

# ELECTRICAL SYSTEM

## SECTION **EL**

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## PRECAUTIONS

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

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

NAEL0001

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 R50 is as follows:

- 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 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 must be performed by an authorized NISSAN dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the RS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses (except "SEAT BELT PRE-TENSIONER") covered with yellow insulation either just before the harness connectors or for the complete harness are related to the SRS.

### Wiring Diagrams and Trouble Diagnosis

NAEL0002

When you read wiring diagrams, refer to the followings:

- "HOW TO READ WIRING DIAGRAMS" in GI section
- "POWER SUPPLY ROUTING" for power distribution circuit in EL section

When you perform trouble diagnosis, refer to the followings:

- "HOW TO FOLLOW TEST GROUP IN TROUBLE DIAGNOSIS" in GI section
- "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT" in GI section

Check for any Service bulletins before servicing the vehicle.

## Description

### HARNESS CONNECTOR (TAB-LOCKING TYPE)

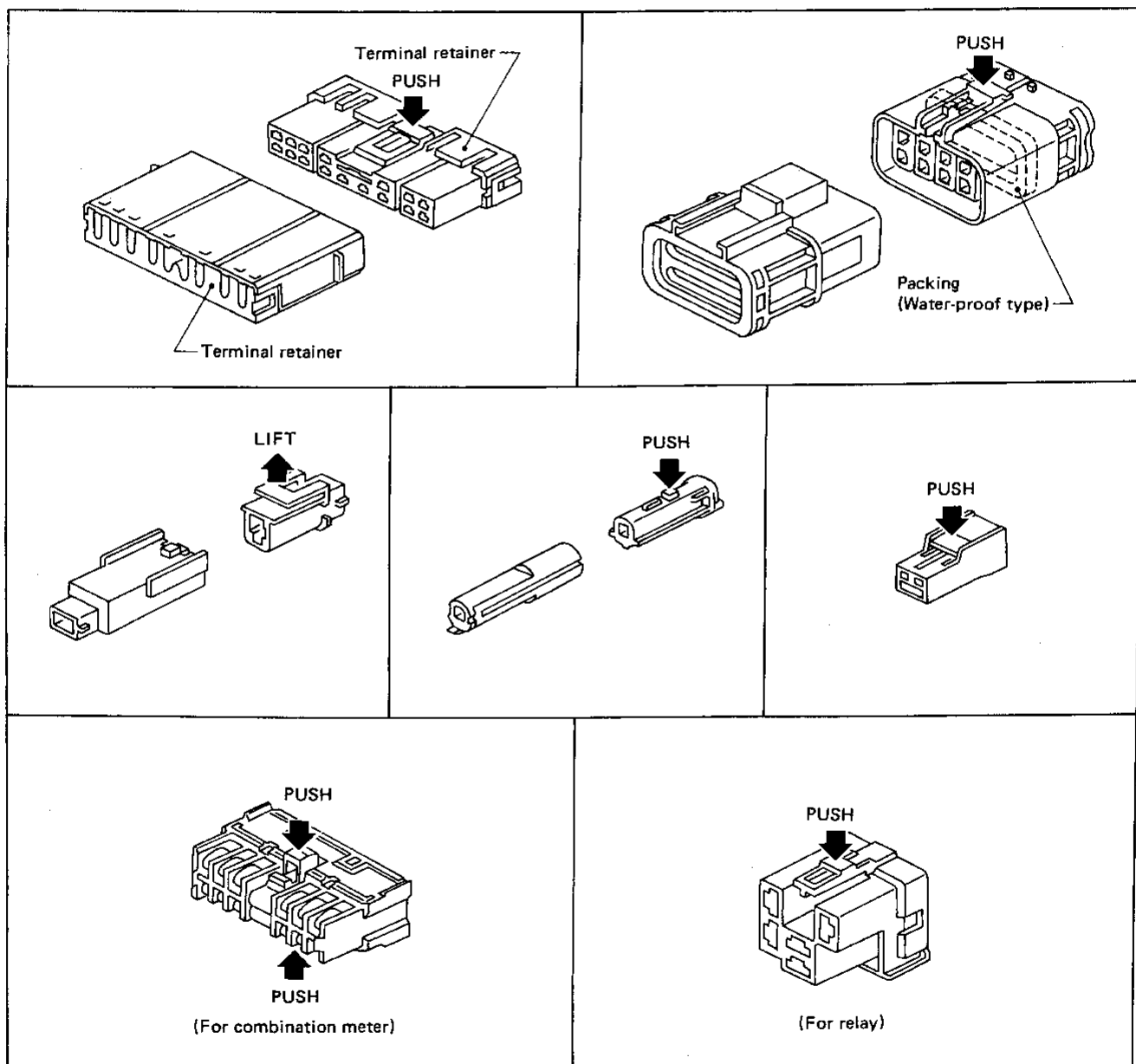
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

**CAUTION:**

Do not pull the harness when disconnecting the connector.

[Example]



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# HARNESS CONNECTOR

Description (Cont'd)

## HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

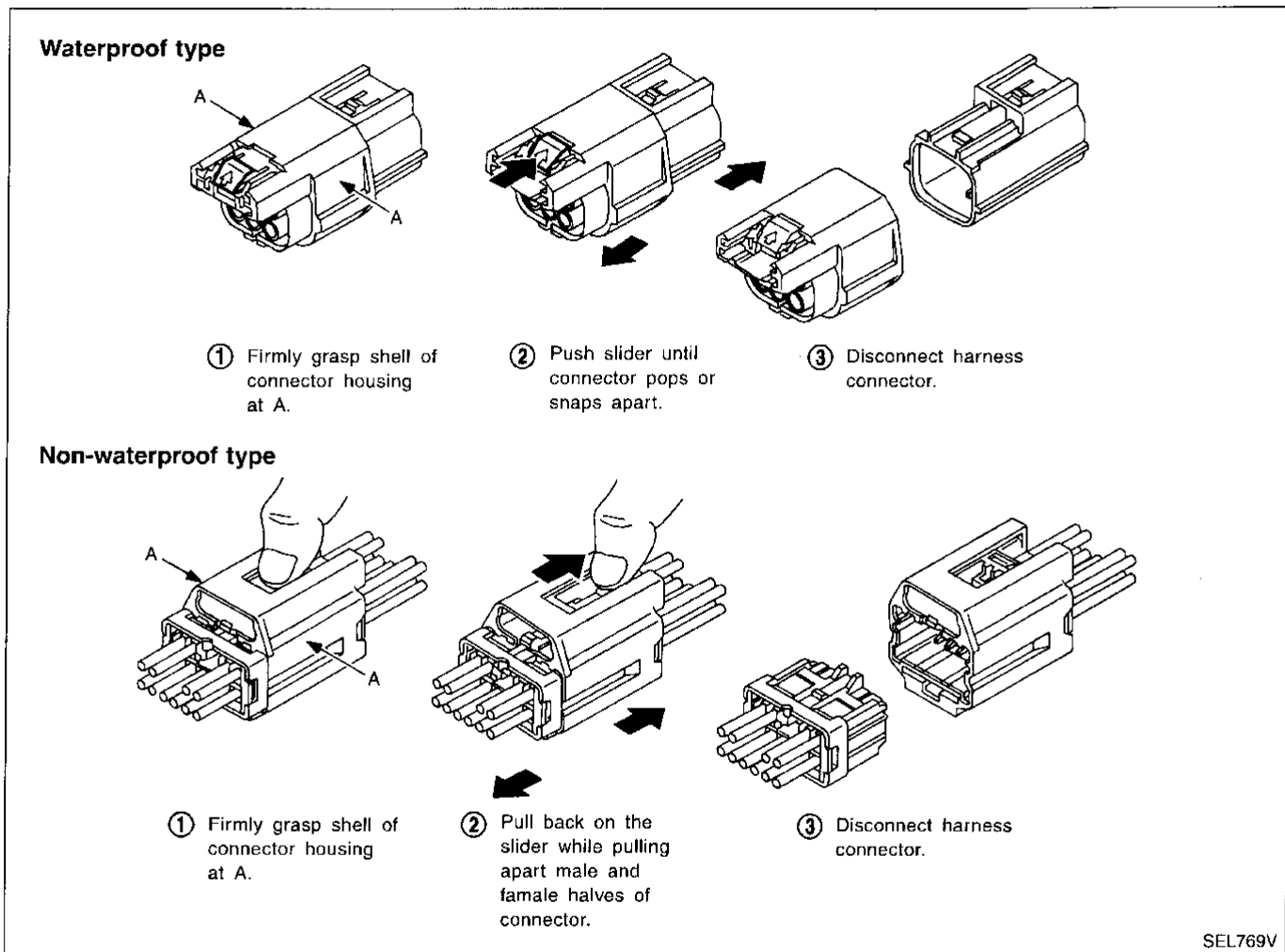
-NAEL0003S02

- 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]



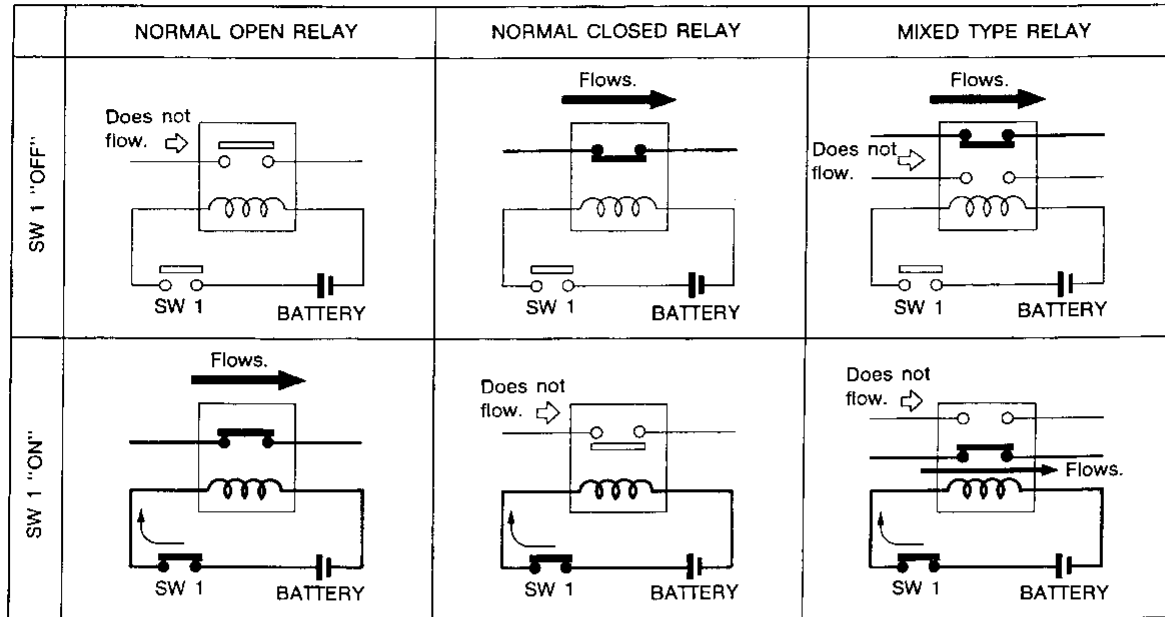
# STANDARDIZED RELAY

Description

## 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.

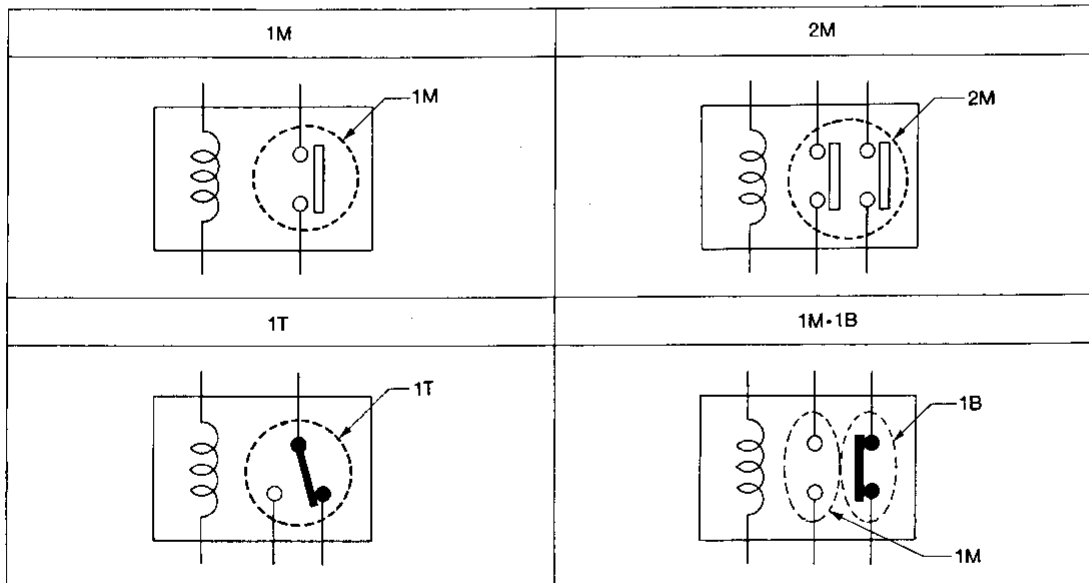


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### TYPE OF STANDARDIZED RELAYS

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



SEL882H

GI

NAEL0004

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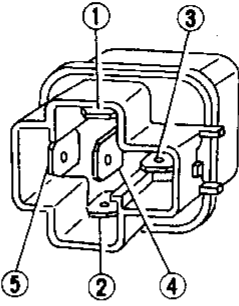
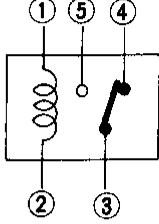
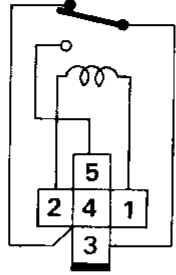
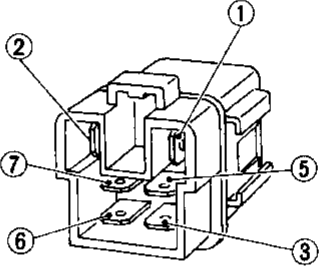
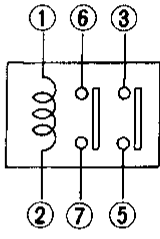
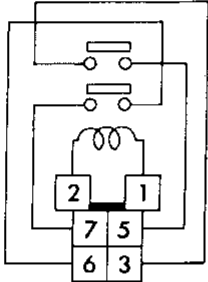
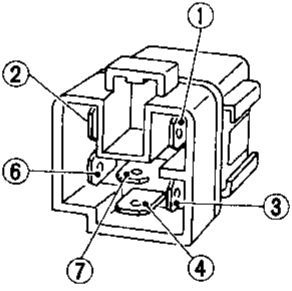
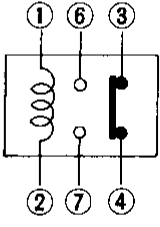
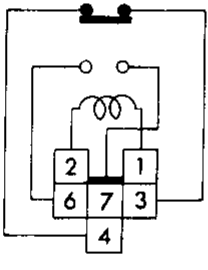
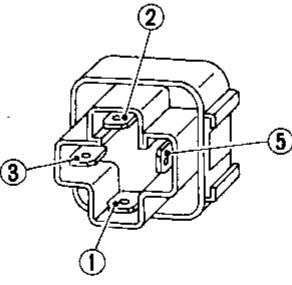
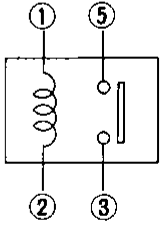
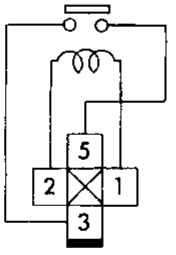
SC

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# STANDARDIZED RELAY

Description (Cont'd)

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.

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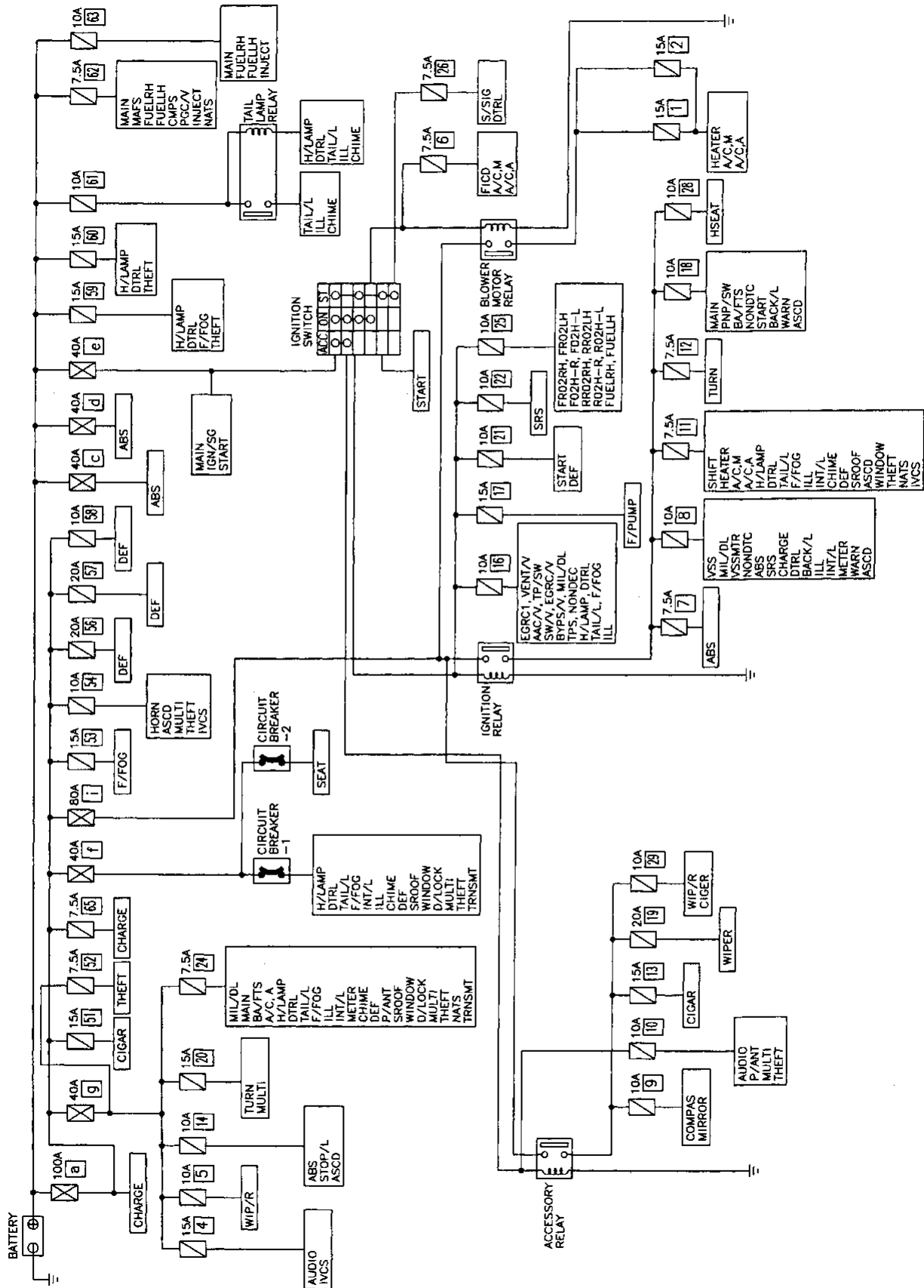


# POWER SUPPLY ROUTING

Schematic

## Schematic

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# POWER SUPPLY ROUTING

Wiring Diagram — POWER —

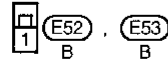
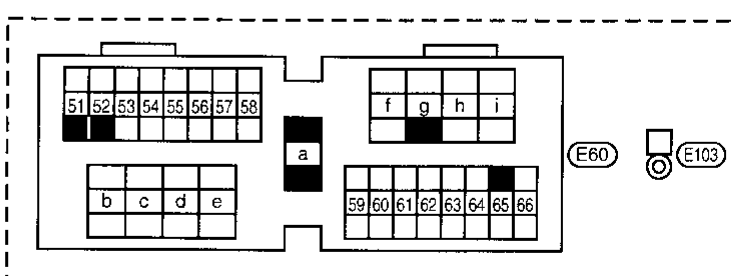
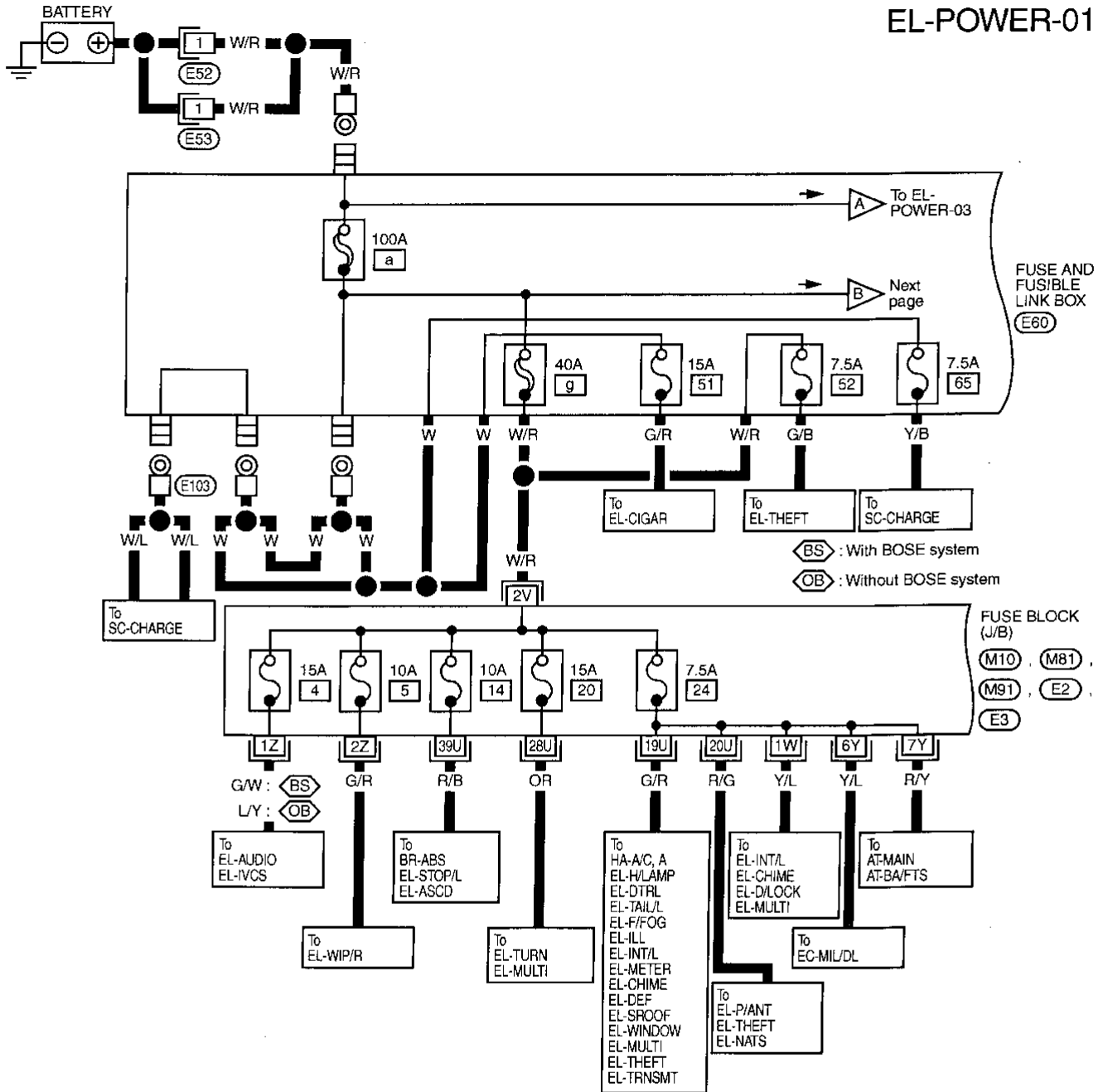
## Wiring Diagram — POWER —

### BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

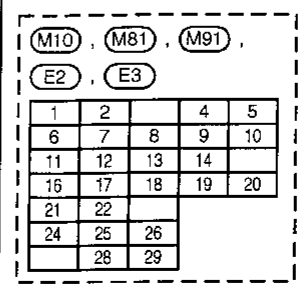
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NAEL006501

### EL-POWER-01



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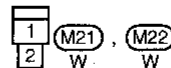
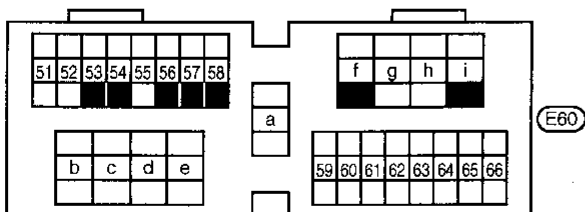
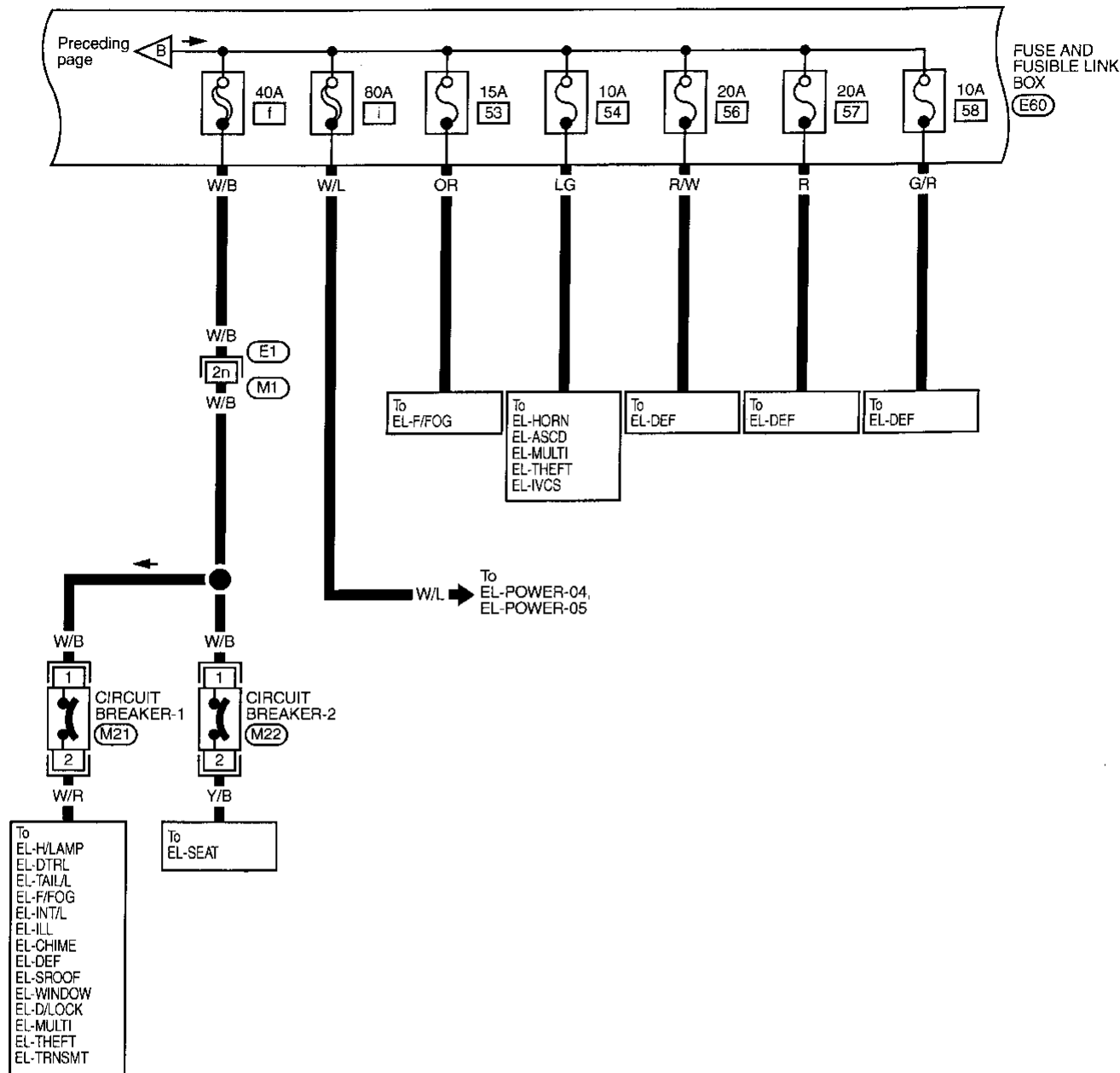


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# POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

## EL-POWER-02



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(M1), (E1)

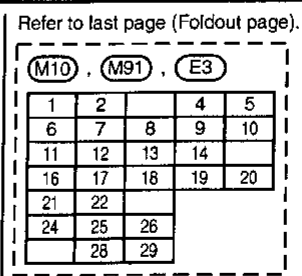
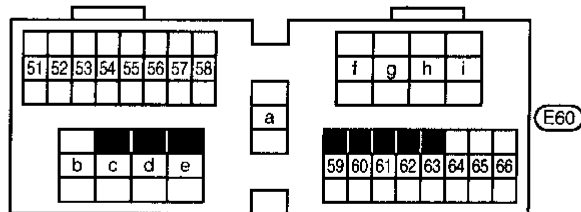
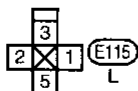
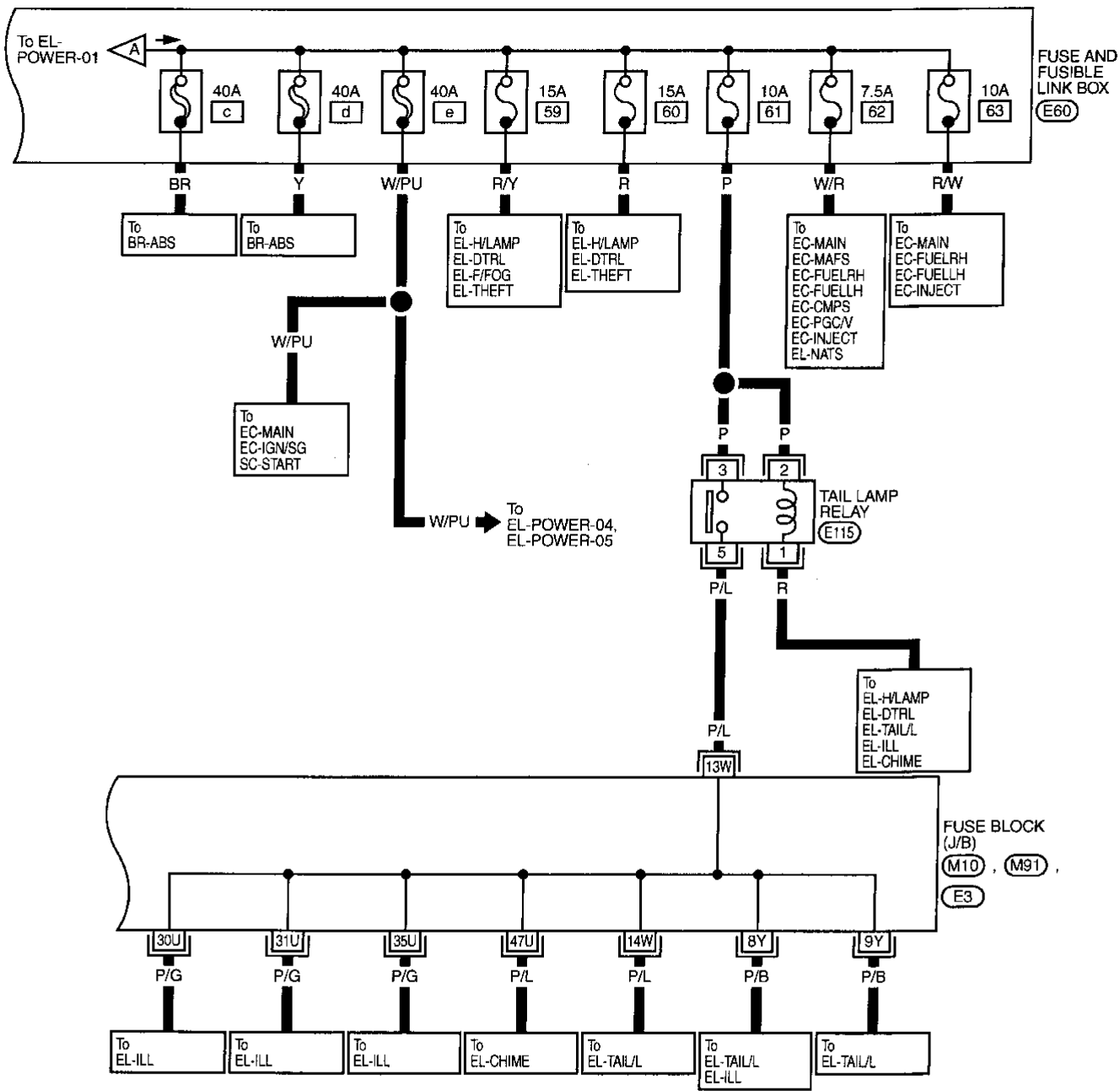
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# POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03



MEL911J

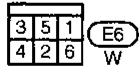
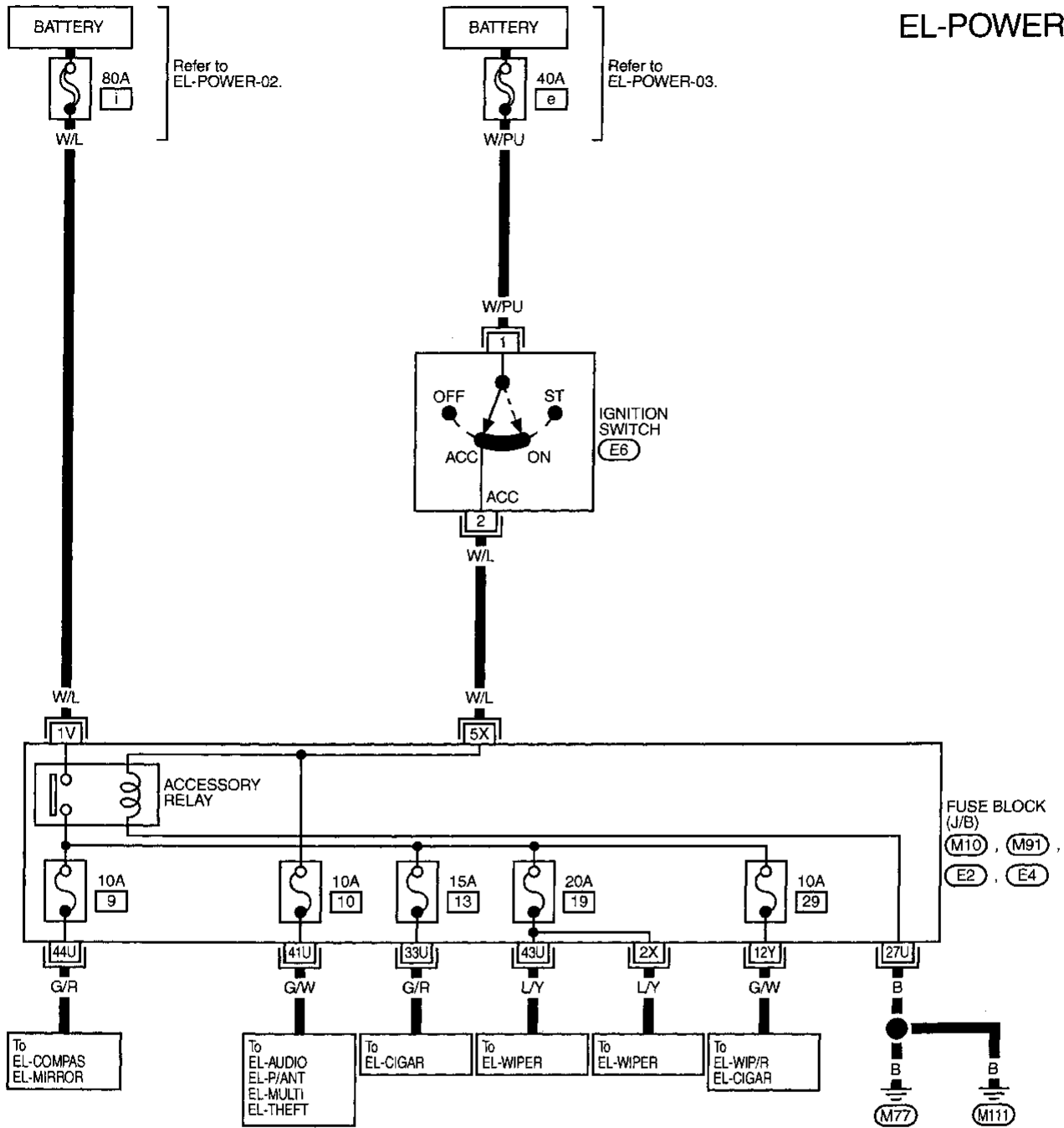
# POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

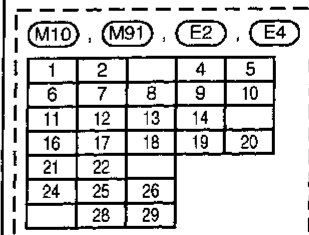
## ACCESSORY POWER SUPPLY — IGNITION SW. IN "ACC" OR "ON"

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EL-POWER-04



Refer to last page (Foldout page).



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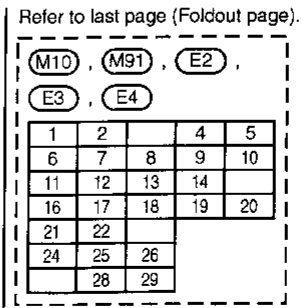
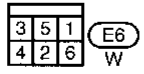
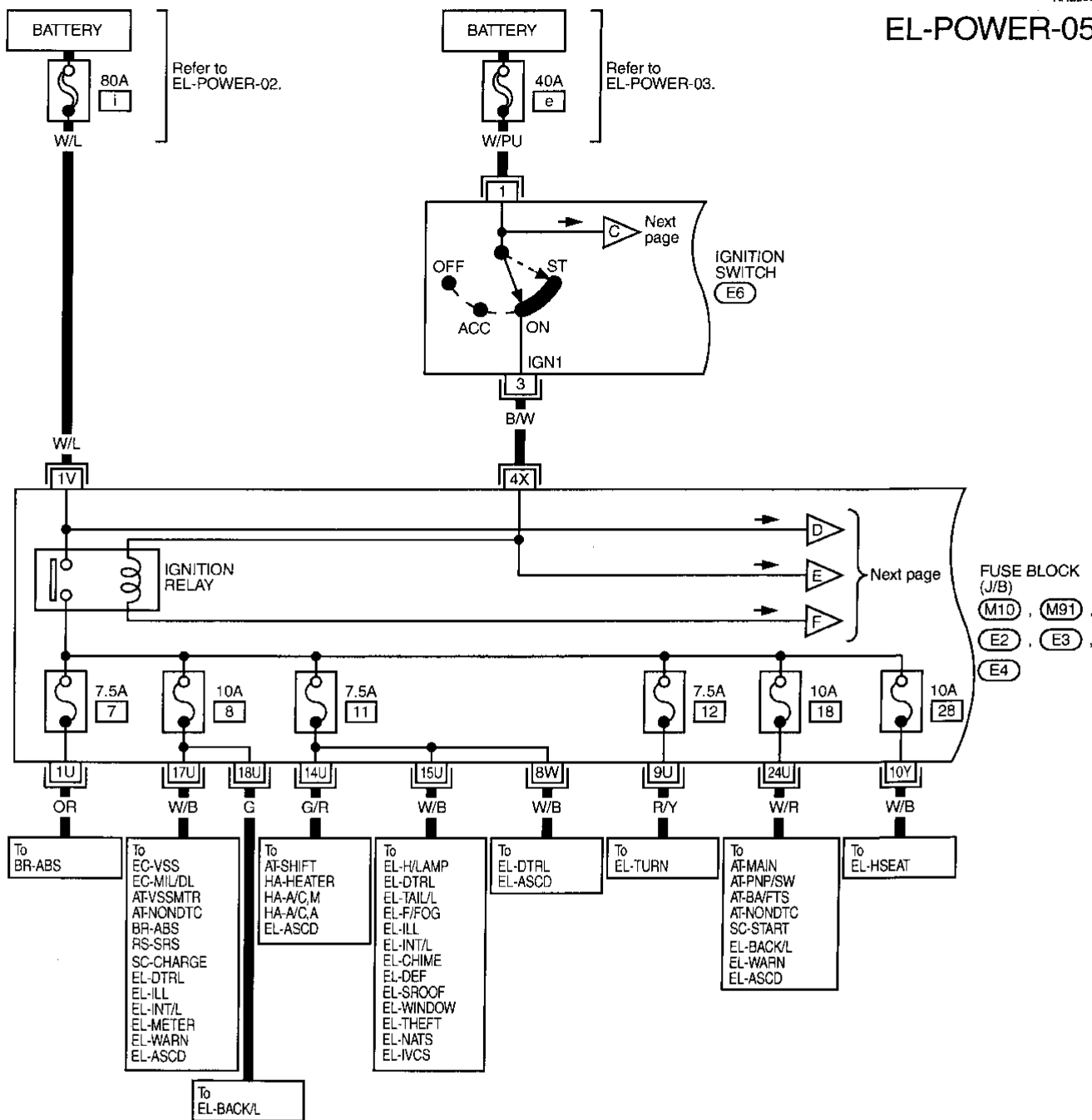
# POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

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

NAEL0006S03

EL-POWER-05

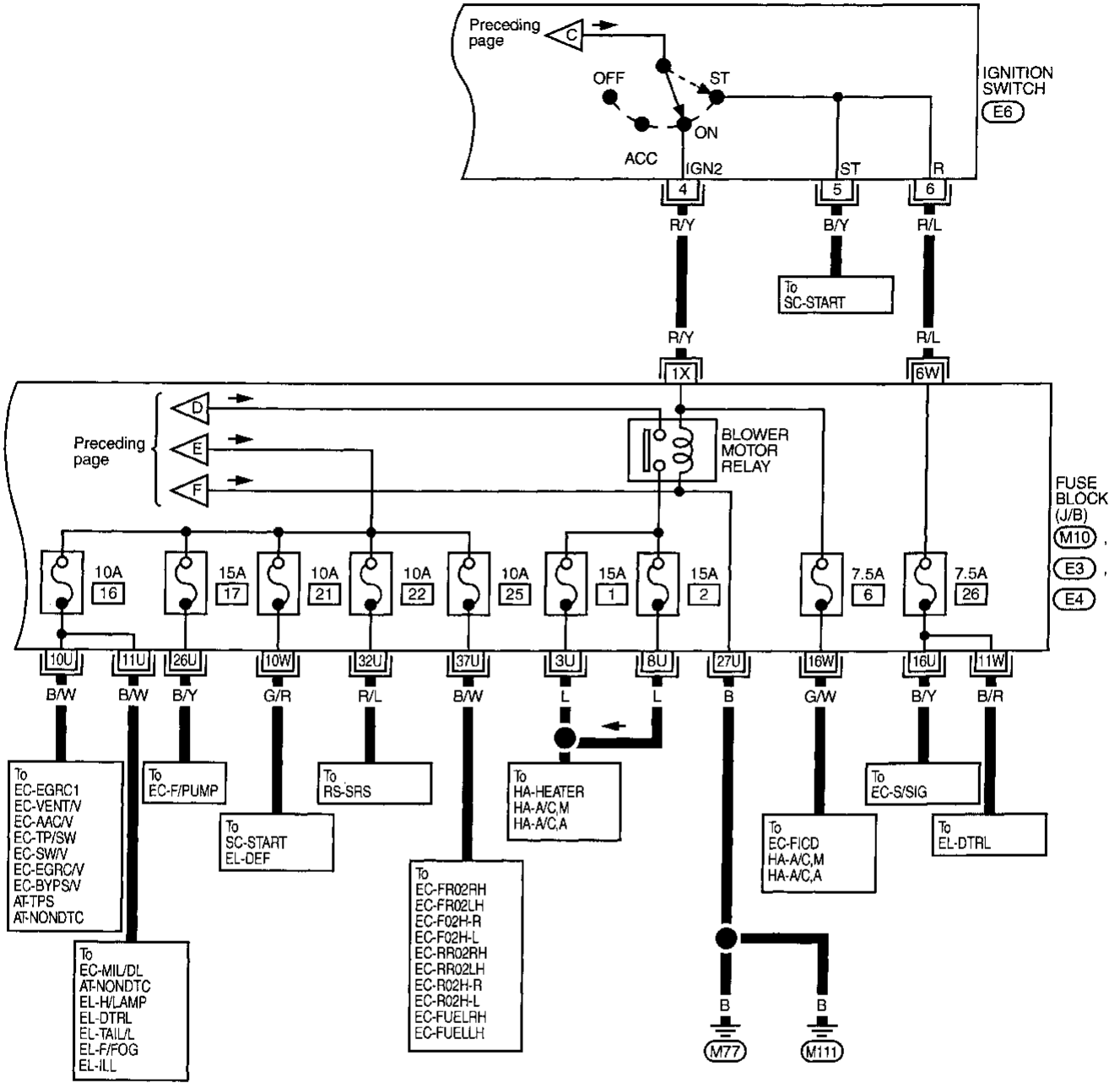


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# POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

## EL-POWER-06



3	5	1	E6 W
4	2	6	

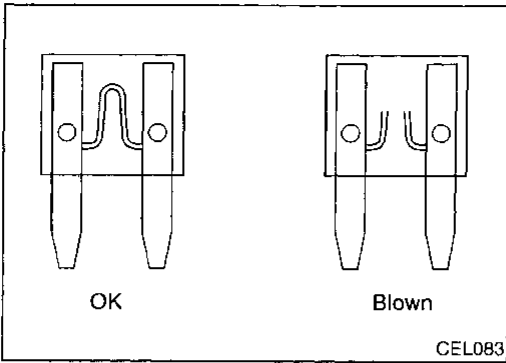
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M10, E3, E4				
1	2	4	5	
6	7	8	9	10
11	12	13	14	
16	17	18	19	20
21	22			
24	25	26		
	28	29		

GI  
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IDX

# POWER SUPPLY ROUTING

## Inspection



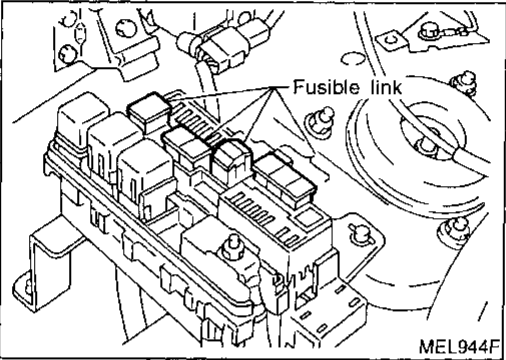
## Inspection

### FUSE

NAEL0007

NAEL0007S01

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



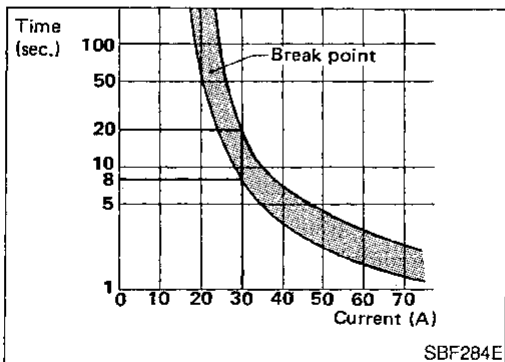
### FUSIBLE LINK

NAEL0007S02

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

#### CAUTION:

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



### CIRCUIT BREAKER

NAEL0007S03

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



# GROUND

Ground Distribution

## Ground Distribution

NAEL0008

EARTH	CONNECT TO	CONN. NO.	CELL CODE
M4/M66	AIR BAG DIAGNOSIS SENSOR UNIT	Z4	RS-SRS
	AIR MIX DOOR MOTOR	M55	HA-A/C, A
	ASCD CONTROL UNIT	M3	EL-ASCD
	ASCD MAIN SWITCH	M18	EL-ASCD
	CLUTCH INTERLOCK SWITCH	M28	SC-START
	COMBINATION FLASHER UNIT	M15	EL-TURN
	DOOR LOCK AND UNLOCK SWITCH RH	D38	EL-D/LOCK
	DOOR MIRROR DEFOGGER RH	D31	EL-DEF
	DOOR MIRROR REMOTE CONTROL SWITCH	M17	EL-MIRROR
	FRONT DOOR KEY CYLINDER SWITCH RH	D39	EL-D/LOCK EL-THEFT
	HEADLAMP BATTERY SAVER CONTROL UNIT	M115	EL-H/LAMP EL-DTRL EL-TAIL/L EL-F/FOG EL-ILL
	HEADLAMP BATTERY SAVER CONTROL UNIT	M116	EL-H/LAMP EL-DTRL EL-TAIL/L EL-F/FOG EL-ILL
	MODE DOOR MOTOR	M38	HA-A/C, A
	POWER ANTENNA	M69	EL-P/ANT
	POWER WINDOW RELAY	M23	EL-SROOF EL-WINDOW
	REAR WINDOW DEFOGGER SWITCH	M36	EL-DEF
	RECIRCULATION SWITCH	M42	HA-HEATER HA-A/C, M
	SHIELD WIRE (FRONT DOOR SPEAKER LH)	D12	EL-AUDIO
SHIELD WIRE (TWEETER LH)	M8	EL-AUDIO	
M77/M111	A/C AUTO AMP.	M102	HA-A/C, A
	A/C AUTO AMP.	M103	HA-A/C, A
	AUDIO AMP. RELAY	B47	EL-AUDIO
	CIGARETTE LIGHTER SOCKET	M56	EL-CIGAR
	COMBINATION METER (4WD)	M25	EL-WARN
	COMBINATION METER (ABS)	M25	BR-ABS EL-WARN
	COMBINATION METER (AIR BAG)	M24	RS-SRS EL-WARN
	COMBINATION METER (CRUISE INDICATOR LAMP)	M25	EL-WARN EL-ASCD
	COMBINATION METER (FUEL GAUGE)	M24	EL-METER
	COMBINATION METER (HIGH BEAM INDICATOR)	M25	EL-H/LAMP EL-DTRL
	COMBINATION METER (SPEEDOMETER)	M24	EC-VSS AT-VSSMTR EL-METER EL-ASCD
	COMBINATION METER (TURN SIGNAL)	M25	EL-TURN
	COMBINATION METER (WATER TEMPERATURE GAUGE)	M24	EL-METER
	COMPASS AND THERMOMETER	R4	EL-COMPAS
	COMPASS AND THERMOMETER (ILLUMINATION)	R4	EL-ILL

## GROUND

### Ground Distribution (Cont'd)

EARTH	CONNECT TO	CONN. NO.	CELL CODE
M77/M111	DATA LINK CONNECTOR FOR CONSULT	M11	EC-MIL/DL AT-NONDC TF-T/F
	DATA LINK CONNECTOR FOR GST	M9	EC-MIL/DL
	DOOR MIRROR DEFOGGER LH	D1	EL-DEF
	FAN CONTROL AMP.	M60	HA-A/C, A
	FAN SWITCH	M43	HA-HEATER HA-A/C, M
	FRONT DOOR KEY CYLINDER SWITCH LH	D9	EL-D/LOCK EL-THEFT
	FRONT DOOR LOCK ACTUATOR LH	D7	EL-INT/L EL-MULTI EL-THEFT
	FRONT DOOR LOCK ACTUATOR RH	D37	EL-THEFT
	FRONT DOOR SPEAKER LH	D12	EL-AUDIO
	FRONT DOOR SPEAKER RH	D42	EL-AUDIO
	FRONT WIPER AMP.	M79	EL-WIPER
	FRONT WIPER MOTOR	M78	EL-WIPER
	FUSE BLOCK (ACCESSORY RELAY, IGNITION RELAY AND BLOWER MOTOR RELAY)	M10	EL-POWER
	HEADLAMP BATTERY SAVER CONTROL UNIT	M115	EL-H/LAMP EL-DTRL EL-TAIL/L EL-F/FOG EL-ILL
	HEADLAMP BATTERY SAVER CONTROL UNIT	M116	EL-H/LAMP EL-DTRL EL-TAIL/L EL-F/FOG EL-ILL
	HEATED SEAT SWITCH LH	M52	EL-HSEAT
	HEATED SEAT SWITCH RH	M53	EL-HSEAT
	ILLUMINATION CONTROL SWITCH	M19	EL-ILL
	INTEGRATED HOMELINK <sup>®</sup> TRANSMITTER	R5	EL-TRNSMT
	INTAKE DOOR MOTOR	M138	HA-A/C, A
	IVCS SWITCH	R10	EL-IVCS
	POWER WINDOW MAIN SWITCH	D6	EL-WINDOW
	POWER WINDOW MAIN SWITCH (DOOR LOCK AND UNLOCK SWITCH LH)	D6	EL-D/LOCK EL-MULTI
	SHIELD WIRE (FRONT DOOR SPEAKER LH)	D12	EL-AUDIO
	SHIELD WIRE (FRONT DOOR SPEAKER RH)	D42	EL-AUDIO
	SHIELD WIRE (TWEETER RH)	M64	EL-AUDIO
	SMART ENTRANCE CONTROL UNIT	M121	EL-H/LAMP EL-DTRL EL-TAIL/L EL-F/FOG EL-ILL EL-INT/L EL-CHIME EL-DEF EL-SROOF EL-WINDOW EL-D/LOCK EL-MULTI EL-THEFT EL-TRNSMT
SPOT LAMP	R6	EL-INT/L	
VANITY MIRROR LH (ILLUMINATION)	R5	EL-INT/L	
VANITY MIRROR RH (ILLUMINATION)	R3	EL-INT/L	
E13/E41	AMBIENT AIR TEMPERATURE SWITCH	E34	EC-FICD HA-A/C, A HA-A/C, M
	ASCD HOLD RELAY	E22 E27	EL-ASCD

# GROUND

Ground Distribution (Cont'd)

EARTH	CONNECT TO	CONN. NO.	CELL CODE	
E13/E41	ATP RELAY	E24	EL-WARN	GI
	BRAKE FLUID LEVEL SWITCH	E28	EL-WARN	MA
	COMBINATION SWITCH (FRONT FOG LAMP SWITCH)	E63	EL-F/FOG	EM
	COMBINATION SWITCH (FRONT WIPER SWITCH)	E9	EL-WIPER	LC
	COMBINATION SWITCH (LIGHTING SWITCH)	E7	EL-H/LAMP EL-DTRL EL-TAIL/L EL-F/FOG EL-ILL EL-CHIME	EC
	COMBINATION SWITCH (REAR WIPER SWITCH)	E114	EL-WIP/R	EC
	DAYTIME LIGHT CONTROL UNIT	E45	EL-DTRL EL-THEFT	FE
	FRONT FOG LAMP LH	E61	EL-F/FOG	CL
	FRONT FOG LAMP RH	E62	EL-F/FOG	MT
	FRONT TURN SIGNAL LAMP LH	E12	EL-TURN	AT
	FRONT TURN SIGNAL LAMP RH	E40	EL-TURN	TF
	FRONT WASHER MOTOR	E44	EL-WIPER	PD
	HEADLAMP LH	E29	EL-H/LAMP EL-THEFT	AX
	HEADLAMP RH	E38	EL-H/LAMP EL-DTRL EL-THEFT	SU
	HOOD SWITCH	E31	EL-THEFT	BR
	PARKING LAMP LH	E12	EL-TAIL/L	ST
	PARKING LAMP RH	E40	EL-TAIL/L	RS
	REAR WASHER MOTOR	E43	EL-WIP/R	
THEFT WARNING HORN RELAY	E23	EL-THEFT		
WASHER LEVEL SWITCH	E42	EL-WARN		
E101	ALTERNATOR	E105	SC-CHARGE	
	POWER STEERING OIL PRESSURE SWITCH	E110	EC-PST/SW	
E112	ABS ACTUATOR AND ELECTRIC UNIT	E111	BR-ABS	
	SHIELD WIRE (FRONT WHEEL SENSOR LH)	E14	BR-ABS	
	SHIELD WIRE (FRONT WHEEL SENSOR RH)	E51	BR-ABS	
	SHIELD WIRE (REAR WHEEL SENSOR LH)	B8	BR-ABS	
	SHIELD WIRE (REAR WHEEL SENSOR RH)	B69	BR-ABS	
F20/F25	DATA LINK CONNECTOR FOR GST	M9	EC-MIL/DL	
	DISTRIBUTOR (CAMSHAFT POSITION SENSOR)	F7	EC-CMPS	
	DISTRIBUTOR (IGNITION)	F7	EC-IGN/SG	
	ECM	F24	EC-MAIN	
	NATS IMMU	E113	EL-NATS	
	REAR HEATED OXYGEN SENSOR LH	F3	EC-RR02LH EC-RO2H-L	
	REAR HEATED OXYGEN SENSOR RH	F1	EC-RR02RH EC-RO2H-R	
	SHIELD WIRE (ABSOLUTE PRESSURE SENSOR)	E88	EC-AP/SEN	

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FE  
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AT  
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AX  
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BR  
ST  
RS  
BT  
HA  
SC  
EL

IDX

# GROUND

## Ground Distribution (Cont'd)

EARTH	CONNECT TO	CONN. NO.	CELL CODE
F20/F25	SHIELD WIRE [CRANKSHAFT POSITION SENSOR (OBD)]	F110	EC-CKPS
	SHIELD WIRE [DISTRIBUTOR (CAMSHAFT POSITION SENSOR)]	F7	EC-CMPS
	SHIELD WIRE (EVAP CONTROL SYSTEM PRESSURE SENSOR)	B102	EC-PRE/SE
	SHIELD WIRE (FRONT HEATED OXYGEN SENSOR LH)	F4	EC-FRO2LH EC-FO2H-L EC-FUELLH
	SHIELD WIRE (FRONT HEATED OXYGEN SENSOR RH)	F2	EC-FRO2RH EC-FO2H-R EC-FUELRH
	SHIELD WIRE (KNOCK SENSOR)	F102	EC-KS
	SHIELD WIRE (MASS AIR FLOW SENSOR)	F10	EC-MAFS
	SHIELD WIRE (REAR HEATED OXYGEN SENSOR LH)	F3	EC-RRO2LH EC-RO2H-L
	SHIELD WIRE (REAR HEATED OXYGEN SENSOR RH)	F1	EC-RRO2RH EC-RO2H-R
	SHIELD WIRE (THROTTLE POSITION SENSOR)	F8	EC-TPS AT-TPS
	TCM (TRANSMISSION CONTROL MODULE)	M120	AT-MAIN
B11/B22/D210	BACK DOOR HANDLE SWITCH	D213	EL-IVCS
	BACK DOOR LOCK ACTUATOR	D207	EL-THEFT
	BACK DOOR KEY CYLINDER SWITCH	D201	EL-D/LOCK EL-THEFT
	BACK DOOR SWITCH	D208	EL-INT/L EL-D/LOCK EL-MULTI EL-THEFT
	DOOR MIRROR DEFOGGER RELAY	B112	EL-DEF
	FUEL PUMP	B13	EC-F/PUMP
	FUEL TANK GAUGE UNIT	B12	EC-TFTS EL-METER EL-WARN
	FRONT DOOR SWITCH LH	B9	RS-SRS EL-H/LAMP EL-DTRL EL-TAIL/L EL-F/FOG EL-ILL EL-INT/L EL-CHIME EL-SROOF EL-WINDOW EL-D/LOCK EL-MULTI EL-THEFT
	GLASS HATCH SWITCH	D209	EL-INT/L EL-WIP/R EL-THEFT
	HEATED SEAT LH	B5	EL-HSEAT
	IVCS UNIT	B114	EL-IVCS
	HIGH-MOUNTED STOP LAMP	D302	EL-STOP/L
	LICENSE PLATE LAMP	D202 D203	EL-TAIL/L
	LUGGAGE ROOM LAMP	D103	EL-INT/L
	POWER SEAT LH	B7	EL-SEAT
	POWER SOCKET	B4	EL-CIGAR
	POWER SOCKET RELAY	B111	EL-CIGAR
	REAR COMBINATION LAMP LH (BACK-UP LAMP LH)	B26	EL-BACK/L
	REAR COMBINATION LAMP LH (STOP LAMP LH)	B26	EL-TAIL/L EL-STOP/L
	REAR COMBINATION LAMP LH (TAIL LAMP LH)	B26	EL-TAIL/L EL-STOP/L

# GROUND

*Ground Distribution (Cont'd)*

EARTH	CONNECT TO	CONN. NO.	CELL CODE	
B11/B22/D210	REAR COMBINATION LAMP LH (TURN SIGNAL LAMP LH)	B26	EL-TURN	GI
	REAR WIPER AMP.	B14	EL-WIP/R	MA
	REAR DOOR LOCK ACTUATOR LH	D54	EL-THEFT	EM
	REAR WIPER MOTOR	D212	EL-WIP/R	
	REAR SPEAKER AMP.	B46	EL-AUDIO	LC
	SEAT BELT BUCKLE SWITCH	B6	RS-SRS EL-WARN EL-CHIME	
B55/B75	A/T DEVICE (PARK POSITION SWITCH and OVER-DRIVE CONTROL SWITCH)	B59	AT-NONDTC AT-SHIFT	EC
	ASHTRAY ILLUMINATION	B60 B76	EL-ILL	FE
	HEATED SEAT RH	B56	EL-HSEAT	
	NEUTRAL POSITION SWITCH	B203 B207	EC-PNP/SW	CL
	PARK/NEUTRAL POSITION SWITCH	B66	EC-PNP/SW SC-START EL-ASCD	
	POWER SEAT RH	B57	EL-SEAT	MT
	REAR COMBINATION LAMP RH (BACK-UP LAMP RH)	B74	EL-BACK/L	
	REAR COMBINATION LAMP RH (STOP LAMP RH)	B74	EL-TAIL/L EL-STOP/L	AT
	REAR COMBINATION LAMP RH (TAIL LAMP RH)	B74	EL-TAIL/L EL-STOP/L	
	REAR COMBINATION LAMP RH (TURN SIGNAL LAMP RH)	B74	EL-TURN	TF
	REAR DOOR LOCK ACTUATOR RH	D74	EL-THEFT	PD
	TIRE CARRIER SWITCH	B301	EL-WARN	
B108	SHIELD WIRE (SATELLITE SENSOR LH)	B107	RS-SRS	AX
B122	SHIELD WIRE (AIR BAG DIAGNOSIS SENSOR UNIT)	B121	RS-SRS	
B127	SHIELD WIRE (SATELLITE SENSOR RH)	B128	RS-SRS	SU
D305	REAR WINDOW DEFOGGER	D304	EL-DEF	

BR

ST

RS

BT

HA

SC

**EL**

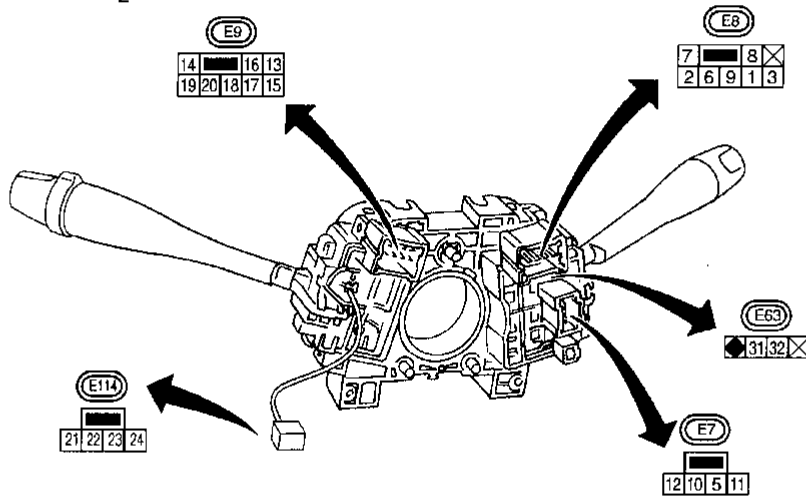
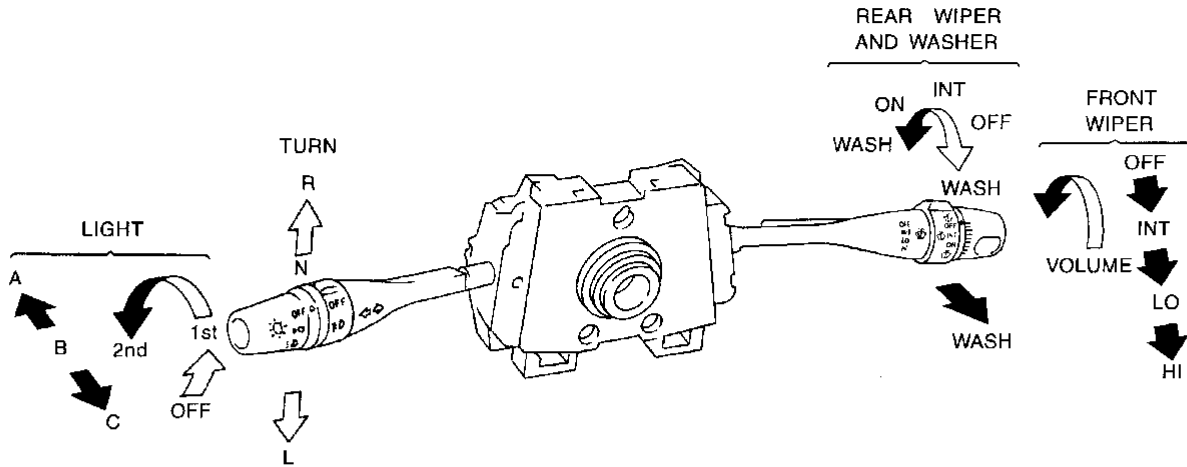
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# COMBINATION SWITCH

Check

## Check

NAEL0009

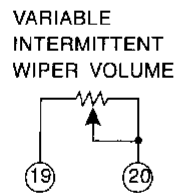


**LIGHTING SWITCH**

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

**FRONT WIPER SWITCH**

	OFF	INT	LO	HI	WASH
13					
14					
15					
16					
17					
18					



**FOG LAMP SWITCH**

	OFF	ON
31		
32		

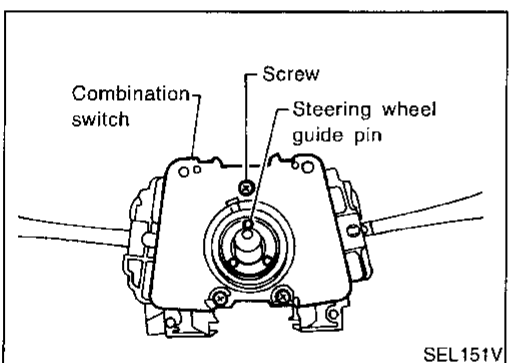
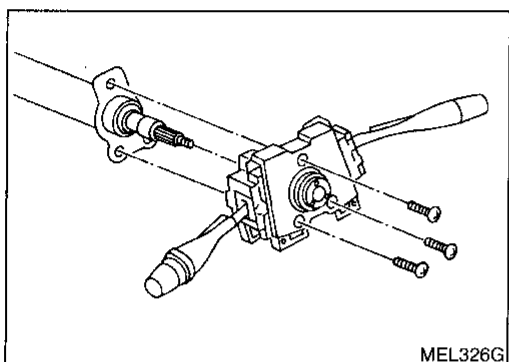
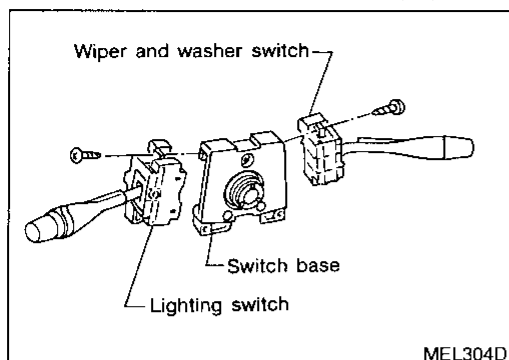
**TURN SIGNAL SWITCH**

	L	N	R
1			
2			
3			

**REAR WIPER SWITCH**

	WASH	OFF	INT	ON	WASH
21					
22					
23					
24					

MEL888J



## Replacement

For removal and installation of spiral cable, refer to RS section <sup>NAEL0010</sup> ["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.

GI

MA

EM

LC

EC

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CL

MT

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PD

AX

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**EL**

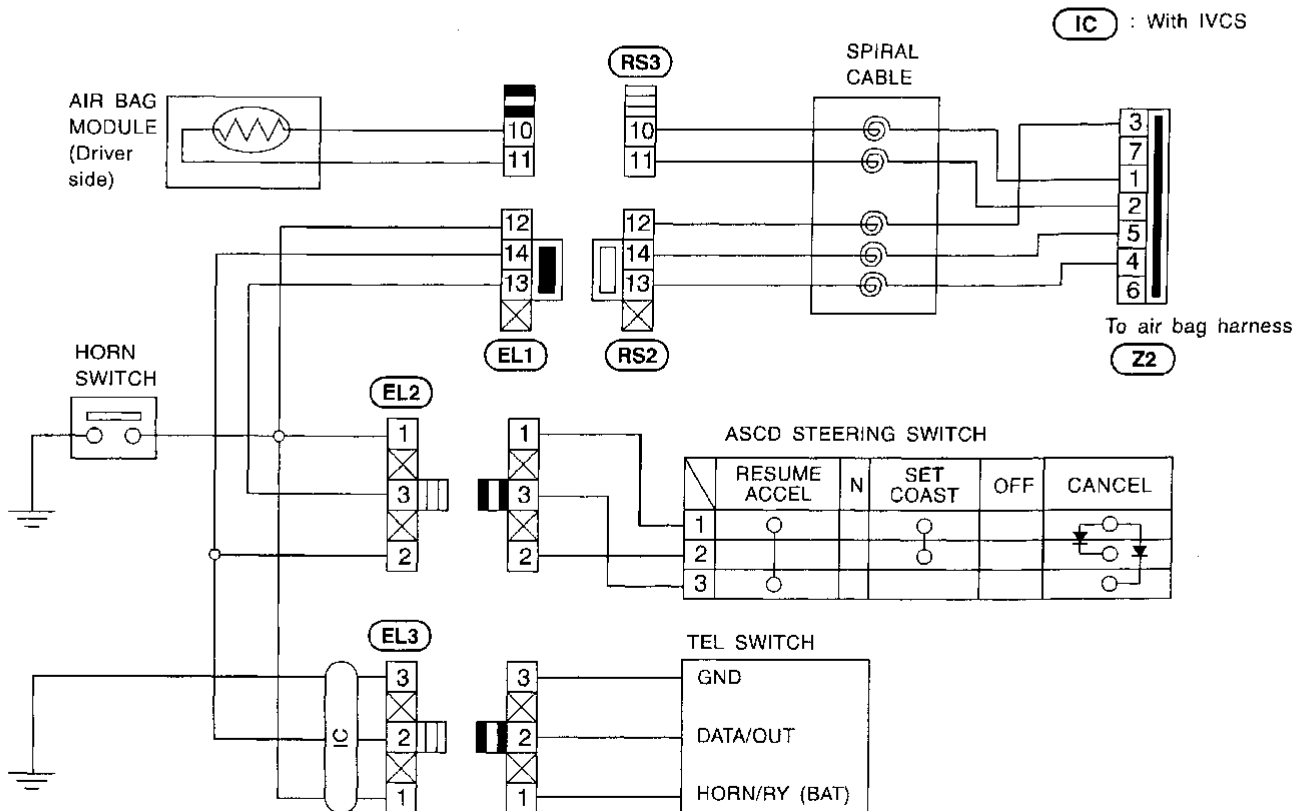
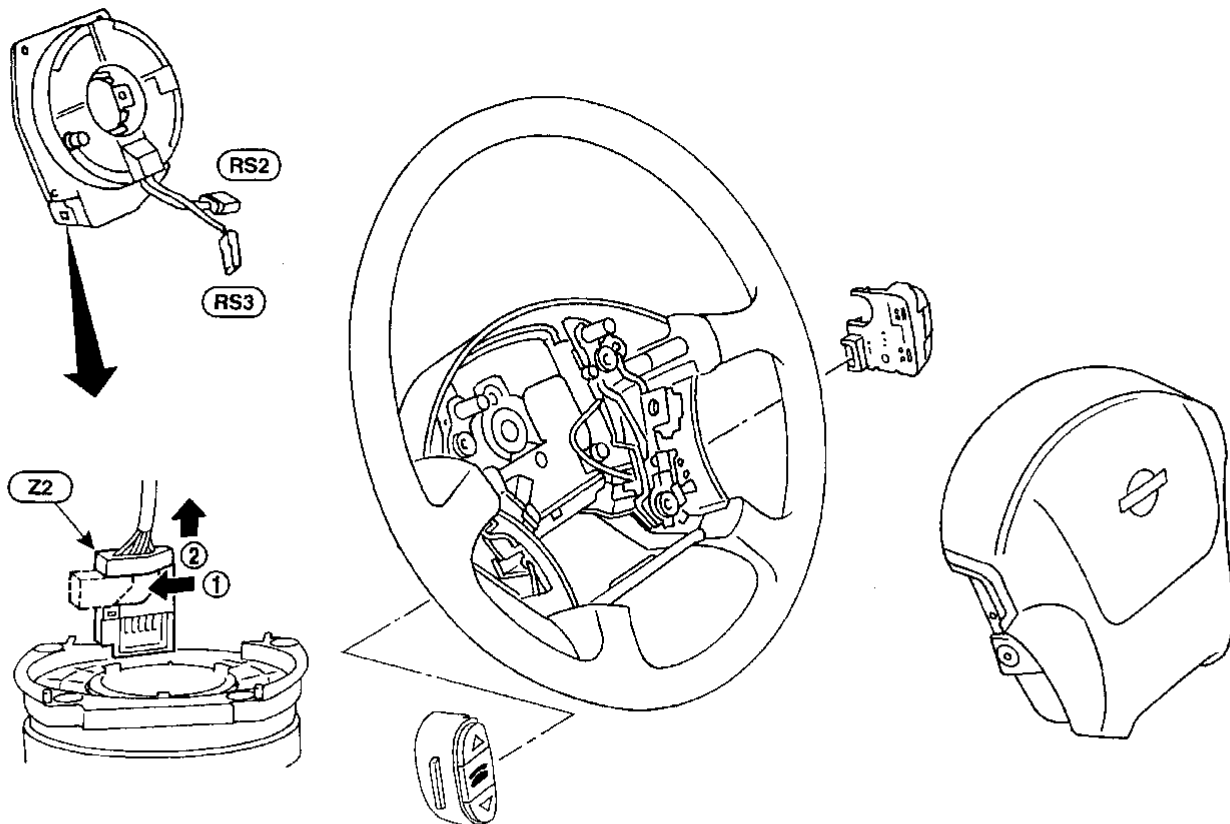
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# STEERING SWITCH

Check

## Check

NAEL0011



MEL889J

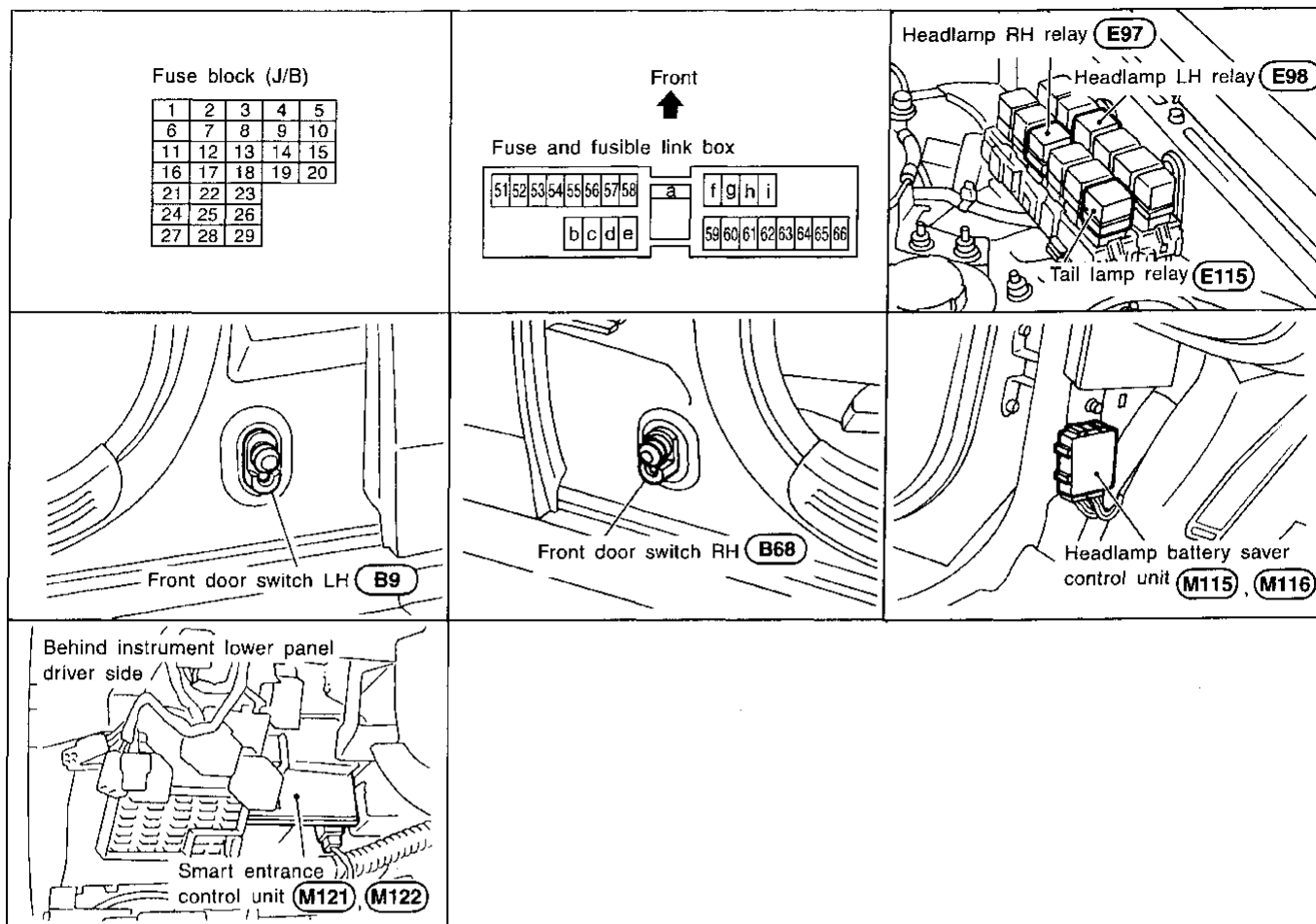


# HEADLAMP (FOR USA)

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0159



SEL044W

### System Description

NAEL0012

The headlamp operation is controlled by the lighting switch which is built into the combination switch and headlamp battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.

#### OUTLINE

Power is supplied at all times

- to headlamp LH relay terminals 2 and 3
- through 15A fuse (No. 60, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 2 and 3
- through 15A fuse (No. 59, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 7.5A fuse [No. 24, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 7.5A fuse [No. 11, located in the fuse block (J/B)]

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

NAEL0012S04

GI

MA

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PD

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

# HEADLAMP (FOR USA)

System Description (Cont'd)

## When Ignition Switch is in ON or START Position

NAEL0012S0401

Ground is supplied

- to headlamp LH relay terminal 1 from headlamp battery saver control unit terminal 2
- through headlamp battery saver control unit terminal 3, and
- through body grounds M4 and M66, and
- to headlamp RH relay terminal 1 from headlamp battery saver control unit terminal 8
- through headlamp battery saver control unit terminal 9, and
- through body grounds M77 and M111.

Headlamp relays (LH and RH) are then energized.

## When Ignition Switch is in OFF or ACC Position

NAEL0012S0402

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

And then, ground is also supplied to headlamp LH and RH relays terminal 1 from headlamp battery saver control unit. Headlamp relays (LH and RH) are then energized.

## LOW BEAM OPERATION

NAEL0012S01

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

- from lighting switch terminal 10
- to terminal 2 of the LH headlamp, and
- from lighting switch terminal 7
- to terminal 2 of the RH headlamp.

Terminal 3 of each headlamp supplies ground through body grounds E13 and E41.

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

## HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

NAEL0012S02

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

- from lighting switch terminal 6
- to terminal 1 of the RH headlamp, and
- from lighting switch terminal 9
- to terminal 1 of the LH headlamp, and
- to combination meter terminal 33 for the high beam indicator.

Ground is supplied to terminal 19 of the combination meter through body grounds M77 and M111.

Terminal 3 of each headlamp supplies ground through body grounds E13 and E41.

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

## BATTERY SAVER CONTROL

NAEL0012S05

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps illuminate, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 1 of the headlamp LH and RH relay from headlamp battery saver control unit terminals 2 and 8 is terminated.

Then the headlamps are turned off.

The headlamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supplied

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to headlamp LH and RH relays terminal 1 from headlamp battery saver control unit terminals 2 and 8.

Then headlamps illuminate again.

# HEADLAMP (FOR USA)

System Description (Cont'd)

## THEFT WARNING SYSTEM

The theft warning system will flash the high beams if the system is triggered. Refer to "THEFT WARNING SYSTEM" (EL-229).

NAEL0012S03

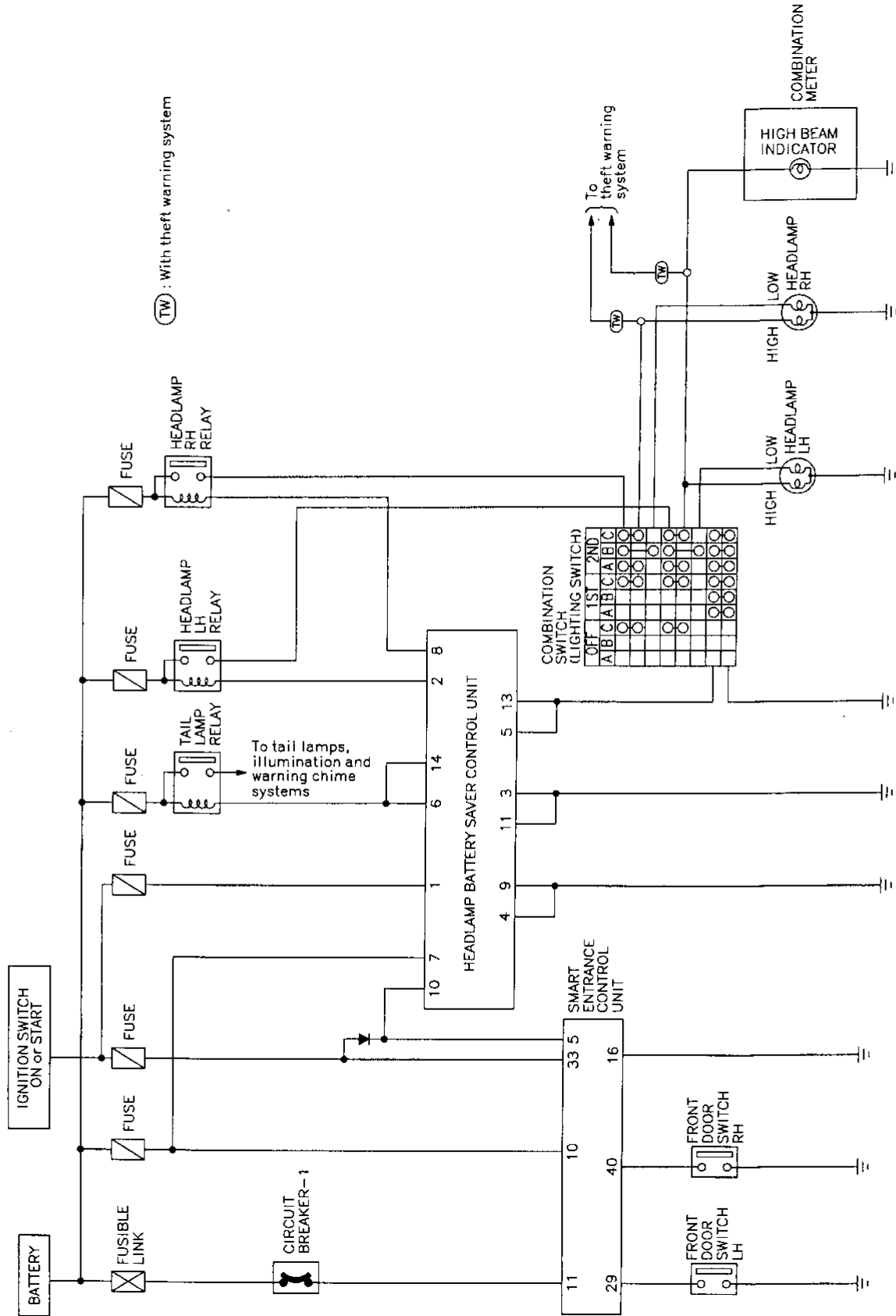
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- LC
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- AT
- TF
- PD
- AX
- SU
- BR
- ST
- RS
- BT
- HA
- SC
- EL**
- IDX

# HEADLAMP (FOR USA)

Schematic

## Schematic

NAEL0160



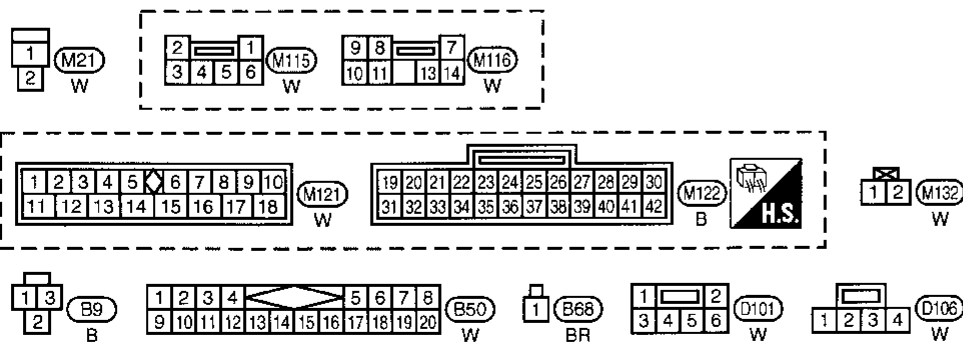
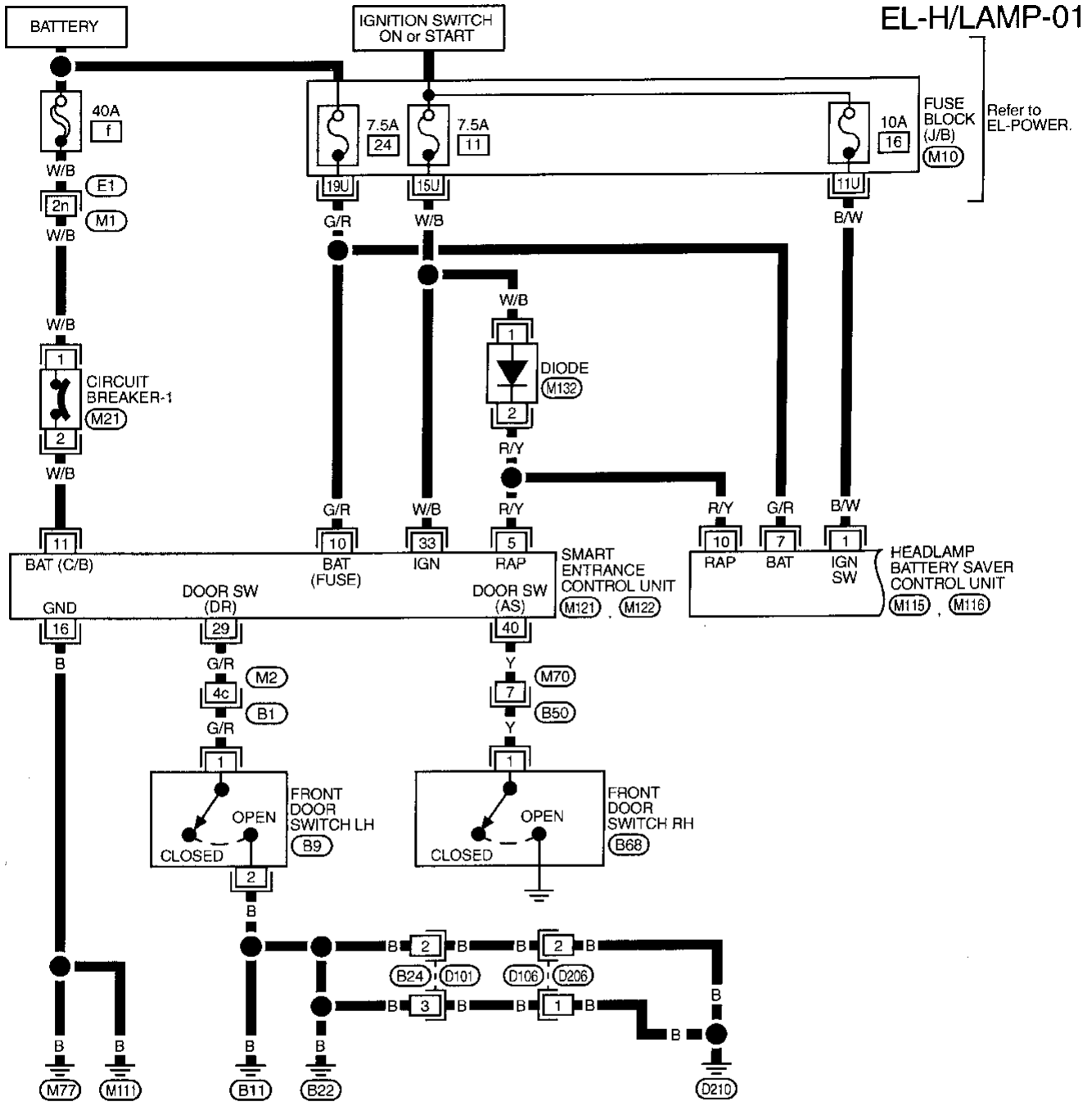
MEL010K

# HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP —

## Wiring Diagram — H/LAMP —

NAEL0013



Refer to last page (Foldout page).

- (M1), (E1)
- (M2), (B1)
- (M10)

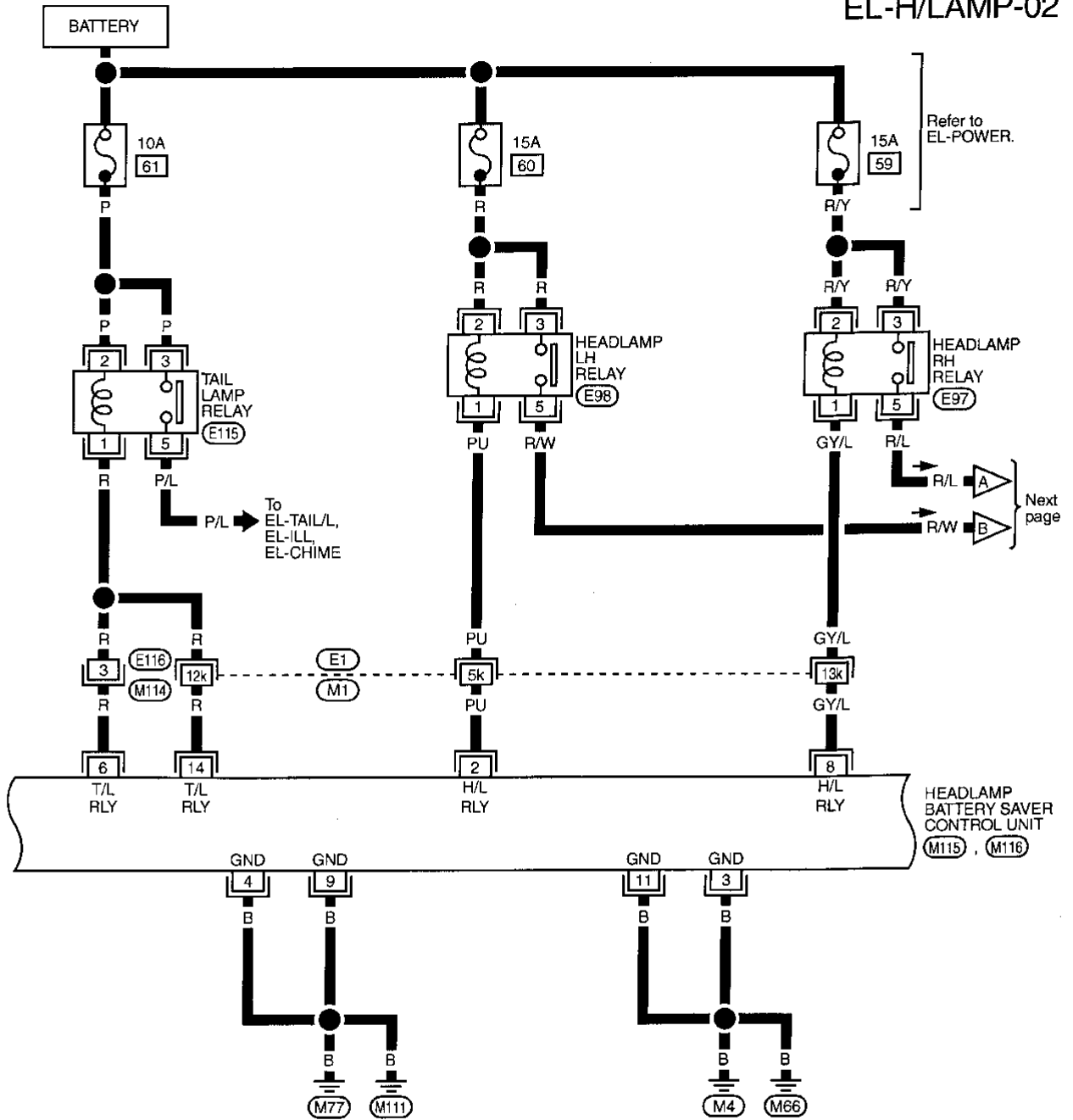
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EM  
LC  
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FE  
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SU  
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BT  
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IDX

MEL011K

# HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-02

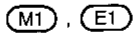
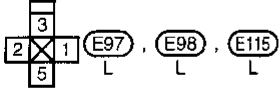
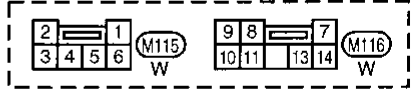
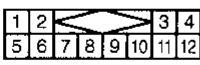


Refer to EL-POWER.

Next page

HEADLAMP BATTERY SAVER CONTROL UNIT (M115), (M116)

Refer to last page (Foldout page).

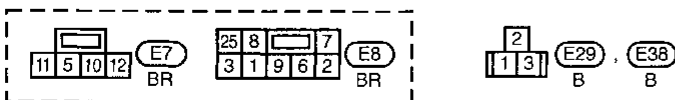
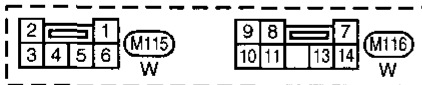
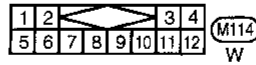
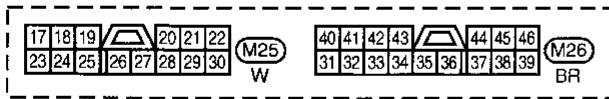
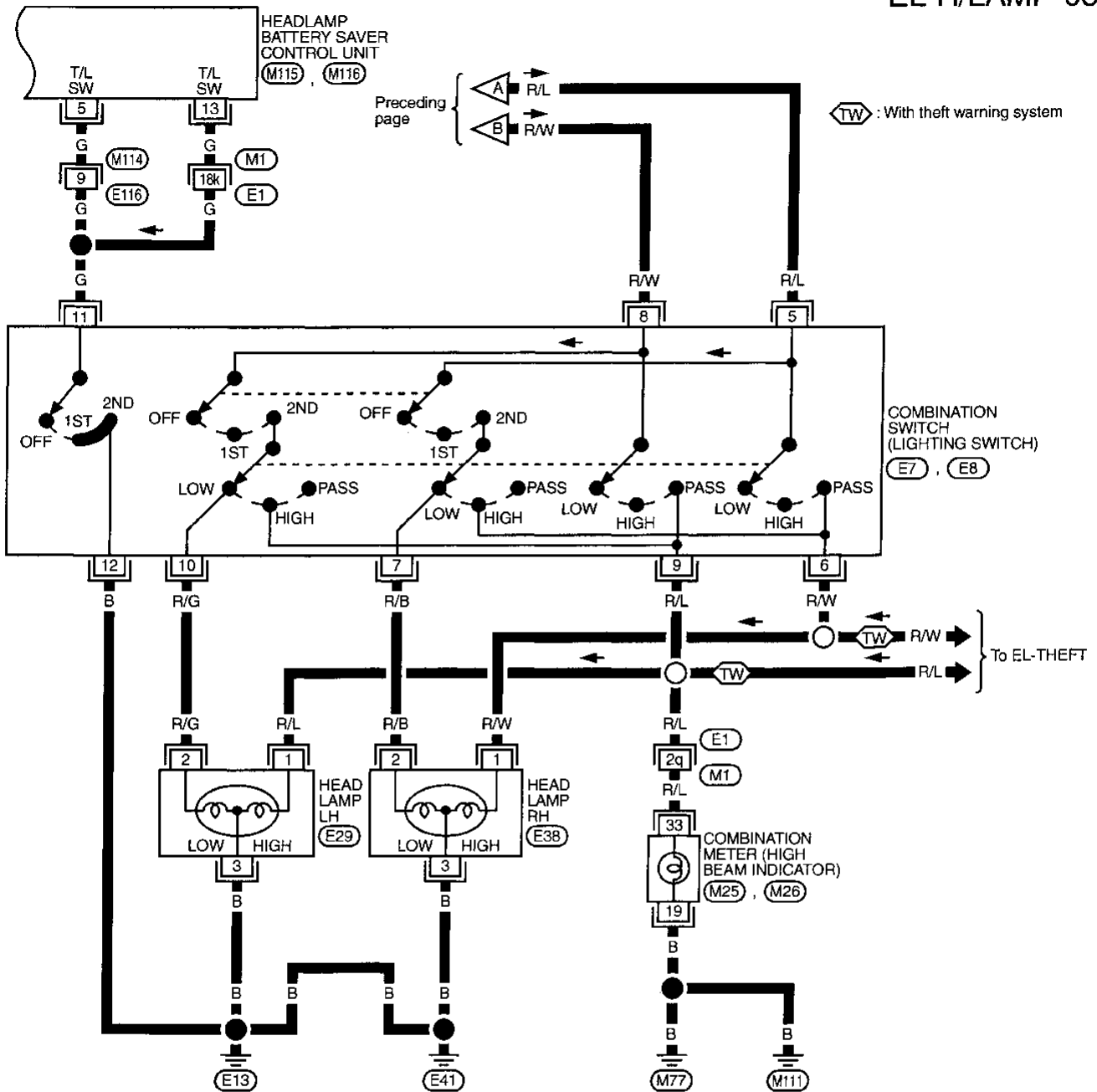


MEL915J

# HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-03



Refer to last page (Foldout page).

(M1), (E1)

MEL916J

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# HEADLAMP (FOR USA)

Trouble Diagnoses

## Trouble Diagnoses

NAEL0014

Symptom	Possible cause	Repair order
Neither headlamp operates.	<ol style="list-style-type: none"> <li>1. 7.5A fuse</li> <li>2. Lighting switch</li> <li>3. Headlamp battery saver control unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check 7.5A fuse [No. 24, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit.</li> <li>2. Check Lighting switch.</li> <li>3. Check headlamp battery saver control unit.</li> </ol>
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. LH headlamp ground circuit</li> <li>3. 15A fuse</li> <li>4. Headlamp LH relay</li> <li>5. Headlamp LH relay circuit</li> <li>6. Lighting switch</li> <li>7. Headlamp battery saver control unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check harness between LH headlamp and ground.</li> <li>3. Check 15A fuse (No. 60, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 2 and 3 of headlamp LH relay.</li> <li>4. Check headlamp LH relay.</li> <li>5. Check harness between headlamp LH relay and lighting switch. Check harness between headlamp LH relay and headlamp battery saver control unit.</li> <li>6. Check lighting switch.</li> <li>7. Check headlamp battery saver control unit.</li> </ol>
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. RH headlamp ground circuit</li> <li>3. 15A fuse</li> <li>4. Headlamp RH relay</li> <li>5. Headlamp RH relay circuit</li> <li>6. Lighting switch</li> <li>7. Headlamp battery saver control unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check harness between RH headlamp and ground.</li> <li>3. Check 15A fuse (No. 59, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 2 and 3 of headlamp RH relay.</li> <li>4. Check headlamp RH relay.</li> <li>5. Check harness between headlamp RH relay and lighting switch. Check harness between headlamp RH relay and headlamp battery saver control unit.</li> <li>6. Check lighting switch.</li> <li>7. Check headlamp battery saver control unit.</li> </ol>
LH high beam does not operate, but LH low beam does operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Open in LH high beams circuit</li> <li>3. Lighting switch</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check R/L wire between lighting switch and LH headlamp for an open circuit.</li> <li>3. Check lighting switch.</li> </ol>
LH low beam does not operate, but LH high beam does operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Open in LH low beams circuit</li> <li>3. Lighting switch</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check R/G wire between lighting switch and LH headlamp for an open circuit.</li> <li>3. Check lighting switch.</li> </ol>
RH high beam does not operate, but RH low beam does operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Open in RH high beams circuit</li> <li>3. Lighting switch</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check R/W wire between lighting switch and RH headlamp for an open circuit.</li> <li>3. Check lighting switch.</li> </ol>
RH low beam does not operate, but RH high beam does operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Open in RH low beams circuit</li> <li>3. Lighting switch</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check R/B wire between lighting switch and RH headlamp for an open circuit.</li> <li>3. Check lighting switch.</li> </ol>
High beam indicator does not work.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Ground circuit</li> <li>3. Open in high beam circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb in combination meter.</li> <li>2. Check harness between high beam indicator and ground.</li> <li>3. Check R/L wire between lighting switch and combination meter for an open circuit.</li> </ol>



# HEADLAMP (FOR USA)

*Trouble Diagnoses (Cont'd)*

Symptom	Possible cause	Repair order
Battery saver control does not operate properly.	<ol style="list-style-type: none"> <li>1. RAP signal circuit</li> <li>2. Driver or passenger side door switch circuit</li> <li>3. Lighting switch circuit</li> <li>4. Headlamp battery saver control unit</li> <li>5. Smart entrance control unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check harness between headlamp battery saver control unit terminal 10 and smart entrance control unit terminal 5 for open or short circuit.</li> <li>2. Check harness between smart entrance control unit and driver or passenger side door switch for open or short circuit. Check driver or passenger side door switch ground circuit. Check driver or passenger side door switch.</li> <li>3. Check harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. Check harness between lighting switch terminal 12 and ground. Check lighting switch.</li> <li>4. Check headlamp battery saver control unit.</li> <li>5. Check smart entrance control unit. (EL-256)</li> </ol>

## BATTERY SAVER CONTROL UNIT INSPECTION TABLE

NAEL0014S01

Terminal No.	Item	Condition	Voltage (Approximate value)	
1	Ignition ON power supply	Ignition switch	OFF or ACC	Less than 1V
			ON or START	Battery voltage
2	Headlamp LH relay	Ignition switch (with lighting switch OFF)	OFF or ACC	Battery voltage
			ON or START	Less than 1V
		Lighting switch (with ignition switch OFF)	OFF	Battery voltage
			1ST or 2ND	Less than 1V
3	Ground	—	—	
4	Ground	—	—	
5	Tail lamp switch	Lighting switch	OFF	Battery voltage
			1ST or 2ND	Less than 1V
6	Tail lamp relay	Ignition switch (with lighting switch OFF)	OFF or ACC	Battery voltage
			ON or START	Less than 1V
		Lighting switch (with ignition switch OFF)	OFF	Battery voltage
			1ST or 2ND	Less than 1V
7	Power supply	—	Battery voltage	
8	Headlamp RH relay	Ignition switch (with lighting switch OFF)	OFF or ACC	Battery voltage
			ON or START	Less than 1V
		Lighting switch (with ignition switch OFF)	OFF	Battery voltage
			1ST or 2ND	Less than 1V
9	Ground	—	—	

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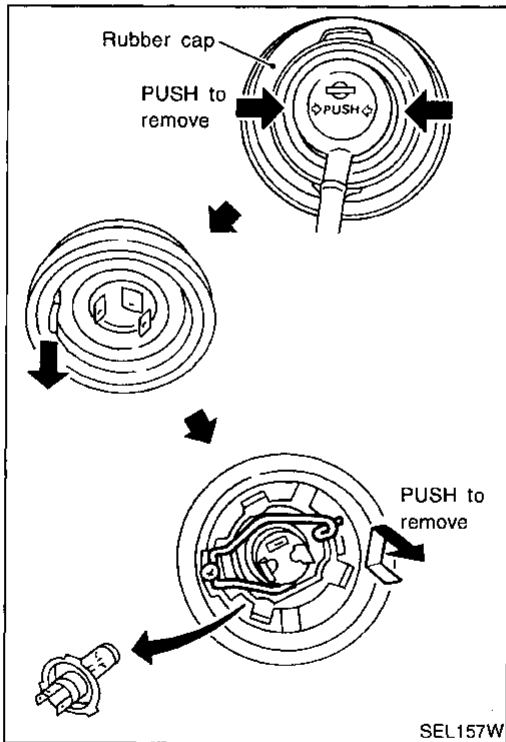
EL

IDX

# HEADLAMP (FOR USA)

## Trouble Diagnoses (Cont'd)

Terminal No.	Item	Condition		Voltage (Approximate value)
10	RAP signal	Ignition switch	OFF or ACC (After more than 45 seconds with ignition switch turned OFF or ACC)	Less than 1V
			ON or START	Battery voltage
11	Ground	—		—
13	Tail lamp switch	Lighting switch	OFF	Battery voltage
			1ST or 2ND	Less than 1V
14	Tail lamp relay	Ignition switch (with lighting switch OFF)	OFF or ACC	Battery voltage
			ON or START	Less than 1V
		Lighting switch (with ignition switch OFF)	OFF	Battery voltage
			1ST or 2ND	Less than 1V



## Bulb Replacement

NAEL0015

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. Pull off the rubber cap.
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

NAEL0016

Before performing aiming adjustment, check the following.

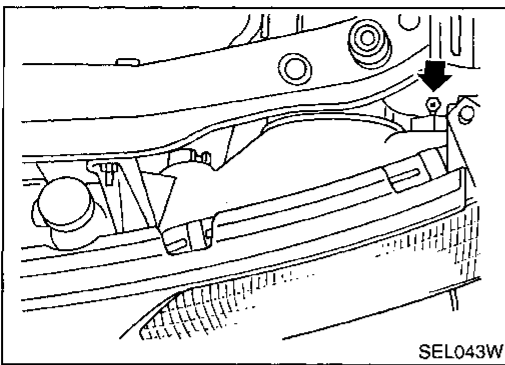
**For details, refer to the regulations in your own country.**

- 1) Keep all tires inflated to correct pressures.
- 2) Place vehicle 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).

# HEADLAMP (FOR USA)

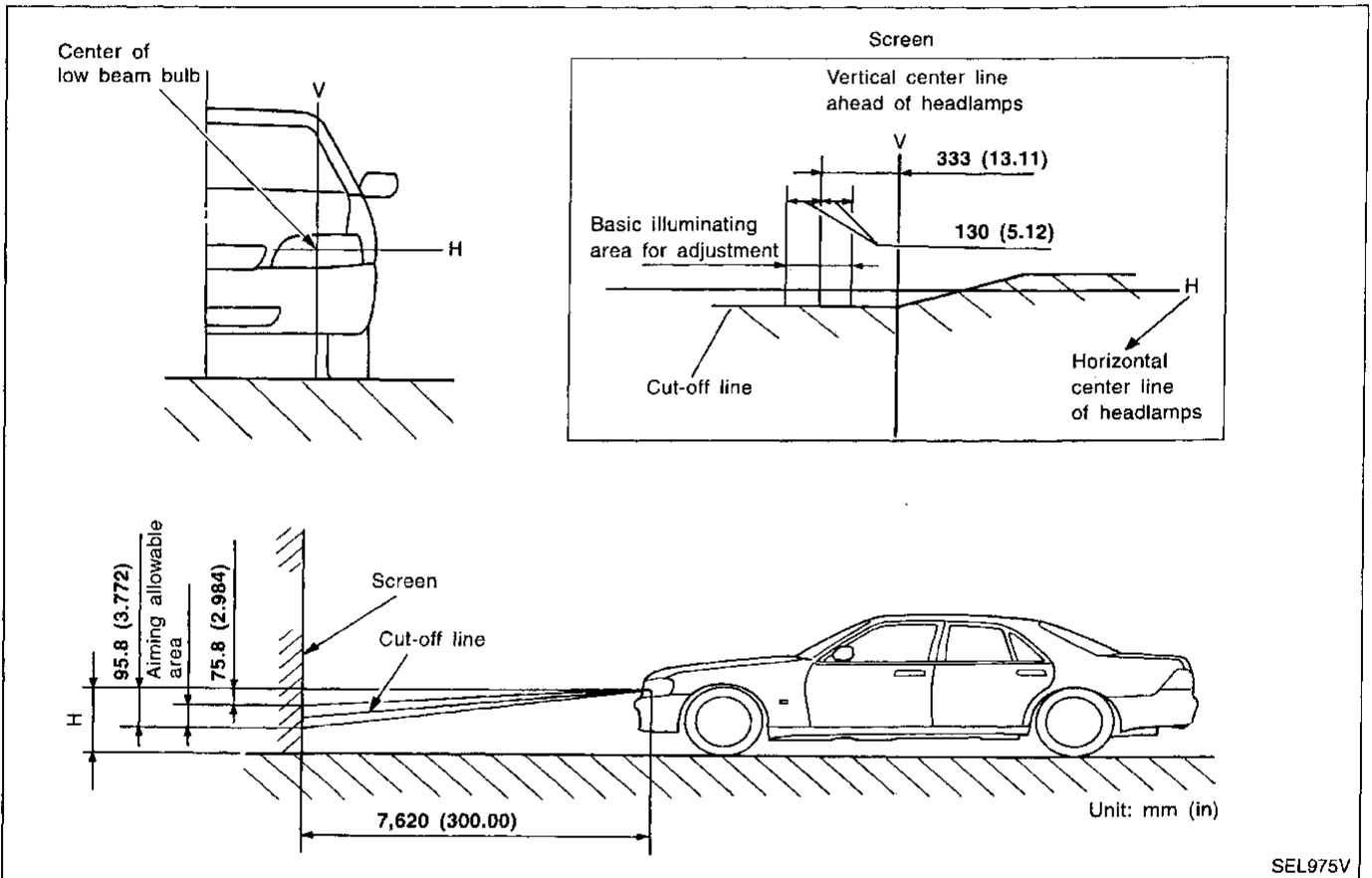
Aiming Adjustment (Cont'd)

NAEL0016S02



## LOW BEAM

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



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.**

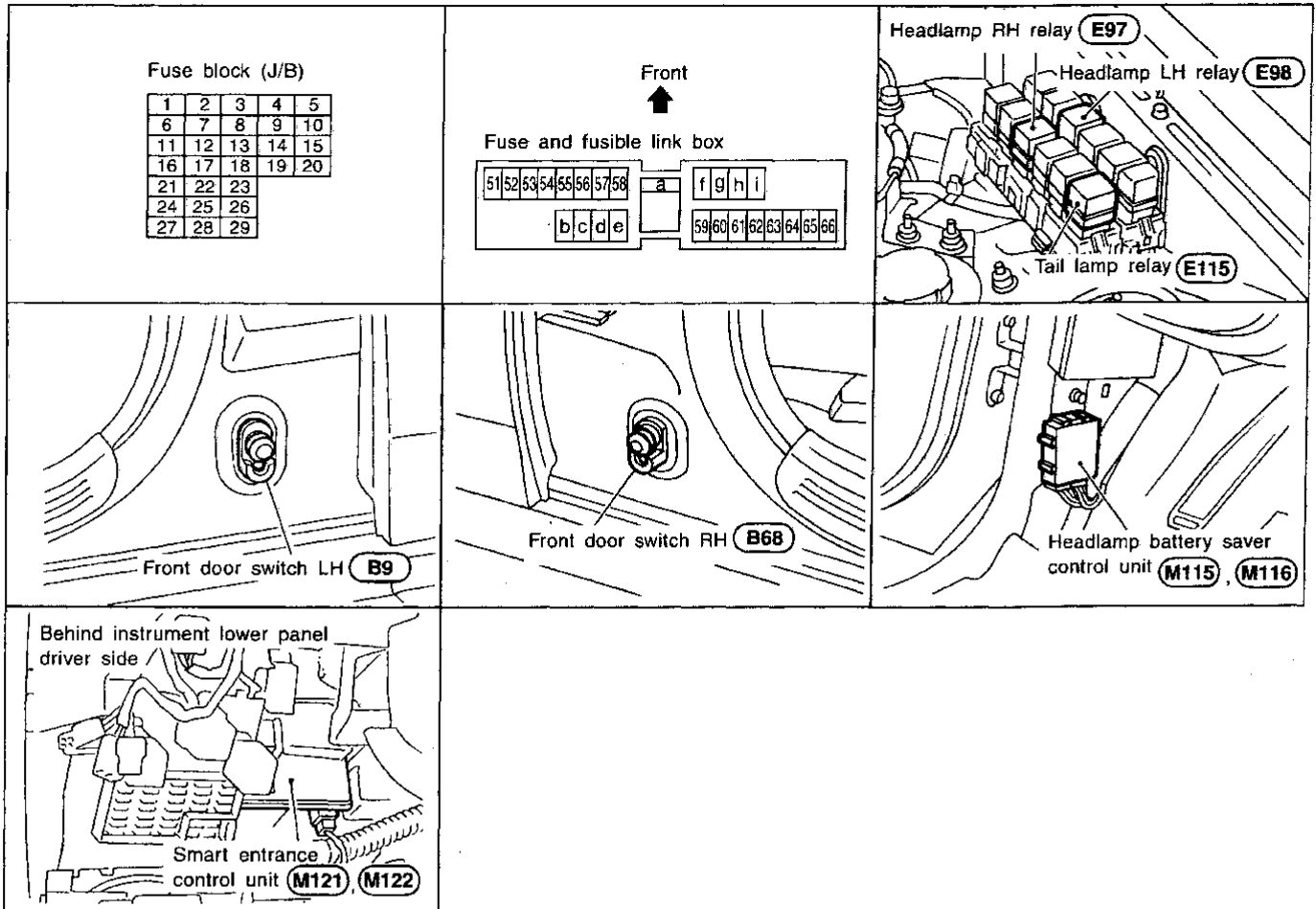
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# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0161



SEL044W

## System Description

NAEL0017

The headlamp system for Canada vehicles contains a daytime light control unit that activates the high beam headlamps at approximately half illumination whenever the engine is running. If the parking brake is applied before the engine is started the daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is applied.

And battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.

Power is supplied at all times

- to daytime light control unit terminal 3, and
- to headlamp LH relay terminals 2 and 3
- through 15A fuse (No. 60, located in the fuse and fusible link box), and
- to daytime light control unit terminal 2 and
- to headlamp RH relay terminals 2 and 3
- through 15A fuse (No. 59, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 7.5A fuse [No. 24, located in the fuse block (J/B)].

Ground is supplied

- to daytime light control unit terminal 9 and
- to headlamp battery saver control unit terminals 4 and 11

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

# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

System Description (Cont'd)

- to daytime light control unit terminal 12,
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 7.5A fuse [No. 11, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)].

GI

MA

EM

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

- to daytime light control unit terminal 1
- through 7.5A fuse [No. 26, located in the fuse block (J/B)].

LC

## HEADLAMP OPERATION

### When Ignition Switch is in ON or START Position

NAEL0017S01

EC

NAEL0017S0103

Ground is supplied

- to headlamp LH relay terminal 1 from headlamp battery saver control unit terminal 2
- through headlamp battery saver control unit terminal 3, and
- through body grounds M4 and M66, and
- to headlamp RH relay terminal 1 from headlamp battery saver control unit terminal 8
- through headlamp battery saver control unit terminal 9, and
- through body grounds M77 and M111.

FE

CL

MT

Headlamp relays (LH and RH) are then energized.

### When Ignition Switch is in OFF or ACC Position

NAEL0017S0104

AT

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

TF

And then, ground is also supplied to headlamp LH and RH relays terminal 1 from headlamp battery saver control unit. Headlamp relays (LH and RH) are then energized.

PD

### Low Beam Operation

NAEL0017S0101

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

- from lighting switch terminal 7
- to RH headlamp terminal 2
- to daytime light control unit terminal 4.

AX

SU

Ground is supplied to RH headlamp terminal 3 through body grounds E13 and E41.

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

BR

- from lighting switch terminal 10
- to LH headlamp terminal 2.

ST

Ground is supplied

- to LH headlamp terminal 3
- from daytime light control unit terminal 7
- through daytime light control unit terminal 9
- through body grounds E13 and E41.

RS

BT

With power and ground supplied, the low beam headlamps illuminate.

### High Beam Operation/Flash-to-pass Operation

NAEL0017S0102

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

- from lighting switch terminal 6
- to terminal 1 of RH headlamp.

HA

SC

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

- from lighting switch terminal 9
- to daytime light control terminal 5
- to combination meter terminal 33 for the high beam indicator, and
- through daytime light control terminal 6

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IDX

# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

## System Description (Cont'd)

- to terminal 1 of LH headlamp.

Ground is supplied in the same manner as low beam operation.

Ground is supplied to terminal 19 of the combination meter through body grounds M77 and M111.

With power and ground supplied, the high beam headlamps and HI BEAM indicator illuminate.

## BATTERY SAVER CONTROL

NAEL0017S04

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated, The RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 1 of headlamp LH and RH relays from headlamp battery saver control unit terminals 2 and 8 is terminated.

Then headlamps are turned off.

The headlamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supply

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to headlamp LH and RH relays terminal 1 from headlamp battery saver control unit terminals 2 and 8.

Then headlamps illuminate again.

## DAYTIME LIGHT OPERATION

NAEL0017S02

With the engine running, the lighting switch in the OFF or 1ST position and parking brake released, power is supplied

- through daytime light control unit terminal 6
- to terminal 1 of LH headlamp, and
- through terminal 3 of LH headlamp
- to daytime light control unit terminal 7, and
- through daytime light control unit terminal 8
- to terminal 1 of RH headlamp.

Ground is supplied to terminal 3 of RH headlamp through body grounds E13 and E41.

Because the high beam headlamps are now wired in series, they operate at half illumination.

## OPERATION

NAEL0017S03

After starting the engine with the lighting switch in the "OFF" or "1ST" position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

Engine		With engine stopped									With engine running								
		OFF			1ST			2ND			OFF			1ST			2ND		
Lighting switch		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
		Headlamp	High beam	X	X	O	X	X	O	O	X	O	△*	△*	O	△*	△*	O	O
Low beam	X		X	X	X	X	X	X	O	X	X	X	X	X	X	X	X	O	X
Clearance and tail lamp		X	X	X	O	O	O	O	O	O	X	X	X	O	O	O	O	O	O
License and instrument illumination lamp		X	X	X	O	O	O	O	O	O	X	X	X	O	O	O	O	O	O

A: "HIGH BEAM" position

B: "LOW BEAM" position

C: "FLASH TO PASS" position

O : Lamp "ON"

X : Lamp "OFF"

△ : Lamp dims. (Added functions)

\*: When starting the engine with the parking brake released, the daytime light will come ON.

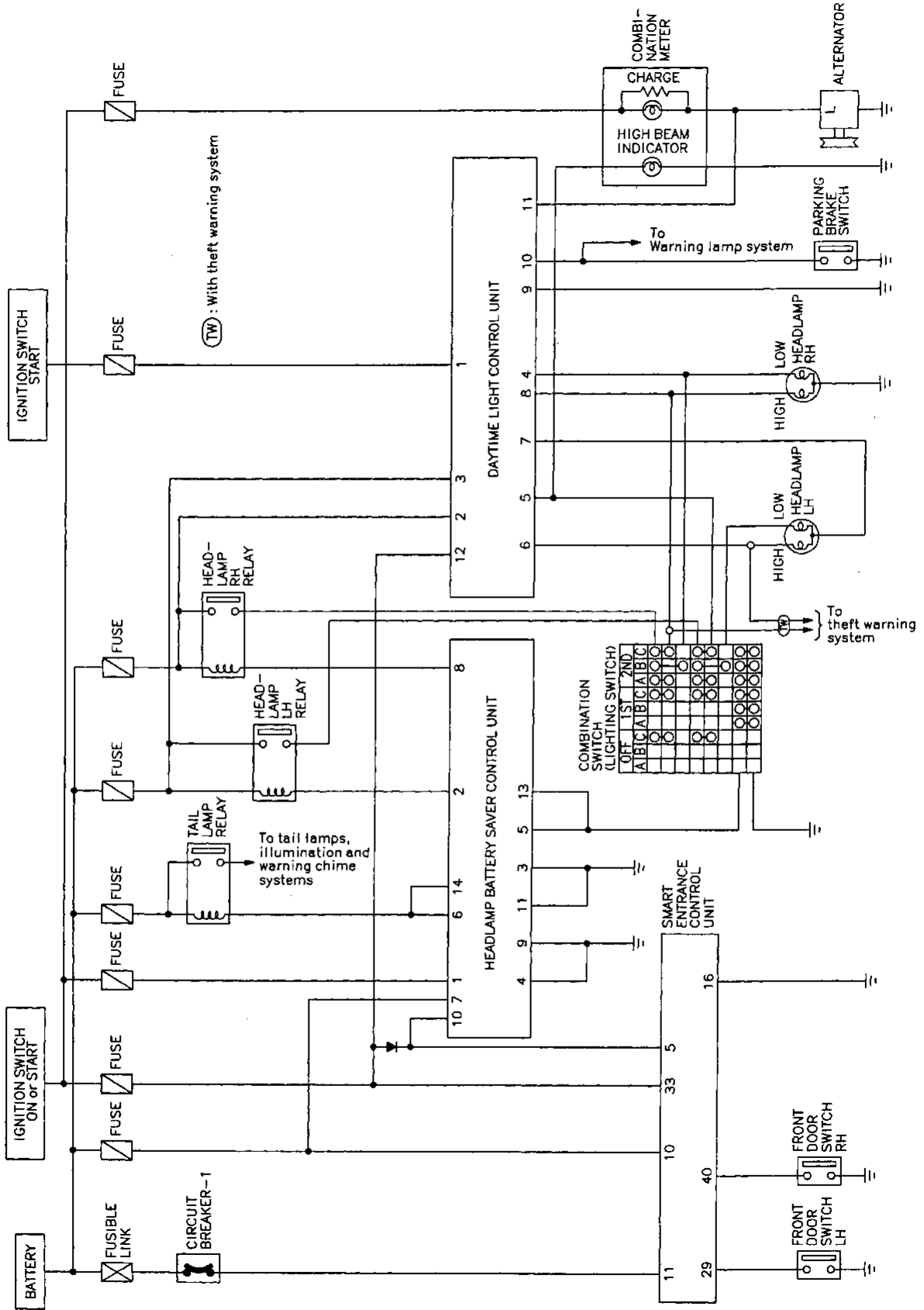
When starting the engine with the parking brake pulled, the daytime light won't come ON.

# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Schematic

## Schematic

NAEL0019



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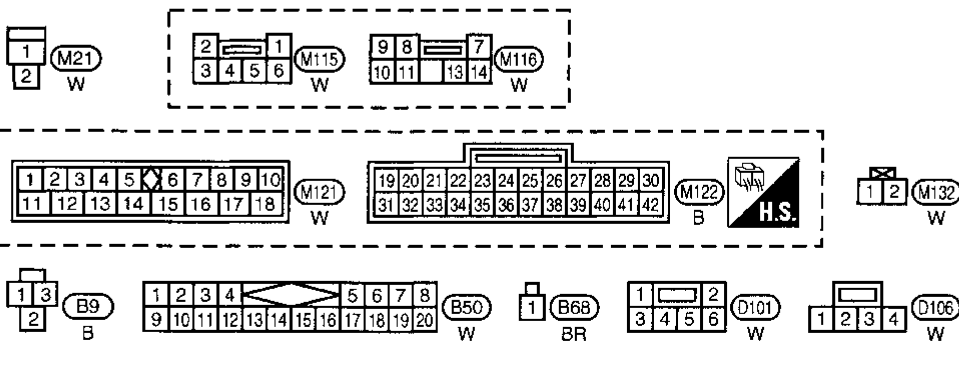
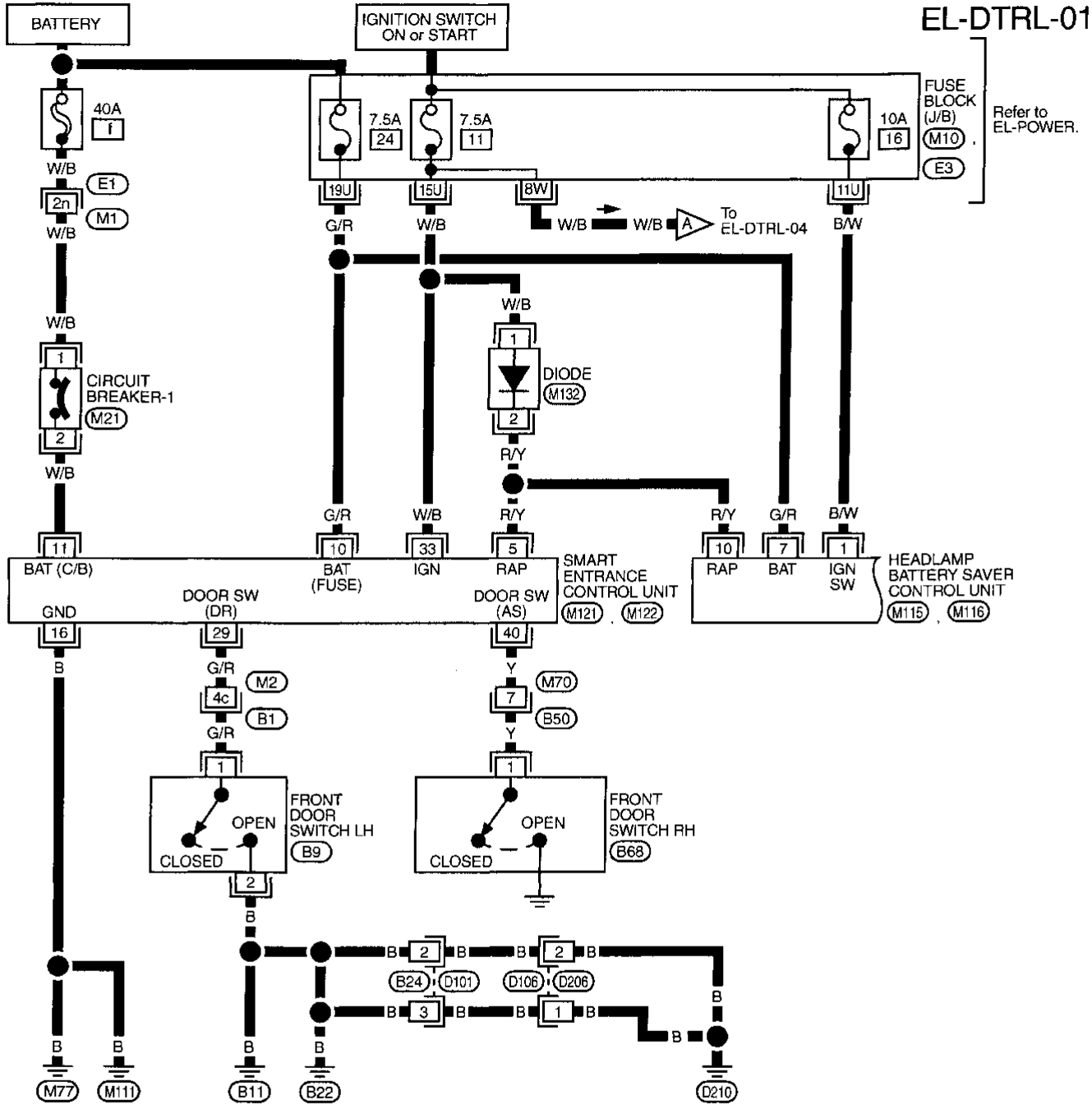
# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL —

## Wiring Diagram — DTRL —

NAEL0020

EL-DTRL-01



Refer to last page (Foldout page).

- (M1) , (E1)
- (M2) , (B1)
- (M10)
- (E3)

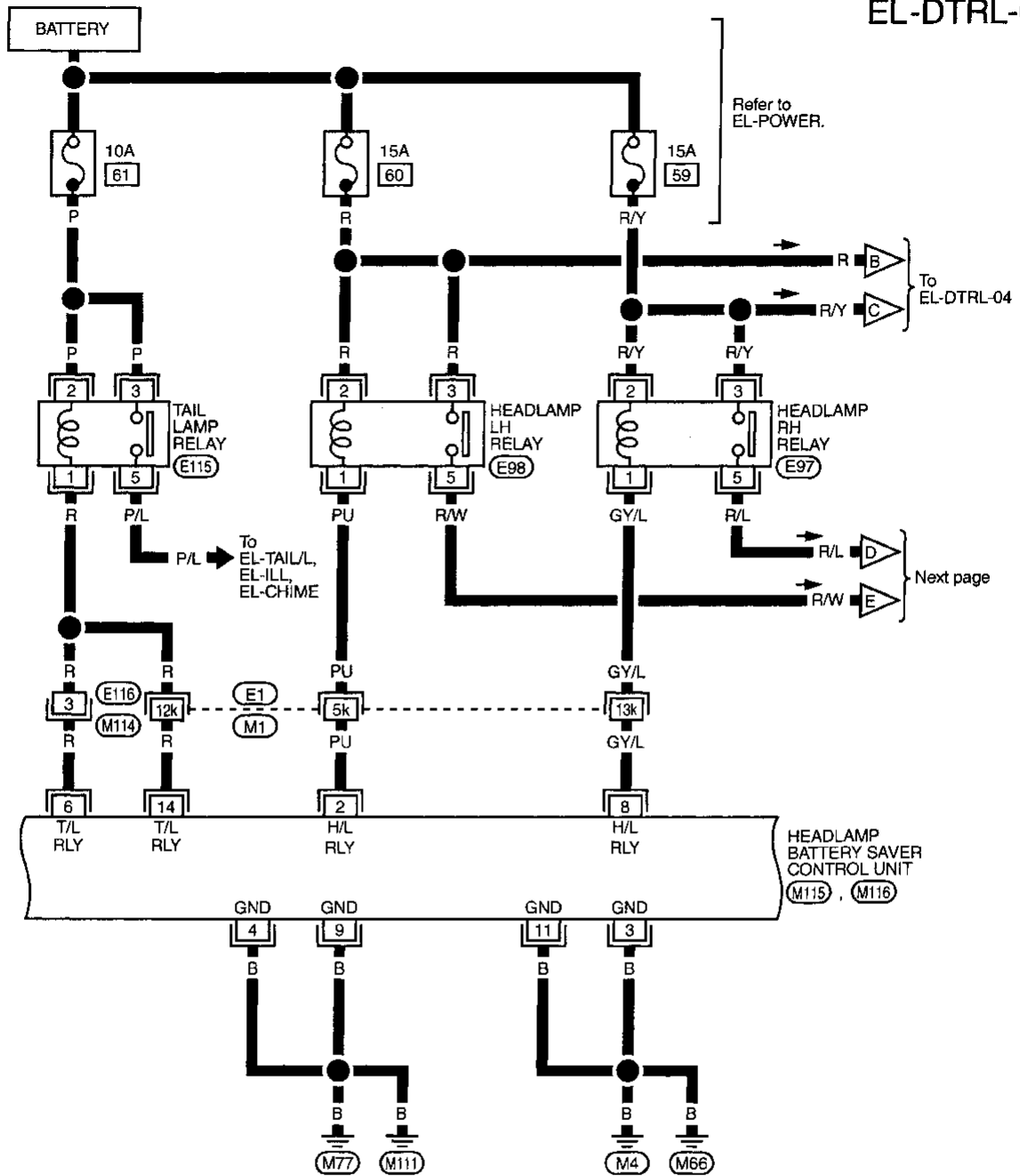
MEL012K



# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02



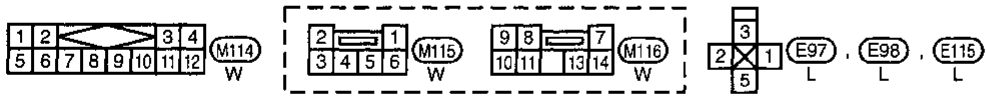
Refer to EL-POWER.

To EL-DTRL-04

To EL-TAIL/L, EL-ILL, EL-CHIME

Next page

HEADLAMP BATTERY SAVER CONTROL UNIT (M115), (M116)



Refer to last page (Foldout page).

(M1), (E1)

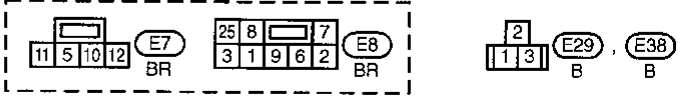
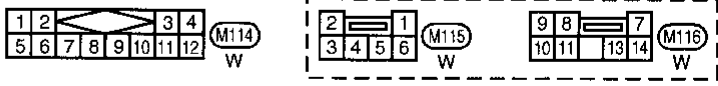
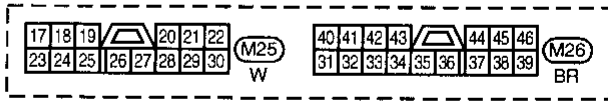
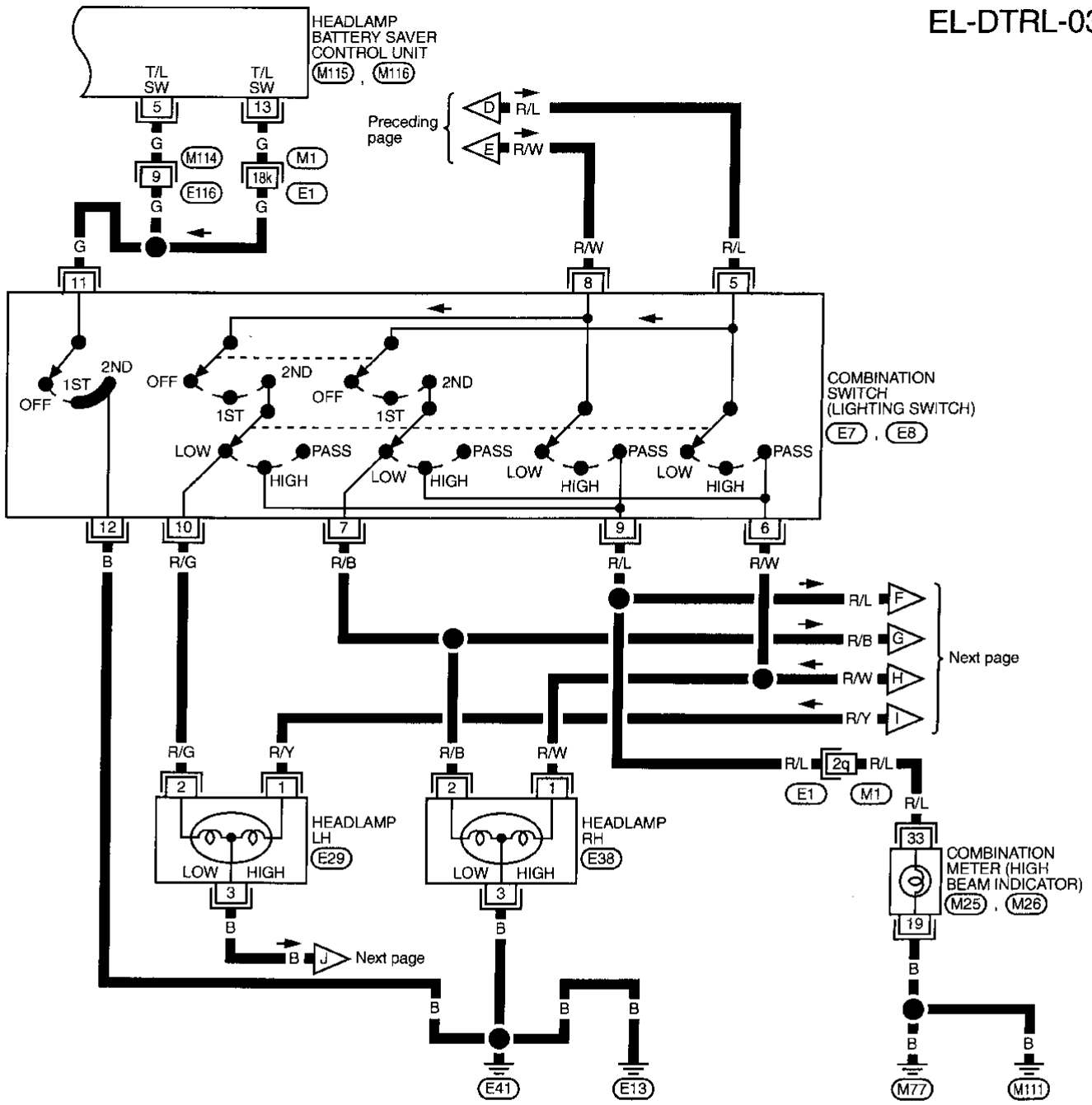
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# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

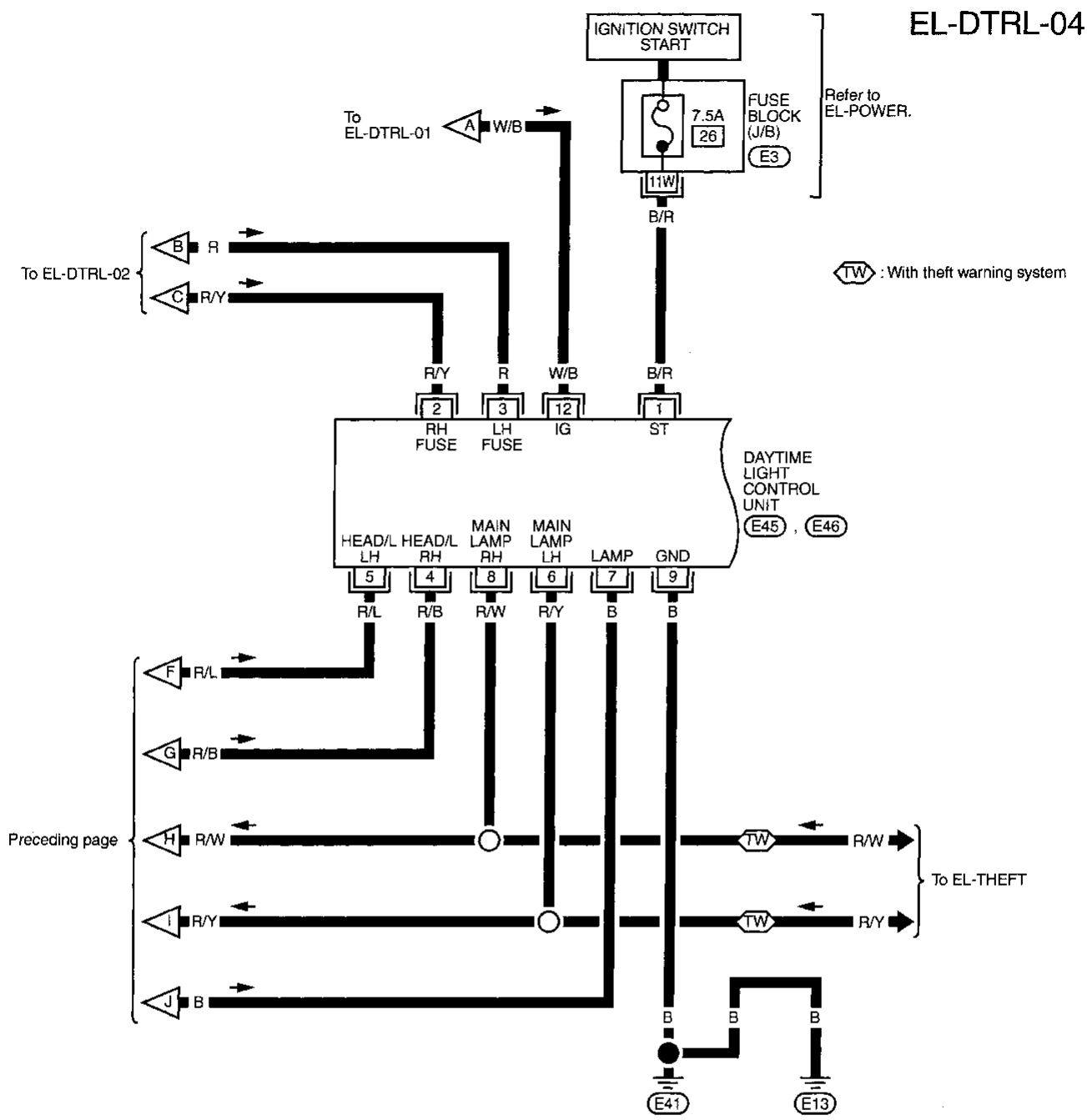
EL-DTRL-03



Refer to last page (Foldout page).  
M1, E1

# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)



EL-DTRL-04

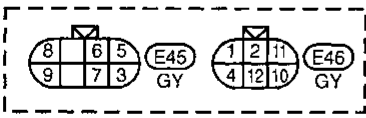
Refer to EL-POWER.

**TW** : With theft warning system

DAYTIME LIGHT CONTROL UNIT (E45), (E46)

Preceding page

To EL-THEFT



Refer to last page (Foldout page).

**E3**

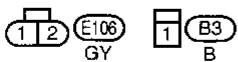
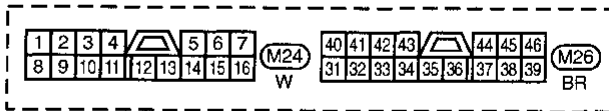
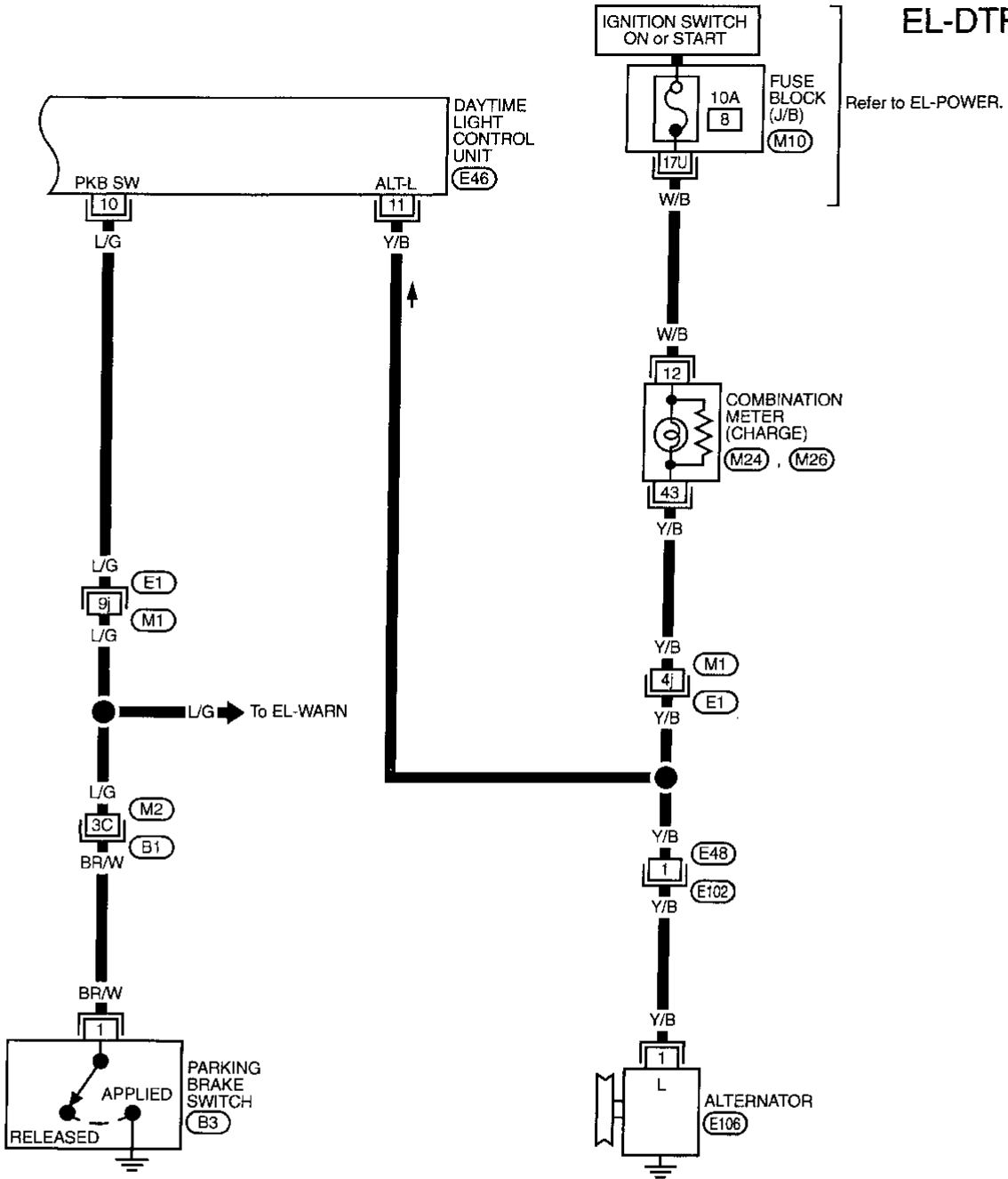
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MEL920J

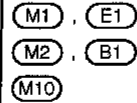
# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-05



Refer to last page (Foldout page).



MEL921J











# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Trouble Diagnoses

## Trouble Diagnoses DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

NAEL0021








NAEL0021S01

Terminal No.	Item	Condition	Voltage (Approximate values)
1	Start signal	 When turning ignition switch to "ST"	Battery voltage
		 When turning ignition switch to "ON" from "ST"	Less than 1V
		 When turning ignition switch to "OFF"	Less than 1V
2	Power source	 When turning ignition switch to "ON"	Battery voltage
		 When turning ignition switch to "OFF"	Battery voltage
3	Power source	 When turning ignition switch to "ON"	Battery voltage
		 When turning ignition switch to "OFF"	Battery voltage
4	Lighting switch (Lo beam)	When lighting switch is turned to the 2ND position with "LOW BEAM" position	Battery voltage
5	Lighting switch (Hi beam)	When turning lighting switch to "HI BEAM"	Battery voltage
		When turning lighting switch to "FLASH TO PASS"	Battery voltage
6	LH hi beam	When turning lighting switch to "HI BEAM"	Battery voltage
		 When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) <b>CAUTION:</b> Block wheels and ensure selector lever is in N or P position.	Battery voltage
7	LH headlamp control (ground)	When lighting switch is turned to the 2ND position with "LOW BEAM" position	Less than 1V
		 When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) <b>CAUTION:</b> Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage
8	RH hi beam	When lighting switch is turned to the 2ND position with "HI BEAM" position	Battery voltage
		 When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) <b>CAUTION:</b> Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage
9	Ground	—	—

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# HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Trouble Diagnoses (Cont'd)

Terminal No.	Item	Condition		Voltage (Approximate values)
10	Parking brake switch		When parking brake is released	Battery voltage
			When parking brake is set	Less than 1.5V
11	Alternator		When turning ignition switch to "ON"	Less than 1V
			When engine is running	Battery voltage
			When turning ignition switch to "OFF"	Less than 1V
12	Power source		When turning ignition switch to "ON"	Battery voltage
			When turning ignition switch to "ST"	Battery voltage
			When turning ignition switch to "OFF"	Less than 1V

## BATTERY SAVER CONTROL UNIT INSPECTION TABLE

Refer to "HEADLAMP (FOR USA)" EL-31.

NAEL0021S02

## Bulb Replacement

Refer to "HEADLAMP (FOR USA)" (EL-32).

NAEL0022

## Aiming Adjustment

Refer to "HEADLAMP (FOR USA)" (EL-32).

NAEL0023

## System Description

The parking, license and tail lamp operation is controlled by the lighting switch which is built into the combination switch and headlamp battery saver control unit. The battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.

Power is supplied at all times

- to tail lamp relay terminals 2 and 3
- through 10A fuse (No. 61, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 7.5A fuse [No. 24, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 7.5A fuse [No. 11, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

### LIGHTING OPERATION BY LIGHTING SWITCH

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

- to tail lamp relay terminal 1 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through body grounds E13 and E41.

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

### BATTERY SAVER CONTROL

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while parking, license and tail lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 1 of the tail lamp relay from headlamp battery saver control unit terminals 6 and 14 is terminated.

Then the parking, license and tail lamps are turned off.

The parking, license and tail lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while parking, license and tail lamps are illuminated.

When the lighting switch is turned from OFF to 1ST (or 2ND) after the parking, license and tail lamps are turned off by the battery saver control, ground is supplied.

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to tail lamp relay terminal 1 from headlamp battery saver control unit terminals 6 and 14.

Then the parking, license and tail lamps illuminate again.

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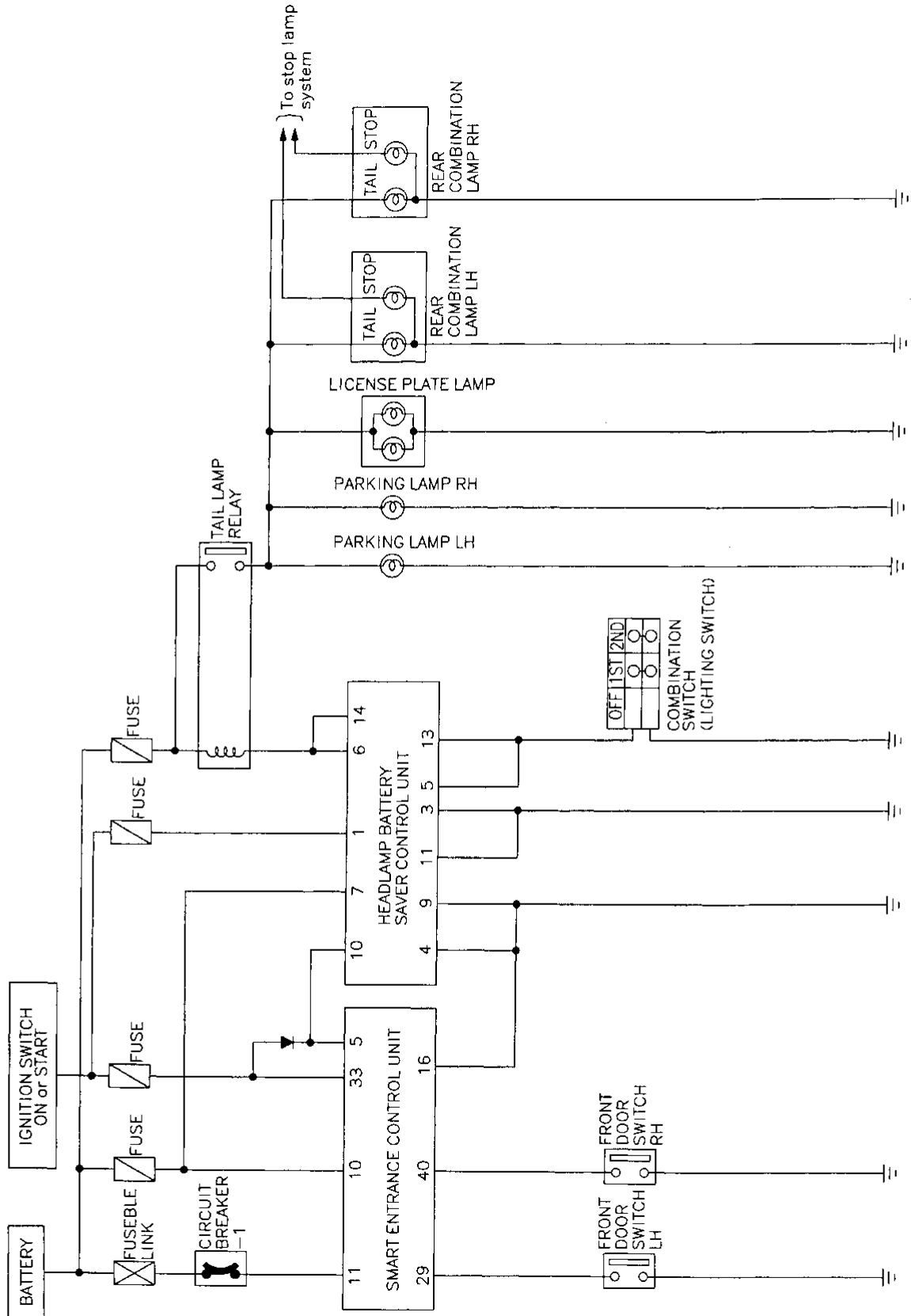
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# PARKING, LICENSE AND TAIL LAMPS

Schematic

## Schematic

NAEL0163



MEL076K



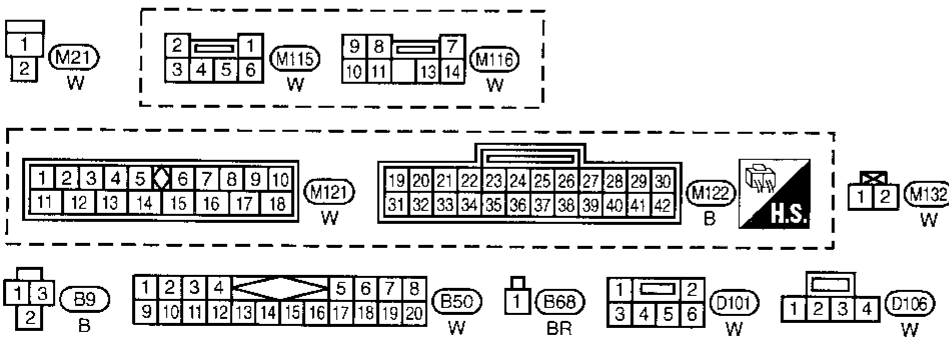
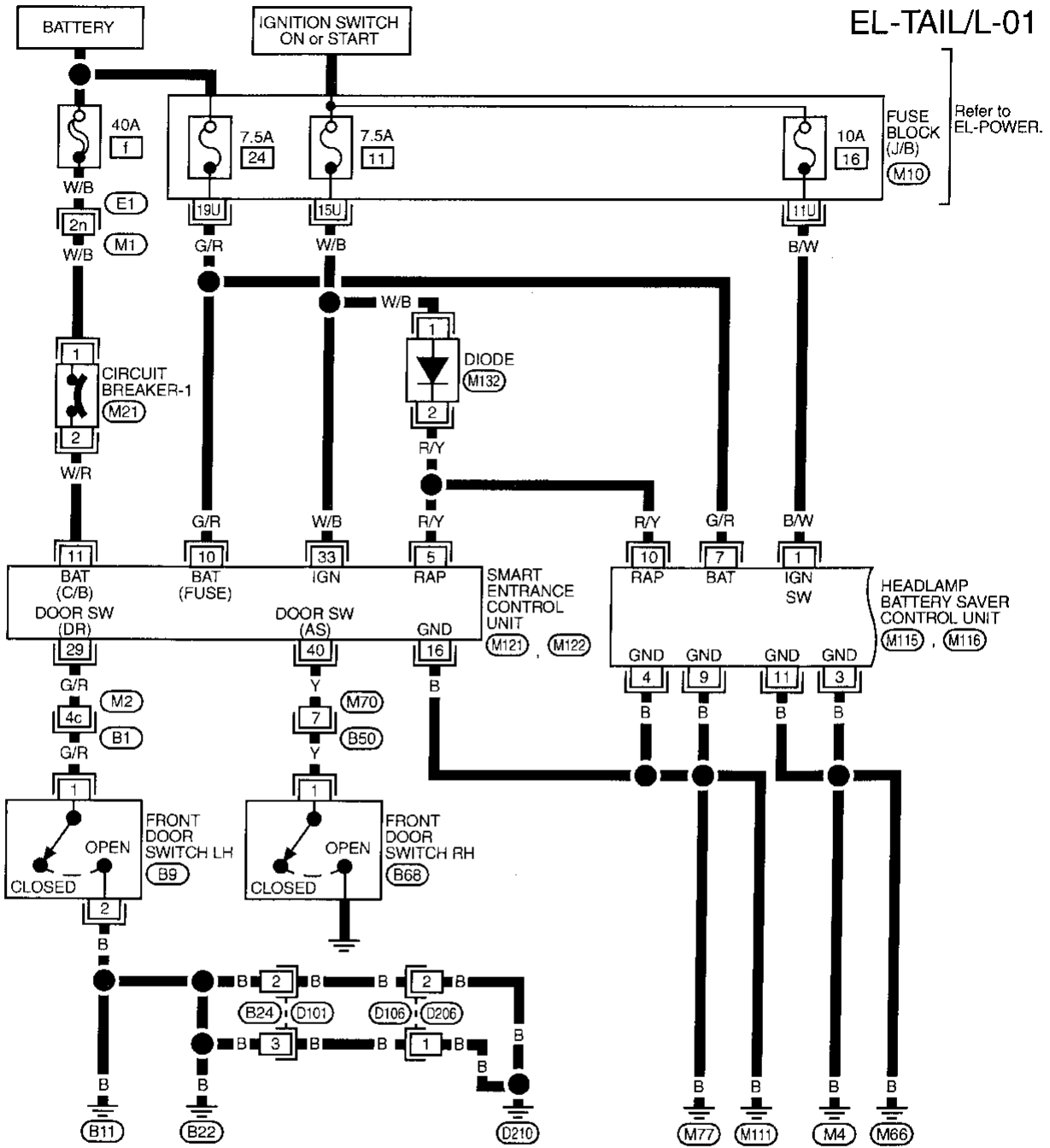
# PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —

## Wiring Diagram — TAIL/L —

NAEL0024

EL-TAIL/L-01



Refer to last page (Foldout page).

- M1, E1
- M2, B1
- M10

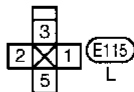
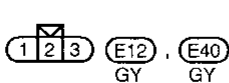
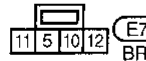
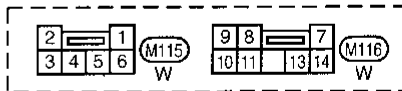
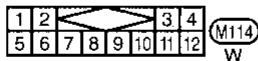
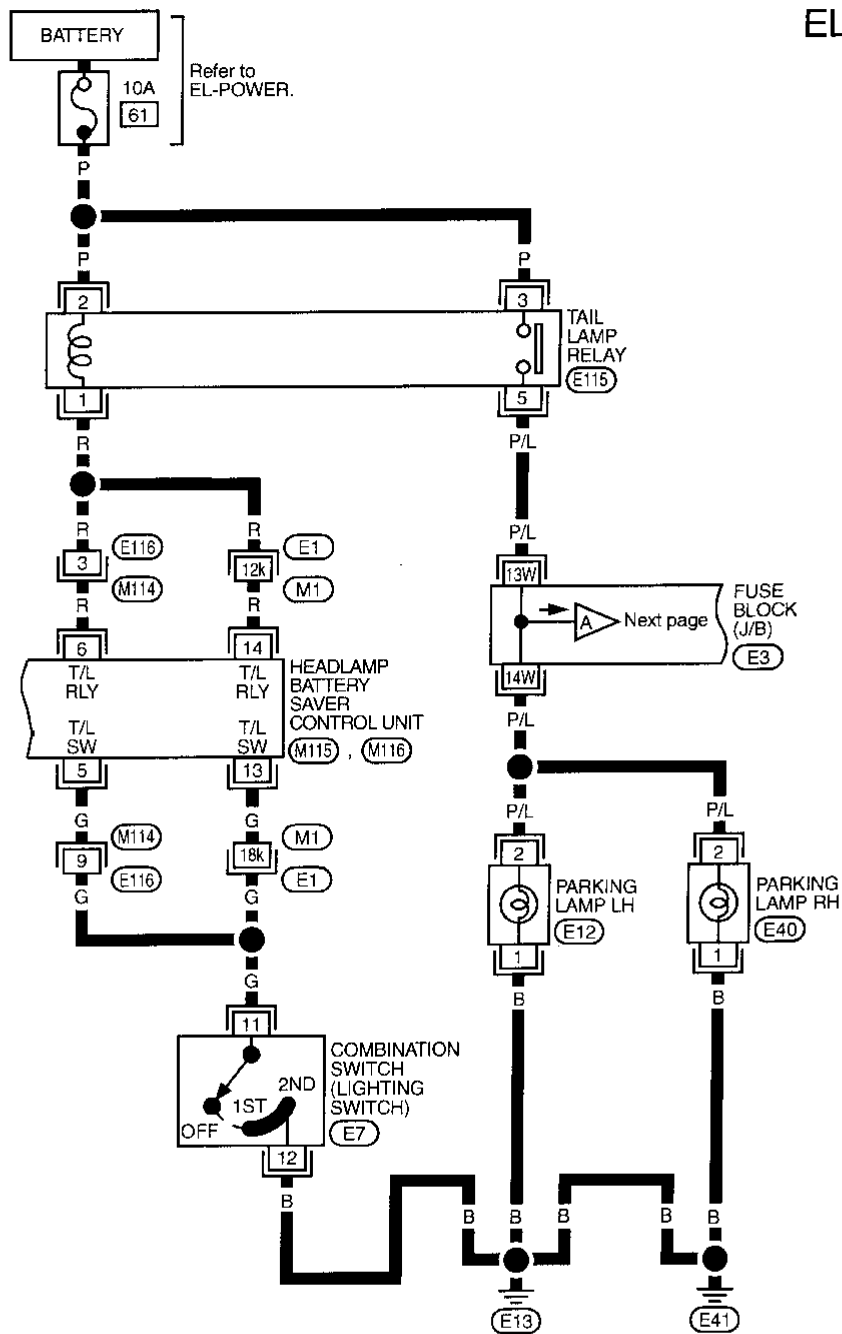
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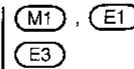
# PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-02



Refer to last page (Foldout page).

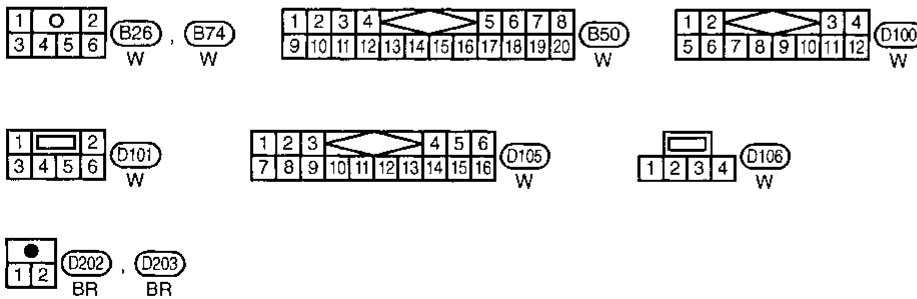
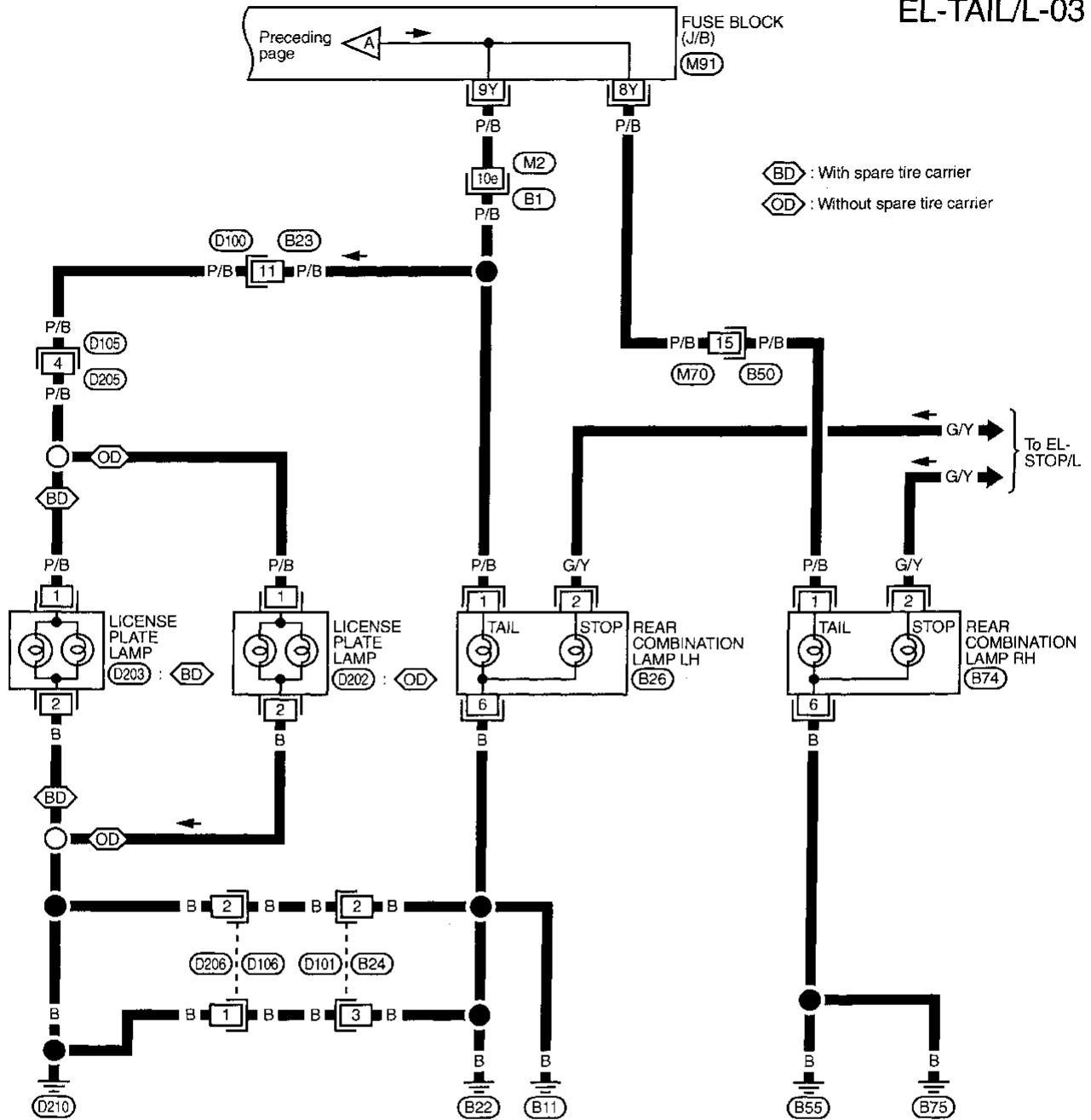


MEL922J

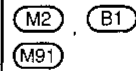
# PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-03



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# PARKING, LICENSE AND TAIL LAMPS

Trouble Diagnoses

## Trouble Diagnoses

NAEL0164

Symptom	Possible cause	Repair order
No lamps operate (including headlamps).	<ol style="list-style-type: none"> <li>1. 7.5A fuse</li> <li>2. Lighting switch</li> <li>3. Headlamp battery saver control unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check 7.5A fuse [No. 24, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit.</li> <li>2. Check lighting switch.</li> <li>3. Check headlamp battery saver control unit. (EL-31)</li> </ol>
No parking, license and tail lamps operate, but headlamps do operate.	<ol style="list-style-type: none"> <li>1. 10A fuse</li> <li>2. Tail lamp relay</li> <li>3. Tail lamp relay circuit</li> <li>4. Lighting switch</li> <li>5. Lighting switch circuit</li> <li>6. Headlamp battery saver control unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check 10A fuse (No. 61, located in fusible and fuse block). Verify battery positive voltage is present at terminals 2 and 3 of tail lamp relay.</li> <li>2. Check tail lamp relay.</li> <li>3. Check harness between headlamp battery saver control unit terminals 6 and 14 and tail lamp relay terminal 1. Check harness between tail lamp relay terminal 5 and fuse block.</li> <li>4. Check lighting switch.</li> <li>5. Check harness between lighting switch terminal 11 and headlamp battery saver control unit terminals 5 and 13. Check harness between lighting switch terminal 12 and ground.</li> <li>6. Check headlamp battery saver control unit. (EL-31)</li> </ol>
Battery saver control does not operate properly.	<ol style="list-style-type: none"> <li>1. RAP signal circuit</li> <li>2. Driver or passenger side door switch circuit</li> <li>3. Lighting switch circuit</li> <li>4. Headlamp battery saver control unit</li> <li>5. Smart entrance control unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check harness between headlamp battery saver control unit terminal 10 and smart entrance control unit terminal 5 for open or short circuit.</li> <li>2. Check harness between smart entrance control unit and driver or passenger side door switch for open or short circuit. Check driver or passenger side door switch ground circuit. Check driver or passenger side door switch.</li> <li>3. Check harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. Check harness between lighting switch terminal 12 and ground. Check lighting switch.</li> <li>4. Check headlamp battery saver control unit. (EL-31)</li> <li>5. Check smart entrance control unit. (EL-256)</li> </ol>

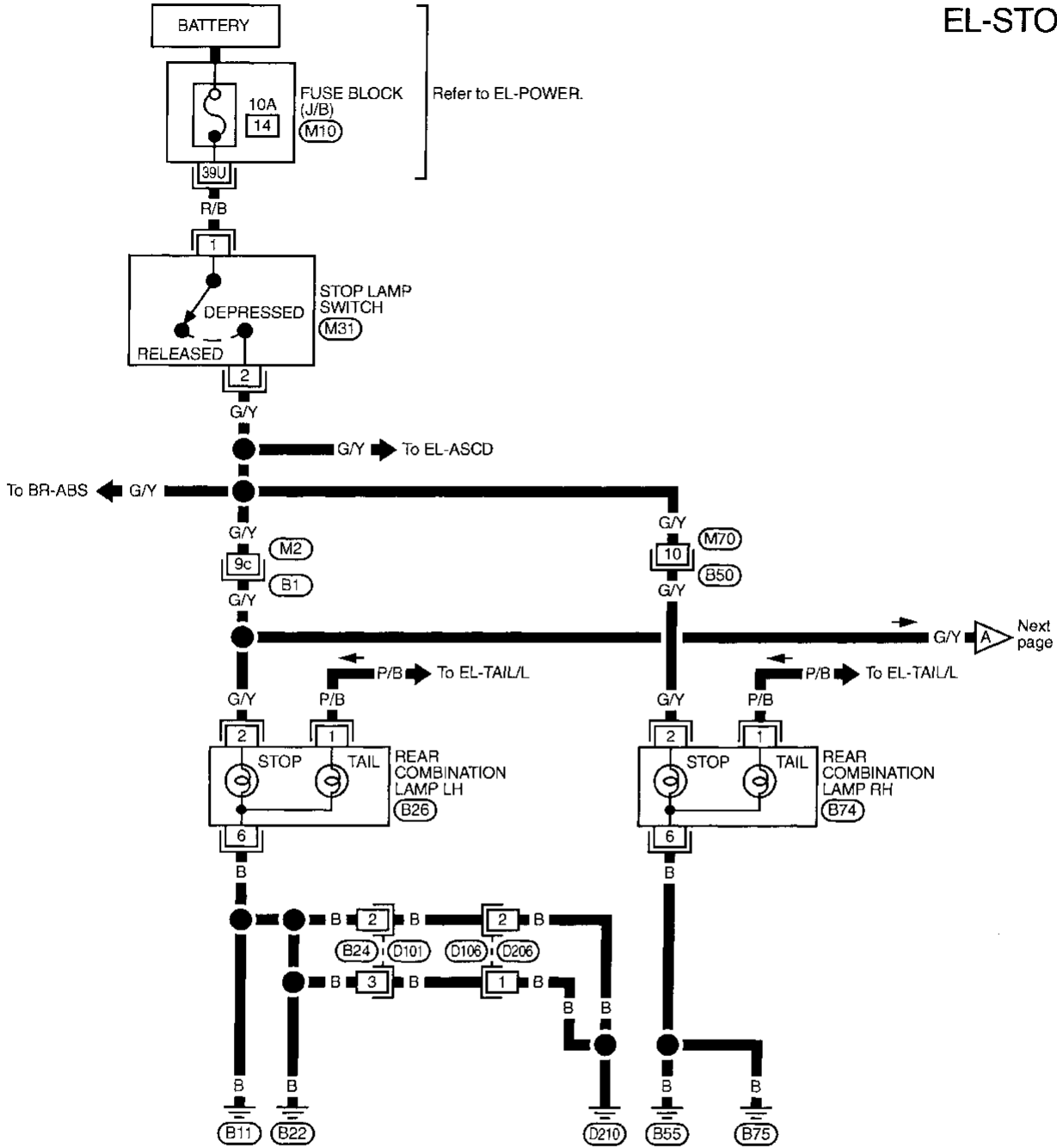
# STOP LAMP

Wiring Diagram — STOP/L —

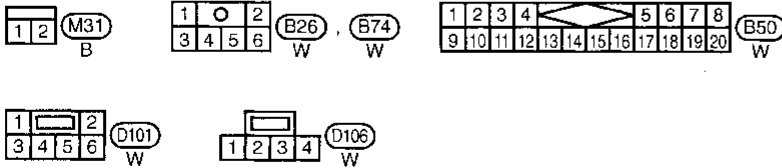
## Wiring Diagram — STOP/L —

NAEL0025

EL-STOP/L-01



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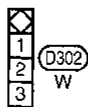
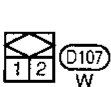
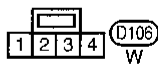
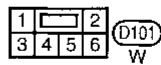
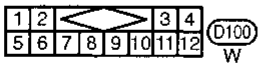
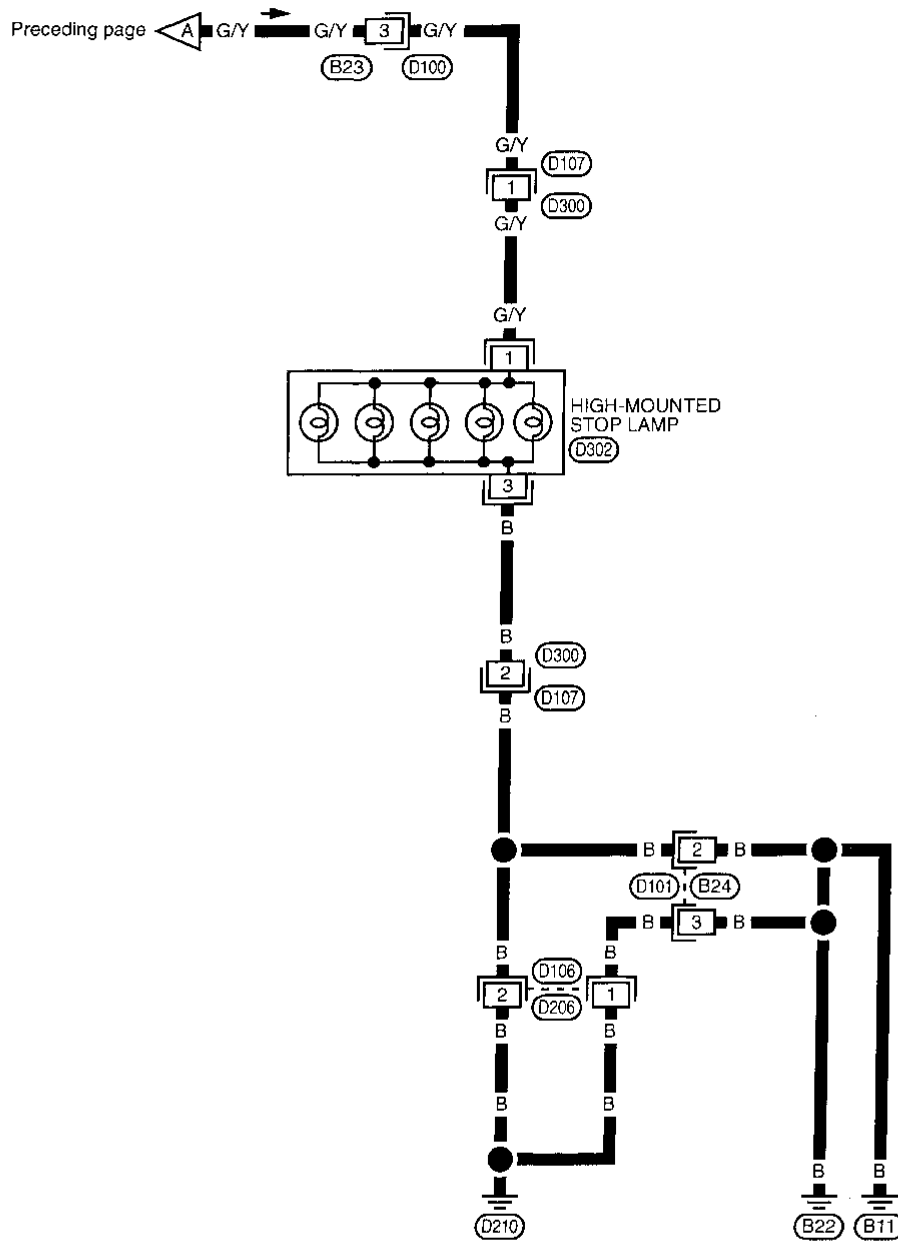
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# STOP LAMP

Wiring Diagram — STOP/L — (Cont'd)

EL-STOP/L-02



MEL550F

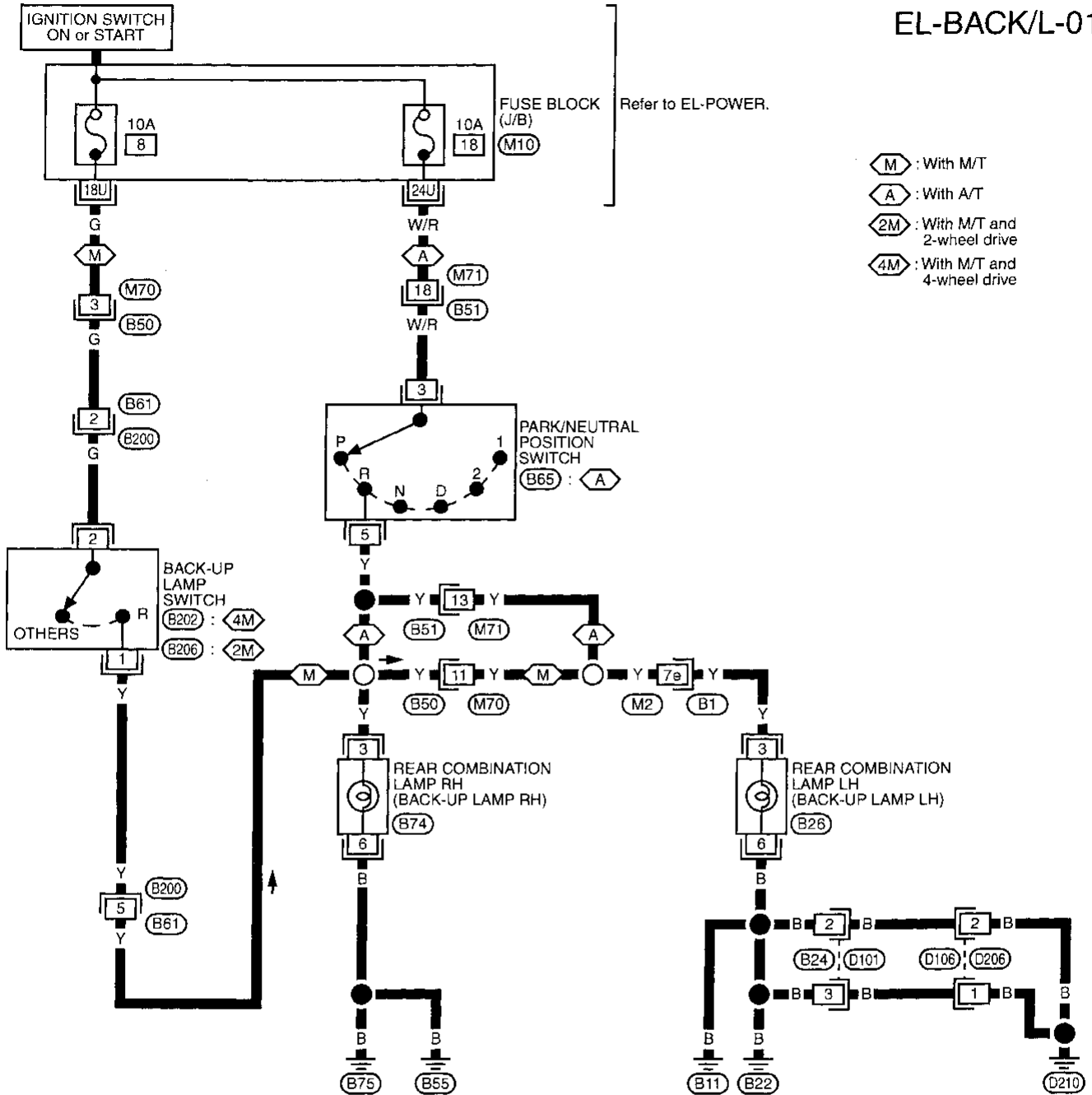
# BACK-UP LAMP

Wiring Diagram — BACK/L —

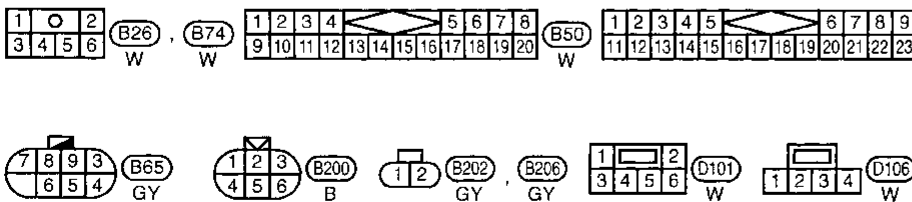
## Wiring Diagram — BACK/L —

NAEL0026

### EL-BACK/L-01



Refer to last page (Foldout page).



(M2) (B1)  
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# FRONT FOG LAMP

System Description

## System Description

NAEL0027

NAEL0027S02

### OUTLINE

Power is supplied at all times

- to headlamp RH relay terminals 2 and 3
- through 15A fuse (No. 59, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 7.5A fuse [No. 24, located in the fuse block (J/B)], and
- to front fog lamp relay terminal 3
- through 15A fuse (No. 53, located in the fuse and fusible link box).

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 7.5A fuse [No. 11, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

### When Ignition Switch is in ON or START Position

Ground is supplied

- to headlamp RH relay terminal 1 from headlamp battery saver control unit terminal 8.
- through headlamp battery saver control unit terminal 9, and
- through body grounds M77 and M111.

Headlamp RH relay is then energized.

### When Ignition Switch is in OFF or ACC Position

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

And then, ground is also supplied to headlamp RH relay terminal 1 from the headlamp battery saver control unit. The headlamp RH relay is then energized.

### FOG LAMP OPERATION

The fog lamp switch is built into the combination switch. The lighting switch must be in the 2ND position and LOW ("B") position for fog lamp operation.

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

- to fog lamp relay terminal 2
- through the fog lamp switch and body grounds E13 and E41.

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 E13 and E41.

With power and ground supplied, the fog lamps illuminate.

### BATTERY SAVER CONTROL

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while fog lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 1 of headlamp RH relay from headlamp battery saver control unit terminal 8 is terminated.

Then fog lamps are turned to off.

Fog lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while fog lamps are illuminated.

When the lighting switch is turned from OFF to 2ND after fog lamps are turned off by the battery saver control, ground is supplied

NAEL0027S0201

NAEL0027S0202

NAEL0027S01

NAEL0027S03



# FRONT FOG LAMP

System Description (Cont'd)

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
  - to headlamp RH relay terminal 1 from headlamp battery saver control unit terminal 8.
- Then the fog lamps illuminate again.

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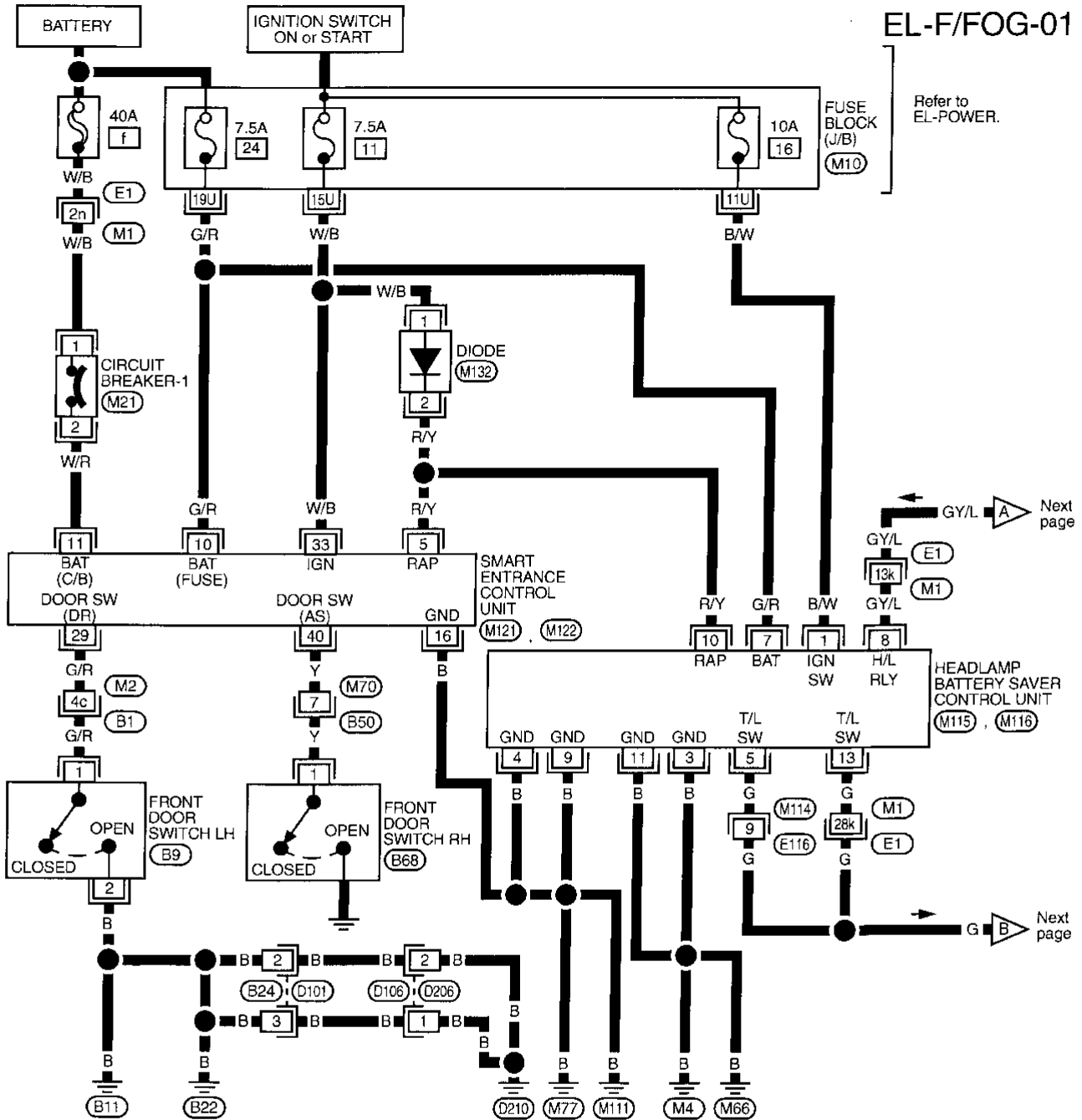
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# FRONT FOG LAMP

Wiring Diagram — F/FOG —

## Wiring Diagram — F/FOG —

NAEL0028

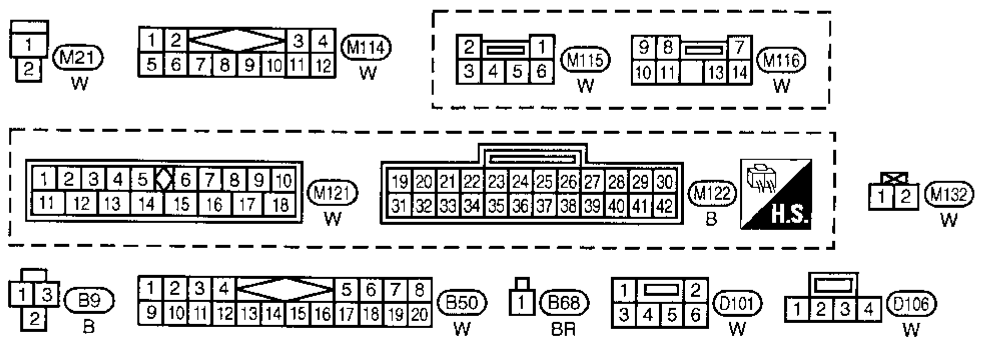


EL-F/FOG-01

Refer to EL-POWER.

Next page

Next page



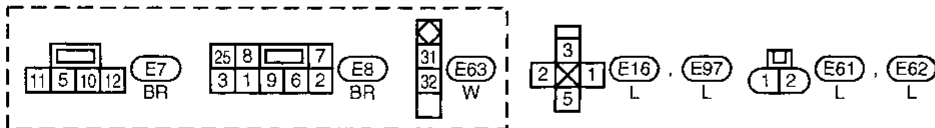
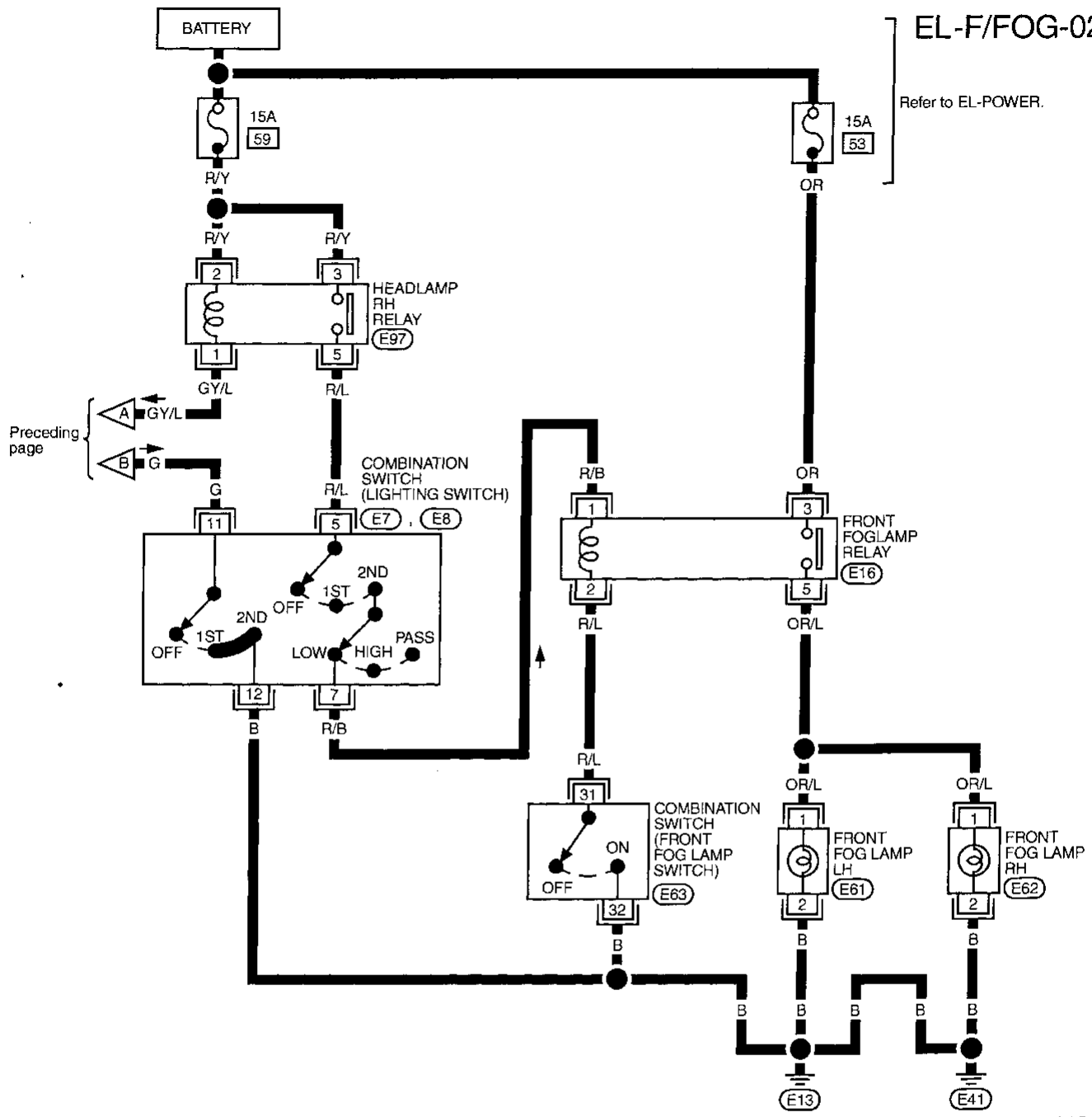
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- M1, E1
- M2, B1
- M10

MEL078K

# FRONT FOG LAMP

Wiring Diagram — F/FOG — (Cont'd)

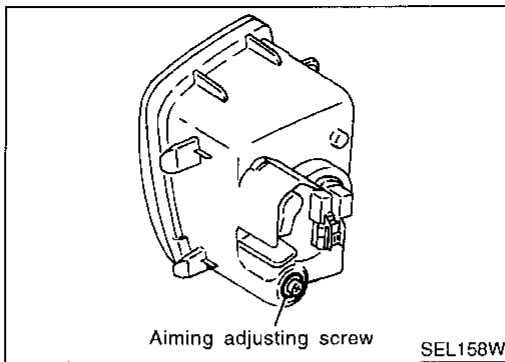


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# FRONT FOG LAMP

## Aiming Adjustment



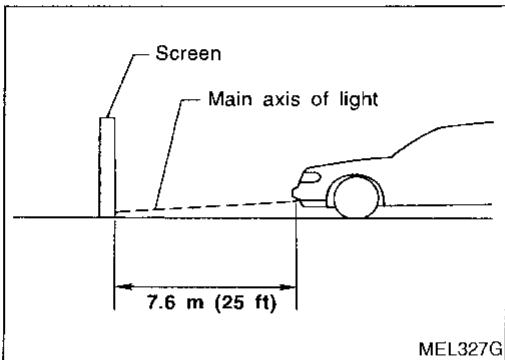
## Aiming Adjustment

NAEL0029

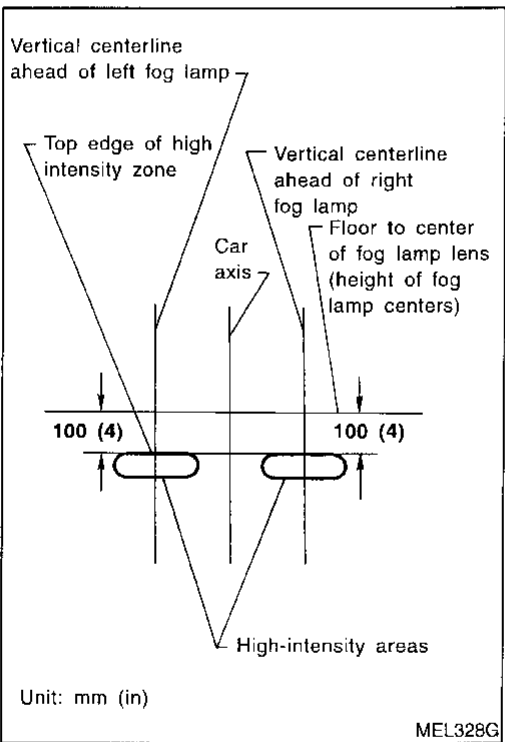
Before performing aiming adjustment, make sure of the following.

- 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. Turn front fog lamps ON.



3. Adjust front fog lamps so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown at left.
- When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.

# TURN SIGNAL AND HAZARD WARNING LAMPS

System Description

## System Description

### TURN SIGNAL OPERATION

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

- through 7.5A fuse [No. 12, 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.

Ground is supplied to combination flasher unit terminal 2 through body grounds M4 and M66.

### LH Turn

When the turn signal switch is moved to the LH position, power is supplied from turn signal switch terminal 3 to

- front turn signal lamp LH terminal 3
- combination meter terminal 34
- rear combination lamp LH terminal 5.

Ground is supplied to the front turn signal lamp LH terminal 1 through body grounds E13 and E41.

Ground is supplied to the rear combination lamp LH terminal 6 through body grounds B11, B22 and D210.

Ground is supplied to combination meter terminal 19 through body grounds M77 and M111.

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

### RH Turn

When the turn signal switch is moved to the RH position, power is supplied from turn signal switch terminal 2 to

- front turn signal lamp RH terminal 3
- combination meter terminal 32
- rear combination lamp RH terminal 5.

Ground is supplied to the front turn signal lamp RH terminal 1 through body grounds E13 and E41.

Ground is supplied to the rear combination lamp RH terminal 6 through body grounds B55 and B75.

Ground is supplied to combination meter terminal 19 through body grounds M77 and M111.

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

### HAZARD LAMP OPERATION

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

- 15A fuse [No. 20, 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 M4 and M66.

Power is supplied through terminal 5 of the hazard switch to

- front turn signal lamp LH terminal 3
- combination meter terminal 34
- rear combination lamp LH terminal 5.

Power is supplied through terminal 6 of the hazard switch to

- front turn signal lamp RH terminal 3
- combination meter terminal 32
- rear combination lamp RH terminal 5.

GI

NAEL0030

NAEL0030S01

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# TURN SIGNAL AND HAZARD WARNING LAMPS

## System Description (Cont'd)

---

Ground is supplied to terminal 1 of each front turn signal lamp through body grounds E13 and E41.

Ground is supplied to terminal 6 of the rear combination lamp LH through body grounds B11, B22 and D210.

Ground is supplied to terminal 6 of the rear combination lamp RH through body grounds B55 and B75.

Ground is supplied to combination meter terminal 19 through body grounds M77 and M111.

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

## MULTI-REMOTE CONTROL SYSTEM OPERATION

NAEL0030S03

Power is supplied at all times

- through 15A fuse [No. 20, located in the fuse block (J/B)]
- to multi-remote control relay terminals 1, 3 and 6.

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-208.

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 3
- to combination meter terminal 34
- to rear combination lamp LH terminal 5.

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

- to front turn signal lamp RH terminal 3
- to combination meter terminal 32
- to rear combination lamp RH terminal 5.

Ground is supplied to terminal 1 of each front turn signal lamp through body grounds E13 and E41.

Ground is supplied to terminal 6 of the rear combination lamp LH through body grounds B11, B22 and D210.

Ground is supplied to terminal 6 of the rear combination lamp RH through body grounds B55 and B75.

Ground is supplied to combination meter terminal 19 through body grounds M77 and M111.

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

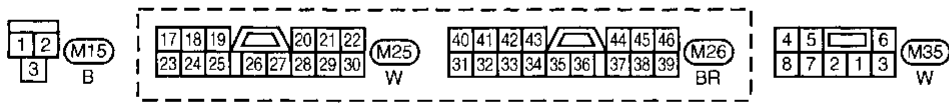
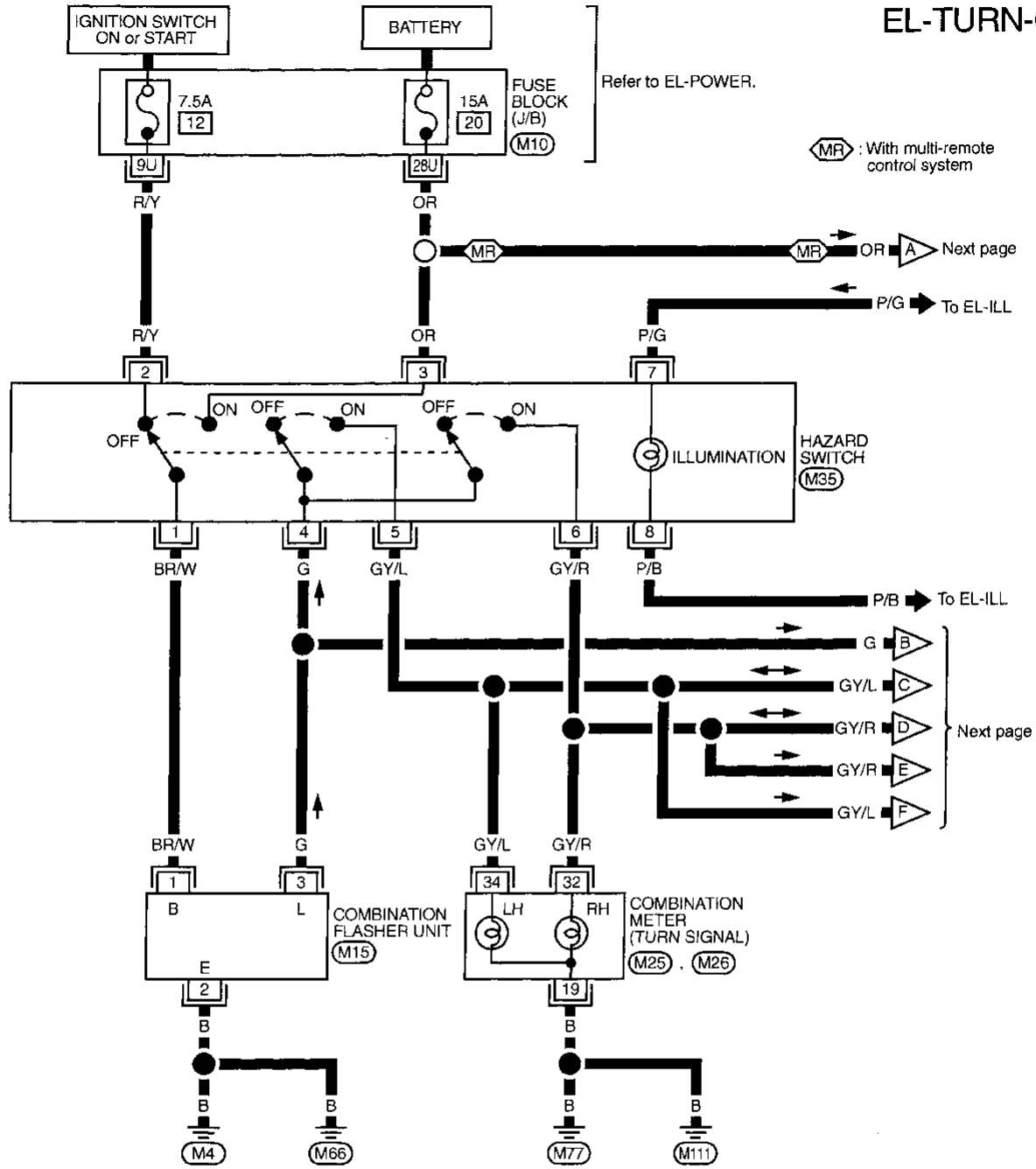
# TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —

## Wiring Diagram — TURN —

NAEL0032

### EL-TURN-01



Refer to last page (Foldout page).

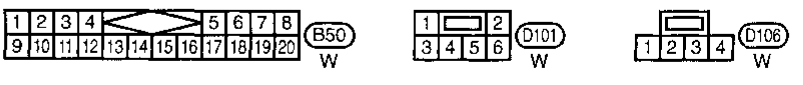
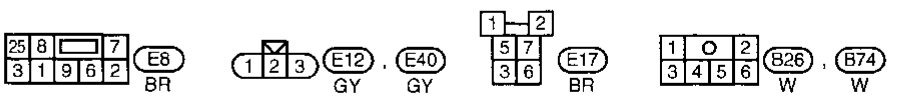
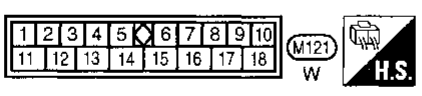
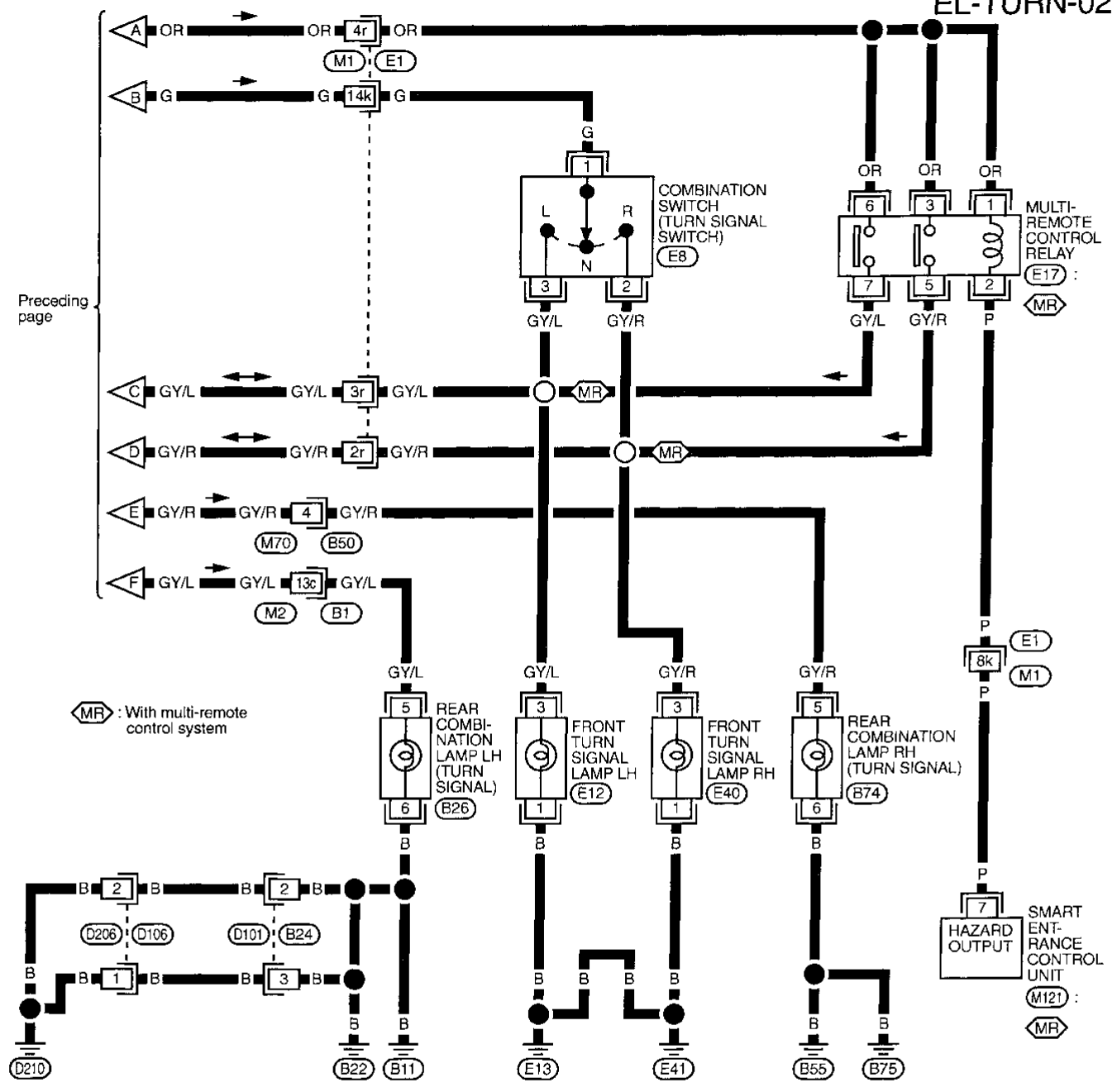
(M10)

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# TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-02



Refer to last page (Foldout page).

- (M1) , (E1)
- (M2) , (B1)

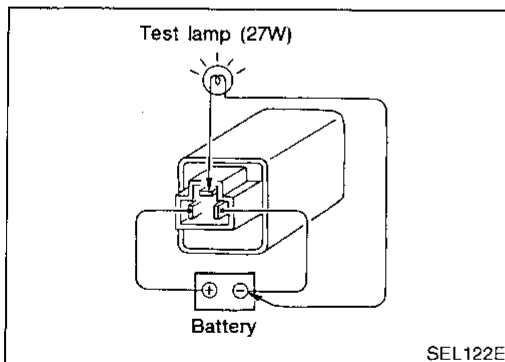
MEL928J



## Trouble Diagnoses

NAEL0033

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> <li>1. Hazard switch</li> <li>2. Combination flasher unit</li> <li>3. Open in combination flasher unit circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check hazard switch.</li> <li>2. Refer to combination flasher unit check.</li> <li>3. Check wiring to combination flasher unit for open circuit.</li> </ol>
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> <li>1. 7.5A fuse</li> <li>2. Hazard switch</li> <li>3. Turn signal switch</li> <li>4. Open in turn signal switch circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check 7.5A fuse [No. 12, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch.</li> <li>2. Check hazard switch.</li> <li>3. Check turn signal switch.</li> <li>4. Check G wire between combination flasher unit and turn signal switch for open circuit.</li> </ol>
Hazard warning lamps do not operate but turn signal lamps operate.	<ol style="list-style-type: none"> <li>1. 15A fuse</li> <li>2. Hazard switch</li> <li>3. Open in hazard switch circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check 15A fuse [No. 20, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch.</li> <li>2. Check hazard switch.</li> <li>3. Check G wire between combination flasher unit and hazard switch for open circuit.</li> </ol>
Front turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Grounds E13 and E41</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check grounds E13 and E41.</li> </ol>
Rear turn signal lamp LH does not operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Grounds B11, B22 and D210</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check grounds B11, B22 and D210.</li> </ol>
Rear turn signal lamp RH does not operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Grounds B55 and B75</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check grounds B55 and B75.</li> </ol>
LH and RH turn indicators do not operate.	<ol style="list-style-type: none"> <li>1. Ground</li> </ol>	<ol style="list-style-type: none"> <li>1. Check grounds M77 and M111.</li> </ol>
LH or RH turn indicator does not operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb in combination meter.</li> </ol>



### Electrical Components Inspection COMBINATION FLASHER UNIT CHECK

NAEL0034

NAEL0034S01

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

# ILLUMINATION

## System Description

### System Description

NAEL0035

The illumination lamp operation is controlled by the lighting switch which is built into the combination switch and headlamp battery saver control unit. The battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.

Power is supplied at all times

- to tail lamp relay terminals 2 and 3
- through 10A fuse (No. 61, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 7.5A fuse [No. 24, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 7.5A fuse [No. 11, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

### LIGHTING OPERATION BY LIGHTING SWITCH

NAEL0035S01

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

- to tail lamp relay terminal 1 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through body grounds E13 and E41.

Tail lamp relay is then energized and illumination lamps illuminate.

The lighting switch must be in the 1ST or 2ND position for illumination.

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 following chart shows the power and ground connector terminals for the components included in the illumination system.

Component	Connector No.	Power terminal	Ground terminal
Illumination control switch	M19	1	3
A/C switch	M45	2	1
Cigarette lighter	M57	3	4
Audio unit	M48	8	7
CD player	M92, M93	3	5
Compass and thermometer	R4	5	2
Rear window defogger switch	M36	5	6
ASCD main switch	M18	5	6
Power window main switch	D6	4	2
A/C auto amp.	M102	24	25
Hazard switch	M35	7	8
Ashtray	B60, B76	1	2
A/T device	B59	3	4
IVCS switch	R10	2	12
Combination meter	M25, M26	37	29
Odo trip (Combination meter)	M24, M25	12	29

The ground for all of the components except for compass, thermometer and ashtray are controlled through terminals 2 and 3 of the illumination control switch and body grounds M4 and M77.

# ILLUMINATION

System Description (Cont'd)

## BATTERY SAVER CONTROL

NAEL0035S02

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 1 of the tail lamp relay from headlamp battery saver control unit terminals 6 and 14 is terminated.

Then illumination lamps are turned off.

Illumination lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated.

When the lighting switch is turned from OFF to 1ST (or 2ND) after illumination lamps are turned off by the battery saver control, ground is supplied

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to tail lamp relay terminal 1 from headlamp battery saver control unit terminals 6 and 14.

Then illumination lamps illuminate again.

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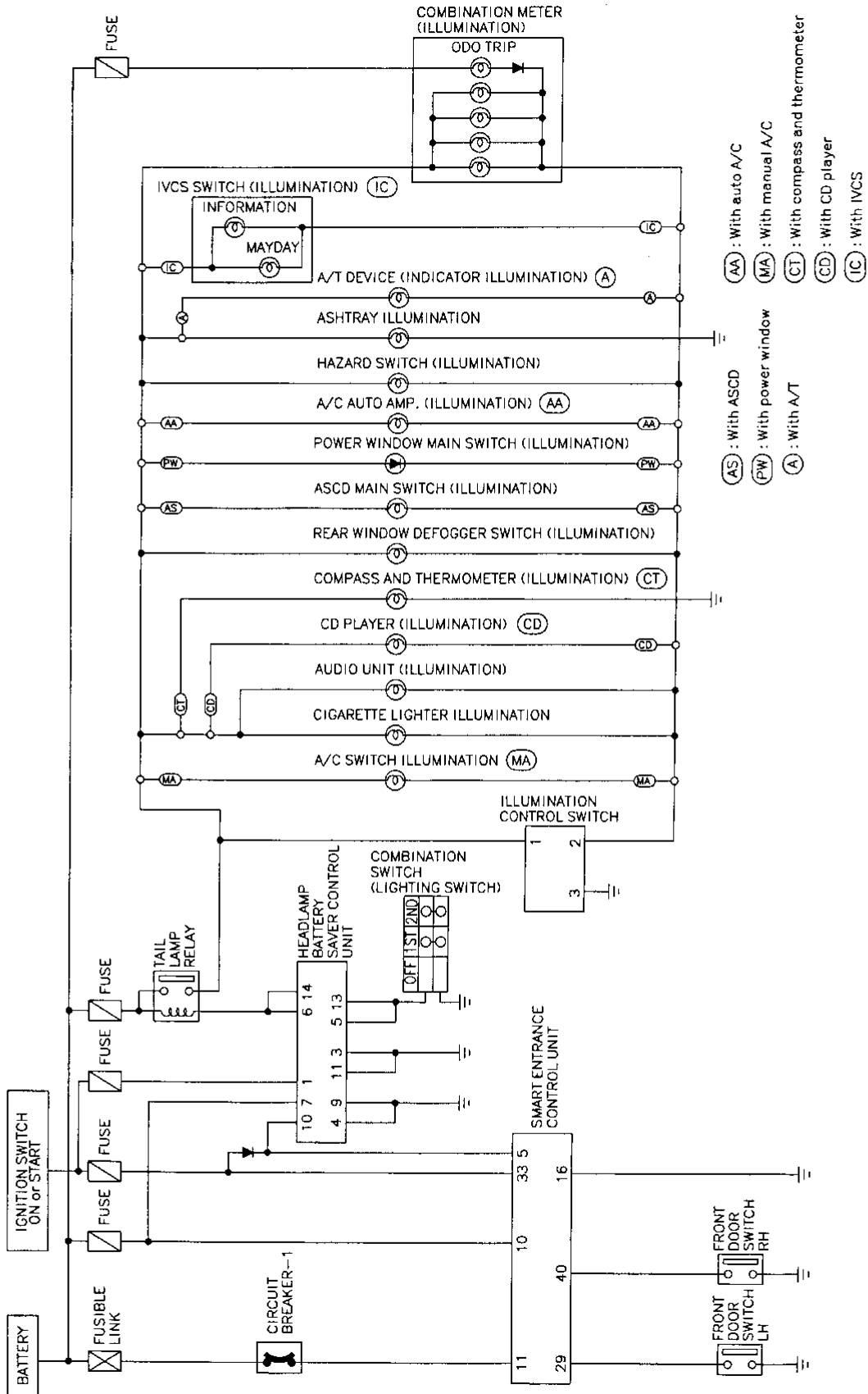
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# ILLUMINATION

Schematic

NAEL0038

## Schematic



MEL929J

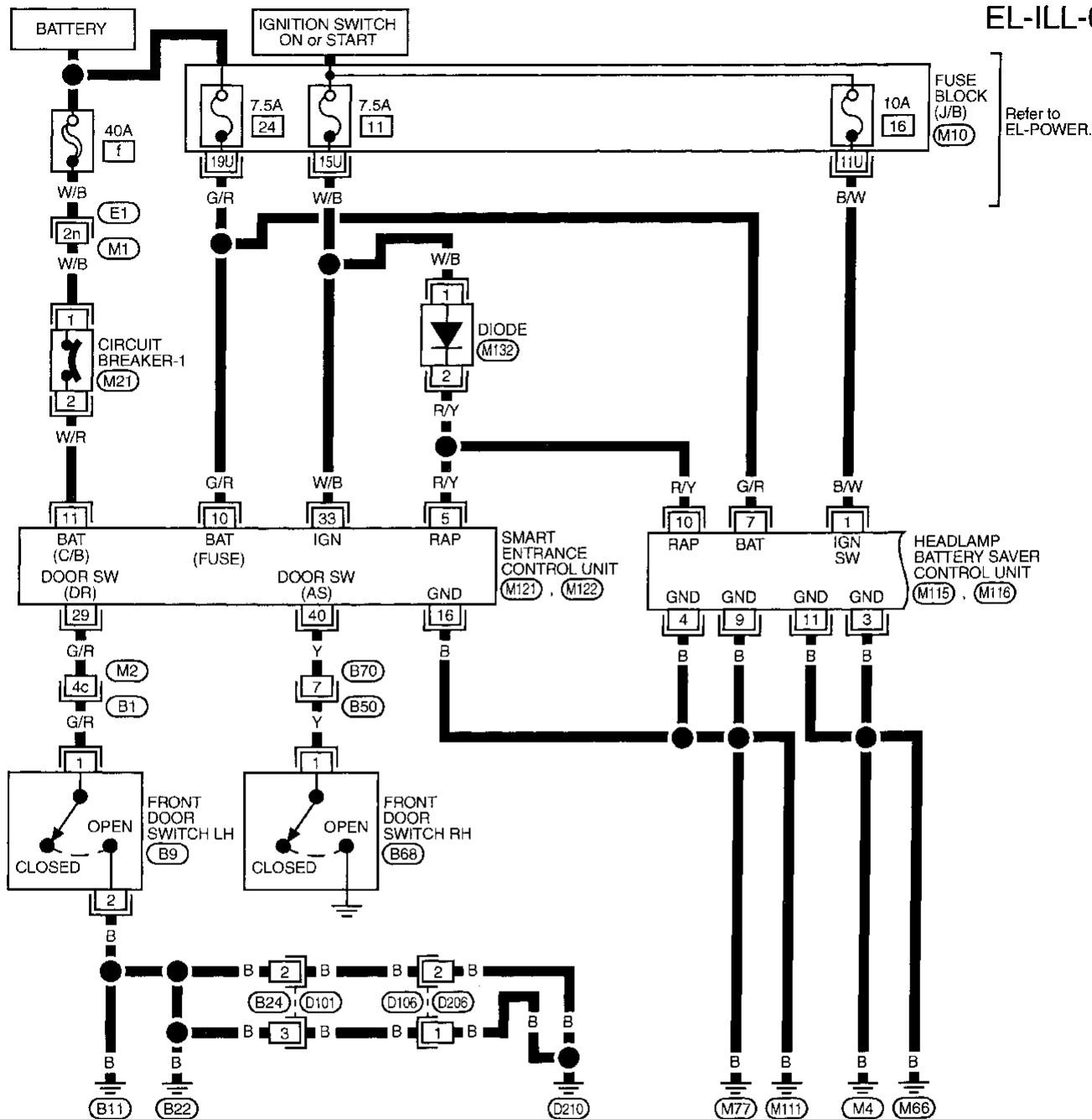
# ILLUMINATION

Wiring Diagram — ILL —

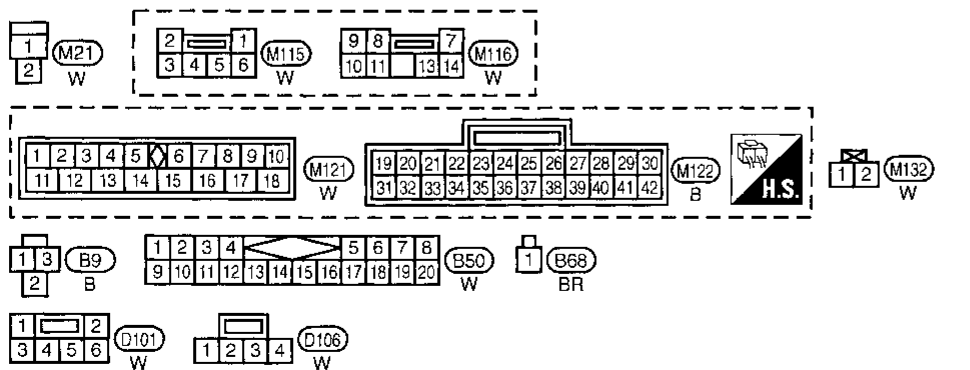
## Wiring Diagram — ILL —

NAEL0037

EL-ILL-01



Refer to EL-POWER.



Refer to last page (Foldout page).

- (M1), (E1)
- (M2), (B1)
- (M10)

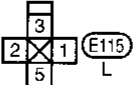
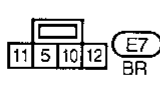
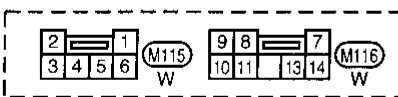
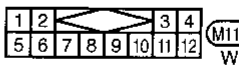
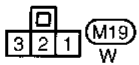
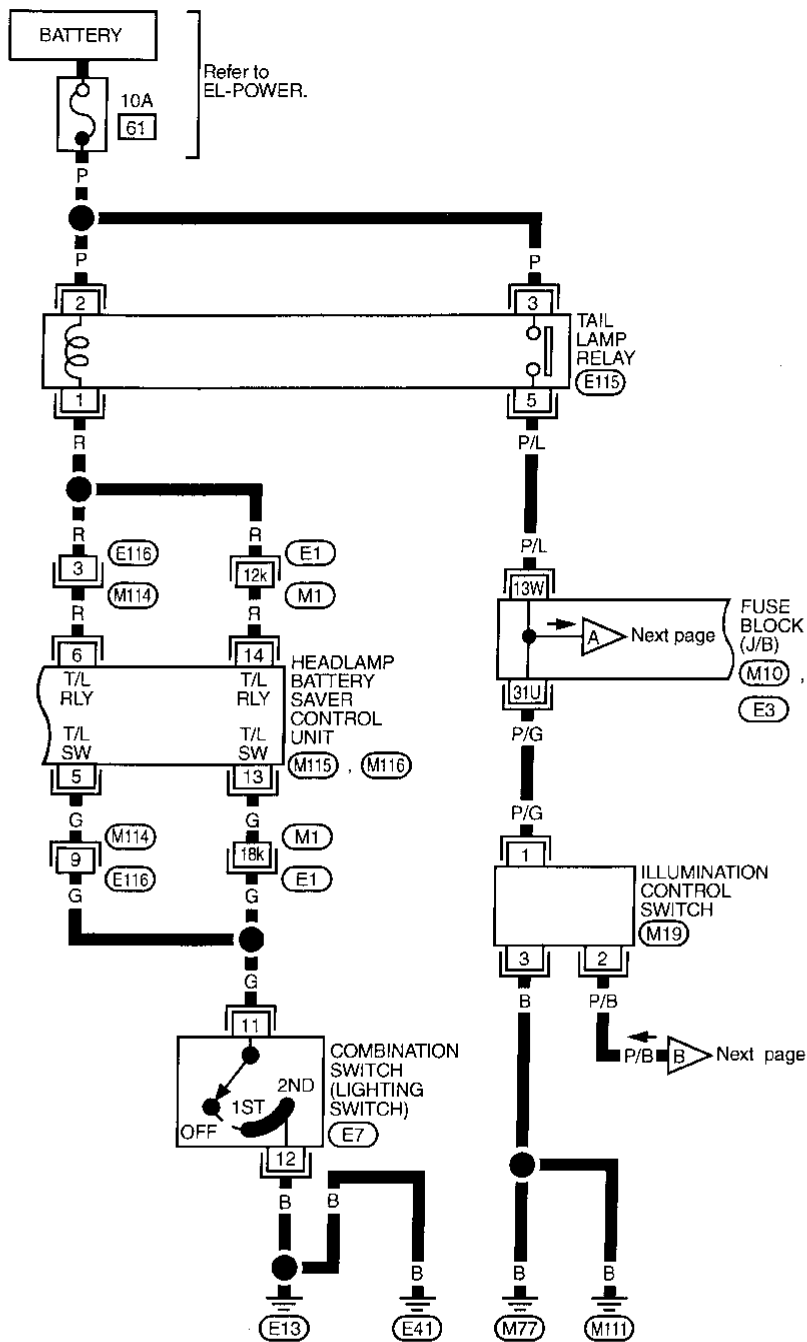
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MEL080K

# ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02



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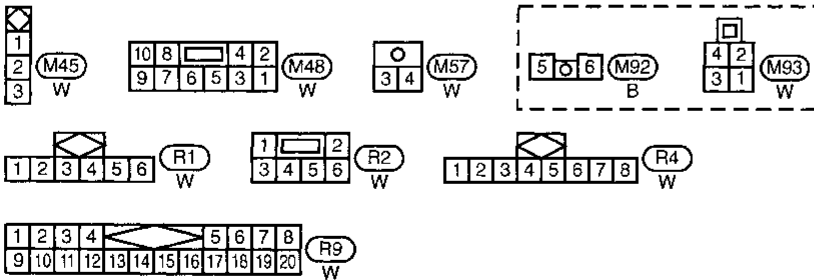
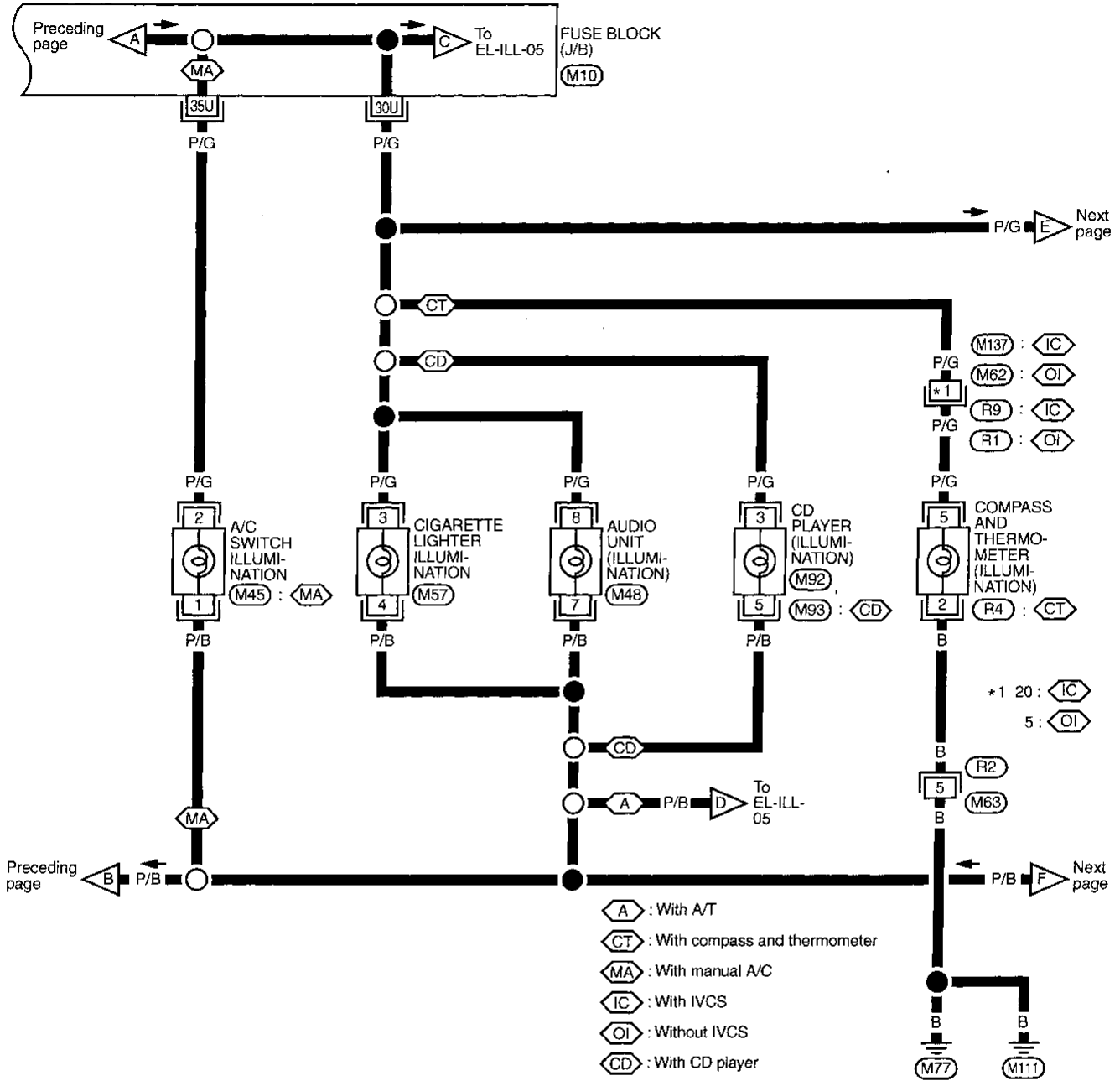
- (M1), (E1)
- (M10)
- (E3)

MEL930J

# ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-03



Refer to last page (Foldout page).

(M10)

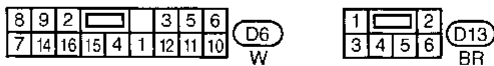
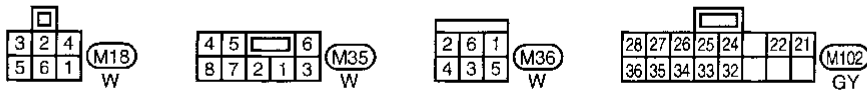
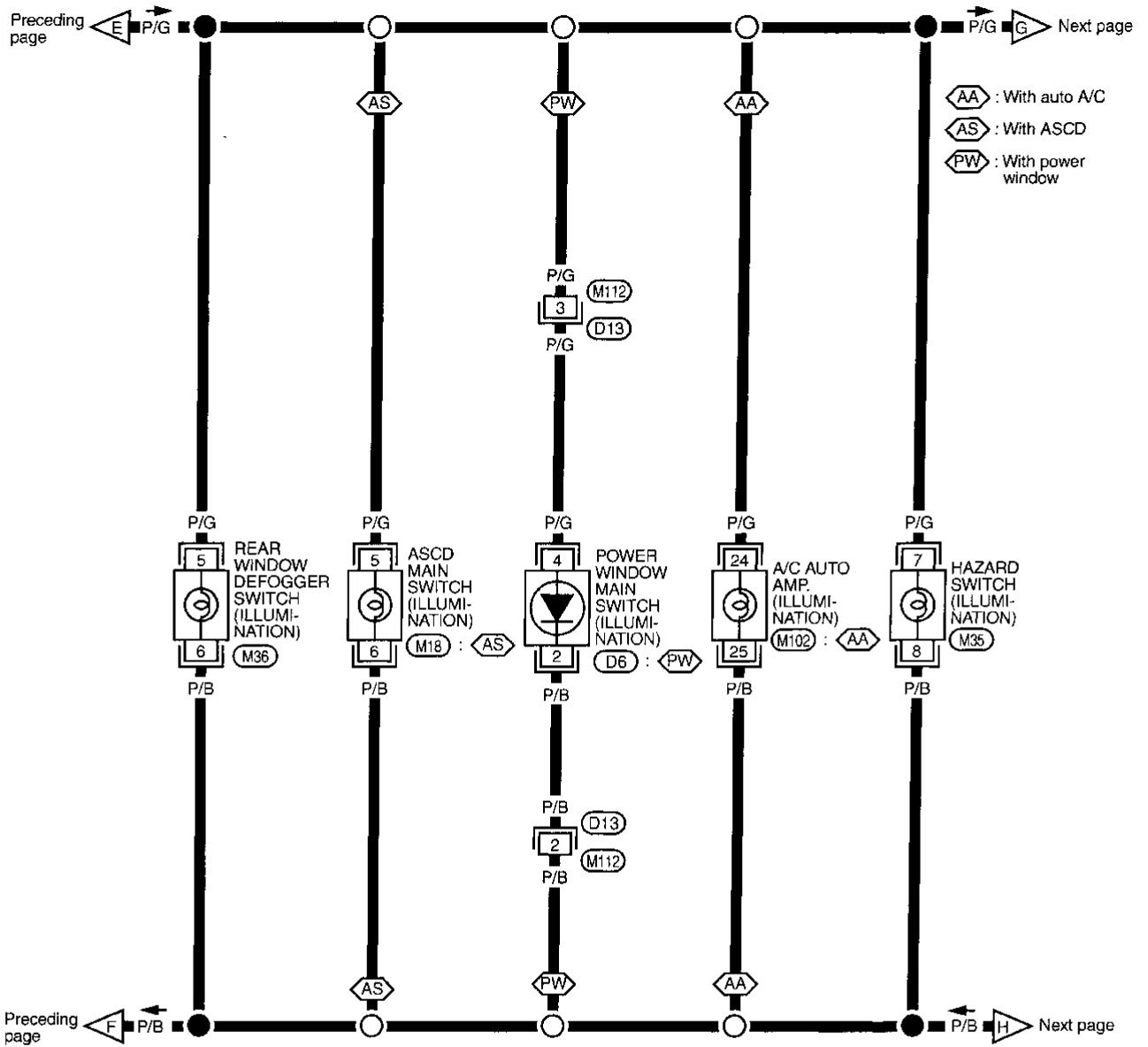
MEL931J

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# ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-04

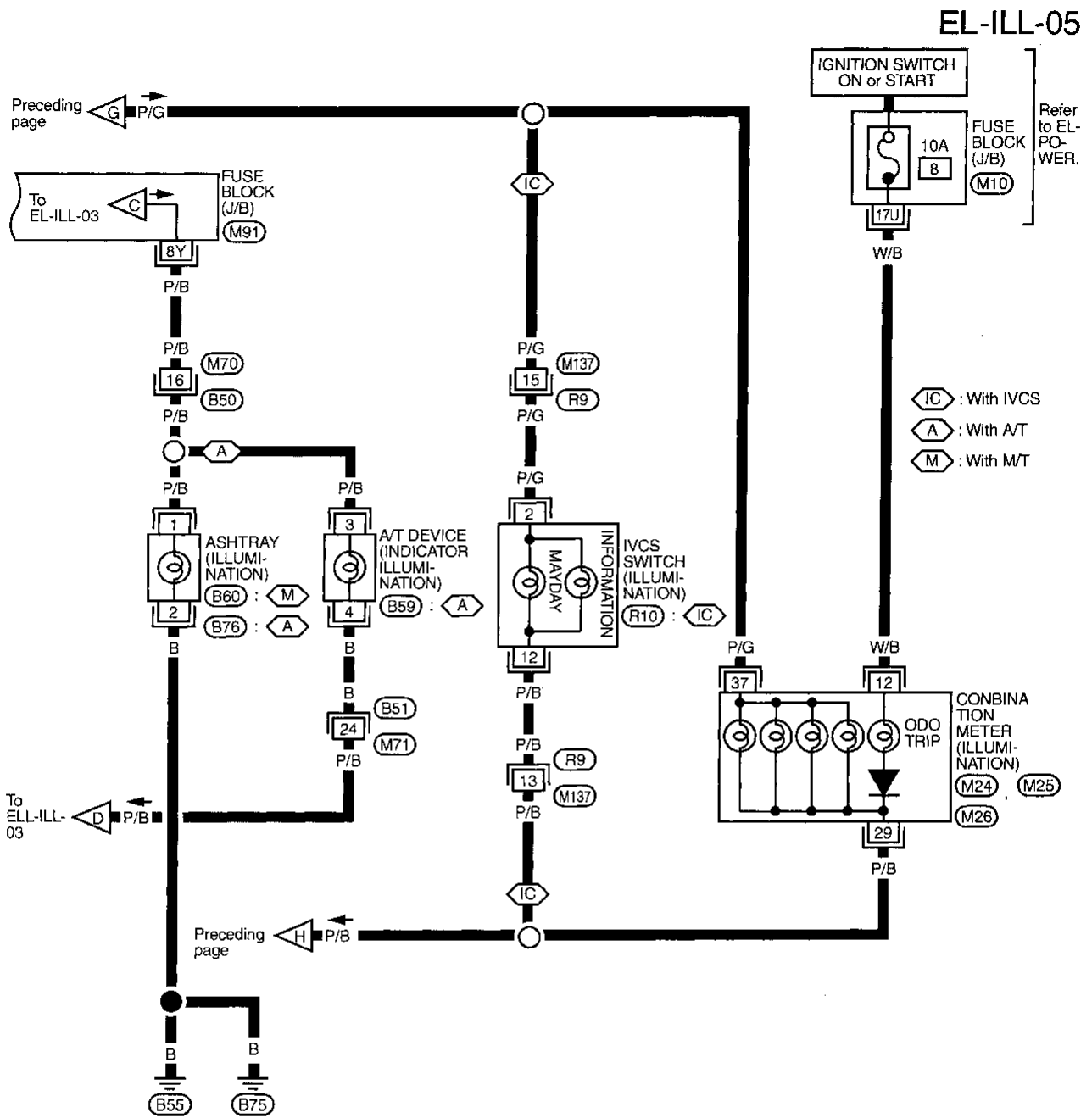


MEL932J

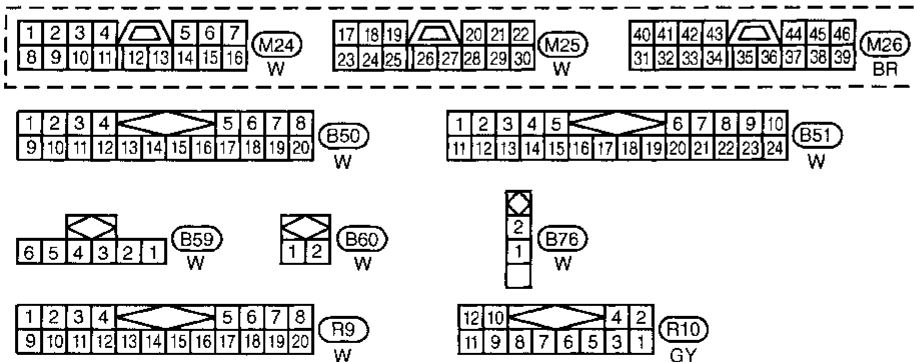


# ILLUMINATION

Wiring Diagram — ILL — (Cont'd)



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Refer to last page (Foldout page).

(M10)  
(M91)

MEL933J

# INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

System Description

## System Description

NAEL0036

NAEL0038506

### POWER SUPPLY AND GROUND

Power is supplied at all times:

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

Power is supplied at all times:

- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to key switch terminal 2 and
- to smart entrance control unit terminal 10.

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

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

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

- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

Ground is supplied:

- to smart entrance control unit terminal 16
- through body grounds terminals M77 and M111.

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

- through body grounds B11, B22 and B210
- to front door switch (driver side) terminal 2
- from front door switch (driver side) terminal 1
- to smart entrance control unit terminal 29.

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

- through case ground of front door switch (passenger side)
- from front door switch (passenger side) terminal 1
- to smart entrance control unit terminal 40.

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

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

- through body grounds terminals M77 and M111
- to front door lock actuator (driver side unlock sensor) terminal 2
- from front door lock actuator (driver side unlock sensor) terminal 4
- to smart entrance control unit terminal 36.

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

- through smart entrance control unit terminal 8
- 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.

And power is supplied:

- to interior lamp terminal 1
- from smart entrance control unit terminal 17.

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

- through body grounds M77 and M111
- to spot lamp terminal 2

And power is supplied:

NAEL0038507

# INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

System Description (Cont'd)

- to spot lamp terminal 1
- from smart entrance control unit terminal 17.

GI

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

- through body grounds M77 and M111
- to vanity mirror illuminations (LH and RH) terminals 2.

MA

And power is supplied:

- to vanity mirror illuminations (LH and RH) terminals 1
- from smart entrance control unit terminal 17.

EM

With power and ground supplied, interior lamps turn ON.

LC

## INTERIOR LAMP TIMER OPERATION

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

NAEL0038S08

EC

- unlock signal is supplied from driver's door unlock sensor while all doors are closed and key is removed from ignition key cylinder
- key is removed from ignition key cylinder while all doors are closed
- driver's door is opened and then closed while key is removed from 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.)

FE

CL

When the interior lamp switch is in the "DOOR" position and the unlock signal is supplied from the multi-remote controller while the driver's door is locked and all doors are closed (even if key is inserted), the smart entrance control unit keeps the interior lamp illuminated for about 30 seconds.

MT

The timer is canceled when:

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

AT

TF

## 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.

NAEL0038S09

PD

## BATTERY SAVER

The lamp turns off automatically when interior lamp, luggage room lamp, spot lamp and/or vanity mirror illumination is illuminated with the ignition key is in OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in ON position for more than 10 minutes.

NAEL0038S10

AX

SU

After lamps turn off by the battery saver system, the lamps illuminate again when:

- driver's door is locked or unlocked,
- door is opened or closed,
- key is inserted in ignition key cylinder.

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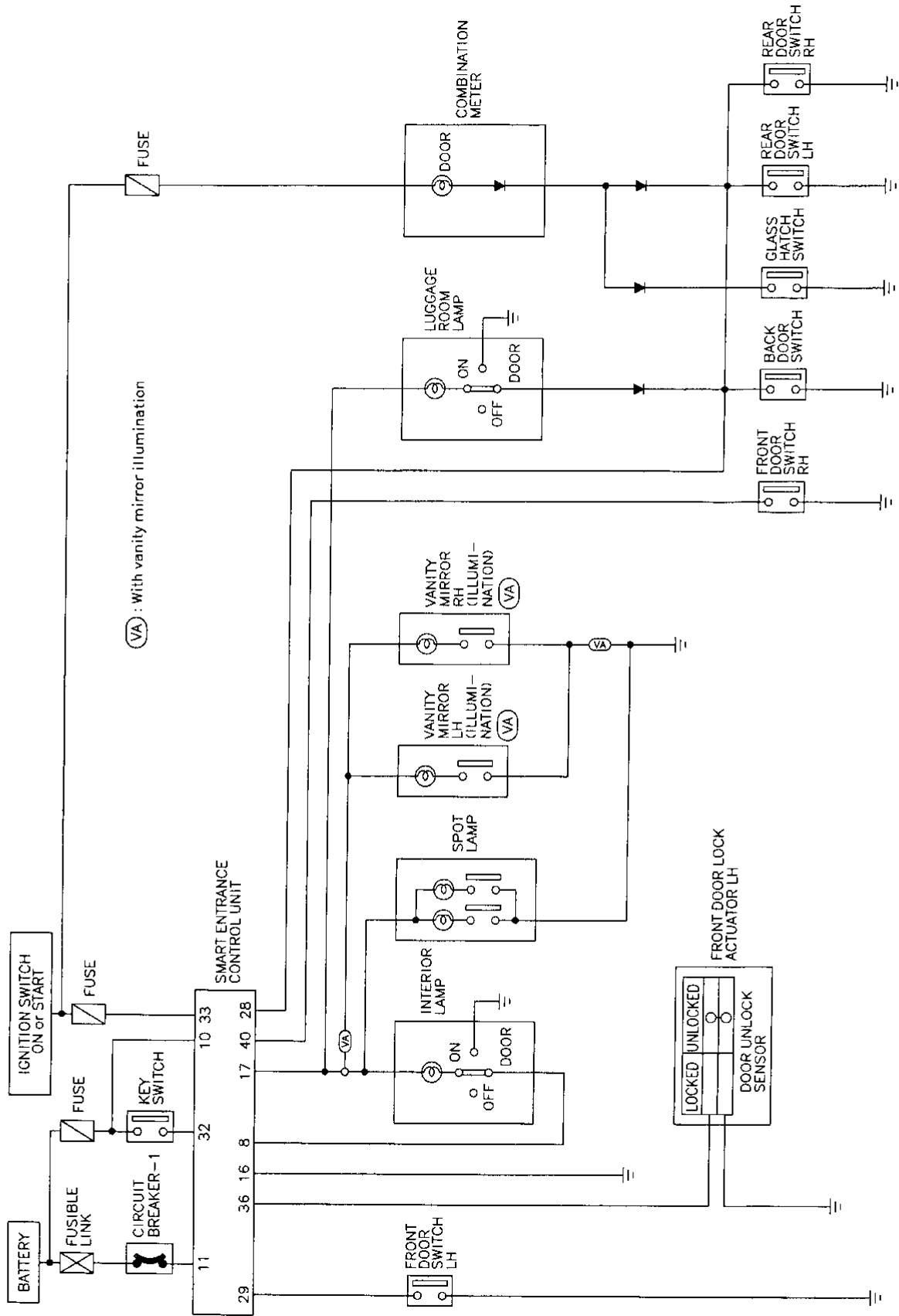
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# INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Schematic

## Schematic

NAEL0158



MEL934J

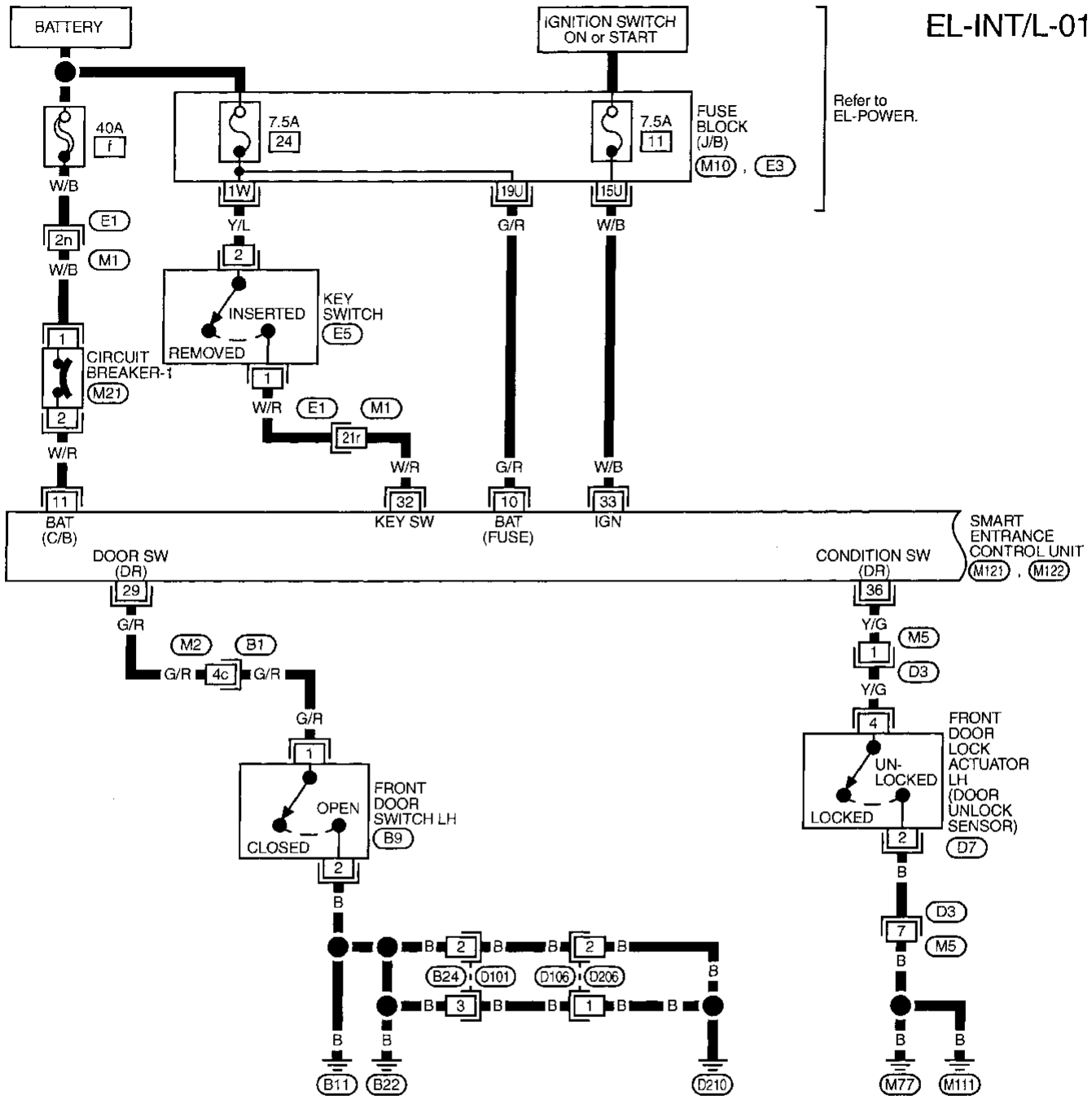
# INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L —

## Wiring Diagram — INT/L —

NAEL0040

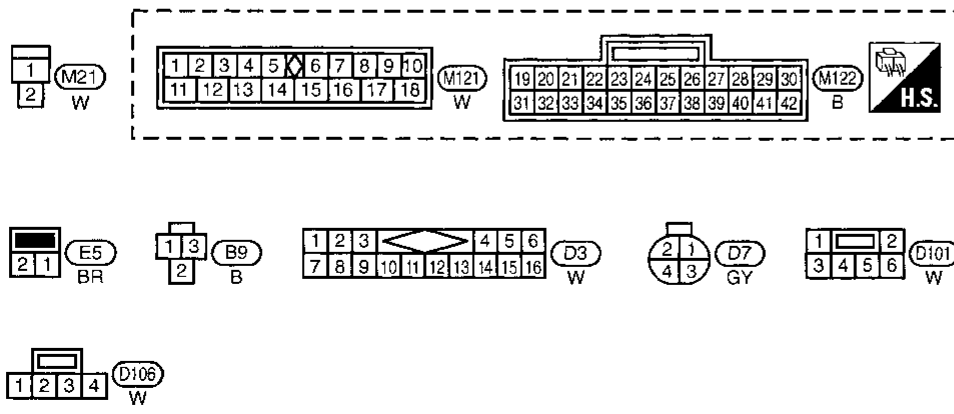
EL-INT/L-01



Refer to EL-POWER.

SMART ENTRANCE CONTROL UNIT (M121, M122)

Refer to last page (Foldout page).



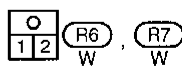
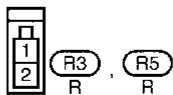
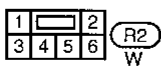
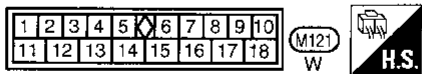
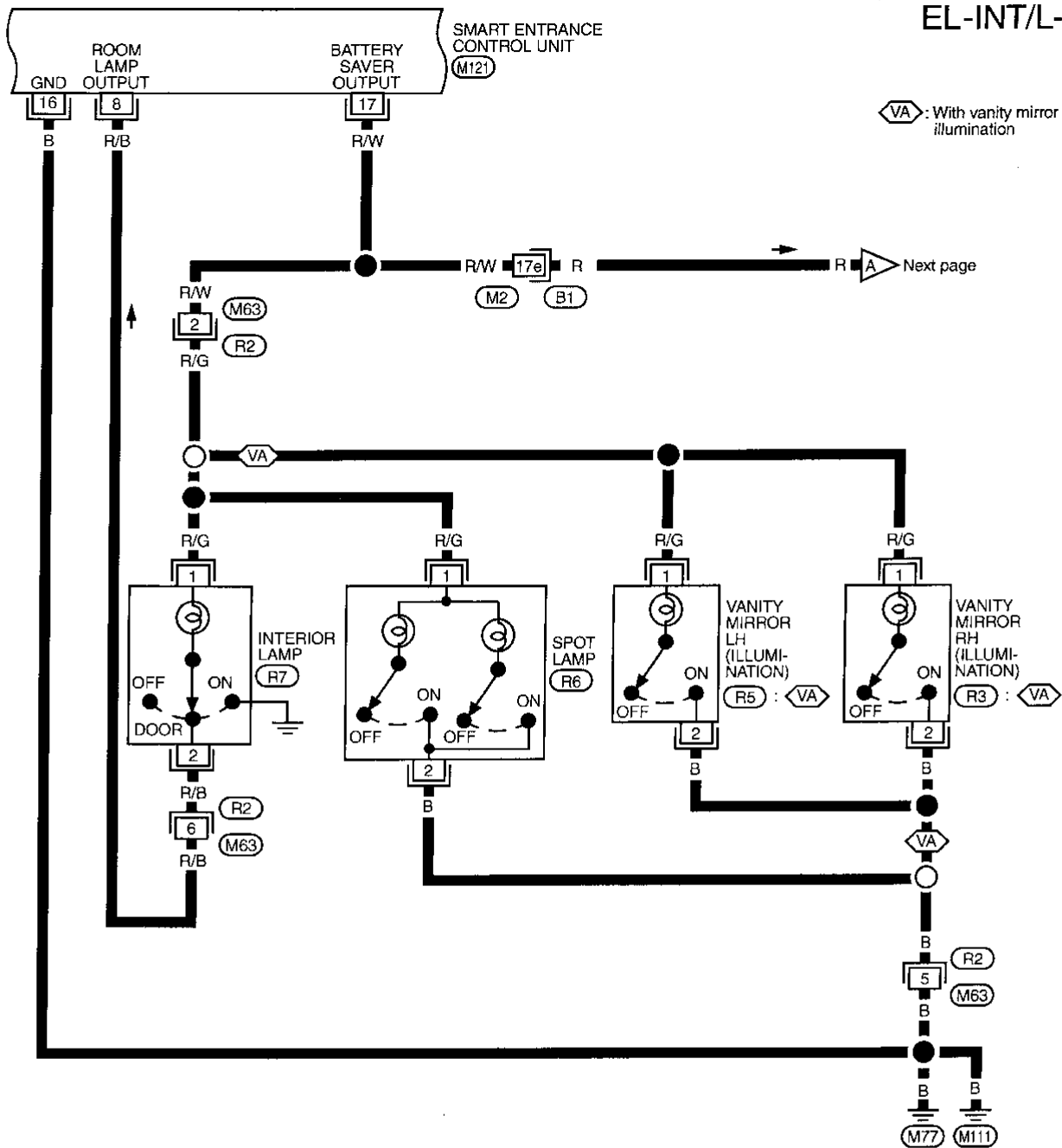
- (M1) (E1)
- (M2) (B1)
- (M10)
- (E3)

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# INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-02



Refer to last page (Foldout page).

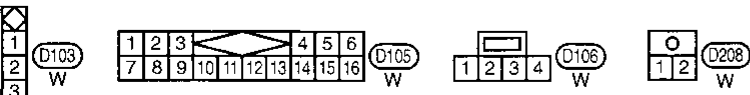
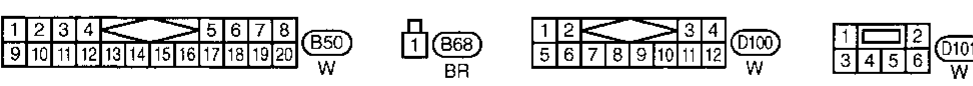
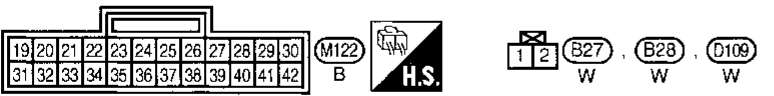
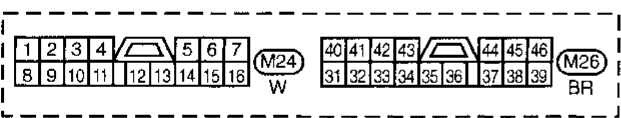
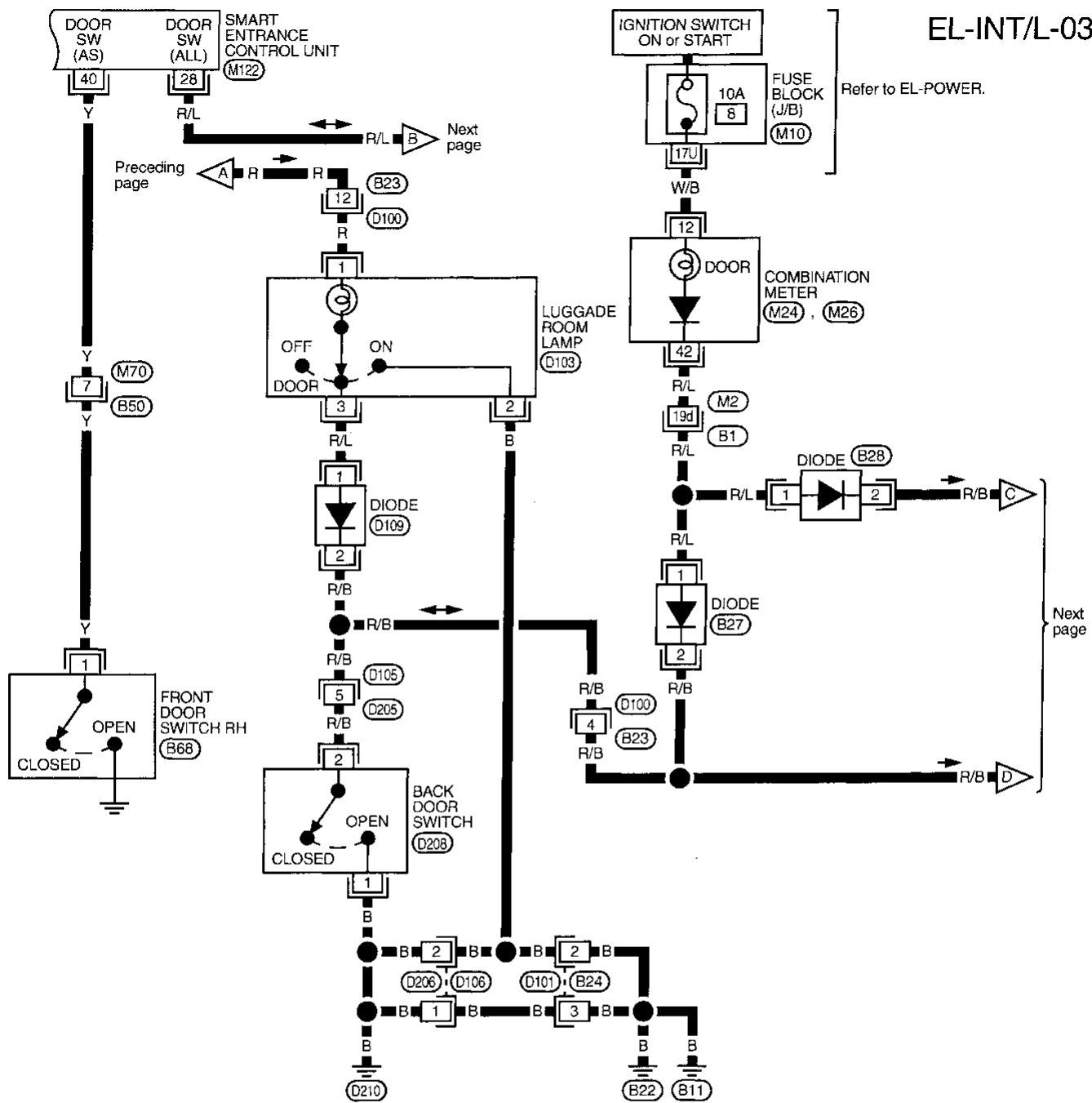
M2, B1

MEL936J

# INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-03



Refer to last page (Foldout page).  
M2, B1  
M10

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

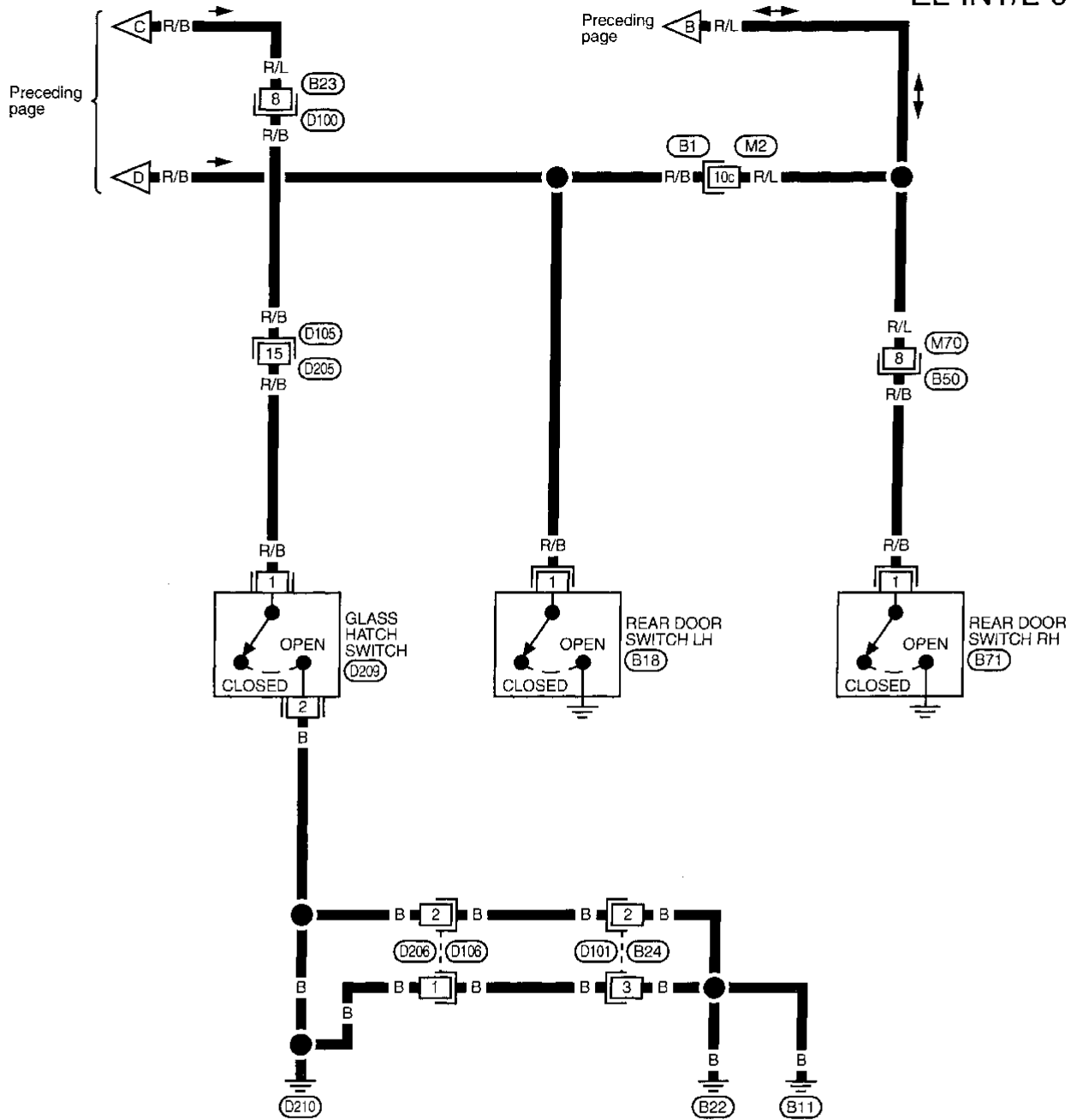
**EL**

MEL937J

# INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

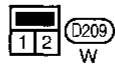
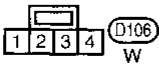
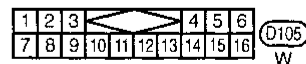
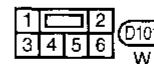
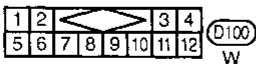
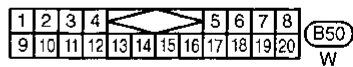
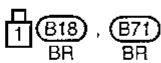
Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-04



Refer to last page (Foldout page).

(M2), (B1)



MEL938J

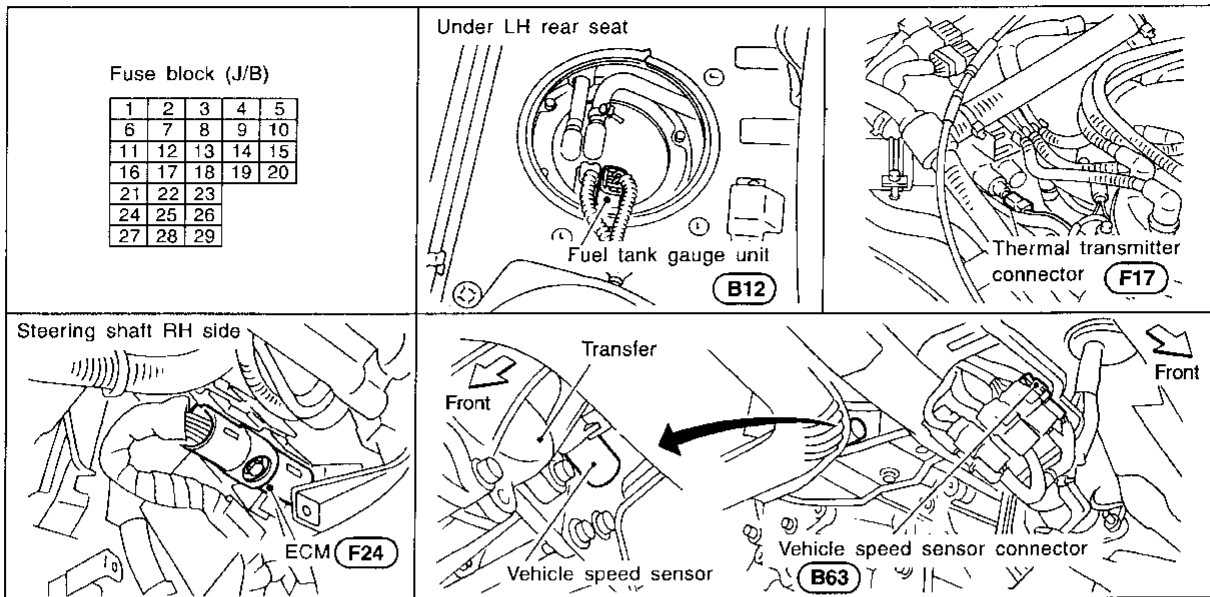


# METERS AND GAUGES

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0041



SEL045W

## System Description

NAEL0042

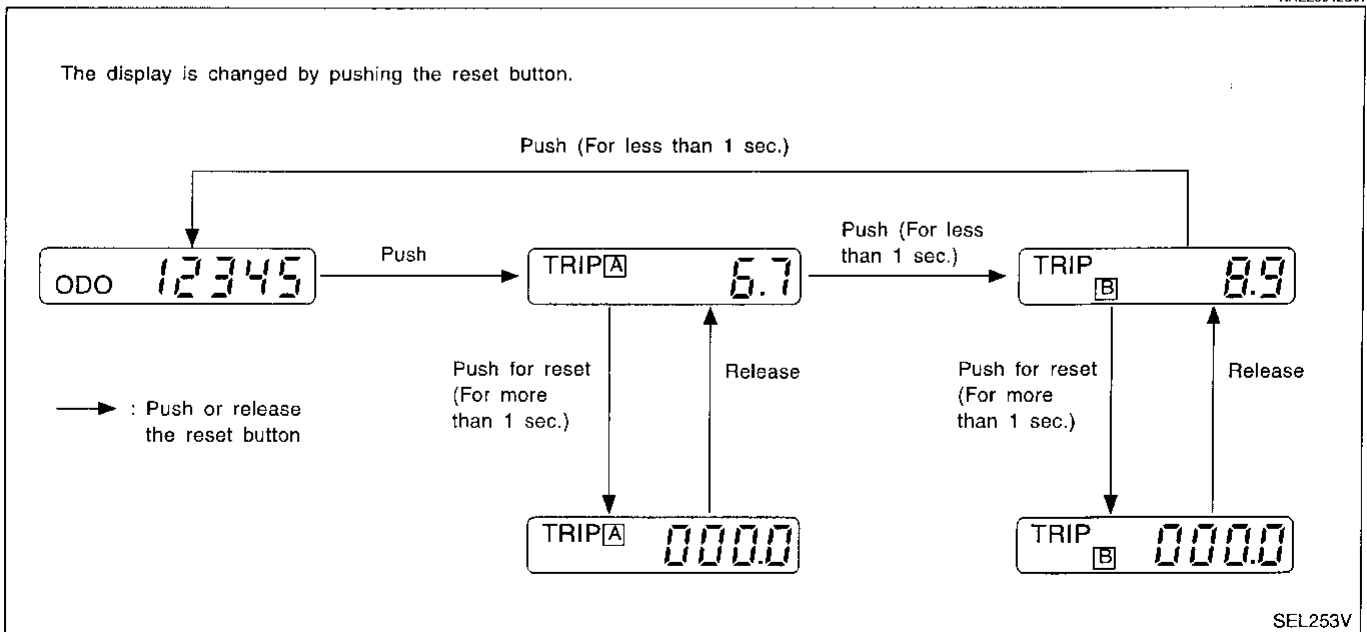
### UNIFIED CONTROL METER

NAEL0042S06

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

### HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

NAEL0042S07



SEL253V

### NOTE:

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

# METERS AND GAUGES

System Description (Cont'd)

## POWER SUPPLY AND GROUND CIRCUIT

NAEL0042S08

Power is supplied at all times

- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to combination meter terminal 3.

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to combination meter terminal 12.

Ground is supplied

- to combination meter terminal 2
- through body grounds M77 and M111.

## WATER TEMPERATURE GAUGE

NAEL0042S01

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 6 of the combination meter for the water temperature gauge. The needle on the gauge moves from "C" to "H".

## TACHOMETER

NAEL0042S02

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

The tachometer is regulated by a signal

- from terminal 3 of the ECM
- to combination meter terminal 15 for the tachometer.

## FUEL GAUGE

NAEL0042S03

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 7 for the fuel gauge
- from terminal 3 of the fuel tank gauge unit
- through terminal 2 of the fuel tank gauge unit and
- through body grounds B11, B22 and D210.

## SPEEDOMETER

NAEL0042S04

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

The voltage is supplied

- to combination meter terminals 16 and 14 for the speedometer
- from terminals 2 and 1 of the vehicle speed sensor.

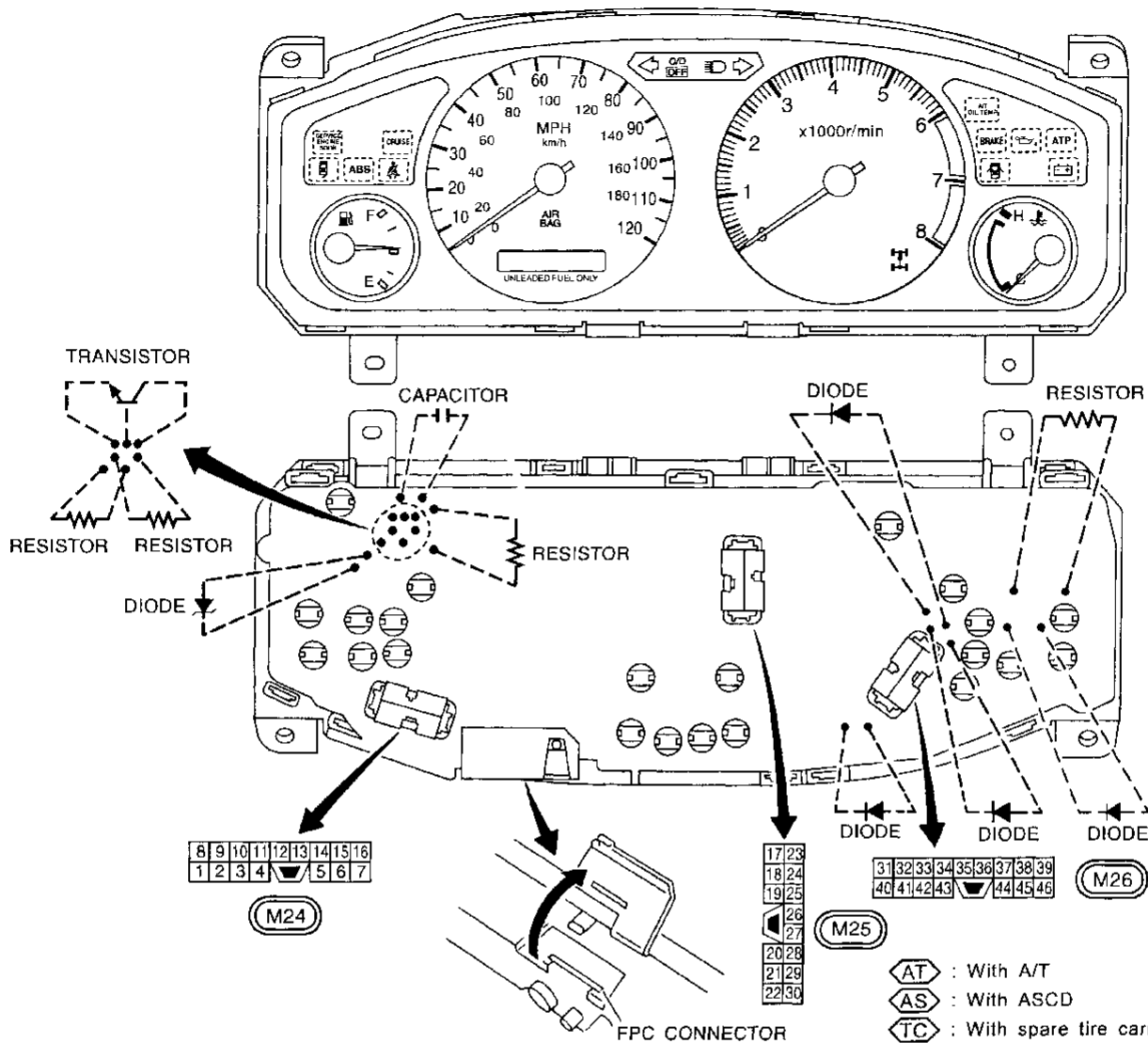
The speedometer converts the voltage into the vehicle speed displayed.

# METERS AND GAUGES

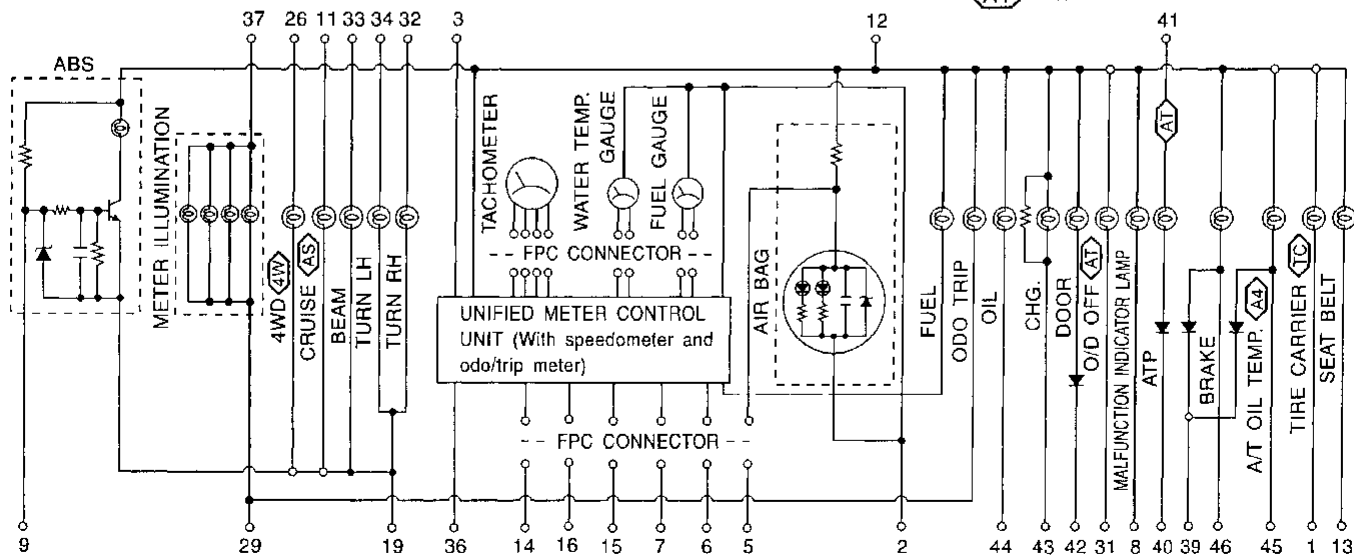
Combination Meter/For USA

## Combination Meter/For USA

NAEL0049



- ⬡ AT : With A/T
- ⬡ AS : With ASCD
- ⬡ TC : With spare tire carrier
- ⬡ 4W : With 4-wheel drive
- ⬡ A4 : With A/T and 4-wheel drive



MEL886J

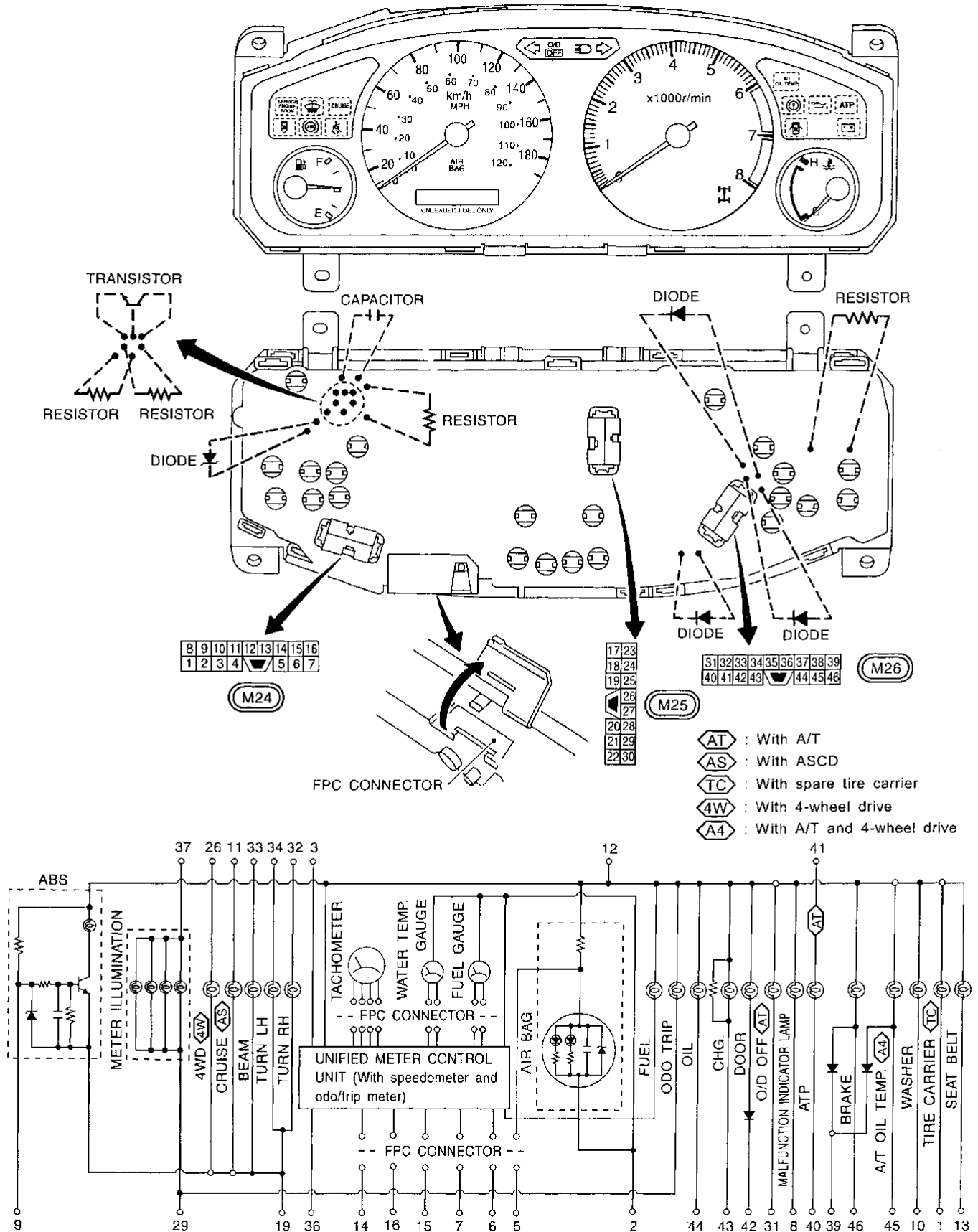
GI  
MA  
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LC  
EC  
FE  
CL  
MT  
AT  
TF  
PD  
AX  
SU  
BR  
ST  
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HA  
SC  
EL  
IDX

# METERS AND GAUGES

Combination Meter/For Canada

## Combination Meter/For Canada

NAEL0185

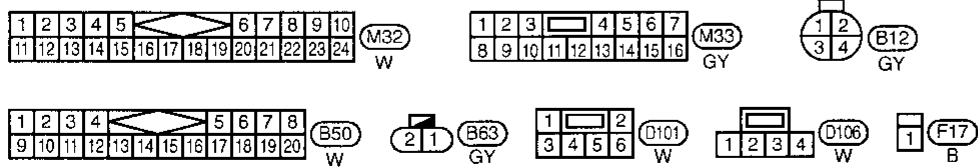
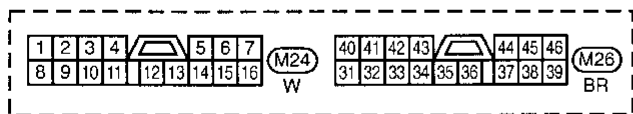
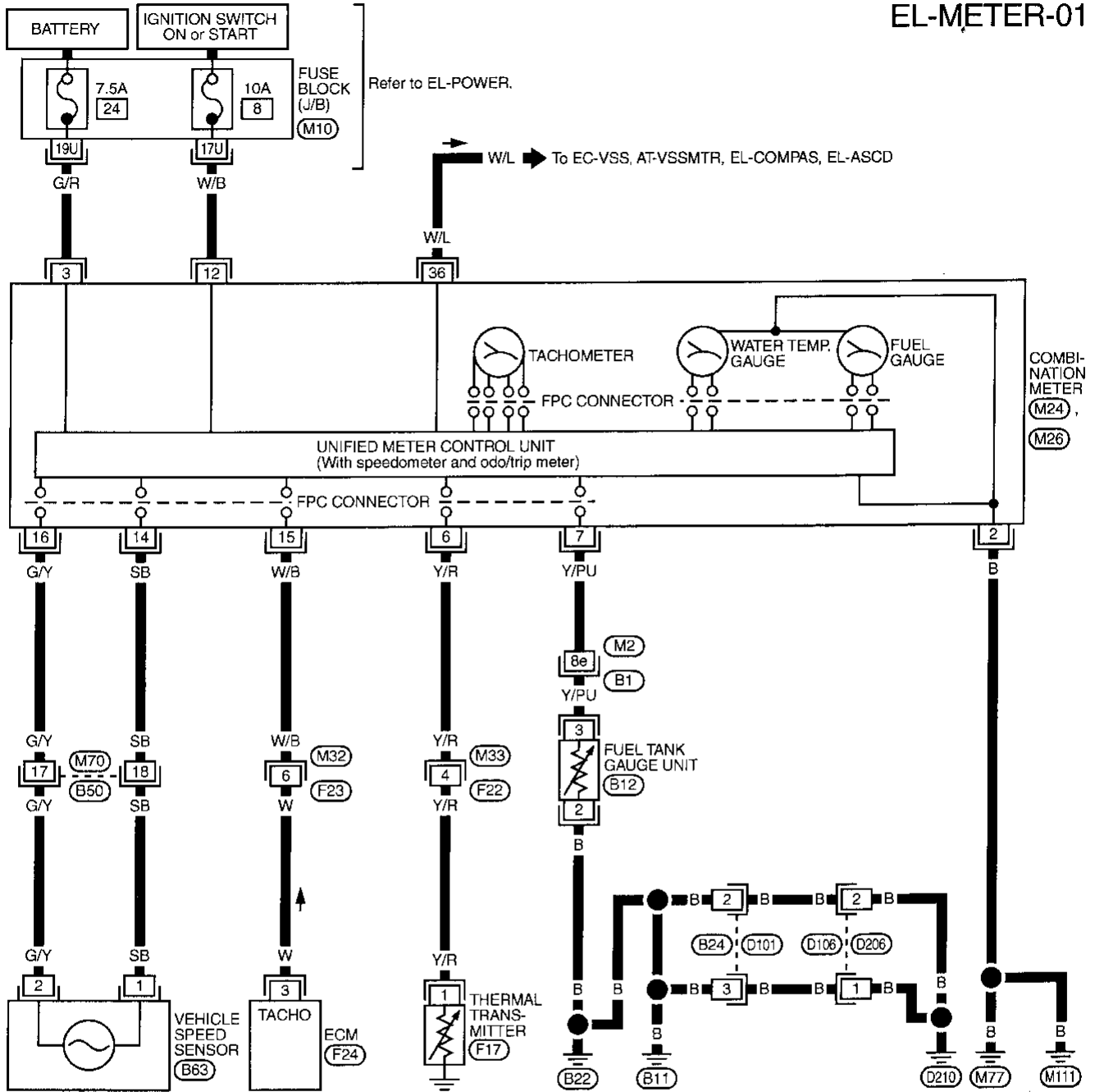


MEL887J

## Wiring Diagram — METER —

NAEL0045

### EL-METER-01



Refer to last page (Foldout page).

- (M2), (B1)
- (M10)
- (F24)

GI

MA

EM

LC

EC

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

**EL**

IDX

# METERS AND GAUGES

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

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

NAEL0151

### DIAGNOSIS FUNCTION

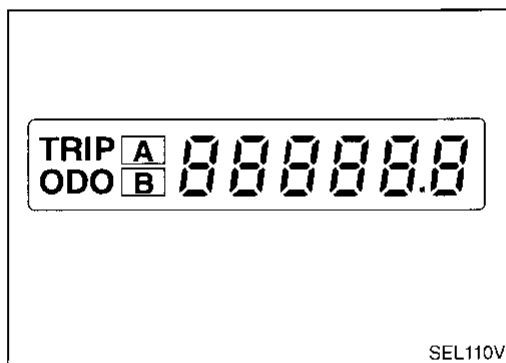
NAEL0151S01

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

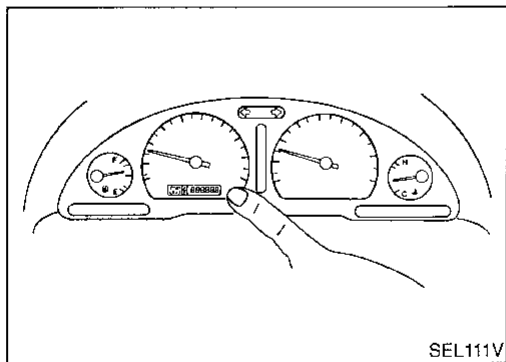
### HOW TO ALTERNATE DIAGNOSIS MODE

NAEL0151S02

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



SEL110V



SEL111V

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

#### NOTE:

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

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

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

#### NOTE:

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

## Flexible Print Circuit (FPC)

=NAEL0152

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

GI

MA

EM

LC

EC

NAEL0152S01

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

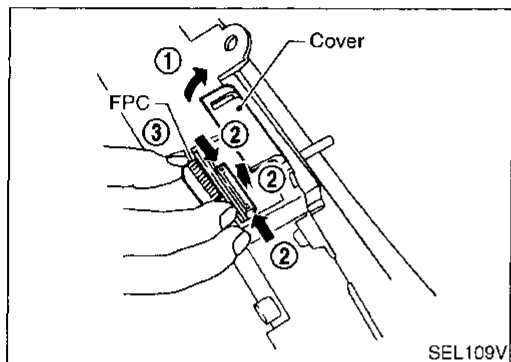
BT

HA

SC

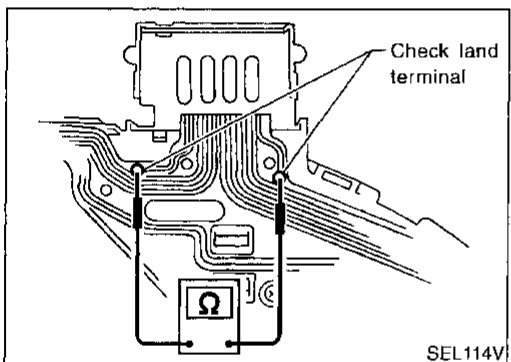
**EL**

IDX



### DISCONNECT

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



### CONNECT

NAEL0152S02

1. Insert FPC into connector and lock connector pushing FPC downward.
2. Check secure connection of FPC.
3. Check continuity of check land terminal for secure connection of FPC.

**Resistance: 0Ω**

4. Close connector cover.

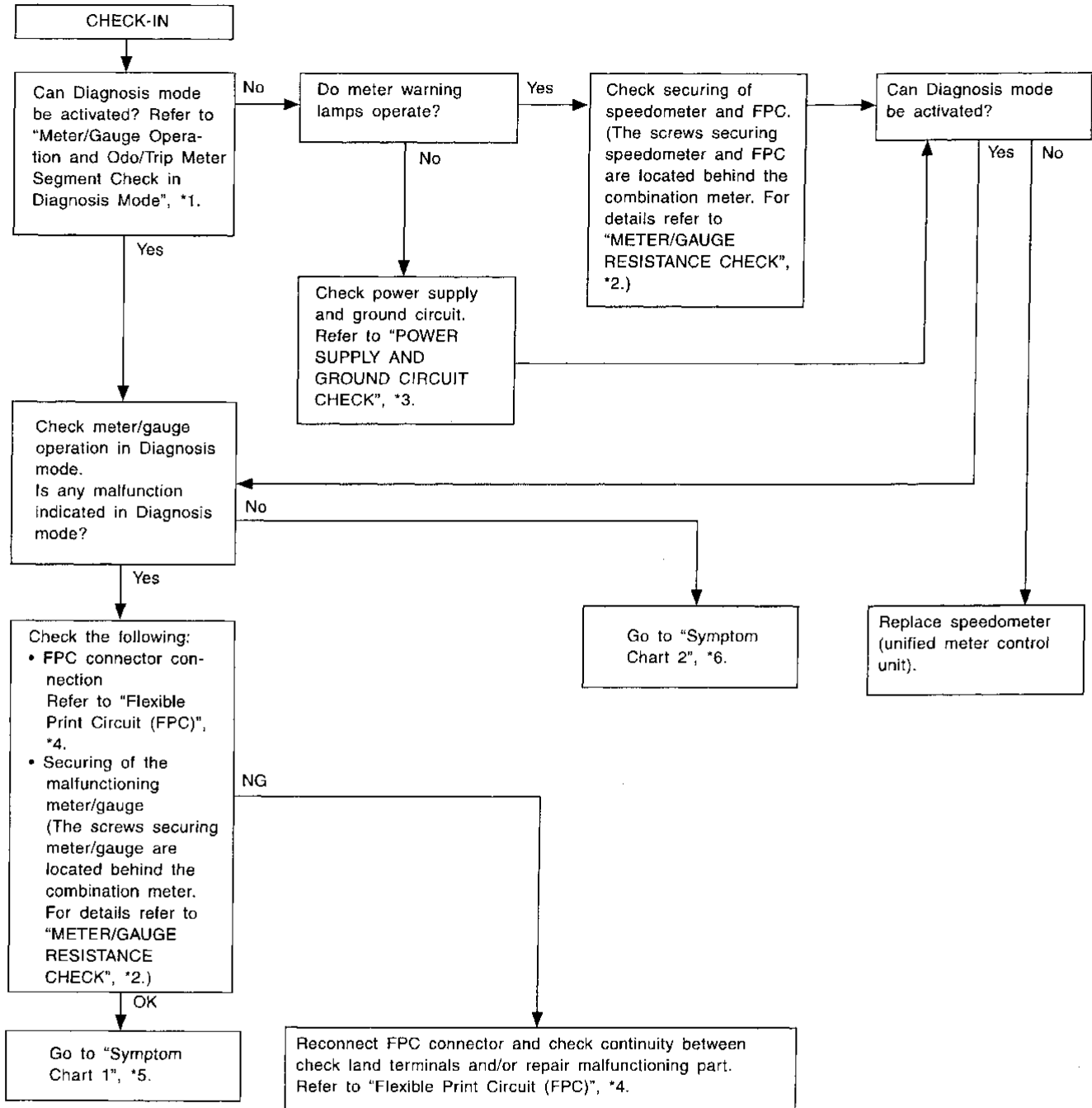
# METERS AND GAUGES

Trouble Diagnoses

## Trouble Diagnoses PRELIMINARY CHECK

NAEL0046

NAEL0046S04



MEL474HA

- \*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-84)
- \*2: METER/GAUGE RESISTANCE CHECK (EL-91)

- \*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-88)
- \*4: Flexible Print Circuit (FPC) (EL-85)

- \*5: Symptom Chart 1 (EL-87)
- \*6: Symptom Chart 2 (EL-87)



# METERS AND GAUGES

Trouble Diagnoses (Cont'd)

## SYMPTOM CHART

NAEL0046S10

### Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NAEL0046S1001

Symptom	Possible causes	Repair order
Speedometer and/or odo/trip meter indicate(s) malfunction in Diagnosis mode.	<ul style="list-style-type: none"> <li>Speedometer (Unified meter control unit)</li> </ul>	<ul style="list-style-type: none"> <li>Replace speedometer (unified meter control unit).</li> </ul>
Multiple meter/gauge indicate malfunction in Diagnosis mode.		
One of tachometer/fuel gauge/water temp. gauge indicates malfunction in Diagnosis mode.	<ul style="list-style-type: none"> <li>Meter/Gauge</li> <li>Speedometer (Unified meter control unit)</li> </ul>	<ol style="list-style-type: none"> <li>Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-91.</li> <li>If the resistance is OK, replace speedometer (unified meter control unit).</li> </ol>

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

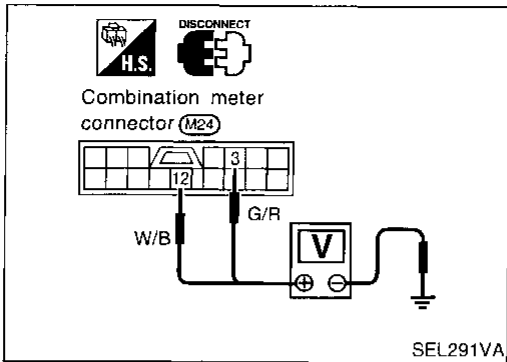
NAEL0046S1002

Symptom	Possible causes	Repair order
Speedometer and odo/trip meter are malfunctioning.	<ol style="list-style-type: none"> <li>Sensor                             <ul style="list-style-type: none"> <li>Speedometer, Odo/Trip meter</li> </ul> </li> <li>FPC connector</li> <li>Speedometer (Unified meter control unit)</li> </ol>	<ol style="list-style-type: none"> <li>Check vehicle speed sensor. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-89.)</li> <li>Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-85.</li> <li>Replace speedometer (unified meter control unit).</li> </ol>
Multiple meter/gauge are malfunctioning. (except speedometer, odo/trip meter)	<ol style="list-style-type: none"> <li>FPC connector</li> <li>Speedometer (Unified meter control unit)</li> </ol>	<ol style="list-style-type: none"> <li>Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-85.</li> <li>Replace speedometer (unified meter control unit).</li> </ol>
One of tachometer/fuel gauge/water temp. gauge is malfunctioning.	<ol style="list-style-type: none"> <li>Sensor/Engine revolution signal                             <ul style="list-style-type: none"> <li>Tachometer</li> <li>Fuel gauge</li> <li>Water temp. gauge</li> </ul> </li> <li>FPC connector</li> <li>Speedometer (Unified meter control unit)</li> </ol>	<ol style="list-style-type: none"> <li>Check the sensor for malfunctioning meter/gauge. INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-89.) INSPECTION/FUEL TANK GAUGE UNIT (Refer to EL-90.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-90.)</li> <li>Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-85.</li> <li>Replace speedometer (unified meter control unit).</li> </ol>

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-86.

# METERS AND GAUGES

Trouble Diagnoses (Cont'd)



## POWER SUPPLY AND GROUND CIRCUIT CHECK

=NAEL0046S07

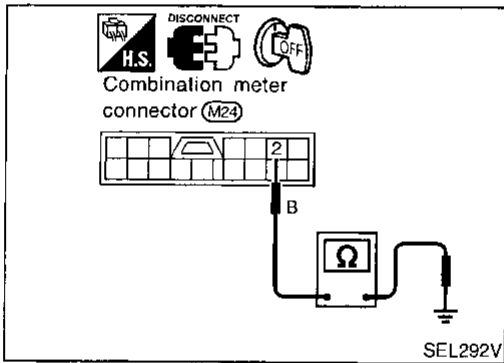
### Power Supply Circuit Check

NAEL0046S0701

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

If NG, check the following.

- 7.5A fuse [No. 24, located in fuse block (J/B)]
- 10A fuse [No. 8, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter



### Ground Circuit Check

NAEL0046S0702

Terminals	Continuity
2 - Ground	Yes

# METERS AND GAUGES

Trouble Diagnoses (Cont'd)

## INSPECTION/VEHICLE SPEED SENSOR

=NAEL0046S03

<b>1</b>	<b>CHECK VEHICLE SPEED SENSOR OUTPUT</b>
<p>1. Remove vehicle speed sensor from transmission.                  2. Check voltage between combination meter terminals 14 and 16 while quickly turning speed sensor pinion.</p>	
<p>Vehicle speed sensor</p> <p>Vehicle speed sensor pinion</p> <p>Combination meter connector (M24)</p> <p>G/Y SB</p> <p>NOTE: Vehicle speed sensor connector should remain connected.</p> <p style="text-align: right;">SEL293V</p> <p style="text-align: center;"><b>Voltage: Approx. 0.5V</b></p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ Vehicle speed sensor is OK.
NG	▶ GO TO 2.

<b>2</b>	<b>CHECK VEHICLE SPEED SENSOR</b>
<p>Check resistance between vehicle speed sensor terminals 1 and 2.</p>	
<p>Vehicle speed sensor connector (B63)</p> <p style="text-align: right;">SEL344V</p> <p style="text-align: center;"><b>Resistance: Approx. 250Ω</b></p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ Check harness or connector between speedometer and vehicle speed sensor.
NG	▶ Replace vehicle speed sensor.

## INSPECTION/ENGINE REVOLUTION SIGNAL

NAEL0046S02

<b>1</b>	<b>CHECK ECM OUTPUT</b>
<p>1. Start engine.                  2. Check voltage between combination meter terminals 15 and ground at idle and 2,000 rpm.</p>	
<p>Combination meter connector (M24)</p> <p>W/B</p> <p>NOTE: Higher rpm = Higher voltage                  Lower rpm = Lower voltage                  Voltage should change with rpm.</p> <p style="text-align: right;">SEL294V</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ Engine revolution signal is OK.
NG	▶ Harness for open or short between ECM and combination meter

GI  
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IDX

# METERS AND GAUGES

Trouble Diagnoses (Cont'd)

## INSPECTION/FUEL TANK GAUGE UNIT

=NAEL0046S08

<b>1</b>	<b>CHECK GROUND CIRCUIT FOR FUEL TANK GAUGE UNIT</b>
<p>Check harness continuity between fuel tank gauge unit terminal 2 and ground.</p> <p>Fuel tank gauge unit connector (B12)</p> <p style="text-align: right;">MEL839G</p>	
Does continuity exist?	
Yes	▶ GO TO 2.
No	▶ Repair harness or connector.

<b>2</b>	<b>CHECK GAUGE UNITS</b>
Refer to "FUEL TANK GAUGE UNIT CHECK" (EL-91).	
OK or NG	
OK	▶ GO TO 3.
NG	▶ Replace fuel tank gauge unit.

<b>3</b>	<b>CHECK HARNESS FOR OPEN OR SHORT</b>
<ol style="list-style-type: none"> <li>1. Disconnect combination meter connector and fuel tank gauge unit connector.</li> <li>2. Check continuity between combination meter terminal 7 and fuel tank gauge unit terminal 3.</li> <li>3. Check continuity between combination meter terminal 7 and ground.</li> </ol>	
<p>Continuity:</p> <p>Combination meter terminal 7 and fuel tank gauge unit terminal 3 Yes</p> <p>Combination meter terminal 7 and ground No</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ Fuel tank gauge unit is OK.
NG	▶ Repair harness or connector.

## INSPECTION/THERMAL TRANSMITTER

NAEL0046S09

<b>1</b>	<b>CHECK THERMAL TRANSMITTER</b>
Refer to "THERMAL TRANSMITTER CHECK" (EL-92).	
OK or NG	
OK	▶ GO TO 2.
NG	▶ Replace.

<b>2</b>	<b>CHECK HARNESS FOR OPEN OR SHORT</b>
<ol style="list-style-type: none"> <li>1. Disconnect combination meter connector and thermal transmitter connector.</li> <li>2. Check continuity between combination meter terminal 6 and thermal transmitter terminal 1.</li> <li>3. Check continuity between combination meter terminal 6 and ground.</li> </ol>	
<p>Continuity:</p> <p>Combination meter terminal 6 and thermal transmitter terminal 1 Yes</p> <p>Combination meter terminal 6 and ground No</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ Thermal transmitter is OK.
NG	▶ Repair harness or connector.

## Electrical Components Inspection

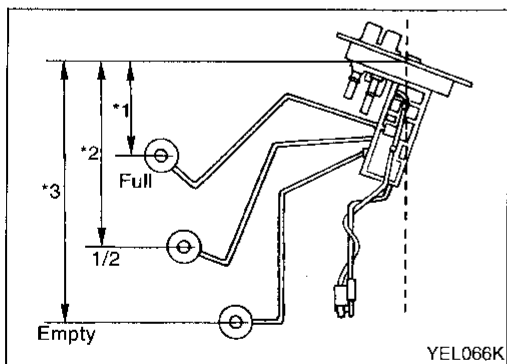
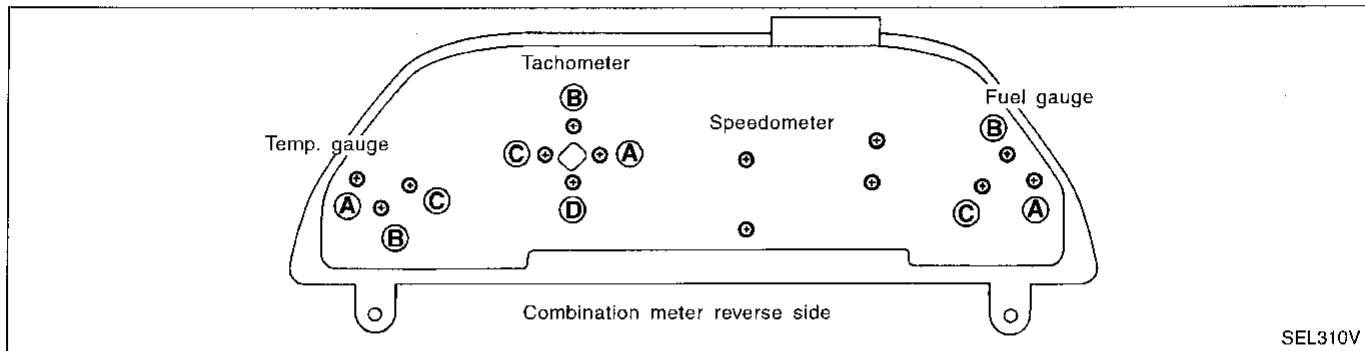
NAEL0047

### METER/GAUGE RESISTANCE CHECK

NAEL0047S04

1. Disconnect FPC connector. Refer to "Flexible Print Circuit (FPC)" (EL-85).
2. Check resistance between installation screws of meter/gauge.

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



### FUEL TANK GAUGE UNIT CHECK

NAEL0047S01

- For removal, refer to FE section.

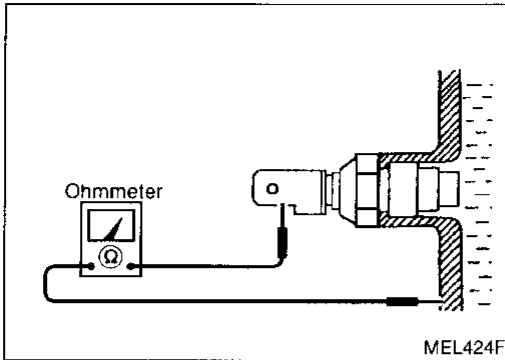
Check the resistance between terminals 3 and 2.

Ohmmeter		Float position		Resistance value (Ω)
(+)	(-)		mm (in)	
3	2	*1	Full	95 (3.74)
		*2	1/2	184 (7.24)
		*3	Empty	265 (10.43)

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

# METERS AND GAUGES

Electrical Components Inspection (Cont'd)

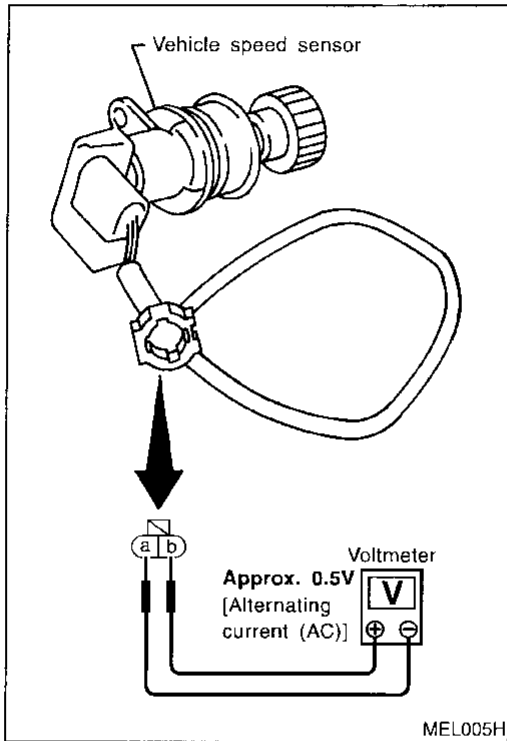


## THERMAL TRANSMITTER CHECK

NAEL0047S02

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

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



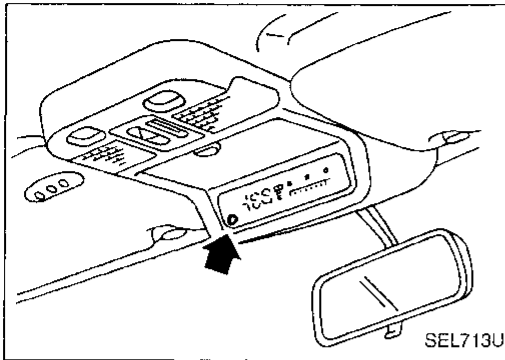
## VEHICLE SPEED SENSOR SIGNAL CHECK

NAEL0047S03

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

## System Description

NAEL0153



This unit displays following items:

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

### OUTSIDE TEMPERATURE DISPLAY

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

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

### DIRECTION DISPLAY

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

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

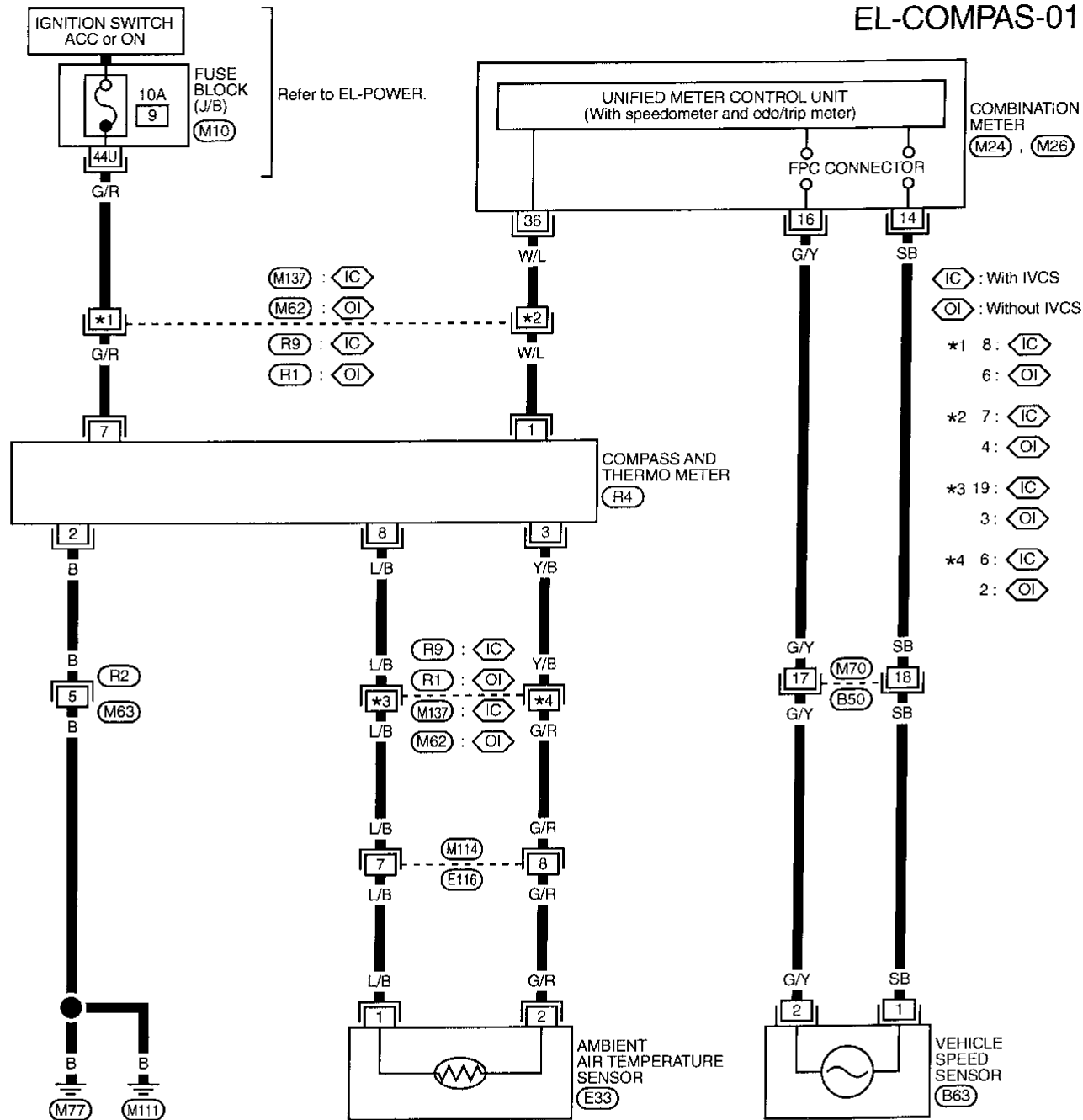
# COMPASS AND THERMOMETER

Wiring Diagram — COMPAS —

## Wiring Diagram — COMPAS —

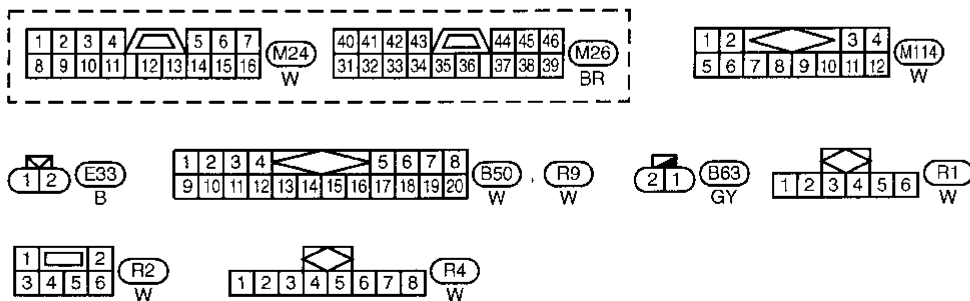
NAEL0154

EL-COMPAS-01



Refer to last page (Foldout page).

(M10)



MEL940J



## Trouble Diagnoses PRELIMINARY CHECK FOR THERMOMETER

NAEL004B

NAEL004B502

<b>1</b>	<b>COOL DOWN CHECK</b>	
1. Turn the ignition key switch to the "ACC" position. 2. Cool down the ambient air temperature sensor with water or ice, so that the indicated temperature falls.		
<b>Does the indicated temperature fall?</b>		
Yes	▶	GO TO 2.
No	▶	The system is malfunctioning. Check the system following "INSPECTION/COMPASS AND THERMOMETER".

<b>2</b>	<b>WARM UP CHECK</b>	
1. Leave the vehicle for 10 minutes, so that the indicated temperature rises. 2. With the ignition key in the "ACC" position, disconnect and reconnect the ambient air temperature sensor connector.		
<b>Does the indicated temperature rise?</b>		
Yes	▶	The system is OK.
No	▶	The system is malfunctioning. Check the system following "INSPECTION/COMPASS AND THERMOMETER".

**NOTE:**

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

### INSPECTION/COMPASS AND THERMOMETER

NAEL004B501

Symptom	Possible causes	Repair order
No display at all	1. 10A fuse 2. Ground circuit 3. Compass and thermometer	1. Check 10A fuse [No. 9, located in fuse block (J/B)]. Turn the ignition switch ON and verify that battery positive voltage is at terminal 7 of compass and thermometer. 2. Check ground circuit for compass and thermometer. 3. Replace compass and thermometer.
Forward direction indication slips off the mark or incorrect.	1. In manual correction mode (Bar and display vanish.) 2. Zone variation change is not done.	1. Drive the vehicle and turn at an angle of 90°. 2. Perform the zone variation change.
Compass reading remains unchanged.	1. Vehicle speed sensor is not entered. 2. Compass and thermometer	1. Check harness for open or short between combination meter terminal 36 and compass and thermometer terminal 1. 2. Replace compass and thermometer.
Displays wrong temperature when ambient temperature is between -30°C (-20°F) and 55°C (130°F). (See NOTE above.)	1. Check operation 2. Ambient air temperature sensor circuit 3. Vehicle speed sensor is not entered. 4. Ambient air temperature sensor 5. Compass and thermometer	1. Perform preliminary check shown above. 2. Check harness for open or short between ambient air temperature sensor and compass and thermometer. 3. Check harness for open or short between combination meter terminal 36 and compass and thermometer terminal 1. 4. Replace ambient air temperature sensor. 5. Replace compass and thermometer.

# COMPASS AND THERMOMETER

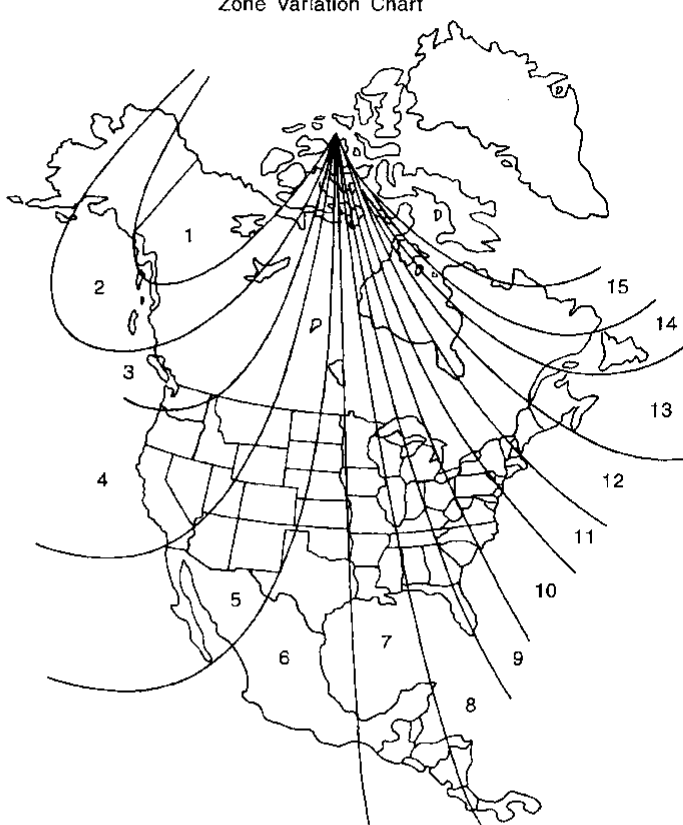
Calibration Procedure for Compass

## Calibration Procedure for Compass

NAEL0155

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

Zone Variation Chart



1. Determine your location on the zone map. Record your zone number.

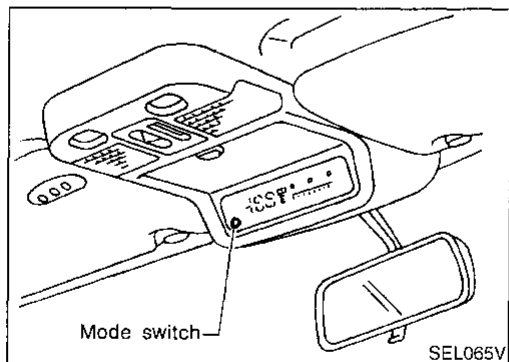
2. Turn the ignition switch to ACC or ON position.

3. Push the "Mode" switch continuously for five seconds until the current zone entry number is displayed.

4. Press the "Mode" switch repeatedly until the desired zone number is displayed.

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

SEL738UA



## CORRECTION FUNCTIONS OF COMPASS

NAEL0155S01

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

## INITIAL CORRECTION PROCEDURE FOR COMPASS

NAEL0155S02

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

### NOTE:

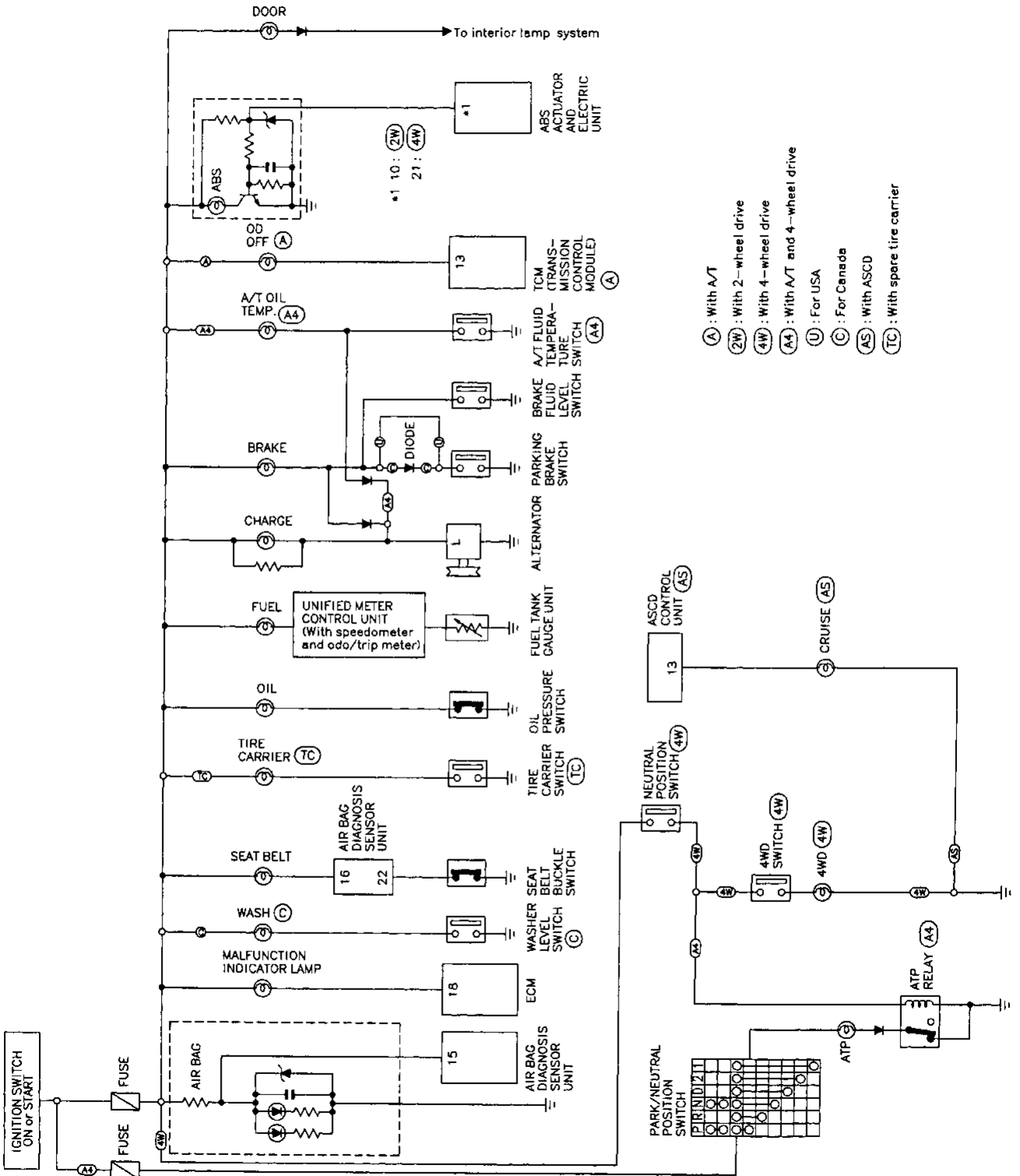
In places where the terrestrial magnetism is extremely disturbed, the initial correction may start automatically.

# WARNING LAMPS

Schematic

NAEL0049

## Schematic



- (A) : With A/T
- (2W) : With 2-wheel drive
- (4W) : With 4-wheel drive
- (A4) : With A/T and 4-wheel drive
- (U) : For USA
- (C) : For Canada
- (AS) : With ASCD
- (TC) : With spare tire carrier

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

EL

MEL941J

IDX

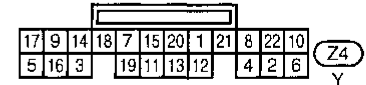
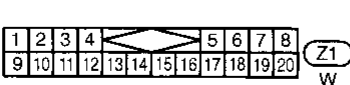
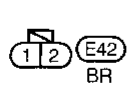
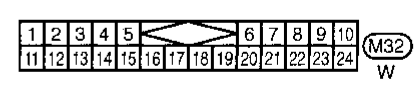
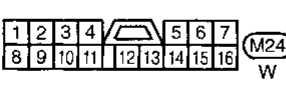
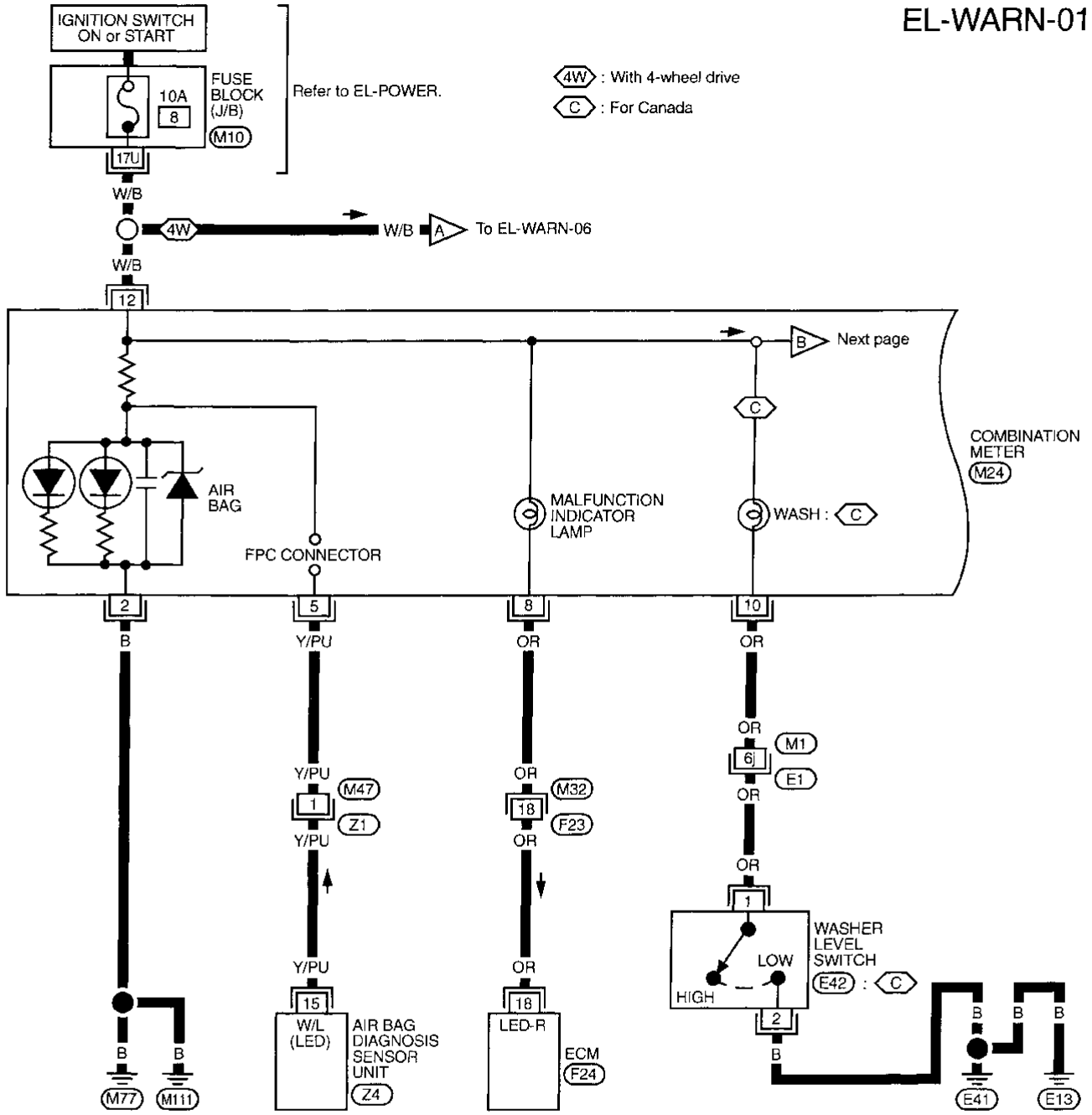
# WARNING LAMPS

Wiring Diagram — WARN —

## Wiring Diagram — WARN —

NAEL0050

EL-WARN-01



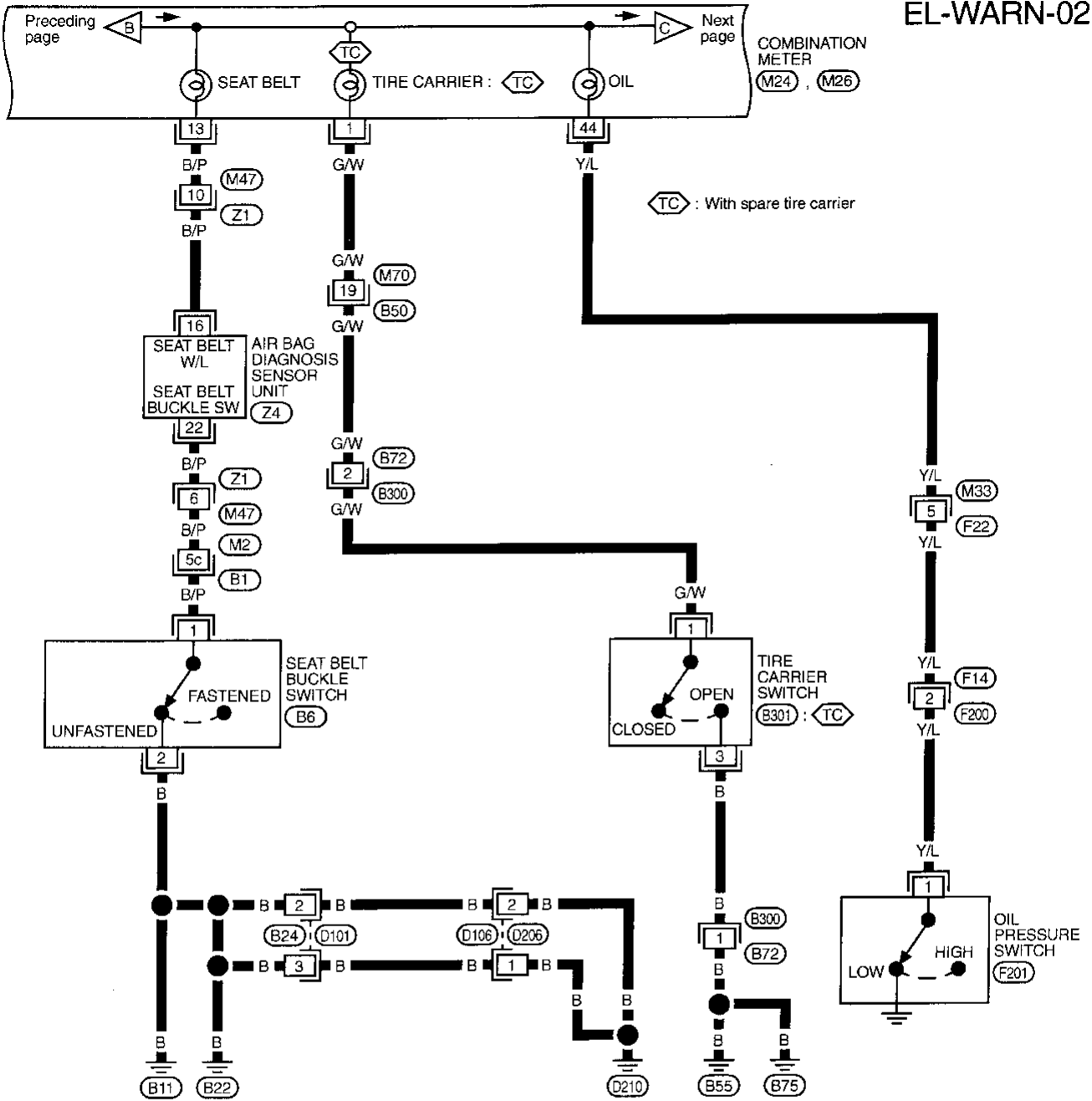
Refer to last page (Foldout page).  
 (M1), (E1)  
 (M10)  
 (F24)

MEL942J

# WARNING LAMPS

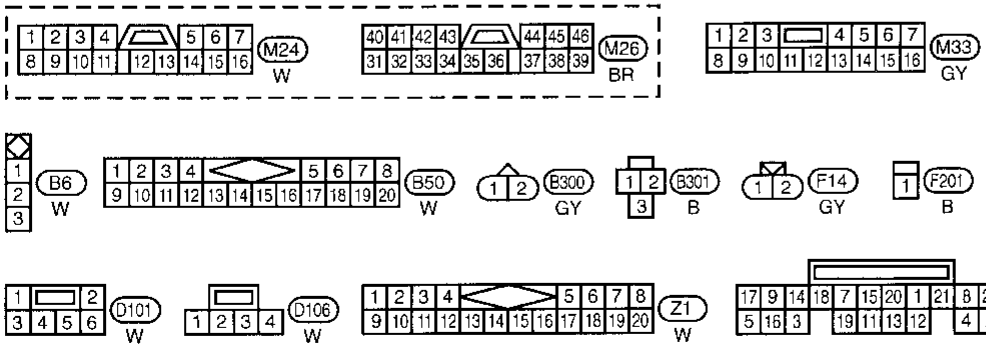
Wiring Diagram — WARN — (Cont'd)

EL-WARN-02



Refer to last page (Foldout page).

(M2) (B1)



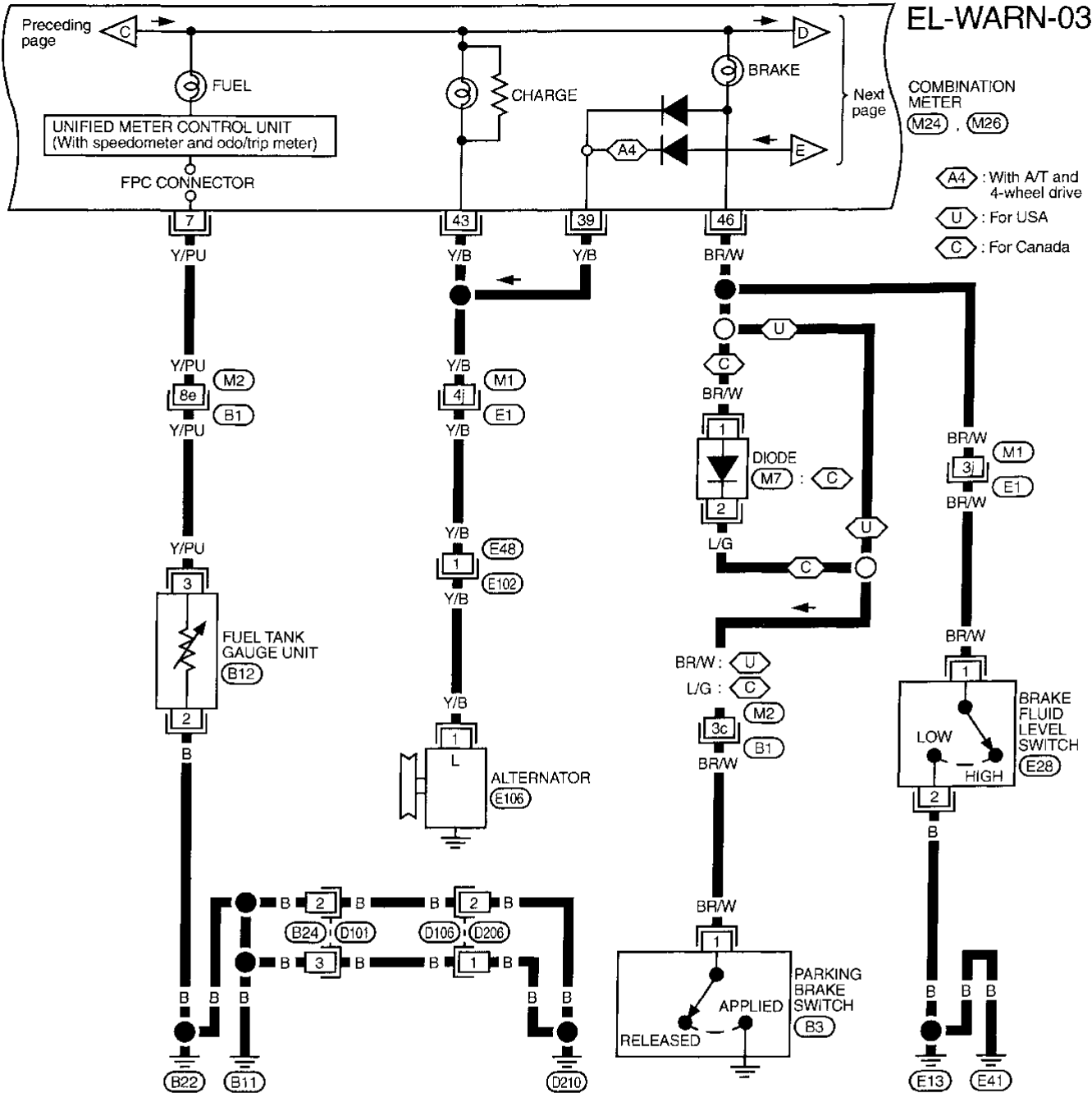
MEL943J

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

# WARNING LAMPS

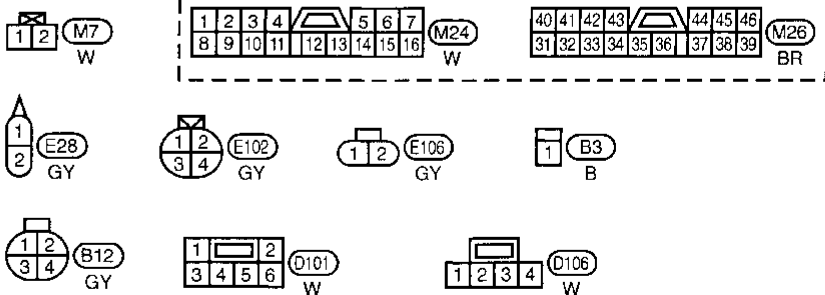
Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



COMBINATION METER  
M24, M26

- A4 : With A/T and 4-wheel drive
- U : For USA
- C : For Canada



Refer to last page (Foldout page).

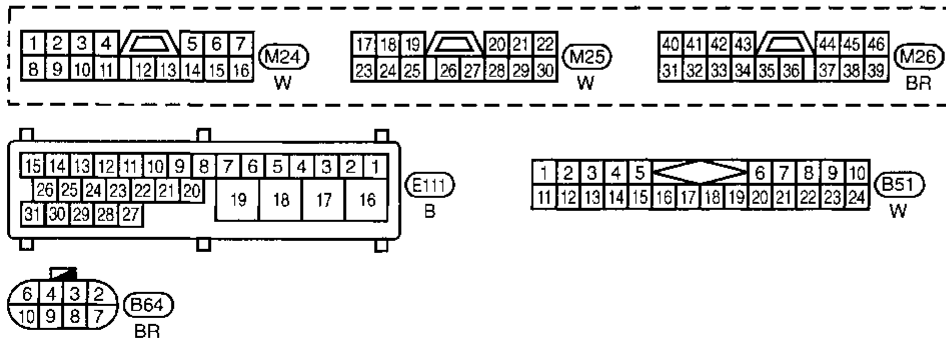
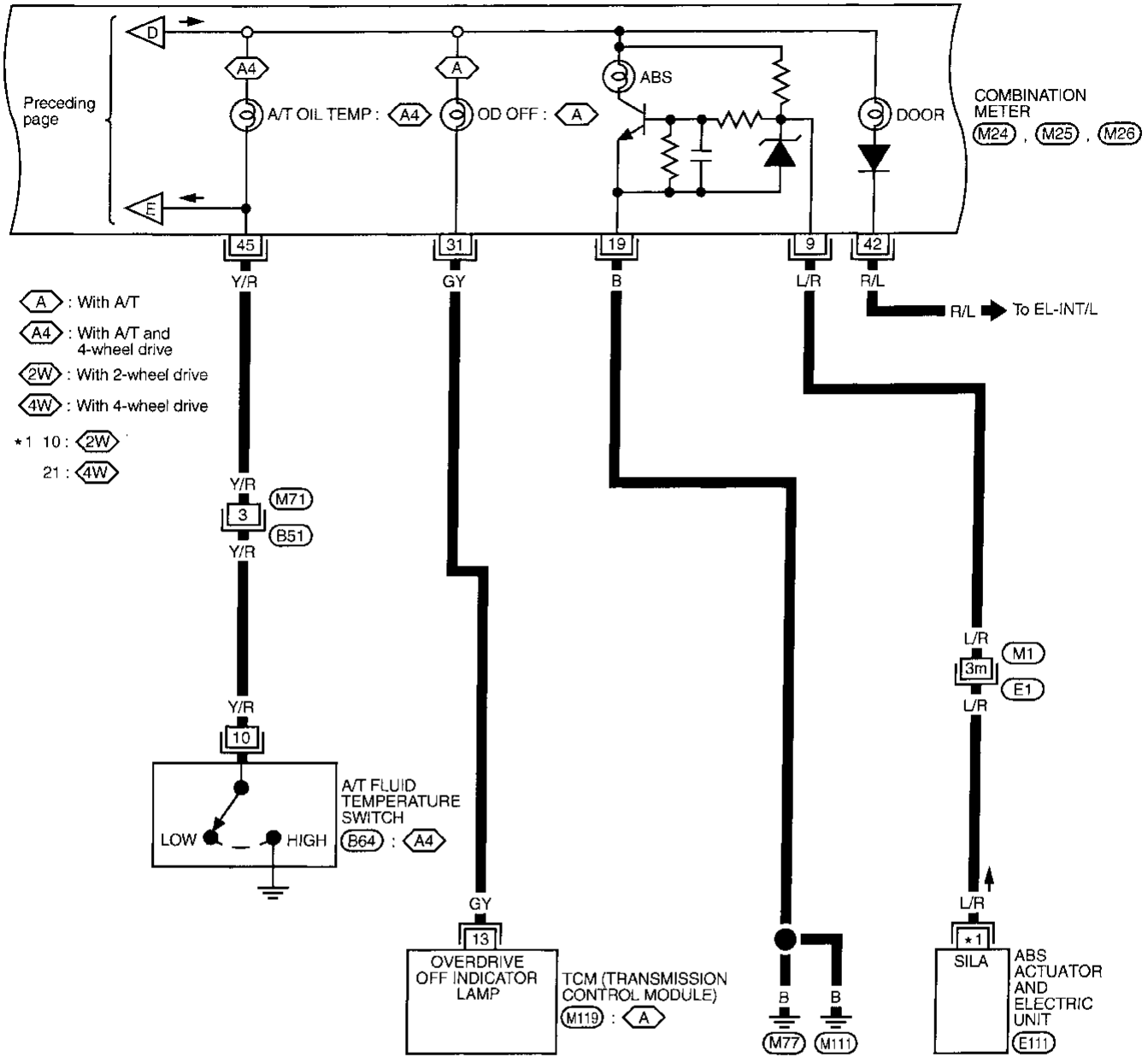
- M1, E1
- M2, B1

MEL944J

# WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

## EL-WARN-04



Refer to last page (Foldout page).

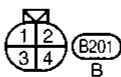
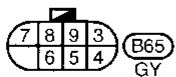
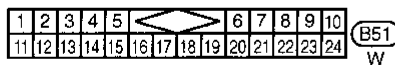
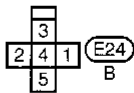
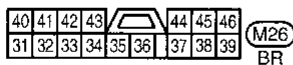
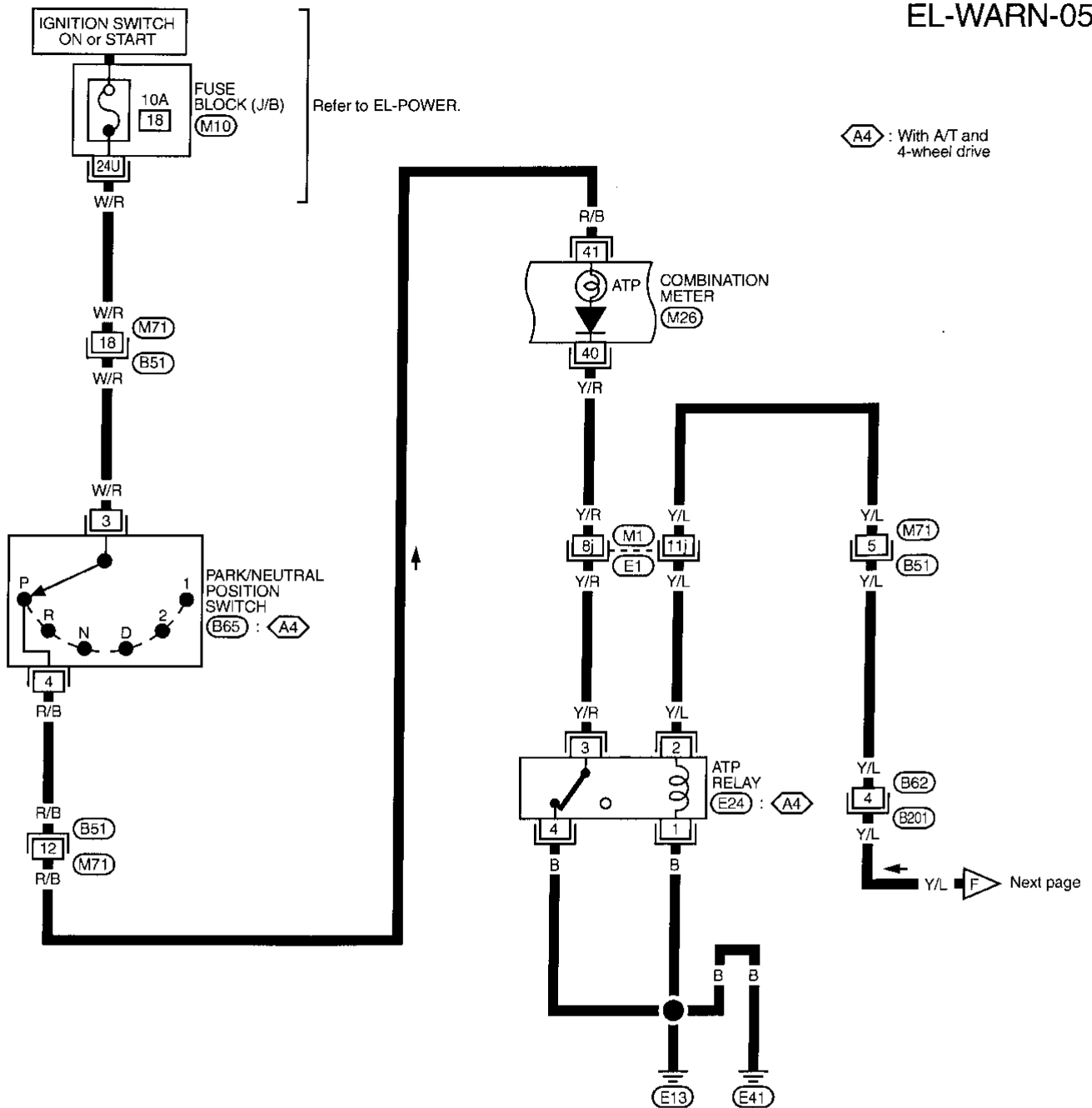
(M1) (E1)  
(M119)

MEL945J

# WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-05



Refer to last page (Foldout page).

(M1), (E1)

(M10)

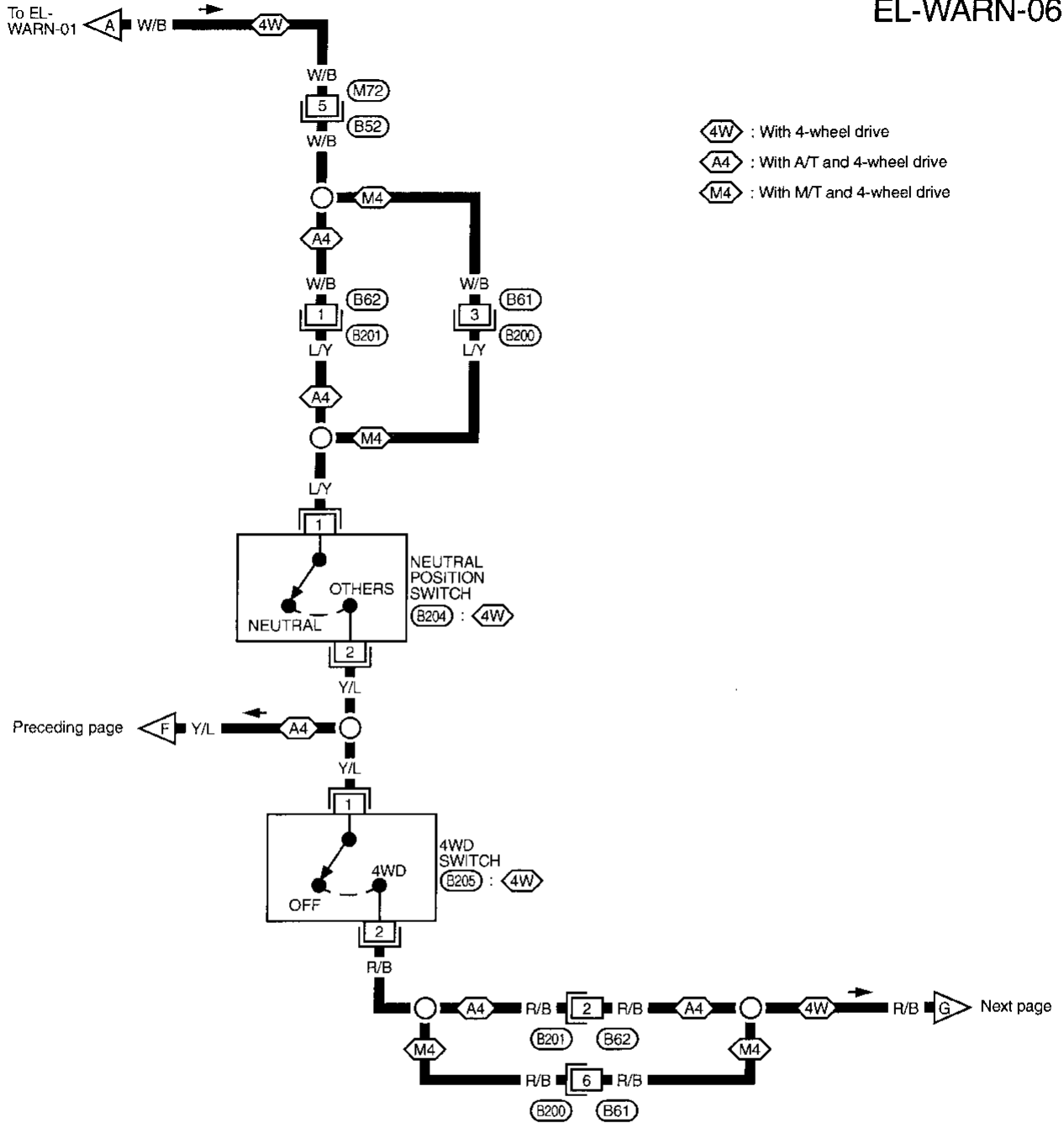
MEL946J



# WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

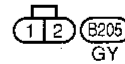
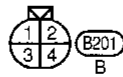
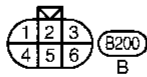
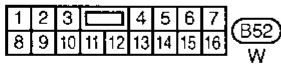
## EL-WARN-06



- : With 4-wheel drive
- : With A/T and 4-wheel drive
- : With M/T and 4-wheel drive

Preceding page

Next page

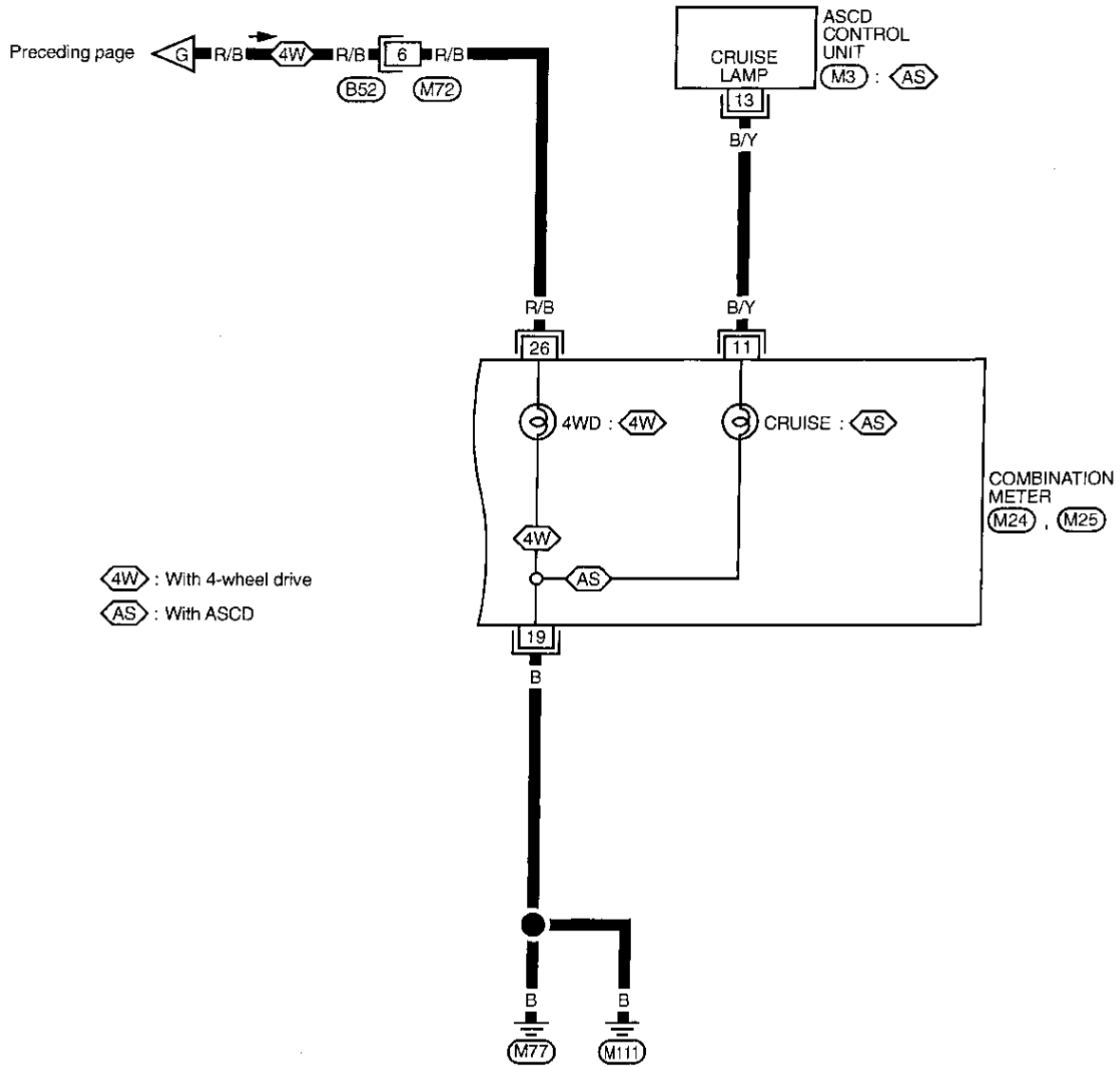


GI  
MA  
EM  
LC  
EC  
FE  
CL  
MT  
AT  
TF  
PD  
AX  
SU  
BR  
ST  
RS  
BT  
HA  
SC  
EL  
IDX

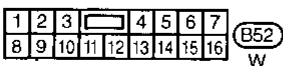
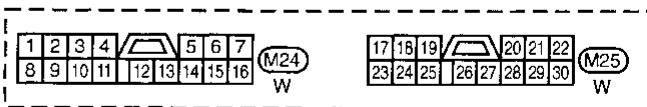
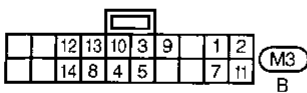
# WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

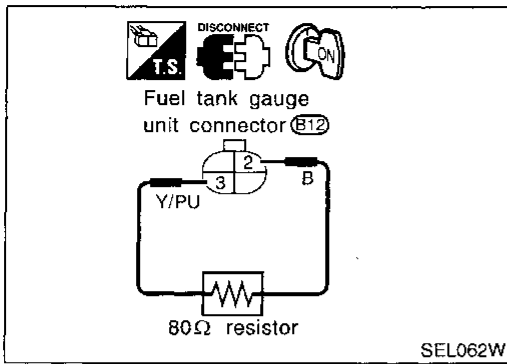
EL-WARN-07



◊4W : With 4-wheel drive  
 ◊AS : With ASCD



MEL948J



## Fuel Warning Lamp Sensor Check

NAEL0186

1. Turn ignition switch "OFF".
2. Disconnect fuel tank gauge unit harness connector B12.
3. Connect a resistor (80Ω) between fuel tank gauge unit harness connector terminals 2 and 3.
4. Turn ignition switch "ON".

The fuel warning lamp should come on.

**NOTE:**

ECM might store the 1st trip DTC P0180 during this inspection. If the DTC is stored in ECM memory, erase the DTC after reconnecting fuel tank gauge unit harness connector. Refer to "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION" "Emission-related Diagnostic Information" "ON BOARD DIAGNOSTIC SYSTEM DESCRIPTION" in EC section.

GI

MA

EM

LC

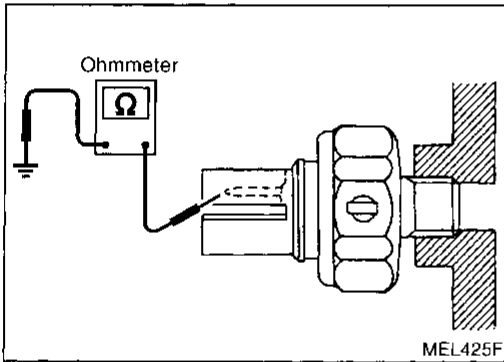
EC

FE

CL

MT

AT



## Electrical Components Inspection

### OIL PRESSURE SWITCH CHECK

NAEL0051

NAEL0051S02

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

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

TF

PD

AX

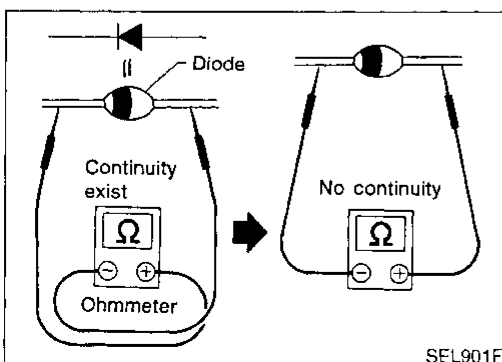
SU

BR

ST

RS

BT



## DIODE CHECK

NAEL0051S03

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

**NOTE:**

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

- Diodes for warning lamps are built into the combination meter printed circuit.
- For location of diodes, refer to Combination Meter, EL-81.

HA

SC

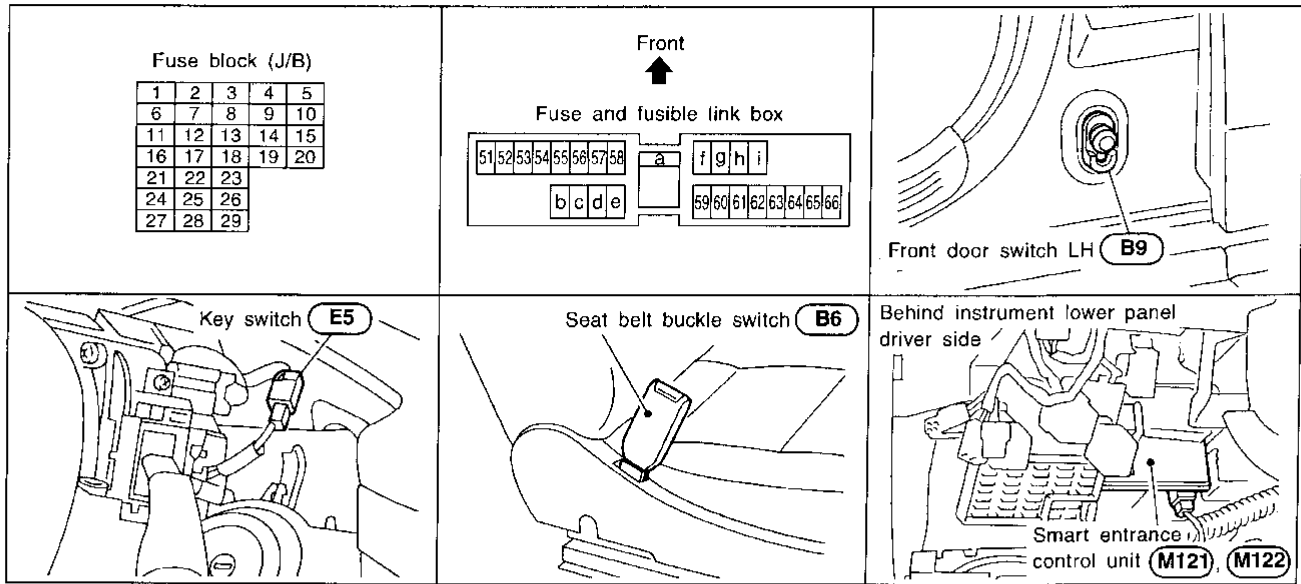
EL

IDX

# WARNING CHIME

## Component Parts and Harness Connector Location

NAEL0052



SEL046W

## System Description

NAEL0053

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

- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to key switch terminal 2.

Power is supplied at all times

- through 10A fuse [No. 61, located in the fuse block (J/B)]
- to tail lamp relay terminals 2 and 3.

Power is supplied at all times

- through 40A fusible link (letter f, located in the fuse and fusible link box).
- to smart entrance control unit terminal 11.

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

- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

Ground is supplied to smart entrance control unit terminal 16 through body grounds M77 and M111.

### IGNITION KEY WARNING CHIME

NAEL0053S01

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

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

Ground is supplied

- from front door switch LH terminal 1
- to smart entrance control unit terminal 29.

Front door switch LH terminal 2 is grounded through body grounds B11, B22 and D210.

### LIGHT WARNING CHIME

NAEL0053S02

With ignition switch OFF or ACC, driver's door open, warning chime will sound. [Except when headlamp battery saver control operates (for 45 seconds after ignition switch is turned to OFF or ACC position) and headlamps do not illuminate.] A battery positive voltage is supplied.

- from tail lamp relay terminal 5

# WARNING CHIME

System Description (Cont'd)

- to smart entrance control unit terminal 34.

Ground is supplied

- from front door switch LH terminal 1
- to smart entrance control unit terminal 29.

Front door switch LH terminal 2 is grounded through body grounds B11, B22 and D210.

## SEAT BELT WARNING CHIME

With ignition switch turned ON and seat belt unfastened (seat belt switch ON), warning chime will sound for approximately 6 seconds.

NAEL0053S03

Ground is supplied

- from seat belt switch terminal 1
- to smart entrance control unit terminal 22.

Seat belt switch terminal 2 is grounded through body grounds B11, B22 and D210.

GI

MA

EM

LC

EC

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

**EL**

IDX

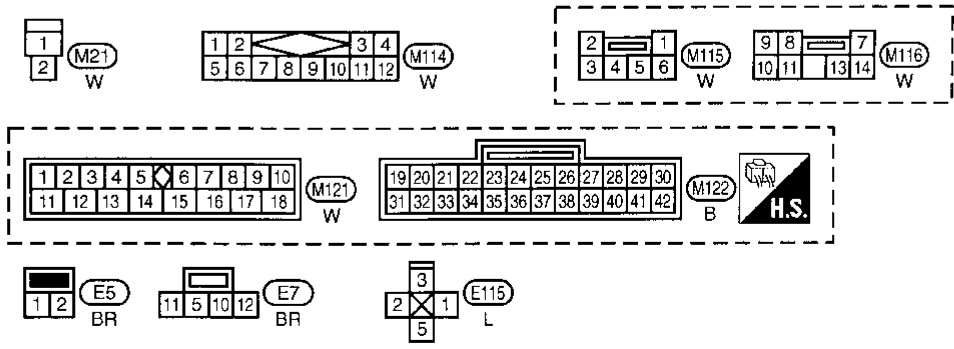
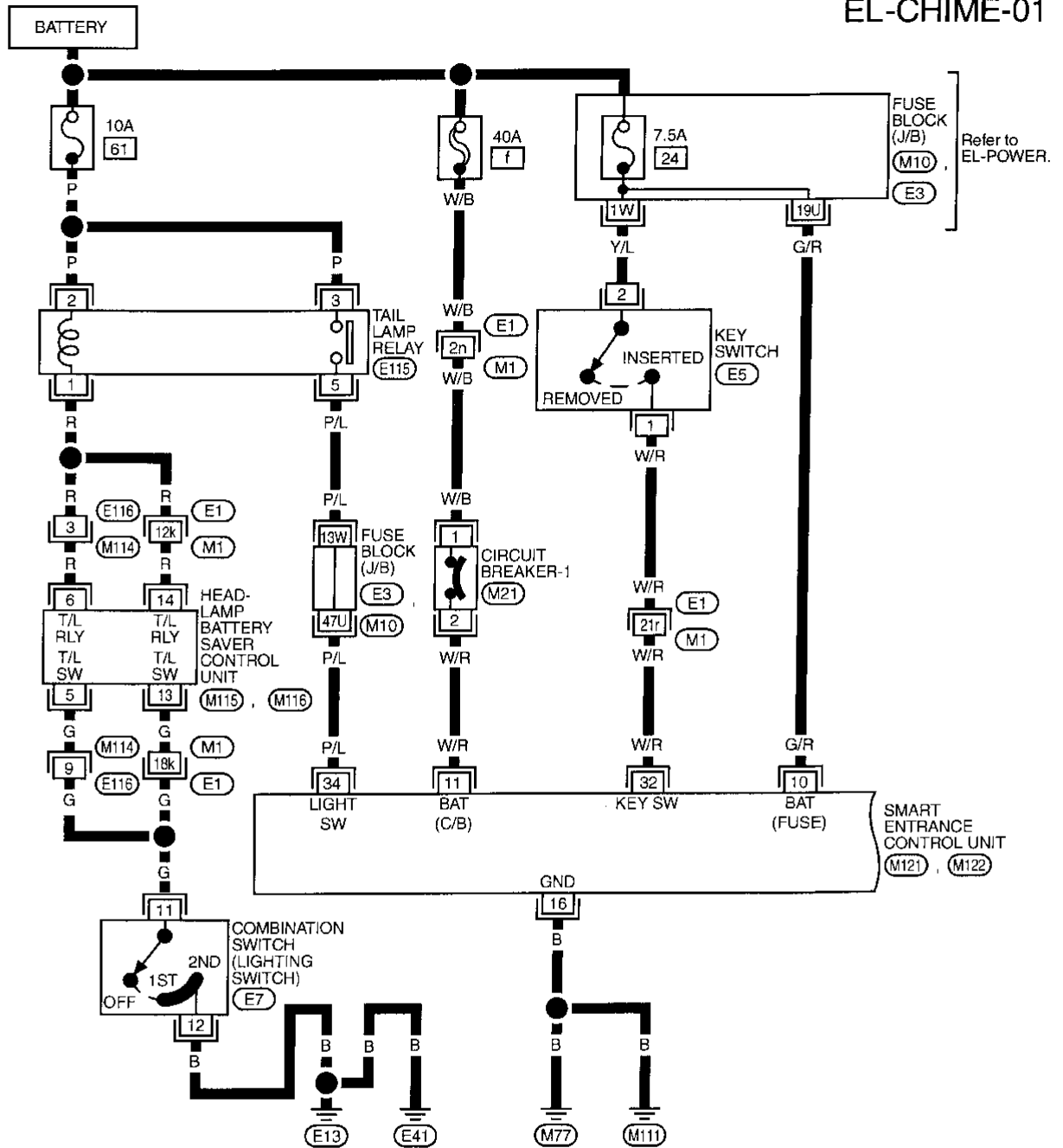
# WARNING CHIME

Wiring Diagram — CHIME —

## Wiring Diagram — CHIME —

NAEL0054

EL-CHIME-01



Refer to last page (Foldout page).

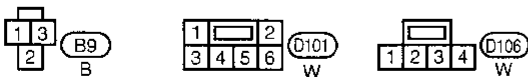
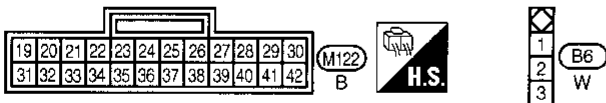
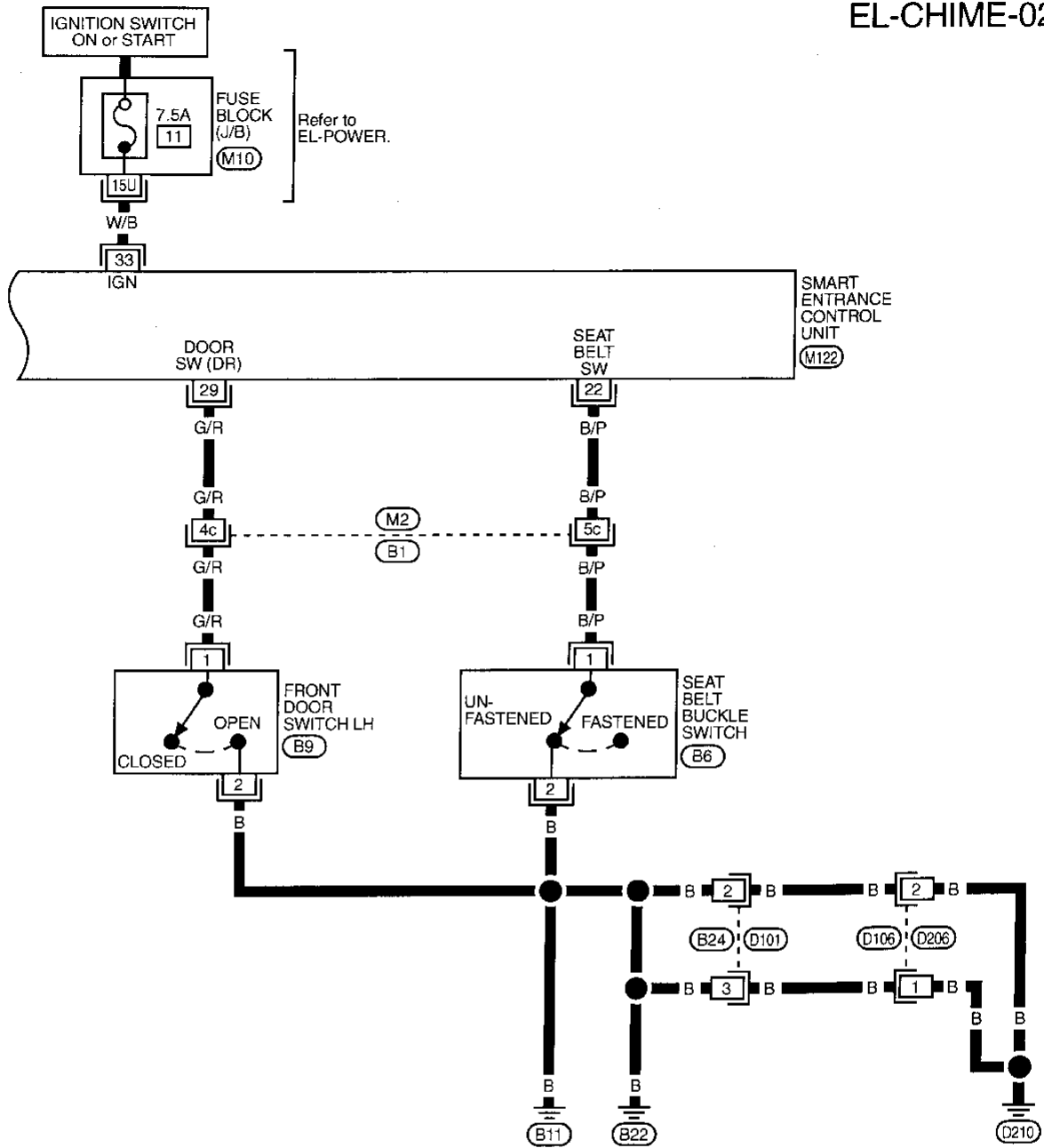
- (M1) (E1)
- (M10)
- (E3)

MEL949J

# WARNING CHIME

Wiring Diagram — CHIME — (Cont'd)

## EL-CHIME-02



Refer to last page (Foldout page).

M2, B1

M10

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

MEL950J

# WARNING CHIME

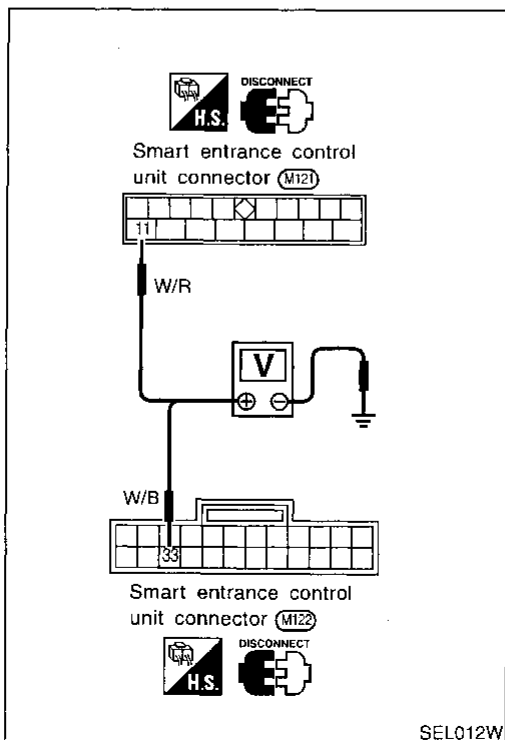
Trouble Diagnoses

## Trouble Diagnoses SYMPTOM CHART

NAEL0055

NAEL0055S01

REFERENCE PAGE (EL- )	110	112	113	114	114
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	LIGHTING SWITCH INPUT SIGNAL CHECK	KEY SWITCH (INSERT) CHECK	SEAT BELT BUCKLE SWITCH CHECK	DRIVER SIDE DOOR SWITCH CHECK
Light warning chime does not activate.	X	X			X
Ignition key warning chime does not activate.	X		X		X
Seat belt warning chime does not activate.	X			X	
All warning chimes do not activate.	X				X



### POWER SUPPLY AND GROUND CIRCUIT CHECK Power Supply Circuit Check

NAEL0055S02

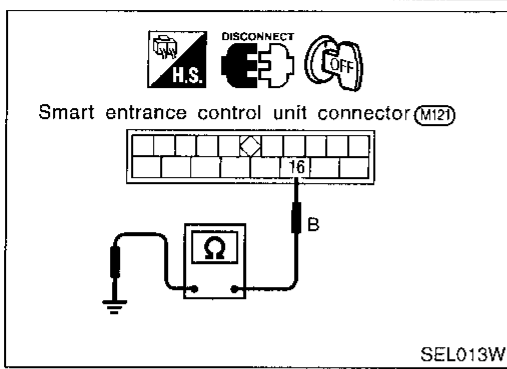
NAEL0055S0201

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



# WARNING CHIME

Trouble Diagnoses (Cont'd)



## Ground Circuit Check

NAEL0055S0202

Terminals	Continuity
16 - Ground	Yes

GI

MA

EM

LC

EC

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

**EL**

IDX

# WARNING CHIME

Trouble Diagnoses (Cont'd)

## LIGHTING SWITCH INPUT SIGNAL CHECK

#NAEL0055S03

<b>1</b>	<b>CHECK LIGHTING SWITCH INPUT SIGNAL</b>
<p>Check voltage between smart entrance control unit terminal 34 and ground.</p>	
SEL047W	
<p><b>Voltage [V]:</b>                  Condition of lighting switch: 1ST or 2ND                  Approx. 12                  Condition of lighting switch: OFF                  0</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ Lighting switch is OK.
NG	▶ GO TO 2.

<b>2</b>	<b>CHECK FUSE</b>
<p>Is 10A fuse (No. 61, located in the fuse and fusible link box) OK?</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ GO TO 3.
NG	▶ Replace fuse.

<b>3</b>	<b>CHECK TAIL LAMP RELAY CIRCUIT</b>
<p>Check voltage between headlamp battery saver control unit terminal 6, 14 and ground.</p>	
SEL048W	
<p><b>Voltage [V]:</b>                  Condition of lighting switch: 1ST or 2ND                  0                  Condition of lighting switch: OFF                  Approx. 12</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ GO TO 4.
NG	<p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>● Tail lamp relay</li> <li>● Harness for open or short between headlamp battery saver control unit and tail lamp relay</li> </ul>

<b>4</b>	<b>CHECK TAIL LAMP SWITCH GROUND CIRCUIT</b>
<p>1. Disconnect headlamp battery saver control unit connector.                  2. Check continuity between headlamp battery saver control unit terminal 5, 13 and ground.</p>	
SEL049W	
<p><b>Continuity:</b>                  Condition of lighting switch: 1ST or 2ND                  Yes                  Condition of lighting switch: OFF                  No</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	<p>▶ <b>Check the following.</b></p> <ul style="list-style-type: none"> <li>● Harness for open or short between smart entrance control unit and tail lamp relay</li> </ul>
NG	<p>▶ <b>Check the following.</b></p> <ul style="list-style-type: none"> <li>● Lighting switch</li> <li>● Harness for open or short between headlamp battery saver control unit terminal 5, 13 and lighting switch terminal 11</li> <li>● Harness between lighting switch terminal 12 and ground</li> </ul>

# WARNING CHIME

Trouble Diagnoses (Cont'd)

## KEY SWITCH (INSERT) CHECK

=NAEL0055S04

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<b>1</b>	<b>CHECK KEY SWITCH INPUT SIGNAL</b>
Check voltage between control unit terminal 32 and ground.	
<p>Smart entrance control unit connector (M12)</p> <p>CONNECT H.S.</p> <p>W/R</p> <p>V</p> <p>: Approx. 12V</p> <p>: 0V</p> <p>SEL783VA</p>	
<b>Voltage [V]:</b> Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is removed. 0	
OK or NG	
OK	▶ Key switch is OK.
NG	▶ GO TO 2.

<b>2</b>	<b>CHECK KEY SWITCH (INSERT)</b>
Check continuity between terminals 1 and 2.	
<p>Key switch connector (E5)</p> <p>DISCONNECT T.S.</p> <p>Ω</p> <p>SEL784VA</p>	
<b>Continuity:</b> Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No	
OK or NG	
OK	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● 7.5A fuse [No. 24, located in fuse block (J/B)]</li> <li>● Harness for open or short between key switch and fuse</li> <li>● Harness for open or short between control unit and key switch</li> </ul>
NG	▶ Replace key switch.

# WARNING CHIME

Trouble Diagnoses (Cont'd)

## SEAT BELT BUCKLE SWITCH CHECK

=NAEL0055S05

<b>1</b>	<b>CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL</b>
<p>1. Turn ignition switch "ON". 2. Check voltage between control unit terminal 22 and ground.</p>	
<p>Smart entrance control unit connector (M122)</p> <p style="text-align: right;">SEL785VA</p>	
<p><b>Voltage [V]:</b> Condition of seat belt buckle switch: Fastened Approx. 12 Condition of seat belt buckle switch: Unfastened 0</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ Seat belt buckle switch is OK.
NG	▶ GO TO 2.

<b>2</b>	<b>CHECK SEAT BELT BUCKLE SWITCH</b>
<p>Check continuity between terminals 1 and 2 when seat belt is fastened and unfastened.</p>	
<p>Seat belt buckle switch connector (B6)</p> <p style="text-align: right;">SEL298V</p>	
<p><b>Continuity:</b> Seat belt is fastened. No Seat belt is unfastened. Yes</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ <b>Check the following.</b> ● Seat belt buckle switch ground circuit ● Harness for open or short between control unit and seat belt buckle switch
NG	▶ Replace seat belt buckle switch.

## DRIVER SIDE DOOR SWITCH CHECK

NAEL0055S06

<b>1</b>	<b>CHECK DOOR SWITCH INPUT SIGNAL</b>
<p>Check voltage between control unit terminal 29 and ground.</p>	
<p>Smart entrance control unit connector (M122)</p> <p style="text-align: right;">SEL786VA</p>	
<p><b>Voltage [V]:</b> Condition of driver's door: CLOSED Approx. 5 Condition of driver's door: OPENED 0</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ Driver side door switch is OK.
NG	▶ GO TO 2.

<b>2</b>	<b>CHECK DRIVER SIDE DOOR SWITCH</b>
<p>Check continuity between terminals 1 and 2.</p>	
<p>Door switch (Driver side) connector (B9)</p> <p style="text-align: right;">SEL050W</p>	
<p><b>Continuity:</b> Door switch is pushed. No Door switch is released. Yes</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ <b>Check the following.</b> ● Door switch ground circuit ● Harness for open or short between control unit and door switch
NG	▶ Replace driver side door switch.

## System Description

**WIPER OPERATION**

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

- LO speed
- HI speed
- INT (Intermittent)

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

- through 20A fuse [No. 19, located in the fuse block (J/B)]
- to wiper motor terminal 6.

**Low and High Speed Wiper Operation**

Ground is supplied to wiper switch terminal 17 through body grounds E13 and E41.

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

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

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

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

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

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

**Auto Stop Operation**

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

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

- from terminal 14 of the wiper switch
- to wiper motor terminal 2, in order to continue wiper motor operation at low speed.

Ground is also supplied

- through terminal 13 of the wiper switch
- to wiper amplifier terminal 2
- through terminal 7 of the wiper amplifier
- to wiper motor terminal 5
- through terminal 4 of the wiper motor, and
- through body grounds M77 and M111.

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

**Intermittent Operation**

The wiper motor operates the wiper arms one time at low speed at a set interval of approximately 3 to 13 seconds. This feature is controlled by the wiper amplifier.

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

- to wiper amplifier terminal 1
- from wiper switch terminal 15
- through body grounds E13 and E41.
- to wiper motor terminal 2
- through the wiper switch terminal 14
- to wiper switch terminal 13
- through wiper amplifier terminal 2
- to wiper amplifier terminal 3
- through body grounds M77 and M111.

The desired interval time is input

- to wiper amplifier terminal 8
- from wiper switch terminal 19.

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

NAEL0057

NAEL0057S01

NAEL0057S0101

NAEL0057S0102

# FRONT WIPER AND WASHER

*System Description (Cont'd)*

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## **WASHER OPERATION**

NAEL0057S02

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

- through 20A fuse [No. 19, 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
- to wiper amplifier terminal 6
- from terminal 18 of the wiper switch
- through terminal 17 of the wiper switch, and
- through body grounds E13 and E41.

With power and ground supplied, the washer motor operates.

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

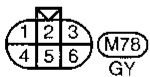
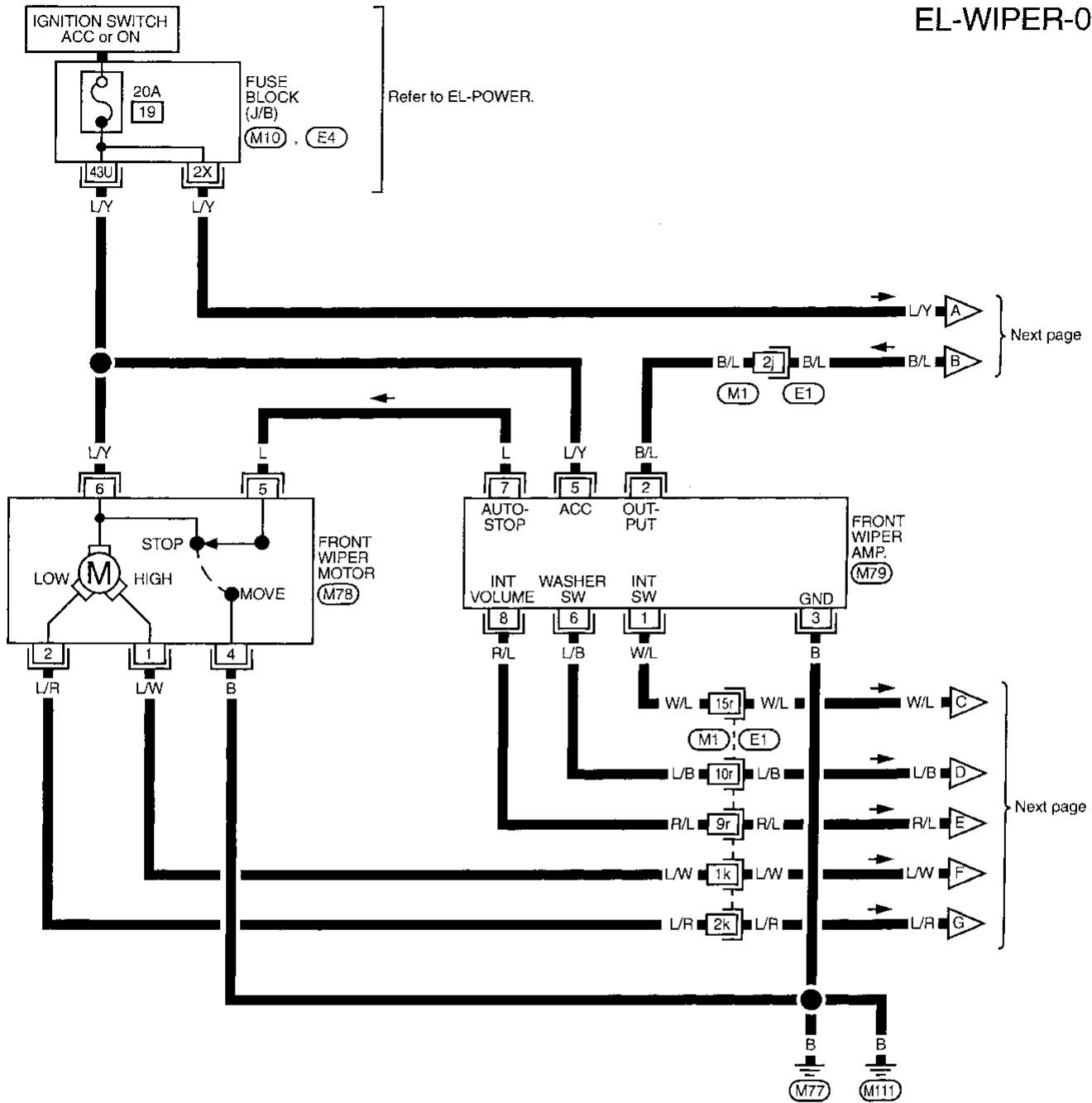
# FRONT WIPER AND WASHER

Wiring Diagram — WIPER —

## Wiring Diagram — WIPER —

NAEL0059

EL-WIPER-01



Refer to last page (Foldout page).

(M1) (E1)

(M10)

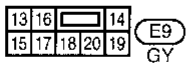
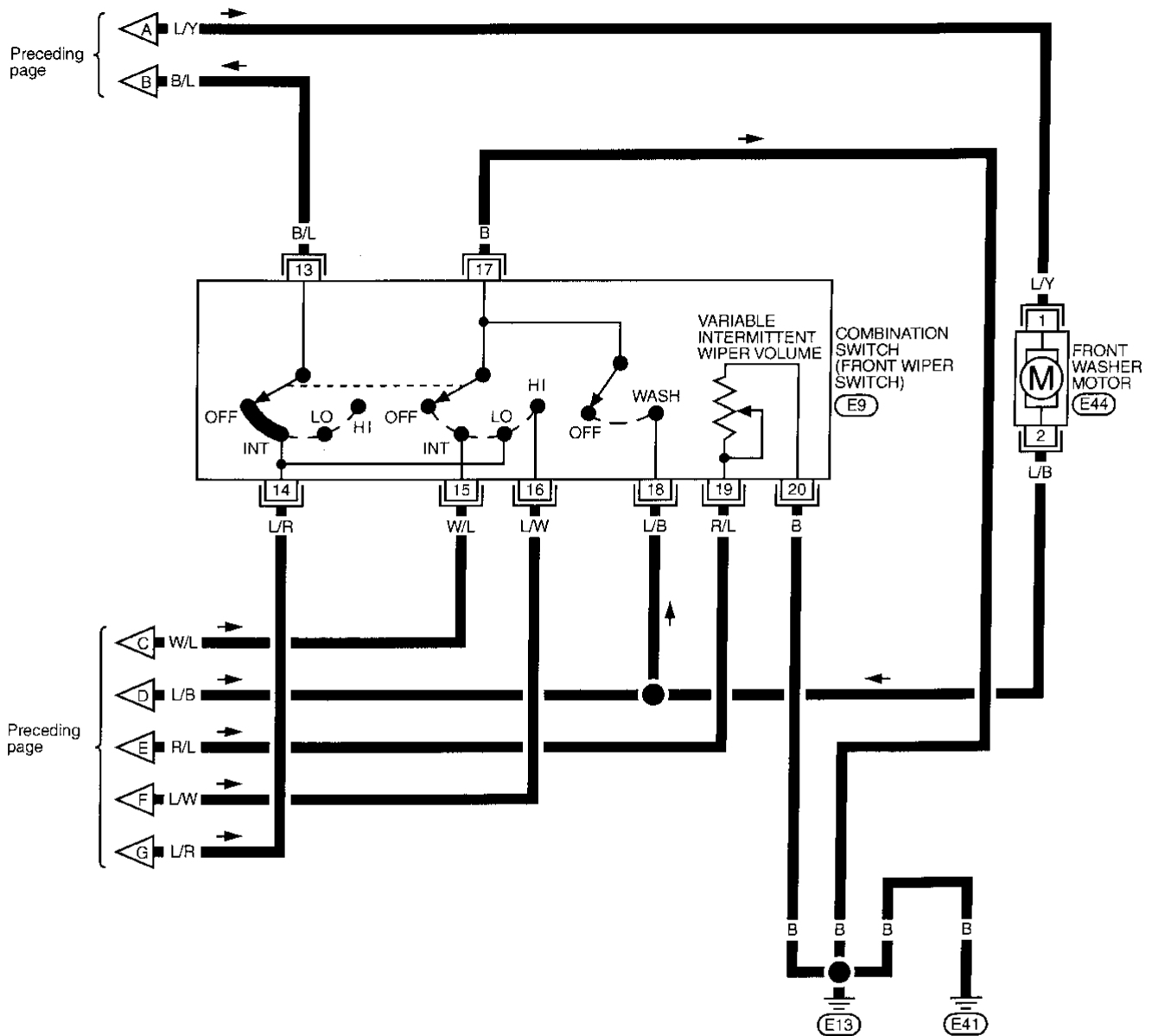
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# FRONT WIPER AND WASHER

Wiring Diagram — WIPER — (Cont'd)

EL-WIPER-02



MEL952J



# FRONT WIPER AND WASHER

Trouble Diagnoses

## Trouble Diagnoses DIAGNOSTIC PROCEDURE 1

SYMPTOM: Intermittent wiper does not operate.

NAEL0059

NAEL0059S01

<b>1</b>	<b>CHECK WIPER OPERATION</b>	
Check whether wiper operates with the wiper switch at Lo position.		
<b>Does wiper operate at Lo speed?</b>		
Yes	▶	GO TO 2.
No	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• 20A fuse [No. 19, located in fuse block (J/B)]</li> <li>• Wiper motor</li> <li>• Wiper switch</li> <li>• Harness for open or short</li> </ul>

<b>2</b>	<b>CHECK WIPER AMP. OUTPUT</b>	
1. Turn front wiper switch to OFF. 2. Disconnect wiper amp. connector. 3. Check voltage between wiper amp. terminal 2 and ground.		
<p style="text-align: center;">Wiper amp. connector (M79)</p> <p style="text-align: center;">SEL226V</p>		
<b>Does battery voltage exist?</b>		
Yes	▶	GO TO 3.
No	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Wiper switch</li> <li>• Harness for open or short between wiper amp. terminal 2 and wiper switch terminal 13</li> </ul>

<b>3</b>	<b>CHECK INTERMITTENT SWITCH INPUT SIGNAL</b>	
Check harness continuity between wiper amp. terminal 1 and ground.		
<p style="text-align: center;">Wiper amp. connector (M79)</p> <p style="text-align: center;">SEL227V</p>		
<b>Continuity:</b> <b>Condition of wiper switch: OFF</b> No <b>Condition of wiper switch: INT</b> Yes  <b>OK or NG</b>		
OK	▶	GO TO 4.
NG	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Wiper switch</li> <li>• Harness for open or short between wiper amp. terminal 1 and wiper switch terminal 15</li> <li>• Ground circuit for front wiper switch terminal 17</li> </ul>

<b>4</b>	<b>CHECK WIPER AMP. POWER SUPPLY CIRCUIT</b>	
Check voltage between wiper amp. terminal 5 and ground while ignition switch is "ACC".		
<p style="text-align: center;">Wiper amp. connector (M79)</p> <p style="text-align: center;">SEL228V</p>		
<b>Does battery voltage exist?</b>		
Yes	▶	GO TO 5.
No	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• 20A fuse [No. 19, located in fuse block (J/B)]</li> <li>• Harness for open or short between wiper amp. and fuse</li> </ul>

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# FRONT WIPER AND WASHER

Trouble Diagnoses (Cont'd)

<b>5</b>	<b>CHECK WIPER AMP. GROUND CIRCUIT</b>
<p>Check harness continuity between wiper amp. terminal 3 and body ground.</p>	
<p style="text-align: right;">SEL229V</p>	
Does continuity exist?	
Yes	▶ Replace wiper amp.
No	▶ Repair harness or connector.

## DIAGNOSTIC PROCEDURE 2

**SYMPTOM:** Intermittent time of wiper cannot be adjusted. NAEL0059S02

<b>1</b>	<b>CHECK INTERMITTENT WIPER VOLUME INPUT SIGNAL</b>
<p>1. Disconnect wiper amp. connector. 2. Measure resistance between wiper amp. terminals 8 and 3 while turning intermittent wiper volume.</p>	
<p style="text-align: right;">SEL230V</p>	
<p><b>Resistance [<math>\Omega</math>]:</b>                  Position of wiper knob: S                  0                  Position of wiper knob: L                  Approx. 1 k</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ Replace wiper amp.
NG	<p>▶ <b>Check the following.</b></p> <ul style="list-style-type: none"> <li>● Intermittent wiper volume</li> <li>● Harness for open or short between wiper amp. terminal 8 and wiper switch terminal 19</li> <li>● Ground circuit for front wiper switch terminal 20</li> </ul>

## DIAGNOSTIC PROCEDURE 3

**SYMPTOM: Wiper and washer activate individually but not in combination.**

=NAEL0069S03

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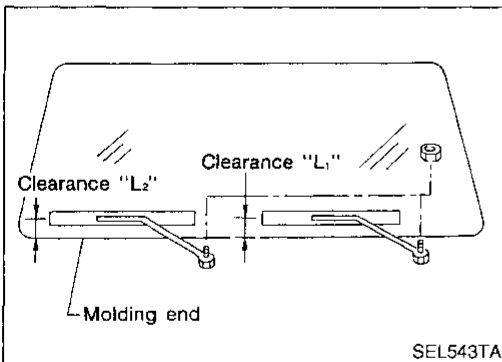
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<b>1</b>	<b>CHECK WASHER SWITCH INPUT SIGNAL</b>
<p>1. Turn ignition switch to "OFF".                  2. Disconnect wiper amp. connector.                  3. Check harness continuity between wiper amp. terminal 6 and ground.</p>	
<p><b>Continuity:</b>                  Condition of washer switch: OFF                  No                  Condition of washer switch: ON                  Yes</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ Go to DIAGNOSTIC PROCEDURE 1.
NG	▶ Check harness for open or short between wiper amp. terminal 6 and wiper switch terminal 18.



## Removal and Installation

NAEL0060

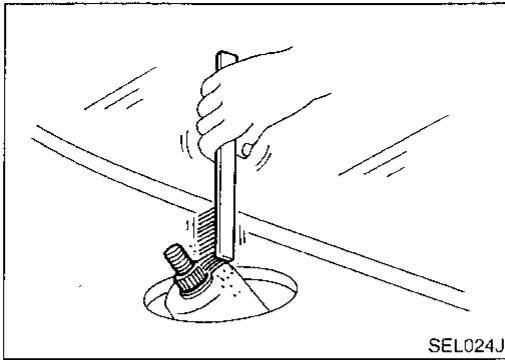
### WIPER ARMS

NAEL0060S01

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 "L<sub>1</sub>" & "L<sub>2</sub>" 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 "L<sub>1</sub>" & "L<sub>2</sub>".
    - Clearance "L<sub>1</sub>": 34 mm (1.34 in)**
    - Clearance "L<sub>2</sub>": 37 mm (1.46 in)**
- Tighten wiper arm nuts to specified torque.
    - Front wiper: 21 - 26 N·m (2.1 - 2.7 kg·m, 15 - 20 ft·lb)**

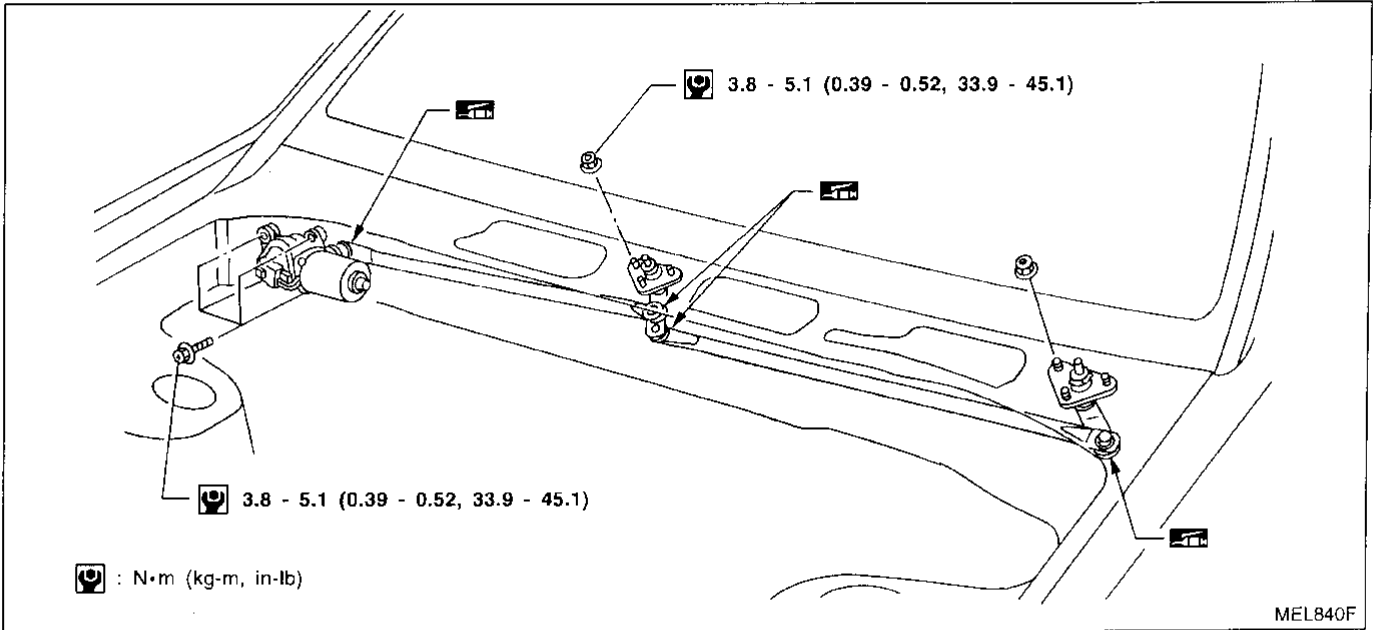
# FRONT WIPER AND WASHER

Removal and Installation (Cont'd)



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

## WIPER LINKAGE



### Removal

NAEL0060S0201

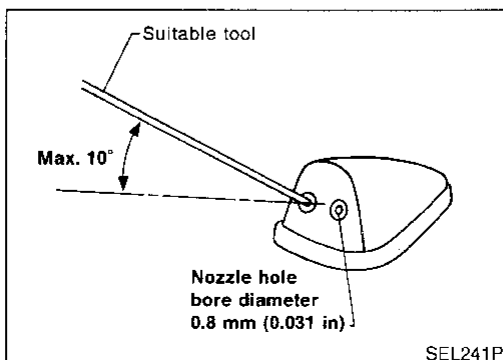
1. Remove 4 bolts that secure wiper motor.
2. Detach wiper motor from wiper linkage at ball joint.
3. Remove wiper linkage.

**Be careful not to break ball joint rubber boot.**

### Installation

NAEL0060S0202

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



### Washer Nozzle Adjustment

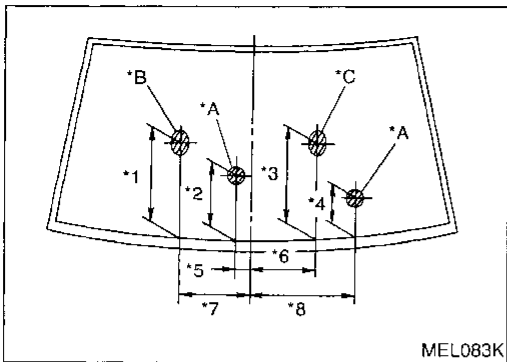
NAEL0061

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

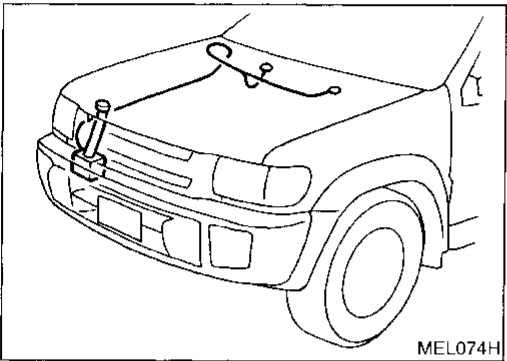
**Adjustable range: ±10°**

# FRONT WIPER AND WASHER

Washer Nozzle Adjustment (Cont'd)



MEL083K



MEL074H

## Washer Tube Layout

- \*A: The diameters of these circles are less than 80 mm (3.15 in).
- \*B: The diameters of this circle is less than 127 × 80 mm (5.00 × 3.15 in).
- \*C: The diameters of this circle is less than 142 × 80 mm (5.59 × 3.15 in).

Unit: mm (in)			
*1	395 (15.55)	*5	122 (4.80)
*2	157 (6.18)	*6	160 (6.30)
*3	410 (16.14)	*7	259 (10.20)
*4	169 (6.65)	*8	524 (20.63)

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# REAR WIPER AND WASHER

System Description

## System Description

NAEL0063

### WIPER OPERATION

NAEL0063S01

#### Power Supply and Ground

NAEL0063S0101

Power is supplied at all times

- through 10A fuse [No. 5, located in the fuse block (J/B)]
- to rear wiper amp. terminal 1.

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

- through 10A fuse [No. 29, located in the fuse block (J/B)]
- to rear wiper amp. terminal 2.

When the glass hatch switch is OPEN, ground is supplied

- to rear wiper amp. terminal 12
- from glass hatch switch terminal 1.

Then washer motor and wiper motor is interrupted.

(If the glass hatch is opened, no function of rear wiper motor will operate.)

Ground is supplied

- to rear wiper amplifier terminal 3
- through body grounds B11, B22 and D210.

#### Rising Up Operation

NAEL0063S0102

When the rear wiper switch is turned to the ON position, ground is supplied

- through terminal 22 of rear wiper switch
- to rear wiper amp. terminal 15.

When the rear wiper switch is turned to the INT position, ground is supplied

- through terminal 21 of rear wiper switch
- to rear wiper amp. terminal 14.

Then power is supplied

- through rear wiper amp. terminal 5
- to rear wiper motor terminal 4.

Ground is supplied

- through rear wiper motor terminal 3
- to rear wiper amp. terminal 8.

With power and ground supplied, rear wiper operates and rear wiper arm moves up. Wiper does not return to resting position until wiper switch is turned to OFF position.

#### Low Speed Wiper Operation

NAEL0063S0103

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

- to rear wiper amp. terminal 15
- from body grounds
- through rear wiper switch terminals 22 and 24.

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

#### Auto Stop Operation

NAEL0063S0104

With rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arms reach rear wiper stopper.

When wiper arm is not located at rear wiper stopper with wiper switch OFF, ground is provided

- to rear wiper amp. terminal 7
- through wiper motor terminals 7 and 8
- from body grounds B11, B22 and D210.

Then, power continues to be supplied

- through rear wiper amp. terminal 5
- to rear wiper motor terminal 4.

Ground continues to be supplied

- through rear wiper motor terminal 3

- to rear wiper amp. terminal 8. GI
- With power and ground supplied, rear wiper continues to operate.  
When wiper arms reach rear wiper stopper, ground is interrupted
- to rear wiper amp. terminal 7 MA
  - from body grounds. EM
- Rear wiper motor will then stop wiper arms at the PARK position.

## Intermittent Operation

The rear wiper motor operates the wiper arms at low speed approximately every 7 seconds. This feature is controlled by the wiper amp. NAEL0063S0105  
LC

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

- to wiper amp. terminal 14 EC
- from rear wiper switch terminal 21 FE
- through body grounds E13 and E41. FE

Then, power is supplied

- through rear wiper amp. terminal 5 CL
- to rear wiper motor terminal 4. CL

Ground is supplied

- through rear wiper motor terminal 3 MT
- to rear wiper amp. terminal 8. MT

The rear wiper motor operates at low speed intermittent. AT

## WASHER OPERATION

When the rear wiper switch is turned to WASH position, ground is supplied NAEL0063S02

- to rear wiper amp. terminal 13 TF
- through terminals 23 and 24 of rear wiper switch TF
- through body grounds E13 and E41. PD

Then, power is supplied

- through rear wiper amp. terminal 9 AX
- to rear washer motor terminal 2. AX

Ground is supplied

- through body grounds E13 and E41 SU
- to rear washer motor terminal 1. SU

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

When the rear wiper switch is turned to WASH position for one second or more, the rear wiper motor operates at low speed for approximately 3 seconds after the rear wiper switch is released. This feature is controlled by the rear wiper amp. in the same manner as the intermittent operation. BR

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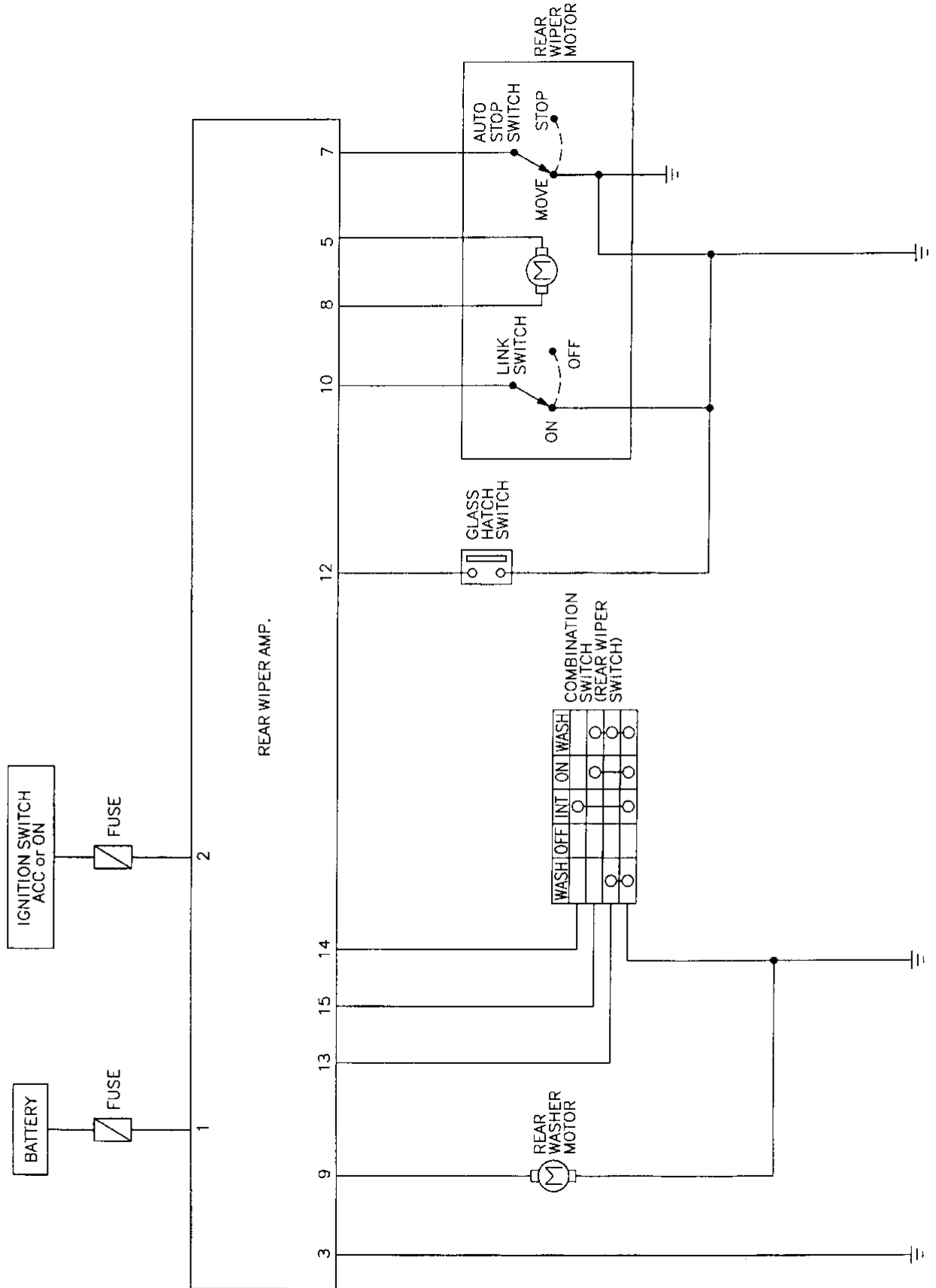
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# REAR WIPER AND WASHER

Schematic

## Schematic

NAEL0064



MEL953J



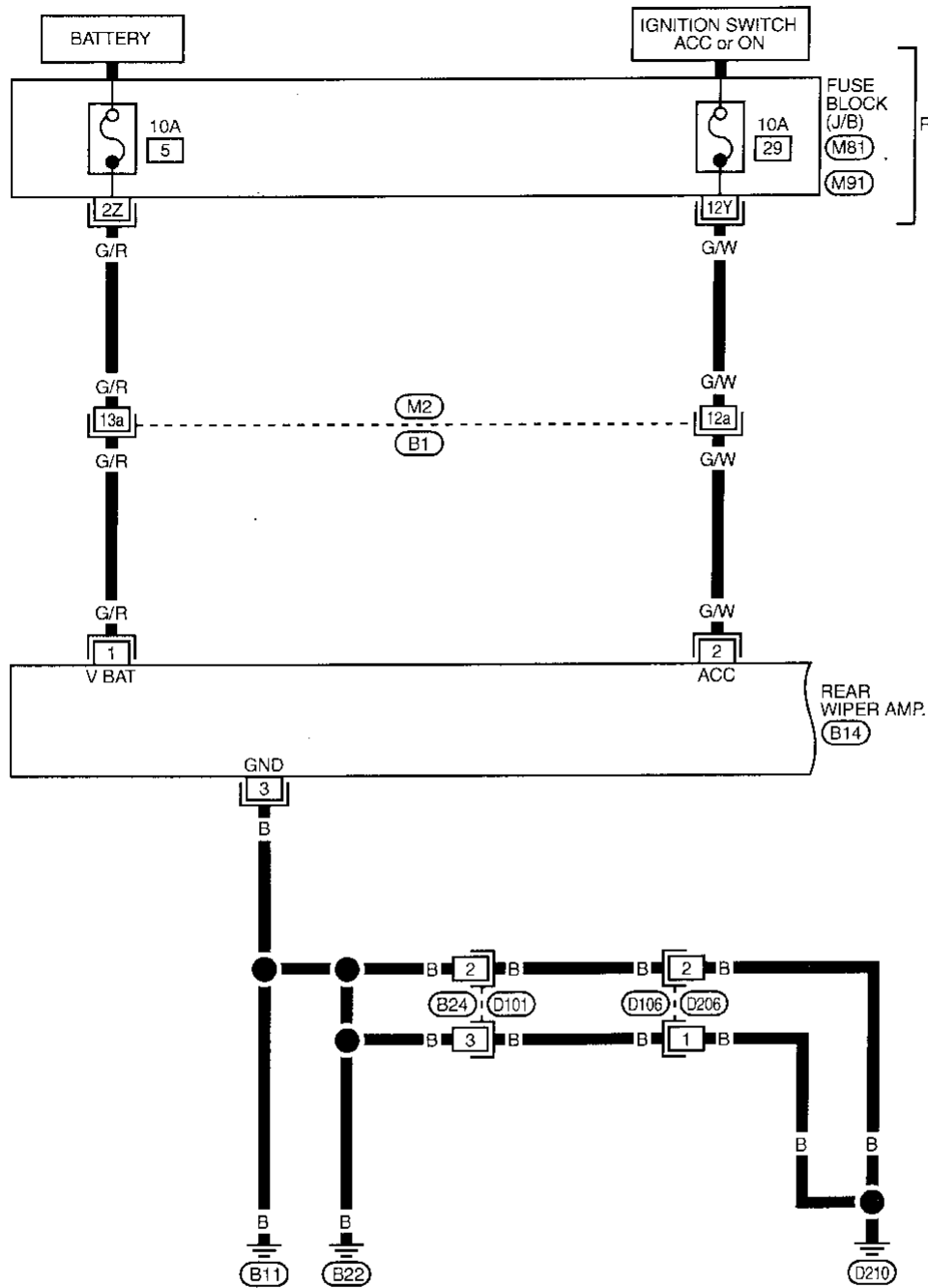
# REAR WIPER AND WASHER

Wiring Diagram — WIP/R —

## Wiring Diagram — WIP/R —

NAEL0065

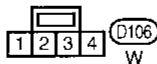
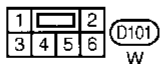
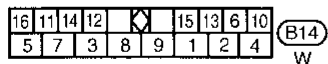
EL-WIP/R-01



Refer to EL-POWER.

REAR WIPER AMP. (B14)

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(M2), (B1)

(M81)

(M91)

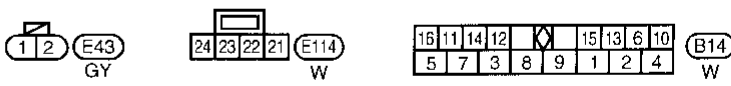
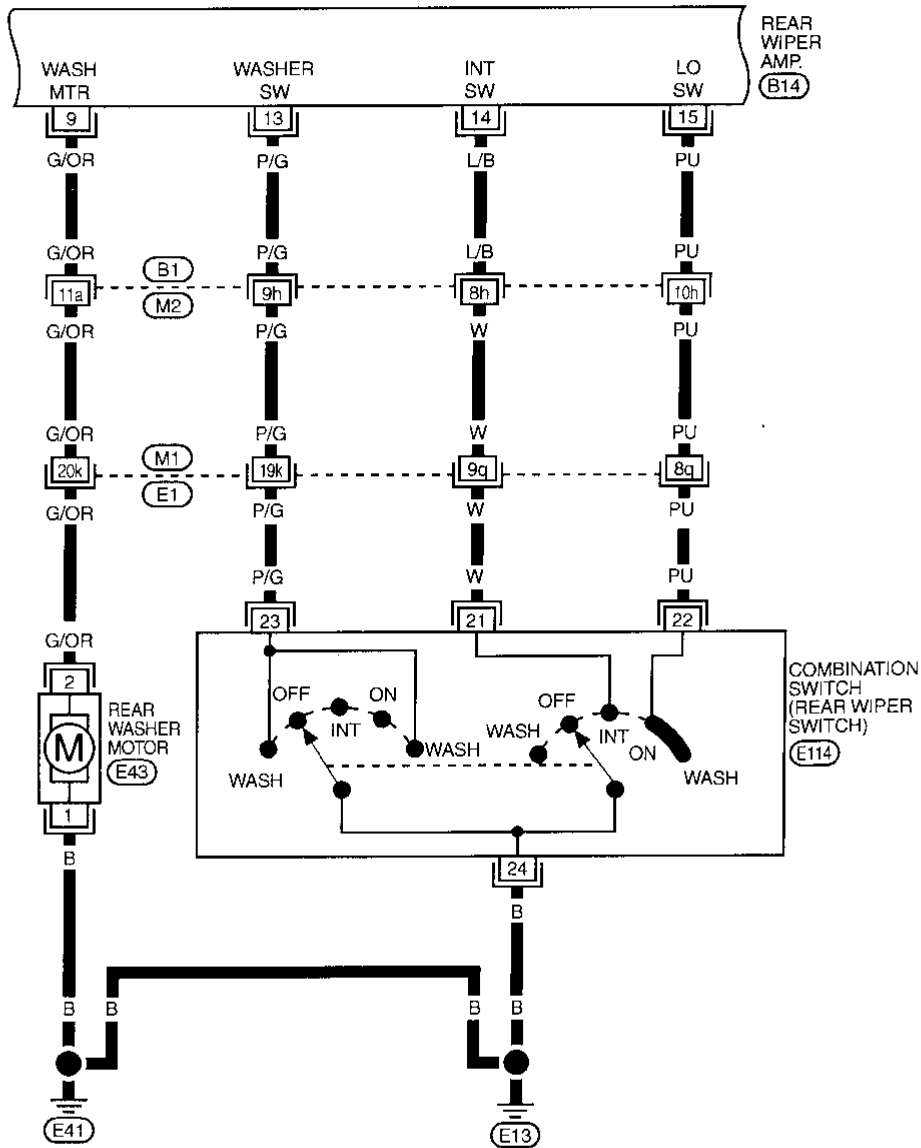
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# REAR WIPER AND WASHER

Wiring Diagram — WIP/R — (Cont'd)

EL-WIP/R-02



Refer to last page (Foldout page).

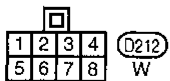
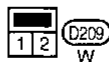
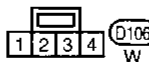
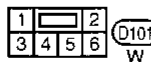
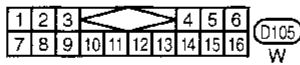
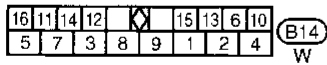
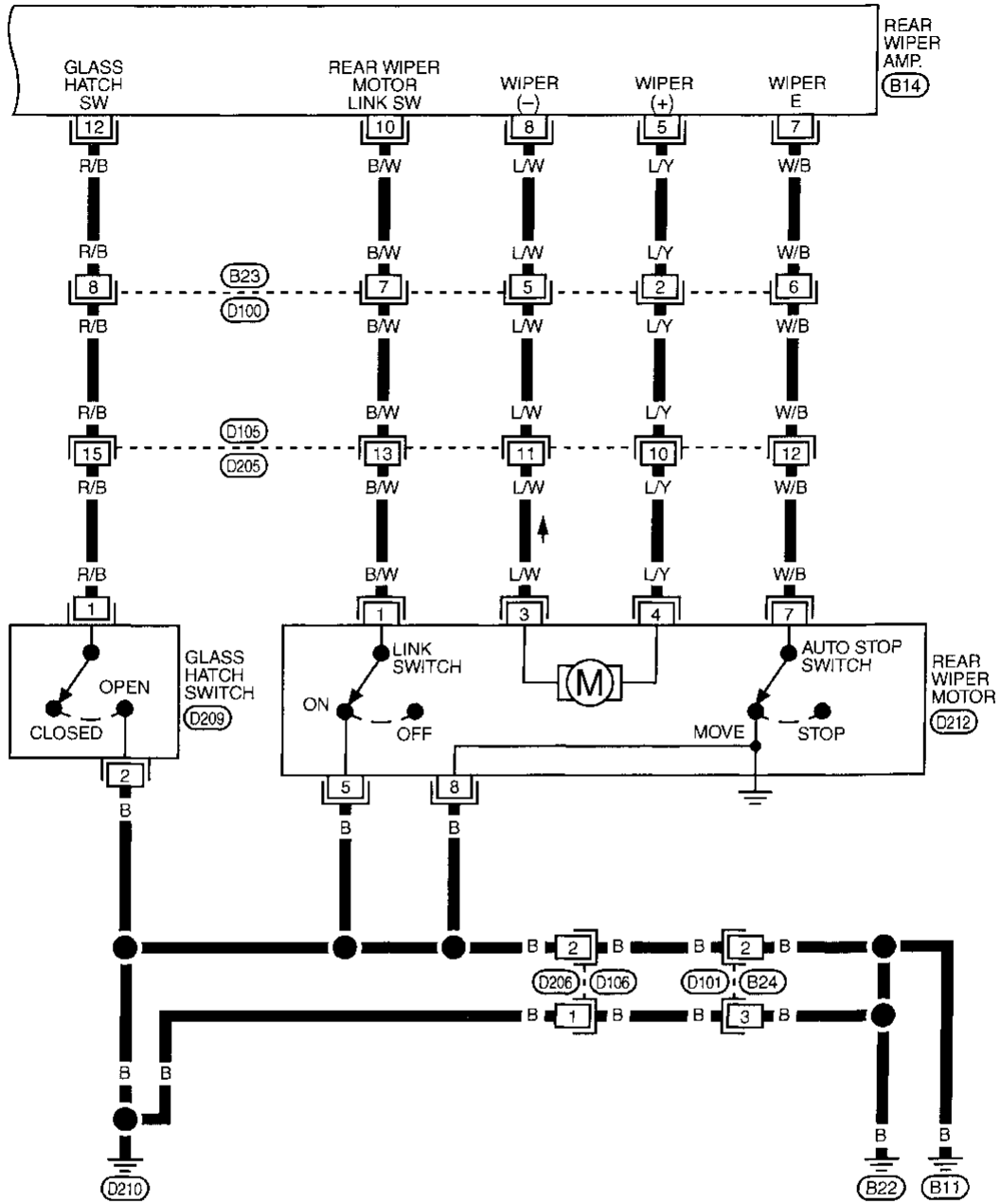
- (M1), (E1)
- (M2), (B1)

MEL955J

# REAR WIPER AND WASHER

Wiring Diagram — WIP/R — (Cont'd)

EL-WIP/R-03



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

MEL956J

# REAR WIPER AND WASHER

Trouble Diagnoses








## Trouble Diagnoses

NAEL0066

### REAR WIPER AMP. INSPECTION TABLE

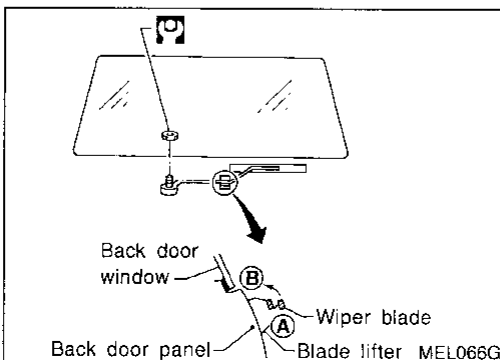
NAEL0066S01

(Data are reference values.)

Terminal No.	Item	Condition		Voltage (Approximate value)	
1	Power supply (BAT)	—		Battery voltage	
2	Power supply (ACC)		—	Battery voltage	
3	Ground	—		—	
5	Rear wiper motor		Rear wiper switch	ON	Battery voltage
				OFF	Less than 1V
7	Auto stop		Rear wiper switch should be at "INT" to inspect the value for wiper movement.	Wiper is moving	Less than 1V
				Wiper stop	Battery voltage
10	Link switch		Rear wiper switch should be at "ON" to inspect the value.	Wiper is moving	Less than 1V
				Wiper stop	Battery voltage
12	Glass hatch switch	Glass hatch		Open	Less than 1V
				Closed	Battery voltage
13	Washer switch		Rear wiper switch	WASH	Less than 1V
				OFF, ON or INT	Battery voltage
14	Intermittent switch		Rear wiper switch	INT	Less than 1V
				OFF, ON or WASH	Battery voltage
15	Wiper on switch		Rear wiper switch	ON or WASH	Less than 1V
				OFF or INT	Battery voltage

#### NOTE:

Power to the rear wiper amp. will be interrupted when the rear glass hatch is opened. In that case, conduct the inspection of the rear wiper amp. with the rear glass hatch closed, unless otherwise indicated.




## Removal and Installation

NAEL0067

### WIPER ARMS

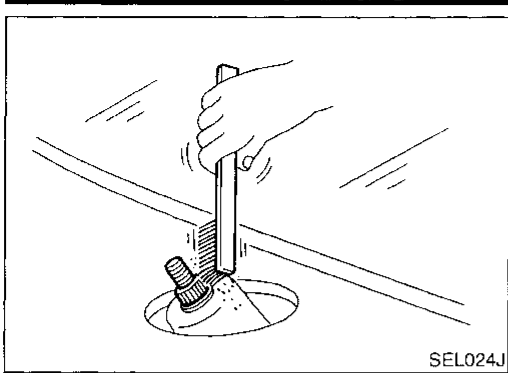
NAEL0067S01

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.
3. Then, set wiper arm to portion B.

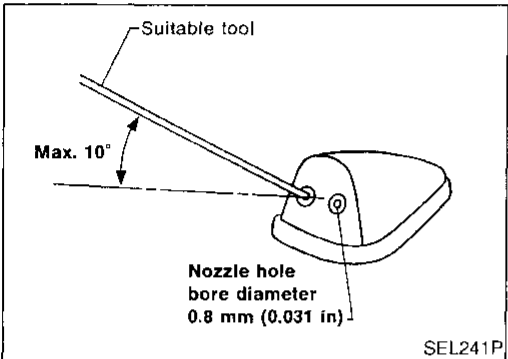
 : 13 - 18 N·m (1.3 - 1.8 kg-m, 9 - 13 ft-lb)

# REAR WIPER AND WASHER

Removal and Installation (Cont'd)



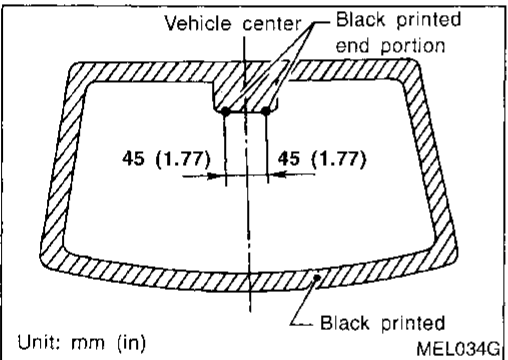
- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.



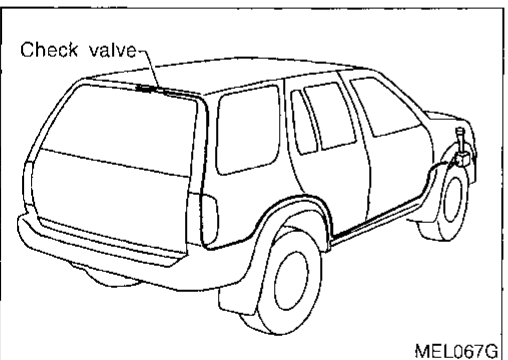
## Washer Nozzle Adjustment

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

Adjustable range:  $\pm 10^\circ$  (In any direction)

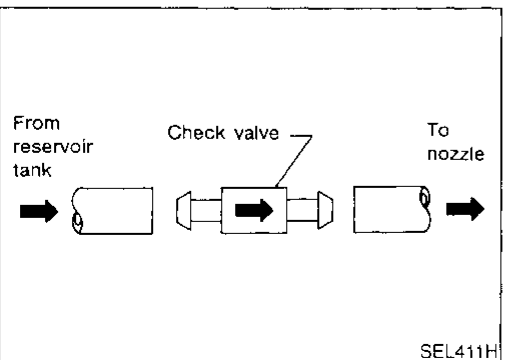


## Washer Tube Layout



## Check Valve

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



GI

MA

EM

LC

EC

NAEL0068

FE

CL

MT

AT

TF

PD

AX

SU

NAEL0069

BR

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NAEL0070

HA

SC

EL

IDX

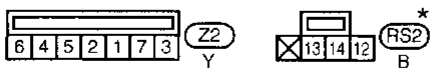
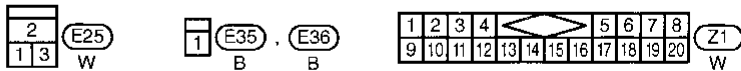
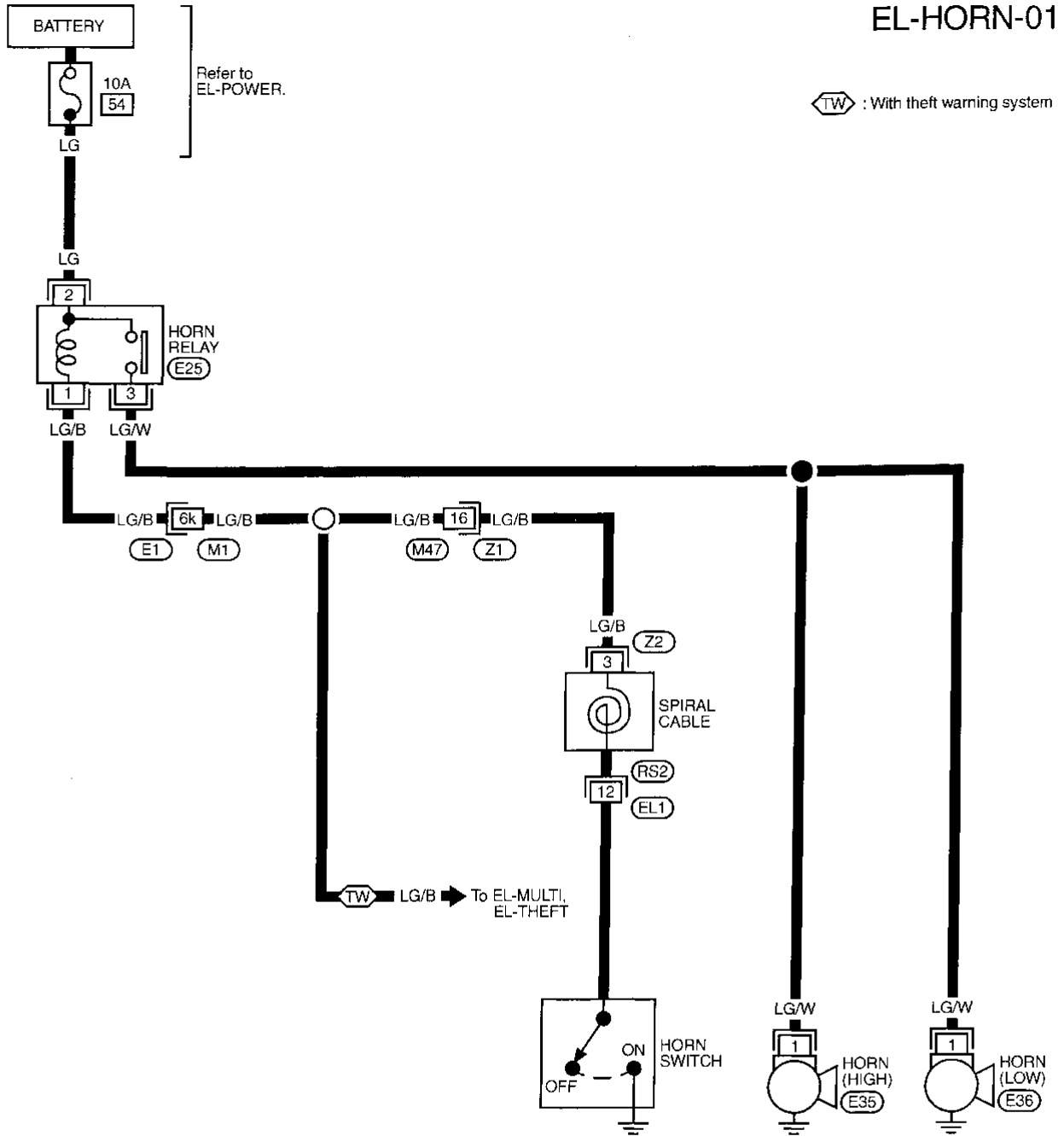
# HORN

Wiring Diagram — HORN —

## Wiring Diagram — HORN —

NAEL0071

EL-HORN-01



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

Refer to last page (Foldout page).

(M1) , (E1)

MEL957J

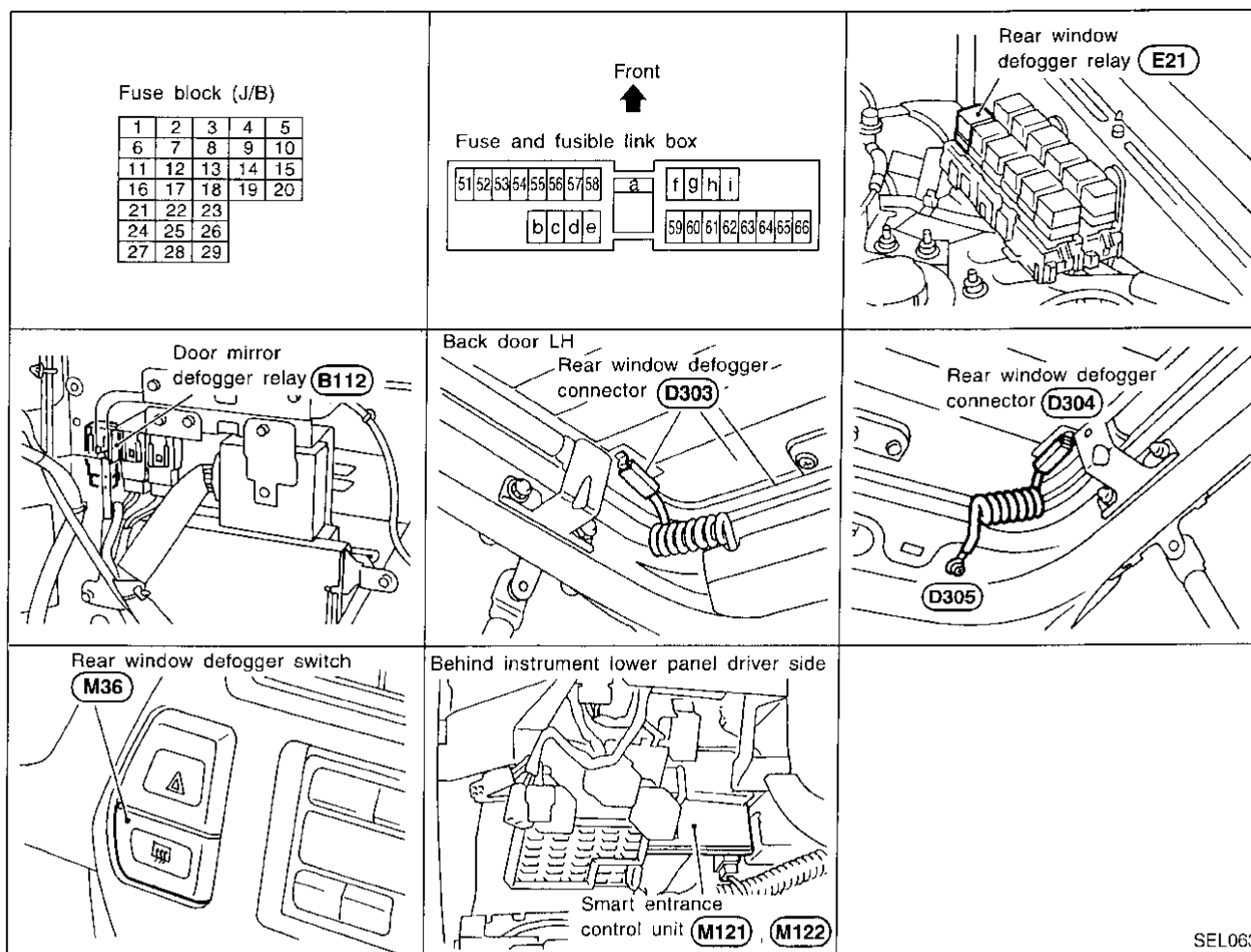


# REAR WINDOW DEFOGGER

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0072



SEL063W

## System Description

NAEL0073

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

Power is supplied at all times

- to rear window defogger relay terminal 3
- through 20A fuse (No. 56, located in the fuse and fusible link box) and
- to rear window defogger relay terminal 6
- through 20A fuse (No. 57, located in the fuse and fusible link box).

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

- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to the rear window defogger relay terminal 1 and
- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

Ground is supplied to terminal 1 of the rear window defogger switch through body grounds M4 and M66.

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

- through terminal 2 of the rear window defogger switch
- to smart entrance control unit terminal 39.

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

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

Power is supplied



# REAR WINDOW DEFOGGER

System Description (Cont'd)

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

The rear window defogger has an independent ground.

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

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

Power is supplied

- to terminal 3 of the rear window defogger switch
- from terminal 7 of the rear window defogger relay.

Terminal 4 of the rear window defogger switch is grounded through body grounds M4 and M66.

GI

MA

EM

LC

EC

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MT

AT

TF

PD

AX

SJ

BR

ST

RS

BT

HA

SC

**EL**

IDX

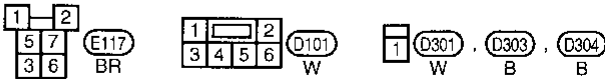
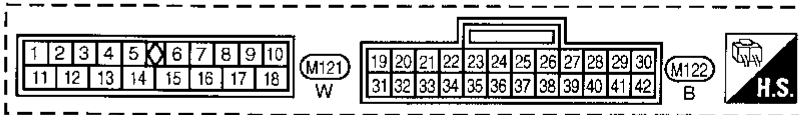
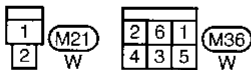
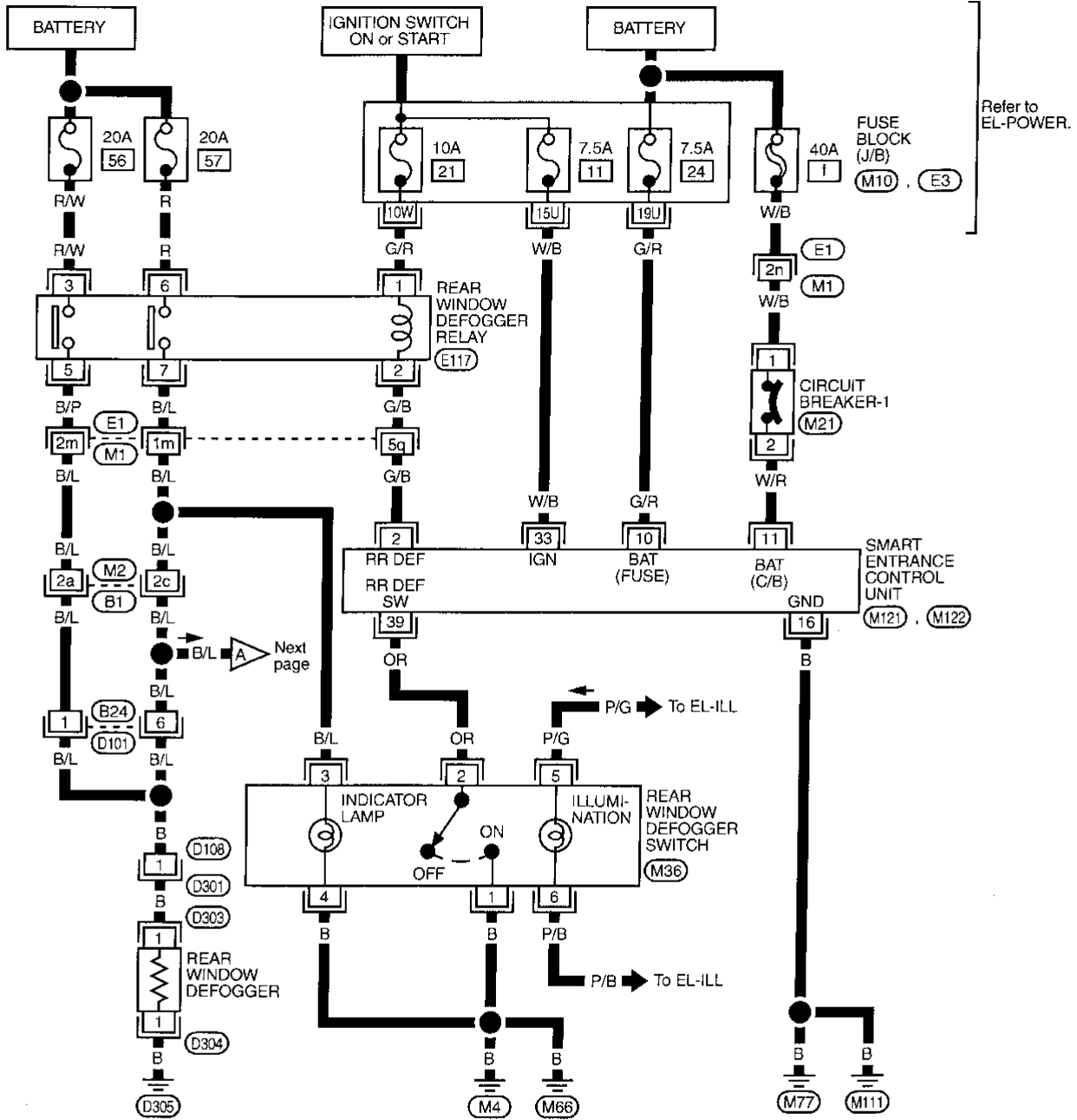
# REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

## Wiring Diagram — DEF —

NAEL0074

EL-DEF-01



Refer to last page (Foldout page).

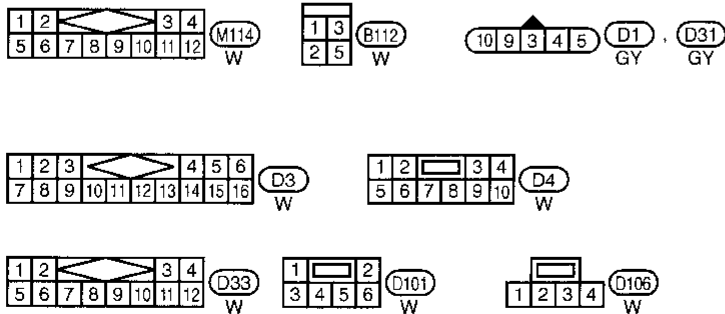
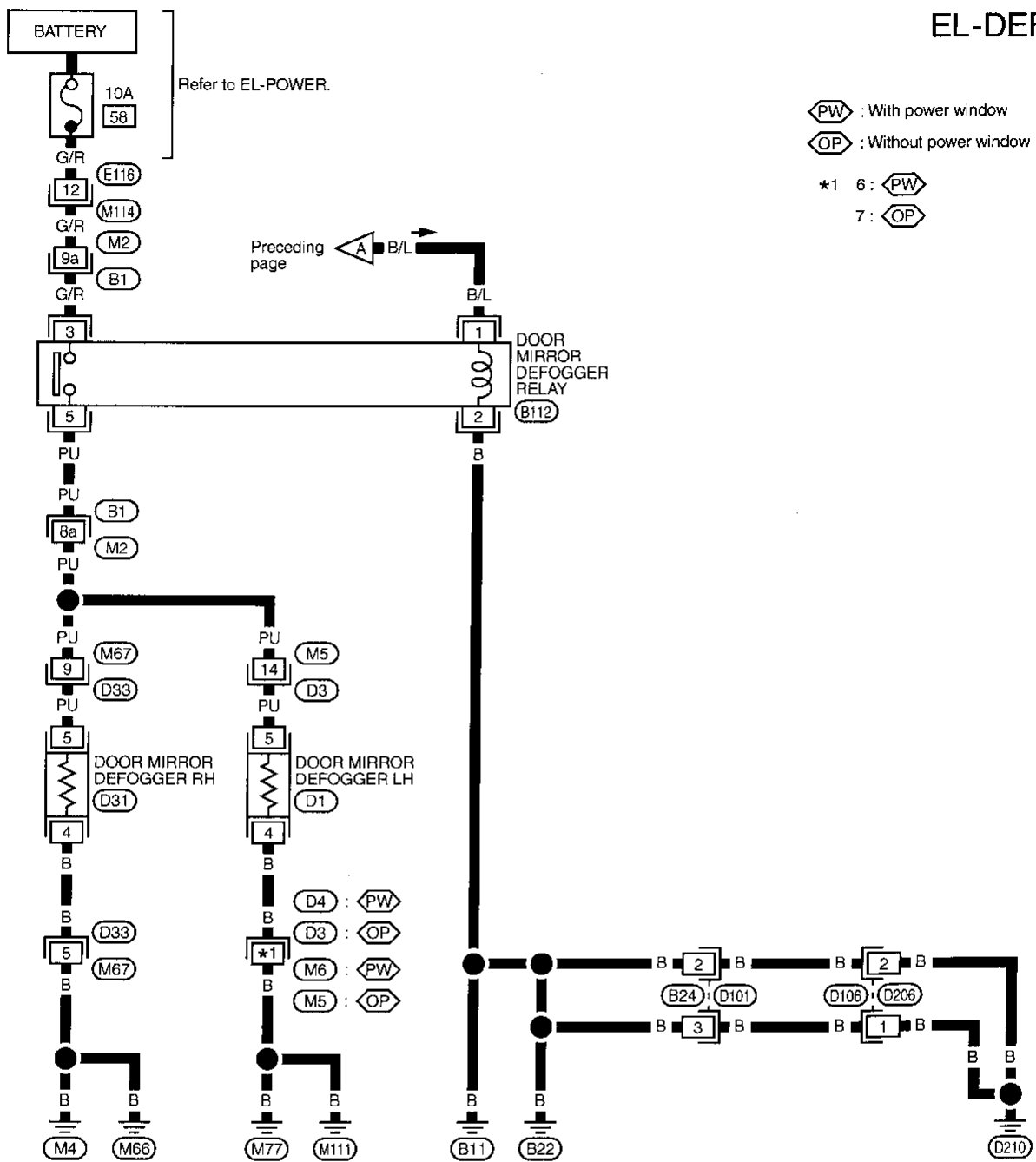
- (M1) . (E1)
- (M2) . (B1)
- (M10)
- (E3)

MEL959J

# REAR WINDOW DEFOGGER

Wiring Diagram — DEF — (Cont'd)

EL-DEF-02



Refer to last page (Foldout page).

M2, B1

MEL960J

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

# REAR WINDOW DEFOGGER

Trouble Diagnoses

## Trouble Diagnoses DIAGNOSTIC PROCEDURE

NAEL0075

NAEL0075S01

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

<b>1</b>	<b>CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL</b>
<p>1. Turn ignition switch to ON position. 2. Check voltage between control unit harness terminal 2 and ground.</p>	
<p style="text-align: right;">SEL787VA</p>	
<p><b>Voltage [V]:</b> Rear window defogger switch is "OFF". Approx. 12 Rear window defogger switch is "ON". 0</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	<p>▶ <b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• Rear window defogger relay (Refer to EL-139.)</li> <li>• Rear window defogger circuit</li> <li>• Rear window defogger filament (Refer to EL-139.)</li> </ul>
NG	▶ GO TO 2.

<b>3</b>	<b>CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL</b>
<p>Check continuity between control unit terminal 39 and ground.</p>	
<p style="text-align: right;">SEL789VA</p>	
<p><b>Continuity:</b> Rear window defogger switch is pushed. Yes Rear window defogger switch is released. No</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ GO TO 4.
NG	<p>▶ <b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• Rear window defogger switch (Refer to EL-139.)</li> <li>• Harness for open or short between control unit and rear window defogger switch</li> <li>• Rear window defogger switch ground circuit</li> </ul>

<b>2</b>	<b>CHECK DEFOGGER RELAY COIL SIDE CIRCUIT</b>
<p>1. Disconnect control unit connector. 2. Turn ignition switch to ON position. 3. Check voltage between control unit terminal 2 and ground.</p>	
<p style="text-align: right;">SEL788VA</p>	
<p><b>Does battery voltage exist?</b></p>	
Yes	▶ GO TO 3.
No	<p>▶ <b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• 10A fuse [No. 21, located in the fuse block (J/B)]</li> <li>• Rear window defogger relay</li> <li>• Harness for open or short between rear window defogger relay and control unit</li> </ul>

<b>4</b>	<b>CHECK IGNITION INPUT SIGNAL</b>
<p>Check voltage between control unit terminal 33 and ground.</p>	
<p style="text-align: right;">SEL790VA</p>	
<p><b>Voltage [V]:</b> Ignition switch is "ON". Approx. 12 Ignition switch is "OFF". 0</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ GO TO 5.
NG	<p>▶ <b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• 7.5A fuse [No. 11, located in the fuse block (J/B)]</li> <li>• Harness for open or short between control unit and fuse</li> </ul>

# REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

**5 CHECK CONTROL UNIT GROUND CIRCUIT**

Check continuity between control unit terminal 16 and ground.

Smart entrance control unit connector (M121)

16

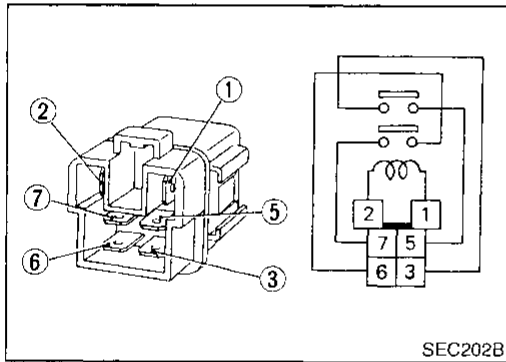
B

SEL791VA

**Does continuity exist?**

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

GI  
MA  
EM  
LC  
EC  
FE  
CL  
MT  
AT



## Electrical Components Inspection

### REAR WINDOW DEFOGGER RELAY

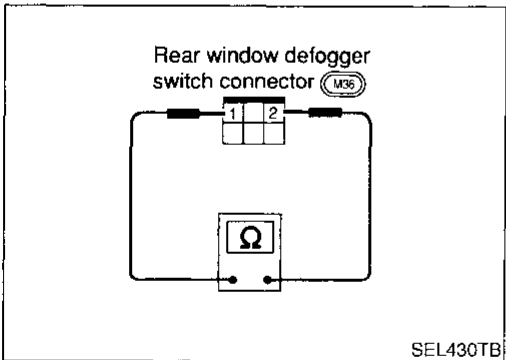
NAEL0076

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

NAEL0076S01

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

TF  
PD  
AX  
SU



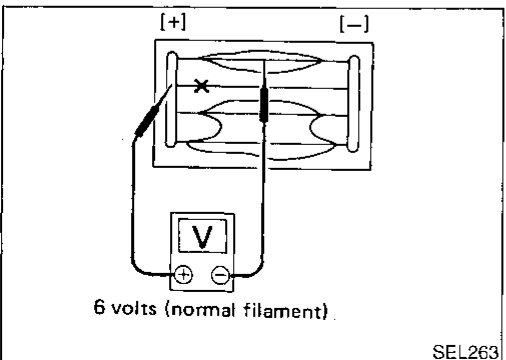
### REAR WINDOW DEFOGGER SWITCH

NAEL0076S02

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

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

BR  
ST  
RS  
BT



### Filament Check

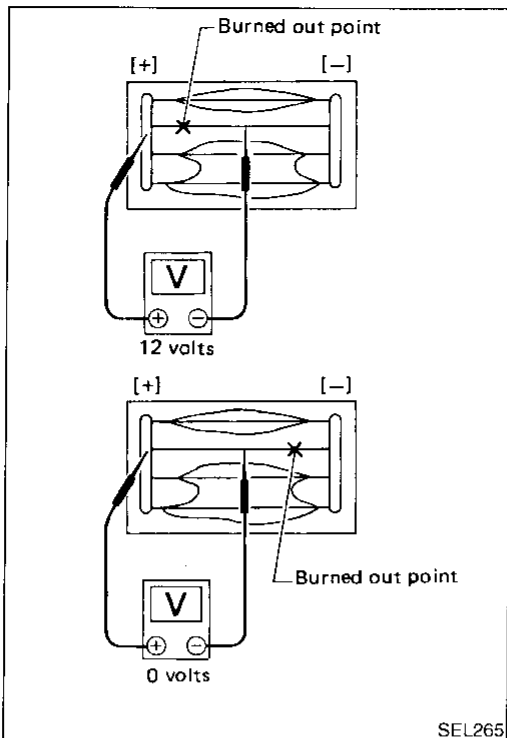
NAEL0077

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

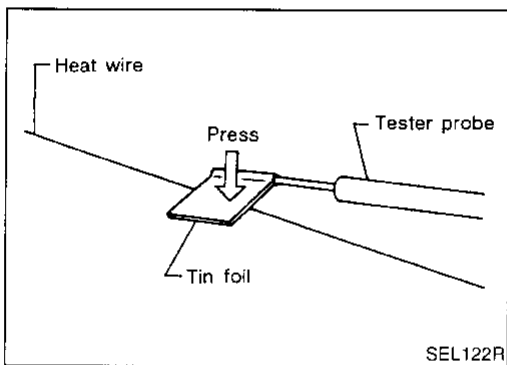
HA  
SC  
EL  
IDX

# REAR WINDOW DEFOGGER

## Filament Check (Cont'd)



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.



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

## Filament Repair

### REPAIR EQUIPMENT

NAEL0078

NAEL0078501

- 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

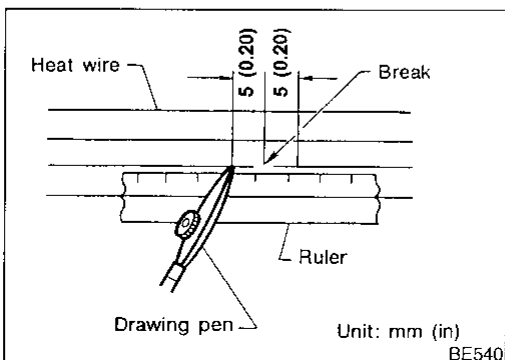
### REPAIRING PROCEDURE

NAEL0078302

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.

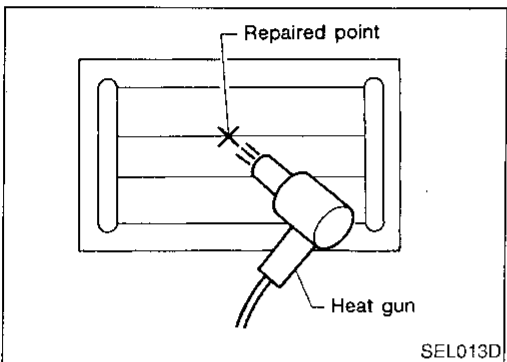
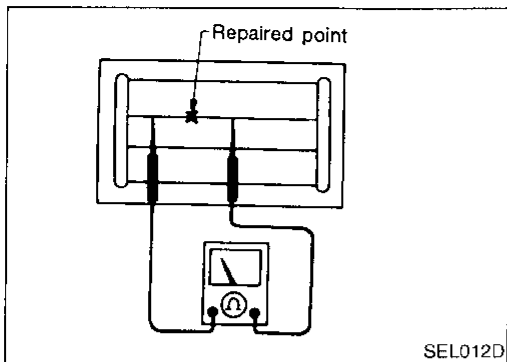


Unit: mm (in)

BE540

# REAR WINDOW DEFOGGER

Filament Repair (Cont'd)



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.

GI

MA

EM

LC

EC

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

# AUDIO

## System Description

NAEL0079

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

### BASE SYSTEM

NAEL0079S01

Power is supplied at all times

- through 15A fuse [No. 4, located in the fuse block (J/B)]
- to audio unit terminal 6.

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

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

Ground is supplied through the case of the audio unit.

When the audio unit power knob is pushed to the ON position, audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to the front and rear speakers.

### BOSE SYSTEM

NAEL0079S02

Power is supplied at all times

- through 15A fuse [No. 4, located in the fuse block (J/B)]
- to audio unit terminal 6,
- to audio amp. relay terminal 2 and
- to rear speaker amp. terminal 11.

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

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

Ground is supplied through the case of the audio unit.

Ground is supplied

- to audio amp. relay terminal 3,
- to front door speaker LH terminal 5 and
- to front door speaker RH terminal 5
- through body grounds M77 and M111
- to rear speaker amp. terminal 24
- through body grounds B11, B22 and D210.

When the audio unit POWER button is pressed, power is supplied to rear speaker amp. terminal 9 and audio amp. relay terminal 1 from audio unit terminal 12. Then audio amp. relay is energized and power is supplied

- to front door speaker LH terminal 4 and
- to front door speaker RH terminal 4.

Audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to terminals 2 and 6 of the LH and RH front speakers and terminals 5, 7, 18 and 20 of the rear speaker amp.
- to LH and RH tweeters through terminals 1 and 3 of the front speakers
- to rear LH and RH speakers through terminals 1, 2, 25 and 26 of the rear speaker amp.



# AUDIO

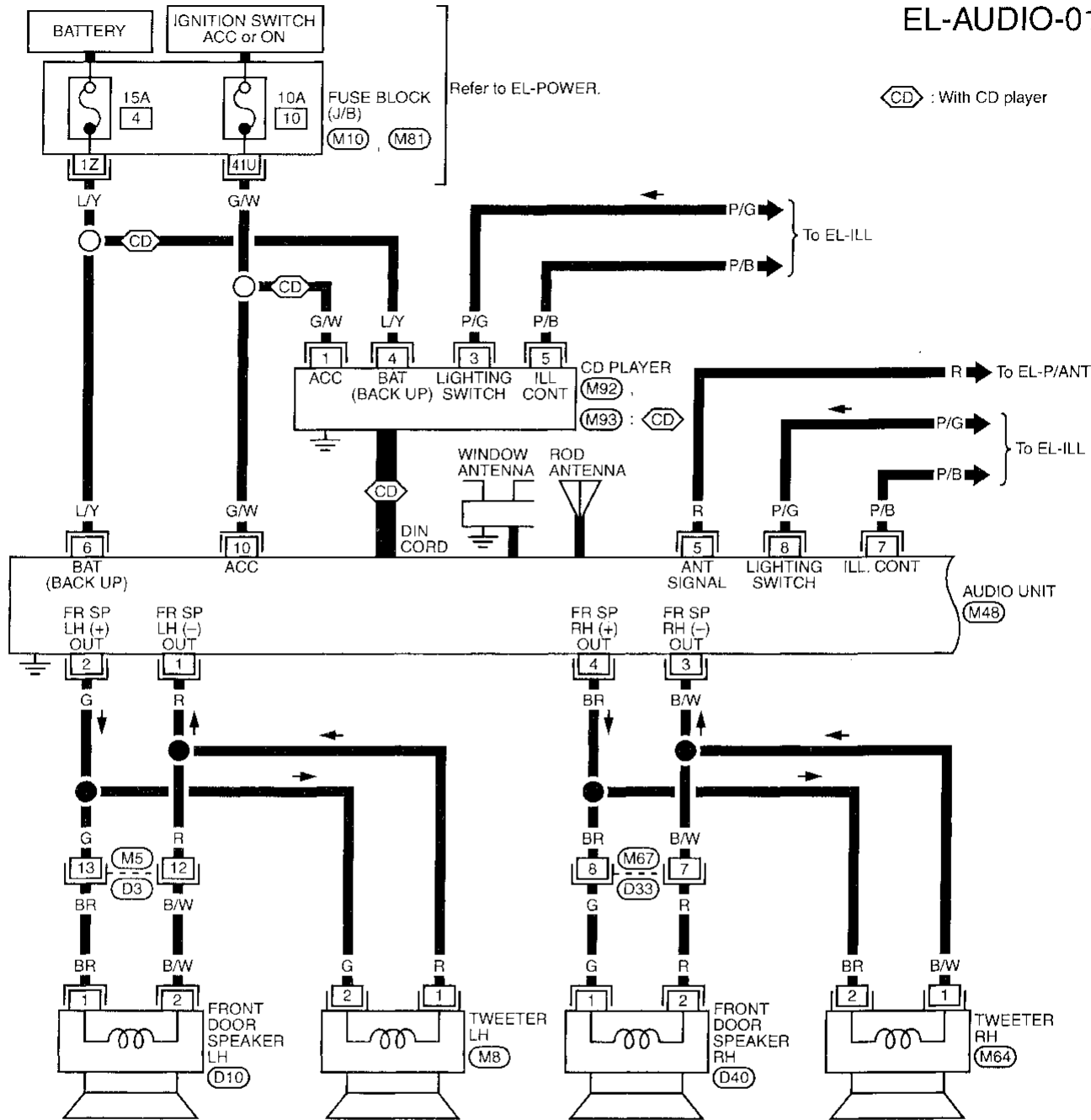
Wiring Diagram — AUDIO —/Base System

## Wiring Diagram — AUDIO —/Base System

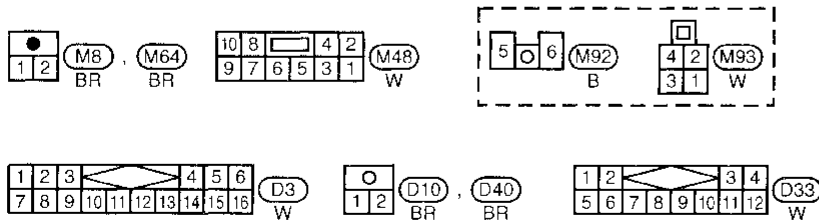
MAEL0188

EL-AUDIO-01

GI  
MA  
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CL  
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AT  
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Refer to last page (Foldout page).

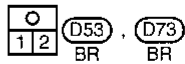
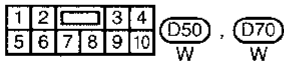
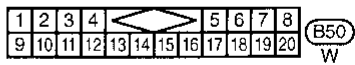
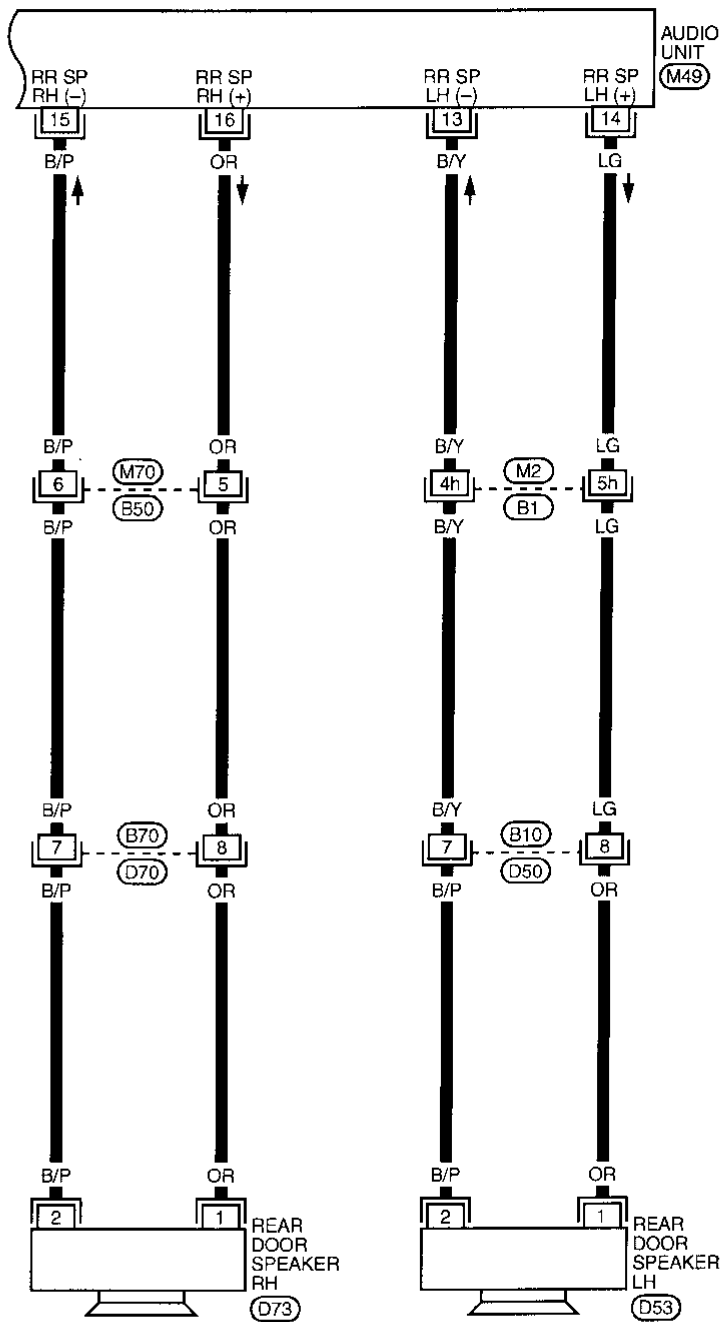


M10  
M81

# AUDIO

Wiring Diagram — AUDIO —/Base System (Cont'd)

EL-AUDIO-02



Refer to last page (Foldout page).

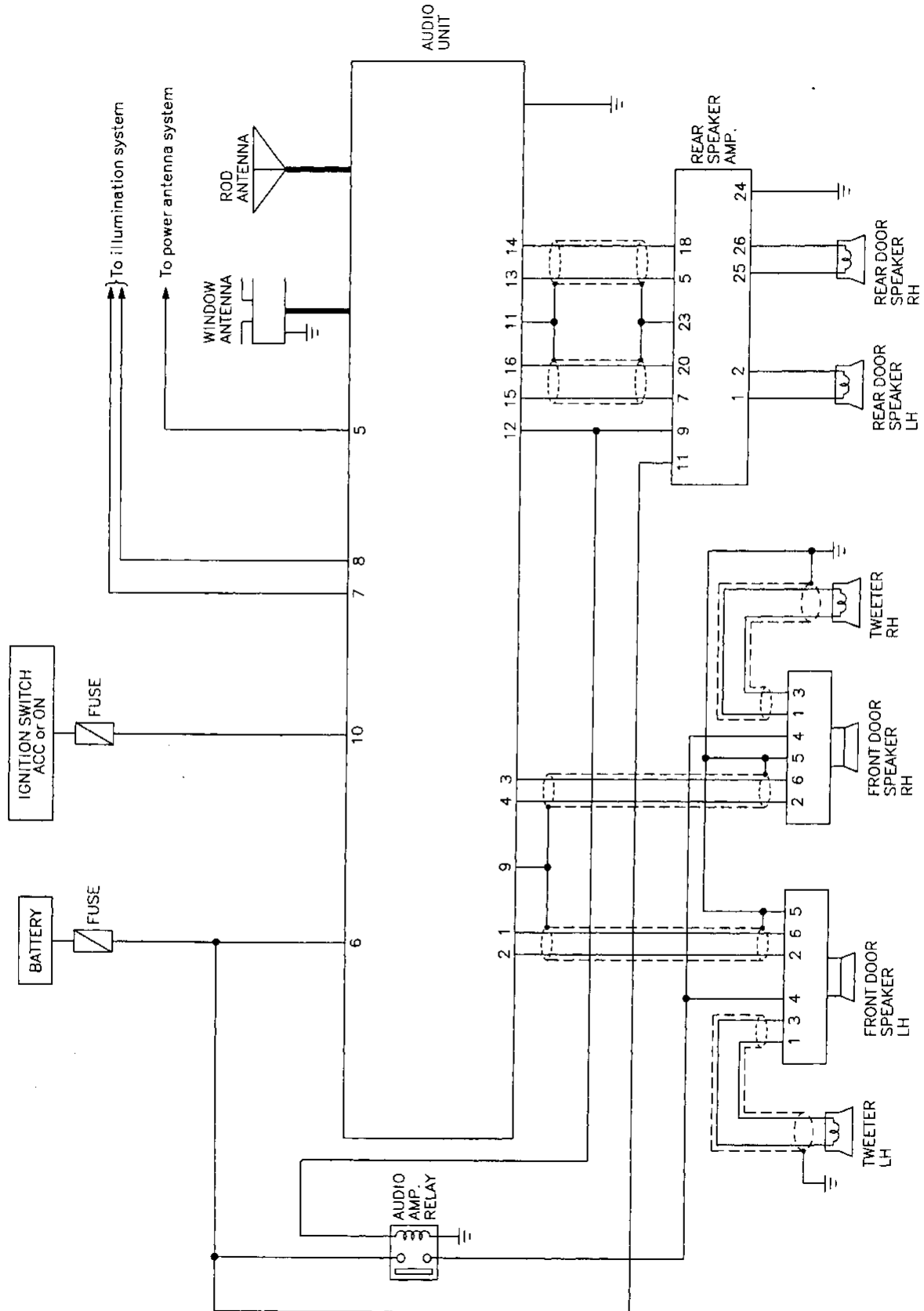
M2, B1

# AUDIO

Schematic/BOSE System

## Schematic/BOSE System

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



EL

MEL013K

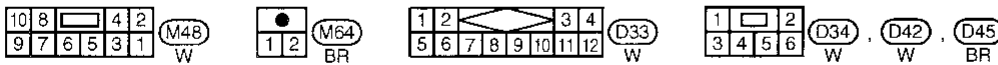
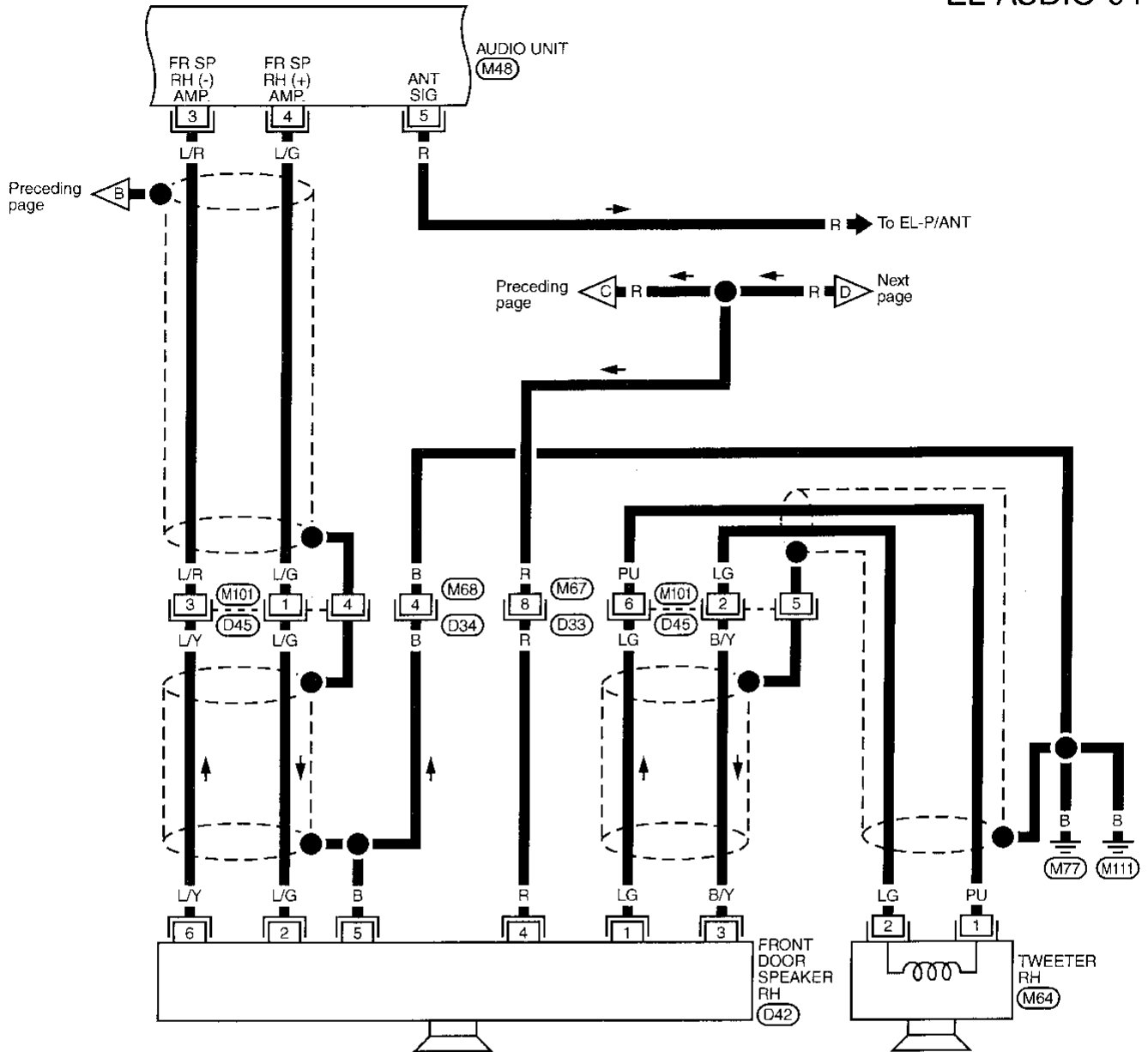
IDX



# AUDIO

Wiring Diagram — AUDIO —/BOSE System (Cont'd)

EL-AUDIO-04



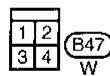
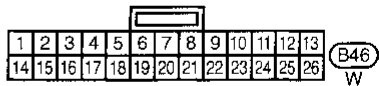
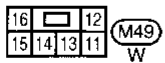
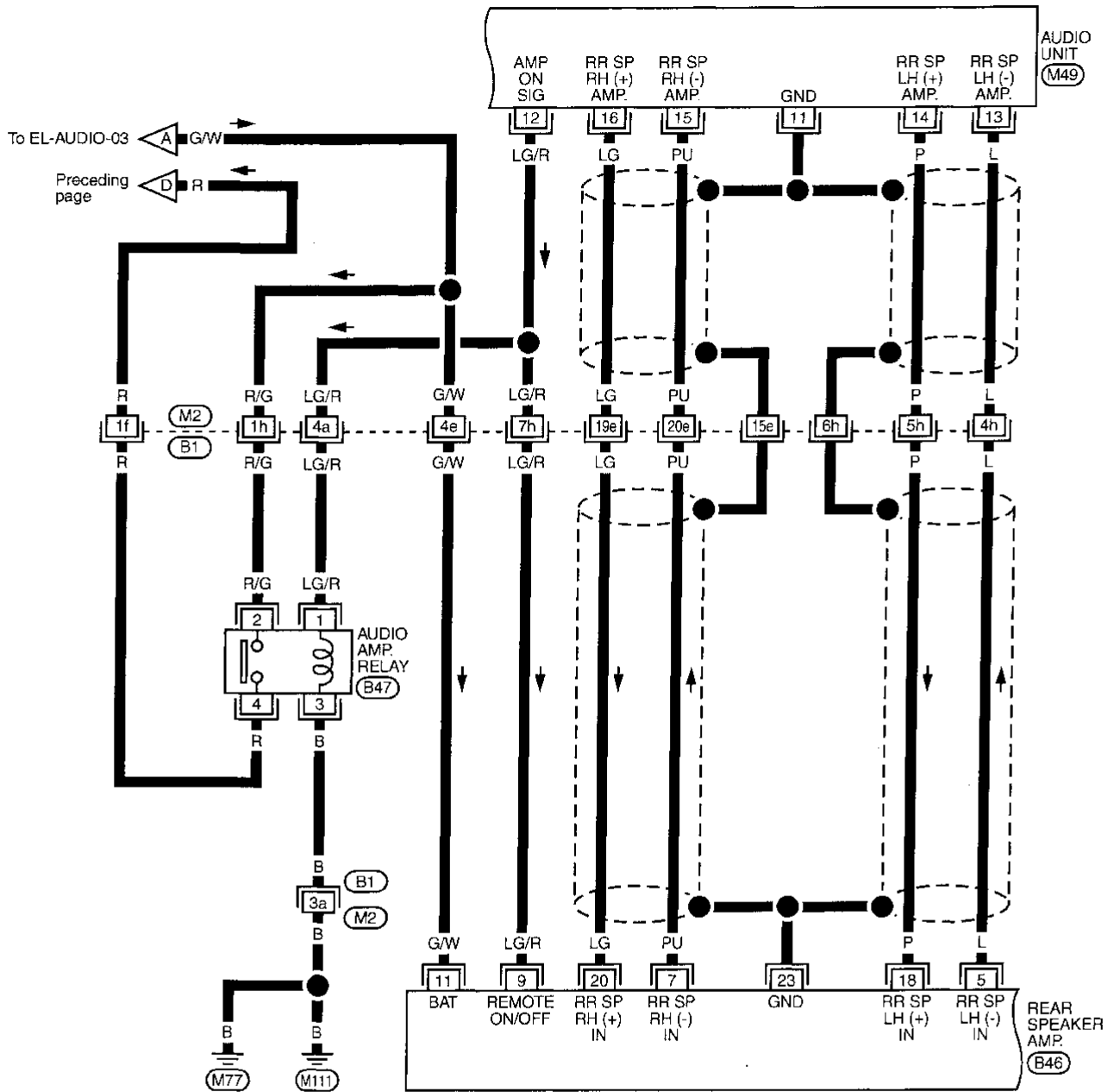
MEL964J

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EL  
IDX

# AUDIO

Wiring Diagram — AUDIO —/BOSE System (Cont'd)

EL-AUDIO-05



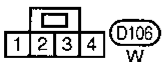
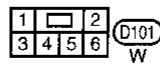
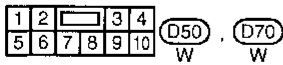
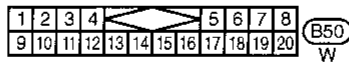
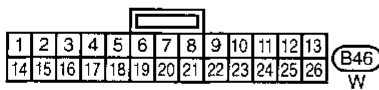
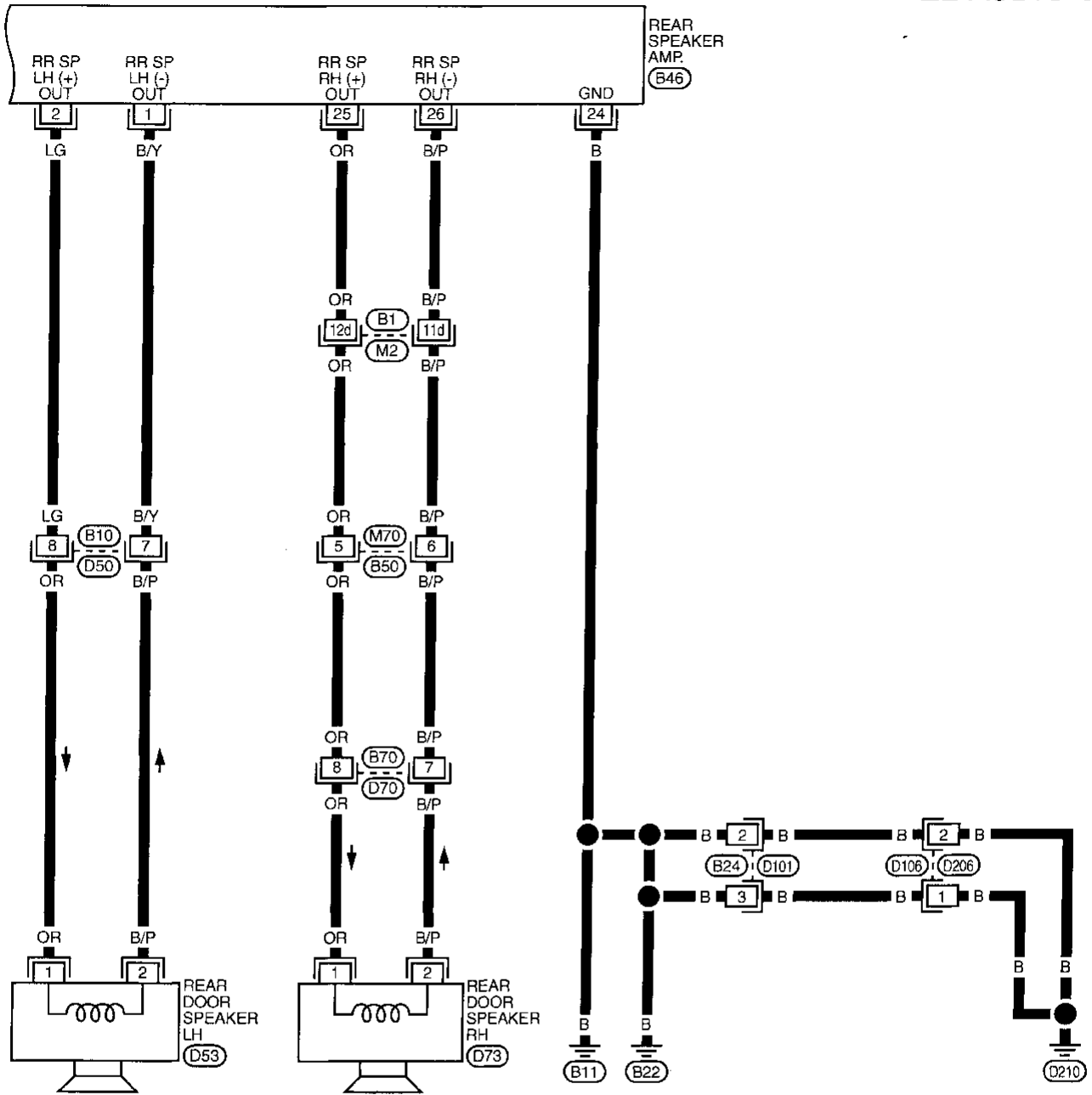
Refer to last page (Foldout page).  
(M2) (B1)

MEL965J

# AUDIO

Wiring Diagram — AUDIO —/BOSE System (Cont'd)

EL-AUDIO-06



Refer to last page (Foldout page).  
 (M2), (B1)

MEL966J

GI  
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 CL  
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 AT  
 TF  
 PD  
 AX  
 SU  
 BR  
 ST  
 RS  
 BT  
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 SC  
 EL  
 IDX

# AUDIO

Trouble Diagnoses

## Trouble Diagnoses

NAEL0082

NAEL0082S01

### AUDIO UNIT

Symptom	Possible causes	Repair order
Audio unit inoperative (no digital display and no sound from speakers).	<ol style="list-style-type: none"> <li>10A fuse</li> <li>Poor audio unit case ground</li> <li>Audio unit</li> </ol>	<ol style="list-style-type: none"> <li>Check 10A fuse [No. 10, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of audio unit.</li> <li>Check audio unit case ground.</li> <li>Remove audio unit for repair.</li> </ol>
Audio unit presets are lost when ignition switch is turned OFF.	<ol style="list-style-type: none"> <li>15A fuse</li> <li>Audio unit</li> </ol>	<ol style="list-style-type: none"> <li>Check 15A fuse [No. 4, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of audio unit.</li> <li>Remove audio unit for repair.</li> </ol>
AM stations are weak or noisy (FM stations OK).	<ol style="list-style-type: none"> <li>Antenna</li> <li>Poor audio unit ground</li> <li>Audio unit</li> </ol>	<ol style="list-style-type: none"> <li>Check antenna.</li> <li>Check audio unit ground.</li> <li>Remove audio unit for repair.</li> </ol>
FM stations are weak or noisy (AM stations OK).	<ol style="list-style-type: none"> <li>Window antenna</li> <li>Audio unit</li> </ol>	<ol style="list-style-type: none"> <li>Check window antenna.</li> <li>Remove audio unit for repair.</li> </ol>
Audio unit generates noise in AM and FM modes with engine running.	<ol style="list-style-type: none"> <li>Poor audio unit ground</li> <li>Loose or missing ground bonding straps</li> <li>Ignition condenser or rear window defogger noise suppressor condenser</li> <li>Alternator</li> <li>Ignition coil or secondary wiring</li> <li>Audio unit</li> </ol>	<ol style="list-style-type: none"> <li>Check audio unit ground.</li> <li>Check ground bonding straps.</li> <li>Replace ignition condenser or rear window defogger noise suppressor condenser.</li> <li>Check alternator.</li> <li>Check ignition coil and secondary wiring.</li> <li>Remove audio unit for repair.</li> </ol>
Audio unit generates noise in AM and FM modes with accessories on (switch pops and motor noise).	<ol style="list-style-type: none"> <li>Poor audio unit ground</li> <li>Antenna</li> <li>Accessory ground</li> <li>Faulty accessory</li> </ol>	<ol style="list-style-type: none"> <li>Check audio unit ground.</li> <li>Check antenna.</li> <li>Check accessory ground.</li> <li>Replace accessory.</li> </ol>

### BASE SYSTEM

NAEL0082S02

Symptom	Possible causes	Repair order
Individual speaker is noisy or inoperative.	<ol style="list-style-type: none"> <li>Speaker</li> <li>Audio unit output</li> <li>Speaker circuit</li> <li>Audio unit</li> </ol>	<ol style="list-style-type: none"> <li>Check speaker.</li> <li>Check audio unit output voltages.</li> <li>Check wires for open or short between audio unit and speaker.</li> <li>Remove audio unit for repair.</li> </ol>

### BOSE SYSTEM

NAEL0082S03

Symptom	Possible causes	Repair order
Audio unit controls are operational, but no sound is heard from any speaker.	<ol style="list-style-type: none"> <li>15A fuse</li> <li>Audio unit output</li> <li>Audio unit</li> </ol>	<ol style="list-style-type: none"> <li>Check 15A fuse [No. 4, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 2 of audio amp. relay.</li> <li>Check audio unit output voltage (Terminal 12).</li> <li>Remove audio unit for repair.</li> </ol>
All front speakers are inoperative.	<ol style="list-style-type: none"> <li>Audio amp. relay</li> <li>Audio amp. relay ground</li> <li>Amp. ON signal</li> </ol>	<ol style="list-style-type: none"> <li>Check audio amp. relay.</li> <li>Check audio amp. relay ground (Terminal 3).</li> <li>Turn ignition switch ACC and audio unit ON. Verify battery positive voltage is present at terminal 1 of audio amp. relay.</li> </ol>
Individual front speaker is noisy or inoperative.	<ol style="list-style-type: none"> <li>Speaker ground</li> <li>Power supply</li> <li>Audio unit output</li> <li>Speaker</li> </ol>	<ol style="list-style-type: none"> <li>Check speaker ground (Terminal 5).</li> <li>Check power supply for speaker (Terminal 4).</li> <li>Check audio unit output voltage for speaker.</li> <li>Replace speaker.</li> </ol>



# AUDIO

Trouble Diagnoses (Cont'd)

Symptom	Possible causes	Repair order
Both rear speakers are inoperative.	<ol style="list-style-type: none"> <li>1. Poor rear speaker amp. ground</li> <li>2. Power supply</li> <li>3. Amp. ON signal</li> <li>4. Rear speaker amp.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check rear speaker amp. ground circuit.</li> <li>2. Check power supply for rear speaker amp. (Terminal 11).</li> <li>3. Turn ignition switch ACC and audio unit ON. Verify battery positive voltage is present at terminal 9 of rear speaker amp.</li> <li>4. Remove rear speaker amp. for repair.</li> </ol>
Individual rear speaker is noisy or inoperative.	<ol style="list-style-type: none"> <li>1. Speaker</li> <li>2. Audio unit/amp. output</li> <li>3. Speaker circuit</li> <li>4. Audio unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check speaker.</li> <li>2. Check audio unit/amp. output.</li> <li>3. Check wires for open or short between audio unit/amp. and speakers.</li> <li>4. Remove audio unit for repair.</li> </ol>

## Inspection

### 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.)

### ANTENNA

1. 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.

NAEL0083

NAEL0083S01

NAEL0083S02

GI  
MA  
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FE  
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TF  
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BR  
ST  
RS  
BT  
HA  
SC  
EL  
IDX

# AUDIO ANTENNA

*System Description*

---

## System Description

NAEL0084

Power is supplied at all times

- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to power antenna terminal 6.

Ground is supplied to the power antenna terminal 2 through body grounds M4 and M66.

When the audio unit is turned to the ON position, battery positive voltage is supplied

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

The antenna raises and is held in the extended position.

When the audio unit is turned to the OFF position, battery positive voltage is interrupted

- from audio unit terminal 5
- to power antenna terminal 4.

The antenna retracts.

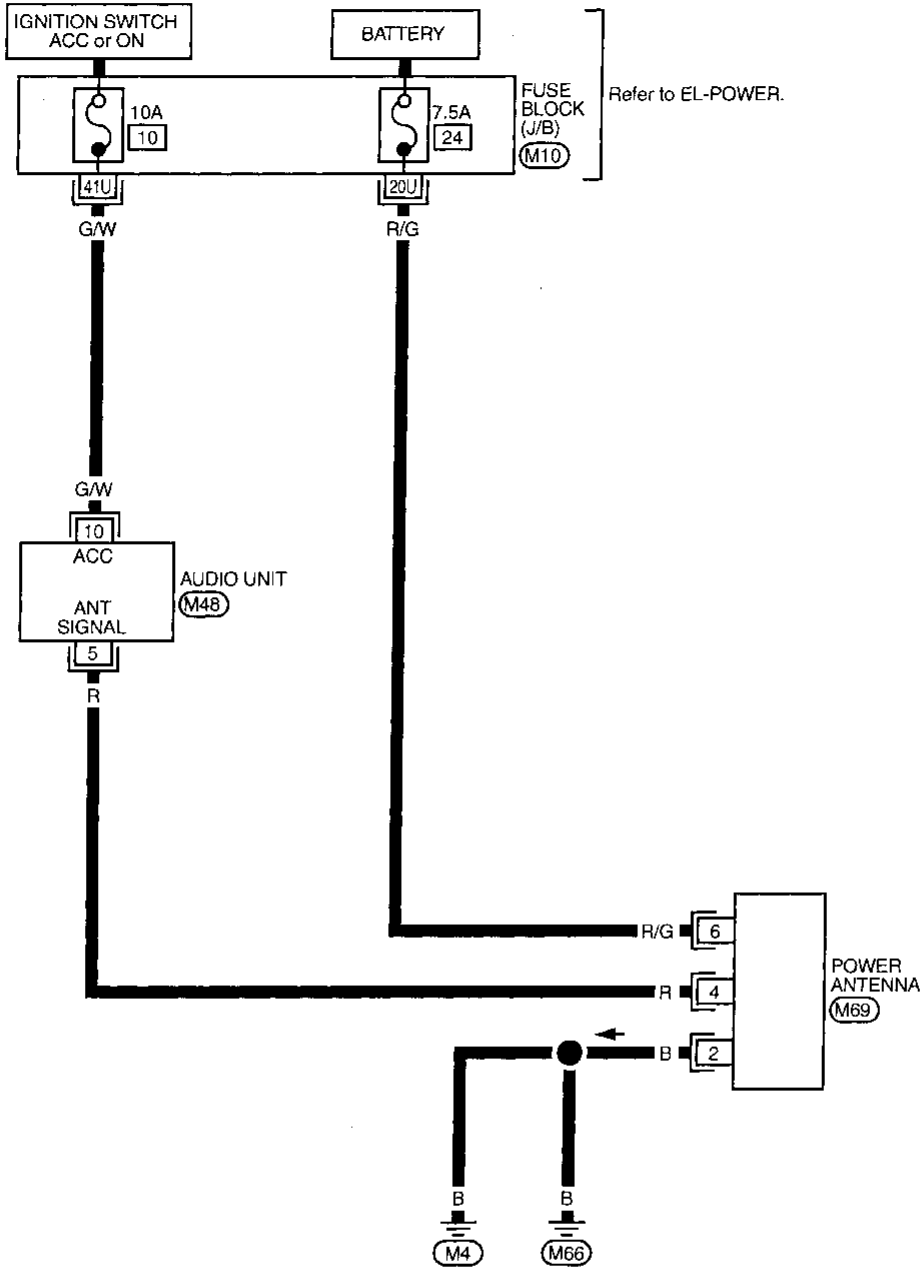
# AUDIO ANTENNA

Wiring Diagram — P/ANT —

## Wiring Diagram — P/ANT —

NAEL0085

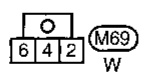
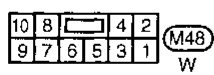
EL-P/ANT-01



Refer to EL-POWER.

AUDIO UNIT  
(M48)

POWER ANTENNA  
(M69)



Refer to last page (Foldout page).

(M10)

GI  
MA  
EM  
LC  
EC  
FE  
CL  
MT  
AT  
TF  
PD  
AX  
SU  
BR  
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BT  
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EL  
IDX

# AUDIO ANTENNA

Trouble Diagnoses

## Trouble Diagnoses

NAEL0086

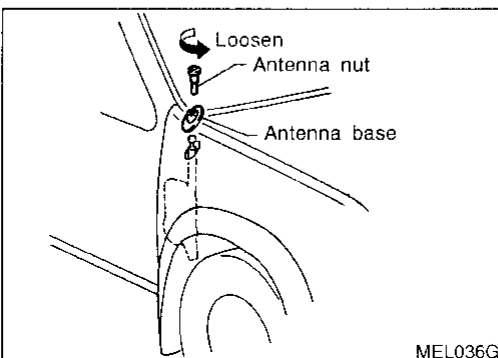
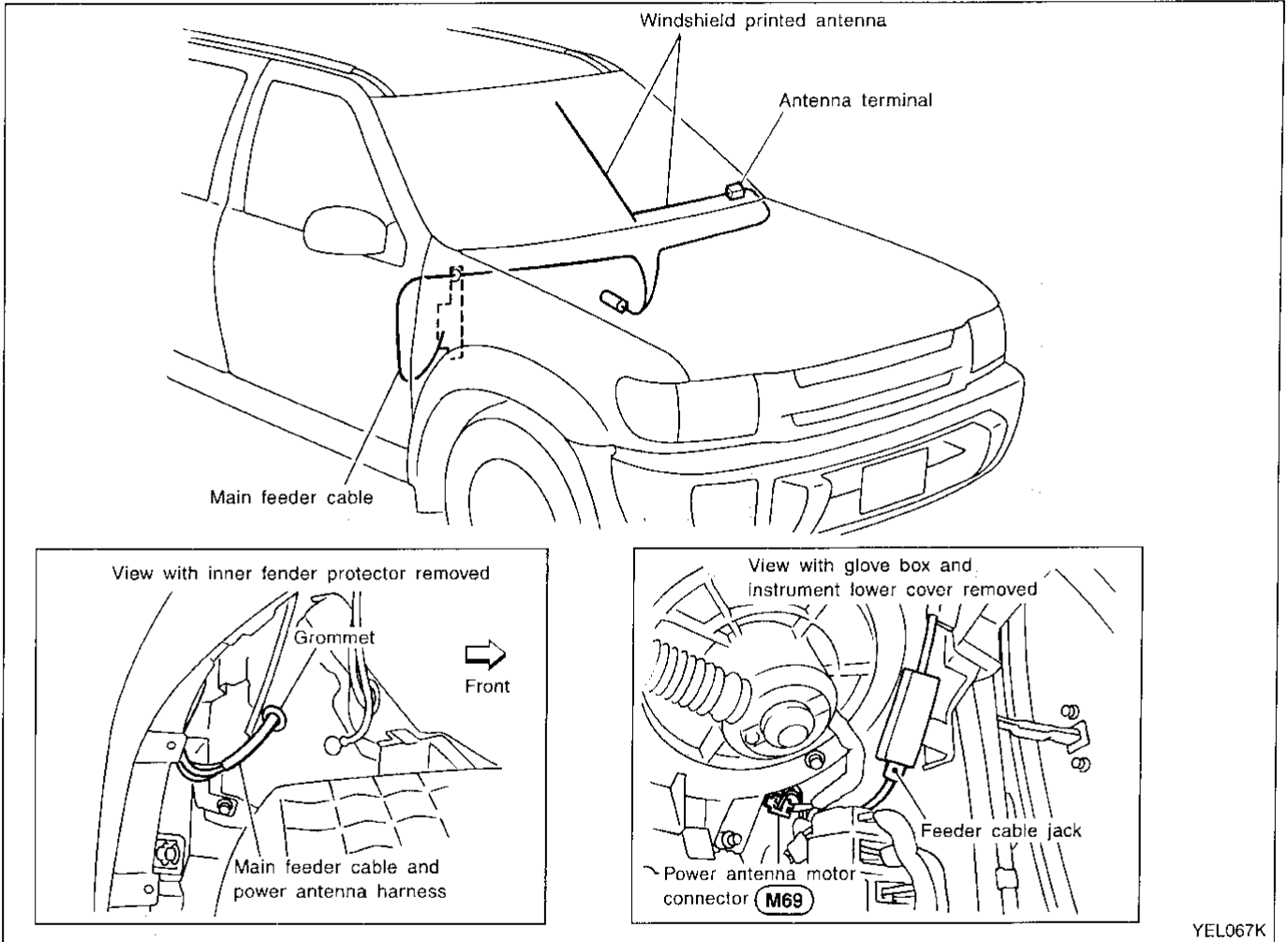
NAEL0086S01

### POWER ANTENNA

Symptom	Possible causes	Repair order
Power antenna does not operate.	<ol style="list-style-type: none"> <li>7.5A fuse</li> <li>Audio unit signal</li> <li>Grounds M4 and M66</li> </ol>	<ol style="list-style-type: none"> <li>Check 7.5A fuse [No. 24, located in fuse block (J/B)]. Verify that battery positive voltage is present at terminal 6 of power antenna.</li> <li>Turn ignition switch and audio unit ON. Verify that battery positive voltage is present at terminal 4 of power antenna.</li> <li>Check grounds M4 and M66.</li> </ol>

### Location of Antenna

NAEL0087



### Antenna Rod Replacement REMOVAL

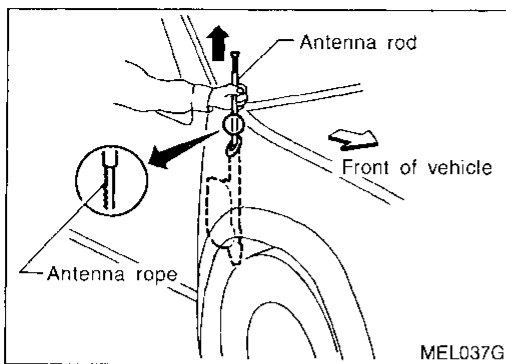
NAEL0088

NAEL0086S01

- Remove antenna nut and antenna base.

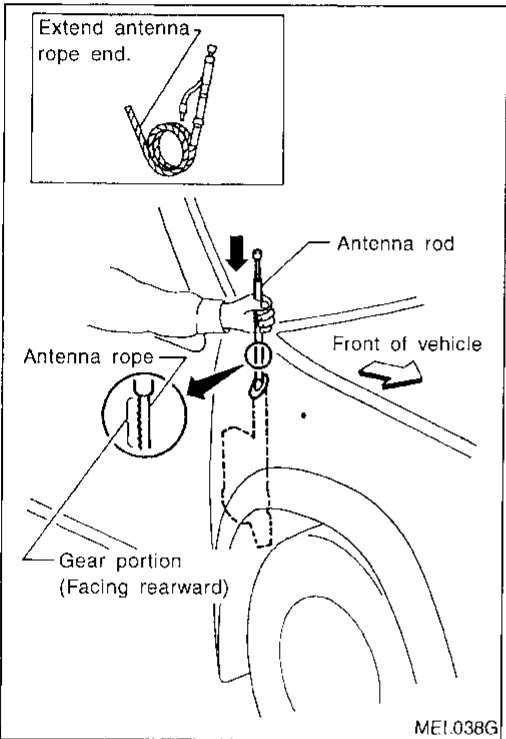
# AUDIO ANTENNA

Antenna Rod Replacement (Cont'd)



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

GI  
MA  
EM  
LC  
EC

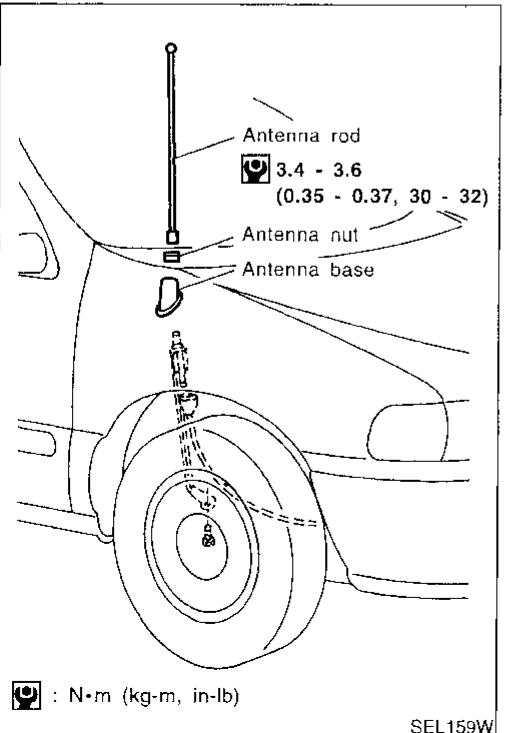


## INSTALLATION

NAEL0088S02

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.

FE  
CL  
MT  
AT  
TF  
PD  
AX  
SU



## Fixed Antenna Rod Replacement REMOVAL AND INSTALLATION

NAEL0189

NAEL0189S01

1. Remove antenna rod.
2. Remove antenna nut and antenna base.
3. Remove inner splash shield.
4. Disconnect antenna cable from audio unit, refer to BT section.
5. Remove bolt and antenna.

To install, reverse removal procedure.

BR  
ST  
RS  
BT  
HA  
SC  
EL  
IDX

# POWER SUNROOF

System Description

## System Description

NAEL0167

NAEL0167S01

### OUTLINE

Electric sunroof system consists of

- Sunroof switch
- Sunroof motor
- Power window relay
- Smart entrance control unit

Smart entrance control unit controls retained power operation.

### RETAINED POWER OPERATION

NAEL0167S02

When the ignition switch is turned to OFF position from ON or START position, power is supplied for 45 seconds

- to power window relay terminal 2
- from smart entrance control unit terminal 5.

Ground is always supplied

- to power window relay terminal 1
- through body grounds.

When power and ground is supplied, the power window relay continues to be energized, and the electrical sunroof can be operated.

The retained power operation is canceled when the driver or passenger side door is opened.

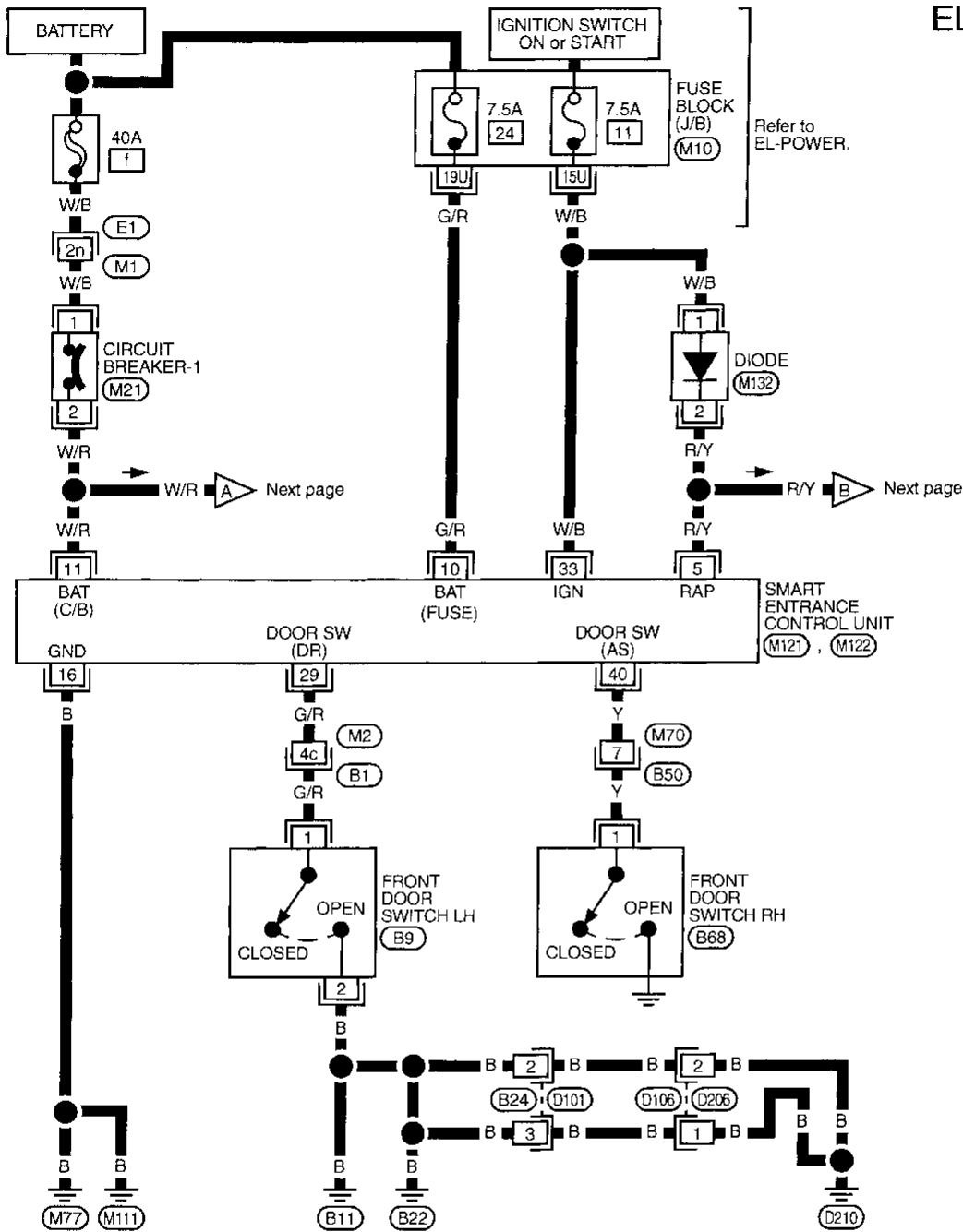
# POWER SUNROOF

Wiring Diagram — SROOF —

## Wiring Diagram — SROOF —

NAEL0089

EL-SROOF-01

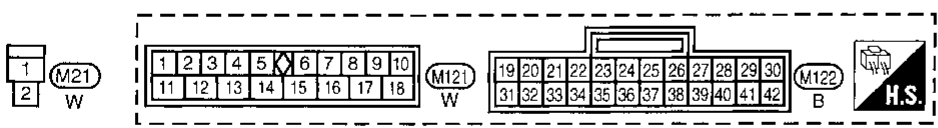


Refer to EL-POWER.

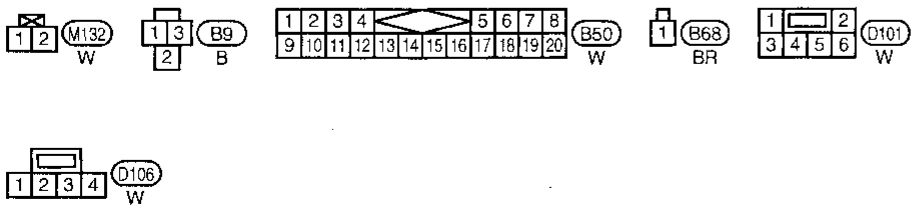
Next page

Next page

SMART ENTRANCE CONTROL UNIT (M121, M122)



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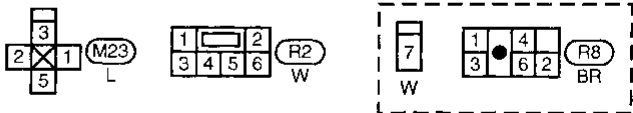
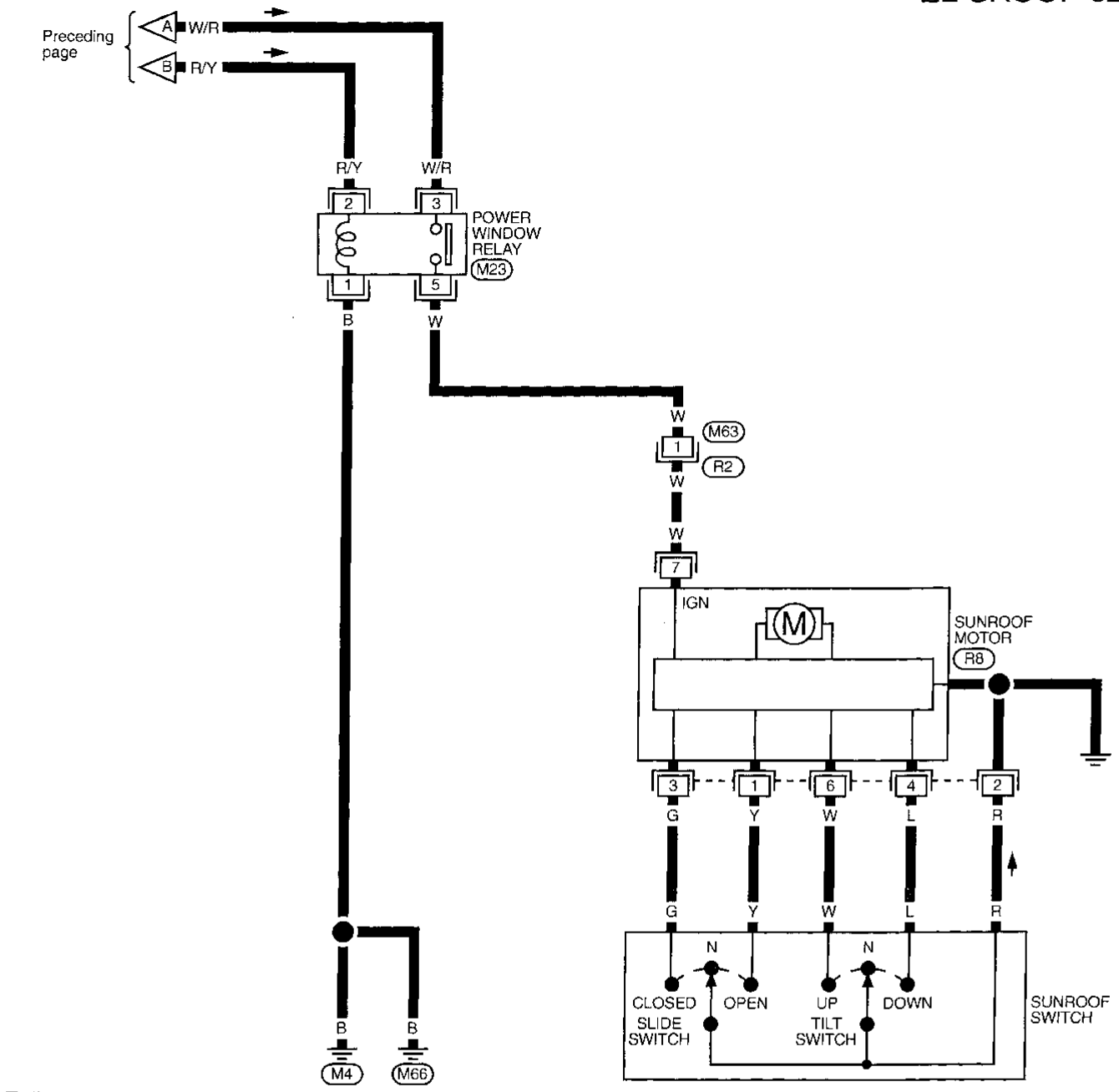
- (M1) (E1)
- (M2) (B1)
- (M10)

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SC  
EL  
IDX

# POWER SUNROOF

Wiring Diagram — SROOF — (Cont'd)

EL-SROOF-02



MEL967J



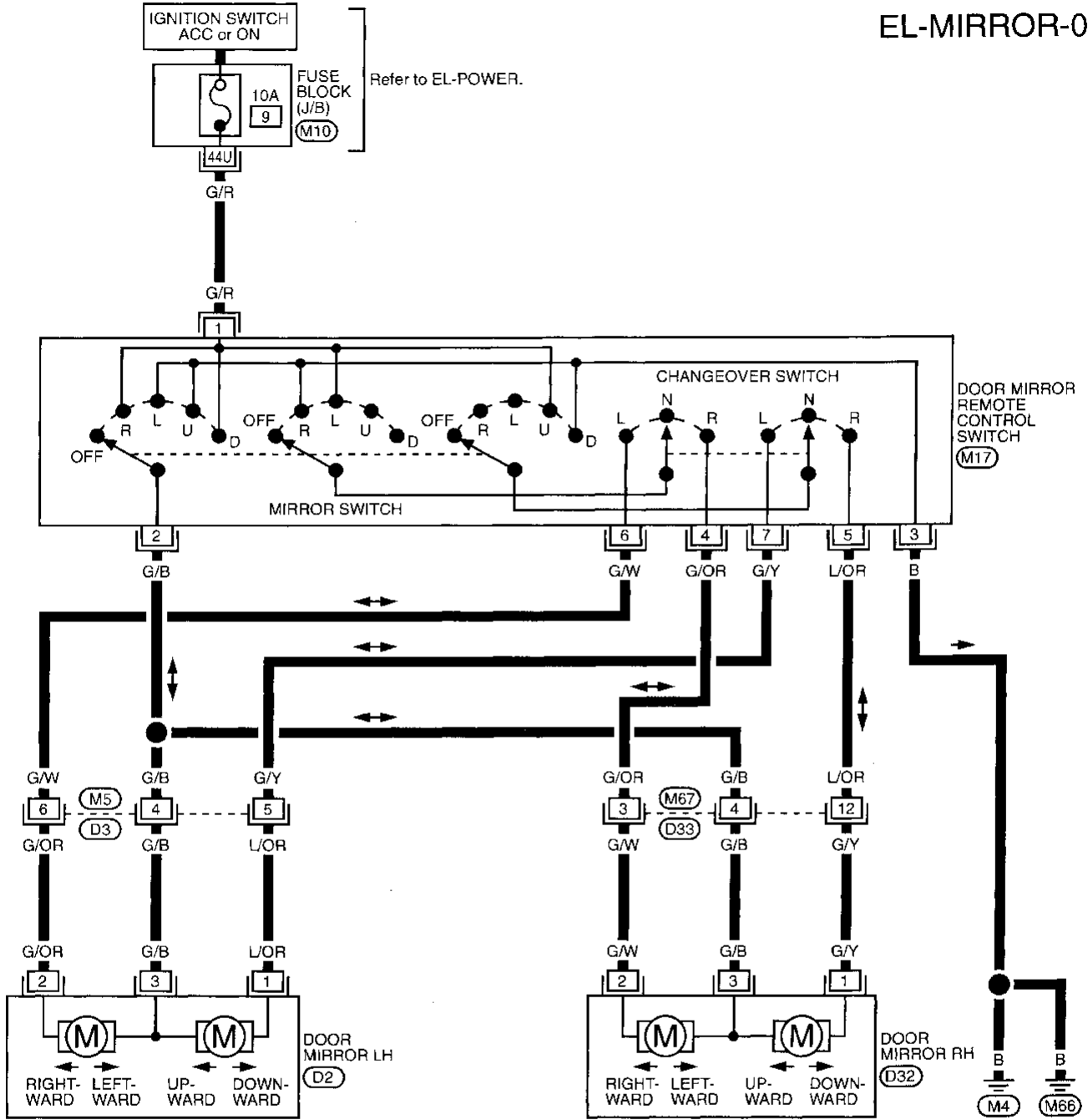
# DOOR MIRROR

Wiring Diagram — MIRROR —

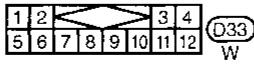
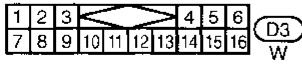
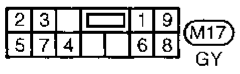
## Wiring Diagram — MIRROR —

NAEL0090

EL-MIRROR-01



Refer to last page (Foldout page).



(M10)

GI  
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IDX

MEL610H

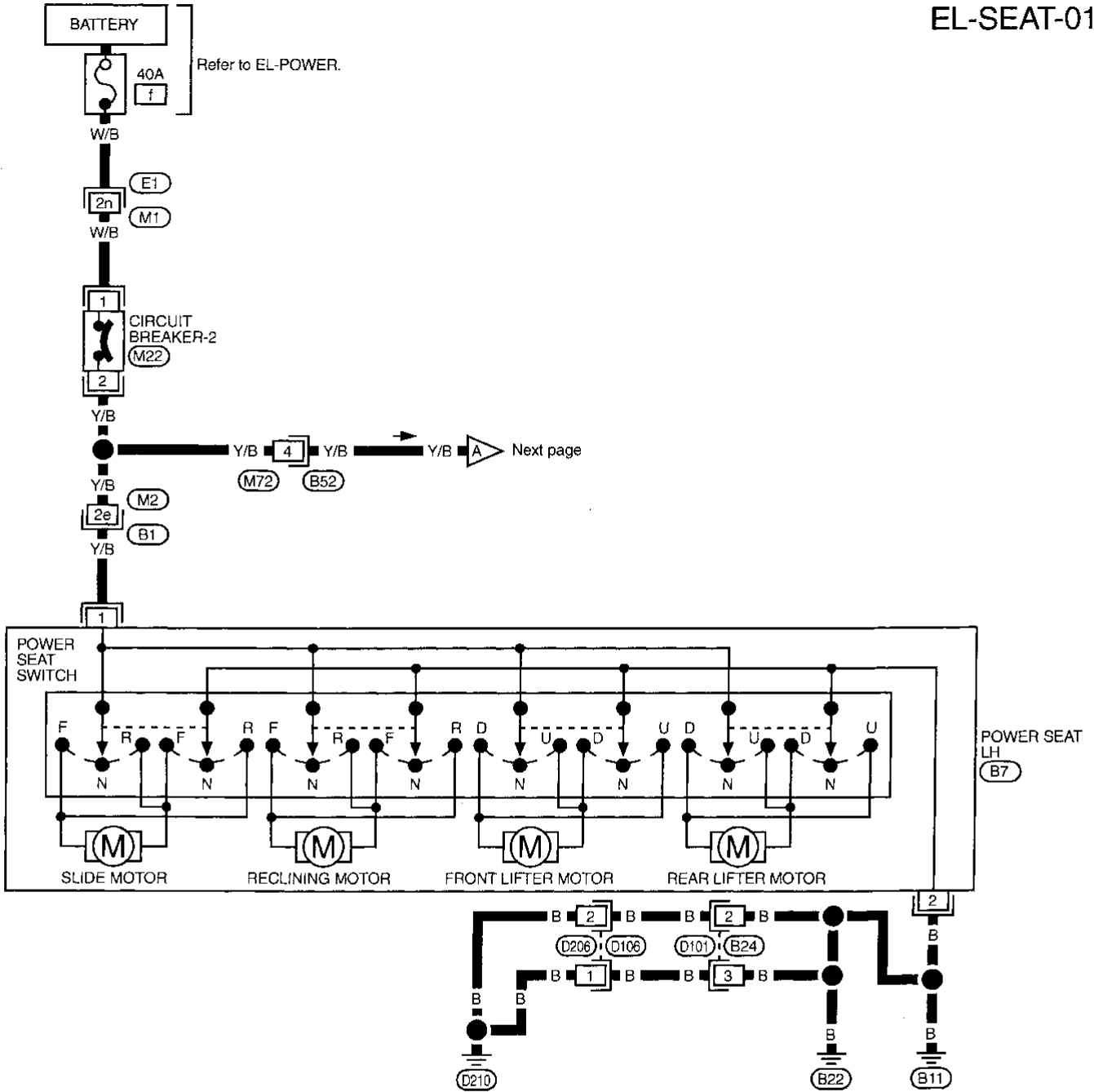
# POWER SEAT

Wiring Diagram — SEAT —

## Wiring Diagram — SEAT —

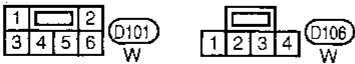
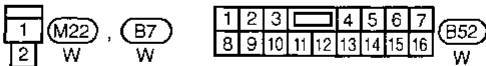
NAEL0092

EL-SEAT-01



Refer to last page (Foldout page).

- (M1) , (E1)
- (M2) , (B1)

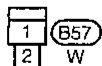
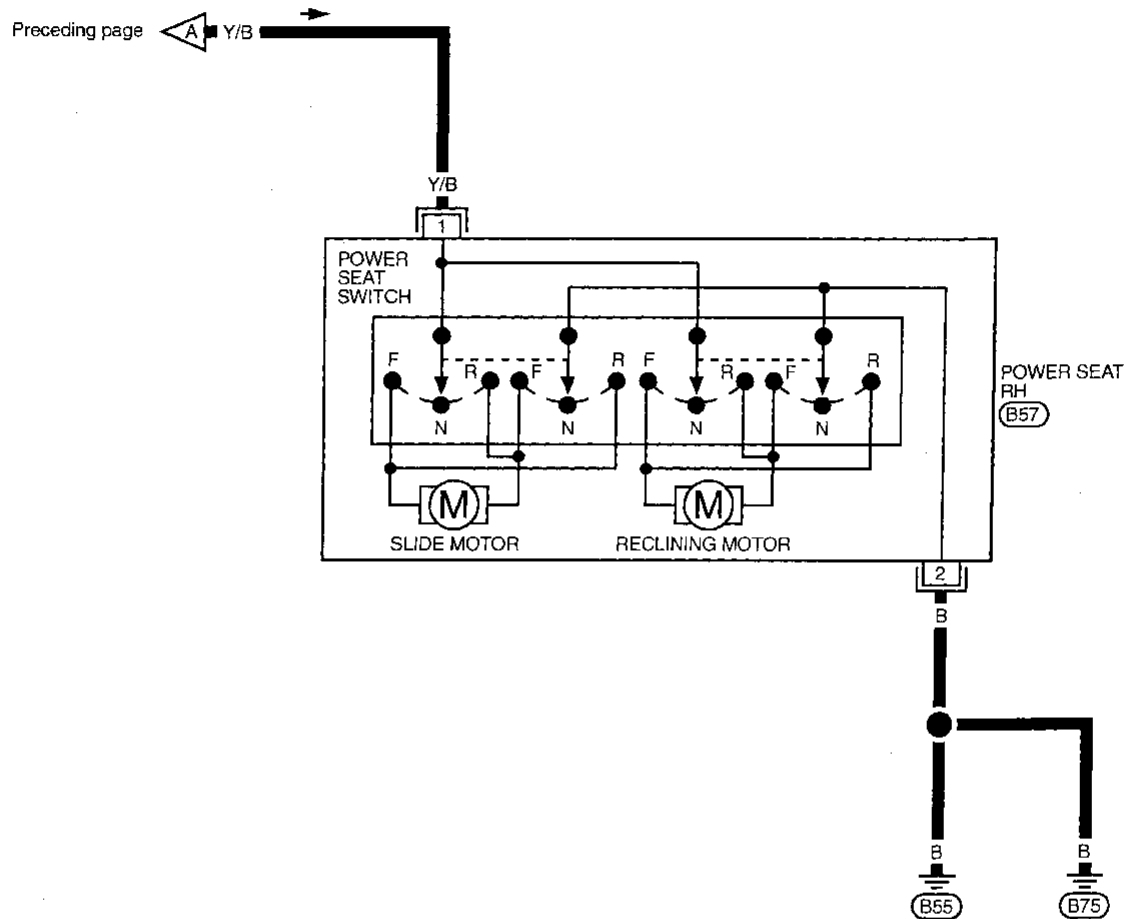


MEL968J

# POWER SEAT

Wiring Diagram — SEAT — (Cont'd)

EL-SEAT-02



MEL611H

GI  
MA  
EM  
LC  
EC  
FE  
CL  
MT  
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TF  
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AX  
SU  
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IDX

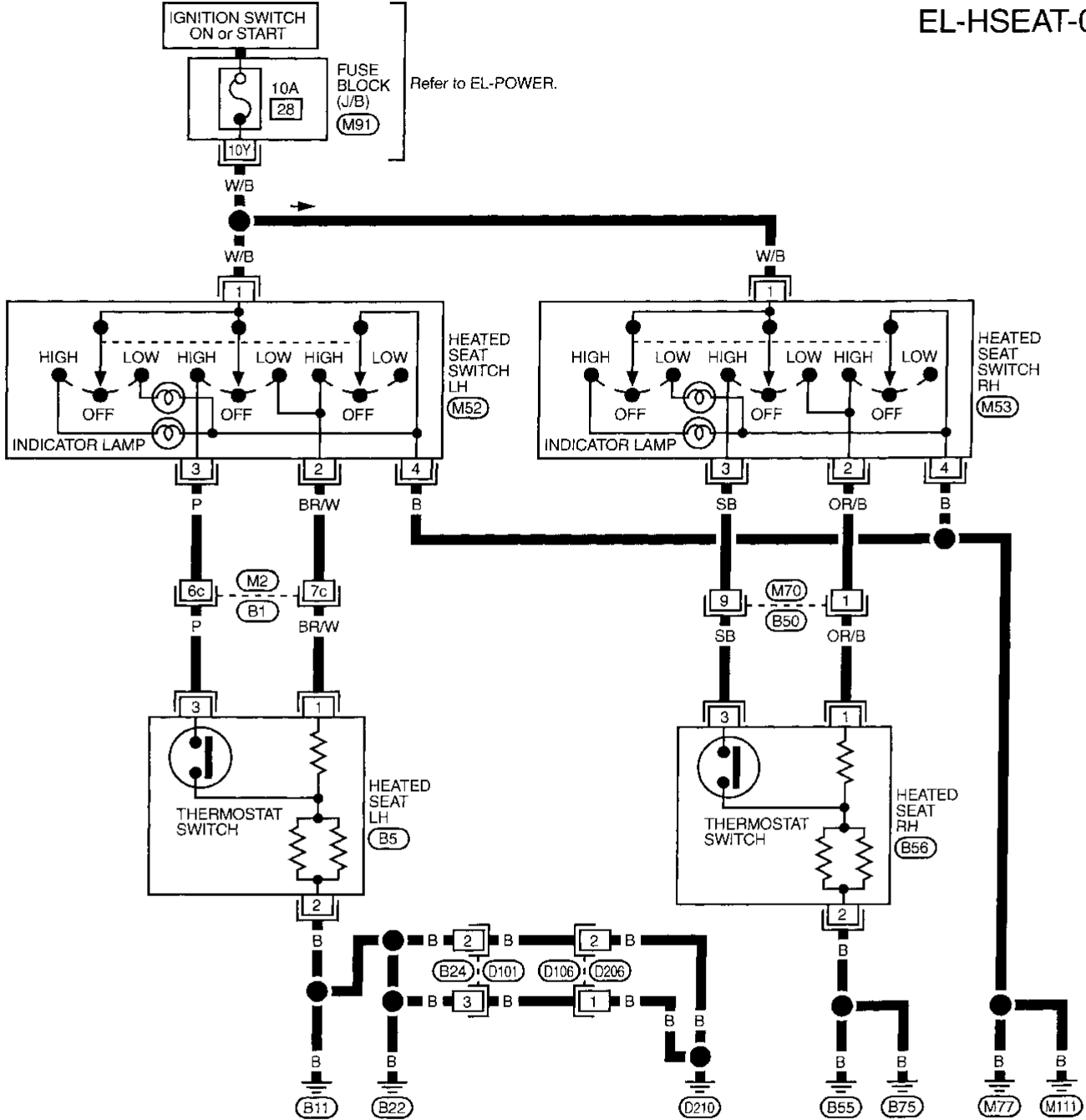
# HEATED SEAT

Wiring Diagram — HSEAT —

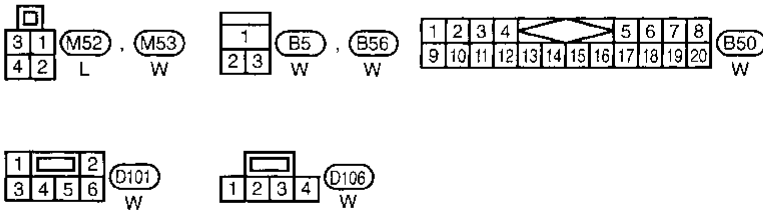
## Wiring Diagram — HSEAT —

NAEL0093

EL-HSEAT-01



Refer to last page (Foldout page).



(M2), (B1)  
(M91)

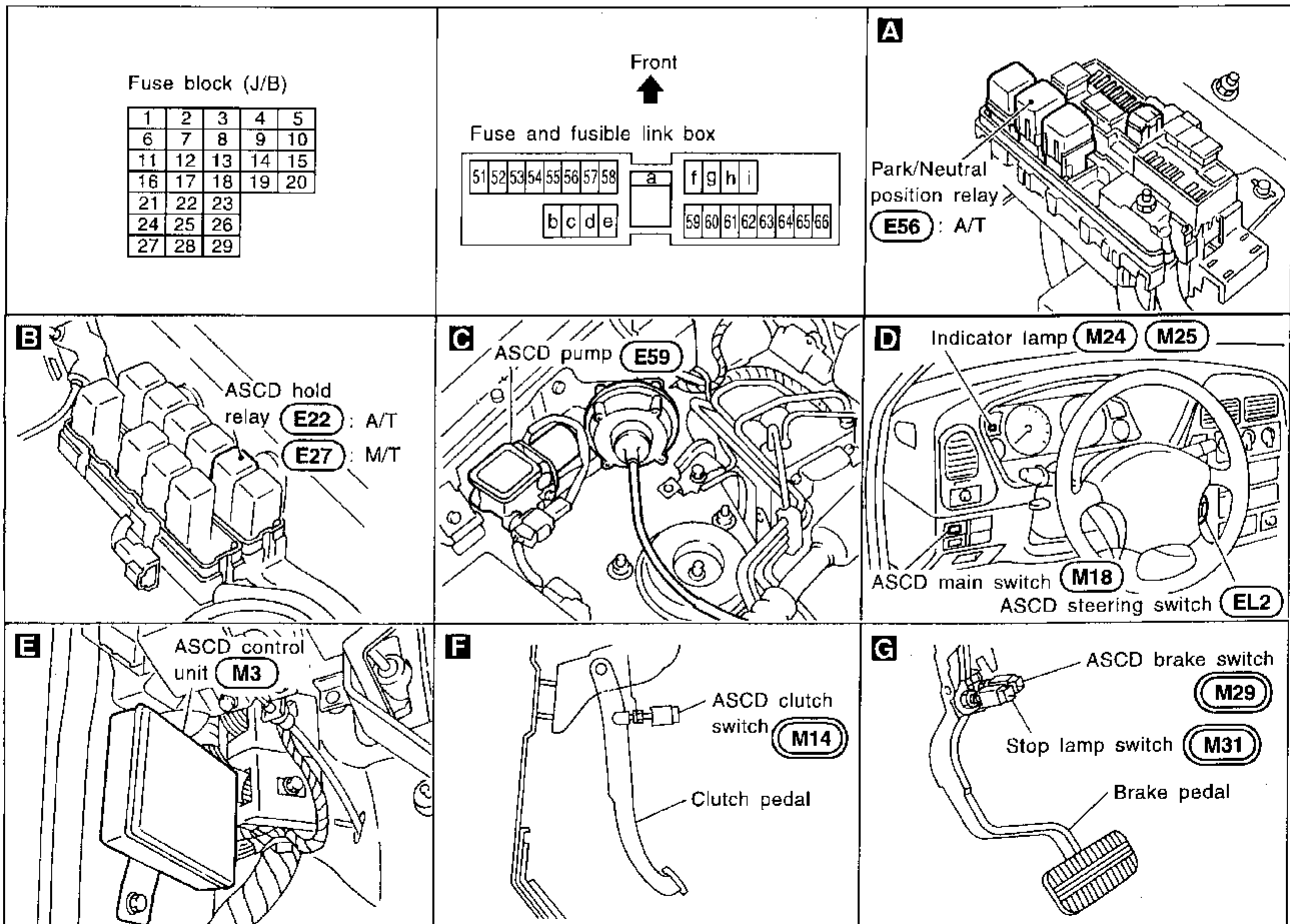
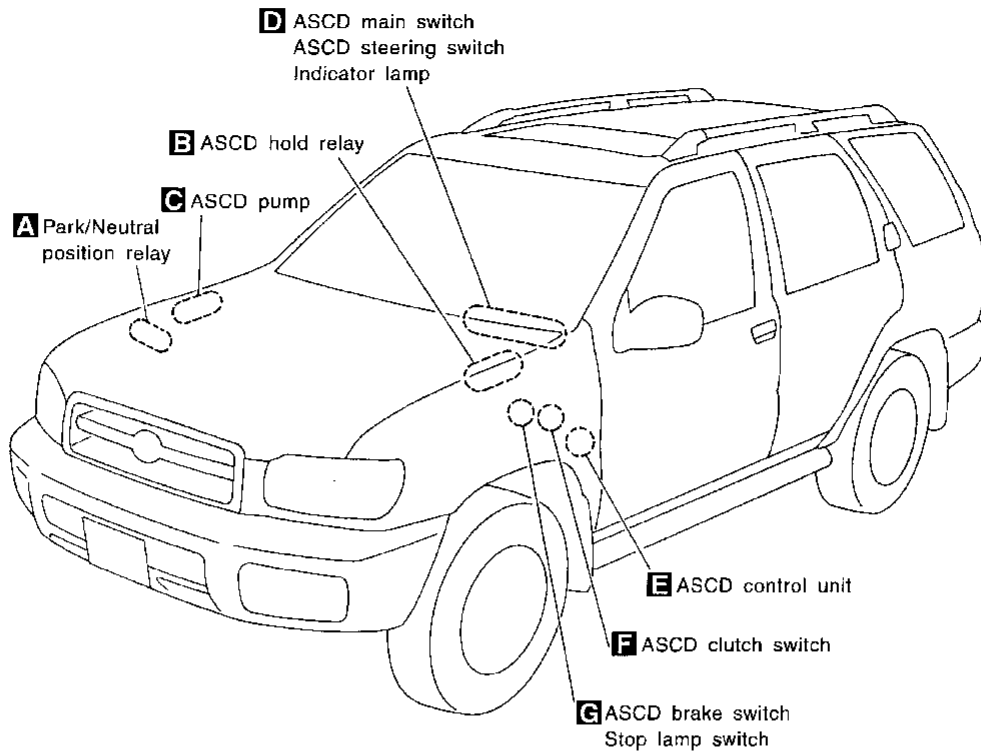
MEL969J

# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0094



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

# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description

## System Description

NAEL0095

Refer to Owner's Manual for ASCD operating instructions.

### POWER SUPPLY AND GROUND

NAEL0095S03

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

- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to ASCD hold relay terminal 3 (M/T models), 7 (A/T models) and
- to ASCD main switch terminal 1.

When ASCD main switch is in the ON position, power is supplied

- from ASCD main switch terminal 3
- to ASCD hold relay terminal 2 (M/T models), 1 (A/T models).

Ground is supplied

- to ASCD hold relay terminal 1 (M/T models), 2 (A/T models)
- through body grounds E13 and E41.

With power and ground is supplied, ASCD hold relay is energized. And then power is supplied

- from ASCD hold relay terminal 5 (M/T models), 6 (A/T models)
- to ASCD control unit terminal 4 and
- to ASCD main switch terminal 2.

After the ASCD main switch is released, power remains supplied

- to the coil circuit of ASCD hold relay
- through ASCD main switch terminals 2 and 3.

This power supply is kept until one of following conditions exists.

- Ignition switch is returned to the ACC or OFF position.
- ASCD main switch is turned to OFF position.

During ASCD hold relay is energized power is also supplied to ASCD control unit terminal 5

- through ASCD brake switch and ASCD clutch switch (M/T models) or
- through ASCD brake switch, ASCD hold relay and park/neutral position relay (A/T models).

Ground is supplied

- to ASCD control unit terminal 3
- through body grounds M4 and M66.

### OPERATION

NAEL0095S04

#### Set Operation

NAEL0095S0401

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

- Power supply to ASCD control unit terminal 4
- Power supply to ASCD control unit terminal 5 [Brake and clutch pedal is released (M/T models), and brake pedal is released and A/T selector lever is in other than P and N position. (A/T models)]
- Vehicle speed is greater than 48 km/h (30 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 2.

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

- to combination meter terminal 11 to illuminate CRUISE indicator.

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

NAEL0095S0402

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

- from ASCD control unit terminal 12
- 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.

#### Coast Operation

NAEL0095S0403

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.

# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description (Cont'd)

## Accel Operation

NAEL0095S0404

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

- from ASCD steering switch terminal 3
- to ASCD control unit terminal 1.

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

NAEL0095S0405

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

- CANCEL switch is depressed. (Power supply to ASCD control unit terminals 1 and 2)
- Brake pedal is depressed. (Power supply to ASCD control unit terminal 11 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 5 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

NAEL0095S0406

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 greater than 48 km/h (30 MPH).

## ASCD PUMP OPERATION

NAEL0095S05

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

- from terminal 8 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.

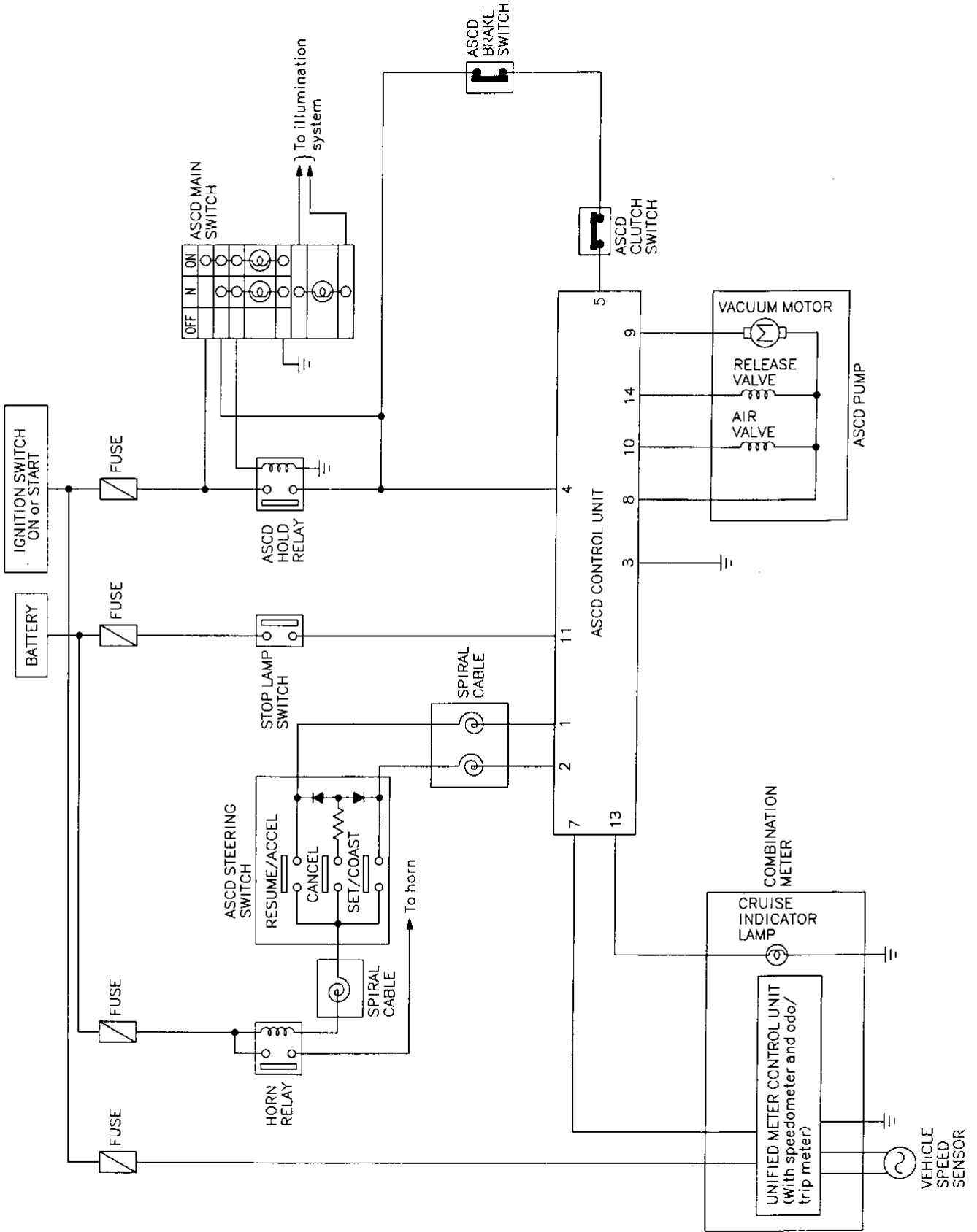
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EL  
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# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic/M/T Models

## Schematic/M/T Models

NAEL0096



MEL970J

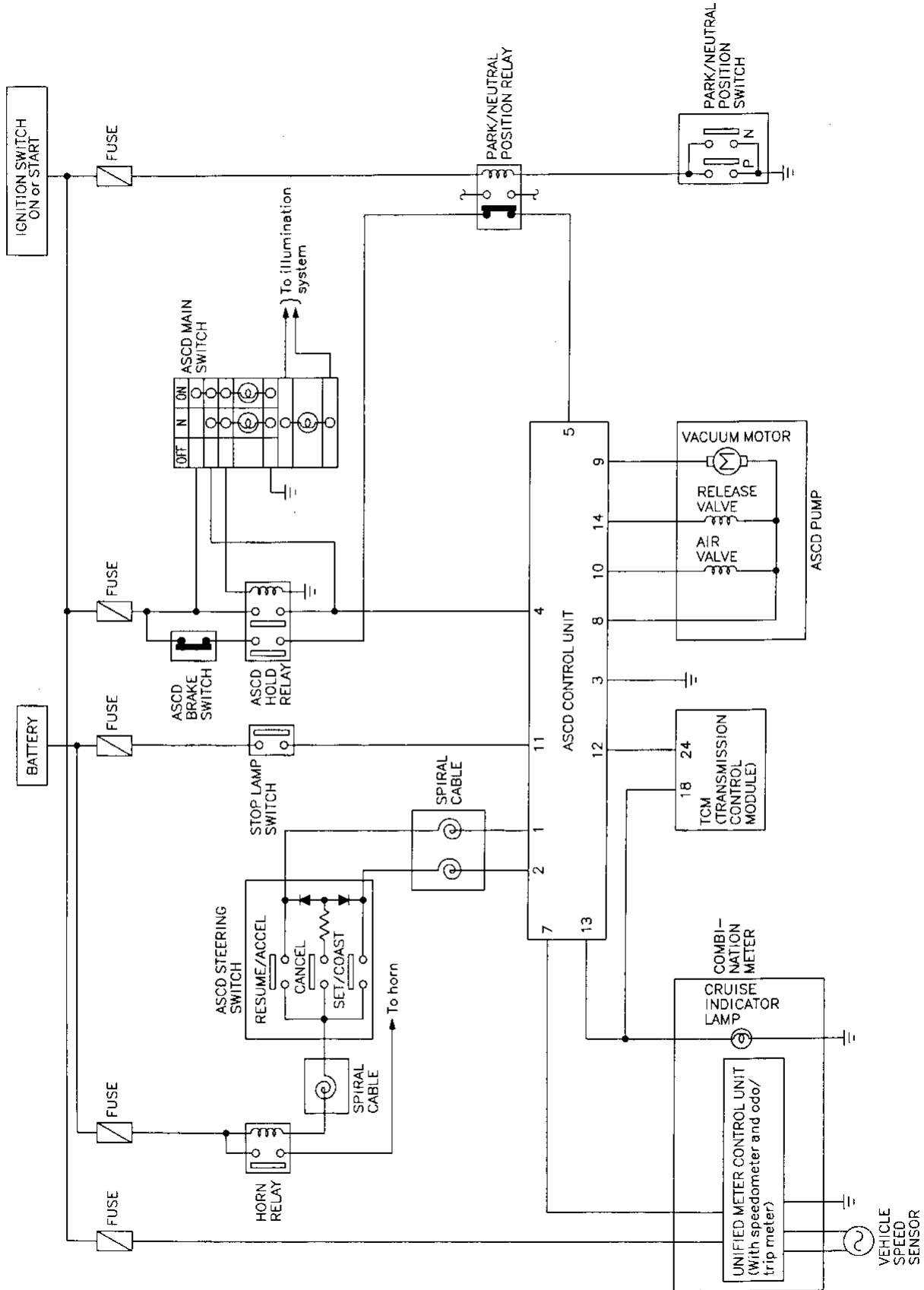


# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic/A/T Models

## Schematic/A/T Models

NAEL0190



GI  
MA  
EM  
LC  
EC  
FE  
CL  
MT  
AT  
TF  
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MEL971J

# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

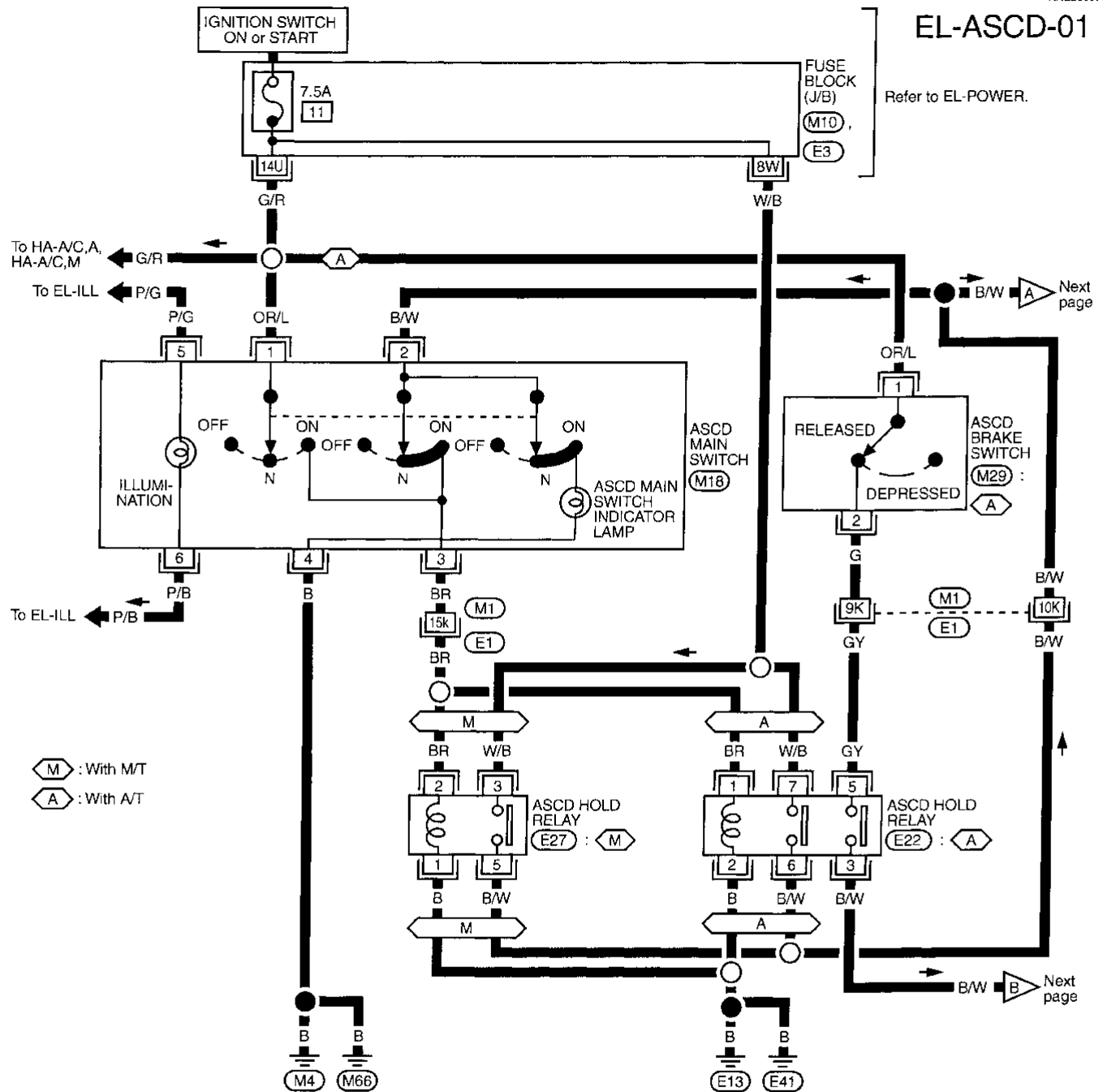
Wiring Diagram — ASCD —

## Wiring Diagram — ASCD —

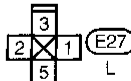
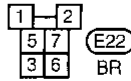
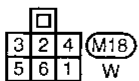
NAEL0097

NAEL0097S01

FIG. 1



M : With M/T  
A : With A/T



Refer to last page (Foldout page).

M1 , E1  
M10  
E3

MEL972J

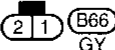
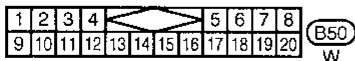
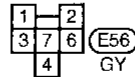
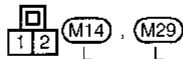
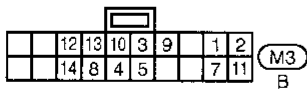
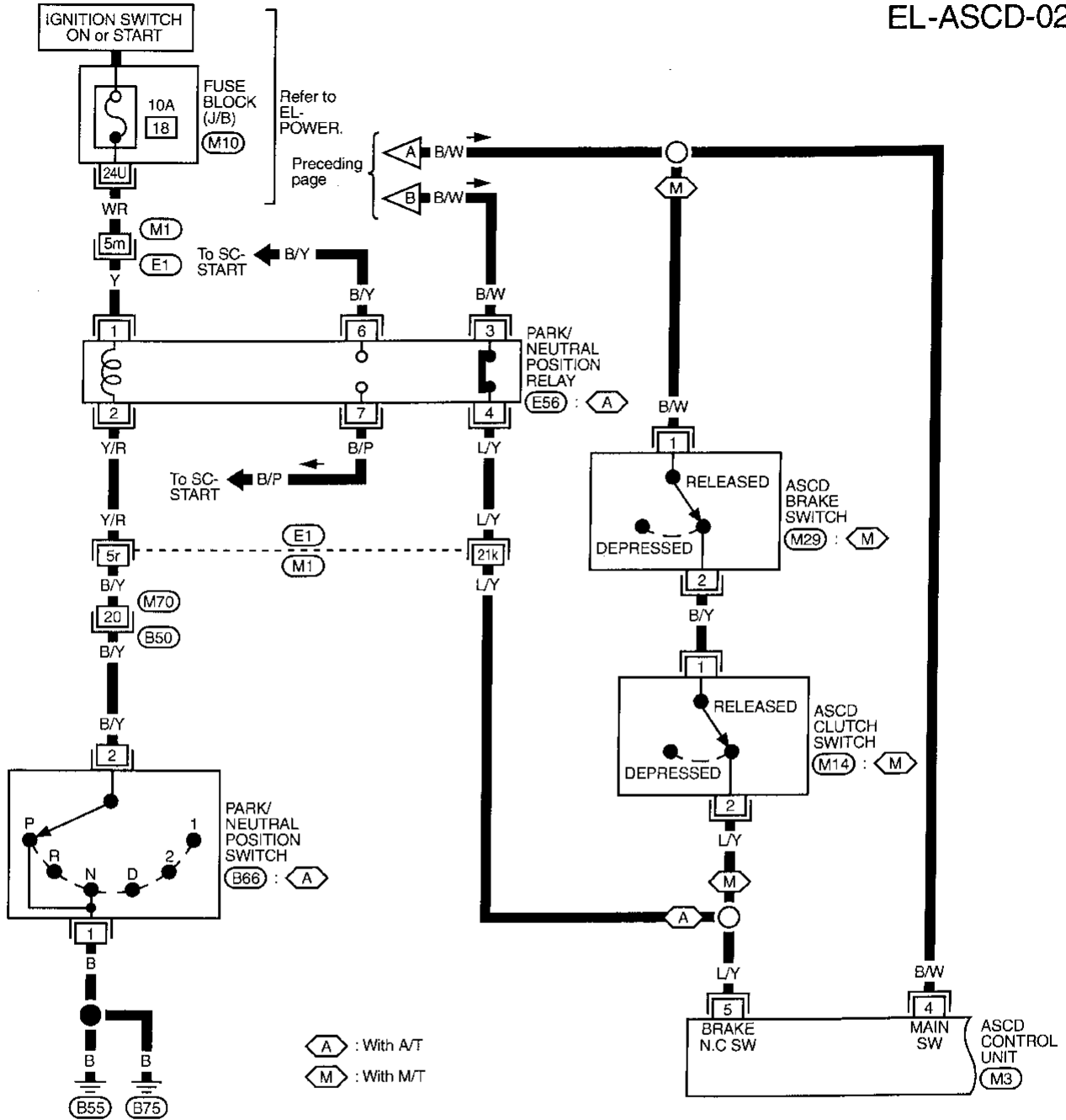
# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

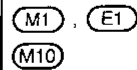
**FIG. 2**

NAEL0097S02

**EL-ASCD-02**



Refer to last page (Foldout page).



MEL973J

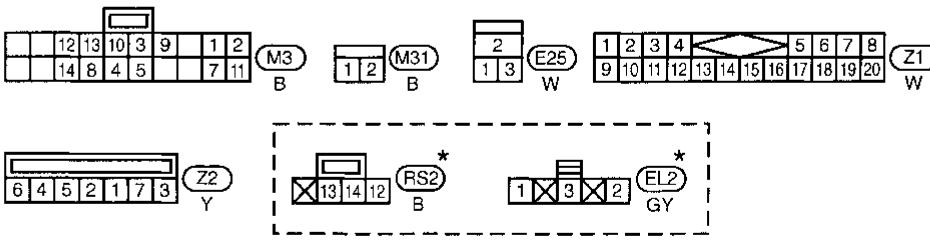
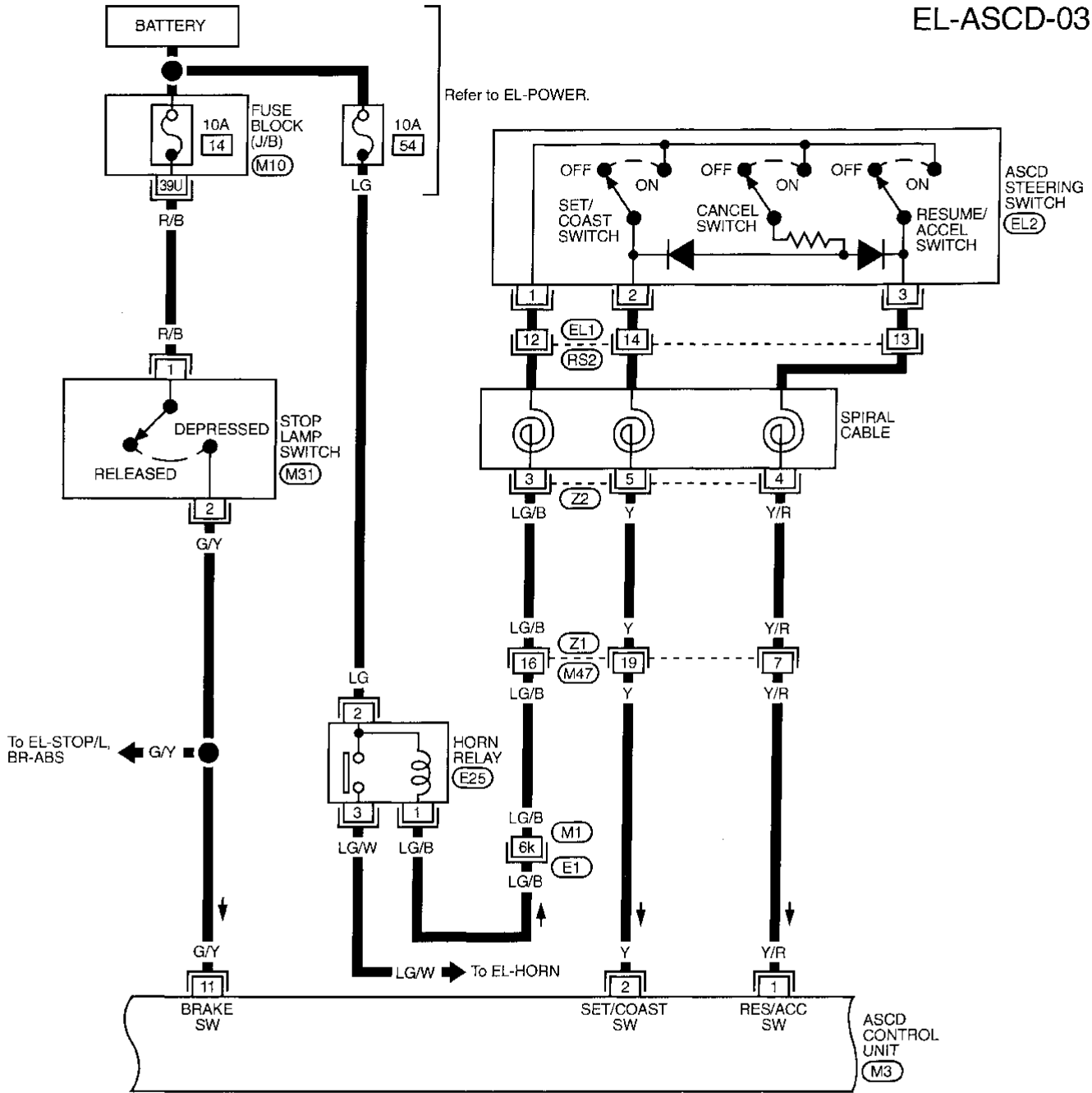
# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

**FIG. 3**

NAEL0097503

EL-ASCD-03



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

MEL974J



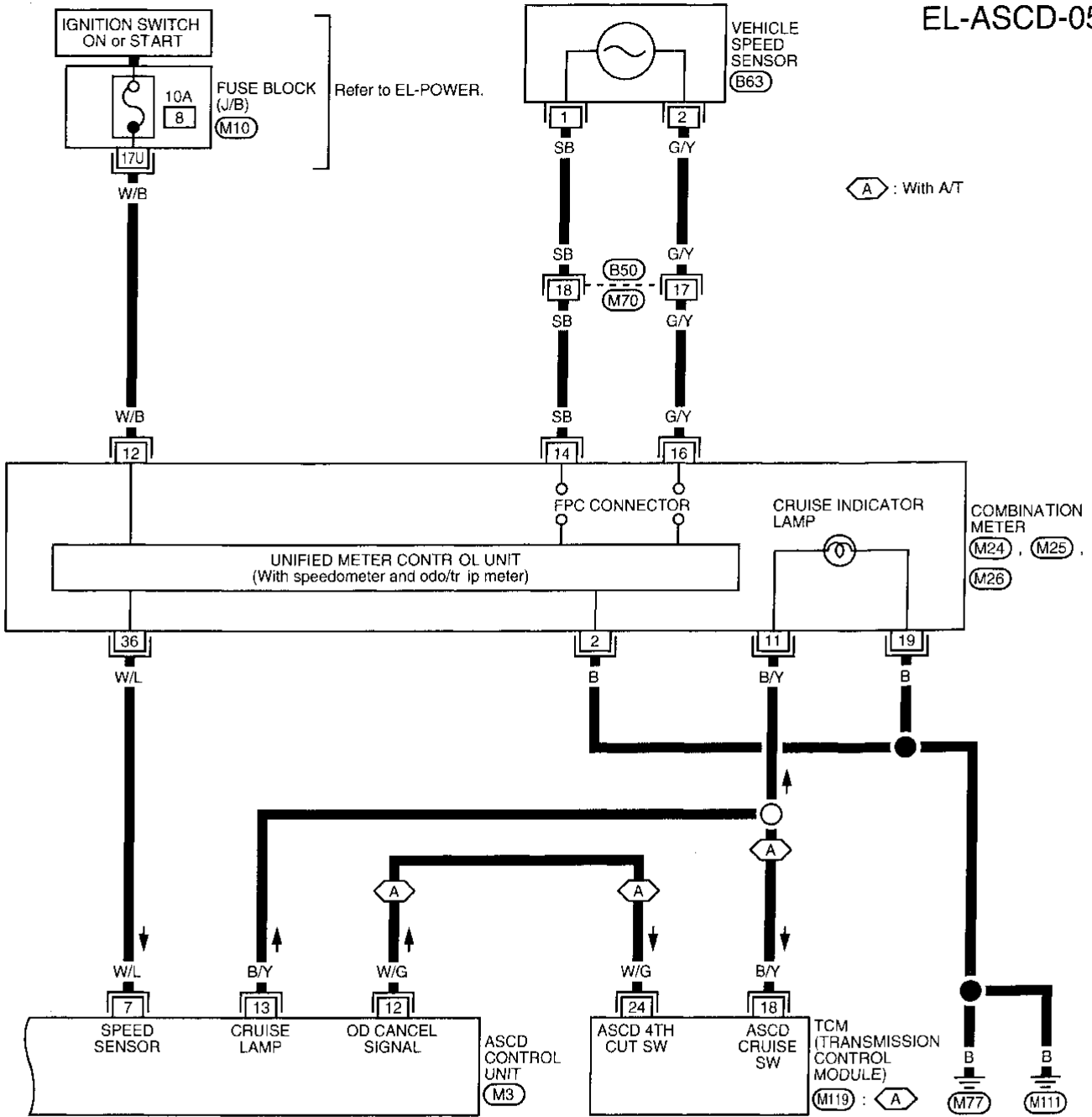
# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

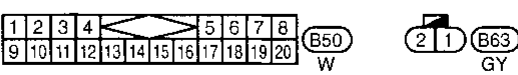
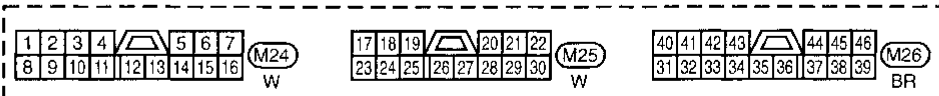
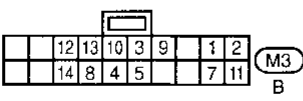
**FIG. 5**

NAEL0097S05

**EL-ASCD-05**



⬡ A : With A/T



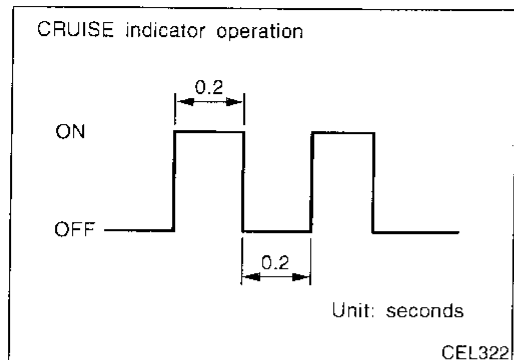
Refer to last page (Foldout page).

M10  
M119

MEL976J

# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Fail-safe System



## Fail-safe System

### DESCRIPTION

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

NAEL0098

NAEL0098S01

### MALFUNCTION DETECTION CONDITIONS

NAEL0098S02

Detection conditions	ASCD operation during malfunction detection
<ul style="list-style-type: none"> <li>ASCD steering (RESUME/ACCEL, CANCEL, SET/COAST) switch is stuck.</li> <li>Vacuum motor ground circuit or power circuit is open or shorted.</li> <li>Air valve ground circuit or power circuit is open or shorted.</li> <li>Release valve ground circuit or power circuit is open or shorted.</li> <li>Vehicle speed sensor is faulty.</li> <li>ASCD control unit internal circuit is malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>ASCD is deactivated.</li> <li>Vehicle speed memory is canceled.</li> </ul>
<ul style="list-style-type: none"> <li>ASCD brake switch or stop lamp switch is faulty.</li> </ul>	<ul style="list-style-type: none"> <li>ASCD is deactivated.</li> <li>Vehicle speed memory is not canceled.</li> </ul>

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# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses

## Trouble Diagnoses SYMPTOM CHART

NAEL0099

NAEL0099S01

PROCEDURE	Diagnostic procedure								
REFERENCE PAGE (EL- )	175	176	177	178	179	180	181	181	182
SYMPTOM	FAIL-SAFE SYSTEM CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	ASCD MAIN SWITCH CHECK	ASCD HOLD RELAY CHECK	ASCD BRAKE/STOP LAMP SWITCH CHECK	ASCD STEERING SWITCH CHECK	VEHICLE SPEED SENSOR CHECK	ASCD PUMP CIRCUIT CHECK	ASCD ACTUATOR/PUMP CHECK
ASCD cannot be set. ("CRUISE" indicator lamp does not blink.)		X	X	X		X	X		
ASCD cannot be set. ("CRUISE" 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
Deceleration is greatest immediately after ASCD has been set.									X

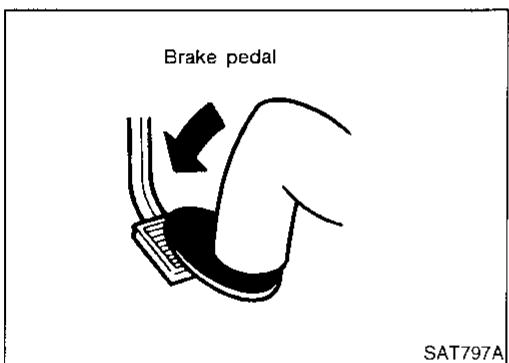
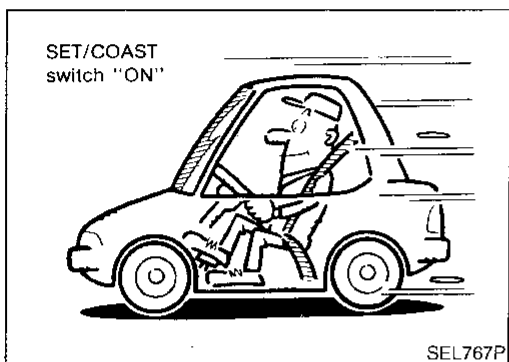
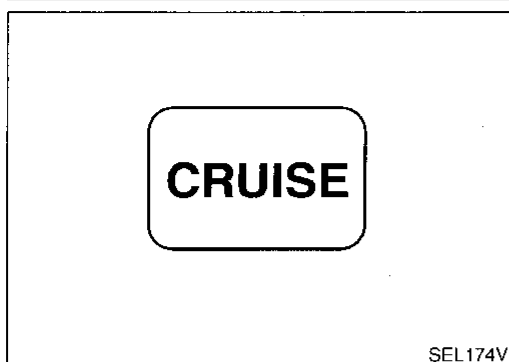
★1: It indicates that system is in fail-safe. After completing diagnostic procedures, perform "FAIL-SAFE SYSTEM CHECK" (EL-175) to verify repairs.

★2: If vehicle speed is greater than 48 km/h (30 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.



# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)



## FAIL-SAFE SYSTEM CHECK

=NAEL0099S02

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the "cruise indicator" blinks.  
**If the indicator lamp blinks, check the following.**
  - ASCD steering switch. Refer to EL-180.
3. Drive the vehicle at more than 48 km/h (30 MPH) and push SET/COAST switch.  
**If the indicator lamp blinks, check the following.**
  - Vehicle speed sensor. Refer to EL-181.
  - ASCD pump circuit. Refer to EL-181.
  - 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-179.
5. END. (System is OK.)

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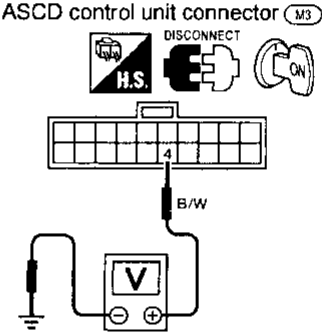
# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

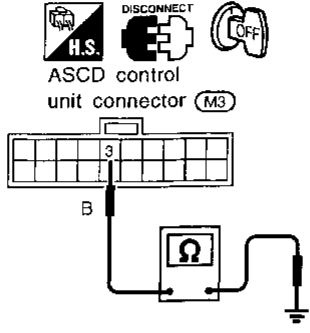
Trouble Diagnoses (Cont'd)

## POWER SUPPLY AND GROUND CIRCUIT CHECK

-NAEL0099S03

<b>1</b>	<b>OPERATION CHECK</b>	
1. Turn ignition switch ON. 2. Turn ASCD main switch "ON".		
<b>Does ASCD indicator illuminate?</b>		
Yes	▶	GO TO 2.
No	▶	Go to ASCD MAIN SWITCH CHECK. Refer to EL-177.

<b>2</b>	<b>CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT</b>	
1. Disconnect ASCD control unit connector. 2. Turn ignition switch ON. 3. Turn ASCD main switch "ON". 4. Check voltage between control unit connector terminal 4 and ground.		
 <p style="text-align: center;">ASCD control unit connector (M3)</p>		
SEL289UD		
Refer to wiring diagram in EL-169.		
<b>Does battery voltage exist?</b>		
Yes	▶	GO TO 3.
No	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>● ASCD hold relay Refer to "ASCD HOLD RELAY CHECK", EL-178.</li> <li>● Harness for open or short</li> </ul>

<b>3</b>	<b>CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT</b>	
Check continuity between ASCD control unit harness terminal 3 and body ground.		
 <p style="text-align: center;">ASCD control unit connector (M3)</p>		
SEL764U		
Refer to wiring diagram in EL-171.		
<b>Does continuity exist?</b>		
Yes	▶	Power supply and ground circuit is OK.
No	▶	Repair harness.

# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

## ASCD MAIN SWITCH CHECK

-NAEL0099S04

GI

MA

EM

LC

EC

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

1 CHECK POWER SUPPLY FOR ASCD MAIN SWITCH	
1. Disconnect main switch connector. 2. Check voltage between main switch terminals 1 and 4.	
<p>ASCD main switch connector (M18)</p> <p>OR/L</p> <p>V</p> <p>MEL842F</p>	
Refer to wiring diagram in EL-168.	
<b>Does battery voltage exist?</b>	
Yes	▶ GO TO 2.
No	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● 7.5A fuse (No. 11, located in the fuse block)</li> <li>● Harness for open or short between fuse and ASCD main switch</li> <li>● Ground circuit for ASCD main switch</li> </ul>





2 CHECK ASCD MAIN SWITCH	
Refer to "Electrical Component Inspection" (EL-183).	
OK or NG	
OK	▶ Go to ASCD HOLD RELAY CHECK. Refer to EL-178.
NG	▶ Replace ASCD main switch.





# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

## ASCD HOLD RELAY CHECK

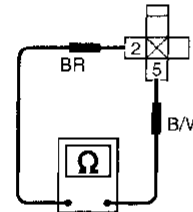
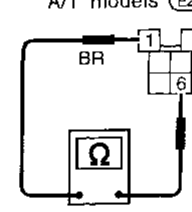






=NAEL0099S05

<b>1</b>	<b>CHECK POWER SUPPLY CIRCUIT FOR ASCD HOLD RELAY</b>						
<p>1. Disconnect ASCD hold relay.                  2. Check voltage between ASCD hold relay terminal 3 (M/T), 7 (A/T) and body ground.</p> <p style="text-align: center;">ASCD hold relay connector</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>M/T models (E27)</p>  </div> <div style="text-align: center;"> <p>A/T models (E22)</p>  </div> </div> <div style="text-align: right; margin-top: 10px;">    </div> <p style="text-align: right;">SEL348V</p> <p>Refer to wiring diagram in EL-168.</p> <p style="text-align: center;"><b>Does battery voltage exist?</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Yes</td> <td style="width: 10%; text-align: center;">▶</td> <td>GO TO 2.</td> </tr> <tr> <td>No</td> <td style="text-align: center;">▶</td> <td> <b>Check the following.</b> <ul style="list-style-type: none"> <li>• 7.5A fuse (No. 11, located in the fuse block)</li> <li>• Harness for open or short between fuse and ASCD hold relay</li> </ul> </td> </tr> </table>		Yes	▶	GO TO 2.	No	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• 7.5A fuse (No. 11, located in the fuse block)</li> <li>• Harness for open or short between fuse and ASCD hold relay</li> </ul>
Yes	▶	GO TO 2.					
No	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• 7.5A fuse (No. 11, located in the fuse block)</li> <li>• Harness for open or short between fuse and ASCD hold relay</li> </ul>					

<b>2</b>	<b>CHECK GROUND CIRCUIT FOR ASCD HOLD RELAY</b>						
<p>Check continuity between ASCD hold relay terminal 1 (M/T), 2 (A/T) and ground.</p> <p style="text-align: center;">ASCD hold relay connector</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>M/T models (E27)</p>  </div> <div style="text-align: center;"> <p>A/T models (E22)</p>  </div> </div> <div style="text-align: right; margin-top: 10px;">    </div> <p style="text-align: right;">SEL349V</p> <p style="text-align: center;"><b>Does continuity exist?</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Yes</td> <td style="width: 10%; text-align: center;">▶</td> <td>GO TO 3.</td> </tr> <tr> <td>No</td> <td style="text-align: center;">▶</td> <td>Repair harness.</td> </tr> </table>		Yes	▶	GO TO 3.	No	▶	Repair harness.
Yes	▶	GO TO 3.					
No	▶	Repair harness.					

<b>3</b>	<b>CHECK ASCD HOLD RELAY</b>	
Check ASCD hold relay.		
<b>OK or NG</b>		
OK	▶	GO TO 4.
NG	▶	Replace ASCD hold relay.

<b>4</b>	<b>CHECK ASCD MAIN SWITCH</b>	
Refer to "Electrical Component Inspection" (EL-183).		
<b>OK or NG</b>		
OK	▶	GO TO 5.
NG	▶	Replace ASCD main switch.

<b>5</b>	<b>CHECK ASCD HOLD RELAY OPEN OR SHORT CIRCUIT</b>						
<p>1. Connect ASCD main switch.                  2. Check ASCD hold relay terminals 2 and 5 (M/T), 1 and 6 (A/T).</p> <p style="text-align: center;">ASCD hold relay connector</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>M/T models (E27)</p>  </div> <div style="text-align: center;"> <p>A/T models (E22)</p>  </div> </div> <div style="text-align: right; margin-top: 10px;">    </div> <p style="text-align: right;">SEL350V</p> <p><b>Continuity should exist.</b></p> <p>3. Check continuity between ASCD hold relay terminal 2 (M/T), 1 (A/T) and ground.</p> <p style="text-align: center;">ASCD hold relay connector</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>M/T models (E27)</p>  </div> <div style="text-align: center;"> <p>A/T models (E22)</p>  </div> </div> <div style="text-align: right; margin-top: 10px;">    </div> <p style="text-align: right;">SEL351V</p> <p><b>Continuity should not exist.</b></p> <p style="text-align: center;"><b>OK or NG</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">OK</td> <td style="width: 10%; text-align: center;">▶</td> <td>ASCD hold relay is OK.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>Repair harness.</td> </tr> </table>		OK	▶	ASCD hold relay is OK.	NG	▶	Repair harness.
OK	▶	ASCD hold relay is OK.					
NG	▶	Repair harness.					

# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

## ASCD BRAKE/STOP LAMP SWITCH CHECK

=NAEL0099S06

GI  
MA  
EM  
LC  
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<b>1</b>	<b>CHECK ASCD BRAKE SWITCH CIRCUIT</b>
<ol style="list-style-type: none"> <li>1. Disconnect control unit connector.</li> <li>2. Turn ignition switch ON.</li> <li>3. Turn ASCD main switch "ON".</li> <li>4. Check voltage between control unit connector terminal 5 and ground.</li> </ol>	
<p>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):  <b>Approx. 0V</b>                  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):  <b>Battery voltage should exist.</b>                  Refer to wiring diagram in EL-169.</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ GO TO 2.
NG	<p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• ASCD brake switch Refer to "Electrical Component Inspection" (EL-183).</li> <li>• Park/neutral position switch Refer to "Electrical Component Inspection" (EL-183).</li> <li>• ASCD hold relay</li> <li>• Park/neutral position relay</li> <li>• Harness for open or short</li> </ul>

<b>2</b>	<b>CHECK STOP LAMP SWITCH CIRCUIT</b>
<ol style="list-style-type: none"> <li>1. Disconnect control unit connector.</li> <li>2. Check voltage between control unit terminal 11 and ground.</li> </ol>	
<p><b>Voltage [V]:</b>                  Stop lamp switch: Depressed                  Approx. 12                  Stop lamp switch: Released                  0</p> <p>Refer to wiring diagram in EL-170.</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ ASCD brake/stop lamp switch is OK.
NG	<p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• 10A fuse [No. 14, located in the fuse block (J/B)]</li> <li>• Harness for open or short between ASCD control unit and stop lamp switch</li> <li>• Harness for open or short between fuse and stop lamp switch</li> <li>• Stop lamp switch Refer to "Electrical Component Inspection" (EL-183).</li> </ul>

# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

## ASCD STEERING SWITCH CHECK

=NAEL0099S07

<b>1</b>	<b>CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT</b>																												
<p>1. Disconnect control unit connector.</p> <p>2. Check voltage between control unit harness terminals and ground.</p>																													
<p>ASCD control unit connector (M3)</p>																													
SEL760U																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminal No.</th> <th colspan="2">Switch condition</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>Pressed</th> <th>Released</th> </tr> </thead> <tbody> <tr> <td>SET/COAST SW</td> <td>2</td> <td>ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td>RESUME/ACC SW</td> <td>1</td> <td>ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td rowspan="2">CANCEL SW</td> <td>2</td> <td>ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td>1</td> <td>ground</td> <td>12V</td> <td>0V</td> </tr> </tbody> </table>			Terminal No.		Switch condition		(+)	(-)	Pressed	Released	SET/COAST SW	2	ground	12V	0V	RESUME/ACC SW	1	ground	12V	0V	CANCEL SW	2	ground	12V	0V	1	ground	12V	0V
	Terminal No.		Switch condition																										
	(+)	(-)	Pressed	Released																									
SET/COAST SW	2	ground	12V	0V																									
RESUME/ACC SW	1	ground	12V	0V																									
CANCEL SW	2	ground	12V	0V																									
	1	ground	12V	0V																									
MTBL0002																													
Refer to wiring diagram in EL-170.																													
<b>OK or NG</b>																													
OK	▶ ASCD steering switch is OK.																												
NG	▶ GO TO 2.																												

<b>2</b>	<b>CHECK POWER SUPPLY FOR ASCD STEERING SWITCH</b>
<b>Does horn work?</b>	
Yes	▶ GO TO 3.
No	<p>▶ <b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• 10A fuse (No. 54, located in the relay box)</li> <li>• Horn relay</li> <li>• Harness for open or short between horn and fuse</li> </ul>

<b>3</b>	<b>CHECK ASCD STEERING SWITCH</b>																						
<p>1. Disconnect ASCD steering switch.</p> <p>2. Check continuity between terminals by pushing each switch.</p>																							
<p>ASCD steering switch (EL2)</p>																							
SEL064W																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Switch</th> <th colspan="3">Terminal</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>RESUME/ACCEL</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> </tr> <tr> <td>SET/COAST</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> </tr> <tr> <td rowspan="2">CANCEL</td> <td style="text-align: center;">○</td> <td style="text-align: center;">▶</td> <td style="text-align: center;">○</td> </tr> <tr> <td style="text-align: center;">○</td> <td style="text-align: center;">▶</td> <td style="text-align: center;">○</td> </tr> </tbody> </table>		Switch	Terminal			1	2	3	RESUME/ACCEL	○	○	○	SET/COAST	○	○	○	CANCEL	○	▶	○	○	▶	○
Switch	Terminal																						
	1	2	3																				
RESUME/ACCEL	○	○	○																				
SET/COAST	○	○	○																				
CANCEL	○	▶	○																				
	○	▶	○																				
MTBL0267																							
<b>OK or NG</b>																							
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 SENSOR CHECK

NAEL0099S08

<b>1</b>	<b>CHECK SPEEDOMETER OPERATION</b>	
Refer to wiring diagram in EL-172.		
<b>Does speedometer operate normally?</b>		
Yes	▶	GO TO 2.
No	▶	Check speedometer and vehicle speed sensor circuit. Refer to EL-86.

<b>2</b>	<b>CHECK VEHICLE SPEED INPUT</b>	
<ol style="list-style-type: none"> <li>1. Apply wheel chocks and jack up drive wheel.</li> <li>2. Disconnect control unit connector.</li> <li>3. Check voltage between control unit terminal 7 and ground with turning drive wheel slowly.</li> </ol>		
SEL347V		
<b>Does voltage pointer deflect?</b>		
Yes	▶	Vehicle speed sensor is OK.
No	▶	Check harness for open or short between ASCD control unit terminal 7 and combination meter terminal 36.

## ASCD PUMP CIRCUIT CHECK

NAEL0099S09

<b>1</b>	<b>CHECK ASCD PUMP</b>										
<ol style="list-style-type: none"> <li>1. Disconnect ASCD pump connector.</li> <li>2. Measure resistance between ASCD pump terminals 1 and 2, 3, 4.</li> </ol>											
MEL243H											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Terminals</th> <th style="width: 15%;">Resistance [Ω]</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center; vertical-align: middle;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Approx. 3</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">Approx. 65</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">Approx. 65</td> </tr> </tbody> </table>			Terminals	Resistance [Ω]	1	2	Approx. 3	3	Approx. 65	4	Approx. 65
Terminals	Resistance [Ω]										
1	2	Approx. 3									
	3	Approx. 65									
	4	Approx. 65									
MTBL0048											
Refer to wiring diagram in EL-171.											
<b>OK or NG</b>											
OK	▶	Check harness for open or short between ASCD pump and ASCD control unit.									
NG	▶	Replace ASCD pump.									

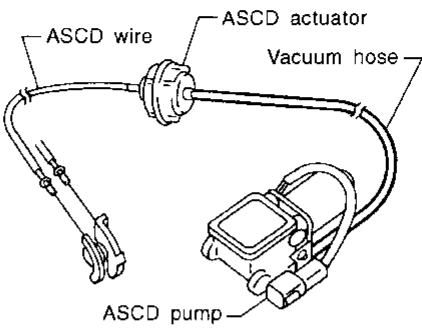
GI  
MA  
EM  
LC  
EC  
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# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

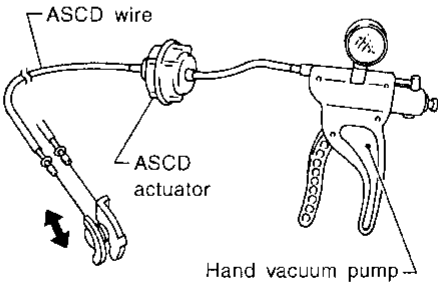
Trouble Diagnoses (Cont'd)

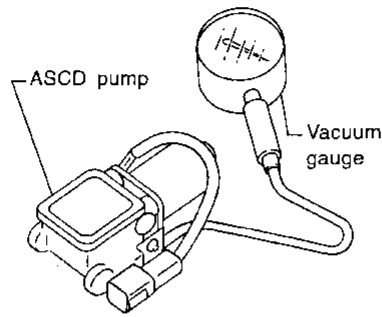
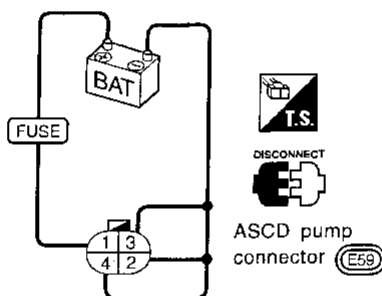
## ASCD ACTUATOR/PUMP CHECK

=NAEL0099S10

<b>1</b>	<b>CHECK VACUUM HOSE</b>
Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks or fracture.	
	
MEL402G	
<b>OK or NG</b>	
OK	▶ GO TO 2.
NG	▶ Repair or replace hose.

<b>2</b>	<b>CHECK ASCD WIRE</b>
Check wire for improper installation, rust formation or breaks.	
<b>OK or NG</b>	
OK	▶ GO TO 3.
NG	▶ Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-183).

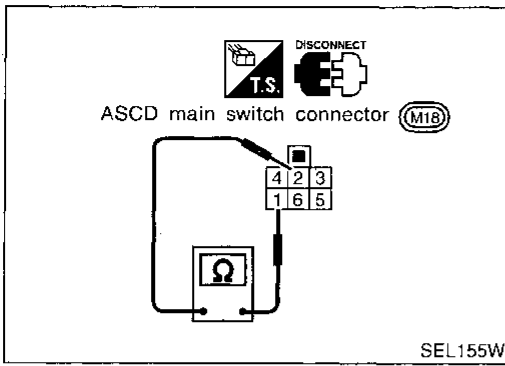
<b>3</b>	<b>CHECK ASCD ACTUATOR</b>
<ol style="list-style-type: none"> <li>Disconnect vacuum hose from ASCD actuator.</li> <li>Apply <math>-40 \text{ kPa}</math> (<math>-0.41 \text{ kg/cm}^2</math>, <math>-5.8 \text{ psi}</math>) vacuum to ASCD actuator with hand vacuum pump. <b>ASCD wire should move to pull throttle drum.</b></li> <li>Wait 10 seconds and check for decrease in vacuum pressure. <b>Vacuum pressure decrease:</b> <b>Less than <math>2.7 \text{ kPa}</math> (<math>0.028 \text{ kg/cm}^2</math>, <math>0.39 \text{ psi}</math>)</b></li> </ol>	
	
MEL403G	
<b>OK or NG</b>	
OK	▶ GO TO 4.
NG	▶ Replace ASCD actuator.

<b>4</b>	<b>CHECK ASCD PUMP</b>																
<ol style="list-style-type: none"> <li>Disconnect vacuum hose from ASCD pump and ASCD pump connector.</li> <li>If necessary remove ASCD pump.</li> <li>Connect vacuum gauge to ASCD pump.</li> <li>Apply 12V direct current to ASCD pump and check operation.</li> </ol>																	
																	
																	
MEL844G																	
<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">12V direct current supply terminals</th> <th rowspan="2">Operation</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td>Air valve</td> <td rowspan="3" style="text-align: center;">1</td> <td style="text-align: center;">3</td> <td>Close</td> </tr> <tr> <td>Release valve</td> <td style="text-align: center;">4</td> <td>Close</td> </tr> <tr> <td>Vacuum motor</td> <td style="text-align: center;">2</td> <td>Operate</td> </tr> </tbody> </table>			12V direct current supply terminals		Operation	(+)	(-)	Air valve	1	3	Close	Release valve	4	Close	Vacuum motor	2	Operate
	12V direct current supply terminals		Operation														
	(+)	(-)															
Air valve	1	3	Close														
Release valve		4	Close														
Vacuum motor		2	Operate														
MTBL0004																	
<p><b>A vacuum pressure of at least <math>-40 \text{ kPa}</math> (<math>-0.41 \text{ kg/cm}^2</math>, <math>-5.8 \text{ psi}</math>) should be generated.</b></p> <p style="text-align: center;"><b>OK or NG</b></p>																	
OK	▶ INSPECTION END																
NG	▶ Replace ASCD pump.																



# AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Electrical Component Inspection



## Electrical Component Inspection

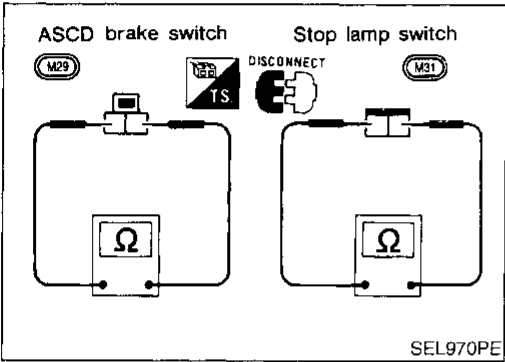
NAEL0100

### ASCD MAIN SWITCH

NAEL0100S01

Check continuity between terminals by pushing switch to each position.

Switch position	Terminals	Illumination
ON	1 - 2 - 3 - 4	5 - 6
N	2 - 3 - 4	
OFF		

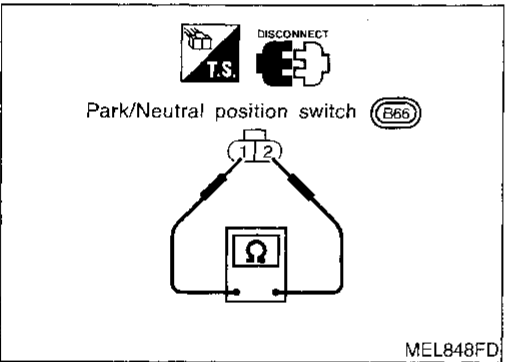


### ASCD BRAKE SWITCH AND STOP LAMP SWITCH

NAEL0100S02

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 section.



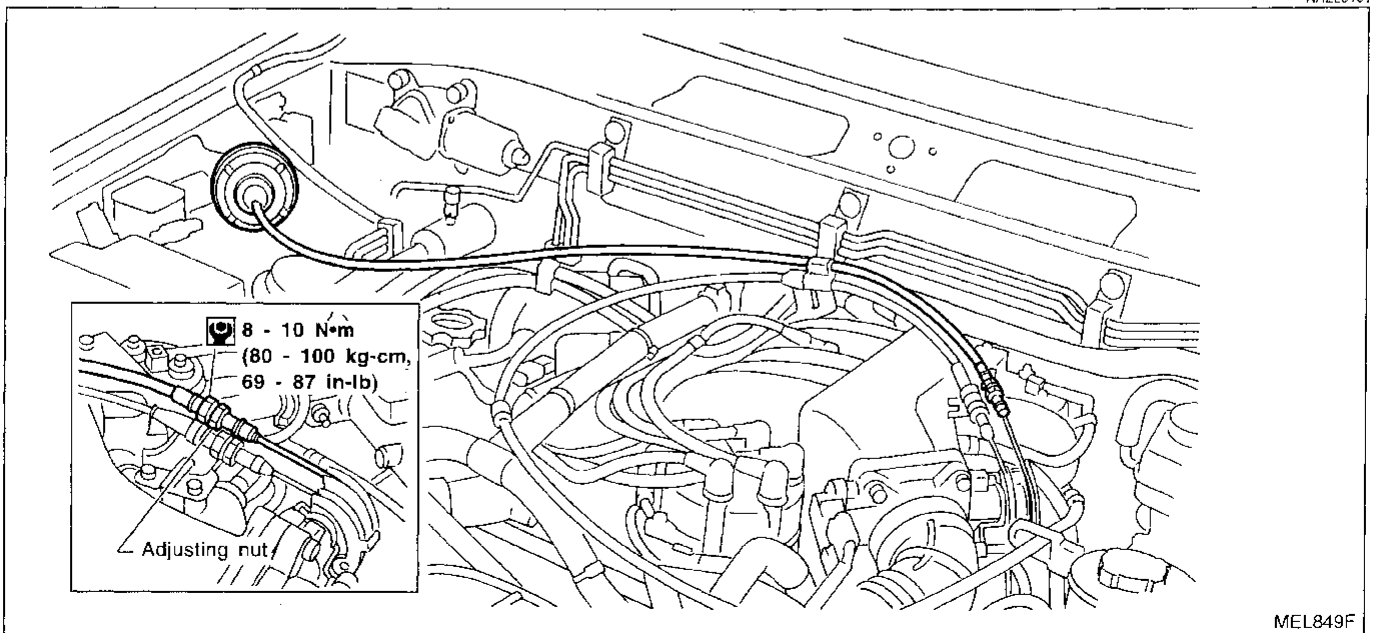
### PARK/NEUTRAL POSITION SWITCH

NAEL0100S03

Selector lever position	Continuity	
	Between terminals 1 and 2	
"P"	Yes	
"N"	Yes	
Except "P" and "N"	No	

## ASCD Wire Adjustment

NAEL0101



GI  
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AX  
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BT  
HA  
SC  
EL  
IDX

## AUTOMATIC SPEED CONTROL DEVICE (ASCD)

ASCD Wire Adjustment (Cont'd)

---

### 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 section ("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**

Power is supplied at all times

- from 40A fusible link (letter f, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to power window relay terminal 3.

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

- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to power window relay terminal 2, and
- to smart entrance control unit terminal 33.

Ground is supplied to power window relay terminal 1

- through body grounds M4 and M66.

The power window relay is energized and power is supplied

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

**MANUAL OPERATION**

**Front Door LH**

Ground is supplied

- to power window main switch terminal 3
- through body grounds M77 and M111.

**WINDOW UP**

When the front LH switch in the power window main switch is pressed in the up position, power is supplied

- to front power window regulator LH terminal 2
- through power window main switch terminal 9.

Ground is supplied

- to front power window regulator LH terminal 1
- through power window main switch terminal 8.

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

**WINDOW DOWN**

When the LH switch in the power window main switch is pressed in the down position, power is supplied

- to front power window regulator LH terminal 1
- through power window main switch terminal 8.

Ground is supplied

- to front power window regulator LH terminal 2
- through power window main switch terminal 9.

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

**Front Door RH**

Ground is supplied

- to power window main switch terminal 3
- through body grounds M77 and M111.

**NOTE:**

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

**MAIN SWITCH OPERATION**

Power is supplied

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

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

**SUB-SWITCH OPERATION**

Power is supplied

NAEL0102 **GI**

**MA**

**EM**

**LC**

**EC**

**FE**

**CL**

NAEL0102S01 **MT**  
NAEL0102S0101

**AT**

**TF**

**PD**

**AX**

**SU**

**BR**

**ST**

**RS**

NAEL0102S0102 **BT**

**HA**

**SC**

**EL**

**IDX**

# POWER WINDOW

## System Description (Cont'd)

---

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

Ground is supplied

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

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

### Rear Door

Rear door windows will raise and lower in the same manner as front door RH window.

NAEL0102S0103

### AUTO OPERATION

The power window AUTO feature enables the driver to lower the driver's window without holding the window switch in the down position.

NAEL0102S02

The AUTO feature only operates on the driver's window downward movement.

### POWER WINDOW LOCK

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

NAEL0102S03

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

### RETAINED POWER OPERATION

When the ignition switch is turned to OFF position from ON or START position, power is supplied for 45 seconds

NAEL0102S04

- to power window relay terminal 2
- from smart entrance control unit terminal 5.

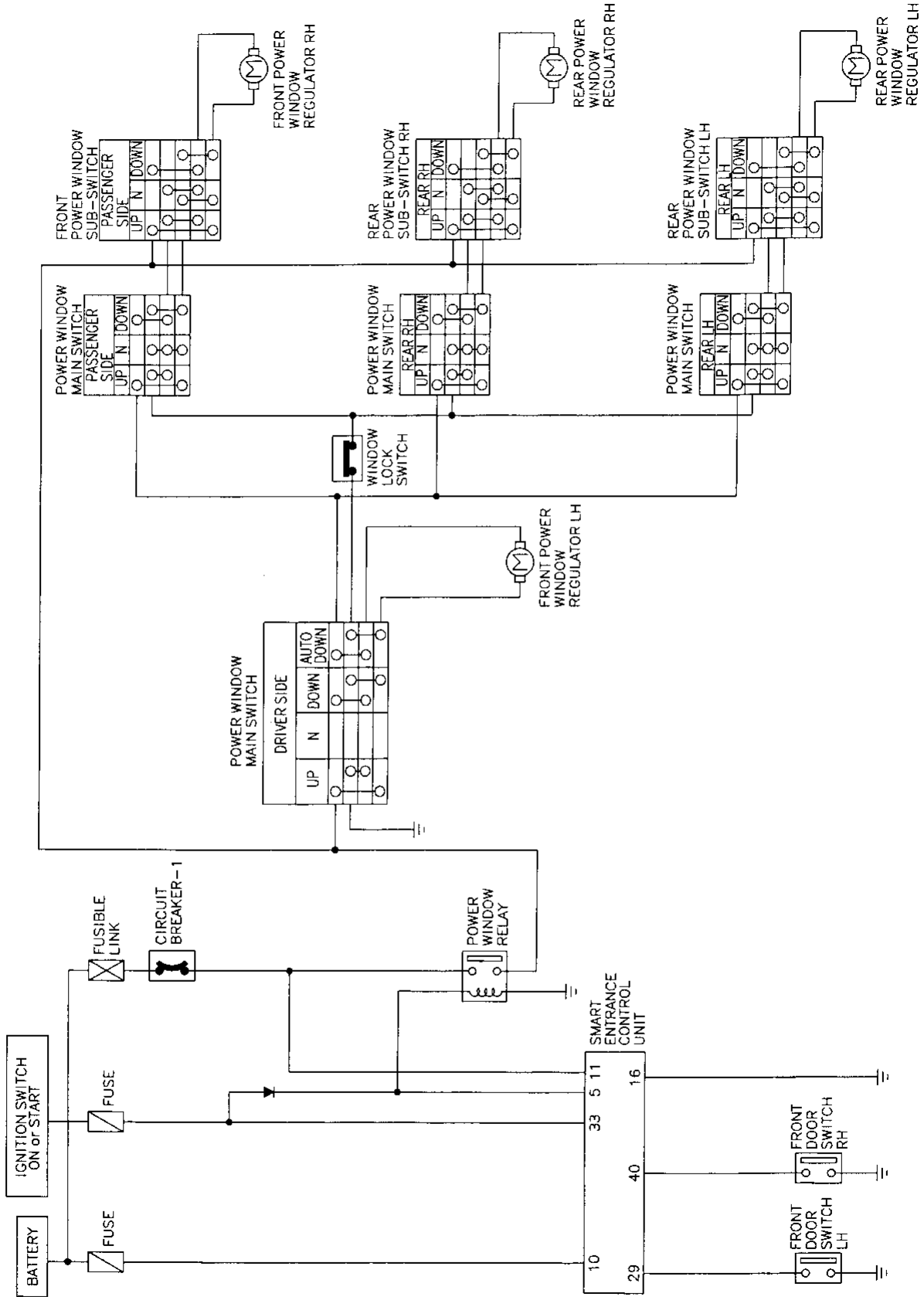
Ground is always supplied

- to power window relay terminal 1
- through body grounds.

When power and ground are supplied, the power window relay continues to be energized, and the power window can be operated.

The retained power operation is canceled when the driver or passenger side door is opened.

Schematic



GI  
 MA  
 EM  
 LC  
 EC  
 FE  
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 AT  
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 PD  
 AX  
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 SC  
 EL  
 IDX

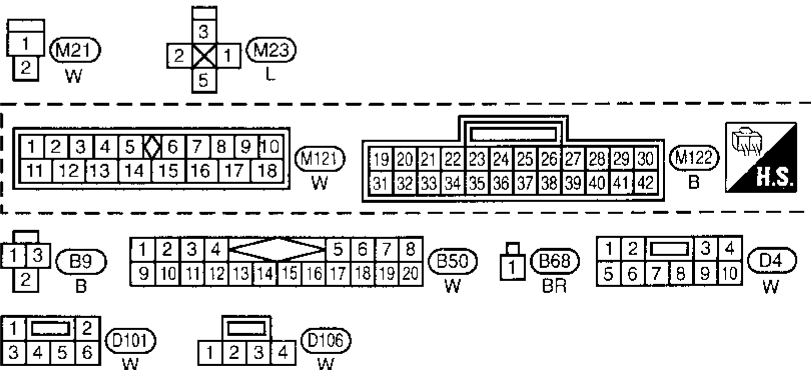
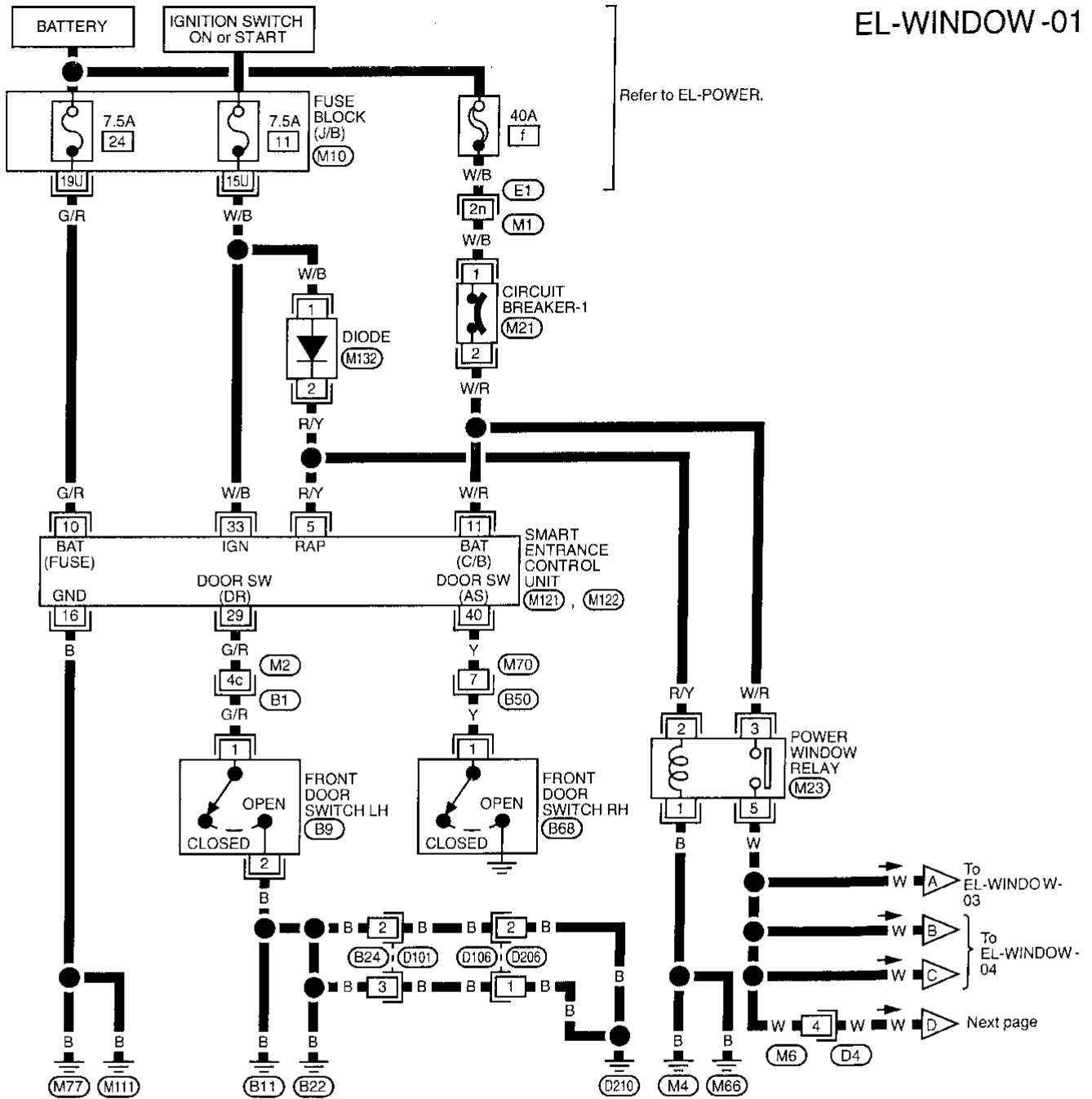
# POWER WINDOW

Wiring Diagram — WINDOW —

## Wiring Diagram — WINDOW —

NAEL0104

### EL-WINDOW-01



Refer to last page (Foldout page).

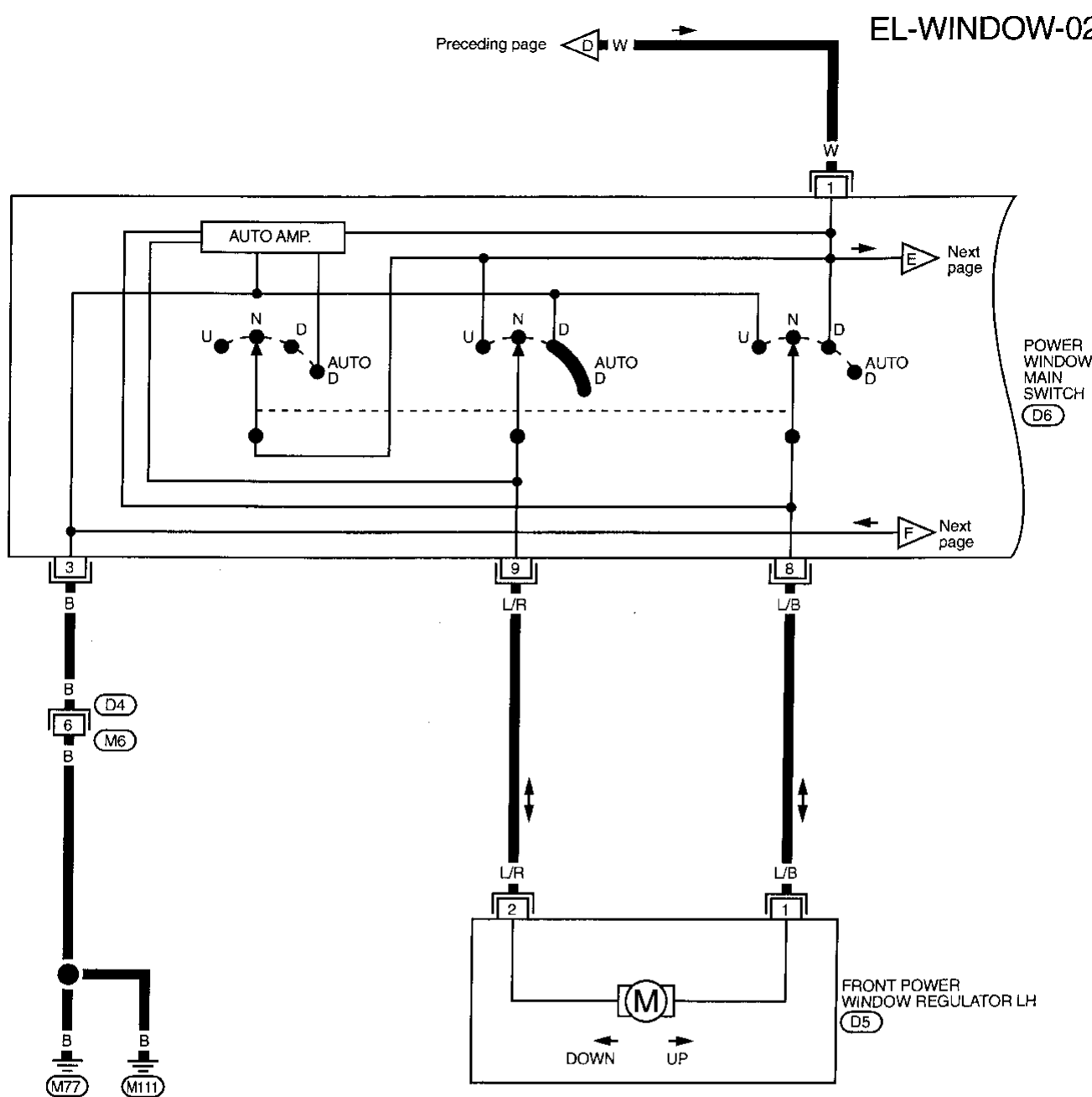
- (M1) , (E1)
- (M2) , (B1)
- (M10)

MEL978J

# POWER WINDOW

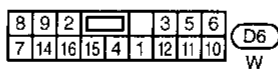
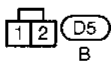
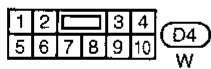
Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02



Preceding page ◀ D W ▶

GI  
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EL

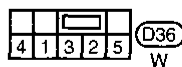
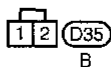
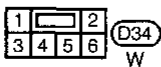
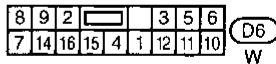
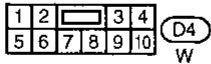
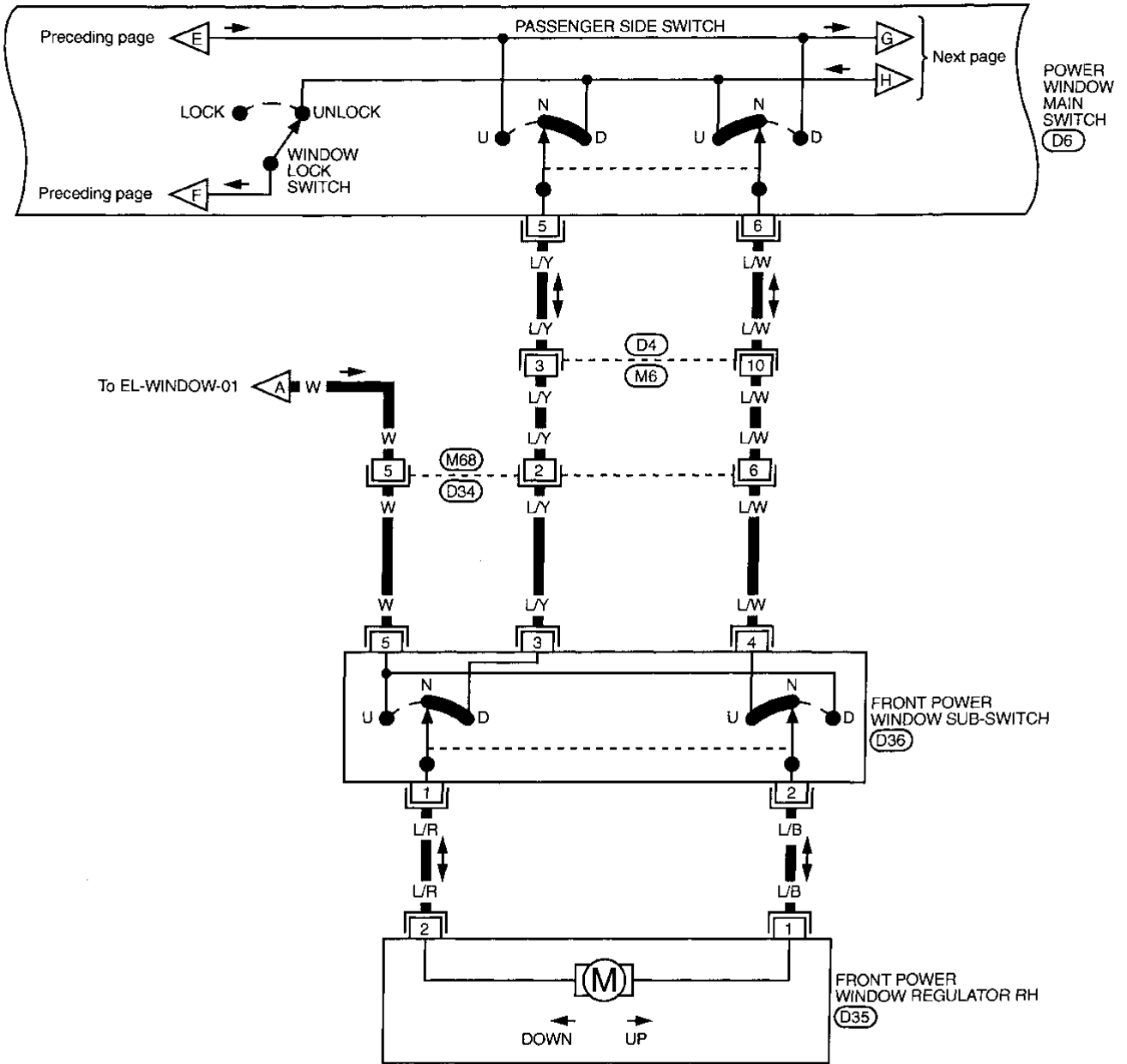
MEL979J

IDX

# POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03



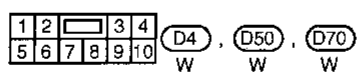
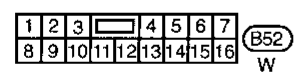
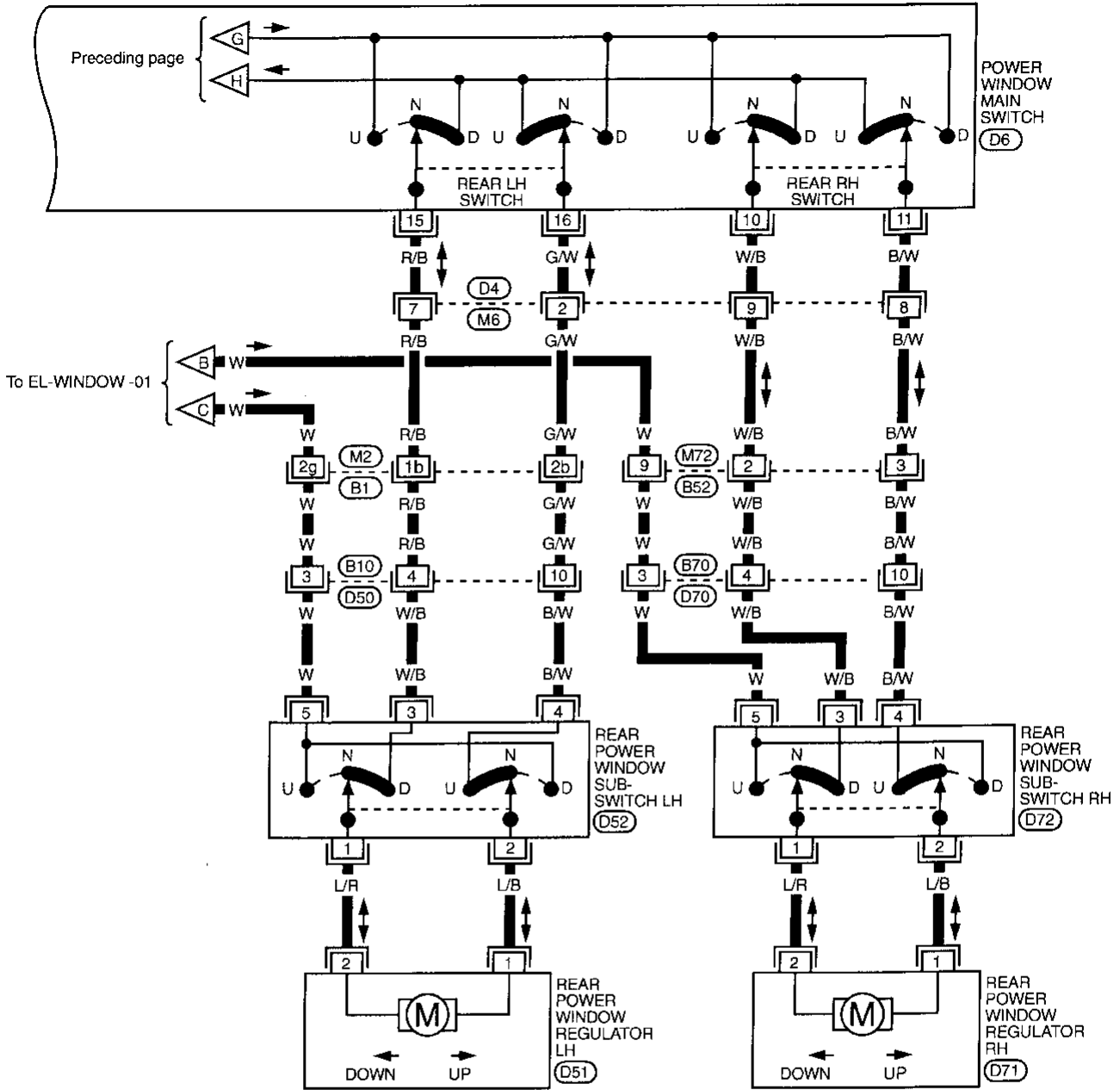
MEL980J



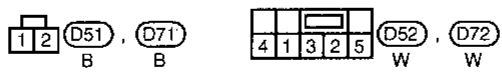
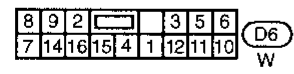
# POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-04



Refer to last page (Foldout page).  
(M2), (B1)



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

# POWER WINDOW

## Trouble Diagnoses

### Trouble Diagnoses

NAEL0106

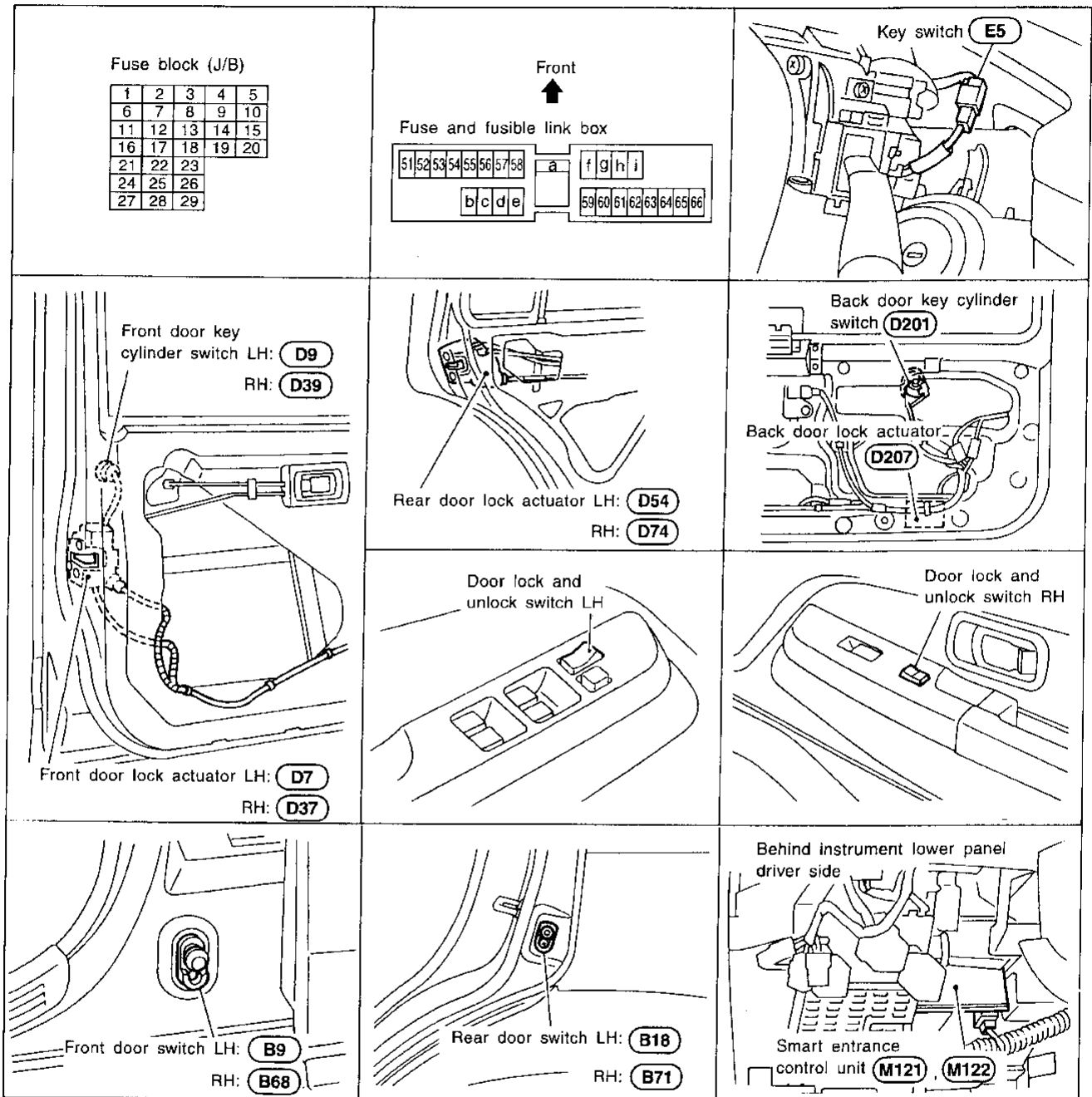
Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	<ol style="list-style-type: none"> <li>7.5A fuse, 40A fusible link and M21 circuit breaker</li> <li>Grounds M4 and M66</li> <li>Power window relay</li> <li>Open/short in power window main switch circuit</li> </ol>	<ol style="list-style-type: none"> <li>Check 7.5A fuse [No. 11, located in fuse block (J/B)] 40A fusible link (letter f, located in fuse and fusible link box) and M21 circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminal 1 of power window main switch and terminal 5 of sub-switch.</li> <li>Check grounds M4 and M66.</li> <li>Check power window relay.</li> <li>Check W wire between power window relay and power window main switch for open/short circuit.</li> </ol>
Driver side power window cannot be operated but other windows can be operated.	<ol style="list-style-type: none"> <li>Driver side power window regulator circuit</li> <li>Driver side power window regulator</li> <li>Power window main switch</li> </ol>	<ol style="list-style-type: none"> <li>Check harness between power window main switch and power window regulator for open or short circuit.</li> <li>Check driver side power window regulator.</li> <li>Check power window main switch.</li> </ol>
Passenger power window cannot be operated.	<ol style="list-style-type: none"> <li>Power window sub-switches</li> <li>Passenger side power window regulators</li> <li>Power window main switch</li> <li>Power window circuit</li> </ol>	<ol style="list-style-type: none"> <li>Check power window sub-switch.</li> <li>Check passenger side power window regulator.</li> <li>Check power window main switch.</li> <li>Check the following.               <ol style="list-style-type: none"> <li>Check harnesses between power window main switch and power window sub-switch for open/short circuit.</li> <li>Check harnesses between power window sub-switch and power window regulator for open/short circuit.</li> </ol> </li> </ol>
Passenger power window cannot be operated using power window main switch but can be operated by power window sub-switch.	<ol style="list-style-type: none"> <li>Power window main switch</li> </ol>	<ol style="list-style-type: none"> <li>Check power window main switch.</li> </ol>
Driver side power window auto function cannot be operated using power window main switch.	<ol style="list-style-type: none"> <li>Power window main switch</li> </ol>	<ol style="list-style-type: none"> <li>Check power window main switch.</li> </ol>
Retained power operation does not operate properly.	<ol style="list-style-type: none"> <li>RAP signal circuit</li> <li>Driver or passenger side door switch circuit</li> <li>Smart entrance control unit</li> </ol>	<ol style="list-style-type: none"> <li>Check harness between power window relay terminal 2 and smart entrance control unit terminal 5 for open or short circuit.</li> <li>Check harness between smart entrance control unit and driver or passenger side door switch for open or short circuit. Check driver or passenger side door switch ground circuit. Check driver or passenger side door switch.</li> <li>Check smart entrance control unit. (EL-256)</li> </ol>

# POWER DOOR LOCK

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0106



SEL065W

### System Description

#### OPERATION

- The lock/unlock switch (LH and RH) on door trim can lock and unlock all doors.
- With the door key inserted in the key cylinder on front LH, RH or back door, turning it to "LOCK", will lock all doors; turning it to "UNLOCK" once unlocks the corresponding door; turning it to "UNLOCK" again within 5 seconds after the first unlock operation unlocks all of the other doors. (Signals from door key cylinder switch)
- If the ignition key is in the ignition key cylinder and one or more of doors are open, setting the lock/unlock switch to "LOCK" locks the doors once but then immediately unlock them. (Combination signals from key switch and door switches) - (KEY REMINDER DOOR SYSTEM)

NAEL0107

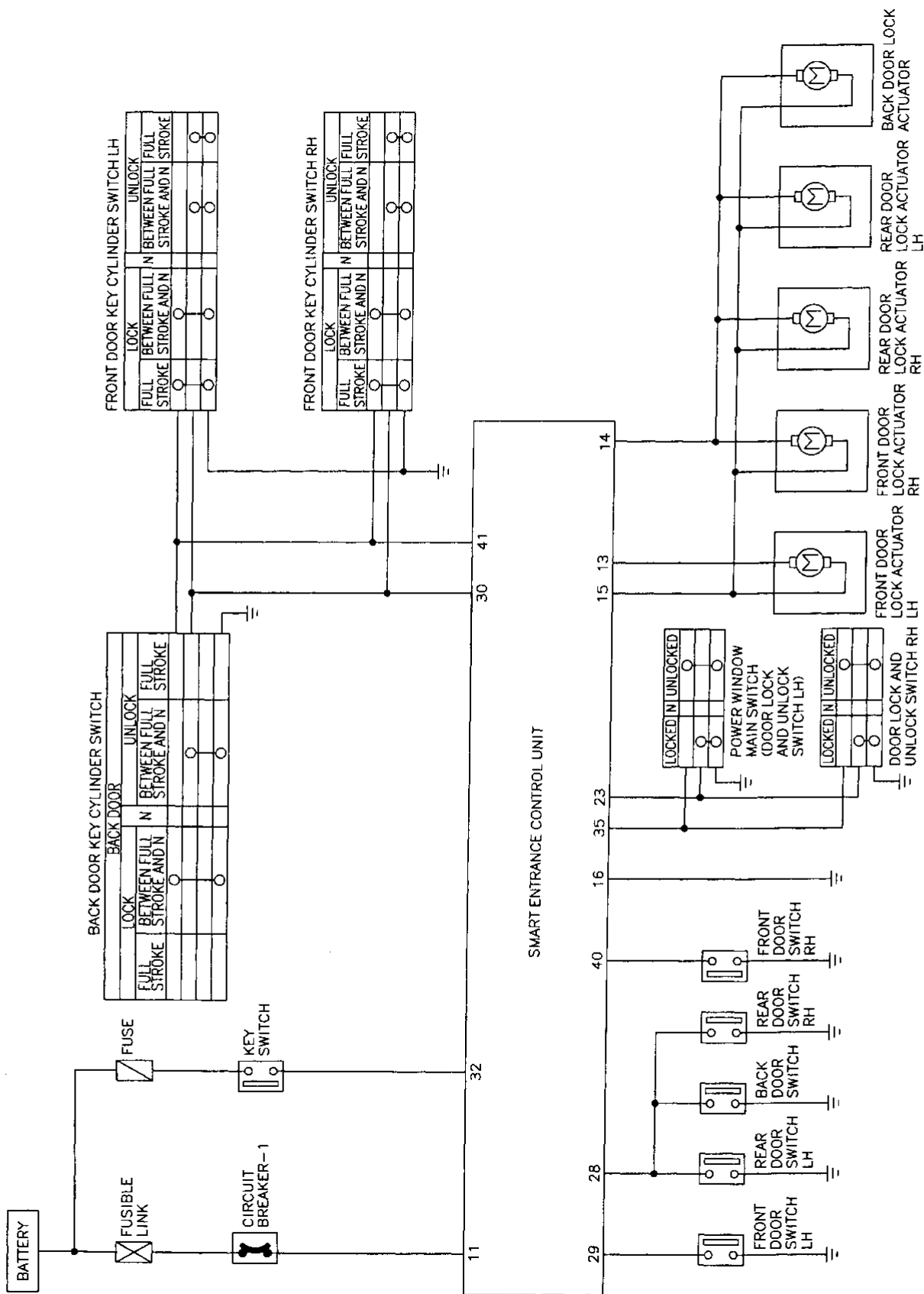
NAEL0107S04

# POWER DOOR LOCK

Schematic

## Schematic

NAEL0108



MEL982J

# POWER DOOR LOCK

Wiring Diagram — D/LOCK —

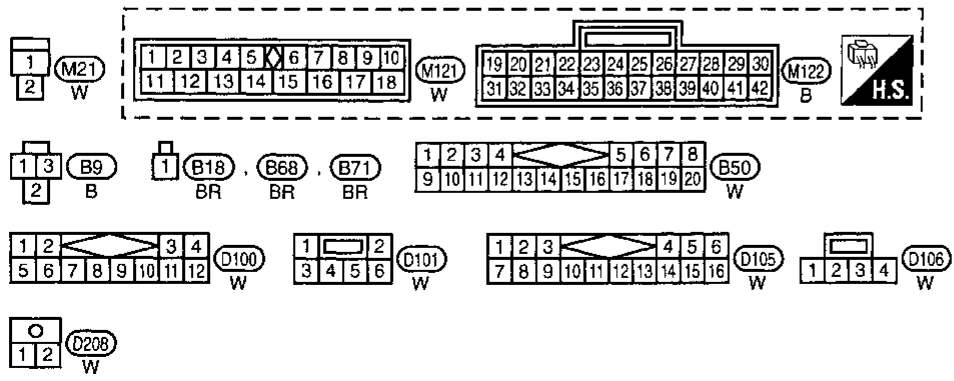
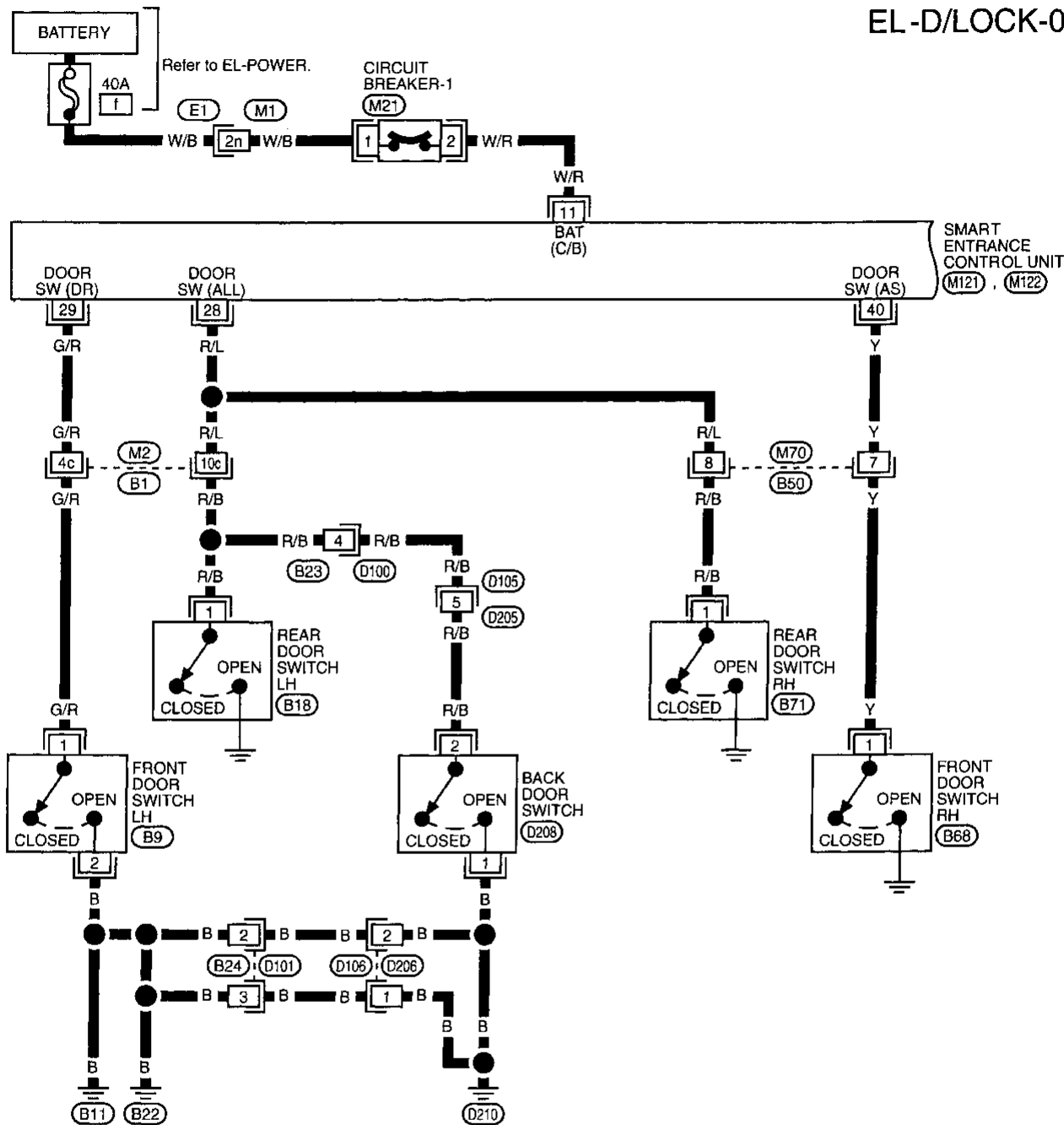
## Wiring Diagram — D/LOCK —

FIG. 1

NAEL0109

NAEL0109S01

EL-D/LOCK-01



Refer to last page (Foldout page).

- M1, E1
- M2, B1

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

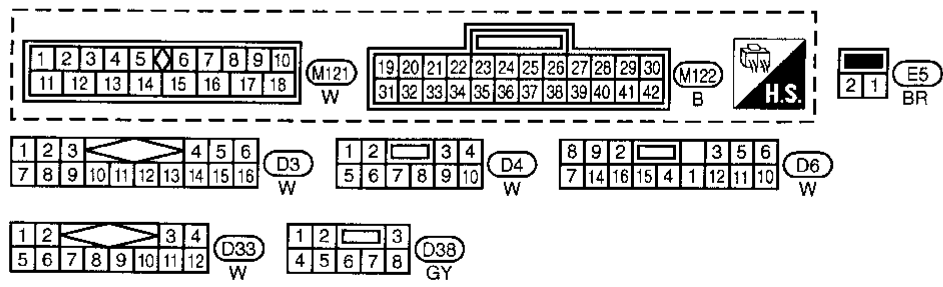
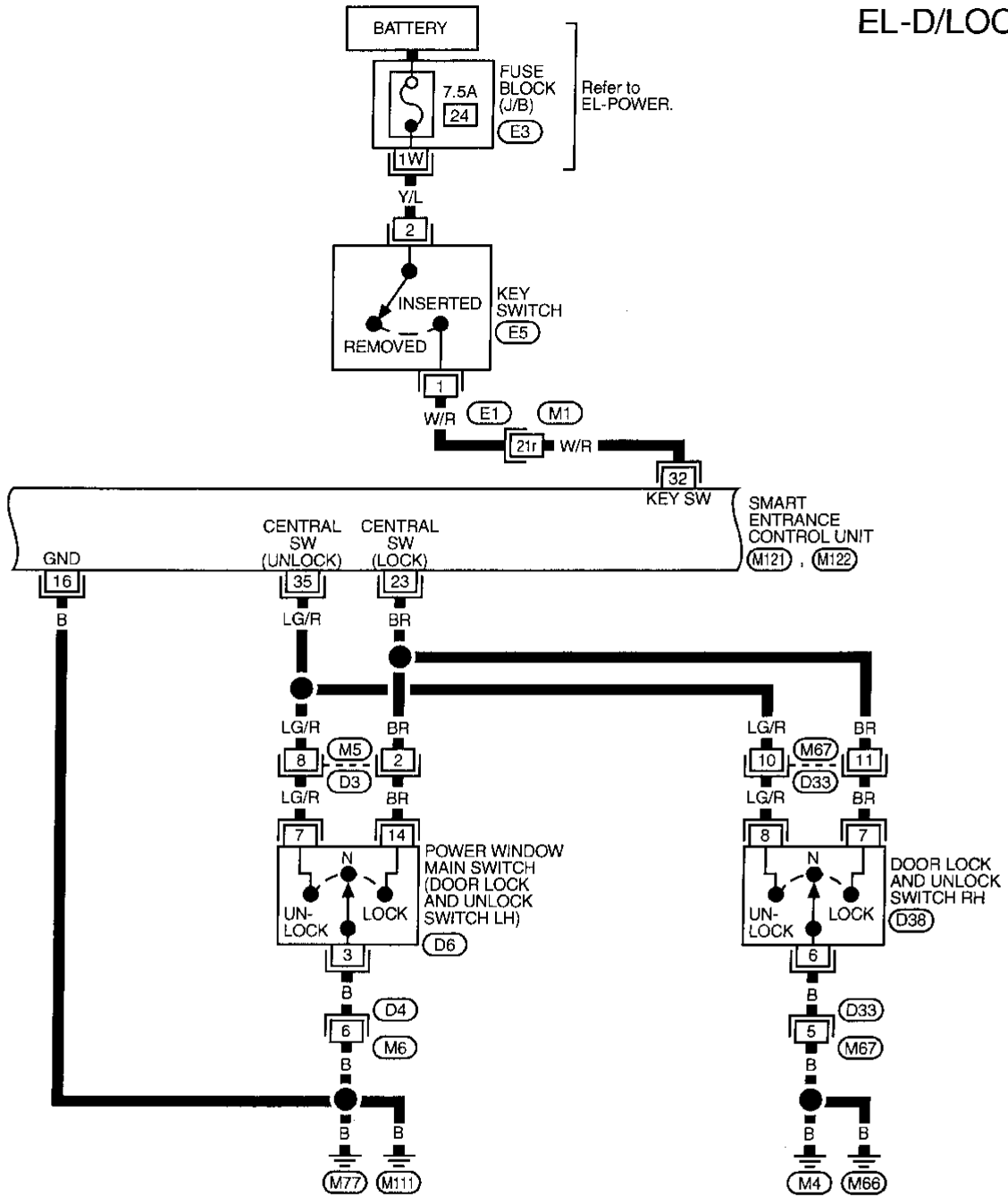
# POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

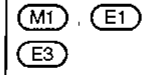
FIG. 2

NAEL0109S02

EL-D/LOCK-02



Refer to last page (Foldout page).



MEL983J

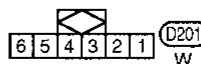
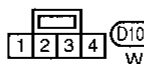
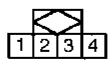
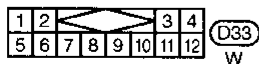
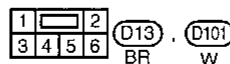
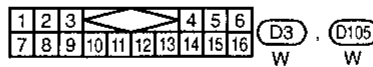
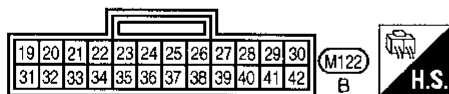
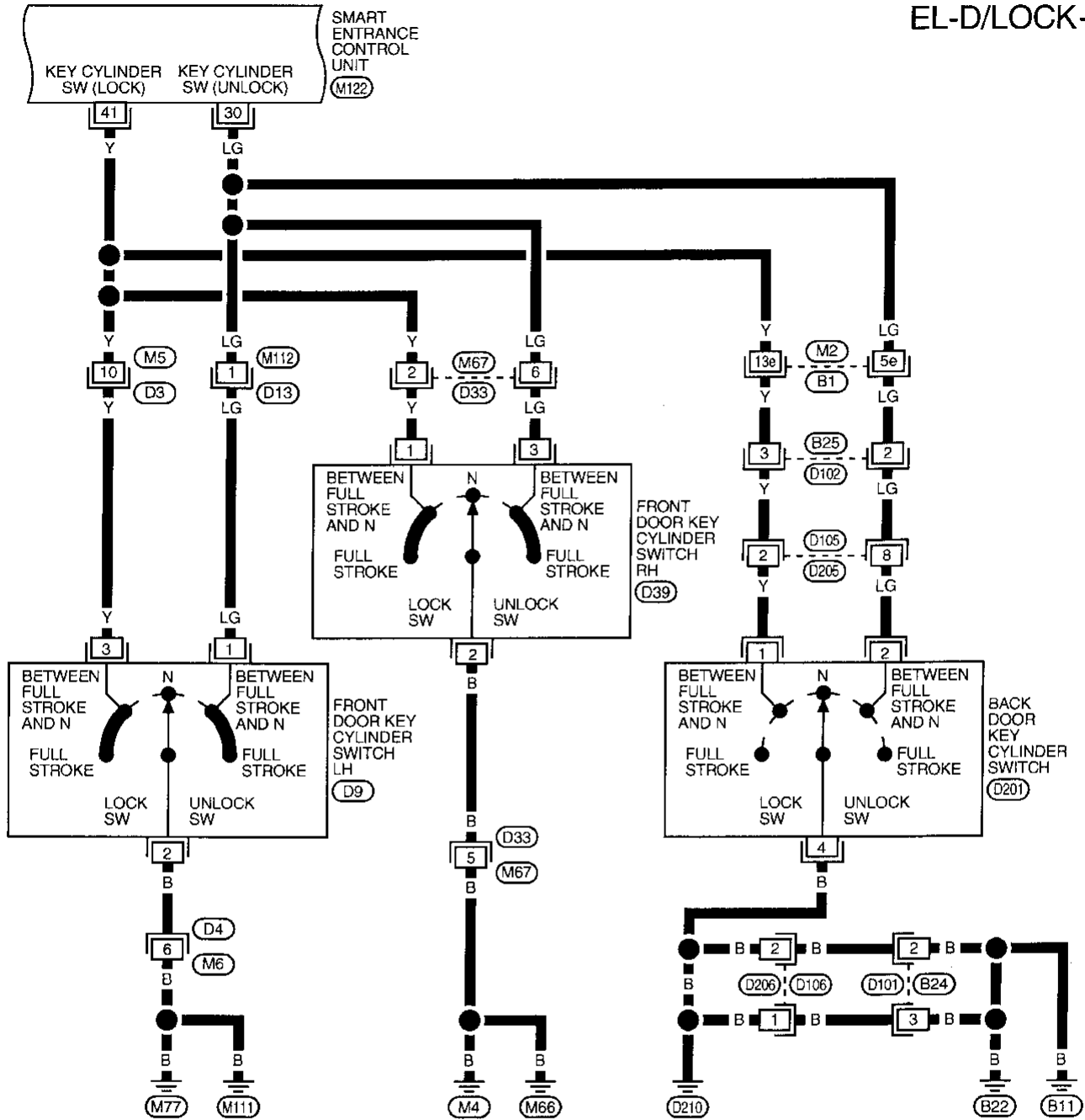
# POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 3

NAEL0109S03

EL-D/LOCK-03



Refer to last page (Foldout page).

M2, B1

MEL984J

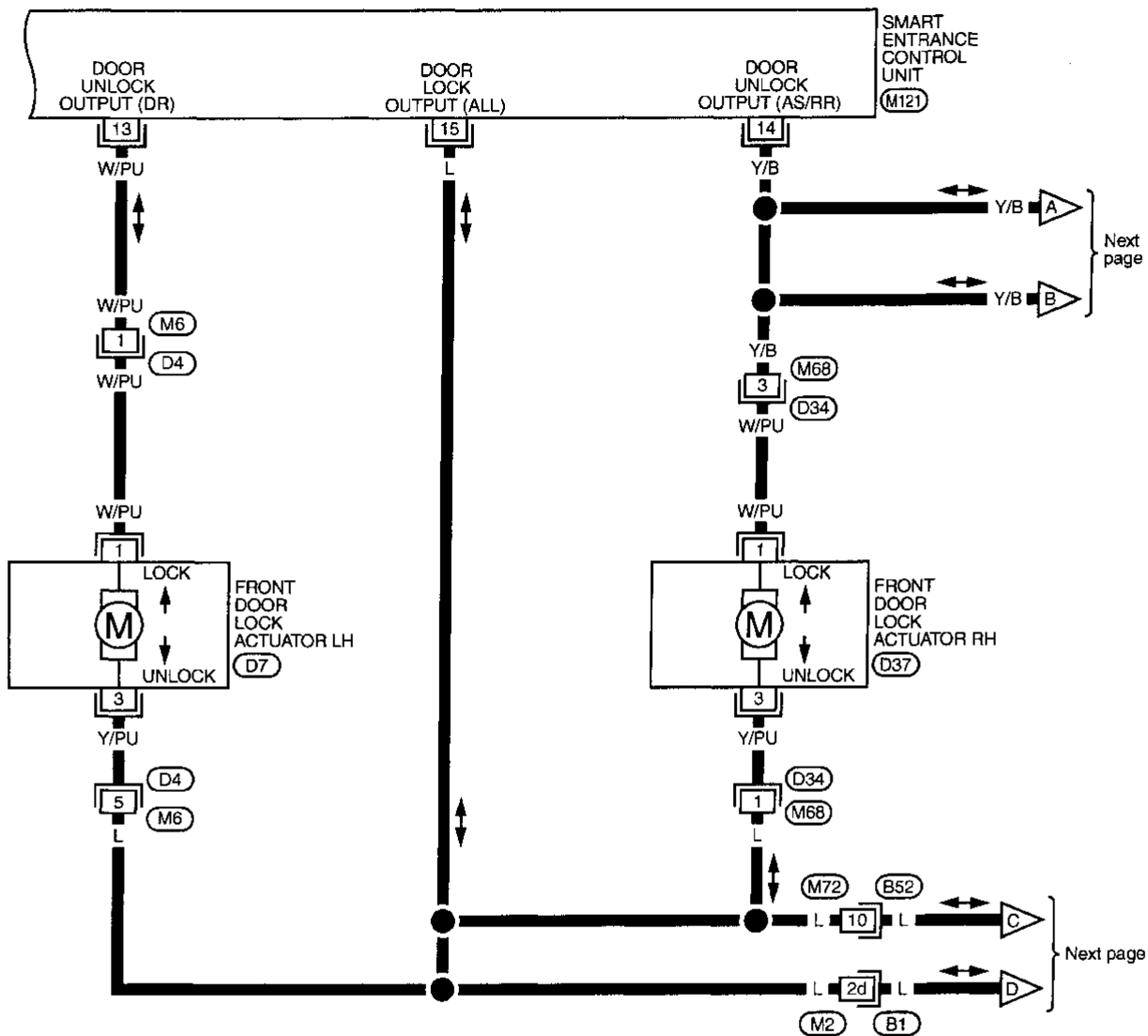
# POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 4

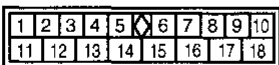
NAEL0109S04

EL-D/LOCK-04

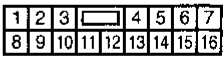


Next page

Next page



(M121)  
W



(B52)  
W



(D4)  
W



(D7)  
GY

(D37)  
GY



(D34)  
W

Refer to last page (Foldout page).

(M2), (B1)

MEL985J



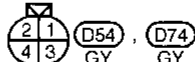
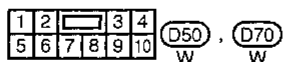
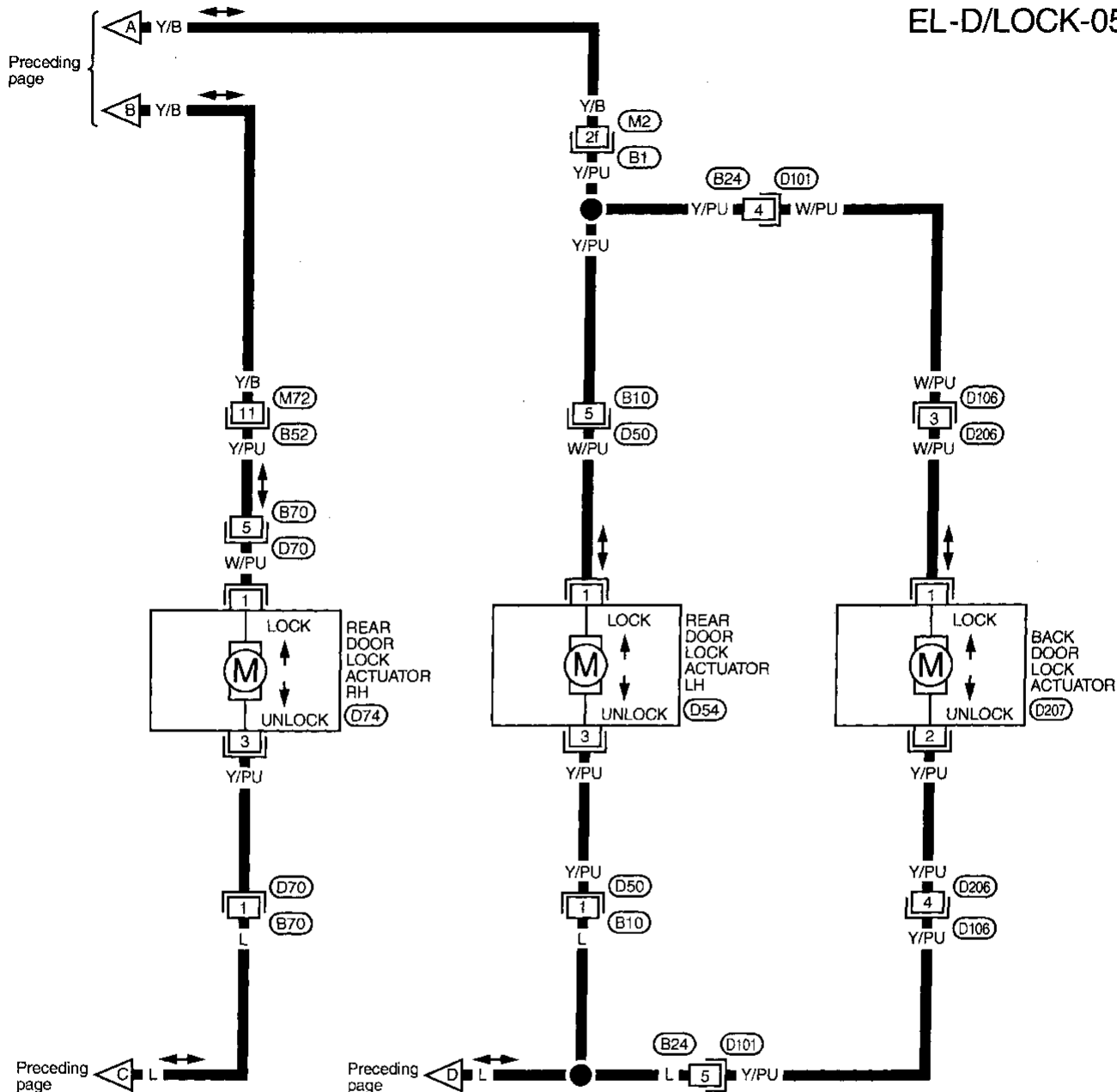
# POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

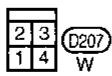
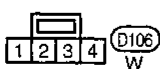
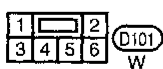
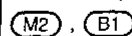
FIG. 5

NAEL0109S05

EL-D/LOCK-05



Refer to last page (Foldout page).



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

# POWER DOOR LOCK

Trouble Diagnoses

## Trouble Diagnoses SYMPTOM CHART

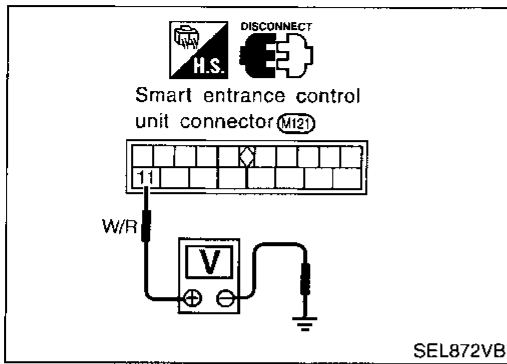
NAEL0110

NAEL0110S01

REFERENCE PAGE (EL- )	201	202	203	204	205	206	207
SYMPTOM	MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR SWITCH CHECK	KEY SWITCH (INSERT) CHECK	DOOR LOCK/UNLOCK SWITCH CHECK	FRONT DOOR KEY CYLINDER SWITCH CHECK	BACK DOOR KEY CYLINDER SWITCH CHECK	DOOR LOCK ACTUATOR CHECK
Key reminder door system does not operate properly.	X	X	X				X
Specific door lock actuator does not operate.	X						X
Power door lock does not operate with door lock and unlock switch (LH and RH) on door trim.	X			X			
Power door lock does not operate with front door key cylinder operation.	X				X		
Power door lock does not operate with back door key cylinder operation.	X					X	

# POWER DOOR LOCK

Trouble Diagnoses (Cont'd)



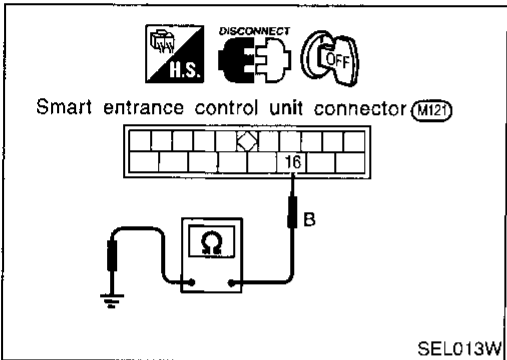
## MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

-NAELO110S02

### Main Power Supply Circuit Check

NAELO110S0201

Terminal		Ignition switch		
(+)	(-)	OFF	ACC	ON
11	Ground	Battery voltage	Battery voltage	Battery voltage



### Ground Circuit Check

NAELO110S0202

Terminals	Continuity
16 - Ground	Yes

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

# POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

## DOOR SWITCH CHECK

=NAEL0110S05

**1 CHECK DOOR SWITCH INPUT SIGNAL**

Check voltage between control unit terminals 28, 29 or 40 and ground.

SEL886VA

	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door switch	29	ground	Open	0
			Closed	Approx. 5
Front RH door switch	40	ground	Open	0
			Closed	Approx. 5
Rear and back door switches	28	ground	Open	0
			Closed	Approx. 5

MTBL0262

Refer to wiring diagram in EL-195.

**OK or NG**

OK	▶	Door switch is OK.
NG	▶	GO TO 2.

**2 CHECK DOOR SWITCH**

1. Disconnect door switch connector.
2. Check continuity between door switch terminals.

Door switch connector  
Front RH : (B68)  
Rear LH : (B18)  
Rear RH : (B71)

SEL066W

	Terminals	Condition	Continuity
Front LH door switch	1 - 2	Closed	No
		Open	Yes
Back door switch	1 - 2	Closed	No
		Open	Yes
Front RH and rear door switches	1 - ground	Closed	No
		Open	Yes

MTBL0263

**OK or NG**

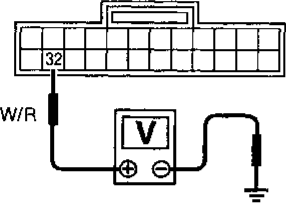
OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Door switch ground circuit (Front LH, back door) or door switch ground condition</li> <li>• Harness for open or short between control unit and door switch</li> </ul>
NG	▶	Replace door switch.

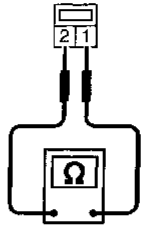
# POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

## KEY SWITCH (INSERT) CHECK

-NAEL0110S06

1	CHECK KEY SWITCH INPUT SIGNAL
<p>Check voltage between control unit terminal 32 and ground.</p> <p>Smart entrance control unit connector (M122)</p>  <p>W/R</p> <p>CONNECT</p> <p>I.S.</p> <p>DISCONNECT</p> <p>Key switch (I.S.) : Approx. 12V</p> <p>Key switch (T.S.) : 0V</p> <p>SEL783VA</p> <p><b>Voltage [V]:</b>            Condition of key switch: Key is inserted.            Approx. 12            Condition of key switch: Key is removed.            0</p> <p>Refer to wiring diagram in EL-196.</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ Key switch is OK.
NG	▶ GO TO 2.

2	CHECK KEY SWITCH (INSERT)
<p>Check continuity between terminals 1 and 2.</p> <p>Key switch connector (E5)</p>  <p>2 1</p> <p>DISCONNECT</p> <p>T.S.</p> <p>Key switch (T.S.)</p> <p>SEL784VA</p> <p><b>Continuity:</b>            Condition of key switch: Key is inserted.            Yes            Condition of key switch: Key is removed.            No</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● 7.5A fuse [No. 24, located in fuse block (J/B)]</li> <li>● Harness for open or short between key switch and fuse</li> <li>● Harness for open or short between control unit and key switch</li> </ul>
NG	▶ Replace key switch.

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

# POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

## DOOR LOCK/UNLOCK SWITCH CHECK

=NAEL0110S03

1
CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

1. Disconnect control unit connector.  
2. Check continuity between control unit terminal 23 or 35 and ground.

Smart entrance control unit connector (M122)

SEL875VB

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

MTBL0264

Refer to wiring diagram in EL-196.

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 connector.  
2. Check continuity between each door lock/unlock switch terminals.

- Power window main switch (Door lock/unlock switch LH)

P/W main switch connector (D6)

SEL067W

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

MTBL0265

- Door lock/unlock switch RH

Lock/unlock switch RH connector (D38)

SEL068W

Condition	Terminals		
	6	7	8
Lock	○	○	○
N	No continuity		
Unlock	○	○	○

MTBL0266

OK or NG

OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>● Ground circuit for door lock/unlock switch</li> <li>● Harness for open or short between door lock/unlock switch and control unit connector</li> </ul>
NG	▶	Replace door lock/unlock switch.

# POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

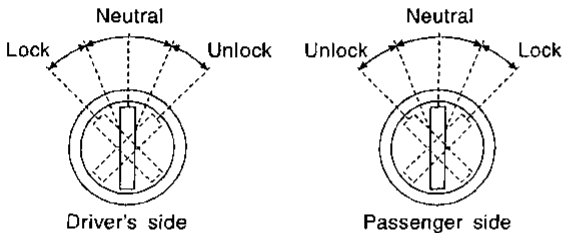
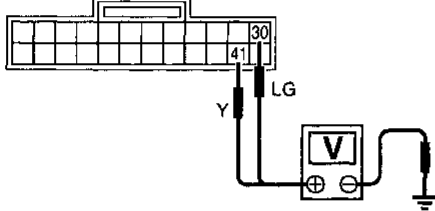
## FRONT DOOR KEY CYLINDER SWITCH CHECK

=NAEL0110S07

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

### 1 CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

Check voltage between control unit terminals 30 or 41 and ground.



SEL069W

Terminals		Key position	Voltage [V]
(+)	(-)		
41	Ground	Neutral/Unlock	Approx. 5
		Lock	0
30	Ground	Neutral/Lock	Approx. 5
		Unlock	0

MTBL0268

Refer to wiring diagram in EL-197.

#### OK or NG

OK	▶	Door key cylinder switch is OK.
NG	▶	GO TO 2.

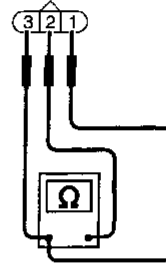
### 2 CHECK DOOR KEY CYLINDER SWITCH

1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder switch terminals.



Door key cylinder switch connector

LH : (D9) RH : (D39)



- ① : Door unlock switch terminal (LH)  
Door lock switch terminal (RH)
- ② : Ground terminal
- ③ : Door lock switch terminal (LH)  
Door unlock switch terminal (RH)

SEL070W

Terminals	Key position	Continuity
LH: 3 - 2	Neutral/Unlock	No
RH: 1 - 2	Lock	Yes
LH: 1 - 2	Neutral/Lock	No
RH: 3 - 2	Unlock	Yes

MTBL0269

#### OK or NG

OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Door key cylinder switch ground circuit</li> <li>• Harness for open or short between control unit and door key cylinder switch</li> </ul>
NG	▶	Replace door key cylinder switch.

# POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

## BACK DOOR KEY CYLINDER SWITCH CHECK

-NAEL0110S08

**1 CHECK BACK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)**

Check voltage between control unit terminals 30 or 41 and ground.

Smart entrance control unit connector (M122)

SEL071W

	Terminals		Key position	Voltage [V]
	(+)	(-)		
Back door	41	Ground	Between neutral and lock	0
			Other positions	Approx. 5
	30	Ground	Between neutral and unlock	0
			Other positions	Approx. 5

MTBL0270

Refer to wiring diagram in EL-197.

**OK or NG**

OK	▶	Back door key cylinder switch is OK.
NG	▶	GO TO 2.

**2 CHECK BACK DOOR KEY CYLINDER SWITCH**

1. Disconnect back door key cylinder switch connector.  
2. Check continuity between back door key cylinder switch terminals.

SEL616U

Key position	Terminals		
	1	2	4
Between neutral and lock (Back door)	○	—	○
Between neutral and unlock (Back door)	—	○	○

MTBL0052

**OK or NG**

OK	▶	<p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• Back door key cylinder switch ground circuit</li> <li>• Harness for open or short between control unit and back door key cylinder switch</li> </ul>
NG	▶	Replace back door key cylinder switch.



## DOOR LOCK ACTUATOR CHECK

NAEL0110S04

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

**1 CHECK DOOR LOCK ACTUATOR CIRCUIT**

Check voltage for door lock actuator.

- Door lock actuator front LH

Smart entrance control unit connector (M121)

SEL879VA

Door lock/unlock switch condition	Terminal No.		Voltage (V)
	(+)	(-)	
Lock	15	ground	Approx. 12
Unlock	13	ground	

MTBL0271

- Door lock actuator front RH, rear and back

Smart entrance control unit connector (M121)

SEL880VA

Door lock/unlock switch condition	Terminal No.		Voltage (V)
	(+)	(-)	
Lock	15	ground	Approx. 12
Unlock	14	ground	

MTBL0272

Refer to wiring diagram in EL-198.

OK or NG	
OK	▶ GO TO 2.
NG	▶ Replace smart entrance control unit. (Before replacing control unit, perform "DOOR LOCK/UNLOCK SWITCH CHECK".)

**2 CHECK DOOR LOCK ACTUATOR**

- Disconnect door lock actuator connector.
- Apply 12V direct current to door lock actuator and check operation.

Door lock actuator connector

Front LH: (D7)

Front RH: (D37)

Rear LH: (D54)

Rear RH: (D74)

SEL736U

- Door lock actuator operation:
  - Terminals between (+): 3 and (-): 1  
 Unlocked → Locked
  - Terminals between (+): 1 and (-): 3  
 Locked → Unlocked

Back door lock actuator connector (0207)

SEL072W

- Back door lock actuator operation:
  - Terminals between (+): 2 and (-): 1  
 Unlocked → Locked
  - Terminals between (+): 1 and (-): 2  
 Locked → Unlocked

**OK or NG**

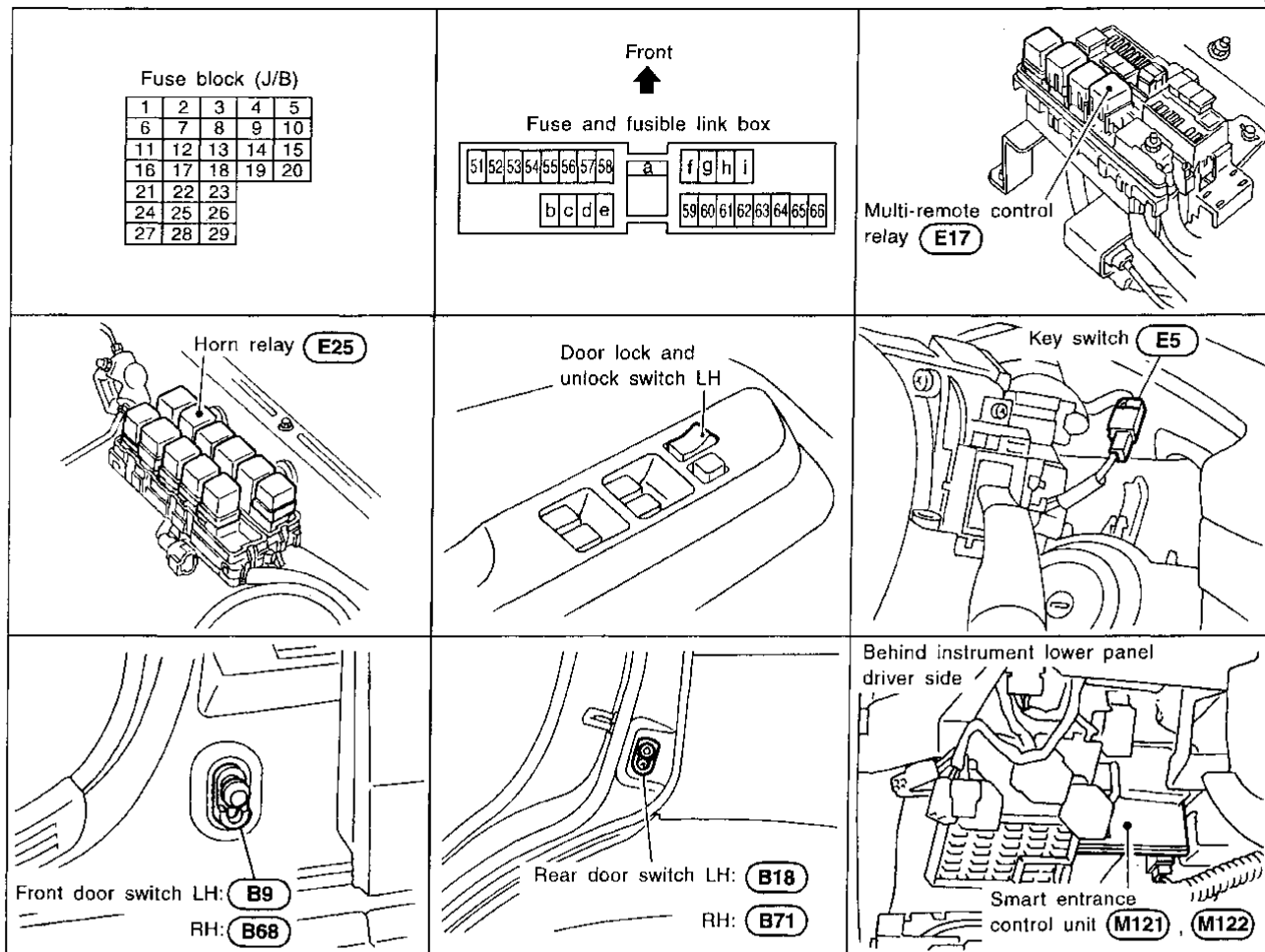
OK	▶	Check harness for open or short between control unit connector and door lock actuator.
NG	▶	Replace door lock actuator.

# MULTI-REMOTE CONTROL SYSTEM

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL011



SEL073W

## System Description

NAEL0112

NAEL0112S01

### INPUTS

Power is supplied at all times

- to key switch terminal 2
- through 7.5A fuse [No. 24, 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 LH is OPEN, ground is supplied

- to smart entrance control unit terminal 29
- through front door switch LH terminal 1
- to front door switch LH terminal 2
- through body grounds B11, B22 and D210.

When the front door switch RH is OPEN, ground is supplied

- to smart entrance control unit terminal 40
- through front door switch RH body ground.

When the other door switches are OPEN, ground is supplied

- to smart entrance control unit terminal 28
- through other door switches body grounds.

# MULTI-REMOTE CONTROL SYSTEM

System Description (Cont'd)

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
- interior lamp
- panic alarm
- hazard and horn reminder

## OPERATED PROCEDURE

### Power Door Lock Operation

Smart entrance control unit receives a LOCK signal from remote controller. Smart entrance control unit locks all doors with input of LOCK signal from remote controller.

When an UNLOCK signal is sent from remote controller once, driver's door will be unlocked.

Then, if an UNLOCK signal is sent from remote controller again within 5 seconds, all other door will be unlocked.

### Hazard and Horn Reminder

Power is supplied at all times

- to multi-remote control relay terminals 1, 3 and 6
- through 15A fuse [No. 20, located in the fuse block (J/B)], and
- to horn relay terminal 2
- through 10A fuse (No. 54, located in the fusible link and fuse box)

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, and
- to horn relay terminal 1
- through smart entrance control unit terminal 19

Multi-remote control relay and horn relay are now energized, and hazard warning lamp flashes and horn sounds as a reminder.

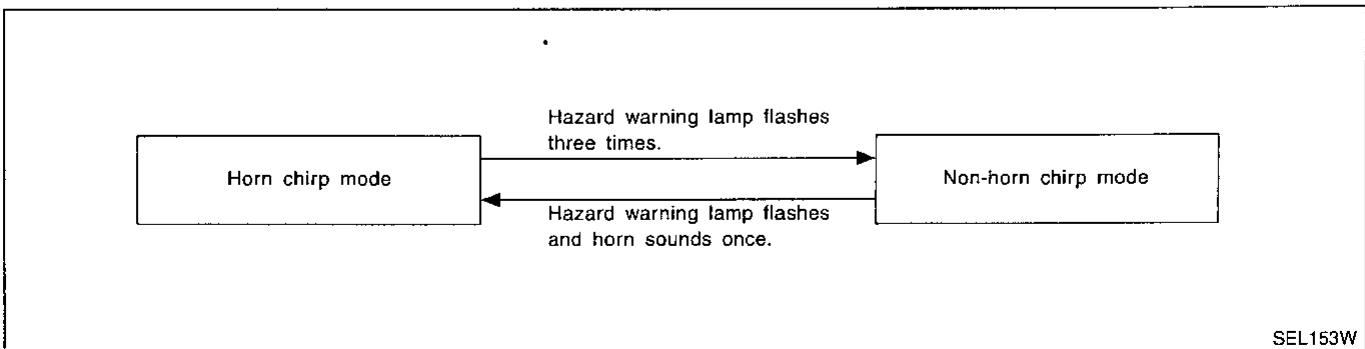
The hazard and horn reminder has a horn chirp mode and a non-horn chirp mode.

### Operating function of hazard and horn reminder

	Horn chirp mode		Non-horn chirp mode	
	Hazard warning lamp flash	Horn sound	Hazard warning lamp flash	Horn sound
Lock	Twice	Once	Twice	—
Unlock	Once	—	—	—

### How to change hazard and horn reminder mode

When LOCK and UNLOCK signals are sent from the remote controller for more than 2 seconds at the same time, the hazard and horn reminder mode is changed and hazard warning lamp flashes and horn sounds as follows:



# MULTI-REMOTE CONTROL SYSTEM

*System Description (Cont'd)*

---

## **Interior Lamp Operation**

NAEL0112S0202

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 (for 30 seconds) with input of UNLOCK signal from remote controller.

For detailed description, refer to "INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS" (EL-72).

## **Panic Alarm Operation**

NAEL0112S0203

When key switch is OFF (when ignition key is not inserted in key cylinder), multi-remote control system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from remote controller.

For detailed description, refer to "THEFT WARNING SYSTEM" (EL-229).

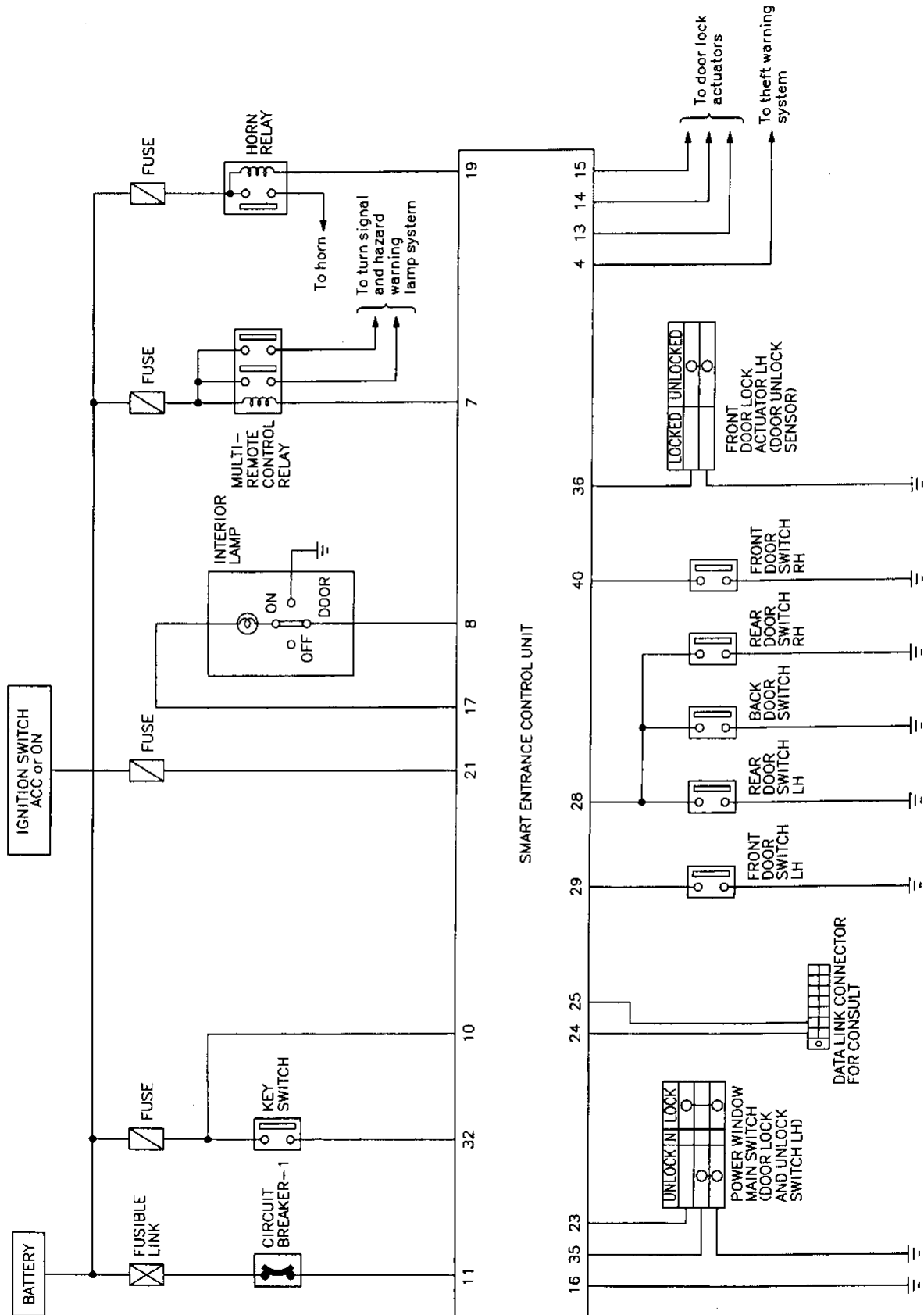
# MULTI-REMOTE CONTROL SYSTEM

Schematic

## Schematic

GI  
MA  
EM  
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NAEL0113



EL

MEL987J

IDX

# MULTI-REMOTE CONTROL SYSTEM

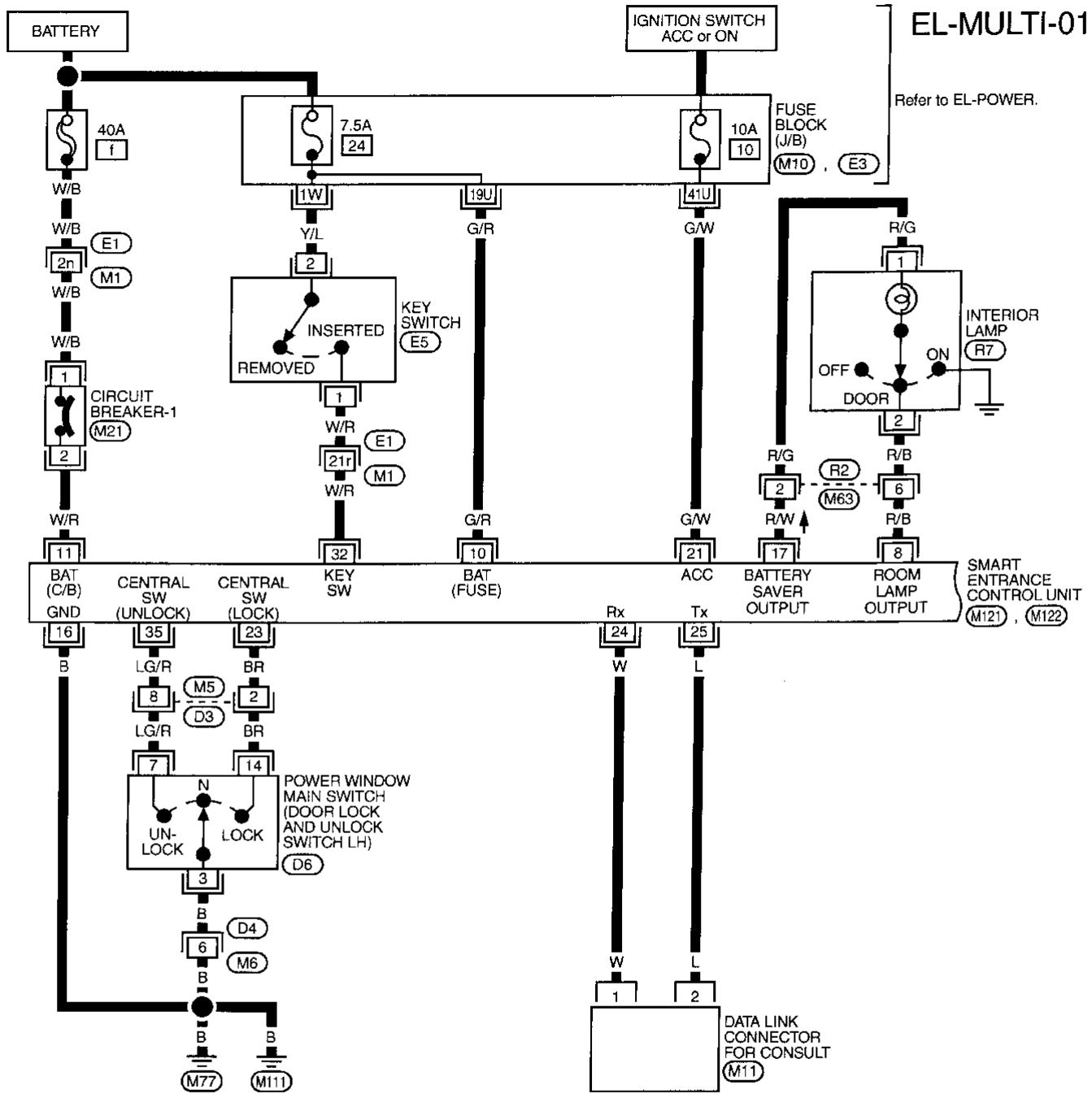
Wiring Diagram — MULTI —

## Wiring Diagram — MULTI —

NAEL0114

NAEL0114S01

FIG. 1



Refer to last page (Foldout page).

(M1), (E1)

(M10)

(E3)

(E5)

(BR)

(H.S.)

(D3)

(D4)

(D6)

(R2)

(R7)

(W)

(W)

(W)

MEL988J

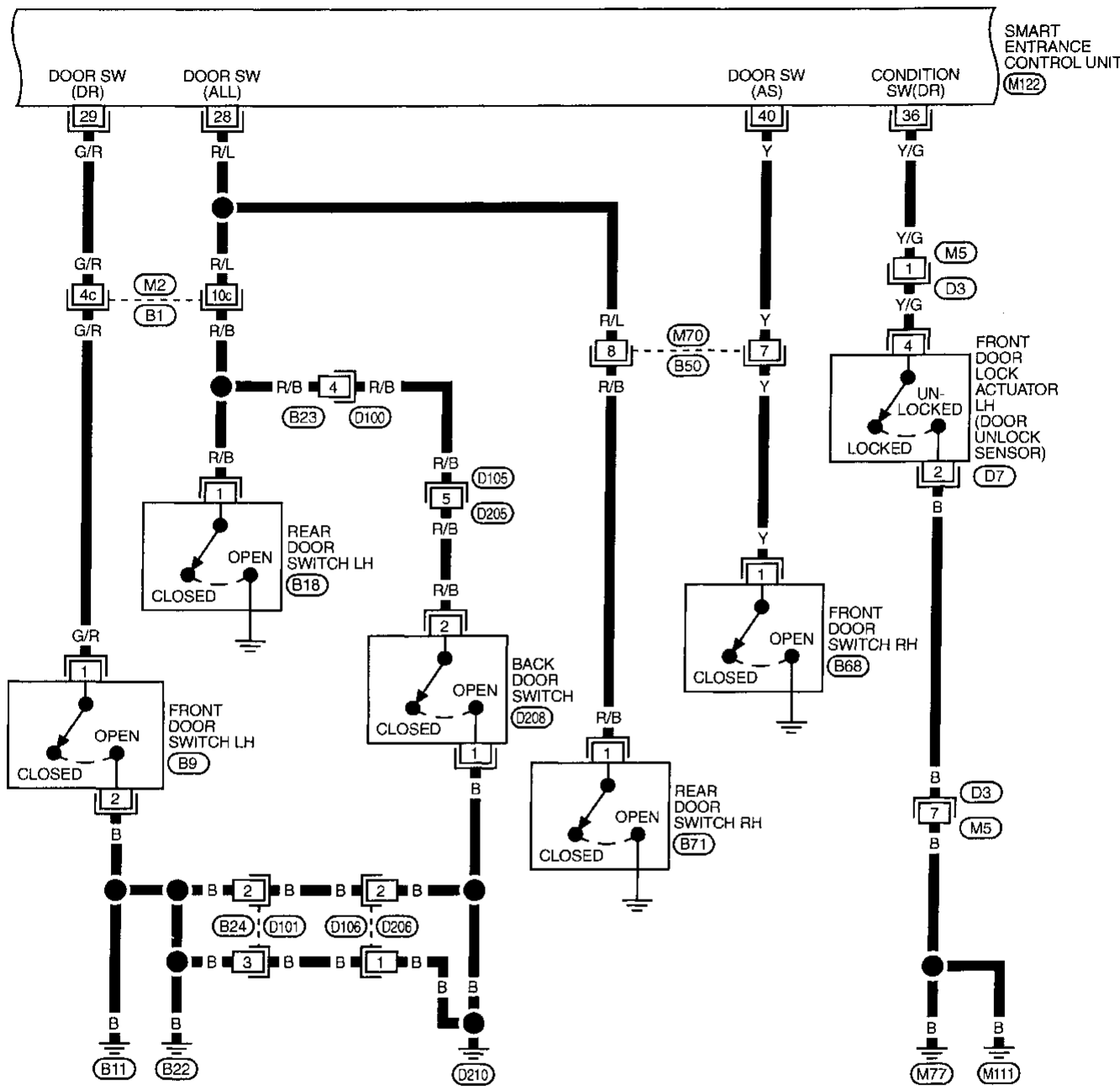
# MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

FIG. 2

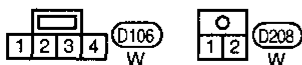
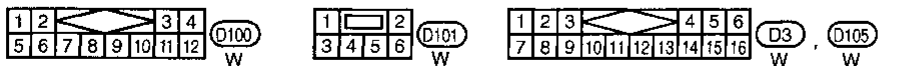
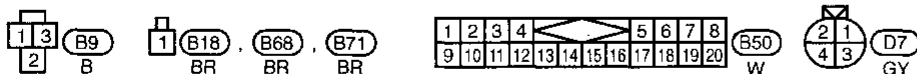
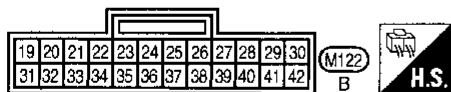
NAEL0114502

EL-MULTI-02



Refer to last page (Foldout page).

M2, B1



GI  
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TF  
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EL

IDX

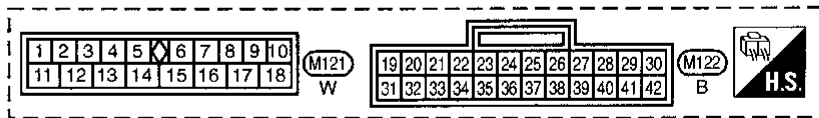
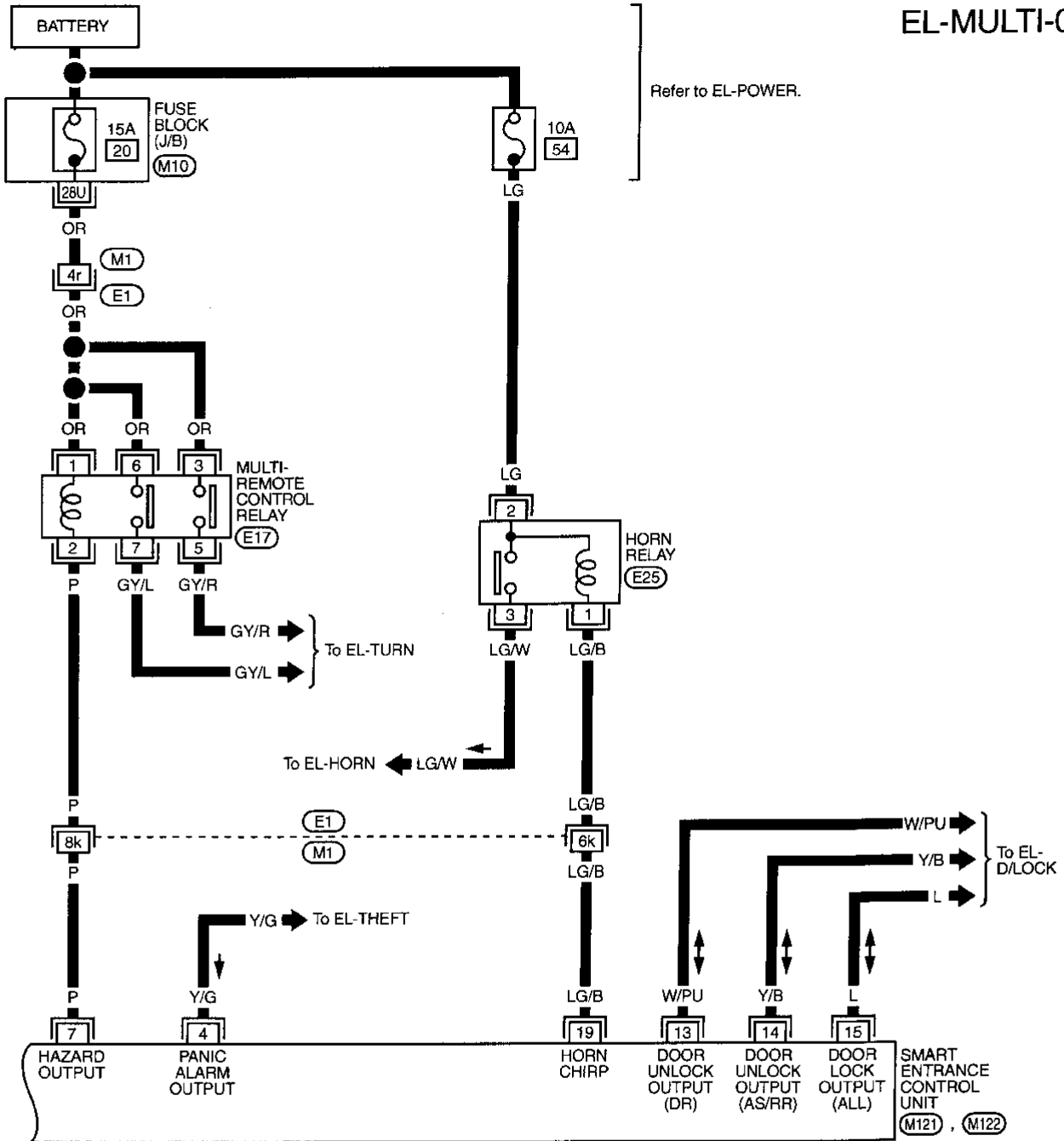
# MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

FIG. 3

NAEL0114S03

EL-MULTI-03



Refer to last page (Foldout page).

(M1), (E1)  
(M10)



# MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses

## Trouble Diagnoses SYMPTOM CHART

NAEL0115

NAEL0115S01

### NOTE:

- Always check remote controller battery before replacing remote controller.
- The panic alarm operation of multi-remote control system does 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 check	216
	2. Power supply and ground circuit for control unit check	217
	3. Replace remote controller. Refer to ID Code Entry Procedure.	226
The new ID of remote controller cannot be entered.	1. Remote controller battery check	216
	2. Key switch (insert) check	219
	3. Door switch check	218
	4. Door lock/unlock switch LH check	220
	5. Power supply and ground circuit for control unit check	217
	6. Replace remote controller. Refer to ID Code Entry Procedure.	226
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-200.)	1. Replace remote controller. Refer to ID Code Entry Procedure.	226
Hazard and horn reminder does not activate properly when pressing lock or unlock button of remote controller.	1. Hazard reminder check	222
	2. Horn reminder check* *: Horn chirp can be activated or deactivated. First check the horn chirp setting. Refer to "System Description", EL-208.	223
	3. Door switch check	218
	4. Replace remote controller. Refer to ID Code Entry Procedure.	226
Interior lamp operation does not activate properly.	1. Interior room lamp operation check	223
	2. Key switch (insert) check	219
	3. Door switch check	218
	4. Front LH door unlock sensor check	221
	5. Replace remote controller. Refer to ID Code Entry Procedure.	226
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed.	1. Theft warning operation check. Refer to "PRELIMINARY CHECK" in "THEFT WARNING SYSTEM".	240
	2. Key switch (insert) check	219
	3. Replace remote controller. Refer to ID Code Entry Procedure.	226

# MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

## REMOTE CONTROLLER BATTERY CHECK

#NAEL0115S02

1 CHECK REMOTE CONTROLLER BATTERY	
<p>Remove battery (refer to EL-227) and measure voltage across battery positive and negative terminals, (+) and (-).</p> <p><b>Voltage [V]:</b> 2.5 - 3.0</p> <p><b>NOTE:</b> Remote controller does not function if battery is not set correctly.</p> <div><p>The diagram shows a battery connected to a 300Ω resistor. A voltmeter (V) is connected in parallel across the resistor. The positive terminal of the battery is labeled 'Stamped (+)'.</p></div> <p style="text-align: right;">SEL277V</p>	
<b>OK or NG</b>	
OK	▶ Check remote controller battery terminals for corrosion or damage.
NG	▶ Replace battery.

# MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

## POWER SUPPLY AND GROUND CIRCUIT CHECK

=NAEL0115304

<b>1</b>	<b>CHECK MAIN POWER SUPPLY CIRCUIT FOR CONTROL UNIT</b>
<p>1. Disconnect connector from control unit. 2. Check voltage between control unit terminal 10 or 11 and ground.</p>	
SEL156W	
Refer to wiring diagram in EL-212.	
<b>Does battery voltage exist?</b>	
Yes	▶ GO TO 2.
No	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● 40A fusible link (letter f, located in fuse and fusible link box)</li> <li>● 7.5A fuse [No. 24, located in fuse block (J/B)]</li> <li>● M21 circuit breaker</li> <li>● Harness for open or short between control unit and fuse</li> </ul>

<b>2</b>	<b>CHECK IGNITION SWITCH "ACC" CIRCUIT</b>
<p>1. Disconnect control unit connector. 2. Check voltage between control unit terminal 21 and ground while ignition switch is "ACC".</p>	
SEL885VA	
Refer to wiring diagram in EL-212.	
<b>Does battery voltage exist?</b>	
Yes	▶ GO TO 3.
No	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● 10A fuse [No. 10, located in fuse block (J/B)]</li> <li>● Harness for open or short between control unit and fuse</li> </ul>

<b>3</b>	<b>CHECK GROUND CIRCUIT FOR CONTROL UNIT</b>
Check continuity between terminal 16 and ground.	
SEL791VA	
Refer to wiring diagram in EL-212.	
<b>Does continuity exist?</b>	
Yes	▶ Power supply and ground circuits are OK.
No	▶ Check ground harness.

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SC  
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IDX

# MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

## DOOR SWITCH CHECK

NAEL0115S05

**1**

**CHECK DOOR SWITCH INPUT SIGNAL**

Check voltage between control unit terminals 28, 29 or 40 and ground.

SEL886VA

	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door switch	29	ground	Open	0
			Closed	Approx. 5
Front RH door switch	40	ground	Open	0
			Closed	Approx. 5
Rear and back door switches	28	ground	Open	0
			Closed	Approx. 5

MTBL0273

Refer to wiring diagram in EL-213.

**OK or NG**

OK	▶	Door switch is OK.
NG	▶	GO TO 2.

**2**

**CHECK DOOR SWITCH**

1. Disconnect door switch connector.
2. Check continuity between door switch terminals.

SEL066W

SEL066W

Door switch connector  
Front RH : (B68)  
Rear LH : (B18)  
Rear RH : (B71)

SEL066W

	Terminals	Condition	Continuity
Front LH door switch	1 - 2	Closed	No
		Open	Yes
Back door switch	2 - 1	Closed	No
		Open	Yes
Front RH and rear door switches	1 - ground	Closed	No
		Open	Yes

MTBL0274

**OK or NG**

OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Door switch ground circuit (Front, back door) or door switch ground condition</li> <li>• Harness for open or short between control unit and door switch</li> </ul>
NG	▶	Replace door switch.

# MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

## KEY SWITCH (INSERT) CHECK

#NAEL015S07

GI

MA

EM

LC

EC

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

<b>1</b>	<b>CHECK KEY SWITCH INPUT SIGNAL</b>						
<p>Check voltage between control unit terminal 32 and ground.</p> <p>Smart entrance control unit connector (M122)</p> <p>W/R</p> <p>Voltmeter (V)</p> <p>CONNECT H.S.</p> <p>DISCONNECT</p> <p>Approx. 12V</p> <p>0V</p> <p>SEL783VA</p> <p><b>Voltage [V]:</b>          Condition of key switch: Key is inserted.          Approx. 12          Condition of key switch: Key is removed.          0</p> <p>Refer to wiring diagram in EL-212.</p> <p style="text-align: center;"><b>OK or NG</b></p> <table border="1"> <tr> <td>OK</td> <td>▶</td> <td>Key switch is OK.</td> </tr> <tr> <td>NG</td> <td>▶</td> <td>GO TO 2.</td> </tr> </table>		OK	▶	Key switch is OK.	NG	▶	GO TO 2.
OK	▶	Key switch is OK.					
NG	▶	GO TO 2.					

<b>2</b>	<b>CHECK KEY SWITCH (INSERT)</b>						
<p>Check continuity between terminals 1 and 2.</p> <p>Key switch connector (E5)</p> <p>W/R</p> <p>Key switch connector (E5)</p> <p>Ω</p> <p>CONNECT T.S.</p> <p>DISCONNECT</p> <p>SEL784VA</p> <p><b>Continuity:</b>          Condition of key switch: Key is inserted.          Yes          Condition of key switch: Key is removed.          No</p> <p style="text-align: center;"><b>OK or NG</b></p> <table border="1"> <tr> <td>OK</td> <td>▶</td> <td> <p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• 7.5A fuse [No. 24, located in fuse block (J/B)]</li> <li>• Harness for open or short between key switch and fuse</li> <li>• Harness for open or short between control unit and key switch</li> </ul> </td> </tr> <tr> <td>NG</td> <td>▶</td> <td>Replace key switch.</td> </tr> </table>		OK	▶	<p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• 7.5A fuse [No. 24, located in fuse block (J/B)]</li> <li>• Harness for open or short between key switch and fuse</li> <li>• Harness for open or short between control unit and key switch</li> </ul>	NG	▶	Replace key switch.
OK	▶	<p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>• 7.5A fuse [No. 24, located in fuse block (J/B)]</li> <li>• Harness for open or short between key switch and fuse</li> <li>• Harness for open or short between control unit and key switch</li> </ul>					
NG	▶	Replace key switch.					

# MULTI-REMOTE CONTROL SYSTEM

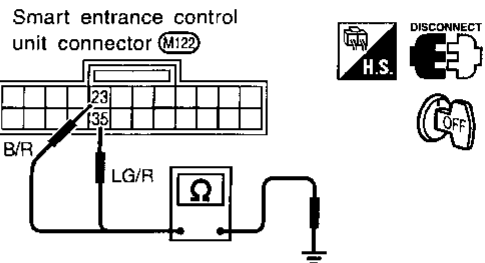
Trouble Diagnoses (Cont'd)

## DOOR LOCK/UNLOCK SWITCH LH CHECK

=NAEL015S10

### 1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

1. Disconnect control unit connector.
2. Check continuity between control unit terminal 23 or 35 and ground.



SEL875VB

Terminals	Door lock/unlock switch LH condition	Continuity
23 - ground	Lock	Yes
	N and Unlock	No
35 - ground	Unlock	Yes
	N and Lock	No

MTBL0278

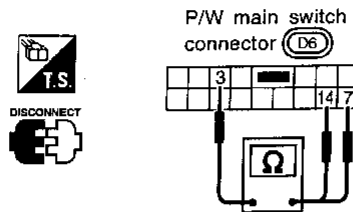
Refer to wiring diagram in EL-212.

#### 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 connector.
2. Check continuity between each door lock/unlock switch terminals.
  - Power window main switch (Door lock/unlock switch LH)



SEL067W

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

MTBL0265

#### OK or NG

OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Ground circuit for door lock/unlock switch</li> <li>• Harness for open or short between door lock/unlock switch and control unit connector</li> </ul>
NG	▶	Replace door lock/unlock switch.

# MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

## FRONT LH DOOR UNLOCK SENSOR CHECK

-NAEL0115S06

GI  
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EL  
IDX

**1 CHECK FRONT LH DOOR UNLOCK SENSOR INPUT SIGNAL**

Check voltage between control unit terminal 36 and ground.

Smart entrance control unit connector (M122)

Y/G

SEL074W

	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door	36	Ground	Locked	Approx. 5
			Unlocked	0

MTBL0275

Refer to wiring diagram in EL-213.

**OK or NG**

OK	▶	Door unlock sensor is OK.
NG	▶	GO TO 2.

**2 CHECK FRONT LH DOOR UNLOCK SENSOR**

1. Disconnect front LH door unlock sensor connector.
2. Check continuity between door unlock sensor terminals.

Front LH door lock actuator connector

SEL247VD

**Continuity:**  
**Condition: Locked**  
 No  
**Condition: Unlocked**  
 Yes

**OK or NG**

OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Door unlock sensor ground circuit</li> <li>• Harness for open or short between control unit and door unlock sensor</li> </ul>
NG	▶	Replace door unlock sensor.

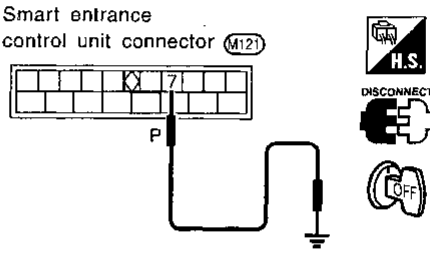
# MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

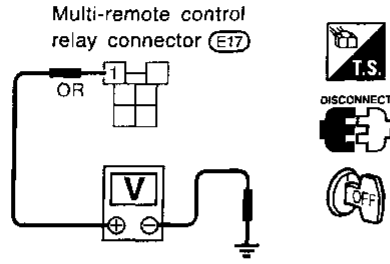
## HAZARD REMINDER CHECK

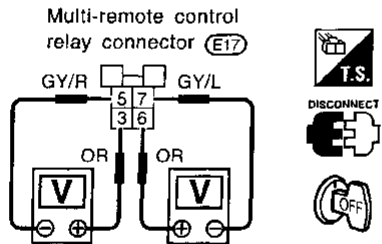
-NAEL0115S08

<b>1</b>	<b>CHECK HAZARD INDICATOR</b>
Check if hazard indicator flashes with hazard switch.	
<b>Does hazard indicator operate?</b>	
Yes	▶ GO TO 2.
No	▶ Check "hazard indicator" circuit.

<b>2</b>	<b>CHECK HAZARD REMINDER OPERATION</b>
1. Disconnect control unit connector. 2. Apply ground to control unit terminal 7.	
 <p>Smart entrance control unit connector (M121)</p> <p>Refer to wiring diagram in EL-214.</p> <p style="text-align: right;">SEL890VA</p>	
<b>Does hazard indicator illuminate?</b>	
Yes	▶ Replace smart entrance control unit.
No	▶ GO TO 3.

<b>3</b>	<b>CHECK MULTI-REMOTE CONTROL RELAY</b>
Check multi-remote control relay.	
<b>OK or NG</b>	
OK	▶ GO TO 4.
NG	▶ Replace multi-remote control relay.

<b>4</b>	<b>CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY</b>
1. Disconnect multi-remote control relay connector. 2. Check voltage between terminal 1 and ground.	
 <p>Multi-remote control relay connector (E17)</p> <p style="text-align: right;">SEL244V</p>	
<b>Does battery voltage exist?</b>	
Yes	▶ GO TO 5.
No	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>• 15A fuse [No. 20, located in fuse block (J/B)]</li> <li>• Harness for open or short between multi-remote control relay and fuse</li> </ul>

<b>5</b>	<b>CHECK MULTI-REMOTE CONTROL RELAY CIRCUIT</b>
1. Disconnect multi-remote control relay connector. 2. Check voltage between terminals 3 and 5. 3. Check voltage between terminals 6 and 7.	
 <p>Multi-remote control relay connector (E17)</p> <p style="text-align: right;">SEL245V</p>	
<b>Battery voltage should exist.</b>	
<b>OK or NG</b>	
OK	▶ Check harness for open or short between control unit and multi-remote control relay.
NG	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>• Harness for open or short between multi-remote control relay and fuse</li> <li>• Harness for open or short between multi-remote control relay and turn signal lamps</li> </ul>



# MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

## HORN REMINDER CHECK

=NAEL0115S11

<b>1</b>	<b>CHECK HORN</b>
Check if horn sounds with horn switch.	
<b>Does horn operate?</b>	
Yes	▶ GO TO 2.
No	▶ Check horn circuit.

<b>2</b>	<b>CHECK HORN REMINDER OPERATION</b>
1. Disconnect control unit connector. 2. Apply ground to control unit terminal 19.	
Refer to wiring diagram in EL-214.	
<b>Does horn sound?</b>	
Yes	▶ Replace smart entrance control unit.
No	▶ Check harness for open or short between control unit and horn relay.

## INTERIOR ROOM LAMP OPERATION CHECK

NAEL0115S09

<b>1</b>	<b>CHECK INTERIOR ROOM LAMP</b>
Check if the interior room lamp switch is in the "ON" position and the lamp illuminates.	
<b>Does interior room lamp illuminate?</b>	
Yes	▶ GO TO 2.
No	▶ <b>Check the following.</b> • Harness for open or short between control unit and interior room lamp • Interior room lamp

<b>3</b>	<b>CHECK CONTROL UNIT OUTPUT</b>
Push unlock button of remote controller with all doors closed, and check voltage across control unit terminal 8 and ground.	
<b>Voltage (V):</b> Unlock button is pushed. 0 (For approx. 30 seconds.) Unlock button is not pushed. Battery voltage	
<b>OK or NG</b>	
OK	▶ Check system again.
NG	▶ Replace smart entrance control unit.

<b>2</b>	<b>CHECK INTERIOR ROOM LAMP CIRCUIT</b>
When interior room lamp switch is "DOOR" position, check voltage across control unit terminal 8 and ground.	
Refer to wiring diagram in EL-212.	
<b>Does battery voltage exist?</b>	
Yes	▶ GO TO 3.
No	▶ Repair harness between control unit and interior room lamp.

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# MULTI-REMOTE CONTROL SYSTEM

CONSULT

## CONSULT

NAEL0169

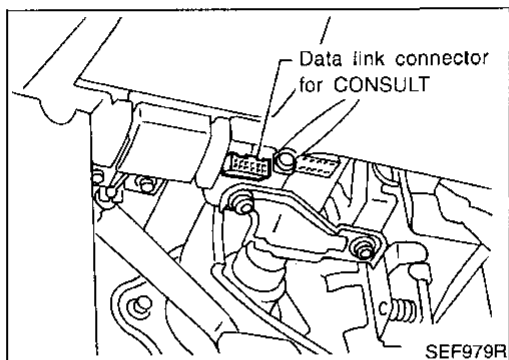
### CONSULT REMOTE CONTROLLER ID SET UP PROCEDURE

NAEL0169S01

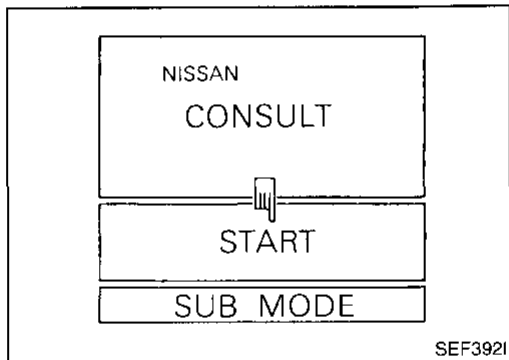
#### NOTE:

When a customer loses the remote controller, it is recommended to erase the ID code of the lost remote controller to prevent someone from using the lost remote controller. When the ID code of lost remote controller cannot be specified, all ID codes which have been registered should be erased. It will then be necessary to register the ID codes for the remaining remote controller.

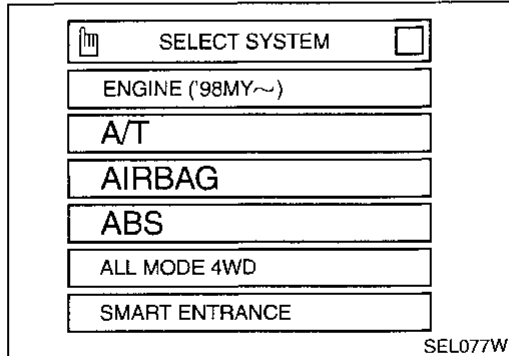
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.



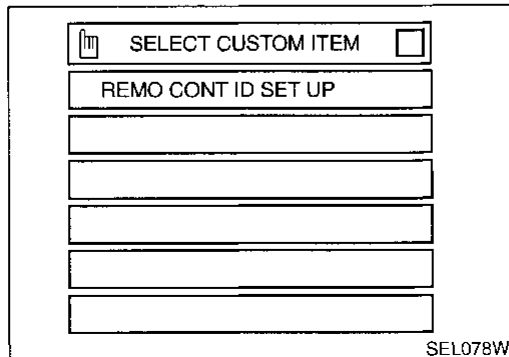
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "REMO CONT ID SET UP".



# MULTI-REMOTE CONTROL SYSTEM

CONSULT (Cont'd)

SEL079W

7. The items shown on the figure at left can be set up.

- "REMO CONT ID CONFIR"  
This mode can be confirmed whether remote controller ID code is registered or not.
- "REMO CONT ID REGIST"  
Remote controller ID code can be registered.

**NOTE:**

**Enter the ID code when remote controller or smart entrance control unit is replaced and additional remote controller is activated.**

- "REMO CONT ID ERASUR"  
Remote controller ID code can be erased.

GI

MA

EM

LC

EC

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

**EL**

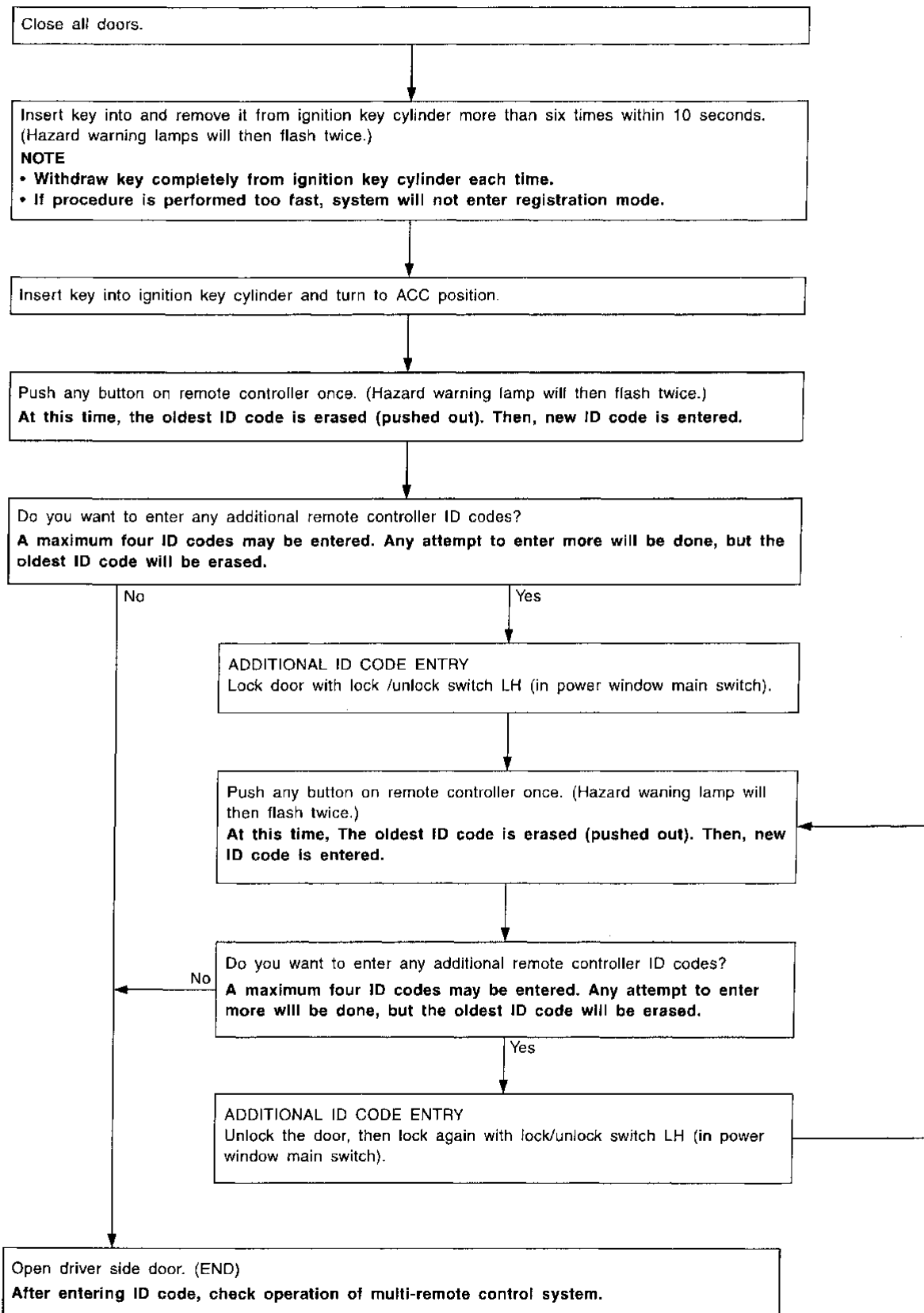
IDX

# MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Without CONSULT)

## ID Code Entry Procedure (Without CONSULT)

NAEL0117



SEL076W

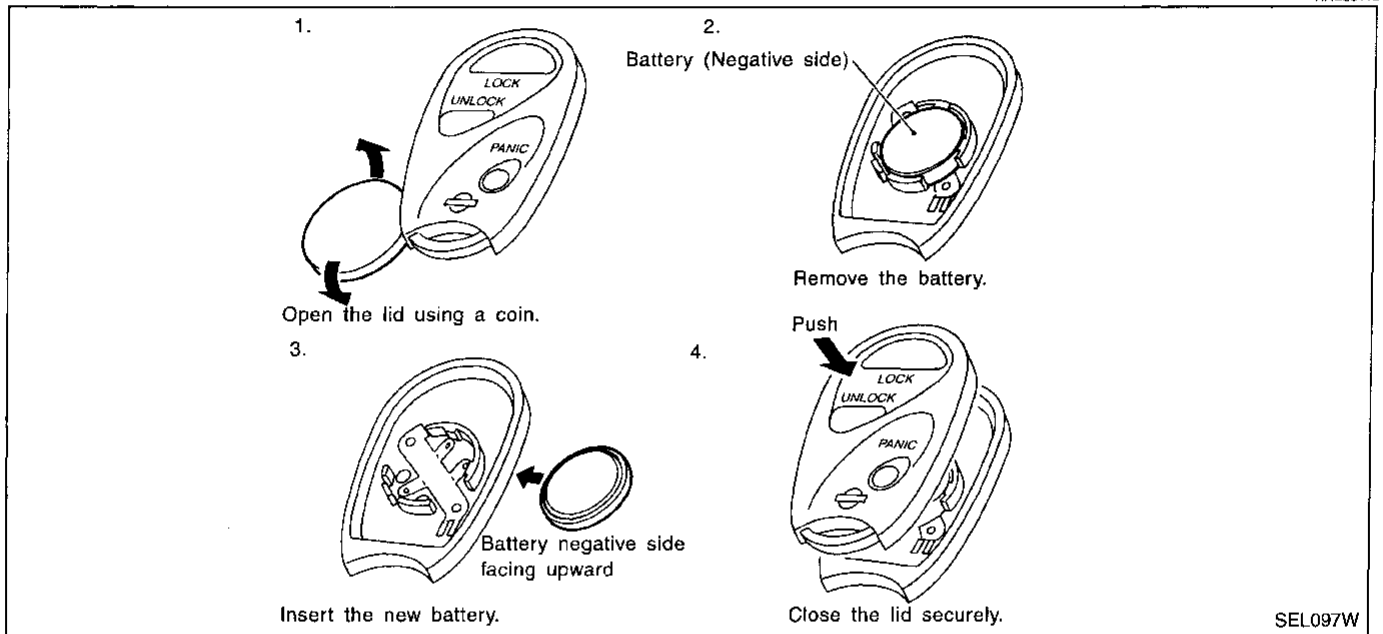
# MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Without CONSULT) (Cont'd)

## NOTE:

- When a customer loses the remote controller, it is recommended to erase the ID code of the lost remote controller to prevent someone from using the lost remote controller. When the ID code of lost remote controller cannot be specified, all ID codes which have been registered should be erased. It will then be necessary to register the ID codes for the remaining remote controller.
- 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 the 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 one code.

## Remote Controller Battery Replacement



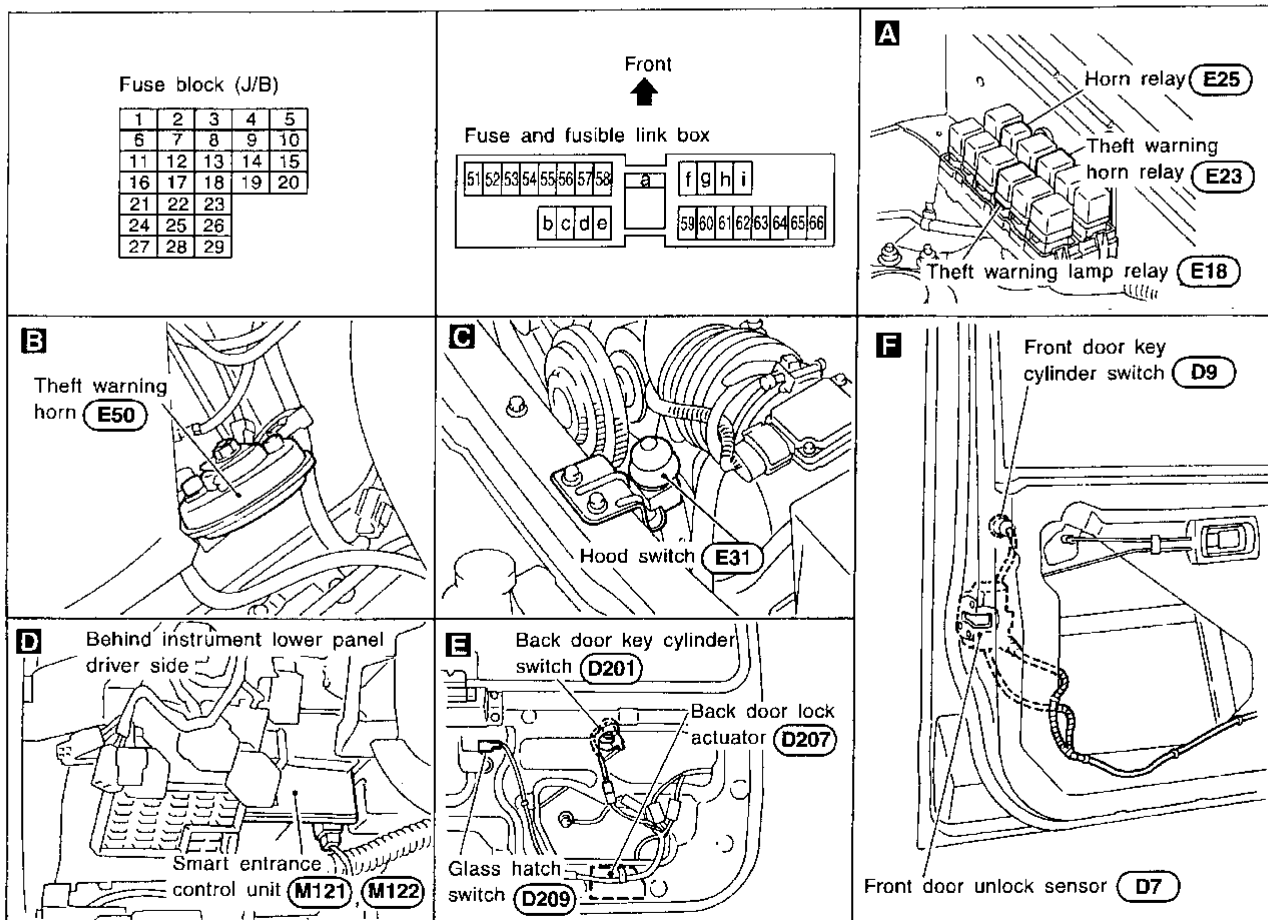
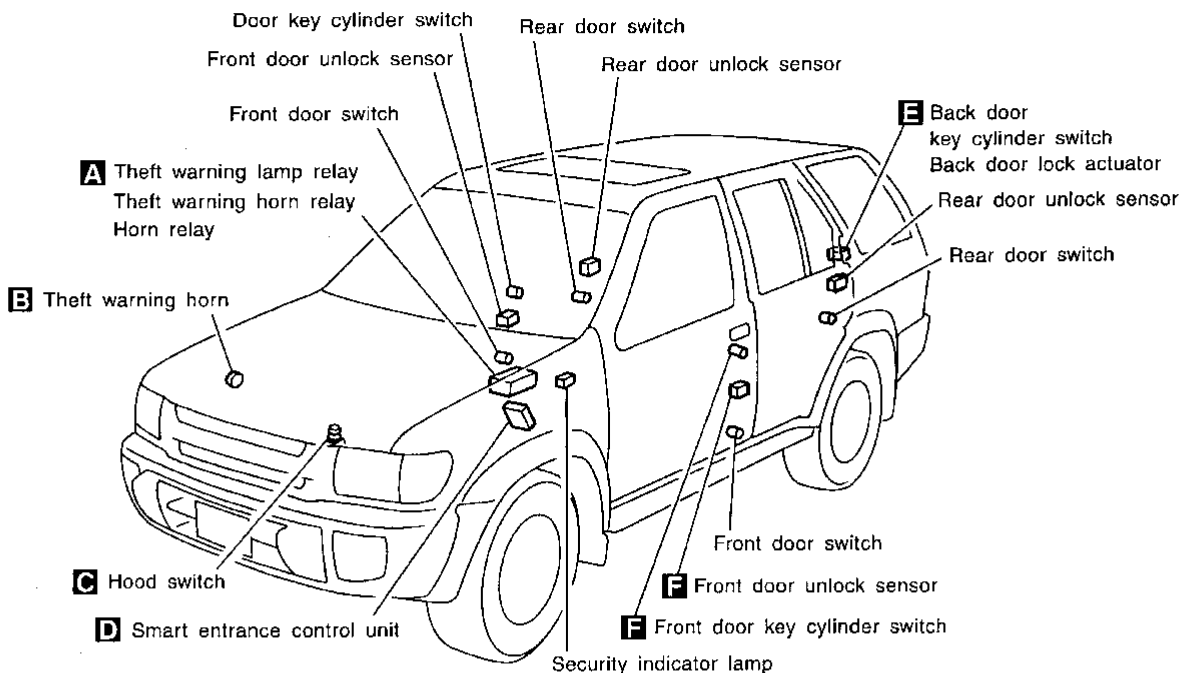
GI  
MA  
EM  
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FE  
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TF  
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SU  
BR  
ST  
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BT  
HA  
SC  
EL  
IDX

# THEFT WARNING SYSTEM

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0119

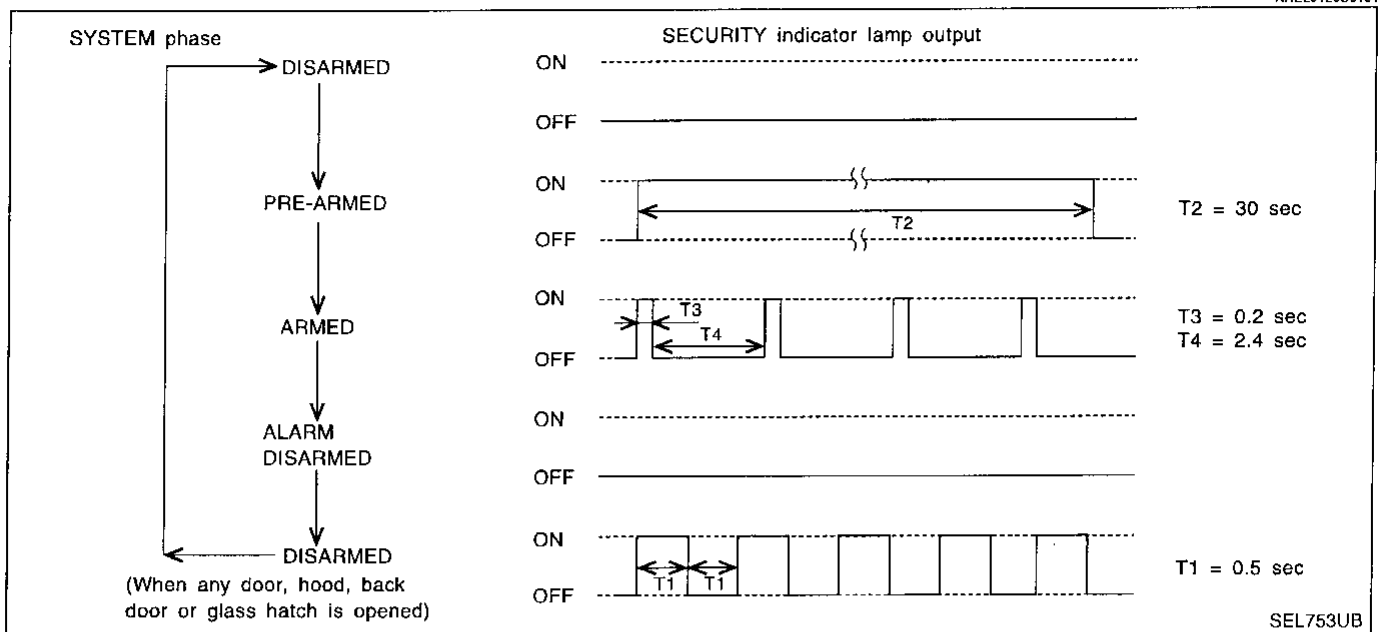


SEL080W

## System Description

### DESCRIPTION

#### 1. Operation Flow



#### 2. Setting The Theft Warning System

##### Initial condition

- 1) Close all doors.
- 2) Close hood and glass hatch.

##### Disarmed phase

The theft warning system is in the disarmed phase when any door(s), hood or glass hatch is opened. The security indicator lamp blinks every second.

##### Pre-armed phase and armed phase

The theft warning system turns into the "pre-armed" phase when hood, glass hatch and all doors are closed and the doors are locked by key or multi-remote controller. (The security indicator lamp illuminates.)

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

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 glass hatch with the key.

#### 4. Activating The Alarm Operation of The Theft Warning System

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 2.5 minutes.

- 1) Engine hood, glass hatch or any door is opened before unlocking door with key or multi-remote controller.
- 2) Door is unlocked without using key or multi-remote controller.

#### POWER SUPPLY AND GROUND

Power is supplied at all times

- through 7.5A fuse [No. 24, located in the fuse block (J/B)]
- to security indicator lamp terminal 1.

Power is supplied at all times

- through 40A fusible link (letter f, located in the fuse and fusible link box)
- to smart entrance control unit terminal 11.

# THEFT WARNING SYSTEM

## System Description (Cont'd)

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

- through 7.5A fuse [No. 11, 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. 10, 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 M77 and M111.

## INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the theft warning system is controlled by the doors, hood and glass hatch.

NAEL0120S02

To activate the theft warning system, the smart entrance control unit must receive signals indicating the doors, hood and glass hatch are closed and the doors are locked.

When a door is open, smart entrance control unit terminal 28, 29 or 40 receives a ground signal from each door switch.

When a door is unlocked, smart entrance control unit terminal 26, 36 or 37 receives a ground signal from terminal 4 of each door unlock sensor or terminal 3 of back door unlock sensor.

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 E13 and E41.

When the glass hatch is open, smart entrance control unit terminal 38 receives a ground signal

- from terminal 1 of the glass hatch switch
- through body grounds D210, B11 and B22.

When the doors are locked with key 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 (WITH KEY OR REMOTE CONTROLLER USED TO LOCK DOORS)

NAEL0120S03

If the key is used to lock doors, terminal 41 receives a ground signal

- from terminal 3 of the key cylinder switch LH
- from terminal 1 of the door key cylinder switch RH
- through body grounds M77 and M111 or M4 and M66
- from terminal 1 of the back door key cylinder switch
- through body grounds B11, B22 and D210.

If this signal or lock signal from remote controller is received by the smart entrance control unit, the theft warning system will activate automatically.

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 blink.

Now the theft warning system is in armed phase.

## THEFT WARNING SYSTEM ALARM OPERATION

NAEL0120S04

The theft warning system is triggered by

- opening a door
- opening the hood or the glass hatch
- unlocking door without using the key or multi-remote controller.

Once the theft warning system is in armed phase, if the smart entrance control unit receives a ground signal at terminal 26, 36, 37 (door unlock sensor), 28, 29, 40 (door switch), 38 (glass hatch switch) or 27 (hood switch), the theft warning system will be triggered. The headlamps flash and the horn sounds intermittently.

Power is supplied at all times

- through 7.5A fuse (No. 52, located in fuse and fusible link box)
- to theft warning lamp relay terminal 1 and
- to theft warning horn relay terminal 1.

When the theft warning system is triggered, ground is supplied intermittently

- from terminal 4 of the smart entrance control unit



# THEFT WARNING SYSTEM

System Description (Cont'd)

- to theft warning lamp relay terminal 2 and
- to theft warning horn relay terminal 2.

The headlamps flash and the horn sounds intermittently.

The alarm automatically turns off after 2 or 3 minutes but will reactivate if the vehicle is tampered with again.

## THEFT WARNING SYSTEM DEACTIVATION

To deactivate the theft warning system, a door, the back door or the glass hatch must be unlocked with the key or remote controller. NAEL0120S05

When the key is used to unlock the door, smart entrance control unit terminal 30 receives a ground signal

- from terminal 1 of the LH key cylinder switch
- from terminal 3 of the RH key cylinder switch
- from terminal 2 of the back door key cylinder switch.

When the key is used to open the glass hatch, smart entrance control unit terminal 42 receives a ground signal from terminal 3 of the back door 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 headlamps) as required. NAEL0120S06

When the multi-remote control system is triggered, ground is supplied intermittently.

- from smart entrance control unit terminal 4
- to theft warning lamp relay terminal 2 and
- to theft warning horn relay terminal 2.

The headlamp flashes and the horn sounds intermittently.

The alarm automatically turns off after 30 seconds or when smart entrance control unit receives any signal from multi-remote controller.

GI

MA

EM

LC

EC

FE

CL

MT

AT

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PD

AX

SU

BR

ST

RS

BT

HA

SC

EL

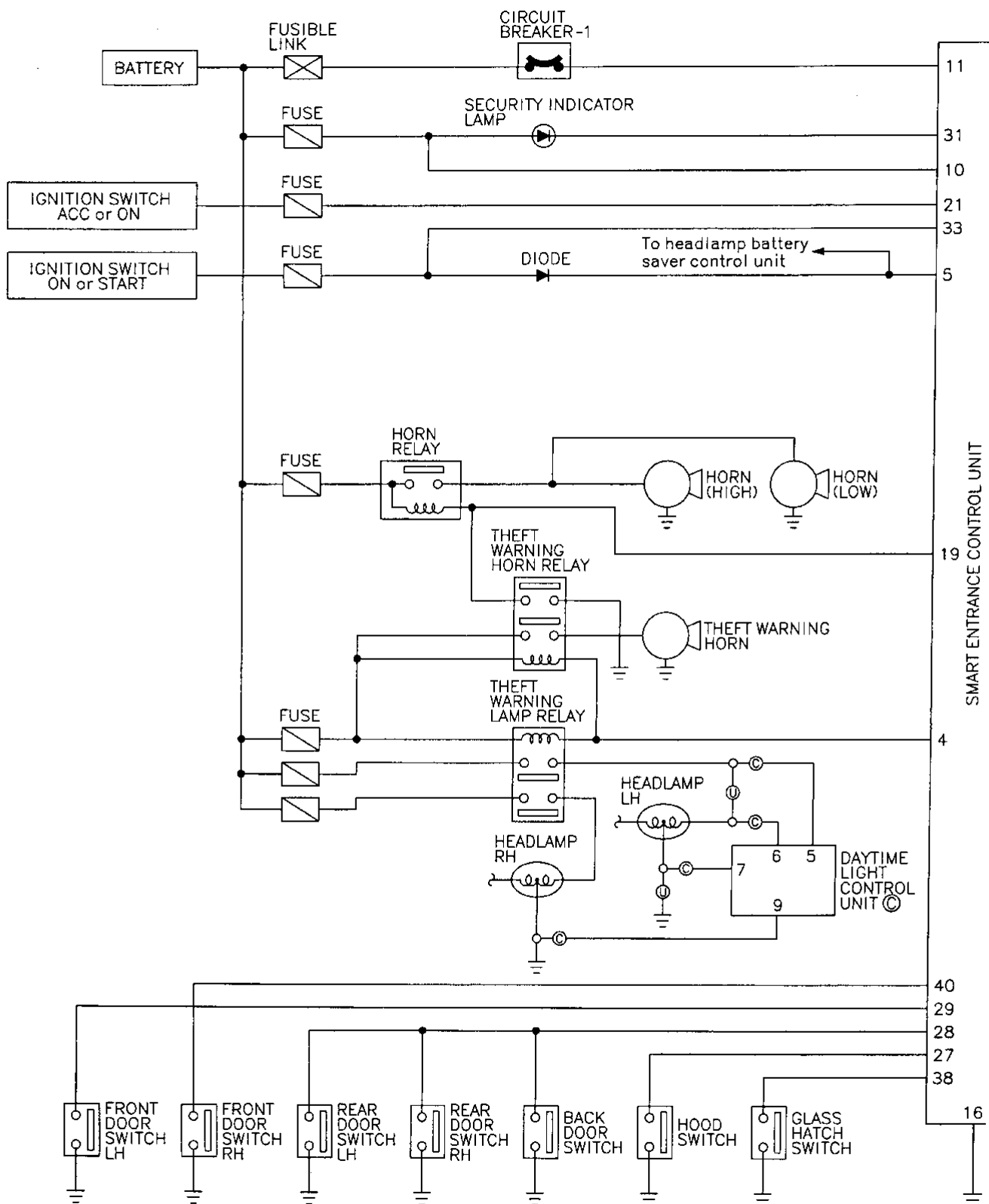
IDX

# THEFT WARNING SYSTEM

Schematic

## Schematic

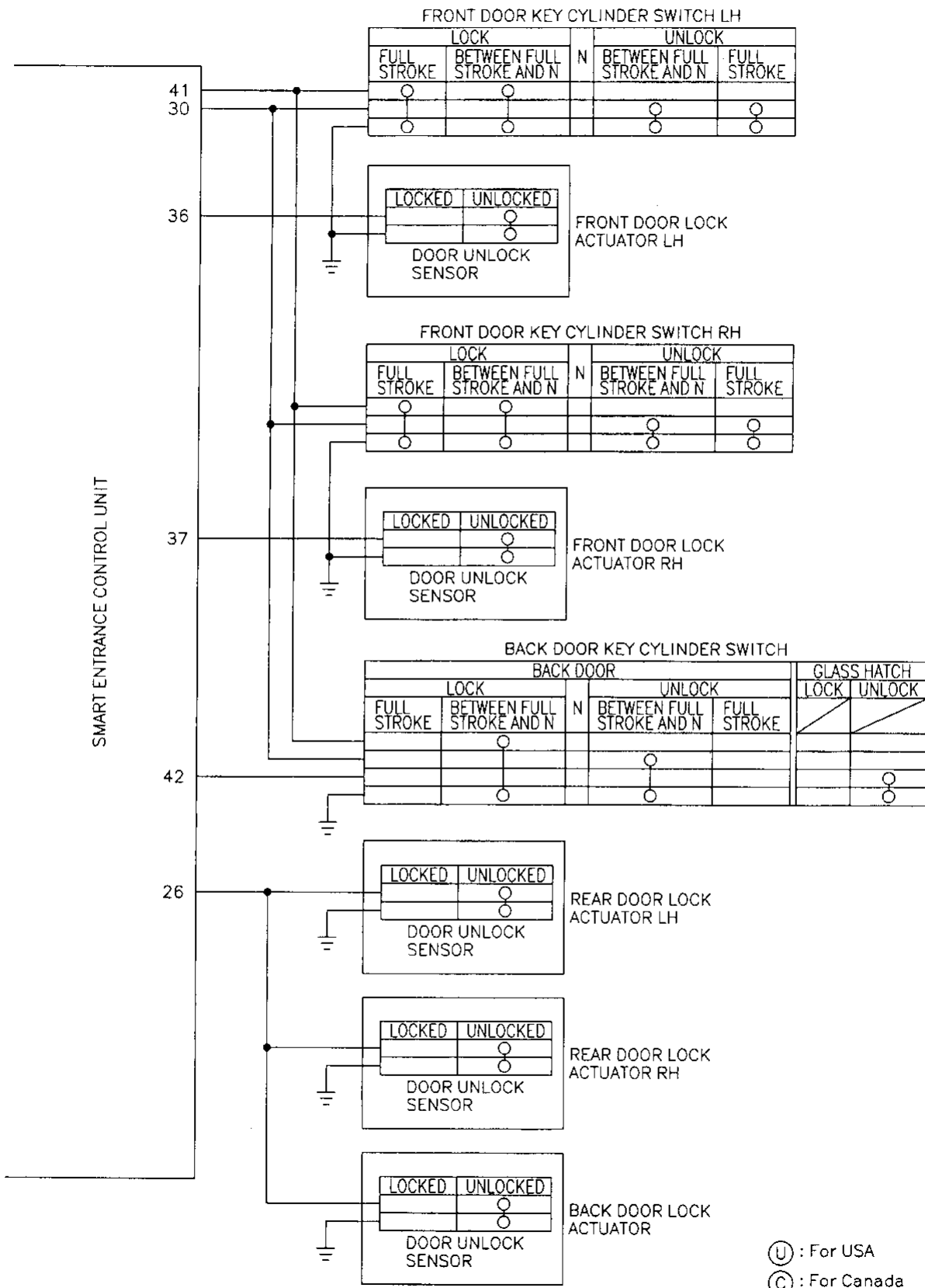
NAEL0121



MEL992J

# THEFT WARNING SYSTEM

Schematic (Cont'd)



Ⓢ : For USA  
 Ⓢ : For Canada

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

**EL**

MEL993J

IDX

# THEFT WARNING SYSTEM

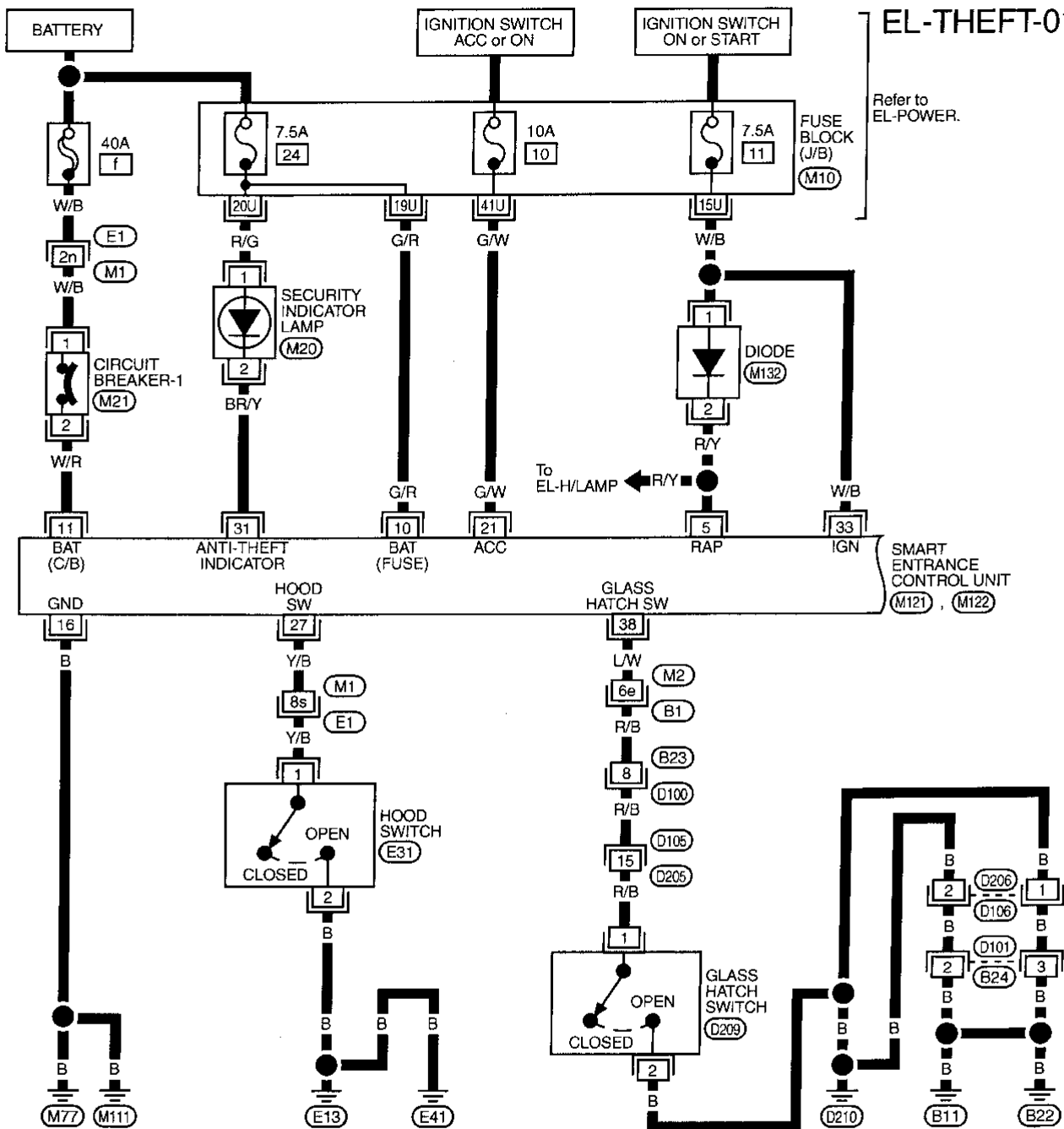
Wiring Diagram — THEFT —

## Wiring Diagram — THEFT —

NAEL0122

NAEL0122S01

FIG. 1



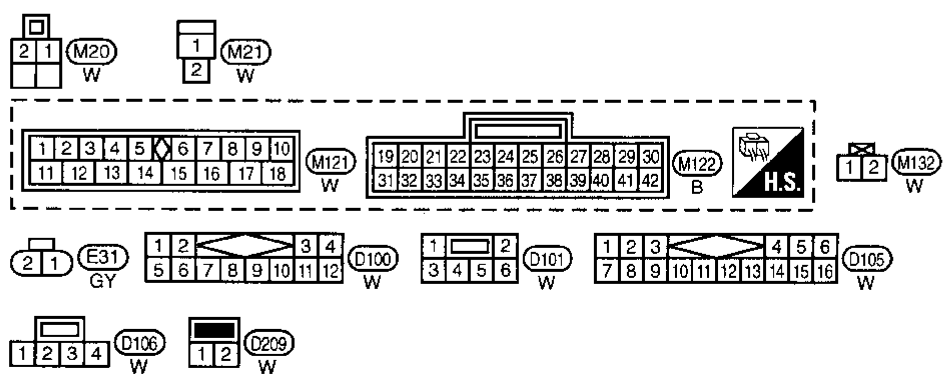
EL-THEFT-01

Refer to EL-POWER.

SMART ENTRANCE CONTROL UNIT (M121, M122)

Refer to last page (Foldout page).

- (M1), (E1)
- (M2), (B1)
- (M10)





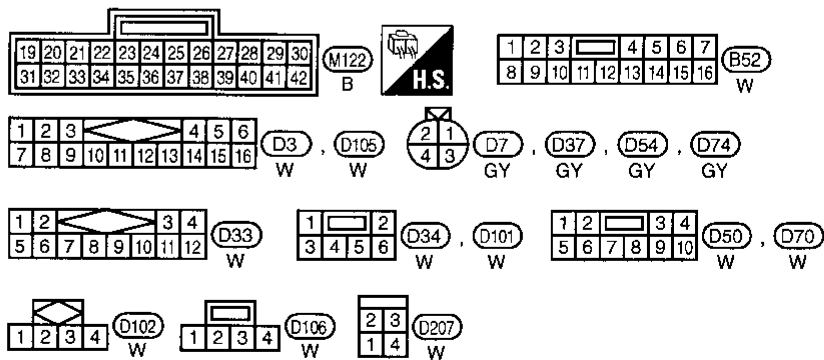
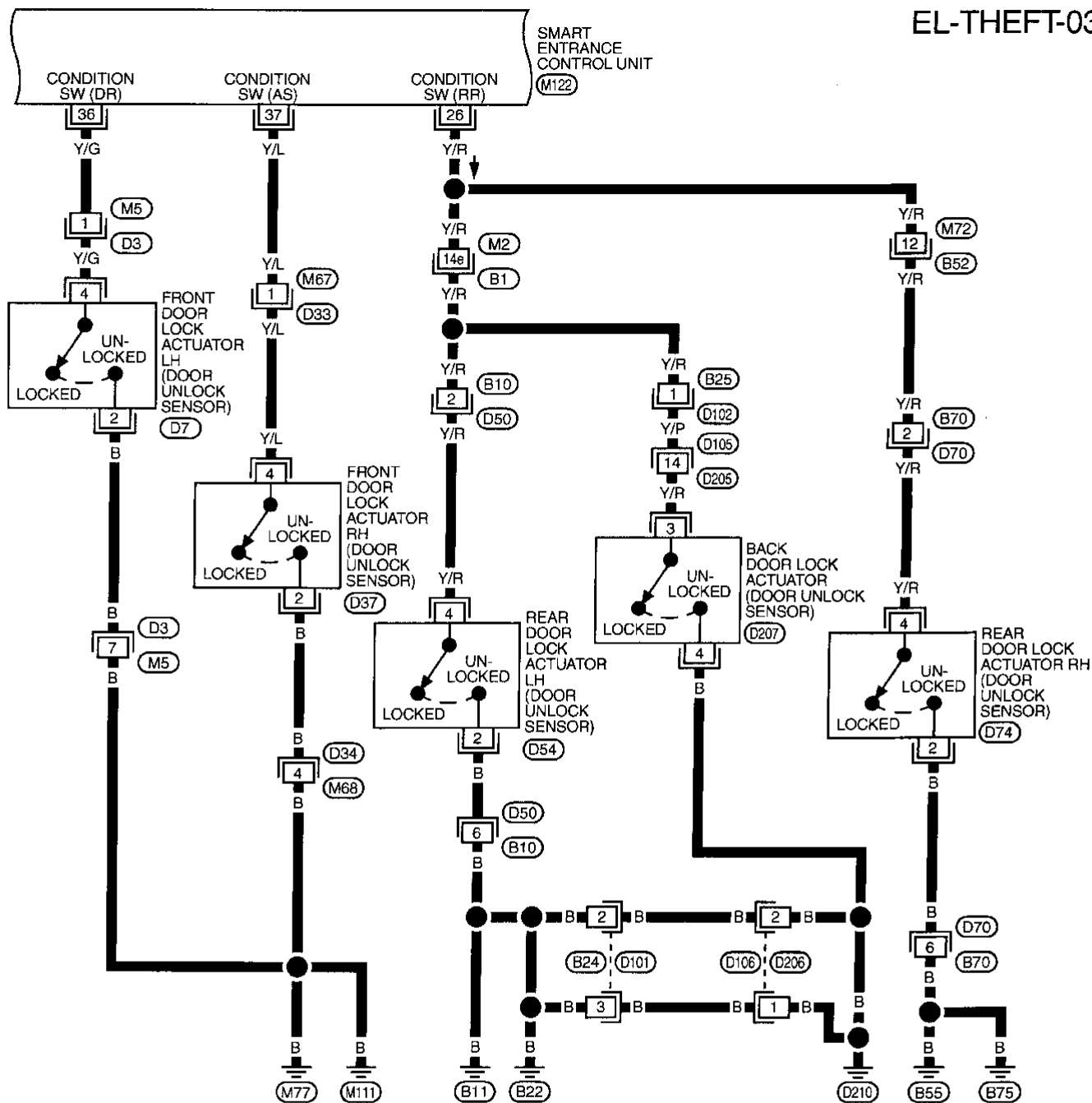
# THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

**FIG. 3**

NAEL0122S03

**EL-THEFT-03**



Refer to last page (Foldout page).

M2, B1

MEL996J

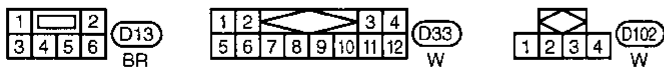
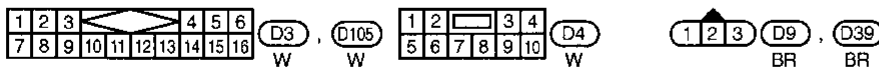
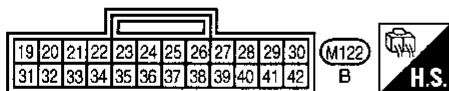
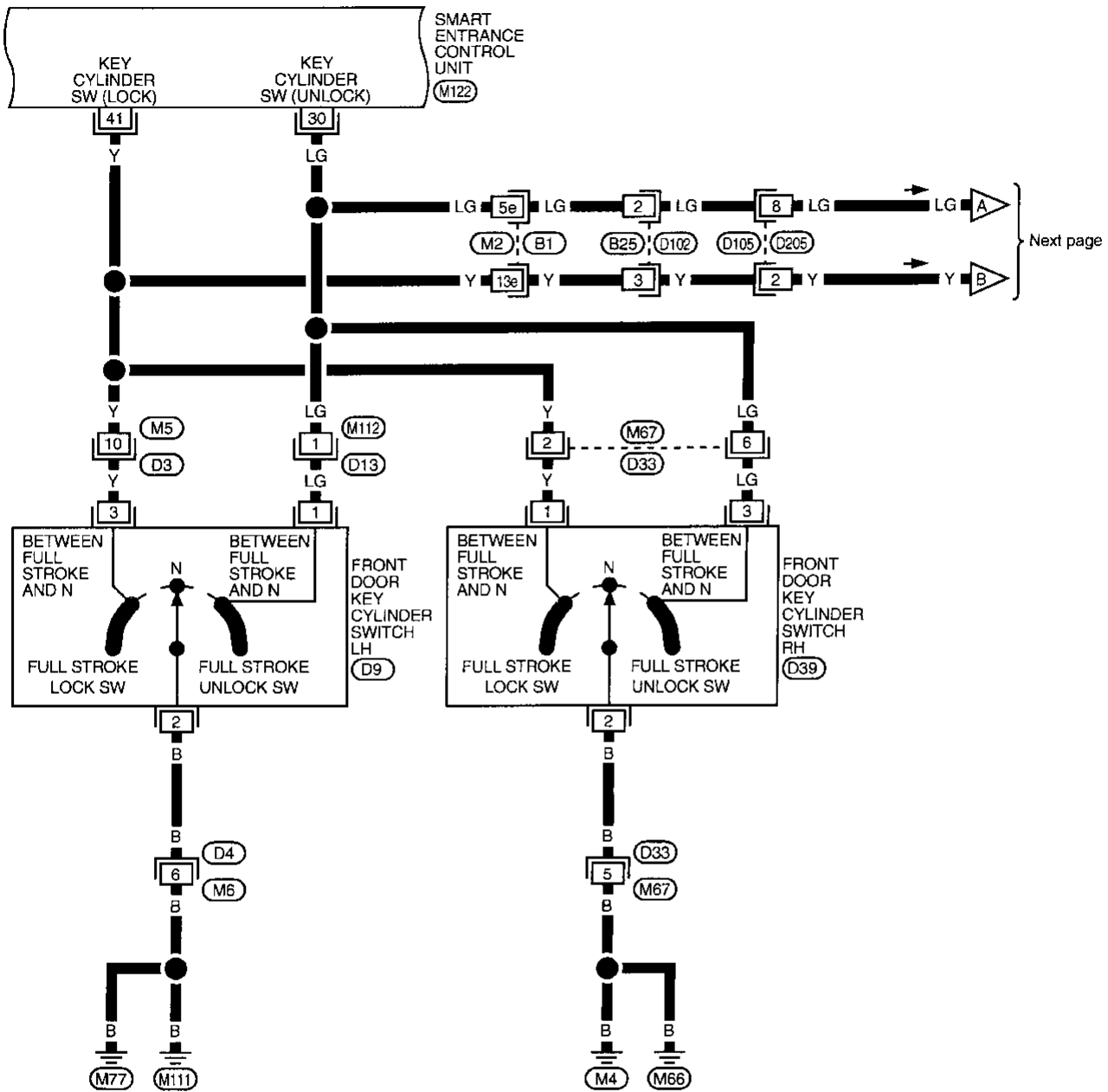
# THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

FIG. 4

NAEL0122S04

## EL-THEFT-04



Refer to last page (Foldout page).

M2, B1

MEL997J

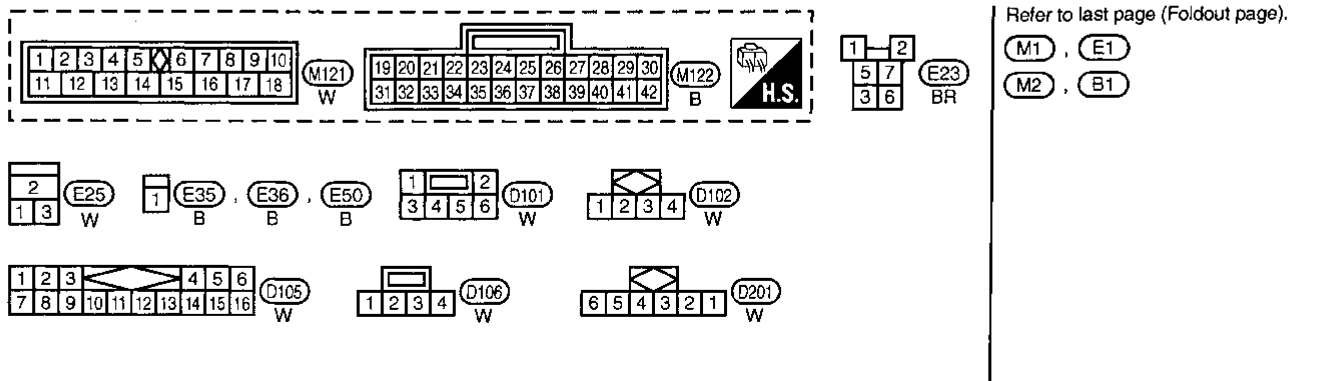
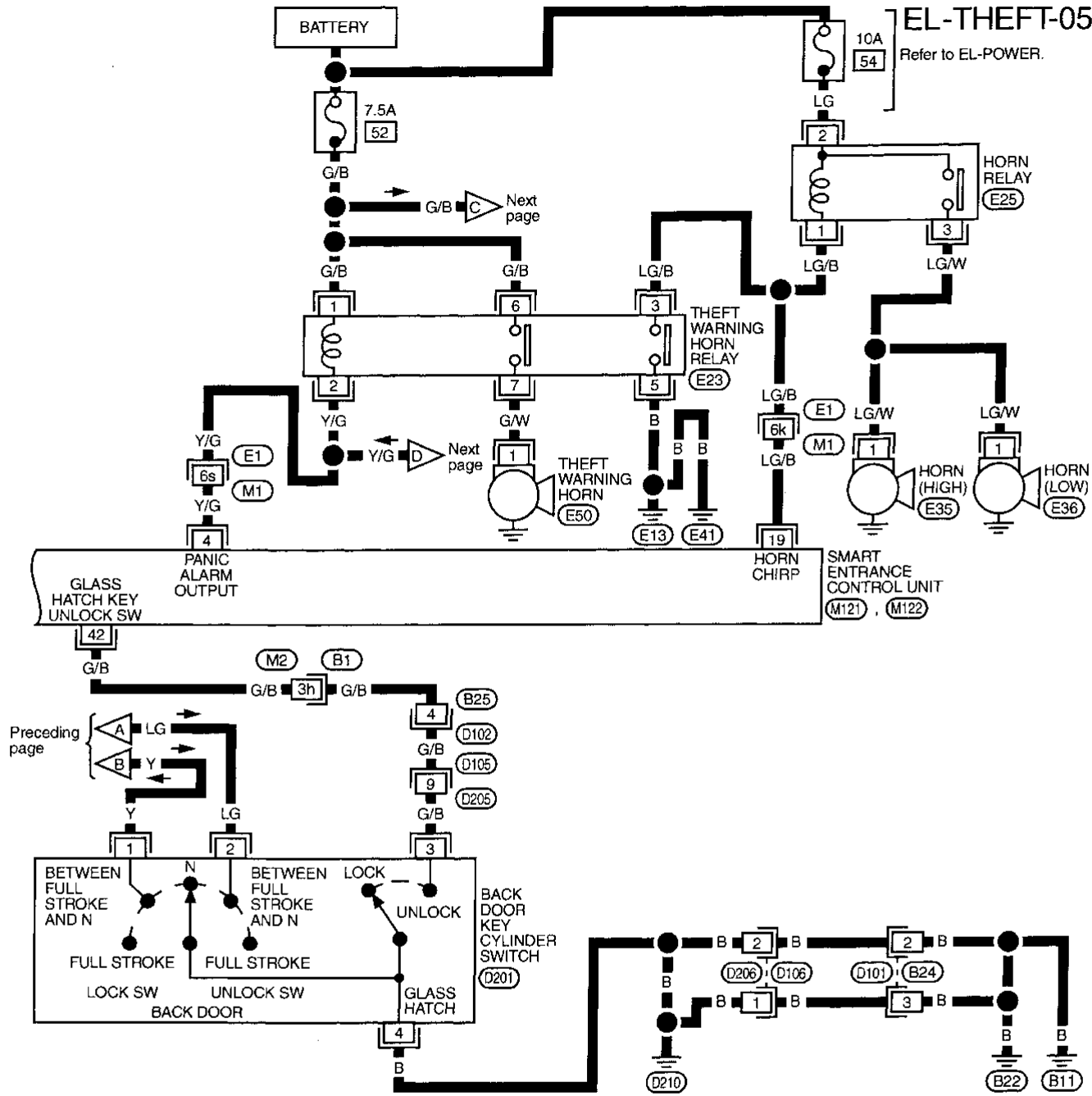
GI  
MA  
EM  
LG  
EC  
FE  
CL  
MT  
AT  
TF  
PD  
AX  
SU  
BR  
ST  
RS  
BT  
HA  
SC  
EL  
IDX

# THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

FIG. 5

NAEL0122S05



MEL98J



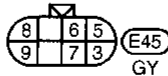
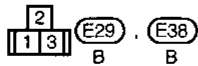
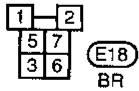
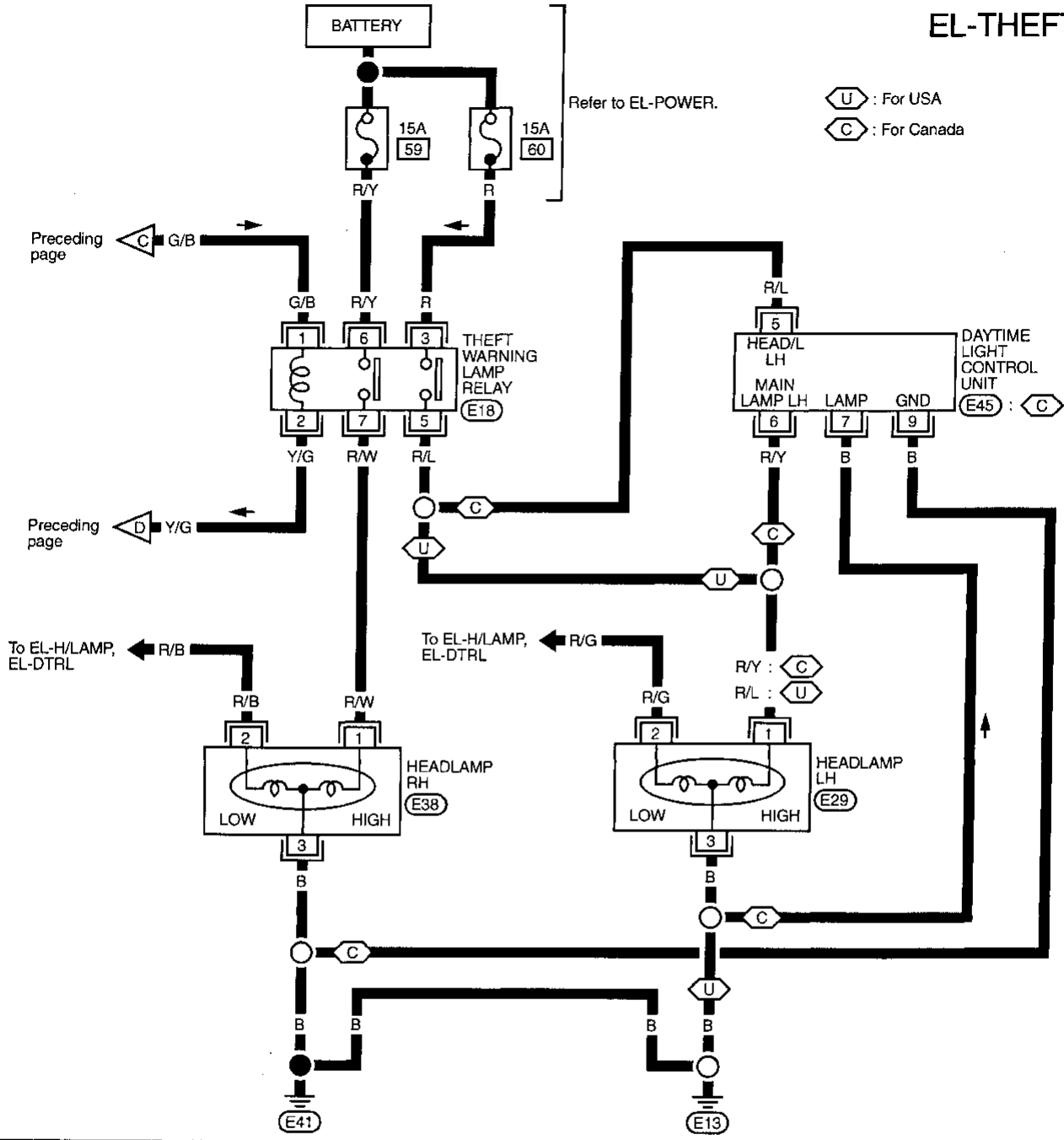
# THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

FIG. 6

NAEL0122506

EL-THEFT-06



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

MEL999J

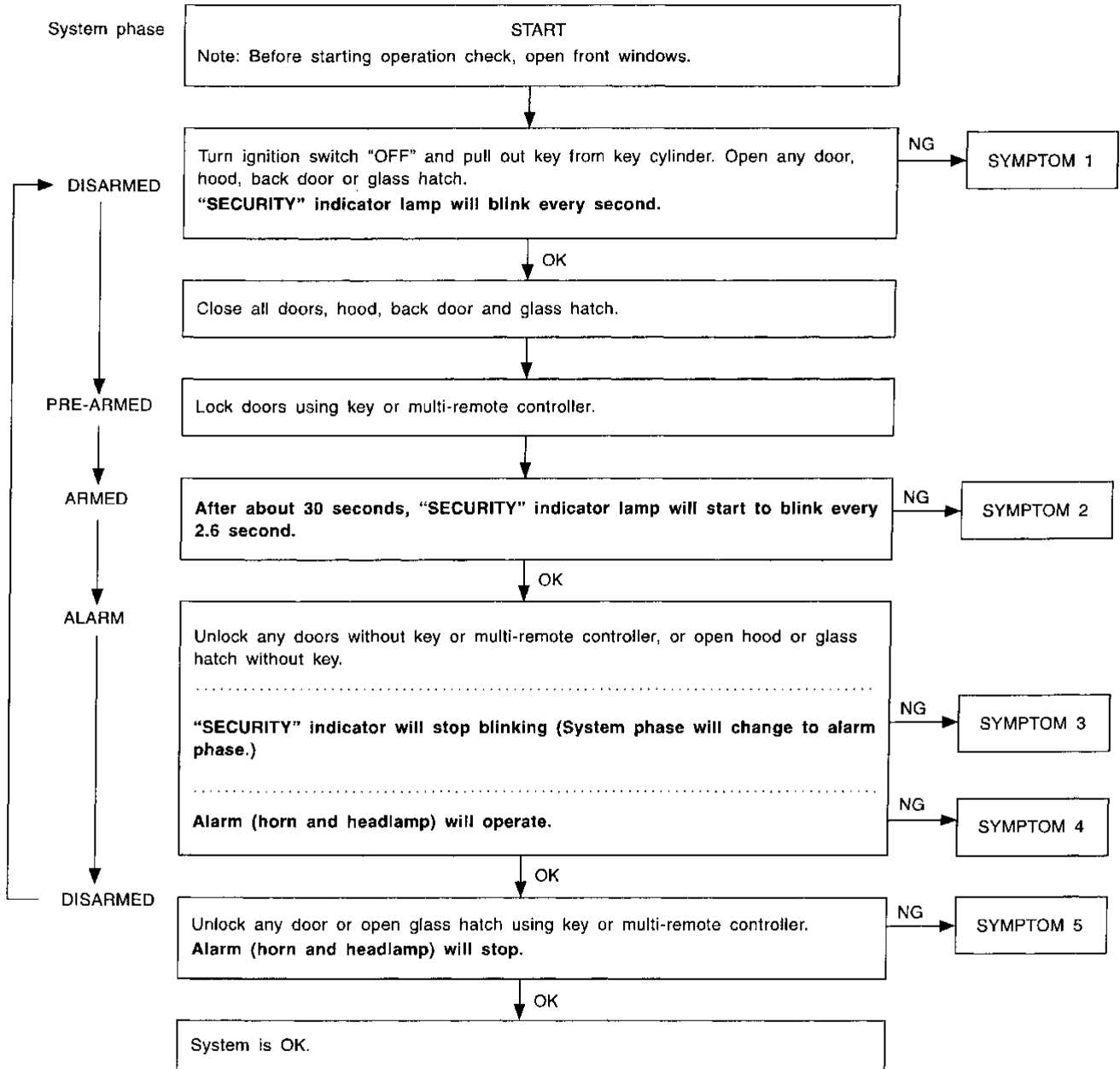
# THEFT WARNING SYSTEM

## Trouble Diagnoses PRELIMINARY CHECK

NAEL0123

NAEL0123S01

The system operation is canceled by turning ignition switch to "ACC" at any step between START and ARMED in the following flow chart.



MEL447HC

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

# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

## SYMPTOM CHART

NAEL0123502

REFERENCE PAGE (EL- )		240	242	243	246	247	248	249	250	251	215
SYMPTOM		PRELIMINARY CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR, HOOD AND GLASS HATCH SWITCH CHECK	SECURITY INDICATOR LAMP CHECK	DOOR UNLOCK SENSOR CHECK	DOOR KEY CYLINDER SWITCH CHECK	BACK DOOR KEY CYLINDER SWITCH CHECK	THEFT WARNING HORN ALARM CHECK	THEFT WARNING HEADLAMP ALARM CHECK	Check "MULTI-REMOTE CONTROL" system.
1	Theft warning indicator does not turn "ON" and is not blinking.	X	X	X	X						
2	Theft warning system cannot be set by ...	All Items	X	X	X		X				
		Door outside key	X					X			
		Back door key	X						X		
		Multi-remote control	X								X
3	*1 Theft warning system does not alarm when ...	Any door is opened.	X		X						
		Any door is unlocked without using key or multi-remote controller	X				X				
4	Theft warning alarm does not activate.	All function	X		X		X				
		Horn alarm	X						X		
		Headlamp alarm	X								X
5	Theft warning system cannot be canceled by ...	Door outside key	X					X			
		Back door key	X						X		
		Multi-remote control	X								

X : Applicable

\*1: Make sure the system is in the armed phase.

**Before starting trouble diagnoses above, perform preliminary check, EL-240.**

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

GI  
MA  
EM  
LC  
EC  
FE  
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MT  
AT  
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PD  
AX  
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BT  
HA

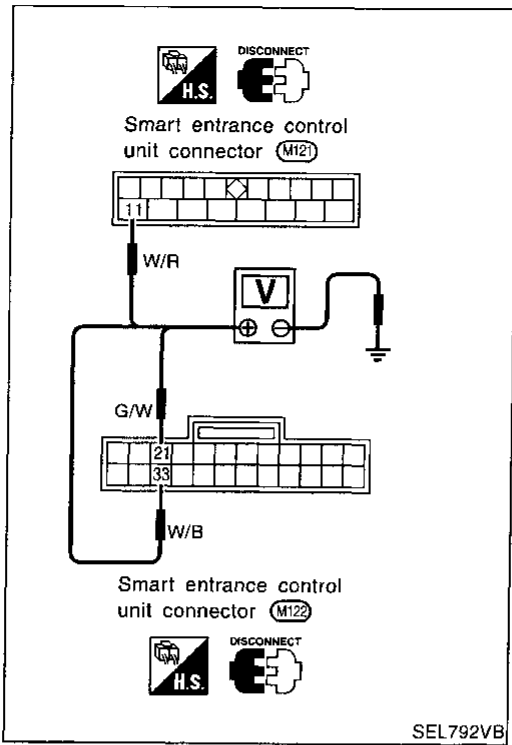
SC

EL

IDX

# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)



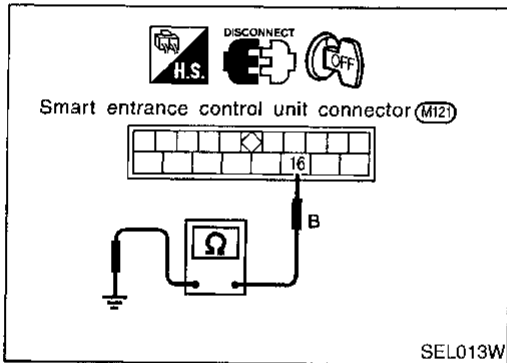
## POWER SUPPLY AND GROUND CIRCUIT CHECK

NAEL0123S03

### Power Supply Circuit Check

NAEL0123S0301

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



### Ground Circuit Check

NAEL0123S0302

Terminals	Continuity
16 - Ground	Yes

# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

## DOOR, HOOD AND GLASS HATCH SWITCH CHECK

NAEL0123S04

### Door Switch Check

NAEL0123S0401

<b>1</b>	<b>PRELIMINARY CHECK</b>
<ol style="list-style-type: none"> <li>Turn ignition switch "OFF" and remove key from key cylinder.</li> <li>Close all doors, hood and glass hatch. "SECURITY" indicator lamp should turn off.</li> <li>Open any passenger door or back door. "SECURITY" indicator lamp should blink every second.</li> </ol> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ Door switch is OK.
NG	▶ GO TO 2.

<b>2</b>	<b>CHECK DOOR SWITCH INPUT SIGNAL</b>																												
<p>Check voltage between control unit terminals 28, 29 or 40 and ground.</p>																													
<p style="text-align: right;">SEL886VA</p>																													
<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminals</th> <th rowspan="2">Condition</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front LH door switch</td> <td rowspan="2">29</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 5</td> </tr> <tr> <td rowspan="2">Front RH door switch</td> <td rowspan="2">40</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 5</td> </tr> <tr> <td rowspan="2">Rear and back door switches</td> <td rowspan="2">28</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 5</td> </tr> </tbody> </table> <p style="text-align: right;">MTBL0273</p>			Terminals		Condition	Voltage [V]	(+)	(-)	Front LH door switch	29	ground	Open	0	Closed	Approx. 5	Front RH door switch	40	ground	Open	0	Closed	Approx. 5	Rear and back door switches	28	ground	Open	0	Closed	Approx. 5
	Terminals		Condition	Voltage [V]																									
	(+)	(-)																											
Front LH door switch	29	ground	Open	0																									
			Closed	Approx. 5																									
Front RH door switch	40	ground	Open	0																									
			Closed	Approx. 5																									
Rear and back door switches	28	ground	Open	0																									
			Closed	Approx. 5																									
<p>Refer to wiring diagram in EL-235.</p> <p style="text-align: center;"><b>OK or NG</b></p>																													
OK	▶ Door switch is OK, and go to hood switch check.																												
NG	▶ GO TO 3.																												

<b>3</b>	<b>CHECK DOOR SWITCH</b>																						
<ol style="list-style-type: none"> <li>Disconnect door switch connector.</li> <li>Check continuity between door switch terminals.</li> </ol>																							
<p style="text-align: center;">Door switch connector Front LH (B9)</p>																							
<p style="text-align: center;">Back door switch (D208)</p>																							
<p style="text-align: center;">Door switch connector Front RH : (B66) Rear LH : (B18) Rear RH : (B71)</p> <p style="text-align: right;">SEL066W</p>																							
<table border="1"> <thead> <tr> <th></th> <th>Terminals</th> <th>Condition</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front LH door switch</td> <td rowspan="2">1 - 2</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>Open</td> <td>Yes</td> </tr> <tr> <td rowspan="2">Back door switch</td> <td rowspan="2">2 - 1</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>Open</td> <td>Yes</td> </tr> <tr> <td rowspan="2">Front RH and rear door switches</td> <td rowspan="2">1 - ground</td> <td>Closed</td> <td>No</td> </tr> <tr> <td>Open</td> <td>Yes</td> </tr> </tbody> </table> <p style="text-align: right;">MTBL0274</p>			Terminals	Condition	Continuity	Front LH door switch	1 - 2	Closed	No	Open	Yes	Back door switch	2 - 1	Closed	No	Open	Yes	Front RH and rear door switches	1 - ground	Closed	No	Open	Yes
	Terminals	Condition	Continuity																				
Front LH door switch	1 - 2	Closed	No																				
		Open	Yes																				
Back door switch	2 - 1	Closed	No																				
		Open	Yes																				
Front RH and rear door switches	1 - ground	Closed	No																				
		Open	Yes																				
<p style="text-align: center;"><b>OK or NG</b></p>																							
OK	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>Door switch ground circuit (Front LH, back door) or door switch ground condition</li> <li>Harness for open or short between control unit and door switch</li> </ul>																						
NG	▶ Replace door switch.																						

# THEFT WARNING SYSTEM

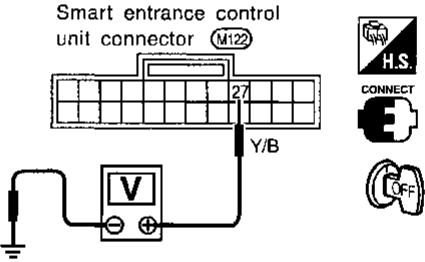
Trouble Diagnoses (Cont'd)

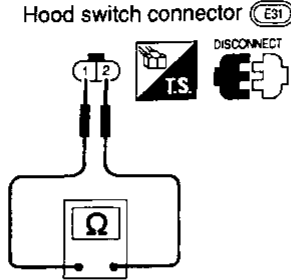
## Hood Switch Check

-NAEL0123S0402

<b>1</b>	<b>PRELIMINARY CHECK</b>	
	1. Turn ignition switch "OFF" and remove key from key cylinder. 2. Close all doors, hood and glass hatch. "SECURITY" indicator lamp should turn off. 3. Open hood. "SECURITY" indicator lamp should blink every second. <p style="text-align: center;">OK or NG</p>	
OK	▶	Hood switch is OK.
NG	▶	GO TO 2.

<b>2</b>	<b>CHECK HOOD SWITCH FITTING CONDITION</b>	
	OK or NG	
OK	▶	GO TO 3.
NG	▶	Adjust installation of hood switch or hood.

<b>3</b>	<b>CHECK HOOD SWITCH INPUT SIGNAL</b>	
	Check voltage between control unit terminal 27 and ground.	
	 <p style="text-align: right;">SEL932VA</p>	
	<b>Voltage [V]:</b> Hood is open. 0 Hood is closed. Approx. 5 Refer to wiring diagram in EL-234. <p style="text-align: center;">OK or NG</p>	
OK	▶	Hood switch is OK, and go to glass hatch switch check.
NG	▶	GO TO 4.

<b>4</b>	<b>CHECK HOOD SWITCH</b>	
	1. Disconnect hood switch connector. 2. Check continuity between hood switch terminals 1 and 2.	
	 <p style="text-align: right;">SEL397TB</p>	
	<b>Continuity:</b> Condition: Pushed No Condition: Released Yes <p style="text-align: center;">OK or NG</p>	
OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Hood switch ground circuit</li> <li>• Harness for open or short between control unit and hood switch</li> </ul>
NG	▶	Replace hood switch.

# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

## Glass Hatch Switch Check

-NAEL0123S0403

<b>1</b>	<b>PRELIMINARY CHECK</b>	
	<ol style="list-style-type: none"> <li>Turn ignition switch "OFF" and remove key from key cylinder.</li> <li>Close all doors, hood and glass hatch. "SECURITY" indicator lamp should turn off.</li> <li>Open glass hatch. "SECURITY" indicator lamp should blink every second.</li> </ol>	
	OK or NG	
OK	▶	Glass hatch switch is OK.
NG	▶	GO TO 2.

<b>2</b>	<b>CHECK GLASS HATCH SWITCH INPUT SIGNAL</b>	
	Check voltage between control unit terminal 38 and ground.	
	<b>Voltage [V]:</b> Glass hatch is open. Approx. 0 Glass hatch is closed. Approx. 12 Refer to wiring diagram in EL-234.	
	OK or NG	
OK	▶	Glass hatch switch is OK.
NG	▶	GO TO 3.

<b>3</b>	<b>CHECK GLASS HATCH SWITCH</b>	
	<ol style="list-style-type: none"> <li>Disconnect glass hatch switch connector.</li> <li>Check continuity between glass hatch switch terminals 1 and 2.</li> </ol>	
	<b>Continuity:</b> Condition: Closed No Condition: Open Yes	
	OK or NG	
OK	▶	Check the following. <ul style="list-style-type: none"> <li>Glass hatch switch ground circuit</li> <li>Harness for open or short between control unit and glass hatch switch</li> </ul>
NG	▶	Replace glass hatch switch.

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# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

## SECURITY INDICATOR LAMP CHECK

=NAEL0123S05

<b>1</b>	<b>CHECK INDICATOR LAMP OUTPUT SIGNAL</b>
<p>1. Disconnect control unit connector. 2. Check voltage between control unit terminal 31 and ground.</p>	
SEL935VA	
Refer to wiring diagram in EL-234.	
<b>Does battery voltage exist?</b>	
Yes	▶ Security indicator lamp is OK.
No	▶ GO TO 2.

<b>2</b>	<b>CHECK INDICATOR LAMP</b>
<b>OK or NG</b>	
OK	▶ GO TO 3.
NG	▶ Replace indicator lamp.

<b>3</b>	<b>CHECK POWER SUPPLY CIRCUIT FOR INDICATOR LAMP</b>
<p>1. Disconnect security lamp connector. 2. Check voltage between indicator lamp terminal 1 and ground.</p>	
SEL082W	
<b>Does battery voltage exist?</b>	
Yes	▶ Check harness for open or short between security indicator lamp and control unit.
No	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● 7.5A fuse [No. 24, located in fuse block (J/B)]</li> <li>● Harness for open or short between security indicator lamp and fuse</li> </ul>



# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

## DOOR UNLOCK SENSOR CHECK

=NAEL0123S06

**1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL**

Check voltage between control unit terminals 26, 36 or 37 and ground.

Smart entrance control unit connector (M122)

SEL937VA

	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door	36	Ground	Locked	Approx. 5
			Unlocked	0
Front RH door	37	Ground	Locked	Approx. 5
			Unlocked	0
Rear and back door	26	Ground	Locked	Approx. 5
			Unlocked	0

Refer to wiring diagram in EL-236.

MTBL0276

**OK or NG**

OK	▶	Door unlock sensor is OK.
NG	▶	GO TO 2.

**2 CHECK DOOR UNLOCK SENSOR**

1. Disconnect door unlock sensor connector.
2. Check continuity between door unlock sensor terminals.

Door lock actuator connectors  
 Front LH : (D7) Rear LH : (D54)  
 Front RH : (B37) Rear RH : (D74)

SEL247V

Back door lock actuator connector (D207)

SEL352V

**Continuity:**  
 Condition: Locked  
 No  
 Condition: Unlocked  
 Yes

**OK or NG**

OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Door unlock sensor ground circuit</li> <li>• Harness for open or short between control unit and door unlock sensor</li> </ul>
NG	▶	Replace door unlock sensor.

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# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

## FRONT DOOR KEY CYLINDER SWITCH CHECK

→NAEL0123S07

<b>1</b>	<b>CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)</b>																		
<p>Check voltage between control unit terminals 30 or 41 and ground.</p>																			
SEL069W																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Terminals</th> <th rowspan="2">Key position</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">41</td> <td rowspan="2">Ground</td> <td>Neutral/Unlock</td> <td>Approx. 5</td> </tr> <tr> <td>Lock</td> <td>0</td> </tr> <tr> <td rowspan="2">30</td> <td rowspan="2">Ground</td> <td>Neutral/Lock</td> <td>Approx. 5</td> </tr> <tr> <td>Unlock</td> <td>0</td> </tr> </tbody> </table>		Terminals		Key position	Voltage [V]	(+)	(-)	41	Ground	Neutral/Unlock	Approx. 5	Lock	0	30	Ground	Neutral/Lock	Approx. 5	Unlock	0
Terminals		Key position	Voltage [V]																
(+)	(-)																		
41	Ground	Neutral/Unlock	Approx. 5																
		Lock	0																
30	Ground	Neutral/Lock	Approx. 5																
		Unlock	0																
MTBL0268																			
Refer to wiring diagram in EL-237.																			
<b>OK or NG</b>																			
OK	▶ Door key cylinder switch is OK.																		
NG	▶ GO TO 2.																		

<b>2</b>	<b>CHECK DOOR KEY CYLINDER SWITCH</b>															
<p>1. Disconnect door key cylinder switch connector. 2. Check continuity between door key cylinder switch terminals.</p>																
SEL070W																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Terminals</th> <th>Key position</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td>LH: 3 - 2</td> <td>Neutral/Unlock</td> <td>No</td> </tr> <tr> <td>RH: 1 - 2</td> <td>Lock</td> <td>Yes</td> </tr> <tr> <td>LH: 1 - 2</td> <td>Neutral/Lock</td> <td>No</td> </tr> <tr> <td>RH: 3 - 2</td> <td>Unlock</td> <td>Yes</td> </tr> </tbody> </table>		Terminals	Key position	Continuity	LH: 3 - 2	Neutral/Unlock	No	RH: 1 - 2	Lock	Yes	LH: 1 - 2	Neutral/Lock	No	RH: 3 - 2	Unlock	Yes
Terminals	Key position	Continuity														
LH: 3 - 2	Neutral/Unlock	No														
RH: 1 - 2	Lock	Yes														
LH: 1 - 2	Neutral/Lock	No														
RH: 3 - 2	Unlock	Yes														
MTBL0269																
<b>OK or NG</b>																
OK	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● Door key cylinder switch ground circuit</li> <li>● Harness for open or short between control unit and door key cylinder switch</li> </ul>															
NG	▶ Replace door key cylinder switch.															

# THEFT WARNING SYSTEM

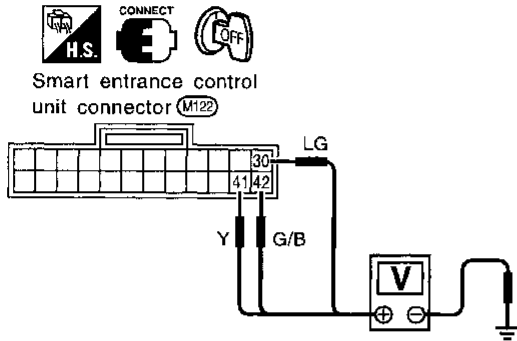
Trouble Diagnoses (Cont'd)

## BACK DOOR KEY CYLINDER SWITCH CHECK

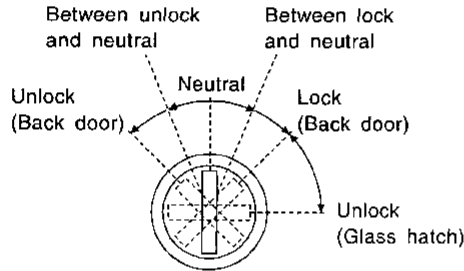
=NAEL0123508

### 1 CHECK BACK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

Check voltage between control unit terminals 30, 41 or 42 and ground.



Smart entrance control unit connector (M122)



SEL083W

	Terminals		Key position	Voltage [V]
	(+)	(-)		
Back door	41	Ground	Between neutral and lock	0
			Other positions	Approx. 5
	30	Ground	Between neutral and unlock	0
			Other positions	Approx. 5
Glass hatch	42	Ground	Unlock (Glass hatch)	0
			Other positions	Approx. 5

MTBL0277

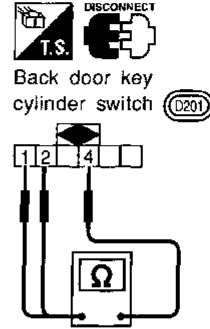
Refer to wiring diagram in EL-237.

#### OK or NG

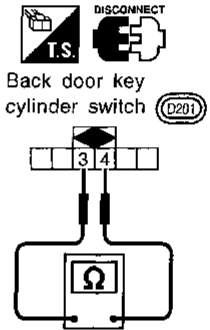
OK	▶	Back door key cylinder switch is OK.
NG	▶	GO TO 2.

### 2 CHECK BACK DOOR KEY CYLINDER SWITCH

1. Disconnect back door key cylinder switch connector.
2. Check continuity between back door key cylinder switch terminals.



SEL616U



SEL613U

Key position	Terminals			
	1	2	3	4
Between neutral and lock (Back door)	○	—	—	○
Between neutral and unlock (Back door)	—	○	—	○
Between lock (Back door) and unlock (glass hatch)	—	—	○	○

MTBL0043

#### OK or NG

OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>• Back door key cylinder switch ground circuit</li> <li>• Harness for open or short between control unit and back door key cylinder switch</li> </ul>
NG	▶	Replace back door key cylinder switch.

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# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

## THEFT WARNING HORN ALARM CHECK

-NAEL0123S09

<b>1</b>	<b>CHECK THEFT WARNING HORN ALARM OPERATION</b>
<p>1. Disconnect control unit connector. 2. Apply ground to control unit terminal 4.</p>	
<p>Smart entrance control unit connector (M12)</p> <p>Y/G</p>	
SEL943VA	
Refer to wiring diagram in EL-238.	
<b>Does horn alarm activate?</b>	
Yes	▶ Horn alarm is OK.
No	▶ GO TO 2.

<b>2</b>	<b>CHECK THEFT WARNING HORN RELAY</b>
Check theft warning horn relay.	
<b>OK or NG</b>	
OK	▶ GO TO 3.
NG	▶ Replace theft warning horn relay.

<b>3</b>	<b>CHECK POWER SUPPLY FOR THEFT WARNING HORN RELAY</b>
<p>1. Disconnect theft warning horn relay connector. 2. Check voltage between terminal 1 and ground.</p>	
<p>Theft warning horn relay connector (E23)</p> <p>G/B</p>	
SEL755UB	
<b>Does battery voltage exist?</b>	
Yes	▶ GO TO 4.
No	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● 7.5A fuse (No. 52, located in the fuse and fusible link box)</li> <li>● Harness for open or short between theft warning horn relay and fuse</li> </ul>

<b>4</b>	<b>CHECK THEFT WARNING HORN RELAY CIRCUIT</b>
<p>1. Disconnect theft warning horn relay connector. 2. Check voltage between terminals 3 and 5. 3. Check voltage between terminals 6 and 7.</p>	
<p>Theft warning horn relay connector (E23)</p> <p>B G/W</p> <p>5 7 3 6</p> <p>LG/B G/B</p>	
SEL756UD	
<b>Battery voltage should exist.</b>	
<b>OK or NG</b>	
OK	▶ Check harness for open or short between theft warning horn relay and control unit.
NG	▶ Check harness for open or short.

# THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

## THEFT WARNING HEADLAMP ALARM CHECK

-NAEL0123S10

<b>1</b>	<b>CHECK THEFT WARNING HEADLAMP ALARM OPERATION</b>
<p>1. Disconnect control unit connector. 2. Apply ground to control unit terminal 4.</p>	
<p>Smart entrance control unit connector (M121)</p>	
SEL943VA	
Refer to wiring diagram in EL-238.	
<b>Does headlamp alarm activate?</b>	
Yes	▶ Headlamp alarm is OK.
No	▶ GO TO 2.

<b>2</b>	<b>CHECK HEADLAMP OPERATION</b>
<b>Does headlamp come on when turning lighting switch "ON"?</b>	
Yes	▶ GO TO 3.
No	▶ Check headlamp system. Refer to "HEADLAMP".

<b>3</b>	<b>CHECK THEFT WARNING LAMP RELAY</b>
Check theft warning lamp relay.	
OK or NG	
OK	▶ GO TO 4.
NG	▶ Replace theft warning lamp relay.

<b>4</b>	<b>CHECK POWER SUPPLY FOR THEFT WARNING LAMP RELAY</b>
<p>1. Disconnect theft warning lamp relay connector. 2. Check voltage between terminal 1 and ground.</p>	
<p>Theft warning lamp relay connector (E18)</p>	
SEL757U	
Refer to wiring diagram in EL-239.	
<b>Does battery voltage exist?</b>	
Yes	▶ GO TO 5.
No	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● 7.5A fuse (No. 52, located in the fuse and fusible link box)</li> <li>● Harness for open or short between theft warning lamp relay and fuse</li> </ul>

<b>5</b>	<b>CHECK THEFT WARNING LAMP RELAY CIRCUIT</b>
<p>1. Disconnect theft warning lamp relay connector. 2. Check voltage between terminals 3 and 5. 3. Check voltage between terminals 6 and 7.</p>	
<p>Theft warning lamp relay connector (E18)</p>	
SEL758U	
Battery voltage should exist.	
OK or NG	
OK	▶ Check harness for open or short between theft warning lamp relay and control unit.
NG	▶ <b>Check the following.</b> <ul style="list-style-type: none"> <li>● Harness for open or short between fuse and theft warning lamp relay</li> <li>● Harness for open or short between theft warning lamp relay and headlamps</li> </ul>

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# SMART ENTRANCE CONTROL UNIT

## Description

### Description

NAEL0124

The following systems are controlled by the smart entrance control unit.

- Warning chime
- Rear window defogger and door mirror defogger timer
- Power door lock
- Multi-remote control system
- Theft warning system
- Interior lamp timer
- Electric sunroof and power window timer
- Headlamp battery saver
- Battery saver

For detailed description and wiring diagrams, refer to the relevant pages for the each system.

The control unit receives data from the switches and sensors to control their corresponding system relays and actuators.

### INPUT/OUTPUT

NAEL0124S01

System	Input	Output
Power door lock	Door lock and unlock switch LH and RH Key switch (Insert) Door switches Door key cylinder switches	Door lock actuator
Multi-remote control	Key switch (Insert) Ignition switch (ACC) Door switches Front door unlock sensor LH Remote controller signal	Horn relays Theft warning lamp relay Theft warning lamp relay Interior lamp Multi-remote control relay Door lock actuator
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt switch Front door switch LH	Warning chime (located in smart entrance control unit)
Rear window defogger and door mirror defogger timer	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) Door unlock sensors	Horn relays Theft warning lamp relay Theft warning relay Security indicator
Interior lamp timer	Door switches Front door unlock sensor LH Ignition switch (ON) Key switch (Insert)	Interior lamp
Electric sunroof and power window timer	Front door switches ignition switch (ON)	Power window relay
Headlamp battery saver timer	Front door switches ignition switch (ON)	Headlamp battery saver control unit
Battery saver	Ignition switch (ON) Door switches	Interior lamp Luggage room lamp Spot lamp Vanity mirror illumination lamp

# SMART ENTRANCE CONTROL UNIT

Description (Cont'd)

## BATTERY SAVER

NAEL0124S02

The lamp turns off automatically when the interior lamp, luggage room lamp, spot lamp or/and vanity mirror illumination is illuminated with the ignition key in the OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in the ON position for more than 10 minutes.

After lamps turn off by the battery saver system, the lamps illuminate again when:

- driver's door is locked or unlocked,
- door is opened or closed,
- key is inserted in ignition key cylinder.

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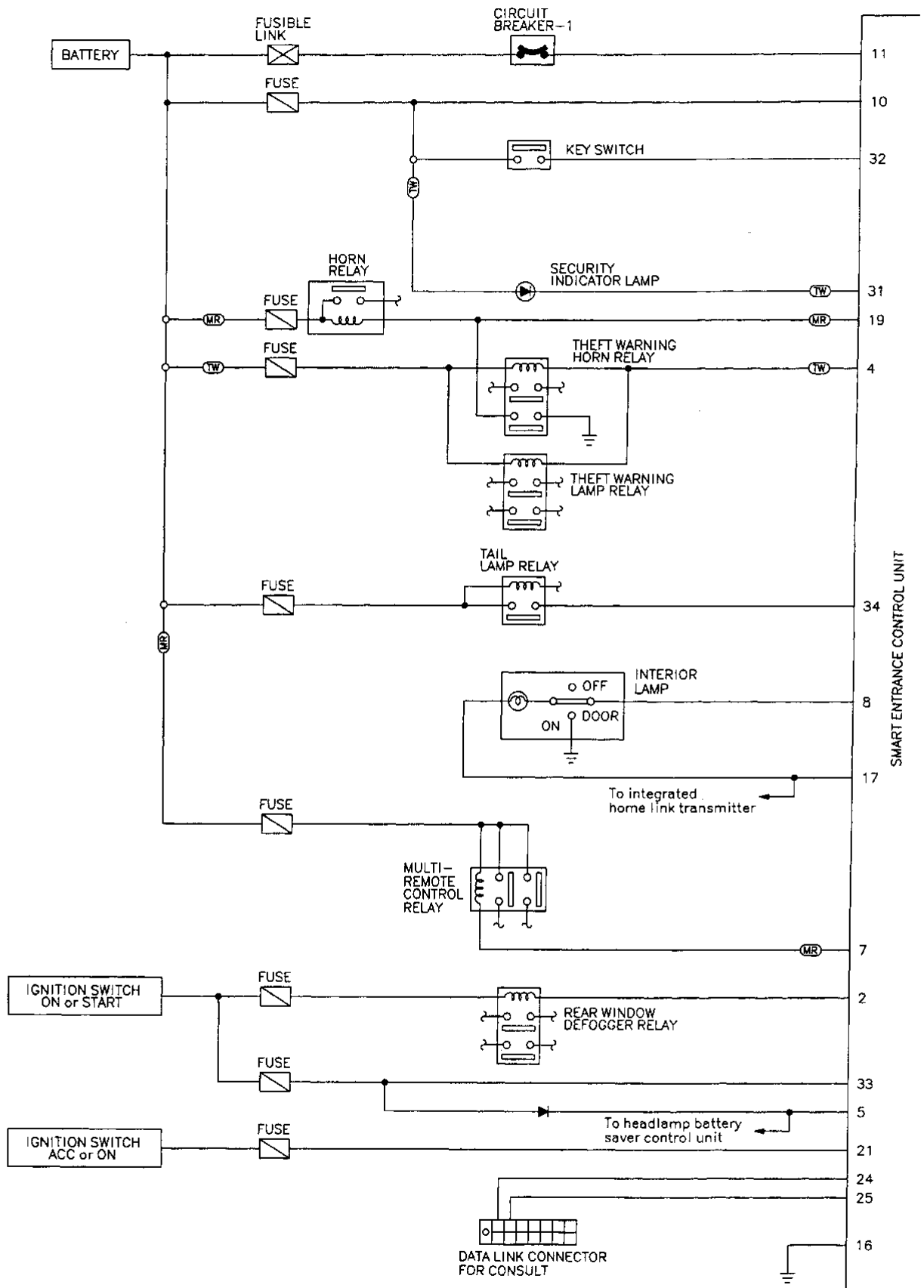
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# SMART ENTRANCE CONTROL UNIT

Schematic

NAEL0125

## Schematic



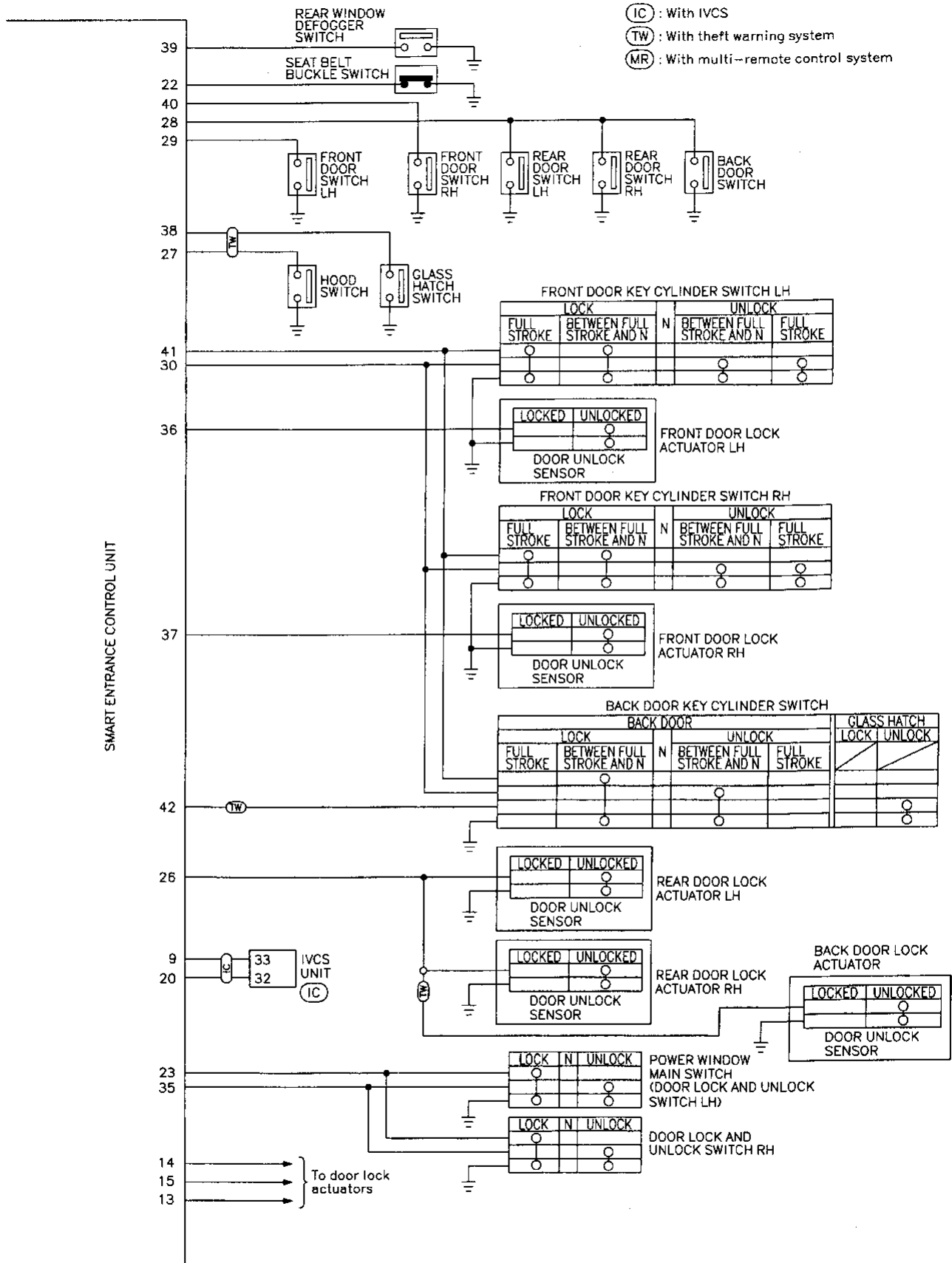
SMART ENTRANCE CONTROL UNIT

MEL001K



# SMART ENTRANCE CONTROL UNIT

Schematic (Cont'd)



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# SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table

## Smart Entrance Control Unit Inspection Table

NAEL0126

Terminal No.	Wire color	Connections	Operated condition	Voltage (Approximate values)	
2	G/B	Rear window defogger relay	OFF → ON (Ignition key is in "ON" position)	0V → 12V	
4	Y/G	Theft warning horn/lamp relay	When panic alarm is operated using remote controller	12V → 0V	
5	R/Y	Headlamp battery saver control unit	When headlamp battery saver timer is operated	12V	
7	P	Multi-remote control relay	When doors are locked using remote controller	12V → 0V	
8	R/B	Interior lamp	When interior lamp is operated using remote controller. (Lamp switch in "DOOR" position)	0V → 12V	
10	G/R	Power source (Fuse)	—	12V	
11	W/R	Power source (C/B)	—	12V	
13	W/PU	Driver door lock actuator	Door lock & unlock switch	Free	0V
14	Y/B	Passenger door lock actuator		Unlocked	12V
15	L	Door lock actuators	Door lock & unlock switch	Free	0V
				Locked	12V
16	B	Ground	—	—	
17	R/W	Battery saver (Interior lamp)	Battery saver is not operate → Operate	12V → 0V	
19	LG/B	Horn relay	When doors are locked using remote controller with horn chirp mode.	12V → 0V	
21	G/W	Ignition switch (ACC)	"ACC" position	12V	
22	B/P	Seat belt buckle switch	Unfasten → Fasten (Ignition key is in "ON" position)	0V → 12V	
23	B/R	Door lock & unlock switches	Neutral → Locks	5V → 0V	
26	Y/R	Rear door unlock sensors	All doors are locked → One or more doors are unlocked	5V → 0V	
27	Y/B	Hood open signal	ON (Open) → OFF (Closed)	0V → 5V	
28	R/L	Rear and back door switches	OFF (Closed) → ON (Open)	5V → 0V	
29	G/R	Driver door switch	OFF (Closed) → ON (Open)	5V → 0V	
30	LG	Door key cylinder unlock switch	OFF (Neutral) → ON (Unlocked)	5V → 0V	
31	BR/Y	Theft warning indicator	Goes off → Illuminates	12V → 0V	
32	W/R	Ignition key switch (Insert)	key inserted → key removed from IGN key cylinder	12V → 0V	
33	W/B	Ignition switch (ON)	Ignition key is in "ON" position	12V	
34	P/L	Tail lamp relay	1ST, 2ND positions: ON → OFF	12V → 0V	
35	LG/R	Door lock & unlock switches	Neutral → Unlocks	5V → 0V	
36	Y/G	Driver door unlock sensor	Driver door: Locked → Unlocked	5V → 0V	
37	Y/L	Passenger door unlock sensor	Passenger door: Locked → Unlocked	5V → 0V	
38	L/W	Glass hatch switch	ON (Open) → OFF (Closed)	0V → 12V	
39	OR	Rear window defogger switch	OFF → ON	5V → 0V	
40	Y	Passenger door switch	OFF (Closed) → ON (Open)	5V → 0V	
41	Y	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)	5V → 0V	
42	G/B	Back door key unlock switch	OFF (Neutral) → ON (Unlock)	5V → 0V	

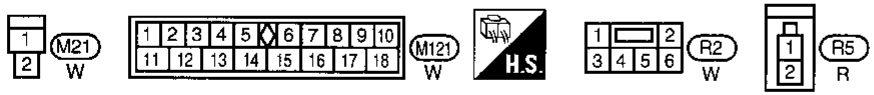
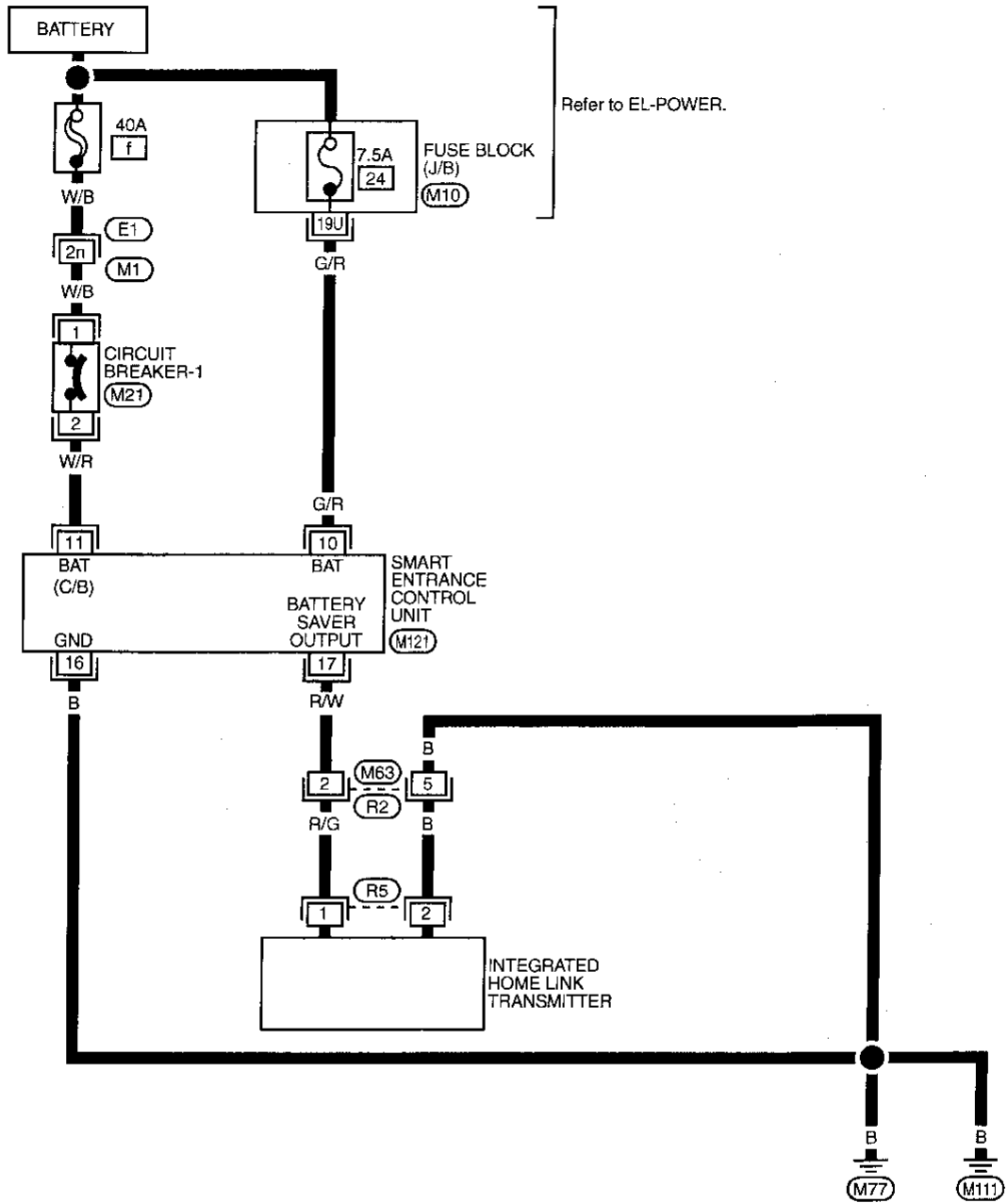
# INTEGRATED HOMELINK TRANSMITTER

Wiring Diagram — TRNSMT —

## Wiring Diagram — TRNSMT —

NAEL0127

### EL-TRNSMT-01



Refer to last page (Foldout page).

- (M1) , (E1)
- (M10)

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# INTEGRATED HOMELINK TRANSMITTER

Trouble Diagnoses

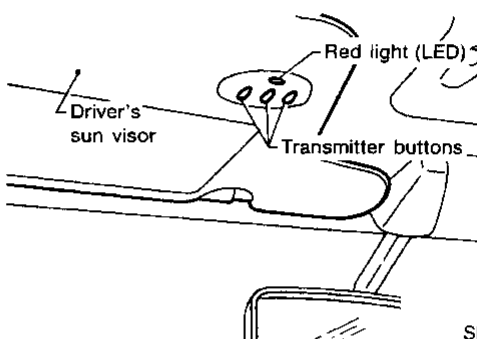
## Trouble Diagnoses DIAGNOSTIC PROCEDURE

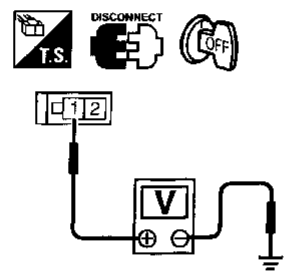
NAEL0128

NAEL0128S01

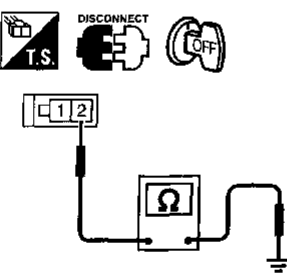
**SYMPTOM: Transmitter does not activate receiver.**

Before conducting the procedure given below, make sure that system receiver (garage door opener, etc.) operates with original, hand-held transmitter. If NG, receiver or hand-held transmitter is at fault, not vehicle related.

<b>1</b>	<b>PRELIMINARY CHECK</b>	
1. Turn ignition switch "OFF". 2. Does red light (LED) of transmitter illuminate when any button is pressed?		
		
SEL442U		
<b>Yes or No</b>		
Yes	▶	GO TO 2.
No	▶	GO TO 3.

<b>3</b>	<b>CHECK POWER SUPPLY</b>	
1. Disconnect transmitter connector. 2. Turn ignition switch "OFF". 3. Check voltage between terminal 1 and body ground.		
		
SEL635U		
<b>Does battery voltage exist?</b>		
Yes	▶	GO TO 4.
No	▶	GO TO 5.

<b>2</b>	<b>CHECK TRANSMITTER FUNCTION</b>	
Check transmitter with Tool. For details, refer to Technical Service Bulletin.		
<b>OK or NG</b>		
OK	▶	Receiver or handheld transmitter fault, not vehicle related.
NG	▶	Replace transmitter with sun visor assembly.

<b>4</b>	<b>CHECK GROUND CIRCUIT</b>	
Check continuity between terminal 2 and ground.		
		
SEL636U		
<b>Does continuity exist?</b>		
Yes	▶	Replace transmitter with sun visor assembly.
No	▶	Repair harness.

# INTEGRATED HOMELINK TRANSMITTER

Trouble Diagnoses (Cont'd)

<b>5</b>	<b>CHECK MAIN POWER SUPPLY FOR SMART ENTRANCE CONTROL UNIT</b>	
<p>1. Disconnect smart entrance control unit.                  2. Check voltage between control unit terminals 10 or 11 and ground.</p>		
<b>Does battery voltage exist?</b>		
Yes	▶	GO TO 6.
No	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>● 7.5A fuse No. 24, located in fuse block (J/B)</li> <li>● 40A fusible link (letter f, located in fuse and fusible link box)</li> </ul>

<b>6</b>	<b>CHECK GROUND CIRCUIT FOR SMART ENTRANCE CONTROL UNIT</b>	
<p>Check continuity between terminal 16 and ground.</p>		
<b>Does continuity exist?</b>		
Yes	▶	Power supply and ground circuits are OK.
No	▶	Check ground harness.

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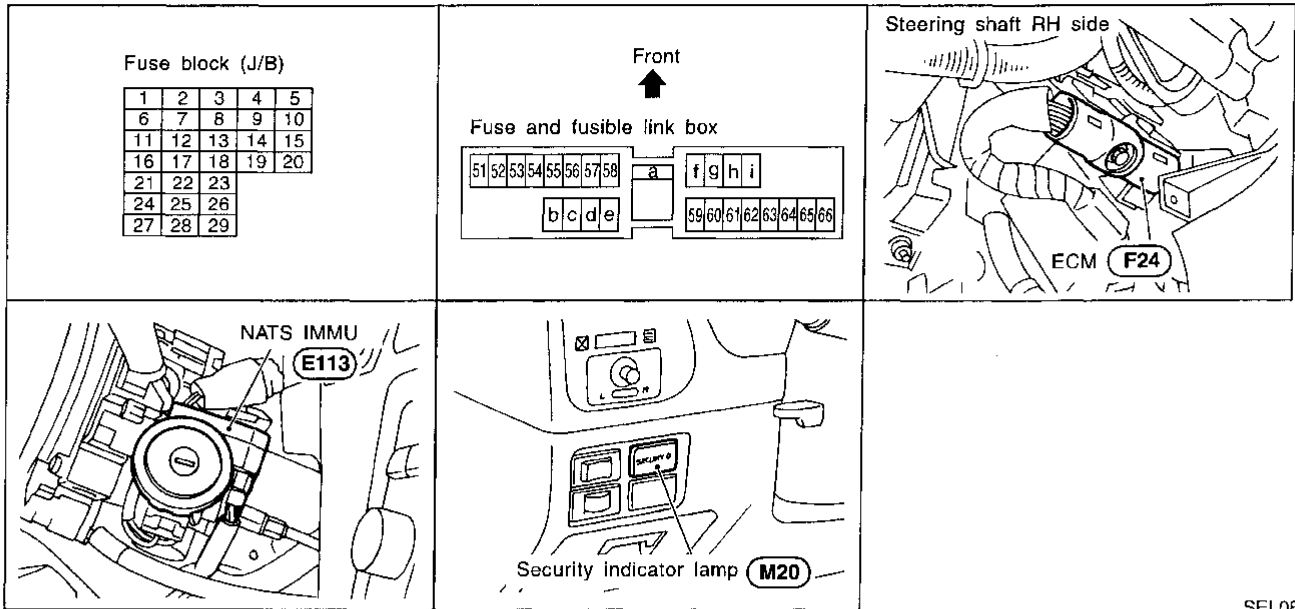
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# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0170



SEL084W

## System Description

=NAEL0171

NATS (Nissan Anti-Theft System) has the following immobiliser functions:

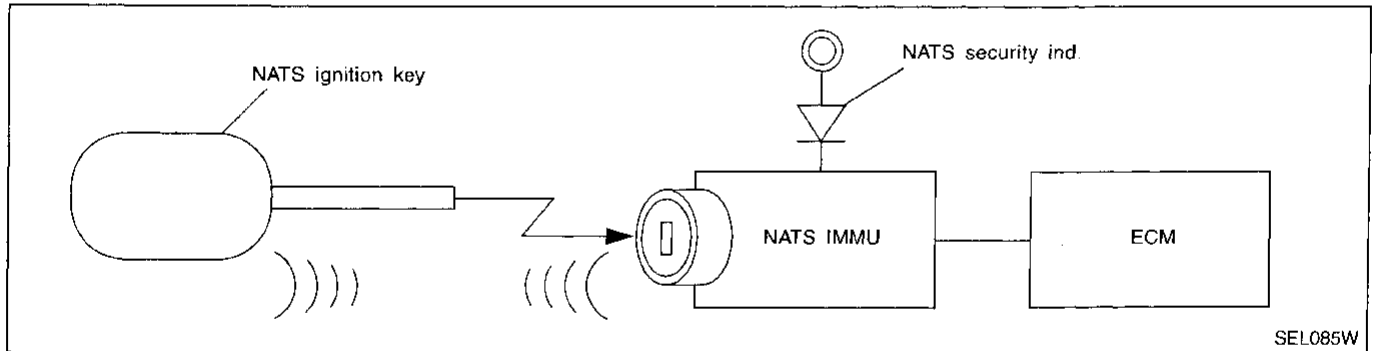
- Since only NATS ignition keys, whose ID nos. have been registered into the ECM and IMMU of NATS, allow the engine to run, operation of a stolen vehicle without a NATS registered key is prevented by NATS. That is to say, NATS will immobilise the engine if someone tries to start it without the registered 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 hardware and CONSULT NATS software. When NATS initialization has been completed, the ID of the inserted ignition key is automatically NATS registered. Then, if necessary, additional registration of other NATS ignition key IDs can be carried out. Regarding the procedures of NATS initialization and NATS ignition key ID registration, refer to CONSULT 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

NAEL0172

The immobiliser function of the NATS consists of the following:

- NATS ignition key
- NATS immobiliser control unit (NATS IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- Security indicator



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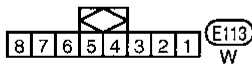
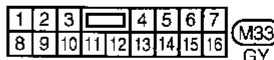
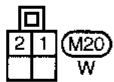
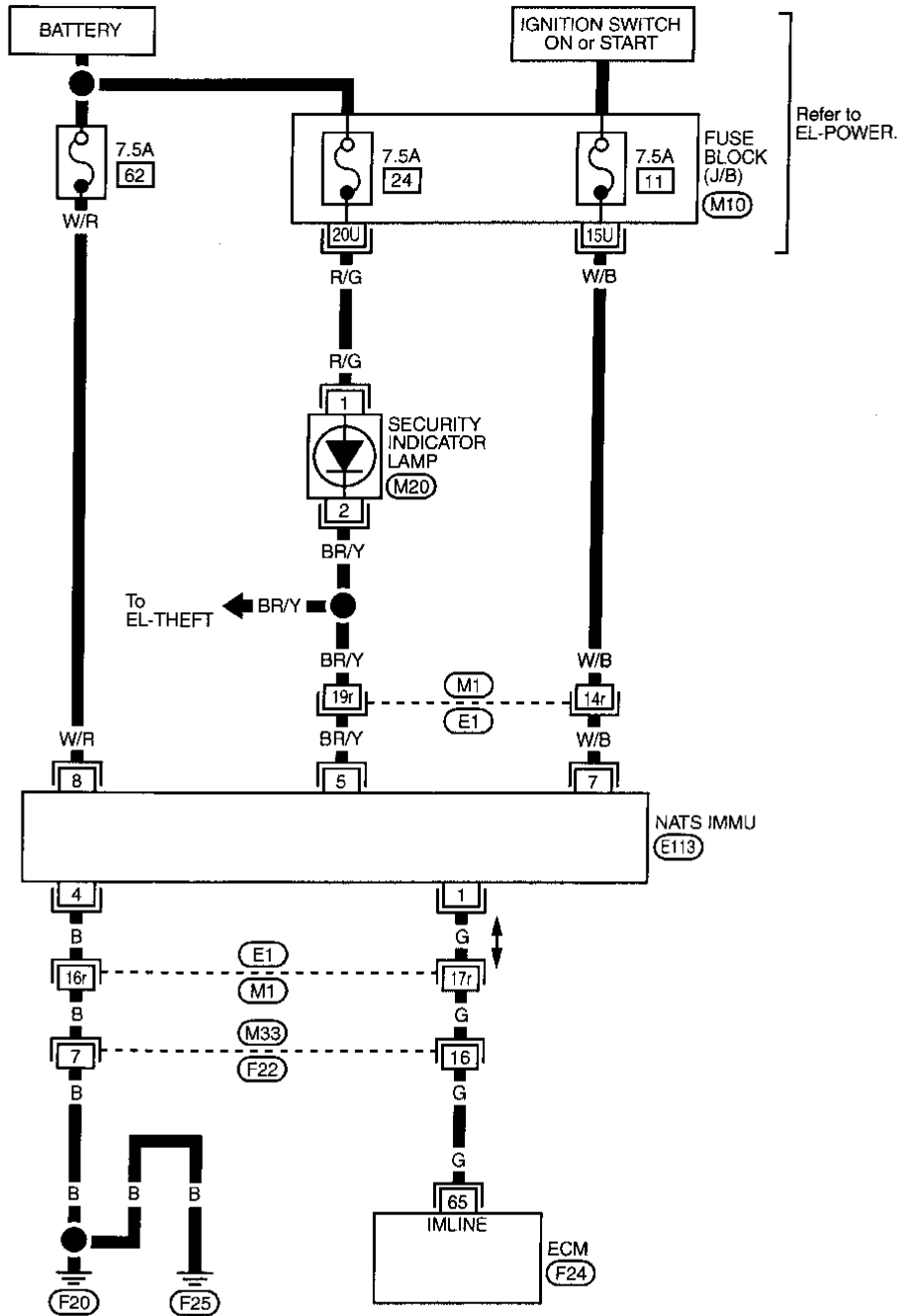
# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Wiring Diagram — NATS —

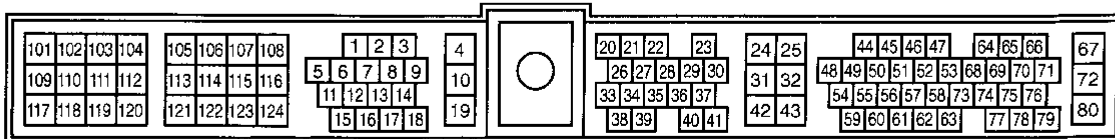
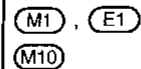
## Wiring Diagram — NATS —

NAEL0173

EL-NATS-01

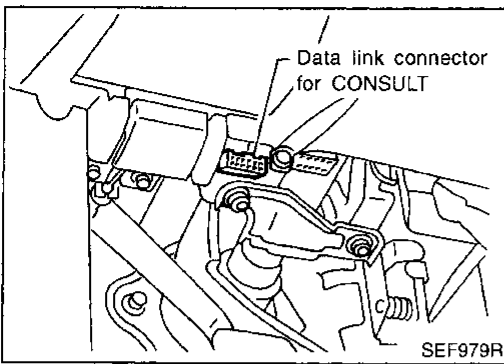


Refer to last page (Foldout page).



MEL003K

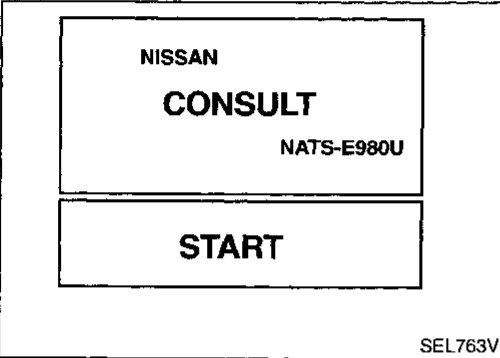




## CONSULT

### CONSULT INSPECTION PROCEDURE

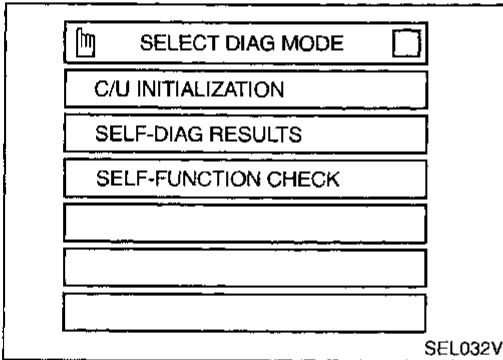
1. Turn ignition switch OFF.
2. Connect "CONSULT" to Data link connector for CONSULT.



3. Insert NATS program card into CONSULT.

◆ : Program card  
NATS-E980U

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



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

For further information, see the **CONSULT Operation Manual, NATS.**

### CONSULT DIAGNOSTIC TEST MODE FUNCTION

NAEL0174S02

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

#### NOTE:

When any 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 screen.

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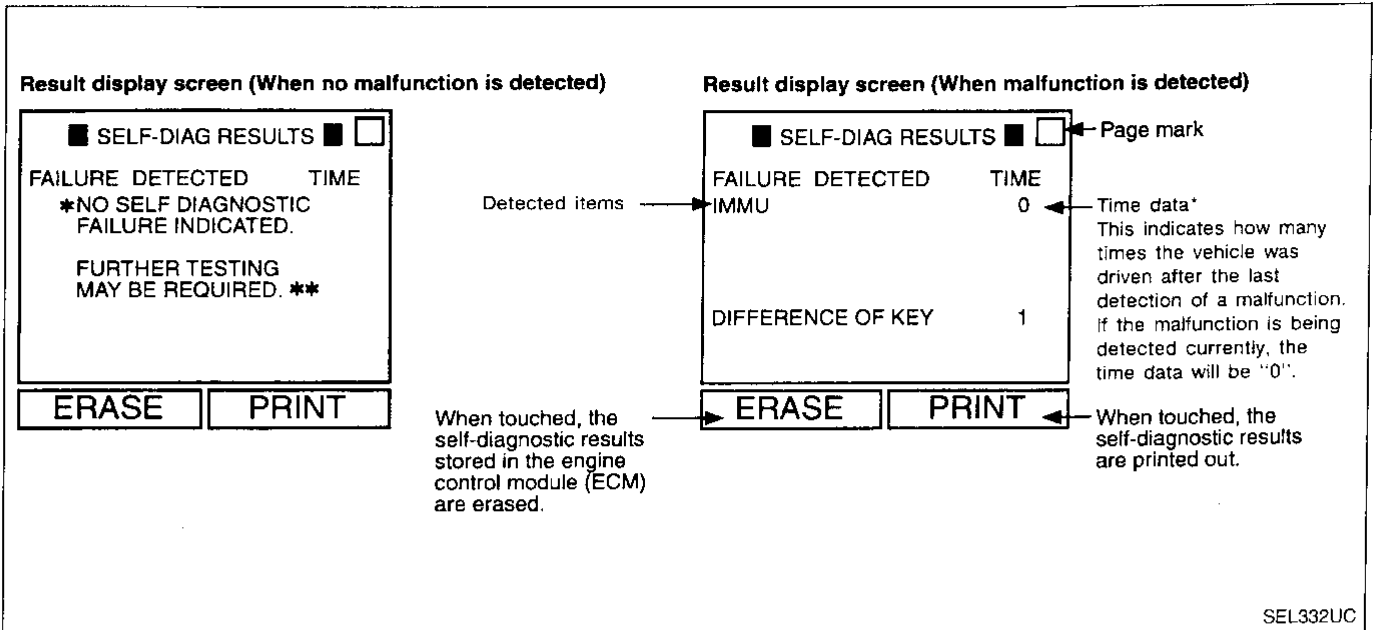
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# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

CONSULT (Cont'd)

## HOW TO READ SELF-DIAGNOSTIC RESULTS

NAEL0174S03



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

## SELF-DIAGNOSTIC RESULTS ITEM CHART

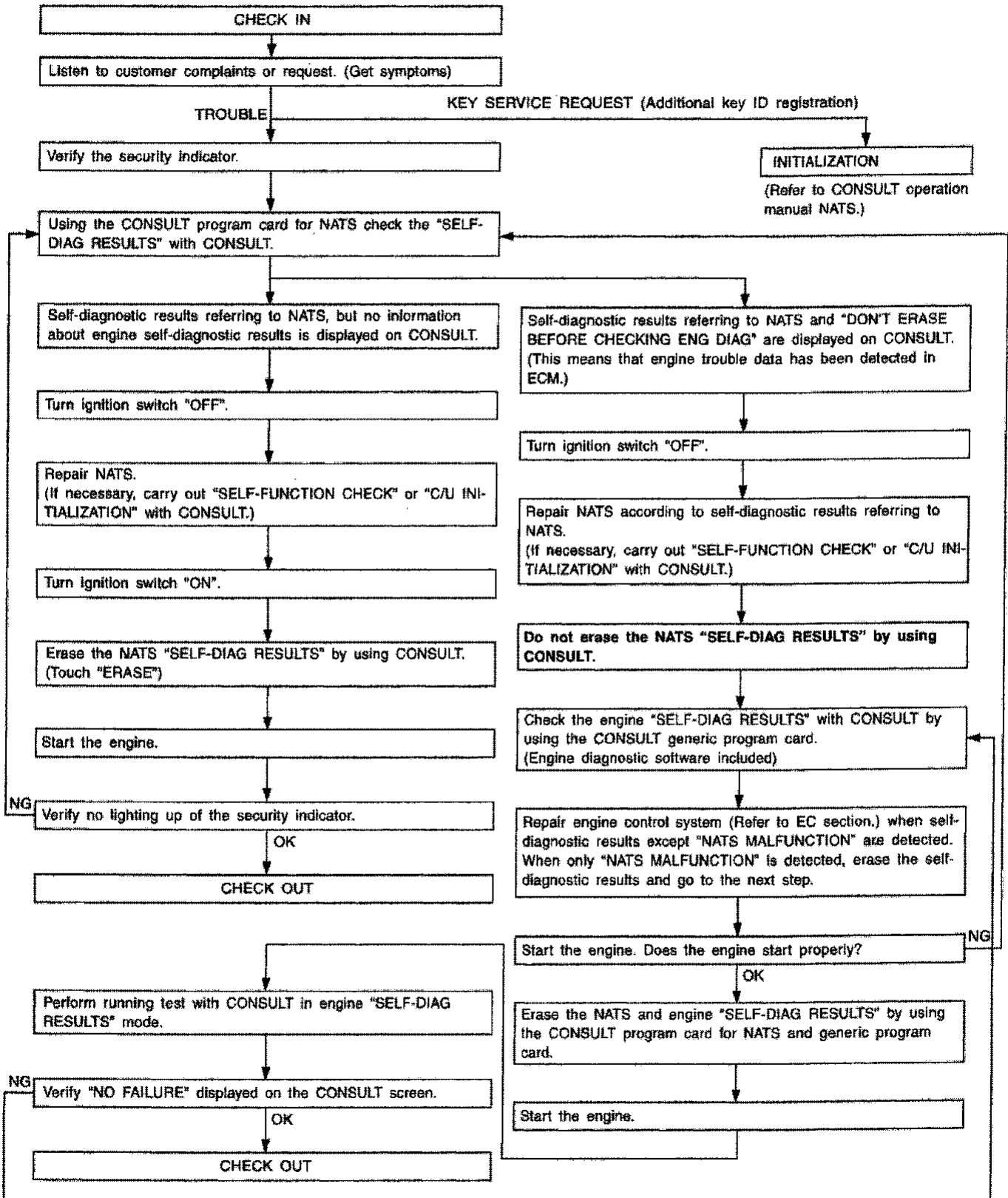
NAEL0174S04

Detected items (Screen terms)	Description	Reference page
IMMU	ECM received the signal from IMMU that IMMU is malfunctioning.	EL-267
ECM	ECM is malfunctioning.	EL-267
CHAIN OF ECM-IMMU	Communication impossible between ECM and IMMU.	EL-268
DIFFERENCE OF KEY	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-270
CHAIN OF IMMU-KEY	IMMU cannot receive the key ID signal.	EL-271
ID DISCORD, IMM-ECM	The result of ID verification between IMMU and ECM is NG. System initialization is required.	EL-272
ELECTRONIC NOISE	Noise (interference) interfered into NATS communication lines during communicating.	EL-272
DON'T ERASE BEFORE CHECKING ENG DIAG	Engine trouble data and NATS trouble data have been detected in ECM.	EL-265
LOCK MODE	When the starting operation is carried out 5 or more times consecutively under the following conditions, NATS will shift the mode to one which prevents the engine from being started. <ul style="list-style-type: none"> <li>unregistered ignition key is used</li> <li>IMMU or ECM malfunctioning</li> </ul>	EL-274

## Trouble Diagnoses WORK FLOW

NAEL0175

NAEL0176S01



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# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

## SYMPTOM MATRIX CHART 1 (Self-diagnosis related item)

NAEL0175S02

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON NEXT PAGE
<ul style="list-style-type: none"> <li>● Security indicator lighting up*</li> <li>● Engine will start.</li> </ul>	IMMU	PROCEDURE 1 (EL-267)	IMMU	A
	ECM	PROCEDURE 2 (EL-267)	ECM	B
<ul style="list-style-type: none"> <li>● Security indicator lighting up*</li> <li>● Engine hard to start</li> </ul>	CHAIN OF ECM-IMMU	PROCEDURE 3 (EL-268)	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 4 (EL-270)	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 5 (EL-271)	Malfunction of key ID chip	E
			IMMU	A
	ID DISCORD, IMM-ECM	PROCEDURE 6 (EL-272)	System initialisation has not yet been completed.	F
			ECM	F
ELECTRONIC NOISE	PROCEDURE 7 (EL-272)	Noise interference in communication line	—	
LOCK MODE	PROCEDURE 9 (EL-274)	LOCK MODE	D	
<ul style="list-style-type: none"> <li>● MIL staying ON</li> <li>● Security indicator lighting up*</li> </ul>	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-265)	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.

# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

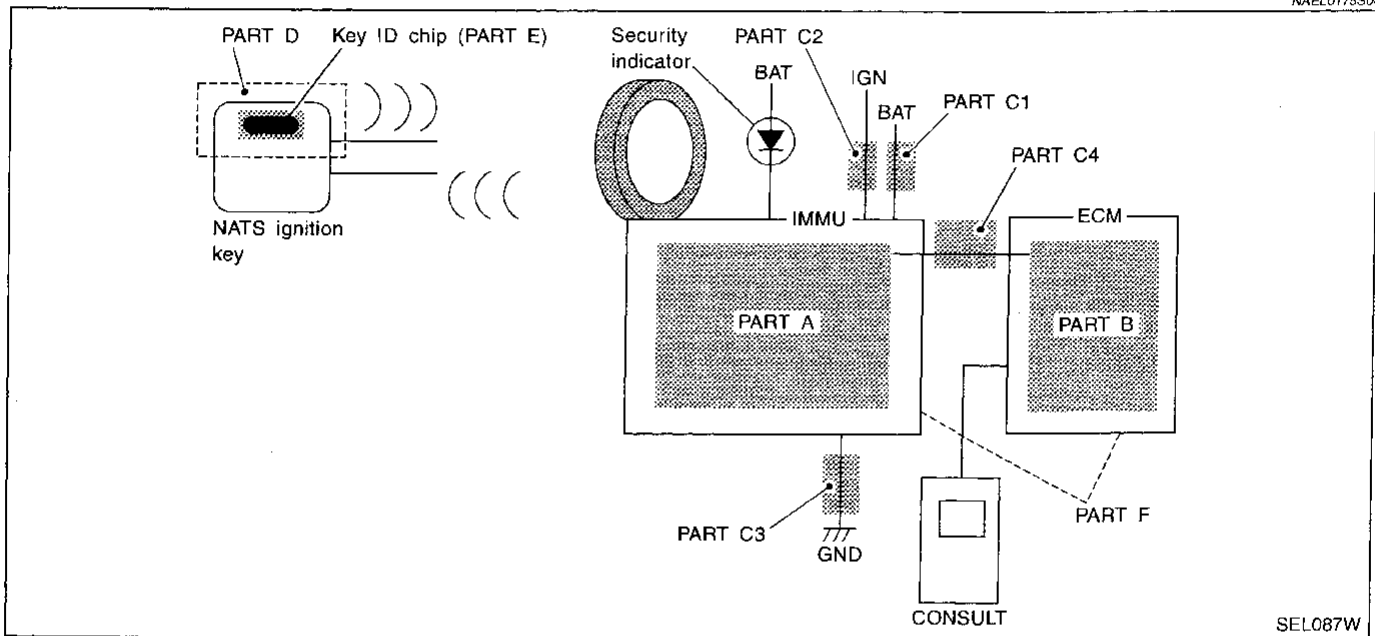
## SYMPTOM MATRIX CHART 2 (Non self-diagnosis related item)

NAEL0175S03

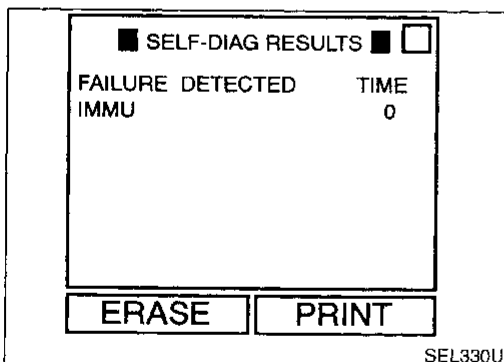
SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
Security ind. does not light up.	PROCEDURE 8 (EL-273)	Security ind.
		Open circuit between Fuse and NATS IMMU
		Continuation of initialization mode
		NATS IMMU

## DIAGNOSTIC SYSTEM DIAGRAM

NAEL0175S04



SEL087W

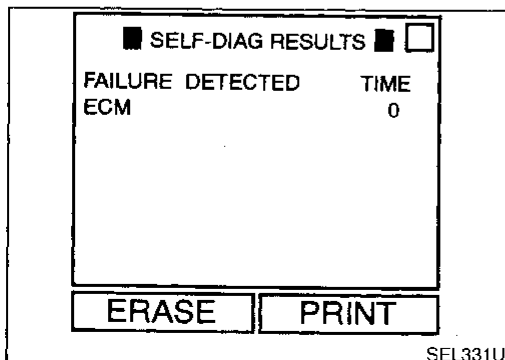


### DIAGNOSTIC PROCEDURE 1

NAEL0175S05

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

1. Confirm SELF-DIAGNOSTIC RESULTS "ECM" displayed on CONSULT screen. Ref. part No. B.
2. Replace IMMU.
3. Perform initialization with CONSULT.  
For initialization, refer to "CONSULT operation manual NATS".



### DIAGNOSTIC PROCEDURE 2

NAEL0175S06

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

1. Confirm SELF-DIAGNOSTIC RESULTS "ECM" displayed on CONSULT screen. Ref. part No. B.
2. Replace ECM.
3. Perform initialization with CONSULT.  
For initialization, refer to "CONSULT operation manual NATS".

# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

## DIAGNOSTIC PROCEDURE 3

NAEL0175S07

Self-diagnostic results:

“CHAIN OF ECM-IMMU” displayed on CONSULT screen

<b>1</b>	<b>CONFIRM SELF-DIAGNOSTIC RESULTS</b>
Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF ECM-IMMU” displayed on CONSULT screen.	
SEL333U	
Is CONSULT screen displayed as above?	
Yes	▶ GO TO 2.
No	▶ GO TO SYMPTOM MATRIX CHART 1.

<b>2</b>	<b>CHECK POWER SUPPLY CIRCUIT FOR IMMU</b>
1. Disconnect IMMU connector. 2. Check voltage between terminal 8 of IMMU and ground with CONSULT or tester.	
SEL088W	
Does battery voltage exist?	
Yes	▶ GO TO 3.
No	▶ <b>Check the following</b> <ul style="list-style-type: none"> <li>● 7.5A fuse (No. 62, located in the fuse and fusible link box)</li> <li>● Harness for open or short between fuse and IMMU connector</li> </ul> Ref. Part No. C1

<b>3</b>	<b>CHECK IGN SW. ON SIGNAL</b>
1. Turn ignition switch ON. 2. Check voltage between terminal 7 of IMMU and ground with CONSULT or tester.	
SEL089W	
Does battery voltage exist?	
Yes	▶ GO TO 4.
No	▶ <b>Check the following</b> <ul style="list-style-type: none"> <li>● 7.5A fuse [No. 11, located in the fuse block (J/B)]</li> <li>● Harness for open or short between fuse and IMMU connector</li> </ul> Ref. part No. C2

<b>4</b>	<b>CHECK GROUND CIRCUIT FOR IMMU</b>
1. Turn ignition OFF. 2. Check harness continuity between IMMU terminal 4 and ground.	
SEL090W	
Does continuity exist?	
Yes	▶ GO TO 5.
No	▶ Repair harness. Ref. part No. C3

# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

<b>5</b>	<b>CHECK COMMUNICATION LINE OPEN CIRCUIT</b>
<p>1. Disconnect ECM connector. 2. Check harness continuity between IMMU terminal 1 and ECM terminal 65.</p>	
<p style="text-align: right;">SEL091W</p>	
Does continuity exist?	
Yes	▶ GO TO 6.
No	▶ Repair harness or connector. Ref. part No. C4

<b>6</b>	<b>CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT</b>
<p>1. Turn ignition ON. 2. Check voltage between ECM terminal 65 or IMMU terminal 1 and ground.</p>	
<p style="text-align: right;">SEL092W</p>	
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

<b>7</b>	<b>CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT</b>
<p>1. Turn ignition switch OFF. 2. Check continuity between ECM terminal 65 or IMMU terminal 1 and ground.</p>	
<p style="text-align: right;">SEL093W</p>	
Continuity should not exist.	
OK or NG	
OK	▶ GO TO 8.
NG	▶ Communication line is short-circuited with ground line. Repair harness or connectors. Ref. part No. C4

<b>8</b>	<b>SELF-FUNCTION CHECK</b>
<p>1. Connect ECM connector and disconnect IMMU connector. 2. Turn ignition switch ON. 3. Touch "SELF-FUNCTION CHECK" on CONSULT "SELECT DIAG MODE" screen. 4. Touch "START". ECM will then check its communication interface by itself.</p>	
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p style="text-align: center;">■ SELF-FUNCTION CHECK ■</p> <p style="text-align: center;">TOUCH START, THE ECM WILL CHECK THE IMMU COMMUNICATION INTERFACE.</p> <p style="text-align: center; font-weight: bold; font-size: 1.2em;">START</p> </div> <p style="text-align: right;">SEL037V</p>	
SELF-FUNCTION CHECK result:	
OK or NG	
OK	▶ IMMU is malfunctioning. Replace IMMU. <b>Ref. part No. A</b> Perform initialization with CONSULT. For the operation of initialization, refer to "CONSULT operation manual NATS".
NG	▶ ECM is malfunctioning. Replace ECM. <b>Ref. part No. B</b> Perform initialization with CONSULT. For the operation of initialization, refer to "CONSULT operation manual NATS".

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# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

## DIAGNOSTIC PROCEDURE 4

=NAEL0175S08

Self-diagnostic results:

“DIFFERENCE OF KEY” displayed on CONSULT screen

<b>1</b>	<b>CONFIRM SELF-DIAGNOSTIC RESULTS</b>						
<p>Confirm SELF-DIAGNOSTIC RESULTS “DIFFERENCE OF KEY” displayed on CONSULT screen.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">■ SELF-DIAG RESULTS ■ □</p> <p>FAILURE DETECTED      TIME DIFFERENCE OF KEY      0</p> </div> <div style="margin: 10px auto; width: fit-content;"> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 10px;">ERASE</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">PRINT</div> </div> <p style="text-align: right; margin-right: 20px;">SEL344U</p> <p style="text-align: center;">Is CONSULT screen displayed as above?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Yes</td> <td style="width: 10%; text-align: center;">▶</td> <td>GO TO 2.</td> </tr> <tr> <td>No</td> <td style="text-align: center;">▶</td> <td>GO TO SYMPTOM MATRIX CHART 1.</td> </tr> </table>		Yes	▶	GO TO 2.	No	▶	GO TO SYMPTOM MATRIX CHART 1.
Yes	▶	GO TO 2.					
No	▶	GO TO SYMPTOM MATRIX CHART 1.					

<b>2</b>	<b>PERFORM INITIALIZATION WITH CONSULT</b>						
<p>Perform initialization with CONSULT. Re-register all NATS ignition key IDs. For initialization, refer to “CONSULT operation manual NATS”.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">■ C/U INITIALIZATION ■</p> <p style="text-align: center;">INITIALIZATION</p> <p style="text-align: center;">STOPPED or FAILED</p> <p style="text-align: center;">TURN IGN KEY SW “OFF” AND “ON”, AFTER CONFIRMING SELF-DIAG RESULTS, PERFORM C/U INITIALIZATION AGAIN.</p> </div> <p style="text-align: right; margin-right: 20px;">SEL038V</p> <p><b>NOTE:</b> If the initialization is not completed or fails, CONSULT shows above message on the screen. <b>Can the system be initialized?</b></p> <p style="text-align: center;"><b>Yes or No</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Yes</td> <td style="width: 10%; text-align: center;">▶</td> <td>Start engine. (END) (Ignition key ID was unregistered. <b>Ref. part No. D</b>)</td> </tr> <tr> <td>No</td> <td style="text-align: center;">▶</td> <td>IMMU is malfunctioning. Replace IMMU. <b>Ref. part No. A</b> Perform initialization with CONSULT. For initialization, refer to “CONSULT operation manual NATS”.</td> </tr> </table>		Yes	▶	Start engine. (END) (Ignition key ID was unregistered. <b>Ref. part No. D</b> )	No	▶	IMMU is malfunctioning. Replace IMMU. <b>Ref. part No. A</b> Perform initialization with CONSULT. For initialization, refer to “CONSULT operation manual NATS”.
Yes	▶	Start engine. (END) (Ignition key ID was unregistered. <b>Ref. part No. D</b> )					
No	▶	IMMU is malfunctioning. Replace IMMU. <b>Ref. part No. A</b> Perform initialization with CONSULT. For initialization, refer to “CONSULT operation manual NATS”.					



# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

## DIAGNOSTIC PROCEDURE 5

=NAEL0175S09

Self-diagnostic results:

“CHAIN OF IMMU-KEY” displayed on CONSULT screen

<b>1</b>	<b>CONFIRM SELF-DIAGNOSTIC RESULTS</b>						
Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF IMMU-KEY” displayed on CONSULT screen.							
<table border="1" style="margin: auto;"> <tr> <td colspan="2" style="text-align: center;"> <input checked="" type="checkbox"/> SELF-DIAG RESULTS <input type="checkbox"/> </td> </tr> <tr> <td style="text-align: center;">FAILURE DETECTED</td> <td style="text-align: center;">TIME</td> </tr> <tr> <td style="text-align: center;">CHAIN OF IMMU-KEY</td> <td style="text-align: center;">0</td> </tr> </table>		<input checked="" type="checkbox"/> SELF-DIAG RESULTS <input type="checkbox"/>		FAILURE DETECTED	TIME	CHAIN OF IMMU-KEY	0
<input checked="" type="checkbox"/> SELF-DIAG RESULTS <input type="checkbox"/>							
FAILURE DETECTED	TIME						
CHAIN OF IMMU-KEY	0						
<table border="1" style="margin: auto;"> <tr> <td style="text-align: center;">ERASE</td> <td style="text-align: center;">PRINT</td> </tr> </table>		ERASE	PRINT				
ERASE	PRINT						
SEL373U							
Is CONSULT screen displayed as above?							
Yes	▶ GO TO 2.						
No	▶ GO TO SYMPTOM MATRIX CHART 1.						

<b>2</b>	<b>CHECK NATS IGNITION KEY ID CHIP</b>
Start engine with another registered NATS ignition key.	
Does the engine start?	
Yes	▶ Ignition key ID chip is malfunctioning. Replace the ignition key. <b>Ref. part No. E</b> Perform initialization with CONSULT. For initialization, refer to “CONSULT operation manual NATS”.
No	▶ GO TO 3.

<b>3</b>	<b>CHECK NATS IMMU INSTALLATION</b>
Check NATS IMMU installation. Refer to “How to Replace NATS IMMU” in EL-274.	
OK or NG	
OK	▶ IMMU is malfunctioning. Replace IMMU. <b>Ref. part No. A</b> Perform initialization with CONSULT. For initialization, refer to “CONSULT operation manual NATS”.
NG	▶ Reinstall NATS IMMU correctly.

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# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

## DIAGNOSTIC PROCEDURE 6

=NAEL0175S10

Self-diagnostic results:

"ID DISCORD, IMM-ECM" displayed on CONSULT screen

<b>1</b>	<b>CONFIRM SELF-DIAGNOSTIC RESULTS</b>						
Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM" displayed on CONSULT screen.							
<table border="1"> <tr> <td colspan="2" style="text-align: center;">■ SELF-DIAG RESULTS ■ <input type="checkbox"/></td> </tr> <tr> <td>FAILURE DETECTED</td> <td>TIME</td> </tr> <tr> <td>ID DISCORD,IMM-ECM</td> <td>0</td> </tr> </table>		■ SELF-DIAG RESULTS ■ <input type="checkbox"/>		FAILURE DETECTED	TIME	ID DISCORD,IMM-ECM	0
■ SELF-DIAG RESULTS ■ <input type="checkbox"/>							
FAILURE DETECTED	TIME						
ID DISCORD,IMM-ECM	0						
<table border="1"> <tr> <td style="padding: 5px;">ERASE</td> <td style="padding: 5px;">PRINT</td> </tr> </table>		ERASE	PRINT				
ERASE	PRINT						
SEL383U							
<p><b>NOTE:</b> "ID DISCORD IMM-ECM": Registered ID of IMMU is in discord with that of ECM.</p>							
<p><b>Is CONSULT screen displayed as above?</b></p>							
Yes	▶ GO TO 2.						
No	▶ GO TO SYMPTOM MATRIX CHART 1.						

<b>2</b>	<b>PERFORM INITIALIZATION WITH CONSULT</b>								
Perform initialization with CONSULT. Re-register all NATS ignition key IDs. For initialization, refer to "CONSULT operation manual NATS".									
<table border="1"> <tr> <td colspan="2" style="text-align: center;">■ C/U INITIALIZATION ■</td> </tr> <tr> <td colspan="2" style="text-align: center;">INITIALIZATION</td> </tr> <tr> <td colspan="2" style="text-align: center;">STOPPED or FAILED</td> </tr> <tr> <td colspan="2" style="text-align: center;">TURN IGN KEY SW "OFF" AND "ON", AFTER CONFIRMING SELF-DIAG RESULTS, PERFORM C/U INITIALIZATION AGAIN.</td> </tr> </table>		■ C/U INITIALIZATION ■		INITIALIZATION		STOPPED or FAILED		TURN IGN KEY SW "OFF" AND "ON", AFTER CONFIRMING SELF-DIAG RESULTS, PERFORM C/U INITIALIZATION AGAIN.	
■ C/U INITIALIZATION ■									
INITIALIZATION									
STOPPED or FAILED									
TURN IGN KEY SW "OFF" AND "ON", AFTER CONFIRMING SELF-DIAG RESULTS, PERFORM C/U INITIALIZATION AGAIN.									
SEL038V									
<p><b>NOTE:</b> If the initialization is not completed or fails, CONSULT shows above message on the screen.</p>									
<p><b>Can the system be initialized?</b></p>									
<p><b>Yes or No</b></p>									
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. For initialization, refer to "CONSULT operation manual NATS".								

## DIAGNOSTIC PROCEDURE 7

NAEL0175S11

Self-diagnostic results:

"ELECTRONIC NOISE" displayed on CONSULT screen

<b>1</b>	<b>CONFIRM SELF-DIAGNOSTIC RESULTS</b>						
Confirm SELF-DIAGNOSTIC RESULTS "ELECTRONIC NOISE" displayed on CONSULT screen.							
<table border="1"> <tr> <td colspan="2" style="text-align: center;">■ SELF-DIAG RESULTS ■ <input type="checkbox"/></td> </tr> <tr> <td>FAILURE DETECTED</td> <td>TIME</td> </tr> <tr> <td>ELECTRONIC</td> <td>0</td> </tr> </table>		■ SELF-DIAG RESULTS ■ <input type="checkbox"/>		FAILURE DETECTED	TIME	ELECTRONIC	0
■ SELF-DIAG RESULTS ■ <input type="checkbox"/>							
FAILURE DETECTED	TIME						
ELECTRONIC	0						
<table border="1"> <tr> <td style="padding: 5px;">ERASE</td> <td style="padding: 5px;">PRINT</td> </tr> </table>		ERASE	PRINT				
ERASE	PRINT						
SEL039V							
<p><b>Is CONSULT screen displayed as above?</b></p>							
Yes	▶ GO TO 2.						
No	▶ GO TO SYMPTOM MATRIX CHART 1.						

<b>2</b>	<b>TURN OFF AND REMOVE NOISE</b>
1. Turn off or remove any possible noise sources. 2. Touch "ERASE" on CONSULT SELF-DIAGNOSTIC RESULTS screen. 3. Start engine.	
<p><b>Does engine start?</b></p>	
Yes	▶ INSPECTION END
No	▶ GO TO 1.

# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

## DIAGNOSTIC PROCEDURE 8

### “SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

—NAEL0175S12

<b>1</b>	<b>CHECK FUSE</b>
Check 7.5A fuse [No. 24, located in the fuse block (J/B)].	
<b>Is 7.5A fuse OK?</b>	
Yes	▶ GO TO 2.
No	▶ Replace fuse.

<b>2</b>	<b>CHECK SECURITY INDICATOR LAMP</b>
<ol style="list-style-type: none"> <li>1. Install 7.5A fuse.</li> <li>2. Perform initialization with CONSULT. For initialization, refer to “CONSULT operation manual NATS”.</li> <li>3. Turn ignition switch OFF.</li> <li>4. Start engine and turn ignition switch OFF.</li> <li>5. Check the security indicator lamp lighting.</li> </ol>	
<b>Does security indicator lamp light up?</b>	
Yes	▶ INSPECTION END
No	▶ GO TO 3.

<b>3</b>	<b>CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT</b>
<ol style="list-style-type: none"> <li>1. Disconnect security indicator lamp connector.</li> <li>2. Check voltage between security indicator lamp connector terminal 1 and ground.</li> </ol>	
<b>Does battery voltage exist?</b>	
Yes	▶ GO TO 4.
No	▶ Check harness for open or short between fuse and security indicator lamp.

<b>4</b>	<b>CHECK SECURITY INDICATOR LAMP</b>
Check security Indicator Lamp.	
<b>Is security indicator lamp OK?</b>	
Yes	▶ GO TO 5.
No	▶ Replace security indicator lamp.

<b>5</b>	<b>CHECK NATS IMMU FUNCTION</b>
<ol style="list-style-type: none"> <li>1. Connect NATS IMMU connector.</li> <li>2. Disconnect security indicator lamp connector.</li> <li>3. Check continuity between NATS IMMU terminal 5 and ground.</li> </ol>	
<b>Does continuity exist intermittently?</b>	
Yes	▶ Check harness for open or short between security indicator lamp and NATS IMMU.
No	▶ NATS IMMU is malfunctioning. Replace IMMU. Perform initialization with CONSULT. For initialization, refer to “CONSULT operation manual NATS”.

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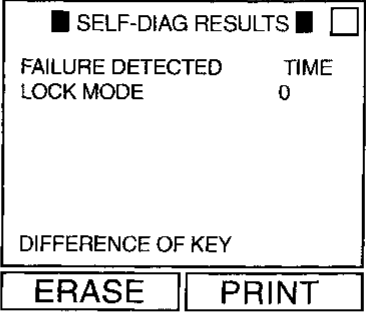
# NVIS (NISSAN VEHICLE IMMOBILISER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

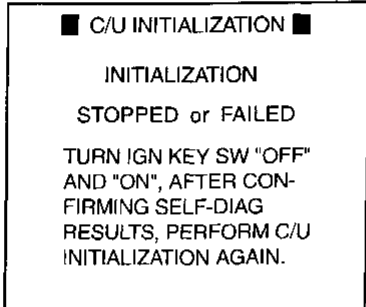
## DIAGNOSTIC PROCEDURE 9

NAEL0175S13

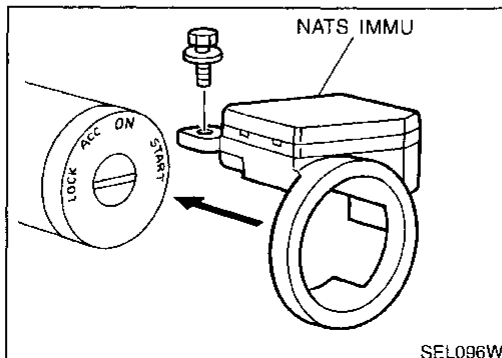
Self-diagnostic results:  
"LOCK MODE" displayed on CONSULT screen

<b>1</b>	<b>CONFIRM SELF-DIAGNOSTIC RESULTS</b>
Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT screen.	
	
SEL790U	
<b>Is CONSULT screen displayed as above?</b>	
Yes	▶ GO TO 2.
No	▶ GO TO SYMPTOM MATRIX CHART 1.

<b>3</b>	<b>CHECK NATS IMMU ILLUSTRATION</b>
Check NATS IMMU installation. Refer to "How to Replace NATS IMMU" in EL-274.	
<b>OK or NG</b>	
OK	▶ GO TO 4.
NG	▶ Reinstall NATS IMMU correctly.

<b>4</b>	<b>PERFORM INITIALIZATION WITH CONSULT</b>
Perform initialization with CONSULT. For initialization, refer to "CONSULT operation manual NATS".	
	
SEL038V	
<b>NOTE:</b> If the initialization is not completed or fails, CONSULT shows the above message on the screen. <b>Can the system be initialized?</b>	
<b>Yes or No</b>	
Yes	▶ System is OK.
No	▶ GO TO DIAGNOSTIC PROCEDURE 5 to check "CHAIN OF IMMU-KEY", refer to EL-271.

<b>2</b>	<b>ESCAPE FROM LOCK MODE</b>
<ol style="list-style-type: none"> <li>Turn ignition switch OFF.</li> <li>Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds.</li> <li>Return the key to OFF position.</li> <li>Repeat steps 2 and 3 twice (total of three cycles).</li> <li>Start the engine.</li> </ol>	
<b>Does engine start?</b>	
Yes	▶ System is OK. (Now system is escaped from "LOCK MODE".)
No	▶ GO TO 3.



## How to Replace NATS IMMU

NAEL0176

### NOTE:

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

## Precaution

NAEL0177

**CAUTION:**

- Use CONSULT to set the system "Demonstration mode" if NISSAN Communicator needs to be activated during service procedures. (For details of the demonstration mode, refer to EL-306.)
- Make sure to turn the demonstration mode OFF before returning the vehicle to the owner.
- In the demonstration mode, no service from the Communicator Response Center is available. Therefore, even if the customer encounters an emergency, no service will be dispatched.
- If the theft warning system is activated for more than 7 seconds, NISSAN Communicator will dial to the Communicator Response Center automatically. The operator will contact the customer to confirm whether the vehicle has been stolen or not.
- When "Mayday" emergency dialing is activated (if the system is not in the demonstration mode), the Communicator Response Center operator will come online. If there is no emergency, the operator will ask the occupant for the user password (option). Failure to provide the correct password results in a police response.
- IVCS unit memory includes VIN (Vehicle Identification Number) and other such vehicle specific data. Therefore, the IVCS unit cannot be transferred to another vehicle. When the IVCS unit is replaced, the new unit must be set up and programmed. The NISSAN Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started after a phone number has been changed or a module (IVCS unit) is replaced. The VIN will be written in the memory of the new unit by transmitting data from the Communicator Response Center. For details, refer to "System Setting", EL-308.
- Before servicing the vehicle, confirm that the VIN memorized by the IVCS unit is the same as the VIN on the vehicle's identification plate.

### Communicator Response Center Telephone Number for Technicians

NAEL0178

The Communicator Response Center telephone number for technicians is **1-888-427-4812**.

Whenever an NISSAN dealer technician dials the above number, the following information will be required by the Communicator Response Center operator.

- Customer name
- Unit ID number of old IVCS unit (For details, refer to EL-294.)
- Unit ID number of new IVCS unit
- VIN
- Dealer name and code (For security purposes)
- Dealer contact person (technician)
- Dealer phone and fax numbers

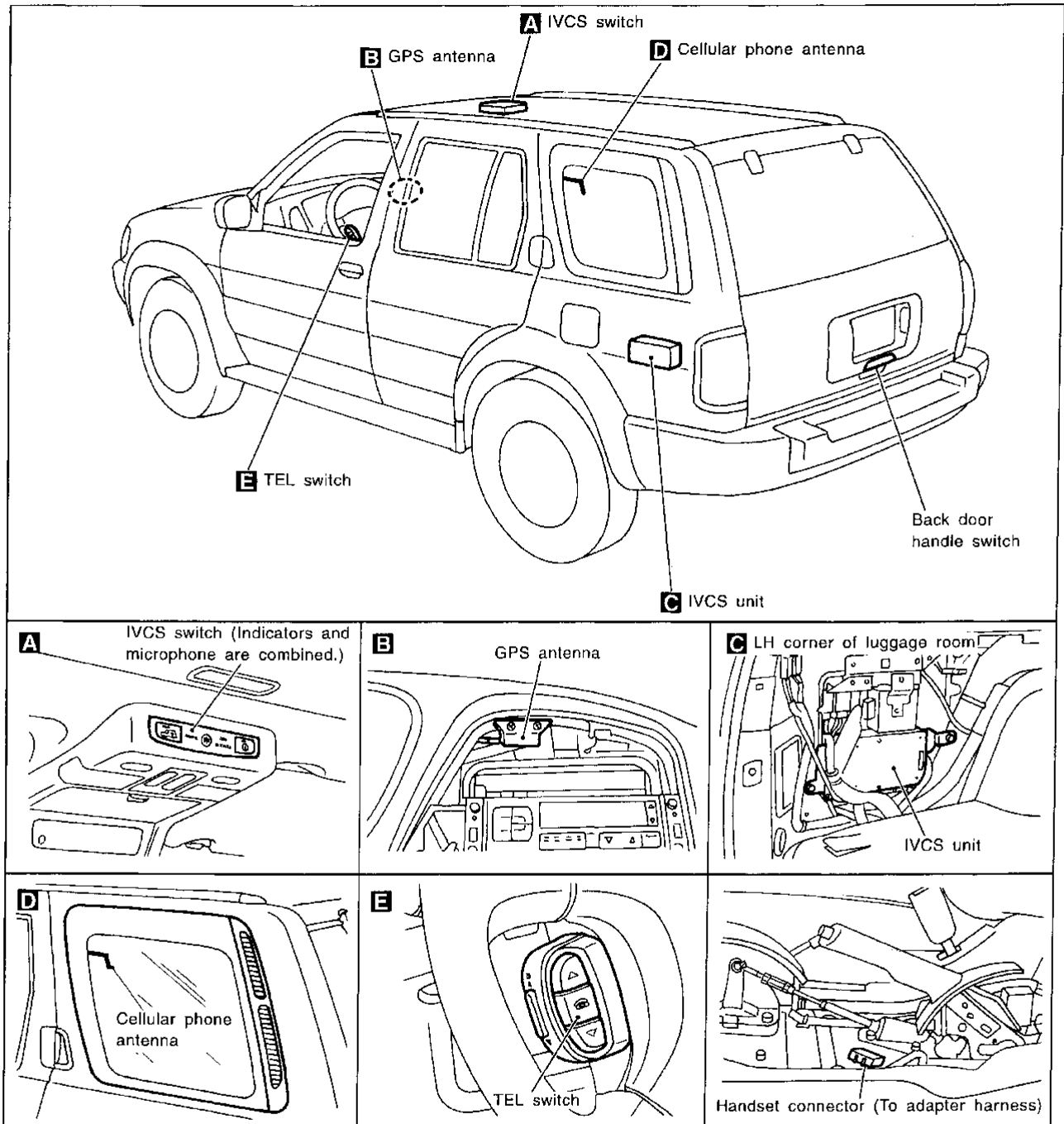
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# NISSAN COMMUNICATOR (IVCS)

Component Parts and Harness Connector Location

## Component Parts and Harness Connector Location

NAEL0179



SEL098W

## System Description

### OUTLINE

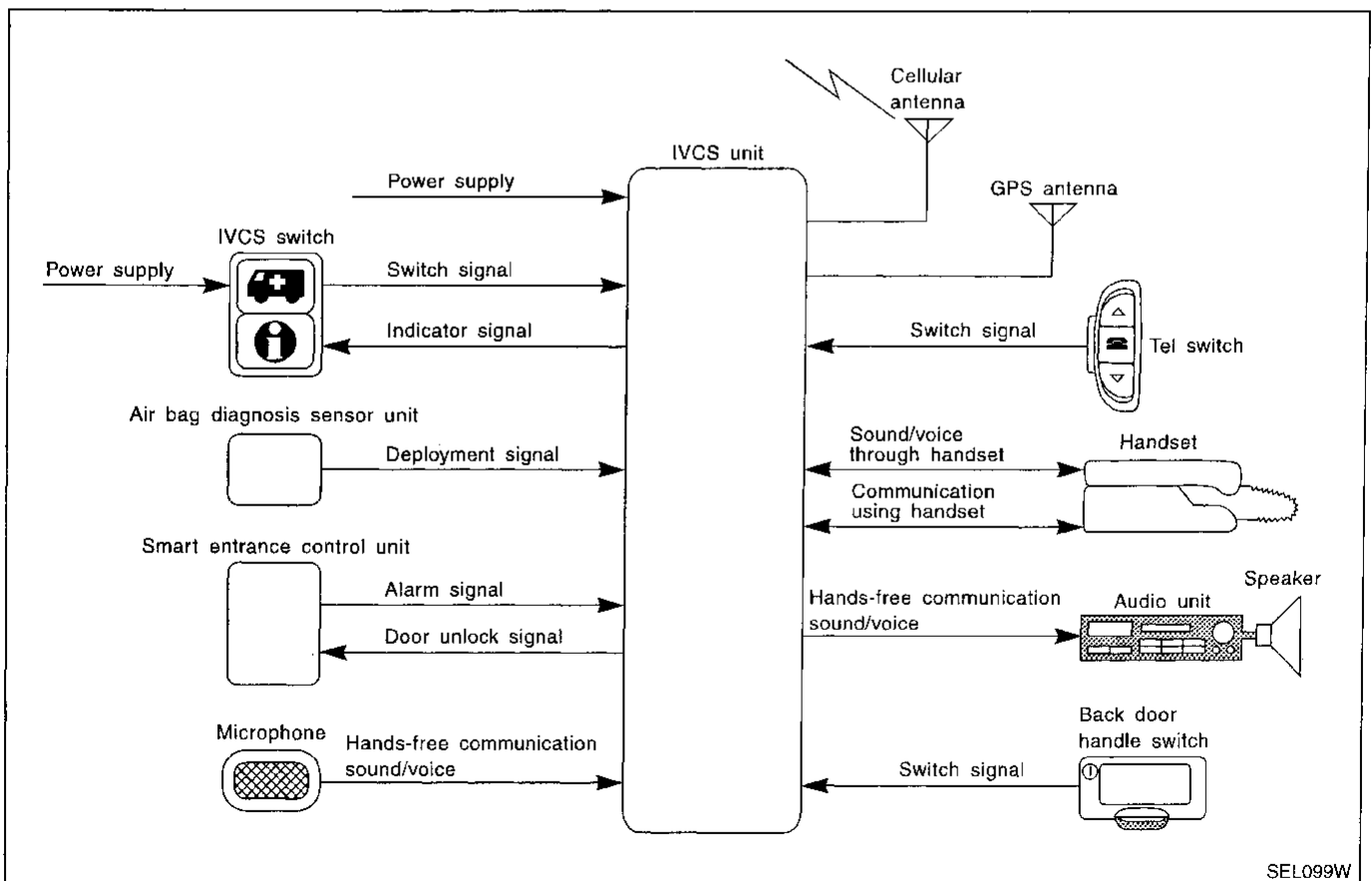
NISSAN Communicator system uses the Global Positioning System (GPS), cellular phone technology and the Communicator Response Center to provide the following functions.

- One touch "Information" dialing
- One touch "Mayday" emergency dialing
- Automatic air bag inflation notification
- Stolen vehicle tracking
- Alarm notification
- Remote door unlock

There are limitations to the NISSAN Communicator system. To understand the system, read SYSTEM LIMITATIONS (EL-278) thoroughly.

### SYSTEM COMPOSITION

- The NISSAN Communicator system is controlled by the IVCS (In Vehicle Communication System) unit. System status ("Mayday"-emergency dialing, or re-dialing, etc.) is displayed by the indicators in the IVCS switch.
- The NISSAN Communicator system can only make calls to the Communicator Response Center and receive calls from the center, unless the customer chooses to have the optional handset install.



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## SYSTEM LIMITATIONS

NAEL0180S03

### Service Area

NAEL0180S0301

Depending on the cellular provider chosen, service is provided in the 48 contiguous states. Service is not available in Alaska, Hawaii, Canada, or Mexico. The Communicator Response Center will not be able to locate the customer's vehicle outside of the continental United States.

### Inoperative if Cellular Phone is Inactive or Inoperative

NAEL0180S0302

NISSAN Communicator will be inoperative if the customer does not have an active account with cellular provider, since NISSAN Communicator relies on the cellular network. When the NISSAN Communicator system is outside of cellular service, the "NO SERVICE" indicator will illuminate. If you try to activate NISSAN Communicator, the REQUEST will be cancelled. Cellular phone transmission may become temporarily disabled, or interrupted by environmental factors like tunnels, bridges, or tall buildings. In such cases, NISSAN Communicator will re-dial up to four times. After several failed attempts, the system will quit dialing and return to normal mode.

### Inoperative if The System is in The Demonstration Mode

NAEL0180S0303

The NISSAN Communicator system remains in the demonstration mode until the setup procedures are completed. If the system is activated in this mode, the Communicator Response Center will recognize this operation as a demonstration and will not provide any service. The system can be changed to the demonstration mode by using CONSULT to check the system operation. Do not forget to turn off the demonstration mode after confirmation.

### Battery

NAEL0180S0304

Since NISSAN Communicator is powered by the vehicle's battery, if the battery is removed, damaged or discharged, the system will not work.

### Inoperative if Cellular System is Busy

NAEL0180S0305

When NISSAN Communicator tries to contact the Communicator Response Center, but the cellular network is busy, the system attempts to re-dial for up to two hours. This time varies greatly depending on the cellular network and cellular signal strength. The system resets to ready when the system completes the re-dialing attempts.

### Roaming

NAEL0180S0306

If the customer's cellular provider does not have a roaming agreement with the provider where the vehicle locates, it may not be possible to use the lines of a different cellular provider. Therefore, it is impossible that NISSAN Communicator will contact the Communicator Response Center.

### Special Cellular Features

NAEL0180S0307

Some cellular carriers offer custom phone numbers that are assigned a Personal Identification Number (PIN). The cellular phone user is required to enter the PIN anytime a phone call is made. The NISSAN Communicator system is not compatible with the PIN feature. A PIN requirement on the cellular phone will cause the NISSAN Communicator system to be inoperative.

Other special features such as call waiting, voice mail, call forwarding, etc. can interfere with NISSAN Communicator system operation.



## Cellular Airwave Interference

NAEL0180S0308

At times someone other than the Communicator Response Center operator may be heard. This is caused by Cellular Airwave Interference and is not caused by an NISSAN Communicator system malfunction.

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## Possibility of Positioning Capability Degraded

NAEL0180S0309

Vehicle positioning is accomplished using the GPS (Global Positioning System). If the signal from the GPS satellite is obstructed by a tunnel or building, positioning capability may be degraded or lost. In this case, the last valid position obtained before the obstruction is transmitted to the Communicator Response Center. The precision is also influenced by the location of GPS satellites.

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Once the battery cable is disconnected, it will take about 5 minutes to determine the vehicle location. This is because the memory related to GPS is lost when the battery cable is disconnected.

FE

## OPERATION

### One Touch "Information" Dialing

NAEL0180S04

NAEL0180S0401

- If the vehicle becomes disabled due to problems such as engine trouble, press the "Information" switch to connect to the Communicator Response Center and receive the desired service.
- When the indicator lamp on the switch lights up, it means that the system has started to contact the Communicator Response Center. (Voice communication with Communicator Response Center operator is not available while DATA is being transmitted even if the indicator lamp is lit.)
- When the indicator lamp blinks, it means that the system is preparing for cellular connection or attempting to re-dial.

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### One Touch "Mayday" Emergency Dialing

NAEL0180S0402

- When an emergency occurs, press the "Mayday" emergency switch to connect to the Communicator Response Center. With this report, the Communicator Response Center recognizes that an emergency has occurred and provides necessary service.
- The operator will request a password (if the customer chooses to establish a password). If the wrong password or if no password is provided, the Communicator Response Center will assume the customer is in a duress situation and dispatch police.
- When no voice reply is heard from the vehicle or the sound heard indicates an emergency situation, the Communicator Response Center will have the police rush to the scene.
- Other operations are the same as service dialing.

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### Automatic Air Bag Inflation Notification

NAEL0180S0403

- When an air bag inflates, the air bag diagnosis sensor unit sends the air bag inflation signal to the IVCS unit, and the system automatically dials the Communicator Response Center to report the occurrence of an accident.

BT

HA

### Stolen Vehicle Tracking

NAEL0180S0404

- When a vehicle is stolen, the owner can contact the Communicator Response Center to attempt to locate the stolen vehicle. The Communicator Response Center will activate the stolen vehicle tracking to locate the vehicle. If the Communicator Response Center successfully locates the vehicle, they will contact the police to provide the location.

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# NISSAN COMMUNICATOR (IVCS)

## System Description (Cont'd)

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- The vehicle location data is calculated using GPS.
- The vehicle ignition switch must be turned to the ON position to obtain the vehicle location. (This is because the system is in the sleep mode when the ignition switch is OFF.)
- Once this function starts up, regardless of the ignition switch position, the system keeps transmitting the vehicle location until the cancel signal is transmitted from the Communicator Response Center.
- While this function is operating, the operator can covertly monitor what is happening inside the vehicle through the hands-free microphone.

### Alarm Notification

NAEL0180S0405

- When theft warning system sounds an alarm for more than 7 seconds because of improper access, the alarm signal is transmitted from the smart entrance control unit to the IVCS unit, and the system executes automatic dialing to the Communicator Response Center.  
If the alarm is reset before 7 seconds has elapsed, the NISSAN Communicator will not place a call to the Communicator Response Center.
- This function operates regardless of ignition switch position.
- While this function is operating, the operator can covertly monitor what is happening inside the vehicle through the hands-free microphone.

### Remote Door Unlock

NAEL0180S0406

- When the door is locked with the key inside the vehicle, the door can be unlocked by contacting the Communicator Response Center (Proof that the person calling is the owner must be received by the Communicator Response Center.)
- When the ignition key is in the "OFF" position, the system is in the sleep mode. Therefore, back door outside handle must be pulled to wake up the system.
- To perform remote door unlock, call the Communicator Response Center and follow the operator's instructions.

### NOTE:

- **When the system contacts the Communicator Response Center, data including the vehicle location is transmitted to the Communicator Response Center.**
- **Communication with the Communicator Response Center is not completed until the completion signal is transmitted from the Communicator Response Center. (Any calls to the Communicator Response Center can only be terminated by Communicator Response Center.)**
- **Functions other than alarm notification and remote door unlock operate while the ignition switch is ON and only for three minutes after the switch is turned OFF.**
- **Once a call to the Communicator Response Center is made, the communication continues regardless of the ignition key switch position.**
- **All the voice communication with the Communicator Response Center is made through the hands-free telephone.**
- **When the NISSAN Communicator system is activated, the handset does not function.**

## DATA TRANSMITTING

NAEL0180S05

When contact to the Communicator Response Center is made, vehicle sends electrical data including type of activation (i.e., emergency call or alarm notification), vehicle location, time, etc.

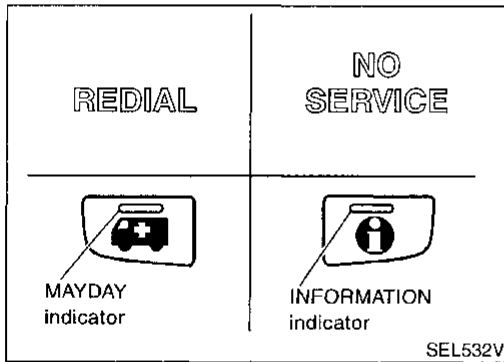
## SLEEP/WAKE UP CONTROL

NAEL0180S06

3 minutes after the ignition switch is turned OFF, the system goes into the SLEEP MODE to save battery power supply. Communication with Communicator Response Center is not available in the SLEEP MODE.

To wake up the system, perform either of the following operations.

- Turn Ignition switch ON.
- Pull back door outside handle for more than 10 seconds. (Operation for door unlock function)



## INDICATOR LAMPS OPERATION

NAEL0180S07

The system status is displayed as below by the indicator lamps.

Indicator	Condition	Description
MAYDAY	Blinks.	System is trying to acquire an available cellular channel by "Mayday" switch operation.
	Lights up. (See NOTE.)	System is connected to a cellular channel and is communicating information to the Communicator Response Center.
INFORMATION	Blinks.	System is trying to acquire an available cellular channel by "Information" switch operation.
	Lights up. (See NOTE.)	System is connected to a cellular channel and is communicating information to the Communicator Response Center.
REDIAL	Lights up.	Re-dialing
	Blinks.	Waiting for re-dial
NO SERVICE	Lights up.	Out of CELLULAR PHONE service area or signal is too weak.

### NOTE:

- When connection to Communicator Response Center by re-dial ends in failure, all the indicators are turned off.
- All indicators illuminate for up to 30 seconds or more when ignition switch is turned from OFF to ON and the system performs a self check.
- If both of MAYDAY and INFORMATION indicators do not turn off 30 seconds or more after the ignition switch is turned to ON, the system is malfunctioning.

## AUTOMATIC RE-DIAL/AUTO RESET TO READY

NAEL0180S08

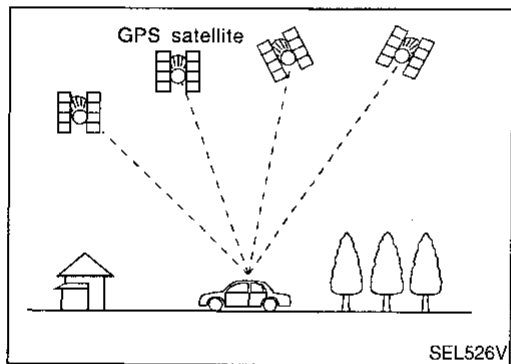
- When NISSAN Communicator tries to contact the Communicator Response Center, but the cellular network is busy, the system attempts to dial for up to 2 hours. This time varies

# NISSAN COMMUNICATOR (IVCS)

System Description (Cont'd)

greatly depending on the cellular network and cellular signal strength. The system resets to ready when the system completes the dialing attempts. The vehicle owner can press the button again if he or she still needs to contact the Communicator Response Center.

- NISSAN Communicator automatically redials if communication between the vehicle owner and Communicator Response Center is lost for some reason.
- The only way for a transmission to be officially terminated is for the Communicator Response Center to send an end transmission signal, which turns off the indicator in the switch. (Communication with Communicator Response Center can not be terminated by the occupant.)
- If the vehicle owner start the engine during a call, the conversation may be interrupted. When this happens the system may try to resume transmission once after the engine has been started.



## GPS (GLOBAL POSITIONING SYSTEM)

NAEL0180509

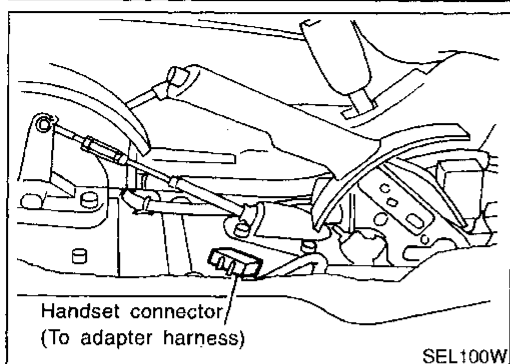
GPS is the global positioning system developed and operated by the US Department of Defense. GPS satellites (NAVSTAR) transmit radio waves and orbit around the earth at an altitude of approximately 21,000 km (13,000 miles).

GPS receiver calculates the three-dimensional position of the vehicle (latitude, longitude, and altitude from the sea level) by the time difference of the radio wave arriving from more than four GPS satellites (three-dimensional positioning).

When the radio wave is received from only three GPS satellites, the two-dimensional position (latitude and longitude) is calculated, using the altitude from the sea level data calculated by using four GPS satellites (two-dimensional positioning).

Positioning capability is degraded in the following cases.

- In two-dimensional positioning, when the vehicle's altitude from the sea level changes, the precision becomes lower.
- The location detection performance can have an error of about 100 m (300 ft) even in three-dimensional positioning with high precision. Because the precision is influenced by the location of GPS satellites used for positioning, the location detection performance may drop depending on the location of GPS satellites.
- When the radio wave from GPS satellites cannot be received, for example, when the vehicle is in a tunnel, in a parking lot inside building, under an elevated superhighway or near strong power lines, the location may not be detected. Turbulent/electric weather conditions may also affect positioning performance. If something is placed on the antenna, the radio wave from GPS satellites may not be received.

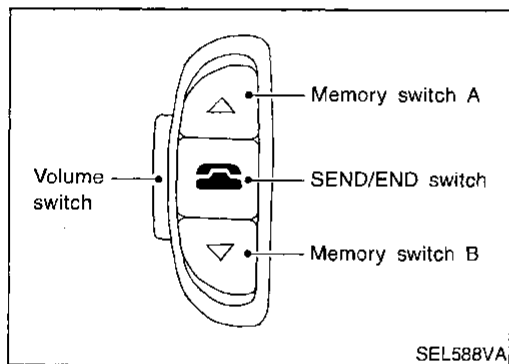


## HANDSET

NAEL0180S10

### NOTE:

- If a handset is installed, NISSAN Communicator can be used as a normal cellular phone.
- If NISSAN Communicator is activated when NISSAN Communicator system's cellular phone is in use, the current phone transmission will be cut and NISSAN Communicator will dial the Communicator Response Center. The cellular handset will be disabled, and communication with the Communicator Response Center operator will be carried out through the hands-free microphone.
- After communication with Communicator Response Center is finished, the handset last number memory will be erased.
- While NISSAN Communicator is activated, the handset becomes inoperative and all communication with the operator is accomplished via the hands-free phone. When an activation is terminated, the handset will be unlocked.



## TEL SWITCH

NAEL0180S11

When any of the TEL switches is pressed, the TEL switch which is combined with the multiplex transmitting unit sends operational commands to the IVCS unit. TEL switch has following three functions.

- Volume adjust
- Placing re-dial call
- Placing memorized call (The telephone numbers are stored in the handset. A maximum of 6 memories are operative.)

## VOLUME Switch

NAEL0180S1103

Voice volume from the front RH speaker can be adjusted by using the VOLUME switch.

## SEND/END Switch Operation

NAEL0180S1101

- When a call is received, press SEND/END switch to permit conversation.
- At the completion of the conversation, press the SEND/END switch to terminate the call.
- To re-dial the last phone number, press SEND/END switch.

## MEMORY Switch Operation

NAEL0180S1102

- A maximum of 6 telephone numbers which stored in the memory of the handset can be dialed by MEMORY switch operation.
- The last phone number is erased if the ignition switch is turned off or if the NISSAN Communicator system has been activated.
- For the procedure to input telephone numbers, refer to the handset operation manual.
- To select memory 1 to 6, push MEMORY switch A or B. Every push on the switch changes the memory as follows.  
 SWITCH A: Memory 1 → 2 → 3 → OFF  
 SWITCH B: Memory 4 → 5 → 6 → OFF  
 After selecting memory, push SEND/END switch to make a call.

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

## NISSAN COMMUNICATOR (IVCS)

*System Description (Cont'd)*

---

**NOTE:**

**Memory switches are not functional unless handset is installed.**



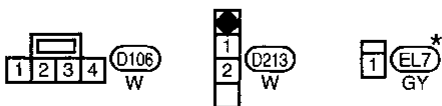
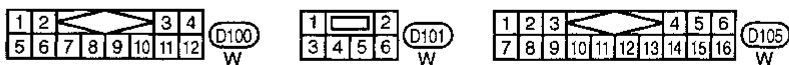
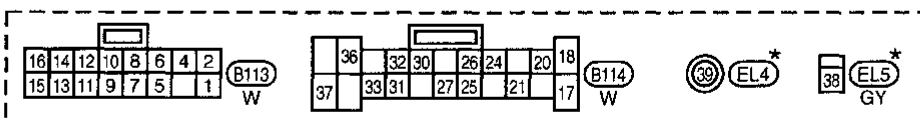
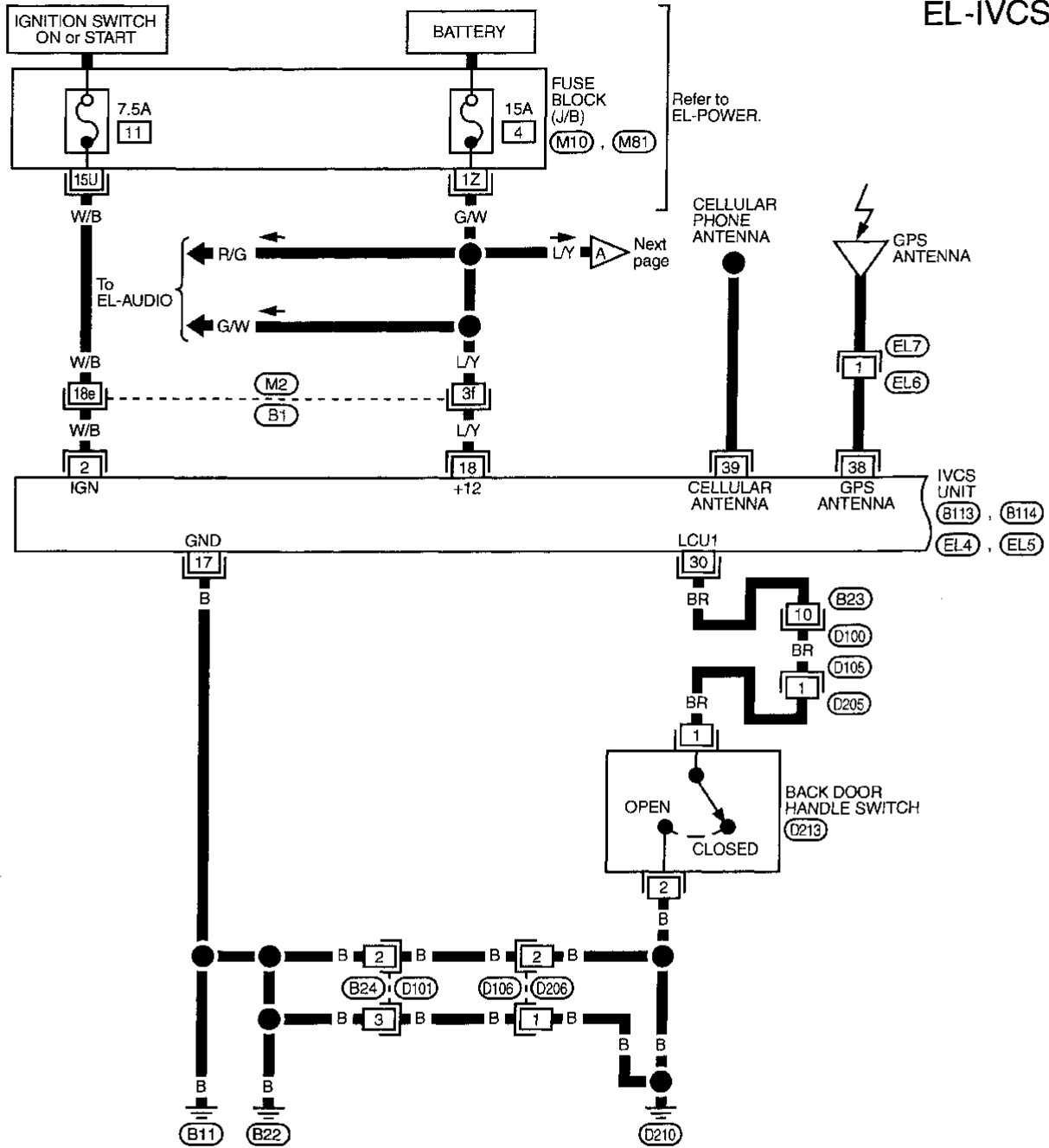
# NISSAN COMMUNICATOR (IVCS)

Wiring Diagram — IVCS —

## Wiring Diagram — IVCS —

NAEL0182

EL-IVCS-01



Refer to last page (Foldout page).

- (M2), (B1)
- (M10)
- (M81)

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

MEL005K

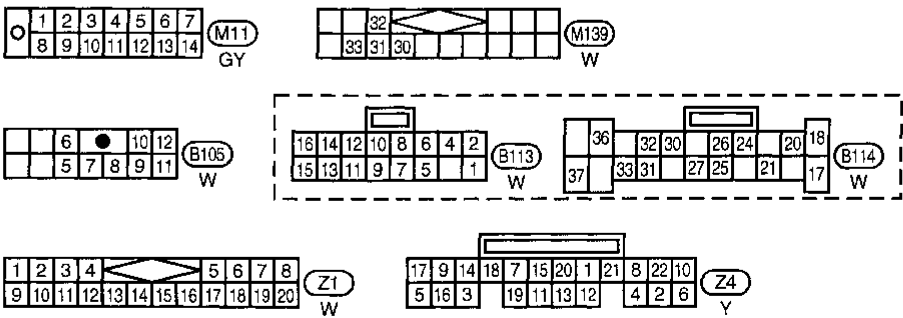
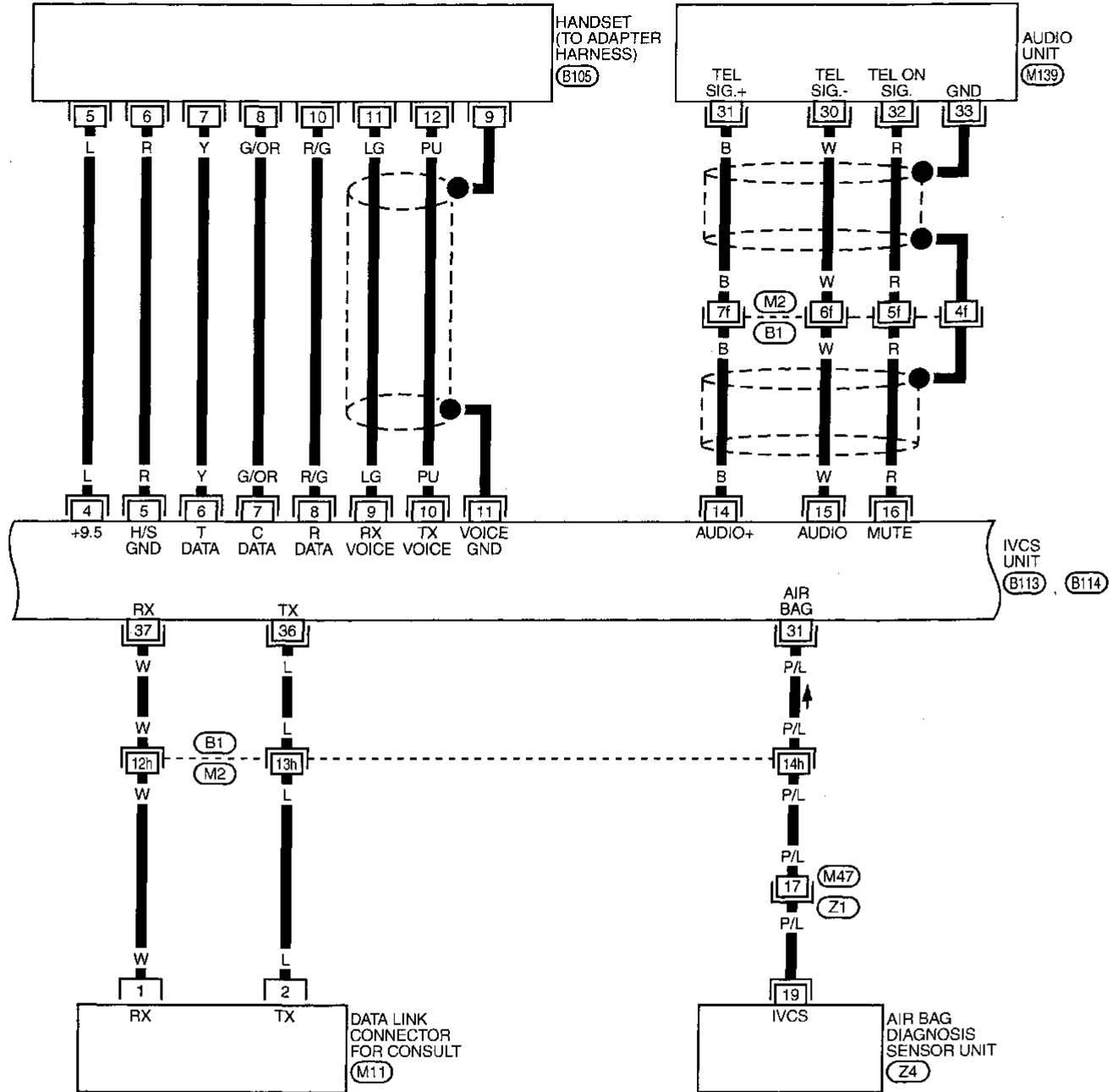




# NISSAN COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

EL-IVCS-03

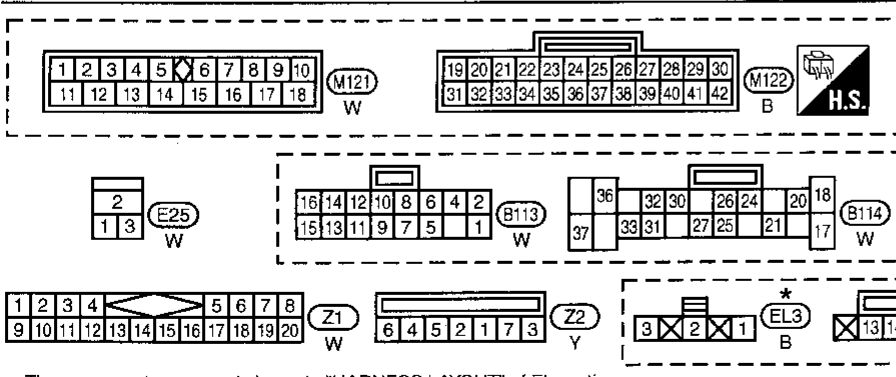
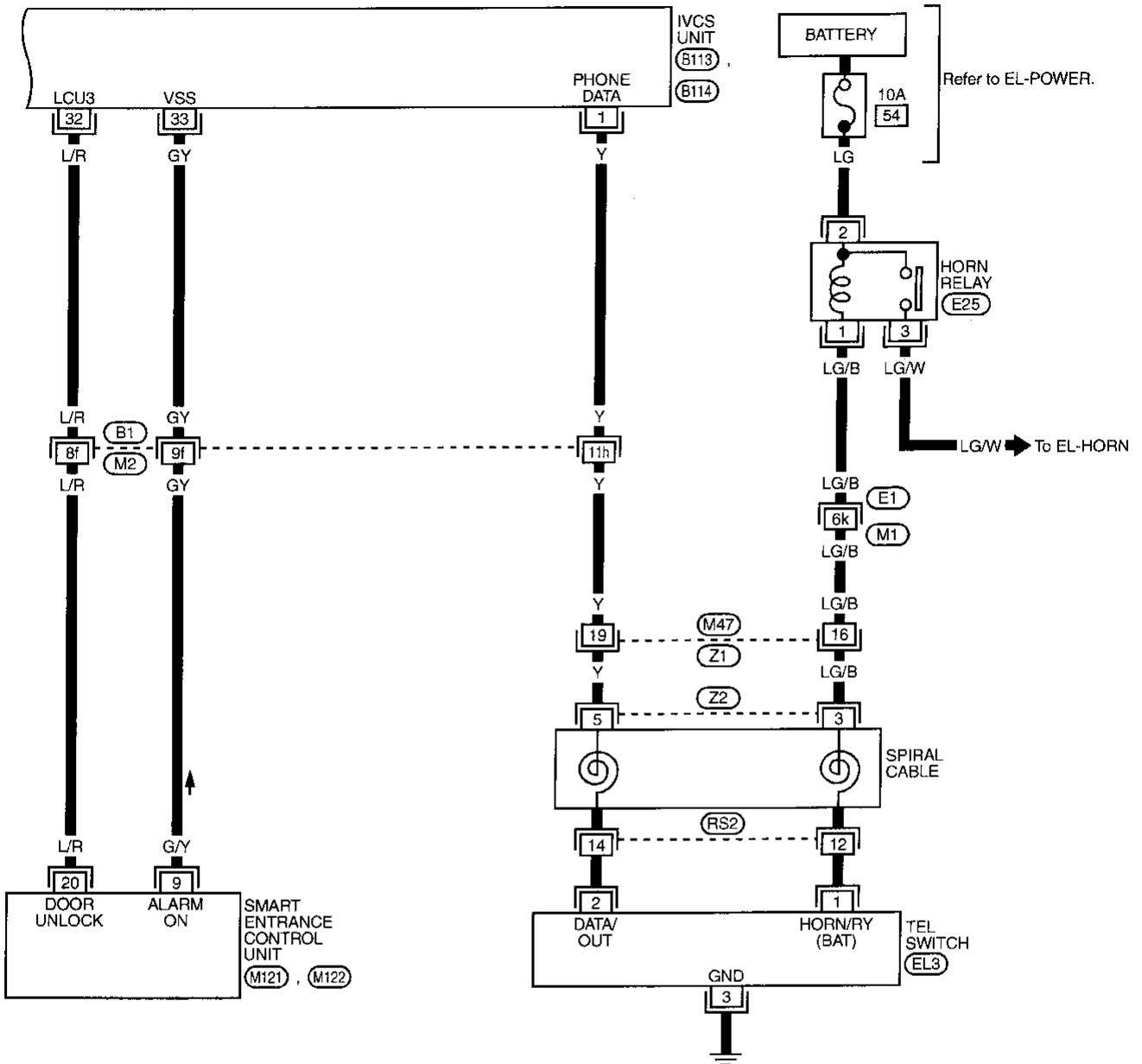


Refer to last page (Foldout page).  
M2, B1

# NISSAN COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

EL-IVCS-04



Refer to last page (Foldout page).

(M1, E1)  
(M2, B1)

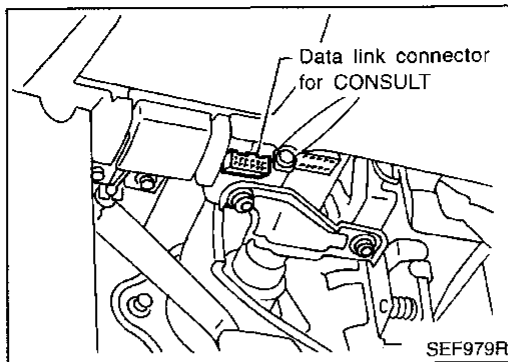
\*: These connectors are not shown in "HARNESS LAYOUT" of EL section.

MEL008K

GI  
MA  
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EC  
FE  
CL  
MT  
AT  
TF  
PD  
AX  
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BR  
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RS  
BT  
HA  
SC  
EL  
IDX

# NISSAN COMMUNICATOR (IVCS)

CONSULT



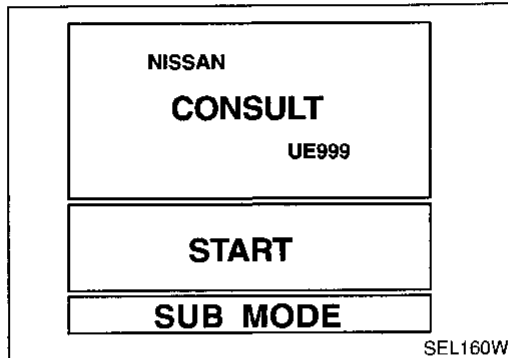
## CONSULT

### CONSULT INSPECTION PROCEDURE

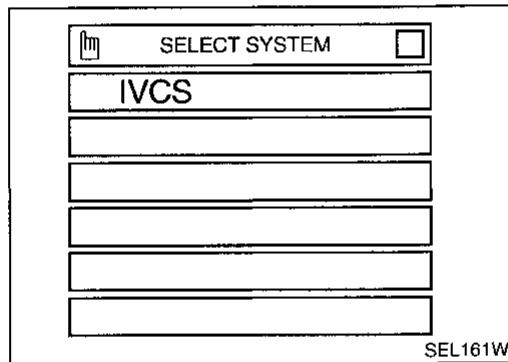
NAEL0183

NAEL0183S01

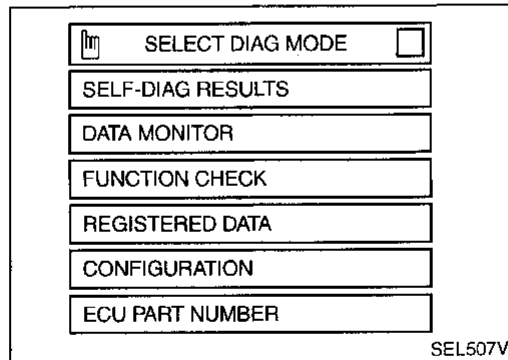
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.



3. Insert UE999 program card in to CONSULT.
4. Turn ignition switch "ON".
5. Touch "START".



6. Touch "IVCS".



7. Perform each diagnostic item according to the item application chart as follows:

8. When CONSULT inspection is terminated, follow the procedure shown below.
  - a. Touch "BACK" key of CONSULT until "SELECT SYSTEM" appears, then turn off CONSULT.
  - b. Turn ignition switch to OFF position.
  - c. Disconnect CONSULT DDL connector.

#### NOTE:

If the DDL connector is disconnected before turning ignition switch to "OFF" position, NISSAN communicator may not operate properly.

# NISSAN COMMUNICATOR (IVCS)

CONSULT (Cont'd)

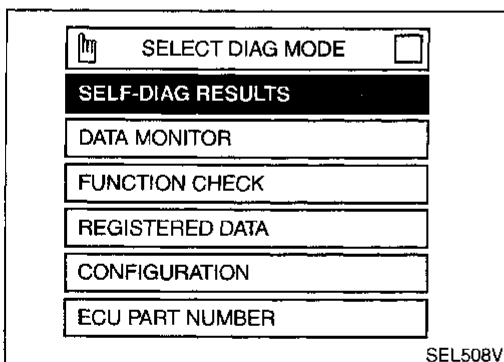
## APPLICATION ITEMS

NAEL0183S02

Mode	Description	Reference page
SELF DIAG RESULTS	Displays the result of self-diagnosis.	EL-291
DATA MONITOR	Two modes, "GPS MONITOR" and "SWITCH MONITOR" can be selected in this mode. <ul style="list-style-type: none"> <li>• Displays current data related to GPS in "GPS MONITOR" mode.</li> <li>• Displays IVCS switch and outside door handle switch condition in "SWITCH MONITOR" mode.</li> </ul>	EL-293
FUNCTION CHECK	In this mode, "Remote door unlock function" can be checked using CONSULT. Door can be unlocked according to the commands to the smart entrance control unit by the IVCS unit. This check verifies communication circuit between smart entrance control unit and IVCS unit.	EL-301
REGISTERED DATA	Displays the following data registered in the IVCS unit. In this mode the data cannot be re-written. <ul style="list-style-type: none"> <li>• Unit ID</li> <li>• Cellular phone number</li> <li>• VIN (Vehicle Identification Number)</li> </ul>	EL-294
CONFIGURATION (See Note.)	In this mode, the system can be set up in the demonstration mode to confirm system operation.	EL-306
	Various data related to both the Communicator Response Center contract and cellular provider can be written/updated in this mode. <ul style="list-style-type: none"> <li>• Phone number</li> <li>• NAM (Number Assignment Module)</li> <li>• Stolen vehicle tracking setting (Default should always be on.)</li> <li>• Alarm notification setting (Default should always be on.)</li> </ul>	EL-308
ECU PART NUMBER	Displays the part number of the IVCS unit.	—

**NOTE:**

**Data must not be rewritten without prior approval from the customer.**

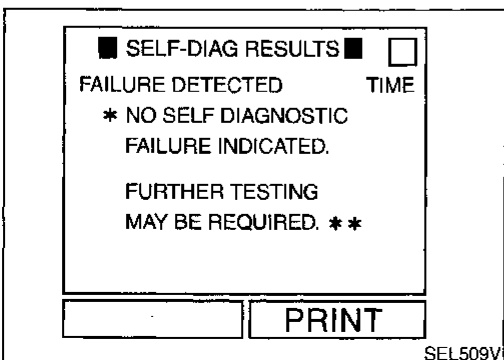


**"SELF-DIAG RESULTS" MODE**  
**How to Perform Self-diagnosis**

NAEL0183S03

NAEL0183S0301

1. Touch "SELF-DIAG RESULTS".
2. Touch "START".



3. If no malfunction is detected, CONSULT will show "NO FAILURE".

# NISSAN COMMUNICATOR (IVCS)

CONSULT (Cont'd)

■ SELF-DIAG RESULTS ■		<input type="checkbox"/>
FAILURE DETECTED	TIME	
CONNECTION ERROR [ IVMS ]	0	
CONNECTION ERROR [ AIR BAG ]	0	

SEL510V

- If trouble codes are displayed with "TIME = 0", repair/replace the system according to "SYMPTOM CHART 1 (SELF-DIAGNOSIS ITEM)", EL-296.
- In this case, both "MAYDAY" and "INFORMATION" indicator lamps illuminate for more than 30 seconds while the ignition switch is in the ON position.

**NOTE:**

The time data in CONSULT "SELF-DIAG RESULTS" mode displays the number of ignition switch cycles without the same malfunctioning occurring.

■ SELF-DIAG RESULTS ■		<input type="checkbox"/>
FAILURE DETECTED	TIME	
CONNECTION ERROR [ IVMS ]	1	
CONNECTION ERROR [ AIR BAG ]	1	

SEL511V

- If trouble codes are displayed with "TIME = 1 or greater", it means that the trouble code is historical data. So no further diagnosis is required.

**NOTE:**

If trouble codes are displayed with "TIME = 1 or greater" even though the NISSAN Communicator has never been serviced. Intermittent incidents may occur. Check the system, refer to "Trouble Diagnoses for Intermittent Incident", EL-304.

- If the system does not detect any trouble, the IVCS indicators will turn off after bulb check (self-diagnosis) is completed while the ignition switch is in the ON position.

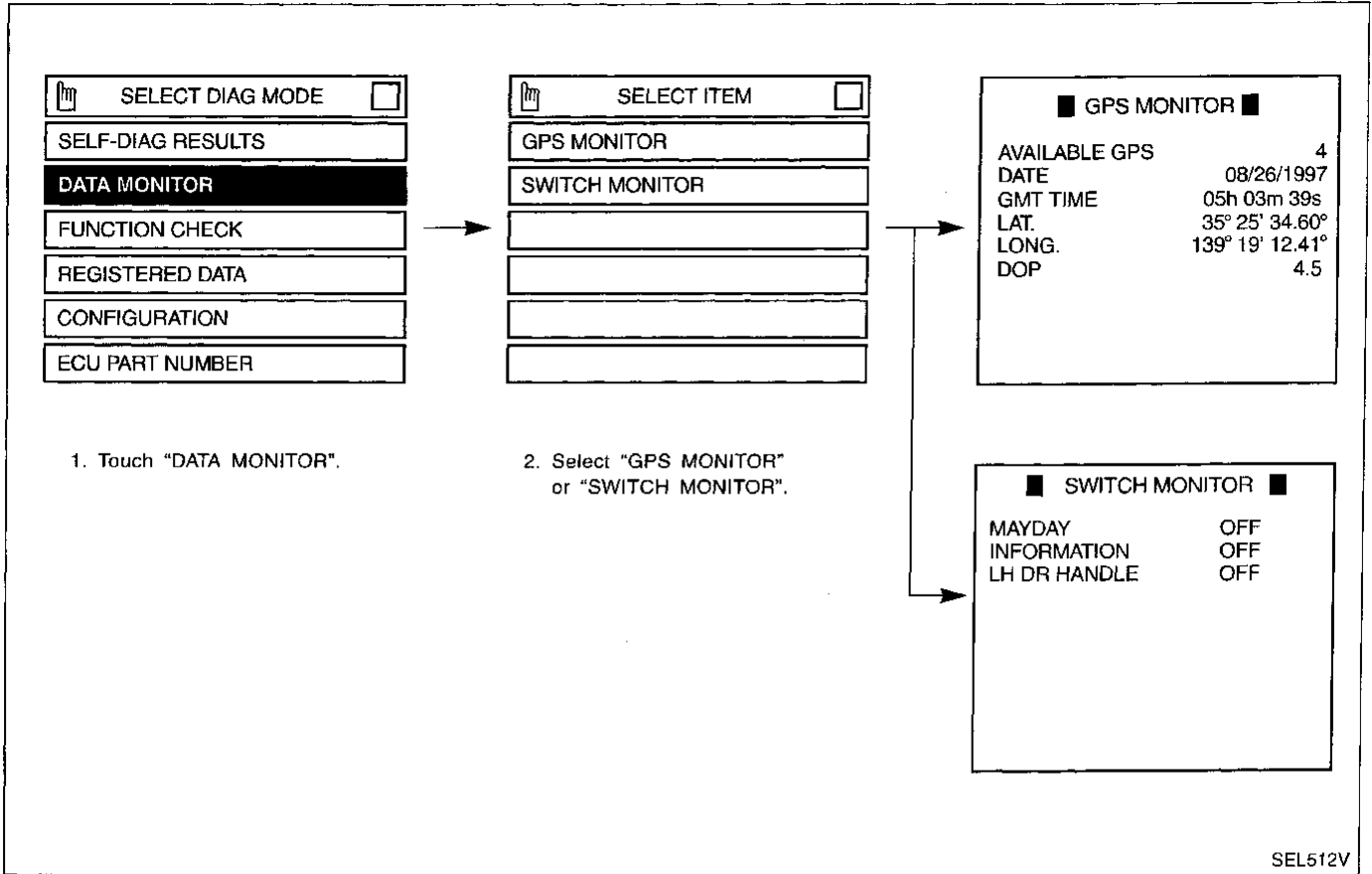
**NOTE:**

- The trouble codes cannot be erased by CONSULT.
- After 50 ignition cycles, the trouble codes are no longer displayed in the CONSULT "SELF-DIAG RESULTS" mode.
- The IVCS unit does not count the ignition switch cycles unless the ignition switch is OFF for more than 3 minutes between each ignition switch cycle.

## "DATA MONITOR" MODE How to Perform Data Monitor

NAEL0183S04

NAEL0183S0401



### Data Monitor Item Chart

NAEL0183S0402

Mode	Monitor item	Description
GPS MONITOR	AVAILABLE GPS	The number of GPS satellites captured by GPS antenna
	DATE	Date of Greenwich mean time
	GMT TIME	Greenwich mean time (Different from local time)
	LAT.	Latitude
	LONG.	Longitude
	DOP	Index of precision (an index of location status of GPS satellites. The smaller the value is, the higher the positioning precision is.)
SWITCH MONITOR	MAYDAY	"MAYDAY" emergency switch condition
	INFORMATION	"INFORMATION" switch condition
	LH DR HANDLE	Back door handle switch condition

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

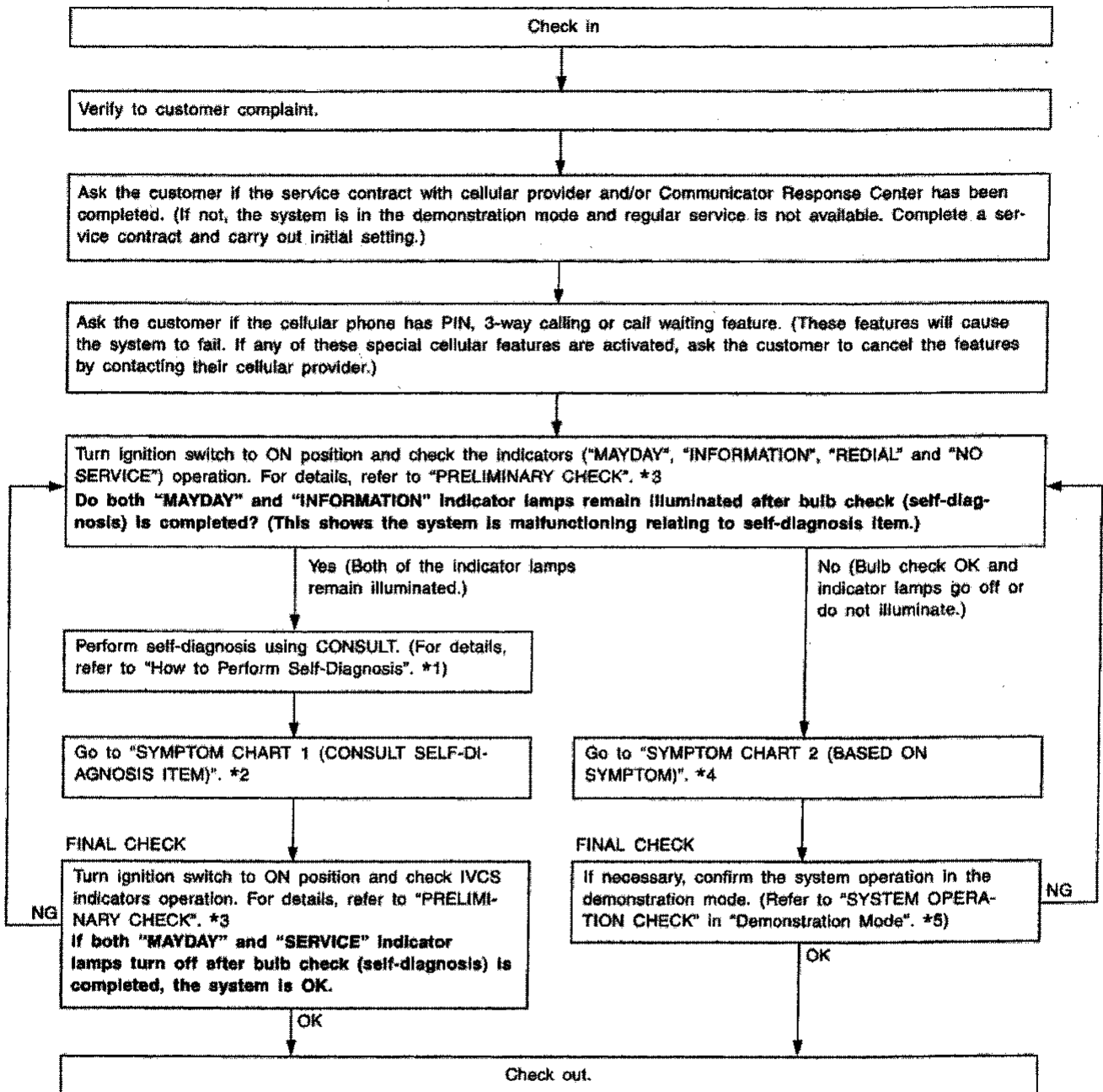




## Trouble Diagnoses WORK FLOW

NAELD194

NAELD184501



SEL101W

\*1 EL-291

\*2 EL-296

\*3 EL-296

\*4 EL-297

\*5 EL-306

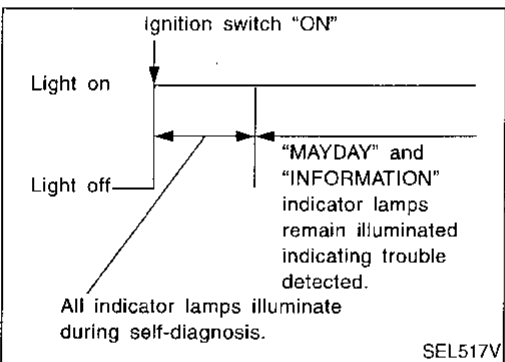
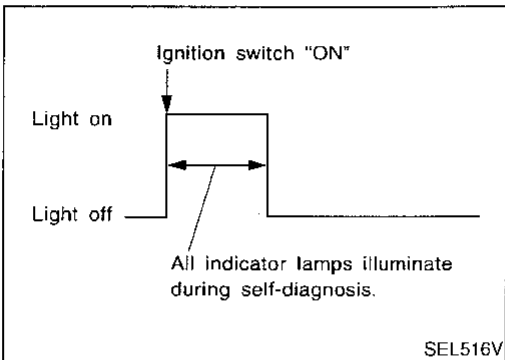
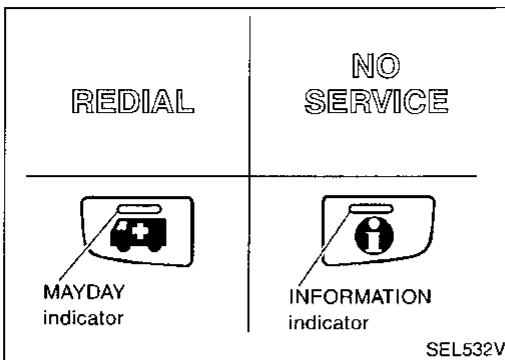
**WARNING:**

- Whenever possible, set the system to "Demonstration mode" if NISSAN Communicator system needs to be activated during service procedures. (For details of the demonstration mode, refer to EL-306.)
- If you activate the NISSAN Communicator system (when the system is not in the demonstration mode), the Communicator Response Center operator may dispatch police.

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

# NISSAN COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)



## PRELIMINARY CHECK

NAEL0184S02

1. Turn ignition switch ON.
2. Check "MAYDAY", "INFORMATION", "REDIAL" and "NO SERVICE" indicator lamps operation.

- If no malfunction is detected, indicator lamps will turn off after the bulb check (self-diagnosis) is terminated for about 30 seconds or more.

### NOTE:

- Bulb check (self-diagnosis) is not performed unless the ignition switch has been turned off for at least 3 minutes.
- Bulb check is not performed during contact with Communicator Response Center.
- If the system detects malfunctions, both "MAYDAY" and "INFORMATION" indicator lamps remain illuminated. Perform self-diagnosis using CONSULT and repair or replace the system. Refer to "How to Perform Self-diagnosis", EL-291.

### NOTE:

For details of indicator lamps operation, refer to "INDICATOR LAMPS OPERATION", EL-281.

## SYMPTOM CHART 1 (CONSULT SELF-DIAGNOSIS ITEM)

NAEL0184S03

Detected items (Screen items)	Description	Service procedure
CONNECTION ERROR [GPS ANTENNA]	Connection error between GPS antenna and IVCS unit.	Go to GPS ANTENNA CHECK, EL-303.
CELLULAR PHONE [TWB ERROR]	Communication error between CPU in the IVCS unit and transceiver	Replace IVCS unit.
MEMORY ERROR	Inner memory error of the IVCS unit	Replace IVCS unit.
CONNECTION ERROR [AIR BAG]	Connection error between air bag diagnosis sensor unit and IVCS unit.	Go to AIR BAG DIAGNOSIS SENSOR COMMUNICATION CHECK, EL-303.
CONNECTION ERROR [IVMS]	Connection error between smart entrance control unit and IVCS unit. If this error occurs, alarm notification and auto door unlock may not operate.	Go to SMART ENTRANCE CONTROL UNIT COMMUNICATION CHECK, EL-303.

# NISSAN COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

**NOTE:**

After replacing IVCS unit, set up the replaced IVCS unit. Refer to "System Setting (When IVCS Unit is Replaced.)" in EL-308.

**SYMPTOM CHART 2 (BASED ON SYMPTOM)**

Before referencing this chart, confirm the operation of the indicator lamps. Refer to "PRELIMINARY CHECK" in EL-296. If the indicators show the system is malfunctioning, perform the self-diagnosis using CONSULT.

Symptom	Diagnoses/service procedure	Reference page
"MAYDAY", "INFORMATION", "RE-DIAL", "NO SERVICE" indicator lamps do not illuminate when ignition switch is turned to ON position. (Bulb check is NG.)	1. Power supply and ground circuit for IVCS unit check	EL-298
	2. Indicator lamps check	EL-299
Mayday/Information call does not operate.	1. IVCS switch check	EL-300
	2. NISSAN Communicator operation check in demonstration mode	EL-306
Remote door unlocking function does not operate.	1. Back door handle switch check	EL-301
	2. Remote door unlock function check	EL-301
	3. NISSAN Communicator operation check in demonstration mode	EL-306
Stolen vehicle tracking function does not operate.	1. Stolen vehicle tracking setting check (Check whether the function is disabled or not.)	EL-302
	2. NISSAN Communicator operation check in demonstration mode	EL-306
Alarm notification function does not operate.	1. Alarm notification setting check (Check whether the function is disabled or not.)	EL-302
	2. NISSAN Communicator operation check in demonstration mode	EL-306
Hands free telephone cannot be operated by using steering switch. (Cellular phone operates properly by using handset.)	1. Telephone steering switch check	EL-304
No sounds related to the telephone are heard from Front RH speaker. (If the audio does not operate properly, check the audio system.)	1. Check harness for open or short between IVCS unit and audio unit.	—
The "NO SERVICE" indicator lamp is not turned off. (Even if a contract with telephone carrier has not been made, the indicator lamp remains illuminated.)	1. Make sure the vehicle is in an area with cellular service.	—
	2. Check cellular phone antenna feeder cable connection.	—
Cellular phone does not operate properly.	1. Check hand set connector connection.	—
	2. Check hand set.	—
No sound is transmitted to the other party by hands free telephone.	1. Check harness for open or short between IVCS unit and microphone.	—
	2. Replace microphone. (IVCS switch assembly)	—

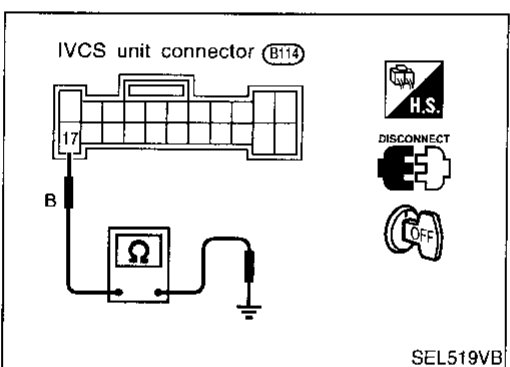
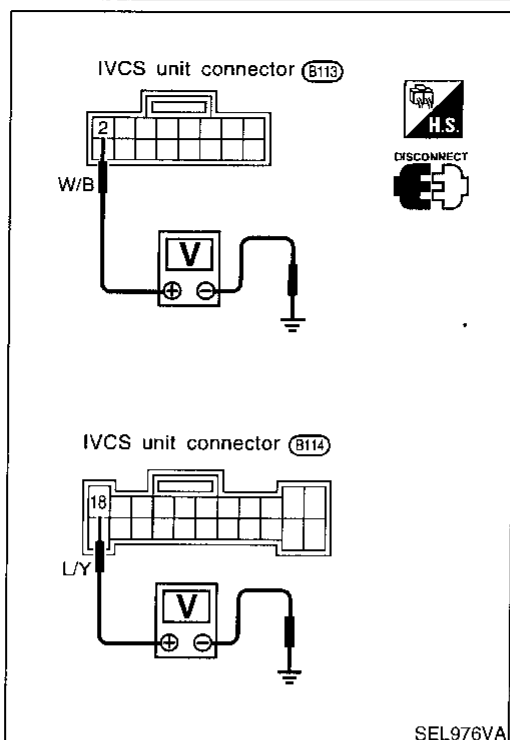
GI  
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LC  
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TF  
PD  
AX  
SU  
BR  
ST  
RS  
BT  
HA  
SC

EL

IDX

# NISSAN COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)



## POWER SUPPLY AND GROUND CIRCUIT FOR IVCS UNIT CHECK

NAEL0184S05

### Main Power Supply Circuit Check

NAEL0184S0501

Terminal		Ignition switch		
(+)	(-)	OFF	ACC	ON
18	Ground	Battery volt- age	Battery volt- age	Battery volt- age
2	Ground	0V	0V	Battery volt- age

If NG, check the following:

- 15A fuse [No. 4, located in fuse and fusible link box]
- 7.5A fuse [No. 11, located in fuse block (J/B)]
- Harness for open or short between fuse and IVCS unit

### Ground Circuit Check

NAEL0184S0502

Terminals	Continuity
17 - Ground	Yes

## INDICATOR LAMPS CHECK

=NAEL0194S06

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

1
CHECK POWER SUPPLY FOR INDICATOR LAMPS

Check voltage between IVCS switch terminal 1 and ground.

IVCS switch connector (R10)

SEL102W

**Does battery voltage exist?**

Yes	▶	GO TO 2.
No	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>● 15A fuse [No. 4, located in fuse block (J/B)]</li> <li>● Harness for open or short between fuse and IVCS switch</li> </ul>

2
CHECK INDICATOR LAMPS

1. Disconnect IVCS unit connector (Control unit connector).  
2. Apply ground to IVCS switch each terminal and check illumination.

IVCS switch connector (R10)

SEL103W

Indicator	Terminal
REDIAL	8
NO SERVICE	9
MAYDAY	10
INFORMATION	11

MTBL0259

**OK or NG**

OK	▶	Check harness for open or short between indicators and IVCS unit.
NG	▶	Replace IVCS switch assembly.

# NISSAN COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

## IVCS SWITCH CHECK

-NAEL0184S07

1 CHECK IVCS SWITCH INPUT SIGNAL	
1. Turn ignition switch "ON". 2. Select "SWITCH MONITOR" in "DATA MONITOR" mode. 3. Check each switch signal. <b>Condition:</b> When MAYDAY/INFORMATION switch is pushed: MAYDAY/INFORMATION ON When MAYDAY/INFORMATION switch is released: MAYDAY/INFORMATION OFF <b>NOTE:</b> When CONSULT "DATA MONITOR" mode is operating, NISSAN Communicator does not dial to Communicator Response Center when the switches are operated.	
OK or NG	
OK	▶ IVCS switch is OK.
NG	▶ GO TO 2.

2 CHECK IVCS SWITCH.		
1. Disconnect IVCS switch. 2. Check continuity between IVCS switch terminals.		
SEL104W		
Terminals	Condition	Continuity
6 - 3	Mayday switch is turned ON.	Yes
	Mayday switch is OFF.	No
7 - 3	Information switch is turned ON.	Yes
	Information switch is OFF.	No
MTBL0260		
OK or NG		
OK	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>● IVCS switch ground circuit</li> <li>● Harness for open or short between IVCS switch and IVCS unit</li> </ul>
NG	▶	Replace IVCS switch assembly.

## BACK DOOR HANDLE SWITCH CHECK

-NAEL0184S08

<b>1</b>	<b>CHECK BACK DOOR HANDLE SWITCH INPUT SIGNAL</b>						
<p>1. Turn ignition switch ON.                  2. Select "SWITCH MONITOR" in "DATA MONITOR" mode.                  3. Check the switch operation.</p> <p><b>Condition:</b>                  When back door handle switch is pushed:                      LH DR HANDLE ON                  When back door handle switch is released:                      LH DR HANDLE OFF</p> <p><b>NOTE:</b>                  When CONSULT "DATA MONITOR" mode is operating, NISSAN Communicator does not dial to Communicator Response Center when the switches are operated.</p> <p style="text-align: center;"><b>OK or NG</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>Back door handle switch is OK.</td> </tr> <tr> <td>NG</td> <td>▶</td> <td>GO TO 2.</td> </tr> </table>		OK	▶	Back door handle switch is OK.	NG	▶	GO TO 2.
OK	▶	Back door handle switch is OK.					
NG	▶	GO TO 2.					

<b>2</b>	<b>CHECK BACK DOOR HANDLE SWITCH</b>												
<p>1. Disconnect back door handle switch connector.                  2. Check continuity between back door handle switch terminals 1 and 2.</p> <div style="text-align: center;"> <p>Back door handle switch connector (D213)</p> <p style="text-align: right;">SEL105W</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 50%;">Back door handle switch condition</th> <th style="width: 50%;">Continuity</th> </tr> </thead> <tbody> <tr> <td>Pulled</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Released</td> <td style="text-align: center;">No</td> </tr> </tbody> </table> <p style="text-align: right; margin-right: 20px;">MTBL0261</p> <p style="text-align: center;"><b>OK or NG</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td> <p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>● Back door handle switch ground circuit</li> <li>● Harness for open or short between back door handle switch and IVCS unit</li> </ul> </td> </tr> <tr> <td>NG</td> <td>▶</td> <td>Replace back door handle switch.</td> </tr> </table>		Back door handle switch condition	Continuity	Pulled	Yes	Released	No	OK	▶	<p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>● Back door handle switch ground circuit</li> <li>● Harness for open or short between back door handle switch and IVCS unit</li> </ul>	NG	▶	Replace back door handle switch.
Back door handle switch condition	Continuity												
Pulled	Yes												
Released	No												
OK	▶	<p><b>Check the following.</b></p> <ul style="list-style-type: none"> <li>● Back door handle switch ground circuit</li> <li>● Harness for open or short between back door handle switch and IVCS unit</li> </ul>											
NG	▶	Replace back door handle switch.											

### REMOTE DOOR UNLOCK FUNCTION CHECK (CONSULT "FUNCTION CHECK" MODE)

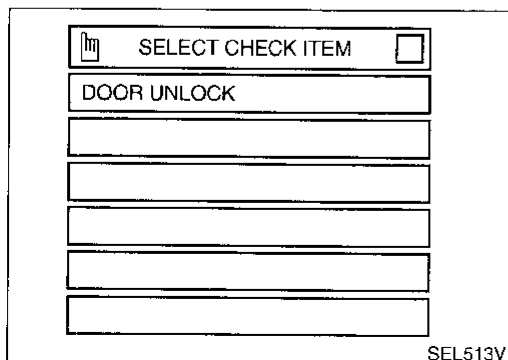
NAEL0184S09

#### Description

"Remote door unlock function" can be checked using CONSULT. Driver side door can be unlocked according to the commands to the smart entrance control unit by the IVCS unit.

#### NOTE:

Before performing the function check, confirm that power door lock system operates properly.



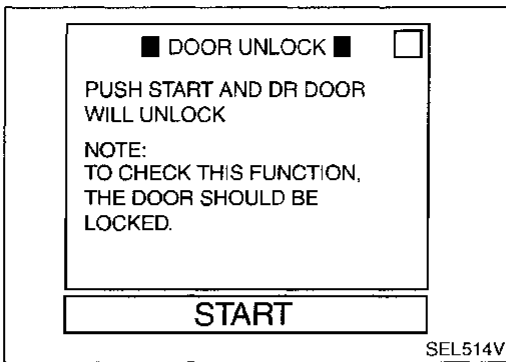
#### How to perform function check.

1. Lock the doors with door lock/unlock switch on driver's door trim.
2. Touch "FUNCTION CHECK".
3. Touch "DOOR UNLOCK".

GI  
MA  
EM  
LC  
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FE  
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MT  
AT  
TF  
PD  
AX  
SU  
BR  
ST  
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BT  
HA  
SC  
EL  
IDX

# NISSAN COMMUNICATOR (IVCS)

## Trouble Diagnoses (Cont'd)



4. Touch "START". Then driver side door will be unlocked.
  - If the door cannot be unlocked using CONSULT, check harness for open or short between smart entrance control unit terminal 20 and IVCS unit terminal 32.

## STOLEN VEHICLE TRACKING/ALARM NOTIFICATION SETTING CHECK (CONSULT "CONFIGURATION" MODE)

NAEL0184S10

<b>1</b>	<b>CHECK SYSTEM SETTING</b>
<ol style="list-style-type: none"> <li>1. Turn ignition switch ON.</li> <li>2. Select "VHCL TRACKING" or "ALARM NOTIFICATION" in "CONFIGURATION" mode.</li> <li>3. Check the function setting.</li> </ol>	
<p>■ VEHICLE TRACKING ■</p> <p>CURRENT SETTING IS <b>ON</b></p> <p>VEHICLE TRACKING FUNCTION IS ACTIVATE</p> <p><b>ON</b>    OFF</p> <p>PRINT</p> <p>SEL523V</p>	
<ul style="list-style-type: none"> <li>● ON shows the function is activated.</li> <li>● OFF shows the function is deactivated.</li> </ul> <p><b>Does the system setting comply with the customer's contract?</b></p> <p><b>NOTE:</b> Setting of "VEHICLE TRACKING" must be ON at all times.</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ System setting is OK.
NG	▶ If either setting is OFF, contact the Communicator Response Center at 1-888-427-4812 to verify the system setting. <b>NOTE:</b> <b>Whenever dialing the above number, some information about the vehicle will be required by the operator. For details, refer to EL-275.</b>



## GPS ANTENNA CHECK

#NAEL0184S11

GI

MA

EM

LC

EC

FE

CL

MT

<b>1</b>	<b>CHECK VOLTAGE FOR GPS ANTENNA</b>	
1. Disconnect GPS feeder cable connector from IVCS unit. 2. Turn ignition switch ON. 3. Check voltage at IVCS unit GPS feeder cable terminal.		
<p style="text-align: center;">IVCS unit</p> <p style="text-align: right;">SEL106W</p>		
<b>Does approx. 5V exist?</b>		
Yes	▶	Replace GPS antenna.
No	▶	Replace IVCS unit.

## AIR BAG DIAGNOSES SENSOR UNIT COMMUNICATION CHECK

NAEL0184S12

AT

TF

PD

AX

SU

<b>1</b>	<b>AIR BAG OPERATION CHECK</b>	
Turn ignition switch ON and check air bag warning lamp operation. (For details, refer to RS section.)		
<b>Does air bag warning lamp operate properly?</b>		
Yes	▶	Check harness connector connection between air bag diagnosis sensor unit and IVCS unit.
No	▶	Check supplemental restraint system. Refer to RS section in the Service Manual.

## SMART ENTRANCE CONTROL UNIT COMMUNICATION CHECK

NAEL0184S13

BR

ST

RS

BT

HA

SC

<b>1</b>	<b>CHECK SMART ENTRANCE CONTROL UNIT OPERATION</b>	
Check the system related smart entrance control unit operation. (e.g.: power door lock, power window)		
<b>Does the system operate properly?</b>		
Yes	▶	Check harness for open or short between smart entrance control unit and IVCS unit.
No	▶	Check smart entrance control unit. Refer to "SMART ENTRANCE CONTROL UNIT" in the Service Manual.

**EL**

IDX

# NISSAN COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

## TELEPHONE STEERING SWITCH CHECK

-NAEL0184S14

<b>1</b>	<b>CHECK POWER SUPPLY FOR STEERING SWITCH</b>	
Check power supply for steering switch.		
<b>Does horn work?</b>		
Yes	▶	<b>Check the following.</b> <ul style="list-style-type: none"> <li>● 10A fuse (No. 54, located in fuse and fusible link box)</li> <li>● Horn relay</li> <li>● Harness for open or short</li> </ul>
No	▶	GO TO 2.

<b>2</b>	<b>CHECK STEERING SWITCH SUB-HARNESS</b>	
<ol style="list-style-type: none"> <li>1. Remove driver's air bag module. For removal procedure, refer to RS section.</li> <li>2. Check steering switch sub-harness for open or short and ground screw. For details of the harness circuit, refer to "STEERING SWITCH", EL-22.</li> </ol>		
<b>OK or NG</b>		
OK	▶	Check harness for open or short between telephone steering switch and IVCS unit. If the circuit is OK, replace telephone steering switch.
NG	▶	Replace or repair the harness.

## Trouble Diagnoses for Intermittent Incident

NAEL0185

### DESCRIPTION

NAEL0185S01

An intermittent incident may be occurring if all of the following conditions exist.

- Both "MAYDAY" emergency and "INFORMATION" indicators have shown that the system is malfunctioning.
- CONSULT self-diagnosis result screen indicates a trouble code with "TIME = 1 or greater".
- The NISSAN Communicator system has not been previously serviced.

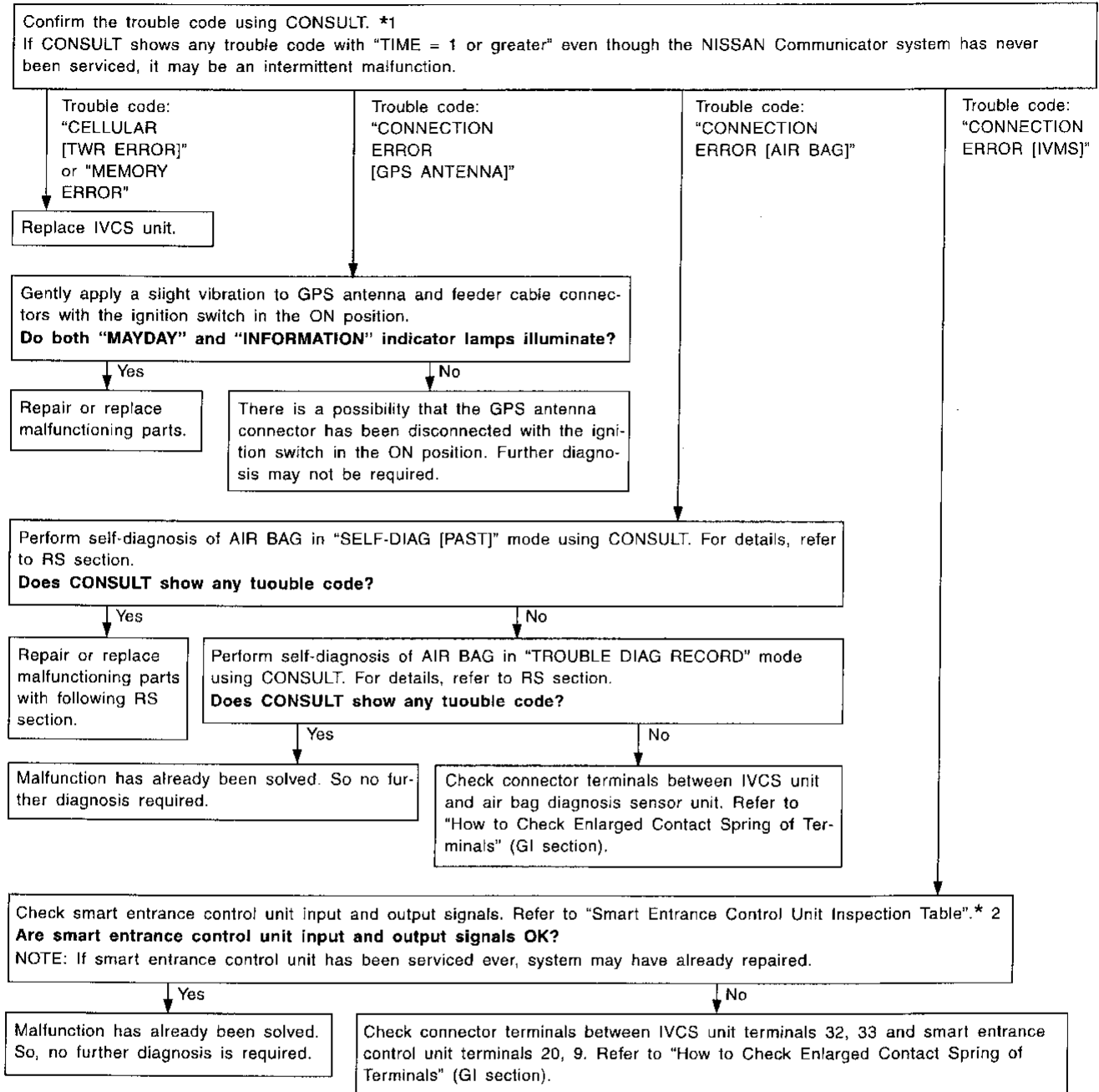
To find out the cause of a malfunction, follow the procedures shown below.

# NISSAN COMMUNICATOR (IVCS)

Trouble Diagnoses for Intermittent Incident (Cont'd)

## DIAGNOSTIC PROCEDURE

NAEL0185S02



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

SEL107WA

\*1 EL-291

\*2 EL-256

**NOTE:**

Enlarged spring contact of terminals may be cause of intermittent malfunction for "CONNECTION ERROR [AIR BAG]/[IVMS]". When you inspect terminals for enlarged contact, refer to "How to Check Enlarged Contact Spring of Terminals" in GI section.

# NISSAN COMMUNICATOR (IVCS)

Demonstration Mode

## Demonstration Mode

NAEL0186

### DESCRIPTION

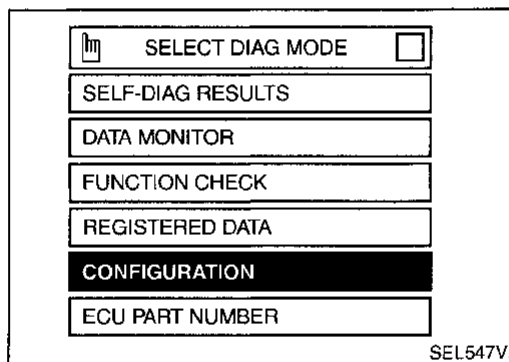
NAEL0186S01

By setting up the system in the demonstration mode, automatic dialing operation can be confirmed by "MAYDAY" emergency and "INFORMATION" switch operation.

Automatic dialing in this mode is connected to the demonstration center of Communicator Response Center, and is different from the normal service.

When the contract with Communicator Response Center is not concluded, all the NISSAN Communicator operations are connected to the demonstration center.

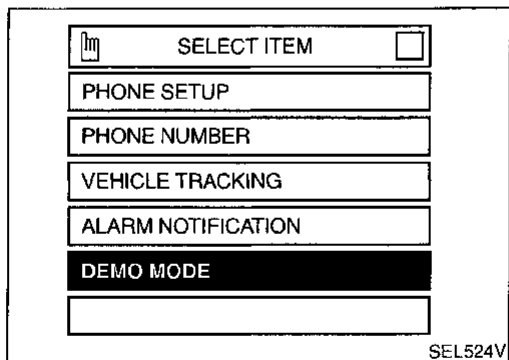
Connection to Communicator Response Center in this mode will not be charged by Communicator Response Center nor will the call be handled as an emergency.



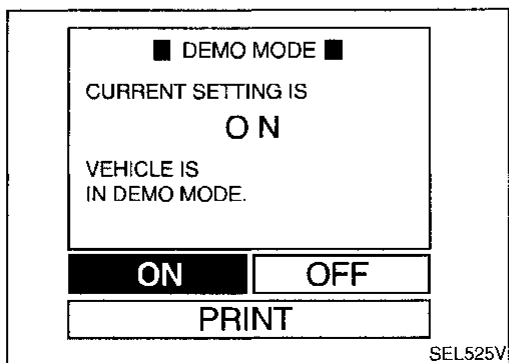
### SYSTEM OPERATION CHECK

NAEL0186S02

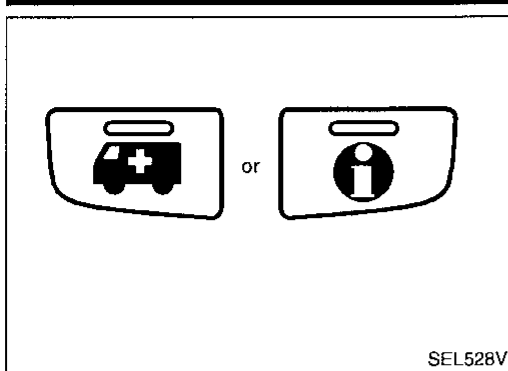
1. Touch "CONFIGURATION".



2. Touch "DEMO MODE".

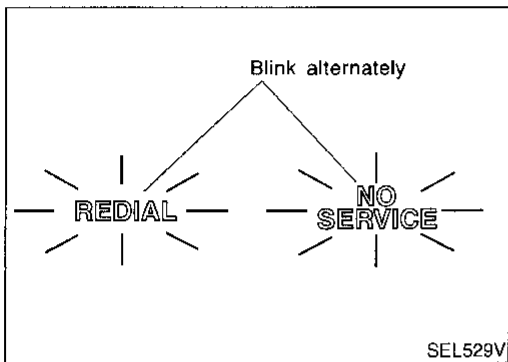


3. Touch "ON". Now, the system is in demonstration mode. (To return to normal mode, touch "OFF".)



4. Touch "BACK" key of CONSULT until "SELECT SYSTEM" appears, then turn off CONSULT.
5. Turn ignition switch to the OFF position.
6. Disconnect CONSULT DDL connector.
7. Start the engine.
8. Touch the "MAYDAY" or "INFORMATION" switches. Then the system will call the demonstration center.

GI  
MA  
EM  
LC

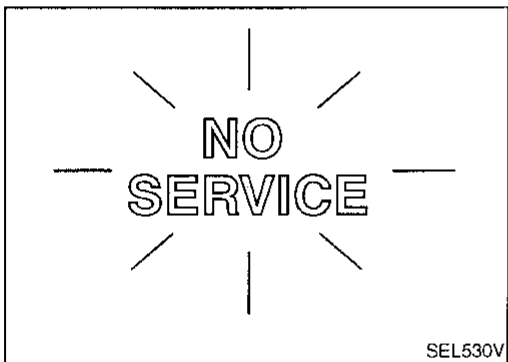


9. Check NISSAN Communicator operation.
  - If contact with Communicator Response Center is successful, system is OK.

**NOTE:**

During the system contact to Communicator Response Center in demonstration mode, "REDIAL" and "NO SERVICE" indicators blink alternately.

EC  
FE  
CL  
MT

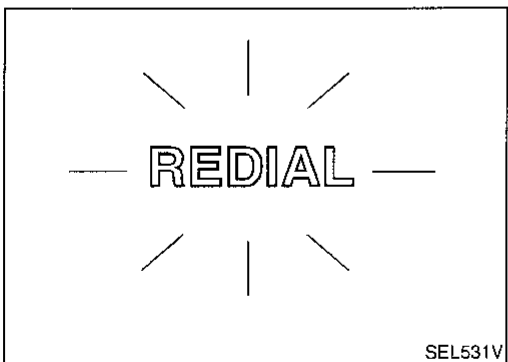


- If "NO SERVICE" indicator illuminates and the contact to Communicator Response Center is unsuccessful, retry from other location where the cellular connection seems good. (e.g.; move the vehicle outside of the workshop and retry.)

**NOTE:**

If "NO SERVICE" indicator frequently illuminates from a location where the cellular connection seems good, check the connection of the feeder cable for the cellular phone antenna.

AT  
TF  
PD  
AX



- If "REDIAL" indicator lamp illuminates and the contact to Communicator Response Center is unsuccessful, the cellular network is busy or there are no open cellular channels. The system will redial automatically.

**NOTE:**

If redial fails several times, confirm whether the roaming agreement of customer's cellular provider at the vehicle location is available or not.

SU  
BR  
ST  
RS

**WARNING:**

- Make sure to turn the demonstration mode OFF before returning the vehicle to the owner.
- In the demonstration mode, any service from Communicator Response Center is not available. Therefore, even if the customer encounters an emergency, no service will be dispatched.

BT  
HA  
SC

**EL**

IDX

# NISSAN COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced)

## System Setting (When IVCS Unit is Replaced)

### DESCRIPTION

NAEL0187

When the IVCS unit is replaced, carry out the following data settings.

NAEL0187S01

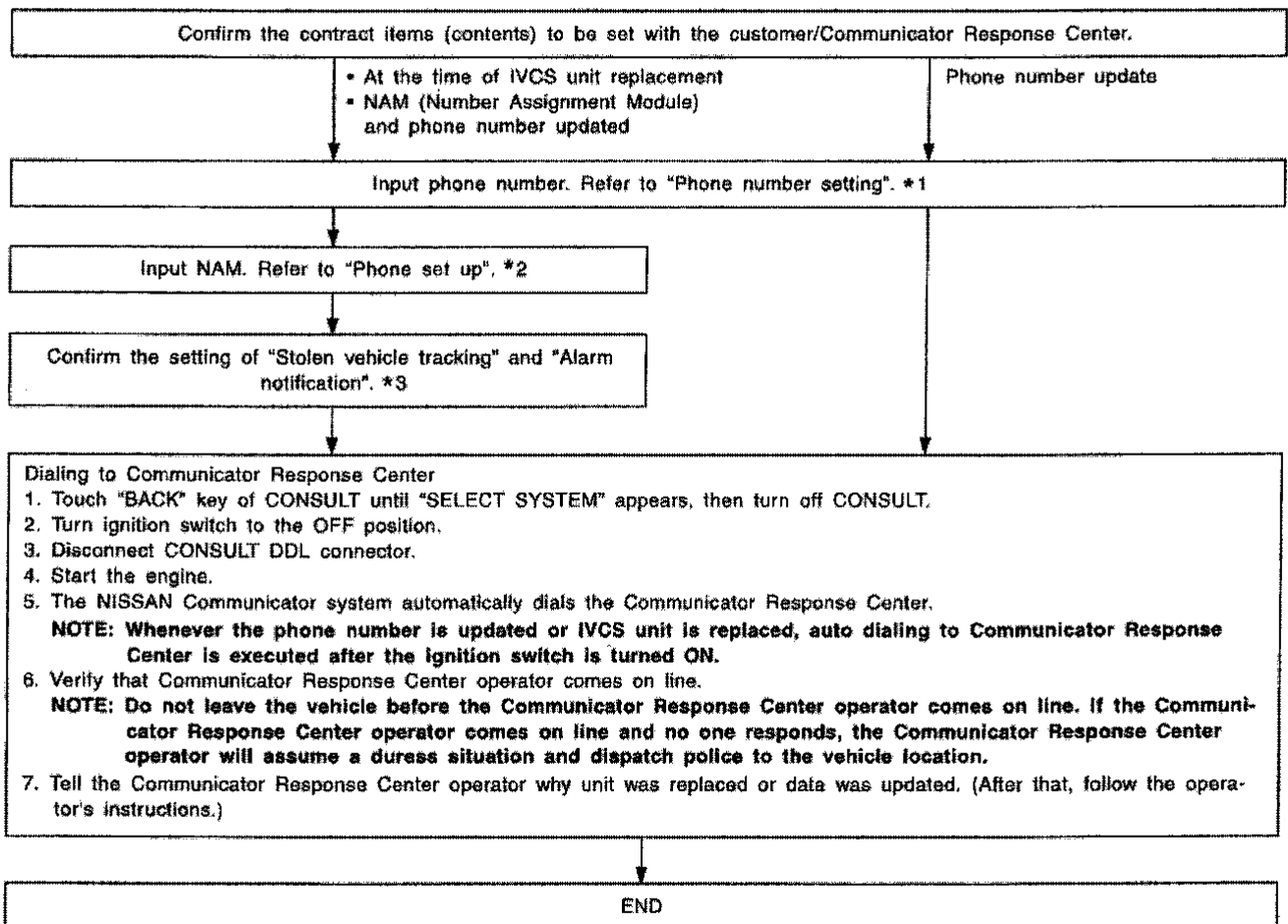
- Phone setup — Data setting regarding NAM (Number Assignment Module)
- Phone number — Phone number setting

### NOTE:

- Data must not be updated without prior approval from the customer.
- NAM and phone number can be programmed by using handset. For details, refer to the handset operation manual.
- The IVCS unit does not permit updating of NAM more than 15 times.

### WORK FLOW

NAEL0187S02



SEL108W

\*1 EL-309

\*2 EL-310

\*3 EL-311

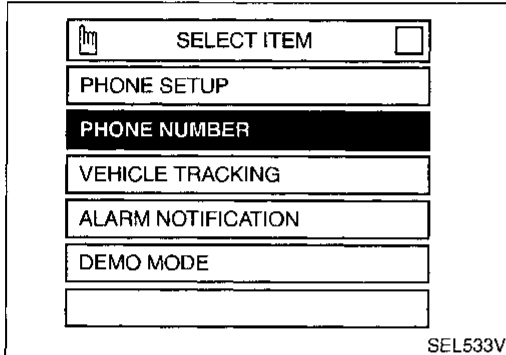
### NOTE:

- If a Communicator Response Center operator does not come on line even though the system activates, the system may not be properly configured. Call the Communicator Response Center at 1-888-427-4812 to verify the configuration information.

# NISSAN COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

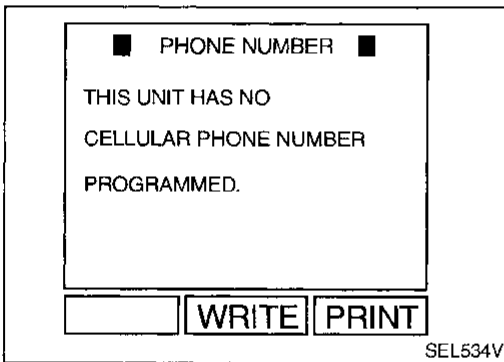
- Whenever dialing the above number, information about the vehicle is required by the operator. For details, refer to EL-275. GI
- Never release the vehicle to the customer unless NISSAN Communicator system operation is verified by a Communicator Response Center operator coming on line. MA



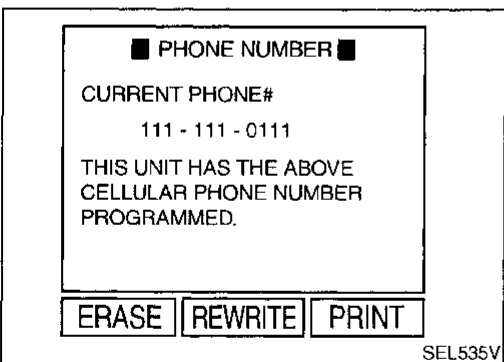
## PHONE NUMBER SETTING

1. Touch "CONFIGURATION".
2. Touch "PHONE NUMBER".

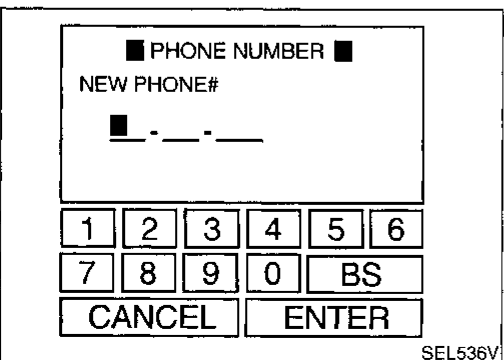
NAEL0187S03



3. Touch "WRITE" or "REWRITE".
- If no phone number is previously memorized, the display shows "This unit has no cellular phone number programmed".



- If the phone number is previously memorized, the display shows the current phone number.
- To erase the phone number, touch "ERASE".



4. Input new phone number.
5. Touch "ENTER".

# NISSAN COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

SEL537V

6. Touch "OK".
7. Carry out the next system setting or contact Communicator Response Center and inform them that data has been updated or the IVCS unit has been replaced. For details, refer to EL-308.

**NOTE:**

Whenever the phone number is updated or the IVCS unit is replaced, the NISSAN Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started.

SEL629V

**PHONE SET UP**

NAEL0187904

1. Touch "CONFIGURATION".
2. Touch "PHONE SET UP".

SEL538V

3. Touch "WRITE" or "REWRITE".
  - If no data is previously memorized, the display shows "This unit has no required data programmed".

SEL539V

- If NAM (Number Assignment Module) data is previously memorized, the display shows the current NAM data.
- To erase the NAM, touch "ERASE".

SEL540V

4. Input new NAM data.
  - SYS ID (Carrier system ID number) — Available number: 0 to 32765
  - GR ID (Group ID mark) — Available number: 0 to 15
  - OVERLOAD CLASS (Access overload class) — Available number: 0 to 15
  - SECURITY CODE (User security code)
  - UNLOCK CODE
  - INIT PAGE CH (Initial paging channel)



# NISSAN COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

## NOTE:

If an unavailable number is input as "SYS ID", "GR ID" or "OVERLOAD CLASS", CONSULT may be locked. In such cases, disconnect the vehicle battery cable once and then setup the system again.

5. Touch "ENTER".

■ PHONE SETUP ■

SYS. ID: XXXXX      GR. ID: XX  
OVERLOAD CLASS:      XX  
SECURITY CODE:      XXXXXX  
UNLOCK CODE:      XXX  
INIT. PAGE CH.:      XXXX  
THIS UNIT HAS THE ABOVE  
DATA PROGRAMMED.

ERASE   REWRITE   PRINT

SEL541V

6. Touch "OK".

7. Carry out the next system setting or contact Communicator Response Center and inform them that data has been updated or IVCS unit has been replaced. For details, refer to EL-308.

## NOTE:

Whenever the phone number is updated or the IVCS unit is replaced, the NISSAN Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started.

SELECT ITEM

PHONE SETUP

PHONE NUMBER

VEHICLE TRACKING

**ALARM NOTIFICATION**

DEMO MODE

SEL630V

## STOLEN VEHICLE TRACKING/ALARM NOTIFICATION SETTING CHECK

NAEL0187S05

1. Touch "CONFIGURATION".

2. Touch "VEHICLE TRACKING" or "ALARM NOTIFICATION".

■ ALARM NOTIFICATION ■

CURRENT SETTING IS  
**ON**

ALARM NOTIFICATION  
FUNCTION  
IS ACTIVE.

**ON**      OFF

PRINT

SEL542V

3. This function should always be "ON" (function activate.)

## NOTE:

- If either setting is "OFF", contact the Communicator Response Center at 1-888-427-4812 to verify the system setting.

- Whenever dialing the above number, information about the vehicle is required by the operator. For details, refer to EL-275.

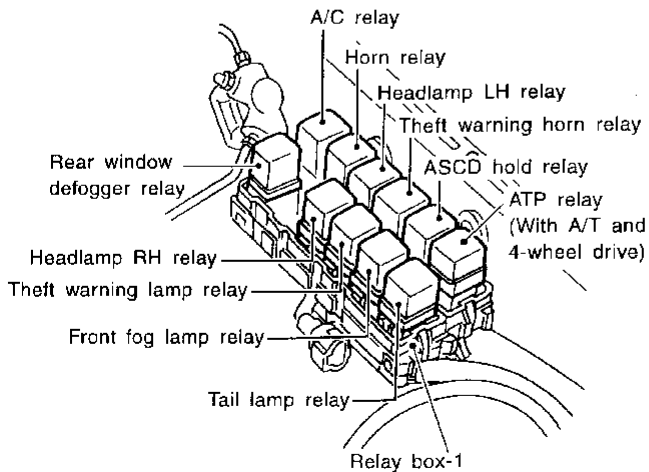
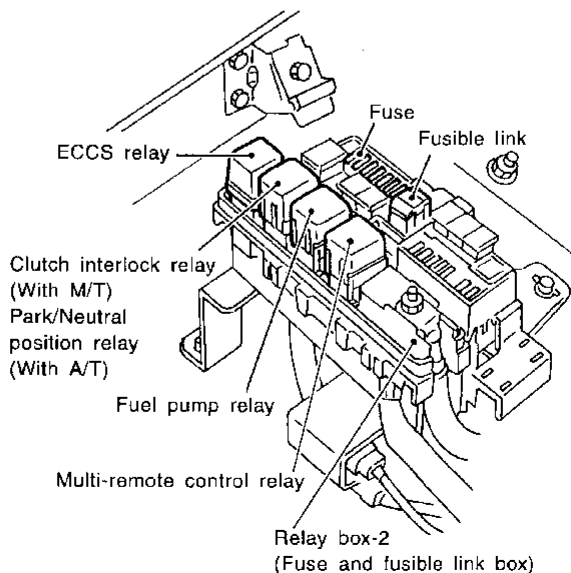
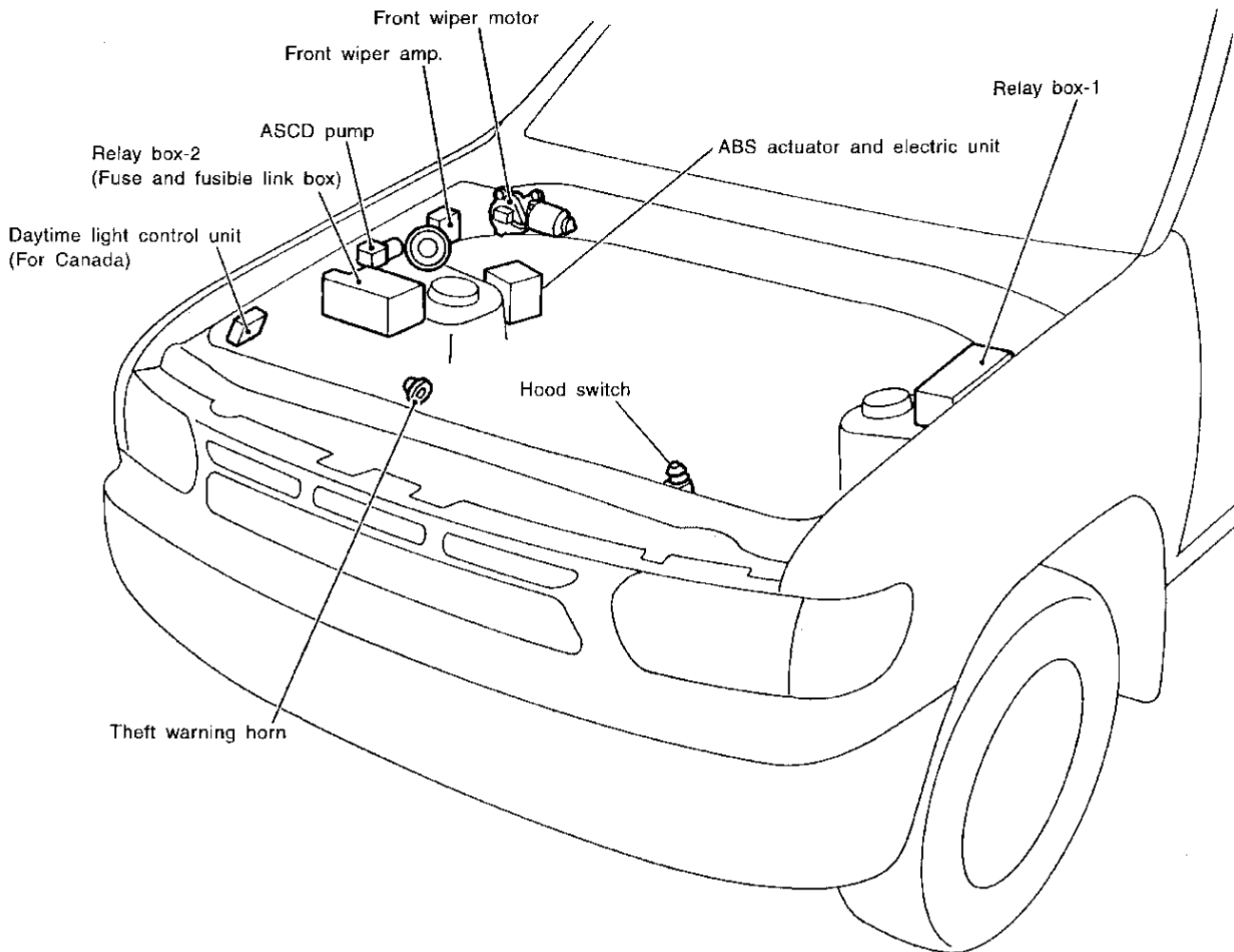
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EL  
IDX

# ELECTRICAL UNITS LOCATION

Engine Compartment

## Engine Compartment

NAEL0129



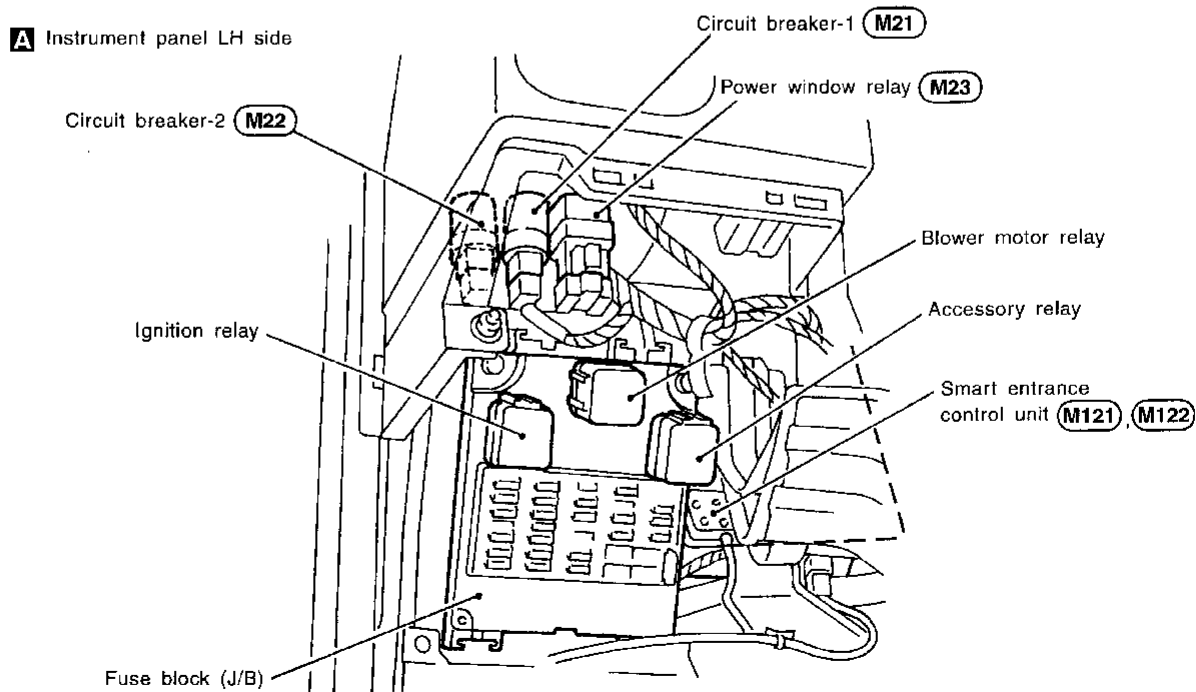
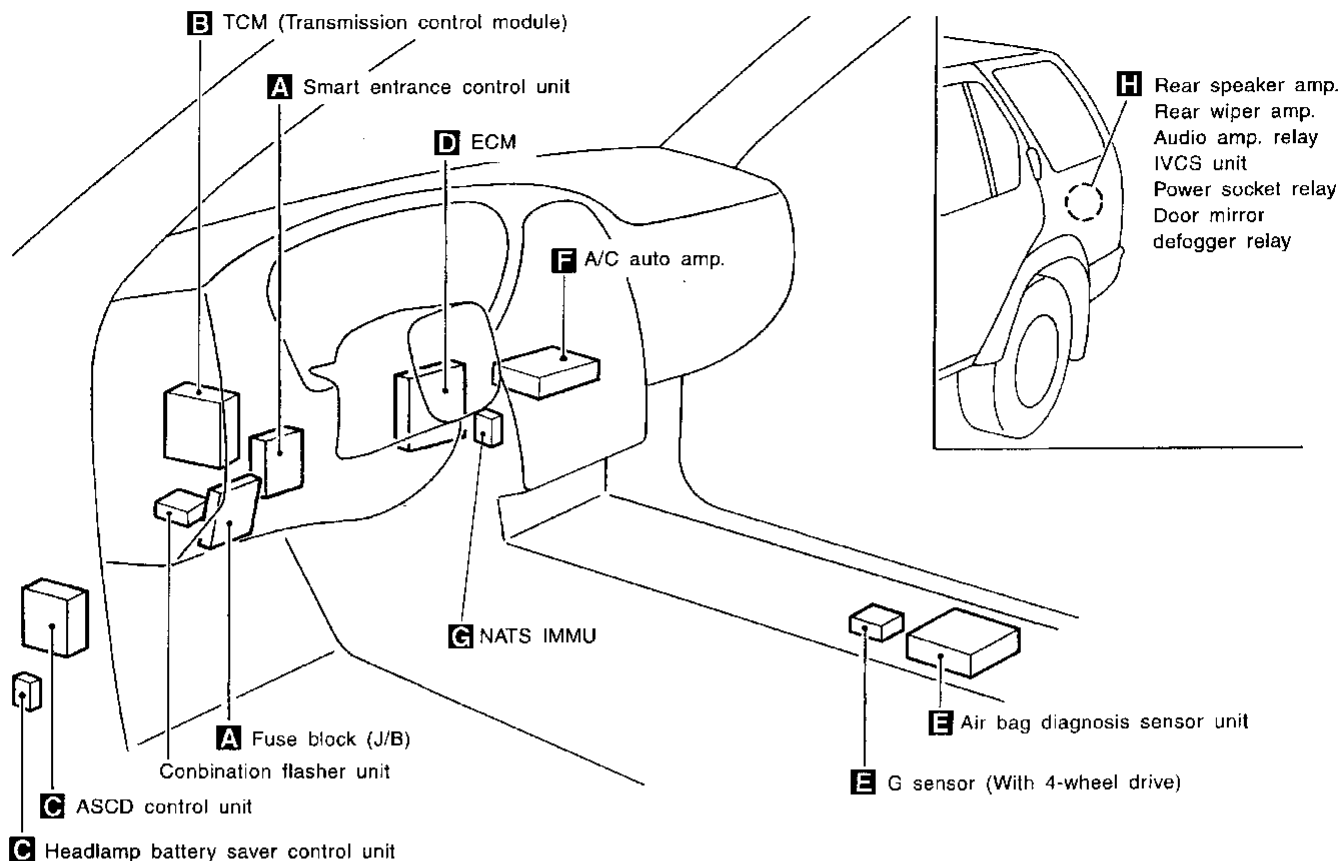
MEL881J

# ELECTRICAL UNITS LOCATION

Passenger Compartment

## Passenger Compartment

NAEL0130

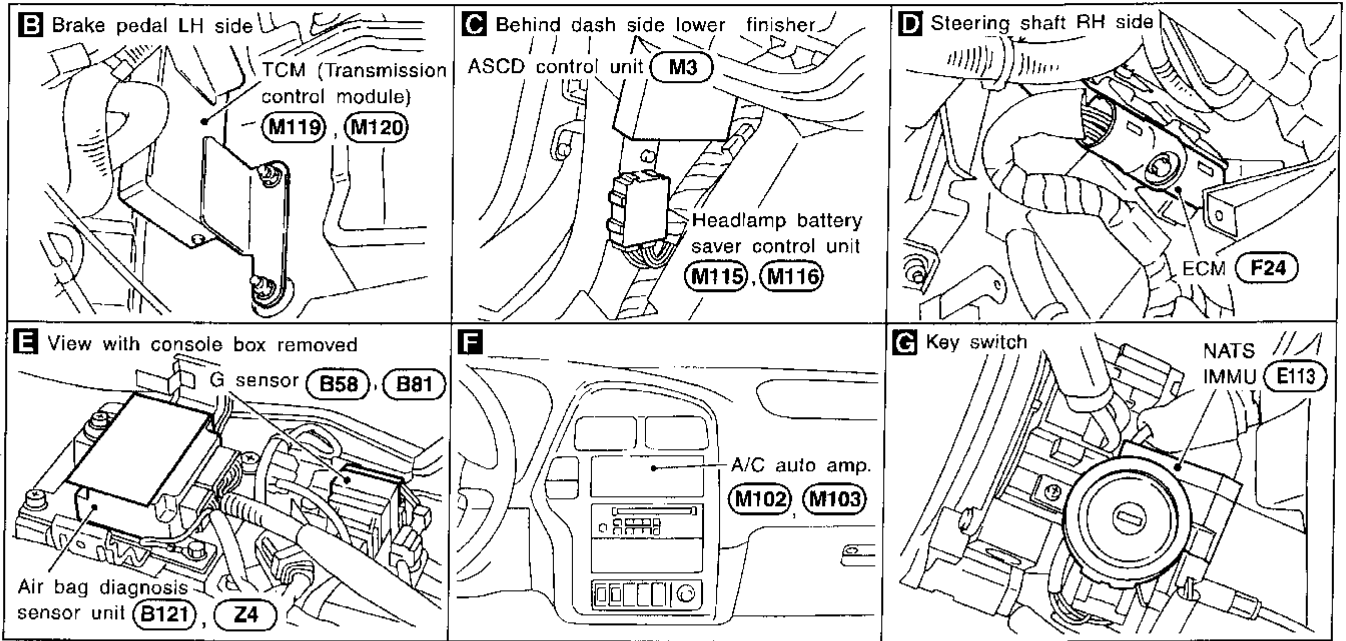


MEL882J

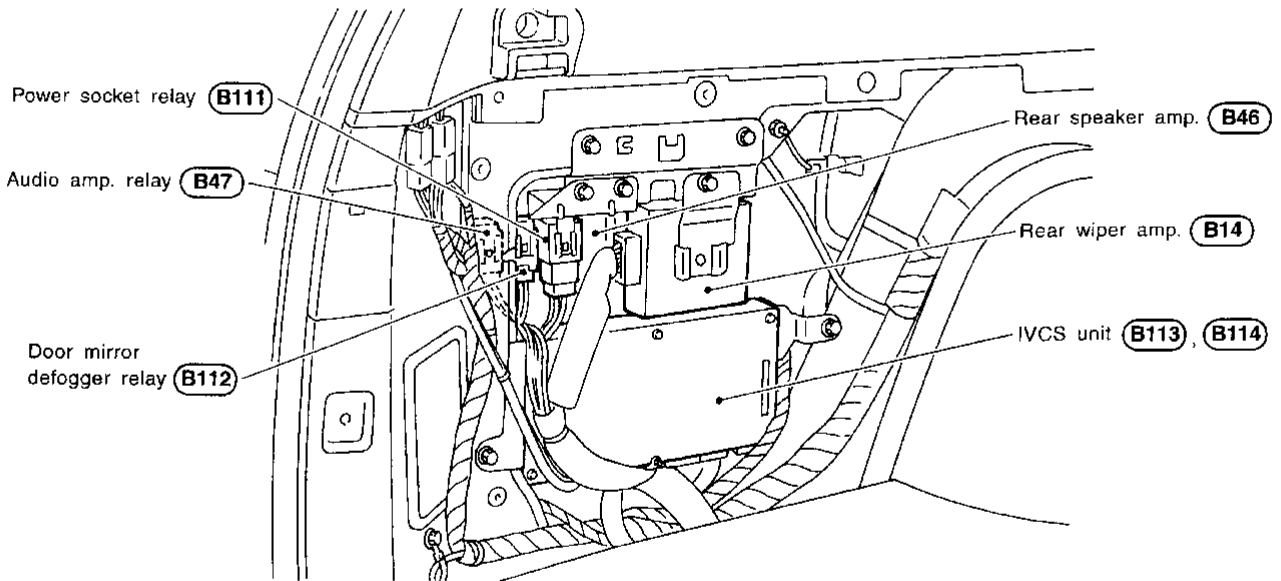
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# ELECTRICAL UNITS LOCATION

Passenger Compartment (Cont'd)



**H** Behind the luggage room trim LH side



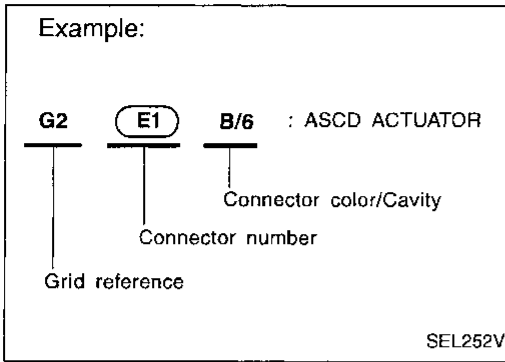
MEL883J

# HARNESS LAYOUT

How to Read Harness Layout

## How to Read Harness Layout

NAEL0131



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

- Main Harness
- Engine Room Harness (Engine Compartment)
- Engine Control Harness

### TO USE THE GRID REFERENCE

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

### CONNECTOR SYMBOL

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

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

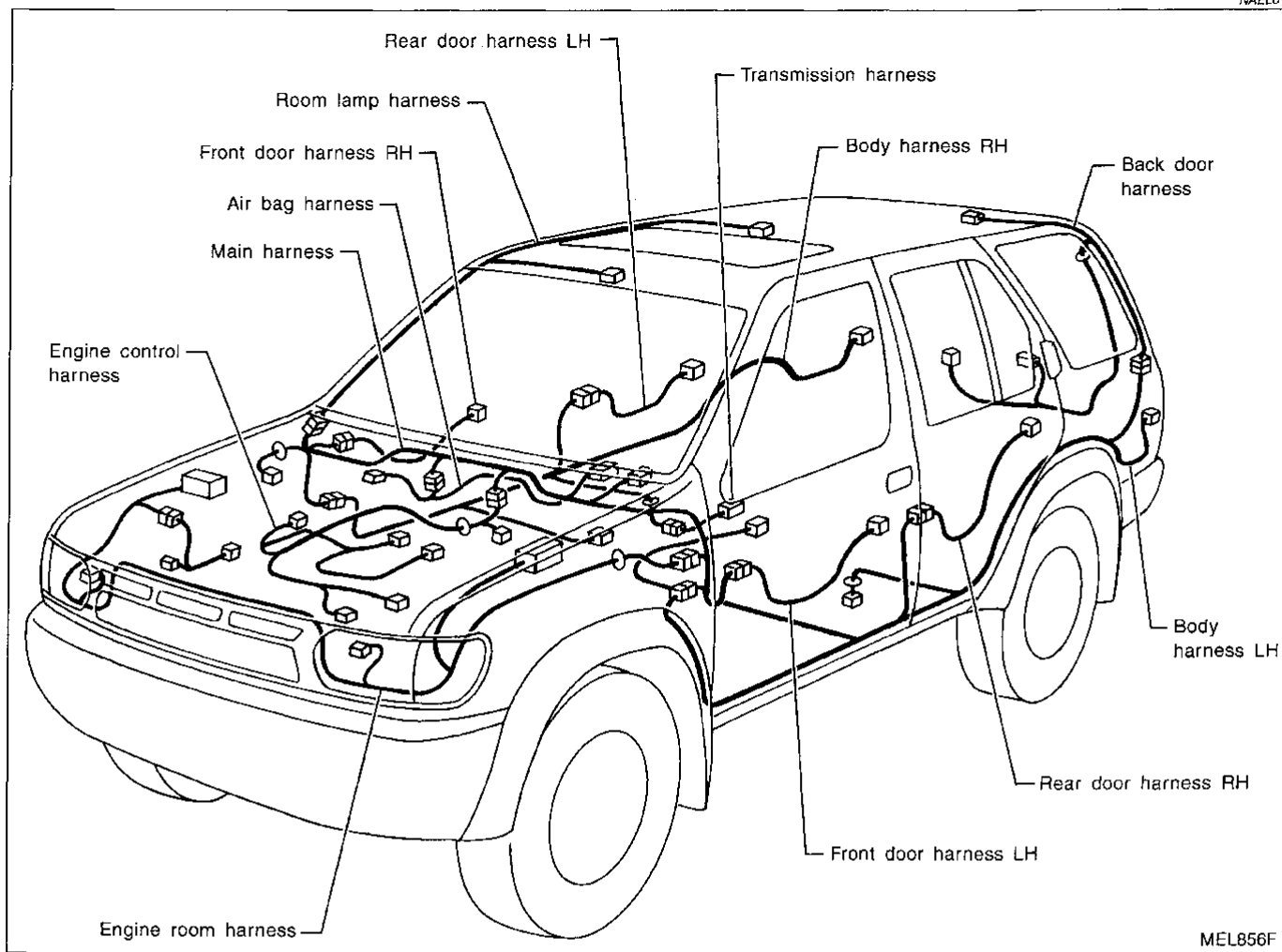
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IDX

# HARNESSES LAYOUT

Outline

## Outline

NAEL0132



# HARNESS LAYOUT

Outline (Cont'd)

NOTE:

GI

MA

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**EL**

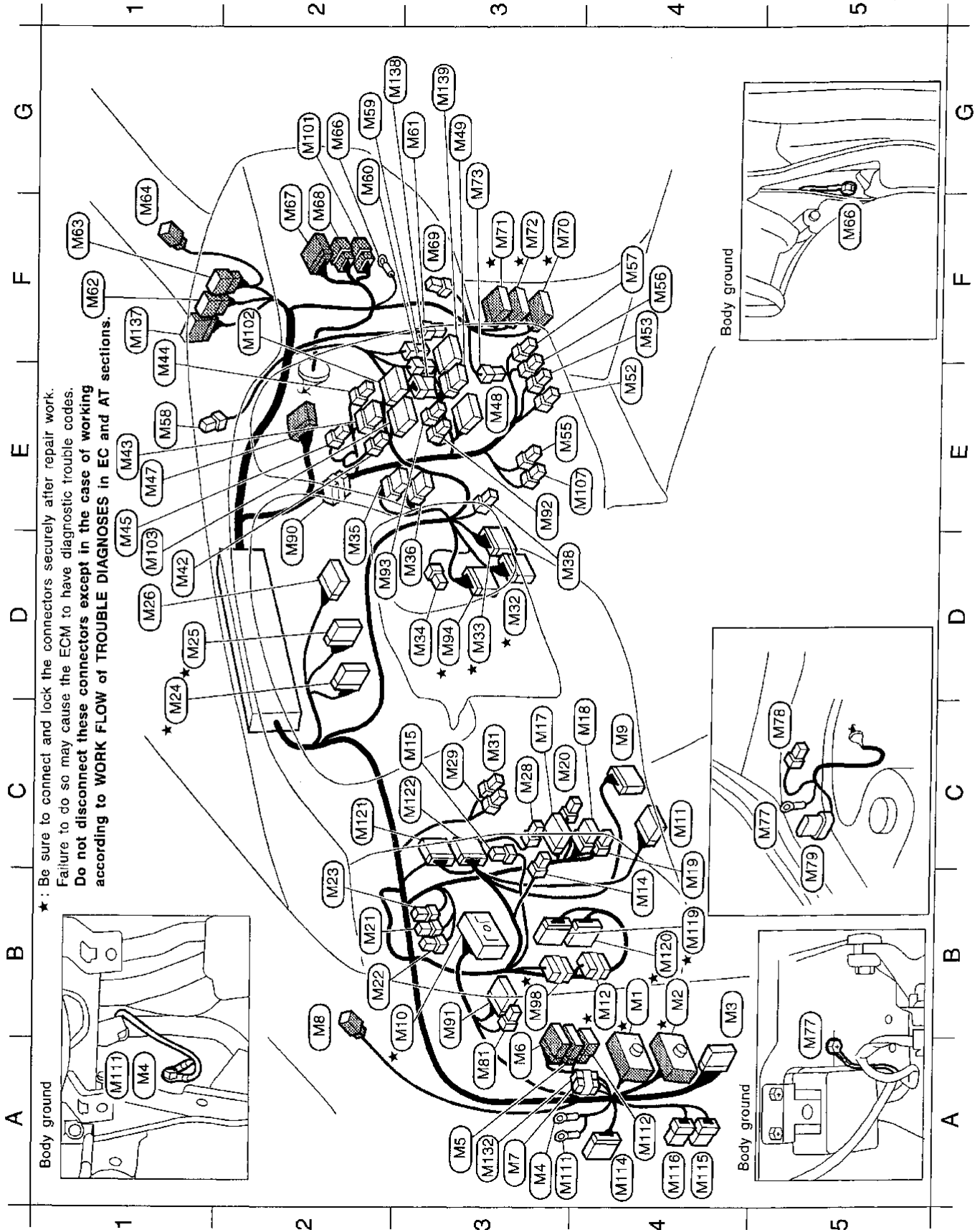
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# HARNESS LAYOUT

Main Harness

## Main Harness

NAEL0133



MEL892J



# HARNES LAYOUT

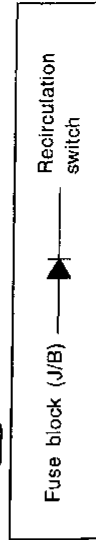
Main Harness (Cont'd)

B4*	M1	SMJ	To E1	D1	M42	W/4	Recirculation switch	A3	M81	B/2	Fuse block (J/B)
B4*	M2	SMJ	To B1	E1	M43	W/6	Fan switch	D2	M90	W/2	Diode (With manual A/C)
B4	M3	B/20	ASCD control unit	E1	M44	W/3	A/C switch (With manual A/C)	B3	M91	W/12	Fuse block (J/B)
A3	M4	-	Body ground	E1	M45	W/3	A/C switch illumination (With manual A/C)	D3	M92	B/2	CD player
A3	M5	W/16	To D3	E1	M47	W/20	To Z1	D2	M93	W/4	CD player
A3	M6	W/10	To D4	E3	M48	W/10	Audio unit	D3*	M94	W/18	To F27
A3	M7	W/2	Diode	G3	M49	W/6	Audio unit	B3	M98	GY/6	Joint connector
B2	M8	BR/2	Tweeter LH	E4	M52	L/4	Heated seat switch LH	G2	M101	BR/6	To D45
C4	M9	W/16	Data link connector for GST	F4	M53	W/4	Heated seat switch RH	F2	M102	GY/16	A/C auto amp.
B3*	M10	SMJ	Fuse block (J/B)	F4	M55	W/3	Air mix door motor (With auto A/C)	D1	M103	GY/20	A/C auto amp.
C4	M11	GY/14	Data link connector for CONSULT	E3	M56	W/3	Cigarette lighter socket	E4	M107	W/2	Intake sensor
B4*	M12	SB/6	Diode	F4	M57	W/2	Cigarette lighter illumination	A3	M111	-	Body ground
B4	M14	L/2	ASCD clutch switch (With M/T)	F4	M58	W/2	Sunload sensor (With auto A/C)	A4	M112	BR/6	To D13
C3	M15	B/3	Combination flasher unit	E1	M59	W/4	Intake door motor (With manual A/C)	A4	M114	W/12	To E116
C3	M17	GY/12	Door mirror remote control switch	G2	M60	W/4	Fan control amp.	A4	M115	W/6	Headlamp battery saver control unit
C4	M18	W/6	ASCD main switch	G2	M61	BR/4	Fan resistor	A4	M116	W/8	Headlamp battery saver control unit
C4	M19	W/3	Illumination control switch	G3	M62	W/6	To R1 (Without IVCS)	B4*	M119	W/24	TCM
C3	M20	W/4	Security indicator lamp	F1	M63	W/6	To R2	B4*	M120	GY/24	TCM (Transmission control module) (With A/T)
B2	M21	W/2	Circuit breaker-1	F1	M64	BR/2	Tweeter RH	C2	M121	W/18	(Transmission control module)
B2	M22	W/2	Circuit breaker-2	F1	M66	-	Body ground	C3	M122	B/24	Smart entrance control unit
B2	M23	L/4	Power window relay	G2	M67	W/12	To D33	A3	M132	W/2	Smart entrance control unit
D1*	M24	W/16	Combination meter	F2	M68	W/6	To D34	F1	M137	W/20	To R9 (With IVCS)
D1*	M25	W/14	Combination meter	F2	M69	W/3	Power antenna	G2	M138	W/8	Intake door motor (With auto A/C)
D1	M26	BR/16	Combination meter	F3	M70	W/20	To B50	G3	M139	W/16	Audio unit (With IVCS)
C3	M28	L/2	Clutch interlock switch (With M/T)	F3*	M71	W/24	To B51				
C3	M29	L/2	ASCD brake switch	F3*	M72	W/16	To B52				
C3	M31	B/2	Stop lamp switch	G3	M73	W/2	Blower motor				
D3*	M32	W/24	To F23	C5	M77	-	Body ground				
D3*	M33	GY/16	To F22	C5	M78	GY/6	Front wiper motor				
D3	M34	W/2	In-vehicle sensor (With auto A/C)	C5	M79	B/8	Front wiper amp.				
D2	M35	W/8	Hazard switch								
D3	M36	W/6	Rear window defogger switch								
D3	M38	W/3	Mode door motor (With auto A/C)								

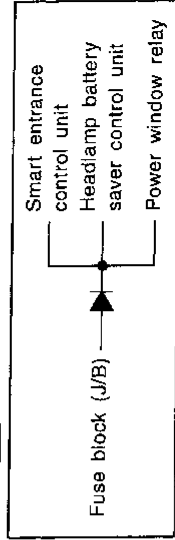
\*: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.

Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

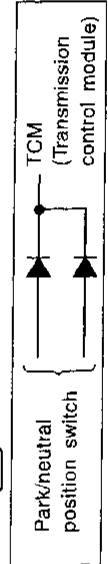
Diode (M9D)



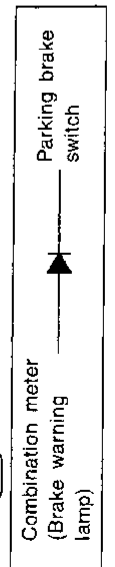
Diode (M132)



Diode (M12)



Diode (M7)



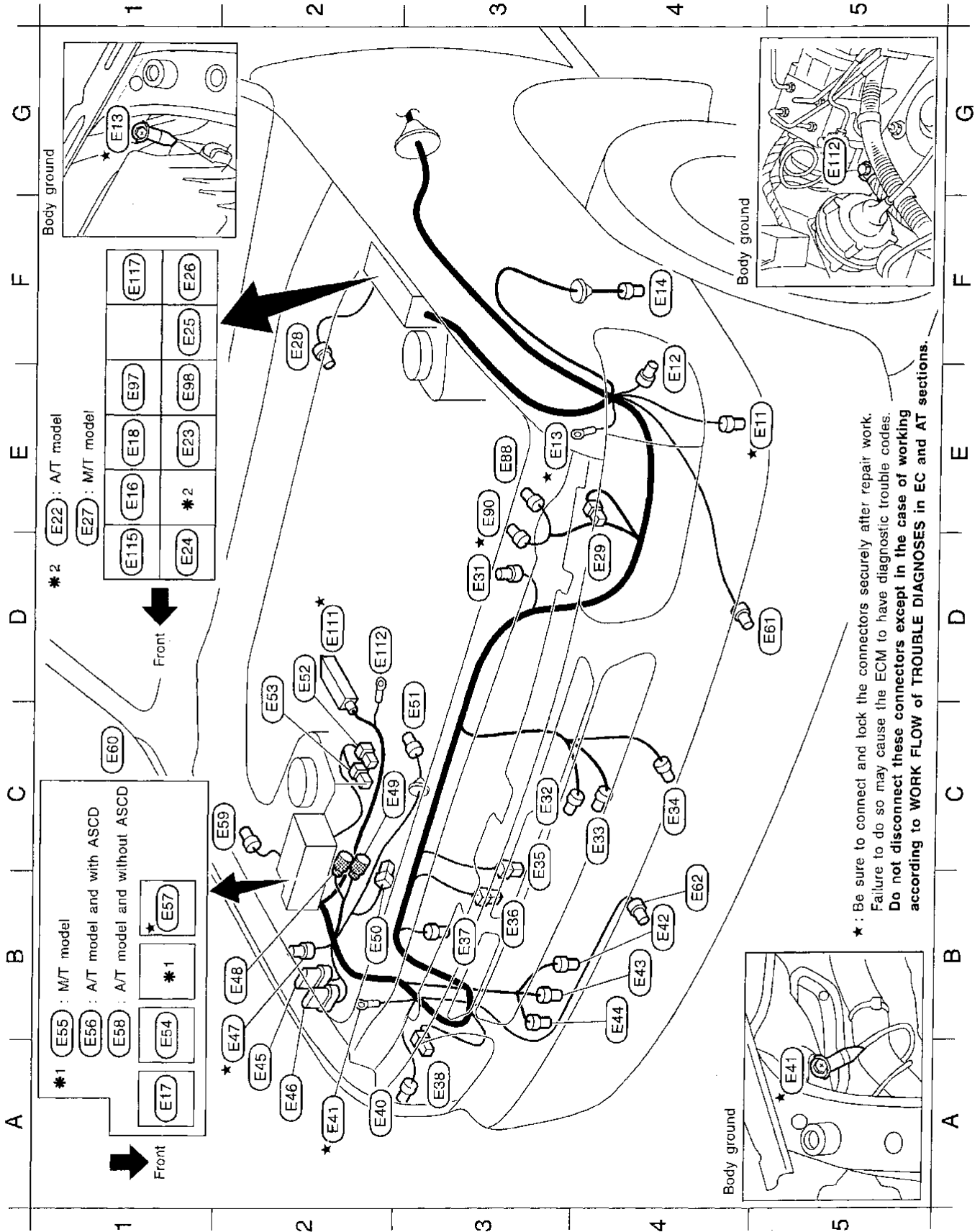
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# HARNESS LAYOUT

Engine Room Harness

## Engine Room Harness

NAEL0134



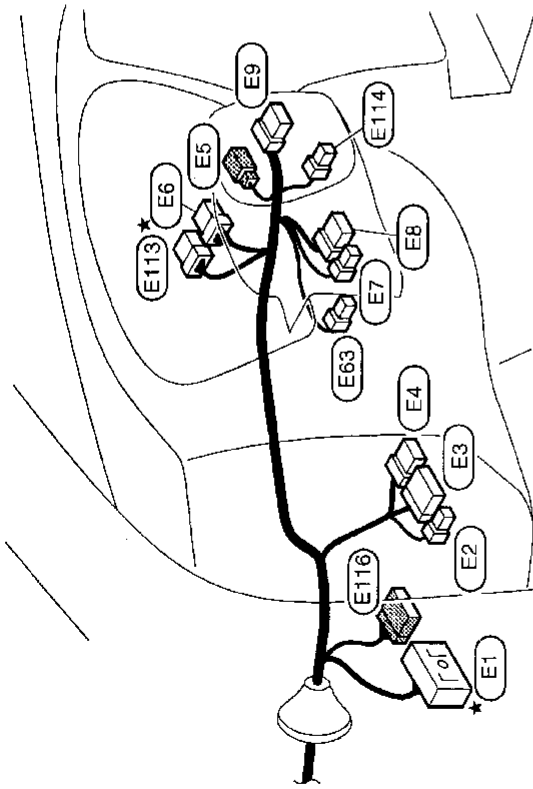
\* : Be sure to connect and lock the connectors securely after repair work.  
 Failure to do so may cause the ECM to have diagnostic trouble codes.  
 Do not disconnect these connectors except in the case of working  
 according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

MEL894J

# HARNESS LAYOUT

Engine Room Harness (Cont'd)

★ : 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.



C4	E33	B/2	: Ambient air temperature sensor (For thermometer)
C4	E34	GY/2	: Ambient air temperature switch
C3	E35	B/1	: Horn (High)
B3	E36	B/1	: Horn (Low)
B3	E37	B/2	: Dual-pressure switch
A3	E38	B/3	: Headlamp RH
A2	E40	GY/3	: Front turn signal and parking lamp RH
A2★	E41	-	: Body ground
B4	E42	BR/2	: Washer level switch
B4	E43	GY/2	: Rear washer motor
B4	E44	GY/2	: Front washer motor
A2	E45	GY/8	: Daytime light control unit
A2	E46	GY/6	: Daytime light control unit
A2★	E47	GY/2	: Dropping resistor
B2	E48	GY/4	: To (E102)
C2	E49	GY/1	: To (E104)
B2	E50	B/1	: Theft warning horn
C3	E51	GY/2	: Front wheel sensor RH
D2	E52	B/1	: Battery
C2	E53	B/1	: Battery
B1	E54	L/4	: Fuel pump relay
B1	E55	L/4	: Clutch interlock relay (With M/T)
B1	E56	GY/6	: Park/Neutral position relay (With A/T and ASCD)
B1★	E57	BR/6	: ECCS relay
B1	E58	L/4	: Park/neutral position relay (With A/T and without ASCD)
C2	E59	GY/4	: ASCD pump
C1	E60	-	: Fuse and fusible link box
D5	E61	L/2	: Front fog lamp LH
B4	E62	L/2	: Front fog lamp RH
E3	E63	W/3	: Combination switch (Front fog lamp switch)
E3	E88	GY/3	: Absolute pressure sensor
E3★	E90	B/2	: MAP/BARO switch solenoid valve
E1	E97	L/4	: Headlamp RH relay } (Relay box-1)
E1	E98	L/4	: Headlamp LH relay } (Relay box-1)
D2★	E111	SMJ	: ABS actuator and electric unit
D2	E112	-	: Body ground
E113	E113	W/8	: NATS IMMU
E114	E114	W/4	: Combination switch (Rear wiper switch)
D1	E115	L/4	: Tail lamp relay (Relay box-2)
E116	E116	W/12	: To (M119)
F1	E117	BR/6	: Rear window defogger relay (Relay box-1)

★	E1	SMJ	: To (M1)
	E2	B/2	: Fuse block (J/B)
	E3	W/16	: Fuse block (J/B)
	E4	W/4	: Fuse block (J/B)
	E5	BR/2	: Key switch
★	E6	W/6	: Ignition switch
	E7	BR/4	: Combination switch (Lighting switch)
	E8	BR/8	: Combination switch (Lighting & turn signal switch)
	E9	GY/8	: Combination switch (Front wiper switch)
★	E11	GY/2	: Intake air temperature sensor
E4	E12	GY/3	: Front turn signal and parking lamp LH
E3★	E13	-	: Body ground
F4	E14	BR/2	: Front wheel sensor LH
E1	E16	L/4	: Front fog lamp relay (Relay box-1)
A1	E17	BR/6	: Multi-remote control relay (Relay box-2)
E1	E18	BR/6	: Theft warning lamp relay
E1	E22	BR/6	: Theft warning horn relay
E1	E23	BR/6	: ASCD hold relay (With A/T)
D1	E24	B/5	: ATP relay (With A/T and 4-wheel drive)
F1	E25	W/3	: Horn relay
F1	E26	L/4	: A/C relay
E1	E27	L/4	: ASCD hold relay (With M/T)
F2	E28	GY/2	: Brake fluid level switch
D4	E29	B/3	: Headlamp LH
D3	E31	GY/2	: Hood switch
C3	E32	B/2	: Ambient sensor (With auto A/C)

MEL895J

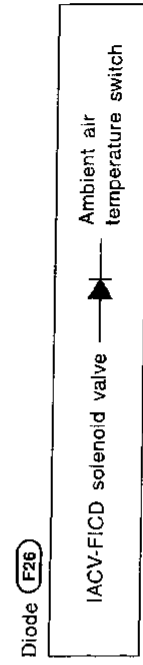
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# HARNESS LAYOUT

Engine Control Harness (Cont'd)

D1★	(F1)	GY/4	: Rear heated oxygen sensor RH
D1★	(F2)	GY/3	: Front heated oxygen sensor RH
D1★	(F3)	GY/4	: Rear heated oxygen sensor LH
D1★	(F4)	GY/3	: Front heated oxygen sensor LH
C2★	(F5)	GY/8	: To (F100)
C3★	(F6)	B/8	: To (F101)
C4★	(F7)	GY/6	: Distributor
E4★	(F8)	BR/3	: Throttle position sensor
F4★	(F9)	GY/3	: Throttle position switch
E3★	(F10)	BR/4	: Mass air flow sensor
C4★	(F11)	GY/2	: Distributor
C4★	(F12)	GY/2	: EGR temperature sensor
D5	(F14)	GY/2	: To (F200)
E4★	(F15)	G/2	: EGRC-solenoid valve
C3	(F17)	B/1	: Thermal transmitter
E1★	(F18)	GY/2	: Resistor
E1★	(F20)	-	: Engine ground
F3	(F21)	L/12	: Joint connector
F2★	(F22)	GY/16	: To (M33)
F2★	(F23)	W/24	: To (M32)
F2★	(F24)	SMJ	: ECM
E1★	(F25)	-	: Engine ground
F3	(F26)	W/2	: Diode
F2★	(F27)	W/18	: To (M94)
B2★	(F28)	B/4	: To (F113)
C2★	(F100)	GY/8	: To (F5)
C2★	(F101)	B/8	: To (F6)
E2★	(F102)	B/2	: Knock sensor
C3★	(F103)	B/2	: Injector No. 1
C4★	(F104)	B/2	: Injector No. 2
C3★	(F105)	B/2	: Injector No. 3
F4★	(F106)	B/2	: Injector No. 4
E2★	(F107)	B/2	: Injector No. 5
F3★	(F108)	B/2	: Injector No. 6
F2★	(F109)	BR/2	: IACV-AAC valve
F3★	(F110)	GY/2	: Crankshaft position sensor (OBD)
F3	(F111)	GY/2	: IACV-FICD solenoid valve
C3★	(F112)	GY/2	: Engine coolant temperature sensor
C2★	(F113)	B/4	: To (F28)
G3★	(F114)	L/2	: EVAP canister purge volume control solenoid valve
D5	(F200)	GY/2	: To (F14)
E4	(F201)	B/1	: Oil pressure switch
D4	(F202)	B/1	: Compressor (Air conditioner)



★: 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.

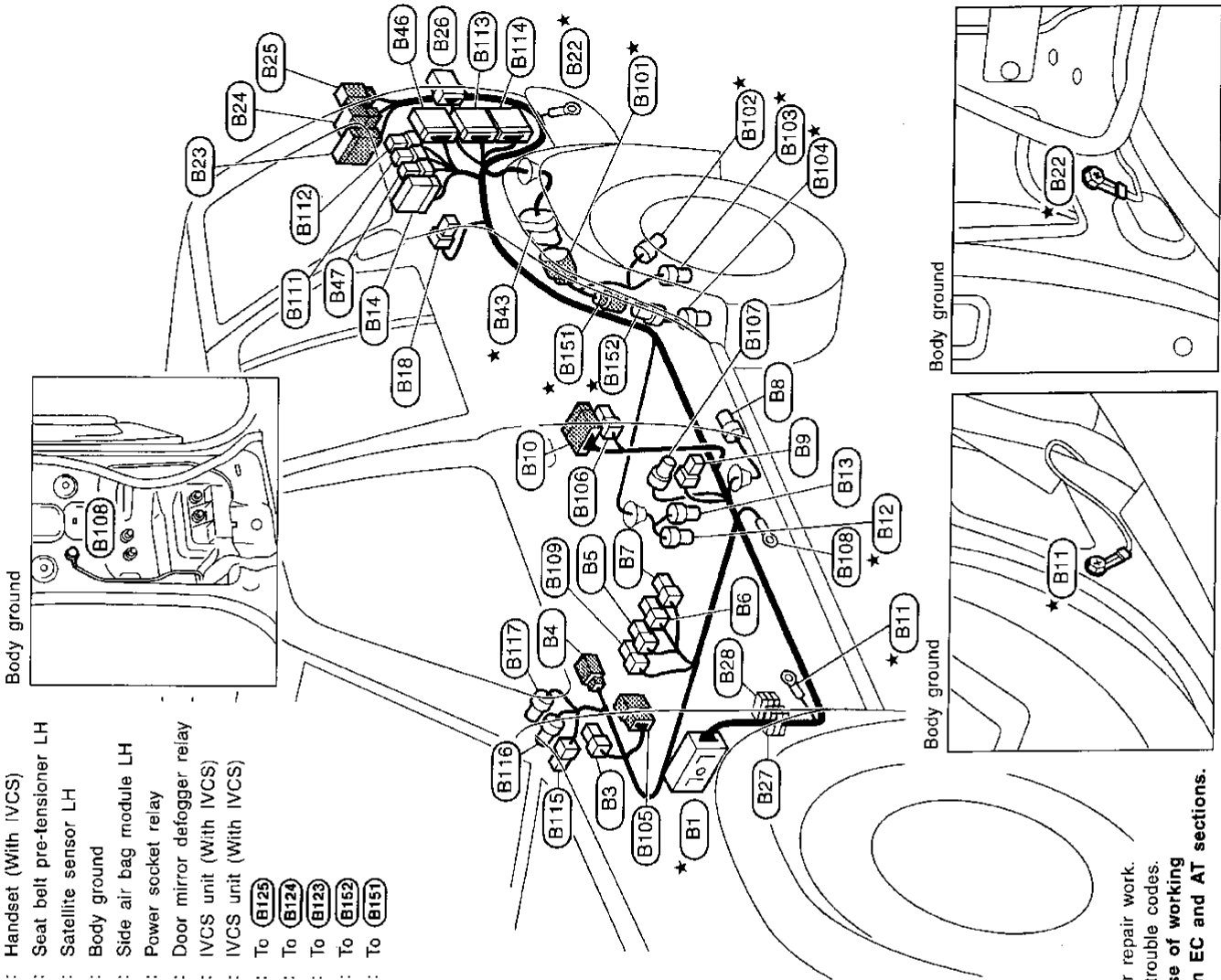
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# HARNESS LAYOUT

Body Harness LH

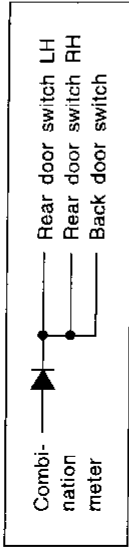
## Body Harness LH

NAEL0136



- (B105) W/12 : Handset (With IVCS)
- (B106) W/4 : Seat belt pre-tensioner LH
- (B107) GY/2 : Seat belt sensor LH
- (B108) - : Satellite sensor LH
- (B109) Y/2 : Body ground
- (B110) W/4 : Side air bag module LH
- (B111) W/4 : Power socket relay
- (B112) W/4 : Door mirror defogger relay
- (B113) W/16 : IVCS unit (With IVCS)
- (B114) W/22 : IVCS unit (With IVCS)
- (B115) W/2 : To (B125)
- (B116) GY/4 : To (B124)
- (B117) W/2 : To (B123)
- (B151) GY/2 : To (B152)
- (B152) GY/2 : To (B151)

- (B1) SMU : To (M2)
- (B3) B/1 : Parking brake switch
- (B4) W/2 : Power socket
- (B5) W/3 : Heated seat LH
- (B6) W/3 : Seat belt buckle switch
- (B7) W/2 : Power seat LH
- (B8) BR/2 : Rear wheel sensor LH
- (B9) B/3 : Front door switch LH
- (B10) W/10 : To (D50)
- (B11) - : Body ground
- (B12) GY/4 : Fuel tank gauge unit
- (B13) GY/2 : Fuel pump
- (B14) W/18 : Rear wiper amp.
- (B18) BR/1 : Rear door switch LH
- (B22) - : Body ground
- (B23) W/12 : To (D100)
- (B24) W/6 : To (D101)
- (B25) W/4 : To (D102)
- (B26) W/6 : Rear combination lamp LH
- (B27) W/2 : Diode
- (B28) W/2 : Diode
- (B43) GY/8 : To (B101)
- (B46) W/26 : Rear speaker amp. (With BOSE system)
- (B47) W/4 : Audio amp. relay (With BOSE system)
- (B101) GY/8 : To (B43)
- (B102) GY/3 : EVAP control system pressure sensor
- (B103) B/2 : EVAP canister vent control valve
- (B104) G/2 : Vacuum cut valve bypass valve



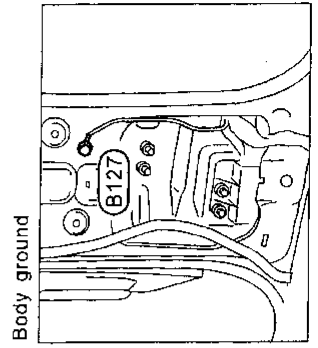
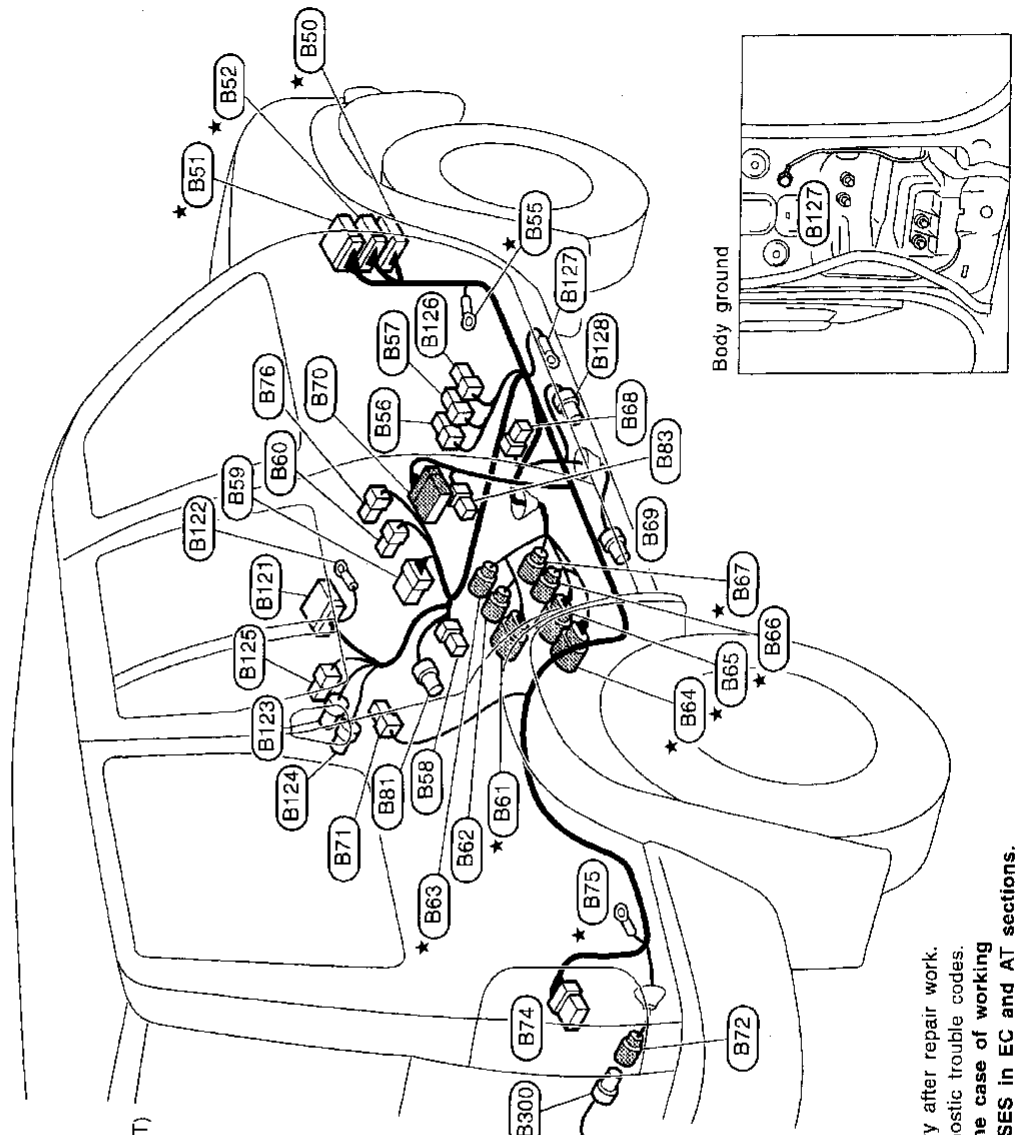
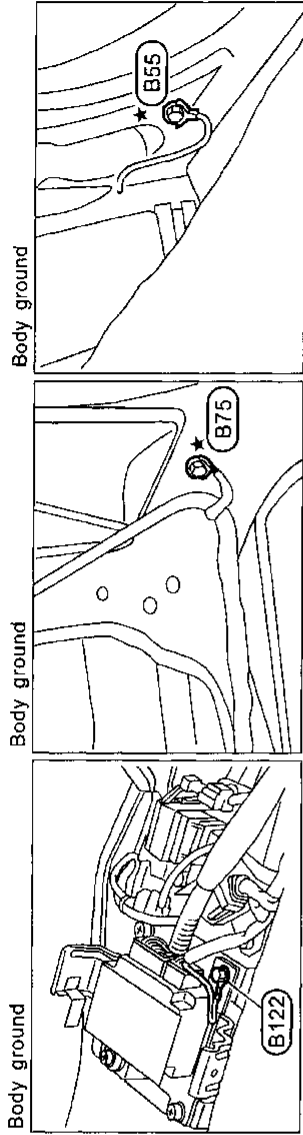
★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

# HARNESS LAYOUT

Body Harness RH

## Body Harness RH

NAEL0137



- ★ **B50** W/20 : To **M70**
- ★ **B51** W/24 : To **M71**
- ★ **B52** W/16 : To **M72**
- ★ **B55** - : Body ground
- B56** W/3 : Heated seat RH
- B57** W/2 : Power seat RH
- B58** GY/2 : G sensor (For 4WD model with ABS)
- B59** W/6 : A/T device (With A/T)
- B60** W/2 : Ashtay illumination (With M/T)
- ★ **B61** B/6 : To **B200** (With M/T)
- B62** B/4 : To **B201** (With A/T and 4-wheel drive)
- ★ **B63** GY/2 : Vehicle speed sensor
- ★ **B64** BR/8 : Terminal cord assembly
- ★ **B65** GY/8 : Park/neutral position switch
- ★ **B66** GY/2 : Park/neutral position switch
- ★ **B67** GY/3 : Revolution sensor
- B68** BR/1 : Front door switch RH
- B69** GY/2 : Rear wheel sensor RH
- B70** W/10 : To **D70**
- B71** BR/1 : Rear door switch RH
- B72** GY/2 : To **B300**
- B74** W/6 : Rear combination lamp RH
- ★ **B75** - : Body ground
- B76** W/3 : Ashtay illumination (With A/T)
- B81** GY/2 : G sensor (For 4WD model with ABS)
- B83** W/4 : Seat belt pre-tensioner RH
- B121** Y/10 : Air bag diagnosis sensor unit
- B122** - : Body ground
- B123** W/2 : To **B117**
- B124** GY/4 : To **B116**
- B125** W/2 : To **B115**
- B126** Y/2 : Side air bag module RH
- B127** - : Body ground
- B128** GY/2 : Satellite sensor RH
- B300** GY/2 : To **B72**
- B301** B/3 : Tire carrier switch

★ : 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.

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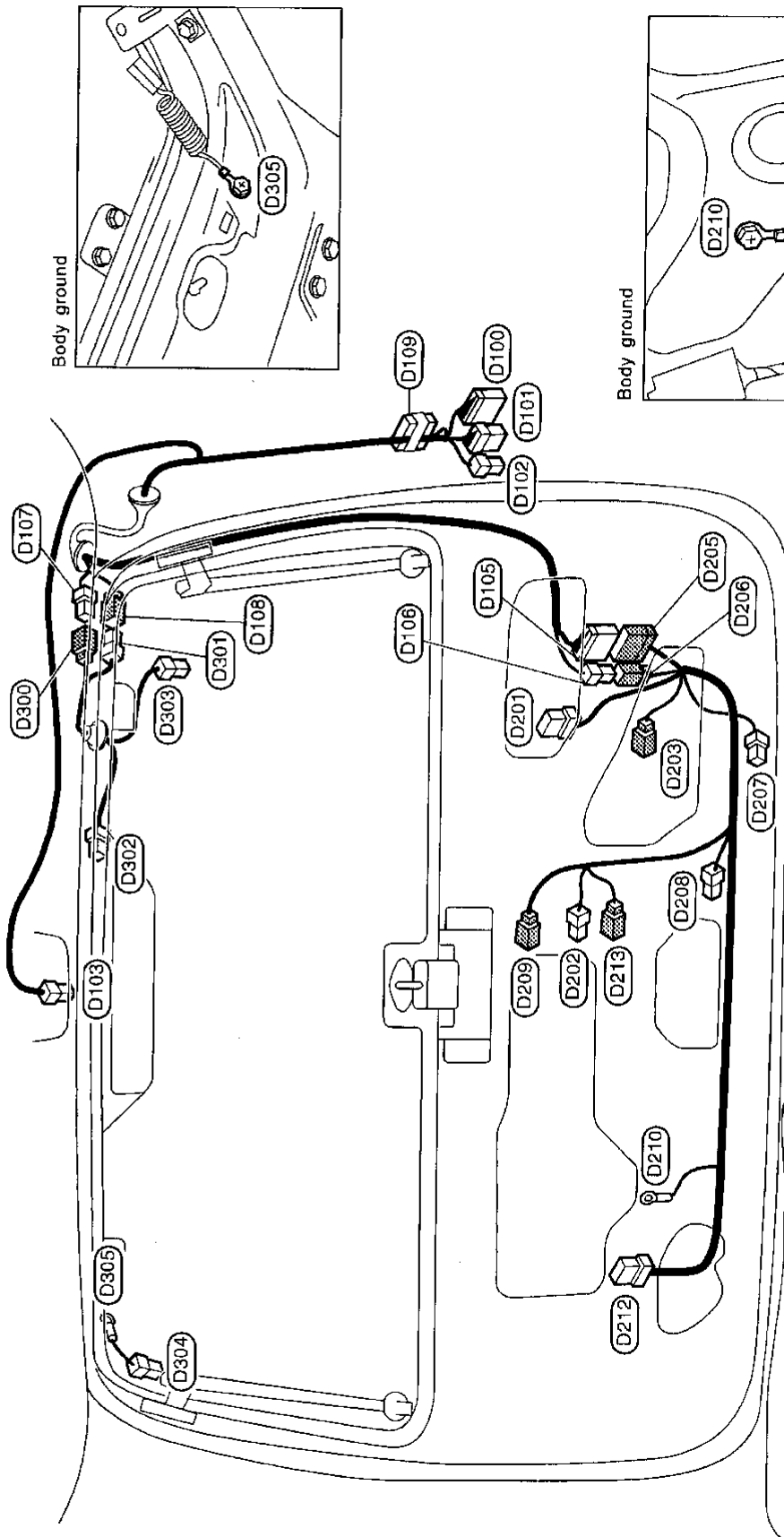
MEL899J

# HARNES LAYOUT

Back Door Harness

## Back Door Harness

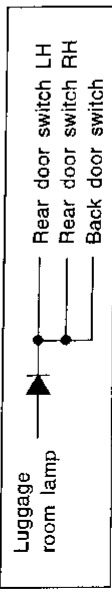
NAEL0136



Body ground

Body ground

- D100 W/12 : To B23
- D101 W/6 : To B24
- D102 W/4 : To B25
- D103 W/3 : Luggage room lamp
- D105 W/16 : To D205
- D106 W/4 : To D106
- D107 W/4 : Back door lock actuator
- D108 W/2 : Back door switch
- D109 W/1 : To D301
- D109 W/2 : Diode
- Diode D109
- D201 W/6 : Back door key cylinder switch
- D202 BR/2 : License plate lamp (Without spare tire carrier)
- D203 BR/2 : License plate lamp (With spare tire carrier)
- D205 W/16 : To D105
- D206 W/4 : To D106
- D207 W/4 : Back door lock actuator
- D208 W/2 : Back door switch
- D209 W/2 : Glass hatch switch
- D210 - : Body ground
- D212 W/8 : Rear wiper motor
- D213 W/3 : Back door handle switch (With IVCS)
- D300 W/2 : To D107
- D301 W/1 : To D108
- D302 W/3 : High-mounted stop lamp
- D303 B/1 : Rear window defogger
- D304 B/1 : Rear window defogger
- D305 - : Body ground



MEL900J



# HARNESS LAYOUT

Engine and Transmission Harness

## Engine and Transmission Harness

NAEL0139

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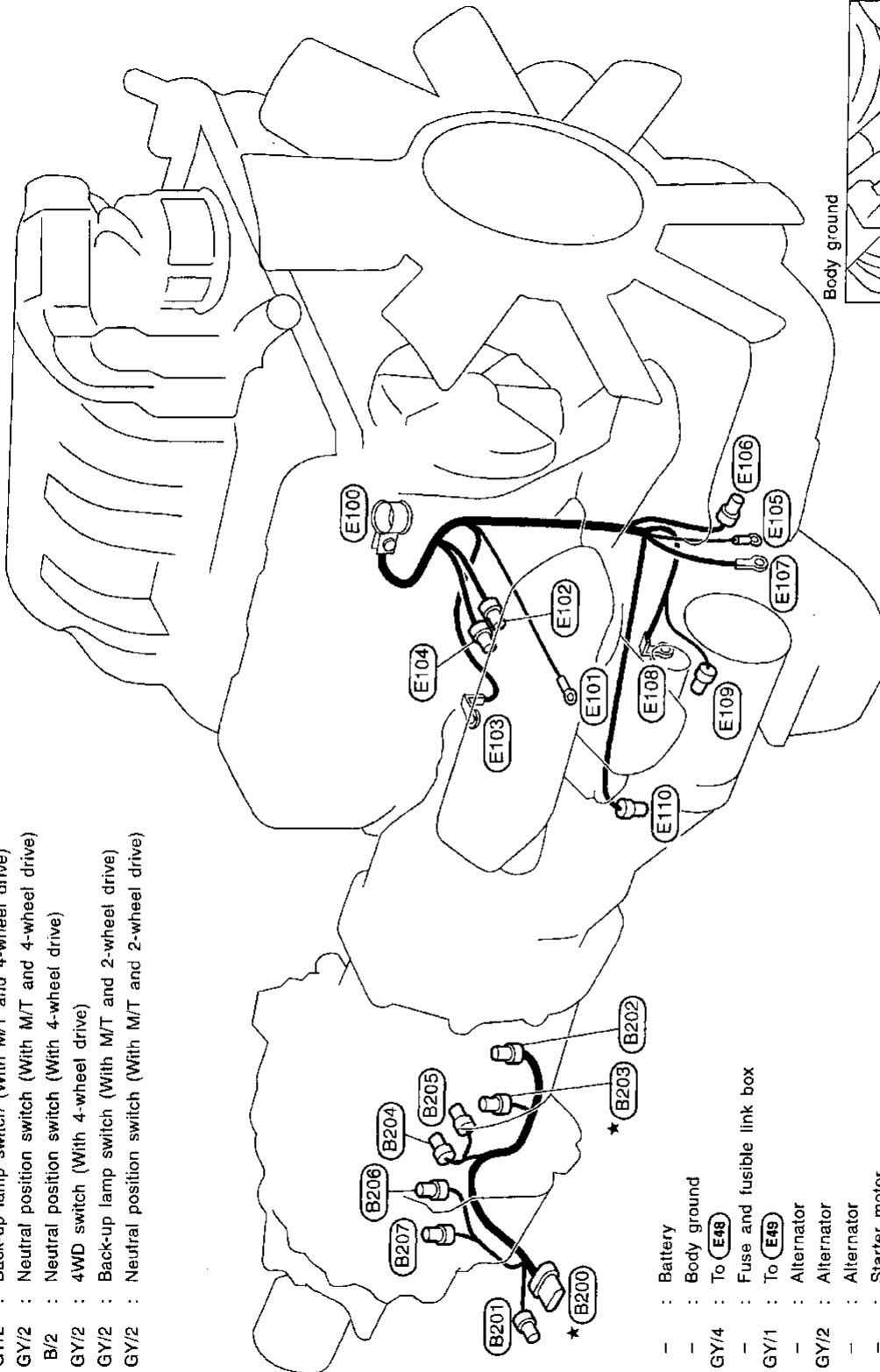
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- ★ B200 B/6 : To B61 (With M/T)
- B201 B/4 : To B62 (With A/T and 4-wheel drive)
- B202 GY/2 : Back-up lamp switch (With M/T and 4-wheel drive)
- ★ B203 GY/2 : Neutral position switch (With M/T and 4-wheel drive)
- B204 B/2 : Neutral position switch (With 4-wheel drive)
- B205 GY/2 : 4WD switch (With 4-wheel drive)
- B206 GY/2 : Back-up lamp switch (With M/T and 2-wheel drive)
- B207 GY/2 : Neutral position switch (With M/T and 2-wheel drive)

- E100 - : Battery
- E101 - : Body ground
- E102 GY/4 : To E48
- E103 - : Fuse and fusible link box
- E104 GY/1 : To E49
- E105 - : Alternator
- E106 GY/2 : Alternator
- E107 - : Alternator
- E108 - : Starter motor
- E109 GY/1 : Starter motor
- E110 GY/2 : Power steering oil pressure switch

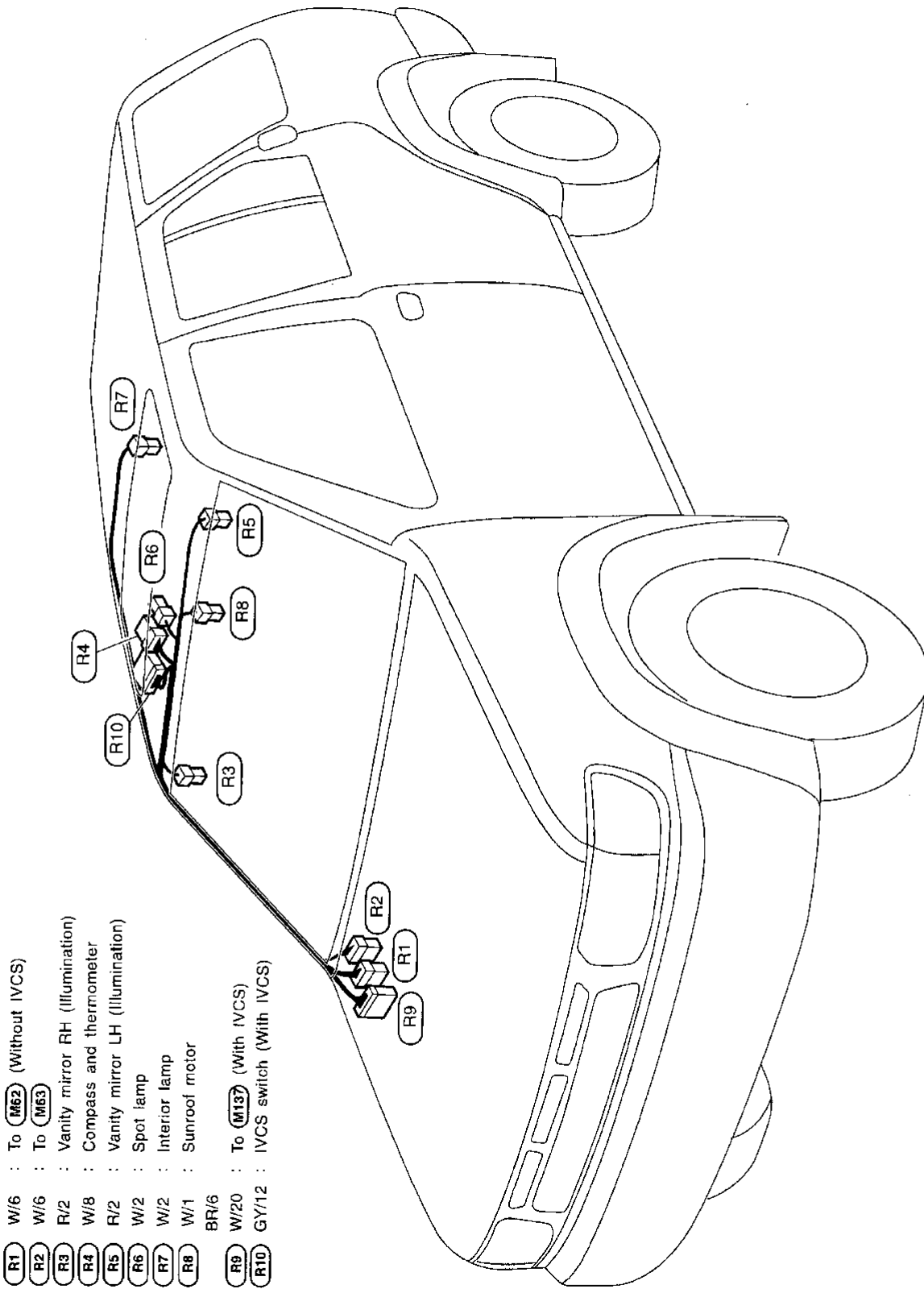
★ : Be sure to connect and lock the connectors securely after repair work.  
 Failure to do so may cause the ECM to have diagnostic trouble codes.  
**Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

# HARNESS LAYOUT

Room Lamp

## Room Lamp

NAEL0140



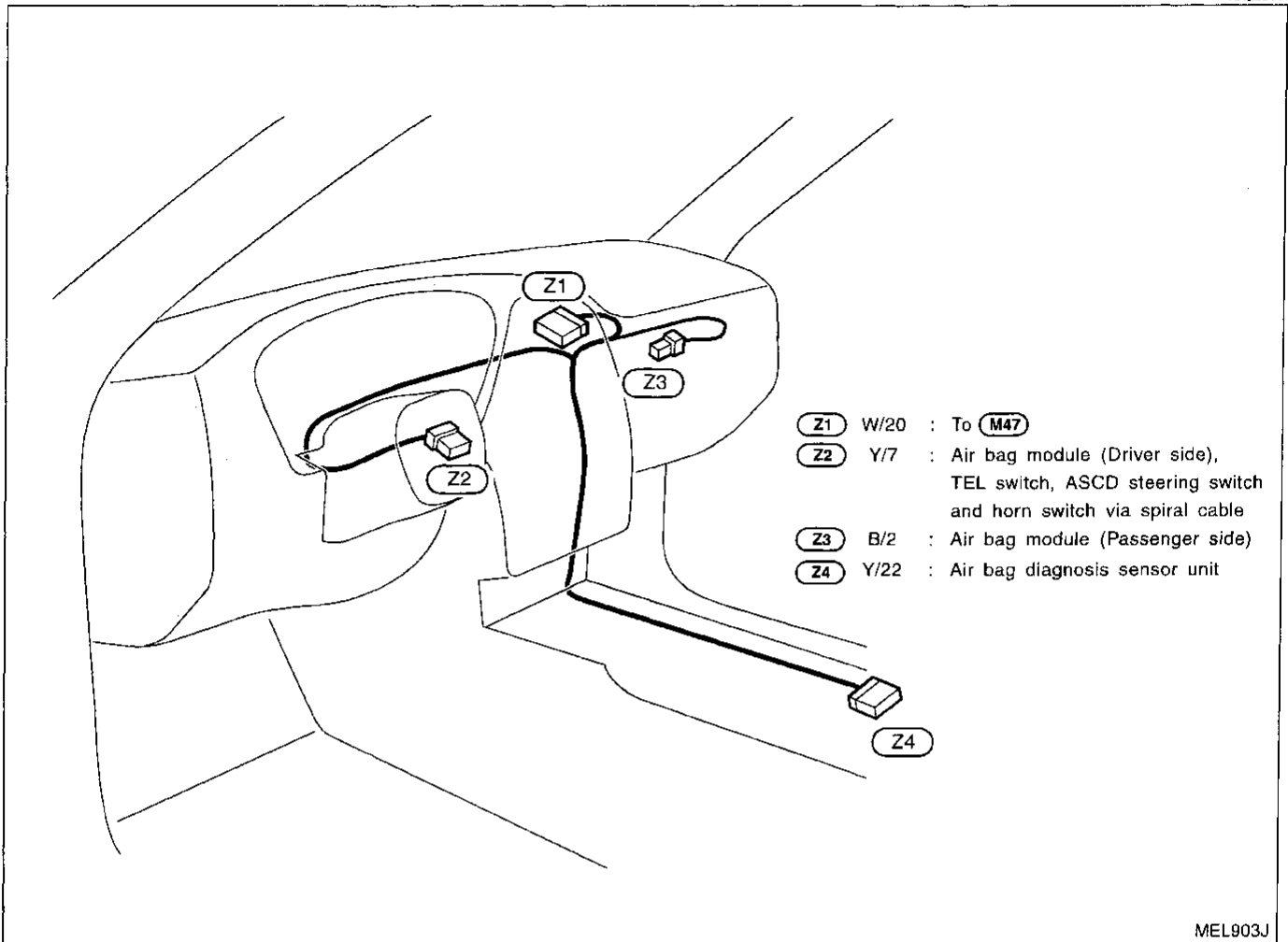
MEL902J

# HARNESS LAYOUT

Air Bag Harness

## Air Bag Harness

NAEL0141



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# HARNESS LAYOUT

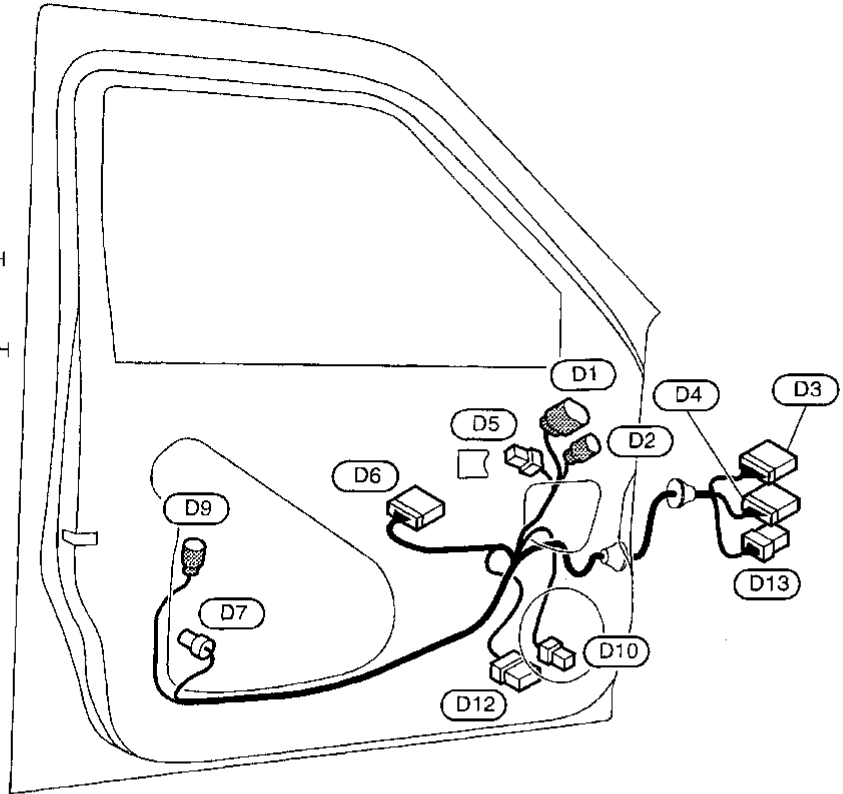
Front Door Harness

NAEL0142

## Front Door Harness

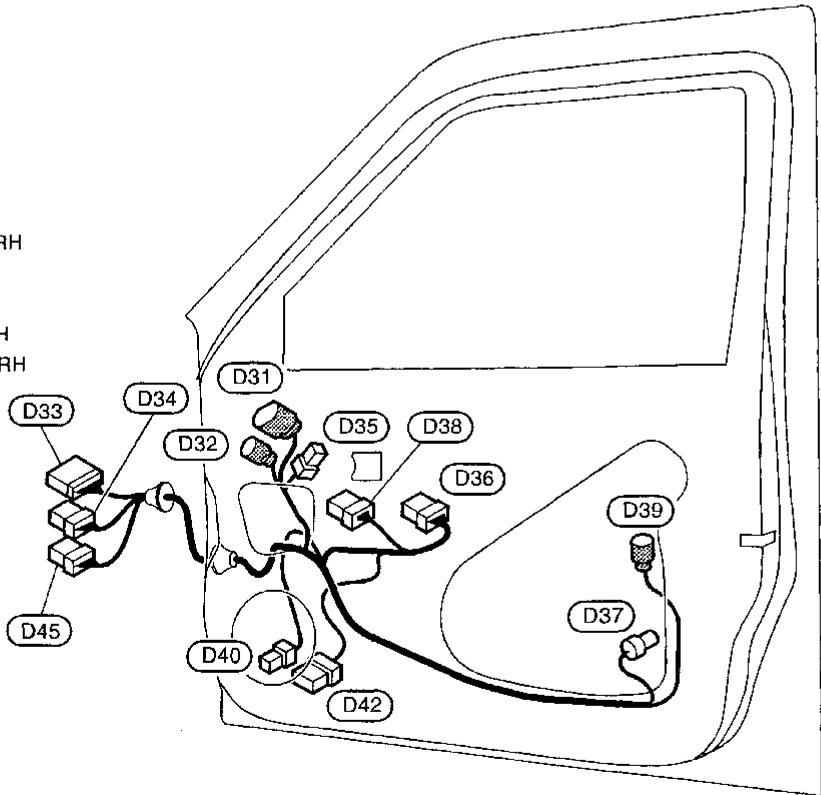
### LH side

- D1** GY/5 : Door mirror defogger LH
- D2** BR/3 : Door mirror LH
- D3** W/16 : To **M5**
- D4** W/10 : To **M6**
- D5** B/2 : Front power window regulator LH
- D6** W/16 : Power window main switch
- D7** GY/4 : Front door lock actuator LH
- D9** BR/3 : Front door key cylinder switch LH
- D10** BR/2 : Front door speaker LH  
(Without BOSE system)
- D12** W/6 : Front door speaker LH  
(With BOSE system)
- D13** BR/6 : To **M112**



### RH side

- D31** GY/5 : Door mirror defogger RH
- D32** BR/3 : Door mirror RH
- D33** W/12 : To **M67**
- D34** W/6 : To **M68**
- D35** B/2 : Front power window regulator RH
- D36** W/8 : Front power window sub-switch
- D37** GY/4 : Front door lock actuator RH
- D38** GY/8 : Door lock and unlock switch RH
- D39** BR/3 : Front door key cylinder switch RH
- D40** BR/2 : Front door speaker RH  
(Without BOSE system)
- D42** W/6 : Front door speaker RH  
(With BOSE system)
- D45** BR/6 : To **M101** (With BOSE system)



MEL904J

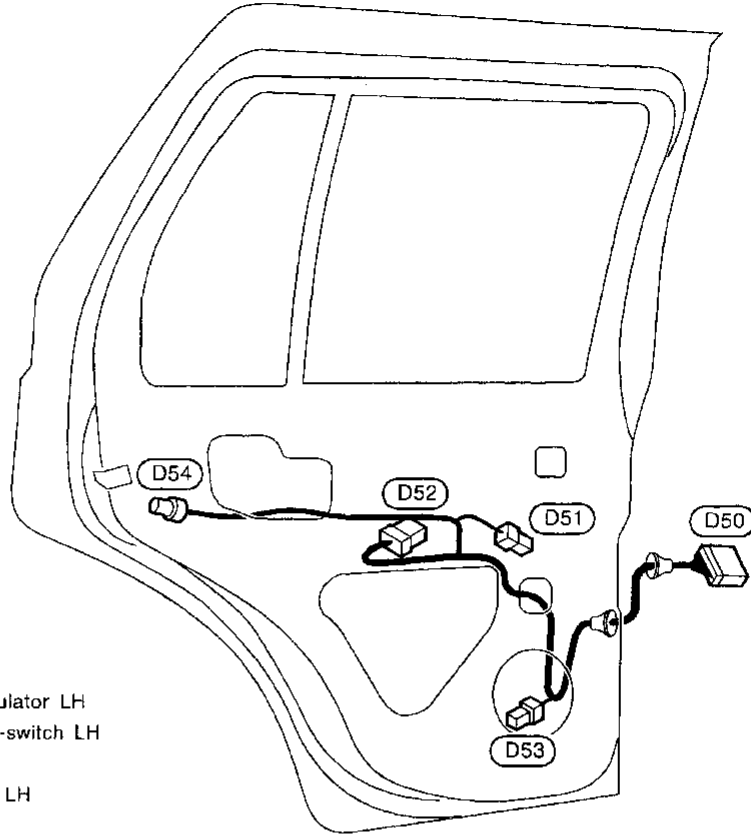
# HARNES LAYOUT

Rear Door Harness

## Rear Door Harness

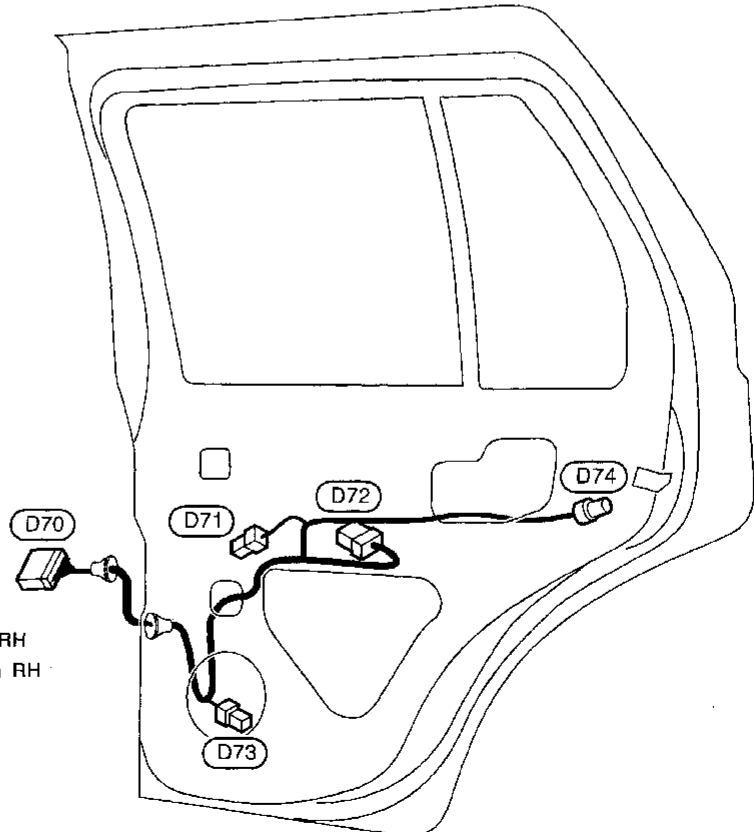
NAEL0143

LH side



- (D50) W/10 : To (B10)
- (D51) B/2 : Rear power window regulator LH
- (D52) W/8 : Rear power window sub-switch LH
- (D53) BR/2 : Rear door speaker LH
- (D54) GY/4 : Rear door lock actuator LH

RH side



- (D70) W/10 : To (B70)
- (D71) B/2 : Rear power window regulator RH
- (D72) W/8 : Rear power window sub-switch RH
- (D73) BR/2 : Rear door speaker RH
- (D74) GY/4 : Rear door lock actuator RH

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**BULB SPECIFICATIONS***Headlamp*

<b>Headlamp</b>		<small>NAEL0144S03</small>
Item	Wattage (W)	
High/Low (Semi-sealed beam)	60/55 (HB2)	

**Exterior Lamp**

<b>Exterior Lamp</b>		<small>NAEL0144S01</small>
Item	Wattage (W)	
Front fog lamp	55	
Front turn signal lamp	21/5	
Parking lamp	5	
Rear combination lamp	Turn signal lamp	21
	Stop/Tail lamp	21/5
Back-up lamp	18	
License plate lamp	5	
High-mounted stop lamp	5	

**Interior Lamp**

<b>Interior Lamp</b>		<small>NAEL0144S02</small>
Item	Wattage (W)	
Interior lamp	10	
Spot lamp	8	
Luggage room lamp	10	

## WIRING DIAGRAM CODES (CELL CODES)

NAEL0145

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
1STSIG	AT	A/T 1ST Signal
2NDSIG	AT	A/T 2ND Signal
3RDSIG	AT	A/T 3RD Signal
4THSIG	AT	A/T 4TH Signal
A/C, A	HA	Auto Air Conditioner
A/C, M	HA	Manual Air Conditioner
AAC/V	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
AP/SEN	EC	Absolute Pressure Sensor
ASCD	EL	Automatic Speed Control Device
AT/C	EC	A/T Control
ATDIAG	EC	A/T Diagnosis Communication Line
AUDIO	EL	Audio
BA/FTS	AT	A/T Fluid Temperature Sensor and TCM Power Supply
BACK/L	EL	Back-up Lamp
BYPS/V	EC	Vacuum Cut Valve Bypass Valve
CHARGE	SC	Charging System
CHIME	EL	Warning Chime
CIGAR	EL	Cigarette Lighter
CKPS	EC	Crankshaft Position Sensor (OBD)
CMPS	EC	Camshaft Position Sensor
COMPAS	EL	Compass and Thermometer
D/LOCK	EL	Power Door Lock
DEF	EL	Rear Window Defogger
DTRL	EL	Headlamp — With Daytime Light System —
ECTS	EC	Engine Coolant Temperature Sensor
EGR/TS	EC	EGR Temperature Sensor
EGRC/V	EC	EGRC-solenoid Valve
EGRC1	EC	EGR Function
ENGSS	AT	Engine Speed Signal
F/FOG	EL	Front Fog Lamp
F/PUMP	EC	Fuel Pump Control

Code	Section	Wiring Diagram Name
FICD	EC	IACV-FICD Solenoid Valve
FO2H-L	EC	Front Heated Oxygen Sensor Heater (Left Bank)
FO2H-R	EC	Front Heated Oxygen Sensor Heater (Right Bank)
FRO2LH	EC	Front Heated Oxygen Sensor (Front HO2S) (Left Bank)
FRO2RH	EC	Front Heated Oxygen Sensor (Front HO2S) (Right Bank)
FTS	AT	A/T Fluid Temperature Sensor
FUELLH	EC	Fuel Injection System Function (Left Bank)
FUELRH	EC	Fuel Injection System Function (Right Bank)
HEATER	HA	Heater System
H/LAMP	EL	Headlamp
HORN	EL	Horn
HSEAT	EL	Heated Seat
IATS	EC	Intake Air Temperature Sensor
IGN/SG	EC	Ignition Signal
ILL	EL	Illumination
INJECT	EC	Injector
INT/L	EL	Interior, Spot, Vanity Mirror, and Luggage Room Lamps
IVCS	EL	NISSAN Communicator
KS	EC	Knock Sensor
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 and Data Link Connectors
MIRROR	EL	Door Mirror
MULTI	EL	Multi-remote Control System
NATS	EL	NVIS (Nissan Vehicle Immobiliser System)
NONDTC	AT	Non-detectable Items
OVRCSV	AT	Overrun Clutch Solenoid Valve
P/ANT	EL	Power Antenna

GI  
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IDX

## WIRING DIAGRAM CODES (CELL CODES)

Code	Section	Wiring Diagram Name
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PNP/SW	AT	Park/Neutral Position Switch
PNP/SW	EC	Park/Neutral Position Switch
POWER	EL	Power Supply Routing
PRE/SE	EC	EVAP Control System Pressure Sensor
PST/SW	EC	Power Steering Oil Pressure Switch
RO2H-L	EC	Rear Heated Oxygen Sensor Heater Left Bank
RO2H-R	EC	Rear Heated Oxygen Sensor Heater Right Bank
RRO2LH	EC	Rear Heated Oxygen Sensor Left Bank
RRO2RH	EC	Rear Heated Oxygen Sensor Right Bank
S/SIG	EC	Start Signal
SEAT	EL	Power Seat
SHIFT	AT	A/T Shift Lock System
SROOF	EL	Sunroof
SRS	RS	Supplemental Restraint System
SSV/A	AT	Shift Solenoid Valve A
SSV/B	AT	Shift Solenoid Valve B
START	SC	Starting System
STOP/L	EL	Stop lamp
SW/V	EC	MAP/BARO Switch Solenoid Valve
TAIL/L	EL	Parking, License and Tail Lamps
TCCSIG	AT	A/T TCC Signal (Lock up)
TCV	AT	Torque Converter Clutch Solenoid Valve
TFTS	EC	Tank Fuel Temperature Sensor
THEFT	EL	Theft Warning System
TP/SW	EC	Throttle Position Switch
TPS	AT	Throttle Position Sensor
TPS	EC	Throttle Position Sensor
TRNSMT	EL	Integrated HOMELINK <sup>™</sup> Transmitter
TURN	EL	Turn Signal and Hazard Warning Lamps
VENT/V	EC	EVAP Canister Vent Control Valve

Code	Section	Wiring Diagram Name
VSS	EC	Vehicle Speed Sensor
VSSA/T	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
VSSMTR	AT	Vehicle Speed Sensor MTR
WARN	EL	Warning Lamps
WINDOW	EL	Power Window
WIP/R	EL	Rear Wiper and Washer
WIPER	EL	Front Wiper and Washer