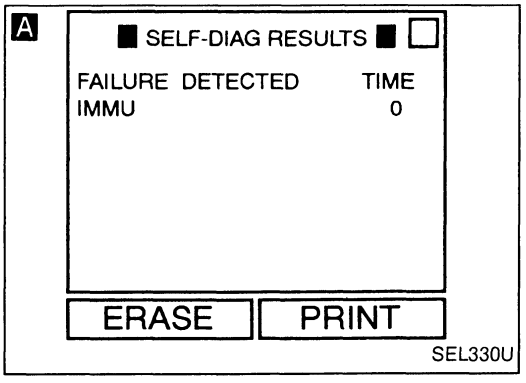
Trouble Diagnoses (Cont'd)

SYMPTOM CHART

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
• MIL blinking • Engine can start.	IMMU	PROCEDURE 1 (EL-224)	IMMU
	ECM	PROCEDURE 2 (EL-224)	ECM
• MIL blinking • Engine hard to start	CHAIN OF ECM-IMMU	PROCEDURE 3 (EL-225)	Open circuit in battery voltage line of IMMU circuit
			Open circuit in ignition line of IMMU circuit
			Open circuit in ground line of IMMU circuit
			Open or short circuit in communication line between IMMU and ECM
			Open circuit in power source line of ANT/AMP circuit
			ECM
			IMMU
	DIFFERENCE OF KEY	PROCEDURE 4 (EL-227)	Unregistered key
			IMMU
	CHAIN OF IMMU-KEY	PROCEDURE 5 (EL-228)	Open or short circuit in communication line between ANT/AMP and IMMU
			Open circuit in power source line of ANT/AMP circuit
			Open circuit in ground line of ANT/AMP circuit
			Malfunction of key ID chip
			IMMU
			Antenna amp.
	ID DISCORD, IMM-ECM	PROCEDURE 6 (EL-229)	System initialisation has not yet been completed.
			ECM
	MINGLE NOISE	PROCEDURE 7 (EL-230)	Noise interference in communication line
• MIL blinking • Engine hard to start • NATS security indicator does not blink for 1 minute after ignition switch is turned to "OFF".	LOCK MODE	PROCEDURE 9 (EL-231)	LOCK MODE
• MIL staying ON	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-222)	Engine trouble data and NATS trouble data have been detected in ECM
• NATS security ind. does not light up. • Engine can start.	—	PROCEDURE 8 (EL-230)	NATS security ind.
			Open circuit between Fuse and NATS IMMU
			Continuation of initialisation mode
			NATS IMMU

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

Trouble Diagnoses (Cont'd)



DIAGNOSTIC PROCEDURE 1

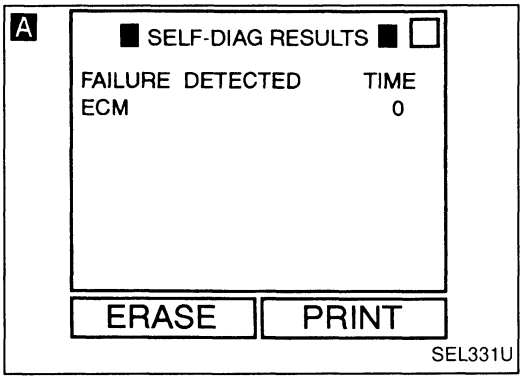
Self-diagnostic results:
"IMMU" displayed on CONSULT screen

A

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

- IMMU is malfunctioning.

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



DIAGNOSTIC PROCEDURE 2

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

A

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

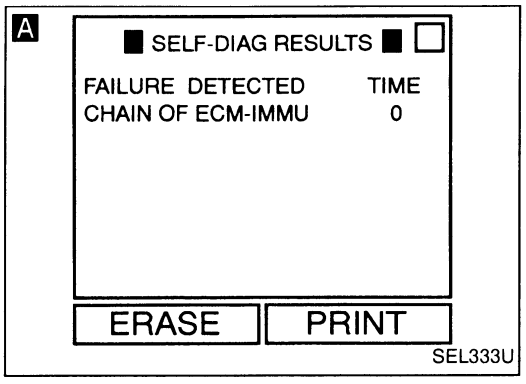
- ECM is malfunctioning.

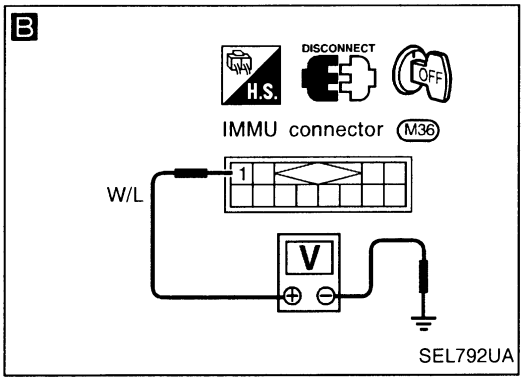
1. Replace ECM.
2. Perform initialisation with CONSULT.
   For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

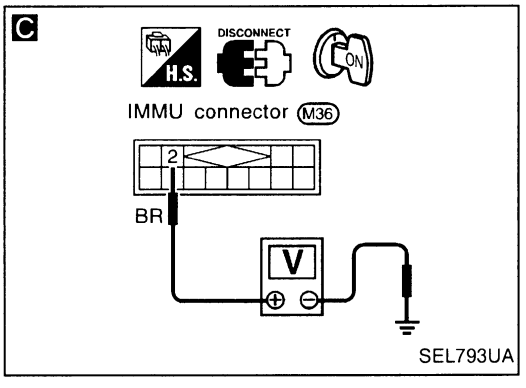
Trouble Diagnoses (Cont'd)

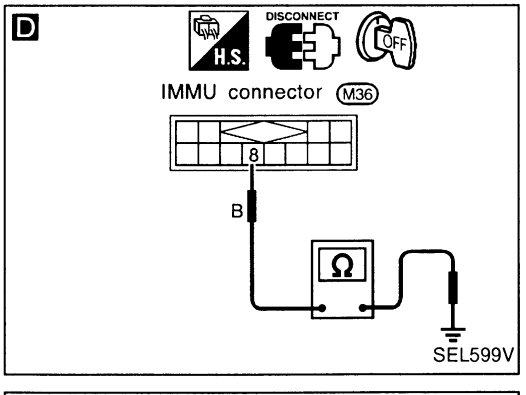
DIAGNOSTIC PROCEDURE 3

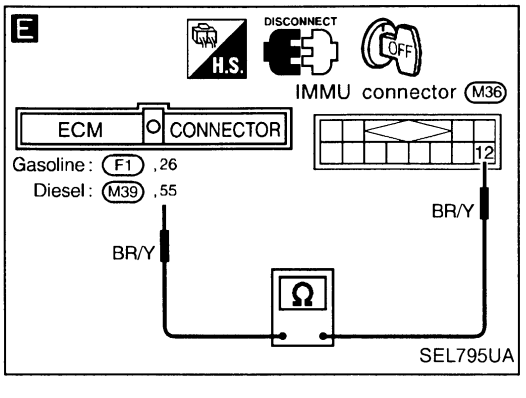
Self-diagnostic results:
"CHAIN OF ECM-IMMU" displayed on CONSULT screen











A

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

OK ↓

B

CHECK POWER SUPPLY CIRCUIT FOR IMMU.
Check voltage between terminal ① of IMMU and ground with CONSULT or tester.
Voltage: Battery voltage

NG → Check the following:
- 7.5A fuse (No. 41, located in the fuse and fusible link box)
- Harness for open or short between fuse and IMMU connector

OK ↓

C

CHECK IGN SW. ON SIGNAL.
Check voltage between terminal ② of IMMU and ground with CONSULT or tester.
Voltage: Battery voltage

NG → Check the following:
- 10A fuse [No. 16, located in the fuse block (J/B)]
- Harness for open or short between fuse and IMMU connector

OK ↓

D

CHECK GROUND CIRCUIT FOR IMMU.
Check harness continuity between IMMU terminal ⑧ and ground.
Continuity should exist.

NG → Repair harness.

OK ↓

E

CHECK COMMUNICATION ON OPEN CIRCUIT.
Check harness continuity between the following ECM terminal and IMMU terminal.
ECM ⑤⑤ (Diesel engine), ㉖ (Gasoline engine) and IMMU ⑫
Continuity should exist.

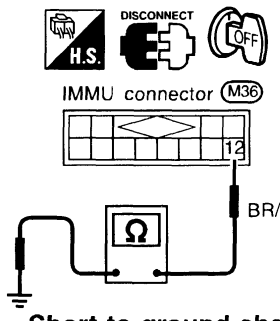
NG → Repair harness.

OK ↓

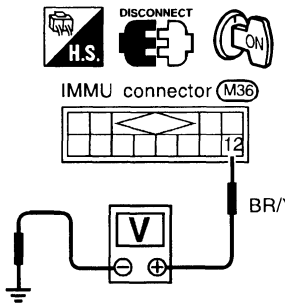
Ⓐ

Trouble Diagnoses (Cont'd)

F



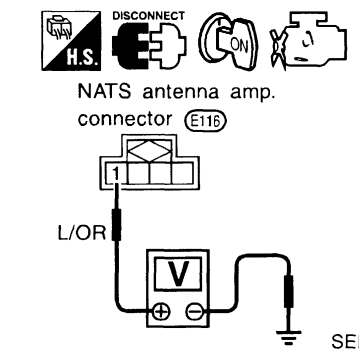
Short to ground check



Short to power circuit check

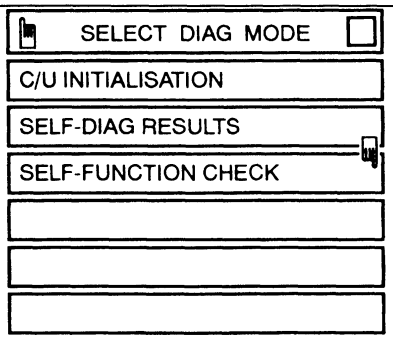
SEL600V

G



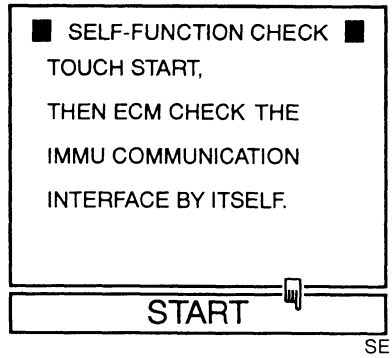
SEL802UA

H



SEL340U

I



SEL341U

Ⓐ

F

CHECK COMMUNICATION LINE SHORT CIRCUIT.

1. Disconnect ECM connector and IMMU connector.
2. Check continuity between IMMU terminal ⑫ and ground.
   Continuity should not exist.
3. Turn ignition switch to ON.
4. Check voltage between IMMU terminal ⑫ and ground.
   No voltage should exist.

NG → Repair harness.

OK ↓

G

CHECK NATS ANTENNA AMP. CIRCUIT.

1. Disconnect NATS antenna amp. connector.
2. Turn ignition switch "ON".
3. Check voltage between antenna amp. terminal ① and ground.
   Voltage: More than 4.7V

NG → Repair harness.

OK ↓

H

SELF-FUNCTION CHECK

1. Connect ECM connector and disconnect IMMU connector.
2. Turn ignition switch "ON".
3. Touch "SELF-FUNCTION CHECK" on CONSULT "SELECT DIAG MODE" screen.

I

Touch "START". ECM will then check its communication interface by itself.

NG → J (See next page.)

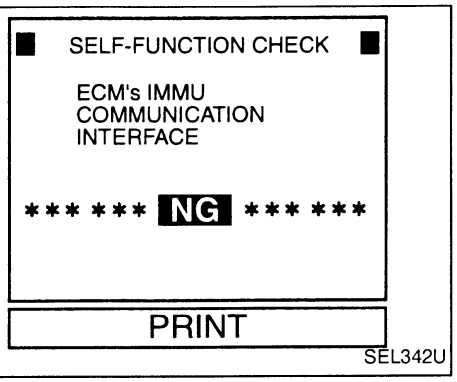
- ECM is malfunctioning.
1. Replace ECM.
2. Perform initialisation with CONSULT.
   For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

OK ↓

K (See next page.)

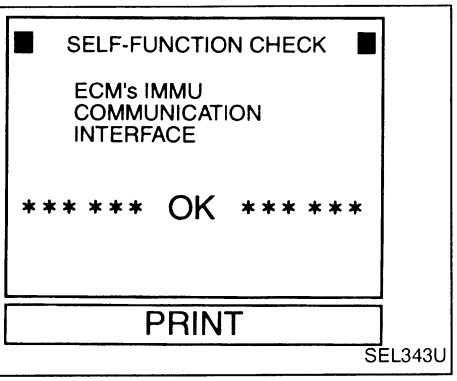
- IMMU is malfunctioning.
  1. Replace IMMU.
  2. Perform initialisation with CONSULT.
     For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

J



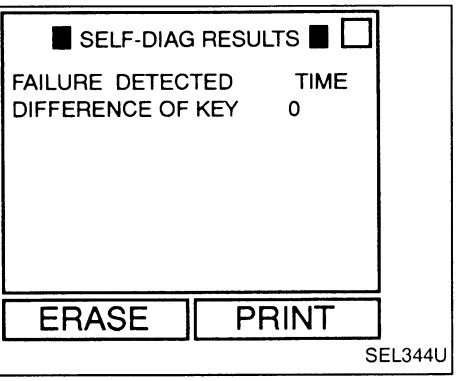
SEL342U

K



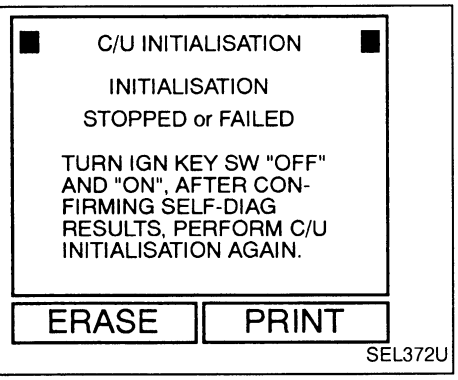
SEL343U

A



SEL344U

B



SEL372U

DIAGNOSTIC PROCEDURE 4

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

A

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

OK ↓

PERFORM INITIALISATION.
Perform initialisation with CONSULT.
Re-register all NATS ignition key IDs.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0".
Can the system be initialized?
Note: If the initialisation is not completed or fails, CONSULT shows B message on the screen.

No →

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

Yes ↓

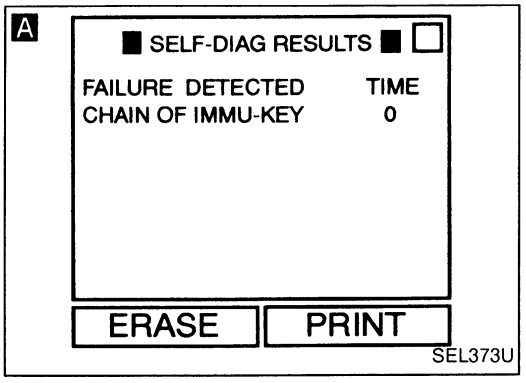
END.
(The ignition key was unregistered.)

Trouble Diagnoses (Cont'd)

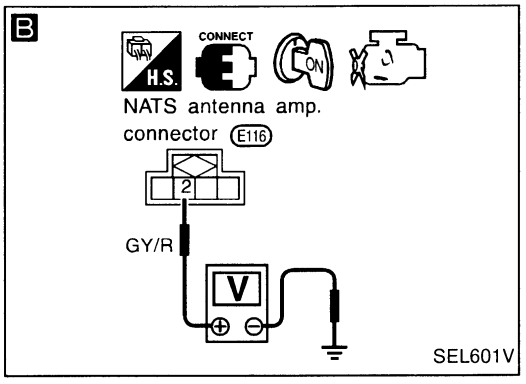
DIAGNOSTIC PROCEDURE 5

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

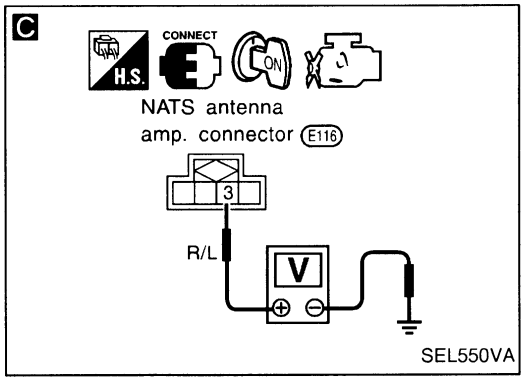
A



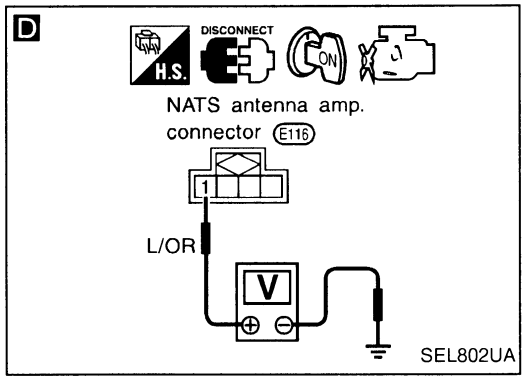
B



C



D



A

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

OK

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

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

No

B

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

Voltage

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

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

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

OK

C

CHECK IMMU FUNCTION 2.
1. Turn ignition switch "ON".
2. Check voltage between NATS antenna amp. terminal ③ and ground.
Voltage:
6 sec. after turning ignition switch "ON"
Approx. 4.5 - 5V

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

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

OK

D

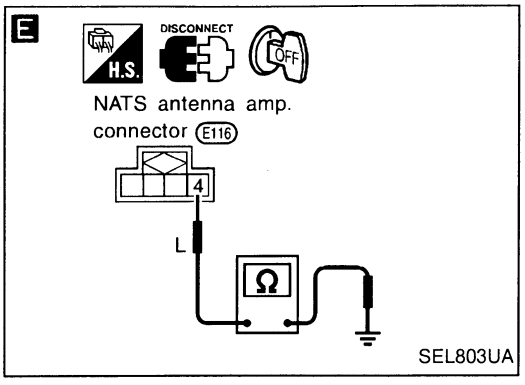
CHECK IMMU OUTPUT VOLTAGE.
1. Turn the ignition switch "ON".
2. Check voltage between NATS antenna amp. terminal ① and ground.
Voltage: More than 4.7V

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

OK

Ⓐ

Trouble Diagnoses (Cont'd)



Ⓐ

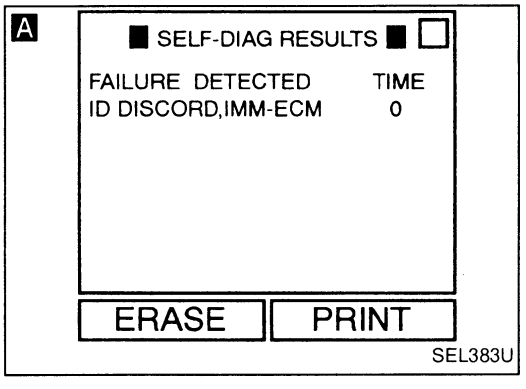
E

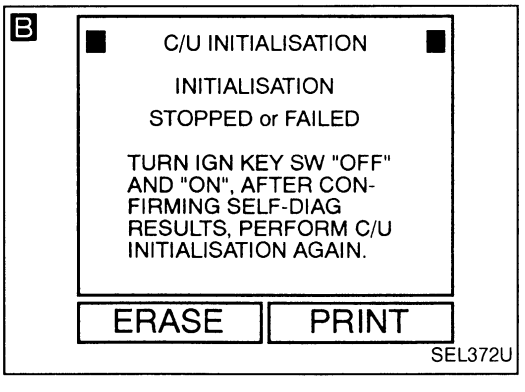
CHECK ANTENNA AMP. GROUND LINE CIRCUIT.
1. Turn ignition switch "OFF".
2. Check continuity between NATS antenna amp. terminal ④ and ground.
Continuity should exist.

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

OK ↓

NATS antenna amp. is malfunctioning. When replacing the amp. hold on to amp. body. Take care not to pull on amp. harness.





DIAGNOSTIC PROCEDURE 6

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

A

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

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

↓

PERFORM INITIALISATION.
Perform initialisation with CONSULT.
Re-register all NATS ignition key IDs.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0".
Can the system be initialized?
Note: If the initialisation is not completed or fails, CONSULT shows B message on the screen.

No → ● ECM is malfunctioning.
1. Replace ECM.
2. Perform initialisation with CONSULT.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".

Yes ↓

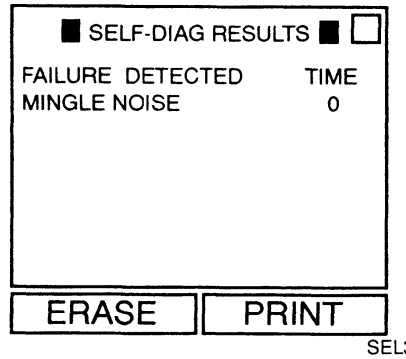
END.
(System initialisation was not completed.)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

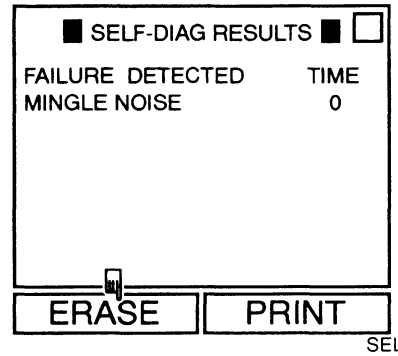
Self-diagnostic results: "MINGLE NOISE" displayed on CONSULT screen

A



SEL384U

B



SEL385U

A

Confirm SELF-DIAGNOSTIC RESULTS "MINGLE NOISE" displayed on CONSULT screen.

↓

Turn off or remove any possible noise sources.

↓

B

Touch "ERASE" on CONSULT SELF-DIAGNOSTIC RESULTS screen.

↓

Start engine. — NG → (back to A)

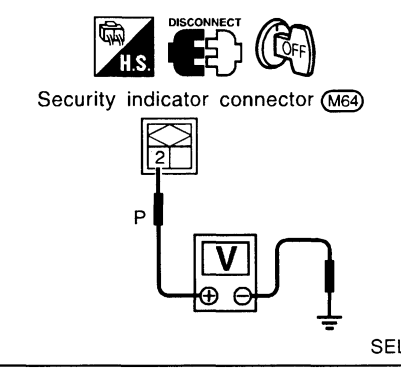
OK ↓

END

DIAGNOSTIC PROCEDURE 8

"NATS SECURITY IND. DOES NOT LIGHT UP"

A



SEL602V

CHECK INDICATOR POWER SUPPLY CIRCUIT.
Check voltage between security indicator terminal ② and ground.
Battery voltage should exist.

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

OK ↓

Check security indicator.

↓

PERFORM INITIALISATION.
Perform initialisation with CONSULT.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".
Does security indicator operate after initialisation has been completed?

No → Check harness for open or short between NATS IMMU and security indicator.

Yes ↓

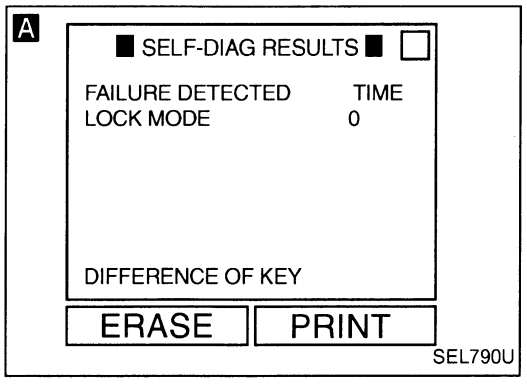
END

Trouble Diagnoses (Cont'd)

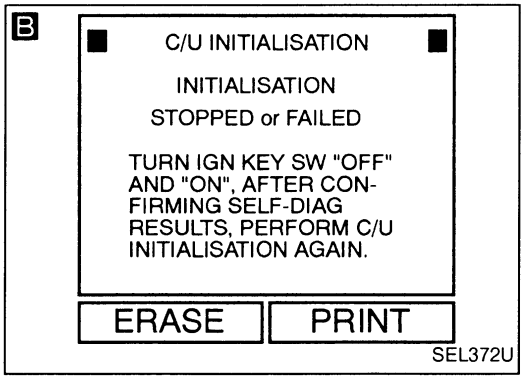
DIAGNOSTIC PROCEDURE 9

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

A



B



A

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

↓

1. Turn the ignition switch to OFF position and wait 1 minute. (After 1 minute, security indicator will blink.)
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 two times (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 ↓

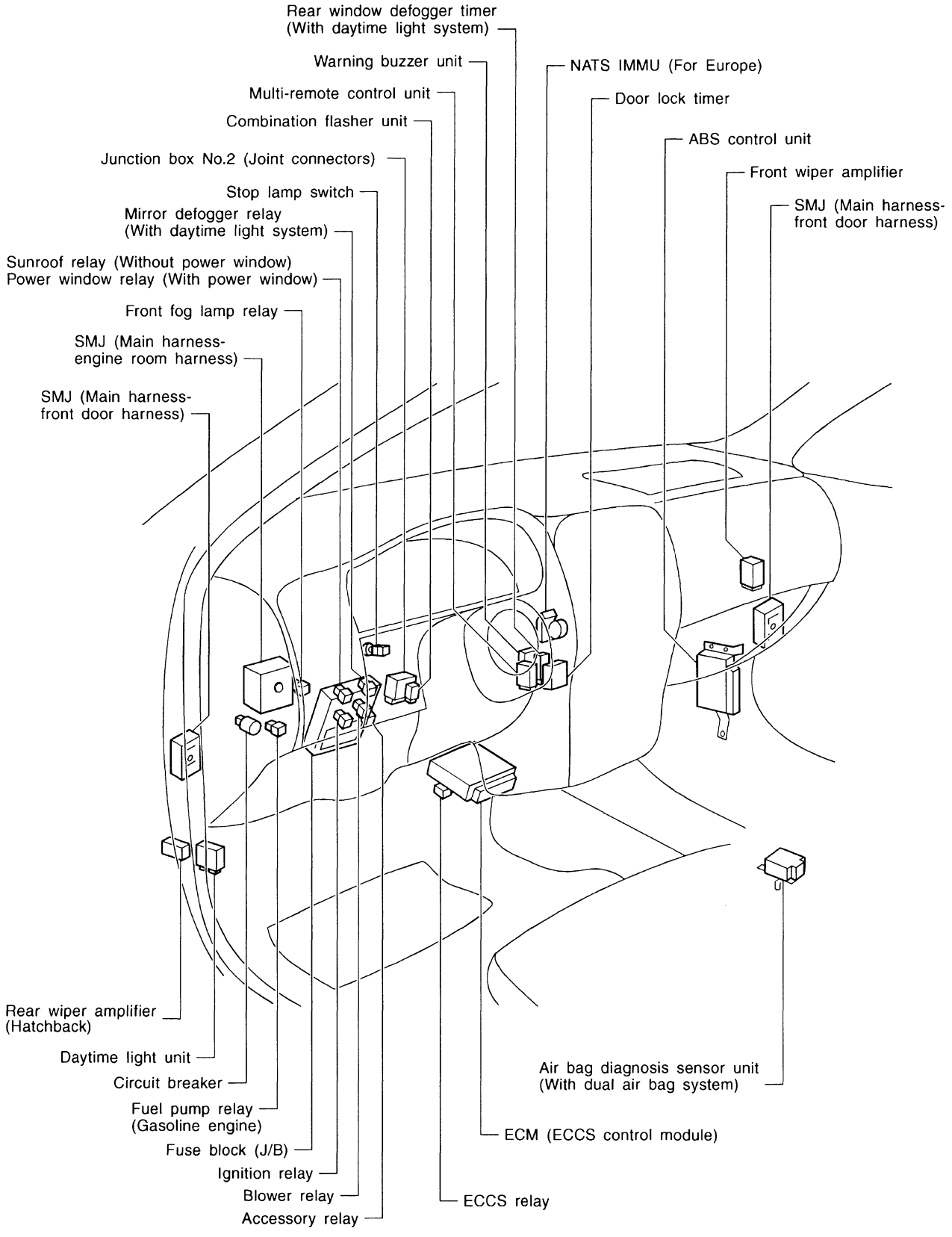
PERFORM INITIALISATION.
Perform initialisation with CONSULT.
For the initialisation procedure, refer to "CONSULT operation manual NATS V2.0 (GASOLINE)".
Can the system be initialised?
Note: If the initialisation is incompleted or failed, CONSULT shows B message on the screen.

Yes → System is OK.

No ↓

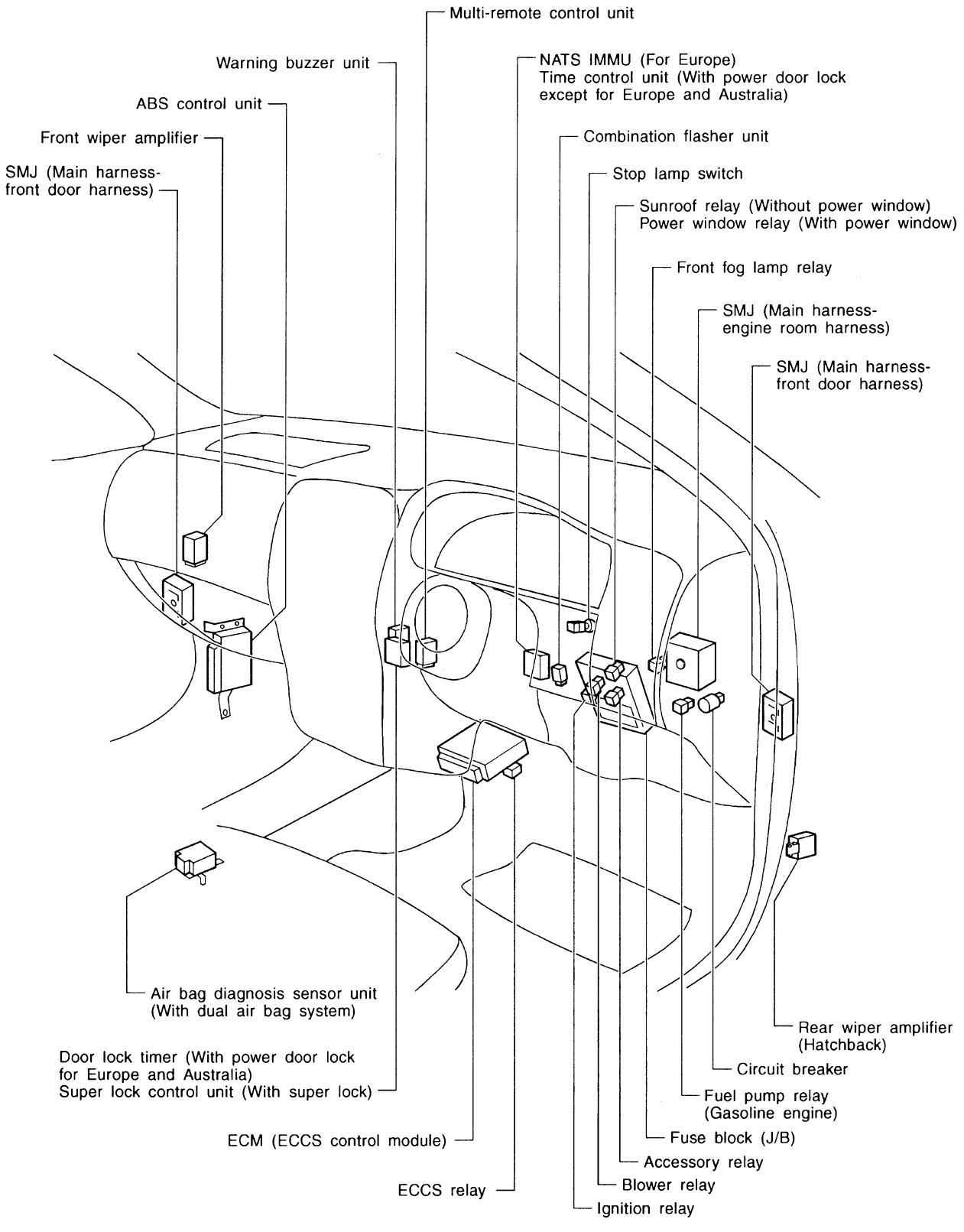
Go to DIAGNOSTIC PROCEDURE 5, EL-228 to check "CHAIN OF IMMU-KEY".

Passenger Compartment/LHD Models



HEL276A

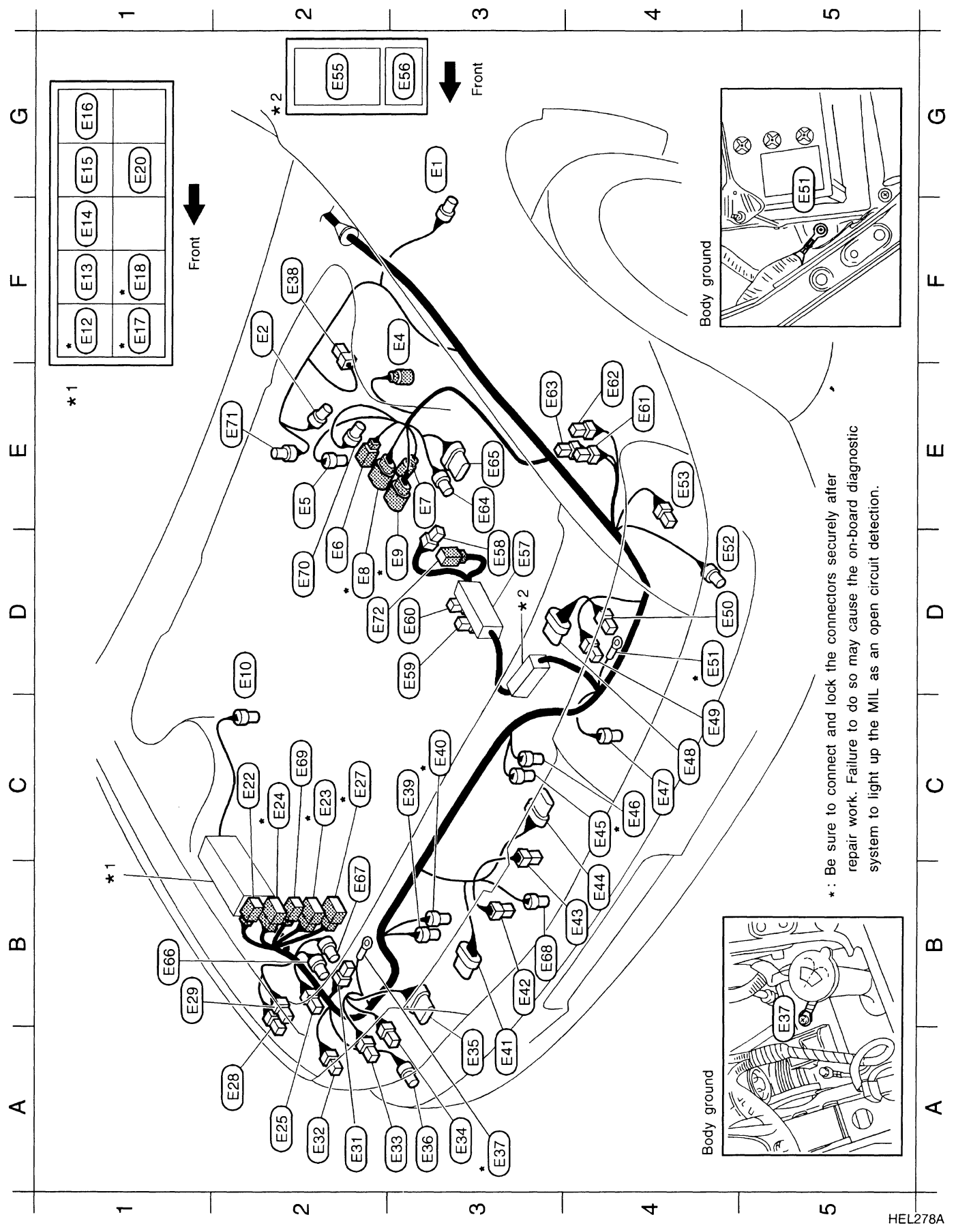
Passenger Compartment/RHD Models



HEL277A

Engine Room Harness

ENGINE COMPARTMENT — LHD models



G3 (E1) GY/2 : Side turn signal lamp LH
F2 (E2) GY/2 : Brake fluid level switch
F3 (E4) BR/2 : Front wheel speed sensor LH (For ABS)
E2 (E5) GY/2 : Fuel filter sensor (CD engine)
D2 (E6) B/1 : To (E228) (CD engine)
E3 (E7) GY/1 : To (E229) (CD engine)
D2* (E8) GY/8 : To (E231) (CD engine)
D3* (E9) B/8 : To (E230) (CD engine)
D2 (E10) B/2 : ABS relay box
F1* (E12) L/4 : Cooling fan relay-1 (Gasoline engine)
BR/6 : Cooling fan relay-1 (CD engine)
F1 (E13) W/3 : Horn relay
F1 (E14) L/4 : Inhibitor relay (A/T models)
G1 (E15) B/5 : Rear wiper relay (For Hatchback)
G1 (E16) L/4 : A/C relay
F1* (E17) BR/6 : Cooling fan relay-2 (GA engine A/T models for Europe without daytime light system and CD engine)
F1* (E18) BR/6 : Cooling fan relay-3 (CD engine)
L/4 : Rear window defogger relay (Gasoline engine with daytime light system)
G1 (E20) L/4 : Rear fog lamp relay
C2 (E22) B/2 : To (E204) (GA engine and CD engine)
: To (A1) (SR engine)
C2* (E23) B/6 : To (E201) (GA engine and CD engine)
C2* (E24) B/8 : To (E202) (GA engine and CD engine)
A2 (E25) W/2 : Headlamp washer motor (With daytime light system)
C2* (E27) GY/6 : To (E234) (CD engine)
A2 (E28) W/2 : Front washer motor
B1 (E29) G/2 : Rear washer motor
A2 (E31) GY/2 : To front fog lamp sub-harness (GA engine and CD engine)
A2 (E32) B/2 : Front turn signal lamp RH
A3 (E33) B/2 : Parking lamp RH
A3 (E34) B/3 : Headlamp RH
A3 (E35) GY/6 : Headlamp aiming motor unit RH
A3 (E36) GY/2 : Front fog lamp RH (GA engine M/T models and SR engine)
A3* (E37) — : Body ground
F2 (E38) GY/1 : Brake vacuum switch (CD engine)

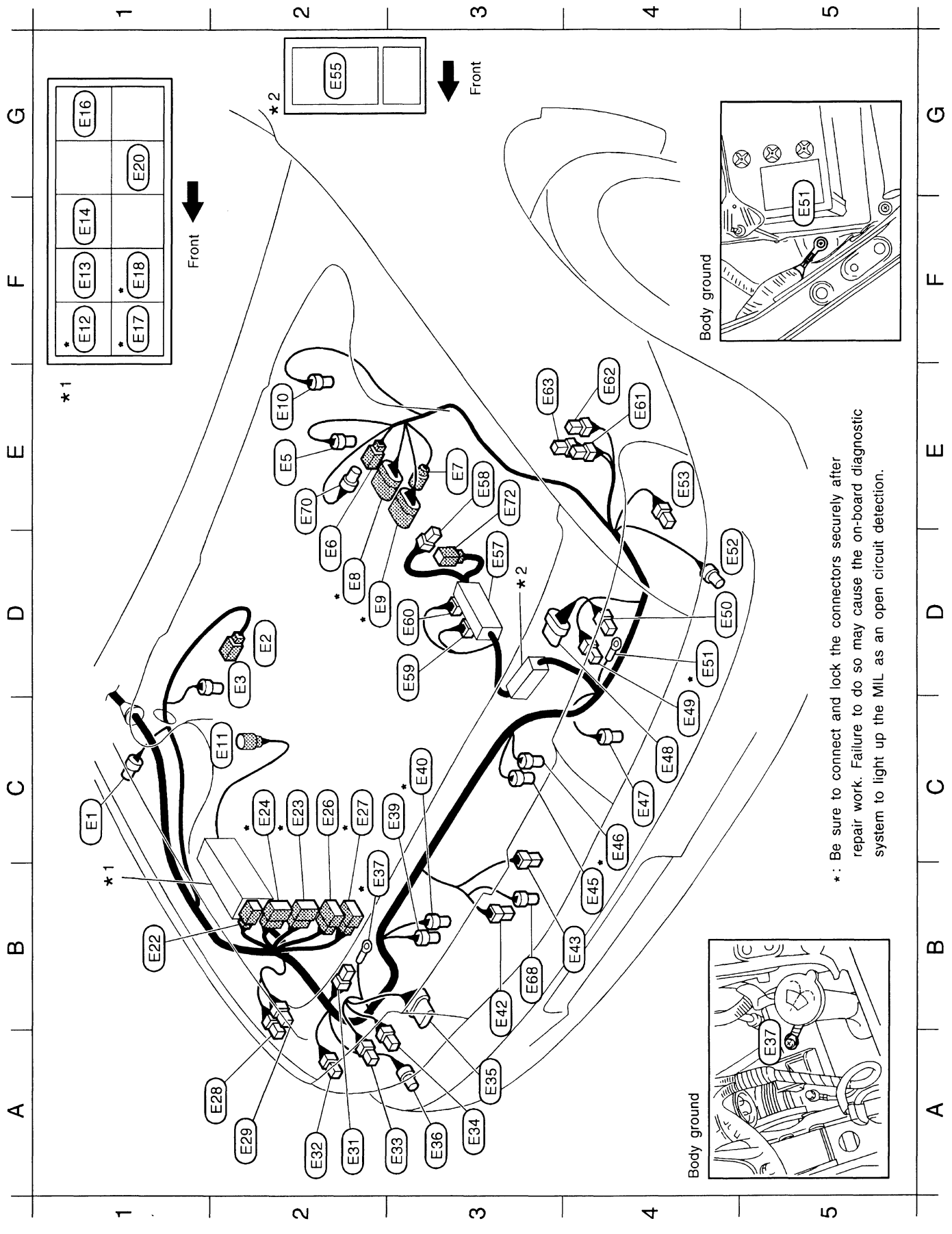
C3 (E39) GY/2 : Cooling fan motor-2 (1-mode type)
C3* (E40) GY/4 : Cooling fan motor-2 (2-mode type with CD engine)
A3 (E41) GY/6 : Headlamp wiper motor RH (With daytime light system)
B3 (E42) B/1 : Horn high
B4 (E43) B/1 : Horn low
B4 (E44) GY/6 : Headlamp wiper motor LH (With daytime light system)
C4 (E45) GY/2 : Cooling fan motor-1 (1-mode type)
C4* (E46) GY/4 : Cooling fan motor-1 (2-mode type with CD engine)
C4 (E47) B/2 : Dual-pressure switch
C4 (E48) GY/6 : Headlamp aiming motor unit LH
C4 (E49) B/3 : Headlamp LH
D4 (E50) B/2 : Parking lamp LH
D4* (E51) — : Body ground
D4 (E52) GY/2 : Front fog lamp LH (GA engine M/T models and SR engine)
E4 (E53) B/2 : Front turn signal lamp LH
G2 (E55) — : Fusible link (For ABS and glow control system)
G3 (E56) L/4 : Rear window defogger relay (CD engine with daytime light system)
D3 (E57) — : Fusible link and fuse box
D3 (E58) B/1 : Battery (Gasoline engine)
D3 (E59) B/1 : Fusible link and fuse box
D3 (E60) W/1 : Fusible link and fuse box
E4 (E61) G/2 : Glow relay (CD engine)
E4 (E62) W/1 : Glow relay (CD engine)
E3 (E63) W/1 : Glow relay (CD engine)
E3 (E64) GY/1 : To (E237) (SR engine)
E3 (E65) GY/8 : To (E236) (SR engine)
B1 (E66) GY/4 : To cooling fan motor-1 sub-harness (2-mode type with GA engine A/T models without daytime light system)
B2 (E67) GY/4 : To cooling fan motor-2 sub-harness (2-mode type with GA engine A/T models without daytime light system)
B3 (E68) GY/2 : Ambient air temperature switch (SR engine)
C2 (E69) GY/4 : To (A2) (SR engine)
D2 (E70) G/2 : Throttle control solenoid valve (CD engine)
E2 (E71) L/2 : EVAP canister purge volume control solenoid valve (SR engine)
D2 (E72) B/1 : Fusible link (CD engine)

*: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection.

HEL279A

Engine Room Harness (Cont'd)

ENGINE COMPARTMENT — RHD models



HEL280A

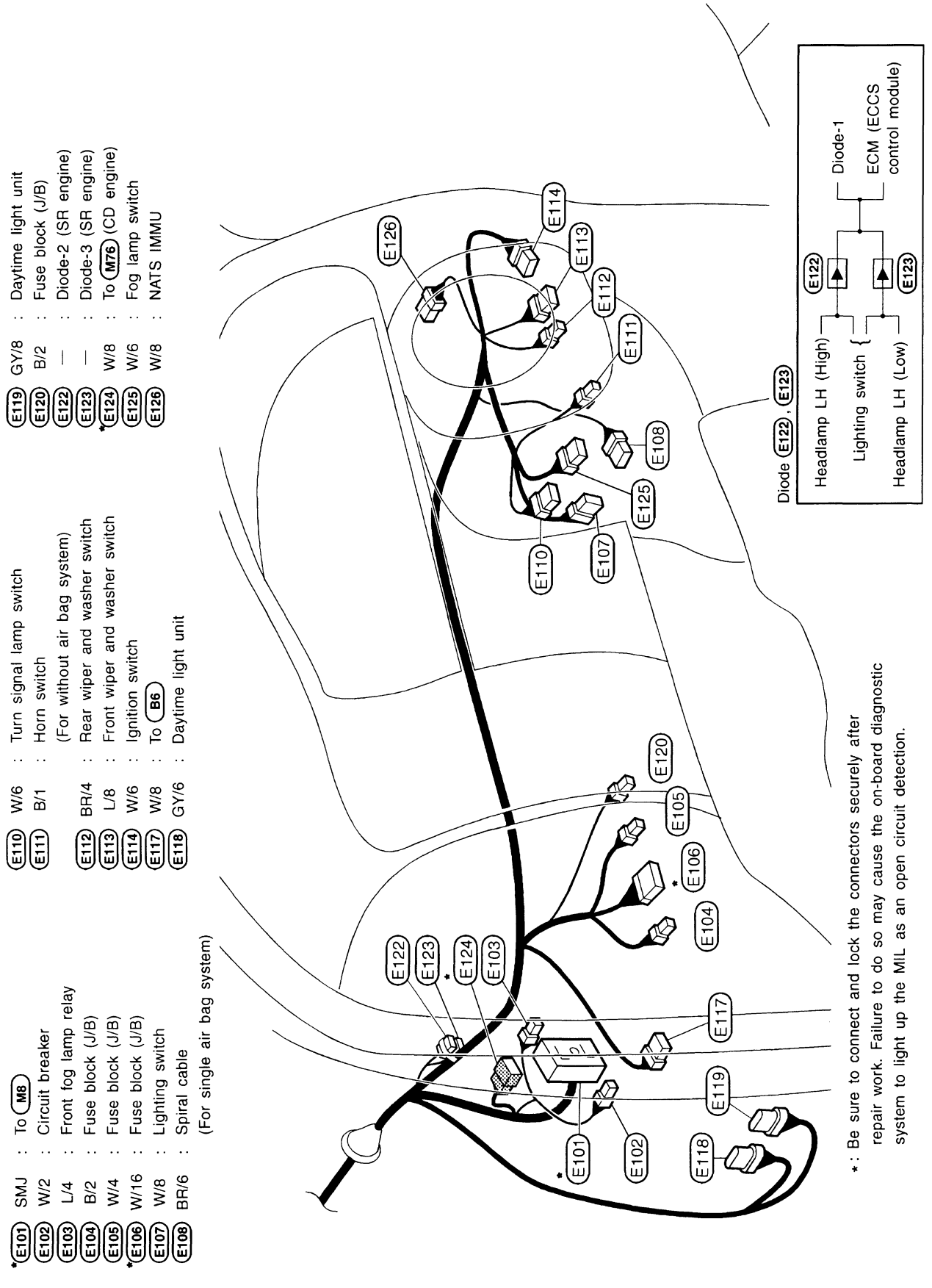
C1 (E1) GY/2 : Side turn signal lamp RH
D2 (E2) GY/2 : Brake fluid level switch
D2 (E3) GY/2 : Power steering oil pressure switch (Gasoline engine)
E2 (E5) GY/2 : Fuel filter sensor (CD engine)
D2 (E6) B/1 : To (E228) (CD engine)
E3 (E7) GY/1 : To (E229) (CD engine)
D2* (E8) GY/8 : To (E231) (CD engine)
D2* (E9) B/8 : To (E230) (CD engine)
E2 (E10) GY/2 : ABS relay box (For ABS)
C2 (E11) GY/2 : Front wheel speed sensor RH (For ABS)
F1* (E12) L/4 : Cooling fan relay-1
(SR engine M/T models and GA engine)
BR/6 : Cooling fan relay-1
(SR engine A/T models and CD engine)
F1 (E13) W/3 : Horn relay
F1 (E14) L/4 : Inhibitor relay (A/T models)
G1 (E16) L/4 : A/C relay
F1* (E17) BR/6 : Cooling fan relay-2
(A/T models for Australia and CD engine)
F1* (E18) BR/6 : Cooling fan relay-3
(SR engine A/T models and CD engine)
G1 (E20) L/4 : Rear fog lamp relay (For Europe)
B1 (E22) B/2 : To (E204)
C2* (E23) B/6 : To (E201) (Except SR engine A/T models)
C2* (E24) B/8 : To (E202)
C2 (E26) GY/8 : To (E203) (SR engine A/T models)
C2* (E27) GY/6 : To (E234) (CD engine)
A2 (E28) W/2 : Front washer motor
A2 (E29) G/2 : Rear washer motor
A2 (E31) GY/2 : To front fog lamp sub-harness
(SR engine for Australia, GA engine and CD engine)
A2 (E32) B/2 : Front turn signal lamp RH
A3 (E33) B/2 : Parking lamp RH
A3 (E34) B/3 : Headlamp RH

A3 (E35) GY/6 : Headlamp aiming motor unit RH (For Europe)
A3 (E36) GY/2 : Front fog lamp RH
(M/T models with gasoline engine for Europe)
B2* (E37) — : Body ground
C3 (E39) GY/2 : Cooling fan motor-2 (1-mode type)
C3* (E40) GY/4 : Cooling fan motor-2 (2-mode type)
B3 (E42) B/1 : Horn high
B4 (E43) B/1 : Horn low
B4 (E45) GY/2 : Cooling fan motor-1 (1-mode type)
C4* (E46) GY/4 : Cooling fan motor-1 (2-mode type)
C4 (E47) B/2 : Dual-pressure switch
C4 (E48) GY/6 : Headlamp aiming motor unit LH (For Europe)
C4 (E49) B/3 : Headlamp LH
D4 (E50) B/2 : Parking lamp LH
D4* (E51) — : Body ground
D4 (E52) GY/2 : Front fog lamp LH
(M/T models with gasoline engine for Europe)
E4 (E53) B/2 : Front turn signal lamp LH
G2 (E55) — : Fusible link (For ABS and glow control system)
D3 (E57) — : Fusible link and fuse box
E3 (E58) B/1 : Battery (Gasoline engine)
D3 (E59) B/1 : Fusible link and fuse box
D3 (E60) W/1 : Fusible link and fuse box
E4 (E61) G/2 : Glow relay (CD engine)
E4 (E62) W/1 : Glow relay (CD engine)
E3 (E63) W/1 : Glow relay (CD engine)
B3 (E68) GY/2 : Ambient air temperature switch
(SR engine for Europe)
E2 (E70) G/2 : Throttle control solenoid valve
(CD engine)
E3 (E72) B/1 : Fusible link (CD engine)

*: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection.

Engine Room Harness (Cont'd)

PASSENGER COMPARTMENT — LHD models



HEL282A

Engine Room Harness (Cont'd)

PASSENGER COMPARTMENT — RHD models

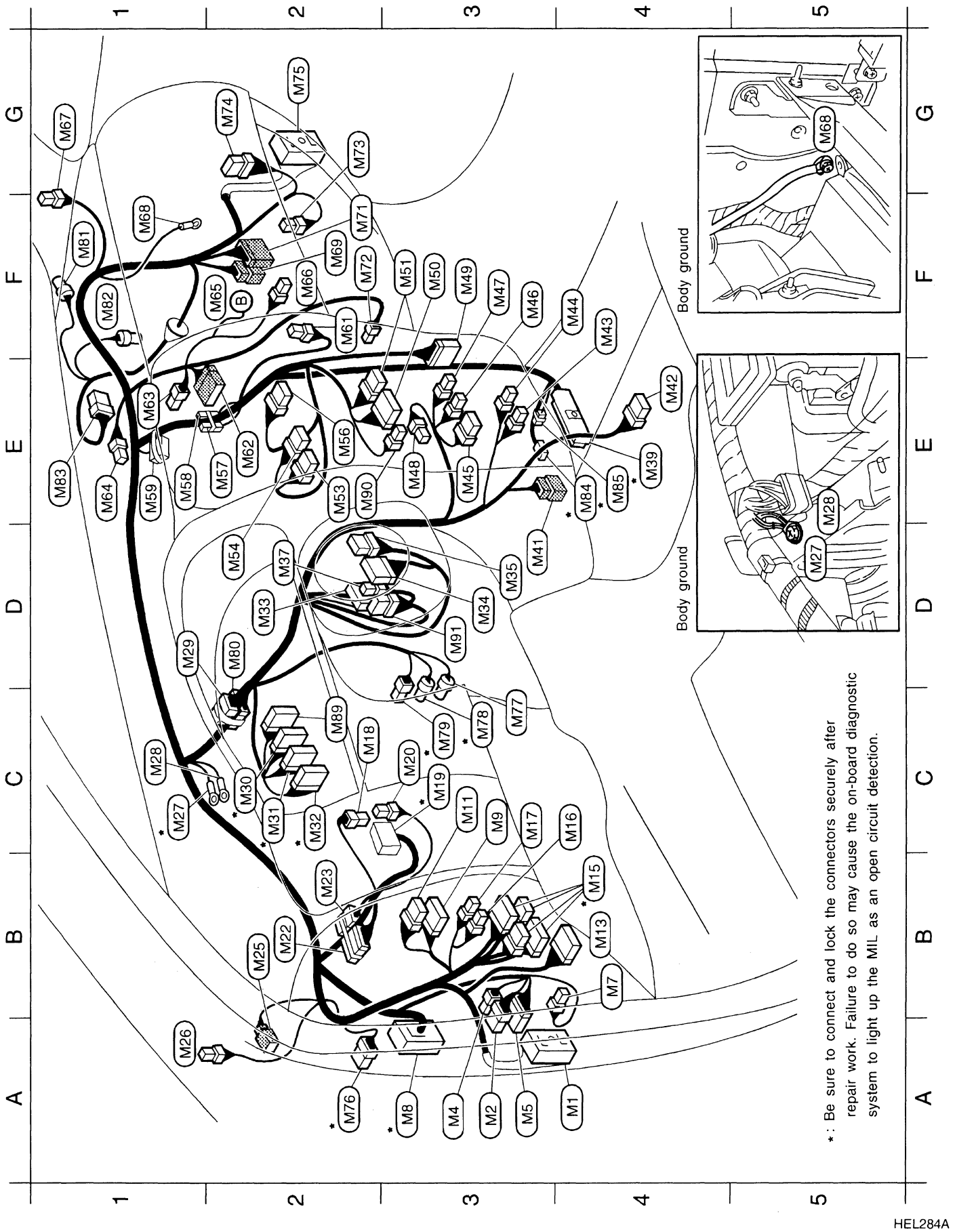
*: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection.

*E101	SMJ	: To M8	E110	W/6	: Turn signal lamp switch (For Europe)	E120	B/2 : Fuse block (J/B) (For Europe)
E102	W/2	: Circuit breaker	E111	B/1	: Horn switch (For without air bag system)	E121	W/3 : Turn signal lamp switch (Except for Europe)
E103	L/4	: Front fog lamp relay (For Europe)	E112	BR/4	: Rear wiper and washer switch		
E104	B/2	: Fuse block (J/B)	E113	L/8	: Front wiper and washer switch	E122	–/2 : Diode-2 (SR engine for Europe)
E105	W/4	: Fuse block (J/B)	E114	W/6	: Ignition switch	E123	–/2 : Diode-3 (SR engine for Europe)
*E106	W/16	: Fuse block (J/B)	E115	W/2	: Key switch (Except for Europe and with super lock system for Europe)	E125	W/6 : Fog lamp switch (For Europe)
E107	W/8	: Lighting switch					
E108	BR/6	: Spiral cable (For single air bag system)	E116	W/4	: NATS antenna amplifier (For Europe)		

HEL283A

Main Harness

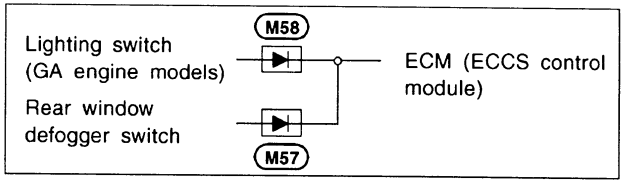
LHD MODELS



HEL284A

A4	M1	SMJ	To D1
A3	M2	W/6	To B4 (With power door lock)
A3	M4	W/4	To B1
A3	M5	W/12	To B2
B4	M7	L/4	Fuel pump relay (Gasoline engine)
A3*	M8	SMJ	To E101
C3	M9	GY/12	Door mirror remote control switch
C3	M11	W/8	Headlamp aiming switch
B4	M13	GY/14	Data link connector for CONSULT
B4*	M15	W/8 GY/16 BR/16 GY/8	Fuse block (J/B)
C4	M16	L/4	Power window relay (With power window) Sunroof relay (Without power window)
C3	M17	L/4	Mirror defogger relay (With daytime light system)
C2	M18	B/2	Stop lamp switch
C3*	M19	—	Junction box No.2 (Joint connectors)
C3	M20	B/3	Combination flasher unit
B2	M22	BR/20	Joint conector-1
B2	M23	GY/6	Joint connector-2
B2	M25	W/4	To R1
A1	M26	BR/2	Pillar speaker LH (For 6-speaker system)
C1*	M27	—	Body ground
C1	M28	—	Body ground
D1	M29	W/6	Joint connector-8
C2*	M30	W/10	Combination meter (With tachometer)
C2*	M31	BR/16	Combination meter (With tachometer)
C2*	M32	W/16	Combination meter
D2	M33	B/12	Warning buzzer unit
D3	M34	W/18	Door lock timer (For Europe)
D3	M35	W/8	Door lock timer (Except for Europe)
D2	M37	W/4	Rear window defogger timer (With daytime light system)
E4*	M39	W/88	ECM (ECCS control module) (Diesel engine)
D3	M41	W/8	To F5 (Gasoline engine)
E4	M42	W/6	Overdrive control switch • A/T illumination
F4	M43	B/2	Cigarette lighter
F4	M44	W/2	Ashtray illumination
E3	M45	W/6	Fan switch
F3	M46	W/4	Recirculation switch
F3	M47	W/3	A/C switch
E3	M48	W/3	Fan switch illumination
F3	M49	W/20	To F6 (Gasoline engine)
F3	M50	W/10	Radio
F3	M51	W/6	Radio (For rear speaker)
E2	M53	W/6	Rear window defogger switch
D2	M54	W/8	Hazard switch
E2	M56	BR/8	Headlamp, wiper and washer switch (With daytime light system)
E2	M57	–/2	Diode-1 (Gasoline engine)
E1	M58	–/2	Diode-2 (GA engine)
E1	M59	BR/20	Joint connector-3
F2	M61	W/3	Thermo control amplifier
E2	M62	W/16	To Z6 (For dual air bag system)
E1	M63	W/4	Intake door motor
E1	M64	B/2	NATS security indicator (For Europe)
F2	M65	Bulb	Glove box lamp (SLX and GTi grades, and SR grade with GA16DE engine)
F2	M66	BR/2	Glove box lamp switch (SLX and GTi grades, and SR grade with GA16DE engine)
G1	M67	BR/2	Pillar speaker RH (For 6-speaker system)
F1	M68	—	Body ground
F2	M69	W/8	To B113 (Except GA engine without ABS, dual air bag, rear power window and multi-remote control system)
F2	M71	W/12	To B115 (Except GA engine without ABS, dual air bag, rear power window and multi-remote control system)
F2	M72	BR/4	Fan resistor
G2	M73	W/2	Blower motor
G2	M74	W/8	Front wiper amplifier
G2	M75	SMJ	To D31
A2*	M76	W/8	To E124 (Diesel engine)
C3	M77	GY/3	Accelerator position switch (Diesel engine)
C3*	M78	BR/3	Accelerator position sensor (Diesel engine)
C3*	M79	W/3	Accelerator switch (FC) (Diesel engine)
D2	M80	L/12	Joint connector-9
F1	M81	GY/2	Side turn signal lamp RH (GA engine without ABS, dual air bag, rear power window and multi-remote control system)
F1	M82	GY/2	Power steering oil pressure switch (GA engine without ABS, dual air bag, rear power window and multi-remote control system)
E1	M83	GY/6	Front wiper motor (GA engine without ABS, dual air bag, rear power window and multi-remote control system)
E4*	M84	BR/6	ECCS relay (Diesel engine)
E4*	M85	BR/20	Joint connector-10 (Diesel engine)
C2	M89	W/14	Combination meter (Without tachometer)
E2	M90	W/2	To antenna amp. sub-harness
D3	M91	BR/8	Multi-remote control unit (With multi-remote control system)

Diode-1 (M57), Diode-2 (M58)

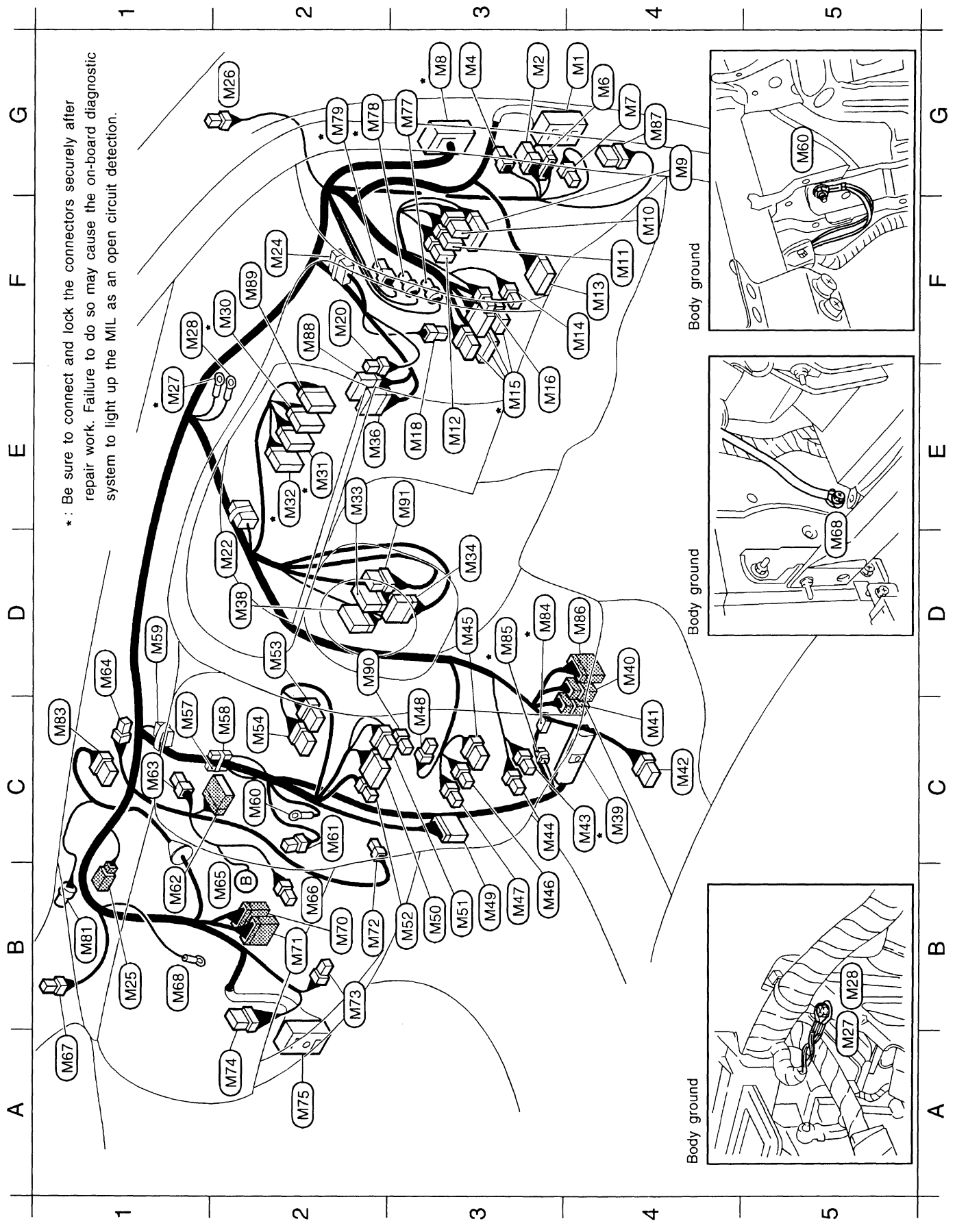


*: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection.

HEL285A

Main Harness (Cont'd)

RHD MODELS



HEL286A

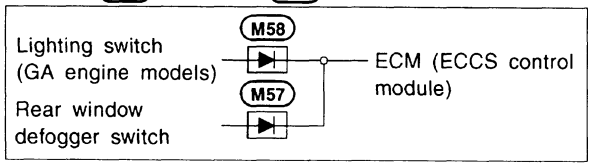
G4 (M1) SMJ : To (D1)
G3 (M2) W/6 : To (B4) (With rear power door lock)
G3 (M4) W/4 : To (B1)
G4 (M6) W/20 : To (B3)
G4 (M7) L/4 : Fuel pump relay (Gasoline engine)
G3* (M8) SMJ : To (E101)
G4 (M9) GY/12 : Door mirror remote control switch
F4 (M10) B/6 : Not used (Except for Europe)
F4 (M11) W/8 : Headlamp aiming switch (For Europe)
E3 (M12) W/6 : Illumination control switch (Except for Europe)
F4 (M13) GY/14 : Data link connector for CONSULT
F4 (M14) B/2 : Fuse block (J/B) (Except for Europe)
E3* (M15) W/8 : Fuse block (J/B)
GY/16
BR/16
GY/8
E3 (M16) L/4 : Power window relay (With power window)
L/4 : Sunroof relay (Without power window)
E3 (M18) B/2 : Stop lamp switch
F2 (M20) B/3 : Combination flasher unit
D2 (M22) BR/20 : Joint connector-1
F2 (M24) OR/20 : Joint connector-5
B1 (M25) W/4 : To (R1)
G2 (M26) BR/2 : Pillar speaker RH (For 6-speaker system)
E1* (M27) — : Body ground
F1 (M28) — : Body ground
F2* (M30) W/10 : Combination meter (With tachometer)
E2* (M31) BR/16 : Combination meter (With tachometer)
E2* (M32) W/16 : Combination meter
E2 (M33) B/12 : Warning buzzer unit (For Europe and without power door lock except for Australia)
D3 (M34) W/18 : Door lock timer (With power door lock for Europe and Australia)
Super lock control unit (With super lock)
E2 (M36) W/12 : NATS IMMU (For Europe)

*: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection.

D2 (M38) W/8 : Warning buzzer unit (For Australia)
C4* (M39) W/88 : ECM (ECCS control module) (Diesel engine)
D4 (M40) W/6 : To (F4) (For Australia)
C4 (M41) W/8 : To (F5) (Gasoline engine for Europe)
C4 (M42) W/6 : Overdrive control switch
• A/T illumination
C4 (M43) B/2 : Cigarette lighter
C3 (M44) W/2 : Ashtray illumination
D3 (M45) W/6 : Fan switch
B3 (M46) W/4 : Recirculation switch
B3 (M47) W/3 : A/C switch
C3 (M48) W/3 : Fan switch illumination
B3 (M49) W/20 : To (F6) (Gasoline engine)
B3 (M50) W/10 : Radio
B3 (M51) W/6 : Radio (For rear speaker)
B3 (M52) W/4 : CD deck (Except for Europe)
D2 (M53) W/6 : Rear window defogger switch
C2 (M54) W/8 : Hazard switch
C1 (M57) –/2 : Diode-1 (GA engine except for Australia and SR engine for Europe)
C2 (M58) –/2 : Diode-2 (GA engine except for Australia)
D1 (M59) P/20 : Joint connector-4
C2 (M60) — : Body ground
C2 (M61) W/3 : Thermo control amplifier
B1 (M62) W/16 : To (Z6) (For dual air bag system)
C1 (M63) W/4 : Intake door motor
D1 (M64) B/2 : NATS security indicator (For Europe)
B2 (M65) Bulb : Glove box lamp (SLX, GTi and SSS grades, and SR grade with GA16DE engine)
B2 (M66) BR/2 : Glove box lamp switch (SLX, GTi and SSS grades, and SR grade with GA16DE engine)
A1 (M67) BR/2 : Pillar speaker LH (For 6-speaker system)
B1 (M68) — : Body ground
B2 (M70) W/12 : To (B114) (Except GA engine without ABS, dual air bag, rear power window and multi-remote control system)

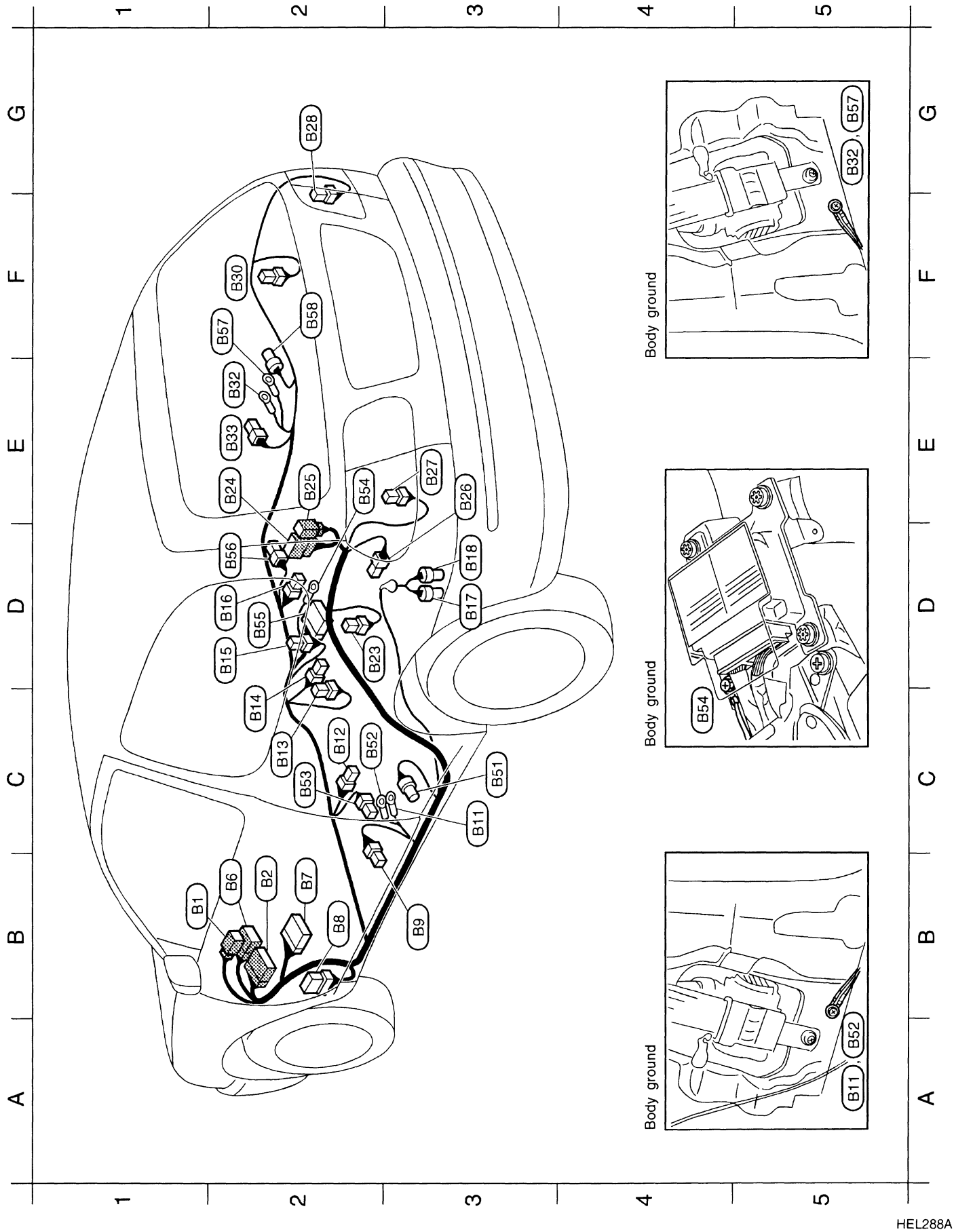
B2 (M71) W/12 : To (B115) (Except GA engine without ABS, dual air bag, rear power window and multi-remote control system)
B2 (M72) BR/4 : Fan resistor
B2 (M73) W/2 : Blower motor
A2 (M74) W/8 : Front wiper amplifier
A2 (M75) SMJ : To (D31)
G3 (M77) GY/3 : Accelerator position switch (Diesel engine)
G2* (M78) BR/3 : Accelerator position sensor (Diesel engine)
G2* (M79) W/3 : Accelerator switch (FC) (Diesel engine)
B1 (M81) GY/2 : Side turn signal lamp LH (GA engine without ABS, dual air bag, rear power window and multi-remote control system)
C1 (M83) GY/6 : Front wiper motor (GA engine without ABS, dual air bag, rear power window and multi-remote control system)
D3* (M84) BR/6 : ECCS relay (Diesel engine)
D3* (M85) BR/20 : Joint connector-10 (Diesel engine)
D4 (M86) W/10 : To (F33) (Except for Europe and Australia)
G4 (M87) B/8 : Rear wiper amplifier
F2 (M88) W/18 : Time control unit (With power door lock except for Europe and Australia)
F2 (M89) W/14 : Combination meter (Without tachometer)
D2 (M90) W/2 : To antenna amp. sub-harness (For Europe)
E3 (M91) BR/8 : Multi-remote control unit (With multi-remote control system)

Diode-1 (M57), Diode-2 (M58)



Body Harness

3-DOOR HATCHBACK — LHD models



HEL288A

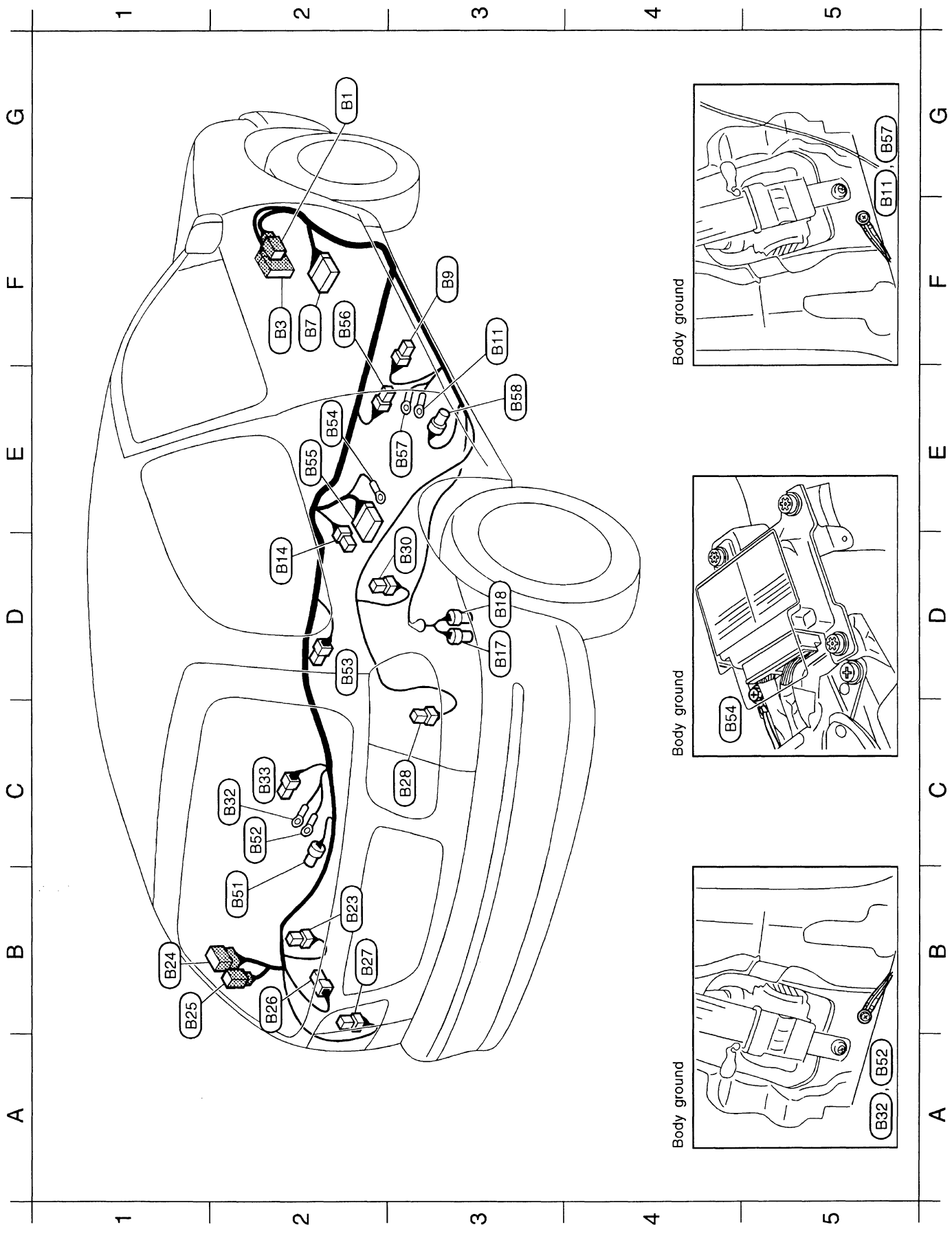
Body Harness (Cont'd)

B1 (B1)	W/4	: To (M4)	
B2 (B2)	W/12	: To (M5)	
B2 (B6)	W/8	: To (E117)	
B2 (B7)	W/12	: Fuse block (J/B)	
B2 (B8)	W/6	: Rear wiper amplifier	
B3 (B9)	B/3	: Front door switch driver side	
C3 (B11)	—	: Body ground	
C2 (B12)	W/3	: To heaed seat sub-harness LH (With daytime light system)	
C2 (B13)	L/4	: Heated seat switch LH (With daytime light system)	
C2 (B14)	B/1	: Parking brake switch	
D2 (B15)	W/4	: Heated seat switch RH (With daytime light system)	
D2 (B16)	W/3	: To heated seat sub-harness RH (With daytime light system)	
D3 (B17)	GY/2	: To fuel pump sub-harness (Gasoline engine)	
D3 (B18)	GY/3	: Fuel tank gauge unit	
D2 (B23)	BR/2	: Rear speaker LH	
E2 (B24)	W/8	: To (D101)	
E2 (B25)	W/2	: To (D102)	
E3 (B26)	W/2	: Luggage room lamp	
E3 (B27)	W/4	: Rear combination lamp LH (Outer)	
G2 (B28)	W/4	: Rear combination lamp RH (Outer)	
F2 (B30)	BR/2	: Rear speaker RH	
E2 (B32)	—	: Body ground	
E2 (B33)	BR/1	: Front door switch passenger side	
C3 (B51)	Y/2	: Satellite sensor LH (With side air bag)	
C2 (B52)	—	: Body ground (With side air bag)	
C2 (B53)	Y/2	: To side air bag module sub-harness LH (With side air bag)	
E2 (B54)	—	: Body ground (With side air bag)	
D2 (B55)	Y/10	: Air bag diagnosis sensor unit (With side air bag)	
D2 (B56)	Y/2	: To side air bag module sub-harness RH (With side air bag)	
F2 (B57)	—	: Body ground (With side air bag)	
F2 (B58)	Y/2	: Satellite sensor RH (With side air bag)	

HEL289A

Body Harness (Cont'd)

3-DOOR HATCHBACK — RHD models



HEL290A

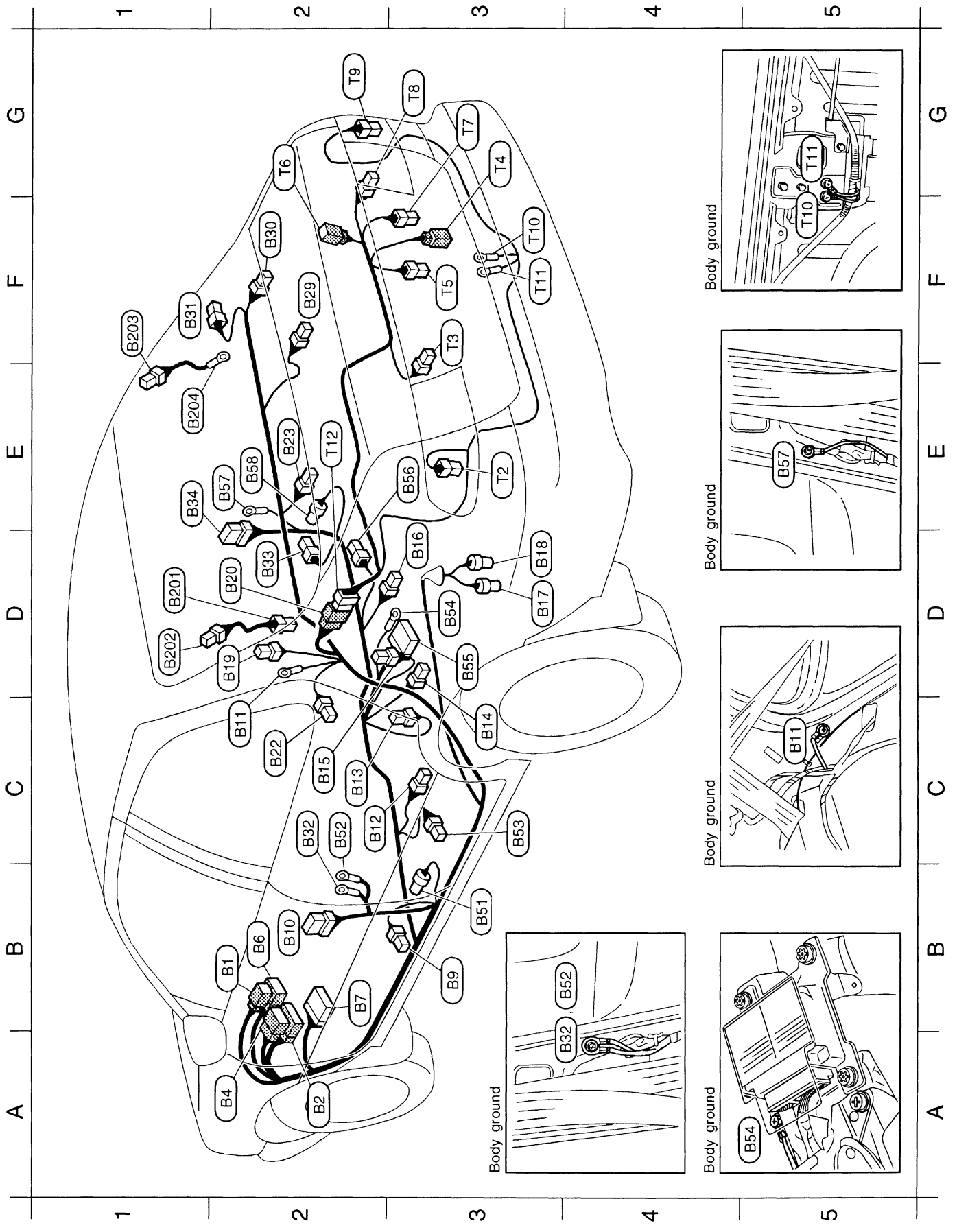
Body Harness (Cont'd)

G2	B1	W/4	:	To M4		
F2	B3	W/20	:	To M6		
F2	B7	W/12	:	Fuse block (J/B)		
F3	B9	B/3	:	Front door switch driver side		
F3	B11	—	:	Body ground		
D2	B14	B/1	:	Parking brake switch		
D3	B17	GY/2	:	To fuel pump sub-harness		
D3	B18	GY/3	:	Fuel tank gauge unit		
B2	B23	BR/2	:	Rear speaker LH		
B1	B24	W/8	:	To D101		
B1	B25	W/2	:	To D102		
B2	B26	W/2	:	Luggage room lamp		
B2	B27	W/4	:	Rear combination lamp LH (Outer)		
C3	B28	W/4	:	Rear combination lamp RH (Outer)		
D3	B30	BR/2	:	Rear speaker RH		
C2	B32	—	:	Body ground		
C2	B33	BR/1	:	Front door switch passenger side		
B2	B51	Y/2	:	Satellite sensor LH (With side air bag)		
C2	B52	—	:	Body ground (With side air bag)		
D2	B53	Y/2	:	To side air bag module sub-harness LH (With side air bag)		
E2	B54	—	:	Body ground (With side air bag)		
E2	B55	Y/10	:	Air bag diagnosis sensor unit (With side air bag)		
F2	B56	Y/2	:	To side air bag module sub-harness RH (With side air bag)		
E3	B57	—	:	Body ground (With side air bag)		
E3	B58	Y/2	:	Satellite sensor RH (With side air bag)		

HEL291A

Body Harness (Cont'd)

SEDAN — LHD models



HEL292A

Body harness

B2	B1	W/4	:	To M4
A2	B2	W/12	:	To M5
A2	B4	W/6	:	To M2 (With power door lock)
B2	B6	W/8	:	To E117
B2	B7	W/12	:	Fuse block (J/B)
B3	B9	B/3	:	Front door switch driver side
B2	B10	W/6	:	To D51 (With power door lock)
C2	B11	—	:	Body ground
C2	B12	W/3	:	To heated seat sub-harness LH (With daytime light system)
C2	B13	L/4	:	Heated seat switch LH (With daytime light system)
C3	B14	B/1	:	Parking brake switch
C2	B15	W/4	:	Heated seat switch RH (With daytime light system)
D3	B16	W/3	:	To heated seat sub-harness RH (With daytime light system)
D3	B17	GY/2	:	To fuel pump sub-harness (Gasoline engine)
D3	B18	GY/3	:	Fuel tank gauge unit
D2	B19	B/1	:	Condenser (For rear window defogger)
D2	B20	W/8	:	To T12
C2	B22	BR/1	:	Rear door switch LH
E2	B23	BR/2	:	Rear speaker LH
F2	B29	W/2	:	Trunk room lamp
F2	B30	BR/2	:	Rear speaker RH
F1	B31	BR/1	:	Rear door switch RH
C2	B32	—	:	Body ground
D2	B33	BR/1	:	Front door switch passenger side
E1	B34	W/6	:	To D71 (With power door lock)
B3	B51	Y/2	:	Satellite sensor LH (With side air bag)
C2	B52	—	:	Body ground (With side air bag)
C3	B53	Y/2	:	To side air bag module sub-harness LH (With side air bag)
D3	B54	—	:	Body ground (With side air bag)
D3	B55	Y/10	:	Air bag diagnosis sensor unit (With side air bag)
E3	B56	Y/2	:	To side air bag module sub-harness RH (With side air bag)
E2	B57	—	:	Body ground (With side air bag)
E2	B58	Y/2	:	Satellite sensor RH (With side air bag)

Tail harness

E3	T2	W/4	:	Rear combination lamp LH (Outer)
F3	T3	W/4	:	Rear combination lamp LH (Inner)
G3	T4	B/2	:	Trunk room lamp switch
F3	T5	W/2	:	License plate lamp LH
G2	T6	BR/2	:	High-mounted stop lamp
G3	T7	W/2	:	License plate lamp RH
G3	T8	W/4	:	Rear combination lamp RH (Inner)
G2	T9	W/4	:	Rear combination lamp RH (Outer)
F3	T10	—	:	Body ground
F3	T11	—	:	Body ground
E2	T12	W/8	:	To B20

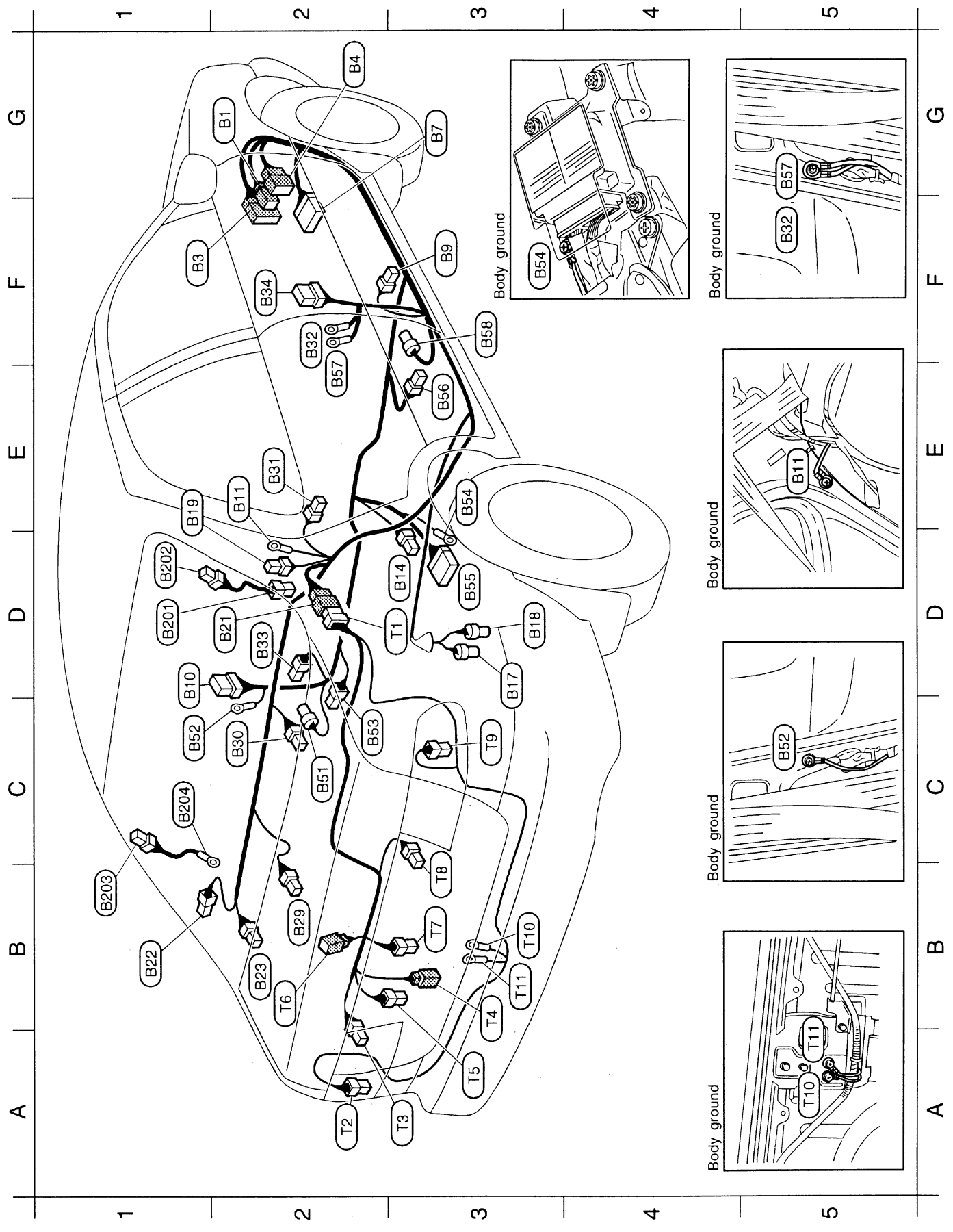
Sub-harness

D1	B201	B/1	:	Condenser
D1	B202	B/1	:	Rear window defogger (+)
F1	B203	B/1	:	Rear window defogger (–)
E1	B204	—	:	Body ground

HEL293A

Body Harness (Cont'd)

SEDAN — RHD models



HEL294A

Body harness

G2	B1	W/4	: To M4
F1	B3	W/20	: To M6
G2	B4	W/6	: To M2 (With power door lock)
G3	B7	W/12	: Fuse block (J/B)
F3	B9	B/3	: Front door switch driver's side
D1	B10	W/6	: To D51 (With power door lock)
E2	B11	—	: Body ground
D3	B14	B/1	: Parking brake switch
D3	B17	GY/2	: To fuel pump sub-harness (Gasoline engine)
D3	B18	GY/3	: Fuel tank gauge unit
E1	B19	B/1	: Condenser (For rear window defogger)
D2	B21	W/8	: To T1
B1	B22	BR/1	: Rear door switch LH
B2	B23	BR/2	: Rear speaker LH
B2	B29	W/2	: Trunk room lamp
C2	B30	BR/2	: Rear speaker RH
E2	B31	BR/1	: Rear door switch RH
F2	B32	—	: Body ground
D2	B33	BR/1	: Front door switch passenger side
F2	B34	W/6	: To D71 (With power door lock)
C2	B51	Y/2	: Satellite sensor LH (With side air bag)
C1	B52	—	: Body ground (With side air bag)
C2	B53	Y/2	: To side air bag module sub-harness LH (With side air bag)
E3	B54	—	: Body ground (With side air bag)
D3	B55	Y/10	: Air bag diagnosis sensor unit (With side air bag)
E3	B56	Y/2	: To side air bag module sub-harness RH (With side air bag)
E2	B57	—	: Body ground (With side air bag)
F3	B58	Y/2	: Satellite sensor RH (With side air bag)

Tail harness

D3	T1	W/8	: To B21
A2	T2	W/4	: Rear combination lamp LH (Outer)
A3	T3	W/4	: Rear combination lamp LH (Inner)
B3	T4	B/2	: Trunk room lamp switch
A3	T5	W/2	: License plate lamp LH
B2	T6	BR/2	: High-mounted stop lamp
B3	T7	W/2	: License plate lamp RH
B3	T8	W/4	: Rear combination lamp RH (Inner)
C3	T9	W/4	: Rear combination lamp RH (Outer)
B3	T10	—	: Body ground
B3	T11	—	: Body ground

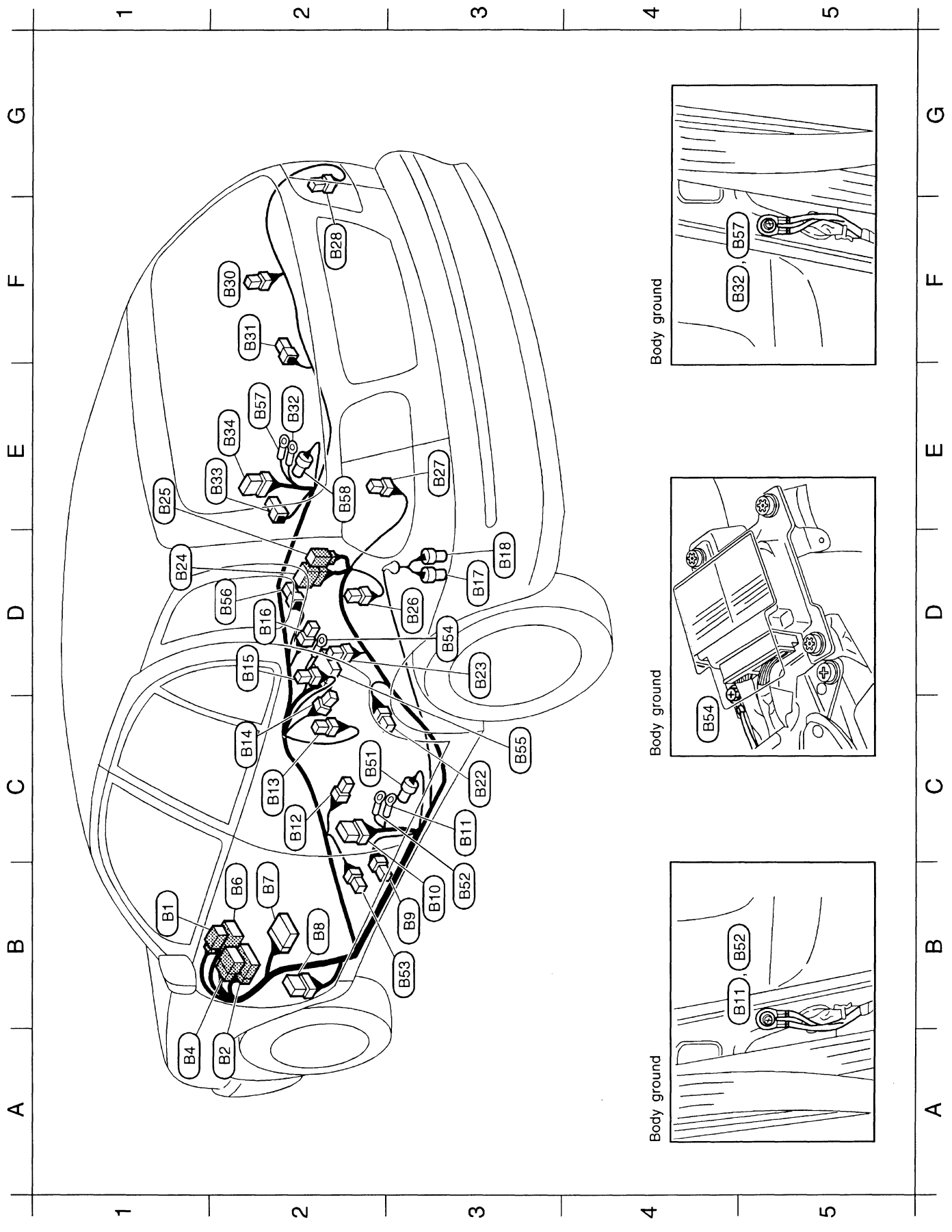
Sub-harness

D1	B201	B/1	: Condenser
D1	B202	B/1	: Rear window defogger (+)
B1	B203	B/1	: Rear window defogger (–)
C1	B204	—	: Body ground

HEL295A

Body Harness (Cont'd)

5-DOOR HATCHBACK — LHD models



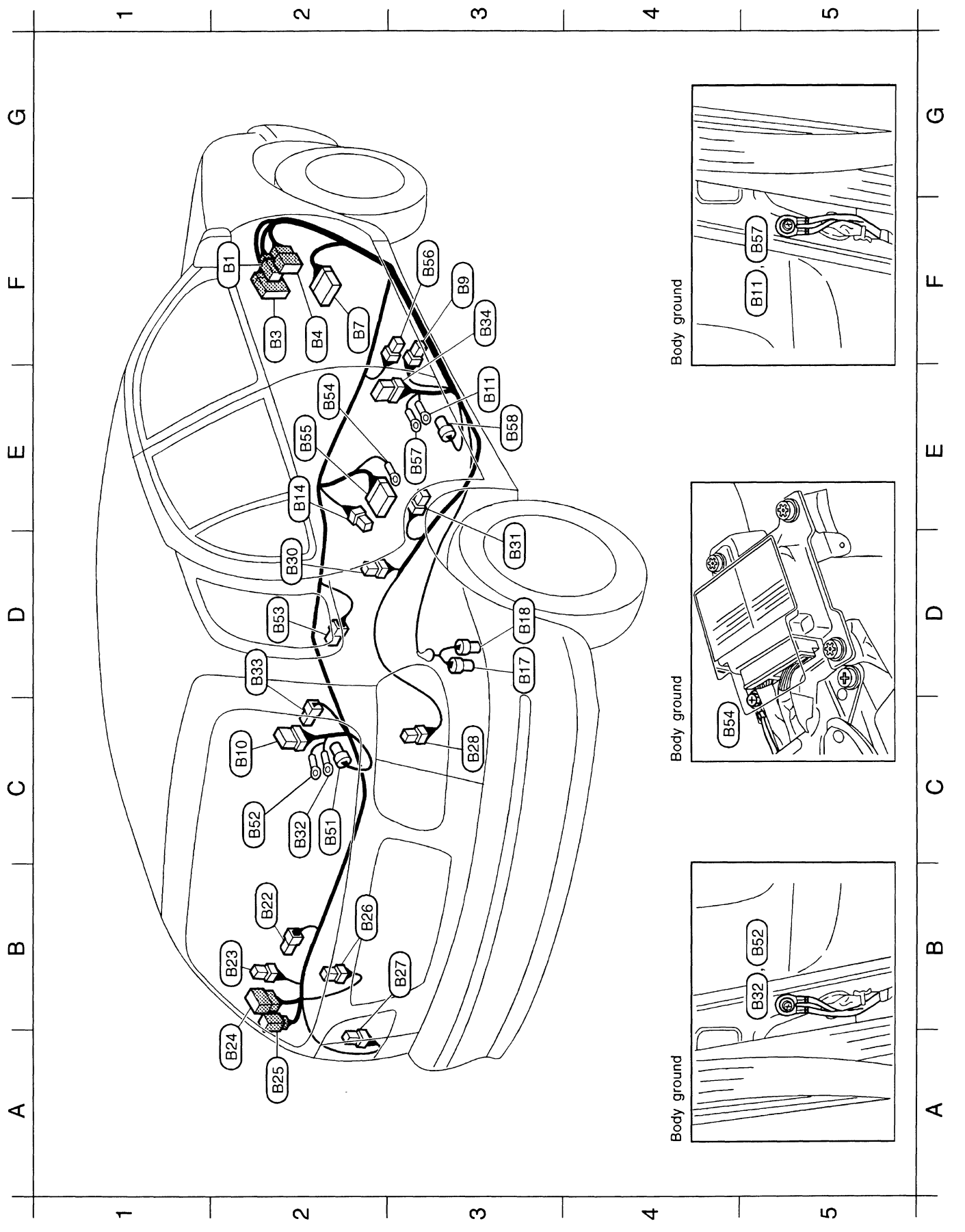
HEL296A

B1	B1	W/4	: To M4	C2	B51	Y/2 : Satellite sensor LH (With side air bag)
A2	B2	W/12	: To M5	B3	B52	— : Body ground (With side air bag)
A1	B4	W/6	: To M2 (With power door lock)	B3	B53	Y/2 : To side air bag module sub-harness LH (With side air bag)
B2	B6	W/8	: To E117	D3	B54	— : Body ground (With side air bag)
B2	B7	W/12	: Fuse block (J/B)	C3	B55	Y/10 : Air bag diagnosis sensor unit (With side air bag)
B2	B8	W/6	: Rear wiper amplifier	D2	B56	Y/2 : To side air bag module sub-harness RH (With side air bag)
B3	B9	B/3	: Front door switch driver side	E2	B57	— : Body ground (With side air bag)
B3	B10	W/6	: To D51 (With power door lock)	E2	B58	Y/2 : Satellite sensor RH (With side air bag)
C3	B11	—	: Body ground			
C2	B12	W/3	: To heated seat sub-harness LH (With daytime light system)			
C2	B13	L/4	: Heated seat switch LH (With daytime light system)			
C2	B14	B/1	: Parking brake switch			
D2	B15	W/4	: Heated seat switch RH (With daytime light system)			
D2	B16	W/3	: To heated seat sub-harness RH (With daytime light system)			
D3	B17	GY/2	: To fuel pump sub-harness (Gasoline engine)			
D3	B18	GY/3	: Fuel tank gauge unit			
C3	B22	BR/1	: Rear door switch LH			
D3	B23	BR/2	: Rear speaker LH			
D1	B24	W/8	: To D101			
E1	B25	W/2	: To D102			
D3	B26	W/2	: Luggage room lamp			
E3	B27	W/4	: Rear combination lamp LH (Outer)			
F2	B28	W/4	: Rear combination lamp RH (Outer)			
F2	B30	BR/2	: Rear speaker RH			
F2	B31	BR/1	: Rear door switch RH			
E2	B32	—	: Body ground			
E2	B33	BR/1	: Front door switch passenger side			
E2	B34	W/6	: To D71 (With power door lock)			

HEL297A

Body Harness (Cont'd)

5-DOOR HATCHBACK — RHD models



HEL298A

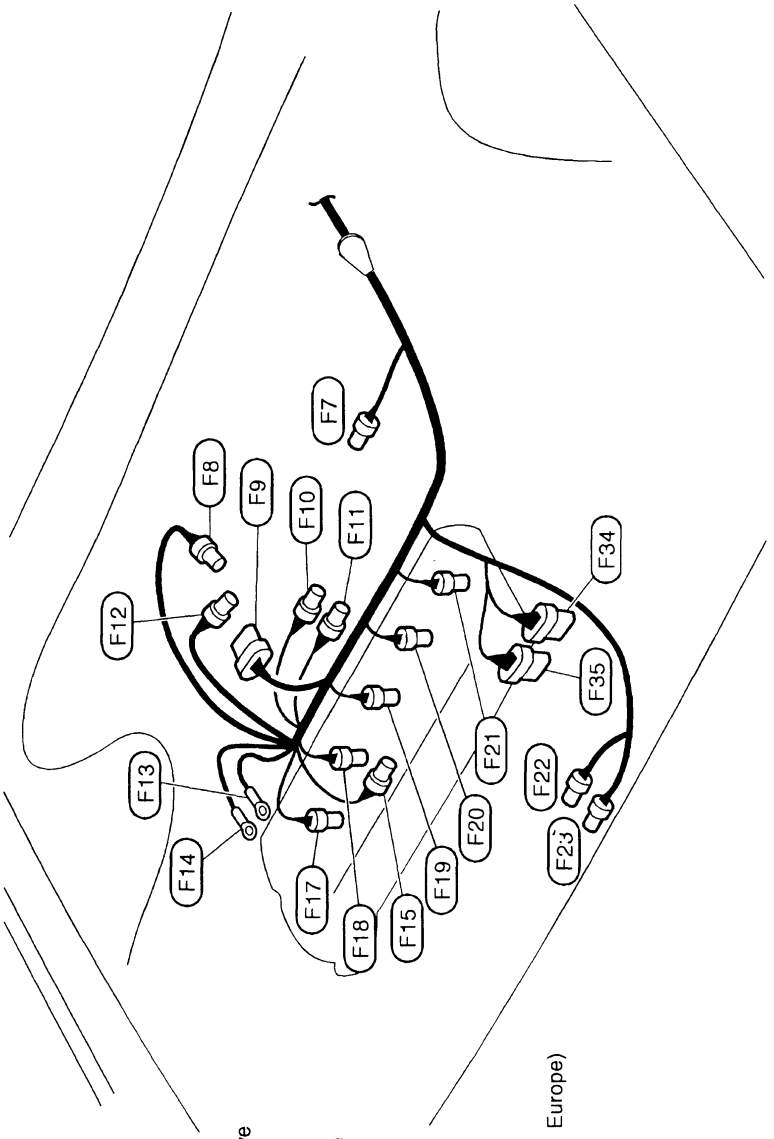
Body Harness (Cont'd)

F2	B1	W/4	:	To M4		
F2	B3	W/20	:	To M6		
F2	B4	W/6	:	To M2 (With power door lock)		
F2	B7	W/12	:	Fuse block (J/B)		
F3	B9	B/3	:	Front door switch driver side		
C2	B10	W/6	:	To D51 (With power door lock)		
E3	B11	—	:	Body ground		
E2	B14	B/1	:	Parking brake switch		
D3	B17	GY/2	:	To fuel pump sub-harness (Gasoline engine)		
D3	B18	GY/3	:	Fuel tank gauge unit		
B2	B22	BR/1	:	Rear door switch LH		
B2	B23	BR/2	:	Rear speaker LH		
A2	B24	W/8	:	To D101		
A2	B25	W/2	:	To D102		
B2	B26	W/2	:	Luggage room lamp		
B3	B27	W/4	:	Rear combination lamp LH (Outer)		
C3	B28	W/4	:	Rear combination lamp RH (Outer)		
D2	B30	BR/2	:	Rear speaker RH		
D3	B31	BR/1	:	Rear door switch RH		
C2	B32	—	:	Body ground		
D2	B33	BR/1	:	Front door switch passenger side		
F3	B34	W/6	:	To D71 (With power door lock)		
C2	B51	Y/2	:	Satellite sensor LH (With side air bag)		
C2	B52	—	:	Body ground (With side air bag)		
D2	B53	Y/2	:	To side air bag module sub-harness LH (With side air bag)		
E2	B54	—	:	Body ground (With side air bag)		
E2	B55	Y/10	:	Air bag diagnosis sensor unit (With side air bag)		
F3	B56	Y/2	:	To side air bag module sub-harness RH (With side air bag)		
E3	B57	—	:	Body ground (With side air bag)		
E3	B58	Y/2	:	Satellite sensor RH (With side air bag)		

HEL299A

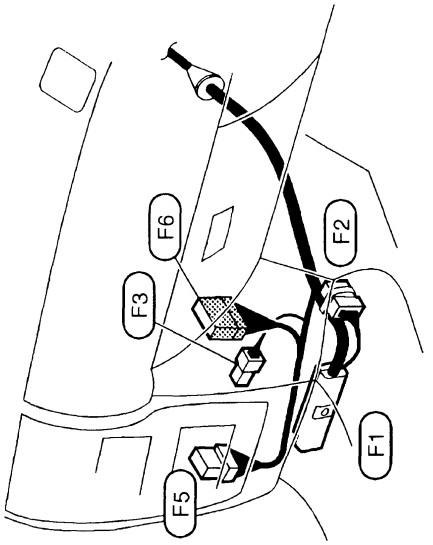
Engine Control Harness

GA14DE, 16DE ENGINE FOR EUROPE AND GA15DE ENGINE

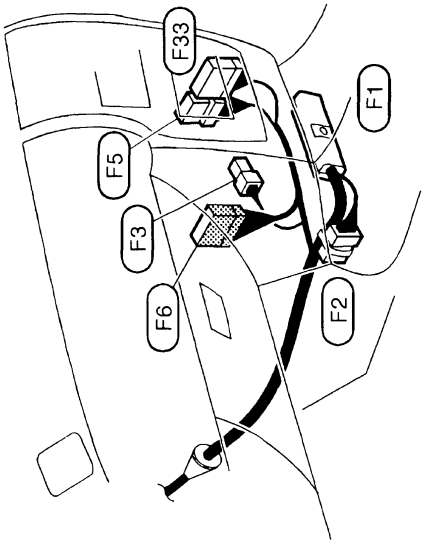


F1 L/64 : ECM (ECCS control module)
F2 GY/6 : Joint connector-6
F3 L/4 : ECCS relay
F5 W/8 : To (M41) (For Europe)
F6 W/20 : To (M49)
F7 G/2 : EGR valve and evap canister purge control solenoid valve (For Europe)
Evap canister purge control solenoid valve (M/T models except for Europe)
F8 BR/3 : Throttle position sensor
F9 BR/5 : IACV-AAC valve and FICD solenoid valve (Except for Europe)
F10 BR/2 : IACV-AAC valve (For Europe)
F11 PU/2 : IACV-FICD solenoid valve (For Europe)
F12 GY/3 : Mass air flow sensor
F13 — : Engine ground
F14 — : Engine ground
F15 GY/2 : To knock sensor sub-harness (Except for Europe)
F17 GY/2 : Engine coolant temperature sensor
F18 B/2 : Injector No.1
F19 B/2 : Injector No.2
F20 B/2 : Injector No.3
F21 B/2 : Injector No.4
F22 — : Oxygen sensor (Except for Europe)
F23 GY/3 : Heated oxygen sensor (For Europe)
F33 W/10 : To (M86) (Except for Europe)
F34 B/8 : Distributor (Except for Europe)
F35 GY/7 : Distributor (For Europe)

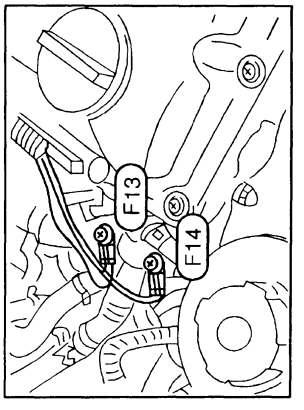
LHD models



RHD models



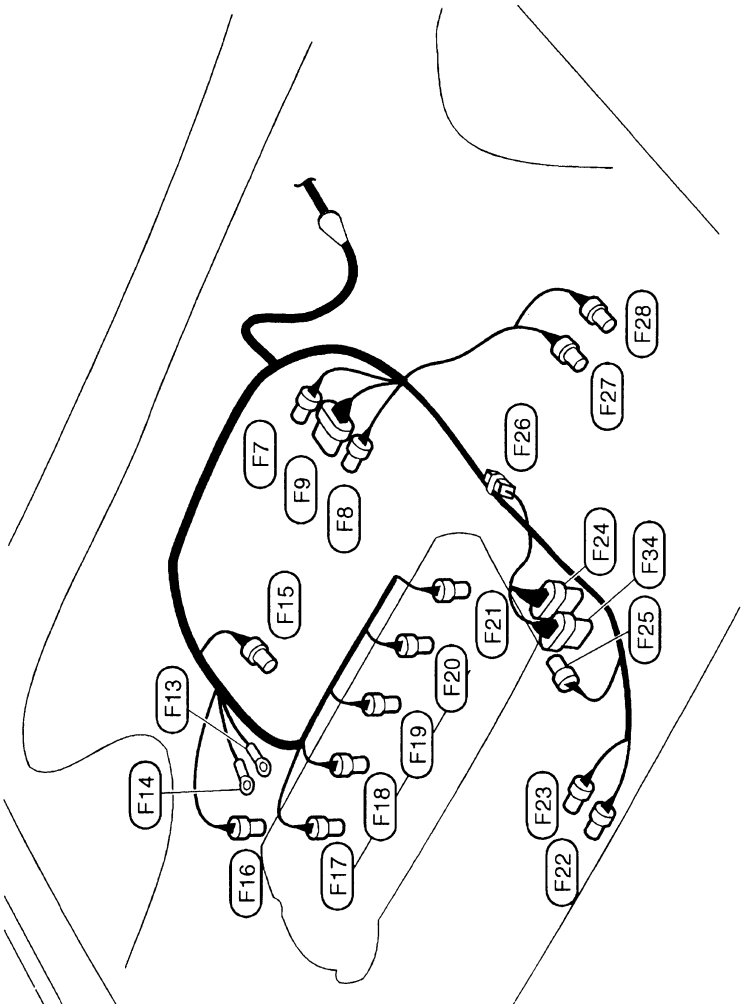
Engine ground

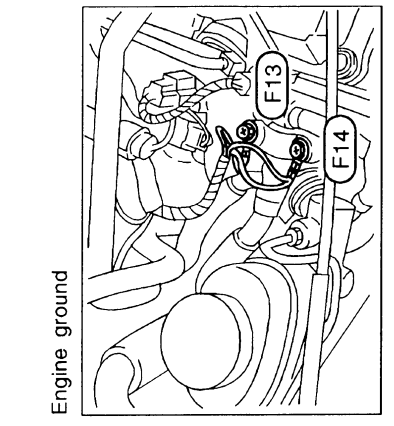


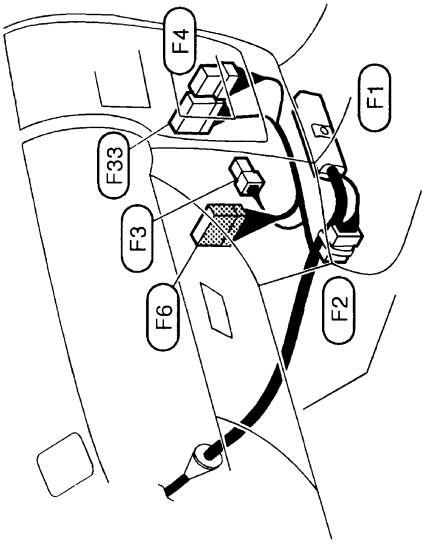
HEL300A

Engine Control Harness (Cont'd)

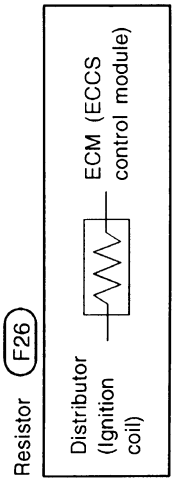
GA16DE ENGINE EXCEPT FOR EUROPE







F1 L/64 : ECM (ECCS control module) (Except for Australia)
W/88 : ECM (ECCS control module) (For Australia)
F2 GY/6 : Joint connector-6
F3 L/4 : ECCS relay
F4 W/6 : To M40 (For Australia)
F5 W/8 : To M41 (Except for Australia)
F6 W/20 : To M49
F7 G/2 : EGR valve and evap canister purge control solenoid valve (For Australia)
Evap canister purge control solenoid valve (Except for Australia)
F8 BR/3 : Throttle position sensor
F9 BR/5 : IACV-AAC valve and FICD solenoid valve
F13 — : Engine ground
F14 — : Engine ground
F15 GY/2 : To knock sensor sub-harness
F16 B/2 : VTC solenoid valve
F17 GY/2 : Engine coolant temperature sensor
F18 B/2 : Injector No.1
F19 B/2 : Injector No.2
F20 B/2 : Injector No.3
F21 B/2 : Injector No.4
F22 — : Oxygen sensor (Except A/T models for Australia)
F23 GY/3 : Heated oxygen sensor (A/T models for Australia)
F24 GY/6 : Distributor (Camshaft position sensor) (For Australia)
F25 GY/2 : Distributor (Ignition coil) (For Australia)
F26 –/2 : Resistor (For Australia)
F27 BR/4 : Mass air flow sensor
F28 GY/2 : Intake air temperature sensor (For Australia)
F33 W/10 : To M86 (Except for Australia)
F34 B/8 : Distributor (Except for Australia)



HEL301A

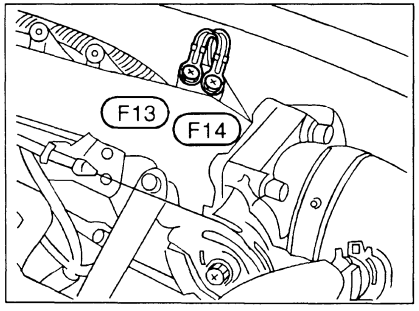
ENGINE CONTROL HARNESS

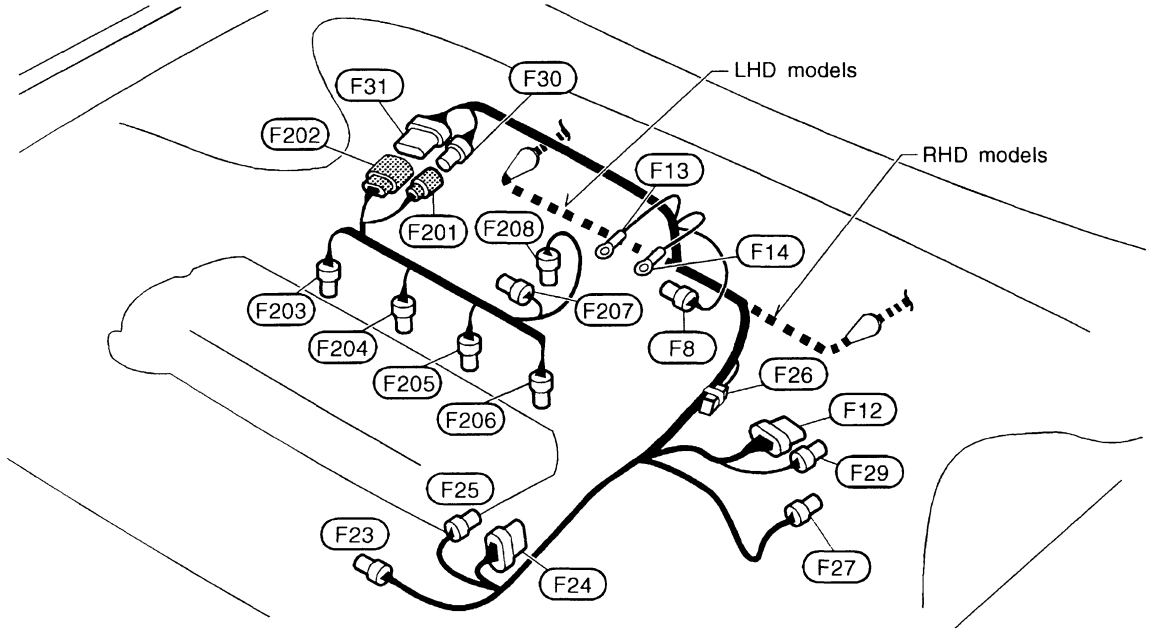
- F1 L/64 : ECM (ECCS control module)
- F2 GY/6 : Joint connector-6
- F3 L/4 : ECCS relay
- F5 W/8 : To M41
- F6 W/20 : To M49
- F8 BR/3 : Throttle position sensor
- F12 GY/6 : To E227 (RHD models)
- F13 — : Engine ground
- F14 — : Engine ground
- F23 GY/3 : Heated oxygen sensor
- F24 GY/6 : Distributor (Camshaft position sensor)
- F25 GY/2 : Distributor (Ignition coil)
- F26 –/2 : Resistor
- F27 BR/4 : Mass air flow sensor
- F29 GY/4 : To E235 (LHD models)
- F30 B/4 : To F201
- F31 GY/6 : To F202
- F32 –/2 : Diode-4

ENGINE SUB-HARNESS

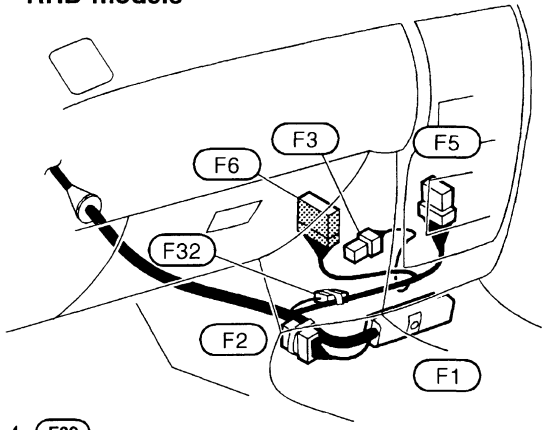
- F201 B/4 : To F30
- F202 GY/6 : To F31
- F203 B/2 : Injector No.1
- F204 B/2 : Injector No.2
- F205 B/2 : Injector No.3
- F206 B/2 : Injector No.4
- F207 PU/2 : IACV-FICD solenoid valve
- F208 BR/2 : IACV-AAC valve

Engine ground

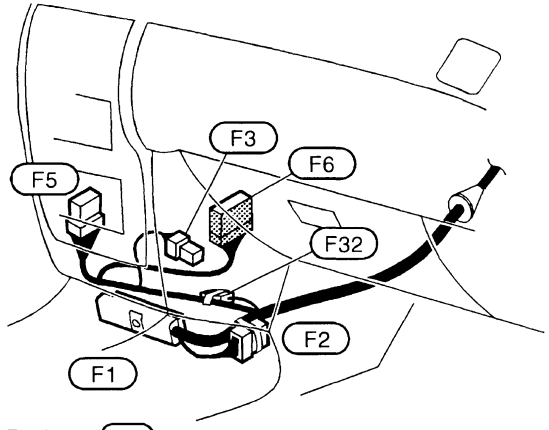




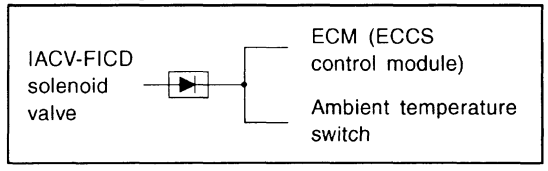
RHD models



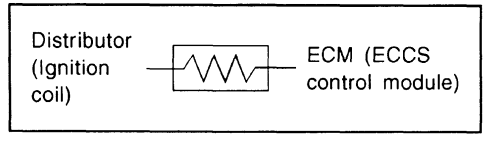
LHD models



Diode-4 (F32)



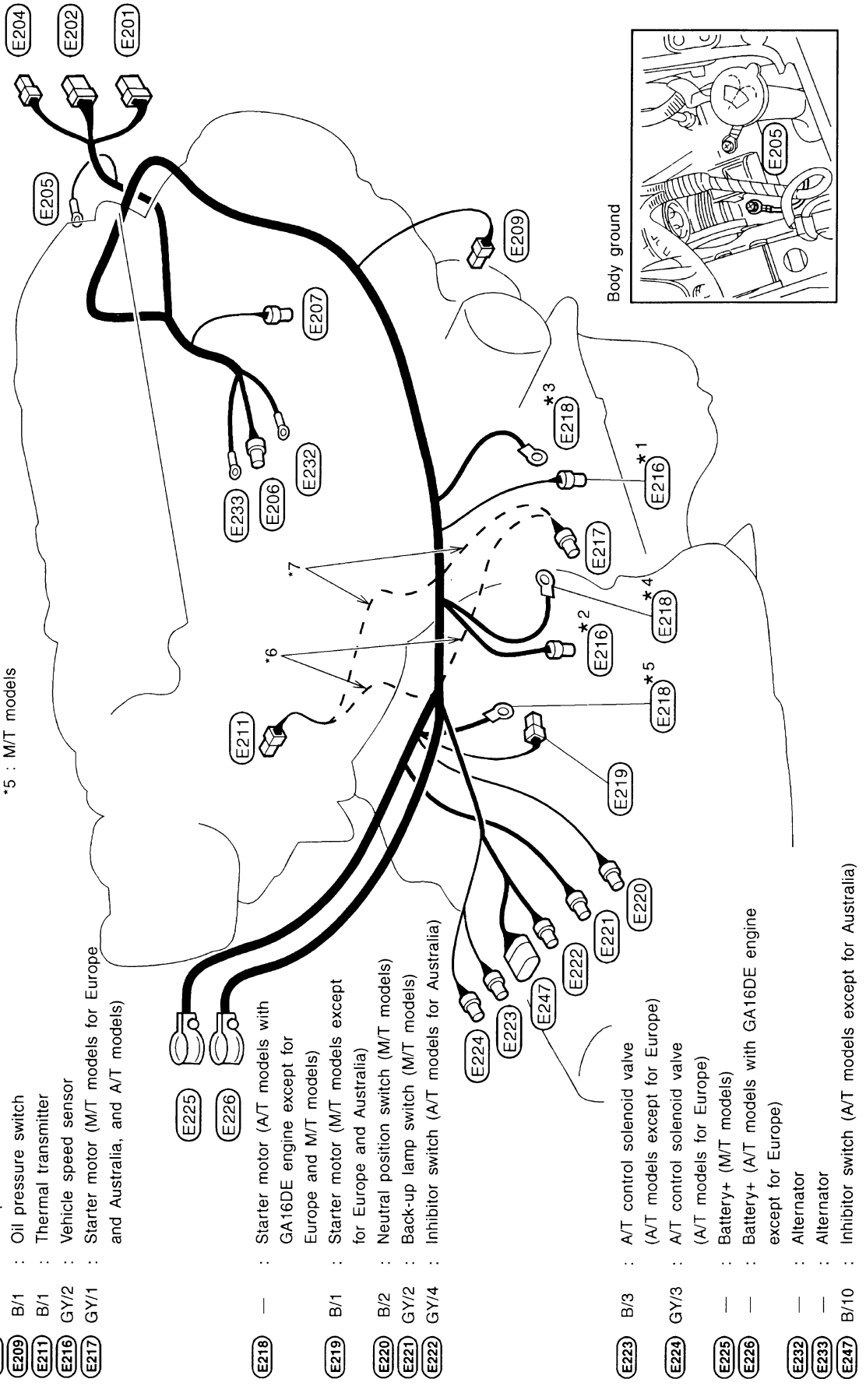
Resistor (F26)



HEL302A

Engine Harness

GA ENGINE

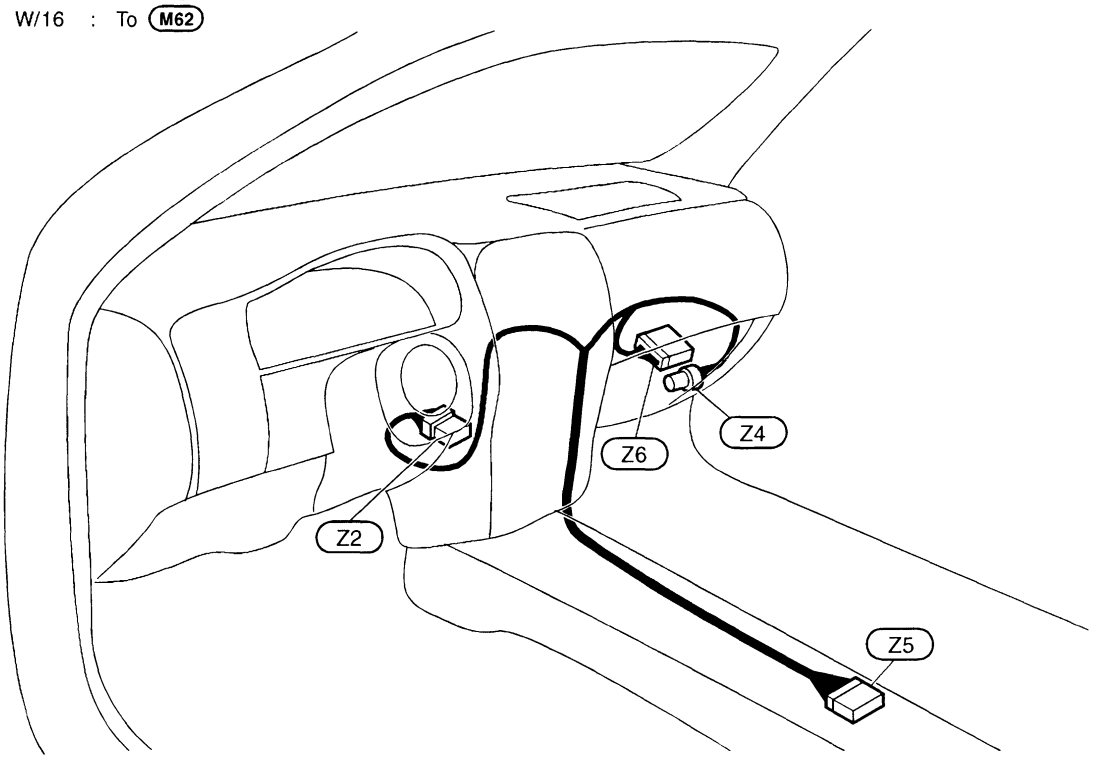


HEL303A

Air Bag Harness

LHD MODELS

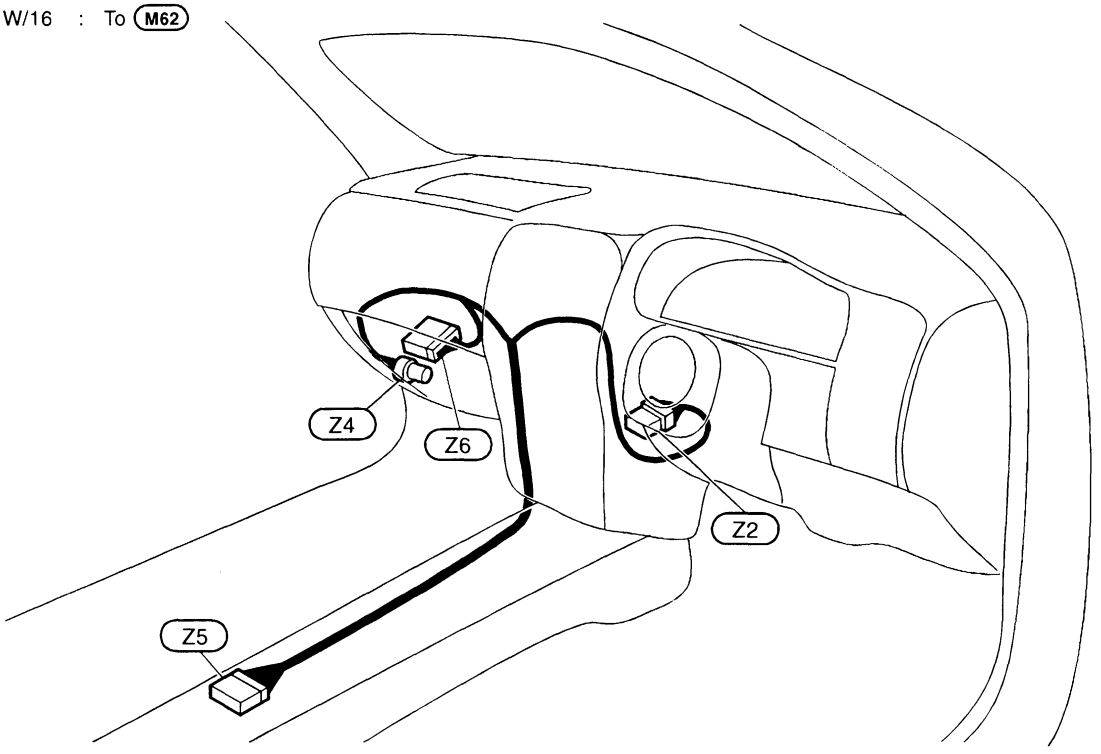
(Z2) Y/6 : Spiral cable
(Z4) Y/2 : Air bag module (Passenger side)
(Z5) Y/22 : Air bag diagnosis sensor unit
(Z6) W/16 : To (M62)



HEL304A

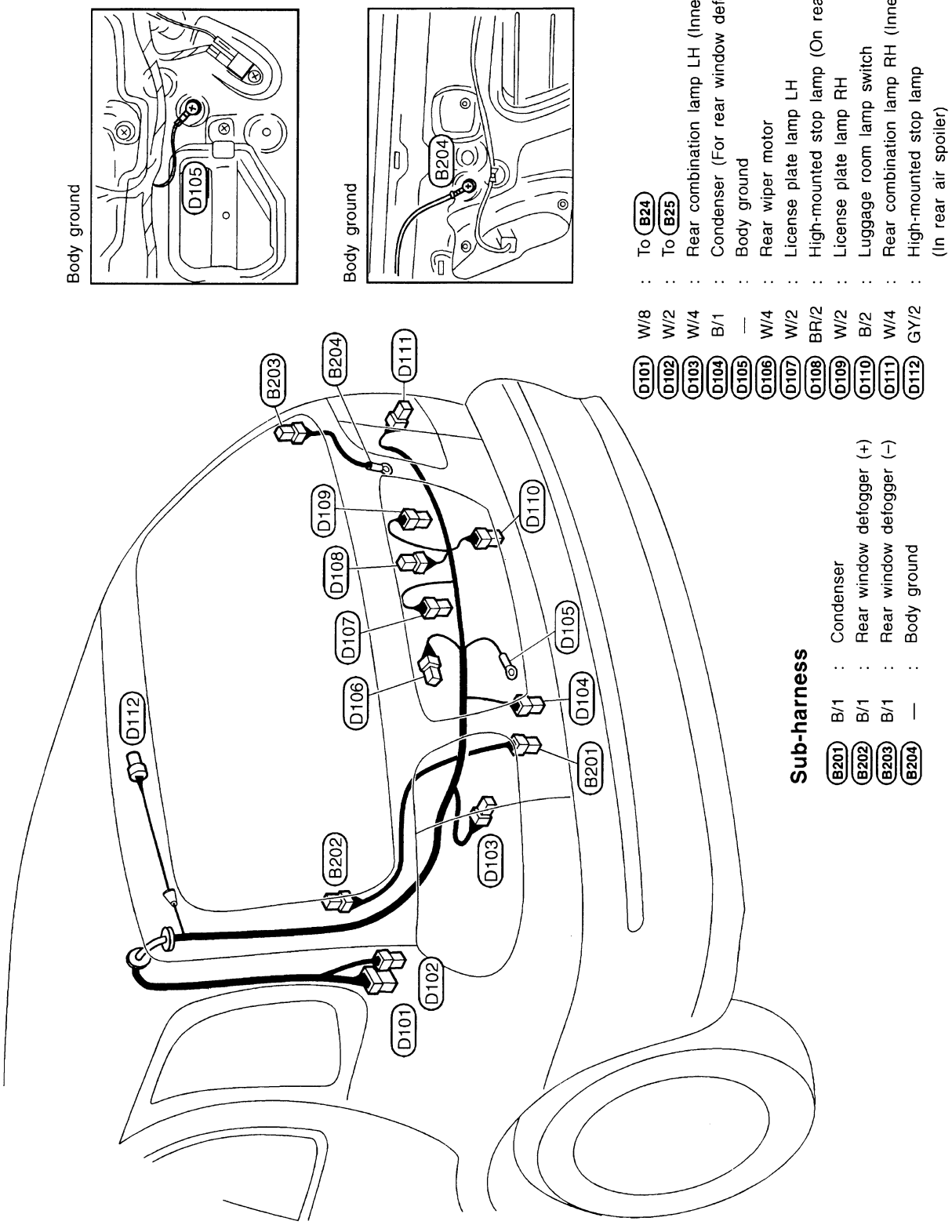
RHD MODELS

(Z2) Y/6 : Spiral cable
(Z4) Y/2 : Air bag module (Passenger side)
(Z5) Y/22 : Air bag diagnosis sensor unit
(Z6) W/16 : To (M62)



HEL305A

Back Door Harness



D101	W/8	:	To B24
D102	W/2	:	To B25
D103	W/4	:	Rear combination lamp LH (Inner)
D104	B/1	:	Condenser (For rear window defogger)
D105	—	:	Body ground
D106	W/4	:	Rear wiper motor
D107	W/2	:	License plate lamp LH
D108	BR/2	:	High-mounted stop lamp (On rear window)
D109	W/2	:	License plate lamp RH
D110	B/2	:	Luggage room lamp switch
D111	W/4	:	Rear combination lamp RH (Inner)
D112	GY/2	:	High-mounted stop lamp (In rear air spoiler)

Sub-harness

B201	B/1	:	Condenser
B202	B/1	:	Rear window defogger (+)
B203	B/1	:	Rear window defogger (−)
B204	—	:	Body ground

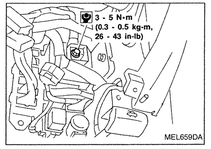
HEL306A

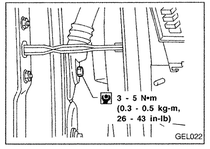
Use the chart below to find out what each wiring diagram code stands for.

Code	Section	Wiring Diagram Name
AAC/V	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
A/C	HA	Manual Air Conditioner
A/CCUT	EC	Air Conditioner Cut Control
ACL/SW	EC	Accelerator Position Switch
A/T	AT	Automatic Transmission
AIRREG	EC	IACV-Air Regulator
AUDIO	EL	Audio
BACK/L	EL	Back-up Lamp
BUZZER	EL	Warning Buzzer
CHARGE	EL	Charging System
CIGAR	EL	Cigarette Lighter
CLOCK	EL	Clock
CMPS	EC	Camshaft Position Sensor
COOL/F	EC	Cooling Fan Control
DEF	EL	Rear Window Defogger
D/LOCK	EL	Power Door Lock
DTRL	EL	Headlamp — With Daytime Light System
ECTS	EC	Engine Coolant Temperature Sensor
EGRC/V	EC	EGR Valve and EVAP canister Purge Control Solenoid Valve
FCUT	EC	Fuel Cut Solenoid Valve
F/FOG	EL	Front Fog Lamp
FICD	EC	IACV-FICD Solenoid Valve
F/PUMP	EC	Fuel Pump
GLOW	EC	Quick-glow system
GOVNR	EC	Electric Governor
H/AIM	EL	Headlamp Aiming Control System
H/LAMP	EL	Headlamp — Without Daytime Light System
H/SEAT	EL	Heated Seat
HEATER	HA	Heater
HL/WIP	EL	Headlamp Wiper and Washer
HO2S	EC	Heated Oxygen Sensor
HORN	EL	Horn
IGN/SG	EC	Ignition Signal
ILL	EL	Illumination
INJECT	EC	Injector
INT/L	EL	Spot, Trunk Room and Luggage Room Lamps

Code	Section	Wiring Diagram Name
KS	EC	Knock Sensor
LKUP	EC	Torque Converter Clutch Solenoid Valve
LOAD	EC	Load Signal
MAFS	EC	Mass Air Flow Sensor
MAIN	EC	Main Power Supply and Ground Circuit
METER	EL	Speedometer, Tachometer, Temp. and Fuel Gauges
MIL/DL	EC	MIL, Data Link Connectors
MIRROR	EL	Door Mirror
MULTI	EL	Multi-remote Control System
NATS	EL	Nissan Anti-Theft System
PGC/V	EC	EVAP Canister Purge Control Solenoid Valve
POWER	EL	Power Supply Routing
R/FOG	EL	Rear Fog Lamp
ROOM/L	EL	Interior Room Lamp
S/LOCK	EL	Power Door Lock — Super Lock
SROOF	EL	Sunroof
SRS	RS	Supplemental Restraint System
S/SIG	EC	Start Signal
START	EL	Starting System
STOP/L	EL	Stop Lamp
TAIL/L	EL	Parking, License and Tail Lamps
TCV	EC	Injection Timing Control Valve
TURN	EL	Turn Signal and Hazard Warning Lamps
VSS	EC	Vehicle Speed Sensor
VTC	EC	VTC Solenoid Valve
WARN	EL	Warning Lamps
WINDOW	EL	Power Window
WIP/R	EL	Rear Wiper and Washer

SUPER MULTIPLE JUNCTION (SMJ)





INSTALLATION

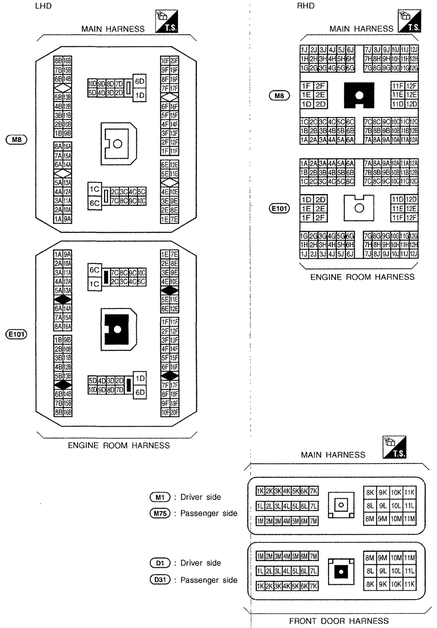
To install SMJ and FUSE BLOCK (J/B), tighten bolts until orange "fulltight" mark appears and then retighten to specified torque as required.

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

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

SUPER MULTIPLE JUNCTION (SMJ)

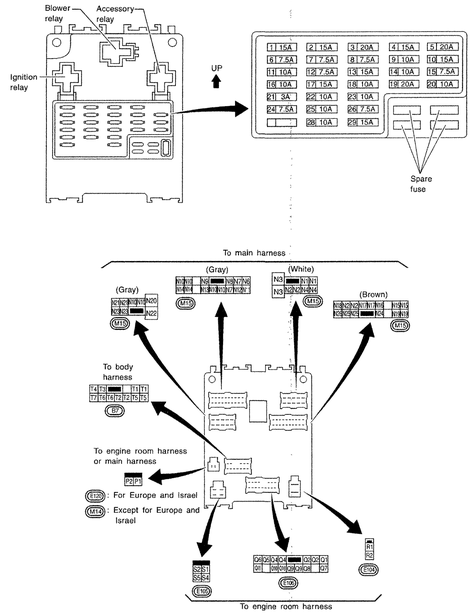
Terminal Arrangement



GEL024

FUSE BLOCK — Junction Box (J/B)

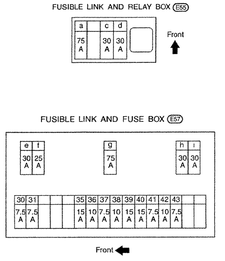
Terminal Arrangement



GEL226

FUSIBLE LINK AND FUSE BOX

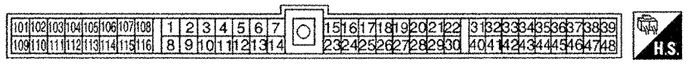
Terminal Arrangement



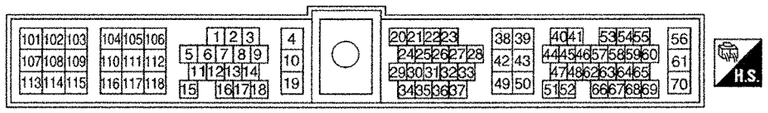
GEL227

Terminal Arrangement

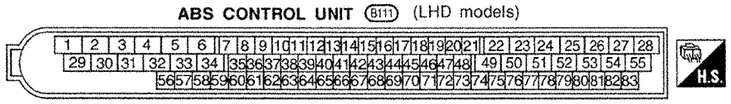
ECM (ECCS control module) (F1) (GA engine except for Australia and SR engine)



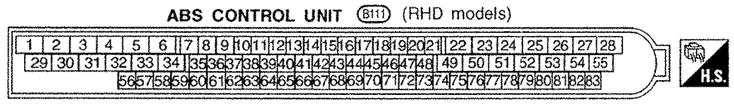
ECM (ECCS control module) (F1) (GA engine for Australia)
(M39) (CD engine)



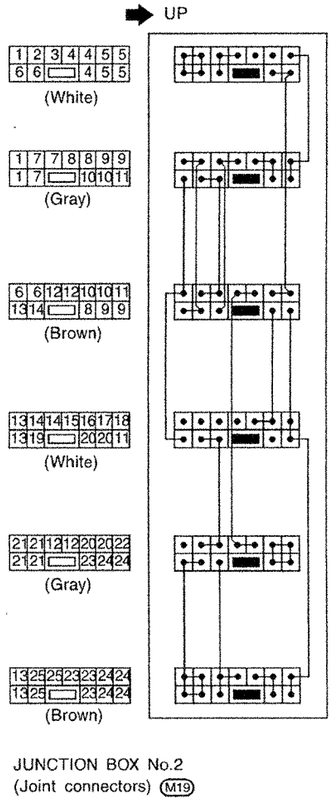
ABS CONTROL UNIT (B111) (LHD models)



ABS CONTROL UNIT (B111) (RHD models)



Terminal Arrangement



JUNCTION BOX No.2
(Joint connectors) (M19)

