

ELECTRICAL SYSTEM

SECTION **EL**

CONTENTS

PRECAUTIONS	4	Wiring Diagram - H/AIM -	70
Supplemental Restraint System (SRS) "AIR		Trouble Diagnosis for Auto Aiming System	73
BAG" and "SEAT BELT PRE-TENSIONER"	4	PARKING, LICENSE AND TAIL LAMPS	82
Wiring Diagrams and Trouble Diagnosis	4	System Description	82
HARNESS CONNECTOR	5	Wiring Diagram - TAIL/L -	83
Description	5	Trouble Diagnoses	85
STANDARDIZED RELAY	7	STOP LAMP	86
Description	7	Wiring Diagram - STOP/L -	86
POWER SUPPLY ROUTING	9	BACK-UP LAMP	88
Schematic	9	Wiring Diagram - BACK/L -	88
Wiring Diagram - POWER -	10	FRONT FOG LAMP	89
Inspection	17	System Description	89
GROUND	18	Wiring Diagram - F/FOG -	90
Ground Distribution	18	Aiming Adjustment	91
COMBINATION SWITCH	36	REAR FOG LAMP	92
Check	36	Wiring Diagram - R/FOG -	92
Replacement	39	TURN SIGNAL AND HAZARD WARNING LAMPS	94
STEERING SWITCH	40	System Description	94
Check	40	Schematic	96
HEADLAMP - COVENTIONAL TYPE -	42	Wiring Diagram - TURN -	98
Component Parts and Harness Connector		Trouble Diagnoses	105
Location	42	Electrical Components Inspection	105
System Description	42	CORNERING LAMP	106
Schematic	45	System Description	106
Wiring Diagram - H/LAMP -	46	Wiring Diagram - CORNER -	108
Trouble Diagnoses	51	Trouble Diagnoses/RHD Models	110
Bulb Replacement	52	ILLUMINATION	111
Aiming Adjustment	52	System Description	111
HEADLAMP - XENON TYPE -	54	Schematic	112
Component Parts and Harness Connector		Wiring Diagram - ILL -	113
Location	54	INTERIOR, STEP, SPOT, VANITY MIRROR AND	
System Description	54	TRUNK ROOM LAMPS	118
Schematic	58	System Description	118
Wiring Diagram - H/LAMP -	59	Schematic	120
Trouble Diagnoses	64	Wiring Diagram - INT/L -	121
Bulb Replacement/Xenon Type	65	CONSULT-II Inspection Procedure	124
Aiming Adjustment/Xenon Type	67	CONSULT-II Application Items	125
HEADLAMP - HEADLAMP AIMING CONTROL -	68	Trouble Diagnoses for Interior Lamp Timer	126
System Description	68	METERS AND GAUGES	134

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CONTENTS (Cont'd)

Component Parts and Harness Connector		Wiring Diagram - DEF -	194
Location	134	CONSULT-II Inspection Procedure.....	196
System Description.....	134	CONSULT-II Application Items	197
Combination Meter	136	Trouble Diagnoses.....	198
Schematic	139	Electrical Components Inspection	202
Wiring Diagram - METER -	141	Filament Check.....	203
Meter/Gauge Operation and Odo/Trip Meter		Filament Repair	204
Segment Check in Diagnosis Mode	142	AUDIO	205
Trouble Diagnoses/Conventional Type.....	143	System Description.....	205
Trouble Diagnoses/Fine Vision Type.....	145	Schematic	208
Electrical Components Inspection	152	Wiring Diagram - AUDIO -	213
BOARD COMPUTER	154	Trouble Diagnoses.....	235
System Description.....	154	Inspection.....	236
Wiring Diagram - B/COMP -	156	Wiring Diagram - REMOTE -	237
Trouble Diagnoses.....	158	AUDIO ANTENNA	238
Electrical Components Inspection	159	System Description.....	238
WARNING LAMPS	160	Wiring Diagram - P/ANT -	239
Schematic	160	Location of Antenna.....	241
Wiring Diagram - WARN -	161	Antenna Rod Replacement	241
Electrical Components Inspection	165	Window Antenna Repair	242
A/T INDICATOR	166	POWER SUNROOF	244
Wiring Diagram - AT/IND -	166	System Description.....	244
WARNING CHIME	168	Wiring Diagram - SROOF -	245
Component Parts and Harness Connector		Trouble Diagnoses.....	247
Location	168	DOOR MIRROR	248
System Description.....	168	Wiring Diagram - MIRROR -	248
Wiring Diagram - CHIME -	170	TRUNK LID AND FUEL FILLER LID OPENER	251
CONSULT-II Inspection Procedure.....	172	Wiring Diagram - T&FLID -	251
CONSULT-II Application Items	173	POWER SEAT	252
Trouble Diagnoses.....	173	Schematic	252
FRONT WIPER AND WASHER	180	Wiring Diagram - SEAT -	253
System Description.....	180	HEATED SEAT	256
Wiring Diagram - WIPER -	182	Wiring Diagram - HSEAT -	256
Removal and Installation	183	REAR SUNSHADE	257
Washer Nozzle Adjustment	184	Component Parts and Harness Connector	
Washer Tube Layout	184	Location	257
REAR WIPER AND WASHER	185	System Description.....	258
Wiring Diagram - WIP/R -	185	Wiring Diagram - SHADE -	259
Removal and Installation	187	Trouble Diagnoses.....	261
Washer Nozzle Adjustment	187	AUTOMATIC SPEED CONTROL DEVICE (ASCD) ...	263
Washer Tube Layout	188	Component Parts and Harness Connector	
Rear Wiper Amplifier.....	188	Location	263
HORN	189	System Description.....	264
Wiring Diagram - HORN -	189	Schematic	266
CIGARETTE LIGHTER	190	Wiring Diagram - ASCD -	267
Wiring Diagram - CIGAR -	190	Fail-safe System	271
CLOCK	191	CONSULT-II Inspection Procedure.....	271
Wiring Diagram - CLOCK -	191	CONSULT-II Self-diagnostic Results	272
REAR WINDOW DEFOGGER	192	CONSULT-II Data Monitor	273
Component Parts and Harness Connector		Trouble Diagnoses.....	274
Location	192	Electrical Component Inspection	285
System Description.....	193	ASCD Wire Adjustment	286

<https://autolibrary.ir>
CONTENTS (Cont'd)

POWER WINDOW	287	Schematic	370	GI
System Description	287	Smart Entrance Control Unit Inspection Table	372	
Schematic	289	TIME CONTROL UNIT	373	MA
Wiring Diagram - WINDOW -	290	Description	373	
Trouble Diagnoses	294	Schematic	374	
POWER DOOR LOCK	297	Time Control Unit Inspection Table	376	EM
Component Parts and Harness Connector		NATS (NISSAN ANTI-THEFT SYSTEM)	377	
Location	297	Component Parts and Harness Connector		
System Description	297	Location	377	LC
Wiring Diagram - D/LOCK -	298	System Description	378	
CONSULT-II Inspection Procedure	302	System Composition	378	EC
CONSULT-II Application Items	303	Wiring Diagram - NATS -	379	
Trouble Diagnoses	303	CONSULT-II	380	
MULTI-REMOTE CONTROL SYSTEM	310	Trouble Diagnoses	383	FE
Component Parts and Harness Connector		How to Replace NATS IMMU	396	
Location	310	ELECTRICAL UNITS LOCATION	397	
System Description	310	Engine Compartment	397	CL
Schematic	313	Passenger Compartment	400	
Wiring Diagram - MULTI -	314	Luggage Compartment	404	MT
CONSULT-II Inspection Procedure	318	HARNES LAYOUT	406	
CONSULT-II Application Items	319	How to Read Harness Layout	406	AT
Trouble Diagnoses	319	Outline	407	
ID Code Entry Procedure	333	Main Harness	410	AX
Remote Controller Battery Replacement	337	Engine Room Harness	418	
THEFT WARNING SYSTEM	338	Engine Control Harness	426	BR
Component Parts and Harness Connector		Body Harness	430	
Location	338	Body No. 2 Harness	434	SU
System Description	339	Tail Harness	438	
Schematic	342	Room Lamp Harness	440	ST
Wiring Diagram - THEFT -	344	Front Door Harness	441	
CONSULT-II Inspection Procedure	349	Rear Door Harness	445	RS
CONSULT-II Application Item	350	BULB SPECIFICATIONS	447	
Trouble Diagnoses	351	Headlamp	447	
SMART ENTRANCE CONTROL UNIT	367	Exterior Lamp	447	
Description	367	Interior Lamp	447	
CONSULT-II	368	WIRING DIAGRAM CODES (CELL CODES)	448	

EL

IDX

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

NFEL0001

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER" used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS system composition which is available to NISSAN MODEL A33 is as follows (The composition varies according to the destination and optional equipment.):

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

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

WARNING:

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

Wiring Diagrams and Trouble Diagnosis

NFEL0002

When you read wiring diagrams, refer to the following:

- Refer to GI-11, "HOW TO READ WIRING DIAGRAMS"
- Refer to EL-9, "POWER SUPPLY ROUTING" for power distribution circuit

When you perform trouble diagnosis, refer to the following:

- Refer to GI-32, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"
- Refer to GI-21, "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT"

Check for any Service bulletins before servicing the vehicle.

Description

NFEL0003

NFEL0003S01

HARNESS CONNECTOR (TAB-LOCKING TYPE)

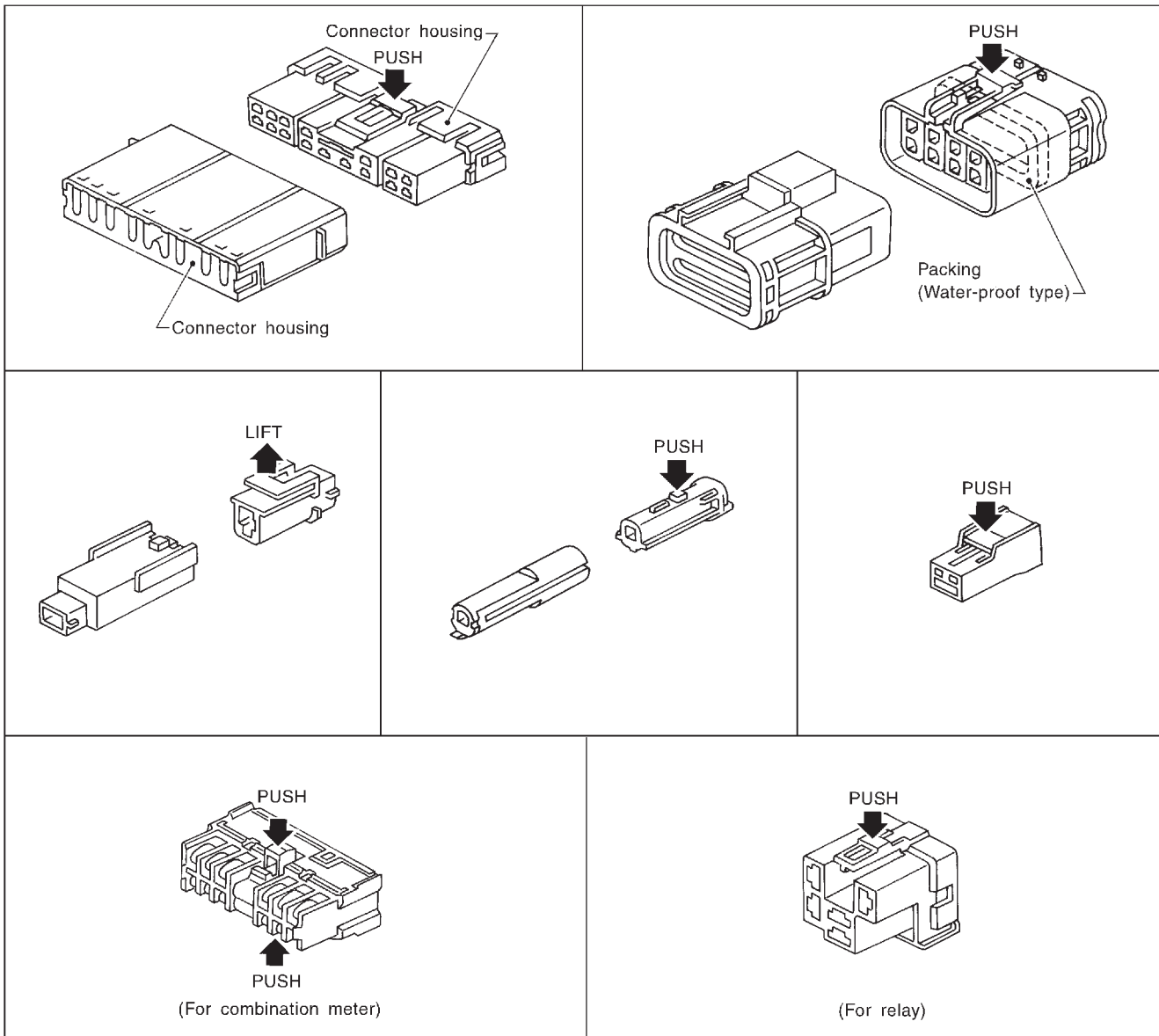
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

Refer to the next page for description of the slide-locking type connector.

CAUTION:

Do not pull the harness or wires when disconnecting the connector.

[Example]



GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

SEL769DA

IDX

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

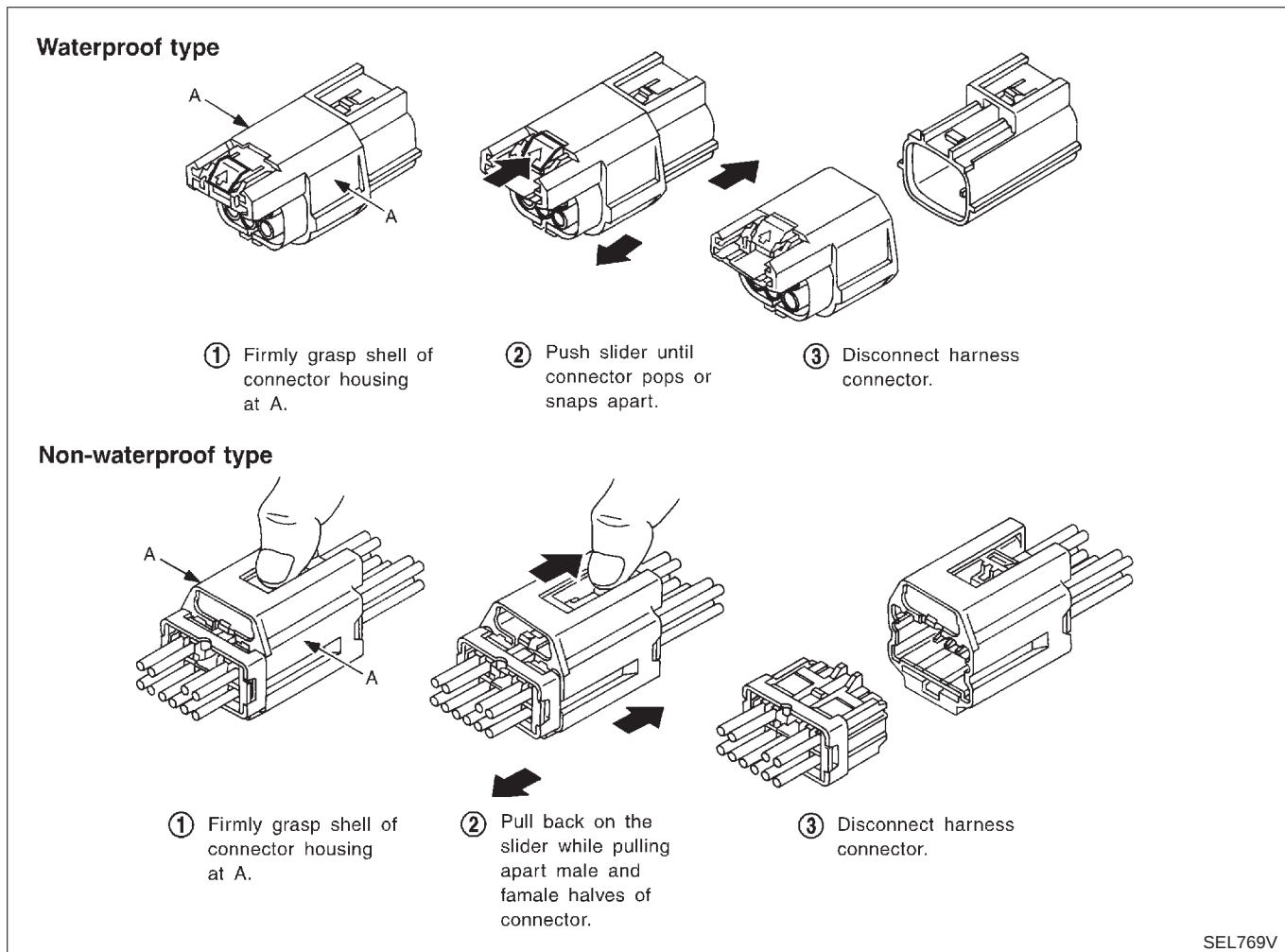
=NFEL0003S02

- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.
- The slide-locking type connectors are disconnected by pushing or pulling the slider. Refer to the illustration below.

CAUTION:

- Do not pull the harness or wires when disconnecting the connector.
- Be careful not to damage the connector support bracket when disconnecting the connector.

[Example]



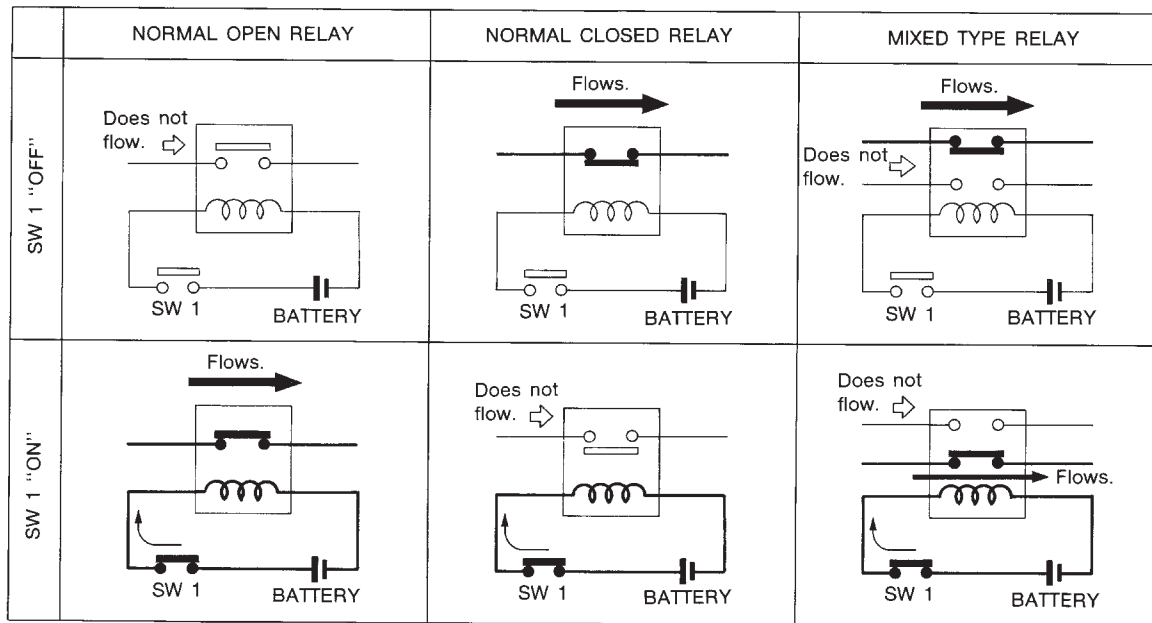
Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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

NFEL0004

NFEL0004S01

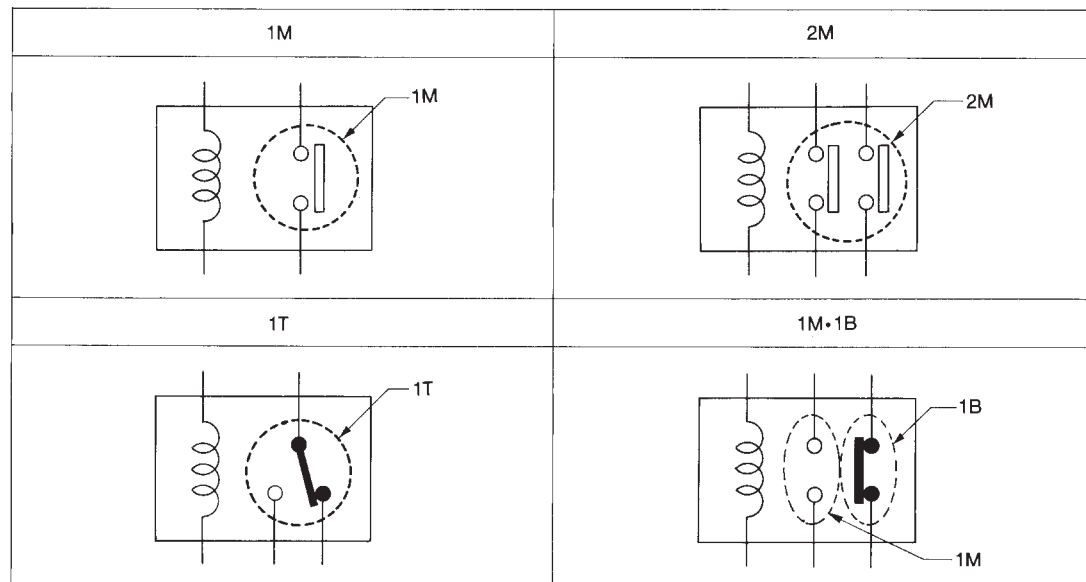


SEL881H

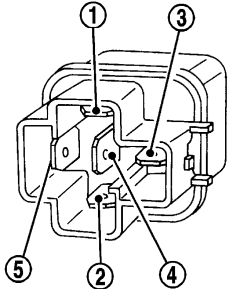
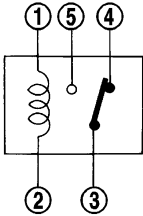
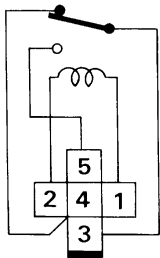
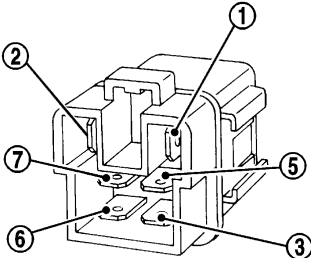
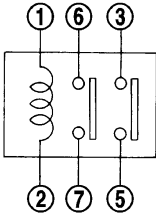
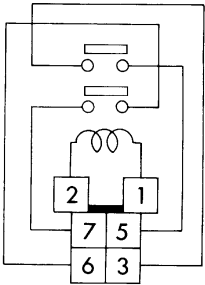
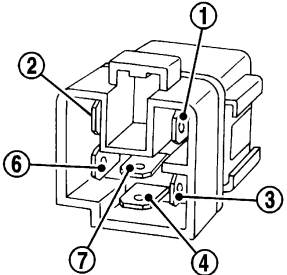
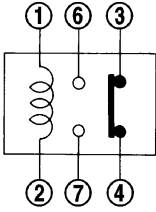
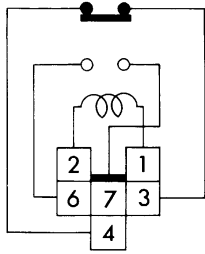
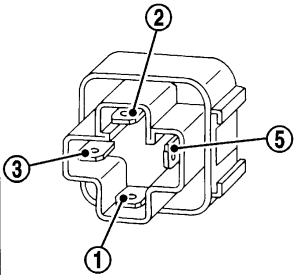
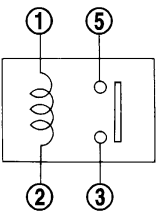
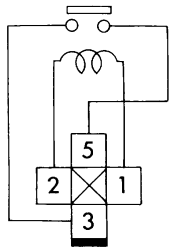
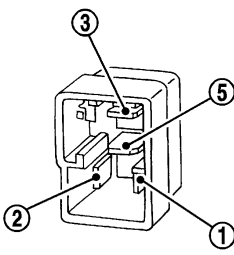
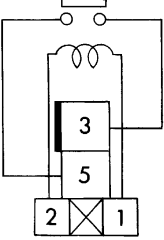
TYPE OF STANDARDIZED RELAYS

NFEL0004S02

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



SEL882H

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

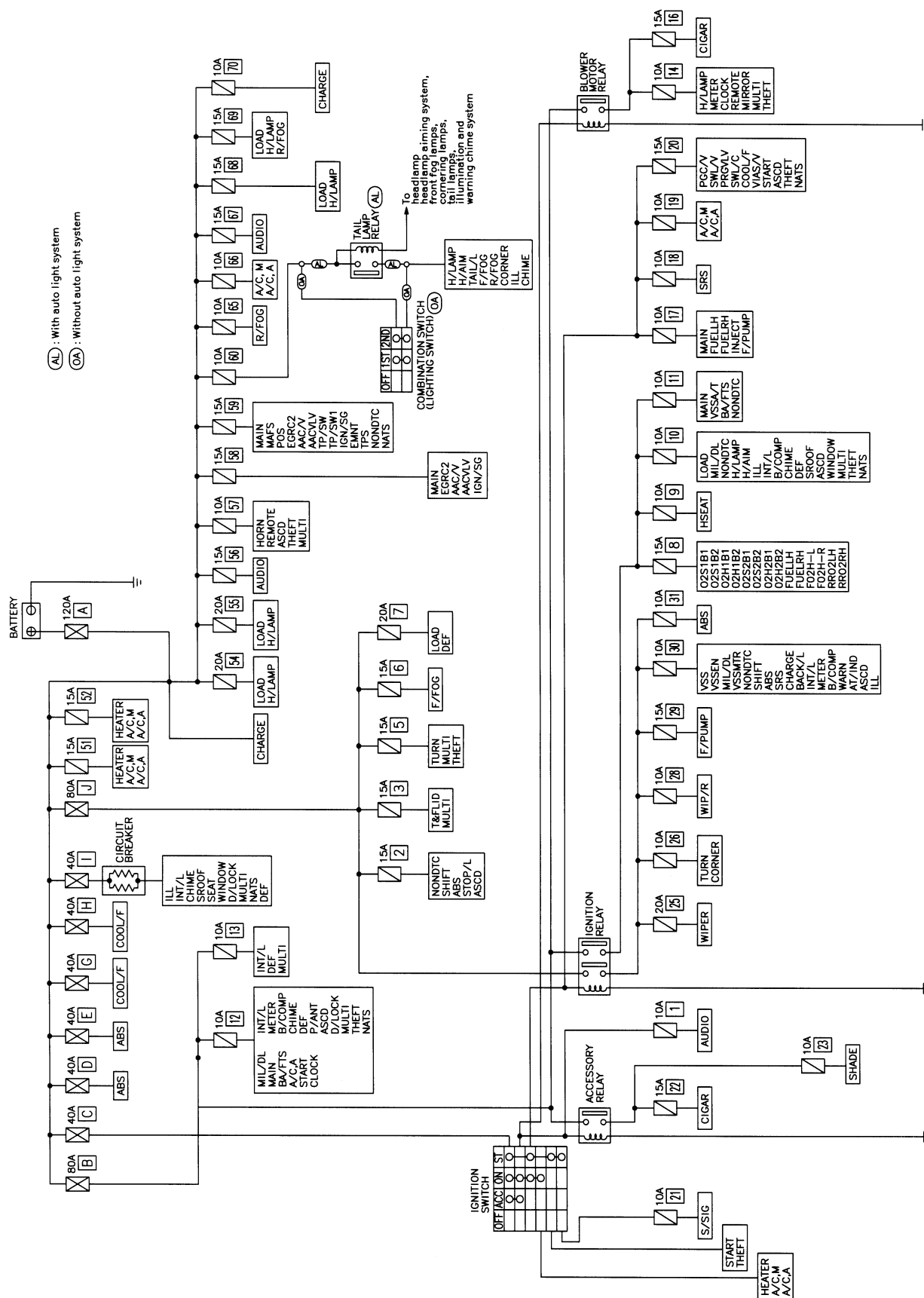
The arrangement of terminal numbers on the actual relays may differ from those shown above.

SEL188W

Schematic

For detailed ground distribution information, refer to "GROUND DISTRIBUTION", EL-18.

NFEL0005



MEL8790

Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

NFEL0006

NFEL0006S01

EL-POWER-01

(L) : LHD MODELS

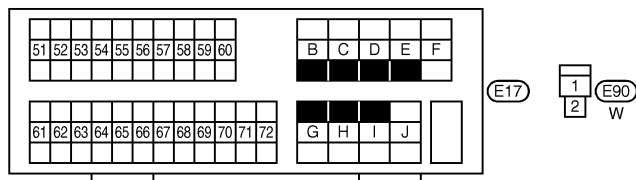
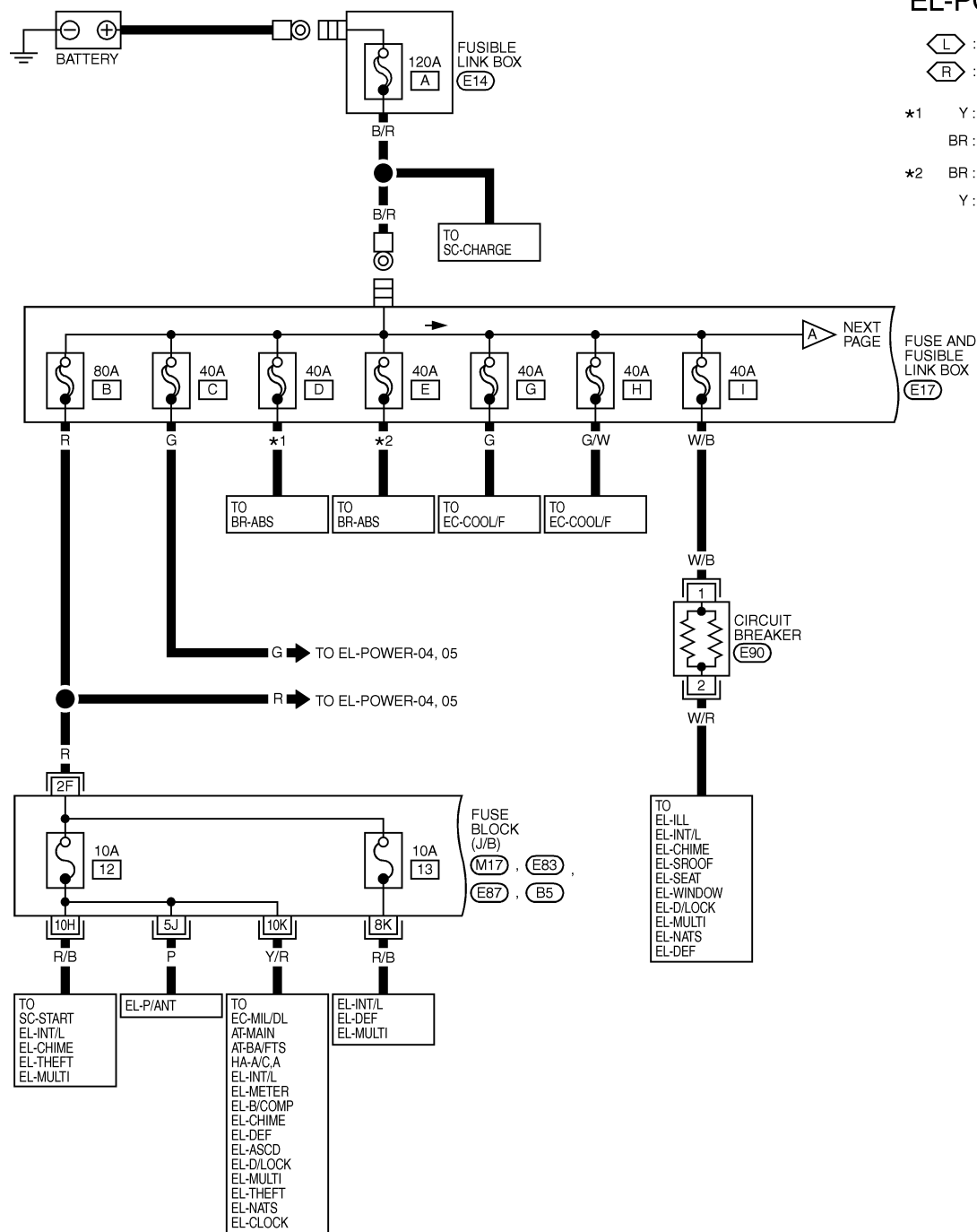
(R) : RHD MODELS

*1 Y : (L)

BR : (R)

*2 BR : (L)

Y : (R)



REFER TO THE FOLLOWING.

(E14) -FUSIBLE LINK BOX

(M17) , (E83) , (E87) , (B5)

-FUSE BLOCK-
JUNCTION BOX (J/B)

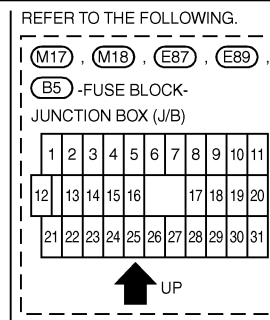
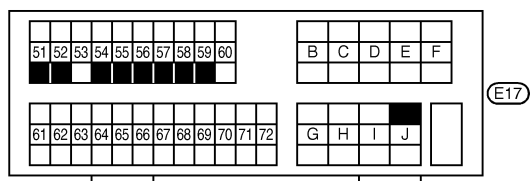
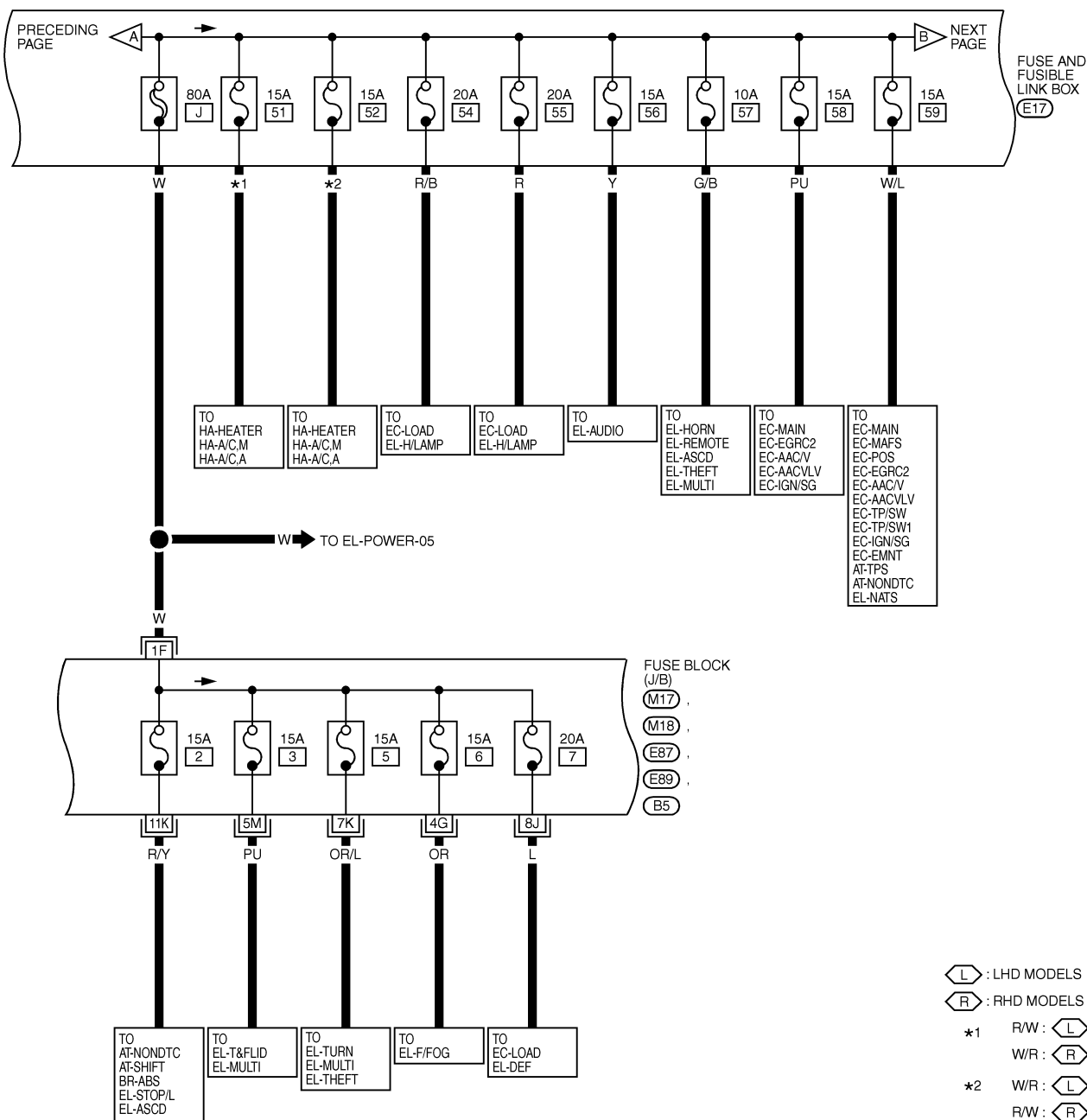
1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16			17	18	19	20
21	22	23	24	25	26	27	28	29	30	31



UP

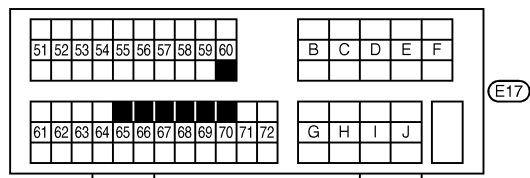
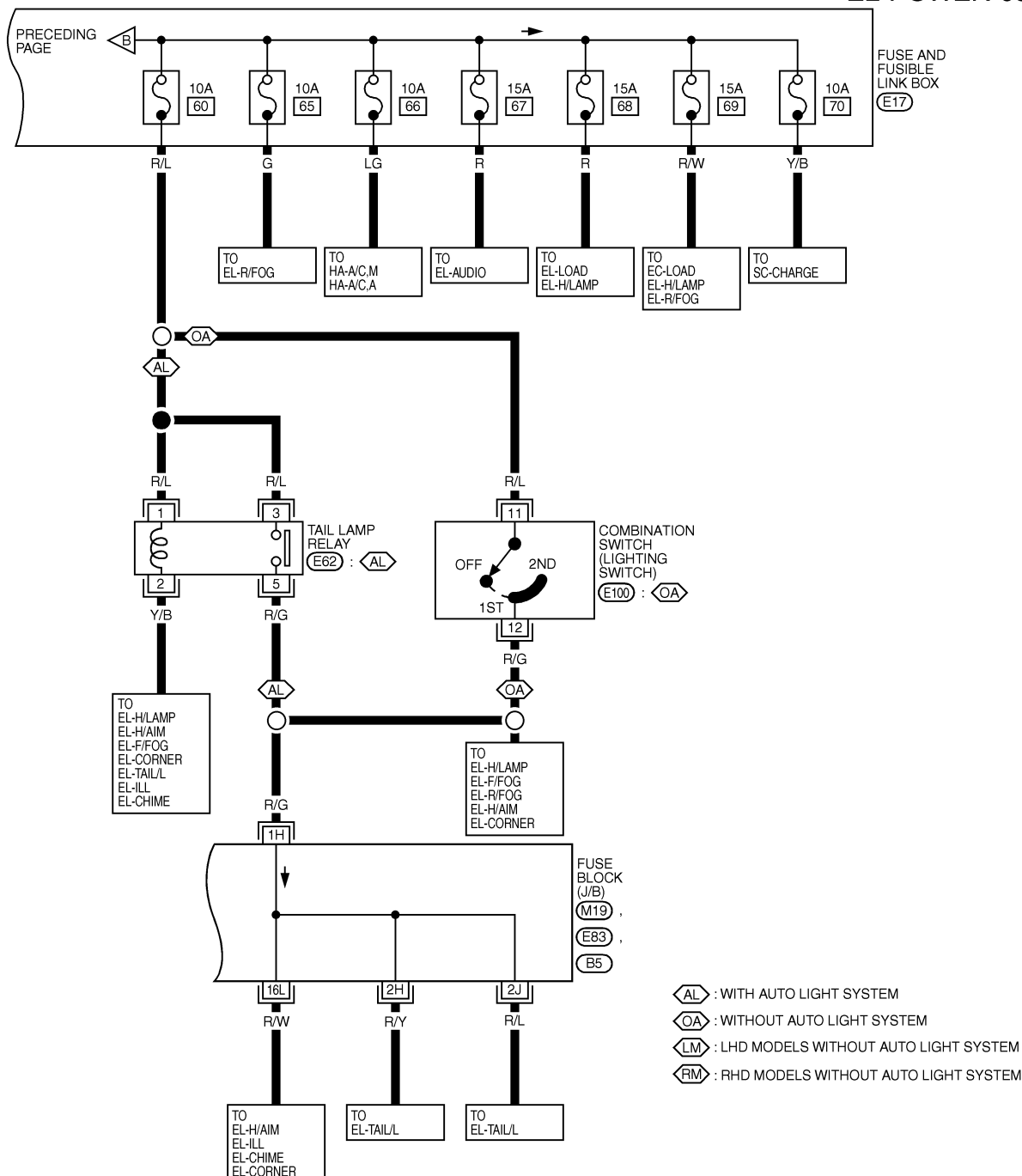
MEL8800

EL-POWER-02

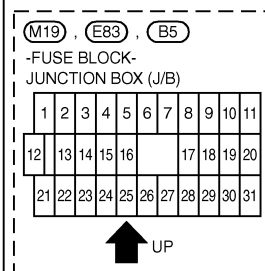


MEL8810

EL-POWER-03



REFER TO THE FOLLOWING.



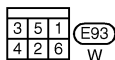
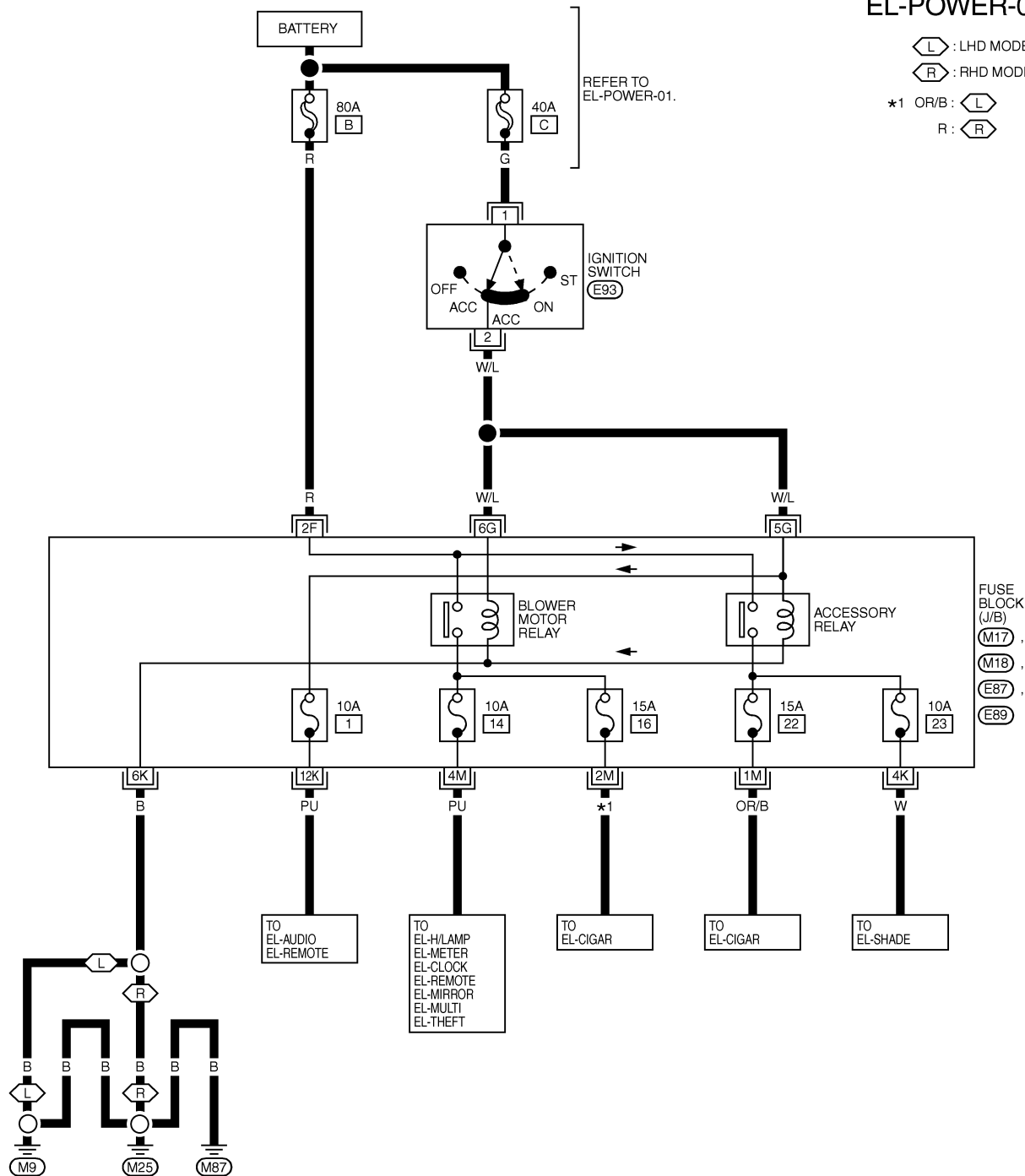
MEL8820

ACCESSORY POWER SUPPLY — IGNITION SW. IN “ACC” OR “ON”

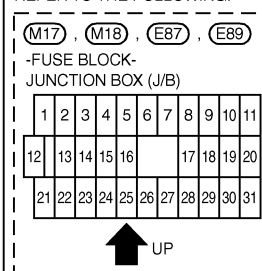
NFEL0006S02

EL-POWER-04

L : LHD MODELS
 R : RHD MODELS
 *1 OR/B : L
 R : R



REFER TO THE FOLLOWING.



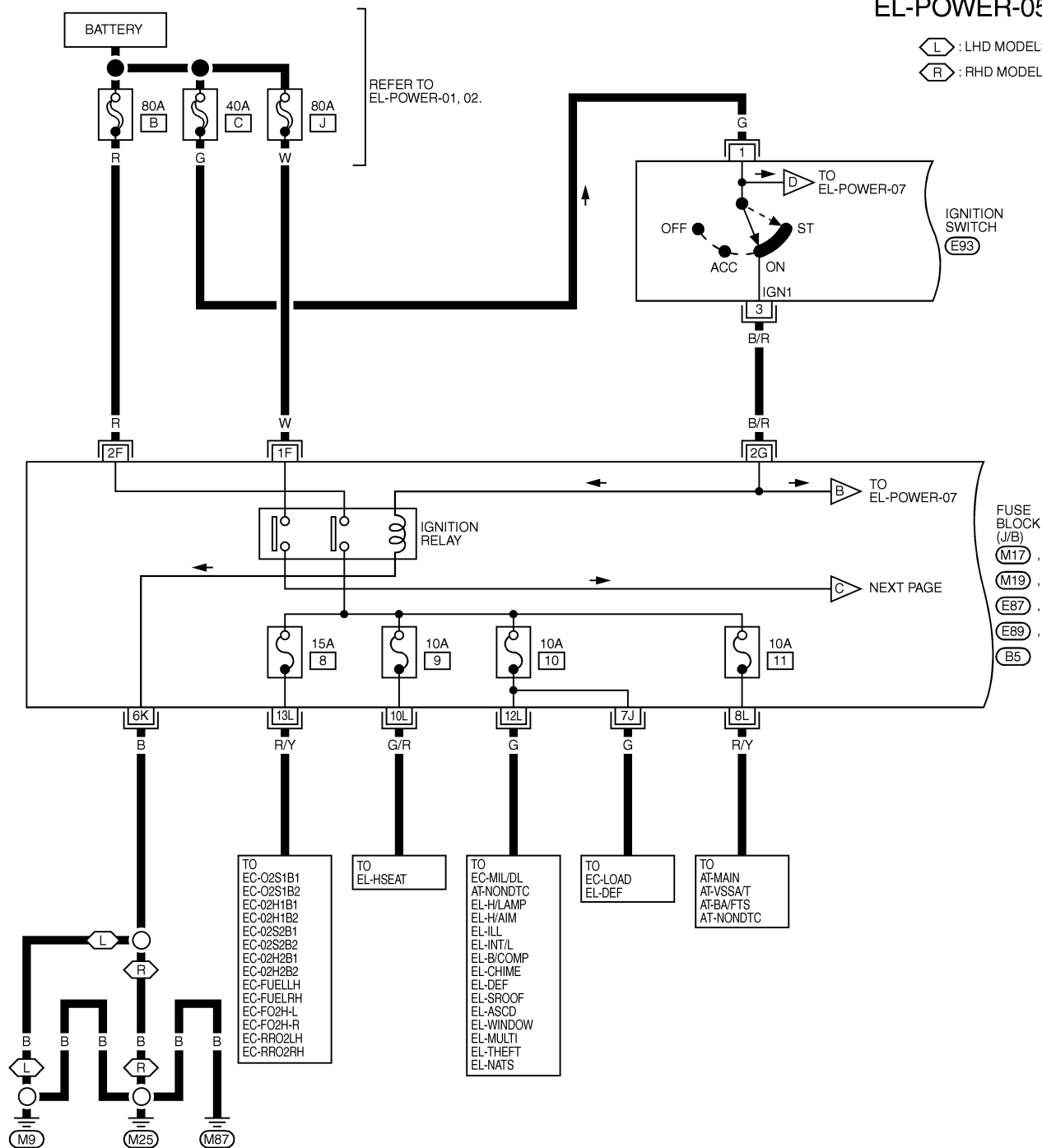
MEL8830

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

NFEL0006S03

EL-POWER-05

L : LHD MODELS
R : RHD MODELS



3	5	1
4	2	6

E93
W

REFER TO THE FOLLOWING.

M17	M19	E87	E89
-----	-----	-----	-----

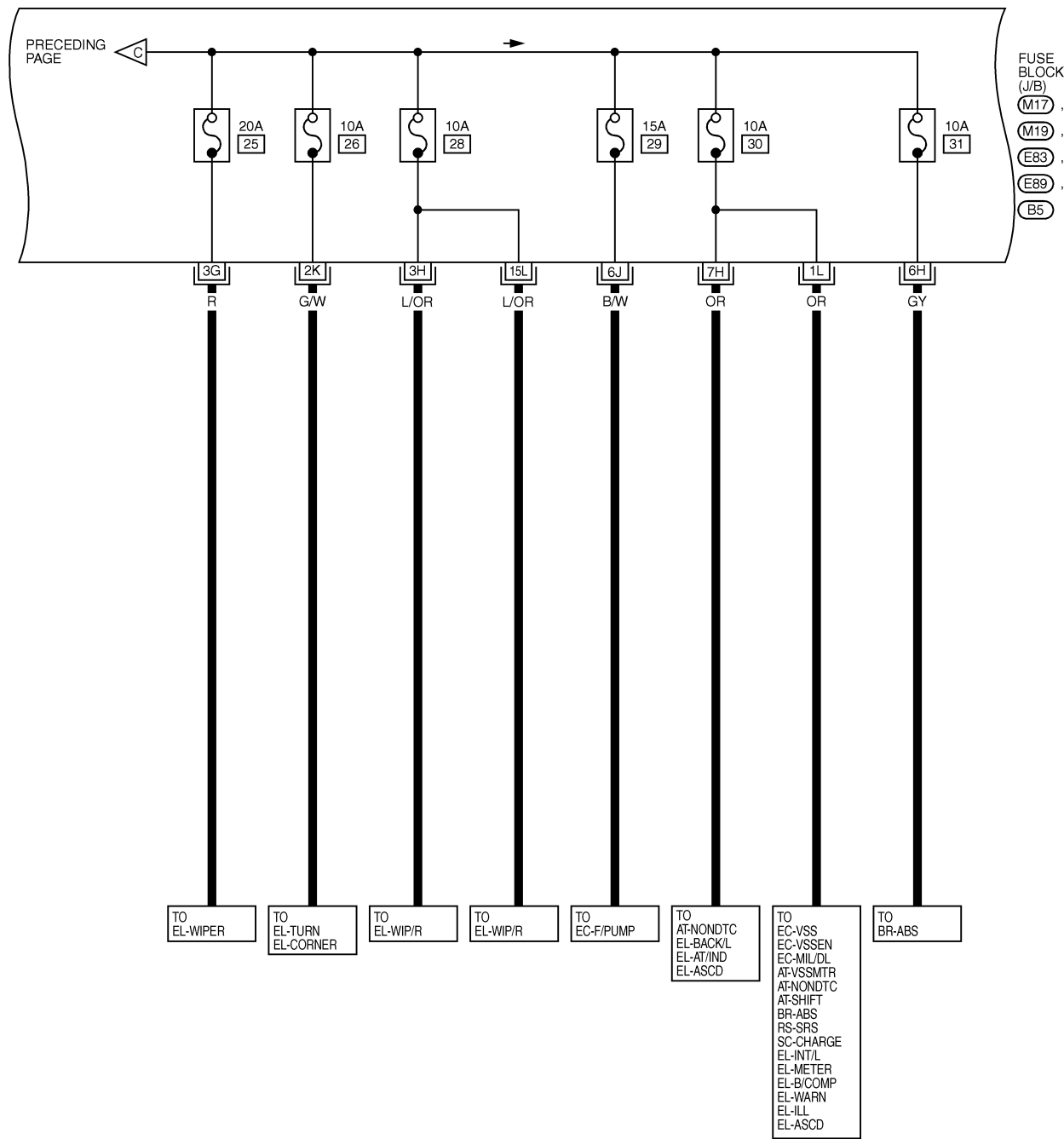
B5 - FUSE BLOCK - JUNCTION BOX (J/B)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16		17	18	19	20	
21	22	23	24	25	26	27	28	29	30	31

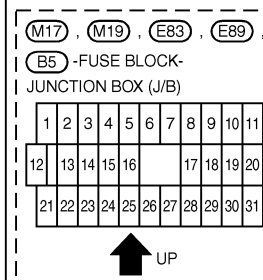
UP

MEL8840

EL-POWER-06



REFER TO THE FOLLOWING.



MEL8850

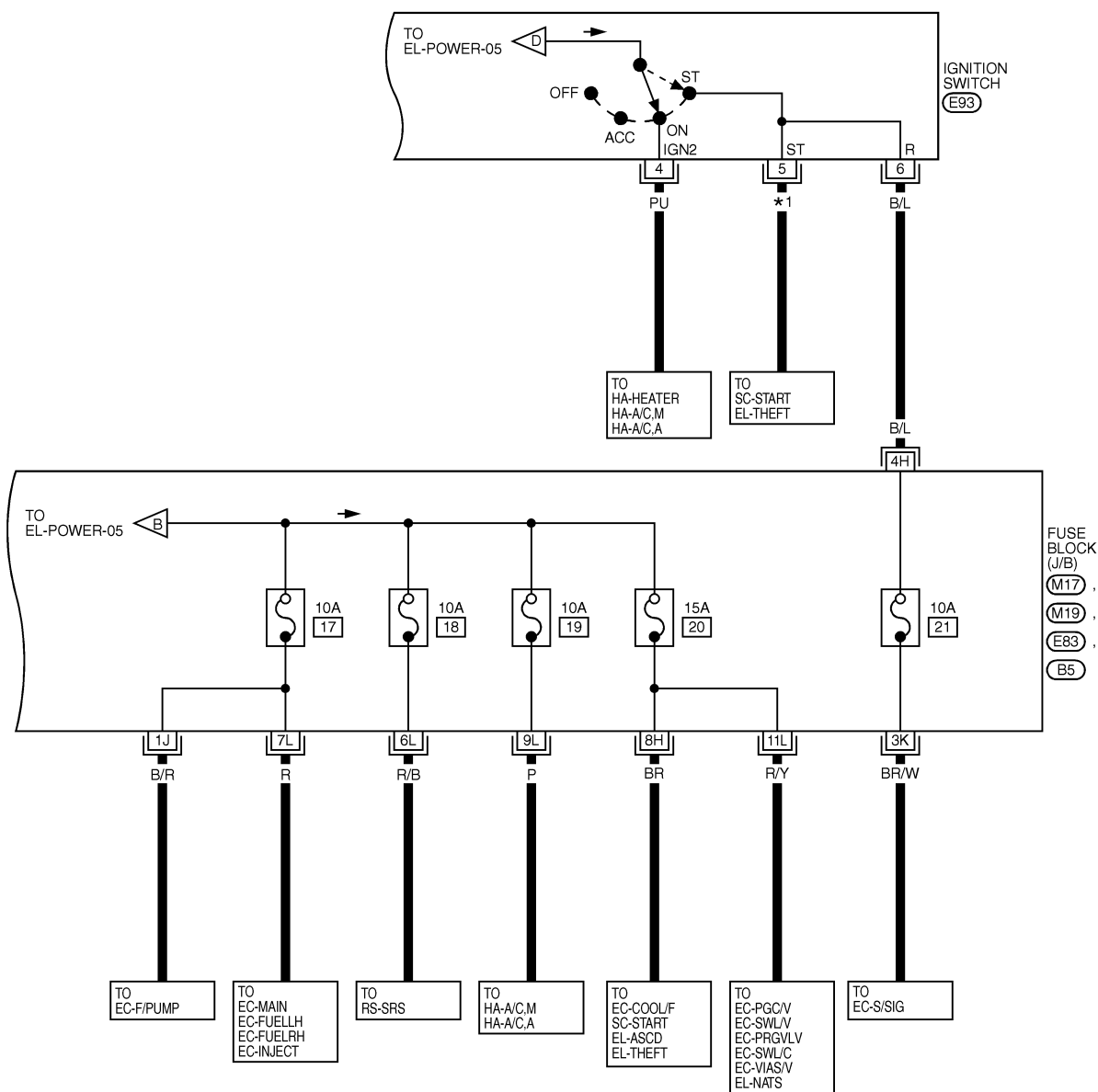
EL-POWER-07

(A) : WITH A/T

(M) : WITH M/T

*1 B/R : (A)

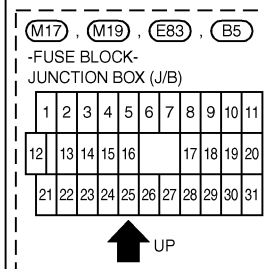
L : (M)



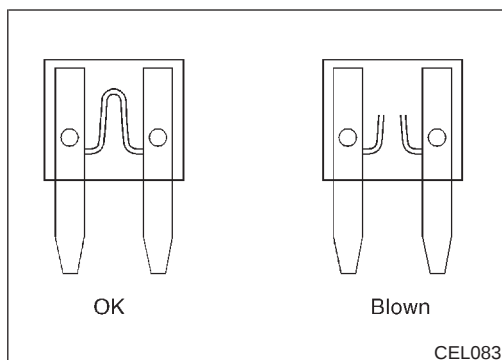
3	5	1
4	2	6

(E93)
W

REFER TO THE FOLLOWING.



MEL8860



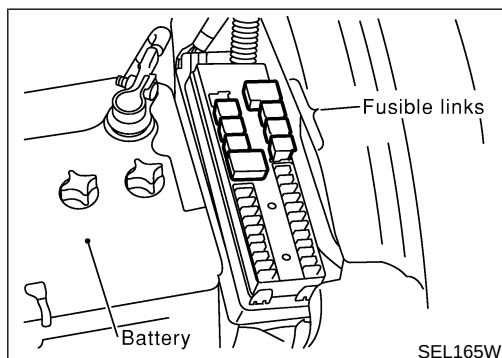
Inspection

FUSE

- If fuse is blown, be sure to eliminate cause of problem before installing new fuse.
- Use fuse of specified rating. Never use fuse of more than specified rating.
- Do not partially install fuse; always insert it into fuse holder properly.
- Remove fuse for "ELECTRICAL PARTS (BAT)" if vehicle is not used for a long period of time.

NFEL0007

NFEL0007S01



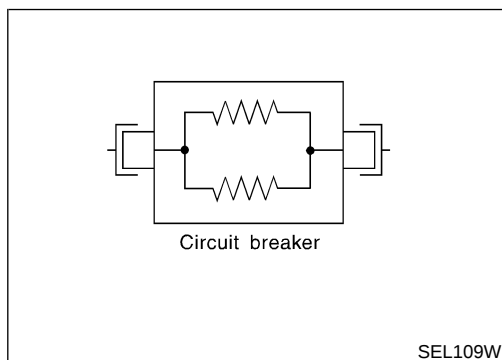
FUSIBLE LINK

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

NFEL0007S02

CAUTION:

- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of problem.
- Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other wiring harness, vinyl or rubber parts.



CIRCUIT BREAKER (PTC THERMISTOR TYPE)

NFEL0007S03

The PTC thermistor generates heat in response to current flow. The temperature (and resistance) of the thermistor element varies with current flow. Excessive current flow will cause the element's temperature to rise. When the temperature reaches a specified level, the electrical resistance will rise sharply to control the circuit current.

Reduced current flow will cause the element to cool. Resistance falls accordingly and normal circuit current flow is allowed to resume.

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

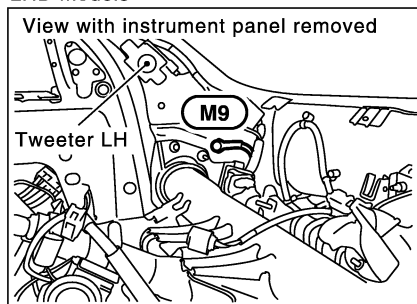
Ground Distribution

NFEL0008

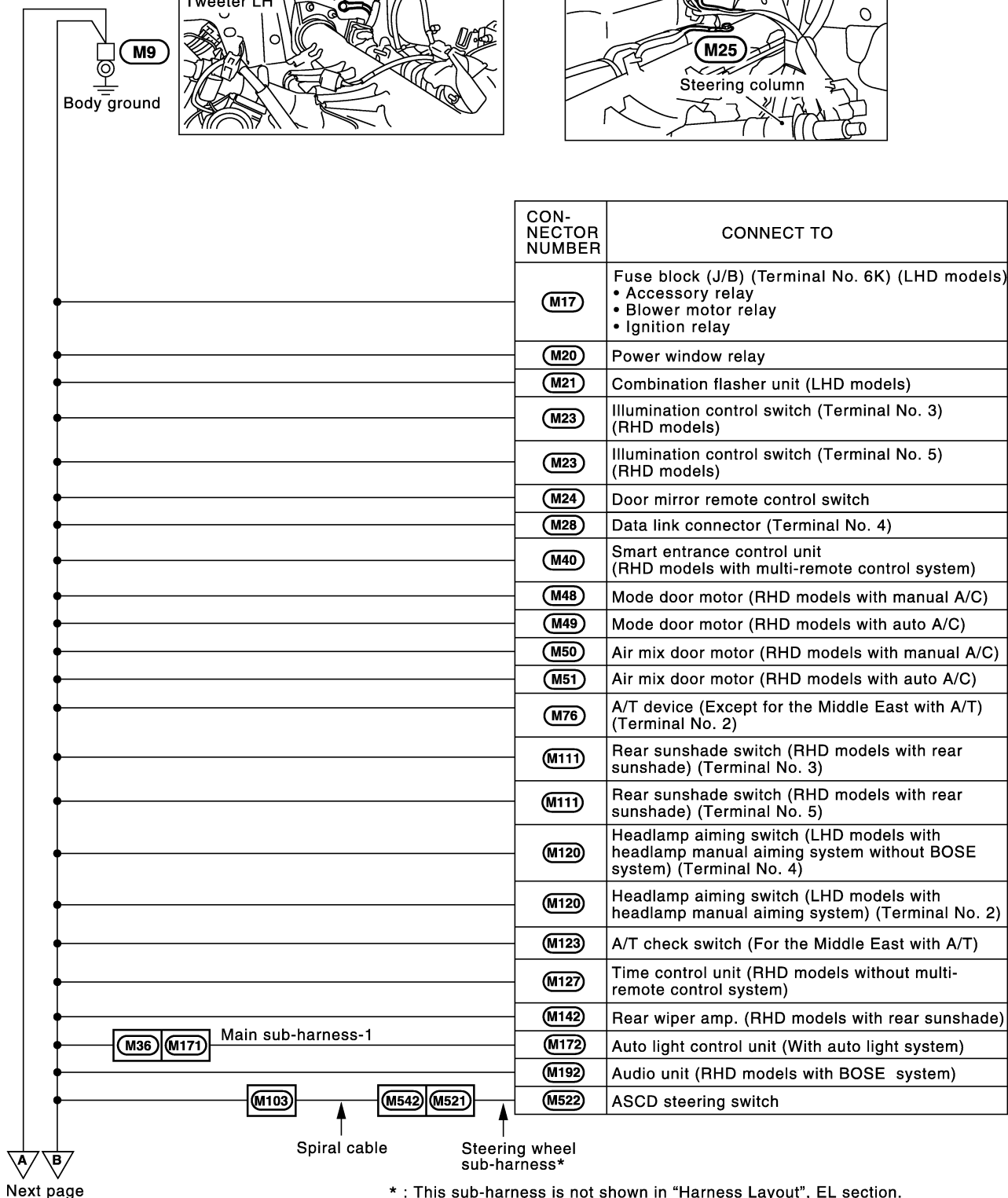
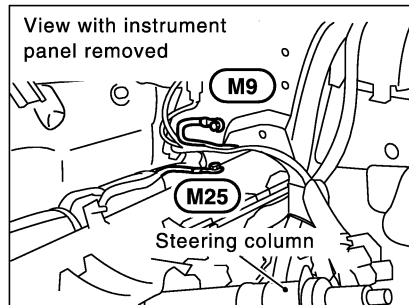
NFEL0008S01

MAIN HARNESS

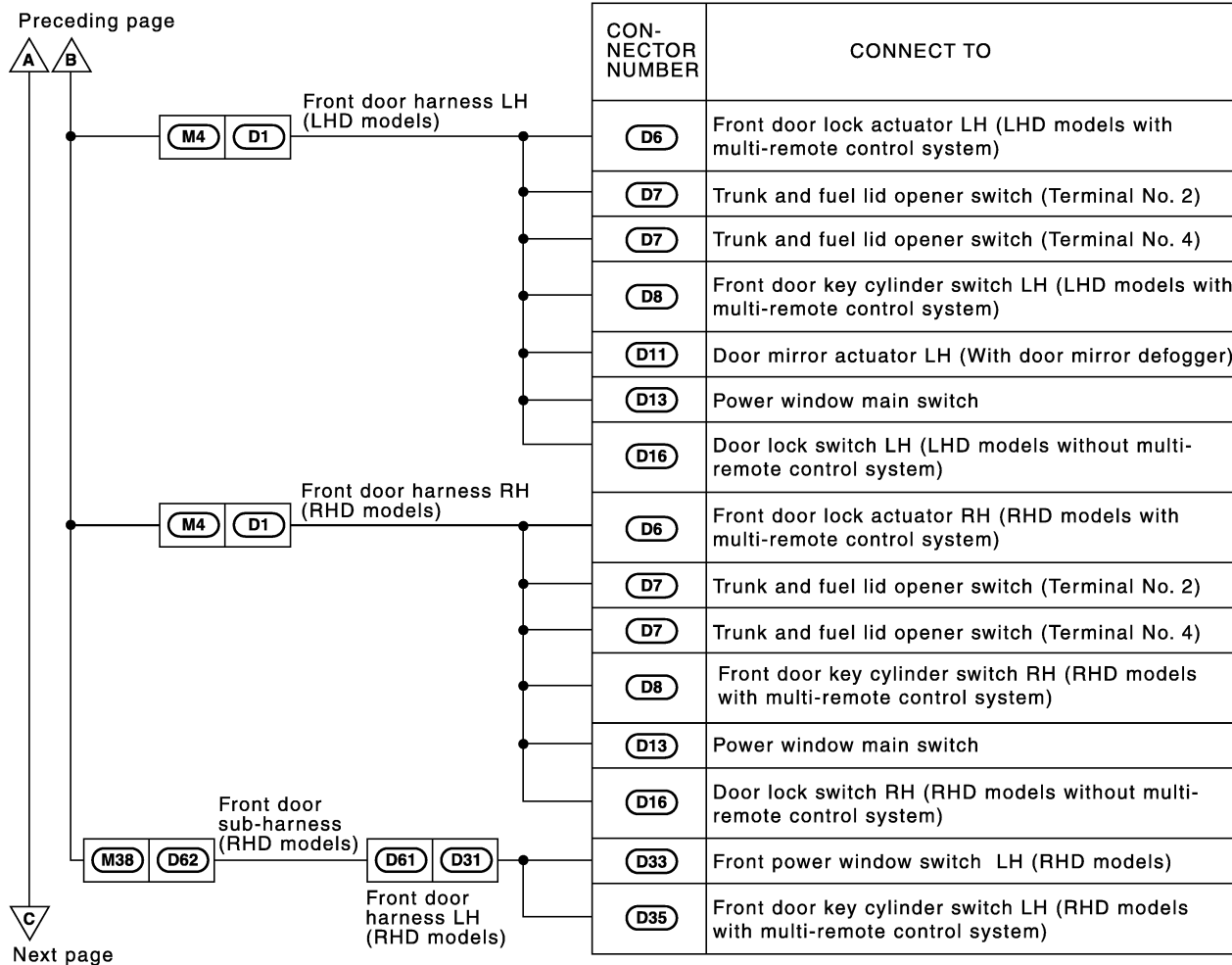
LHD models

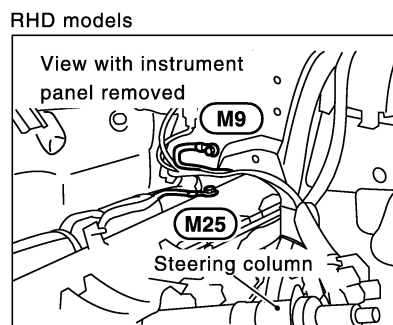
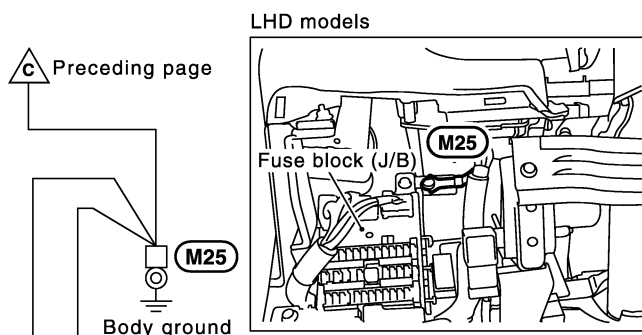


RHD models



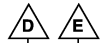
MEL8870





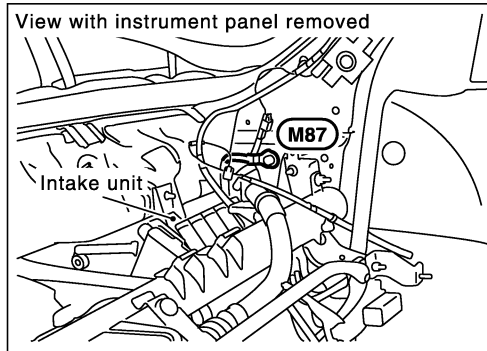
CON- NECTOR NUMBER	CONNECT TO
M17	Fuse block (J/B) (RHD models) (Terminal No. 6K) • Accessory relay • Blower motor relay • Ignition relay
M21	Combination flasher unit (RHD models)
M30	Clock
M32	Combination meter (Terminal No. 30) • ABS warning lamp (With ABS) • A/T indicator (With A/T) • Turn signal indicator • Rear fog lamp indicator (With rear fog lamp)
M33	Combination meter (Terminal No. 22) • Air bag warning lamp (With air bag) • Fuel gauge • Odo/trip meter • Air bag warning lamp (With air bag) • Speedometer • Tachometer • Water temp. gauge • Board computer (With drive computer)
M34	Combination meter (Terminal No. 59) • Board computer (With drive computer)
M44	In-vehicle sensor (With drive computer and auto A/C)
M48	Mode door motor (LHD models with manual A/C)
M49	Mode door motor (LHD models with auto A/C)
M52	ASCD control unit
M53	Cigarette lighter
M55	Hazard switch (LHD models without BOSE system)
M59	A/C auto amp. (Terminal No. 11) (With drive computer and auto A/C)
M76	A/T device (LHD models with A/T) (Terminal No. 4)
M76	A/T device (With A/T) (Terminal No. 6)
M78	Power socket
M80	Intake sensor (With drive computer and auto A/C)
M85	Sunload sensor (With drive computer and auto A/C)
M111	Rear sunshade switch (LHD models with rear sunshade) (Terminal No. 3)
M111	Rear sunshade switch (LHD models with rear sunshade without BOSE system) (Terminal No. 5)
M112	Air bag diagnosis sensor unit (With air bag)
M185	Drive computer switch (LHD models with drive computer without BOSE system)

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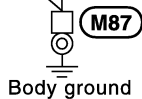
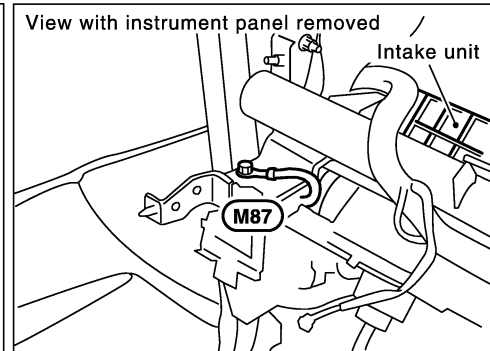


CON- NECTOR NUMBER	CONNECT TO
M15 E81	Engine room harness
M6 B3	Body harness
E55	Ambient sensor (With drive computer and auto A/C)
B39	Rear sunshade unit (LHD models with rear sunshade)

LHD models



RHD models

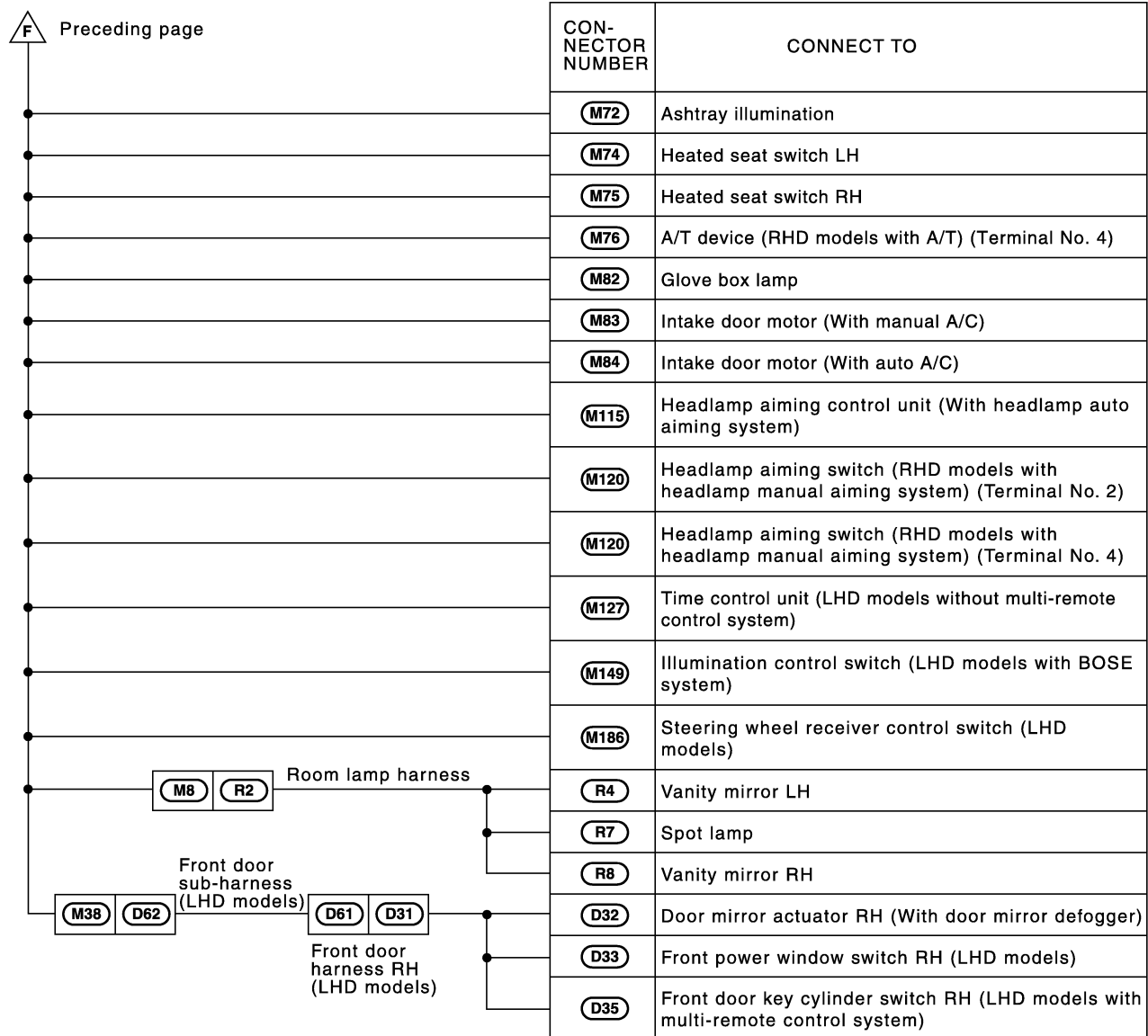


CON- NECTOR NUMBER	CONNECT TO
M23	Illumination control switch (Terminal No. 3) (LHD models without BOSE system)
M23	Illumination control switch (Terminal No. 5) (LHD models without BOSE system)
M31	Fan control amp. (With auto A/C)
M58	Fan switch (With manual A/C and heater)
M40	Smart entrance control unit (LHD models with multi-remote control system)
M50	Air mix door motor (LHD models with manual A/C)
M51	Air mix door motor (LHD models with auto A/C)
M55	Hazard switch (RHD models)
M56	A/C control unit (LHD models with manual A/C without BOSE system and RHD models with manual A/C) (Terminal No. 16)
M56	A/C control unit (With manual A/C) (Terminal No. 17)
M59	A/C auto amp. (With auto A/C) (Terminal No. 14)
M60	A/C auto amp. (LHD models with auto A/C without BOSE system and RHD models with auto A/C) (Terminal No. 25)

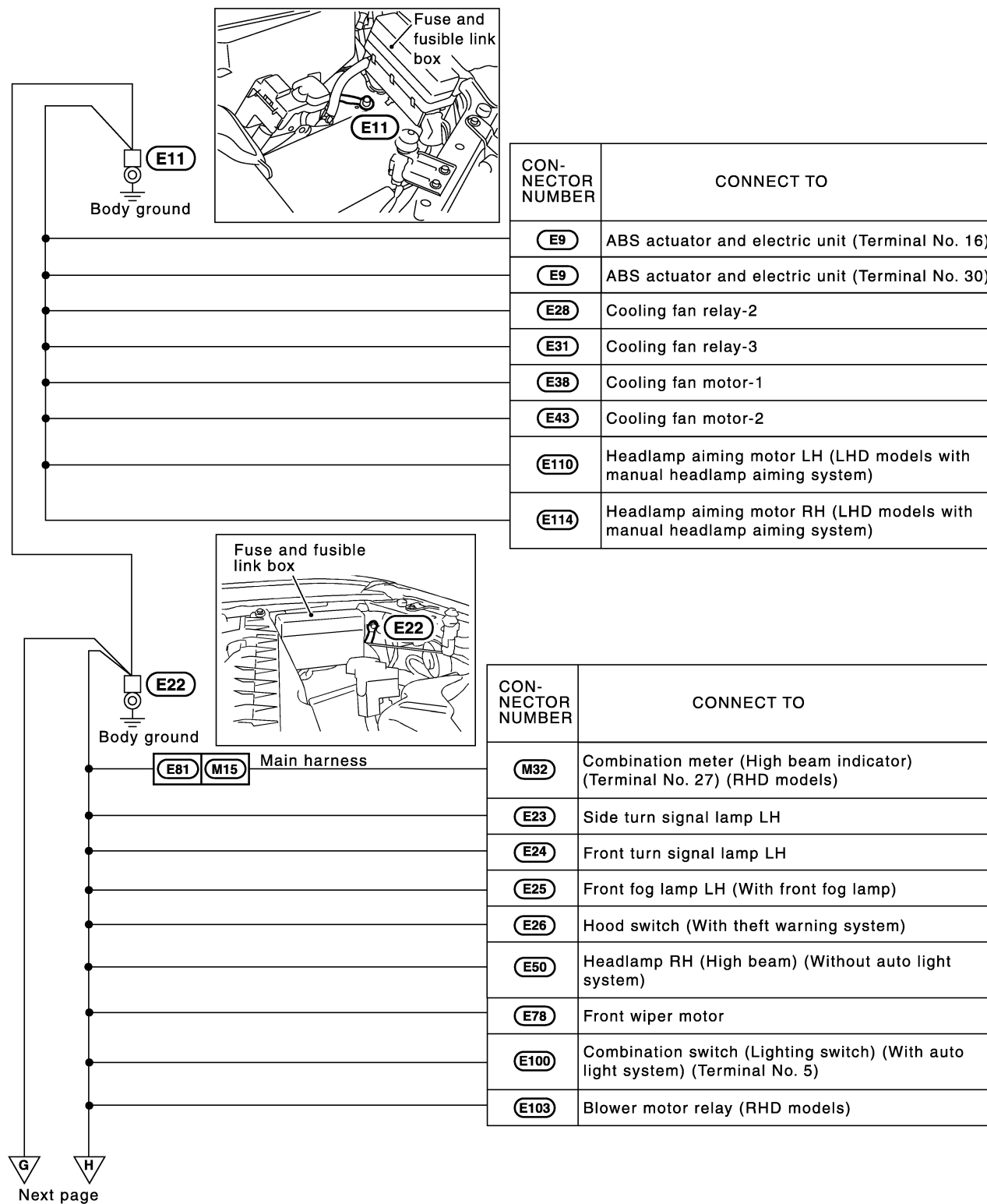


Next page

MEL8900



ENGINE ROOM HARNESS



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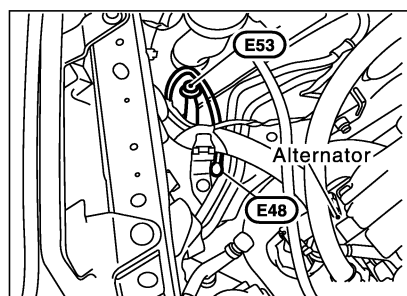
EL

IDX

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E106	Headlamp LH (Low beam) (RHD models with xenon headlamp)
E109	Clearance lamp LH
E110	Headlamp aiming motor LH (RHD models with manual headlamp aiming system)
E112	Headlamp RH (Low beam) (Without xenon headlamp)
E113	Headlamp RH (Low beam) (LHD models with xenon headlamp)
E114	Headlamp aiming motor RH (RHD models with manual headlamp aiming system)
E116	Cornering lamp LH (With cornering lamp)
E139	Combination switch (Rear wiper switch) (RHD models without rear sunshade)



E53
Body ground

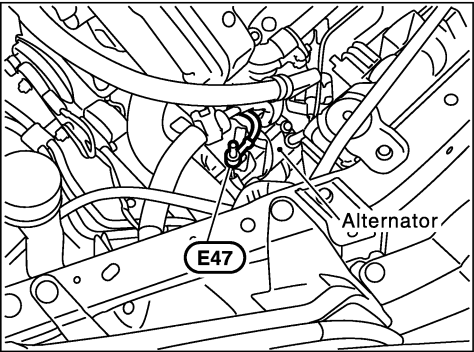
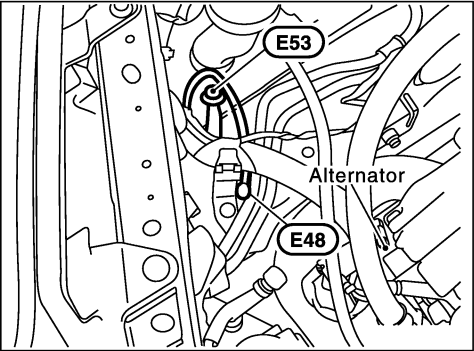
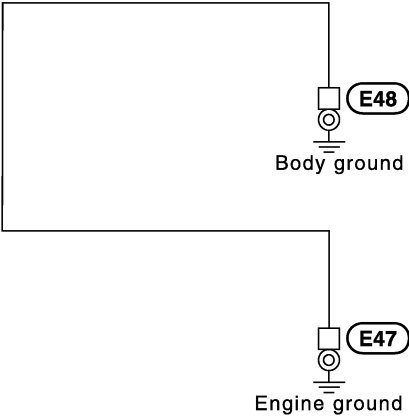
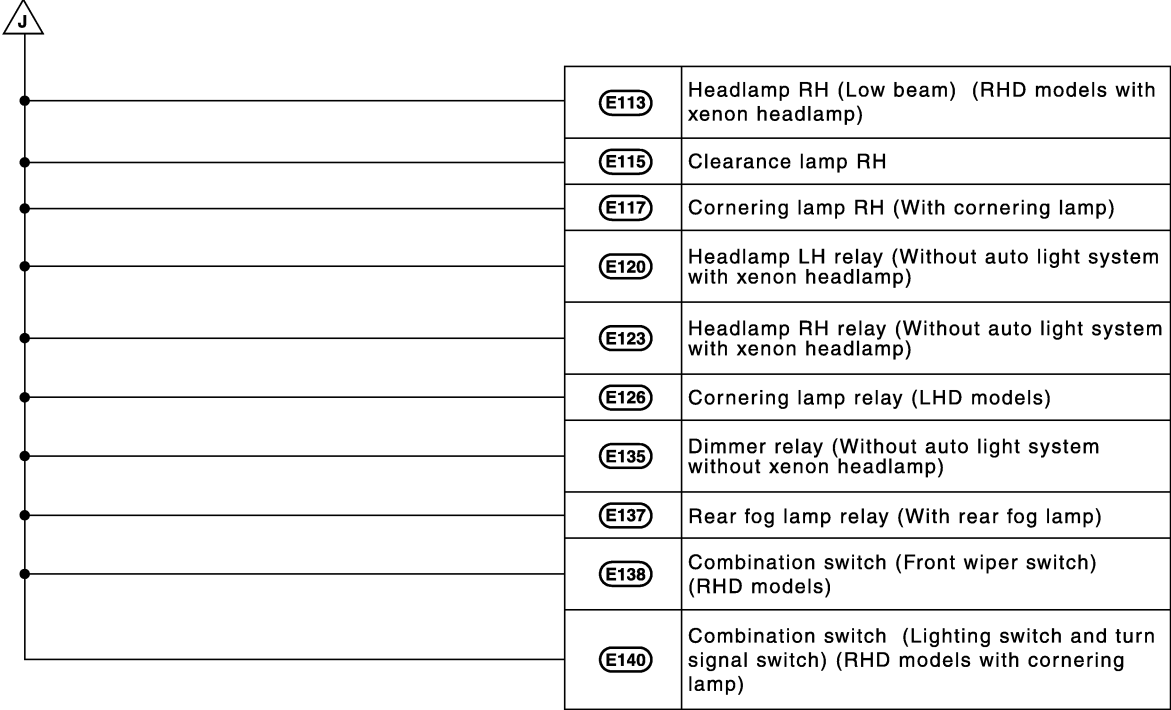
E81 **M15** Main harness

M32	Combination meter (High beam indicator) (Terminal No. 27) (LHD models without auto light system)
E1	Brake fluid level switch
E36	Headlamp LH (High beam) (Without auto light system)
E44	Front fog lamp RH (With front fog lamp)
E45	Front turn signal lamp RH
E49	Side turn signal lamp RH
E64	Front fog lamp relay (With front fog lamp)
E96	Combination switch (Front wiper switch) (LHD models)
E97	Combination switch (Lighting switch) (With auto light system) (Terminal No. 8)
E103	Blower motor relay (LHD models)
E106	Headlamp LH (Low beam) (LHD models with xenon headlamp)
E107	Headlamp LH (Low beam) (Without xenon headlamp)



Next page

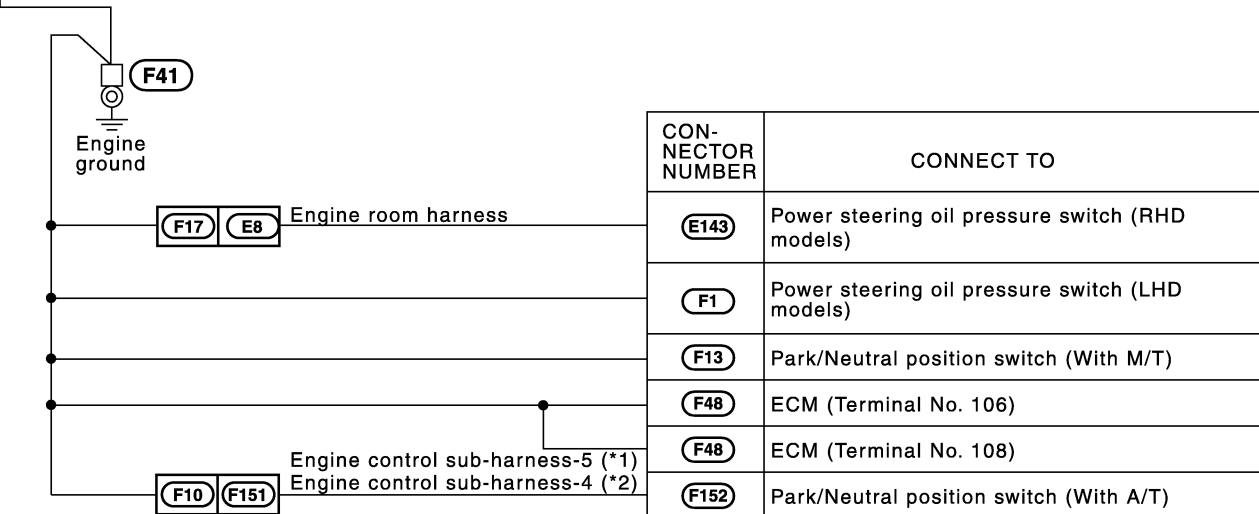
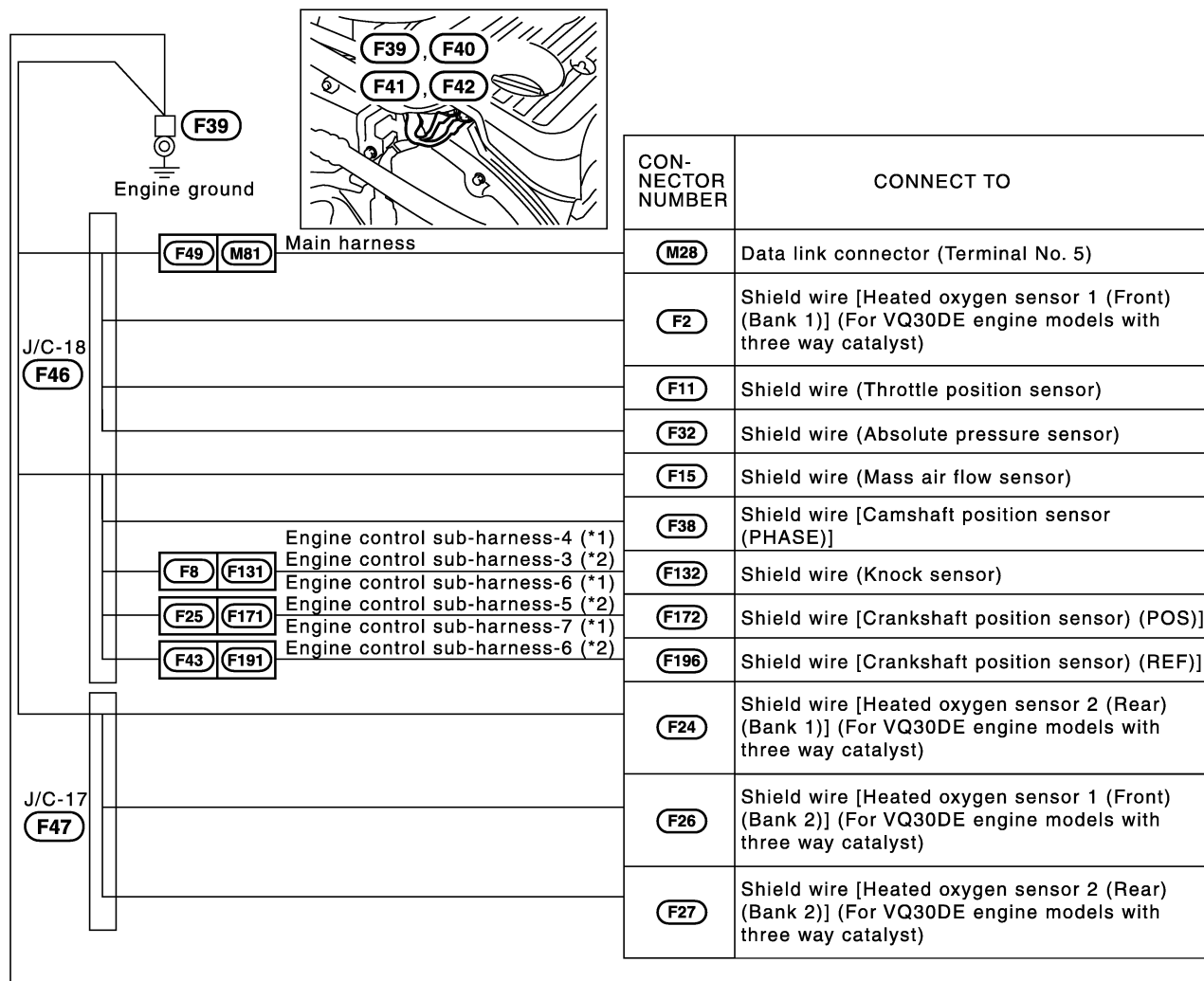
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MEL894O

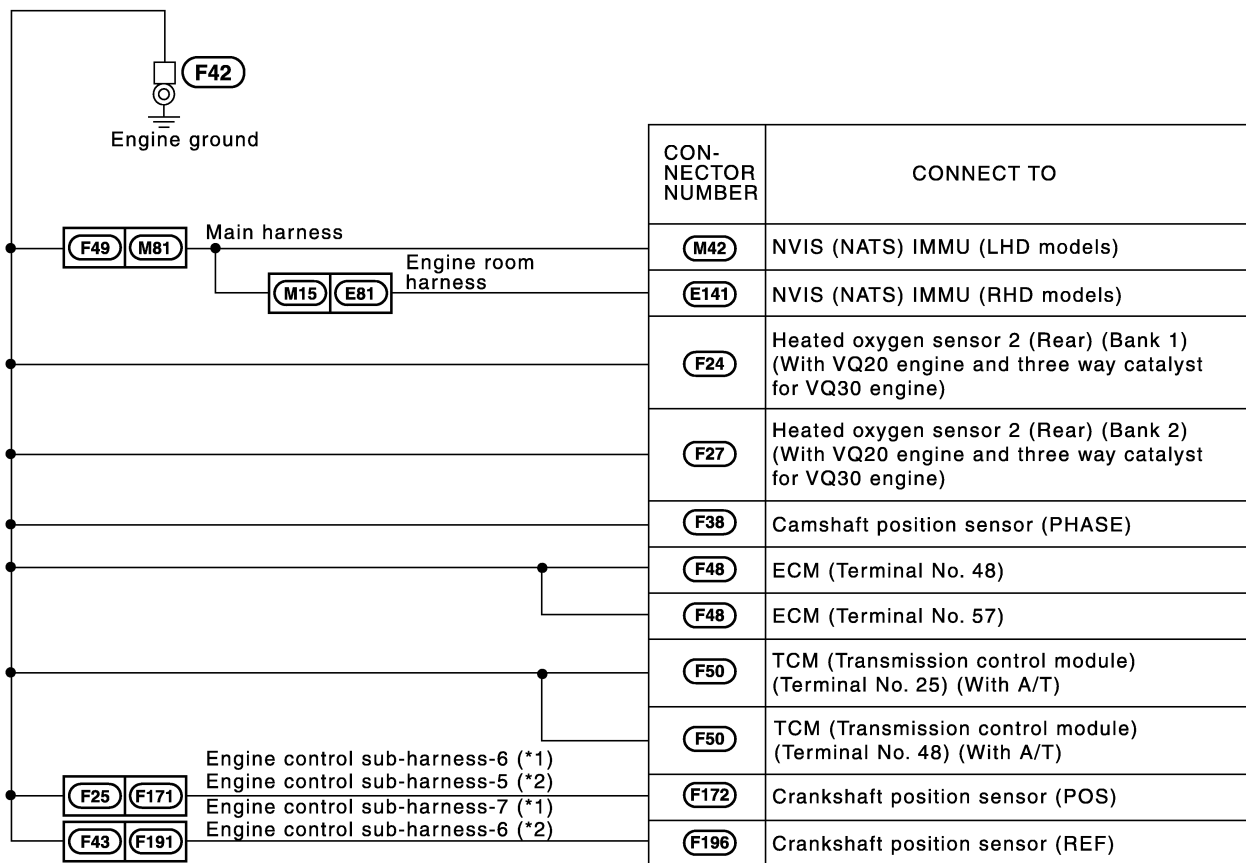
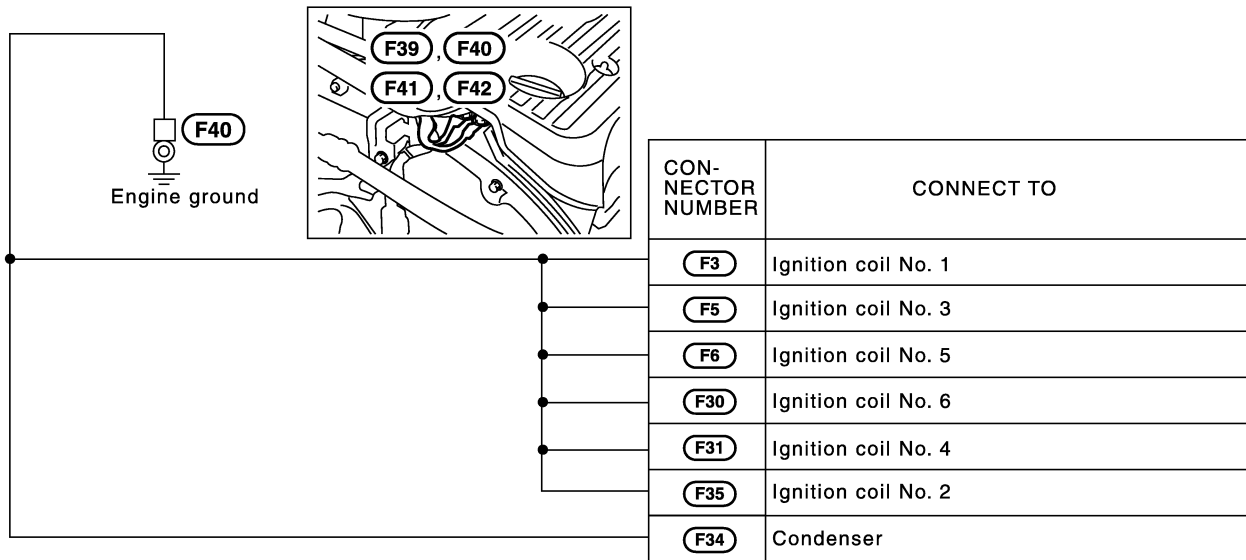
ENGINE CONTROL HARNESS

NFEL0008S03



*1: LHD models
*2: RHD models

MEL8950



*1: LHD models
*2: RHD models

GI

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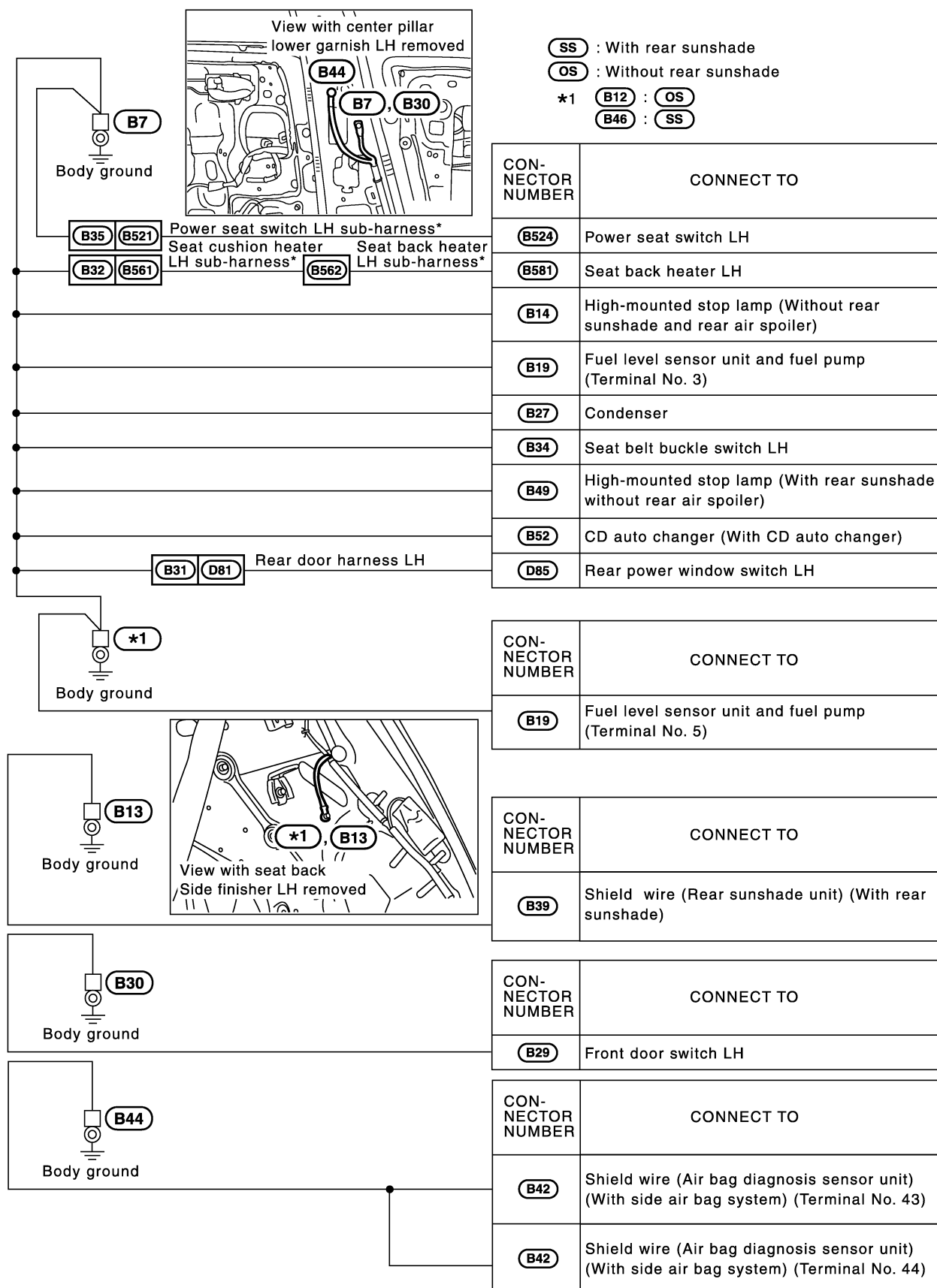
MEL896O

BODY HARNESS

LHD Models

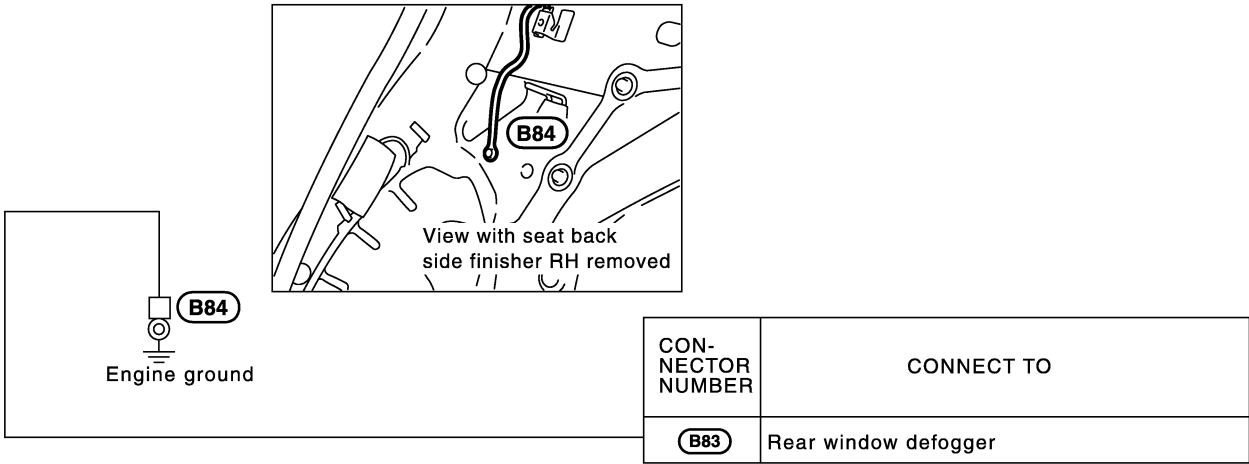
NFEL0008S04

NFEL0008S0401



*: This sub-harness is not shown in "Harness layout", EL section.

MEL8970

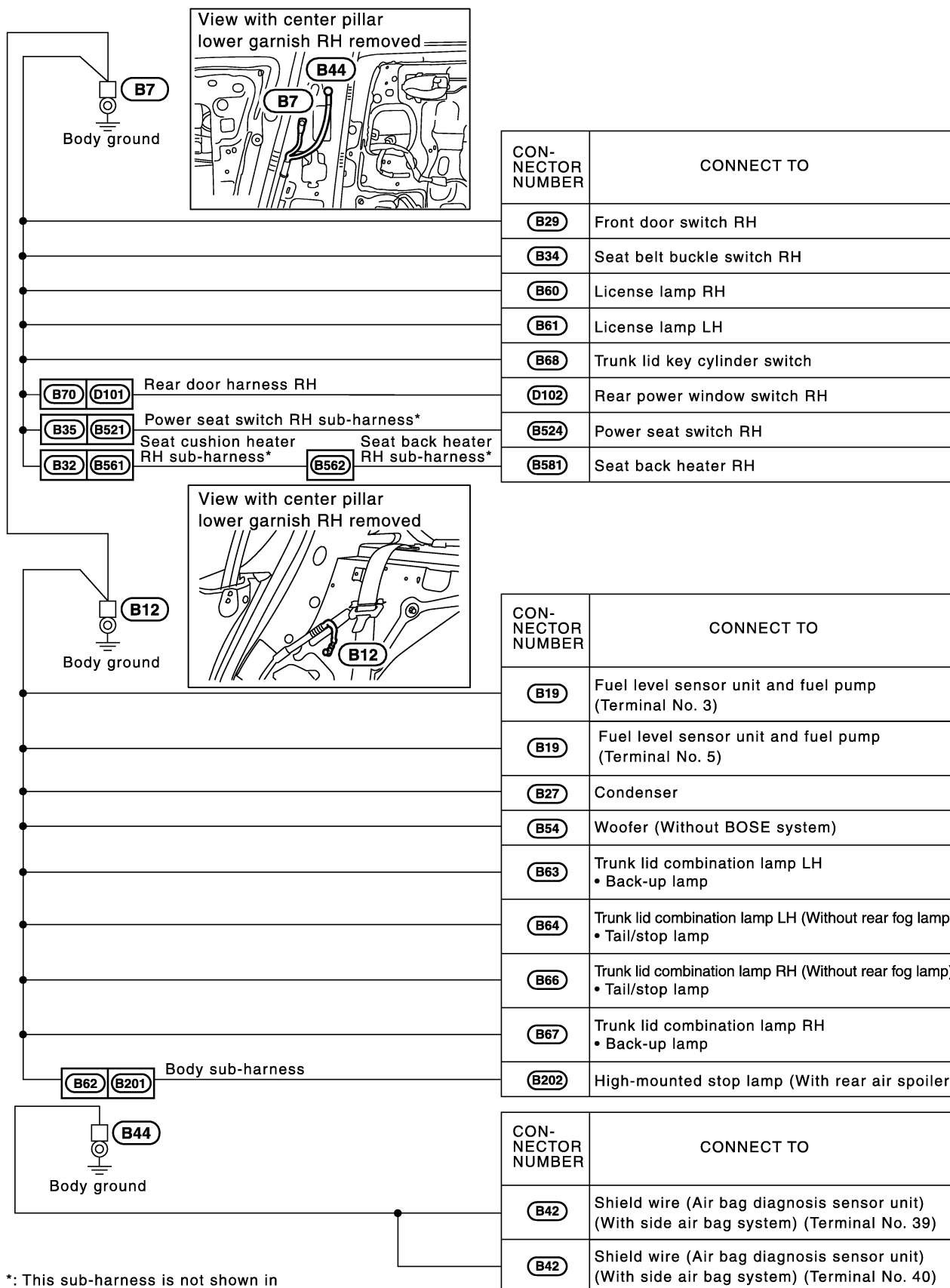


- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- AX
- SU
- BR
- ST
- RS
- BT
- HA
- SC
- EL**
- IDX

MEL451P

RHD Models

NFEL0008S0402



*: This sub-harness is not shown in "Harness layout", EL section.

MEL8980

BODY NO. 2 HARNESS
LHD Models

NFEL0008S05

NFEL0008S0501

GI

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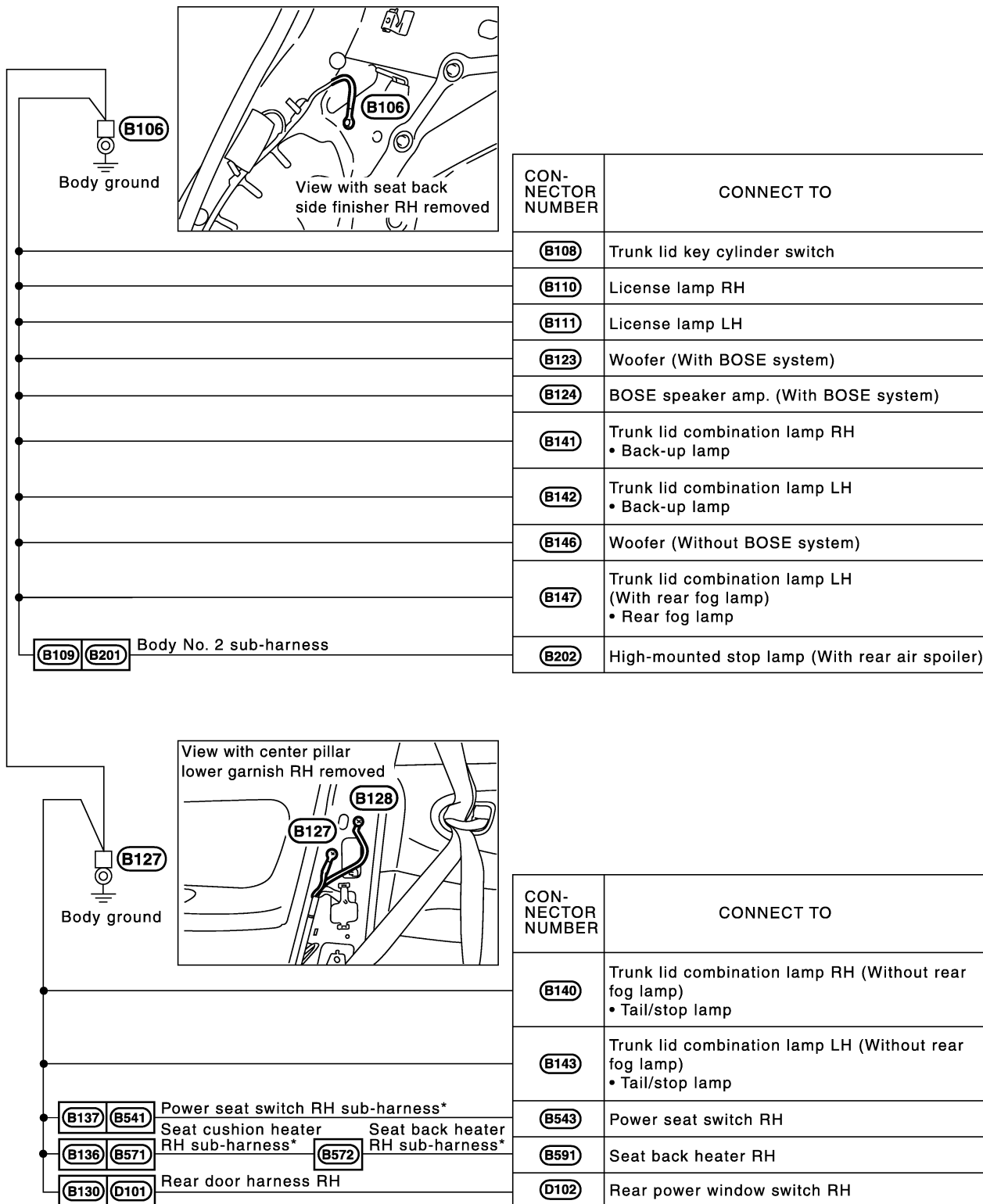
BT

HA

SC

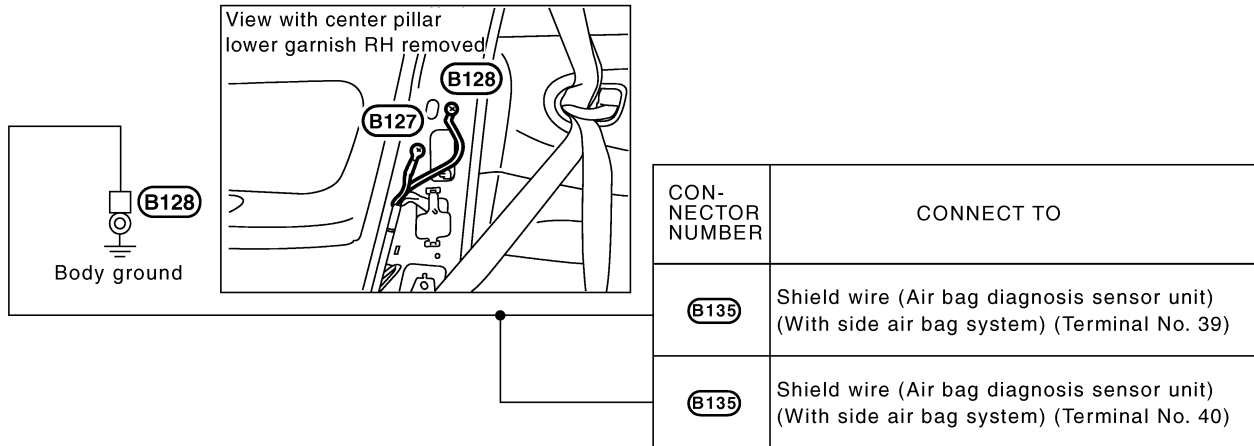
EL

IDX

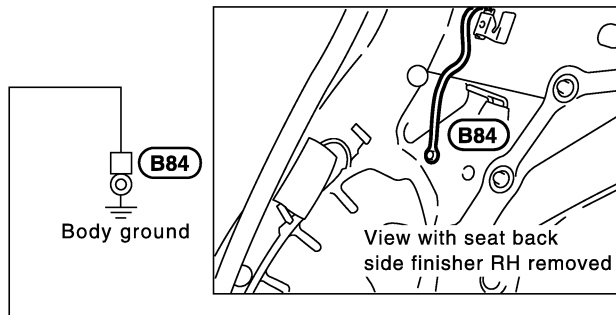


*: This sub-harness is not shown in "Harness layout", EL section.

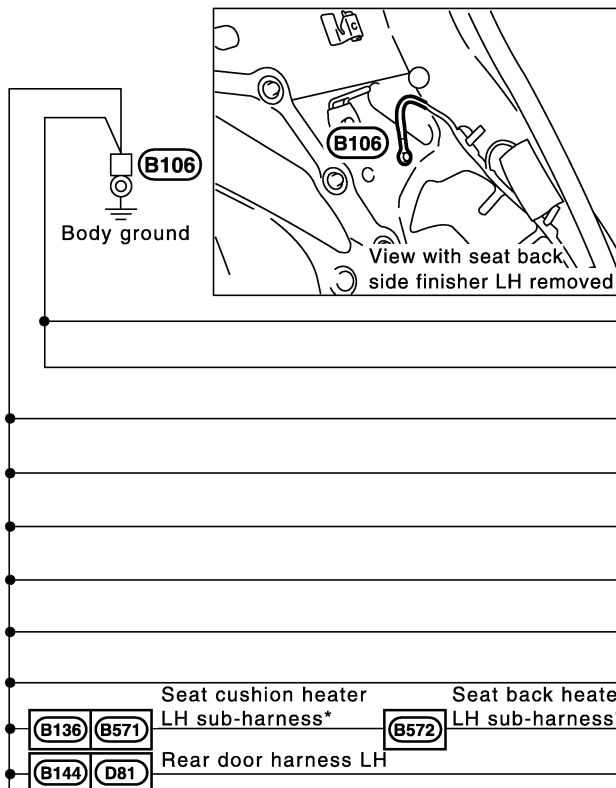
MEL8990



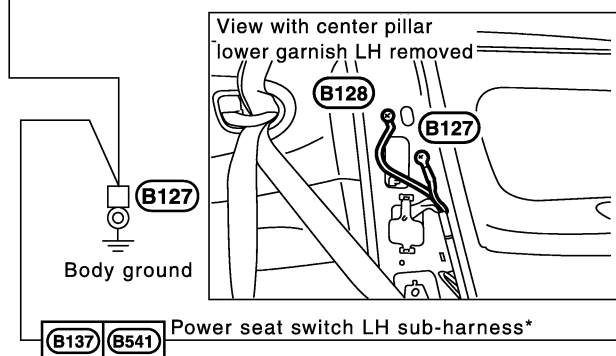
RHD Models



CON-NECTOR NUMBER	CONNECT TO
B83	Rear window defogger

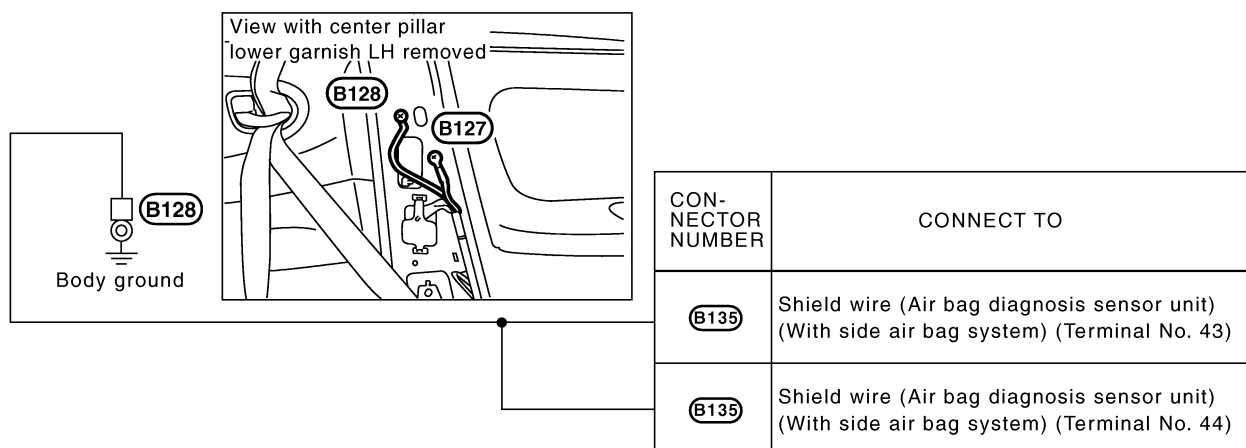


CON-NECTOR NUMBER	CONNECT TO
B75	BOSE speaker amp. (With BOSE system)
B76	Woofer (With BOSE system)
B152	High-mounted stop lamp (Without rear sunshade and rear air spoiler)
B154	Rear wiper motor (With rear sunshade)
B159	High-mounted stop lamp (With rear sunshade without rear air spoiler)
B161	Rear sunshade unit (With rear sunshade)
B161	Shield wire (Rear sunshade unit) (With rear sunshade)
B162	CD auto changer
B591	Seat back heater LH
D85	Rear power window switch LH



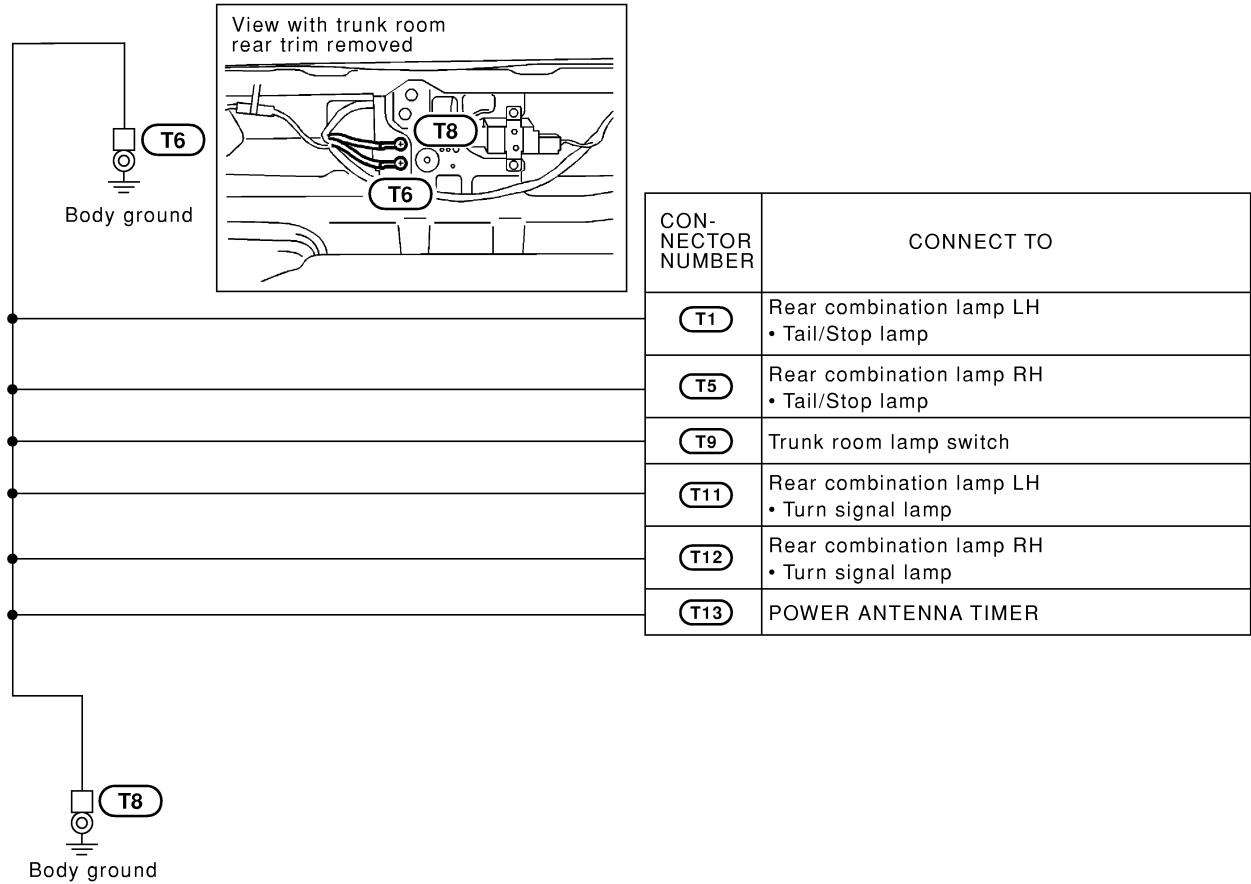
CON-NECTOR NUMBER	CONNECT TO
B543	Power seat switch LH

*: This sub-harness is not shown in "Harness layout", EL section.



TAIL HARNESS

NFEL0008S06



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MEL014L

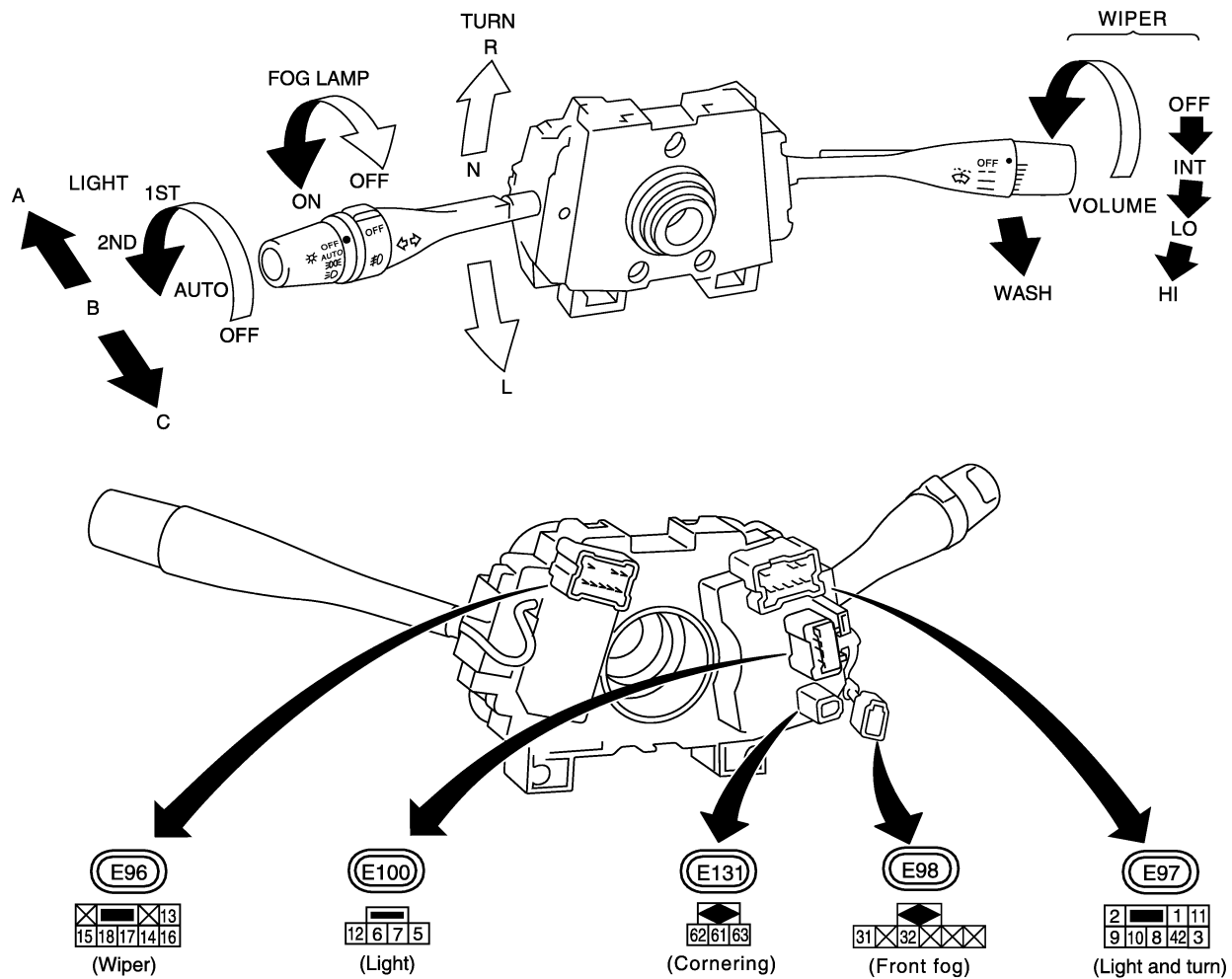
Check

Check

LHD MODELS WITH AUTO LIGHT

NFEL0009

NFEL0009S01



LIGHTING SWITCH

	OFF	AUTO	1ST	2ND
5				
11				
8				
12				
42				
(8)				

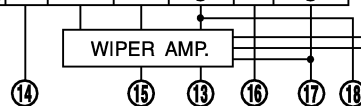
	A	B	C
(5)			
7			
6			
(8)			
10			
9			
(12)			

CORNERING LAMP SWITCH

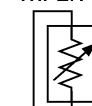
	L	N	R
61			
62			
63			

FRONT WIPER AND WASHER SWITCH

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



VARIABLE INTERMITTENT WIPER VOLUME



FRONT FOG LAMP SWITCH

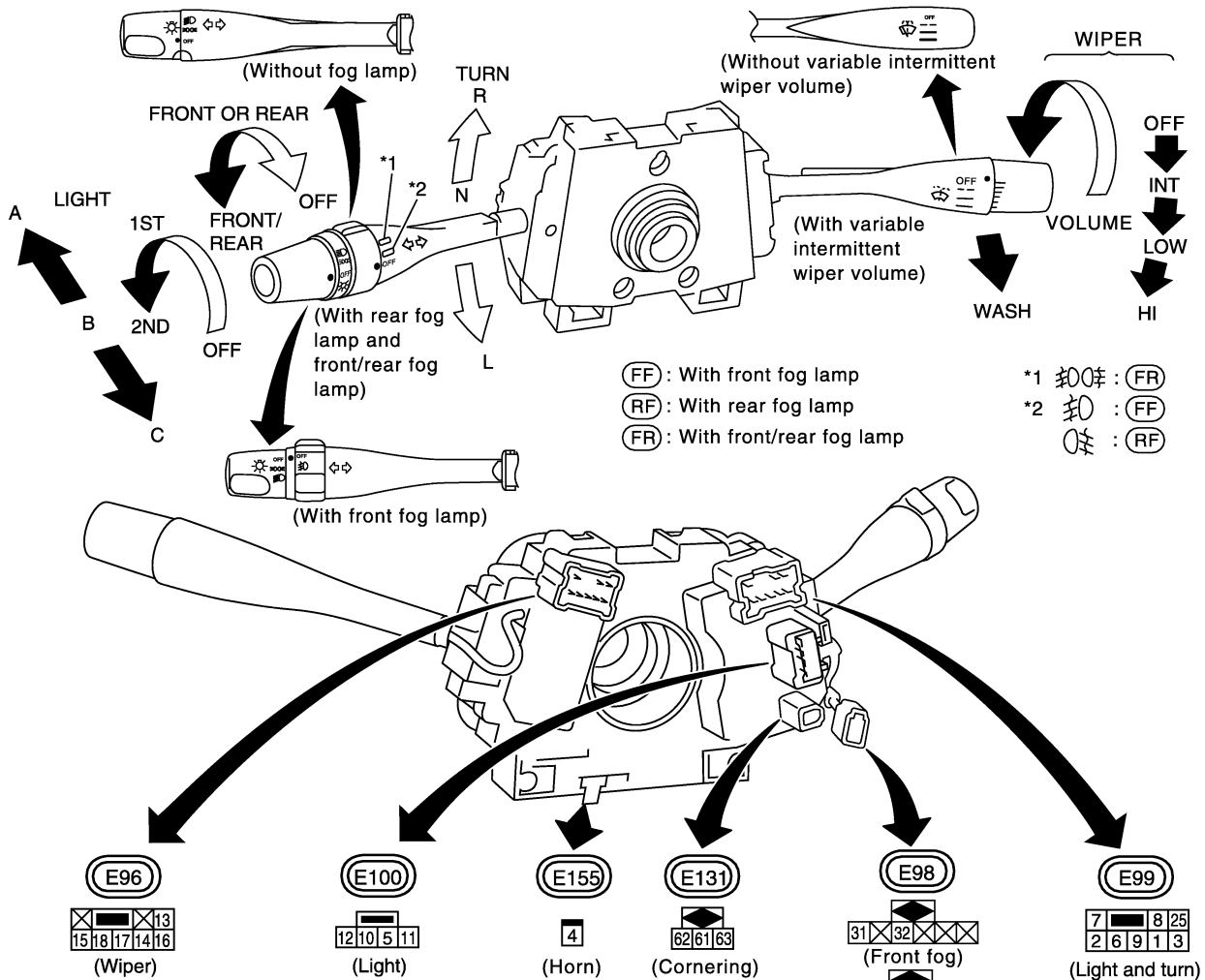
	OFF	ON
31		
32		

TURN SIGNAL LAMP SWITCH

	L	N	R
1			
2			
3			

MEL9080

LHD MODELS WITHOUT AUTO LIGHT



LIGHTING SWITCH
(Rear fog lamp models)

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

LIGHTING SWITCH
(Front/rear fog lamp and front fog lamp models)

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

FRONT WIPER AND WASHER SWITCH

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

WIPER AMP.

14 15 13 16 17 18

VARIABLE INTERMITTENT WIPER VOLUME



FRONT FOG LAMP SWITCH

	OFF	ON
31		
32		

REAR FOG LAMP SWITCH

	OFF	ON
26		
27		

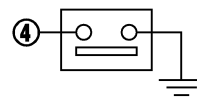
CORNERING LAMP SWITCH

	L	N	R
61			
62			
63			

TURN SIGNAL LAMP SWITCH

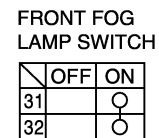
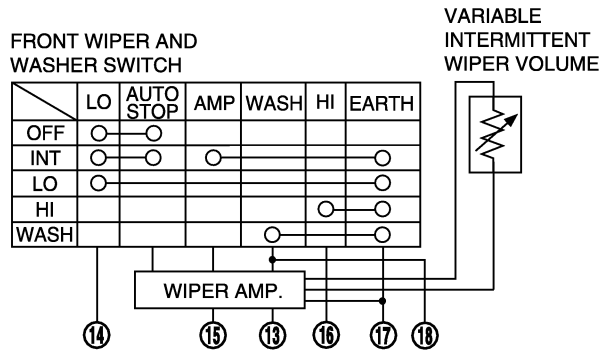
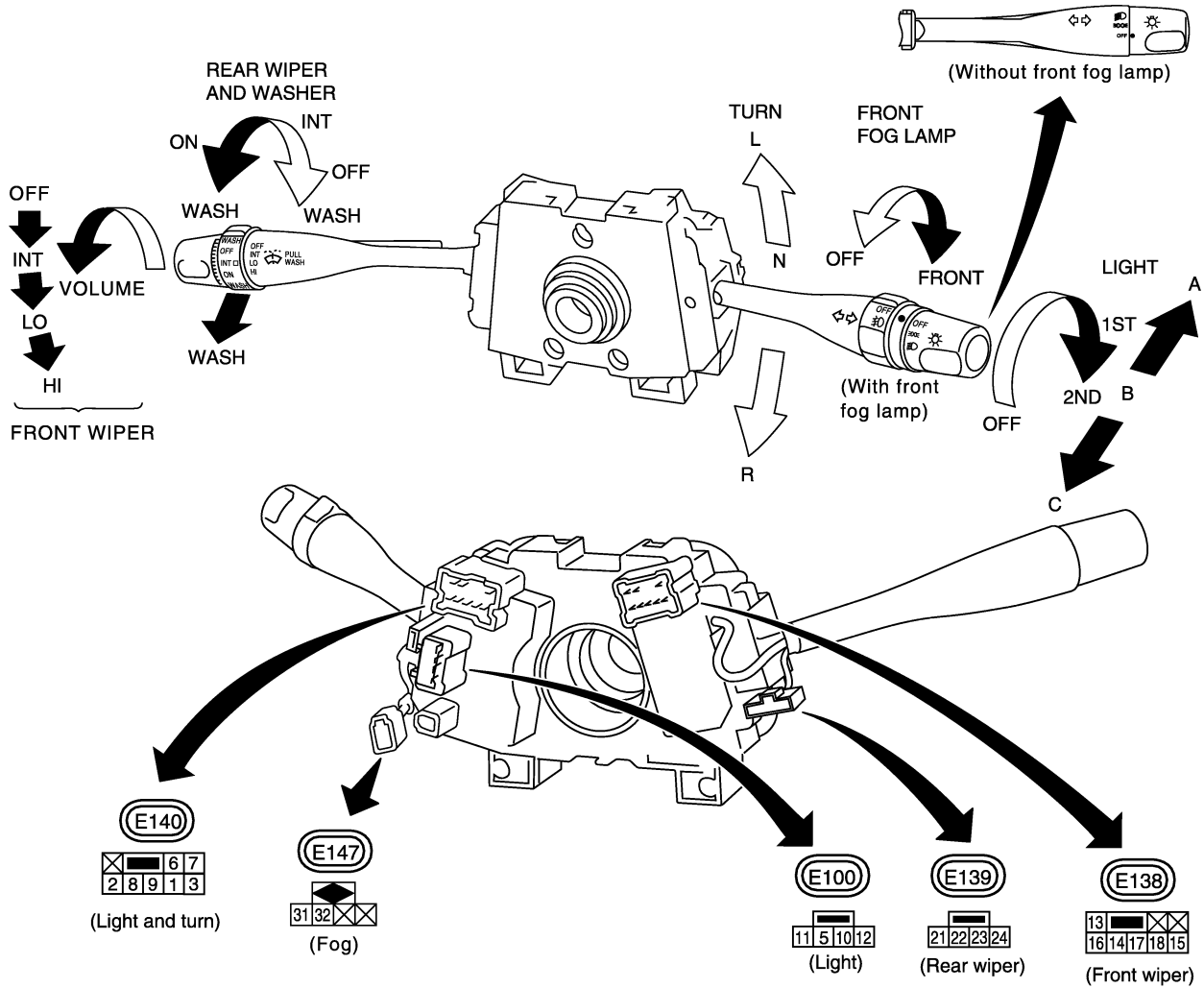
	L	N	R
1			
2			
3			

HORN SWITCH (WITHOUT AIR BAG)



FRONT/REAR FOG LAMP SWITCH

	OFF	FR	FR RR
27			
28			
29			



LIGHTING SWITCH

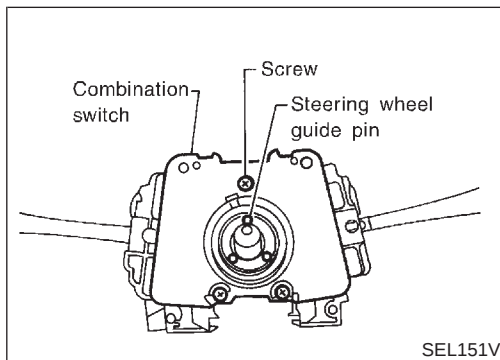
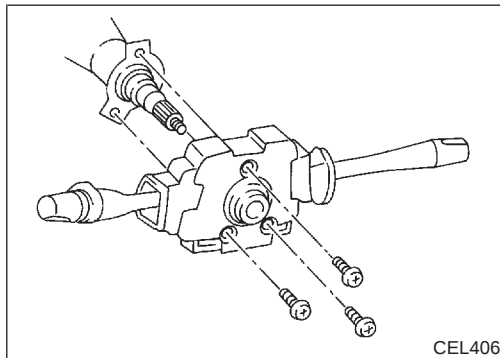
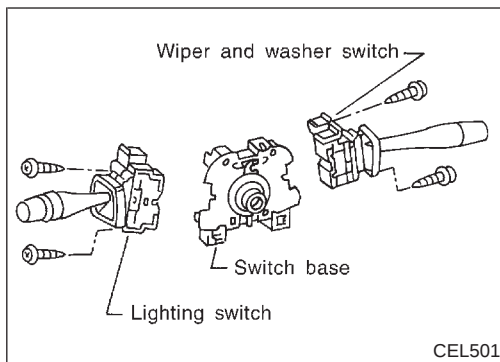
	OFF			1ST			2ND		
	A	B	C	A	B	C	A	B	C
5			○			○			○
6			○			○			○
7									
8			○			○			○
9			○			○			○
10									
11			○			○			○
12			○			○			○

REAR WIPER AND WASHER SWITCH

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

TURN SIGNAL LAMP SWITCH

	L	N	R
1	○		○
2			○
3	○		



Replacement

For removal and installation of spiral cable, refer to RS-20 ^{NFEL0010} ["Installation — Air Bag Module and Spiral Cable", "SUPPLEMENTAL RESTRAINT SYSTEM (SRS)"].

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

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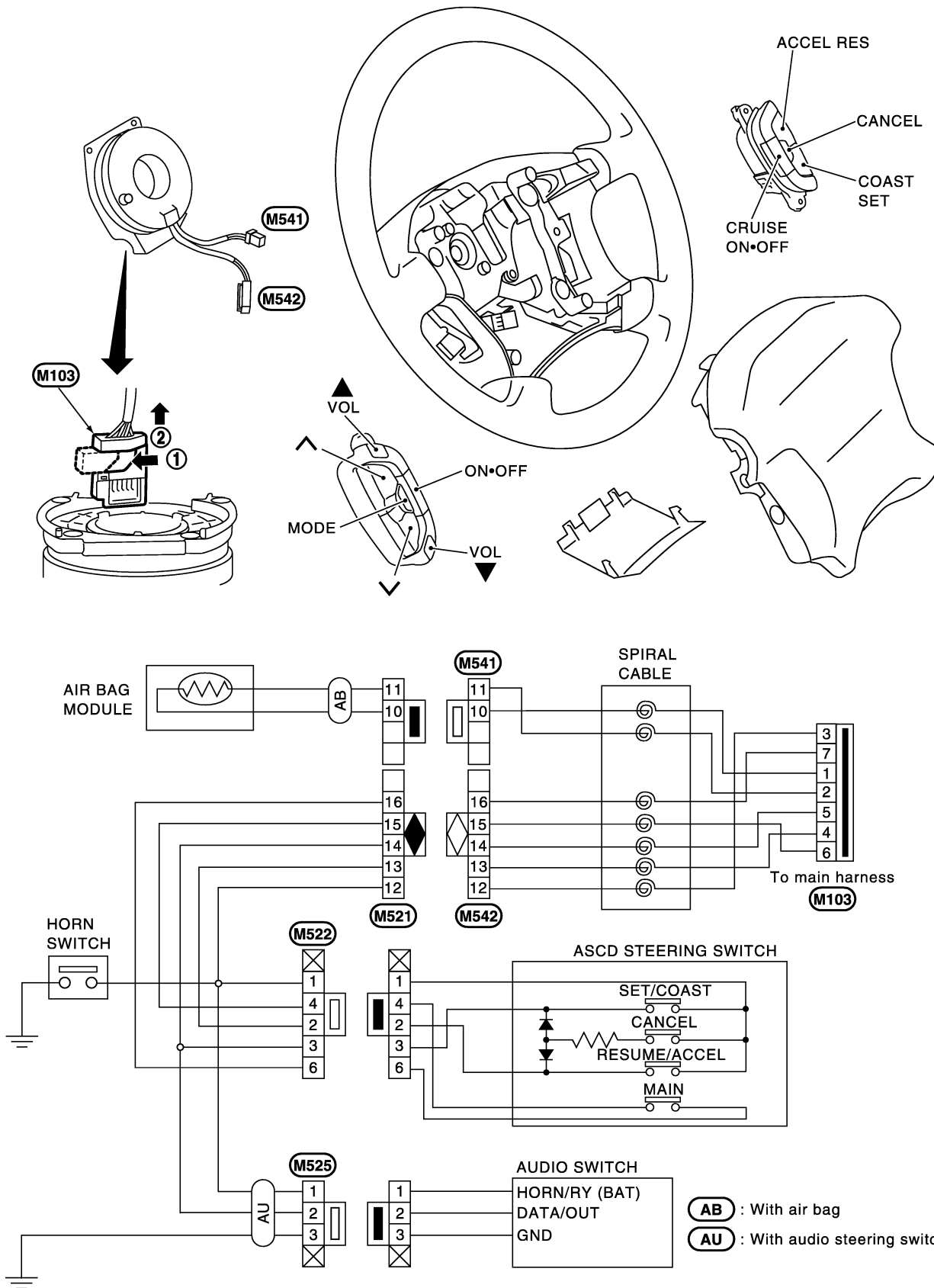
Check

Check

NFEL0011

NFEL0011S01

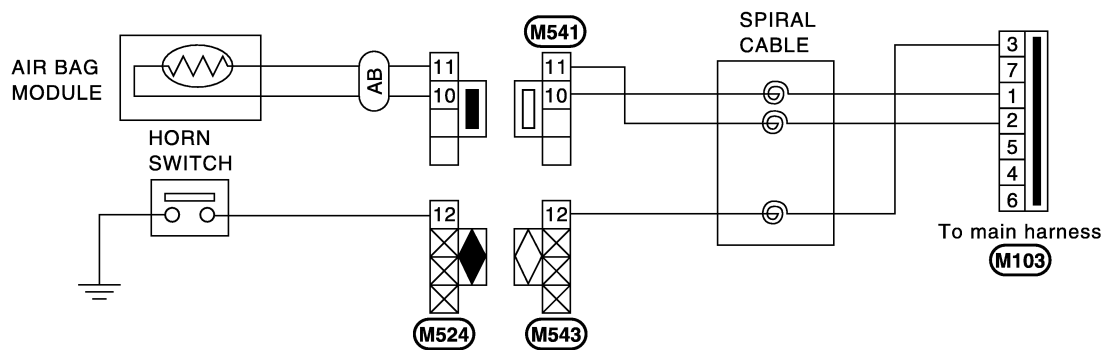
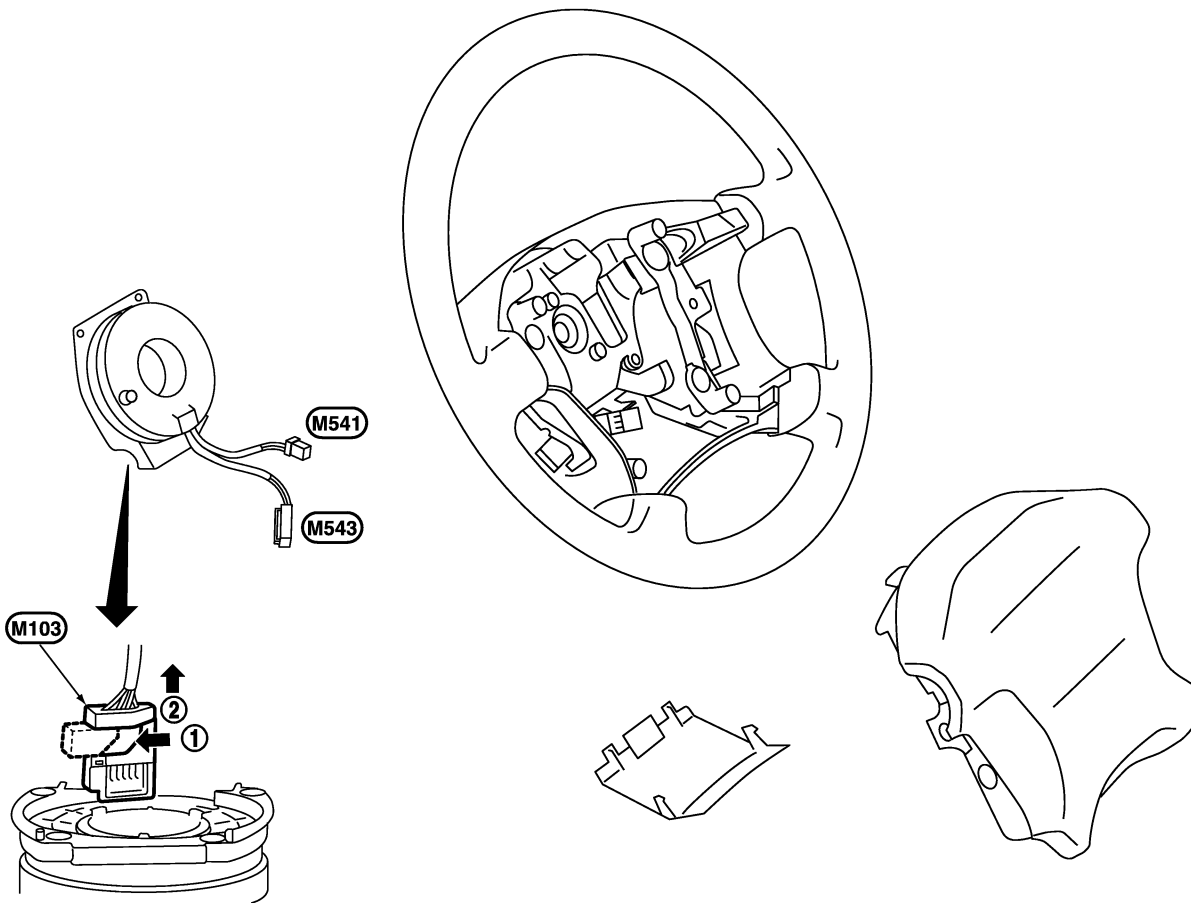
MODELS WITH ASCD



MEL502P

MODELS WITHOUT ASCD

NFEL0011S02



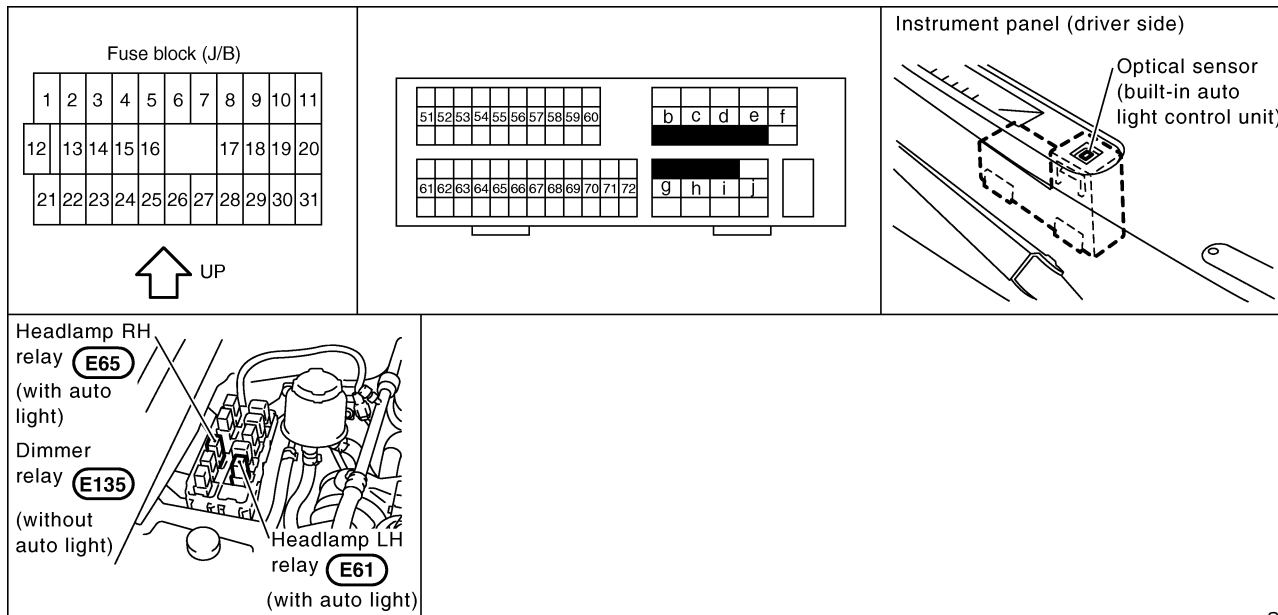
AB : With air bag

GI
MA
EM
LC
EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

MEL503P

Component Parts and Harness Connector Location

NFEL0197



SEL783W

System Description

NFEL0198

The headlamp operation is controlled by the lighting switch which is built into the combination switch.

WITH AUTO LIGHT

Outline

Power is supplied at all times

- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 68, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 69, located in the fuse and fusible link box), and
- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box).

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

- to auto light control unit terminal 3
- through 10A fuse [No. 14, located in the fuse block (J/B)].

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

- to auto light control unit terminal 2
- through 10A fuse [No. 10, located in the fuse block (J/B)].

Ground is supplied

- to auto light control unit terminal 5
- through body grounds M9, M25 and M87.

Power Supply to Low Beam and High Beam

When lighting switch is in 2ND or PASS position, ground is supplied

- to terminal 2 of each headlamp relay
- from lighting switch terminal 12.

Headlamp relays (LH and RH) are energized and then power is supplied to headlamps (LH and RH).

Low Beam Operation

When the lighting switch is turned to the 2ND position, power is supplied

- from terminal 5 of each headlamp relay
- to terminal 3 of each headlamp

NFEL0198S0702

Ground is supplied

- to headlamp LH terminal 4
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 4
- through body grounds E11, E22 and E53.

With power and ground supplied, the headlamp(s) will illuminate.

High Beam Operation/Flash-to-Pass Operation

When the lighting switch is turned to the 2ND position and placed in HIGH ("A") position or PASS ("C") position, power is supplied

- from terminal 5 of each headlamp relay
- to terminal 1 of each headlamp, and
- to combination meter terminal 26 for the HIGH BEAM indicator.

Ground is supplied

- to headlamp LH terminal 2
- through lighting switch terminals 8 and 9
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 2
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 5 and 6
- through body grounds E11, E22 and E53.

With power and ground supplied, the high beams and the high beam indicator illuminate.

Auto Light Operation

The auto light control unit has an optical sensor inside it that detects outside brightness.

When lighting switch is in "AUTO" position, ground is supplied

- to auto light control unit terminal 10
- from lighting switch terminal 42.

When ignition switch is turn to "ON" or "START" position and

- Outside brightness is darker than prescribed level or
- After 20 seconds delay, outside brightness becomes darker than prescribed level

Ground is supplied

- to headlamp relay LH and RH terminals 2
- from auto light control unit terminal 6, and
- to tail lamp relay terminal 2
- from auto light control unit terminal 7.

Then both headlamp relays and tail lamp relay are energized, headlamps (low or high) and tail lamps are illuminate according to switch position.

Auto light operation allows headlamps and tail lamps to go off when

- Ignition switch is turned to "OFF" position or
- Outside brightness is brighter than prescribed level or
- After 20 seconds delay, outside brightness becomes brighter than the prescribed level.

For parking license and tail lamp auto operation, refer to "PARKING, LICENSE AND TAIL LAMPS".

WITHOUT AUTO LIGHT

Power is supplied at all times

- to lighting switch terminal 8
- to dimmer relay terminal 6
- through 15A fuse (No. 68, located in the fuse and fusible link box), and
- to lighting switch terminal 5
- to dimmer relay terminal 3
- through 15A fuse (No. 69, located in the fuse and fusible link box).

Low Beam Operation

When the lighting switch is turned to the 2ND position and placed in LOW ("B") position, power is supplied

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NFEL0198S08

NFEL0198S0801

- from lighting switch terminal 10
- to terminal 3 of the headlamp LH, and
- from lighting switch terminal 7
- to terminal 3 of the headlamp RH.

Terminal 4 of each headlamp supplies ground through body grounds E11, E22 and E53. With power and ground supplied, the low beams will illuminate.

High Beam Operation/Flash-to-Pass Operation

When the lighting switch is turned to the 2ND position and placed in HIGH ("A") position or PASS ("C") position, power is supplied

NFEL0198S0802

- from lighting switch terminal 6
- to terminal 1 of the headlamp RH,
- to combination meter terminal 26 for the high beam indicator (LHD models), and
- from lighting switch terminal 9
- to terminal 1 of the headlamp LH,
- to dimmer relay terminal 1
- to combination meter terminal 26 for the high beam indicator (RHD models).

Ground is supplied

- to terminal 27 of the combination meter through body grounds E11, E22 and E53, and
- to dimmer relay terminal 2 through body grounds E11, E22 and E53.

Then dimmer relay is energized and power is supplied to terminal 3 of each headlamp.

Terminals 2 and 4 of each headlamp supply ground through body grounds E11, E22 and E53.

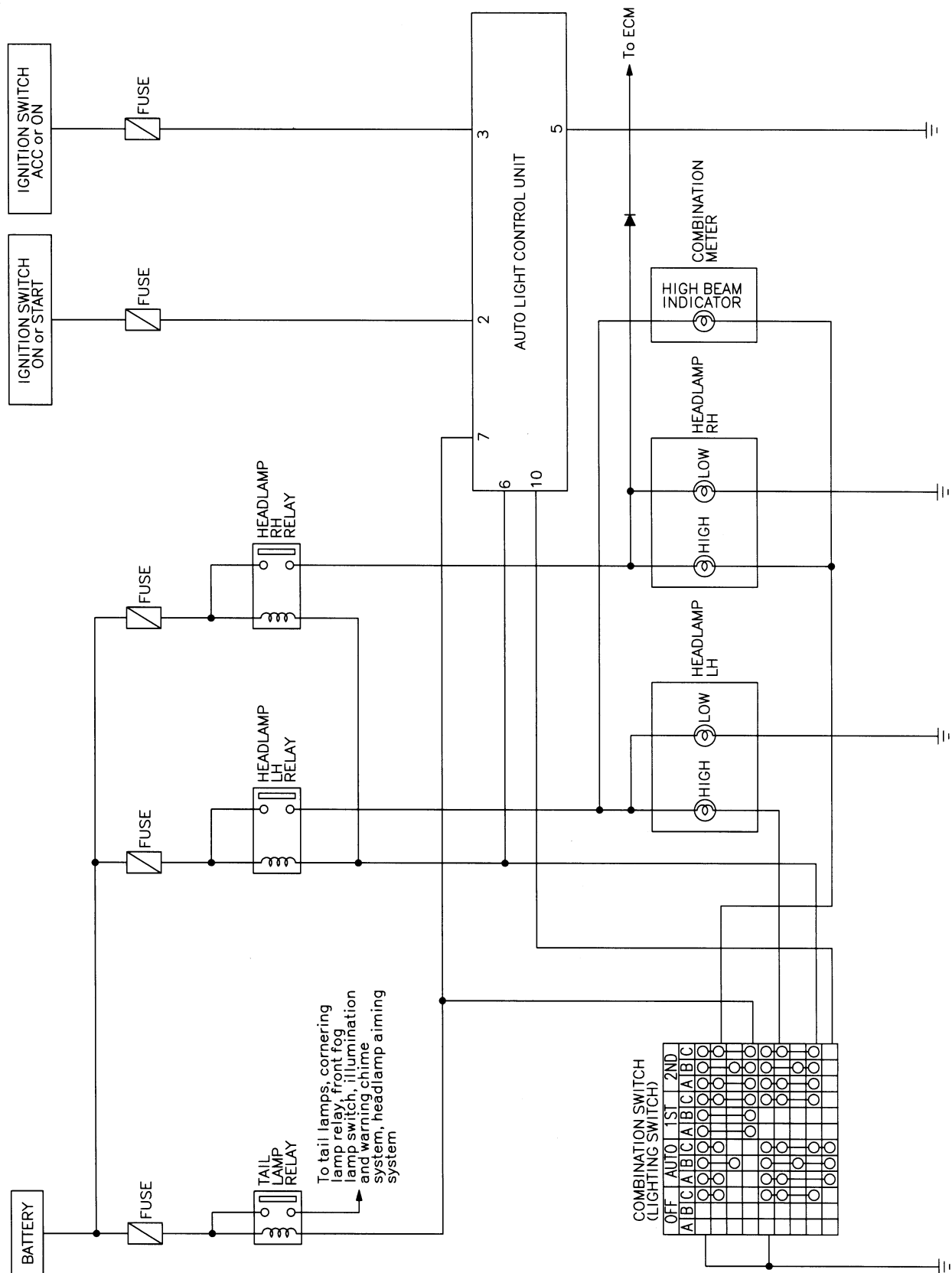
With power and ground supplied, the high beams, the low beams and the high beam indicator illuminate.

Schematic

WITH AUTO LIGHT

NFEL0199

NFEL0199S01



MEL915M

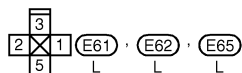
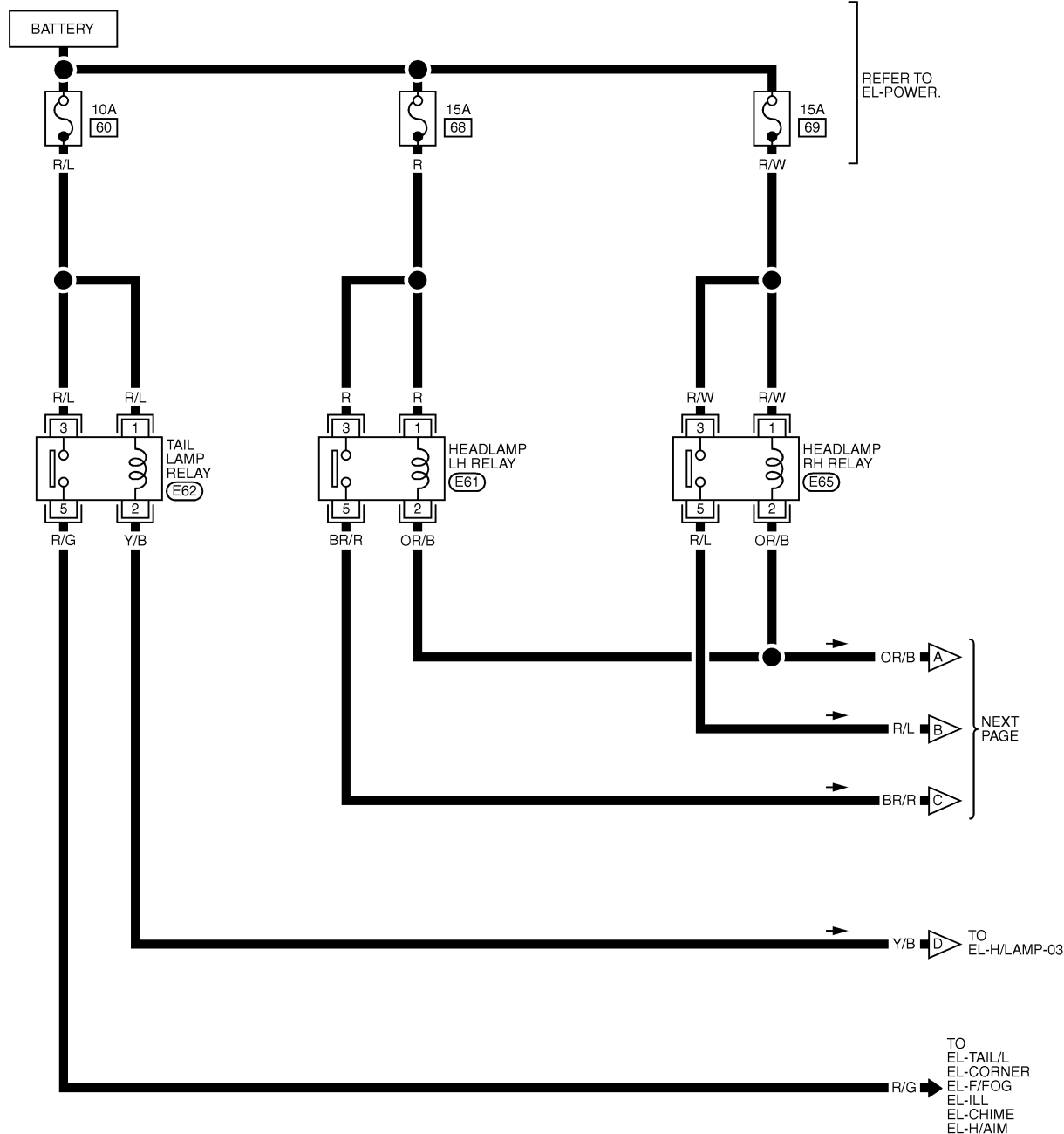
Wiring Diagram — H/LAMP —

NFEL0013

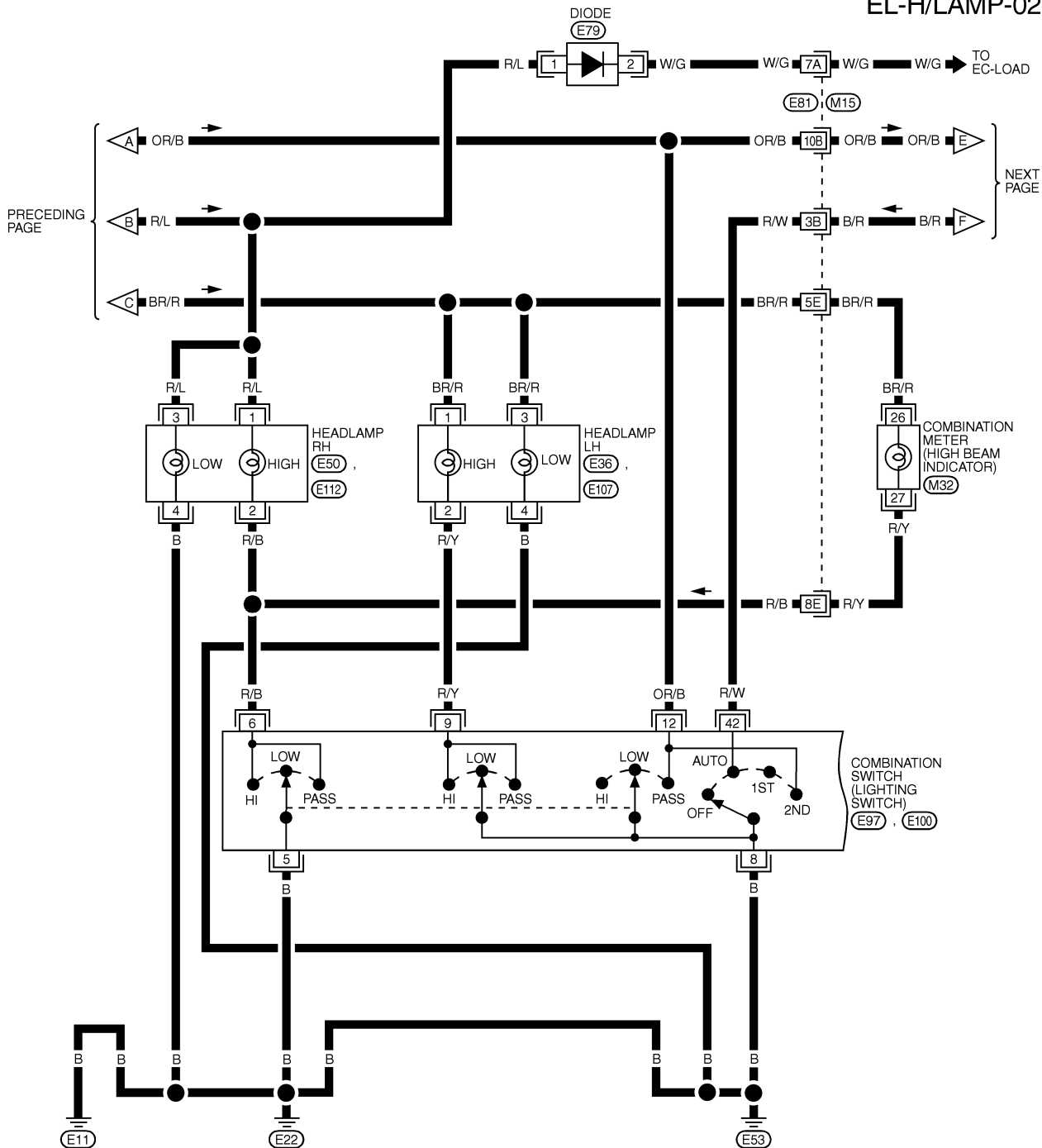
NFEL0013S01

EL-H/LAMP-01

REFER TO
EL-POWER.



EL-H/LAMP-02



25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 M32 BR

1 2 E36 B E50 B 3 4 E107 BR E112 BR

1 2 E79 W

11 1 2 E97 W 3 42 8 10 9

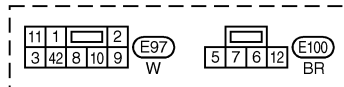
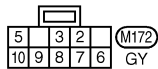
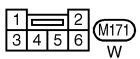
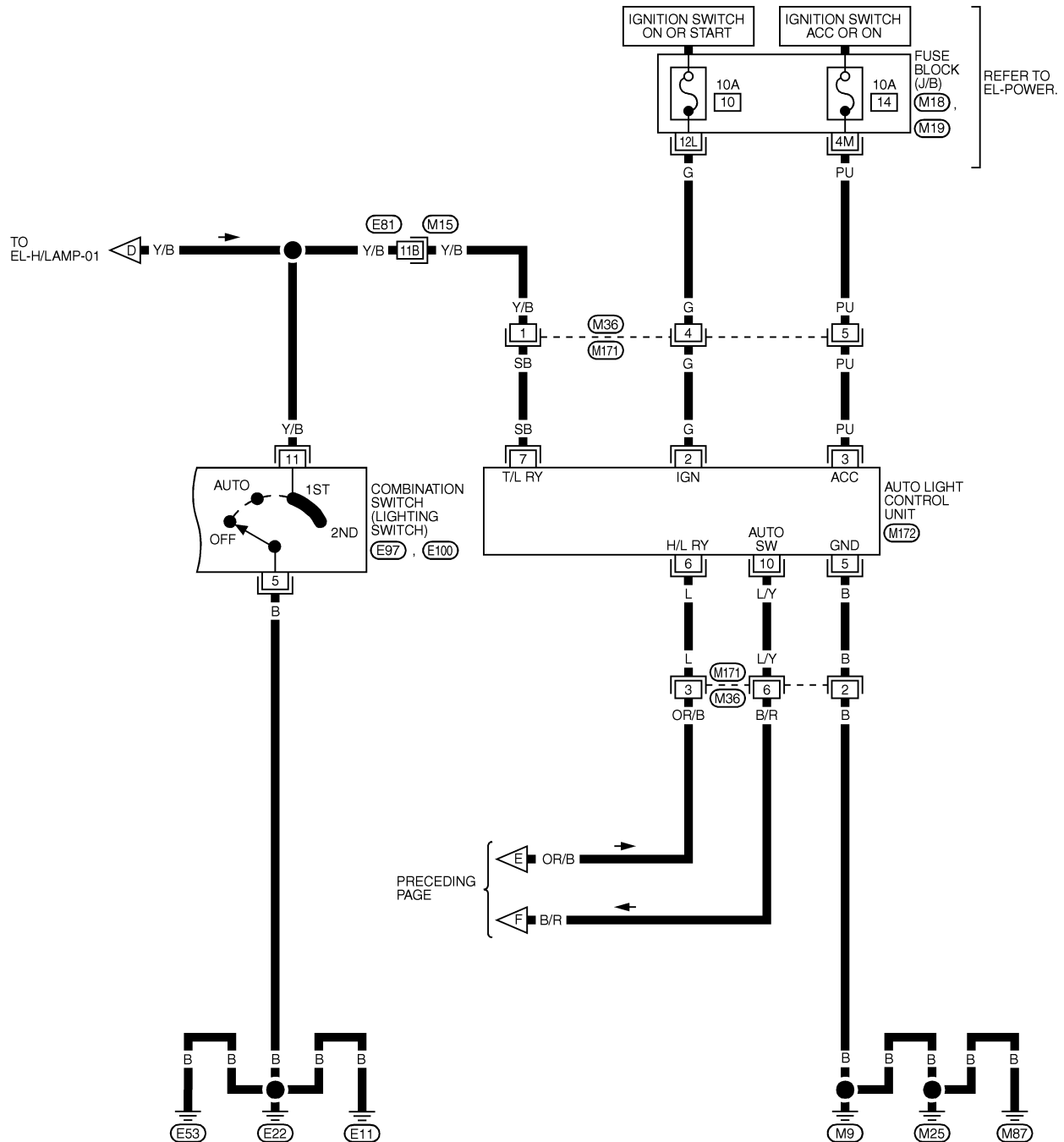
5 7 6 12 E100 BR

REFER TO THE FOLLOWING.

M15 -SUPER
MULTIPLE JUNCTION (SMJ)

MEL7540

EL-H/LAMP-03



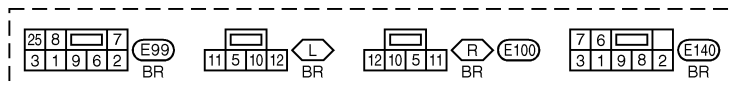
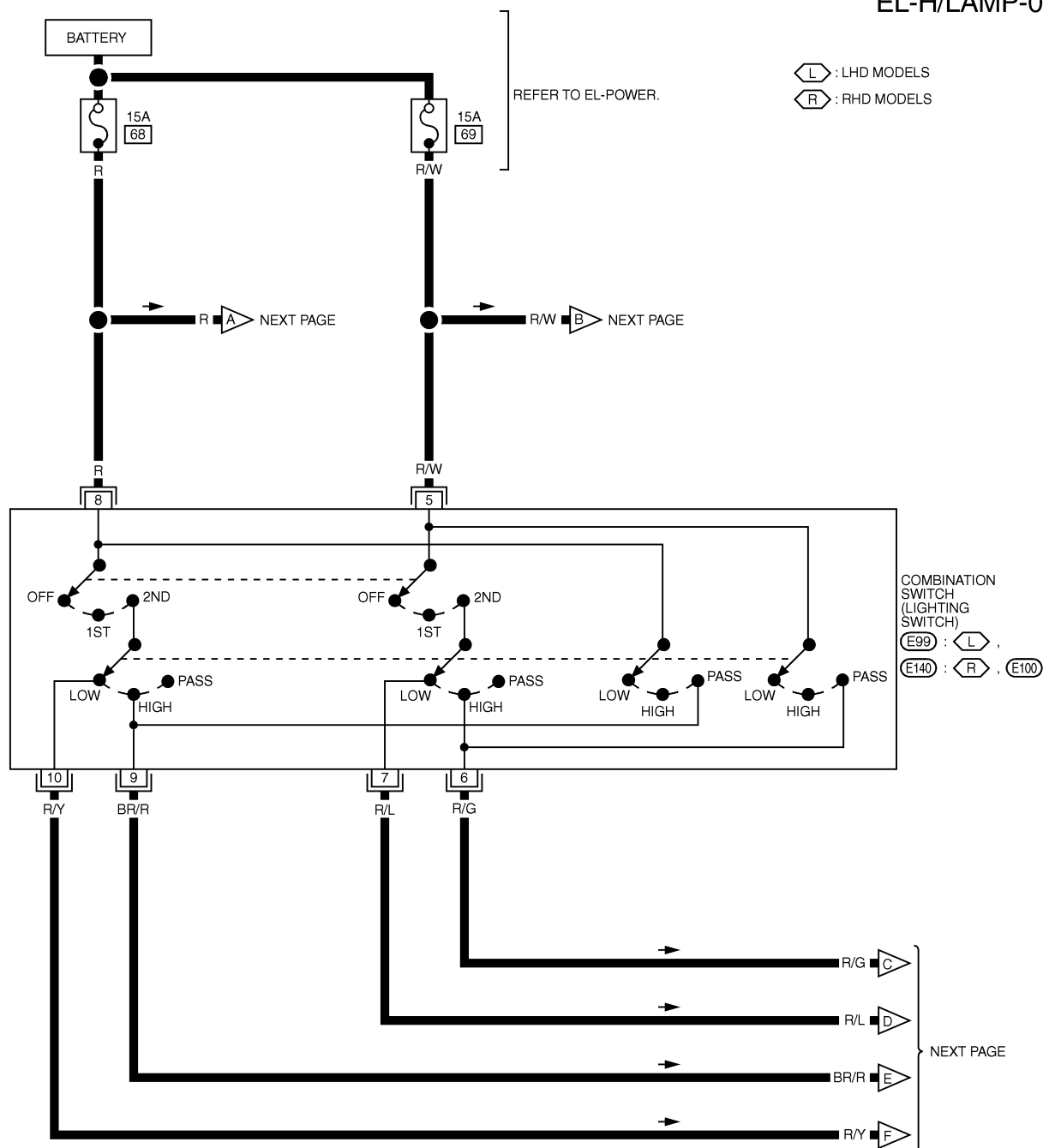
REFER TO THE FOLLOWING.

- M15 -SUPER
- MULTIPLE JUNCTION (SMJ)
- M18, M19 -FUSE BLOCK-JUNCTION BOX (J/B)

WITHOUT AUTO LIGHT

NFEL0013S02

EL-H/LAMP-04



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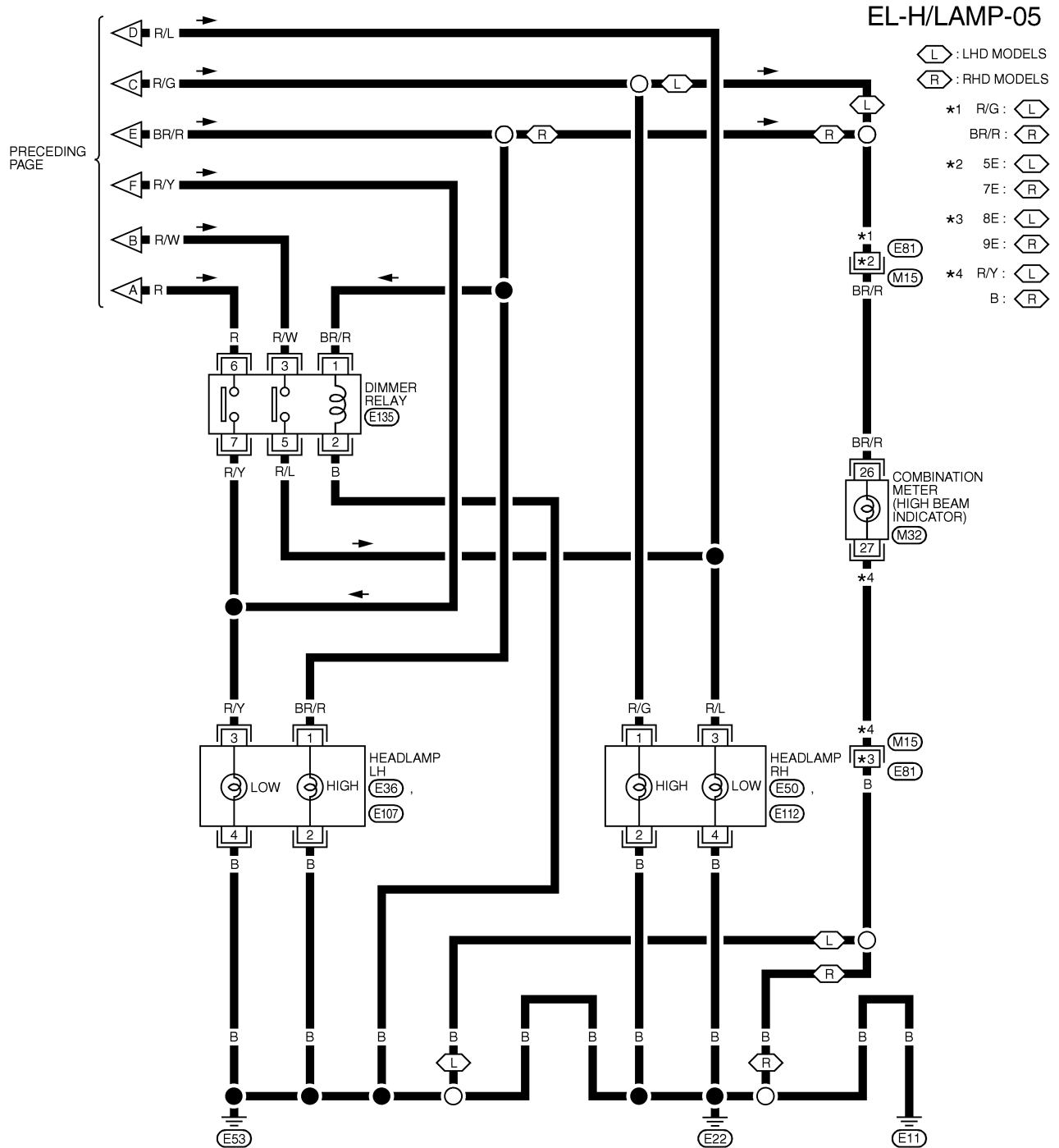
BT

HA

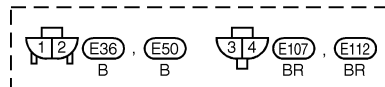
SC

EL

IDX



25	26	27	28	29	30	31	32	33	M32 BR
34	35	36	37	38	39	40	41	42	



1		2	E135 BR
5	7		
3	6		

REFER TO THE FOLLOWING.

M15 -SUPER
MULTIPLE JUNCTION (SMJ)

Trouble Diagnoses

NFEL0202

Symptom	Possible cause	Repair order
Neither headlamp operates.	1. Lighting switch 2. Lighting switch ground circuit (with auto light)	1. Check Lighting switch. 2. Check lighting switch ground circuit.
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	1. 15A fuse 2. Headlamp LH relay (with auto light) 3. Headlamp LH relay circuit (with auto light) 4. Lighting switch	1. Check 15A fuse (No. 68, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp LH relay (with auto light) or lighting switch terminal 8 (without auto light). 2. Check headlamp LH relay. 3. Check harness between headlamp LH relay and headlamp LH. 4. Check lighting switch.
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	1. 15A fuse 2. Headlamp RH relay (with auto light) 3. Headlamp RH relay circuit (with auto light) 4. Lighting switch	1. Check 15A fuse (No. 69, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp RH relay (with auto light) or lighting switch terminal 5 (without auto light). 2. Check headlamp RH relay. 3. Check harness between headlamp RH relay and headlamp RH. 4. Check lighting switch.
LH high beam does not operate, but LH low beam does operate.	1. Bulb 2. Open in LH high beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
LH low beam does not operate, but LH high beam does operate.	1. Bulb 2. Open in LH low beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
RH high beam does not operate, but RH low beam does operate.	1. Bulb 2. Open in RH high beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
RH low beam does not operate, but RH high beam does operate.	1. Bulb 2. Open in RH low beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
High beam indicator does not work.	1. Bulb 2. Ground circuit 3. Open in high beam circuit	1. Check bulb in combination meter. 2. Check harness between high beam indicator and ground. 3. Check the harness between headlamp LH relay (with auto light) or lighting switch (without auto light) and combination meter for an open circuit.

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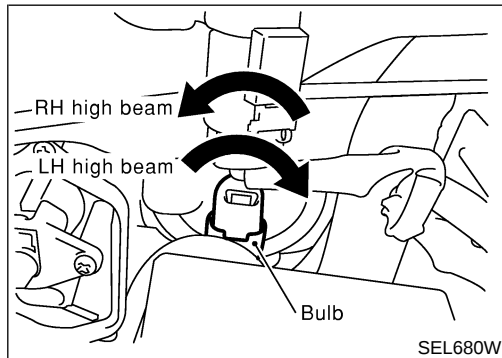
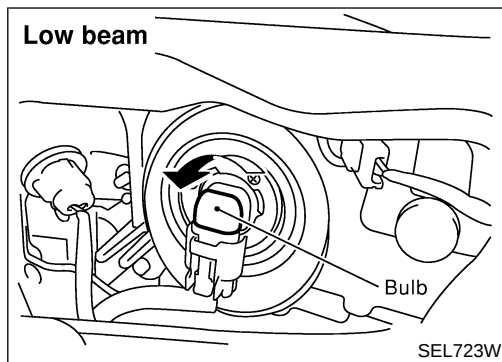
BT

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Bulb Replacement

NFEL0015

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

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

1. Disconnect the battery cable.
2. Disconnect the harness connector from the back side of the bulb.
3. Turn the bulb clockwise (LH high beam) or counterclockwise (LH, RH low beam and RH high beam)
4. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
5. Install in the reverse order of removal.

CAUTION:

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

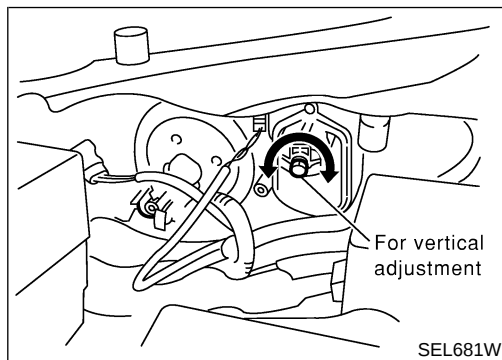
Aiming Adjustment

NFEL0016

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

Before performing aiming adjustment, check the following.

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



LOW BEAM

NFEL0016S02

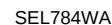
1. Turn headlamp low beam on.
 2. Use adjusting screws to perform aiming adjustment.
- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**



If the vehicle front body has been repaired and/or the headlamp assembly has been replaced, check aiming. Use the aiming chart shown in the figure.

- **Basic illuminating area for adjustment should be within the range shown on the aiming chart. Adjust headlamps accordingly.**

NEEL 0252



NFEL0253

NFFL 025.3.S0805

Low Beam Operation

NFEL0253S0802

When the lighting switch is turned to the 2ND position and placed in LOW ("B") position, power is supplied

- from terminal 7 of each headlamp relay
- to terminal 3 of each headlamp

Ground is supplied

- to headlamp LH terminal 4
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 4
- through body grounds E11, E22 and E53.

With power and ground supplied, the headlamp(s) will illuminate.

High Beam Operation/Flash-to-Pass Operation

NFEL0253S0803

When the lighting switch is turned to the 2ND position and placed in HIGH ("A") position or PASS ("C") position, power is supplied

- from terminal 5 of each headlamp relay
- to terminal 1 of each headlamp, and
- to combination meter terminal 26 for the HIGH BEAM indicator.

Ground is supplied

- to headlamp LH terminal 2
- through lighting switch terminals 8 and 9
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 2
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 5 and 6
- through body grounds E11, E22 and E53.

With power and ground supplied, the high beams and the high beam indicator illuminate.

Auto Light Operation

NFEL0253S0804

The auto light control unit has an optical sensor inside it that detects outside brightness.

When lighting switch is in "AUTO" position, ground is supplied

- to auto light control unit terminal 10
- from lighting switch terminal 42.

When ignition switch is turn to "ON" or "START" position and

- Outside brightness is darker than prescribed level or
- After 20 seconds delay, outside brightness becomes darker than prescribed level

Ground is supplied

- to headlamp relay LH and RH terminals 2
- from auto light control unit terminal 6, and
- to tail lamp relay terminal 2
- from auto light control unit terminal 7.

Then both headlamp relays and tail lamp relay are energized, headlamps (low or high) and tail lamps are illuminate according to switch position.

Auto light operation allows headlamps and tail lamps to go off when

- Ignition switch is turned to "OFF" position or
- Outside brightness is brighter than prescribed level or
- After 20 seconds delay, outside brightness becomes brighter than the prescribed level.

For parking license and tail lamp auto operation, refer to "PARKING, LICENSE AND TAIL LAMPS".

WITHOUT AUTO LIGHT

NFEL0253S09

Power is supplied at all times

- to lighting switch terminal 8
- through 15A fuse (No. 68, located in the fuse and fusible link box),
- to lighting switch terminal 5
- through 15A fuse (No. 69, located in the fuse and fusible link box),

- to headlamp relay LH terminal 3
- through 20A fuse (No. 54, located in the fuse and fusible link box), and
- to headlamp relay RH terminal 3
- through 20A fuse (No. 55, located in the fuse and fusible link box).

Low Beam Operation

When the lighting switch is turned to the 2ND position and placed in LOW ("B") position, power is supplied NFEL0253S0901

- from lighting switch terminal 10
- to terminal 1 of the headlamp relay LH, and
- from lighting switch terminal 7
- to terminal 1 of the headlamp relay RH.

Ground is supplied through body grounds E11, E22 and E53.

Then headlamp relays are energized and power is supplied to terminal 3 of each headlamp.

Terminal 4 of each headlamp supplies ground through body grounds E11, E22 and E53.

With power and ground supplied, the low beams will illuminate.

High Beam Operation/Flash-to-Pass Operation

When the lighting switch is turned to the 2ND position and placed in HIGH ("A") position or PASS ("C") position, power is supplied NFEL0253S0902

- from lighting switch terminal 6
- to terminal 1 of the headlamp RH
- to terminal 1 of headlamp relay RH,
- to combination meter terminal 26 for the high beam indicator (LHD models), and
- from lighting switch terminal 9
- to terminal 1 of the headlamp LH
- to terminal 1 of headlamp relay LH, and
- to combination meter terminal 26 for the high beam indicator (RHD models).

Ground is supplied through body grounds E11, E22 and E53.

Then headlamp relays are energized and power is supplied to terminal 3 of each headlamp.

Ground is supplied to terminal 27 of the combination meter through body grounds E11, E22 and E53.

Terminals 2 and 4 of each headlamp supply ground through body grounds E11, E22 and E53.

With power and ground supplied, the high beams, low beams and the high beam indicator illuminate.

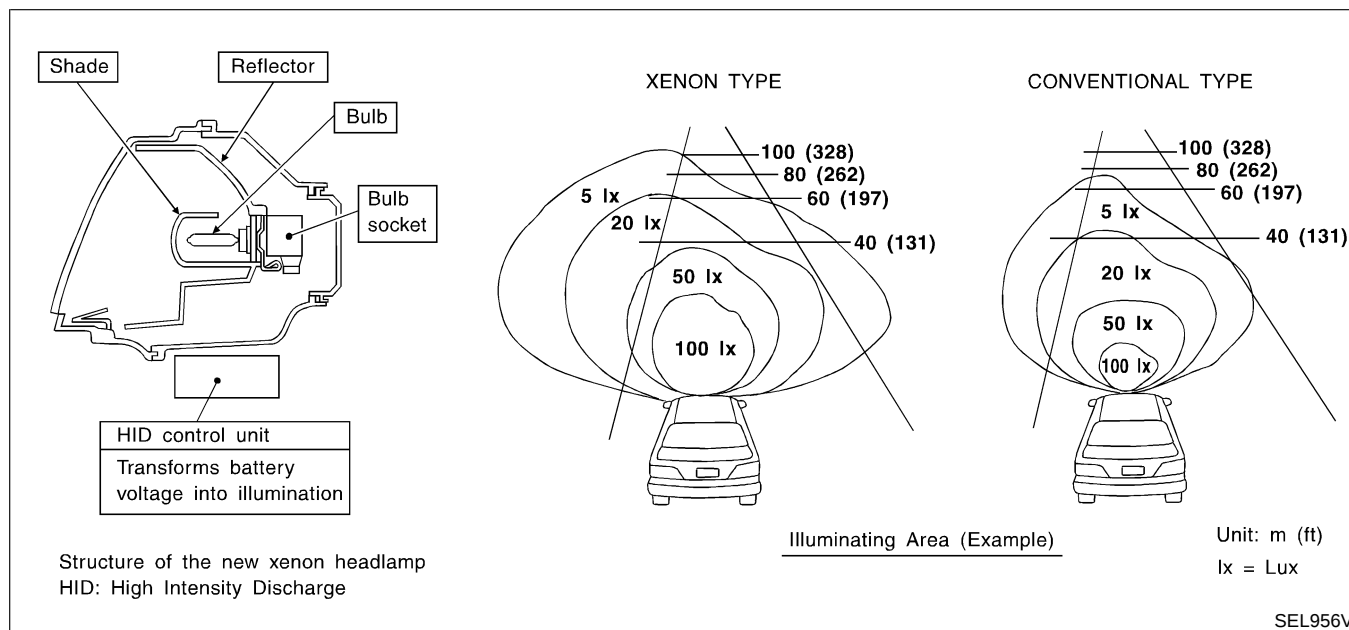
=NFEL0253S0904

XENON HEADLAMP

Xenon type headlamp is adopted to the low beam headlamps. Xenon bulbs do not use a filament. Instead, they produce light when a high voltage current is passed between two tungsten electrodes through a mixture of xenon (an inert gas) and certain other metal halides. In addition to added lighting power, electronic control of the power supply gives the headlamps stable quality and tone color.

Following are some of the many advantage of the xenon type headlamp.

- The light produced by the headlamps is white color approximating sunlight that is easy on the eyes.
- Light output is nearly double that of halogen headlamps, affording increased area of illumination.
- The light features a high relative spectral distribution at wavelengths to the human eye is most sensitive, which means that even in the rain, more light is reflected back from the road surface toward the vehicle, for added visibility.
- Power consumption is approximately 25 percent less than halogen headlamps, reducing battery load.

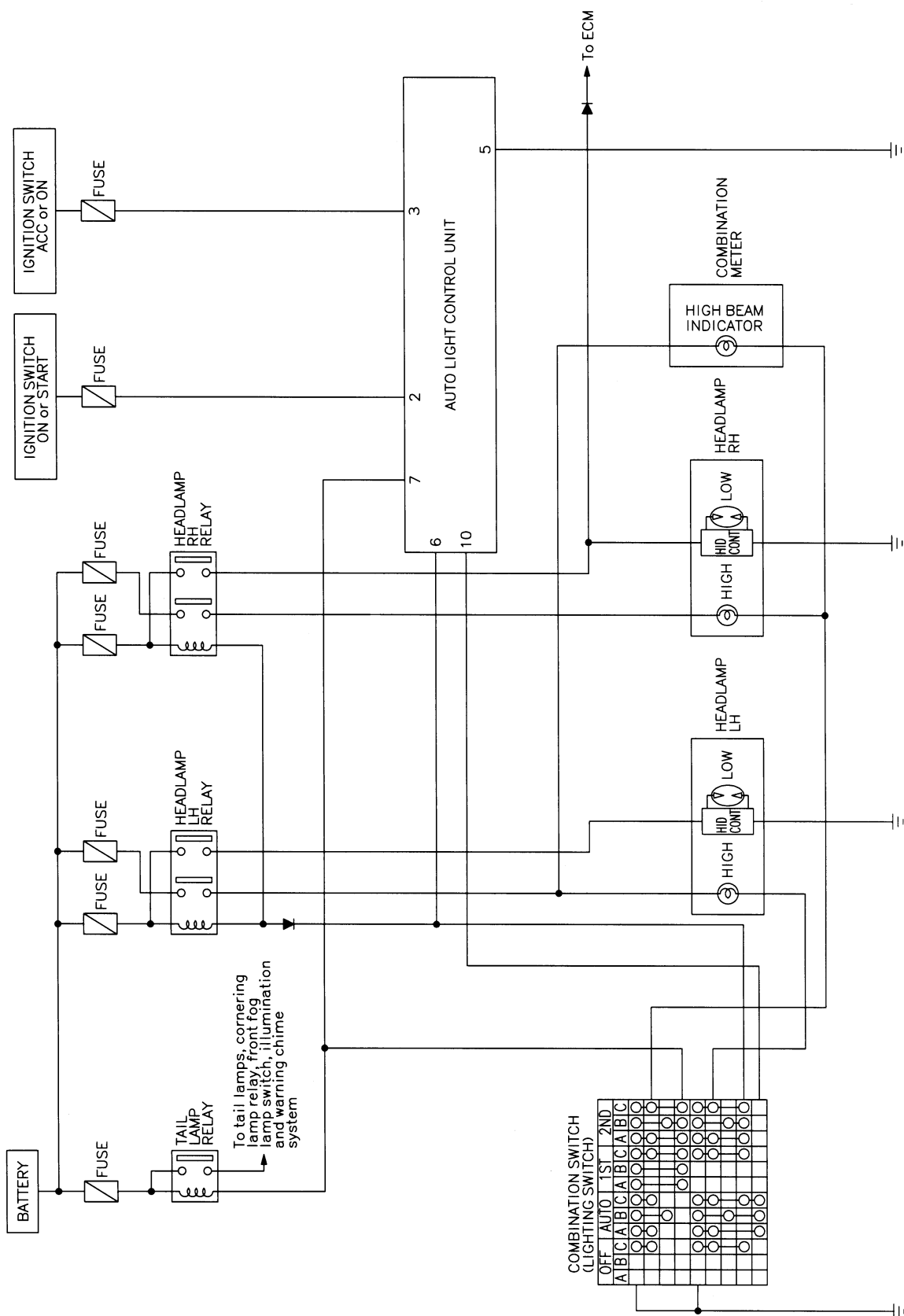


Schematic

WITH AUTO LIGHT

NFEL0254

NFEL0254S01



MEL916M

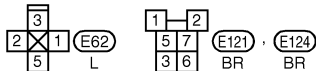
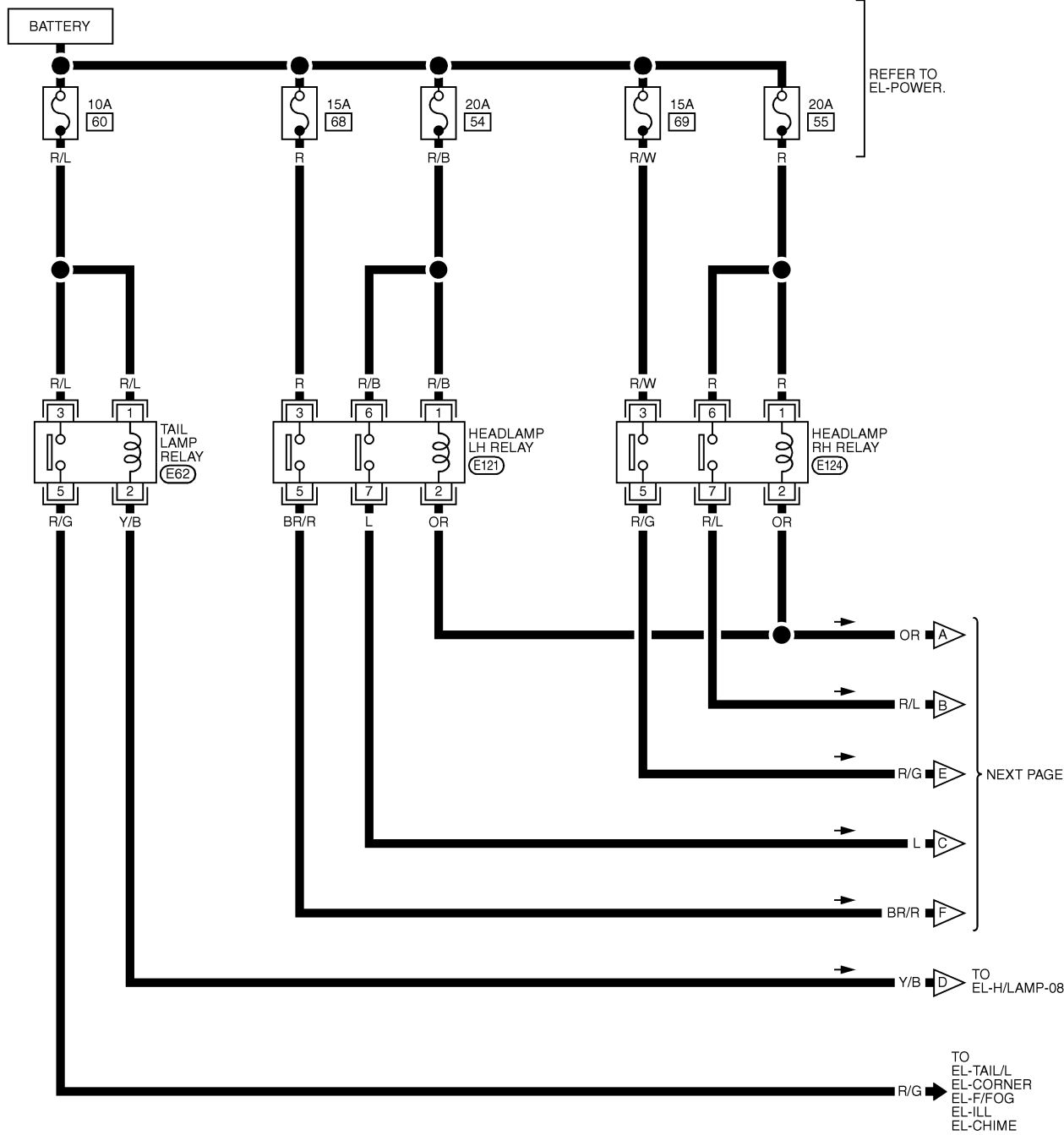
Wiring Diagram — H/LAMP —

WITH AUTO LIGHT

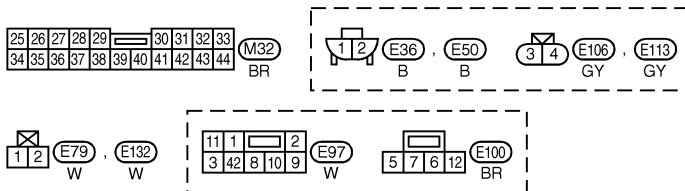
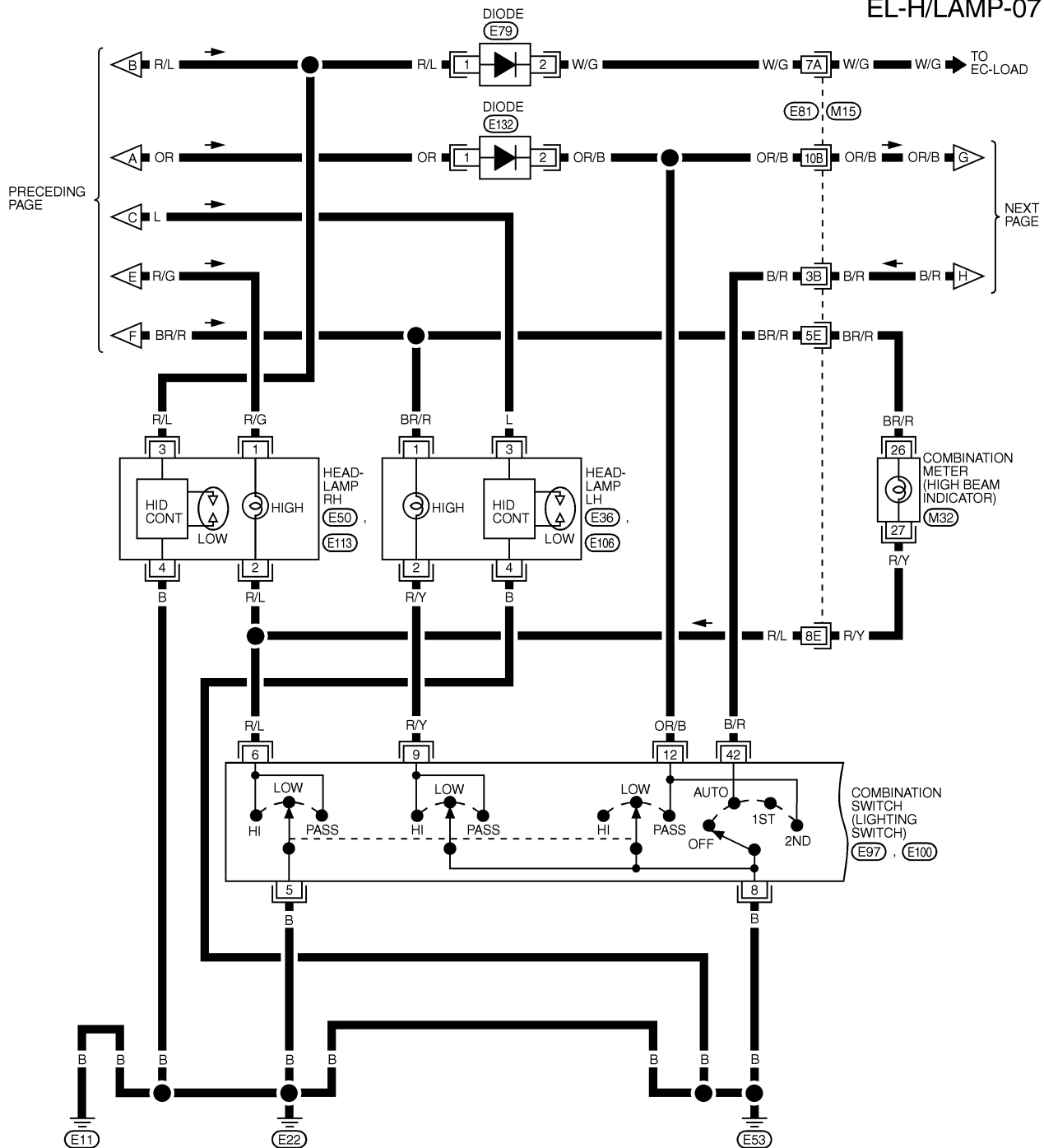
NFEL0255

NFEL0255S01

EL-H/LAMP-06



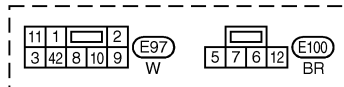
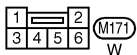
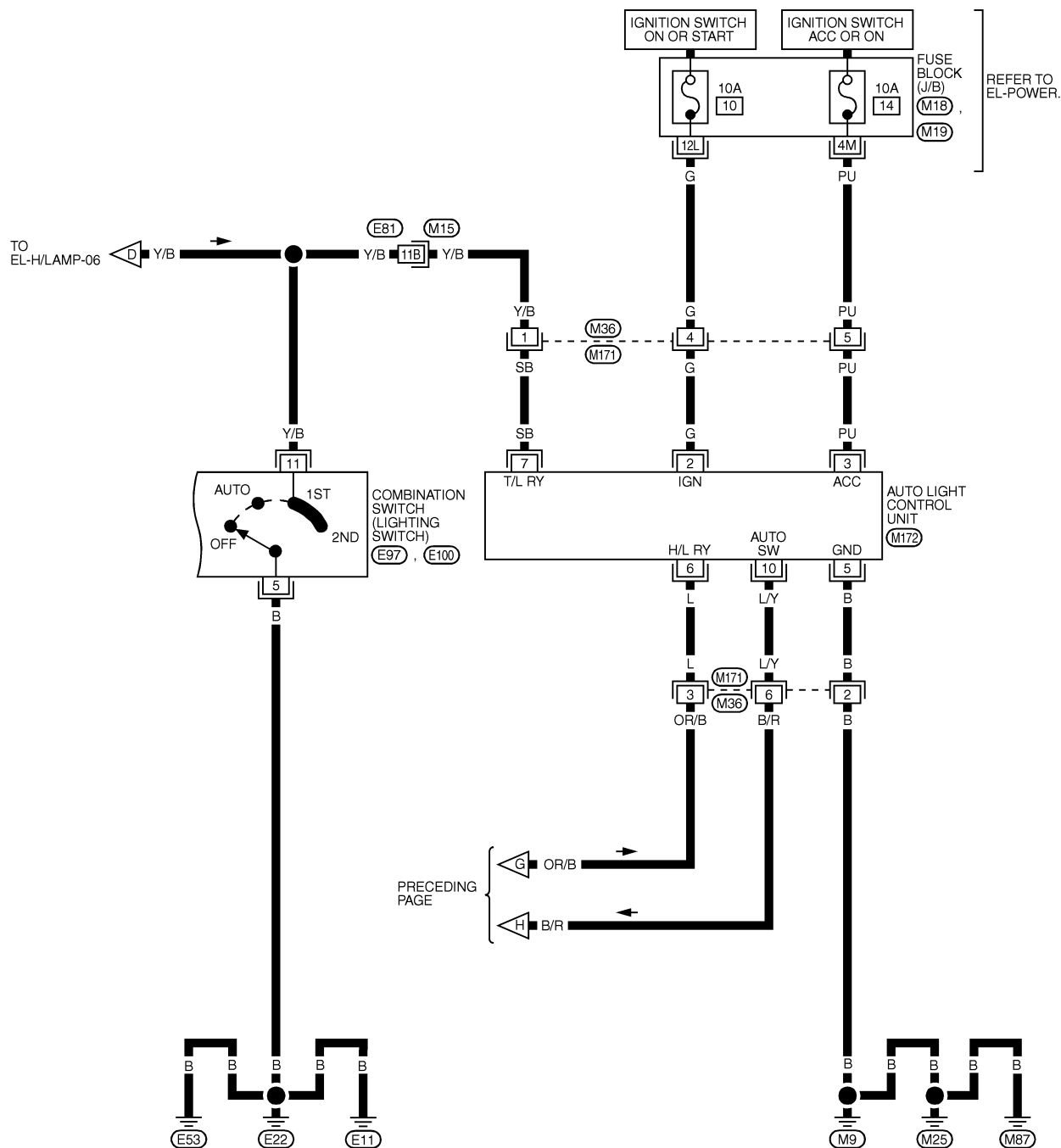
EL-H/LAMP-07



REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL757O

EL-H/LAMP-08



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M18), (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

EL

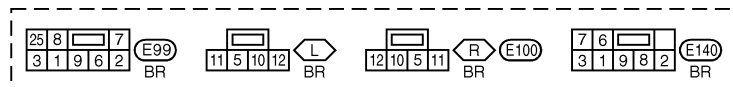
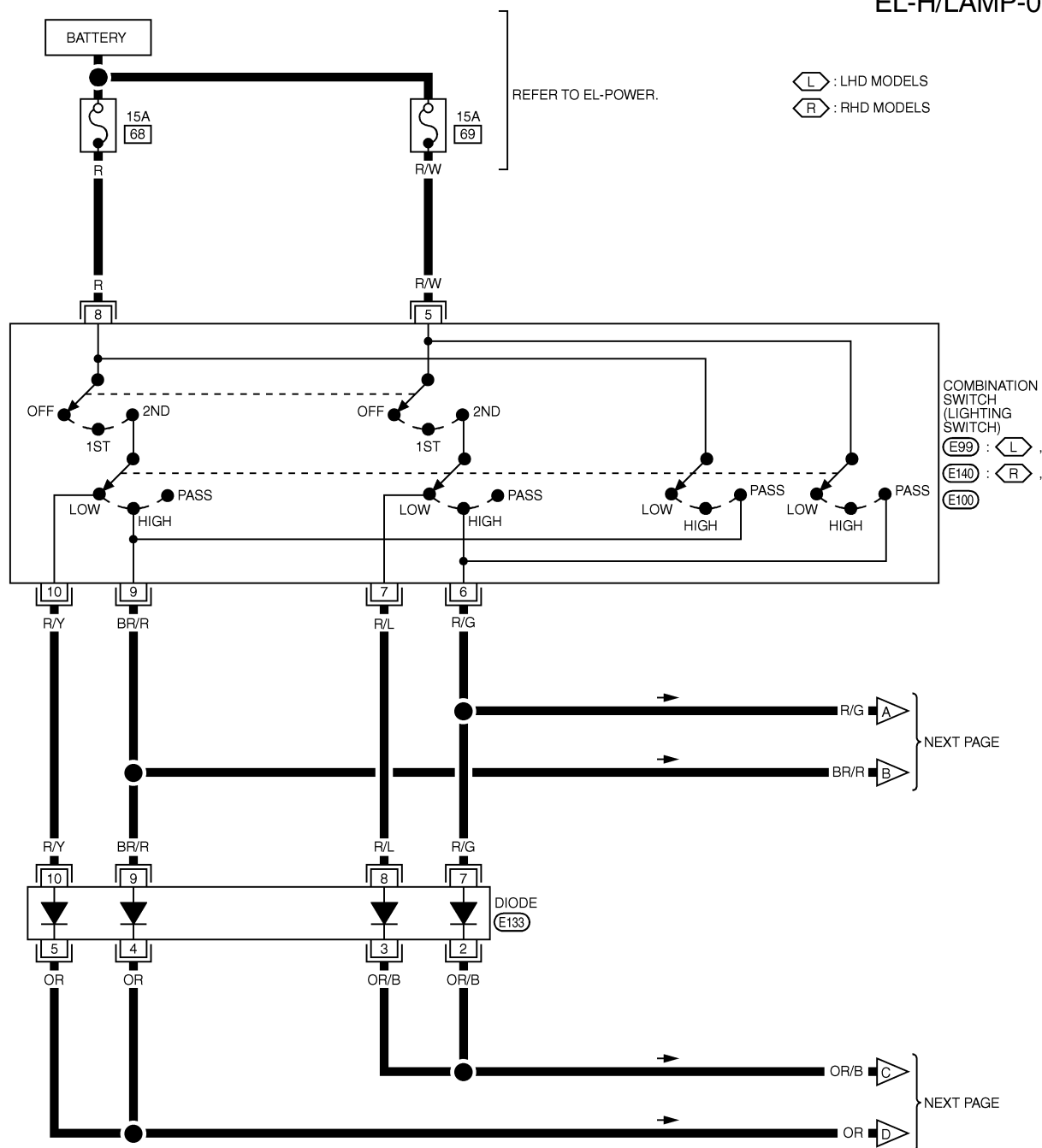
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MEL753K

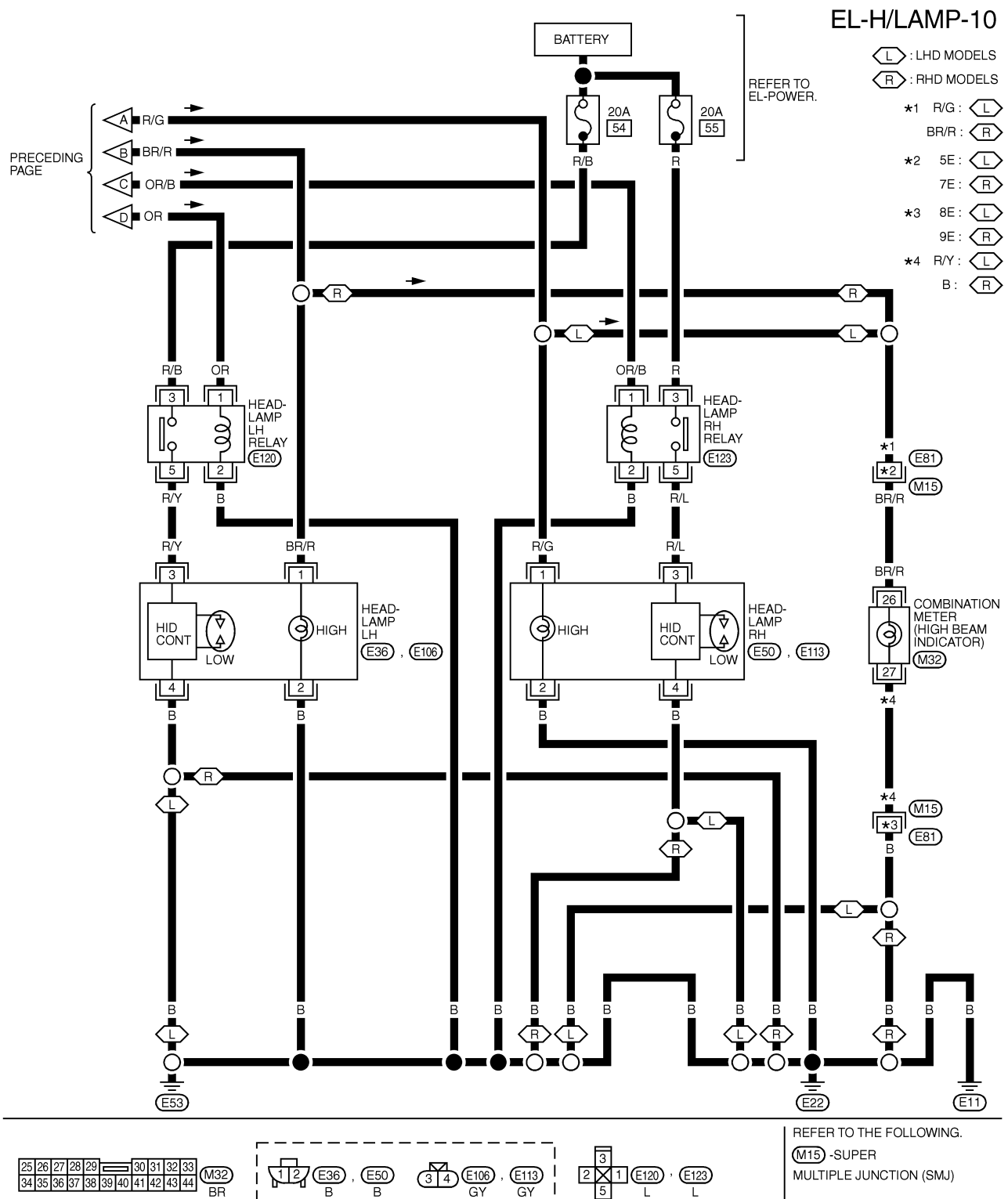
WITHOUT AUTO LIGHT

NFEL0255S02

EL-H/LAMP-09



MEL7580



REFER TO THE FOLLOWING.
(M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL759O

Trouble Diagnoses

NFEL0258

WARNING:

- The xenon headlamp has a high-tension current generating area. Be extremely careful when removing and installing. Be certain to disconnect the battery negative cable prior to removing or installing.
- When the xenon headlamp is lit, do not touch the harness (covered with red or amber insulation), bulb itself or the bulb socket with your bare hands.
- Never service a xenon headlamp with wet hands.
- When checking body side harness with a circuit tester, be certain to disconnect the harness connector from the xenon headlamp.
- When the xenon headlamp is lit, the xenon bulb must be installed in the headlamp housing. (Never turn on xenon headlamp, if the bulb is out of the headlamp housing.)

CAUTION:

Make sure to install the bulb securely; if the xenon bulb is improperly installed in its socket, high-tension current leaks occur. This may lead to a melted bulb and/or bulb socket.

Symptom	Possible cause	Repair order
Neither headlamp operates.	1. Lighting switch 2. Lighting switch ground circuit (with auto light)	1. Check Lighting switch. 2. Check lighting switch ground circuit.
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	1. 15A (without auto light) or 20A (with auto light) fuse 2. Headlamp LH relay (with auto light) 3. Lightning switch	1. Check the following. a. Check 15A fuse (No. 68, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 8 of lighting switch. b. Check 20A fuse (No. 54, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 1 and 6 of headlamp LH relay 2. Check headlamp LH relay. 3. Check lighting switch.
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	1. 15A (without auto light) or 20A (with auto light) fuse 2. Headlamp RH relay (with auto light) 3. Lighting switch	1. Check the following. a. Check 15A fuse (No. 69, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 5 of lighting switch. b. Check 20A fuse (No. 55, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 6 of headlamp RH relay. 2. Check headlamp RH relay. 3. Check lighting switch.
LH high beam does not operate, but LH low beam operates.	1. Bulb 2. 15A fuse (with auto light) 3. Headlamp LH relay (with auto light) 4. Open in the LH high beams circuit 5. Lighting switch 6. Lighting switch ground circuit	1. Check bulb. 2. Check 15A fuse (No. 68, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 3 of headlamp LH relay. 3. Check headlamp LH relay. 4. Check harness between headlamp relay LH terminal 5 (with auto light) or lighting switch terminal 9 (without auto light) and LH headlamp for open circuit. 5. Check lighting switch. 6. Check harness between lighting switch and ground.
LH low beam does not operate, but LH high beam operates.	1. Headlamp relay LH 2. Open in the LH low beam circuit 3. LH low beam ground circuit 4. Xenon bulb 5. HID control unit 6. Booster	1. Check headlamp relay LH. 2. Check harness between headlamp relay LH terminal 7 (with auto light) or terminal 5 (without auto light) and LH headlamp for open circuit. 3. Check harness between LH headlamp and ground. 4. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 5. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the control unit.) 6. Replace booster as a headlamp assembly.

Symptom	Possible cause	Repair order	
RH high beam does not operate, but RH low beam operates.	1. Bulb 2. 15A fuse (with auto light) 3. Headlamp RH relay (with auto light) 4. Open in the RH high beams circuit 5. Lighting switch 6. Lighting switch ground circuit	1. Check bulb. 2. Check 15A fuse (No. 69, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 3 of headlamp RH relay. 3. Check headlamp RH relay. 4. Check harness between headlamp relay RH terminal 5 (with auto light) or lighting switch terminal 6 (without auto light) and RH headlamp for open circuit. 5. Check lighting switch. 6. Check harness between lighting switch and ground.	GI MA EM LC
RH low beam does not operate, but RH high beam operates.	1. Headlamp relay RH 2. Open in the RH low beam circuit 3. RH low beam ground circuit 4. Xenon bulb 5. HID control unit 6. Booster	1. Check headlamp relay RH. 2. Check harness between headlamp relay RH terminal 7 (with auto light) or terminal 5 (without auto light) and RH headlamp for open circuit. 3. Check harness between RH headlamp and ground. 4. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 5. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the control unit.) 6. Replace booster as a headlamp assembly.	EC FE CL MT
High beam indicator does not work.	1. Bulb 2. Ground circuit 3. Open in high beam circuit	1. Check bulb in combination meter. 2. Check harness between high beam indicator and ground. 3. Check the harness between headlamp LH relay (with auto light) or lighting switch (without auto light) and combination meter for an open circuit.	AT AX

SU

BR

Bulb Replacement/Xenon Type

NFEL0259

CAUTION:

- After replacing a new xenon bulb, be sure to make aiming adjustments.
- Hold only the plastic base when handling the bulb. Never touch the glass envelope.
- Do not leave headlamp reflector without bulb for a long period of time. Dust, moisture, smoke, etc. entering headlamp body may affect the performance of the headlamp. Remove headlamp bulb from the headlamp reflector just before a replacement bulb is installed.

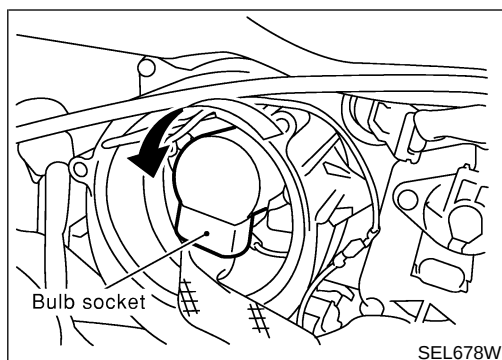
1. Disconnect negative battery cable.
2. Disconnect headlamp connector.
3. Remove headlamp assembly.

WARNING:

Never service a xenon headlamp without disconnecting negative battery cable and with wet hands.

EL

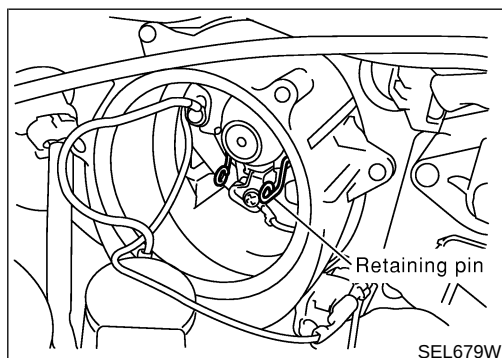
IDX



XENON BULB (LOW BEAM)

1. Remove headlamp seal cover by turning it counterclockwise.
2. Turn bulb socket counterclockwise with keep pushing, then remove it.

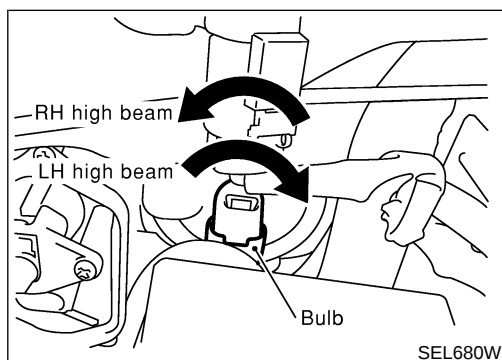
NFEL0259S01



3. Release retaining pin.
4. Remove the xenon bulb.
5. Install in the reverse order of removal.

CAUTION:

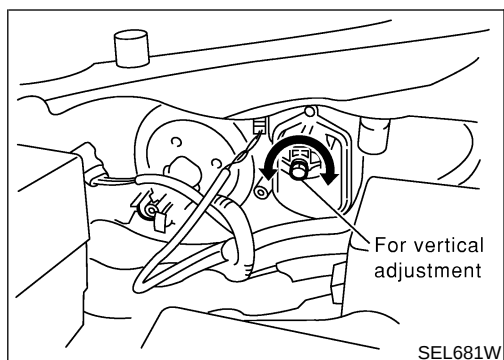
- When disposing of the xenon bulb, do not break it; always dispose of it as is.
- Make sure to install the bulb securely; if the xenon bulb is improperly installed in its socket, high-tension current leaks occur. This may lead to a melted bulb and/or bulb socket.



HIGH BEAM

1. Turn the bulb clockwise (LH high beam) or counterclockwise (RH high beam).
2. Remove the bulb.
3. Install in the reverse order of removal.

NFEL0259S02



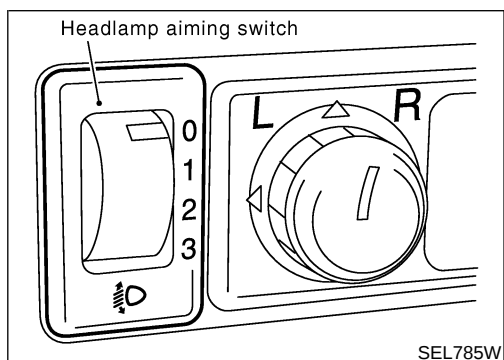
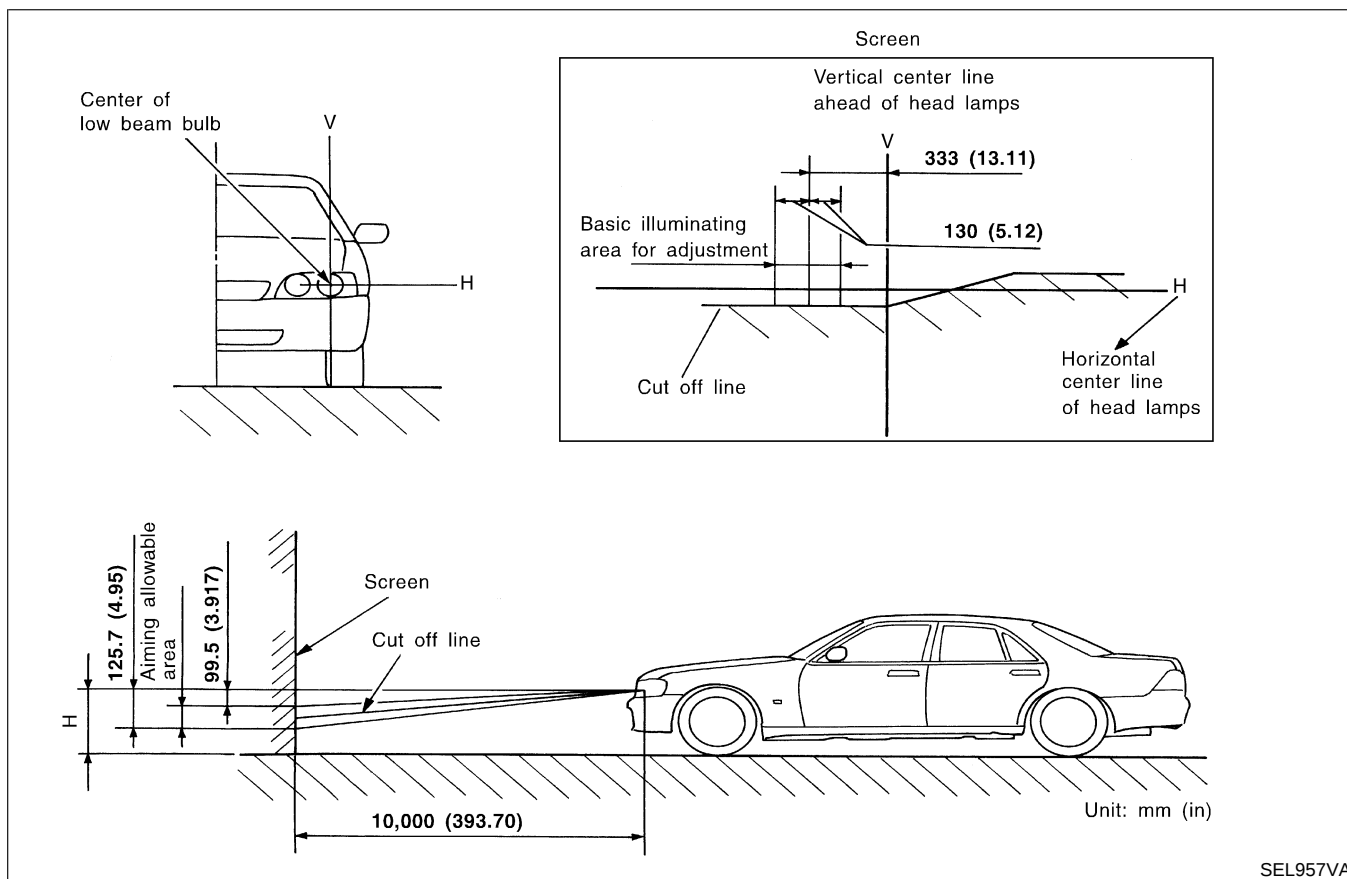
Aiming Adjustment/Xenon Type

=NFEL0260

LOW BEAM

NFEL0260S01

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



CAUTION:

- Be sure aiming switch is set to "0" when performing aiming adjustment. (Without auto aiming)
- When adjusting aim, confirm that heavy luggage, which may change the vehicle height, is not loaded inside the vehicle. (With auto aiming)

System Description

NFEL0314

NFEL0314S01

WITHOUT AUTO AIMING SYSTEM

The headlamp aiming operation is controlled by the headlamp aiming switch.

With auto light

Power is supplied at all times.

- through 10A fuse (No. 60, located in fuse and fusible link box)
- to tail lamp relay terminal 1 and 3.

When lighting switch is in 1ST or 2ND position, ground is supplied

- to tail lamp relay terminal 2.
- through lighting switch and body grounds E11, E22 and E53, and then tail lamp relay is energized and power is supplied
- from tail lamp relay terminal 5
- to terminal 3 of each headlamp aiming motor.

Ground is supplied

- to terminal 1 of each headlamp aiming motor
- through body grounds E11, E22 and E53,
- to terminal 2 of each headlamp aiming motor
- through headlamp aiming switch and body grounds M9, M25 and M87.

With power and ground supplied, headlamp aiming motors operate according to the aiming switch position.

Without auto light

Power is supplied at all times.

- through 10A fuse (No. 60, located in fuse and fusible link box)
- to lighting switch terminal 11.

When lighting switch is in 1ST or 2ND position, power is supplied

- through lighting switch terminal 12
- to terminal 3 of each headlamp aiming motor.

Ground is supplied

- to terminal 1 of each headlamp aiming motor
- through body grounds E11, E22 and E53,
- to terminal 2 of each headlamp aiming motor
- through headlamp aiming switch and body grounds M9, M25 and M87.

With power and ground supplied, headlamp aiming motors operate according to the aiming switch position.

WITH AUTO AIMING SYSTEM

NFEL0314S02

Auto aiming system is controlled by the headlamp aiming control unit. When the lighting switch is in 1ST or 2ND position, the headlamp aiming control unit receives the vehicle height signal from height sensors located on the rear suspension member. Then the headlamp aiming control unit detects the vehicle posture based on height signal and adjusts the headlamp aiming automatically.

Power is supplied at all times.

- through 10A fuse (No. 60, located in fuse and fusible link box)
- to lighting switch terminal 11.

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

- through 10A fuse [No. 10, located in fuse block (J/B)]
- to headlamp aiming control unit terminal 1.

Ground is supplied

- to headlamp aiming control unit terminal 14.
- through body grounds M9, M25 and M87.

When lighting switch is in 1ST or 2ND position, power is supplied

- through lighting switch terminal 12
- to terminal 3 of each headlamp aiming motor and
- to terminal 4 of headlamp aiming control unit

With headlamp aiming switch is in AUTO position, power is supplied

- through terminal 11 of headlamp aiming control unit

- to terminal 3 of each height sensor.
- Ground is supplied
- to terminal 1 of each headlamp aiming motor
- through terminal 5 of headlamp aiming control unit
- to terminal 2 of each headlamp aiming motor
- through headlamp aiming control unit terminal 3.

With power and ground supplied, headlamp aiming motors are operated according to the signal from height sensors.

GI
MA
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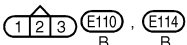
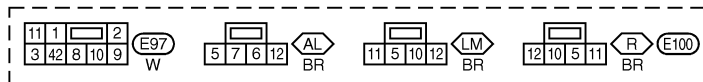
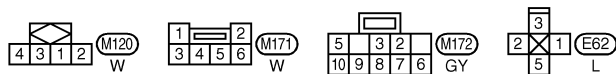
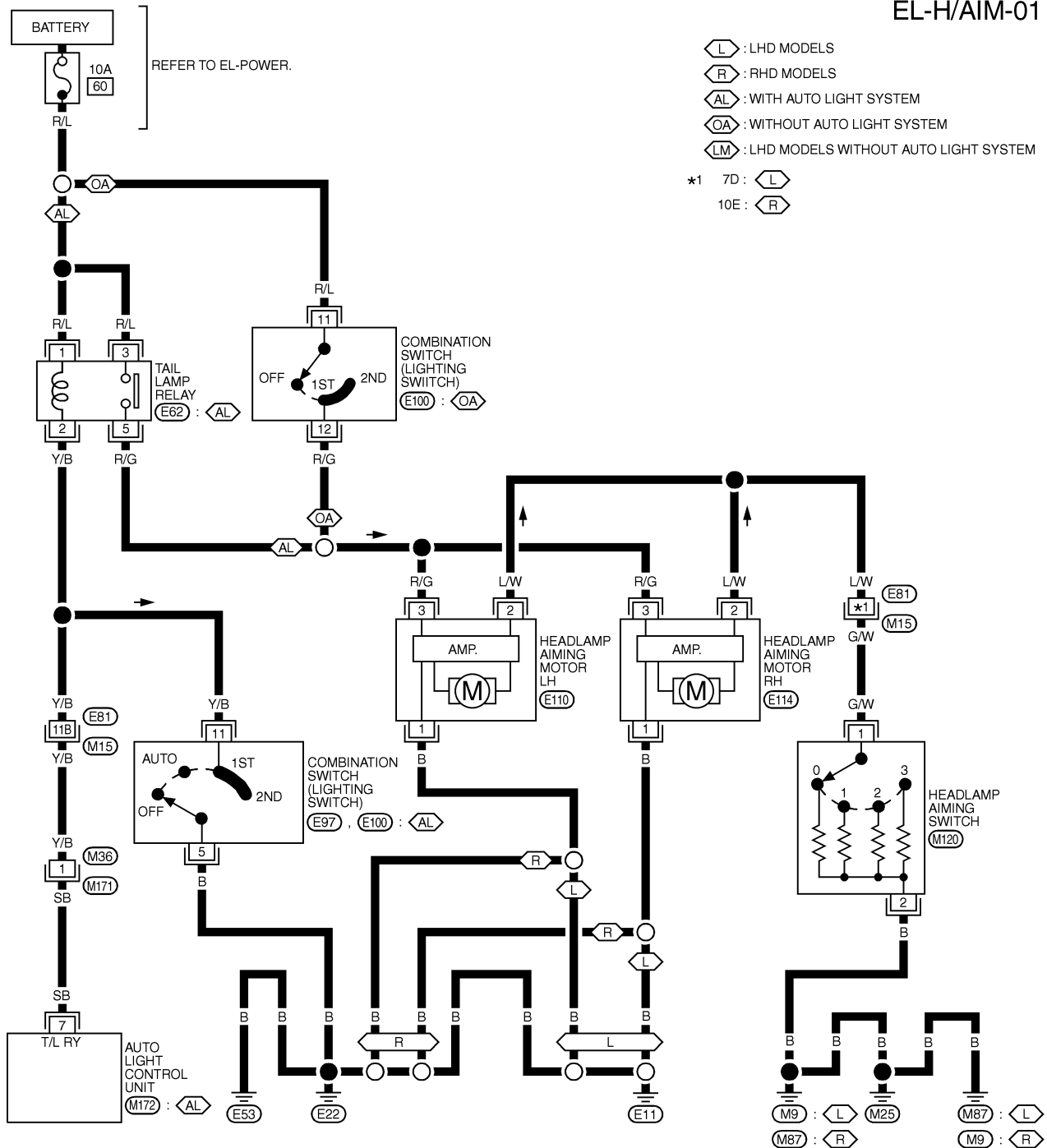
Wiring Diagram — H/AIM —

NFEL0293

NFEL0293S01

WITHOUT AUTO AIMING

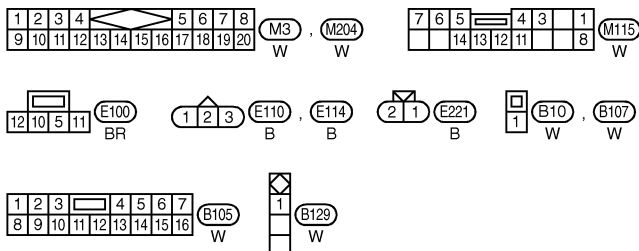
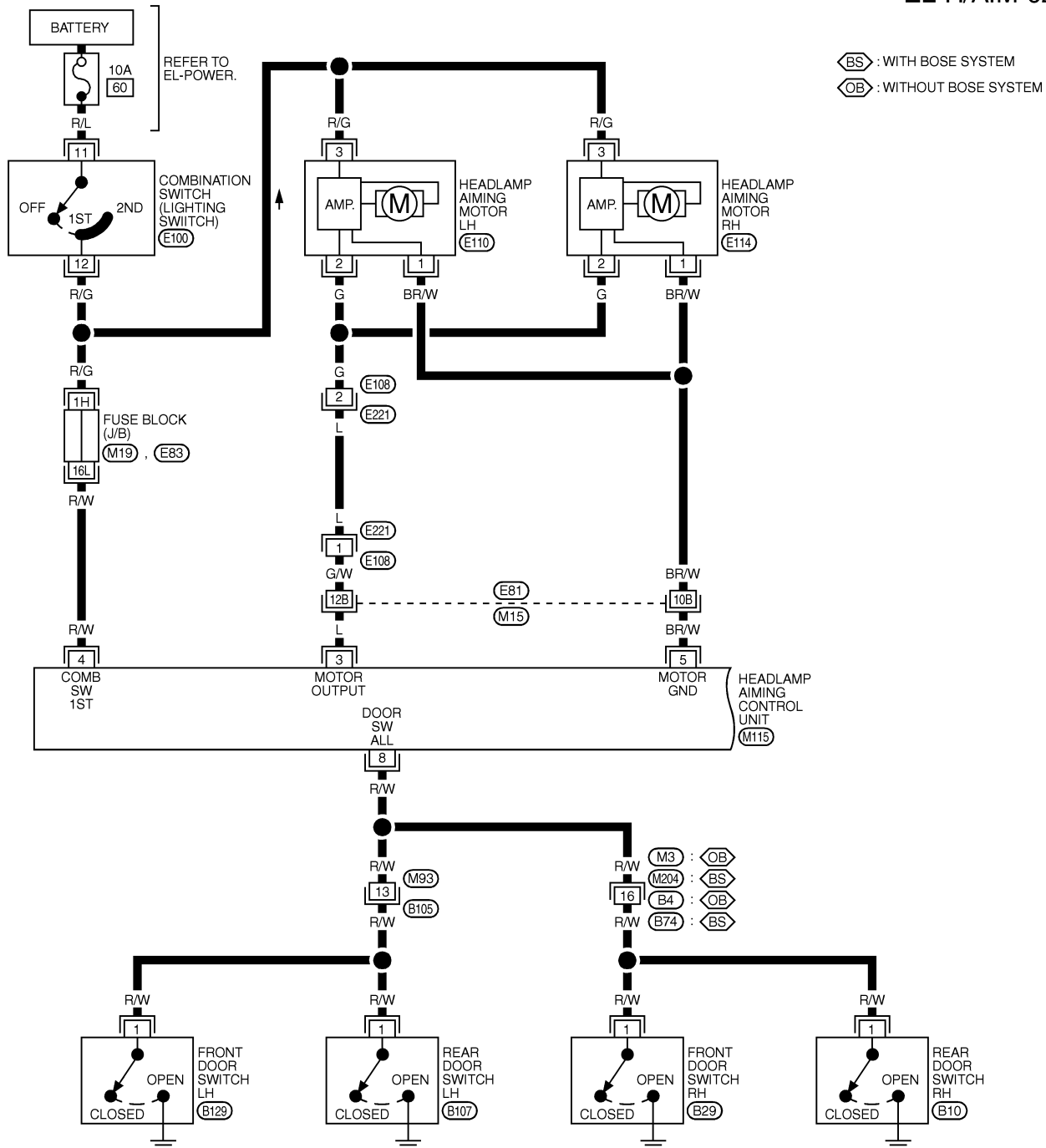
EL-H/AIM-01



REFER TO THE FOLLOWING.
(M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

EL-H/AIM-02

WITH AUTO AIMING



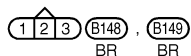
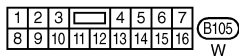
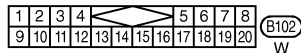
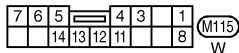
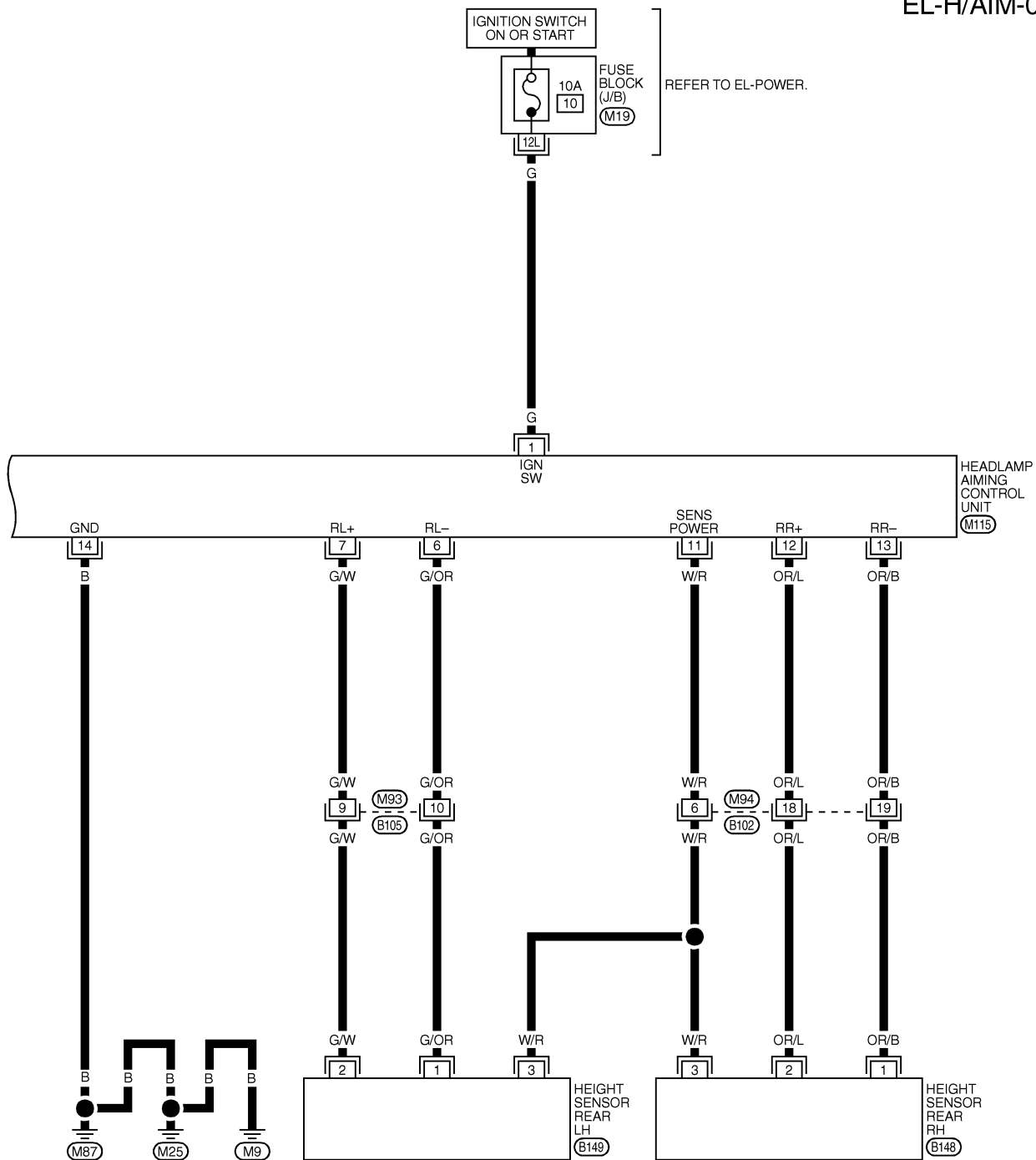
REFER TO THE FOLLOWING.

(M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M19, E83) -FUSE BLOCK-
 JUNCTION BOX (J/B)

HEADLAMP HEADLAMP AIMING CONTROL —

Wiring Diagram — H/AIM — (Cont'd)

EL-H/AIM-03



REFER TO THE FOLLOWING.

(M19) - FUSE BLOCK-
JUNCTION BOX (J/B)

MEL494N

Trouble Diagnosis for Auto Aiming System

NFEL0315

PRELIMINARY CHECK

NFEL0315S02

1. Park the vehicle on a level surface.
2. Remove all baggage from the cabin and the trunk.
3. Get in the vehicle, and check that all doors are closed.
4. Turn the ignition switch ON.
5. Turn lighting switch to 2ND position, and check that the headlamps turn on.
6. Turn lighting switch to OFF position, and check that the headlamps turn off.

CHECK MODE

NFEL0315S03

1. Turn ignition switch ON.
2. Open the driver's door (alternatively door switch can be operated manually) and turn the lighting switch from OFF to 2ND position repeatedly ten times or more. At the end, turn the switch to 2ND position.

NOTE:

Perform these steps 1 and 2 within 5 seconds.

3. Check that the optical axis changes as shown in the left.

CAUTION:

When the vehicle height sensor indicates abnormal value (when input value is out of 0.5 to 4.5V), the optical axis does not change.

- When the optical axis changes gradually in the order of "0", "1", "2", "3", "4", and then "5", it is judged that the system is in normal status.
- To perform initialization after the check, refer to "Initialization."
- When performing the system check only, turn the ignition switch OFF to terminate the check mode.

INITIALIZATION

NFEL0315S04

CAUTION:

The control is carried out on the basis of the voltage after initialization. Therefore, be sure to perform initialization after the following operations:

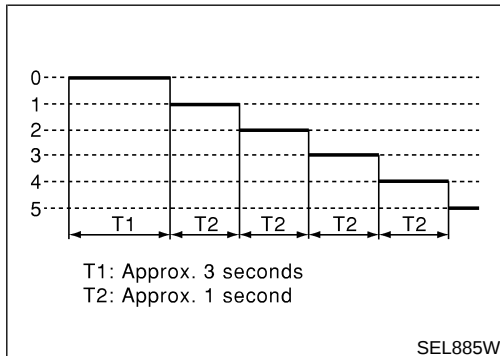
- When the control unit is replaced
- When the vehicle height sensor is replaced or reinstalled
- When the suspension is repaired

Before initialization, perform "PRELIMINARY CHECK" and use "CHECK MODE" to check that the system operates normally.

1. Perform CHECK MODE procedure.
2. Get off the vehicle. (Keep the driver's door open.)

CAUTION:**Do not get in the vehicle during initialization.**

3. Disconnect the joint connector for initialization (located behind the RH headlamp).
4. Wait 5 seconds or more.
5. Reconnect the connector.
6. Turn lighting switch OFF position.
7. Wait 5 seconds or more. (Voltage value of the vehicle height sensor is read.)



CAUTION:

When the voltage is unstable, the value cannot be read. Avoid applying force to the vehicle so as not to change the vehicle position.

8. Turn the lighting switch to 2ND position.
9. Check that the optical axis moves to "0" then stops.

CAUTION:

- When the vehicle height sensor indicates abnormal value (when input value is out of 0.5 to 4.5V), the optical axis does not change.
- When initialization is not completed, the optical axis does not change.
- Only when initialization is completed, data is updated.
- Returns to normal operation if the "IGN SW ON" and "Driver's Door Open" conditions are not available during either the "Check mode" or "Initialization" condition.

SYMPTOM CHART

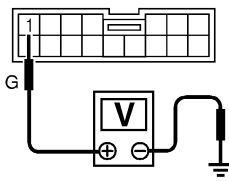
NFEL0315S11

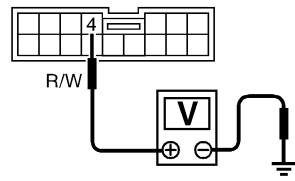
PROCEDURE		Diagnostic procedure				
REFERENCE PAGE		EL-75	EL-76	EL-78	EL-79	EL-80
SYMPTOM		DIAGNOSTIC PROCEDURE 1 (Power supply and ground circuit for headlamp aiming control unit)	DIAGNOSTIC PROCEDURE 2 (Height sensor and circuit check)	DIAGNOSTIC PROCEDURE 3 (Height aiming control unit output signal check)	DIAGNOSTIC PROCEDURE 4 (Headlamp aiming motor and circuit check)	DIAGNOSTIC PROCEDURE 5 (Ignition switch, lighting switch and door switch circuit check)
1	No auto aiming system functions operate.	X	X	X	X	
2	The optical axis is too high or low.		X	X		X

X: Applicable

DIAGNOSTIC PROCEDURE 1 (POWER SUPPLY AND GROUND CIRCUIT FOR HEADLAMP AIMING CONTROL UNIT)

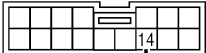
=NFEL0315S08

1		CHECK POWER SUPPLY CIRCUIT FOR HEADLAMP AIMING CONTROL UNIT-1															
1. Disconnect headlamp aiming control unit harness connector. 2. Turn ignition switch ON. 3. Check voltage between headlamp aiming control unit harness connector terminal 1 and ground.																	
 Headlamp aiming control unit harness connector (M115)  <table border="1" style="margin-left: 200px;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Ignition switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>ACC</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Ground</td> <td>0V</td> <td>0V</td> <td>Battery voltage</td> </tr> </tbody> </table> SEL891W			Terminals		Ignition switch position			(+)	(-)	OFF	ACC	ON	1	Ground	0V	0V	Battery voltage
Terminals		Ignition switch position															
(+)	(-)	OFF	ACC	ON													
1	Ground	0V	0V	Battery voltage													
OK or NG																	
OK	▶	GO TO 2.															
NG	▶	Check the following. 10A fuse [No. 10, located in the fuse block (J/B)] - Check harness for open or short between fuse and headlamp aiming control unit.															

2		CHECK POWER SUPPLY CIRCUIT FOR HEADLAMP AIMING CONTROL UNIT-2															
1. Turn lighting switch 1st position. 2. Check voltage between headlamp aiming control unit harness connector terminal 4 and ground.																	
 Headlamp aiming control unit harness connector (M115)  <table border="1" style="margin-left: 200px;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Lighting switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>1ST</th> <th>2ND</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Ground</td> <td>0V</td> <td>Battery voltage</td> <td>Battery voltage</td> </tr> </tbody> </table> SEL892W			Terminals		Lighting switch position			(+)	(-)	OFF	1ST	2ND	4	Ground	0V	Battery voltage	Battery voltage
Terminals		Lighting switch position															
(+)	(-)	OFF	1ST	2ND													
4	Ground	0V	Battery voltage	Battery voltage													
OK or NG																	
OK	▶	GO TO 3.															
NG	▶	Check the following. 10A fuse (No. 60, located in the fuse and fusible link box) - Check harness for open or short between lighting switch and headlamp aiming control unit.															

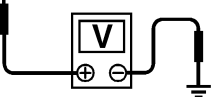
HEADLAMP AIMING CONTROL —

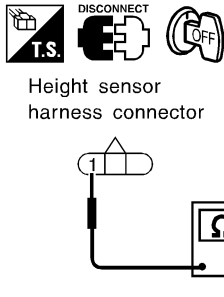
Trouble Diagnosis for Auto Aiming System (Cont'd)

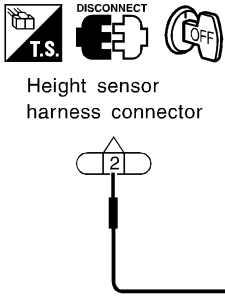
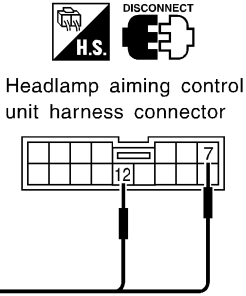
3	CHECK GROUND CIRCUIT FOR HEADLAMP AIMING CONTROL UNIT
Check continuity between headlamp aiming control unit harness connector terminal 14 and ground.  Headlamp aiming control unit harness connector (M115)  B  Continuity should exist. SEL893W OK or NG	
OK	▶ Headlamp aiming control unit power supply and ground circuit is OK.
NG	▶ Repair harness or connector.

DIAGNOSTIC PROCEDURE 2 (HEIGHT SENSOR AND CIRCUIT CHECK)

NFEL0315S09

1	CHECK HEIGHT SENSOR POWER SUPPLY
1. Disconnect height sensor harness connector. 2. Turn ignition switch ON. 3. Check voltage between height sensor harness connector B149 (LH sensor) and B148 (RH sensor) terminal 3 (W/R) and ground.  Height sensor harness connector  3  Voltage [V]: Approx. 5 SEL211Y OK or NG	
OK	▶ GO TO 2.
NG	▶ Check harness for open or short between height sensor and headlamp aiming control unit.

2	CHECK HEIGHT SENSOR GROUND CIRCUIT
Check voltage between height sensor harness connector B149 (LH sensor) terminal 1 (G/OR), B148 (RH sensor) terminal 1 (OR/B) and ground.	
 Height sensor harness connector Continuity should exist. SEL212Y OK or NG	
OK	▶ GO TO 3.
NG	▶ Repair harness or connector.

3	CHECK HEIGHT SENSOR OUTPUT SIGNAL CIRCUIT
1. Turn ignition switch OFF. 2. Disconnect headlamp aiming control unit harness connector. 3. Check the following. - Continuity between height sensor harness connector B149 (LH sensor) terminal 2 (G/W) and headlamp aiming control unit harness connector (M115) terminal 7 (G/W) - Continuity between height sensor harness connector B148 (RH sensor) terminal 2 (OR/L) and headlamp aiming control unit harness connector (M115) terminal 12 (OR/L)	
 Height sensor harness connector  Headlamp aiming control unit harness connector Continuity should exist. SEL213Y OK or NG	
OK	▶ GO TO 4.
NG	▶ Repair harness or connector.

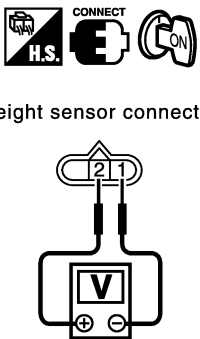
HEADLAMP AIMING CONTROL —

Trouble Diagnosis for Auto Aiming System (Cont'd)

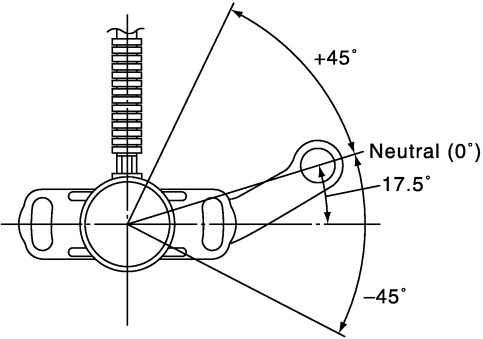
4 CHECK HEIGHT SENSOR OUTPUT SIGNAL

1. Remove height sensor from rear suspension member.
2. Check the following.

- Voltage between height sensor harness connector B149 (LH sensor) terminals 2 (G/W) and 1 (G/OR)
- Voltage between height sensor harness connector B148 (RH sensor) terminals 2 (OR/L) and 1 (OR/B)



Height sensor connector



Sensor arm degree	Voltage [V]
-45° (High)	Approx. 5
0° (Neutral)	Approx. 2.5
+45° (Low)	Approx. 0.5

SEL214Y

OK or NG

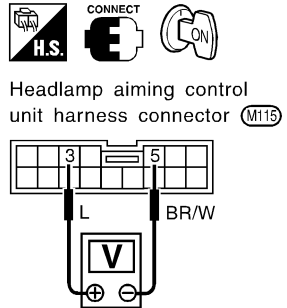
OK	▶	Height sensor and circuit is OK.
NG	▶	Replace height sensor.

DIAGNOSTIC PROCEDURE 3 (HEADLAMP AIMING CONTROL UNIT OUTPUT SIGNAL CHECK)

NFEL0315S07

1 CHECK HEADLAMP AIMING CONTROL UNIT OUTPUT SIGNAL

Check voltage between headlamp aiming control unit terminals 3 and 5 when performing "CHECK MODE".



Headlamp aiming control unit harness connector (M115)

Terminals	Optical axis position	Voltage (V)
3 - 5	0	10.4
	1	9.3
	2	8.3
	3	7.3
	4	6.2
	5	5.1

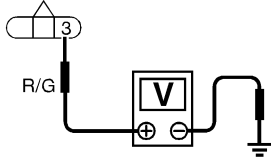
SEL889W

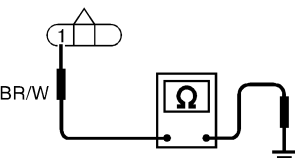
OK or NG

OK	▶	Headlamp aiming control unit output signal is OK.
NG	▶	Replace headlamp aiming control unit.

DIAGNOSTIC PROCEDURE 4 (HEADLAMP AIMING MOTOR AND CIRCUIT CHECK)

=NFEL0315S06

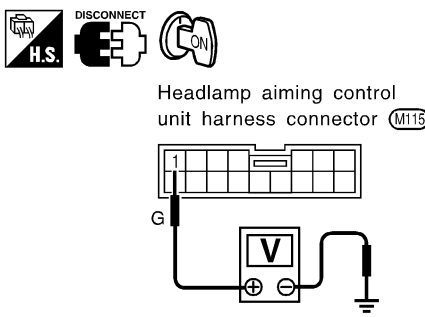
1	CHECK POWER SUPPLY CIRCUIT FOR HEADLAMP AIMING MOTOR																
1. Disconnect headlamp aiming motor harness connector. 2. Turn lighting switch 1st position. 3. Check voltage between headlamp aiming motor harness connector terminal 3 and ground.																	
 Headlamp aiming motor harness connector (E110) (E114) 																	
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Lighting switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>1ST</th> <th>2ND</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>Ground</td> <td>0V</td> <td>Battery voltage</td> <td>Battery voltage</td> </tr> </tbody> </table>			Terminals		Lighting switch position			(+)	(-)	OFF	1ST	2ND	3	Ground	0V	Battery voltage	Battery voltage
Terminals		Lighting switch position															
(+)	(-)	OFF	1ST	2ND													
3	Ground	0V	Battery voltage	Battery voltage													
SEL887W																	
OK or NG																	
OK	▶	GO TO 2.															
NG	▶	Check the following. 10A fuse (No. 60, located in the fuse and fusible link box) - Check harness for open or short between lighting switch and headlamp aiming motor.															

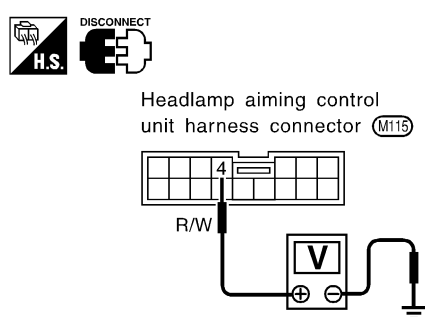
2	CHECK GROUND CIRCUIT FOR HEADLAMP AIMING MOTOR	
Check voltage between headlamp aiming motor harness connector terminal 1 and ground.		
 Headlamp aiming motor harness connector (E110) (E114) 		
Continuity should exist.		
SEL888W		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Repair harness or connector.

3	CHECK HEADLAMP AIMING MOTOR OPERATION	
Perform "CHECK MODE" and check headlamp aiming motor operation. Refer to EL-73.		
OK or NG		
OK	▶	Headlamp aiming motor and circuit is OK
NG	▶	Replace headlamp aiming motor.

DIAGNOSTIC PROCEDURE 5 (IGNITION SWITCH, LIGHTING SWITCH AND DOOR SWITCH CHECK)

=NFEL0315S10

1	CHECK IGNITION SWITCH SIGNAL															
1. Disconnect headlamp aiming control unit harness connector. 2. Turn ignition switch ON. 3. Check voltage between headlamp aiming control unit harness connector terminal 1 and ground.																
 Headlamp aiming control unit harness connector (M115)																
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Ignition switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>ACC</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Ground</td> <td>0V</td> <td>0V</td> <td>Battery voltage</td> </tr> </tbody> </table>		Terminals		Ignition switch position			(+)	(-)	OFF	ACC	ON	1	Ground	0V	0V	Battery voltage
Terminals		Ignition switch position														
(+)	(-)	OFF	ACC	ON												
1	Ground	0V	0V	Battery voltage												
SEL891W																
OK or NG																
OK	▶ GO TO 2.															
NG	▶ Check the following: • 10A fuse [No. 10, located in the fuse block (J/B)] • Check harness for open or short between height sensor and headlamp aiming control unit.															

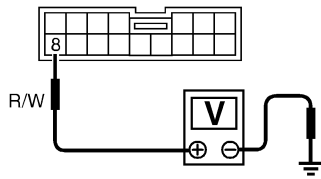
2	CHECK LIGHTING SWITCH SIGNAL															
1. Turn lighting switch 1st position. 2. Check voltage between headlamp aiming control unit harness connector terminal 4 and ground.																
 Headlamp aiming control unit harness connector (M115)																
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Lighting switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>1ST</th> <th>2ND</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Ground</td> <td>0V</td> <td>Battery voltage</td> <td>Battery voltage</td> </tr> </tbody> </table>		Terminals		Lighting switch position			(+)	(-)	OFF	1ST	2ND	4	Ground	0V	Battery voltage	Battery voltage
Terminals		Lighting switch position														
(+)	(-)	OFF	1ST	2ND												
4	Ground	0V	Battery voltage	Battery voltage												
SEL892W																
OK or NG																
OK	▶ GO TO 3.															
NG	▶ Check the following. • 10A fuse (No. 60, located in the fuse and fusible link box) • Check harness for open or short between lighting switch and headlamp aiming control unit.															

3 CHECK DOOR SWITCH SIGNAL

Check voltage between headlamp aiming control unit harness connector terminal 8 and ground.



Headlamp aiming control unit harness connector (M115)



	Terminals		Condition	Voltage [V]
	(+)	(-)		
All door switches	8	Ground	Open	0
			Closed	Approx. 5

SEL900W

OK or NG

OK ► Ignition switch, lighting switch and door switch signal circuit are OK.

NG ► GO TO 4.

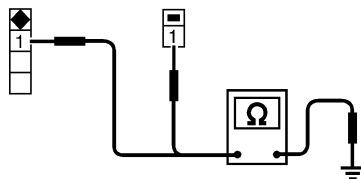
4 CHECK DOOR SWITCH

1. Disconnect door switch harness connector.
2. Check continuity between door switch connector terminal 1 and ground.



Front door switch (B129, B29)

Rear door switch (B107, B10)



	Terminals	Condition	Continuity
		Closed	No
All door switches	1 - Ground	Open	Yes

SEL901W

OK or NG

OK ► **Check the following.**

- Door switch ground condition.
- Check harness for open or short between door switch and headlamp aiming control unit.

NG ► Replace door switch.

System Description

NFEL0207

The clearance, license and tail lamp operation is controlled by the lighting switch which is built into the combination switch.

Power is supplied at all times

With auto light

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box).

Without auto light

- to lighting switch terminal 11
- through 10A fuse (No. 60, located in the fuse and fusible link box).

LIGHTING OPERATION BY LIGHTING SWITCH

NFEL0207S01

With auto light

When lighting switch is in 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 2
- from lighting switch terminal 11
- through lighting switch and body grounds E11, E22 and E53.

Tail lamp relay is then energized and the parking, license and tail lamps illuminate.

Without auto light

When lighting switch is in 1ST (or 2ND) position, ground is supplied

- to lighting switch terminal 12
- through the clearance, license and tail lamps and each body ground.

With power and ground supplied, the clearance, license and tail lamps illuminate.

LIGHTING OPERATION BY AUTO LIGHT CONTROL SYSTEM

NFEL0207S03

When lighting switch is in AUTO position, ground is supplied

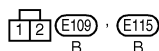
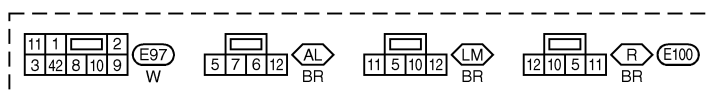
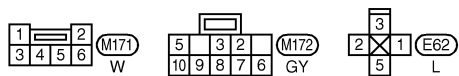
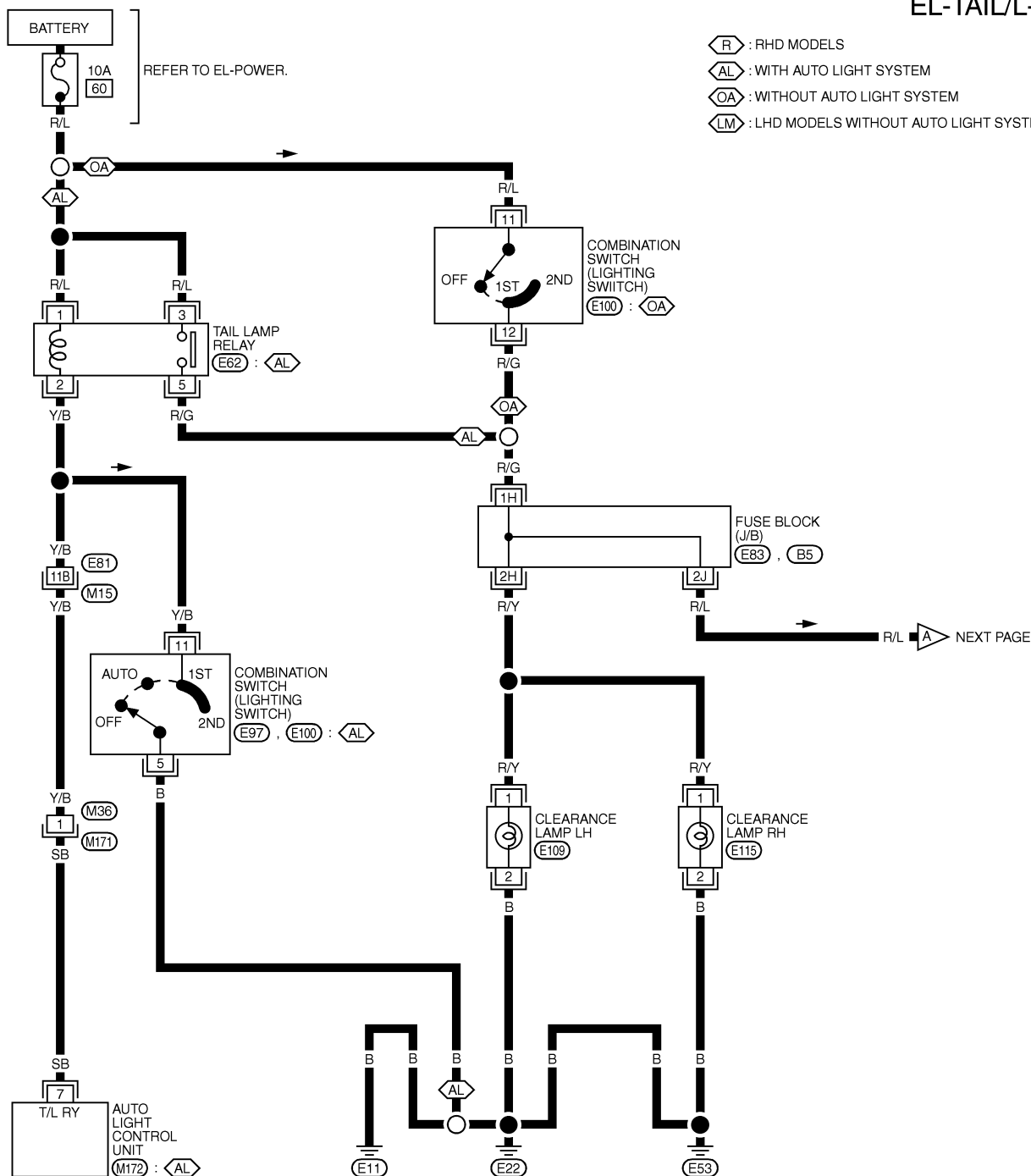
- to tail lamp relay terminal 2
- from auto light control unit terminal 7.

Tail lamp relay is then energized and the clearance, license and tail lamps illuminate.

Wiring Diagram — TAIL/L —

NFEL0024

EL-TAIL/L-01



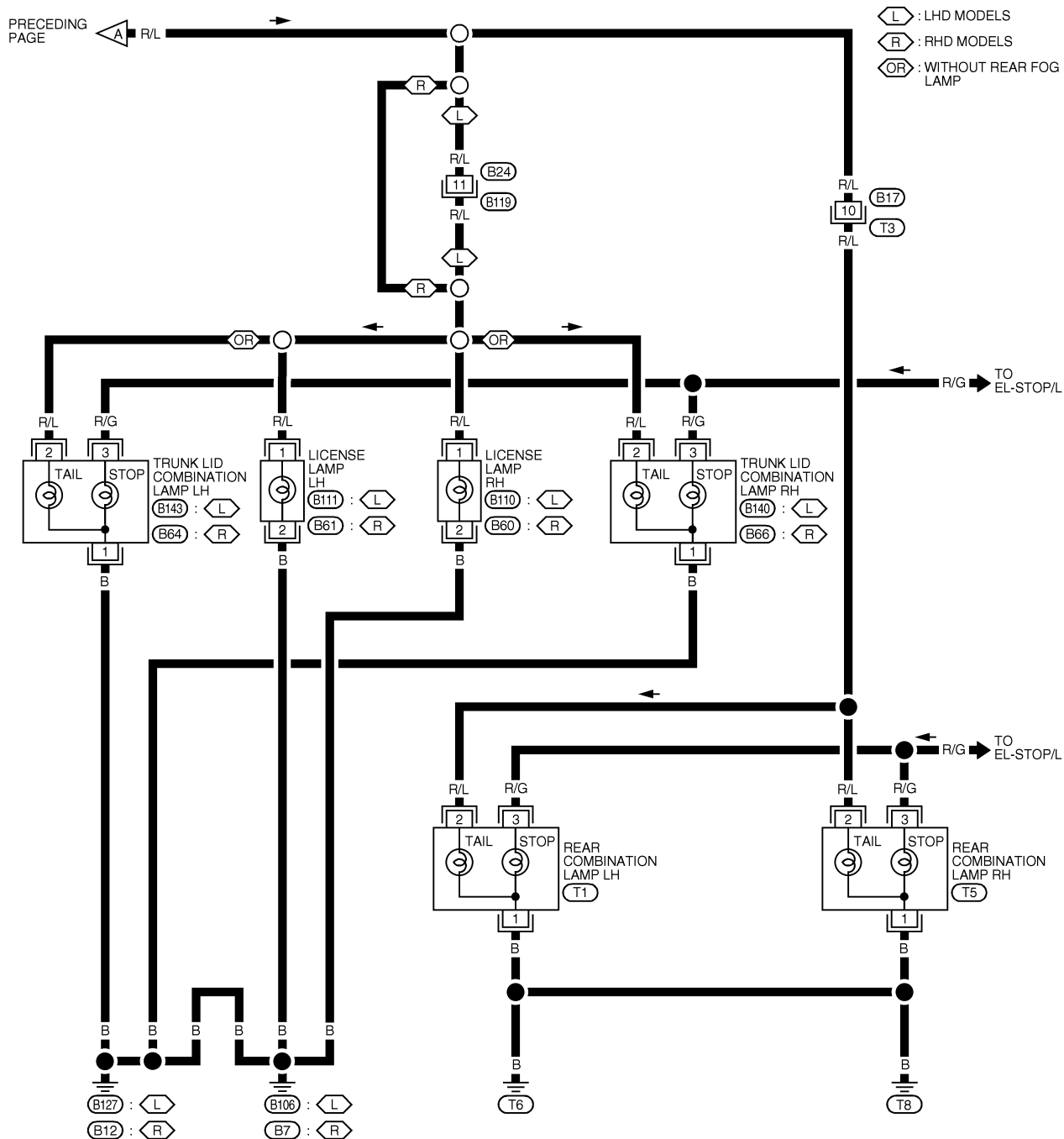
REFER TO THE FOLLOWING.

- (M15) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (E83, B5) -FUSE BLOCK-JUNCTION BOX (J/B)

PARKING LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-02



O 21 B60 W	O 21 B61 W	O 21 B110 W	O 21 B111 W	123 123 B64 W	O 21 B66 W	O 21 B140 W	O 21 B143 W	O 21 T1 W	O 21 T5 W	1234567 8910111213141516 B119 W	1234 5678910 T3 W
---	---	--	--	--	---	--	--	--	--	--	--

MEL7630

Trouble Diagnoses

=NFEL0211

Symptom	Possible cause	Repair order
No parking, side marker, license and tail lamps operate, but head-lamps do operate.	10A fuse - Tail lamp relay (with auto light) - Tail lamp relay circuit (with auto light) - Lighting switch - Lighting switch circuit	- Check 10A fuse (No. 60, located in fusible and fuse block). Verify battery positive voltage is present at terminals 1 and 3 of tail lamp relay (with auto light) or terminal 11 of lighting switch (without auto light). - Check tail lamp relay. - Check harness between lighting switch terminal 11 and tail lamp relay terminal 2. Check harness between tail lamp relay terminal 5 and fuse block. - Check lighting switch. - Check harness between lighting switch terminal 12 and fuse block (Without auto light). Check harness between lighting switch terminal 5 and ground (With auto light).

GI

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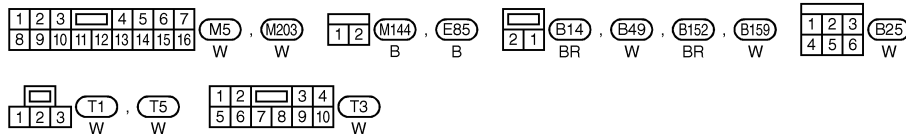
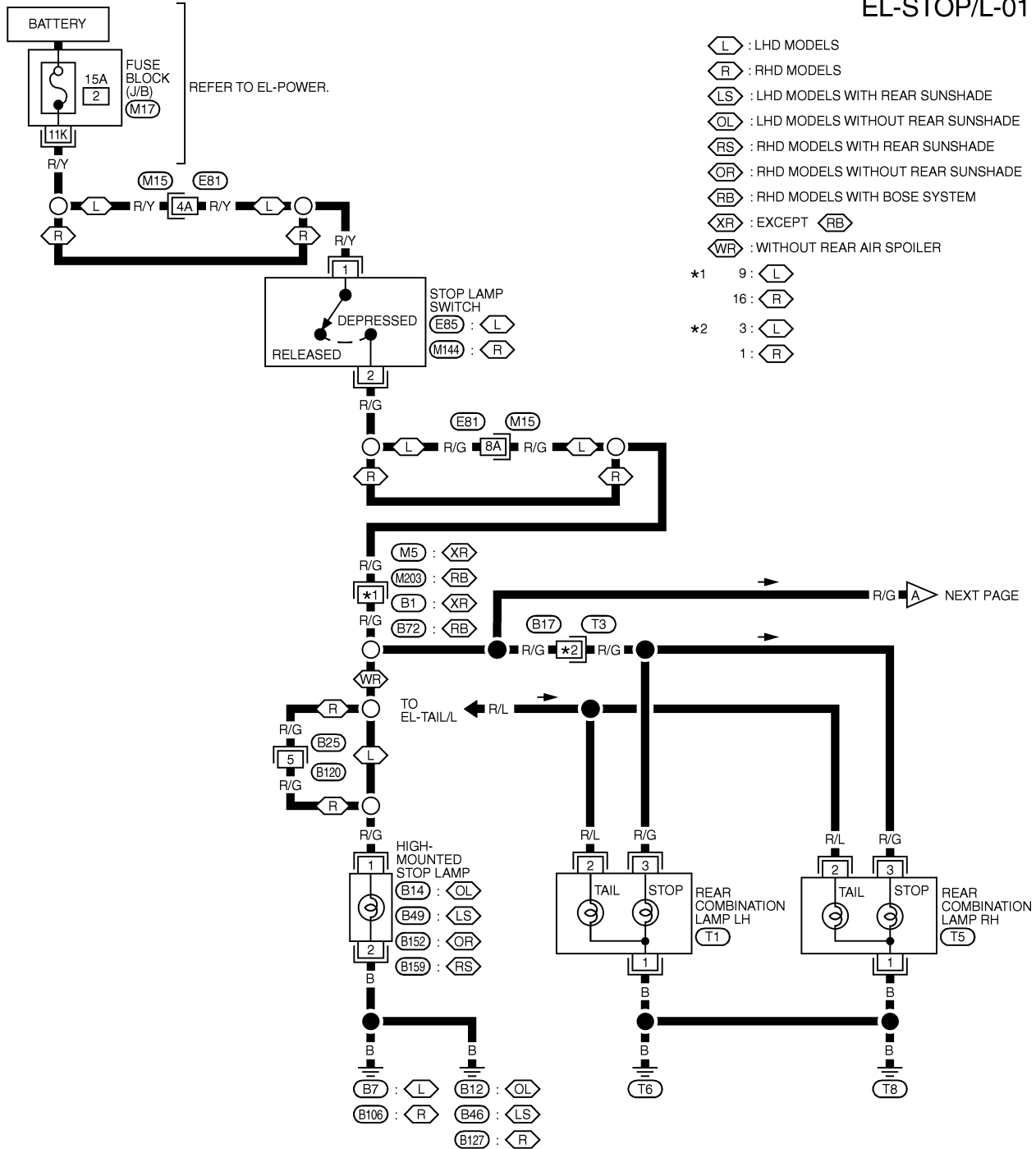
EL

IDX

Wiring Diagram — STOP/L —

NFEL0025

EL-STOP/L-01



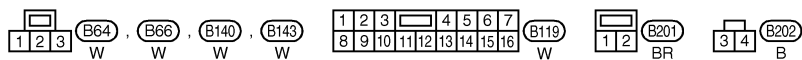
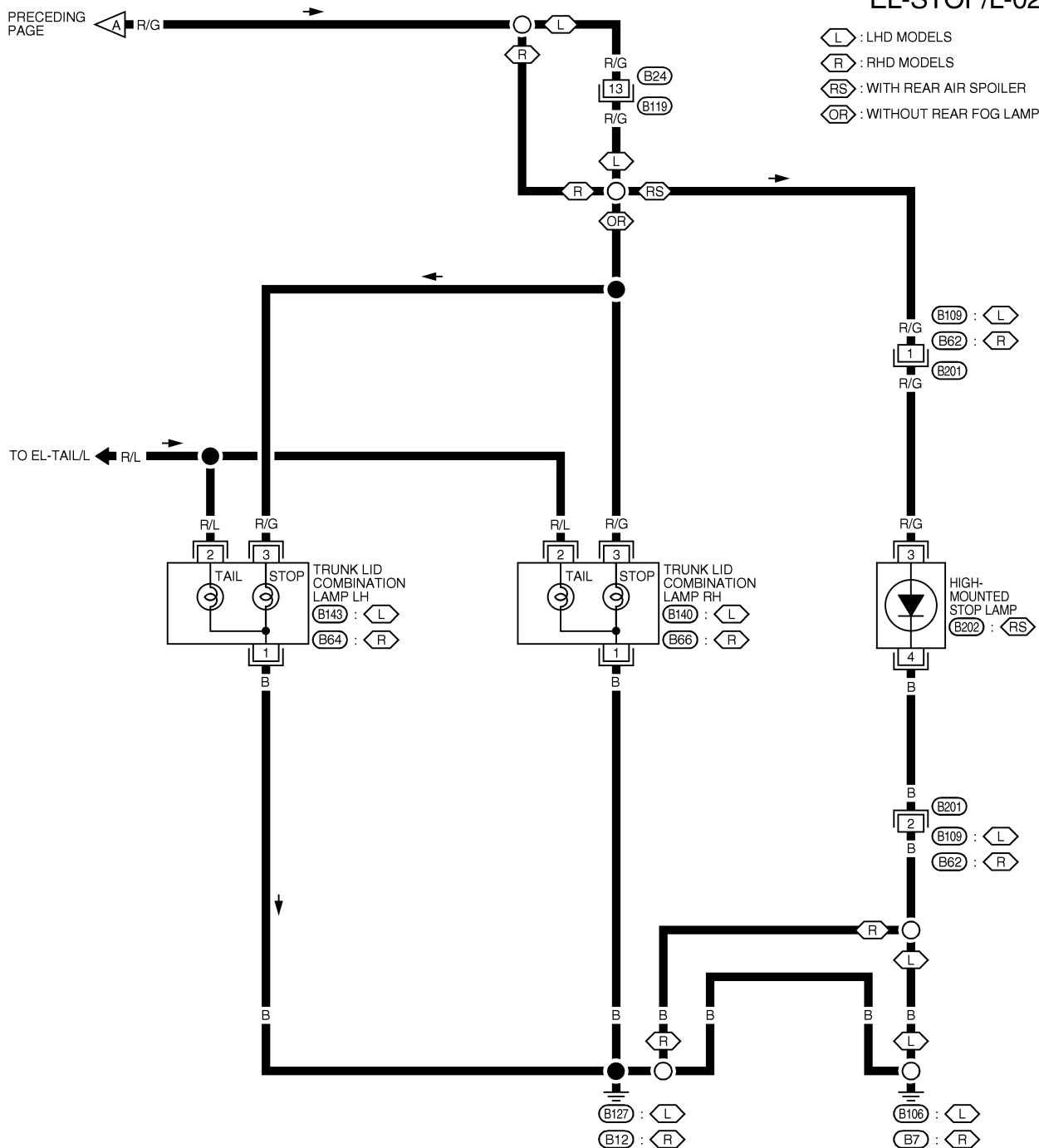
REFER TO THE FOLLOWING.

(M15) -SUPER

(M17) -FUSE BLOCK-JUNCTION BOX (J/B)

MEL7640

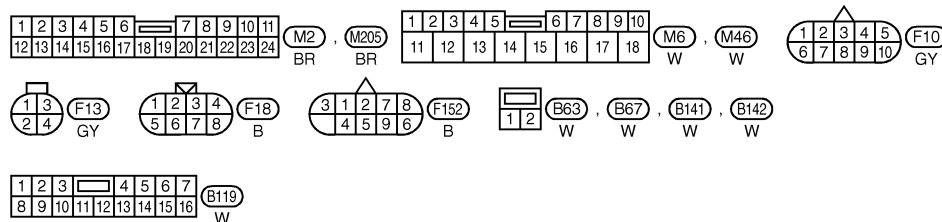
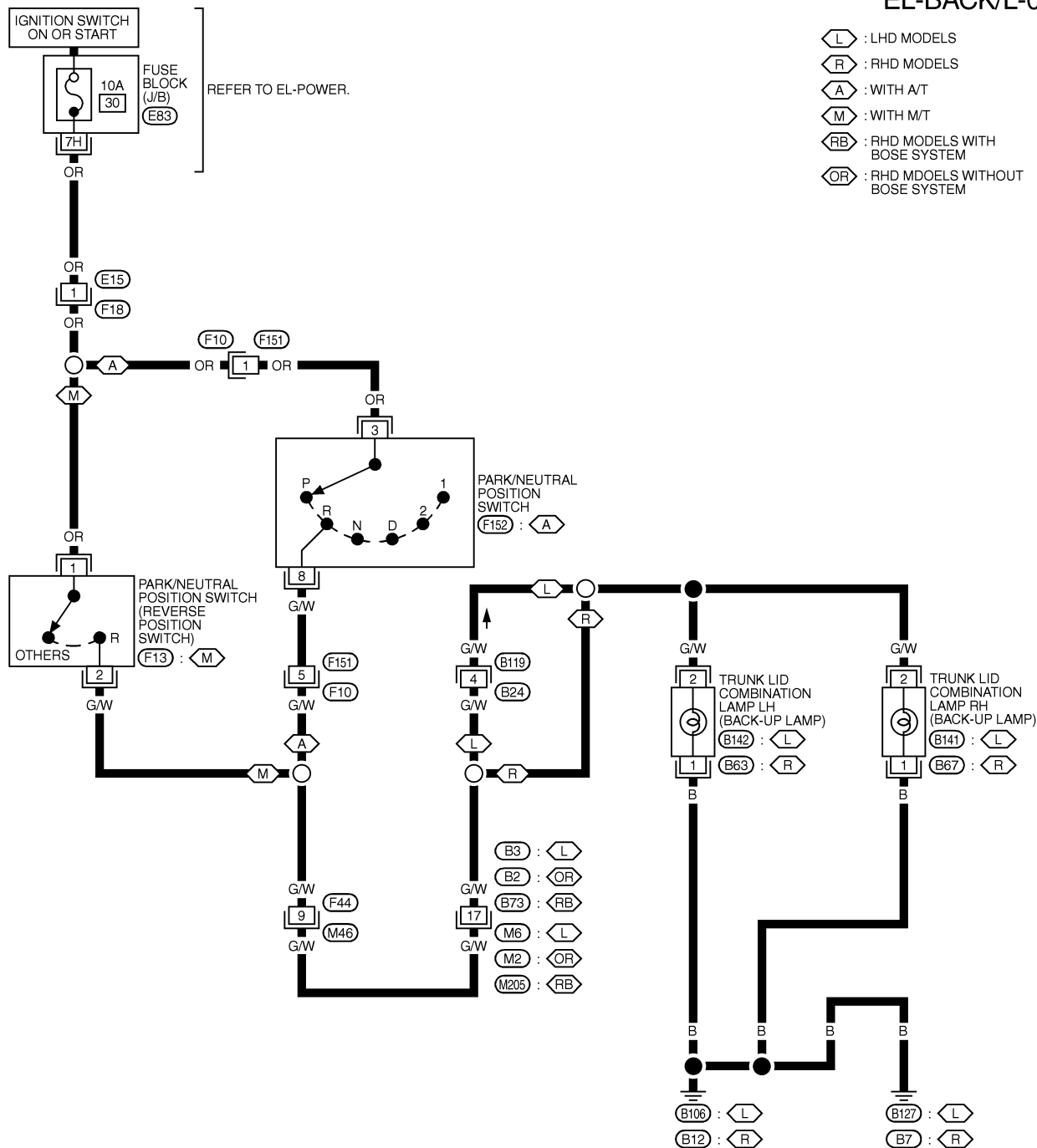
EL-STOP/L-02



Wiring Diagram — BACK/L —

NFEL0026

EL-BACK/L-01



REFER TO THE FOLLOWING.

(E83) - FUSE BLOCK-
JUNCTION BOX (J/B)

MEL766O

System Description

NFEL0164

NFEL0164S01

OUTLINE

With auto light

Power is supplied at all times

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box), and
- to front fog lamp relay terminal 3
- through 15A fuse [No. 6, located in the fuse block (J/B)]

When lighting switch is in 1ST or 2ND position, tail lamp relay is energized and power is supplied

- to fog lamp switch terminal 28 (with rear fog lamp) or terminal 31 (without rear fog lamp)
- from tail lamp relay terminal 5

Without auto light

Power is supplied at all times

- to lighting switch terminal 11
- through 10A fuse (No. 60, located in the fuse and fusible link box), and
- to front fog lamp relay terminal 3
- through 15A fuse [No. 6, located in the fuse block (J/B)]

When lighting switch is in 1ST or 2ND position, power is supplied

- to fog lamp switch terminal 28 (with rear fog lamp) or terminal 31 (without rear fog lamp)
- from lighting switch terminal 12.

FOG LAMP OPERATION

The fog lamp switch is built into the combination switch. The lighting switch must be in the 1ST or 2ND position for fog lamp operation.

With the fog lamp switch in the ON position, ground is supplied

- to fog lamp switch terminal 29 (with rear fog lamp) or terminal 32 (without rear fog lamp)
- through the fog lamp relay and body grounds E11, E22 and E53.

The fog lamp relay is energized and power is supplied

- from fog lamp relay terminal 5
- to terminal 1 of each fog lamp.

Ground is supplied to terminal 2 of each fog lamp through body grounds E11, E22 and E53.

With power and ground supplied, the fog lamps illuminate.

GI

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NFEL0164S02

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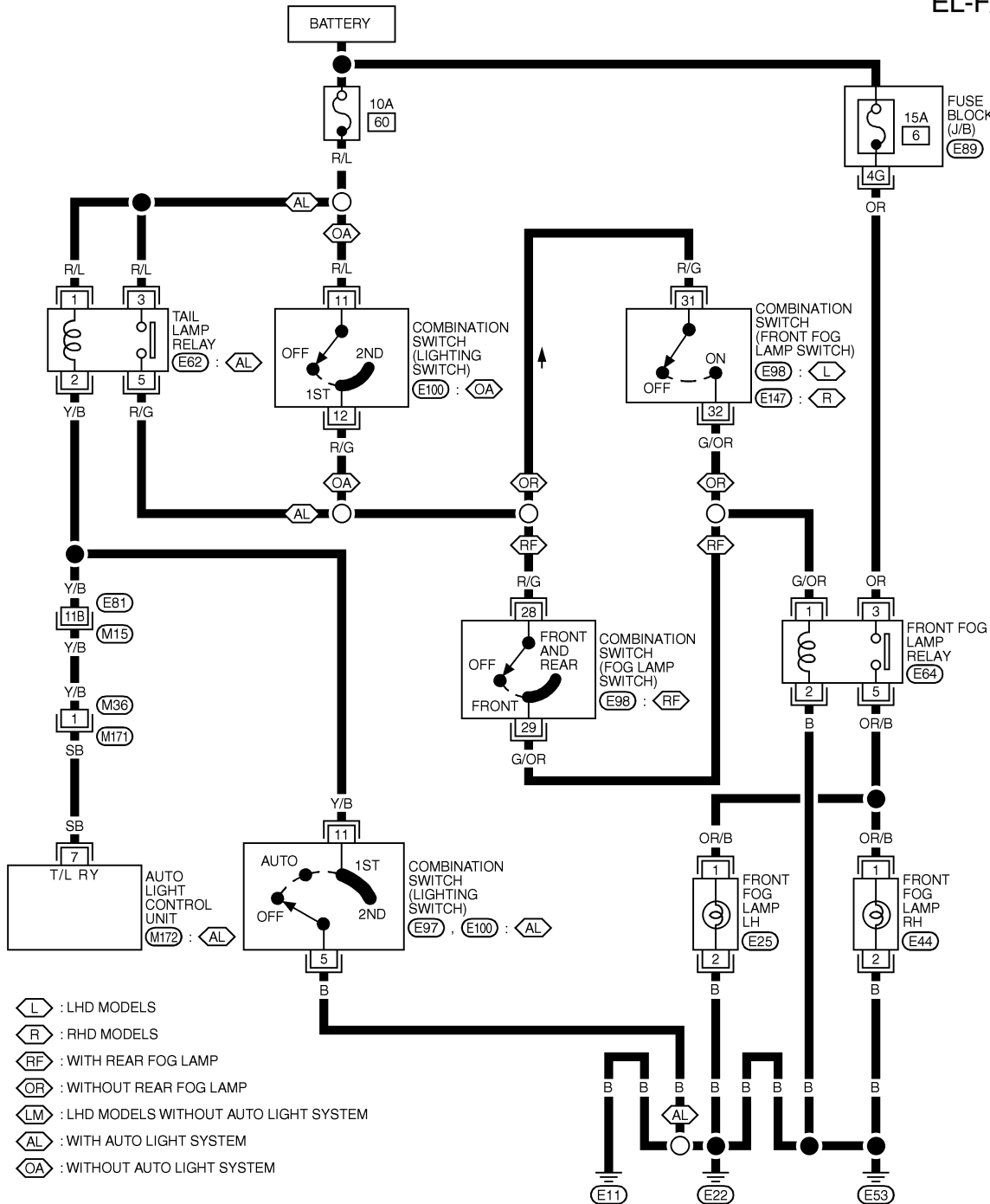
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Wiring Diagram — F/FOG —

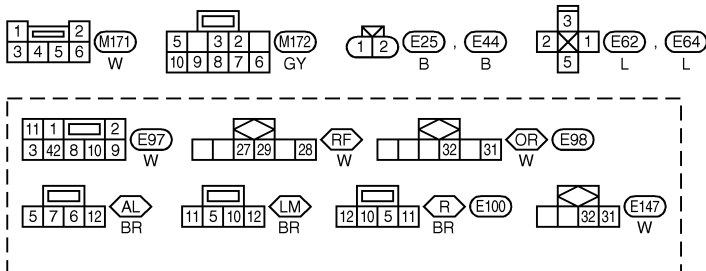
NFEL0028

EL-F/FOG-01

REFER TO EL-POWER.

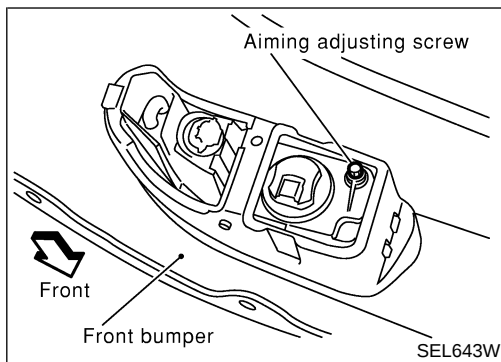


- ◁ L ▷ : LHD MODELS
- ◁ R ▷ : RHD MODELS
- ◁ RF ▷ : WITH REAR FOG LAMP
- ◁ OR ▷ : WITHOUT REAR FOG LAMP
- ◁ LM ▷ : LHD MODELS WITHOUT AUTO LIGHT SYSTEM
- ◁ AL ▷ : WITH AUTO LIGHT SYSTEM
- ◁ OA ▷ : WITHOUT AUTO LIGHT SYSTEM



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (E89) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL7670

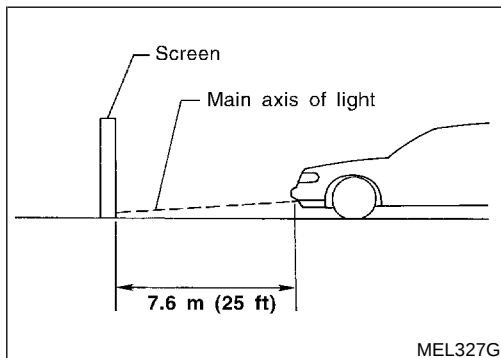


Aiming Adjustment

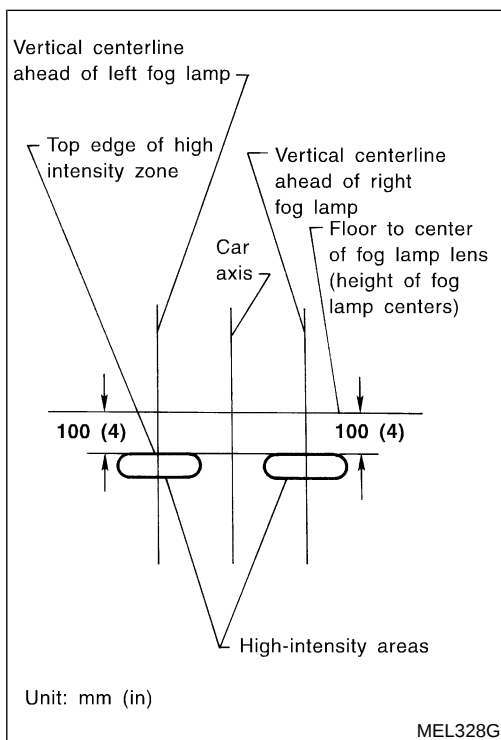
Before performing aiming adjustment, make sure of the following. =NFEL0029

- 1) Keep all tires inflated to correct pressure.
- 2) Place vehicle on level ground.
- 3) See 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.

Adjust aiming in the vertical direction by turning the adjusting screw.



1. Set the distance between the screen and the center of the fog lamp lens as shown at left.
2. Remove front fog lamp rim. For detail, refer to "BODY END" in BT section.
3. Turn front fog lamps ON.



4. 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.

GI

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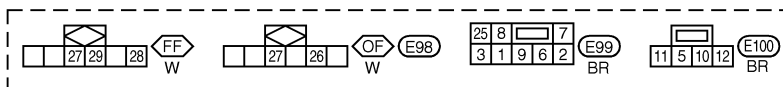
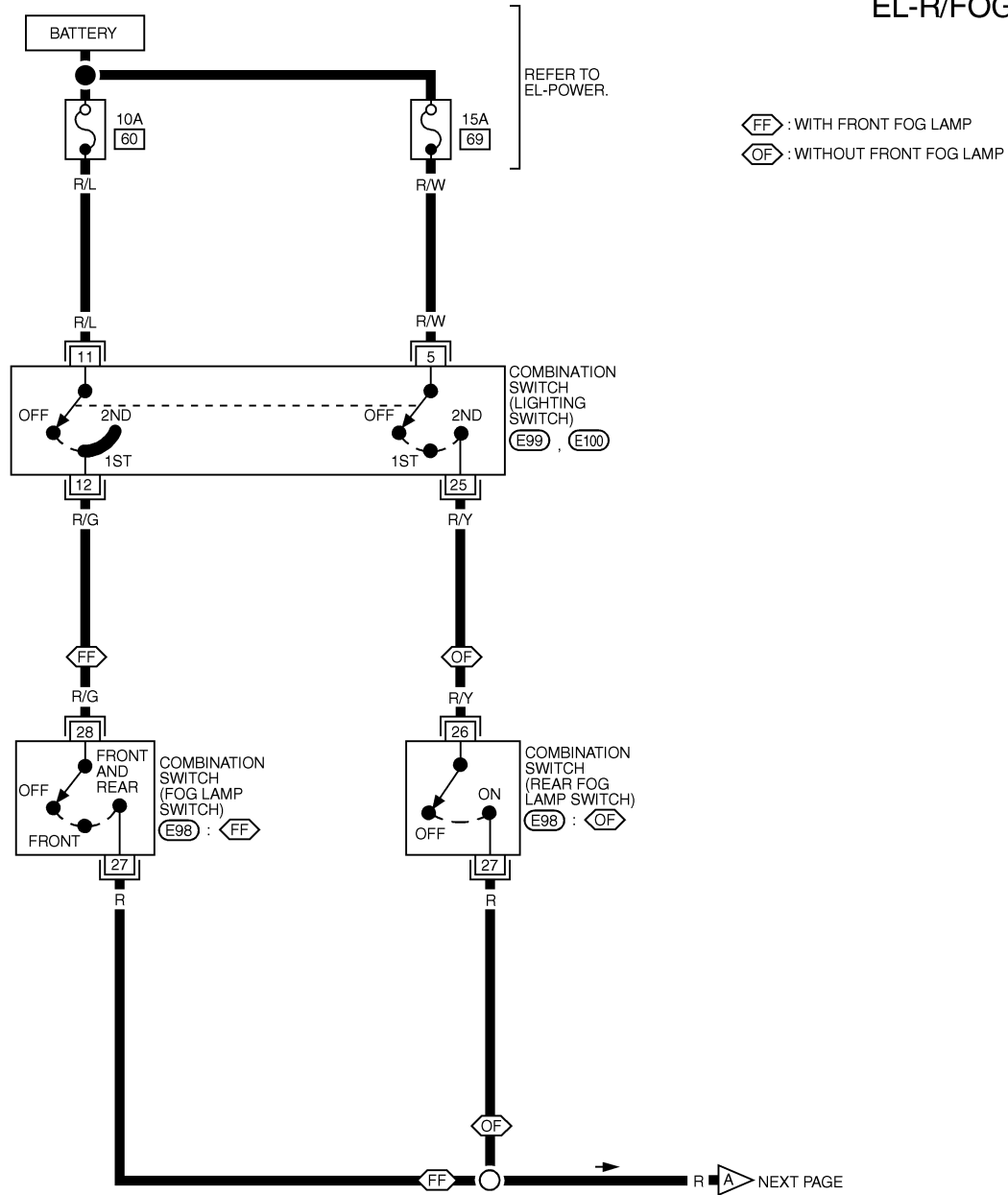
EL

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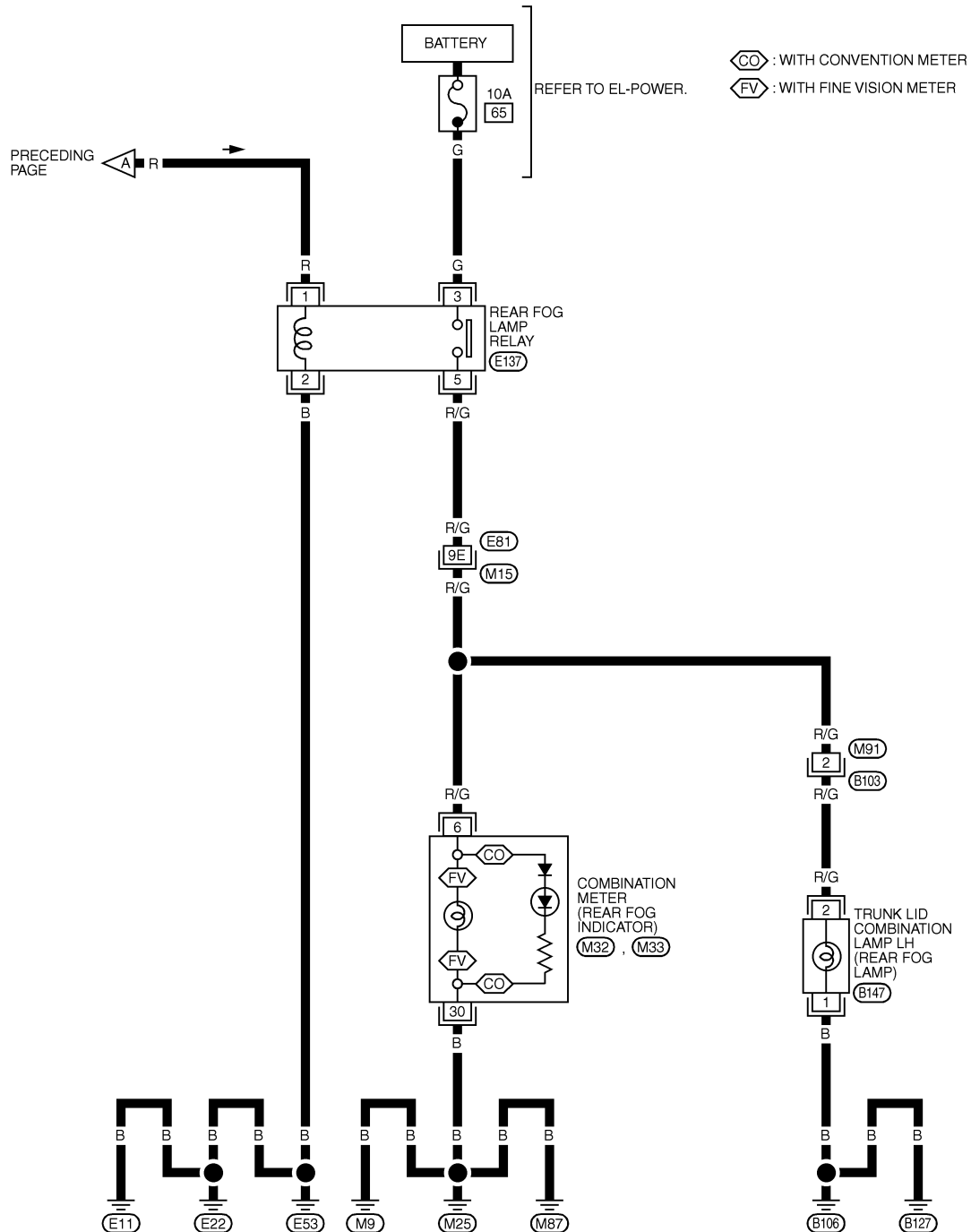
Wiring Diagram — R/FOG —

NFEL0294

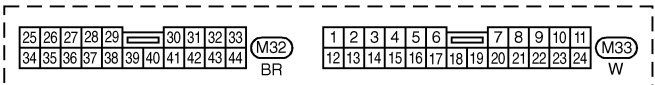
EL-R/FOG-01



EL-R/FOG-02



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EL
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REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL7690

System Description

NFEL0030

TURN SIGNAL OPERATION

NFEL0030S01

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

- through 10A fuse [No. 26, located in the fuse block (J/B)]
- to hazard switch terminal 2
- through terminal 1 of the hazard switch
- to combination flasher unit terminal 1
- through terminal 3 of the combination flasher unit
- to turn signal switch terminal 1 (LHD models and RHD models without cornering lamp) or
- to cornering lamp control unit terminal 8 (RHD models with cornering lamp).

Ground is supplied to combination flasher unit terminal 2 through body grounds M9, M25 and M87.

LH Turn

NFEL0030S0101

When the turn signal switch is moved to the LH position, power is supplied from turn signal switch terminal 3 (LHD models and RHD models without cornering lamp) or cornering lamp control unit terminal 1 (RHD models with cornering lamp) to

- front turn signal lamp LH terminal 1 and side turn signal lamp LH terminal 2
- combination meter terminal 25
- rear combination lamp LH terminal 2.

Ground is supplied to the front turn signal lamp LH terminal 2 and side turn signal lamp LH terminal 1 through body grounds E11, E22 and E53.

Ground is supplied to the rear combination lamp LH terminal 1 through body grounds T6 and T8.

Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.

With power and ground supplied, the combination flasher unit controls the flashing of the LH turn signal lamps.

RH Turn

NFEL0030S0102

When the turn signal switch is moved to the RH position, power is supplied from turn signal switch terminal 2 (LHD models and RHD models without cornering lamp) or cornering lamp control unit terminal 4 (RHD models with cornering lamp) to

- front turn signal lamp RH terminal 1 and side turn signal lamp RH terminal 2
- combination meter terminal 29
- rear combination lamp RH terminal 2.

Ground is supplied to the front turn signal lamp RH terminal 2 and side turn signal lamp RH terminal 1 through body grounds E11, E22 and E53.

Ground is supplied to the rear combination lamp RH terminal 1 through body grounds T6 and T8.

Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.

With power and ground supplied, the combination flasher unit controls the flashing of the RH turn signal lamps.

HAZARD LAMP OPERATION

NFEL0030S02

Power is supplied at all times to hazard switch terminal 3 through:

- 15A fuse [No. 5, located in the fuse block (J/B)].

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

- through terminal 1 of the hazard switch
- to combination flasher unit terminal 1
- through terminal 3 of the combination flasher unit
- to hazard switch terminal 4.

Ground is supplied to combination flasher unit terminal 2 through body grounds M9, M25 and M87.

Power is supplied through terminal 5 of the hazard switch to

- front turn signal lamp LH terminal 1 and side turn signal lamp LH terminal 2
- combination meter terminal 25
- rear combination lamp LH terminal 2.

Power is supplied through terminal 6 of the hazard switch to

- front turn signal lamp RH terminal 1 and side turn signal lamp RH terminal 2
- combination meter terminal 29

- rear combination lamp RH terminal 2.

Ground is supplied to terminal 2 of each front turn signal lamp and terminal 1 of each side turn signal lamp through body grounds E11, E22 and E53.

Ground is supplied to terminal 1 of each rear combination lamp through body grounds T6 and T8.

Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.

With power and ground supplied, the combination flasher unit controls the flashing of the hazard warning lamps.

MULTI-REMOTE CONTROL SYSTEM OPERATION

NFEL0030S03

Power is supplied at all times

- through 15A fuse [No. 5, located in the fuse block (J/B)]
- to multi-remote control relay terminals 1, 6 and 3.

Ground is supplied to multi-remote control relay terminal 2, when the multi-remote control system is triggered through the smart entrance control unit.

Refer to "MULTI-REMOTE CONTROL SYSTEM", EL-310.

The multi-remote control relay is energized.

Power is supplied through terminal 7 of the multi-remote control relay

- to front turn signal lamp LH terminal 1 and side turn signal lamp LH terminal 2
- to combination meter terminal 25
- to rear combination lamp LH terminal 2.

Power is supplied through terminal 5 of the multi-remote control relay

- to front turn signal lamp RH terminal 1 and side turn signal lamp RH terminal 2
- to combination meter terminal 29
- to rear combination lamp RH terminal 2.

Ground is supplied to terminal 2 of each front turn signal lamp and terminal 1 of each side turn signal lamp through body grounds E11, E22 and E53.

Ground is supplied to terminal 1 of each rear combination lamp through body grounds T6 and T8.

Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.

With power and ground supplied, the smart entrance control unit controls the flashing of the hazard warning lamps.

GI

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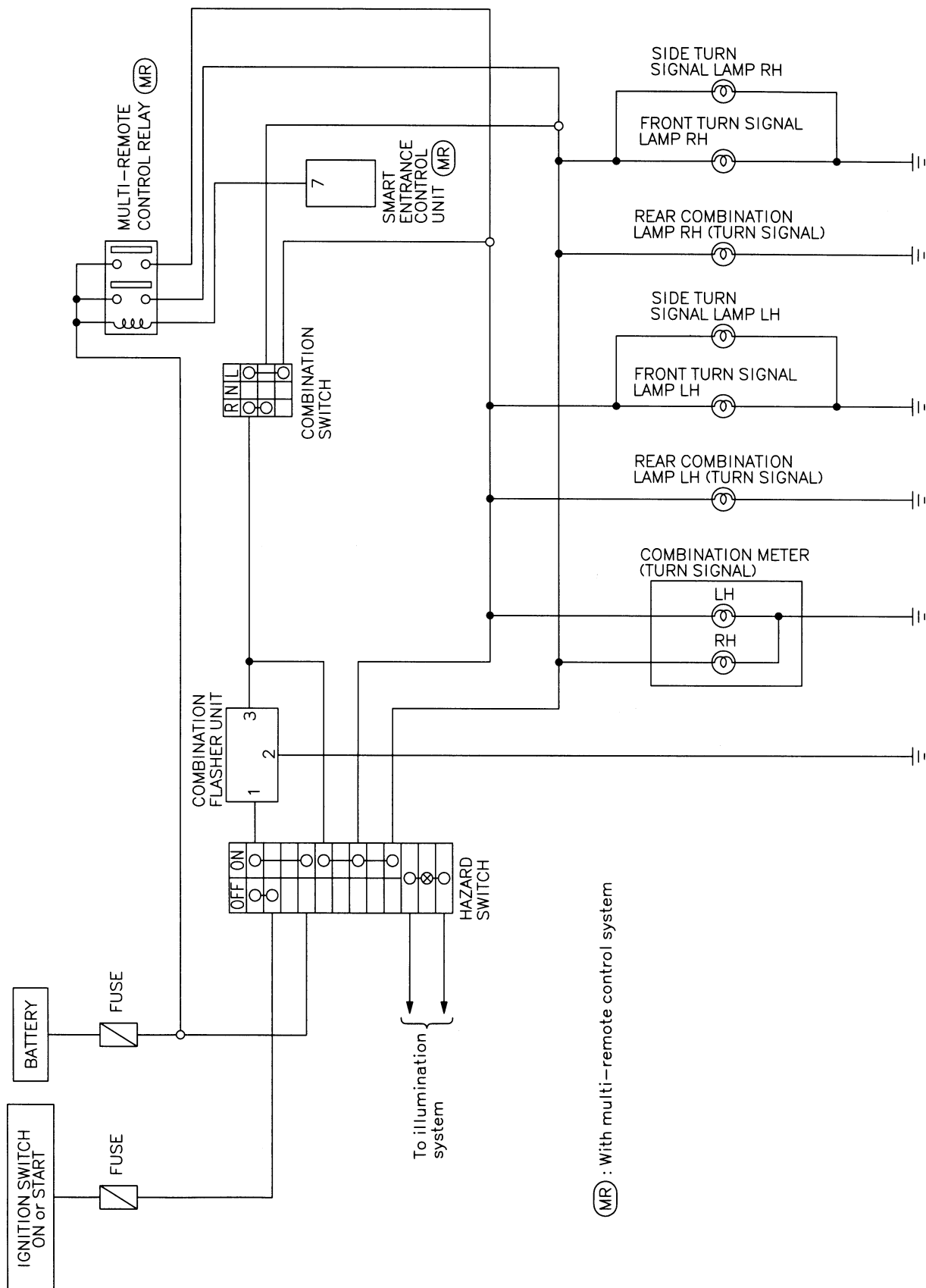
IDX

Schematic

LHD MODELS AND RHD MODELS WITHOUT CORNERING LAMP

NFEL0295

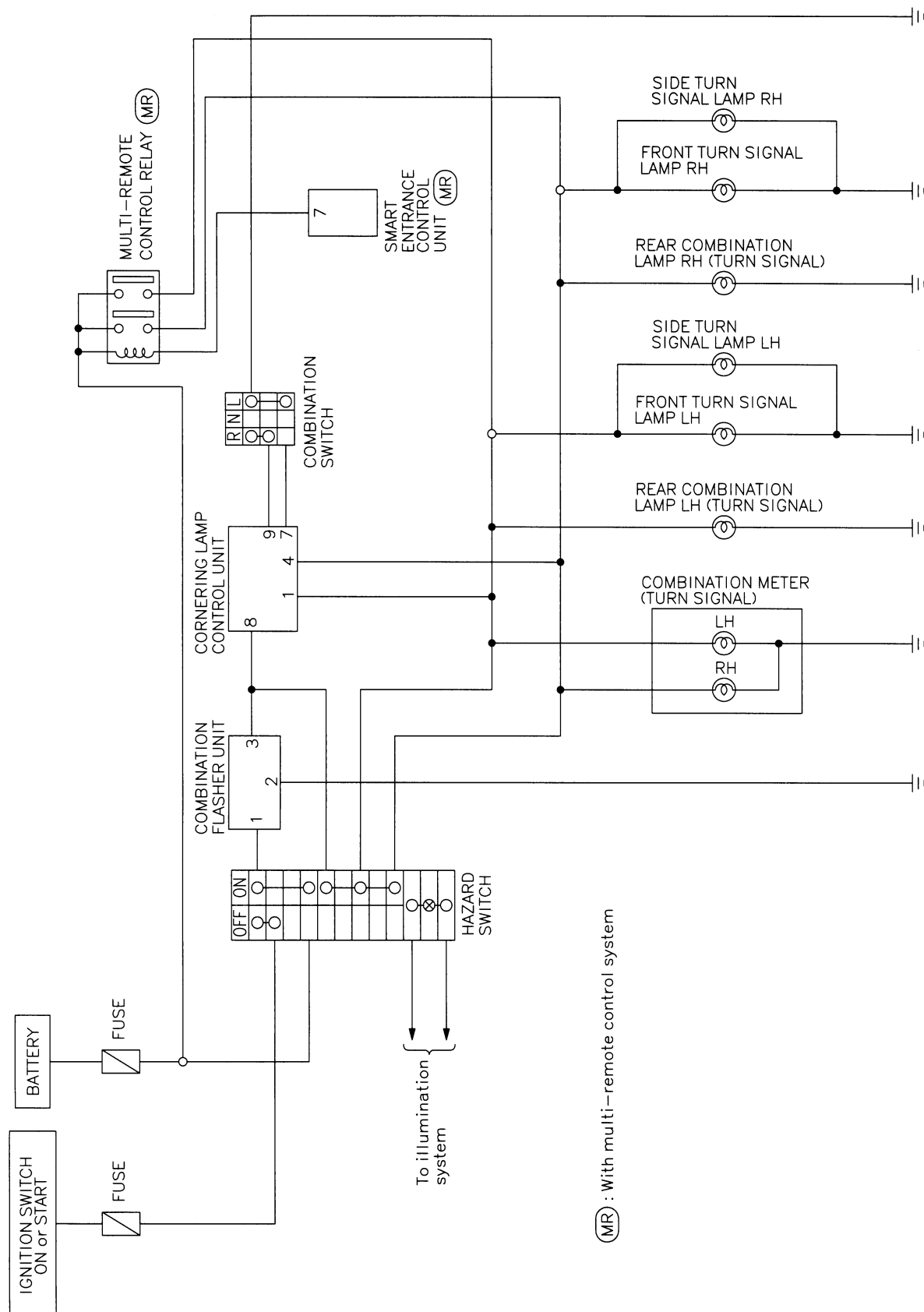
NFEL0295S01



MEL757K

RHD MODELS WITH CORNERING LAMP

NFEL0295S02



(MR) : With multi-remote control system

MEL129L

TURN SIGNAL AND HAZARD WARNING LAMPS

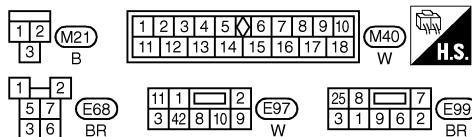
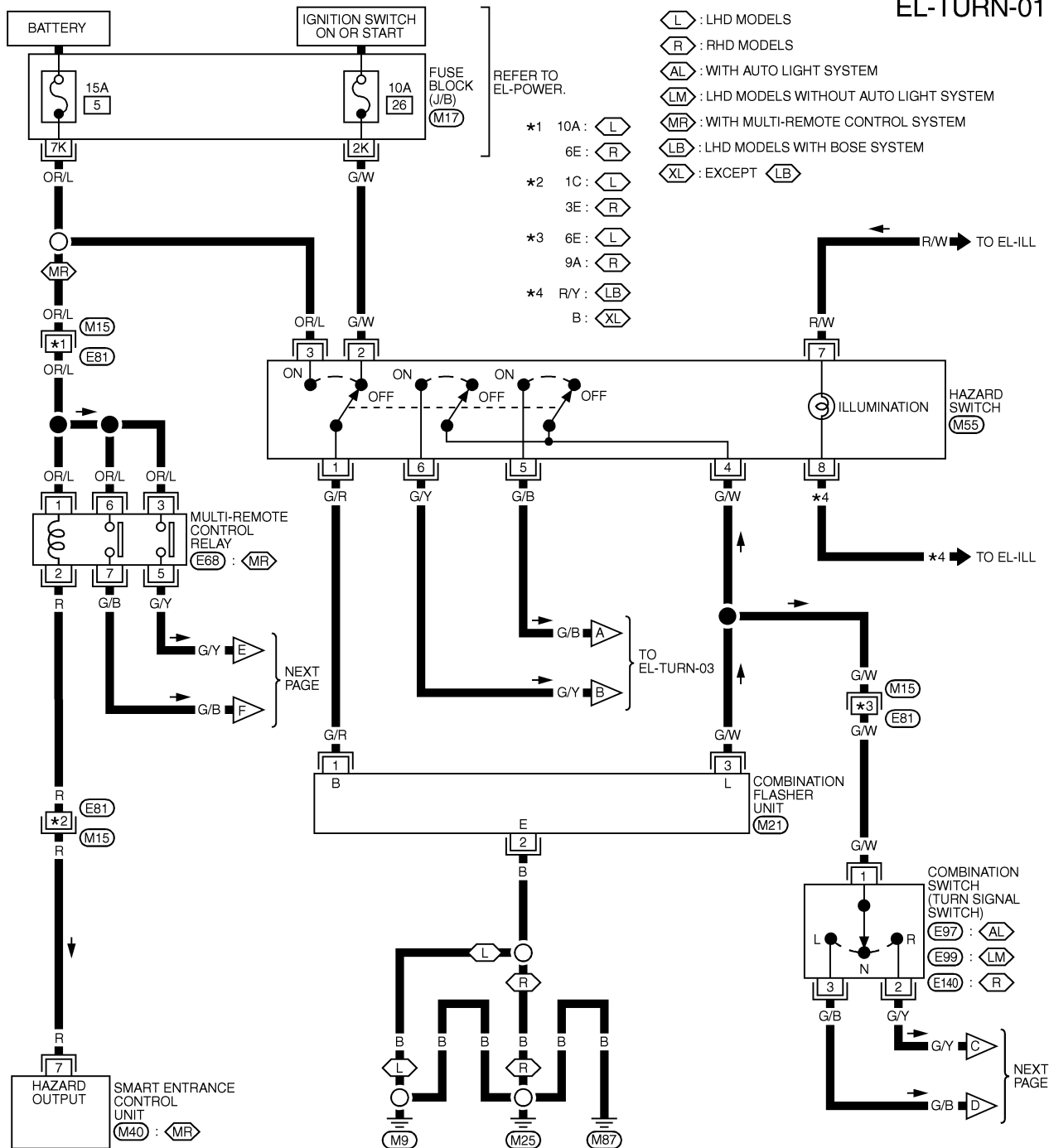
Wiring Diagram — TURN —

Wiring Diagram — TURN — LHD MODELS AND RHD MODELS WITHOUT CORNERING LAMP

NFEL0032

NFEL0032S01

EL-TURN-01

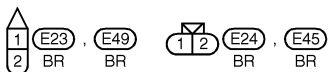
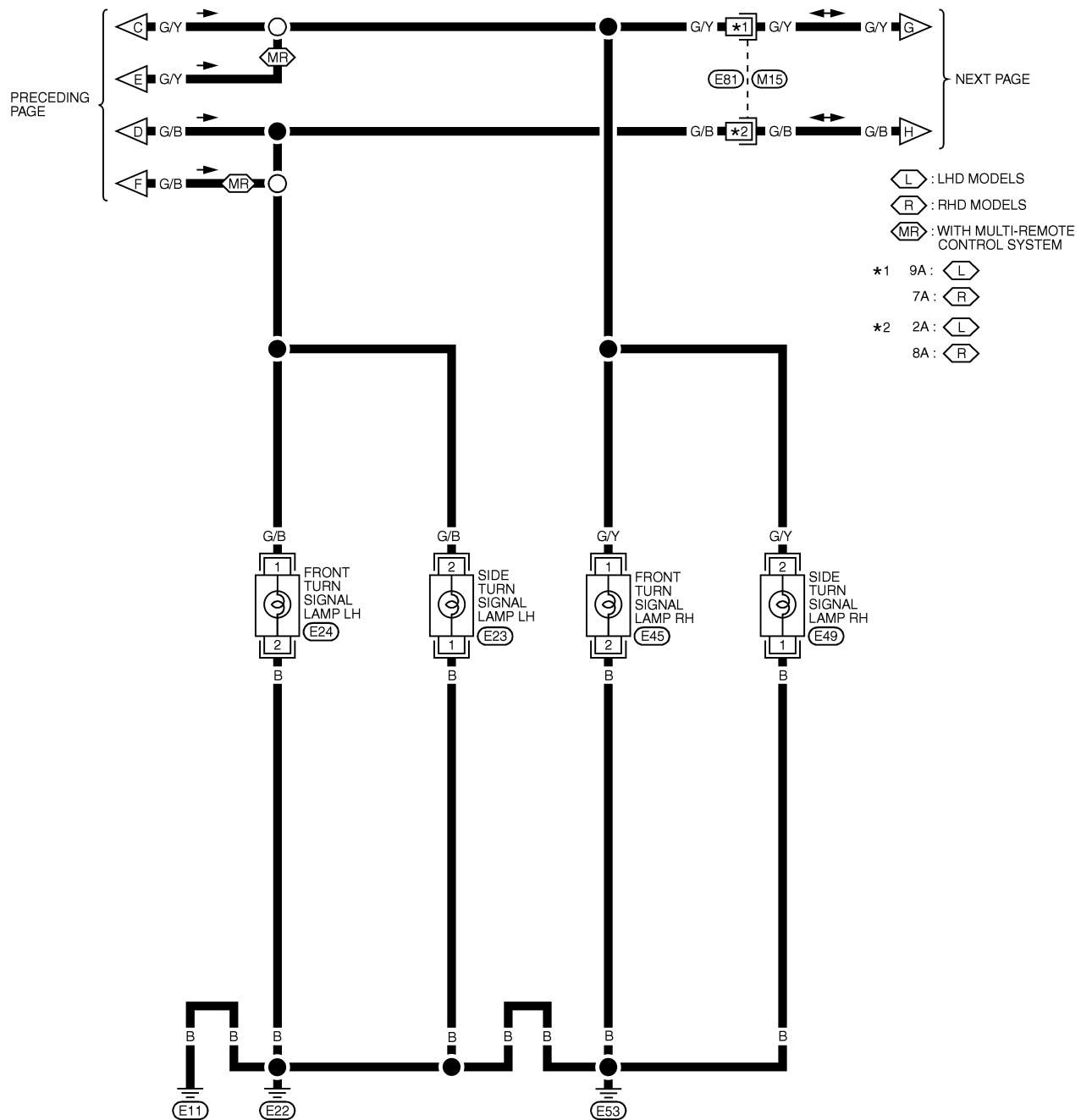


REFER TO THE FOLLOWING.

- (M15) -SUPER
MULTIPLE JUNCTION (SMJ)
- (M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL7700

EL-TURN-02

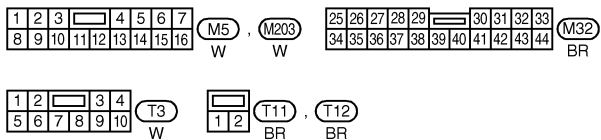
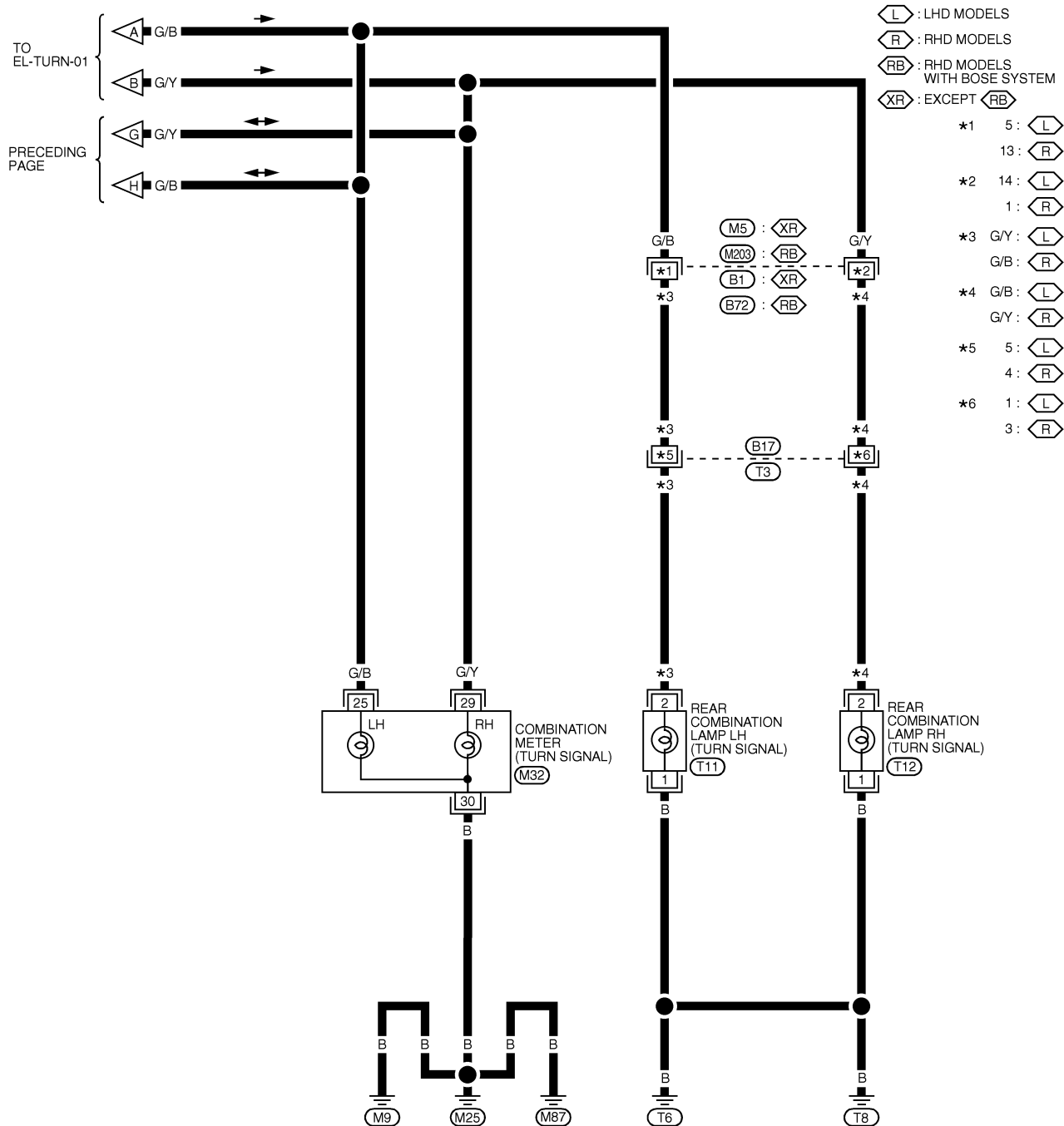


REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

<https://autolibrary.in>

Wiring Diagram — TURN — (Cont'd)

EL-TURN-03



MEL7720

RHD MODELS WITH CORNERING LAMP

NFEL0032S02

EL-TURN-04

GI

MA

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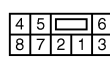
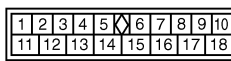
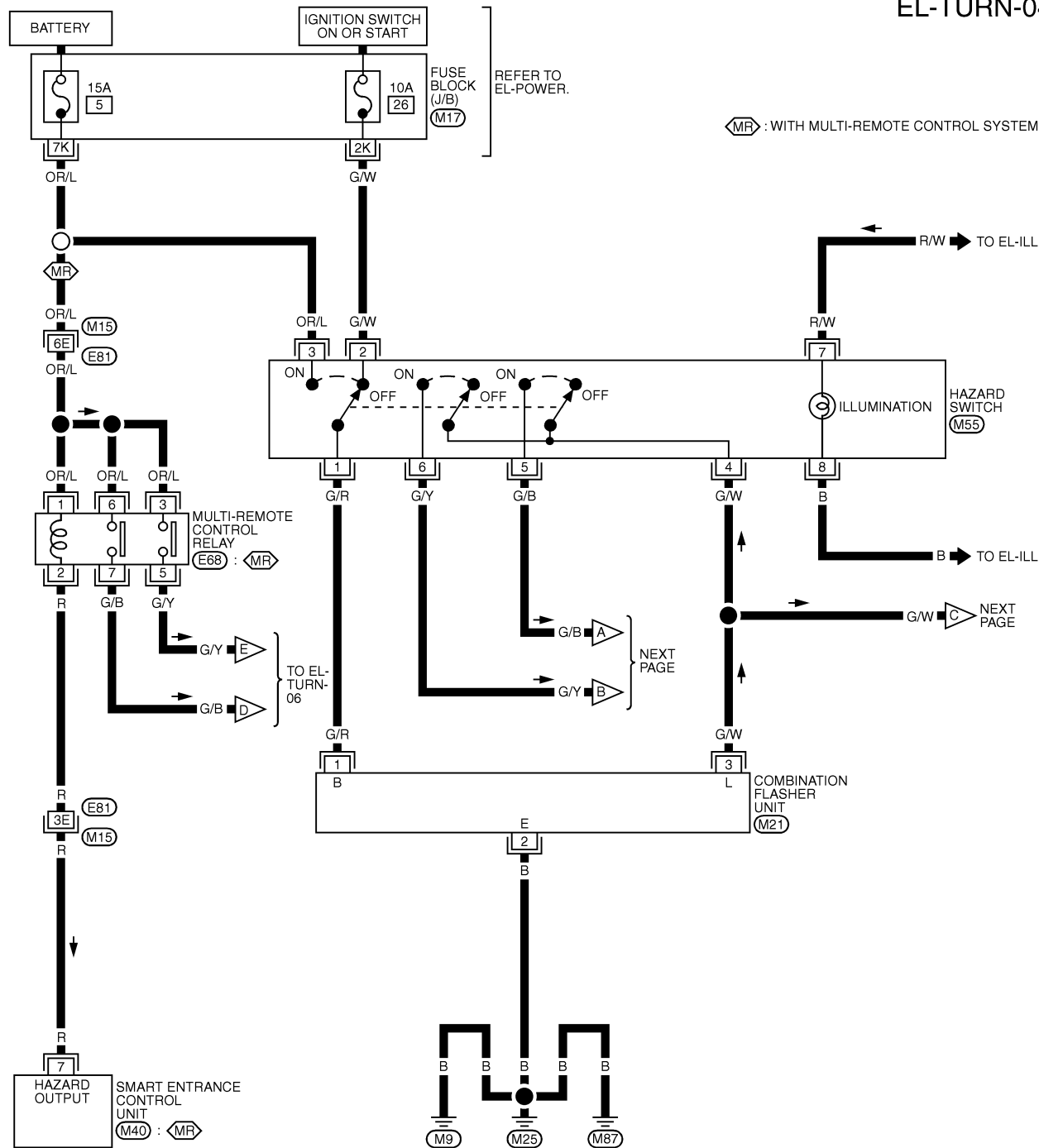
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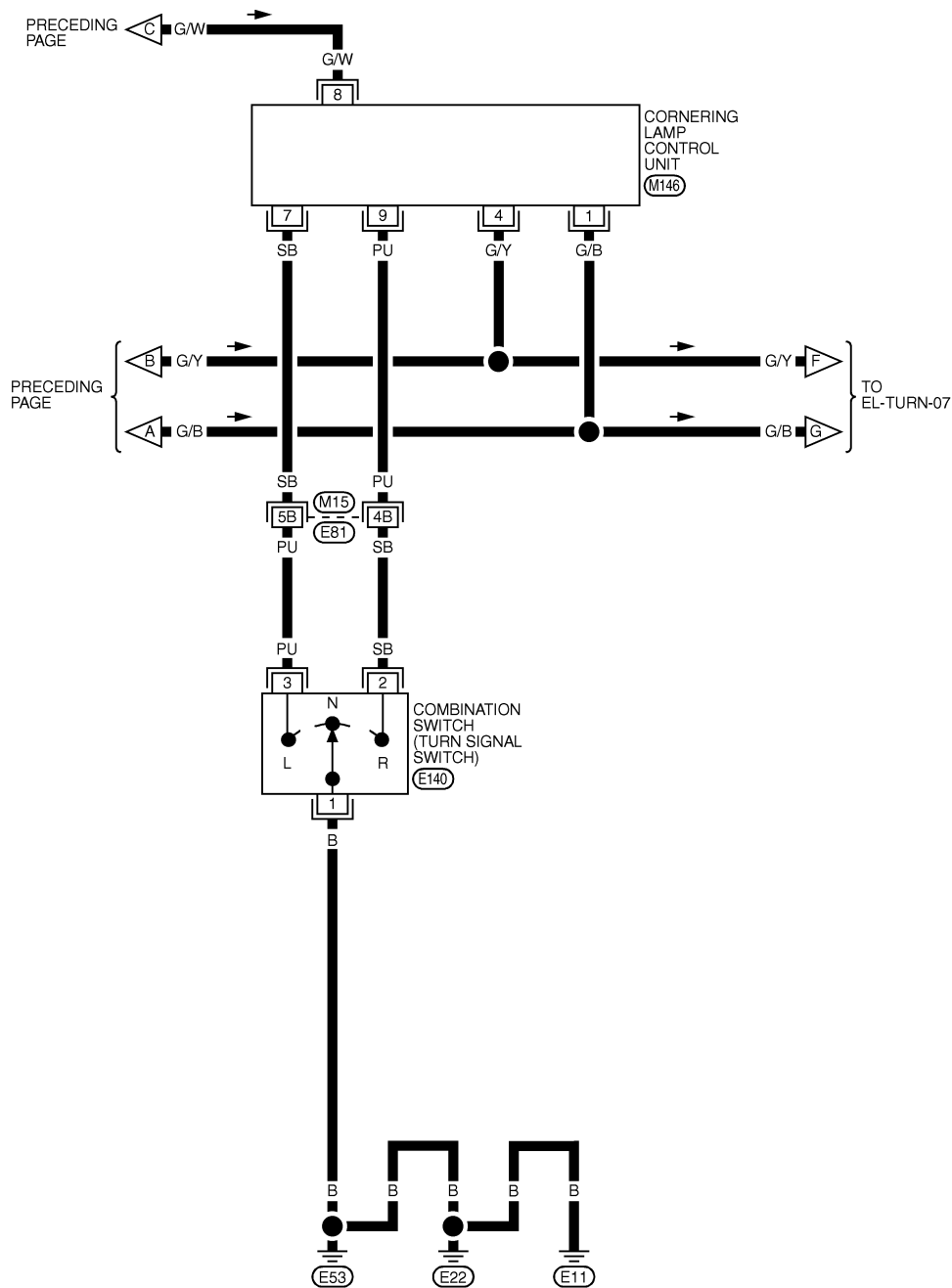
REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-05



1	2	3	4
5	6	7	8

(M146)
W

7	6	5	4
3	1	9	8

(E140)
BR

REFER TO THE FOLLOWING.

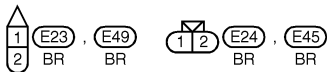
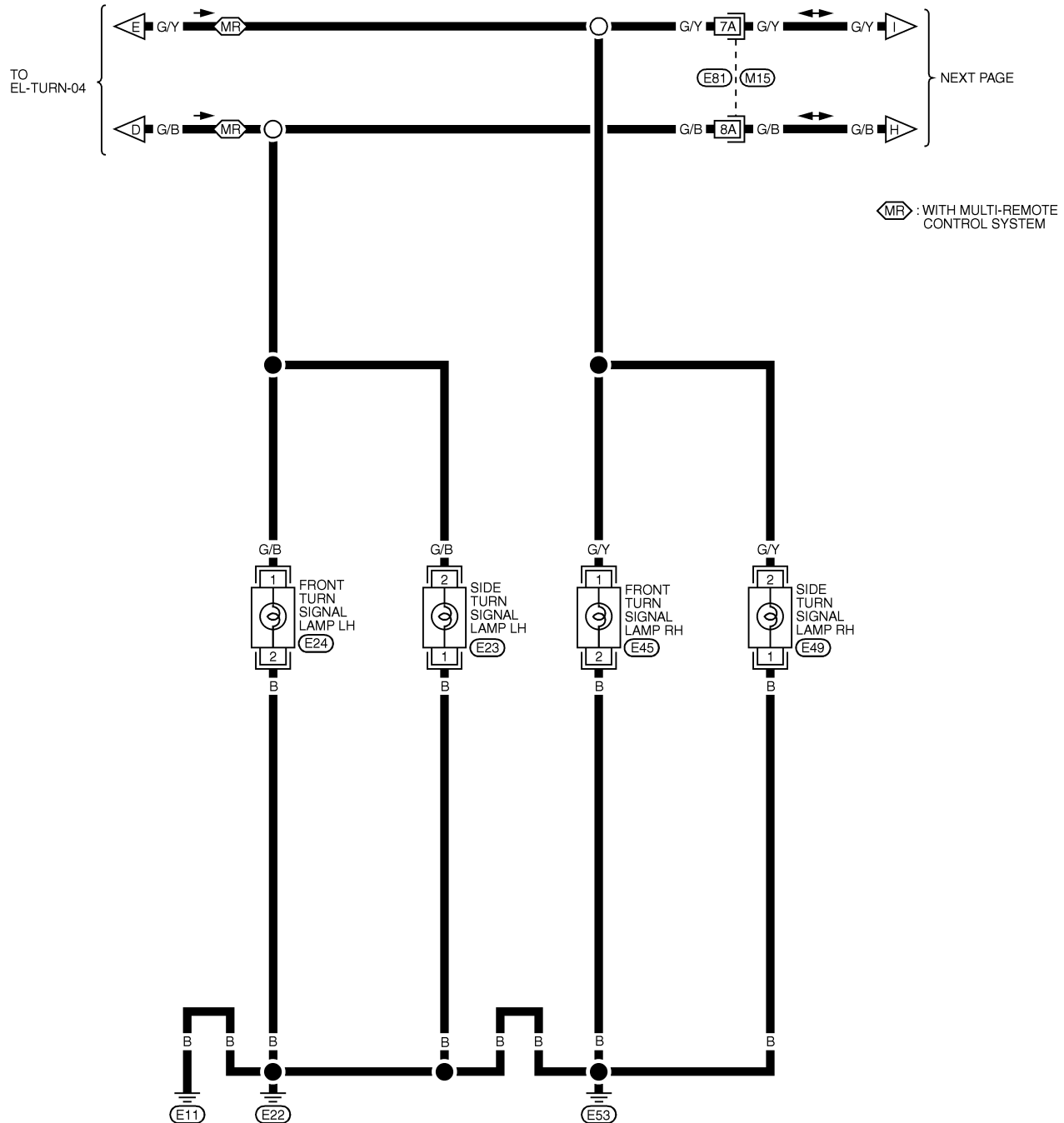
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL131L

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-06



REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

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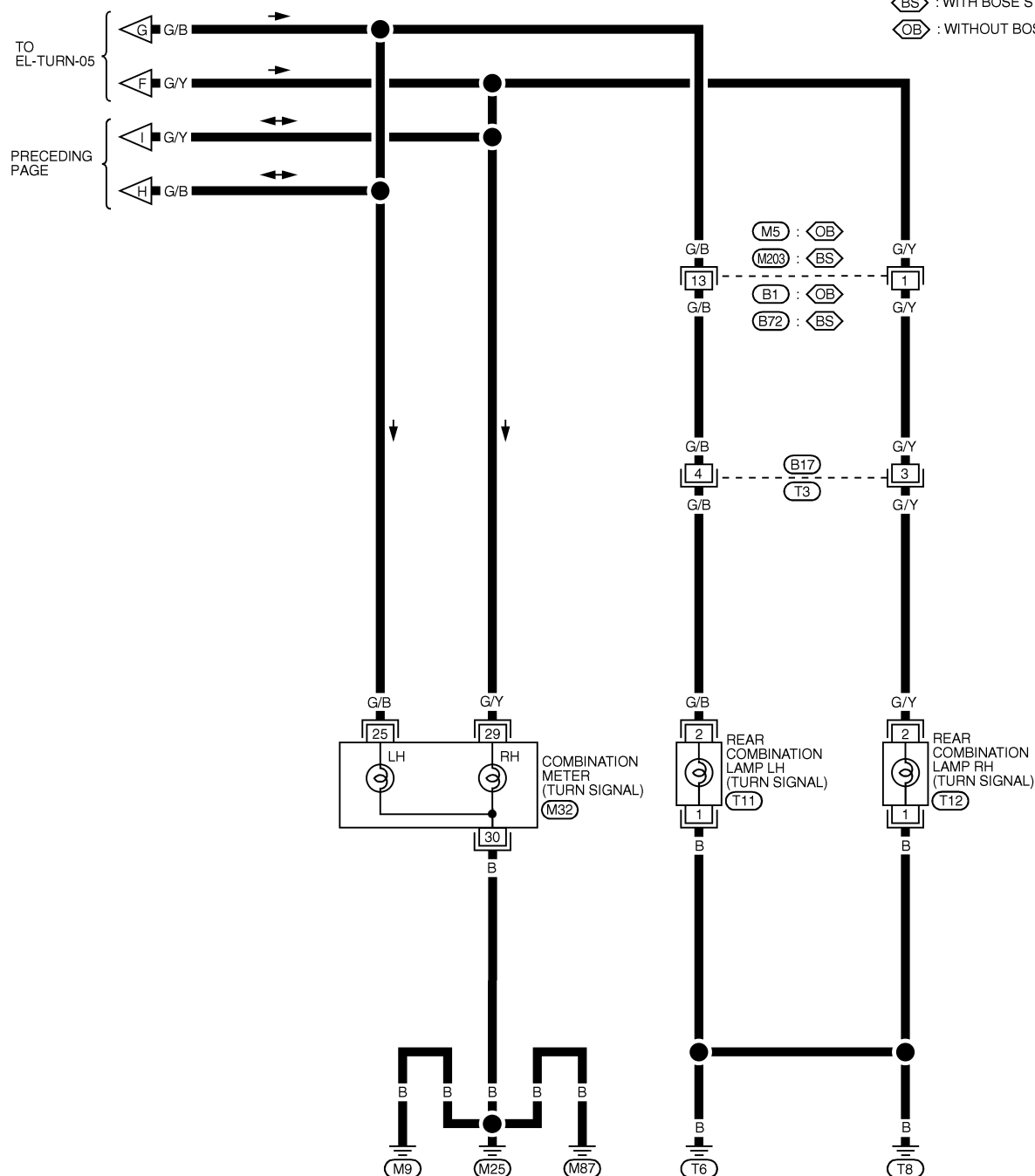
MEL7730

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-07

BS : WITH BOSE SYSTEM
OB : WITHOUT BOSE SYSTEM



1	2	3	4	5	6	7	M5	M203
8	9	10	11	12	13	14	W	W

25	26	27	28	29	30	31	32	33	M32
34	35	36	37	38	39	40	41	42	BR

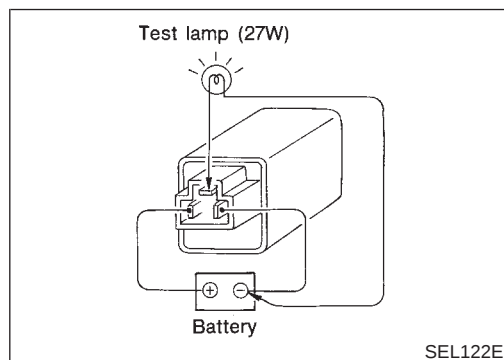
1	2	3	4	T3	1	2	T11	T12
5	6	7	8	W	BR	BR		

MEL7740

Trouble Diagnoses

NFEL0033

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	1. Hazard switch 2. Combination flasher unit 3. Open in combination flasher unit circuit	1. Check hazard switch. 2. Refer to combination flasher unit check. 3. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	1. 10A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit 5. Cornering lamp control unit (RHD models with cornering lamp)	1. Check 10A fuse [No. 26, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check the wire between combination flasher unit terminal 3 and turn signal switch terminal 1 for open circuit (LHD models and RHD models without cornering lamp). 5. Check the wire between cornering lamp control unit terminal 7 or 9 and turn signal switch terminal 3 or 2 for open circuit (RHD models with cornering lamp). 6. Replace cornering lamp control unit.
Hazard warning lamps do not operate but turn signal lamps operate.	1. 15A fuse 2. Hazard switch 3. Open in hazard switch circuit	1. Check 15A fuse [No. 5, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check the wire between combination flasher unit terminal 3 and hazard switch terminal 4 for open circuit.
Front turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds E11, E22 and E53	1. Check bulb. 2. Check grounds E11, E22 and E53.
Rear turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds T6 and T8	1. Check bulb. 2. Check grounds T6 and T8.
LH and RH turn indicators do not operate.	1. Ground	1. Check grounds M9, M25 and M87.
LH or RH turn indicator does not operate.	1. Bulb	1. Check bulb in combination meter.



Electrical Components Inspection

COMBINATION FLASHER UNIT CHECK

NFEL0034

NFEL0034S01

- Before checking, ensure that bulbs meet specifications.
- Connect a battery and test lamp to the combination flasher unit, as shown. Combination flasher unit is properly functioning if it blinks when power is supplied to the circuit.

System Description

NFEL0268

LHD MODELS

NFEL0268S03

The cornering lamp operation is controlled by the lighting switch which is built into the combination switch. Power is supplied at all times

With auto light

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box).

Without auto light

- to lighting switch terminal 11
- through 10A fuse (No. 60, located in the fuse and fusible link box).

Lighting Operation by Lighting Switch

NFEL0268S0301

With auto light

When lighting switch is 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 2
- from lighting switch terminal 11
- through lighting switch and body grounds E11, E22 and E53.

Tail lamp relay is then energized and power is supplied to cornering lamp relay terminal 1.

Without auto light

When lighting switch is in 1ST (or 2ND) position, power is supplied

- to cornering lamp relay terminal 1
- through lighting switch terminal 12.

With the ignition switch in the ON or START position, power is supplied to cornering lamp relay terminal 5

- through 10A fuse [No. 26, located in the fuse block (J/B)].

Ground is supplied to cornering lamp relay terminal 2 through body grounds E11, E22 and E53.

With power and ground supplied, the cornering lamp relay is energized.

Power is supplied

- from terminal 3 of the cornering lamp relay
- to cornering lamp switch terminal 61.

RH turn

When the turn signal lever is moved to the RH position, power is supplied

- from terminal 61 of the cornering lamp switch
- through terminal 62 of the cornering lamp switch
- to cornering lamp RH terminal 1.

Ground is supplied to terminal 2 of cornering lamp RH through body grounds E11, E22 and E53.

The RH cornering lamp illuminates until the turn signal lever returns to NEUTRAL position.

LH turn

When the turn signal lever is moved to the LH position, power is supplied

- from terminal 61 of the cornering lamp switch
- through terminal 63 of the cornering lamp switch
- to cornering lamp LH terminal 1.

Ground is supplied to terminal 2 of cornering lamp LH through body grounds E11, E22 and E53.

The LH cornering lamp illuminates until the turn signal lever returns to NEUTRAL position.

RHD MODELS

NFEL0268S04

The cornering lamp operation is controlled by the lighting switch which is built into the combination switch and cornering lamp control unit.

Power is supplied at all times

- to lighting switch terminal 11
- through 10A fuse (No. 60, located in the fuse and fusible link box).

Lighting Operation by Lighting Switch

NFEL0268S0401

When lighting switch is in 1ST (or 2ND) position, power is supplied

- to cornering lamp control unit terminal 2
- through lighting switch terminal 12.

With the ignition switch in the ON or START position, power is supplied to cornering lamp control unit terminal 3

- through 10A fuse [No. 26, located in the fuse block (J/B)].

Power is supplied

- from terminal 7 and 9 of the cornering lamp control unit
- to turn signal switch terminal 2 and 3.

RH turn

When the turn signal lever is moved to the RH position, ground is supplied

- to turn signal switch terminal 1
- through body grounds E11, E22 and E53.

Power is supplied

- from terminal 10 of the cornering lamp control unit
- to cornering lamp RH terminal 1.

Ground is supplied to terminal 2 of cornering lamp RH through body grounds E11, E22 and E53. The RH cornering lamp illuminates until the turn signal lever returns to NEUTRAL position.

LH turn

When the turn signal lever is moved to the LH position, ground is supplied

- to turn signal switch terminal 1
- through body grounds E11, E22 and E53.

Power is supplied

- from terminal 5 of the cornering lamp control unit
- to cornering lamp LH terminal 1.

Ground is supplied to terminal 2 of cornering lamp LH through body grounds E11, E22 and E53. The LH cornering lamp illuminates until the turn signal lever returns to NEUTRAL position.

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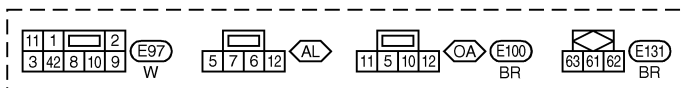
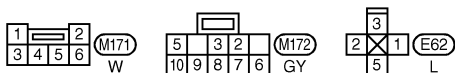
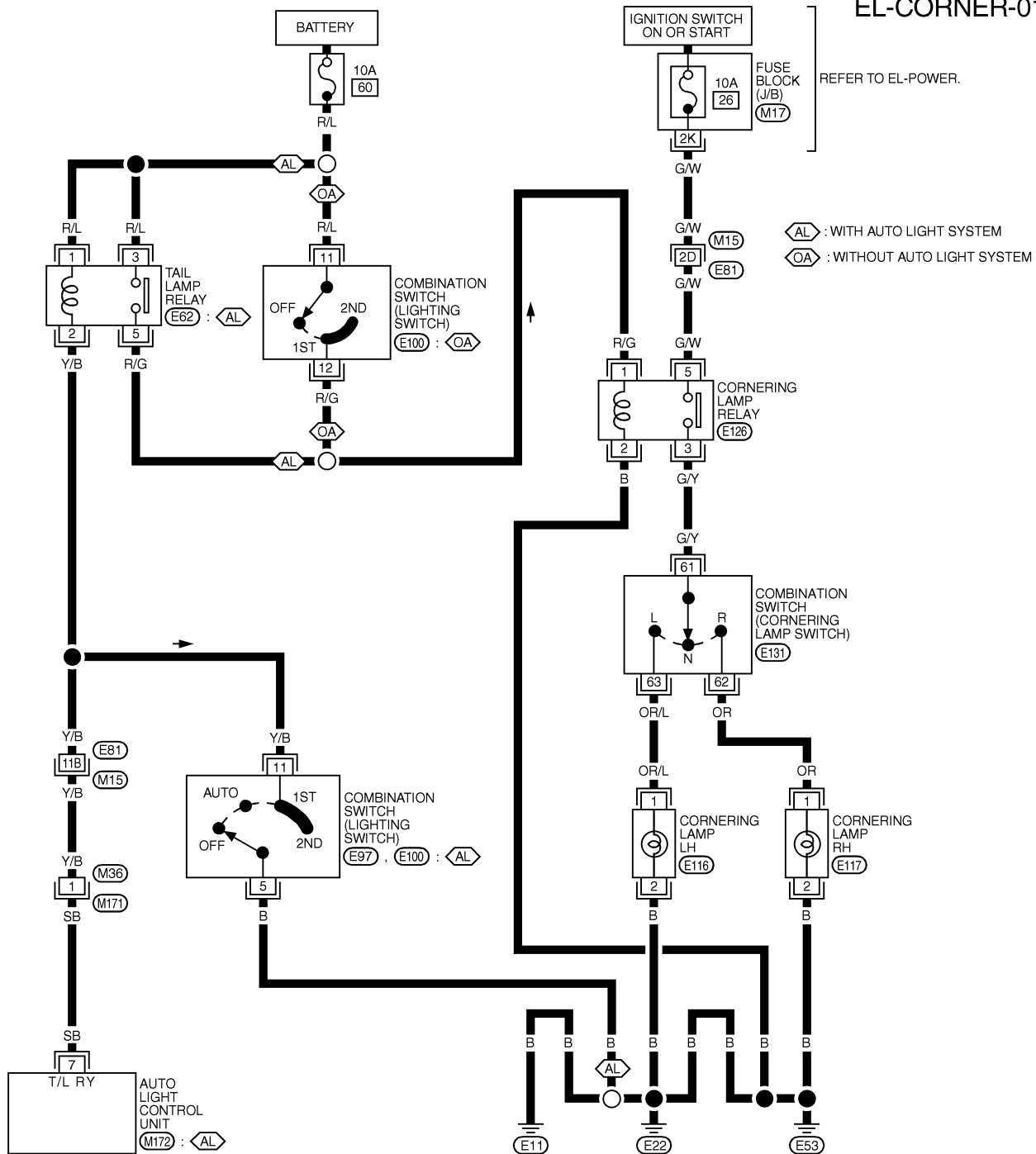
Wiring Diagram — CORNER —

NFEL0270

NFEL0270S01

LHD MODELS

EL-CORNER-01



REFER TO THE FOLLOWING.

- (M15) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (M17) -FUSE BLOCK-
- JUNCTION BOX (J/B)

MEL7750

RHD MODELS

NFEL0270S02

EL-CORNER-02

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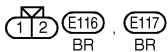
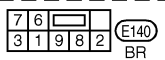
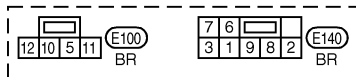
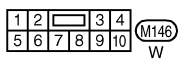
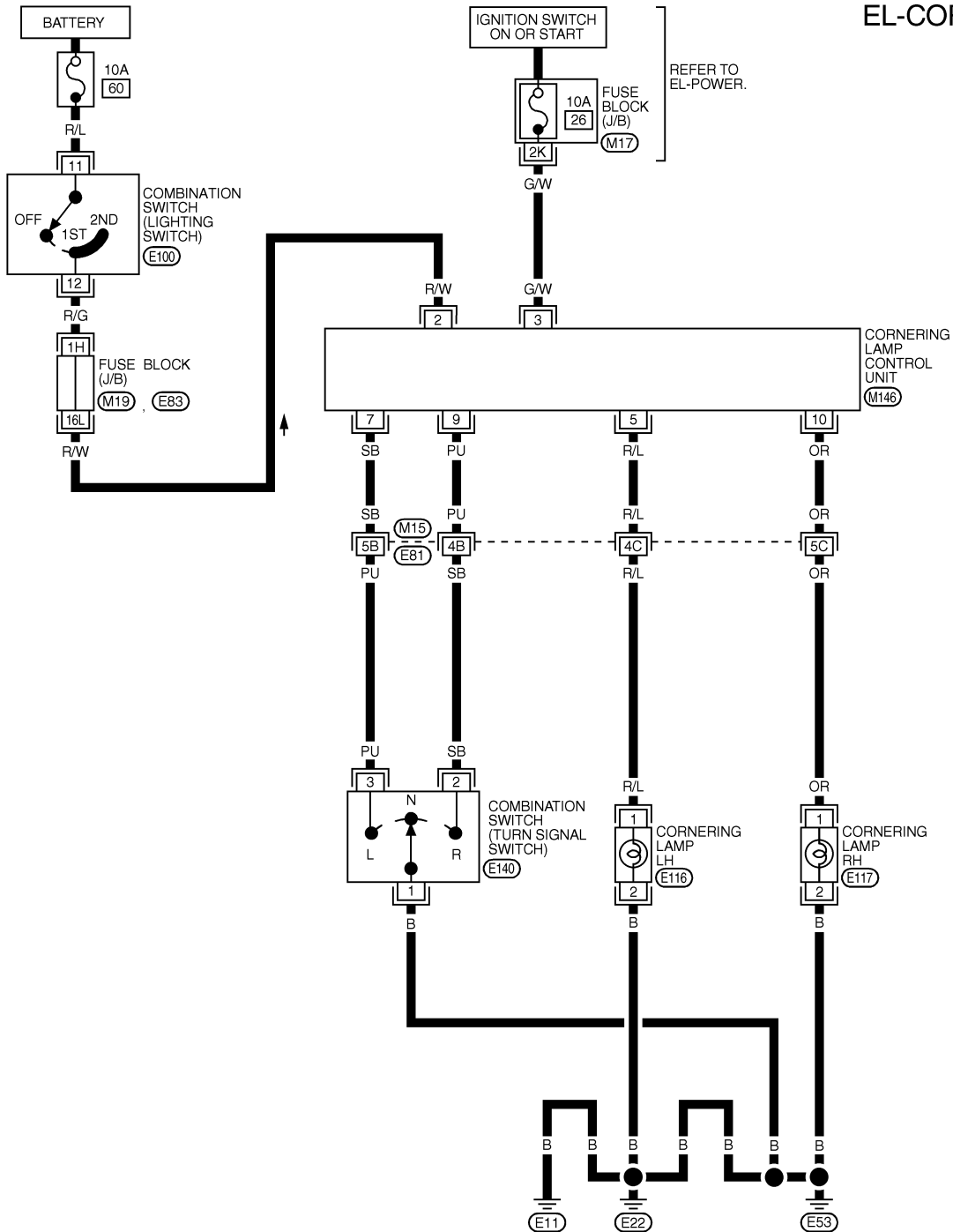
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REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

(M17), (M19), (E83)

-FUSE BLOCK-
JUNCTION BOX (J/B)

MEL7760

Trouble Diagnoses/RHD Models

NFEL0316

Symptom	Possible cause	Repair order
Cornering lamps do not operate but turn signal lamps operate.	1. 10A fuse 2. Lighting switch circuit 3. Lighting switch 4. Cornering lamp control unit	1. Check 10A fuse [No. 26, located in fuse block (J/B)]. Verify battery voltage is present at terminal 3 of cornering lamp control unit. 2. Check 10A fuse (No. 60, located in fuse and fusible link box.) Verify battery voltage is present at terminal 11 of lighting switch. 3. Check harness for open or short between lighting switch and cornering lamp control unit. 4. Check lighting switch. 5. Replace the cornering lamp control unit.
LH cornering lamp does not operate but RH cornering operates.	1. Bulb 2. Cornering lamp LH circuit 3. Cornering lamp ground LH circuit	1. Check bulb 2. Check harness for open or short between cornering lamp LH and cornering lamp control unit. 3. Check harness for open or short between cornering lamp LH and ground.
RH cornering lamp does not operate but LH cornering operates.	1. Bulb 2. Cornering lamp RH circuit 3. Cornering lamp ground RH circuit	1. Check bulb 2. Check harness for open or short between cornering lamp RH and cornering lamp control unit. 3. Check harness for open or short between cornering lamp RH and ground.

System Description

NFEL0035

The illumination lamp operation is controlled by the lighting switch which is built into the combination switch. Power is supplied at all times

- to power window relay terminal 3, and
- to power window main switch terminal 5 (LHD models) or 3 (RHD models)
- through 40A fusible link (letter I, located in the fuse and fusible link box).
- through circuit breaker.

With auto light

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box).

Without auto light

- to lighting switch terminal 11
- through 10A fuse (No. 60, located in the fuse and fusible link box).

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

- to combination meter terminal 24 (with conventional meter)
- through 10A fuse [No. 30, located in the fuse block (J/B)]
- to terminal 6 of front power window switch (passenger side), rear power window switch LH and RH and,
- to power window relay terminal 2 (LHD models) or 1 (RHD models)
- through 10A fuse [No. 10, located in the fuse block (J/B)].

Ground is supplied

- to terminal 7 of front power window switch (passenger side) and,
- to power window relay terminal 1 (LHD models) or 2 (RHD models)
- through body grounds M9, M25 and M87
- to terminal 7 of rear power window switch LH and RH
- through body grounds.

With power and ground supplied, illumination lamps illuminate and power window relay is energized.

Power is supplied

- from power window relay terminal 5
- through power window main switch and body grounds M9, M25 and M87.

Power window main switch illumination lamps illuminate.

LIGHTING OPERATION BY LIGHTING SWITCH

With auto light

When lighting switch is 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 2
- through lighting switch and body grounds E11, E22 and E53.

Tail lamp relay is then energized and illumination lamps illuminate.

Without auto light

When lighting switch is in 1ST (or 2ND) position, power is supplied

- to illumination lamps
- through lighting switch terminal 12

Ground is supplied and illumination lamps illuminate.

The illumination control switch that controls the amount of current to the illumination system. As the amount of current increases, the illumination becomes brighter.

The ground for illumination is controlled through terminals 1 (LHD models with BOSE system) or 3 and 5 (LHD models without BOSE system and RHD models) of the illumination control switch and body grounds M9, M25 and M87.

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NFEL0035S01

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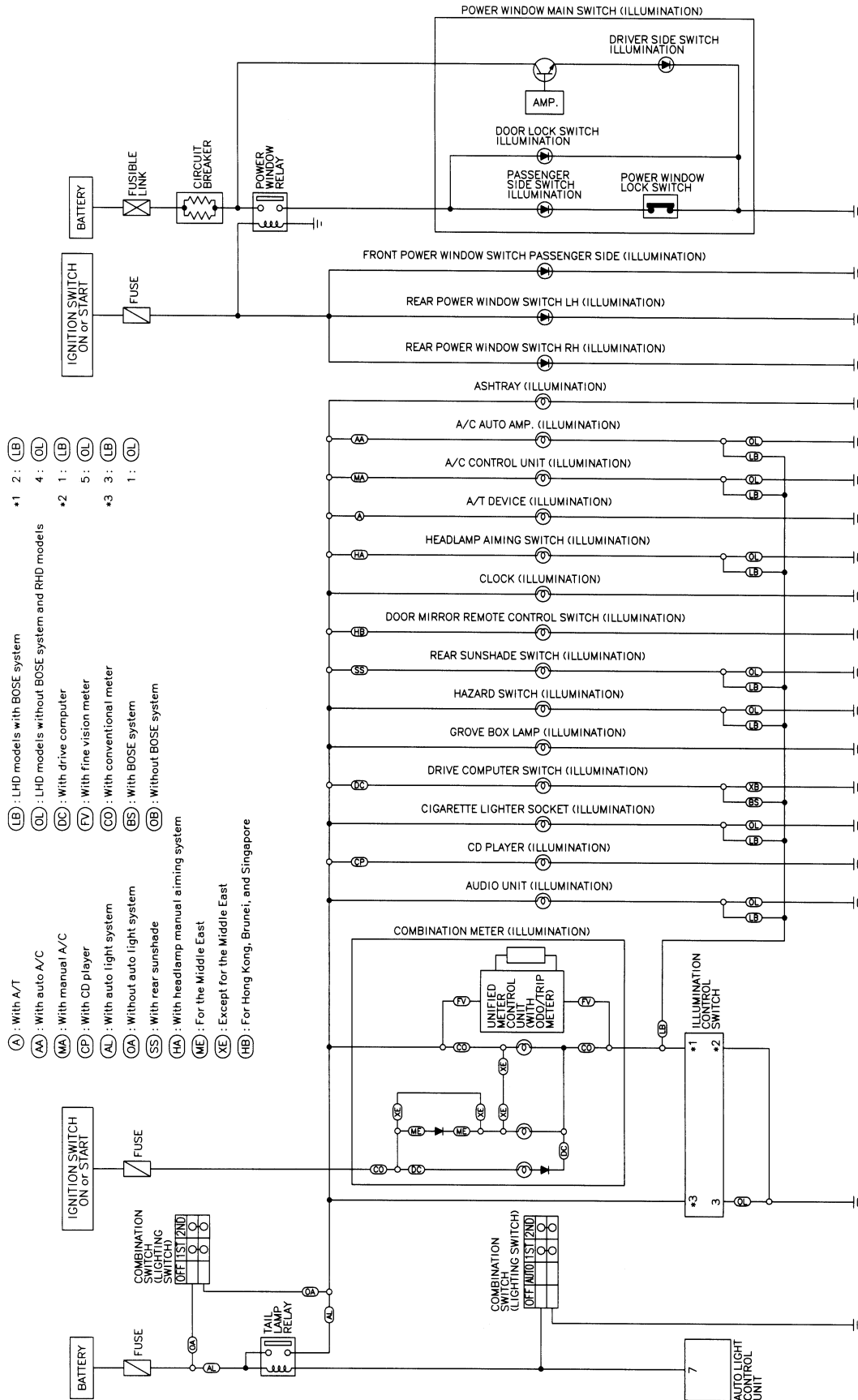
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MEL777O

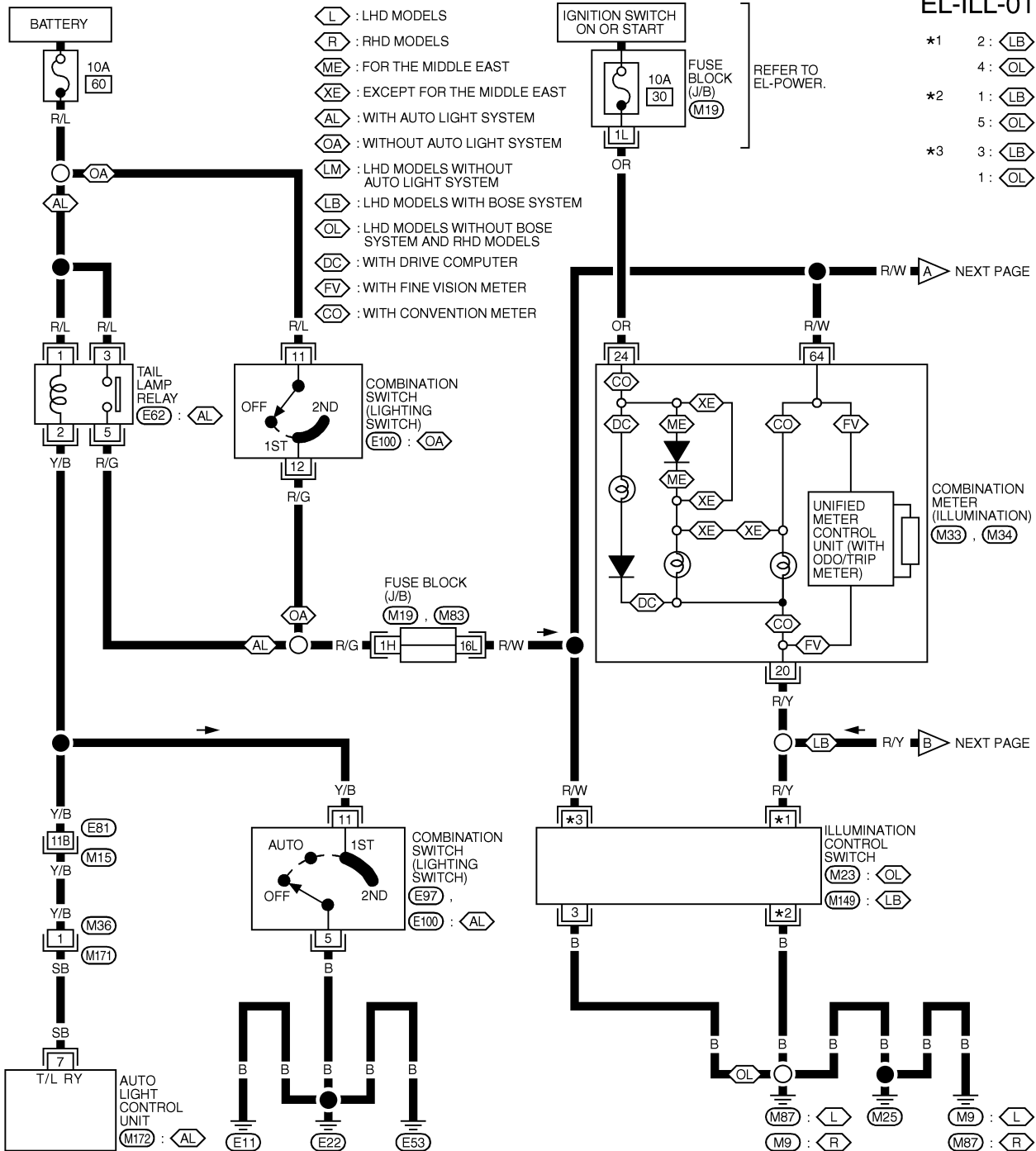
Wiring Diagram — ILL —

NFEL0037

EL-ILL-01

- *1 2: (LB)
4: (OL)
*2 1: (LB)
5: (OL)
*3 3: (LB)
1: (OL)

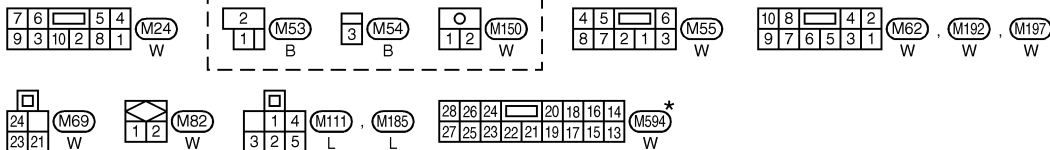
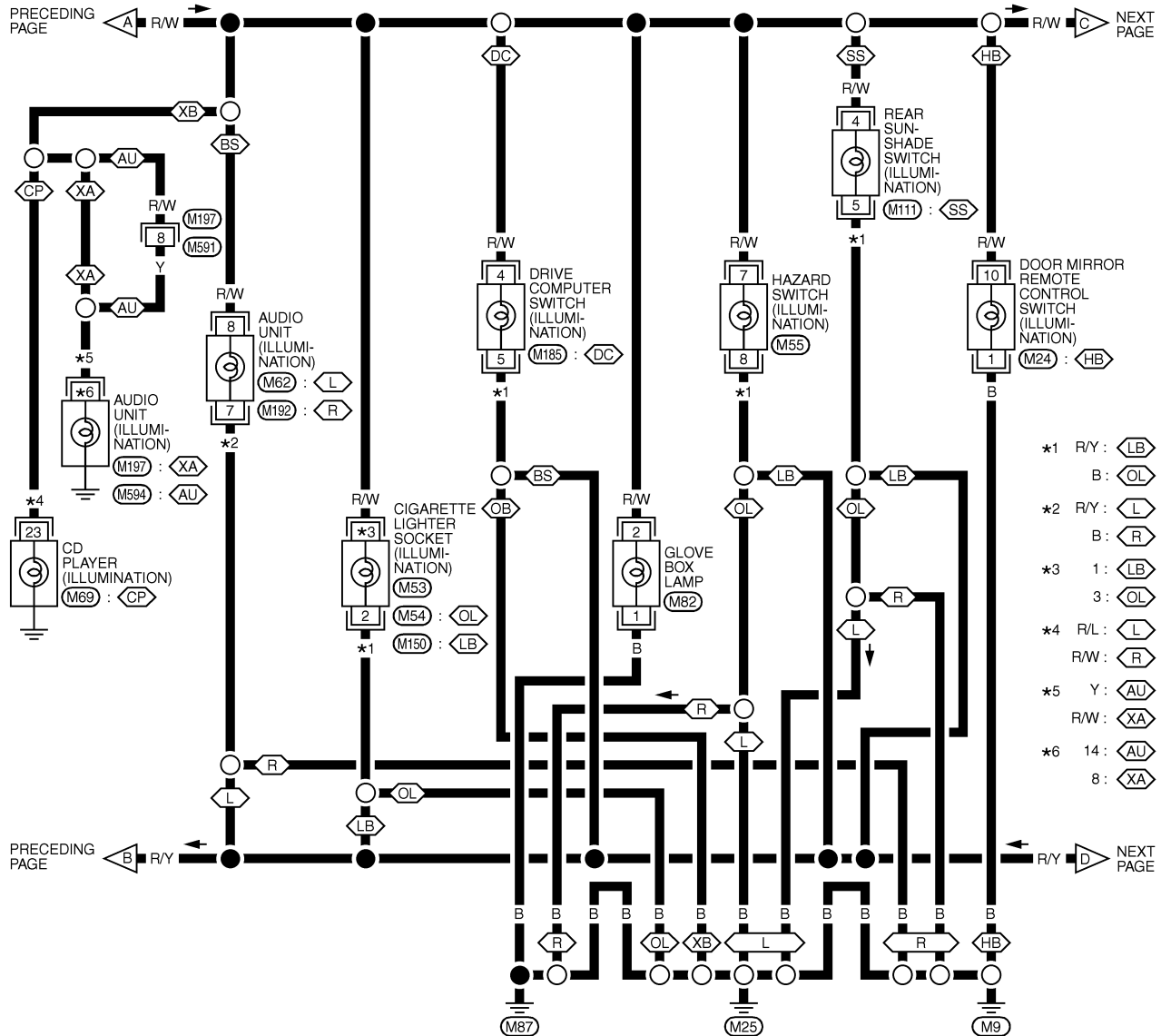
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REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(M19, E83) -FUSE BLOCK-
JUNCTION BOX (J/B)

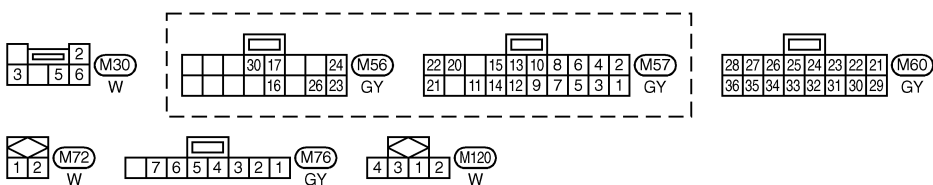
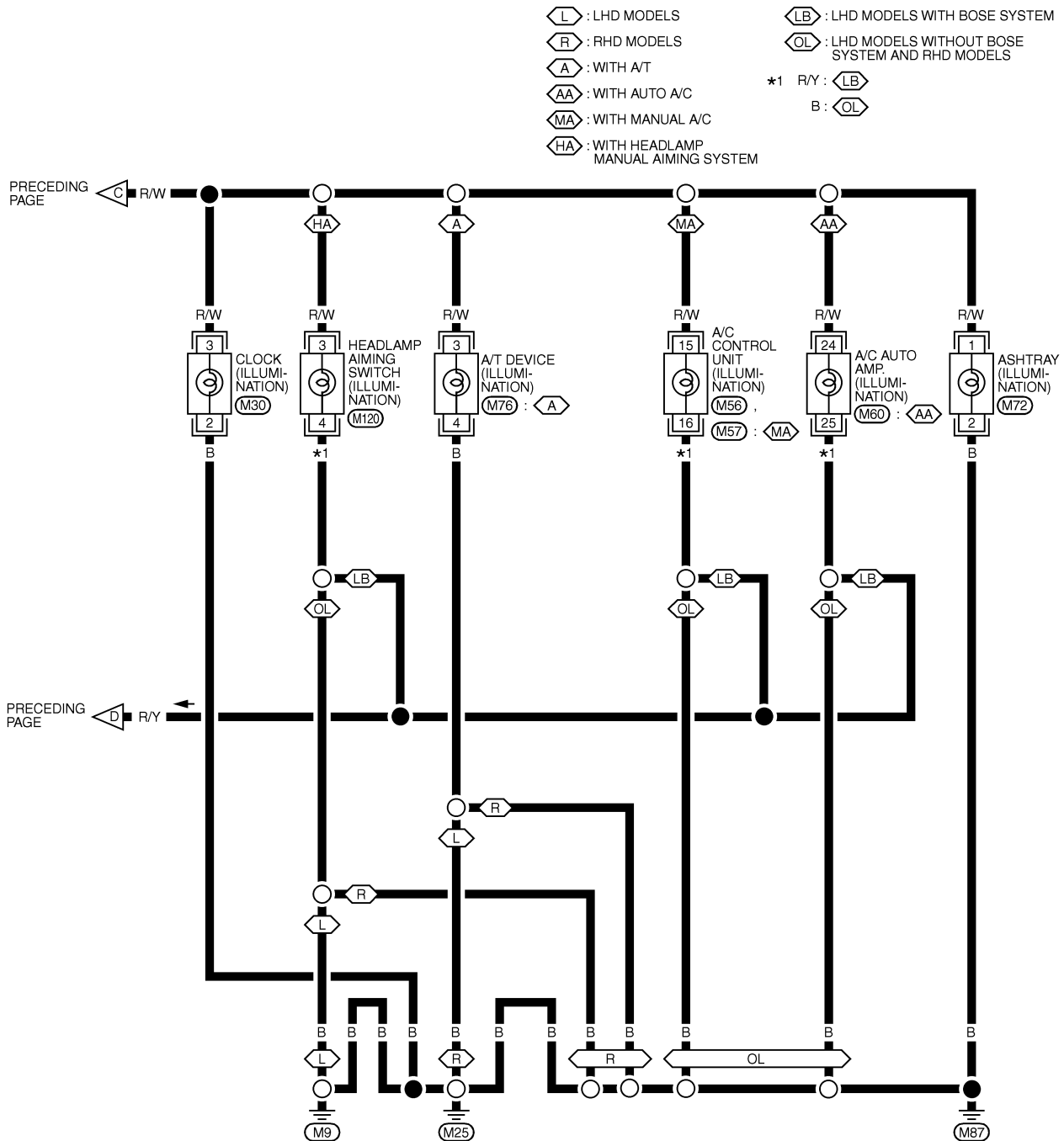
MEL7780

- (L) : LHD MODELS
 (R) : RHD MODELS
 (AU) : FOR AUSTRALIA
 (XA) : EXCEPT (AU)
 (BS) : WITH BOSE SYSTEM
 (XB) : WITHOUT BOSE SYSTEM
 (LB) : LHD MODELS WITH BOSE SYSTEM
 (OL) : LHD MODELS WITHOUT BOSE SYSTEM AND RHD MODELS
 (SS) : WITH REAR SUNSHADE
 (HB) : FOR HONG KONG, BRUNEI AND SINGAPORE
 (CP) : WITH CD PLAYER
 (DC) : WITH DRIVE COMPUTER



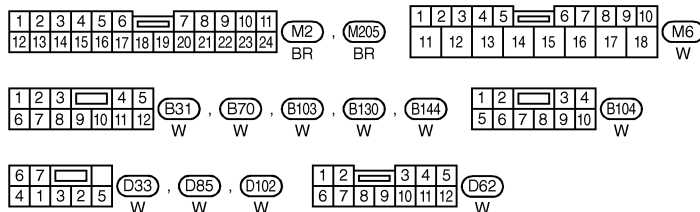
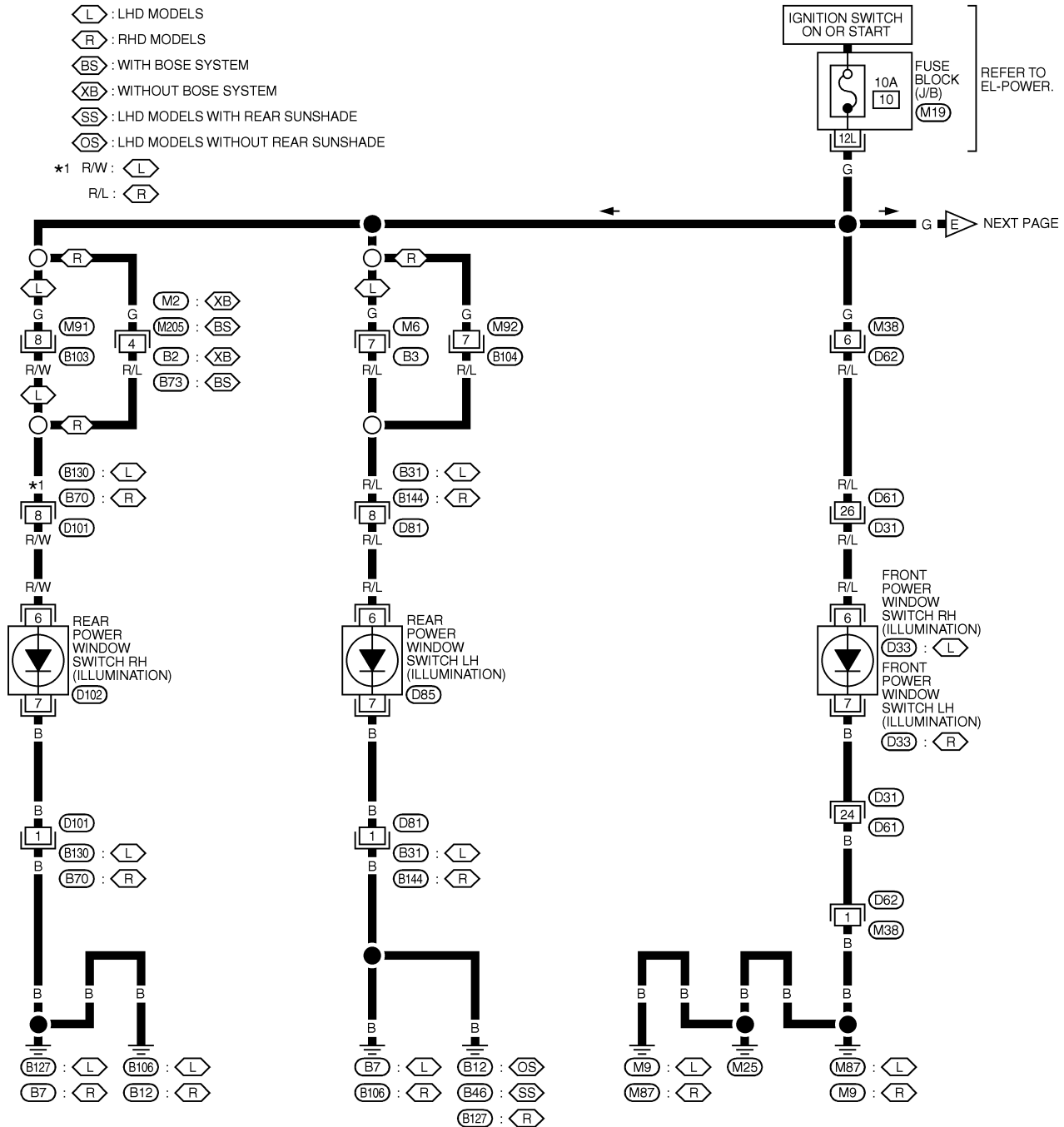
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

EL-ILL-03



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EL-ILL-04

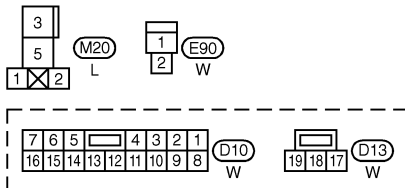
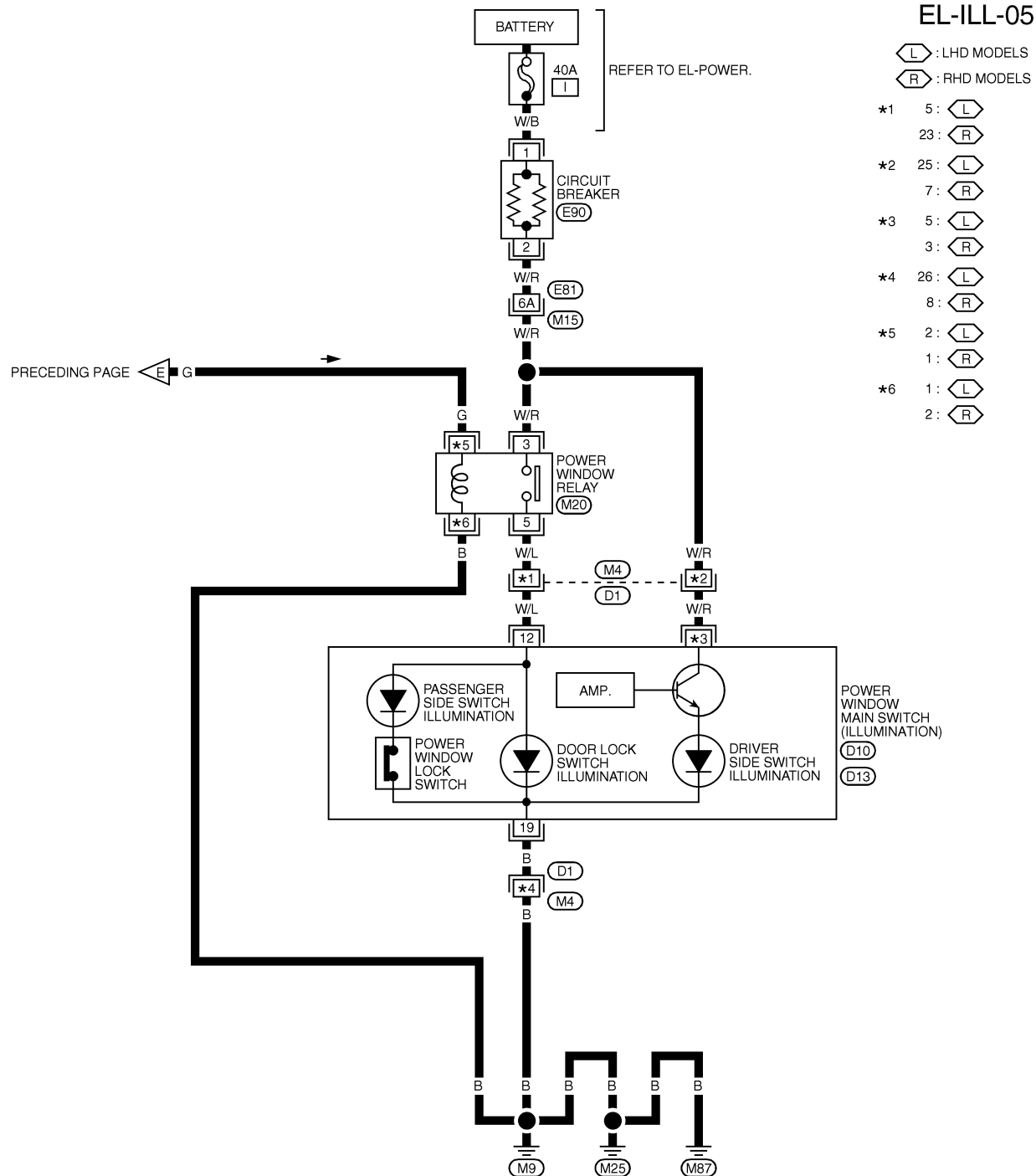


REFER TO THE FOLLOWING.

D31 -SUPER
MULTIPLE JUNCTION (SMJ)

(M19) -FUSE BLOCK-
JUNCTION BOX (J/B)

EL-ILL-05



REFER TO THE FOLLOWING.
(M15) , (D1) -SUPER
MULTIPLE JUNCTION (SMJ)

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System Description

NFEL0165

NFEL0165S01

POWER SUPPLY AND GROUND

Power is supplied at all times:

- through 40A fusible link (Letter I, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to smart entrance control unit terminal 11 or time control unit terminal 14.

Power is supplied at all times:

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to key switch terminal 2 and
- to smart entrance control unit terminal 10
- through 10A fuse [No. 13, located in the fuse block (J/B)]
- to interior lamp, key hole illumination, front step lamp (LH and RH), spot lamp, vanity mirror (LH and RH) and trunk room lamp.

When the key is removed from ignition key cylinder, power is interrupted:

- through key switch terminal 1
- to smart entrance control unit terminal 32 or time control unit terminal 10.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33 or time control unit terminal 18.

Ground is supplied:

- to smart entrance control unit or time control unit terminal 16
- through body grounds terminals M9, M25 and M87.

When the front driver side door is opened, ground is supplied:

- through body grounds B30 (LHD models) or B7 (RHD models) and B12
- to front door switch (driver side) terminal 3
- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29 or time control unit terminal 20.

When the front passenger side door is opened, ground is supplied:

- through case ground of front door switch (passenger side)
- to front door switch terminal (passenger side) 1
- to smart entrance control unit terminal 28 or time control unit terminal 7.

When any other door (except front door) is opened, ground is supplied to smart entrance control unit terminal 28 or time control unit terminal 7 in the same manner as the front door switch.

When the front driver side door is unlocked, the smart entrance control unit or time control unit receives a ground signal:

- through body grounds terminals M9, M25 and M87
- to front door lock actuator (door unlock sensor) (driver side) terminal 4 or door lock switch (driver side) terminal 2
- from front door lock actuator (door unlock sensor) (driver side) terminal 2 or door lock switch (driver side) terminal 1
- to smart entrance control unit terminal 36 or time control unit terminal 9.

When a signal, or combination of signals is received by the smart entrance control unit or time control unit, ground is supplied:

- through smart entrance control unit terminal 8 or time control unit terminal 5
- to interior lamp terminal 2.

With power and ground supplied, the interior lamp illuminates.

SWITCH OPERATION

When interior lamp switch is ON, ground is supplied:

- through case grounds of interior lamp
- to interior lamp.

When spot lamp (LH and/or RH) is ON, ground is supplied:

NFEL0165S02

- through body grounds M9, M25 and M87
- to spot lamp terminal 2.

When vanity mirror illumination (LH and/or RH) is ON, ground is supplied:

- through body grounds M9, M25 and M87
- to vanity mirror illuminations (LH and RH) terminals 2.

When rear door switch LH and/or RH is ON (door is opened), ground is supplied:

- through case ground of the rear door switch
- from the rear door switch terminal 1
- to front step lamp LH and RH terminals 2.

When front door switch LH and/or RH is ON (door is opened), ground is supplied:

- through case ground of front door switches
- from the front door switch terminal 1
- to front step lamp LH and RH terminals 2.

When trunk room lamp switch is ON (trunk lid is opened), ground is supplied:

- through body grounds T6 and T8
- to trunk room lamp switch terminal 2
- from trunk room lamp switch terminal 1
- to trunk room lamp terminal 2

With power and ground supplied, interior lamps turn ON.

INTERIOR LAMP TIMER OPERATION

When interior lamp switch is in the "DOOR" position, the smart entrance control unit or time control unit keeps the interior lamp illuminated for about 30 seconds when:

- unlock signal is supplied from driver's door unlock sensor while all doors are closed and key is out of ignition key cylinder
- unlock signal is supplied from multi-remote controller
- key is removed from ignition key cylinder while all doors are closed
- driver's door is opened and then closed while key is out of the ignition key cylinder. (However, if the driver's door is closed with the key inserted in the ignition key cylinder after the driver's door is opened with the key removed, the timer is operated.)

The timer is canceled when:

- driver's door is locked,
- driver's door is opened, or
- ignition switch is turned ON.

When driver's door is locked, interior room lamp timer is canceled as described before.

ON-OFF CONTROL

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

When any door is opened, step lamps turn ON.

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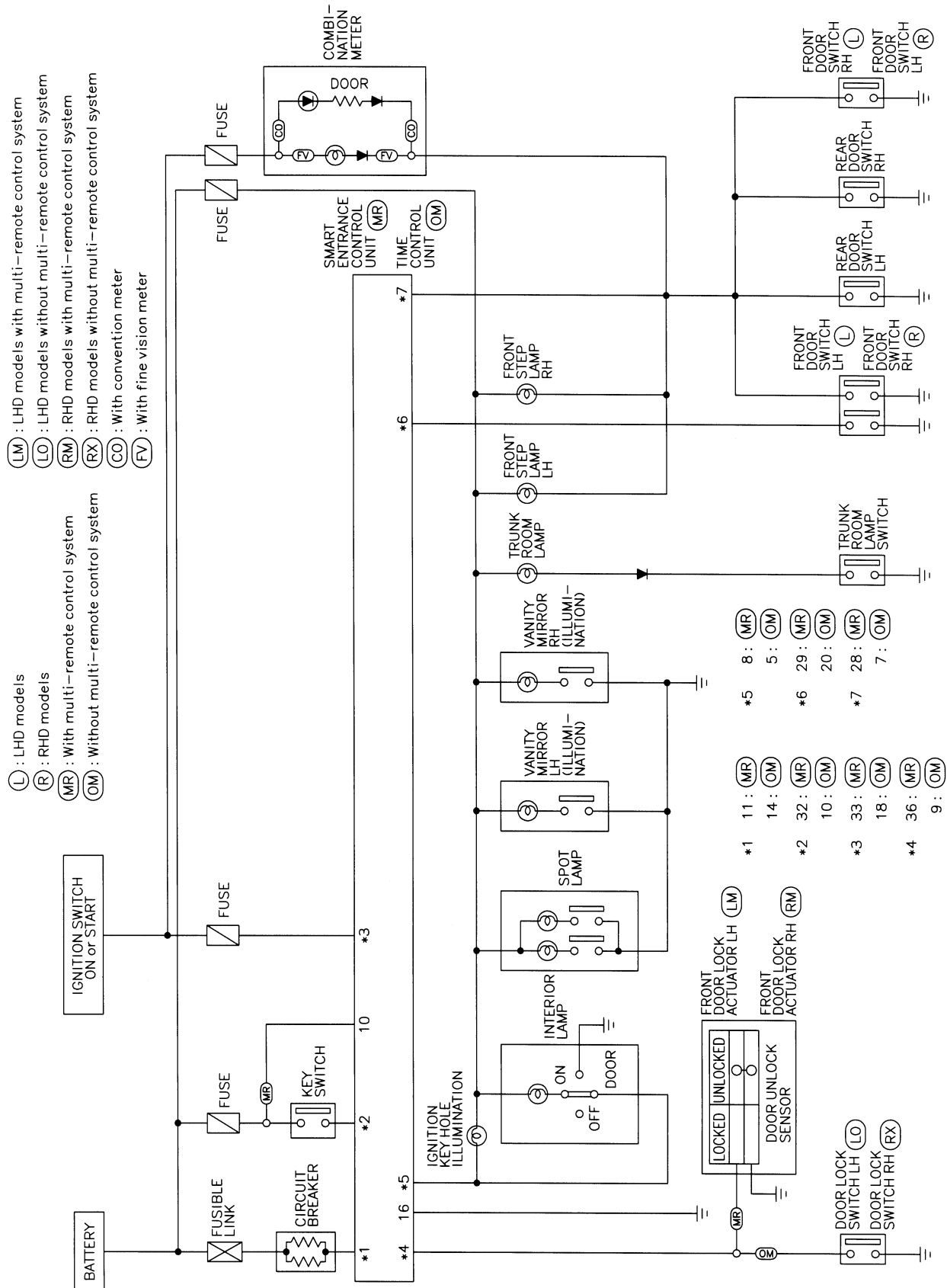
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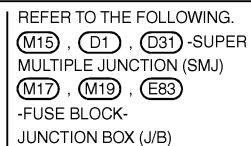
Schematic

NFEL0212



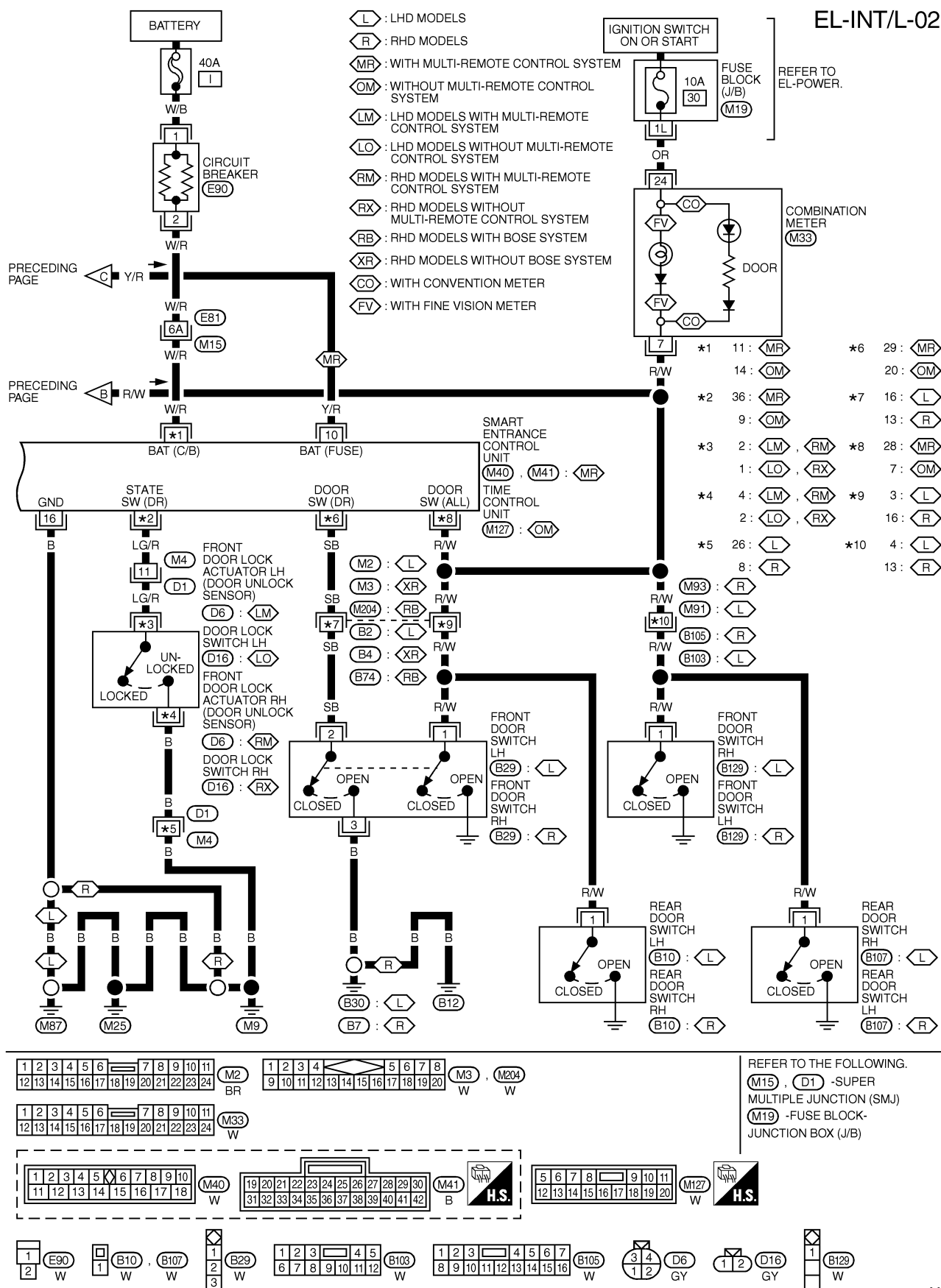
MEL150P

EL-INT/L-01



<https://autolibrary.ir>

Wiring Diagram — INT/L — (Cont'd)

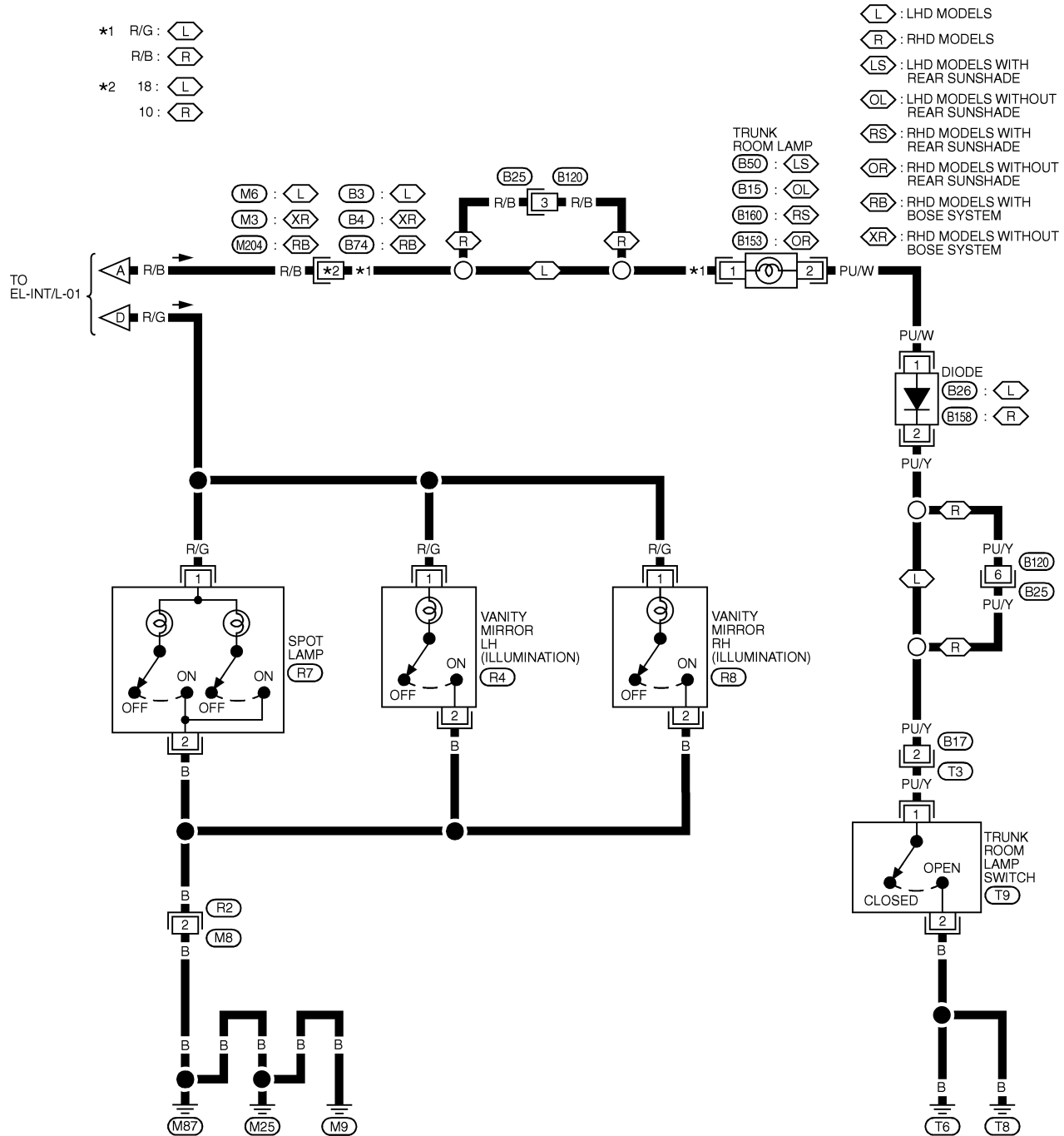


MEL783O

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-03



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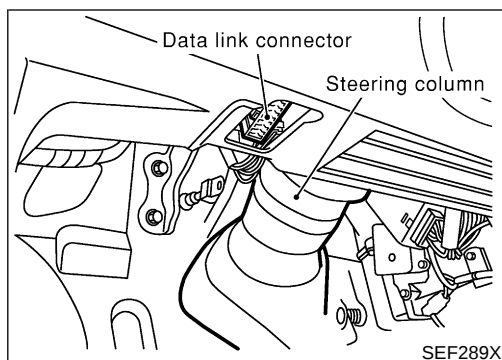
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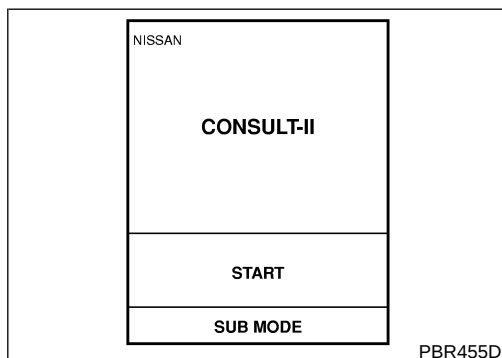
CONSULT-II Inspection Procedure

=NFEL0213

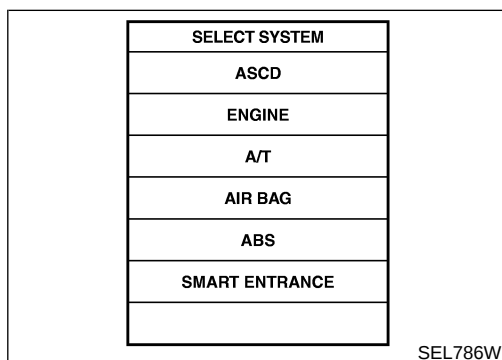
NFEL0213S01

"INT LAMP"

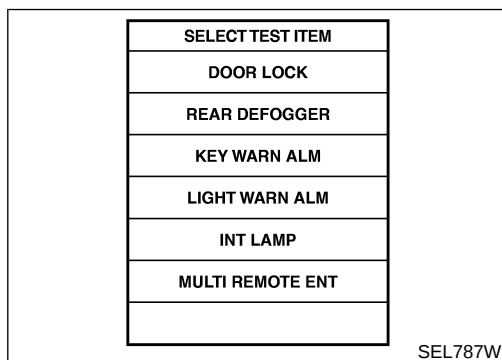
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



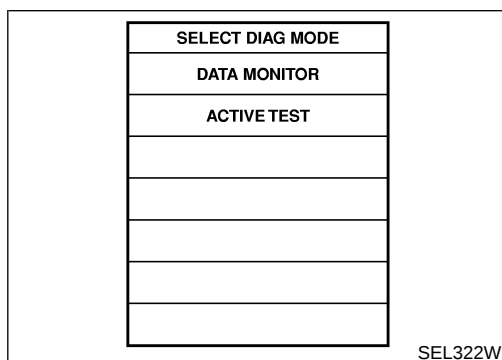
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "INT LAMP".



7. Select diagnosis mode. "DATA MONITOR" and "ACTIVE TEST" are available for "INT LAMP".

CONSULT-II Application Items

NFEL0214

NFEL0214S01

NFEL0214S0101

“INT LAMP” Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW DR	Indicates [ON/OFF] condition of front door switch (Driver's door).
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LOCK SIG DR	Indicates [ON/OFF] condition of front door unlock sensor (Driver's door).

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Trouble Diagnoses for Interior Lamp Timer

=NFEL0215

DIAGNOSTIC PROCEDURE 1

NFEL0215S01

SYMPTOM: Interior lamp timer does not operate.

1	CHECK IGNITION ON SIGNAL																														
With CONSULT-II Check ignition switch ON signal ("IGN ON SW") in "DATA MONITOR" mode with CONSULT-II. <table border="1" style="margin-left: auto; margin-right: auto; text-align: center;"> <thead> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> </thead> <tbody> <tr> <td style="width: 60%;">IGN ON SW</td> <td>ON</td> </tr> </tbody> </table> When ignition switch is ON: IGN ON SW ON When ignition switch is OFF: IGN ON SW OFF		DATA MONITOR		MONITOR		IGN ON SW	ON																								
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IGN ON SW	ON																														
SEL318W																															
Without CONSULT-II Check voltage between smart entrance control unit harness connector terminal 33 or time control unit terminal 18 and ground. Smart entrance control unit connector (M41) <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Ignition switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>ACC</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>33</td> <td>Ground</td> <td>0V</td> <td>0V</td> <td>Battery voltage</td> </tr> </tbody> </table> Time control unit connector (M127) <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Ignition switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>ACC</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>18</td> <td>Ground</td> <td>0V</td> <td>0V</td> <td>Battery voltage</td> </tr> </tbody> </table>		Terminals		Ignition switch position			(+)	(-)	OFF	ACC	ON	33	Ground	0V	0V	Battery voltage	Terminals		Ignition switch position			(+)	(-)	OFF	ACC	ON	18	Ground	0V	0V	Battery voltage
Terminals		Ignition switch position																													
(+)	(-)	OFF	ACC	ON																											
33	Ground	0V	0V	Battery voltage																											
Terminals		Ignition switch position																													
(+)	(-)	OFF	ACC	ON																											
18	Ground	0V	0V	Battery voltage																											
SEL380W																															
SEL789W																															
OK or NG																															
OK	▶ GO TO 2.																														
NG	▶ Check the following. 10A fuse [No. 10, located in fuse block (J/B)] - Harness for open or short between control unit and fuse																														

INTERIOR, STEP, SPOT MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

2	CHECK DOOR SWITCH INPUT SIGNAL						
With CONSULT-II Check driver door switch signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II. <table border="1" style="margin-right: 20px;"> <thead> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> </thead> <tbody> <tr> <td>DOOR SW-DR</td> <td>OFF</td> </tr> </tbody> </table> When driver's door is open: DOOR SW-DR ON When driver's door is closed: DOOR SW-DR OFF SEL319W		DATA MONITOR		MONITOR		DOOR SW-DR	OFF
DATA MONITOR							
MONITOR							
DOOR SW-DR	OFF						
Without CONSULT-II Check voltage between smart entrance control unit harness connector terminal 29 or time control unit terminal 20 and ground. Smart entrance control unit connector (M41) Time control unit connector (M127) Voltage [V]: Condition of driver's door: CLOSED Approx. 5 Condition of driver's door: OPENED 0 SEL790W OK or NG							
OK	▶ GO TO 4.						
NG	▶ GO TO 3.						

3	CHECK DRIVER SIDE DOOR SWITCH
Check continuity between door switch terminals 2 and 3. Door switch driver side connector (B29) Continuity: Door switch is pushed. No Door switch is released. Yes SEL325W OK or NG	
OK	▶ Check the following. • Driver side door switch ground circuit and condition • Harness for open or short between control unit and driver side door switch
NG	▶ Replace driver side door switch.

INTERIOR, STEP, SPOT MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

4 CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL

With CONSULT-II

Perform "LOCK SIG DR" in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SIG DR	OFF

When driver's door is locked:

LOCK SIG DR OFF

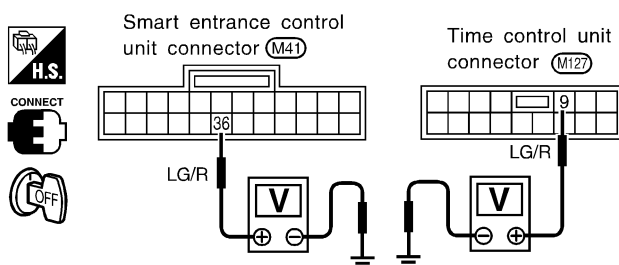
When driver's door is unlocked:

LOCK SIG DR ON

SEL344WA

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 or time control unit terminal 9 and ground.



Unit	Terminals		Condition (Driver's door)	Voltage [V]
	(+)	(-)		
Smart entrance control unit	36	Ground	Locked	Approx. 5
			Unlocked	0
Time control unit	9	Ground	Locked	Approx. 5
			Unlocked	0

SEL791W

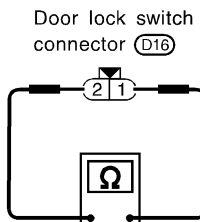
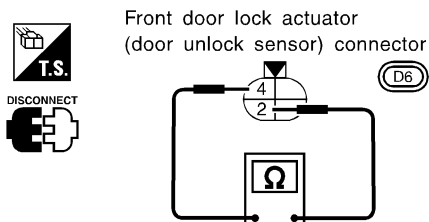
OK or NG

OK ► GO TO 6.

NG ► GO TO 5.

5 CHECK FRONT DOOR UNLOCK SENSOR

1. Disconnect front door unlock sensor or door lock switch harness connector.
2. Check continuity between door unlock sensor terminals or door lock switch.



Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

SEL792W

OK or NG

OK ► Check the following.

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

NG ► Replace door unlock sensor or door lock switch.

6 CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW ALL") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-ALL	OFF

When any doors are open:

DOOR SW-ALL ON

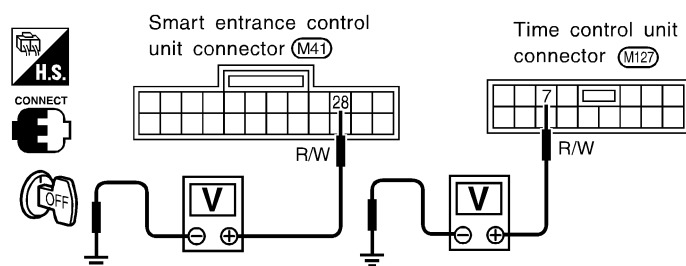
When all doors are closed:

DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 28 or time control unit terminal 7 and ground.



Unit	Terminals		Condition (All doors)	Voltage [V]
	(+)	(-)		
Smart entrance control unit	28	Ground	Open	0
			Closed	Approx. 5
Time control unit	7	Ground	Open	0
			Closed	Approx. 5

SEL793W

OK or NG

OK ► GO TO 8.

NG ► GO TO 7.

7 CHECK DOOR SWITCHES

1. Disconnect door switch harness connector.
2. Check continuity between door switch terminal 1 and ground.

Door switch connector
Front passenger: (B129)



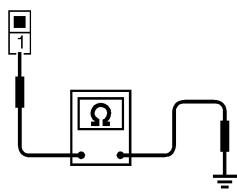
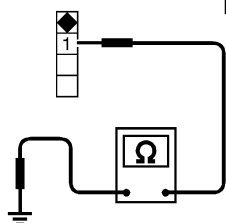
Door switch connector

Rear LH (RH): (B10)



Rear RH (LH): (B107)

(): RHD models



Door switches	Terminals	Condition	Continuity
		1 - Ground	Closed: No Open: Yes

SEL794W

OK or NG

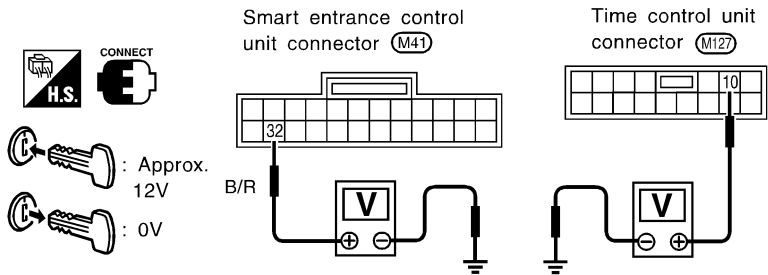
OK ► Check the following.

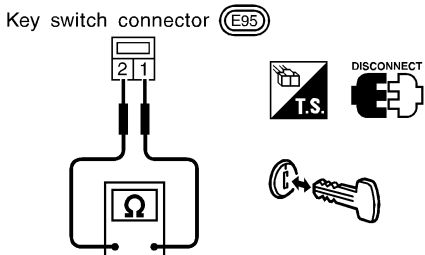
- Door switch ground circuit or door switch ground condition
- Harness for open or short between control unit and door switch

NG ► Replace door switch.

INTERIOR, STEP, SPOT/MAIN MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

8	CHECK KEY SWITCH INPUT SIGNAL						
 With CONSULT-II Check key switch ("KEY ON SWITCH") in "DATA MONITOR" mode with CONSULT-II. <table border="1"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th colspan="2">MONITOR</th> </tr> </thead> <tbody> <tr> <td>KEY ON SW</td> <td>ON</td> </tr> </tbody> </table> When key is inserted to ignition key cylinder: KEY ON SW ON When key is removed from ignition key cylinder: KEY ON SW OFF SEL315W		DATA MONITOR		MONITOR		KEY ON SW	ON
DATA MONITOR							
MONITOR							
KEY ON SW	ON						
 Without CONSULT-II Check voltage between smart entrance control unit harness connector terminal 32 or time control unit terminal 10 and ground.  Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is removed. 0 SEL795W							
OK or NG							
OK	▶ Replace smart entrance control unit.						
NG	▶ GO TO 9.						

9	CHECK KEY SWITCH (INSERT)
Check continuity between terminals 1 and 2.  Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No SEL311W	
OK or NG	
OK	▶ Check the following. • 10A fuse [No. 12, located in fuse block (J/B)] • Harness for open or short between key switch and fuse • Harness for open or short between control unit and key switch
NG	▶ Replace key switch.

DIAGNOSTIC PROCEDURE 2

NFEL0215S02

SYMPTOM: Interior lamp timer does not cancel properly.

1	CHECK IGNITION ON SIGNAL																														
With CONSULT-II Check ignition switch ON signal ("IGN ON SW") in "DATA MONITOR" mode with CONSULT-II. <table border="1" style="margin-right: 20px;"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th>MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>IGN ON SW</td> <td>ON</td> </tr> </tbody> </table> When ignition switch is ON: IGN ON SW ON When ignition switch is OFF: IGN ON SW OFF SEL318W		DATA MONITOR		MONITOR		IGN ON SW	ON																								
DATA MONITOR																															
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Without CONSULT-II Check voltage between smart entrance control unit harness connector terminal 33 or time control unit terminal 18 and ground. Smart entrance control unit connector (M41) SEL380W <table border="1"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Ignition switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>ACC</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>33</td> <td>Ground</td> <td>0V</td> <td>0V</td> <td>Battery voltage</td> </tr> </tbody> </table> Time control unit connector (M127) SEL789W <table border="1"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Ignition switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>ACC</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>18</td> <td>Ground</td> <td>0V</td> <td>0V</td> <td>Battery voltage</td> </tr> </tbody> </table> OK or NG		Terminals		Ignition switch position			(+)	(-)	OFF	ACC	ON	33	Ground	0V	0V	Battery voltage	Terminals		Ignition switch position			(+)	(-)	OFF	ACC	ON	18	Ground	0V	0V	Battery voltage
Terminals		Ignition switch position																													
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(+)	(-)	OFF	ACC	ON																											
18	Ground	0V	0V	Battery voltage																											
OK	▶ GO TO 2.																														
NG	▶ Check the following. 10A fuse [No. 10, located in fuse block (J/B)] - Harness for open or short between control unit and fuse																														

INTERIOR, STEP, SPOT MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

2 CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check driver door switch signal ("DOOR SW DR") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF

When driver's door is open:

DOOR SW-DR ON

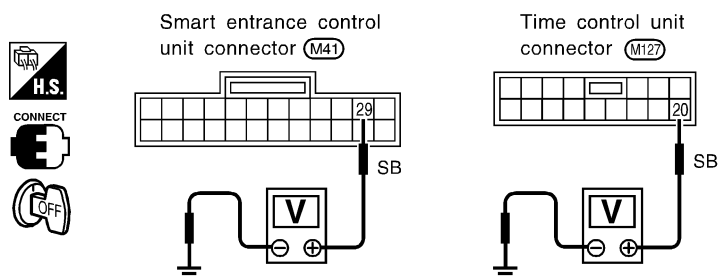
When driver's door is closed:

DOOR SW-DR OFF

SEL319W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 29 or time control unit terminal 20 and ground.



Voltage [V]:

Condition of driver's door: CLOSED

Approx. 5

Condition of driver's door: OPENED

0

SEL790W

OK or NG

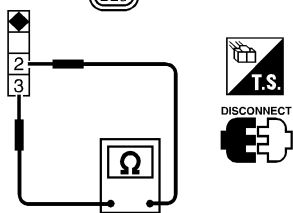
OK ► GO TO 4.

NG ► GO TO 3.

3 CHECK DRIVER SIDE DOOR SWITCH

Check continuity between terminals 2 and 3.

Door switch driver side connector (B29)



Continuity:

Door switch is pushed.

No

Door switch is released.

Yes

SEL325W

OK or NG

OK ► **Check the following.**

- Driver side door switch ground circuit and condition
- Harness for open or short between control unit and driver side door switch

NG ► Replace driver side door switch.

4 CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL

With CONSULT-II

Perform "LOCK SIG DR" in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SIG DR	OFF

When driver's door is locked:

LOCK SIG DR OFF

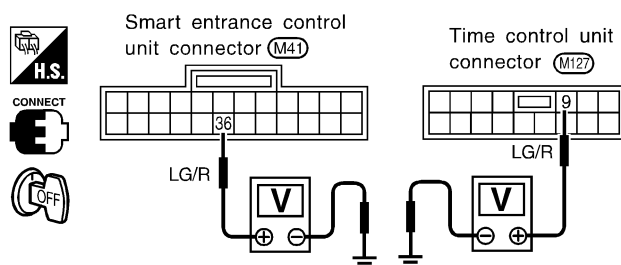
When driver's door is unlocked:

LOCK SIG DR ON

SEL344WA

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 or time control unit terminal 9 and ground.



Unit	Terminals		Condition (Driver's door)	Voltage [V]
	(+)	(-)		
Smart entrance control unit	36	Ground	Locked	Approx. 5
			Unlocked	0
Time control unit	9	Ground	Locked	Approx. 5
			Unlocked	0

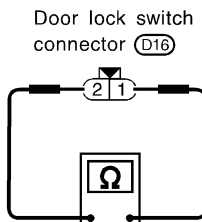
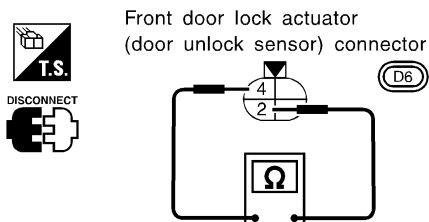
SEL791W

OK or NG

OK	▶	Replace smart entrance control unit.
NG	▶	GO TO 5.

5 CHECK FRONT DOOR UNLOCK SENSOR

1. Disconnect front door unlock sensor or door lock switch harness connector.
2. Check continuity between door unlock sensor terminals or door lock switch.



Continuity:
Condition: Locked
 No
Condition: Unlocked
 Yes

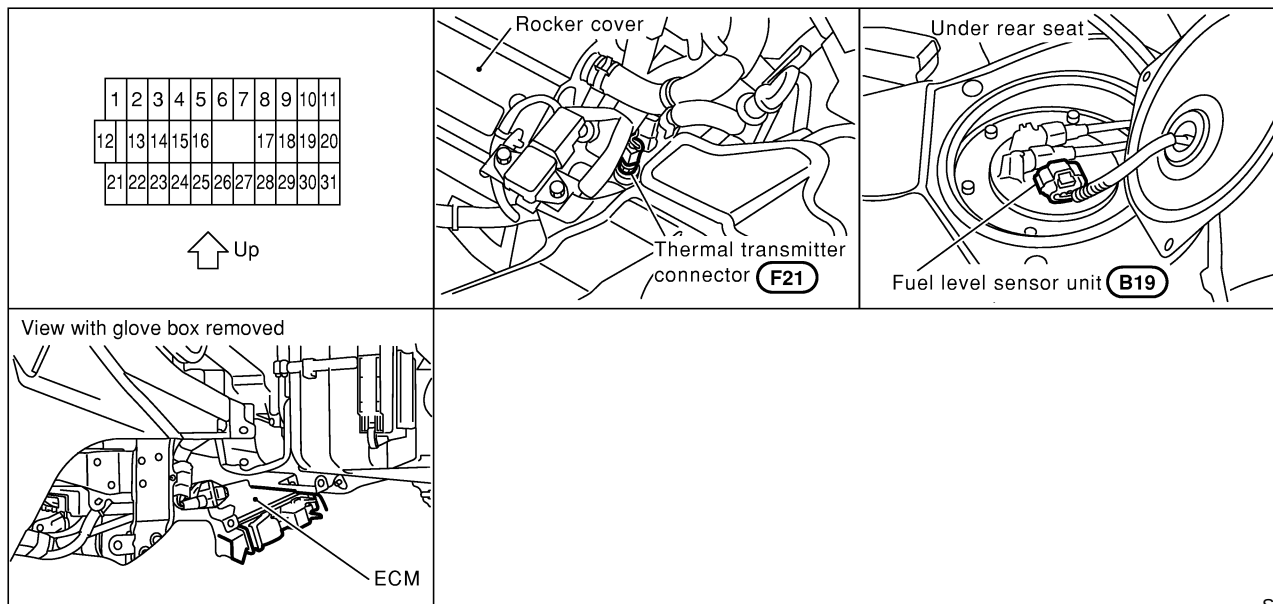
SEL792W

OK or NG

OK	▶	Check the following. • LH door unlock sensor or door lock switch ground circuit • Harness for open or short between control unit and door unlock sensor or door lock switch
NG	▶	Replace door unlock sensor or door lock switch.

Component Parts and Harness Connector Location

NFEL0041



SEL168W

System Description

NFEL0042

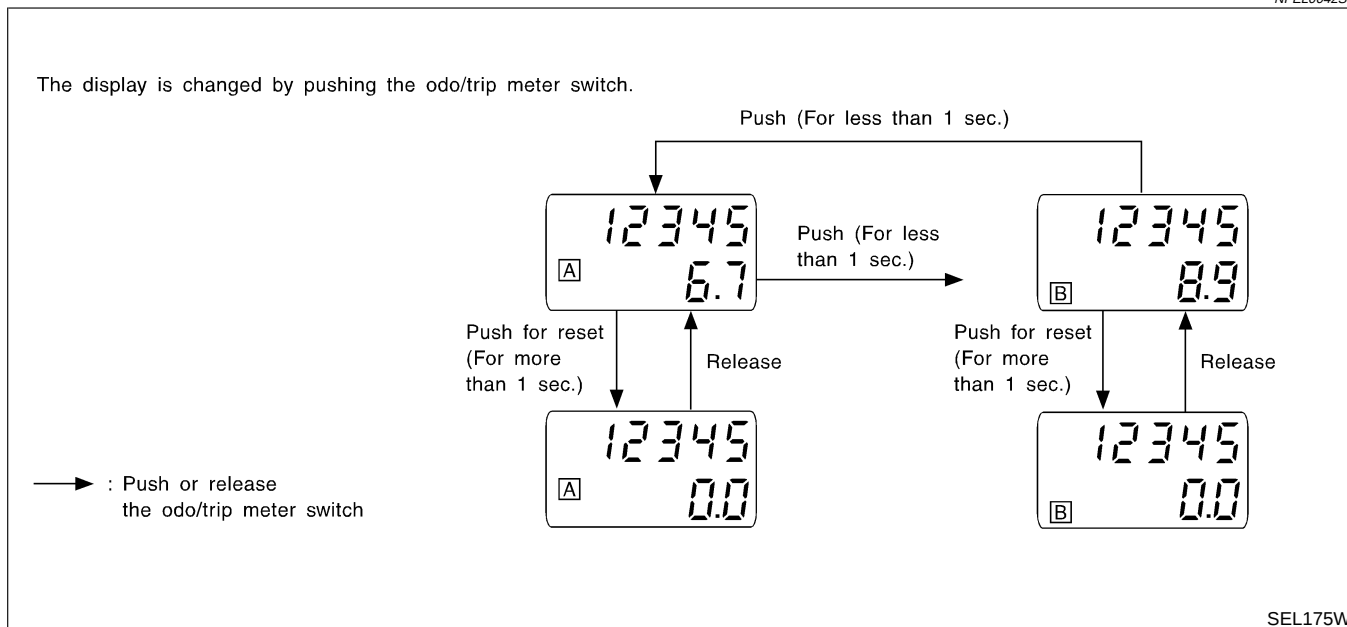
UNIFIED CONTROL METER

NFEL0042S06

- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by control unit built-in combination meter.
- 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 is indicated for about 30 seconds after ignition switch has been turned OFF.
- 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

NFEL0042S07



SEL175W

NOTE:

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

POWER SUPPLY AND GROUND CIRCUIT

NFEL0042S08

Power is supplied at all times

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to combination meter terminal 23.

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

- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 31.

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

- through 10A fuse [No. 30, located in the fuse block (J/B)]
- to combination meter terminal 24.

Ground is supplied

- to combination meter terminal 22
- through body grounds M9, M25 and M87.

WATER TEMPERATURE GAUGE

NFEL0042S01

The water temperature gauge indicates the engine coolant temperature. The reading on the gauge is based on the resistance of the thermal transmitter.

As the temperature of the coolant increases, the resistance of the thermal transmitter decreases. A variable ground is supplied to terminal 18 of the combination meter for the water temperature gauge. The needle on the gauge moves from "C" to "H".

TACHOMETER

NFEL0042S02

The tachometer indicates engine speed in revolutions per minute (rpm).

The tachometer is regulated by a signal

- from terminal 25 of the ECM
- to combination meter terminal 16 for the tachometer.

FUEL GAUGE

NFEL0042S03

The fuel gauge indicates the approximate fuel level in the fuel tank.

The fuel gauge is regulated by a variable ground signal supplied

- to combination meter terminal 17 for the fuel gauge
- from terminal 2 of the fuel level sensor unit
- through terminal 5 of the fuel level sensor unit and
- through body grounds B7 and B12 or B46.

SPEEDOMETER

NFEL0042S04

The combination meter provides a voltage signal to the vehicle speed sensor for the speedometer.

The voltage is supplied

- from combination meter terminal 15 for the speedometer
- to terminal 1 of the vehicle speed sensor (without ABS).
- to terminal 19 of ABS actuator and electric unit (with ABS).

The speedometer converts the voltage into the vehicle speed displayed.

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

Combination Meter

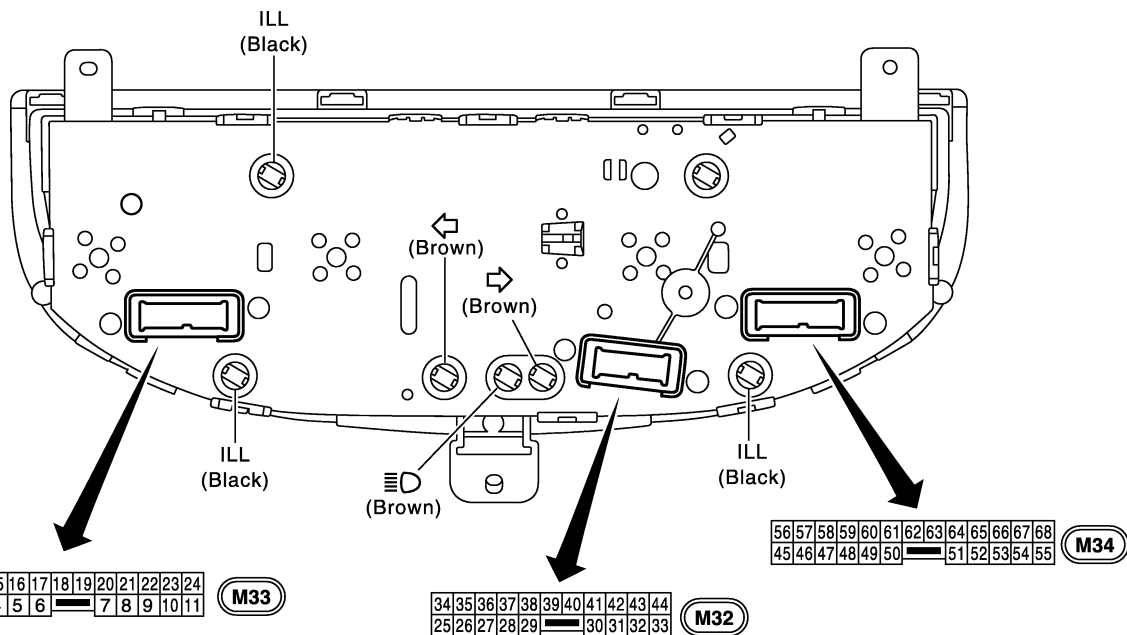
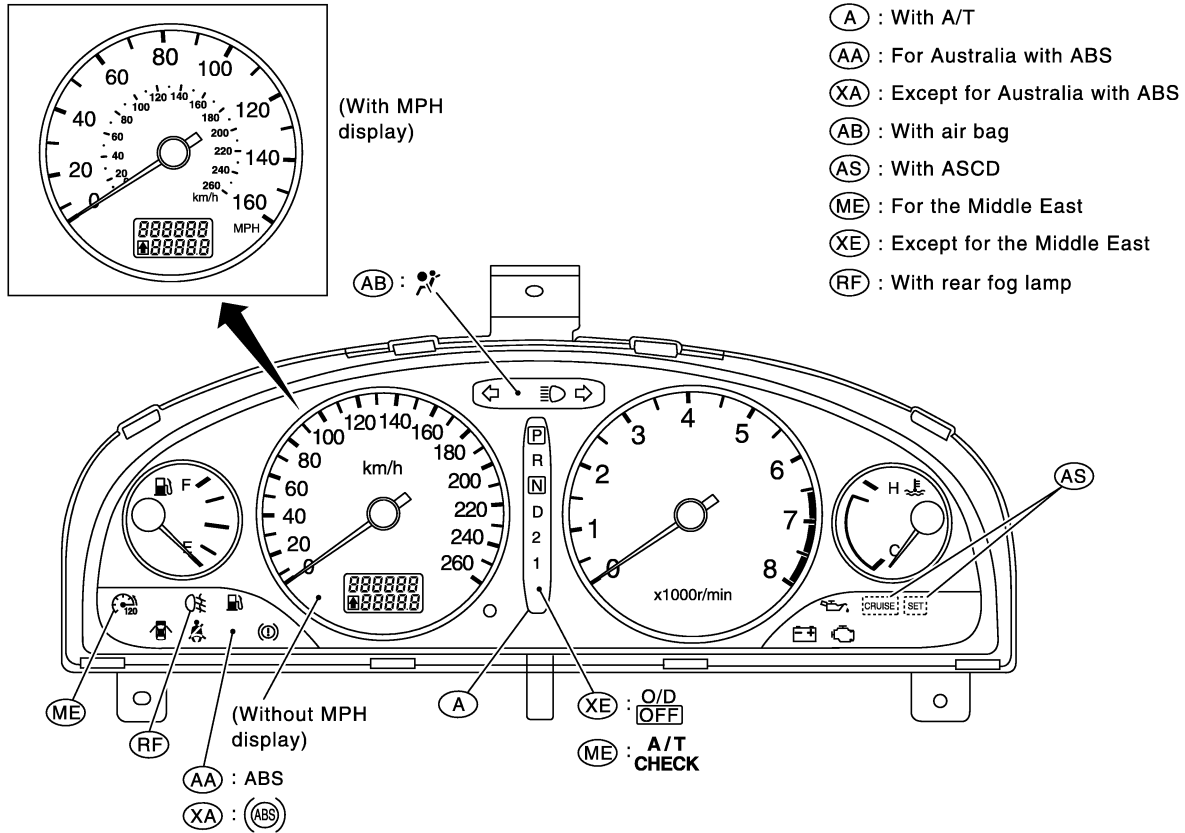
NFEL0043

NFEL0043S01

NFEL0043S0101

CHECK

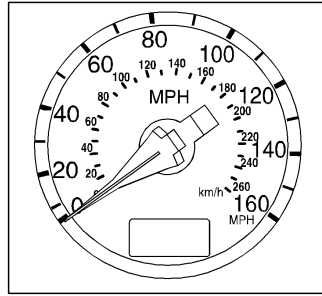
Conventional Type



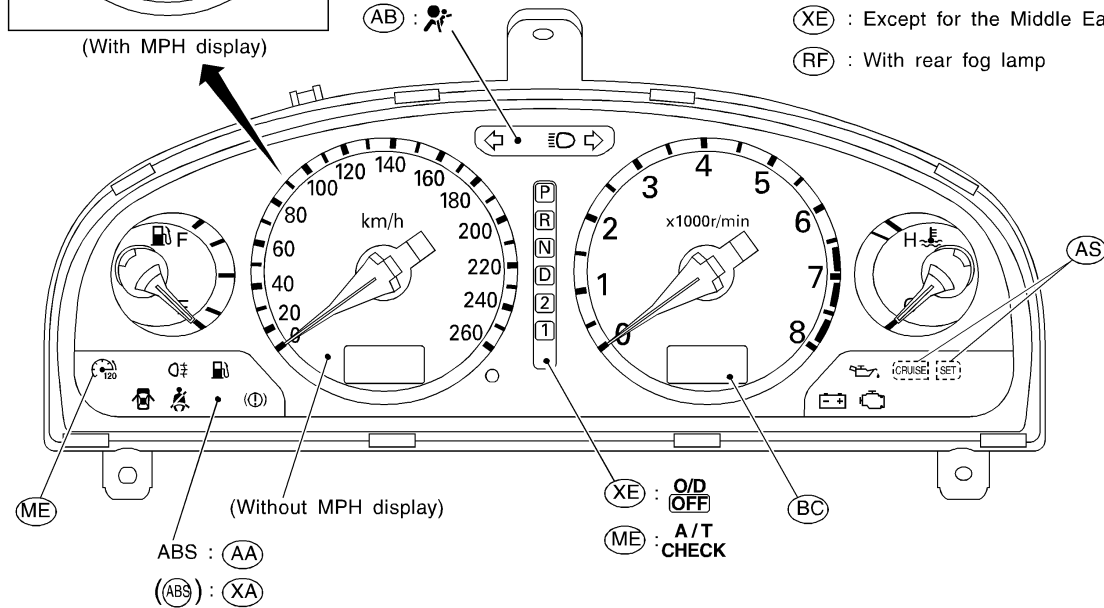
Bulb socket color	Bulb wattage
Brown	1.4W
Black	3.0W

() : Warning bulb socket color

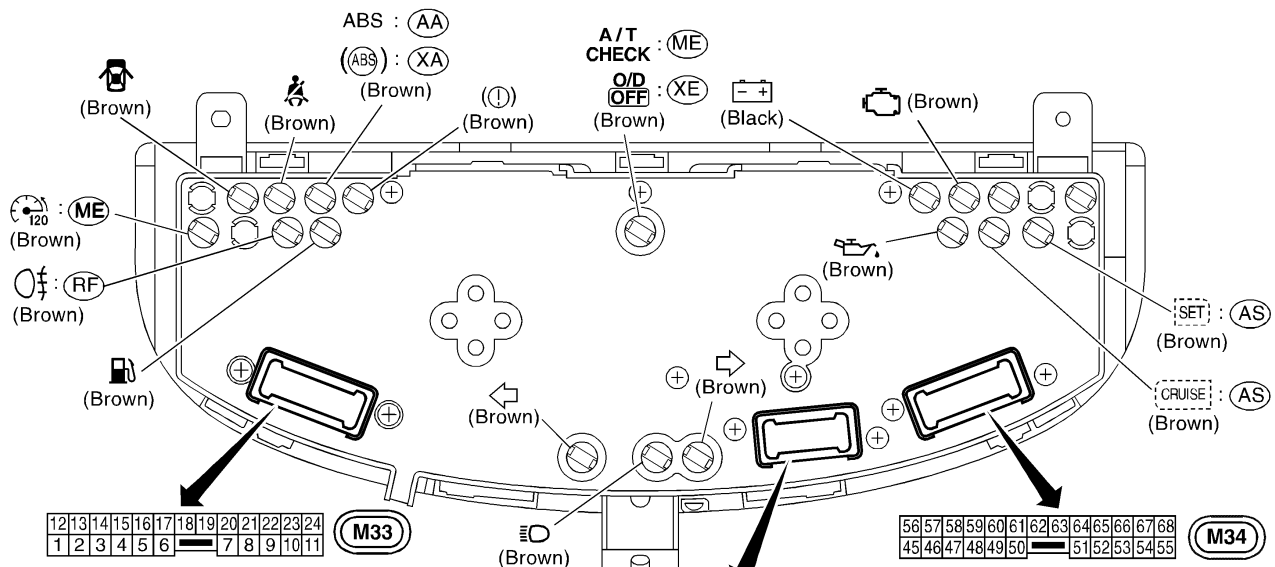
Fine Vision Type



(With MPH display)



- (A) : With A/T
- (AA) : For Australia with ABS
- (AS) : Except for Australia with ABS
- (AB) : With air bag
- (AS) : With ASCD
- (BC) : With board computer
- (ME) : For the Middle East
- (XE) : Except for the Middle East
- (RF) : With rear fog lamp



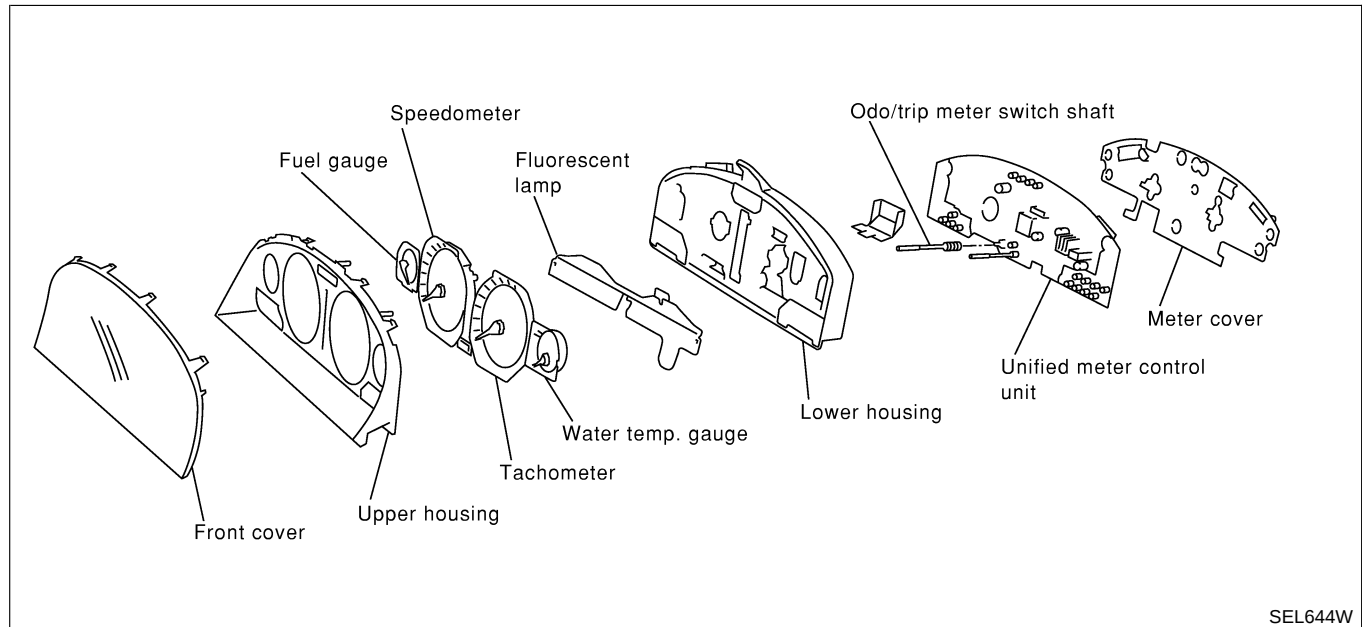
Bulb socket color	Bulb wattage
Brown	1.4W
Black	3.0W

() : Warning bulb socket color

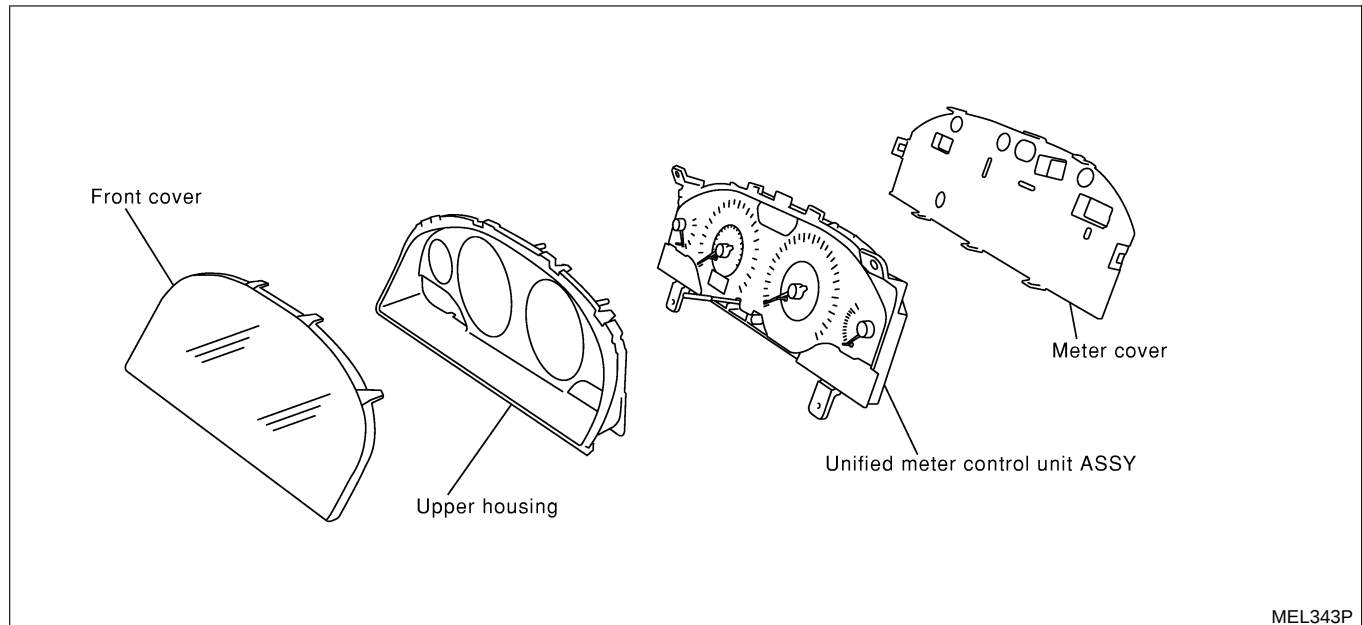
CONSTRUCTION

Fine vision type

NFEL0043S02



Conventional type



Schematic CONVENTIONAL TYPE

NFEL0322

NFEL0322S01

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

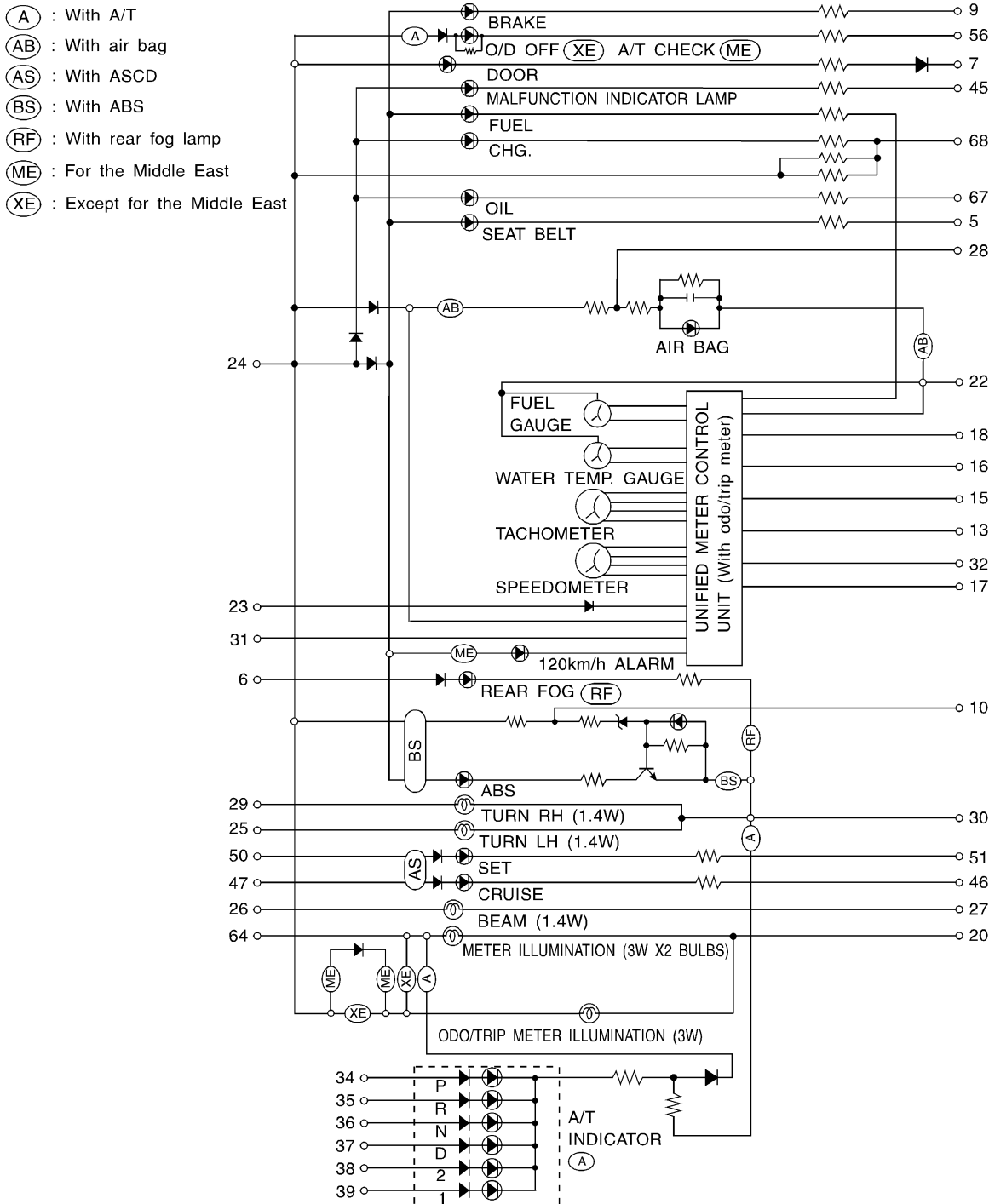
BT

HA

SC

EL

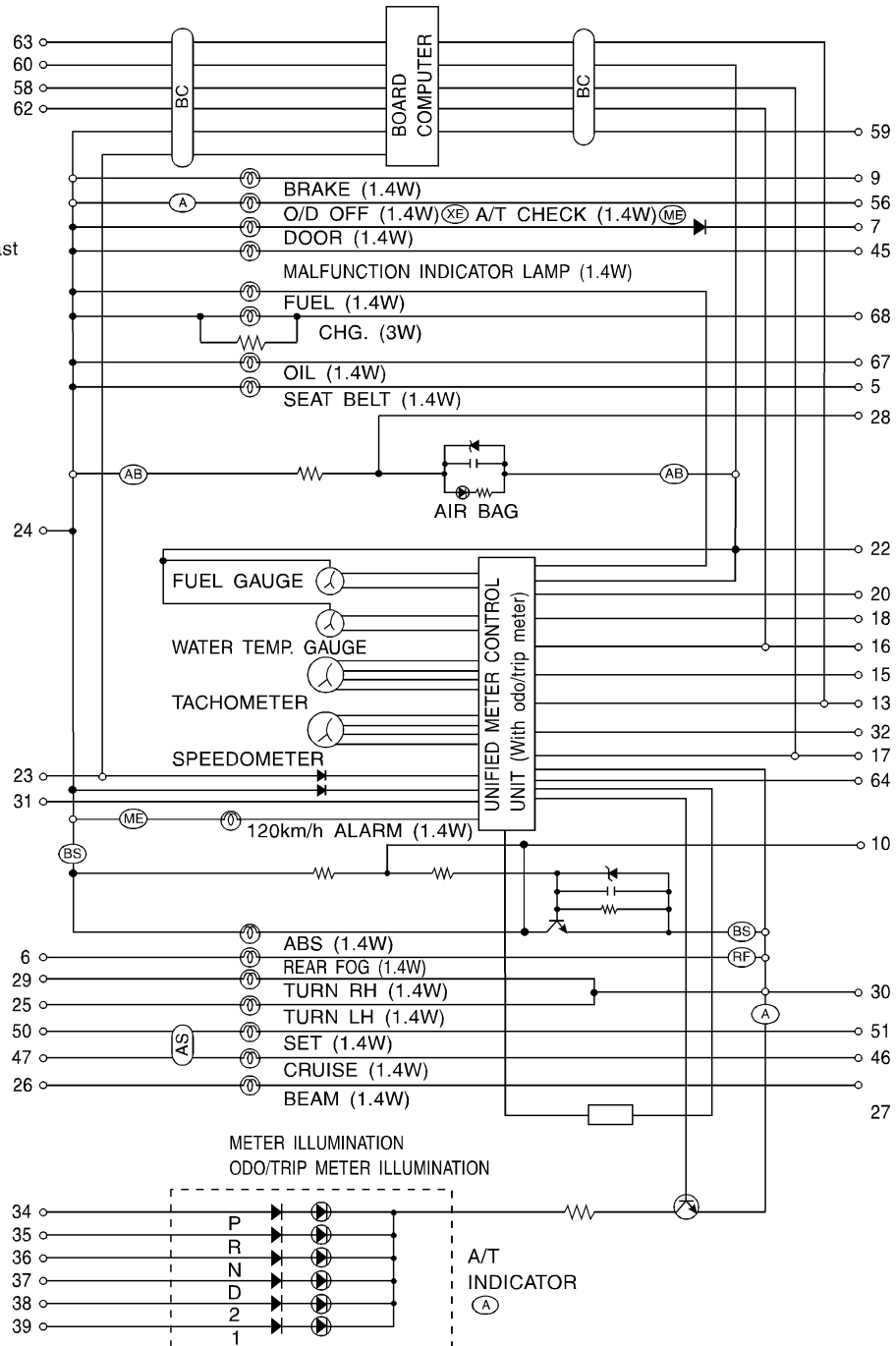
IDX



FINE VISION TYPE

NFEL0322S02

- (A) : With A/T
- (AB) : With air bag
- (AS) : With ASCD
- (BS) : With ABS
- (BC) : With board computer
- (RF) : With rear fog lamp
- (ME) : For the Middle East
- (XE) : Except for the Middle East

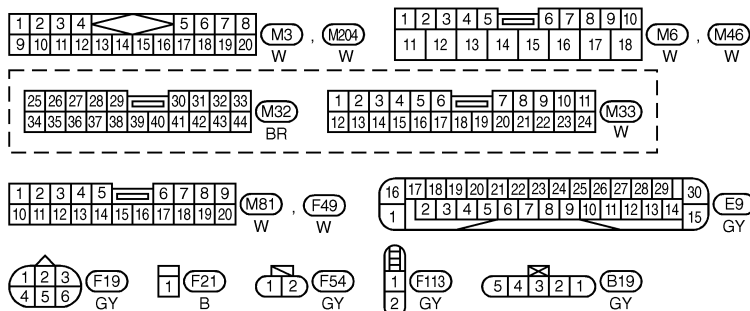
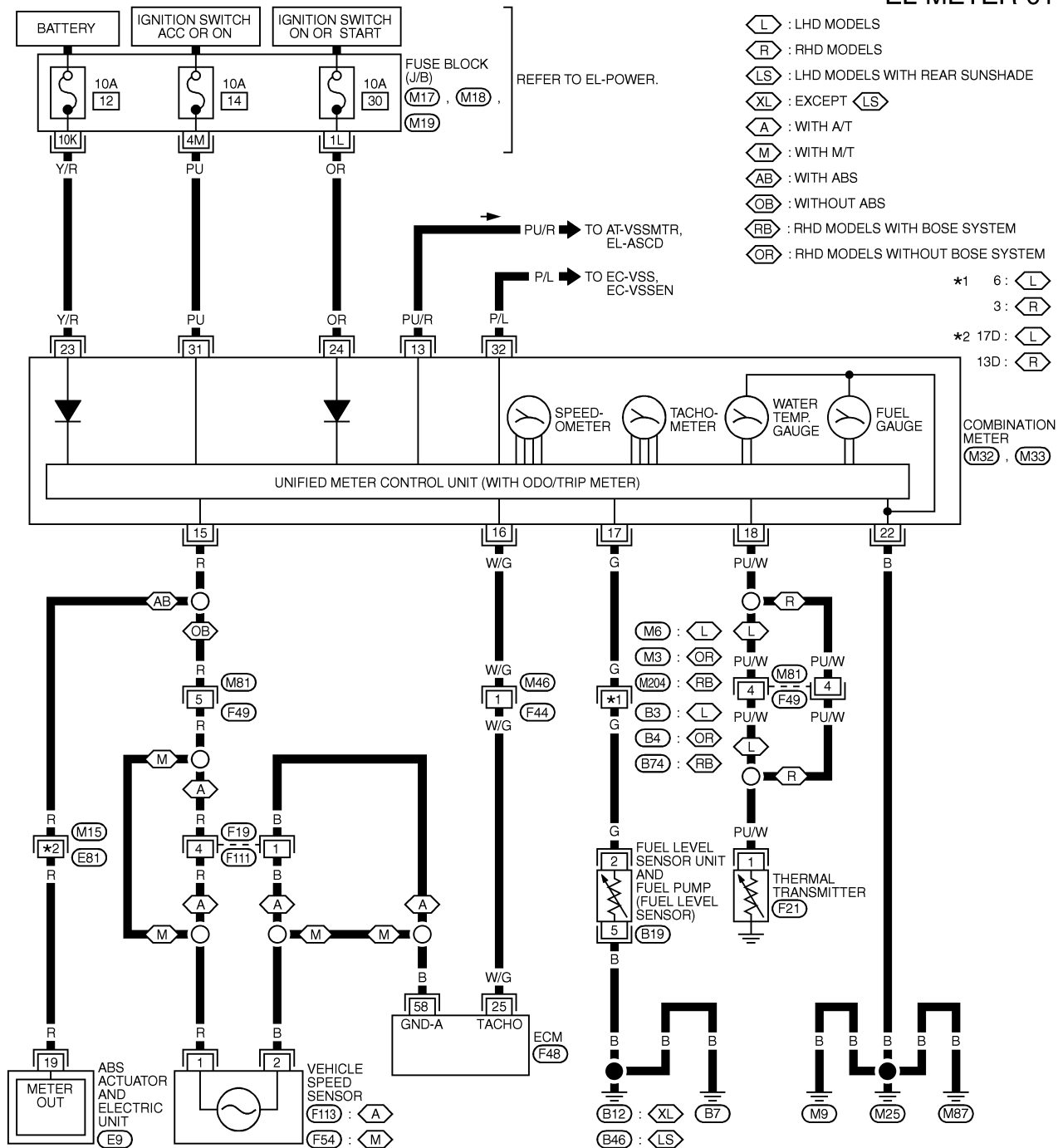


MEL145P

Wiring Diagram — METER —

NFEL0045

EL-METER-01



I REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

-FUSE BLOCK-
JUNCTION BOX(J/B)
(F48) -ELECTRICAL UNITS

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

NFEL0151

DIAGNOSIS FUNCTION

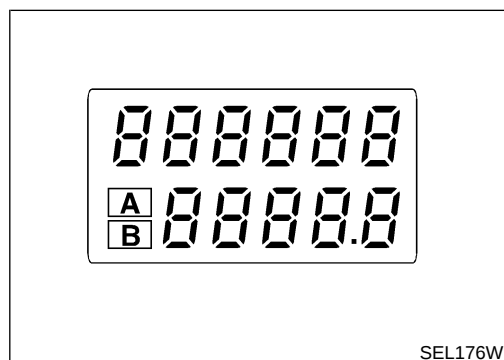
NFEL0151S01

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

HOW TO ALTERNATE DIAGNOSIS MODE

NFEL0151S02

1. Turn ignition switch to ON and change odo/trip meter to "TRIP A".
2. Turn ignition switch to OFF.
3. Turn ignition switch to ON when pushing odo/trip meter switch.
4. Release odo/trip meter switch 1 second after ignition switch is turned ON.
5. Push odo/trip meter switch more than three times within 5 seconds.

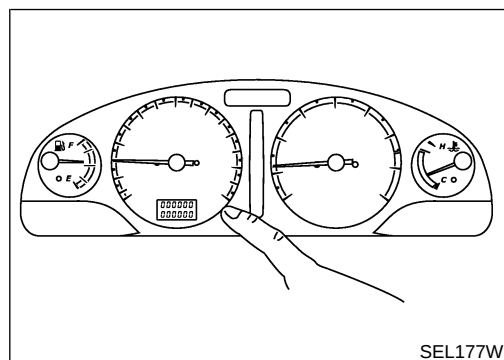


6. All odo/trip meter segments should be turned on.

NOTE:

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

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



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

NOTE:

It takes about a few seconds for indication of fuel gauge and water temperature gauge to become stable.

Trouble Diagnoses/Conventional Type PRELIMINARY CHECK

NFEL0323

NFEL0323S01

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

BT

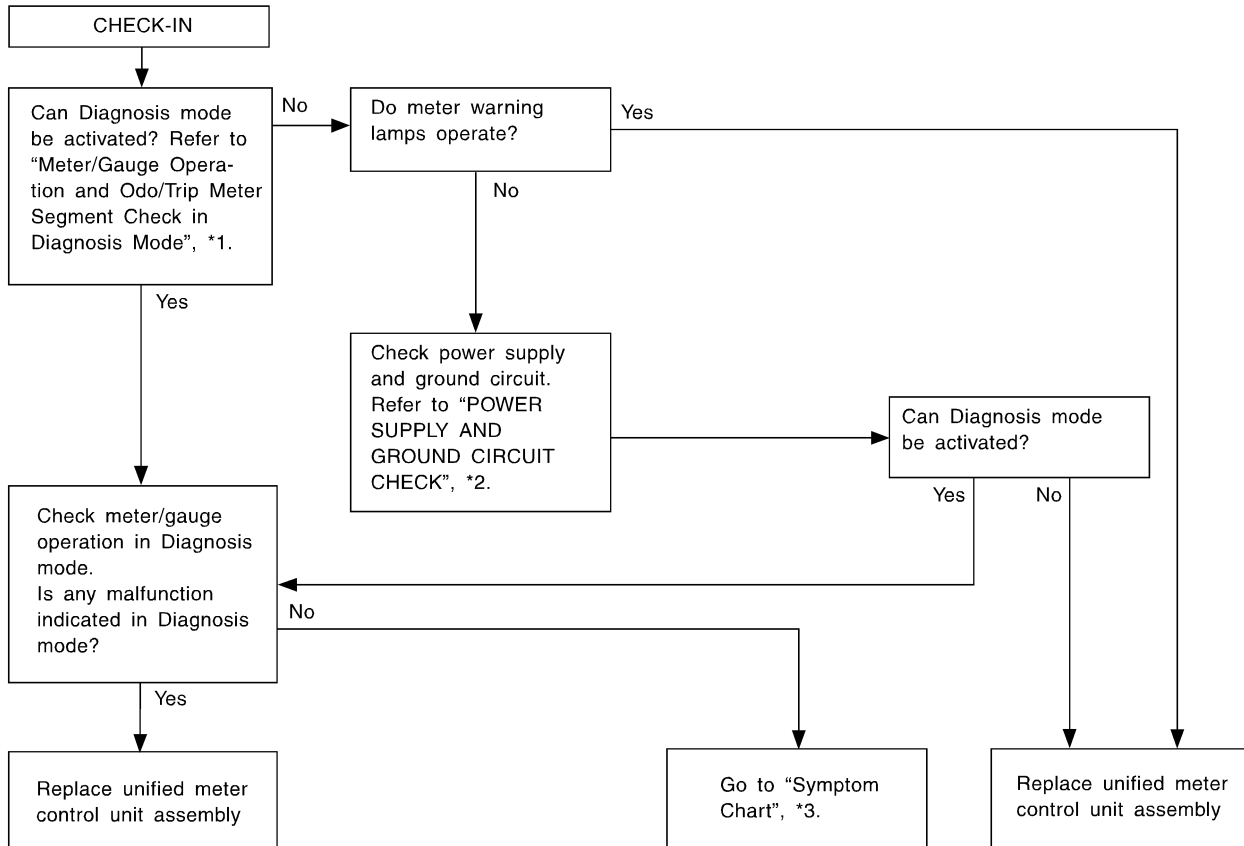
HA

SEL479Y

SC

EL

IDX



*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-142)

*2: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-147)

*3: Symptom Chart (EL-144)

SYMPTOM CHART

NFEL0323S02

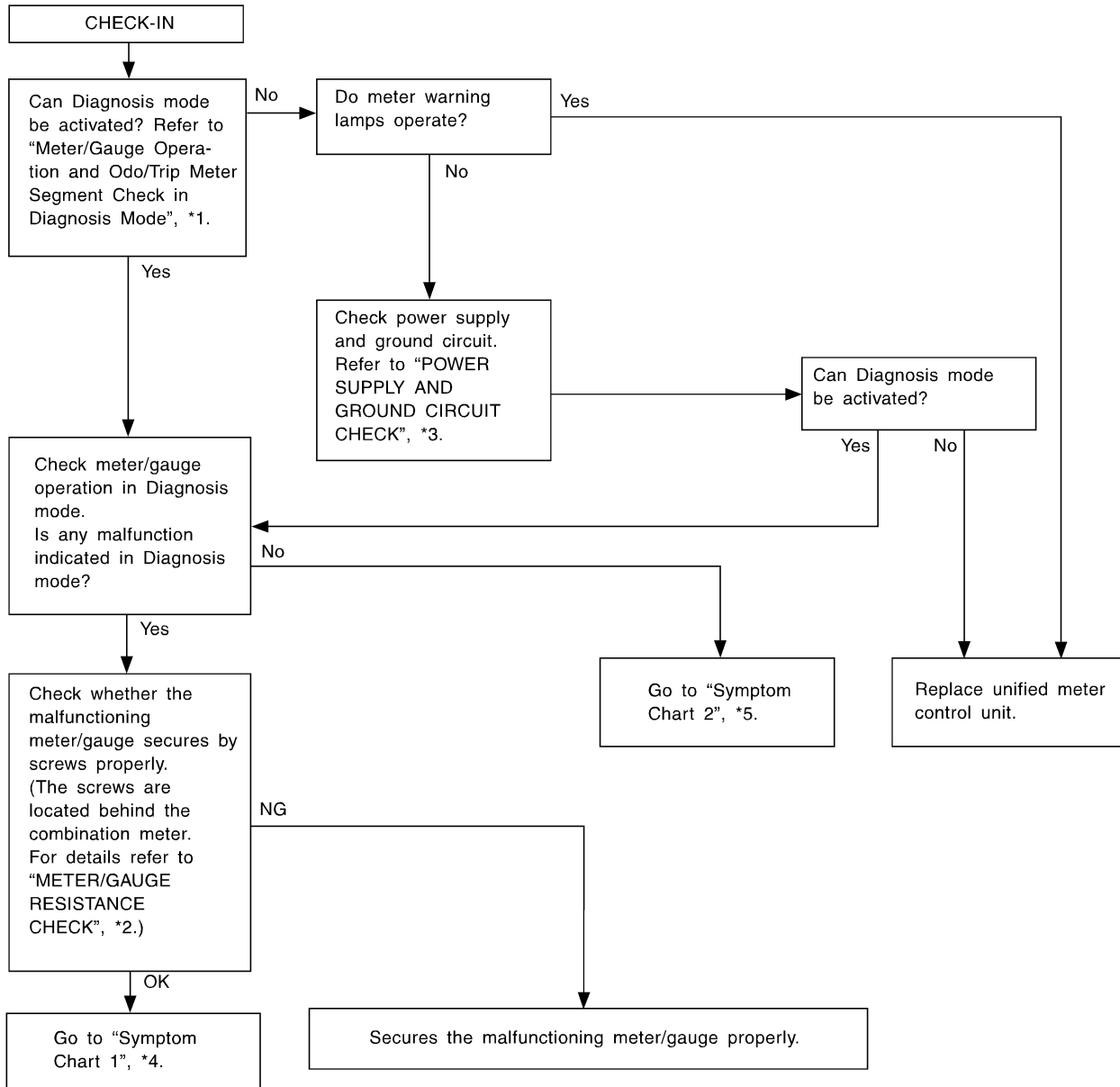
Symptom	Possible causes	Repair order
One of speedometer/ tachometer/fuel gauge/ water temp. gauge is mal- functioning.	- Sensor signal - Vehicle speed signal - Engine revolution signal - Fuel gauge - Water temp. gauge - Unified meter control unit	- Check the sensor for malfunctioning meter/gauge. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-148.) INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-149.) INSPECTION/FUEL LEVEL SENSOR UNIT (Refer to EL-150.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-151.) - Replace unified meter control unit assembly.
Multiple meter/gauge are malfunctioning. (except odo/trip meter)	Unified meter control unit	

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-143.

Trouble Diagnoses/Fine Vision Type PRELIMINARY CHECK

NFEL0046

NFEL0046S04



SEL361W

*1: Meter/Gauge Operation and Odo/
Trip Meter Segment Check in
Diagnosis Mode (EL-142)
*2: METER/GAUGE RESISTANCE
CHECK (EL-152)

*3: POWER SUPPLY AND GROUND
CIRCUIT CHECK (EL-147)
*4: Symptom Chart 1 (EL-146)

*5: Symptom Chart 2 (EL-146)

SYMPTOM CHART

NFEL0046S10

Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NFEL0046S1001

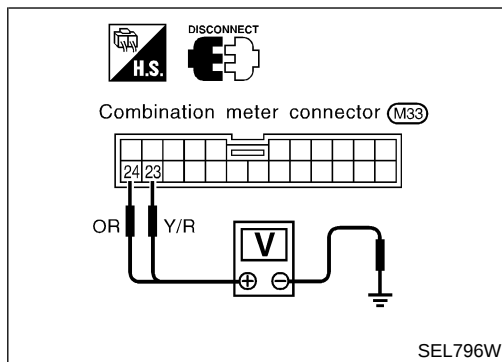
Symptom	Possible causes	Repair order
Odo/trip meter indicate(s) malfunction in Diagnosis mode.	Unified meter control unit	Replace unified meter control unit.
Multiple meter/gauge indicate malfunction in Diagnosis mode.		
One of speedometer/tachometer/fuel gauge/water temp. gauge indicates malfunction in Diagnosis mode.	1. Meter/Gauge 2. 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-152. 2. If the resistance of meter/gauge is OK, replace unified meter control unit.

Symptom Chart 2 (No Malfunction is Indicated in Diagnosis Mode)

NFEL0046S1002

Symptom	Possible causes	Repair order
One of speedometer/tachometer/fuel gauge/water temp. gauge is malfunctioning.	1. Sensor signal - Vehicle speed signal - Engine revolution signal - Fuel gauge - Water temp. gauge 2. Unified meter control unit	1. Check the sensor for malfunctioning meter/gauge. INSPECTION/VEHICLE SPEED SIGNAL (Refer to EL-148.) INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-149.) INSPECTION/FUEL LEVEL SENSOR UNIT (Refer to EL-150.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-151.) 2. Replace unified meter control unit.
Multiple meter/gauge are malfunctioning. (except odo/trip meter)		

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-145.



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NFEL0046S07

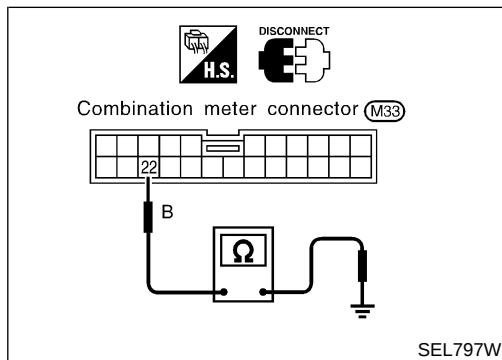
Power Supply Circuit Check

NFEL0046S0701

Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
23	Ground	Battery voltage	Battery voltage	Battery voltage
24	Ground	0V	0V	Battery voltage

If NG, check the following.

- 10A fuse [No. 12, located in fuse block (J/B)]
- 10A fuse [No. 30, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter



Ground Circuit Check

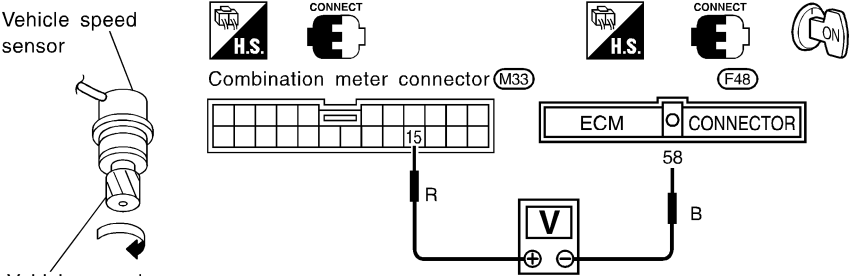
NFEL0046S0702

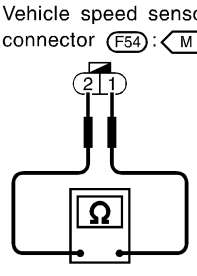
Terminals	Continuity
22 - Ground	Yes

INSPECTION/VEHICLE SPEED SIGNAL Without ABS

=NFEL0046S03

NFEL0046S0301

1	CHECK VEHICLE SPEED SENSOR OUTPUT
1. Remove vehicle speed sensor from transmission. 2. Check voltage between combination meter terminal 15 and ECM terminal 58 while quickly turning speed sensor pinion.	
 Vehicle speed sensor Vehicle speed sensor pinion Combination meter connector (M33) ECM CONNECTOR NOTE: Vehicle speed sensor connector should remain connected. Voltage: Approx. 0.5V	
OK or NG	
OK	▶ Vehicle speed sensor is OK.
NG	▶ GO TO 2.

2	CHECK VEHICLE SPEED SENSOR
Check resistance between vehicle speed sensor terminals 1 and 2.	
 Vehicle speed sensor connector (F54) : (M) Vehicle speed sensor connector (F113) : (A) Resistance: Approx. 250 Ω	
OK or NG	
OK	▶ Check harness or connector between speedometer, vehicle speed sensor and ECM.
NG	▶ Replace vehicle speed sensor.

With ABS

NFEL0046S0302

1	CHECK ABS CONTROL UNIT OUTPUT
1. Lift up drive wheel. 2. Turn ignition switch "ON". 3. Check voltage between combination meter terminal 15 and ground when rotating wheel by hand.	
Combination meter connector (M33) Voltage: Approx. 0 - 5V OK or NG	
OK	▶ ABS control unit output signal is OK.
NG	▶ Check the following. • Harness for open or short between ABS control unit and combination meter. • ABS control unit. Refer to BR-41, "ABS Actuator and Electric Unit".

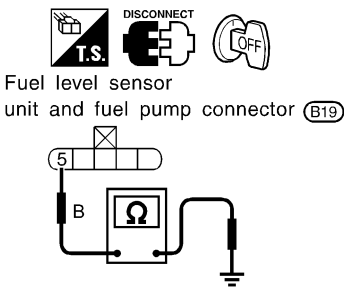
INSPECTION/ENGINE REVOLUTION SIGNAL

NFEL0046S02

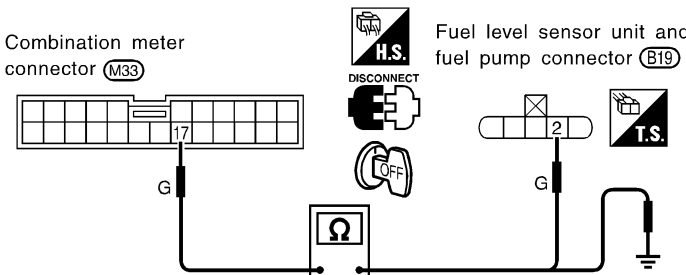
1	CHECK ECM OUTPUT
1. Start engine. 2. Check voltage between combination meter terminals 16 and ground at idle and 2,000 rpm.	
Combination meter connector (M33) Higher rpm = Higher voltage Lower rpm = Lower voltage Voltage should change with rpm. OK or NG	
OK	▶ Engine revolution signal is OK.
NG	▶ Harness for open or short between ECM and combination meter

INSPECTION/FUEL LEVEL SENSOR UNIT

=NFEL0046S08

1 CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT		
Check harness continuity between fuel level sensor unit and fuel pump connector terminal 5 and ground.		
 Fuel level sensor unit and fuel pump connector (B19) Continuity should exist. SEL182W OK or NG		
OK	▶	GO TO 2.
NG	▶	Repair harness or connector.

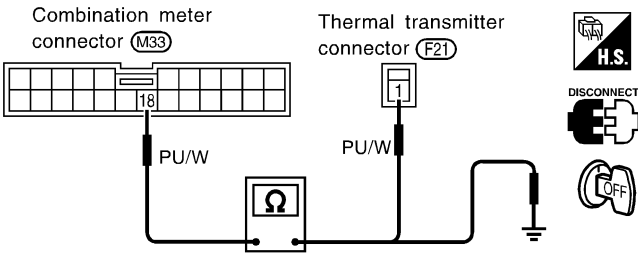
2 CHECK FUEL LEVEL SENSOR UNIT		
Refer to "FUEL LEVEL SENSOR UNIT CHECK" (EL-152).		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Replace fuel level sensor unit.

3 CHECK HARNESS FOR OPEN OR SHORT		
1. Disconnect combination meter connector and fuel level sensor unit and fuel pump connector. 2. Check continuity between combination meter terminal 17 and fuel level sensor unit and fuel pump connector terminal 2. Continuity should exist. 3. Check continuity between combination meter terminal 17 and ground. Continuity should not exist.		
 Combination meter connector (M33) Fuel level sensor unit and fuel pump connector (B19) OK or NG SEL183W		
OK	▶	Fuel level sensor unit is OK.
NG	▶	Repair harness or connector.

INSPECTION/THERMAL TRANSMITTER

=NFEL0046S09

1	CHECK THERMAL TRANSMITTER
Refer to "THERMAL TRANSMITTER CHECK" (EL-152).	
OK or NG	
OK	▶ GO TO 2.
NG	▶ Replace.

2	CHECK HARNESS FOR OPEN OR SHORT
1. Disconnect combination meter connector and thermal transmitter connector. 2. Check continuity between combination meter terminal 18 and thermal transmitter terminal 1. Continuity should exist. 3. Check continuity between combination meter terminal 18 and ground. Continuity should not exist.	
	
OK or NG	
OK	▶ Thermal transmitter is OK.
NG	▶ Repair harness or connector.

SEL184W

Electrical Components Inspection

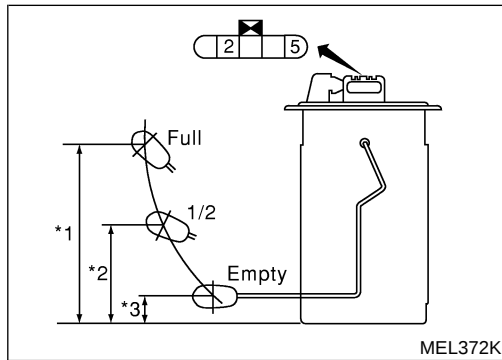
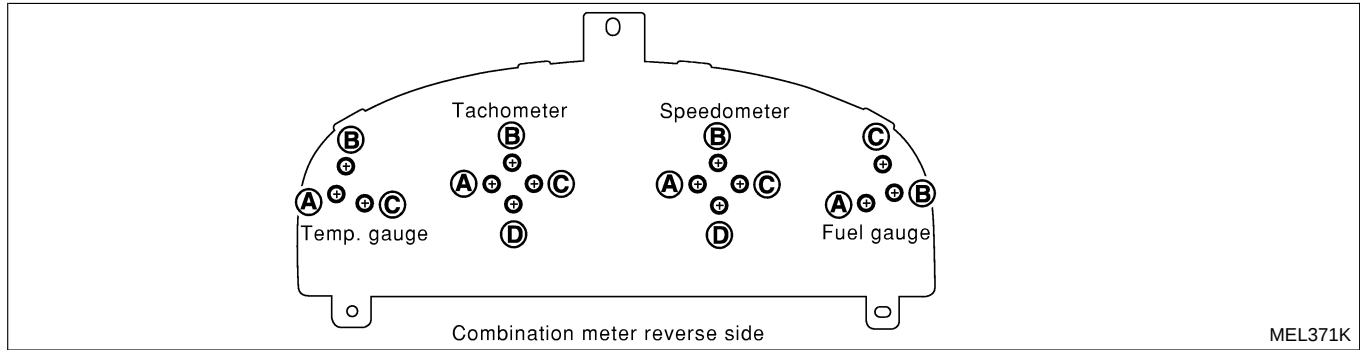
=NFEL0047

METER/GAUGE RESISTANCE CHECK

NFEL0047S04

Check resistance between installation screws of meter/gauge.

Screws		Resistance Ω
Tacho/Speedometer	Fuel/Temp. gauge	
A - C	A - C	Approx. 190 - Approx. 260
B - D	B - C	Approx. 230 - Approx. 310



FUEL LEVEL SENSOR UNIT CHECK

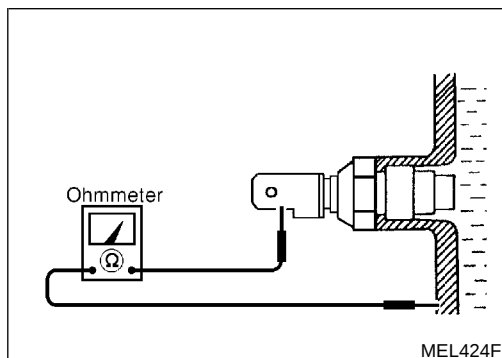
NFEL0047S01

- For removal, refer to FE-6.

Check the resistance between terminals 2 and 5.

Ohmmeter		Float position mm (in)			Resistance value Ω
(+)	(-)				
2	5	*1	Full	158 (6.22)	Approx. 4 - 6
		*2	1/2	90 (3.54)	27 - 35
		*3	Empty	22 (0.87)	78 - 85

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



THERMAL TRANSMITTER CHECK

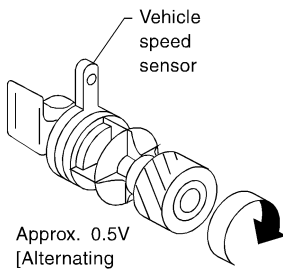
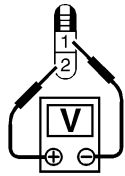
NFEL0047S02

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

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

NFEL0047S03

AT models



Approx. 0.5V
[Alternating
current (AC)]

CEL219A

VEHICLE SPEED SENSOR SIGNAL CHECK

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

GI

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AX

SU

BR

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BT

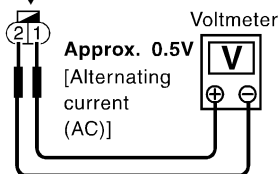
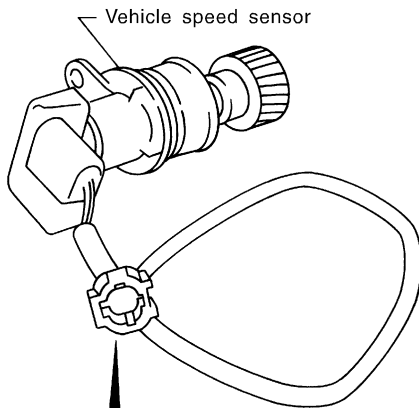
HA

SC

EL

IDX

MT models



Approx. 0.5V
[Alternating
current (AC)]

MEL373K

System Description

NFEL0296

NFEL0296S01

FUNCTION

This board computer can indicate following items.

- Outside air temperature
- Range (Cruising possible distance)
- Journey distance (trip)
- Journey time (hour meter)
- Average fuel consumption
- Average vehicle speed

Outside air temperature indication

- This indicator shows indication of outside air temperature while ignition switch is in ON position.
- Ambient sensor is used commonly by auto air conditioner and this board computer. When auto air conditioner operates, board computer will correct ambient sensor signal based on positive voltage signal to terminal 60 of board computer from A/C auto amp.
- Indication range is between -30 and $+55^{\circ}\text{C}$ (-22 and 131°F). (When outside temperature is less than -30°C (-22°F), display shows "...". When outside temperature is more than $+55^{\circ}\text{C}$ (131°F), indication will be blank.)
- When outside temperature is less than 3°C (37°F) continuously, display will blink as a warning. In this case, the display will change to the OUTSIDE AIR TEMPERATURE mode even though the display is showing a different item. (See NOTE.)
- The indicated temperature is not affected by engine heat. It changes only when one of the following condition exists.
 - a) When vehicle speed is more than 20 km/h (12 MPH).
 - b) The ignition key has been turned to OFF position for more than 3.5 hours.
 - c) When outside temperature is lower than indicated temperature.

Range (Cruising possible distance) indication

- The range indication provides driver with an estimation of the distance that can be driven before refueling. The range is conducted by fuel tank gauge unit (fuel remaining), ECM pulse signal (fuel consumption) and vehicle speed signal.
- Indication will be refreshed every 30 seconds.
- When fuel remaining is less than approx. 10 ℓ (8-3/4 Imp qt), indication will blink as a warning. If the fuel remaining less than approx. 8 ℓ (7 Imp qt), indication will show "...". In this case, the display will change to the RANGE mode automatically even though the display is showing a different item. (See NOTE.)

Journey distance

- Journey distance indication is conducted by vehicle speed signal.
- If journey distance is reset, journey time will be reset at the same time.

Journey time

- Journey time indication is conducted by integration of ignition ON time.
- If journey time is reset, journey distance will be reset at the same time.

Average fuel consumption

- Average fuel consumption indication is conducted by ECM pulse signal and vehicle speed signal after system is reset.
- Indication will be refreshed every 30 seconds.
- If average fuel consumption is reset, average vehicle speed will be reset at the same time.
- After reset operation, the display shows "..." until the vehicle is driven 500 m (1,600 ft) and 30 seconds has passed.

Average vehicle speed

- Average vehicle speed indication is conducted by running distance and running time.
- Indication will be refreshed every 30 seconds.
- If average vehicle speed is reset, average fuel consumption will be reset at the same time.
- After reset operation, the displays shows "..." for 30 seconds.

HOW TO CHANGE/RESET INDICATION

- Indication can be changed by in following order by pushing board computer switch.

NFEL0296S02

OUTSIDE AIR TEMPERATURE → RANGE → JOURNEY DISTANCE → JOURNEY TIME → AVERAGE FUEL CONSUMPTION → AVERAGE VEHICLE SPEED

- Continuous pushing the switch (more than 0.8 second) can reset the indication of journey distance (trip), journey time (hour meter), average vehicle speed and average fuel consumption.

NOTE:

- After the display changes automatically, the indication can be changed to the last mode by pushing the board computer switch. In this case, the cursor (“▲”) will blink as a warning.
- When the OUTSIDE AIR TEMPERATURE warning and the RANGE warning match warning conditions at the same time, the display automatically indicates the OUTSIDE AIR TEMPERATURE.

GI

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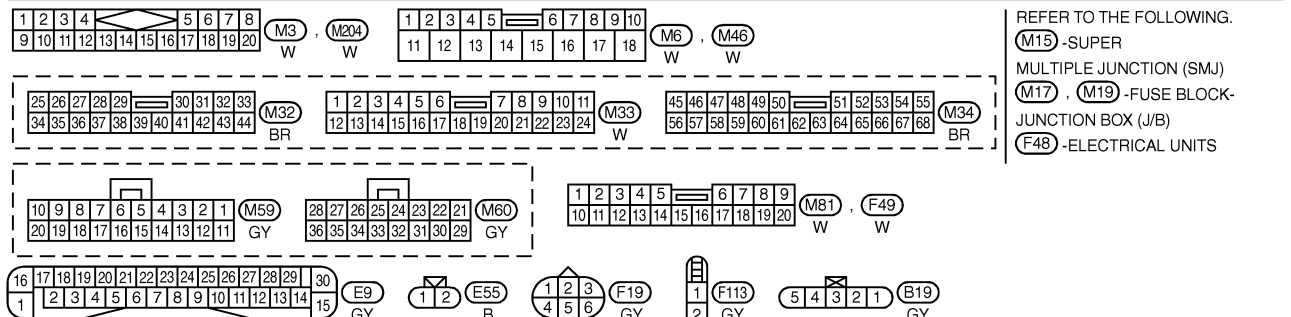
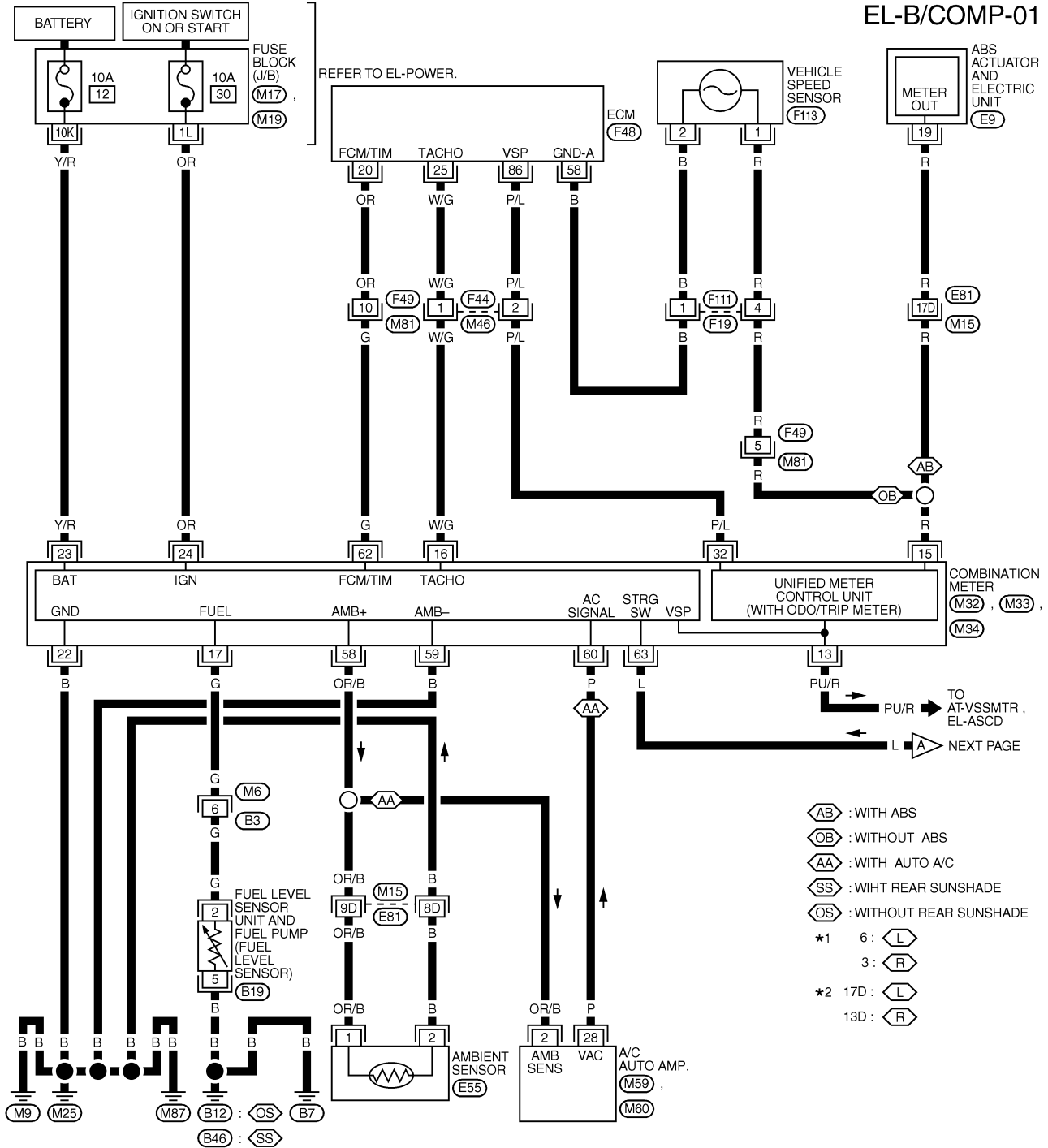
EL

IDX

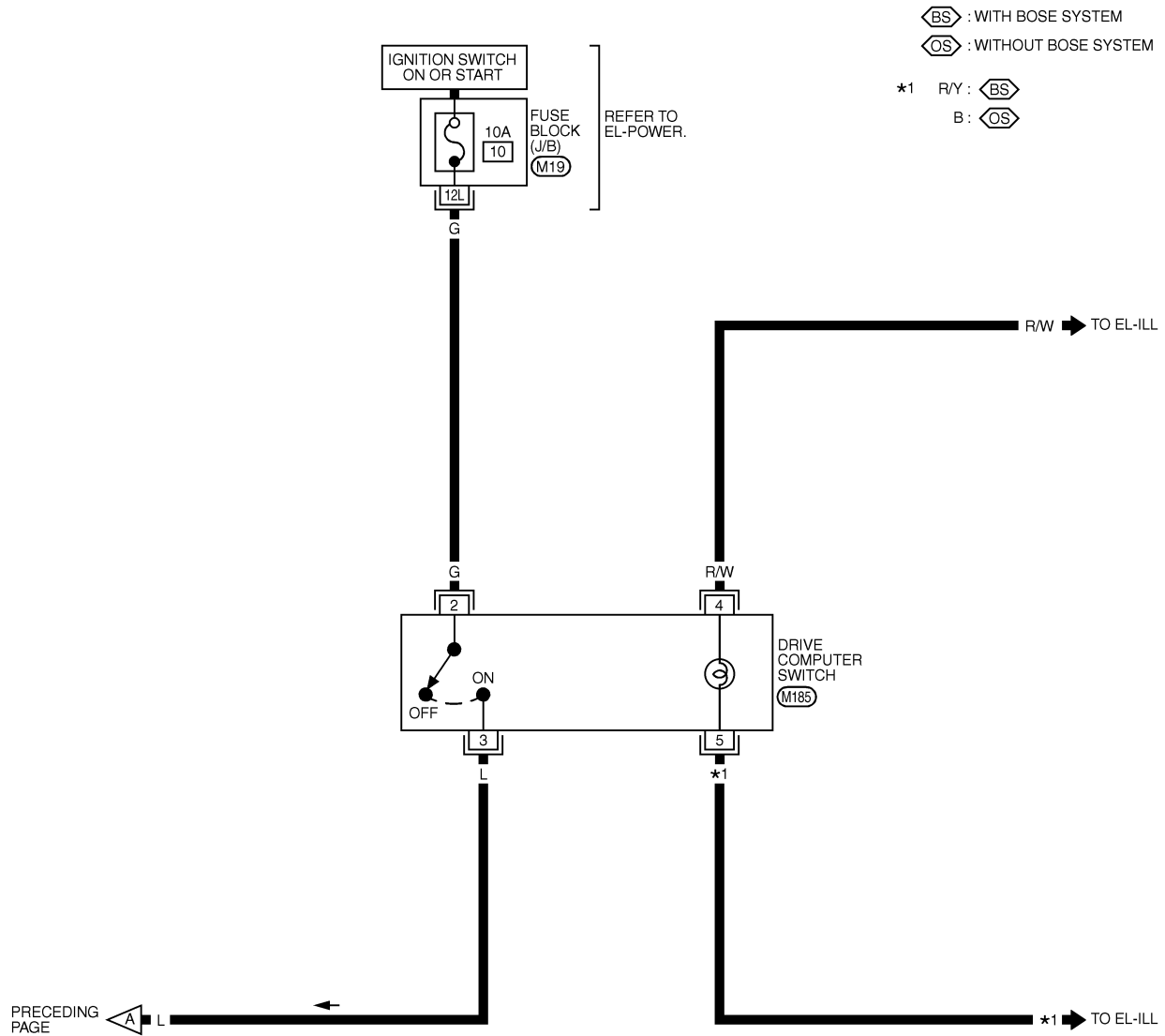
Wiring Diagram — B/COMP —

NFEL0297

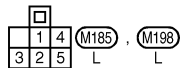
EL-B/COMP-01



EL-B/COMP-02



PRECEDING PAGE



REFER TO THE FOLLOWING.
M19 - FUSE BLOCK-
JUNCTION BOX (J/B)

MEL7870

Trouble Diagnoses

=NFEL0298

NFEL0298S01

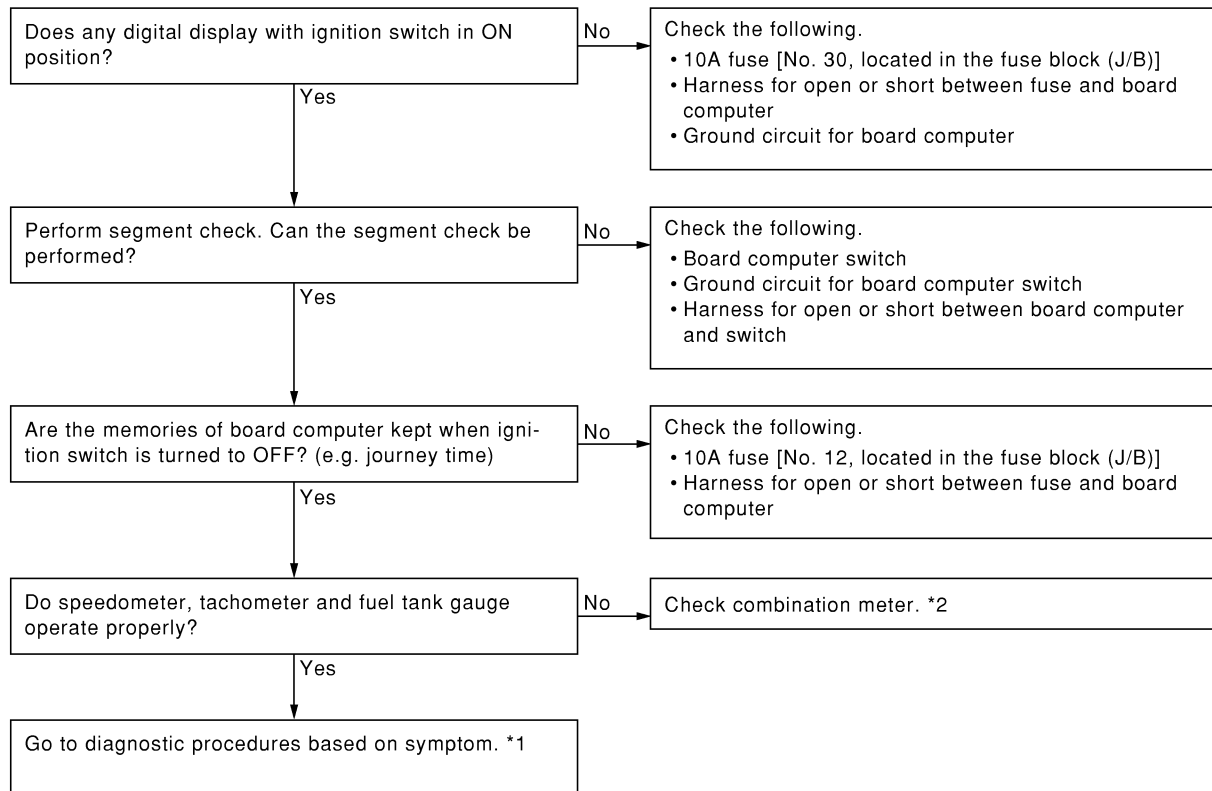
SEGMENT CHECK

Board computer display segment can be checked by the procedure shown below.

1. Turn ignition switch to ON position with pushing board computer switch. Then segment check will start.
2. Segment check will end after 1 cycle of segment check is performed or any of following conditions exists.
 - Ignition switch is returned to ACC or OFF position.
 - Vehicle speed signal is input.

PRELIMINARY CHECK

NFEL0298S02



SEL831WA

*1 EL-158

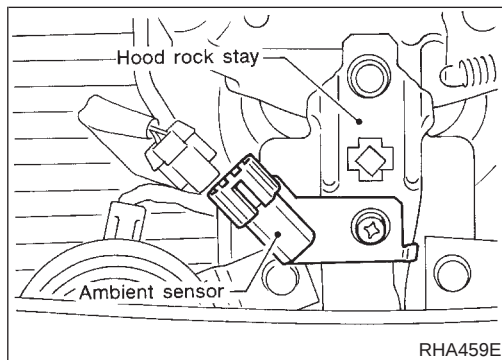
*2 EL-142

DIAGNOSES PROCEDURE

NFEL0298S03

Symptom	Possible cause	Repair order
Outside air temperature is not displayed properly. (It may take a short time to steady the indication after ignition switch is turned to ON.)	1. Ambient sensor 2. Ambient sensor circuit 3. A/C on signal (For models with auto A/C) 4. Vehicle speed sensor signal	1. Check ambient sensor. Refer to "Electrical Components Inspection", EL-159. 2. Check harness for open or short between ambient sensor and board computer. 3. Verify more than 4V is present at terminal 60 of board computer when A/C is operated. 4. Make sure journey distance (trip) is displayed properly. If NG, check journey distance (trip) display.
Range (Cruising possible distance) is not displayed properly.	1. Average fuel consumption display 2. Fuel tank gauge signal circuit	1. Make sure fuel consumption is displayed properly. If NG, check fuel consumption display. 2. Make sure fuel gauge operates properly. If NG, check fuel gauge. Refer to EL-150.

Symptom	Possible cause	Repair order
Journey distance (trip) is not indicated properly.	1. Vehicle speed sensor signal circuit	1. Check harness for open or short between combination meter terminal 15 and ABS actuator and electric unit terminal 19.
Journey time (hour meter) is not indicated properly.	1. 10A fuse	1. 10A fuse [No. 12, located in the fuse block (J/B)]. Verify battery voltage is present at terminal 23 of combination meter.
Average fuel consumption is not displayed properly.	1. Journey distance (trip) display 2. Fuel consumption signal	1. Make sure journey distance is displayed properly. If NG, check journey distance display. 2. Check harness for open or short between ECM terminals (20, 25) and combination meter terminals (62, 16).
Average vehicle speed is not indicated properly.	1. Journey distance (trip) display 2. Journey time (hour meter) display	1. Make sure journey distance is displayed properly. If NG, check journey distance display. 2. Make sure journey time is displayed properly. If NG, check journey time display.



Electrical Components Inspection

AMBIENT SENSOR

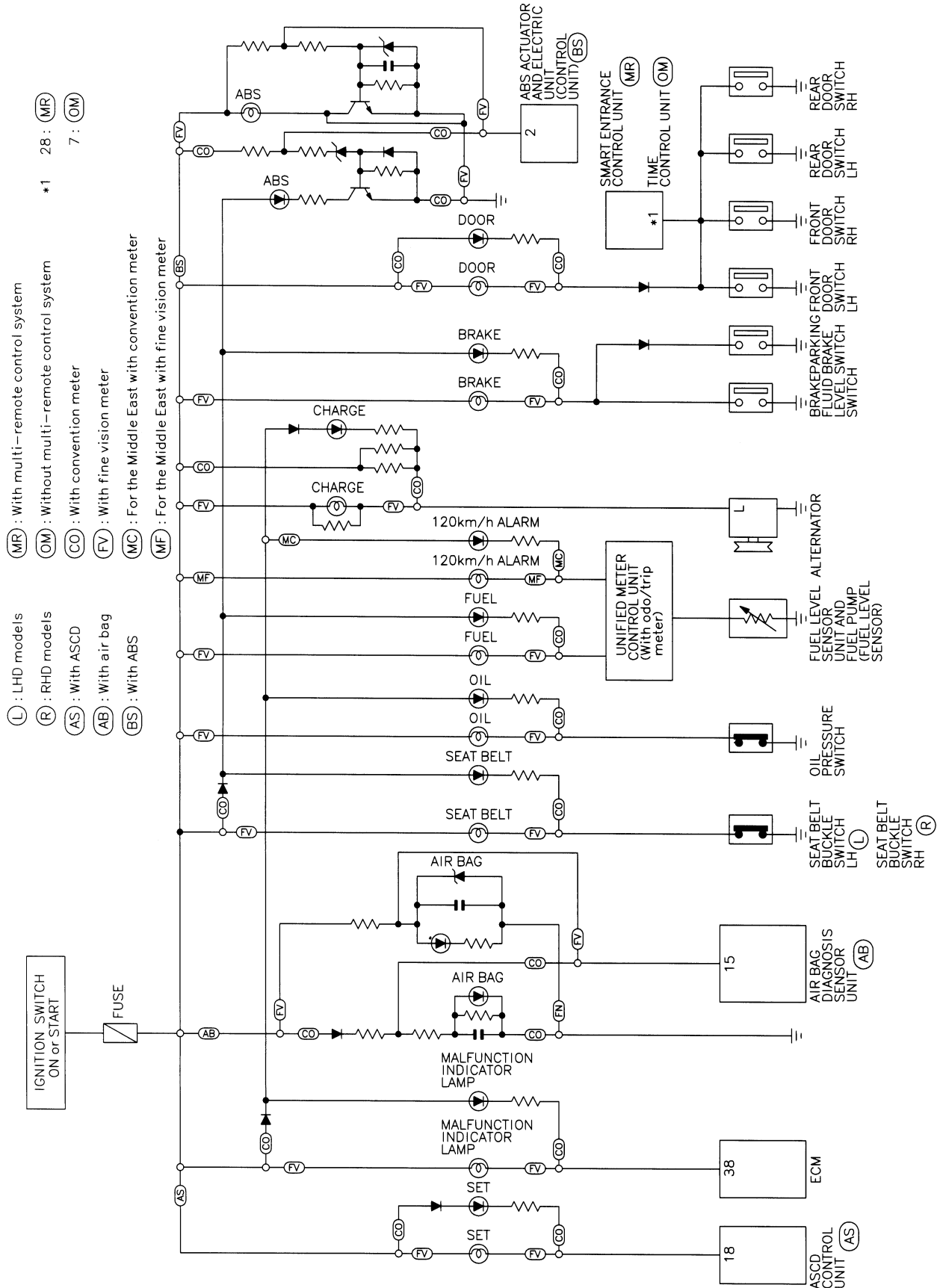
NFEL0299

NFEL0299S01

The ambient sensor is attached to the radiator core support. It detects ambient temperature and converts it into a resistance value which is then input to A/C auto amp. and board computer. After disconnecting ambient sensor harness connector, measure resistance between terminals 1 and 2, using the table below.

Temperature °C (°F)	Resistance kΩ
-15 (5)	12.73
-10 (14)	9.92
-5 (23)	7.80
0 (32)	6.19
5 (41)	4.95
10 (50)	3.99
15 (59)	3.24
20 (68)	2.65
25 (77)	2.19
30 (86)	1.81
35 (95)	1.51
40 (104)	1.27
45 (113)	1.07

Schematic

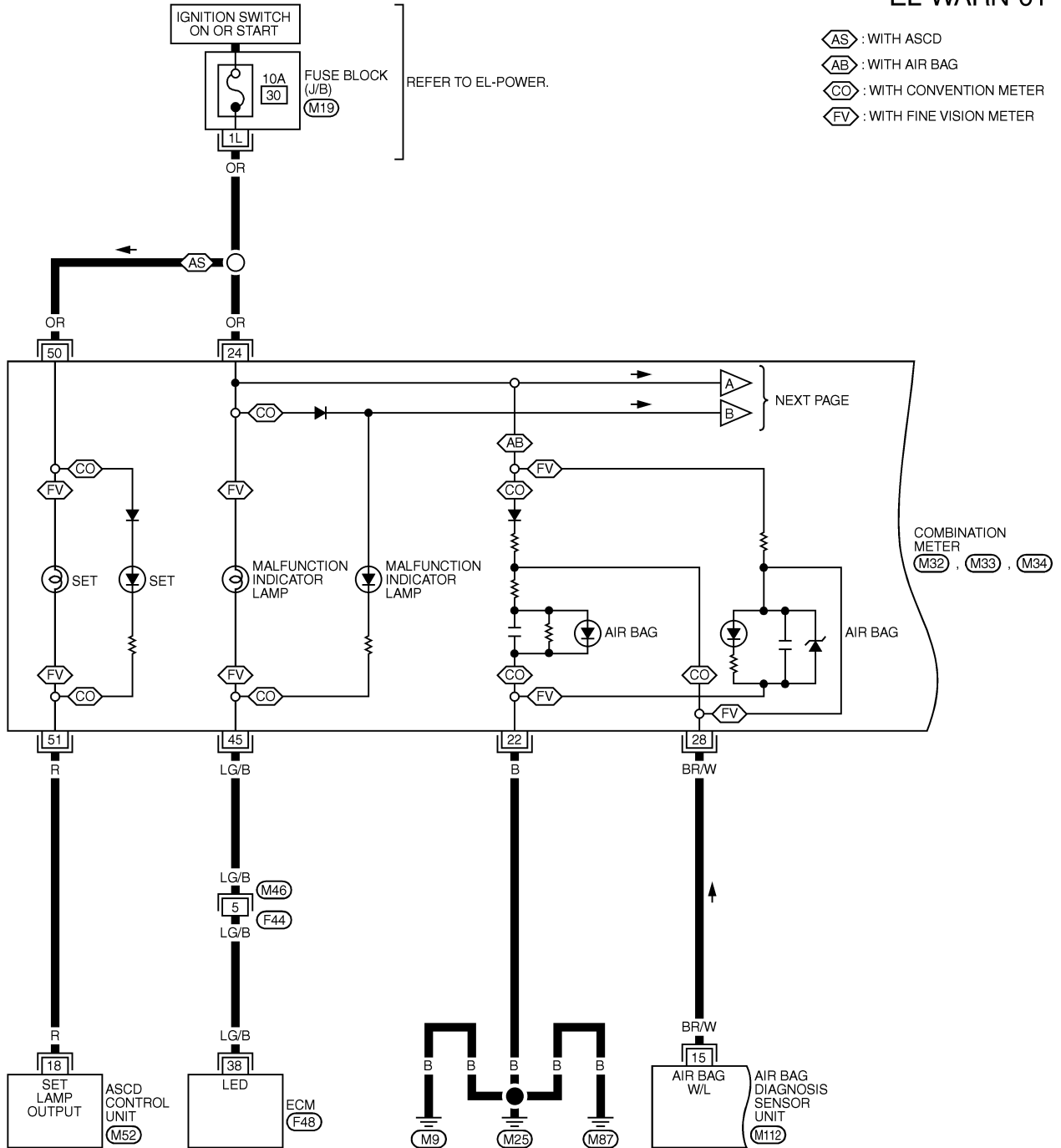


Wiring Diagram — WARN —

NFEL0050

EL-WARN-01

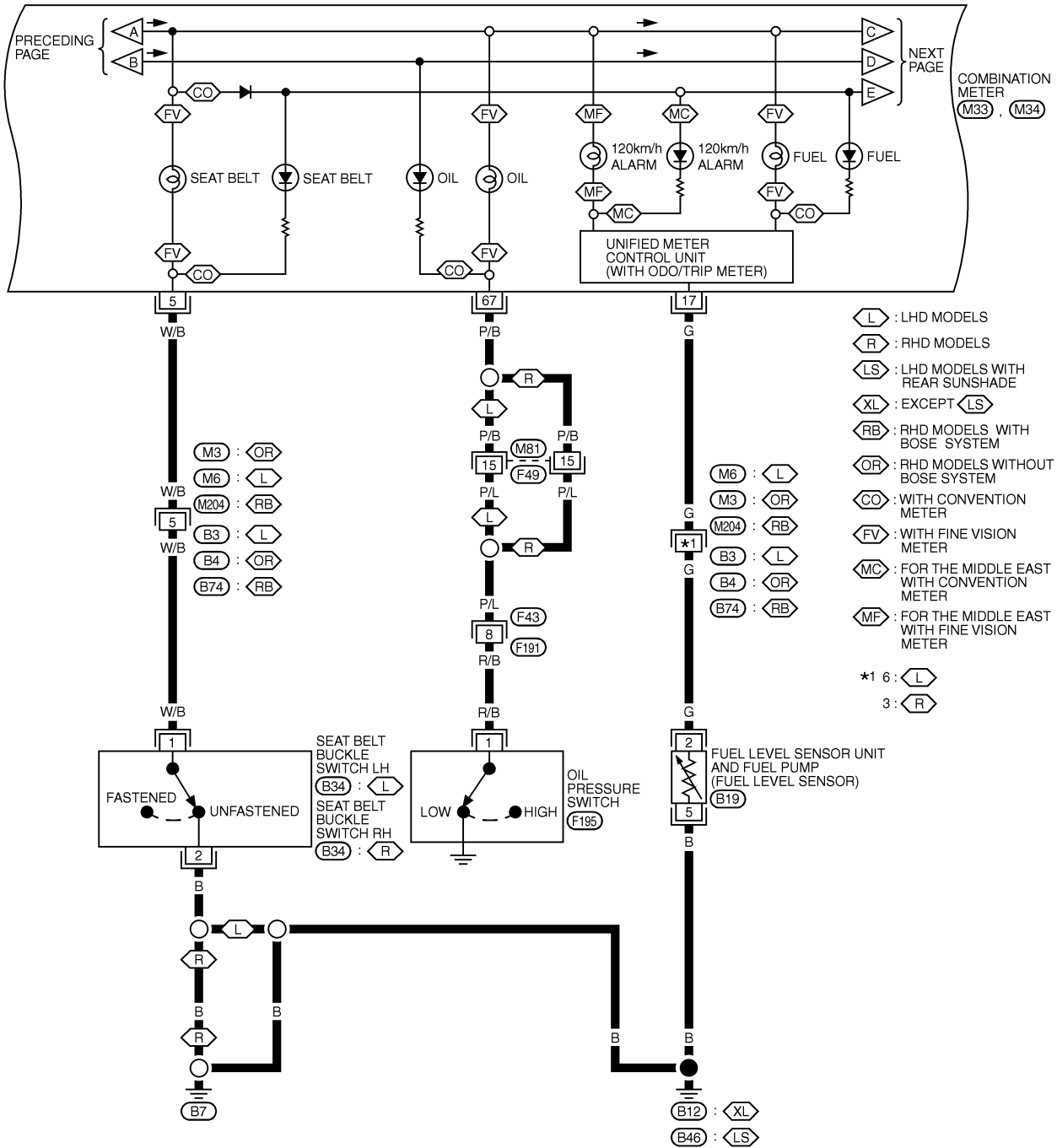
- (AS) : WITH ASCD
- (AB) : WITH AIR BAG
- (CO) : WITH CONVENTION METER
- (FV) : WITH FINE VISION METER



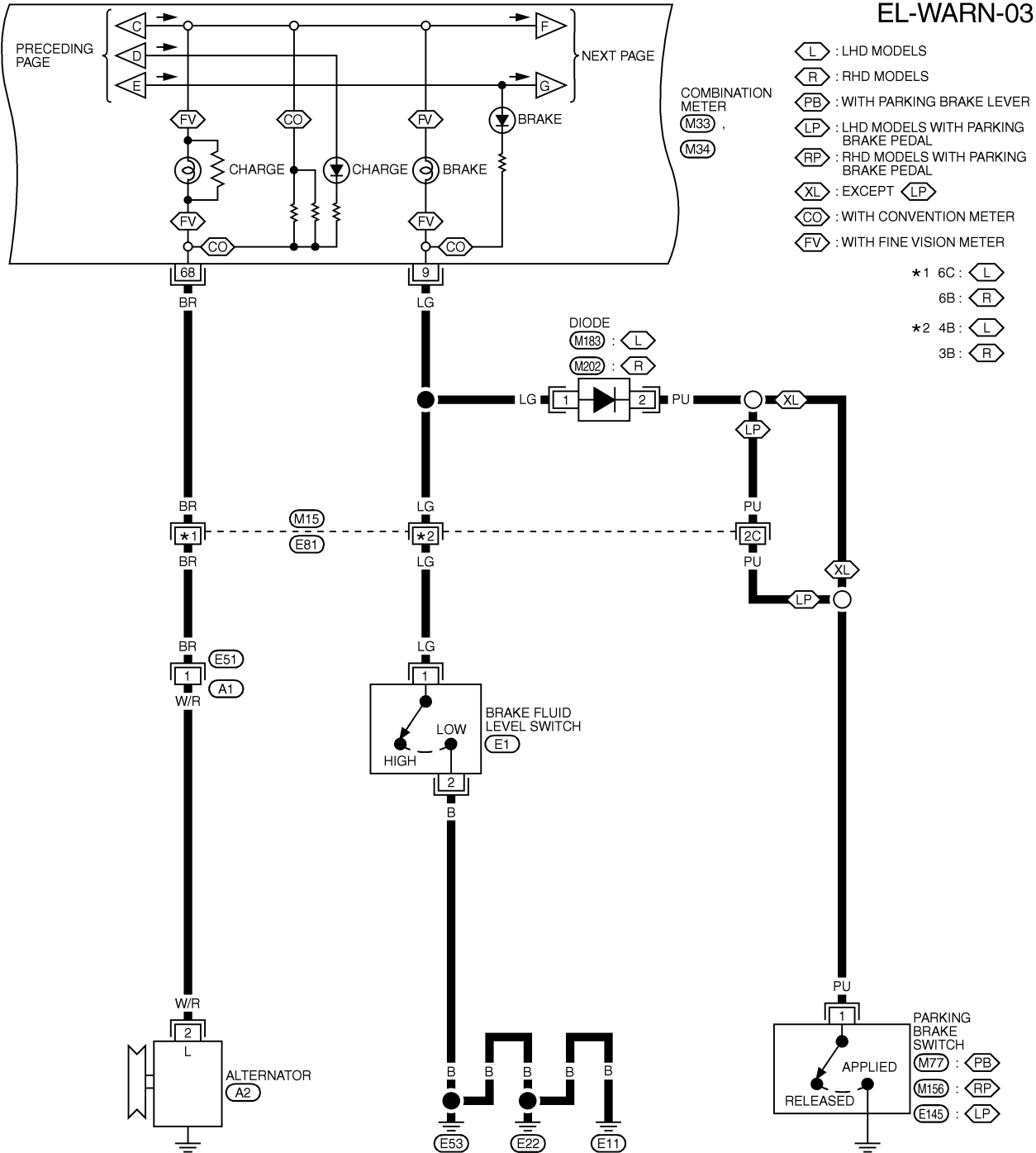
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
(M32) BR	(M33) W	(M34) BR

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 12	24 23 17 18 3 4 12 11 14 13 6 5 21 22 20 15 19 1 16 2
(M46) W	(M52) BR	(M112) Y

REFER TO THE FOLLOWING.
 (M19) - FUSE BLOCK-
 JUNCTION BOX (J/B)
 (F48) - ELECTRICAL UNITS

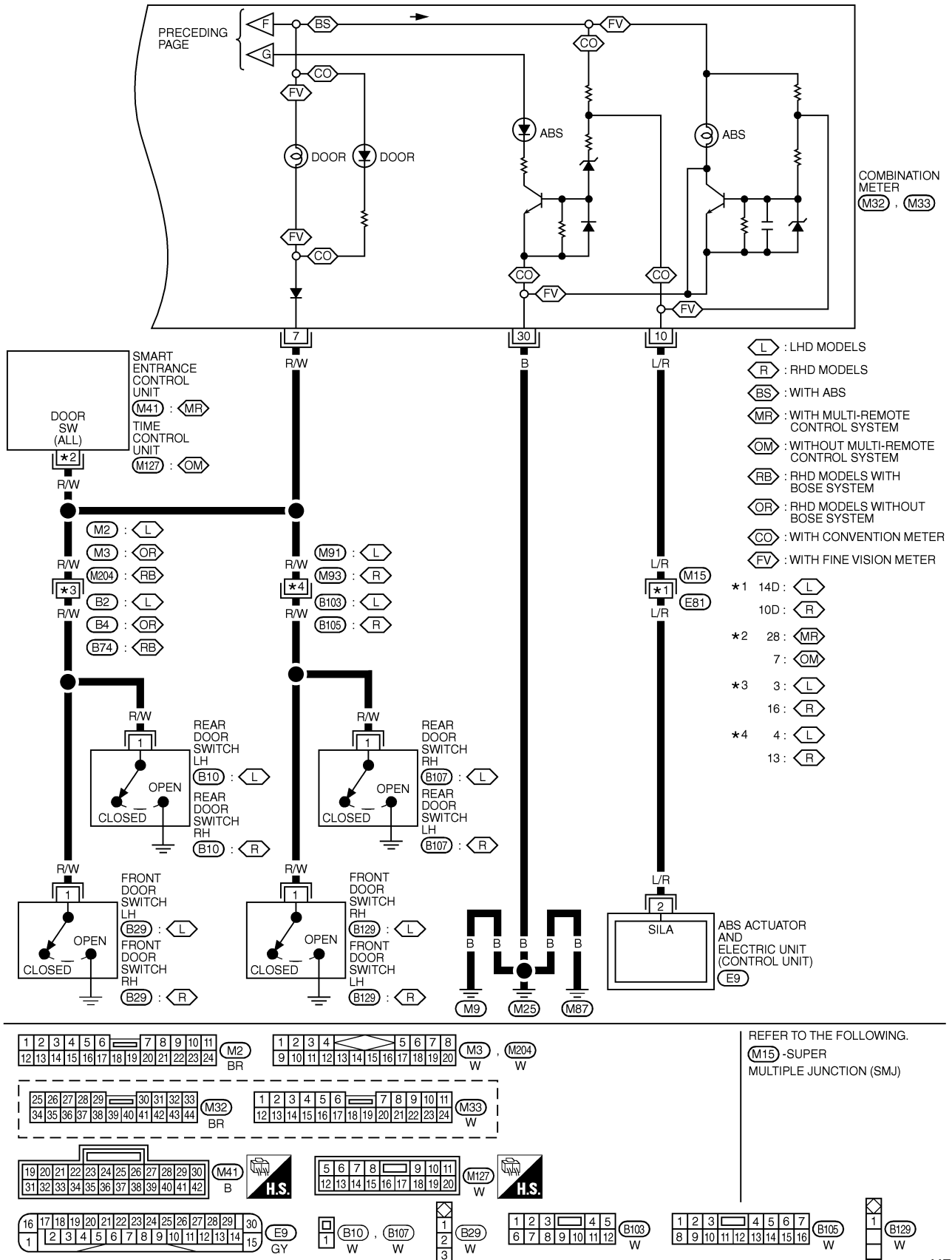


EL-WARN-03

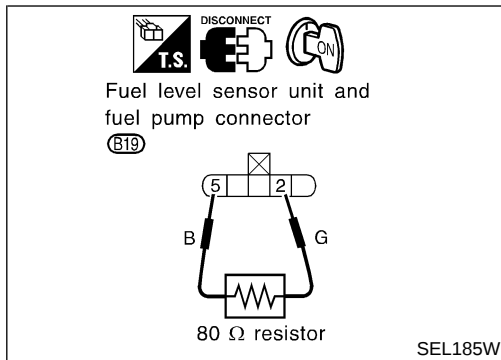


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REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)



MEL7920



Electrical Components Inspection

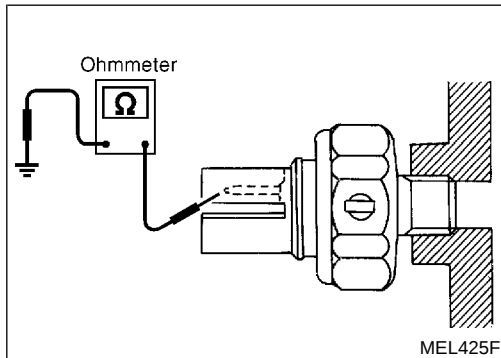
FUEL WARNING LAMP OPERATION CHECK

NFEL0051

NFEL0051S01

1. Turn ignition switch "OFF".
2. Disconnect fuel level sensor unit and fuel pump harness connector B19.
3. Connect a resistor (80 Ω) between fuel level sensor unit and fuel pump harness connector terminals 2 and 5.
4. Turn ignition switch "ON".

The fuel warning lamp should come on.

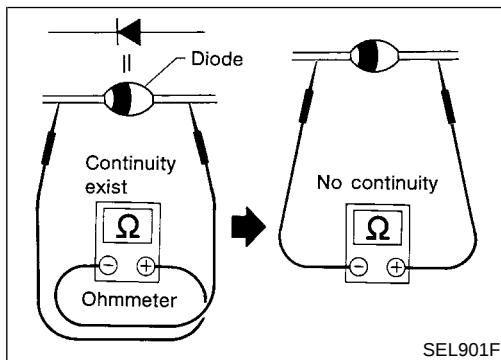


OIL PRESSURE SWITCH CHECK

NFEL0051S02

	Oil pressure kPa (bar, kg/cm ² , psi)	Continuity
Engine running	More than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1 - 3)	No
Engine not running	Less than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1 - 3)	Yes

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



DIODE CHECK

NFEL0051S03

- Check continuity using an ohmmeter.
- Diode is functioning properly if test results are as shown in the figure at left.
- Check diodes at the combination meter harness connector instead of on the combination meter assembly. Refer to EL-161, "WARNING LAMP" wiring diagrams.

NOTE:

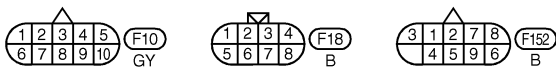
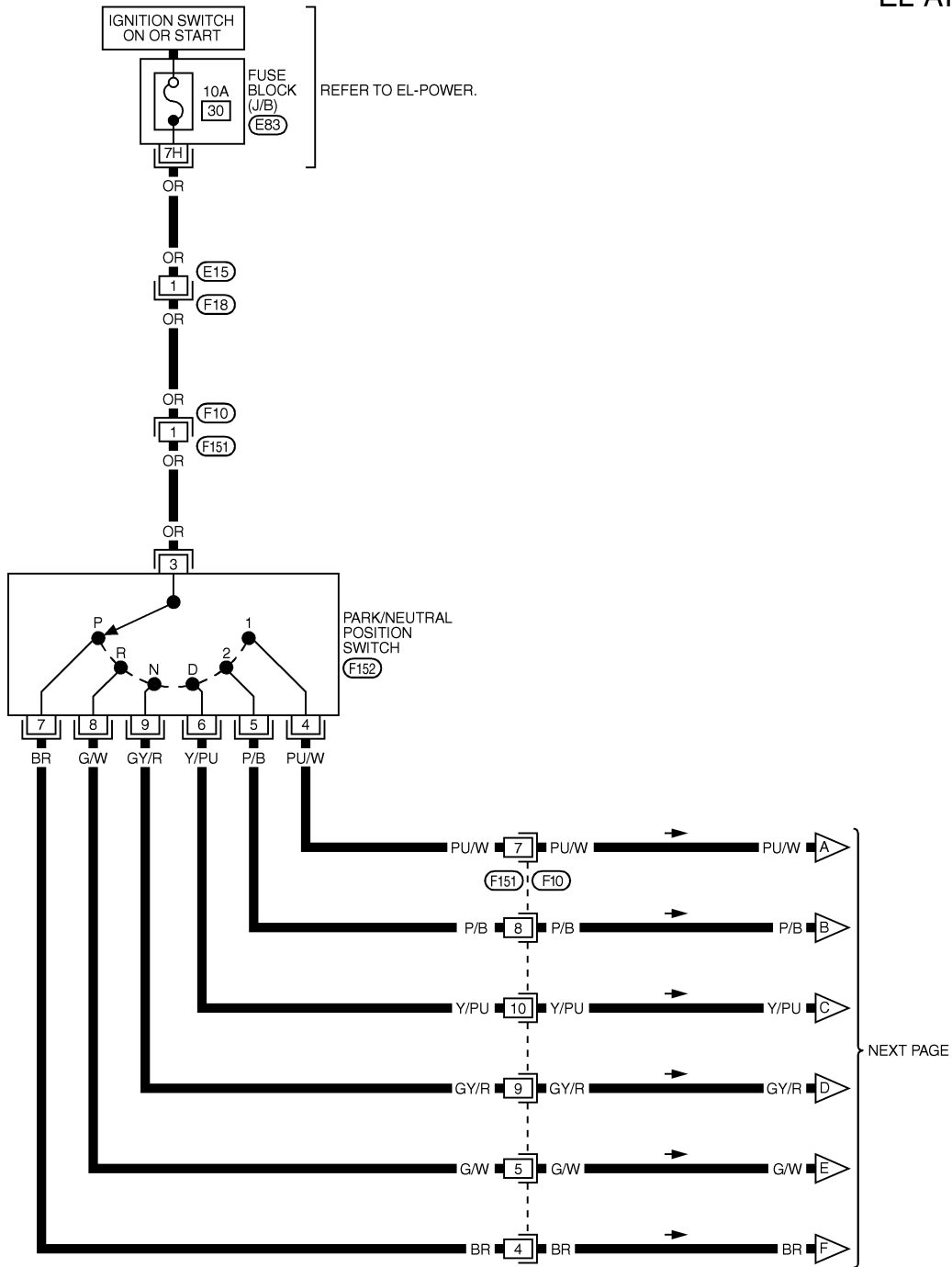
Specification may vary depending on the type of tester. Before performing this inspection, be sure to refer to the instruction manual for the tester to be used.

GI
MA
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IDX

Wiring Diagram — AT/IND —

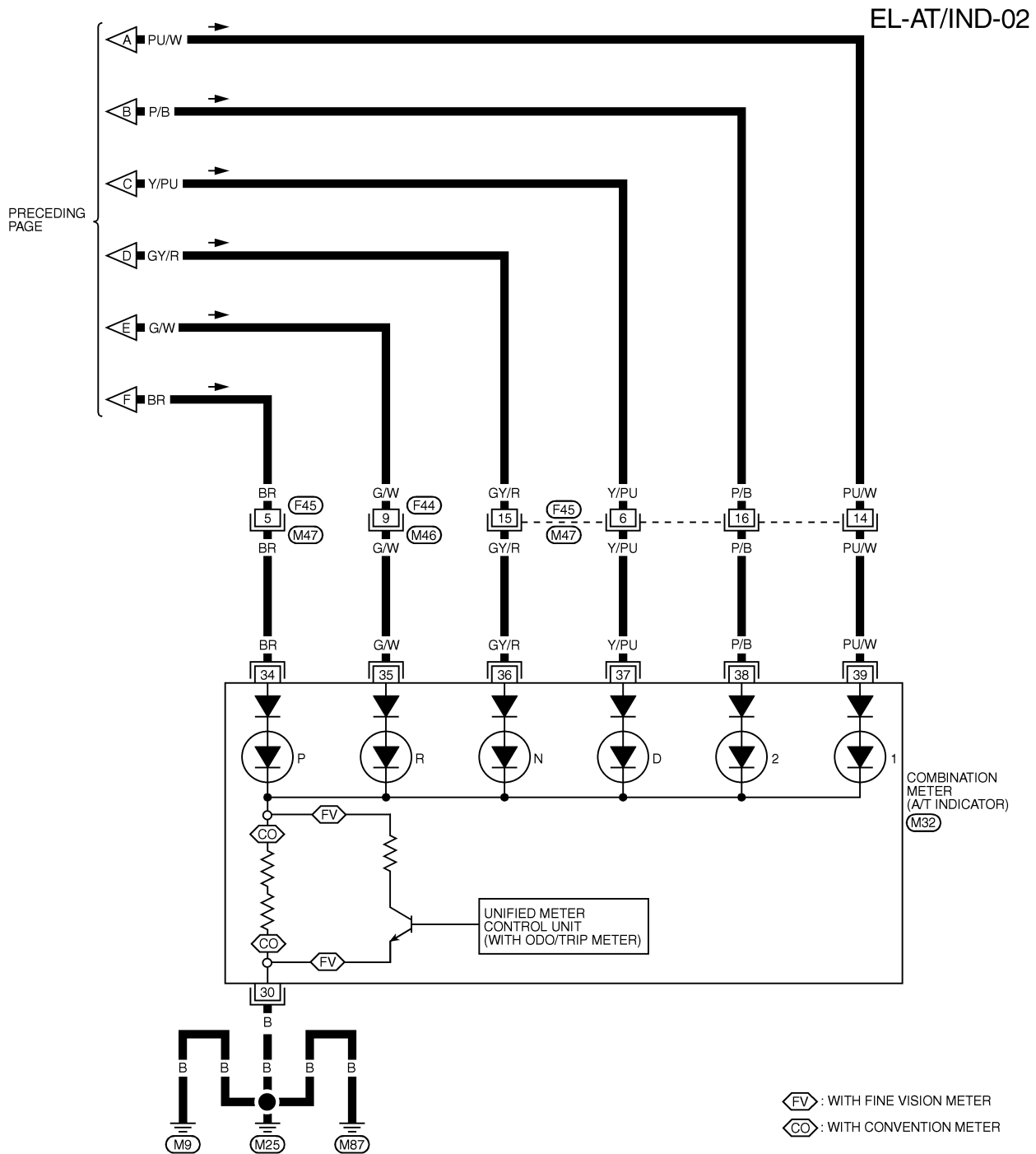
NFEL0159

EL-AT/IND-01



REFER TO THE FOLLOWING.
 (E83) - FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL270K



25	26	27	28	29			30	31	32	33
34	35	36	37	38	39	40	41	42	43	44

M32

BR

1	2	3	4	5	6	7	8	9	10	M46
11	12	13	14	15	16	17	18			W

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

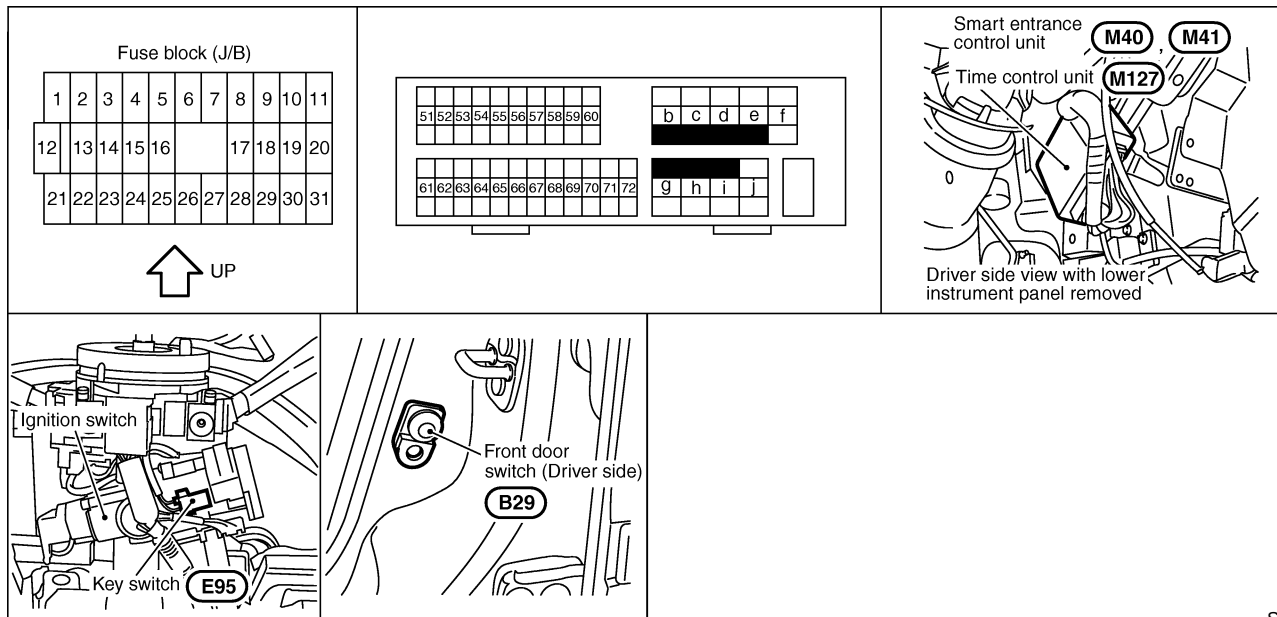
EL

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MEL7930

Component Parts and Harness Connector Location

NFEL0052



SEL798W

System Description

NFEL0053

The warning chime is controlled by the smart entrance control unit or time control unit. The warning chime is located in the smart entrance control unit or time control unit. Power is supplied at all times

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to key switch terminal 2,
- to smart entrance control unit terminal 10
- through 40A fusible link (Letter I, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to smart entrance control unit terminal 11 or time control unit terminal 14.
- through 10A fuse (No. 60, located in the fuse and fusible link box)
- to tail lamp relay terminals 1 and 3 (with auto light).
- to lighting switch terminal 11 (without auto light)

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33 or time control unit terminal 18.

Ground is supplied to smart entrance control unit or time control unit terminal 16 through body grounds M9, M25 and M87.

When a signal, or combination of signals, is received by the smart entrance control unit or time control unit, the warning chime will sound.

IGNITION KEY WARNING CHIME

NFEL0053S01

With the key in the ignition switch in the OFF position, and the driver's door open, the warning chime will sound. Power is supplied

- from key switch terminal 1
- to smart entrance control unit terminal 32 or time control unit terminal 10.

Ground is supplied

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29 or time control unit terminal 20.

Front door switch (driver side) terminal 3 is grounded through body grounds B30 (LHD models) or B7 (RHD models) and B12.

LIGHT WARNING CHIME

NFEL0053S02

With ignition switch OFF, driver's door open, and lighting switch in 1ST or 2ND position, warning chime will sound. Power is supplied.

- from tail lamp relay terminal 5 to smart entrance control unit terminal 34 or time control unit terminal 15 (with auto light).
- from lighting switch terminal 12 to smart entrance control unit terminal 34 or time control unit terminal 15 (without auto light).

Ground is supplied

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29 or time control unit terminal 20.

Front door switch (driver side) terminal 3 is grounded through body grounds B30 (LHD models) or B7 (RHD models) and B12.

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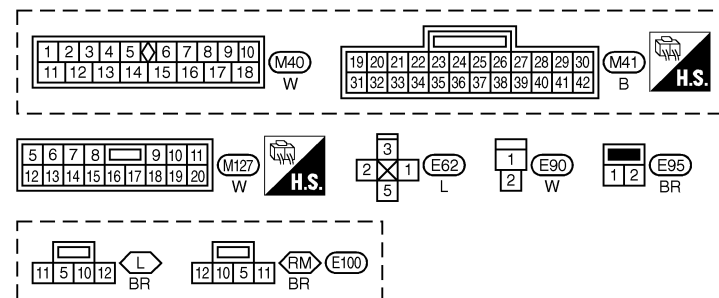
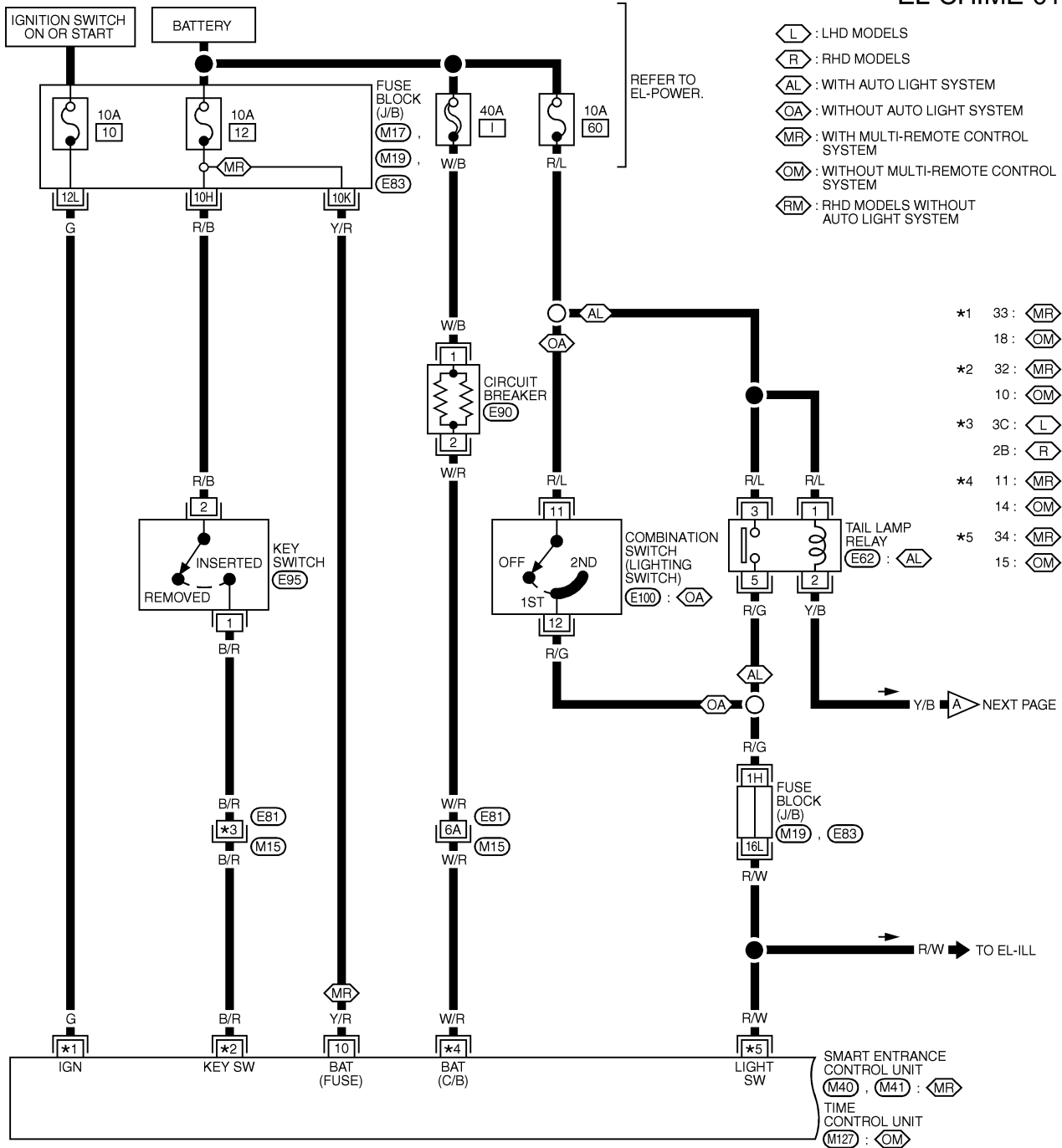
EL

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Wiring Diagram — CHIME —

NFEL0054

EL-CHIME-01



REFER TO THE FOLLOWING.

(M15) -SUPER

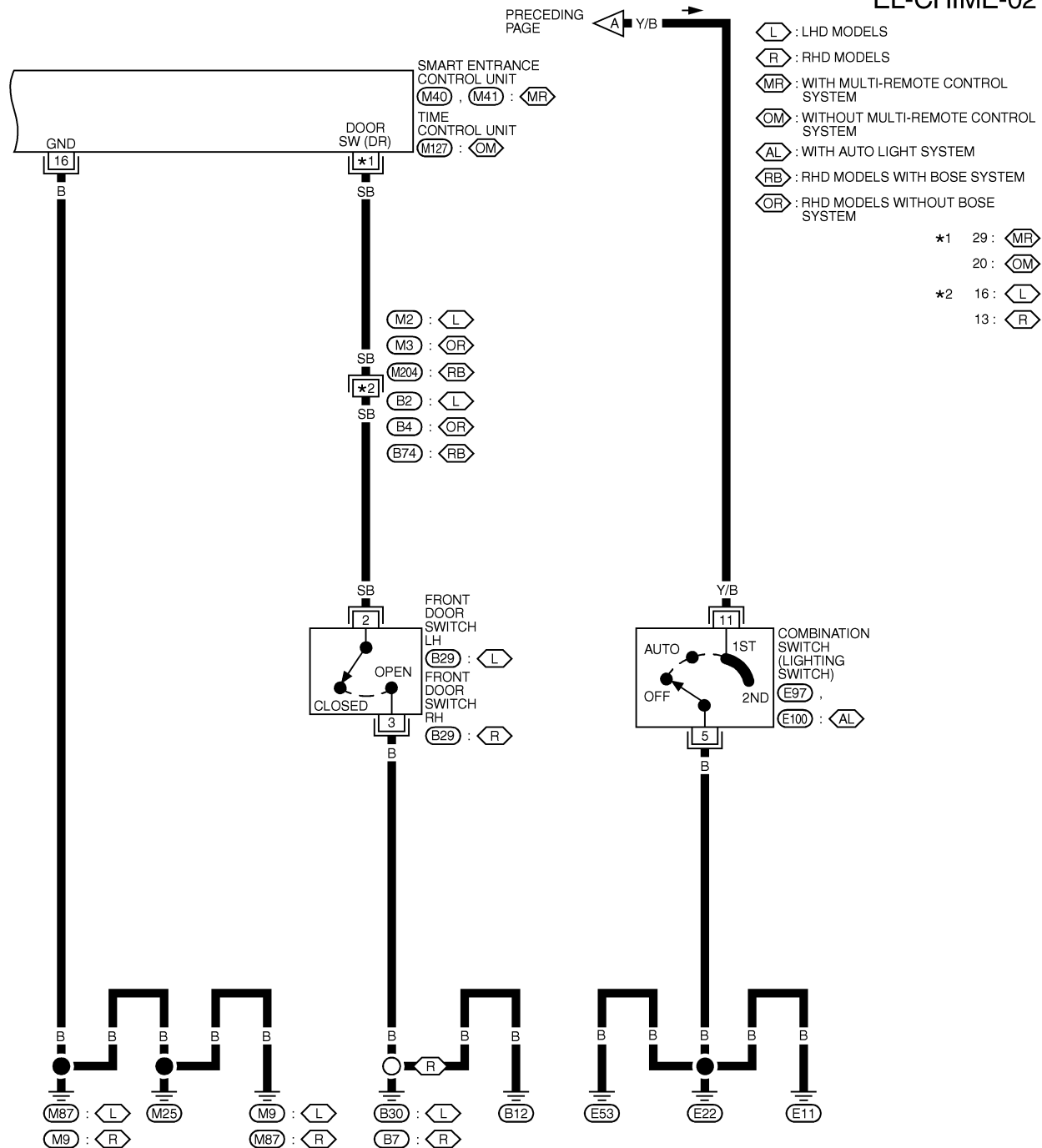
MULTIPLE JUNCTION (SMJ)

(M17, M19, E83)

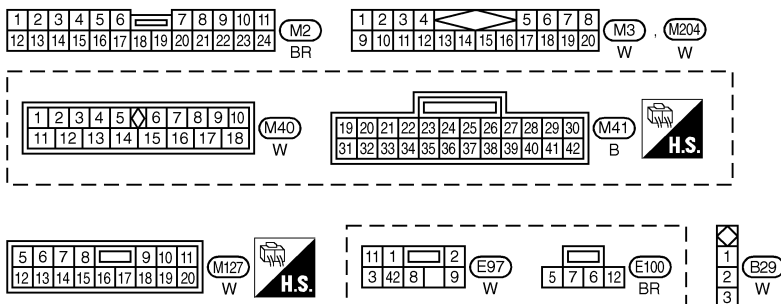
-FUSE BLOCK- JUNCTION BOX (J/B)

MEL7940

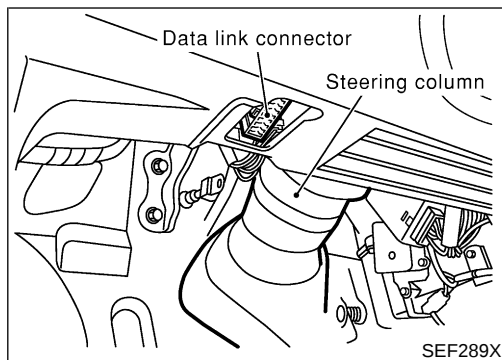
EL-CHIME-02



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MEL7950



SEF289X

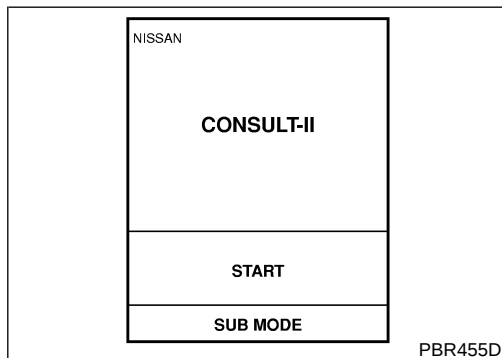
CONSULT-II Inspection Procedure

"KEY WARN ALM"/"LIGHT WARN ALM"

=NFEL0216

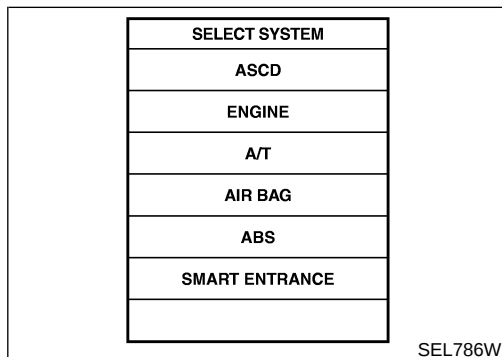
NFEL0216S01

1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



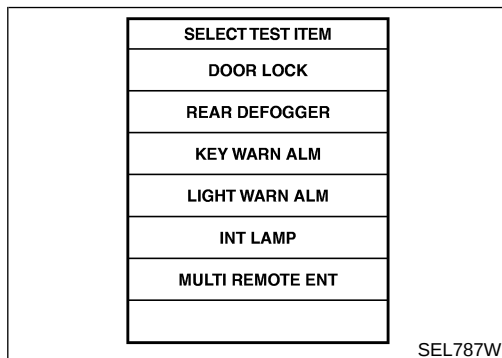
PBR455D

3. Turn ignition switch "ON".
4. Touch "START".



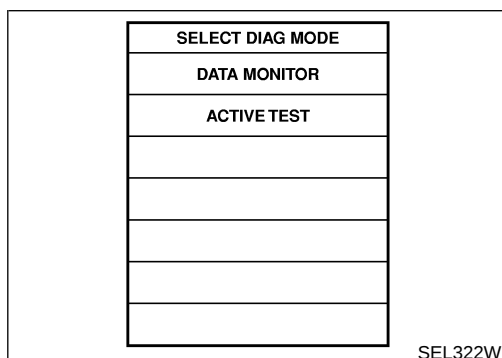
SEL786W

5. Touch "SMART ENTRANCE".



SEL787W

6. Touch "KEY WARN ALM", "LIGHT WARN ALM" or "SEAT BELT ALM".



SEL322W

- DATA MONITOR and ACTIVE TEST are available for the warning chime.

CONSULT-II Application Items

NFEL0217

“KEY WARNING ALARM”

Data Monitor

NFEL0217S01

NFEL0217S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW DR	Indicates [ON/OFF] condition of front door switch LH.

Active Test

NFEL0217S0102

Test Item	Description
CHIME	This test is able to check key warning chime operation. Key warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen.

“LIGHT WARN ALM”

Data Monitor

NFEL0217S02

NFEL0217S0201

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
HD/LMP 1ST SW	Indicates [ON/OFF] condition of lighting switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.

Active Test

NFEL0217S0202

Test Item	Description
CHIME	This test is able to check light warning chime operation. Light warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen.

Trouble Diagnoses SYMPTOM CHART

NFEL0055

NFEL0055S01

REFERENCE PAGE (EL-)	174	175	176	177
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK)	DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK)	DIAGNOSTIC PROCEDURE 3
Light warning chime does not activate.	X	X		X
Ignition key warning chime does not activate.	X		X	X
All warning chimes do not activate.	X			X

POWER SUPPLY AND GROUND CIRCUIT CHECK

NFEL0055S02

Power Supply Circuit Check

NFEL0055S0201

Smart entrance control unit connector (M40)

Time control unit connector (M127)

Unit	Terminals		Ignition switch position		
	(+)	(-)	OFF	ACC	ON
Smart entrance control unit	10	Ground	Battery voltage	Battery voltage	Battery voltage
Time control unit	14	Ground	Battery voltage	Battery voltage	Battery voltage

SEL799W

Ground Circuit Check

NFEL0055S0202

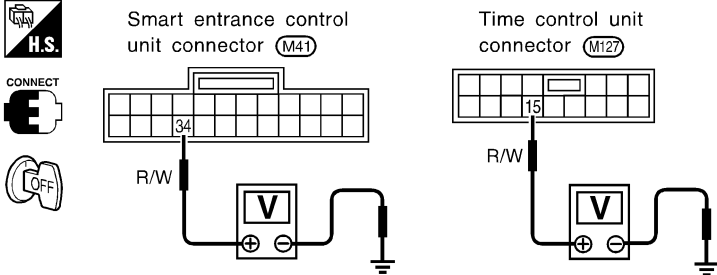
Smart entrance control unit connector (M40)

Time control unit connector (M127)

SEL800W

DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK)

=NFEL0055S03

1	CHECK LIGHTING SWITCH INPUT SIGNAL						
 With CONSULT-II Check lighting switch ("HD/LMP 1ST SW") in "DATA MONITOR" mode with CONSULT-II.	<table border="1"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th colspan="2">MONITOR</th> </tr> </thead> <tbody> <tr> <td>HD/LMP 1ST SW</td> <td>OFF</td> </tr> </tbody> </table> When lighting switch is in 1st or 2nd position: HD/LMP 1ST SW ON When lighting switch is in OFF position: HD/LMP 1ST SW OFF SEL316W	DATA MONITOR		MONITOR		HD/LMP 1ST SW	OFF
DATA MONITOR							
MONITOR							
HD/LMP 1ST SW	OFF						
 Without CONSULT-II Check voltage between smart entrance control unit terminal 34 or time control unit terminal 15 and ground.	 Voltage [V]: Condition of lighting switch: 1ST or 2ND Approx. 12 Condition of lighting switch: OFF 0 SEL801W						
OK	▶ Lighting switch is OK.						
NG	▶ Check the following. • 10A fuse (No. 60, located in the fuse and fusible link box) • Harness for open or short between control unit and lighting switch						

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DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK)

=NFEL0055S04

1 CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
KEY ON SW	ON

When key is inserted to ignition key cylinder:

KEY ON SW ON

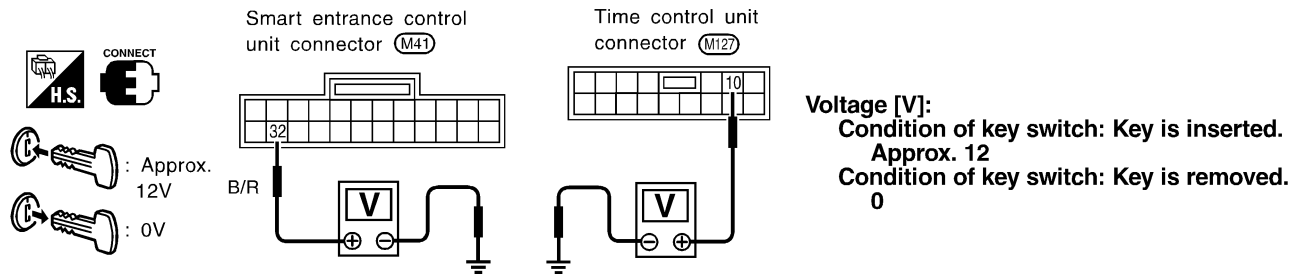
When key is removed from ignition key cylinder:

KEY ON SW OFF

SEL315W

Without CONSULT-II

Check voltage between smart entrance control unit terminal 32 or time control unit terminal 10 and ground.



SEL795W

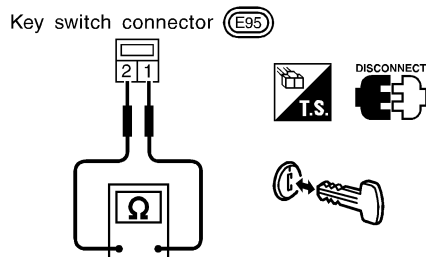
OK or NG

OK ► Key switch is OK.

NG ► GO TO 2.

2 CHECK KEY SWITCH (INSERT)

Check continuity between terminals 1 and 2.



SEL311W

OK or NG

OK ► Check the following.

- 10A fuse [No. 12, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between control unit and key switch

NG ► Replace key switch.

DIAGNOSTIC PROCEDURE 3

NFEL0055S06

1 CHECK IGNITION ON SIGNAL

With CONSULT-II

Check ignition switch ON signal ("IGN ON SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
IGN ON SW	ON

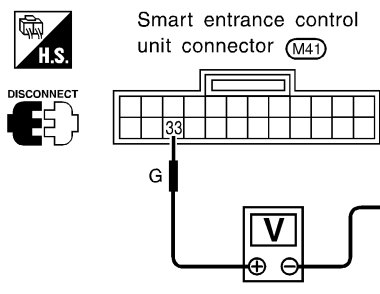
When ignition switch is ON:
IGN ON SW ON

When ignition switch is OFF:
IGN ON SW OFF

SEL318W

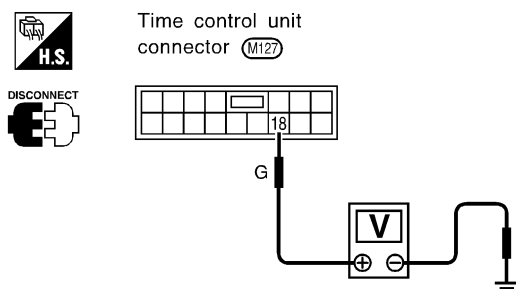
Without CONSULT-II

Check voltage between smart entrance control unit terminal 33 or time control unit terminal 18 and ground.



Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
33	Ground	0V	0V	Battery voltage

SEL380W



Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
18	Ground	0V	0V	Battery voltage

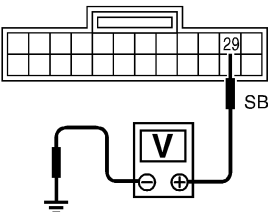
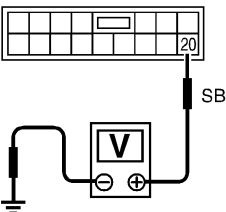
SEL789W

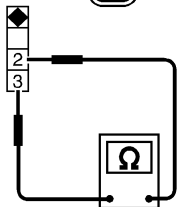
OK or NG

OK ► GO TO 2.

NG ► **Check the following.**

- 10A fuse [No. 10, located in fuse block (J/B)]
- Harness for open or short between control unit and fuse

2	CHECK DOOR SWITCH INPUT SIGNAL						
 With CONSULT-II Check driver door switch signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">DATA MONITOR</th> </tr> <tr> <th style="text-align: center;">MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">DOOR SW-DR</td> <td style="text-align: center;">OFF</td> </tr> </tbody> </table> When driver's door is open: DOOR SW-DR ON When driver's door is closed: DOOR SW-DR OFF SEL319W		DATA MONITOR		MONITOR		DOOR SW-DR	OFF
DATA MONITOR							
MONITOR							
DOOR SW-DR	OFF						
 Without CONSULT-II Check voltage between smart entrance control unit terminal 29 or time control unit terminal 20 and ground.  Smart entrance control unit connector (M4)  Time control unit connector (M127)  Voltage [V]: Condition of driver's door: CLOSED Approx. 5 Condition of driver's door: OPENED 0 SEL790W							
OK or NG							
OK	▶ GO TO 4.						
NG	▶ GO TO 3.						

3	CHECK DRIVER SIDE DOOR SWITCH
Check continuity between terminals 2 and 3. Door switch driver side connector (B29)   Continuity: Door switch is pushed. No Door switch is released. Yes SEL325W	
OK or NG	
OK	▶ Check the following. - Driver side door switch ground circuit and condition - Harness for open or short between control unit and driver side door switch
NG	▶ Replace driver side door switch.

4	CHECK WARNING CHIME	
ACTIVE TEST CHIME OFF ON Warning chime should operate. SEL320W		
OK or NG		
OK	▶	System is OK.
NG	▶	Replace control unit.

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System Description

NFEL0057

NFEL0057S01

WIPER OPERATION

The wiper switch is controlled by a lever built into the combination switch. There are three wiper switch positions:

- LO speed
- HI speed
- INT (Intermittent)

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

- through 20A fuse [No. 25, located in the fuse block (J/B)]
- to wiper motor terminal 4.

Low and High Speed Wiper Operation

NFEL0057S0101

Ground is supplied to wiper switch terminal 17 through body grounds E11, E22 and E53.

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

- through terminal 14 of the wiper switch
- to wiper motor terminal 3.

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

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

- through terminal 16 of the wiper switch
- to wiper motor terminal 1.

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

Auto Stop Operation

NFEL0057S0102

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

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

- from terminal 14 of the wiper switch
- to wiper motor terminal 3, in order to continue wiper motor operation at low speed.

Ground is also supplied

- through terminal 13 of the wiper switch
- to wiper motor terminal 2
- through terminal 6 of the wiper motor, and
- through body grounds E11, E22 and E53.

When wiper arms reach base of windshield, wiper motor terminals 2 and 4 are connected instead of terminals 2 and 6. Wiper motor will then stop wiper arms at the STOP position.

Intermittent Operation

NFEL0057S0103

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

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

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

Then intermittent ground is supplied

- to wiper motor terminal 3
- from terminal 14 of wiper switch
- through wiper amplifier (OUTPUT).

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

WASHER OPERATION

NFEL0057S02

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

- through 20A fuse [No. 25, located in the fuse block (J/B)]
- to washer motor terminal 1.

When the lever is pulled to the WASH position, ground is supplied

- to washer motor terminal 2, and
- from terminal 18 of the wiper switch
- through terminal 17 of the wiper switch, and

- through body grounds E11, E22 and E53.

With power and ground supplied, the washer motor operates.

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

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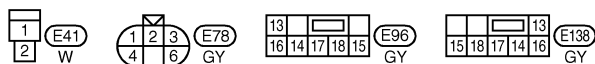
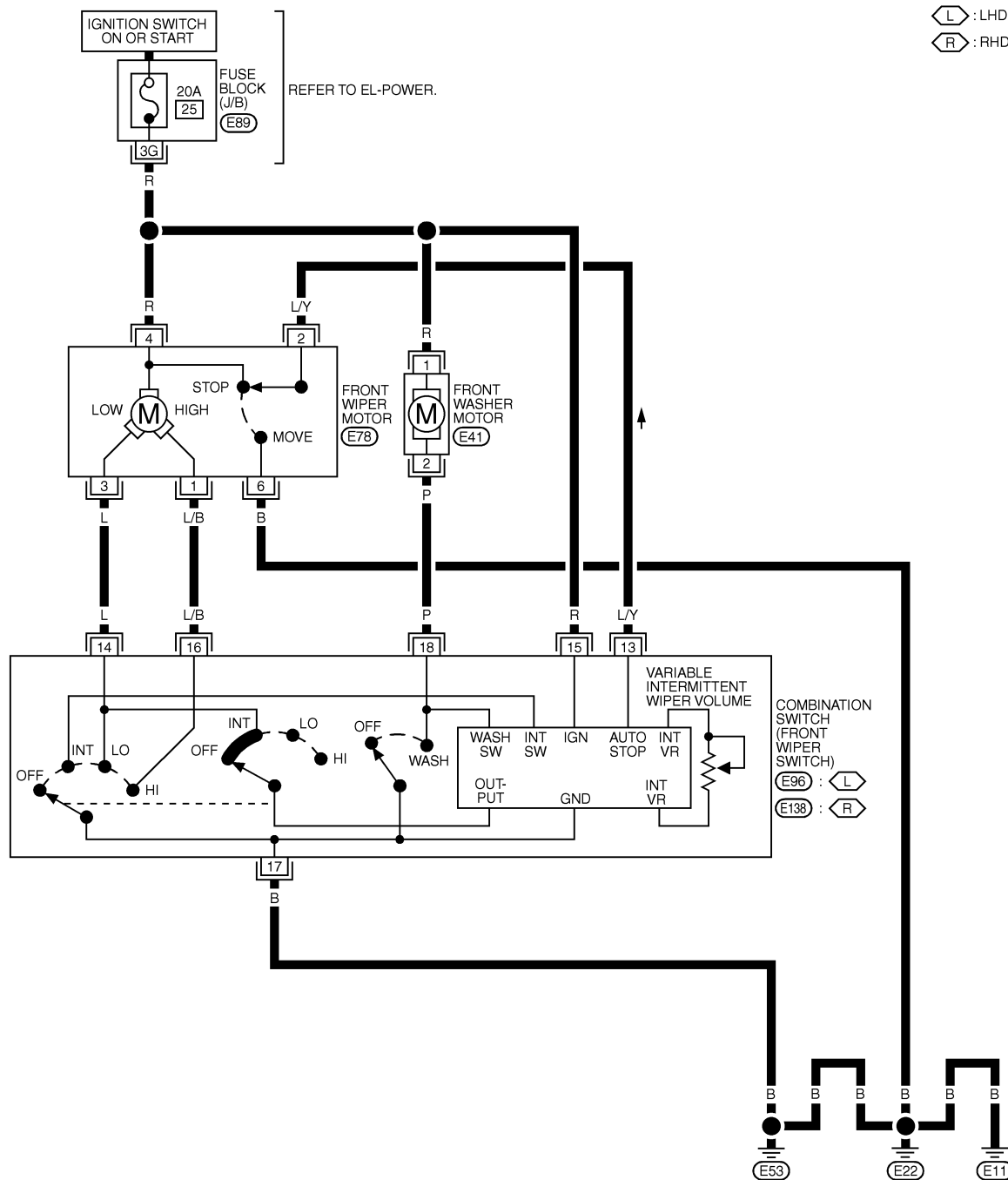
IDX

Wiring Diagram — WIPER —

NFEL0058

EL-WIPER-01

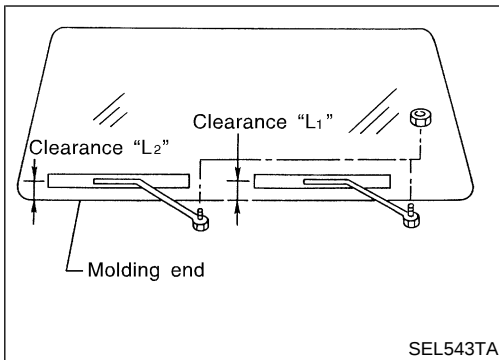
(L) : LHD MODELS
(R) : RHD MODELS



REFER TO THE FOLLOWING.
(E89) -FUSE BLOCK-
JUNCTION BOX (J/B)

NFEL0060

NFEL0060S01



Removal and Installation

WIPER ARMS

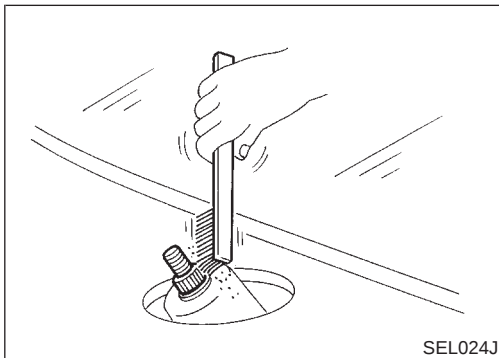
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L₁" & "L₂" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it "OFF".
4. Ensure that wiper blades stop within clearance "L₁" & "L₂".

Clearance "L₁": 40 - 56 mm (1.57 - 2.20 in)

Clearance "L₂": 48 - 64 mm (1.89 - 2.52 in)

- Tighten wiper arm nuts to specified torque.

Front wiper: 21 - 26 N·m (2.1 - 2.7 kg-m, 16 - 19 ft-lb)

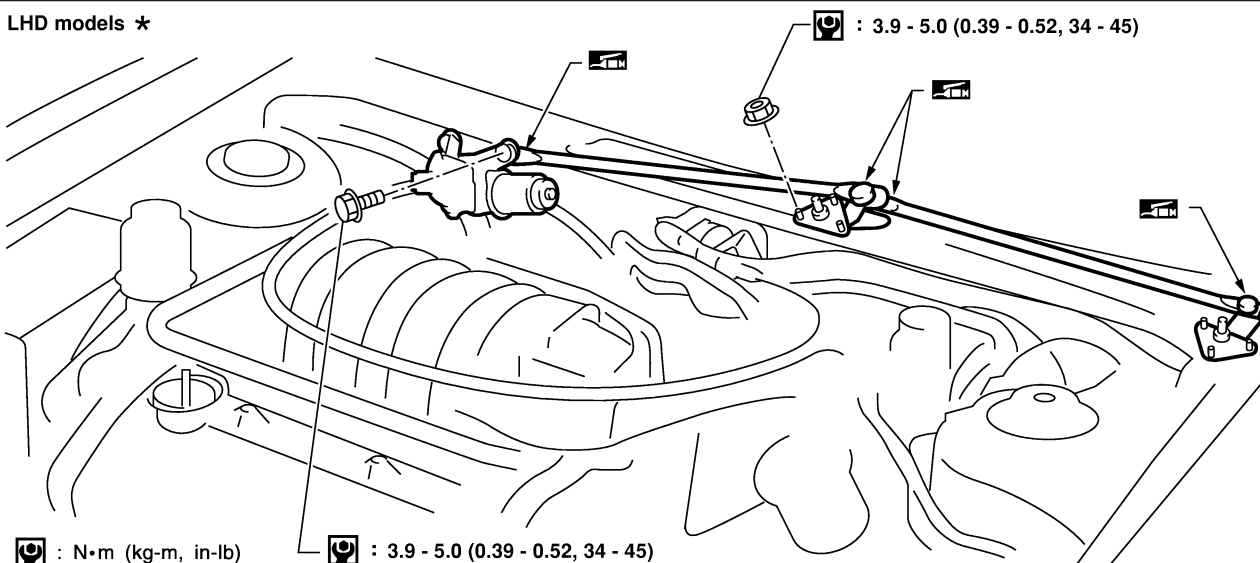


- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.

WIPER LINKAGE

NFEL0060S02

LHD models *



: N·m (kg-m, in-lb)

: 3.9 - 5.0 (0.39 - 0.52, 34 - 45)

* : The layout for RHD models is symmetrically opposite.

MEL079L

Removal

NFEL0060S0201

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

Be careful not to break ball joint rubber boot.

Installation

NFEL0060S0202

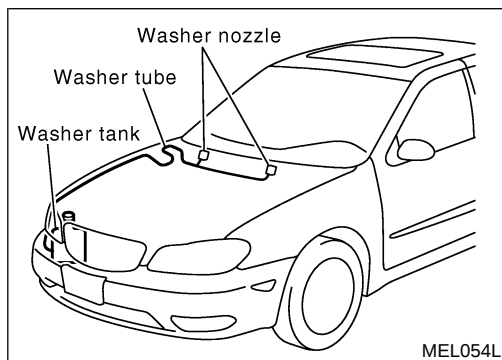
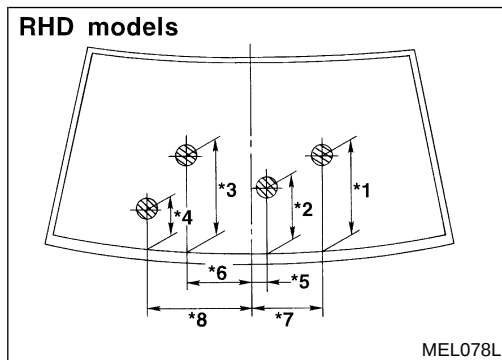
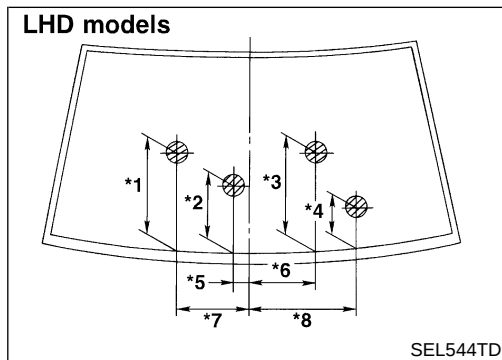
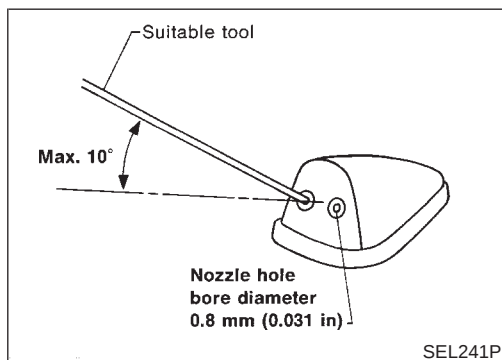
- Grease ball joint portion before installation.
1. Installation is the reverse order of removal.

Washer Nozzle Adjustment

NFEL0061

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

Adjustable range: $\pm 10^\circ$



Washer Tube Layout

NFEL0062

*: The diameters of these circles are less than 80 mm (3.15 in).

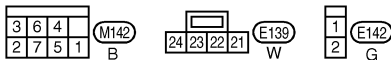
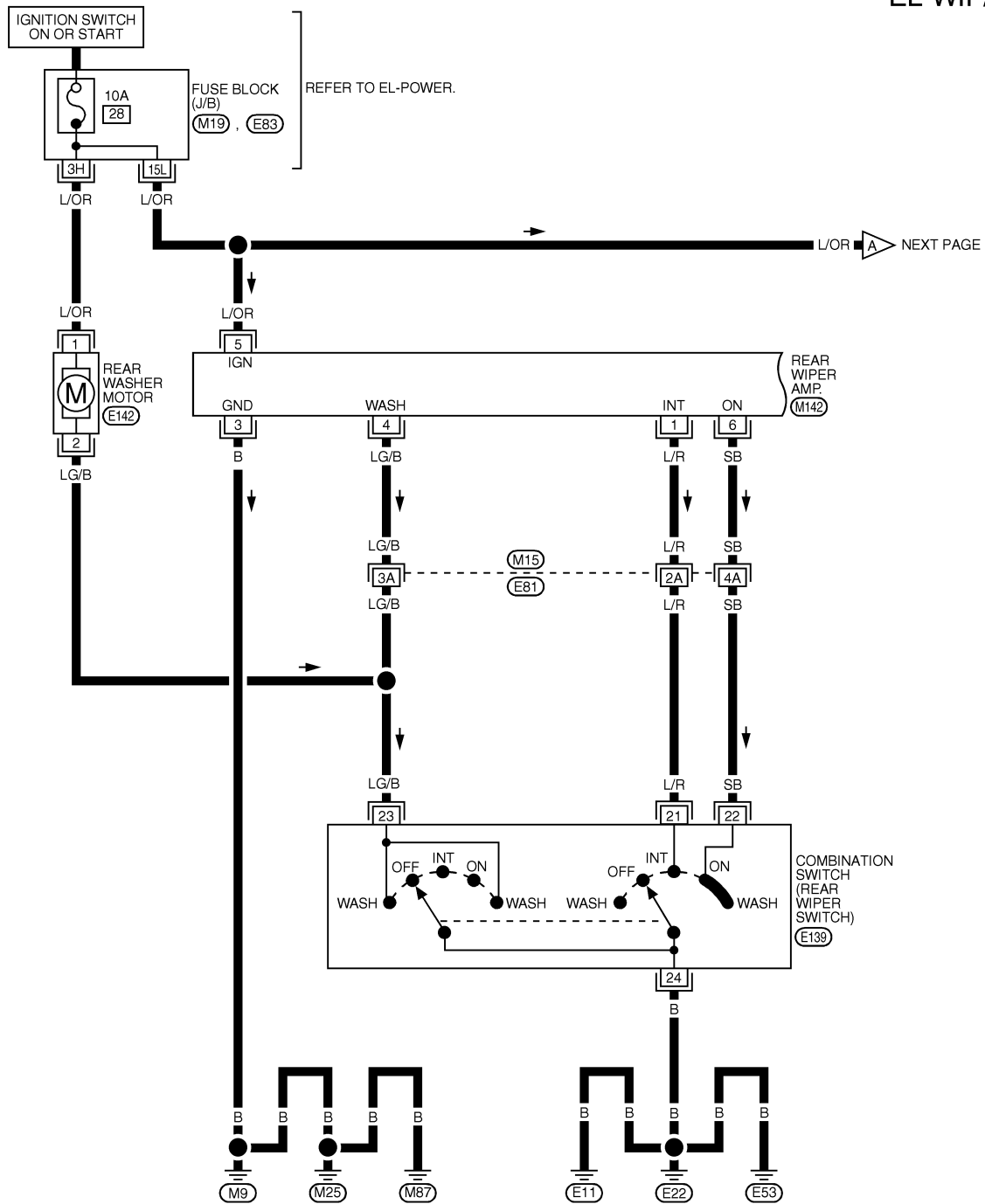
Unit: mm (in)

*1	341 (13.43)	*5	154 (6.06)
*2	286 (11.26)	*6	203 (7.99)
*3	285 (11.22)	*7	382 (15.04)
*4	LHD models	*8	385 (15.16)
	RHD models		

Wiring Diagram — WIP/R —

NFEL0300

EL-WIP/R-01



REFER TO THE FOLLOWING.

(M15) -SUPER

MULTIPLE JUNCTION (SMJ)

(M19), (E83) -FUSE BLOCK- JUNCTION BOX (J/B)

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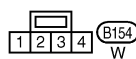
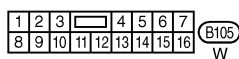
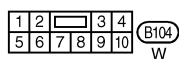
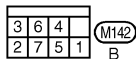
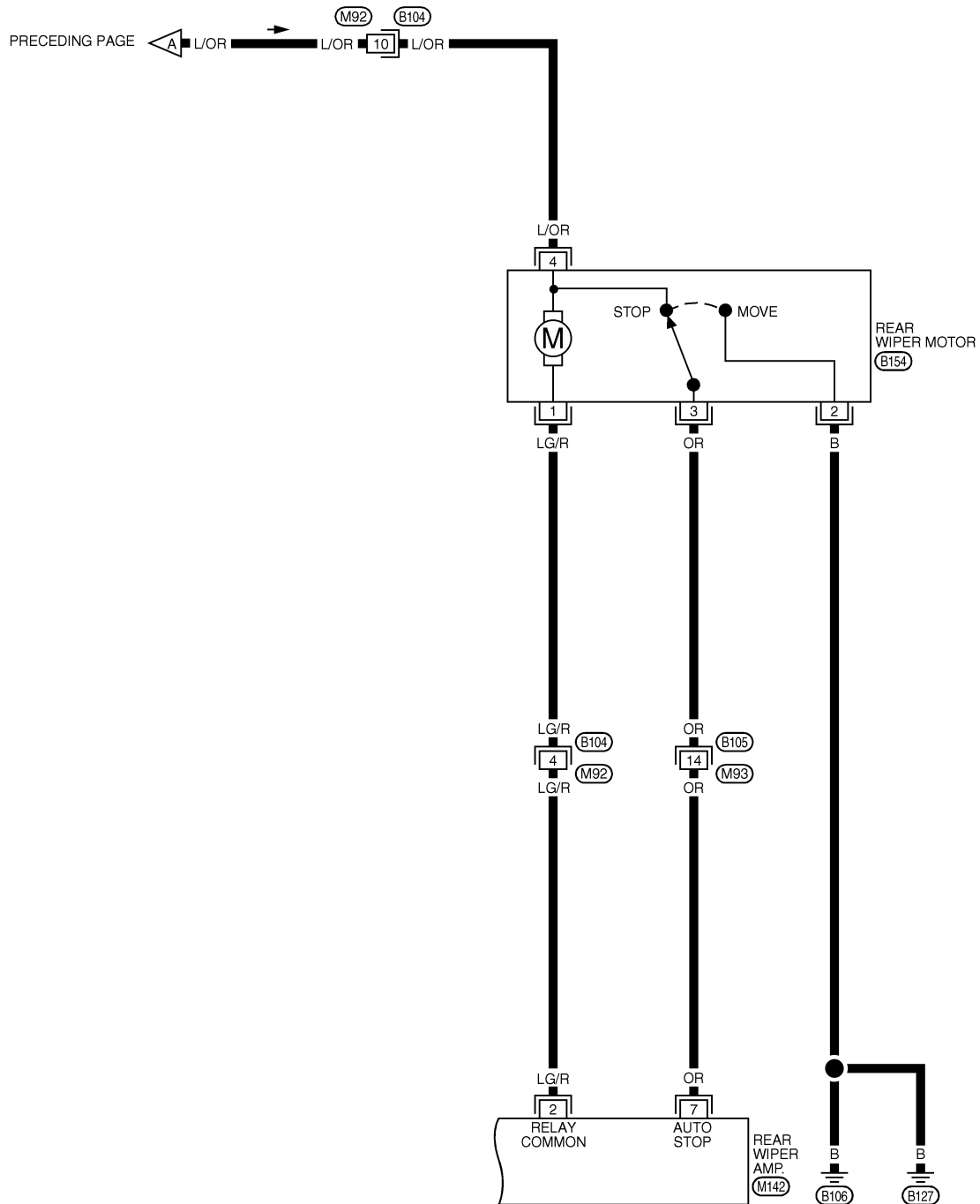
BT

HA

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NFEL0301

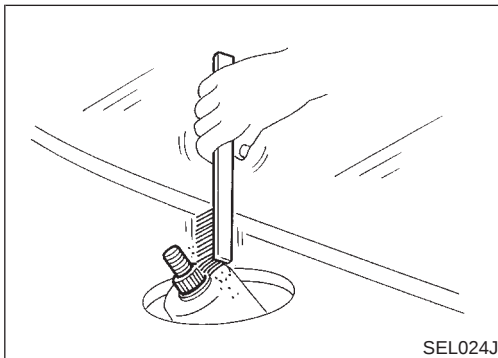
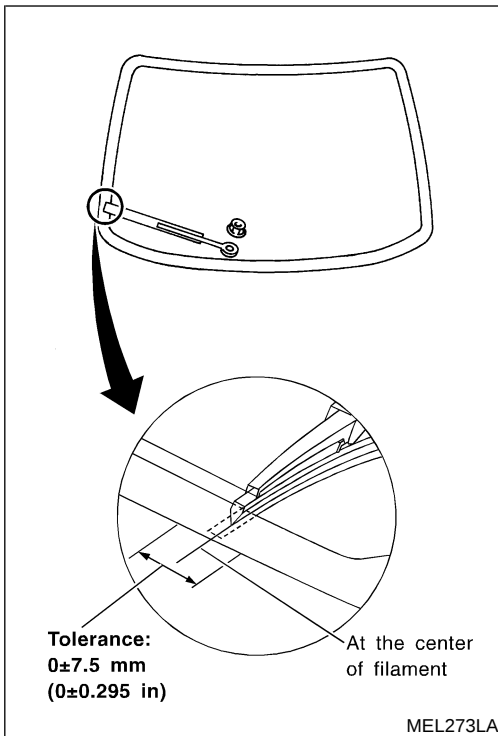
NFEL0301S01

Removal and Installation

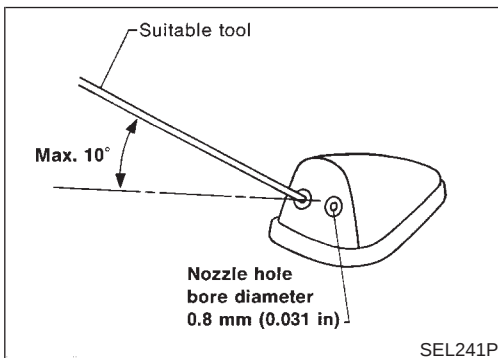
WIPER ARMS

1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Install wiper arm to portion A as in figure below and tighten wiper arm nut to specification.

7.9 - 9.8 N·m (0.8 - 1.0 kg-m, 70 - 86 in-lb)



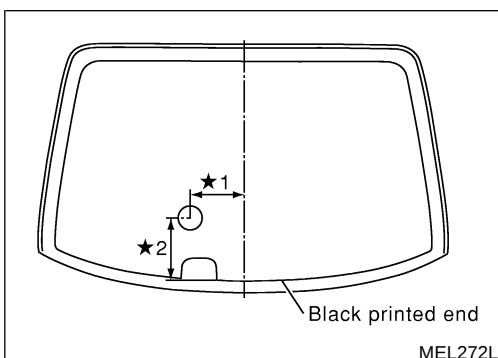
- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.



Washer Nozzle Adjustment

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

Adjustable range: ±10° (In any direction)



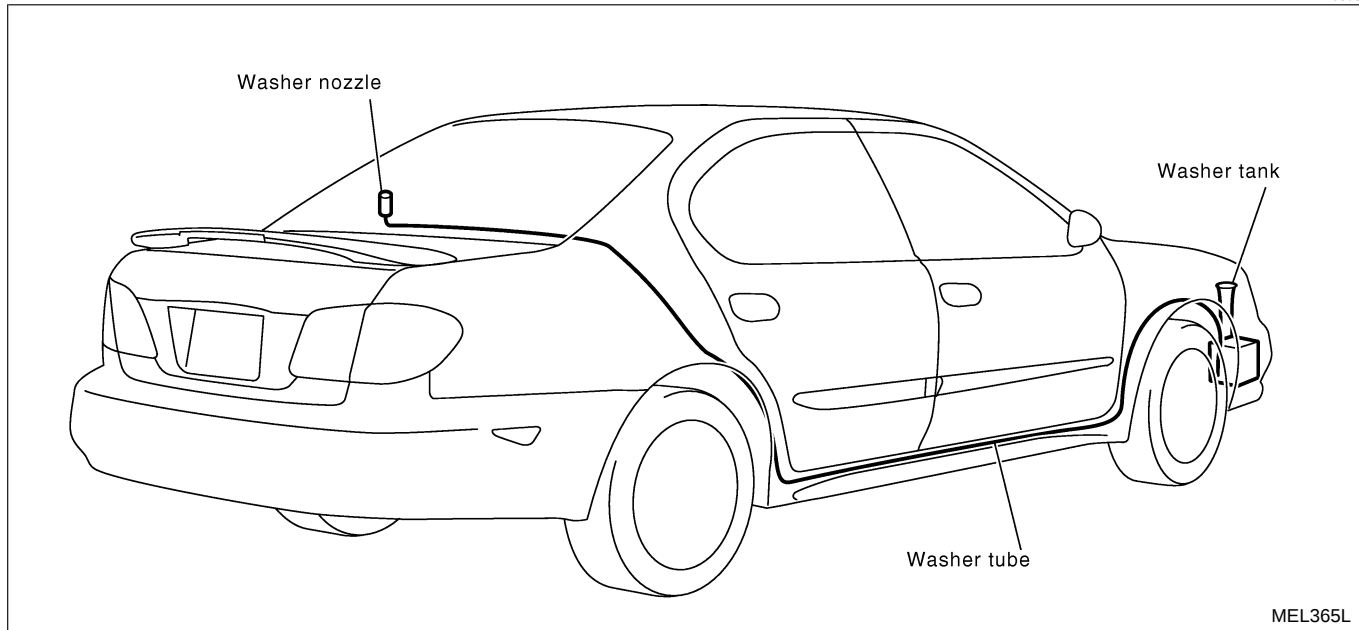
Unit: mm (in)

*1	178 (7.01)	*2	211.5 (8.33)
----	------------	----	--------------

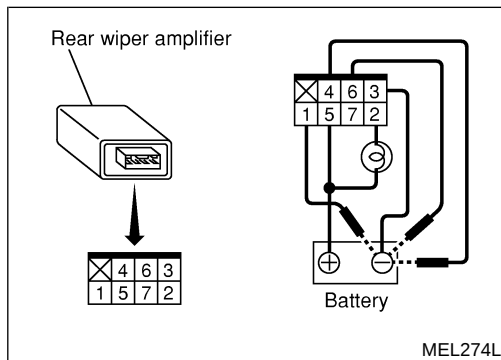
*: The diameter of this circle is less than 80 mm (3.15 in).

Washer Tube Layout

NFEL0303



MEL365L



MEL274L

Rear Wiper Amplifier

NFEL0305

1. Connect rear wiper amplifier and battery as shown in the figure at left.
2. If test lamp illuminates when connected to terminal 1 and battery ground, wiper amplifier is normal.

Wiring Diagram — HORN —

NFEL0071

EL-HORN-01

◊ L : LHD MODELS

◊ R : RHD MODELS

◊ AS : WITH ASCD

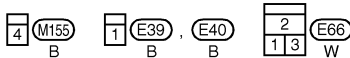
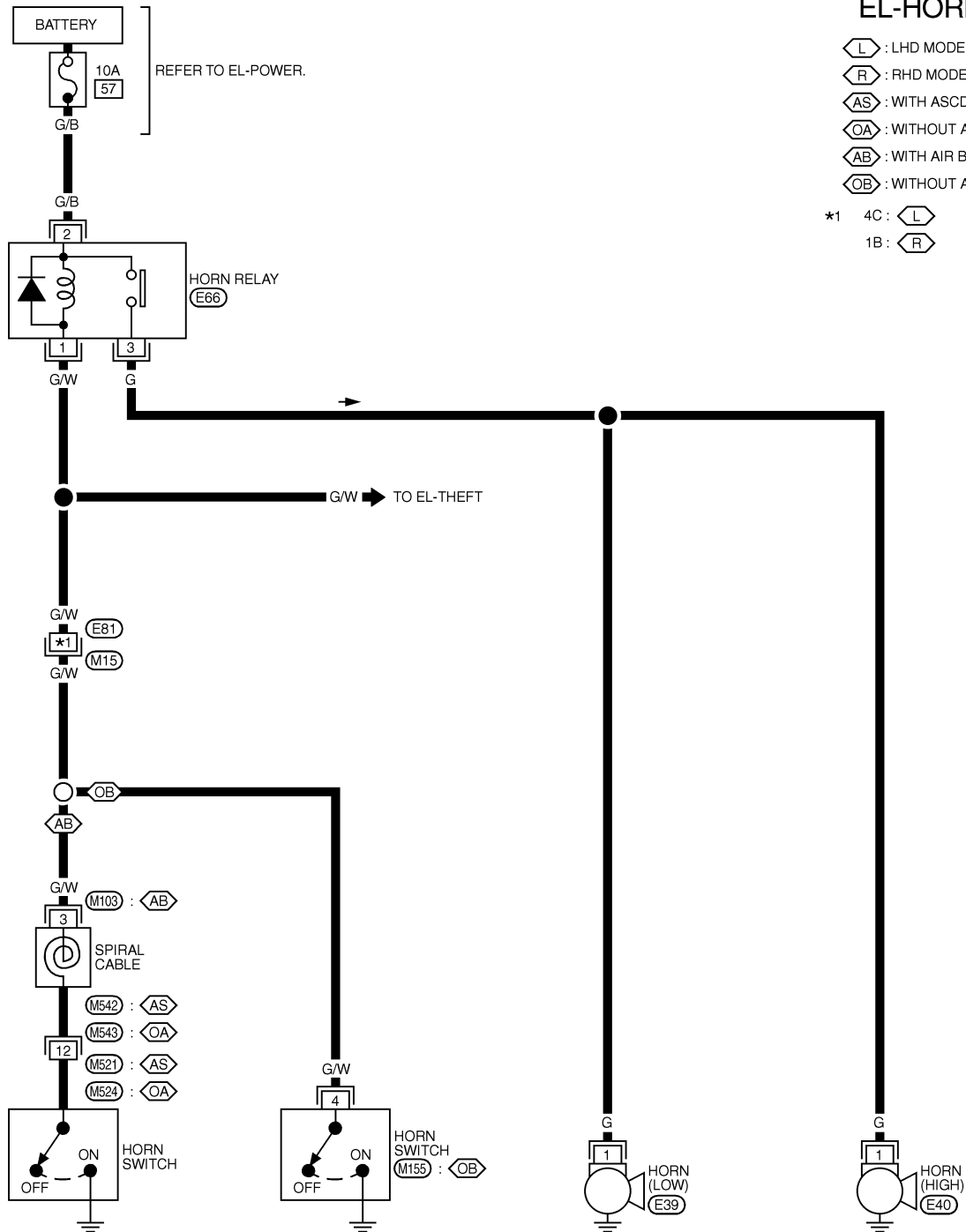
◊ OA : WITHOUT ASCD

◊ AB : WITH AIR BAG

◊ OB : WITHOUT AIR BAG

*1 4C : ◊ L

1B : ◊ R



*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.

(M15) -SUPER

MULTIPLE JUNCTION (SMJ)

EL

IDX

MEL941M

Wiring Diagram — CIGAR —

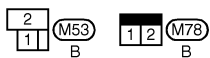
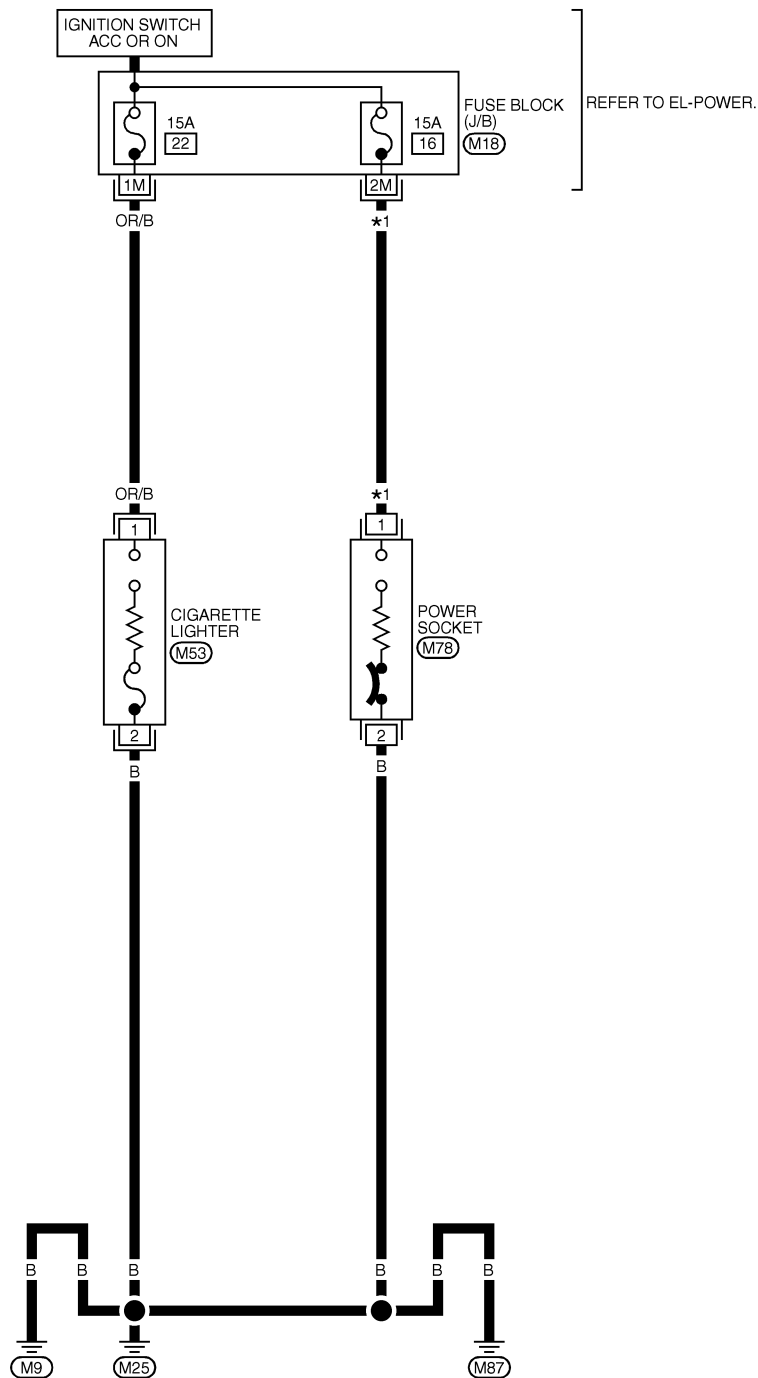
NFEL0156

EL-CIGAR-01

L : LHD MODELS

R : RHD MODELS

*1 OR/B : L
R : R



REFER TO THE FOLLOWING.
(M18) - FUSE BLOCK-
JUNCTION BOX (J/B)

MEL7980

Wiring Diagram — CLOCK —

NFEL0166

EL-CLOCK-01

GI

MA

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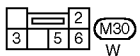
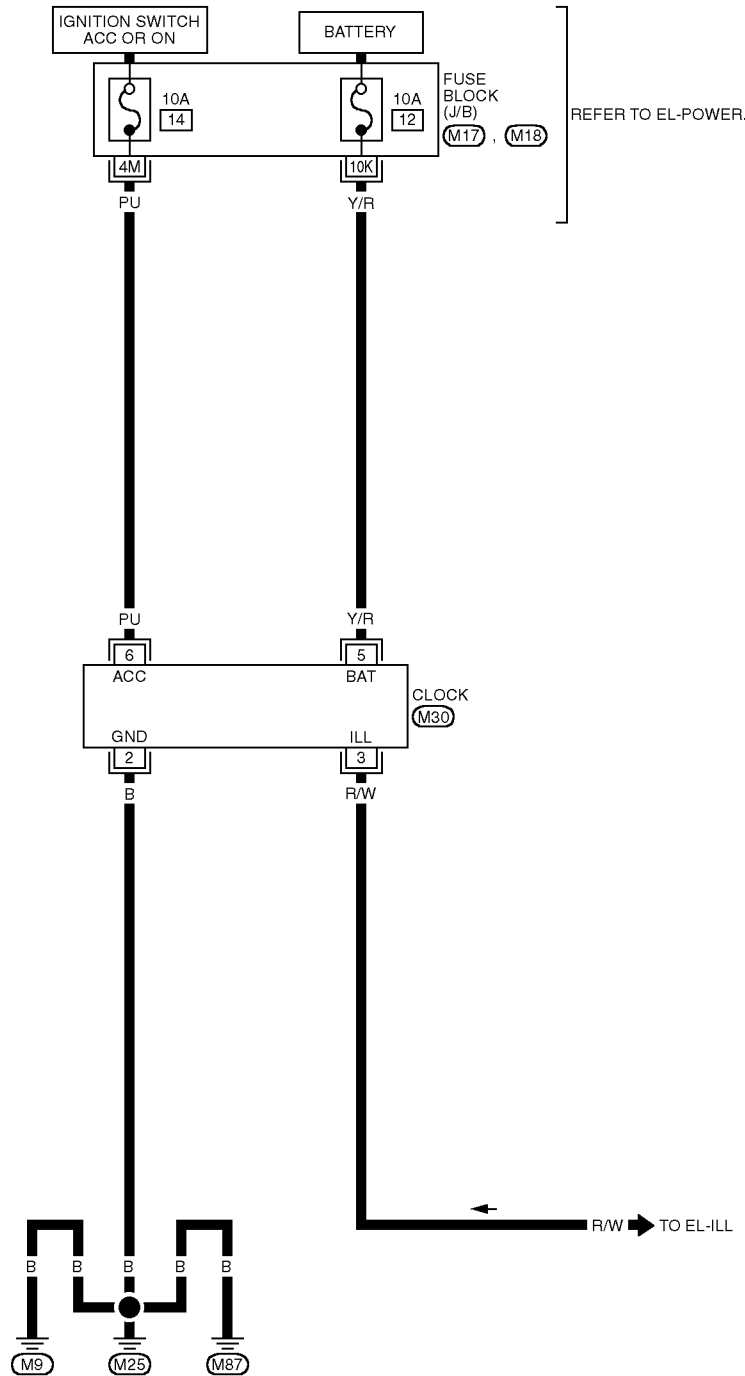
BT

HA

SC

EL

IDX

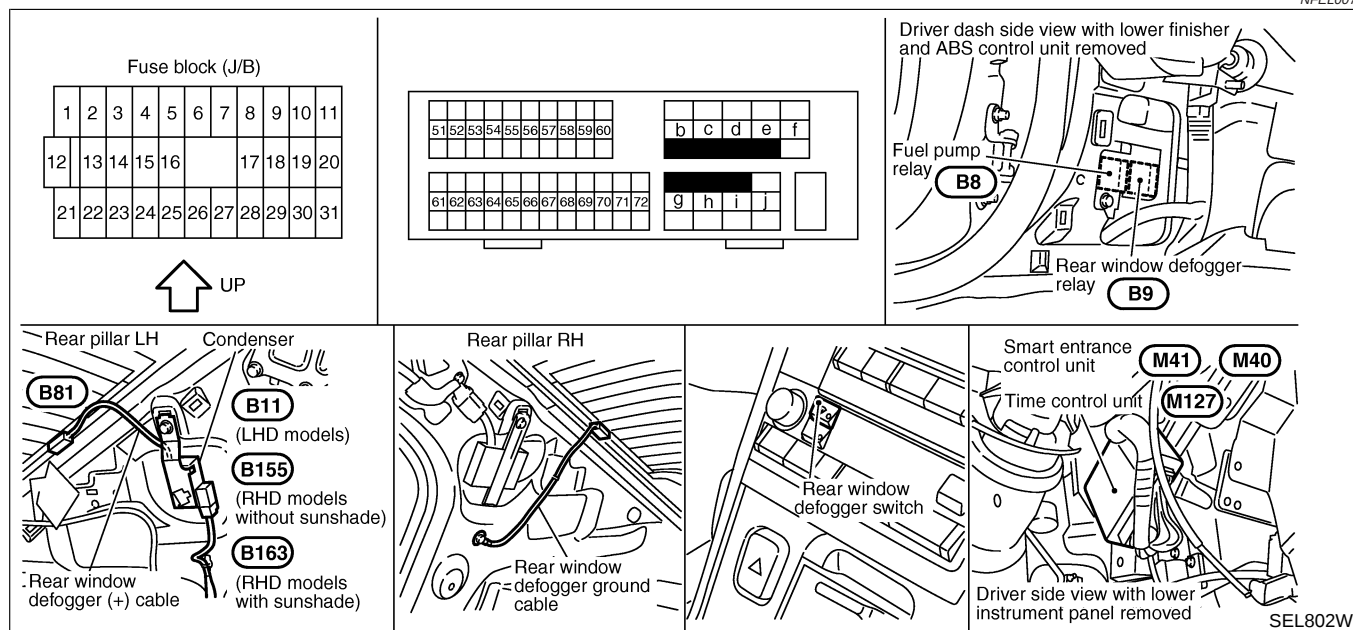


REFER TO THE FOLLOWING.
(M17) , (M18) -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL791K

Component Parts and Harness Connector Location

NFEL0072



System Description

=NFEL0073

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

Power is supplied at all times

- to rear window defogger relay terminal 3
- through 20A fuse (No. 7, located in the fuse and fusible link box) and
- to rear window defogger relay terminal 6
- through 10A fuse (No. 13, located in the fuse and fusible link box).
- to smart entrance control unit terminal 10
- through 10A fuse (No. 12, located in the fuse and fusible link box).
- through 40A fusible link (Letter I, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to smart entrance control unit terminal 11 or time control unit terminal 14.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to the rear window defogger relay terminal 1 and
- to smart entrance control unit terminal 33 or time control unit terminal 18.

Ground is supplied to terminals 32 or 17 of the rear defogger switch (built-in A/C control unit or A/C auto amp.) through body grounds M9, M25 and M87.

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

- through terminal 31 (with auto A/C) or terminal 9 (with manual A/C) of the rear defogger switch
- to smart entrance control unit terminal 39 or time control unit terminal 13.

Terminal 2 of the smart entrance control unit or terminal 8 of time control unit then supplies ground to the rear window defogger relay terminal 2.

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

Power is supplied

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

The rear window defogger has an independent ground.

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

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

Power is supplied

- to terminal 30 (with auto A/C) or terminal 10 (with manual A/C) of the rear window defogger switch
- from terminal 5 of the rear window defogger relay.

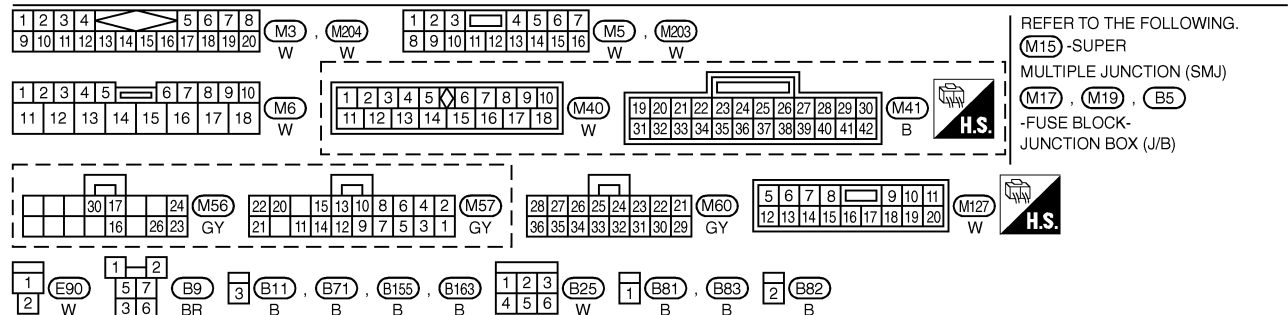
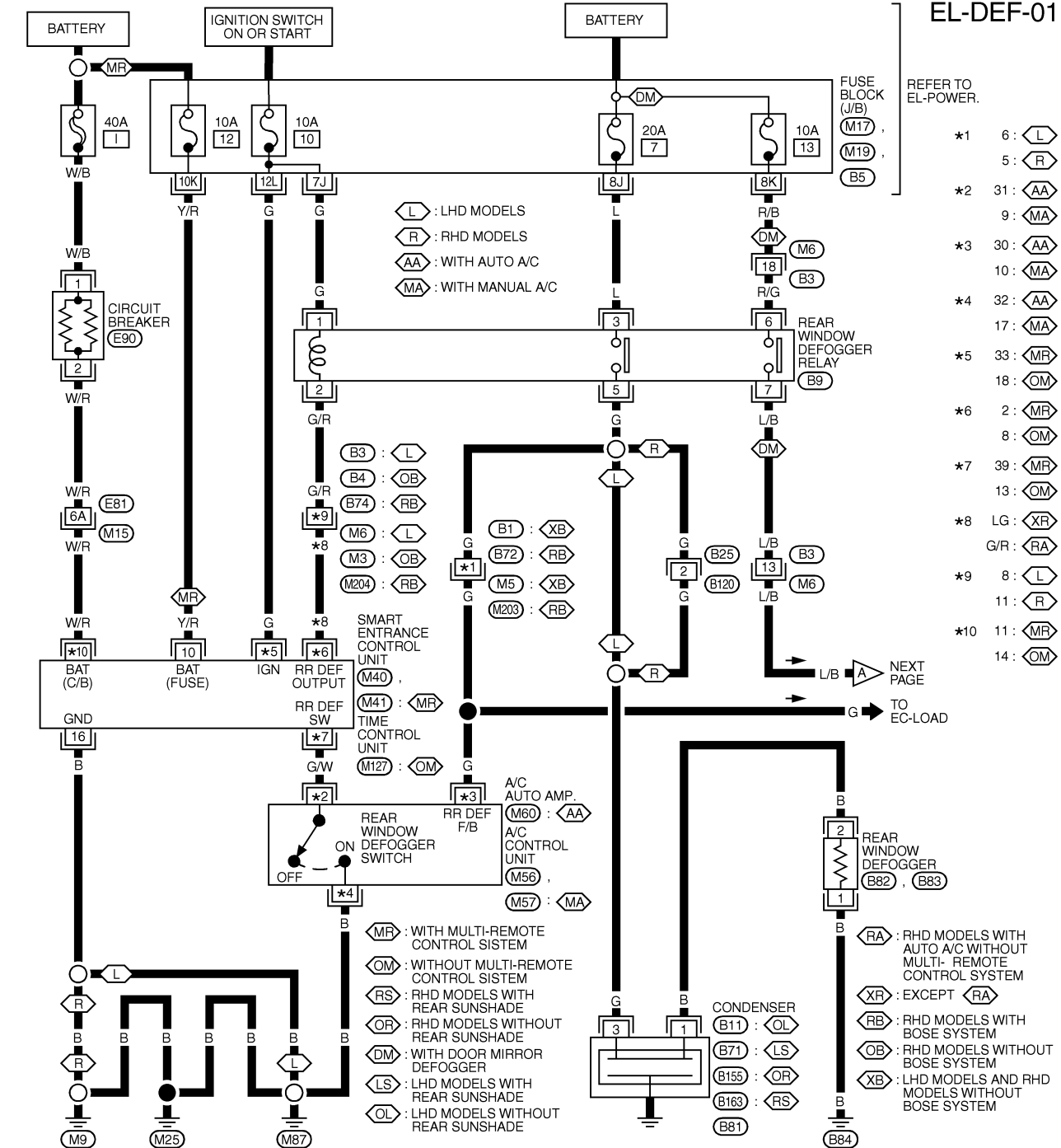
Terminal 32 (with auto A/C) or terminal 17 (with manual A/C) of the rear window defogger switch is grounded through body grounds M9, M25 and M87.

GI
MA
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EL
IDX

Wiring Diagram — DEF —

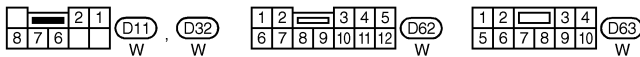
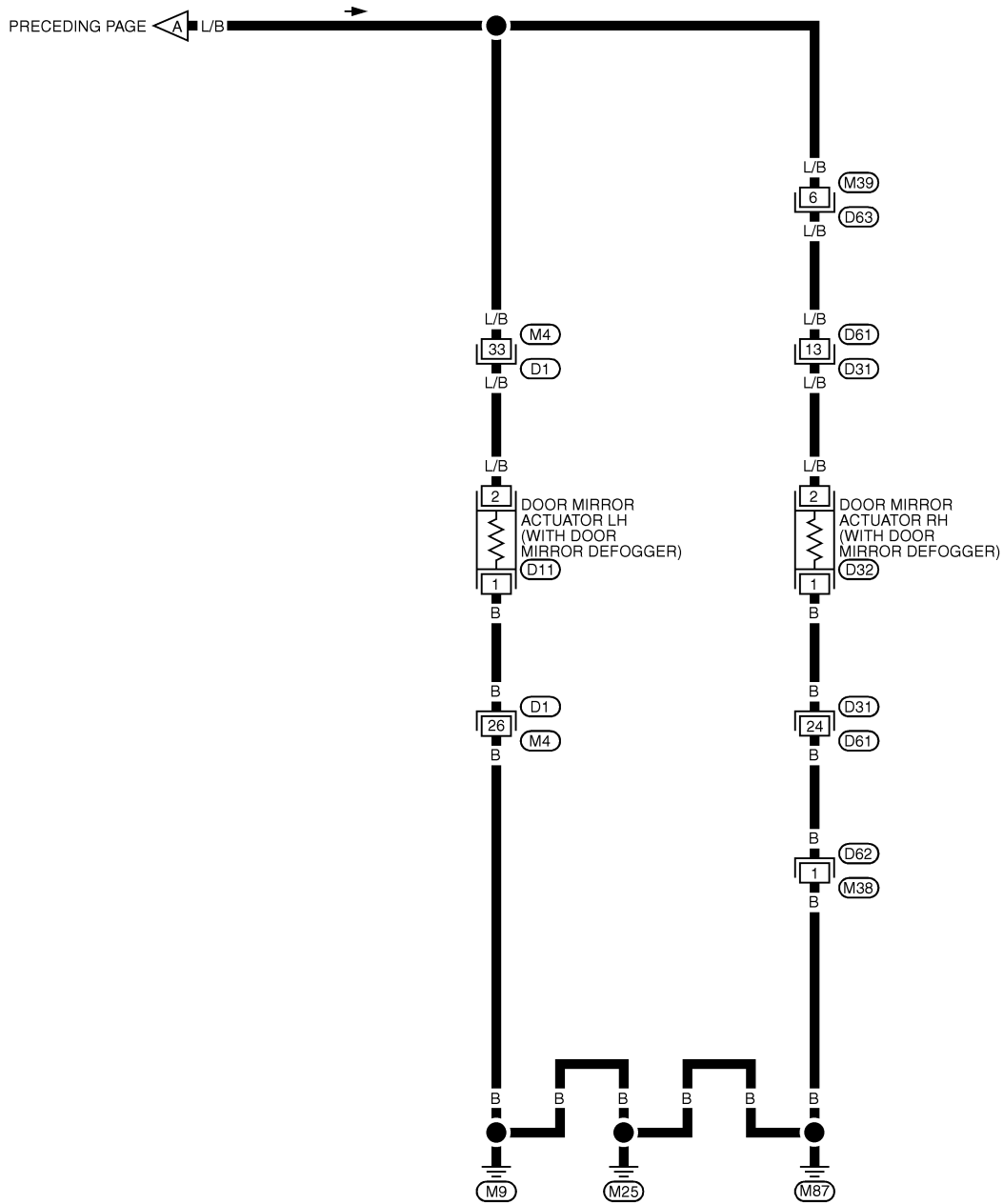
=NFEL0074

EL-DEF-01



MEL7990

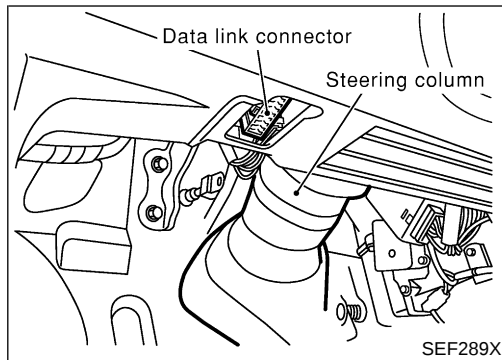
EL-DEF-02



REFER TO THE FOLLOWING.
(D1) , (D31) -SUPER
MULTIPLE JUNCTION (SMJ)

GI
MA
EM
LC
EC
FE
CL
MT
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AX
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BR
ST
RS
BT
HA
SC
EL
IDX

MEL793K



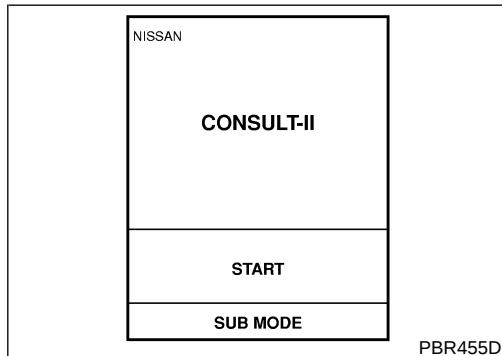
CONSULT-II Inspection Procedure

NFEL0218

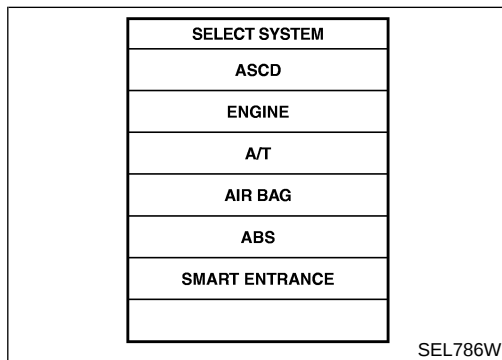
NFEL0218S01

"REAR DEFOGGER"

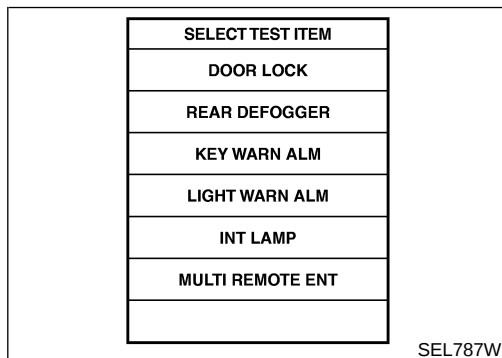
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



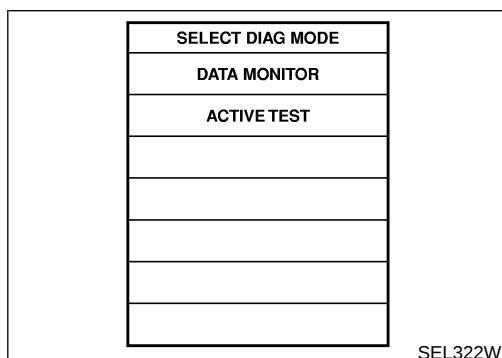
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "REAR DEFOGGER".



7. Select diagnosis mode.
"DATA MONITOR" and "ACTIVE TEST" are available.

CONSULT-II Application Items

NFEL0219

"REAR DEFOGGER"

Data Monitor

NFEL0219S01

GI

NFEL0219S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
REAR DEF SW	Indicates [ON/OFF] condition of rear window defogger switch.

MA

EM

Active Test

NFEL0219S0102

Test Item	Description
REAR DEFOGGER	This test is able to check rear window defogger operation. Rear window defogger activates when "ON" on CONSULT-II screen is touched.

LC

EC

FE

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MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

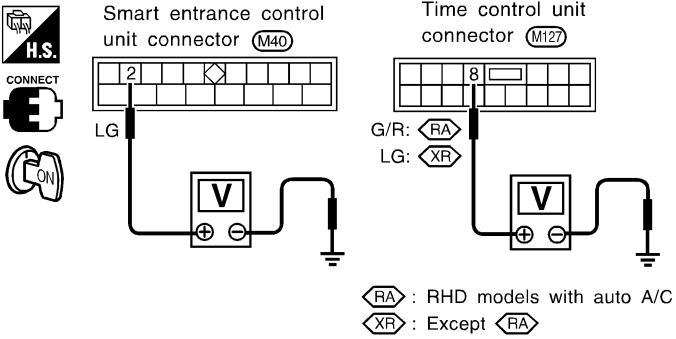
EL

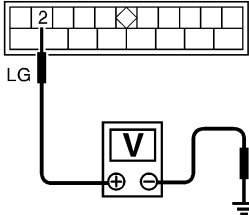
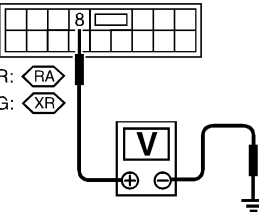
IDX

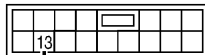
Trouble Diagnoses DIAGNOSTIC PROCEDURE SYMPTOM: Rear window defogger does not activate, or does not go off after activating.

NFEL0075

NFEL0075S01

1	CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL
 With CONSULT-II Select "ACTIVE TEST" in "REAR DEFOGGER" with CONSULT-II.	ACTIVE TEST REAR DEFOGGER OFF ON Rear window defogger and rear window defogger switch indicator should operate when the "ON" button on the CONSULT-II screen is touched. SEL353W
 Without CONSULT-II - Turn ignition switch to ON position. - Check voltage between smart entrance control unit harness terminal 2 or time control unit terminal 8 and ground.	 Voltage [V]: Rear window defogger switch is "OFF". Approx. 12 Rear window defogger switch is "ON". 0 SEL803W
OK	► Check the following. - Rear window defogger relay (Refer to EL-202.) - Rear window defogger circuit - Rear window defogger filament (Refer to EL-203.)
NG	► GO TO 2.

2 CHECK DEFOGGER RELAY COIL SIDE CIRCUIT 1. Disconnect control unit connector. 2. Turn ignition switch to ON position. 3. Check voltage between smart entrance control unit terminal 2 or time control unit terminal 8 and ground.  Smart entrance control unit connector (M40)   Time control unit connector (M127) Battery voltage should exist. RA : RHD models with auto A/C XR : Except RA OK or NG	
OK	▶ GO TO 3.
NG	▶ Check the following. ● 10A fuse [No. 10, located in the fuse block (J/B)] ● Rear window defogger relay ● Harness for open or short between fuse and rear window defogger relay ● Harness for open or short between rear window defogger relay and control unit

3	CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL							
 With CONSULT-II Select "REAR DEF SW" in "DATA MONITOR" mode with CONSULT-II. <table border="1"><thead><tr><th colspan="2">DATA MONITOR</th></tr><tr><th colspan="2">MONITOR</th></tr></thead><tbody><tr><td>REAR DEF SW</td><td>ON</td></tr></tbody></table> When rear window defogger switch is pushed: REAR DEF SW should be ON. SEL352W			DATA MONITOR		MONITOR		REAR DEF SW	ON
DATA MONITOR								
MONITOR								
REAR DEF SW	ON							
 Without CONSULT-II Check continuity between smart entrance control unit terminal 39 or time control unit terminal 13 and ground.  Smart entrance control unit connector (M41)  39 G/W   Time control unit connector (M127)  13 G/W   Continuity: Rear window defogger switch is pushed. Continuity should exist. Rear window defogger switch is released. Continuity should not exist. SEL805W								
OK or NG								
OK	▶	GO TO 4.						
NG	▶	Check the following. ● Rear window defogger switch (Refer to EL-202.) ● Harness for open or short between control unit and rear window defogger switch ● Rear window defogger switch ground circuit						

4
CHECK POWER SUPPLY AND IGNITION INPUT SIGNAL

Check voltage between smart entrance control unit terminals 10 and 33 or time control unit terminals 14 and 18 and ground.

Smart entrance control unit connector (M40)

Smart entrance control unit connector (M41)

Smart entrance control unit

Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage
33	Ground	0V	0V	Battery voltage

SEL338WB

Time control unit connector (M127)

Time control unit

Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
14	Ground	Battery voltage	Battery voltage	Battery voltage
18	Ground	0V	0V	Battery voltage

SEL806W

OK or NG

OK	▶	GO TO 5.
NG	▶	Check the following. 10A fuse [No. 10 or No. 12, located in the fuse block (J/B)] (with smart entrance control unit) 40A fusible link (letter I, located in the fuse and fusible link box) (with time control unit) 10A fuse [No. 10, located in the fuse block (J/B)] (with time control unit) - Harness for open or short between control unit and fuse

5
CHECK CONTROL UNIT GROUND CIRCUIT

Check continuity between smart entrance control unit or time control unit terminal 16 and ground.

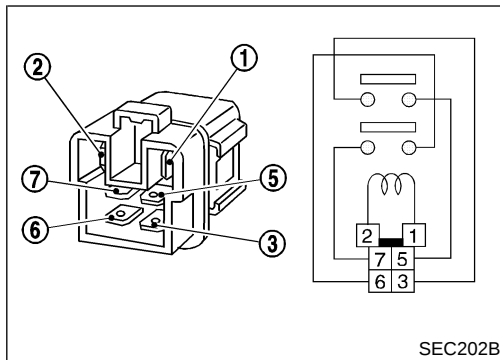
Smart entrance control unit connector (M40)

Time control unit connector (M127)

Continuity should exist.

SEL807W

Yes	▶	Replace control unit.
No	▶	Repair harness or connectors.



Electrical Components Inspection

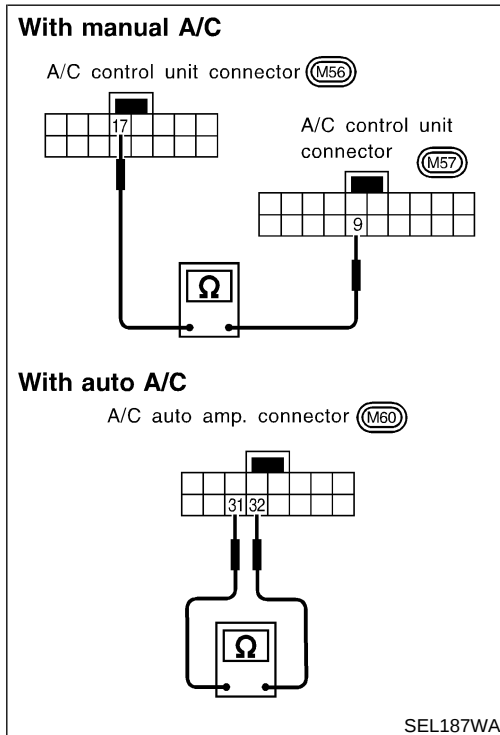
=NFEL0076

REAR WINDOW DEFOGGER RELAY

NFEL0076S01

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

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

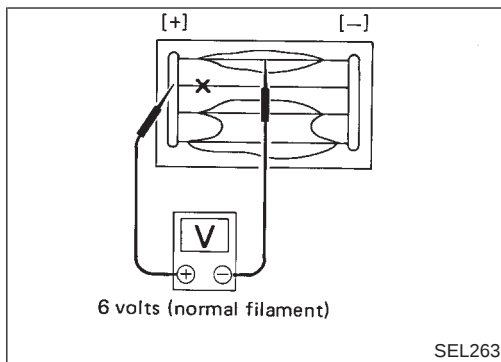


REAR WINDOW DEFOGGER SWITCH

NFEL0076S02

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

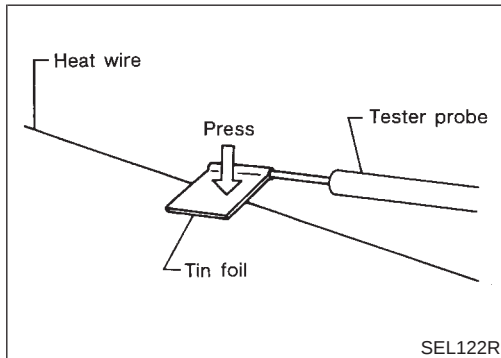
Terminals	Condition	Continuity
9 - 17 (with manual A/C) 31 - 32 (with auto A/C)	Rear window defogger switch is pushed.	Yes
	Rear window defogger switch is released.	No



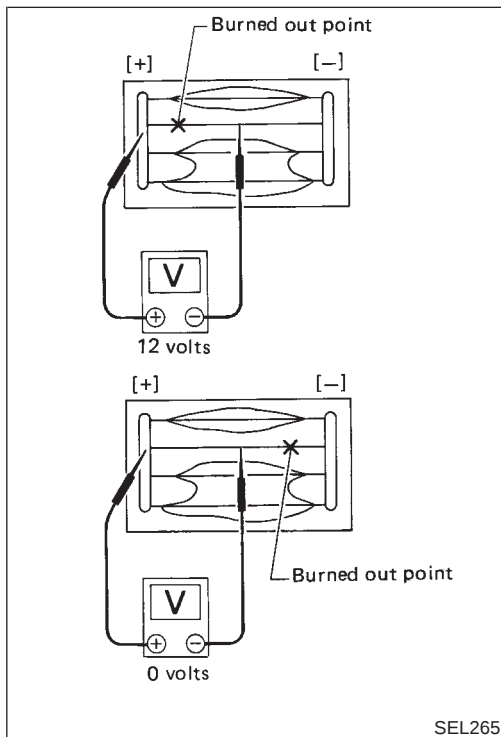
Filament Check

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

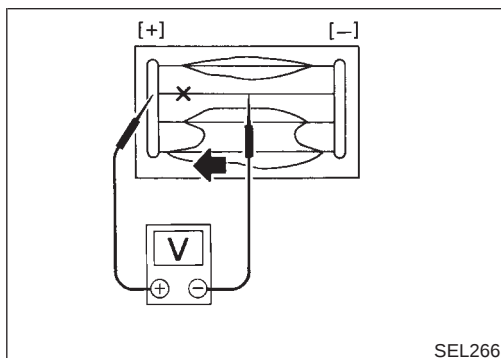
=NFEL0077



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



2. If a filament is burned out, circuit tester registers 0 or 12 volts.



3. To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.

Filament Repair

REPAIR EQUIPMENT

NFEL0078

NFEL0078S01

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

REPAIRING PROCEDURE

NFEL0078S02

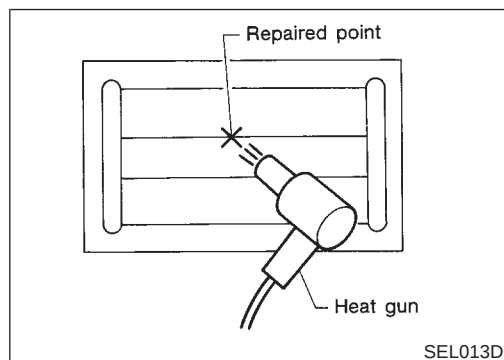
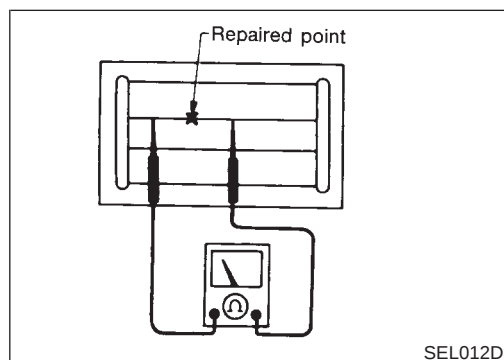
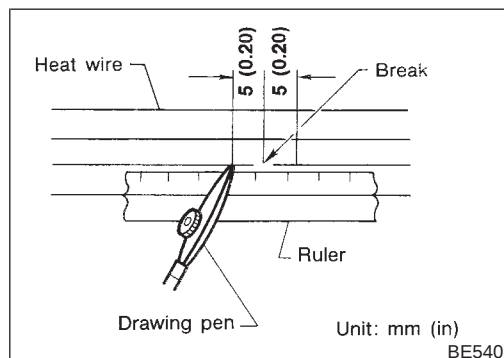
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

Shake silver composition container before use.

3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.
4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.

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



System Description

NFEL0079

NFEL0079S03

BASE SYSTEM

Refer to Owner's Manual for audio system operating instructions.

Power is supplied at all times

- through 15A fuse [No. 56, located in the fuse block (J/B)]
- to audio unit terminal 6,
- to CD player terminal 24 and
- to CD auto changer terminal 3.
- through 15A fuse [No. 67, located in fuse block (J/B)]
- to terminal 1 of woofer (with 7 speakers).

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to audio unit terminal 10,
- to CD player terminal 21 and
- to CD auto changer terminal 1.

Ground is supplied through the case of the audio unit.

Audio signals are supplied

- through audio terminals 1, 2, 3, 4, 12, 13, 14, 15 and 16
- to terminals 1 and 2 of front door speaker LH and RH
- to terminals 1 and 2 of rear door speaker LH and RH
- to terminals 1 and 2 of tweeter LH and RH (with 6 speakers)
- to woofer terminal 2.

BOSE SYSTEM

Refer to Owner's Manual for audio system operating instructions.

Power is supplied at all times

- through 15A fuse [No. 56, located in the fuse block (J/B)]
- to speaker amp. terminal 27, and
- to audio unit terminal 6.
- through 15A fuse [No. 67, located in the fuse block (J/B)]
- to woofer terminal 48.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to audio unit terminal 10.

Ground is supplied through the case of the audio.

Ground is supplied

- to speaker amp. terminal 40, and
- to woofer terminal 47
- through body grounds B106 and B127.

Audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 12, 13, 14, 15 and 16
- to speaker amp. terminals 20, 21, 22, 23, 25, 33, 34, 35 and 36.

Audio signals are amplified by the speaker amp.

The amplified audio signals are supplied

- through speaker amp. terminals 17, 18, 24, 28, 29, 30, 31, 37, 41 and 42
- to terminals 1 and 2 of the front door speaker LH and RH
- to terminals 1 and 2 of the tweeter LH and RH
- to terminals 1 and 2 of the rear speaker LH and RH
- to terminals 43 and 44 of the woofer.

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NATS AUDIO LINK/RHD MODELS

NFEL0079S04

Description

NFEL0079S0401

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

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

Initialization process for radios that are linked to the NATS IMMU

NFEL0079S0402

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

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

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

Normal operation

NFEL0079S0403

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

When the radio is locked

NFEL0079S0404

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

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

Service procedure

NFEL0079S0405

Item	Service procedure	Description
Battery disconnection	No additional action required.	—
Radio needs repair	Repair needs to be done by authorized representative of radio manufacturer since radio cannot be operated unless it is reset to NEW state, using special decoding equipment.	—
Replacement of radio by new part	No additional action required.	Radio is delivered in NEW state.
Transferring radio to another vehicle/ replacement of radio by an "old" part	Radio needs to be reset to NEW state by authorized representative of radio manufacturer.	—
Replacement of IMMU	Radio needs to be reset to NEW state by authorized representative of Clarion.	After switching on the radio, it will display "SECURE" after 1 minute.
No communication from IMMU to radio	1. If NATS is malfunctioning, check NATS system. 2. After NATS is repaired, reset radio to NEW state by authorized representative of Clarion.	After switching on the radio, the radio will display "SECURE" after 1 minute. Further use of radios impossible until communication is established again, or after radio is reset by authorized representative of Clarion.

Item	Service procedure	Description
When initialized between ECM and IMMU.	Radio needs to be reset to NEW status by authorized representative of Clarion.	After switching on the radio, it will display "SECURE" after 1 minute.

SPEED DEPENDENT VOLUME CONTROL

NFEL0079S05

Description

If activated, the radio output volume will be automatically adjusted to compensate for increasing driving noises at higher driving speeds.

NFEL0079S0501

The radio receives a speed signal from the vehicle speed sensor (VSS) and selects the output volume.

PERSONAL AUDIO SETTINGS/RHD MODELS

NFEL0079S06

Description

The radio is designed to store several settings (volume, bass, treble, preset stations and level of speed dependent volume control) with every NATS ignition key used. Up to a maximum of 4 NATS keys can be registered. During the communication as mentioned under "Anti-theft System", the radio will recognize the used ignition key and select the accompanying settings.

NFEL0079S0601

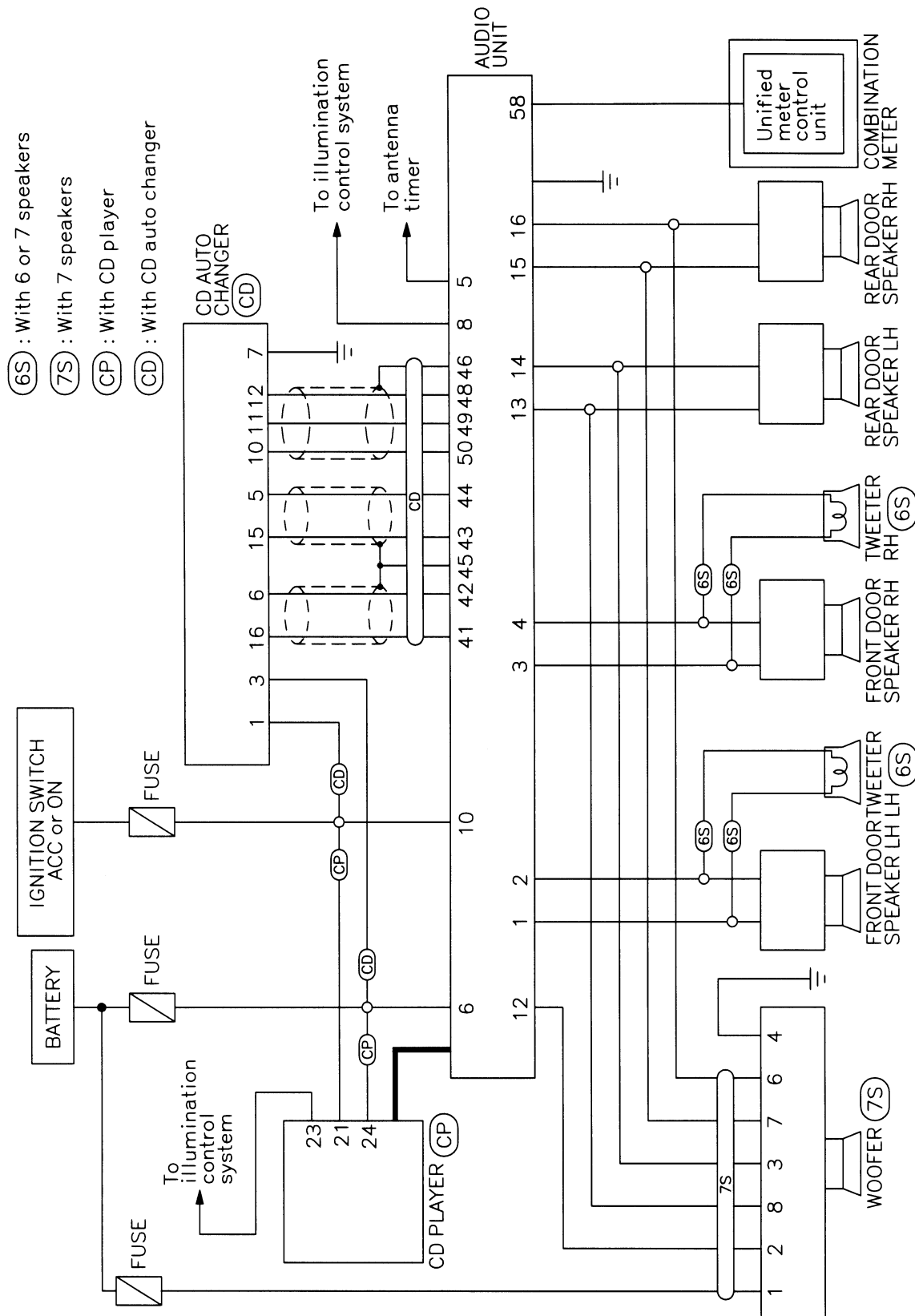
GI
MA
EM
LC
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BT
HA
SC
EL
IDX

Schematic

BASE SYSTEM FOR LHD MODELS

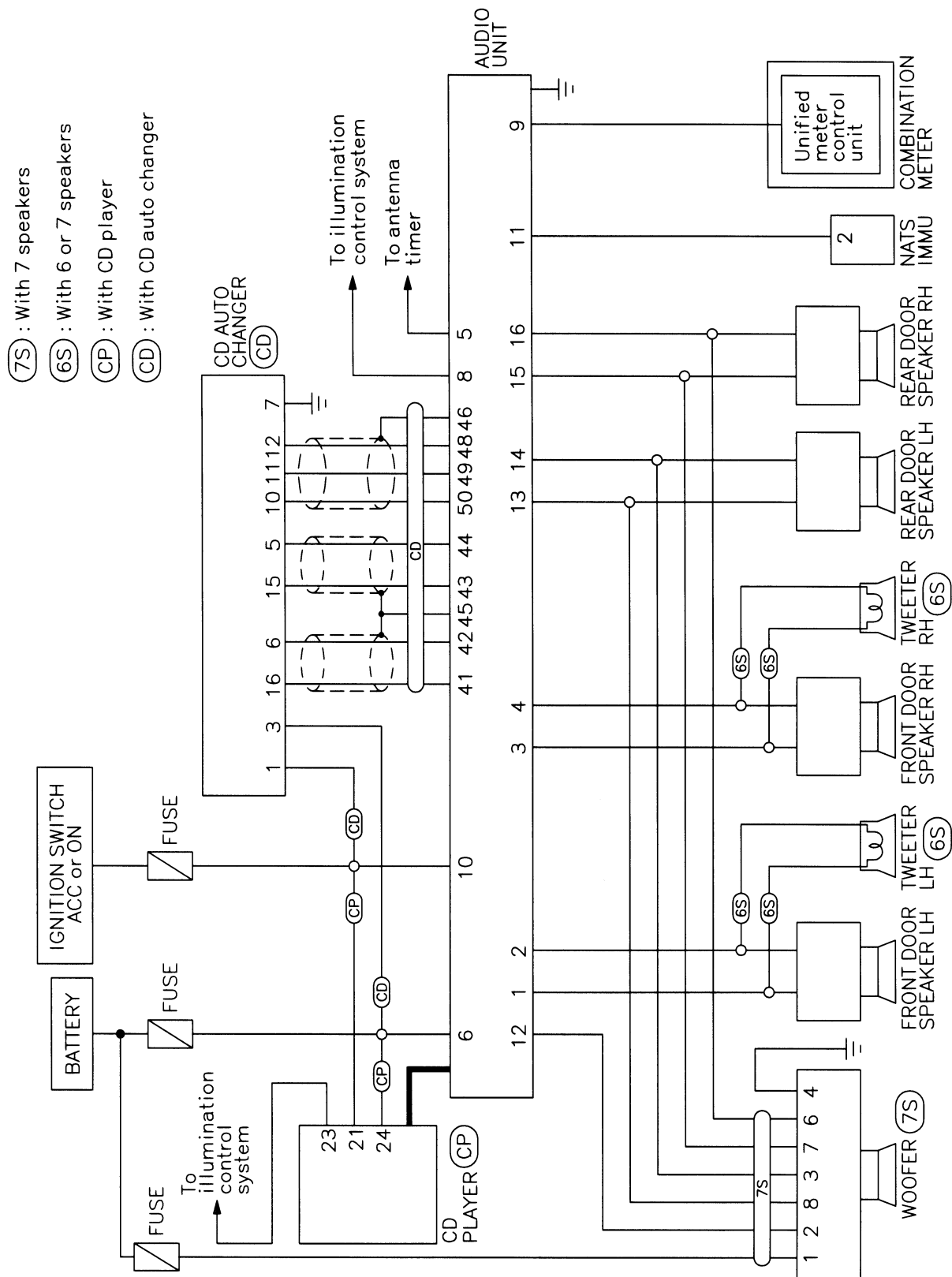
NFEL0167

NFEL0167S02



MEL8000

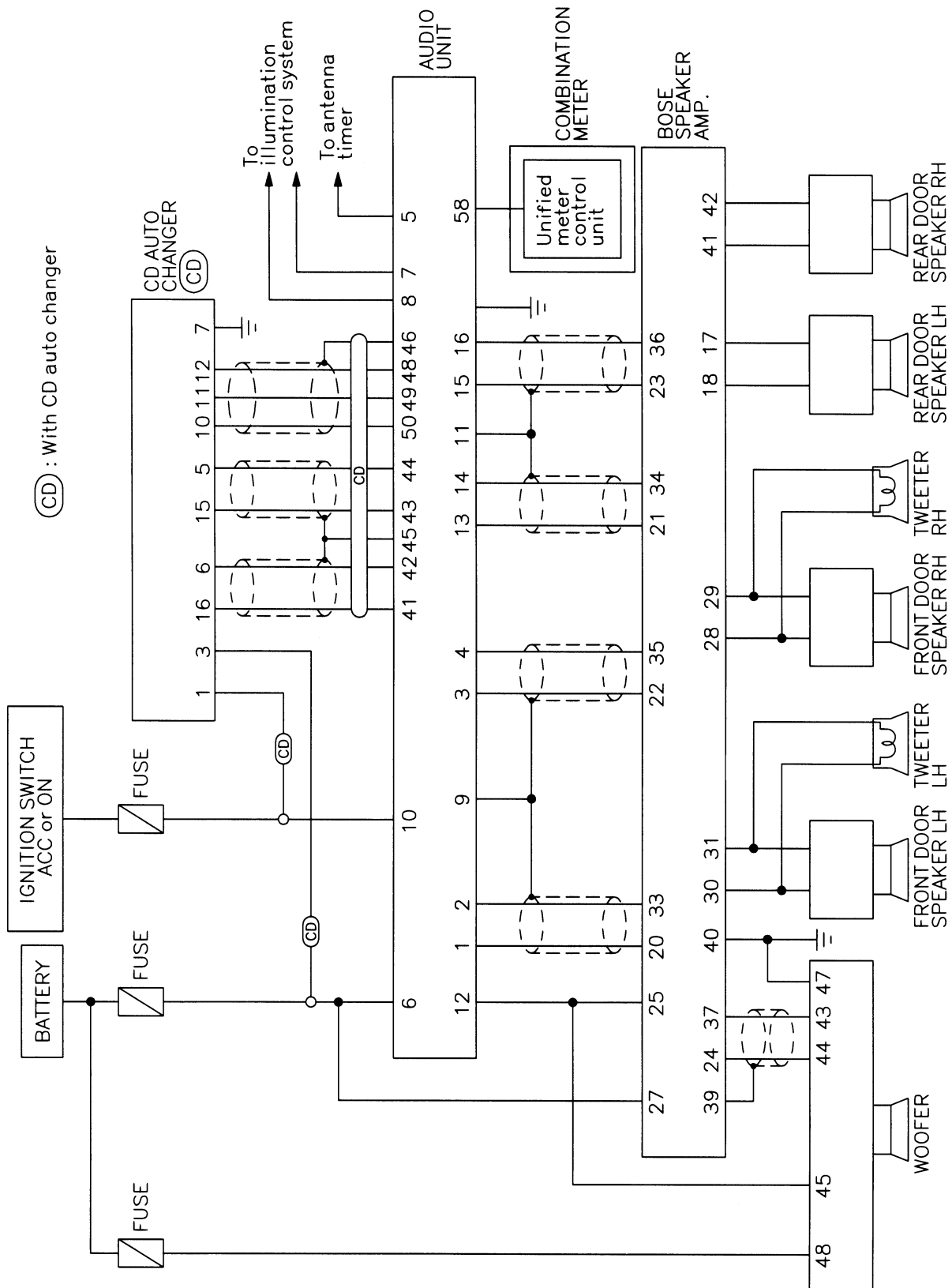
BASE SYSTEM FOR RHD MODELS (EXCEPT FOR AUSTRALIA)



BASE SYSTEM FOR RHD MODELS (FOR AUSTRALIA)

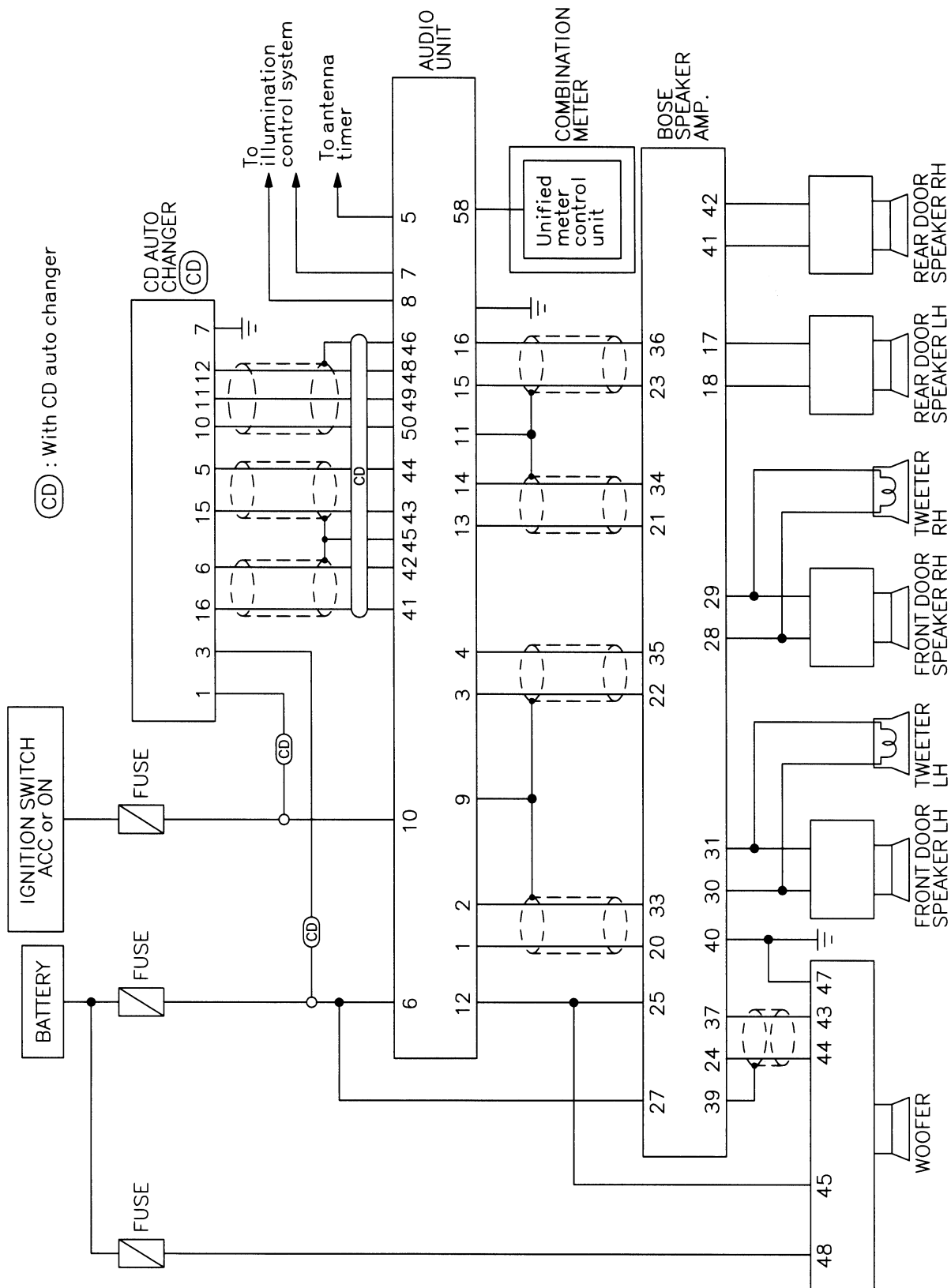


BOSE SYSTEM FOR LHD MODELS



BOSE SYSTEM FOR RHD MODELS

NFEL0167S06



MEL8030

Wiring Diagram — AUDIO —

BASE SYSTEM FOR LHD MODELS

NFEL0081

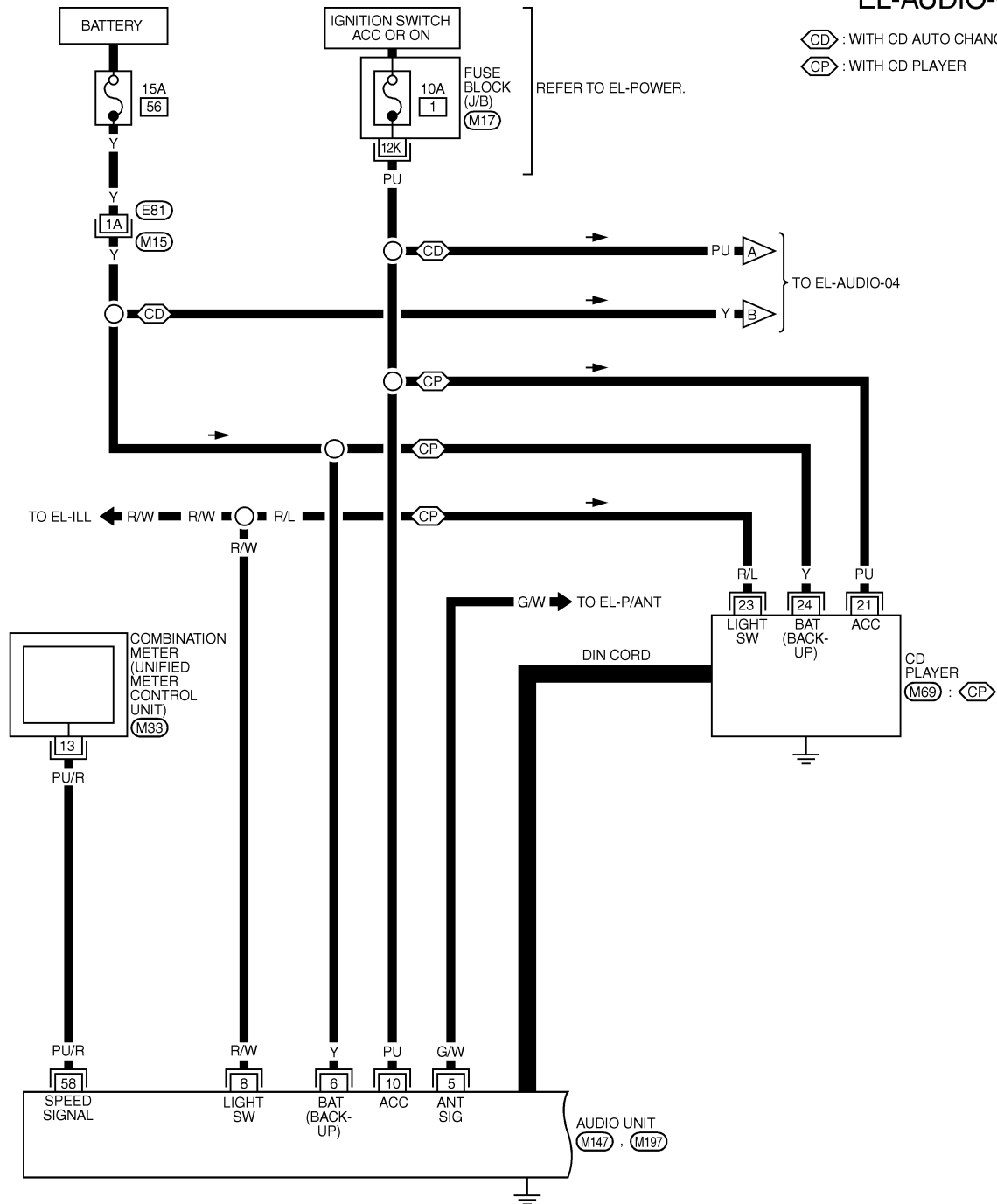
NFEL0081S03

EL-AUDIO-01

⬡CD⬡ : WITH CD AUTO CHANGER

⬡CP⬡ : WITH CD PLAYER

REFER TO EL-POWER.



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

(M33)
W

24	
23	21

(M69)
W

53	54	55	56	57	58
59	60	61	62	63	64
65	66	67	68		

(M147)
W

10	8	4	2
9	7	6	5
3	1		

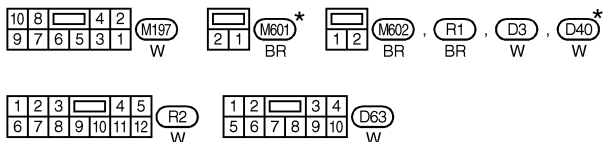
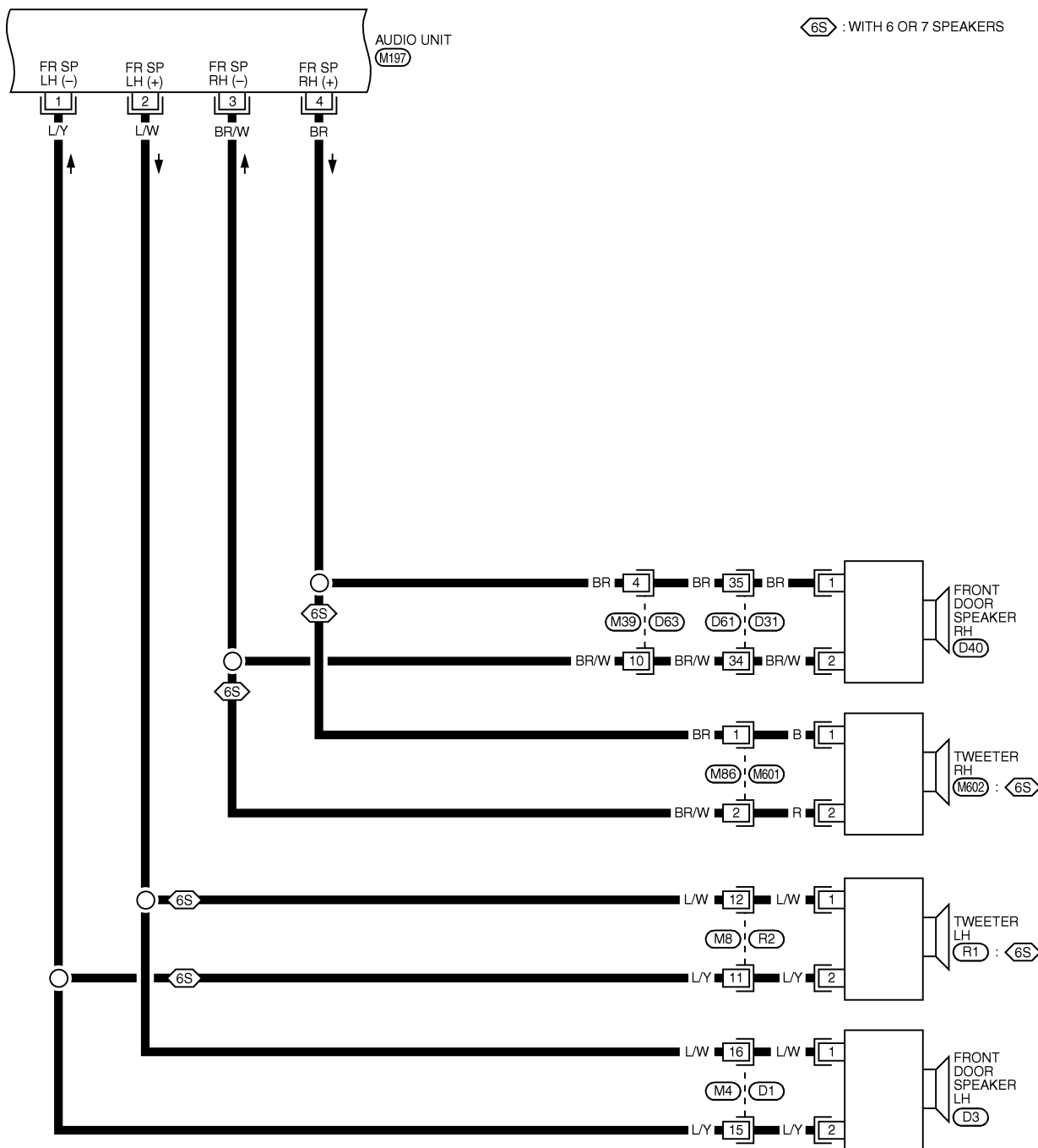
(M197)
W

REFER TO THE FOLLOWING.

- (M15) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (M17) -FUSE BLOCK-JUNCTION BOX (J/B)

EL-AUDIO-02

6S : WITH 6 OR 7 SPEAKERS

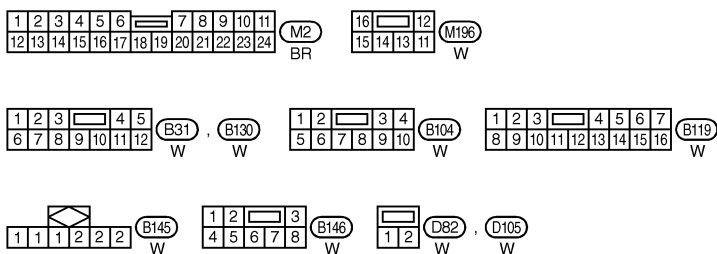
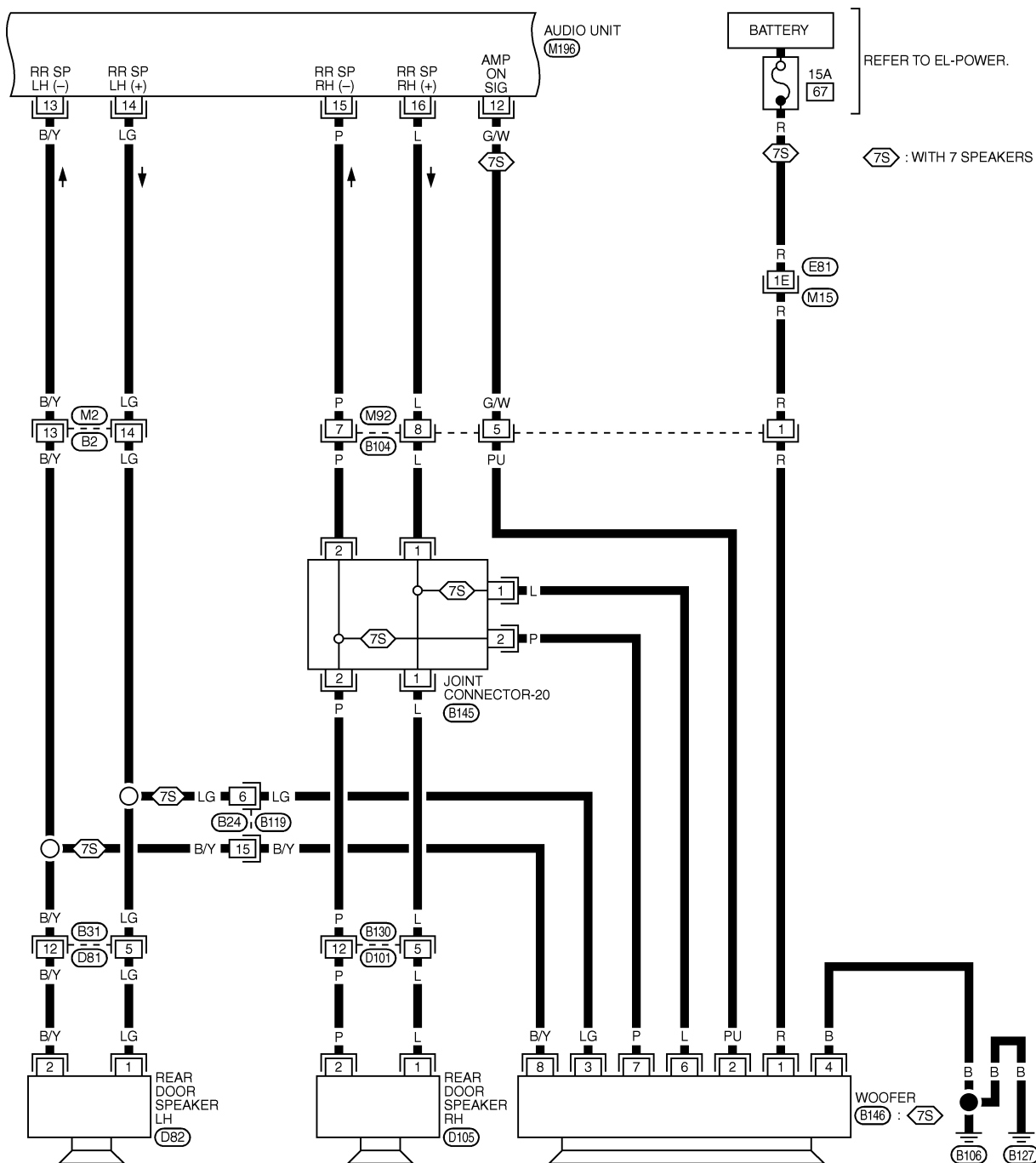


* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.
 (D1), (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL8050

EL-AUDIO-03



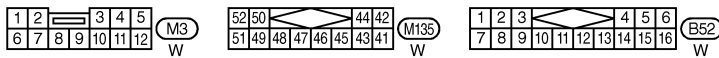
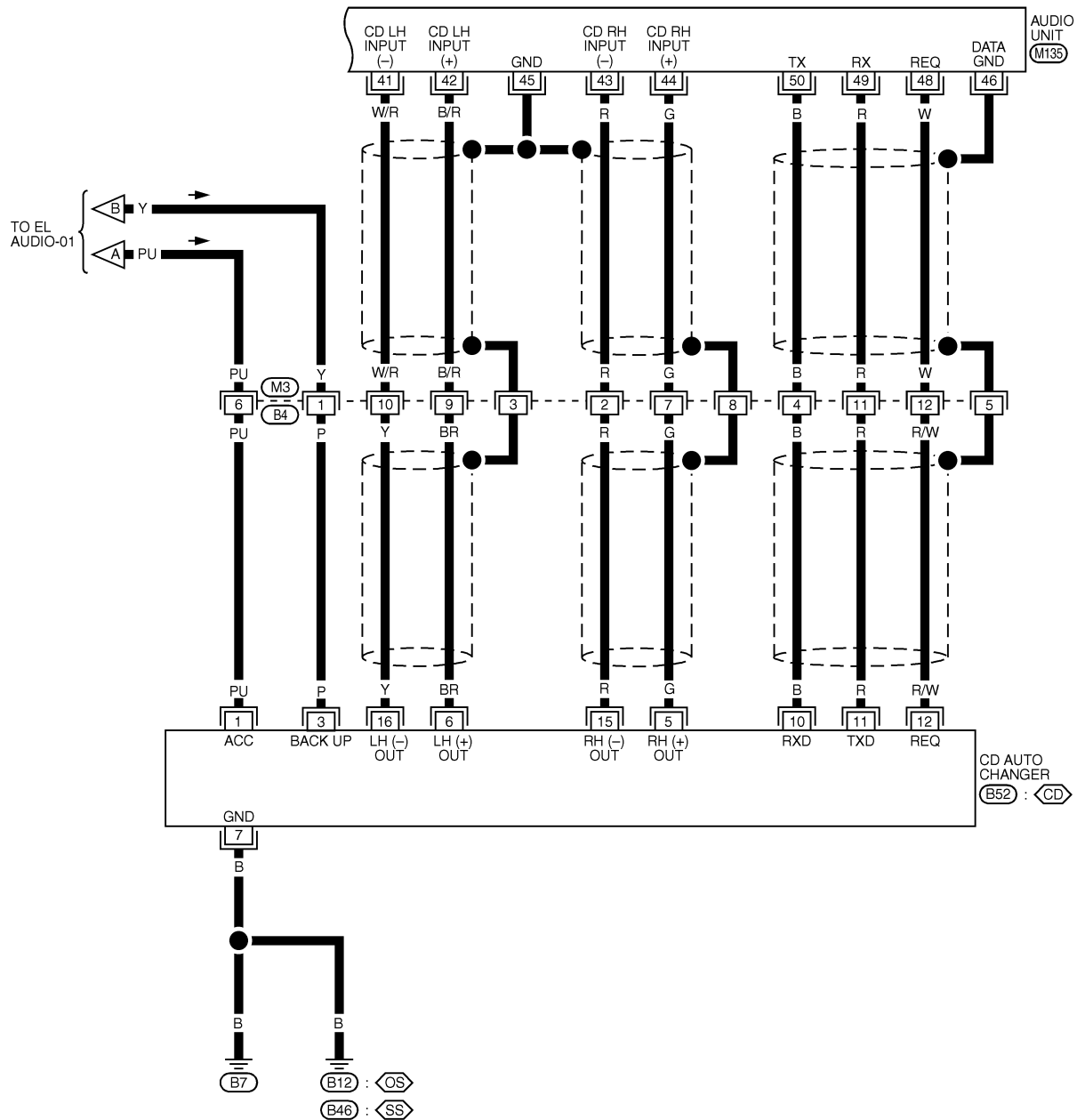
REFER TO THE FOLLOWING.

M15 -SUPER
MULTIPLE JUNCTION (SMJ)

MEL806O

EL-AUDIO-04

(SS) : WITH REAR SUNSHADE
 (OS) : WITHOUT REAR SUNSHADE
 (CD) : WITH CD AUTO CHANGER



BASE SYSTEM FOR RHD MODELS (EXCEPT FOR AUSTRALIA)

NFEL0081S04

EL-AUDIO-05

CD : WITH CD AUTO CHANGER
CP : WITH CD PLAYER

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

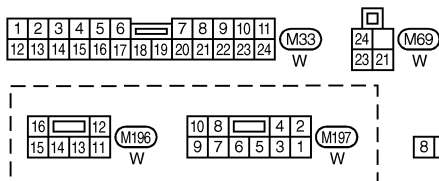
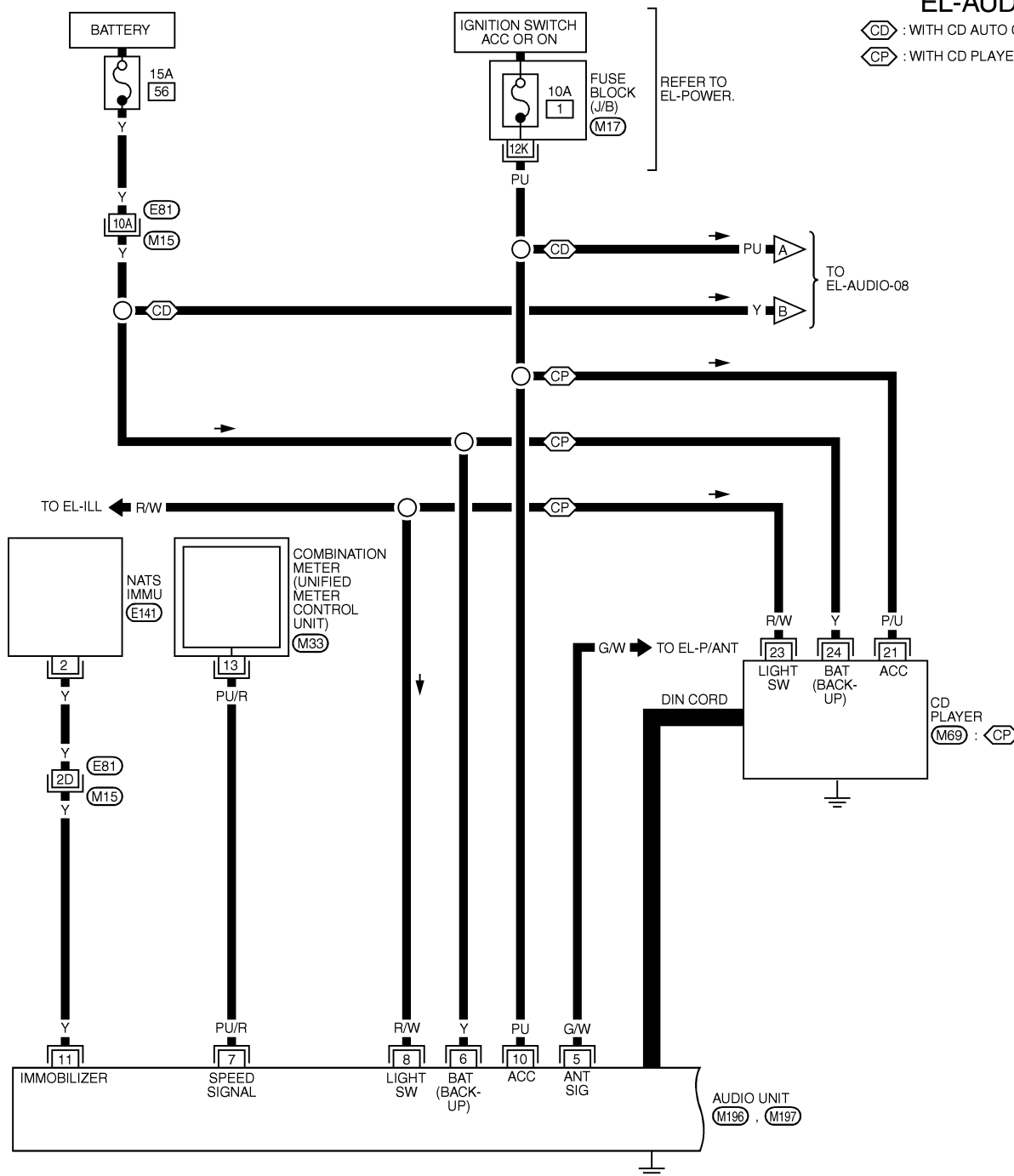
BT

HA

SC

EL

IDX

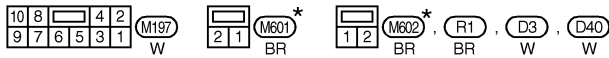
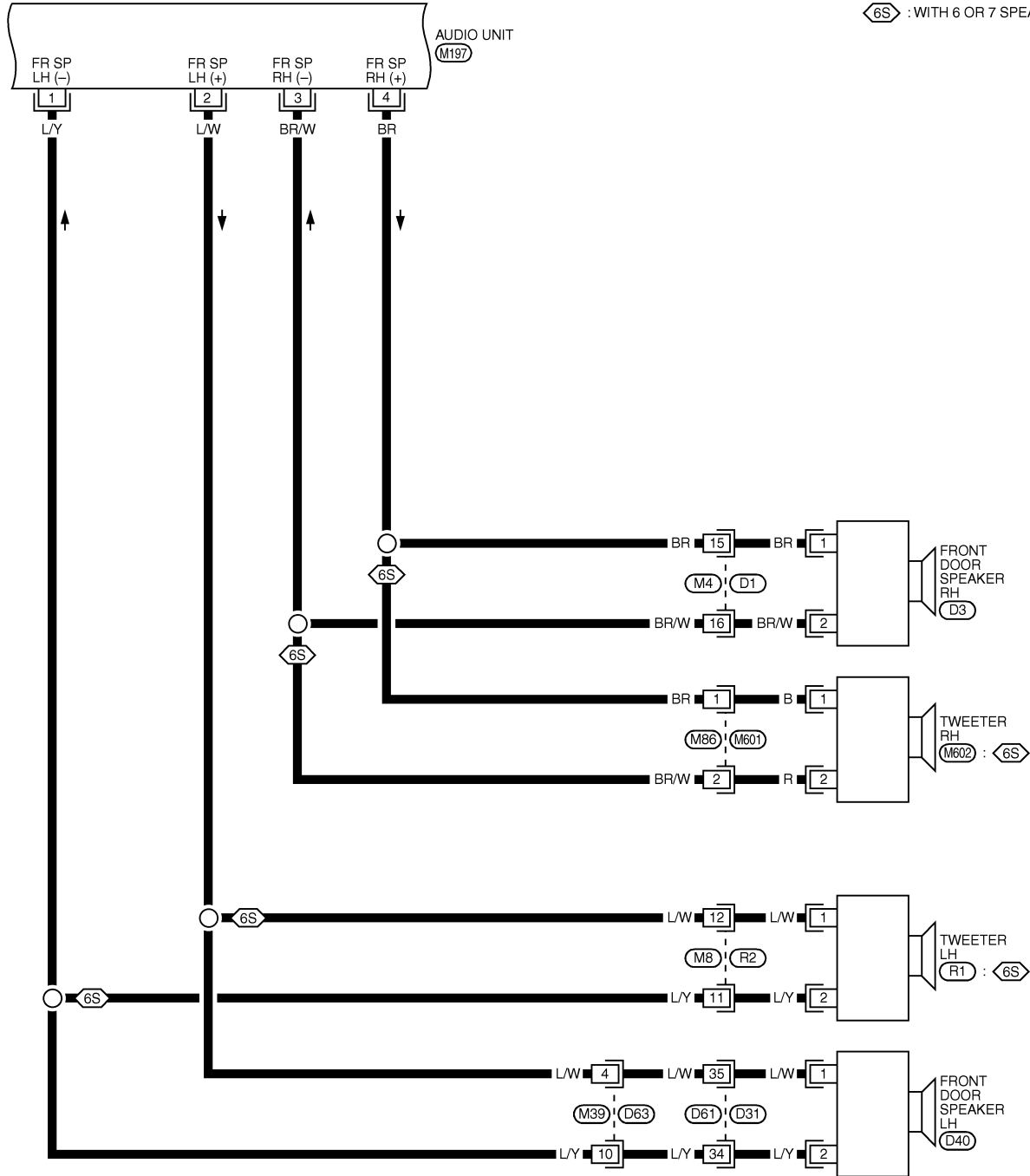


REFER TO THE FOLLOWING.
M15 -SUPER
MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL8070

EL-AUDIO-06

⬡6S : WITH 6 OR 7 SPEAKERS

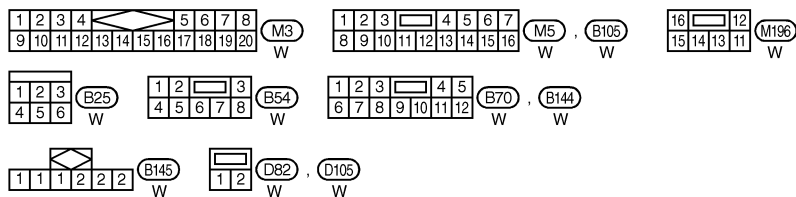
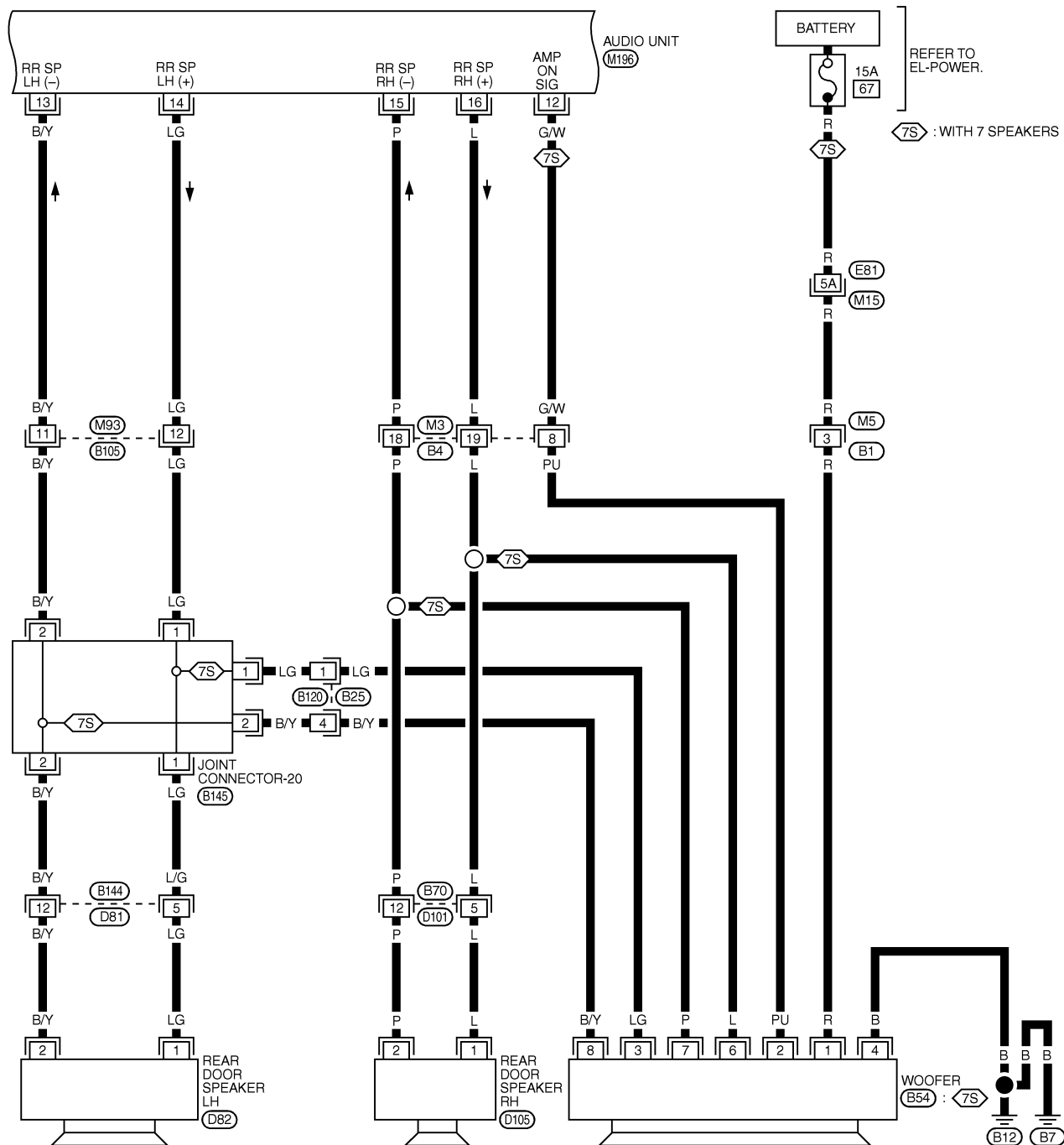


★ : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.
 (D1), (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL8080

EL-AUDIO-07



REFER TO THE FOLLOWING.

(M15) -SUPER

MULTIPLE JUNCTION (SMJ)

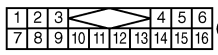
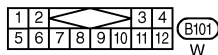
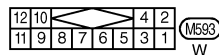
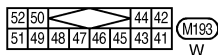
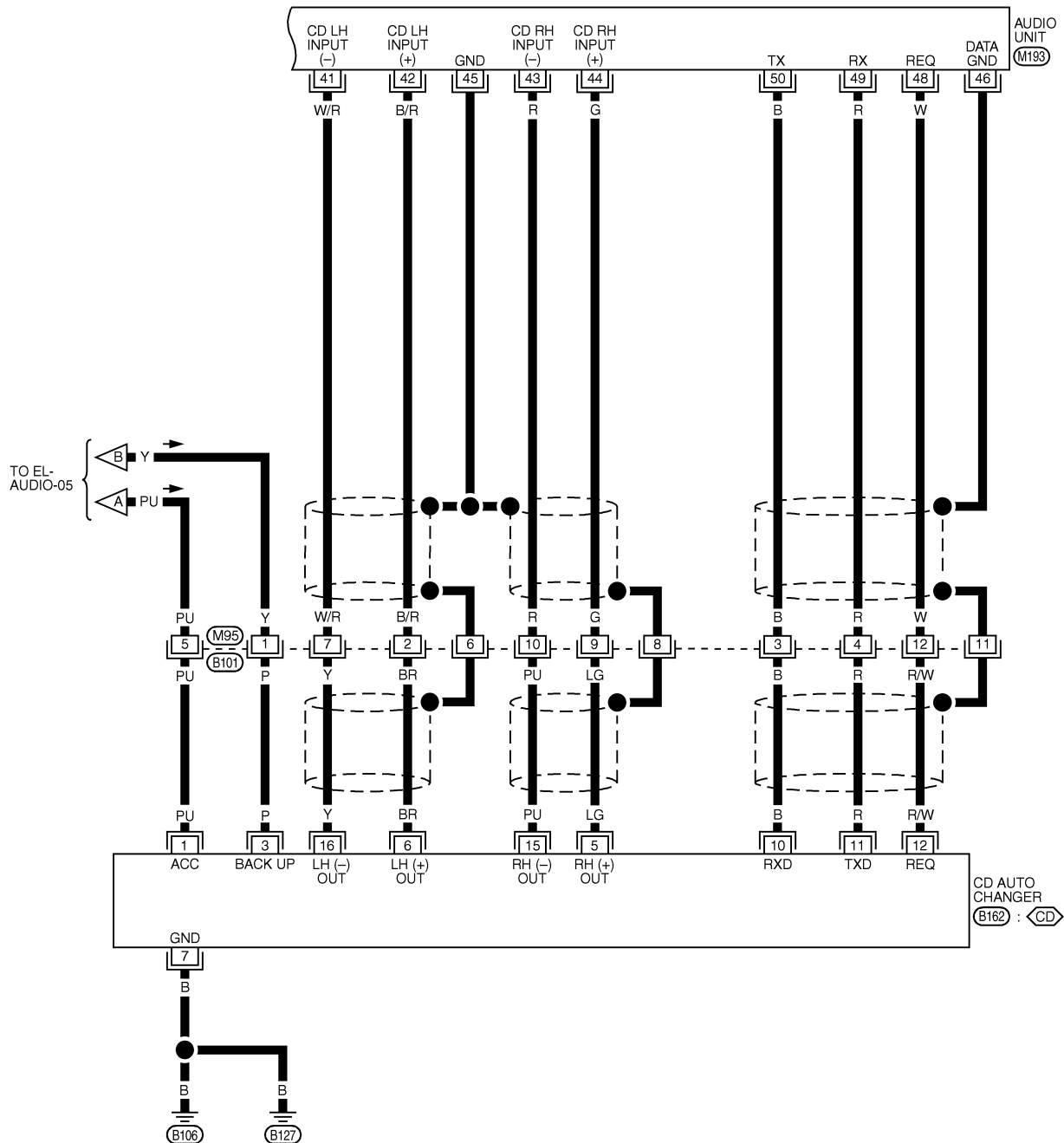
EL

IDX

MEL809O

EL-AUDIO-08

⬢CD⬢ : WITH CD AUTO CHANGER



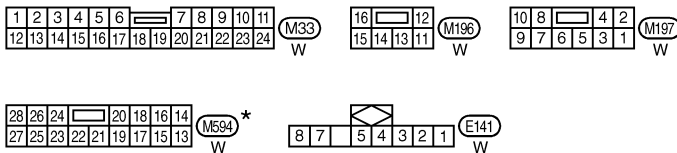
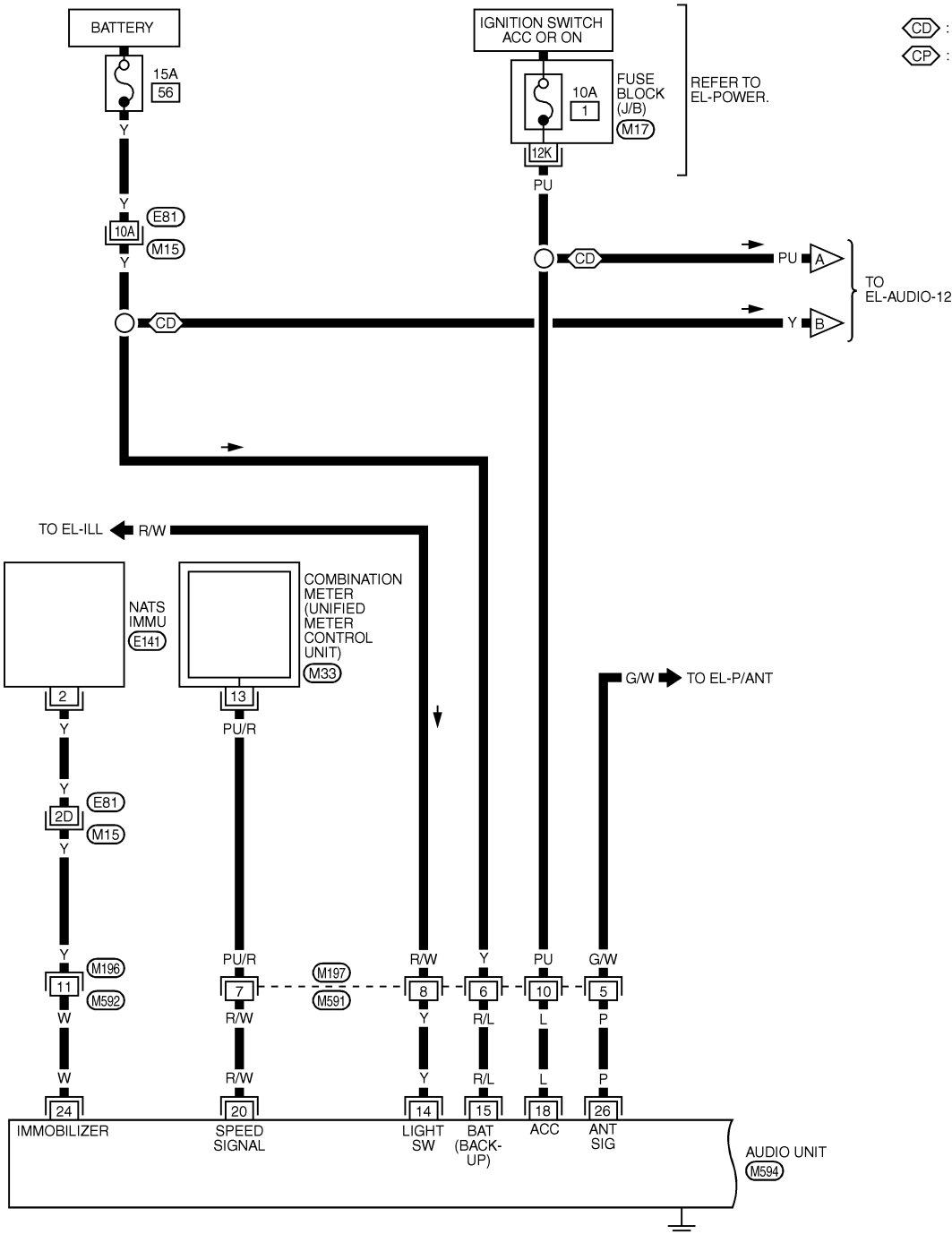
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

BASE SYSTEM FOR RHD MODELS (FOR AUSTRALIA)

NFEL0081S06

EL-AUDIO-09

⬡ : WITH CD AUTO CHANGER
⬡ : WITH CD PLAYER



*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

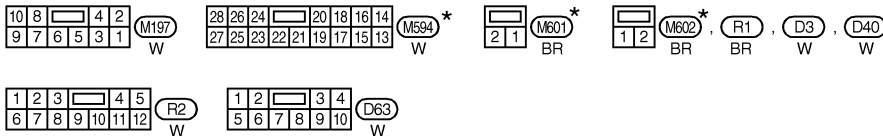
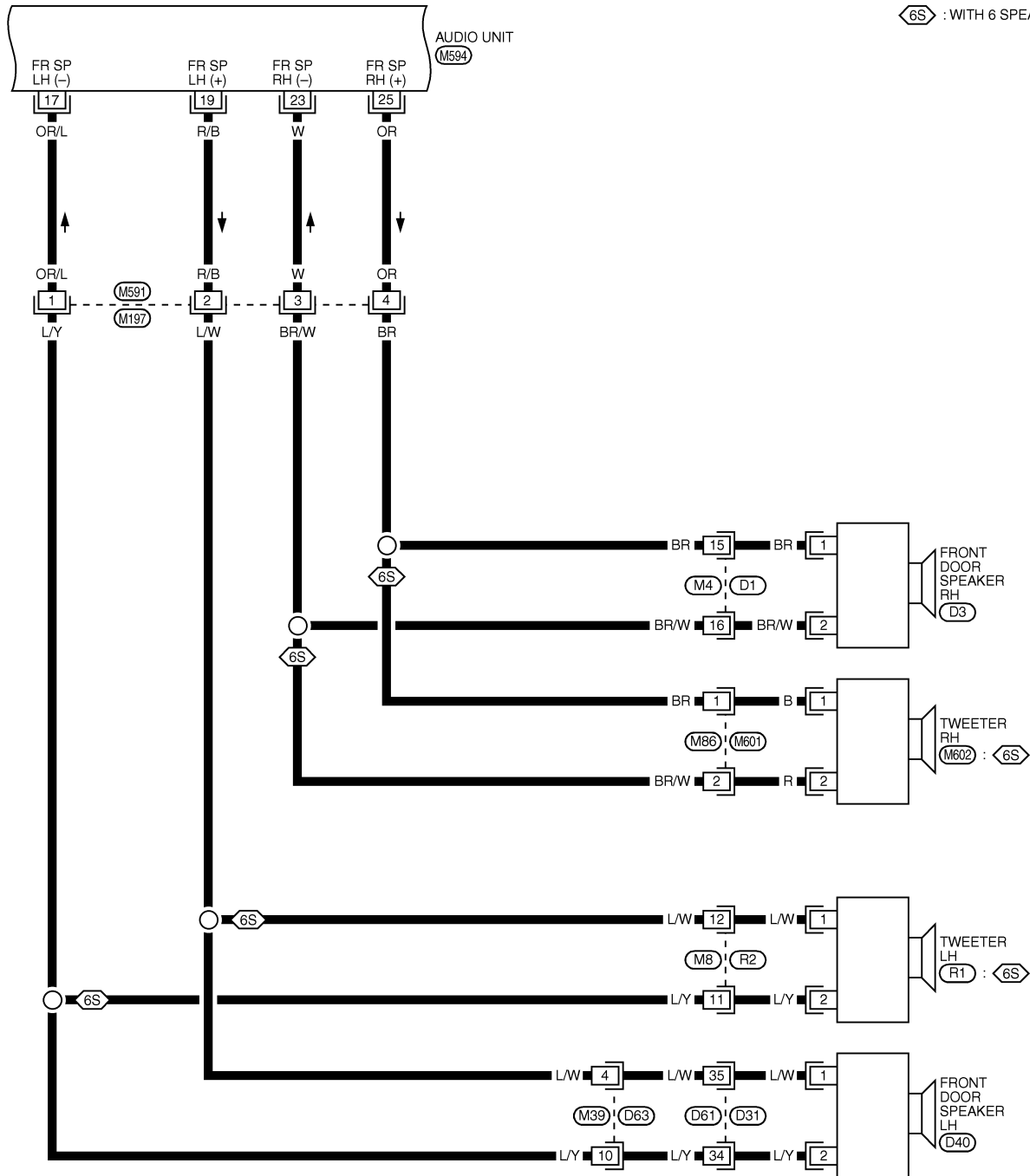
REFER TO THE FOLLOWING.

⬡ -SUPER
MULTIPLE JUNCTION (SMJ)
⬡ -FUSE BLOCK-
JUNCTION BOX (J/B)

GI
MA
EM
LC
EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

EL-AUDIO-10

6S : WITH 6 SPEAKERS



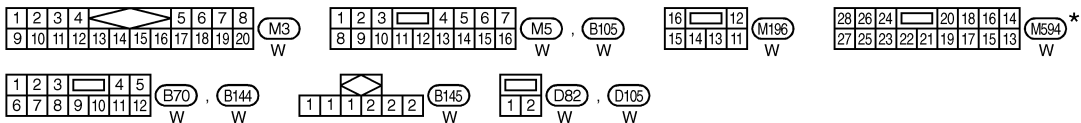
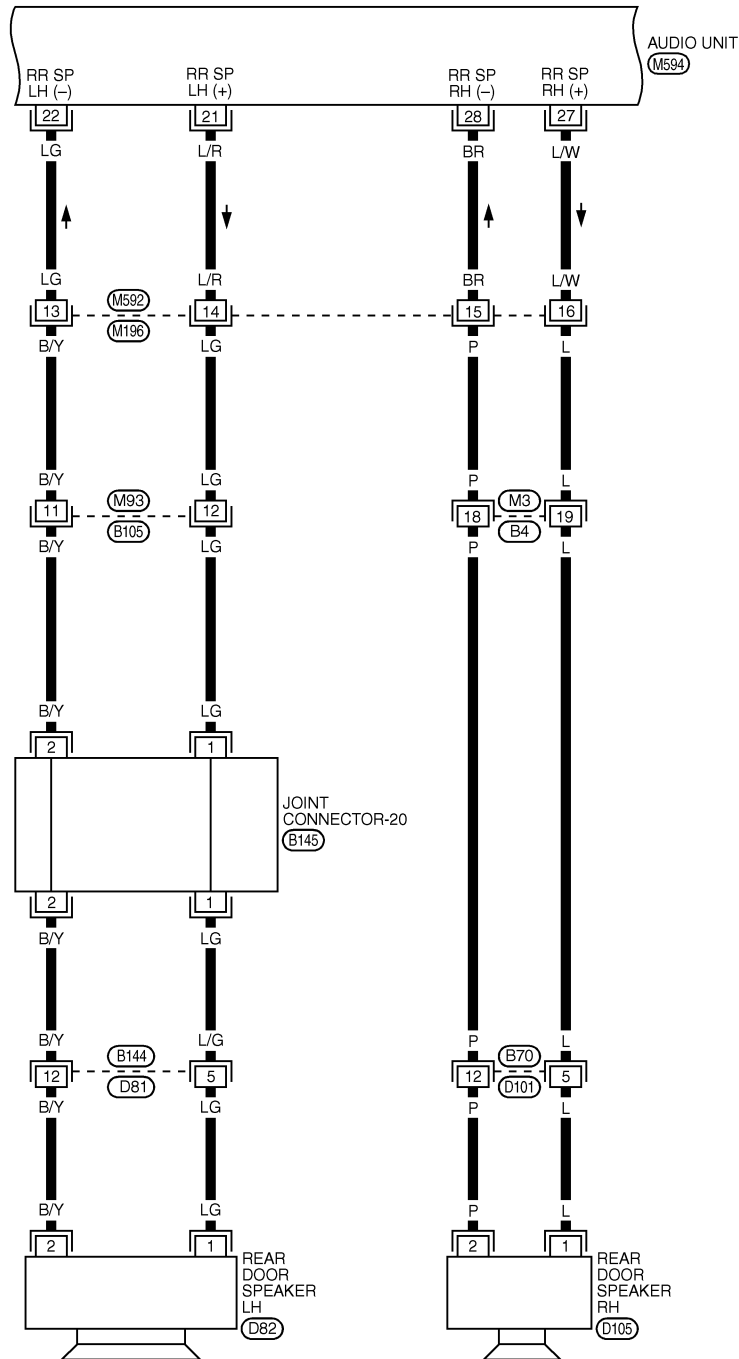
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.

D1, D31 : -SUPER
MULTIPLE JUNCTION (SMJ)

MEL153P

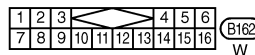
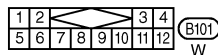
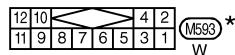
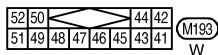
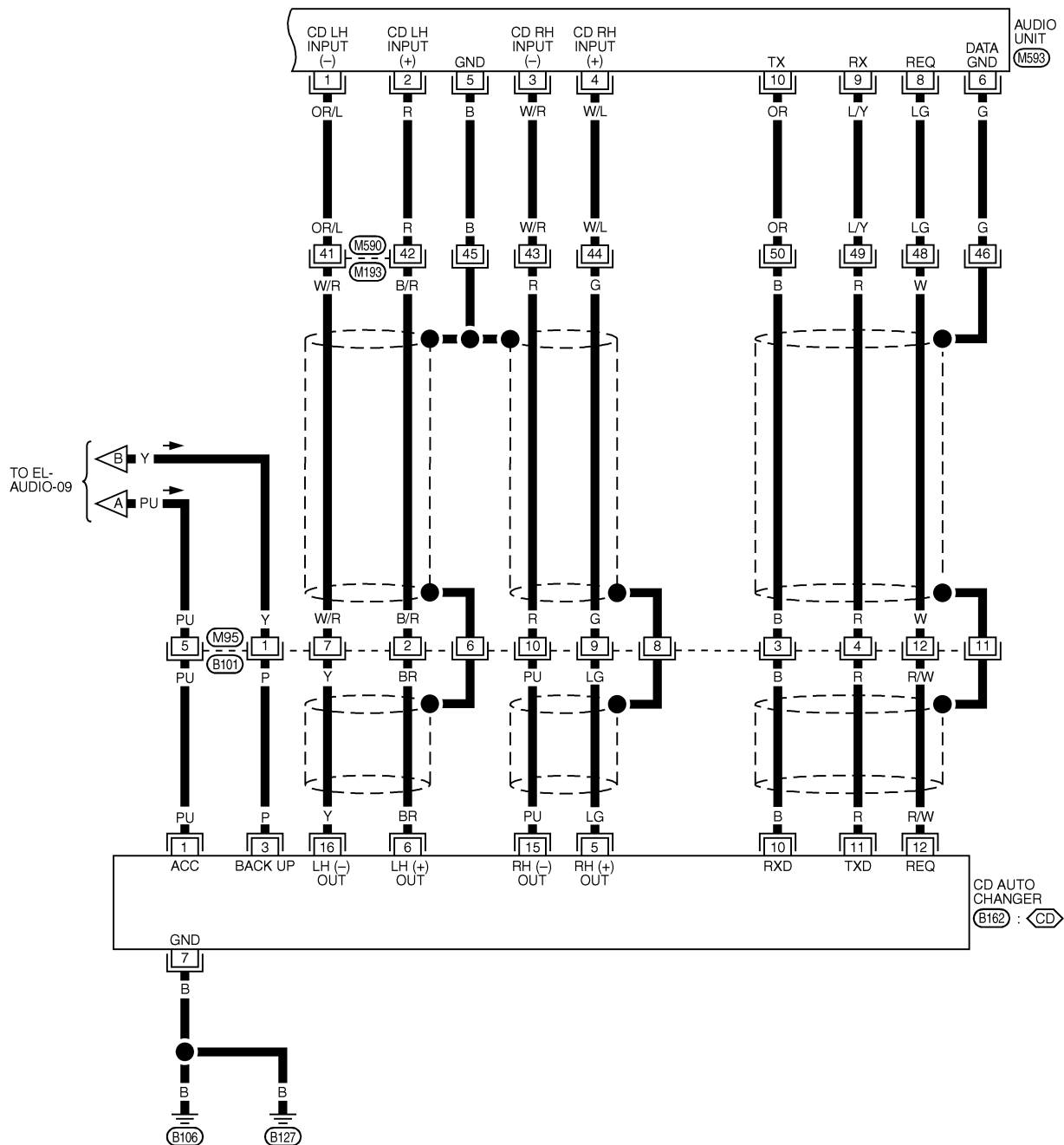
EL-AUDIO-11



*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

EL-AUDIO-12

ⓈCD : WITH CD AUTO CHANGER



★ : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

BOSE SYSTEM FOR LHD MODELS

NFEL0081S02

EL-AUDIO-13

⬢CD⬢ : WITH CD AUTO CHANGER

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

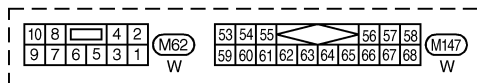
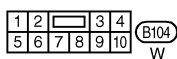
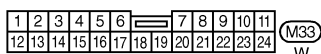
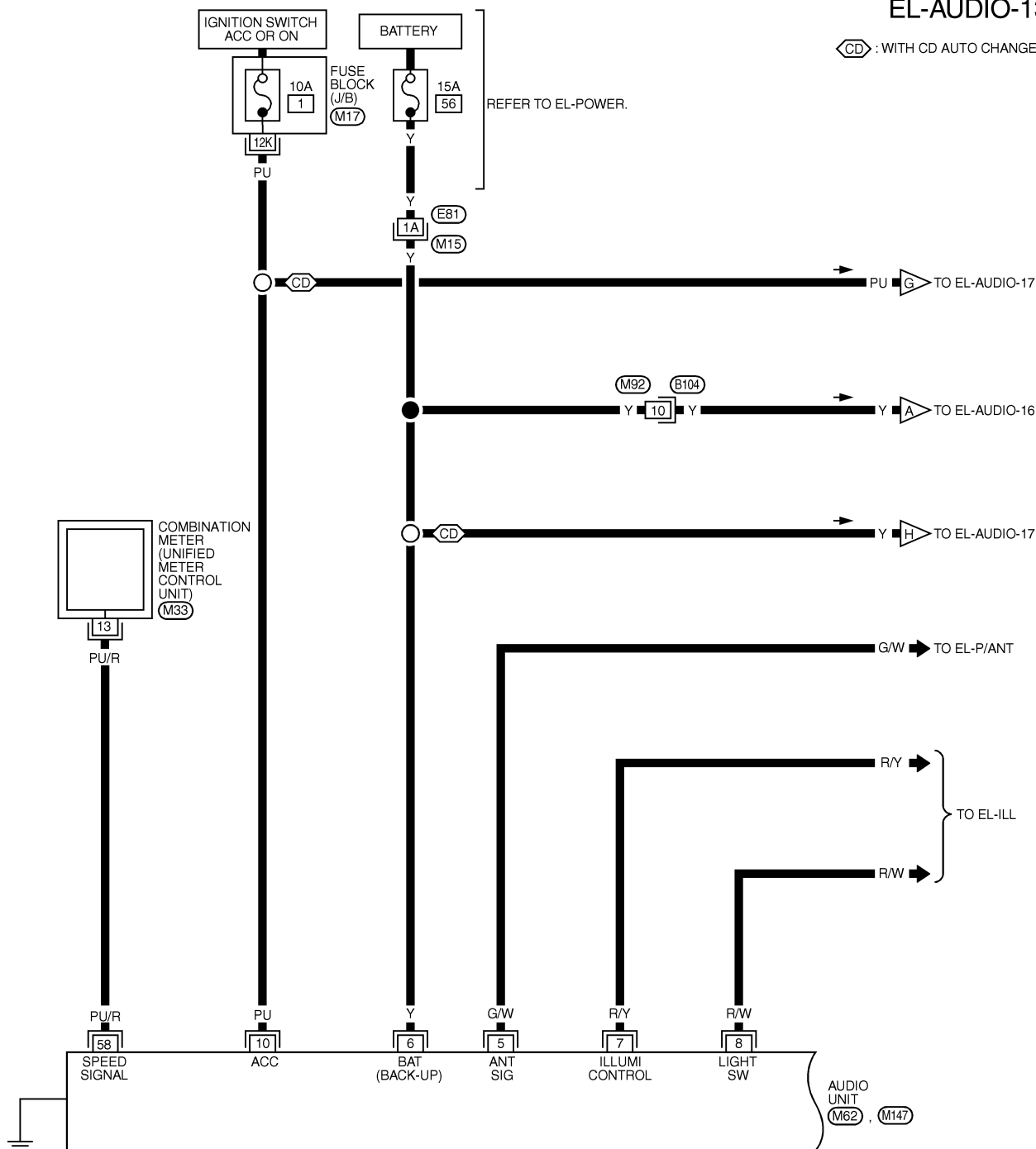
BT

HA

SC

EL

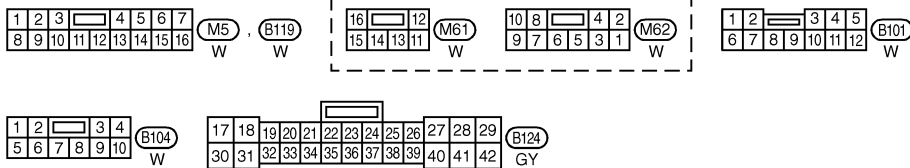
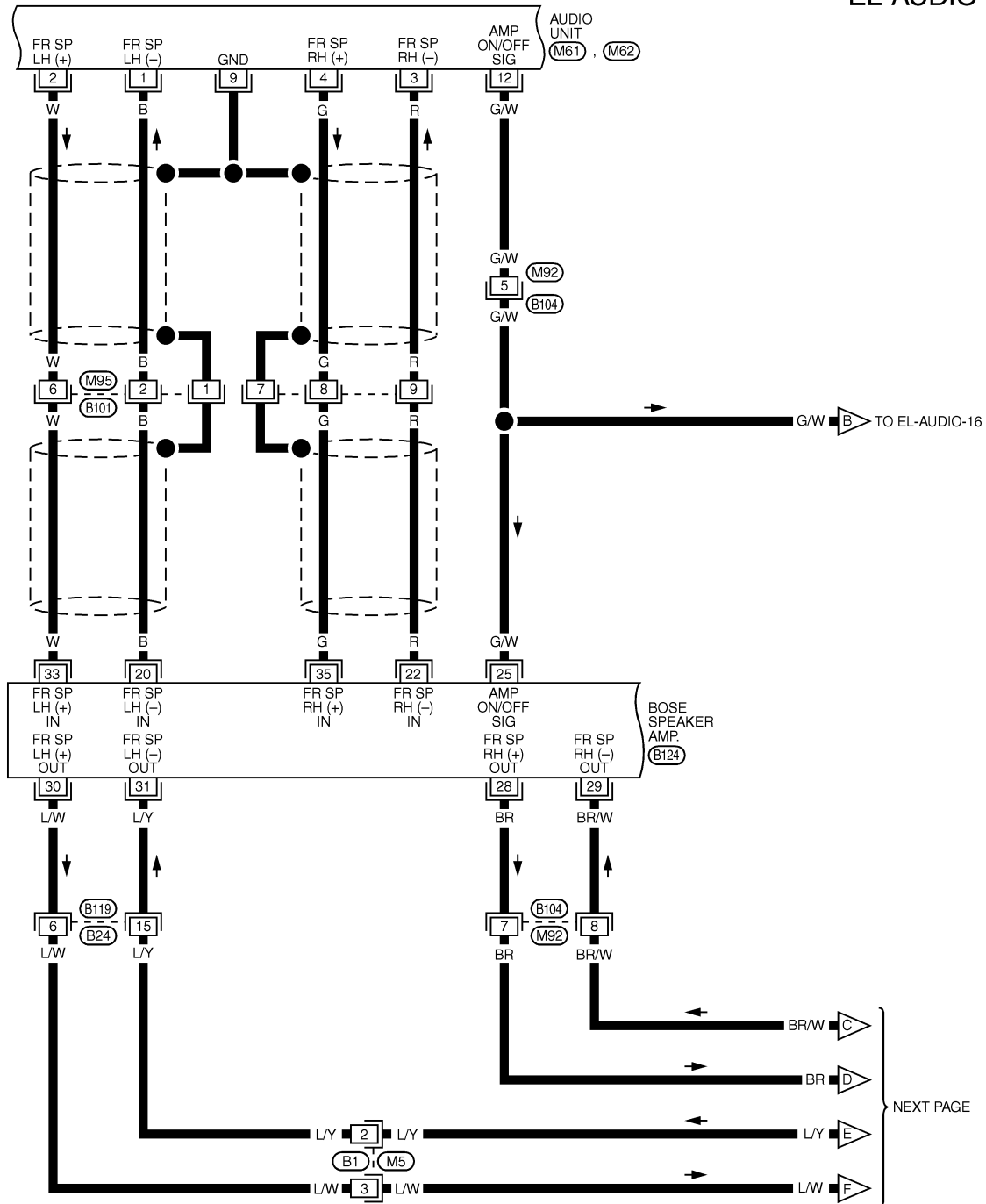
IDX



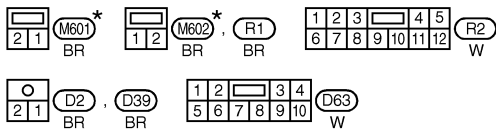
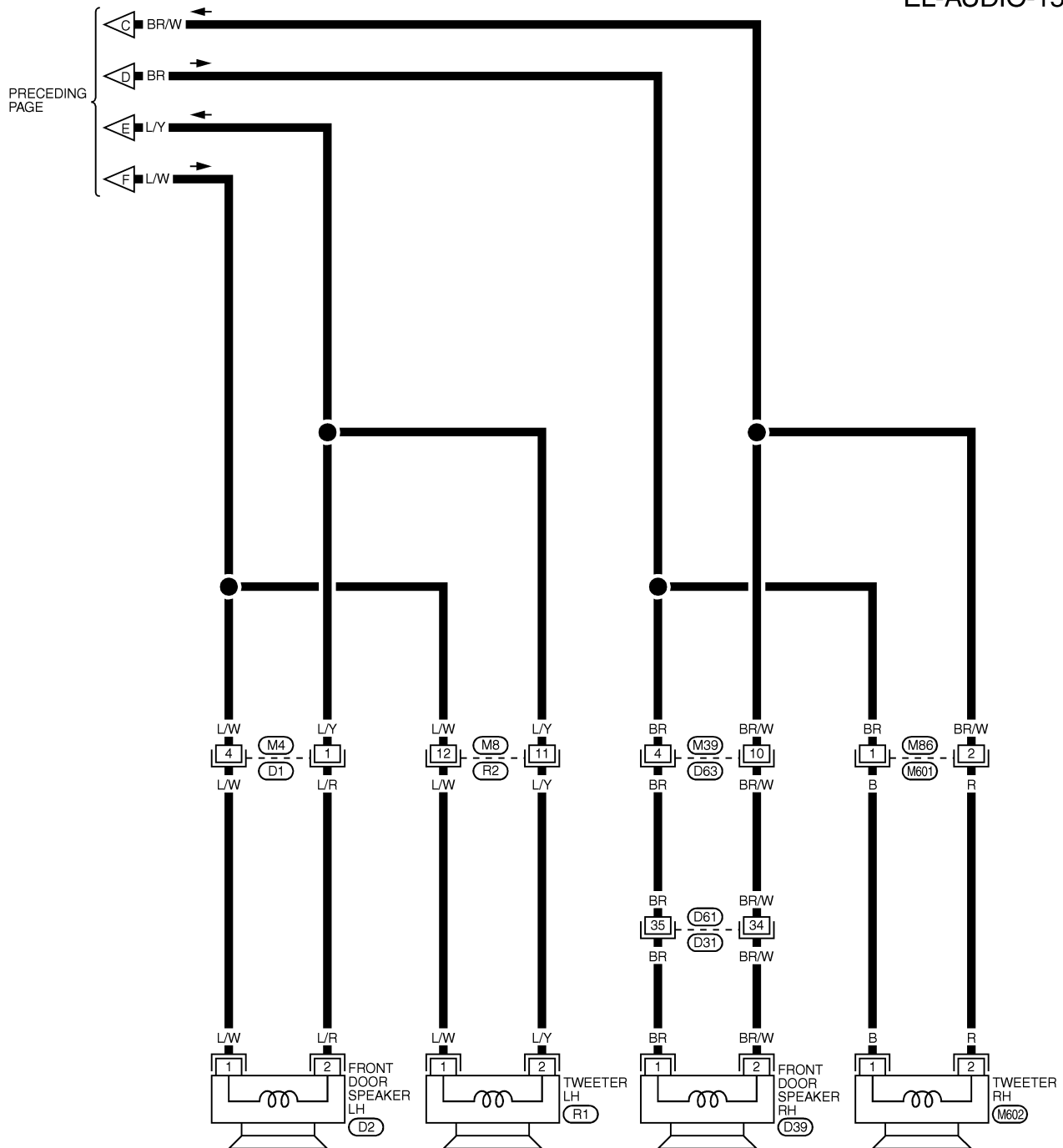
REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL8110



EL-AUDIO-15

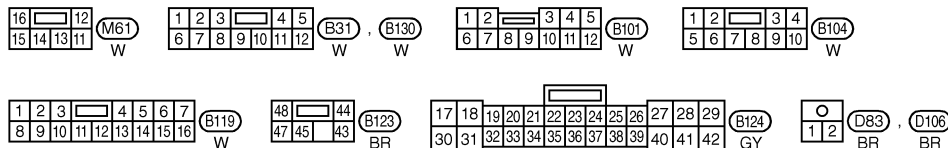
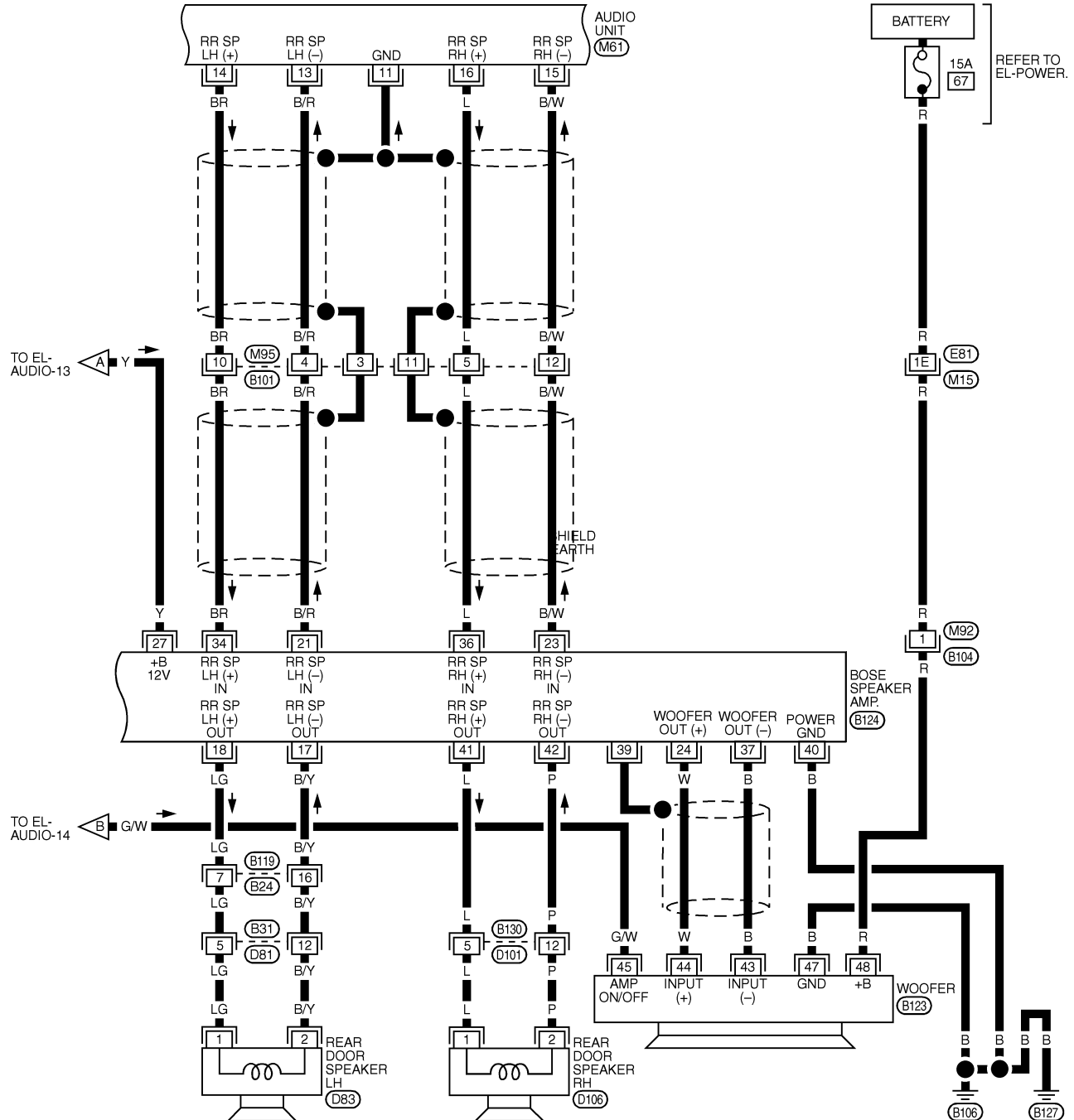


* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.
(D1), (D31) -SUPER
MULTIPLE JUNCTION (SMJ)

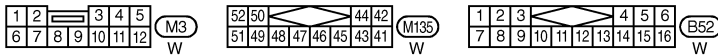
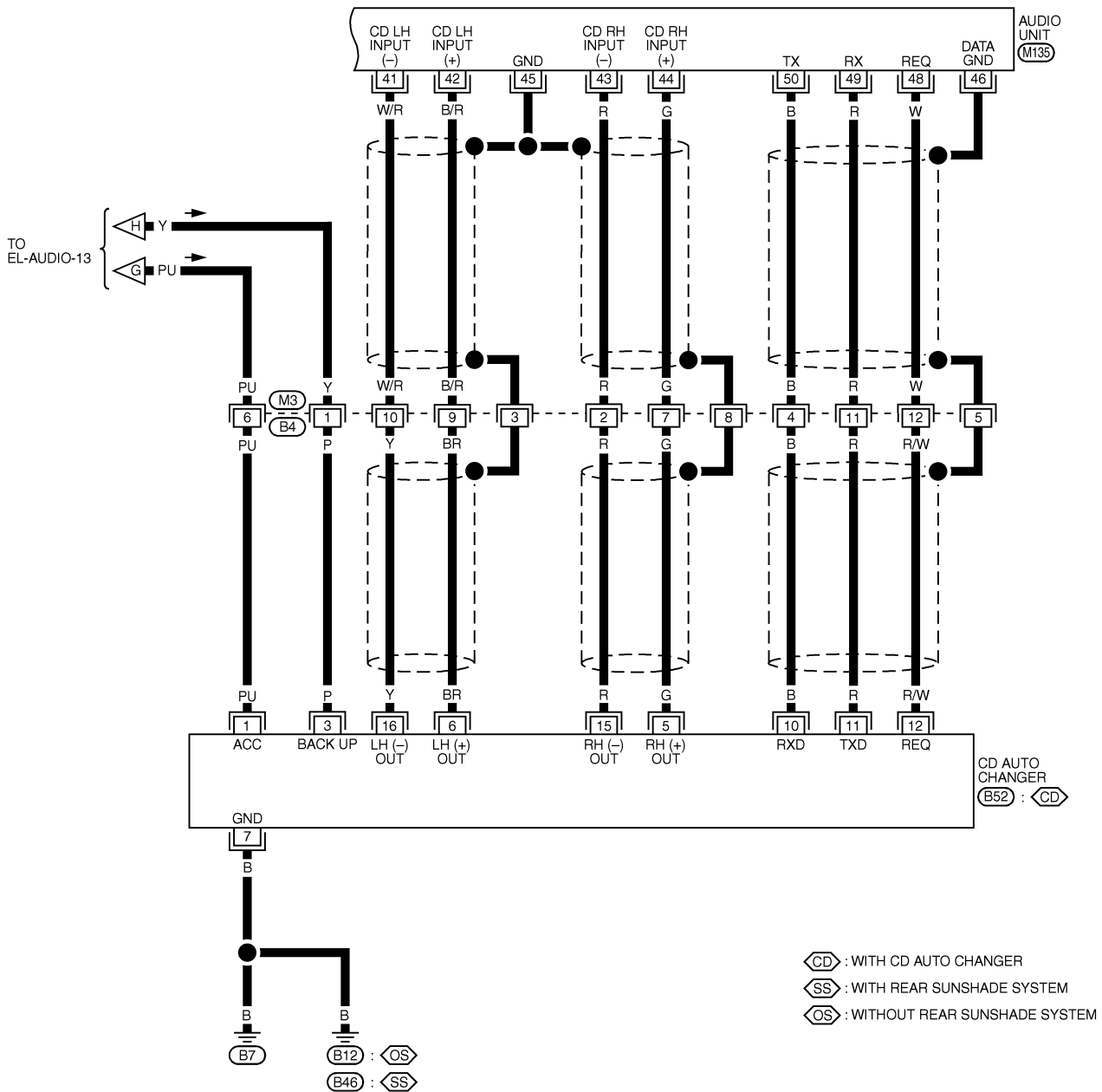
GI
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BT
HA
SC
EL
IDX

EL-AUDIO-16



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

EL-AUDIO-17

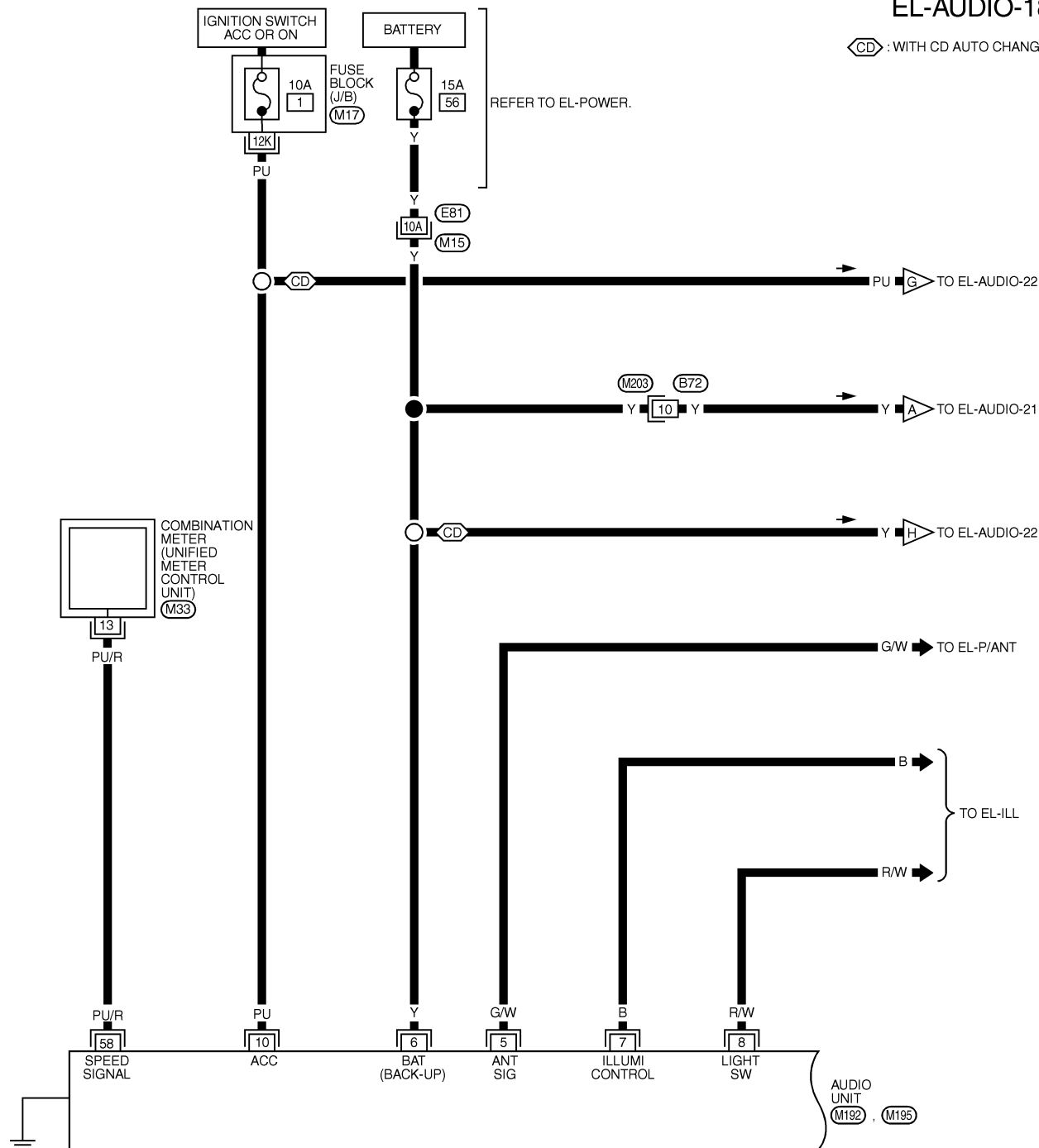


BOSE SYSTEM FOR RHD MODELS

NFEL0081S05

EL-AUDIO-18

(CD) : WITH CD AUTO CHANGER



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

M33

W

(M33)
W

10	8		4	2	
9	7	6	5	3	1

M192

W

53	54	55		56	57	58			
59	60	61	62	63	64	65	66	67	68

M195

W

(M192)
W

(M195)
W

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

M203

W

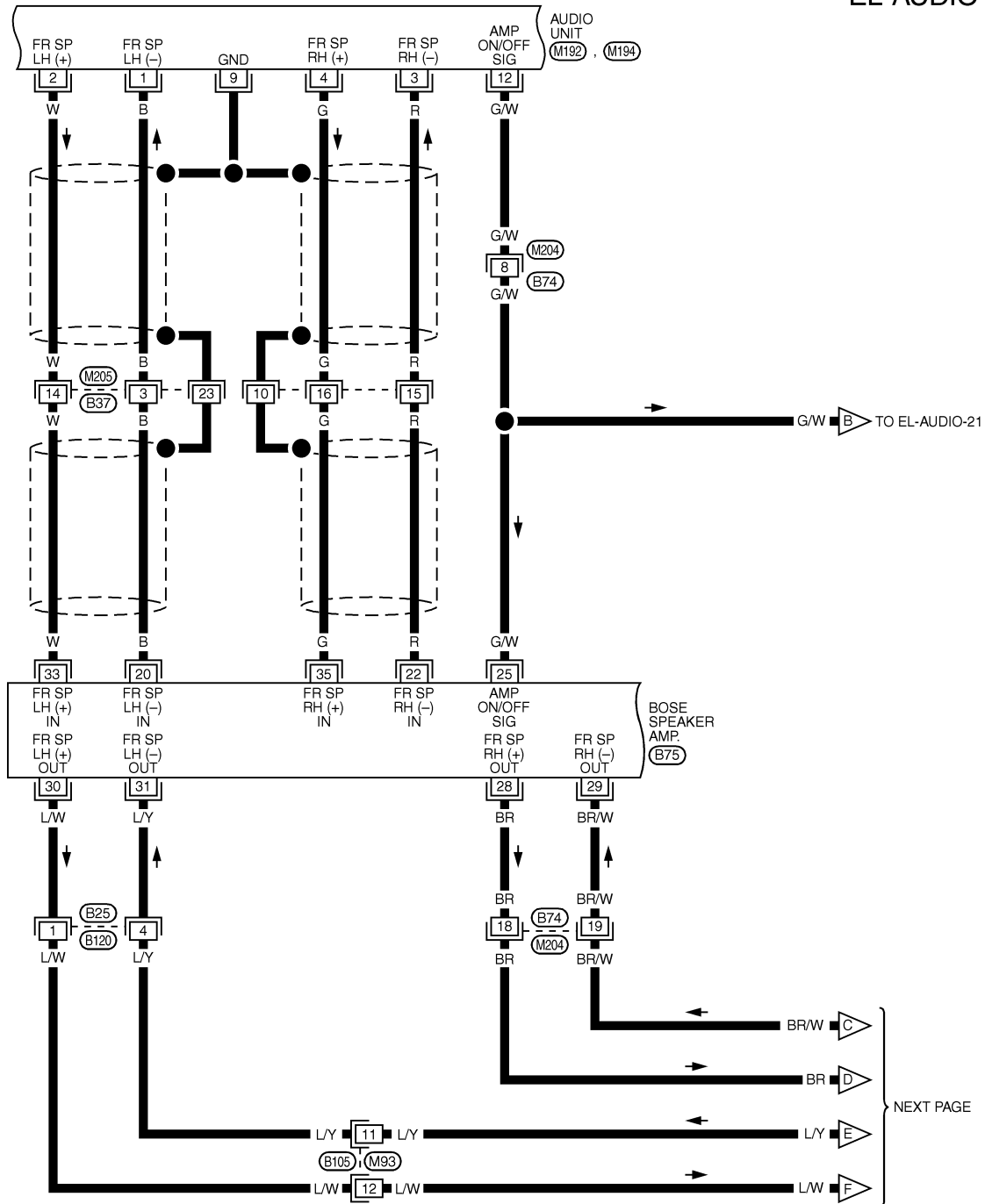
(M203)
W

REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

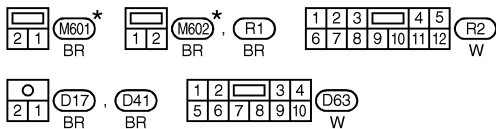
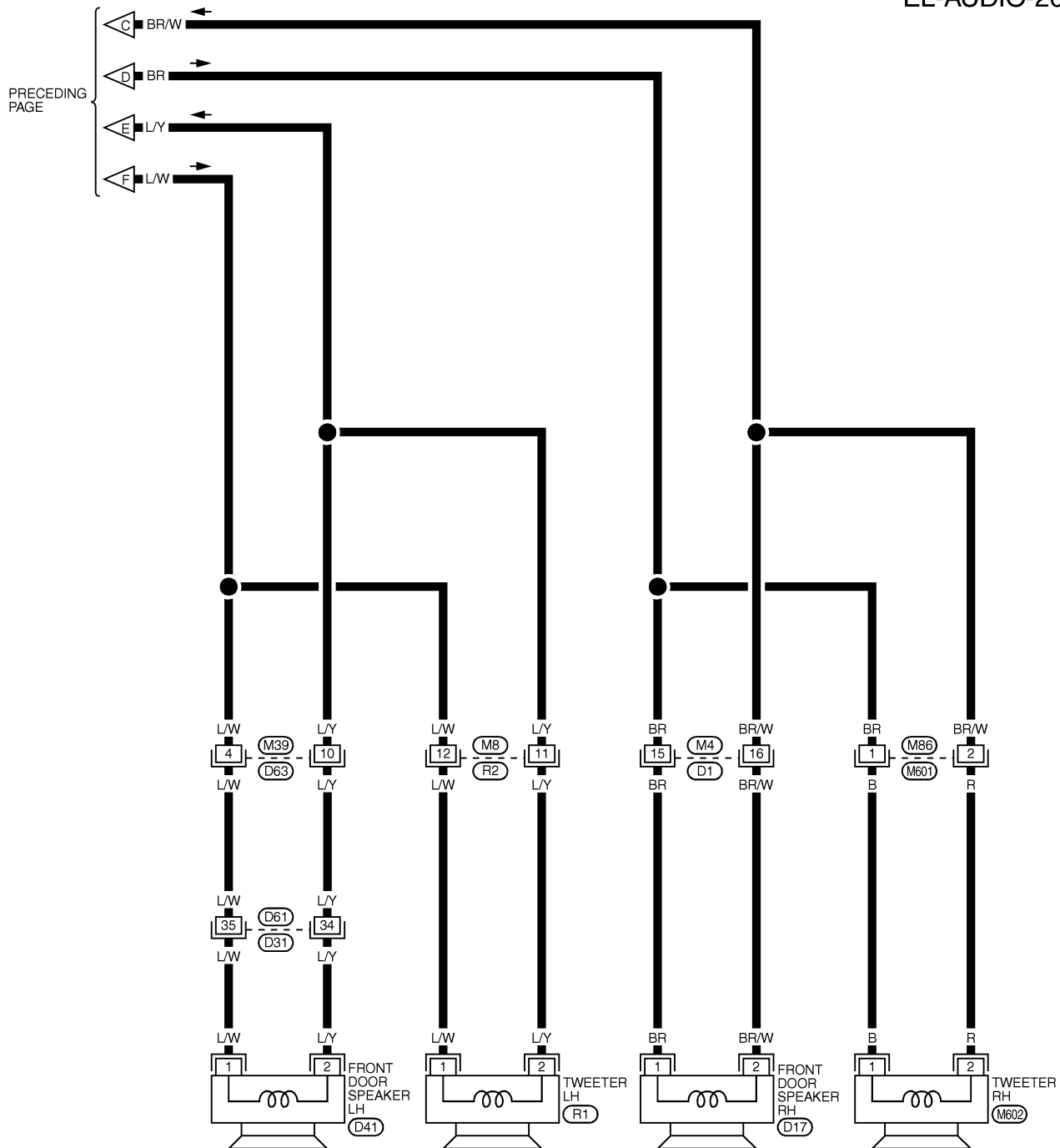
MEL8130

EL-AUDIO-19



GI
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EM
LC
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FE
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BR
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BT
HA
SC
EL
IDX

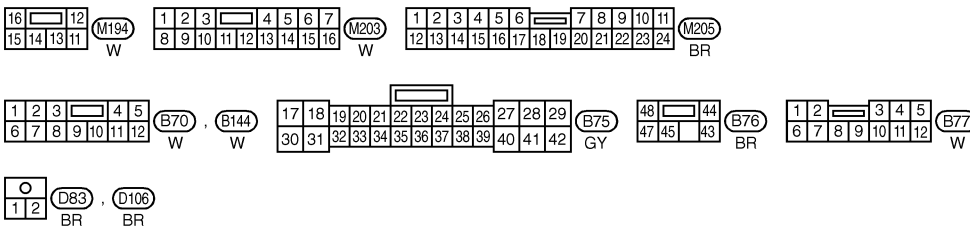
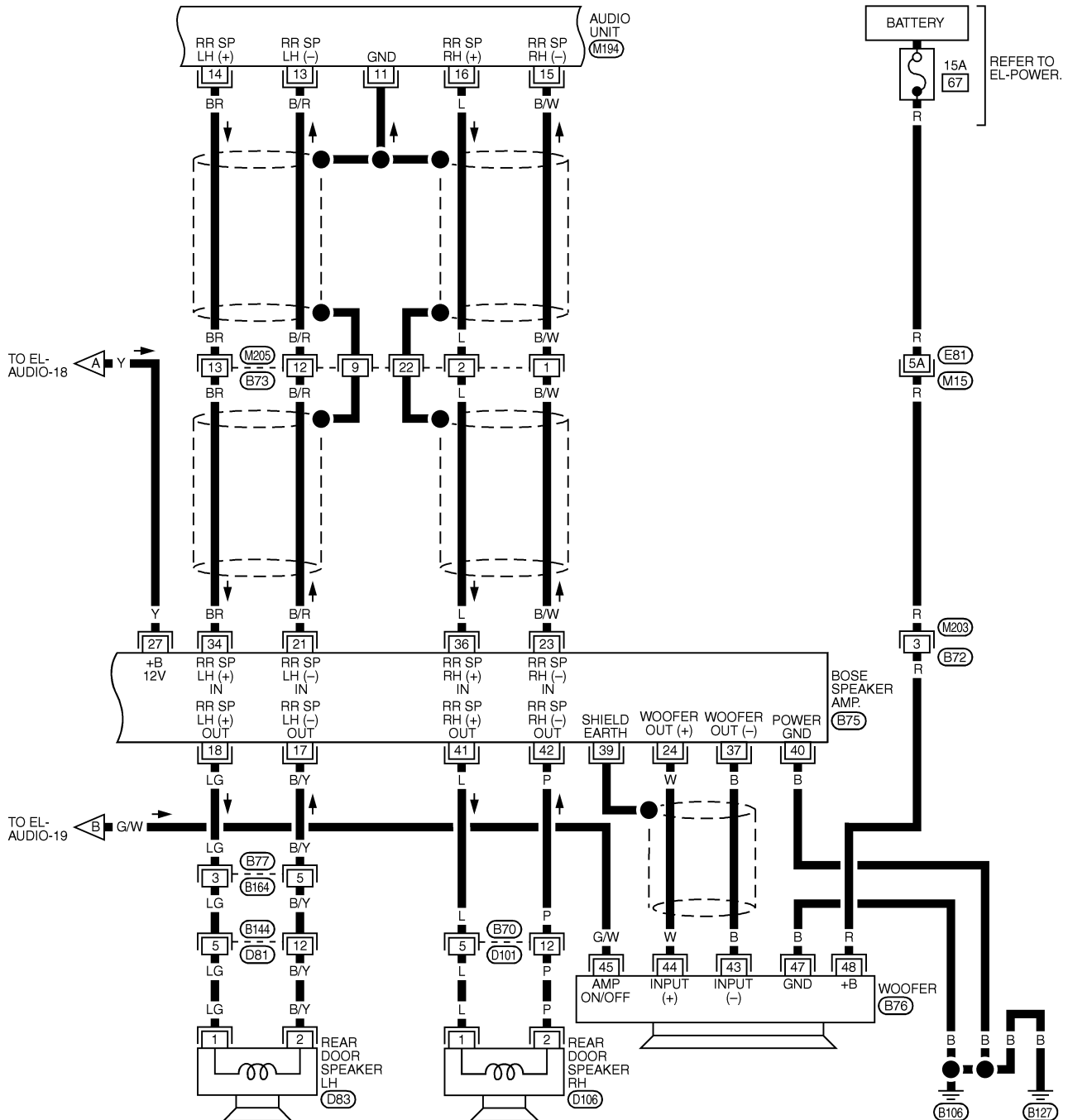
MEL8140



* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.
(D1), (D31) -SUPER
MULTIPLE JUNCTION (SMJ)

EL-AUDIO-21

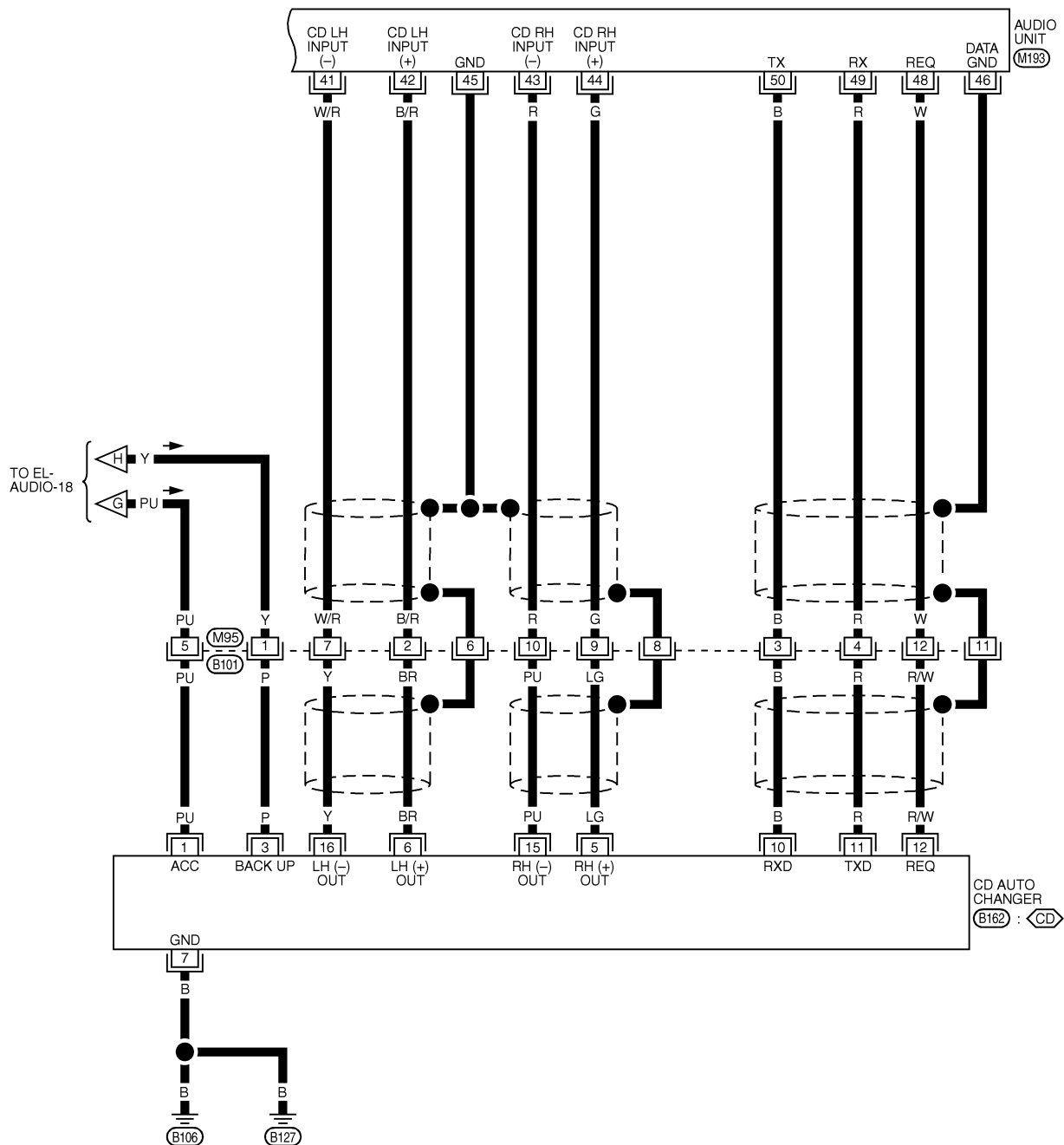


REFER TO THE FOLLOWING.
(M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

GI
MA
EM
LC
EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

EL-AUDIO-22

ⓈCDⓈ : WITH CD AUTO CHANGER



52	50	44	42
51	49	47	46

ⓈCDⓈ
W

1	2	3	4
5	6	7	8

ⓈCDⓈ
W

1	2	3	4	5	6
7	8	9	10	11	12

ⓈCDⓈ
W

Trouble Diagnoses

NFEL0220

NFEL0220S01

AUDIO UNIT

Symptom	Possible cause	Repair order
Audio unit inoperative (no digital display and no sound from speakers).	1. 10A fuse 2. Poor audio unit case ground 3. Audio unit	1. Check 10A fuse [No. 1, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of audio unit. 2. Check audio unit case ground. 3. Remove audio unit for repair.
Audio unit presets are lost when ignition switch is turned OFF.	1. 15A fuse 2. Audio unit	1. Check 15A fuse [No. 56, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of audio unit. 2. Remove audio unit for repair.
AM/FM stations are weak or noisy.	1. Window antenna 2. Audio unit ground 3. Audio unit	1. Check window antenna. 2. Check audio unit ground condition. 3. Remove audio unit for repair.
Audio unit generates noise in AM and FM modes with engine running.	1. Poor audio unit ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Ignition coil or secondary wiring 5. Audio unit	1. Check audio unit ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check ignition coil and secondary wiring. 5. Remove audio unit for repair.
Audio unit generates noise in AM and FM modes with accessories on (switch pops and motor noise).	1. Poor audio unit ground 2. Antenna 3. Accessory ground 4. Faulty accessory	1. Check audio unit ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.

BASE SYSTEM

NFEL0220S04

Symptom	Possible cause	Repair order
Individual speaker is noisy or inoperative.	1. Speaker 2. Audio unit output 3. Speaker circuit 4. Audio unit	1. Check speaker. 2. Check audio unit output voltages. 3. Check wires for open or short between audio unit and speaker. 4. Remove audio unit for repair.
Woofer does not operate.	1. Power supply to woofer 2. Amp. ON/OFF signal circuit 3. Speaker amp. ground 4. Output circuit to woofer	1. Check 15A fuse [No. 67, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 1 of woofer. 2. Check harness continuity between audio unit terminal 12 and woofer terminal 2. 3. Check harness continuity between woofer terminal 4 and ground. 4. Check the output circuits to woofer from speaker amp.

BOSE SYSTEM

NFEL0220S03

Symptom	Possible cause	Repair order
Audio unit controls are operational, but no sound is heard from any speaker.	1. 15A fuse 2. Amp. ON/OFF signal circuit 3. Speaker amp. ground	1. Check 15A fuse [No. 56, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 27 of speaker amp. 2. Check harness continuity between audio unit terminal 12 and speaker amp. terminal 25. 3. Check harness continuity between speaker amp. terminal 40 and ground.

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order
Individual rear speaker is noisy or inoperative.	1. Each speaker 2. Output circuit to each speaker	1. Check speaker. 2. Check the output circuits to each speaker ● between audio unit and speaker amp. ● between speaker amp. and each speaker.
Woofer does not operate.	1. Power supply to woofer 2. Amp. ON/OFF signal circuit 3. Speaker amp. ground 4. Output circuit to woofer	1. Check 15A fuse [No. 67, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 48 of woofer. 2. Check harness continuity between audio unit terminal 12 and woofer terminal 45. 3. Check harness continuity between woofer terminal 47 and ground. 4. Check the output circuits to woofer from speaker amp.

Inspection

NFEL0221

AUDIO UNIT AND AMP.

All voltage inspections are made with:

- Ignition switch ON or ACC
- Audio unit ON
- Audio unit and amps. connected (If audio unit or amp. is removed for inspection, supply a ground to the case using a jumper wire.)

NFEL0221S01

ANTENNA

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

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

NFEL0221S02

Wiring Diagram — REMOTE —

=NFEL0306

NFEL0306S01

LHD MODELS

EL-REMOTE-01

GI

MA

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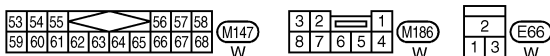
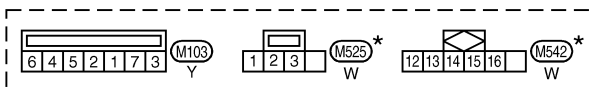
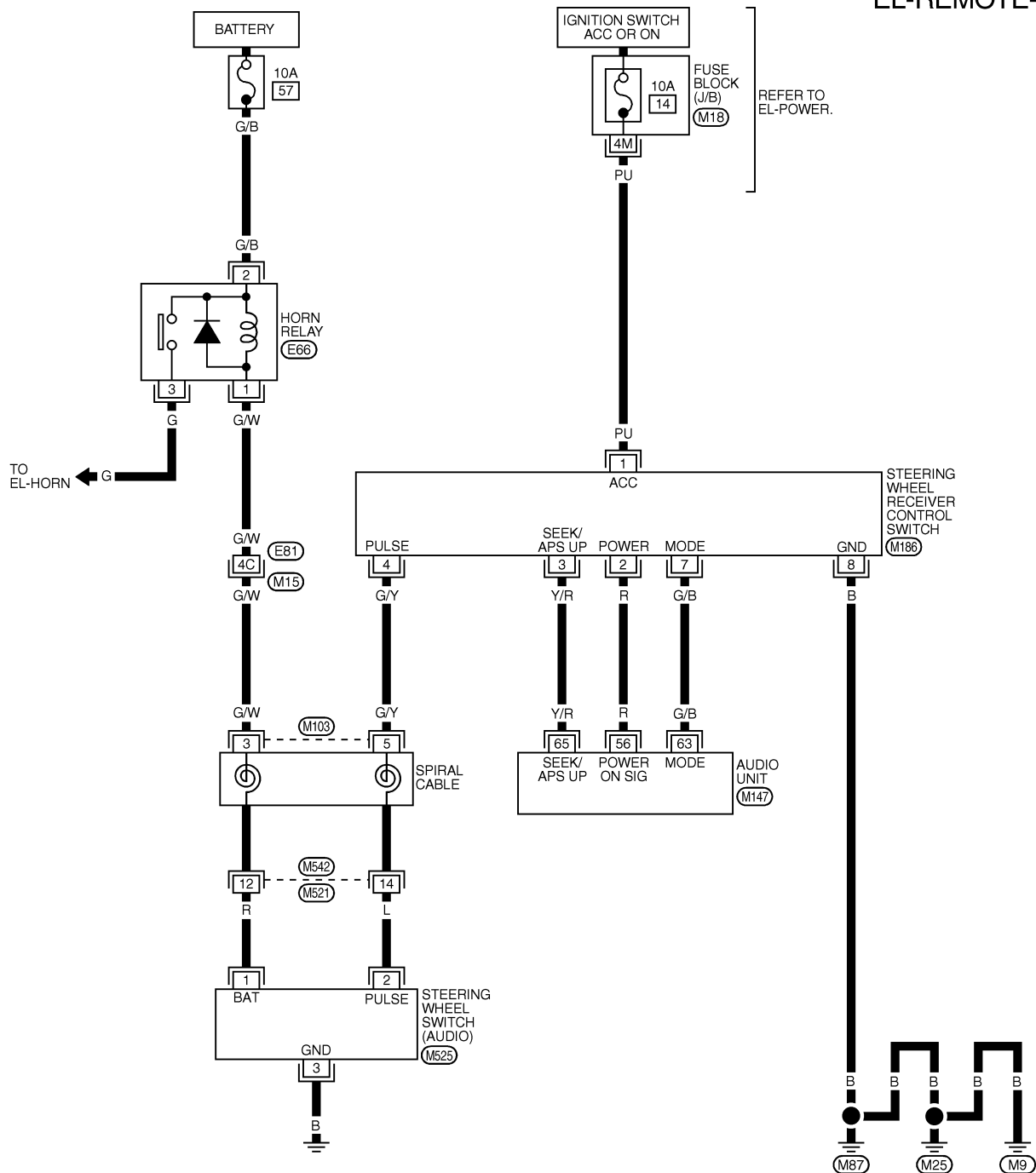
BT

HA

SC

EL

IDX



★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.

- (M15) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (M18) -FUSE BLOCK-
- JUNCTION BOX (J/B)

System Description

NFEL0084

With the ignition switch is turned to ACC or ON, power is supplied

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to power antenna terminal 3.

Ground is supplied through body grounds T6 and T8 to terminal 6 of power antenna timer.

When the radio switch is turned ON, antenna signal is supplied

- through audio unit terminal 5
- to the power antenna timer terminal 4.

Then the power antenna is activated.

Wiring Diagram — P/ANT —

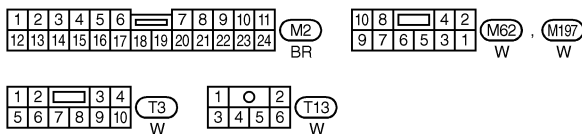
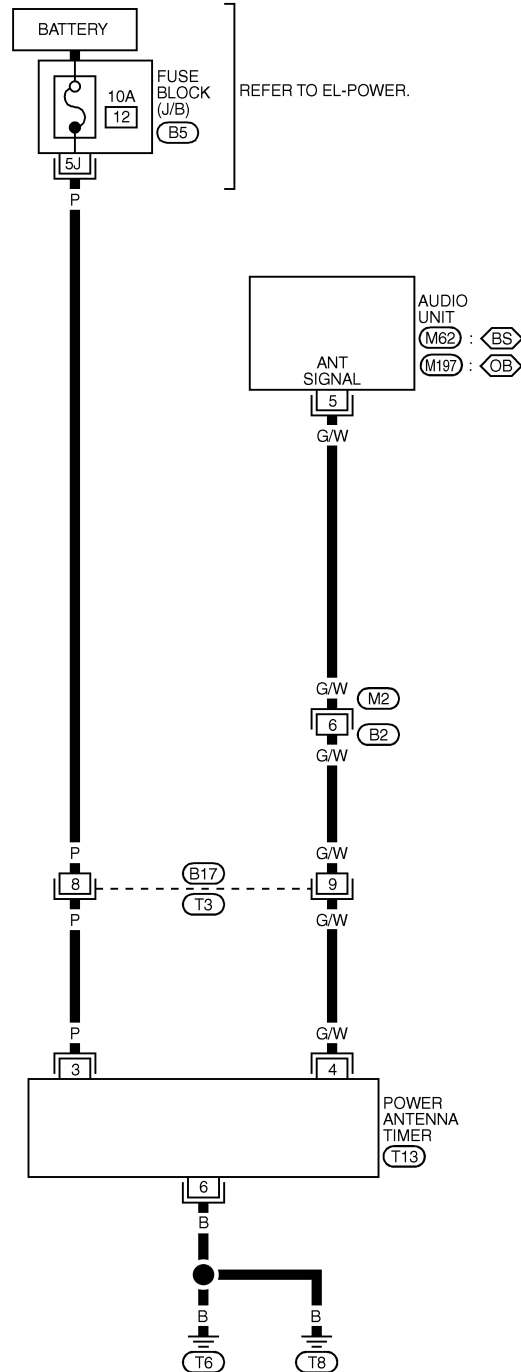
NFEL0085

NFEL0085S01

LHD MODELS

EL-P/ANT-01

BS : WITH BOSE SYSTEM
OB : WITHOUT BOSE SYSTEM

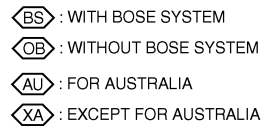


REFER TO THE FOLLOWING.

B5 - FUSE BLOCK-
JUNCTION BOX (J/B)

MEL8200

EL-P/ANT-02

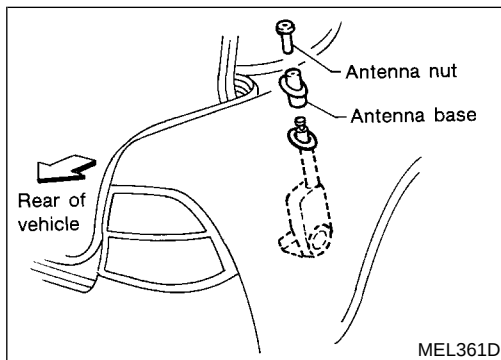
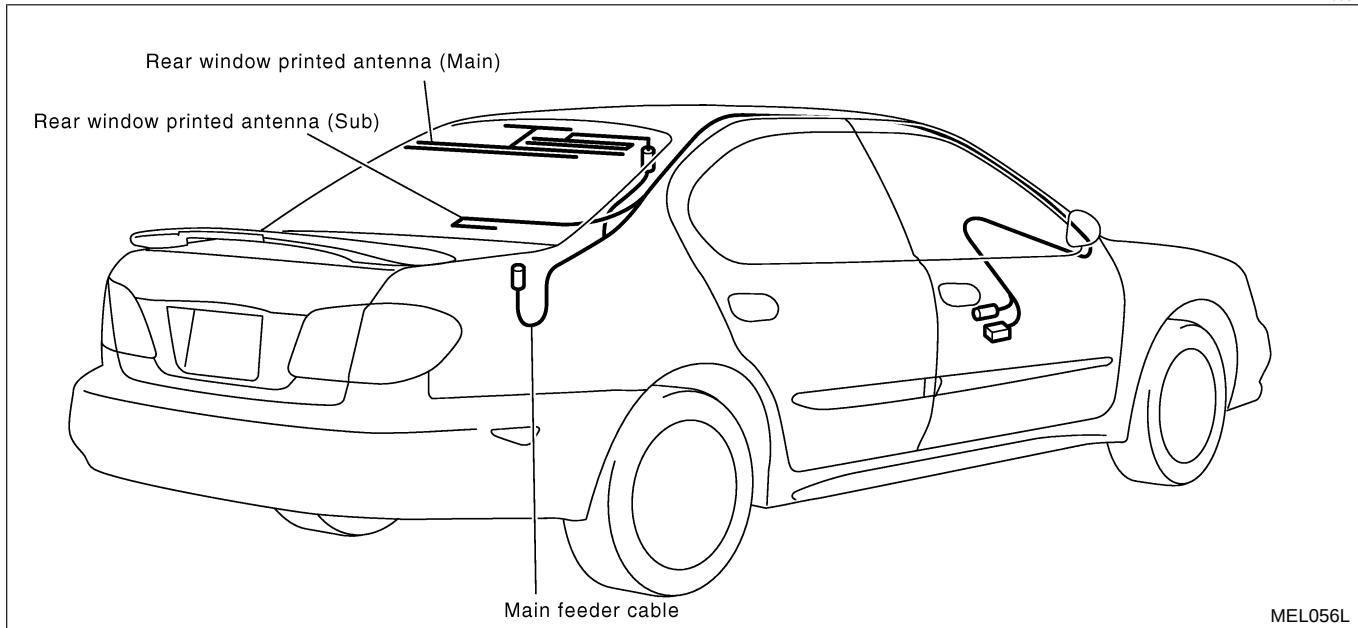


(B5) - FUSE BLOCK-
JUNCTION BOX (J/B)

*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

Location of Antenna

NFEL0087

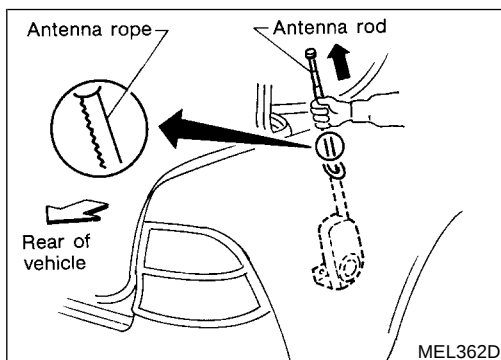


Antenna Rod Replacement REMOVAL

NFEL0307

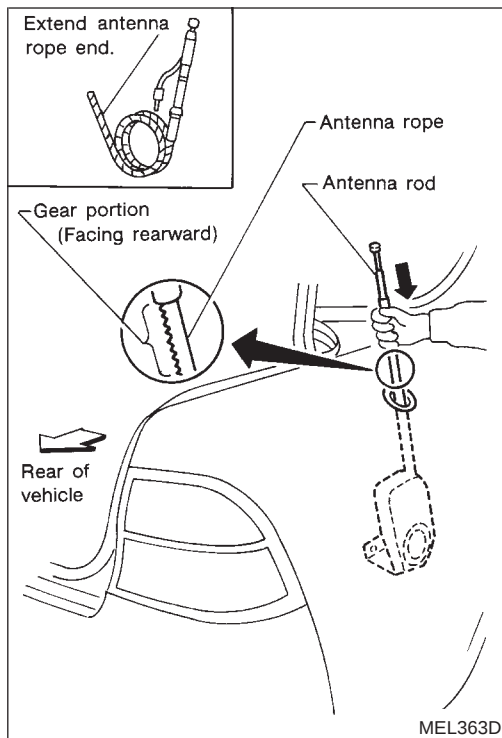
NFEL0307S01

1. Remove antenna nut and antenna base.



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

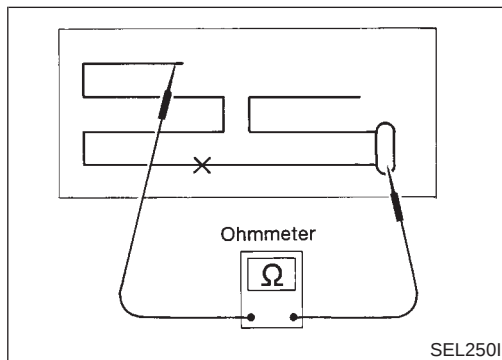
GI
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BT
HA
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EL
IDX



INSTALLATION

NFEL0307S02

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



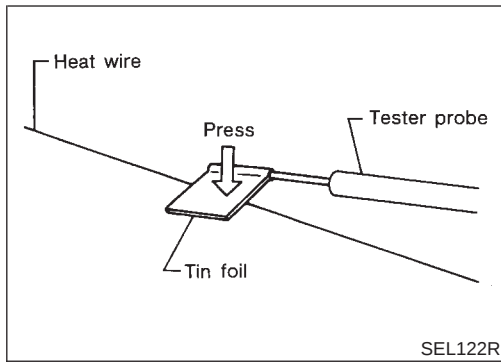
Window Antenna Repair

NFEL0250

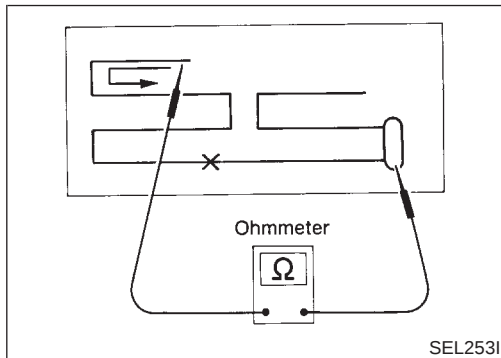
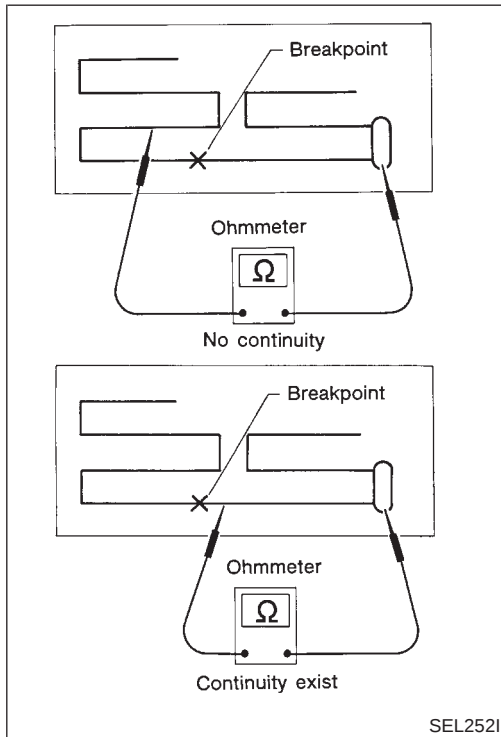
ELEMENT CHECK

NFEL0250S01

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



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



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

ELEMENT REPAIR

Refer to "Filament Repair", "REAR WINDOW DEFOGGER" (EL-204).^{NFEL0250S02}

System Description

NFEL0222

OUTLINE

Electric sunroof system consists of

NFEL0222S01

- Sunroof switch
- Sunroof motor

OPERATION

The sunroof can be opened or closed and tilted up or down with the sunroof switch.

NFEL0222S03

Wiring Diagram — SROOF —

NFEL0089

EL-SROOF-01

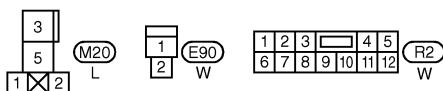
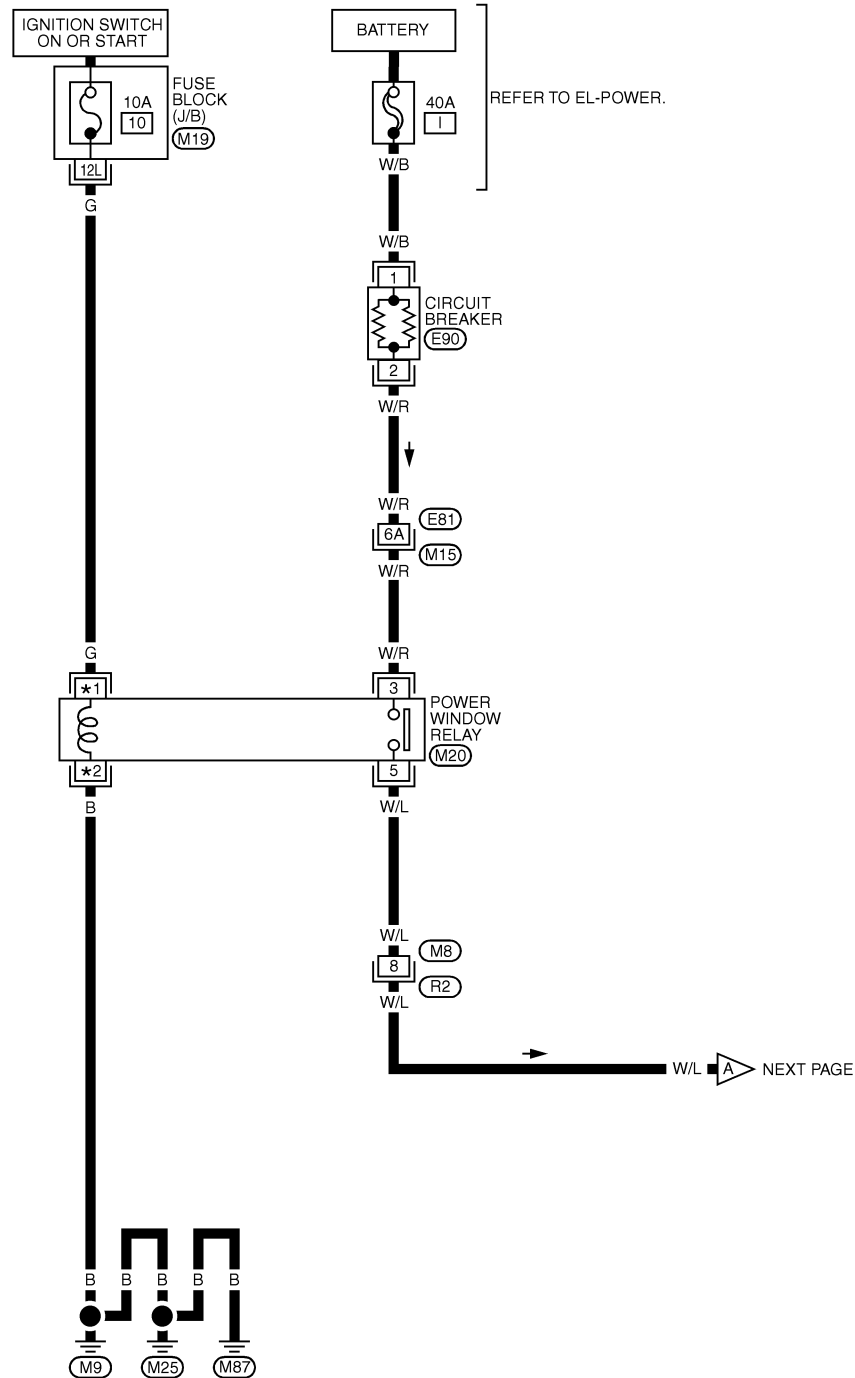
 : LHD MODELS

 : RHD MODELS

*1 2: 

 $1 : \text{R}$

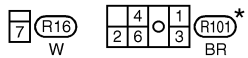
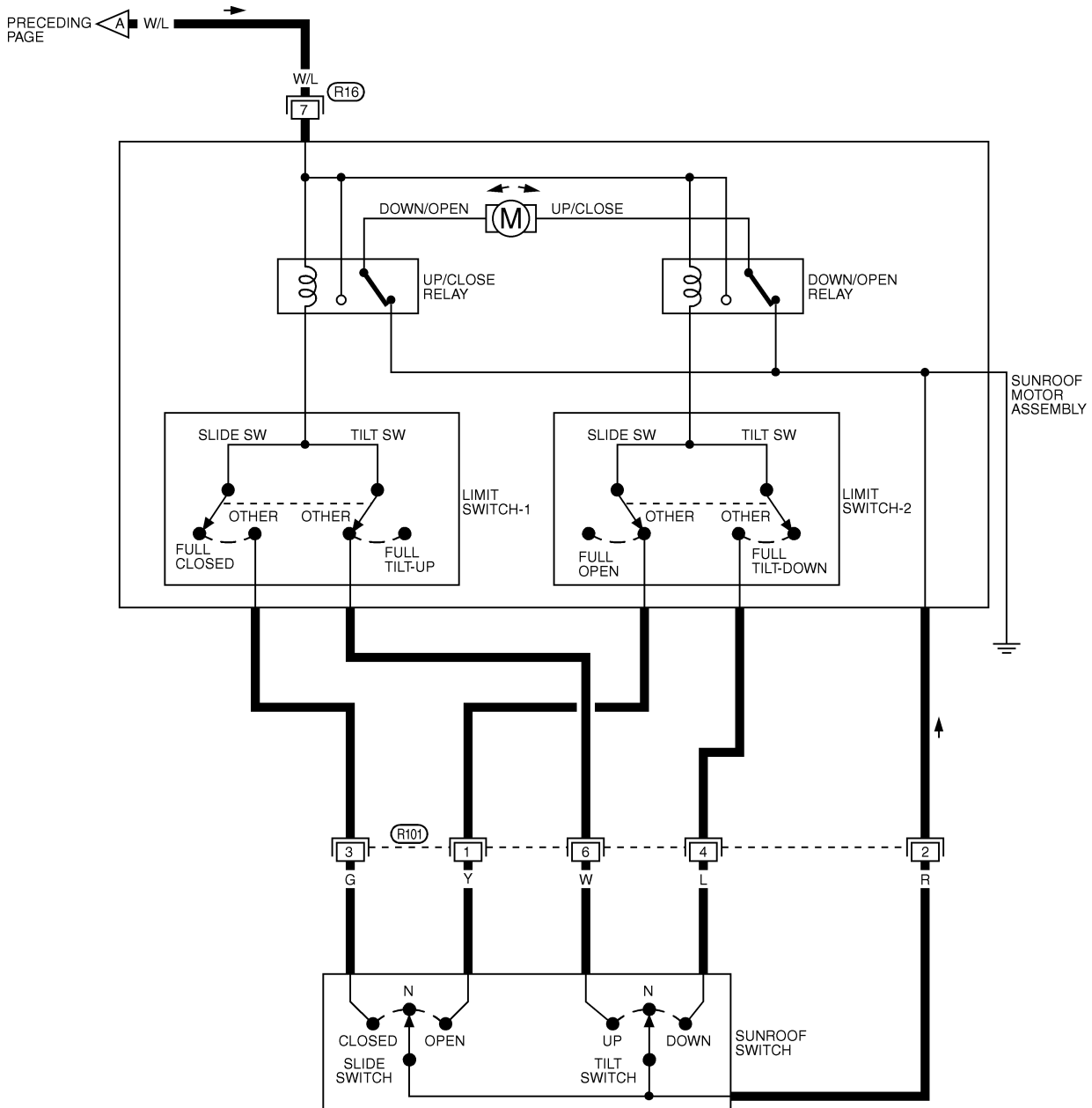
*2 1: 

 $2: \text{R}$ 

REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

(M19) -FUSE BLOCK-
JUNCTION BOX (J/B)



★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

Trouble Diagnoses

NFEL0225

Symptom	Possible cause	Repair order
Power sunroof cannot be operated using any switch.	10A fuse, 40A fusible link and E90 circuit breaker - Grounds M9, M25 and M87 - Sunroof switch - Sunroof switch circuit - Sunroof motor	- Check 10A fuse [No. 10, located in fuse block (J/B)], 40A fusible link (letter I, located in fuse and fusible link box) and E90 circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminals 7 of sunroof motor. - Check grounds M9, M25, M87. - Check sunroof switch. - Check harness between sunroof switch and sunroof motor. - Check sunroof motor.
Power sunroof cannot be operated using one of the sunroof switches.	- Sunroof switch - Sunroof switch circuit	- Check sunroof switch. - Check the harness between sunroof motor and sunroof switch.

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

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RS

BT

HA

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EL

IDX

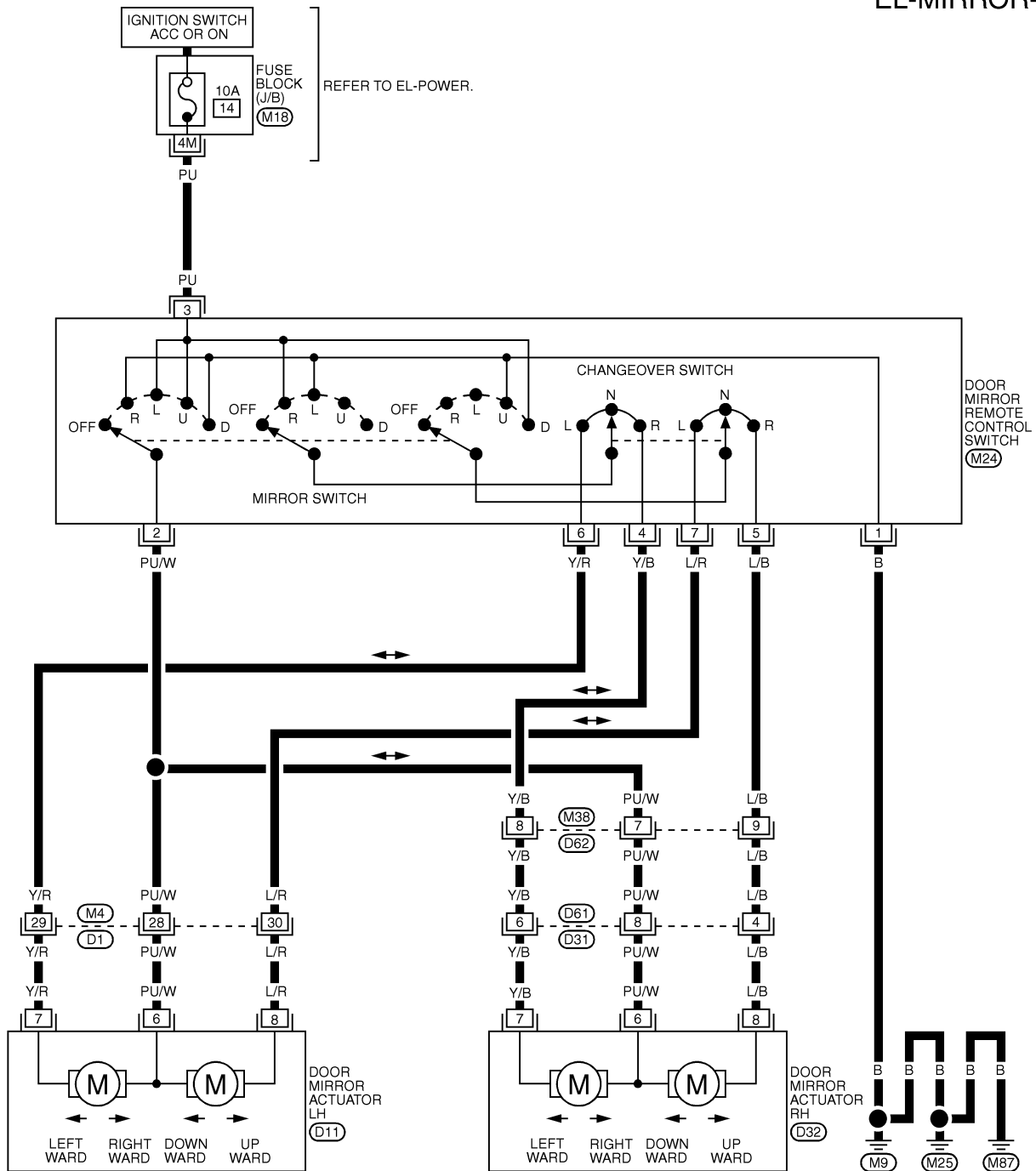
Wiring Diagram — MIRROR —

NFEL0090

NFEL0090S01

LHD MODELS

EL-MIRROR-01



REFER TO THE FOLLOWING.
(D1), **(D31)** -SUPER
 MULTIPLE JUNCTION (SMJ)
(M18) -FUSE BLOCK-
 JUNCTION BOX (J/B)

RHD MODELS

NFEL0090S02

EL-MIRROR-02

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

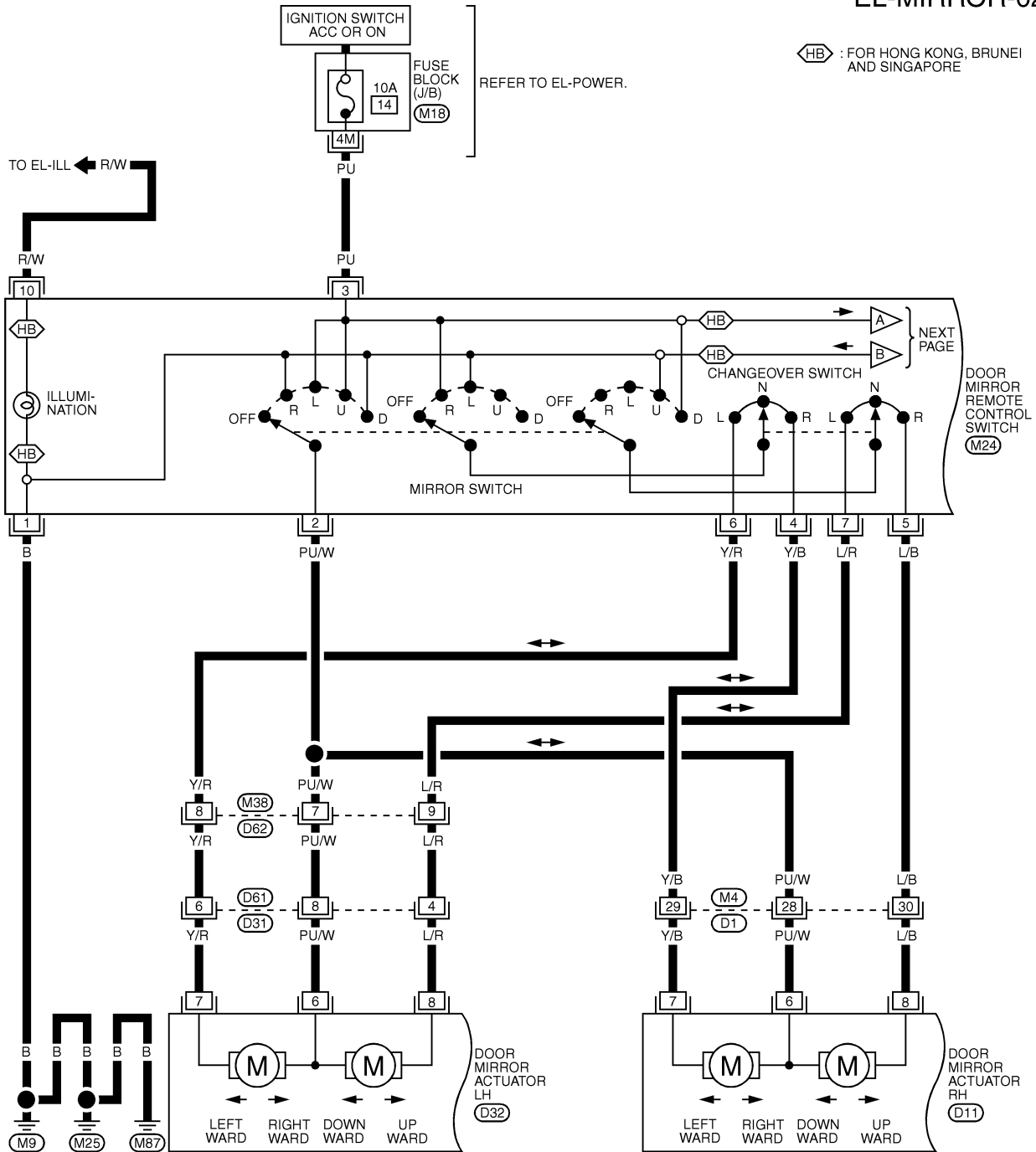
BT

HA

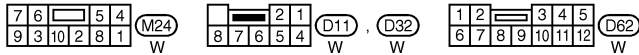
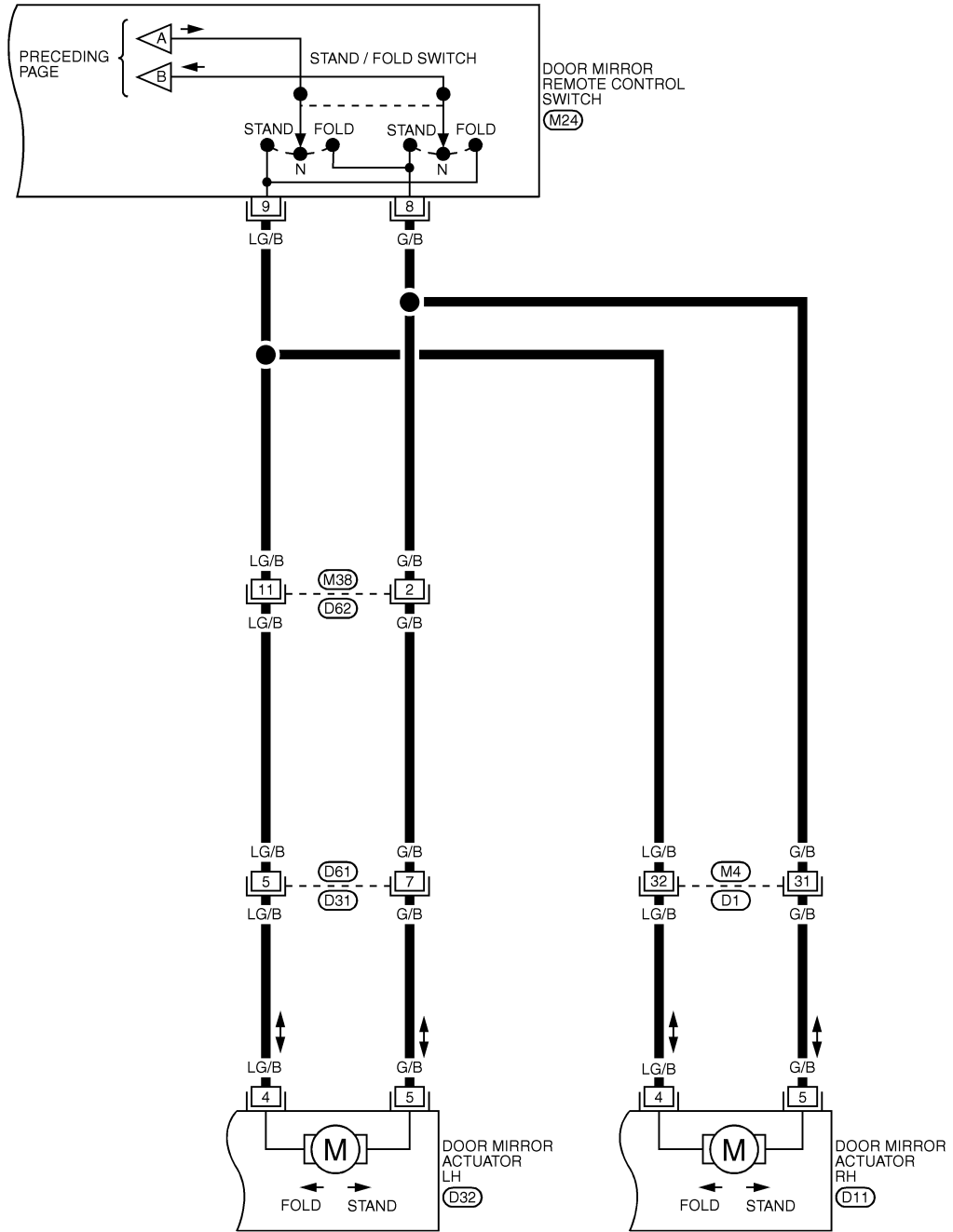
SC

EL

IDX



EL-MIRROR-03



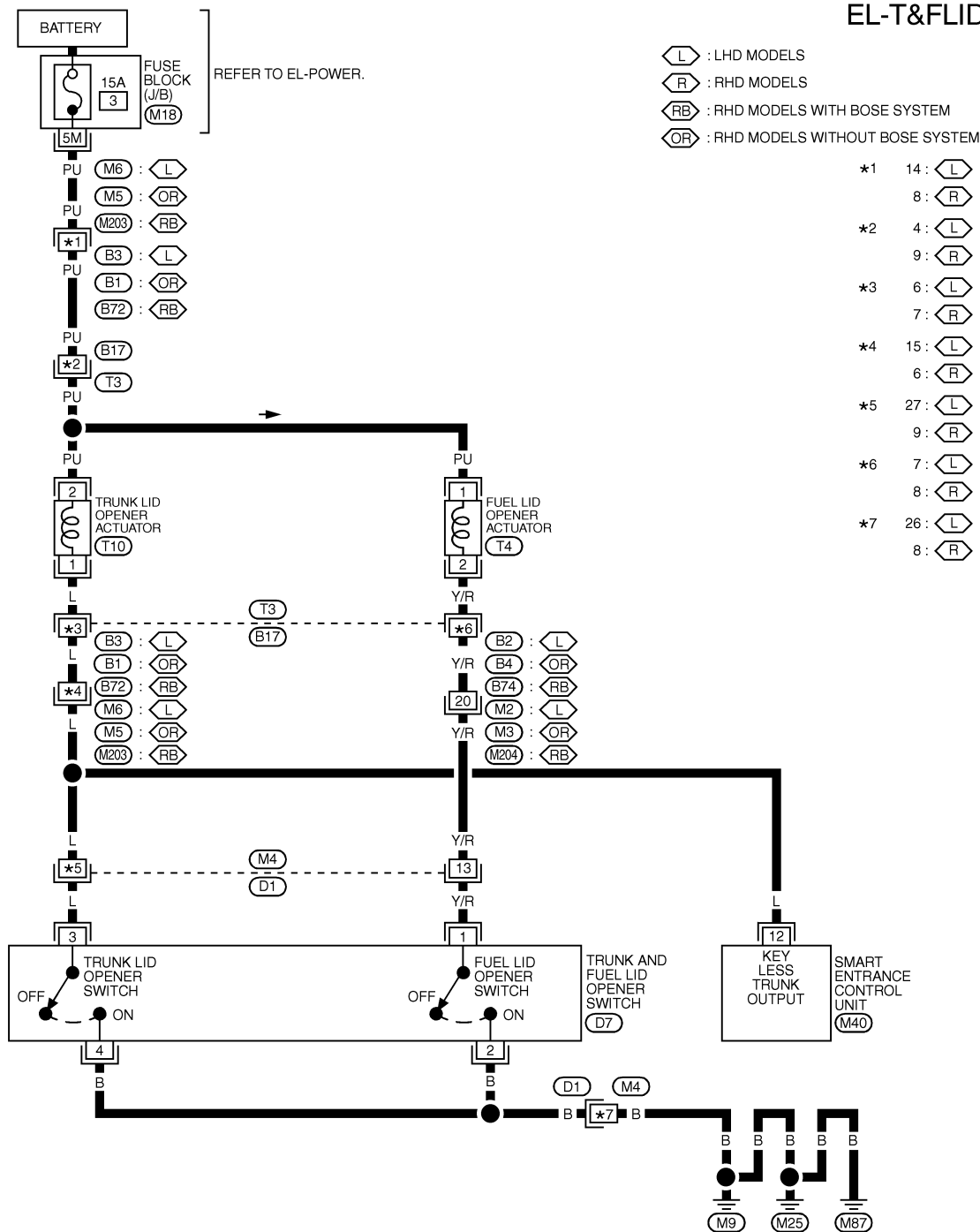
REFER TO THE FOLLOWING.
(D1), (D31) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL118L

Wiring Diagram — T&FLID —

NFEL0312

EL-T&FLID-01

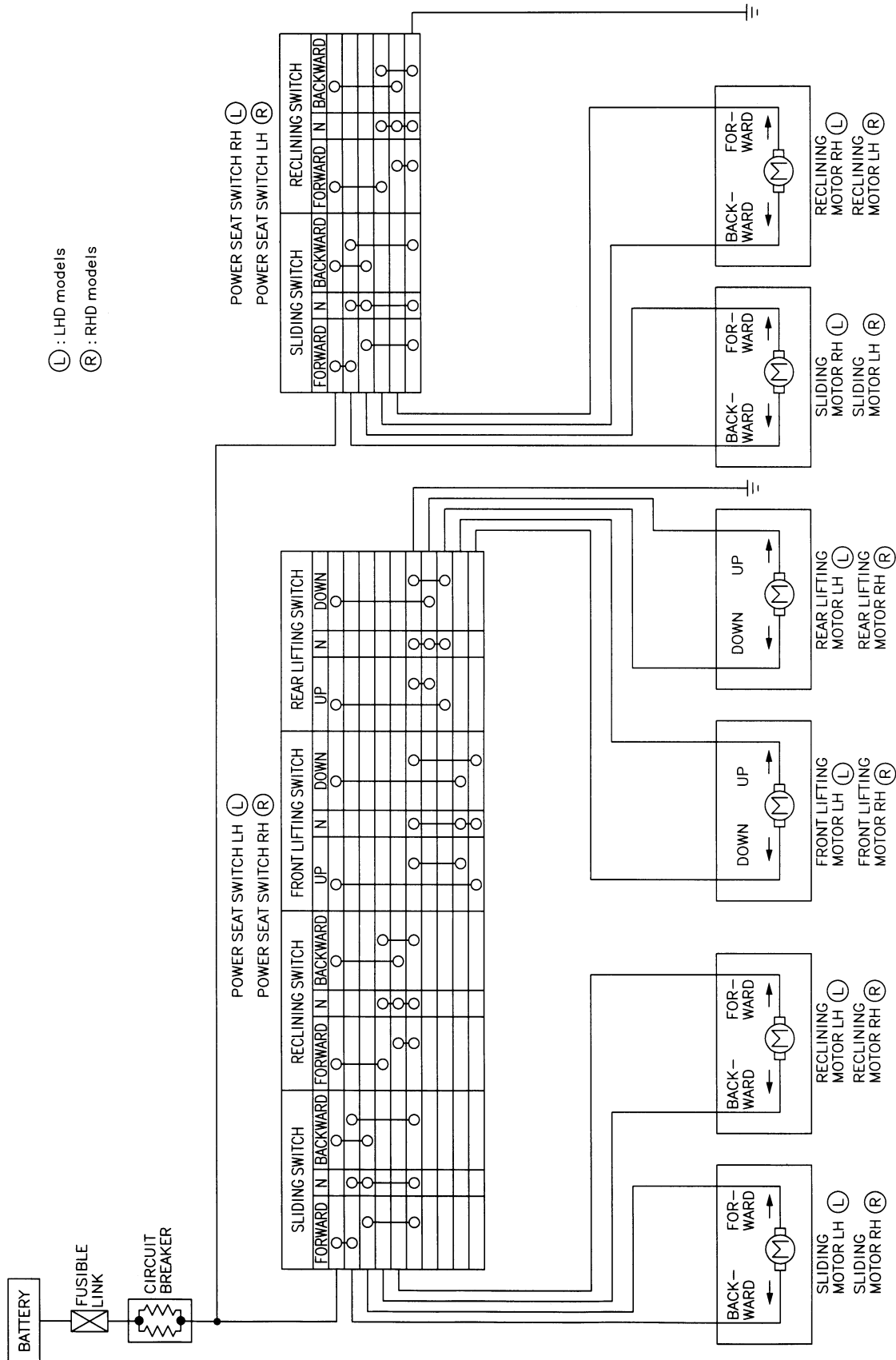


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	M2 BR	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	M3 W	M204 W	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	M5 W	M203 W
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	M6 W	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	M40 W	H.S.	1 2 3 4 5 6 7 8 9 10	T3 W	
1 2	T4 W	1 2	T10 W	1 3 2 4	D7 W		

REFER TO THE FOLLOWING.
 (D1) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M18) -FUSE BLOCK-
 JUNCTION BOX (J/B)

Schematic

NFEL0251



MEL819K

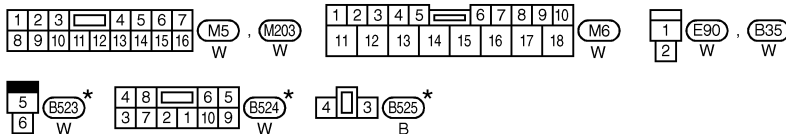
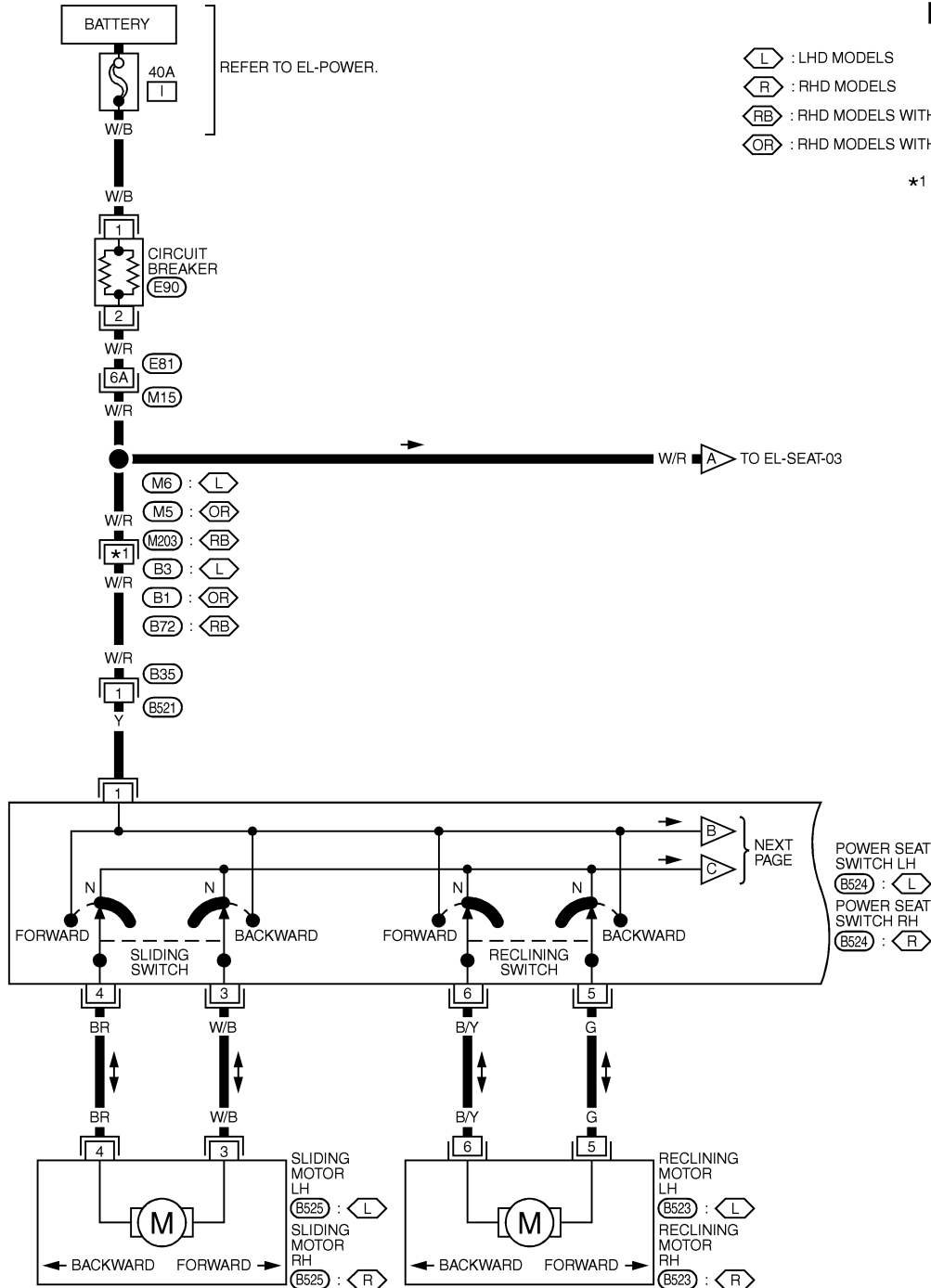
Wiring Diagram — SEAT —

NFEL0092

EL-SEAT-01

- ◊ L : LHD MODELS
- ◊ R : RHD MODELS
- ◊ RB : RHD MODELS WITH BOSE SYSTEM
- ◊ OR : RHD MODELS WITHOUT BOSE SYSTEM

★1 16 : ◊ L
4 : ◊ R



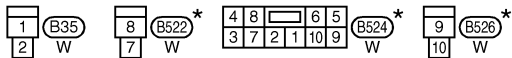
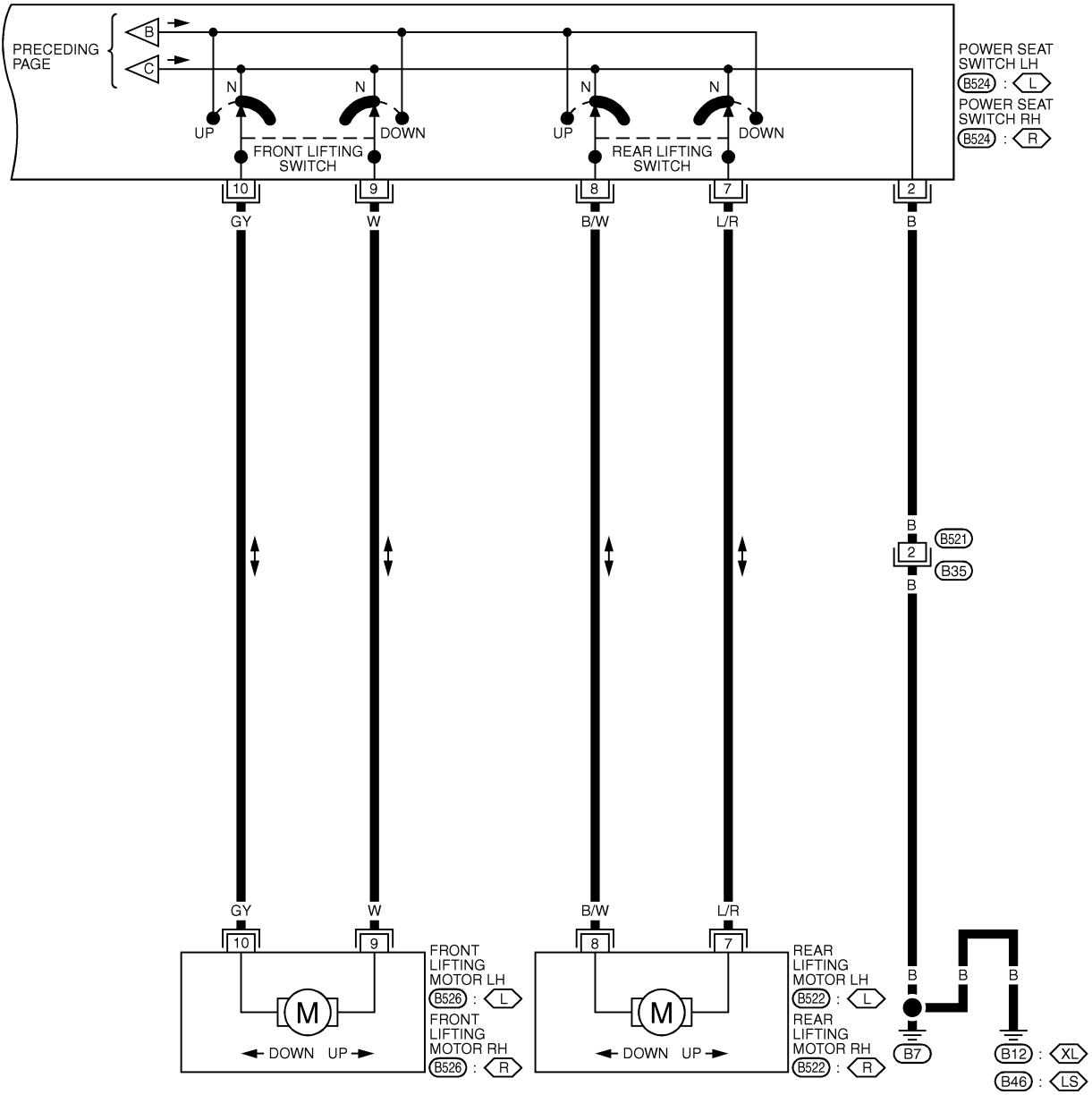
★ : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.
M15 - SUPER
MULTIPLE JUNCTION (SMJ)

MEL8230

EL-SEAT-02

- (L) : LHD MODELS
 (R) : RHD MODELS
 (LS) : LHD MODELS WITH REAR SUNSHADE
 (XL) : EXCEPT (LS)



★ : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

MEL821K

EL-SEAT-03

(L) : LHD MODELS

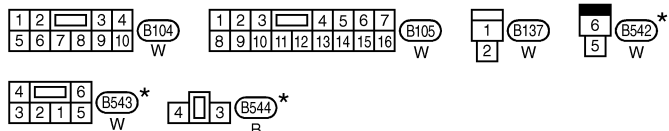
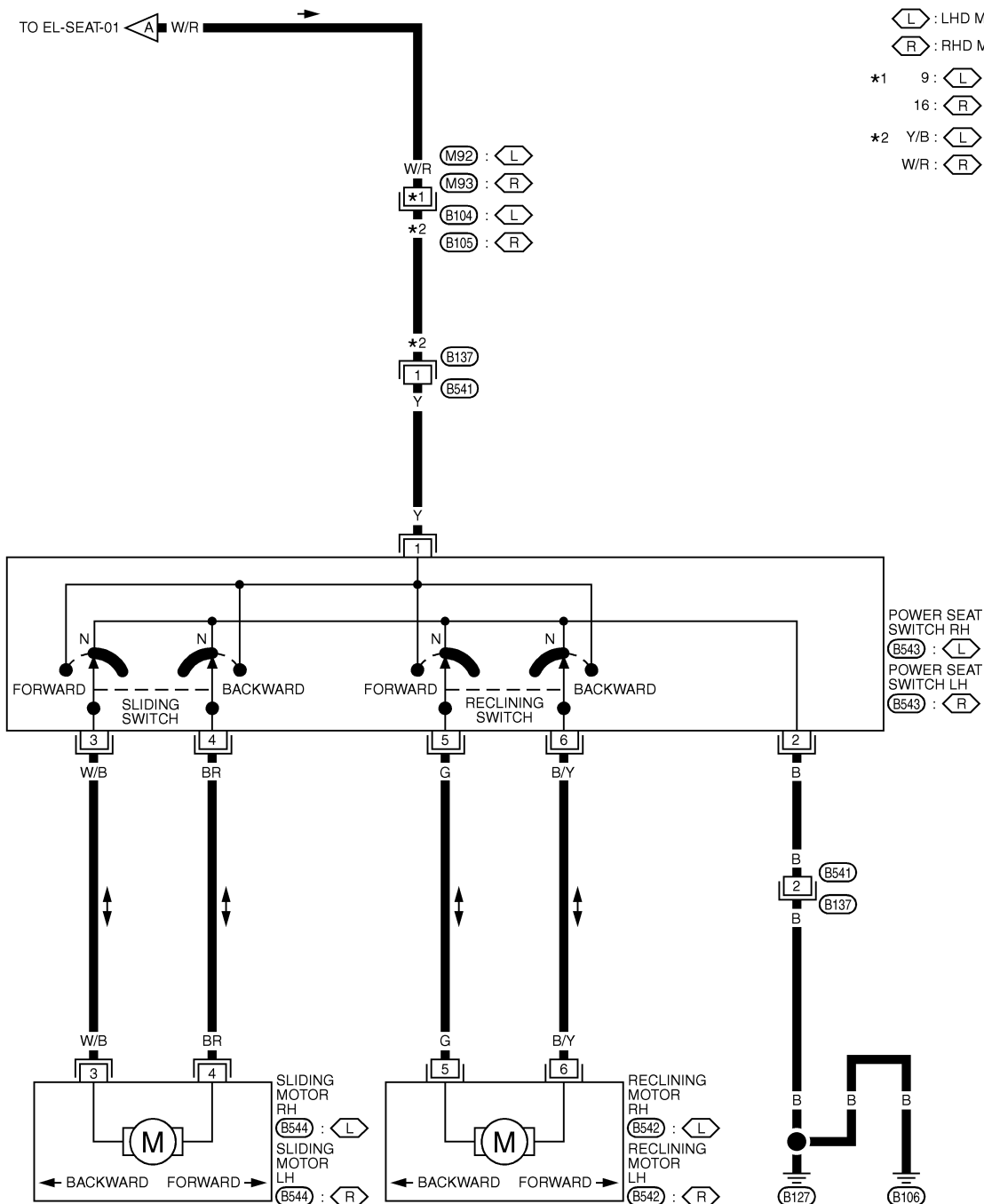
(R) : RHD MODELS

*1 9: (L)

16: (R)

*2 Y/B: (L)

W/R: (R)

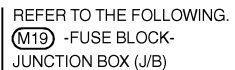
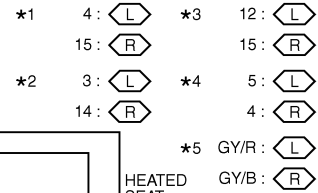
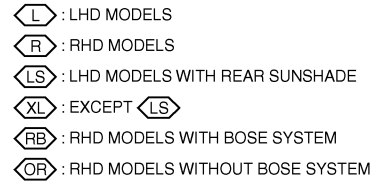


* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", OF EL SECTION.

EL

IDX

MEL822K



MEL824O

Component Parts and Harness Connector Location

NFEL0278

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SEL808W

SU

BR

ST

RS

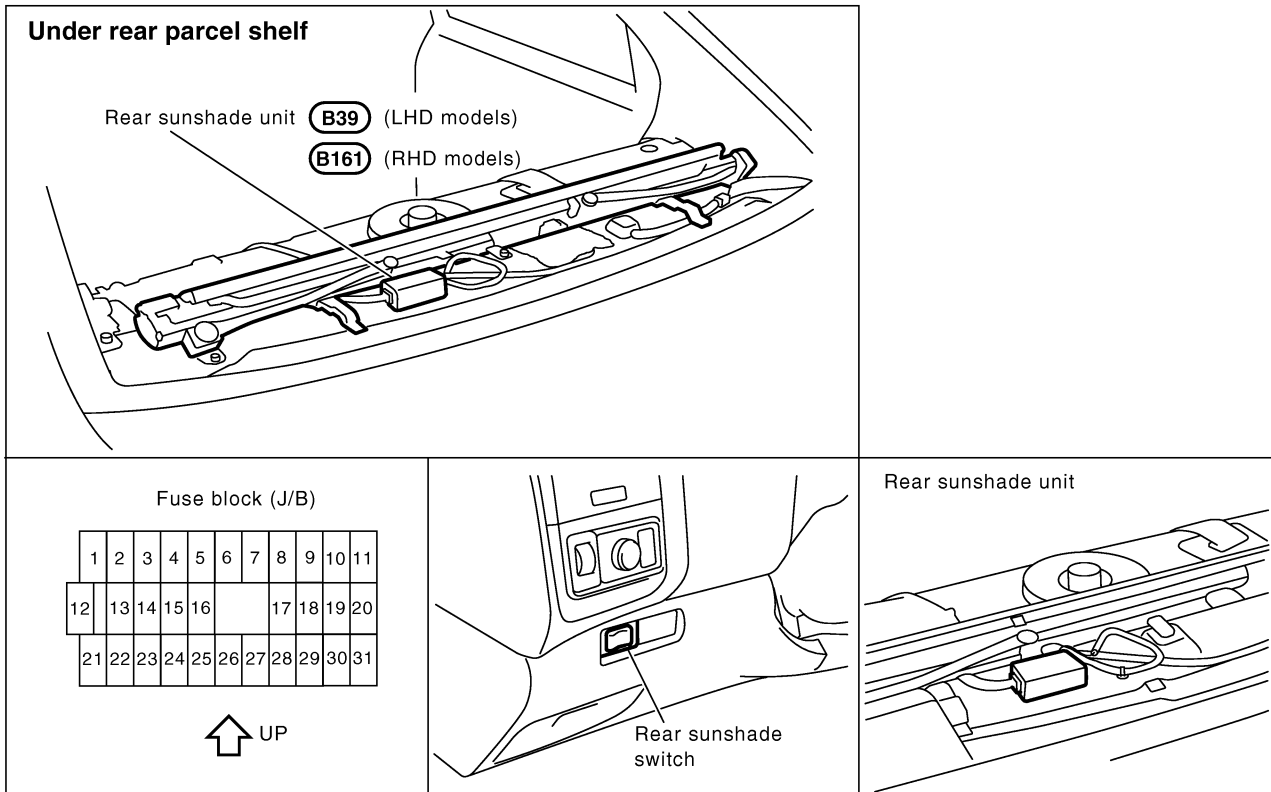
BT

HA

SC

EL

IDX



System Description

=NFEL0279

When ignition switch is in ACC or ON position, power is supplied.

- through 10A fuse [No. 23, located in the fuse block (J/B)]
- to rear sunshade unit terminal 5.

Ground is supplied at all times

- to rear sunshade unit terminal 6
- through body ground M9, M25 and M87 (LHD models) or B106 and B127 (RHD models).

OPEN OPERATION

NFEL0279S01

When rear sunshade switch is turned to "UP", the ground is supplied to rear sunshade unit terminal 1. Based on the ground signal to control unit terminal 6 through rear sunshade unit terminal 1, power is supplied

- to motor terminal 2
- from control unit terminal 9

and ground is supplied

- to motor terminal 1
- from control unit terminal 8.

When sunshade is fully up, control unit stops to supply power to motor based on the signal from UP/DOWN limit switch.

CLOSE OPERATION

NFEL0279S02

When rear sunshade switch is turned to "DOWN", ground is supplied to rear sunshade unit terminal 2. Based on the ground signal to control unit terminal 7 through rear sunshade unit terminal 2, power is supplied

- to motor terminal 1
- from control unit terminal 8

and ground is supplied

- to motor terminal 2
- from control unit terminal 9.

When sunshade is fully down, control unit stops to supply power to motor based on the signal from UP/DOWN limit switch.

Once the sunshade switch is pushed, the open or close operation will be continued until the control unit detects full open or full close based on the signal from UP/DOWN limit switch. During open or close operation of sunshade, the input signal from sunshade switch is ignored.

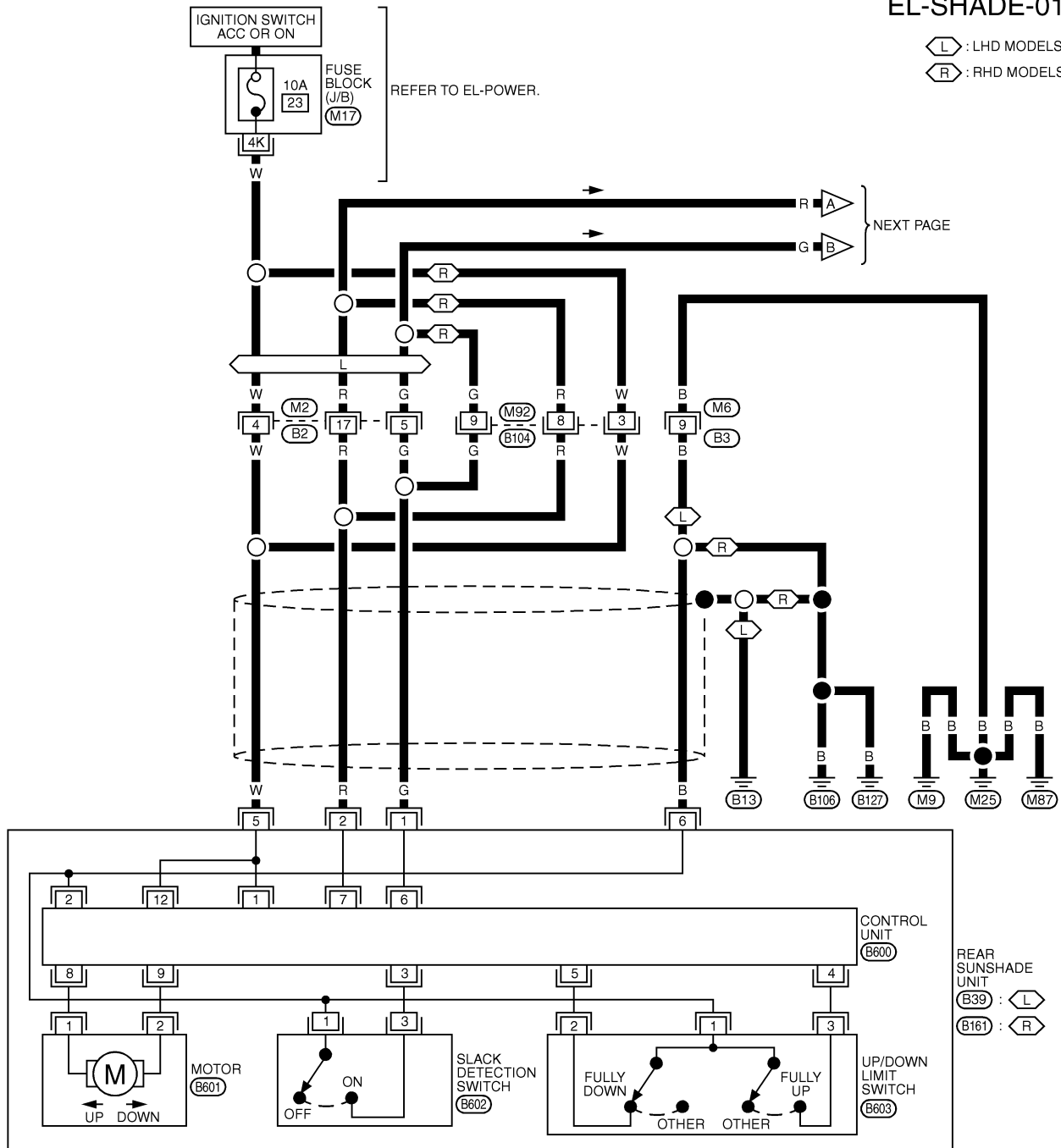
When control unit detects the slack of sunshade based on the signal from slack detection switch, the motor will be stopped. When control unit detects no slack of sunshade based on the signal from slack detection switch, power is supplied again to motor after 1 sec. after no slack is detected.

Wiring Diagram — SHADE —

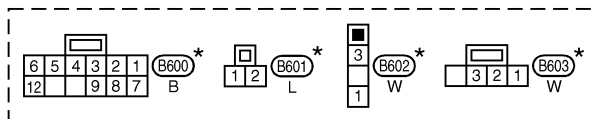
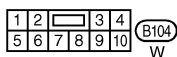
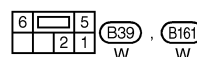
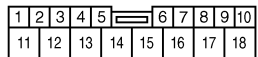
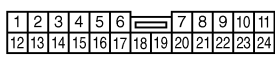
NFEL0280

EL-SHADE-01

(L) : LHD MODELS
(R) : RHD MODELS



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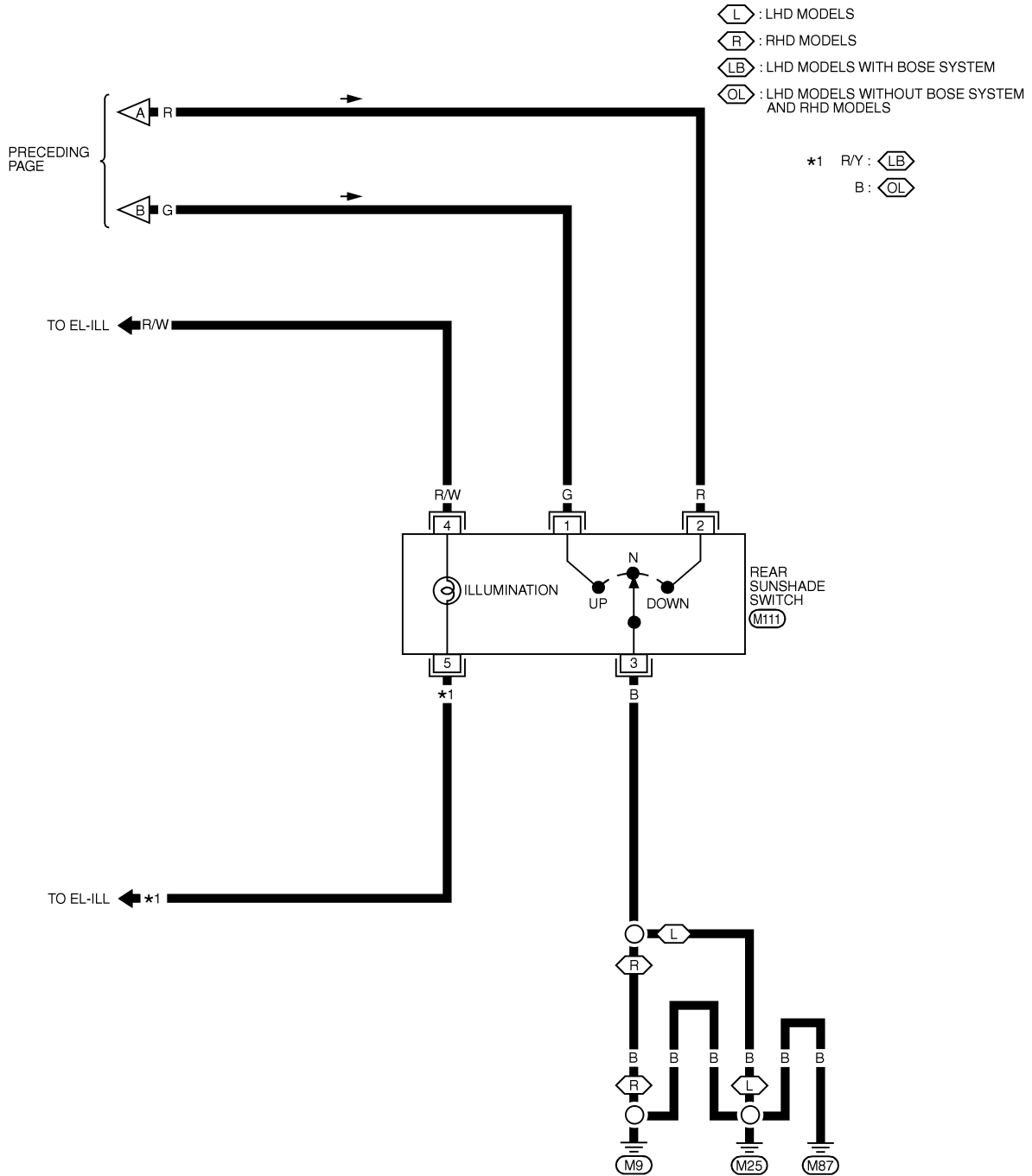


* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

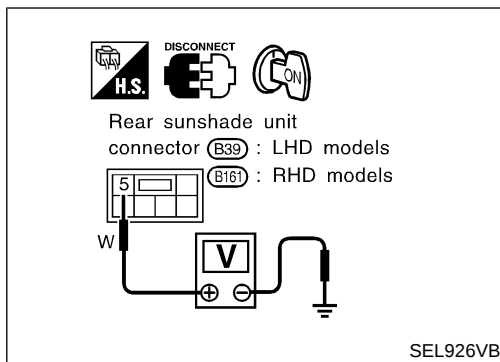
REFER TO THE FOLLOWING.
(M17) - FUSE BLOCK-JUNCTION BOX (J/B)

MEL870K

EL-SHADE-02



	1	4	(M111)
3	2	5	L



Trouble Diagnoses

POWER SUPPLY CIRCUIT CHECK

NFEL0281

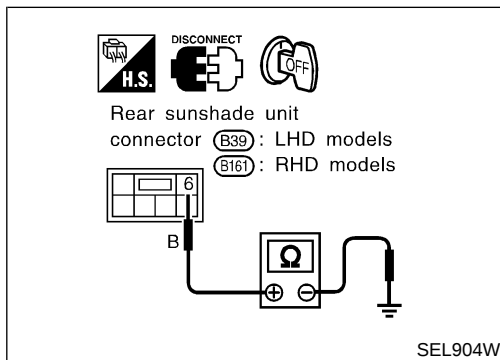
NFEL0281S01

Check voltage between rear sunshade unit terminal 5 and ground.

Terminals	Ignition switch position			
	OFF	ACC	ON	START
5 - Ground	0V	Battery voltage		0V

If NG, check the following.

- 10A fuse [No. 23, located in fuse block (J/B)]
- Harness for open or short between 10A fuse [No. 23, located in fuse block (J/B)] and rear sunshade unit.



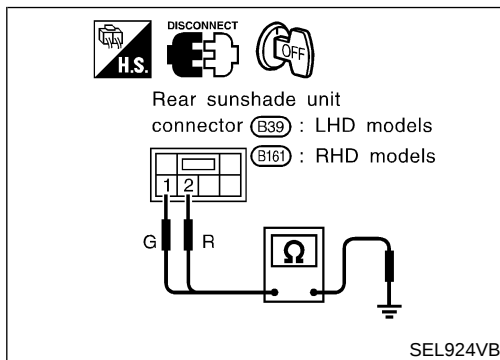
GROUND CIRCUIT CHECK

NFEL0281S02

Check continuity between rear sunshade unit terminal 6 and ground.

Terminals	Continuity
6 - Ground	Yes

If NG, check harness for open between rear sunshade unit terminal 6 and body ground M9, M25 and M87 (LHD models) or B106 and B127 (RHD models).



REAR SUNSHADE SIGNAL CIRCUIT CHECK

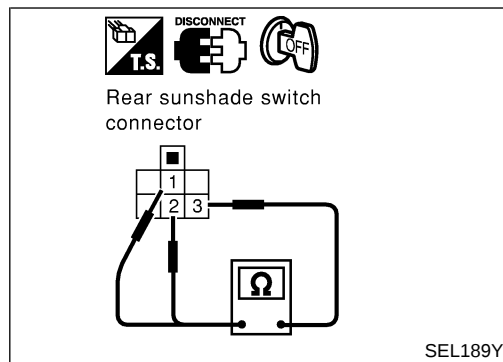
NFEL0281S03

- Disconnect rear sunshade unit connector.
- Check the following continuity.

Terminals	Switch position	Continuity
1 - Ground	Up	Yes
	Neutral	No
	Down	No
2 - Ground	Up	No
	Neutral	No
	Down	Yes

If NG, check the following.

- Harness for open or short between rear sunshade unit and rear sunshade switch
- Harness for open or short between rear sunshade switch and ground
- Rear sunshade switch



REAR SUNSHADE SWITCH CHECK

NFEL0281S04

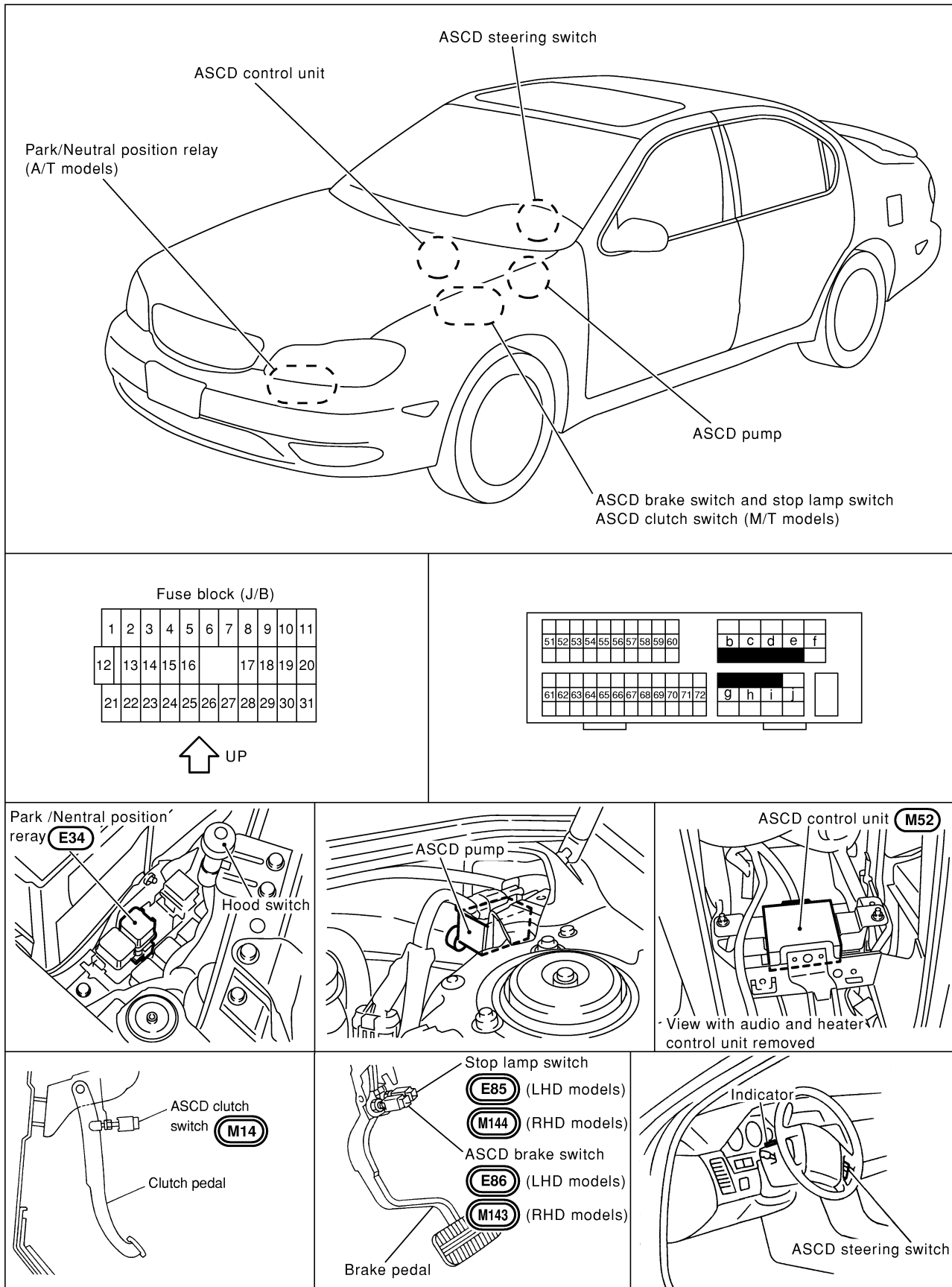
1. Disconnect rear sunshade switch.
2. Check continuity between rear sunshade switch connector M111 terminals 1 (G), 2 (R) and 3 (B).

Terminals	Switch position	Continuity
1 - 3	Up	Yes
	Neutral	No
	Down	No
2 - 3	Up	No
	Neutral	No
	Down	Yes

If NG, replace rear sunshade switch.

Component Parts and Harness Connector Location

NFEL0094



SEL809WA

System Description

NFEL0190

Refer to Owner's Manual for ASCD operating instructions.

POWER SUPPLY AND GROUND

NFEL0190S01

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

- through 10A fuse [No. 30, located in the fuse block (J/B)]
- to ASCD brake switch terminal 1 (LHD models) and
- to combination meter terminals 50 and 47,
- through 15A fuse [No. 20, located in the fuse block (J/B)]
- to park/neutral position relay terminal 1 (A/T models),
- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to ASCD control unit terminal 5, and
- to ASCD brake switch terminal 1 (RHD models)

Power is supplied at all times:

- through 15A fuse [No. 2, located in the fuse block (J/B)]
- to the stop lamp switch terminal 1, and
- through 10A fuse [No. 57, located in the fuse block (J/B)]
- to the horn relay terminal 2.

When park/neutral position is in the P or N position (A/T models), ground is supplied:

- to park/neutral position relay terminal 2
- through park/neutral position switch and body grounds F41 and F39.

When ASCD main switch is depressed (ON), ground is supplied:

- to ASCD control unit terminal 9
- from ASCD steering switch terminal 4
- to ASCD steering switch terminal 5
- through body grounds M9, M25 and M87

then ASCD control unit holds CRUISE condition and illuminates CRUISE indicator.

Ground is supplied:

- to ASCD control unit terminal 15
- from combination meter terminal 46.

OPERATION

NFEL0190S02

Set Operation

NFEL0190S0201

To activate the ASCD, all of following conditions must exist.

- Power supply to ASCD control unit terminal 8 [Brake and clutch pedal are released (M/T models)/Brake pedal is released and A/T selector lever is in other than P and N position (A/T models).]
- Vehicle speed is more than 40 km/h (25 MPH). (Signal from combination meter)

When the SET/COAST switch is depressed, power is supplied:

- from ASCD steering switch terminal 2
- to ASCD control unit terminal 11.

And then ASCD pump is activated to control throttle wire and ASCD control unit supply ground

- to combination meter terminals 51 to illuminate SET indicator.

A/T Overdrive Control during Cruise Control Driving (A/T models)

NFEL0190S0202

When the vehicle speed is approximately 8 km/h (5 MPH) below set speed, a signal is sent

- from ASCD control unit terminal 10
- to TCM (transmission control module) terminal 24.

When this occurs, the TCM (transmission control module) cancels overdrive.

After vehicle speed is approximately 3 km/h (2 MPH) above set speed, overdrive is reactivated.

ASCD Shifting Control

NFEL0190S0207

During ASCD cruise, ASCD control unit controls A/T shifting to avoid uncomfortable shifting.

This is used to control the signals below.

- Throttle position sensor from ECM

- A/T shift solenoid valve A

Coast Operation

When the SET/COAST switch is depressed during cruise control driving, ASCD actuator returns the throttle cable to decrease vehicle set speed until the switch is released. And then ASCD will keep the new set speed.

Accel Operation

When the RESUME/ACCEL switch is depressed, power is supplied

- from ASCD steering switch terminal 3
- to ASCD control unit terminal 24.

If the RESUME/ACCEL switch is depressed during cruise control driving, ASCD actuator pulls the throttle cable to increase the vehicle speed until the switch is released or vehicle speed is reached to maximum controlled speed by the system. And then ASCD will keep the new set speed.

Cancel Operation

When any of following condition exists, cruise operation will be canceled.

- CANCEL switch is depressed. (Power supply to ASCD control unit terminals 11 and 24)
- Brake pedal is depressed. (Power supply to ASCD control unit terminal 23 from stop lamp switch)
- Brake or clutch pedal is depressed (M/T models)/Brake pedal is depressed or A/T selector lever is shifted to P or N position (A/T models). (Power supply to ASCD control unit terminal 8 is interrupted.)

If MAIN switch is turned to OFF during ASCD is activated, all of ASCD operation will be canceled and vehicle speed memory will be erased.

Resume Operation

When the RESUME/ACCEL switch is depressed after cancel operation other than depressing MAIN switch is performed, vehicle speed will return to last set speed. To resume vehicle set speed, vehicle condition must meet following conditions.

- Brake pedal is released.
- Clutch pedal is released (M/T models).
- A/T selector lever is in other than P and N position (A/T models).
- Vehicle speed is more than 40 km/h (25 MPH).

ASCD PUMP OPERATION

The ASCD pump consists of a vacuum motor, an air valve and a release valve. When the ASCD activates, power is supplied

- from terminal 12 of ASCD control unit
- to ASCD pump terminal 1.

Ground is supplied to vacuum motor, air valve and release valve from ASCD control unit depending on the operated condition as shown in the below table.

The pump is connected to ASCD actuator by vacuum hose. When the ASCD pump is activated, the ASCD pump vacuum the diaphragm of ASCD actuator to control throttle cable.

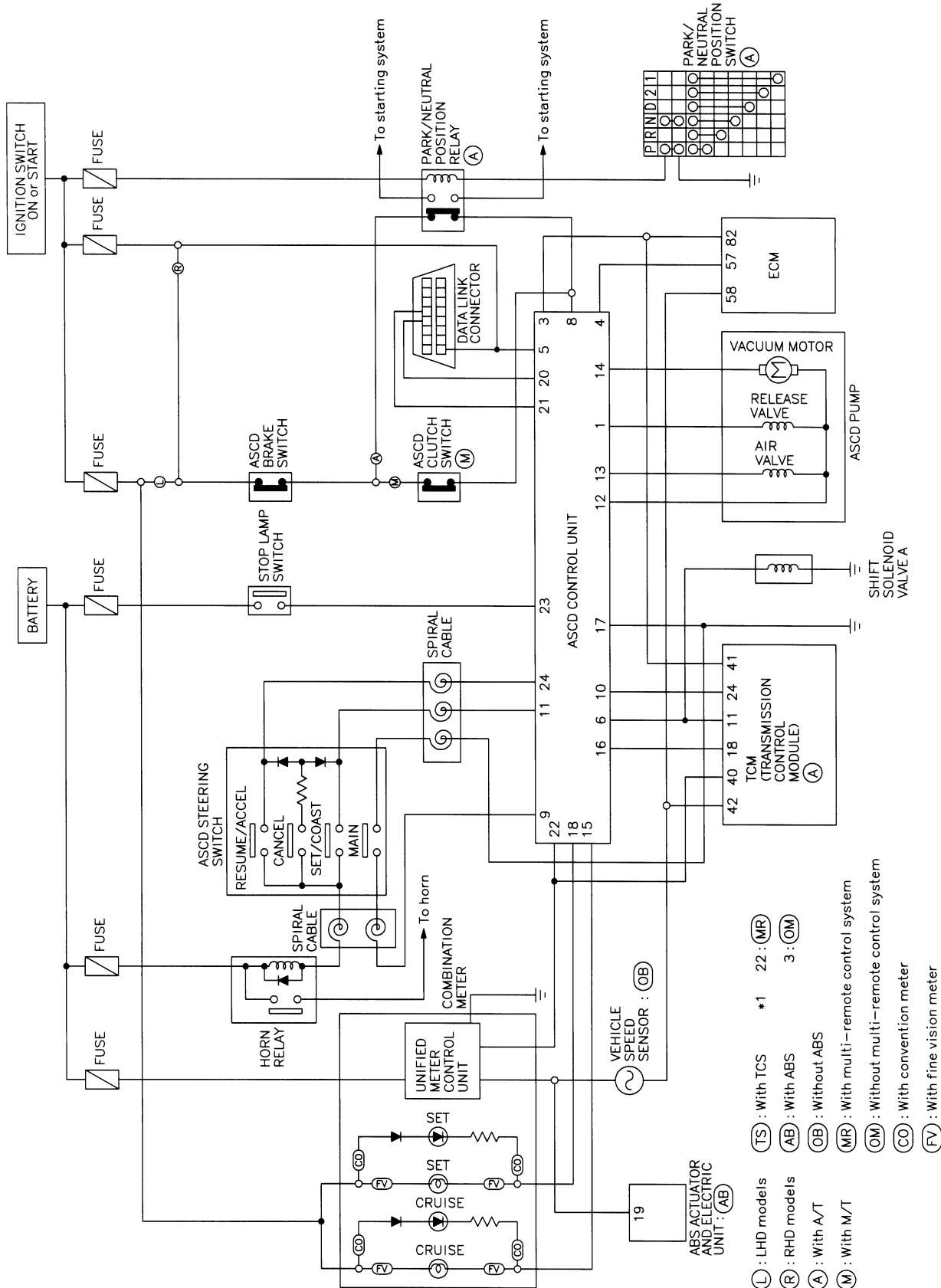
		Air valve (*1)	Release valve (*1)	Vacuum motor	Actuator inner pressure
ASCD not operating		Open	Open	Stopped	Atmosphere
ASCD operating	Releasing throttle cable	Open	Closed	Stopped	Vacuum
	Holding throttle position	Closed	Closed	Stopped	Vacuum (*2)
	Pulling throttle cable	Closed	Closed	Operated	Vacuum

*1: When power and ground is supplied, valve is closed.

*2: Set position held.

Schematic

NFEL0096



MEL8270

FIG. 1

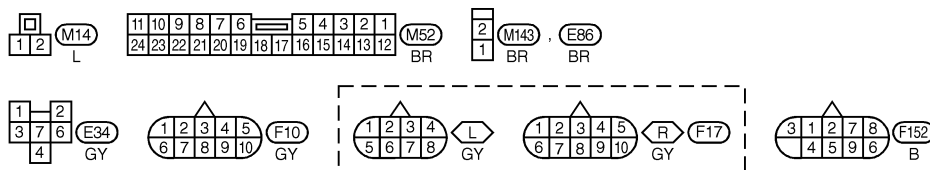
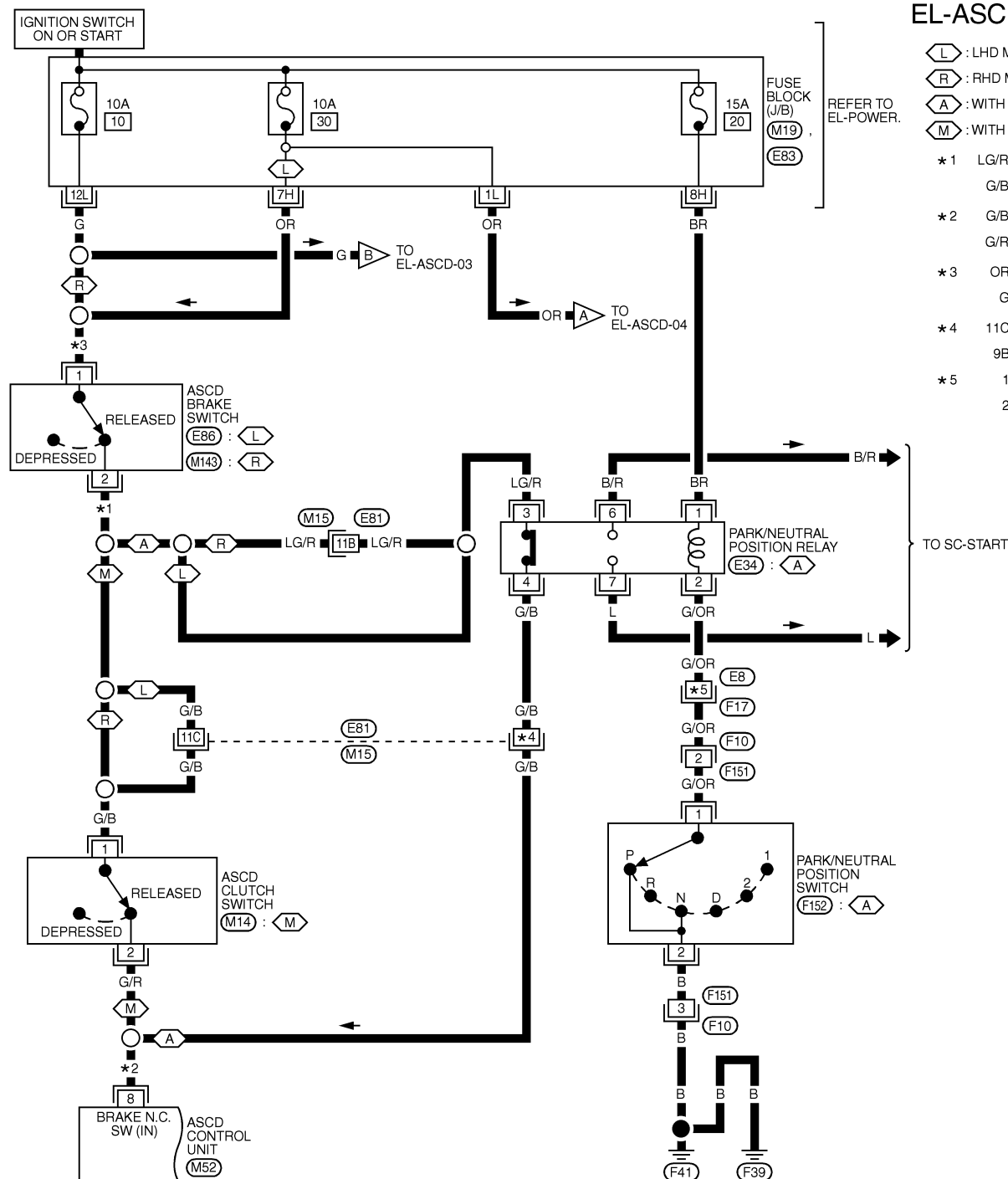
NFEL0097

NFEL0097S01

Wiring Diagram — ASCD —

EL-ASCD-01

- L** : LHD MODELS
R : RHD MODELS
A : WITH A/T
M : WITH M/T
***1** LG/R : **A**
 G/B : **M**
***2** G/B : **A**
 G/R : **M**
***3** OR : **L**
 G : **R**
***4** 11C : **L**
 9B : **R**
***5** 1 : **L**
 2 : **R**



REFER TO THE FOLLOWING.
(M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
(M19), **(E83)** -FUSE BLOCK-
 JUNCTION BOX (J/B)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

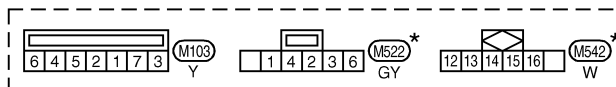
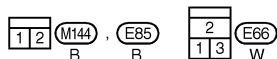
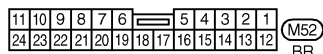
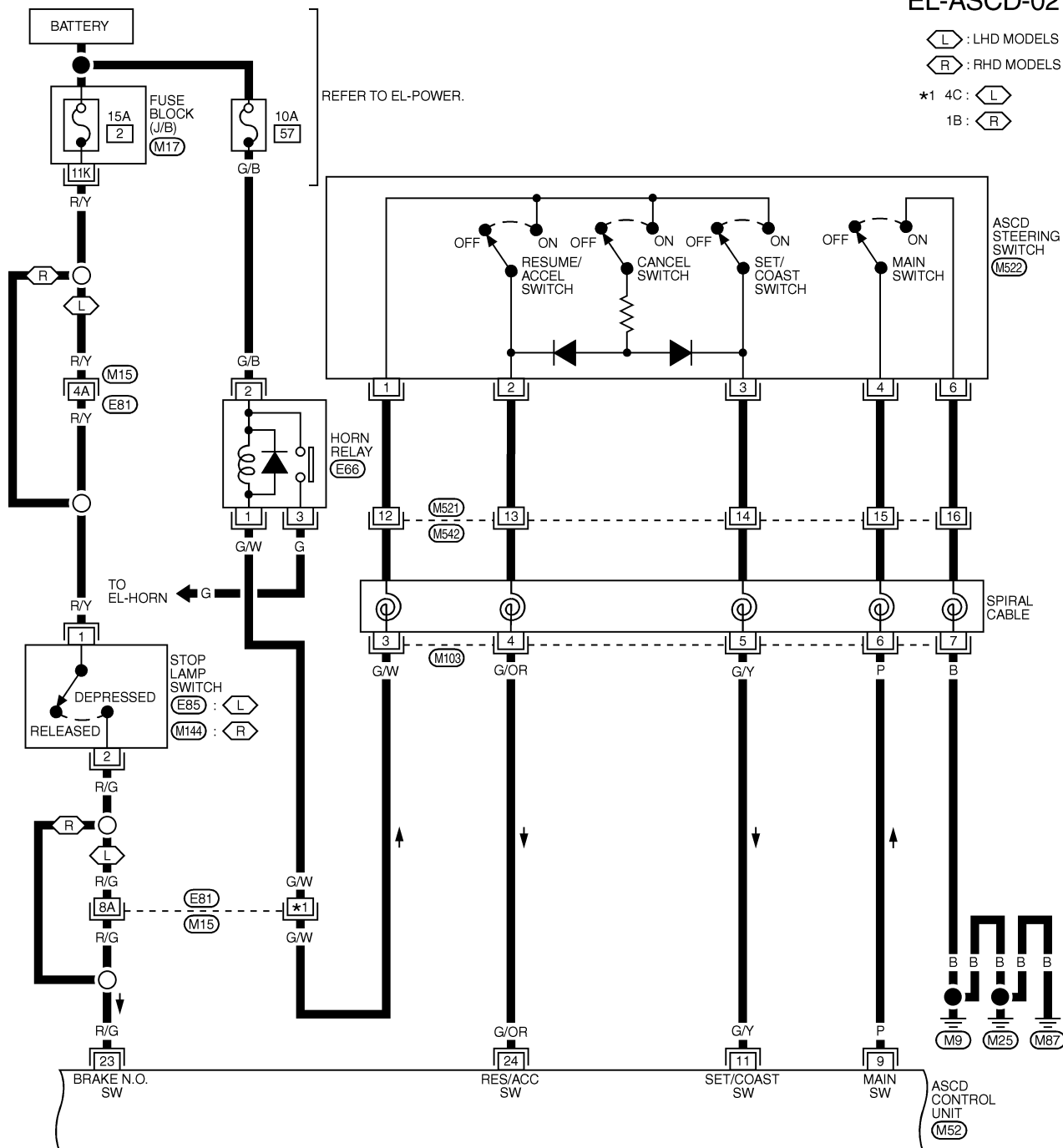
FIG. 2

NFEL0097S02

EL-ASCD-02

⬡ : LHD MODELS
⬢ : RHD MODELS

*1 4C : ⬡
1B : ⬢



REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

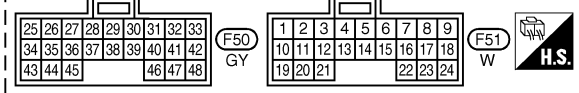
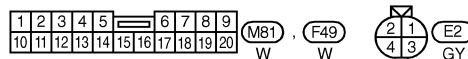
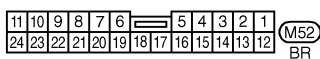
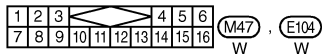
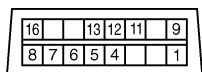
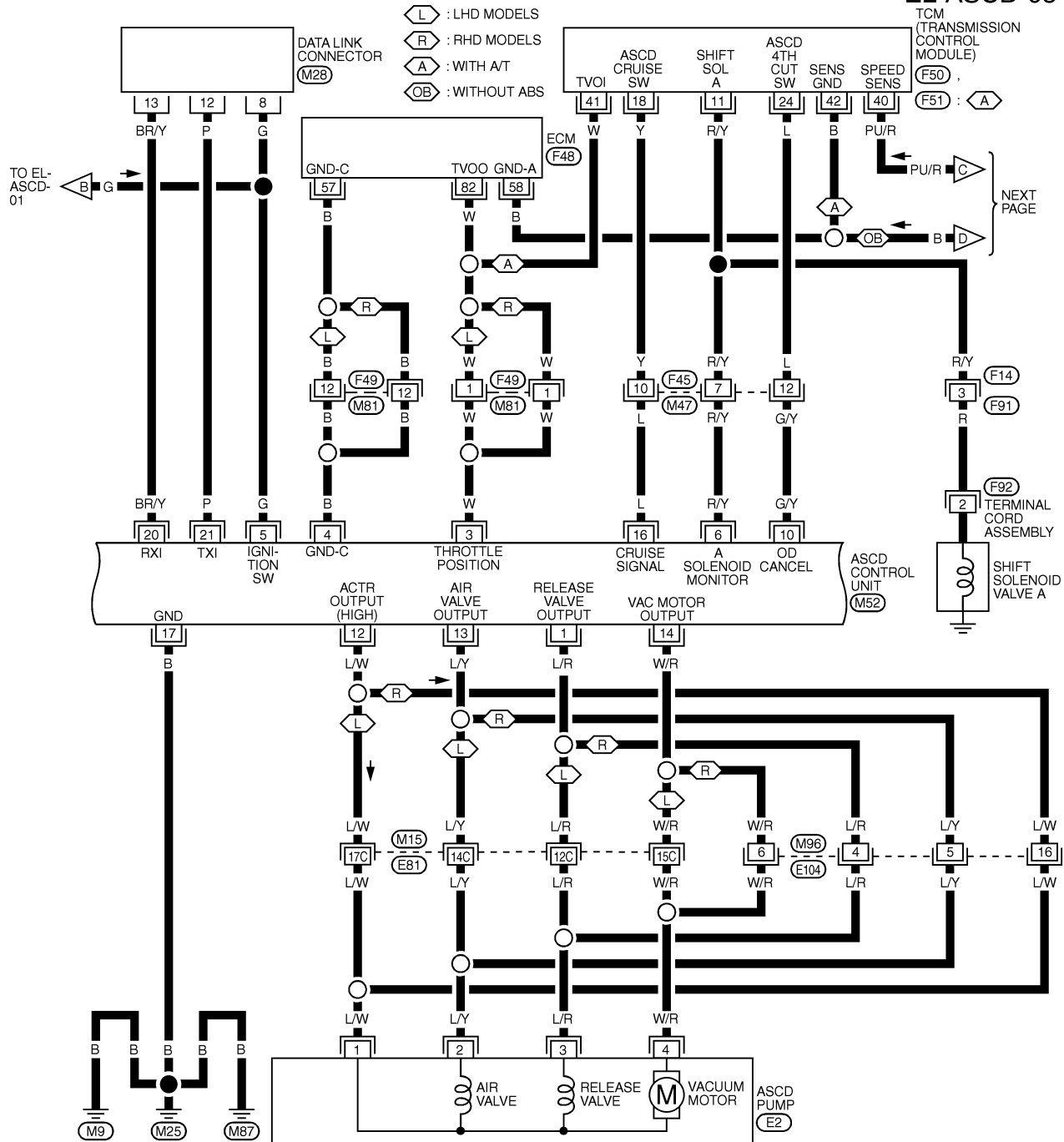
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF EL SECTION.

MEL377P

FIG. 3

NFEL0097S03

EL-ASCD-03



REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(F48) -ELECTRICAL UNITS

MEL8280

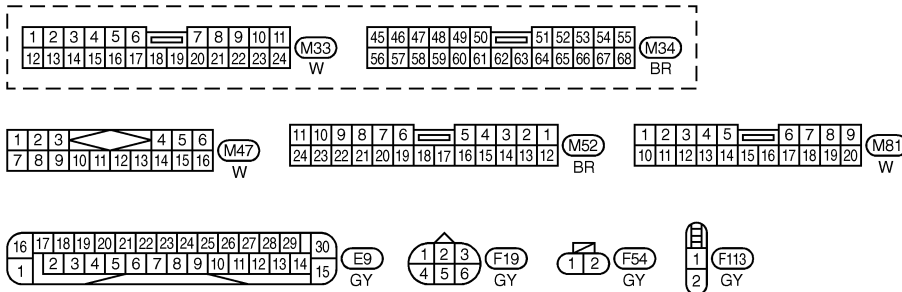
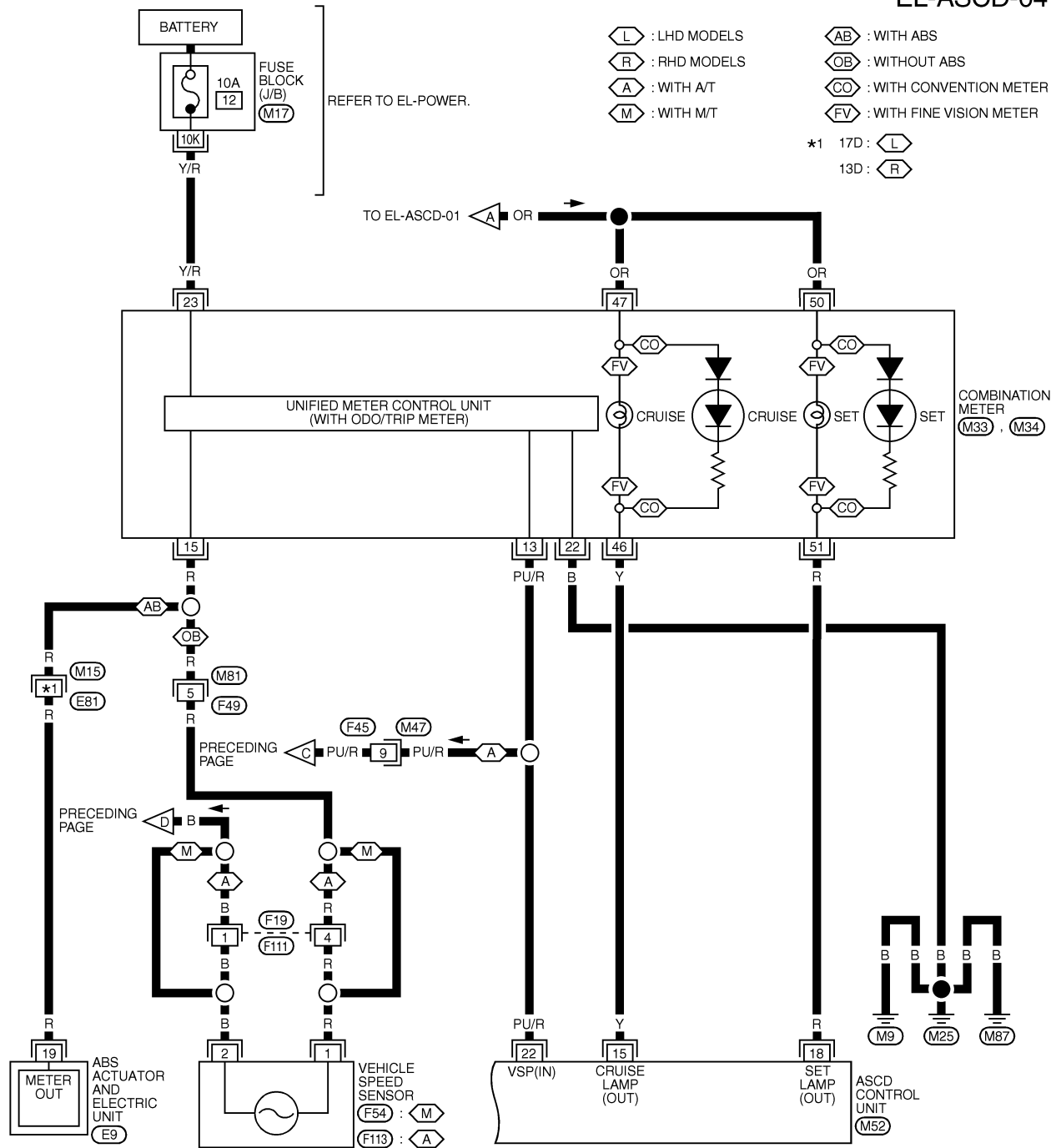
<https://autolibrary.in>

Wiring Diagram — ASCD — (Cont'd)

FIG. 4

NFEL0097S04

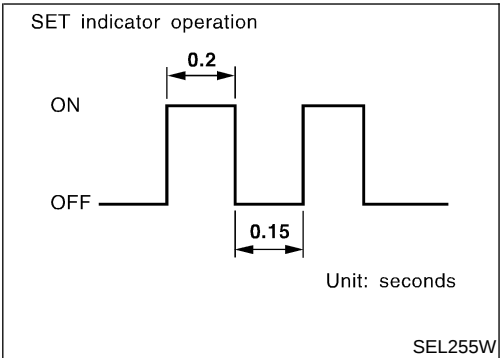
EL-ASCD-04



REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL829O



Fail-safe System

DESCRIPTION

When the fail-safe system senses a malfunction, it deactivates ASCD operation. The SET indicator in the combination meter will then flash.

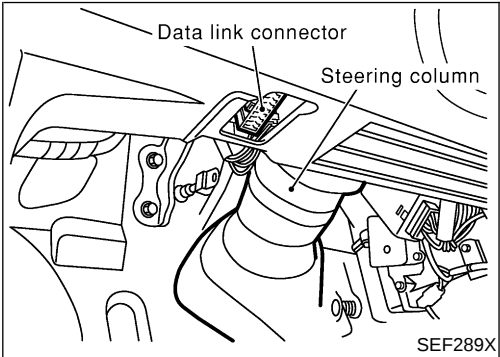
NFEL0228

NFEL0228S01

MALFUNCTION DETECTION CONDITIONS

NFEL0228S02

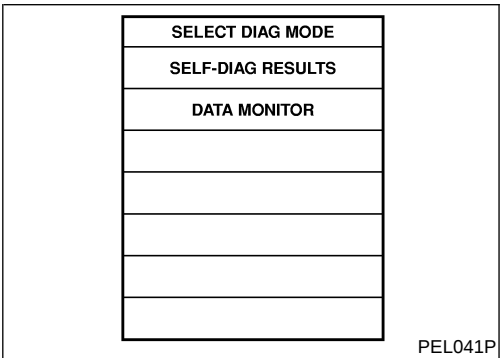
Detection conditions	ASCD operation during malfunction detection
• ASCD steering (RESUME/ACCEL, CANCEL, SET/COAST) switch is stuck. • Vacuum motor ground circuit or power circuit is open or shorted. • Air valve ground circuit or power circuit is open or shorted. • Release valve ground circuit or power circuit is open or shorted. • Vehicle speed sensor is faulty. • ASCD control unit internal circuit is malfunctioning.	• ASCD is deactivated. • Vehicle speed memory is canceled.
• ASCD brake switch or stop lamp switch is faulty.	• ASCD is deactivated. • Vehicle speed memory is not canceled.



CONSULT-II Inspection Procedure

NFEL0229

1. Turn ignition switch OFF.
2. Connect "CONSULT-II" to data link connector.



3. Turn ignition switch ON.
4. Turn ASCD main switch ON.
5. Touch START (on CONSULT-II display).
6. Touch ASCD.
7. Touch SELF-DIAG RESULTS.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

CONSULT-II Inspection Procedure (Cont'd)

SELF-DIAG RESULTS	
DTC RESULTS	TIME
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	

PFA021B

- Self-diagnostic results are shown on display. Refer to table on the next page.

SELECT MONITOR ITEM
ALL SIGNALS
SELECTION FROM MENU

PEL043P

8. Touch DATA MONITOR.

DATA MONITOR	
MONITOR	
BRAKE SW	OFF
STOP LAMP SW	ON
SET SW	ON
RESUME/ACC SW	OFF
CANCEL SW	OFF
VHCL SPEED SE	XXX mph
SET VHCL SPD	XXX mph
VACUUM PUMP	XXX msec
AIR VALVE	XXX msec

PEL811S

- Touch START.
- Data monitor results are shown on display. Refer to table on the next page.

For further information, read the CONSULT-II Operation Manual.

CONSULT-II Self-diagnostic Results

NFEL0230

Diagnostic item	Description	Repair/Check order
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	Even if no malfunction is indicated, further testing may be required as far as the customer complains.	—
POWER SUPPLY-VALVE	The power supply circuit for the ASCD pump is open. (An abnormally high voltage is entered.)	ASCD PUMP CIRCUIT CHECK (EL-281)
VACUUM PUMP	The vacuum motor circuit is open or shorted. (An abnormally high or low voltage is entered.)	ASCD PUMP CIRCUIT CHECK (EL-281)
AIR VALVE	The air valve circuit is open or shorted. (An abnormally high or low voltage is entered.)	ASCD PUMP CIRCUIT CHECK (EL-281)
RELEASE VALVE	The release valve circuit is open or shorted. (An abnormally high or low voltage is entered.)	ASCD PUMP CIRCUIT CHECK (EL-281)
VHCL SP-S/FAILSAFE	The vehicle speed sensor is malfunctioning.	VEHICLE SPEED SENSOR CHECK (EL-280)
CONTROL UNIT	The ASCD control unit is malfunctioning.	Replace ASCD control unit.
BRAKE SW/STOP/L SW	The brake switch or stop lamp switch circuit is malfunctioning.	ASCD BRAKE/STOP LAMP SWITCH CHECK (EL-277)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

CONSULT-II Self-diagnostic Results (Cont'd)

Diagnostic item	Description	Repair/Check order
COMMAND SW	The steering switch (set/coast switch, resume/accel switch or cancel switch) is malfunctioning.	ASCD STEERING SWITCH CHECK (EL-279)
ECM	ECM is malfunctioning.	THROTTLE POSITION SENSOR SIGNAL CHECK (EL-284)

CONSULT-II Data Monitor

NFEL0231

Monitored item	Description
BRAKE SW	Indicates [ON/OFF] condition of the brake switch, and ASCD clutch switch (M/T models) or park/neutral position relay (A/T models).
AT OD MONITOR	Indicates [ON/OFF] condition of A/T O/D (shift solenoid valve A).
STOP LAMP SW	Indicates [ON/OFF] condition of the stop lamp switch.
MAIN SW	Indicates [ON/OFF] condition of main switch.
SET SW	Indicates [ON/OFF] condition of the set switch.
RESUME/ACC SW	Indicates [ON/OFF] condition of the resume/accelerate switch.
CANCEL SW	Indicates [ON/OFF] condition of the cancel.
VHCL SPEED SE	The present vehicle speed computed from the vehicle speed sensor signal is displayed.
SET VHCL SPD	The preset vehicle speed is displayed.
VACUUM PUMP	The operation time of the vacuum pump is displayed.
AIR VALVE	The operation time of the air valve is displayed.
PW SUP-VALVE	Indicates [ON/OFF] condition of the circuit for the air valve and the release valve.
CRUISE LAMP	Indicates [ON/OFF] condition of the set lamp.
MAIN LAMP	Indicates [ON/OFF] condition of cruise lamp.
A/T-OD CANCEL	Indicates [ON/OFF] condition of the OD cancel.
FAIL SAFE-LOW	The fail-safe (LOW) circuit function is displayed.
FAIL SAFE-SPD	The fail-safe (SPEED) circuit function is displayed.
TCS MONITOR	Indicates [ON/OFF] condition of TCS.
THRTL POS SEN	The voltage of throttle position sensor is displayed.

Trouble Diagnoses SYMPTOM CHART

NFEL0232

NFEL0232S01

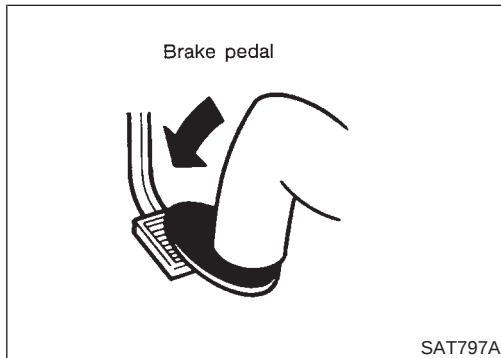
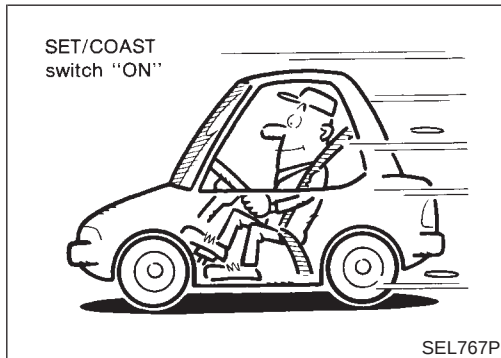
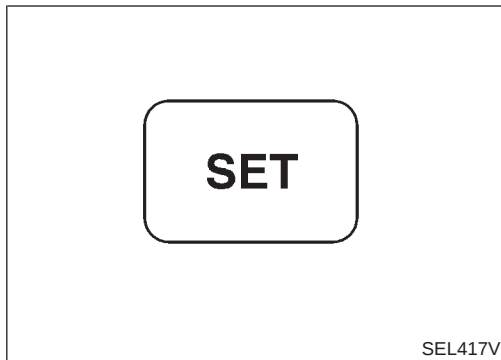
PROCEDURE	Diagnostic procedure						
REFERENCE PAGE (EL-)	275	276	277	279	280	281	283
SYMPTOM	FAIL-SAFE SYSTEM CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	ASCD BRAKE/STOP LAMP SWITCH CHECK	ASCD STEERING SWITCH CHECK	VEHICLE SPEED SIGNAL CHECK	ASCD PUMP CIRCUIT CHECK	ASCD ACTUATOR/PUMP CHECK
ASCD cannot be set. ("CRUISE" indicator lamp does not ON.)		X		X★3			
ASCD cannot be set. ("SET" indicator lamp does not blink.)			X	X	X		
ASCD cannot be set. ("SET" indicator lamp blinks.★1)	X		X	X	X	X	
Vehicle speed does not decrease after SET/COAST switch has been pressed.				X			X
Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.★2				X			X
Vehicle speed does not increase after RESUME/ACCEL switch has been pressed.				X			X
System is not released after CANCEL switch (steering) has been pressed.				X			X
Large difference between set speed and actual vehicle speed.					X	X	X
Deceleration is greatest immediately after ASCD has been set.					X	X	X

★1: It indicates that system is in fail-safe. After completing diagnostic procedures, perform "FAIL-SAFE SYSTEM CHECK" (EL-275) to verify repairs.

★2: If vehicle speed is greater than 40 km/h (25 MPH) after system has been released, pressing RESUME/ACCEL switch returns vehicle speed to the set speed previously achieved. However, doing so when the ASCD main switch is turned to "OFF", vehicle speed will not return to the set speed since the memory is canceled.

★3: Check only main switch built-in steering switch.

=NFEL0232S02



FAIL-SAFE SYSTEM CHECK

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the "set indicator" blinks.

If the indicator lamp blinks, check the following.

- ASCD steering switch. Refer to EL-279.

3. Drive the vehicle at more than 40 km/h (25 MPH) and push SET/COAST switch.

If the indicator lamp blinks, check the following.

- Vehicle speed sensor. Refer to EL-280.
- ASCD pump circuit. Refer to EL-281.
- Replace control unit.

4. Depress brake pedal slowly (brake pedal should be depressed more than 5 seconds).

If the indicator lamp blinks, check the following.

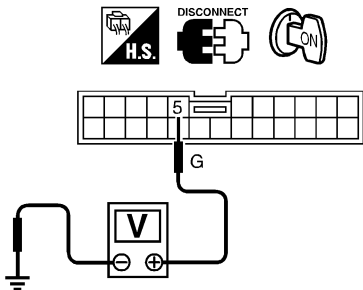
- ASCD brake/stop lamp switch. Refer to EL-277.

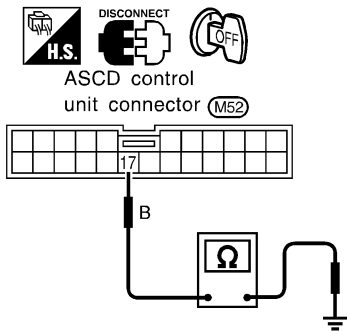
5. END. (System is OK.)

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POWER SUPPLY AND GROUND CIRCUIT CHECK

=NFEL0232S03

1	CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT
1. Disconnect ASCD control unit harness connector. 2. Turn ignition switch ON. 3. Check voltage between ASCD control unit harness connector terminal 5 and ground. ASCD control unit connector (M52)  Does battery voltage exist? SEL256W Refer to wiring diagram in EL-269.	
Yes	▶ GO TO 2.
No	▶ Check the following. • 10A fuse (No. 10 located in the fuse block) • Harness for open or short

2	CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT
Check continuity between ASCD control unit harness connector terminal 17 and body ground. ASCD control unit connector (M52)  Does continuity exist? SEL257W Refer to wiring diagram in EL-269.	
Yes	▶ Power supply and ground circuit is OK.
No	▶ Repair harness.

ASCD BRAKE/STOP LAMP SWITCH CHECK

=NFEL0232S06

1 CHECK ASCD BRAKE SWITCH CIRCUIT

 With CONSULT-II

See "BRAKE SW" in "DATA MONITOR" mode.

DATA MONITOR	
MONITOR	
BRAKE SW	OFF

A/T modelsWhen brake pedal is depressed or
A/T selector lever is in "N" or "P" range:**BRAKE SW OFF**When brake pedal is released and
A/T selector lever is not in "N" or "P" range:**BRAKE SW ON****M/T models**

When clutch pedal or brake pedal is depressed:

BRAKE SW OFF

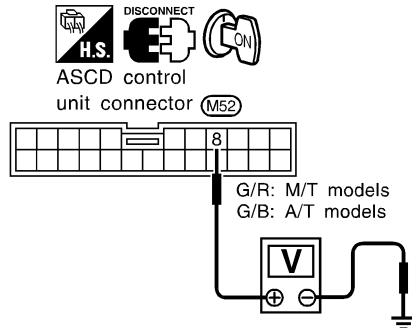
When clutch pedal and brake pedal are released:

BRAKE SW ON

SEL286W

 Without CONSULT-II

1. Disconnect ASCD control unit harness connector.
2. Turn ignition switch ON.
3. Push ASCD main switch for "CRUISE" indicator lamp "ON".
4. Check voltage between ASCD control unit harness connector terminal 8 and ground.

When brake or clutch pedal is depressed (M/T), or when
brake pedal is depressed or A/T selector lever is in "N" or
"P" range (A/T):**Apporox. 0V**When brake and clutch pedal are released (M/T), or when
both brake pedal is released and A/T selector lever is not in
"N" or "P" range (A/T):**Battery voltage should exist.**

SEL258W

OK or NG

OK



GO TO 2.

NG

**Check the following.**

- ASCD brake switch
Refer to "Electrical Component Inspection" (EL-285).
- Park/neutral position switch
Refer to "Electrical Component Inspection" (EL-286).
- Park/neutral position relay
- ASCD clutch switch
Refer to "Electrical Component Inspection" (EL-285).
- Harness for open or short

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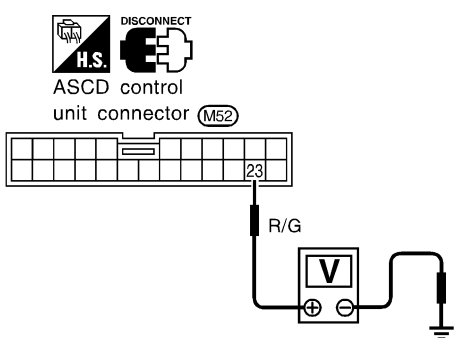
BT

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IDX

2	CHECK STOP LAMP SWITCH CIRCUIT						
 With CONSULT-II See "STOP LAMP" in "DATA MONITOR" mode. <table border="1" style="margin-right: 20px;"> <thead> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> </thead> <tbody> <tr> <td>STOP LAMP SW</td><td>OFF</td></tr> </tbody> </table> When brake pedal is released: STOP LAMP SW OFF When brake pedal is depressed: STOP LAMP SW ON SEL287W		DATA MONITOR		MONITOR		STOP LAMP SW	OFF
DATA MONITOR							
MONITOR							
STOP LAMP SW	OFF						
 Without CONSULT-II 1. Disconnect ASCD control unit harness connector. 2. Check voltage between ASCD control unit harness connector terminal 23 and ground.  Voltage [V]: Stop lamp switch: Depressed Approx. 12 Stop lamp switch: Released 0 Refer to wiring diagram in EL-268. SEL259W							
OK or NG							
OK	▶ ASCD brake/stop lamp switch is OK.						
NG	▶ Check the following. • 15A fuse [No. 2, located in the fuse block (J/B)] • Harness for open or short between ASCD control unit and stop lamp switch • Harness for open or short between fuse and stop lamp switch • Stop lamp switch Refer to "Electrical Component Inspection" (EL-285).						

ASCD STEERING SWITCH CHECK

=NFEL0232S07

1	CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT																																		
With CONSULT-II See "MAIN SW", "RESUME/ACC SW", "SET SW" and "CANCEL SW" in "Data monitor" mode. <table border="1" style="margin-top: 20px;"> <thead> <tr> <th colspan="2" style="text-align: center;">DATA MONITOR</th> </tr> <tr> <th style="text-align: left;">MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>MAIN SW</td> <td>OFF</td> </tr> <tr> <td>SET SW</td> <td>OFF</td> </tr> <tr> <td>RESUME/ACC SW</td> <td>OFF</td> </tr> <tr> <td>CANCEL SW</td> <td>OFF</td> </tr> </tbody> </table> MAIN SW, RESUME/ACC SW, SET SW and CANCEL SW When switch is pressed: ON When switch is released: OFF SEL288W			DATA MONITOR		MONITOR		MAIN SW	OFF	SET SW	OFF	RESUME/ACC SW	OFF	CANCEL SW	OFF																					
DATA MONITOR																																			
MONITOR																																			
MAIN SW	OFF																																		
SET SW	OFF																																		
RESUME/ACC SW	OFF																																		
CANCEL SW	OFF																																		
Without CONSULT-II Check voltage between ASCD control unit harness connector terminals and ground. Refer to wiring diagram in EL-268. <table border="1" style="width: 65%;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2" style="text-align: center;">Terminal No.</th> <th colspan="2" style="text-align: center;">Switch condition</th> </tr> <tr> <th style="text-align: center;">(+)</th> <th style="text-align: center;">(-)</th> <th style="text-align: center;">Pressed</th> <th style="text-align: center;">Released</th> </tr> </thead> <tbody> <tr> <td>MAIN SW</td> <td style="text-align: center;">9</td> <td style="text-align: center;">Ground</td> <td style="text-align: center;">0V</td> <td style="text-align: center;">Approx. 9V</td> </tr> <tr> <td>SET/COAST SW</td> <td style="text-align: center;">11</td> <td style="text-align: center;">Ground</td> <td style="text-align: center;">12V</td> <td style="text-align: center;">0V</td> </tr> <tr> <td>RESUME/ACC SW</td> <td style="text-align: center;">24</td> <td style="text-align: center;">Ground</td> <td style="text-align: center;">12V</td> <td style="text-align: center;">0V</td> </tr> <tr> <td rowspan="2">CANCEL SW</td> <td style="text-align: center;">11</td> <td style="text-align: center;">Ground</td> <td style="text-align: center;">12V</td> <td style="text-align: center;">0V</td> </tr> <tr> <td style="text-align: center;">24</td> <td style="text-align: center;">Ground</td> <td style="text-align: center;">12V</td> <td style="text-align: center;">0V</td> </tr> </tbody> </table> SEL260W				Terminal No.		Switch condition		(+)	(-)	Pressed	Released	MAIN SW	9	Ground	0V	Approx. 9V	SET/COAST SW	11	Ground	12V	0V	RESUME/ACC SW	24	Ground	12V	0V	CANCEL SW	11	Ground	12V	0V	24	Ground	12V	0V
	Terminal No.			Switch condition																															
	(+)	(-)	Pressed	Released																															
MAIN SW	9	Ground	0V	Approx. 9V																															
SET/COAST SW	11	Ground	12V	0V																															
RESUME/ACC SW	24	Ground	12V	0V																															
CANCEL SW	11	Ground	12V	0V																															
	24	Ground	12V	0V																															
OK or NG																																			
OK	▶	ASCD steering switch is OK.																																	
NG	▶	GO TO 2.																																	

2	CHECK POWER SUPPLY FOR ASCD STEERING SWITCH	
Does horn work?		
Yes	▶	GO TO 3.
No	▶	Check the following. 10A fuse (No. 57, located in the relay box) - Horn relay - Harness for open or short between horn relay and fuse - Harness for open or short between horn relay and ASCD steering switch

3	CHECK ASCD STEERING SWITCH	
1. Disconnect ASCD steering switch. 2. Check ASCD steering switch. Refer to EL-285, "ASCD Steering switch". OK or NG		
OK	▶	Check harness for open or short between ASCD steering switch and ASCD control unit.
NG	▶	Replace ASCD steering switch.

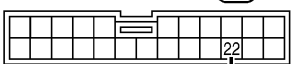
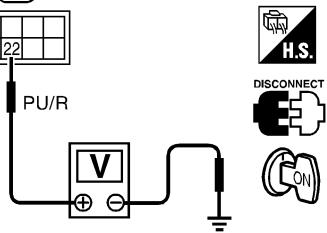
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

VEHICLE SPEED SIGNAL CHECK

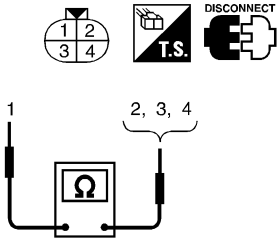
=NFEL0232S08

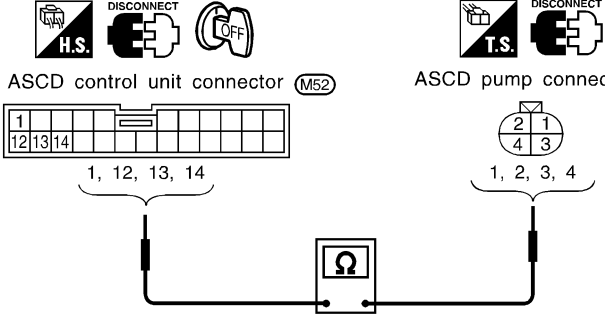
1	CHECK SPEEDOMETER OPERATION
Refer to wiring diagram in EL-270.	
Does speedometer operate normally?	
Yes	▶ GO TO 2.
No	▶ Check speedometer and vehicle speed signal circuit. Refer to EL-148.

2	CHECK VEHICLE SPEED INPUT				
 With CONSULT-II See "VHCL SPEED SE" in "Data monitor" mode while driving. NOTE: - This test may be conducted with the drive wheels lifted in the shop or by driving the vehicle. If a road test is excepted to be easier, it is unnecessary to lift the vehicle. - Always drive vehicle in safe speed and manner according to traffic conditions and obey all traffic laws.					
 DATA MONITOR <table border="1" style="margin: auto;"> <tr> <th style="text-align: left;">MONITOR</th><th></th></tr> <tr> <td>VHCL SPEED SE</td><td>0 km/h</td></tr> </table> Is actual vehicle speed indicated?		MONITOR		VHCL SPEED SE	0 km/h
MONITOR					
VHCL SPEED SE	0 km/h				
SEL289W					
 Without CONSULT-II - Apply wheel chocks and jack up drive wheel. - Disconnect ASCD control unit harness connector. - Check voltage between control unit terminal 22 and ground with turning drive wheel slowly by hand.					
ASCD control unit connector (M52)   Does voltage pointer deflect?					
SEL263W					
Yes	▶ Vehicle speed sensor or ABS control unit is OK.				
No	▶ Check harness for open or short between ASCD control unit terminal 22 and combination meter terminal 13.				

ASCD PUMP CIRCUIT CHECK

NFEL0232S09

1	CHECK ASCD PUMP									
1. Disconnect ASCD pump connector. 2. Measure resistance between ASCD pump terminals 1 and 2, 3, 4. ASCD pump connector (E2)  <table border="1"> <thead> <tr> <th>Terminals</th> <th>Resistance Ω</th> </tr> </thead> <tbody> <tr> <td>1 2</td> <td>Approx. 65</td> </tr> <tr> <td>1 3</td> <td>Approx. 65</td> </tr> <tr> <td>1 4</td> <td>Approx. 3</td> </tr> </tbody> </table> Refer to wiring diagram in EL-269. SEL262W			Terminals	Resistance Ω	1 2	Approx. 65	1 3	Approx. 65	1 4	Approx. 3
Terminals	Resistance Ω									
1 2	Approx. 65									
1 3	Approx. 65									
1 4	Approx. 3									
OK or NG										
OK	▶	GO TO 2.								
NG	▶	Replace ASCD pump.								

2	CHECK ASCD PUMP CIRCUIT																		
1. Disconnect ASCD control unit harness connector. 2. Check harness for open or short between ASCD control unit and ASCD pump. ASCD control unit connector (M52) ASCD pump connector (E2)  <table border="1"> <thead> <tr> <th rowspan="2">Circuit</th> <th colspan="2">Terminal</th> </tr> <tr> <th>ASCD control unit</th> <th>ASCD pump</th> </tr> </thead> <tbody> <tr> <td>ASCD pump power supply</td> <td>12</td> <td>1</td> </tr> <tr> <td>Air valve</td> <td>13</td> <td>2</td> </tr> <tr> <td>Release valve</td> <td>1</td> <td>3</td> </tr> <tr> <td>Vacuum motor</td> <td>14</td> <td>4</td> </tr> </tbody> </table> Continuity should exist. SEL269W			Circuit	Terminal		ASCD control unit	ASCD pump	ASCD pump power supply	12	1	Air valve	13	2	Release valve	1	3	Vacuum motor	14	4
Circuit	Terminal																		
	ASCD control unit	ASCD pump																	
ASCD pump power supply	12	1																	
Air valve	13	2																	
Release valve	1	3																	
Vacuum motor	14	4																	
OK or NG																			
OK	▶	GO TO 3.																	
NG	▶	Repair harness.																	

3

CHECK ASCD PUMP POWER SUPPLY

With CONSULT-II

1. Jack up the drive wheels.

2. See “PW SUP-VALVE” in “DATA MONITOR” mode.

3. Maintain the conditions below.

● Vehicle speed is more than 40 km/h (25 MPH).

● Main switch (CRUISE lamp) is ON.

● Set/coast switch (SET lamp) is ON.

DATA MONITOR

MONITOR

PW SUP-VALVE

OFF

“PW SUP-VALVE” should be ON.

SEL290W

Without CONSULT-II

1. Jack-up the drive wheels.

2. Maintain the conditions below.

● Vehicle speed is more than 40 km/h (25 MPH).

● Main switch (CRUISE lamp) is ON.

● Set/coast switch (SET lamp) is ON.

Check voltage between ASCD control unit harness connector terminal 12 and ground.

H.S.

CONNECT

ASCDC control unit connector (M52)

12

L/W

V

Battery voltage should exist.

SEL381W

OK or NG

OK

▶

ASCD pump power supply is OK.

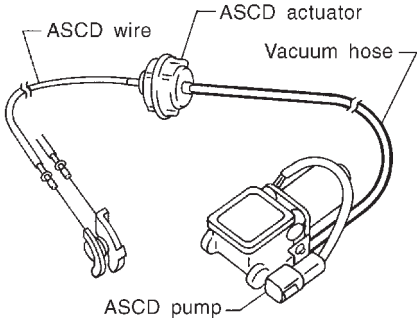
NG

▶

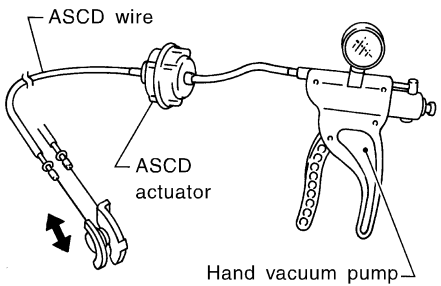
Replace ASCD control unit.

ASCD ACTUATOR/PUMP CHECK

=NFEL0232S10

1	CHECK VACUUM HOSE
Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks or fracture.	
 MEL402G	
OK or NG	
OK	▶ GO TO 2.
NG	▶ Repair or replace hose.

2	CHECK ASCD WIRE
Check wire for improper installation, rust formation or breaks.	
OK or NG	
OK	▶ GO TO 3.
NG	▶ Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-286).

3	CHECK ASCD ACTUATOR
1. Disconnect vacuum hose from ASCD actuator. 2. Connect the hose of hand vacuum pump to ASCD actuator.	
 Apply -40 kPa (-0.402 bar, -0.41 kg/cm², -5.8 psi) vacuum to ASCD actuator with hand vacuum pump. ASCD wire should move to pull throttle drum. Wait 10 seconds and check for decrease in vacuum pressure. Vacuum pressure decrease: Less than 2.7 kPa (0.0275 bar, 0.028 kg/cm², 0.40 psi) SEL264WA	
OK or NG	
OK	▶ GO TO 4.
NG	▶ Replace ASCD actuator.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

4

CHECK ASCD PUMP

1. Disconnect vacuum hose from ASCD pump and ASCD pump connector.
2. If necessary remove ASCD pump.
3. Connect vacuum gauge to ASCD pump.
4. Apply 12V direct current to ASCD pump and check operation.

	12V direct current supply terminals		Operation
	(+)	(-)	
Air valve	1	2	Close
Release valve		3	Close
Vacuum motor		4	Operate

A vacuum pressure of at least -40 kPa (-0.402 bar , -0.41 kg/cm^2 , -5.8 psi) should be generated.

SEL265WA

OK or NG

OK	▶	INSPECTION END
NG	▶	Replace ASCD pump.

THROTTLE POSITION SENSOR SIGNAL CHECK

NFEL0232S11

1

CHECK THROTTLE POSITION SENSOR SIGNAL CIRCUIT

1. Disconnect ECM harness connector and ASCD control unit harness connector.
2. Check continuity between ECM terminal 82 and ASCD control unit terminal 3.

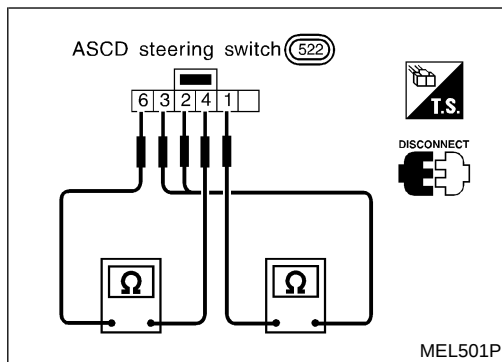
	12V direct current supply terminals		Operation
	(+)	(-)	
Air valve	1	2	Close
Release valve		3	Close
Vacuum motor		4	Operate

Continuity should exist.

SEL268W

OK or NG

OK	▶	Refer to "TROUBLE DIAGNOSIS FOR INTERMITTENT INCIDENT" in EC section. (EC-562)
NG	▶	Repair harness.



Electrical Component Inspection

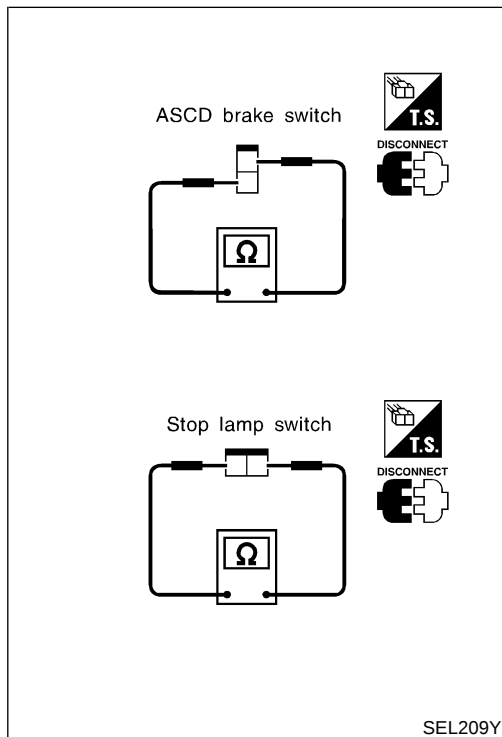
=NFEL0100

ASCD STEERING SWITCH

NFEL0100S01

Check continuity between terminals by pushing each button.

Button	Terminals
SET/COAST	1 - 3
RESUME/ACCEL	1 - 2
CANCEL	1 - 3 (1 → 3)
	1 - 2 (1 → 2)
MAIN	4 - 6

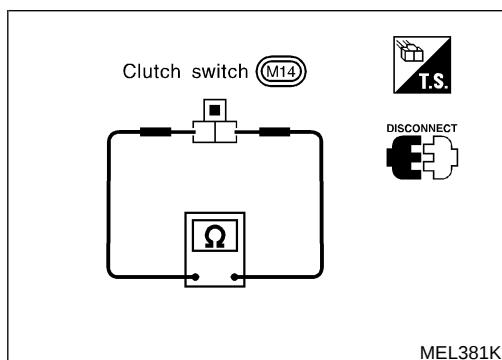


ASCD BRAKE SWITCH AND STOP LAMP SWITCH

NFEL0100S02

Condition	Continuity	
	ASCD brake switch	Stop lamp switch
When brake pedal is depressed	No	Yes
When brake pedal is released	Yes	No

Check each switch after adjusting brake pedal — refer to BR-12.



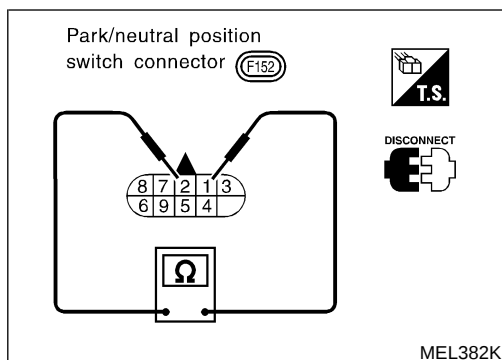
ASCD CLUTCH SWITCH (FOR M/T MODELS)

NFEL0100S05

Condition	Continuity
When clutch pedal is depressed	No
When clutch pedal is released	Yes

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Electrical Component Inspection (Cont'd)



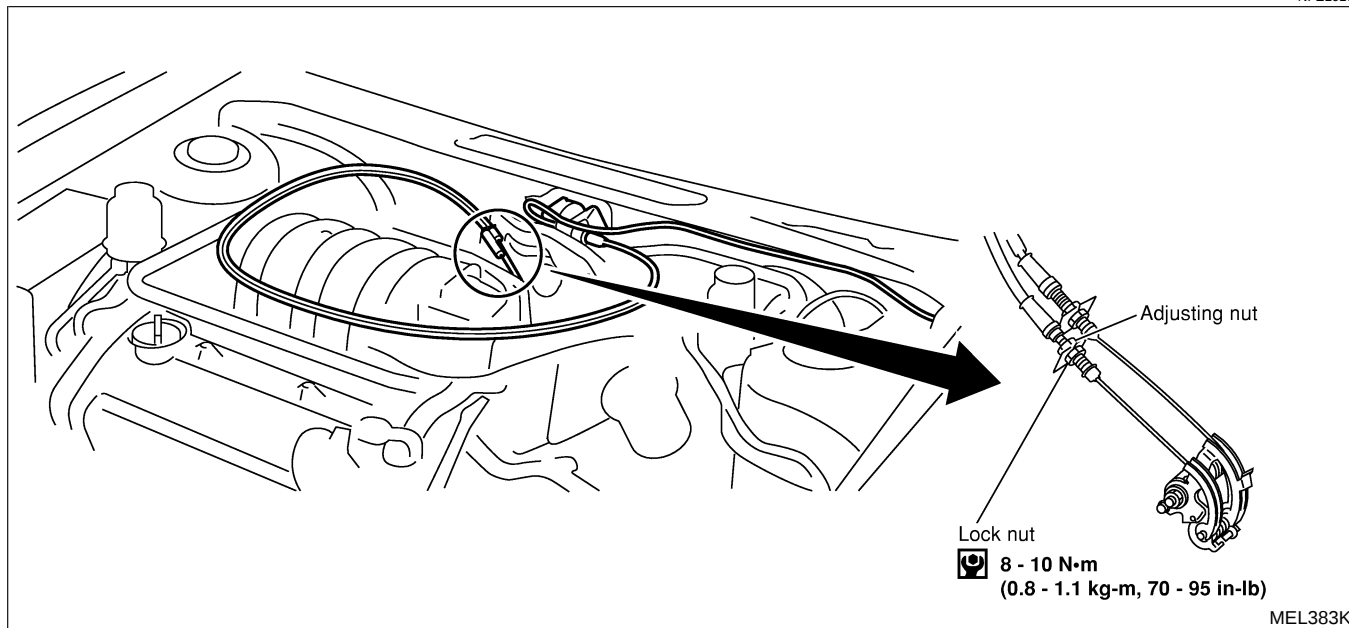
PARK/NEUTRAL POSITION SWITCH (FOR A/T MODELS)

NFEL0100S03

A/T selector lever position	Continuity
	Between terminals 1 and 2
"P"	Yes
"N"	Yes
Except "P" and "N"	No

ASCD Wire Adjustment

NFEL0101



CAUTION:

- Be careful not to twist ASCD wire when removing it.
- Do not tense ASCD wire excessively during adjustment.

Adjust the tension of ASCD wire in the following manner.

1. Loosen lock nut and adjusting nut.
2. Make sure that accelerator wire is properly adjusted. Refer to FE-3, "ACCELERATOR CONTROL SYSTEM".
3. Tighten adjusting nut just until throttle drum starts to move.
4. Loosen adjusting nut again 1/2 to 1 turn.
5. Tighten lock nut.

System Description

NFEL0191

Power is supplied at all times

- from 40A fusible link (letter I, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to power window relay terminal 3 and
- to power window main switch terminal 5 (LHD models) or 3 (RHD models).

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to power window relay terminal 2 (LHD models) or 1 (RHD models), and

Ground is supplied to power window relay terminal 1 (LHD models) or 2 (RHD models)

- through body grounds M9, M25 and M87.

The power window relay is energized and power is supplied

- through power window relay terminal 5
- to front power window main switch terminal 12,
- to front power window switch (passenger side) terminal 5,
- to rear power window switch LH and RH terminals 5.

MANUAL OPERATION

Front Door (Driver Side)

Ground is supplied

- to front power window main switch terminal 19
- through body grounds M9, M25 and M87.

WINDOW UP

When the driver's window switch in the front power window main switch is pressed in the up position, power is supplied

- to front power window regulator LH or RH terminal 1
- through front power window main switch terminal 2 (LHD models) or 6 (RHD models).

Ground is supplied

- to front power window regulator LH or RH terminal 3
- through front power window main switch terminal 1 (LHD models) or 7 (RHD models).

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

WINDOW DOWN

When the driver's window switch in the front power window main switch is pressed in the down position, power is supplied

- to front power window regulator LH or RH terminal 3
- through front power window main switch terminal 1 (LHD models) or 7 (RHD models).

Ground is supplied

- to front power window regulator LH or RH terminal 1
- through front power window main switch terminal 2 (LHD models) or 6 (RHD models).

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

Front Door (Passenger Side)

Ground is supplied

- to front power window main switch terminal 19
- through body grounds M9, M25 and M87.

NOTE:

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

FRONT POWER WINDOW MAIN SWITCH OPERATION

Power is supplied

- through front power window main switch (4, 3) (LHD models) or (4, 5) (RHD models)
- to front power window switch LH or RH (3, 4).

GI

MA

EM

LC

EC

FE

CL

NFEL0191S01

MT

NFEL0191S0101

AT

AX

SU

BR

ST

RS

BT

HA

NFEL0191S0102

SC

EL

IDX

POWER WINDOW

The subsequent operation is the same as the front power window switch LH or RH operation.

FRONT POWER WINDOW SWITCH LH or RH OPERATION

Power is supplied

- through front power window switch LH or RH (1, 2)
- to front power window regulator LH or RH (1, 2).

Ground is supplied

- to front power window regulator LH or RH (1, 2)
- through front power window switch LH or RH (1, 2)
- to front power window switch LH or RH (3, 4)
- through front power window main switch (4, 3) (LHD models) or (4, 5) (RHD models).

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's door window.

NFEL0191S0103

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 down or up position.

The AUTO feature operates on the driver's window.

NFEL0191S02

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 front power window main switch is disconnected. This prevents the power window motors from operating.

NFEL0191S03

INTERRUPTION DETECTION FUNCTION

Front power window main switch monitors the power window regulator motor operation and the power window position (full closed or other) for driver's power window by the signals from encoder and limit switch in front power window regulator.

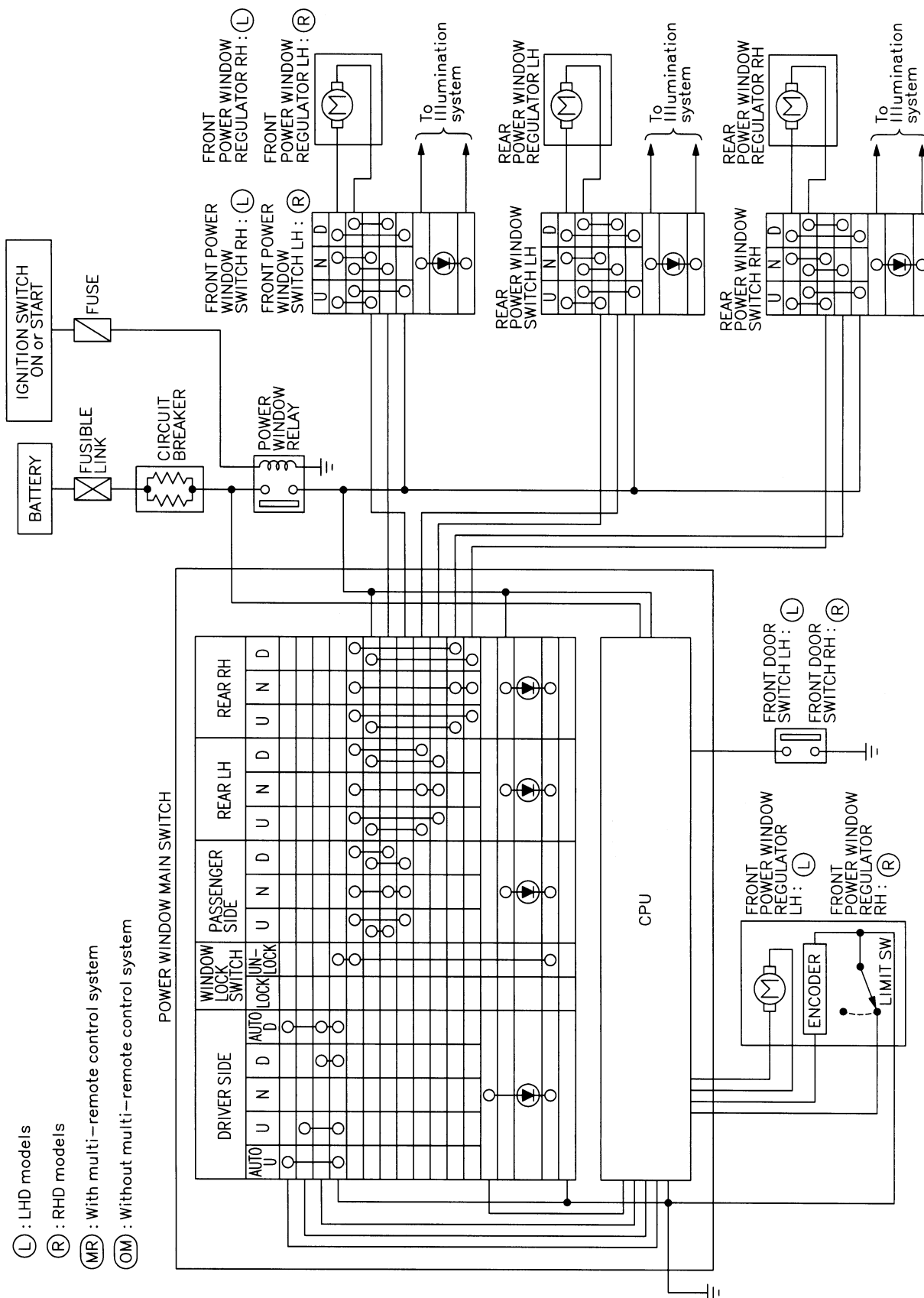
When front power window main switch detects interruption during the following close operation in the driver's side door,

- automatic close operation when ignition switch is in the "ON" position
- automatic close operation during retained power operation

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

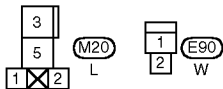
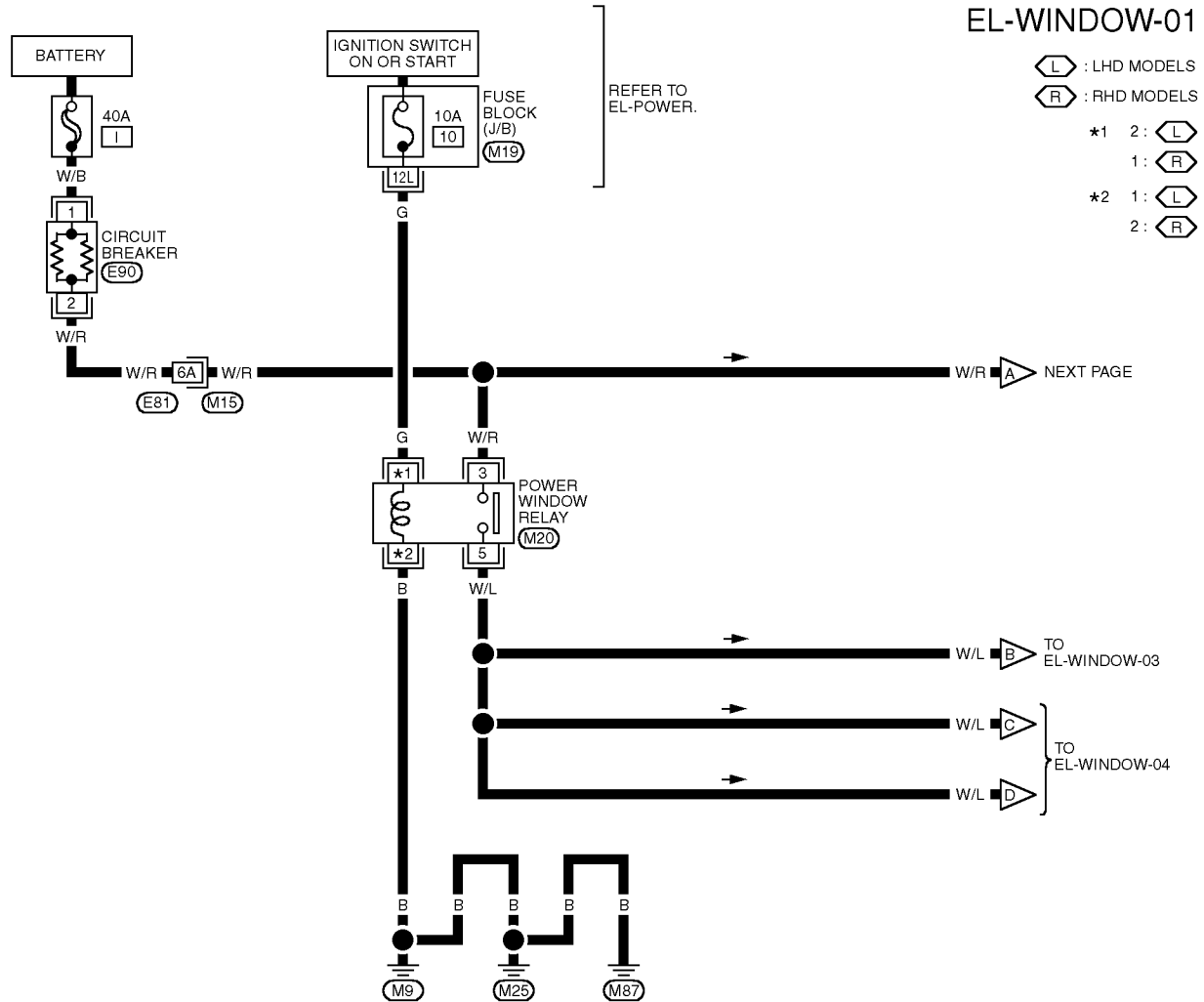
NFEL0191S05

Schematic



Wiring Diagram — WINDOW —

NFEL0104

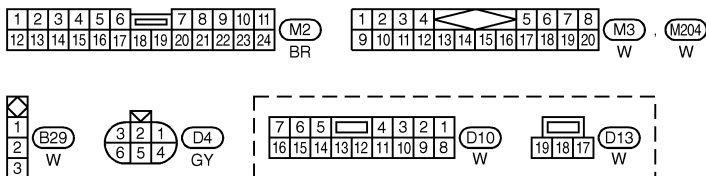
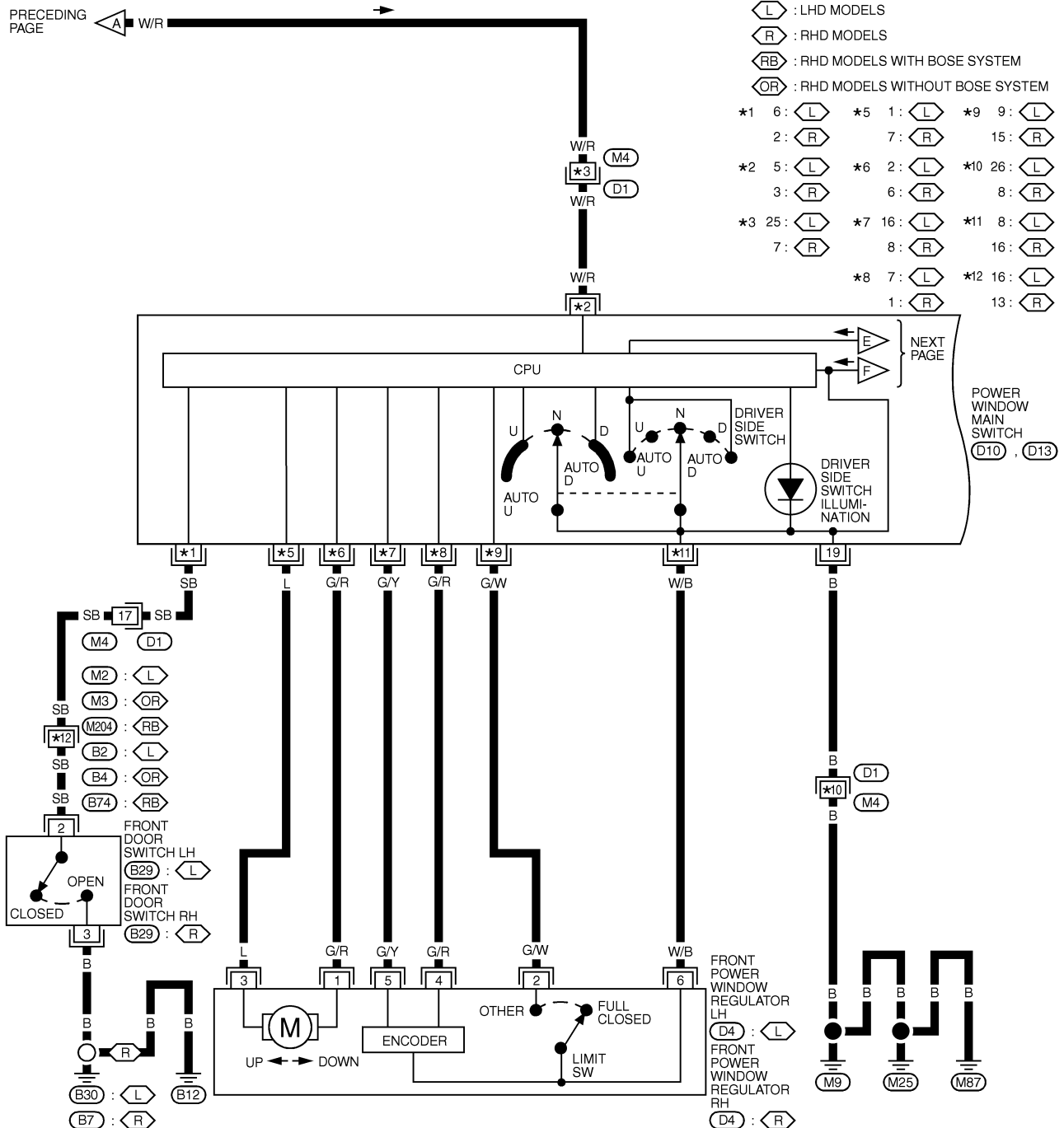


REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(M19) -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL830K

EL-WINDOW-02

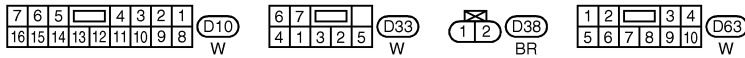
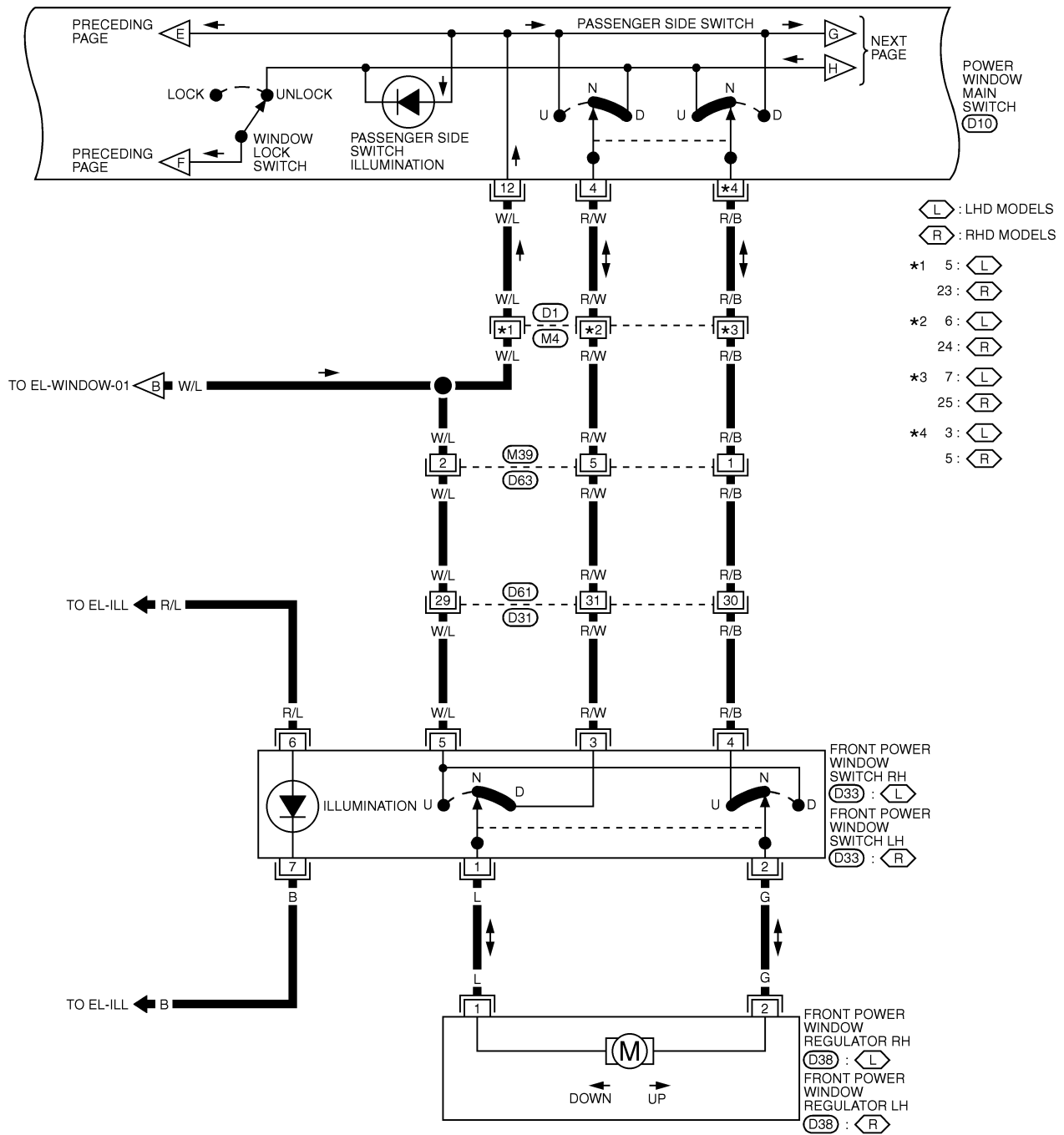


REFER TO THE FOLLOWING.

D1 -SUPER
MULTIPLE JUNCTION (SMJ)

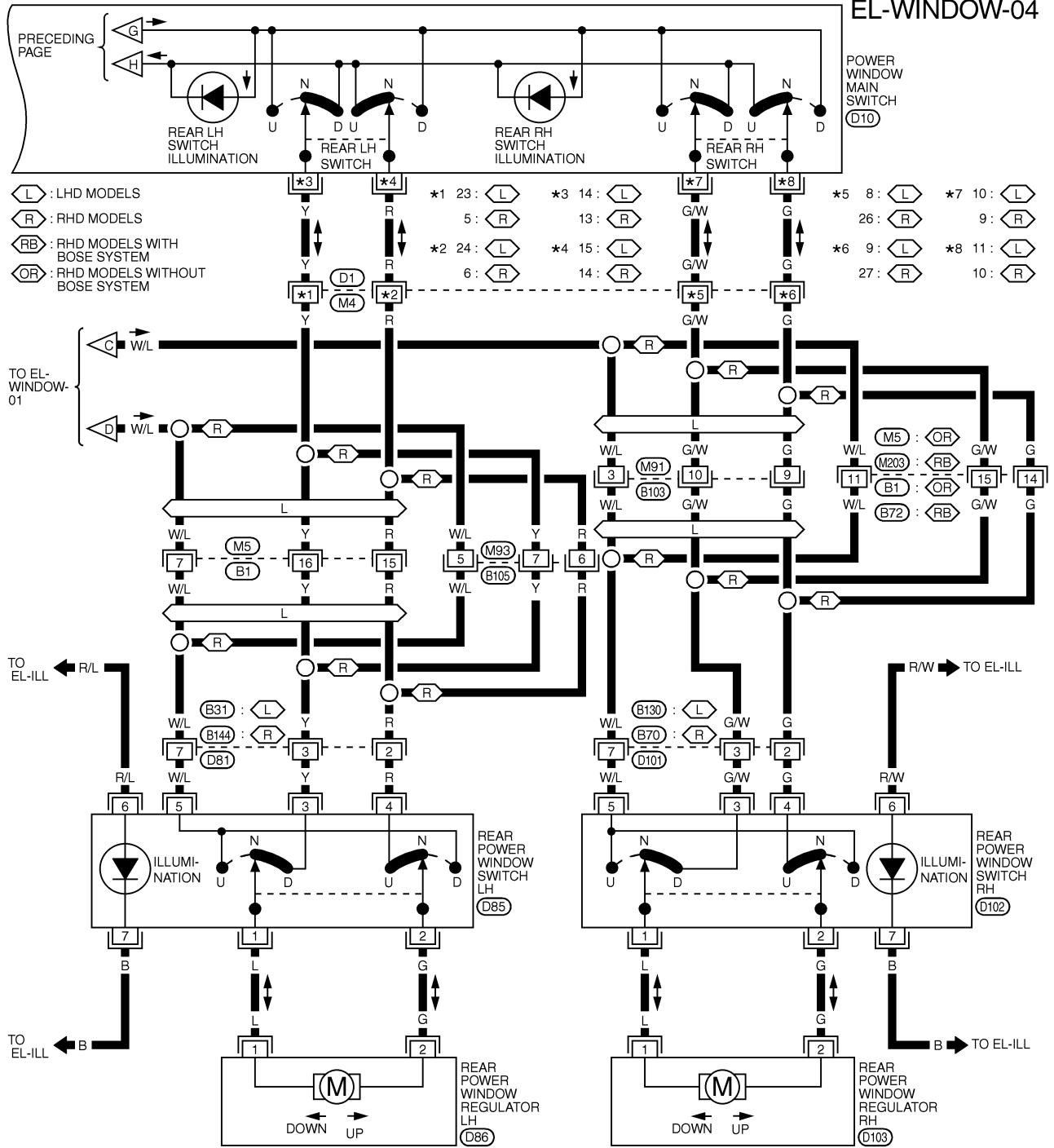
MEL830O

POWER
WINDOW
MAIN
SWITCH
(D10)



REFER TO THE FOLLOWING.
 (D1) , (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)

EL-WINDOW-04



GI
MA
EM
LC
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IDX

REFER TO THE FOLLOWING.
D1 - SUPER
MULTIPLE JUNCTION (SMJ)

Trouble Diagnoses

NFEL0105

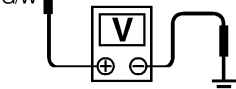
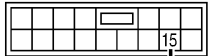
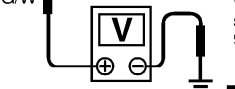
Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	10A fuse, 40A fusible link - E90 circuit breaker - Power window relay - E90 circuit breaker circuit - Ground circuit - Power window main switch	- Check 10A fuse [No. 10, located in fuse block (J/B)], 40A fusible link (letter I, located in fuse and fusible link box). - Check E90 circuit breaker. - Check power window relay. - Check the following. - Check harness between E90 circuit breaker and 40A fusible link (letter I, located in fuse and fusible link box). - Check harness between E90 circuit breaker and power window main switch terminal 5 (LHD models) or 3 (RHD models). - Check the following. - Check ground circuit of power window main switch. - Check power window relay ground circuit. - Check power window main switch.
Driver side power window cannot be operated but other windows can be operated.	- Driver side power window regulator circuit - Driver side power window regulator - Power window main switch	- Check harness between power window main switch and driver side power window regulator for open or short circuit. - Check driver side power window regulator. - Check power window main switch.
One or more power windows except driver's side window cannot be operated.	- Power window sub-switches - Power window regulators - Power window main switch - Power window circuit	- Check power window sub-switch. - Check power window regulator. - Check power window main switch. - Check the following. - Check harness between the power window sub switch terminal 12 and power window relay. - Check harnesses between power window main switch and power window sub-switch for open/short circuit. - Check harnesses between power window sub-switch and power window regulator for open/short circuit.
Power windows except driver's side window cannot be operated using power window main switch but can be operated by power window sub-switch.	Power window main switch	Check power window main switch.
Driver side power window automatic operation does not function properly.	- Power window main switch - Encoder and limit switch	- Check power window main switch. - Check encoder and limit switch. (EL-295)

ENCODER AND LIMIT SWITCH CHECK

=NFEL0105S01

1	CHECK DOOR WINDOW SLIDE MECHANISM
Check the following. • Obstacles in window, glass molding, etc. • Worn or deformed glass molding • Door sash tilted too far inward or outward • Door window regulator OK or NG	
OK	▶ GO TO 2.
NG	▶ Remove obstacles or repair door window slide mechanism.

2	CHECK POWER SUPPLY TO LIMIT SWITCH
Check voltage between front power window main switch terminal 9 (LHD models) or 15 (RHD models) and ground. LHD models Front power window main switch connector (D10) RHD models Front power window main switch connector (D10) Voltage: 5V NOTE: Check voltage when front power window regulator LH or RH harness connector is disconnected. SEL811W OK or NG	
OK	▶ GO TO 3.
NG	▶ Replace power window main switch.

3	CHECK LIMIT SWITCH OPERATION									
Check voltage between front power window main switch terminal 9 (LHD models) or 15 (RHD models) and ground during power window closing operation.										
 CONNECT  	LHD models Front power window main switch connector (D10)  G/W 	RHD models Front power window main switch connector (D10)  G/W 								
		<table><tr><th>Terminal No.</th><th>Condition</th><th>Voltage (DCV)</th></tr><tr><td rowspan="2">Front power window main switch: 9 (LHD models) 15 (RHD models)</td><td>Approx. 15 mm (0.59 in) below the full closed position to full closed position</td><td>Approx. 5</td></tr><tr><td>Other positions</td><td>Approx. 0</td></tr></table>	Terminal No.	Condition	Voltage (DCV)	Front power window main switch: 9 (LHD models) 15 (RHD models)	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5	Other positions	Approx. 0
Terminal No.	Condition	Voltage (DCV)								
Front power window main switch: 9 (LHD models) 15 (RHD models)	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5								
	Other positions	Approx. 0								
SEL812W										
OK or NG										
OK	▶	GO TO 5.								
NG	▶	GO TO 4.								

4
RESET LIMIT SWITCH

Reset limit switch. Refer to BT-13, "Front Door Glass Limit Switch Reset". Then check voltage between front power window main switch terminal 9 (LHD models) or 15 (RHD models) and ground during power window closing operation at least ten times.

LHD models
Front power window main switch connector (D10)

RHD models
Front power window main switch connector (D10)

Terminal No.	Condition	Voltage (DCV)
Front power window main switch: 9 (LHD models) 15 (RHD models)	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5
	Other positions	Approx. 0

SEL812W

OK or NG

OK	▶	GO TO 5.
NG	▶	Replace power window regulator motor (front driver side).

5
CHECK ENCODER

Measure voltage between front power window main switch terminal 16 (LHD models) or 8 (RHD models) and ground with oscilloscope when power window is in automatic closing operation.

LHD models
Front power window main switch connector (D10)

RHD models
Front power window main switch connector (D10)

HI: Approx. 5V
LO: Approx. 0V

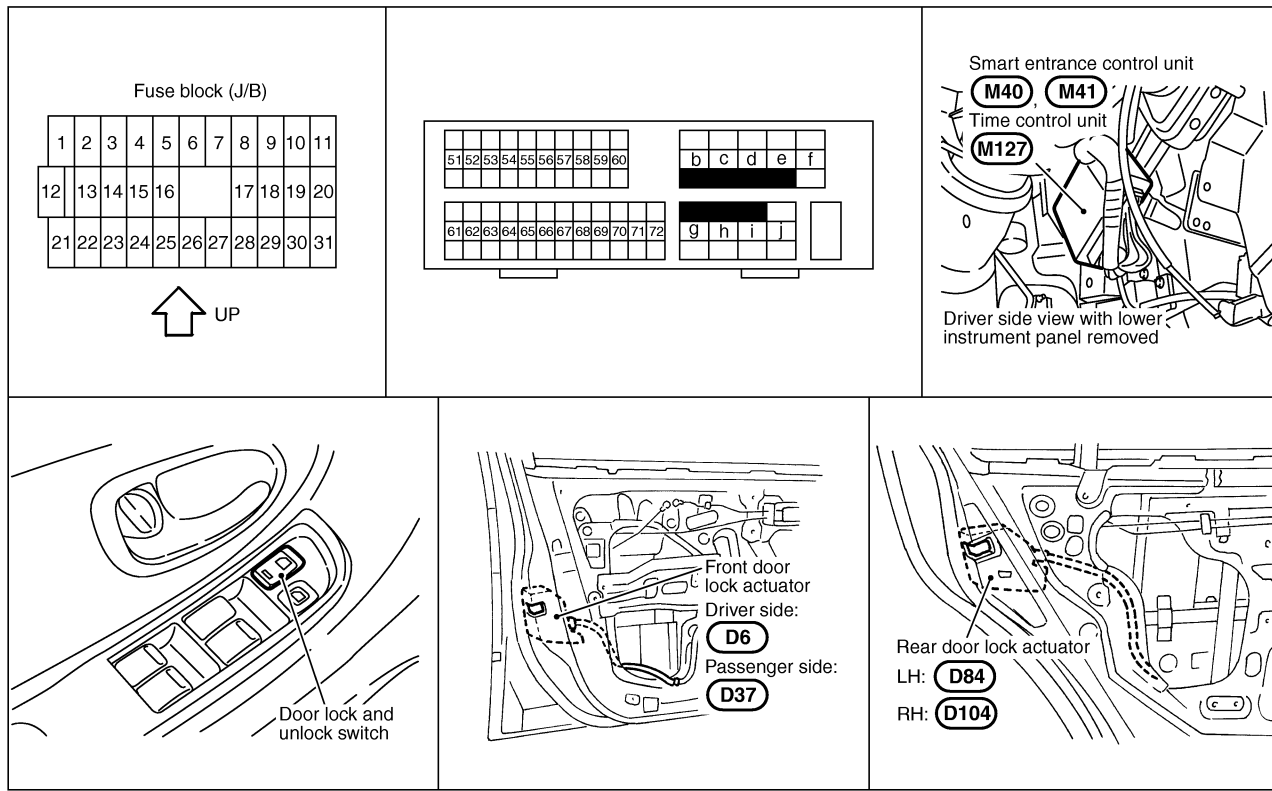
SEL813W

OK or NG

OK	▶	Replace power window main switch.
NG	▶	Replace power window regulator motor (front driver side).

Component Parts and Harness Connector Location

NFEL0106



SEL814W

System Description

NFEL0107

NFEL0107S04

OPERATION

- The lock/unlock switch on driver's door trim can lock and unlock all doors (Except driver's door).
- The lock knob on the driver's door can lock and unlock all doors. (Signals from front door unlock sensor)
- With the key inserted in the driver's door key cylinder, the doors can be locked by turning the key to the "LOCK" position, and unlocked by turning to the "UNLOCK" position. (Signals from front door unlock sensor)

GI
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EC
FE
CL
MT
AT
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX

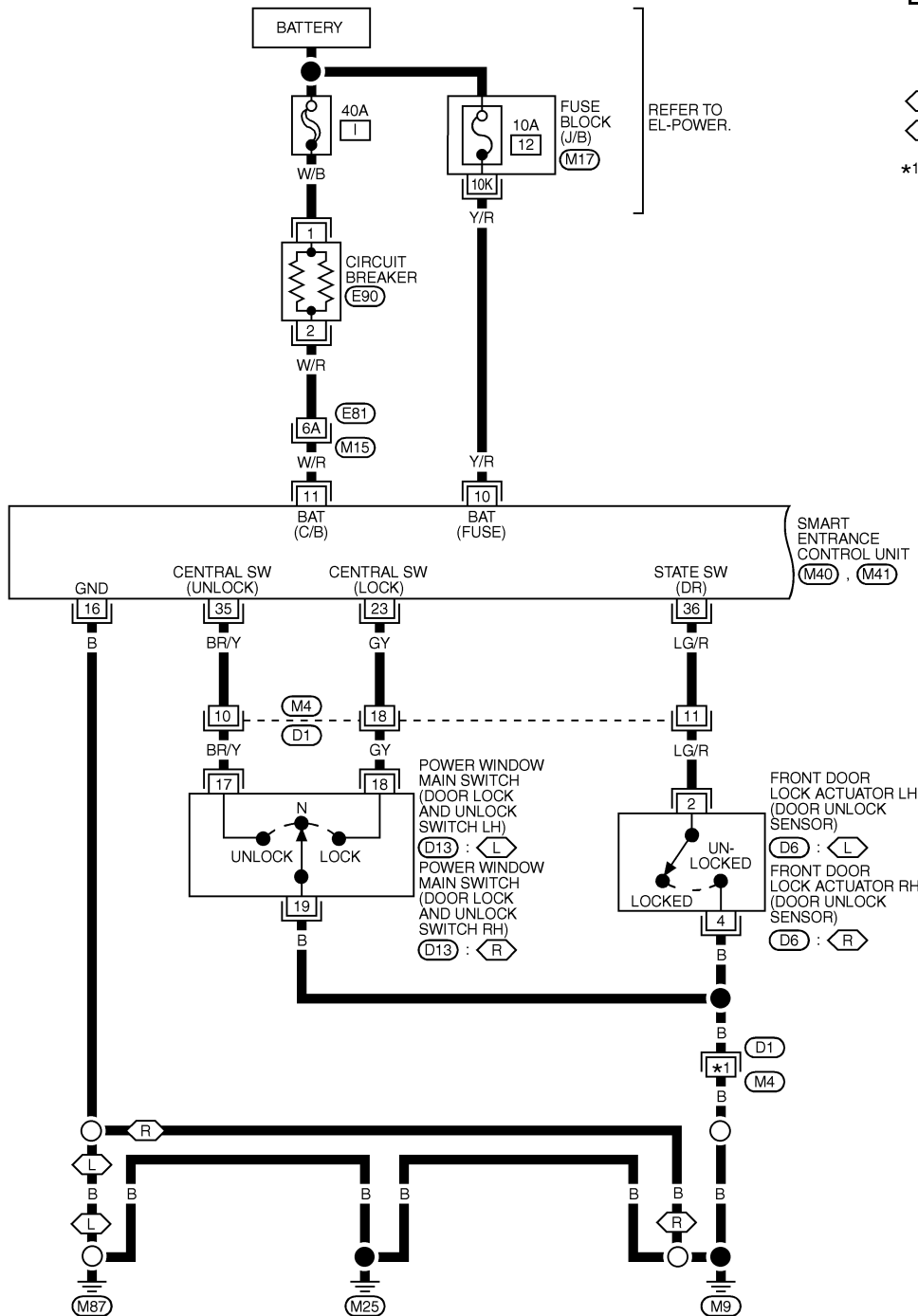
Wiring Diagram — D/LOCK —

NFEL0109

NFEL0109S01

WITH MULTI-REMOTE CONTROL SYSTEM

EL-D/LOCK-01



L : LHD MODELS

R : RHD MODELS

*1 26 : L

8 : R

SMART
ENTRANCE
CONTROL UNIT
(M40, M41)

POWER WINDOW
MAIN SWITCH
(DOOR LOCK
AND UNLOCK
SWITCH LH)
(D13) : L
POWER WINDOW
MAIN SWITCH
(DOOR LOCK
AND UNLOCK
SWITCH RH)
(D13) : R

FRONT DOOR
LOCK ACTUATOR LH
(DOOR UNLOCK
SENSOR)
(D6) : L
FRONT DOOR
LOCK ACTUATOR RH
(DOOR UNLOCK
SENSOR)
(D6) : R

REFER TO THE FOLLOWING.

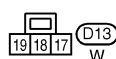
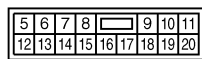
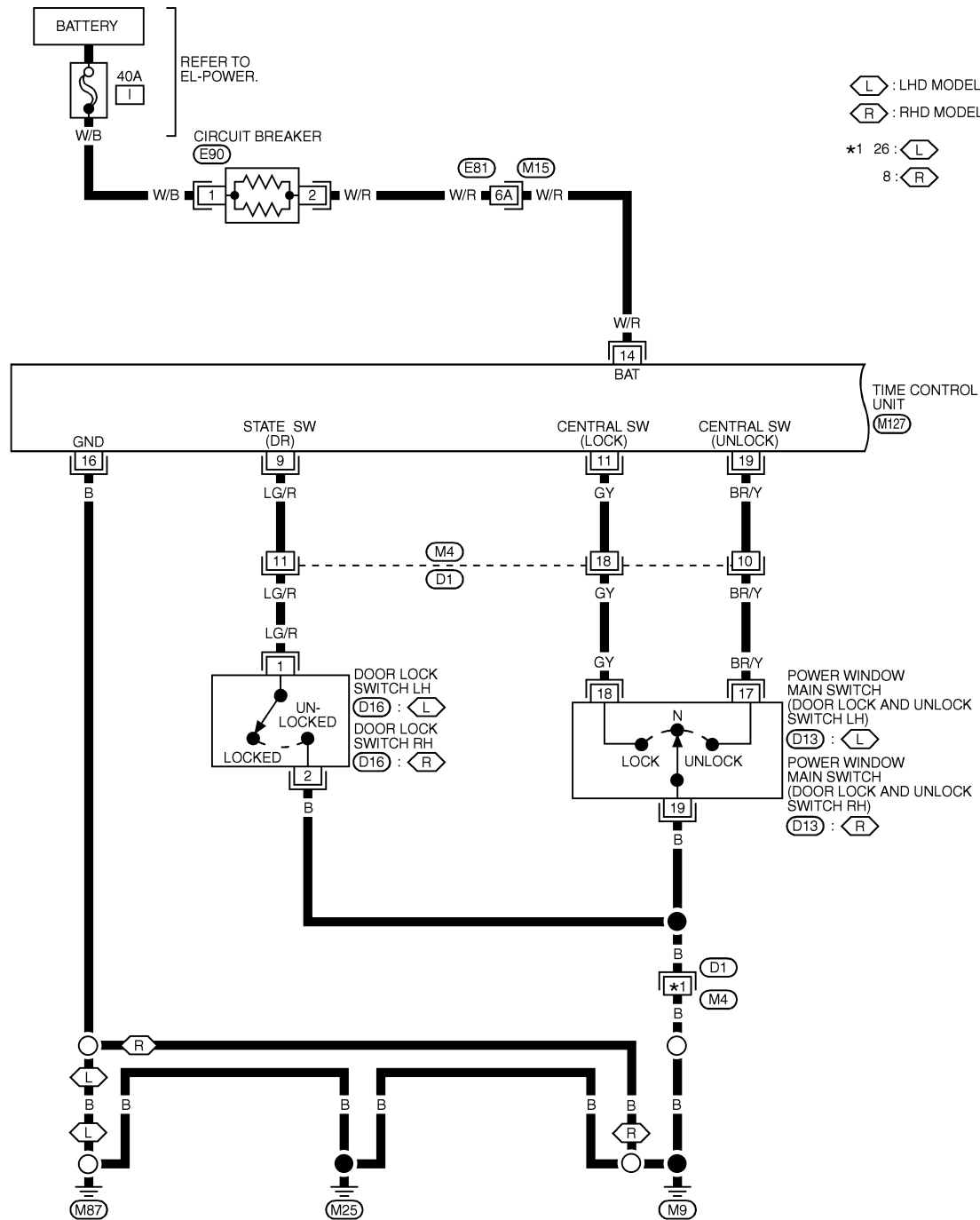
(M15), (D1) -SUPER
MULTIPLE JUNCTION (SMJ)

(M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

WITHOUT MULTI-REMOTE CONTROL SYSTEM

NFEL0109S03

EL-D/LOCK-03

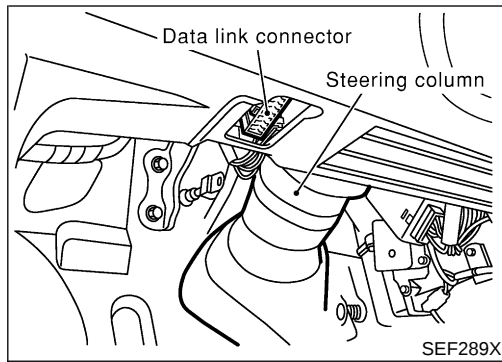


REFER TO THE FOLLOWING.

(M15), (D1)-SUPER

MULTIPLE JUNCTION (SMJ)

MEL834O



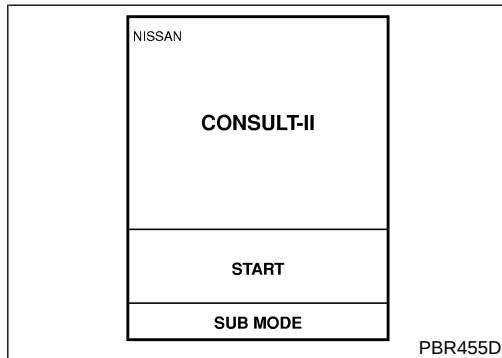
CONSULT-II Inspection Procedure

"DOOR LOCK"

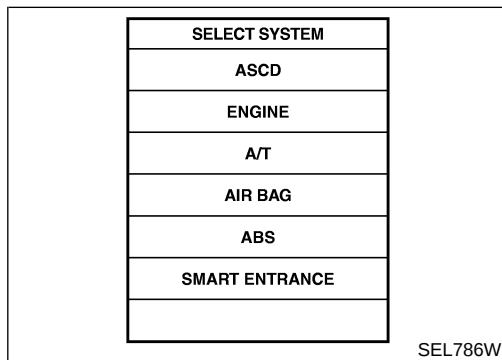
=NFEL0238

NFEL0238S01

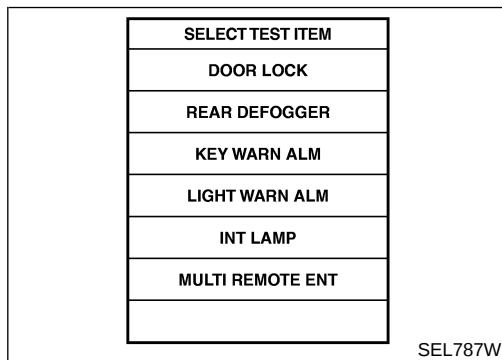
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



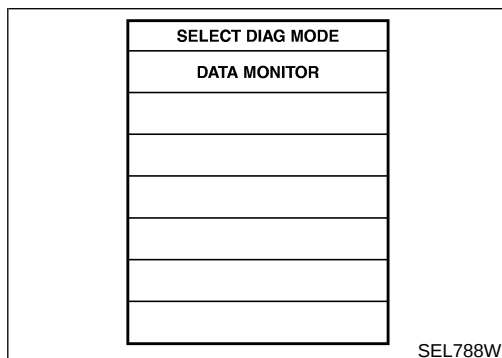
3. Turn ignition switch "ON".
4. Turn "START".



5. Touch "SMART ENTRANCE".



6. Touch "DOOR LOCK".



7. Select diagnosis mode.
"DATA MONITOR" is available.

CONSULT-II Application Items

NFEL0239

NFEL0239S01

NFEL0239S0101

"DOOR LOCK"

Data Monitor

Monitored Item	Description
KEY ON SW	Indicates [ON/OFF] condition of key switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from lock/unlock switch.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
LOCK SIG DR	Indicates [ON/OFF] condition of driver's door unlock sensor.

Trouble Diagnoses

NFEL0193

NFEL0193S01

SYMPTOM CHART

REFERENCE PAGE (EL-)	304	305	307	308
SYMPTOM	MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR LOCK/UNLOCK SWITCH CHECK	FRONT DOOR UNLOCK SENSOR CHECK	DOOR LOCK ACTUATOR CHECK
Specific door lock actuator does not operate.				X
Power door lock does not operate with door lock and unlock switch on door trim.	X	X		
Power door lock does not operate with driver's door lock knob/key cylinder.	X		X	

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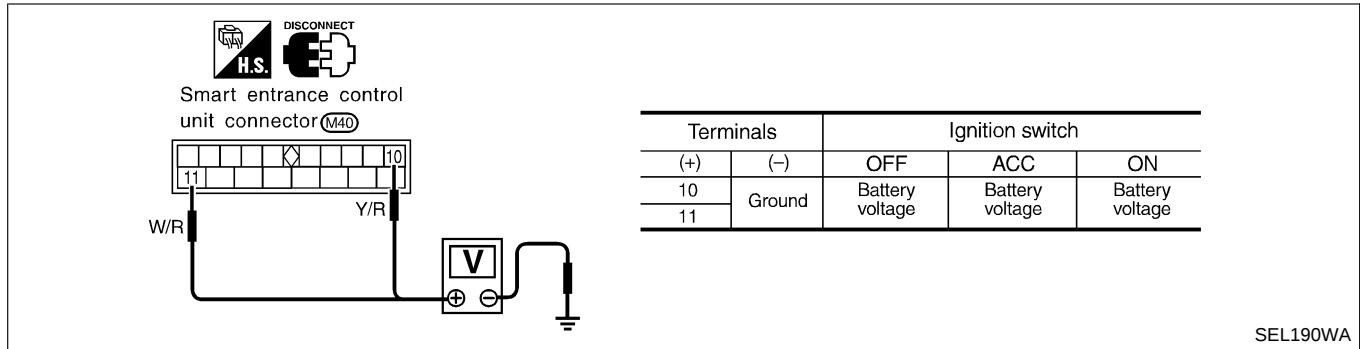
MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

=NFEL0193S02

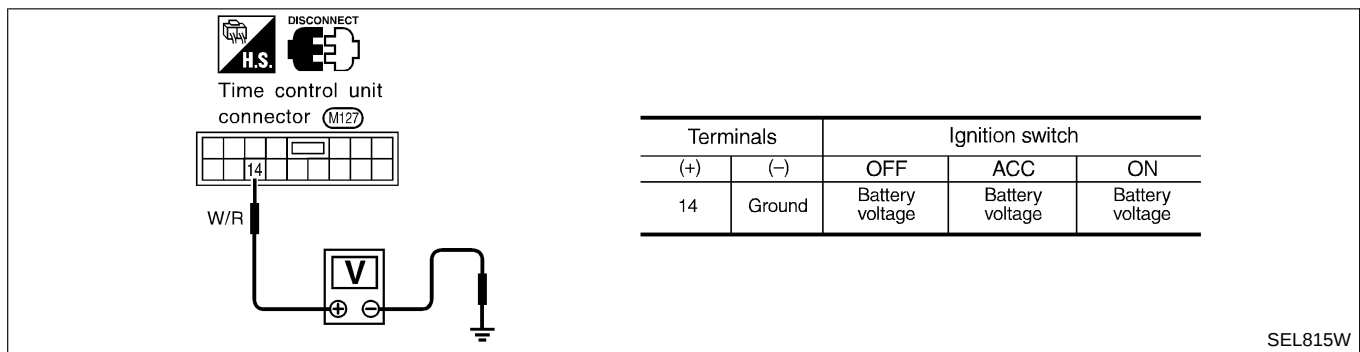
Main Power Supply Circuit Check

NFEL0193S0201

With smart entrance control unit (With Multi-Remote Control System)

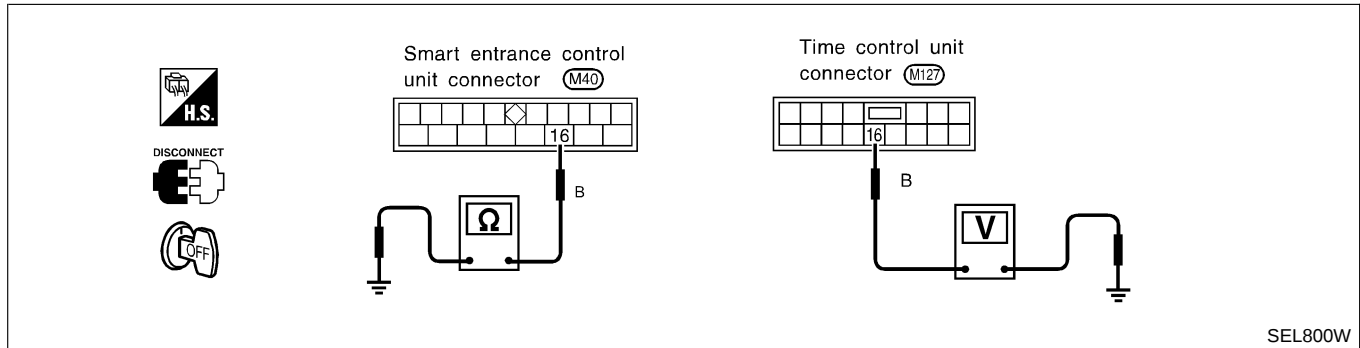


With time control unit (Without Multi-Remote Control System)



Ground Circuit Check

NFEL0193S0202



DOOR LOCK/UNLOCK SWITCH CHECK

=NFEL0193S05

1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

Check door lock/unlock switch ("LOCK SW DR/AS"/"UNLK SW DR/AS") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

When lock/unlock switch is turned to LOCK:

LOCK SW DR/AS ON

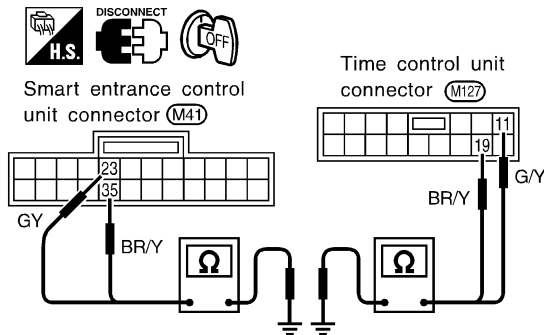
When lock/unlock switch is turned to UNLOCK:

UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit or time control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 23 or 35 or time control unit harness connector terminal 11 or 19 and ground.



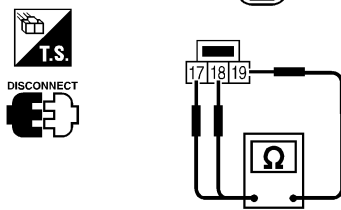
Unit	Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
Smart entrance control unit	23 - Ground	Lock	Yes
		N and Unlock	No
	35 - Ground	Unlock	Yes
Time control unit	11 - Ground	N and Lock	No
		Lock	Yes
	19 - Ground	N and Unlock	No
		Unlock	Yes
		N and Lock	No

SEL816W

Refer to wiring diagram in EL-298 or EL-300.

OK or NG

OK	▶	Door lock/unlock switch is OK.
NG	▶	GO TO 2.

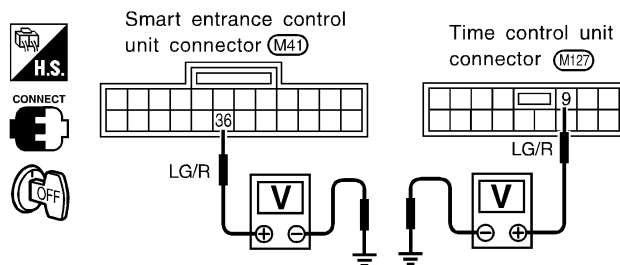
2		CHECK DOOR LOCK/UNLOCK SWITCH																				
1. Disconnect door lock/unlock switch harness connector. 2. Check continuity between each door lock/unlock switch terminals. ● Power window main switch (Door lock/unlock switch)																						
T.S. DISCONNECT  P/W main switch connector D13 <table><tr><th rowspan="2">Condition</th><th colspan="3">Terminals</th></tr><tr><th>17</th><th>18</th><th>19</th></tr><tr><td>Lock</td><td></td><td> </td><td> </td></tr><tr><td>N</td><td colspan="3">No continuity</td></tr><tr><td>Unlock</td><td> </td><td></td><td> </td></tr></table>				Condition	Terminals			17	18	19	Lock				N	No continuity			Unlock			
Condition	Terminals																					
	17	18	19																			
Lock																						
N	No continuity																					
Unlock																						
SEL196W																						
OK or NG																						
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																				
NG	▶	Replace door lock/unlock switch.																				

FRONT DOOR UNLOCK SENSOR CHECK

=NFEL0193S11

1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between smart entrance control unit terminal 36 or time control unit terminal 9 and ground.



Unit	Terminals		Condition (Driver's door)	Voltage [V]
	(+)	(-)		
Smart entrance control unit	36	Ground	Locked	Approx. 5
			Unlocked	0
Time control unit	9	Ground	Locked	Approx. 5
			Unlocked	0

SEL791W

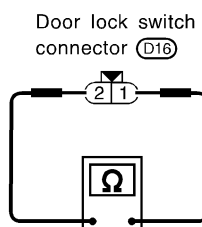
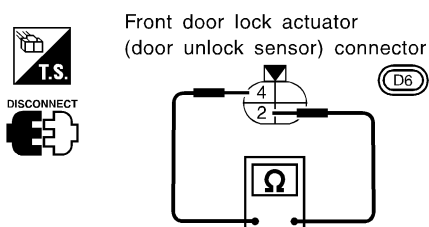
Refer to wiring diagram in EL-298 or EL-300.

OK or NG

OK	▶	Door unlock sensor is OK.
NG	▶	GO TO 2.

2 CHECK DOOR UNLOCK SENSOR

1. Disconnect door unlock sensor or door unlock switch connector.
2. Check continuity between door unlock sensor terminals 4 and 2 (with smart entrance control unit) or door unlock switch terminals 1 and 2 (with time control unit).



Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

SEL792W

OK or NG

OK	▶	Check the following. • Door unlock sensor or door unlock switch ground circuit • Harness for open or short between control unit and door unlock sensor or door unlock switch
NG	▶	Replace door unlock sensor or door unlock switch.

DOOR LOCK ACTUATOR CHECK

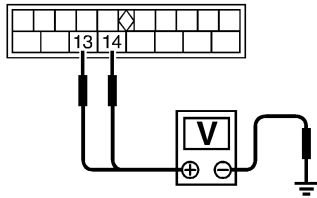
=NFEL0193S08

1 CHECK DOOR LOCK ACTUATOR CIRCUIT

- Door lock actuator front (Driver's door)

Check voltage between smart entrance control unit connector M40 terminals 13 (W/B for LHD models or W/R for RHD models) or 14 (G/Y) and ground.

Smart entrance
control unit connector



Door lock/unlock switch condition	Terminal No.		Voltage V
	(+)	(-)	
Lock	13	Ground	Approx. 12
Unlock	14	Ground	

SEL817WC

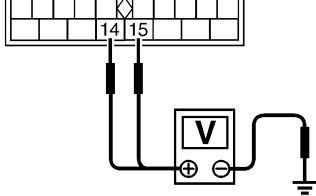
- Door lock actuator front (Passenger's door) and rear

Check the following.

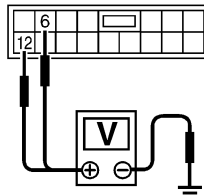
- Voltage between smart entrance control unit connector M40 terminals 14 (G/Y) or 15 (PU) and ground.
- Voltage between time control unit connector M127 terminals 12 (G/Y) or 6 (PU) and ground.



Smart entrance
control unit connector



Time control unit
connector



Unit	Door lock/unlock switch condition	Terminal No.		Voltage V
		(+)	(-)	
Smart entrance control unit	Lock	15	Ground	Approx. 12
	Unlock	14	Ground	
Time control unit	Lock	6	Ground	Approx. 12
	Unlock	12	Ground	

SEL818WA

Refer to wiring diagram in EL-298 or EL-300.

OK or NG

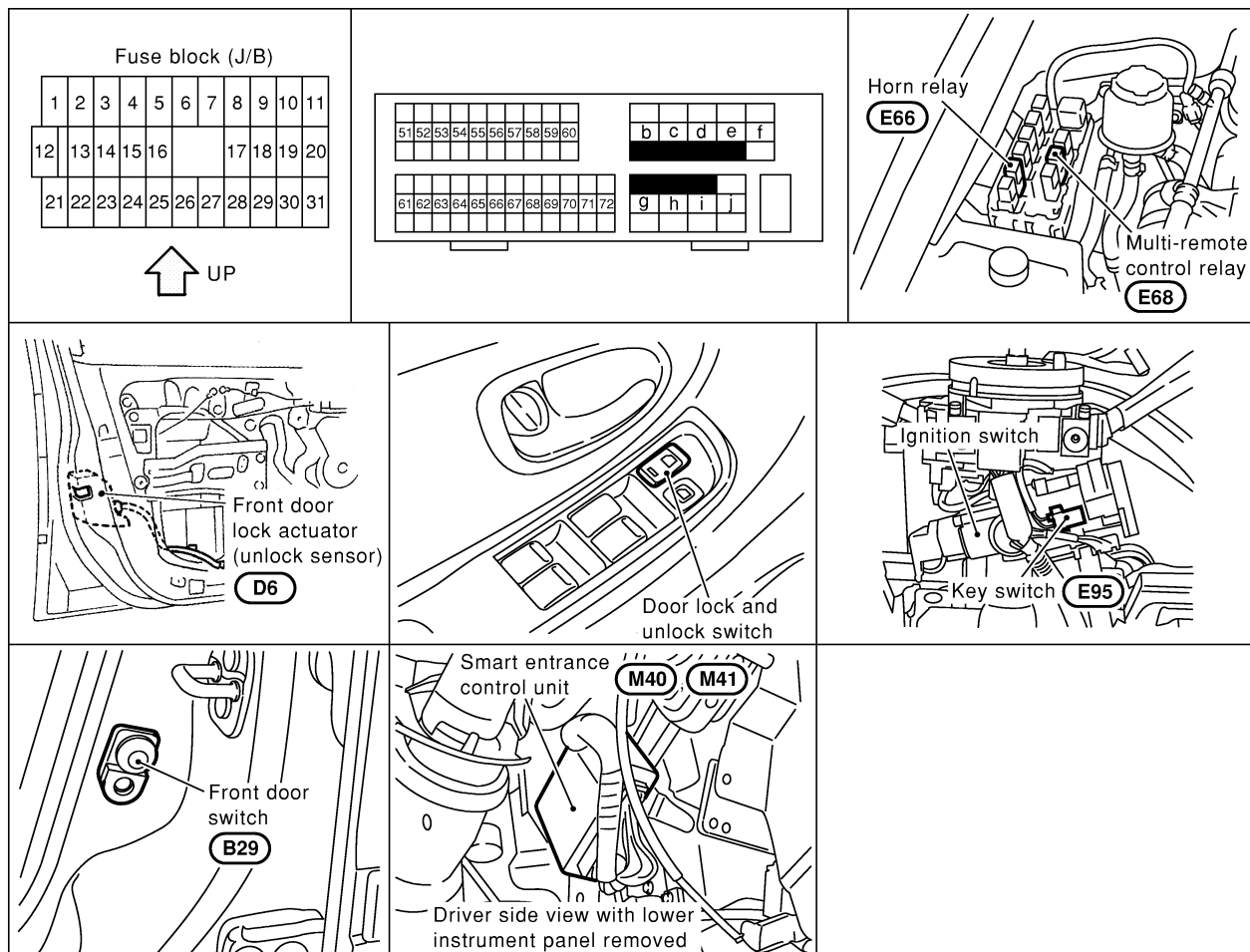
OK	▶	GO TO 2.
NG	▶	Replace control unit. (Before replacing the control unit, perform "DOOR LOCK/UNLOCK SWITCH CHECK".)

2	CHECK DOOR LOCK ACTUATOR	
	1. Disconnect door lock actuator harness connector. 2. Apply 12V direct current to door lock actuator connectors D6 (Front driver side), D37 (Front passenger side), D84 (Rear LH) or D104 (Rear RH) terminals 3 and 1 and check operation. Door lock actuator connector 1, 3 3, 1 FUSE BAT Door lock actuator operation: Terminals between (+): 1 and (-): 3 Unlocked → Locked Terminals between (+): 3 and (-): 1 Locked → Unlocked SEL222WC	
	OK or NG	
OK	▶	Check harness for open or short between control unit and door lock actuator.
NG	▶	Replace door lock actuator.

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Component Parts and Harness Connector Location

NFEL0111



SEL651WA

System Description

NFEL0194

NFEL0194S01

INPUTS

Power is supplied at all times

- to key switch terminal 2
- through 10A fuse [No. 12, located in the fuse block (J/B)].

When the key switch is ON (ignition key is inserted in key cylinder), power is supplied

- through key switch terminal 1
- to smart entrance control unit terminal 32.

When the front door switch (driver side) is ON (door is OPEN), ground is supplied

- to smart entrance control unit terminal 29
- through front door switch (driver side) terminal 2
- to front door switch (driver side) terminal 3
- through body grounds B30 (LHD models) or B7 (RHD models) and B12.

When the front door switch (passenger side) is ON (door is OPEN), ground is supplied

- to smart entrance control unit terminal 28
- through front door switch (passenger side) terminal 1,
- to front door switch (passenger side) case ground.

When the rear door switches are ON (door is OPEN), ground is supplied

- to smart entrance control unit terminal 28
- through rear door switches terminal 1

- to rear door switches case grounds.

When lock/unlock switch is LOCK, ground is supplied

- to smart entrance control unit terminal 23
- through lock/unlock switch terminal 18, and
- through body grounds M9, M25 and M87.

When lock/unlock switch is UNLOCK, ground is supplied

- to smart entrance control unit terminal 35
- through lock/unlock switch terminal 17, and
- through body grounds M9, M25 and M87.

When front door unlock sensor is UNLOCKED, ground is supplied

- to smart entrance control unit terminal 36,
- through front door unlock sensor terminal 2, and
- through body grounds M9, M25 and M87.

Remote controller signal is inputted to smart entrance control unit (The antenna of the system is combined with smart entrance control unit).

The multi-remote control system controls operation of the

- power door lock
- trunk lid opener
- interior lamp
- panic alarm
- hazard reminder

OPERATED PROCEDURE

Power Door Lock Operation

Smart entrance control unit receives a LOCK/UNLOCK signal from remote controller. Smart entrance control unit locks/unlocks all doors with input of LOCK/UNLOCK signal from remote controller.

Hazard Reminder

Power is supplied at all times

- to multi-remote control relay terminals 1, 3 and 6
- through 15A fuse [No. 5, located in the fuse block (J/B)]

When smart entrance control unit receives LOCK or UNLOCK signal from remote controller with all doors closed, ground is supplied

- to multi-remote control relay terminal 2
- through smart entrance control unit terminal 7.

Multi-remote control relay is now energized, and hazard warning lamp flashes as a reminder.

The hazard reminder has C mode and S mode.

Operating function of hazard reminder

	C mode	S mode
	Hazard warning lamp flash	Hazard warning lamp flash
Lock	Twice	Twice
Unlock	Once	—

How to change hazard reminder mode

Hazard reminder mode can be changed only using "WORK SUPPORT" mode in "MULTI REMOTE ENT" with CONSULT-II.

Interior Lamp Operation

When the following input signals are both supplied:

- door switch CLOSED (when all the doors are closed);
- driver's door LOCKED;

multi-remote control system turns on interior lamp and key hole illumination (for 30 seconds) with input of UNLOCK signal from remote controller.

For detailed description, refer to "INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS" (EL-118).

Panic Alarm Operation

When key switch is OFF (when ignition key is not inserted in key cylinder), multi-remote control system turns on and off horn intermittently with input of PANIC ALARM signal from remote controller.

The alarm automatically turns off after 25 seconds or when smart entrance control unit receives any signal from multi-remote controller.

For detailed description, refer to "THEFT WARNING SYSTEM" (EL-341).

TRUNK LID OPENER OPERATION

Power is supplied at all times

- through 15A fuse [No. 3, located in the fuse block (J/B)]
- to trunk lid opener actuator terminal 2.

When a TRUNK OPEN signal is sent with key OFF (ignition key removed from key cylinder) from remote controller, ground is supplied

- to trunk lid opener actuator terminal 1
- through smart entrance control unit terminal 12.

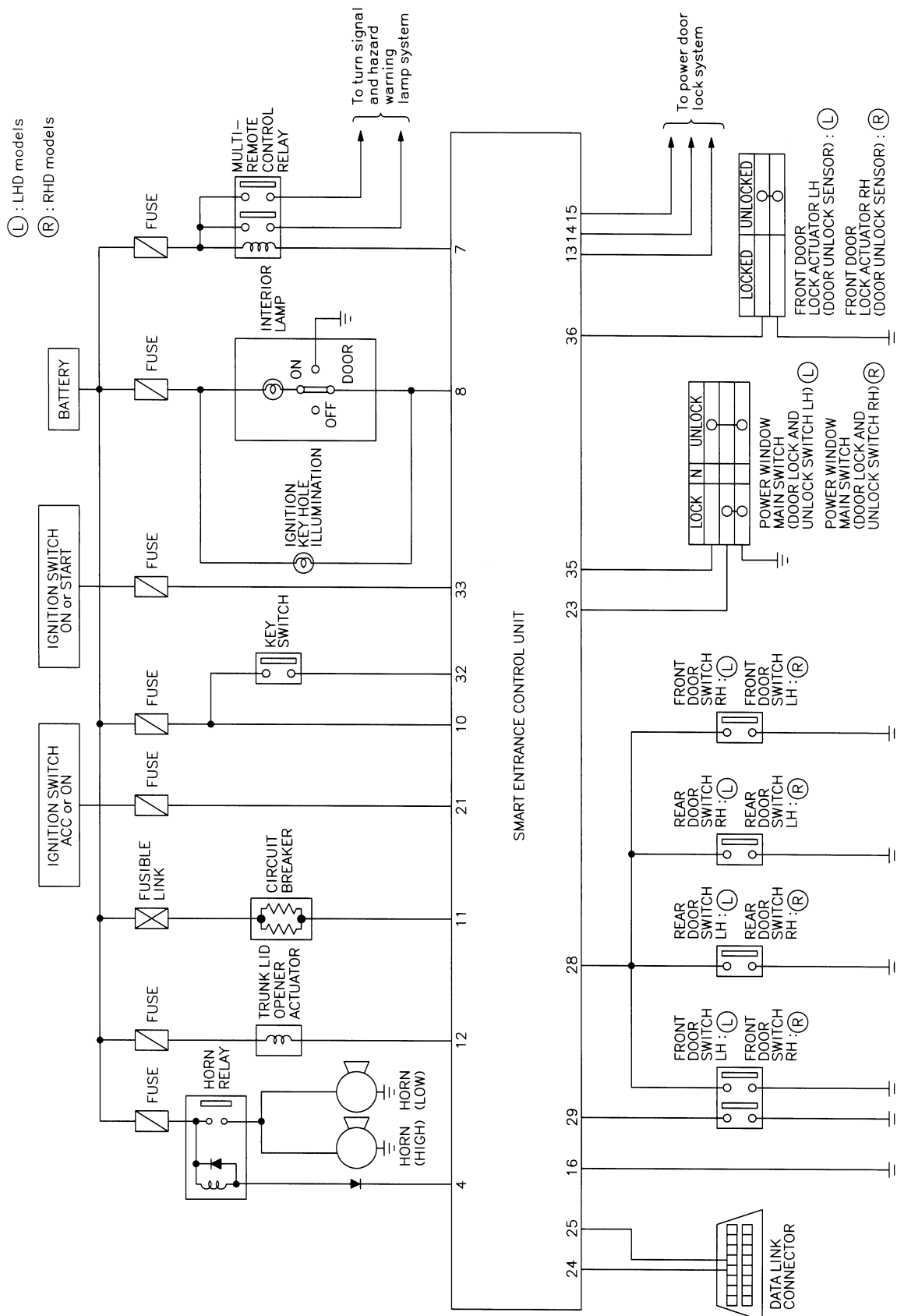
Then power and ground are supplied, trunk lid opener actuator opens trunk lid.

NFEL0194S0204

NFEL0194S03

Schematic

NFEL0171



MEL836O

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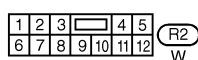
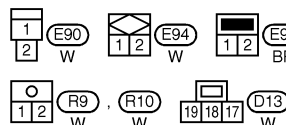
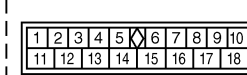
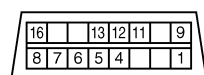
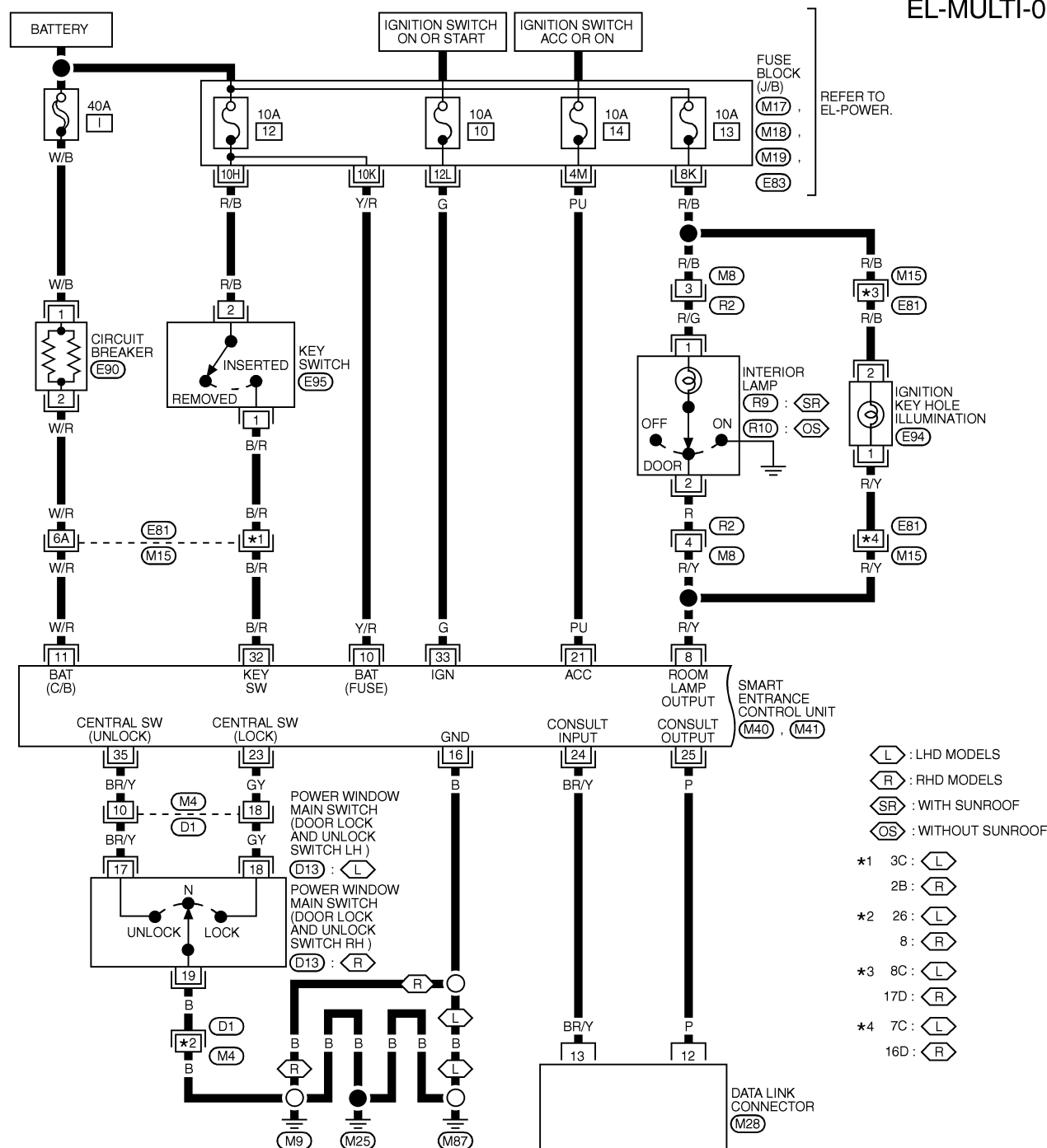
Wiring Diagram — MULTI —

NFEL0114

NFEL0114S01

EL-MULTI-01

FIG. 1



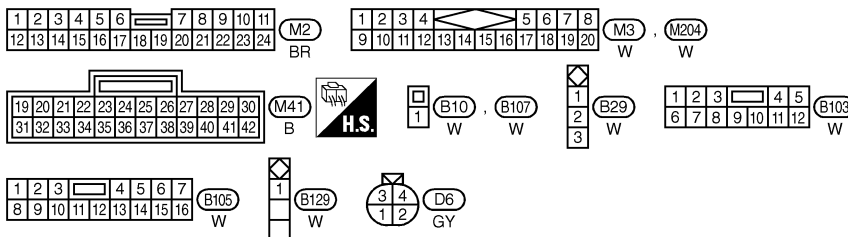
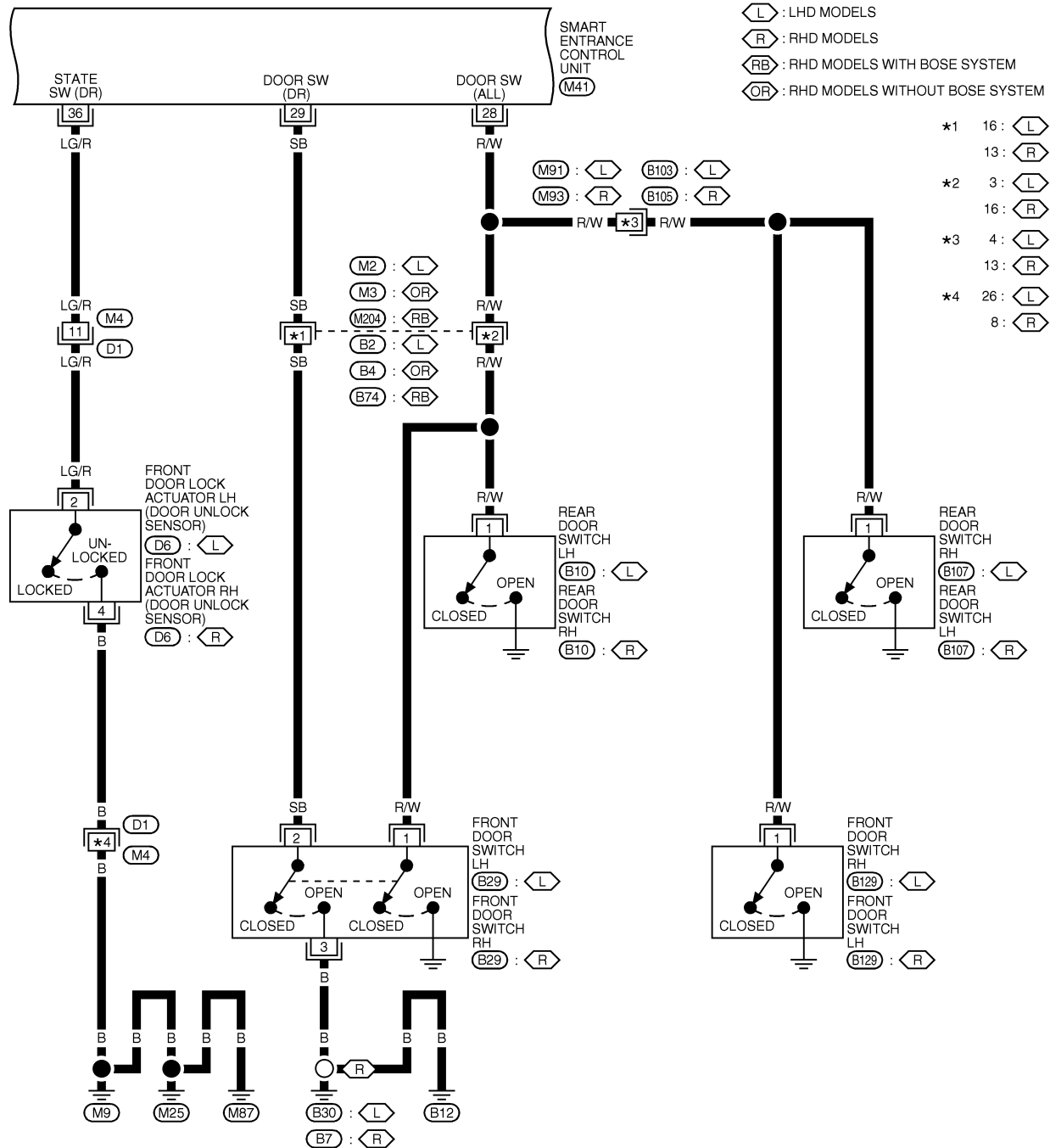
REFER TO THE FOLLOWING.

(M15), (D1) -SUPER
MULTIPLE JUNCTION (SMJ)
(M17), (M18), (M19), (E83)
-FUSE BLOCK-
JUNCTION BOX (J/B)

FIG. 2

NFEL0114S02

EL-MULTI-02



REFER TO THE FOLLOWING.

(D1) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL8380

EL-MULTI-03

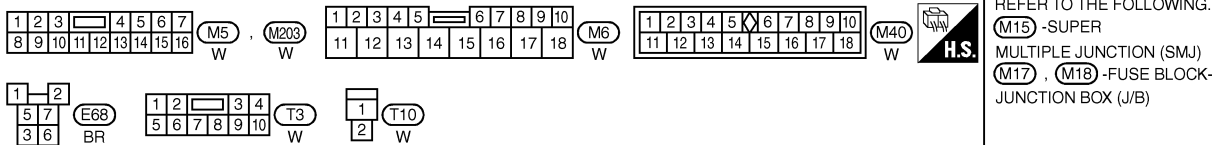
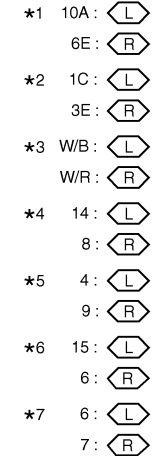
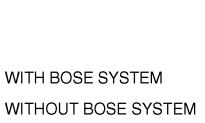


FIG. 4

NFEL0114S06

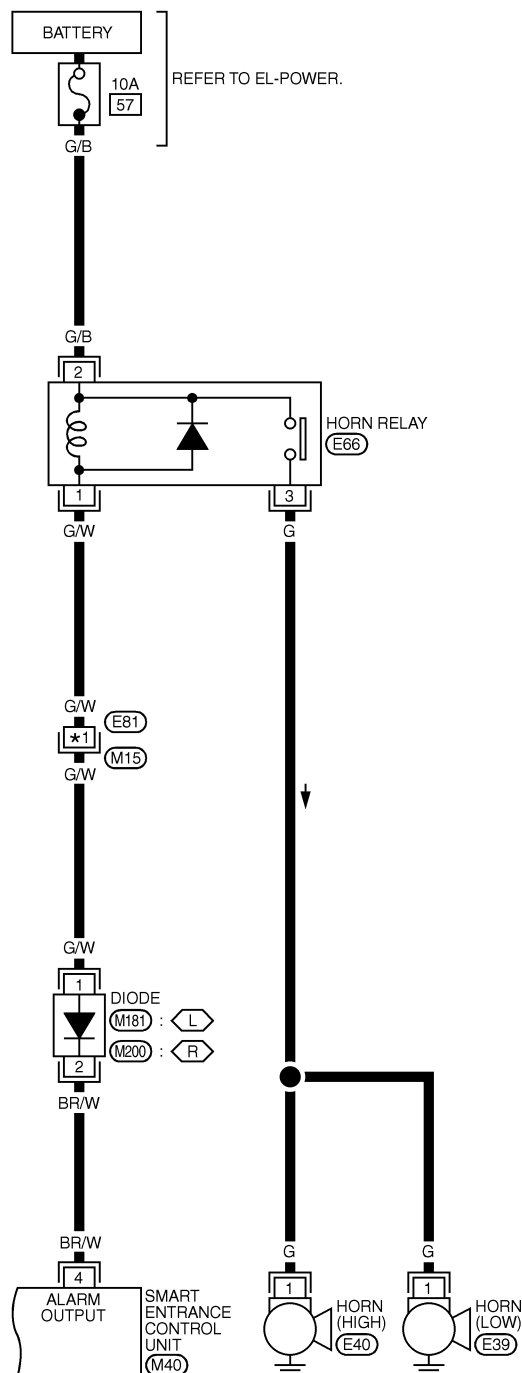
EL-MULTI-04

 : LHD MODELS

 : RHD MODELS

*1 4C:

1B:



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

M4C
W








1 E39 , E40
B B

2
1 3

E66

W

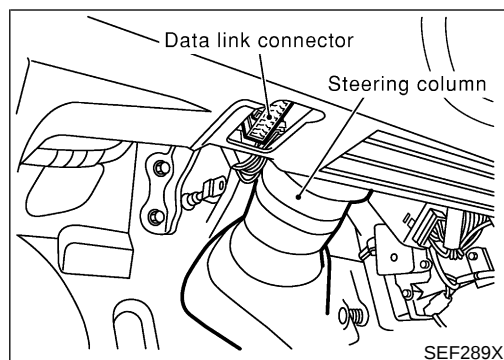
| REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

EL

IDX

MEL8400



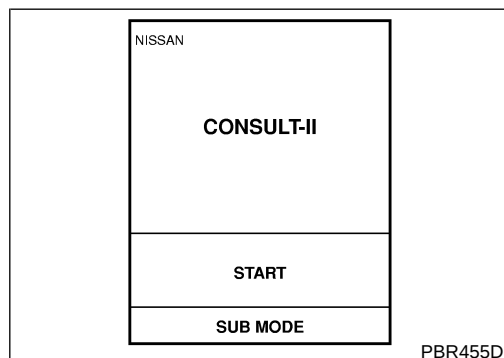
CONSULT-II Inspection Procedure

"MULTI REMOTE ENT"

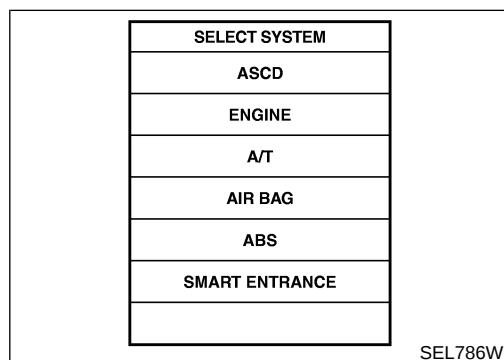
NFEL0241

NFEL0241S01

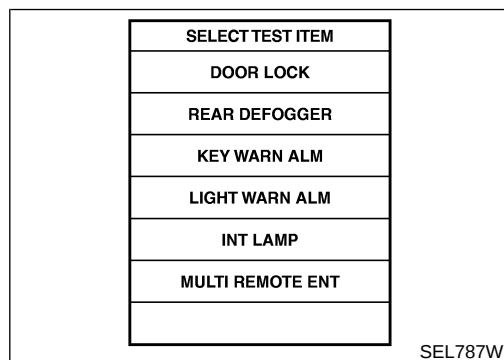
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



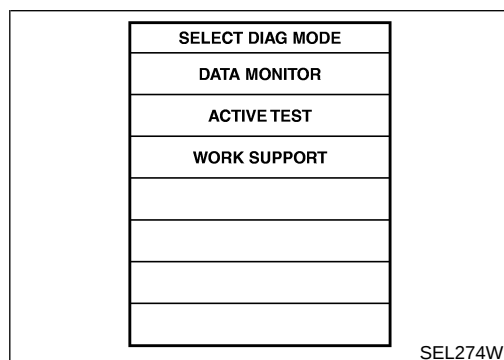
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "MULTI REMOTE ENT".



7. Select diagnosis mode. "DATA MONITOR", "ACTIVE TEST" and "WORK SUPPORT" are available.

CONSULT-II Application Items

NFEL0242

NFEL0242S01

NFEL0242S0101

"MULTI REMOTE ENT"

Data Monitor

Monitored Item	Description
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (Driver's door).
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from lock/unlock switch.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from remote controller.
PANIC BTN	Indicates [ON/OFF] condition of panic signal from remote controller.

Active Test

NFEL0242S0102

Test Item	Description
INT/IGN ILLUM	This test is able to check interior lamp and ignition key hole illumination operation. The interior lamp and ignition key hole illumination are turned on when "ON" on CONSULT-II screen is touched.
HAZARD	This test is able to check hazard reminder operation. The hazard lamp turns on when "ON" on CONSULT-II screen is touched.
ALARM	This test is able to check panic alarm operation. The alarm activate for 0.5 seconds after "ON" on CONSULT-II screen is touched.
TRUNK OUTPUT	This test is able to check trunk lid opener actuator operation. The trunk is unlocked when "ON" on CONSULT-II screen is touched.

Work Support

NFEL0242S0103

Test Item	Description
REMO CONT ID CONFIR	It can be checked whether remote controller ID code is registered or not in this mode.
REMO CONT ID REGIST	Remote controller ID code can be registered.
REMO CONT ID ERASUE	Remote controller ID code can be erased.
HZRD REM SET	Hazard reminder mode can be changed in this mode. The reminder mode will be changed when "MODE SET" on CONSULT-II screen is touched.

Trouble Diagnoses

SYMPTOM CHART

NFEL0195

NFEL0195S01

NOTE:

- Always check remote controller battery before replacing remote controller.
- The panic alarm operation and trunk lid opener operation of multi-remote control system do not activate with the ignition key inserted in the ignition key cylinder.

Symptom	Diagnoses/service procedure	Reference page (EL-)
All function of multi-remote control system do not operate.	1. Remote controller battery and function check	321
	2. Power supply and ground circuit for smart entrance control unit check	322
	3. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	333
The new ID of remote controller cannot be entered.	1. Remote controller battery and function check	321
	2. Key switch (insert) check	325
	3. Door switch check	324
	4. Door lock/unlock switch LH check	326
	5. Power supply and ground circuit for smart entrance control unit check	322
	6. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	333
Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system. Refer to EL-303.)	1. Remote controller battery and function check	321
	2. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	333
Hazard reminder does not activate properly when pressing lock or unlock button of remote controller.	1. Remote controller battery and function check	321
	2. Hazard reminder check	329
	3. Door switch check	324
	4. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	333
Interior lamp and key hole illumination operation do not activate properly.	1. Interior lamp operation check	331
	2. Key hole illumination operation check	332
	3. Door switch check	324
	4. Front door unlock sensor check	327
Panic alarm (horn) does not activate when panic alarm button is continuously pressed.	1. Remote controller battery and function check	321
	2. Theft warning operation check. Refer to "PRELIMINARY CHECK" in "THEFT WARNING SYSTEM".	351
	3. Key switch (insert) check	325
	4. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	333
Trunk lid does not open when trunk opener button is continuously pressed.	1. Remote controller battery and function check	321
	2. Trunk lid opener actuator check	328
	3. Key switch (insert) check	325
	4. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	333

REMOTE CONTROLLER BATTERY AND FUNCTION CHECK

=NFEL0195S02

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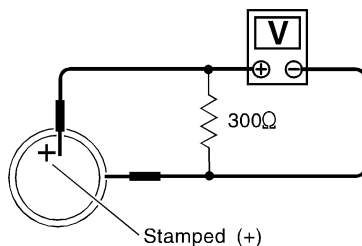
1 CHECK REMOTE CONTROLLER BATTERY

Remove battery (refer to EL-337) and measure voltage across battery positive and negative terminals, (+) and (-).

Voltage [V]:
2.5 - 3.0

NOTE:

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



SEL237W

OK or NG

OK	▶	GO TO 2.
NG	▶	Replace battery.

2 CHECK REMOTE CONTROLLER FUNCTION

With CONSULT-II

Check remote controller function ("LK BUTTON/SIG", "UN BUTTON/SIG", "TRUNK BTN/SIG" and "PANIC BTN") in "DATA MONITOR" mode with CONSULT-II.

When pushing each button of remote controller, the corresponding monitor item should be turned as follows.

DATA MONITOR	
MONITOR	
LK BUTTON/SIG	ON
UN BUTTON/SIG	ON
TRUNK BTN/SIG	ON
PANIC BTN	ON

Condition	Monitor item
Pushing LOCK	LK BUTTON/SIG ON
Pushing UNLOCK	UN BUTTON/SIG ON
Pushing TRUNK	TRUNK BTN/SIG ON
Pushing PANIC	PANIC BTN/SIG ON

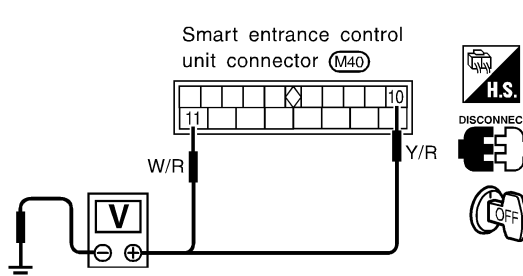
SEL819W

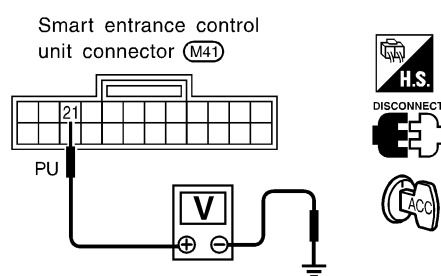
OK or NG

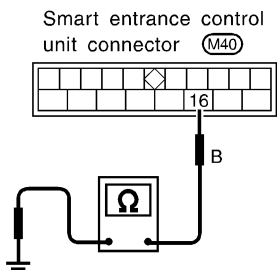
OK	▶	Remote controller is OK. Further inspection is necessary. Refer to "SYMPTOM CHART", EL-319.
NG	▶	Replace remote controller. Refer to ID Code Entry Procedure.

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NFEL0195S03

1	CHECK MAIN POWER SUPPLY CIRCUIT FOR SMART ENTRANCE CONTROL UNIT
1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector terminal 10 or 11 and ground.	
 SEL226WA	
Refer to wiring diagram in EL-314. OK or NG	
OK	▶ GO TO 2.
NG	▶ Check the following. • 40A fusible link (letter I, located in fuse and fusible link box) • 10A fuse [No. 12, located in fuse block (J/B)] • E90 circuit breaker • Harness for open or short between smart entrance control unit and fuse

2	CHECK IGNITION SWITCH “ACC” CIRCUIT
1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector terminal 21 and ground while ignition switch is “ACC”.	
 SEL227W	
Refer to wiring diagram in EL-314. OK or NG	
OK	▶ GO TO 3.
NG	▶ Check the following. • 10A fuse [No. 14, located in fuse block (J/B)] • Harness for open or short between smart entrance control unit and fuse

3	CHECK GROUND CIRCUIT FOR SMART ENTRANCE CONTROL UNIT	
Check continuity between smart entrance control unit harness connector terminal 16 and ground.		
Smart entrance control unit connector (M40)   DISCONNECT  Continuity should exist.		
Refer to wiring diagram in EL-314.		
SEL228W		
OK or NG		
OK	▶	Power supply and ground circuits are OK.
NG	▶	Check ground harness.

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DOOR SWITCH CHECK

=NFEL0195S04

1 CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-ALL") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-ALL	OFF

When any doors are open:

DOOR SW-ALL ON

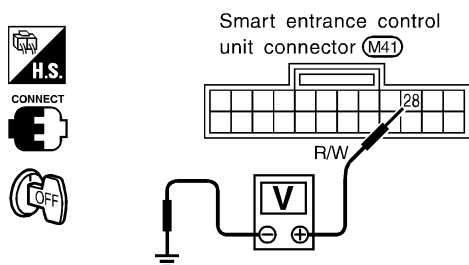
When all doors are closed:

DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 28 and ground.



	Terminals		Condition	Voltage [V]
	(+)	(-)		
All door switches	28	Ground	Open	0
			Closed	Approx. 5

SEL820W

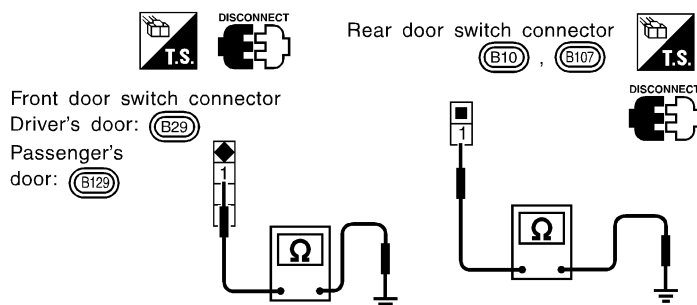
Refer to wiring diagram in EL-315.

OK or NG

OK	▶	Door switch is OK.
NG	▶	GO TO 2.

2 CHECK DOOR SWITCH

1. Disconnect door switch harness connector.
2. Check continuity between door switch terminals.



	Terminals	Condition	Continuity
All door switches	1 - Ground	Closed	No
		Open	Yes

SEL821W

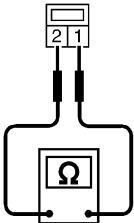
OK or NG

OK	▶	Check the following. • Door switch ground circuit or door switch ground condition • Harness for open or short between smart entrance control unit and door switch
NG	▶	Replace door switch.

KEY SWITCH (INSERT) CHECK

=NFEL0195S05

1	CHECK KEY SWITCH INPUT SIGNAL
With CONSULT-II Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II. DATA MONITOR MONITOR KEY ON SW ON When key is inserted to ignition key cylinder: KEY ON SW ON When key is removed from ignition key cylinder: KEY ON SW OFF SEL315W	
Without CONSULT-II Check voltage between control unit terminal 32 and ground. Smart entrance control unit connector (M41) 32 B/R V CONNECT H.S. : Approx. 12V : 0V Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is removed. 0 SEL193W	
Refer to wiring diagram in EL-314.	
OK or NG	
OK	▶ Key switch is OK.
NG	▶ GO TO 2.

2	CHECK KEY SWITCH (INSERT)
Check continuity between key switch terminals 1 and 2.	
Key switch connector (E95)  Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No	
SEL194W	
OK or NG	
OK	▶ Check the following. ● 10A fuse [No. 12, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between smart entrance control unit and key switch
NG	▶Replace key switch.

DOOR LOCK/UNLOCK SWITCH CHECK

=NFEL0195S06

1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

Check door lock/unlock switch ("LOCK SW DR/AS"/"UNLK SW DR/AS") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

When lock/unlock switch is turned to LOCK:

LOCK SW DR/AS ON

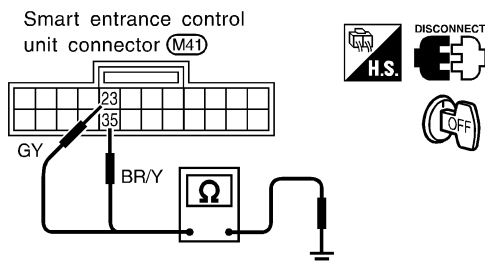
When lock/unlock switch is turned to UNLOCK:

UNLK SW DR/AS ON

SEL182Y

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 23 or 35 and ground.



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

SEL195W

Refer to wiring diagram in EL-314.

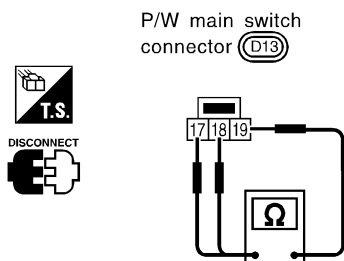
OK or NG

OK ► Door lock/unlock switch is OK.

NG ► GO TO 2.

2 CHECK DOOR LOCK/UNLOCK SWITCH

1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between door lock/unlock switch terminals.



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

SEL196W

OK or NG

OK ► **Check the following.**

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

NG ► Replace door lock/unlock switch.

FRONT DOOR UNLOCK SENSOR CHECK

=NFEL0195S07

1 CHECK FRONT DRIVER'S DOOR UNLOCK SENSOR INPUT SIGNAL**With CONSULT-II**

1. Select "DATA MONITOR" mode in "INT LAMP" with CONSULT-II.
2. Check front driver's door unlock sensor ("LOCK SIG DR") in "DATA MONITOR" mode.

DATA MONITOR	
MONITOR	
LOCK SIG DR	OFF

When driver's door is locked:

LOCK SIG DR OFF

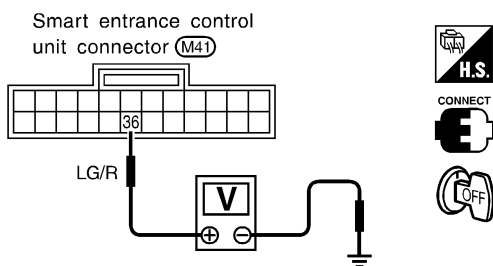
When driver's door is unlocked:

LOCK SIG DR ON

SEL344WA

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 and ground.



	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door	36	Ground	Locked	Approx. 5
			Unlocked	0

SEL223W

Refer to wiring diagram in EL-315.

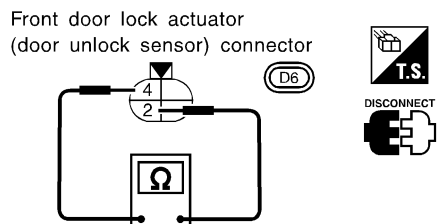
OK or NG

OK ► Door unlock sensor is OK.

NG ► GO TO 2.

2 CHECK FRONT DOOR UNLOCK SENSOR

1. Disconnect front door unlock sensor harness connector.
2. Check continuity between front door unlock sensor terminals.



Continuity:
Condition: Locked
 No
Condition: Unlocked
 Yes

SEL224WA

OK or NG

OK ► **Check the following.**

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

NG ► Replace door unlock sensor.

TRUNK LID OPENER ACTUATOR CHECK

=NFEL0195S12

1 CHECK TRUNK LID OPENER

Check trunk lid opener operation with trunk lid opener switch.

NOTE: First check trunk lid opener cancel lever position.

Does trunk lid open?

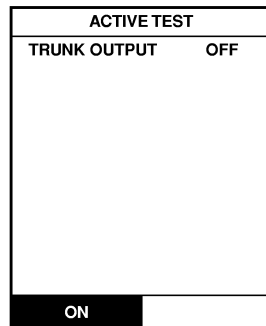
Yes GO TO 2.

No	▶	Check trunk lid opener actuator and the circuit.
----	---	--

2 CHECK TRUNK LID OPENER ACTUATOR OPERATION

 **With CONSULT-II**

1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II.
2. Select "TRUNK OUTPUT" and touch "ON".



Trunk lid opener should operate.

SEL345W

NOTE: If CONSULT-II is not available, skip this procedure and go to the next step.

OK or NG

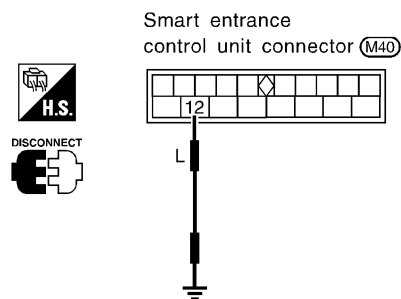
OK	▶	Trunk lid opener actuator circuit is OK.
----	---	--

NG	►	Check harness for open or short between smart entrance control unit and trunk lid opener actuator.
----	---	--

3	CHECK TRUNK LID OPENER ACTUATOR CIRCUIT
---	---

 Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector terminal 12.



SEL823W

Refer to wiring diagram in EL-316.

Does trunk lid open?

Yes Replace smart entrance control unit.

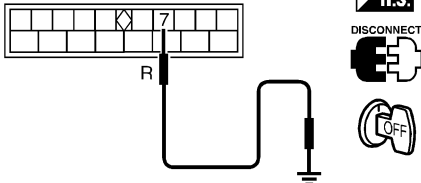
No	►	Check harness for open or short between smart entrance control unit and trunk lid opener actuator.
----	---	--

HAZARD REMINDER CHECK

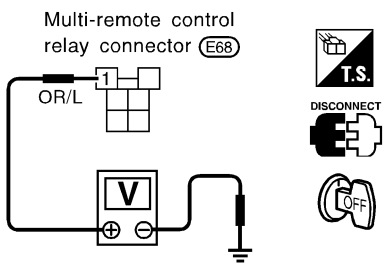
=NFEL0195S08

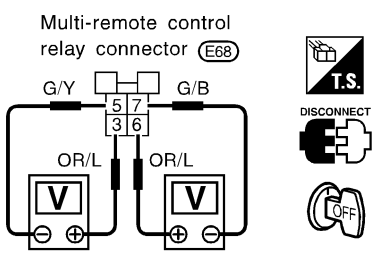
1	CHECK HAZARD INDICATOR
Check if hazard indicator flashes with hazard switch.	
Does hazard indicator operate?	
Yes	▶ GO TO 2.
No	▶ Check "hazard indicator" circuit.

2	CHECK HAZARD REMINDER OPERATION WITH CONSULT-II				
 With CONSULT-II 1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II. 2. Select "HAZARD" and touch "ON". ACTIVE TEST <table border="1"> <tr> <td>HAZARD</td> <td>OFF</td> </tr> <tr> <td colspan="2">ON</td> </tr> </table> Hazard indicator should illuminate. NOTE: If CONSULT-II is not available, skip this procedure and go to the next step. OK or NG		HAZARD	OFF	ON	
HAZARD	OFF				
ON					
OK	▶ Hazard reminder operation is OK.				
NG	▶ GO TO 4.				

3	CHECK HAZARD REMINDER OPERATION WITHOUT CONSULT-II
 Without CONSULT-II 1. Disconnect smart entrance control unit harness connector. 2. Apply ground to smart entrance control unit harness connector terminal 7. Smart entrance control unit connector (M40)  Hazard indicator should illuminate. Refer to wiring diagram in EL-316. OK or NG	
OK	▶ Replace smart entrance control unit.
NG	▶ GO TO 4.

4	CHECK MULTI-REMOTE CONTROL RELAY
Check multi-remote control relay.	
OK or NG	
OK	▶ GO TO 5.
NG	▶ Replace multi-remote control relay.

5	CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY
1. Disconnect multi-remote control relay harness connector. 2. Check voltage between terminal 1 and ground.	
 SEL235WA Does battery voltage exist?	
Yes	▶ GO TO 6.
No	▶ Check the following. • 15A fuse [No. 5, located in fuse block (J/B)] • Harness for open or short between multi-remote control relay and fuse

6	CHECK MULTI-REMOTE CONTROL RELAY CIRCUIT
1. Disconnect multi-remote control relay harness connector. 2. Check voltage between terminals 3 and 5. 3. Check voltage between terminals 6 and 7.	
 SEL236WA Battery voltage should exist. OK or NG	
OK	▶ Check harness for open or short between smart entrance control unit and multi-remote control relay.
NG	▶ Check the following. • Harness for open or short between multi-remote control relay and fuse • Harness for open or short between multi-remote control relay and turn signal lamps

INTERIOR LAMP OPERATION CHECK

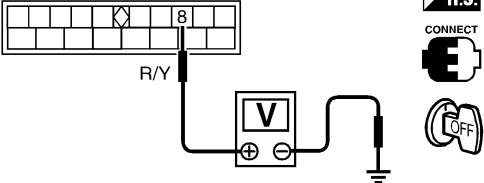
=NFEL0195S10

1	CHECK INTERIOR LAMP
Check if the interior lamp switch is in the "ON" position and the lamp illuminates.	
Does interior lamp illuminate?	
Yes	▶ GO TO 2.
No	▶ Check the following. • Harness for open or short between smart entrance control unit and interior lamp • Interior lamp

2	CHECK INTERIOR LAMP OPERATION
With CONSULT-II 1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II. 2. Select "INT/IGN ILLUM" and touch "ON". Interior lamp should illuminate. SEL349W	
Without CONSULT-II Push unlock button of remote controller with all doors closed, and check voltage between smart entrance control unit harness connector terminal 8 and ground. Voltage [V]: Unlock button is pushed. 0 (For approx. 30 seconds.) Unlock button is not pushed. Battery voltage SEL231WA Refer to wiring diagram in EL-314. OK or NG	
OK	▶ System is OK.
NG	▶ Check harness open or short between smart entrance control unit and interior lamp.

KEY HOLE ILLUMINATION OPERATION CHECK

NFEL0195S13

1	CHECK KEY HOLE ILLUMINATION OPERATION
	 With CONSULT-II 1. Select "ACTIVE TEST" IN "MULTI REMOTE ENT" with CONSULT-II. 2. Select "INT/IGN ILLUM" and touch "ON". ACTIVE TEST INT/IGN ILLUM OFF ON Key hole illuminate should illuminate. SEL350W
	 Without CONSULT-II Push unlock button of remote controller with all doors closed, and check voltage between smart entrance control unit harness connector terminal 8 and ground. Smart entrance control unit connector (M40)  Voltage [V]: - Unlock button is pushed. 0 (For approx. 30 seconds.) - Unlock button is not pushed. Battery voltage Refer to wiring diagram in EL-314. SEL231WA OK or NG
OK	▶ System is OK.
NG	▶ Check the following. • Harness for open or short between smart entrance control unit and key hole illumination. • Key hole illumination

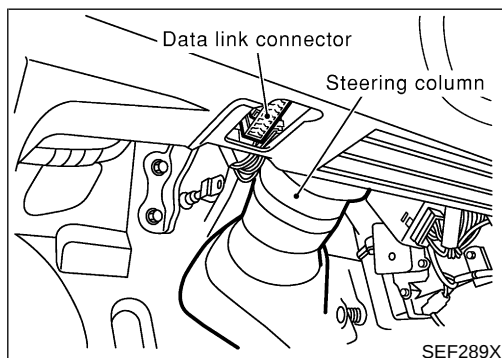
ID Code Entry Procedure

REMOTE CONTROLLER ID SET UP WITH CONSULT-II

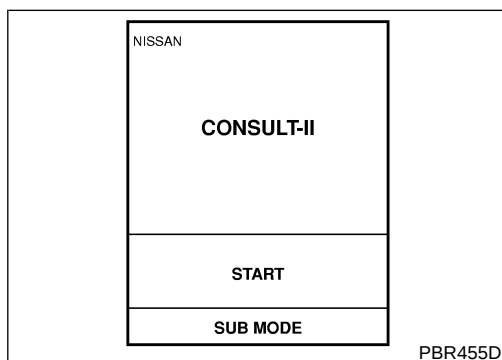
=NFEL0117
NFEL0117S01

NOTE:

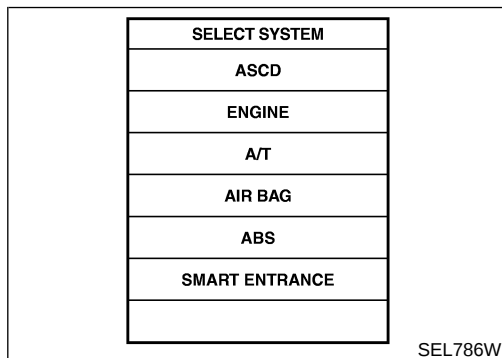
If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. When the ID code of a lost remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.



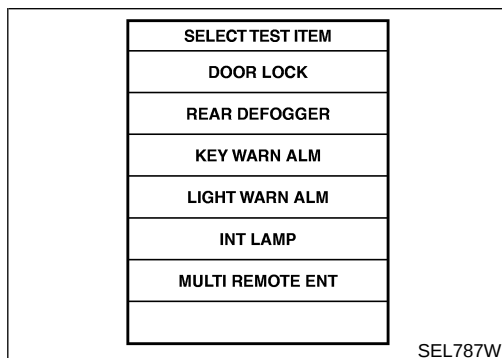
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "MULTI REMOTE ENT".

SELECT DIAG MODE
DATA MONITOR
ACTIVE TEST
WORK SUPPORT

SEL274W

7. Touch "WORK SUPPORT".

SELECT WORK ITEM
REMO CONT ID CONFIR
REMO CONT ID REGIST
REMO CONT ID ERASUR
HZRD REM SET

SEL277W

8. The items are shown on the figure at left can be set up.

- "REMO CONT ID CONFIR"
Use this mode to confirm if a remote controller ID code is registered or not.
- "REMO CONT ID REGIST"
Use this mode to register a remote controller ID code.

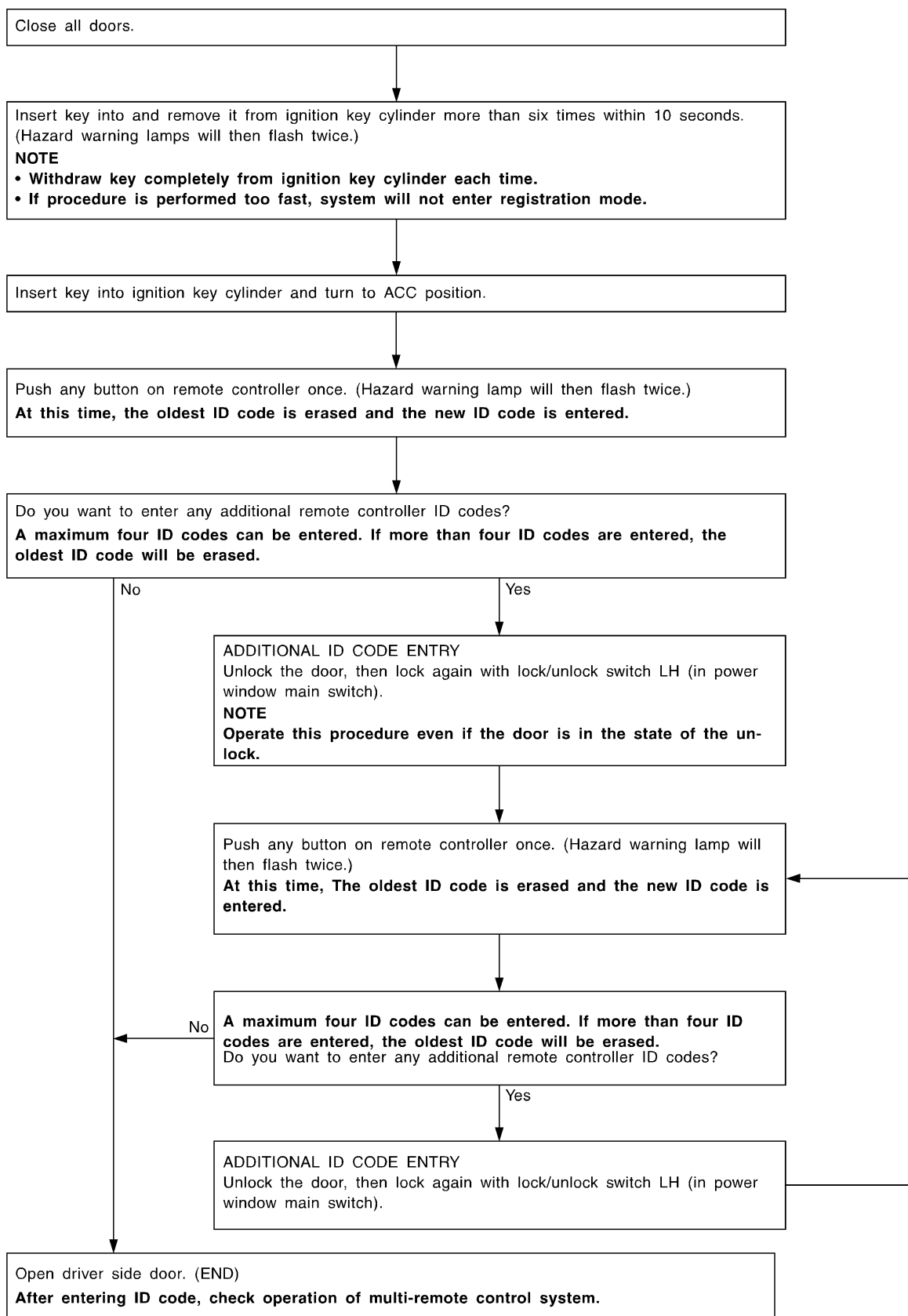
NOTE:

Register the ID code when remote controller or smart entrance control unit is replaced, or when additional remote controller is required.

- "REMO CONT ID ERASUR"
Use this mode to erase a remote controller ID code.
- "HZRD REM SET"
Use this mode to activate or deactivate the hazard reminder.

REMOTE CONTROLLER ID SET UP WITHOUT CONSULT-II

NFEL0117S02



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NOTE:

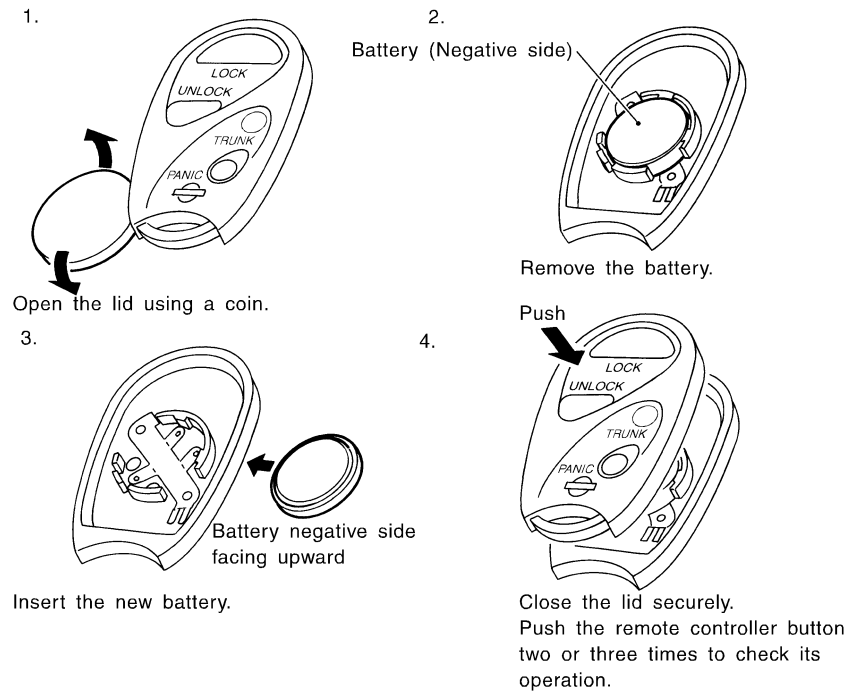
- If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-II. However, when the ID code of a lost remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
To erase all ID codes in memory, register one ID code (remote controller) four times. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
- When registering an additional remote controller, the existing ID codes in memory may or may not be erased. If four ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than four ID codes are stored in memory, when an additional ID code is registered, the new ID code is added and no ID codes are erased.
- If you need to activate more than two additional new remote controllers, repeat the procedure "Additional ID code entry" for each new remote controller.
- Entry of maximum four ID codes is allowed. When more than four ID codes are entered, the oldest ID code will be erased.
- Even if same ID code that is already in the memory is input, the same ID code can be entered. The code is counted as an additional code.

Remote Controller Battery Replacement

NFEL0118

NOTE:

- Be careful not to touch the circuit board or battery terminal.
- The remote controller is water-resistant. However, if it does get wet, immediately wipe it dry.



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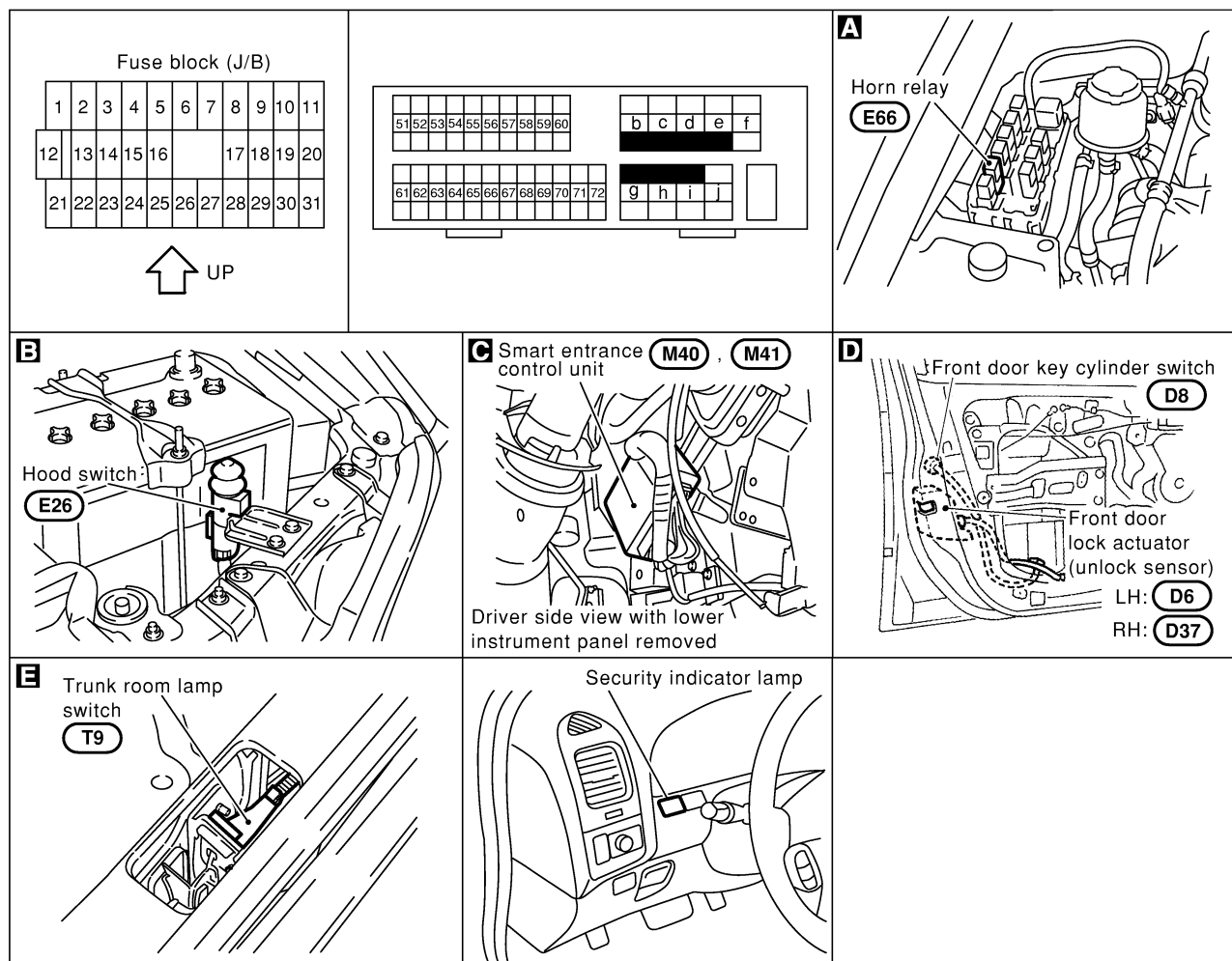
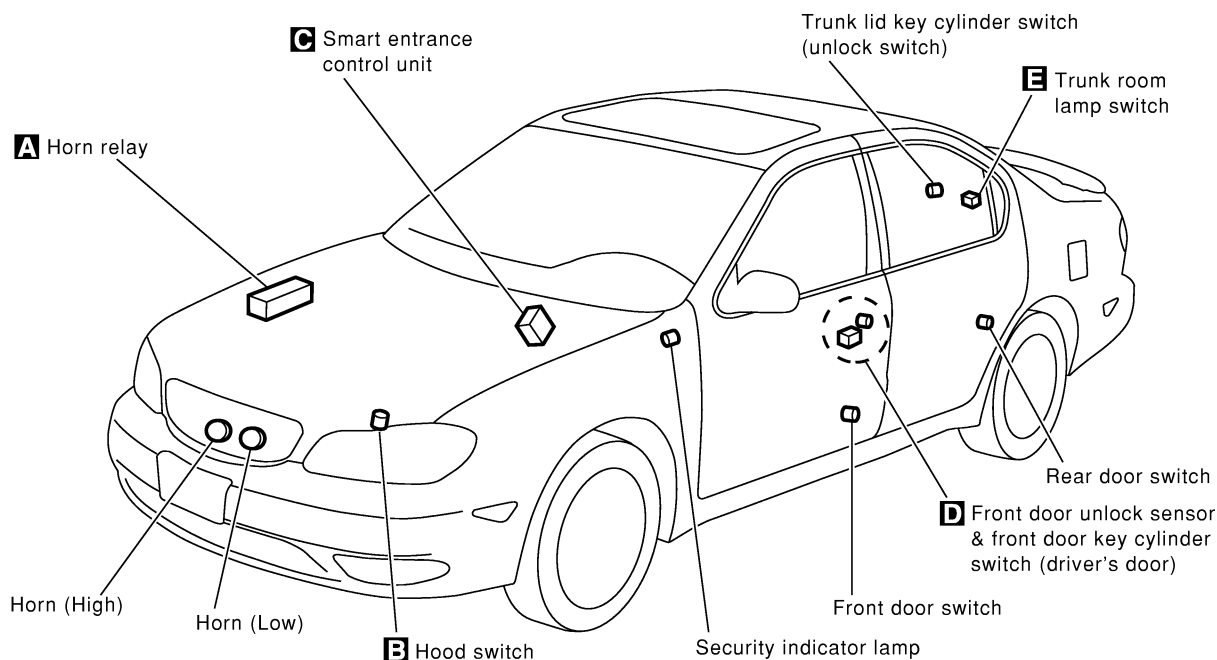
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Component Parts and Harness Connector Location

NFEL0119



SEL489Y

System Description

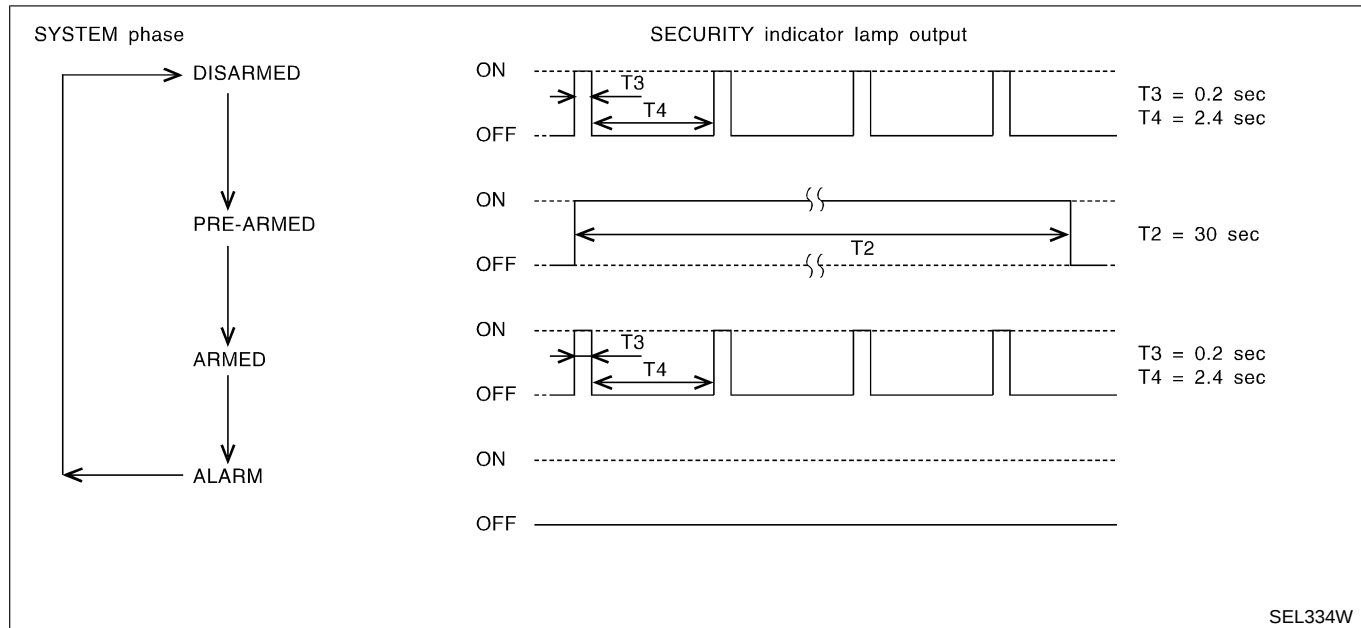
NFEL0196

NFEL0196S01

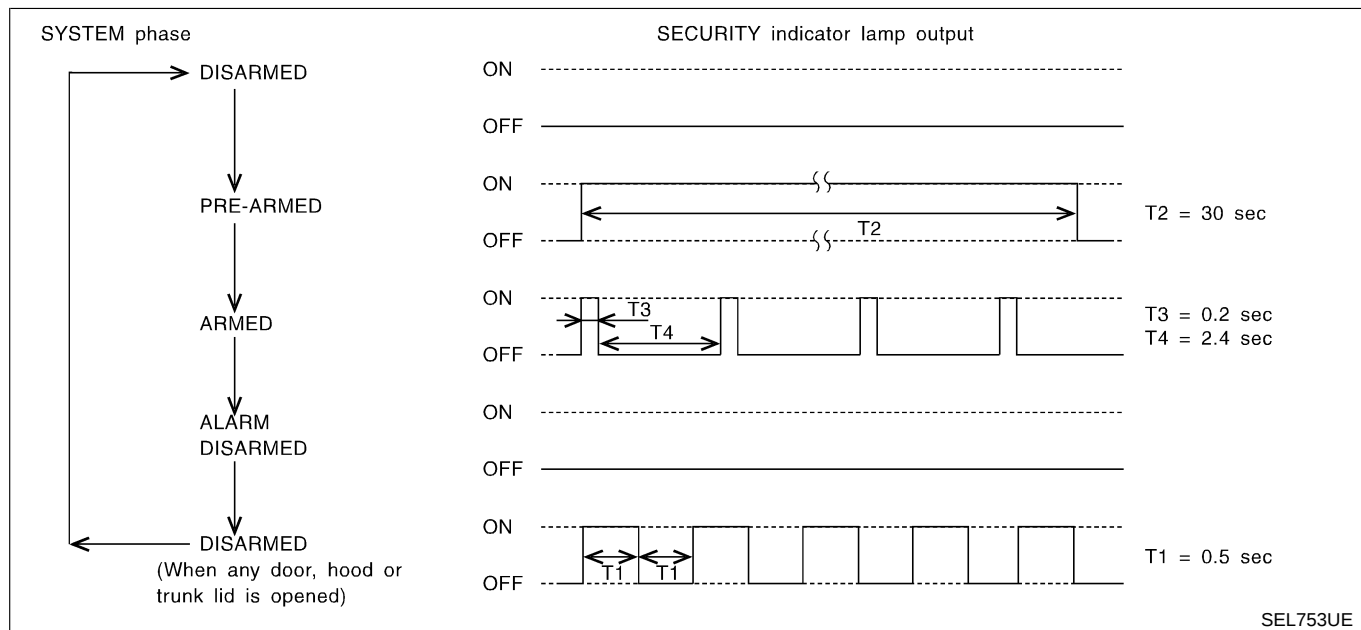
NFEL0196S0101

DESCRIPTION

1. Operation Flow With NATS



Without NATS



2. Setting The Theft Warning System

Initial condition

1) Ignition switch is in OFF position.

Disarmed phase

- When the theft warning system is in the disarmed phase, the security indicator lamp blinks every 2.6 seconds (with NATS).
- When the theft warning system is in the disarmed phase any door(s), hood or trunk lid is opened. The security indicator lamp blinks every 0.5 second (without NATS).

Pre-armed phase and armed phase

When the following operation 1) or 2) is performed, the theft warning system turns into the “pre-armed” phase. (The security indicator lamp illuminates.)

- 1) Smart entrance control unit receives LOCK signal from key cylinder switch or multi-remote controller after hood, trunk lid and all doors are closed.
- 2) Hood, trunk lid and all doors are closed after front doors are locked by key, lock/unlock switch or multi-remote controller.

After about 30 seconds, the system automatically shifts into the “armed” phase (the system is set). (The security indicator lamp blinks every 2.6 seconds.)

3. Canceling The Set Theft Warning System

NFEL0196S0103

When the following 1) or 2) operation is performed, the armed phase is canceled.

- 1) Unlock the doors with the key or multi-remote controller.
- 2) Open the trunk lid with the key or multi-remote controller.

4. Activating The Alarm Operation of The Theft Warning System

NFEL0196S0104

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.6 seconds.)

When the following operation 1) or 2) is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

- 1) Engine hood, trunk lid or any door is opened during armed phase.
- 2) Disconnecting and connecting the battery connector before canceling armed phase.

POWER SUPPLY AND GROUND

NFEL0196S02

Power is supplied at all times

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to security indicator lamp terminal 1,
- to smart entrance control unit terminal 10 and
- to theft warning relay terminal 1 (without NATS).

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

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

- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to smart entrance control unit terminal 21.

Ground is supplied

- to smart entrance control unit terminal 16
- through body grounds M9, M25 and M87.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

NFEL0196S03

The operation of the theft warning system is controlled by the doors, hood and trunk lid.

To activate the theft warning system, the smart entrance control unit must receive signals indicating the doors, hood and trunk lid are closed.

When a door is open, smart entrance control unit terminal 28 or 29 receives a ground signal from each door switch.

When the hood is open, smart entrance control unit terminal 27 receives a ground signal

- from terminal 1 of the hood switch
- through body grounds E11, E22 and E53.

When the trunk lid is open, smart entrance control unit terminal 38 receives a ground signal

- from terminal 1 of the trunk room lamp switch
- through body grounds T6 and T8.

When smart entrance control unit receives LOCK signal from key cylinder switch or multi-remote controller and none of the described conditions exist, the theft warning system will automatically shift to armed mode.

THEFT WARNING SYSTEM ACTIVATION

NFEL0196S04

With all doors (including hood and trunk lid) close if the key is used to lock doors, terminal 41 receives a ground signal

- from terminal 3 (LHD models) or 1 (RHD models) of the driver's door key cylinder switch

- through body grounds M9, M25 and M87.

If this signal, or lock signal from remote controller is received by the smart entrance control unit, the theft warning system will activate automatically.

NOTE:

Theft warning system can be set even though all doors are not locked.

Once the theft warning system has been activated, smart entrance control unit terminal 31 supplies ground to terminal 2 of the security indicator lamp.

The security lamp will illuminate for approximately 30 seconds and then blinks every 2.6 seconds.

Now the theft warning system is in armed phase.

THEFT WARNING SYSTEM ALARM OPERATION

The theft warning system is triggered by

- opening a door
- opening the hood or the trunk lid
- detection of battery disconnect and connect.

Once the theft warning system is in armed phase, if the smart entrance control unit receives a ground signal at terminal 28 (door switch), 38 (trunk room lamp switch) or 27 (hood switch), the theft warning system will be triggered. The hazard lamp flashes, the horn sounds intermittently, and the starting system is interrupted (without NATS).

Power is supplied at all times

- through 15A fuse [No. 5, located in fuse block (J/B)]
- to multi-remote control relay terminals 1, 3 and 6,
- through 10A fuse (No. 57, located in fuse and fusible link box)
- to horn relay terminal 2.

When the theft warning system is triggered, ground is supplied intermittently

- from smart entrance control unit terminal 4
- to horn relay terminal 1,
- through body grounds E11, E22 and E53.

The headlamps flash and the horn sounds intermittently.

The alarm automatically turns off after 50 seconds but will reactivate if the vehicle is tampered with again.

Without NATS

When the theft warning system is triggered, ground is supplied

- from terminal 19 of smart entrance control unit
- to theft warning relay terminal 2

With power and ground supplied, power to the starter motor is interrupted.

The starter motor will not crank and the engine will not start.

THEFT WARNING SYSTEM DEACTIVATION

To deactivate the theft warning system, a door or trunk lid must be unlocked with the key or remote controller.

When the key is used to unlock the door, smart entrance control unit terminal 30 receives a ground signal

- from terminal 1 (LHD model) or 3 (RHD models) of the driver's door key cylinder switch.

When the key is used to open the trunk lid, smart entrance control unit terminal 42 receives a ground signal from terminal 1 of the trunk lid key cylinder switch.

When the smart entrance control unit receives either one of these signals or unlock signal from remote controller, the theft warning system is deactivated. (Disarmed phase)

PANIC ALARM OPERATION

Multi-remote control system may or may not operate theft warning system (horn and hazard lamp) as required. When the multi-remote control system (panic alarm) is triggered, ground is supplied intermittently

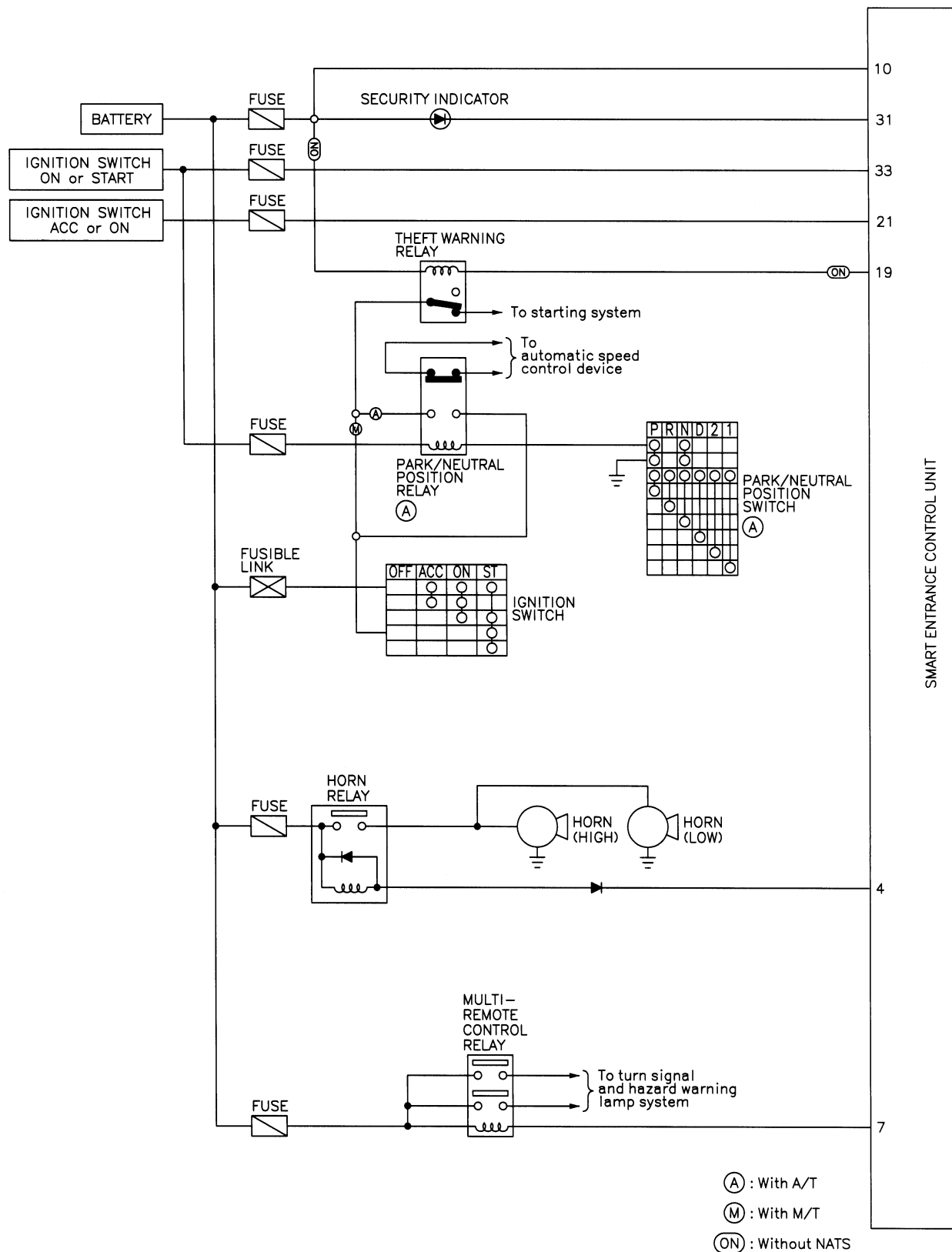
- from smart entrance control unit terminal 4
- to horn relay terminal 1.

The hazard lamp flashes and the horn sounds intermittently.

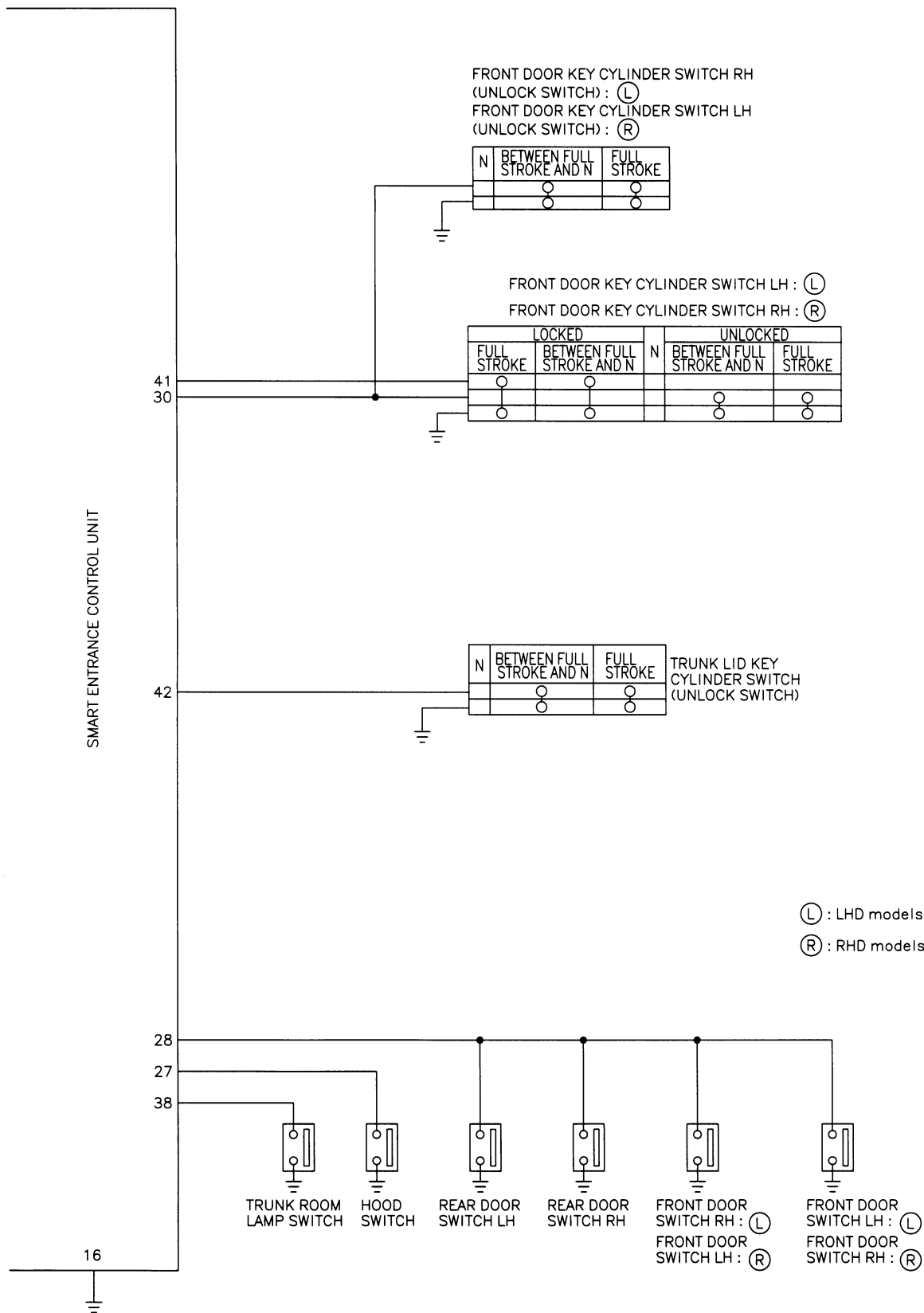
The alarm automatically turns off after 50 seconds or when smart entrance control unit receives any signal from multi-remote controller.

Schematic

NFEL0121



MEL8410



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Wiring Diagram — THEFT —

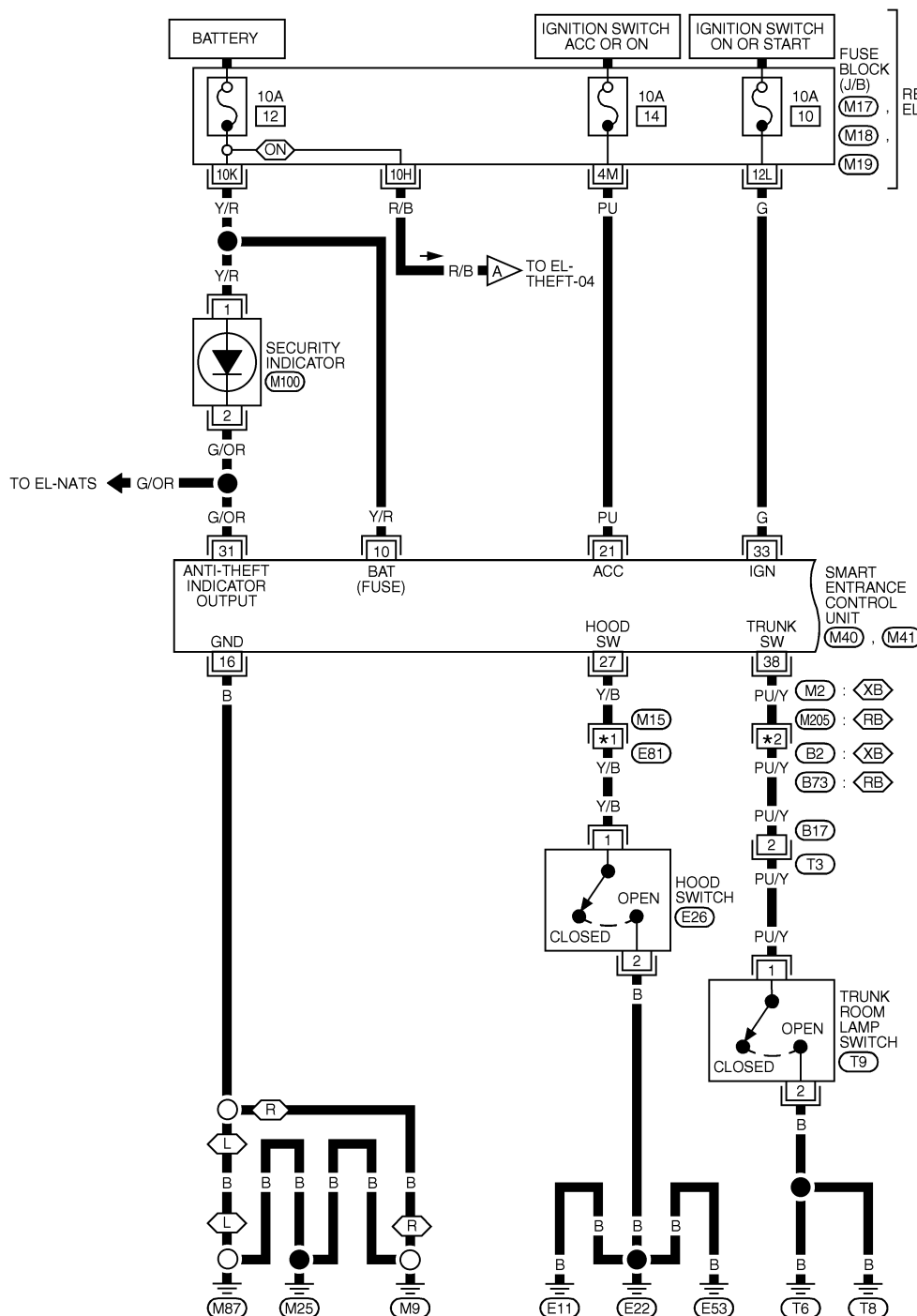
NFEL0122

NFEL0122S01

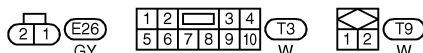
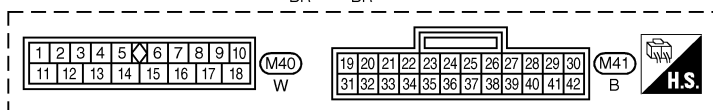
FIG. 1

EL-THEFT-01

- (L) : LHD MODELS
 (R) : RHD MODELS
 (ON) : WITHOUT NATS
 (RB) : RHD MODELS WITH BOSE SYSTEM
 (XB) : EXCEPT (RB)
- *1 5B : (L)
 6D : (R)
- *2 15 : (L)
 6 : (R)



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
											(M2) BR (M205) BR												



REFER TO THE FOLLOWING.

- (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17), (M18), (M19)
 -FUSE BLOCK-
 JUNCTION BOX (J/B)

FIG. 2

NFEL0122S02

EL-THEFT-02

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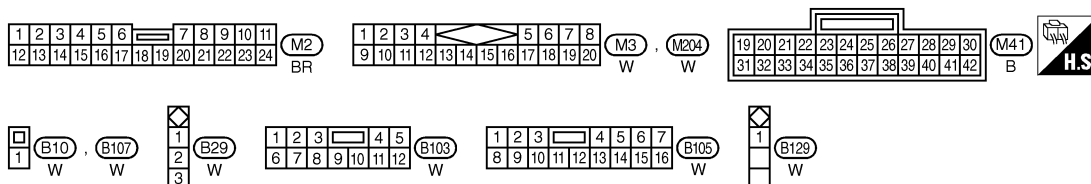
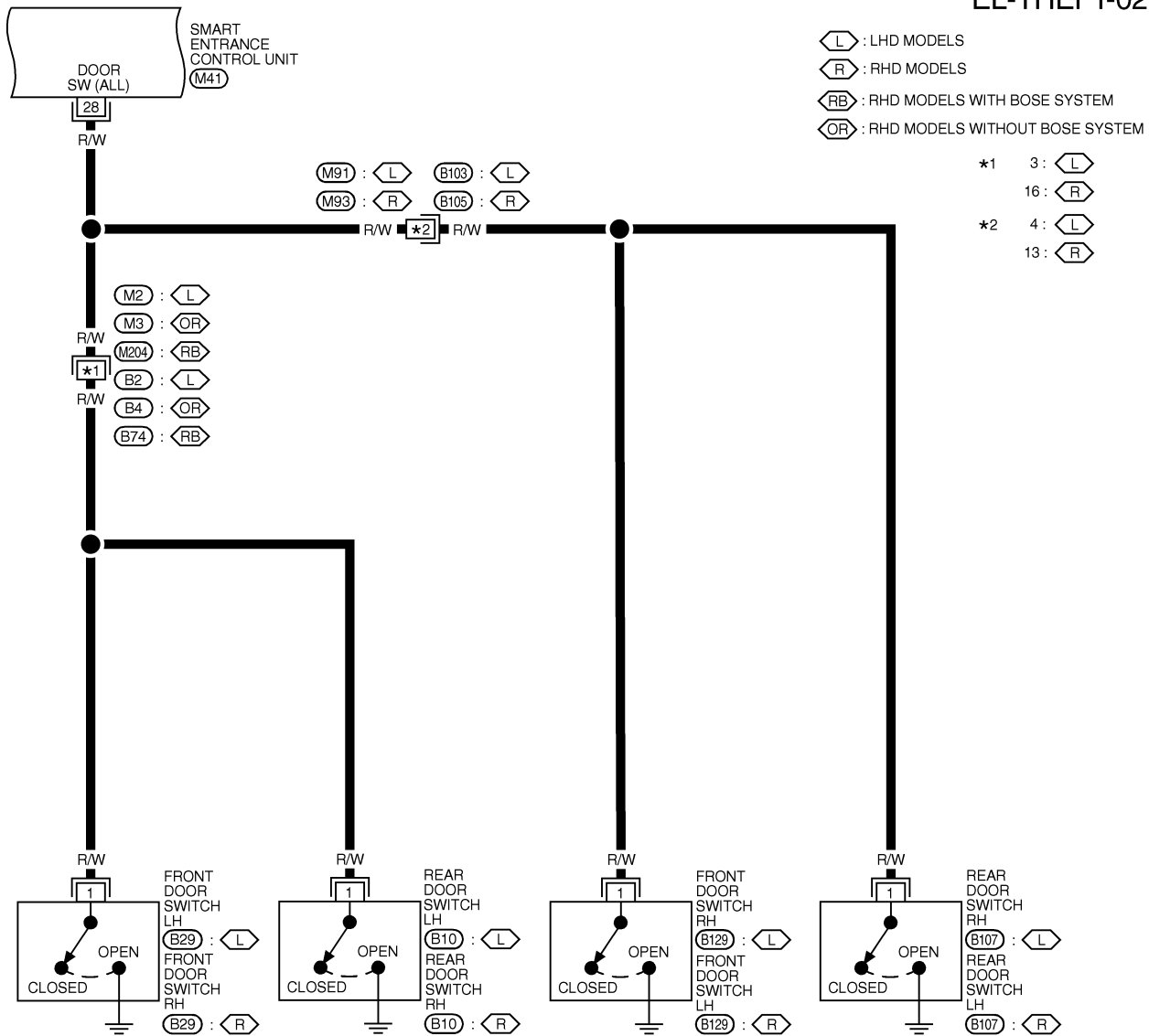
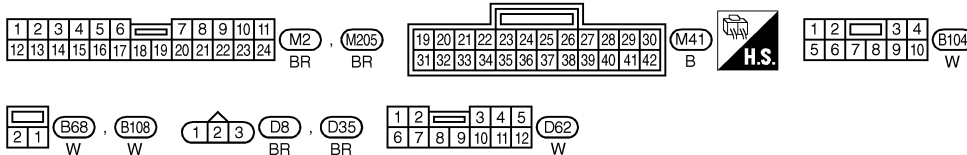
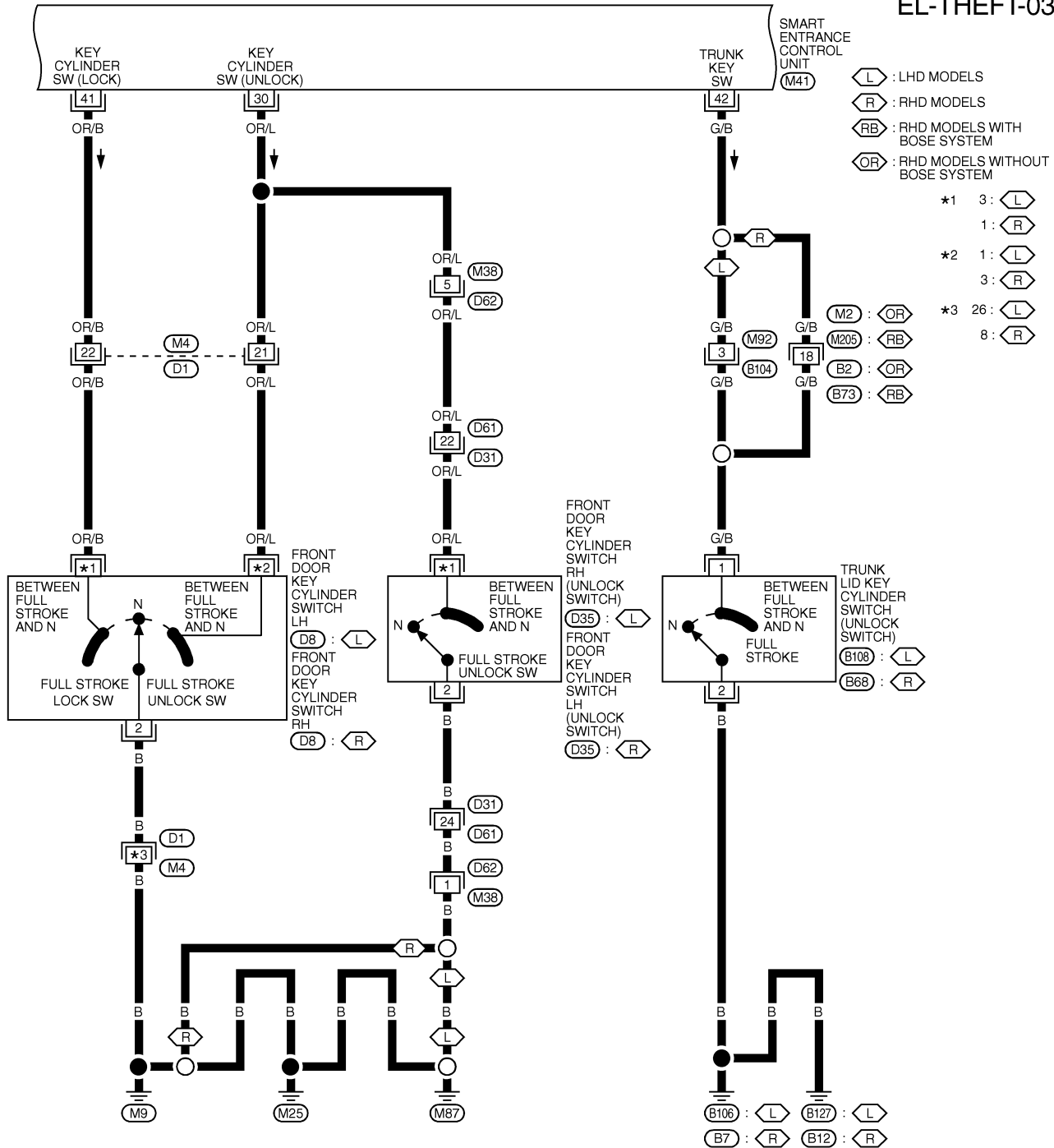


FIG. 3

NFEL0122S04

EL-THEFT-03

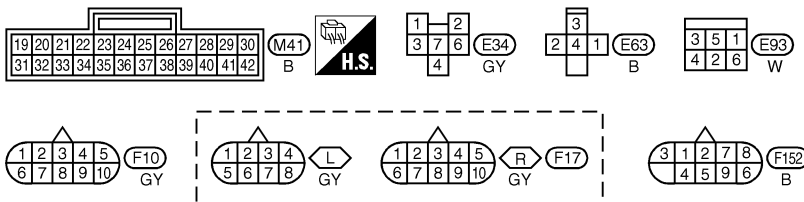
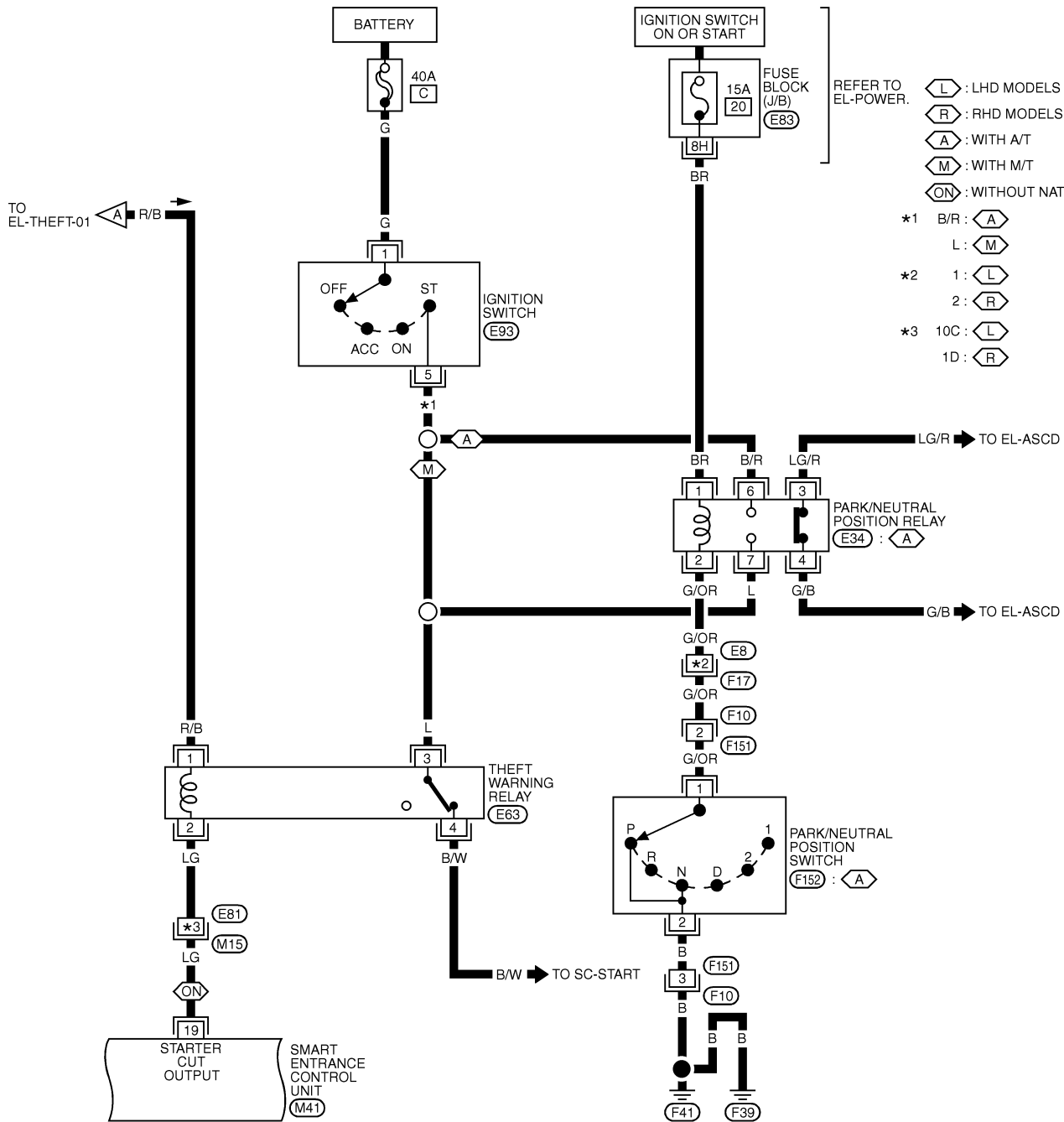


REFER TO THE FOLLOWING.
D1, D31 -SUPER
MULTIPLE JUNCTION (SMJ)

FIG. 4

NFEL0122S07

EL-THEFT-04



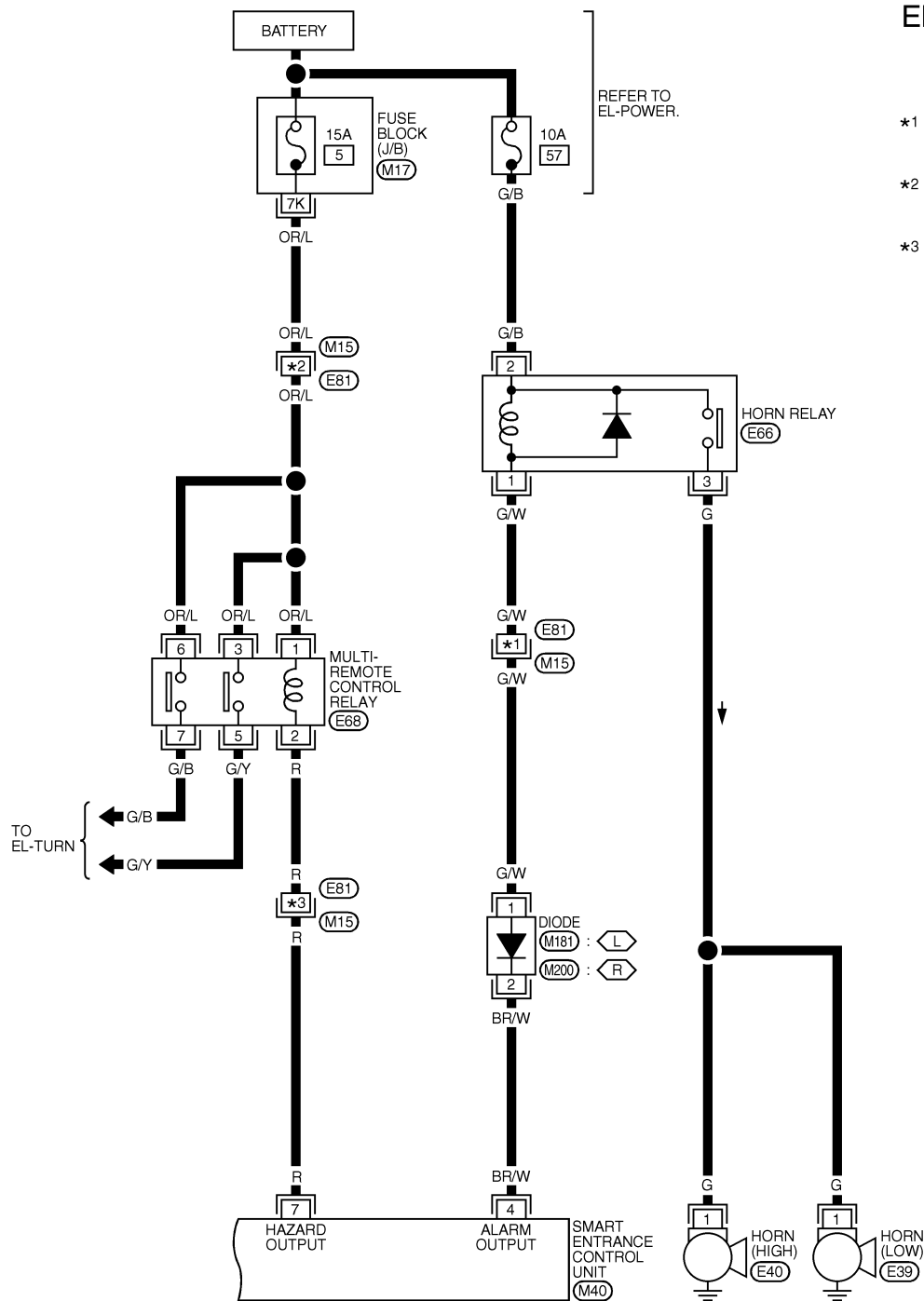
REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)
(E83) -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL856K

FIG. 5

NFEL0122S09

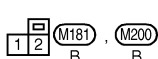
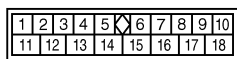


EL-THEFT-05

(L) : LHD MODELS

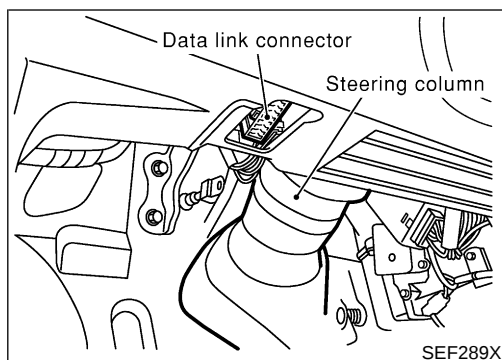
(R) : RHD MODELS

- *1 4C : (L)
- 1B : (R)
- *2 10A : (L)
- 6E : (R)
- *3 1C : (L)
- 3E : (R)



REFER TO THE FOLLOWING.

- (M15) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (M17) -FUSE BLOCK-
- JUNCTION BOX (J/B)



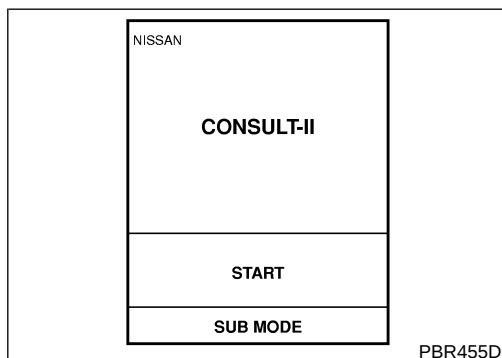
CONSULT-II Inspection Procedure

"THEFT WAR ALM"

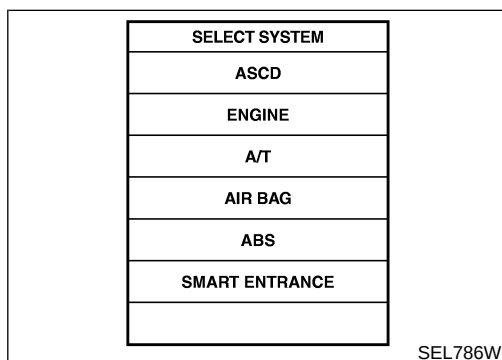
=NFEL0244

NFEL0244S01

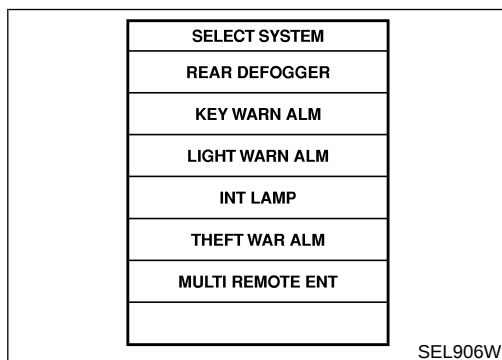
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



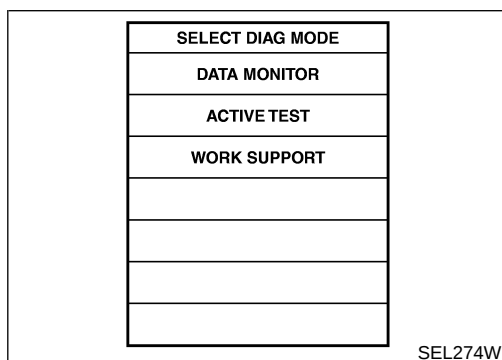
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "THEFT WAR ALM".



7. Select diagnosis mode. "DATA MONITOR", "ACTIVE TEST" and "WORK SUPPORT" are available.

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CONSULT-II Application Item

NFEL0245

“THEFT WAR ALM” Data Monitor

NFEL0245S01

NFEL0245S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder switch.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder switch.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
TRUNK SW	Indicates [ON/OFF] condition of trunk switch.
TRUNK KEY SW	Indicates [ON/OFF] condition of trunk key cylinder switch.
HOOD SWITCH	Indicates [ON/OFF] condition of hood switch.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from remote controller.

Active Test

NFEL0245S0102

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when “ON” on CONSULT-II screen is touched.
THEFT WAR ALM	This test is able to check theft warning alarm operation. The alarm will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.

Work Support

NFEL0245S0103

Test Item	Description
THEFT ALM TRG	The switch which triggered theft warning alarm is recorded. This mode is able to confirm and erase the record of theft warning alarm. The trigger data can be erased by touching “CLEAR” on CONSULT-II screen.

Trouble Diagnoses

PRELIMINARY CHECK

The system operation is canceled by turning ignition switch to "ACC" at any step between START and ARMED in the following flow chart.

=NFEL0123

NFEL0123S01

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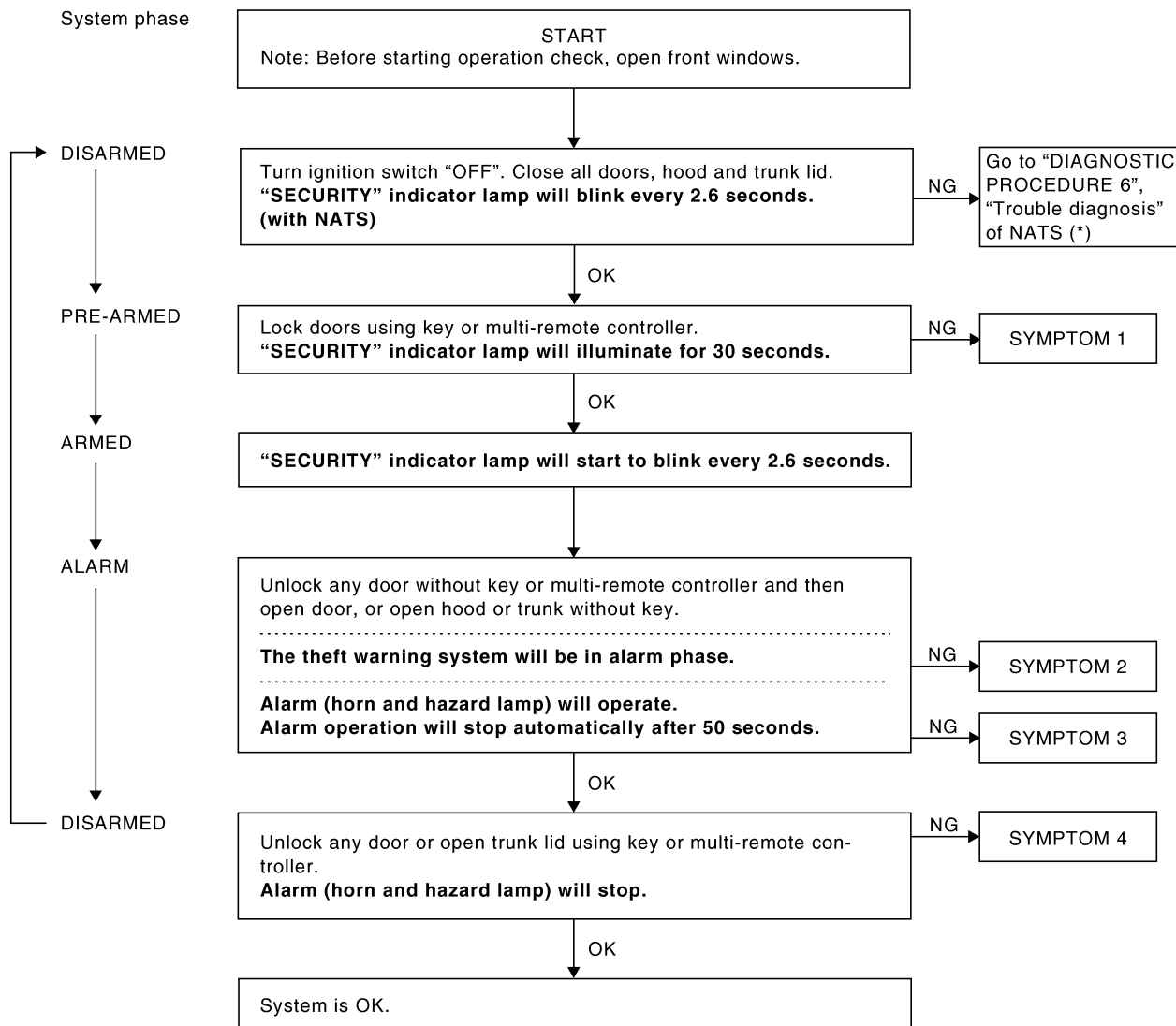
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*: Refer to EL-393.

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

SYMPTOM CHART

NFEL0123S02

REFERENCE PAGE (EL-)			351	353	354	360	362	363	364	366	319
SYMPTOM			PRELIMINARY CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK	SECURITY INDICATOR LAMP CHECK	DOOR KEY CYLINDER SWITCH CHECK	TRUNK LID KEY CYLINDER SWITCH CHECK	THEFT WARNING HORN AND HAZARD LAMP ALARM CHECK	STARTER INTERRUPT SYSTEM CHECK	Check "MULTI-REMOTE CONTROL" system.
1	Theft warning indicator does not illuminate for 30 seconds.		X	X		X					
	Theft warning system cannot be set by ...	All items	X	X	X						
		Door outside key	X				X				
		Multi-remote control	X								X
2	*1 Theft warning system does not alarm when ...	One of the door is opened	X		X						
3	Theft warning alarm does not activate.	Horn or hazard lamp alarm	X		X				X		
		Starter interrupt	X							X	
4	Theft warning system cannot be canceled by ...	Door outside key	X				X				
		Trunk lid key	X					X			
		Multi-remote control	X								X

X : Applicable

*1: Make sure the system is in the armed phase.

Before starting trouble diagnoses above, perform preliminary check, EL-351.

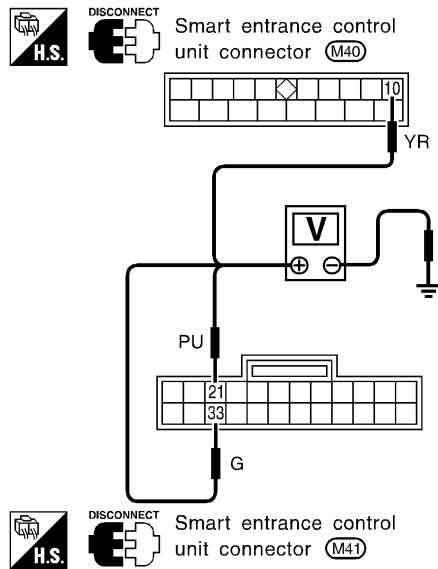
Symptom numbers in the symptom chart correspond with those of preliminary check.

POWER SUPPLY AND GROUND CIRCUIT CHECK

NFEL0123S03

Power Supply Circuit Check

NFEL0123S0301

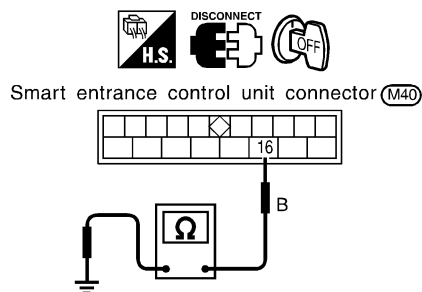


Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage
33	Ground	0V	0V	Battery voltage
21	Ground	0V	Battery voltage	Battery voltage

SEL238WA

Ground Circuit Check

NFEL0123S0302



Terminals	Continuity
16 - Ground	Yes

SEL234W

DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK

=NFEL0123S04

Door Switch Check

NFEL0123S0401

1	PRELIMINARY CHECK
- Turn ignition switch OFF and remove key from ignition key cylinder. "SECURITY" indicator lamp should blink every 2.6 seconds. (with NATS) - Close all doors, hood and trunk lid. "SECURITY" indicator lamp should turn off. (without NATS) - Lock doors with multi-remote controller from inside the vehicle. "SECURITY" indicator lamp should turn on for 30 seconds. - Unlock any door with the door lock knob and open the door within 30 seconds after door is locked. "SECURITY" indicator lamp should turn off. (with NATS) "SECURITY" indicator lamp should blink every second. (without NATS) OK or NG	
OK	▶ Door switch is OK, and go to hood switch check.
NG	▶ GO TO 2.

2

CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check door switches (“DOOR SW-ALL”) in “DATA MONITOR” mode with CONSULT-II.

DATA MONITOR

MONITOR

DOOR SW-ALL OFF

When any doors are open:

DOOR SW-ALL ON

When all doors are closed:

DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 28 and ground.

Smart entrance control unit connector (M41)

	Terminals		Condition	Voltage [V]
	(+)	(-)		
All door switches	28	Ground	Open	0
			Closed	Approx. 5

SEL820W

Refer to wiring diagram in EL-345.

OK or NG

OK

▶

Door switch is OK, and go to hood switch check.

NG

▶

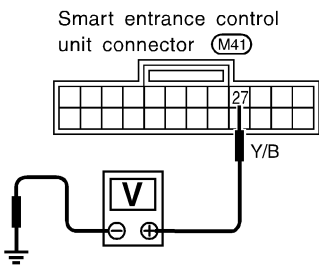
GO TO 3.

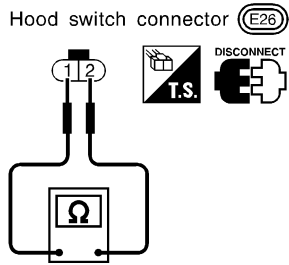
Hood Switch Check

=NFEL0123S0402

1 PRELIMINARY CHECK	
1. Turn ignition switch OFF and remove key from ignition key cylinder. "SECURITY" indicator lamp should blink every 2.6 seconds. (with NATS) 2. Close all doors, hood and trunk lid. "SECURITY" indicator lamp should turn off. (without NATS) 3. Lock doors with multi-remote controller from inside the vehicle. "SECURITY" indicator lamp should turn on for 30 seconds. 4. Unlock hood with hood opener within 30 seconds after door is locked. "SECURITY" indicator lamp should turn off. (with NATS) "SECURITY" indicator lamp should blink every second. (without NATS)	
OK or NG	
OK	▶ Hood switch is OK, and go to trunk room lamp switch check.
NG	▶ GO TO 2.

2 CHECK HOOD SWITCH FITTING CONDITION	
OK or NG	
OK	▶ GO TO 3.
NG	▶ Adjust installation of hood switch or hood.

3 CHECK HOOD SWITCH INPUT SIGNAL							
 With CONSULT-II Check hood switch ("HOOD SWITCH") in "DATA MONITOR" mode with CONSULT-II. <table style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>HOOD SWITCH</td><td>OFF</td></tr> </table> When hood is open: HOOD SWITCH ON When hood is closed: HOOD SWITCH OFF SEL354W		DATA MONITOR		MONITOR		HOOD SWITCH	OFF
DATA MONITOR							
MONITOR							
HOOD SWITCH	OFF						
 Without CONSULT-II Check voltage between smart entrance control unit harness connector terminal 27 and ground.   Voltage [V]: Engine hood is open. 0 Engine hood is closed. Approx. 5 SEL239WA Refer to wiring diagram in EL-344.							
OK or NG							
OK	▶ Hood switch is OK, and go to trunk room lamp switch check.						
NG	▶ GO TO 4.						

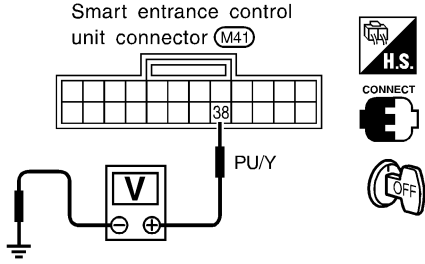
4	CHECK HOOD SWITCH	
	1. Disconnect hood switch connector. 2. Check continuity between hood switch terminals 1 and 2. Hood switch connector (E26)  Continuity: Condition: Pushed No Condition: Released Yes SEL240W OK or NG	
OK	▶	Check the following. • Hood switch ground circuit • Harness for open or short between smart entrance control unit and hood switch
NG	▶	Replace hood switch.

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Trunk Room Lamp Switch Check

=NFEL0123S0403

1	PRELIMINARY CHECK
- Turn ignition switch OFF and remove key from ignition key cylinder. "SECURITY" indicator lamp should blink every 2.6 seconds. (with NATS) - Close all doors, hood and trunk lid. "SECURITY" indicator lamp should turn off. (without NATS) - Lock doors with multi-remote controller from inside the vehicle. "SECURITY" indicator lamp should turn on for 30 seconds. - Open trunk lid with trunk lid opener switch (on driver side door trim) within 30 seconds after door is locked. "SECURITY" indicator lamp should turn off. (with NATS) "SECURITY" indicator lamp should blink every second. (without NATS) OK or NG	
OK	▶ Trunk room lamp switch is OK.
NG	▶ GO TO 2.

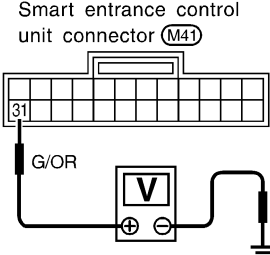
2	CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL						
 With CONSULT-II Check trunk room lamp switch ("TRUNK SW"), in "DATA MONITOR" mode with CONSULT-II. <table style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td style="width: 50%;">TRUNK SW</td><td style="width: 50%;">OFF</td></tr> </table> When trunk lid is open: TRUNK SW ON When trunk lid is closed: TRUNK SW OFF SEL355W		DATA MONITOR		MONITOR		TRUNK SW	OFF
DATA MONITOR							
MONITOR							
TRUNK SW	OFF						
 Without CONSULT-II Check voltage between smart entrance control unit harness connector terminal 38 and ground. Smart entrance control unit connector (M41)  Voltage [V]: Trunk lid is open. Approx. 0 Trunk lid is closed. Approx. 12 Refer to wiring diagram in EL-344. SEL241W							
OK or NG							
OK	▶ Trunk room lamp switch is OK.						
NG	▶ GO TO 3.						

3	CHECK TRUNK ROOM LAMP SWITCH	
	1. Disconnect trunk room lamp switch connector. 2. Check continuity between trunk room lamp switch terminals 1 and 2. Trunk room lamp switch connector (T9) Continuity: Condition: Closed No Condition: Open Yes SEL242W OK or NG	
OK	▶	Check the following. • Trunk room lamp switch ground circuit • Harness for open or short between smart entrance control unit and trunk room lamp switch
NG	▶	Replace trunk room lamp switch.

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SECURITY INDICATOR LAMP CHECK

=NFEL0123S05

1	CHECK INDICATOR LAMP OPERATION						
 With CONSULT-II - Select "ACTIVE TEST" in "THEFT WAR ALM" with CONSULT-II. - Select "THEFT IND" and touch "ON". ACTIVE TEST <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">THEFT IND</td> <td style="width: 50%;">OFF</td> </tr> <tr> <td colspan="2" style="height: 150px;"></td> </tr> <tr> <td colspan="2" style="background-color: black; color: white; text-align: center;">ON</td> </tr> </table> Security indicator lamp should illuminate. SEL356W		THEFT IND	OFF			ON	
THEFT IND	OFF						
ON							
 Without CONSULT-II - Disconnect smart entrance control unit harness connector. - Check voltage between smart entrance control unit harness connector terminal 31 and ground. Smart entrance control unit connector (M4)  G/OR    Battery voltage should exist. SEL243W Refer to wiring diagram in EL-344. OK or NG							
OK	▶ Security indicator lamp is OK.						
NG	▶ GO TO 2.						

2	CHECK INDICATOR LAMP
OK or NG	
OK	▶ GO TO 3.
NG	▶ Replace indicator lamp.

3	CHECK POWER SUPPLY CIRCUIT FOR INDICATOR LAMP	
	1. Disconnect security lamp connector. 2. Check voltage between indicator lamp terminal 1 and ground. Clock (Security indicator lamp) connector (M100) Y/R V DISCONNECT T.S. Battery voltage should exist. SEL653W OK or NG	
OK	▶	Check harness for open or short between security indicator lamp and smart entrance control unit.
NG	▶	Check the following. • 10A fuse [No. 12, located in fuse block (J/B)] • Harness for open or short between security indicator lamp and fuse

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DOOR KEY CYLINDER SWITCH CHECK

=NFEL0123S07

1 CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

With CONSULT-II

Check front door key cylinder switch ("KEY CYL LK-SW"/"KEY CYL UN-SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

When key inserted in front key cylinder is turned to LOCK:

KEY CYL LK-SW ON

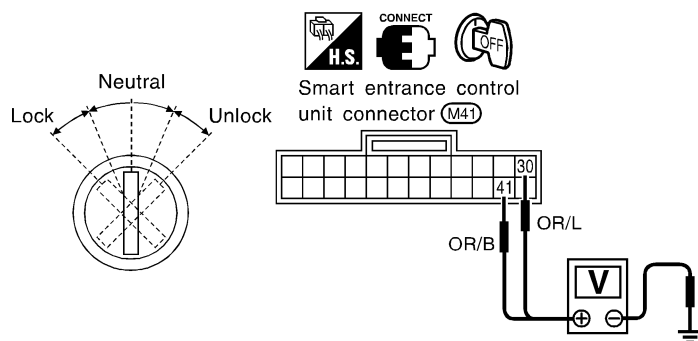
When key inserted in front key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 30 or 41 and ground.



Terminals		Key position	Voltage V
(+)	(-)		
41	Ground	Neutral/Unlock	Approx. 5
		Lock	0
30	Ground	Neutral/Lock	Approx. 5
		Unlock	0

SEL198W

Refer to wiring diagram in EL-346.

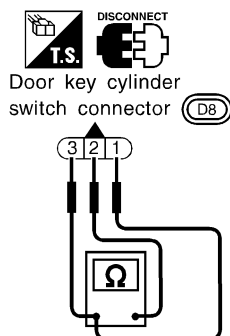
OK or NG

OK ► Door key cylinder switch is OK.

NG ► GO TO 2.

2 CHECK DOOR KEY CYLINDER SWITCH

1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder switch connector terminals.



Terminals	Key position	Continuity
① - ② RHD models	Neutral/Unlock	No
③ - ② LHD models	Lock	Yes
③ - ② RHD models	Neutral/Lock	No
① - ② LHD models	Unlock	Yes

SEL828W

OK or NG

OK ► **Check the following.**

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

NG ► Replace door key cylinder switch.

TRUNK LID KEY CYLINDER SWITCH CHECK

=NFEL0123S08

1 CHECK TRUNK LID KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK SIGNAL)

With CONSULT-II

Check trunk lid key cylinder switch ("TRUNK KEY SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
TRUNK KEY SW	OFF

When key in key cylinder is at Neutral position:

TRUNK KEY SW OFF

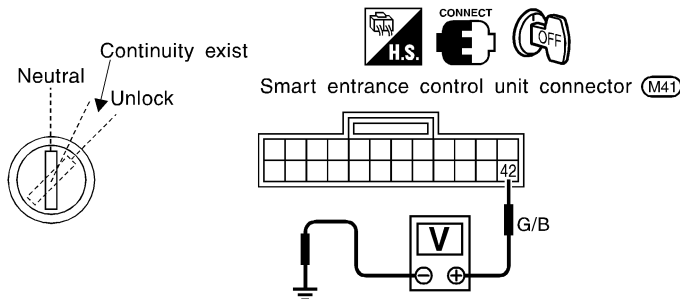
When key in key cylinder is at Unlock position:

TRUNK KEY SW ON

SEL358W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 42 and ground.



Terminal		Key position	Voltage [V]
(+)	(-)		
42	Ground	Neutral	Approx. 5
		Unlock	0

SEL247W

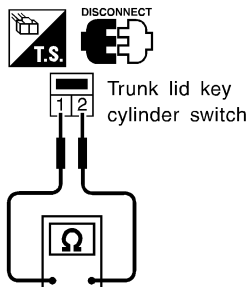
Refer to wiring diagram in EL-346.

OK or NG

OK	▶	Trunk lid key cylinder switch is OK.
NG	▶	GO TO 2.

2 CHECK TRUNK LID KEY CYLINDER SWITCH

1. Disconnect trunk lid key cylinder switch connector.
2. Check continuity between trunk lid key cylinder switch connector B108 (LHD models) or B68 (RHD models) terminals 1 and 2.



Key position	Continuity
Neutral	No
Unlock	Yes

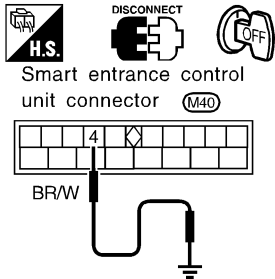
SEL248WB

OK or NG

OK	▶	Check the following. • Trunk lid key cylinder switch ground circuit • Harness for open or short between smart entrance control unit and trunk lid key cylinder switch
NG	▶	Replace trunk lid key cylinder switch.

THEFT WARNING HORN AND HAZARD LAMP ALARM CHECK

=NFEL0123S09

1	CHECK THEFT WARNING HORN AND HAZARD LAMP ALARM OPERATION
	 With CONSULT-II 1. Select "ACTIVE TEST" in "THEFT WAR ALM" with CONSULT-II. 2. Select "THEFT WAR ALM" and touch "ON". ACTIVE TEST THEFT WAR ALM OFF ON Theft warning horn and hazard lamp alarm should operate. SEL359WA
	 Without CONSULT-II 1. Disconnect smart entrance control unit harness connector. 2. Apply ground to smart entrance control unit harness connector terminal 4.  Theft warning horn and hazard lamp alarm should operate. SEL249WB Refer to wiring diagram in EL-348. OK or NG
OK	▶ Horn and hazard lamp alarm is OK.
NG	▶ GO TO 2.

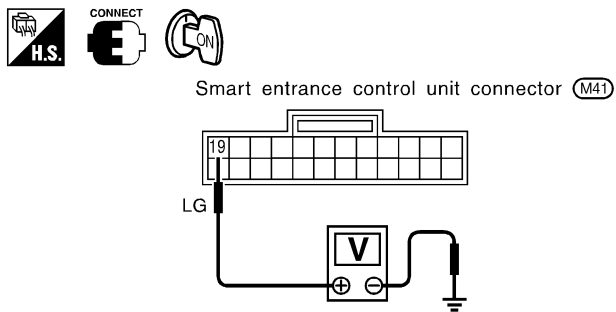
2	CHECK HORN RELAY
	Check horn relay. OK or NG
OK	▶ GO TO 3.
NG	▶ Replace relay.

3	CHECK POWER SUPPLY FOR HORN RELAY	
	1. Disconnect horn relay connectors. 2. Check voltage between horn relay connectors E70 terminal 2 (G/R) and ground. Battery voltage should exist. SEL490Y OK or NG	
OK	▶	GO TO 4.
NG	▶	Check the following. • 10A fuse (No. 57 located in the fuse and fusible link box) • Harness for open or short between horn relay and fuse

4	CHECK HORN RELAY CIRCUIT	
	1. Disconnect horn relay connector. 2. Check voltage between terminals of relay. Battery voltage should exist. SEL491Y OK or NG	
OK	▶	Check harness for open or short between horn relay and control unit.
NG	▶	Check the following. • Harness for open or short between horn relay and fuses

STARTER INTERRUPT SYSTEM CHECK

=NFEL0123S14

1	CHECK STARTER MOTOR CUT OUTPUT SIGNAL						
1. Turn ignition switch ON. 2. Check voltage between smart entrance control unit terminal 19 and ground.  <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Condition</th><th>Voltage [V]</th></tr> </thead> <tbody> <tr> <td>Except starter killed phase</td><td>Battery voltage</td></tr> <tr> <td>Starter killed phase</td><td>0</td></tr> </tbody> </table> SEL907W		Condition	Voltage [V]	Except starter killed phase	Battery voltage	Starter killed phase	0
Condition	Voltage [V]						
Except starter killed phase	Battery voltage						
Starter killed phase	0						
Refer to wiring diagram in EL-347. OK or NG							
OK	▶ GO TO 2.						
NG	▶ Check the following. • 10A fuse [No. 12, located in fuse block (J/B)] • Harness for open or short between theft warning relay and fuse. • Harness for open or short between smart entrance control unit and theft warning relay.						

2	CHECK THEFT WARNING RELAY
Check theft warning relay OK or NG	
OK	▶ Check starting system. Refer to SC-12, "STARTING SYSTEM".
NG	▶ Replace relay.

Description

NFEL0124

NFEL0124S01

OUTLINE

The smart entrance control unit totally controls the following body electrical system operations.

- Warning chime
- Rear defogger and door mirror defogger
- Power door lock
- Multi-remote control system
- Theft warning system
- Interior lamp

INPUT/OUTPUT

NFEL0124S04

System	Input	Output
Power door lock	Door lock and unlock switch Door switches	Door lock actuator
Multi-remote control	Key switch (Insert) Ignition switch (ACC) Door switches Front door unlock sensor Remote controller signal	Horn relay Theft warning horn relay Interior lamp Multi-remote control relay Door lock actuator Trunk lid opener actuator
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Front door switch	Warning chime (located in smart entrance control unit)
Rear window defogger and door mirror defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Theft warning	Ignition switch (ACC, ON) Door switches Hood switch Door key cylinder switches (lock/unlock) Trunk lid key cylinder switch (unlock)	Horn relay Security indicator Multi-remote control relay Theft warning relay (without NATS)
Interior lamp	Door switches Front door unlock sensor Ignition switch (ON) Key switch (Insert)	Interior lamp Key hole illumination

**CONSULT-II
DIAGNOSTIC ITEMS APPLICATION**

=NFEL0247

NFEL0247S01

Item (CONSULT-II screen terms)	Diagnosed system	DATA MONITOR	ACTIVE TEST	WORK SUPPORT
DOOR LOCK	Power door lock	X		
REAR DEFOGGER	Rear window defogger	X	X	
KEY WARN ALM	Warning chime	X	X	
LIGHT WARN ALM	Warning chime	X	X	
INT LAMP	Interior lamps	X	X	
THEFT WAR ALM	Theft warning system	X	X	X
MULTI REMOTE ENT	Multi-remote control system	X	X	X

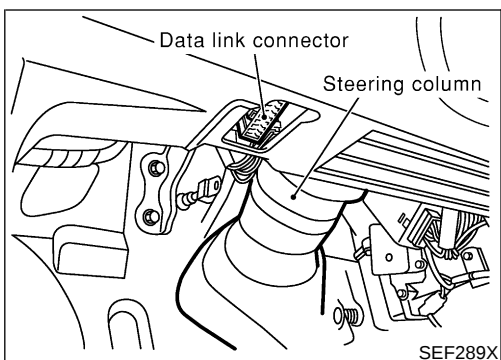
X: Applicable

For diagnostic item in each control system, refer to the relevant pages for each system.

DIAGNOSTIC ITEM DESCRIPTION

NFEL0247S02

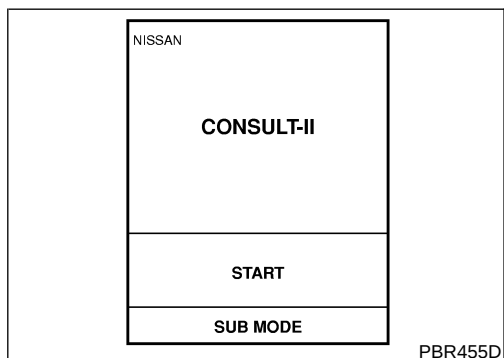
MODE	Description
DATA MONITOR	Input/output data in the smart entrance control unit can be read.
ACTIVE TEST	Diagnostic Test Mode in which CONSULT-II drives some systems apart from the smart entrance control unit.
WORK SUPPORT for THEFT WAR ALM	The recorded trigger signal when theft warning system was activated can be checked.
WORK SUPPORT for MULTI REMOTE ENT	ID code of multi-remote controller can be registered and erased.



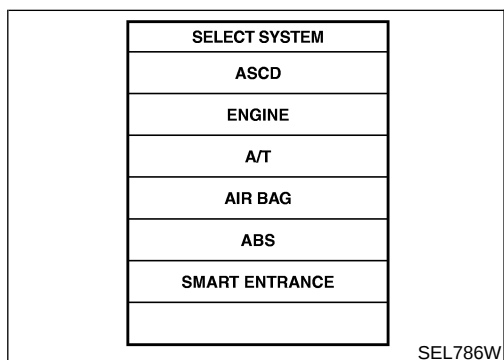
CONSULT-II INSPECTION PROCEDURE

=NFEL0247S03

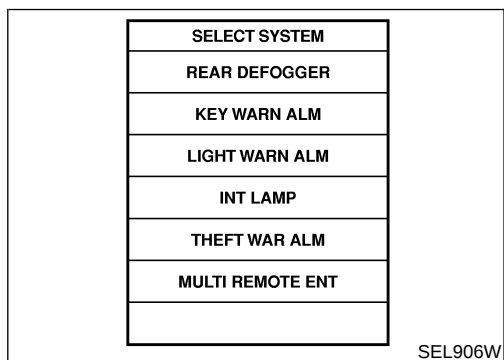
1. Turn the ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Perform each diagnostic item according to "DIAGNOSTIC ITEMS APPLICATION". Refer to EL-368.

GI

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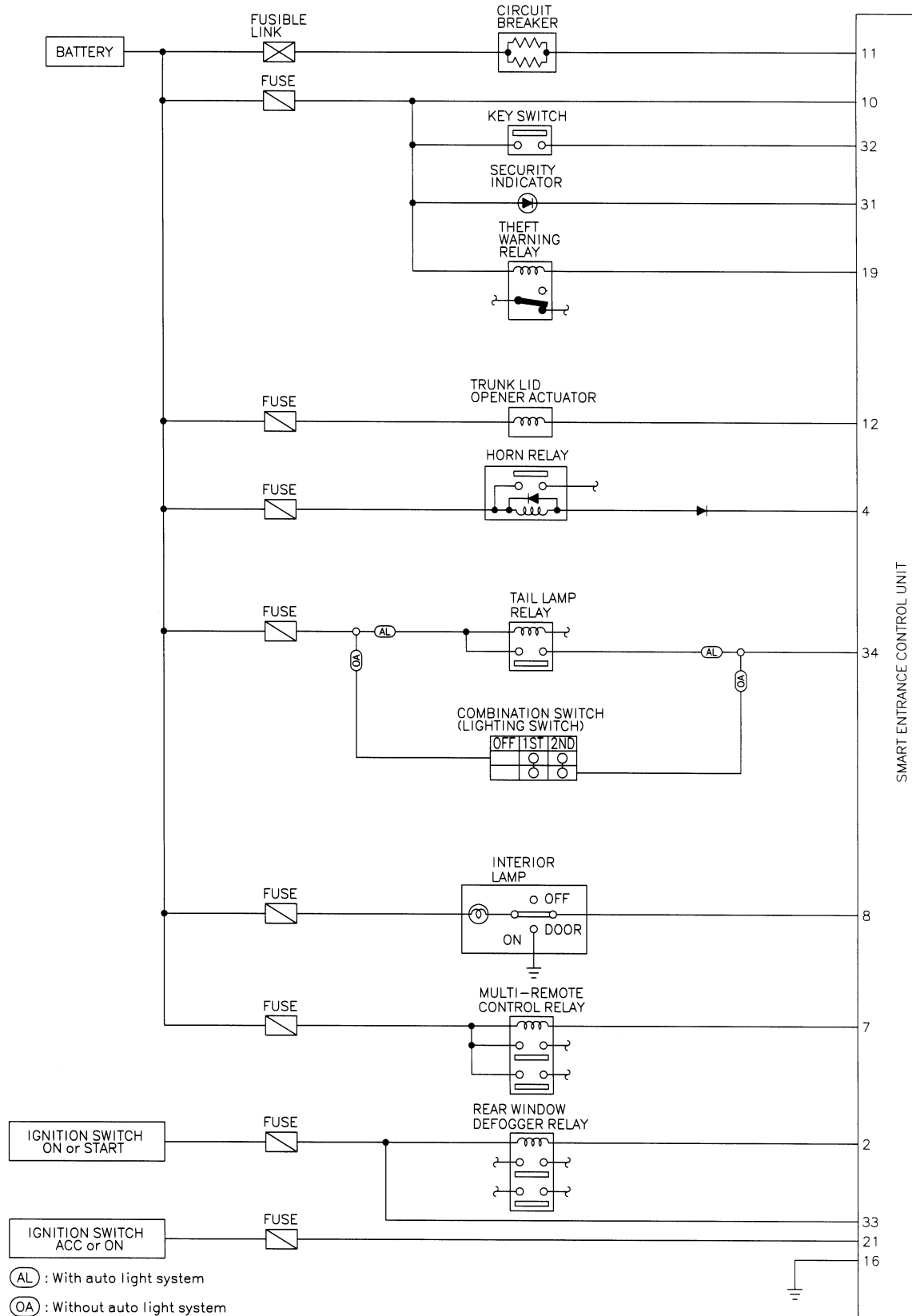
SC

EL

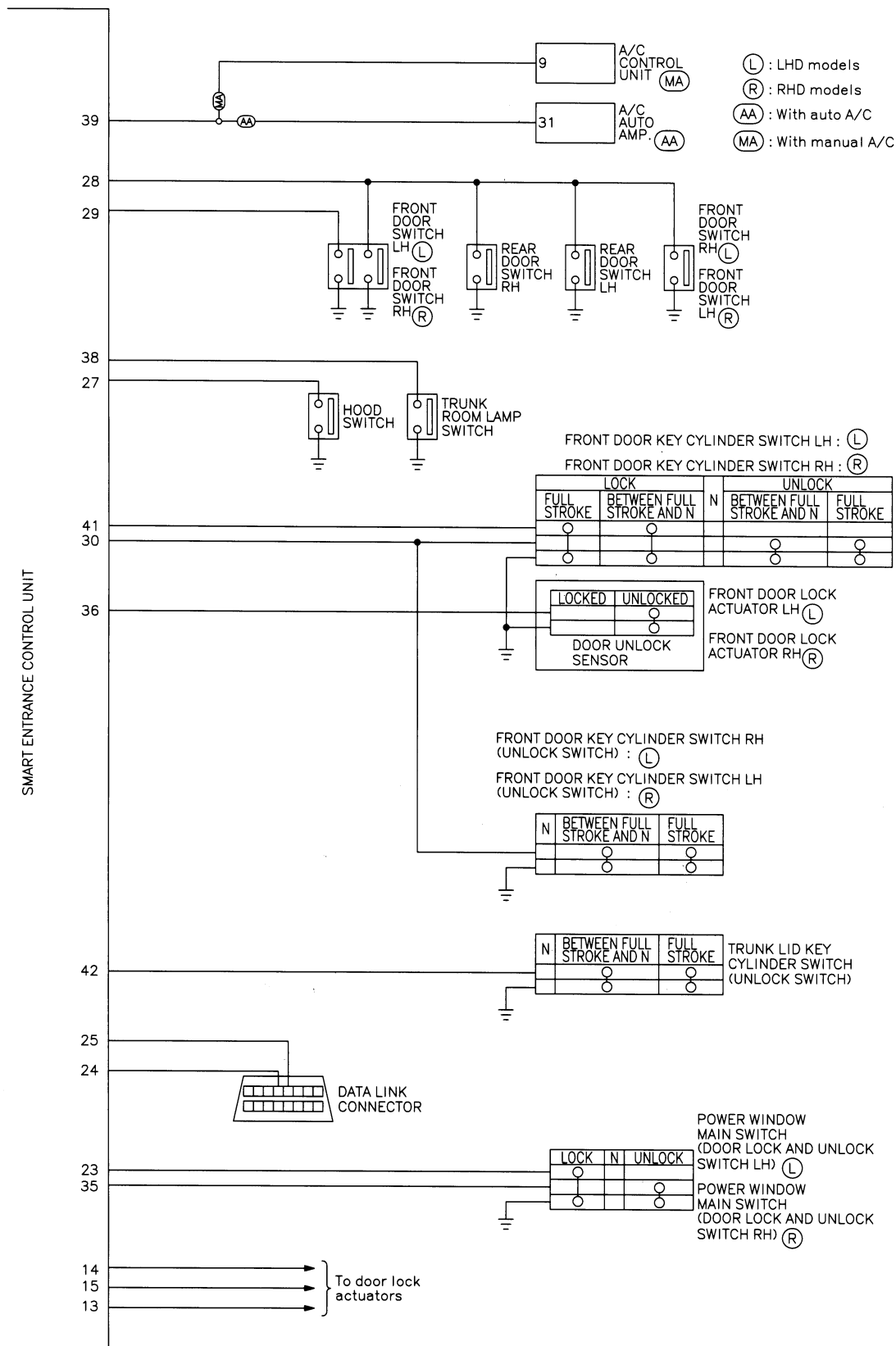
IDX

Schematic

NFEL0125



MEL8460



Smart Entrance Control Unit Inspection Table

NFEL0126

Terminal No.	Wire color	Connections	Operated condition		Voltage (Approximate values)
2	LG	Rear window defogger relay	OFF → ON (Ignition key is in "ON" position)		0V → 12V
4	BR/W	Horn relay	When panic alarm is operated using remote controller		12V → 0V
7	R	Multi-remote control relay	When doors are locked using remote controller		12V → 0V
8	R/Y	Interior lamp	When interior lamp is operated using remote controller. (Lamp switch in "DOOR" position)		0V → 12V
10	Y/R	Power source (Fuse)	—		12V
11	W/R	Power source (C/B)	—		12V
12	L	Trunk lid opener switch	ON (Open) → OFF (Closed)		0V → 12V
13	W/B: L W/R: R	Driver door lock actuator	Door lock & unlock switch	Free	0V
				Locked	12V
14	G/Y	Door lock actuators	Door lock & unlock switch	Free	0V
				Unlocked	12V
15	PU	Door lock actuators	Door lock & unlock switch	Free	0V
				Locked	12V
16	B	Ground	—		—
19	LG	Theft warning relay	When the theft warning system is triggered.		12V → 0V
21	PU	Ignition switch (ACC)	"ACC" position		12V
23	GY	Door lock/unlock switches	Neutral → Locks		5V → 0V
27	Y/B	Hood switch	ON (Open) → OFF (Closed)		0V → 5V
28	R/W	Door switches (All)	OFF (Closed) → ON (Open)		5V → 0V
29	SB	Driver door switch	OFF (Closed) → ON (Open)		5V → 0V
30	OR/L	Door key cylinder unlock switch	OFF (Neutral) → ON (Unlocked)		5V → 0V
31	G/OR	Security indicator	Goes off → Illuminates		12V → 0V
32	B/R	Ignition key switch (Insert)	key inserted → key removed from IGN key cylinder		12V → 0V
33	G	Ignition switch (ON)	Ignition key is in "ON" position		12V
34	R/W	Tail lamp relay (with auto light) Lighting switch (without auto light)	1ST, 2ND positions: ON → OFF		12V → 0V
35	BR/Y	Door lock/unlock switches	Neutral → Unlocks		5V → 0V
36	LG/R	Driver door unlock sensor	Driver door: Locked → Unlocked		5V → 0V
38	PU/Y	Trunk room lamp switch	ON (Open) → OFF (Closed)		0V → 12V
39	G/W	Rear window defogger switch	OFF → ON		5V → 0V
41	OR/B	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)		5V → 0V
42	G/B	Trunk lid key cylinder switch	OFF (Neutral) → ON (Unlock)		5V → 0V

L : LHD models

R: RHD models

Description

NFEL0308

NFEL0308S01

OUTLINE

The time control unit totally controls the following body electrical system operations.

- Warning chime
- Rear defogger and door mirror defogger
- Power door lock
- Interior lamp

INPUT/OUTPUT

NFEL0308S02

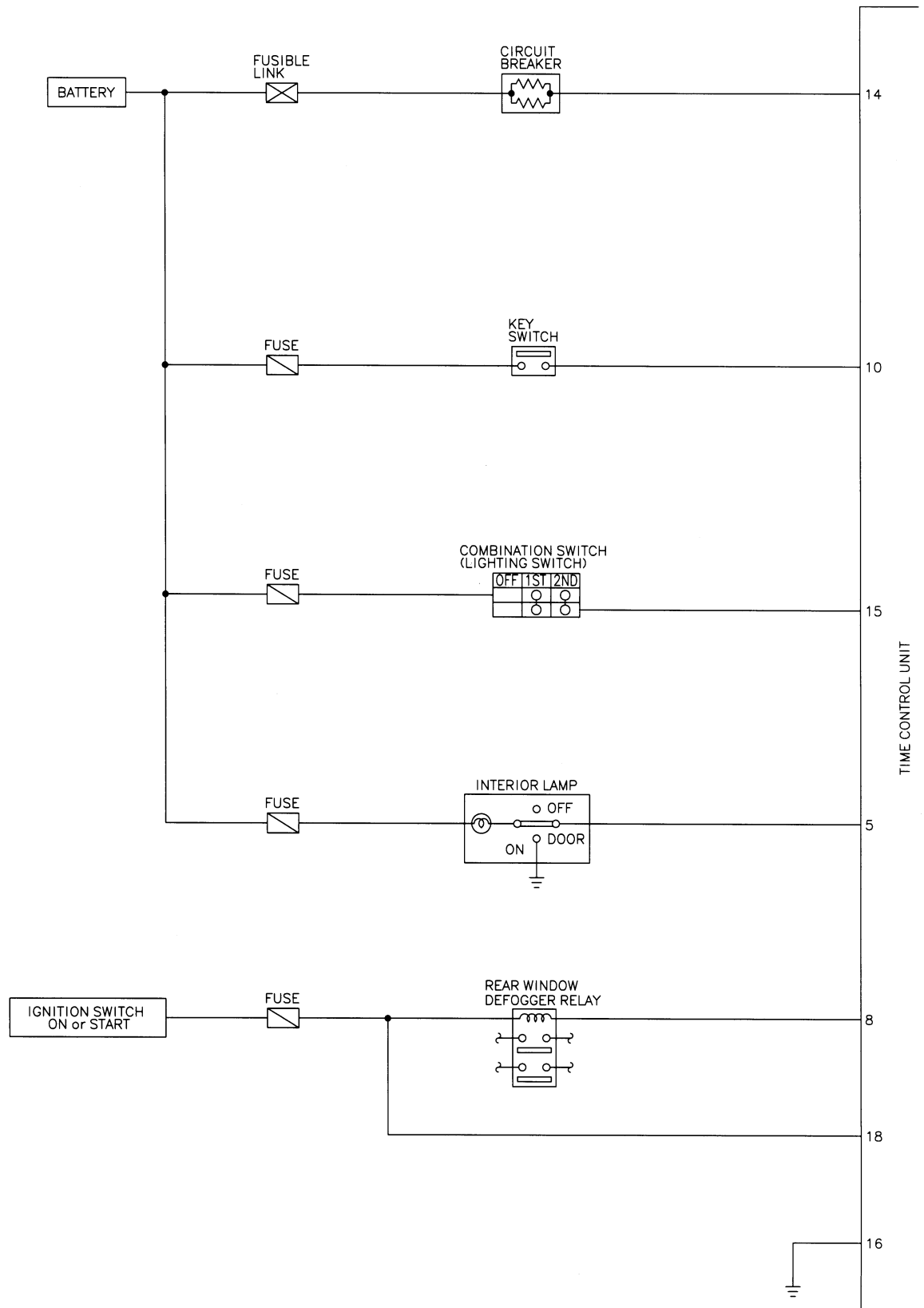
System	Input	Output
Power door lock	Door lock and unlock switch Door switches	Door lock actuator
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Front door switch	Warning chime (located in smart entrance control unit)
Rear window defogger and door mirror defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Interior lamp	Door switches Front door unlock sensor Ignition switch (ON) Key switch (Insert)	Interior lamp Key hole illumination

EL

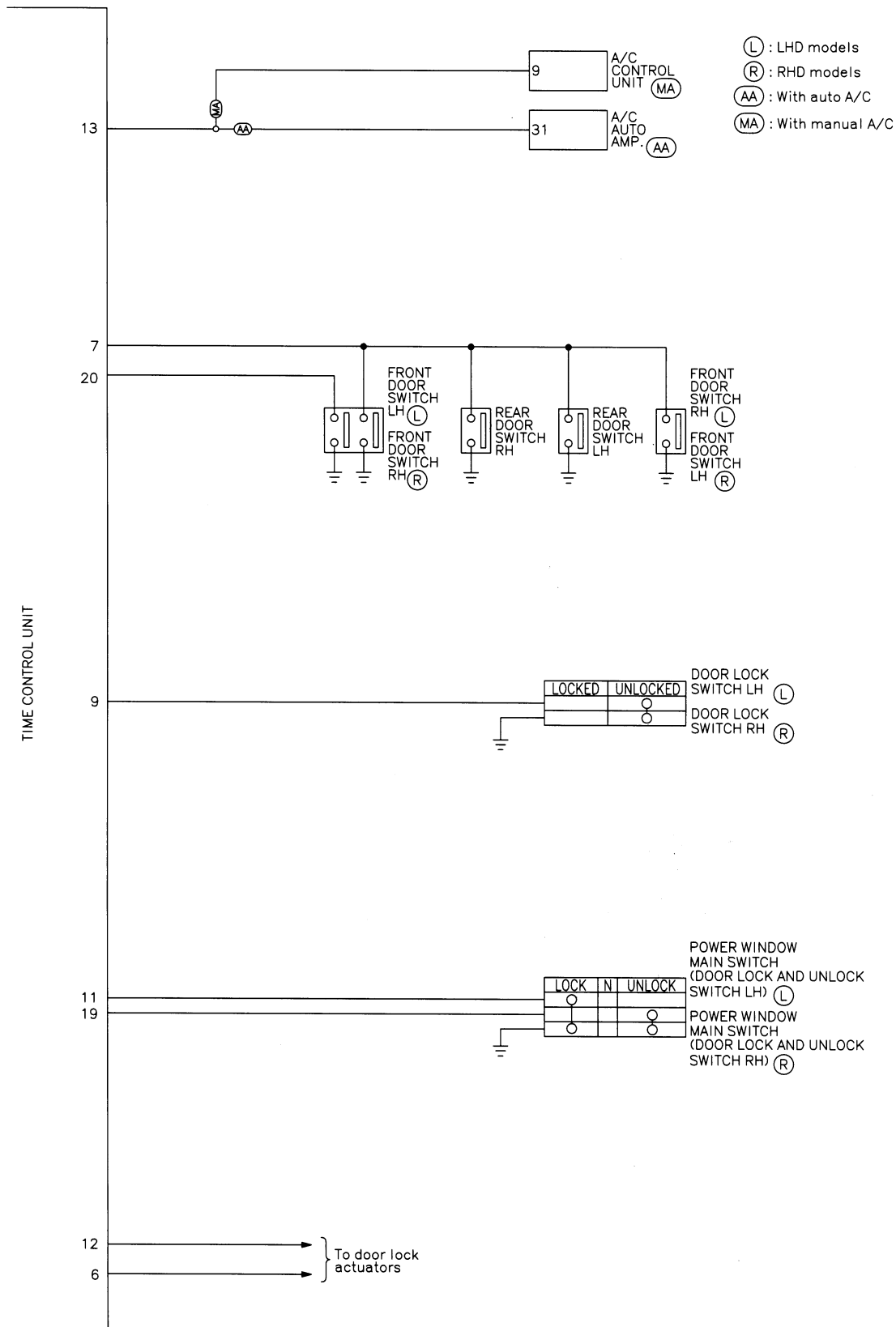
IDX

Schematic

NFEL0309



MEL973M



Time Control Unit Inspection Table

NFEL0310

Terminal No.	Wire color	Connections	Operated condition		Voltage (Approximate values)
5	R/Y	Interior lamp	When interior lamp is operated with driver's door is unlocked. (Lamp switch in "Door" position)		0V → 12V
6	PU	Door lock actuators	Door lock/unlock switch	Free	0V
				Locked	12V
7	R/W	Door switches (All)	OFF (Closed) → ON (Open)		5V → 0V
8	LG: XR G/R: RA	Rear window defogger relay	OFF → ON (Ignition key is in "ON" position)		0V → 12V
9	LG/R	Driver door unlock sensor	Driver door: Locked → Unlocked		5V → 0V
10	B/R	Ignition key switch (Insert)	Key inserted → Key removed from IGN key cylinder		12V → 0V
11	GY	Door lock/unlock switch	Neutral → Locked		5V → 0V
12	G/Y	Door lock actuators	Door lock/unlock switch	Free	0V
				Locked	12V
13	G/W	Rear window defogger switch	OFF → ON		5V → 0V
14	W/R	Power source (CB)	—		12V
15	R/W	Tail lamp relay (With auto light)	1ST, 2ND position: ON → OFF		12V → 0V
		Lighting switch (Without auto light)			
16	B	Ground	—		—
18	G	Ignition switch (ON)	Ignition key is in "ON" position		12V
19	BR/Y	Door lock/unlock switch	Neutral → Unlocked		5V → 0V
20	SB	Driver door switch	OFF (Closed) → ON (Open)		5V → 0V

L : LHD models RA : RHD models with auto A/C
R : RHD models XR : Except RA

Component Parts and Harness Connector Location

NFEL0172

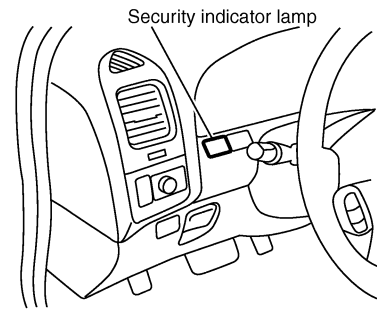
Fuse block (J/B)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16			17	18	19	20
21	22	23	24	25	26	27	28	29	30	31



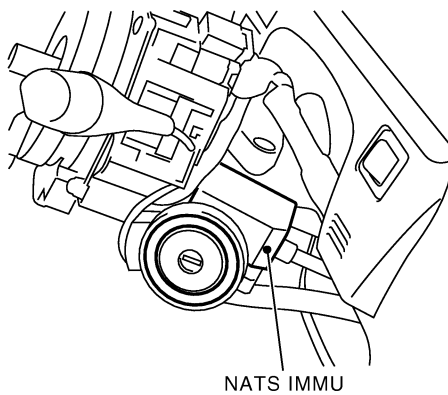
UP

51	52	53	54	55	56	57	58	59	60
b	c	d	e	f					
61	62	63	64	65	66	67	68	69	70
71	72								
g	h	i	j						



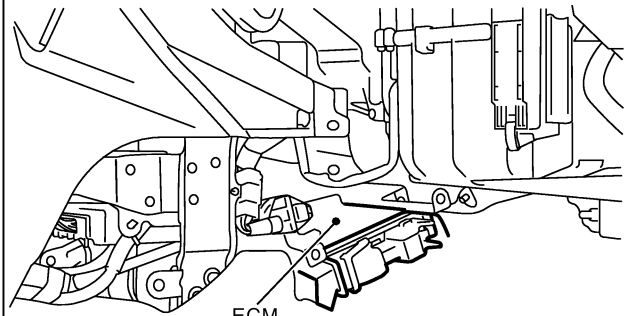
Security indicator lamp

View with steering wheel and steering column removed



NATS IMMU

View with glove box removed



ECM

SEL656WA

GI

MA

EM

LC

EC

FE

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MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

System Description

=NFEL0173

NATS (Nissan Anti-theft System) has the following immobilizer functions:

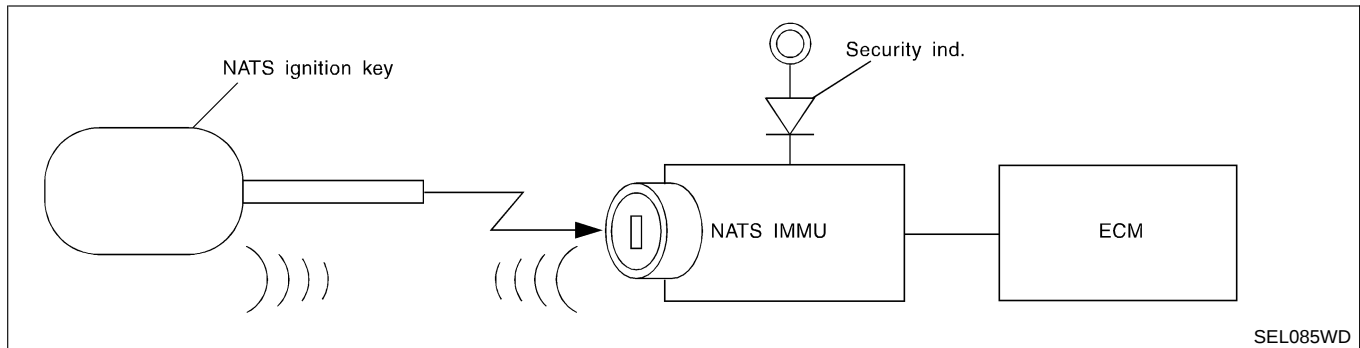
- Since only NATS ignition keys, whose ID nos. have been registered into the ECM and IMMU of NATS, allow the engine to run, operation of a stolen vehicle without a NATS registered key is prevented by NATS. That is to say, NATS will immobilize the engine if someone tries to start it without the registered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

System Composition

NFEL0174

The immobilizer function of the NATS consists of the following:

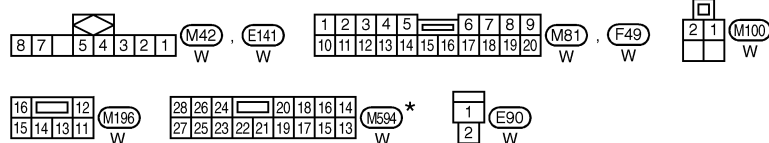
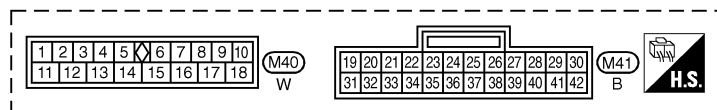
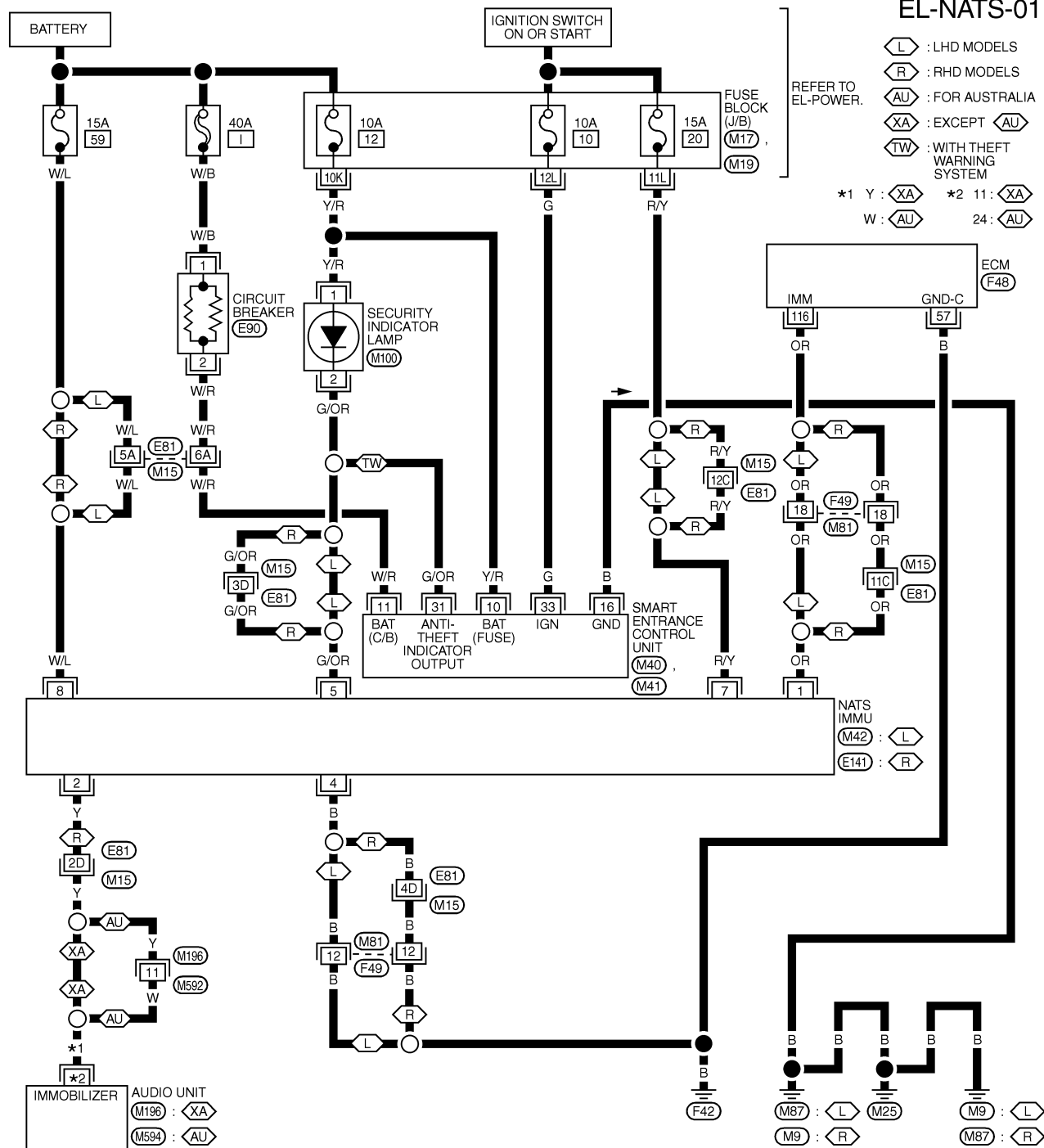
- NATS ignition key
- NATS immobilizer control unit (NATS IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- Security indicator



Wiring Diagram — NATS —

NFEL0175

EL-NATS-01

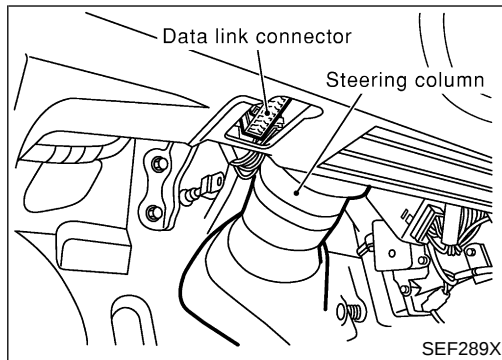


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

REFER TO THE FOLLOWING.

- (M15) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (M17) , (M19) -FUSE BLOCK-JUNCTION BOX (J/B)
- (F48) -ELECTRICAL UNITS

MEL8470



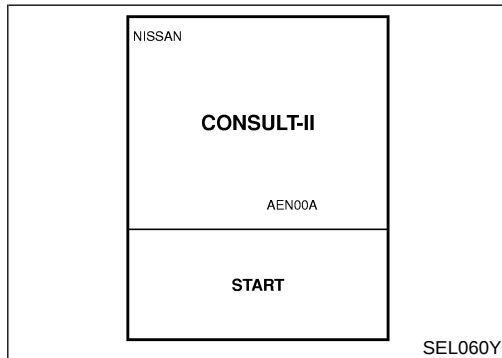
CONSULT-II

CONSULT-II INSPECTION PROCEDURE

NFEL0176

NFEL0176S01

1. Turn ignition switch OFF.
2. Connect "CONSULT-II" to Data link connector.

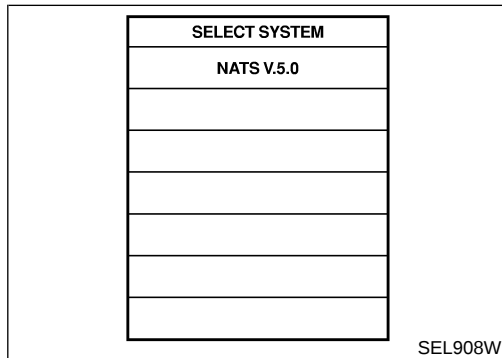


3. Insert NATS program card into CONSULT-II.

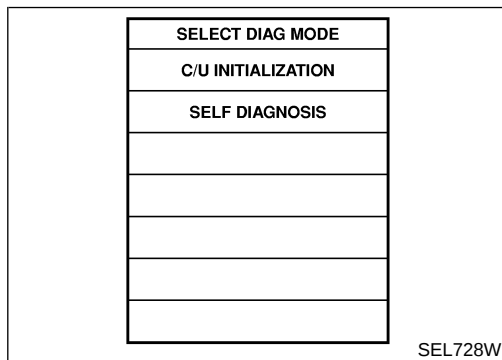
◆ : Program card

NATS (AEN00A)

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



6. Select "NATS V.5.0".



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

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

CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

NFEL0176S02

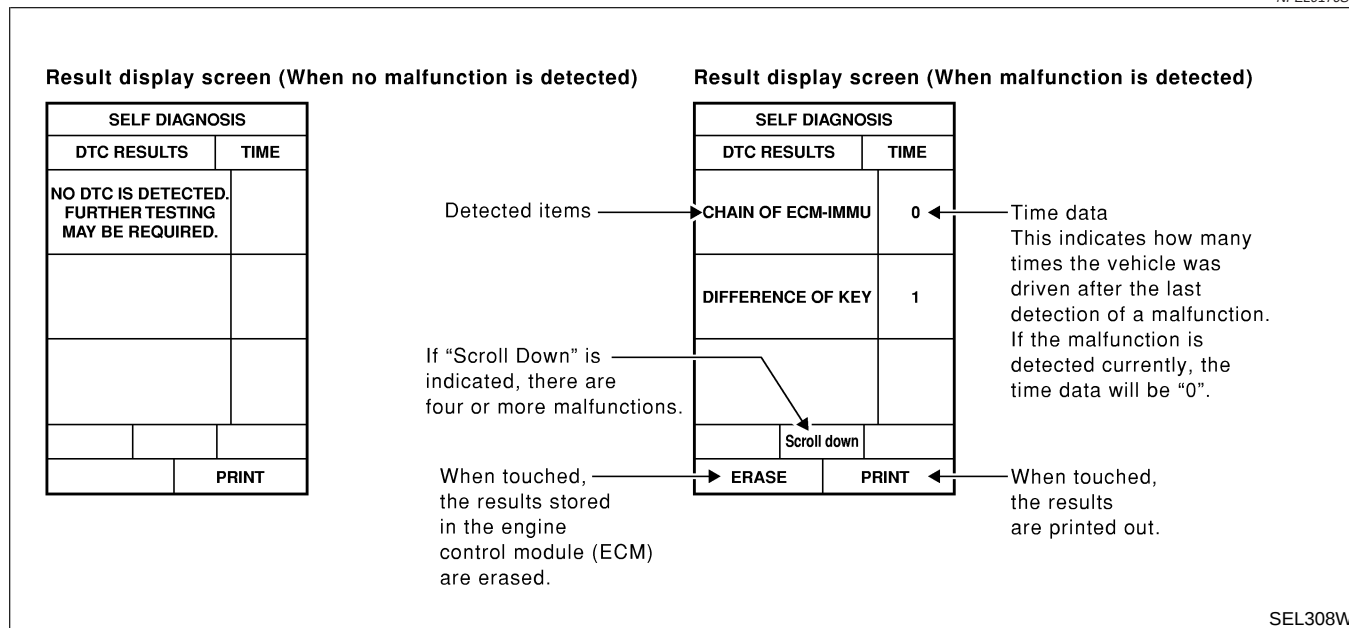
CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following three components, C/U initialization and re-registration of all NATS ignition keys are necessary. [NATS ignition key/IMMU/ECM]
SELF DIAGNOSIS	Detected items (screen terms) are as shown in the chart EL-381.

NOTE:

- When any initialization is performed, all ID previously registered will be erased and all NATS ignition keys must be registered again.
- The engine cannot be started with an unregistered key. In this case, the system may show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT-II screen.
- In rare case, "CHAIN OF ECM-IMMU" might be stored as a self-diagnostic result during key registration procedure, even if the system is not malfunctioning.

HOW TO READ SELF-DIAGNOSTIC RESULTS

NFEL0176S03



NATS SELF-DIAGNOSTIC RESULTS ITEM CHART

NFEL0176S04

Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of "ENGINE")	Malfunction is detected when	Reference page
ECM INT CIRC-IMMU	NATS MAL-FUNCTION P1613	The malfunction of ECM internal circuit of IMMU communication line is detected.	EL-385
CHAIN OF ECM-IMMU	NATS MAL-FUNCTION P1612	Communication impossible between ECM and IMMU (In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.)	EL-386
DIFFERENCE OF KEY	NATS MAL-FUNCTION P1615	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-390
CHAIN OF IMMU-KEY	NATS MAL-FUNCTION P1614	IMMU cannot receive the key ID signal.	EL-391
ID DISCORD, IMM-ECM	NATS MAL-FUNCTION P1611	The result of ID verification between IMMU and ECM is NG. System initialization is required.	EL-392

NATS (NISSAN ANTI-THEFT SYSTEM)

CONSULT-II (Cont'd)

Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of "ENGINE")	Malfunction is detected when	Reference page
LOCK MODE	NATS MAL-FUNCTION P1610	When the starting operation is carried out five or more times consecutively under the following conditions, NATS will shift the mode to one which prevents the engine from being started. ● Unregistered ignition key is used. ● IMMU or ECM's malfunctioning.	EL-395
DON'T ERASE BEFORE CHECKING ENG DIAG	—	All engine trouble codes except NATS trouble code has been detected in ECM.	EL-383

Trouble Diagnoses WORK FLOW

NFEL0177

NFEL0177S01

GI

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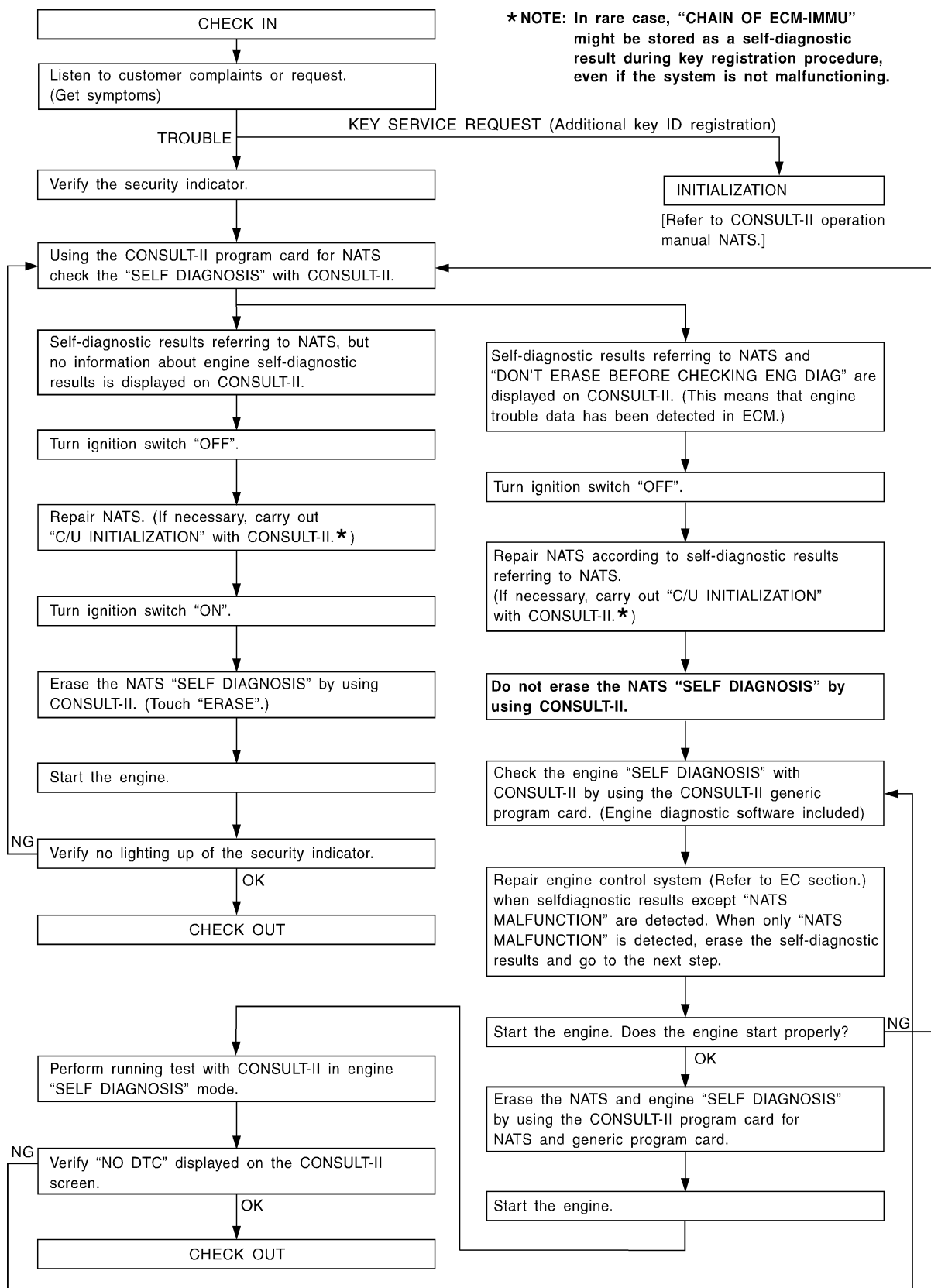
BT

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SEL729WC

SYMPTOM MATRIX CHART 1
(Self-diagnosis related item)

NFEL0177S02

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT-II screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON NEXT PAGE
- Security indicator lighting up* - Engine hard to start	ECM INT CIRC-IMMU	PROCEDURE 1 (EL-385)	ECM	B
	CHAIN OF ECM-IMMU	PROCEDURE 2 (EL-386)	In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.	—
			Open circuit in battery voltage line of IMMU circuit	C1
			Open circuit in ignition line of IMMU circuit	C2
			Open circuit in ground line of IMMU circuit	C3
			Open circuit in communication line between IMMU and ECM	C4
			Short circuit between IMMU and ECM communication line and battery voltage line	C4
			Short circuit between IMMU and ECM communication line and ground line	C4
			ECM	B
			IMMU	A
	DIFFERENCE OF KEY	PROCEDURE 3 (EL-390)	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 4 (EL-391)	Malfunction of key ID chip	E
			IMMU	A
	ID DISCORD, IMM-ECM	PROCEDURE 5 (EL-392)	System initialization has not yet been completed.	F
			ECM	F
	LOCK MODE	PROCEDURE 7 (EL-395)	LOCK MODE	D
- MIL staying ON - Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-383)	Engine trouble data and NATS trouble data have been detected in ECM	—

*: When NATS detects trouble, the security indicator lights up while ignition key is in the "ON" position.

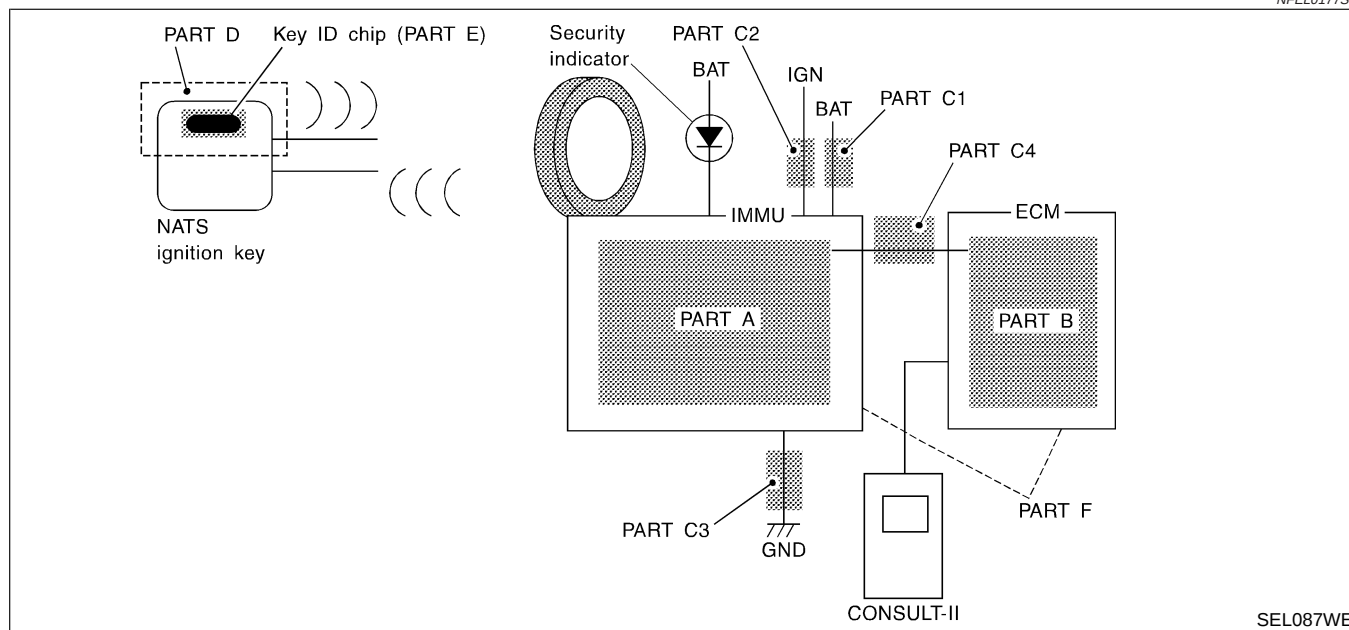
SYMPTOM MATRIX CHART 2 (Non self-diagnosis related item)

NFEL0177S03

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
Security ind. does not light up.	PROCEDURE 6 (EL-393)	Security ind.
		Open circuit between Fuse and IMMU
		Continuation of initialization mode
		IMMU

DIAGNOSTIC SYSTEM DIAGRAM

NFEL0177S04



SEL087WE

SELF DIAGNOSIS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

SEL314W

DIAGNOSTIC PROCEDURE 1

NFEL0177S06

Self-diagnostic results:

"ECM INT CIRC-IMMU" displayed on CONSULT-II screen

1. Confirm SELF-DIAGNOSTIC RESULTS "ECM INT CIRC-IMMU" displayed on CONSULT-II screen. Ref. part No. B.
2. Replace ECM.
3. Perform initialization with CONSULT-II.
For initialization, refer to "CONSULT-II operation manual NATS".

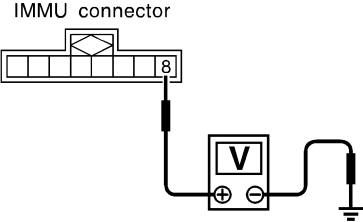
DIAGNOSTIC PROCEDURE 2

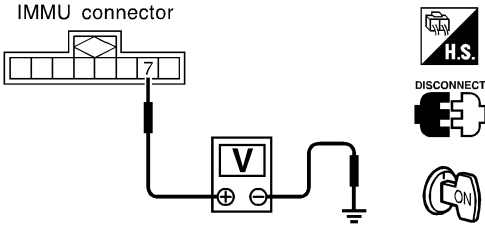
=NFEL0177S07

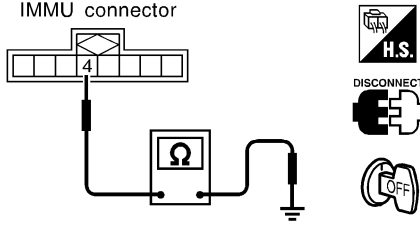
Self-diagnostic results:

"CHAIN OF ECM-IMMU" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS											
Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF ECM-IMMU" displayed on CONSULT-II screen. NOTE: In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.												
<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <th colspan="2">SELF DIAGNOSIS</th> </tr> <tr> <th style="width: 60%;">DTC RESULTS</th> <th style="width: 40%;">TIME</th> </tr> <tr> <td>CHAIN OF ECM-IMMU</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>			SELF DIAGNOSIS		DTC RESULTS	TIME	CHAIN OF ECM-IMMU	0				
SELF DIAGNOSIS												
DTC RESULTS	TIME											
CHAIN OF ECM-IMMU	0											
SEL292W												
Is CONSULT-II screen displayed as above?												
Yes	▶	GO TO 2.										
No	▶	GO TO SYMPTOM MATRIX CHART 1.										

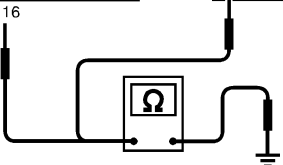
2	CHECK POWER SUPPLY CIRCUIT FOR IMMU	
1. Disconnect IMMU connector. 2. Check voltage between IMMU connector M42 (LHD models) or E141 (RHD models) terminal 8 (W/L) and ground with CONSULT-II or tester.		
 IMMU connector  Battery voltage should exist.		
SEL302WF		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Check the following 15A fuse (No. 59, located in the fuse and fusible link box) - Harness for open or short between fuse and IMMU connector Ref. Part No. C1

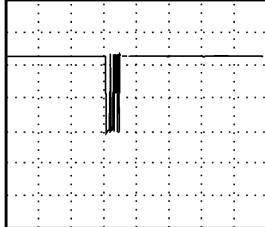
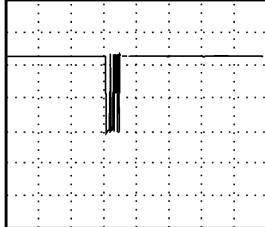
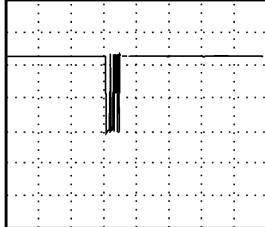
3		CHECK IGN SW. ON SIGNAL
- Turn ignition switch ON. - Check voltage between IMMU connector M42 (LHD models) or E141 (RHD models) terminal 7 (R/Y) and ground with CONSULT-II or tester.		
		SEL303WH
OK or NG		
OK	▶	GO TO 4.
NG	▶	Check the following 15A fuse [No. 20, located in the fuse block (J/B)] - Harness for open or short between fuse and IMMU connector Ref. part No. C2

4		CHECK GROUND CIRCUIT FOR IMMU
- Turn ignition OFF. - Check harness continuity between IMMU connector M42 (LHD models) or E141 (RHD models) terminal 4 (B) and ground.		
		SEL304WF
OK or NG		
OK	▶	GO TO 5.
NG	▶	Repair harness. Ref. part No. C3

5	CHECK COMMUNICATION LINE OPEN CIRCUIT	
1. Disconnect ECM connector. 2. Check harness continuity between ECM connector F48 terminal 116 (OR) and IMMU connector M42 (LHD models) or E141 (RHD models) terminal 1 (OR).		
 DISCONNECT   ECM CONNECTOR 116 IMMU connector 1  Continuity should exist.		
SEL305WF		
OK or NG		
OK	▶	GO TO 6.
NG	▶	Repair harness or connector. Ref. part No. C4

6		CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT
1. Turn ignition ON. 2. Check voltage between ECM connector F48 terminal 116 (OR) or IMMU connector M42 (LHD models) or E141 (RHD models) terminal 1 (OR) and ground.		
 DISCONNECT   ECM CONNECTOR 116 IMMU connector  V + -  Voltage: 0V		
OK or NG		
OK	▶	GO TO 7.
NG	▶	Communication line is short-circuited with battery voltage line or ignition switch ON line. Repair harness or connectors. Ref. part No. C4

7	CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT	
1. Turn ignition switch OFF. 2. Check continuity between ECM connector F48 terminal 116 (OR), IMMU connector M42 (LHD models) or E141 (RHD models) terminal 1 (OR) and ground.		
 DISCONNECT  ECM CONNECTOR 116 IMMU connector 1  Continuity should not exist. SEL307WF		
OK or NG		
OK	▶	GO TO 8.
NG	▶	Communication line is short-circuited with ground line. Repair harness or connectors. Ref. part No. C4

8	SIGNAL FROM ECM TO IMMU CHECK																	
1. Check the signal between ECM connector F48 terminal 116 (OR) and ground with CONSULT-II or oscilloscope when ignition switch is turned "ON". 2. Make sure signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned "ON".																		
<table><tr><td colspan="2">Triggering Menu</td><td colspan="2">Stop Triggering</td></tr><tr><td>Set</td><td colspan="3">Auto Trigger</td></tr><tr><td colspan="4"></td></tr><tr><td colspan="2">>> [A] 5.0 V/Div</td><td colspan="2">10 mS/Div T</td></tr></table>			Triggering Menu		Stop Triggering		Set	Auto Trigger							>> [A] 5.0 V/Div		10 mS/Div T	
Triggering Menu		Stop Triggering																
Set	Auto Trigger																	
																		
>> [A] 5.0 V/Div		10 mS/Div T																
SEL730W																		
OK or NG																		
OK	▶	IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For the operation of initialization, refer to "CONSULT-II Operation Manual NATS".																
NG	▶	ECM is malfunctioning. Replace ECM. Ref. part No. B Perform initialization with CONSULT-II. For the operation of initialization, refer to "CONSULT-II Operation Manual NATS".																

DIAGNOSTIC PROCEDURE 3

=NFEL0177S08

Self-diagnostic results:

"DIFFERENCE OF KEY" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS										
Confirm SELF-DIAGNOSTIC RESULTS "DIFFERENCE OF KEY" displayed on CONSULT-II screen.											
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAGNOSIS</th></tr> <tr> <th>DTC RESULTS</th><th>TIME</th></tr> </thead> <tbody> <tr> <td>DIFFERENCE OF KEY</td><td>0</td></tr> <tr> <td> </td><td> </td></tr> <tr> <td> </td><td> </td></tr> </tbody> </table>		SELF DIAGNOSIS		DTC RESULTS	TIME	DIFFERENCE OF KEY	0				
SELF DIAGNOSIS											
DTC RESULTS	TIME										
DIFFERENCE OF KEY	0										
Is CONSULT-II screen displayed as above?											
Yes	▶ GO TO 2.										
No	▶ GO TO SYMPTOM MATRIX CHART 1.										

SEL293W

2	PERFORM INITIALIZATION WITH CONSULT-II				
Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs. For initialization and registration of NATS ignition key IDs, refer to “CONSULT-II operation manual NATS”.					
<table><tr><td>IMMU INITIALIZATION</td></tr><tr><td>INITIALIZATION FAIL</td></tr><tr><td>THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td></tr></table>			IMMU INITIALIZATION	INITIALIZATION FAIL	THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.
IMMU INITIALIZATION					
INITIALIZATION FAIL					
THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.					
NOTE: If the initialization is not completed or fails, CONSULT-II shows above message on the screen.					
Can the system be initialized and can the engine be started with re-registered NATS ignition key?					
Yes	▶	Ignition key ID was unregistered. Ref. part No. D			
No	▶	IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual NATS”.			

SEL297W

DIAGNOSTIC PROCEDURE 4

=NFEL0177S09

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

1	CONFIRM SELF-DIAGNOSTIC RESULTS										
Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT-II screen.											
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAGNOSIS</th></tr> <tr> <th>DTC RESULTS</th><th>TIME</th></tr> </thead> <tbody> <tr> <td>CHAIN OF IMMU-KEY</td><td>0</td></tr> <tr> <td> </td><td> </td></tr> <tr> <td> </td><td> </td></tr> </tbody> </table>		SELF DIAGNOSIS		DTC RESULTS	TIME	CHAIN OF IMMU-KEY	0				
SELF DIAGNOSIS											
DTC RESULTS	TIME										
CHAIN OF IMMU-KEY	0										
Is CONSULT-II screen displayed as above?											
Yes	▶ GO TO 2.										
No	▶ GO TO SYMPTOM MATRIX CHART 1.										

SEL294W

2	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. Replace the ignition key. Ref. part No. E Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II Operation Manual NATS".
No	▶ GO TO 3.

3	CHECK IMMU INSTALLATION
Check IMMU installation. Refer to "How to Replace IMMU" in EL-396.	
OK or NG	
OK	▶ IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II Operation Manual NATS".
NG	▶ Reinstall IMMU correctly.

DIAGNOSTIC PROCEDURE 5

=NFEL0177S10

Self-diagnostic results:

"ID DISCORD, IMM-ECM" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS										
Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM" displayed on CONSULT-II screen.											
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAGNOSIS</th></tr> <tr> <th>DTC RESULTS</th><th>TIME</th></tr> </thead> <tbody> <tr> <td>ID DISCORD, IMM-ECM</td><td>0</td></tr> <tr> <td> </td><td> </td></tr> <tr> <td> </td><td> </td></tr> </tbody> </table>		SELF DIAGNOSIS		DTC RESULTS	TIME	ID DISCORD, IMM-ECM	0				
SELF DIAGNOSIS											
DTC RESULTS	TIME										
ID DISCORD, IMM-ECM	0										
NOTE: "ID DISCORD IMM-ECM": Registered ID of IMM is in discord with that of ECM.											
Is CONSULT-II screen displayed as above?											
Yes	▶ GO TO 2.										
No	▶ GO TO SYMPTOM MATRIX CHART 1.										

SEL298W

2	PERFORM INITIALIZATION WITH CONSULT-II				
Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs. For initialization, refer to “CONSULT-II operation manual NATS”.					
<table><tr><td>IMMU INITIALIZATION</td></tr><tr><td>INITIALIZATION FAIL</td></tr><tr><td>THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td></tr></table>			IMMU INITIALIZATION	INITIALIZATION FAIL	THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.
IMMU INITIALIZATION					
INITIALIZATION FAIL					
THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.					
NOTE: If the initialization is not completed or fails, CONSULT-II shows above message on the screen.					
Can the system be initialized?					
Yes	▶	Start engine. (END) (System initialization had not been completed. Ref. part No. F)			
No	▶	ECM is malfunctioning. Replace ECM. Ref. part No. F Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual NATS”.			

SEL297W

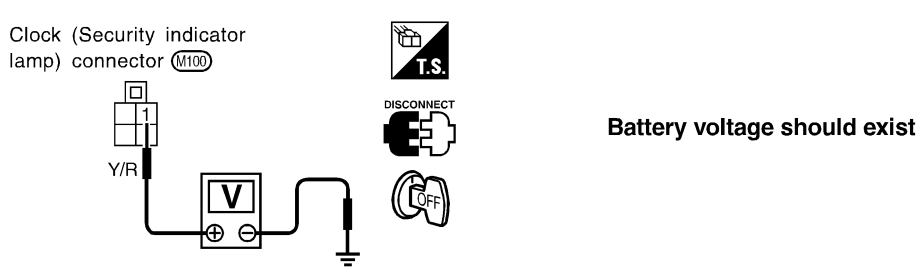
DIAGNOSTIC PROCEDURE 6

"SECURITY INDICATOR LAMP DOES NOT LIGHT UP"

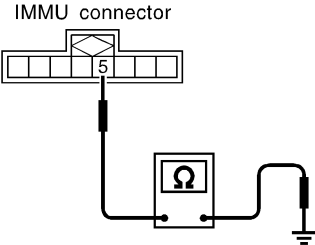
=NFEL0177S12

1	CHECK FUSE
Check 10A fuse [No. 12, located in the fuse block (J/B)].	
Is 10A fuse OK?	
Yes	▶ GO TO 2.
No	▶ Replace fuse.

2	CHECK SECURITY INDICATOR LAMP
1. Install 10A fuse. 2. Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II Operation Manual NATS". 3. Turn ignition switch OFF. 4. Start engine and turn ignition switch OFF. 5. Check the security indicator lamp lighting. Security indicator lamp should be light up.	
OK or NG	
OK	▶ INSPECTION END
NG	▶ GO TO 3.

3	CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT
1. Disconnect security indicator lamp connector. 2. Check voltage between security indicator lamp connector terminal 1 and ground.	
	
OK or NG	
OK	▶ GO TO 4.
NG	▶ Check harness for open or short between fuse and security indicator lamp.

4	CHECK SECURITY INDICATOR LAMP
Check security Indicator Lamp.	
Is security indicator lamp OK?	
Yes	▶ GO TO 5.
No	▶ Replace security indicator lamp.

5	CHECK IMMU FUNCTION	
	1. Connect IMMU connector. 2. Disconnect security indicator lamp connector. 3. Check continuity between IMMU connector M42 (LHD models) or E141 (RHD models) terminal 5 (G/OR) and ground.     Continuity should exist intermittently. SEL300WF OK or NG	
OK	▶	Check harness for open or short between security indicator lamp and IMMU.
NG	▶	IMMU is malfunctioning. Replace IMMU. Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual NATS".

DIAGNOSTIC PROCEDURE 7

=NFEL0177S13

Self-diagnostic results:

"LOCK MODE" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS											
Confirm SELF-DIAGNOSTIC RESULTS “LOCK MODE” is displayed on CONSULT-II screen.												
<table><tr><th colspan="2">SELF DIAGNOSIS</th></tr><tr><th>DTC RESULTS</th><th>TIME</th></tr><tr><td>LOCK MODE</td><td>0</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>			SELF DIAGNOSIS		DTC RESULTS	TIME	LOCK MODE	0				
SELF DIAGNOSIS												
DTC RESULTS	TIME											
LOCK MODE	0											
SEL295W												
Is CONSULT-II screen displayed as above?												
Yes	▶	GO TO 2.										
No	▶	GO TO SYMPTOM MATRIX CHART 1.										

SEL295W

2	ESCAPE FROM LOCK MODE	
1. Turn ignition switch OFF. 2. Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds. 3. Return the key to OFF position. 4. Repeat steps 2 and 3 twice (total of three cycles). 5. Start the engine.		
Does engine start?		
Yes	▶	System is OK. (Now system is escaped from “LOCK MODE”.)
No	▶	GO TO 3.

3	CHECK IMMU ILLUSTRATION	
Check IMMU installation. Refer to “How to Replace IMMU” in EL-396.		
OK or NG		
OK	▶	GO TO 4.
NG	▶	Reinstall IMMU correctly.

GI

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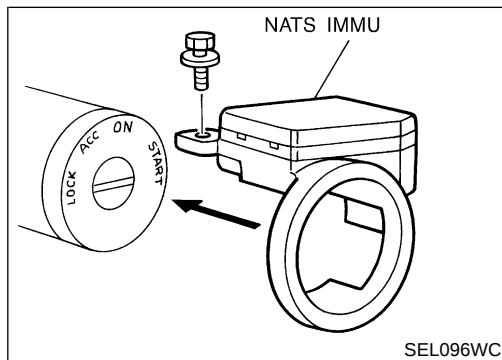
HA

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4	PERFORM INITIALIZATION WITH CONSULT-II							
Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual NATS”. IMMU INITIALIZATION INITIALIZATION FAIL THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. SEL297W NOTE: If the initialization is not completed or fails, CONSULT-II shows the above message on the screen. Can the system be initialized? <table><tr><td>Yes</td><td>▶</td><td>System is OK.</td></tr><tr><td>No</td><td>▶</td><td>GO TO DIAGNOSTIC PROCEDURE 5 to check “CHAIN OF IMMU-KEY”, refer to EL-391.</td></tr></table>			Yes	▶	System is OK.	No	▶	GO TO DIAGNOSTIC PROCEDURE 5 to check “CHAIN OF IMMU-KEY”, refer to EL-391.
Yes	▶	System is OK.						
No	▶	GO TO DIAGNOSTIC PROCEDURE 5 to check “CHAIN OF IMMU-KEY”, refer to EL-391.						



How to Replace NATS IMMU

NFEL0178

NOTE:

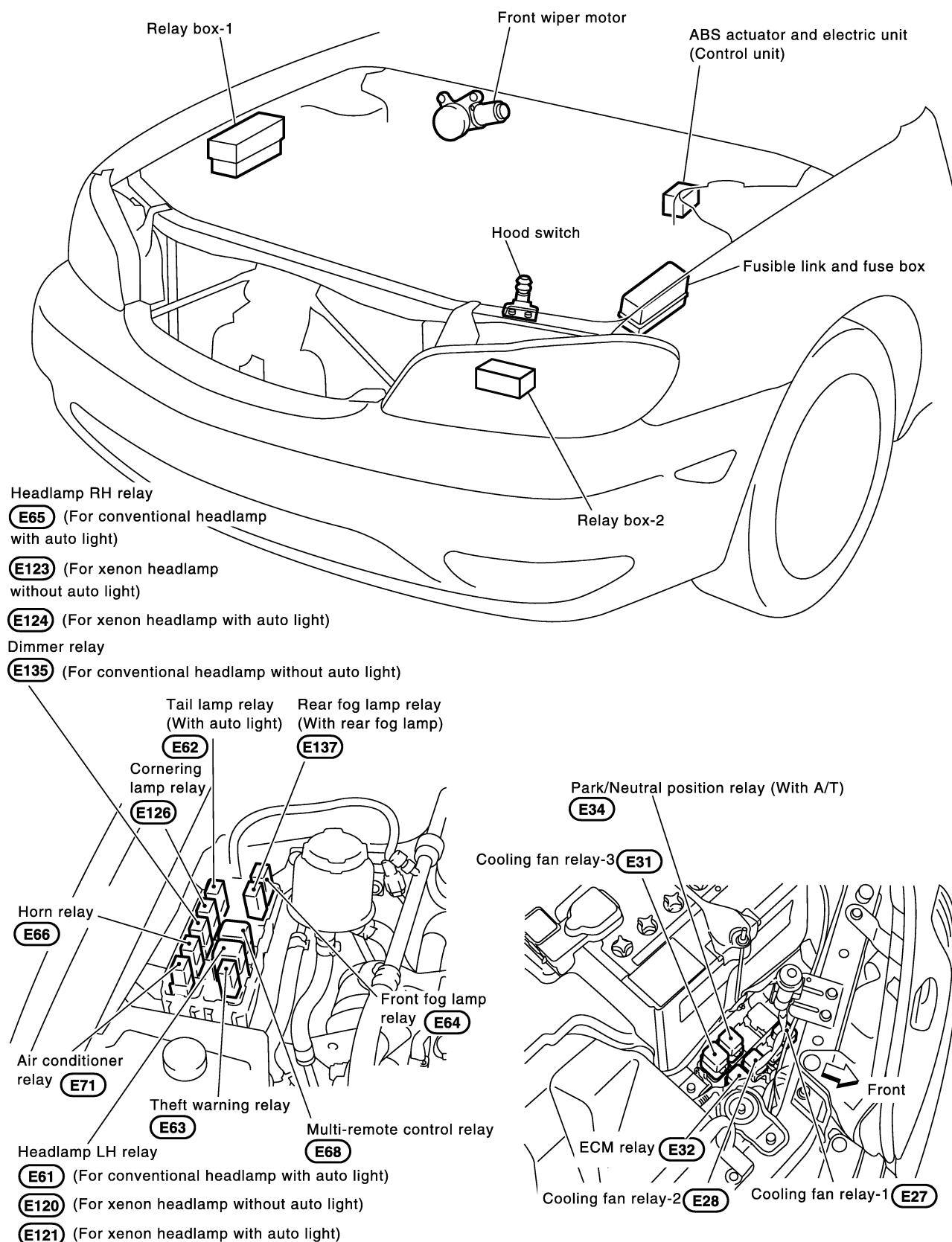
- If NATS IMMU is not installed correctly, NATS system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show "LOCK MODE" or "CHAIN OF IMMU-KEY".

LHD MODELS

NFEL0129

NFEL0129S01

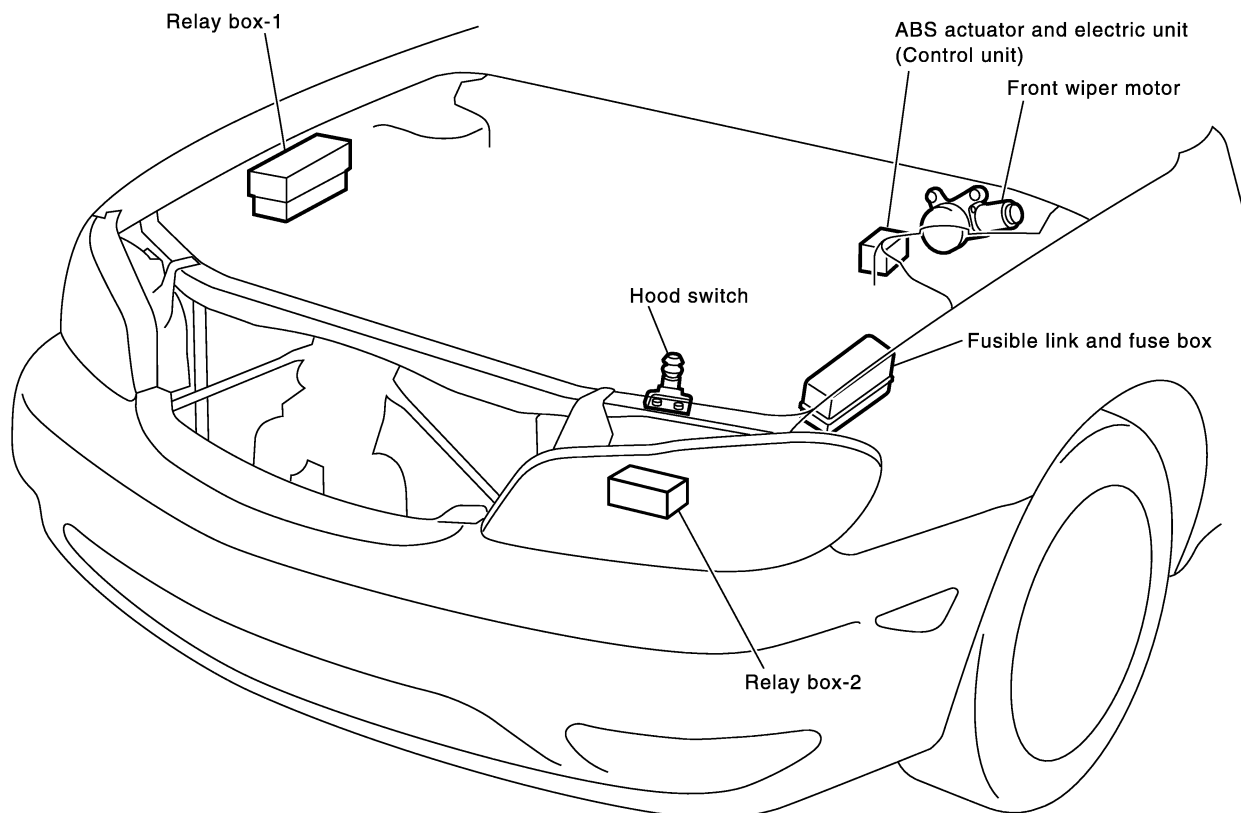
Engine Compartment



MEL9050

RHD MODELS

NFEL0129S02

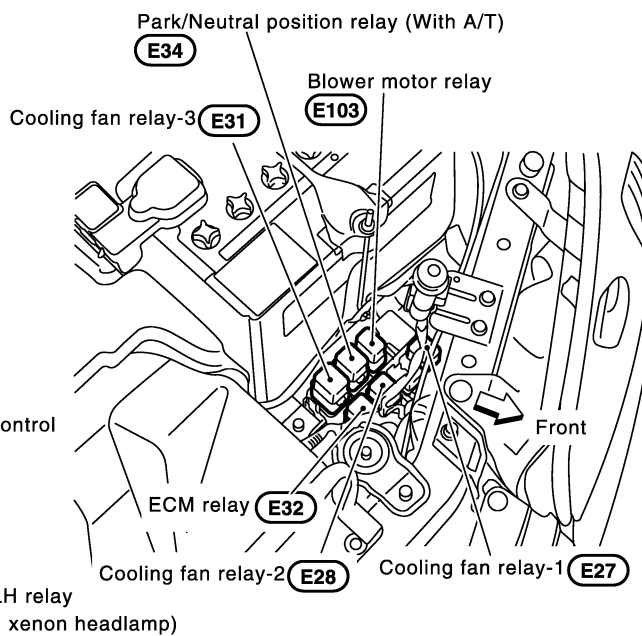
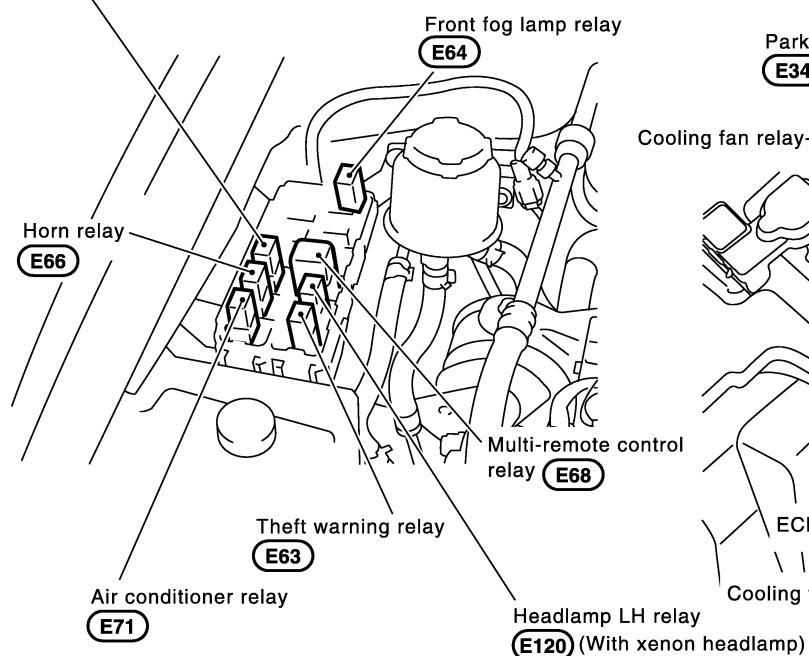


Headlamp RH relay

E123 (With xenon headlamp)

Dimmer relay

E135 (Without xenon headlamp)



MEL9060

NOTE:

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MA

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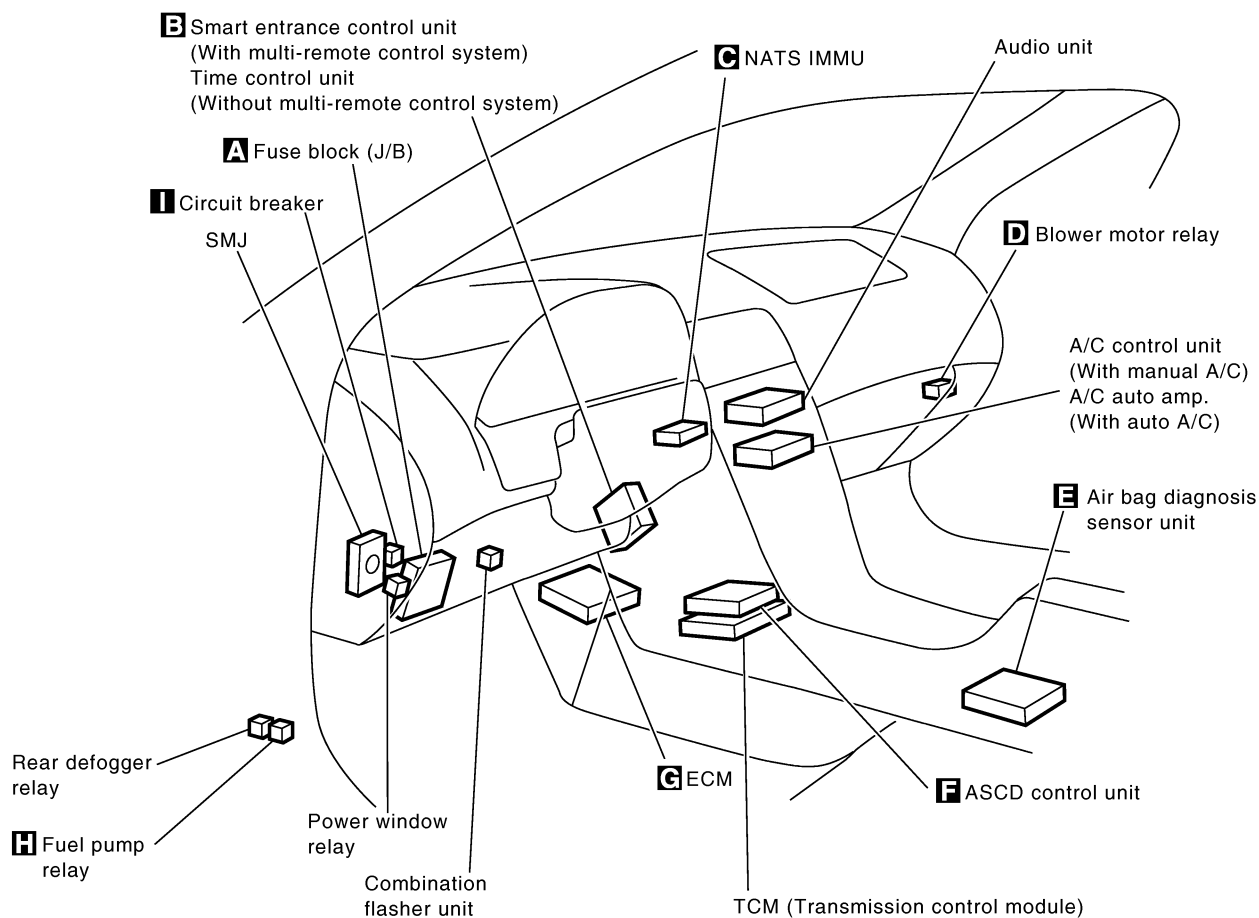
IDX

Passenger Compartment

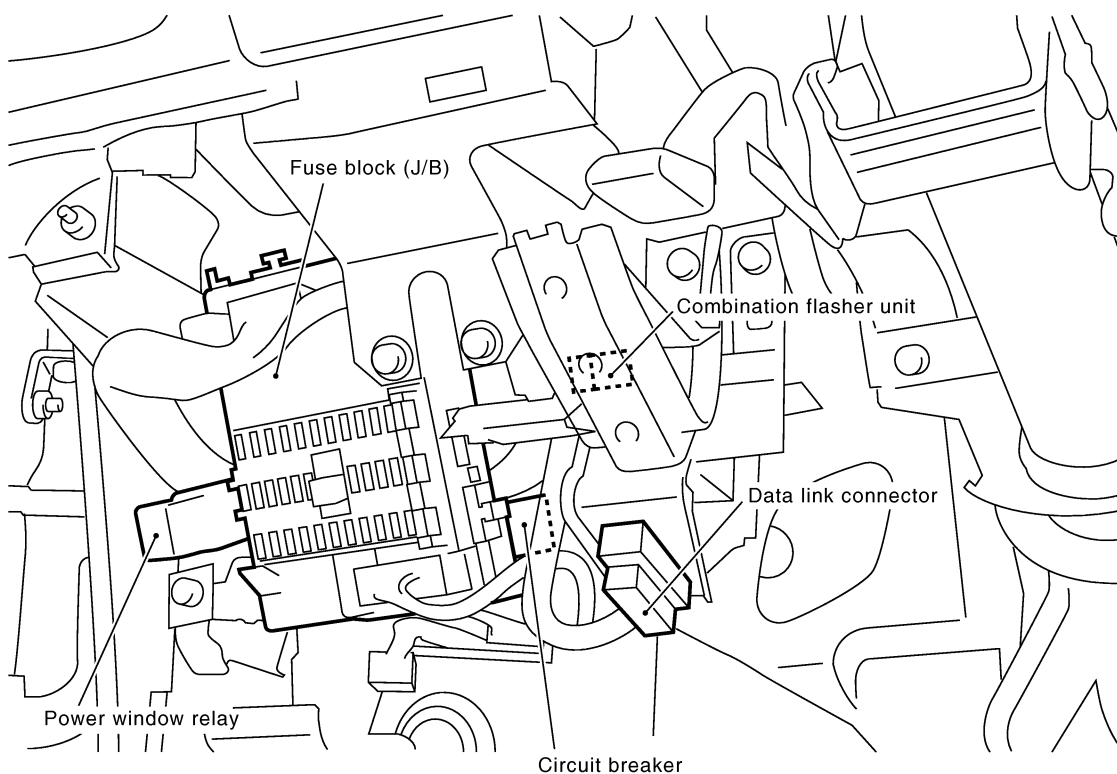
NFEL0130

NFEL0130S01

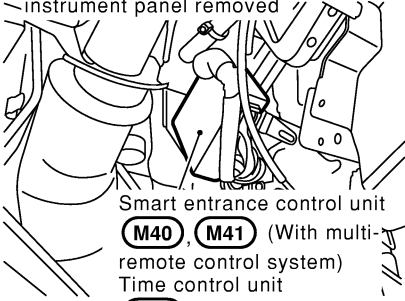
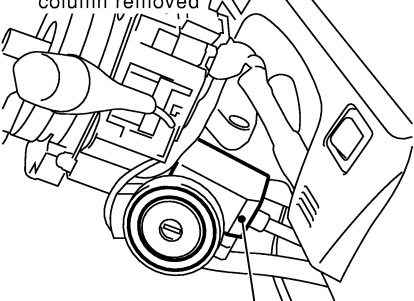
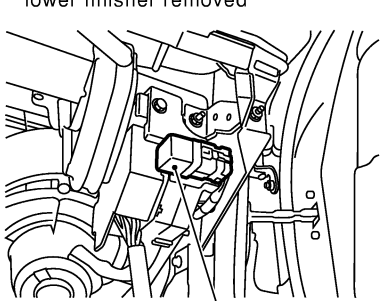
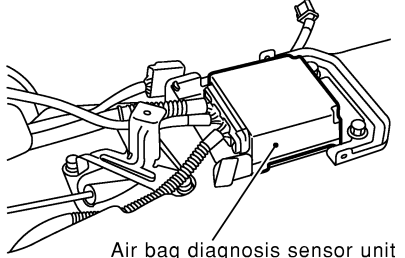
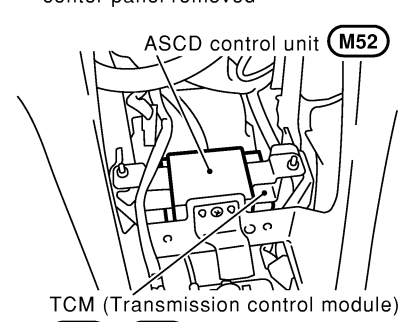
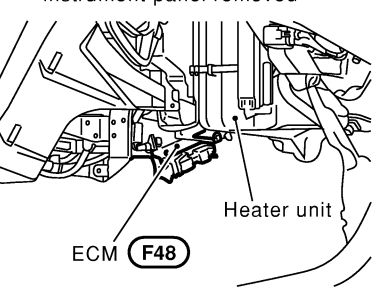
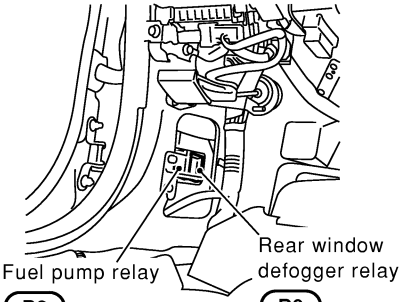
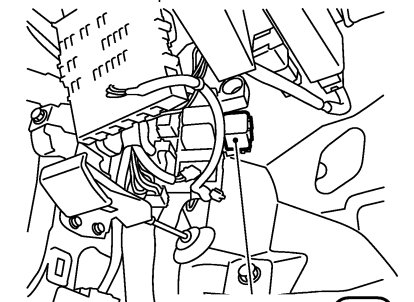
LHD MODELS



A Instrument panel LH side



MEL033L

B Driver side view with lower instrument panel removed  Smart entrance control unit M40, M41 (With multi-remote control system) Time control unit M127 (Without multi-remote control system)	C View with steering wheel and steering column removed  NATS IMMU M42	D Passenger side view with dash side lower finisher removed  Blower motor relay E103
E Rear of parking brake  Air bag diagnosis sensor unit M112, B42, B135	F View with lower instrument center panel removed  ASCD control unit M52 TCM (Transmission control module) F50, F51	G Passenger side view with lower instrument panel removed  Heater unit ECM F48
H Driver side view with dash side lower finisher removed  Fuel pump relay B8 Rear window defogger relay B9	I Driver side view with lower instrument panel removed  Circuit breaker E90	

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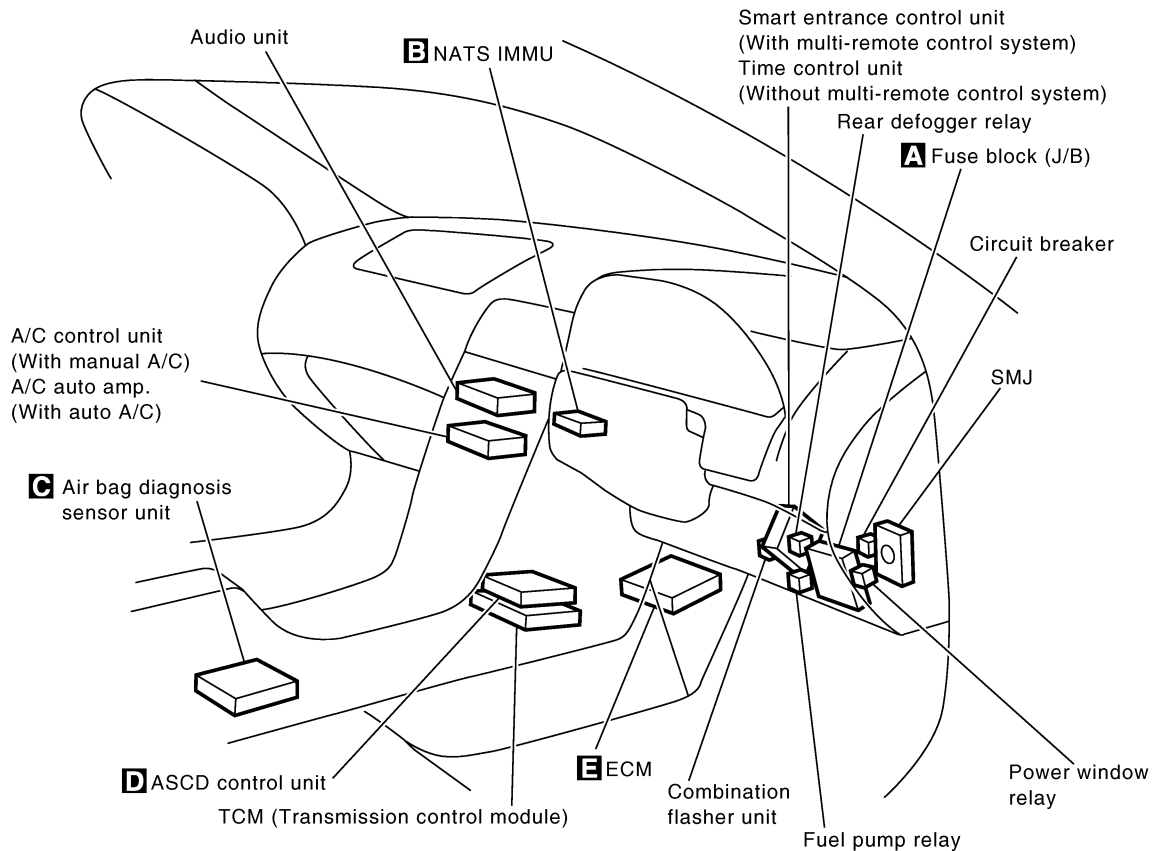
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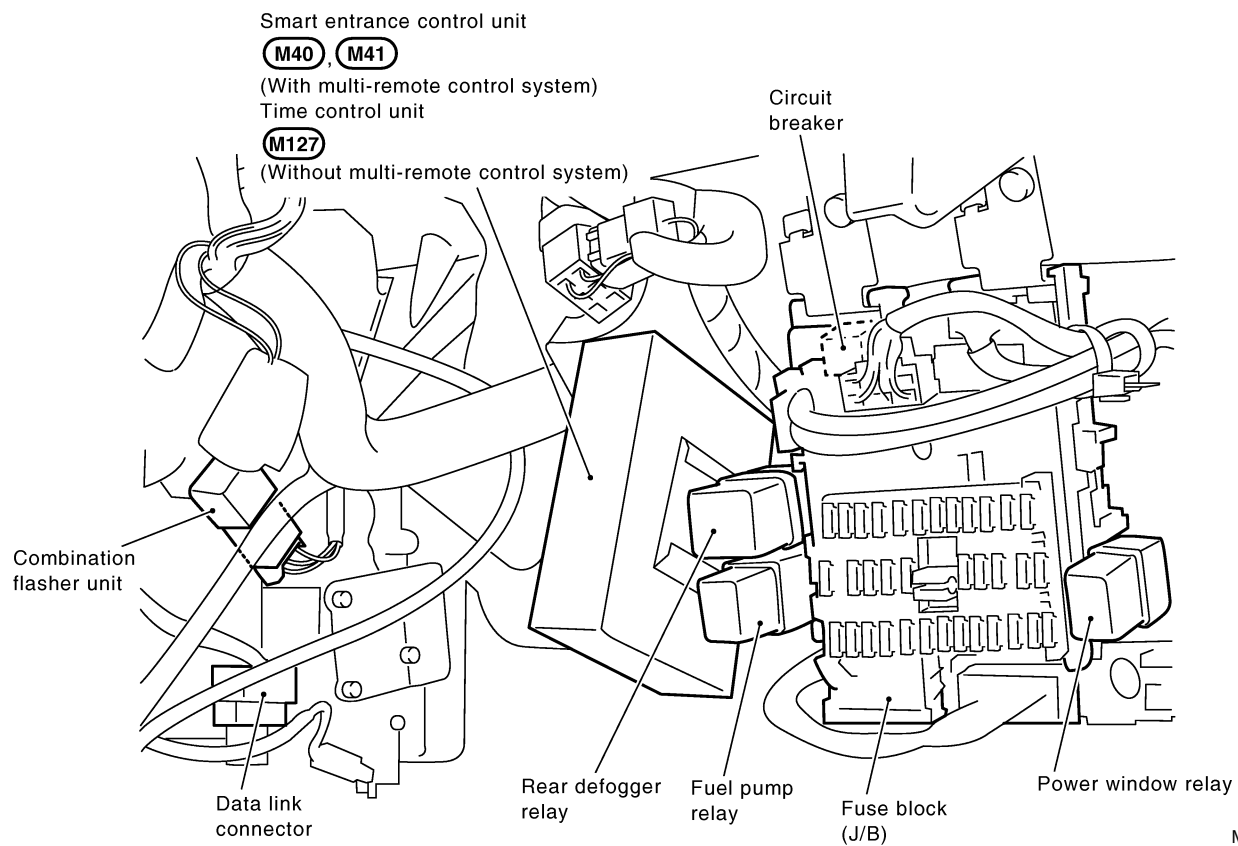
MEL975M

RHD MODELS

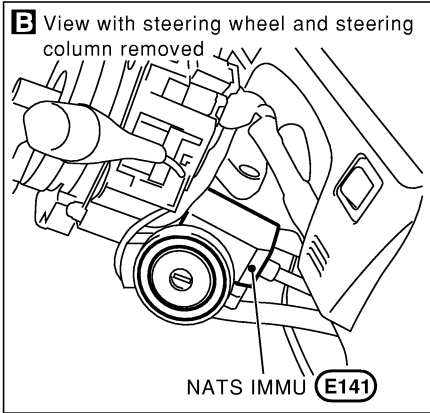
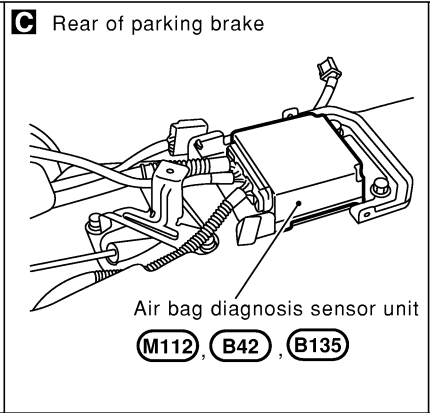
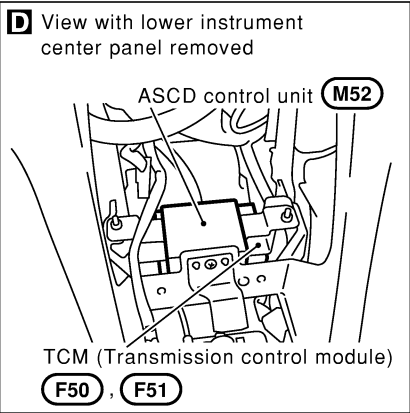
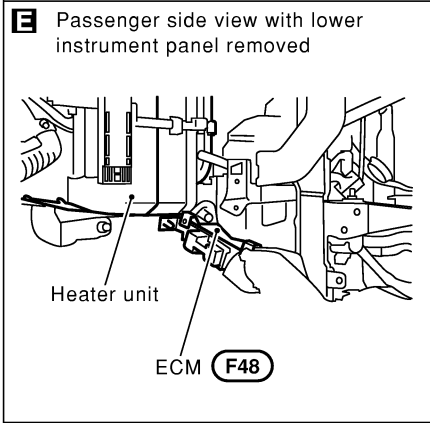
NFEL0130S03



A Instrument panel RH side



MEL058L

B View with steering wheel and steering column removed  NATS IMMU (E141)	C Rear of parking brake  Air bag diagnosis sensor unit (M112, B42, B135)	D View with lower instrument center panel removed  ASCD control unit (M52) TCM (Transmission control module) (F50, F51)
E Passenger side view with lower instrument panel removed  Heater unit ECM (F48)		

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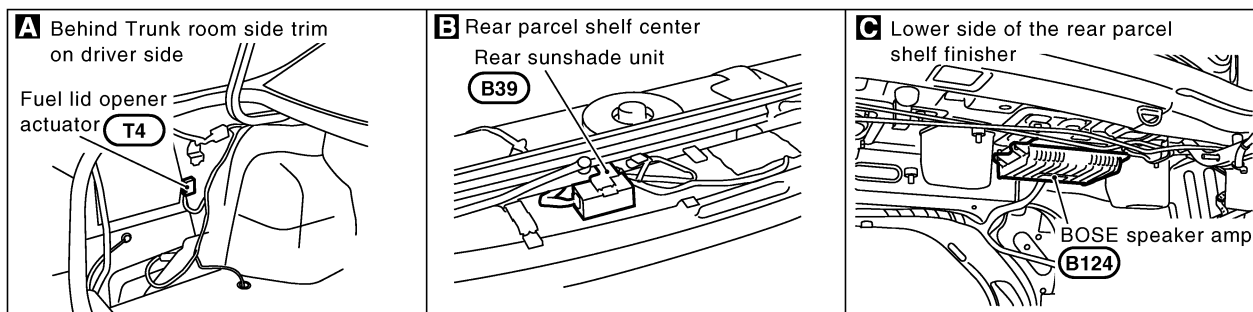
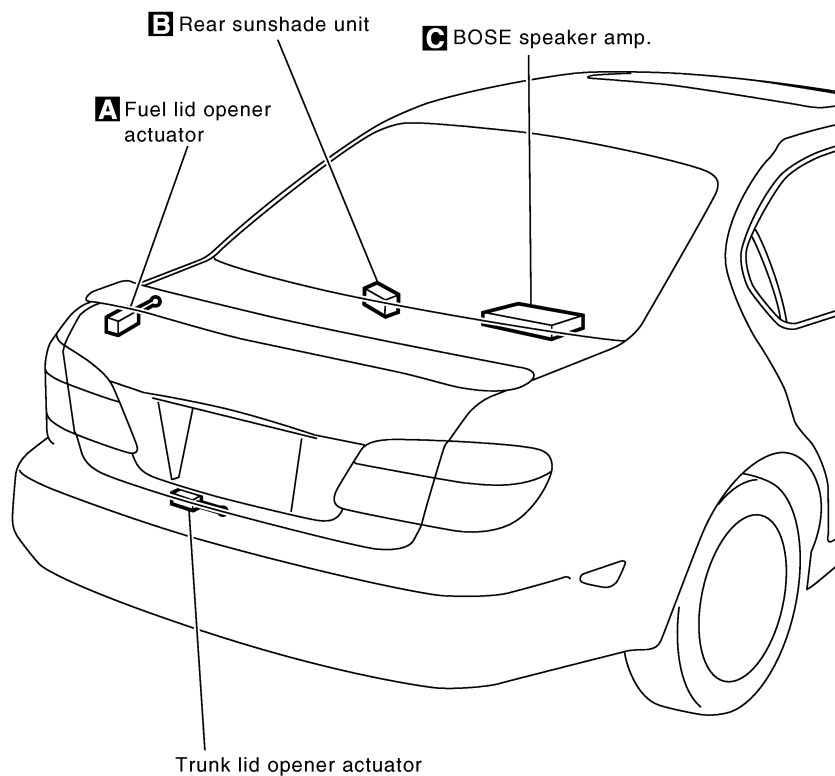
MEL059L

Luggage Compartment

NFEL0321

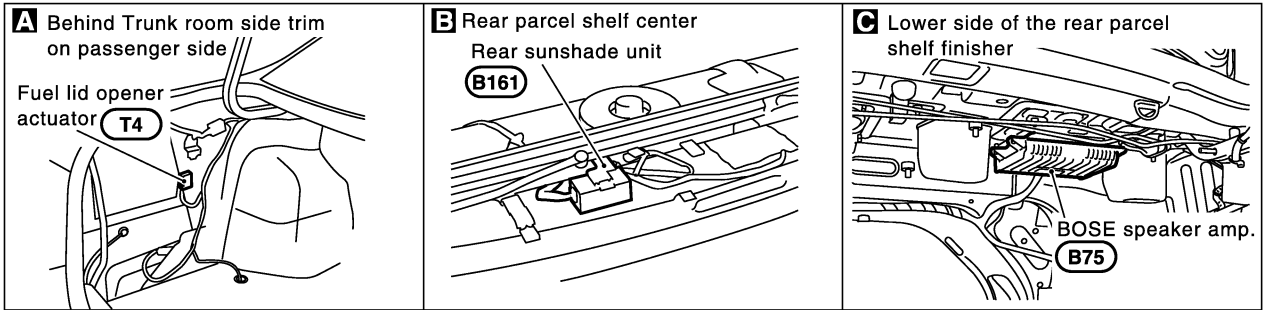
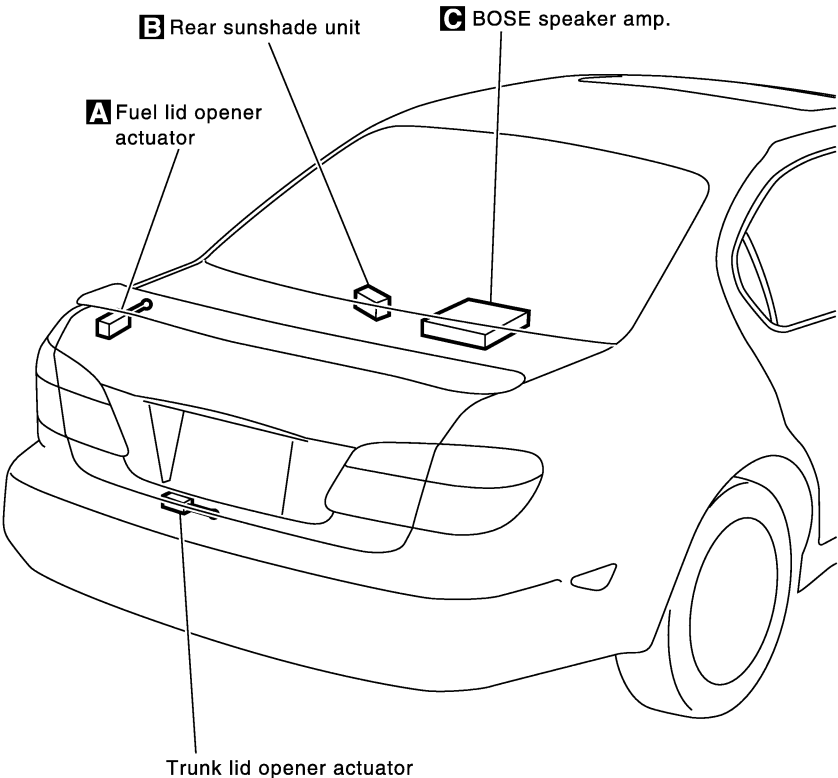
NFEL0321S01

LHD MODELS



RHD MODELS

NFEL0321S02



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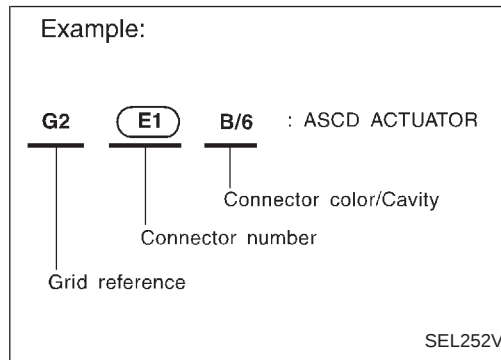
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MEL9070

How to Read Harness Layout

NFEL0131



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

- Main Harness
- Engine Room Harness (Engine Compartment)

TO USE THE GRID REFERENCE

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

NFEL0131S01

CONNECTOR SYMBOL

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

NFEL0131S02

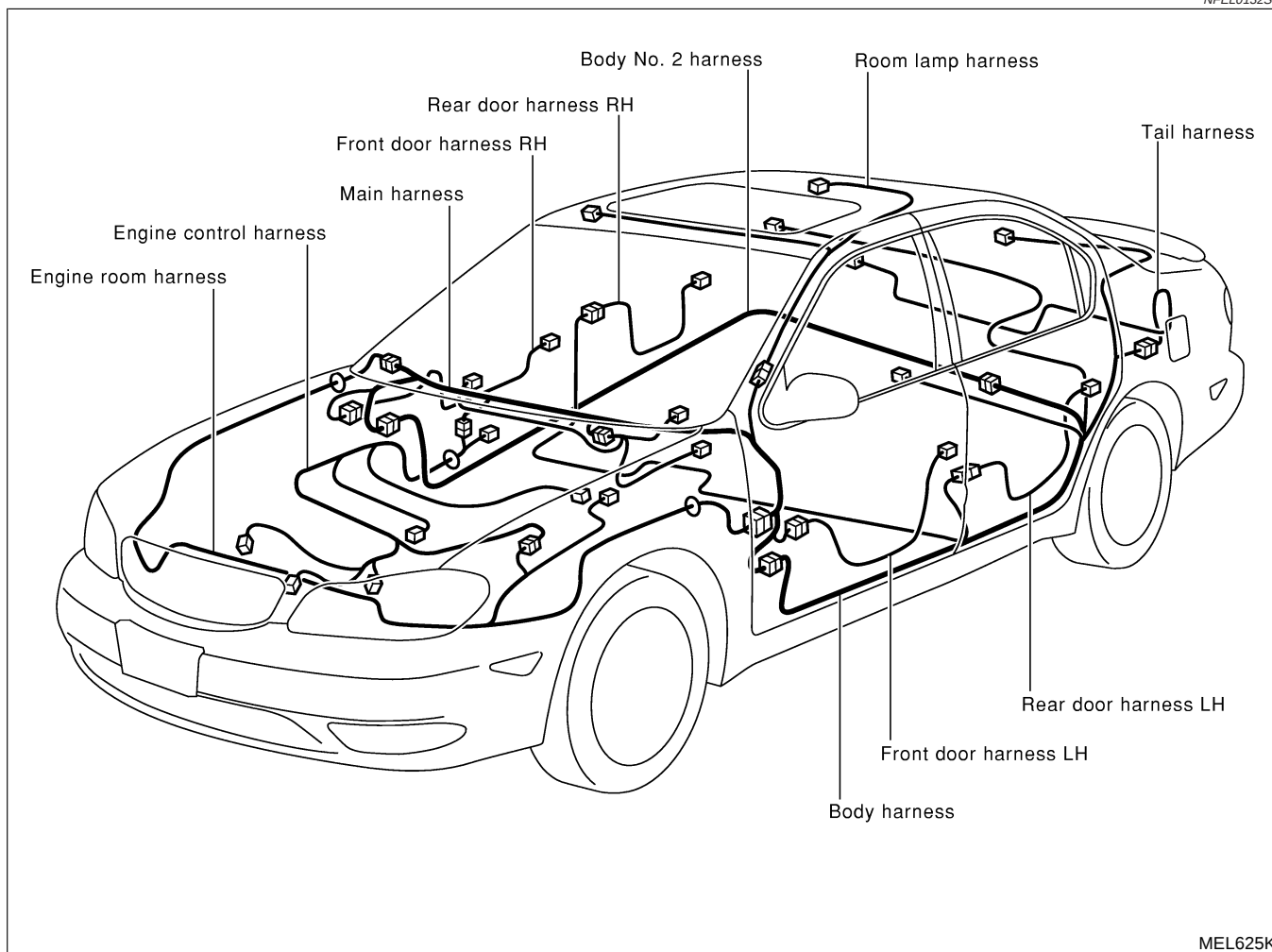
Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
• Cavity: Less than 4 • Relay connector				
• Cavity: From 5 to 8				
• Cavity: More than 9	—	—		
• Ground terminal etc.	—			

Outline

LHD MODELS

NFEL0132

NFEL0132S01



NOTE:

For detailed ground distribution information, refer to "Ground Distribution", "GROUND", EL-18.

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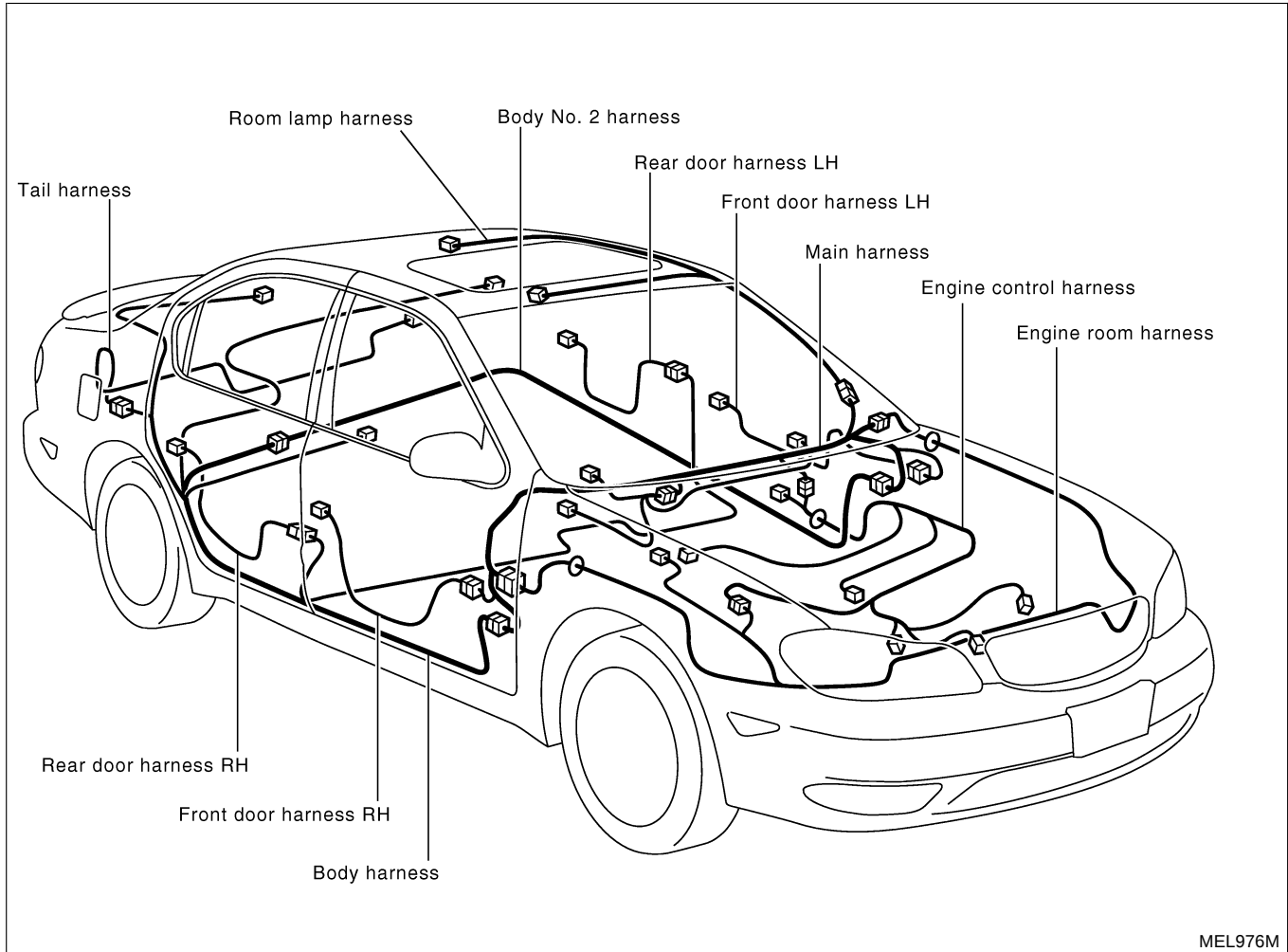
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RHD MODELS

NFEL0132S02



MEL976M

NOTE:

For detailed ground distribution information, refer to "Ground Distribution", "GROUND", EL-18.

NOTE:

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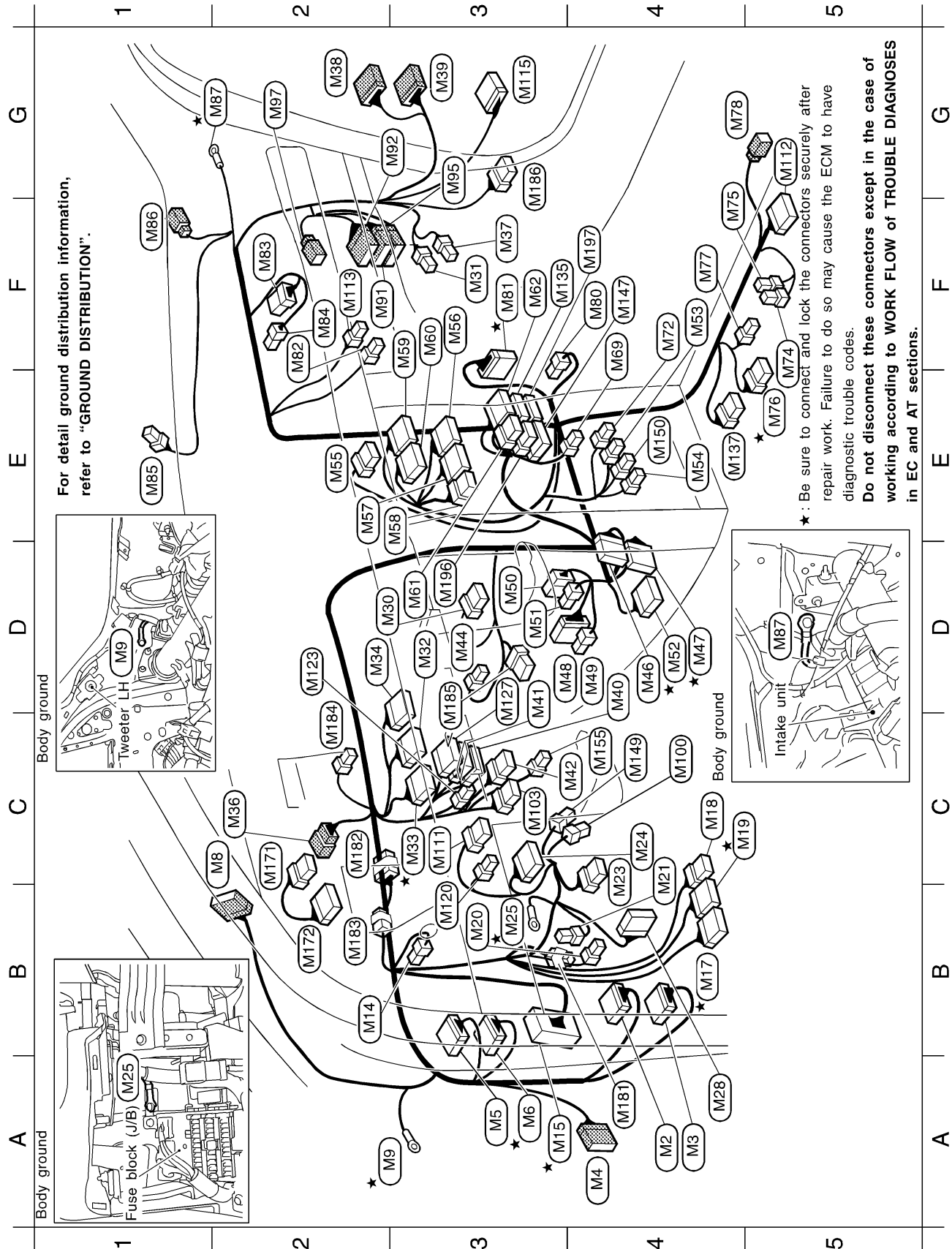
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Main Harness

NFEL0133

NFEL0133S01

LHD MODELS



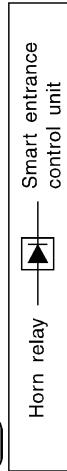
Main harness

A4	(M2)	BR/24	: To (B2)
A4	(M3)	W/12	: To (B4)
A4	(M4)	SMJ	: To (D1)
A3	(M5)	W/16	: To (B1)
A3★	(M6)	W/18	: To (B3)
C2	(M8)	W/12	: To (R2)
A3★	(M9)	—	: Body ground
B2	(M14)	L/2	: ASCD clutch switch (With ASCD for M/T models)
A3★	(M15)	SMJ	: To (E81)
B4★	(M17)	W/12	: Fuse block (J/B)
C4	(M18)	W/6	: Fuse block (J/B)
C4★	(M19)	W/16	: Fuse block (J/B)
B3	(M20)	L/4	: Power window relay
C4	(M21)	B/3	: Combination flasher unit
C4	(M23)	W/6	: Illumination control switch (Without BOSE system)
C4	(M24)	W/10	: Door mirror remote control switch
B3★	(M25)	—	: Door ground
A4	(M28)	W/16	: Data link connector
D2	(M30)	W/6	: Clock
F3	(M31)	W/4	: Fan control amp. (With auto A/C)
D3	(M32)	BR/20	: Combination meter
C3★	(M33)	W/24	: Combination meter
D2	(M34)	BR/24	: Combination meter

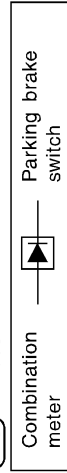
C2	(M36)	W/6	: To (M171)
F3	(M37)	BR/4	: Fan resistor (With manual A/C)
G2	(M38)	W/12	: To (D62)
G3	(M39)	W/10	: To (D63)
D4	(M40)	W/18	: Smart entrance control unit } (With multi-remote control system)
D3	(M41)	B/24	: Smart entrance control unit }
C4	(M42)	W/8	: NATS IMMU
D3	(M44)	W/2	: In-vehicle sensor (With auto A/C)
D4	(M46)	W/18	: To (F44)
D4★	(M47)	W/16	: To (F45)
D3	(M48)	BR/10	: Mode door motor (With manual A/C)
D4	(M49)	W/3	: Mode door motor (With auto A/C)
D3	(M50)	B/6	: Air mix door motor (With manual A/C)
D3	(M51)	W/3	: Air mix door motor (With auto A/C)
D4★	(M52)	BR/24	: ASCD control unit
F4	(M53)	B/2	: Cigarette lighter
E4	(M54)	B/1	: Cigarette lighter socket illumination (Without BOSE system)
E2	(M55)	W/8	: Hazard switch
F3	(M56)	GY/16	: A/C control unit (With manual A/C)
E2	(M57)	GY/20	: A/C control unit (With manual A/C)
E3	(M58)	W/6	: Fan switch (With manual A/C)
F3	(M59)	GY/20	: A/C auto amp. (With auto A/C)
F3	(M60)	GY/16	: A/C auto amp. (With auto A/C)

★: Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

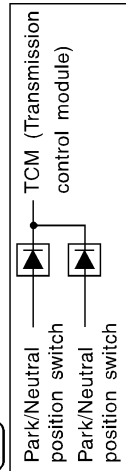
(M181) : Diode



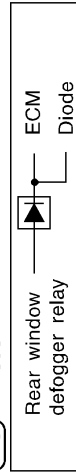
(M183) : Diode



(M182) : Diode



(M184) : Diode



Main harness

D3	(M61)	W/6	: Audio unit (With BOSE system)
F3	(M62)	W/10	: Audio unit (With BOSE system)
F4	(M69)	W/4	: CD player (Without BOSE system)
F4	(M72)	W/2	: Ashtray illumination
F5	(M74)	L/4	: Heated seat switch LH
G5	(M75)	W/4	: Heated seat switch RH
E5★	(M76)	GY/8	: A/T device (With A/T)
F4	(M77)	B/1	: Parking brake switch (With parking brake lever)
G5	(M78)	B/2	: Power socket
F4	(M80)	W/3	: Intake sensor (With auto A/C)
F3★	(M81)	W/20	: To (F49)
F2	(M82)	W/2	: Glove box lamp
F2	(M83)	W/8	: Intake door motor (With manual A/C)
F2	(M84)	W/3	: Intake door motor (With auto A/C)
E1	(M85)	B/2	: Sunload sensor (With auto A/C)
F1	(M86)	BR/2	: Tweeter RH (Via sub-harness)
G2★	(M87)	—	: Body ground
F3	(M91)	W/12	: To (B103)
G3	(M92)	W/10	: To (B104)
G3	(M95)	W/12	: To (B101)
G2	(M97)	G/2	: To (E105)
C4	(M100)	W/4	: Security indicator
C3	(M103)	Y/7	: Spiral cable (Via sub-harness)
C3	(M111)	L/6	: Rear sunshade switch (With rear sunshade)
G5	(M112)	Y/20	: Air bag diagnosis sensor unit
F2	(M113)	Y/2	: Passenger air bag module (With air bag system)
G3	(M115)	W/16	: Headlamp aiming control unit
B3	(M120)	W/4	: Headlamp aiming switch
D2	(M123)	B/2	: A/T check switch (With A/T)

Main sub-harness-1

C2	(M171)	W/6	: To (M36)
B2	(M172)	GY/10	: Auto light control unit

★ : Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

NOTE:

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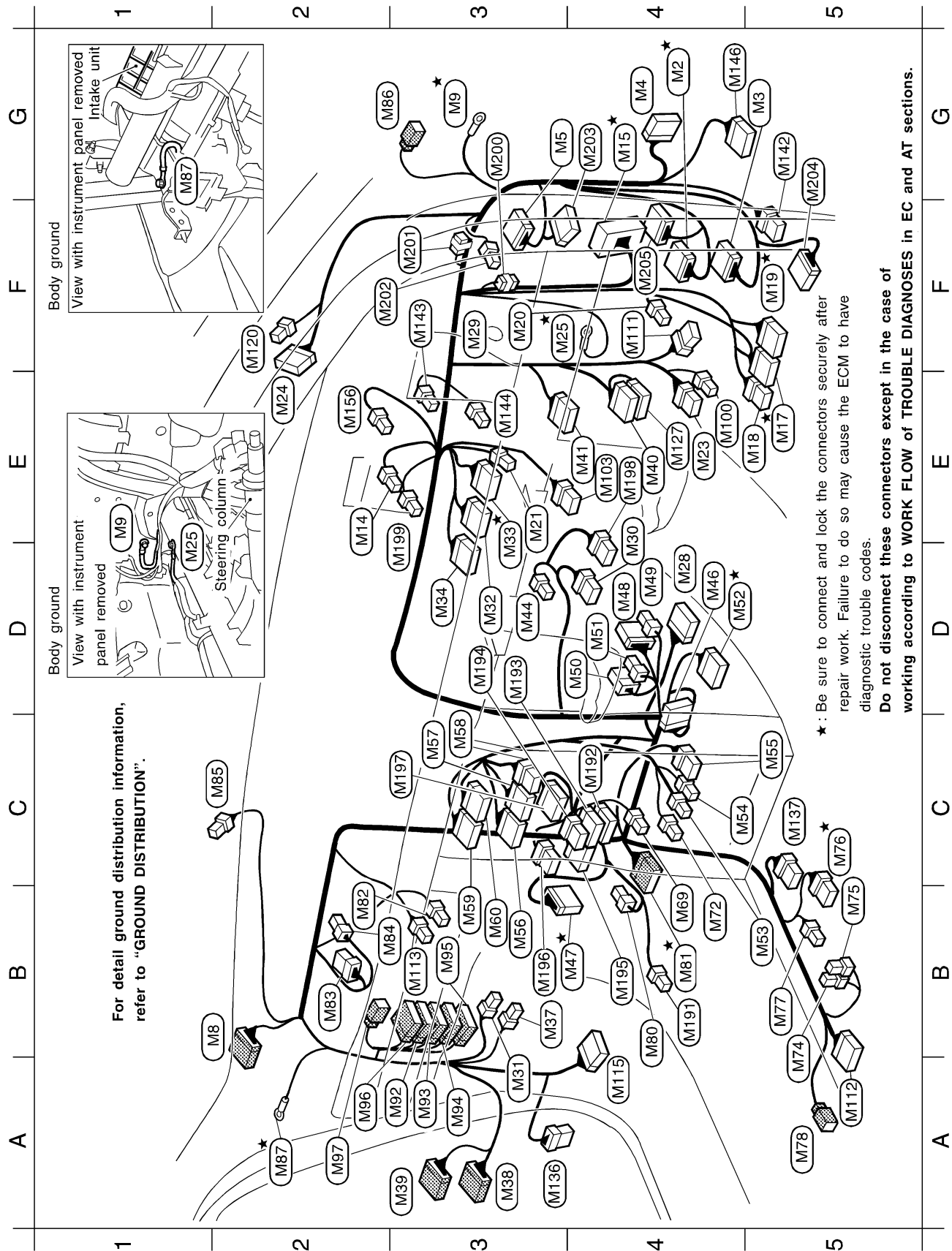
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RHD MODELS

NFEL0133S02

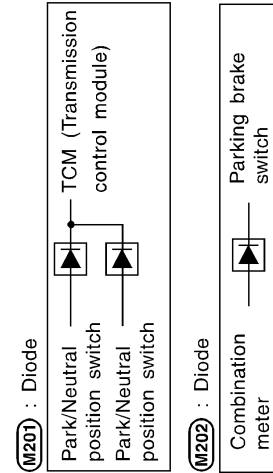
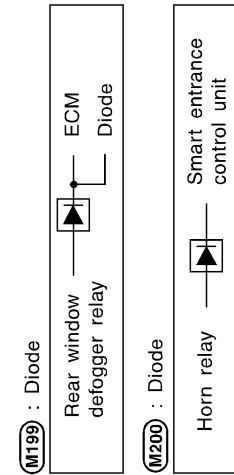


MEL8520

Main harness

G4★	M2	BR/24	: To B2	{ (Without BOSE system)
G5	M3	W/20	: To B4	
G4	M4	SMJ	: To D1	
G3	M5	W/16	: To B1	{ (Without BOSE system)
B1	M8	W/12	: To R2	
G3★	M9	—	: Body ground	
E2	M14	L/2	: ASCD clutch switch (With ASCD for M/T models)	
G4★	M15	SMJ	: To E81	
E5★	M17	W/12	: Fuse block (J/B)	
E5	M18	W/6	: Fuse block (J/B)	
F5★	M19	W/16	: Fuse block (J/B)	
F3	M20	L/4	: Power window relay	
E3	M21	B/3	: Combination flasher unit	
E4	M23	W/6	: Illumination control switch	
E2	M24	W/10	: Door mirror remote control switch	
F3★	M25	—	: Body ground	
D4	M28	W/16	: Data link connector	
D4	M30	W/6	: Clock	
A3	M31	W/4	: Fan control amp. (With auto A/C)	
D3	M32	BR/20	: Combination meter	
E3★	M33	W/24	: Combination meter	
D3	M34	BR/24	: Combination meter	
B3	M37	BR/4	: Fan resistor (With manual A/C)	
A3	M38	W/12	: To D62	
A3	M39	W/10	: To D63	
E4	M40	W/18	: Smart entrance control unit	
E3	M41	B/24	: Smart entrance control unit	
D3	M44	W/2	: In-vehicle sensor (With auto A/C)	
D4	M46	W/18	: To F44	
B4★	M47	W/16	: To F45	
D4	M48	BR/10	: Mode door motor (With manual A/C)	
D4	M49	W/3	: Mode door motor (With auto A/C)	
D3	M50	B/6	: Air mix door motor (With manual A/C)	
D4	M51	W/3	: Air mix door motor (With auto A/C)	
D4★	M52	BR/24	: ASCD control unit	
B4	M53	B/2	: Cigarette lighter	
C4	M54	B/1	: Cigarette lighter socket illumination	
C4	M55	W/8	: Hazard switch	
B3	M56	GY/16	: A/C control unit (With manual A/C)	
C3	M57	GY/20	: A/C control unit (With manual A/C)	
C3	M58	W/6	: Fan switch (With manual A/C)	
B3	M59	GY/20	: A/C auto amp. (With auto A/C)	
B3	M60	GY/16	: A/C auto amp. (With auto A/C)	

★: Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.



Main harness

B4	(M69)	W/4	: CD player (With BOSE system)	A3	(M136)	W/8	: Steering wheel receiver control switch
B4	(M72)	W/2	: Ashtray illumination	C5	(M137)	GY/6	: A/T mode switch (With A/T)
A5	(M74)	L/4	: Heated seat switch LH	G5	(M142)	B/8	: Rear wiper amp.
B5	(M75)	W/4	: Heated seat switch RH	F3	(M143)	BR/2	: ASCD brake switch
C5★	(M76)	W/8	: A/T device (With A/T)	E3★	(M144)	B/2	: Stop lamp switch
B5	(M77)	B/1	: Parking brake switch (With parking brake lever)	G4	(M146)	W/10	: Cornering lamp control unit
A5	(M78)	B/2	: Power socket	E2	(M156)	B/1	: Parking brake switch (With parking brake pedal)
B4	(M80)	W/3	: Intake sensor (With auto A/C)	B4	(M191)	W/4	: Not used
B4★	(M81)	W/20	: To (F49)	C4	(M192)	W/10	: Audio unit (With BOSE system)
B2	(M82)	W/2	: Glove box lamp	D3	(M193)	W/12	: Audio unit (Except for Australia)
B2	(M83)	W/8	: Intake door motor (With manual A/C)				To (M599) (For Australia)
B2	(M84)	W/3	: Intake door motor (With auto A/C)	D3	(M194)	W/6	: Audio unit (With BOSE system)
C1	(M85)	B/2	: Sunload sensor (With auto A/C)	B4	(M195)	W/16	: Audio unit
G2	(M86)	BR/2	: Tweeter RH (Via sub-harness)	B3	(M196)	W/6	: Audio unit (Except for Australia)
A2★	(M87)	-	: Body ground				To (M592) (For Australia)
A2	(M92)	W/10	: To (B104)	C3	(M197)	W/10	: Audio unit (Without BOSE system) (Except for Australia)
A3	(M93)	W/16	: To (B105)				To (M591) (For Australia)
A3	(M94)	W/20	: To (B102)	E4	(M198)	L/6	: Not used
B3	(M95)	W/12	: To (B101)	E3	(M199)	B/2	: Diode
A2	(M96)	W/16	: To (E104)	G3	(M200)	B/2	: Diode
A2	(M97)	W/2	: To (E105)	F3	(M201)	LGY/3	: Joint connector (Diode) (With A/T)
E4	(M100)	W/4	: Security indicator	F2	(M202)	B/2	: Diode
E4	(M103)	Y/7	: Spiral cable (Via sub-harness)	G4	(M203)	W/16	: To (B72)
F4	(M111)	L/6	: Rear sunshade switch (With rear sunshade)	G5	(M204)	W/20	: To (B74)
A5	(M112)	Y/20	: Air bag diagnosis sensor unit	F4	(M205)	BR/24	: To (B73)
B3	(M113)	Y/2	: Passenger air bag module				(With BOSE system)
A4	(M115)	W/16	: Headlamp aiming control unit				
F2	(M120)	W/4	: Headlamp aiming switch				
E4	(M127)	W/16	: Time control unit (Without multi-remote control system)				

★ : Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

NOTE:

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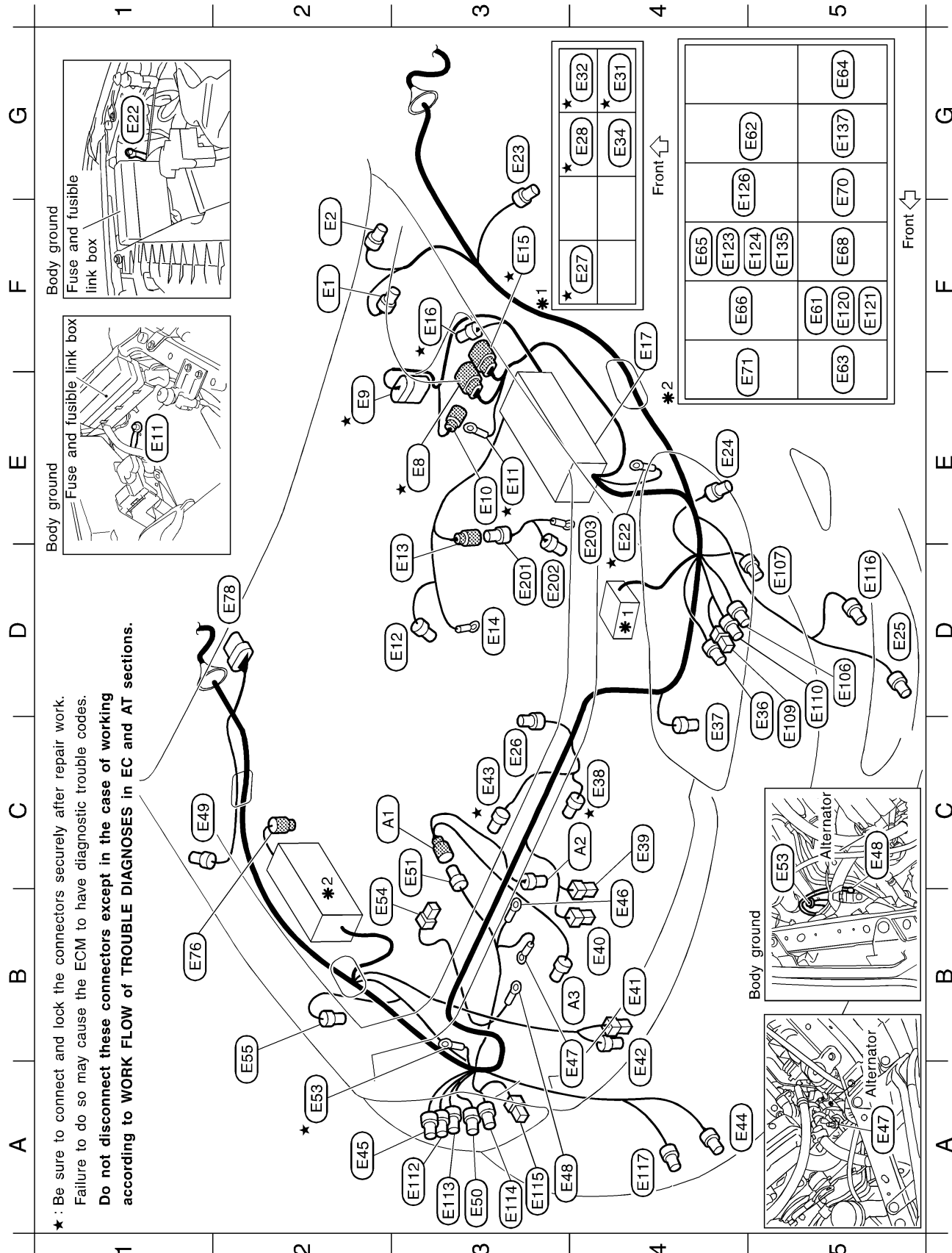
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Engine Room Harness

NFEL0134

NFEL0134S01

LHD MODELS



★ : Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

Engine room harness

F2 **E1** GY/2 : Brake fluid level switch
 F2 **E2** GY/4 : ASCD pump
 E3★ **E8** GY/8 : To **F17**
 E2★ **E9** GY/30 : ABS actuator and electric unit (control unit)

E3 **E10** BR/2 : Front wheel sensor LH
 E3★ **E11** - : Body ground
 D3 **E12** GY/2 : Intake air temperature sensor
 D3 **E13** GY/1 : To **E201**
 D3 **E14** - : Battery (Fusible link 120A)
 F3★ **E15** B/8 : To **F18**
 F3★ **E16** GY/2 : Dropping resistor (With A/T)
 F4 **E17** - : Fuse and fusible link box
 E4★ **E22** - : Body ground
 G3 **E23** BR/2 : Side turn signal lamp LH
 E4 **E24** BR/2 : Front turn signal lamp LH
 D5 **E25** B/2 : Front fog lamp LH
 C3 **E26** GY/2 : Hood switch
 F4★ **E27** BR/6 : Cooling fan relay-1
 G4★ **E28** BR/6 : Cooling fan relay-2
 G4★ **E31** BR/6 : Cooling fan relay-3
 G4★ **E32** BR/6 : ECM relay
 G4 **E34** GY/6 : Park/Neutral position relay (With A/T)
 D4 **E36** B/2 : Headlamp LH (High beam)
 C4 **E37** B/3 : Refrigerant pressure sensor
 C4★ **E38** GY/4 : Cooling fan moter-1
 C4 **E39** B/1 : Horn (Low)
 B4 **E40** B/1 : Horn (High)
 B4 **E41** W/2 : Front washer motor
 B4 **E42** BR/2 : Not used
 C3★ **E43** GY/4 : Cooling fan moter-2
 A4 **E44** B/2 : Front fog lamp RH
 A2 **E45** BR/2 : Front turn signal lamp RH
 C4 **E46** - : Alternator
 B3 **E47** - : Alternator
 A3 **E48** - : Body ground
 C1 **E49** BR/2 : Side turn signal lamp RH
 A3 **E50** B/2 : Headlamp RH (High beam)
 C3 **E51** GY/4 : To **A1**
 A2★ **E53** - : Body ground
 B2 **E54** B/1 : Not used

★

: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.

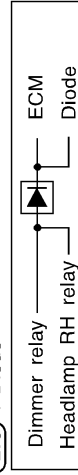
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

Engine room sub-harness
 D3 **E201** GY/1 : To **E13**
 D3 **E202** GY/1 : Starter motor
 E4 **E203** - : Starter motor

Alternator harness

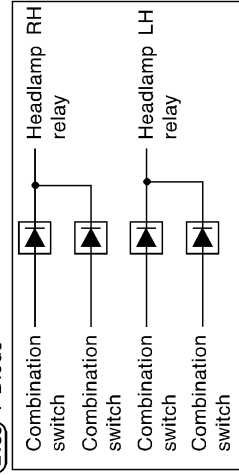
C2 **A1** GY/4 : To **E51**
 C4 **A2** GY/4 : Alternator
 B3 **A3** B/1 : Compressor

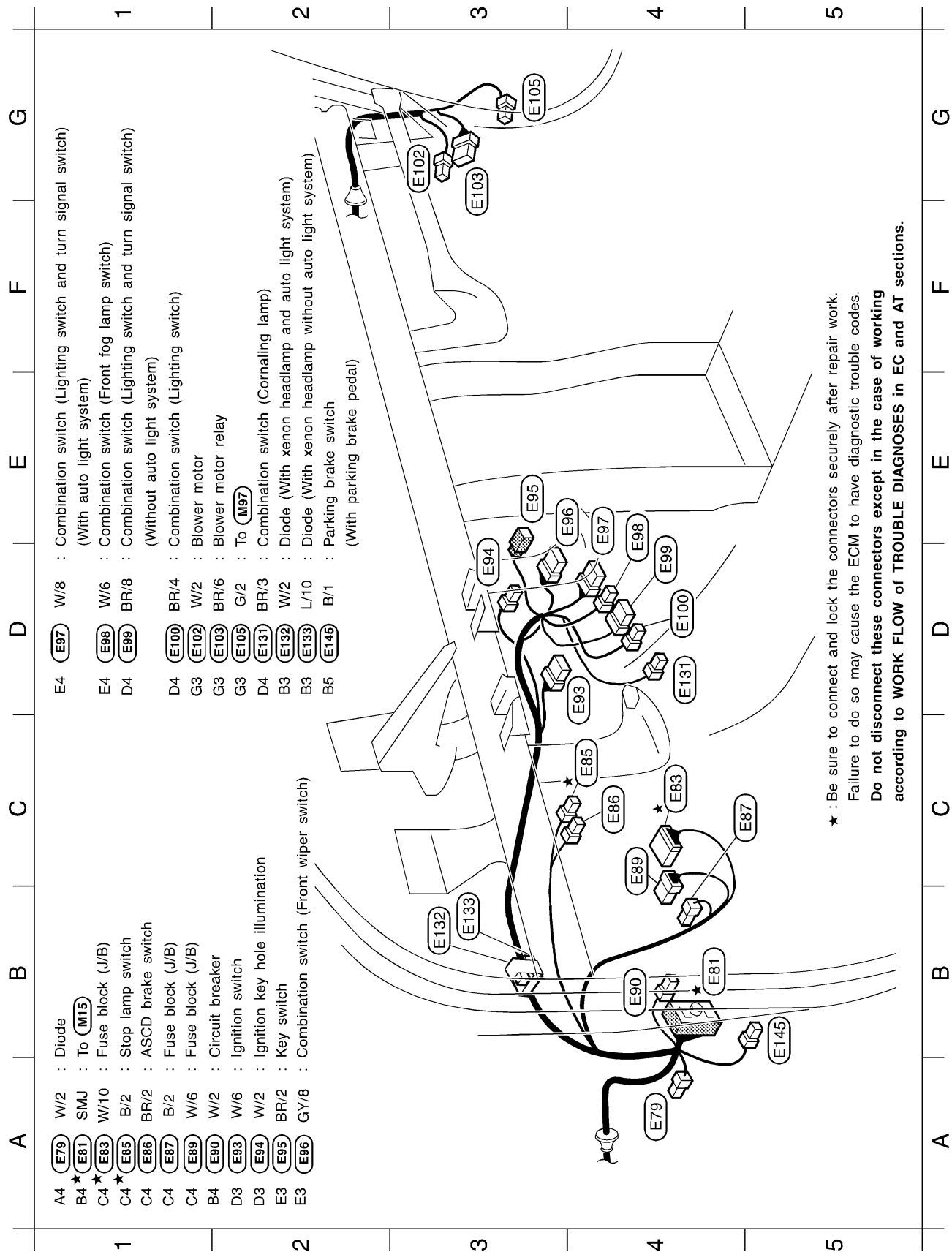
E79 : Diode



E132 : Diode

E133 : Diode





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Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

NOTE:

GI

MA

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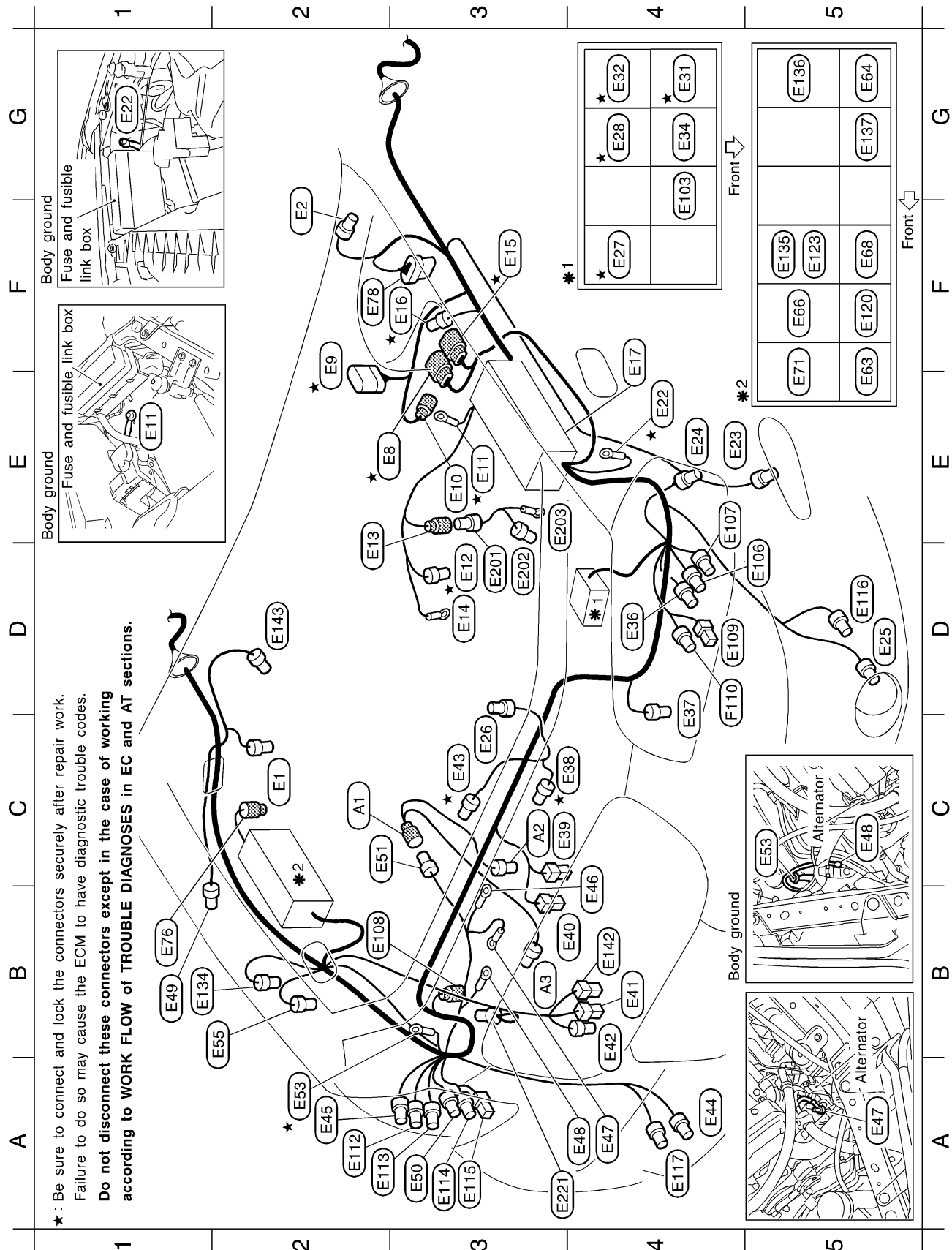
SC

EL

IDX

RHD MODELS

NFEL0134S02



MEL858O

Engine room harness

C2	E1	GY/2	Brake fluid level switch
F2	E2	GY/4	ASCD pump
E3★	E8	GY/10	To E17
F2★	E9	GY/30	ABS actuator and electric unit (Control unit)
E3	E10	BR/2	Front wheel sensor LH
E3★	E11	-	Body ground
D3	E12	GY/2	Intake air temperature sensor
D2	E13	GY/1	To E201
D3	E14	-	Battery (Fusible link 120A)
F3★	E15	B/8	To E18
F3★	E16	GY/2	Dropping resistor (With A/T)
F4	E17	-	Fuse and fusible link box
E4★	E22	-	Body ground
E5	E23	BR/2	Side turn signal lamp LH
E4	E24	BR/2	Front turn signal lamp LH
D5	E25	B/2	Front fog lamp LH
C3	E26	GY/2	Hood switch
F4★	E27	BR/6	Cooling fan relay-1
G4★	E28	BR/6	Cooling fan relay-2
G4★	E31	BR/6	Cooling fan relay-3
G4★	E32	BR/6	ECM relay
G4	E34	GY/6	Park/Neutral position relay (With A/T)
D4	E36	B/2	Headlamp LH (High beam)
C4	E37	B/3	Refrigerant pressure sensor
C4★	E38	GY/4	Cooling fan moter-1
C4	E39	B/1	Horn (Low)
B4	E40	B/1	Horn (High)
B4	E41	W/2	Front washer motor
B4	E42	BR/2	Not used
C3★	E43	GY/4	Cooling fan moter-2
A4	E44	B/2	Front fog lamp RH
A2	E45	BR/2	Front turn signal lamp RH
C4	E46	-	Alternator
A4	E47	-	Alternator
A4	E48	-	Body ground
B1	E49	BR/2	Side turn signal lamp RH
A3	E50	B/2	Headlamp RH (High beam)
C3	E51	GY/4	To A1
A2★	E53	-	Body ground

Engine room sub-harness-1

D3	E201	GY/1	To E13
D3	E202	GY/1	Starter motor
E4	E203	-	Starter motor

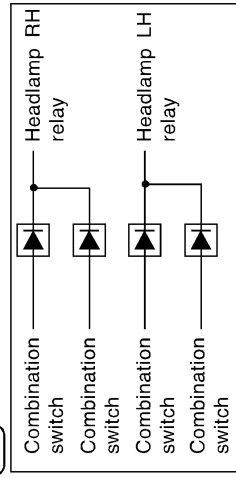
Engine room sub-harness-2

A3	E221	B/2	To E108 (With headlamp auto aiming system)
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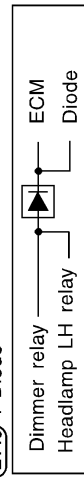
Alternator harness

C2	A1	GY/4	To E51
C3	A2	GY/4	Alternator
B3	A3	B/1	Compressor

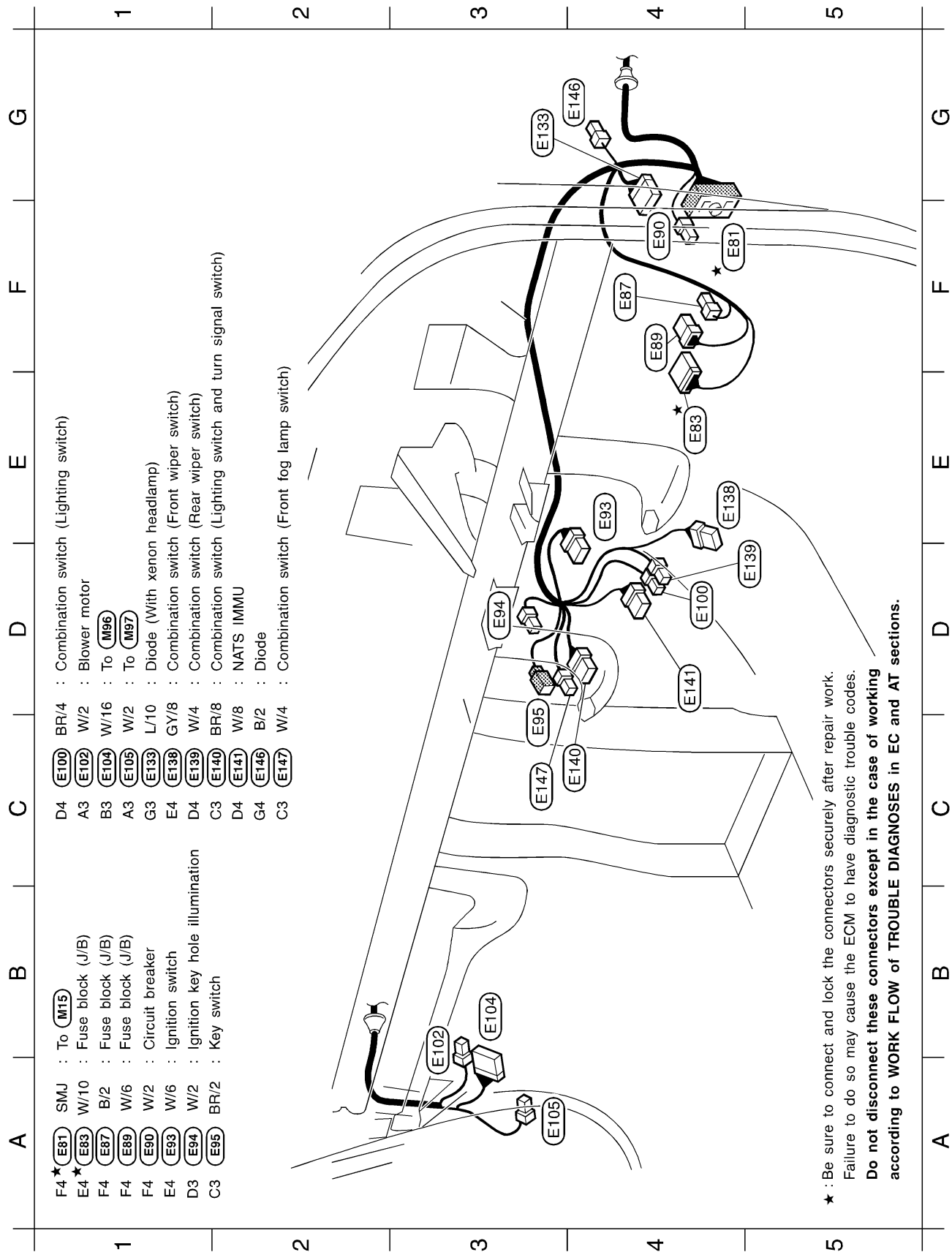
E133 : Diode



E149 : Diode



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NOTE:

GI

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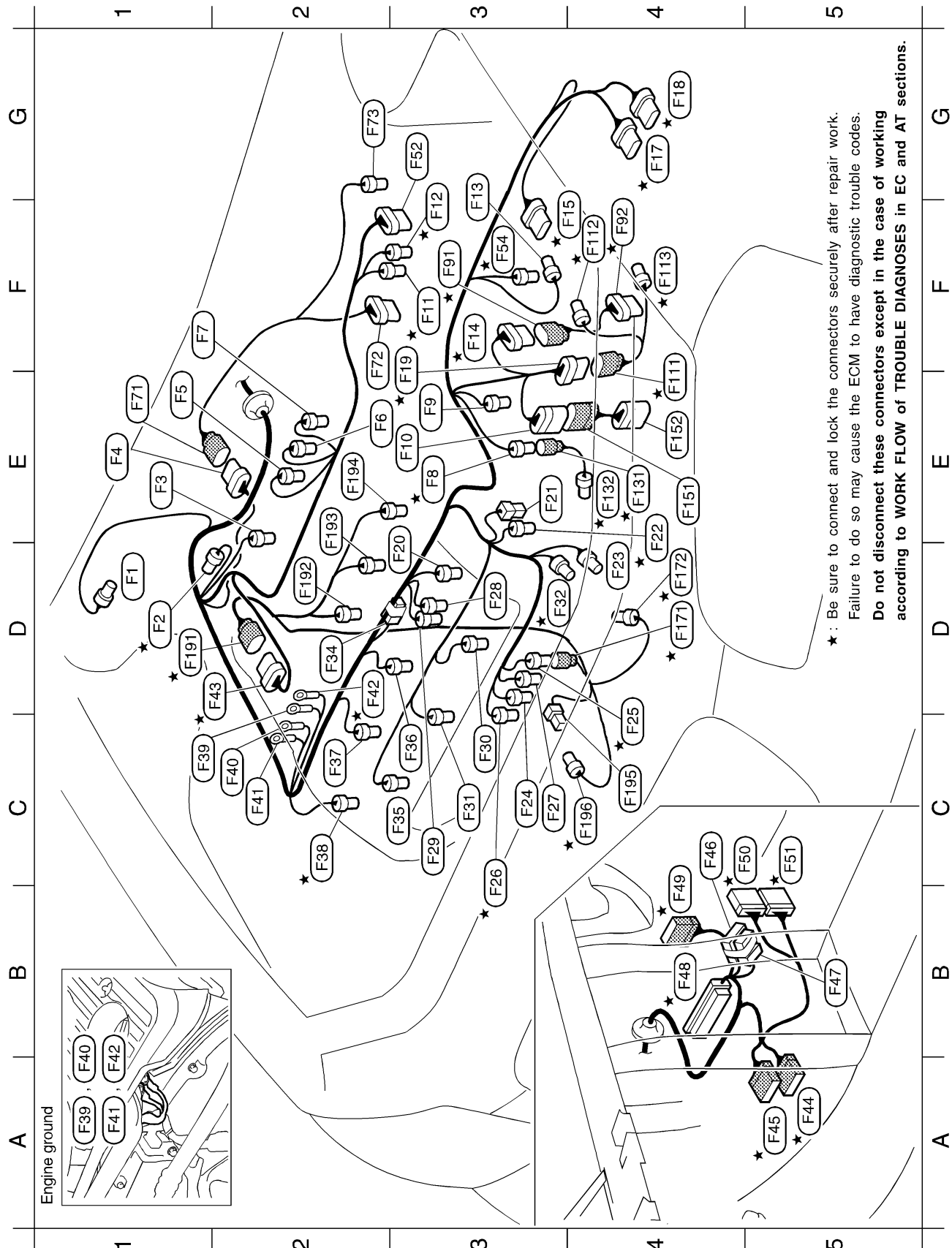
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Engine Control Harness

NFEL0135

NFEL0135S01

LHD MODELS



Engine control harness

D1	(F1)	B/2	: Power steering oil pressure switch	D2	(F34)	W/2	: Condenser
D1★	(F2)	GY/3	: Heated oxygen sensor 1 (Front) (Bank 1) (For VQ20 engine and with three way catalyst for VQ30 engine)	C3	(F36)	GY/2	: Injector No. 2
E1	(F3)	GY/3	: Ignition coil No. 1	C2	(F37)	GY/2	: Injector No. 2
E1	(F4)	G/8	: To (F71) (With three way catalyst for VQ30 engine)	C1	(F38)	GY/2	: Camshaft position sensor (PHASE)
E1	(F5)	GY/3	: Ignition coil No. 3	C2	(F40)	-	: Engine ground
E3	(F6)	GY/3	: Ignition coil No. 5	C2	(F41)	-	: Engine ground
F2	(F7)	L/2	: EVAP canister purge volume control solenoid valve	D2★	(F42)	-	: Engine ground
E3★	(F8)	B/2	: To (F131)	D2★	(F43)	L/8	: To (F191)
E3	(F9)	BR/3	: Rear electronic controlled engine mount (With A/T)	A5	(F44)	W/18	: To (M46)
E3	(F10)	GY/10	: To (F151) (With A/T)	A5★	(F45)	W/16	: To (M47) (With A/T)
F3★	(F11)	BR/3	: Throttle position sensor	C4	(F46)	L/12	: Joint connector-18
F3★	(F12)	GY/3	: Throttle position switch	B5	(F47)	GY/6	: Joint connector-17 (With three way catalyst for VQ30 engine)
G3	(F13)	GY/4	: Park/Neutral position switch (Reverse position switch) (With M/T)	B4★	(F48)	SMJ	: ECM
F3★	(F14)	BR/8	: To (F91) (With A/T)	B4★	(F49)	W/20	: To (M81)
F4★	(F15)	GY/5	: Mass air flow sensor	C5★	(F50)	GY/24	: TCM (Transmission control module) (With A/T)
G4★	(F17)	GY/8	: To (E8)	C5★	(F51)	W/24	: TCM (Transmission control module) (With A/T)
G4★	(F18)	B/8	: To (E15)	G3	(F52)	GY/6	: IACV-AAC valve
F3★	(F19)	GY/6	: To (F111) (With A/T)	F3	(F54)	GY/2	: Vehicle speed sensor (Without ABS for M/T models)
D3	(F20)	BR/2	: Swirl control valve control solenoid valve (For VQ20 engine and with three way catalyst for VQ30 engine)				
E3	(F21)	B/1	: Thermal transmitter				
E4★	(F22)	GY/2	: Engine coolant temperature sensor				
D4	(F23)	BR/3	: Front electronic controlled engine mount (With A/T)				
C3	(F24)	B/4	: Heated oxygen sensor 2 (Rear) (Bank 1) (For VQ20 engine and with three way catalyst for VQ30 engine)				
C4★	(F25)	G/4	: To (F171)				
C3★	(F26)	GY/3	: Heated oxygen sensor 1 (Front) (Bank 2) } (For VQ20 engine and with three way catalyst for VQ30 engine)				
C3	(F27)	GY/4	: Heated oxygen sensor 2 (Rear) (Bank 2) }				
D3	(F28)	GY/2	: Injector No. 6				
C3	(F29)	B/2	: VIAS control solenoid valve				
C3	(F30)	GY/3	: Ignition coil No. 6				
C3	(F31)	GY/3	: Ignition coil No. 4				
D3★	(F32)	GY/3	: Absolute pressure sensor				

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Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

Engine control sub-harness-1

E1	(F71)	G/8	: To (F4) (With three way catalyst for VQ30 engine)
F2	(F72)	GY/6	: EGR volume control valve (With three way catalyst for VQ30 engine)
G2	(F73)	SB/2	: EGR temperature sensor (With three way catalyst for VQ30 engine)

Engine control sub-harness-2

F3★	(F91)	BR/8	: To (F14) (With A/T)
F4★	(F92)	B/8	: Terminal cord assembly (With A/T)

Engine control sub-harness-3

F4★	(F111)	GY/6	: To (F19) (With A/T)
F4★	(F112)	B/3	: Revolution sensor (With A/T)
F4★	(F113)	GY/2	: Vehicle speed sensor (Without ABS with A/T)

Engine control sub-harness-4

E4★	(F131)	B/2	: To (F8)
E4★	(F132)	GY/2	: Knock sensor

Engine control sub-harness-5

E4	(F151)	GY/10	: To (F10) (With A/T)
E4	(F152)	B/10	: Park/Neutral position switch (With A/T)

Engine control sub-harness-6

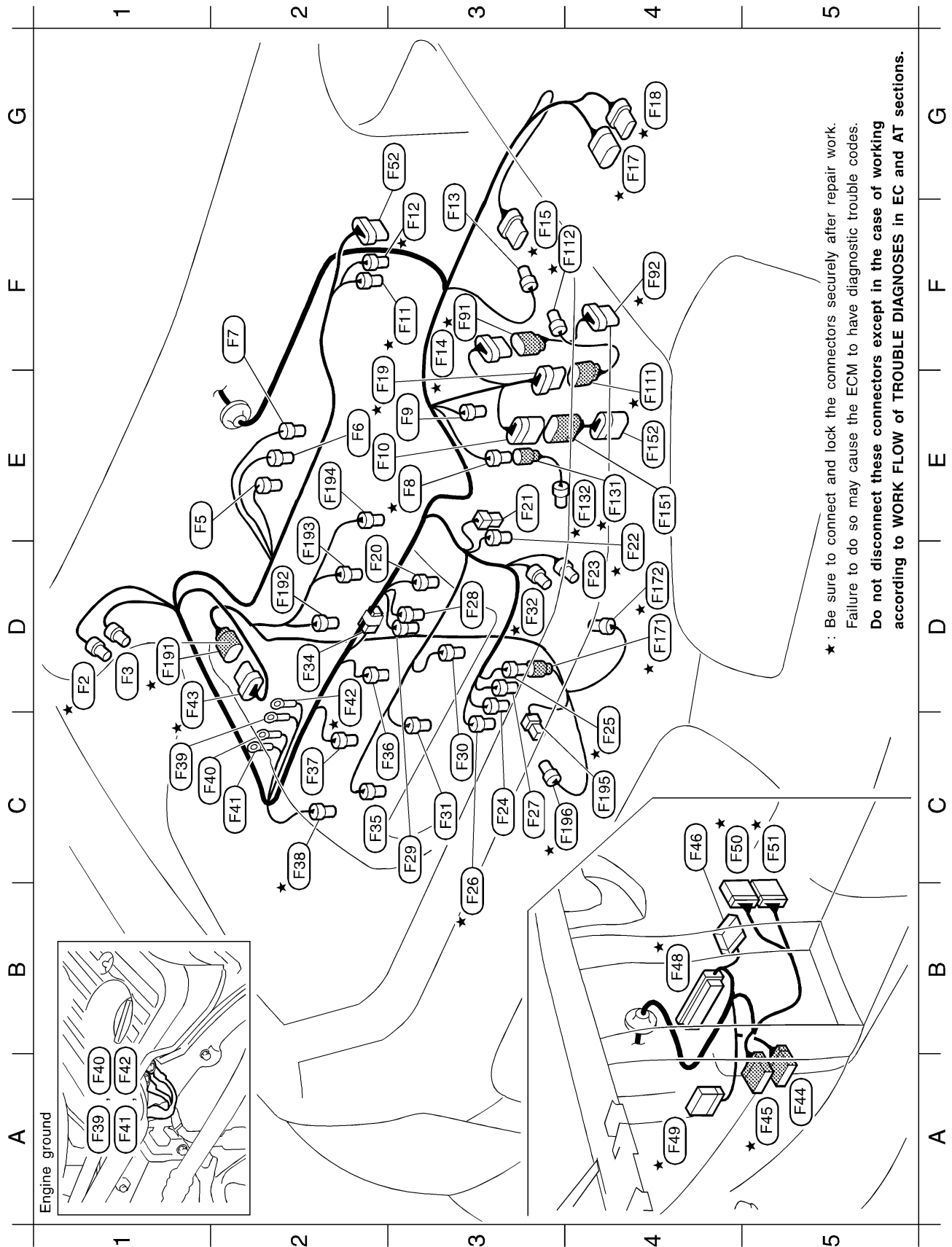
D4★	(F171)	G/4	: To (F25)
D4★	(F172)	GY/3	: Crankshaft position sensor (POS)

Engine control sub-harness-7

D1★	(F191)	L/8	: To (F43)
D2	(F192)	GY/2	: Injector No. 1
E2	(F193)	GY/2	: Injector No. 3
E2	(F194)	GY/2	: Injector No. 5
C4	(F195)	B/1	: Oil pressure switch
C4★	(F196)	GY/2	: Crankshaft position sensor (REF)

RHD MODELS

NFEL0135S02



MEL8630

Engine control harness

D1★	(F2)	GY/3	: Heated oxygen sensor 1 (Front) (Bank 1) (With VQ20 engine)	D2	(F34)	W/2	: Condenser	Engine control sub-harness-1	F3★	(F91)	BR/8	: To (F14) (With A/T)
D1	(F3)	GY/3	: Ignition coil No. 1	C3	(F35)	GY/3	: Ignition coil No. 2		F4★	(F92)	B/8	: Terminal cord assembly (With A/T)
E1	(F5)	GY/3	: Ignition coil No. 3	C2	(F36)	GY/2	: Injector No. 4	Engine control sub-harness-2	E4★	(F111)	GY/6	: To (F19) (With A/T)
E2	(F6)	GY/3	: Ignition coil No. 5	C2★	(F37)	GY/2	: Injector No. 2		F4★	(F112)	B/3	: Revolution sensor (With A/T)
F2	(F7)	L/2	: EVAP canister purge volume control solenoid valve	C1	(F38)	GY/2	: Camshaft position sensor (PHASE)	Engine control sub-harness-3	E4★	(F131)	B/2	: To (F8)
E3★	(F8)	B/2	: To (F131)	C2	(F39)	-	: Engine ground		E4★	(F132)	GY/2	: Knock sensor
E3	(F9)	BR/3	: Rear electronic controlled engine mount (With A/T)	C2	(F40)	-	: Engine ground	Engine control sub-harness-4	E4	(F151)	GY/10	: To (F10) (With A/T)
E3	(F10)	GY/10	: To (F151) (With A/T)	C2★	(F41)	-	: Engine ground		E4	(F152)	B/10	: Park/Neutral position switch (With A/T)
F3★	(F11)	BR/3	: Throttle position sensor	D2★	(F42)	-	: Engine ground	Engine control sub-harness-5	C4★	(F171)	G/4	: To (F25)
F3★	(F12)	GY/3	: Throttle position switch	D1★	(F43)	L/8	: To (F191)		D4★	(F172)	GY/3	: Crankshaft position sensor (POS)
F3	(F13)	GY/4	: Park/Neutral position switch	A5	(F44)	W/18	: To (M46) (With A/T)	Engine control sub-harness-6	D1★	(F191)	L/8	: To (F43)
F3★	(F14)	BR/8	: (Reverse position switch) (With M/T)	A5★	(F45)	W/16	: To (M47)		D2	(F192)	GY/2	: Injector No. 1
F3★	(F15)	GY/5	: Mass air flow sensor	C4	(F46)	L/12	: Joint connector-18		E2	(F193)	GY/2	: Injector No. 3
G4★	(F17)	GY/10	: To (E8)	B4★	(F48)	SMJ	: ECM		E2	(F194)	GY/2	: Injector No. 5
G4★	(F18)	B/8	: To (E15)	A4★	(F49)	W/20	: To (M81)	Engine control sub-harness-7	C4	(F195)	B/1	: Oil pressure switch
F3★	(F19)	GY/6	: To (F111) (With A/T)	C5★	(F50)	GY/24	: TCM (Transmission control module) (With A/T)		C4★	(F196)	GY/2	: Crankshaft position sensor (REF)
D2	(F20)	BR/2	: Swirl control valve control solenoid valve (With VQ20 engine)	C5★	(F51)	W/24	: TCM (Transmission control module) (With A/T)					
E3	(F21)	B/1	: Thermal transmitter	G3	(F52)	GY/6	: IACV-AAC valve					
E4★	(F22)	GY/2	: Engine coolant temperature sensor									
D4	(F23)	BR/3	: Front electronic controlled engine mount (With A/T)									
C3	(F24)	B/4	: Heated oxygen sensor 2 (Rear) (Bank 1) (With VQ20 engine)									
D4★	(F25)	G/4	: To (F171)									
C3★	(F26)	GY/3	: Heated oxygen sensor 1 (Front) (Bank 2)									
C3	(F27)	GY/4	: Heated oxygen sensor 2 (Rear) (Bank 2)									
D3	(F28)	GY/2	: Injector No. 6									
C3	(F29)	B/2	: VIAS control solenoid valve									
C3	(F30)	GY/3	: Ignition coil No. 6									
C3	(F31)	GY/3	: Ignition coil No. 4									
D3★	(F32)	GY/3	: Absolute pressure sensor									

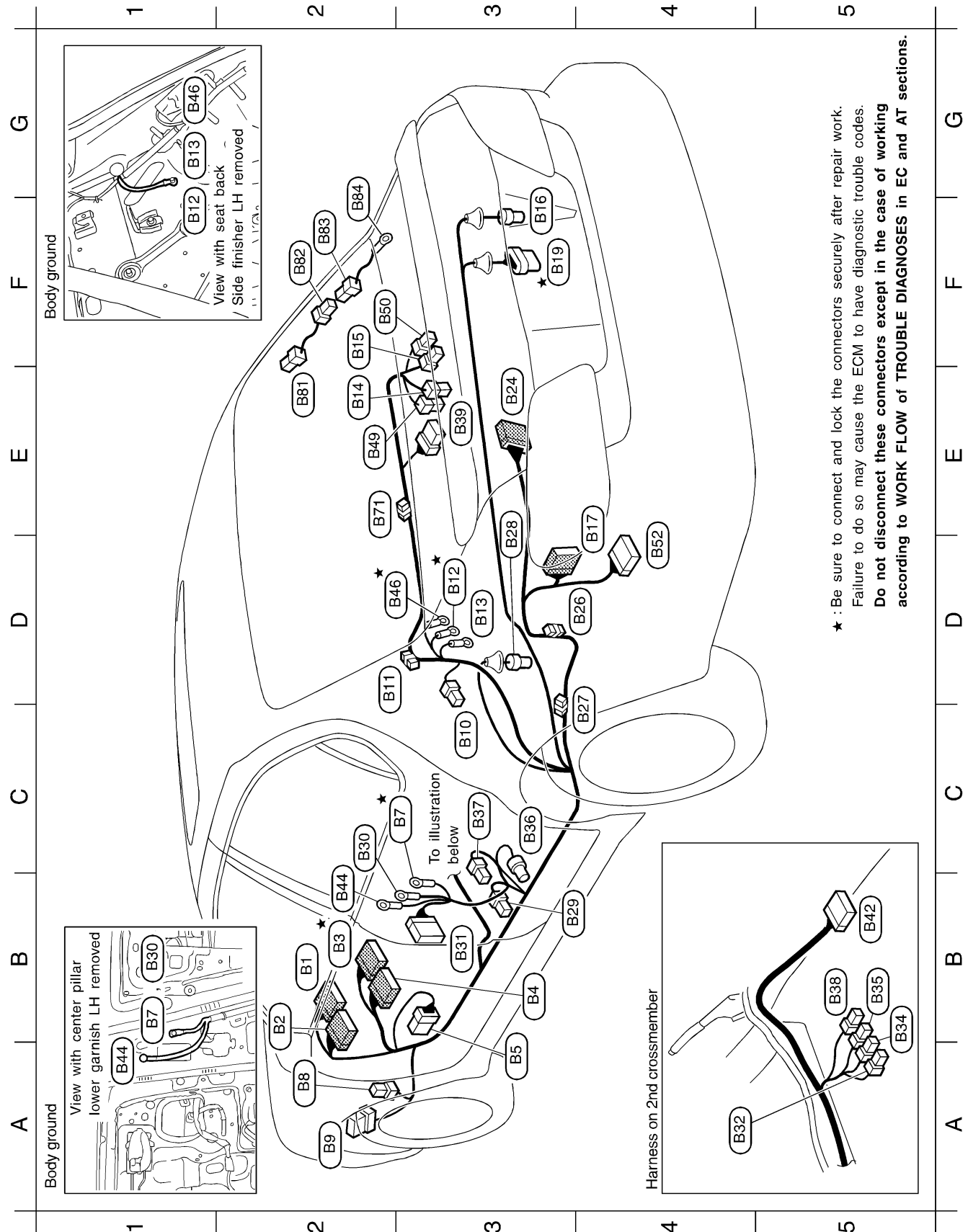
★ : Be sure to connect and lock the connectors securely after repair work.
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Body Harness

NFEL0136

NFEL0136S01

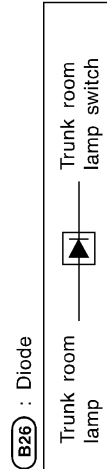
LHD MODELS



MEL8650

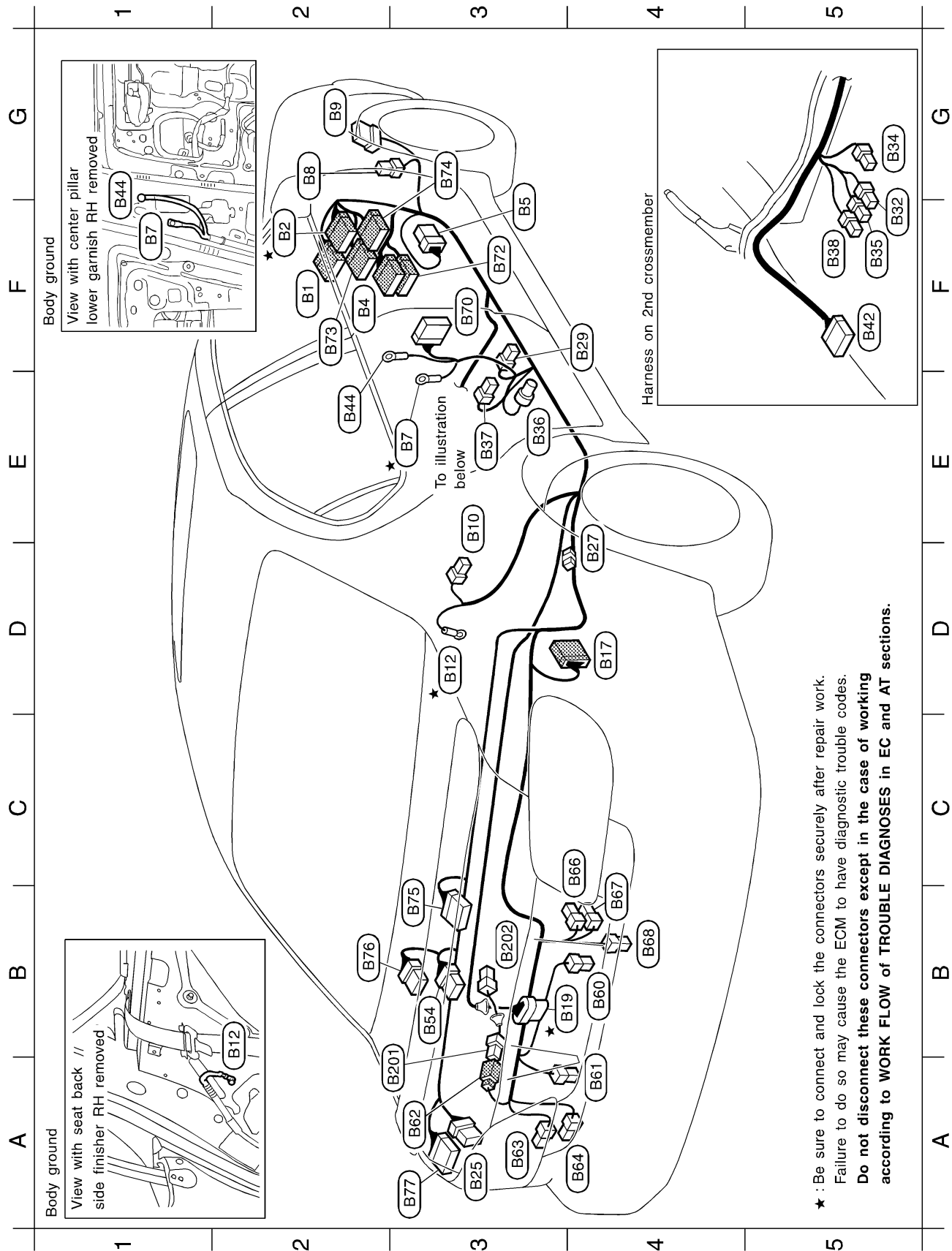
Body harness		Defogger harness-1	
B2	(B1) W/16 : To (M5)	E2	(B81) B/1 : Condenser (Rear window defogger)
B2	(B2) BR/24 : To (M2)	F2	(B82) B/1 : Rear window defogger
B2★	(B3) W/18 : To (M6)	Defogger harness-2	
B3	(B4) W/12 : To (M3)	F2	(B83) B/1 : Rear window defogger
B3	(B5) W/8 : Fuse block (J/B)	F2	(B84) - : Body ground
C3★	(B7) - : Body ground		
A2	(B8) L/4 : Fuel pump relay		
A2	(B9) BR/6 : Rear window defogger relay		
C3	(B10) W/1 : Rear door switch LH		
D3	(B11) B/1 : Condenser (Rear window defogger) (Without rear sunshade)		
D3★	(B12) - : Body ground (Without rear sunshade)		
D3	(B13) - : Body ground (With rear sunshade)		
E2	(B14) BR/2 : High-mounted stop lamp (Without rear sunshade)		
F2	(B15) W/2 : Trunk room lamp (Without rear sunshade)		
F3	(B16) GY/2 : Rear wheel sensor RH (With ABS)		
E4	(B17) W/10 : To (T3)		
F3★	(B19) GY/5 : Fuel level sensor unit and fuel pump		
E3	(B24) W/16 : To (B119)		
D4	(B26) W/2 : Diode		
C4	(B27) W/2 : Condenser		
E3	(B28) BR/2 : Rear wheel sensor LH (With ABS)		
B4	(B29) W/3 : Front door switch LH		
C2	(B30) - : Body ground		
B3	(B31) W/12 : To (D81)		
A4	(B32) W/3 : Heated seat LH (Via sub-harness)		
B5	(B34) W/3 : Seat belt buckle switch LH		
B5	(B35) W/2 : Power seat LH (Via sub-harness)		
C3	(B36) OR/2 : Satellite sensor LH (With side air bag system)		
C3	(B37) W/4 : Seat belt pre-tensioner LH		
B5	(B38) Y/2 : Air bag module (With side air bag system)		
E3	(B39) W/6 : Rear sunshade unit (With rear sunshade)		
B5	(B42) Y/12 : Side air bag diagnosis sensor unit LH		
B2	(B44) - : Body ground (With side air bag system)		
D3★	(B46) - : Body ground (With rear sunshade)		
E3	(B49) W/2 : High-mounted stop lamp (With rear sunshade)		
F2	(B50) W/2 : Trunk room lamp (With rear sunshade)		
E4	(B52) W/16 : CD auto changer		
E2	(B71) B/1 : Condenser (With rear window defogger) (With rear sunshade)		

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RHD MODELS

NFEL0136S02



MEL8670

Body harness		Body sub-harness	
F2	(B1) W/16	: To (M5)	BR/2 : To (B62)
F2★	(B2) BR/24	: To (M2)	
F2	(B4) W/20	: To (M3)	B3 : High-mounted stop lamp (With rear air spoiler)
G3	(B5) W/8	: Fuse block (J/B)	
E3★	(B7) -	: Body ground	
G2	(B8) L/4	: Fuel pump relay	
G2	(B9) BR/6	: Rear window defogger relay	
E3	(B10) W/1	: Rear door switch RH	
D3★	(B12) -	: Body ground	
D4	(B17) W/10	: To (T3)	
B3★	(B19) GY/5	: Fuel level sensor unit and fuel pump	
A3	(B25) W/6	: To (B120)	
E4★	(B27) W/2	: Condenser	
F4	(B29) W/3	: Front door switch RH	
F5	(B32) W/3	: Heated seat RH (Via sub-harness)	
G5	(B34) W/3	: Seat belt buckle switch RH	
F5	(B35) W/2	: Power seat RH (Via sub-harness)	
E3	(B36) Y/2	: Satellite sensor RH (With side air bag system)	
E3	(B37) W/4	: Seat belt pre-tensioner RH	
F5	(B38) Y/2	: Side air bag module RH (With side air bag system)	
F5	(B42) Y/12	: Air bag diagnosis sensor unit	
E2	(B44) -	: Body ground (With side air bag system)	
B3	(B54) W/8	: Woofer (Without BOSE system)	
B4	(B60) W/2	: License lamp RH	
A4	(B61) W/2	: License lamp LH	
A3	(B62) BR/2	: To (B201)	
A3	(B63) W/2	: Trunk lid combination lamp LH (For reverse)	
A4	(B64) W/3	: Trunk lid combination lamp LH (For stop and tail)	
C3	(B66) W/3	: Trunk lid combination lamp RH (For stop and tail)	
B4	(B67) W/2	: Trunk lid combination lamp RH (For reverse)	
B4	(B68) W/2	: Trunk lid key cylinder switch	
F3	(B70) W/12	: To (D101)	
F3	(B72) W/16	: To (M203)	
F2	(B73) BR/24	: To (M205)	
G3	(B74) W/20	: To (M204)	
B3	(B75) GY/26	: BOSE speaker amp. (With BOSE system)	
B2	(B76) BR/6	: Woofer (With BOSE system)	
A3	(B77) W/12	: To (B164)	

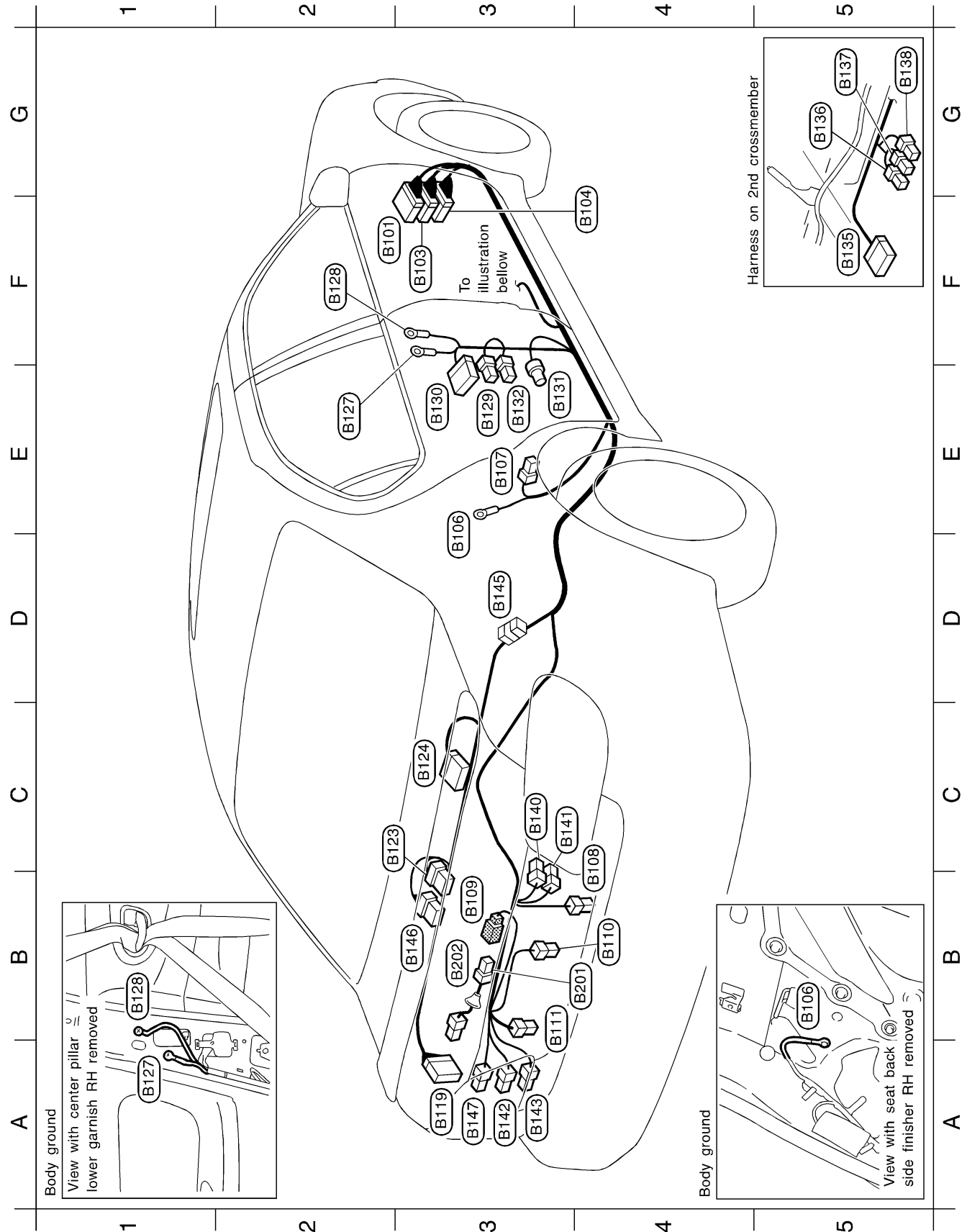
★ : Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

Body No. 2 Harness

NFEL0137

NFEL0137S01

LHD MODELS



MEL8690

Body No. 2 harness

G2	(B101)	W/12	:	To	(M95)	(With BOSE system)
G3	(B103)	W/12	:	To	(M91)	
F4	(B104)	W/10	:	To	(M92)	
E3	(B106)	-	:	Body ground		
E3	(B107)	W/1	:	Rear door switch RH		
C4	(B108)	W/2	:	Trunk lid key cylinder switch		
B3	(B109)	BR/2	:	To	(B201)	
B4	(B110)	W/2	:	License lamp RH		
B3	(B111)	W/2	:	License lamp LH		
A3	(B119)	W/16	:	To	(B24)	
C2	(B123)	BR/6	:	Woofers (With BOSE system)		
C3	(B124)	GY/26	:	BOSE speaker amp. (With BOSE system)		
E2	(B127)	-	:	Body ground		
F2	(B128)	-	:	Body ground (With side air bag system)		
E3	(B129)	W/3	:	Front door switch RH		
E3	(B130)	W/12	:	To	(D101)	
E3	(B131)	Y/2	:	Satellite sensor RH (With side air bag system)		
E3	(B132)	W/4	:	Seat belt pre-tensioner RH		
F5	(B135)	Y/12	:	Side air bag diagnosis sensor unit RH		
G5	(B136)	W/3	:	Heated seat RH (Via sub-harness)		
G5	(B137)	W/2	:	Power seat RH (Via sub-harness)		
G5	(B138)	Y/2	:	Side air bag module RH (With side air bag system)		
C3	(B140)	W/3	:	Trunk lid combination lamp RH (For stop and tail)		
C3	(B141)	W/2	:	Trunk lid combination lamp RH (For reverse)		
A3	(B142)	W/2	:	Trunk lid combination lamp LH (For reverse)		
A3	(B143)	W/3	:	Trunk lid combination lamp LH (For stop and tail)		
D3	(B145)	W/6	:	Joint connector-20 (Without BOSE system)		
C2	(B146)	W/8	:	Woofers (Without BOSE system)		
A3	(B147)	BR/2	:	Trunk lid combination lamp LH (With rear fog lamp)		

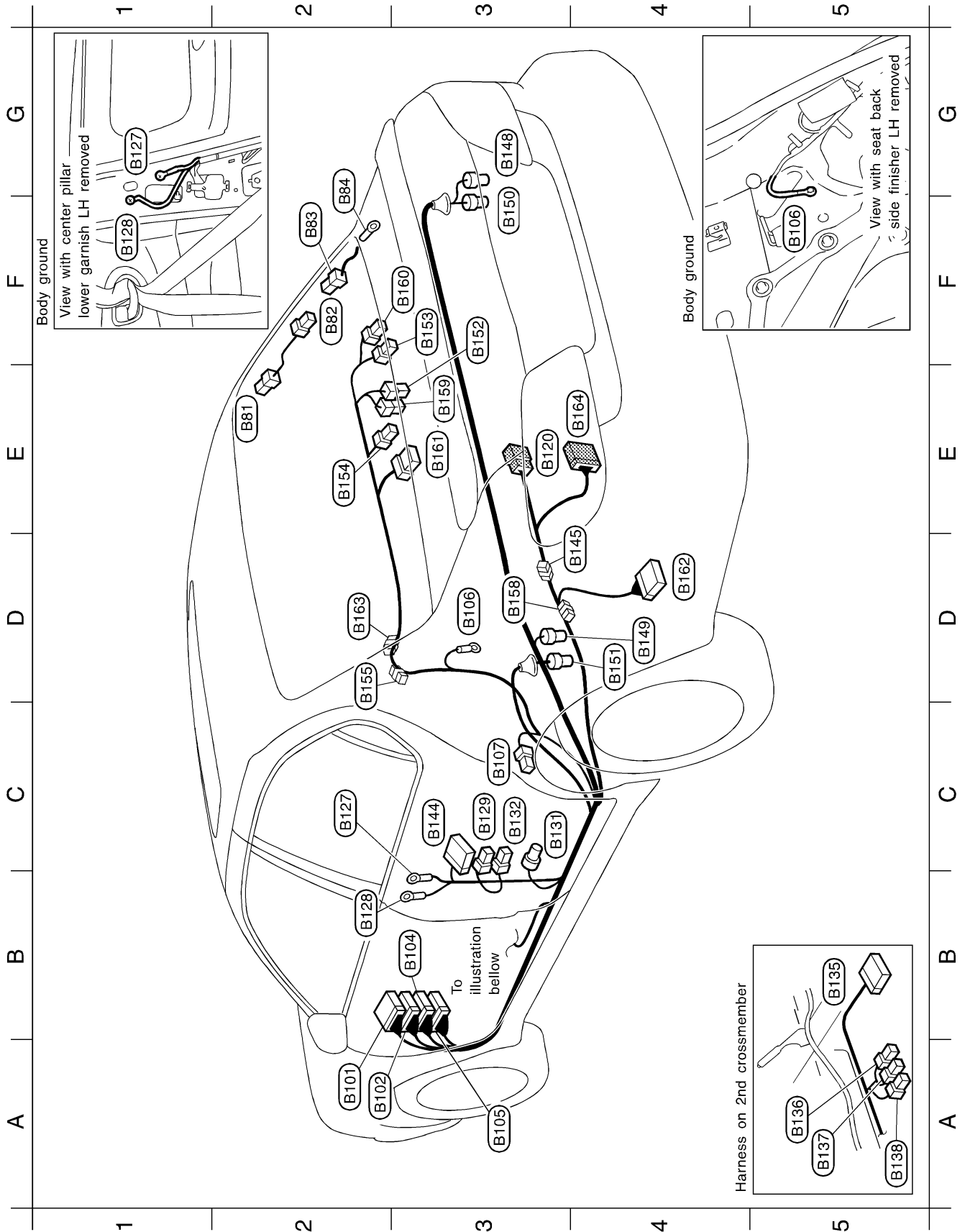
Body No. 2 sub-harness

B4	(B201)	BR/2	:	To	(B109)	
B3	(B202)	B/2	:	High-mounted stop lamp (With rear air spoiler)		

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RHD MODELS

NFEL0137S02



MEL8710

Body No. 2 harness

A2	B101	W/12	:	To	M95
A2	B102	W/20	:	To	M94 (With xenon headlamp)
B3	B104	W/10	:	To	M92
A3	B105	W/16	:	To	M93
D3	B106	-	:	Body ground	
C3	B107	W/1	:	Rear door switch LH	
E3	B120	W/6	:	To	B25
C2	B127	-	:	Body ground	
B2	B128	-	:	Body ground (With side air bag system)	
C3	B129	W/3	:	Front door switch LH	
C3	B131	OR/2	:	Satellite sensor LH (With side air bag system)	
C3	B132	W/4	:	Seat belt pre-tensioner LH	
B5	B135	Y/12	:	Side air bag diagnosis sensor unit LH	
A5	B136	W/3	:	Heated seat LH (Via sub-harness)	
A5	B137	W/2	:	Power seat LH (Via sub-harness)	
A5	B138	Y/2	:	Side air bag module LH (With side air bag system)	
C3	B144	W/12	:	To	D81
E3	B145	W/6	:	Joint connector-20 (Without BOSE system)	
G3	B148	BR/3	:	Height sensor rear RH (With auto aiming control system)	
D4	B149	BR/3	:	Height sensor rear LH (With auto aiming control system)	
F3	B150	GY/2	:	Rear wheel sensor RH	
D4	B151	BR/2	:	Rear wheel sensor LH	
E3	B152	BR/2	:	High-mounted stop lamp (Without rear sunshade)	
F3	B153	W/2	:	Trunk room lamp (Without rear sunshade)	
E2	B154	W/4	:	Rear wiper motor (With rear wiper)	
D2	B155	B/1	:	Condenser (Rear window defogger) (Without rear sunshade)	
D3	B158	W/2	:	Diode	
E3	B159	W/2	:	High-mounted stop lamp (With rear sunshade)	
F3	B160	W/2	:	Trunk room lamp (With rear sunshade)	
E3	B161	W/6	:	Rear sunshade unit (With rear sunshade)	
D4	B162	W/16	:	CD auto changer	
D2	B163	B/1	:	Condenser (Rear window defogger) (With rear sunshade)	
E4	B164	W/12	:	To	B77 (With BOSE system)

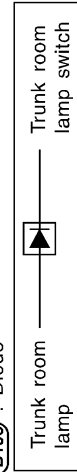
Defogger harness-1

E2	B81	B/1	:	Condenser (Rear window defogger)
F2	B82	B/1	:	Rear window defogger

Defogger harness-2

F2	B83	B/1	:	Rear window defogger
F2	B84	-	:	Body ground

B158 : Diode



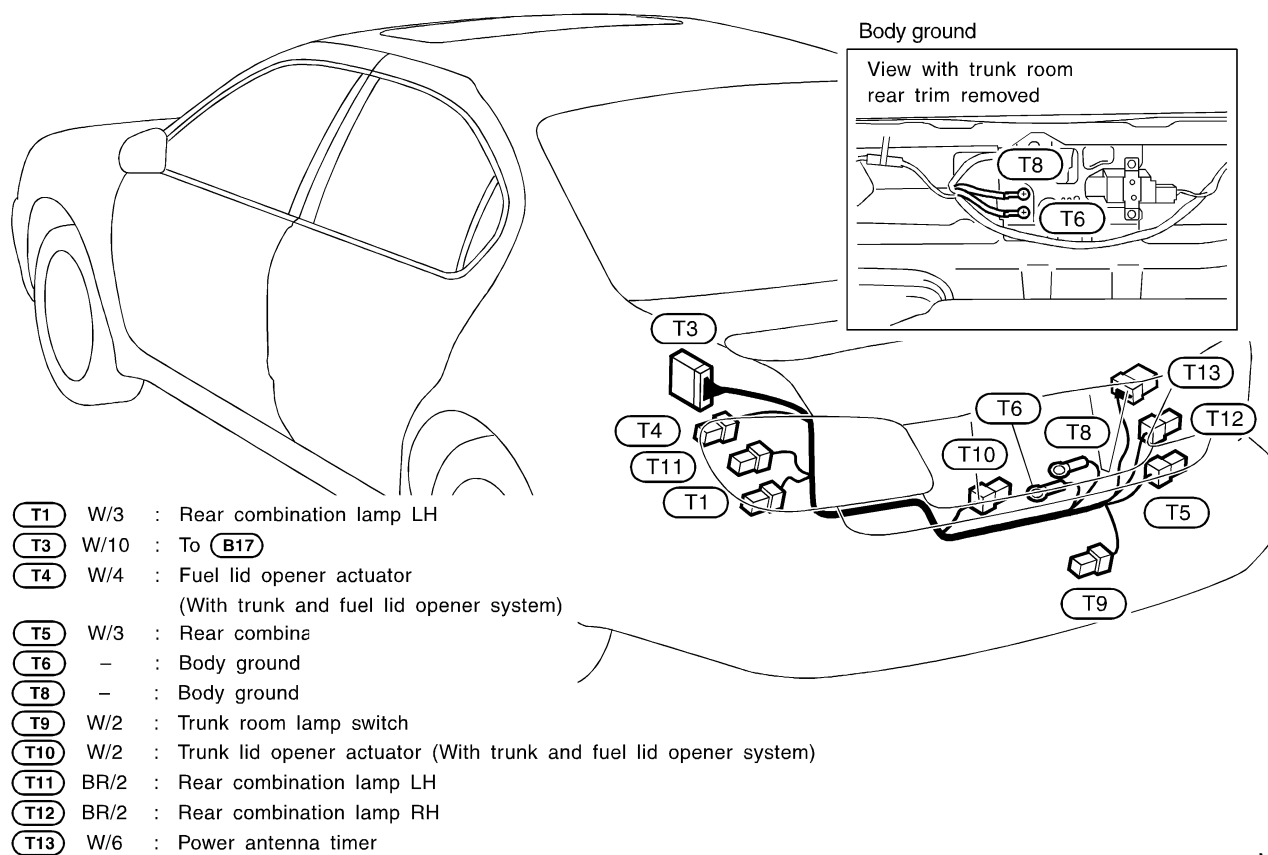
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Tail Harness

NFEL0138

NFEL0138S01

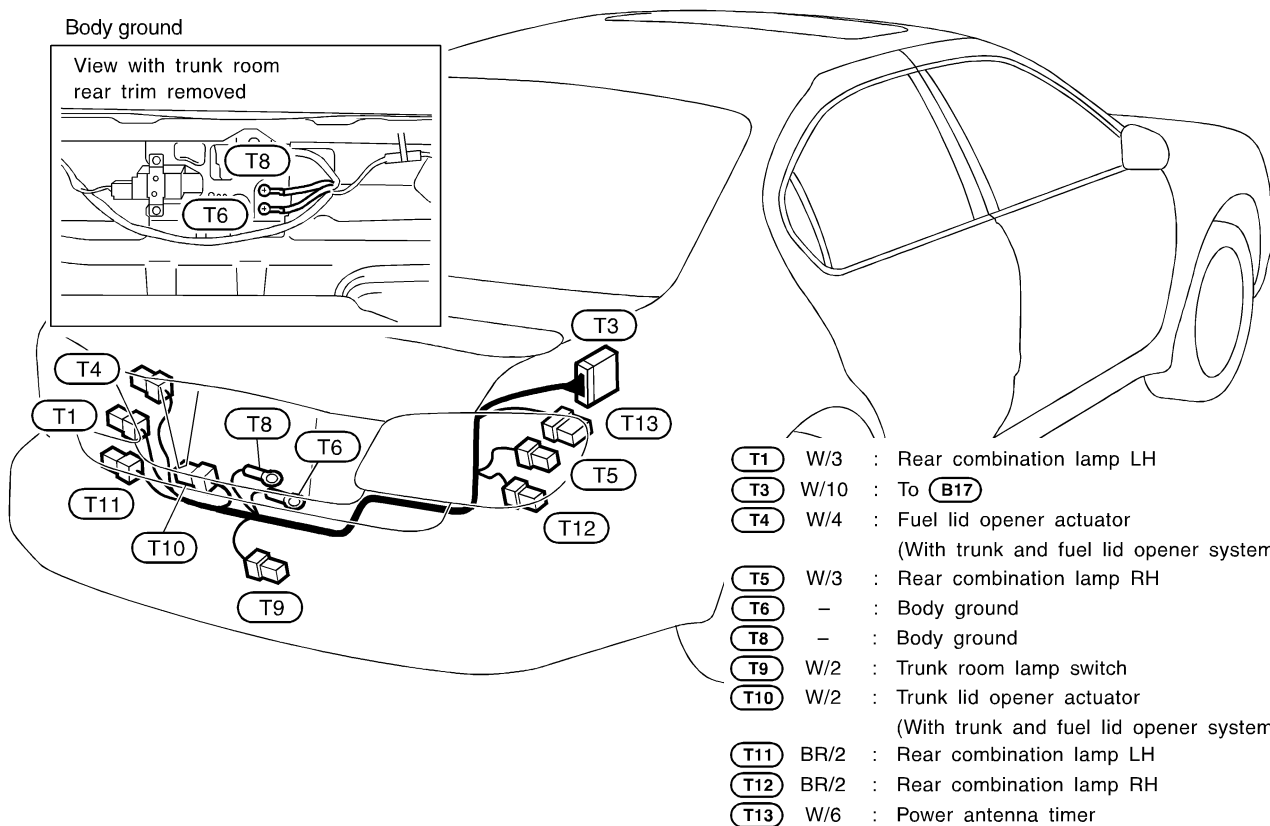
LHD MODELS



MEL8730

NFEL0138S03

RHD MODELS

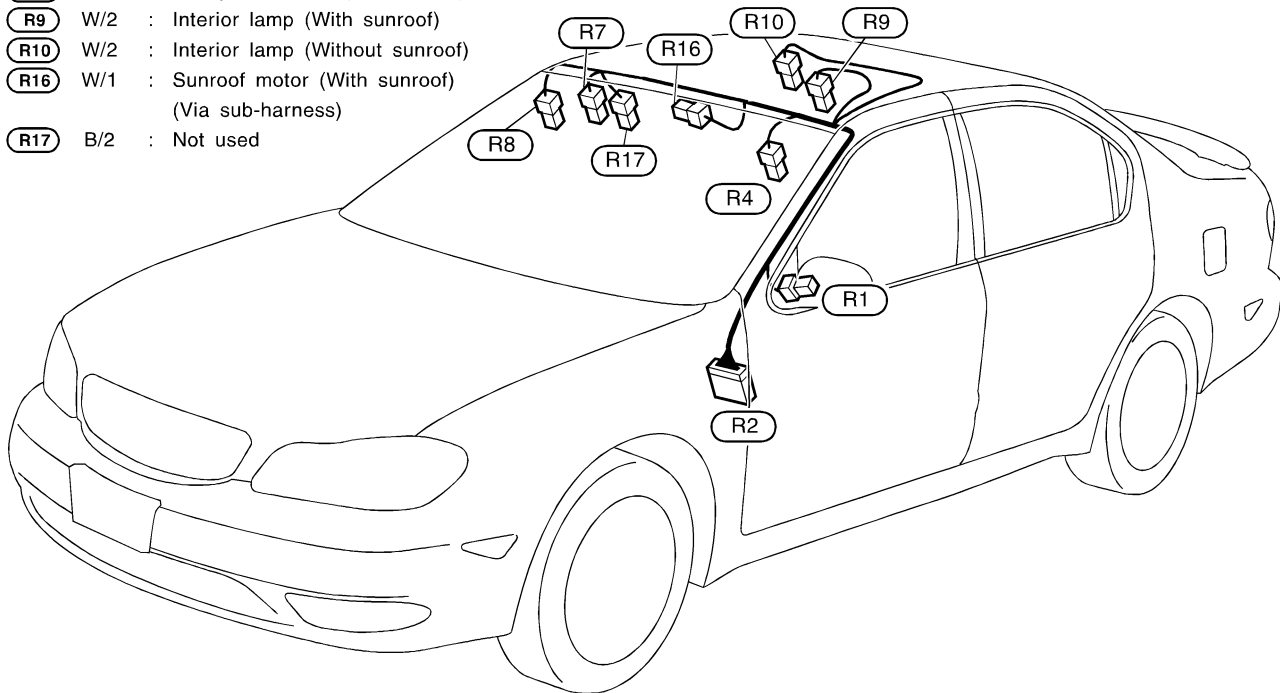


MEL8740

Room Lamp Harness

NFEL0140

- R1** BR/2 : Tweeter LH (With tweeter)
- R2** W/12 : To **M8**
- R4** R/2 : Vanity mirror LH (Illumination)
- R7** W/2 : Spot lamp
- R8** R/2 : Vanity mirror RH (Illumination)
- R9** W/2 : Interior lamp (With sunroof)
- R10** W/2 : Interior lamp (Without sunroof)
- R16** W/1 : Sunroof motor (With sunroof)
(Via sub-harness)
- R17** B/2 : Not used



MEL8750

LHD MODELS

LH Side

NFEL0142

NFEL0142S05

NFEL0142S0501

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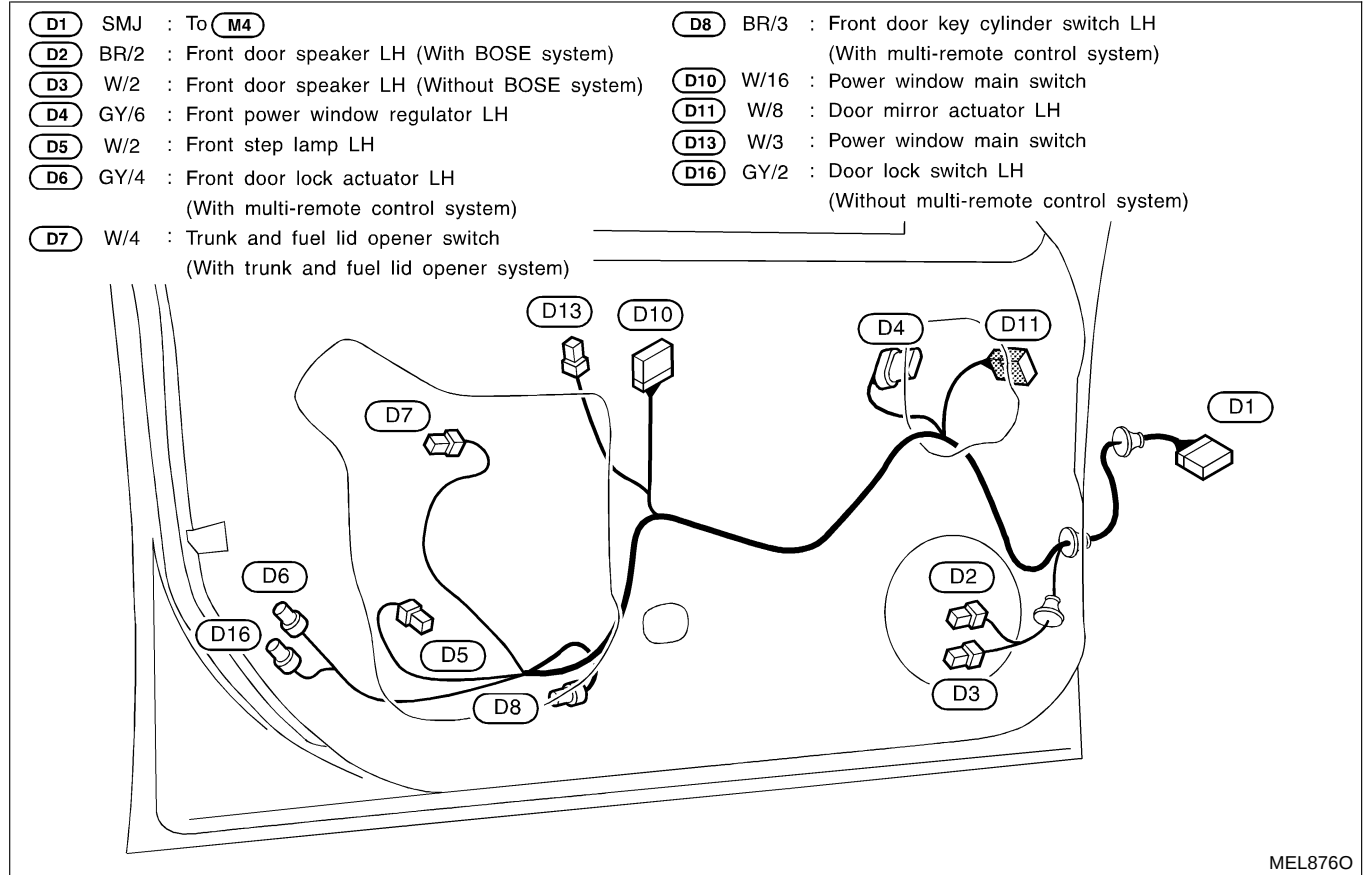
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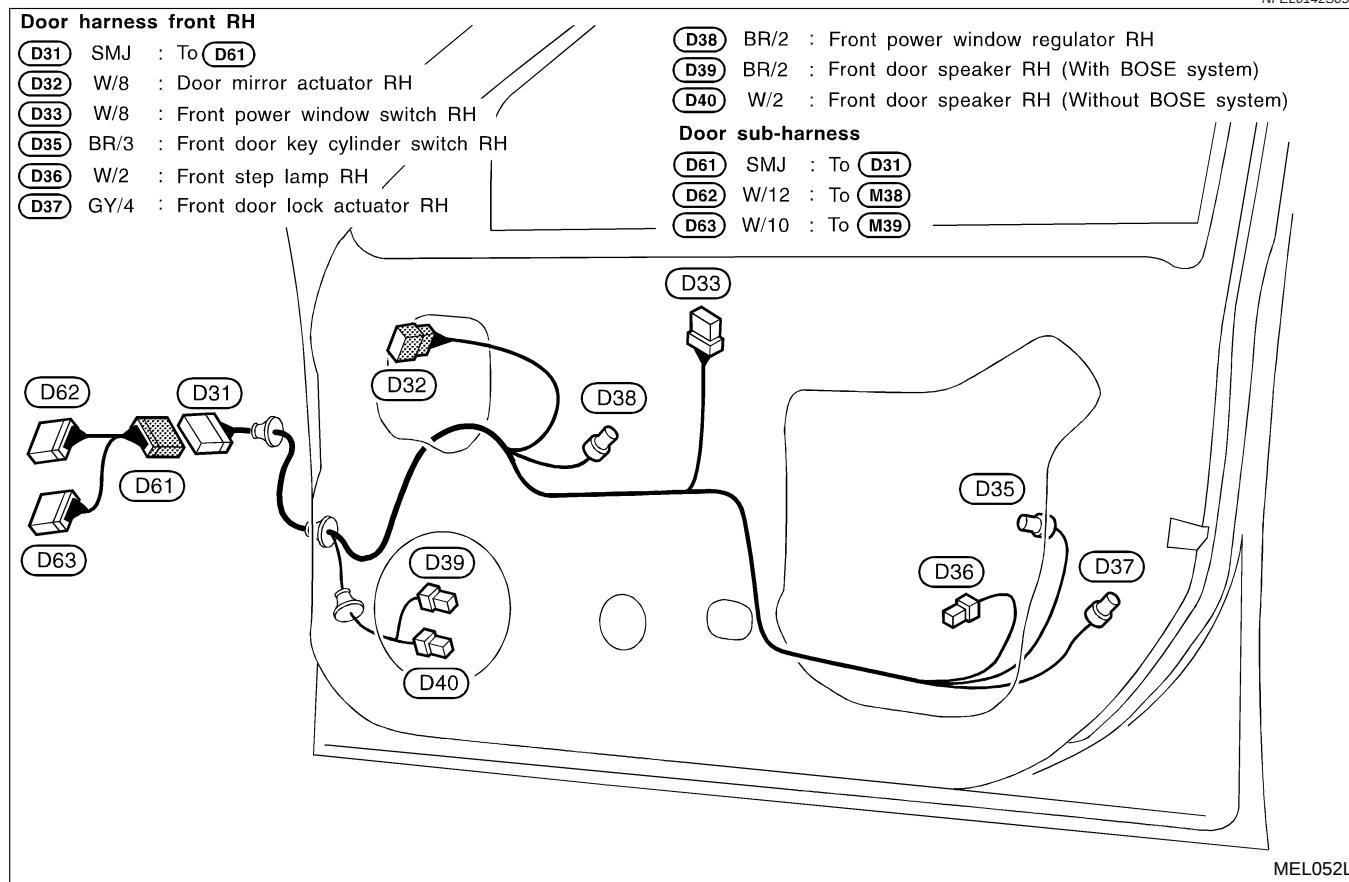
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Front Door Harness



RH Side

NFEL0142S0502

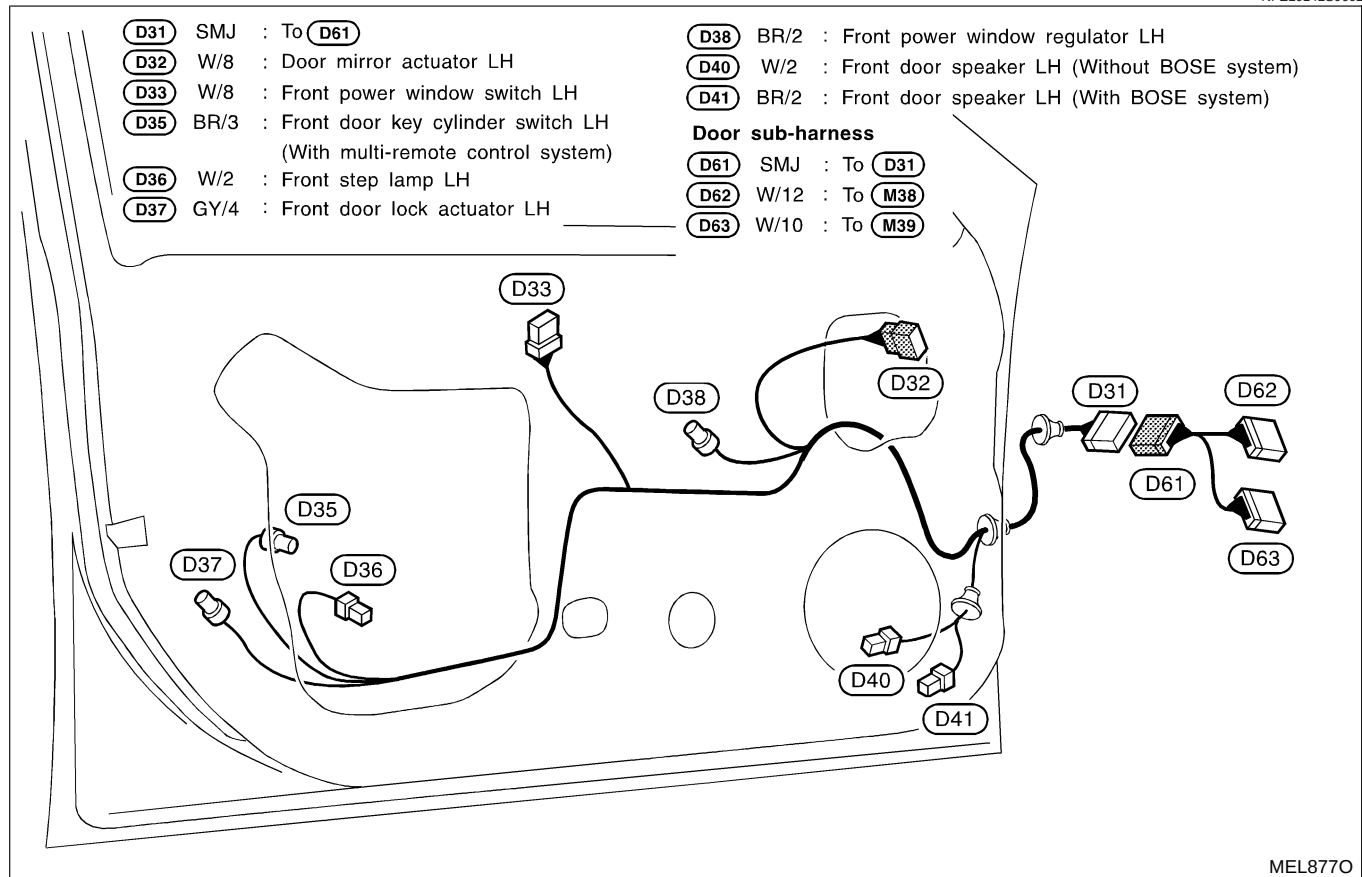


RHD MODELS

LH Side

NFEL0142S06

NFEL0142S0602



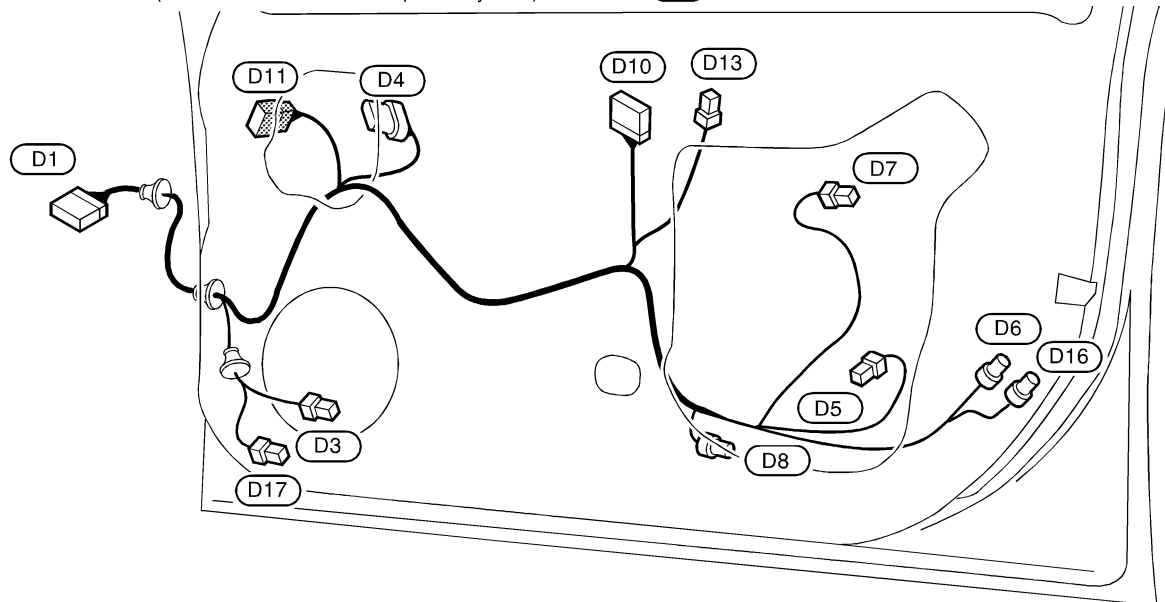
MEL8770

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RH Side

NFEL0142S0601

- | | |
|--|---|
| (D1) SMJ : To (M4) | (D8) BR/3 : Front door key cylinder switch RH
(With multi-remote control system) |
| (D3) W/2 : Front door speaker RH (Without BOSE system) | (D10) W/16 : Power window main switch |
| (D4) GY/6 : Front power window regulator RH | (D11) W/8 : Door mirror actuator RH |
| (D5) W/2 : Front step lamp RH | (D13) W/3 : Power window main switch |
| (D6) GY/4 : Front door lock actuator RH
(With multi-remote control system) | (D16) GY/2 : Door lock switch RH
(Without multi-remote control system) |
| (D7) W/4 : Trunk and Fuel lid opener switch
(With trunk and fuel lid opener system) | (D17) BR/2 : Front door speaker RH (With BOSE system) |



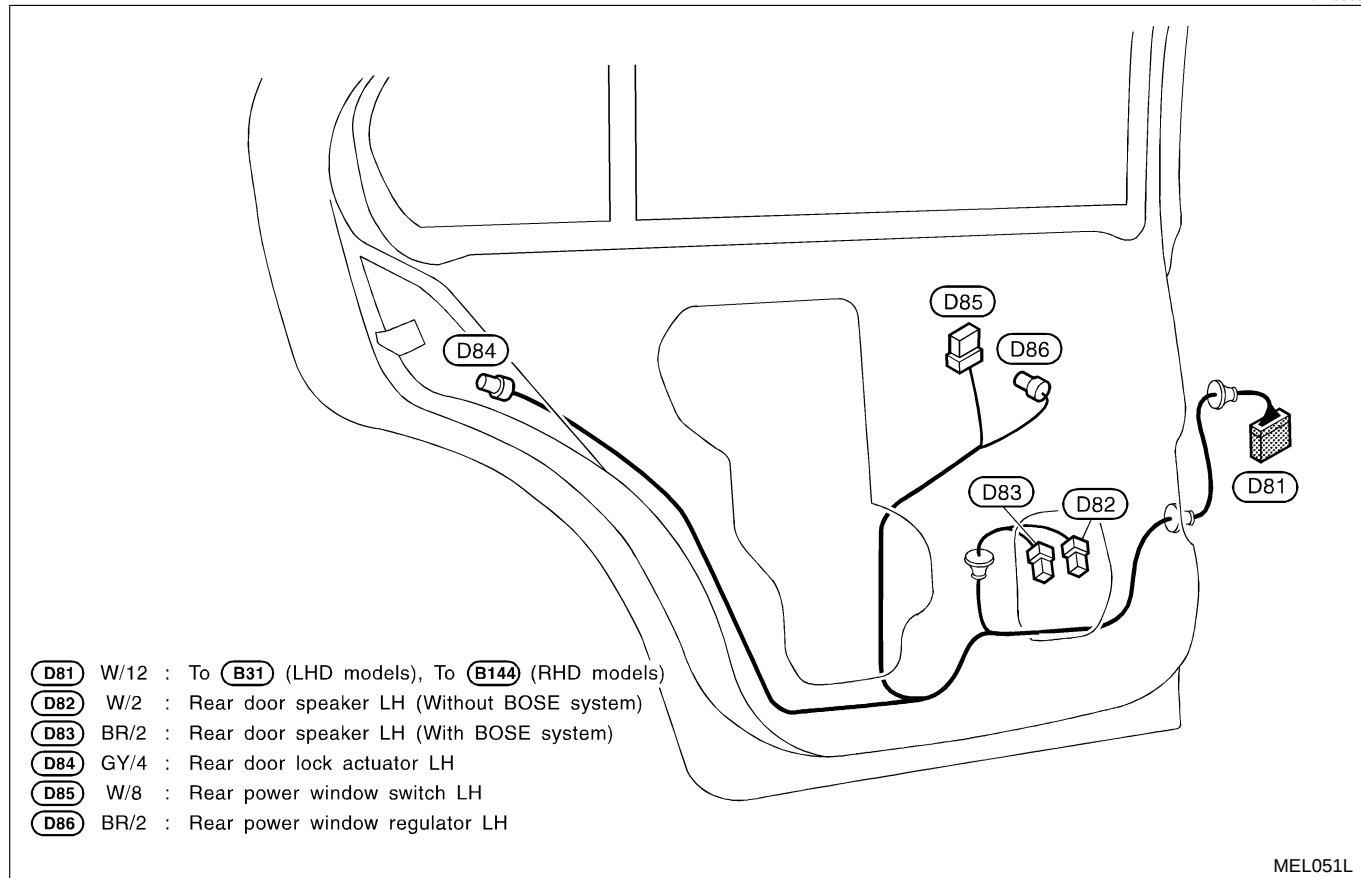
MEL8780

Rear Door Harness

NFEL0143

NFEL0143S03

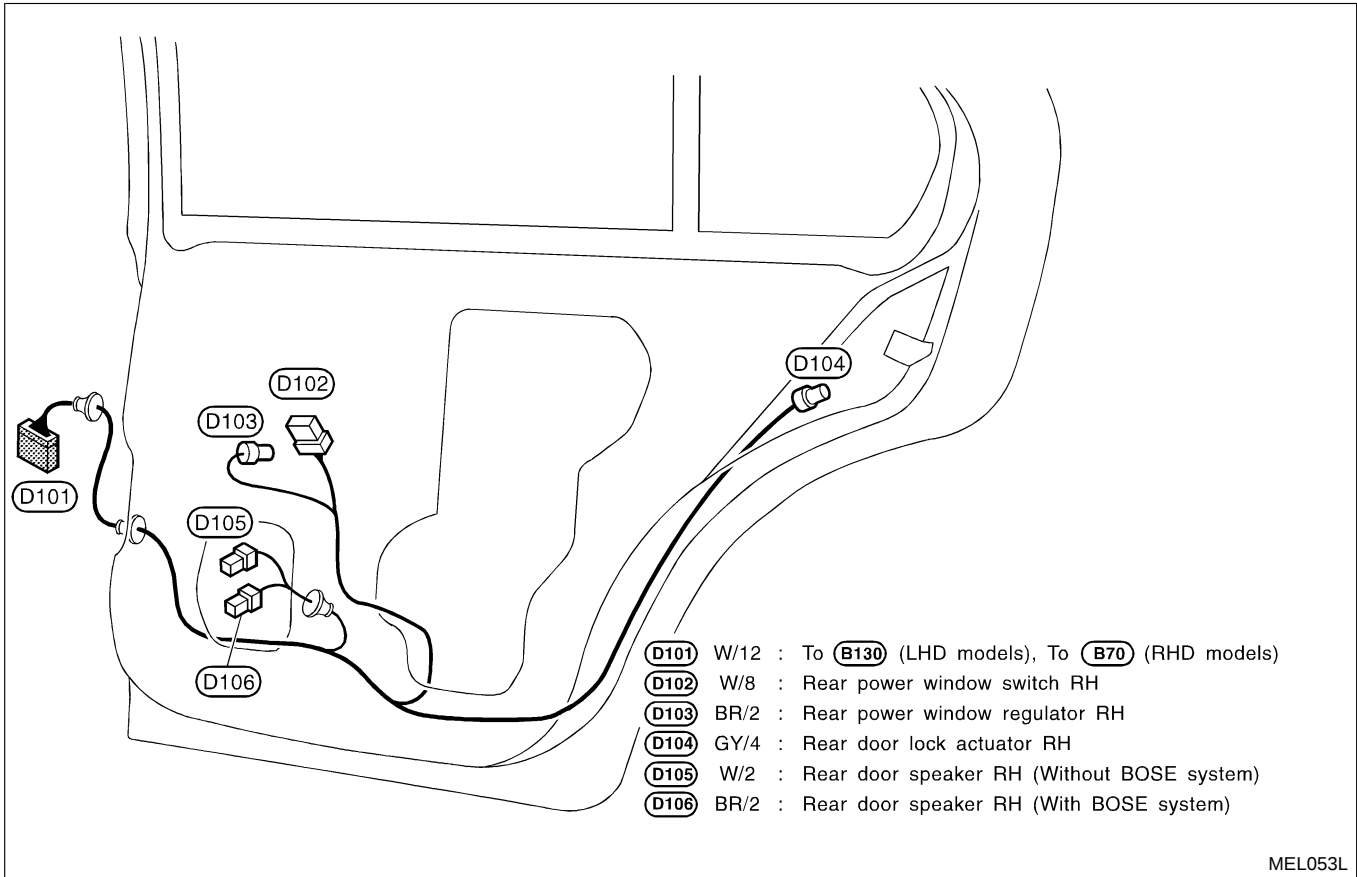
LH SIDE



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RH SIDE

NFEL0143S04



Headlamp

Headlamp

NFEL0144S03

Item		Wattage (W)
High/Low	Without xenon headlamp	60/51 (HB3/HB4)
	With xenon headlamp	65/35 (HIR1/D2R)

Exterior Lamp

NFEL0144S01

Item		Wattage (W)
Front fog lamp	For China	55 (H3)
	Except for China	21 (H3)
Front turn signal lamp		21
Side turn signal lamp		3.8
Parking lamp		5
Rear combination lamp	Turn signal	21
	Stop/Tail	21/5
	Back-up	18
License lamp		5
High-mounted stop lamp	Without rear spoiler	21
	With rear sunshade	5

Interior Lamp

NFEL0144S02

Item		Wattage (W)
Interior room lamp		10
Map lamp	With sunroof	10
	Without sunroof	8
Vanity mirror lamp		1.4
Trunk room lamp		3.4
Step lamp		2.7

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

Refer to the wiring diagram code in the alphabetical index to find the location (page number) of each wiring diagram.

Code	Section	Wiring Diagram Name
AAC/V	EC	IACV-AAC Valve
AACVLV	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
A/C, A	HA	Auto Air Conditioner
A/C, M	HA	Manual Air Conditioner
AP/SEN	EC	Absolute Pressure Sensor
ASCD	EL	Automatic Speed Control Device (ASCD)
AT CONT	EC	A/T Communication Line
ATDG1	EC	A/T Diagnosis Communication Line
ATDIAG	EC	A/T Diagnosis Communication Line
AT/IND	EL	A/T Indicator
AUDIO	EL	Audio
BACK/L	EL	Back-up Lamp
BA/FTS	AT	A/T Fluid Temperature Sensor and TCM Power Supply
B/COMP	EL	Board Computer
CHARGE	SC	Charging System
CHIME	EL	Warning Chime
CIGAR	EL	Cigarette Lighter
CLOCK	EL	Clock
COOL/F	EC	Cooling Fan Control
CORNER	EL	Cornering Lamp
DEF	EL	Rear Window Defogger
D/LOCK	EL	Power Door Lock
ECTS	EC	Engine Coolant Temperature Sensor
EGRC2	EC	EGR Volume Control System
EMNT	EC	Electronic Controlled Engine Mount
ENGSS	AT	Engine Speed Signal
F/FOG	EL	Front Fog Lamp
FO2H-L	EC	Heated Oxygen Sensor 1 Heater (Front) (Bank 2)
FO2H-R	EC	Heated Oxygen Sensor 1 Heater (Front) (Bank 1)

Code	Section	Wiring Diagram Name
F/PUMP	EC	Fuel Pump Control
FTTS	EC	Fuel Tank Temperature Sensor
FUELLH	EC	Fuel Injection System Function (Bank 2)
FUELRH	EC	Fuel Injection System Function (Bank 1)
H/AIM	EL	Headlamp Aiming Control
HEATER	HA	Heater
H/LAMP	EL	Headlamp
HORN	EL	Horn
HSEAT	EL	Heated Seat
IATS	EC	Intake Air Temperature Sensor
IATSEN	EC	Intake Air Temperature Sensor
IGN/SG	EC	Ignition Signal
IGNSYS	EC	Ignition Signal
ILL	EL	Illumination
INJECT	EC	Injector
INT/L	EL	Interior, Step, Spot, Vanity Mirror and Trunk Room Lamps
KS	EC	Knock Sensor
LOAD	EC	Electrical Load Signal
LPSV	AT	Line Pressure Solenoid Valve
MAFS	EC	Mass Air Flow Sensor
MAIN	AT	Main Power Supply and Ground Circuit
MAIN	EC	Main Power Supply and Ground Circuit
METER	EL	Speedometer, Tachometer, Temp., Oil, and Fuel Gauges
MIL/DL	EC	MIL & Data Link Connector
MIRROR	EL	Door Mirror
MULTI	EL	Multi-remote Control System
NATS	EL	NVIS (Nissan Vehicle Immobilizer System — NATS)
NONDTC	AT	Non-detectable Items
O2H1B1	EC	Heated Oxygen Sensor 1 Heater (Front) (Bank 1)
O2H1B2	EC	Heated Oxygen Sensor 1 Heater (Front) (Bank 2)
O2H2B1	EC	Heated Oxygen Sensor 2 Heater (Rear) (Bank 1)

WIRING DIAGRAM CODES (PDF CODES)

Code	Section	Wiring Diagram Name
O2H2B2	EC	Heated Oxygen Sensor 2 Heater (Rear) (Bank 2)
O2S1B1	EC	Heated Oxygen Sensor 1 (Front) (Bank 1)
O2S1B2	EC	Heated Oxygen Sensor 1 (Front) (Bank 2)
O2S2B1	EC	Heated Oxygen Sensor 2 (Rear) (Bank 1)
O2S2B2	EC	Heated Oxygen Sensor 2 (Rear) (Bank 2)
OVRCSV	AT	Overrun Clutch Solenoid Valve
P/ANT	EL	Audio Antenna
PRGVLV	EC	EVAP Canister Purge Volume Control Solenoid Valve
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PHASE	EC	Camshaft Position Sensor (CMPS) (PHASE)
PNP/SW	EC	Park/Neutral Position Switch
PNPSW1	EC	Park/Neutral Position Switch
POS	EC	Crankshaft Position Sensor (CKPS) (POS)
POWER	EL	Power Supply Routing
PST/SW	EC	Power Steering Oil Pressure Switch
REF	EC	Crankshaft Position Sensor (CKPS) (REF)
REMOTE	EL	Audio (Remote Control Switch)
R/FOG	EL	Rear Fog Lamp
RP/SEN	EC	Refrigerant Pressure Sensor
RRO2LH	EC	Heated Oxygen Sensor 2 Heater (Rear) (Bank 2)
RRO2RH	EC	Heated Oxygen Sensor 2 Heater (Rear) (Bank 1)
SEAT	EL	Power Seat
SHADE	EL	Rear Sunshade
SHIFT	AT	A/T Shift Lock System
SROOF	EL	Electric Sunroof
SRS	RS	Supplemental Restraint System
S/SIG	EC	Start Signal
SSV/A	AT	Shift Solenoid Valve A
SSV/B	AT	Shift Solenoid Valve B
START	SC	Starting System

Code	Section	Wiring Diagram Name
STOP/L	EL	Stop Lamp
SWL/C	EC	Swirl Control Valve Control Solenoid Valve
SWL/V	EC	Swirl Control Valve Control Solenoid Valve
TAIL/L	EL	Parking, License and Tail Lamps
TCV	AT	Torque Converter Clutch Solenoid Valve
T&FLID	EL	Trunk Lid and Fuel Filler Lid Opener
THEFT	EL	Theft Warning System
TPS	AT	Throttle Position Sensor
TPS	EC	Throttle Position Sensor
TP/SW	EC	Closed Throttle Position Switch
TP/SW1	EC	Closed Throttle Position Switch
TURN	EL	Turn Signal and Hazard Warning Lamps
VIAS/V	EC	Variable Induction Air Control System
VSS	EC	Vehicle Speed Sensor
VSSA/T	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
VSSSEN	EC	Vehicle Speed Sensor
VSSMTR	AT	Vehicle Speed Sensor MTR
WARN	EL	Warning Lamps
WINDOW	EL	Power Window
WIPER	EL	Front Wiper and Washer
WIP/R	EL	Rear Wiper and Washer

GI

MA

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NOTES