

ELECTRICAL SYSTEM

SECTION **EL**

GI

MA

EM

LC

EC

FE

CL

When you read wiring diagrams:

- Read GI section, "HOW TO READ WIRING DIAGRAMS".

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

- Check for any service bulletins before servicing the vehicle.

MT

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IDX

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WIRING DIAGRAM REFERENCE CHART

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

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PRECAUTIONS

Supplemental Restraint System (SRS) "AIR BAG"

The Supplemental Restraint System "Air Bag", used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The Supplemental Restraint System consists of air bag modules (located in the center of the steering wheel and on the instrument panel on the passenger side), a diagnosis sensor unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the **RS section** of this Service Manual.

WARNING:

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

HARNESS CONNECTOR

Description

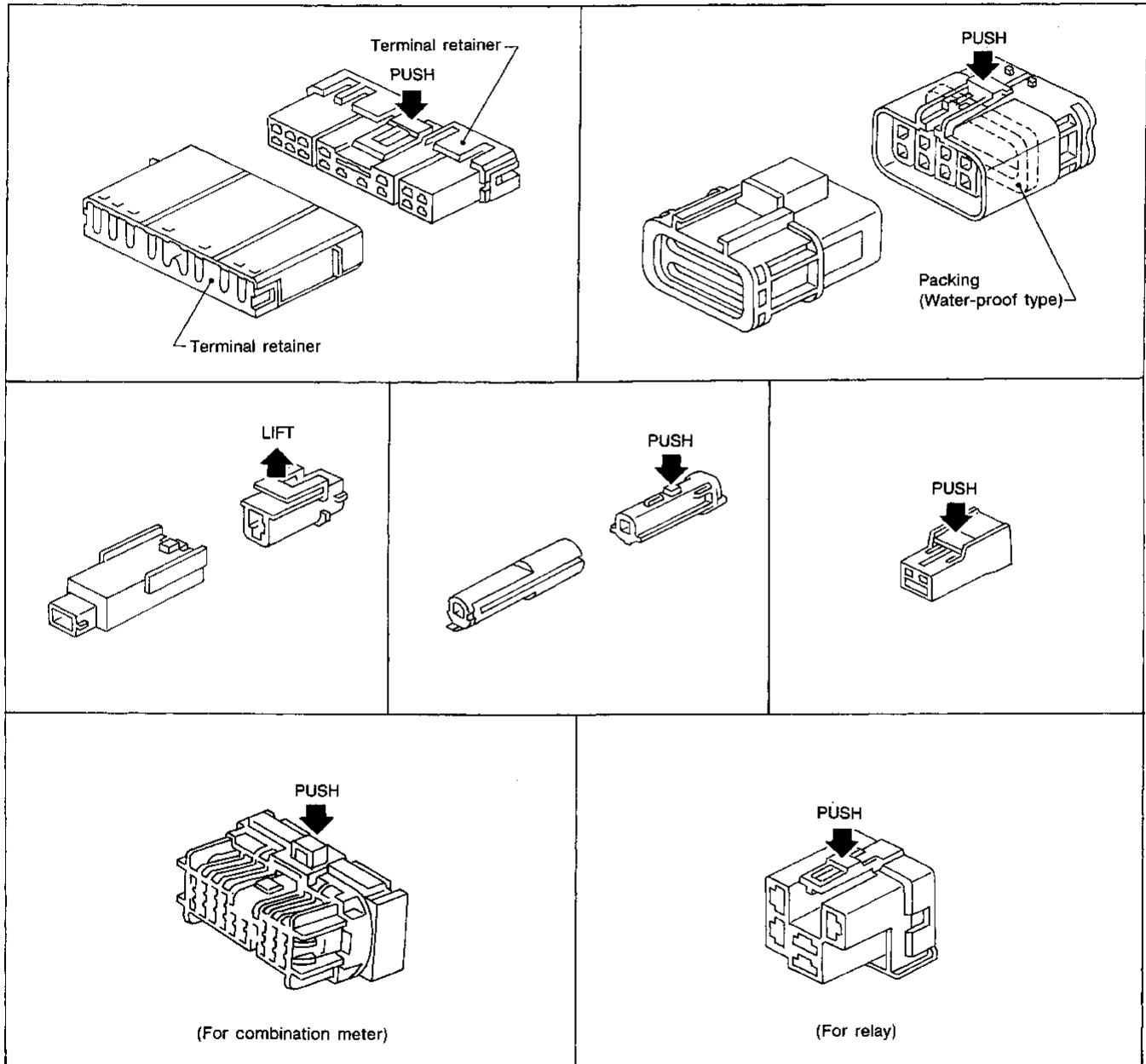
HARNESS CONNECTOR

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

CAUTION:

Do not pull the harness when disconnecting the connector.

[Example]



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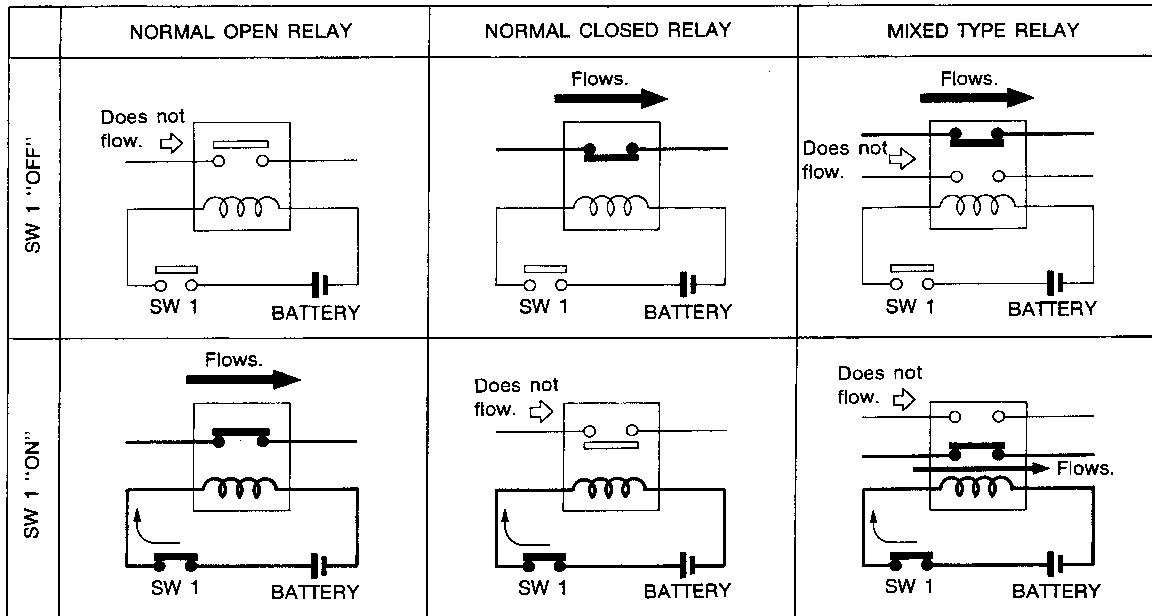
IDX

STANDARDIZED RELAY

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

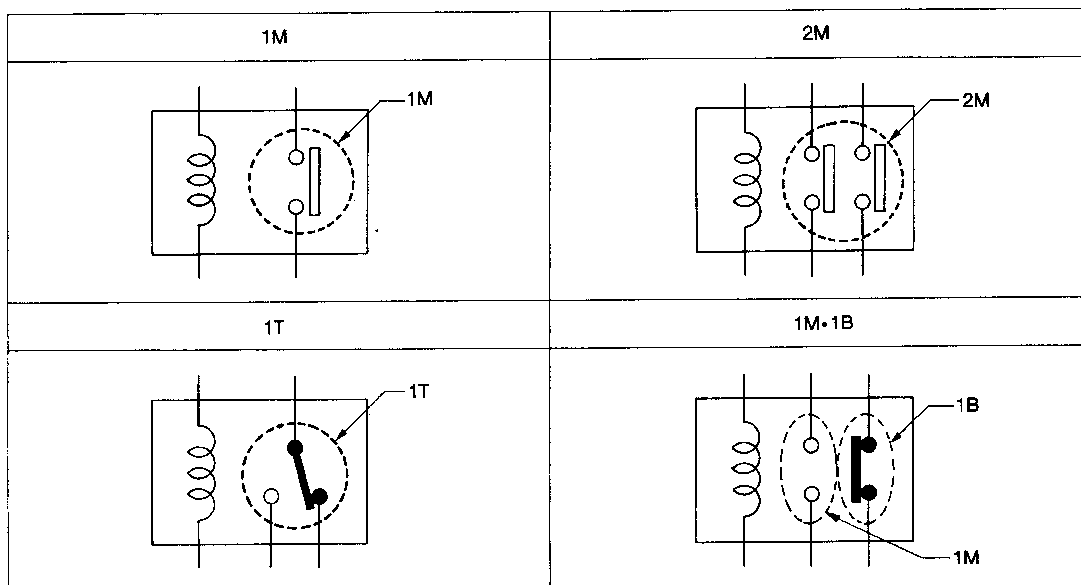
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



SEL881H

TYPE OF STANDARDIZED RELAYS

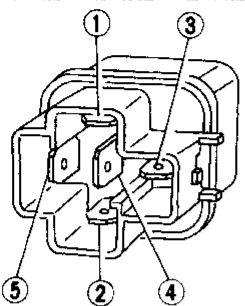
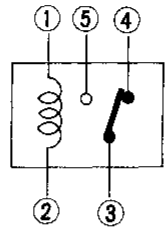
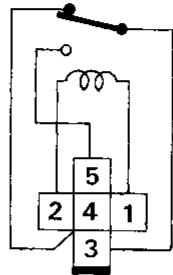
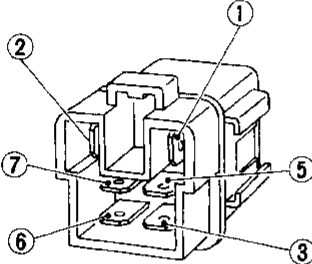
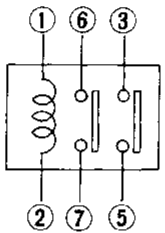
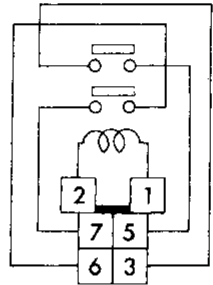
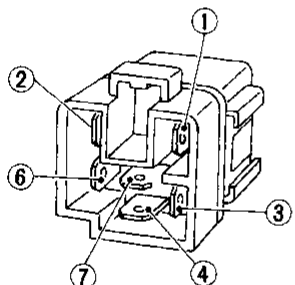
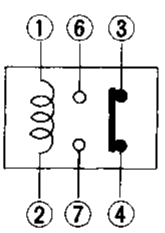
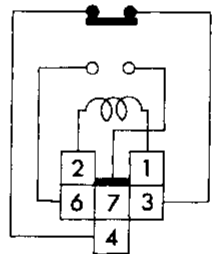
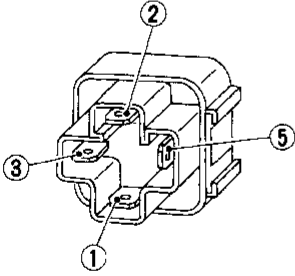
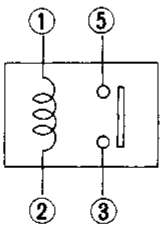
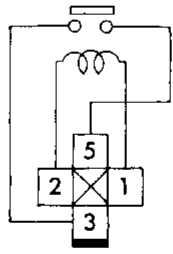
1M 1 Make 2M 2 Make
 1T 1 Transfer 1M-1B 1 Make 1 Break



SEL882H

STANDARDIZED RELAY

Description (Cont'd)

Type	Outer view	Circuit	Connector symbol and connection	Case 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.

GI
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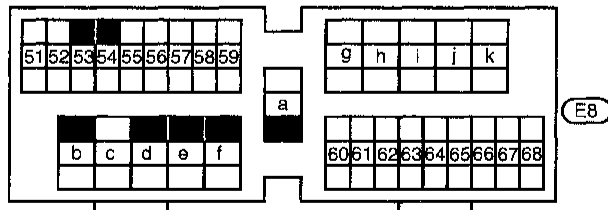
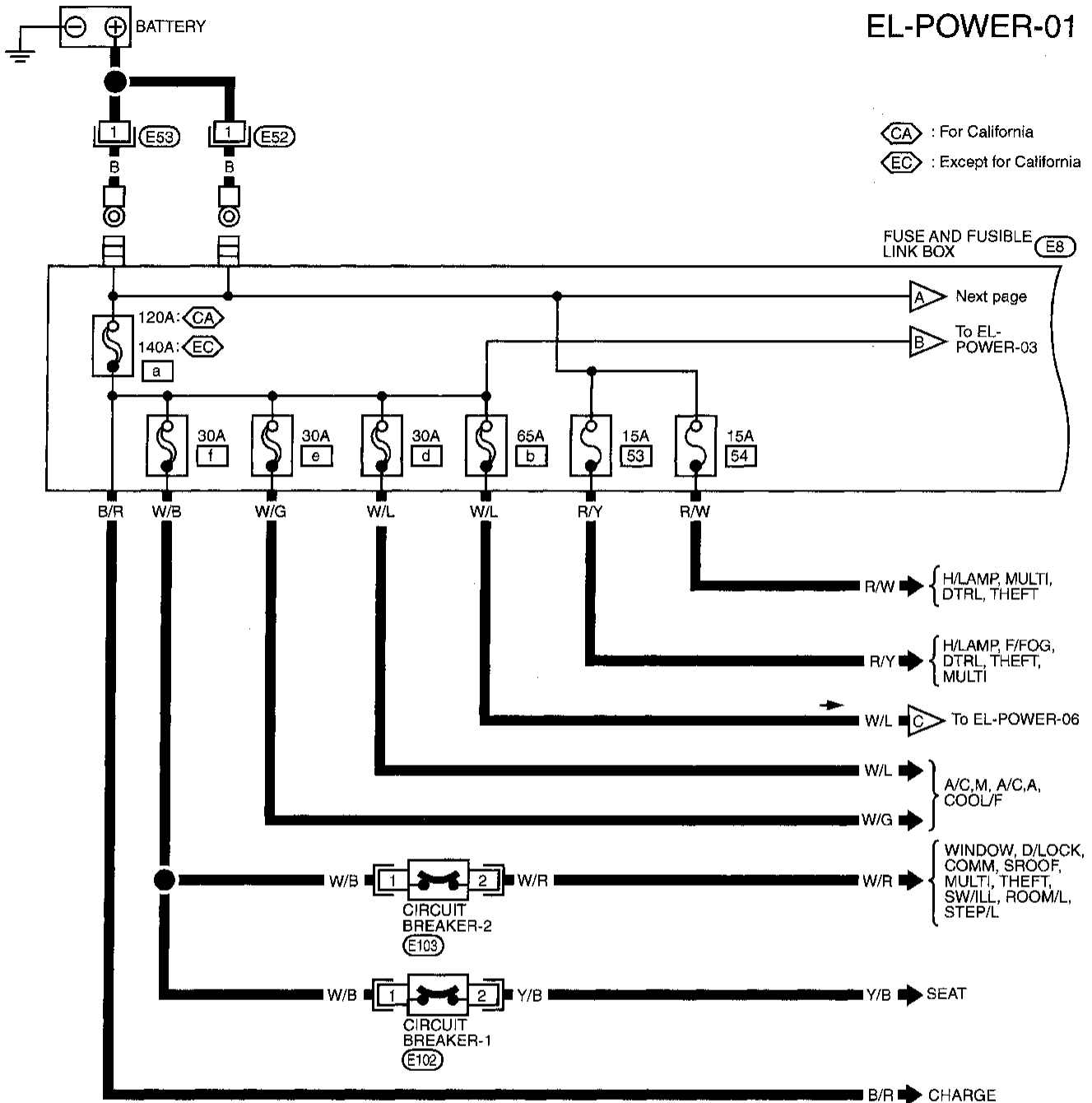
EL

IDX

POWER SUPPLY ROUTING

Wiring Diagram — POWER —

EL-POWER-01

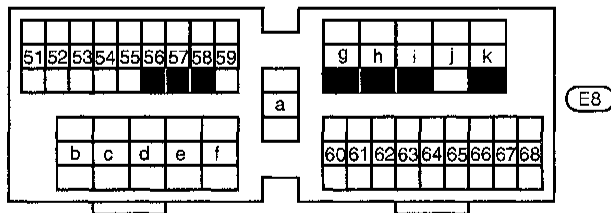
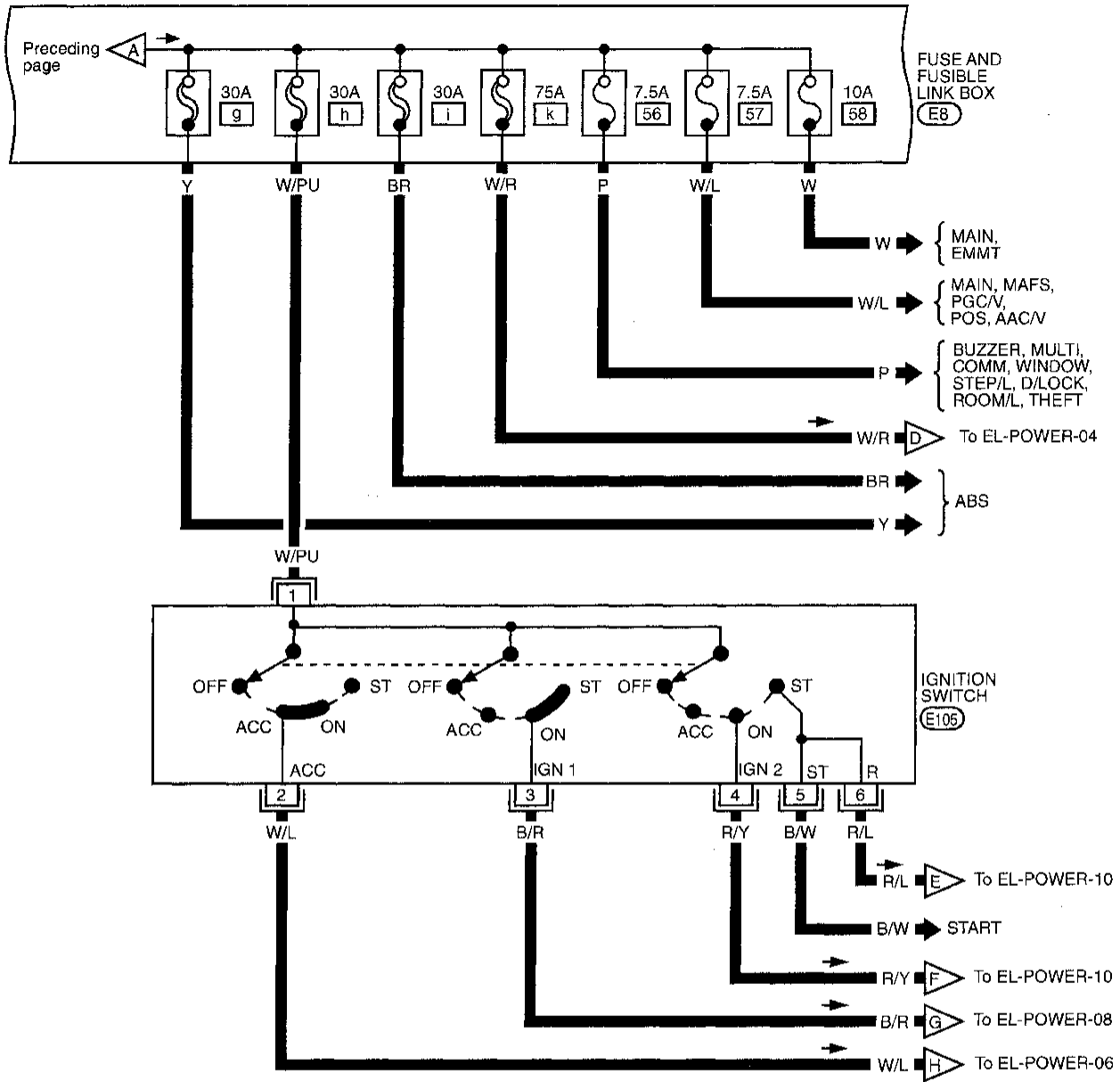


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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

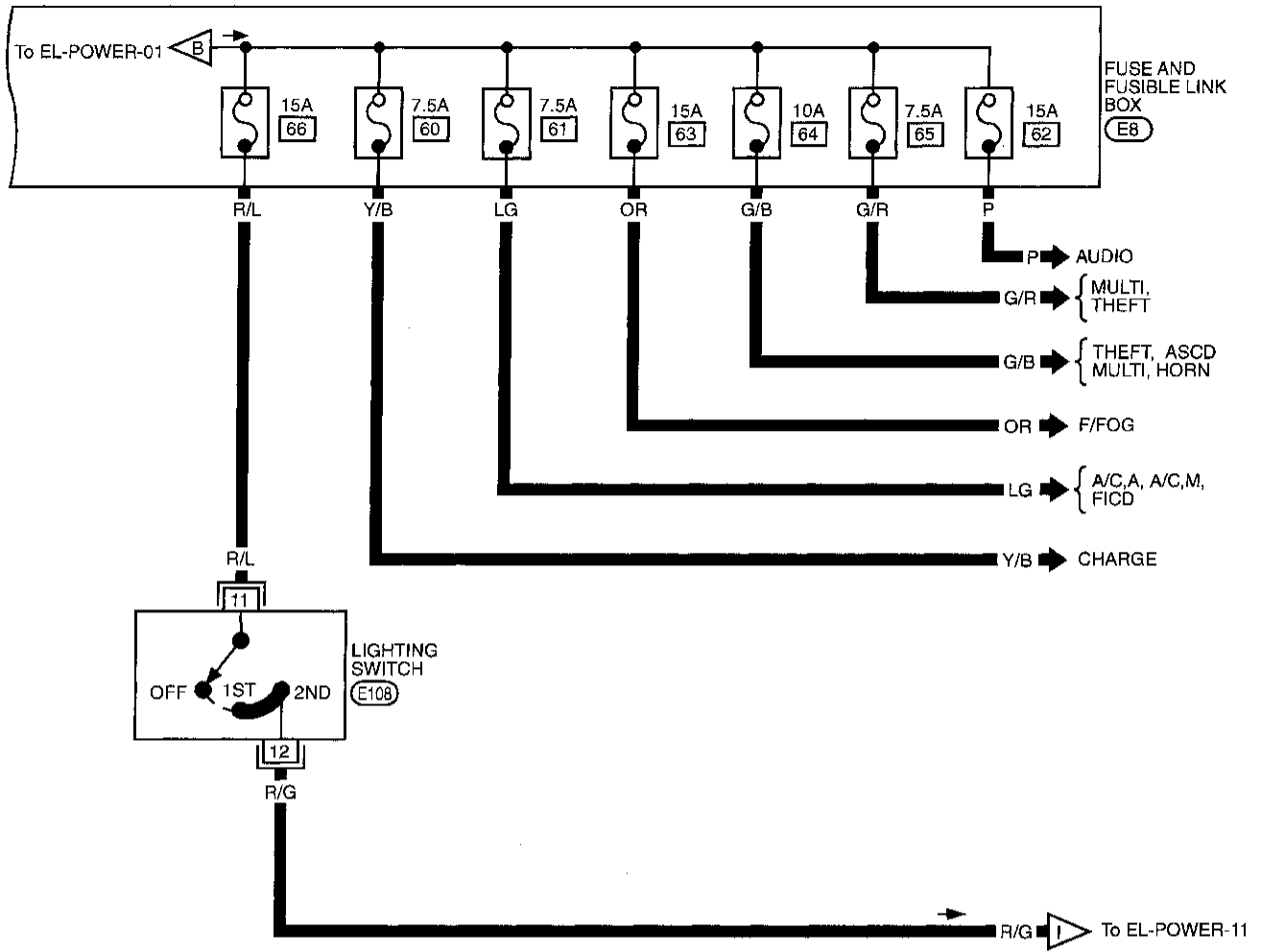
EL-POWER-02



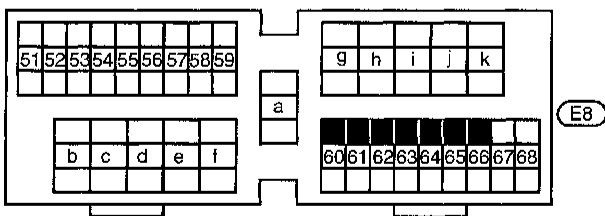
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03



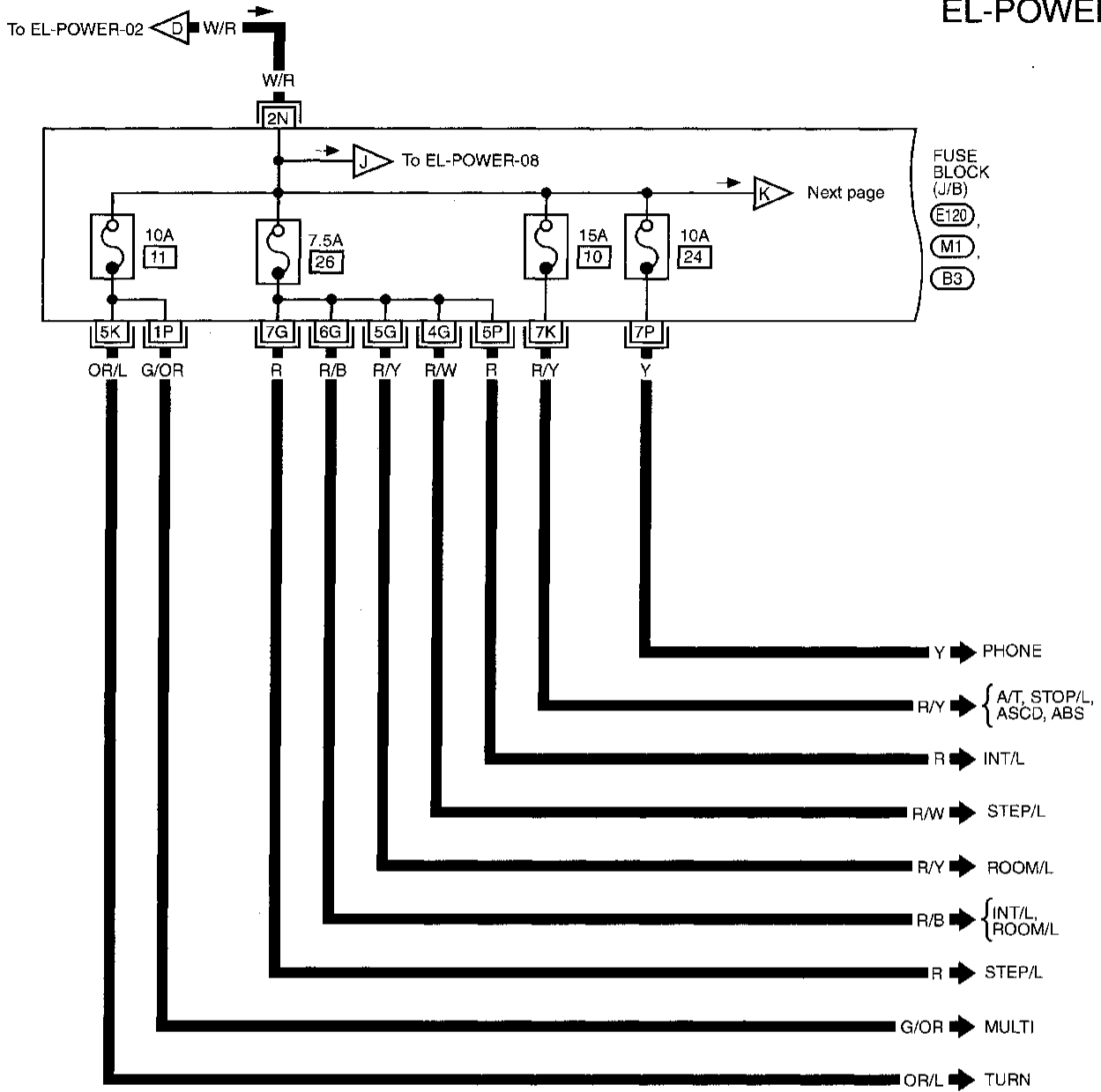
GI
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-04



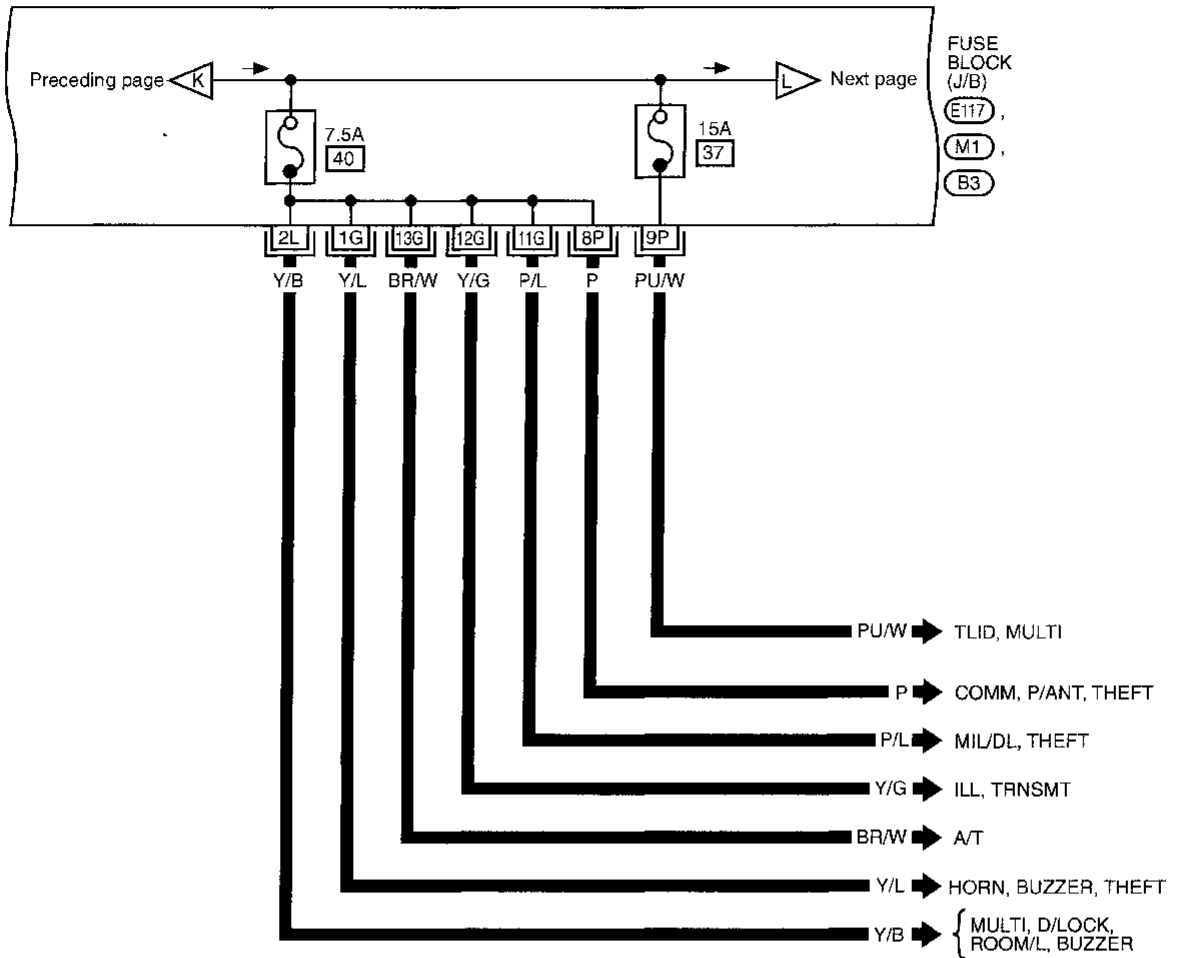
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(M1) (B3)
(E120)

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-05



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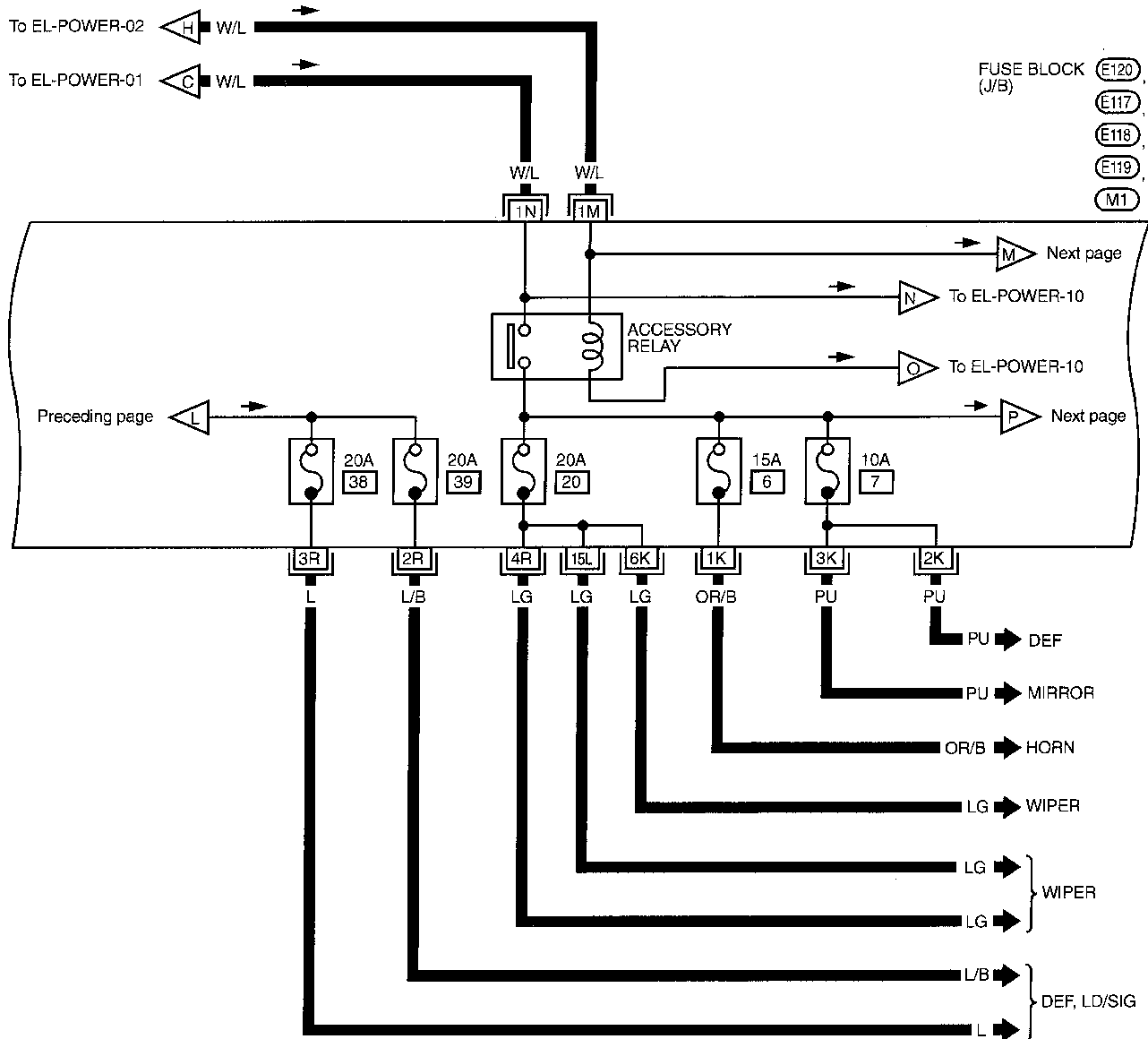
(M1) (B4)
 (E117)

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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-06



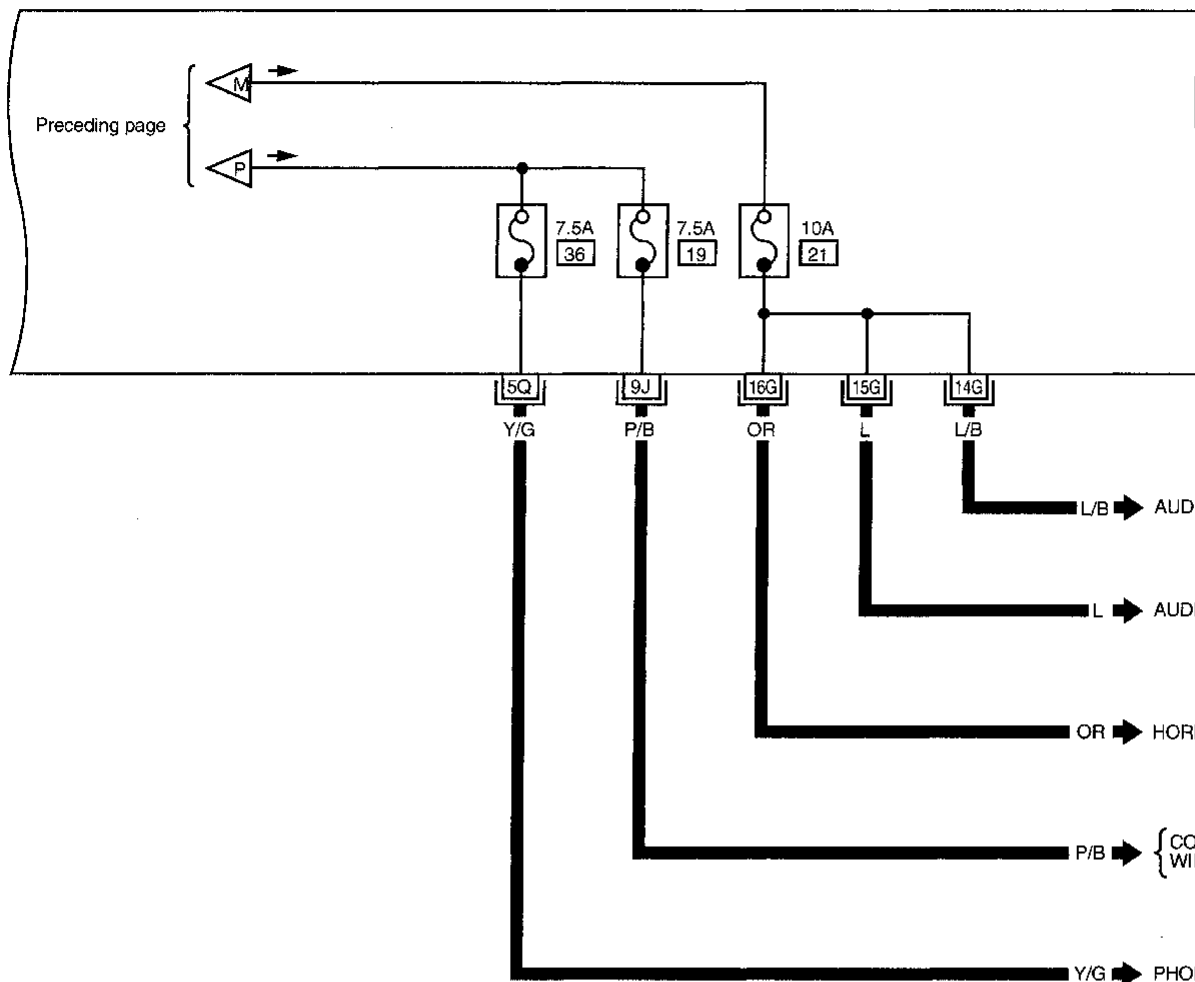
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- (M1)
- (E117)
- (E118)
- (E119)
- (E120)

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-07



FUSE BLOCK (J/B)
 (M1)
 (B4)

- GI
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- EL**
- IDX

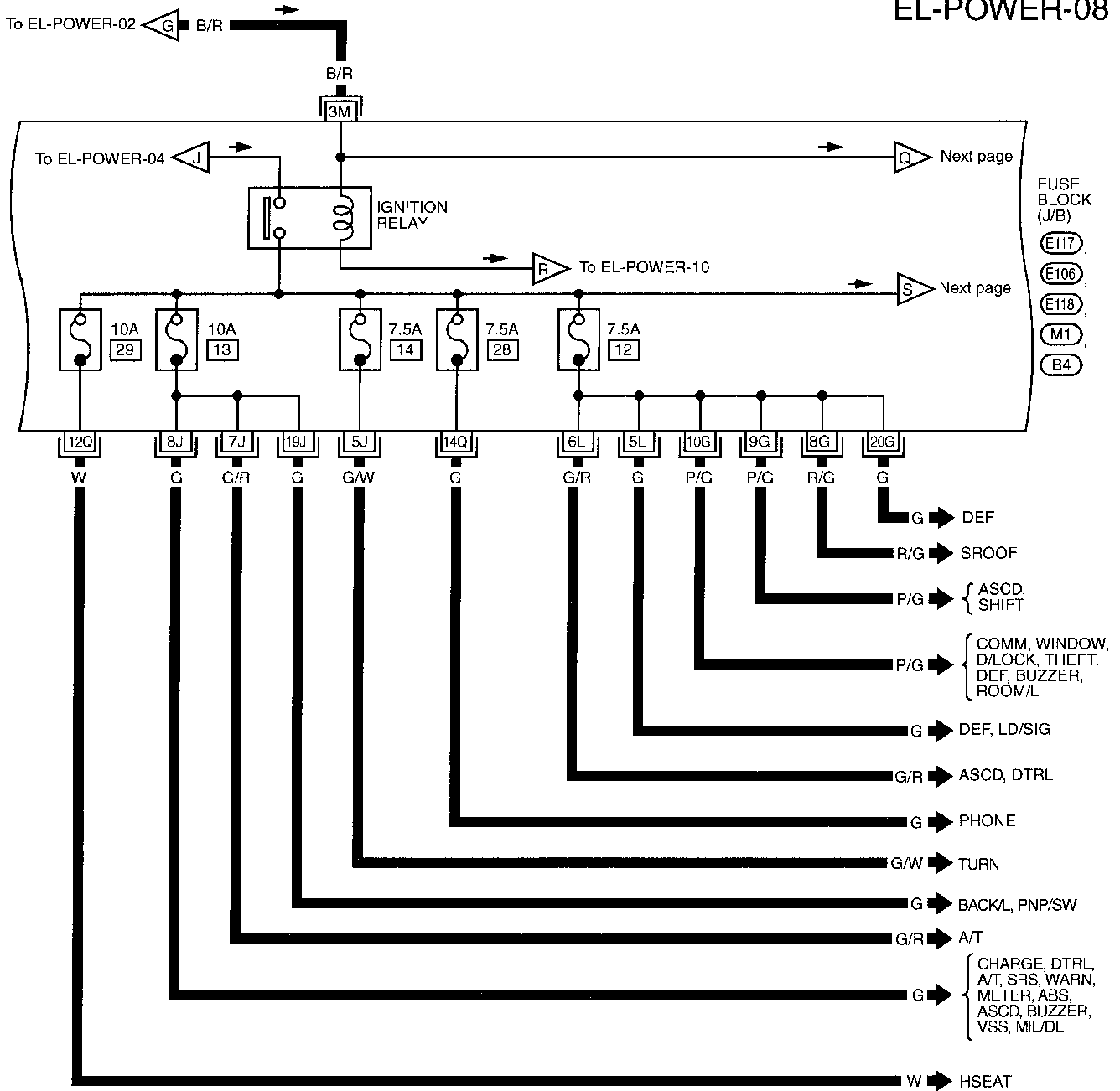
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(M1)
 (B4)

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-08



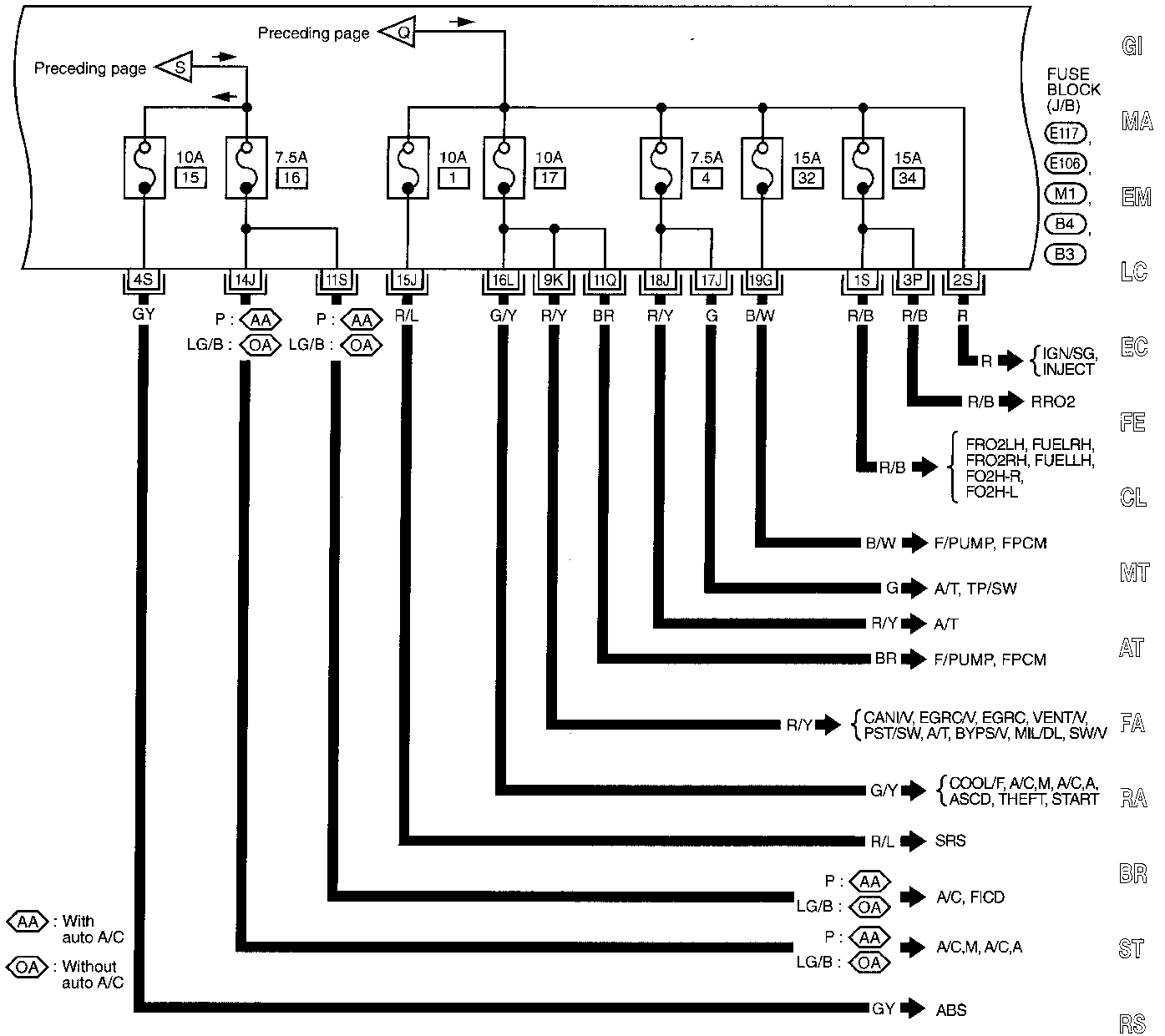
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- (M1)
- (E117)
- (E106)
- (E118)
- (B4)

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-09



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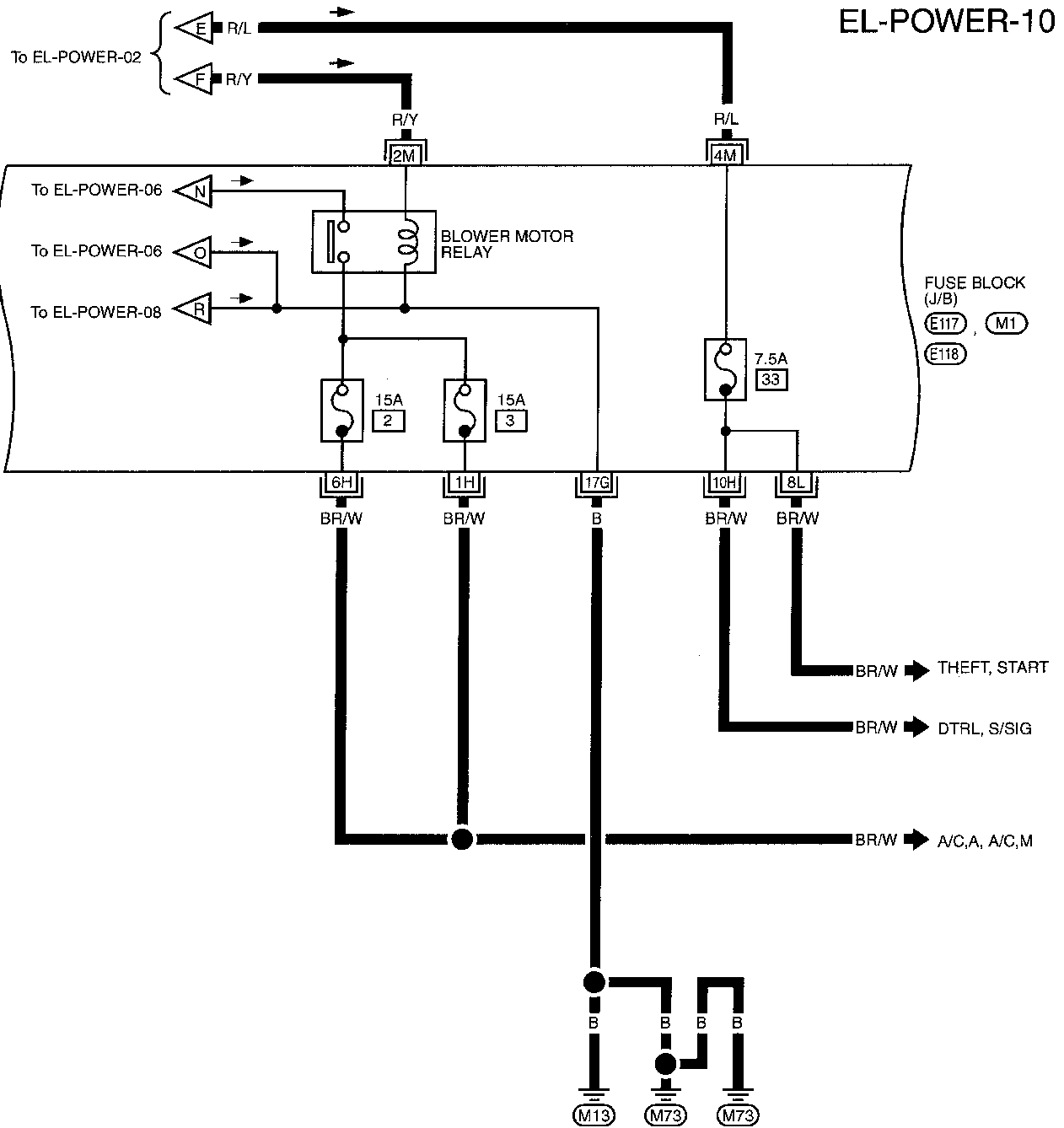
- M1 E117
- B3 E106
- B4

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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)



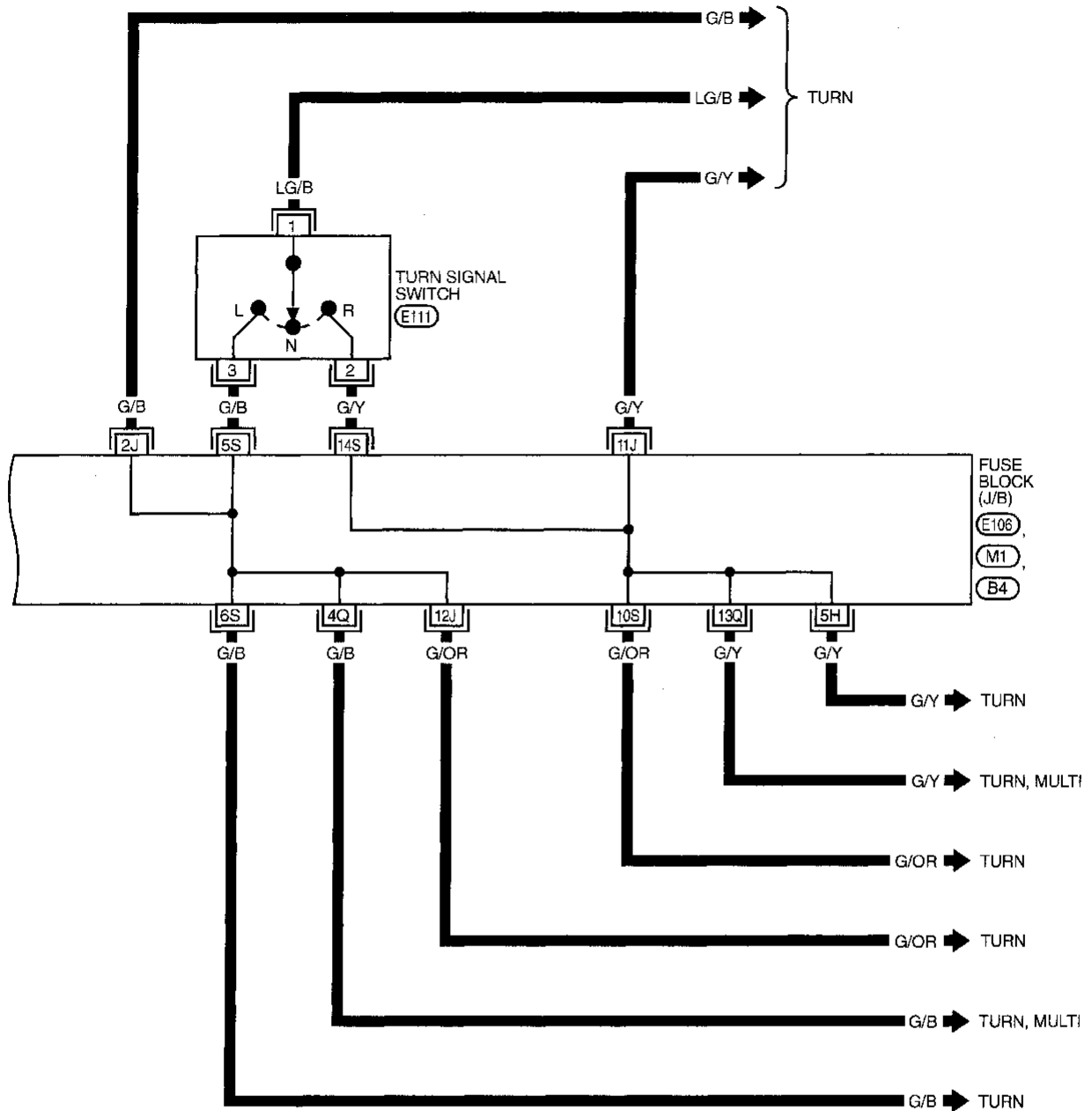
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(M1), (E117)
 (E118)

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-12



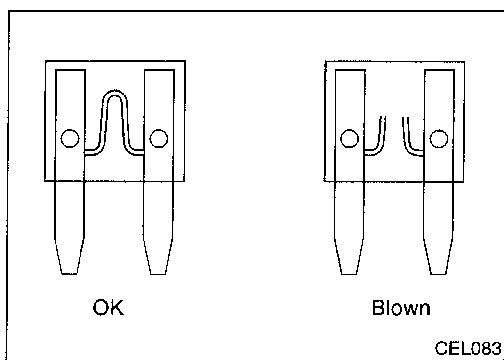
25	8	7
3	1	9
6	2	

(E11)
BR

Refer to last page (Foldout page).

(M1)
(E106)
(B4)

POWER SUPPLY ROUTING



Fuse

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

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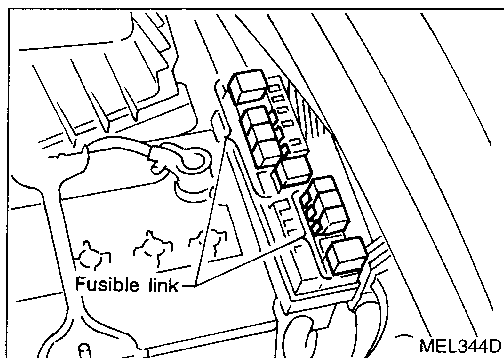
RS

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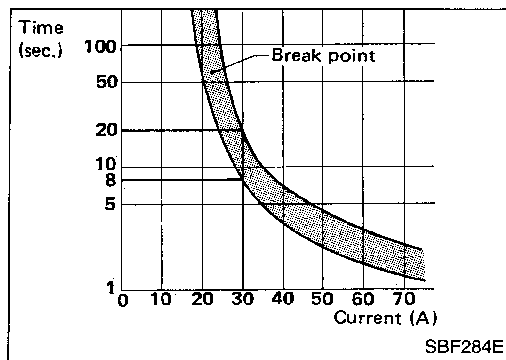


Fusible Link

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

CAUTION:

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



Circuit Breaker Inspection

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

Circuit breakers are used in the following systems.

- Power seat
- Power window
- Power door lock
- IVMS
- Electric sunroof

GROUND DISTRIBUTION

EARTH	CONNECT TO	CONN. NO.	CELL CORD
E5/E30	AMBIENT AIR TEMPERATURE SWITCH	E80	HA-A/C, A HA-A/C, M
	ABS SOLENOID VALVE RELAY	E79	BR-ABS
	ASCD HOLD RELAY	E58, E59	EL-ASCD
	BRAKE FLUID LEVEL SWITCH	E1	EL-WARN
	COOLING FAN MOTOR-1	E26	EC-COOL/F HA-A/C, A HA-A/C, M
	COOLING FAN MOTOR-2	E27	EC-COOL/F HA-A/C, A HA-A/C, M
	COOLING FAN RELAY-2	E56	EC-COOL/F HA-A/C, A HA-A/C, M
	COOLING FAN RELAY-3	E62	EC-COOL/F HA-A/C, A HA-A/C, M
	DAYTIME LIGHT CONTROL UNIT	E66	EL-DTRL
	FRONT FOG LAMP LH	E21	EL-F/FOG
	FRONT FOG LAMP RH	E34	EL-F/FOG
	FRONT FOG LAMP SWITCH	E113	EL-F/FOG
	FRONT SIDE MARKER LAMP LH	E23	EL-TAIL/L
	FRONT SIDE MARKER LAMP RH	E33	EL-TAIL/L
	FRONT TURN SIGNAL LAMP LH	E22	EL-TURN
	FRONT TURN SIGNAL LAMP RH	E32	EL-TURN
	FRONT WIPER RELAY	E75	EL-WIPER
	FRONT WIPER SWITCH	E112	EL-WIPER
	HEADLAMP LH	E24	EL-H/LAMP EL-DTRL EL-MULTI EL-THEFT
	HEADLAMP RH	E31	EL-H/LAMP EL-MULTI EL-THEFT
	HOOD SWITCH	E19	EL-THEFT
	PARKING LAMP LH	E6	EL-TAIL/L
	PARKING LAMP RH	E44	EL-TAIL/L
	THEFT WARNING HORN RELAY-1	E68	EL-MULTI
	THEFT WARNING HORN RELAY-2	E70	EL-MULTI EL-THEFT
	TRIPLE-PRESSURE SWITCH	E25	EC-COOL/F HA-A/C, A HA-A/C, M
	WASHER LEVEL SWITCH	E45	EL-WARN
	FRONT WIPER RELAY	E75	EL-WIPER
	A/C AUTO AMP (In BCM)	M98	HA-A/C, A
	E35	ALTERNATOR	E37
E115	SHIELD WIRE (FRONT LH WHEEL SENSOR)	E17	BR-ABS
	SHIELD WIRE (FRONT RH WHEEL SENSOR)	M102	BR-ABS
	SHIELD WIRE (REAR LH WHEEL SENSOR)	B109	BR-ABS
	SHIELD WIRE (REAR RH WHEEL SENSOR)	B105	BR-ABS
M13/M73	ABS CONTROL UNIT	E114	BR-ABS
	A/T DEVICE (OD CONTROL SWITCH)	M62	AT-A/T
	A/T DEVICE (PARK POSITION SWITCH)	M62	AT-SHIFT
	ACCESSORY RELAY	M1	EL-POWER
	AIR MIX DOOR MOTOR	M49	HA-A/C, M
	ASCD CONTROL UNIT	M30	EL-ASCD
	ASCD MAIN SWITCH	M27	EL-ASCD
	ASHTRAY ILLUMINATION	M46	EL-ILL

GROUND DISTRIBUTION

EARTH	CONNECT TO	CONN. NO.	CELL CORD	
M13/M73	AUDIO AMP RELAY	M79	EL-AUDIO	
	BCM (BODY CONTROL MODULE)	M105	EL-BUZZER EL-COMM EL-WINDOW EL-D/LOCK EL-MULTI EL-THEFT EL-STEP/L	GI
	BLOWER MOTOR RELAY	M1	EL-POWER	
	CIGARETTE LIGHTER SOCKET	M45	EL-HORN	MA
	CLOCK	M59	EL-HORN	
	CLOCK (ILLUMINATION)	M59	EL-ILL	EM
	CLUTCH INTERLOCK SWITCH	M16	EL-START	
	COMBINATION FLASHER UNIT	M34	EL-TURN	LC
	COMBINATION METER (AIR BAG)	M82	RS-SRS EL-WARN	
	COMBINATION METER (CRUISE INDICATOR)	M83	EL-ASCD	EC
	COMBINATION METER (FUEL GAUGE)	M84	EL-METER	
	COMBINATION METER (HIGH BEAM INDICATOR)	M83	EL-H/LAMP EL-DTRL	FE
	COMBINATION METER (SPEEDOMETER)	M82, M8	AT-A/T EL-METER EL-ASCD	
	COMBINATION METER (TACHOMETER)	M82, M8	EL-METER	CL
	COMBINATION METER (TURN)	M83	EL-TURN	
	COMBINATION METER (WATER TEMP GAUGE)	M82	EL-METER	MT
	DATA LINK CONNECTOR FOR CONSULT	M2	EC-MIL/DL AT-A/T BR-ABS RS-SRS	AT
	DATA LINK CONNECTOR FOR GST	M63	EC-MIL/DL	
	DOOR MIRROR REMOTE CONTROL SWITCH	M26	EL-MIRROR	FA
	FAN CONTROL AMP.	M57	HA-A/C, A	
	FAN SWITCH	M39	HA-A/C, M	RA
	FRONT WIPER MOTOR	M101	EL-WIPER	
	GLOVE BOX LAMP SWITCH	M55	EL-ILL	
	IGNITION RELAY	M1	EL-POWER	BR
	ILLUMINATION CONTROL SWITCH	M32	EL-ILL	
	INTAKE DOOR MOTOR	M69	HA-A/C, A HA-A/C, M	ST
	MODE DOOR MOTOR	M38	HA-A/C, A HA-A/C, M	
	PUSH CONTROL UNIT	M40, M85	HA-A/C, A HA-A/C, M	RS
	REAR WINDOW DEFOGGER SWITCH	M60	EL-DEF	
	SUNROOF RELAY	M7	EL-SROOF	BT
	DOOR MIRROR DEFOGGER LH	D5	EL-DEF	
	DOOR MIRROR DEFOGGER RH	D35	EL-DEF	HA
DRIVER DOOR CONTROL UNIT (LCU01)	D9	EL-COMM EL-WINDOW EL-D/LOCK EL-STEP/L	EL	
DRIVER SIDE KEY CYLINDER SWITCH	D7	EL-D/LOCK EL-THEFT		
PASSENGER SIDE KEY CYLINDER SWITCH	D37	EL-D/LOCK EL-THEFT		
FRONT DOOR LOCK ACTUATOR LH (DOOR UNLOCK SENSOR)	D12	EL-D/LOCK EL-THEFT EL-MULTI	IDX	
FRONT DOOR LOCK ACTUATOR RH (DOOR UNLOCK SENSOR)	D41	EL-D/LOCK EL-THEFT EL-MULTI		

GROUND DISTRIBUTION

EARTH	CONNECT TO	CONN. NO.	CELL CORD
M13/M73	FRONT DOOR SPEAKER LH	D6	EL-AUDIO
	FRONT DOOR SPEAKER RH	D36	EL-AUDIO
	PASSENGER DOOR CONTROL UNIT (LCU02)	D39	EL-COMM EL-WINDOW EL-STEP/L
	SHIELD WIRE (FRONT DOOR SPEAKER AND TWEETER LH)	D6, D13	EL-AUDIO
	SHIELD WIRE (FRONT DOOR SPEAKER AND TWEETER RH)	D36, D42	EL-AUDIO
	TRUNK LID OPENER SWITCH	D10	EL-TLID EL-MULTI
	INTEGRATED HOMELINK™ TRANSMITTER	R2	EL-TRNSMT
	SPOT LAMP	R4	EL-INT/L
	VANITY MIRROR ILLUMINATION LH	R2	EL-ILL
	VANITY MIRROR ILLUMINATION RH	R5	EL-ILL
	AIR BAG DIAGNOSIS SENSOR UNIT	Z4	RS-SRS
F18/F19	A/T CONTROL UNIT	F103	AT-A/T
	CONDENSER	F22	EC-IGN/SG
	ECM (ECCS CONTROL MODULE)	F101	EC-MAIN AT-A/T
	IACV-FICD SOLENOID VALVE-1	F12	EC-FICD
	IGNITION COIL NO. 1	F3	EC-IGN/SG
	IGNITION COIL NO. 2	F31	EC-IGN/SG
	IGNITION COIL NO. 3	F4	EC-IGN/SG
	IGNITION COIL NO. 4	F30	EC-IGN/SG
	IGNITION COIL NO. 5	F6	EC-IGN/SG
	IGNITION COIL NO. 6	F29	EC-IGN/SG
	INHIBITOR SWITCH	F51	AT-A/T EL-START EL-ASCD
	NEUTRAL POSITION SWITCH	F32	EC-PNP/SW
	POWER STEERING OIL PRESSURE SWITCH	F1	EC-PST/SW
	SHIELD WIRE [CAMSHAFT POSITION SENSOR (PHASE)]	F15	EC-PHASE
	SHIELD WIRE [CRANKSHAFT POSITION SENSOR (POS)]	F112	EC-POS
	SHIELD WIRE [CRANKSHAFT POSITION SENSOR (REF)]	F136	EC-REF
	SHIELD WIRE [FRONT HEATED OXYGEN SENSOR (Left bank)]	F28	EC-FRO2LH EC-FUELLH EC-FO2H-L
	SHIELD WIRE FRONT HEATED OXYGEN SENSOR (Right bank)]	F2	EC-FRO2RH EC-FUELRH EC-FO2H-R
	SHIELD WIRE (KNOCK SENSOR)	F122	EC-KS
	SHIELD WIRE (MASS AIR FLOW SENSOR)	F33	EC-MAFS
	SHIELD WIRE (THROTTLE POSITION SENSOR)	F8	EC-TPS AT-A/T
	SHIELD WIRE (ABSOLUTE PRESSURE SENSOR)	F45	EC-AP/SEN
	DATA LINK CONNECTOR FOR GST	M63	EC-MIL/DL
	FUEL PUMP	B21	EC-F/PUMP
	SHIELD WIRE (FUEL TANK PRESSURE SENSOR)	B52	EC-PRE/SE

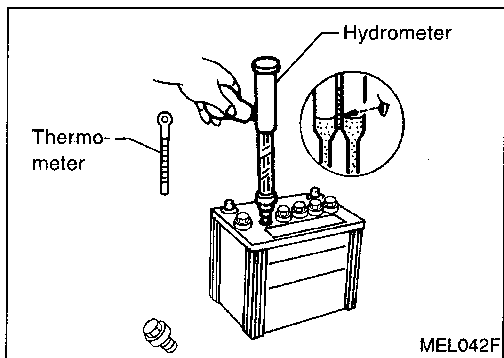
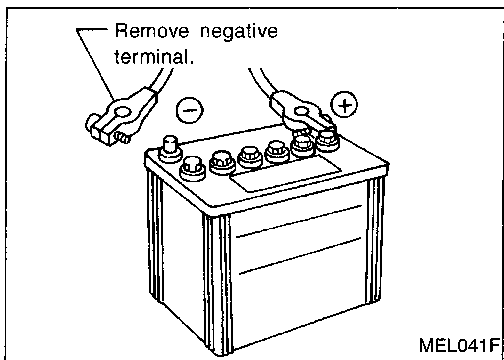
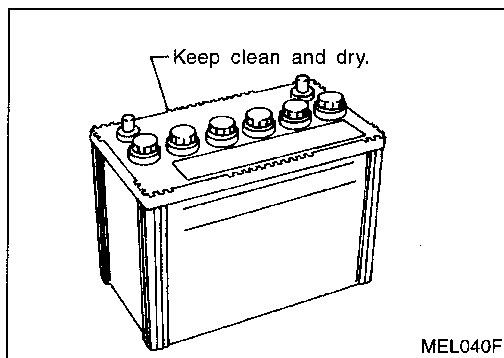
GROUND DISTRIBUTION

EARTH	CONNECT TO	CONN. NO.	CELL CORD	
B16/B19	SHIELD WIRE (REAR HEATED OXYGEN SENSOR)	B9	EC-RRO2	
	DROPPING RESISTOR	B26	EC-F/PUMP	GI
	FRONT DOOR SWITCH LH	B18	EL-BUZZER EL-MULTI RS-SRS EL-ROOM/L EL-D/LOCK EL-THEFT	MA
	FRONT DOOR SWITCH RH	B15	EL-D/LOCK EL-THEFT	MA
	FUEL TANK GAUGE UNIT	B22	EL-METER EL-WARN EC-TFTS	
	FUEL PUMP CONTROL MODULE	B25	EC-FPCM EC-F/PUMP	EM
	HEATED SEAT SWITCH LH	B11	EL-HSEAT	
	HEATED SEAT SWITCH RH	B12	EL-HSEAT	LC
	HEATED SEAT LH	B8	EL-HSEAT	
	HEATED SEAT RH	B13	EL-HSEAT	EC
	REAR SPEAKER LH	B37	EL-AUDIO	
	REAR SPEAKER RH	B41	EL-AUDIO	FE
	SEAT BELT BUCKLE SWITCH	B7	EL-WARN EL-BUZZER	
	TELEPHONE (TELEPHONE PRE WIRE)	B54	EL-PHONE	CL
	TRUNK LID COMBINATION LAMP LH	B30	EL-TAIL/L EL-STOP/L EL-BACK/L	
	TRUNK LID COMBINATION LAMP RH	B33	EL-TAIL/L EL-STOP/L EL-BACK/L	
	REAR DOOR LOCK ACTUATOR LH	D55	EL-D/LOCK EL-MULTI EL-THEFT	MT
	REAR DOOR LOCK ACTUATOR RH	D75	EL-D/LOCK EL-MULTI EL-THEFT	
	REAR LH DOOR CONTROL UNIT (LCU04)	D53	EL-COMM EL-WINDOW EL-D/LOCK	AT
	REAR RH DOOR CONTROL UNIT (LCU03)	D73	EL-COMM EL-WINDOW EL-D/LOCK	
T6/T9	HIGH-MOUNTED STOP LAMP (With rear air spoiler)	B29	EL-STOP/L	FA
	HIGH-MOUNTED STOP LAMP (Without rear air spoiler)	B40	EL-STOP/L	RA
	POWER SEAT LH	B6	EL-SEAT	
	POWER SEAT RH	B14	EL-SEAT	BR
	REAR SPEAKER LH	B37	EL-AUDIO	
	REAR SPEAKER RH	B41	EL-AUDIO	ST
	TELEPHONE PRE-WIRE	B54	EL-PHONE	
	TRUNK LID KEY CYLINDER SWITCH	B32	EL-THEFT	RS
	TRUNK ROOM LAMP SWITCH	B31	EL-INT/L EL-THEFT	
	REAR LH DOOR CONTROL UNIT (LCU04)	D53	EL-COMM EL-THEFT	BT
	REAR RH DOOR CONTROL UNIT (LCU03)	D73	EL-COMM EL-THEFT	
	HEATED SEAT SWITCH RH	B12	EL-HSEAT	HA
	REAR WINDOW DEFOGGER	B35	EL-DEF	
	LICENSE PLATE LAMP	T8	EL-TAIL/L	EL
	MULTI-REMOTE CONTROL UNIT (LCU05)	T12	EL-COMM EL-MULTI EL-THEFT	
	POWER ANTENNA TIMER	T13	EL-P/ANT	
	REAR COMBINATION LAMP LH	T4	EL-TAIL/L EL-STOP/L EL-TURN	IDX
	REAR COMBINATION LAMP RH	T10	EL-TAIL/L EL-STOP/L EL-TURN	
	REAR SIDE MARKER LAMP LH	T3	EL-TAIL/L	
	REAR SIDE MARKER LAMP RH	T11	EL-TAIL/L	

BATTERY

CAUTION:

- If it becomes necessary to start the engine with a booster battery and jumper cables, use a 12-volt booster battery.
- After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.
- Never add distilled water through the hole used to check specific gravity.



How to Handle Battery

METHODS OF PREVENTING OVER-DISCHARGE

The following precautions must be taken to prevent over-discharging a battery.

- The battery surface (particularly its top) should always be kept clean and dry.
- The terminal connections should be clean and tight.
- At every routine maintenance, check the electrolyte level. This also applies to batteries designated as "low maintenance" and "maintenance-free".
- When the vehicle is not going to be used over a long period of time, disconnect the negative battery terminal. (If the vehicle has an extended storage switch, turn it off.)
- Check the condition of the battery by checking the specific gravity of the electrolyte.

CHECKING ELECTROLYTE LEVEL

WARNING:

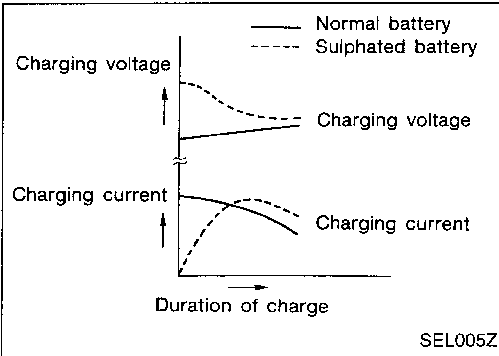
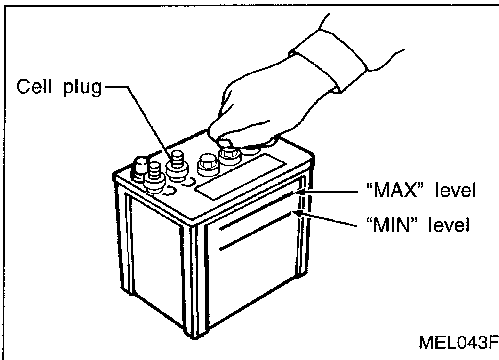
Do not allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. After touching a battery, do not touch or rub your eyes until you have thoroughly washed your hands. If the acid contacts the eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical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

Normally the battery does not require additional water. However, when the battery is used under severe conditions, adding distilled water may be necessary during the battery life.

BATTERY

How to Handle Battery (Cont'd)

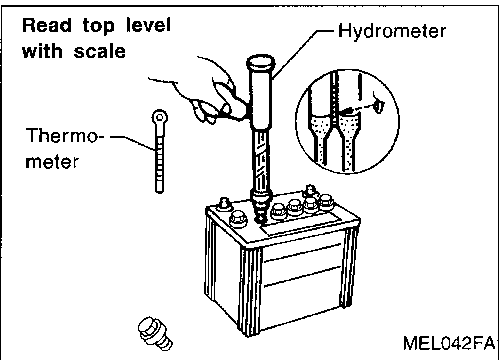
- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



SULPHATION

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

To find if a battery has been "sulphated", pay attention to its voltage and current when charging it. As shown in the figure at left, if the battery has been "sulphated", less current and higher voltage may be observed in the initial stages of charging.



SPECIFIC GRAVITY CHECK

- Read hydrometer and thermometer indications at eye level.

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BATTERY

How to Handle Battery (Cont'd)

- Use the chart below to correct your hydrometer reading according to electrolyte temperature.

Hydrometer temperature correction

Battery electrolyte temperature °C (°F)	Add to specific gravity reading
71 (160)	0.032
66 (150)	0.028
60 (140)	0.024
54 (129)	0.020
49 (120)	0.016
43 (110)	0.012
38 (100)	0.008
32 (90)	0.004
27 (80)	0
21 (70)	-0.004
16 (60)	-0.008
10 (50)	-0.012
4 (39)	-0.016
-1 (30)	-0.020
-7 (20)	-0.024
-12 (10)	-0.028
-18 (0)	-0.032

Corrected specific gravity	Approximate charge condition
1.260 - 1.280	Fully charged
1.230 - 1.250	3/4 charged
1.200 - 1.220	1/2 charged
1.170 - 1.190	1/4 charged
1.140 - 1.160	Almost discharged
1.110 - 1.130	Completely discharged

CHARGING THE BATTERY

CAUTION:

- Do not "quick charge" a fully discharged battery.
- Keep the battery away from open flame while it is being charged.
- When connecting the charger, connect the leads first, then turn on the charger. Do not turn on the charger first, as this may cause a spark.
- If battery electrolyte temperature rises above 60°C (140°F), stop charging. Always charge battery at a temperature below 60°C (140°F).

Charging rates:

Amps	Time
50	1 hour
25	2 hours
10	5 hours
5	10 hours

Do not charge at more than 50 ampere rate.

BATTERY

How to Handle Battery (Cont'd)

Note: The ammeter reading on your battery charger will automatically decrease as the battery charges. This indicates that the voltage of the battery is increasing normally as the state of charge improves. The charging amps indicated above refer to initial charge rate.

- If, after charging, the specific gravity of any two cells varies more than .050, the battery should be replaced.

MEMORY RESET

If the battery is disconnected or goes dead, the following items must be reset:

- Radio AM and FM preset
- Clock
- AUTO temperature setting trimmer

Service Data and Specifications (SDS)

Applied area	USA		Canada
	Standard	Option	Standard
Type	55D23L	80D26L	
Capacity	V-AH	12-60	12-65
Cold cranking current (For reference)	A	356	582

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System Description

M/T MODELS

For models with theft warning system

Power is supplied at all times

- to ignition switch terminal ①
- through 30A fusible link (letter **h**), located in the fuse and fusible link box).

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

- through terminal ⑤ of the ignition switch
- to clutch interlock relay terminal ③.

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

- through 10A fuse [No. 17], located in the fuse block (J/B)]
- to theft warning relay terminal ①

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

- through 7.5A fuse [No. 33], located in the fuse block (J/B)]
- to theft warning relay terminal ③

If the theft warning system is not triggered, power is supplied

- through theft warning relay terminal ④
- to clutch interlock relay terminal ①.

When the clutch pedal is depressed, ground is supplied to clutch interlock relay terminal ② through the clutch interlock switch and body grounds **M13** and **M73**.

The clutch interlock relay is energized and power is supplied

- from terminal ⑤ of the clutch interlock relay
- to terminal ① of the starter motor windings.

The starter motor plunger closes and provides a closed circuit between the battery and the starter motor. The starter motor is grounded to the cylinder block. With power and ground supplied, the starter motor operates. If the theft warning system is triggered, terminal ② of the theft warning relay is grounded and power to the clutch interlock relay is interrupted.

For models without theft warning system

Theft warning relay acts just as a path circuit between 7.5A fuse [No. 33], located in the fuse block (J/B)] and clutch interlock relay.

A/T MODELS

Power is supplied at all times

- to ignition switch terminal ①
- through 30A fusible link (letter **h**), located in the fuse and fusible link box).

With theft warning system

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

- through 10A fuse [No. 17], located in the fuse block (J/B)]
- to theft warning relay terminal ① and ③.

Also, with the ignition switch in the START position, power is supplied

- from ignition switch terminal ⑤
- to inhibitor relay terminal ⑥

If the theft warning system is not triggered, power is supplied

- through theft warning relay terminal ④
- to inhibitor relay terminal ①

Without theft warning system

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

- through 10A fuse [No. 17], located in the fuse block (J/B)]
- to inhibitor relay terminal ①.

Also, with the ignition switch in the START position, power is supplied

- from ignition switch terminal ⑤
- to inhibitor relay terminal ⑥

With the selector lever in the P or N position, ground is supplied

- to inhibitor relay terminal ② through the inhibitor switch and body grounds **F18** and **F19**.

Then inhibitor relay is energized and power is supplied

- from ignition switch terminal ⑤
- to terminal ① of the starter motor windings

STARTING SYSTEM

System Description (Cont'd)

- through inhibitor relay terminals ⑥ and ⑦

The starter motor plunger closes and provides a closed circuit between the battery and the starter motor. The starter motor is grounded to the cylinder block. With power and ground supplied, the starter motor operates. If the theft warning system is triggered, terminal ② of the theft warning relay is grounded and power to the inhibitor relay terminal ① is interrupted.

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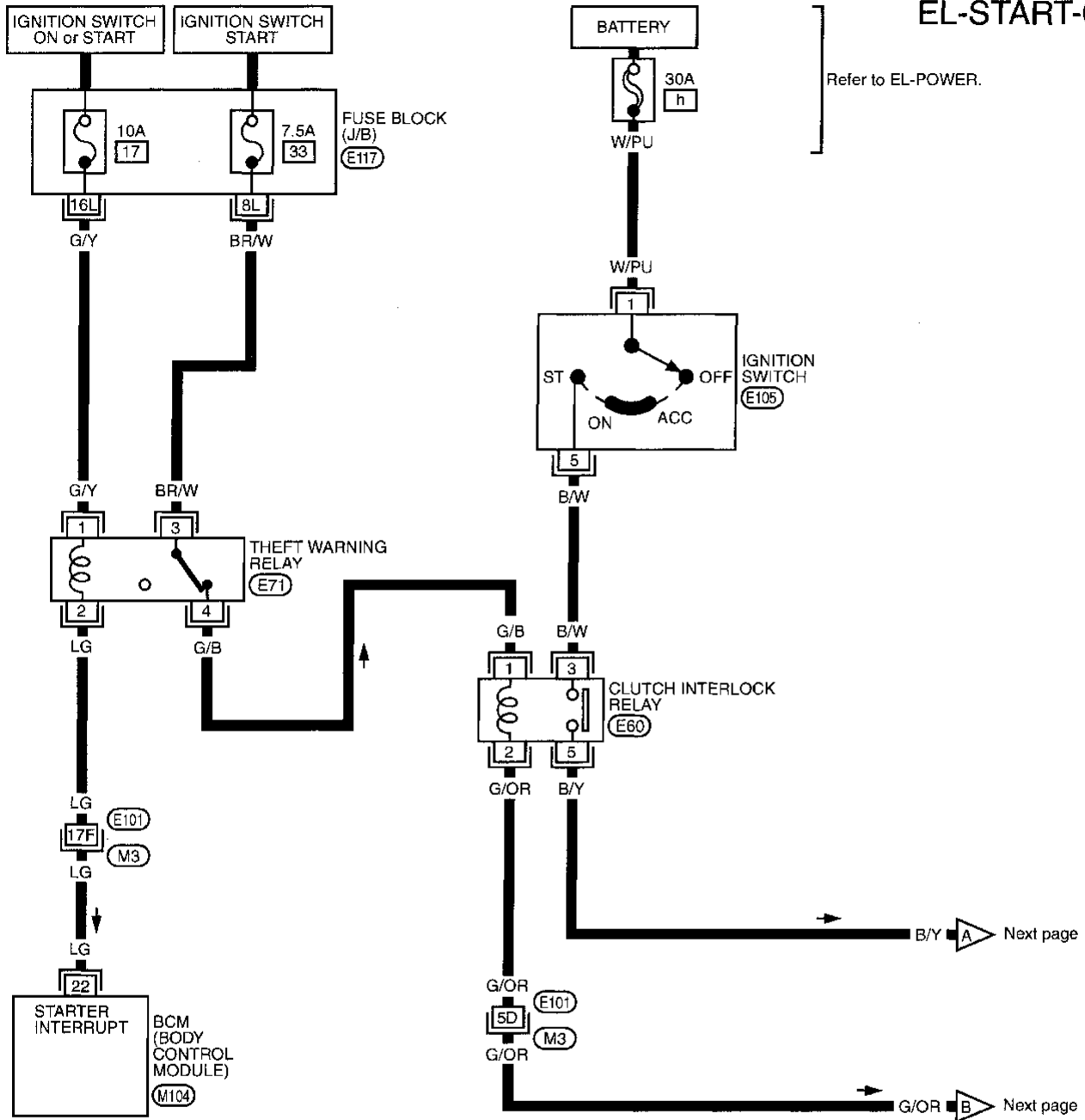
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STARTING SYSTEM

Wiring Diagram — START —

M/T MODELS

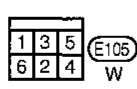
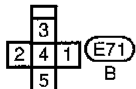
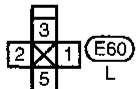
EL-START-01



Refer to EL-POWER.

B/Y (A) Next page

G/OR (B) Next page



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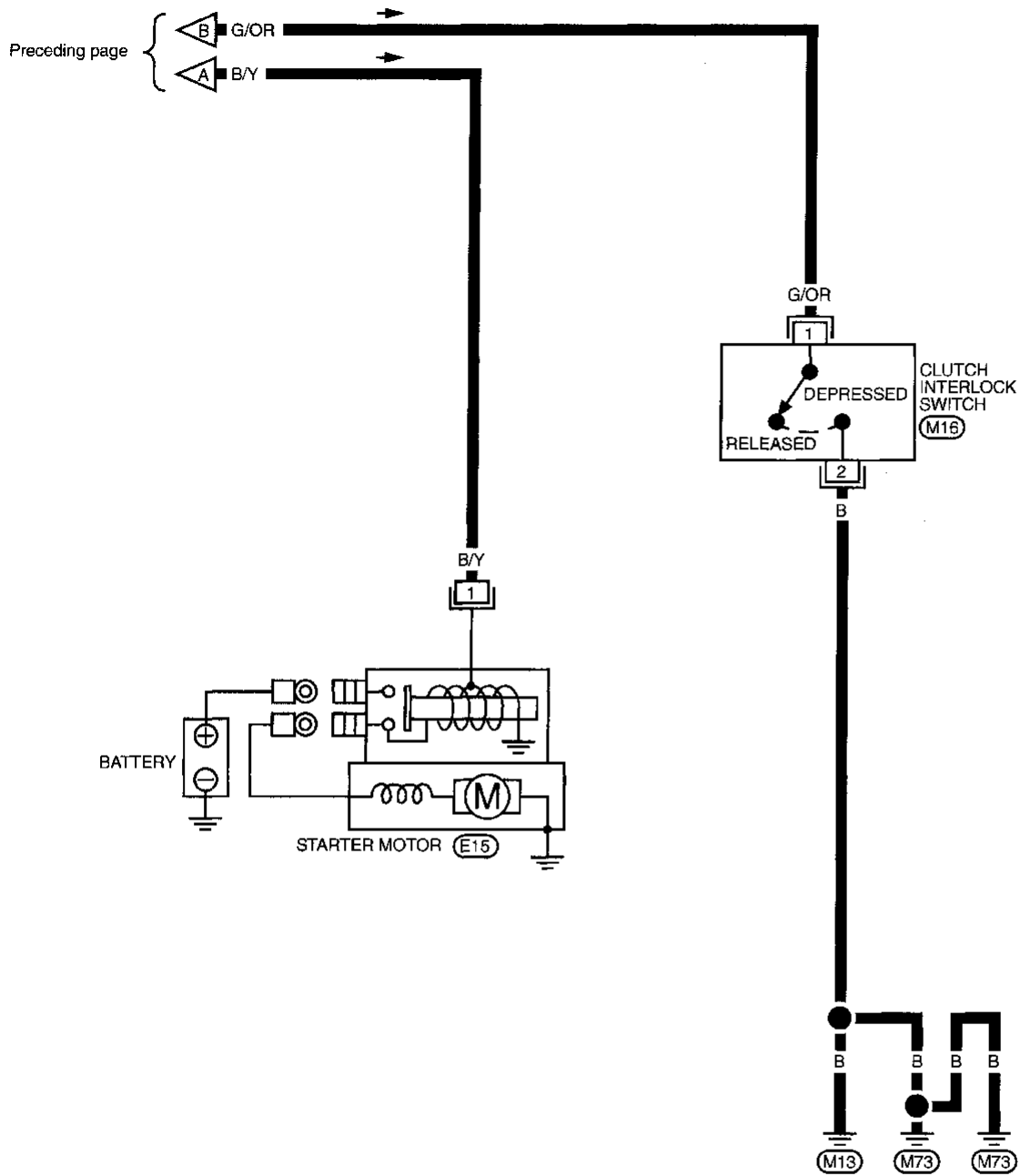
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(M104)

STARTING SYSTEM

Wiring Diagram — START — (Cont'd)

EL-START-02



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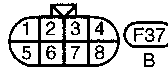
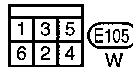
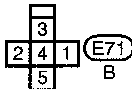
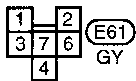
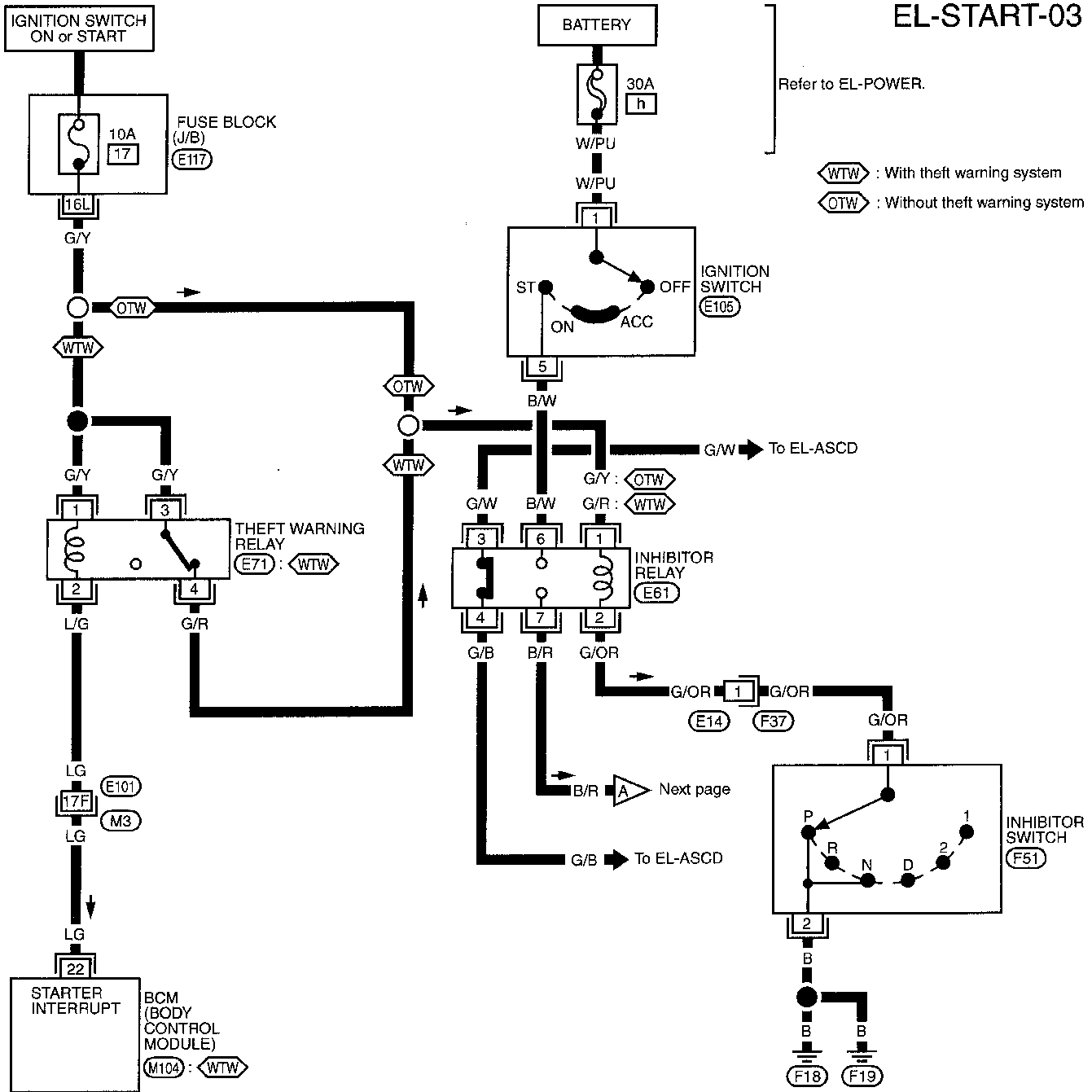
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STARTING SYSTEM

Wiring Diagram — START — (Cont'd)

A/T MODELS

EL-START-03



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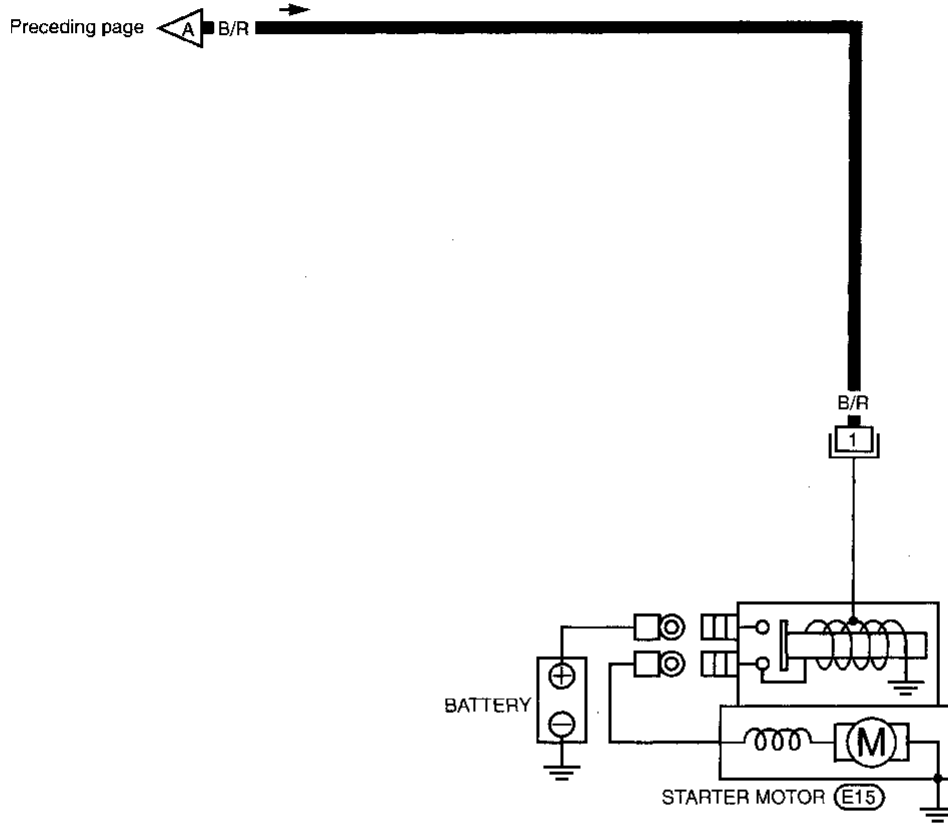
(E117)

(M104)

STARTING SYSTEM

Wiring Diagram — START — (Cont'd)

EL-START-04



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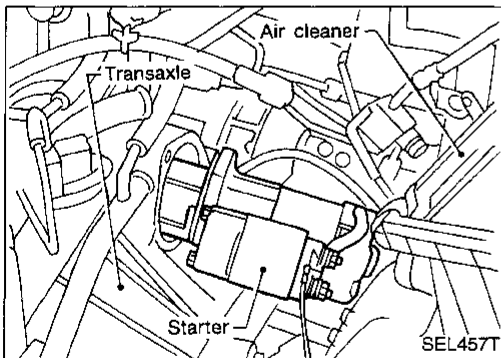
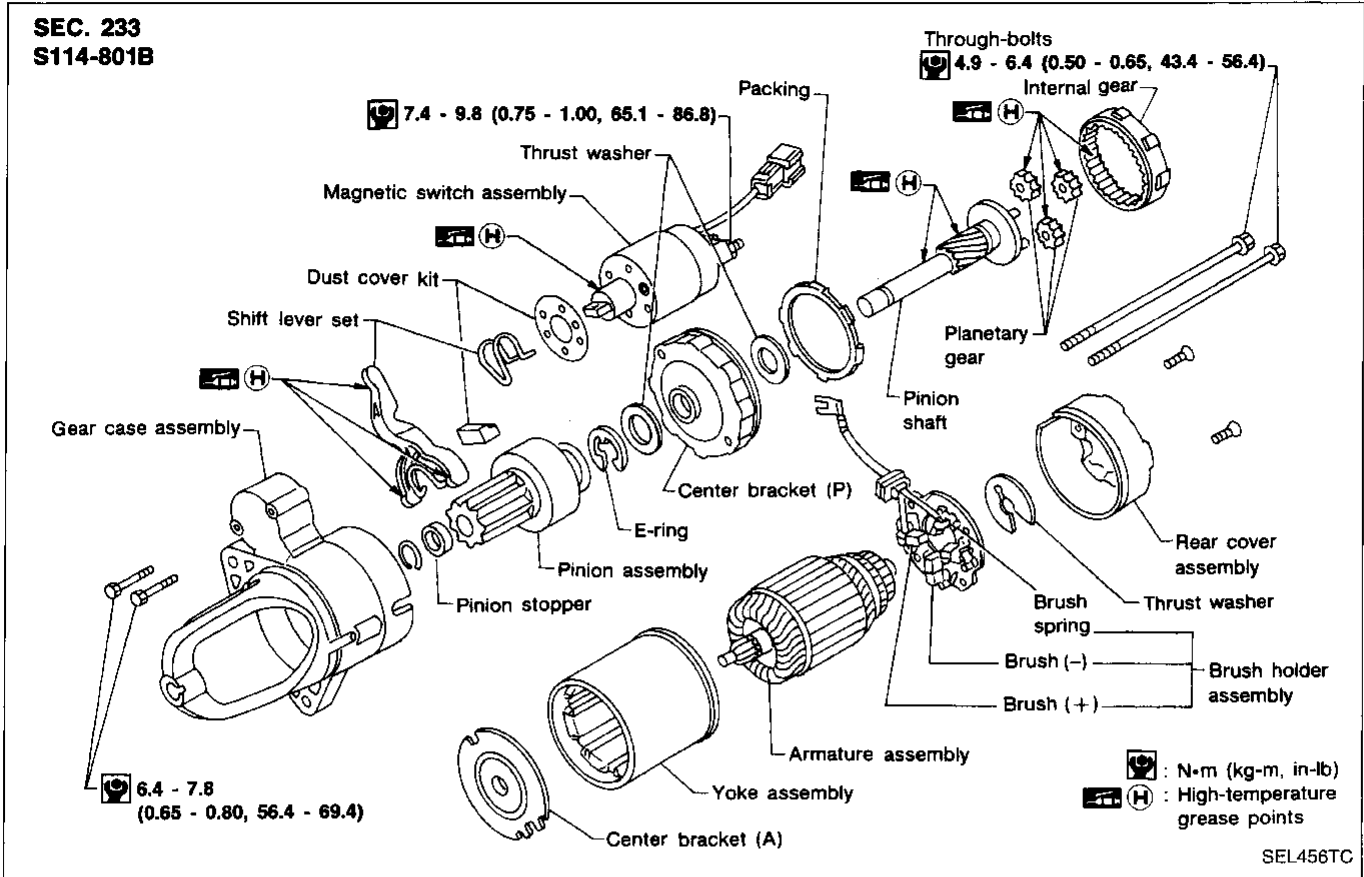
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STARTING SYSTEM

Construction



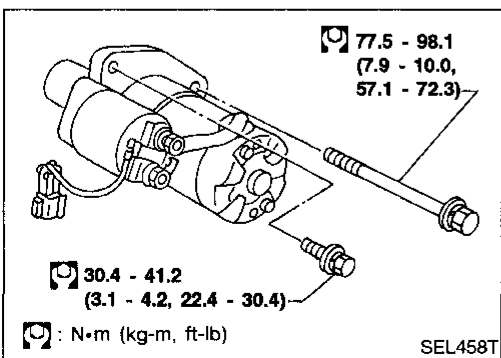
Removal and Installation

REMOVAL

1. Remove air duct assembly.
2. Disconnect starter harness.
3. Remove starter bolts (two).
4. Remove starter.

INSTALLATION

To install, reverse the removal procedure.



STARTING SYSTEM

Pinion/Clutch Check

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

GI
MA
EM

Service Data and Specifications (SDS)

LC

STARTER

Type	S114-801B		EC
	HITACHI make		
	Reduction gear type		FE
System voltage	V	12	
No-load			
Terminal voltage	V	11.0	CL
Current	A	Less than 90	
Revolution	rpm	More than 2,700	MT
Minimum diameter of commutator	mm (in)	28 (1.10)	
Minimum length of brush	mm (in)	10.5 (0.413)	AT
Brush spring tension	N (kg, lb)	12.7 - 17.7 (1.3 - 1.8, 2.9 - 4.0)	FA
Clearance of bearing metal and armature shaft	mm (in)	Less than 0.2 (0.008)	RA
Clearance between pinion front edge and pinion stopper	mm (in)	0.3 - 2.5 (0.012 - 0.098)	BR

ST
RS
BT
HA
EL
IDX

System Description

The alternator provides DC voltage to operate the vehicle's electrical system and to keep the battery charged. AC voltage is converted into DC voltage by the diode assembly in the alternator.

Power is supplied at all times to alternator terminal **(S)** through:

- 120A (For California) or 140A (Except for California) fusible link (letter **a**), located in the fuse and fusible link box), and
- 7.5A fuse (No. **60**), located in the fuse and fusible link box).

Voltage output through alternator terminal **(B)**, is controlled by the IC regulator at terminal **(S)**. The charging circuit is protected by the 120A or 140A fusible link.

Terminal **(E)** of the alternator supplies ground through body ground **(E35)**.

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

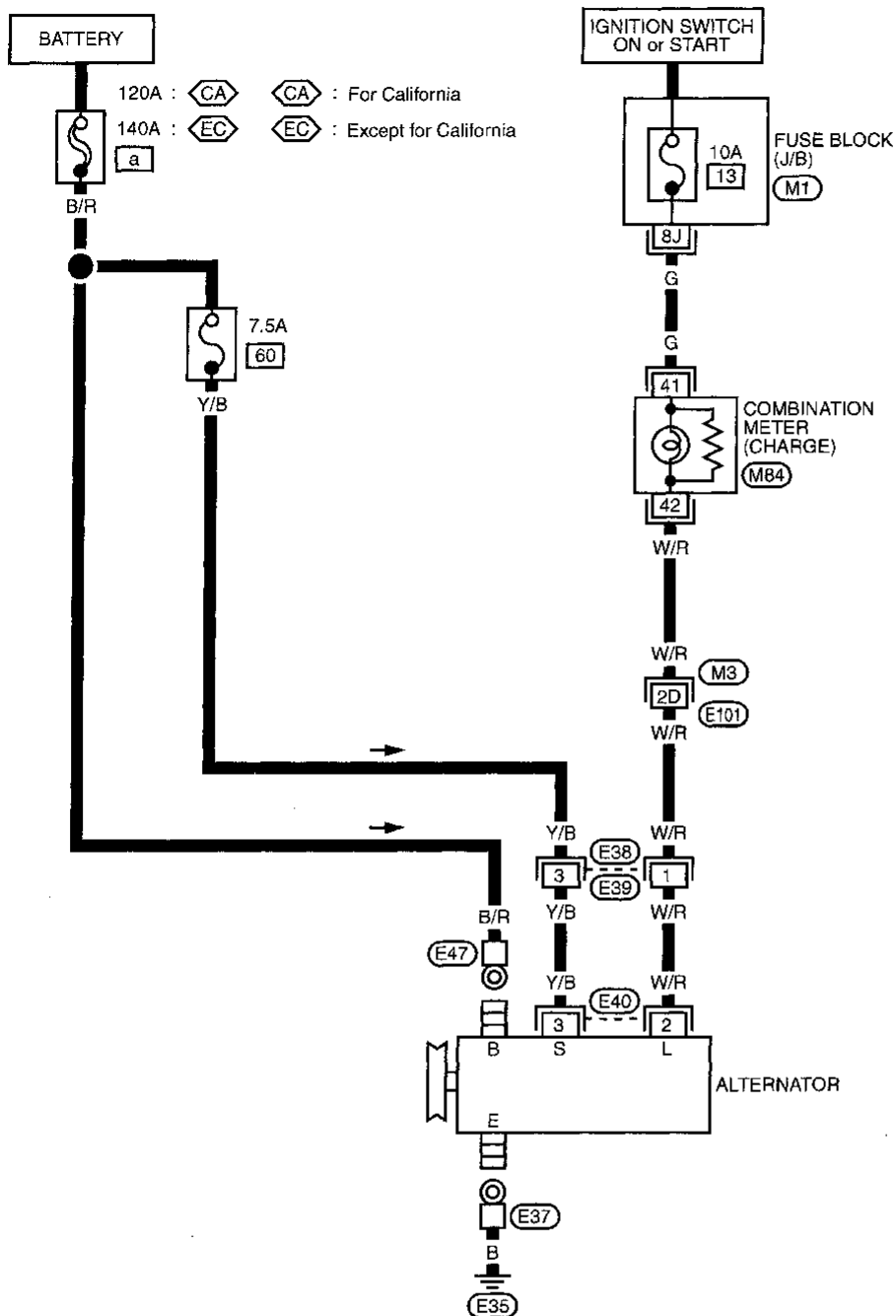
- through 10A fuse [No. **13**], located in the fuse block (J/B)]
- to combination meter terminal **(41)** for the charge warning indicator.

Ground is supplied to terminal **(42)** of the combination meter through terminal **(L)** of the alternator. With power and ground supplied, the charge warning indicator will illuminate. When the alternator is providing sufficient voltage, the ground is opened and the charge warning indicator will go off.

If the charge warning indicator illuminates with the engine running, a malfunction is indicated. Refer to "Trouble Diagnoses" (EL-38).

CHARGING SYSTEM

Wiring Diagram — CHARGE —



EL-CHARGE-01

Refer to EL-POWER.

GI

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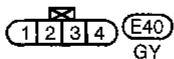
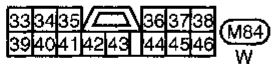
RS

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Refer to last page (Foldout page).

(M3), (E101)

(M1)

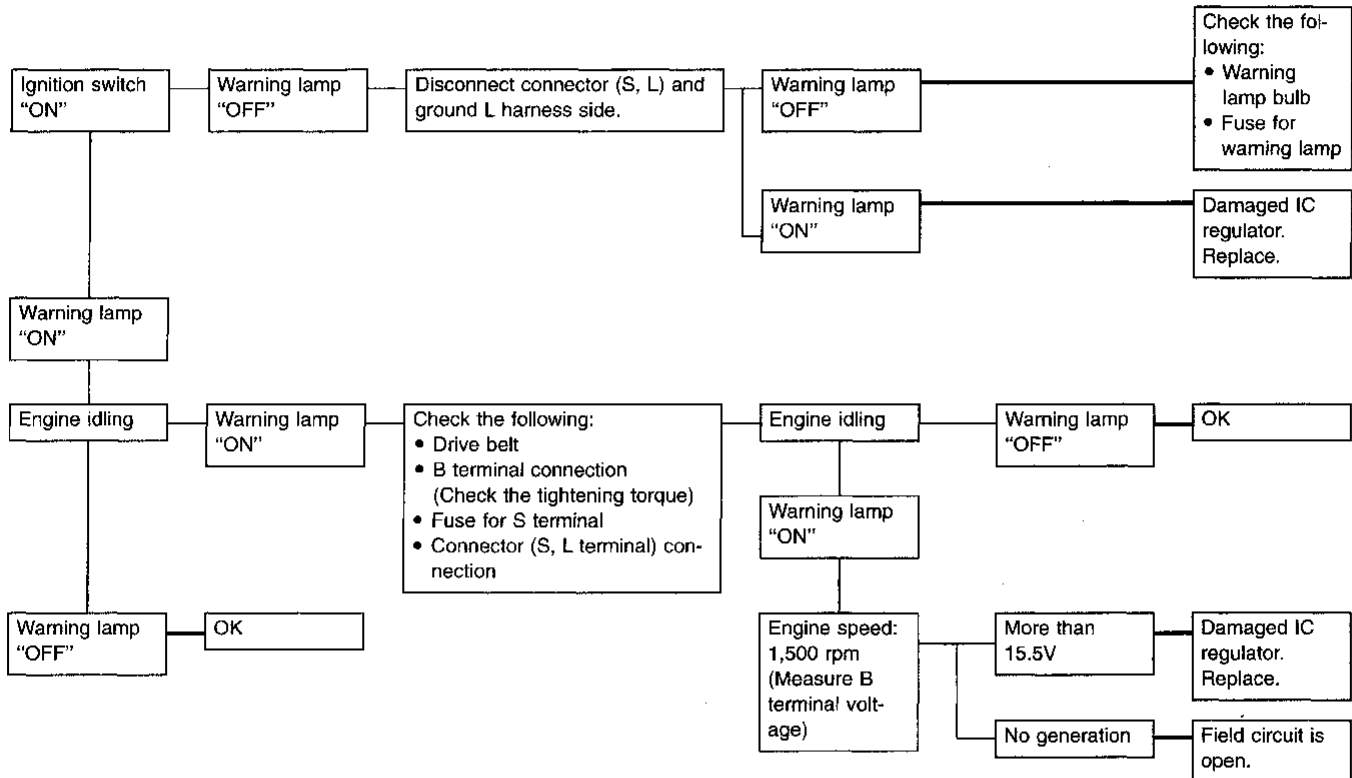
CHARGING SYSTEM

Trouble Diagnoses

Before conducting an alternator test, make sure that the battery is fully charged. A 30-volt voltmeter and suitable test probes are necessary for the test. The alternator can be checked easily by referring to the Inspection Table.

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

WITH IC REGULATOR



Warning lamp: "CHARGE" warning lamp in combination meter

★: When field circuit is open, check condition of rotor coil, rotor slip ring and brush. If necessary, replace faulty parts with new ones.

MALFUNCTION INDICATOR

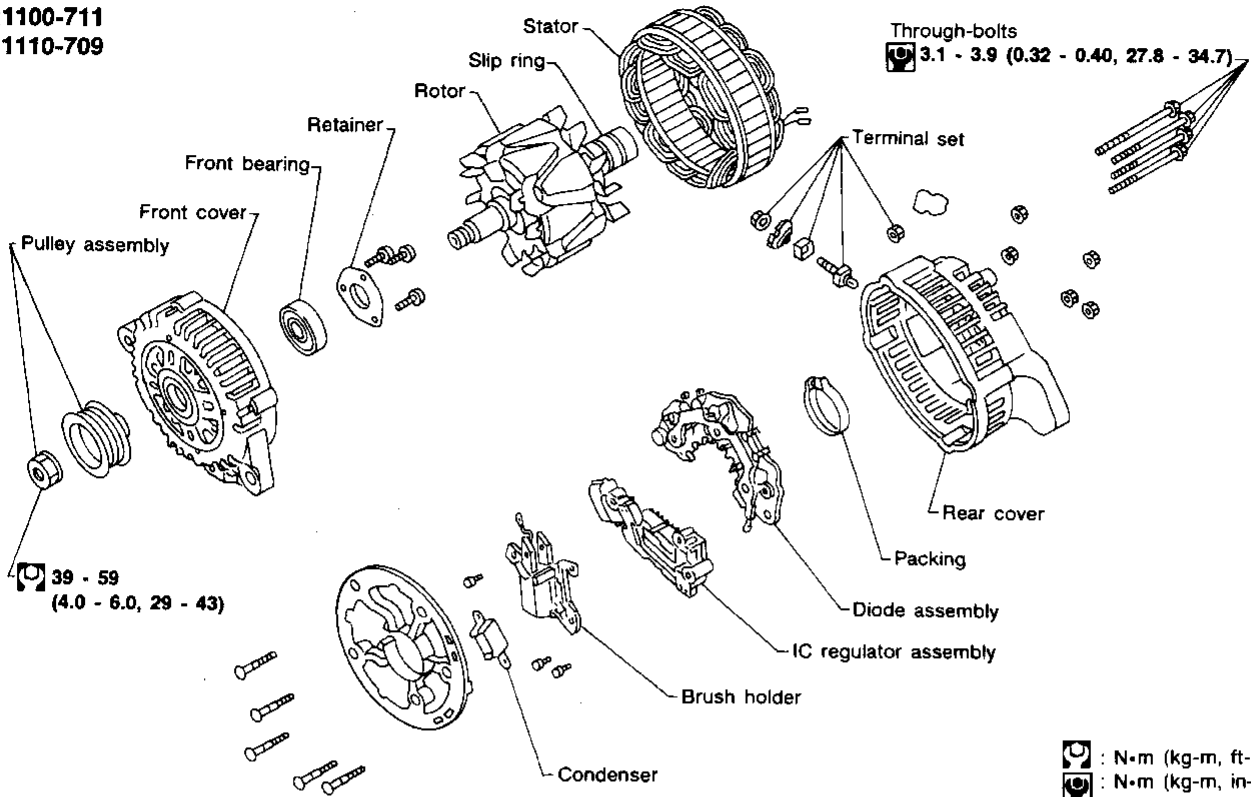
The IC regulator warning function activates to illuminate "CHARGE" warning lamp, if any of the following symptoms occur while alternator is operating:

- B terminal is disconnected.
- S terminal is disconnected or related circuit is open.
- Field circuit is open.
- Excessive voltage is produced.

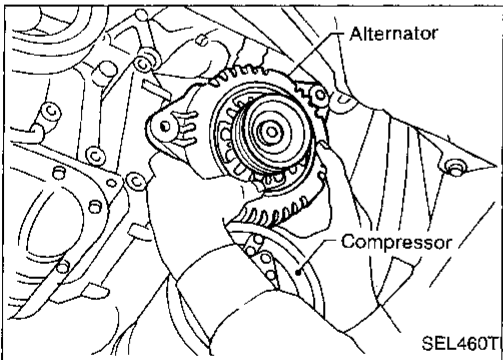
CHARGING SYSTEM

Construction

SEC. 231
LR1100-711
LR1110-709



SEL278UE



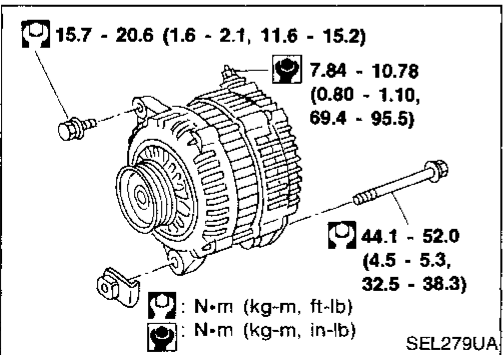
Removal and Installation

REMOVAL

1. Remove engine undercover RH.
2. Remove side inspection cover RH.
3. Loosen belt idler pulley.
4. Remove drive belt.
5. Remove A/C compressor mounting bolts (four).
6. Remove cooling fan and fan shroud.
7. Slide A/C compressor forward.
8. Disconnect alternator harness connector.
9. Remove alternator upper bolt and lower bolt.

INSTALLATION

To install, reverse the removal procedure.



GI
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CHARGING SYSTEM

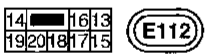
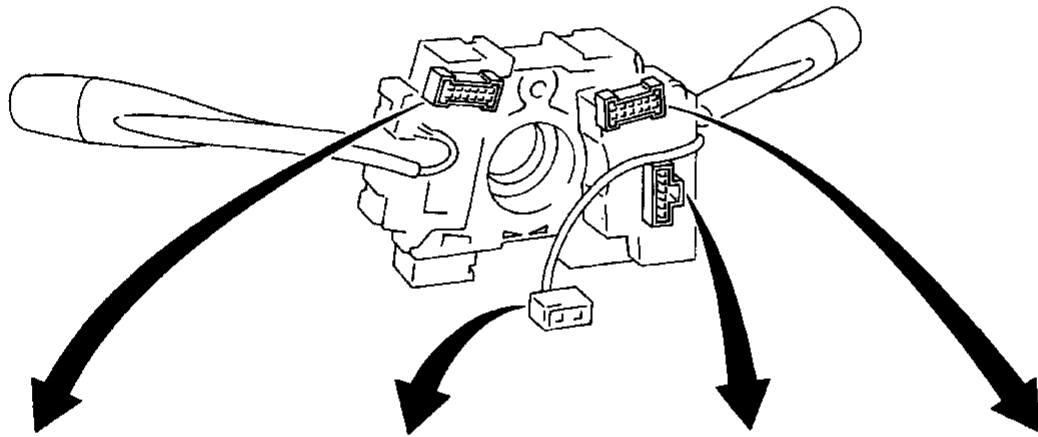
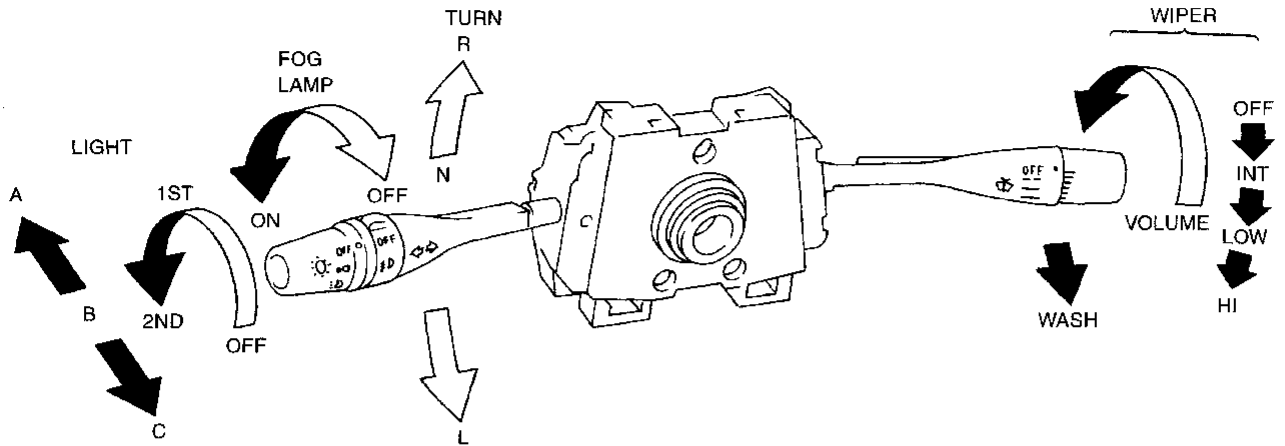
Service Data and Specifications (SDS)

ALTERNATOR

Type		LR1100-711	LR1110-709
		HITACHI make	
Applied model		Standard	Option
Nominal rating	V-A	12-100	12-110
Ground polarity		Negative	
Minimum revolution under no-load (When 13.5 volts is applied)	rpm	Less than 1,000	
Hot output current (When 13.5 volts is applied)	A/rpm	More than 35/1,300 More than 83/2,500 More than 95/9,000	More than 35/1,300 More than 85/2,500 More than 110/9,000
Regulated output voltage	V	14.1 - 14.7	
Minimum length of brush	mm (in)	More than 6.00 (0.2362)	
Brush spring pressure	N (g, oz)	1.000 - 3.432 (102 - 350, 3.60 - 12.34)	
Slip ring minimum diameter	mm (in)	More than 26.0 (1.024)	
Rotor (field coil) resistance	Ω	2.31	

COMBINATION SWITCH

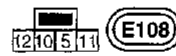
Combination Switch/Check



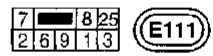
(Wiper)



(Front fog)



(Light)



(Light and turn signal)

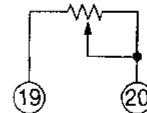
LIGHTING SWITCH

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

WIPER SWITCH

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

INTERMITTENT WIPER VOLUME



FRONT FOG LAMP SWITCH

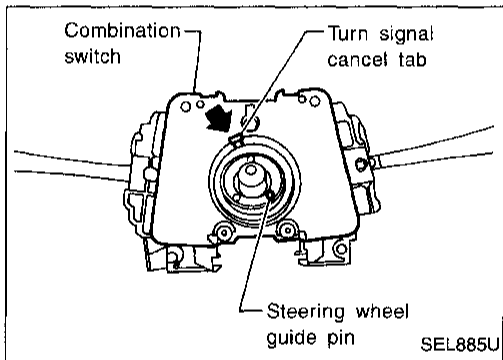
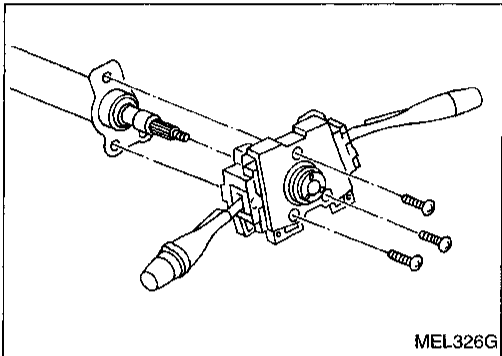
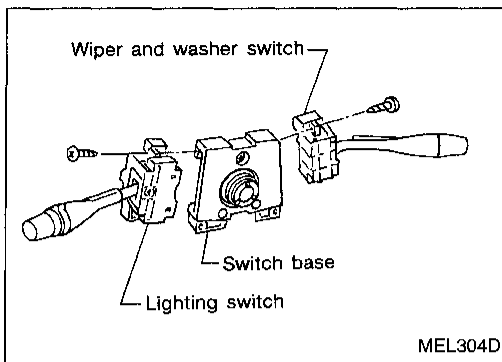
	OFF	ON
	31	
32		○

TURN SIGNAL LAMP SWITCH

	L	N	R
	1	○	
2	○		○
3	○		○

GI
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IDX

COMBINATION SWITCH



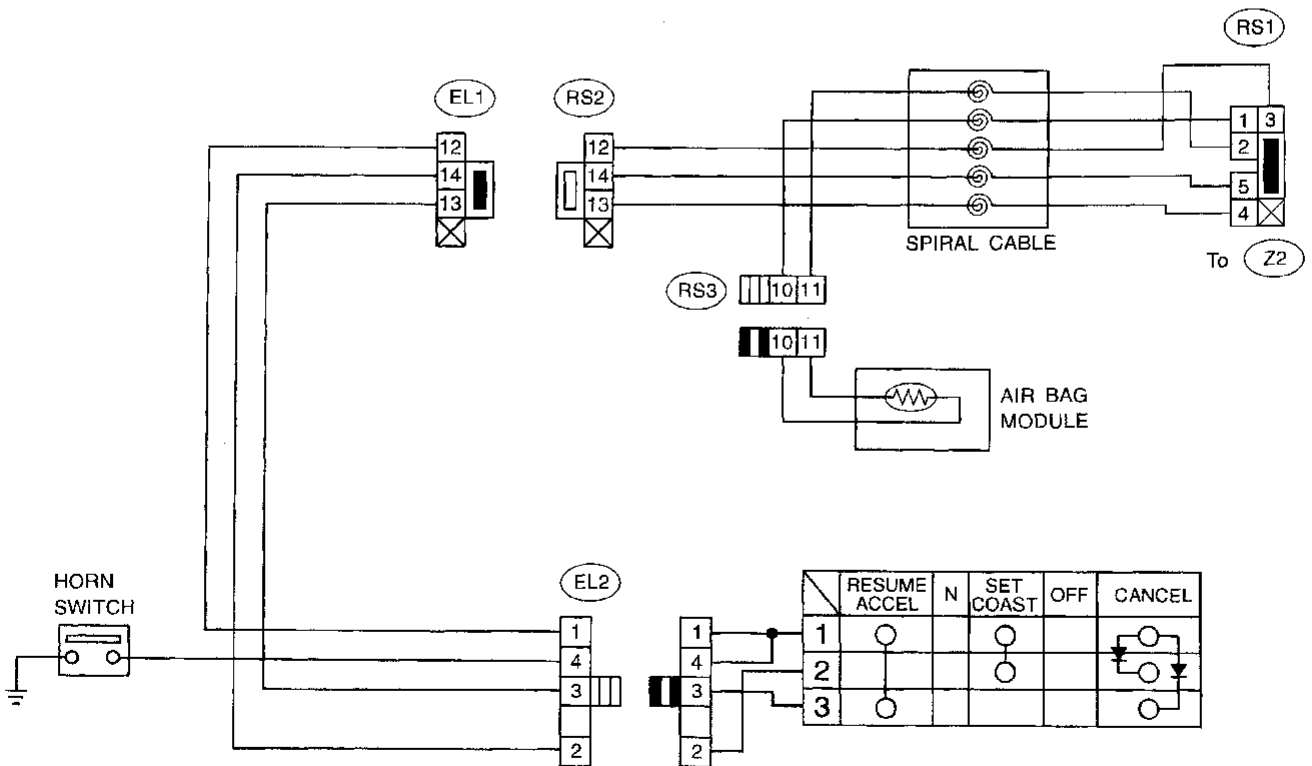
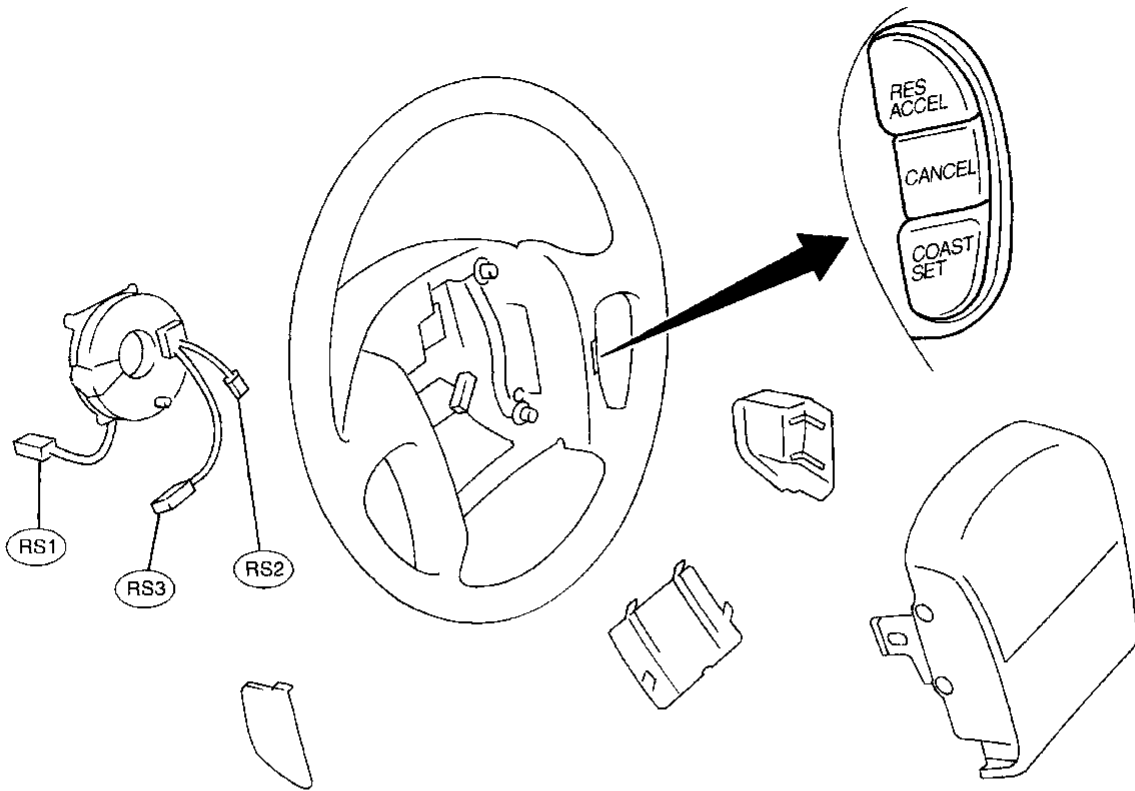
Replacement

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

- Each switch can be replaced without removing combination switch base.
- To remove combination switch base, remove base attaching screw.
- Before installing the steering wheel, align the turn signal cancel tab with the notch of combination switch.

COMBINATION SWITCH

Steering Switch/Check



GI
MA
EM
LC
EC
FE
CL
MT
AT
FA
RA
BR
ST
RS
BT
HA
EL
IDX

HEADLAMP

System Description (For USA)

Power is supplied at all times

- through 15A fuse (No. 54), located in the fuse and fusible link box
- to lighting switch terminal 5, and
- through 15A fuse (No. 53), located in the fuse and fusible link box
- to lighting switch terminal 8.

When the lighting switch is turned to the 2ND and 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 E5 and E3D.

With power and ground supplied, the headlamps will illuminate.

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

- from lighting switch terminal 9
- to terminal 1 of the LH headlamp, and
- to combination meter terminal 21 for the HIGH BEAM indicator, and
- from lighting switch terminal 6
- to terminal 1 of the RH headlamp.

Ground is supplied to terminal 31 of the combination meter through body grounds M13 and M73.

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

With theft warning system

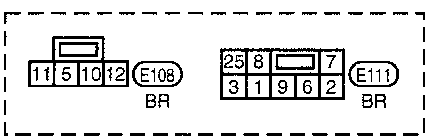
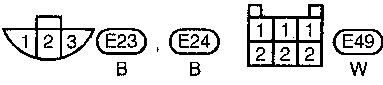
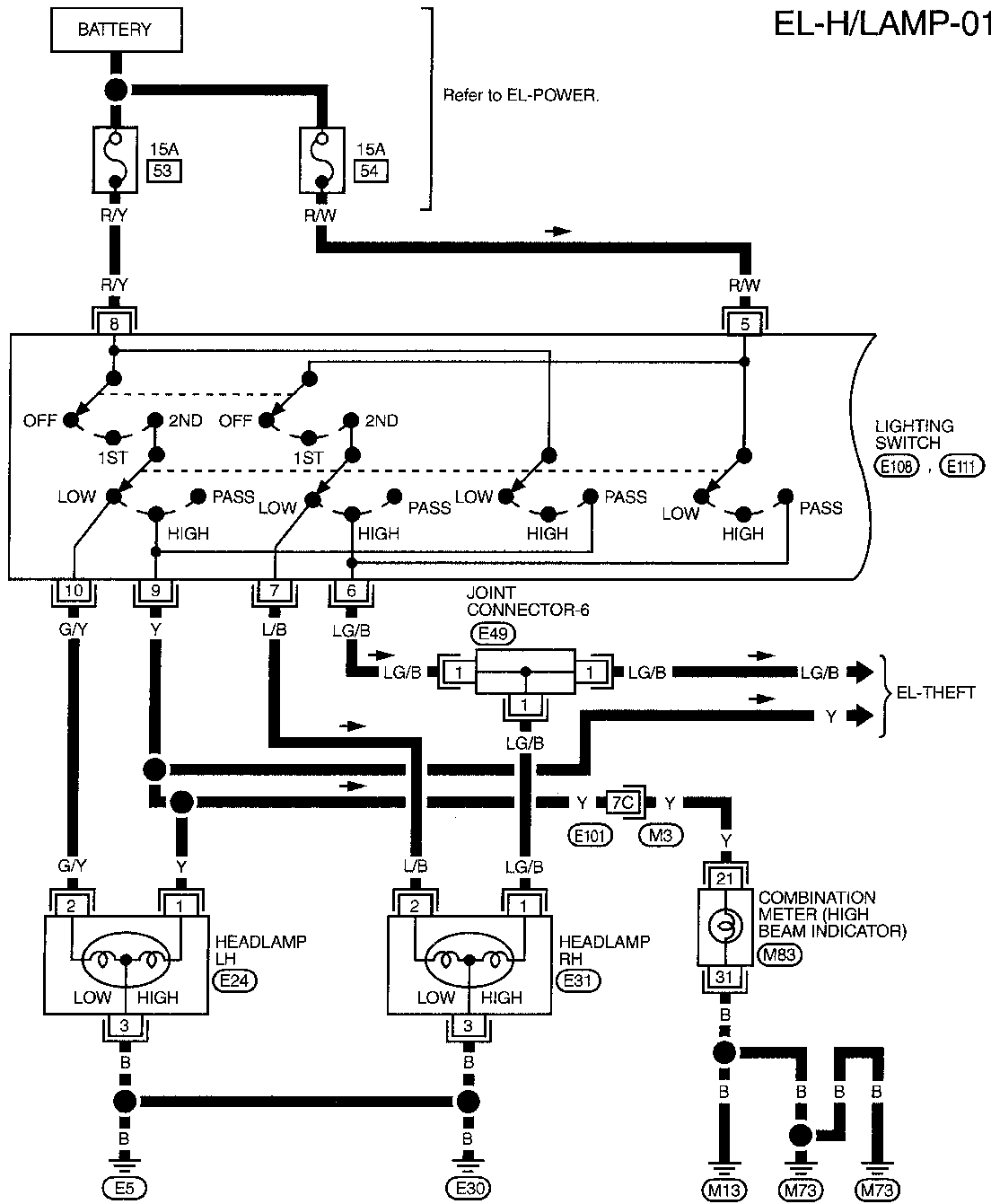
The theft warning system will flash the high beams if the system is triggered. Refer to "THEFT WARNING SYSTEM — IVMS" (EL-261).

HEADLAMP

Wiring Diagram — H/LAMP —

FOR U.S.A.

EL-H/LAMP-01



Refer to last page (Foldout page).

M3, E101
E49

GI
MA
EM
LC
EC
FE
CL
MT
AT
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RA
BR
ST
RS
BT

HA

EL

IDX

HEADLAMP

Trouble Diagnoses (For USA)

Symptom	Possible cause	Repair order
LH headlamps do not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E5) and (E30) 3. 15A fuse 4. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E5) and (E30). 3. Check 15A fuse (No. 53), located in fusible link and fuse box). Verify battery positive voltage is present at terminal (8) of lighting switch. 4. Check lighting switch.
RH headlamps do not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E5) and (E30) 3. 15A fuse 4. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E5) and (E30). 3. Check 15A fuse (No. 54), located in fusible link and fuse box). Verify battery positive voltage is present at terminal (5) of lighting switch. 4. Check lighting switch.
LH high beam does not operate, but LH low beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in LH high beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check Y wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
LH low beam does not operate, but LH high beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in LH low beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check G/Y wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
RH high beam does not operate, but RH low beam operates.	<ol style="list-style-type: none"> 1. Bulb. 2. Open in RH high beam circuit 3. Lighting switch. 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check LG/B wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
RH low beam does not operate, but RH high beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in RH low beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check L/B wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
High beam indicator does not work.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (M13) and (M73) 3. Open in high beam circuit 	<ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check grounds (M13) and (M73). 3. Check Y wire between lighting switch and combination meter for an open circuit.

HEADLAMP

System Description (For Canada)

The headlamp system on vehicles for Canada contains a daytime light unit. The unit 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. After that, the daytime lights will continue to operate even when the parking brake is applied. GI

Power is supplied at all times

- through 15A fuse (No. 53), located in the fuse and fusible link box MA
- to daytime light control unit terminal ③ and
- to lighting switch terminal ⑧.

Power is also supplied at all times EM

- through 15A fuse (No. 54), located in the fuse and fusible link box
- to daytime light control unit terminal ②,
- to lighting switch terminal ⑤ and LC

With 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 daytime light control unit terminal ⑫. EC

Ground is supplied to daytime light control unit terminal ⑨ through body grounds E5 and E30.

HEADLAMP OPERATION FE

Low beam operation

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

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

Ground is supplied to LH headlamp terminal ③ through body grounds E5 and E30. MT

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

- from lighting switch terminal ⑦
- to RH headlamp terminal ②. AT

Ground is supplied

- to RH headlamp terminal ③
- from daytime light control unit terminal ⑦ FA
- through daytime light control unit terminal ⑨
- through body grounds E5 and E30. RA

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

High beam operation

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

- from lighting switch terminal ⑨ BR
- to LH headlamp terminal ①.

Also, when the lighting switch is moved to the 2ND and HIGH ("A") or PASS ("C") position, power is supplied

- from lighting switch terminal ⑥ ST
- to daytime light control unit terminal ⑤
- to combination meter terminal ⑫ for the high beam indicator
- through daytime light control unit terminal ⑥ RS
- to RH headlamp terminal ①.

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

Ground is supplied to terminal ⑬ of the combination meter through body grounds M13 and M73. BT

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

DAYTIME LIGHT OPERATION HA

With the engine running and the lighting switch in the OFF position, power is supplied

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

Ground is supplied to headlamp LH terminal ③ through body grounds E5 and E30. IDX

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

HEADLAMP

Operation (For Canada)

After starting the engine with the lighting switch in the "OFF" position 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								
Lighting switch		OFF			1ST			2ND			OFF			1ST			2ND		
		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	Δ	Δ*	O	Δ*	Δ*	O	O	X	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

B: LOW

C: PASS

O : Lamp "ON"

X : Lamp "OFF"

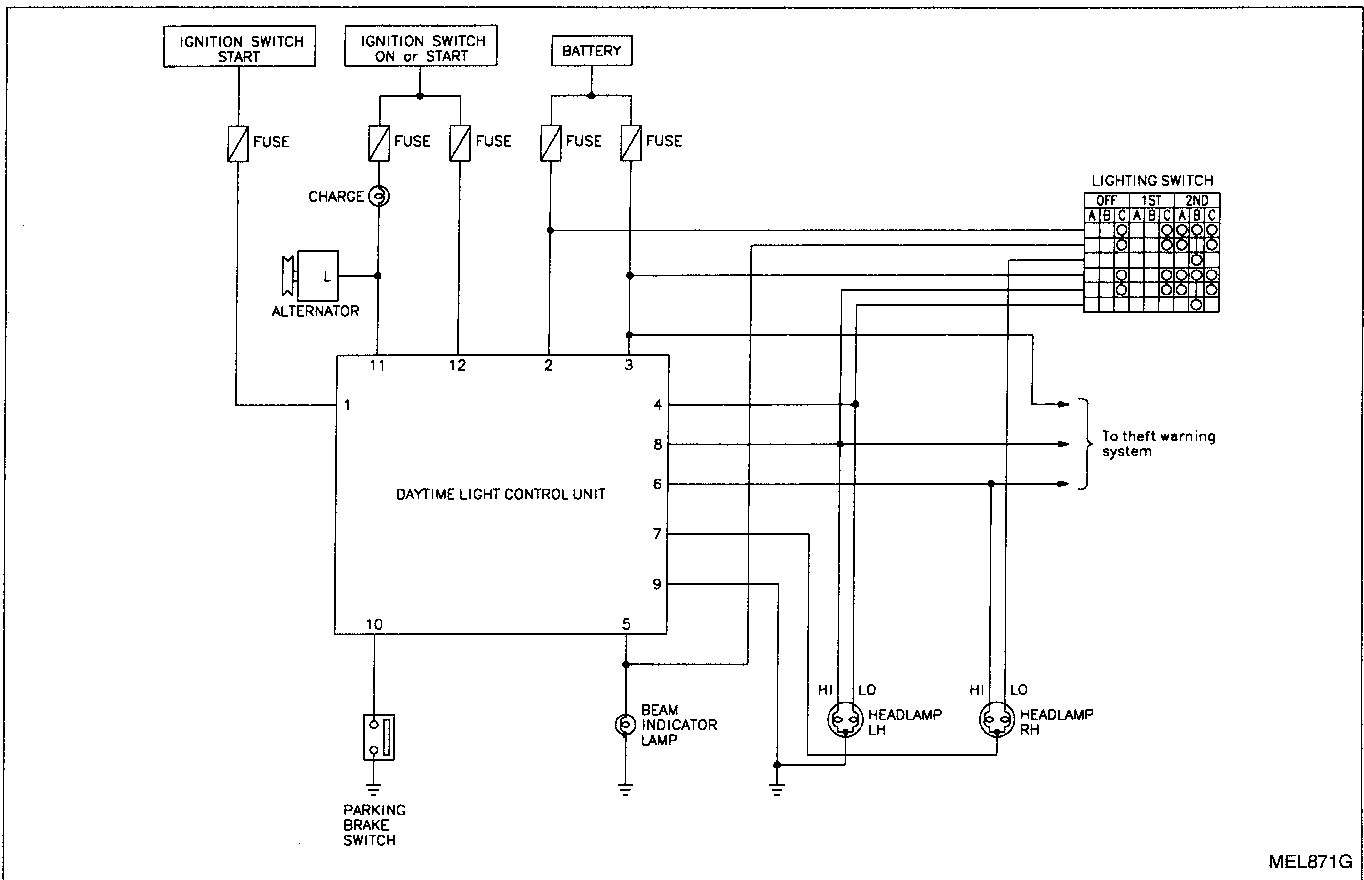
Δ : Lamp dims.

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

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

Schematic

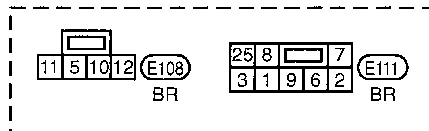
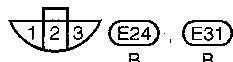
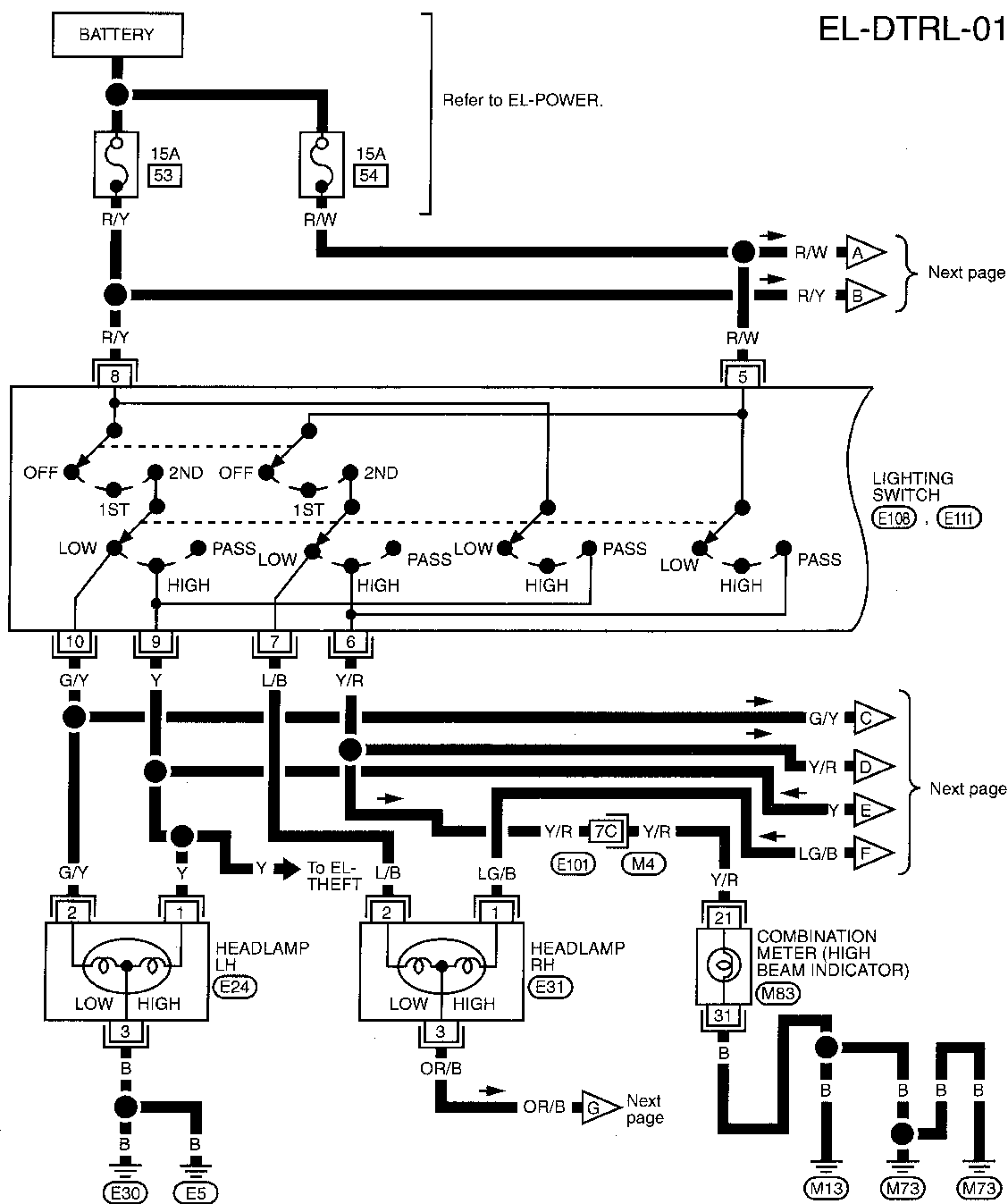
FOR CANADA



HEADLAMP

Wiring Diagram (For Canada) — DTRL —

EL-DTRL-01



Refer to last page (Foldout page).

M4, E101

GI
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EM
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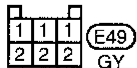
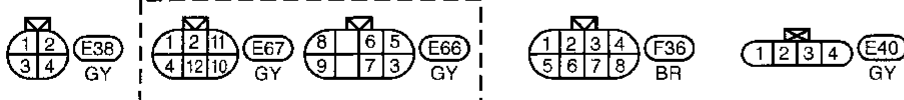
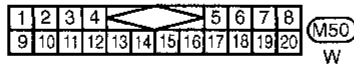
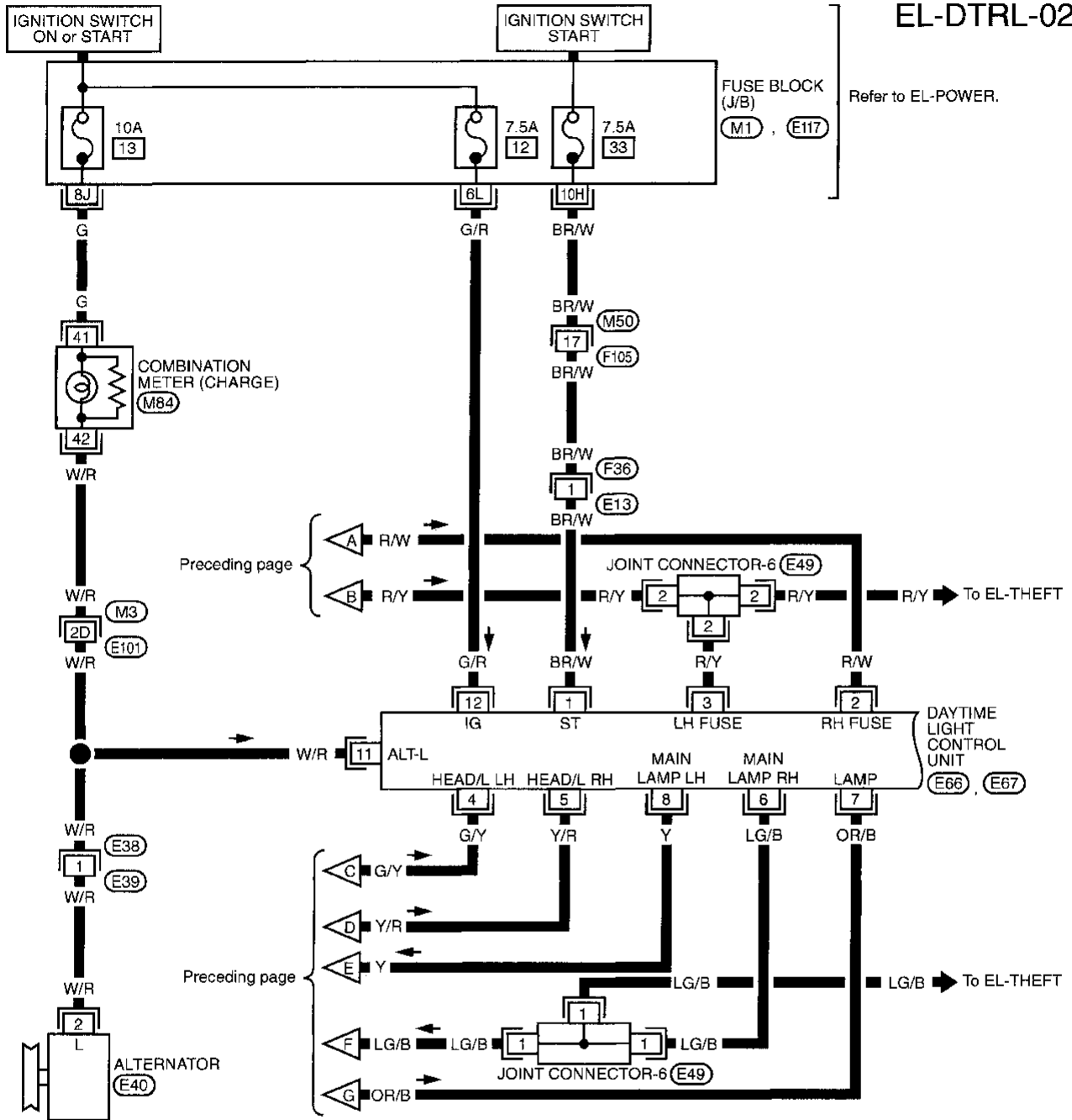
EL

IDX

HEADLAMP

Wiring Diagram (For Canada) — DTRL — (Cont'd)

EL-DTRL-02



Refer to last page (Foldout page).

M3, E101

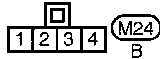
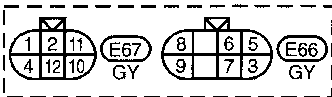
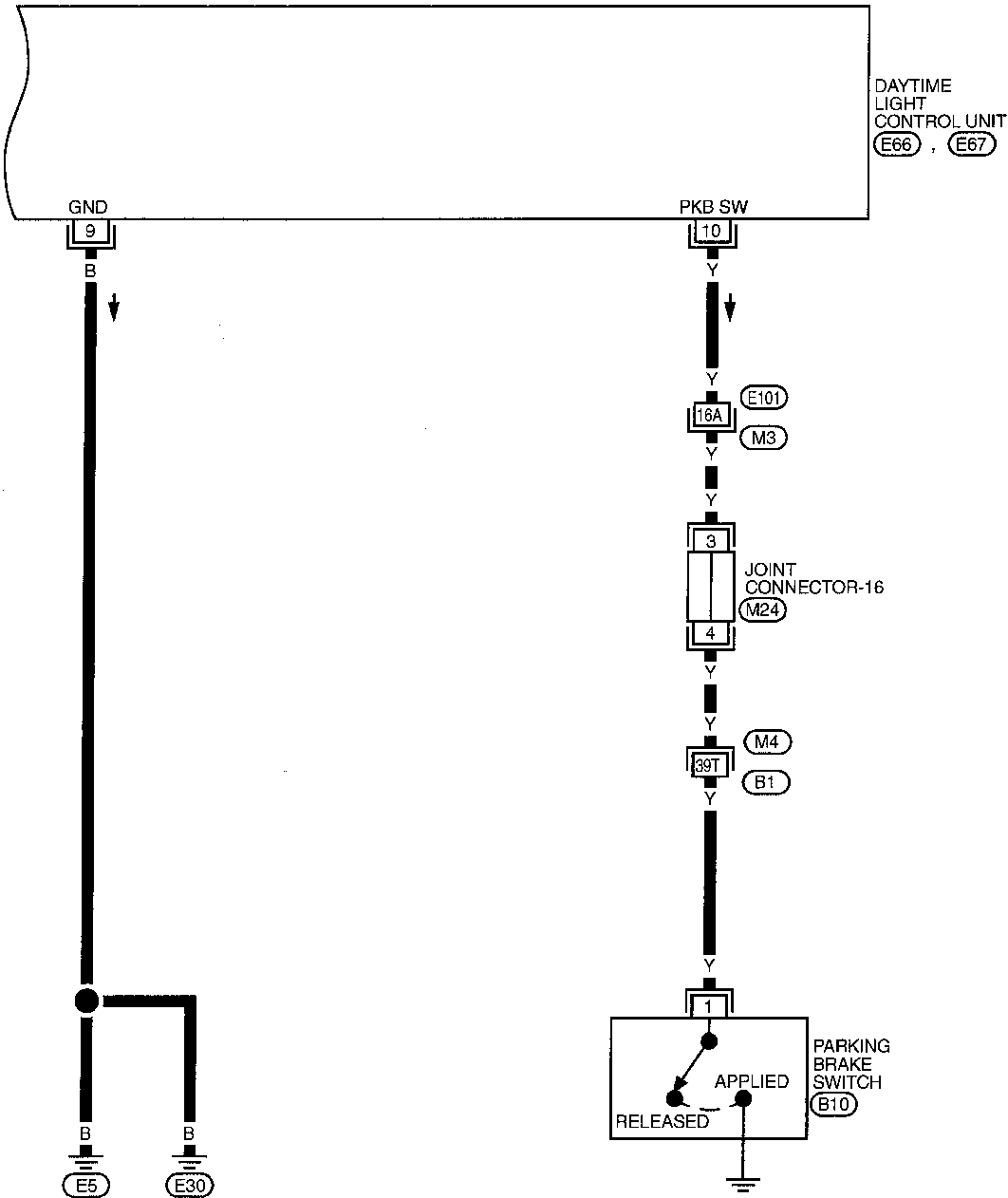
M1, E117

E49

HEADLAMP

Wiring Diagram (For Canada) — DTRL — (Cont'd)

EL-DTRL-03



Refer to last page (Foldout page).

(M3), (E101)

(M4), (B1)

(M24)

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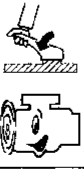



HEADLAMP

Trouble Diagnoses (For Canada)








DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

(Data are reference values.)

Terminal No.	Item	Condition		Judgement standard
1	Start signal		When turning ignition switch to "ST"	Battery positive voltage
			When turning ignition switch to "ON" from "ST"	1V or less
			When turning ignition switch to "OFF"	1V or less
2	Power source		When turning ignition switch to "ON"	Battery positive voltage
			When turning ignition switch to "OFF"	Battery positive voltage
3	Power source		When turning ignition switch to "ON"	Battery positive voltage
			When turning ignition switch to "OFF"	Battery positive voltage
4	Lighting switch (Low beam)		When turning lighting switch to "2ND" ("B")	Battery positive voltage
5	Lighting switch (High beam)		When turning lighting switch to "HIGH" ("A")	Battery positive voltage
			When turning lighting switch to "PASS" ("C")	Battery positive voltage
6	RH high beam		When turning lighting switch to "HIGH" ("C")	Battery positive voltage
			When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position.	Battery positive voltage
7	RH headlamp control (ground)		When lighting switch is turned to "2ND" ("B")	1V or less
			When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage
8	LH high beam		When turning lighting switch to "HIGH" ("A")	Battery positive voltage
			When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage

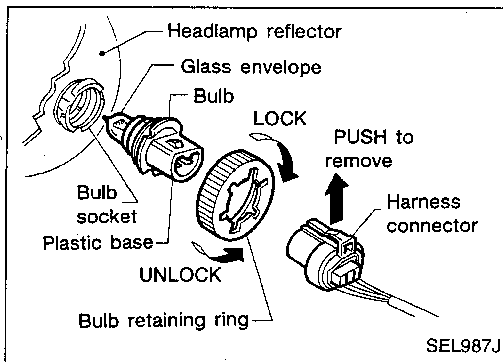
HEADLAMP

Trouble Diagnoses (For Canada) (Cont'd)

Terminal No.	Item	Condition		Judgement standard	
9	Ground	—		—	
10	Parking brake switch		When parking brake is released	Battery positive voltage	
			When parking brake is set	1.5V or less	
11	Alternator		When turning ignition switch to "ON"	1V or less	
				When engine is running	Battery positive voltage
					When turning ignition switch to "OFF"
12	Power source		When turning ignition switch to "ON"	Battery positive voltage	
				When turning ignition switch to "ST"	Battery positive voltage
					When turning ignition switch to "OFF"

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HEADLAMP



Bulb Replacement

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

- **Grasp only the plastic base when handling the bulb. Never touch the glass envelope.**
1. Disconnect the battery cable.
 2. Turn the bulb retaining ring counterclockwise until it is free from the headlamp reflector, and then remove it.
 3. Disconnect the harness connector from the back side of the bulb.
 4. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
 5. Install in the reverse order of removal.

CAUTION:

- **Do not leave the bulb out of the headlamp reflector for a long period of time. Dust, moisture, smoke, etc. entering headlamp may affect the performance of the headlamp. Remove headlamp bulb from the headlamp reflector just before a replacement bulb is installed.**

Bulb Specifications

Item	Wattage (W)
Semi-sealed beam High/Low	60/55

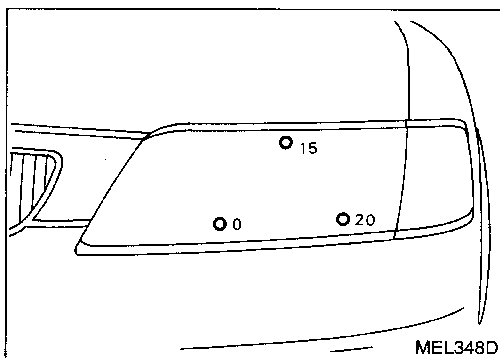
Aiming Adjustment

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

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

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

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



AIMER ADJUSTMENT MARK

When using a mechanical aimer, adjust adapter legs to the data marked on the headlamps.

Adjustment value for mechanical aimer

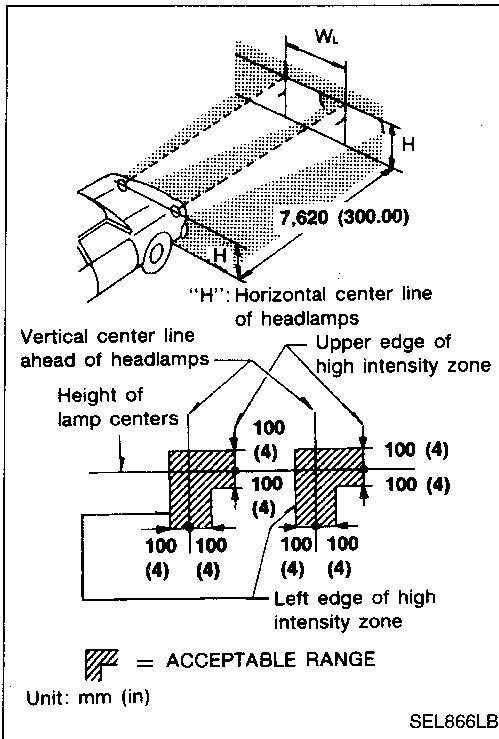
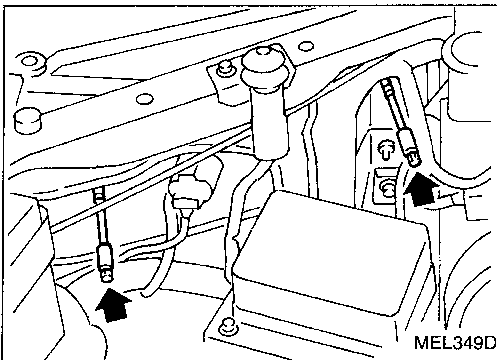
	Mechanical aimer level
Horizontal side	-4 to 4
Vertical side	-4 to 4

HEADLAMP

Aiming Adjustment (Cont'd)

LOW BEAM

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



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.

- **Upper edge and left edge of high intensity zone should be within the range shown at left. Adjust headlamps accordingly.**
- **Dotted lines in illustration show center of headlamp.**

"H": Horizontal center line of headlamps

"W_L": Distance between each headlamp center

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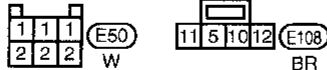
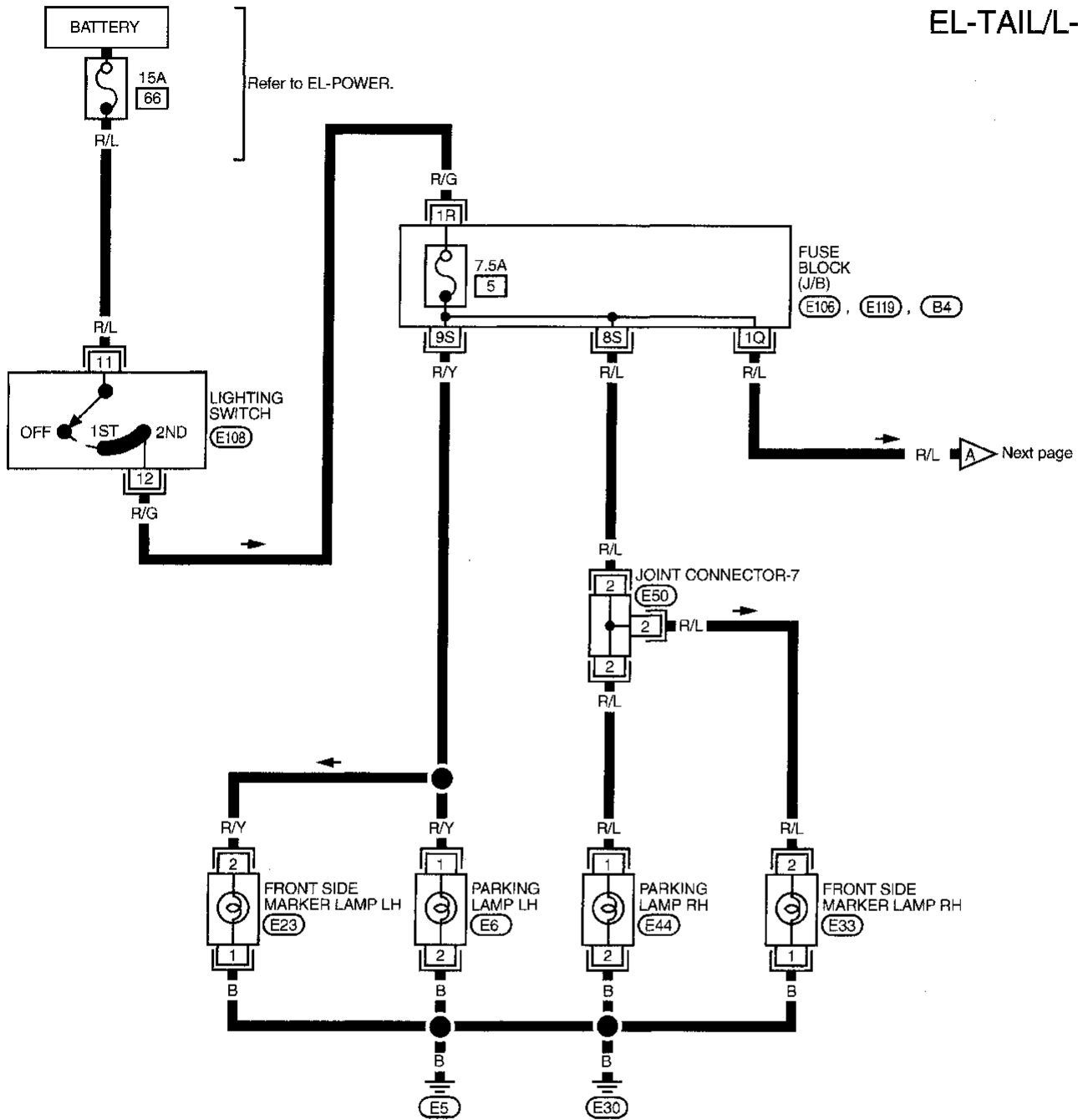
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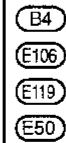
EXTERIOR LAMP

Parking, License and Tail Lamps/Wiring Diagram — TAIL/L —

EL-TAIL/L-01



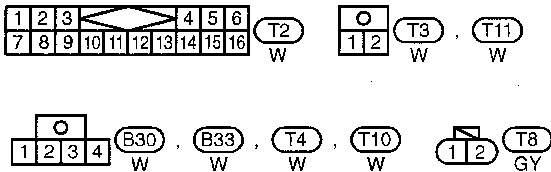
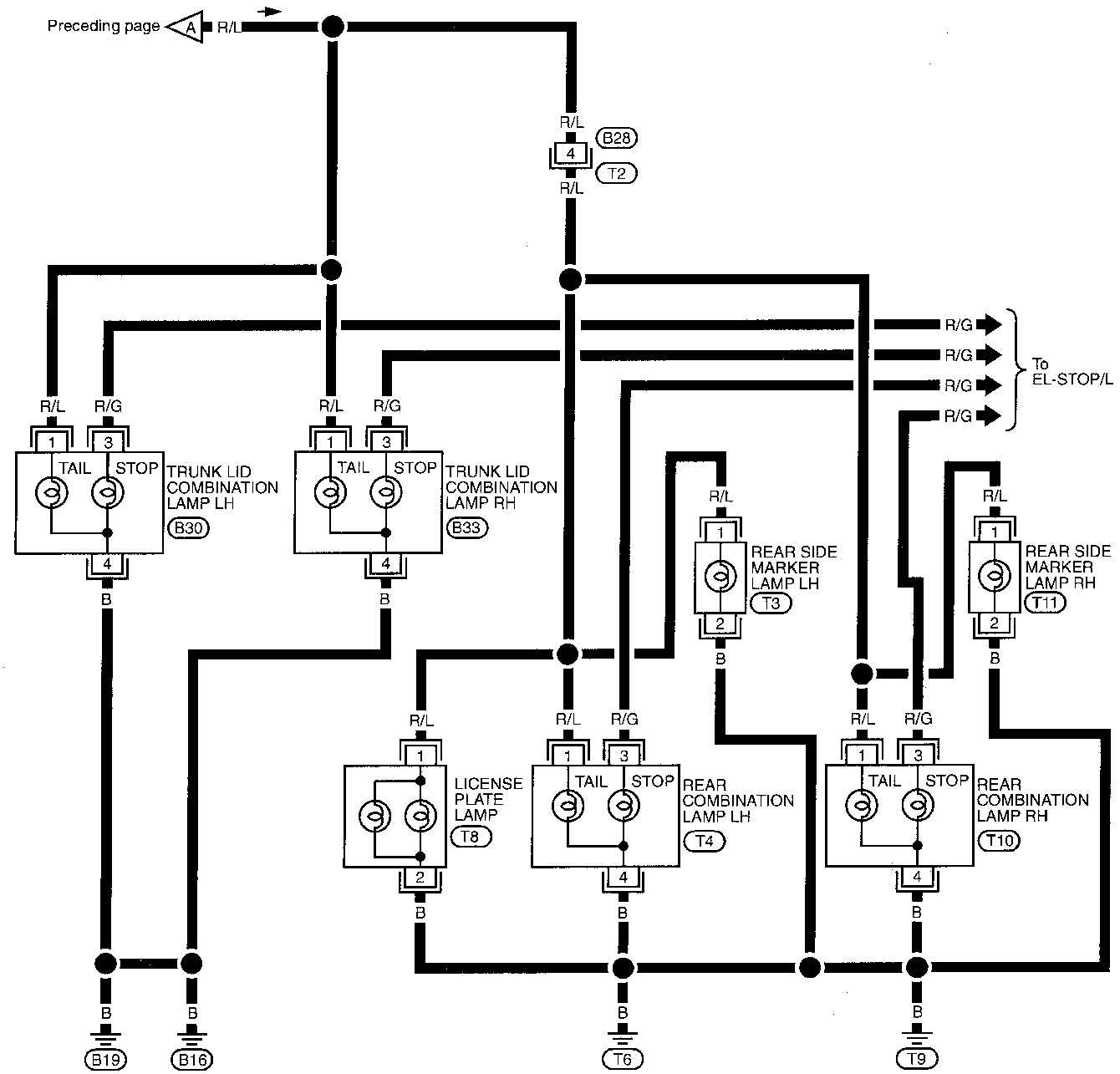
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EXTERIOR LAMP

Parking, License and Tail Lamps/Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-02

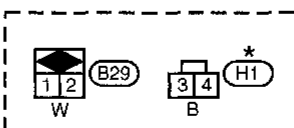
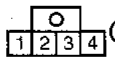
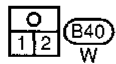
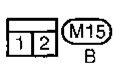
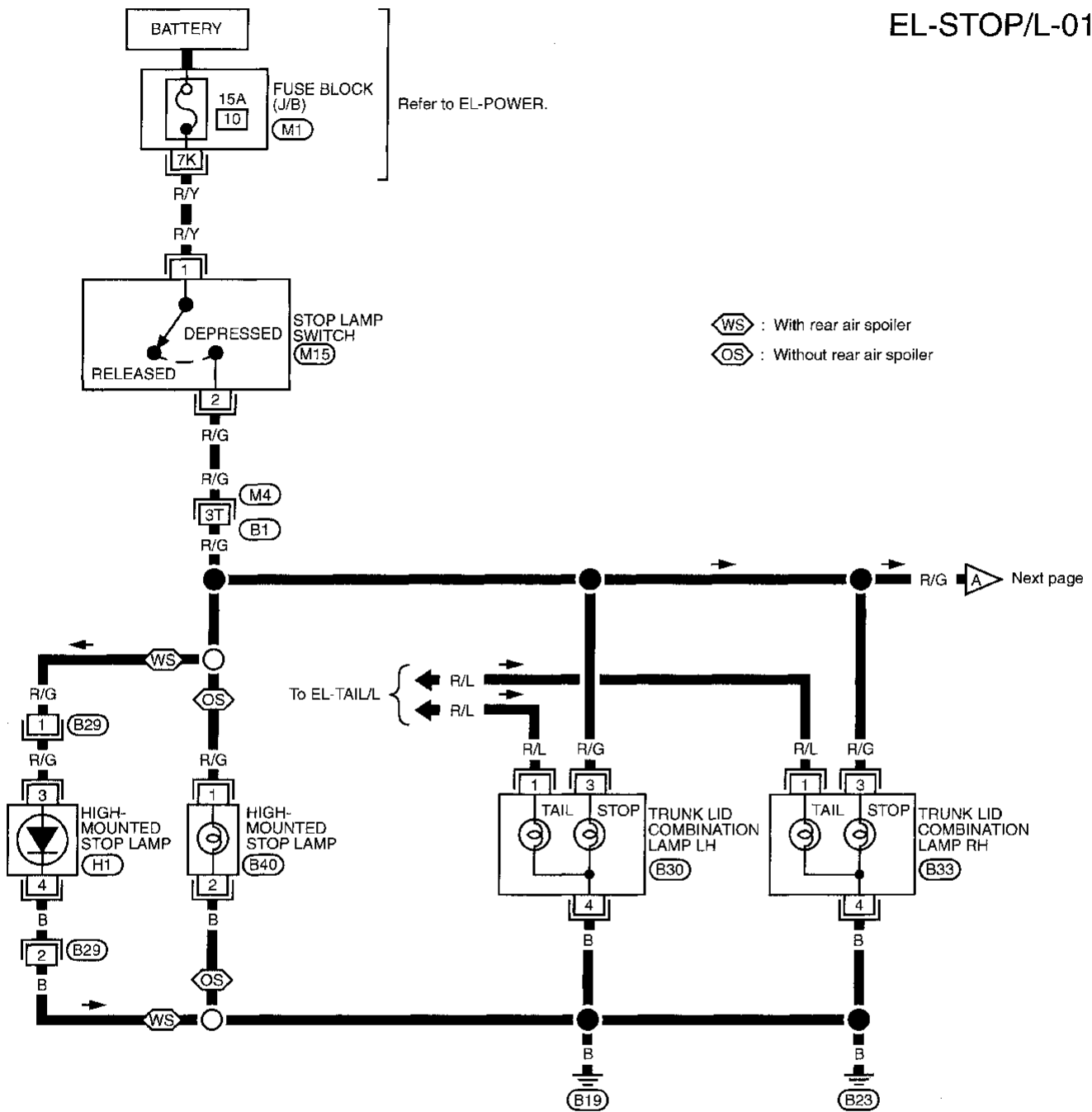


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EXTERIOR LAMP

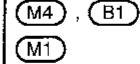
Stop Lamp/Wiring Diagram — STOP/L —

EL-STOP/L-01



*: This connector is not shown in "HARNES RAYOUT".

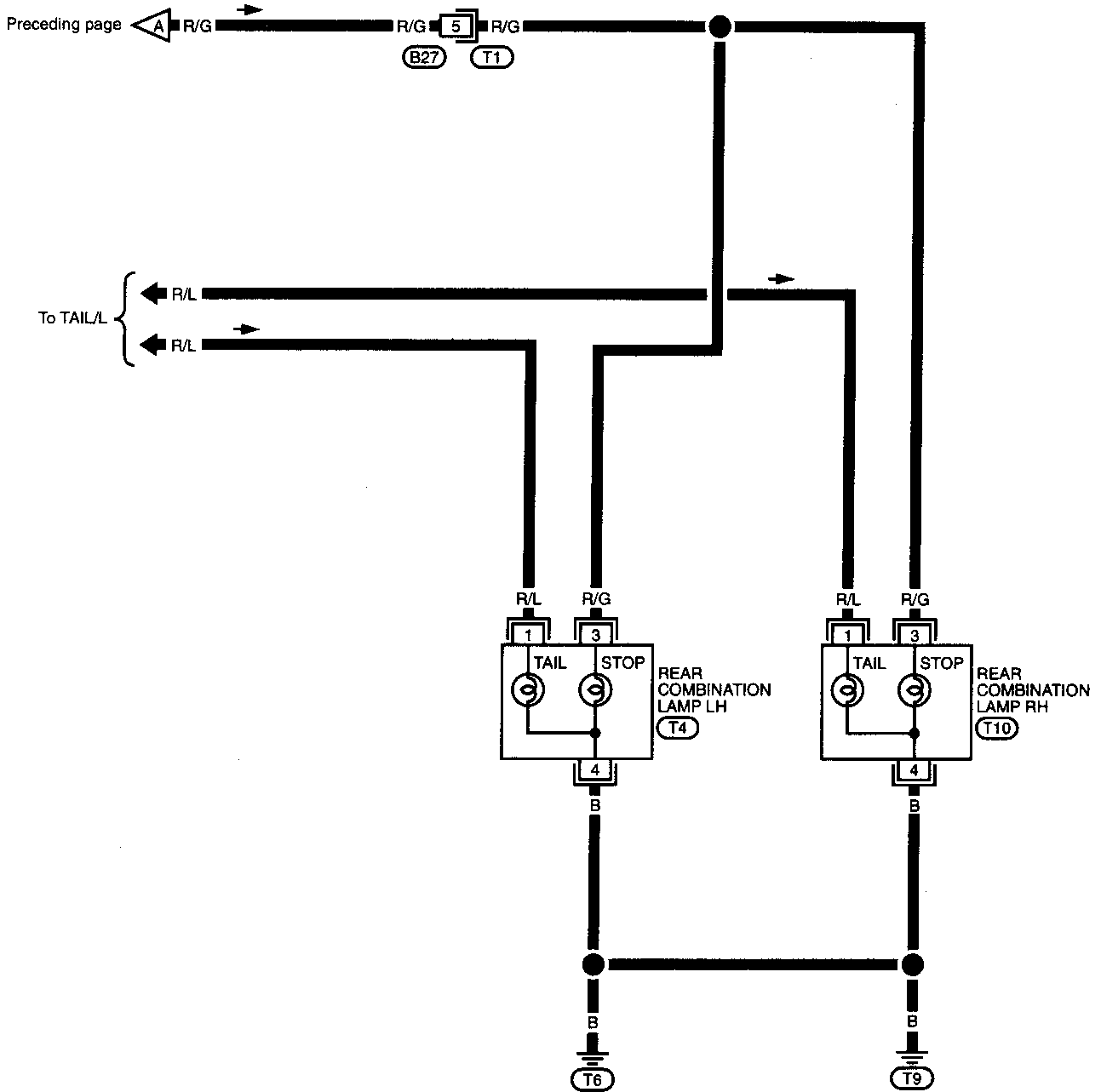
Refer to last page (Foldout page).



EXTERIOR LAMP

Stop Lamp/Wiring Diagram — STOP/L — (Cont'd)

EL-STOP/L-02



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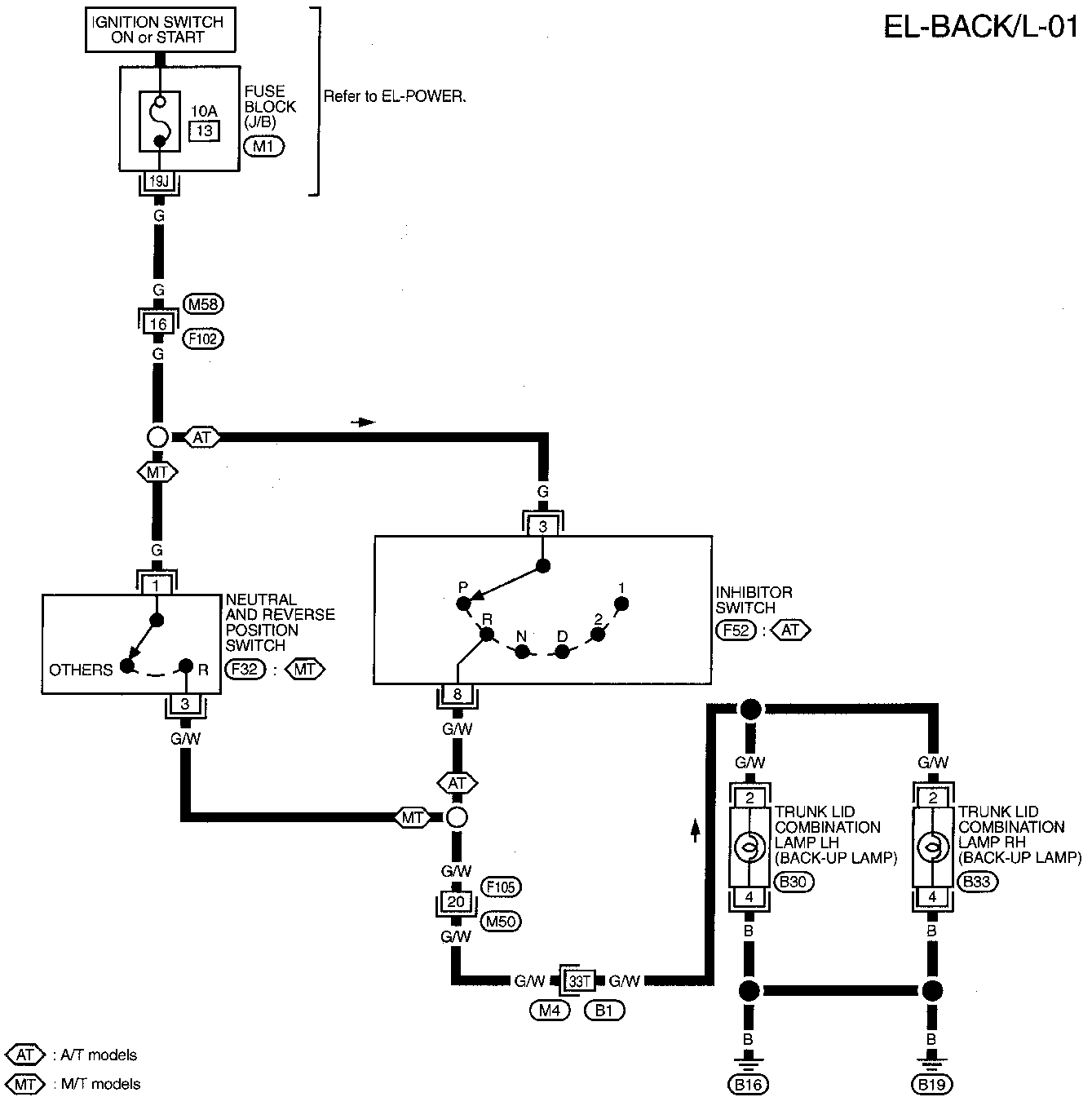
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EXTERIOR LAMP

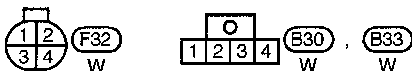
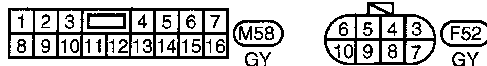
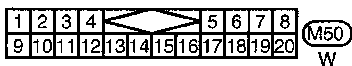
Back-up Lamp/Wiring Diagram — BACK/L —

EL-BACK/L-01



Refer to last page (Foldout page).

M1
M4 , B1



Front Fog Lamp/System Description

Power is supplied at all times to front fog lamp relay terminal ③ through

- 15A fuse (No. 63, located in the fuse and fusible link box).

With the lighting switch in the 2ND and LOW ("B") position, power is supplied

- through 15A fuse (No. 53, located in the fuse and fusible link box)
- to lighting switch terminal ⑧
- through terminal ⑩ of the lighting switch
- to front fog lamp relay terminal ②.

Front fog lamp operation

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

With the front fog lamp switch in the ON position

- ground is supplied to front fog lamp relay terminal ① through the front fog lamp switch and body grounds E5 and E30.

The front fog lamp relay is energized and power is supplied

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

Ground is supplied to terminal ② of each front fog lamp through body grounds E5 and E30.

With power and ground supplied, the front fog lamps illuminate.

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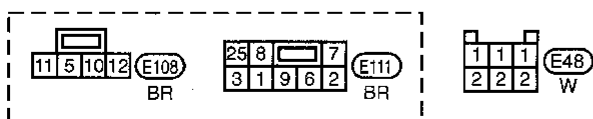
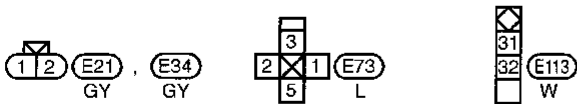
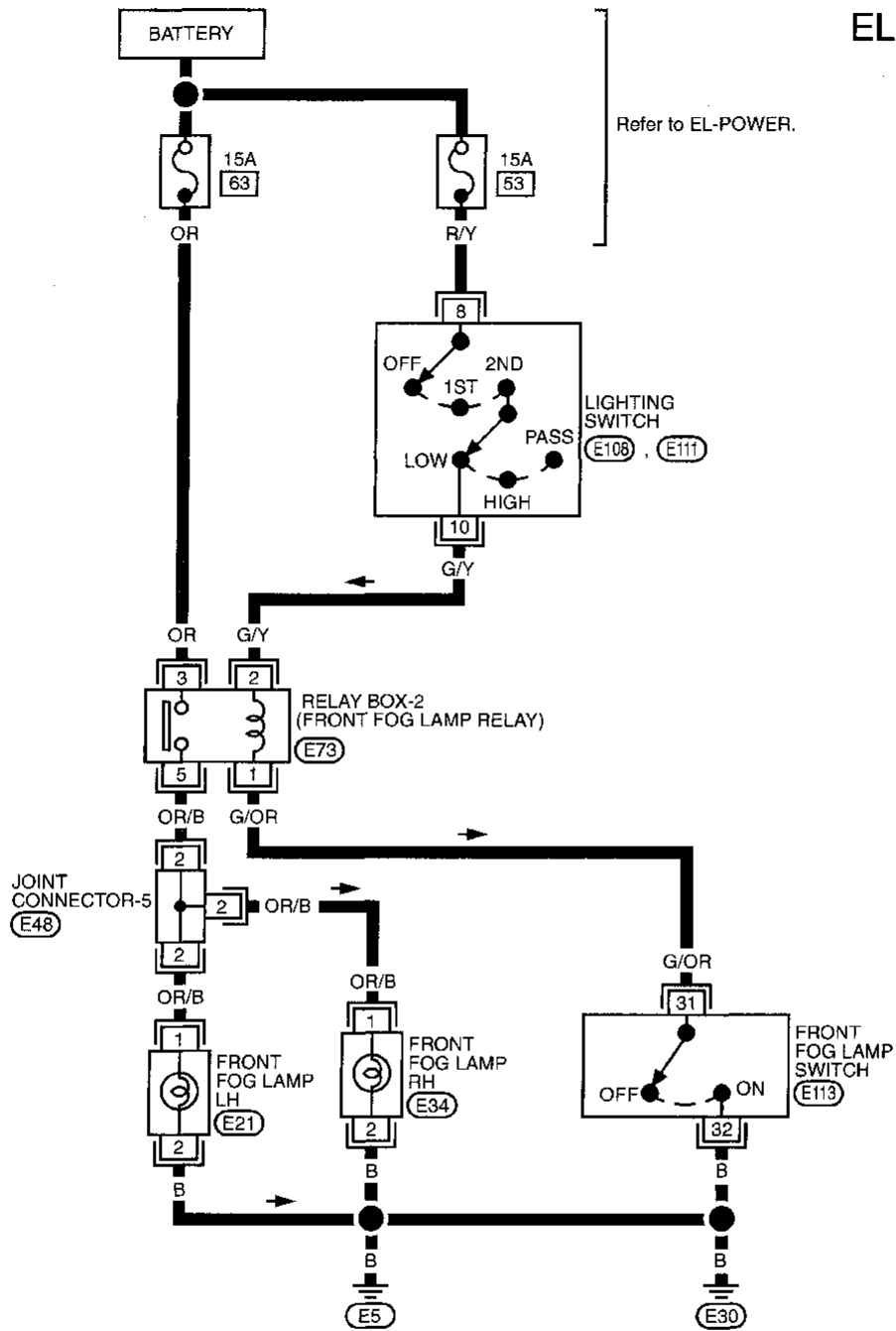
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EXTERIOR LAMP

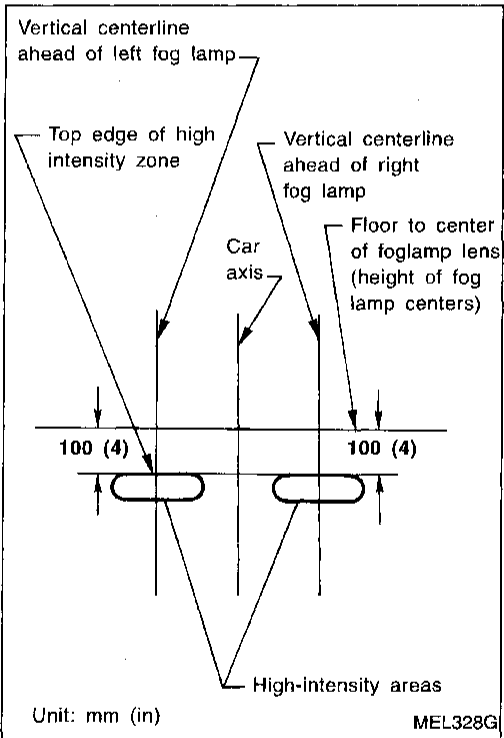
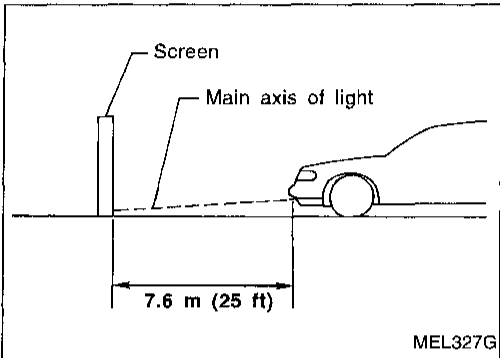
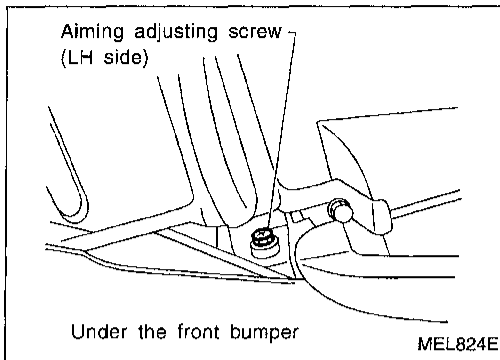
Front Fog Lamp/Wiring Diagram — F/FOG —

EL-F/FOG-01



Refer to last page (Foldout page).
(E48)

EXTERIOR LAMP



Front Fog Lamp Aiming Adjustment

Before performing aiming adjustment, make sure of the following.

- Keep all tires inflated to correct pressure.
- Place vehicle on level ground.
- 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 seat.

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

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

- 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.

Bulb Specifications

Item	Wattage (W)
Front fog lamp	55

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EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/ 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. 14], located in the fuse block (J/B)]
- to hazard switch terminal ②
- through terminal ① of the hazard switch
- to combination flasher unit terminal ⑤
- through terminal ④ of the combination flasher unit
- to turn signal switch terminal ①.

Ground is supplied to combination flasher unit terminal ⑤ through body grounds (M13) and (M73).

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 ① (through fuse block (J/B) terminals (5S) and (6S))
- rear combination lamp LH terminal ② (through fuse block (J/B) terminals (5S) and (4Q)) and
- combination meter terminal ③ (through fuse block (J/B) terminals (5S) and (12J)).

Ground is supplied to the front turn signal lamp LH terminal ② through body grounds (E5) and (E30).

Ground is supplied to the rear combination lamp LH terminal ④ through body grounds (T6) and (T9).

Ground is supplied to combination meter terminal ③ through body grounds (M13) and (M73).

With power and grounds supplied, the combination flasher unit controls the flashing interval 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 ① (through fuse block (J/B) terminals (14S) and (10S))
- rear combination lamp RH terminal ② (through fuse block (J/B) terminals (14S) and (13Q)) and
- combination meter terminal ① (through fuse block (J/B) terminals (14S) and (5H)).

Ground is supplied to the front turn signal lamp RH terminal ② through body grounds (E5) and (E30).

Ground is supplied to the rear combination lamp RH terminal ④ through body grounds (T6) and (T9).

Ground is supplied to combination meter terminal ③ through body grounds (M13) and (M73).

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

HAZARD LAMP OPERATION

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

- 10A fuse [No. 11], 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 ⑤
- through terminal ④ of the combination flasher unit
- to hazard switch terminal ④.

Ground is supplied to the combination flasher unit terminal ⑤ through body grounds (M13) and (M73).

Power is supplied through terminal ⑤ of the hazard switch to

- front turn signal lamp LH terminal ① (through fuse block (J/B) terminals (2J) and (6S))
- rear combination lamp LH terminal ② (through fuse block (J/B) terminals (2J) and (4Q)) and
- combination meter terminal ③ (through fuse block (J/B) terminals (2J) and (12J)).

Power is also supplied through terminal ⑥ of the hazard switch to

- front turn signal lamp RH terminal ① (through fuse block (J/B) terminals (11J) and (10S))
- rear combination lamp RH terminal ② (through fuse block (J/B) terminals (11J) and (13Q)) and
- combination meter terminal ① (through fuse block (J/B) terminals (11J) and (5H)).

Ground is supplied to terminal ② of the front turn signal lamps through body grounds (E5) and (E30).

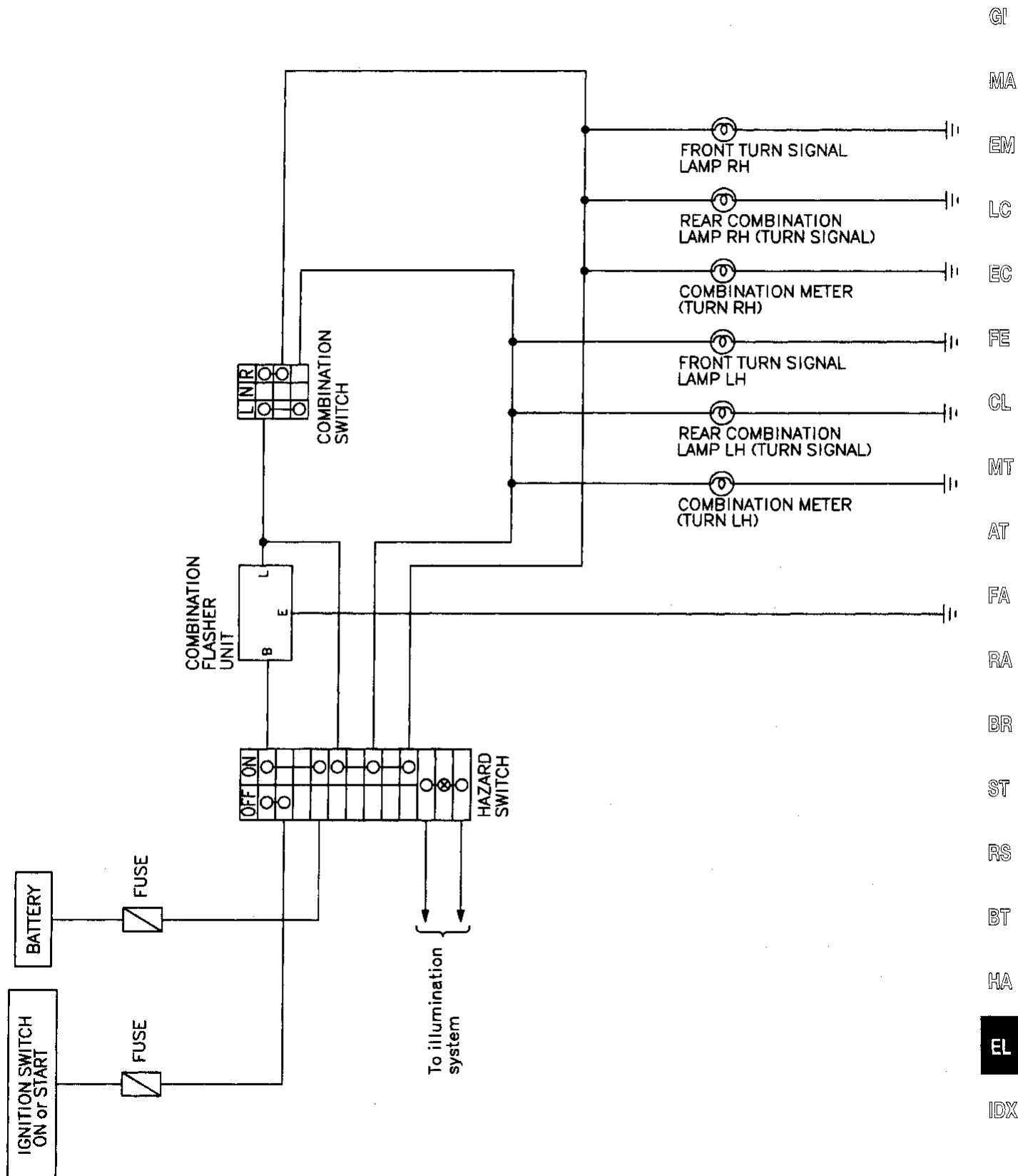
Ground is supplied to terminal ④ of the rear combination lamps through body grounds (T6) and (T9).

Ground is supplied to combination meter terminal ③ through body grounds (M13) and (M73).

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

EXTERIOR LAMP

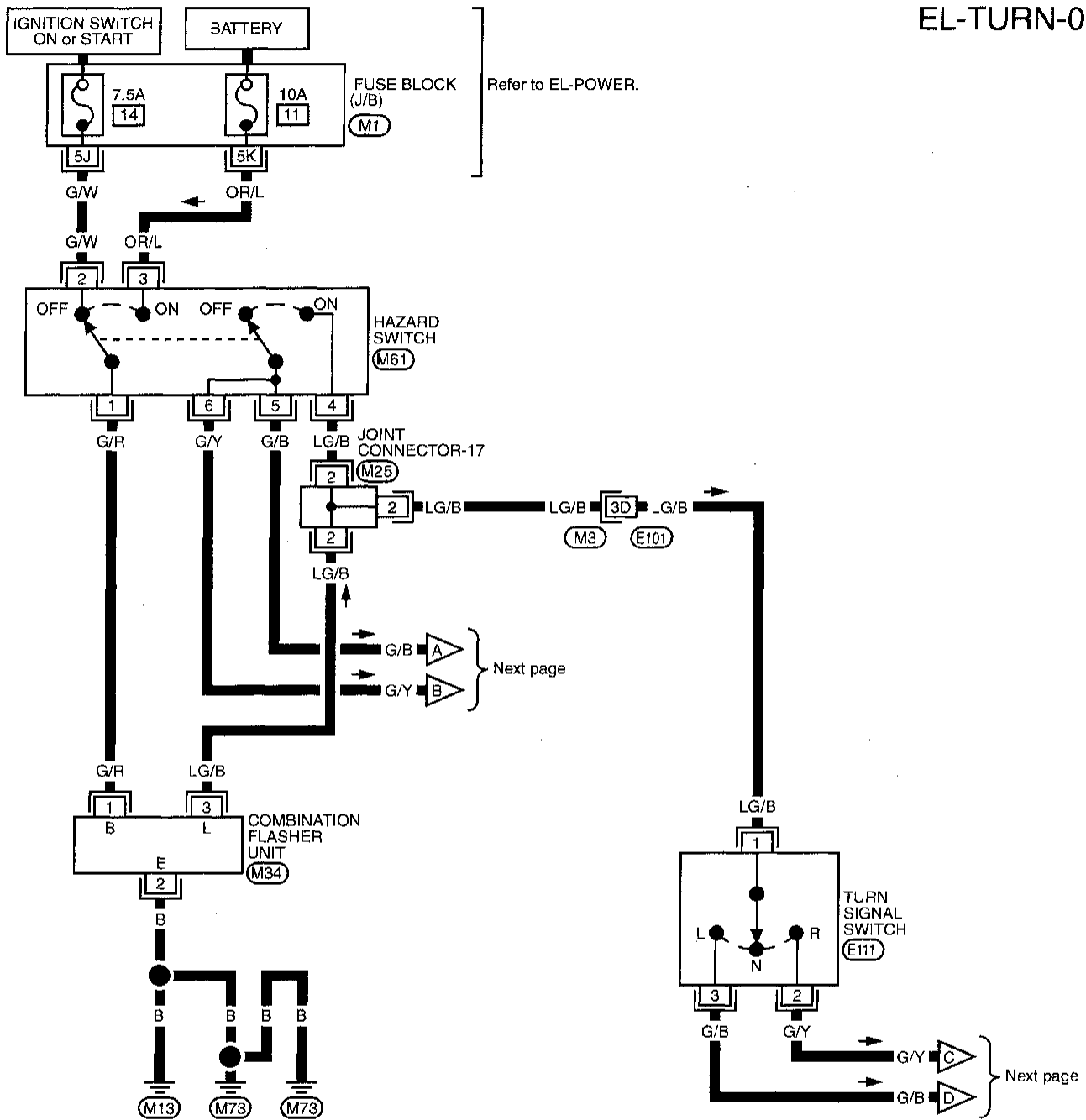
Turn Signal and Hazard Warning Lamps/ Schematic



EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/Wiring Diagram — TURN —

EL-TURN-01



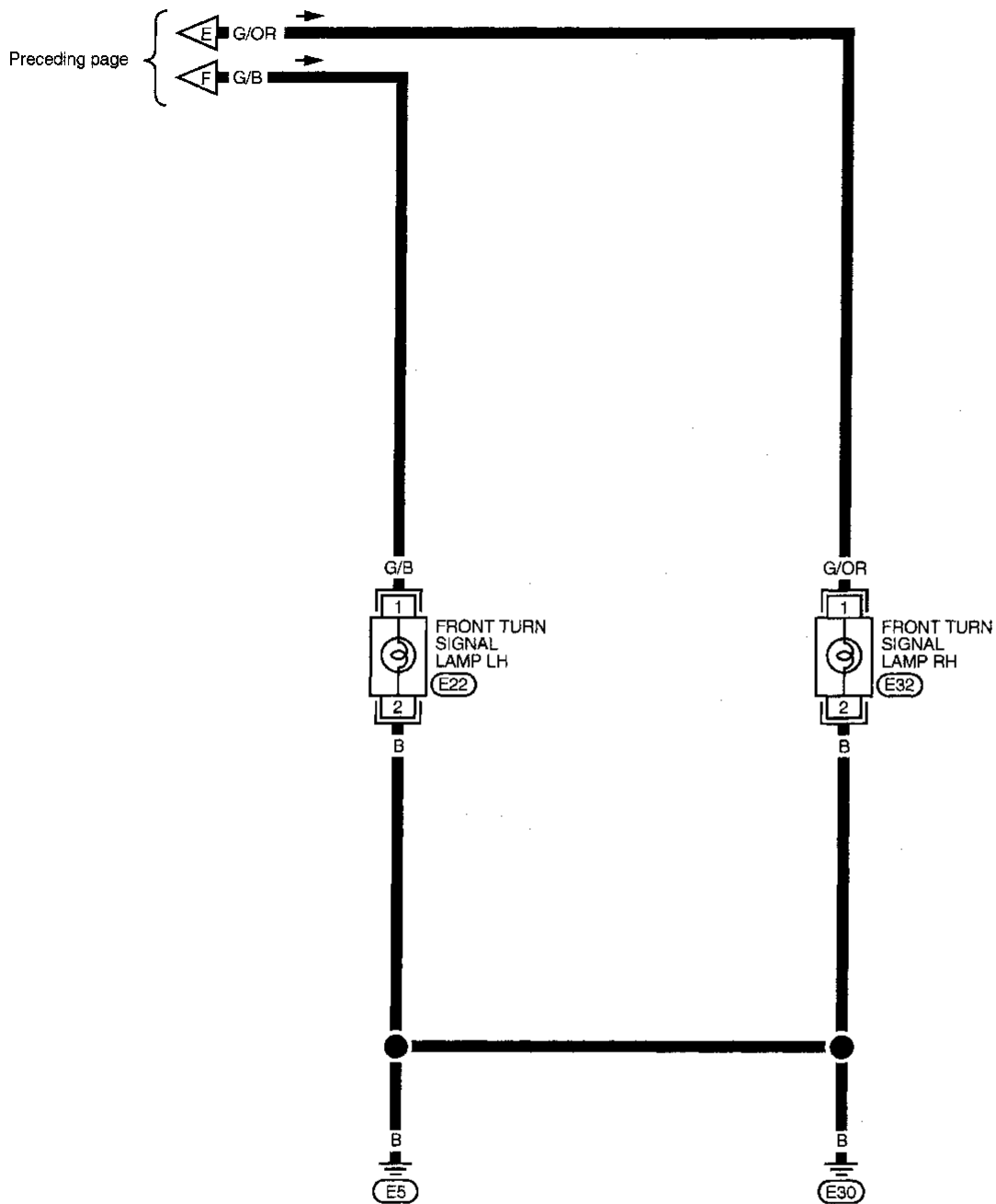
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- (M1)
- (M25)

EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/Wiring Diagram — TURN — (Cont'd)

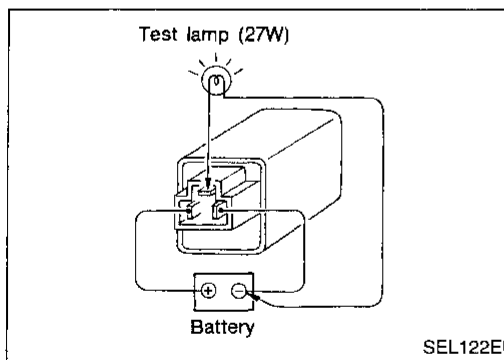
EL-TURN-03



EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/ Trouble Diagnoses

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> 1. Hazard switch 2. Combination flasher unit 3. Open in combination flasher unit circuit 	<ol style="list-style-type: none"> 1. Check hazard switch. 2. Refer to combination flasher unit check. 3. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> 1. 7.5A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit 	<ol style="list-style-type: none"> 1. Check 7.5A fuse (No. 14, located in fuse block). Turn ignition switch ON and verify battery positive voltage is present at terminal ② of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check LG/B wire between combination flasher unit and turn signal switch for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	<ol style="list-style-type: none"> 1. 10A fuse 2. Hazard switch 3. Open in hazard switch circuit 	<ol style="list-style-type: none"> 1. Check 10A fuse (No. 11, located in fuse block). Verify battery positive voltage is present at terminal ③ of hazard switch. 2. Check hazard switch. 3. Check LG/B wire between combination flasher unit and hazard switch for open circuit.
Front turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E5) and (E30) 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E5) and (E30).
Rear turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (T6) and (T9) 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (T6) and (T9).
LH and RH turn indicators do not operate.	<ol style="list-style-type: none"> 1. Ground 	<ol style="list-style-type: none"> 1. Check grounds (M13) and (M73).
LH or RH turn indicator does not operate.	<ol style="list-style-type: none"> 1. Bulb 	<ol style="list-style-type: none"> 1. Check bulb in combination meter.



Combination Flasher Unit Check

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

EXTERIOR LAMP

Bulb Specifications

	Wattage (12 volt)
Headlamp (Semi-sealed beam)	
High/low	65/45 (HB1)
Front turn signal lamp	27
Front combination lamp	
Cornering/Parking	27/8
Front side marker	3.8
Front fog lamp	55 (H3)
Rear combination lamp	
Turn signal	27
Stop/Tail	27/8
Back-up	27
Rear side marker lamp	3.8
License plate lamp	5
High-mounted stop lamp	27

INTERIOR LAMP

Illumination/System Description

Power is supplied at all times

- through 15A fuse (No. 66), located in the fuse and fusible link box
- to lighting switch terminal ①.

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

Power is also supplied at all times

- through 7.5A fuse [No. 40, located in the fuse block (J/B)]
- to vanity mirror illumination terminal ①.

A variable resistor is built in the illumination control switch to control the amount of current to the illumination system.

The ashtray, clock, vanity mirror illumination and the glove box lamp are not controlled by the illumination control switch. The brightness of these lamps does not change.

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

Component	Power terminal	Ground terminal
Combination meter	③⑥	⑤ and ④⑩
Push control unit (Models without auto A/C)	⑮	⑮
Push control unit (Models with auto A/C)	①	④
Illumination control switch	①	② and ③
Audio	⑧	⑦
A/T device	④	③
CD player	⑳	㉒
ASCD main switch	⑤	⑥
Power window switch (Front LH/RH)	⑦/⑭	⑩/⑩
Rear window defogger switch	⑤	⑥
Hazard switch	⑦	⑧
Ashtray	①	②
Glove box lamp	①	②
Clock	②	①
Vanity mirror	①	②

With the exception of the glove box lamp, clock illumination, vanity mirror illumination and the ashtray illumination, the ground for all of the components are controlled through terminals ② and ③ of the illumination control switch and body grounds M13 and M73.

When the glove box is open, glove box lamp terminal ② is grounded through the glove box lamp switch terminal ① and body grounds M13 and M73.

The ashtray illumination terminal ②, clock illumination terminal ① and vanity mirror illumination terminal ② are grounded directly through body grounds M13 and M73.

Vanity mirror will illuminate when cover of the vanity mirror is opened.

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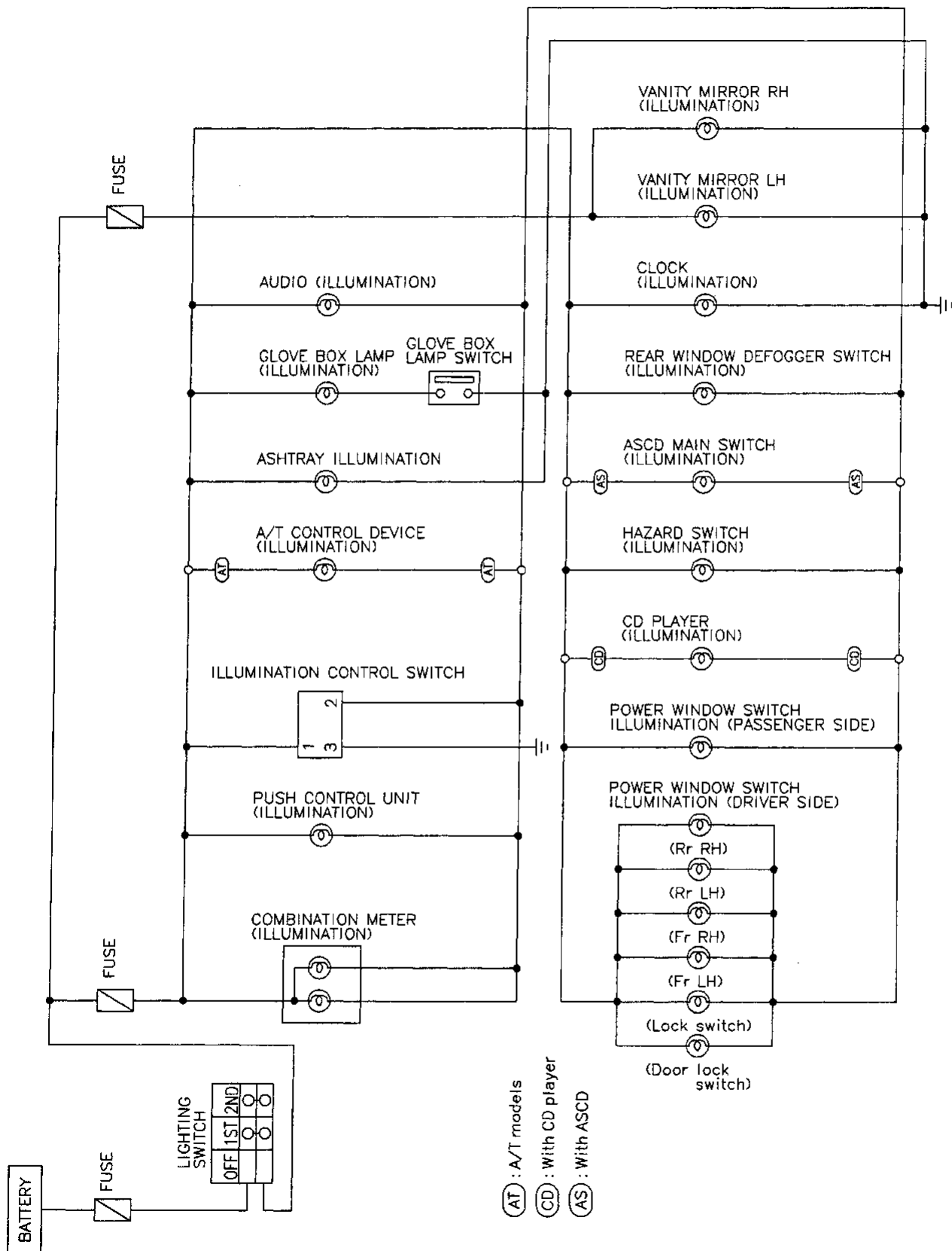
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INTERIOR LAMP

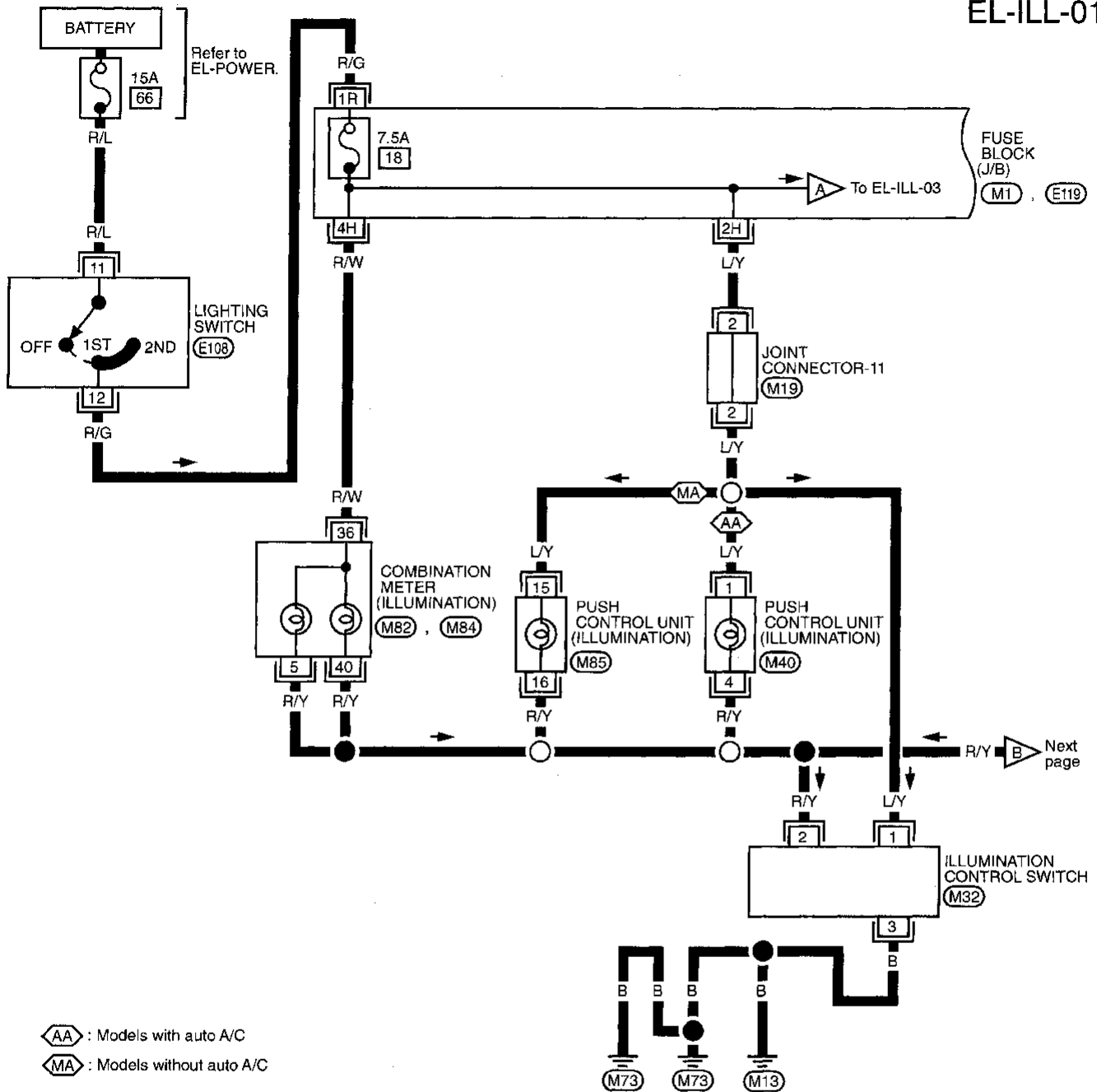
Illumination/Schematic



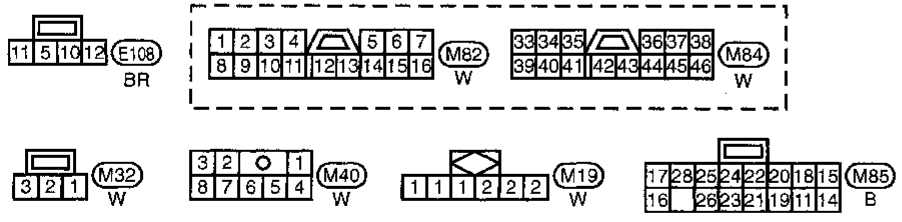
INTERIOR LAMP

Illumination/Wiring Diagram — ILL —

EL-ILL-01



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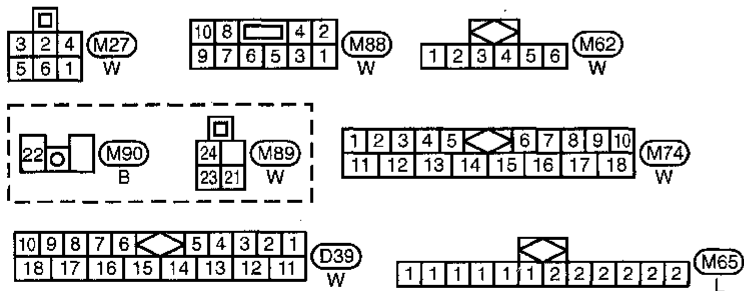
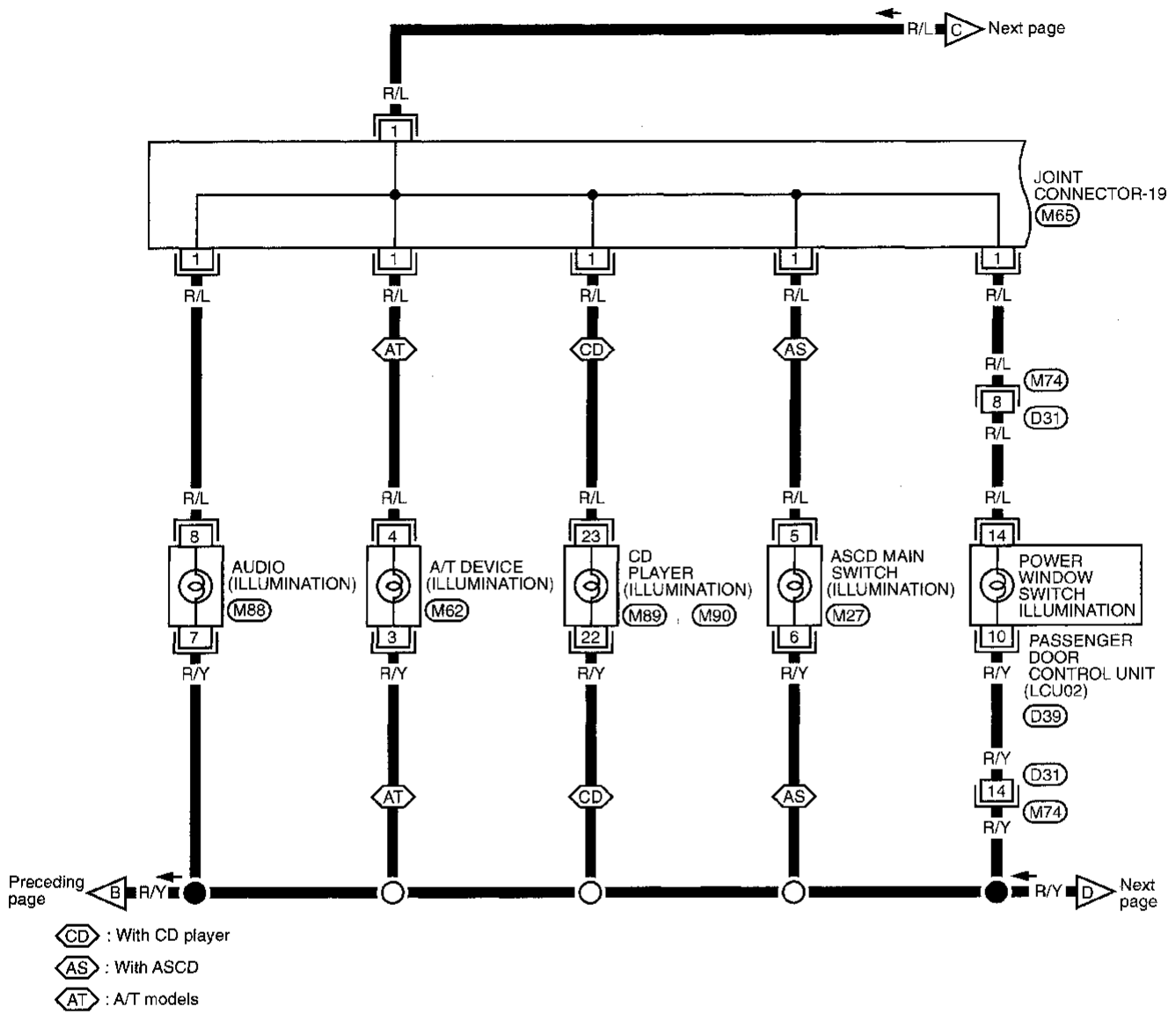
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M1, E119
 M19

INTERIOR LAMP

Illumination/Wiring Diagram — ILL — (Cont'd)

EL-ILL-02



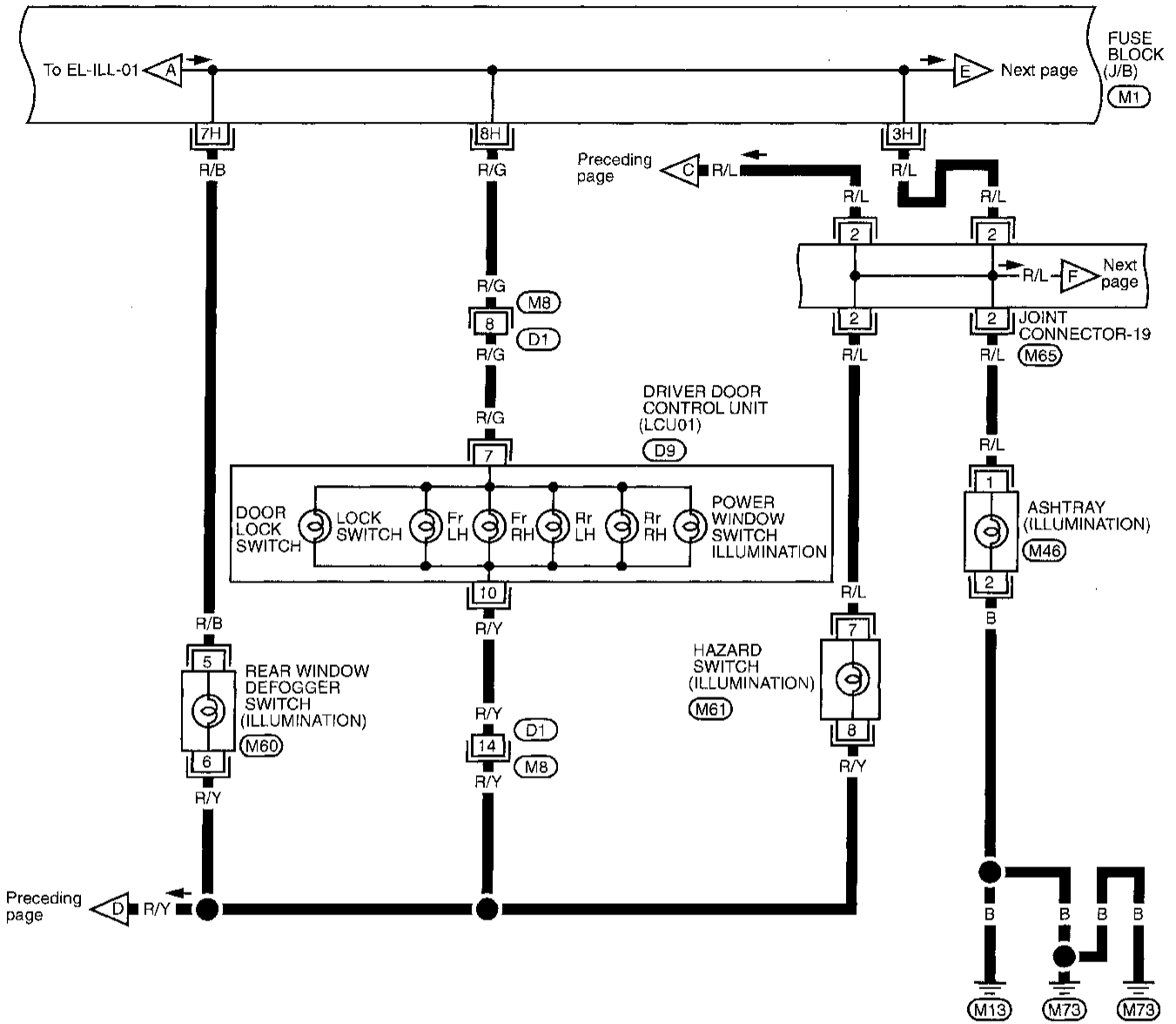
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(M65)

INTERIOR LAMP

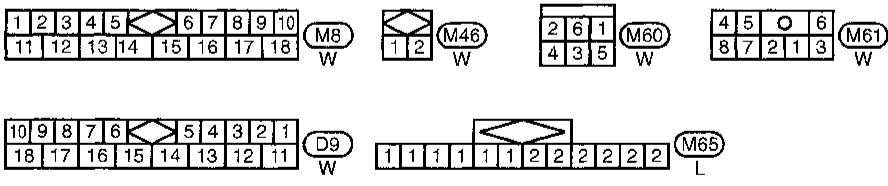
Illumination/Wiring Diagram — ILL — (Cont'd)

EL-ILL-03



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RS

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HA
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IDX



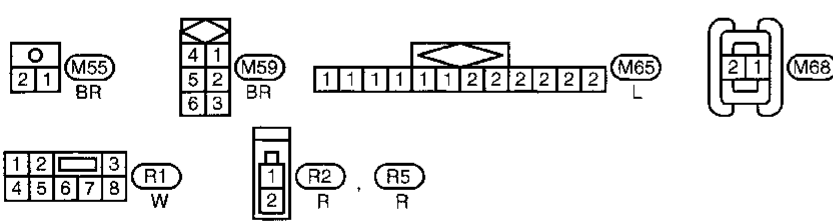
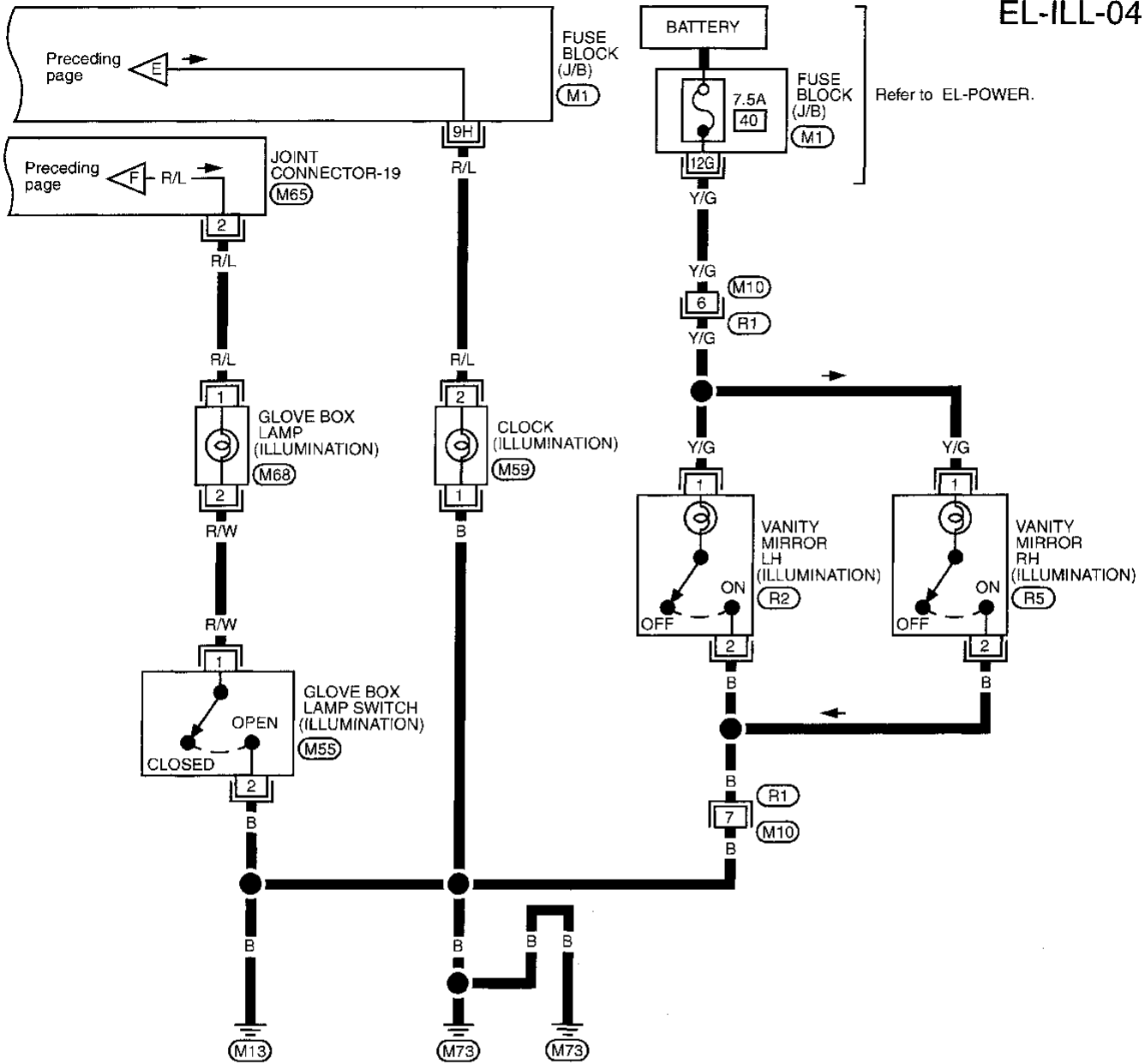
Refer to last page (Foldout page).



INTERIOR LAMP

Illumination/Wiring Diagram — ILL — (Cont'd)

EL-ILL-04



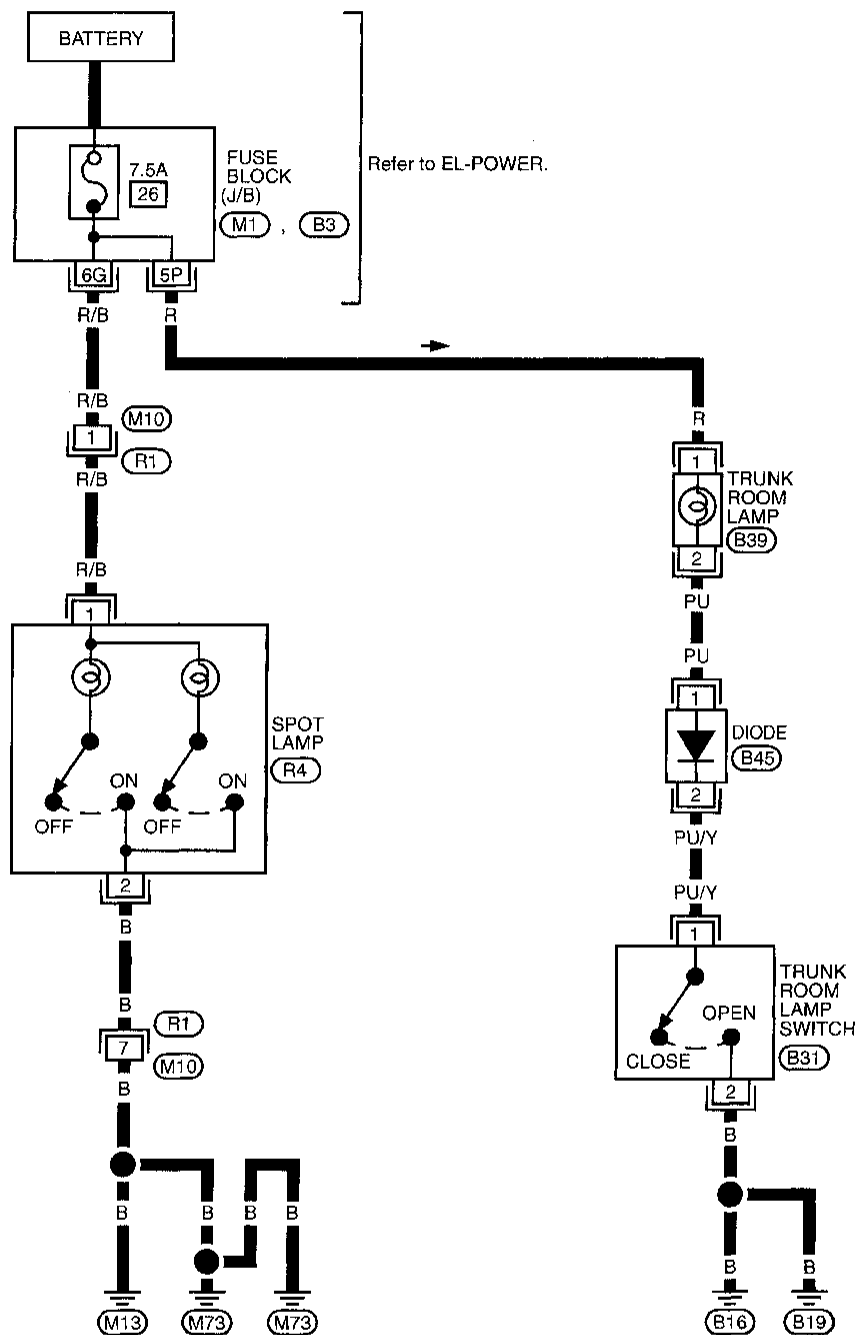
Refer to last page (Foldout page).

- M1
- M65

INTERIOR LAMP

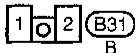
Spot and Trunk Room Lamp/Wiring Diagram — INT/L —

EL-INT/L-01



Refer to EL-POWER.

Refer to last page (Foldout page).



GI

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INTERIOR LAMP

Bulb Specifications

	Wattage (12 volt)
Interior lamp	10
Spot lamp	10
Step lamp	3.4
Trunk room lamp	3.4

System Description

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

- through 10A fuse [No. 13], located in the fuse block (J/B)
- to combination meter terminal 41.

Ground is supplied

- to combination meter terminal 31, 10 and 38
- through body grounds M13 and M73.

FUEL GAUGE

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 13 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 B16 and B19.

WATER TEMPERATURE GAUGE

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

TACHOMETER

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

The tachometer is regulated by a signal

- from terminal 5 of the ECM (ECCS control module)
- to combination meter terminal 17 for the tachometer.

SPEEDOMETER

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

The voltage is supplied

- to combination meter terminals 28 and 11 for the speedometer
- from terminals 1 and 2 of the vehicle speed sensor.

The speedometer converts the voltage into the vehicle speed displayed.

GI

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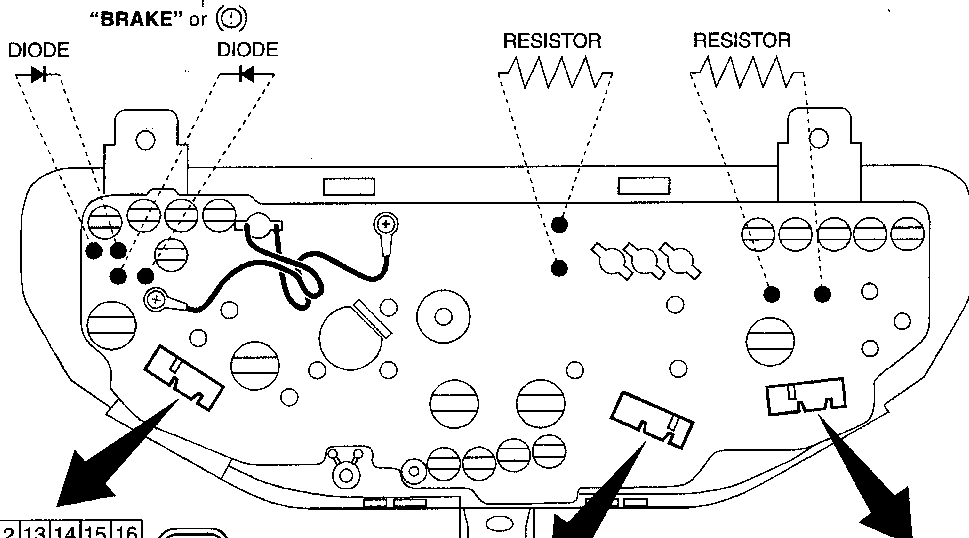
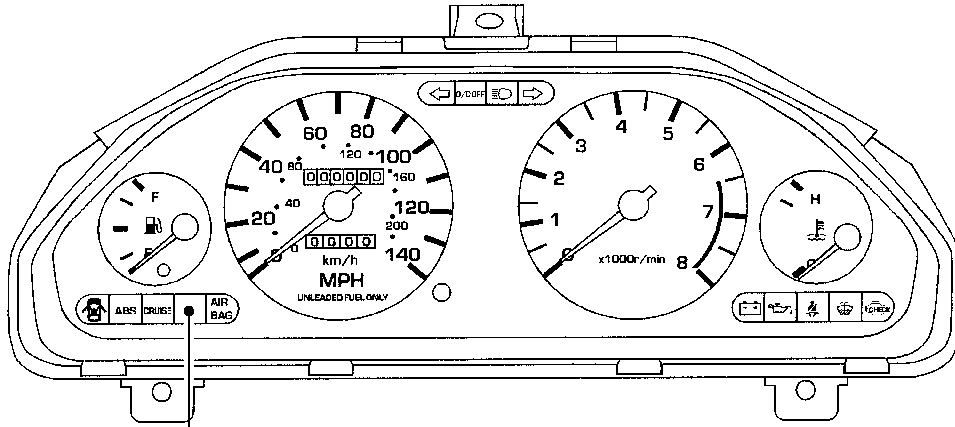
HA

EL

IDX

METERS AND GAUGES

Combination Meter



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

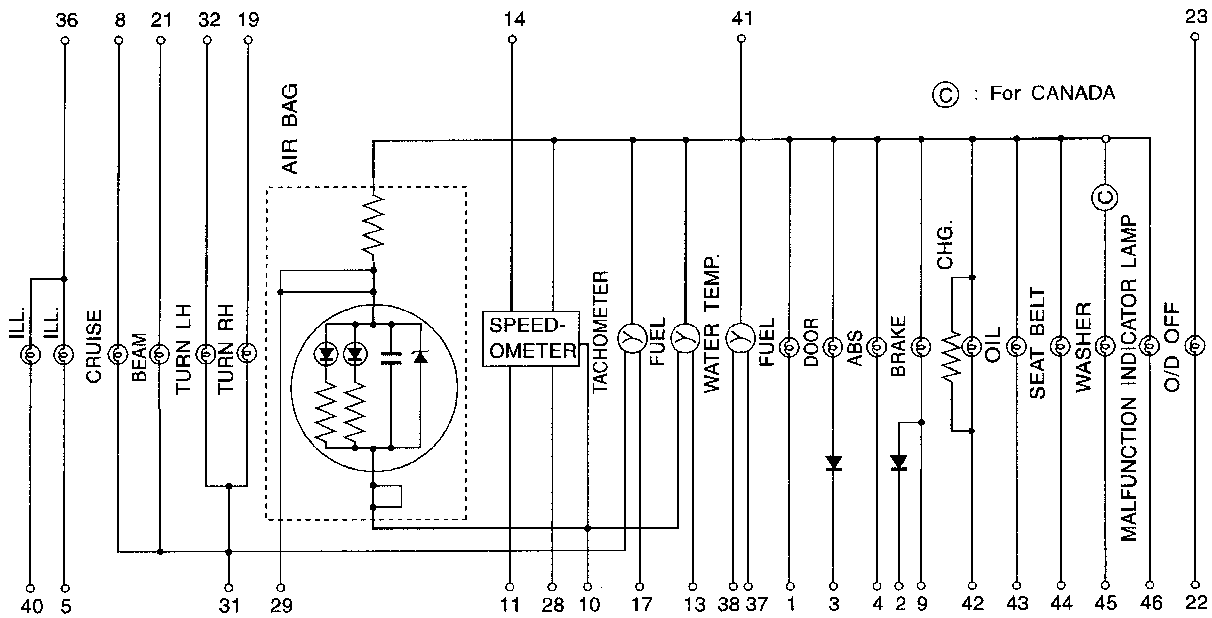
(M82)

24	25	26	27	28	29	30	31	32
17	18	19	20	21	22	23		

(M83)

39	40	41	42	43	44	45	46
33	34	35	36	37	38		

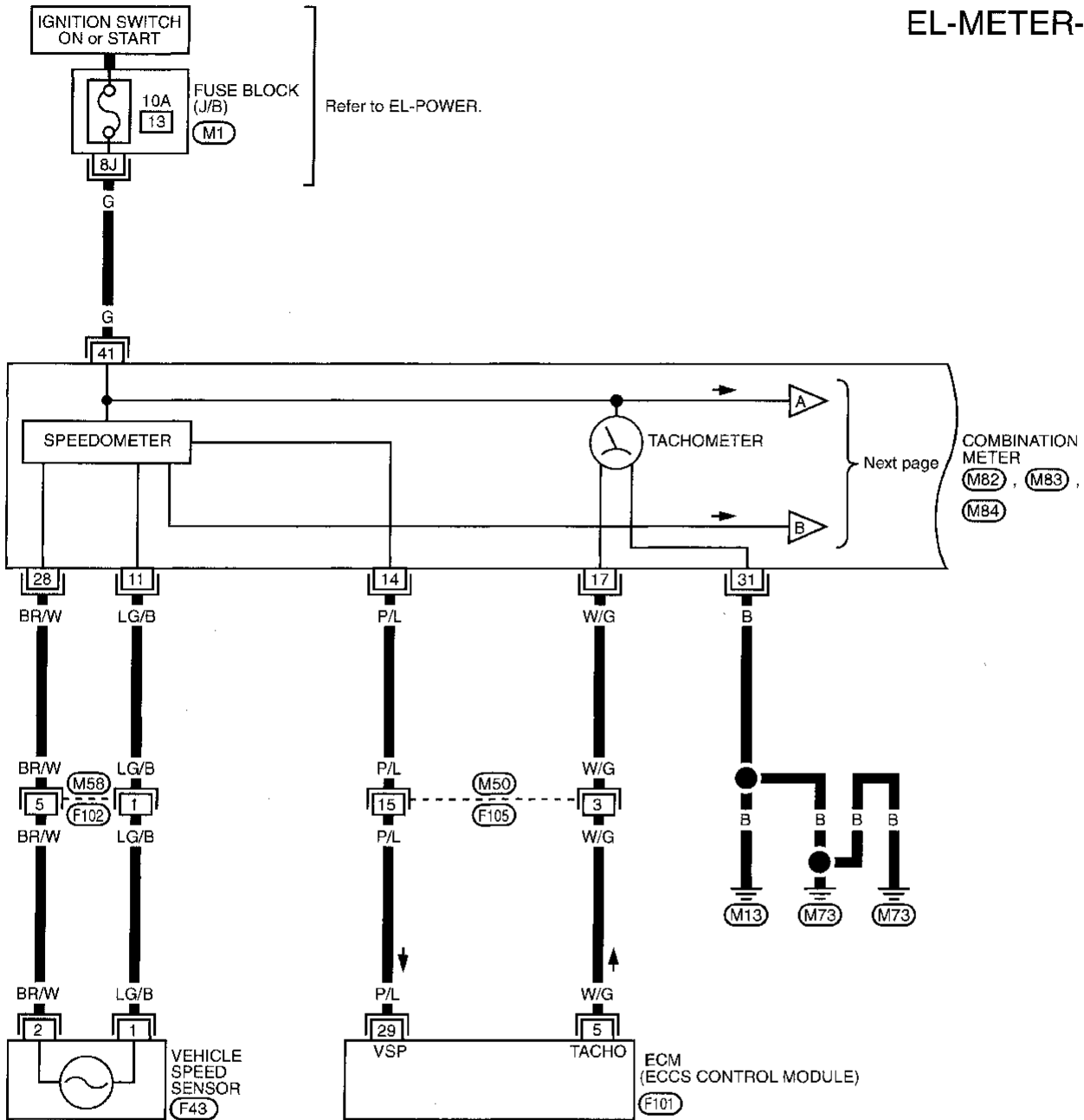
(M84)



METERS AND GAUGES

Speedometer, Tachometer, Temp. and Fuel Gauges/Wiring Diagram — METER —

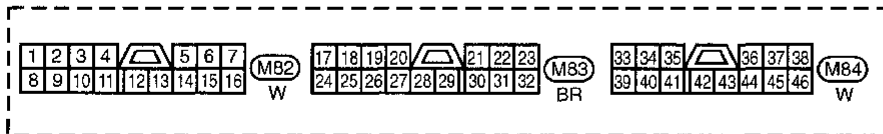
EL-METER-01



GI
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Refer to last page (Foldout page).

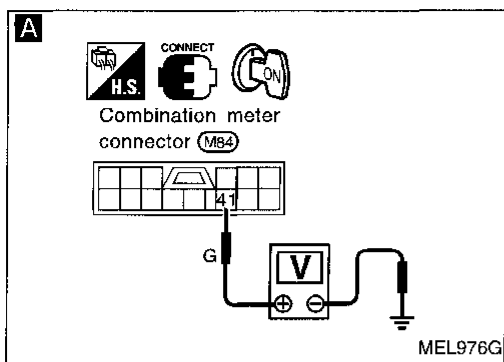
(M1)
(F101)



HA
EL
IDX

Trouble Diagnoses

INSPECTION/FUEL GAUGE AND/OR WATER TEMPERATURE GAUGE



A

CHECK POWER SUPPLY CIRCUIT.

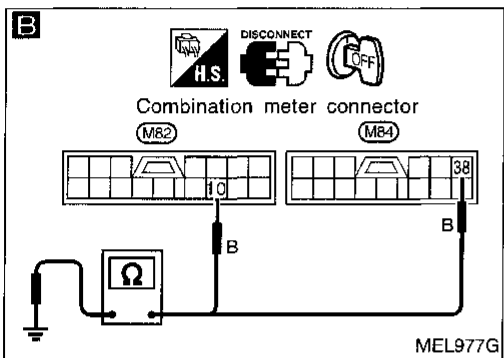
- 1) Turn ignition switch "ON".
- 2) Check voltage between combination meter terminal (41) and ground.

Battery voltage should exist.

NG

Check the following.

- 10A fuse [No. 13], located in the fuse block (J/B)]
- Harness for open or short between fuse and combination meter



B

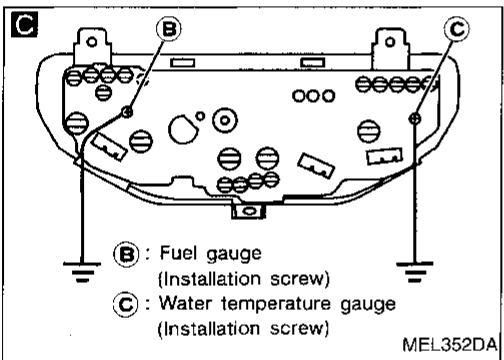
CHECK GROUND CIRCUIT FOR GAUGES.

Check continuity between combination meter terminals (10) (Fuel), (38) (Temp.) and ground.

Continuity should exist.

NG

Repair harness or connector.



C

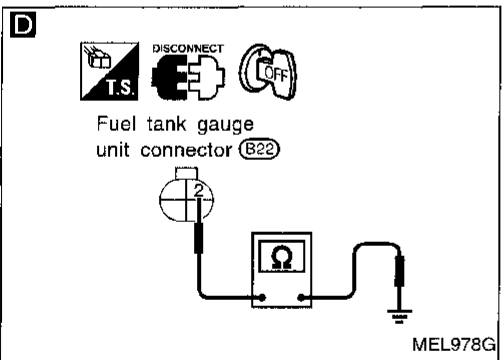
CHECK GAUGE OPERATION.

- 1) Turn ignition switch "ON".
- 2) Connect terminals (B) (Fuel), (C) (Temp.) and ground with wire for **less than 10 seconds.**
- 3) Check operation of gauge.

Gauge should move smoothly to full scale.

NG

Repair or replace gauge.



D

CHECK GROUND CIRCUIT FOR FUEL TANK GAUGE UNIT.

Check harness continuity between fuel tank gauge unit terminal (2) and ground.

Continuity should exist.

NG

Repair harness or connector.

CHECK COMPONENT.

Check gauge units.

Refer to "Fuel Tank Gauge Unit Check" (EL-86) or "Thermal Transmitter Check" (EL-86).

NG

Repair or replace.

Refer to FE section. (Fuel gauge)

OK

(Go to **A** on next page.)

GI

MA

EM

LC

EC

FE

CL

MT

AT

FA

RA

BR

ST

RS

BT

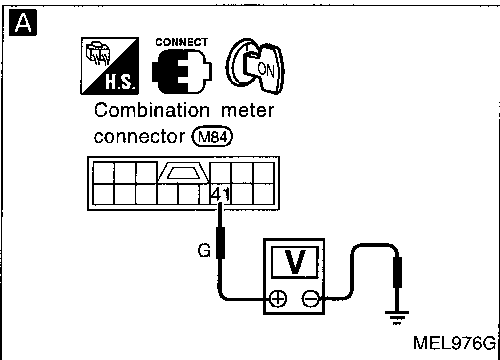
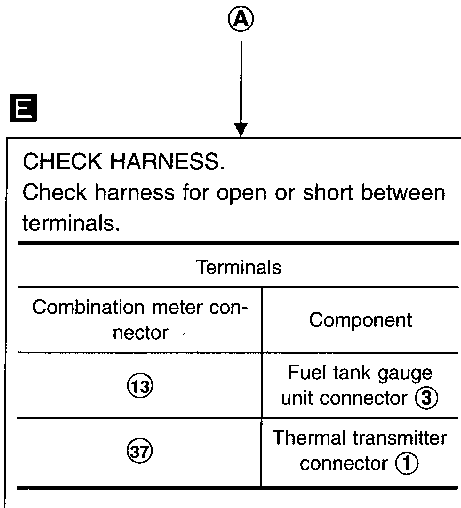
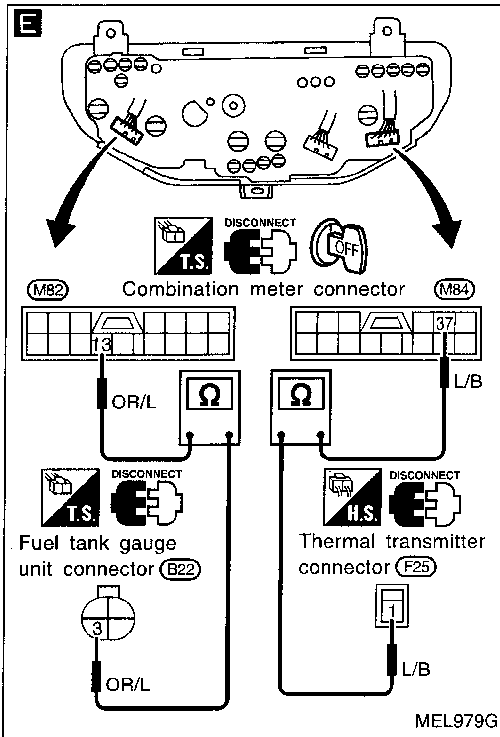
HA

EL

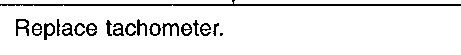
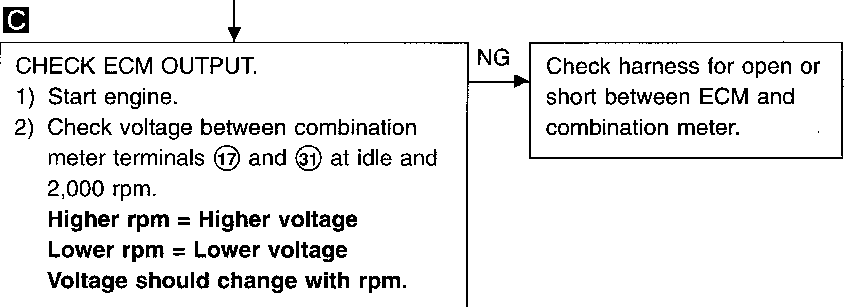
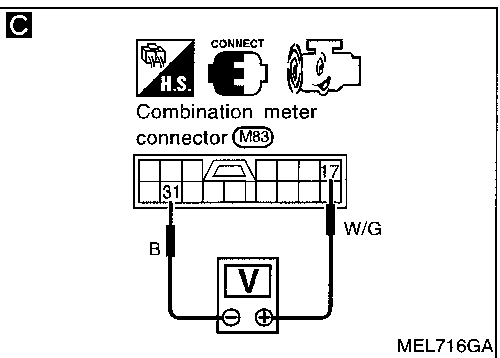
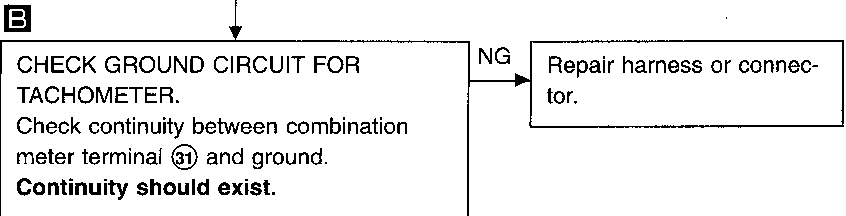
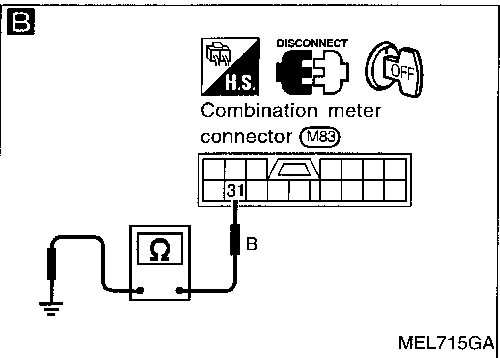
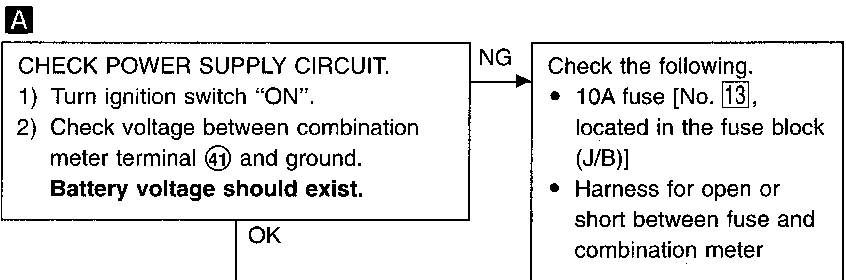
IDX

METERS AND GAUGES

Trouble Diagnoses (Cont'd)



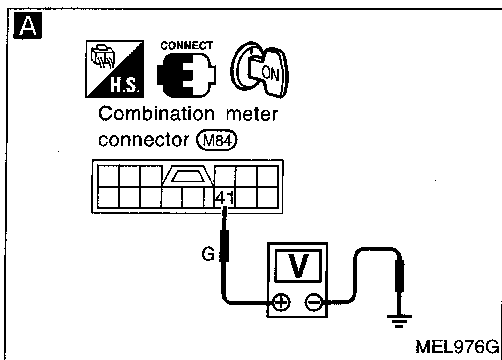
INSPECTION/TACHOMETER



METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/SPEEDOMETER AND VEHICLE SPEED SENSOR



A

CHECK POWER SUPPLY CIRCUIT.

- 1) Turn ignition switch "ON".
- 2) Check voltage between combination meter terminal (41) and ground.

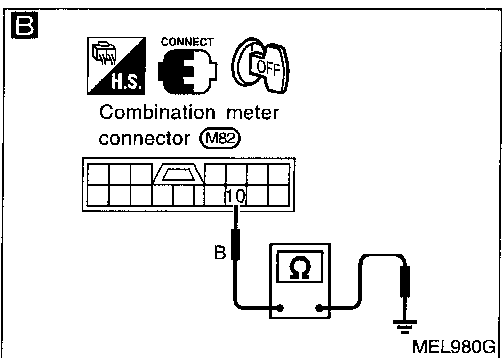
Battery voltage should exist.

NG

Check the following.

- 10A fuse [No. 13], located in the fuse block (J/B)]
- Harness for open or short between fuse and combination meter

GI
MA
EM



B

CHECK GROUND CIRCUIT FOR SPEEDOMETER.

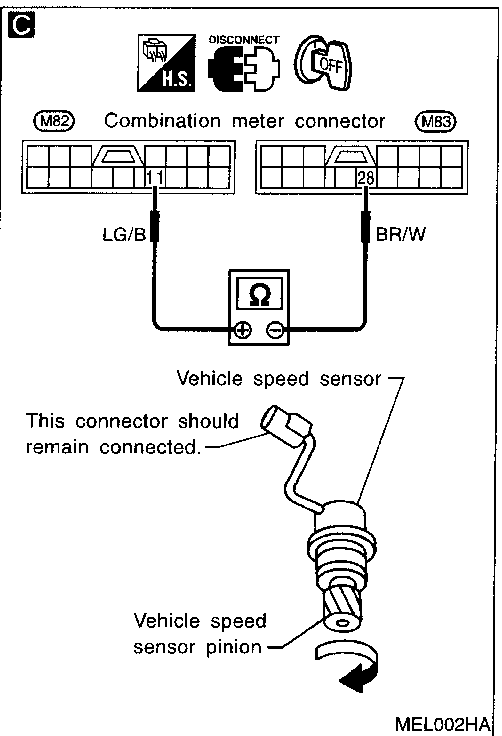
Check continuity between combination meter terminal (10) and ground.

Continuity should exist.

NG

Repair harness or connector.

LC
EC



C

CHECK VEHICLE SPEED SENSOR OUTPUT.

- 1) Remove vehicle speed sensor from transaxle.
- 2) Check voltage between combination meter terminals (11) and (28) while quickly turning speed sensor pinion.

Voltage: Approx. 0.5V

OK

Replace speedometer.

FE
CL

D

CHECK VEHICLE SPEED SENSOR.

Check resistance between vehicle speed sensor terminals (1) and (2).

Resistance: Approx. 250Ω

NG

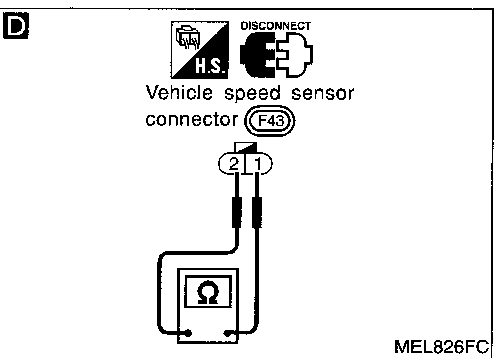
Replace vehicle speed sensor.

MT
AT

Check harness or connector between speedometer and vehicle speed sensor.

FA
RA

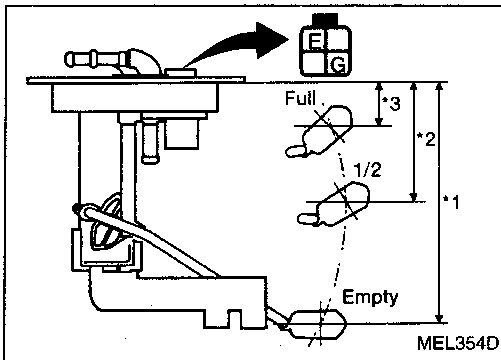
BR
ST



RS
BT

HA
EL

IDX



Fuel Tank Gauge Unit Check

- For removal, refer to FE section "FUEL SYSTEM".
- Check the resistance between terminals **G** and **E**.

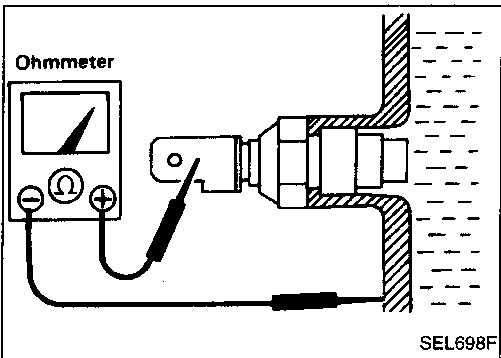
Ohmmeter		Float position		Resistance value
(+)	(-)	mm (in)		(Ω)
G	E	*3	Full	32 (1.26)
		*2	1/2	93 (3.66)
		*1	Empty	157 (6.18)

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

Thermal Transmitter Check

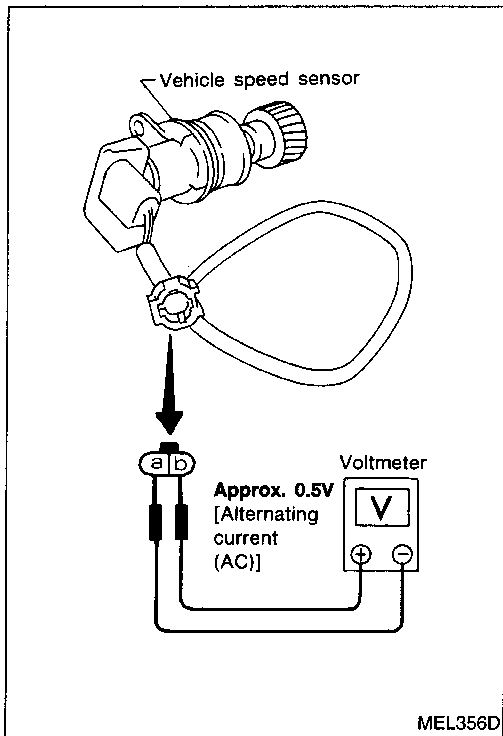
Check the resistance between the terminals of thermal transmitter and body ground.

Water temperature	Resistance
60°C (140°F)	Approx. 70 - 90 Ω
100°C (212°F)	Approx. 21 - 24 Ω



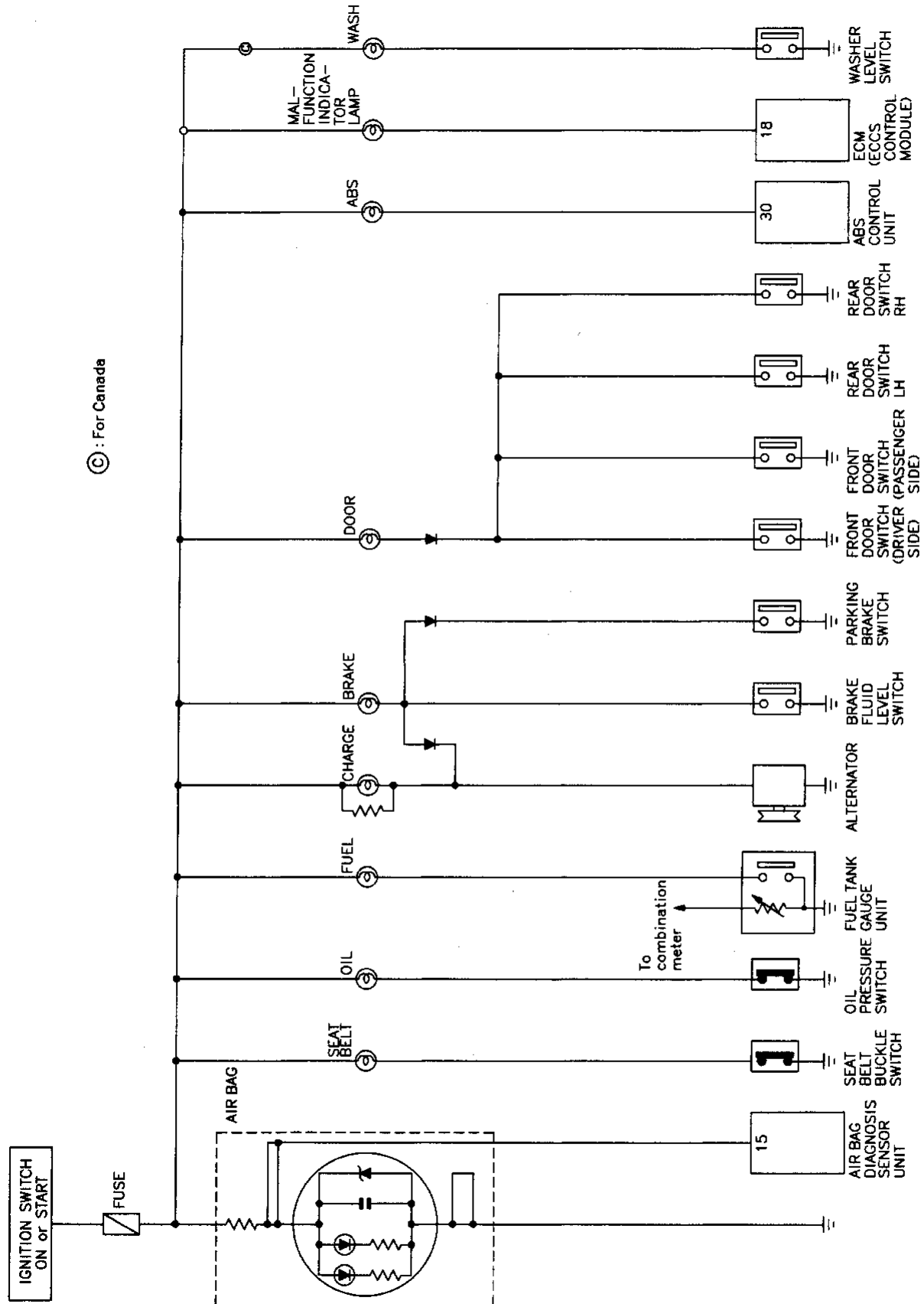
Vehicle Speed Sensor Signal Check

- Remove vehicle speed sensor from transmission.
- Turn vehicle speed sensor pinion quickly with fingers and measure voltage across **(a)** and **(b)**.



WARNING LAMPS

Schematic



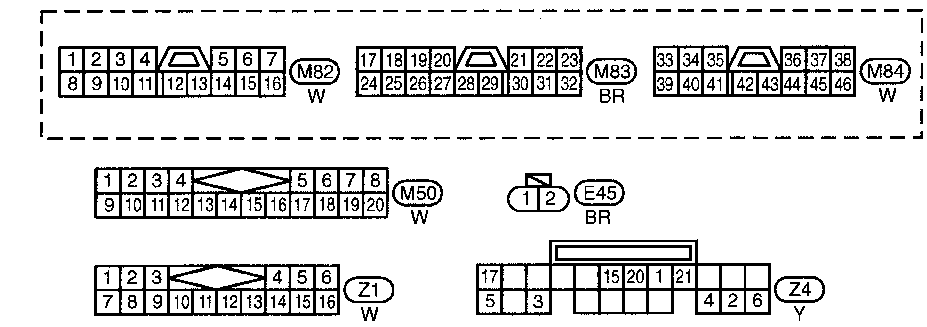
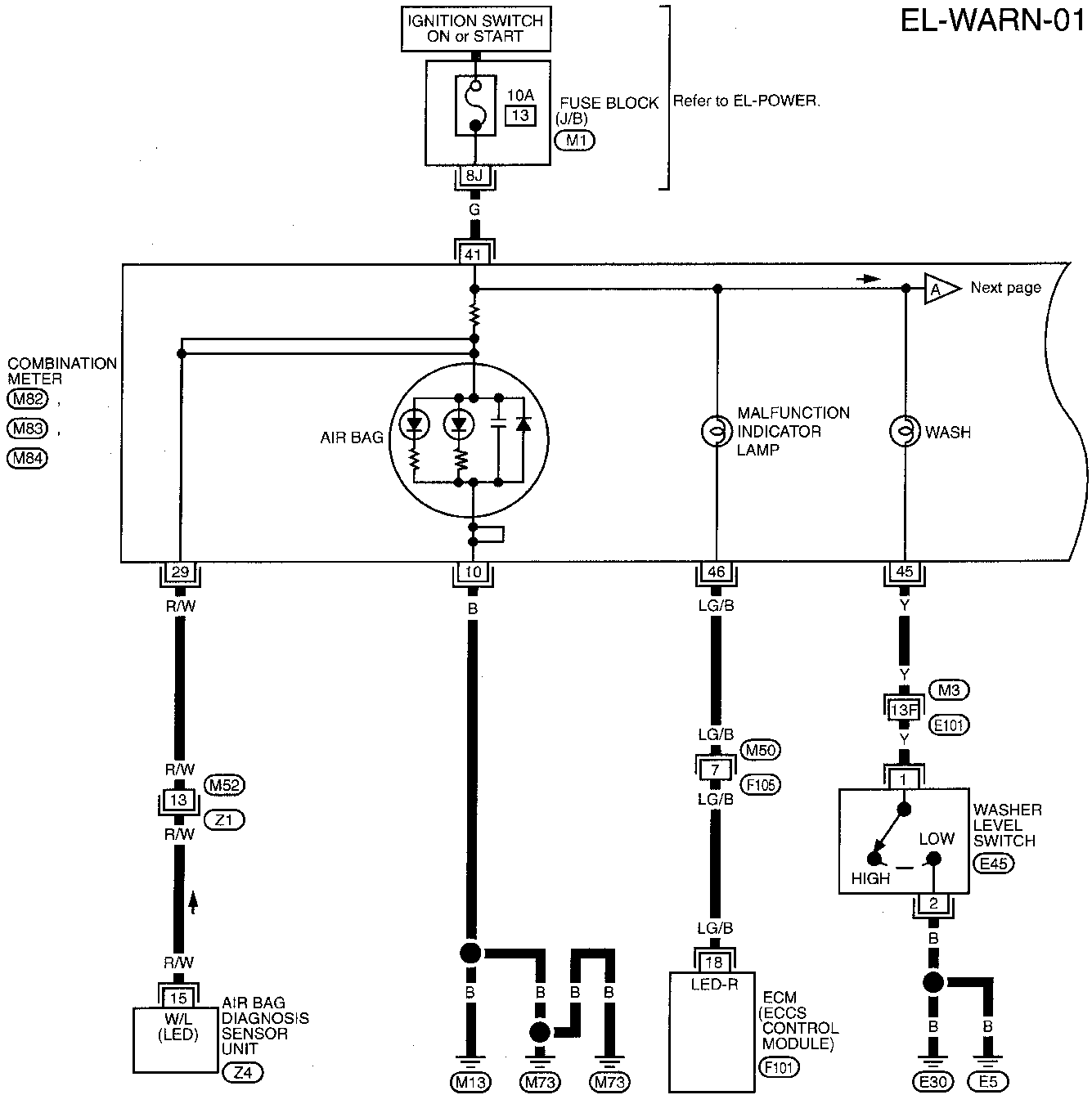
© : For Canada

- GI
- MA
- EM
- LC
- EC
- FE
- CL
- MT
- AT
- FA
- RA
- BR
- ST
- RS
- BT
- HA
- EL**
- IDX

WARNING LAMPS

Wiring Diagram — WARN —

EL-WARN-01

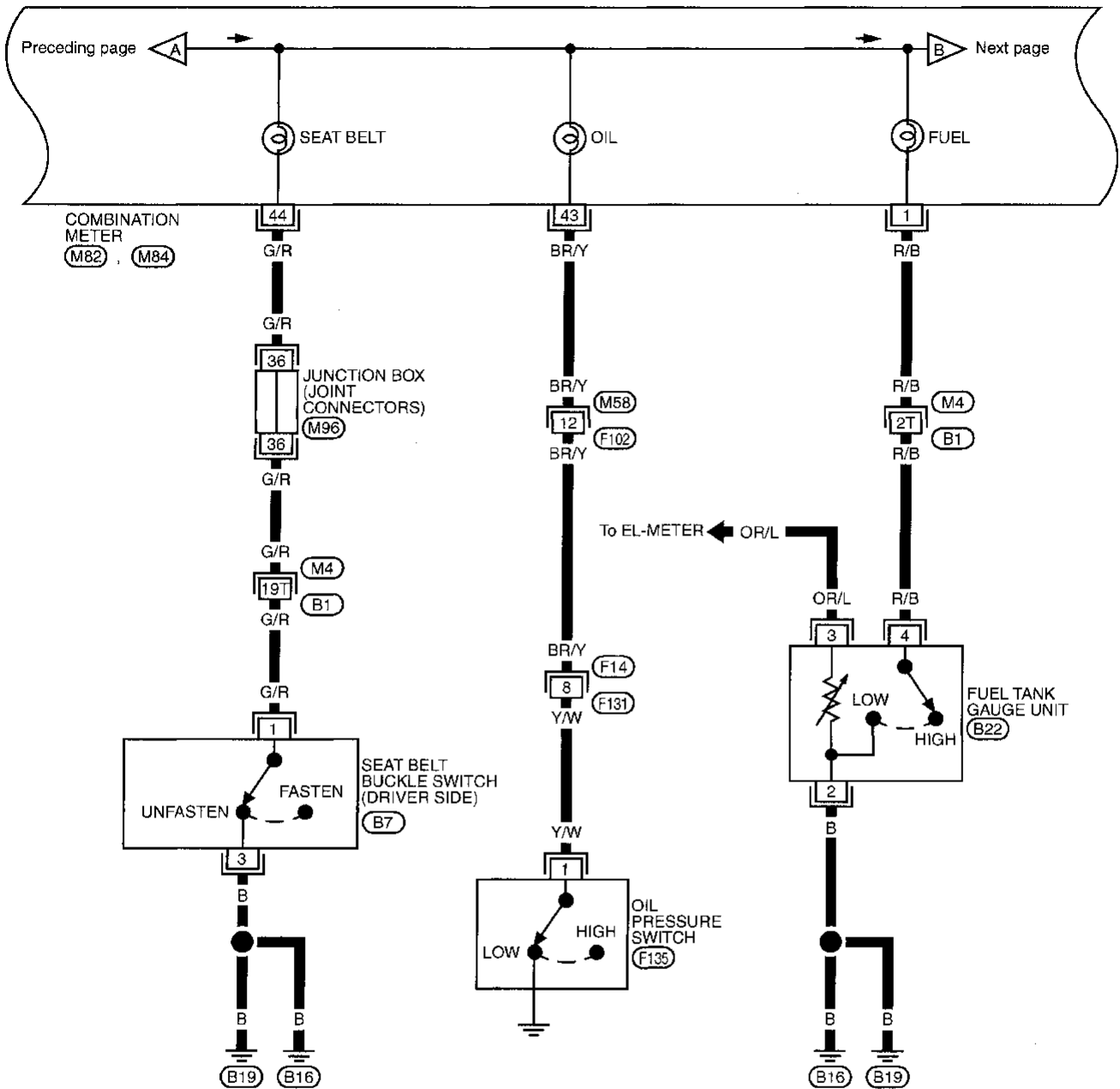


Refer to last page (Foldout page).
 (M3), (E101)
 (M1)
 (F101)

WARNING LAMPS

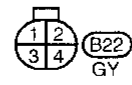
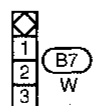
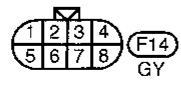
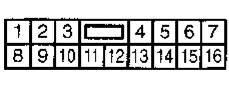
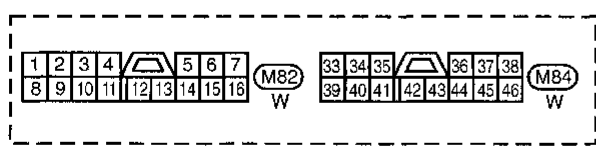
Wiring Diagram — WARN — (Cont'd)

EL-WARN-02



GI
MA
EM
LC
EC
FE
CL
MT
AT
FA
RA
BR
ST
RS

Refer to last page (Foldout page).



M4, B1
M96

BT
HA

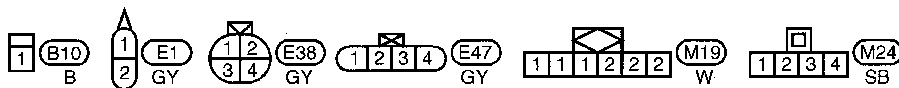
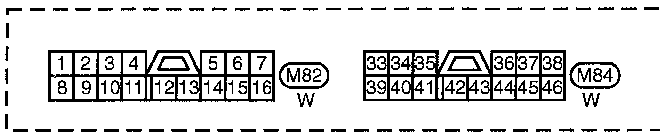
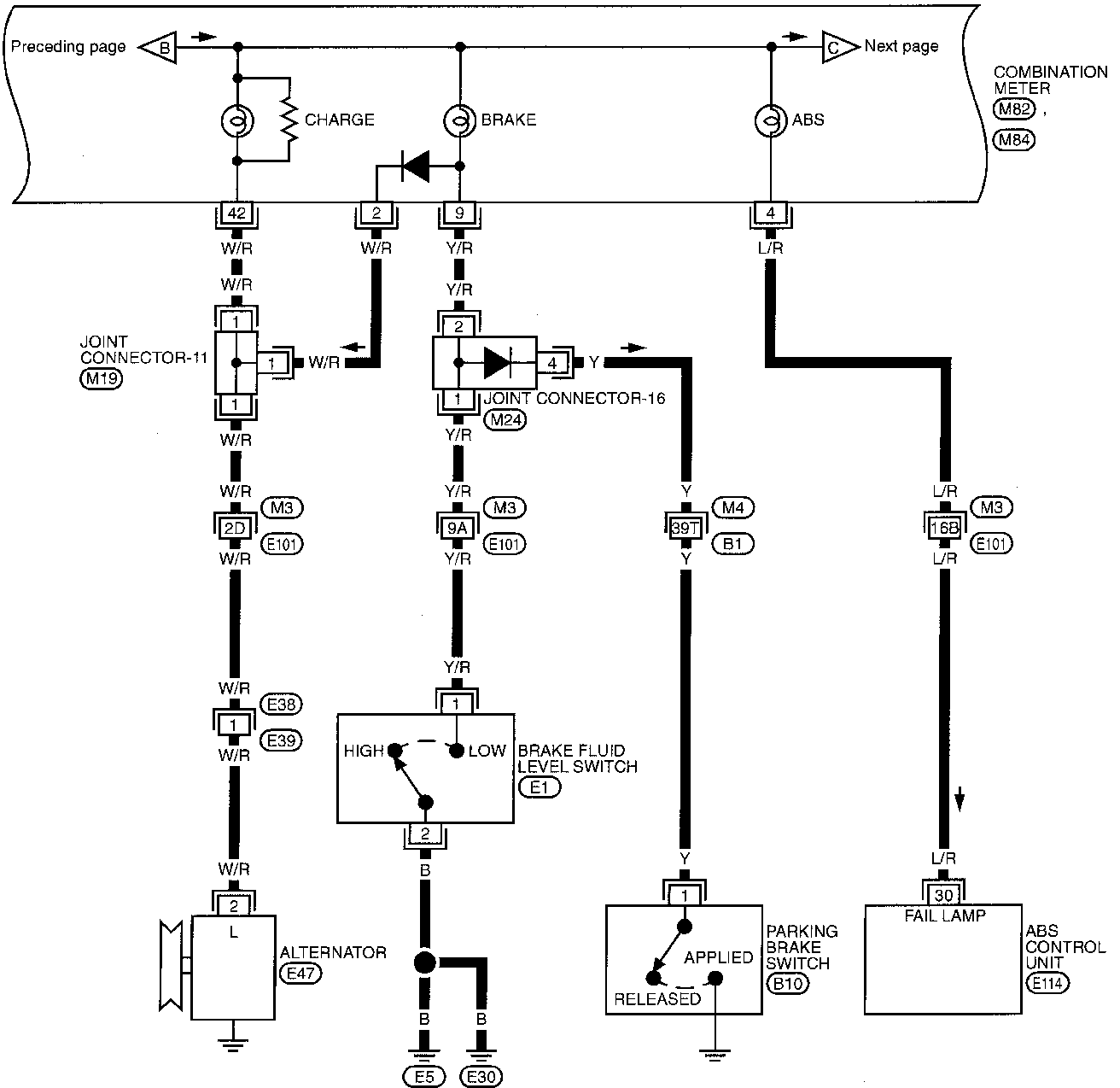
EL

IDX

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



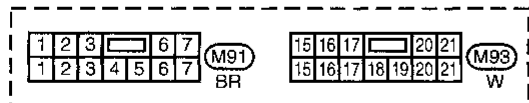
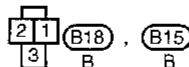
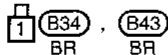
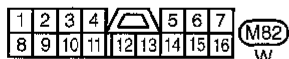
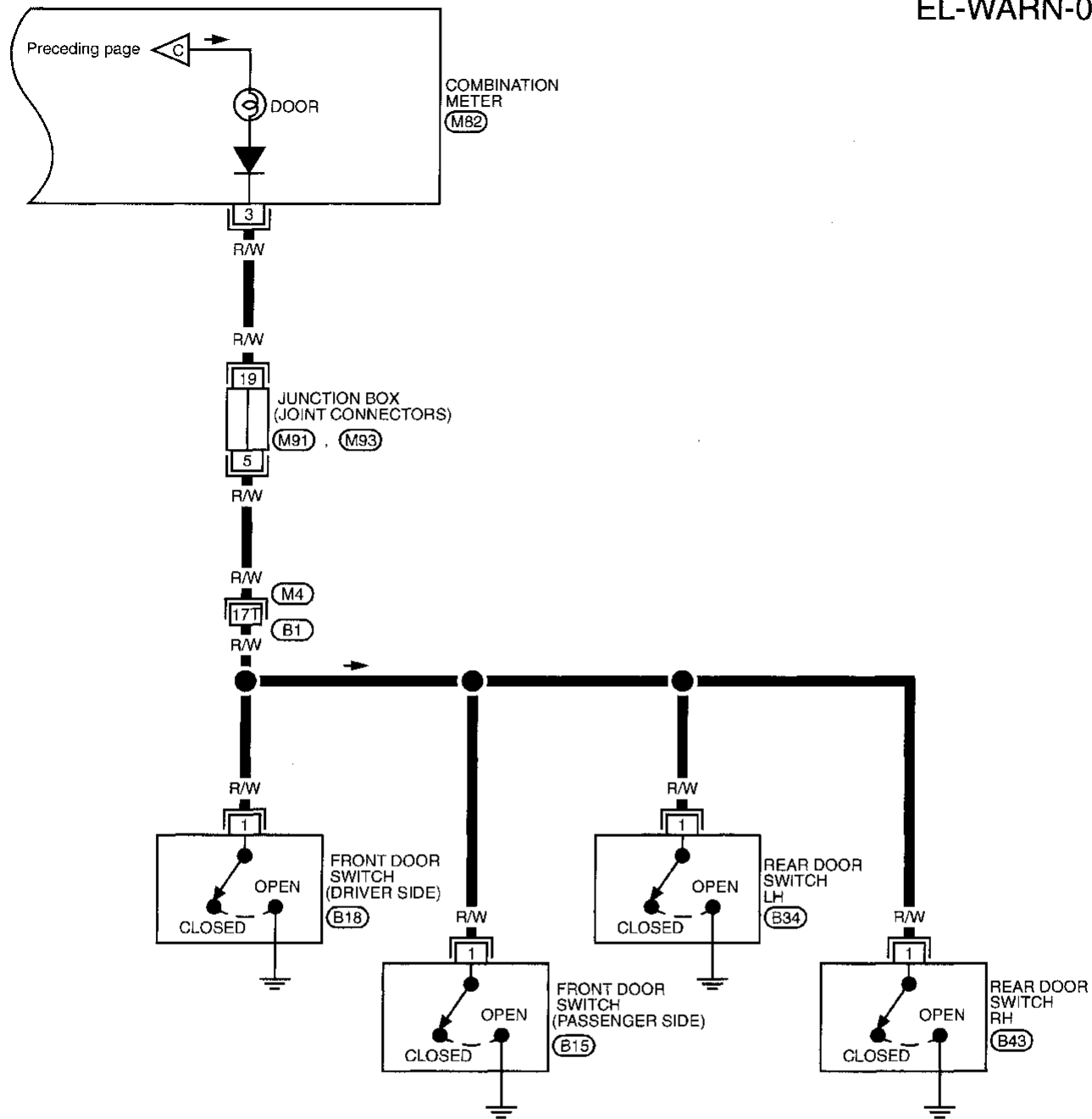
Refer to last page (Foldout page).

- (M3), (E101)
- (M4), (B1)
- (E114)
- (M19)
- (M24)

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-04



Refer to last page (Foldout page).

(M4), (B1)

(M91)

(M93)

GI

MA

EM

LC

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BR

ST

RS

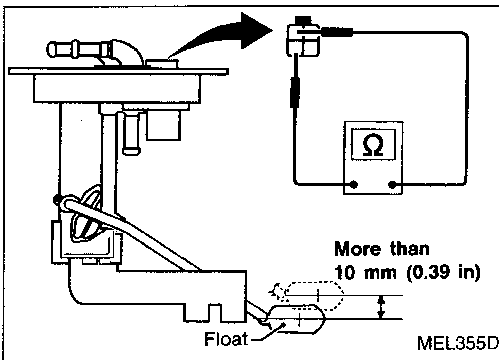
BT

HA

EL

IDX

WARNING LAMPS

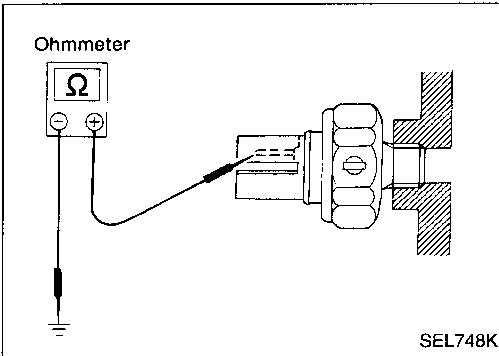


Fuel Warning Lamp Sensor Check

- Raise the float with fingers more than the distance shown in the figure at left. Make sure that continuity does not exist.

CAUTION:

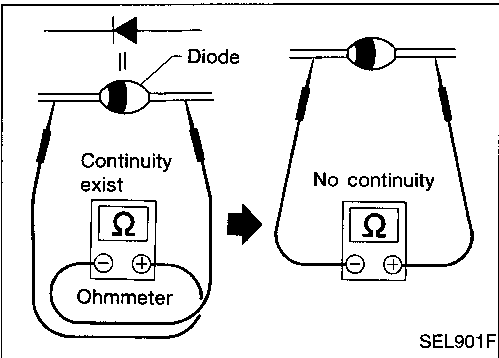
Do not move the float beyond its mobile range.



Oil Pressure Switch Check

	Oil pressure kPa (kg/cm ² , 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

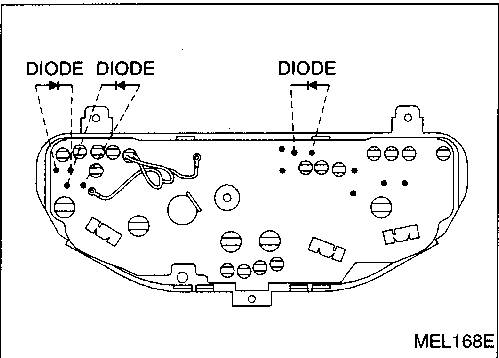
Check the continuity between the terminals of oil pressure switch and body ground.



Diode Check

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

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



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

Refer to "Combination Meter" (EL-80).

System Description

The warning buzzer is controlled by the BCM.

Power is supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B)]
- to warning buzzer terminal ①
- to key switch terminal ①.

GI

Power is supplied at all times

- through 15A fuse (No. 66), located in the fuse and fusible link box)
- to lighting switch terminal ⑪.

MA

Power is supplied at all times

- through 7.5A fuse (No. 56), located in the fuse and fusible link box)
- to BCM terminal ①.

EM

With 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 BCM terminal ⑲.

LC

Ground is supplied to BCM terminal ③ through body grounds (M13) and (M73).

When a signal, or combination of signals, is received by the BCM, ground is supplied

- through BCM terminal ⑰
- to warning buzzer terminal ③.

EC

With power and ground supplied, the warning buzzer will sound.

FE

Ignition key warning buzzer

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

CL

- from key switch terminal ②
- to BCM terminal ⑳.

MT

Ground is supplied

- from front door switch LH terminal ②
- to BCM terminal ⑲.

AT

Front door switch LH terminal ③ is grounded through body grounds (B16) and (B19).

Light warning buzzer

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

FA

- from lighting switch terminal ⑫
- through 7.5A fuse [No. 5], located in the fuse block (J/B)]
- to BCM terminal ⑳.

RA

Ground is supplied

- from front door switch LH terminal ②
- to BCM terminal ⑲.

BR

Front door switch LH terminal ③ is grounded through body grounds (B16) and (B19).

Seat belt warning buzzer

ST

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

Ground is supplied

RS

- from seat belt switch terminal ①
- to BCM terminal ⑧.

BT

Seat belt switch terminal ③ is grounded through body grounds (B16) and (B19).

HA

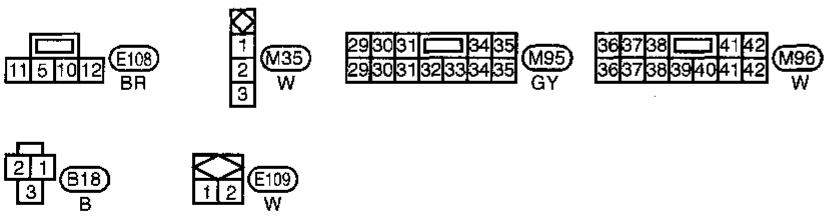
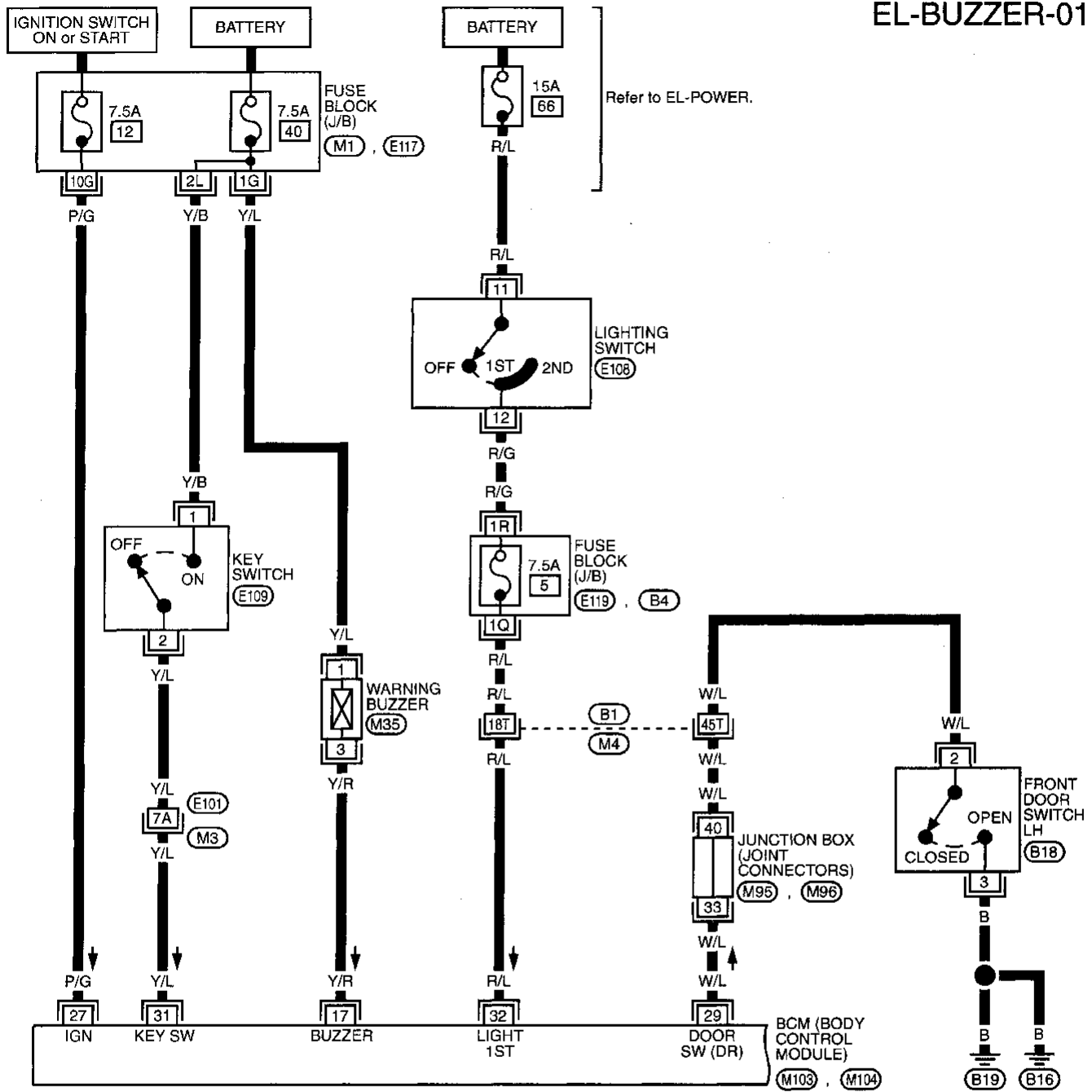
EL

IDX

WARNING BUZZER

Wiring Diagram — BUZZER —

EL-BUZZER-01



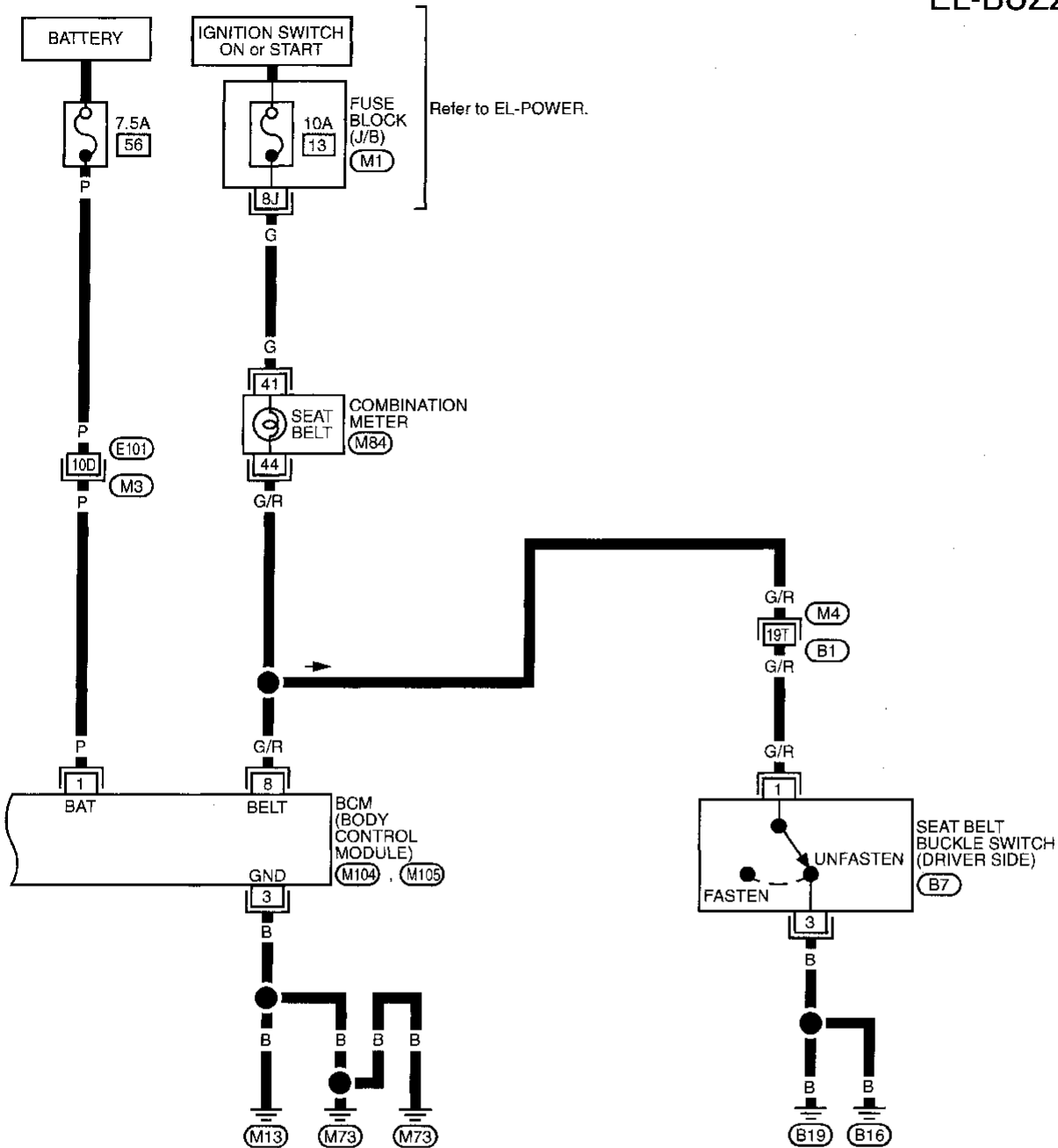
Refer to last page (Foldout page).

- (M4) , (B1)
- (M3) , (E101)
- (M1)
- (B4)
- (E117)
- (E119)
- (M103)
- (M104)
- (M95)
- (M96)

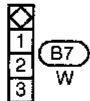
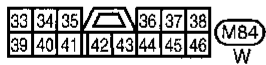
WARNING BUZZER

Wiring Diagram — BUZZER — (Cont'd)

EL-BUZZER-02



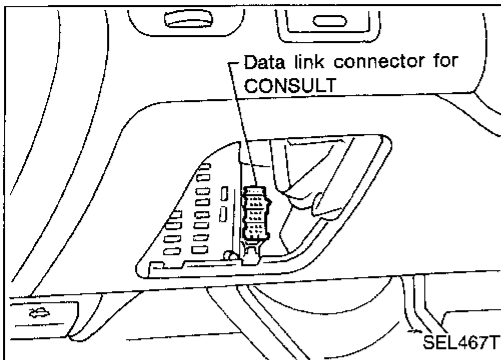
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Refer to last page (Foldout page).

- (M4) (B1)
- (E101) (M3)
- (M1)
- (M104)
- (M105)

WARNING BUZZER

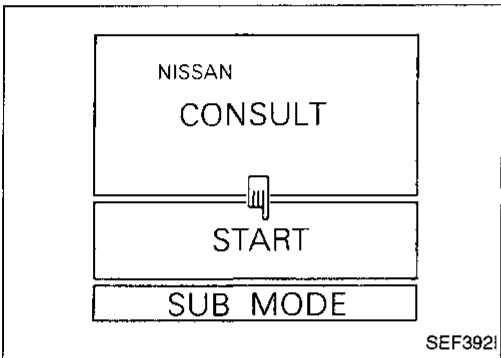


Trouble Diagnoses

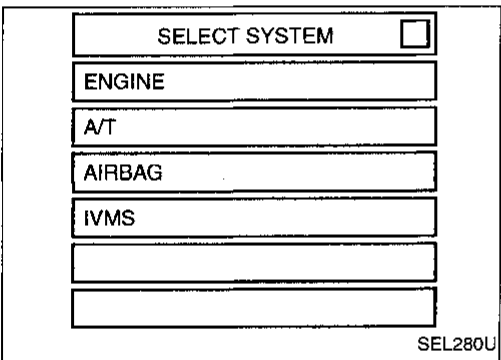
CONSULT

CONSULT inspection procedure

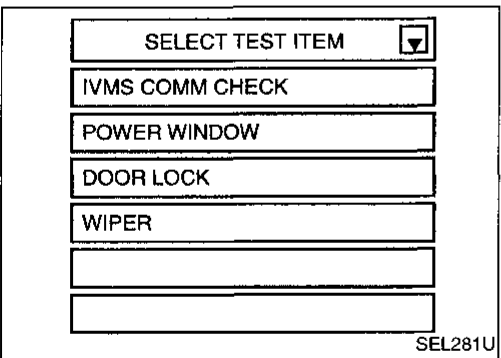
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.



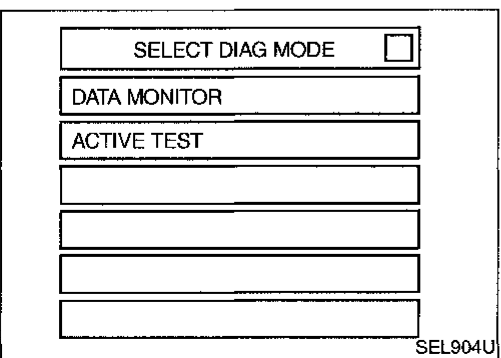
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "IVMS".



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

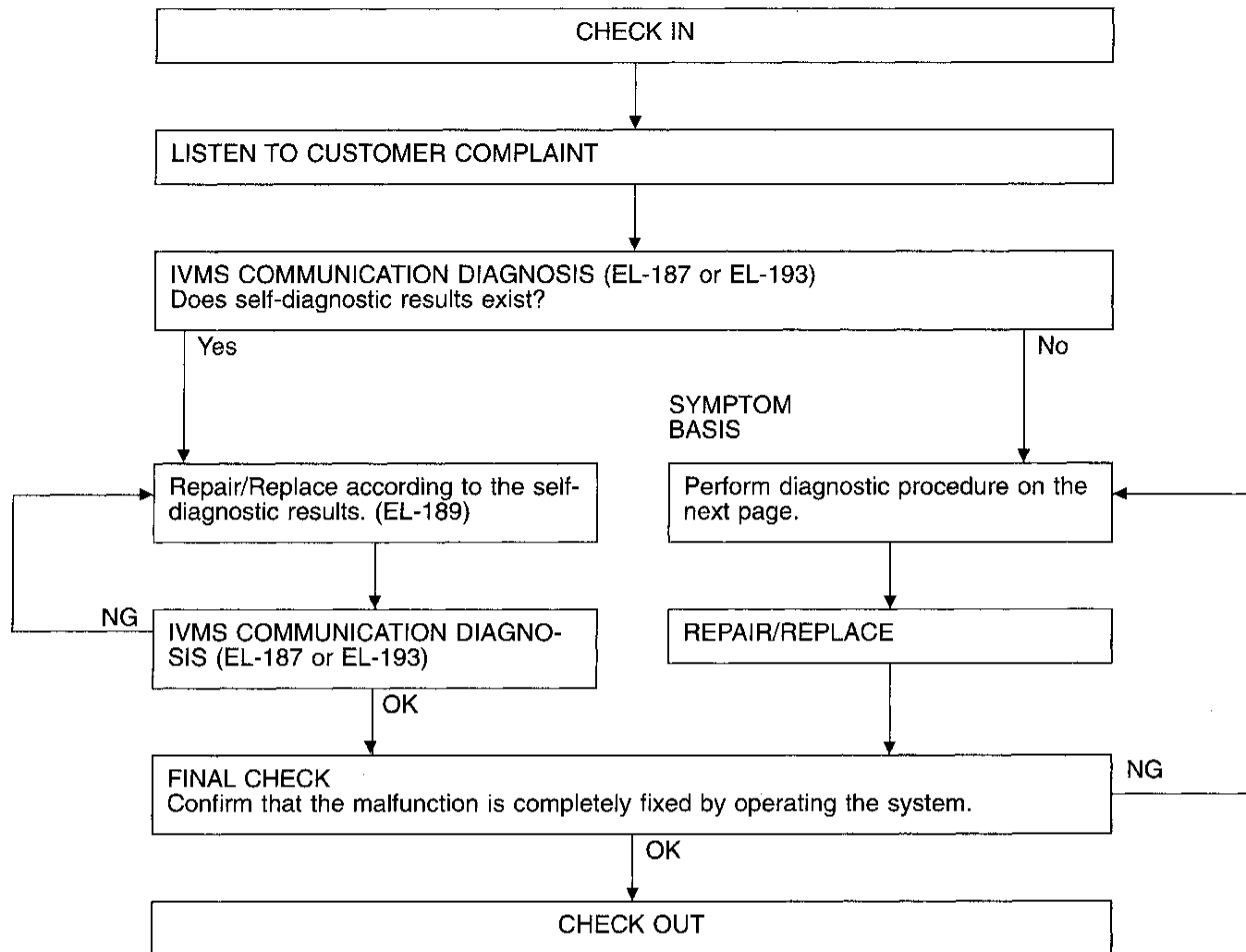


- DATA MONITOR and ACTIVE TEST are available for the warning buzzer.

WARNING BUZZER

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

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WARNING BUZZER

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

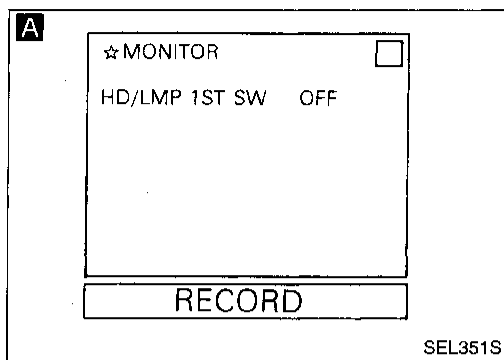
REFERENCE PAGE	EL-99	EL-99	EL-100	EL-100
SYMPTOM	DIAGNOSTIC PROCEDURE 1 (Lighting switch input signal check)	DIAGNOSTIC PROCEDURE 2 (Key switch input signal check)	DIAGNOSTIC PROCEDURE 3 (Seat belt buckle switch input signal check)	DIAGNOSTIC PROCEDURE 4
Light warning buzzer does not activate.	X			X
Ignition key warning buzzer does not activate.		X		X
Seat belt warning buzzer does not activate.			X	X
All warning buzzers do not activate.				X

WARNING BUZZER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

(Lighting switch input signal check)



CHECK LIGHTING SWITCH INPUT SIGNAL.

A CONSULT

See "HD/LMP 1ST SW" in "Data Monitor" mode.

When lighting switch is in 1ST or 2ND:
HD/LMP 1ST SW ON

When lighting switch is OFF:
HD/LMP 1ST SW OFF

OR

B ON-BOARD

Perform On-board diagnosis — Mode II (Switch monitor) for light switch. Refer to EL-195.

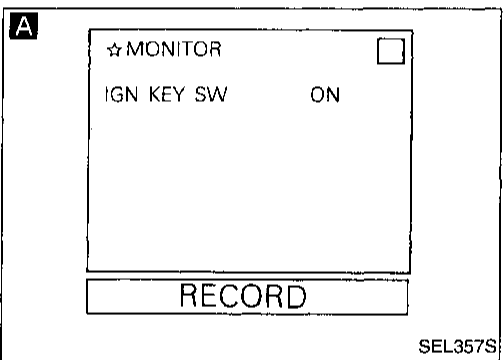
NG

Check the following.

- 7.5A fuse (No. **5**), located in the fuse block
- Harness for open or short between fuse and BCM

OK

Go to Procedure 4.



DIAGNOSTIC PROCEDURE 2

(Key switch input signal check)

CHECK KEY SWITCH INPUT SIGNAL.

A CONSULT

See "IGN KEY SW" in "Data Monitor" mode.

When key is in ignition:
IGN KEY SW ON

When key is out of ignition:
IGN KEY SW OFF

OR

B TESTER

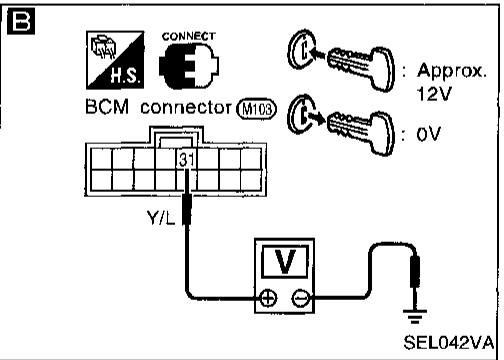
Check voltage between BCM terminal **31** and ground.

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

NG

Check the following.

- 7.5A fuse [No. **40**], located in the fuse block (J/B)]
- Key switch (insert)
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch



OK

Go to Procedure 4.

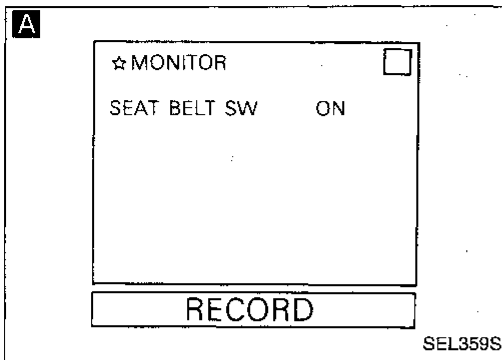
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WARNING BUZZER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

(Seat belt buckle switch input signal check)



CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL.

A  CONSULT

See "SEAT BELT SW" in "Data Monitor" mode.

When driver's seat belt is not fastened:

SEAT BELT SW ON

When driver's seat belt is fastened:

SEAT BELT SW OFF

OR



ON-BOARD

Perform On-board diagnosis — Mode II (switch monitor) for seat belt buckle switch. Refer to EL-195.

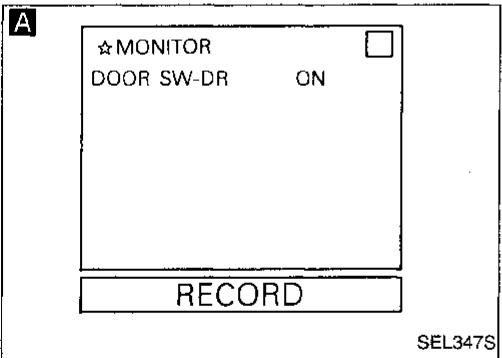
NG

Check the following.

- Seat belt buckle switch
- Seat belt buckle switch ground circuit
- Harness for open or short between BCM and seat belt buckle switch

OK

Go to procedure 4.



DIAGNOSTIC PROCEDURE 4

CHECK DRIVER DOOR SWITCH INPUT SIGNAL.

A  CONSULT

See "DOOR SW-DR" in "Data monitor" mode.

When driver's door is open:

DOOR SW-DR ON

When driver's door is closed:

DOOR SW-DR OFF

OR



ON-BOARD

Perform On-board diagnosis — Mode II (switch monitor) for door switch (driver side). Refer to EL-195.

NG

Check the following.

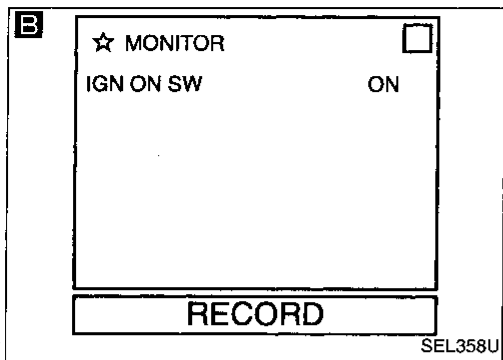
- Driver door switch
- Driver door switch ground circuit
- Harness for open or short between driver door switch and BCM

OK

A

WARNING BUZZER

Trouble Diagnoses (Cont'd)



A

CHECK IGNITION ON INPUT SIGNAL.

B CONSULT

See "IGN ON SW" in "Data Monitor" mode.

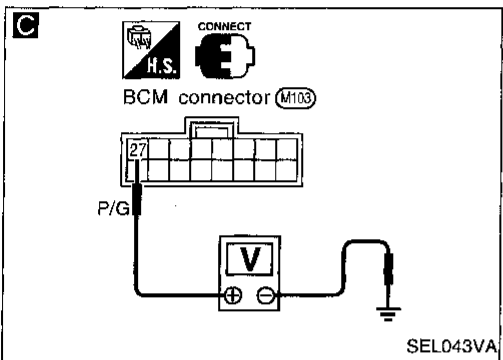
When ignition switch is ON:
IGN ON SW ON

When ignition switch is ACC or OFF:
IGN ON SW OFF

NG

Check the following.

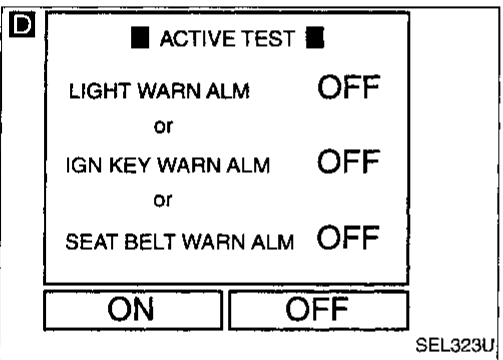
- 7.5A fuse (No. 12, located in the fuse block)
- Harness for open or short between fuse and BCM



C TESTER

Check voltage between BCM terminal 27 and ground.

Condition of ignition switch	Voltage [V]
ON	Approx. 12
ACC or OFF	0



D

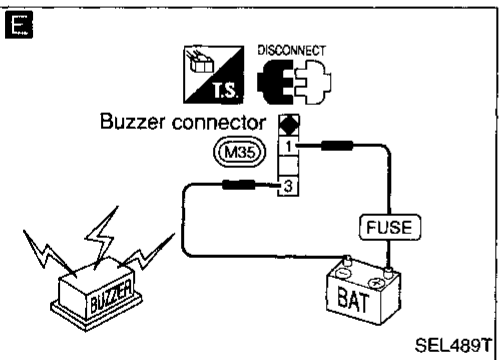
Perform "WARN ALM" in "Active Test" mode.

Check buzzer operation.

If CONSULT is not available, skip this procedure and go to the next procedure below.

OK

System is OK.



NG

E

CHECK WARNING BUZZER.

1. Disconnect buzzer connector.
2. Apply 12V direct current to buzzer and check buzzer operation.

NG

Replace buzzer.

OK

Check the following.

- 7.5A fuse (No. 40) located in the fuse block)
- Harness for open or short between fuse and buzzer
- Harness for open or short between buzzer and BCM

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System Description

WIPER OPERATION

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

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

Low and high speed wiper operation

Ground is supplied to front wiper switch terminal ⑰ through body grounds ⑤ and ③①.

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

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

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

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

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

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

Auto stop operation

When the front wiper switch is placed in the OFF position, the front wiper motor will continue to operate until the wiper arms reach the base of the windshield (Auto stop).

When the front wiper switch is placed in the OFF position, ground is supplied

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

Ground is also supplied until the wiper arms reaches the base of the windshield

- through terminal ⑬ of the front wiper switch,
- to front wiper relay terminal ③
- through terminal ④ of the front wiper relay,
- to front wiper motor terminal ⑤
- through terminal ⑥ of the front wiper motor, and
- through body grounds ①③ and ①⑦.

When the wiper arms reach the base of the windshield, the switch in the front wiper motor moves to the "STOP" position. The ground path is interrupted and the front wiper motor stops.

Intermittent operation

Intermittent operation is controlled by the BCM.

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

- to BCM terminal ③③
- from front wiper switch terminal ⑮
- through body grounds ⑤ and ③①.

The desired interval time is input

- to BCM terminal ②④
- from front wiper switch terminal ⑱.

Based on these two inputs, an intermittent ground is supplied

- to front wiper relay terminal ②
- from BCM terminal ⑨.

With power and ground supplied, the front wiper relay is activated.

When activated, an intermittent ground is supplied

- to front wiper motor terminal ②
- through the front wiper switch terminal ⑭,
- to front wiper switch terminal ⑬
- through front wiper relay terminal ③,
- to front wiper relay terminal ⑤
- through body grounds ⑤ and ③①.

Front wiper motor operates at desired low speeds with BCM terminal ③③ grounded.

WASHER OPERATION

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

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

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

- to washer motor terminal ②, and

WIPER AND WASHER

System Description (Cont'd)

- to BCM terminal 34
- from terminal 18 of the front wiper switch
- through terminal 17 of the front wiper switch, and
- through body grounds E5 and E30.

With power and ground supplied, the washer motor operates.

The front wiper motor operates at low speed for about 3 seconds. This feature is controlled by the BCM in the same manner as the intermittent operation.

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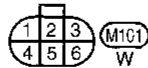
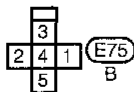
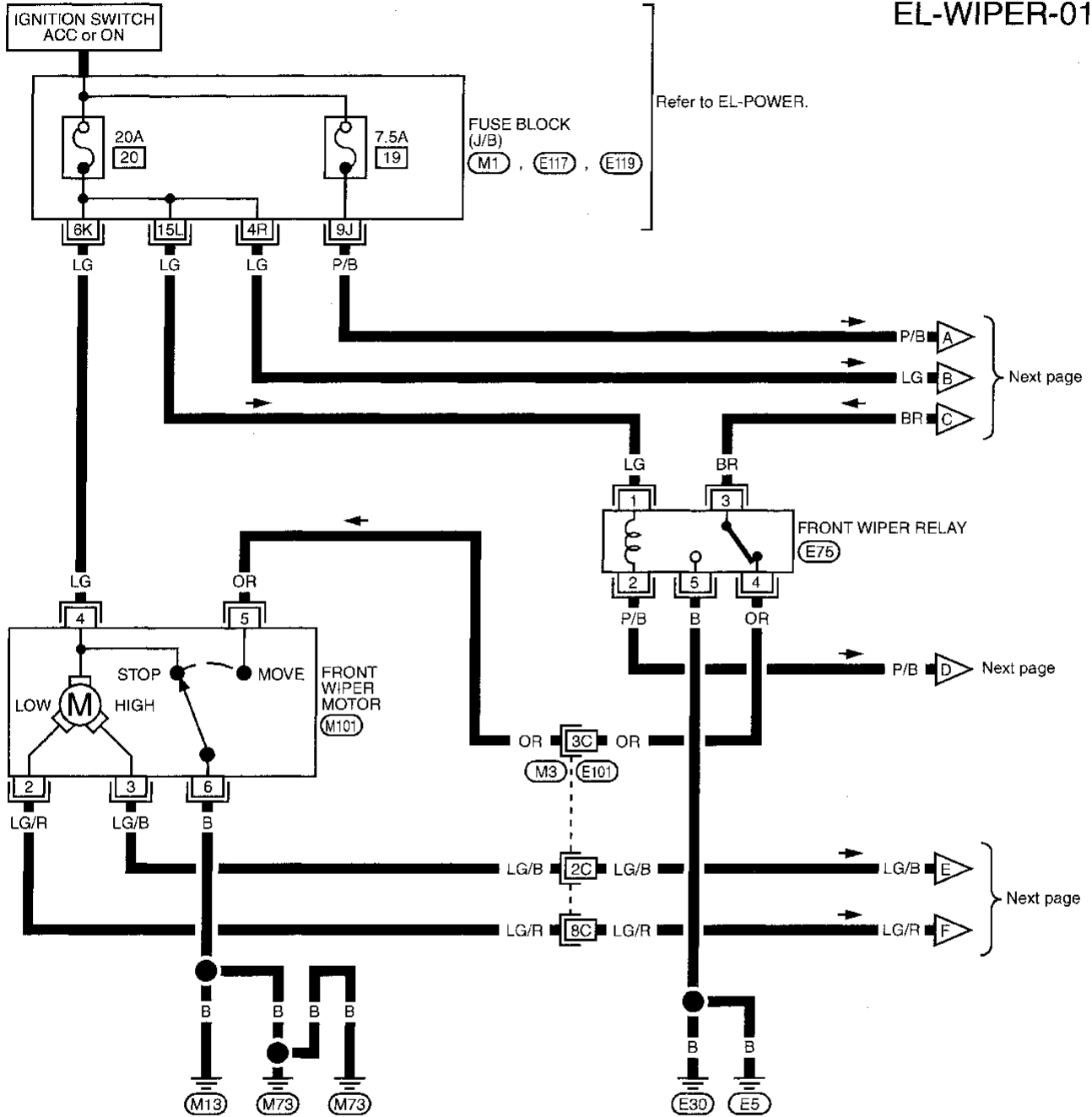
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WIPER AND WASHER

Front Wiper and Washer/Wiring Diagram — WIPER —

EL-WIPER-01



Refer to last page (Foldout page).

M3 , E101

M1

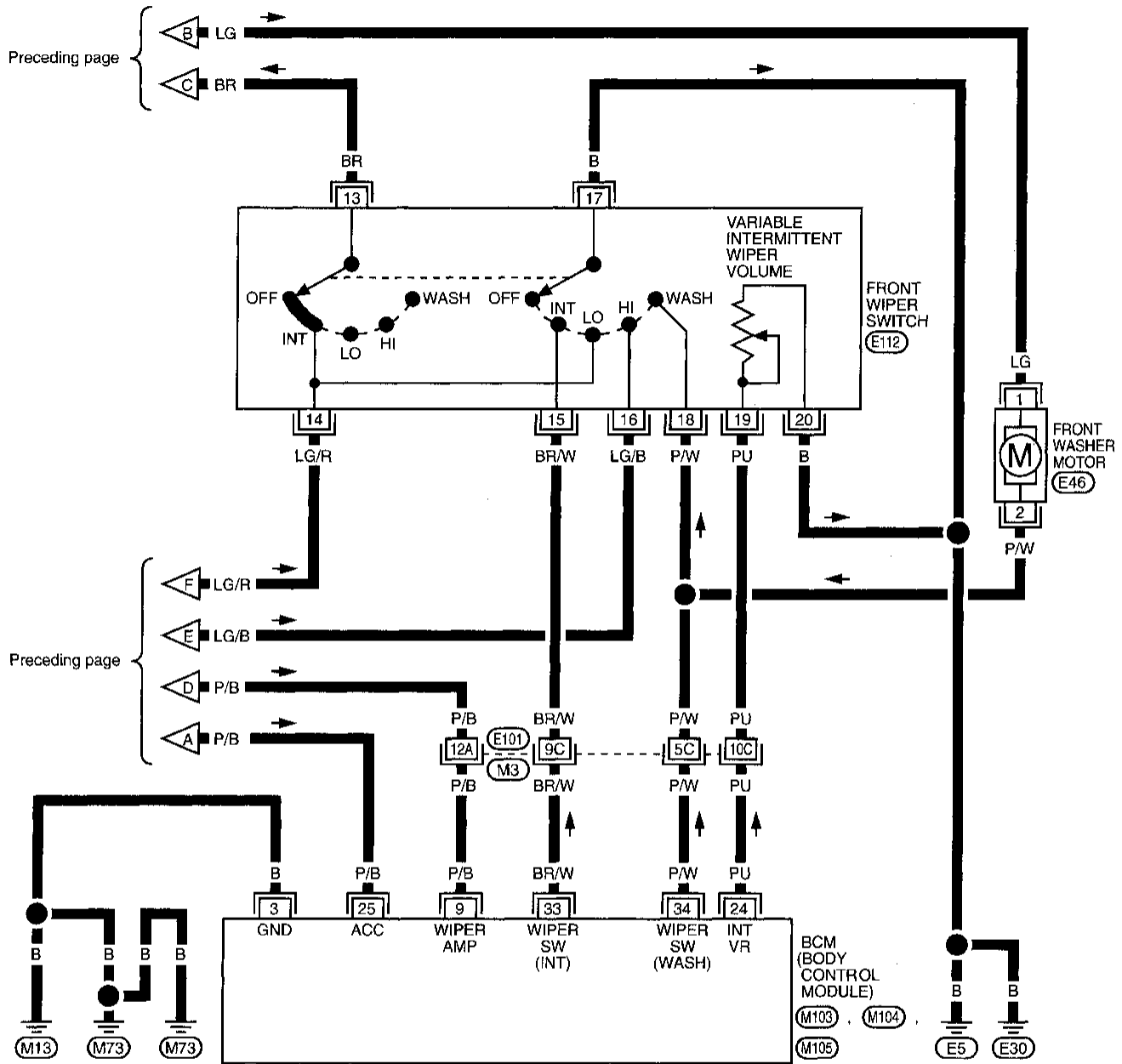
E117

E119

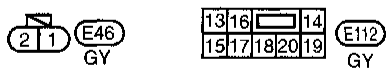
WIPER AND WASHER

Front Wiper and Washer/Wiring Diagram — WIPER — (Cont'd)

EL-WIPER-02

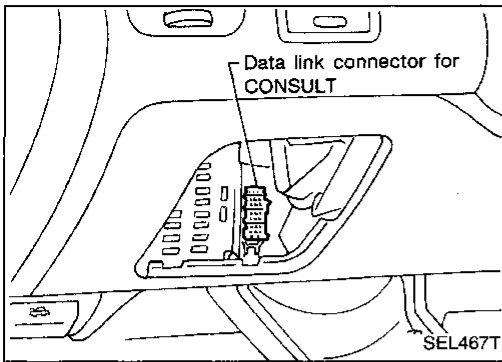


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Refer to last page (Foldout page).
 M3, E101
 M103
 M104
 M105

WIPER AND WASHER

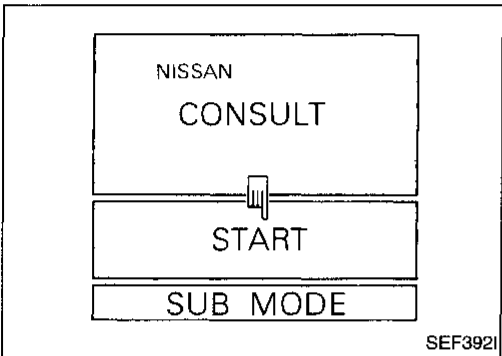


Trouble Diagnoses

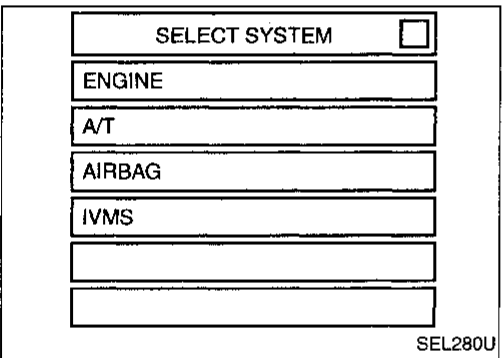
CONSULT

CONSULT inspection procedure

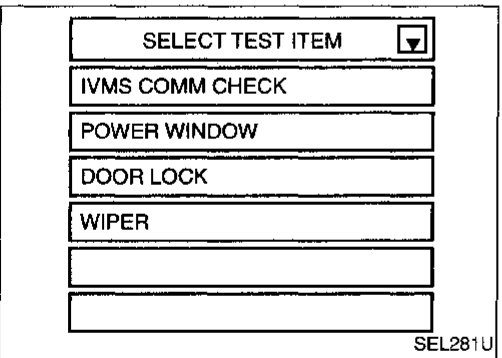
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.



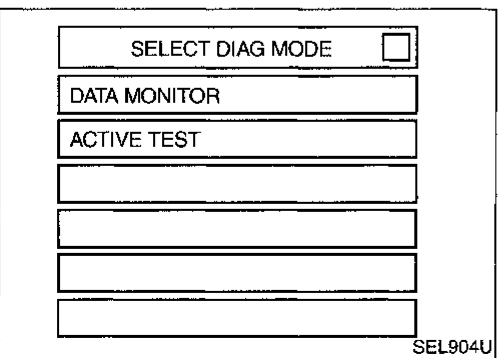
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "IVMS".



6. Touch "WIPER".

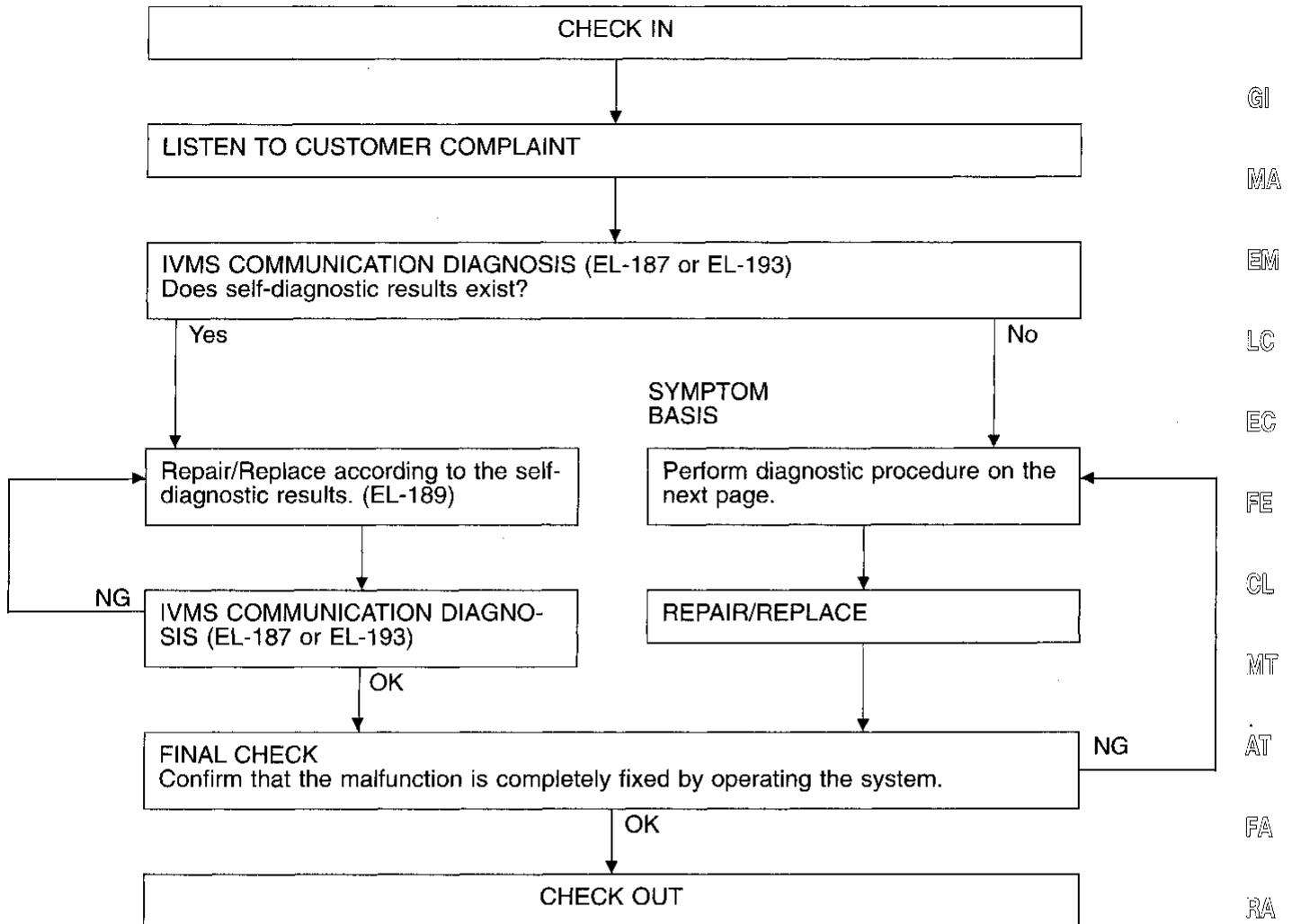


- DATA MONITOR and ACTIVE TEST are available for the wiper and washer.

WIPER AND WASHER

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

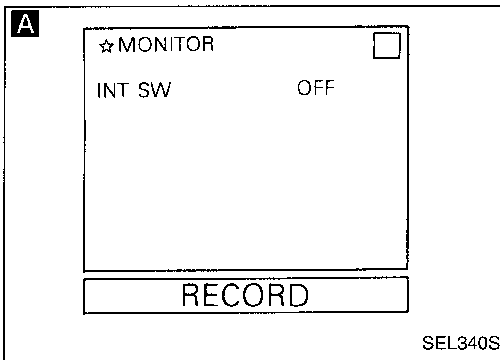
- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

WIPER AND WASHER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Intermittent wiper does not operate.



CHECK INTERMITTENT WIPER SWITCH INPUT SIGNAL.

A **TESTER**

See "INT SW" in "Data monitor" mode.

When wiper switch is in INT position:

INT SW ON

When wiper switch is in OFF position:

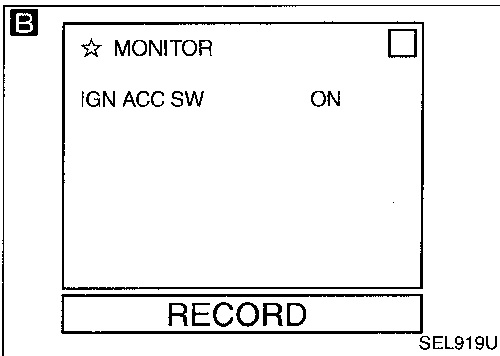
INT SW OFF

NG

Check the following.

- Front wiper switch
- Front wiper switch ground circuit
- Harness for open or short between BCM and wiper switch

Note: When "Data monitor" is operating, intermittent wiper do not operate.



ON-BOARD

Perform On-board diagnosis — Mode II (switch monitor) for wiper switch (INT). Refer to EL-195.

OR

OK

CHECK IGNITION SWITCH ACC SIGNAL.

B **CONSULT**

See "IGN ACC SW" in "Data monitor" mode.

When ignition switch is ACC or ON:

IGN ACC SW ON

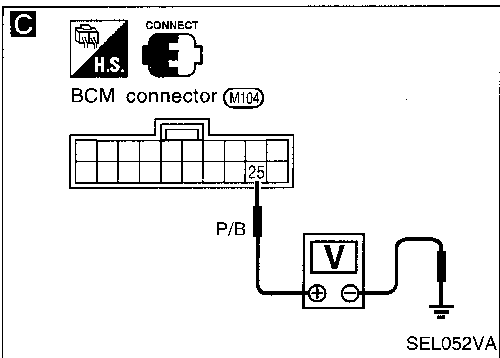
When ignition switch is OFF:

IGN ACC SW OFF

NG

Check the following.

- 7.5A fuse [No. 19, located in the fuse block (J/B)]
- Harness for open or short between fuse and BCM



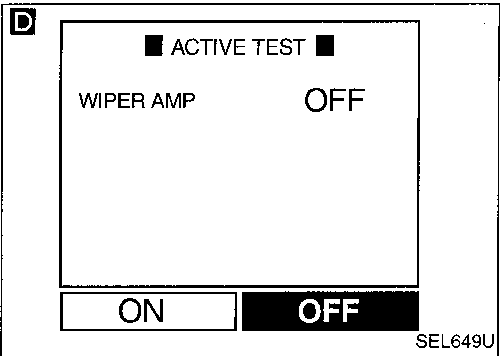
C **TESTER**

Check voltage between BCM terminal ②⑤ and ground.

Condition of ignition switch	Voltage [V]
ACC or ON	Approx. 12
OFF	0

OR

OK



D **CHECK WIPER OPERATION.**

See "WIPER AMP" in "Active test" mode. Perform operation shown on display. Wiper motor should operate.

Note: If CONSULT is not available, skip this procedure and go to procedure 5.

OK

Replace BCM.

NG

Check wiper relay.

NG

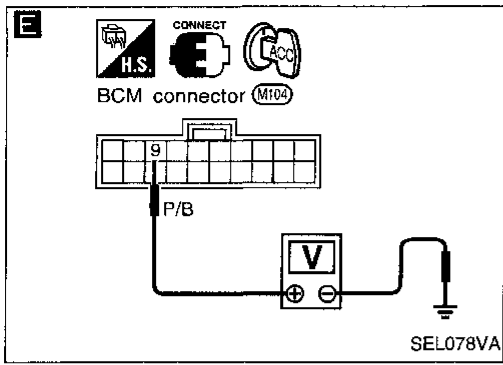
Replace wiper relay.

OK

A

WIPER AND WASHER

Trouble Diagnoses (Cont'd)



E

A

INTERMITTENT OPERATION CHECK

1. Turn ignition switch to "ACC".
2. Measure voltage between BCM terminal ⑨ and ground under the following condition.

Condition of wiper switch	Voltage [V]
OFF	Approx. 12
INT	Pointer swings from 0V to battery voltage every 2 to 21 seconds depending on intermittent wiper volume setting.

NG → Replace BCM.

OK

Check the following.

- 20A fuse [No. 20], located in the fuse block (J/B)
- Harness for open or short between fuse and wiper relay
- Harness for open or short between wiper relay and BCM

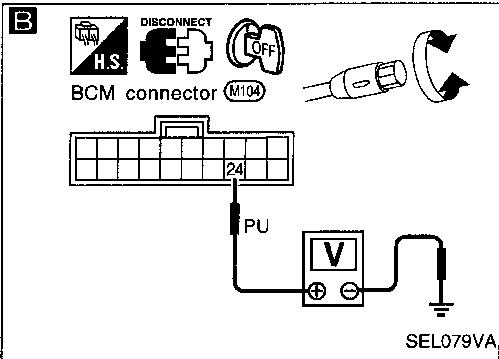
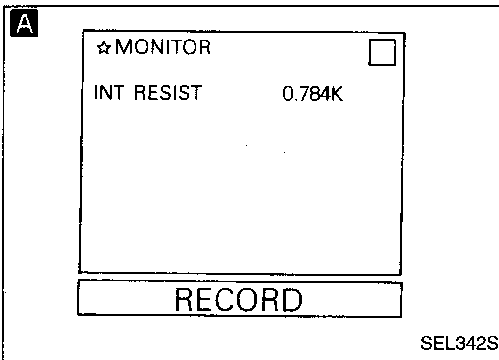
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WIPER AND WASHER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Intermittent time of wiper cannot be adjusted.



CHECK INTERMITTENT WIPER VOLUME INPUT SIGNAL.

A CONSULT

See "INT RESIST" in "Data monitor" mode while turning intermittent wiper volume.

Position of wiper knob	Resistance [kΩ]
Short interval	0
Long interval	Approx. 1

OK → Replace BCM.

OR
B TESTER

Measure resistance between BCM terminal ②④ and ground while turning intermittent wiper volume.

Position of wiper knob	Resistance [kΩ]
Short interval	0
Long interval	Approx. 1

NG

Check intermittent wiper volume.
Refer to "COMBINATION SWITCH".

NG → Replace intermittent wiper volume.

OK

Check the following.

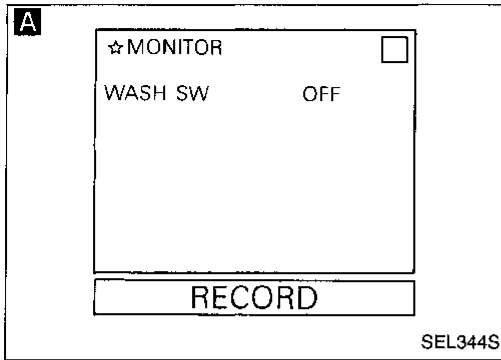
- Harness for open or short between BCM and intermittent wiper volume
- Intermittent wiper volume ground circuit

WIPER AND WASHER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

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



CHECK WASHER SWITCH INPUT SIGNAL.

A  CONSULT

See "WASH SW" in "Data monitor" mode.


When washer switch is ON:

WASH SW ON

When washer switch is OFF:

WASH SW OFF

OR

 ON-BOARD

Perform On-board diagnosis — Mode II (switch monitor) for wiper switch (WASH). Refer to EL-195.

NG

Check the following.

- Front wiper switch
- Harness for open or short between BCM and wiper switch

OK

Replace BCM.

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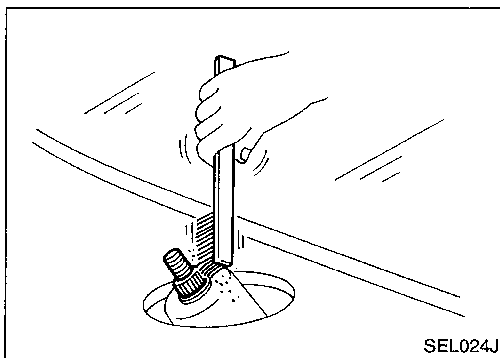
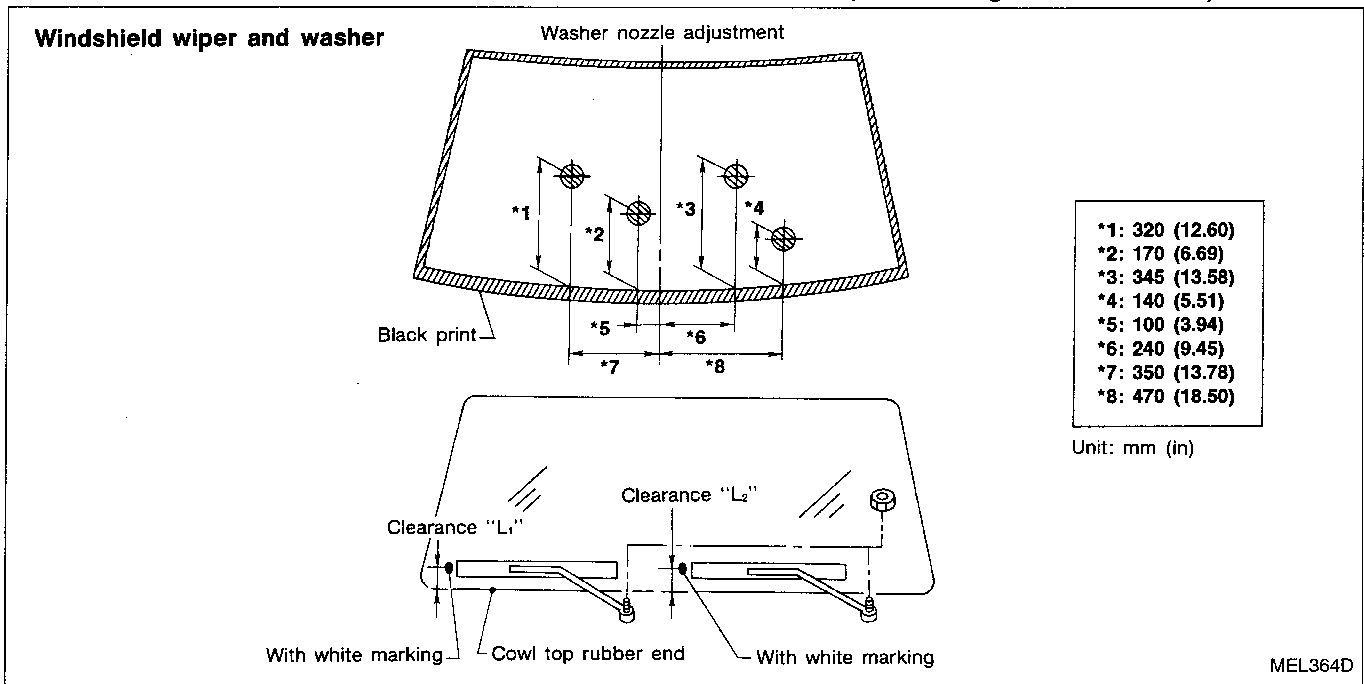
WIPER AND WASHER

Installation

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

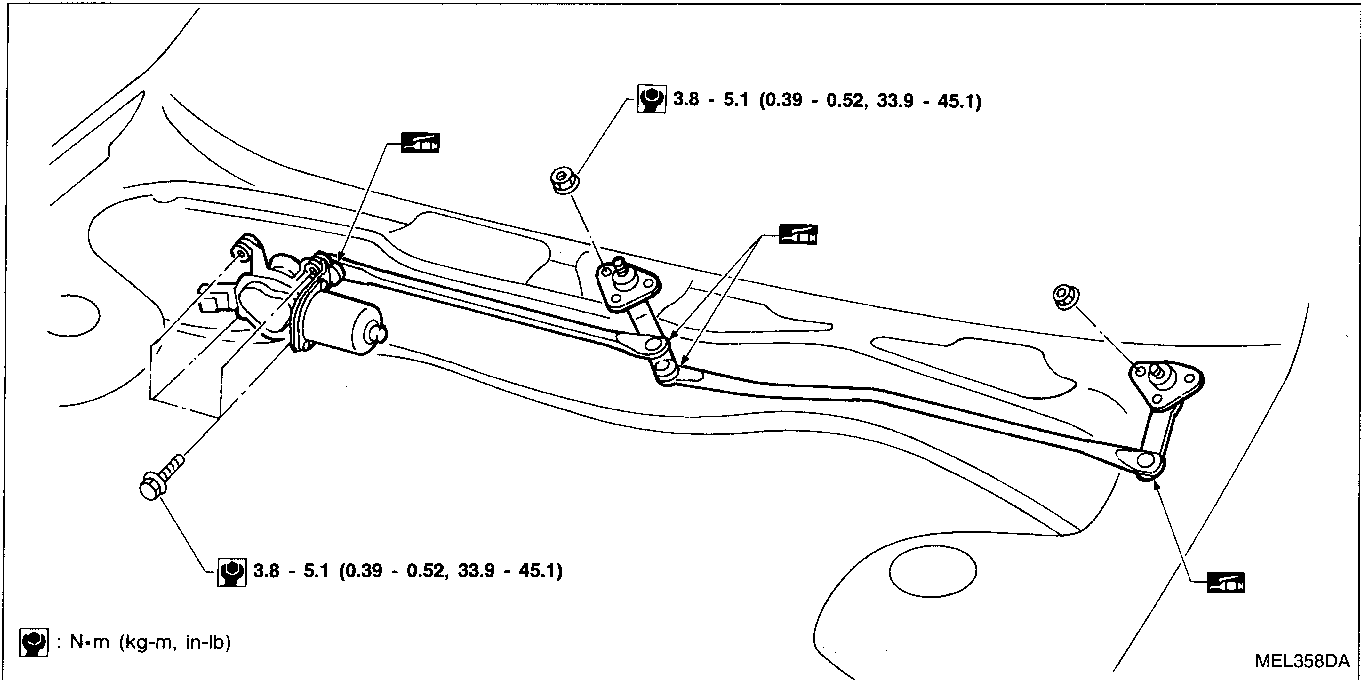
Windshield wiper:

21 - 26 N·m (2.1 - 2.7 kg·m, 15 - 20 ft·lb)



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

Wiper Linkage



REMOVAL

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

Be careful not to break ball joint rubber boot.

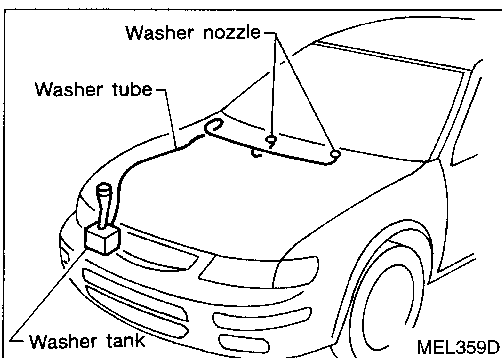
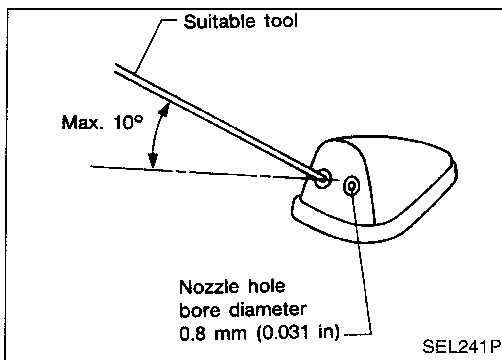
INSTALLATION

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

Washer Nozzle Adjustment

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

Adjustable range: $\pm 10^\circ$



Check Valve (Built in washer nozzles)

GI

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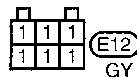
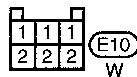
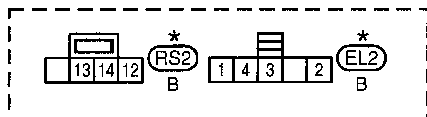
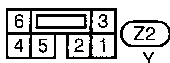
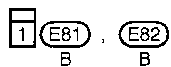
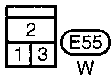
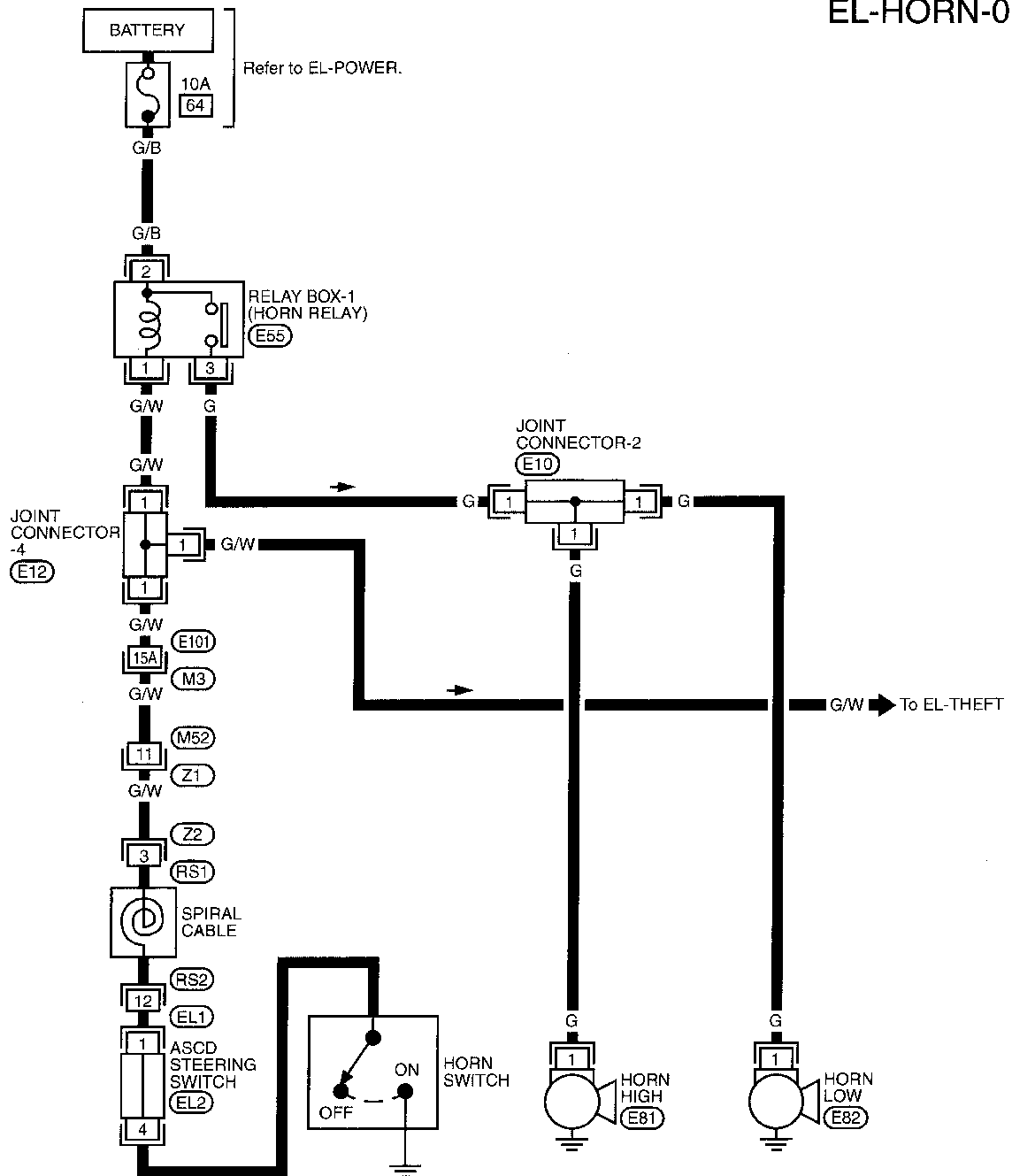
EL

IDX

HORN, CIGARETTE LIGHTER, CLOCK

Wiring Diagram — HORN —

EL-HORN-01



Refer to last page (Foldout page).

M3, E101

E10

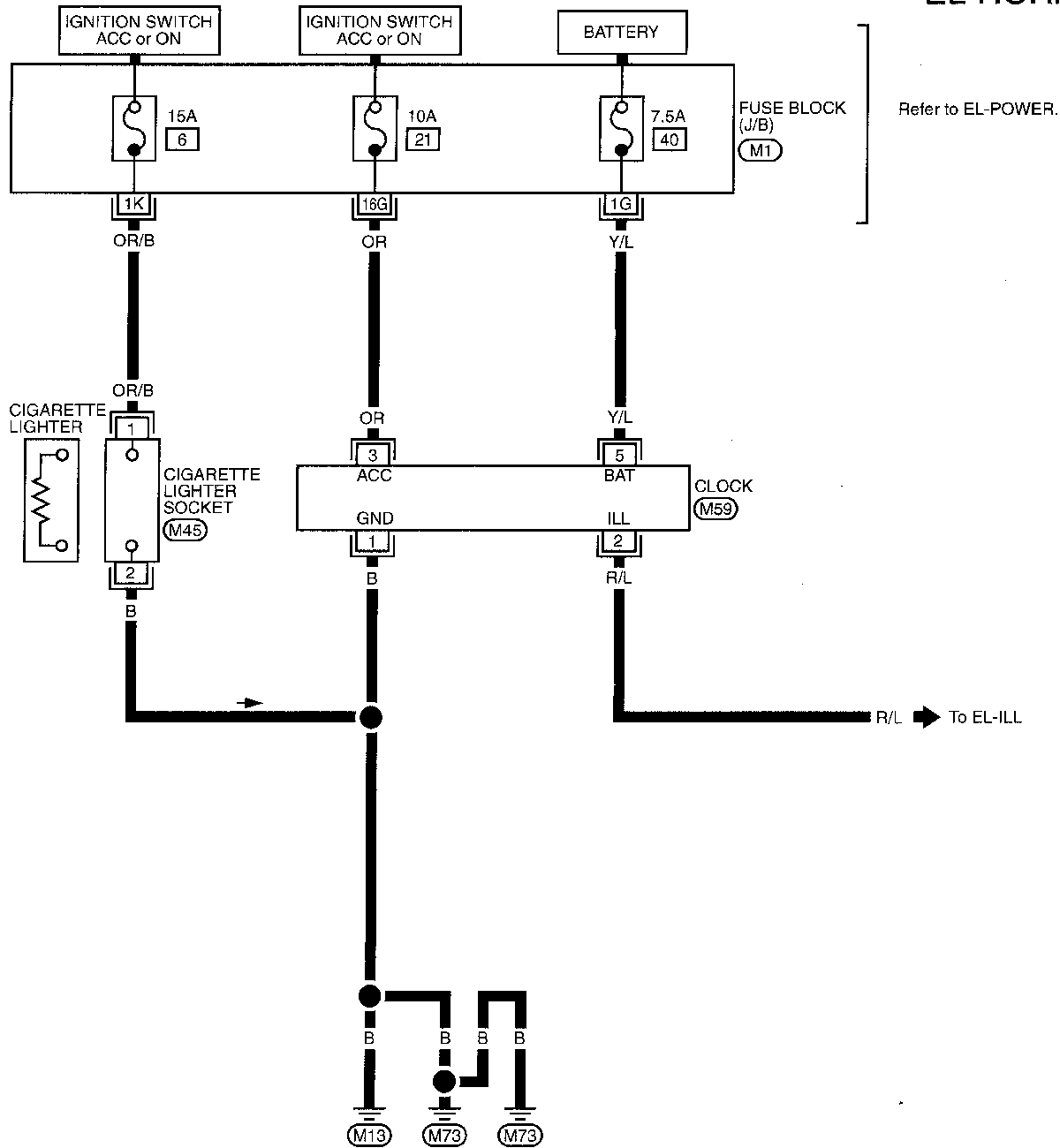
E12

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

HORN, CIGARETTE LIGHTER, CLOCK

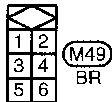
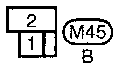
Wiring Diagram — HORN — (Cont'd)

EL-HORN-02



Refer to EL-POWER.

Refer to last page (Foldout page).



(M1)

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REAR WINDOW DEFOGGER

System Description

FUNCTION

- The following time control function is controlled by BCM.

Item	Details of control
Rear window defogger timer	Turn off rear window defogger about 15 minutes after the rear window defogger switch is turned "ON".

REAR WINDOW DEFOGGER TIMER

The rear window defogger system is controlled by the BCM.

Power is supplied at all times

- through 20A fuse [No. 38], located in the fuse block (J/B)]
- to the rear window defogger relay terminal ③, and
- through 20A fuse [No. 39], located in the fuse block (J/B)]
- to the rear window defogger relay terminal ⑥.

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

- to the rear window defogger relay terminal ① and,
- to BCM terminal 27
- through 7.5A fuse [No. 12], located in the fuse block (J/B)].

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

- through terminal ① of the rear window defogger switch
- to BCM terminal 28.

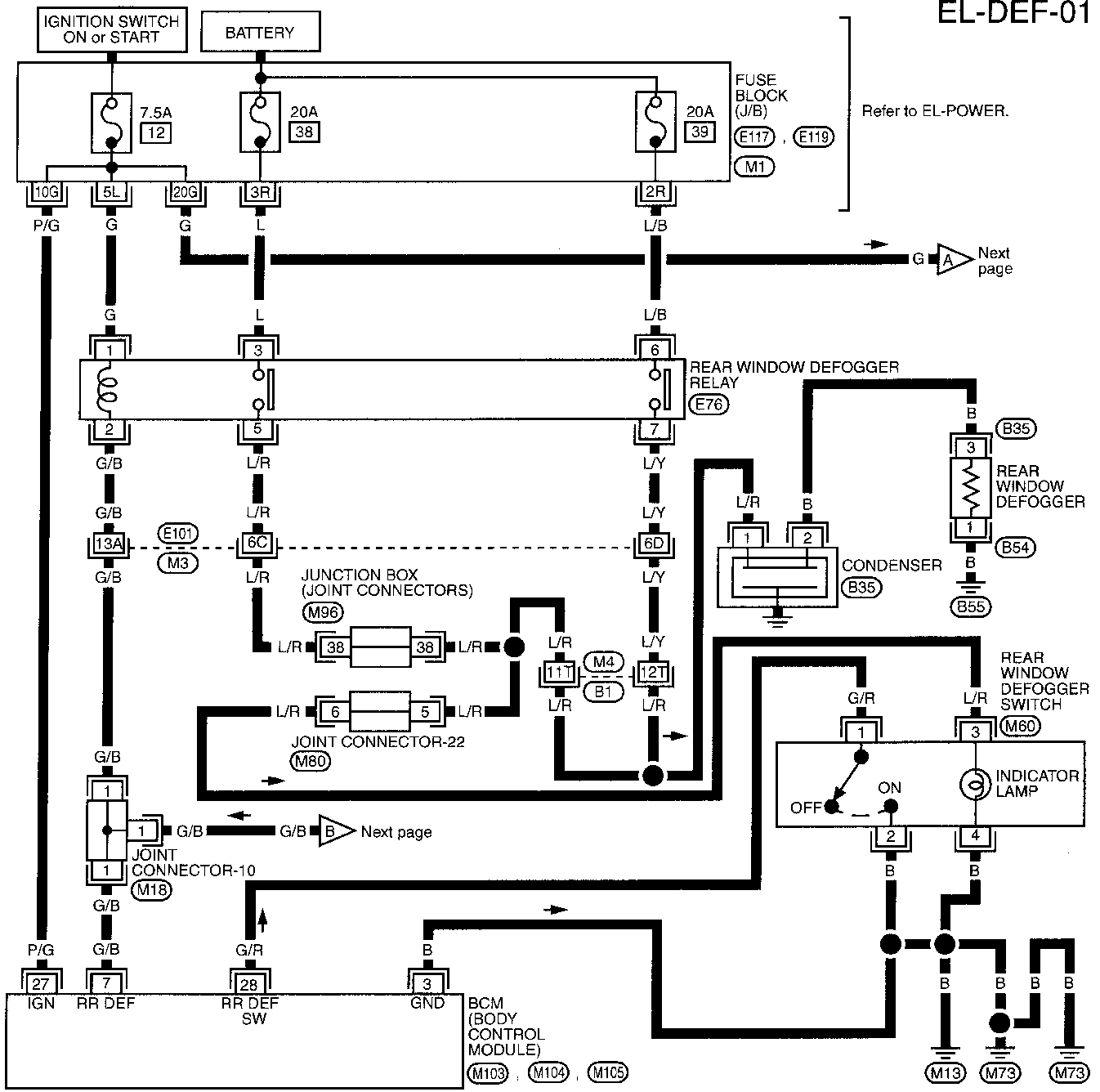
Terminal ⑦ of the BCM then supplies ground to the rear window defogger relay terminal ②.

With power and ground supplied, the rear window defogger relay is energized to operate rear window defogger for about 15 minutes.

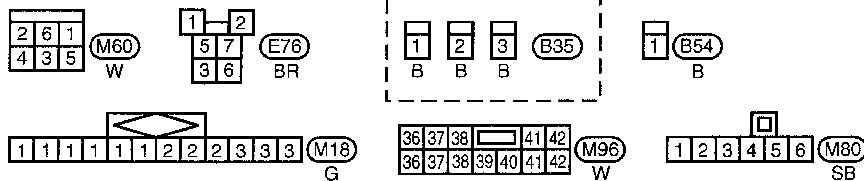
REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

EL-DEF-01



Refer to last page (Foldout page).



- (M3), (E101), (M1)
- (M4), (B1), (E117)
- (E119)
- (M103)
- (M104)
- (M106)
- (M18)
- (M80)
- (M96)

MEL895G

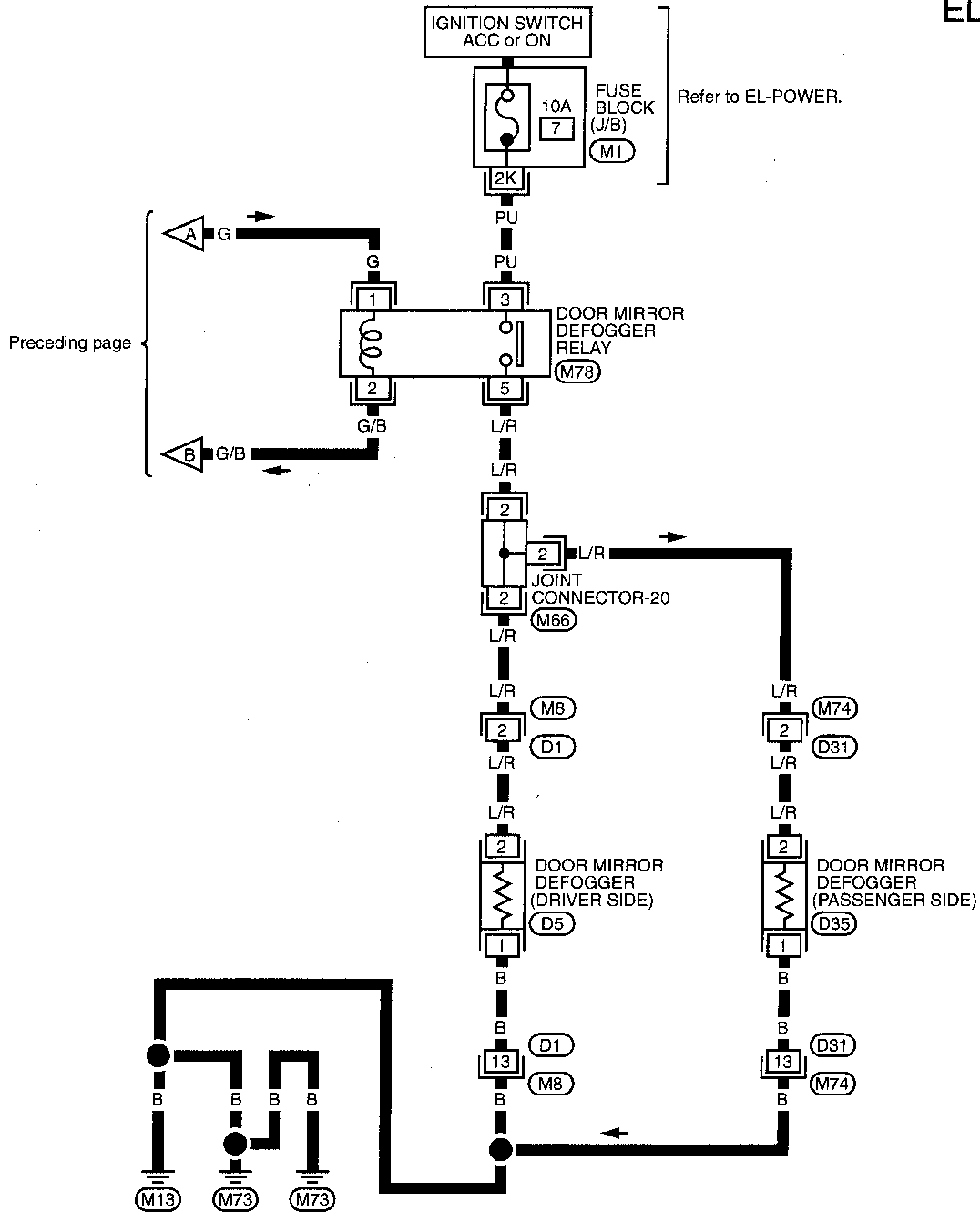
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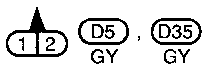
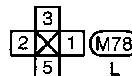
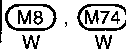
REAR WINDOW DEFOGGER

Wiring Diagram — DEF — (Cont'd)

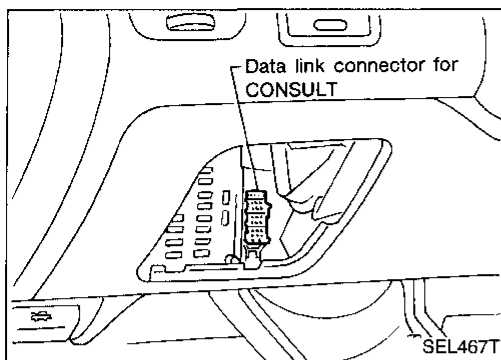
EL-DEF-02



Refer to last page (Foldout page).



REAR WINDOW DEFOGGER



Trouble Diagnoses

CONSULT

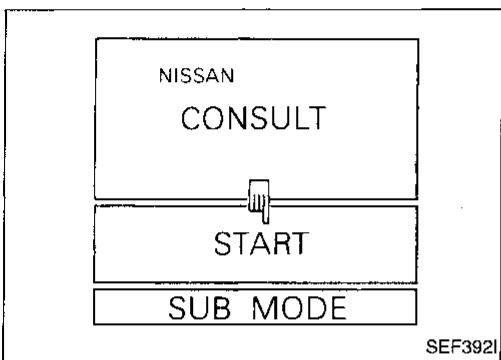
CONSULT inspection procedure

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

GI

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EM



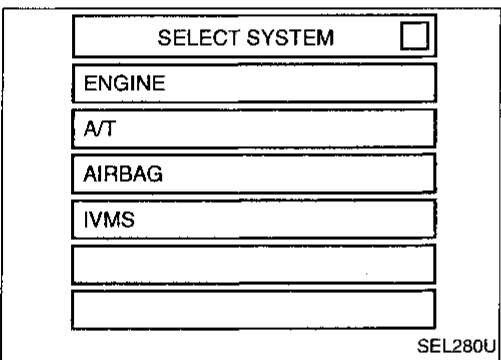
3. Turn ignition switch "ON".
4. Touch "START".

LC

EC

FE

CL



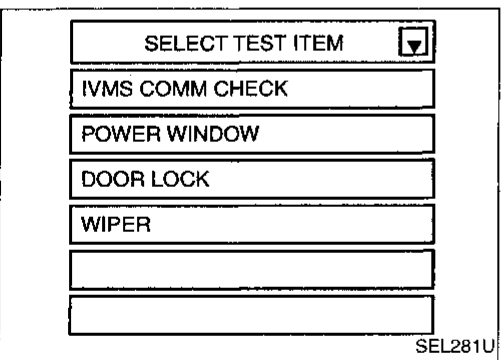
5. Touch "IVMS".

MT

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RA



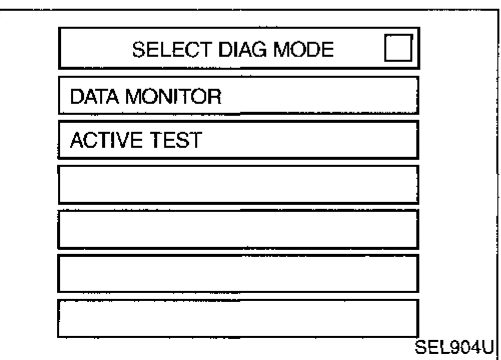
6. Touch "REAR DEFOGGER".

BR

ST

RS

BT



- DATA MONITOR and ACTIVE TEST are available for the rear window defogger.

HA

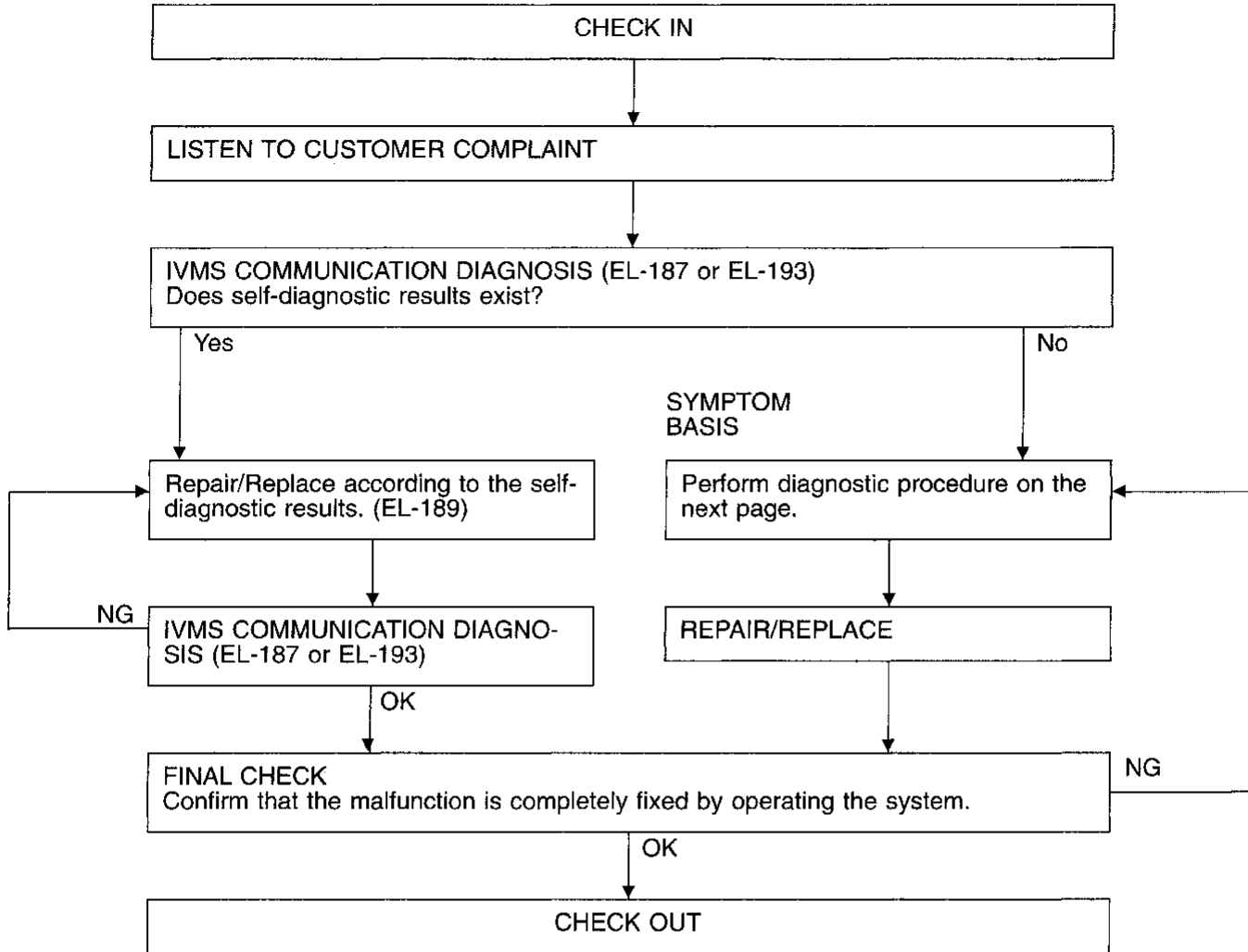
EL

IDX

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

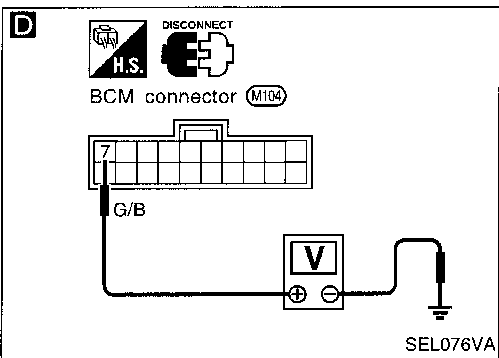
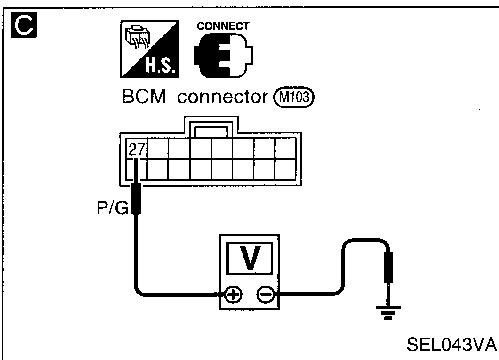
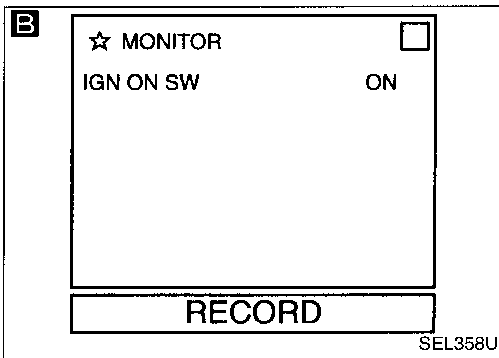
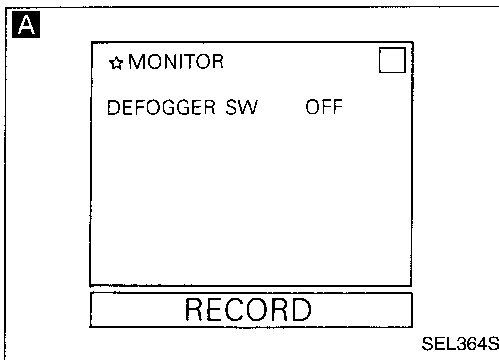
- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE

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



CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL.

A CONSULT

See "DEFOGGER SW" in DATA MONITOR mode.
When defogger switch is pushed (turned ON):

DEFOGGER SW ON

When defogger switch is pushed again (turned OFF):

DEFOGGER SW OFF

ON-BOARD

Check rear window defogger switch in Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-195.)

NG

Check rear window defogger switch.

OK

NG

Replace rear window defogger switch.

Check the following.

- Harness for open or short between BCM and rear window defogger switch
- Rear window defogger switch ground circuit

CHECK IGNITION SWITCH ON SIGNAL.

B CONSULT

See "IGN ON SW" in DATA MONITOR mode.
When ignition switch is ON:

IGN ON SW ON

When ignition switch is ACC or OFF:

IGN ON SW OFF

TESTER

Check voltage between BCM terminal 27 and ground.

Condition of ignition switch	Voltage [V]
ON	Approx. 12
ACC or OFF	0

NG

Check the following.

- 7.5A fuse [No. 12, located in the fuse block (J/B)]
- Harness for open or short between fuse and BCM

CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL.

1. Disconnect BCM connector.
2. Check voltage between BCM terminal 7 and ground.

Condition of ignition switch	Voltage [V]
ON	Approx. 12
OFF	0

NG

Check rear window defogger relay.

OK

NG

Replace relay.

Check the following.

- 7.5A fuse [No. 12, located in the fuse block (J/B)]
- Harness for open or short between fuse and rear window defogger relay
- Harness for open or short between rear window defogger relay and BCM

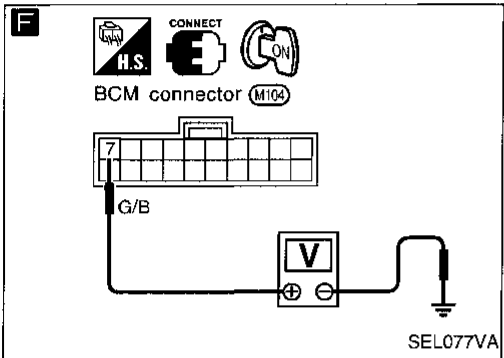
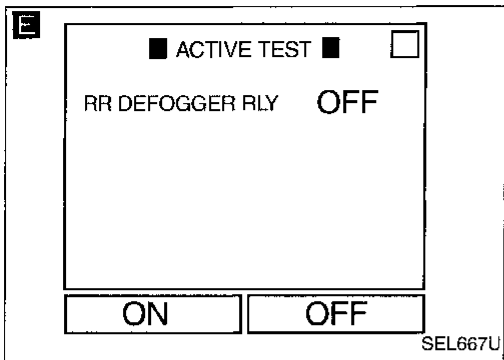
OK

Connect BCM connector.

A

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)



A

REAR WINDOW DEFOGGER ACTIVE TEST.

E CONSULT

Perform "RR DEFOGGER RLY" in ACTIVE TEST mode. Check rear defogger relay operation.

OR

F TESTER

1. Turn ignition switch to ON.
2. Check voltage between BCM terminal ⑦ and ground.

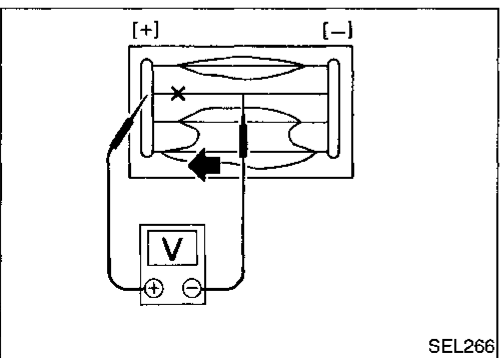
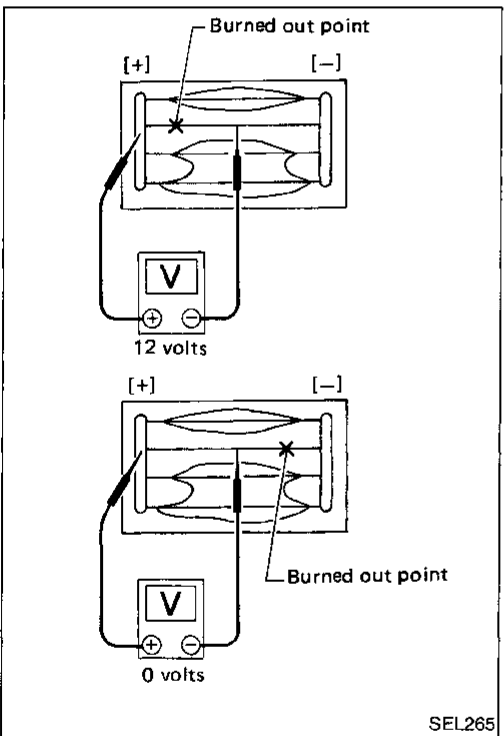
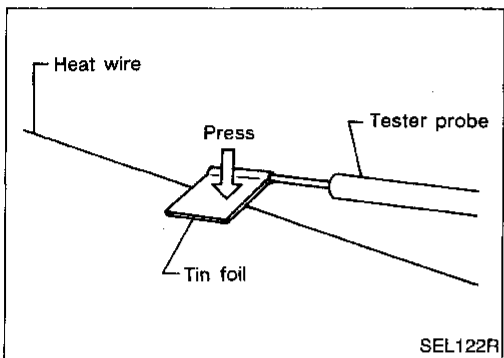
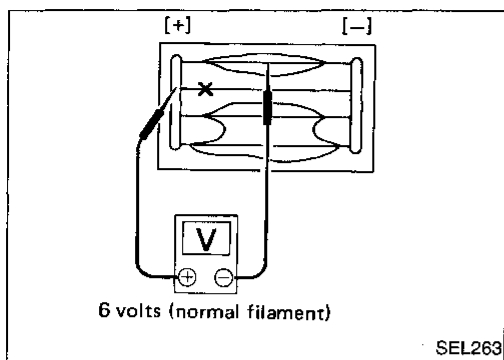
Condition of rear defogger switch	Voltage [V]
ON	0
OFF	Approx. 12

OK

NG → Replace BCM.

Check rear window defogger circuit.

REAR WINDOW DEFOGGER



Filament Check

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

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

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

3. To locate burned out point, move probe along filament. Tester needle will swing abruptly when probe passes the point.

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REAR WINDOW DEFOGGER

Filament Repair

REPAIR EQUIPMENT

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

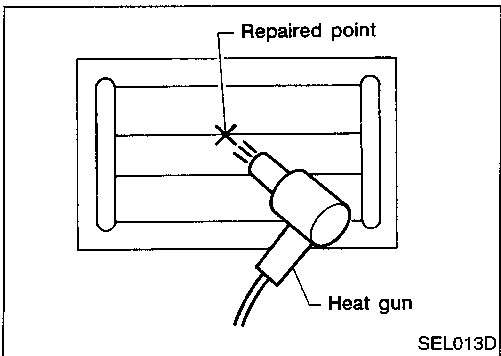
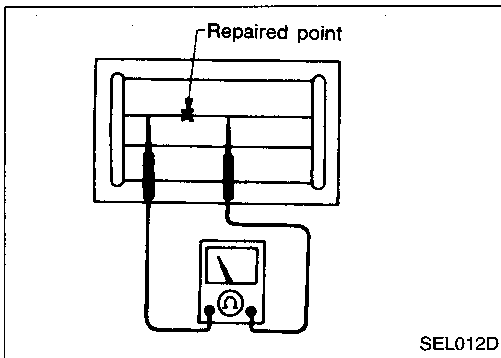
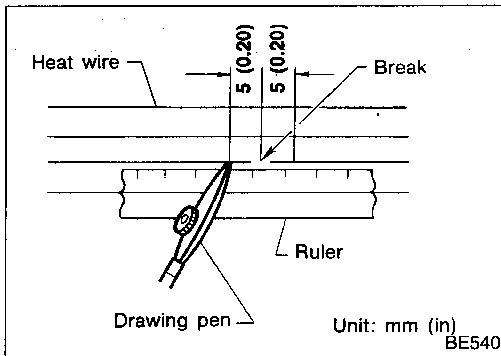
REPAIRING PROCEDURE

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

Shake silver composition container before use.

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

Do not touch repaired area while test is being conducted.



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

Audio/System Description

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

BOSE SYSTEM

Power is supplied at all times

- through 15A fuse (No. 62, located in the fuse and fusible link box)
- to audio terminal 6.

Power is supplied at all times

- through 15A fuse [No. 22, located in the fuse block (J/B)]
- to audio amp. relay terminal 3.

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

- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to audio terminal 10.

Ground is supplied through the case of the radio.

Ground is also supplied

- to audio amp. relay terminal 2,
- to front door speaker LH terminal 2 and
- to front door speaker RH terminal 2
- through body grounds M13 and M73
- to rear speaker LH terminal 1 and
- to rear speaker RH terminal 1
- through body grounds B16 and B19.

When the audio POWER button is pressed, power is supplied to audio amp. relay 1 from audio terminal 12.

Then audio amp. relay is energized and power is supplied

- to front door speaker LH terminal 5
- to front door speaker RH terminal 5 and
- to rear speaker LH terminal 3 and RH terminal 3.

Audio signals are supplied

- through audio terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to terminals 3 and 6 of the LH and RH front speakers and terminals 2 and 4 of the LH and RH rear speakers
- to LH and RH tweeters through terminals 1 and 4 of the front and rear speakers.

EXCEPT FOR BOSE SYSTEM

Power is supplied at all times

- through 15A fuse [No. 62, located in the fuse and fusible link box]
- to audio terminal 6 and,
- through 7.5A fuse [No. 40, located in the fuse block (J/B)]
- to CD player terminal 24.

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

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

Ground is supplied through the case of the audio and CD player.

When the audio power knob is pushed to the ON position, the audio signal is supplied

- through radio terminal 1, 2, 3, 4, 13, 14, 15 and 16
- to terminal 1 and 2 of the LH and RH front speaker, LH and RH tweeter and LH and RH rear speaker.

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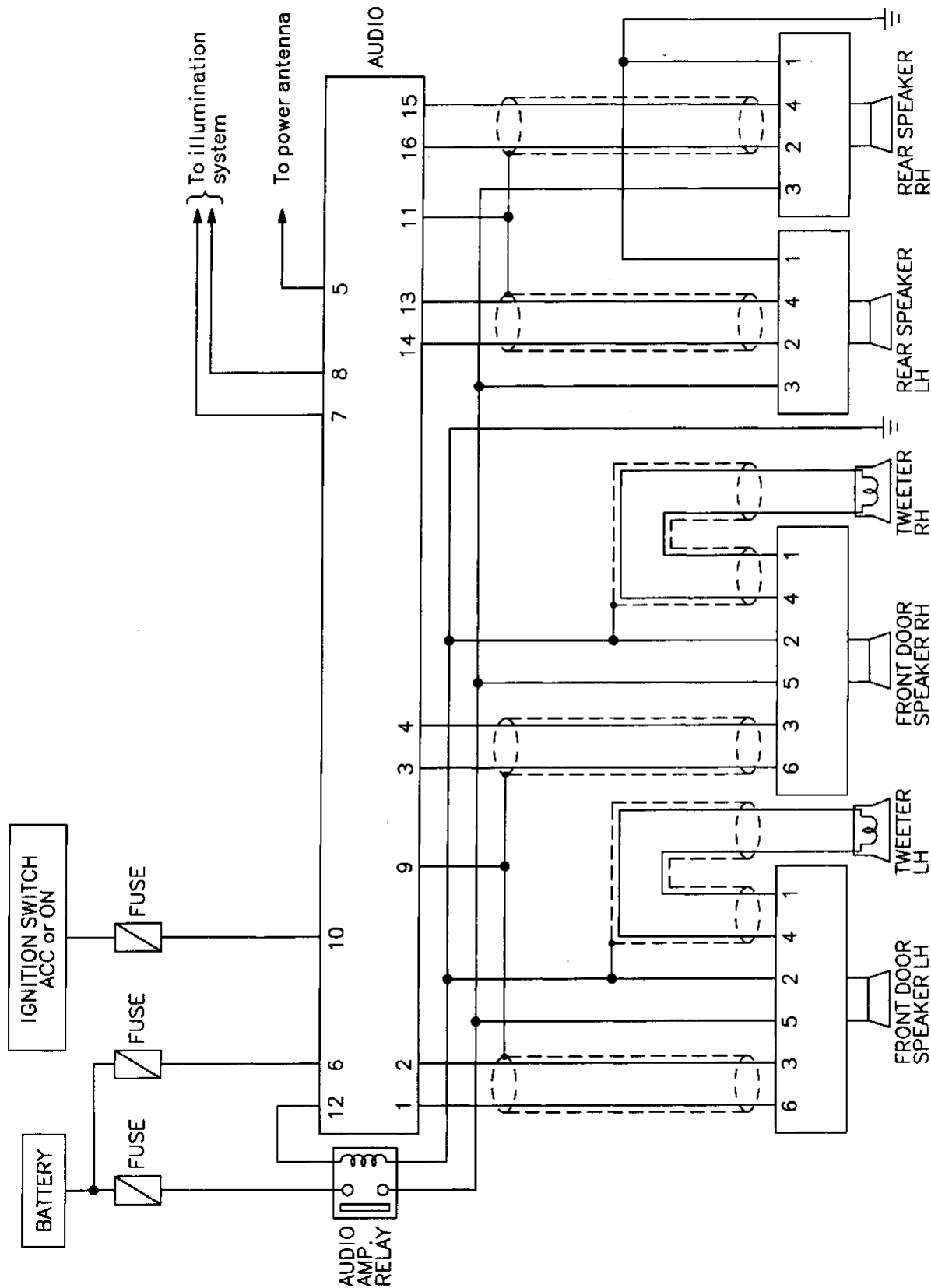
HA

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Audio/Schematic

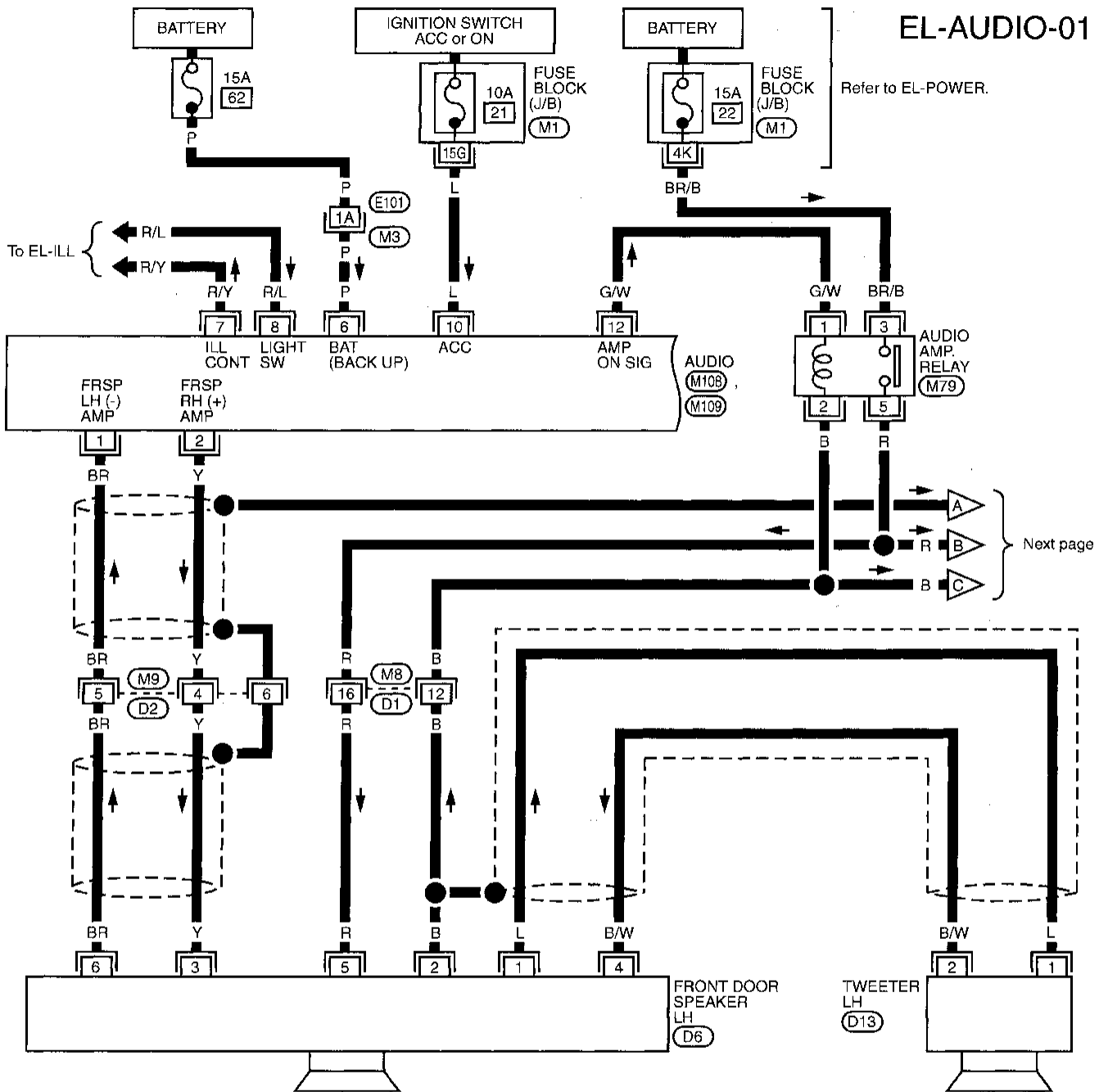
BOSE SYSTEM



AUDIO AND POWER ANTENNA

Audio/Wiring Diagram — AUDIO —

BOSE SYSTEM

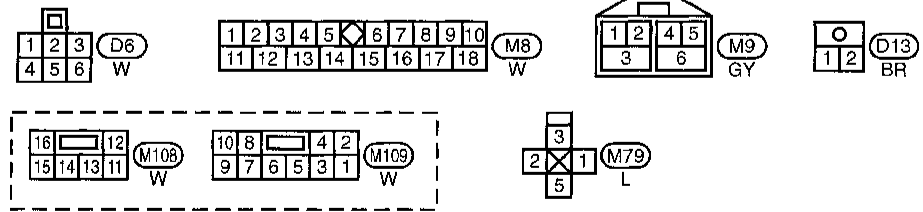


EL-AUDIO-01

Refer to EL-POWER.

Next page

Refer to last page (Foldout page).

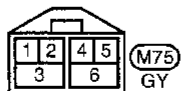
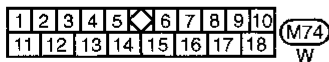
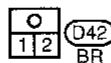
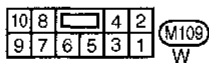
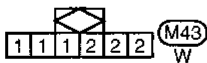
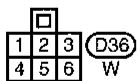
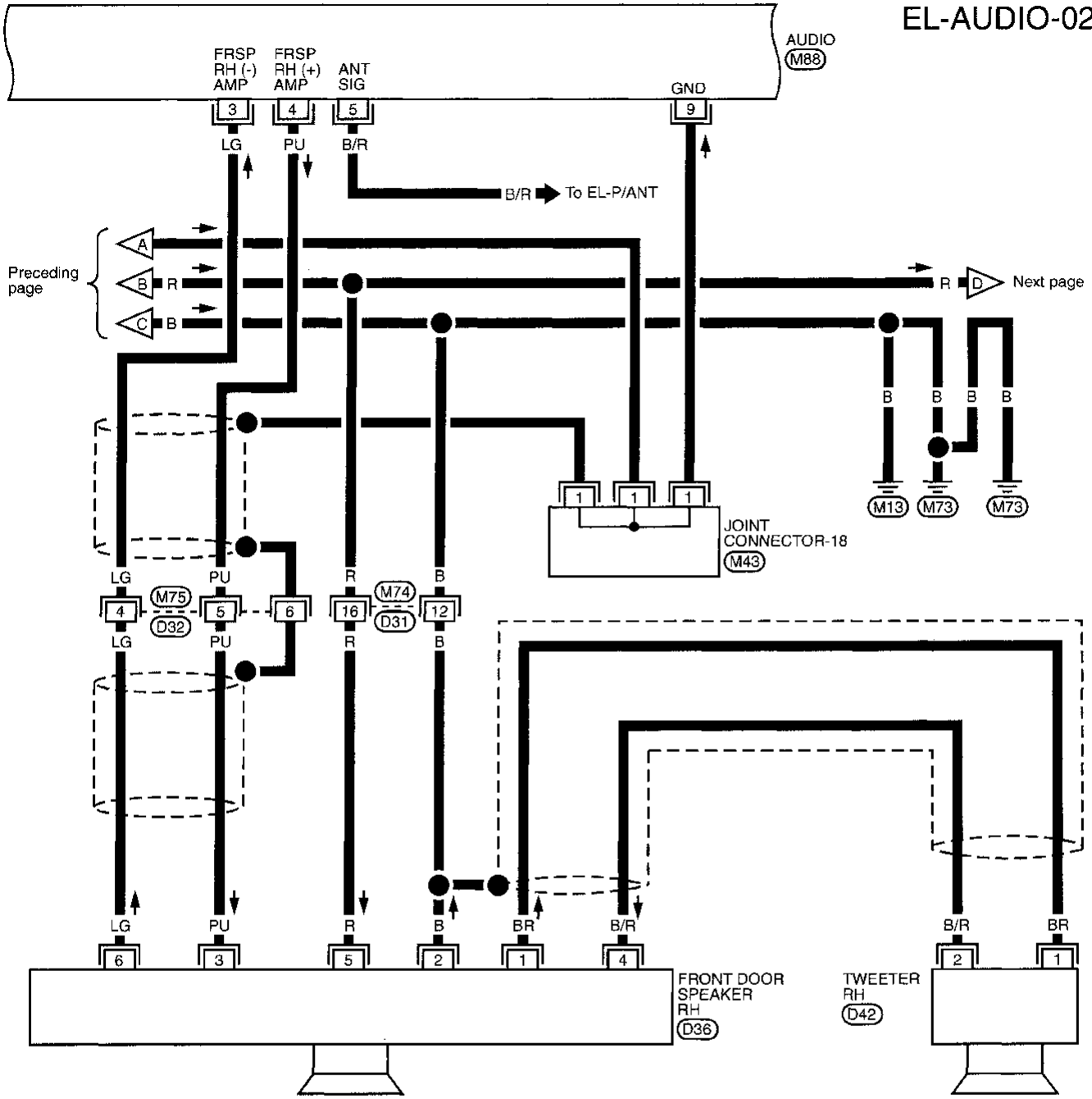


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AUDIO AND POWER ANTENNA

Audio/Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-02

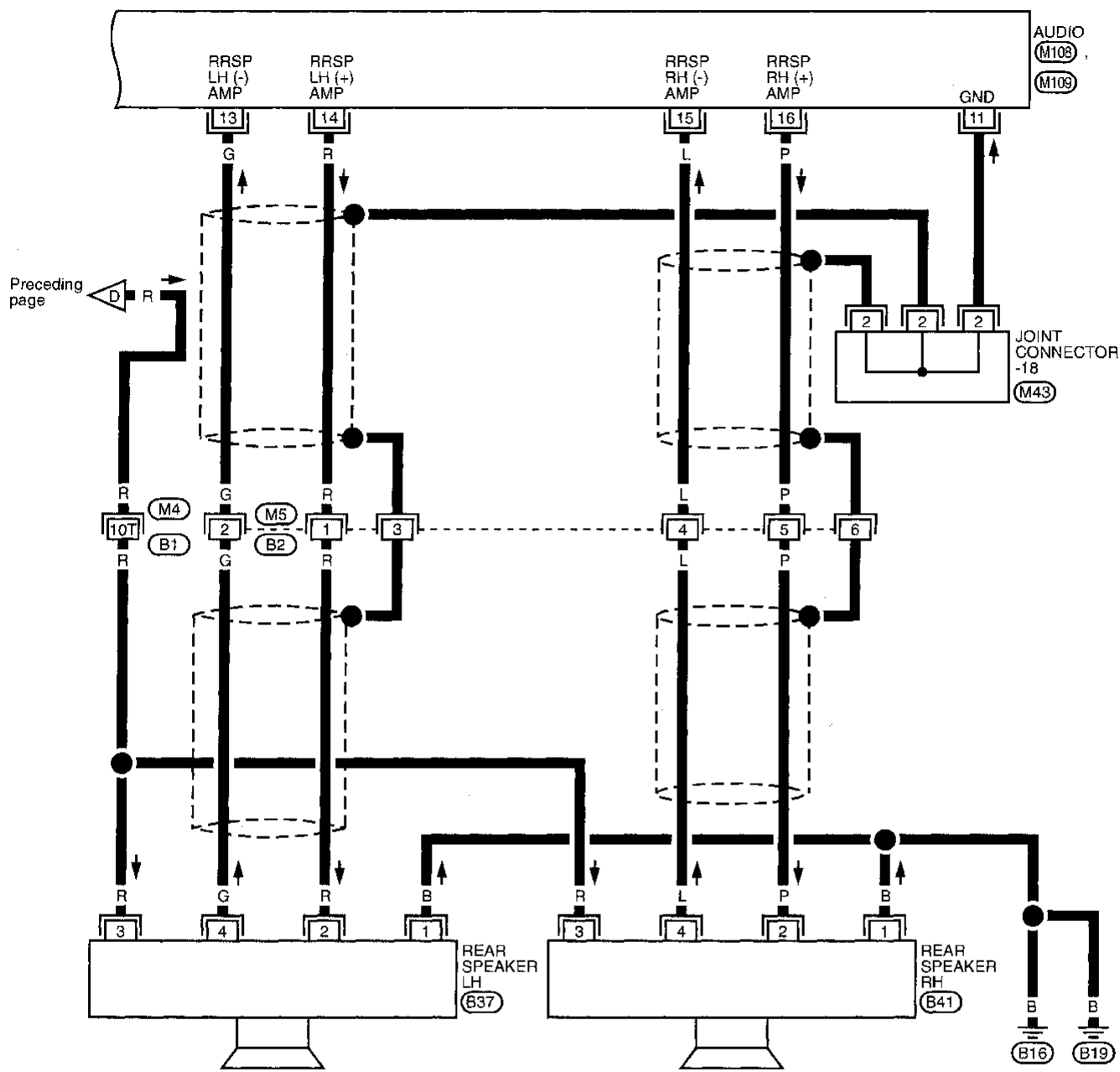


Refer to last page (Foldout page).
(M43)

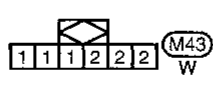
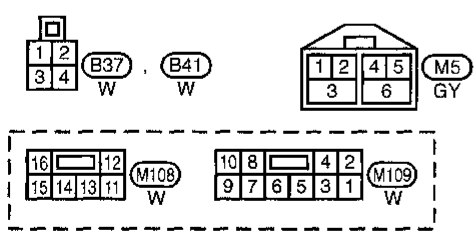
AUDIO AND POWER ANTENNA

Audio/Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-03



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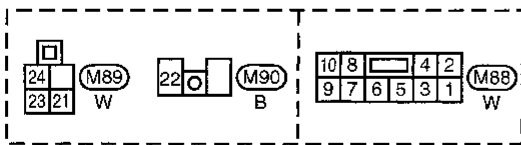
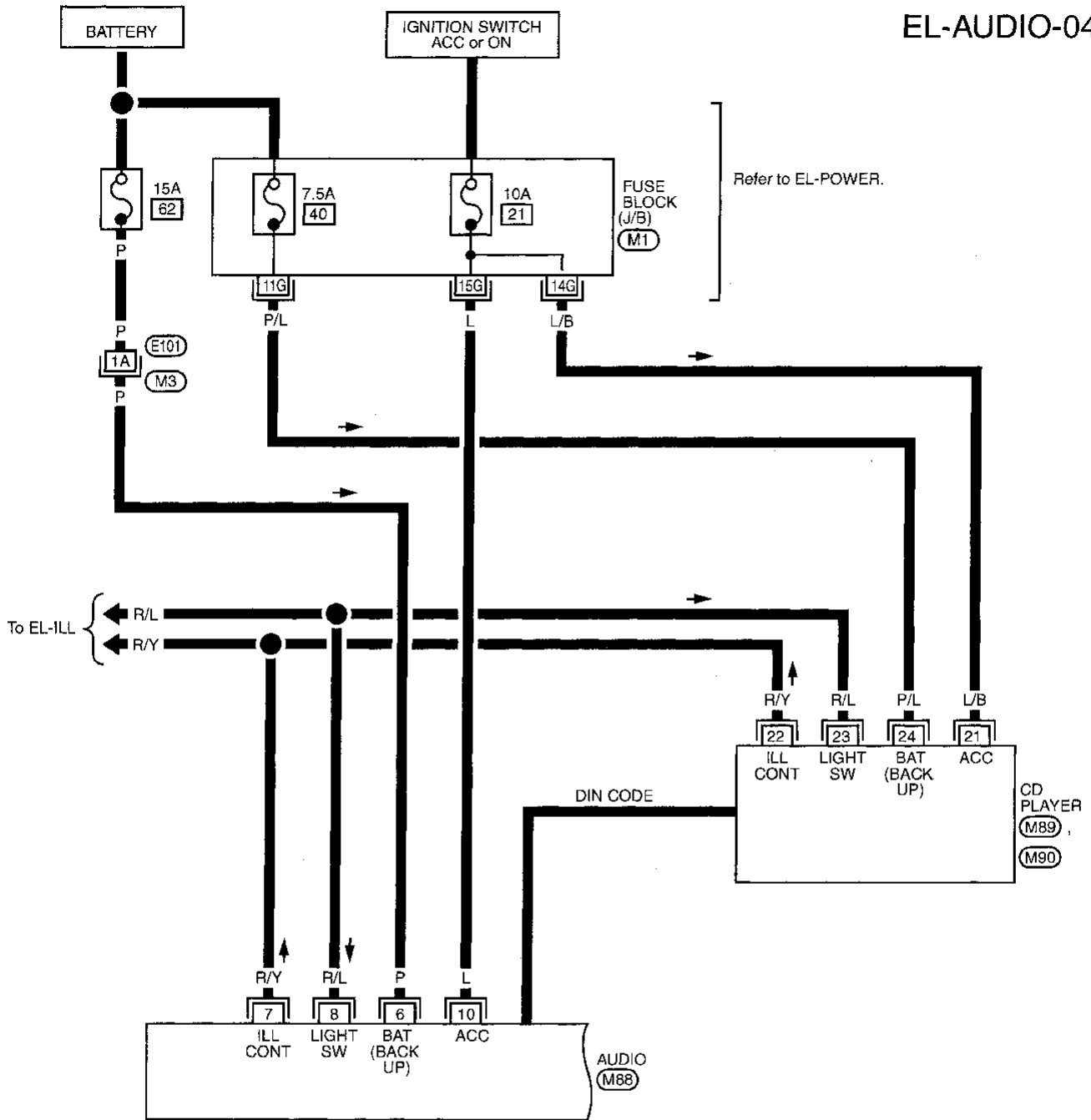
Refer to last page (Foldout page).
B1, M4, M43

AUDIO AND POWER ANTENNA

Audio/Wiring Diagram — AUDIO — (Cont'd)

EXCEPT FOR BOSE SYSTEM

EL-AUDIO-04



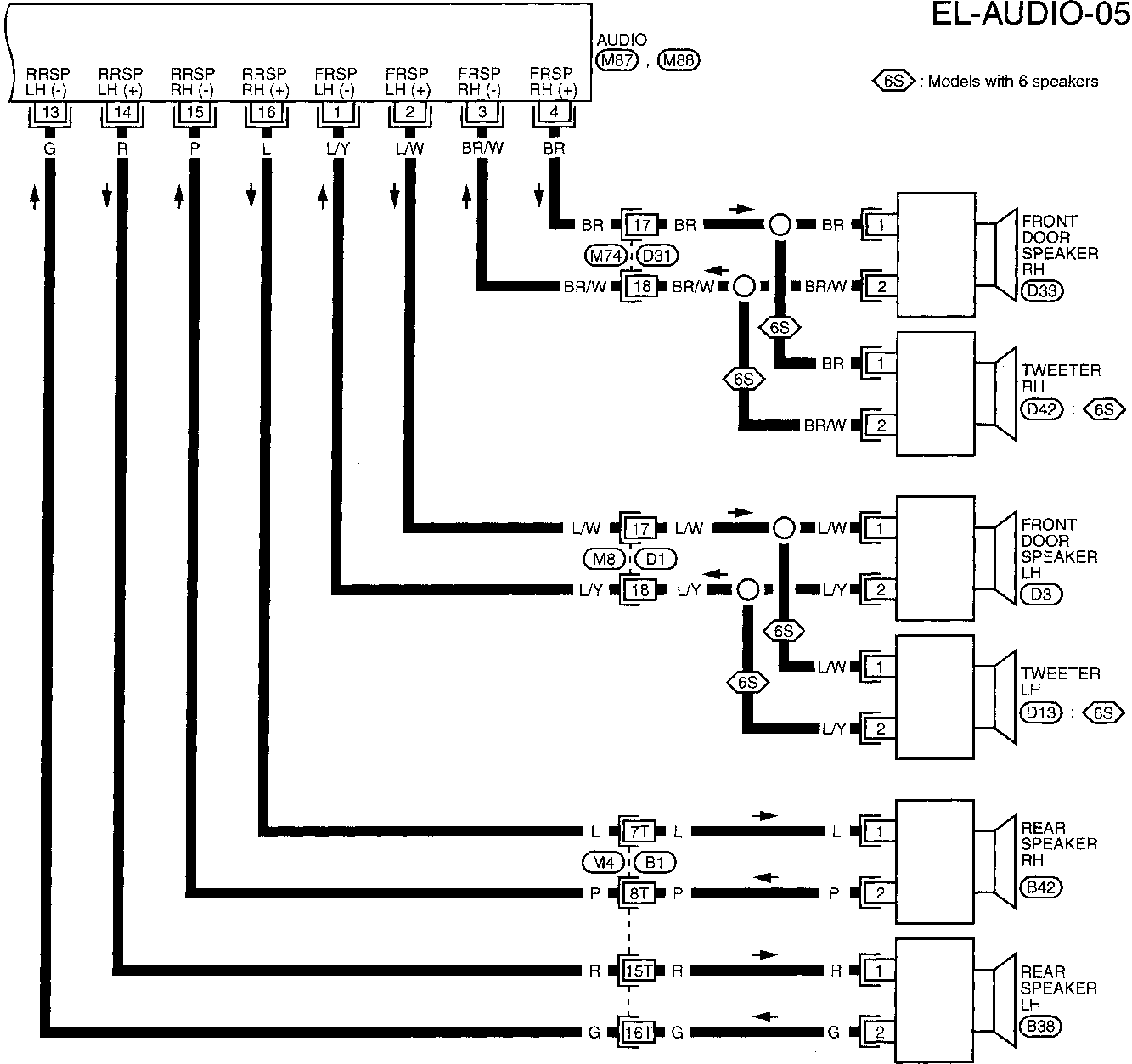
Refer to last page (Foldout page).

(M3), (E101)
(M1)

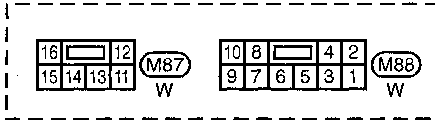
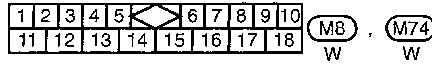
AUDIO AND POWER ANTENNA

Audio/Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-05



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Refer to last page (Foldout page).

(M4) (B1)

Power Antenna/System Description

Power is supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B]
- to power antenna timer and motor terminal ③.

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

- through 10A fuse [No. 21], located in the fuse block (J/B]
- to audio terminal ⑩.

Ground is supplied to the power antenna timer and motor through body grounds T6 and T9.

When the radio is turned to the ON position, battery voltage is supplied

- through audio terminal ⑤
- to power antenna timer and motor terminal ④.

When battery voltage is supplied to the power antenna timer and motor terminal ④, power supplied to the power antenna timer and motor terminal ③ drives the motor.

The antenna rises and is held in the extended position.

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

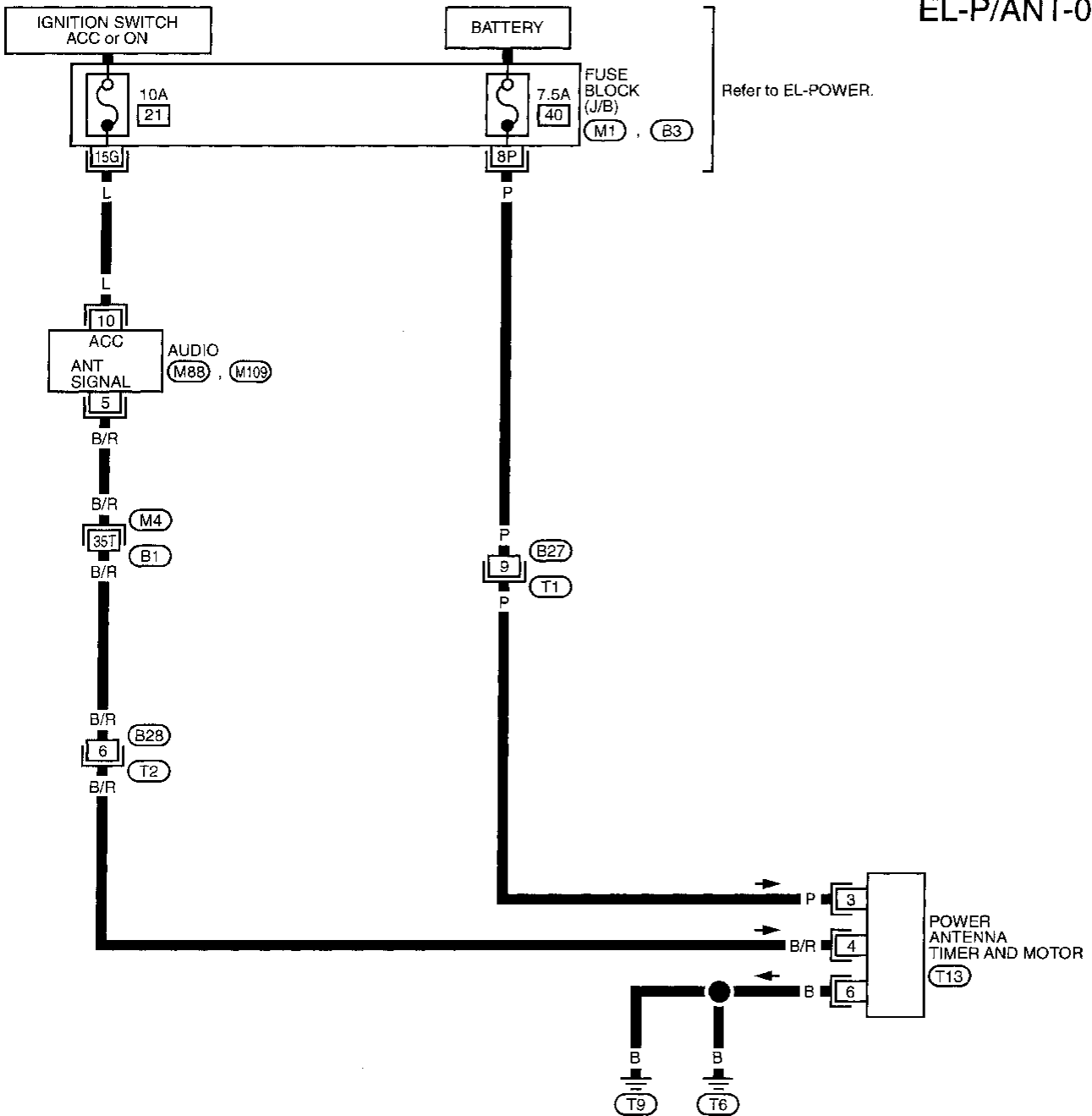
- from audio terminal ⑤
- to power antenna terminal ④.

The antenna retracts.

AUDIO AND POWER ANTENNA

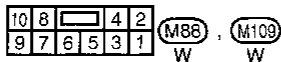
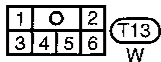
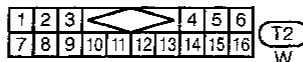
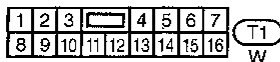
Power Antenna/Wiring Diagram — P/ANT —

EL-P/ANT-01



Refer to EL-POWER.

Refer to last page (Foldout page).



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AUDIO AND POWER ANTENNA

Trouble Diagnoses

RADIO

Symptom	Possible causes	Repair order
Radio is inoperative (no digital display and no sound from speakers).	<ol style="list-style-type: none"> 1. 10A fuse 2. Poor radio case ground 3. Radio 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 21], located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal ⑩ of radio. 2. Check radio case ground. 3. Remove radio for repair.
Radio presets are lost when ignition switch is turned OFF.	<ol style="list-style-type: none"> 1. 15A fuse 2. Radio 	<ol style="list-style-type: none"> 1. Check 15A fuse (No. 62), located in fuse and fusible link box). Verify battery positive voltage is present at terminal ⑥ of radio. 2. Remove radio for repair.
AM stations are weak or noisy (FM stations OK).	<ol style="list-style-type: none"> 1. Antenna 2. Poor radio ground 3. Radio 	<ol style="list-style-type: none"> 1. Check antenna. 2. Check radio ground. 3. Remove radio for repair.
FM stations are weak or noisy (AM stations OK).	<ol style="list-style-type: none"> 1. Window antenna 2. Radio 	<ol style="list-style-type: none"> 1. Check antenna. 2. Remove radio for repair.
Radio generates noise in AM and FM modes with engine running.	<ol style="list-style-type: none"> 1. Poor radio ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Alternator 5. Ignition coil or secondary wiring 6. Radio 	<ol style="list-style-type: none"> 1. Check radio ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check alternator. 5. Check ignition coil and secondary wiring. 6. Remove radio for repair.
Radio generates noise in AM and FM modes with accessories on (switch pops and motor noise).	<ol style="list-style-type: none"> 1. Poor radio ground 2. Antenna 3. Accessory ground 4. Faulty accessory 	<ol style="list-style-type: none"> 1. Check radio ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.

BOSE SYSTEM

Symptom	Possible causes	Repair order
Radio controls are operational, but no sound is heard from any speaker.	<ol style="list-style-type: none"> 1. 15A fuse 2. Audio amp. relay 3. Audio amp. relay ground 4. Amp. ON signal 5. Radio output 6. Radio 	<ol style="list-style-type: none"> 1. Check 15A fuse [No. 22], located in fuse block (J/B)]. Verify battery positive voltage is present at terminal ③ of audio amp. relay. 2. Check audio amp. relay. 3. Check audio amp. relay ground (Terminal ②). 4. Turn ignition switch ACC and radio ON. Verify battery positive voltage is present at terminal ① of audio amp. relay. 5. Check radio output voltage. 6. Remove radio for repair.
Individual speaker is noisy or inoperative.	<ol style="list-style-type: none"> 1. Speaker ground 2. Power supply 3. Radio output 4. Speaker 	<ol style="list-style-type: none"> 1. Check speaker ground (Terminal ②: FR LH, ②: FR RH, ①: RR LH, ①: RR RH). 2. Check power supply for speaker. 3. Check radio output voltage for amp. 4. Replace speaker.

AUDIO AND POWER ANTENNA

Trouble Diagnoses (Cont'd)

EXCEPT FOR BOSE SYSTEM

Symptom	Possible causes	Repair order
Individual speaker is noisy or inoperative.	<ol style="list-style-type: none"> 1. Speaker 2. Harness 3. Radio output 4. Radio 	<ol style="list-style-type: none"> 1. Check speaker. 2. Check harness between radio and speaker. 3. Check radio output voltage for speaker. 4. Remove radio for repair.

POWER ANTENNA

Symptom	Possible causes	Repair order
Power antenna does not operate.	<ol style="list-style-type: none"> 1. 7.5A fuse 2. Radio signal 3. Grounds (T6) and (T9) 	<ol style="list-style-type: none"> 1. Check 7.5A fuse [No. (40)], located in fuse block (J/B)]. Verify that battery positive voltage is present at terminal (3) of power antenna. 2. Turn ignition switch and radio ON. Verify that battery positive voltage is present at terminal (4) of power antenna. 3. Check grounds (T6) and (T9).

SPEAKER INSPECTION (EXCEPT FOR BOSE SYSTEM)

1. Disconnect speaker harness connector.
2. Measure the resistance between front and rear speaker terminals **(1)** and **(2)** or terminals **(1)** and **(2)** of tweeter (for 6-speaker type).
 - The resistance should be 2 to 4Ω.
3. Using jumper wires, momentarily connect a 9V battery between front and rear speaker terminals **(1)** and **(2)**.
 - A momentary hum or pop should be heard.

ANTENNA INSPECTION

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.

RADIO INSPECTION

All voltage inspections are made with:

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

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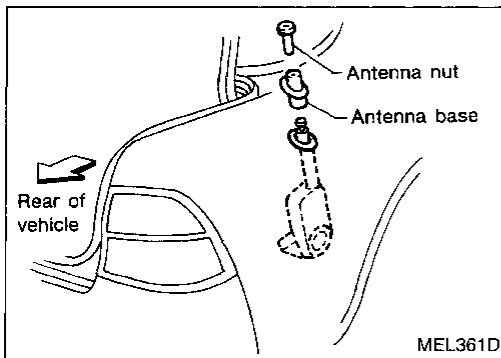
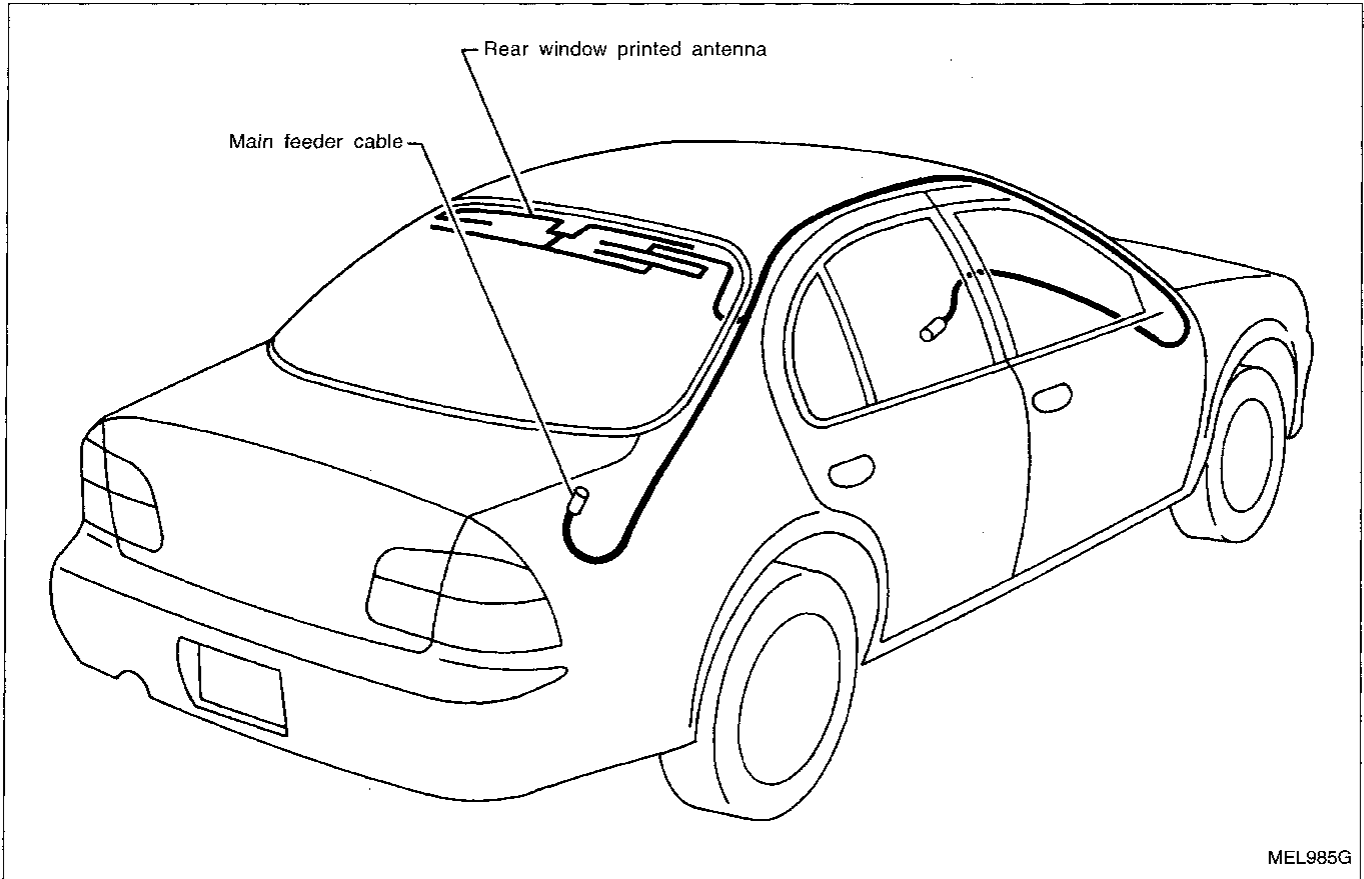
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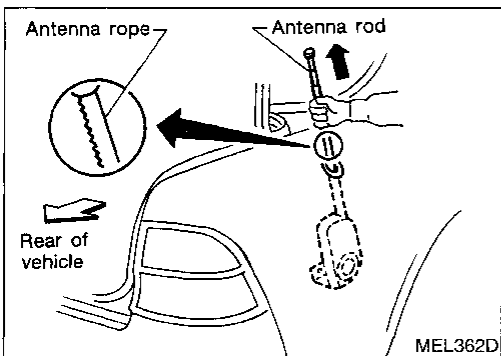
Location of Antenna



Antenna Rod Replacement

REMOVAL

1. Remove antenna nut and antenna base.



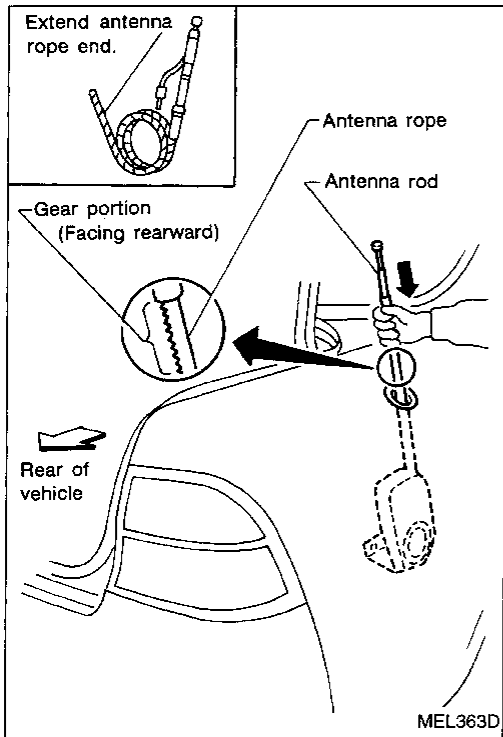
2. Withdraw antenna rod while raising it by operating antenna motor.

AUDIO AND POWER ANTENNA

Antenna Rod Replacement (Cont'd)

INSTALLATION

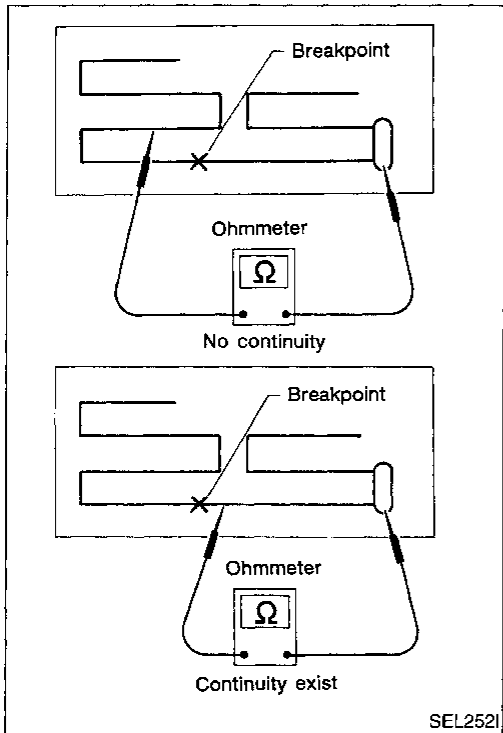
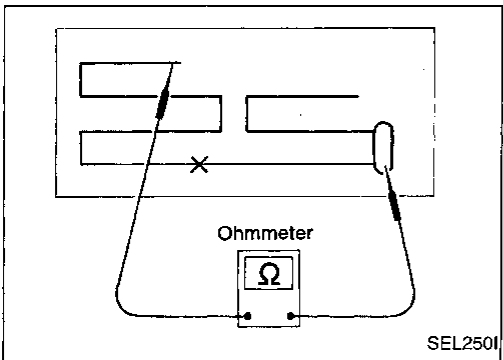
1. Lower antenna rod by operating antenna motor.
2. Insert gear section of antenna rope into place with it facing toward antenna motor.
3. As soon as antenna rope is wound on antenna motor, stop antenna motor. Insert antenna rod lower end into antenna motor pipe.
4. Retract antenna rod completely by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



Window Antenna Repair

ELEMENT CHECK

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

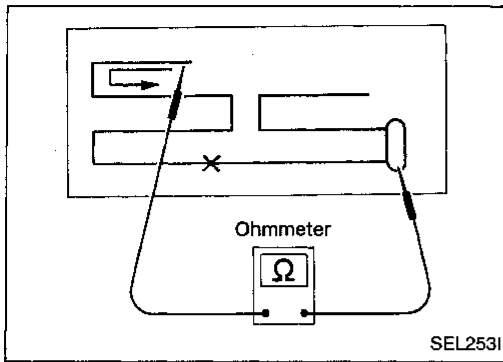


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AUDIO AND POWER ANTENNA

Window Antenna Repair (Cont'd)

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

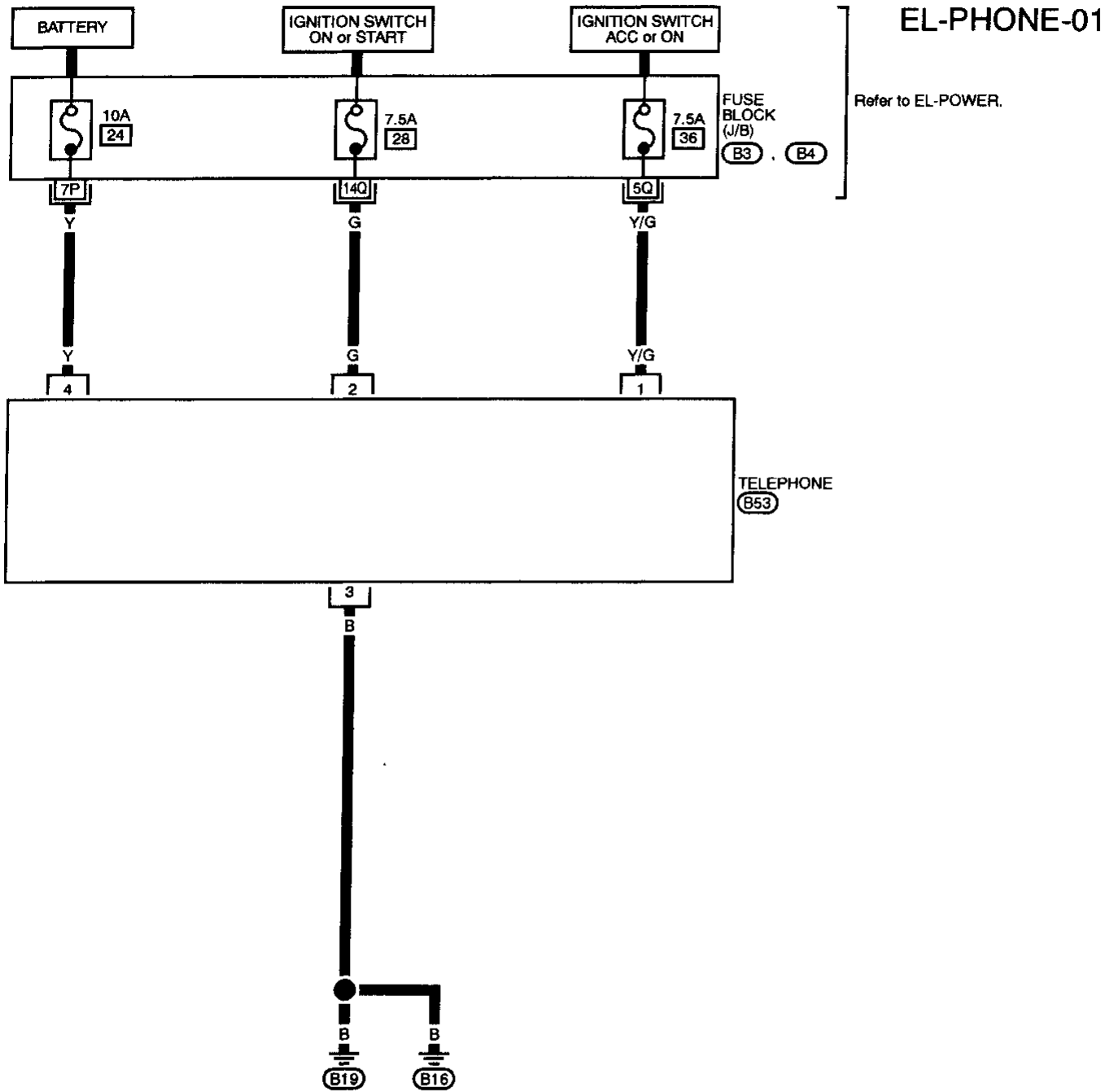


ELEMENT REPAIR

Refer to REAR WINDOW DEFOGGER "Filament Repair" (EL-124).

TELEPHONE

Telephone Pre Wire/Wiring Diagram — PHONE —



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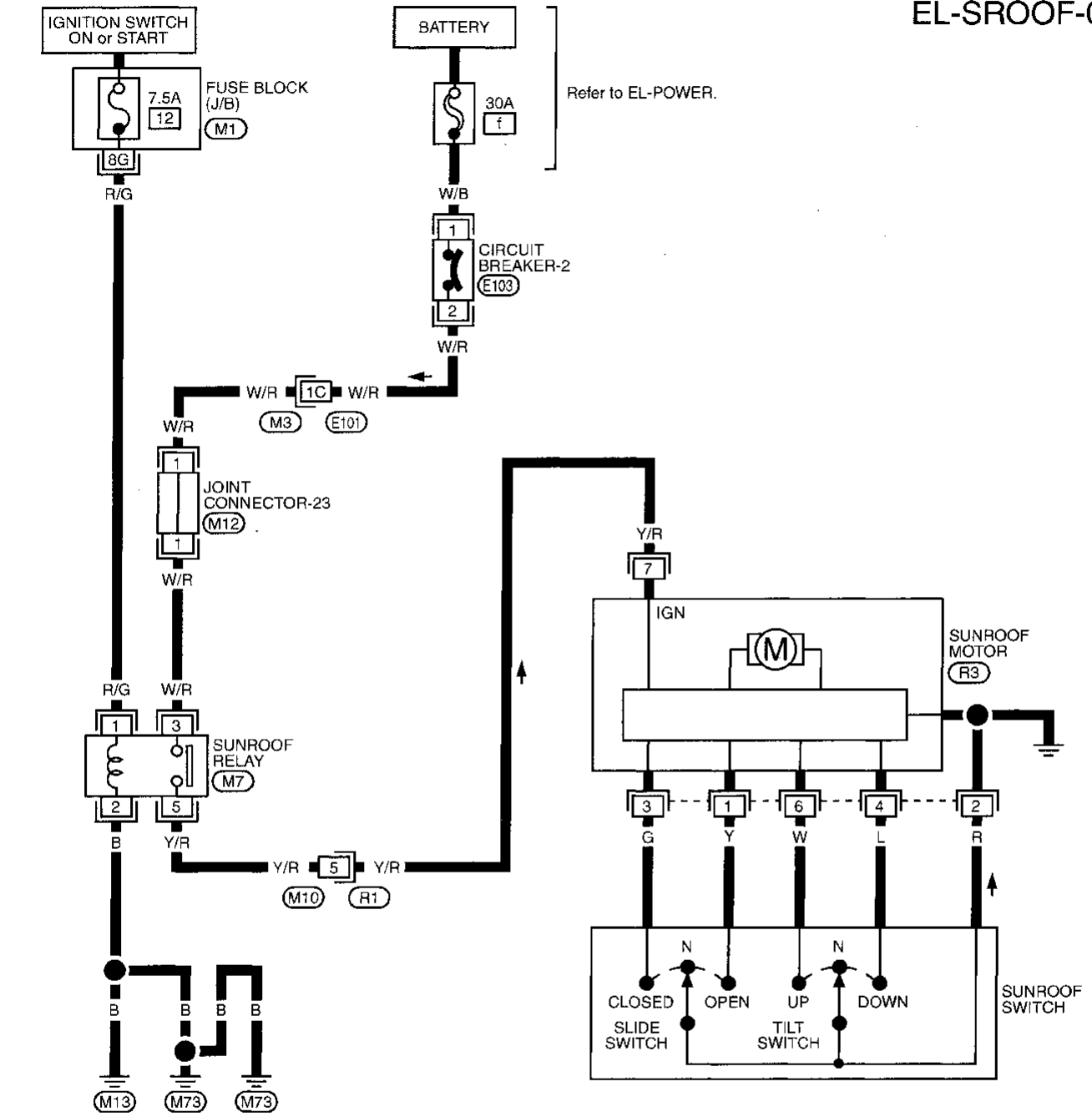
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B3 . B4

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ELECTRIC SUNROOF

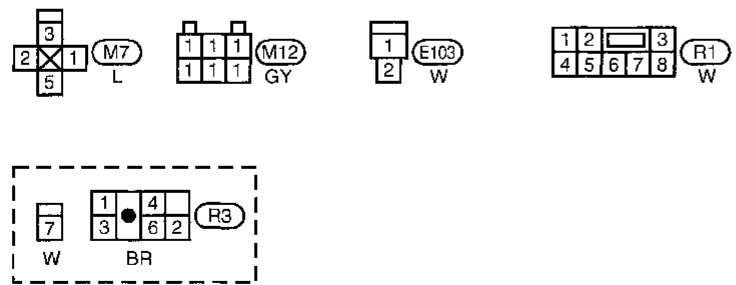
Sunroof/Wiring Diagram — SROOF —

EL-SROOF-01



Refer to EL-POWER.

Refer to last page (Foldout page).

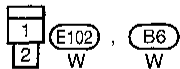
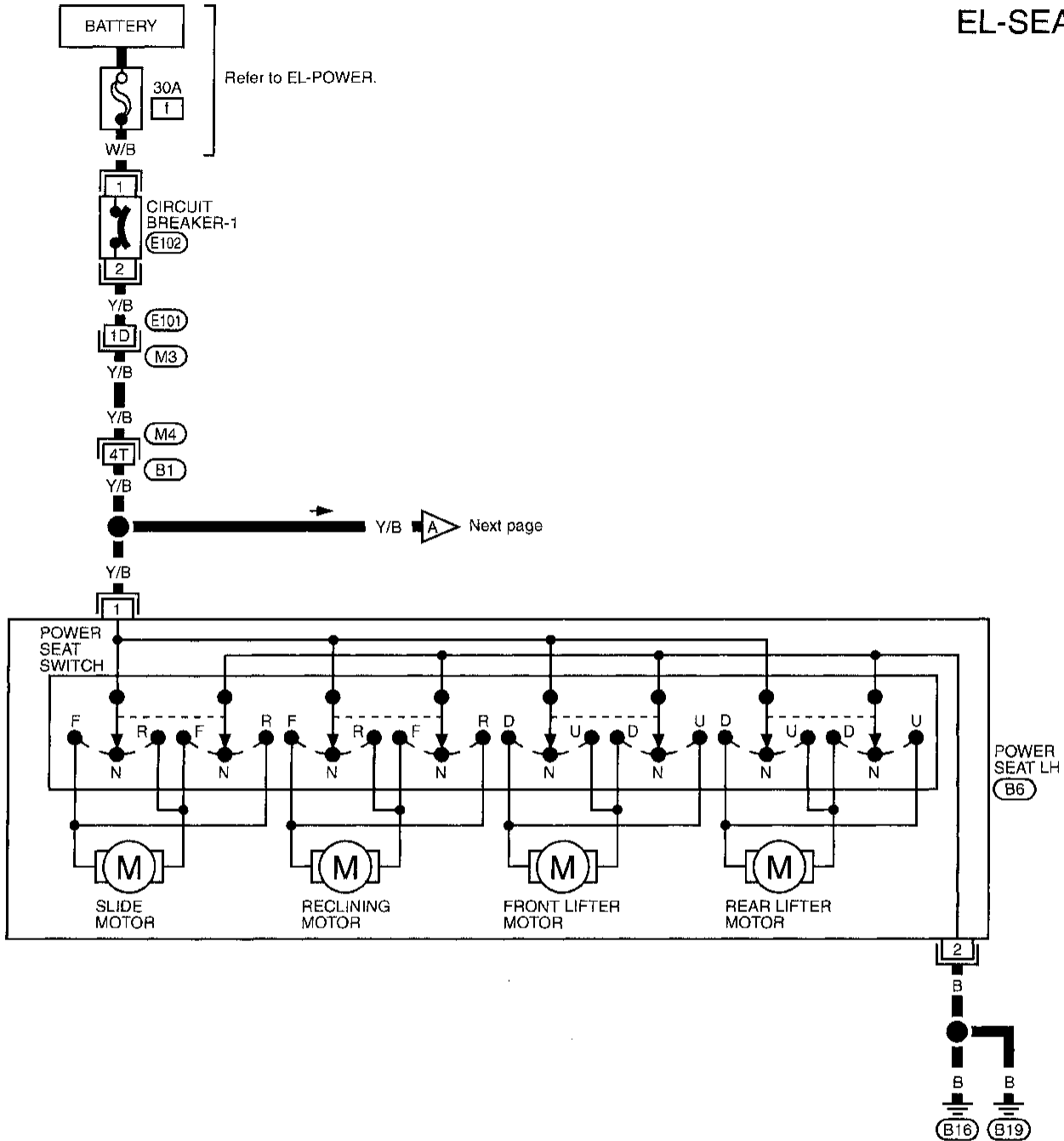


- (M3), (E101)
- (M1)
- (M12)

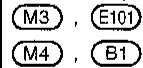
POWER SEAT

Power Seat/Wiring Diagram — SEAT —

EL-SEAT-01



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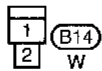
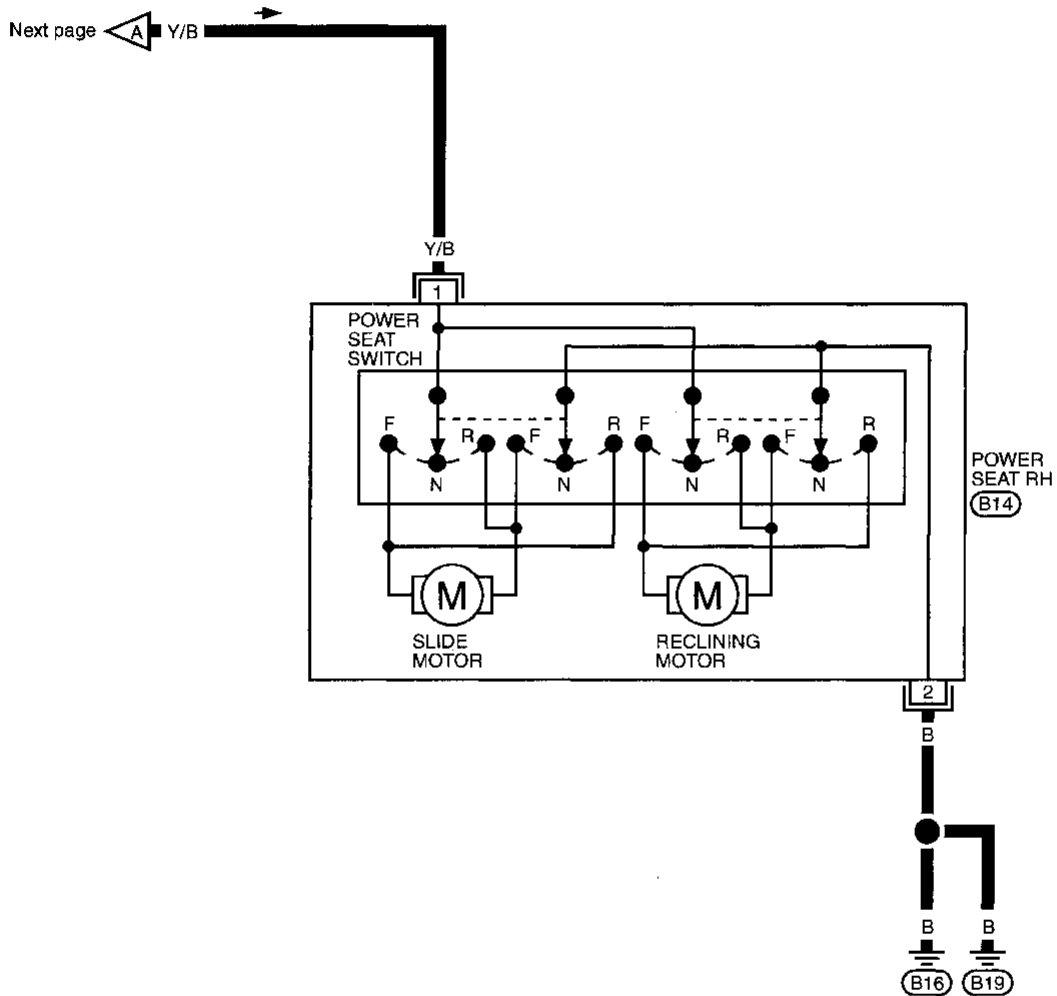


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POWER SEAT

Power Seat/Wiring Diagram — SEAT — (Cont'd)

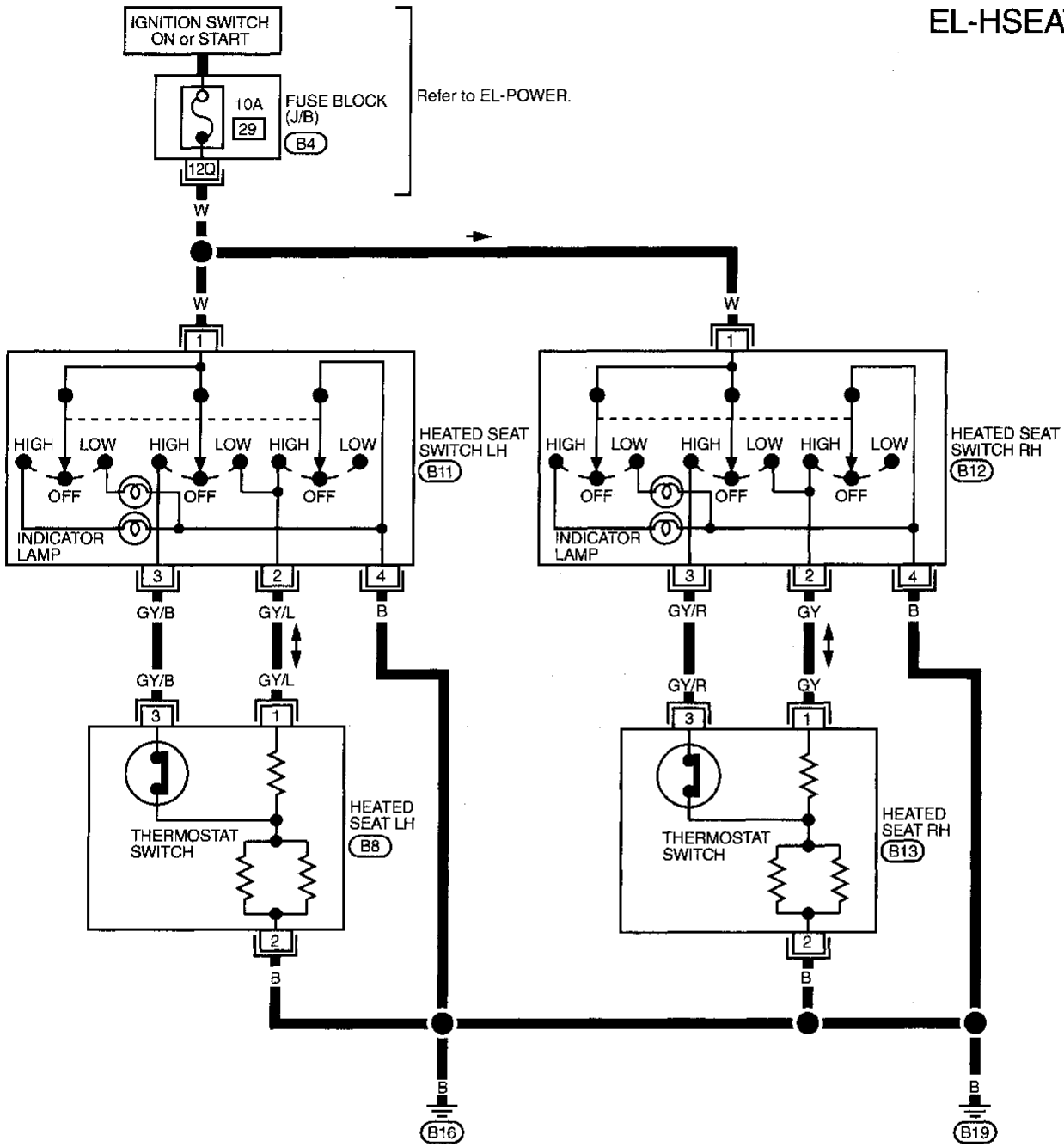
EL-SEAT-02



HEATED SEAT

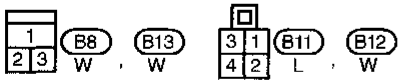
Heated Seat/Wiring Diagram — HSEAT —

EL-HSEAT-01



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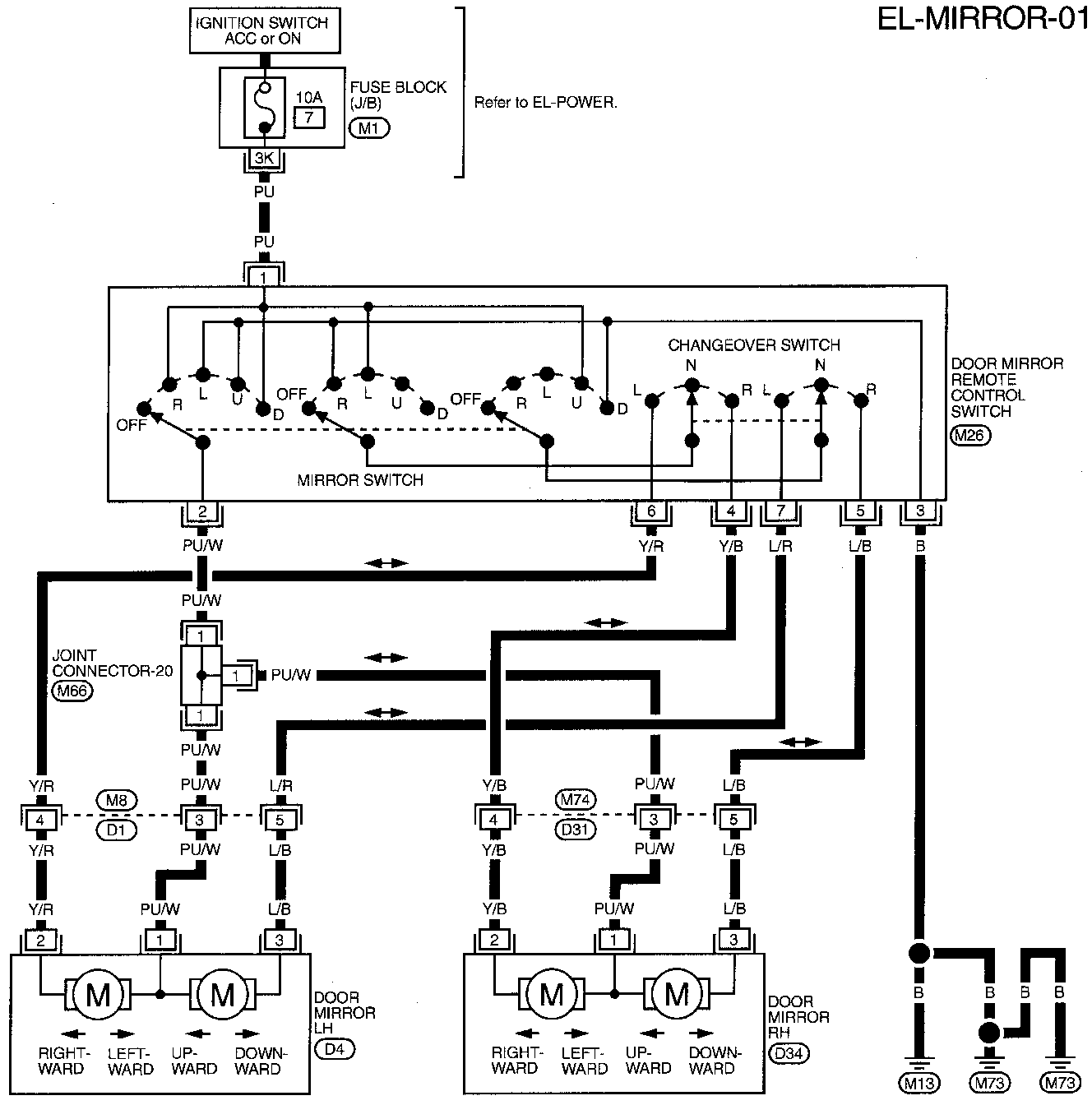
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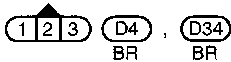
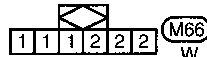
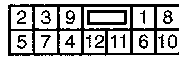
POWER DOOR MIRROR

Wiring Diagram — MIRROR —

EL-MIRROR-01



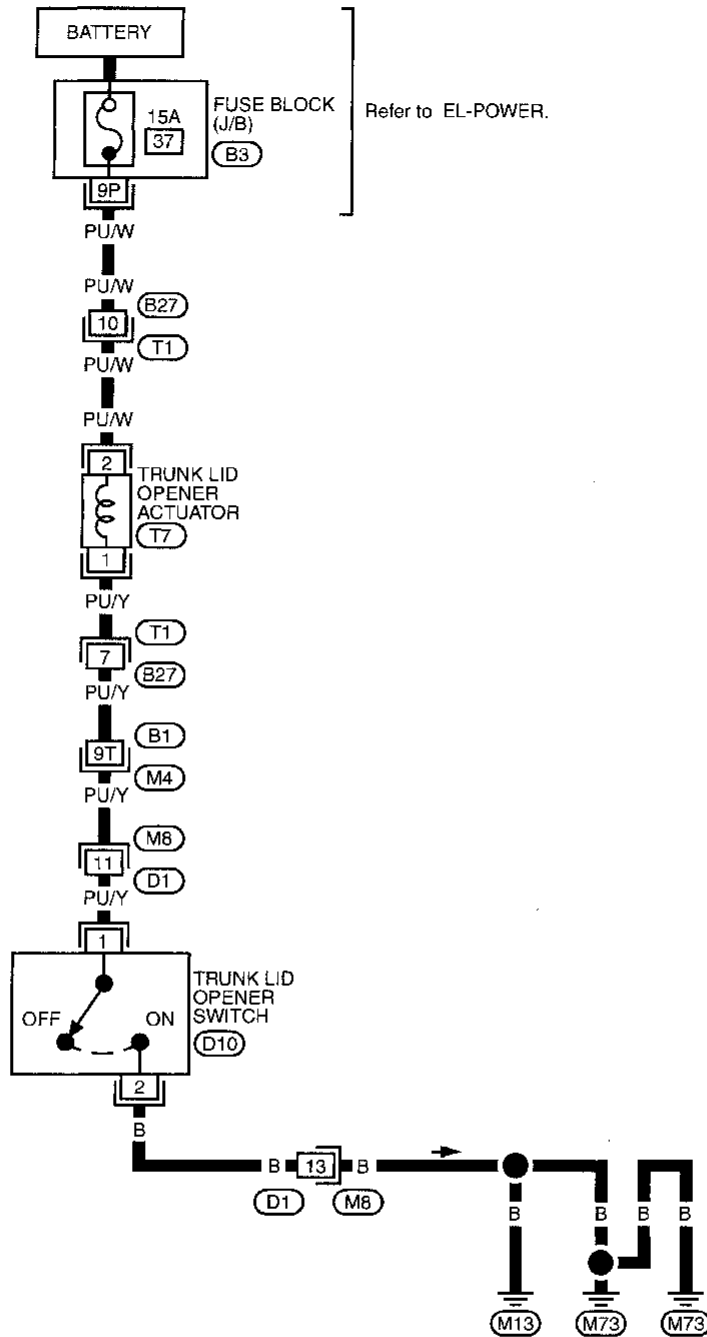
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TRUNK LID AND FUEL FILLER LID OPENER

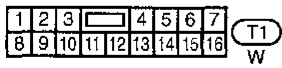
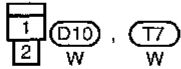
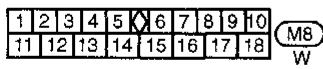
Wiring Diagram — TLID —

EL-TLID-01

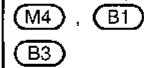


Refer to EL-POWER.

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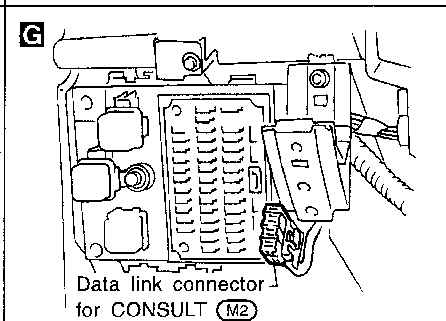
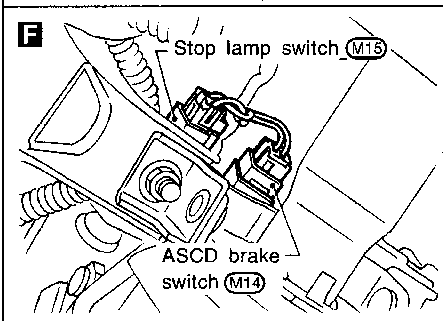
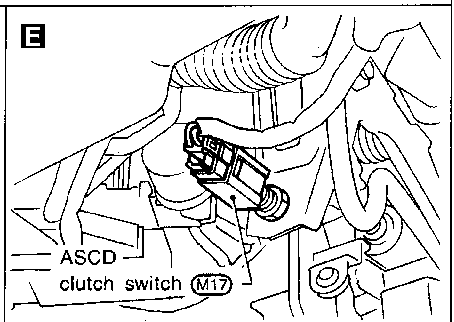
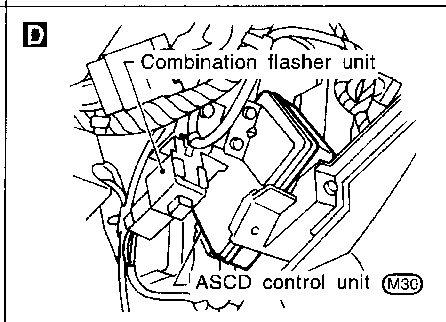
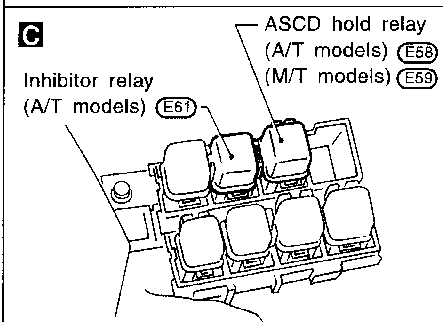
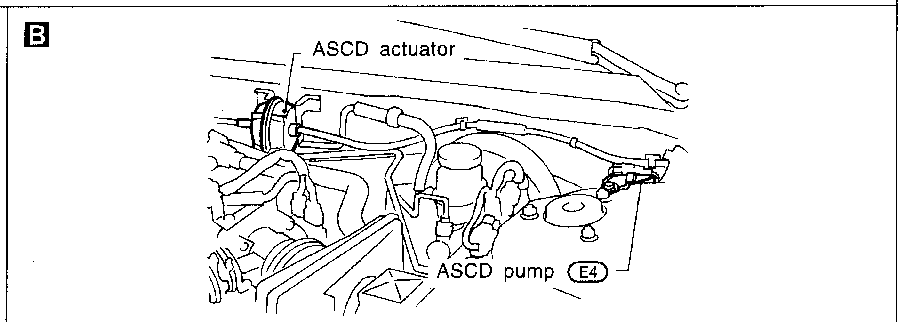
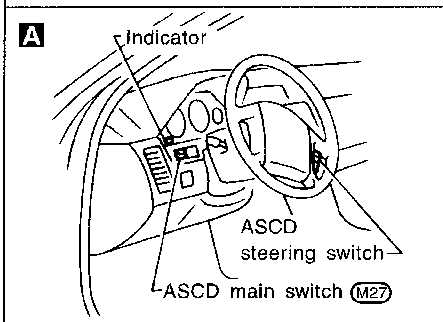
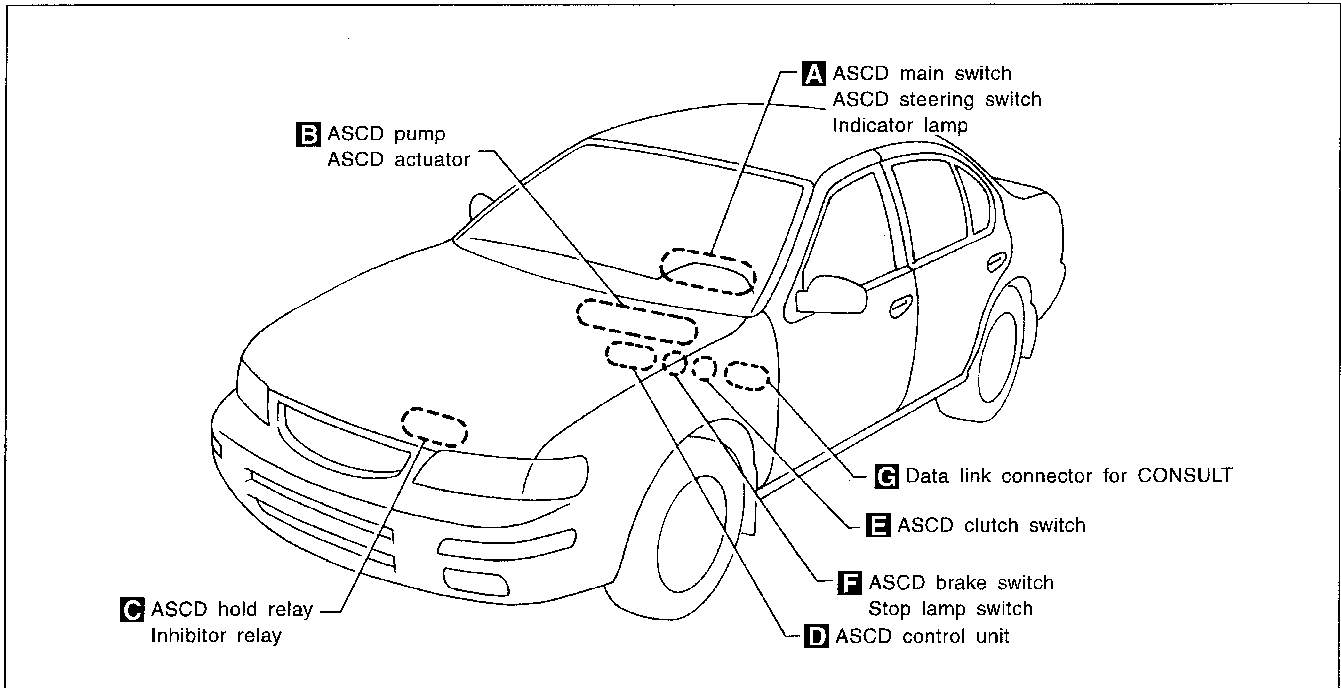


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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location



System Description

Refer to Owner's Manual for ASCD operating instructions.

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

- through 7.5A fuse [No. 12, located in the fuse block (J/B)]
- to ASCD main switch terminal ① and
- to ASCD hold relay terminal ⑤ and
- to ASCD brake switch terminal ① (A/T models).

GI

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

MA

- from terminal ② of the ASCD main switch
- to ASCD control unit terminal ④ and
- to ASCD clutch switch terminal ① (M/T models)
- from terminal ③ of the ASCD main switch
- to ASCD hold relay terminal ①.

EM

Ground is supplied

LC

- to ASCD hold relay terminal ②
- through body grounds E5 and E30.

EC

With power and ground supplied, the ASCD hold relay is activated, and power is supplied

- from terminal ③ of ASCD hold relay
- through ASCD main switch terminals ② and ③
- to ASCD hold relay terminal ①

FE

When the ASCD main switch is released to the N (neutral) position, power remains supplied

- from terminal ③ of the ASCD hold relay
- to ASCD control unit terminal ④ and
- to ASCD clutch switch terminal ① (M/T models) or
- from terminal ⑥ of the ASCD hold relay
- to inhibitor relay terminal ③ (A/T models).

CL

MT

Ground is supplied

- to ASCD control unit terminal ③
- through body grounds M13 and M73.

AT

Inputs

At this point, the system is ready to activate or deactivate, based on inputs from the following:

- speedometer in the combination meter
- stop lamp switch
- ASCD steering switch
- inhibitor relay (A/T models)
- ASCD clutch switch (M/T models) and
- ASCD brake switch.

FA

RA

BR

A vehicle speed input is supplied

- from terminal 14 of the combination meter
- to ASCD control unit terminal ⑦

ST

Power is supplied at all times

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

RS

When the brake pedal is depressed, power is supplied

- from terminal ② of the stop lamp switch
- to ASCD control unit terminal ⑩.

BT

Power is supplied at all times

- through 10A fuse (No. 64, located in the fuse and fusible link box)
- to horn relay terminal ②,
- through terminal ① of the horn relay
- to ASCD steering switch terminal ①.

HA

EL

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

- from terminal ② of the ASCD steering switch
- to ASCD control unit terminal ②.

IDX

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

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

When the ASCD CANCEL switch is depressed, power is supplied

- to ASCD control unit terminals ① and ②.

When the system is activated, power is supplied

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description (Cont'd)

- to ASCD control unit terminal ⑤ and
- Power is interrupted when
- the selector is placed in P or N (A/T models)
 - the clutch pedal is depressed (M/T models) or
 - the brake pedal is depressed.

Outputs

The ASCD actuator controls the throttle drum via the ASCD wire based on inputs from the ASCD control unit. The ASCD actuator consists of a vacuum motor, an air valve, and a release valve.

Power is supplied

- from terminal ⑧ of the ASCD control unit
- to ASCD pump terminal ①.

Ground is supplied to the vacuum motor

- from terminal ⑨ of the ASCD control unit
- to ASCD pump terminal ④.

Ground is supplied to the air valve

- from terminal ⑩ of the ASCD control unit
- to ASCD pump terminal ②.

Ground is supplied to the release valve

- from terminal ⑭ of the ASCD control unit
- to ASCD pump terminal ③.

When the system is activated, power is supplied

- from terminal ⑬ of the ASCD control unit
- to combination meter terminal ⑧ and
- to A/T control unit terminal ⑳ (A/T models).

Ground is supplied

- to combination meter terminal ⑳
- through body grounds M13 and M73.

With power and ground supplied, the CRUISE indicator illuminates.

When vehicle speed is approximately 8 km/h (5 MPH) below set speed on A/T models, a signal is sent

- from terminal ⑫ of the ASCD control unit
- to A/T control unit terminal ④①.

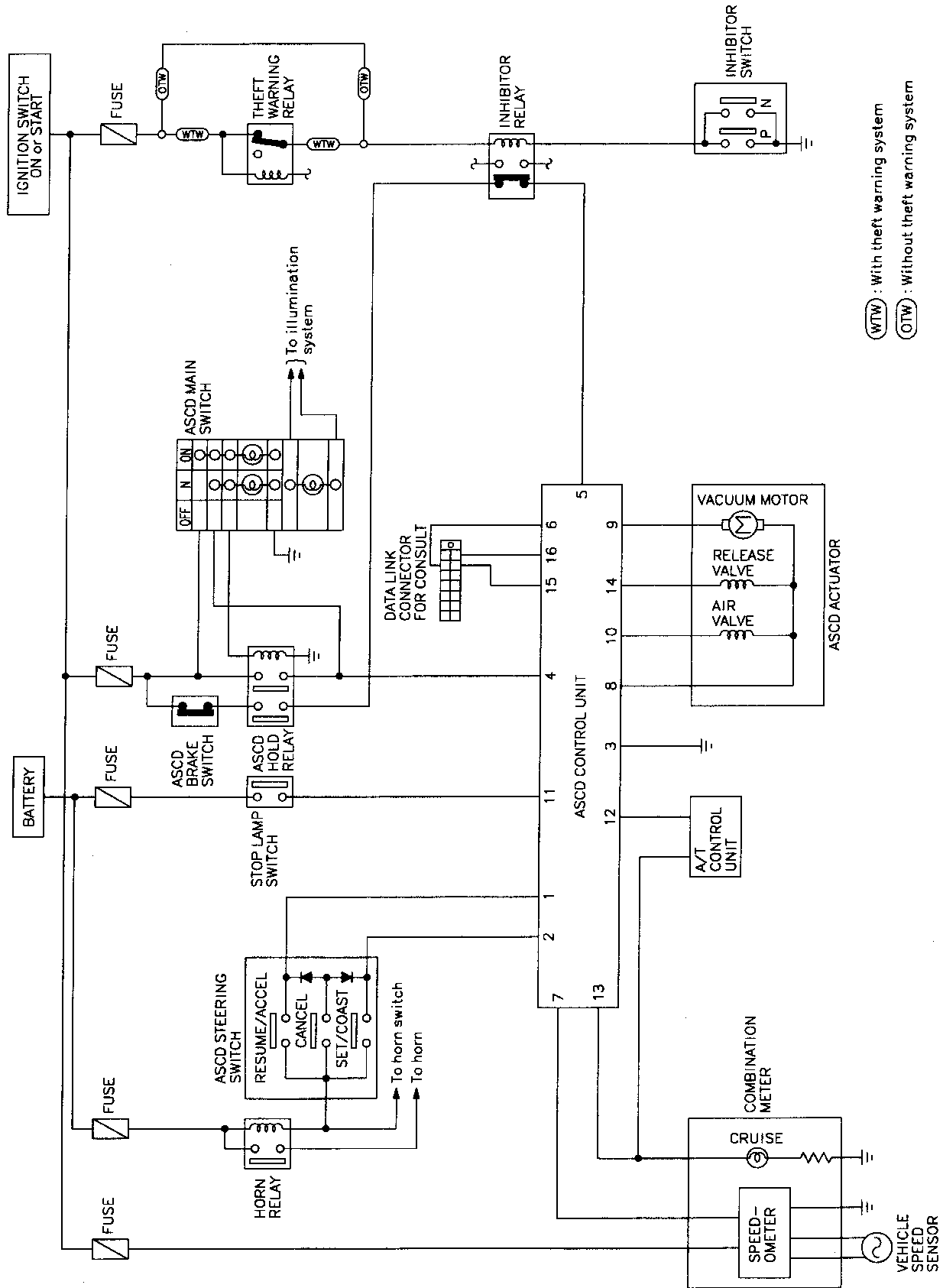
When this occurs, the A/T control unit cancels overdrive.

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

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic

A/T MODELS

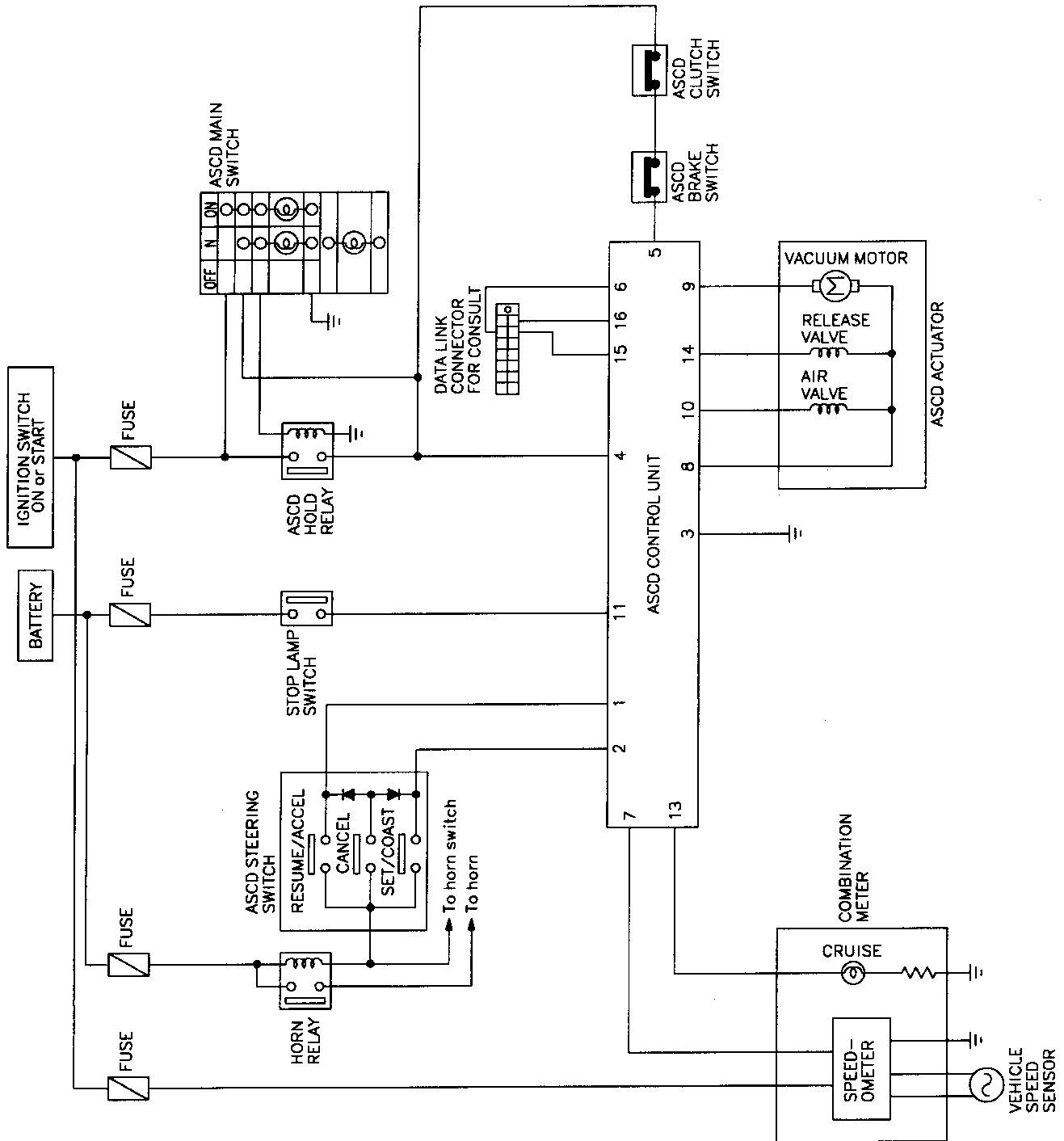


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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic (Cont'd)

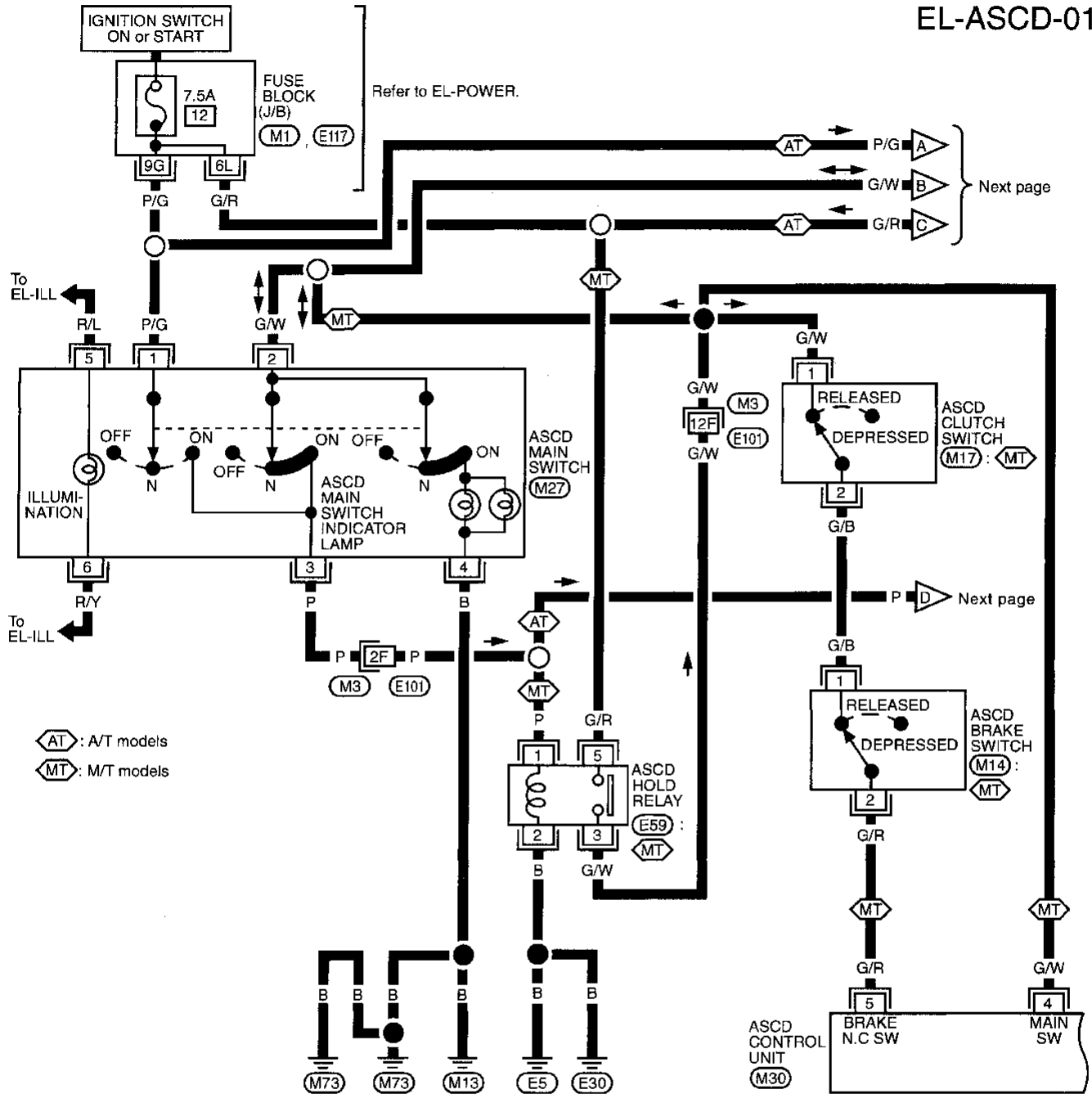
M/T MODELS



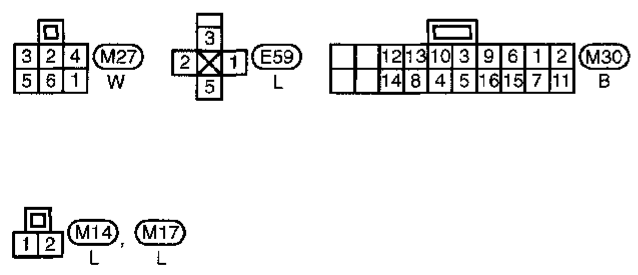
AUTOMATIC SPEED CONTROL DEVICE (ASCD) (ASCD)

Wiring Diagram — ASCD —

EL-ASCD-01



AT : A/T models
MT : M/T models

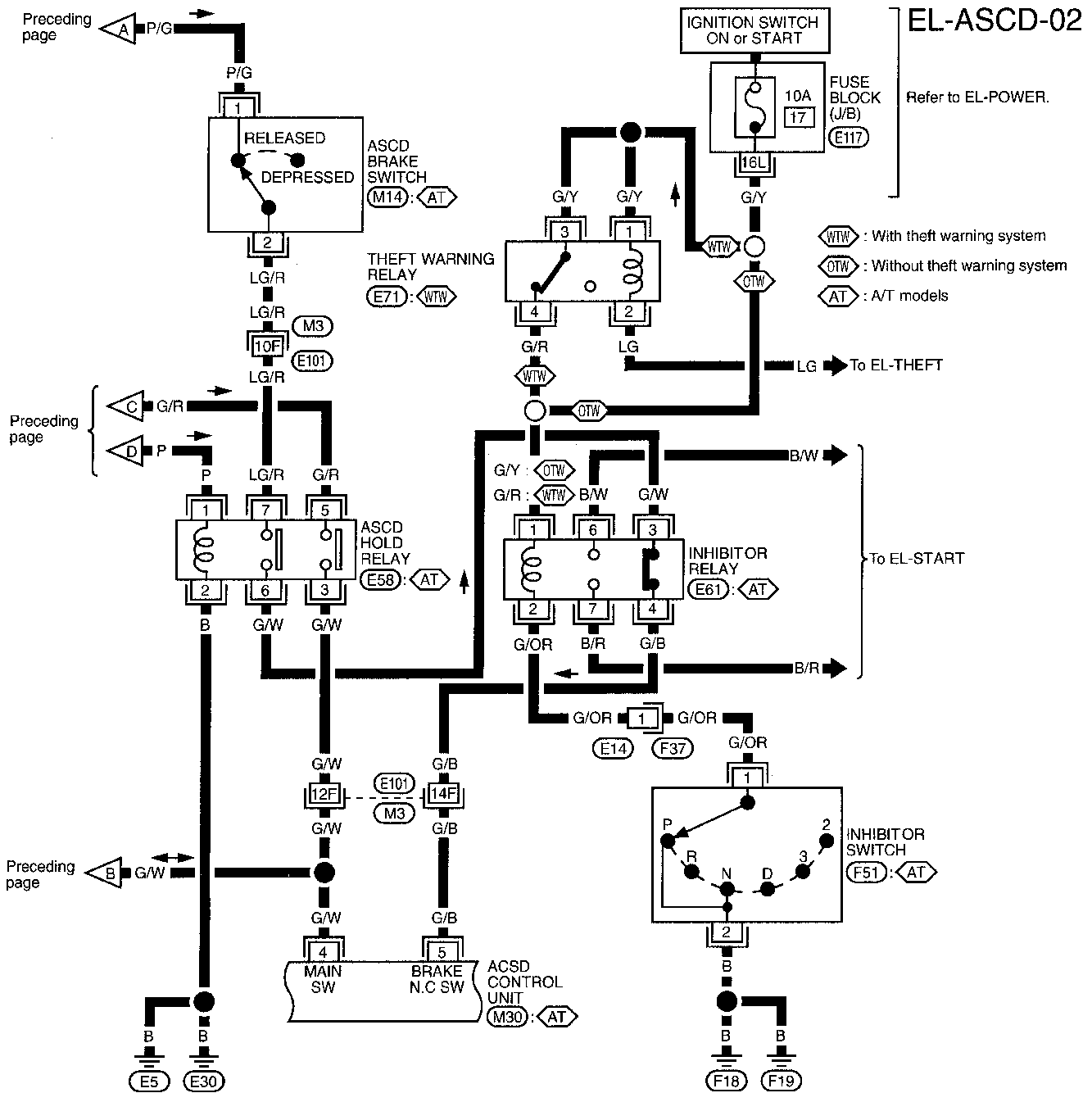


Refer to last page (Foldout page).
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

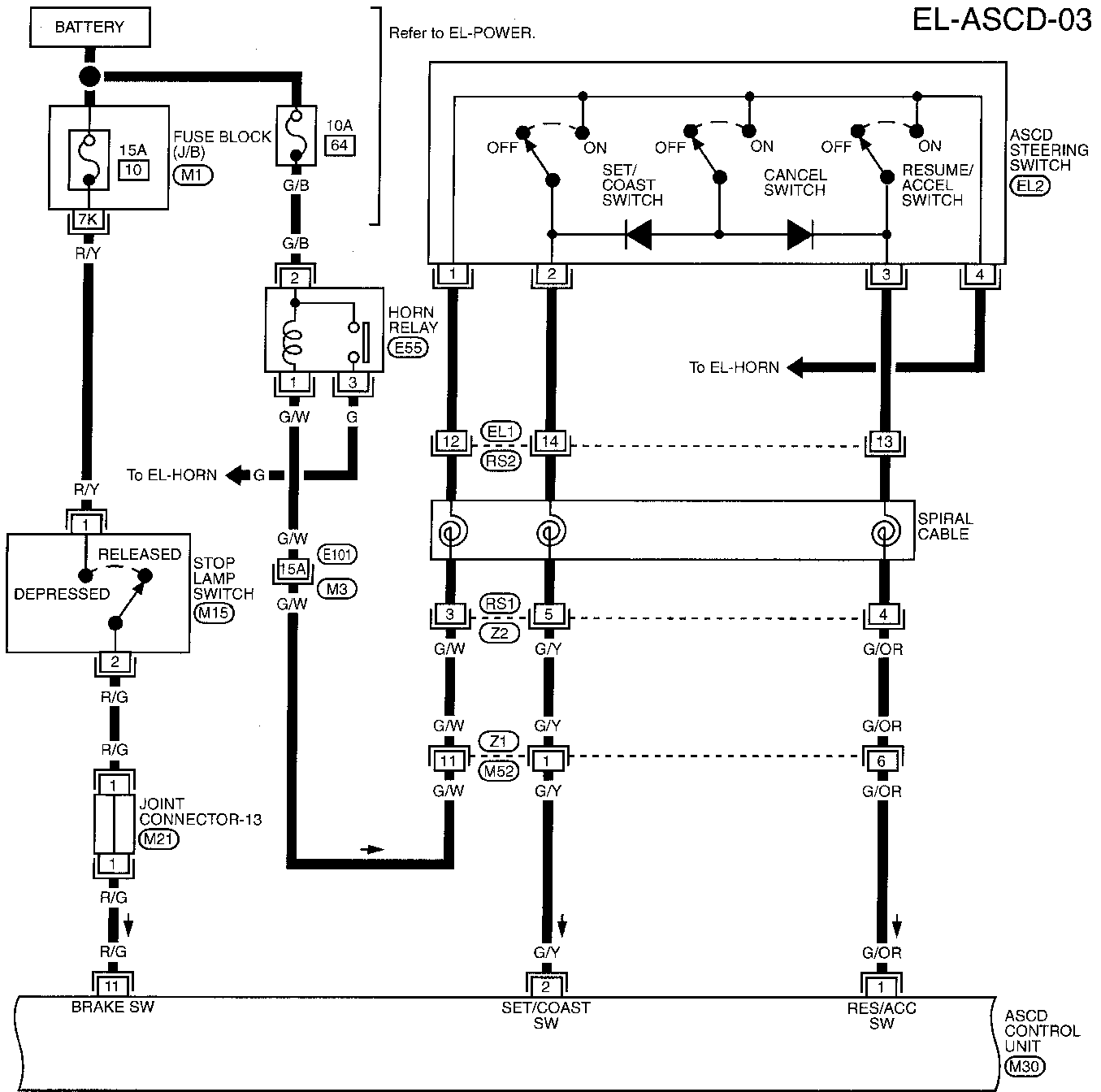


Refer to last page (Foldout page).

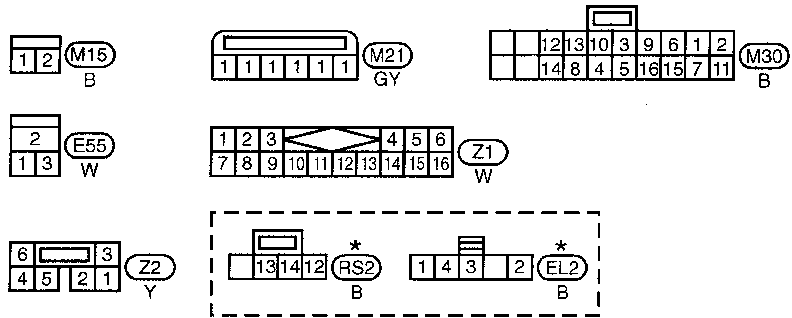
M3, E101, E117

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)



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

Refer to last page (Foldout page).

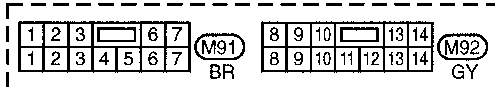
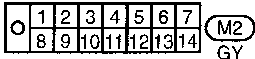
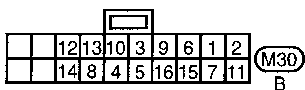
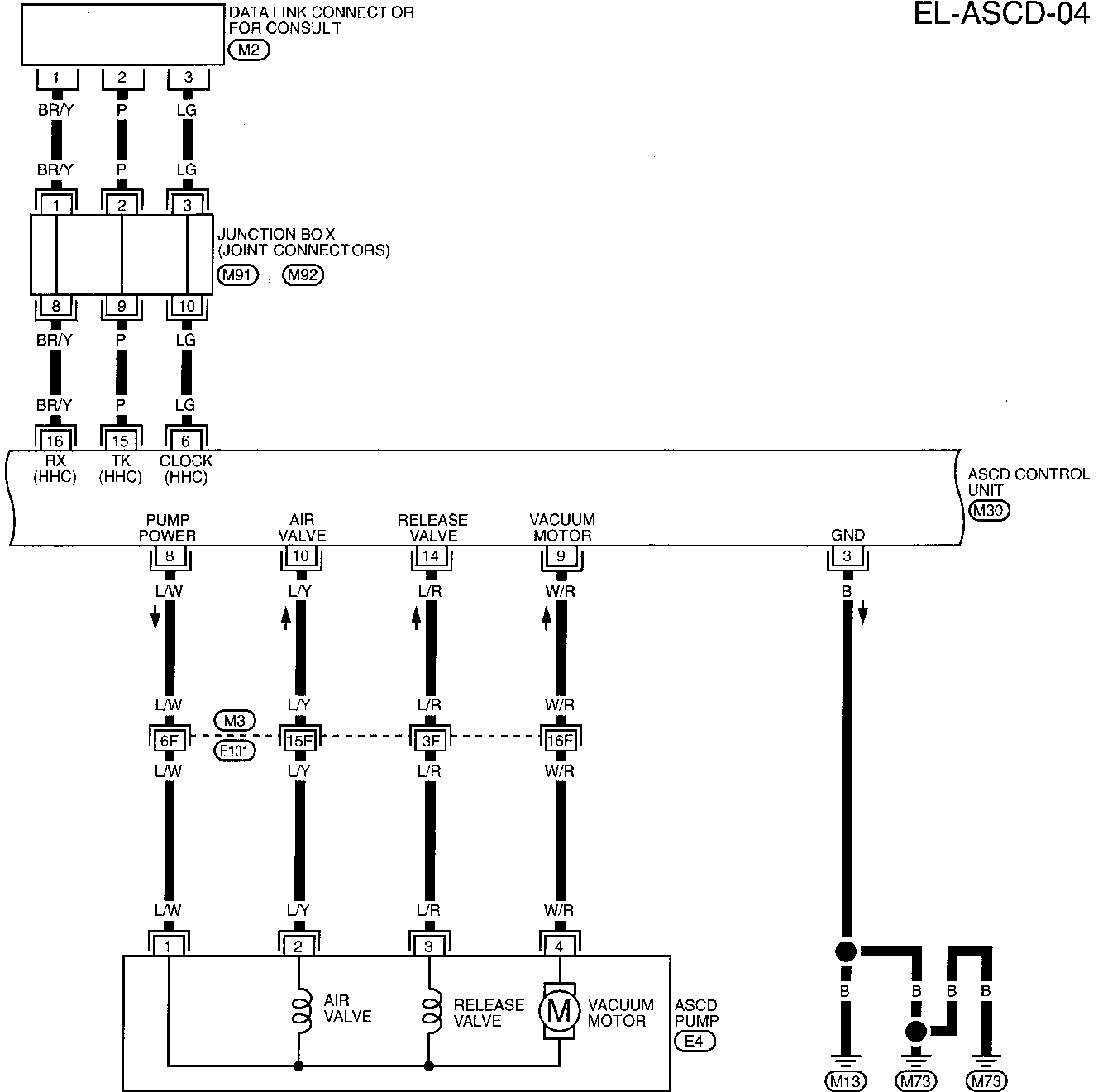
- (M3) . (E10)
- (M1)
- (M21)

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-04



Refer to last page (Foldout page).

M3, E101

M91

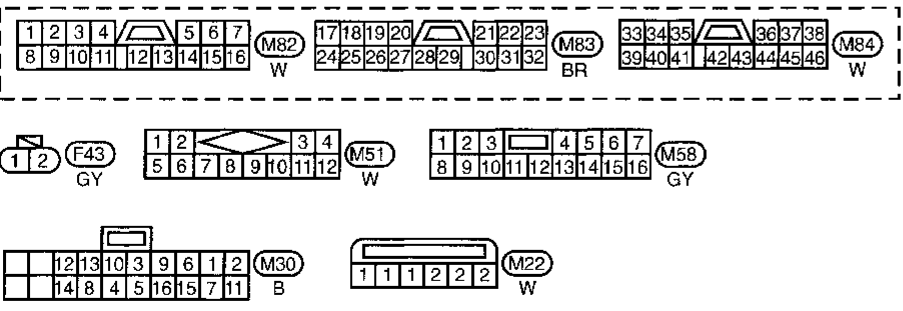
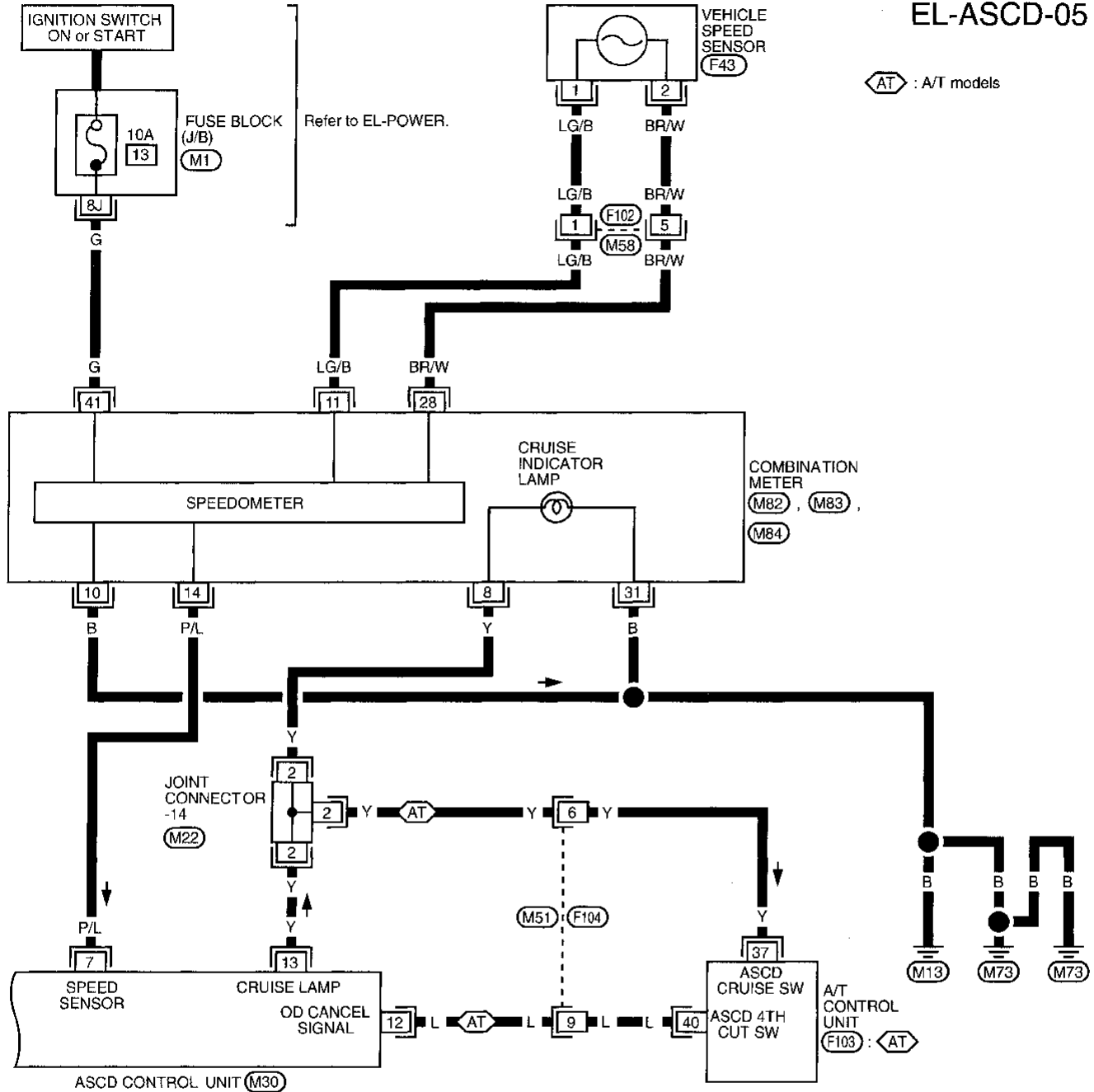
M92

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-05

⬡ AT : A/T models



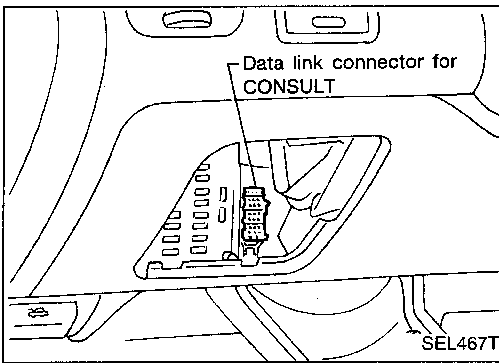
Refer to last page (Foldout page).

- ⬡ M1
- ⬡ F103
- ⬡ M22

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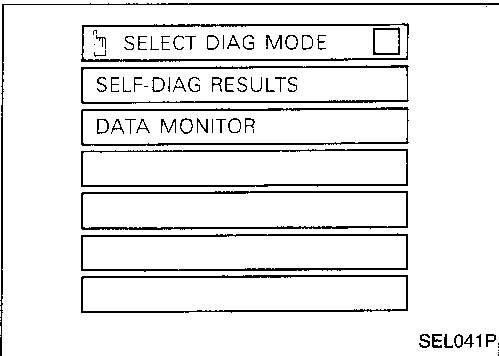
AUTOMATIC SPEED CONTROL DEVICE (ASCD)



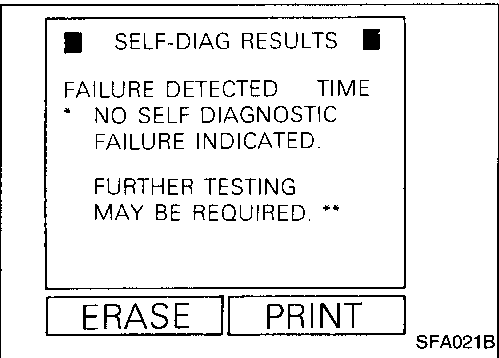
Trouble Diagnoses

CONSULT

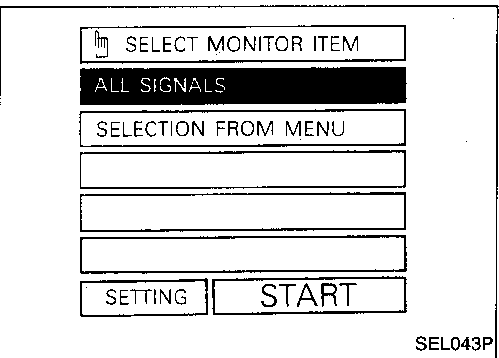
1. Turn off ignition switch.
2. Connect "CONSULT" to data link connector for CONSULT.



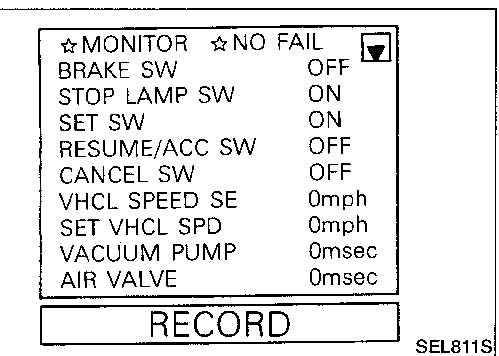
3. Turn on ignition switch.
4. Turn on ASCD main switch.
5. Touch START (on CONSULT display).
6. Touch ASCD.
7. Touch SELF-DIAG RESULTS.



- Self-diagnostic results are shown on display. Refer to table on the next page.



8. Touch DATA MONITOR.



- Touch START.
- Data monitor results are shown on display. Refer to table on the next page.

For further information, read the **CONSULT Operation Manual**.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

Self-diagnostic results

Diagnostic item	Description	Repair/Check order
* NO SELF DIAGNOSTIC FAILURE INDICATED. FURTHER TESTING MAY BE REQUIRED.**	<ul style="list-style-type: none"> • Even if no self diagnostic failure is indicated, further testing may be required as far as the customer complains. 	—
POWER SUPPLY-VALVE	<ul style="list-style-type: none"> • The power supply circuit for the ASCD pump is open. (An abnormally high voltage is entered.) 	Diagnostic procedure 7 (EL-166)
VACUUM PUMP	<ul style="list-style-type: none"> • The vacuum pump circuit is open or shorted. (An abnormally high or low voltage is entered.) 	Diagnostic procedure 7 (EL-166)
AIR VALVE	<ul style="list-style-type: none"> • The air valve circuit is open or shorted. (An abnormally high or low voltage is entered.) 	Diagnostic procedure 7 (EL-166)
RELEASE VALVE	<ul style="list-style-type: none"> • The release valve circuit is open or shorted. (An abnormally high or low voltage is entered.) 	Diagnostic procedure 7 (EL-166)
VHCL SP-S/FAILSAFE	<ul style="list-style-type: none"> • The vehicle speed sensor or the fail-safe circuit is malfunctioning. 	Diagnostic procedure 6 (EL-165)
CONTROL UNIT	<ul style="list-style-type: none"> • The ASCD control unit is malfunctioning. 	Replace ASCD control unit.
BRAKE SW/STOP/L SW	<ul style="list-style-type: none"> • The brake switch or stop lamp switch is malfunctioning. 	Diagnostic procedure 4 (EL-163)

Data monitor

Monitored item	Description
BRAKE SW	<ul style="list-style-type: none"> • Indicates [ON/OFF] condition of the brake switch circuit.
STOP LAMP SW	<ul style="list-style-type: none"> • Indicates [ON/OFF] condition of the stop lamp switch circuit.
SET SW	<ul style="list-style-type: none"> • Indicates [ON/OFF] condition of the set switch circuit.
RESUME/ACC SW	<ul style="list-style-type: none"> • Indicates [ON/OFF] condition of the resume/accelerate switch circuit.
CANCEL SW	<ul style="list-style-type: none"> • Indicates [ON/OFF] condition of the cancel circuit.
VHCL SPEED SE	<ul style="list-style-type: none"> • The present vehicle speed computed from the vehicle speed sensor signal is displayed.
SET VHCL SPD	<ul style="list-style-type: none"> • The preset vehicle speed is displayed.
VACUUM PUMP	<ul style="list-style-type: none"> • The operation time of the vacuum pump is displayed.
AIR VALVE	<ul style="list-style-type: none"> • The operation time of the air valve is displayed.
PW SUP-VALVE	<ul style="list-style-type: none"> • Indicates [ON/OFF] condition of the circuit for the air valve and the release valve.
CRUISE LAMP	<ul style="list-style-type: none"> • Indicates [ON/OFF] condition of the cruise lamp circuit.
A/T-OD CANCEL	<ul style="list-style-type: none"> • Indicates [ON/OFF] condition of the OD cancel circuit.
FAIL SAFE-LOW	<ul style="list-style-type: none"> • The fail-safe (LOW) circuit function is displayed.
FAIL SAFE-SPD	<ul style="list-style-type: none"> • The fail-safe (SPEED) circuit function is displayed.

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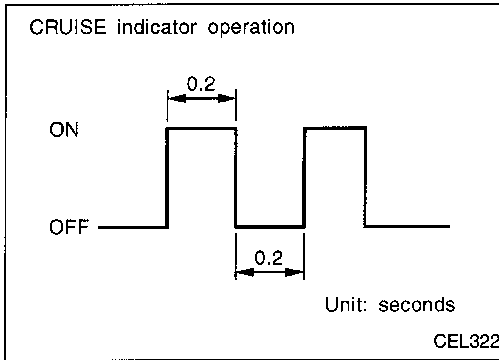
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

FAIL-SAFE SYSTEM

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



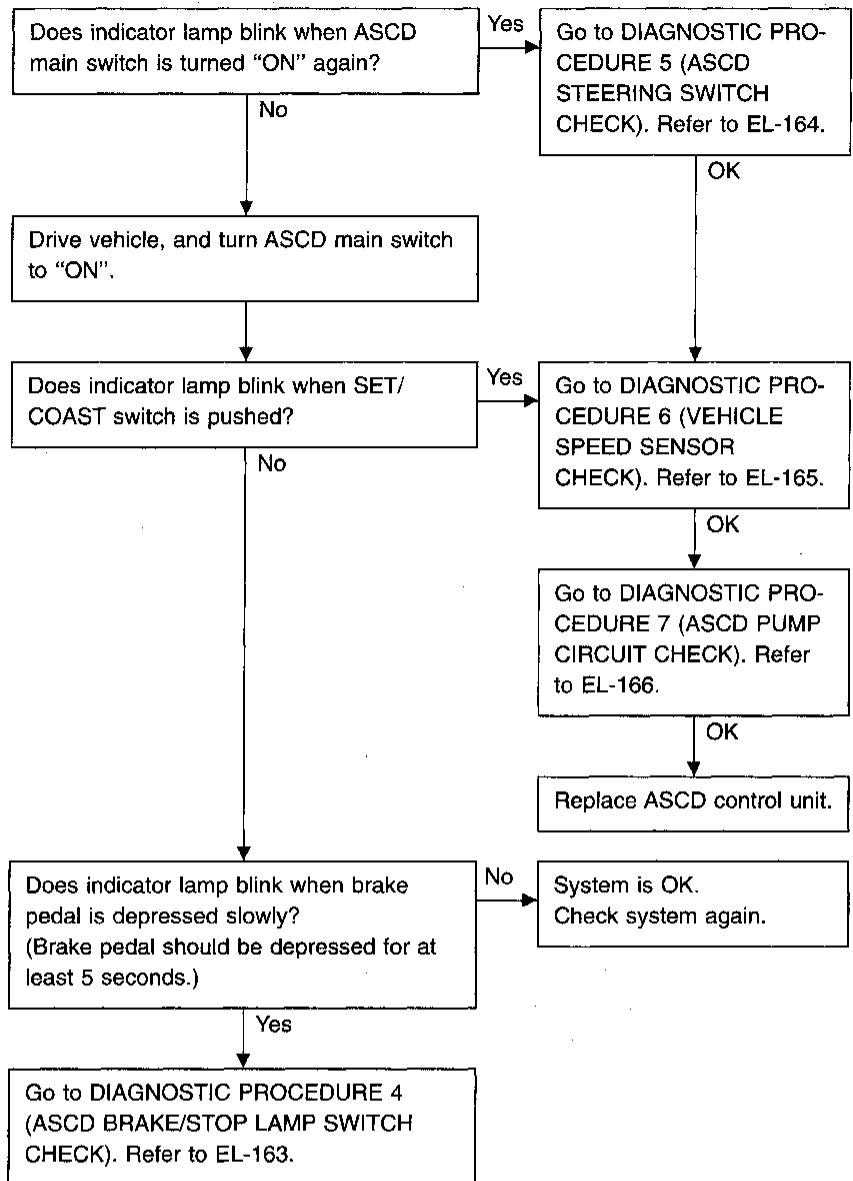
Malfunction detection conditions

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

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

Fail-safe system check



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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

PROCEDURE	Diagnostic procedure									
REFERENCE PAGE	EL-156	EL-159	EL-161	EL-161	EL-162	EL-163	EL-164	EL-165	EL-166	EL-167
SYMPTOM	Self-diagnosis in CONSULT	Fail-safe system check	DIAGNOSTIC PROCEDURE 1 (POWER SUPPLY AND GROUND CIRCUIT CHECK)	DIAGNOSTIC PROCEDURE 2 (ASCD MAIN SWITCH CHECK)	DIAGNOSTIC PROCEDURE 3 (ASCD HOLD RELAY CHECK)	DIAGNOSTIC PROCEDURE 4 (ASCD BRAKE/STOP LAMP SWITCH CHECK)	DIAGNOSTIC PROCEDURE 5 (ASCD STEERING SWITCH CHECK)	DIAGNOSTIC PROCEDURE 6 (VEHICLE SPEED SENSOR CHECK)	DIAGNOSTIC PROCEDURE 7 (ASCD PUMP CIRCUIT CHECK)	DIAGNOSTIC PROCEDURE 8 (ASCD ACTUATOR/PUMP CHECK)
ASCD cannot be set. ("CRUISE" indicator lamp does not blink.)	X		X	X	X		X	X		
ASCD cannot be set. ("CRUISE" indicator lamp blinks.★1)	X	X				X	X	X	X	
Vehicle speed does not decrease after SET/COAST switch has been pressed.	X						X			X
Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.★2	X						X			X
Vehicle speed does not increase after RESUME/ACCEL switch has been pressed.	X						X			X
System is not released after CANCEL switch (steering) has been pressed.	X						X			X
Large difference between set speed and actual vehicle speed.	X									X
Deceleration is greatest immediately after ASCD has been set.	X									X

★1: It indicates that system is in fail-safe.

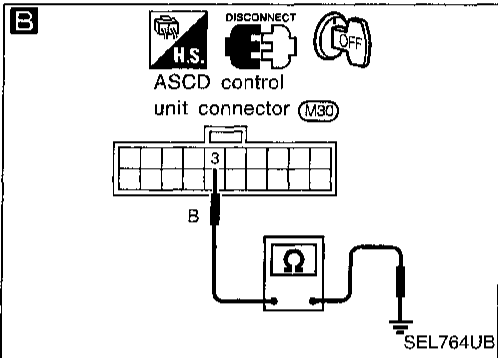
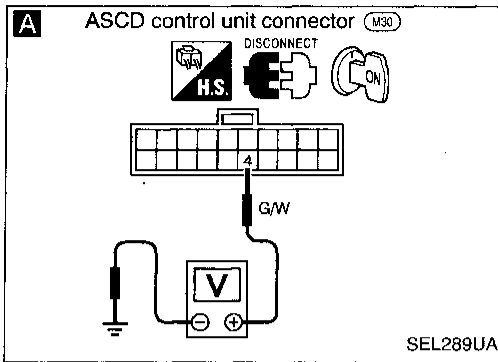
★2: If vehicle speed is greater than 48 km/h (30 MPH) after system has been released, pressing RESUME/ACCEL switch returns vehicle speed to the set speed previously achieved. However, doing so when the ASCD main switch is turned to "OFF", vehicle speed will not return to the set speed since the memory is canceled.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

(POWER SUPPLY AND GROUND CIRCUIT CHECK)



1. Turn ignition switch ON.
2. Turn ASCD main switch "ON" to make sure indicators illuminate.

NG → Go to DIAGNOSTIC PROCEDURE 2 (ASCD MAIN SWITCH CHECK).

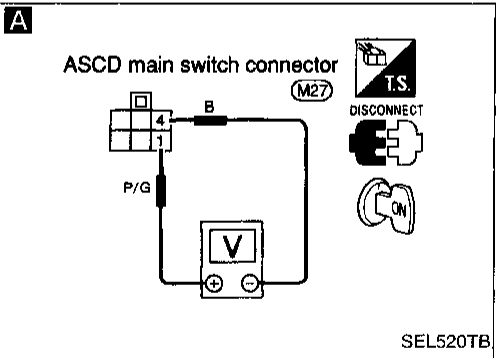
- A**
- CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT.**
1. Disconnect ASCD control unit connector.
 2. Turn ignition switch ON.
 3. Turn ASCD main switch "ON".
 4. Check voltage between control unit connector terminal ④ and ground. **Battery voltage should exist.**
- Refer to wiring diagram in EL-151 or 152.

NG → Go to DIAGNOSTIC PROCEDURE 3 (ASCD HOLD RELAY CIRCUIT CHECK). Refer to EL-162.

- B**
- CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT.**
- Check continuity between ASCD control unit harness terminal ③ and ground.
- Refer to wiring diagram in EL-154.

NG → Repair harness.

OK → Go to next procedure.



DIAGNOSTIC PROCEDURE 2 (ASCD MAIN SWITCH CHECK)

- A**
- CHECK POWER SUPPLY FOR ASCD MAIN SWITCH.**
1. Disconnect main switch connector.
 2. Measure voltage between main switch terminals ① and ④. **Battery voltage should exist.**
- Refer to wiring diagram in EL-151.

NG → Check the following.

- 7.5A fuse [No. 12], located in the fuse block (J/B)]
- Harness for open or short between fuse and ASCD main switch
- Ground circuit for ASCD main switch

- Check ASCD main switch. Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-168).

NG → Replace ASCD main switch.

OK → Go to next procedure.

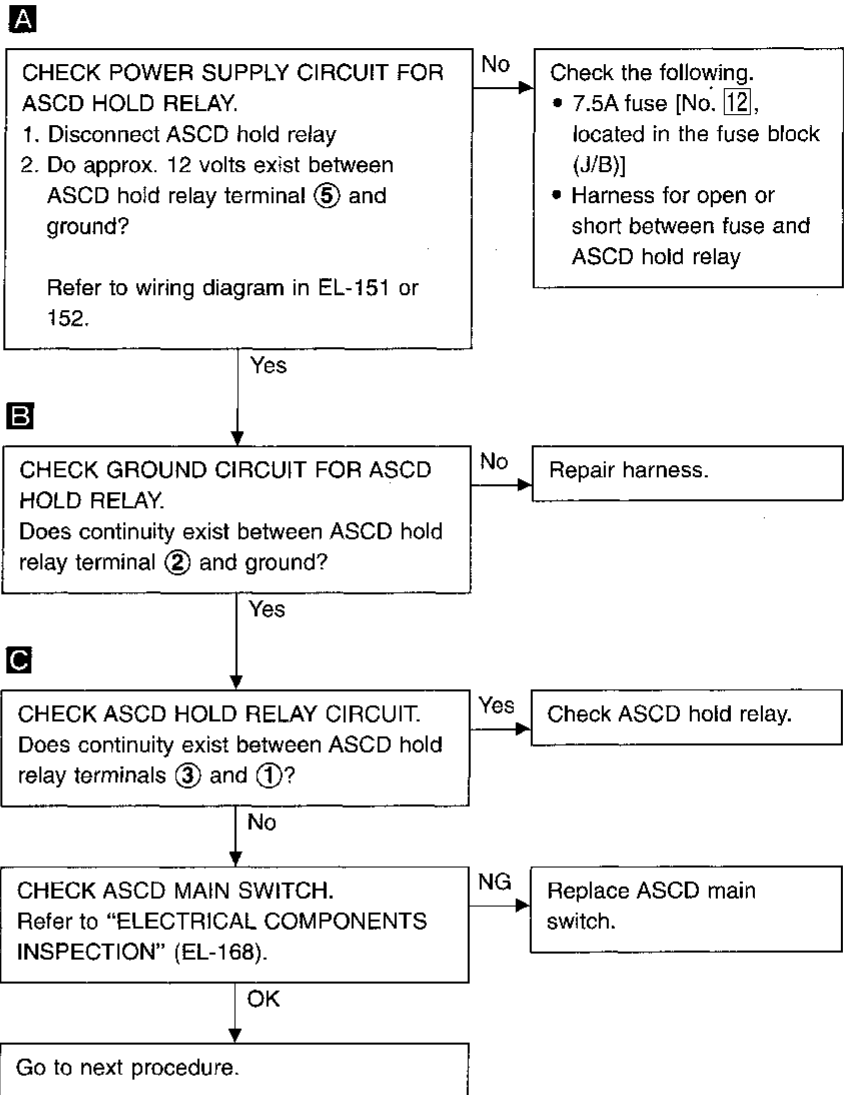
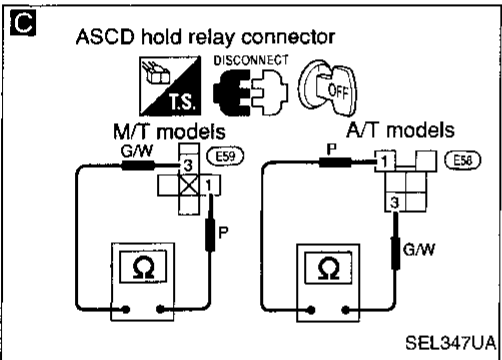
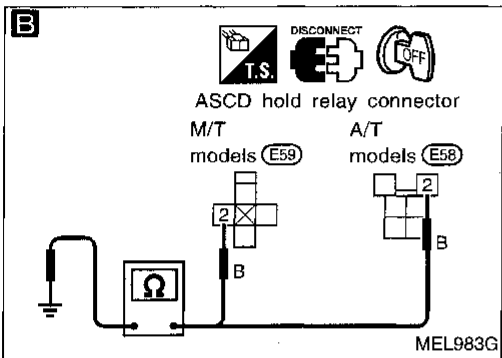
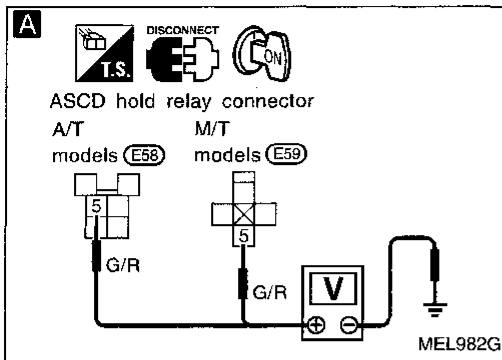
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

(ASCD HOLD RELAY CIRCUIT CHECK)

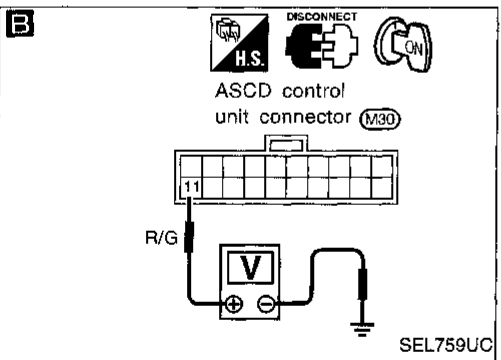
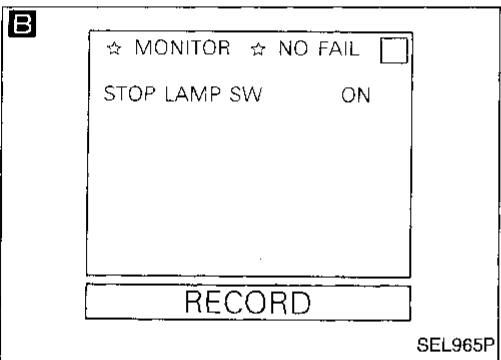
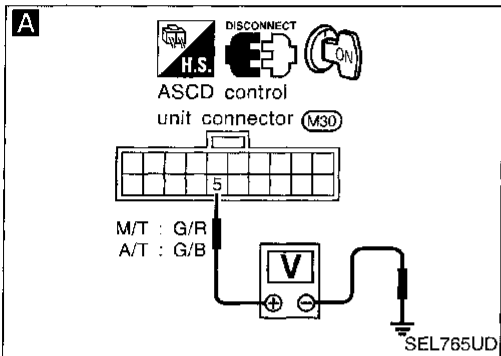
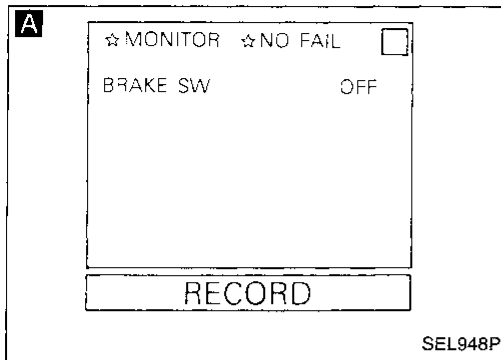


AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

(ASCD BRAKE/STOP LAMP SWITCH CHECK)



A

CHECK BRAKE/STOP LAMP CIRCUIT FOR ASCD CONTROL UNIT.

See "BRAKE SW" in "Data monitor" mode.

When brake pedal or clutch pedal (M/T) is depressed or A/T selector lever (A/T) is in "N" or "P" range:
BRAKE SW OFF

When both brake pedal and clutch pedal (M/T) are released and A/T selector lever (A/T) is not in "N" or "P" range:
BRAKE SW ON

OR

1. Disconnect control unit connector.
2. Turn ignition switch ON.
3. Turn ASCD main switch "ON".
4. Check voltage between control unit connector terminal (5) and ground.

When brake pedal or clutch pedal (M/T) is depressed or A/T selector lever (A/T) is in "N" or "P" range:
Approx. 0V

When both brake pedal and clutch pedal (M/T) are released and A/T selector lever (A/T) is not in "N" or "P" range:
Battery voltage should exist.

Refer to wiring diagram in EL-151 or 152.

- NG
- Check the following.
- ASCD brake switch Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-168).
 - ASCD clutch switch (M/T model) Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-168).
 - Inhibitor switch (A/T model) Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-168).
 - ASCD hold relay
 - Harness for open or short

B

CHECK STOP LAMP SWITCH CIRCUIT.

See "STOP LAMP SW" in "Data monitor" mode.

STOP LAMP SW

When brake pedal is released:
OFF

When brake pedal is depressed:
ON

OR

1. Disconnect control unit connector.
2. Check voltage between control unit terminal (11) and ground.

Condition		Voltage [V]
Stop lamp switch	Depressed	Approx. 12
	Released	0

Refer to wiring diagram in EL-153.

- NG
- Check the following.
- 15A fuse [No. 10, located in the fuse block (J/B)]
 - Harness for open or short between ASCD control unit and stop lamp switch.
 - Stop lamp switch Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-168).

OK

ASCD brake/stop lamp switch is OK.

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

(ASCD STEERING SWITCH CHECK)

A

☆ MONITOR	☆ NO FAIL	<input type="checkbox"/>
SET SW	ON	
RESUME/ACC SW	ON	
CANCEL SW	ON	

RECORD

SEL293U

A

CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT.

See "SET SW", "RESUME/ACC SW" and "CANCEL SW" in "Data monitor" mode.

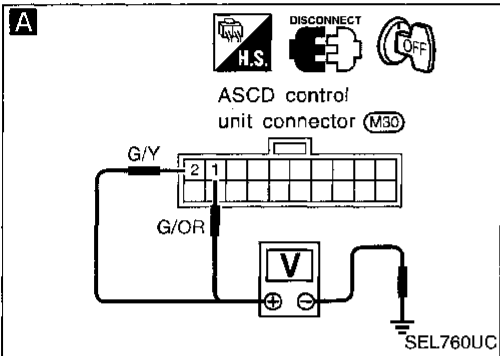
SET SW, RESUME/ACC SW and CANCEL SW

When switch is pressed: ON

When switch is released: OFF

OR

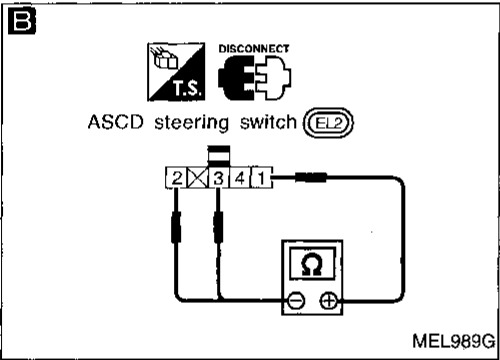
OK → ASCD steering switch is OK.



1. Disconnect control unit connector.
2. Check voltage between control unit terminals.

	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

Refer to wiring diagram in EL-153.



NG

CHECK POWER SUPPLY FOR ASCD STEERING SWITCH.

Does horn work?

NG → Check the following.

- 10A fuse (No. 64, located in the fuse and fusible link box)
- Horn relay
- Harness for open or short between horn relay and fuse

B

CHECK ASCD STEERING SWITCH.

Check continuity between terminals by pushing each switch.

Switch	Terminal		
	①	③	②
SET/COAST	○	—	○
RESUME/ACCEL	○	○	
CANCEL	○	→	○
	○	→	○

NG → Replace ASCD steering switch.

OK

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

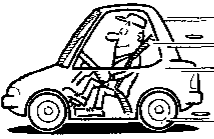
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

(VEHICLE SPEED SENSOR CHECK)

A



☆MONITOR ☆NO FAIL


VHCL SPEED SE 45mph

RECORD


SEL084T

A

CHECK VEHICLE SPEED SENSOR CIRCUIT.

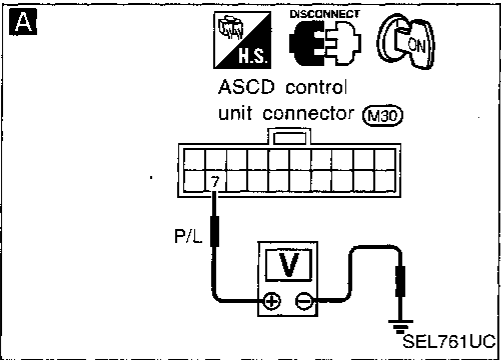
 See "VHCL SPEED SE" in "Data monitor" mode while driving.

OR

 1. Apply wheel chocks and jack up drive wheel.
 2. Disconnect control unit connector.
 3. Connect voltmeter between control unit terminal ⑦ and ground.
 4. Slowly turn drive wheel.
 5. Check deflection of voltmeter pointer.

Refer to wiring diagram in EL-155.

OK → Vehicle speed sensor is OK.



NG

Does speedometer operate normally?

No → Check speedometer and vehicle speed sensor circuit. Refer to EL-85.

Yes

Check harness for open or short between ASCD control unit terminal ⑦ and combination meter terminal ⑩.

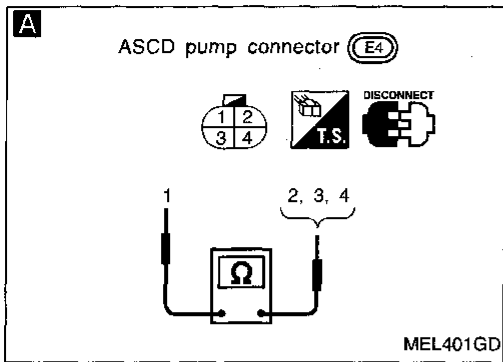
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

(ASCD PUMP CIRCUIT CHECK)



A

CHECK ASCD PUMP.

1. Disconnect ASCD pump connector.
2. Measure resistance between ASCD pump terminals ① and ②, ③, ④.

Terminals	Resistance [Ω]
① — ④	Approx. 3
① — ②	Approx. 65
① — ③	Approx. 65

Refer to wiring diagram in EL-154.

NG

Replace ASCD pump.

OK

Check harness for open or short between ASCD pump and ASCD control unit.



If a self-diagnostic result has already been accomplished, check using the following table.

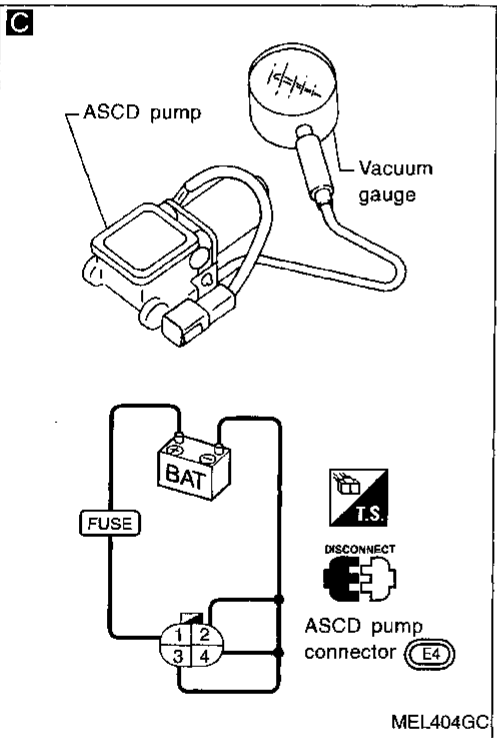
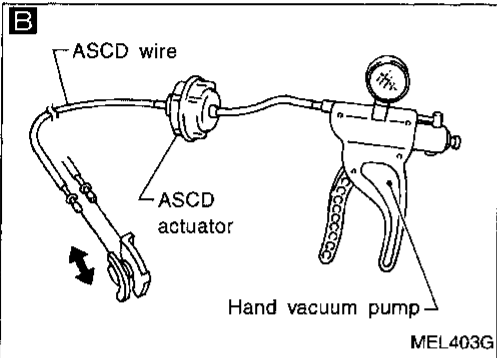
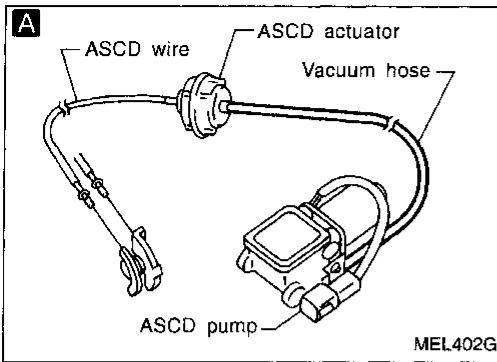
CONSULT self-diagnostic result	Check circuit	
	ASCD control unit terminal	ASCD pump terminal
POWER SUPPLY-VALVE	⑧	①
VACUUM PUMP	⑨	④
AIR VALVE	⑩	②
RELEASE VALVE	⑭	③

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

(ASCD ACTUATOR/PUMP CHECK)



A

CHECK VACUUM HOSE.
Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks or fracture.

NG → Repair or replace hose.

OK ↓

CHECK ASCD WIRE.
Check wire for improper installation, rust formation or breaks.

NG → Repair or replace wire. Refer to "ASCD WIRE ADJUSTMENT" (EL-169).

OK ↓

B

CHECK ASCD ACTUATOR.

1. Disconnect vacuum hose from ASCD actuator.
2. Apply -40 kPa (-0.41 kg/cm^2 , -5.8 psi) vacuum to ASCD actuator with hand vacuum pump.

ASCD wire should move to pull throttle drum.

3. Wait 10 seconds and check for decrease in vacuum pressure.

Vacuum pressure decrease:
Less than 2.7 kPa (0.028 kg/cm^2 , 0.39 psi)

NG → Replace ASCD actuator.

OK ↓

C

CHECK ASCD PUMP.

1. Disconnect vacuum hose from ASCD pump and ASCD pump connector.
2. If necessary remove ASCD pump.
3. Connect vacuum gauge to ASCD pump.
4. Apply 12V direct current to ASCD pump and check operation.

	12V direct current supply terminals		Operation
	⊕	⊖	
Air valve	①	②	Close
Release valve		③	Close
Vacuum motor		④	Operate

A vacuum pressure of at least -35 kPa (-0.36 kg/cm^2 , -5.1 psi) should be generated.

NG → Replace ASCD pump.

OK ↓

INSPECTION END

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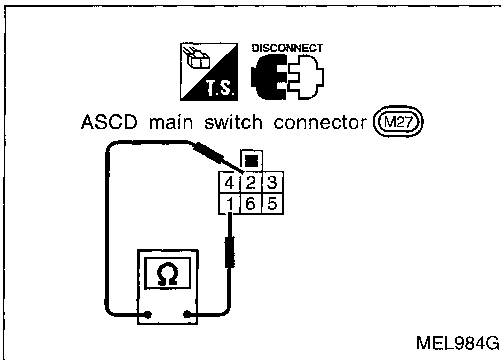
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD main switch

Check continuity between terminals by pushing switch to each position.

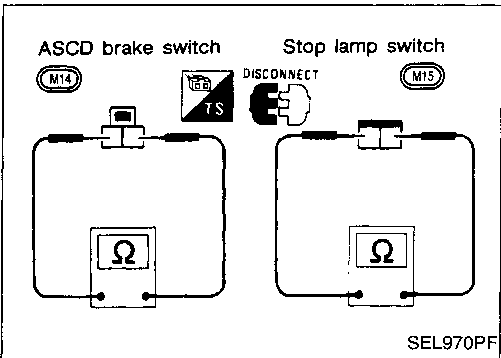
Switch position	Terminals					
	1	2	3	4	5	6
ON	○	○	○	○	ILL. ○—(M)—○	
N		○	○	○		
OFF						



ASCD brake switch and stop lamp switch

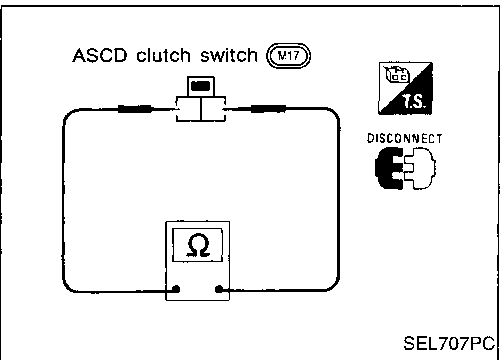
Condition	Continuity	
	ASCD brake switch	Stop lamp switch
When brake pedal is depressed	No	Yes
When brake pedal is released	Yes	No

Check each switch after adjusting brake pedal — refer to BR section.



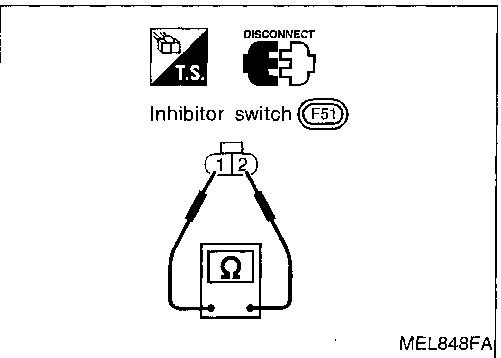
ASCD clutch switch (For M/T models)

Condition	Continuity
When clutch pedal is depressed	No
When clutch pedal is released	Yes



Inhibitor switch (For A/T models)

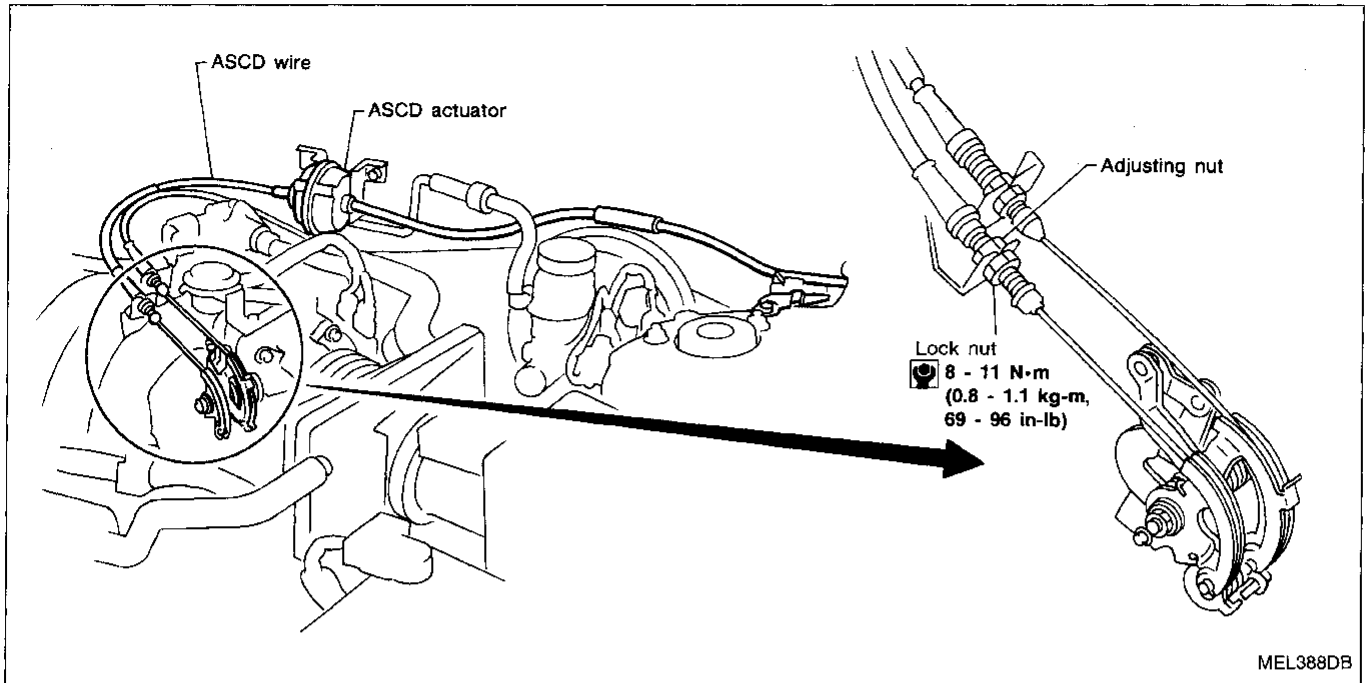
Shift lever position	Continuity
	Between terminals ① and ②
"P"	Yes
"N"	Yes
Except "P" and "N"	No



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD WIRE ADJUSTMENT



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 until throttle drum just starts to move.
4. Loosen adjusting nut again 1/2 to 1 turn.
5. Tighten lock nut.

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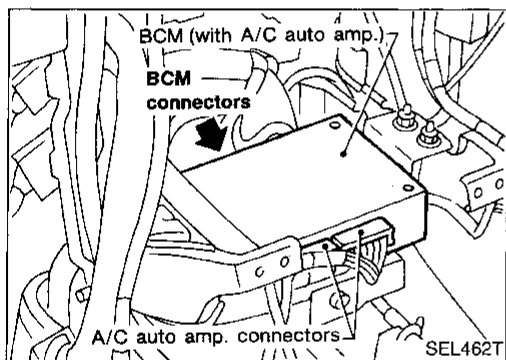
Overall Description

OUTLINE

The In-Vehicle Multiplexing System, IVMS (LAN system), consists of a BCM (Body Control Module) and five LCUs (Local Control Units). Some switches and electrical loads are connected to each LCU. Some electrical systems are directly connected to the BCM. Control of each LCU, (which is provided by a switch and electrical load), is accomplished by the BCM, via multiplex data lines (A-1, A-2) connected between them.

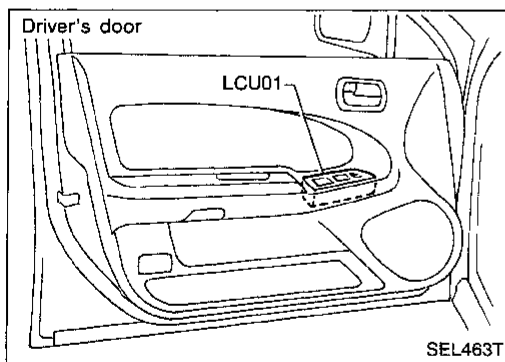
BCM (Body Control Module)

The BCM, which is a master unit of the IVMS (LAN), consists of microprocessor, memory and communication LSI sections and has communication and control functions. It receives data signals from the LCUs and sends electrical load data signals to them.



The auto amp. for auto air conditioner, if equipped, is built into the BCM. The BCM connectors are located on the front side of the BCM. Do not be confused with the auto amp. connectors on the rear side of the BCM.

NOTE: The auto amp. function has nothing to do with the IVMS.



LCU (Local Control Unit)

The LCUs, which are slave units of the BCM, have only a communication function and consist of communication LSI and input-output interface circuits. They receive data signals from the BCM, control the ON/OFF operations of electrical loads and the sleep operation, as well as send switch signals to the BCM.

CONTROLLED SYSTEMS

The IVMS controls several body-electrical systems. The systems included in the IVMS are as follows:

- Power window
- Power door lock
- Multi-remote control system
- Theft warning system
- Interior lamp (ON-OFF control)
- Step lamp
- Illumination (Power window switch illumination)
- Ignition key warning (Refer to "WARNING BUZZER".)
- Light warning (Refer to "WARNING BUZZER".)

IVMS (LAN) — SYSTEM DESCRIPTION

Overall Description (Cont'd)

- Seat belt warning (Refer to “WARNING BUZZER”.)
- Wiper amp. (Refer to “WIPER AND WASHER”.)
- Rear window defogger timer (Refer to “REAR WINDOW DEFOGGER”.)
- Trouble-diagnosing system
 - with CONSULT
 - ON-BOARD

Also, IVMS has the “sleep/wake-up control” function. IVMS puts itself (the whole IVMS system) to sleep under certain conditions to prevent unnecessary power consumption. Then, when a certain input is detected, the system wakes itself up. For more detailed information, refer to “Sleep/Wake-up Control”.

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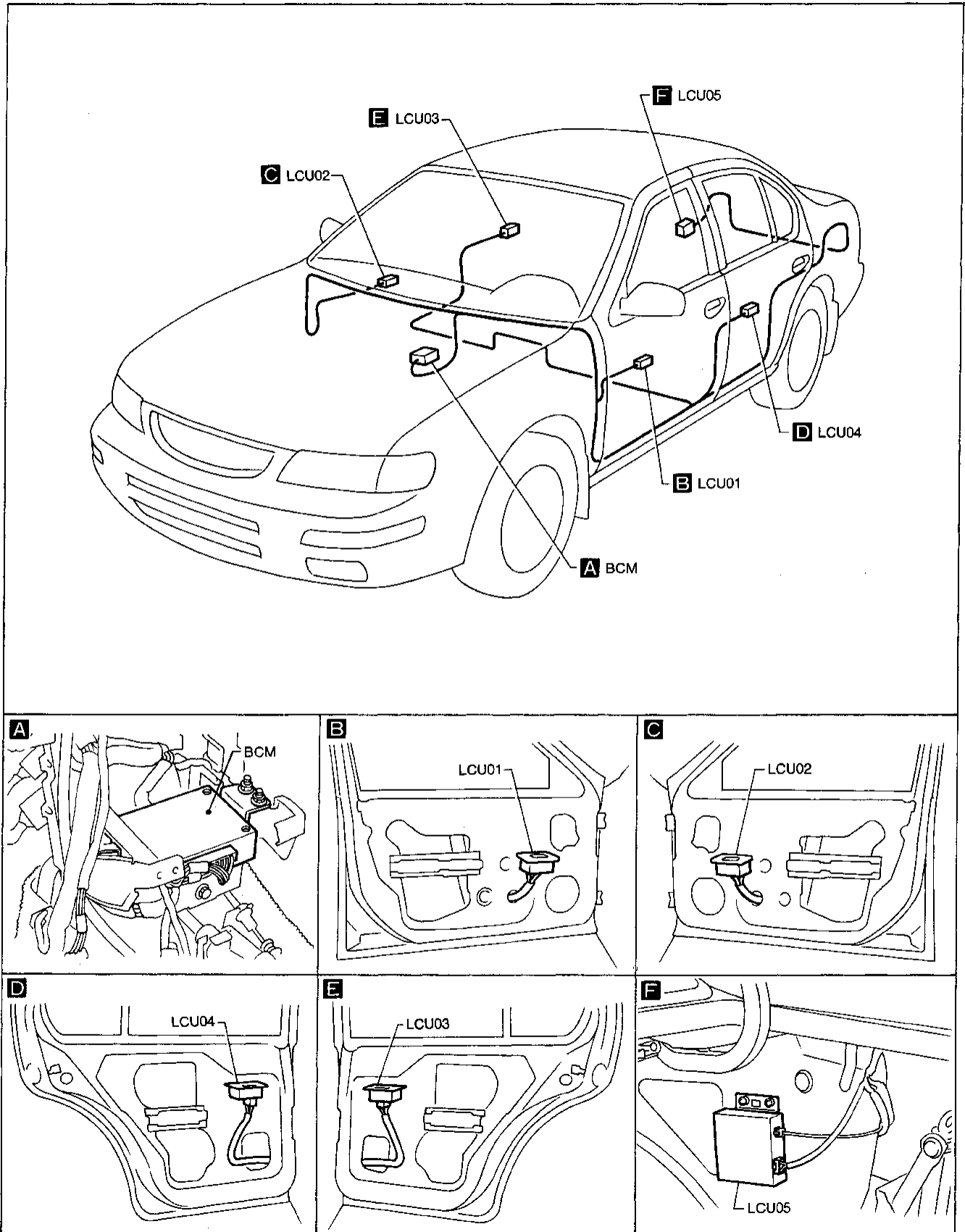
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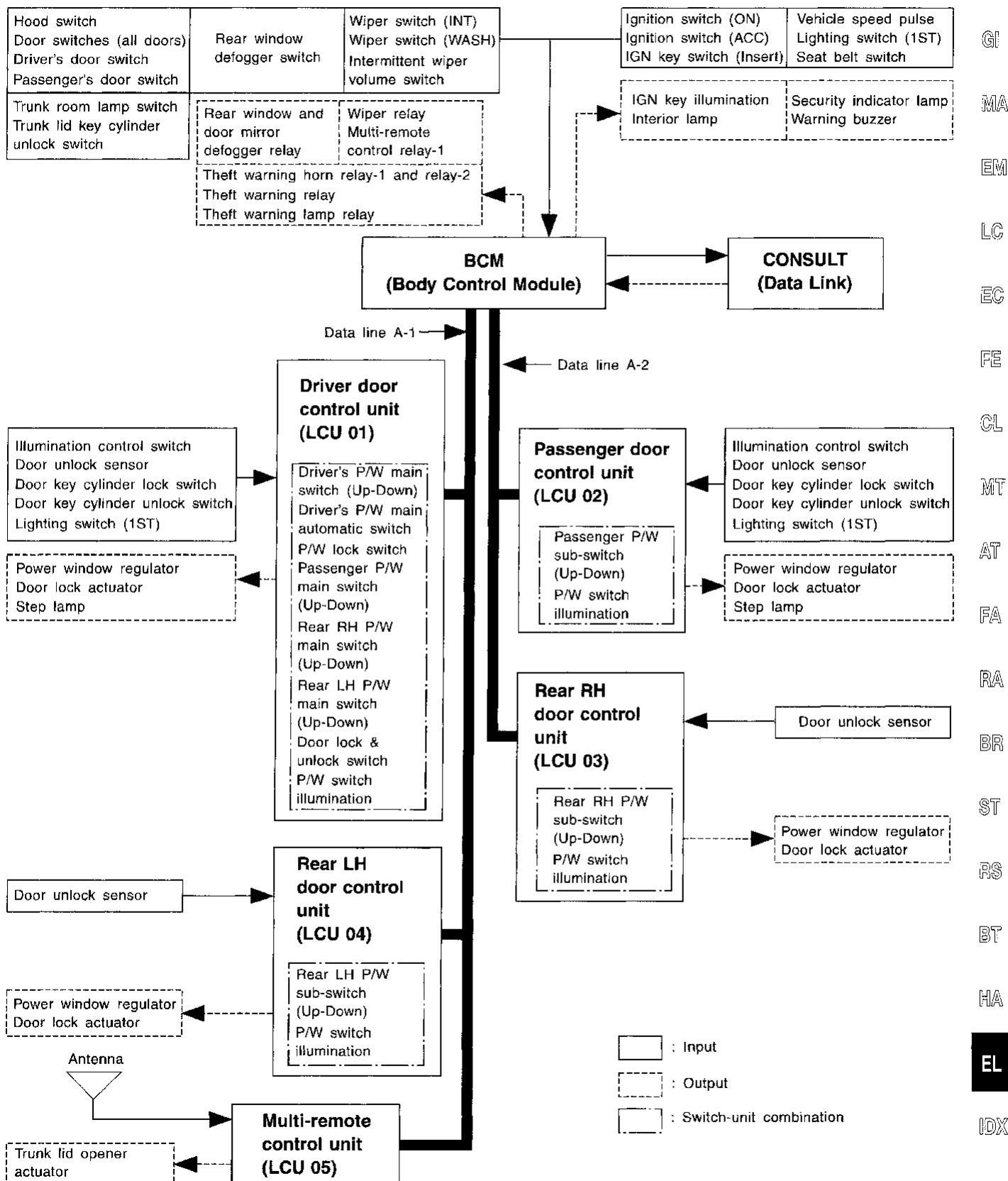
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Component Parts Location



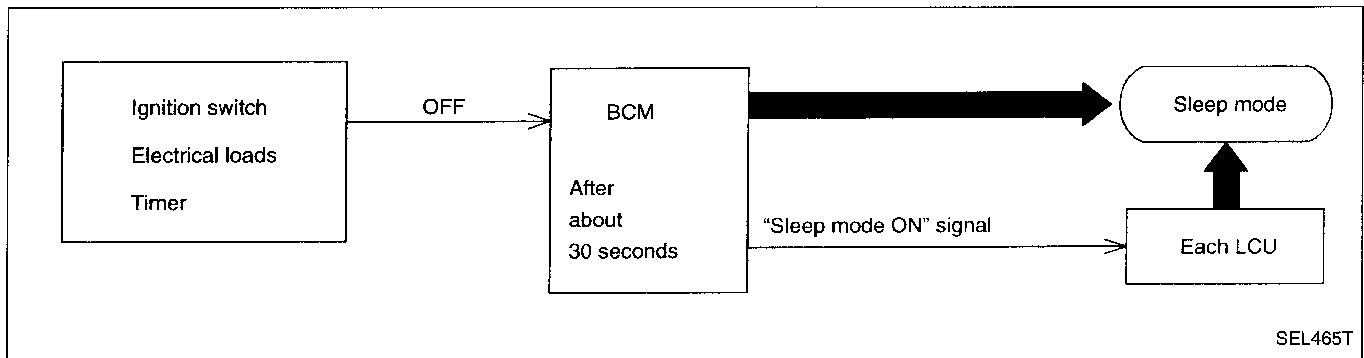
System Diagram



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Sleep/Wake-up Control

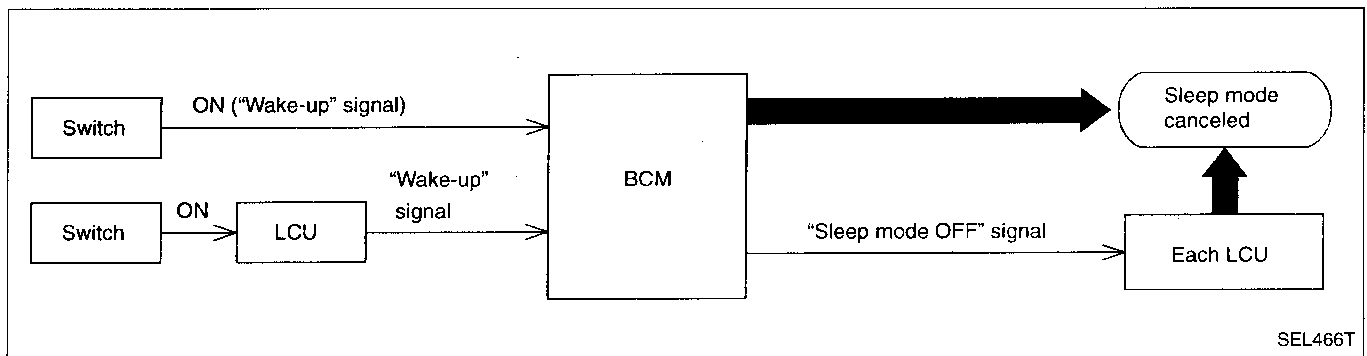
SLEEP CONTROL



"Sleep" control prevents unnecessary power consumption. About 30 seconds after the following conditions are met, the BCM suspends the communication between itself and all LCUs. The whole IVMS system is set in the "sleep" mode.

- Ignition switch "OFF"
- All electrical loads (in the IVMS) "OFF" (except the security indicator lamp)
- Timer "OFF"

WAKE-UP CONTROL



As shown above, when the BCM detects a "wake-up" signal, it wakes up the whole system and starts communicating again. The "sleep" mode of all LCUs is now canceled, and the BCM returns to the normal control mode. When any one of the following switches are turned ON, the "sleep" mode is canceled:

- Ignition key switch (Insert)*
- Ignition switch "ACC" or "ON"
- Lighting switch (1st)
- Door switches (all doors)
- Trunk room lamp switch
- Hood switch
- Door unlock sensors (all doors)

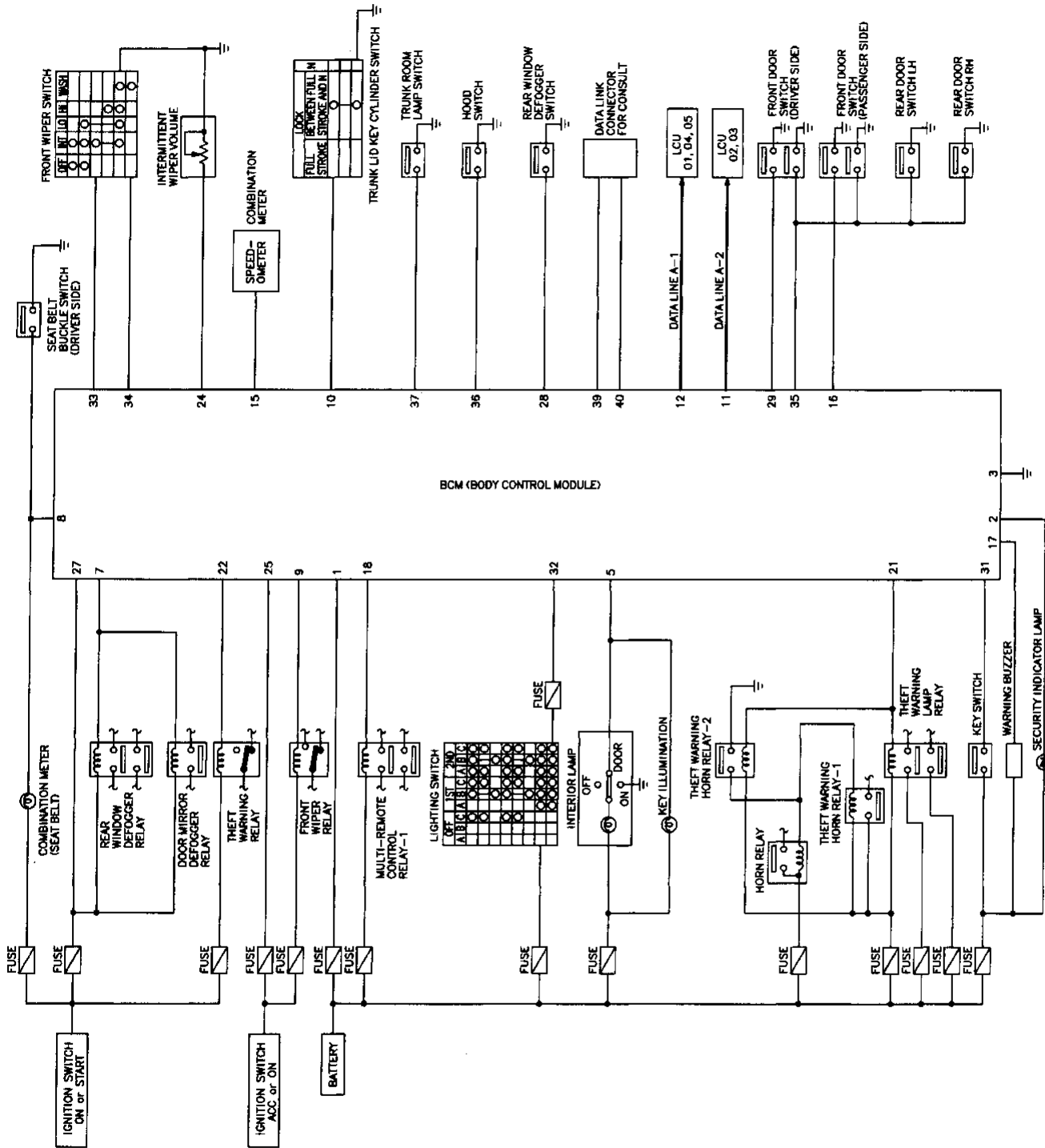
* Also, when key is pulled out of ignition (ignition key switch is turned from ON to OFF), the "sleep" mode is canceled.

Fail-safe System

Fail-safe system operates when the signal from LCU is judged to be malfunctioning by BCM. If LCU sends no signal or an abnormal signal to BCM a certain number of times in succession, the IVMS is set in a fail-safe condition. In the fail-safe condition, no electrical loads on the questionable LCU will operate.

Body Control Module (BCM)

CIRCUIT DIAGRAM



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IVMS (LAN) — SYSTEM DESCRIPTION

Body Control Module (BCM) (Cont'd)

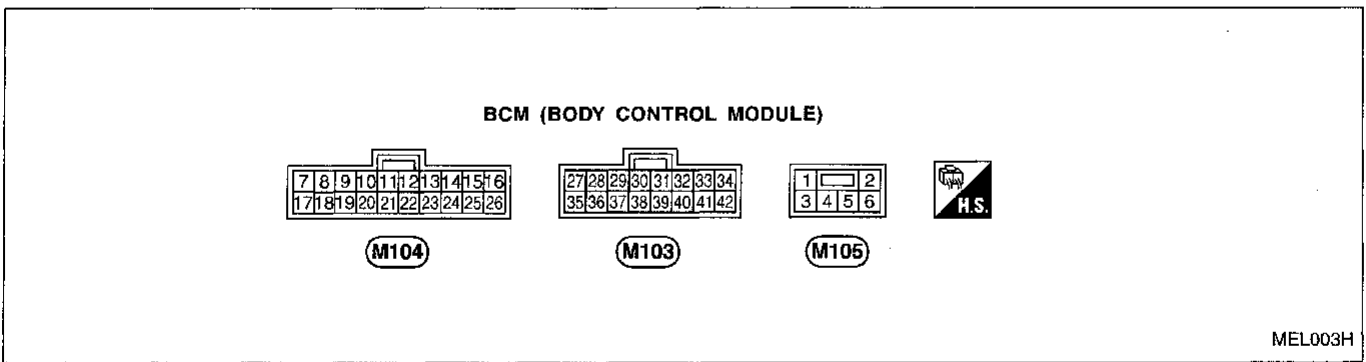
INPUT/OUTPUT OPERATION SIGNAL

Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition		Voltage (V) (Approximate values)
1	Power source	—	—		12
2	Security indicator lamp	O	Theft warning control	Illuminated	0
				Turned off	12
3	Ground	—	—		—
5	Interior lamp/ignition key hole illumination	O	ON (Illuminated)		0
			OFF		12
7	Rear window defogger relay	O	Ignition switch "ON" Time control	ON	0
				OFF	12
8	Seat belt switch	I	Ignition switch "ON"	When the seat belt is fastened	12
				When the seat belt is not fastened	0
9	Front wiper relay	O	Wiper motor intermittent/ washer operation	Operate	0
				Stop	12
10	Trunk lid unlock switch	I	Unlocked (ON)		0
			Neutral (OFF)		5
11	Data line A-2	I/O	—		—
12	Data line A-1	I/O	—		—
15	Vehicle speed pulse	I	Pulse		0 - 5
16	Door switch (Passenger side)	I	ON (Open)		0
			OFF (Closed)		12
17	Warning buzzer	O	ON		0
			OFF		12
18	Multi-remote control relay	O	Hazard lamp	ON	0
				OFF	12
21	Theft warning horn relays and theft warning lamp relay	O	ON		0
			OFF		12
22	Theft warning relay (Starter interrupt)	O	Theft warning control	ON	0
				OFF	12
24	Intermittent wiper volume switch	I	Ignition switch "ACC" or "ON" Wiper switch Intermittent time	Max. (20 sec)	3.6
				Min. (2 sec)	0

IVMS (LAN) — SYSTEM DESCRIPTION

Body Control Module (BCM) (Cont'd)

Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition	Voltage (V) (Approximate values)
25	Ignition switch (ACC)	I	Ignition switch "ACC"	12
27	Ignition switch (ON)	I	Ignition switch "ON"	12
28	Rear window defogger switch	I	Ignition switch "ON" ON	0
			OFF	5
29	Door switch (Driver side)	I	Open (ON)	0
			Closed (OFF)	12
31	Key switch (Insert)	I	IGN key removed from ignition key cylinder (OFF)	0
			IGN key inserted into ignition key cylinder (ON)	12
32	Lighting switch (1ST)	I	1ST, 2ND positions: ON	12
			OFF	0
33	Wiper switch (Intermittent)	I	Ignition switch "ACC" or "ON" INT	0
			OFF	12
34	Wiper switch (Wash)	I	Ignition switch "ACC" or "ON" WASH	0
			OFF	12
35	Door switches (All doors)	I	Door switch ON (Open)	0
			OFF (Closed)	12
36	Hood switch	I	Open (ON)	0
			Closed (OFF)	5
37	Trunk room lamp switch	I	Open (ON)	0
			Closed (OFF)	12
39	CONSULT	TX signal	—	—
40		RX signal	—	—



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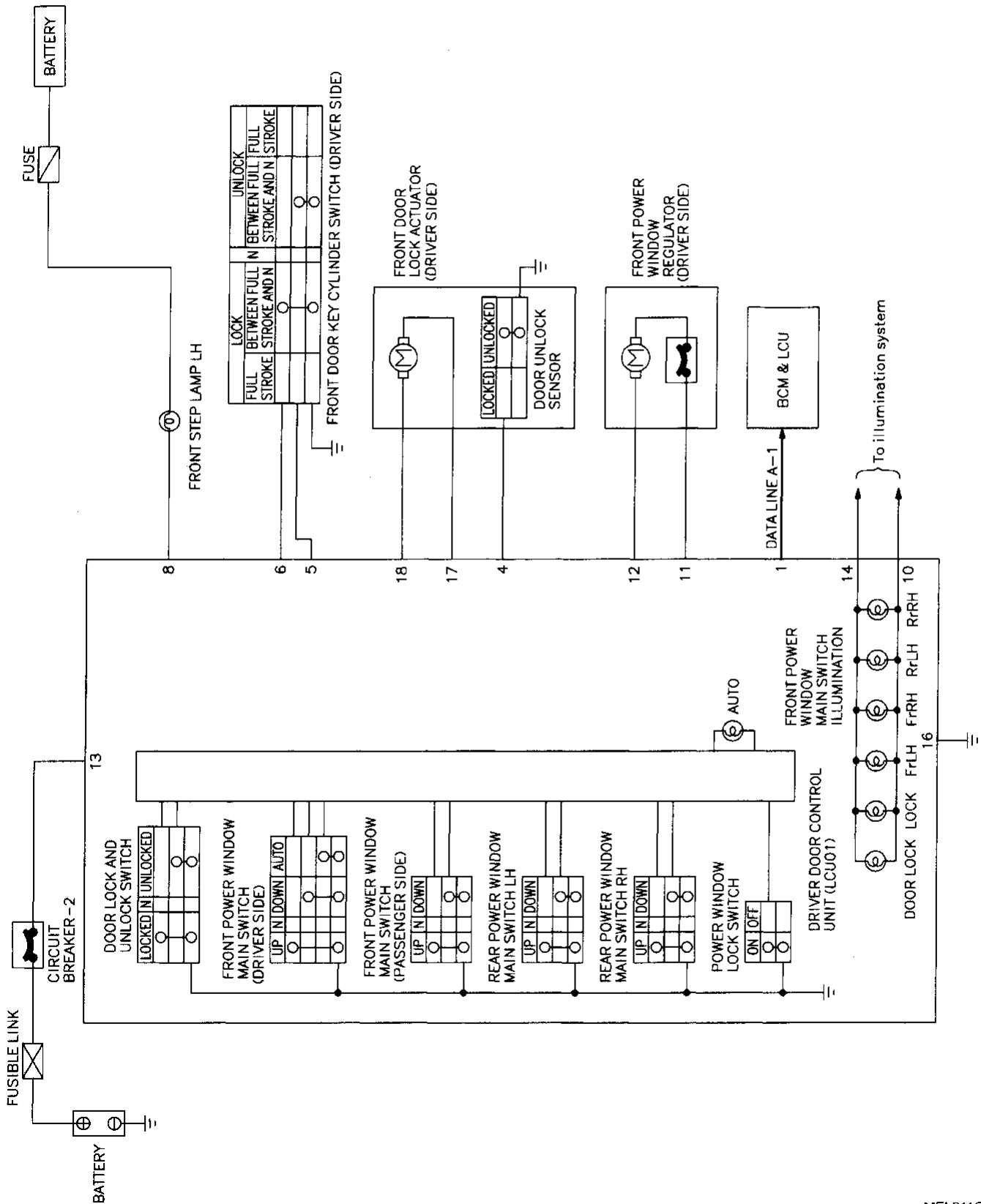
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Local Control Units (LCUs)

CIRCUIT DIAGRAM

Driver door control unit (LCU01)



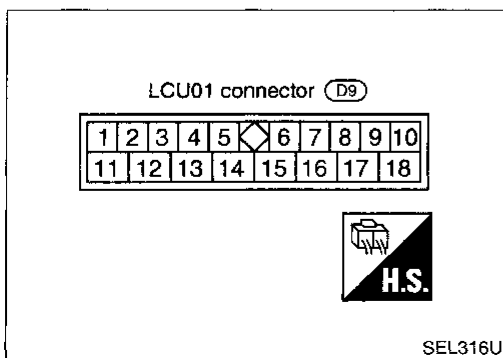
IVMS (LAN) — SYSTEM DESCRIPTION

Local Control Units (LCUs) (Cont'd)

INPUT/OUTPUT OPERATION SIGNAL

Driver door control unit (LCU01)

Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition	Voltage (V) (Approximate values)		
1	Data line A-1	I/O	—	—	GI	
2	—	—	—	—	MA	
3	—	—	—	—		
4	Door unlock sensor	I	Unlocked (ON)	0	EM	
			Locked (OFF)	5		
5	Door key cylinder unlock switch	I	Unlocked (ON)	0	LC	
			Locked (OFF) or neutral (OFF)	5		
6	Door key cylinder lock switch	I	Locked (ON)	0	EC	
			Unlocked (OFF) or neutral (OFF)	5		
7	—	—	—	—	FE	
8	Step lamp	O	ON	0		
			OFF	12	CL	
9	—	—	—	—		
10	Illumination control signal	I	Brightened - Darkened	0 - 12		
11	Power window regulator (P/W) — Up	O	Driver's P/W switch	Up	12	MT
				Free	0	
12	Power window regulator (P/W) — Down	O	Driver's P/W switch	Down	12	AT
				Free	0	
13	Power source (C/B)	—	—	12	FA	
14	Lighting switch (1st)	I	1st, 2nd: ON	12		
			OFF	0	RA	
15	—	—	—	—		
16	Ground	—	—	—	BR	
17	Door lock actuator — Lock	O	Door lock & unlock switch	Locked	12	
				Free	0	ST
18	Door lock actuator — Unlock	O	Door lock & unlock switch	Unlocked	12	
				Free	0	RS



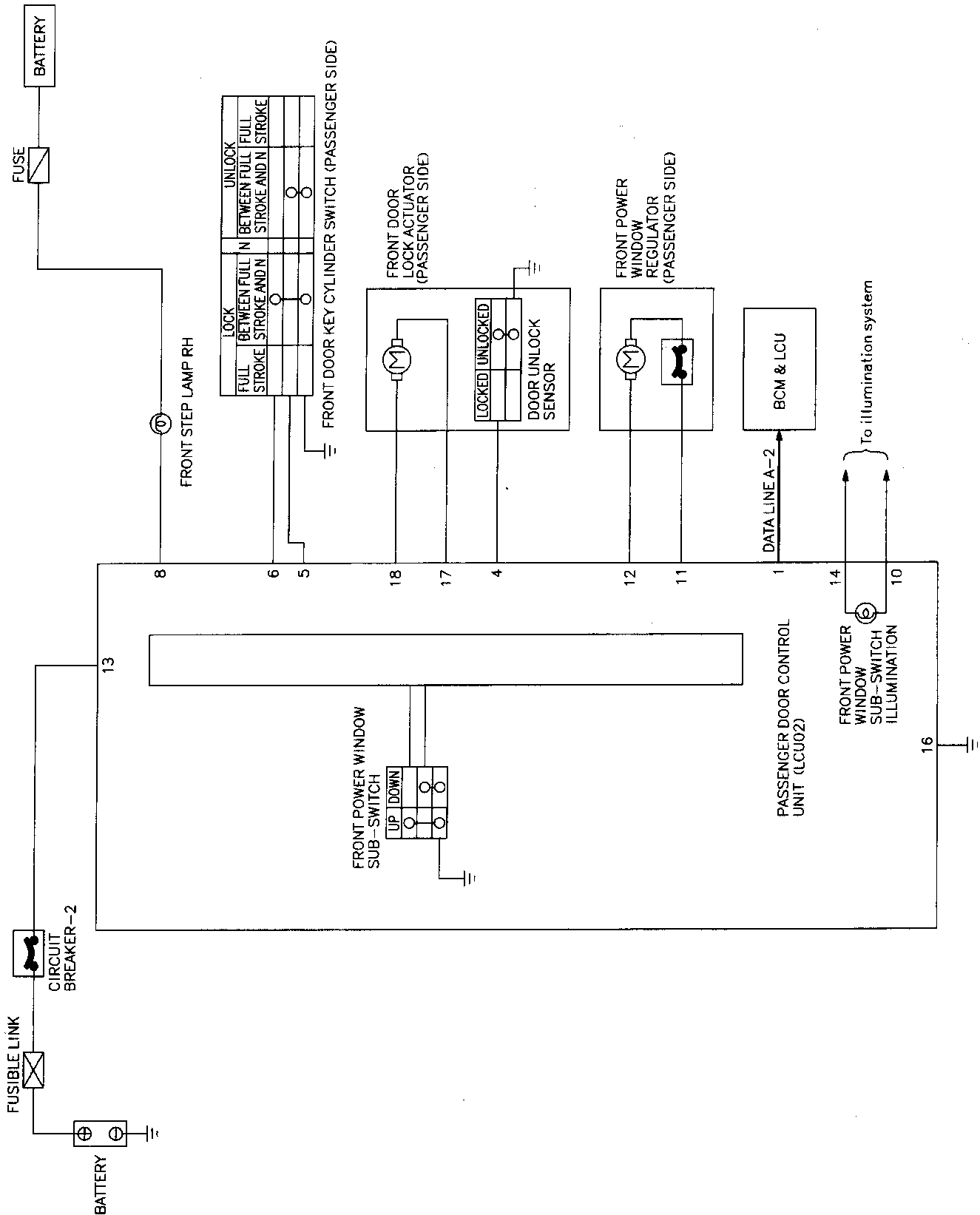
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IVMS (LAN) — SYSTEM DESCRIPTION

Local Control Units (LCUs) (Cont'd)

Passenger door control unit (LCU02)



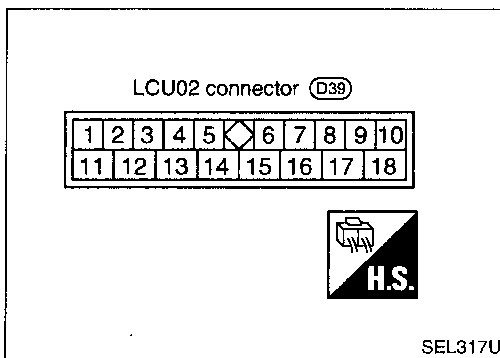
IVMS (LAN) — SYSTEM DESCRIPTION

Local Control Units (LCUs) (Cont'd)

Passenger door control unit (LCU02)

Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition	Voltage (V) (Approximate values)		
1	Data line A-2	I/O	—	—	GI	
2	—	—	—	—		
3	—	—	—	—	MA	
4	Door unlock sensor	I	Unlocked (ON)	0		
			Locked (OFF)	5	EM	
5	Door key cylinder unlock switch	I	Unlocked (ON)	0		
			Locked (OFF) or neutral	5	LC	
6	Door key cylinder lock switch	I	Locked (ON)	0		
			Unlocked (OFF) or neutral	5	EC	
7	—	—	—	—		
8	Step lamp	O	ON	0		
			OFF	12	FE	
9	—	—	—	—		
10	Illumination control signal	I	Brightened - Darkened	0 - 12	CL	
11	Power window regulator (P/W) — Up	O	Passenger's P/W switch	Up	12	
				Free	0	MT
12	Power window regulator (P/W) — Down	O	Passenger's P/W switch	Down	12	
				Free	0	AT
13	Power source (C/B)	—	—	12		
14	Lighting switch (1st)	I	1st, 2nd: ON	12		
			OFF	0	FA	
15	—	—	—	—	RA	
16	Ground	—	—	—		
17	Door lock actuator — Lock	O	Door lock & unlock switch	Locked	12	
				Free	0	BR
18	Door lock actuator — Unlock	O	Door lock & unlock switch	Unlocked	12	
				Free	0	ST

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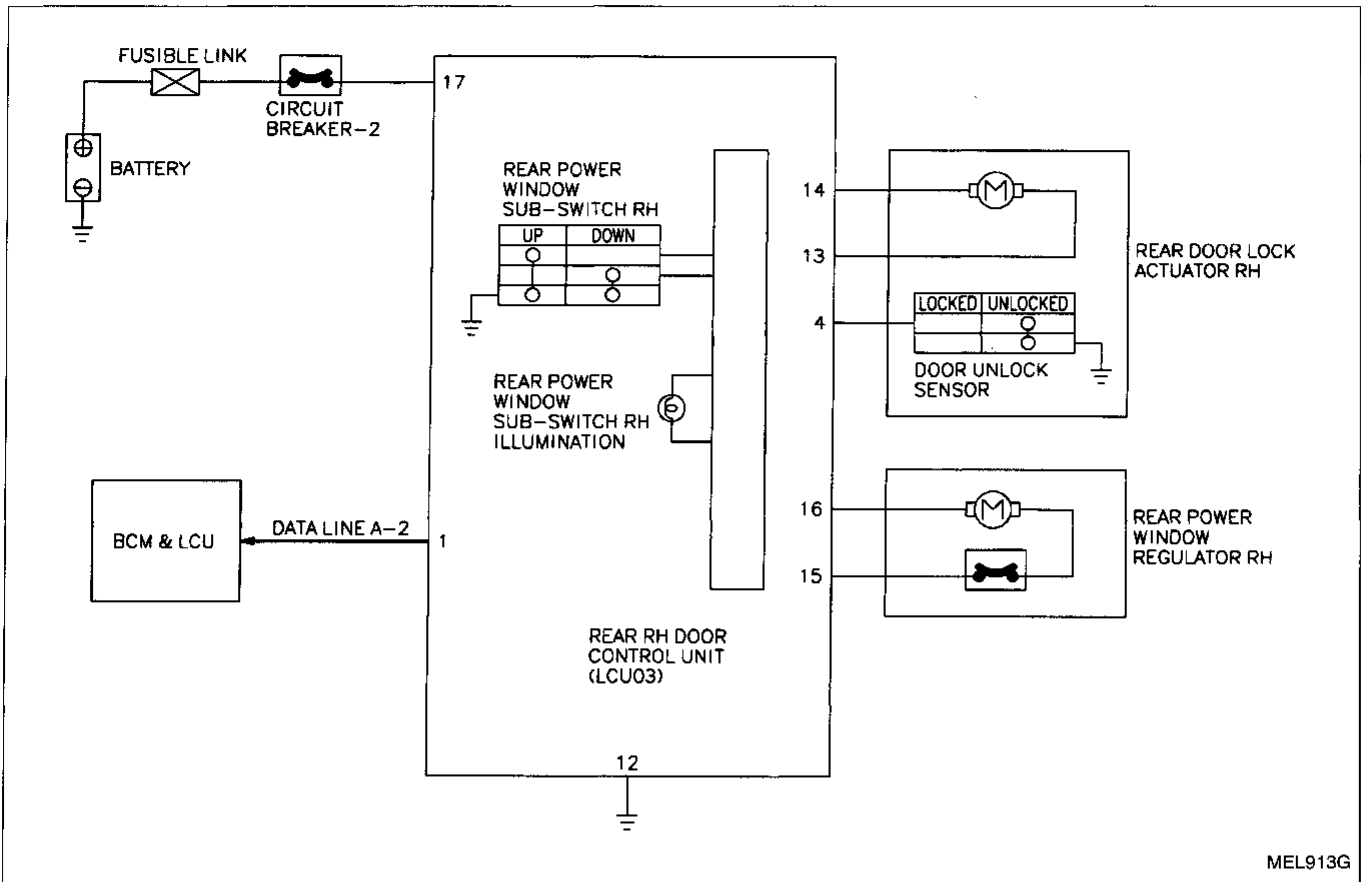
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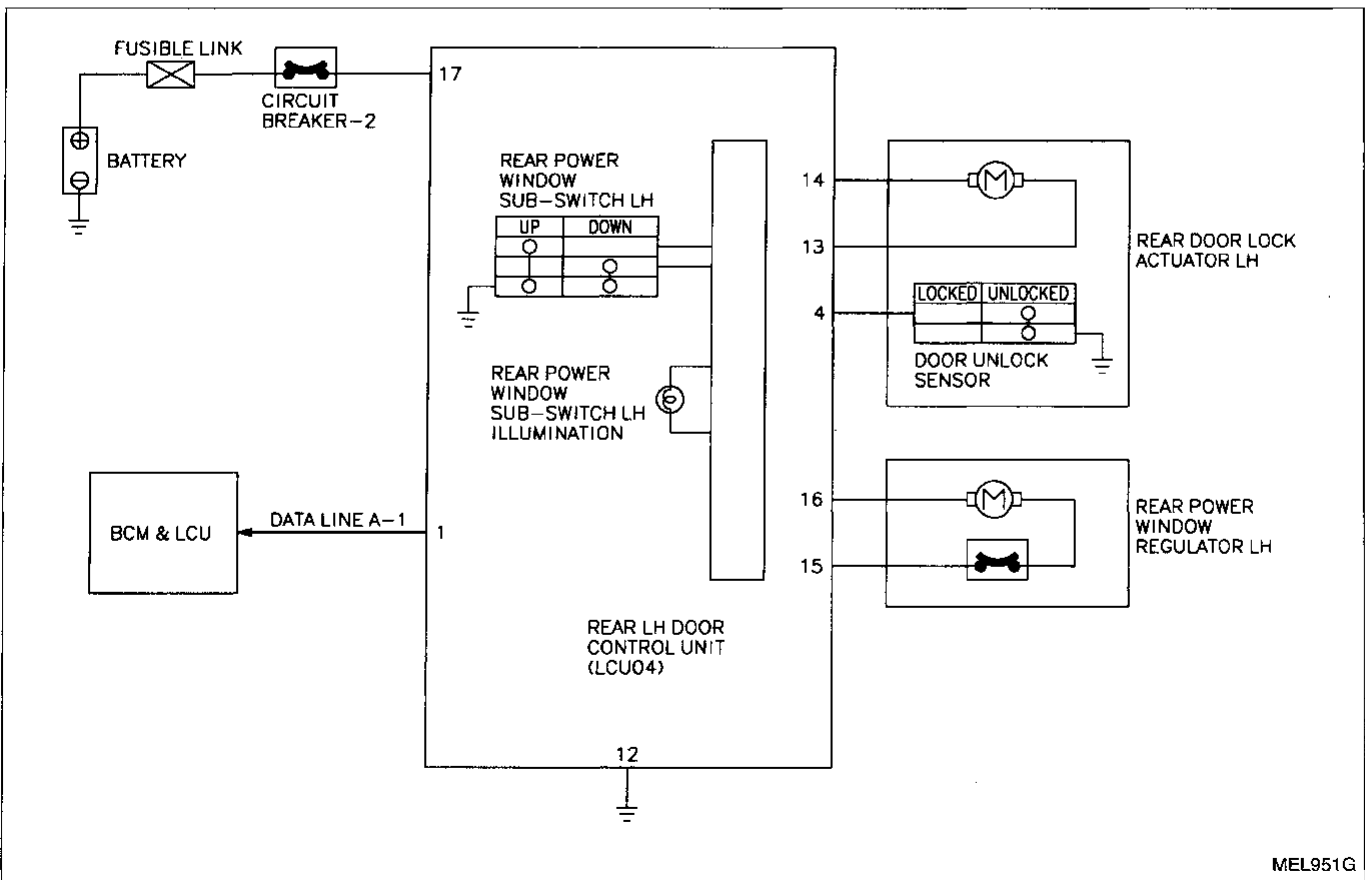
IVMS (LAN) — SYSTEM DESCRIPTION

Local Control Units (LCUs) (Cont'd)

Rear RH door control unit (LCU03)



Rear LH door control unit (LCU04)

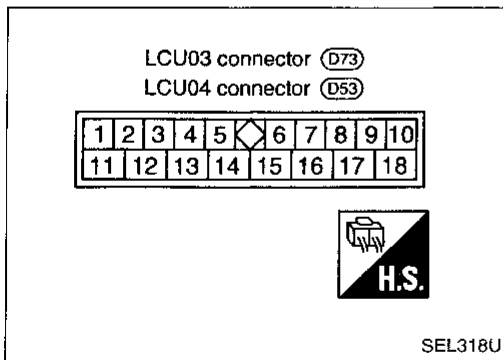


IVMS (LAN) — SYSTEM DESCRIPTION

Local Control Units (LCUs) (Cont'd)

Rear RH door control unit (LCU03) and rear LH door control unit (LCU04)

Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition	Voltage (V) (Approximate values)		
1	Data line A-1 or A-2	I/O	—	—	GI	
2	—	—	—	—		
3	—	—	—	—	MA	
4	Door unlock sensor	I	Unlocked (ON)	0		
			Locked (OFF)	5	EM	
5	—	—	—	—		
6	—	—	—	—	LC	
7	—	—	—	—		
8	—	—	—	—	EC	
9	—	—	—	—		
10	—	—	—	—	FE	
11	—	—	—	—		
12	Ground	—	—	—	CL	
13	Door lock actuator — Lock	O	Door lock & unlock switch	Locked	12	CL
				Free	0	
14	Door lock actuator — Unlock	O	Door lock & unlock switch	Unlocked	12	MT
					Free	0
15	Power window regulator (P/W) — Up	O	Rear P/W switch	Up	12	AT
					Free	0
16	Power window regulator (P/W) — Down	O	Rear P/W switch	Down	12	FA
					Free	0
17	Power source (C/B)	—	—	12	RA	
18	—	—	—	—		



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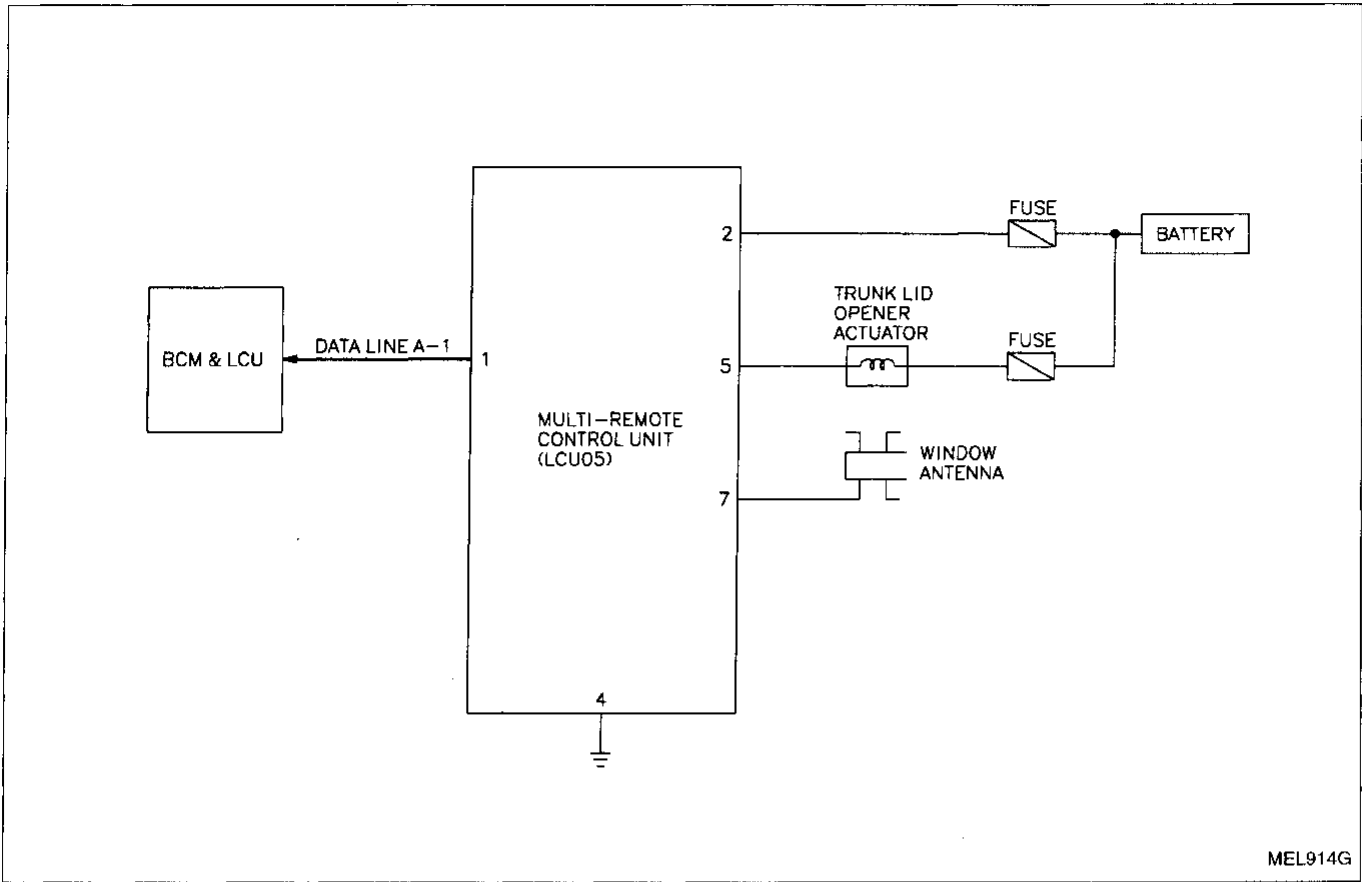
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IVMS (LAN) — SYSTEM DESCRIPTION

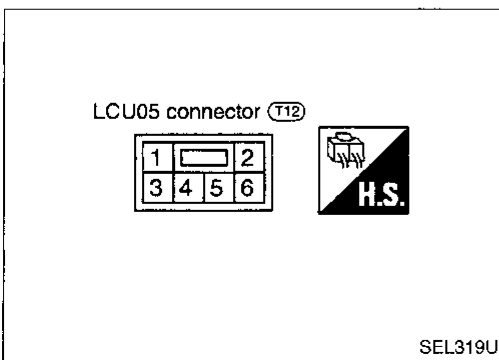
Local Control Units (LCUs) (Cont'd)

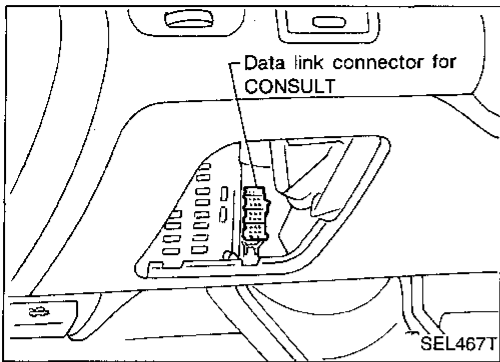
Multi-remote control unit (LCU05)



Multi-remote control unit (LCU05)

Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition	Voltage (V) (Approximate values)
1	Data line A-1	I/O	—	—
2	Power source	—	—	12
3	—	—	—	—
4	Ground	—	—	—
5	Trunk lid opener actuator	O	Open	0
			OFF	12
6	—	—	—	—

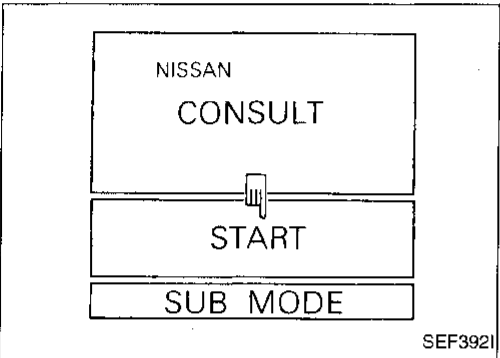




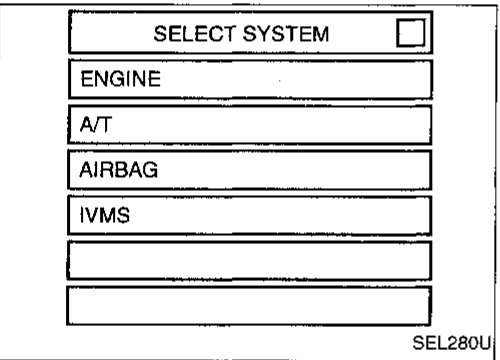
CONSULT

CONSULT INSPECTION PROCEDURE

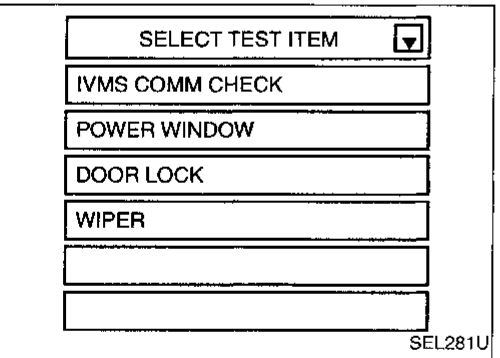
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.



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



5. Touch "IVMS".



6. Perform each diagnostic item according to the item application chart as follows:

For further information, read the CONSULT Operation Manual.

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IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

CONSULT (Cont'd)

DIAGNOSTIC ITEMS APPLICATION

Test item	Diagnosed system	MODE				
		IVMS COMM DIAGNOSIS	WAKE-UP DIAGNOSIS	SELF-DIAG-NOSTIC RESULTS	DATA MONI-TOR	ACTIVE TEST
IVMS-COMM CHECK	IVMS communication and wake-up function	X	X			
POWER WINDOW	Power window				X	X
DOOR LOCK	Power door lock			X	X	X
MULTI-REMOTE CONT SYS	Multi-remote control				X	X
THEFT WARNING SYS-TEM	Theft warning system				X	X
ROOM LAMP TIMER	Interior lamp control				X	X
STEP LAMP	Step lamps				X	X
ILLUM LAMP	Illumination				X	X
IGN KEY WARN ALM	Warning buzzer				X	X
LIGHT WARN ALM	Warning buzzer				X	X
SEAT BELT TIMER	Warning buzzer				X	X
WIPER	Wiper and washer				X	X
REAR DEFOGGER	Rear window defogger				X	X

X: Applicable

For diagnostic item in each control system, read the CONSULT Operation Manual.

DIAGNOSTIC ITEMS DESCRIPTION

MODE	Description
IVMS COMM DIAGNOSIS	Diagnosis of continuity in the communication line(s), and of the function of the communication interface between the body control module and the local control units, accomplished by transmitting a signal from the body control module to the local control units.
WAKE-UP DIAGNOSIS	Diagnosis of the "wake-up" function of local control units by having a technician input the switch data into the local control unit that is in the temporary "sleep" condition.
SELF-DIAGNOSTIC RESULTS	—
DATA MONITOR	Displays data relative to the body control module (BCM) input signals and various control related data for each system.
ACTIVE TEST	Turns on/off actuators, relay and lamps according to the commands transmitted by the CONSULT unit.

NOTE: When CONSULT diagnosis is operating, some systems under IVMS control do not operate.

IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

CONSULT (Cont'd)

IVMS COMMUNICATION DIAGNOSIS

A

SELECT DIAG ITEM

IVMS COMM DIAGNOSIS

WAKE-UP DIAGNOSIS

SEL282U

B

■ IVMS COMM DIAGNOSIS ■

TOUCH **START**.

DIAGNOSE IVMS COMM
BETWEEN BCM AND
ALL LCUs.

START

SEL888U

C

■ IVMS COMM DIAGNOSIS ■

FAILURE DETECTED

**** NO FAILURE ****

ERASE **PRINT**

SEL889U

D

■ IVMS COMM DIAGNOSIS ■

FAILURE DETECTED
POWER WINDOW C/U-RR/LH
[NO RESPONSE]

ERASE **PRINT**

SEL890U

INSPECTION START

A

Touch "IVMS COMM DIAGNOSIS" in
"IVMS-COMM CHECK".

B

Touch "START".

C IVMS communication is
OK.

INSPECTION END

D IVMS
communication is
malfunctioning.

Repair/Replace according to the IVMS
communication diagnosis results.
(Refer to EL-189.)

**ERASE DIAGNOSTIC RESULTS
MEMORY**

1. Turn ignition switch "ON".
2. Touch "IVMS".
3. Touch "IVMS COMM DIAGNOSIS" in
"IVMS-COMM CHECK".
4. Touch "START" for "IVMS COMM
DIAGNOSIS".
5. Erase diagnostic results memory.
(Touch "ERASE".)

INSPECTION END

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IDX

IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

CONSULT (Cont'd)

WAKE-UP DIAGNOSIS

A

■ WAKE-UP DIAGNOSIS ■

TOUCH START.

DIAGNOSE WAKE-UP

FUNCTION FOR ALL

LCUs IN ORDER.

START

SEL513S

INSPECTION START

A

1. Touch "WAKE-UP DIAGNOSIS" in "IVMS-COMM CHECK".
2. Touch "START" for "WAKE-UP DIAGNOSIS".

B

■ WAKE-UP DIAGNOSIS ■

C/U:POWER WINDOW C/U-DR

AFTER TOUCH START,

TURN ON

P/W SW DR-UP

WITHIN 15sec.

NEXT
START

SEL891U

B

Touch "START", then turn ON switch designated on the display within 15 seconds.

D LCU is malfunctioning.

Replace LCU.

E Switch data is unmatching.

Touch "RETEST" and perform wake-up diagnosis again.

C

■ WAKE-UP DIAGNOSIS ■

FAILURE DETECTED

**** NO FAILURE ****

END
PRINT
NEXT

SEL657U

C LCU is OK.

Touch "NEXT" and perform wake-up diagnosis for next LCU.

OR

Touch "END".
(INSPECTION END)

D

■ WAKE-UP DIAGNOSIS ■

FAILURE DETECTED

POWER WINDOW C/U-DR

END
PRINT
NEXT

SEL892U

E

■ WAKE-UP DIAGNOSIS ■

FAILURE DETECTED

SW DATA UNMATCH

END
PRINT
RETEST

SEL659U

IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

IVMS Communication Diagnoses Results List

Diagnostic item	Number of malfunctioning LCU	CONSULT diagnosis result	On-board diagnosis (Mode 1) code No.	Expected cause	Service procedure	
IVMS system is in good order	—	NO FAILURE	11	—	—	GI
Communication malfunctioning	One	POWER WINDOW C/U-DR [COMM FAIL]	24	1. Malfunctioning LCU	1. Replace LCU.*	MA
		POWER WINDOW C/U-AS [COMM FAIL]	34			EM
		POWER WINDOW C/U-RR [COMM FAIL]	41			LC
		POWER WINDOW C/U-RL [COMM FAIL]	44			EC
		MULTI-REMOTE [COMM FAIL]	54			FE
	Two or more	Combination of POWER WINDOW C/U-DR [COMM FAIL] POWER WINDOW C/U-AS [COMM FAIL] POWER WINDOW C/U-RR [COMM FAIL] POWER WINDOW C/U-RL [COMM FAIL] MULTI-REMOTE [COMM FAIL]	Combination of 24 34 41 44 54	1. Malfunctioning LCU	1. Replace LCU.*	CL
						MT
						AT
						FA
						RA
All	BCM [COMM FAIL]	24, 34, 41, 44 and 54	1. Malfunctioning BCM 2. Malfunctioning all LCUs	1. Replace BCM.* (For models with auto A/C, refer to EL-204.) 2. Replace all LCUs.*	BR	
	BCM [COMM FAIL 2]				ST	

*: Before replacing BCM/LCU, clear the memory of diagnoses result and perform communication diagnoses again.

If the diagnoses result is still NG, replace BCM/LCU.

NOTE: When CONSULT indicates [PAST COMM FAIL] or [PAST NO RESPONSE], erase the memory and perform communication diagnoses again.

To erase the memory, perform the procedure below.

Erase the memory by CONSULT (refer to EL-187) or turn the ignition to "OFF" position and remove 7.5A fuse (No. 56), located in the fuse and fusible link box.

EL

IDX

IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

IVMS Communication Diagnoses Results List (Cont'd)

Diagnostic item	Number of malfunctioning LCU	CONSULT diagnosis result	On-board diagnosis (Mode 1) code No.	Expected cause	Service procedure (Reference page)
Communication via data line not responded	One	POWER WINDOW C/U-DR [NO RESPONSE]	25	<ol style="list-style-type: none"> 1. Power supply circuit for LCU 2. Poor connection at LCU connector. 3. Ground circuit of the LCU 4. Open circuit in the data line 5. Malfunctioning LCU 	<ol style="list-style-type: none"> 1. Check power supply circuit of the LCU in question. (EL-202) 2. Check connector connection of LCU in question. 3. Check ground circuit of the LCU in question. (EL-201) 4. Check open circuit in the data line between BCM and LCU in question. (EL-203) 5. Replace LCU.*
		POWER WINDOW C/U-AS [NO RESPONSE]	35		
		POWER WINDOW C/U-RR [NO RESPONSE]	42		
POWER WINDOW C/U-RL [NO RESPONSE]		45			
MULTI-REMOTE [NO RESPONSE]		55			
	Two or more	Combination of POWER WINDOW C/U-DR [NO RESPONSE] POWER WINDOW C/U-AS [NO RESPONSE] POWER WINDOW C/U-RR [NO RESPONSE] POWER WINDOW C/U-RL [NO RESPONSE] MULTI-REMOTE [NO RESPONSE]	Combination of 25 35 42 45 55	<ol style="list-style-type: none"> Combination of causes below 1. Power supply circuit for LCU 2. Poor connection at LCU connector 3. Open circuit in the data line 	<ol style="list-style-type: none"> 1. Check power supply circuit of the LCU in question. (EL-202) 2. Check connector connection of LCU in question. 3. Check open circuit in the data line between BCM and LCU in question. (EL-203)
	All	BCM/HARNESS [COMM LINE]	25, 35, 42, 45 and 55	<ol style="list-style-type: none"> 1. Short circuit in the data line 2. Poor connection at BCM connector 3. Open circuit in the data line between BCM and all LCUs. 4. Malfunctioning BCM 5. Short circuit in the data line of LCU internal circuit 	<ol style="list-style-type: none"> 1. Short circuit in the data line between BCM and any LCU. (EL-203) 2. Check connector connection of BCM. 3. Check open circuit in the data line between BCM and all LCUs. (EL-203) 4. Replace BCM.* (For models with auto A/C, refer to EL-204.) 5. Disconnect each LCUs one by one to check whether the other LCUs operate properly.

*: Before replacing BCM/LCU, clear the memory of diagnoses result and perform communication diagnoses again.
If the diagnoses result is still NG, replace BCM/LCU.

NOTE: When CONSULT indicates [PAST COMM FAIL] or [PAST NO RESPONSE], erase the memory and perform communication diagnoses again.

To erase the memory, perform the procedure below.

Erase the memory by CONSULT (refer to EL-187) or turn the ignition to "OFF" position and remove 7.5A fuse (No. 56), located in the fuse and fusible link box).

IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

IVMS Communication Diagnoses Results List (Cont'd)

Diagnostic item	Number of malfunctioning LCU	CONSULT diagnosis result	On-board diagnosis (Mode 1) code No.	Expected cause	Service procedure	
Sleep control of LCU is malfunctioning	One	POWER WINDOW C/U-DR [SLEEP]	—	1. Malfunctioning LCU	1. Replace LCU.	GI
		POWER WINDOW C/U-AS [SLEEP]				MA
	POWER WINDOW C/U-RR [SLEEP]	EM				
		POWER WINDOW C/U-RL [SLEEP]				LC
		MULTI-REMOTE [SLEEP]				EC
	Two or more	Combination of above results	—	1. Malfunctioning LCU	1. Replace LCU.	FE
		All of above results	—	1. Malfunctioning BCM 2. Malfunctioning all LCUs	1. Replace BCM.* (For models with auto A/C, refer to EL-204.) 2. Replace all LCUs.	CL MT

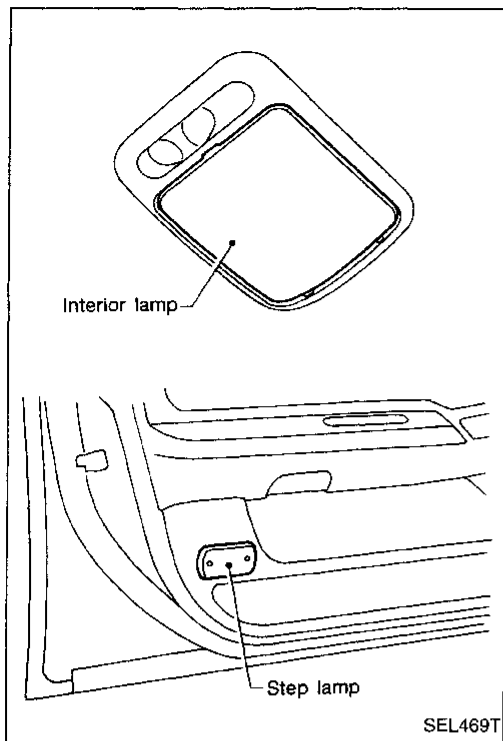
*: Before replacing BCM/LCU, clear the memory of diagnoses result and perform communication diagnoses again.
If the diagnoses result is still NG, replace BCM/LCU.

NOTE: When CONSULT indicates [PAST COMM FAIL] or [PAST NO RESPONSE], erase the memory and perform communication diagnoses again.

To erase the memory, perform the procedure below.

Erase the memory by CONSULT (refer to EL-187) or turn the ignition to "OFF" position and remove 7.5A fuse (No. 56), located in the fuse and fusible link box.

GI
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On-board Diagnosis

ON-BOARD DIAGNOSTIC RESULTS INDICATOR LAMP

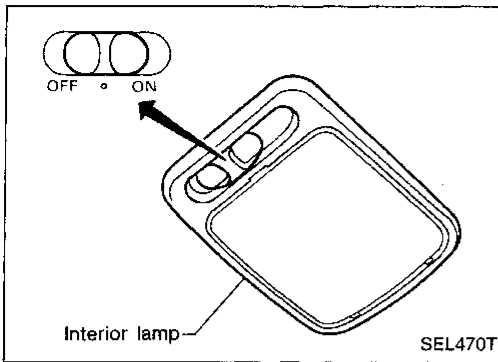
The interior lamp and step lamps (front seats) act as the indicators for the on-board diagnosis. These lamps blink simultaneously in response to diagnostic results.

ON-BOARD DIAGNOSTIC FUNCTION

Mode	Function		Refer page
Mode I	IVMS communication diagnosis	Diagnosing any abnormality or inability of communication between BCM and LCUs (DATA LINES A-1 and A-2).	EL-193
Mode II	Switch monitor	Monitoring conditions of switches connected to BCM and LCUs.	EL-195
Mode III	Power door lock self-diagnosis	—	EL-230
Mode IV	Power window operation	Operation of driver side window	EL-213

NOTE:

- When ON-BOARD diagnosis is operating, some systems under IVMS control do not operate.
- The step lamp of malfunctioning LCU does not blink.

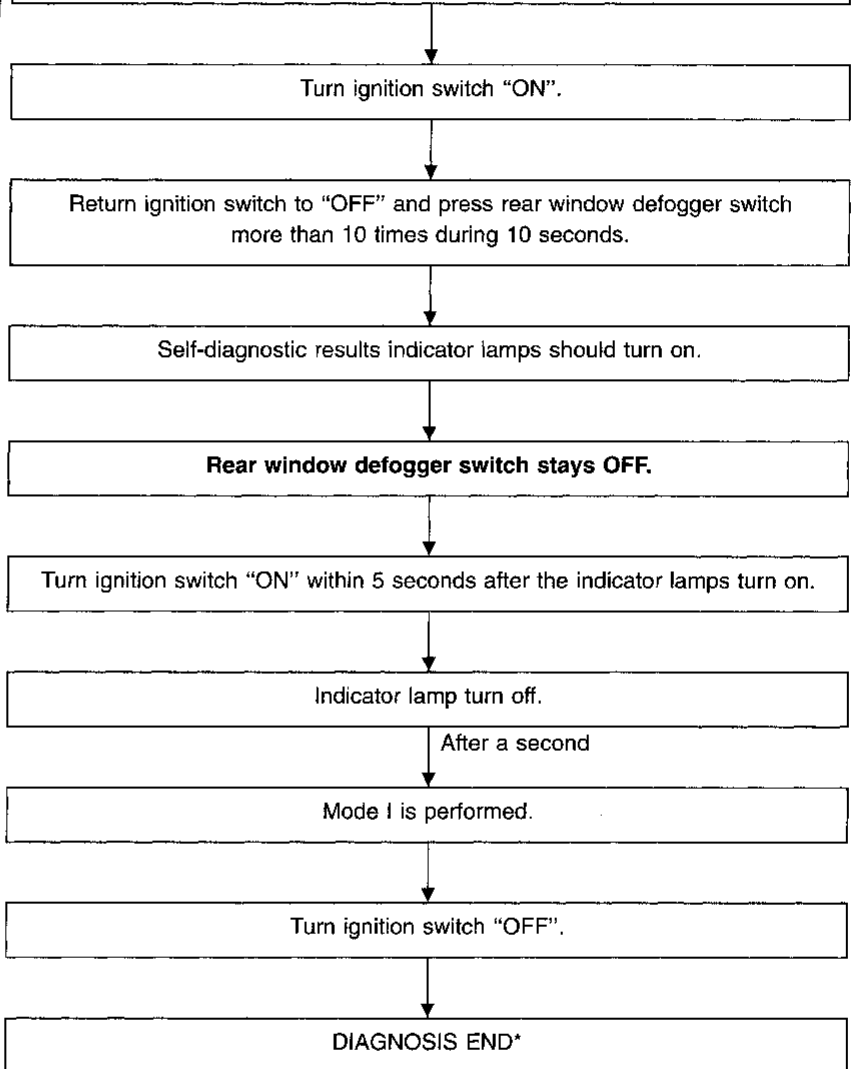


On-board Diagnosis — Mode I (IVMS communication diagnosis)

HOW TO PERFORM MODE I

Condition

- Ignition switch: OFF
- **Lighting switch: OFF**
- Rear window defogger switch: OFF
- Doors: Closed
- Interior lamp: Center "O" position



*: Diagnosis ends after self-diagnostic results have been indicated for 10 minutes if left unattended.

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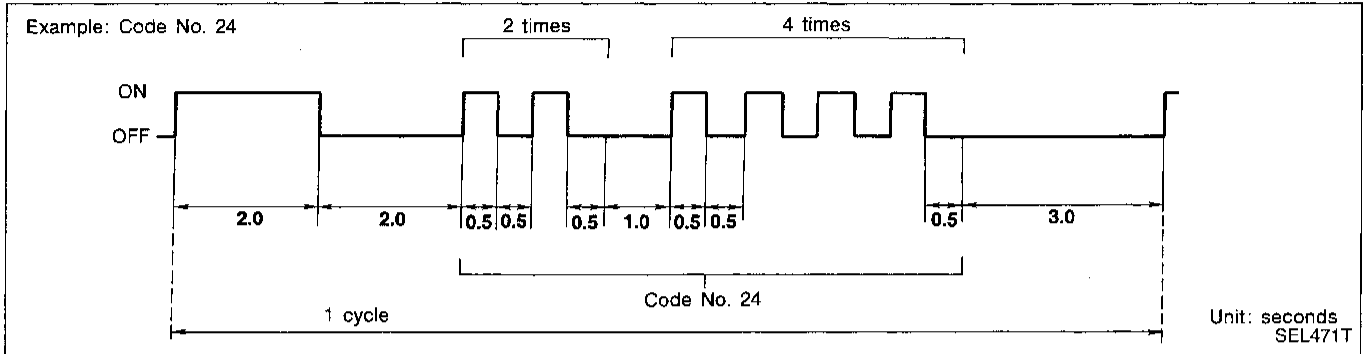
IDX

IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

On-board Diagnosis — Mode I (IVMS communication diagnosis) (Cont'd)

DESCRIPTION

In this mode, a malfunction code is indicated by the number of flashes from the front map lamps and step lamps as shown below:

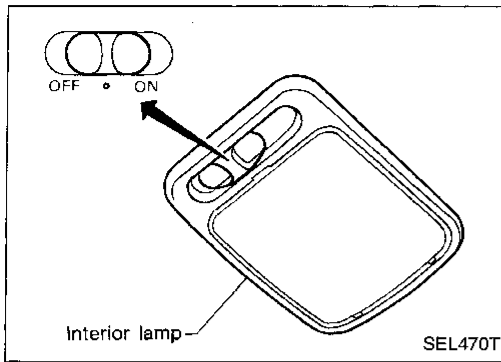


After indicator lamp turns on for 2 seconds then off for 2 seconds, it flashes [cycling ON (0.5 sec.)/OFF (0.5 sec.)] to indicate a malfunction code of the first digit. Then, 1 second after indicator lamp turns off, it again flashes [cycling ON (0.5 sec.)/OFF (0.5 sec.)] to indicate a malfunction code of the second digit.

For example, the indicator lamp goes on and off for 0.5 seconds twice and after 1.0 second, it goes on and off for 0.5 seconds four times. This indicates malfunction code "24".

Malfunction code table

Code No.	Malfunctioning LCU	Detected items	Diagnostic procedure
24	Driver door control unit (LCU01)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-189).
25		No response from data line A-1	Refer to Consult DIAGNOSTIC CHART, "NO RESPONSE" (EL-189).
34	Passenger door control unit (LCU02)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-189).
35		No response from data line A-2	Refer to Consult DIAGNOSTIC CHART, "NO RESPONSE" (EL-189).
41	Rear RH door control unit (LCU03)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-189).
42		No response from data line A-2	Refer to Consult DIAGNOSTIC CHART, "NO RESPONSE" (EL-189).
44	Rear LH door control unit (LCU04)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-189).
45		No response from data line A-1	Refer to Consult DIAGNOSTIC CHART, "NO RESPONSE" (EL-189).
54	Multi-remote control unit (LCU05)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-189).
55		No response from data line A-1	Refer to Consult DIAGNOSTIC CHART, "NO RESPONSE" (EL-189).
11	No malfunction		—

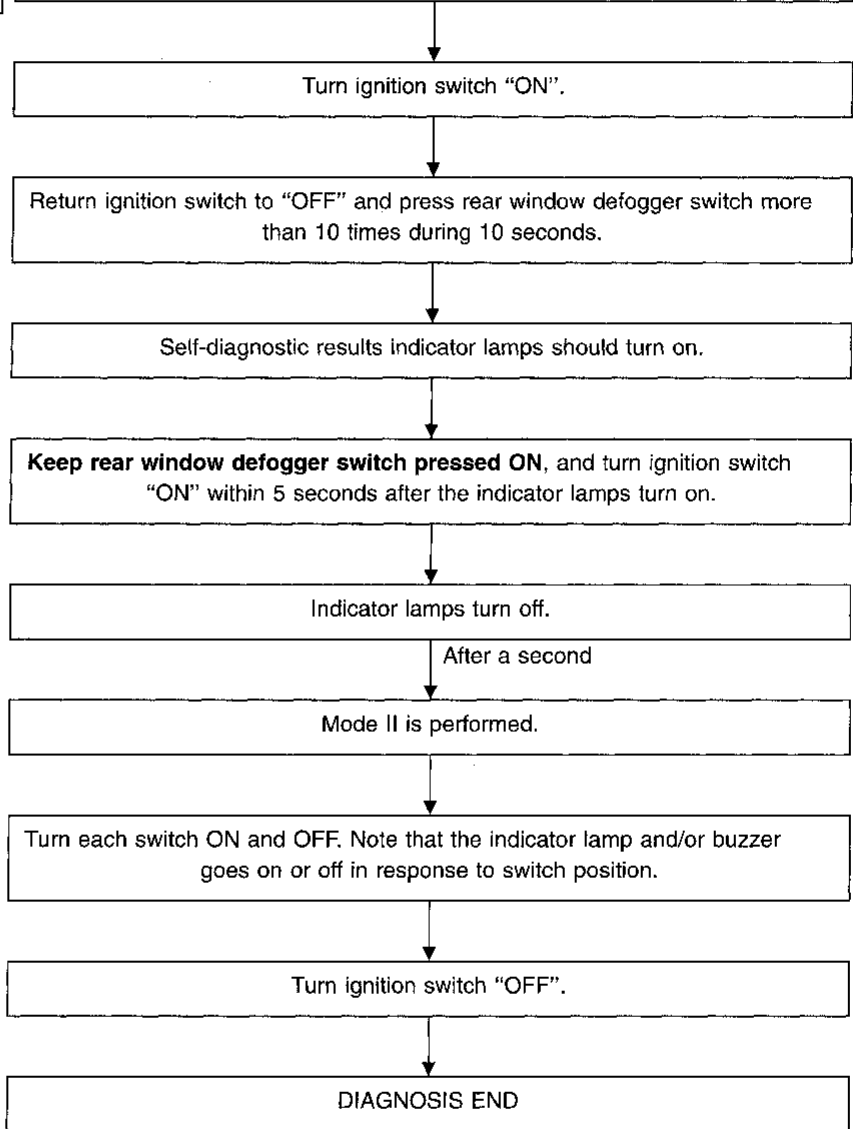


On-board Diagnosis — Mode II (Switch monitor)

HOW TO PERFORM MODE II

Condition

- Ignition switch: OFF
- **Lighting switch: OFF**
- Rear window defogger switch: OFF
- Doors: Closed
- Interior lamp: Center "O" position



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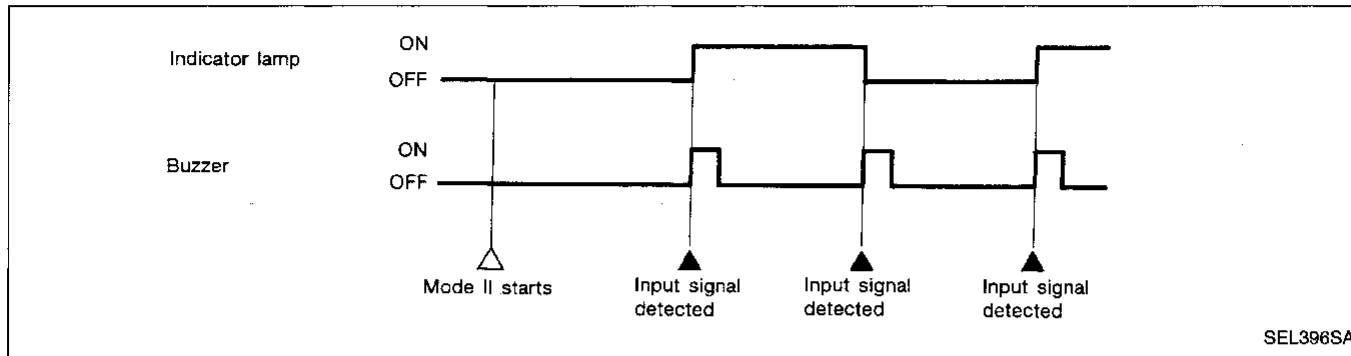
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IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

On-board Diagnosis — Mode II (Switch monitor) (Cont'd)

DESCRIPTION

In this mode, when BCM detects the input signal from a switch in IVMS as shown below, the detection is indicated by the interior lamp and front step lamps with buzzer.

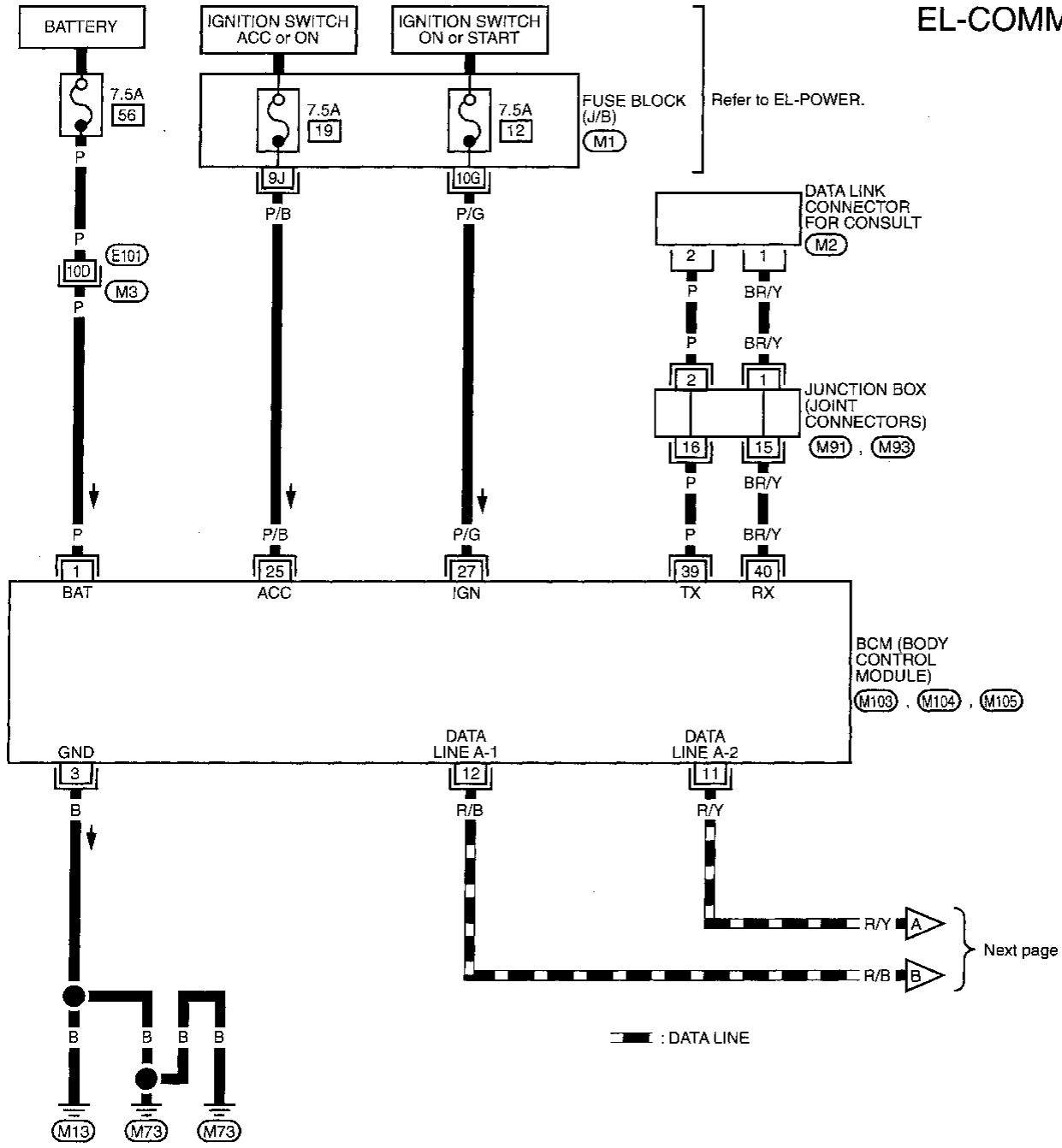


Switch monitor item

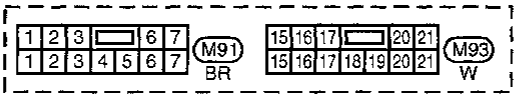
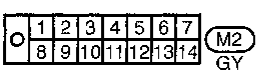
BCM	<ul style="list-style-type: none"> • Hood switch • Trunk room lamp switch • Trunk lid key cylinder switch (UNLOCK) • Door switches • Lighting switch (1st) • Wiper switch (INT) • Wiper switch (WASH) • Door switch (driver's side) • Door switch (passenger side) • Seat belt buckle switch 	LCU 02	<ul style="list-style-type: none"> • Door key cylinder switch (LOCK/UNLOCK) • Door unlock sensor • Passenger power window sub-switch (UP/DOWN)
		LCU 03	<ul style="list-style-type: none"> • Door unlock sensor • Power window sub-switch (Rear RH) (UP/DOWN)
		LCU 04	<ul style="list-style-type: none"> • Door unlock sensor • Power window sub-switch (Rear LH) (UP/DOWN)
LCU 01	<ul style="list-style-type: none"> • Power window lock switch • Power window main switches (UP/DOWN) • Power window automatic switch • Door lock & unlock switch (LOCK/UNLOCK) • Door unlock sensor • Door key cylinder switch (LOCK/UNLOCK) 	LCU 05	<ul style="list-style-type: none"> • Door lock button • Door unlock button • Panic alarm button • Trunk lid opener button <p>Operated by multi-remote controller</p>

Main Power Supply, Ground and Communication Circuits/Wiring Diagram
— COMM —

EL-COMM-01



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Refer to last page (Foldout page).

- (M1)
- (M3), (E101)
- (M91)
- (M93)
- (M103)
- (M104)
- (M105)

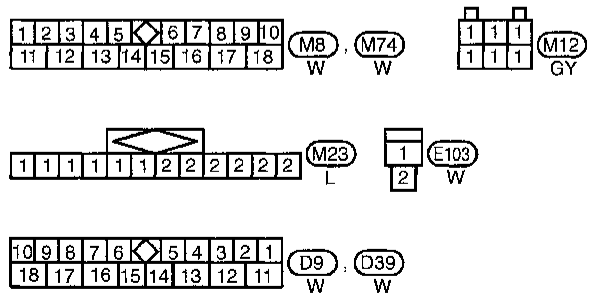
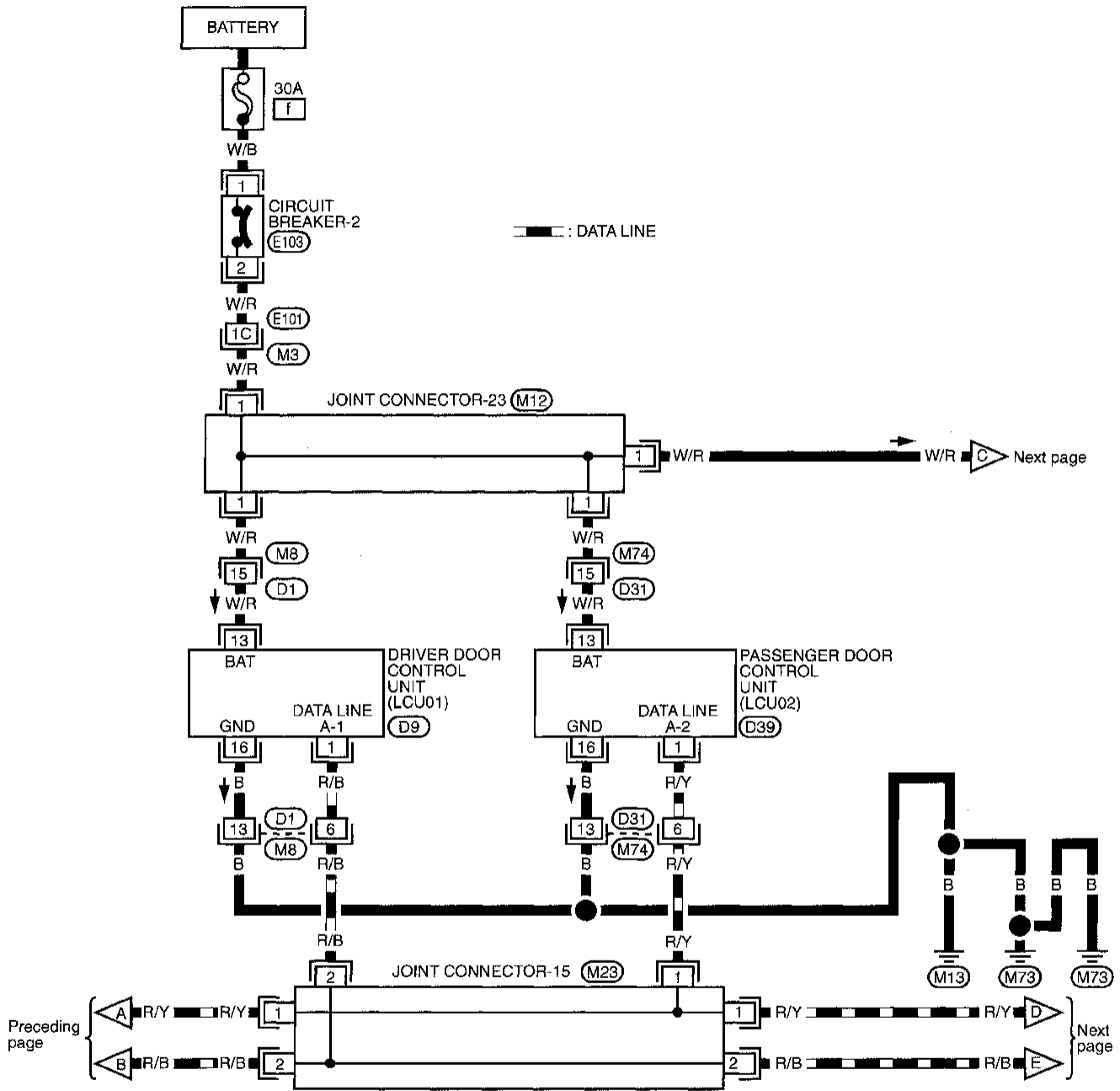
EL

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IVMS (LAN) — TROUBLE DIAGNOSES

Main Power Supply, Ground and Communication Circuits/Wiring Diagram — COMM — (Cont'd)

EL-COMM-02

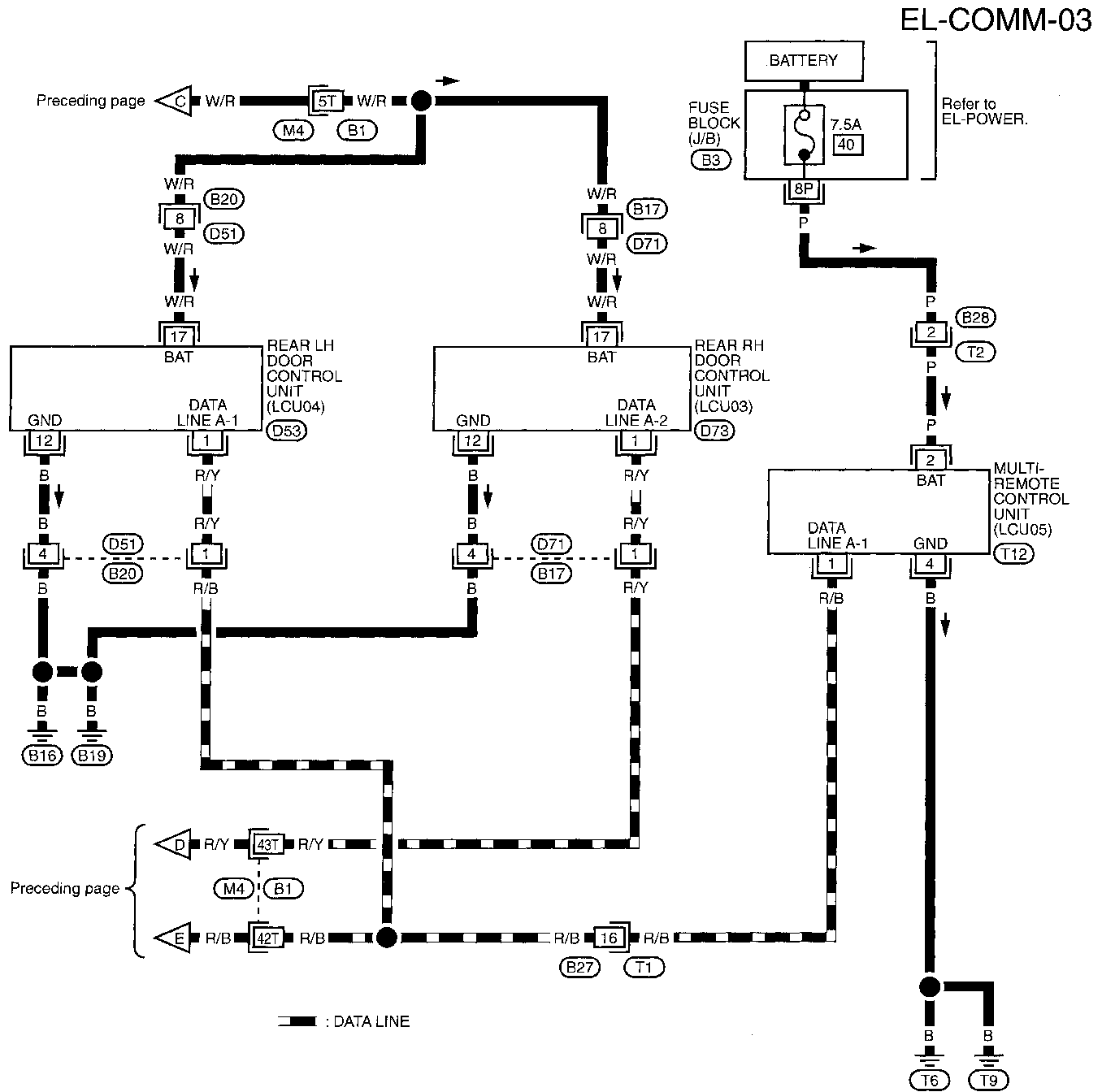


Refer to last page (Foldout page).

- (M3), (E101)
- (M12)
- (M23)

IVMS (LAN) — TROUBLE DIAGNOSES

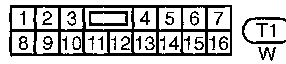
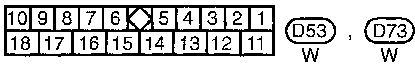
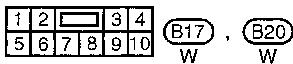
Main Power Supply, Ground and Communication Circuits/Wiring Diagram — COMM — (Cont'd)



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Refer to last page (Foldout page).

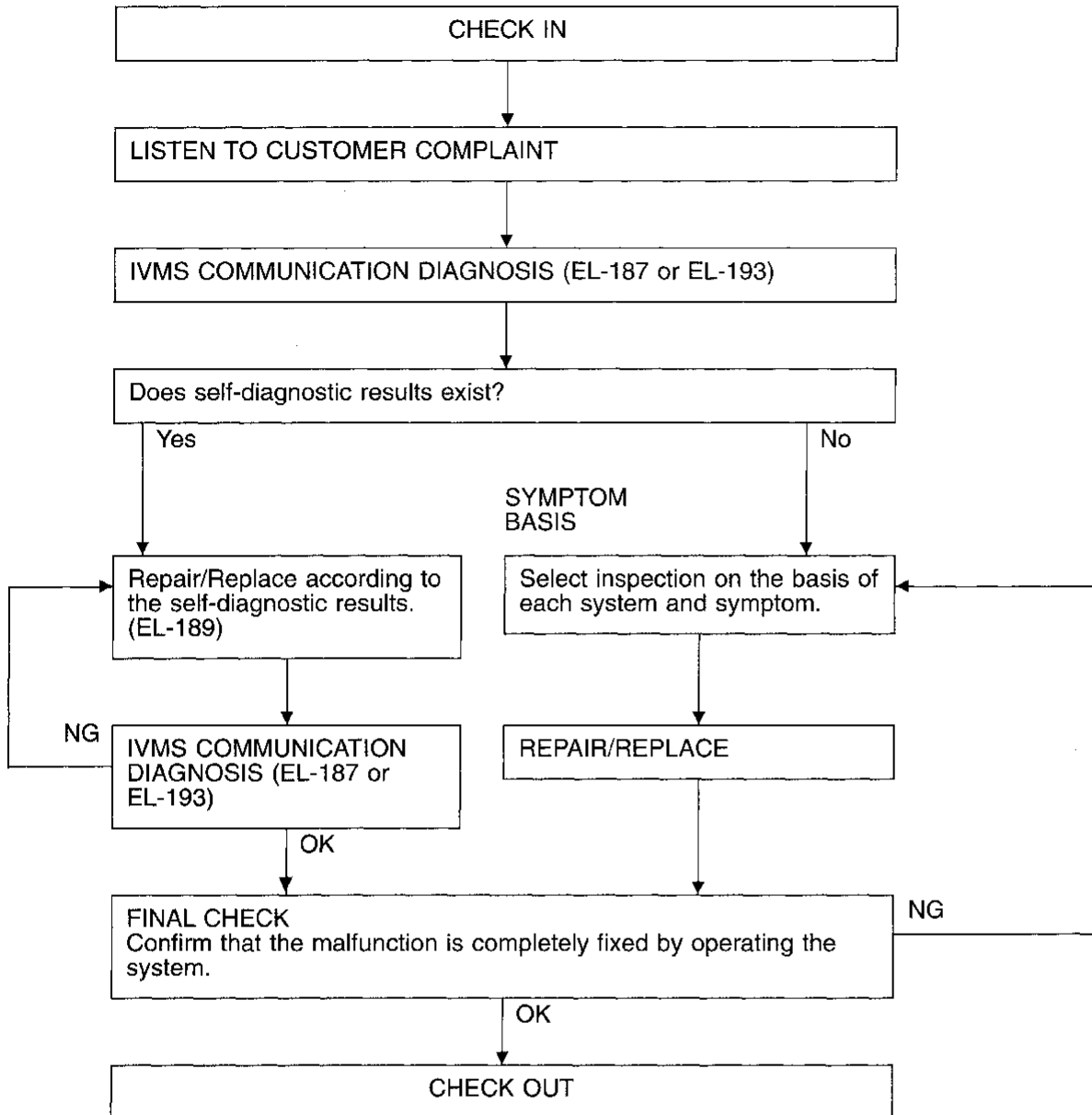
M4, B1
B3



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IVMS (LAN) — TROUBLE DIAGNOSES

Work Flow

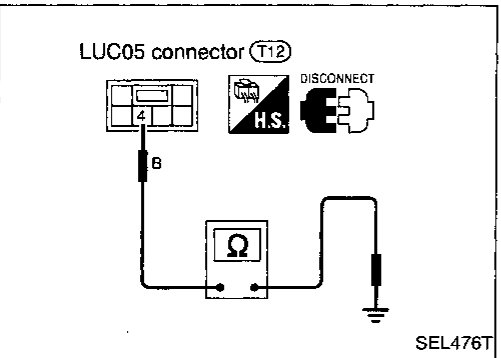
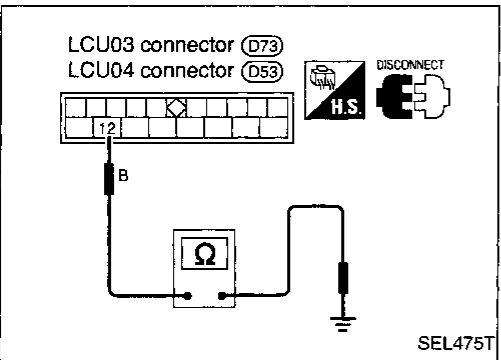
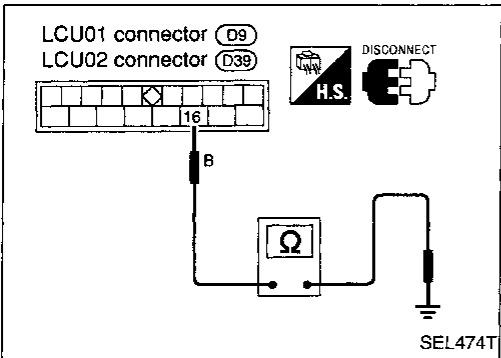
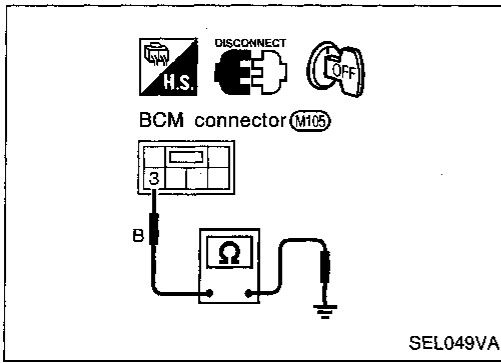


NOTICE:

- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

Power Supply and Ground Circuit Check

GROUND CIRCUIT CHECK



Control unit	Terminals	Continuity
BCM	③ - Ground	Yes
LCU01	⑯ - Ground	
LCU02		
LCU03	⑫ - Ground	
LCU04		
LCU05	④ - Ground	

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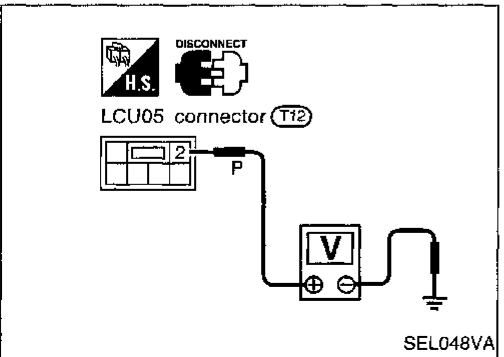
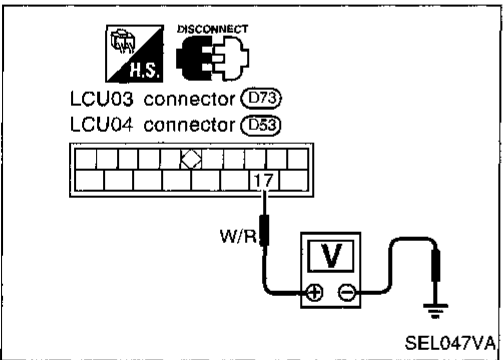
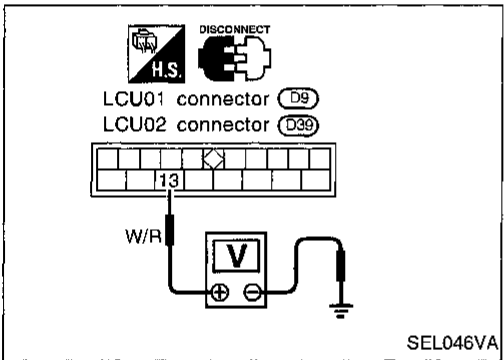
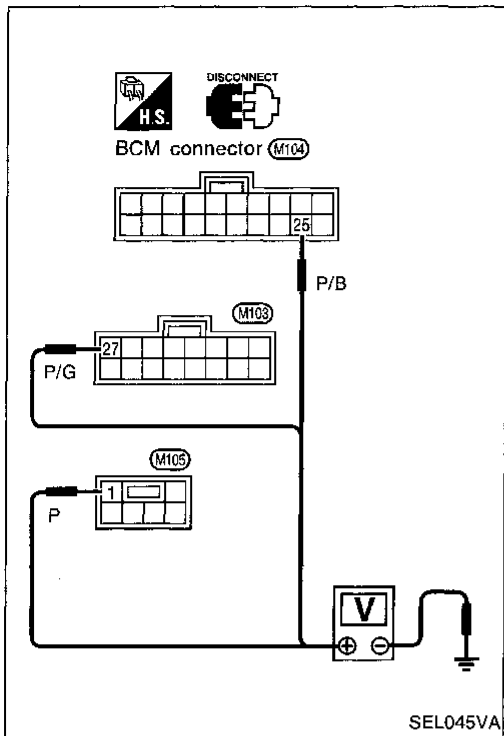
IVMS (LAN) — TROUBLE DIAGNOSES

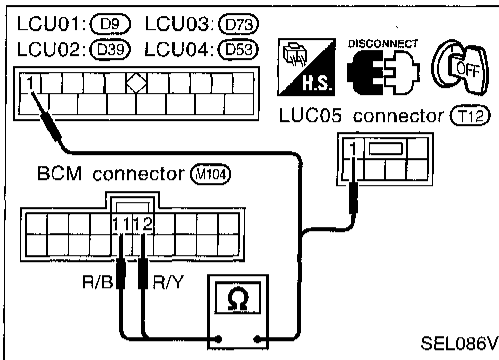
Power Supply and Ground Circuit Check (Cont'd)

POWER SUPPLY CIRCUIT CHECK

Control unit	Terminals		Ignition switch position		
	⊕	⊖	OFF	ACC	ON
BCM	①	Ground	Battery voltage		
	⑫	Ground	Approx. 0V	Battery voltage	
	⑰	Ground	Approx. 0V		Battery voltage
LCU01 and LCU02	⑬	Ground	Battery voltage		
LCU03 and LCU04	⑰	Ground	Battery voltage		
LCU05	②	Ground	Battery voltage		

*CONSULT (data monitor) may be used to check for the ignition switch input (ACC, ON).





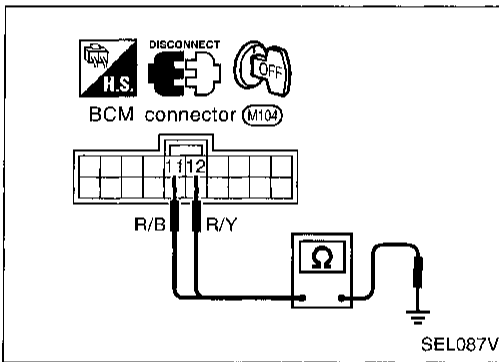
Data Lines Circuit Check

DATA LINES OPEN CIRCUIT CHECK

NOTE: When checking data line circuit, disconnect BCM and all LCU connectors.

1. Disconnect BCM and LCU connectors.
2. Check continuity between BCM and LCU terminals.

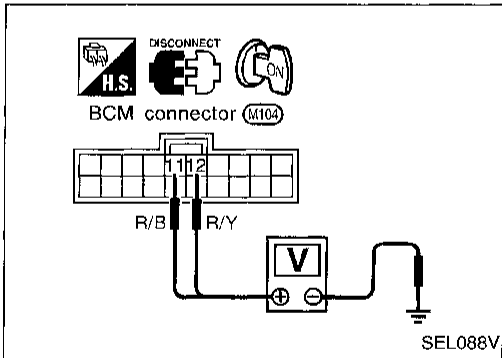
Control unit	Terminals		Continuity
	LCU	BCM	
LCU01	①	⑫	Yes
LCU02	①	⑪	
LCU03	①	⑪	
LCU04	①	⑫	
LCU05	①	⑫	



DATA LINES SHORT CIRCUIT CHECK

1. Disconnect BCM and all LCU connectors.
2. Check continuity between BCM terminal and body ground.

Terminals	Continuity
⑪ - Ground	No
⑫ - Ground	



3. Check voltage between BCM terminal and body ground.

Terminals	Voltage [V]
⑪ - Ground	0
⑫ - Ground	

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Replacing the BCM (Body Control Module) for Models with Auto A/C

The BCM unit for models equipped with auto A/C's (air conditioners) is provided with an auto A/C amplifier.

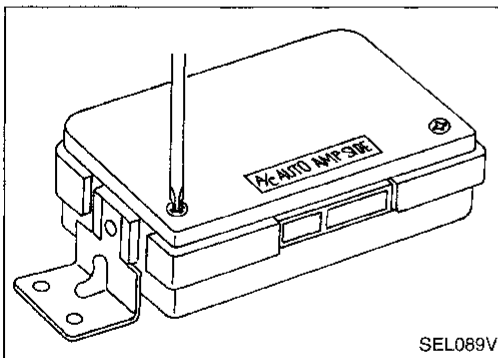
The BCM and auto A/C amplifier must be replaced independently with new ones as described below:

CAUTION:

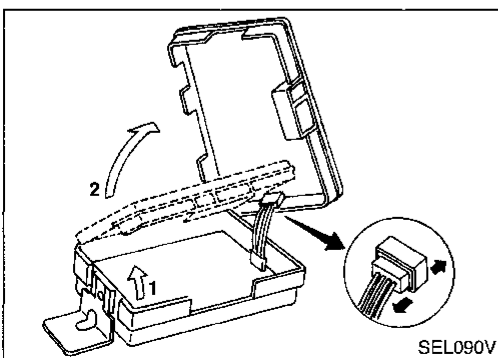
- Never handle the BCM unit with dirty hands (wet with oil, grease, etc.).
- When handling the BCM unit, hold the case as much as possible.
- Do not attempt to touch parts on the PC board unless absolutely necessary. Doing so may damage affected circuits or parts.
- The BCM unit consists of two cases—the BCM case and the A/C auto amplifier case. These cases are interconnected with a sub-harness. Be careful not to break the sub-harness while handling them.
- The "BCM SIDE" is stamped on the BCM case. The "A/C AUTO AMP" is stamped on the A/C auto amplifier case.

Be careful not to confuse one case with the other during replacement.

To replace either of the cases with a new one, proceed as follows:



1. Using a Phillips driver, remove the two screws.



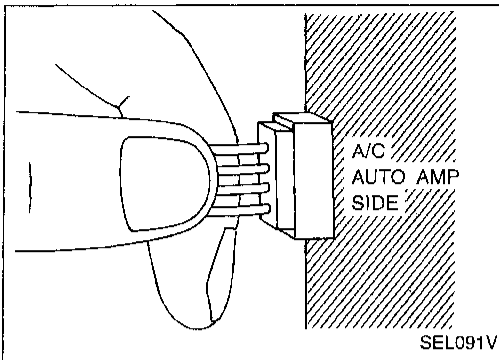
2. With the "A/C AUTO AMP SIDE" mark toward you and facing up, open the front of the case and then flip it open to the right.

CAUTION:

The BCM case and A/C auto amplifier case are interconnected with a sub-harness. Be careful not to break the sub-harness.

IVMS (LAN) — TROUBLE DIAGNOSES

Replacing the BCM (Body Control Module) for Models with Auto A/C (Cont'd)



3. While holding the 4 wires of sub-harness, disconnect the sub-harness connector from the mating connector.

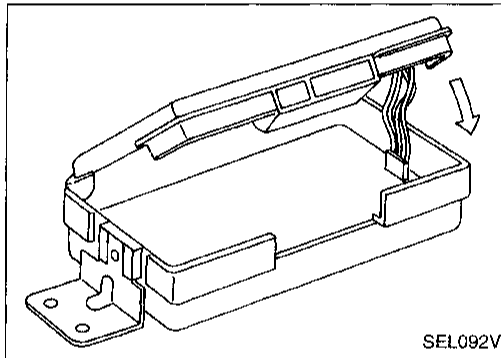
CAUTION:

Be sure to pull connector straight out.

4. Prepare a new BCM. The old A/C auto amplifier case can be re-used.
5. Connect the BCM-side connector to the A/C auto amplifier-side connector.

CAUTION:

Be sure to connect the BCM-side connector until a “click” is heard. If it does not connect properly, the auto A/C will not operate properly.



6. With the “A/C AUTO AMP SIDE” mark facing upward, engage the back side of the case first, then close the case.

CAUTION:

Do not allow the sub-harness to be caught in the cases.

7. Using a Phillips driver, tighten the two screws to a torque of 0.4 to 0.6 N·m (4.1 to 6.1 kg·cm, 3.6 to 5.3 in·lb).

CAUTION:

- **Be sure the two cases are in close contact with each other and are secure while tightening the screws.**
- **Do not overtighten the screws since it may break the case.**

8. Following BCM case replacement, make sure that:
 - a. The BCM and A/C auto amplifier-side connectors are properly connected to the body-side connector.
 - b. Perform IVMS communication diagnosis. Refer to page EL-187 or EL-193 for diagnostic procedures.
 - c. Check that the auto A/C operates properly.

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System Description

OUTLINE

Power window system consists of

- a BCM (Body Control Module)
- four LCUs (Local Control Module)
- four power window regulators

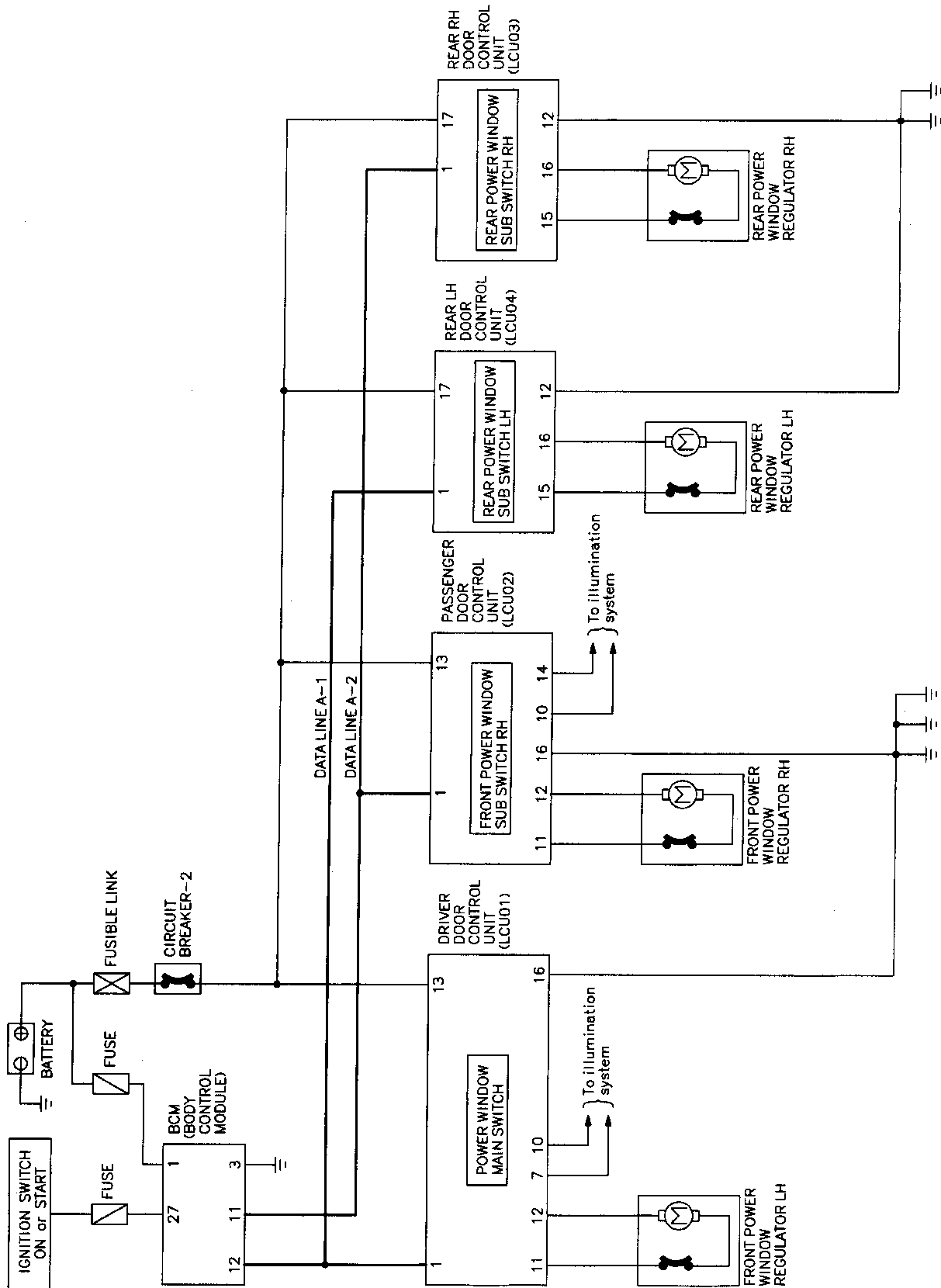
BCM is connected to each LCU via DATA LINE A-1 or A-2 and LCUs supply power and ground to each power window regulator.

When ignition switch is in the "ON" position, power window will be operated depending on power window sub/main switch (which is combined with each LCU) condition.

OPERATIVE CONDITION

- Power windows can be raised or lowered with each sub-switch or the power window main switch located on the driver's door trim when ignition key is in the "ON" position and power window lock switch on the driver's door trim is unlocked.
- When power window lock switch is locked, no windows can be raised or lowered except for driver side window.
- When ignition key is in the "ON" position, to fully open the driver side window, press down completely on the automatic switch (main switch) and release it; it needs not be held. The window will automatically open all the way. To stop the window, pull up down then release the switch.

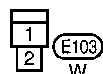
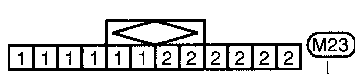
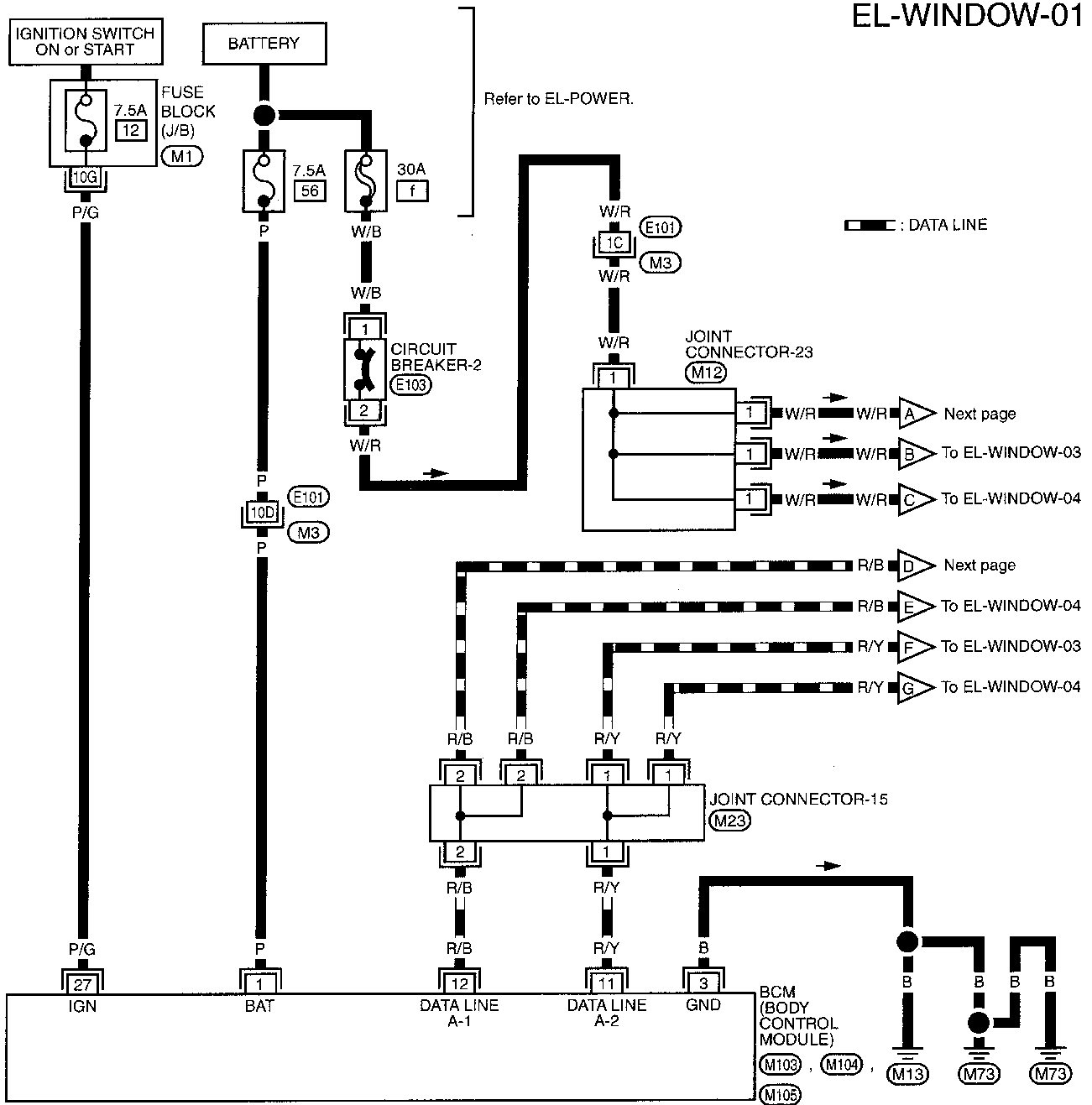
Schematic



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Wiring Diagram — WINDOW —

EL-WINDOW-01



Refer to last page (Foldout page).

M3, E101

M1

M103

M104

M105

M12

M23

POWER WINDOW — IVMS

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02

— : DATA LINE

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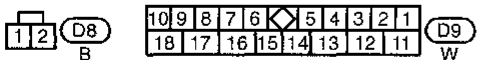
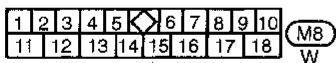
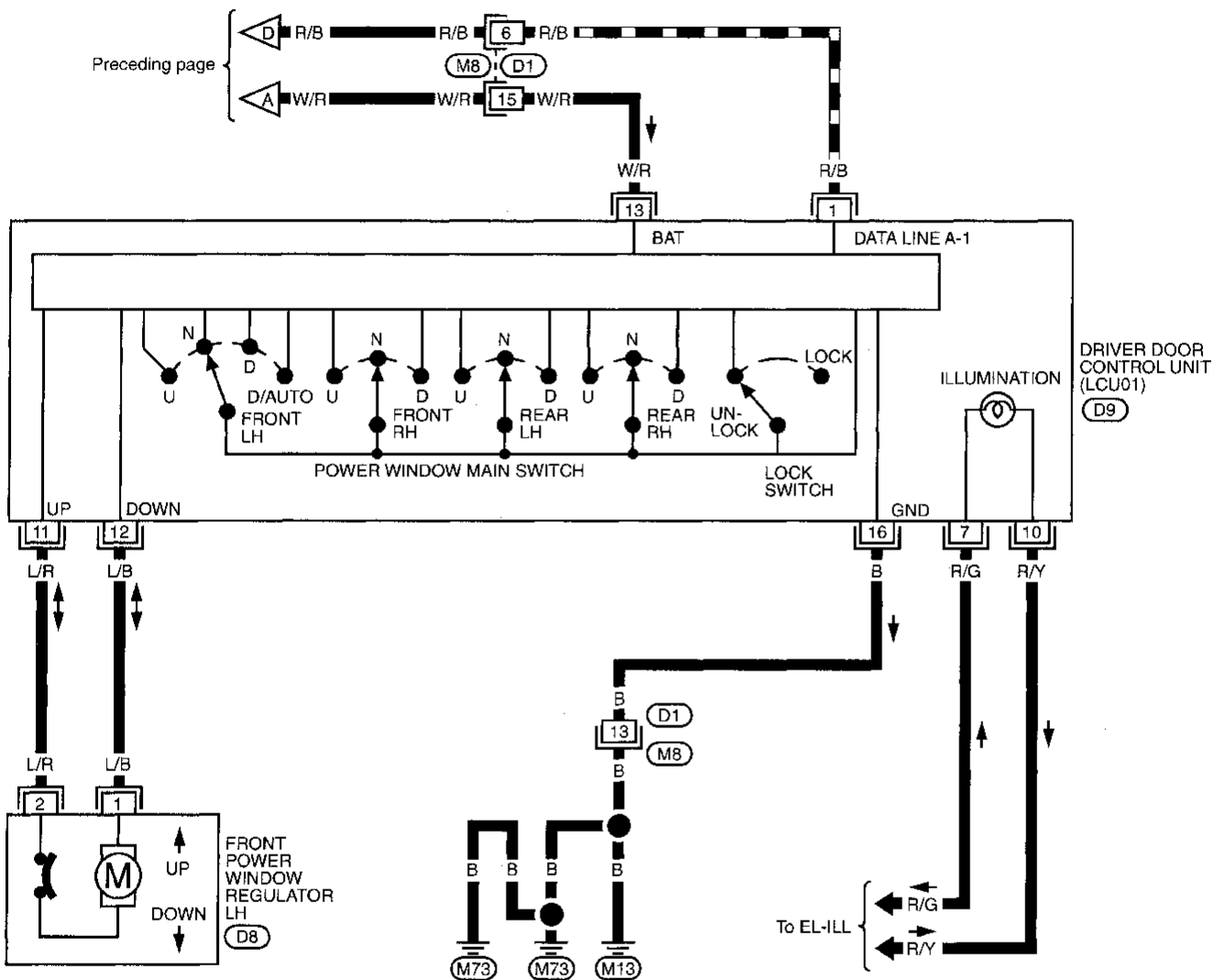
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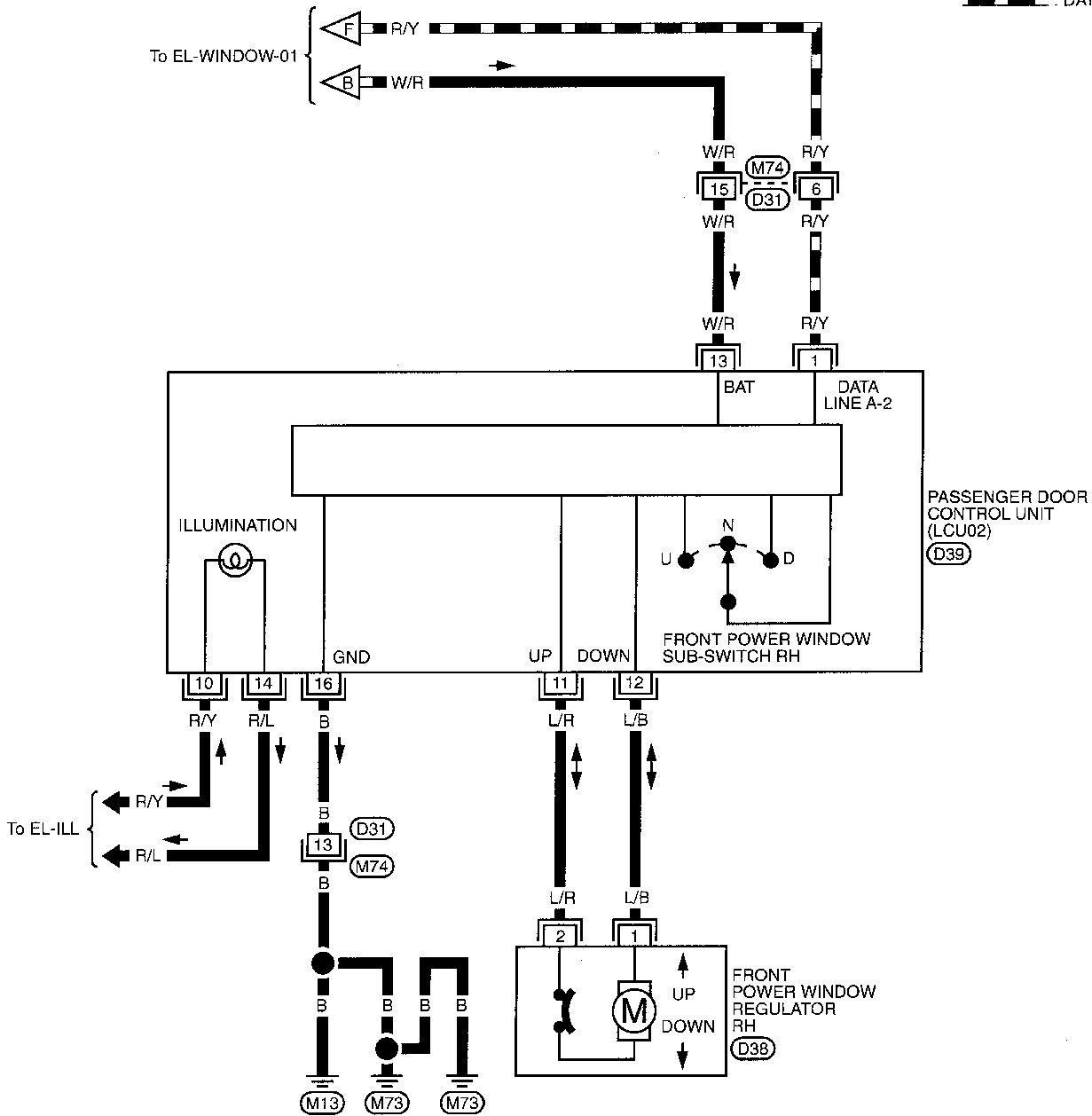


POWER WINDOW — IVMS

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03

▬ : DATA LINE



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	(M74)	W

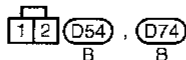
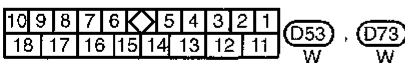
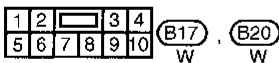
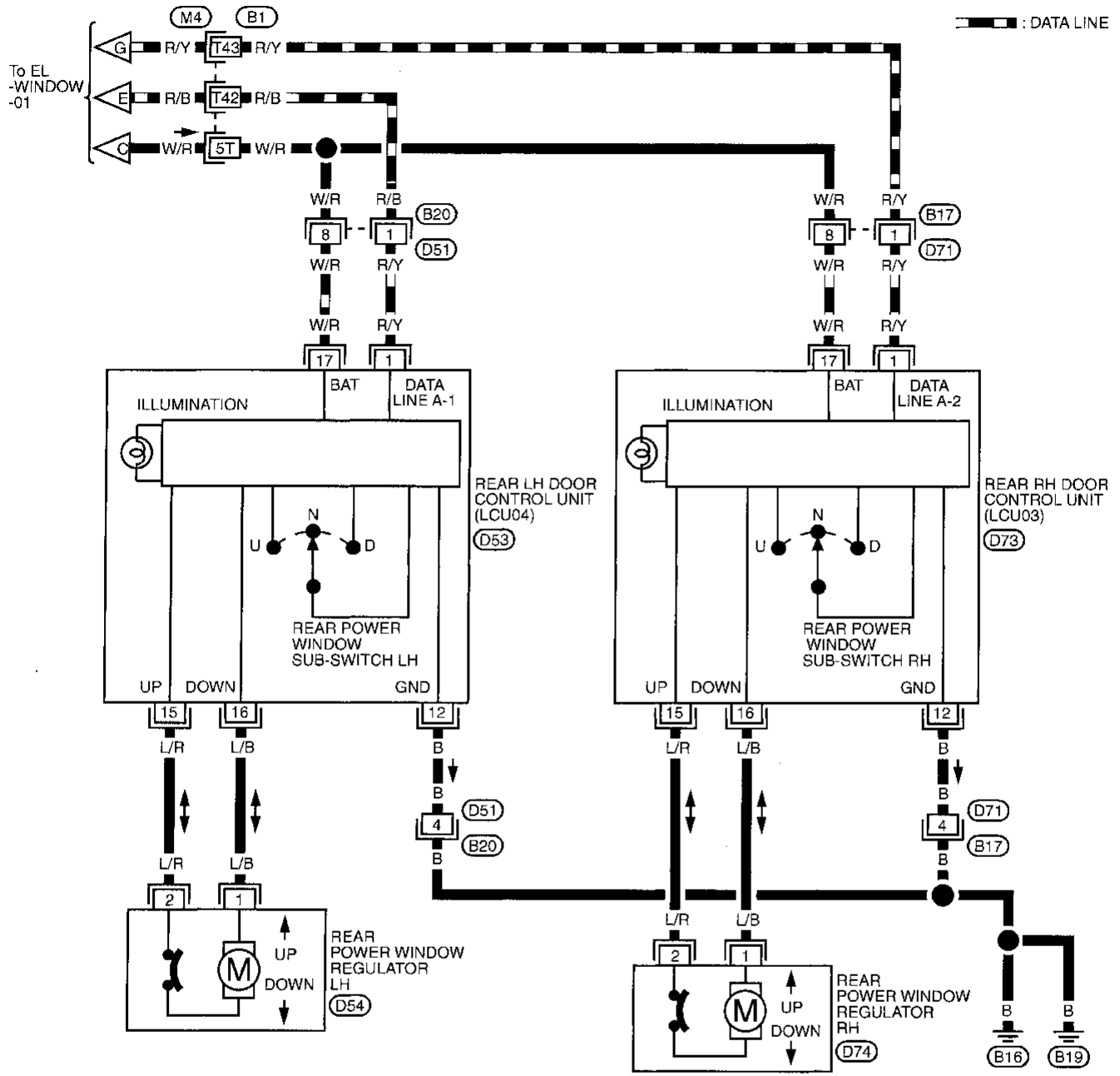
1	2	(D38)	B
---	---	-------	---

10	9	8	7	6	5	4	3	2	1
18	17	16	15	14	13	12	11	(D39)	W

POWER WINDOW — IVMS

Wiring Diagram — WINDOW — (Cont'd)

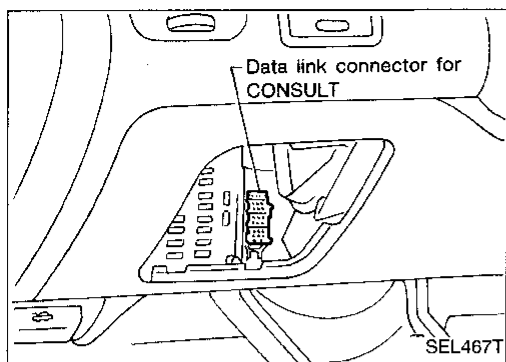
EL-WINDOW-04



Refer to last page (Foldout page).



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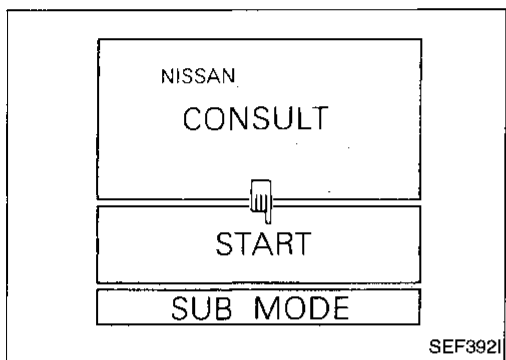


Trouble Diagnoses

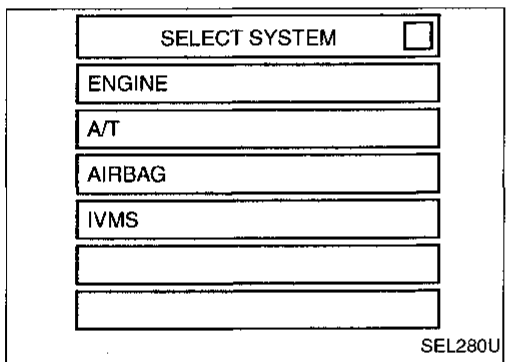
CONSULT

CONSULT inspection procedure

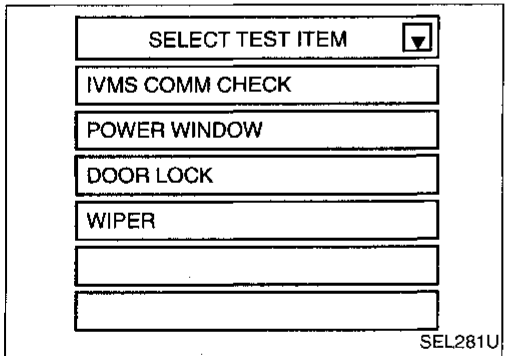
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.
3. Turn ignition switch "ON".
4. Touch "START".



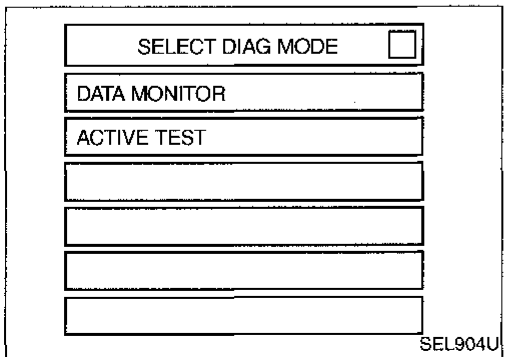
5. Touch "IVMS".



6. Touch "POWER WINDOW".



- DATA MONITOR and ACTIVE TEST are available for the power window.

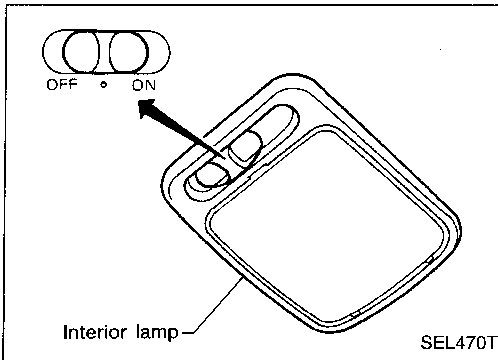


POWER WINDOW — IVMS

Trouble Diagnoses (Cont'd)

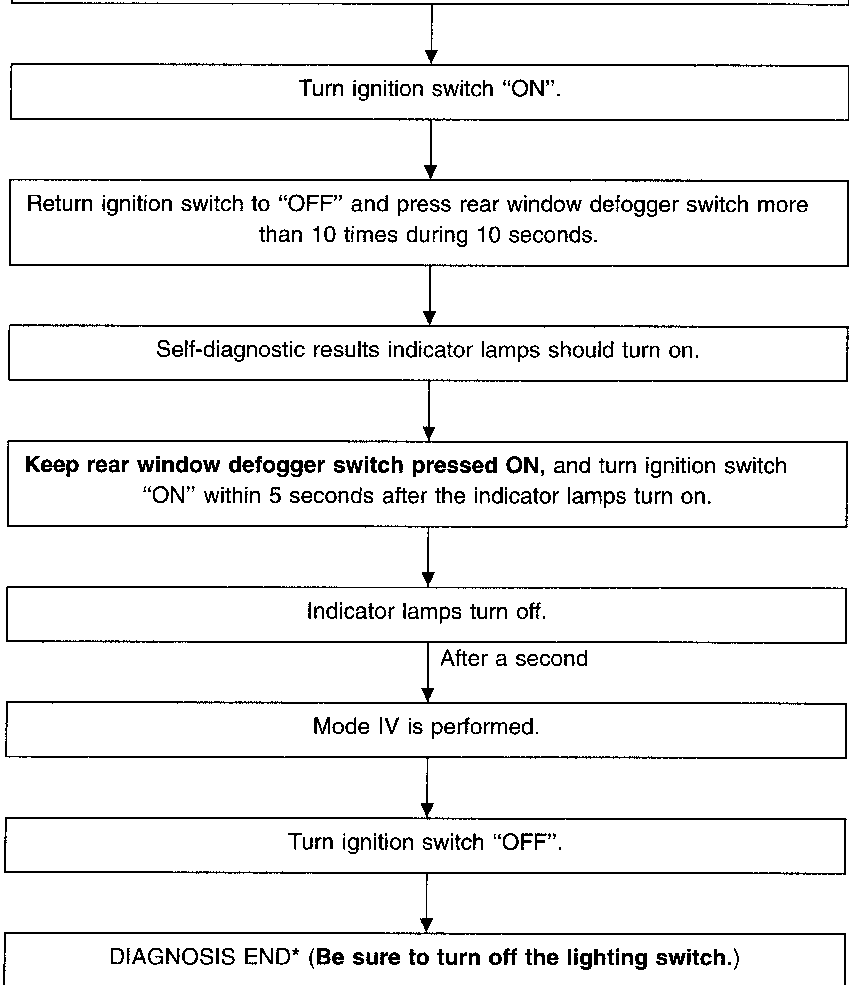
ON-BOARD DIAGNOSIS — MODE IV (Power window monitor)

How to perform mode IV



Condition

- Ignition switch: OFF
- **Lighting switch 1st: ON**
- Rear window defogger switch: OFF
- Front LH window: Closed
- Doors: Closed
- Interior lamp: Center "O" position



*: Diagnosis ends after self-diagnostic results have been indicated for 10 minutes if left unattended.

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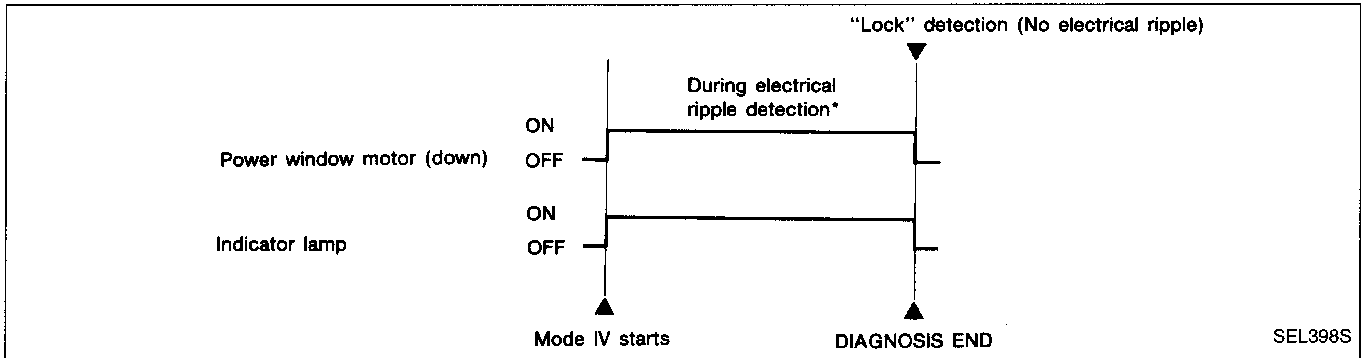
IDX

POWER WINDOW — IVMS

Trouble Diagnoses (Cont'd)

Description

In mode IV, driver window is automatically operated. In conjunction with power window motor (DOWN) "ON", indicator lamps (interior lamp and front step lamps) turn on. When power window "lock" is detected, power window motor will stop and the indicator lamps will turn off.

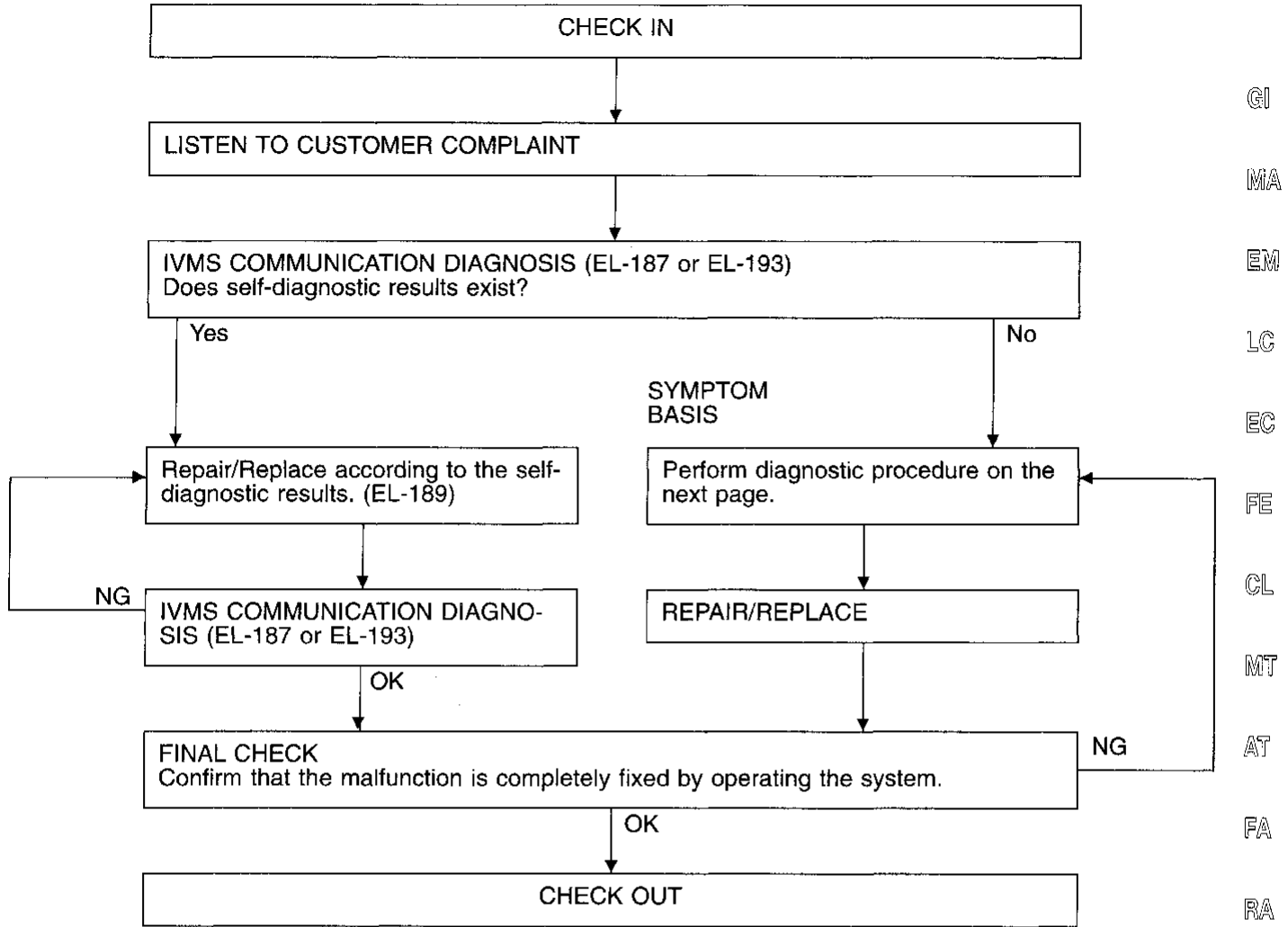


NOTE: As soon as manual switches (each seat's power window switch) turn ON, driver power window motor (DOWN) stops and diagnosis ends.

* While power window motor is being operated, electrical ripple occurs.

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

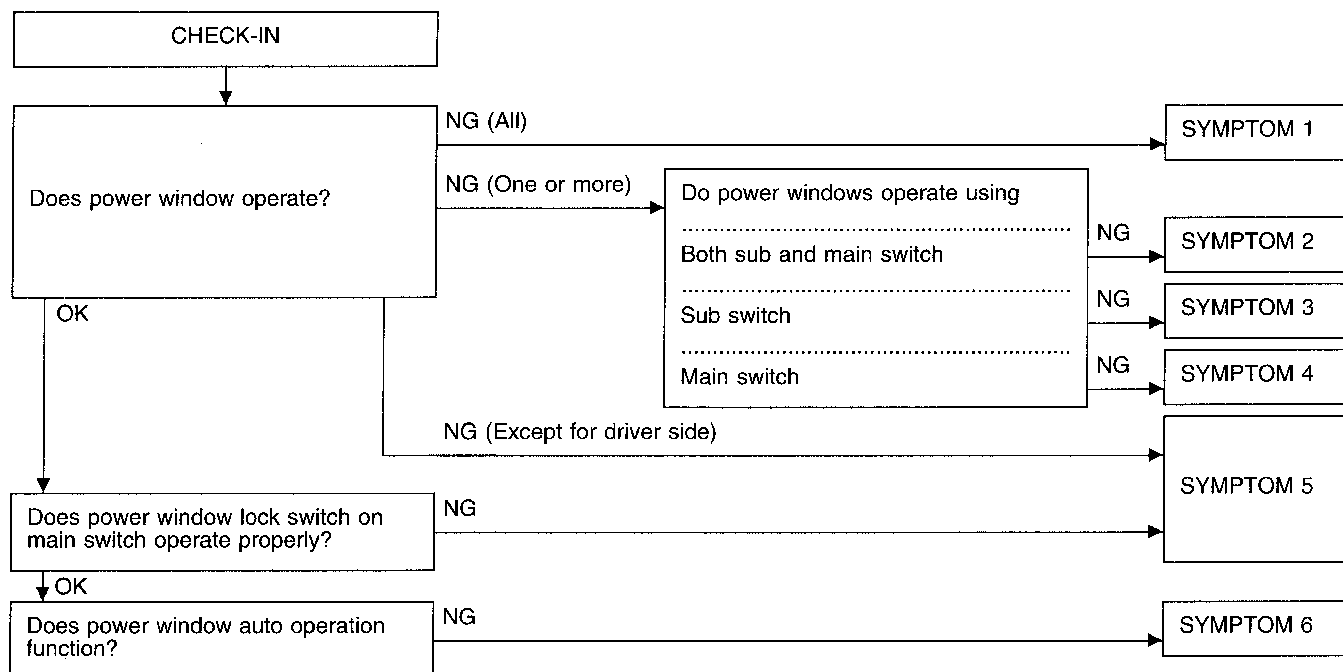
- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

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POWER WINDOW — IVMS

Trouble Diagnoses (Cont'd)

PRELIMINARY CHECK



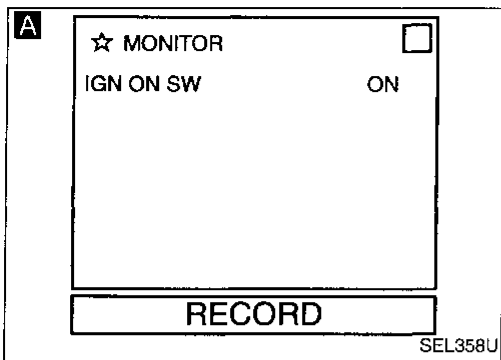
SYMPTOM CHART

PROCEDURE		Diagnostic procedure					
REFERENCE PAGE		EL-217	EL-217	EL-218	EL-218	EL-219	EL-220
		Procedure 1 (Ignition switch ON signal check)	Procedure 2 (Power window lock switch check)	Procedure 3 (Power window main switch check)	Procedure 4 (Power window sub-switch check)	Procedure 5 (Power window regulator check)	Procedure 6 (Power window automatic switch check)
1	All power window do not operate.	X					
2	One or more of the power windows do not operate by turning either sub or main switch.					X	
3	One or more of the sub-switches do not function.				X		
4	One or more of the main switches on driver's door trim do not function.			X			
5	Power window lock switch on main switch does not lock and/or unlock all windows.		X				
6	Driver power window automatic operation does not function.						X

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

(Ignition switch ON signal check)



CHECK IGNITION SWITCH ON SIGNAL.

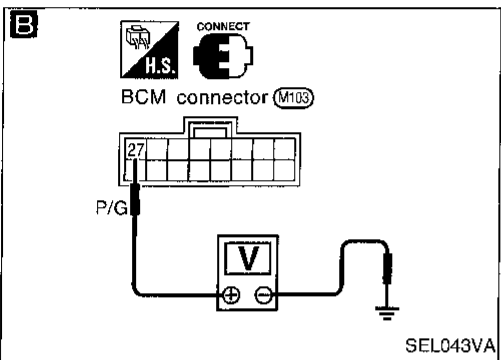
A CONSULT

See "IGN ON SW" in DATA MONITOR mode.

When ignition switch is ON:
IGN ON SW ON

When ignition switch is ACC or OFF:
IGN ON SW OFF

- NG →
- Check the following.
- 7.5A fuse [No. 12], located in the fuse block (J/B)]
 - Harness for open or short between fuse and BCM



B TESTER

Check voltage between BCM terminal 27 and ground.

Condition of ignition switch	Voltage [V]
ON	Approx. 12
ACC or OFF	0

Refer to wiring diagram in EL-208.

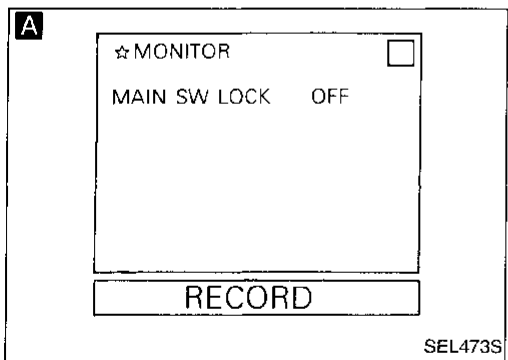
OK ↓

Ignition switch ON signal is OK.

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DIAGNOSTIC PROCEDURE 2

(Power window lock switch check)



CHECK POWER WINDOW LOCK SWITCH INPUT SIGNAL.

A CONSULT

See "MAIN SW LOCK" in DATA MONITOR mode.

"MAIN SW LOCK" should change from "OFF" to "ON" when pushing power window lock switch.

NG → Replace LCU01.

OR

ON-BOARD

Check power window lock switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses, EL-195.)

OK ↓

Power window lock switch is OK.

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POWER WINDOW — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

(Power window main switch)

A ☆ MONITOR □

MAIN SW AS-UP	OFF
MAIN/S AS-DWN	OFF
MAIN SW RR-UP	OFF
MAIN/S RR-DWN	OFF
MAIN SW RL-UP	OFF
MAIN/S RL-DWN	OFF
P/W SW DR-UP	OFF
P/W SW DR-DWN	OFF
P/W SW DR-AUT	OFF

RECORD


SEL440T

CHECK DRIVER'S DOOR TRIM POWER WINDOW MAIN SWITCH INPUT SIGNAL.

A  CONSULT

See "MAIN SW UP or DOWN" in DATA MONITOR mode.
"MAIN SW UP or DOWN" should change from "OFF" to "ON" when pushing power window main switches.

OR

 ON-BOARD

Check power window main switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses, EL-195.)

NG

Replace LCU01.

OK

Power window main switch is OK.

A ☆ MONITOR □

P/W SW AS-UP	OFF
P/W SW AS-DWN	OFF
P/W SW RR-UP	OFF
P/W SW RR-DWN	OFF
P/W SW RL-UP	OFF
P/W SW RL-DWN	OFF

RECORD

SEL455T

DIAGNOSTIC PROCEDURE 4

[Power window sub-switch (Passenger side, Rear LH, RH) check]

CHECK POWER WINDOW SUB-SWITCH INPUT SIGNAL.

A  CONSULT

See "P/W SW UP or DOWN" in DATA MONITOR mode.
"P/W SW UP or DOWN" should change from "OFF" to "ON" when each sub-switch is turned ON.

OR

 ON-BOARD

Check power window sub-switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses, EL-195.)

NG

Replace LCU for malfunctioning portion.

- Passenger: LCU02
- Rear LH: LCU04
- Rear RH: LCU03

OK

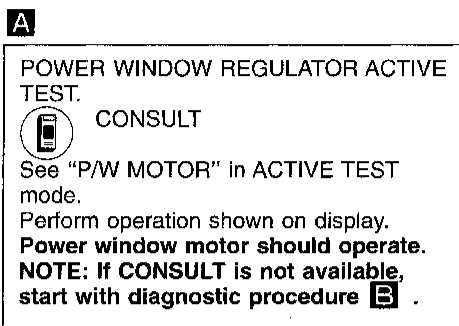
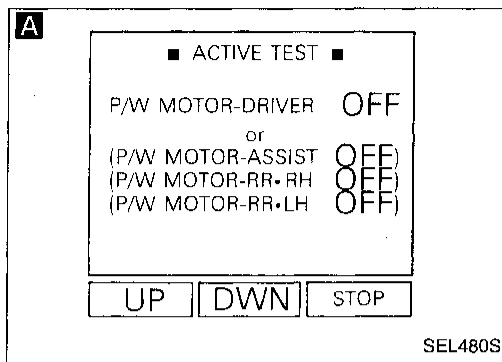
Power window sub-switch is OK.

POWER WINDOW — IVMS

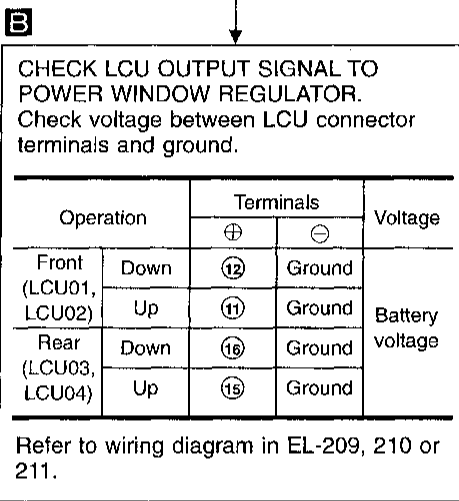
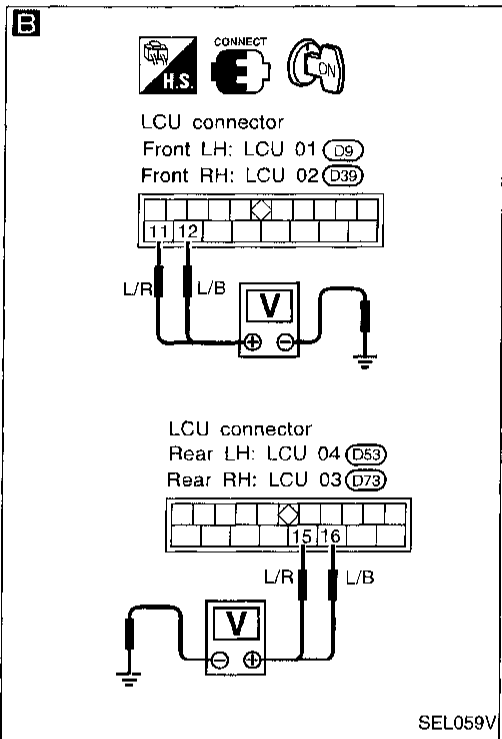
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

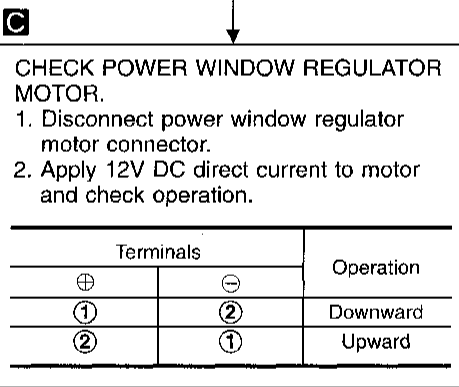
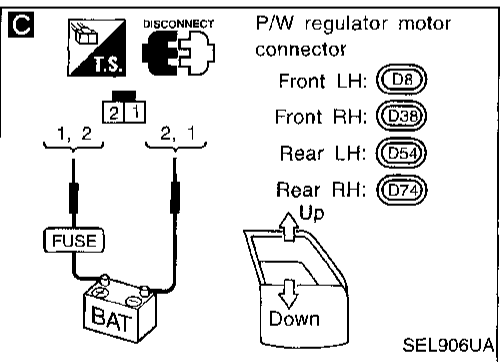
(Power window regulator check)



OK → Power window regulator is OK.



NG → Replace LCU for malfunctioning portion.



NG → Replace power window regulator motor.

OK → Check harness for open or short between power window switch, and power window regulator motor.

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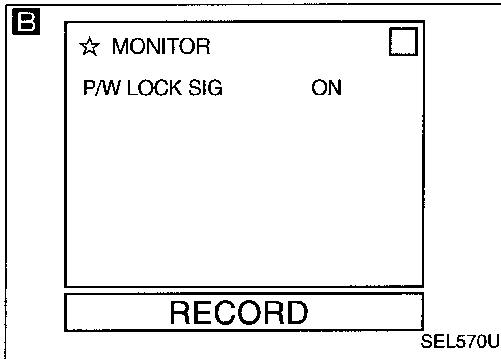
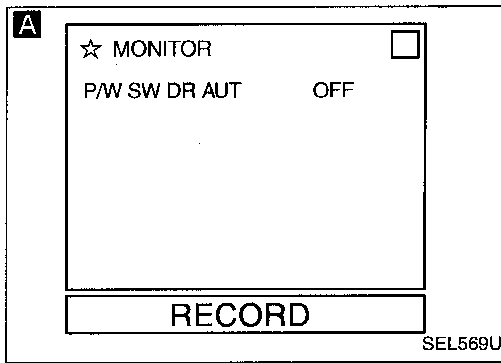
IDX

POWER WINDOW — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

(Power window automatic switch check)




CHECK POWER WINDOW AUTO SWITCH INPUT SIGNAL.

A  CONSULT

See "P/W SW DR AUT" in DATA MONITOR mode.

"P/W SW DR AUT" should change from "ON" to "OFF" when completely pushing in or pulling out driver power window switch.

OR

 ON-BOARD

Check power window switch driver auto operation in switch monitor (Mode II) mode.

(Refer to On-board Diagnosis, EL-195.)

OK

NG

Replace LCU01.


CHECK POWER WINDOW LOCK SIGNAL.

B  CONSULT

See "P/W LOCK SIG" in DATA MONITOR mode.

"P/W LOCK SIG" should change from "ON" to "OFF" when the window is moving.

OR

 ON-BOARD

Perform On-board diagnosis Mode IV.

(Refer to EL-213.)

Electrical ripple should occur, when the window is moving.

OK

NG

Replace LCU01.

Check the system again.

System Description

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B)
- to key switch terminal ①.

Power is supplied to BCM terminal ③① through key switch terminal ② when key switch is in ON position (ignition key is inserted in the key cylinder).

BCM is connected to LCU01, LCU02, LCU03 and LCU04 as DATA LINE A-1 or A-2.

Ground is supplied

- to BCM terminal ②⑨ or ①⑥
- from front LH or RH door switch terminal ②
- through front LH or RH door switch terminal ③ when door switch is in OPEN position and
- through body grounds ⑧①⑥ and ⑧①⑨.

Ground is supplied

- to driver door control unit (LCU01) terminals ⑥ or ⑤
- from front LH door key cylinder switch terminals ① or ② when door key cylinder is in BETWEEN FULL STROKE AND N position
- through front LH door key cylinder switch terminal ④ and
- through body grounds ①①③ and ①①⑦.

Front RH door key cylinder switch will supply ground to passenger door control unit (LCU02) in the same manner as driver side.

Ground is supplied

- to driver door control unit (LCU01) terminal ④
- from door unlock sensor (in the front LH door lock actuator) terminal ② when door lock is in UNLOCKED position
- through front LH door lock actuator terminal ④ and
- through body grounds ①①③ and ①①⑦.

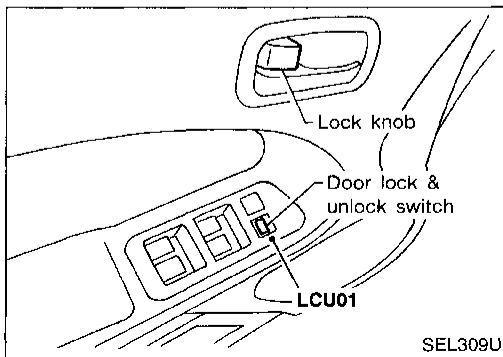
Front passenger and rear door unlock sensors (in the door lock actuators) will supply ground to each door control unit (LCU02, 03 and 04) in the same manner as driver side.

When lock/unlock signal is sent to BCM or LCU, BCM sends a lock/unlock signal to LCUs via DATA LINE A-1 or A-2. LCUs then supply power and ground to each door lock actuator.

OPERATION

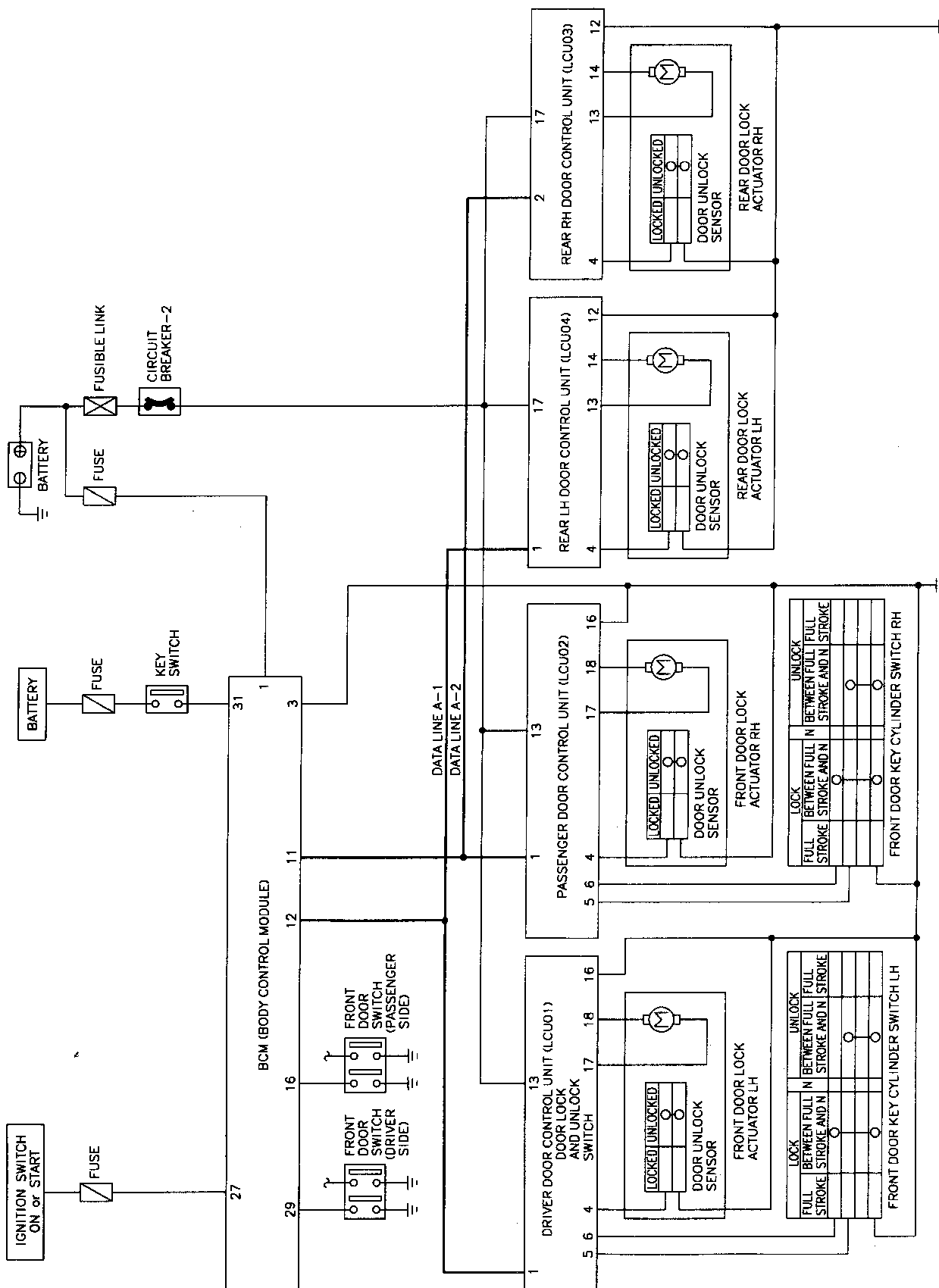
- The lock & unlock switch (SW) on driver's door trim can lock and unlock all doors.
- With the lock knob on front LH or RH door set to "LOCK", all doors are locked.
- With the door key inserted in the key cylinder on front LH or RH door, turning it to "LOCK", will lock all doors; turning it to "UNLOCK" once unlocks the corresponding door; turning it to "UNLOCK" again within 5 seconds after the first unlock operation unlocks all of the other doors.

However, if the ignition key is in the ignition key cylinder and one or more of the front doors are open, setting the lock & unlock switch, lock knob, or the door key to "LOCK" locks the doors once but then immediately unlocks them. — (KEY REMINDER DOOR SYSTEM)



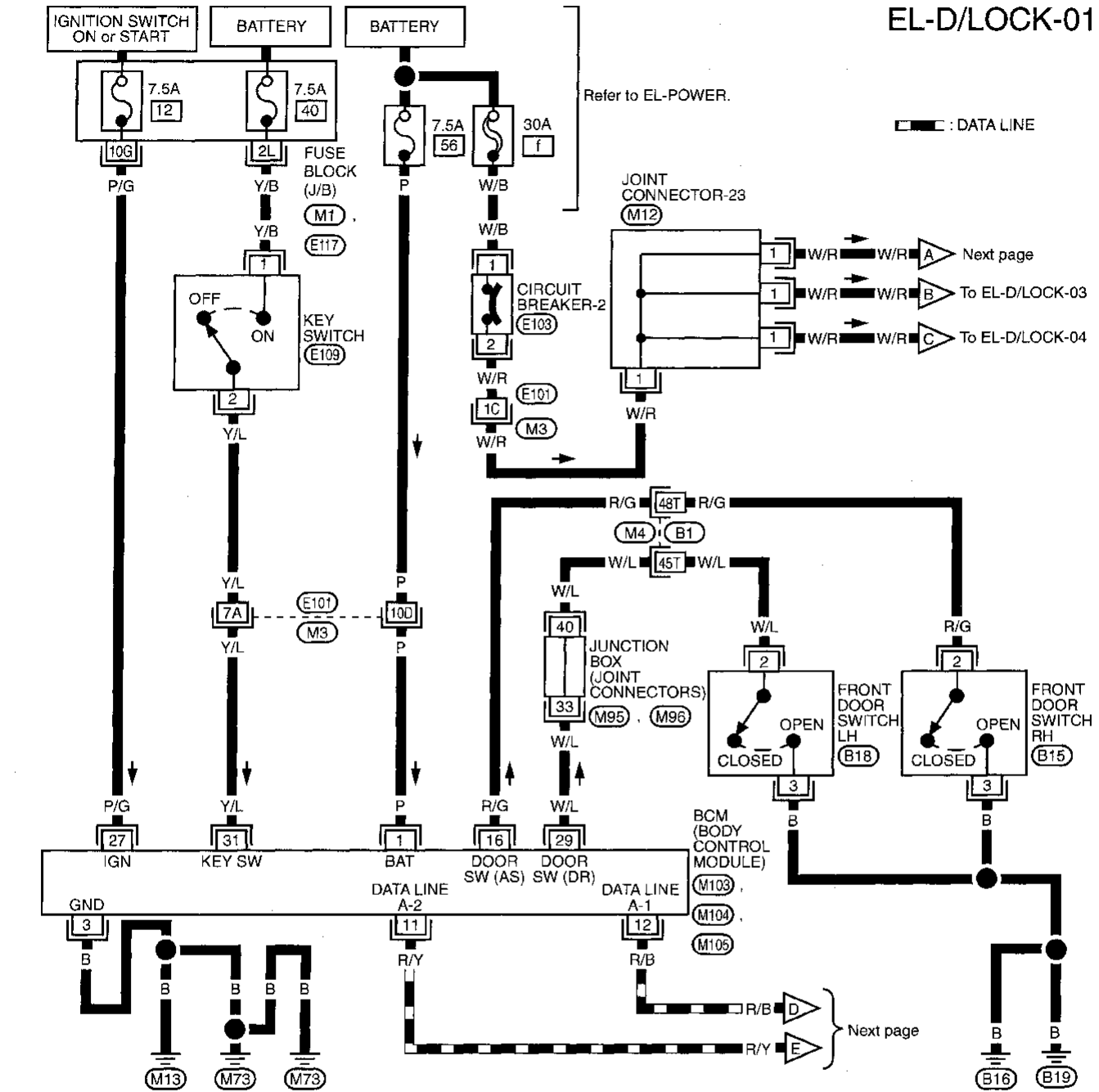
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Schematic

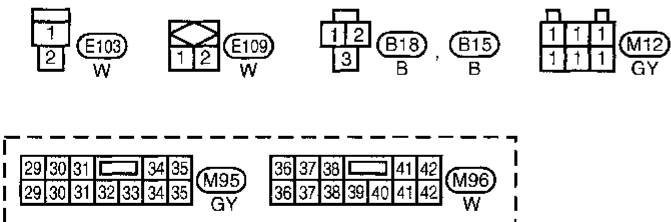


Wiring Diagram — D/LOCK —

EL-D/LOCK-01



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Refer to last page (Foldout page).

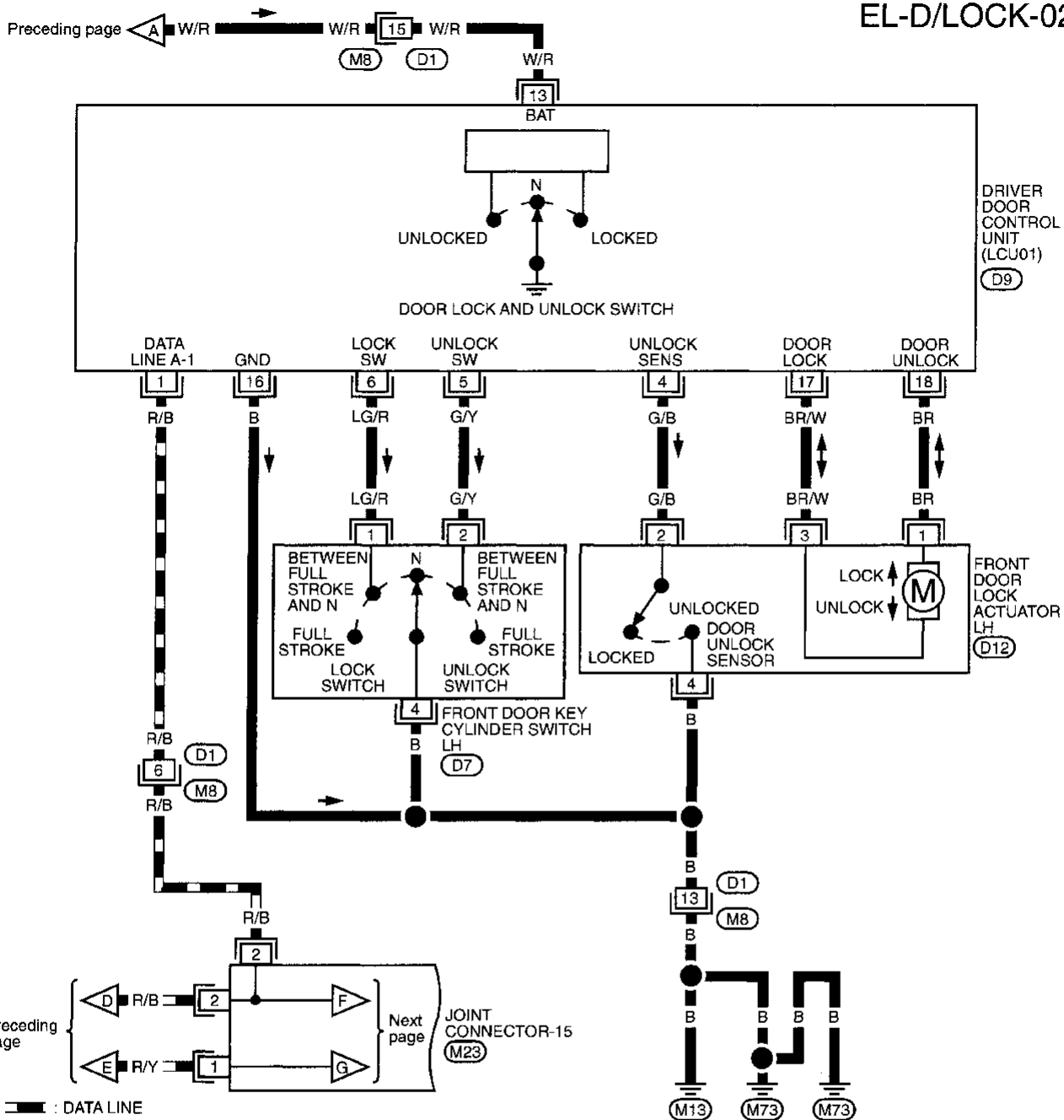
M1 (M104)
E117 (M105)
B1 (M12)
E101 (M95)
M103 (M96)

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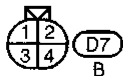
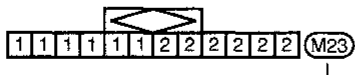
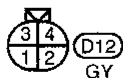
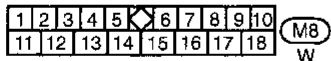
POWER DOOR LOCK — IVMS

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-02



Refer to last page (Foldout page).

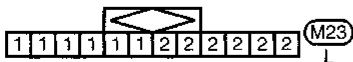
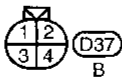
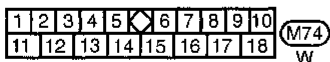
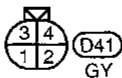
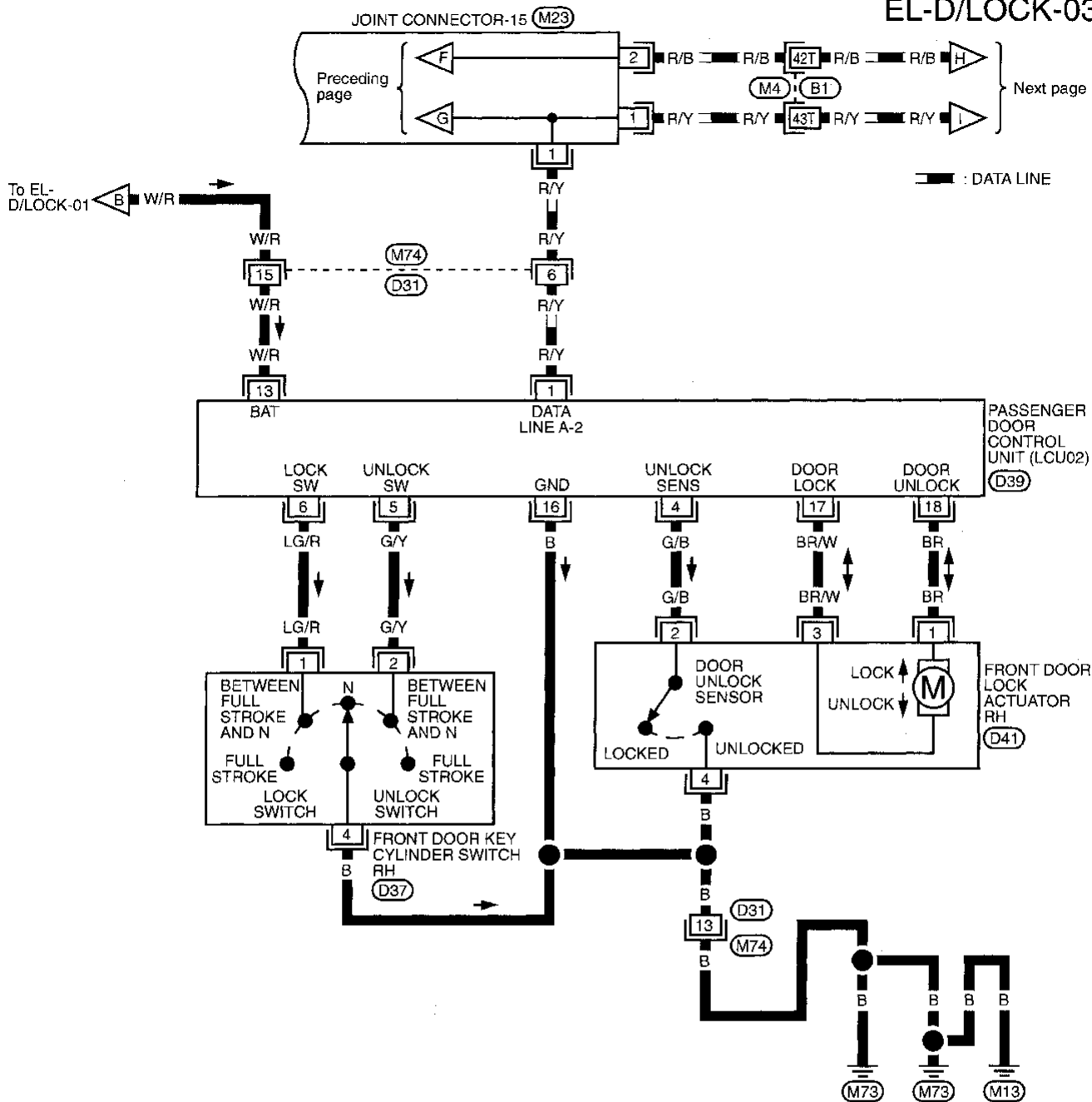


(M23)

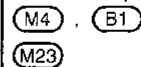
POWER DOOR LOCK — IVMS

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-03



Refer to last page (Foldout page).



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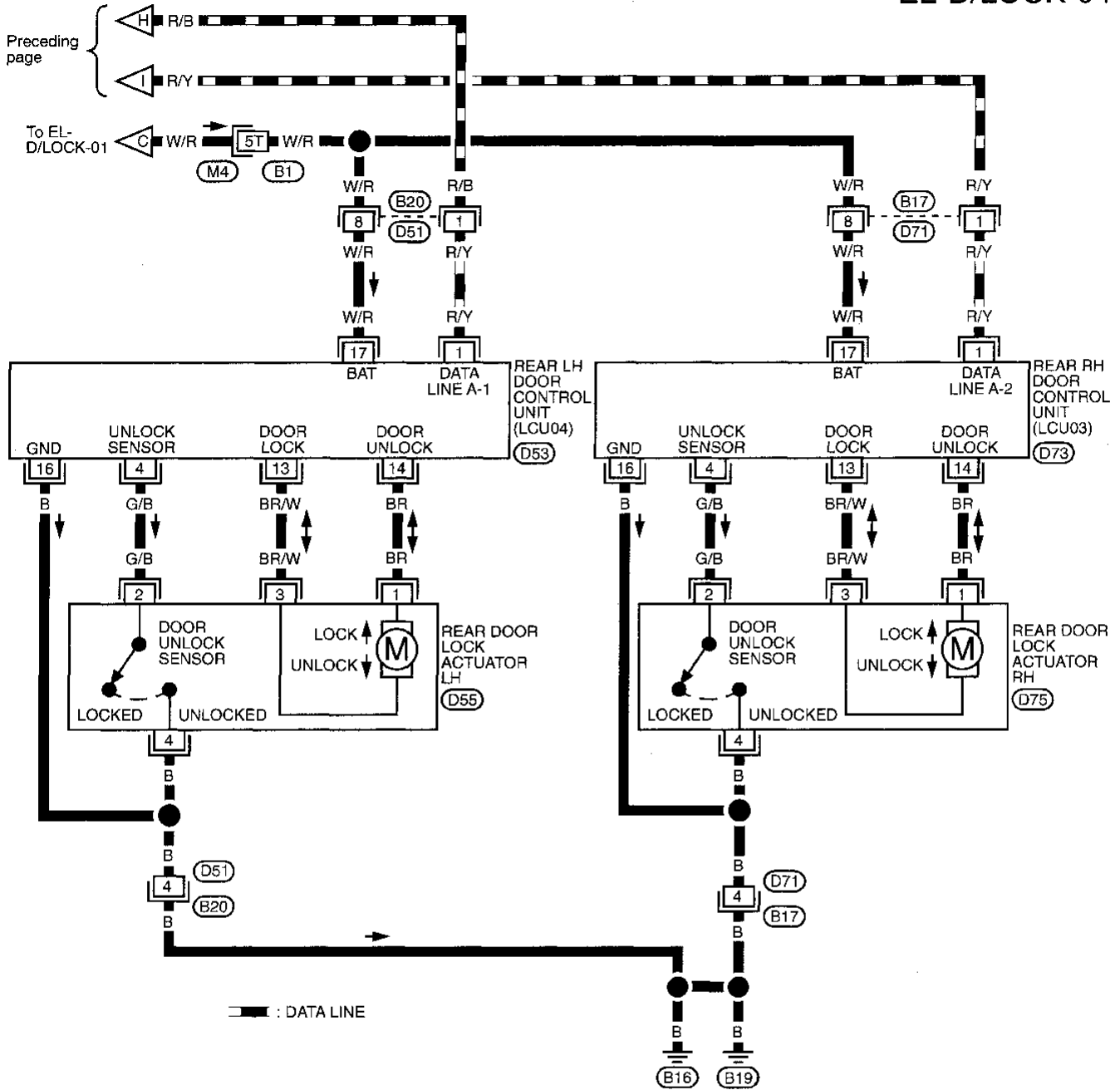
EL

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POWER DOOR LOCK — IVMS

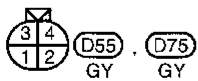
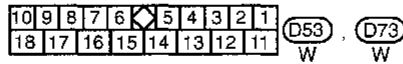
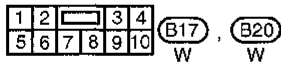
Wiring Diagram — D/LOCK — (Cont'd)

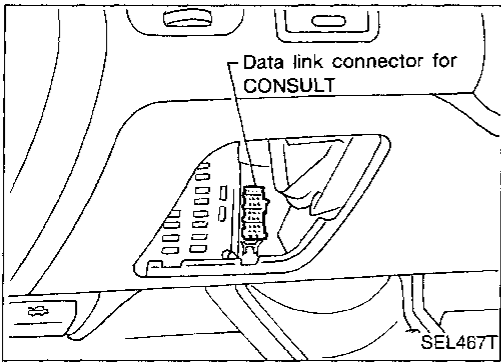
EL-D/LOCK-04



Refer to last page (Foldout page).

(M4), (B1)





Trouble Diagnoses

CONSULT

CONSULT inspection procedure

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

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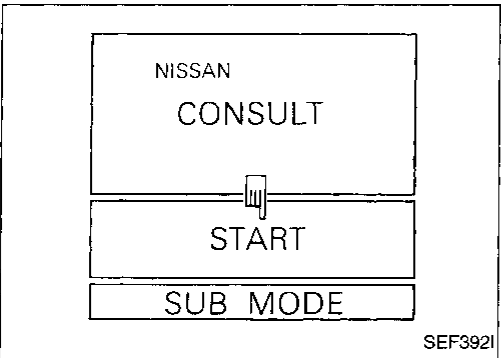
EM

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

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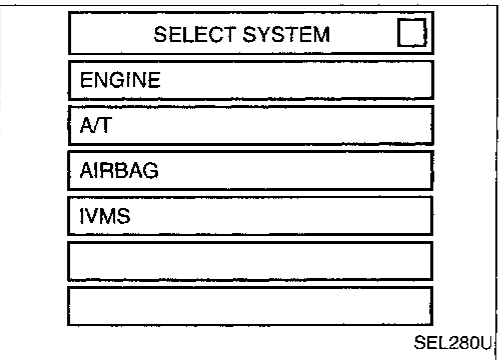
FE



CL

5. Touch "IVMS".

MT



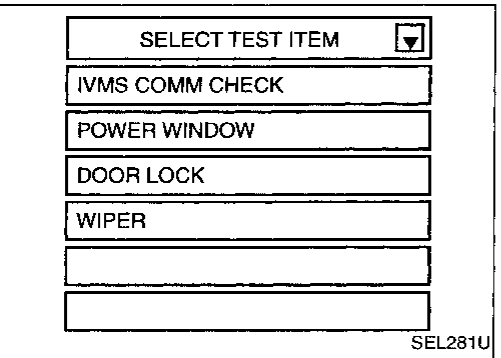
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6. Touch "DOOR LOCK".

BR



ST

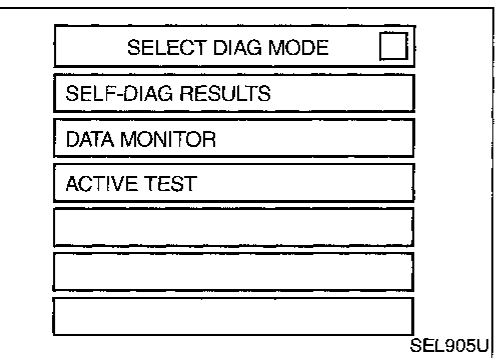
RS

BT

- DATA MONITOR, ACTIVE TEST and SELF-DIAGNOSIS are available for the power door lock.

HA

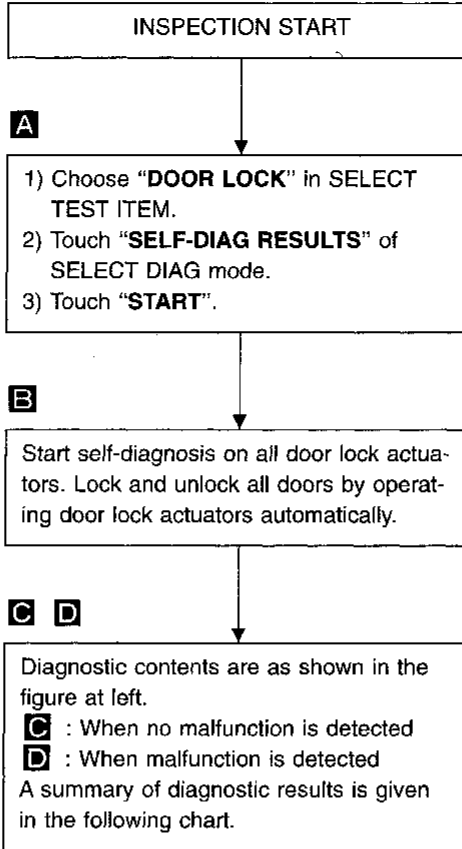
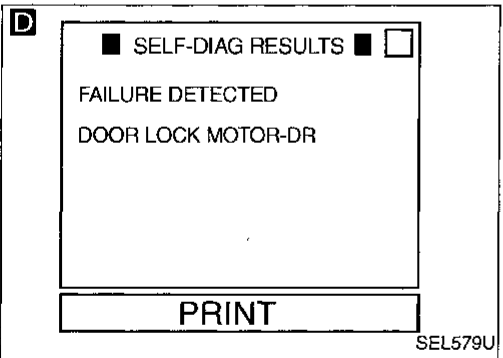
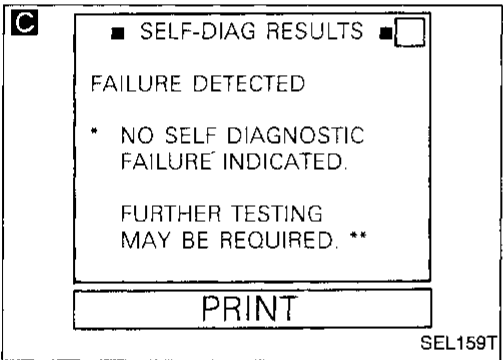
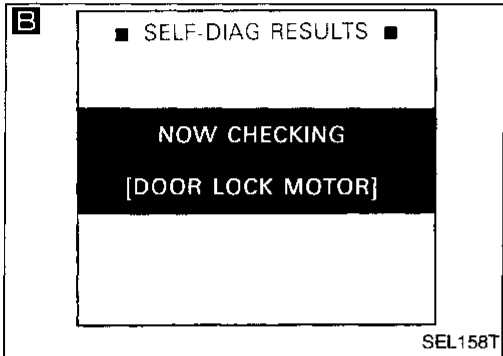
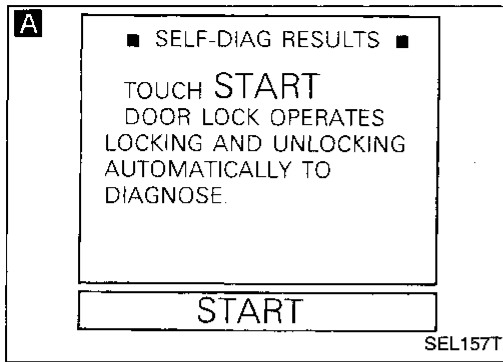
EL



IDX

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd) HOW TO PERFORM SELF-DIAGNOSIS



POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

SELF-DIAGNOSTIC RESULT LIST

Diagnostic result	Explanation	Diagnostic procedure	Reference page
DOOR LOCK MOTOR-DR	The circuit for the driver side door lock actuator/unlock sensor is malfunctioning.	Procedure 5 (Door unlock sensor check)	EL-238
DOOR LOCK MOTOR-AS	The circuit for the passenger side door lock actuator/unlock sensor is malfunctioning.		
DOOR LOCK MOTOR-RR/RH	The circuit for the rear RH side door lock actuator/unlock sensor is malfunctioning.	Procedure 6 (Door lock actuator check)	EL-239
DOOR LOCK MOTOR-RR/LH	The circuit for the rear LH side door lock actuator/unlock sensor is malfunctioning.		
*NO SELF DIAGNOSTIC FAILURE INDICATED/FURTHER TESTING MAY BE REQUIRED.**	No malfunction in the above items.	—	—

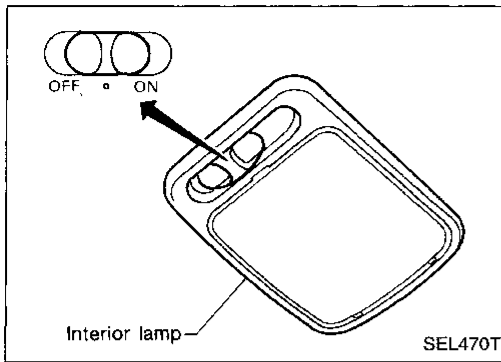
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POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

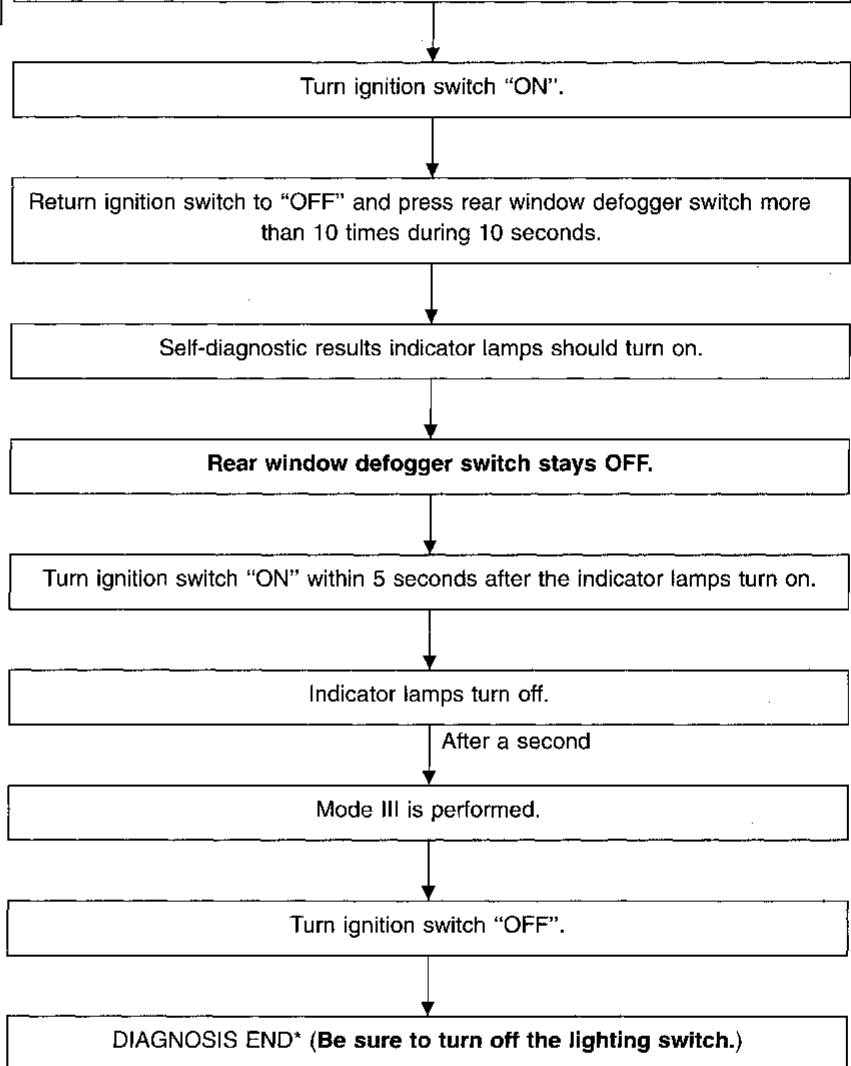
ON-BOARD DIAGNOSIS — MODE III (Power door lock operation)

How to perform mode III



Condition

- Ignition switch: OFF
- **Lighting switch 1st: ON**
- Rear window defogger switch: OFF
- Doors: Closed
- Interior lamp: Center "O" position



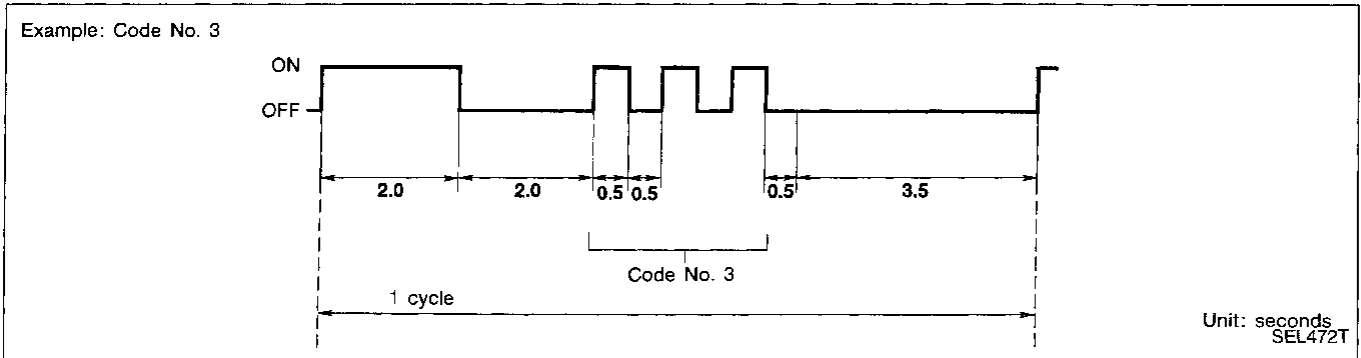
*: Diagnosis ends after self-diagnostic results have been indicated for 10 minutes if left unattended.

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

Description

In this mode, a malfunction code is indicated by the number of flashes from the front map lamps and step lamps as shown below:



After indicator lamp turns ON for 2 seconds and then turns OFF, it flashes to indicate a malfunction code. For example, the indicator lamp goes on and off for 0.5 seconds three times. This indicates malfunction code "3".

The self-diagnostic results will remain in the BCM memory.

Malfunction code table

Code No.	Detected items	Diagnostic procedure	Reference page
1	Driver door lock actuator/unlock sensor	Procedure 5 (Door unlock sensor check)	EL-238
2	Passenger door lock actuator/unlock sensor		
3	Rear RH door lock actuator/unlock sensor	Procedure 6 (Door lock actuator check)	EL-239
4	Rear LH door lock actuator/unlock sensor		
9	No malfunction in the above items	—	—

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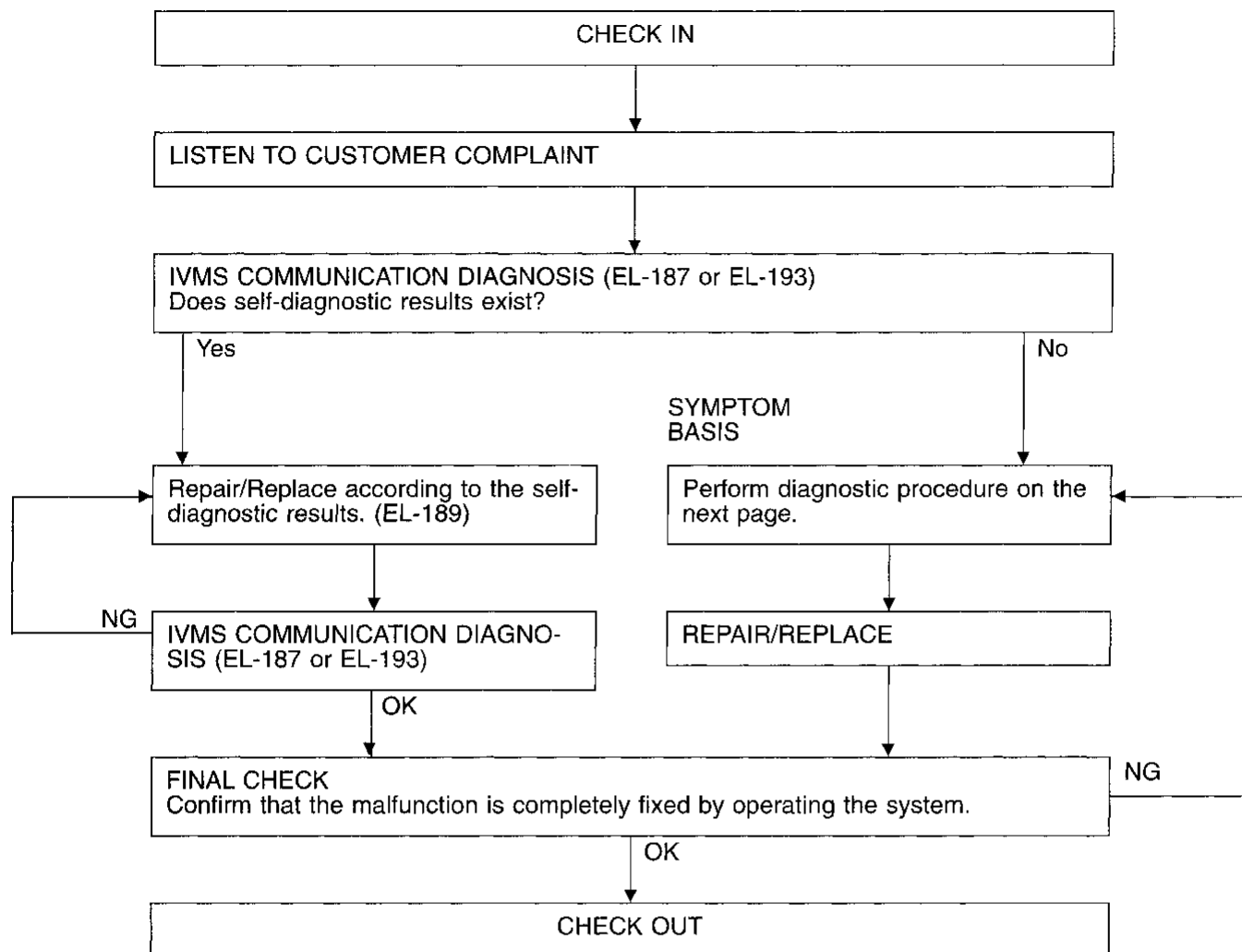
EL

DX

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse block and fusible link box).

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

PROCEDURE	Self-diagnosis		Diagnostic procedure						—
REFERENCE PAGE	EL-228	EL-230	EL-234	EL-235	EL-236	EL-237	EL-238	EL-239	EL-188
SYMPTOM	CONSULT	On-board diagnosis (Mode III)	Procedure 1 (Front door switch check)	Procedure 2 (Key switch check)	Procedure 3 (Lock & unlock switch check)	Procedure 4 (Door key cylinder switch check)	Procedure 5 (Door unlock sensor check)	Procedure 6 (Door lock actuator check)	Wake-up diagnosis
Key reminder door system does not operate properly.	X	X	X	X			X	X	
Specific door lock actuator does not operate.	X	X					X	X	
Power door lock does not operate with door lock and unlock switch on power window main switch.	X	X			X				X (LCU01)
Power door lock does not operate with front door key cylinder operation.	X	X				X			X (LCU01, LCU02)
Power door lock does not operate with front door lock knob switch.	X	X					X		X (LCU01, LCU02)

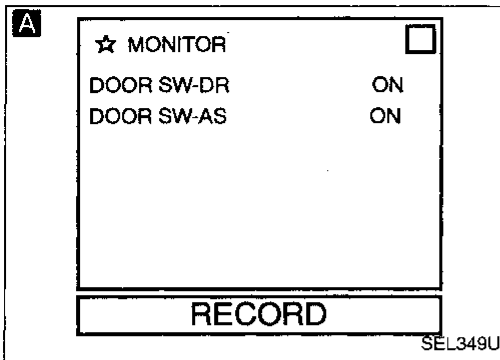
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POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

(Front door switch check)



CHECK FRONT DOOR SWITCH INPUT SIGNAL.

A CONSULT

See "DOOR SWITCH" in DATA MONITOR mode.

When door is open:

DOOR SW ON

When door is closed:

DOOR SW OFF

OR

ON-BOARD

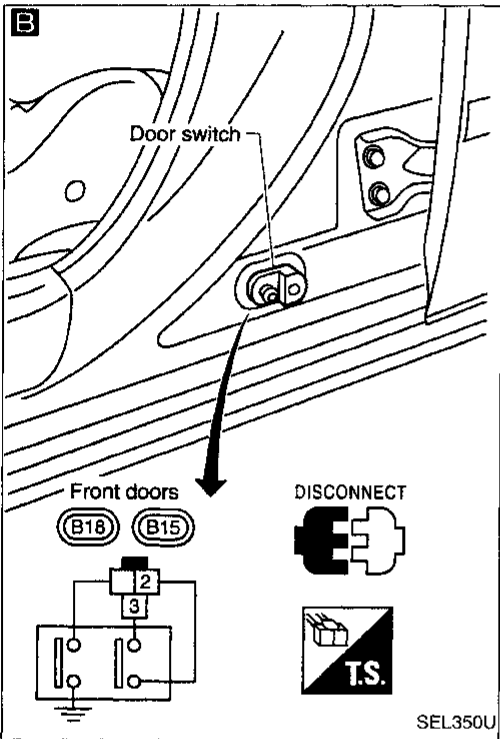
Check front door switches in Switch monitor (Mode II) mode.

(Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-223.

OK

Door switch is OK.



B

CHECK DOOR SWITCH.

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

	Terminals	Condition	Continuity
Front door switch	② - ③	Pressed	No
		Released	Yes

NG

Replace door switch.

NG

OK

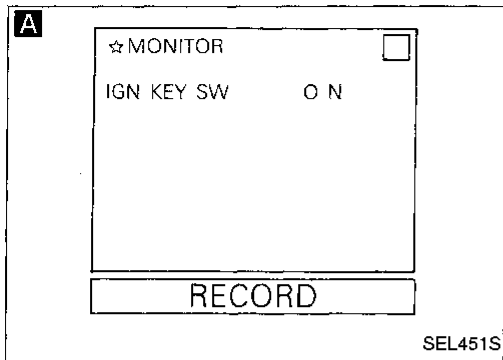
Check the following.

- Door switch ground circuit
- Harness for open or short between door switch and BCM

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

[Key switch (Insert) check]



CHECK KEY SWITCH INPUT SIGNAL.

A CONSULT

See "IGN KEY SW" in DATA MONITOR mode.

When key is inserted in ignition key cylinder:

IGN KEY SW ON

When key is removed from ignition key cylinder:

IGN KEY SW OFF

OR

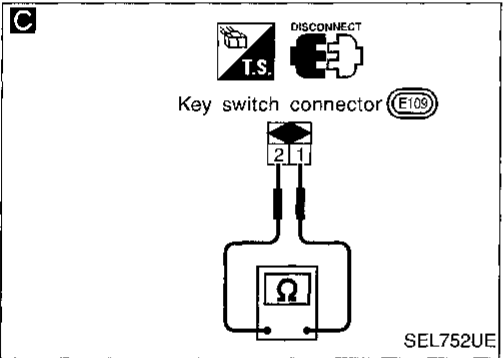
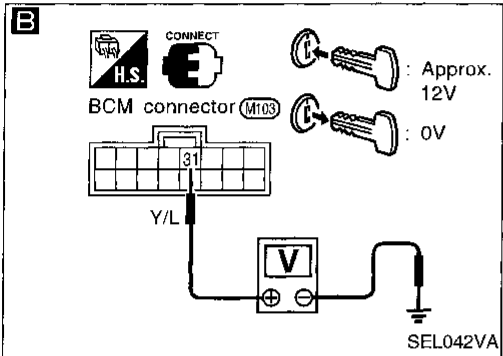
B TESTER

Check voltage between BCM terminal ③① and ground.

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

Refer to wiring diagram in EL-223.

OK → Ignition key switch is OK.



NG

C

CHECK KEY SWITCH.
1) Disconnect key switch connector.
2) Check continuity between key switch (insert) terminals ① and ② when key is inserted in ignition key cylinder and key is removed from ignition key cylinder.

Condition	Continuity
Key is inserted	Yes
Key is removed	No

NG → Replace key switch (insert).

OK

Check the following.

- 7.5A fuse [No. 40], located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch

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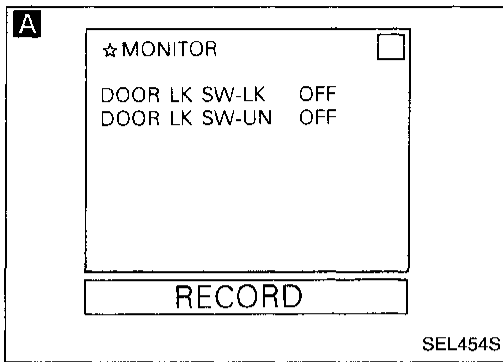
IDX

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

(Lock & unlock switch check)



CHECK DOOR LOCK & UNLOCK SWITCH INPUT SIGNAL.

A  CONSULT

See "DOOR LK SW-LK or UN" in DATA MONITOR mode.


When lock & unlock switch is turned to lock:

DOOR LK SW-LK ON

When lock & unlock switch is turned to unlock:

DOOR LK SW-UN ON

OR

 ON-BOARD

Check door lock & unlock switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses, EL-195.)

OK

Lock & unlock switch is OK.

NG

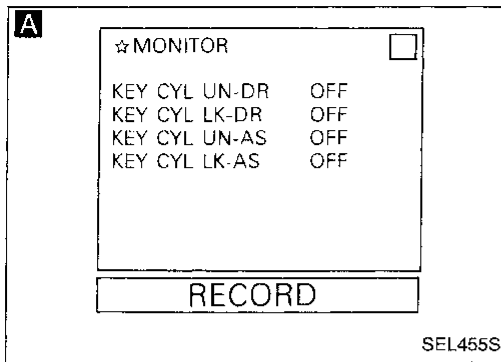
Replace driver door control unit (LCU01).

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

(Door key cylinder switch check)



CHECK DOOR KEY CYLINDER SIGNAL.

A CONSULT

See "KEY CYL DR or AS" in DATA MONITOR mode.

These signals should be "ON" when ignition key inserted in the door key cylinder was turned to lock or unlock.

If signals turn from "OFF" to "ON" too quickly on CONSULT display when key cylinder is turned, check these signals in the graphic mode.

(Refer to CONSULT OPERATION MANUAL.)

OR

ON-BOARD

Check front LH or RH door lock key cylinder lock and unlock switch in Switch monitor (Mode II) mode.

(Refer to On-board Diagnoses, EL-195.)

Refer to wiring diagram in EL-224 or 225.

OK

Door key cylinder switch is OK.

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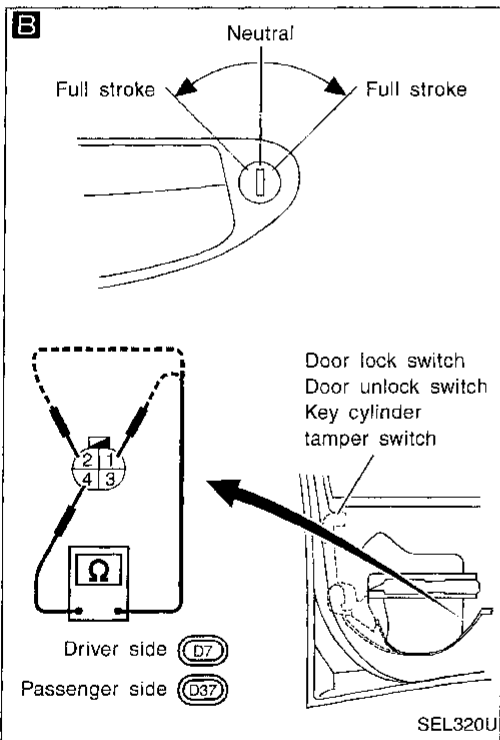
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B

CHECK DOOR KEY CYLINDER SWITCH.

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

Terminals	Condition	Continuity
① - ④	Neutral	No
	Locked	No
② - ④	Neutral	No
	Unlocked	Yes

NG

Replace door key cylinder switch.

OK

Check the following.

- Door key cylinder switch ground circuit
- Harness for open or short between door key cylinder switch and LCU01/02

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

(Door unlock sensor check)


A

☆ MONITOR		<input type="checkbox"/>
LOCK SIG-DR	UNLK	
LOCK SIG-AS	LOCK	
LOCK SG-RR/RH	UNLK	
LOCK SG-RR/LH	UNLK	

RECORD

SEL457S

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.

A  CONSULT

See "LOCK SIG SW" in DATA MONITOR mode.

When door is locked:

LOCK SIG LOCK

When door is unlocked:

LOCK SIG UNLK

OR

 ON-BOARD



Check front door lock knob operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses, EL-195.)

Refer to wiring diagram in EL-224, 225 or 226.



OK



Door unlock sensor is OK.

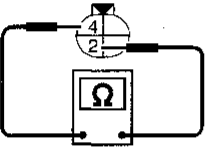
B

Door lock actuator connector

Front LH:  Rear LH: 

Front RH:  Rear RH: 



SEL060V

NG

B

CHECK DOOR UNLOCK SENSOR.

- 1) Disconnect door lock actuator connector.
- 2) Check continuity between door lock actuator (door unlock sensor) terminals **②** and **④**.

Condition	Continuity
Locked	No
Unlocked	Yes

NG

Replace door lock actuator.

OK

Check the following.

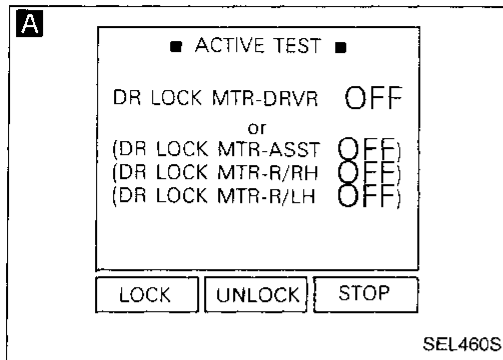
- Harness for open or short between LCU and door unlock sensor
- Ground circuit for door unlock sensor

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

(Door lock actuator check)



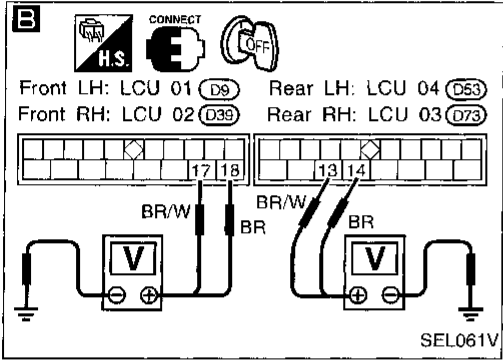
CHECK DOOR LOCK MOTOR OPERATION.

A CONSULT

See "DR LOCK MTR" in ACTIVE TEST mode.

Perform operation shown on display. **Door lock motor should operate.**

OK → Door lock actuator is OK.



OR

ON-BOARD

Perform On-board Diagnosis Mode III. (Refer to EL-230.)

Door lock motor should operate.

NG

B

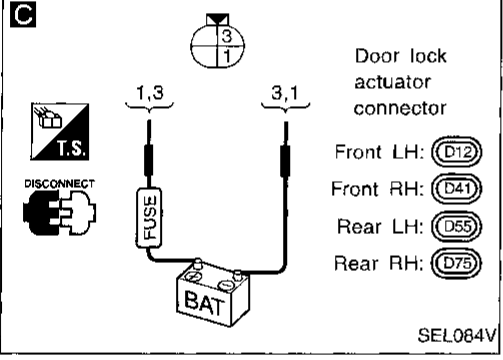
Check voltage between LCU connector terminals and body ground.

NG → Replace LCU for malfunctioning portion.

Door lock operation	Terminals		Voltage
	⊕	⊖	
Front (LCU01, LCU02)	Lock	⑰	Battery voltage
	Unlock	⑱	
Rear (LCU03, LCU04)	Lock	⑬	
	Unlock	⑭	

Refer to wiring diagram in EL-224, 225 or 226.

OK



C

CHECK DOOR LOCK ACTUATOR.

1. Disconnect door lock actuator.
2. Apply 12V DC direct current to door lock actuator and check operation.

NG → Replace door lock actuator.

Door lock operation	Terminals	
	⊕	⊖
Lock	③	①
Unlock	①	③

OK

Check harness for open or short between door lock actuator and LCU.

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System Description

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 10A fuse [No. 11], located in the fuse block (J/B)]
- to multi-remote control relay-1 terminals ①, ③ and ⑥.

Terminals ② of multi-remote control relay-1 is connected to BCM terminal 18.

Power is supplied at all times

- through 7.5A fuse (No. 65), located in the fuse and fusible link box)
- to theft warning lamp relay terminal ① and
- to theft warning horn relay-1 and 2 terminal ①.

Theft warning lamp relay terminal ② and theft warning horn relay-2 terminal ② are connected to BCM terminal 21.

Power is supplied at all times

- through 15A fuse [No. 37], located in the fuse block (J/B)]
- to trunk lid opener actuator terminal ②.

Trunk lid opener actuator terminal ① is connected to multi-remote control unit (LCU05) terminal ⑤

BCM is connected to Multi-remote control unit (LCU05) and each door control unit (LCU01, 02, 03 and 04) via DATA LINE A-1 or A-2.

Power is supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B)]
- to key switch terminal ①.

When the key switch is in ON position (ignition key is inserted in key cylinder), power is supplied

- through key switch terminal ②
- to BCM terminal 31.

When any of the four door switches is in OPEN position, ground is supplied

- to BCM terminal 35
- through door switches body grounds.

When the driver side door lock actuator (door unlock sensor) is in UNLOCKED position, ground is supplied

- to driver door control unit (LCU01) terminal ④
- through driver side door lock actuator (door unlock sensor) terminal ②,
- to driver side door lock actuator (door unlock sensor) terminal ④
- through body grounds M13 and M73.

When the passenger side door lock actuator (door unlock sensor) is in UNLOCKED position, ground is supplied

- to passenger door control unit (LCU02) terminal ④
- through passenger side door lock actuator (door unlock sensor) terminal ②,
- to passenger side door lock actuator (door unlock sensor) terminal ④
- through body grounds M13 and M73.

When the rear door lock actuator LH and/or RH (door unlock sensor) is in UNLOCKED position, ground is supplied

- to rear LH and/or RH door control unit (LCU04/03) terminal ④
- through rear door lock actuator LH (door unlock sensor) terminal ② and/or
- through rear door lock actuator RH (door unlock sensor) terminal ②
- to rear door lock actuator LH (door unlock sensor) terminal ④ and/or
- to rear door lock actuator RH (door unlock sensor) terminal ④
- through body grounds B16 and B19.

Remote controller signal input

- through window antenna
- to multi-remote control unit (LCU05) terminal ⑦.

MULTI-REMOTE CONTROL SYSTEM — IVMS

System Description (Cont'd)

The multi-remote control system controls operation of the

- power window
- power door lock
- trunk lid opener
- panic alarm
- hazard reminder

GI

OPERATING PROCEDURE

Multi-remote control unit (LCU05) can receive signals from remote controller when key switch is in OFF position (key not in cylinder). And it sends the signals to BCM and LCUs as DATA LINES A-1 or A-2.

MA

Power door lock operation

EM

- Key switch OFF signal (ignition key is not in key cylinder)
- Door switch CLOSE signal (all doors closed)

The two above signals are already input into BCM. At this point, multi-remote control unit receives a LOCK signal from remote controller. Multi-remote control unit (LCU05) will then send a LOCK signal

LC

- from its terminals ① (DATA LINES A-1)
- to BCM terminal ⑫.

EC

When multi-remote control unit (LCU05) receives a LOCK signal, ground is supplied

- to multi-remote control relay-1 terminal ②
- through BCM terminal ⑬.

FE

Multi-remote control relay is now energized and door lock actuators lock all doors. (Hazard warning lamps flash twice as a reminder — **HAZARD REMINDER.**)

When an UNLOCK signal is sent from remote controller, door lock actuators unlock all doors.

CL

For detailed description, refer to "POWER DOOR LOCK — IVMS" (EL-221).

Trunk lid opener operation

MT

Ground is supplied

- to trunk lid opener actuator terminal ①
- through multi-remote control unit (LCU05) terminal ⑤.

AT

When power and ground are supplied, trunk lid opener actuator opens trunk lid.

Panic alarm operation

Multi-remote control system activates horn and headlamps intermittently when an alarm signal is sent from remote controller to multi-remote control system.

FA

For detailed description, refer to "THEFT WARNING SYSTEM — IVMS" (EL-261).

RA

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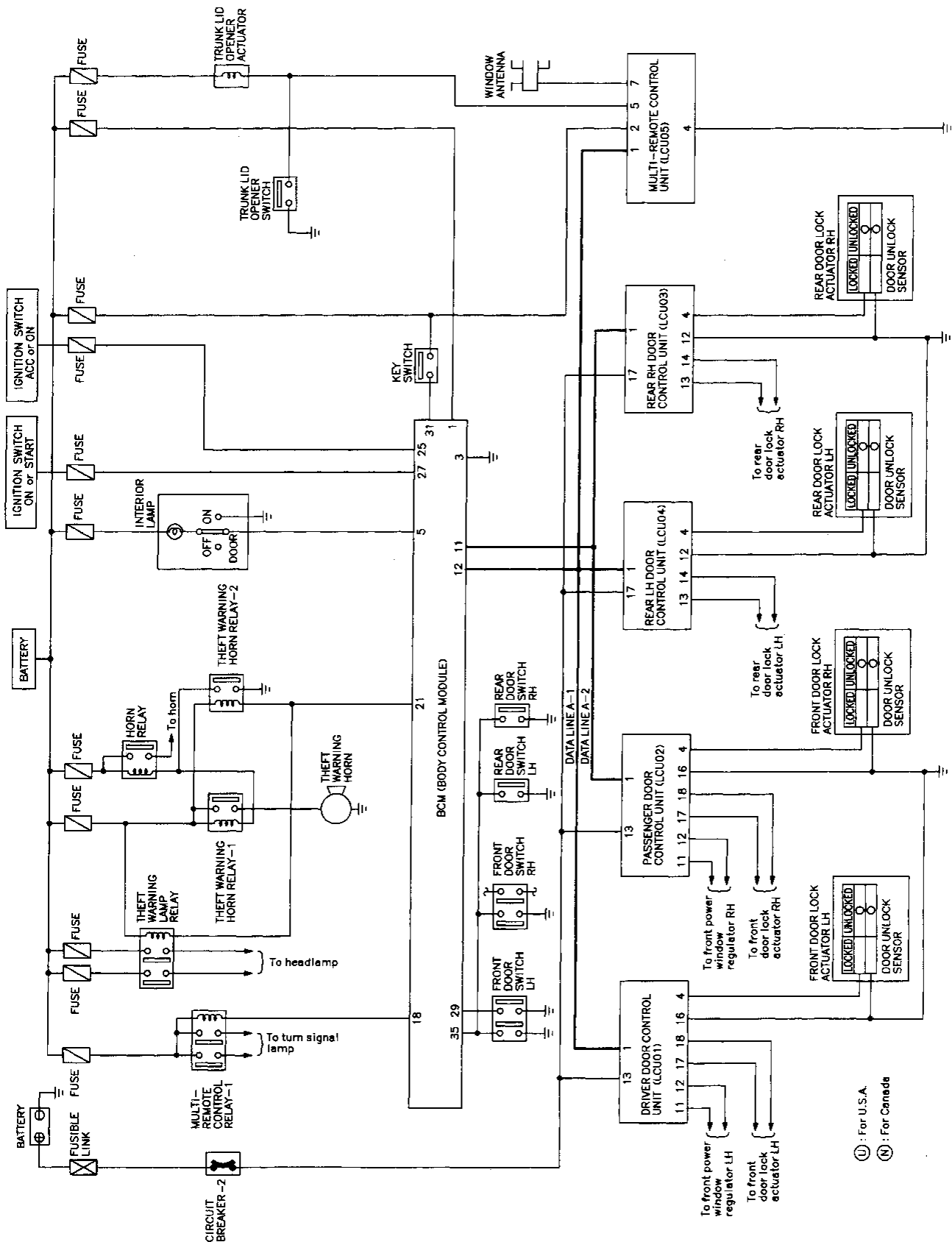
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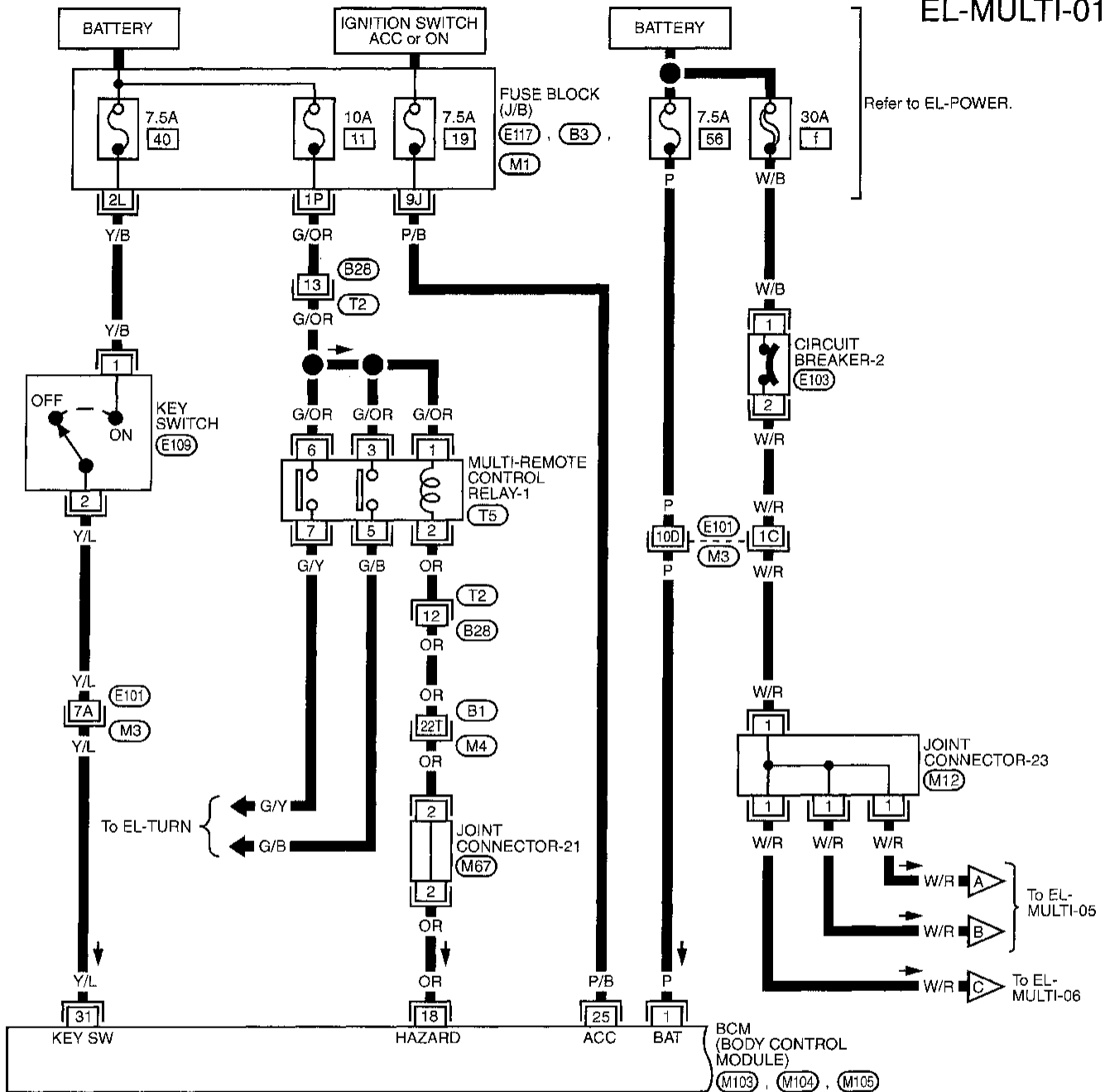
Schematic



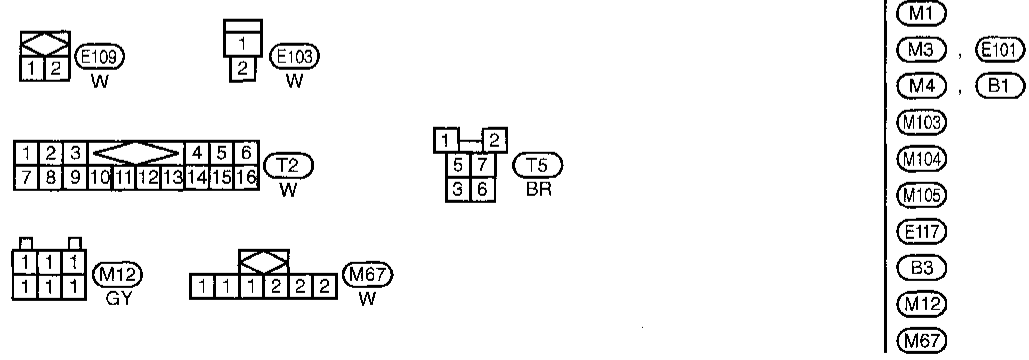
MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI —

EL-MULTI-01



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Refer to last page (Foldout page).

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MULTI-REMOTE CONTROL SYSTEM — IVMS

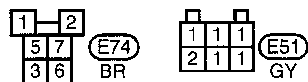
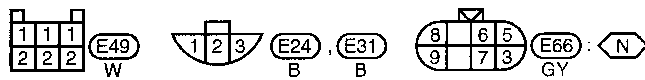
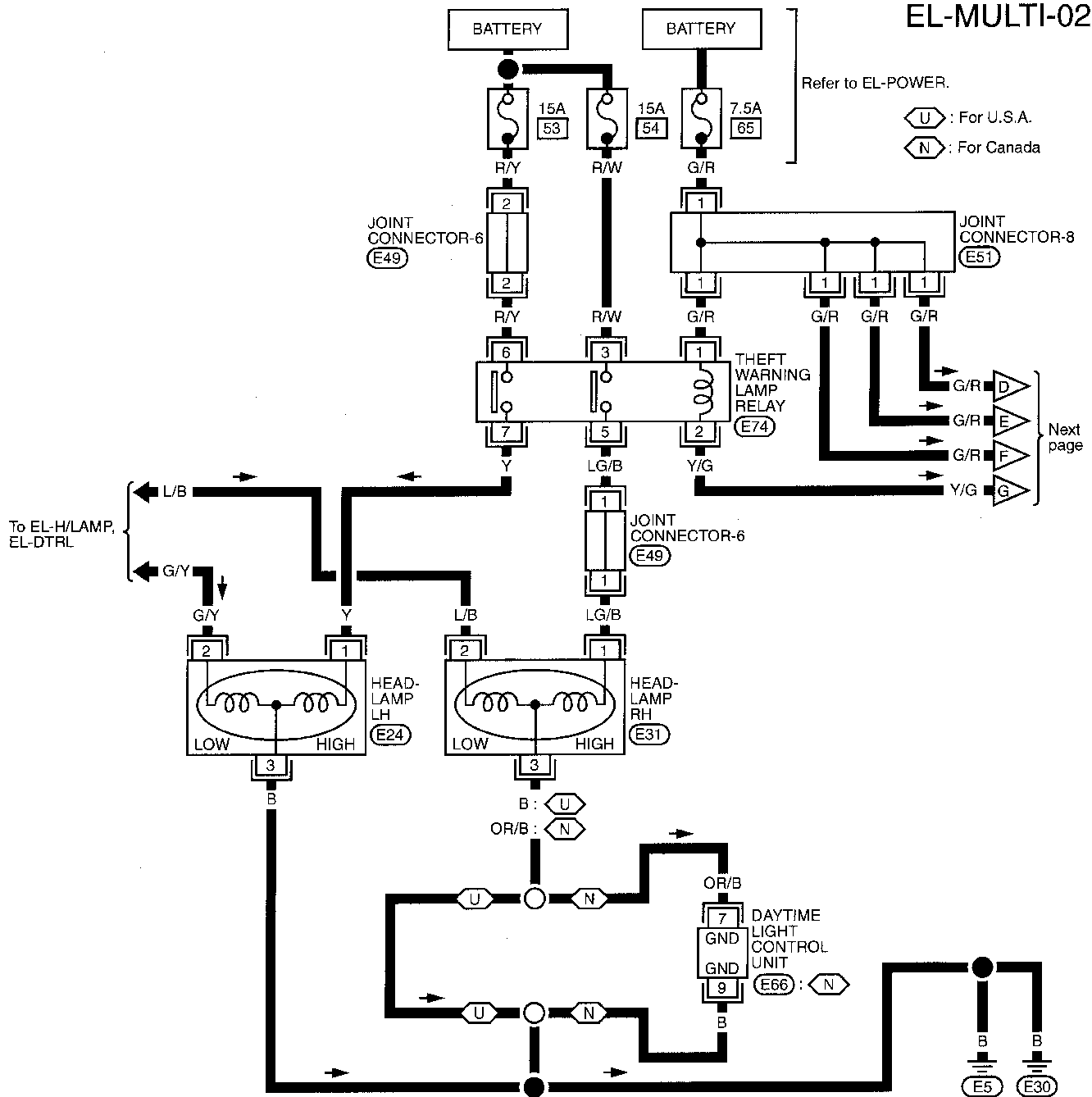
Wiring Diagram — MULTI — (Cont'd)

EL-MULTI-02

Refer to EL-POWER.

U : For U.S.A.

N : For Canada



Refer to last page (Foldout page).

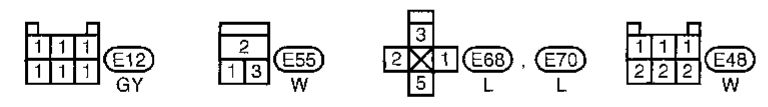
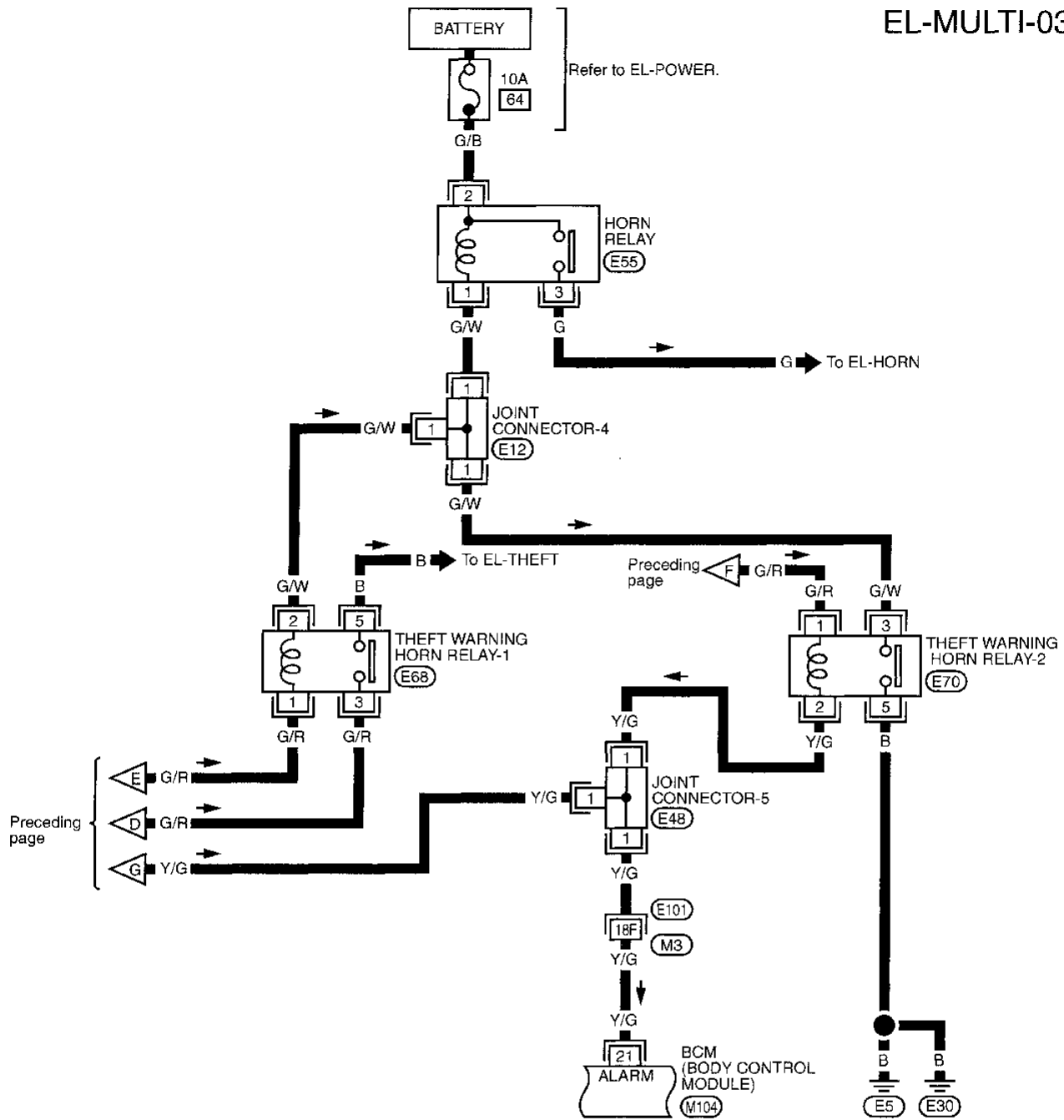
E49

E51

MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI — (Cont'd)

EL-MULTI-03



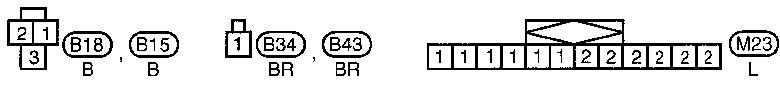
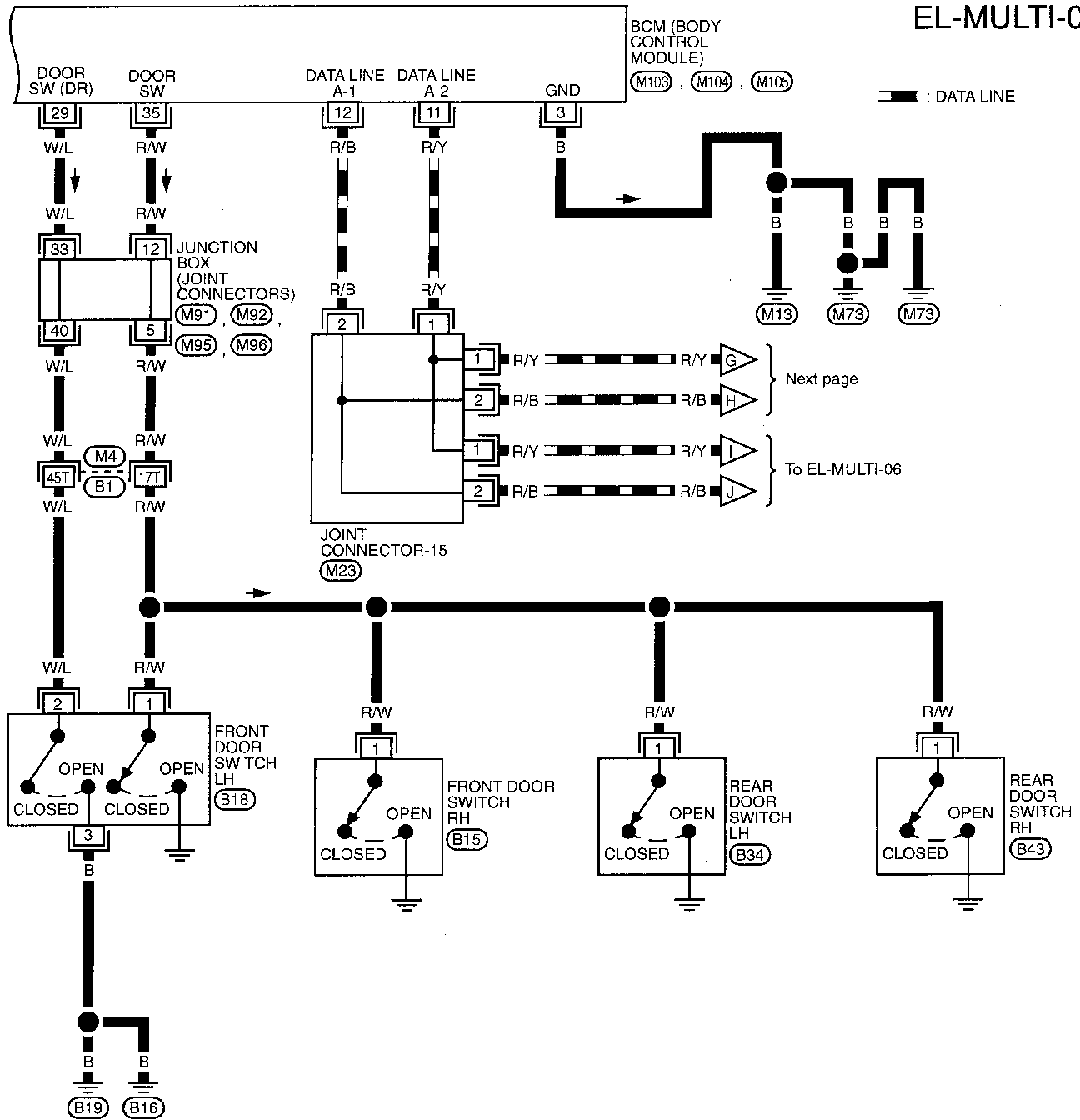
Refer to last page (Foldout page).
 (M3), (E101)
 (M104)
 (E12)
 (E48)

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MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI — (Cont'd)

EL-MULTI-04

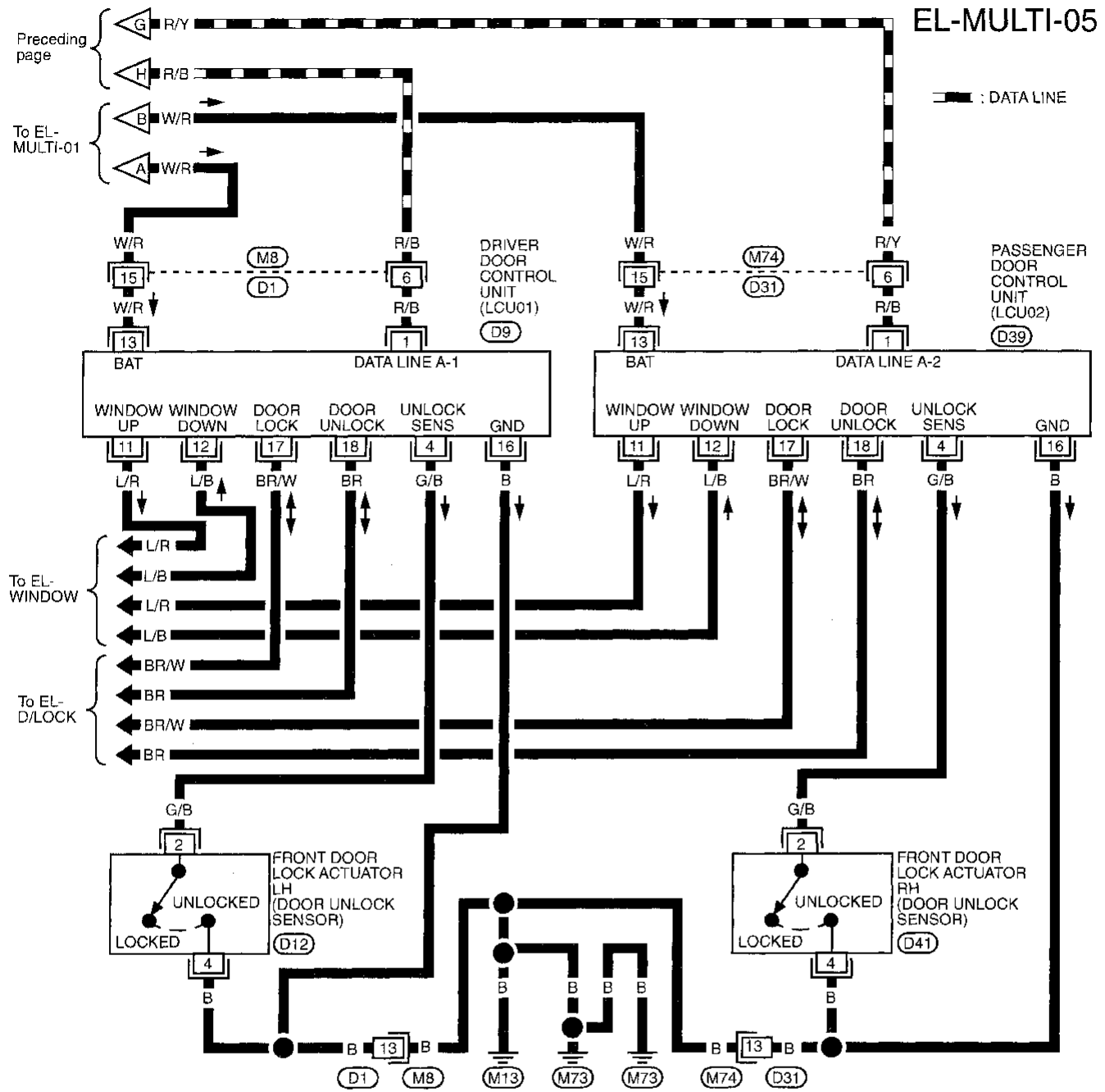


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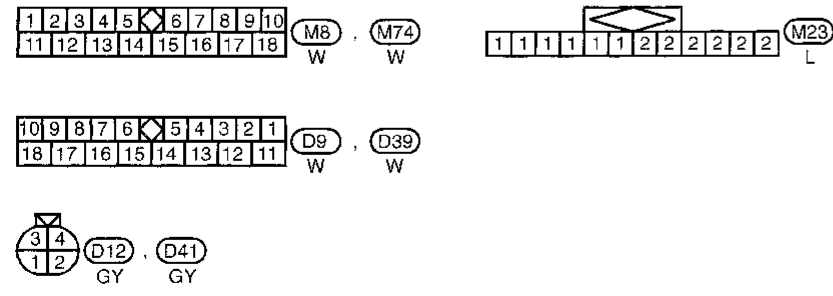
- (M4), (B1)
- (M103)
- (M104)
- (M105)
- (M91)
- (M92)
- (M95)
- (M96)
- (M23)

MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI — (Cont'd)

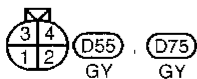
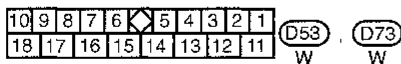
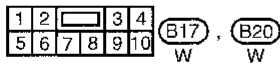
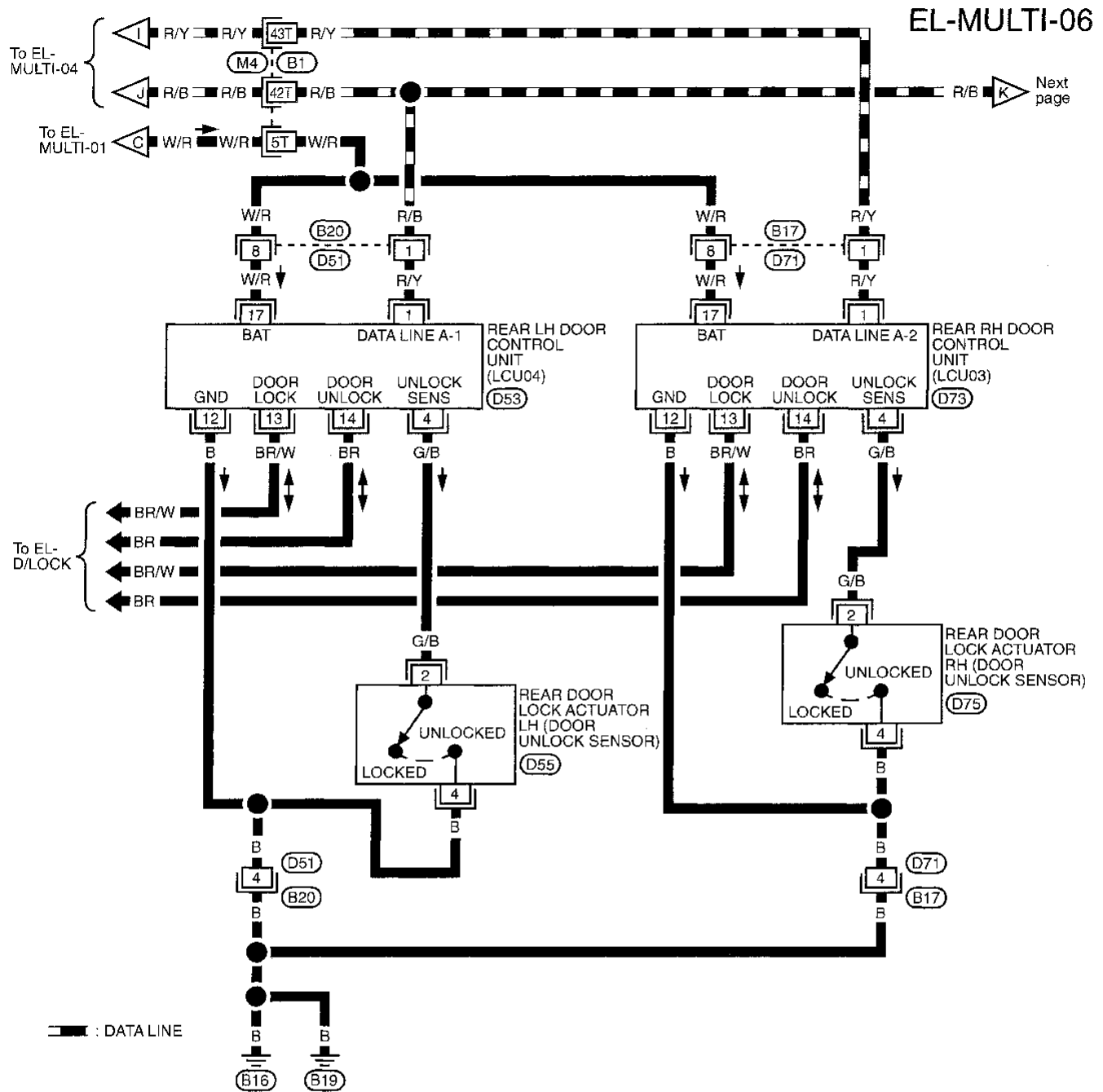


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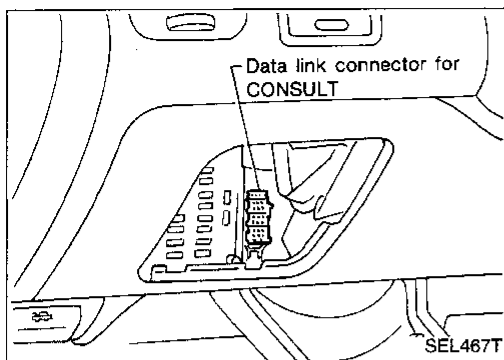
MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI — (Cont'd)



Refer to last page (Foldout page).



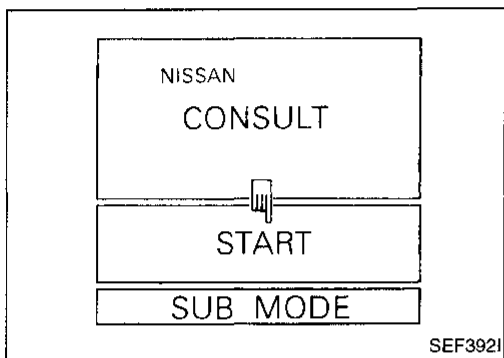


Trouble Diagnoses

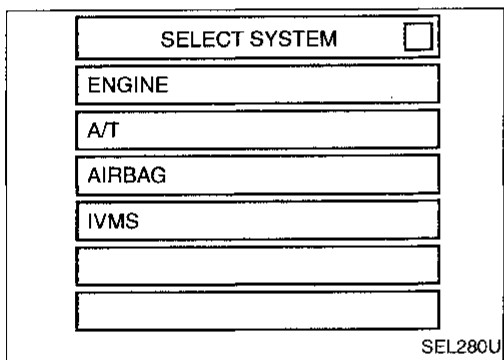
CONSULT

CONSULT inspection procedure

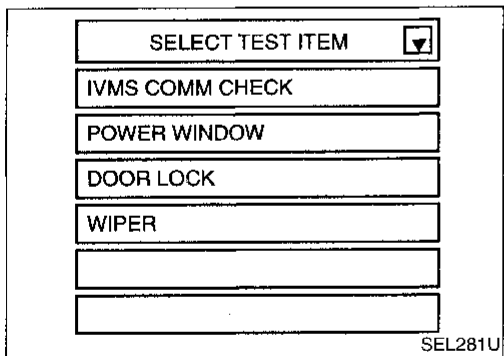
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.



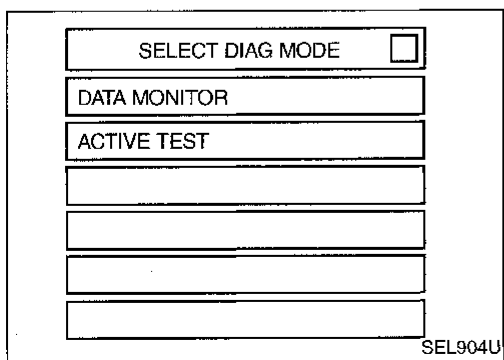
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "IVMS".



6. Touch "MULTI-REMOTE CONT SYS".

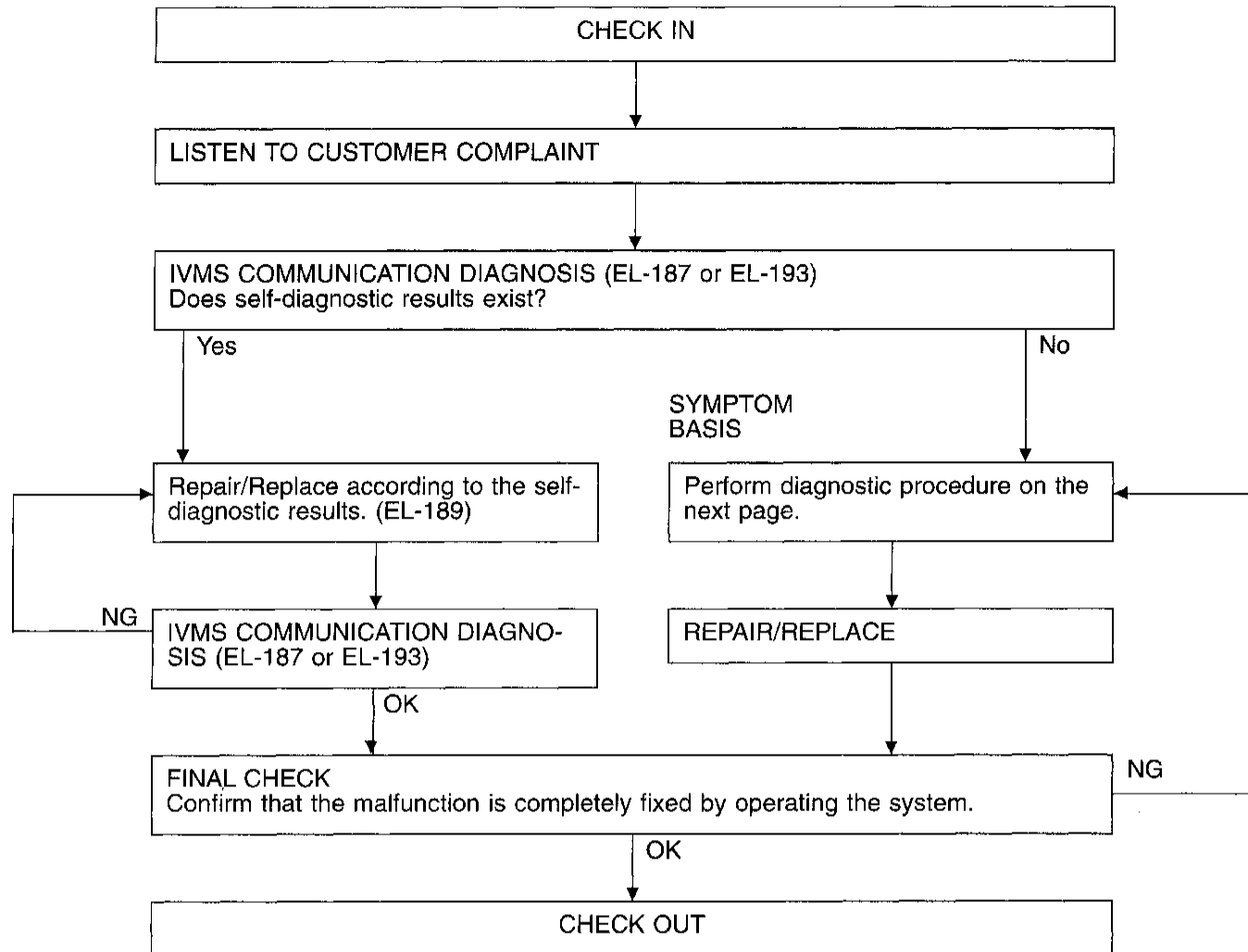


- DATA MONITOR and ACTIVE TEST are available for the multi-remote control system.

MULTI-REMOTE CONTROL SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

WORK FLOW



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NOTICE:

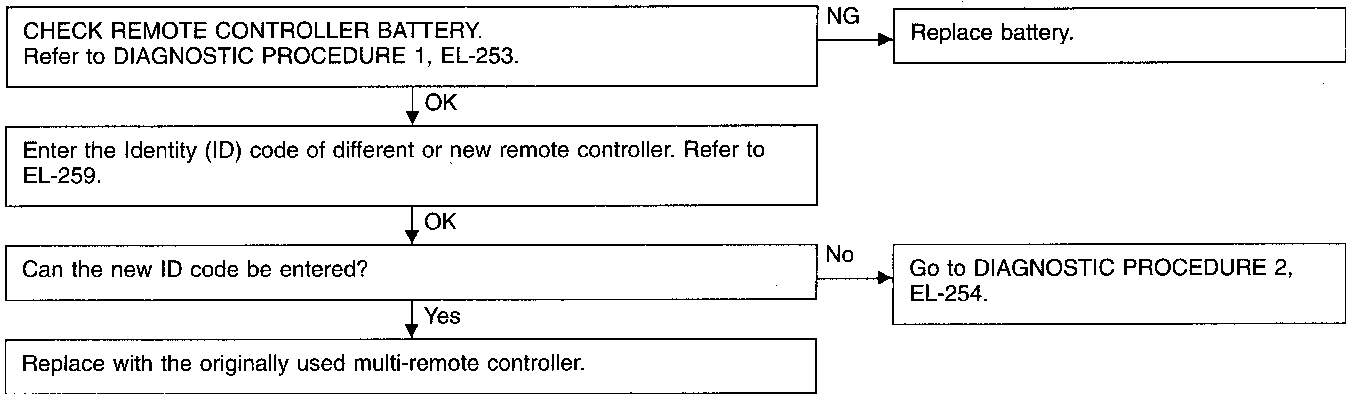
- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

MULTI-REMOTE CONTROL SYSTEM — IVMS

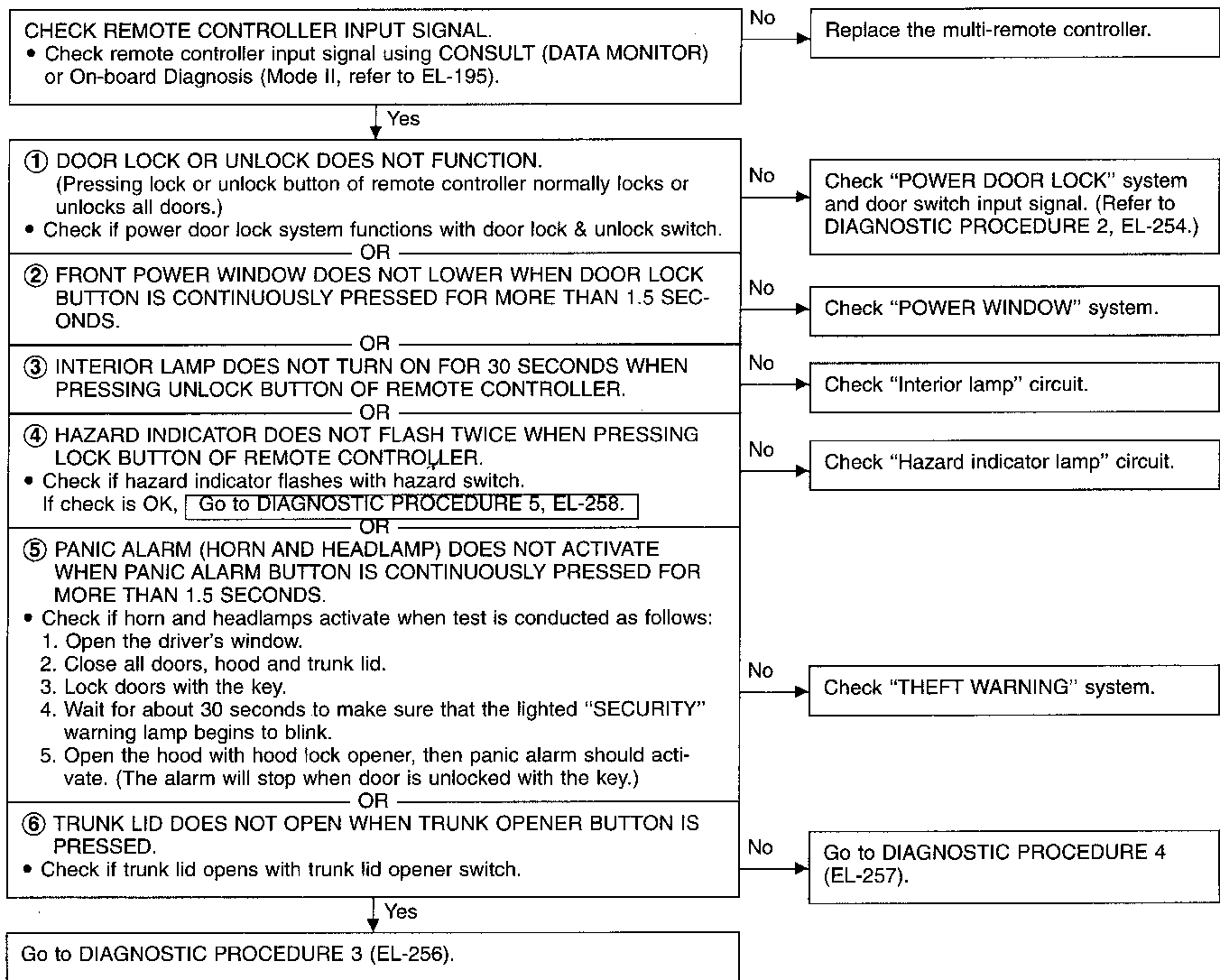
Trouble Diagnoses (Cont'd)

TROUBLE SYMPTOM

- All functions of remote control system do not operate.



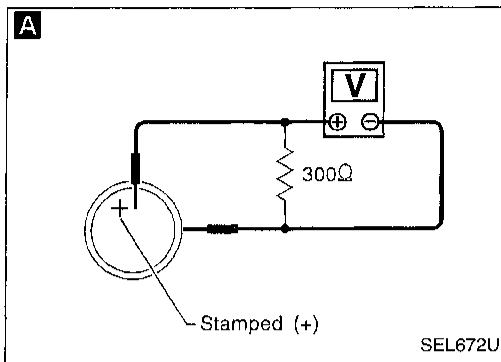
- Some functions of multi-remote controller do not operate.



- Note:
- The unlock and trunk open operation of multi-remote control system does not activate with the ignition key inserted in the ignition key cylinder.
 - The lock operation of multi-remote control system does not activate with the key inserted in the ignition key cylinder or if one of the doors is opened.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1



A

CHECK REMOTE CONTROLLER BATTERY.
 Remove battery and measure voltage across battery positive and negative terminals, ⊕ and ⊖.

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

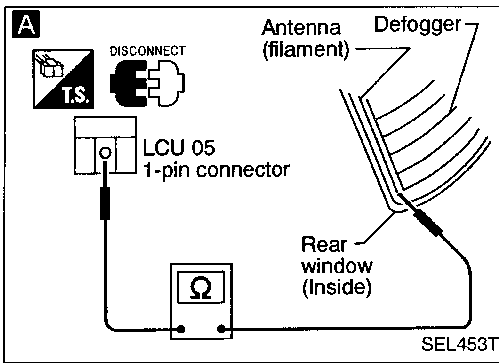
Note:

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

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- IDX

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

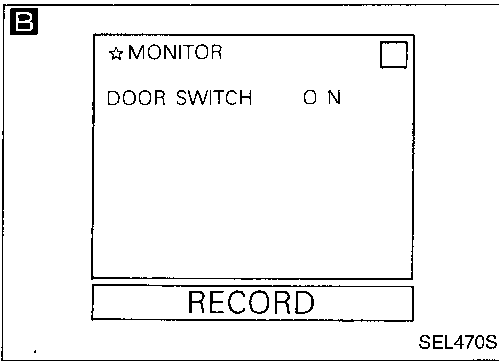


A

CHECK ANTENNA CIRCUIT.

- 1) Disconnect 1-pin connector from LCU05.
- 2) Remove RH rear pillar finisher.
- 3) Check continuity between the terminal center and filament on the rear window. **Continuity should exist.**

NG → Repair antenna circuit. Refer to REAR WINDOW DEFOGGER "Filament Repair" (EL-124).



B

CHECK DOOR SWITCH INPUT SIGNAL.

CONSULT

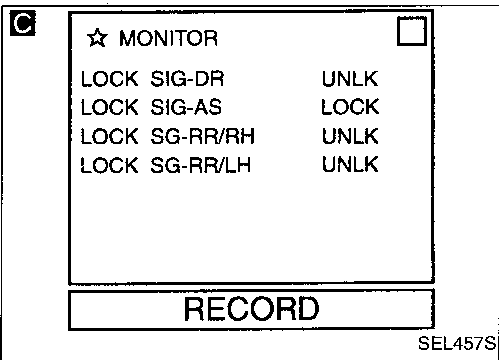
See "DOOR SWITCH" in DATA MONITOR mode.

When door is open:
DOOR SW ON

When door is closed:
DOOR SW OFF

NG → Check the following.

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



OR

ON-BOARD

Check all doors switches in Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-246.

C

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.

CONSULT

See "LOCK SIG SW" in DATA MONITOR mode.

When door is locked:
LOCK SIG LOCK

When door is unlocked:
LOCK SIG UNLK

NG → Check the following.

- Door unlock sensor
- Door unlock sensor ground circuit
- Harness for open or short between LCU and unlock sensor

OR

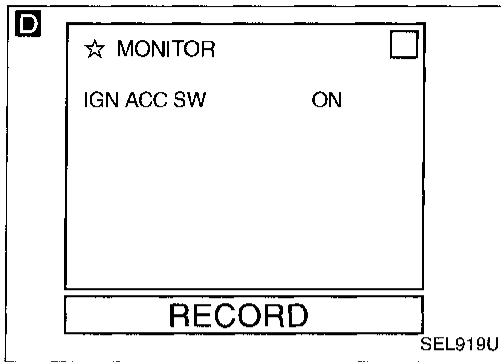
ON-BOARD

Check front door lock knob operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-247 or 248.

OK → **A**

Trouble Diagnoses (Cont'd)



A

CHECK IGNITION SWITCH "ACC" CIRCUIT.

D CONSULT

See "IGN ACC SW" in DATA MONITOR mode.
When ignition switch is ACC or ON:
IGN ACC SW ON
When ignition switch is OFF:
IGN ACC SW OFF

OR

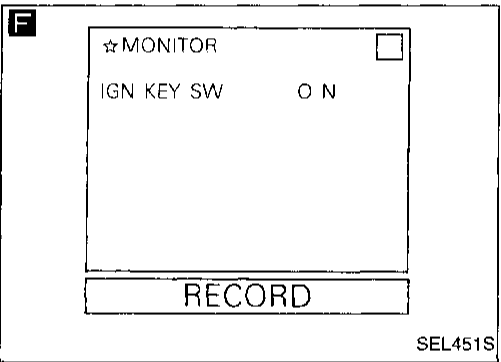
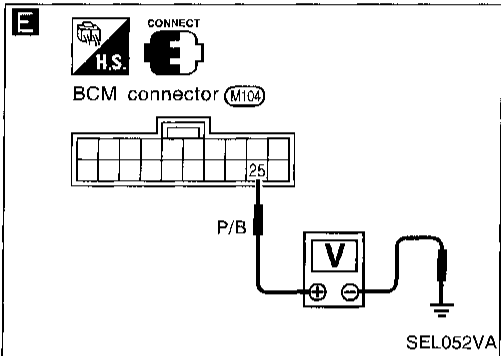
E TESTER

Check voltage between BCM terminal ②⑤ and ground.

Condition of ignition switch	Voltage [V]
ACC or ON	Approx. 12
OFF	0

Refer to wiring diagram in EL-243.

- NG
- Check the following.
- 7.5A fuse [No. 19], located in fuse block (J/B)
 - Harness for open or short between BCM and fuse



CHECK KEY SWITCH INPUT SIGNAL.

F CONSULT

See "IGN KEY SW" in DATA MONITOR mode.
When key is inserted in ignition key cylinder:
IGN KEY SW ON
When key is removed from ignition key cylinder:
IGN KEY SW OFF

OR

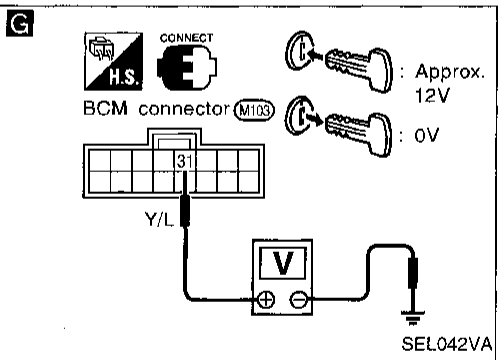
G TESTER

Check voltage between BCM terminal ③① and ground.

Condition	Voltage [V]
Key is inserted	Approx. 12
Key is removed	0

Refer to wiring diagram in EL-243.

- NG
- Check the following.
- 7.5A fuse [No. 40], located in fuse block (J/B)
 - Key switch
 - Harness for open or short between key switch and fuse
 - Harness for open or short between BCM and key switch



OK

Check operation parts in multi-remote control system for function.

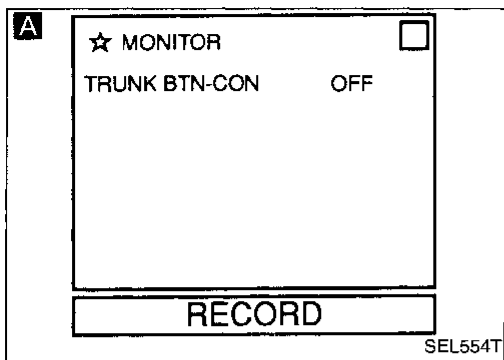
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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3



CHECK MULTI-REMOTE CONTROLLER OPERATION.

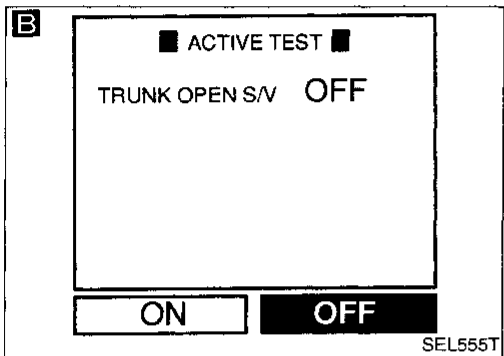
A CONSULT

See "TRUNK BTN-CON" in DATA MONITOR mode.

"TRUNK BTN-CON" should be "ON" when trunk lid opener button on multi-remote controller is continuously pressed for more than 1 second.

NG

Replace multi-remote controller.



ON-BOARD

Check trunk open signal from multi-remote controller in Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-195).

OK

CHECK TRUNK LID OPENER CIRCUIT.

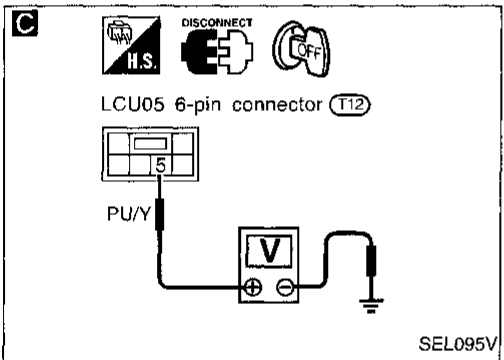
B CONSULT

See "TRUNK OPEN S/V" in ACTIVE TEST mode.

Perform operation shown on display. Trunk lid opener should operate.

OK

Replace LCU05.



C TESTER

Check voltage between LCU05 6-pin connector terminal ⑤ and ground.

Battery voltage should exist.

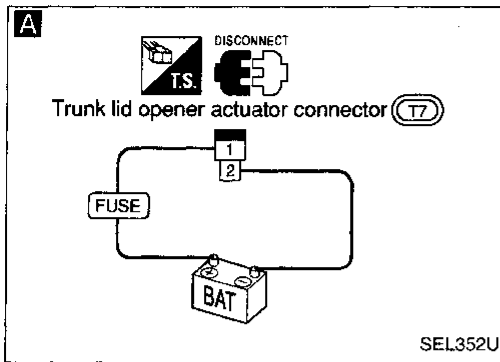
Refer to wiring diagram in EL-249.

NG

Check harness for open or short between LCU05 and trunk lid opener actuator.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4



A

CHECK TRUNK LID OPENER ACTUATOR.

1. Disconnect trunk lid opener actuator connector.
2. Check to see if trunk lid opens when 12V DC is applied across trunk lid opener actuator connector terminals ① and ②.

Refer to wiring diagram in EL-249.

NG → Replace trunk lid opener actuator.

OK ↓

Check the following.

- 15A fuse [No. 37], located in the fuse block (J/B)
- Harness for open or short between fuse and trunk lid actuator
- Harness for open or short between trunk lid actuator and LCU05

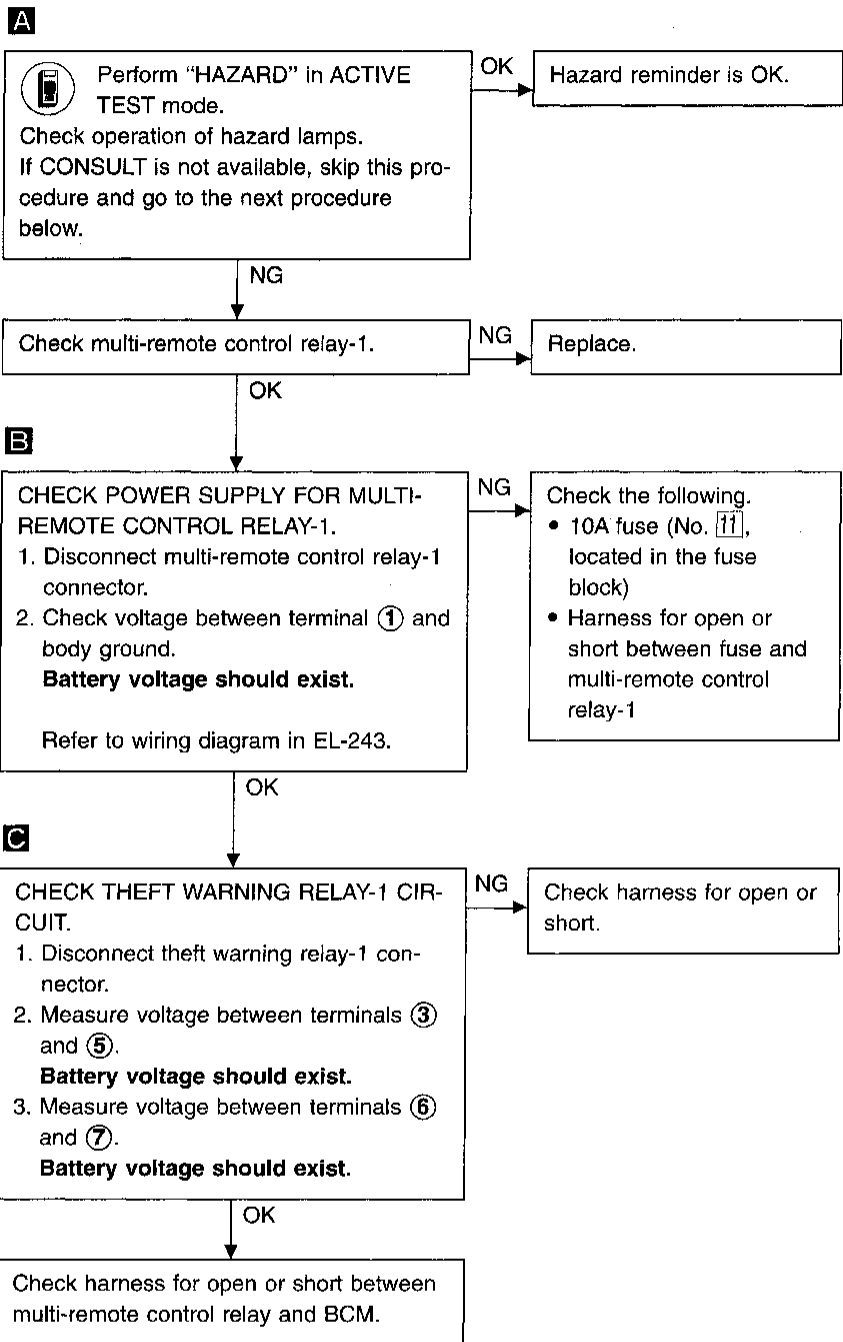
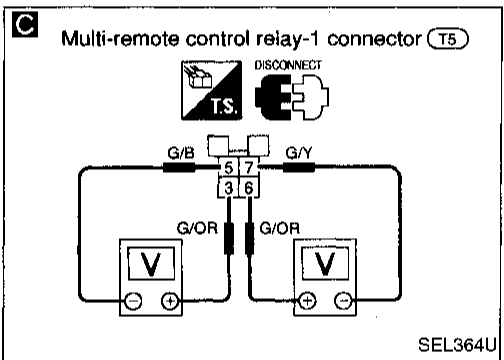
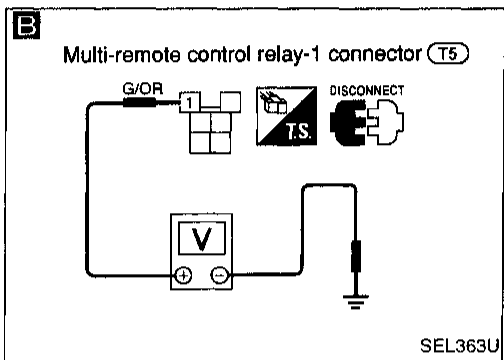
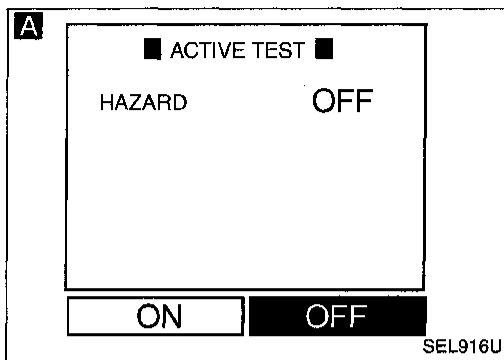
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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5



Replacing Remote Controller or Control Unit

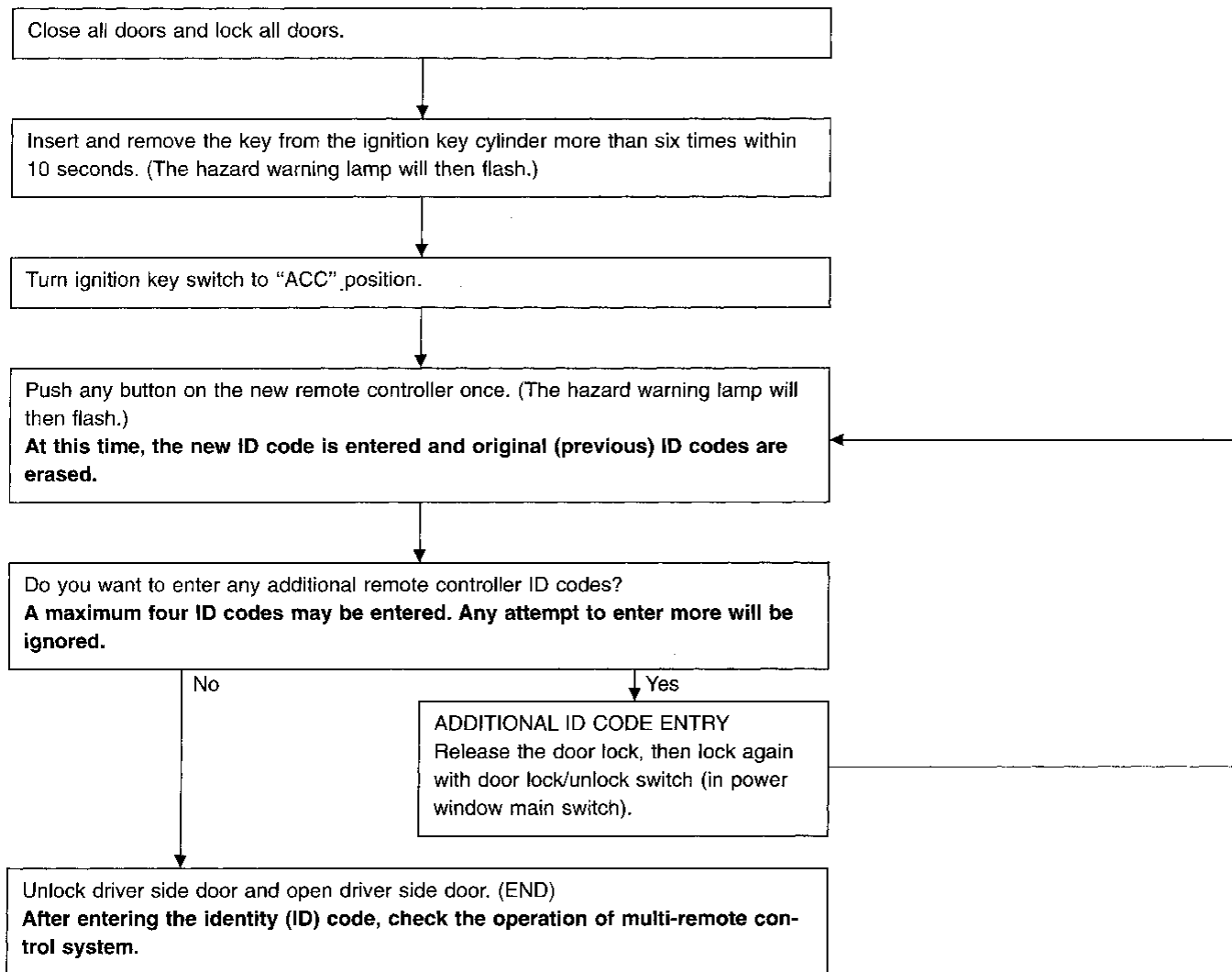
Enter the identity (ID) code manually when:

- remote controller or control unit (LCU05) is replaced.
- an additional remote controller is activated.

ID Code Entry Procedure

To enter the ID code, follow the procedures below.

PROCEDURE



NOTE

- If you need to activate more than two additional new remote controllers, repeat the procedure "Additional ID code entry" for each new remote controller.
- If the same ID code that exists in the memory is input, the entry will be ignored.
- Entry of maximum four ID codes is allowed and any attempt to enter more will be ignored.

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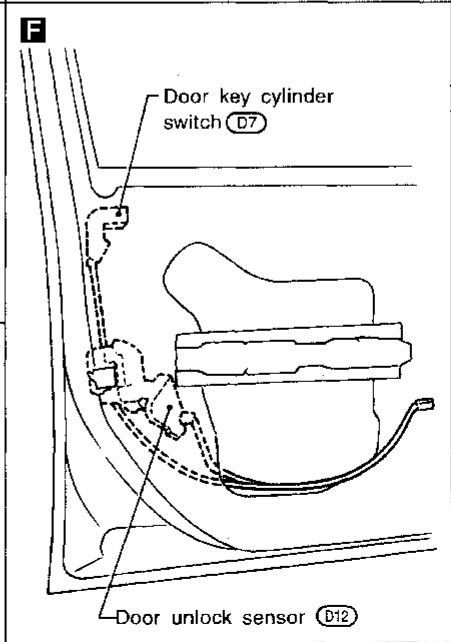
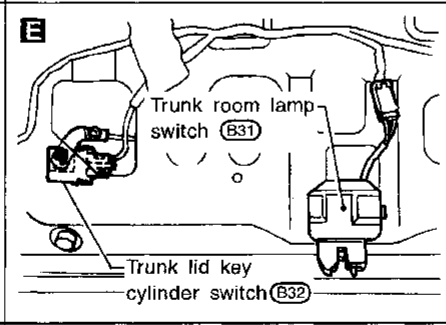
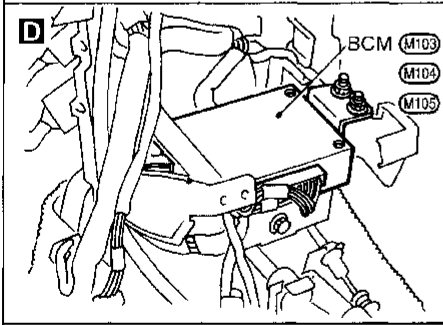
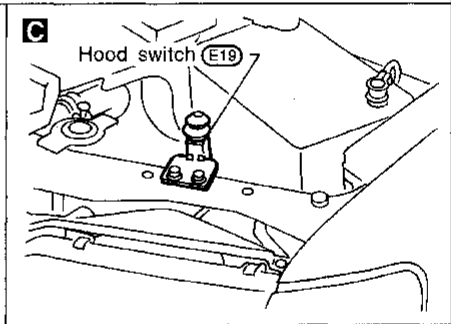
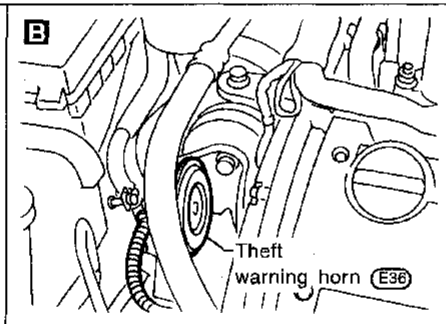
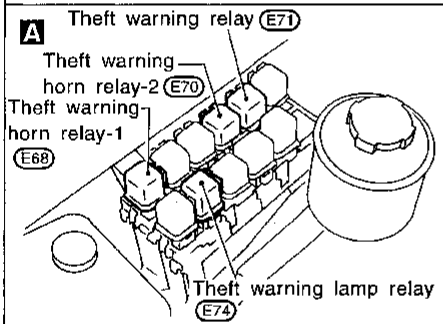
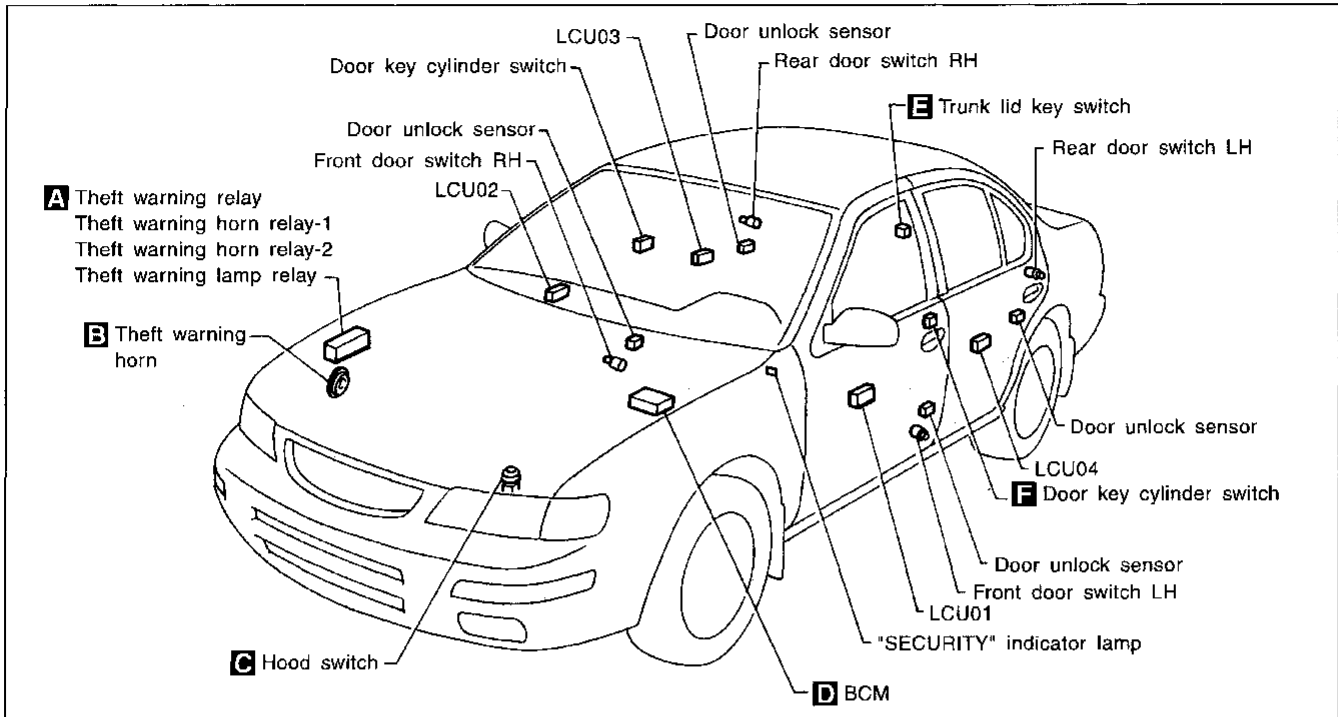
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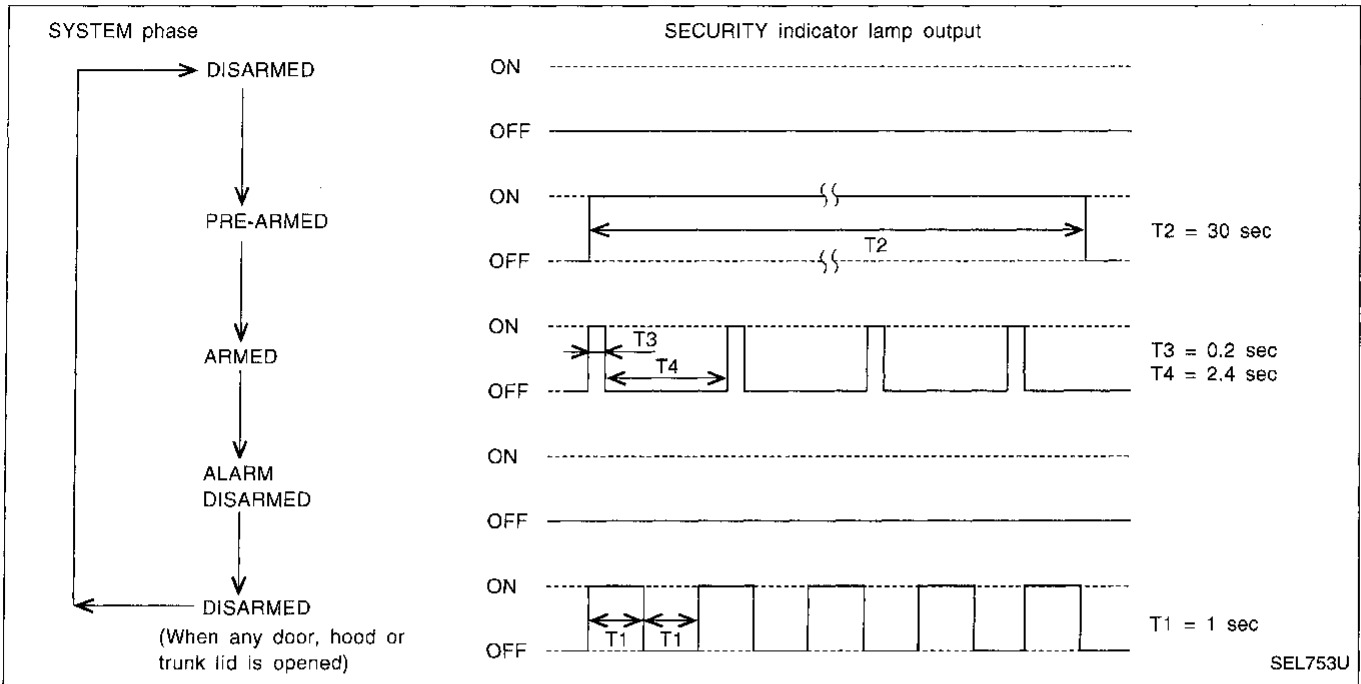
Component Parts and Harness Connector Location



System Description

DESCRIPTION

1. Operation flow



2. Setting the theft warning system

Initial condition

- (1) Close all doors.
- (2) Close hood and trunk lid.

Disarmed phase

The theft warning system is in the disarmed phase when any door(s), hood or trunk lid 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, trunk lid and all doors are closed and 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 2.4 seconds.)

3. Canceling the set theft warning system

When the following (a) or (b) operation is performed, the armed phase is canceled.

- (a) Unlock the doors with the key or multi-remote controller.
- (b) Open the trunk lid with the key. When the trunk lid is closed after opening the trunk lid with the key, the system returns to the armed phase.

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 2.4 seconds.)

When the following operation (a) or (b) is performed, the system sounds the horns and flashes the headlamps for about 2.5 minutes. (At the same time, the system disconnects the starting system circuit.)

- (a) Engine hood, trunk lid or any door is opened before unlocking door with key or multi remote controller.
- (b) Door is unlocked without using key or multi remote controller.

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THEFT WARNING SYSTEM — IVMS

System Description (Cont'd)

Refer to Owner's Manual for theft warning system operating instructions.

Power is supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B)
- to security indicator lamp terminal ②.

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

- through 7.5A fuse [No. 19], located in the fuse block (J/B)
- to BCM terminal ⑫.

BCM is connected to LCU01, LCU02, LCU03, LCU04 and LCU05 as DATA LINES A-1 or A-2.

THEFT WARNING SYSTEM ACTIVATION (Without key or remote controller used to lock doors)

The operation of the theft warning system is controlled by the doors, hood and trunk lid.

To activate the theft warning system, the BCM must receive signals indicating the doors, hood and trunk lid are closed and the doors are locked.

When a door is open, BCM terminal ⑮ receives a ground signal from each door switch.

When a door is unlocked, each door LCU terminal ④ receives a ground signal from terminal ② of each door unlock sensor.

When the hood is open, BCM terminal ⑯ receives a ground signal

- from terminal ① of the hood switch
- through body grounds ⑤ and ⑩.

When the trunk lid is open, BCM terminal ⑰ receives a ground signal

- from terminal ① of the trunk room lamp switch
- through body grounds ⑪ and ⑱.

When the theft warning system is in armed phase

If none of the described conditions exist, the theft warning system will alarm automatically.

THEFT WARNING SYSTEM ACTIVATION (With key or remote controller used to lock doors)

If the key is used to lock doors, LCU01/02 terminal ⑥ receives a ground signal

- from terminal ① of the door key cylinder switch
- through body grounds ⑬ and ⑰.

If this signal or lock signal from remote controller is received by the LCU01/02, the theft warning system will activate automatically.

Once the theft warning system has been activated, BCM terminal ② supplies ground to terminal ① 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 — IVMS

System Description (Cont'd)

THEFT WARNING SYSTEM ALARM OPERATION

The theft warning system is triggered by

- opening a door
- opening the trunk lid
- opening the hood
- unlocking door without using the key or multi-remote controller.

Once the theft warning system is in armed phase, if BCM receives a ground signal at terminal 35 (door switch), 37 (trunk room lamp switch) or 36 (hood switch) or LCU receives a ground signal at terminal 4 (door unlock sensor), the theft warning system will be triggered. The headlamps flash and the horn sounds intermittently, and the starting system is interrupted.

Power is supplied at all times

- through 10A fuse [No. 17], located in the fuse block (J/B)].
- to theft warning relay terminal 1.

If the theft warning system is triggered, ground is supplied

- from terminal 22 of the BCM
- to theft warning relay terminal 2.

With power and ground supplied, power to the clutch interlock relay (M/T models) or inhibitor relay (A/T models) is interrupted. The starter motor will not crank and the engine will not start.

Power is supplied at all times

- through 7.5A fuse (No. 65), located in fuse and fusible link box
- to theft warning lamp relay terminal 1
- to theft warning horn relay-2 terminal 1.

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

- from terminal 21 of the BCM
- to theft warning lamp relay terminal 2 and
- to theft warning horn relay-2 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 or the trunk lid must be unlocked with the key or remote controller.

When the key is used to unlock a door, LCU01/02 terminal 5 receives a ground signal

- from terminal 2 of the door key cylinder switch.

When the key is used to unlock the trunk lid, BCM terminal 10 receives a ground signal from terminal 1 of the trunk lid key cylinder switch.

When the BCM/LCUs 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.

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

- from BCM terminal 21
- to theft warning lamp relay terminal 2 and
- to theft warning horn relay-2 terminal 2.

The headlamp flashes and the horn sounds intermittently.

The alarm automatically turns off after 30 seconds or when LCU05 (multi-remote control unit) receives any signal from multi-remote controller.

GI

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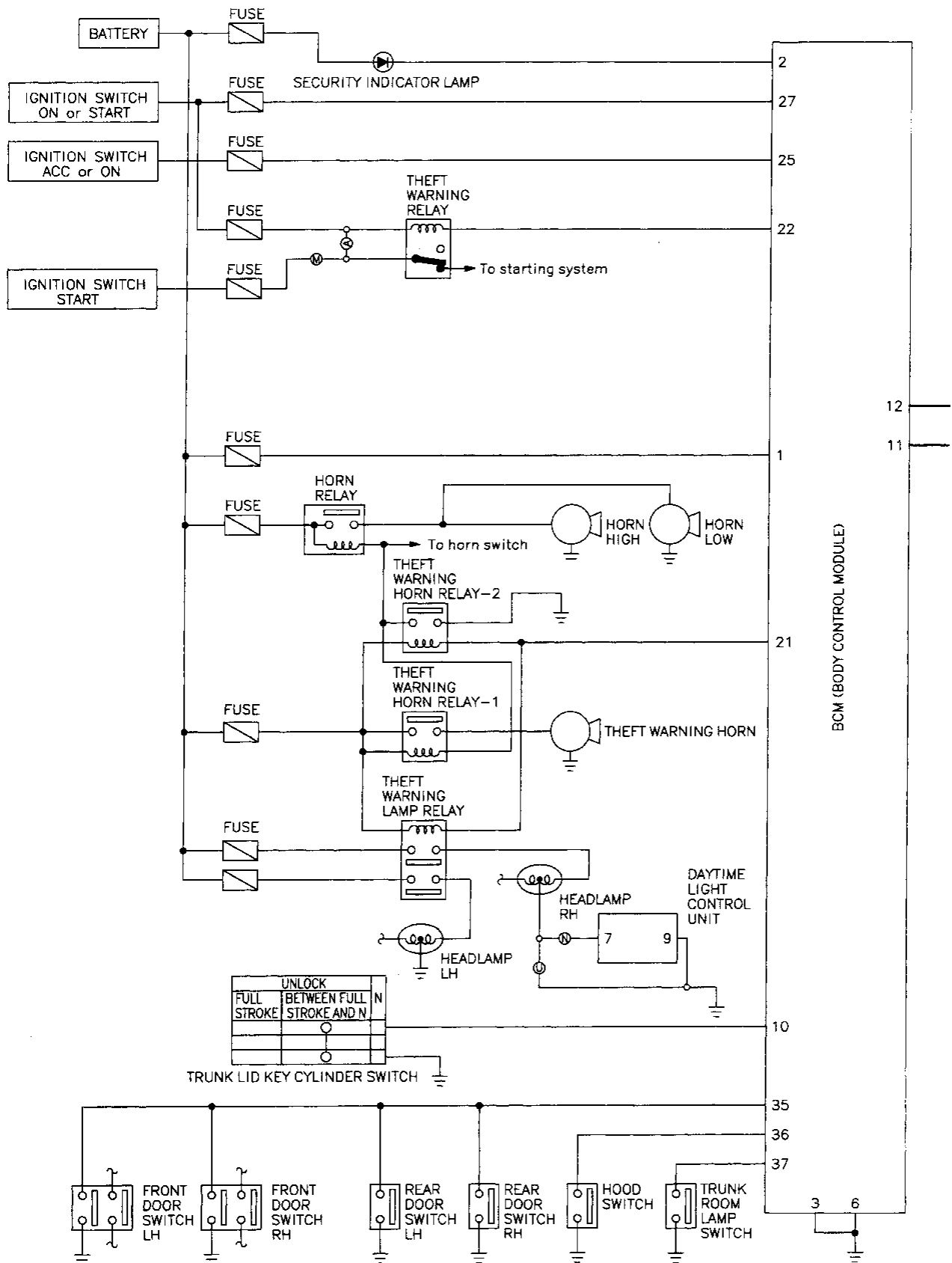
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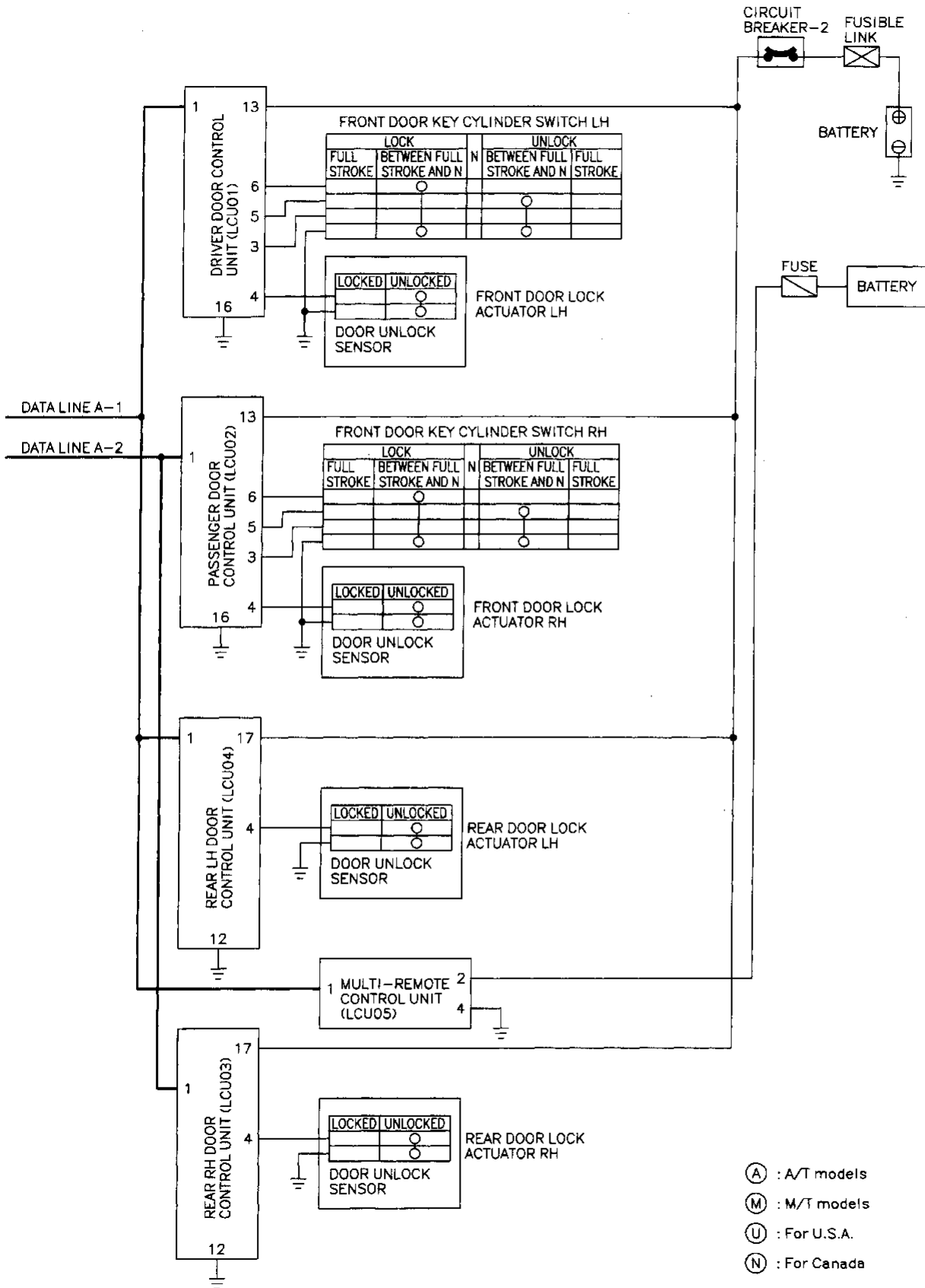
THEFT WARNING SYSTEM — IVMS

Schematic



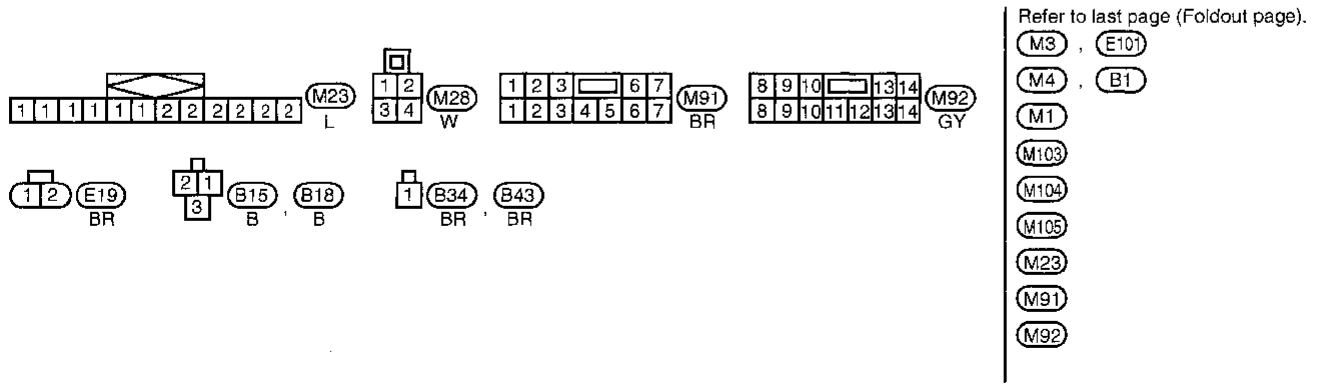
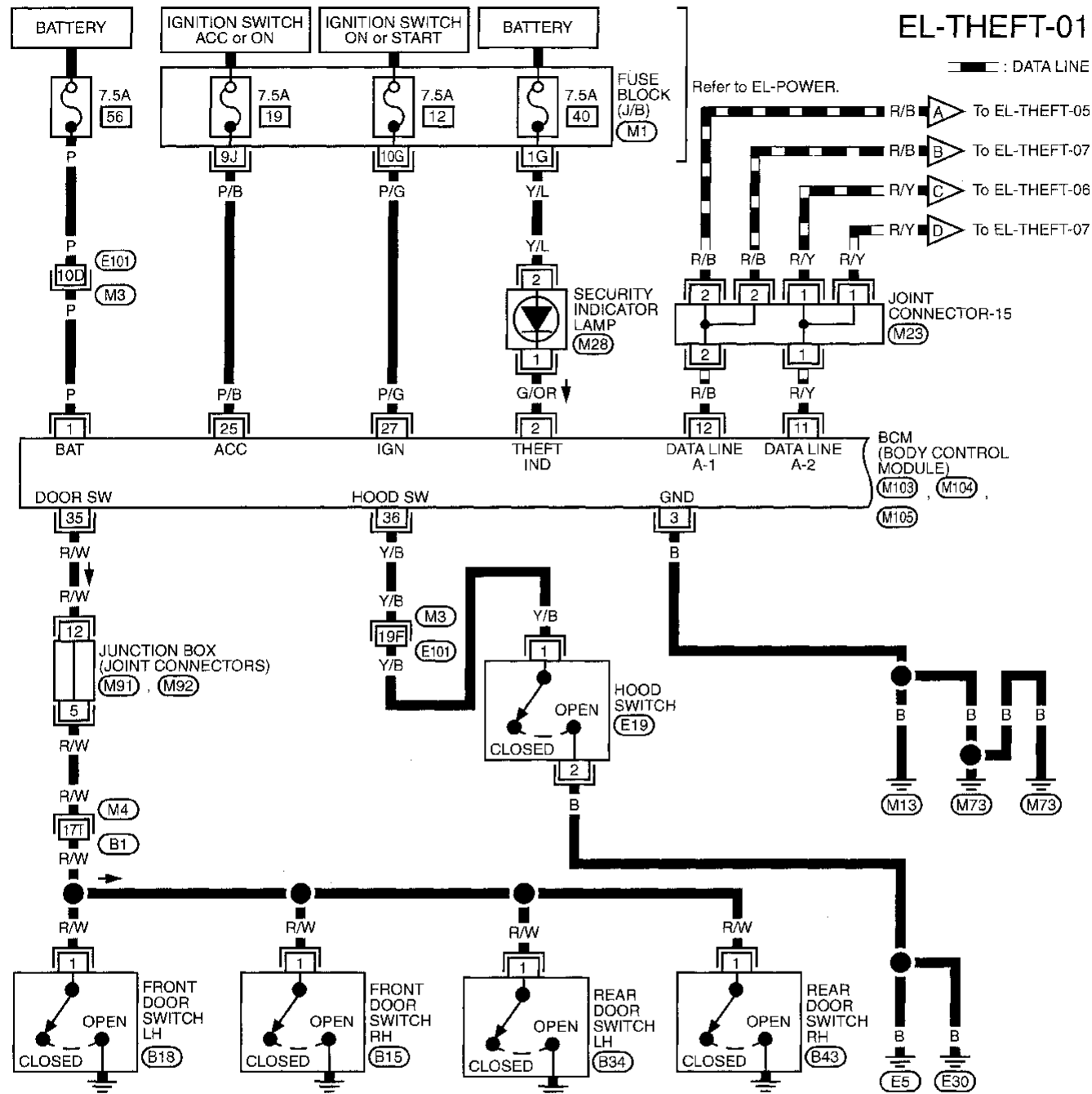
THEFT WARNING SYSTEM — IVMS

Schematic (Cont'd)



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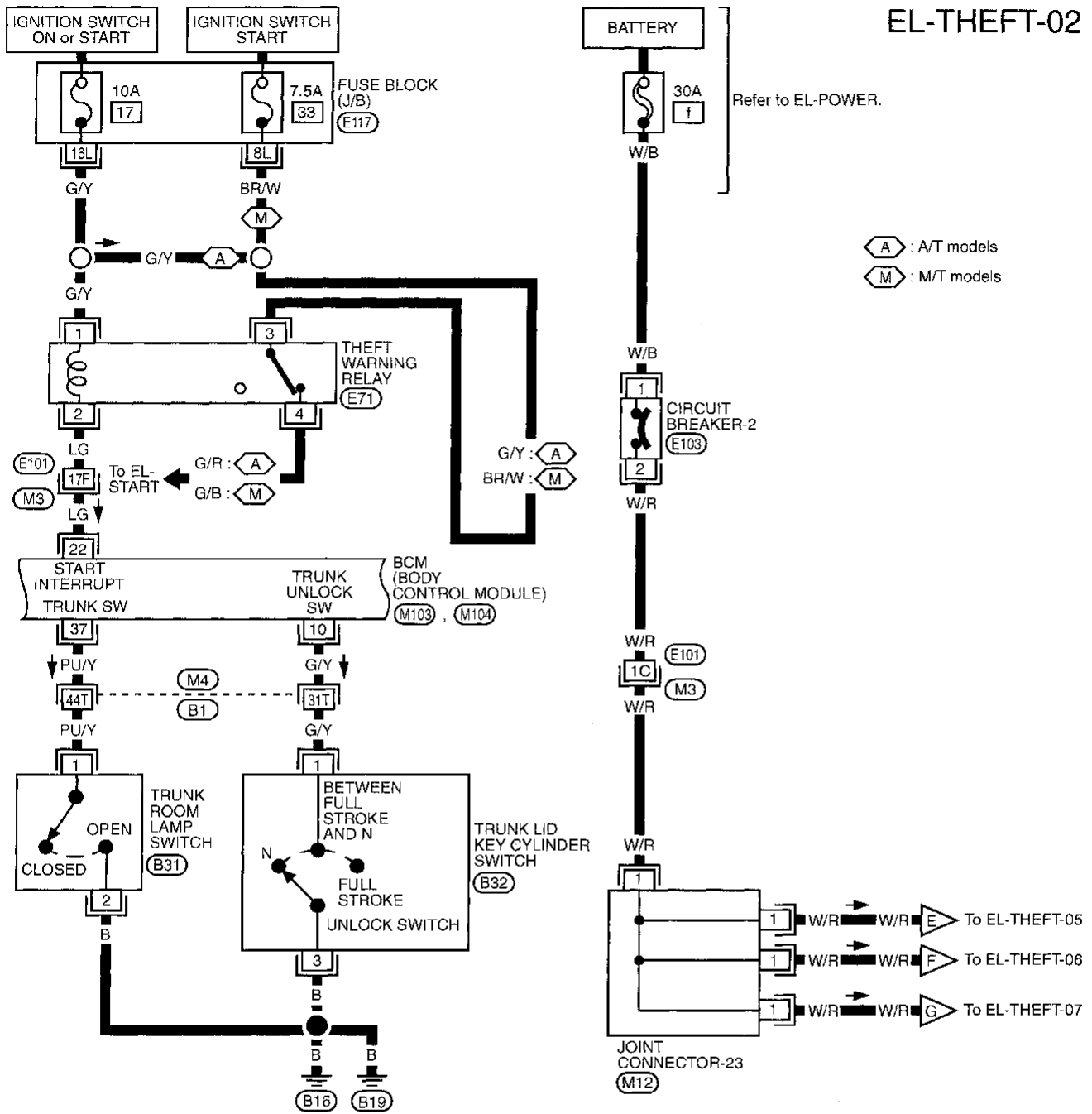
Wiring Diagram — THEFT —



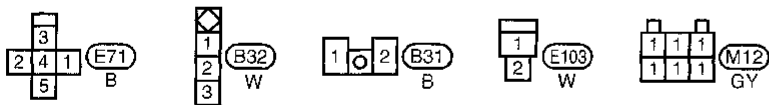
THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-02



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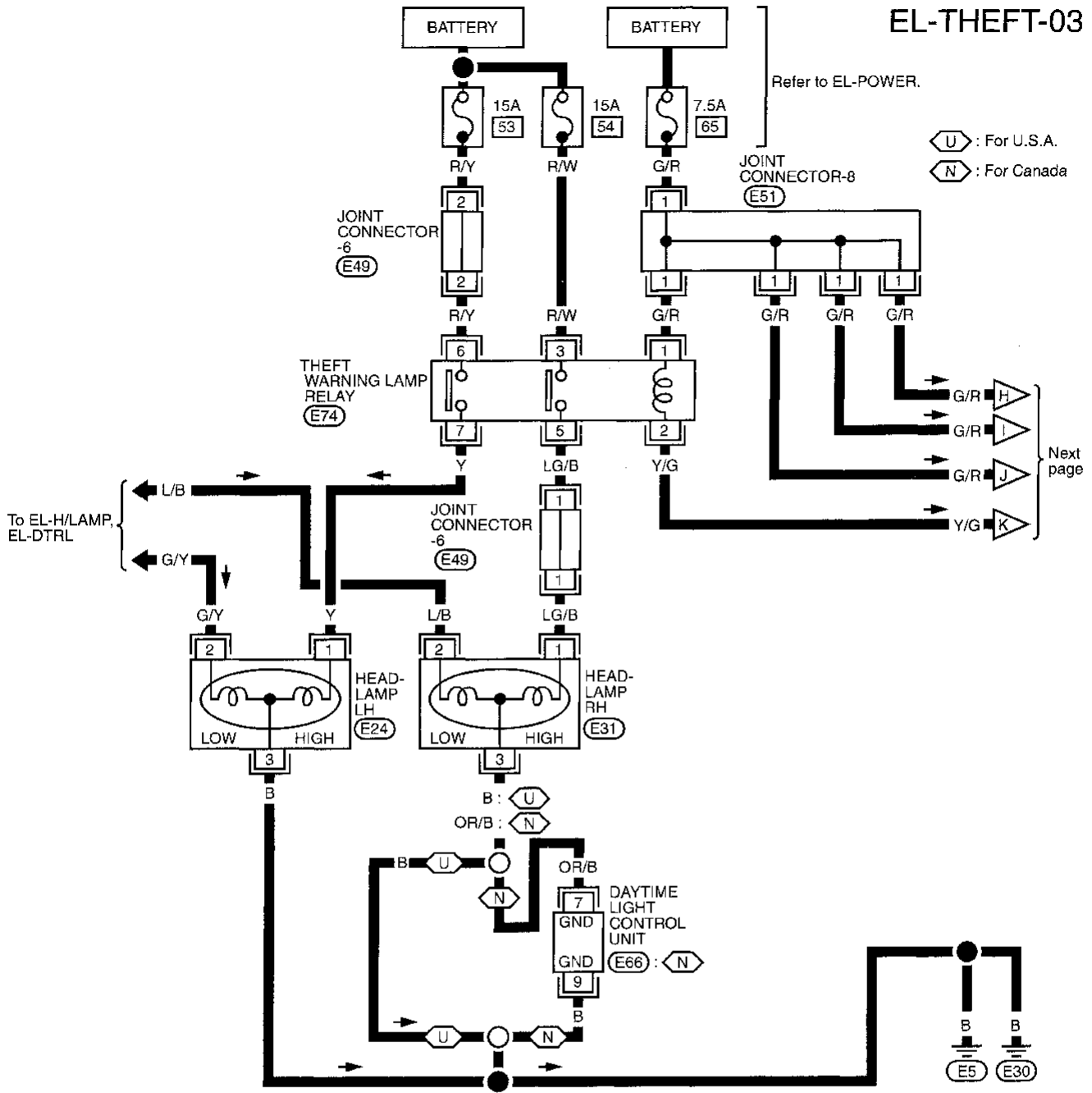
Refer to last page (Foldout page).

- (M3), (E101)
- (M4), (B1)
- (E117)
- (M103)
- (M104)
- (M12)

THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

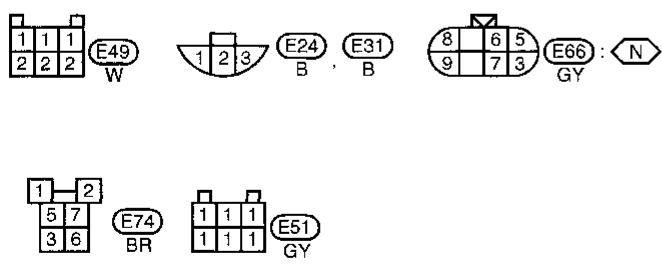
EL-THEFT-03



U : For U.S.A.
N : For Canada

Refer to EL-POWER.

Next page



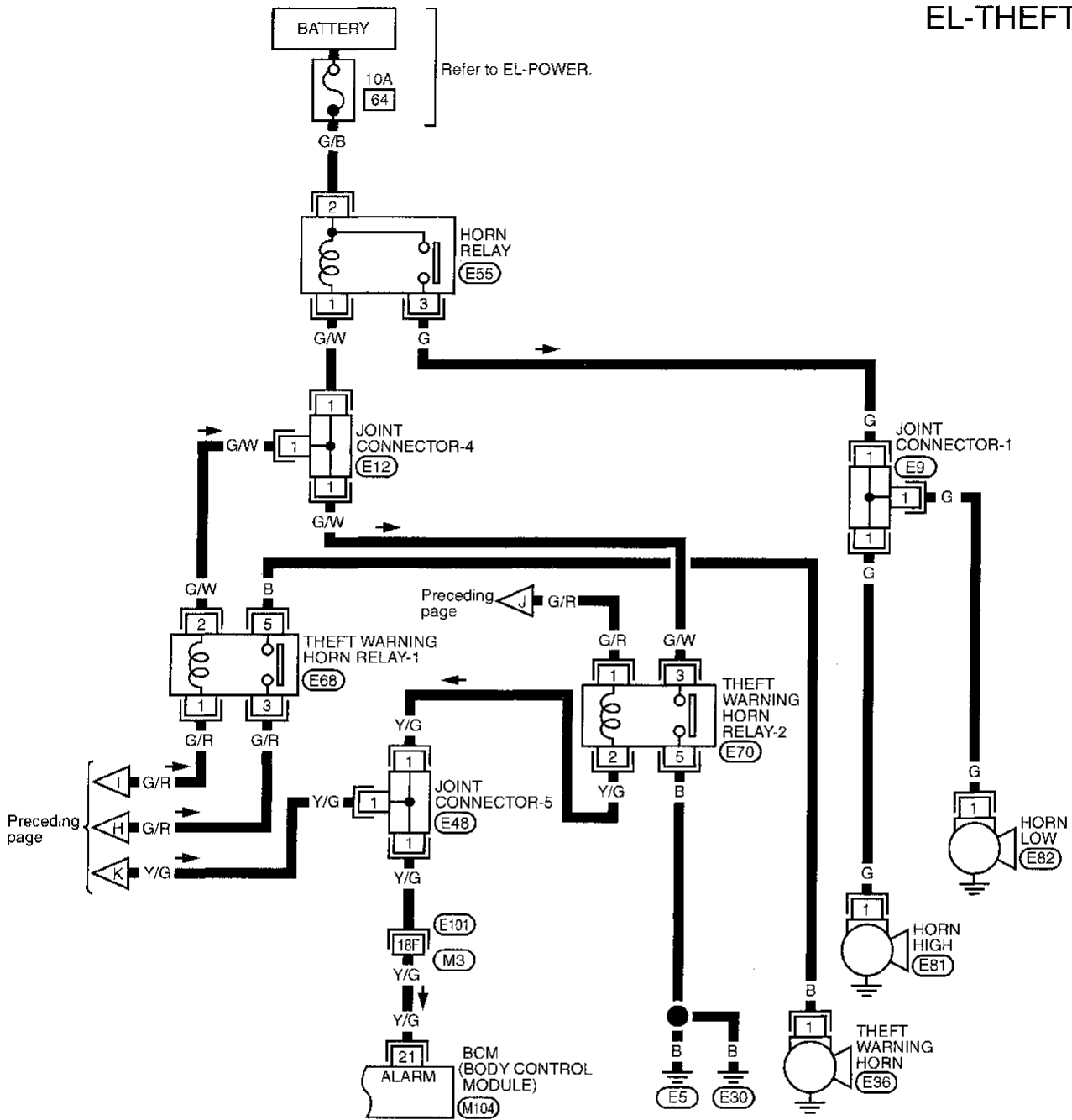
Refer to last page (Foldout page).

E49
E51

THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

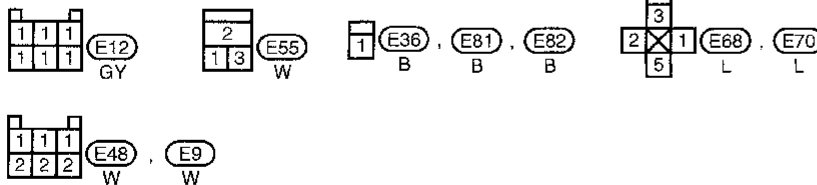
EL-THEFT-04



Preceding page

Preceding page

Refer to last page (Foldout page).



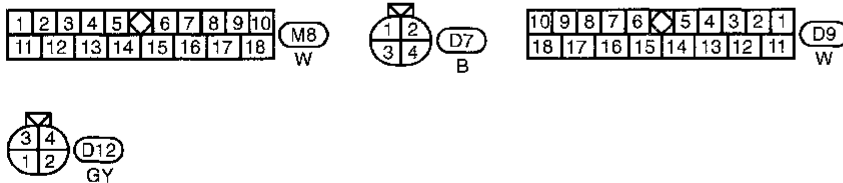
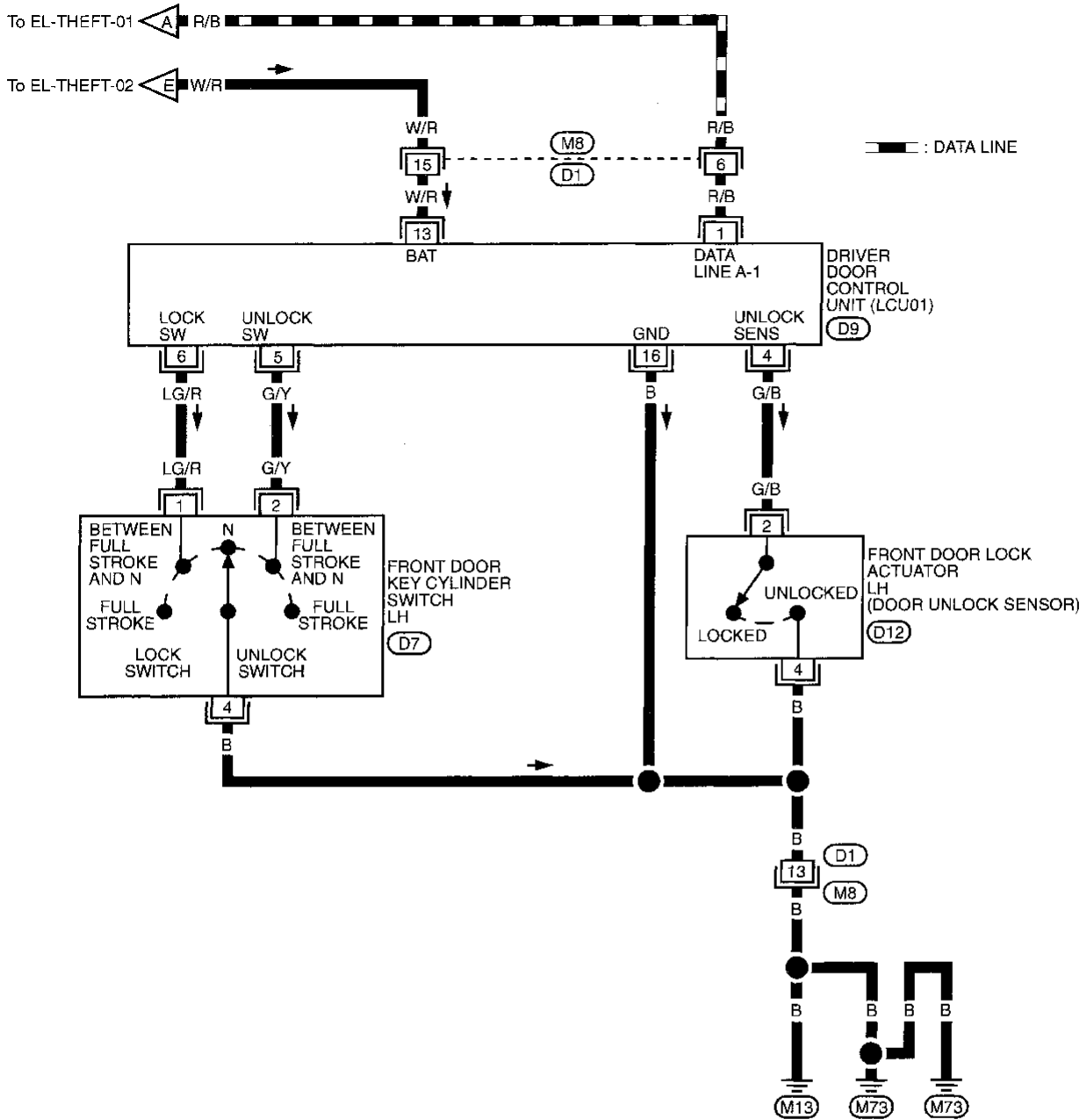
- M3, E101
- E9
- E12
- E48
- M104

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THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

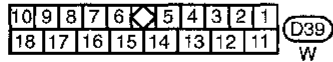
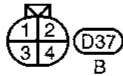
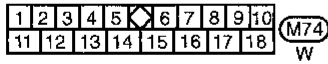
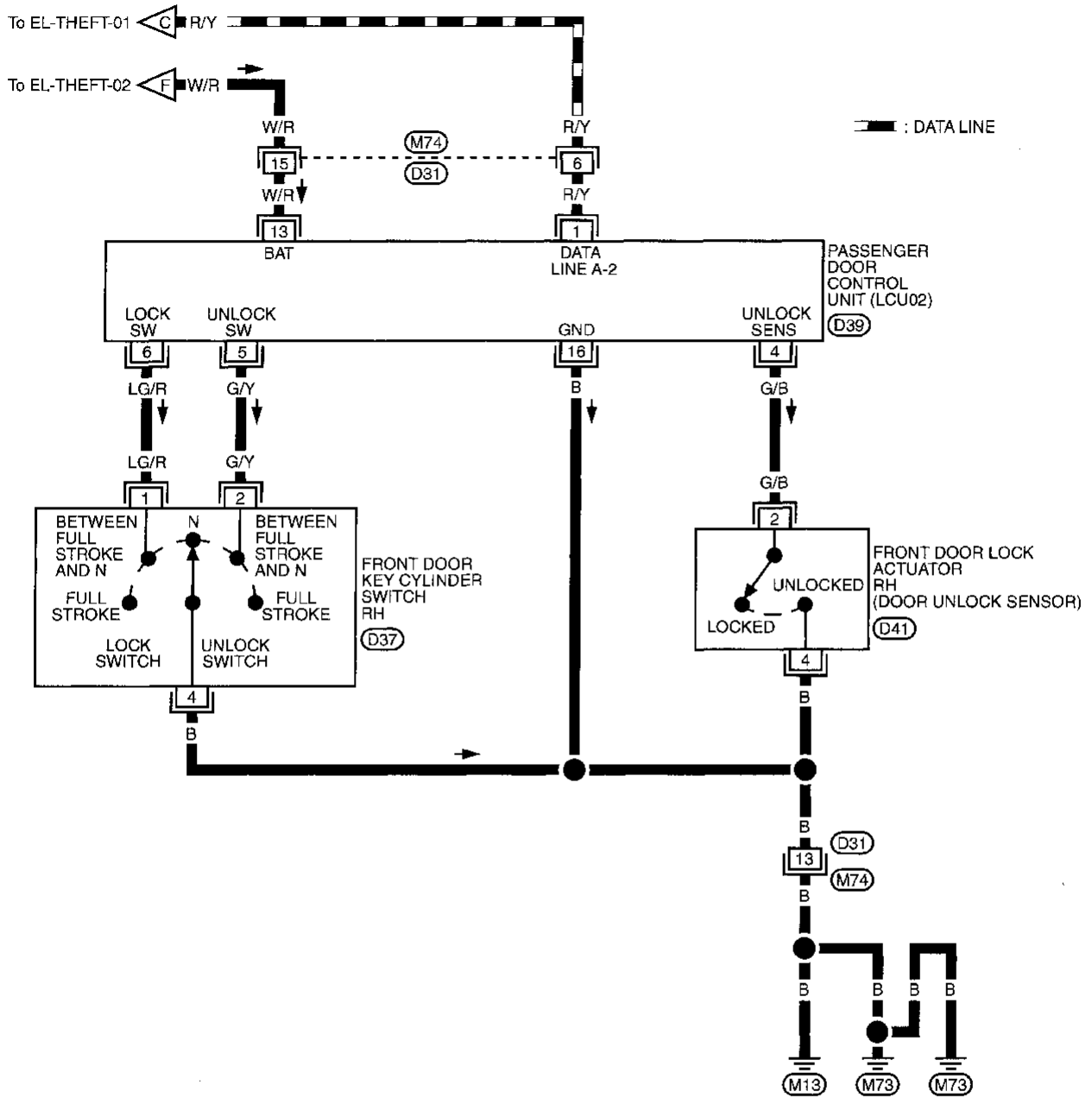
EL-THEFT-05



THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-06

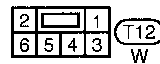
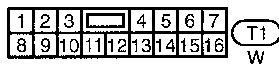
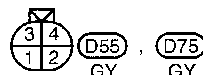
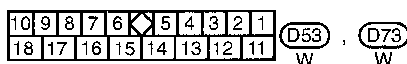
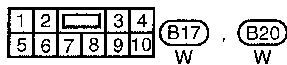
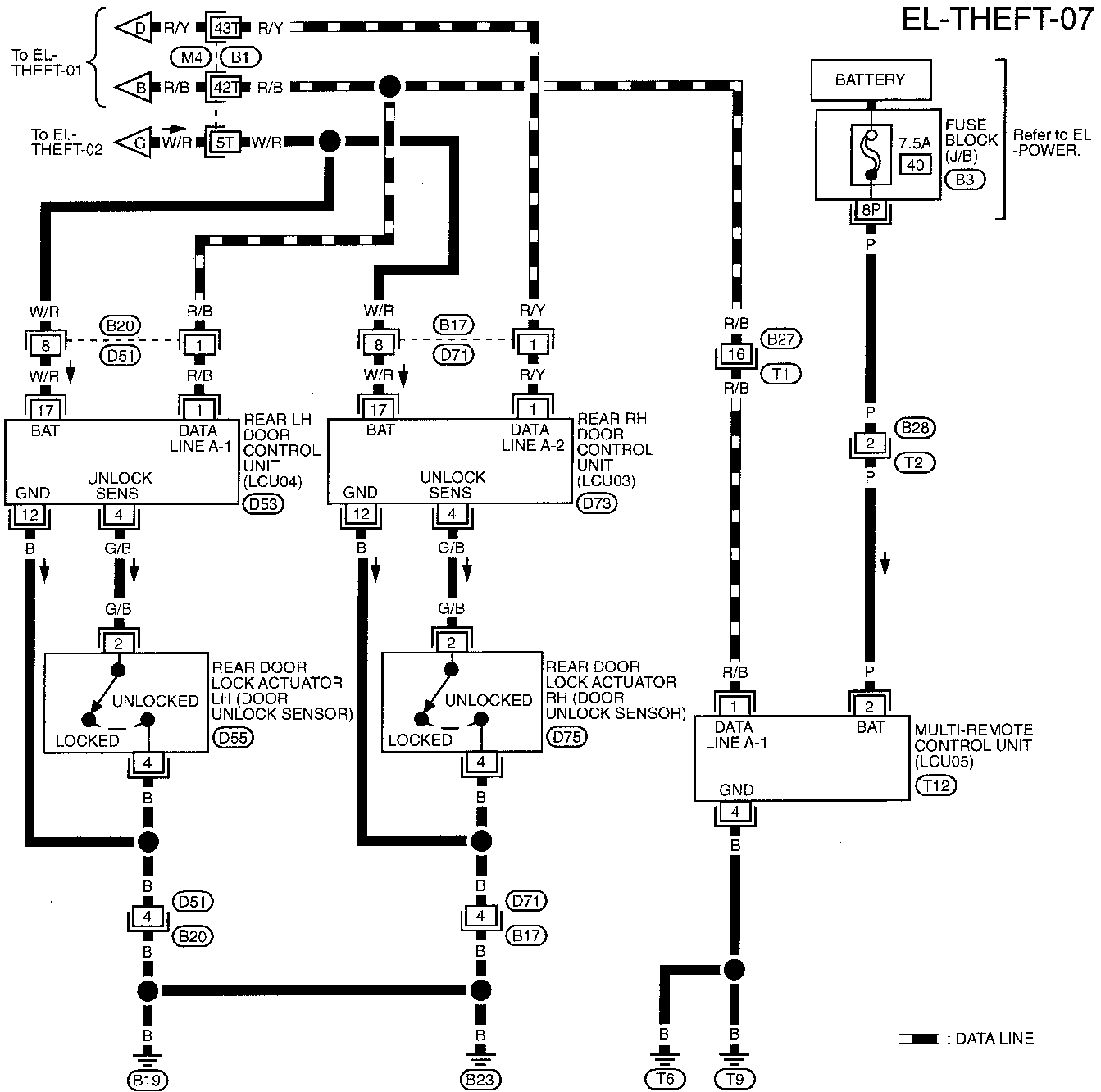


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THEFT WARNING SYSTEM — IVMS

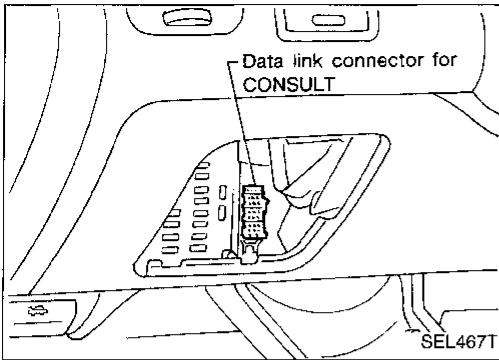
Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-07



Refer to last page (Foldout page).

(M4) (B1)



Trouble Diagnoses

CONSULT

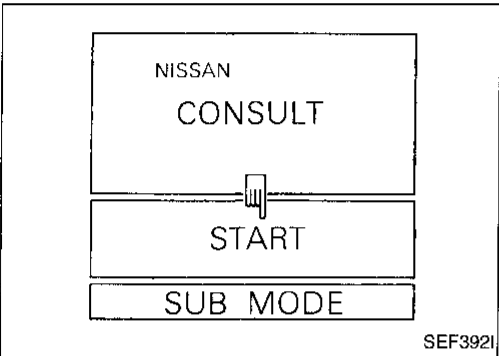
CONSULT inspection procedure

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

GI

MA

EM



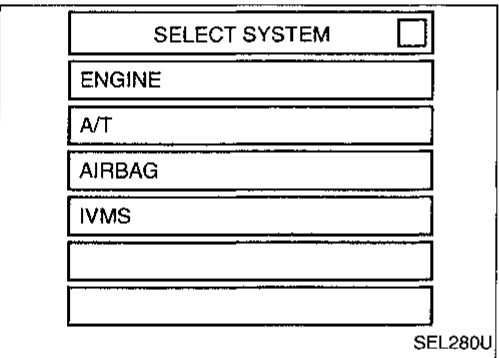
3. Turn ignition switch "ON".
4. Touch "START".

LC

EC

FE

CL



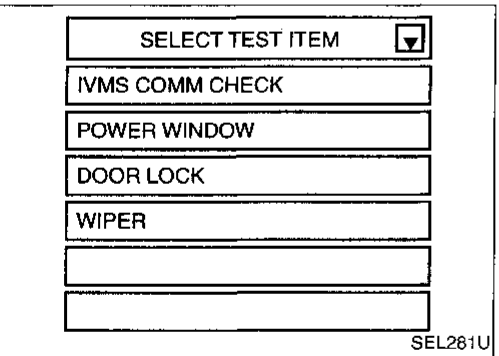
5. Touch "IVMS".

MT

AT

FA

RA



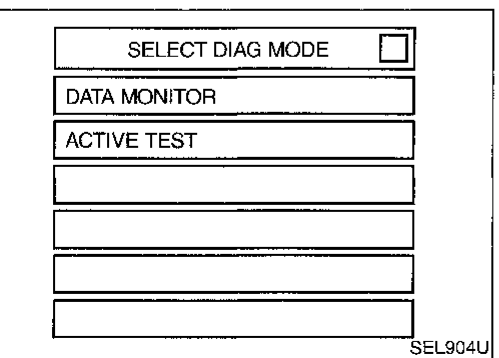
6. Touch "THEFT WARNING SYSTEM".

BR

ST

RS

BT



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

HA

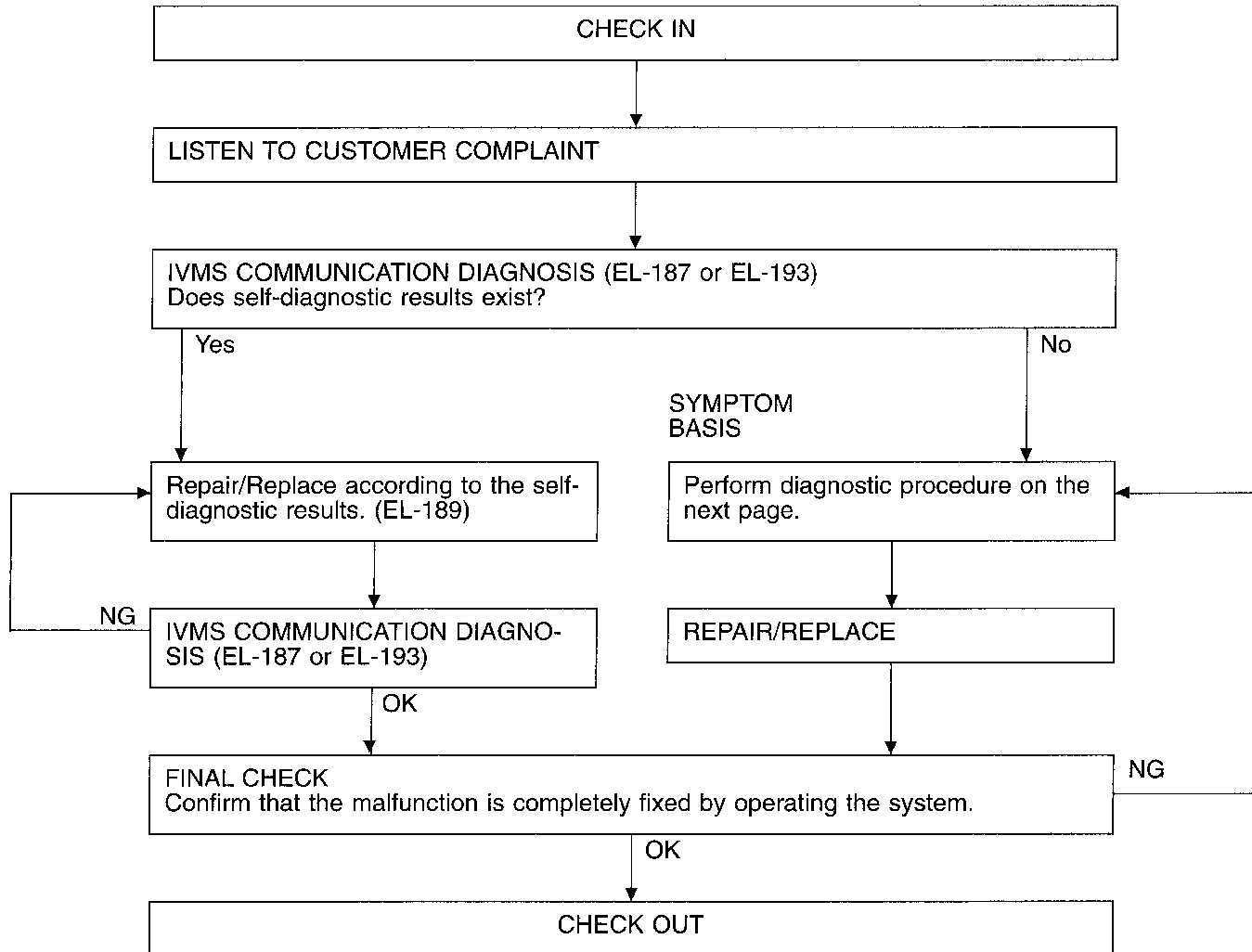
EL

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THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

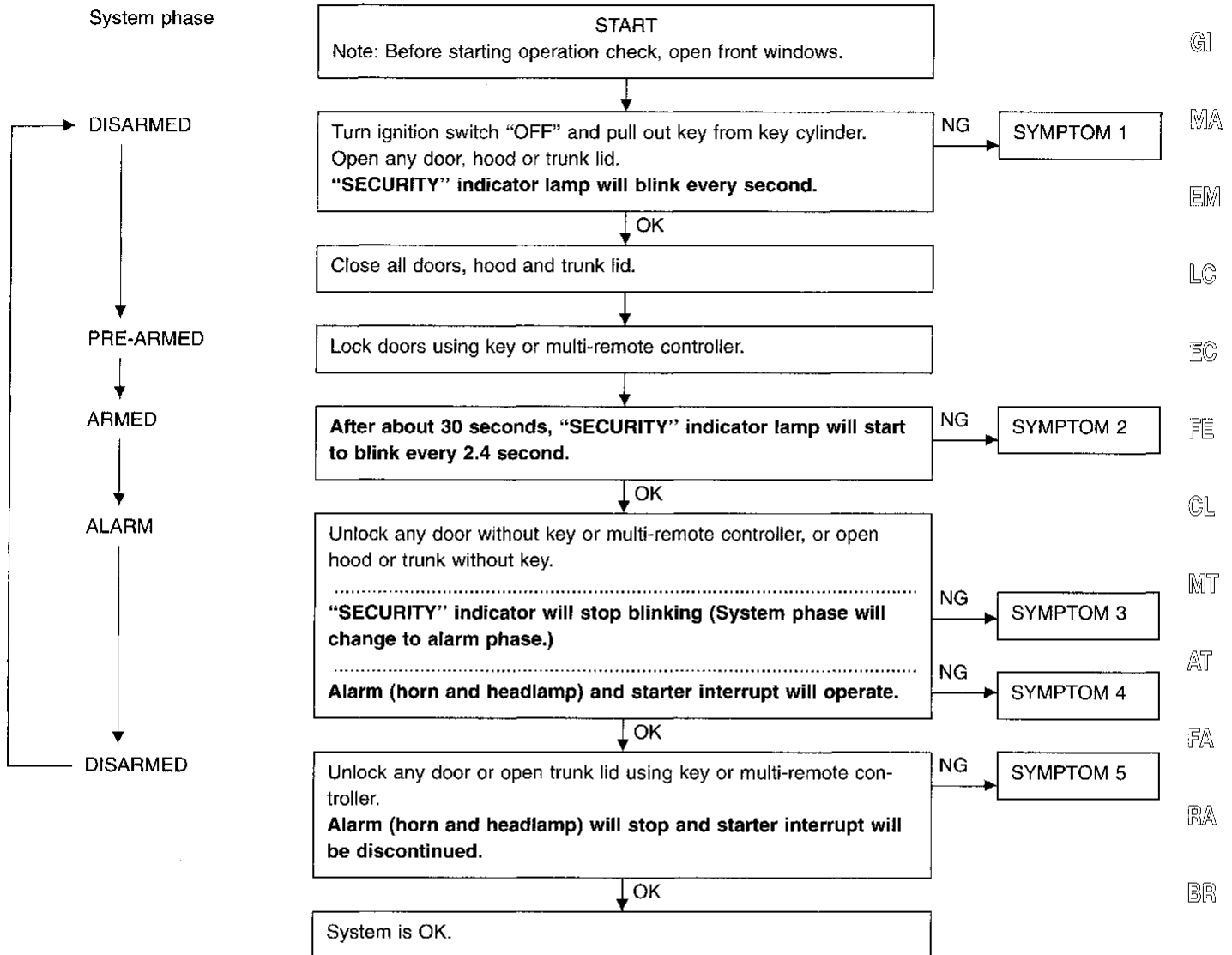
- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

PRELIMINARY CHECK

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



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

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

Before starting trouble diagnoses below, perform preliminary check, EL-275.

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

SYMPTOM CHART

PROCEDURE		—	Diagnostic procedure								—	
REFERENCE PAGE		EL-275	EL-277	EL-280	EL-281	EL-282	EL-283	EL-284	EL-285	EL-286	EL-252	EL-188
SYMPTOM		Preliminary check	Diagnostic Procedure 1 (Door, hood and trunk room lamp switch check)	Diagnostic Procedure 2 (Security indicator lamp check)	Diagnostic Procedure 3 (Door unlock sensor check)	Diagnostic Procedure 4 (Door key cylinder switch check)	Diagnostic Procedure 5 (Trunk lid key cylinder switch check)	Diagnostic Procedure 6 (Theft warning horn alarm check)	Diagnostic Procedure 7 (Headlamp alarm check)	Diagnostic Procedure 8 (Starter interrupt system check)	Check "MULTI-REMOTE CONTROL" system.	WAKE-UP DIAGNOSES
1	Theft warning indicator does not turn "ON" or blinking.	X		X								
2	Theft warning system cannot be set by ...	All items	X	X		X						
		Door out side key	X				X					X (LCU01, LCU02)
		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						X (LCU01, 02, 03, 04)
4	Theft warning alarm does not activate.	All function	X	X		X						
		Horn alarm	X					X				
		Headlamp alarm	X						X			
		Starter interrupt	X							X		
5	Theft warning system cannot be canceled by ...	Door out side key	X			X						X (LCU01, LCU02)
		Trunk lid key	X				X					
		Multi-remote control	X								X	

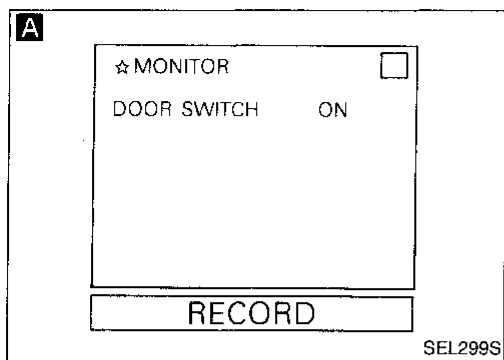
X : Applicable

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

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1-(1)

(Door switch check)



CHECK DOOR SWITCH INPUT SIGNAL.

A CONSULT

See "DOOR SWITCH" in DATA MONITOR mode.

When door is open:

DOOR SW ON

When door is closed:

DOOR SW OFF

OR

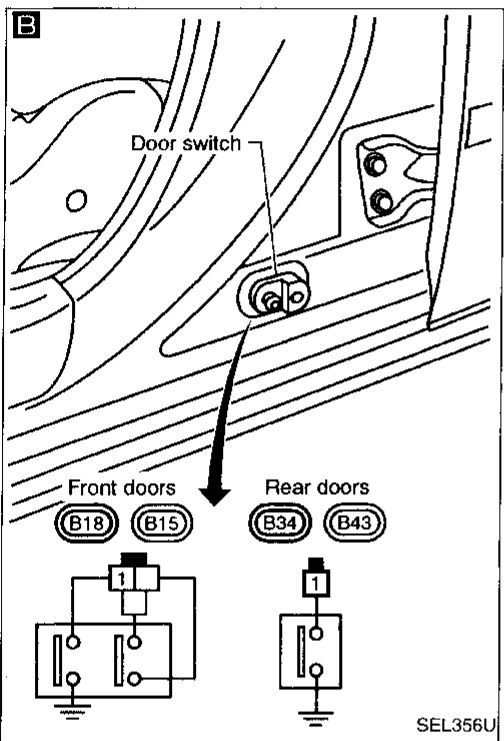
ON-BOARD

Check all doors switches in Switch monitor (Mode II) mode.

(Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-266.

OK → Door switch is OK.



B CHECK DOOR SWITCH.

- 1) Disconnect door switch connector.
- 2) Check continuity between terminals or switch body ground.

Terminals	Condition	Continuity
① - ground	Pressed	No
	Released	Yes

NG → Replace door switch.

OK →

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

GI

MA

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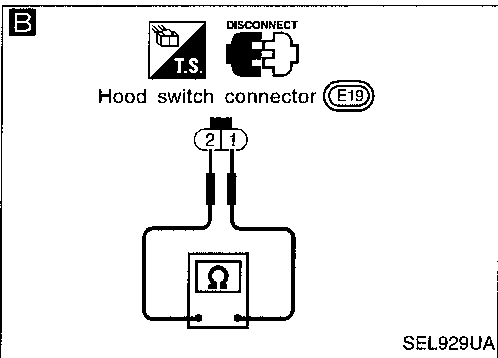
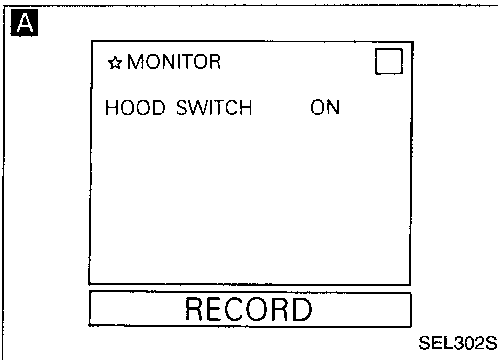
EL

IDX

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1-(2) (Hood switch check)



CHECK HOOD SWITCH INPUT SIGNAL.

OK

Hood switch is OK.

A CONSULT

See "HOOD SWITCH" in DATA MONITOR mode.

When hood is open:

HOOD SWITCH ON

When hood is closed:

HOOD SWITCH OFF

OR

ON-BOARD

Check hood switch in Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-266.

NG

Check hood switch and hood fitting condition.

NG

Adjust installation of hood switch or hood.

OK

B

CHECK HOOD SWITCH.

- 1) Disconnect hood switch connector.
- 2) Check continuity between hood switch terminals.

NG

Replace hood switch.

Terminals	Condition	Continuity
① - ②	Pushed	No
	Released	Yes

OK

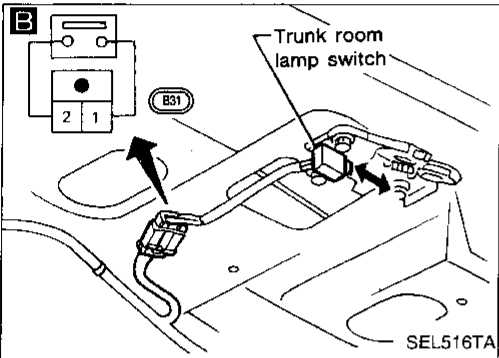
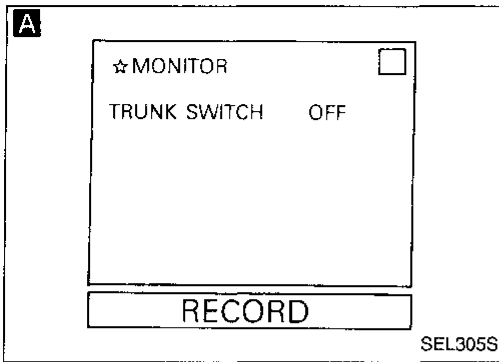
Check the following.

- Hood switch ground circuit
- Harness for open or short between BCM and hood switch

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1-(3) (Trunk room lamp switch check)



CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL.

A CONSULT

See "TRUNK SWITCH" in DATA MONITOR mode.

When trunk lid is open:

TRUNK SWITCH ON

When trunk lid is closed:

TRUNK SWITCH OFF

OR

ON-BOARD

Check trunk room lamp switch in Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-267.

OK

Trunk room lamp switch is OK.

NG

B

CHECK TRUNK ROOM LAMP SWITCH.

- 1) Disconnect trunk room lamp switch connector.
- 2) Check continuity between trunk room lamp switch terminals.

Terminals	Condition	Continuity
① - ②	Closed	No
	Open	Yes

NG

Replace trunk room lamp switch.

OK

Check the following.

- Trunk room lamp switch ground circuit
- Harness for open or short between control unit and trunk room lamp switch

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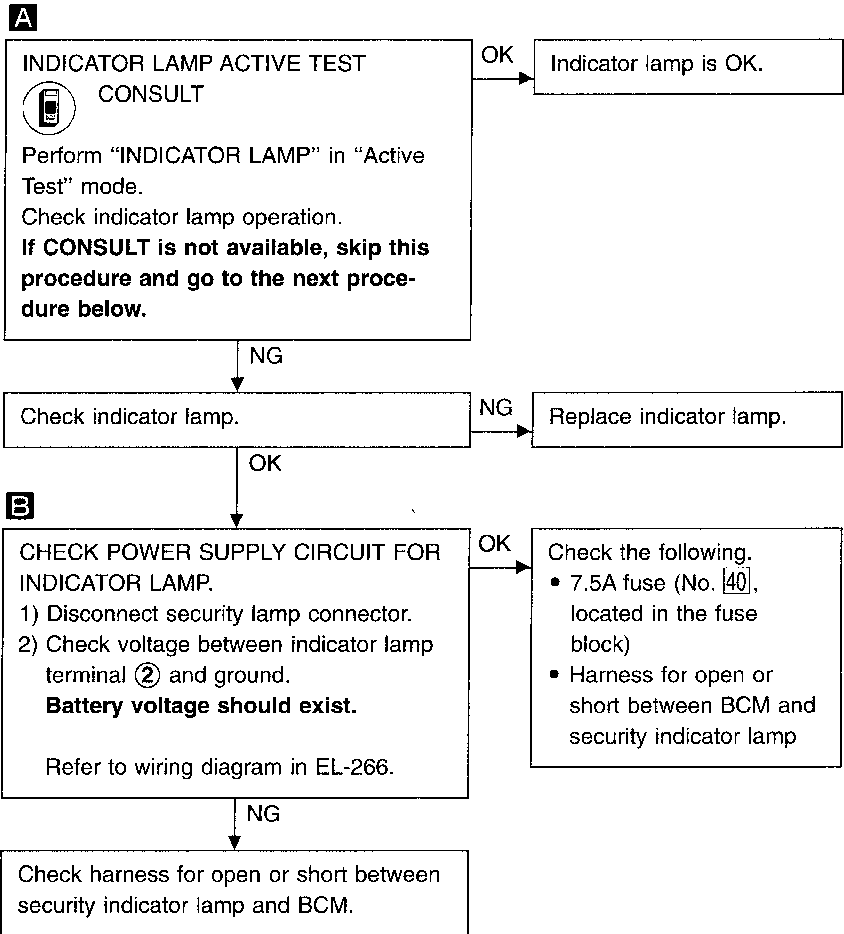
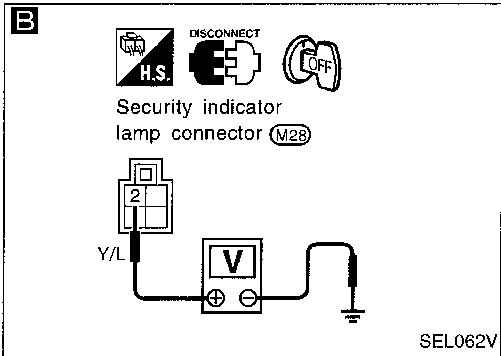
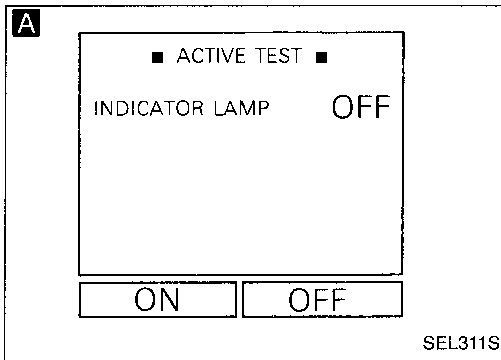
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THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

(Security indicator lamp check)



THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

(Door unlock sensor check)

A


☆ MONITOR		<input type="checkbox"/>
LOCK SIG-DR	UNLK	
LOCK SIG-AS	LOCK	
LOCK SG-RR/RH	UNLK	
LOCK SG-RR/LH	UNLK	

RECORD

SEL457S

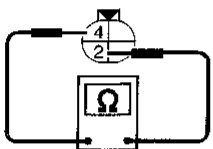
B

DISCONNECT

T.S. 


Door lock actuator connector

Front LH: (D12) Rear LH: (D55)
 Front RH: (D41) Rear RH: (D75)



SEL060V

CHECK DOOR LOCK KNOB SWITCH CIRCUITS.

A  **CONSULT**


See "LOCK SIG SW" in DATA MONITOR mode.

When door is locked:
LOCK SIG LOCK

When door is unlocked:
LOCK SIG UNLK

OK → Door unlock sensor is OK.

OR

 **ON-BOARD**

Check front door lock knob operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-270, 271 or 272.

B

CHECK DOOR UNLOCK SENSOR.

1) Disconnect door unlock sensor connector.

2) Check continuity between door unlock sensor terminals.

Terminals	Condition	Continuity
② - ④	Locked	No
	Unlocked	Yes

NG → Replace door unlock sensor.

OK

Check the following.

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

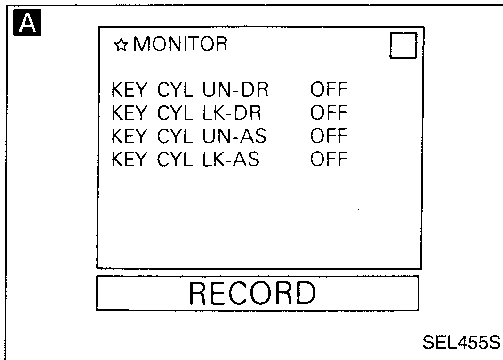
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THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

(Door key cylinder switch check)



CHECK DOOR KEY CYLINDER SIGNAL.

A CONSULT

See "KEY CYL DR or AS" in DATA MONITOR mode.

These signals should be "ON" when ignition key inserted in the door key cylinder was turned to lock or unlock.

If signals turn from "OFF" to "ON" too quickly on CONSULT display when key cylinder is turned, check these signals in the graphic mode.

(Refer to CONSULT OPERATION MANUAL.)

OR

ON-BOARD

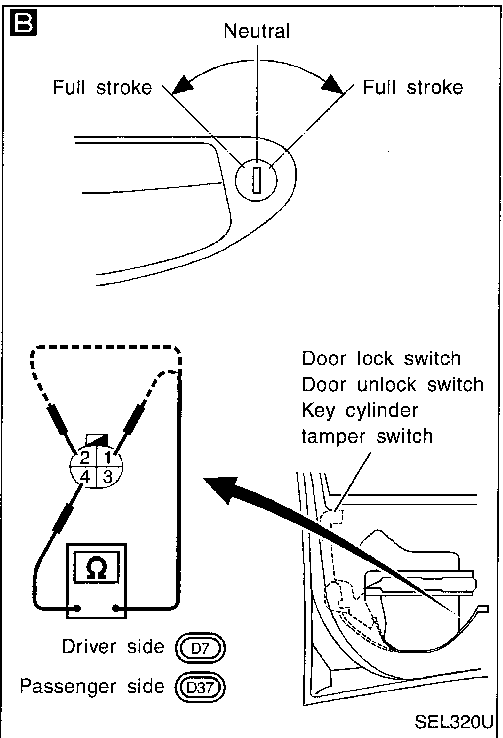
Check front LH or RH door lock key cylinder lock and unlock switch in Switch monitor (Mode II) mode.

(Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-270 or 271.

OK

Door key cylinder switch is OK.



B

CHECK DOOR KEY CYLINDER SWITCH.

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

Terminals	Condition	Continuity
① - ④	Neutral	No
	Locked	No
② - ④	Neutral	No
	Unlocked	Yes

NG

Replace door key cylinder switch.

OK

Check the following.

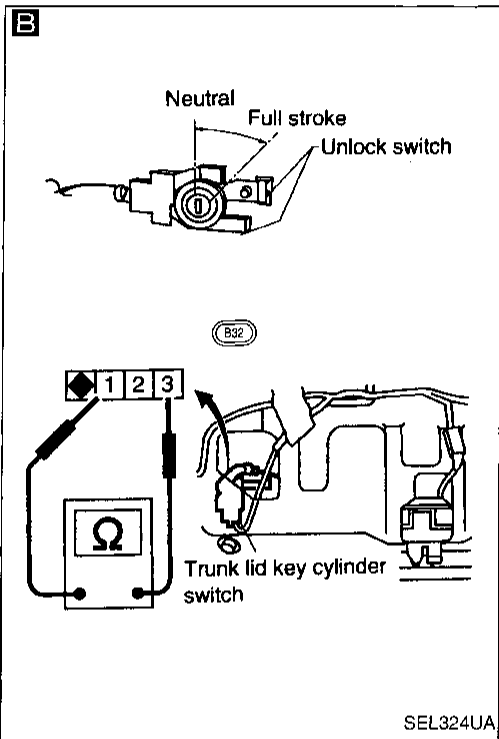
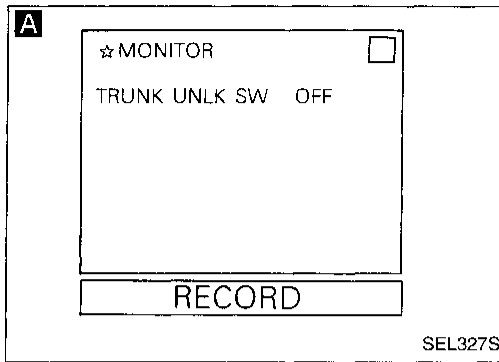
- Door key cylinder switch ground circuit
- Harness for open or short between door key cylinder switch and LCU01/02

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

(Trunk lid key cylinder switch check)



A

CHECK TRUNK LID KEY CYLINDER INPUT SIGNAL.

CONSULT

See "TRUNK UNLK SW" in DATA MONITOR mode.

When key in key cylinder is at "NEUTRAL" or "UNLOCK" (full stroke) position,

TRUNK UNLK SW OFF

When key is between "NEUTRAL" and "UNLOCK" position,

TRUNK UNLK SW ON

OR

ON-BOARD

Check trunk lid key cylinder switch in Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-195.)

Refer to wiring diagram in EL-267.

OK

Trunk lid key cylinder switch is OK.

GI

MA

EM

LC

EC

FE

CL

MT

NG

B

CHECK TRUNK LID KEY CYLINDER SWITCH (UNLOCK SWITCH).

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

NG

Replace trunk lid key cylinder switch.

AT

FA

RA

Terminals	Condition	Continuity
① - ③	Neutral	No
	Between unlocked and neutral	Yes
	Unlocked	No

OK

Check the following.

- Trunk lid key cylinder switch ground circuit
- Harness for open or short between trunk lid key cylinder switch and BCM

BR

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BT

HA

EL

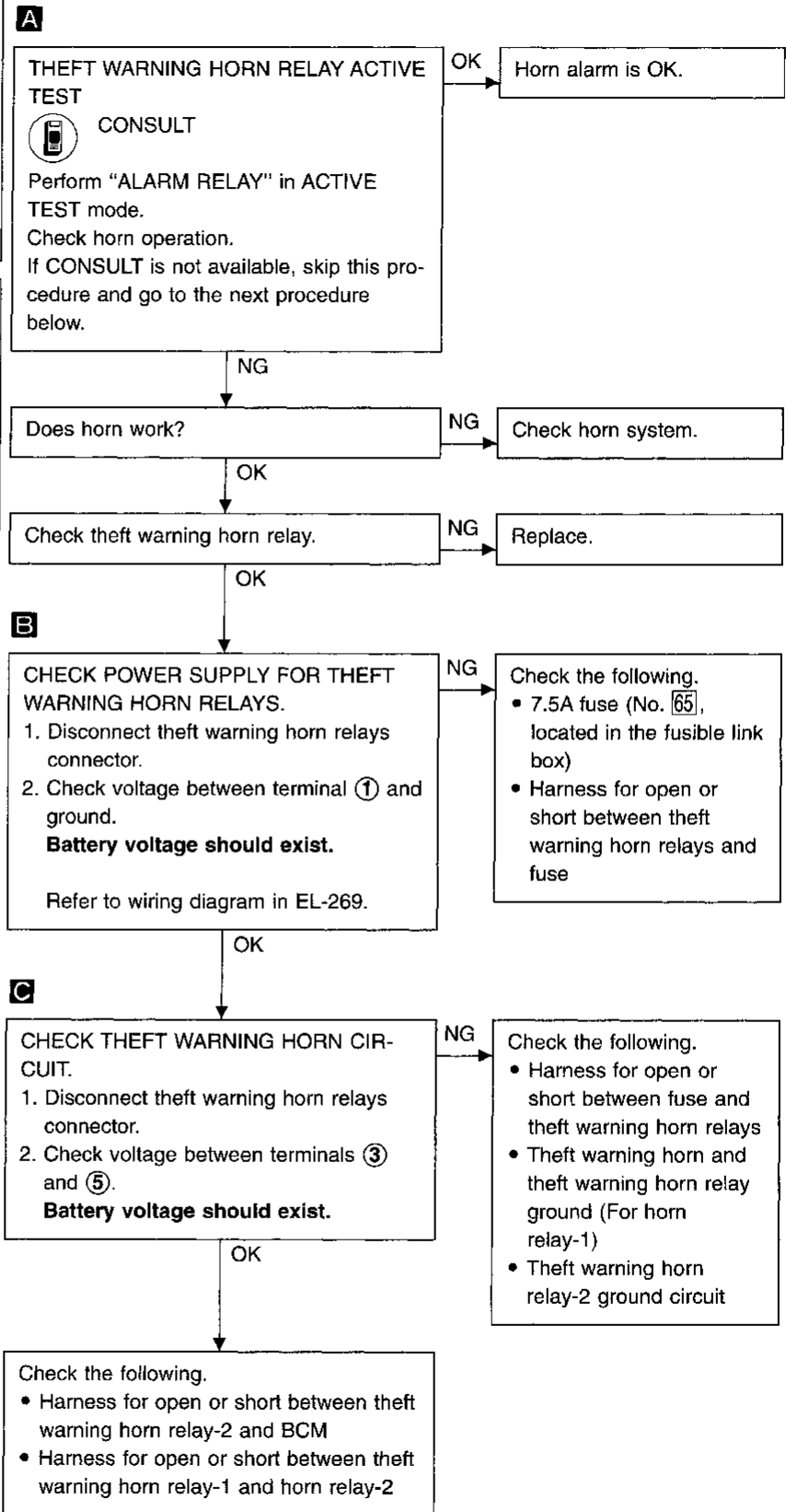
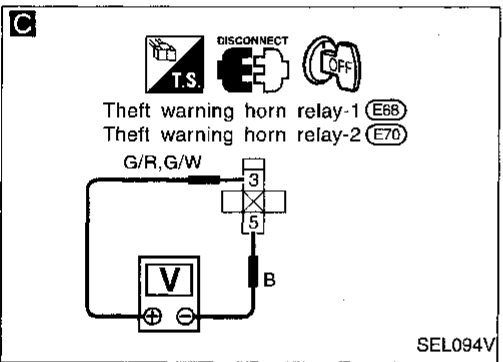
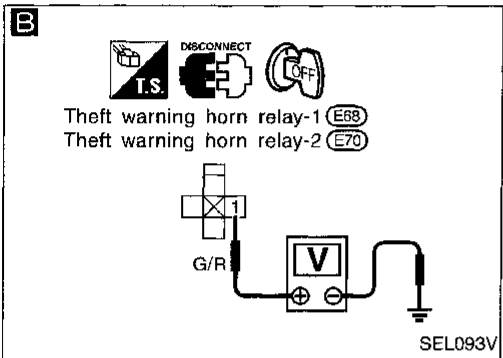
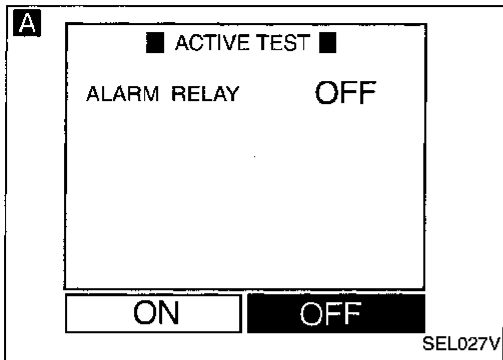
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THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

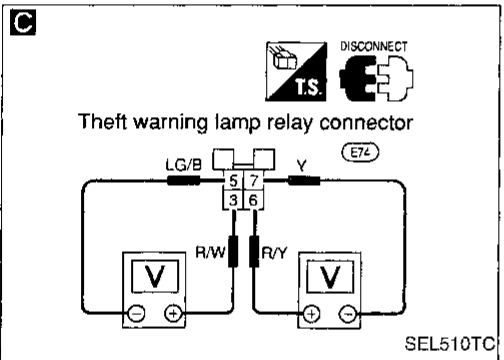
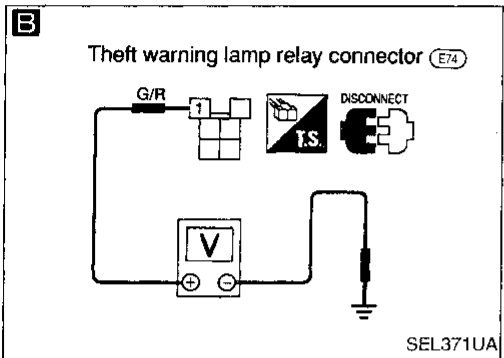
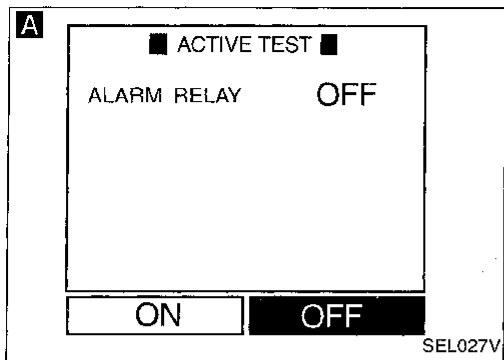
(Theft warning horn alarm check)



Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

(Headlamp alarm check)



A

THEFT WARNING HEADLAMP RELAY ACTIVE TEST CONSULT

Perform "ALARM RELAY" in ACTIVE TEST mode.

Check headlamp operation.

If CONSULT is not available, skip this procedure and go to the next procedure below.

OK → Headlamp alarm is OK.

NG

Check theft warning lamp relay.

NG → Replace.

OK

B

CHECK POWER SUPPLY FOR THEFT WARNING LAMP RELAY.

1. Disconnect theft warning lamp relay connector.
2. Check voltage between terminal ① and ground.

Battery voltage should exist.

Refer to wiring diagram in EL-268.

NG → Check the following.

- 7.5A fuse (No. 65, located in fusible link box)
- Harness for open or short between theft warning lamp relay and fuse

OK

C

CHECK THEFT WARNING LAMP RELAY CIRCUIT.

1. Disconnect theft warning lamp relay connector.
2. Check voltage between terminals ③ and ⑤.
3. Check voltage between terminals ⑥ and ⑦.

Battery voltage should exist.

NG → Check harness for open or short.

OK

Check harness for open or short between BCM and theft warning lamp relay.

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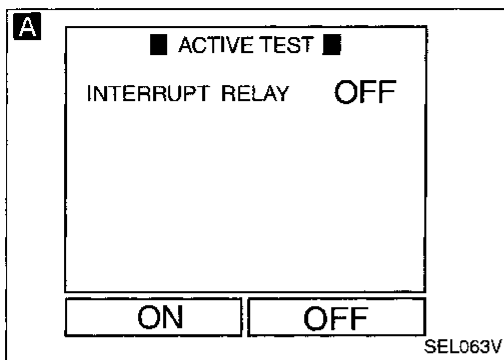
IDX

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

(Starter interrupt system check)



A

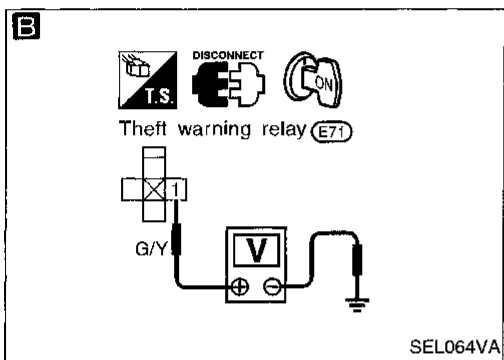
Perform "INTERRUPT RELAY" in ACTIVE TEST mode.
Check theft warning relay operation. (Listen for relay operating sound.)
If CONSULT is not available, skip this procedure and go to the next procedure below.

OK → Starter interrupt system is OK.

NG

Check theft warning relay. NG → Replace.

OK



B

CHECK POWER SUPPLY FOR STARTER INTERRUPT RELAY.

1. Disconnect theft warning relay connector.
2. Check voltage between theft warning relay terminal ① and ground.
Battery voltage should exist.

Refer to wiring diagram in EL-267.

NG → Check the following.

- 10A fuse (No. 17, located in fuse block)
- Harness for open or short between theft warning relay and fuse

OK

Check harness for open or short between theft warning relay and BCM.

System Description

Power is supplied at all times

- to lighting switch terminal ①
- through 15A fuse (No. 66, located in the fuse and fusible link box).

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

- to BCM terminal ③
- through lighting switch terminal ② and
- 7.5A fuse [No. 5, located in the fuse block (J/B)].

Terminal ① of the power window switch illumination (located in the rear LH and RH door control units) is connected to BCM terminals ① or ② by DATA LINE A-1 or A-2 respectively.

When power is supplied to BCM, BCM sends a signal to rear LH and RH door control units to turn on power window switch illumination. Power and ground are supplied to power window switch illumination, then power window switch illumination turns on.

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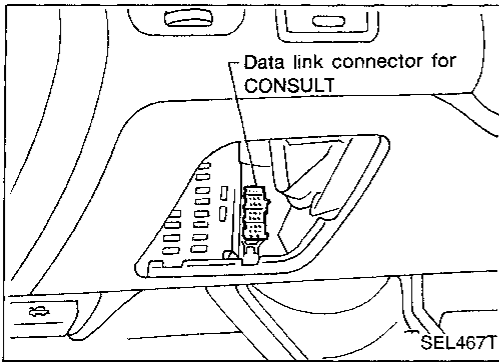
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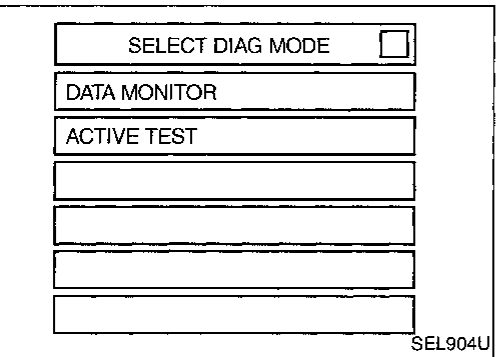
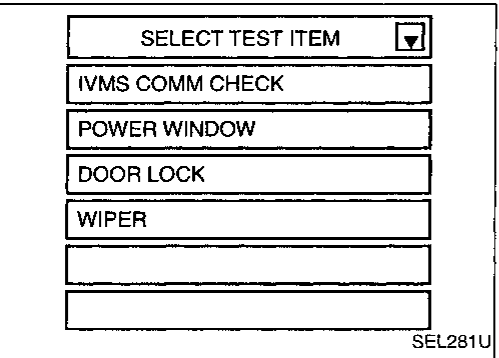
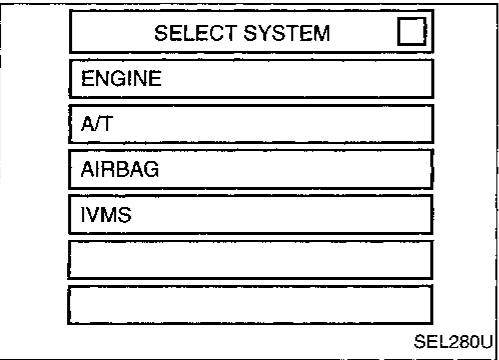
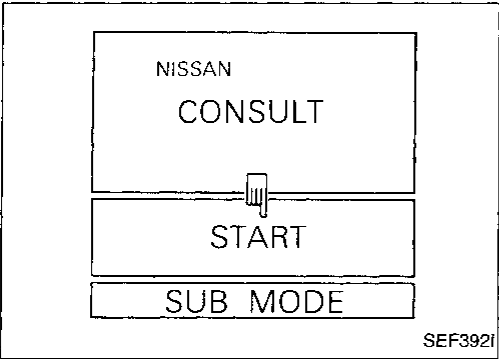


Trouble Diagnoses

CONSULT

CONSULT inspection procedure

1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "IVMS".

6. Touch "ILLUM LAMP".

- DATA MONITOR and ACTIVE TEST are available for the illumination.

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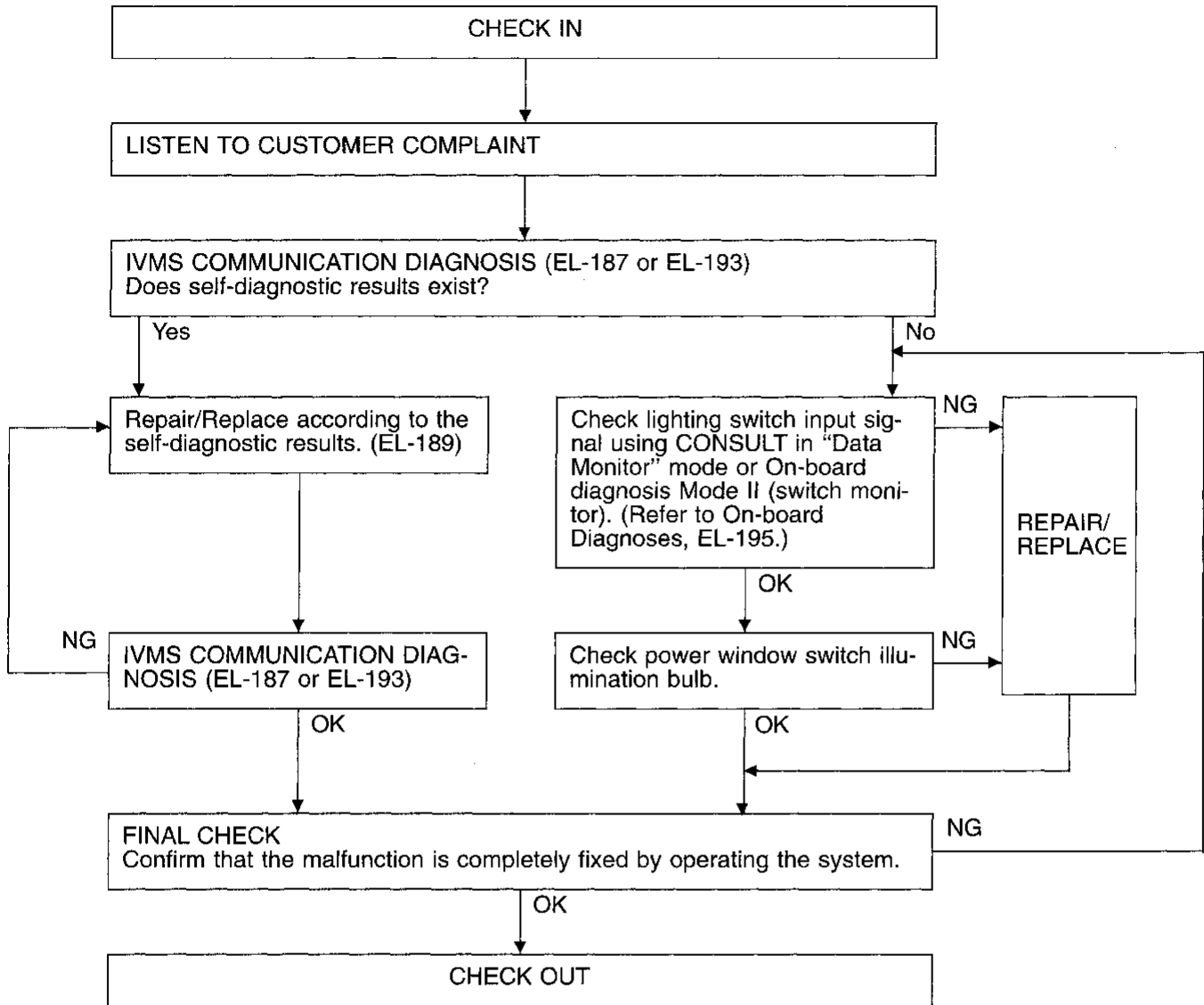
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Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or remove turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

System Description

INTERIOR LAMP, IGNITION KEYHOLE ILLUMINATION TIMER CONTROL

Function

Interior lamp timer keeps interior lamp and ignition keyhole illuminated for about 30 seconds when:

- driver's door is unlocked while key is out of ignition,
- key is withdrawn from ignition key cylinder while driver's door is closed, and
- key is withdrawn from ignition key cylinder and driver's door is opened and then closed.

The timer is cancelled, and interior lamp and ignition keyhole illumination turn off when:

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

Power supply and ground

Power is supplied at all times

- through 7.5A fuse [No. 26], located in the fuse block (J/B)]
- to interior lamp terminal ①,
- to ignition keyhole illumination terminal ①.

Power is also supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B)]
- to key switch terminal ①.

With 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 BCM terminal 27.

Driver door control unit (LCU01) terminal ① is connected to BCM terminal ⑫ by DATA LINE A-1.

Ground is supplied to driver door control unit terminal ④

- through front driver side door lock actuator (unlock sensor) terminals ② and ④ when front door lock actuator is in UNLOCK position
- through body grounds M13 and M73.

Timer operation

Driver's door is unlocked, driver's door is opened and then closed or key is withdrawn from ignition key cylinder.

Ground is then supplied to interior lamp terminal ② and ignition key hole illumination terminal ② to illuminate.

While timer is activated, ignition switch is turned ON or driver's door is locked. Timer will then be canceled.

INTERIOR LAMP ON-OFF CONTROL

Power is supplied at all times

- through 7.5A fuse [No. 26], located in the fuse block (J/B)]
- to interior lamp terminal ①.

BCM terminal 35 is grounded when any door switch is in OPEN position.

When the front driver side door switch, front passenger side door switch, rear LH door switch or rear RH door switch is in OPEN position, interior lamp turns on.

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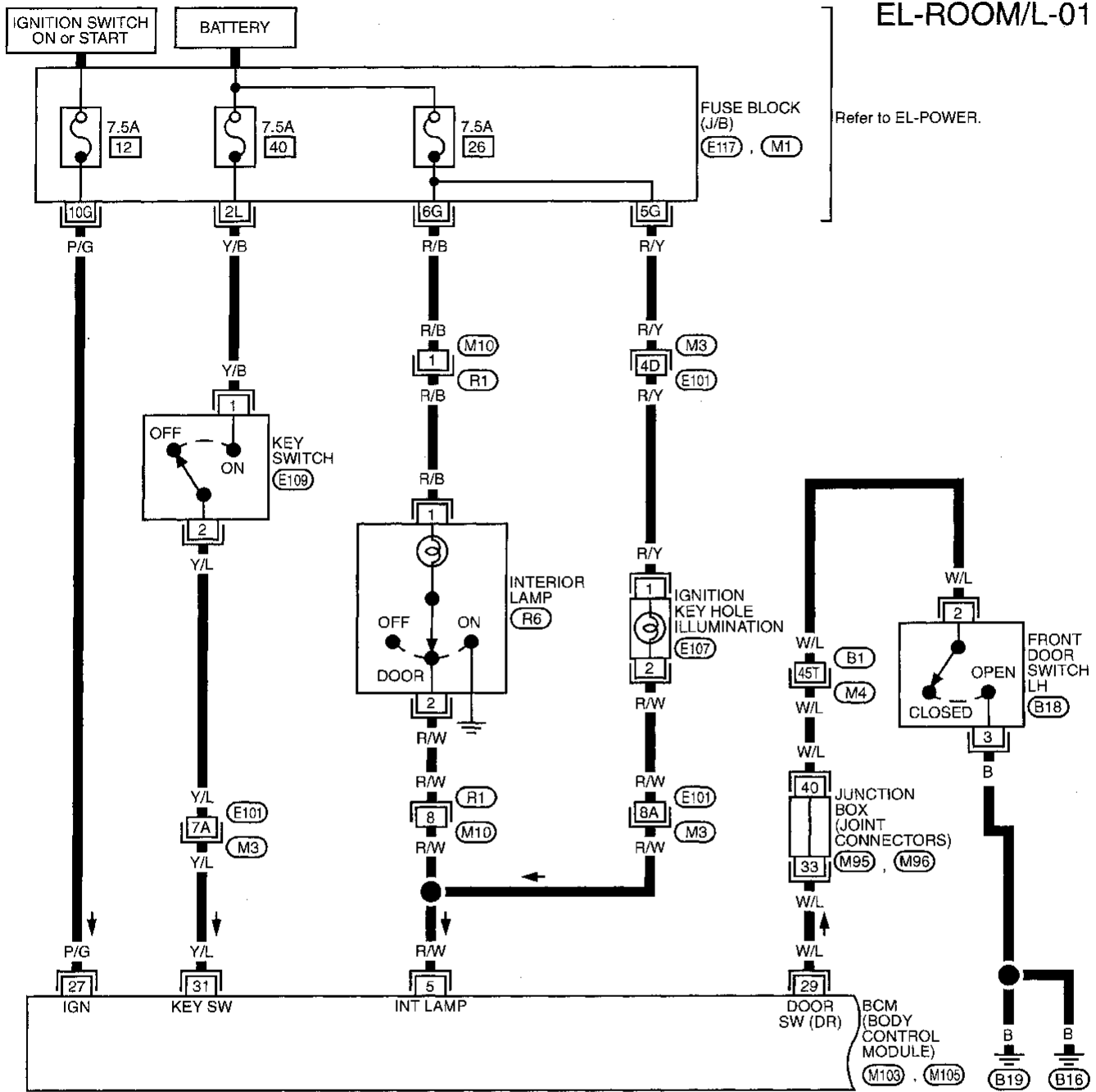
EL

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INTERIOR LAMP CONTROL — IVMS

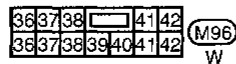
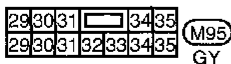
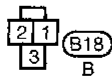
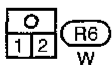
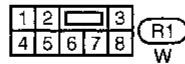
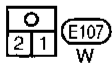
Wiring Diagram — ROOM/L —

EL-ROOM/L-01



Refer to EL-POWER.

Refer to last page (Foldout page).

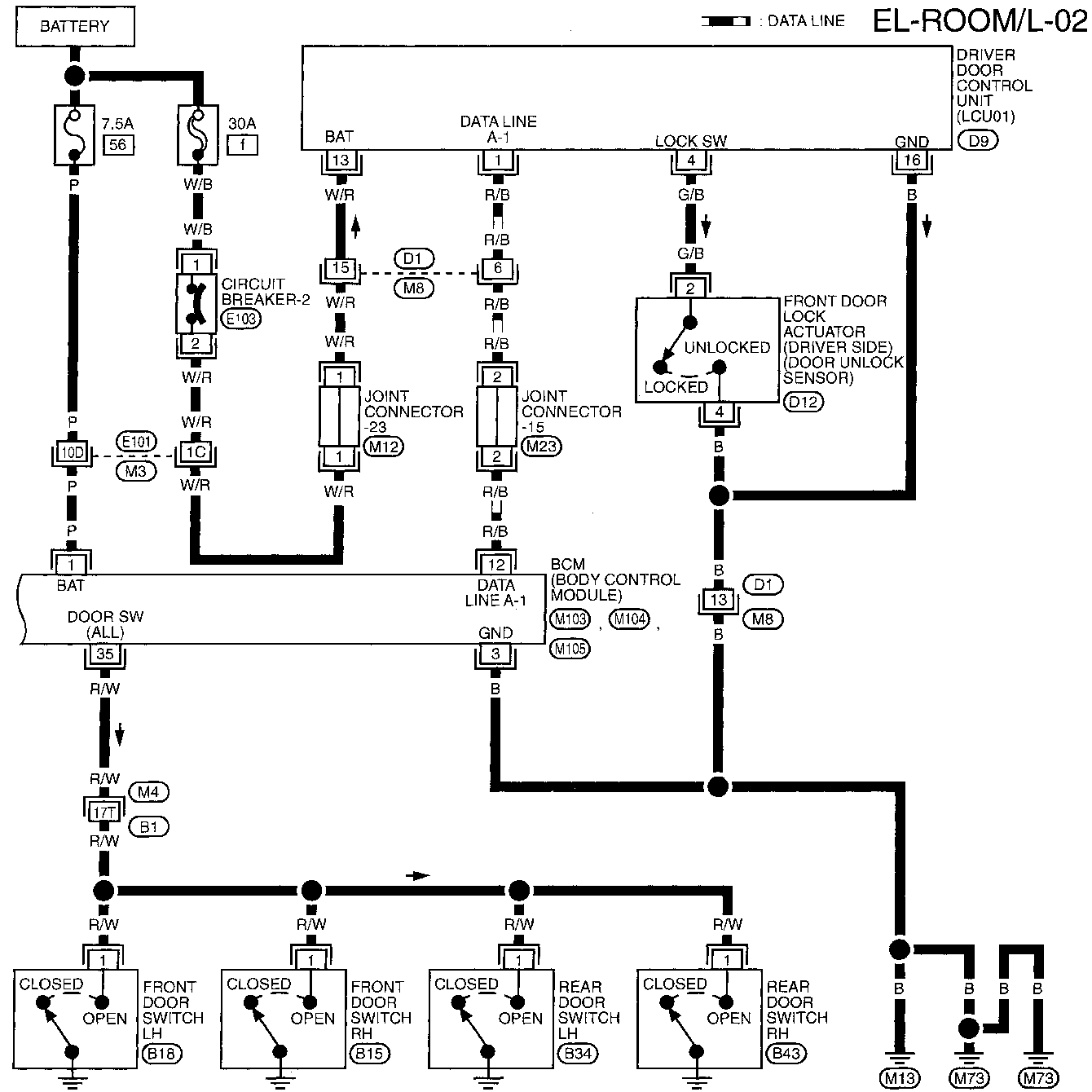


- (M3), (E101)
- (M4), (B1)
- (M1)
- (E117)
- (M95)
- (M96)
- (M103)
- (M105)

INTERIOR LAMP CONTROL — IVMS

Wiring Diagram — ROOM/L — (Cont'd)

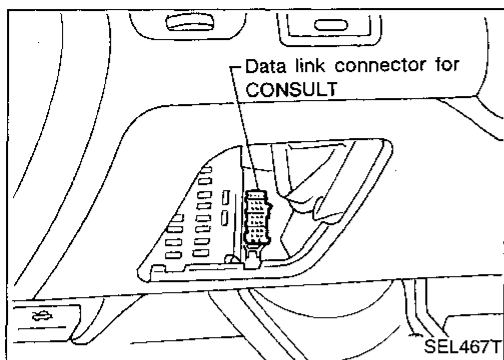
EL-ROOM/L-02



Refer to last page (Foldout page).

- (M3), (E101)
- (M4), (B1)
- (M103)
- (M104)
- (M105)
- (M12)
- (M23)

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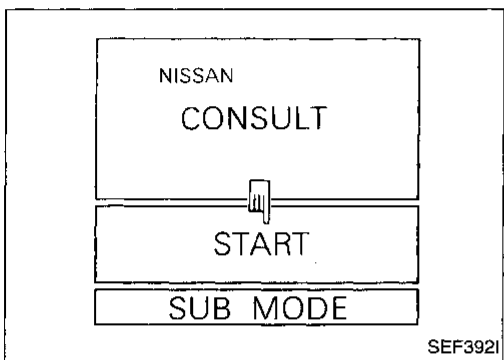


Trouble Diagnoses

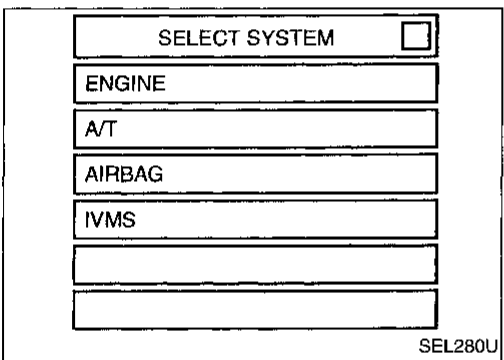
CONSULT

CONSULT inspection procedure

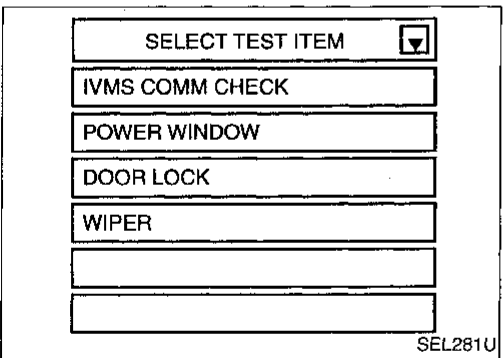
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.



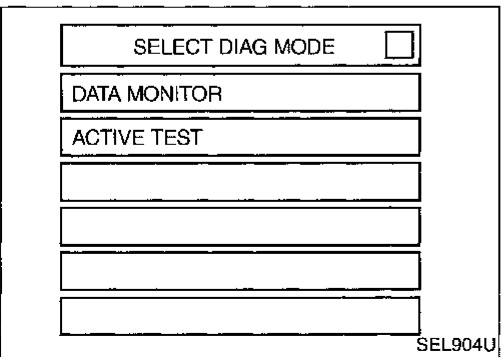
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "IVMS".



6. Touch "ROOM LAMP TIMER".

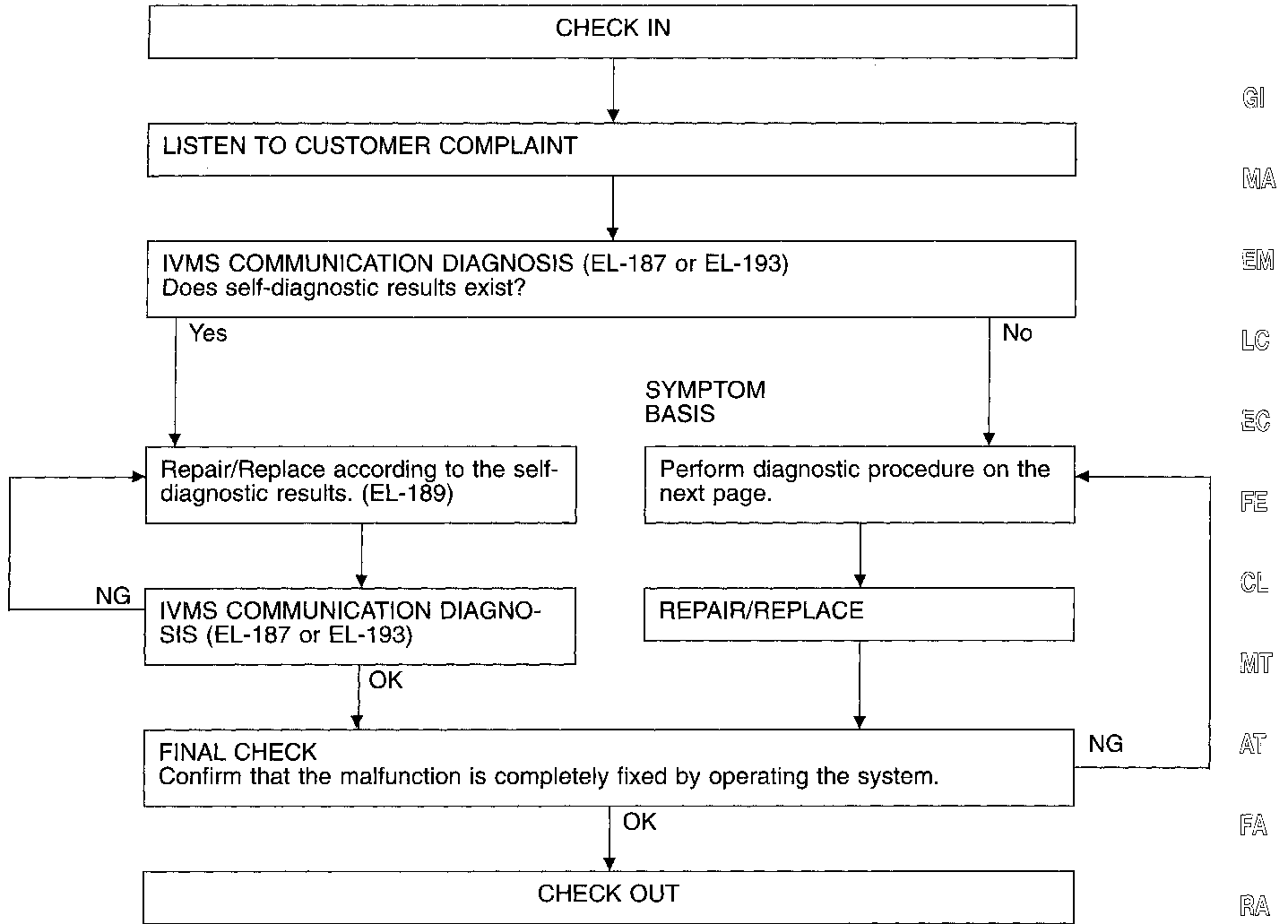


- DATA MONITOR and ACTIVE TEST are available for the interior lamp control.

INTERIOR LAMP CONTROL — IVMS

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

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INTERIOR LAMP CONTROL — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

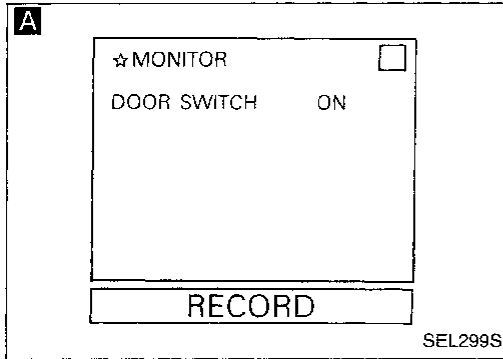
SYMPTOM: Interior lamp does not illuminate/does not turn off when door is opened/closed.

Does interior lamp illuminate manually? NG

OK

Check the following.

- Bulb
- 7.5A fuse (No. 26), located in the fuse block)
- Interior lamp switch



A

CHECK DOOR SWITCH INPUT SIGNAL. NG

CONSULT

See "DOOR SWITCH" in "Data Monitor" mode.

When all doors are closed:
DOOR SWITCH OFF

When at least one door is open:
DOOR SWITCH ON

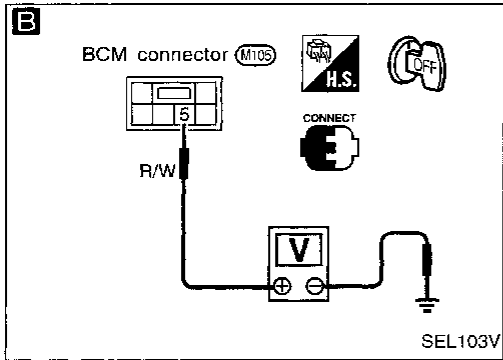
OR

ON-BOARD

Perform On-board diagnosis — Mode II (switch monitor) for all door switches. Refer to EL-195.

Check the following.

- All door switches
- Door switch ground condition
- Harness for open or short between door switch and BCM



OK

B

CHECK INTERIOR LAMP SIGNAL. NG

1. Turn interior lamp switch to DOOR (center) position.
2. Check voltage between BCM terminal ⑤ and ground.

Condition of interior lamp switch	Voltage (V)
All doors are closed.	Approx. 12
At least one door is open.	0

Check harness for open or short between BCM and interior lamp.

OK

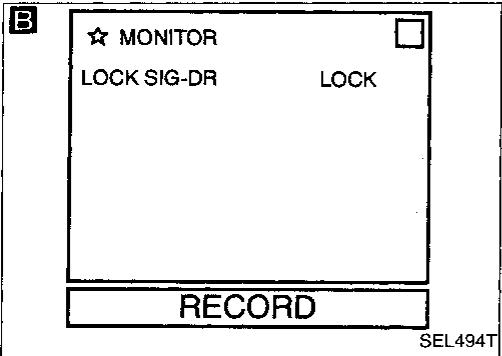
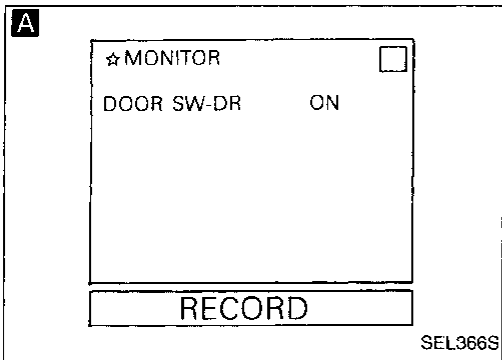
Replace BCM.

INTERIOR LAMP CONTROL — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Interior lamp timer does not operate/does not cancel when driver's door is locked, ignition switch is turned ON, key is inserted into/removed from ignition key cylinder.



A

CHECK DRIVER SIDE DOOR SWITCH INPUT SIGNAL.

CONSULT

See "DOOR SW-DR" in "Data Monitor" mode.

When driver's door is open:
DOOR SW-DR ON

When driver's door is closed:
DOOR SW-DR OFF

OR

ON-BOARD

Perform On-board diagnosis — Mode II (switch monitor) for door switch (driver side). Refer to EL-195.

- NG
- Check the following.
- Driver door switch
 - Driver door switch ground circuit
 - Harness for open or short between door switch and BCM

B

CHECK DRIVER SIDE DOOR UNLOCK SENSOR INPUT SIGNAL.

CONSULT

See "LOCK SIG-DR" in "Data Monitor" mode.

When driver's door is locked:
LOCK SIG-DR LOCK

When driver's door is unlocked:
LOCK SIG-DR UNLK

OR

ON-BOARD

Perform On-board diagnosis — Mode II (switch monitor) for door lock switch (driver side). Refer to EL-195.

- OK
- Check the following.
- Driver door unlock sensor
 - Driver door unlock sensor ground circuit
 - Harness for open or short between door unlock sensor and LCU

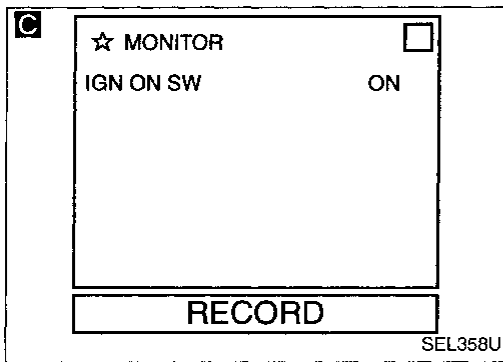
NG

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INTERIOR LAMP CONTROL — IVMS

Trouble Diagnoses (Cont'd)



A

CHECK IGNITION ON INPUT SIGNAL.

C CONSULT

See "IGN ON SW" in "Data Monitor" mode.

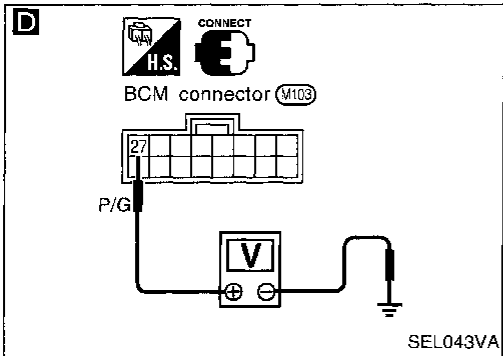
When ignition switch is ON:
IGN ON SW ON

When ignition switch is ACC or OFF:
IGN ON SW OFF

NG

Check the following.

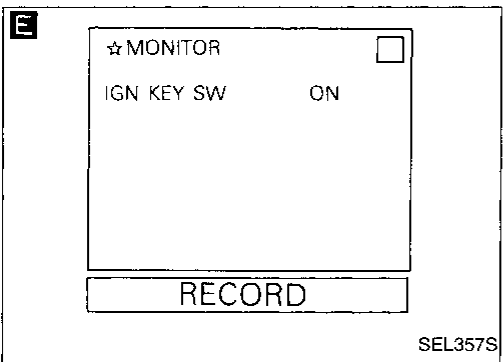
- 7.5A fuse (No. **12**, located in the fuse block)
- Harness for open or short between fuse and BCM



D TESTER

Check voltage between BCM terminal **27** and ground.

Condition of ignition switch	Voltage [V]
ON	Approx. 12
ACC or OFF	0



CHECK KEY SWITCH INPUT SIGNAL.

E CONSULT

See "IGN KEY SW" in "Data Monitor" mode.

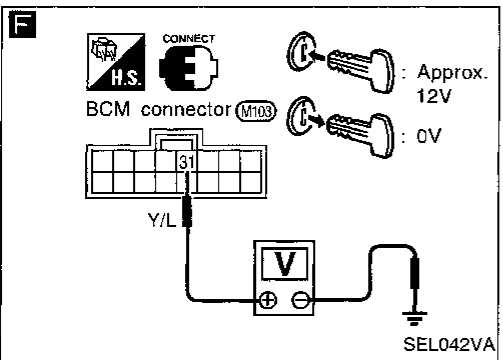
When key is in ignition:
IGN KEY SW ON

When key is out of ignition:
IGN KEY SW OFF

NG

Check the following.

- 7.5A fuse [No. **40**, located in the fuse block (J/B)]
- Key switch (insert)
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch



F TESTER

Check voltage between BCM terminal **31** and ground.

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

OK

Replace BCM.

System Description

Power is supplied at all times

- to BCM terminal ①
- through 7.5A fuse (No. 56), located in the fuse and fusible link box).

Power is supplied at all times

- to front step lamp LH and RH terminals ①
- through 7.5A fuse [No. 26], located in the fuse block (J/B)].

Ground is supplied to terminal ①6 of LCU01 and LCU02 through body grounds M13 and M73.

BCM is connected to LCU01 and LCU02 as DATA LINE A-1 or A-2.

BCM terminal ②1 is grounded when any door switch is in OPEN position.

When the driver door switch, passenger door switch, rear RH door switch, or rear LH door switch is in OPEN position, BCM sends a signal to driver and passenger door control units to turn on front LH and RH step lamps.

With power and ground supplied, front step lamps turn on.

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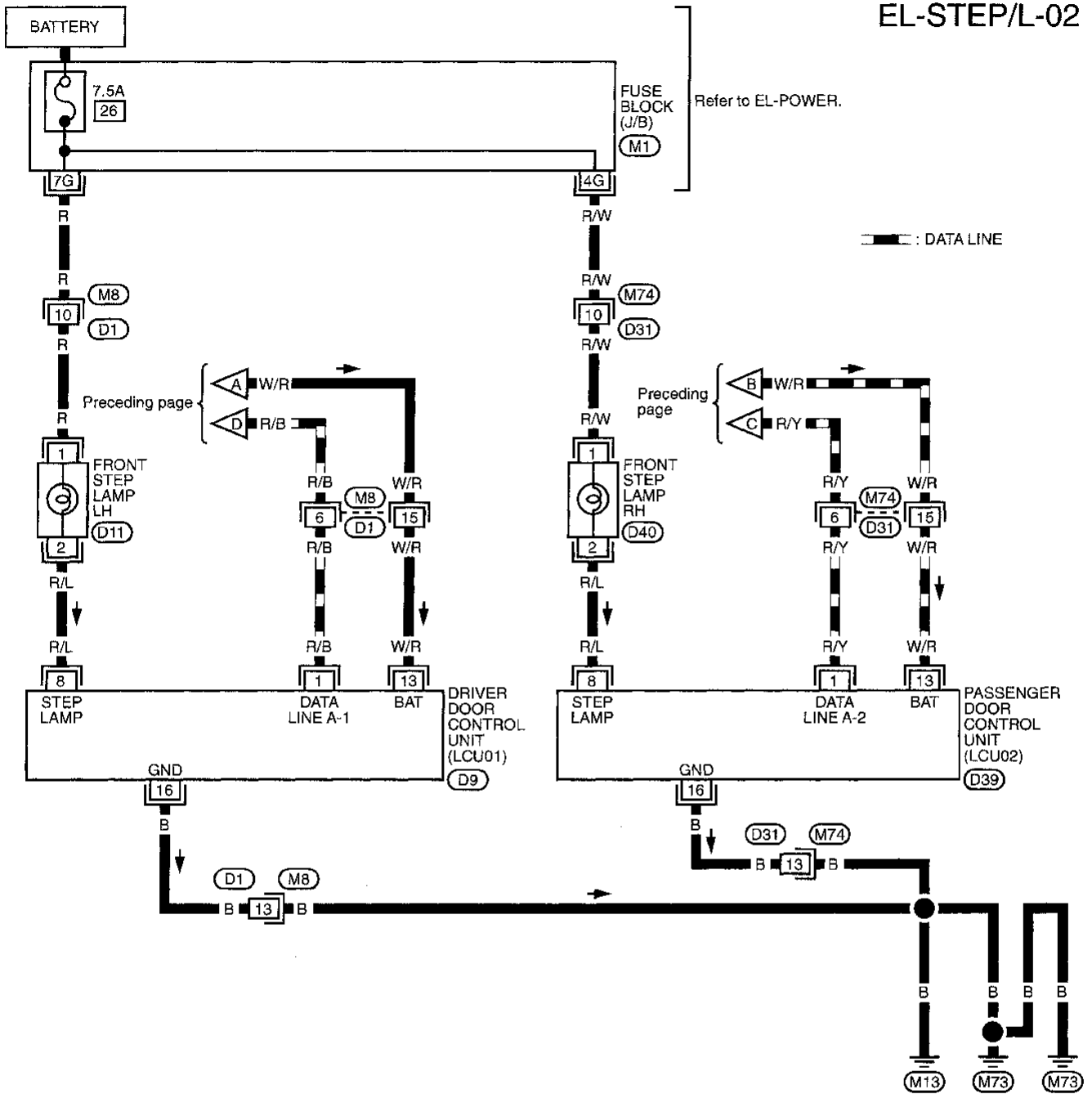
EL

IDX

STEP LAMP — IVMS

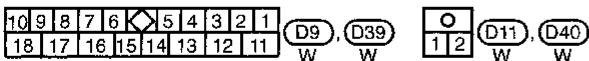
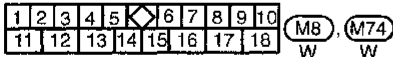
Wiring Diagram — STEP/L — (Cont'd)

EL-STEP/L-02

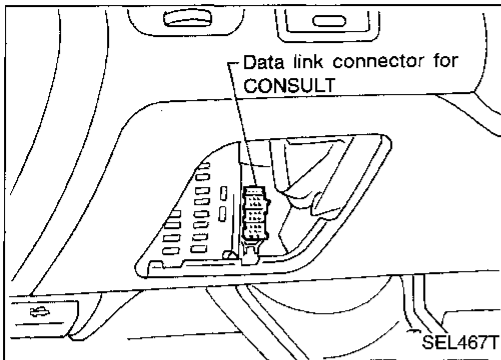


Refer to last page (Foldout page).

(M1)



STEP LAMP — IVMS

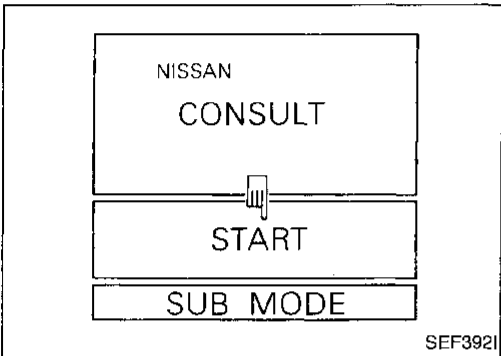


Trouble Diagnoses

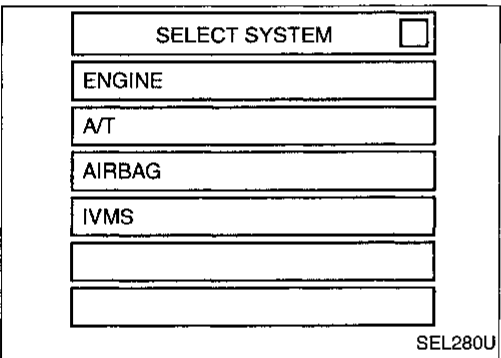
CONSULT

CONSULT inspection procedure

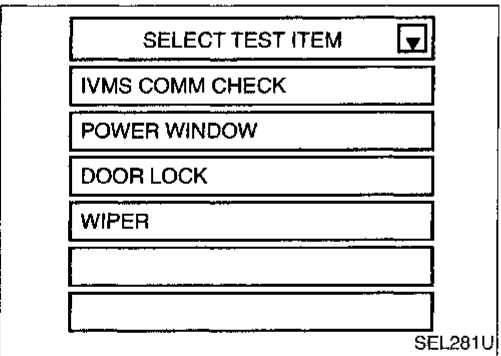
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.



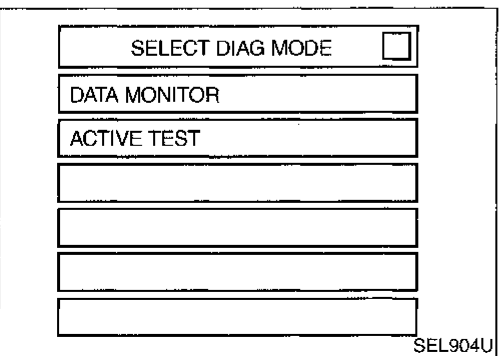
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "IVMS".



6. Touch "STEP LAMP".

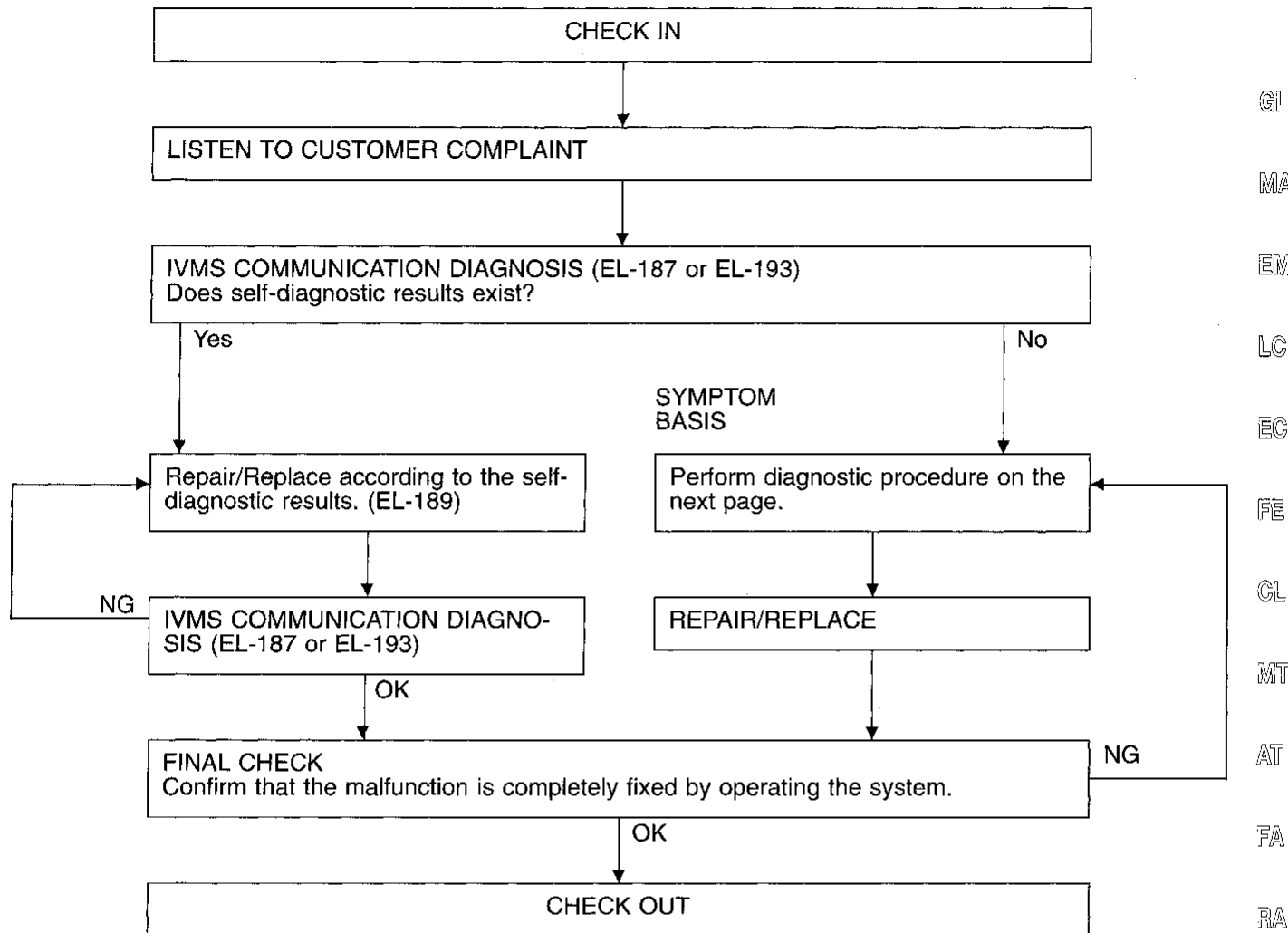


- DATA MONITOR and ACTIVE TEST are available for the step lamp.

STEP LAMP — IVMS

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTICE:

- When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, after reconnecting the LCU connectors, erase the memory.
- To erase the memory, perform the procedure below.
Erase the memory with CONSULT (refer to EL-187) or turn the ignition switch to “OFF” position and remove 7.5A fuse (No. 56) located in the fuse and fusible link box).

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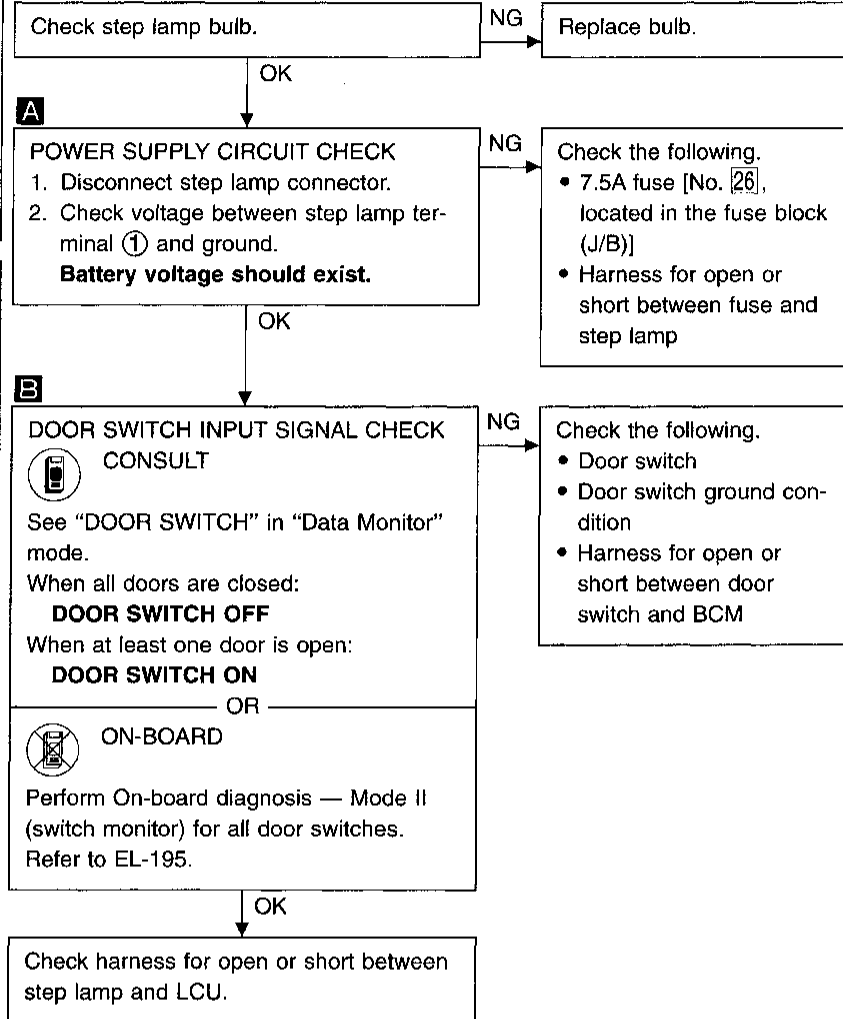
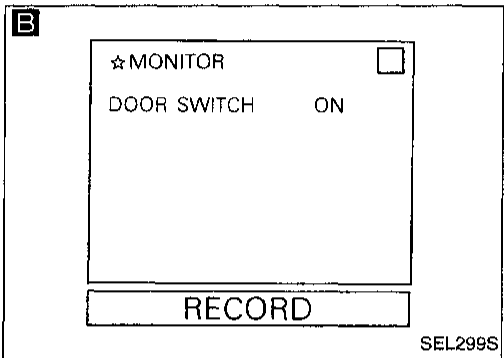
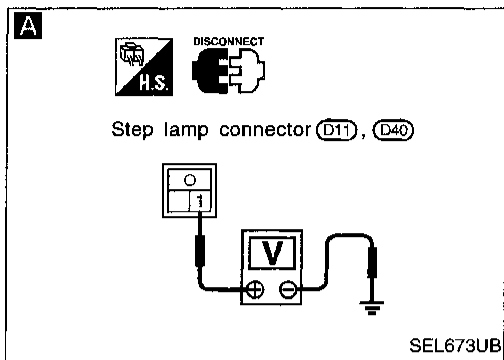
IDX

STEP LAMP — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE

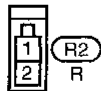
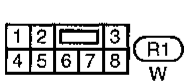
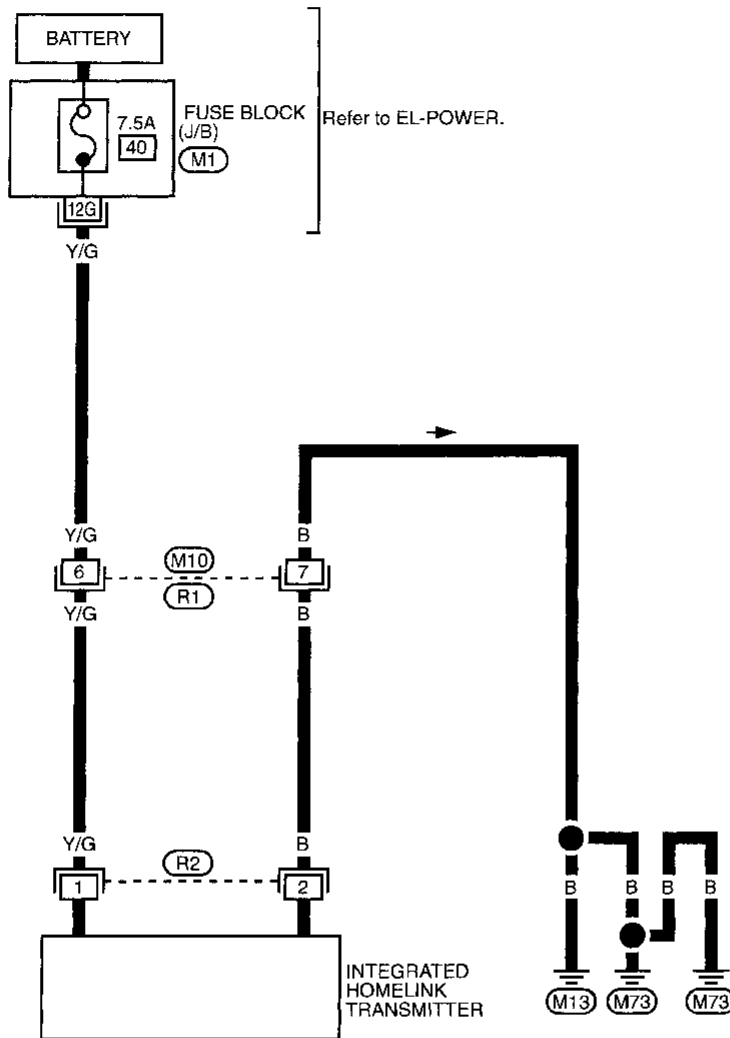
SYMPTOM: Step lamp does not illuminate/does not go off when door is opened/closed.



INTEGRATED HOMELINK TRANSMITTER

Wiring Diagram — TRNSMT —

EL-TRNSMT-01



Refer to last page (Foldout page).

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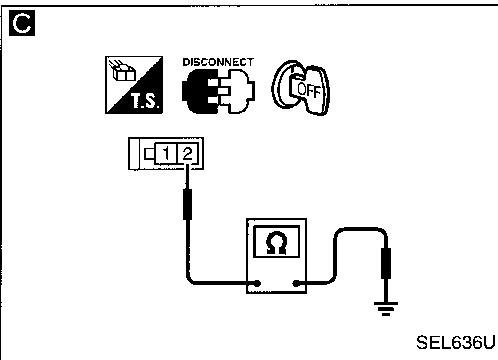
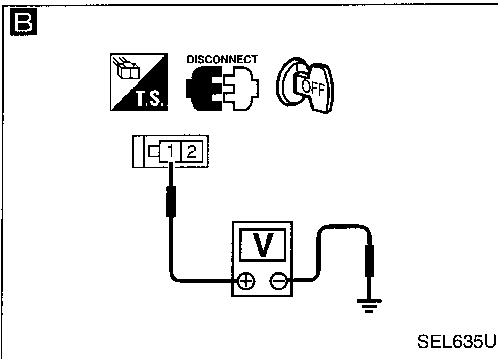
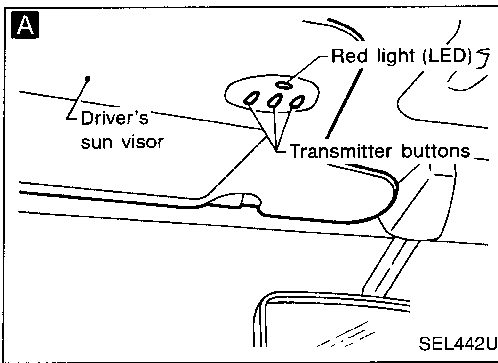
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INTEGRATED HOMELINK TRANSMITTER

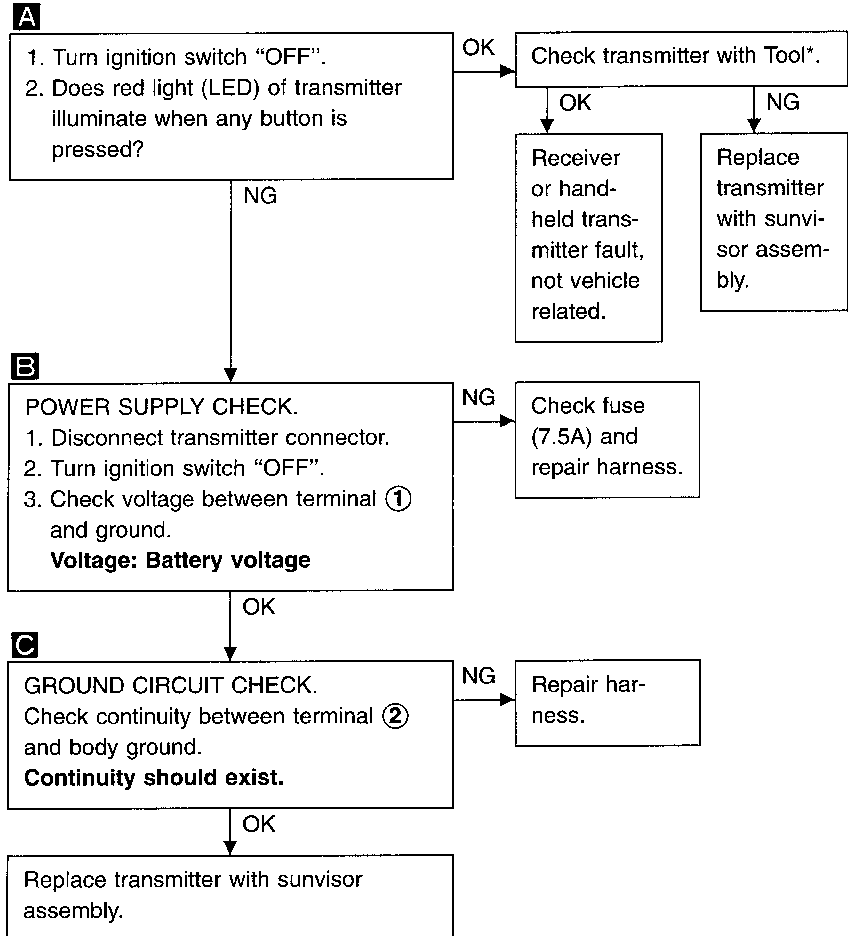


Trouble Diagnoses

DIAGNOSTIC PROCEDURE

SYMPTOM: Transmitter does not activate receiver.

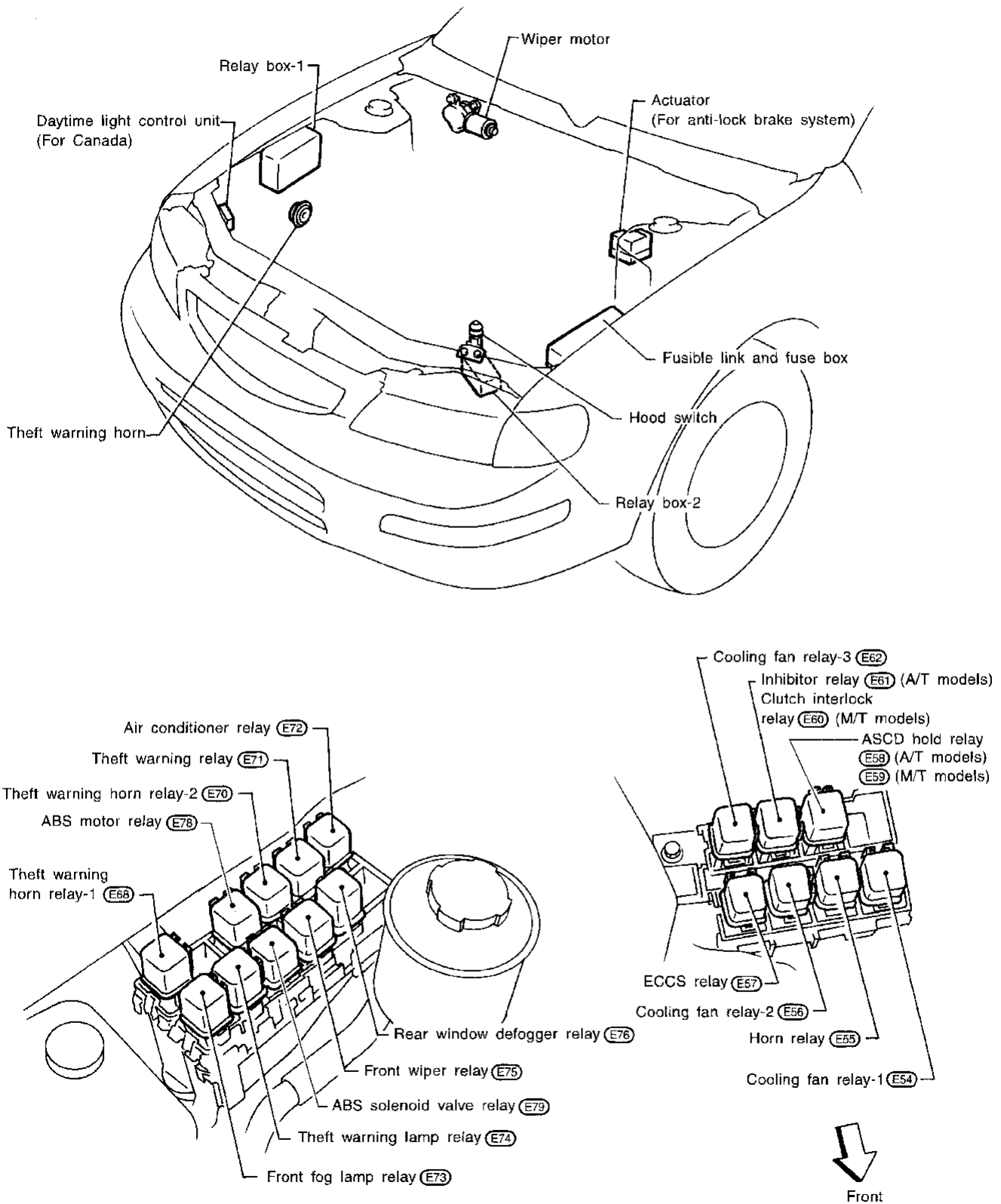
Before conducting the procedure given below, make sure that system receiver (garage door opener, etc.) operates with original, hand-held transmitter. If NG, receiver or hand-held transmitter is at fault, not vehicle related.



*For details, refer to Technical Service Bulletin.

LOCATION OF ELECTRICAL UNITS

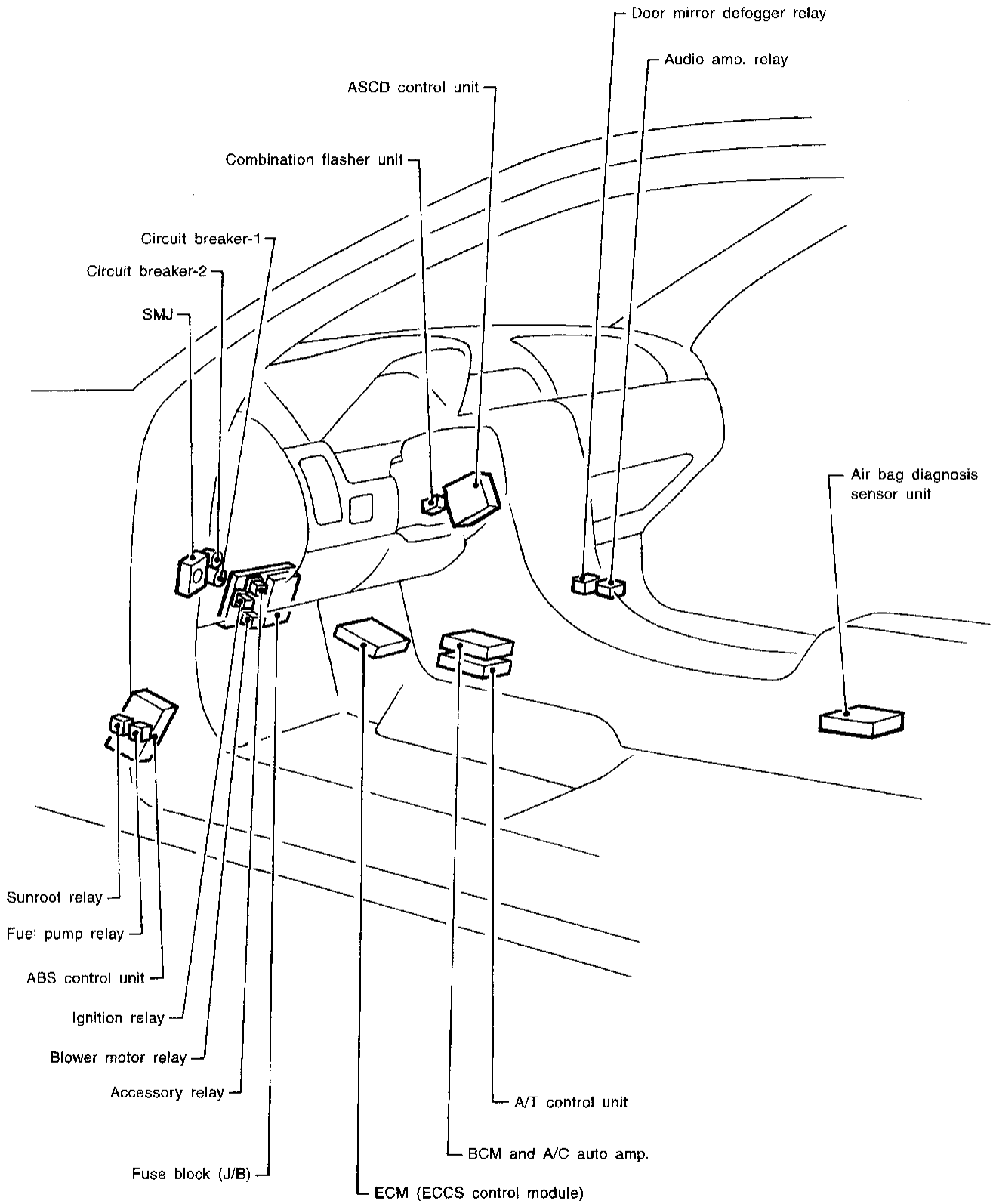
Engine Compartment



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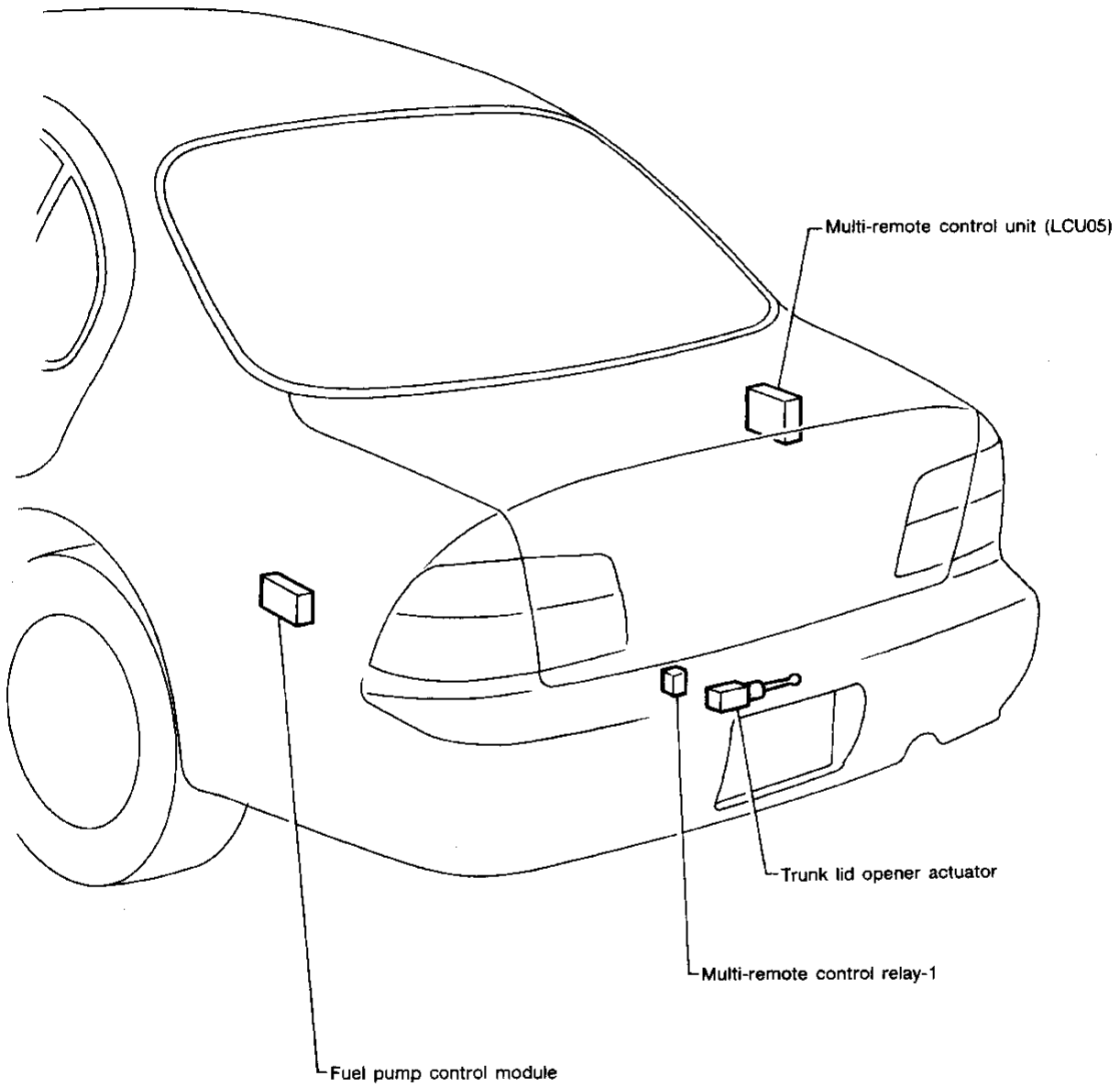
LOCATION OF ELECTRICAL UNITS

Passenger Compartment



LOCATION OF ELECTRICAL UNITS

Luggage Compartment



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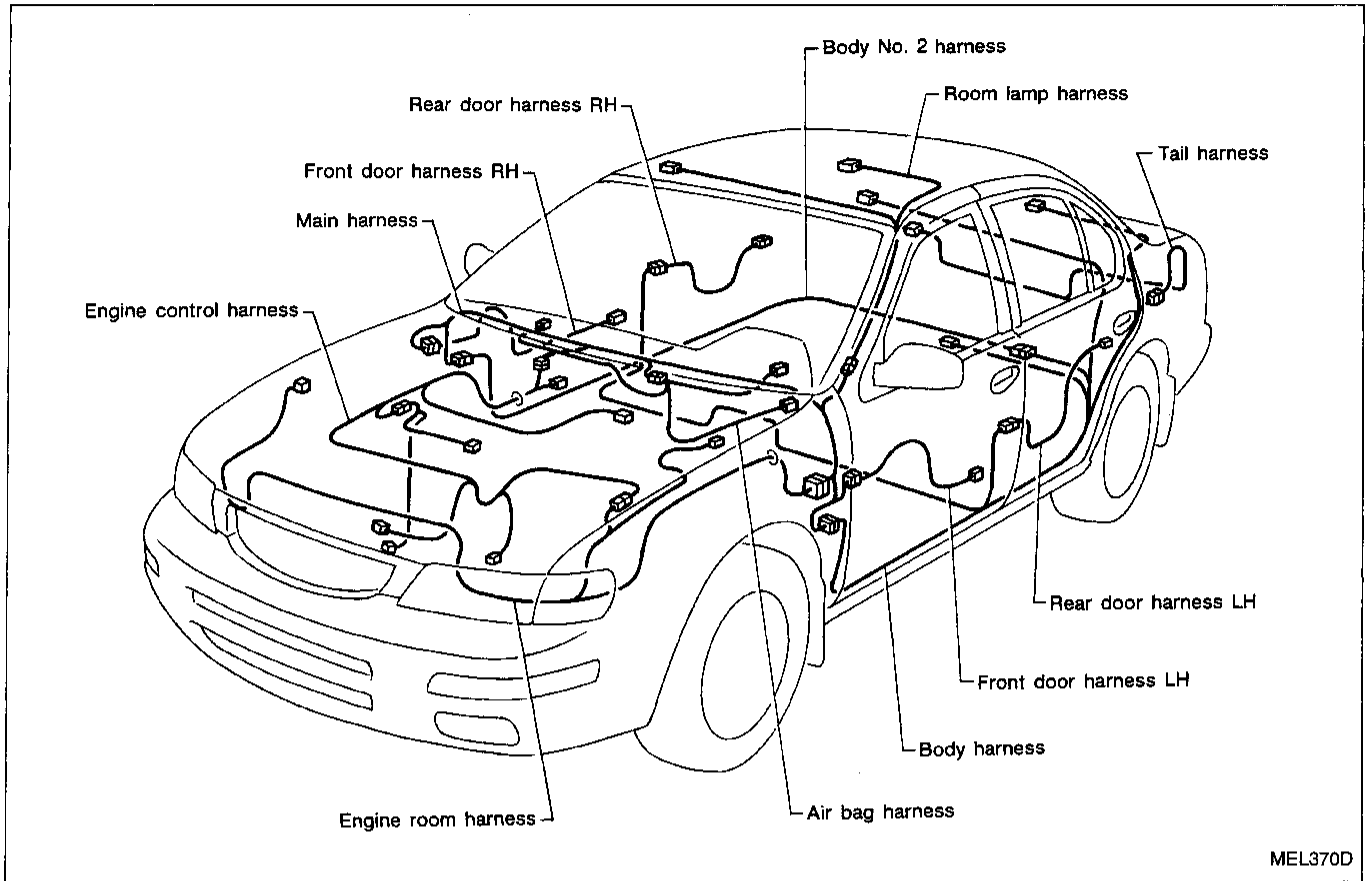
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LOCATION OF ELECTRICAL UNITS

NOTE

HARNESS LAYOUT

Outline



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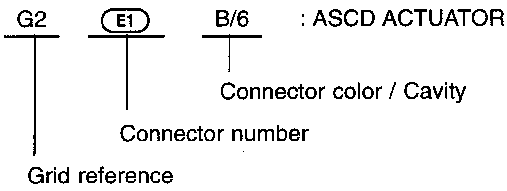
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HARNES LAYOUT

How to Read Harness Layout

Example:



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

- Engine Room Harness (Engine Compartment)
- Main Harness
- Engine Control Harness
- Body Harness

To use the grid reference

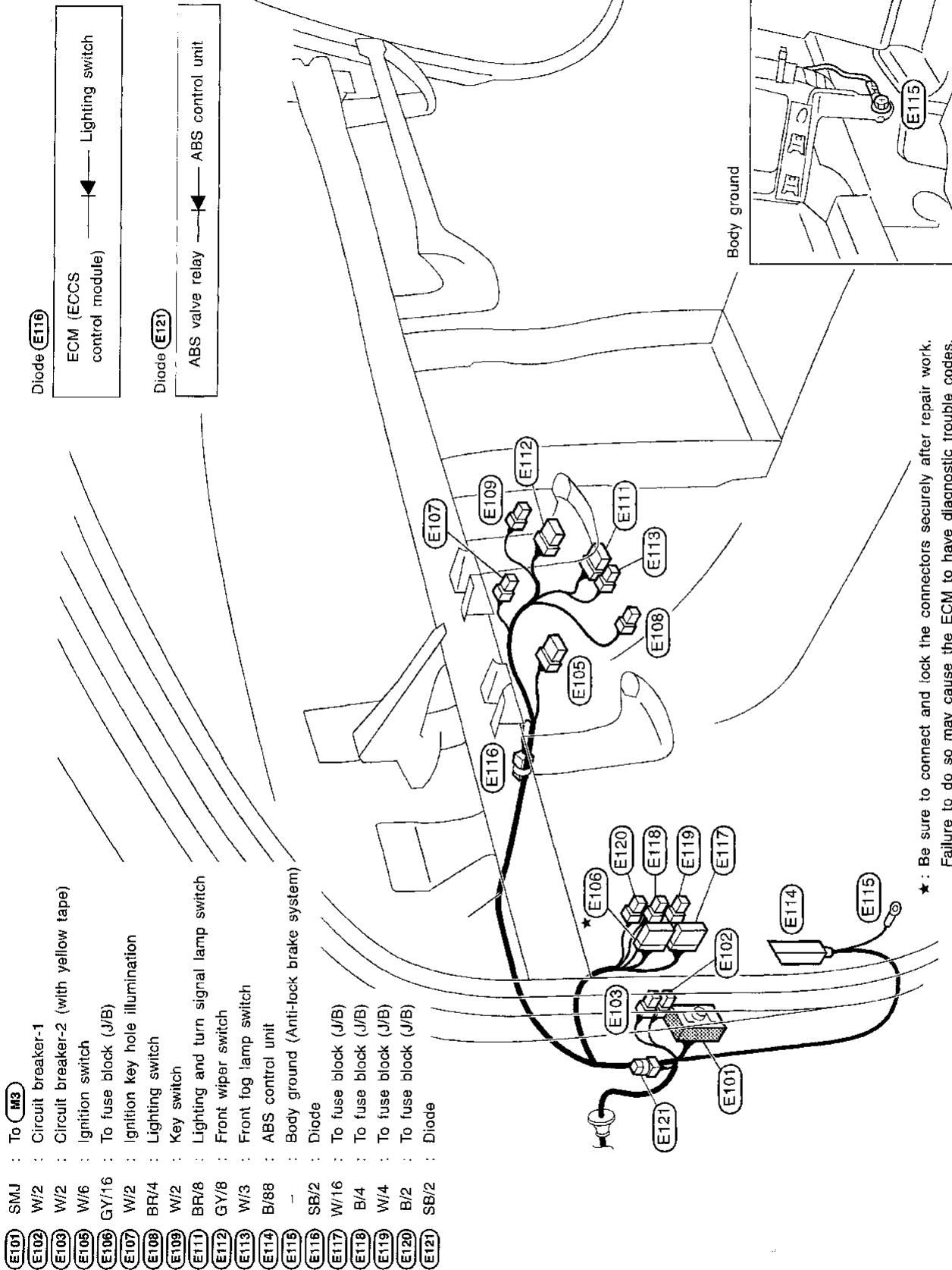
- 1) Find the desired connector number on the connector list.
- 2) Find the grid reference.
- 3) On the drawing, find the crossing of the grid reference letter column and number row.
- 4) Find the connector number in the crossing zone.
- 5) Follow the line (if used) to the connector.

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"> • Cavity: Less than 4 • Relay connector 				
<ul style="list-style-type: none"> • Cavity: From 5 to 8 				
<ul style="list-style-type: none"> • Cavity: More than 9 	—	—		
<ul style="list-style-type: none"> • Ground terminal etc. 	—			

Engine Room Harness

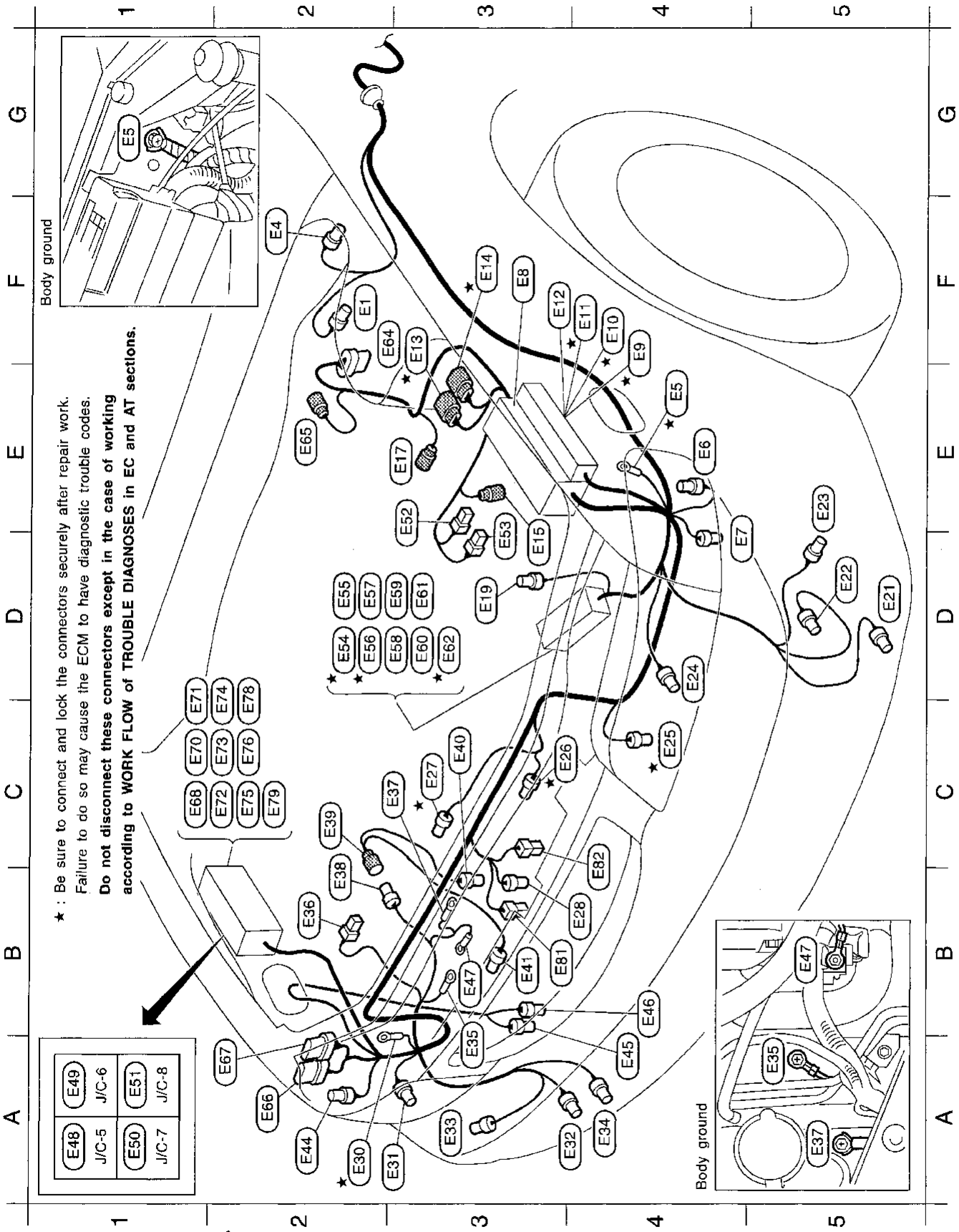


★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

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HARNES LAYOUT

Engine Room Harness (Cont'd)



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 Do not disconnect these connectors except in the case of working
 according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

E48	E49
J/C-5	J/C-6
E50	E51
J/C-7	J/C-8

HARNESS LAYOUT

Engine Room Harness (Cont'd)

F2	(E1)	GY/2	: Brake fluid level switch	D3	(E53)	B/1	: Battery
F2	(E4)	GY/4	: ASCD pump	D2*	(E54)	L/4	: Cooling fan relay-1
E4*	(E5)	-	: Body ground	D2	(E55)	W/3	: Horn relay
E4	(E6)	GY/2	: Parking lamp LH	D2*	(E56)	BR/6	: Cooling fan relay-2
D4	(E7)	GY/3	: To front fog lamp harness (For optional)	D2	(E57)	L/4	: ECCS relay
F3	(E8)	-	: Fuse and fusible link box	D3	(E58)	BR/6	: ASCD hold relay (A/T models)
E4*	(E9)	W/6	: Joint connector-1 (White)	D3	(E59)	L/4	: ASCD hold relay (M/T models)
F4*	(E10)	W/6	: Joint connector-2 (White)	D3	(E60)	L/4	: Clutch interlock relay
F4*	(E11)	GY/6	: Joint connector-3 (Gray)	D3	(E61)	GY/6	: Inhibitor relay
F3	(E12)	GY/6	: Joint connector-4 (Gray)	D3*	(E62)	BR/6	: Cooling fan relay-3
F3*	(E13)	BR/8	: To (F36)	F2	(E64)	GY/8	: ABS control actuator
F3*	(E14)	B/8	: To (F37)	E2	(E65)	W/2	: ABS control actuator
D3	(E15)	GY/1	: Starter motor	A2	(E66)	GY/6	: Daytime light control unit (For Canada)
E3	(E17)	BR/2	: Front wheel sensor LH (Anti-lock brake system)	A2	(E67)	GY/8	: Daytime light control unit (For Canada)
D3	(E19)	GY/2	: Hood switch (Theft warning system)	C1	(E68)	L/4	: Theft warning horn relay-1
D5	(E21)	GY/2	: Front fog lamp LH	C1	(E70)	L/4	: Theft warning horn relay-2
D5	(E22)	BR/2	: Front turn signal lamp LH	C1	(E71)	B/5	: Theft warning relay
E5	(E23)	GY/2	: Front side marker lamp LH	C2	(E72)	L/4	: Air conditioner relay
D4	(E24)	B/3	: Headlamp LH	C2	(E73)	L/4	: Front fog lamp relay
C4*	(E25)	B/4	: Triple-pressure switch	C2	(E74)	BR/6	: Theft warning lamp relay
C4*	(E26)	GY/4	: Cooling fan motor-1	C2	(E75)	B/5	: Front wiper relay
C3*	(E27)	GY/4	: Cooling fan motor-2	C2	(E76)	BR/6	: Rear window defogger relay
B4	(E28)	B/2	: Ambient air temperature sensor	C2	(E78)	B/5	: ABS motor relay
A2*	(E30)	-	: Body ground	C2	(E79)	B/5	: ABS solenoid valve relay
A3	(E31)	B/3	: Headlamp RH	B3	(E81)	B/1	: Horn high
A4	(E32)	BR/2	: Front turn signal lamp RH	B3	(E82)	B/1	: Horn low
A3	(E33)	GY/2	: Front side marker lamp RH				
A4	(E34)	GY/2	: Front fog lamp RH				
A3	(E35)	-	: Body ground				
B2	(E36)	B/1	: Theft warning horn				
C2	(E37)	-	: Alternator				
B2	(E38)	GY/4	: To (E39)				
C2	(E39)	GY/4	: To (E38)				
C3	(E40)	GY/4	: Alternator				
B3	(E41)	B/1	: Compressor (Air conditioner)				
A2	(E44)	GY/2	: Parking lamp RH				
A4	(E45)	BR/2	: Washer level switch				
B4	(E46)	GY/2	: Front washer motor				
B3	(E47)	-	: Alternator				
A1	(E48)	W/6	: Joint connector-5 (White)				
A1	(E49)	W/6	: Joint connector-6 (White)				
A1	(E50)	W/6	: Joint connector-7 (White)				
A1	(E51)	GY/6	: Joint connector-8 (Gray)				
E3	(E52)	B/1	: Battery				

Relay box-1
(Refer to
"LOCATION OF ELECTRICAL UNITS".)

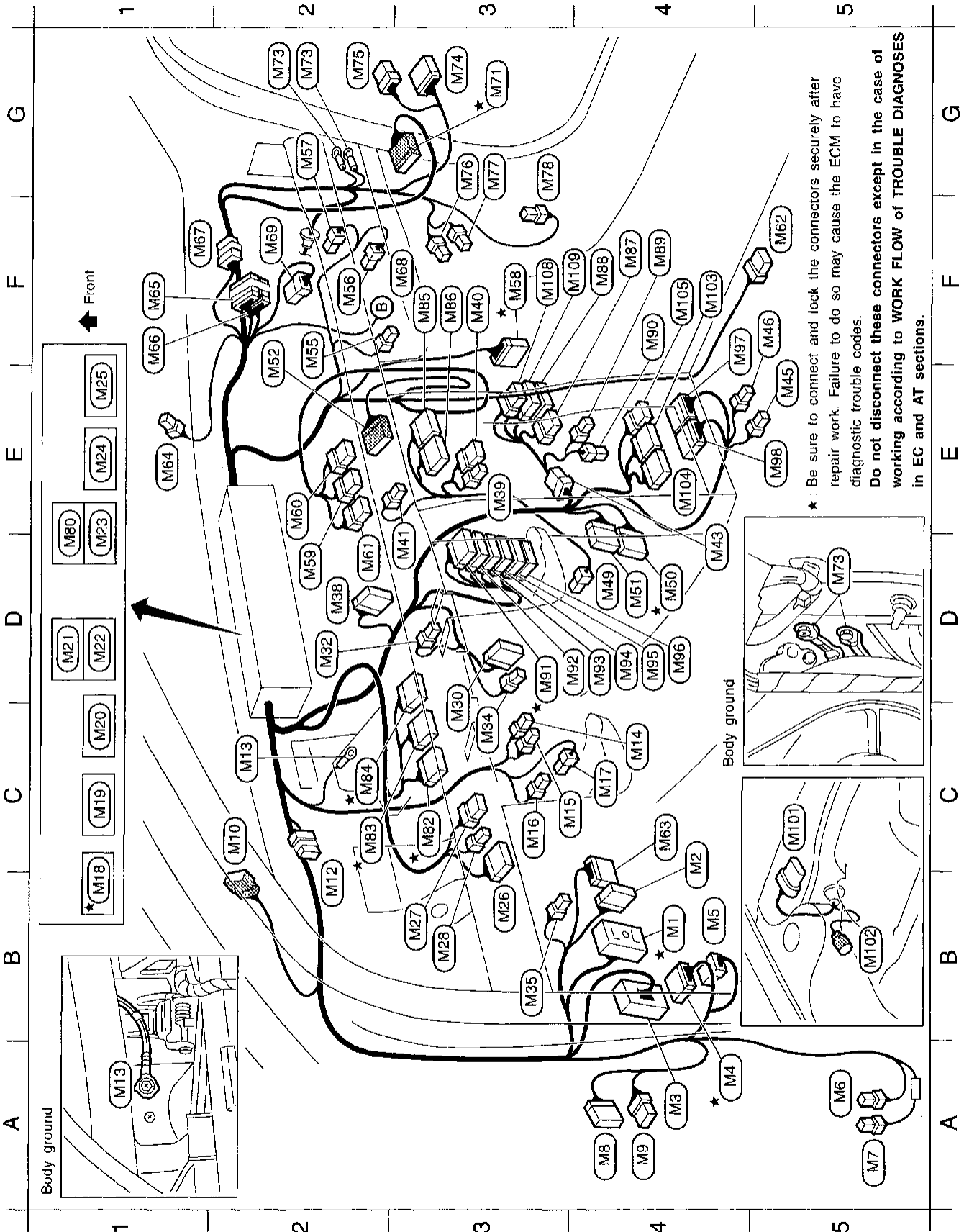
Relay box-2
(Refer to
"LOCATION OF ELECTRICAL UNITS".)

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HARNESS LAYOUT

Main Harness



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Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNES LAYOUT

Main Harness (Cont'd)

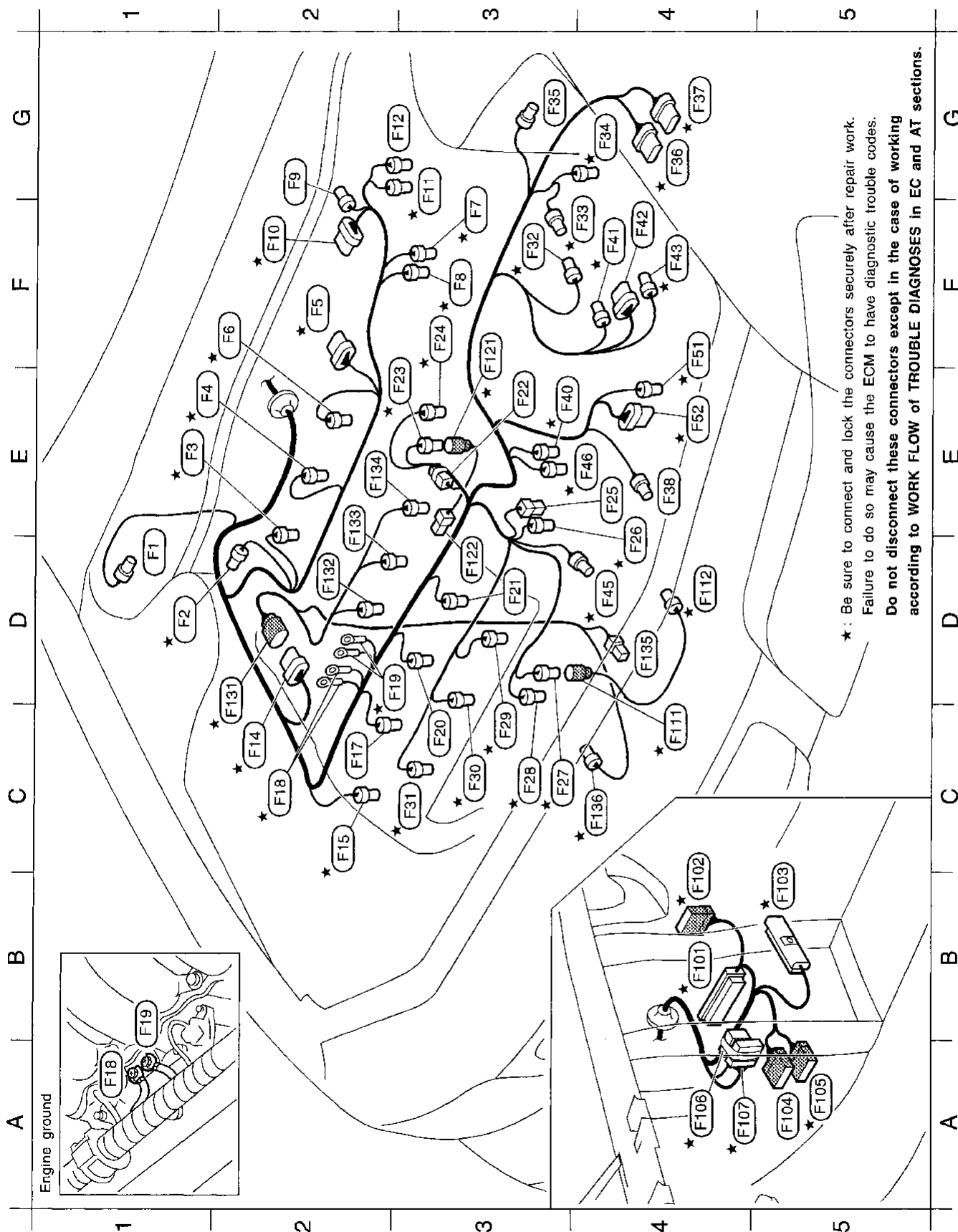
B4* (M1) C4 (M2) A4 (M3) A4* (M4) B4 (M5) A5 (M6) A5 (M7) A4 (M8) A4 (M9) C2 (M10) B2 (M11) C2 (M13) C4 (M14) C4 (M15) C3 (M16) C4 (M17) C1* (M18) C1 (M19) C1 (M20) D1 (M21) D1 (M22) D1 (M23) E1 (M24) E1 (M25) B3 (M26) B3 (M27) B3 (M28) B3 (M30) D2 (M32) C3 (M34) B3 (M35) D2 (M38) F3 (M39) F3 (M40) D3 (M41) E4 (M43) E5 (M45) F5 (M46) D4 (M49) D4* (M50) D4 (M51) F2 (M52) F3 (M55) F2 (M56)	: Fuse block (J/B) : Data link connector for CONSULT : To (E101) : To (B1) : To (B2) : Fuel pump relay : Sunroof relay (with yellow tape) : To (D1) : To (D2) : To (R1) : Joint connector-23 (Gray) : Body ground : ASCD brake switch : Stop lamp switch : Clutch interlock switch (M/T models) : ASCD clutch switch : Joint connector-10 (Green) : Joint connector-11 (White) : Joint connector-12 (White) : Joint connector-13 (Gray) : Joint connector-14 (White) : Joint connector-15 (Blue) : Joint connector-16 (Sky blue-Diode) : Joint connector-17 (White) : Door mirror remote control switch : ASCD main switch : Security indicator lamp : ASCD control unit : Illumination control switch : Combination flasher unit : Warning buzzer : Mode door motor : Fan switch (Manual A/C) : Push control unit (Auto A/C) : In-vehicle sensor : Joint connector-18 (White) : Cigarette lighter : Ashtray illumination : Air mix door motor : To (F105) : To (F104) : To (Z1) : Glove box lamp switch : Short connector (Manual A/C)	W/4 : Fan control amp. GY/16 : To (F102) BR/6 : Clock W/6 : Rear window defogger switch W/8 : Hazard switch W/6 : A/T device W/16 : Data link connector for GST B/2 : Sunload sensor L/12 : Joint connector-19 (Blue) W/6 : Joint connector-20 (White) W/6 : Joint connector-21 (White) Bulb : Glove box lamp W/8 : Intake door motor GY/16 : To (E102) - : Body ground W/10 : To (D31) GY/6 : To (D32) W/2 : Blower motor BR/4 : Fan resistor (Manual A/C) L/4 : Door mirror defogger relay SB/6 : Joint connector-22 (Sky blue-Diode) W/16 : Combination meter BR/16 : Combination meter W/14 : Combination meter B/16 : Push control unit (Manual A/C) B/12 : Push control unit (Manual A/C) W/6 : Audio (Except for BOSE system) W/10 : Audio (Except for BOSE system) W/4 : CD player (Illumination) B/2 : CD player (Illumination) BR/12 : Joint connector (Brown) GY/12 : Joint connector (Gray) W/12 : Joint connector (White) BR/12 : Joint connector (Brown) GY/12 : Joint connector (Gray) W/12 : Joint connector (White) W/16 : A/C auto amp. (In BCM) W/20 : A/C auto amp. (In BCM) GY/6 : Front wiper motor	B5 (M102) GY/2 : Front wheel sensor RH (Anti-lock brake system) F4 (M103) GY/16 : BCM (Body control module) E4 (M104) GY/20 : BCM (Body control module) F4 (M105) W/6 : BCM (Body control module) F4 (M109) W/6 : Audio (BOSE system) F4 (M109) W/10 : Audio (BOSE system)	Diode (M24) Parking brake switch ———> Combination meter
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★ : 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

Engine Control Harness



* : Be sure to connect and lock the connectors securely after repair work.
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Do not disconnect these connectors except in the case of working
according to **WORK FLOW of TROUBLE DIAGNOSES** in EC and AT sections.

HARNESS LAYOUT

Engine Control Harness (Cont'd)

D1	(F1)	GY/2	: Power steering oil pressure switch
D1*	(F2)	GY/3	: Front heated oxygen sensor RH
E1*	(F3)	GY/3	: Ignition coil No.1
E1*	(F4)	GY/3	: Ignition coil No.3
F2*	(F5)	W/6	: Canister purge control valve
F2*	(F6)	GY/3	: Ignition coil No.5
F3*	(F7)	GY/3	: Throttle position switch
F3*	(F8)	BR/3	: Throttle position switch
G2	(F9)	R/2	: IACV-FICD solenoid valve-2
F2*	(F10)	W/6	: IACV-AAC valve
G3*	(F11)	BR/2	: EGR temperature sensor
G2	(F12)	PU/2	: IACV-FICD solenoid valve-1
C2*	(F14)	GY/8	: To (F131)
C2*	(F15)	GY/2	: Camshaft position sensor (PHASE)
C2	(F17)	B/2	: Injector No.2
C2*	(F18)	-	: Engine ground
D2*	(F19)	-	: Engine ground
C3	(F20)	B/2	: Injector No.4
D3	(F21)	B/2	: Injector No.6
E3	(F22)	GY/2	: Condenser
E3*	(F23)	B/2	: To (F121)
F3*	(F24)	G/2	: EGRC-solenoid valve
E4	(F25)	B/1	: Thermal transmitter
D4*	(F26)	GY/2	: Engine coolant temperature sensor
C3*	(F27)	B/4	: To (F111)
C3*	(F28)	GY/3	: Front heated oxygen sensor LH
C3*	(F29)	GY/3	: Ignition coil No.6
C3*	(F30)	GY/3	: Ignition coil No.4
C3*	(F31)	GY/3	: Ignition coil No.2
F3*	(F32)	GY/4	: Neutral and reverse position switch
F4*	(F33)	GY/3	: Mass air flow sensor
G4*	(F34)	GY/2	: Intake air temperature sensor
G3	(F35)	GY/2	: Dropping resistor
G4*	(F36)	BR/8	: To (E13)
G4*	(F37)	B/8	: To (E14)
E4	(F38)	BR/3	: Front engine mounting
E3*	(F40)	B/2	: EVAP canister purge control solenoid valve
F4*	(F41)	GY/2	: Revolution sensor (A/T models)
F4	(F42)	BR/8	: Terminal cord assembly (A/T models)
F4*	(F43)	GY/3	: Vehicle speed sensor
D4*	(F45)	GY/3	: Absolute pressure sensor
E4*	(F46)	BR/2	: MAP/BARO switch solenoid valve
F4*	(F51)	W/2	: Inhibitor switch
E4*	(F52)	GY/8	: Inhibitor switch

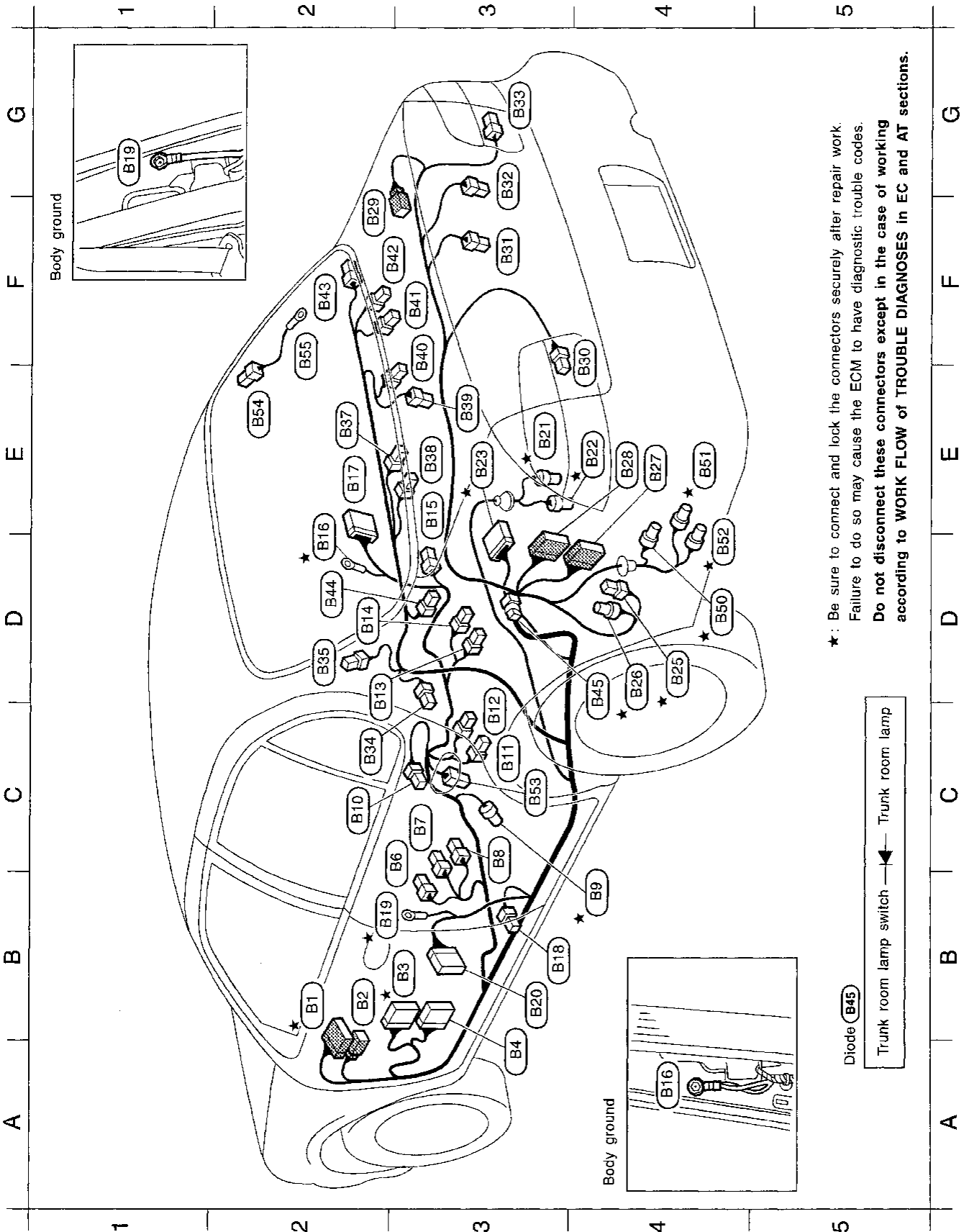
B4*	(F101)	GY/68	: ECM (ECCS control module)
C4*	(F102)	GY/16	: To (M5B)
B5*	(F103)	L/48	: A/T control unit (A/T models)
A5*	(F104)	W/12	: To (M51)
A5*	(F105)	W/20	: To (M50)
A4*	(F106)	GY/6	: Joint connector-24 (Gray)
A4*	(F107)	L/12	: Joint connector-25 (Blue)
C4*	(F111)	GY/3	: To (F27)
D4*	(F112)	B/4	: Crankshaft position sensor (POS)
F3*	(F121)	B/2	: To (F23)
E3*	(F122)	B/2	: Knock sensor
D2*	(F131)	GY/8	: To (F14)
D2	(F132)	B/2	: Injector No.1
E2	(F133)	B/2	: Injector No.3
E2	(F134)	B/2	: Injector No.5
D4	(F135)	B/1	: Oil pressure switch
C4*	(F136)	GY/2	: Crankshaft position sensor (REF)

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HARNES LAYOUT

Body Harness



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Diode (B45)
 Trunk room lamp switch —▶— Trunk room lamp

HARNES LAYOUT

Body Harness (Cont'd)

B2★	W/32	To (M4)	D4★	(B26)	GY/2	: Dropping resistor
B2	GY/2	To (M5)	E4	(B27)	W/16	: To (T1)
B3★	W/12	Fuse block (J/B)	E4	(B28)	W/16	: To (T2)
A3	BR/16	Fuse block (J/B)	F2	(B29)	W/2	: To high-mounted stop lamp sub-harness (Models equipped with rear air spoiler)
C3	W/2	To power seat harness LH	F4	(B30)	W/4	: Trunk lid combination lamp LH
C3	W/3	Seat belt buckle switch	F3	(B31)	B/2	: Trunk room lamp switch
C3	W/3	Heated seat LH	G3	(B32)	W/3	: Trunk lid key cylinder switch
B4★	GY/4	Rear heated oxygen sensor	G3	(B33)	W/4	: Trunk lid combination lamp RH
C2	B/1	Parking brake switch	C2	(B34)	BR/1	: Rear door switch LH
C3	L/4	Heated seat switch LH	D2	(B35)	B/1	: Rear window defogger
C3	W/4	Heated seat switch RH	E2	(B37)	W/4	: Rear speaker LH (For BOSE system)
D2	W/3	Heated seat RH	E2	(B38)	BR/2	: Rear speaker LH (Except for BOSE system)
D2	W/2	To power seat harness RH	E2	(B39)	W/2	: Trunk room lamp
E3	B/3	Front door switch RH	F3	(B40)	W/2	: High-mounted stop lamp (Models without rear air spoiler)
D2★	(B16)	Body ground	F3	(B41)	W/4	: Rear speaker RH (For BOSE system)
E2	W/10	To (D71)	F3	(B42)	BR/2	: Rear speaker RH (Except for BOSE system)
B3	B/3	Front door switch LH	F2	(B43)	BR/1	: Rear door switch RH
B2★	(B19)	Body ground	D2	(B44)	BR/2	: Not used
B3	W/10	To (D51)	F4	(B45)	SB/2	: Diode
E3★	GY/2	Fuel pump	E4★	(B50)	B/2	: EVAP canister vent control valve
E4★	B22	Fuel tank gauge unit	E4★	(B51)	G/2	: Vacuum cut valve bypass valve
E3★	B23	To (B119)	D4★	(B52)	GY/3	: Fuel tank pressure sensor
D4★	B25	Fuel pump control module	C3	(B53)	W/4	: Telephone pre wire
			F2	(B54)	B/1	: Rear window defogger ground cable
			F2	(B55)	-	: Body ground

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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.

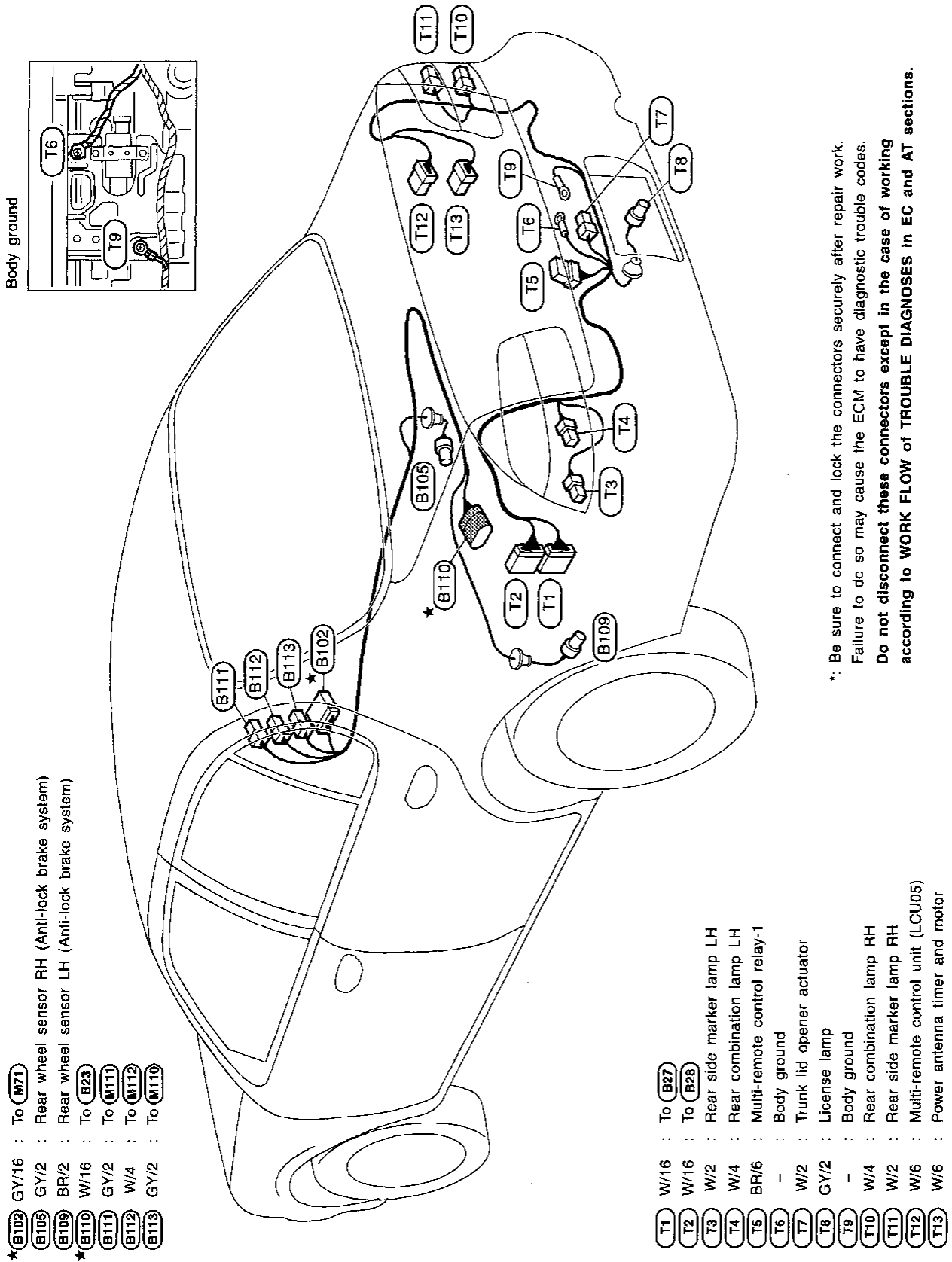
Diode (B45)

Trunk room lamp Trunk room lamp switch

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HARNESS LAYOUT

Body No. 2 Harness and Tail Harness

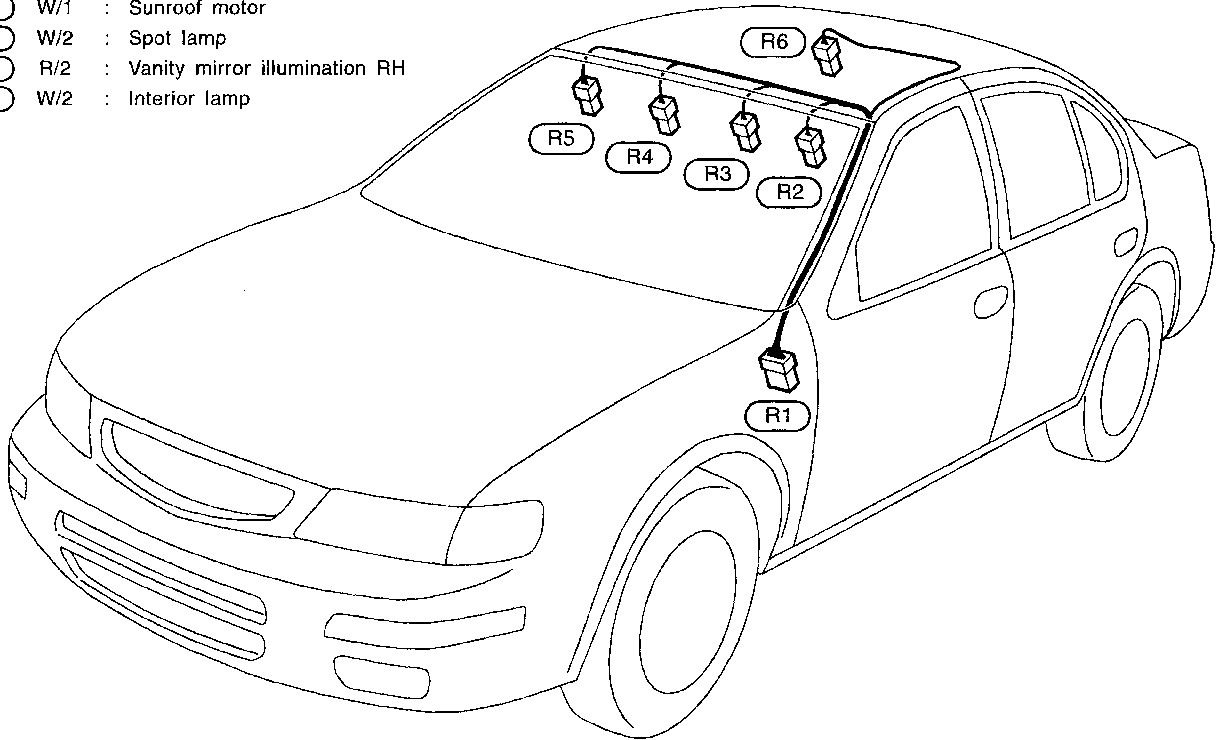


*: Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working
 according to **WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

HARNES LAYOUT

Room Lamp Harness

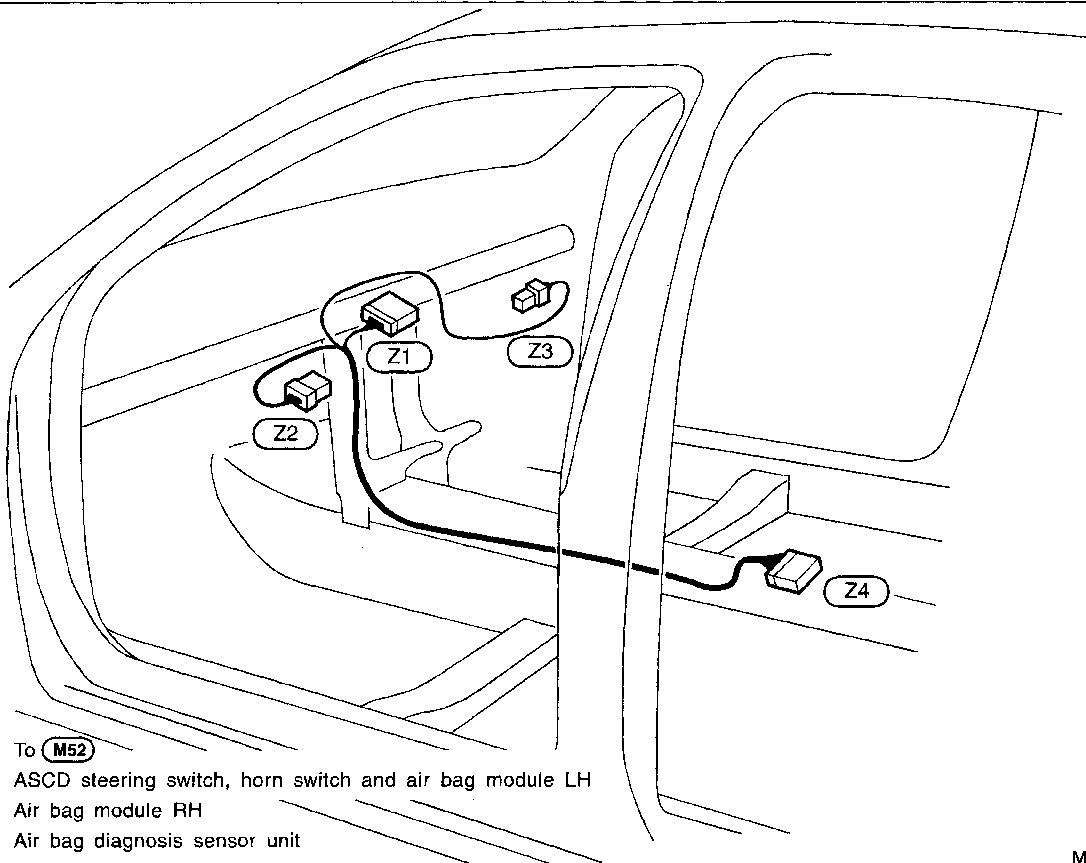
- (R1) W/8 : To (M10)
- (R2) R/2 : Vanity mirror illumination LH
- (R3) W/1 : Sunroof motor
- (R4) W/2 : Spot lamp
- (R5) R/2 : Vanity mirror illumination RH
- (R6) W/2 : Interior lamp



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Air Bag Harness

- (Z1) W/16 : To (M52)
- (Z2) Y/6 : ASCD steering switch, horn switch and air bag module LH
- (Z3) Y/2 : Air bag module RH
- (Z4) Y/22 : Air bag diagnosis sensor unit



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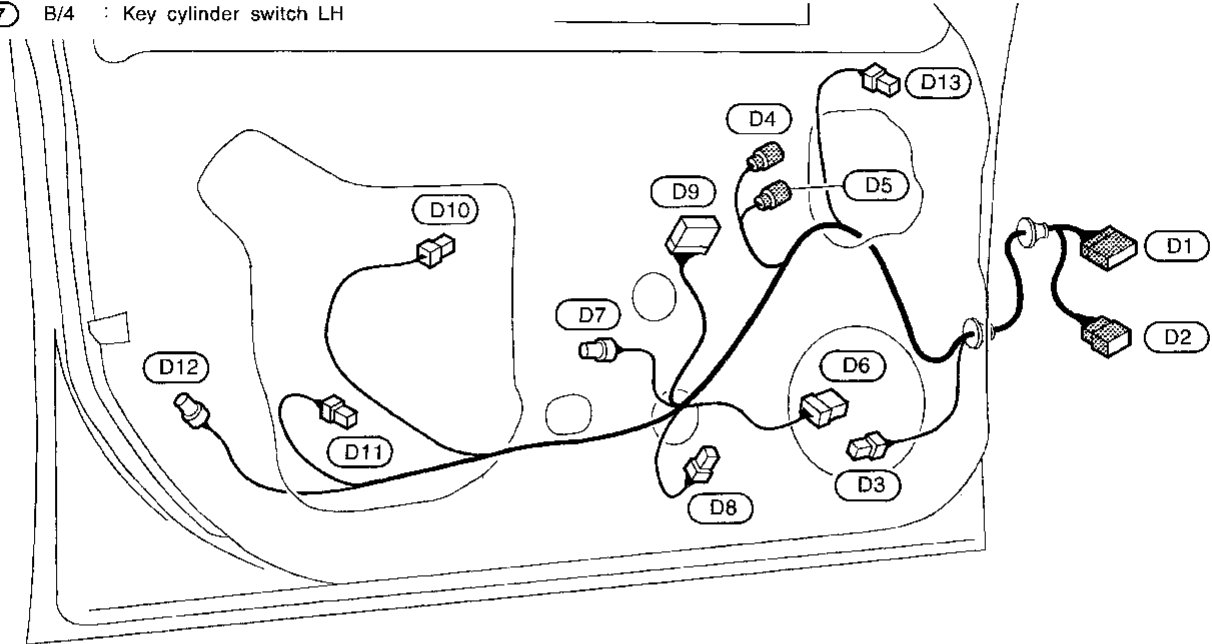
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HARNESS LAYOUT

FRONT

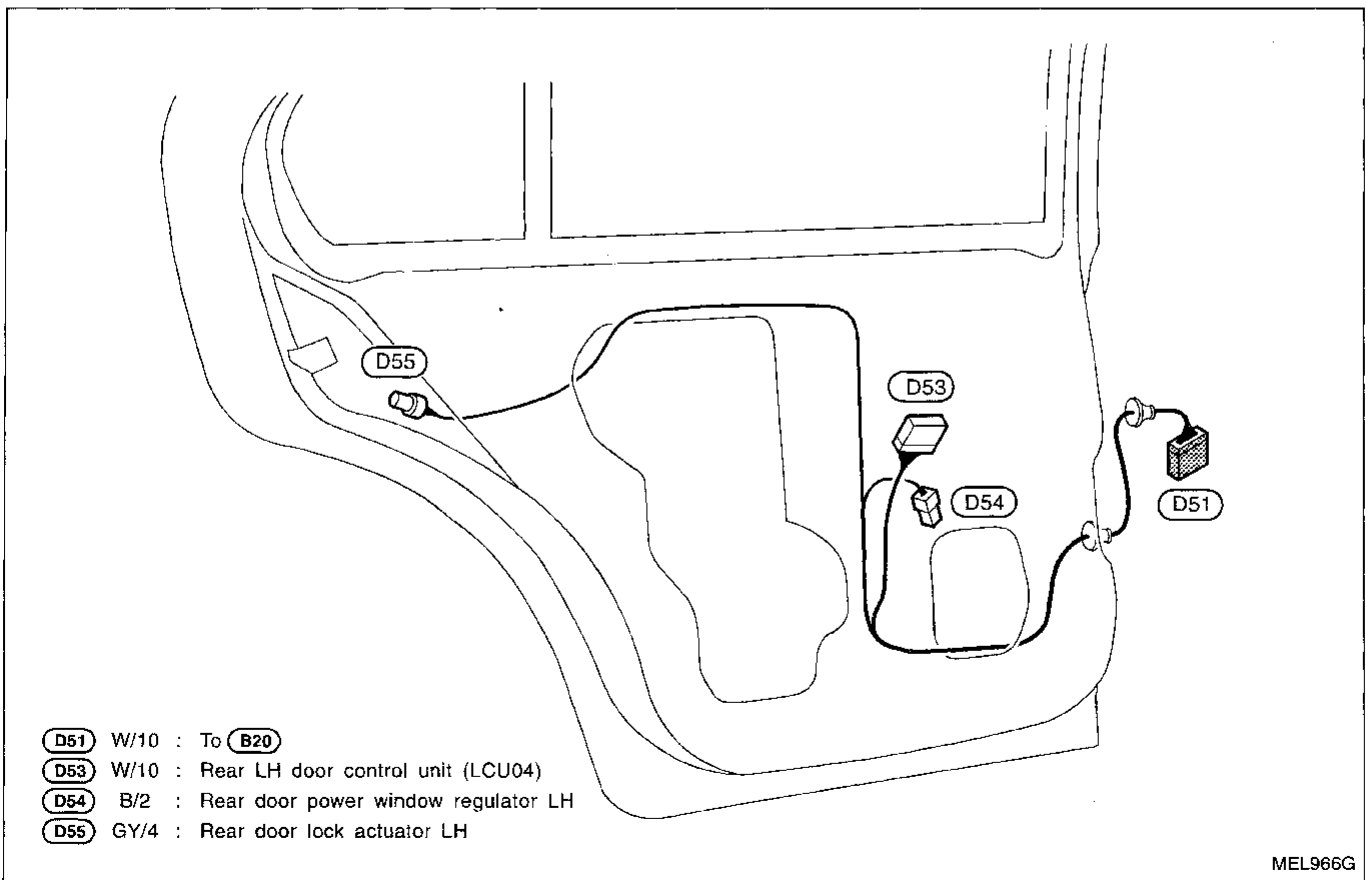
Door Harness (LH side)

- | | |
|-------------------------------------------------------------------|-----------------------------------------------------|
| (D1) W/10 : To (M8) | (D8) B/2 : Power window regulator |
| (D2) GY/6 : To (M9) | (D9) W/10 : Driver door control unit (LCU01) |
| (D3) BR/2 : Front door speaker LH (Except for BOSE system) | (D10) W/2 : Trunk lid opener switch |
| (D4) BR/3 : Door mirror LH | (D11) W/2 : Front door step lamp LH |
| (D5) GY/2 : Door mirror defogger LH | (D12) GY/4 : Front door lock actuator LH |
| (D6) W/6 : Front door speaker LH (For BOSE system) | (D13) BR/2 : Tweeter LH |
| (D7) B/4 : Key cylinder switch LH | |



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REAR



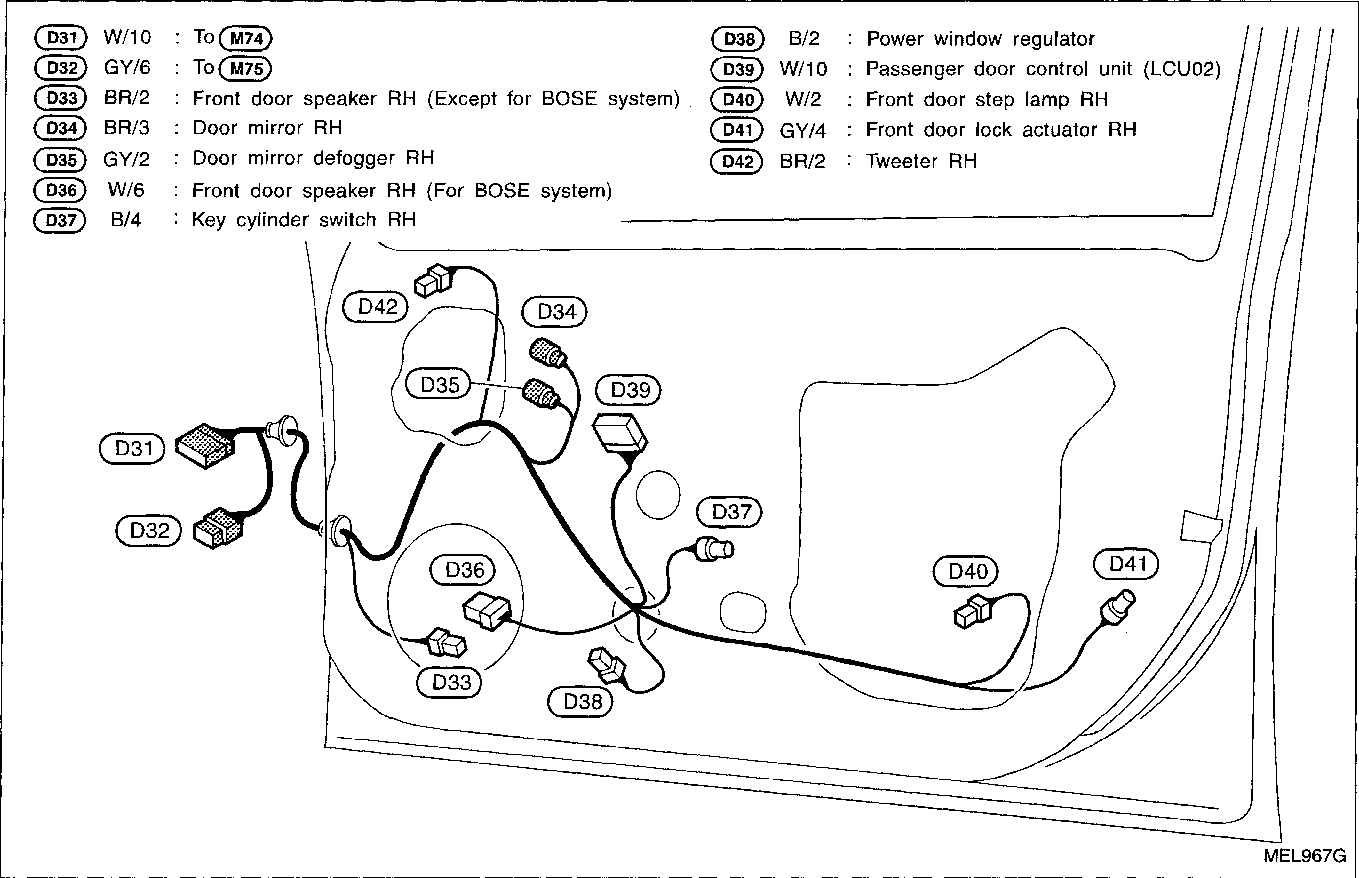
- | |
|--------------------------------------------------------|
| (D51) W/10 : To (B20) |
| (D53) W/10 : Rear LH door control unit (LCU04) |
| (D54) B/2 : Rear door power window regulator LH |
| (D55) GY/4 : Rear door lock actuator LH |

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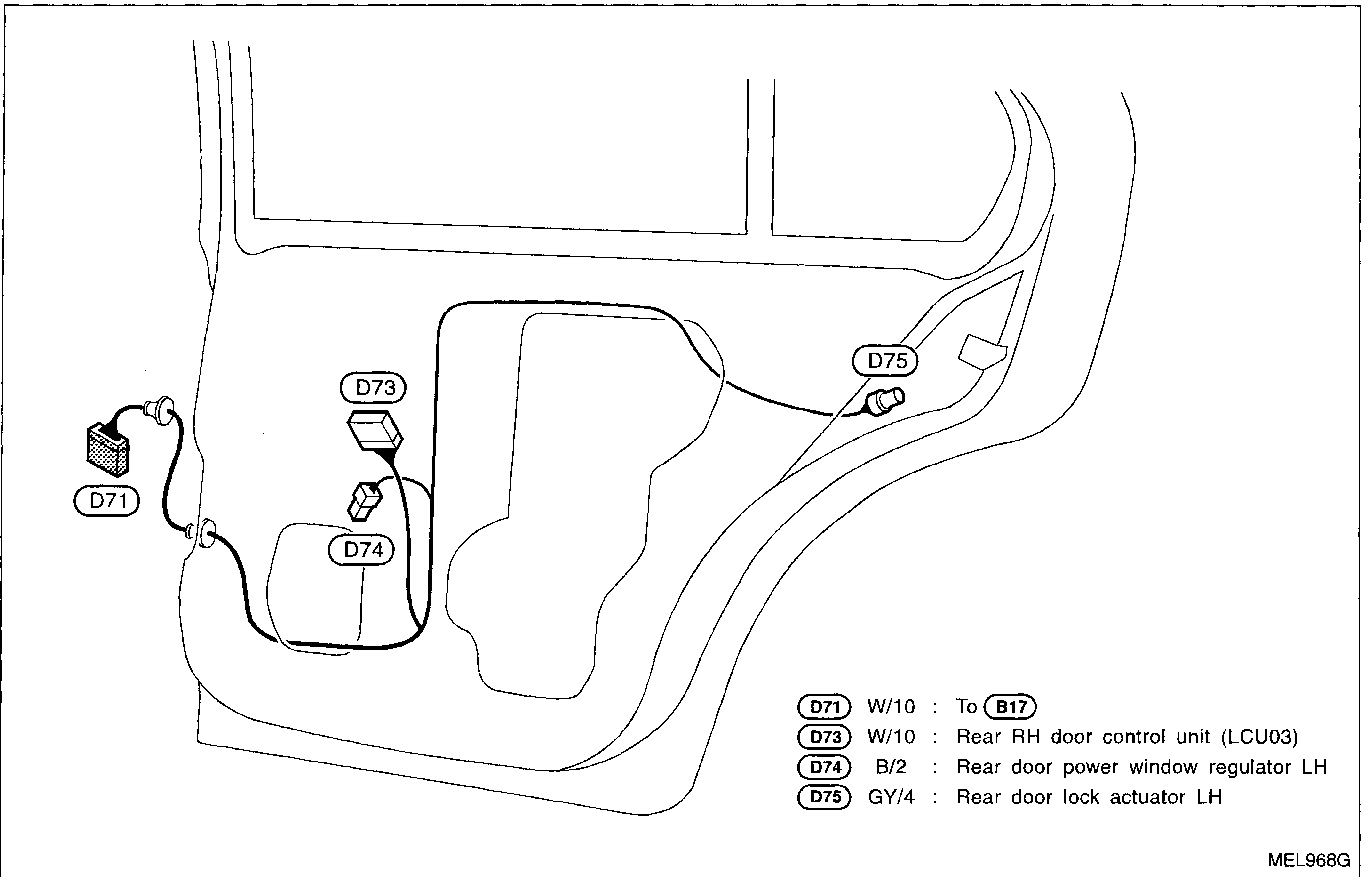
HARNES LAYOUT

FRONT

Door Harness (RH side)



REAR



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