

SECTION **EL**

When you read wiring diagrams:

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

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

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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

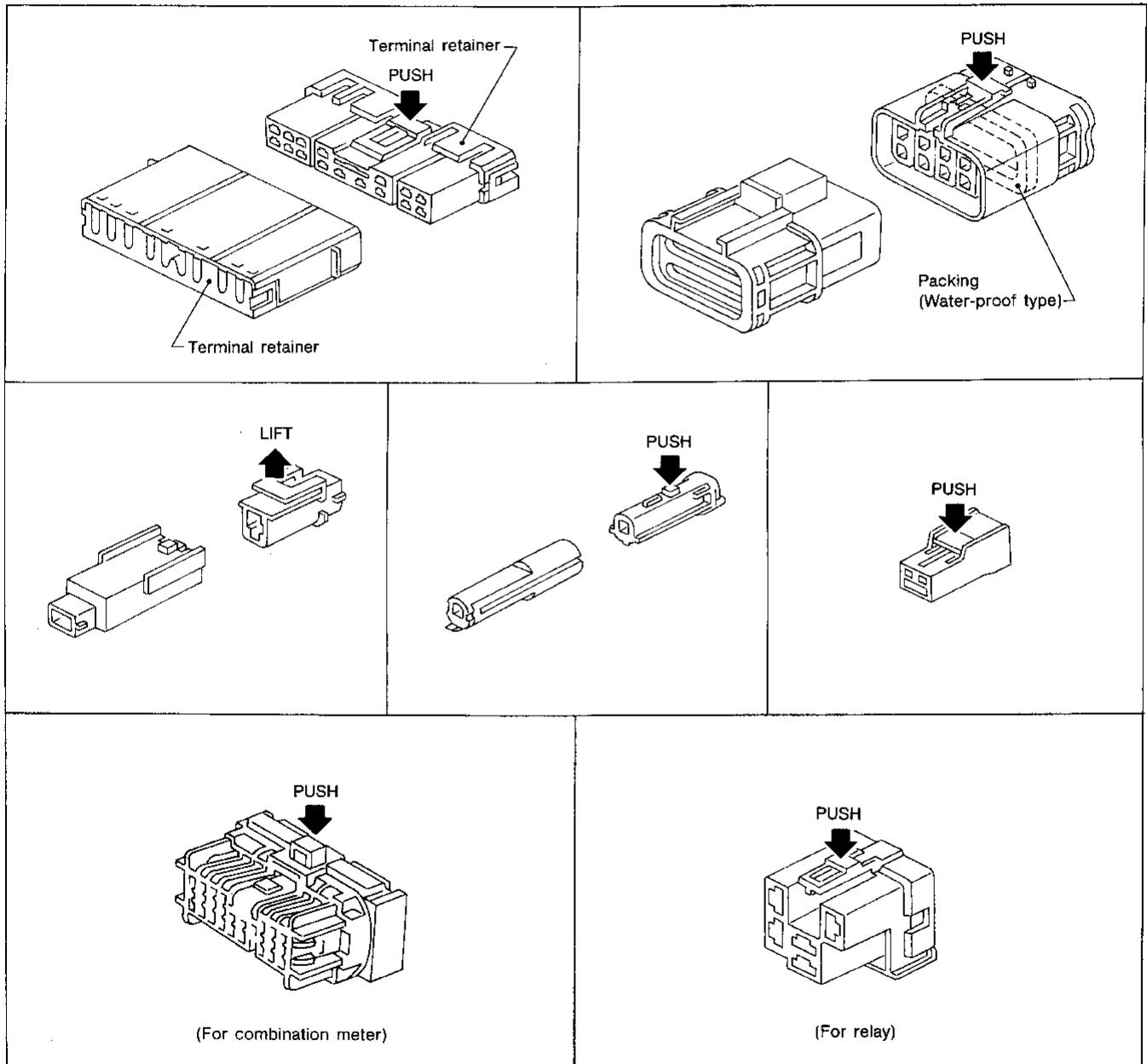
HARNESS CONNECTOR

- 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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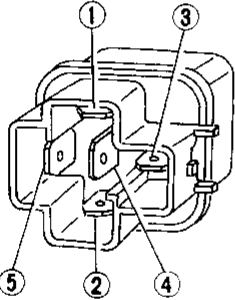
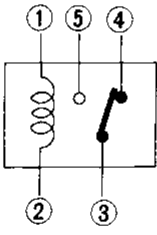
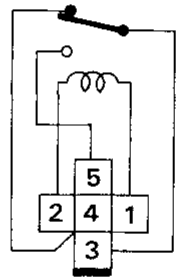
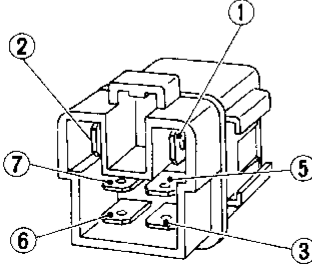
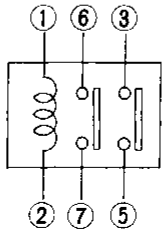
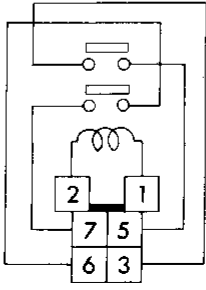
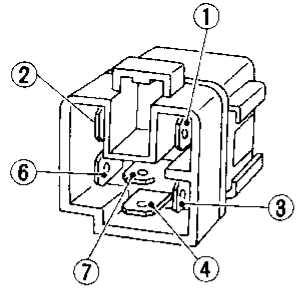
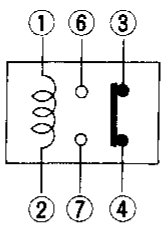
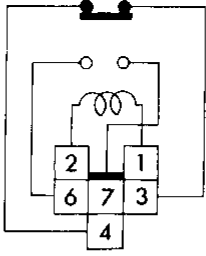
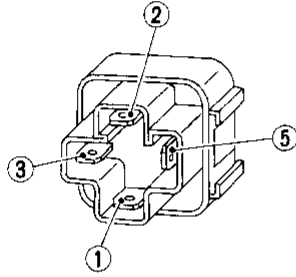
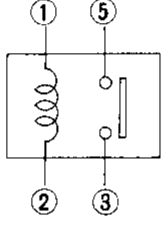
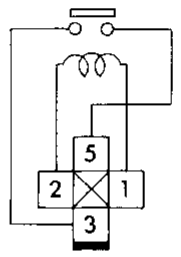
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STANDARDIZED RELAY

Description

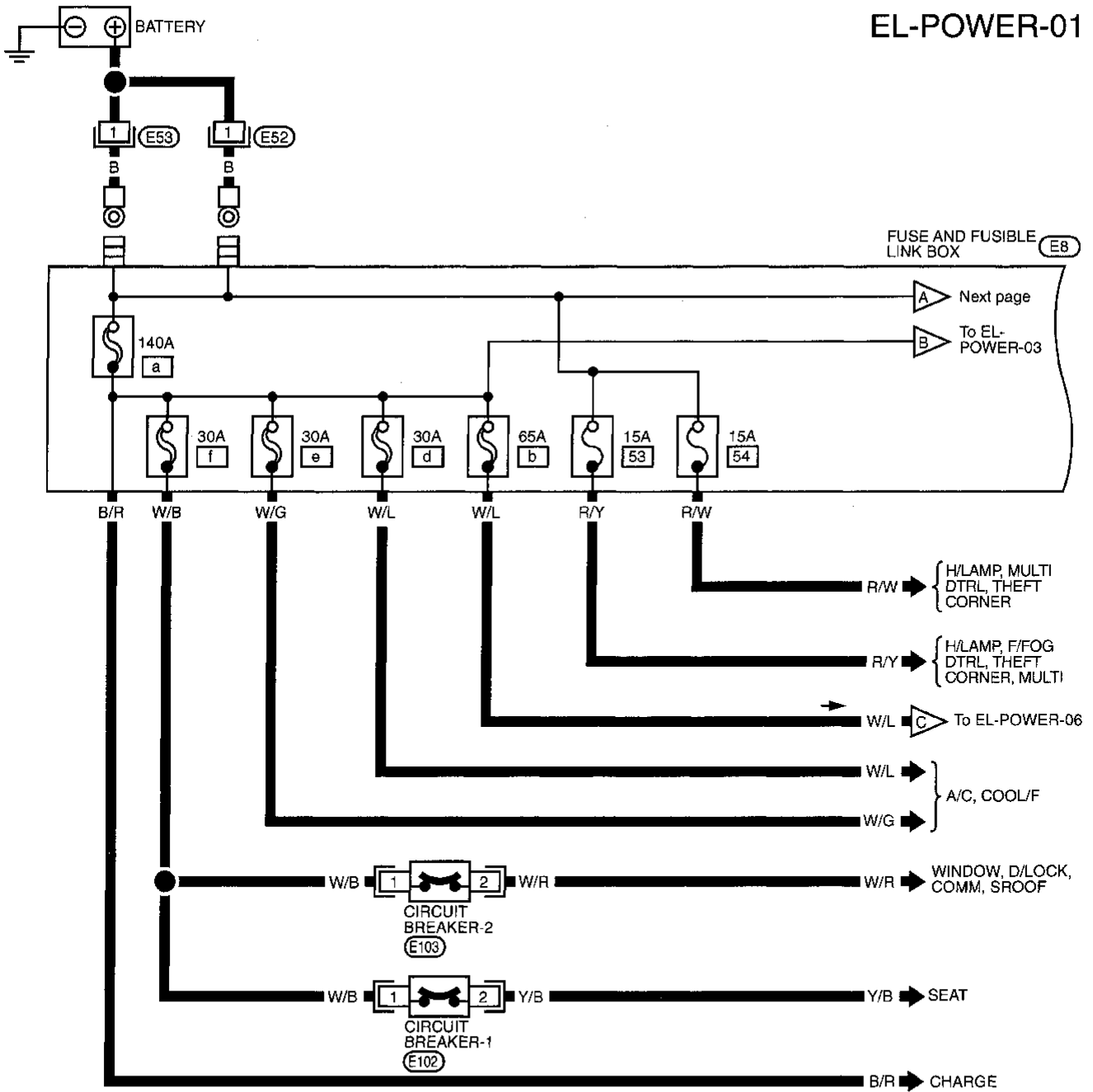
Type	Outer view	Circuit	Connector symbol and connection	Case color
1T				BLACK
2M				BROWN
1M•1B				GRAY
1M				BLUE

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

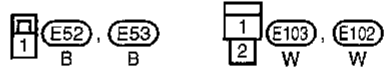
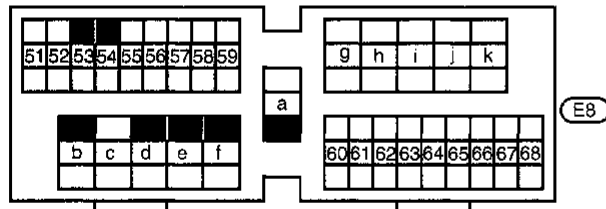
POWER SUPPLY ROUTING

Wiring Diagram — POWER —

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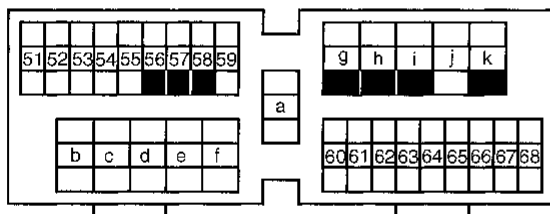
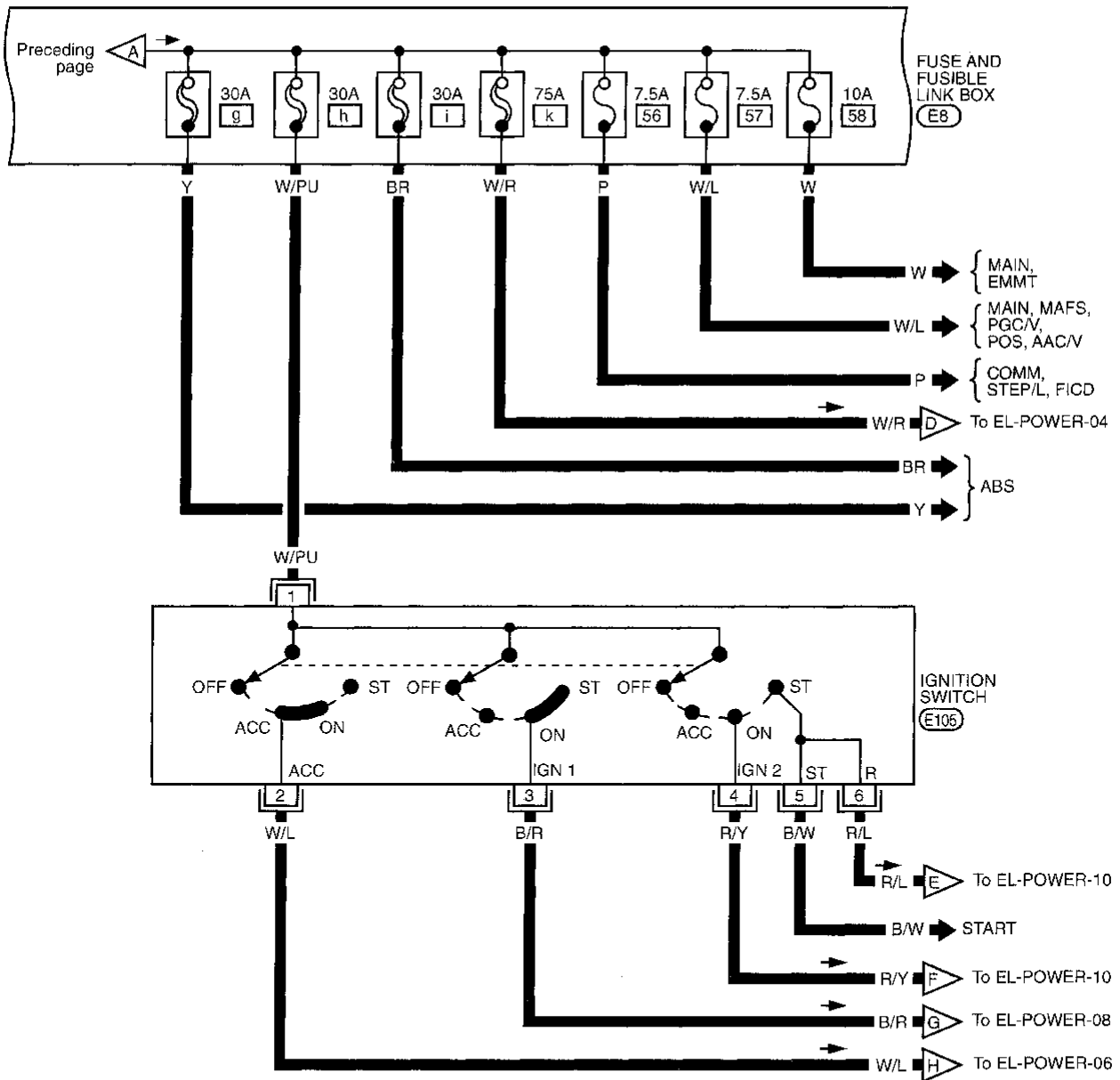
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-02

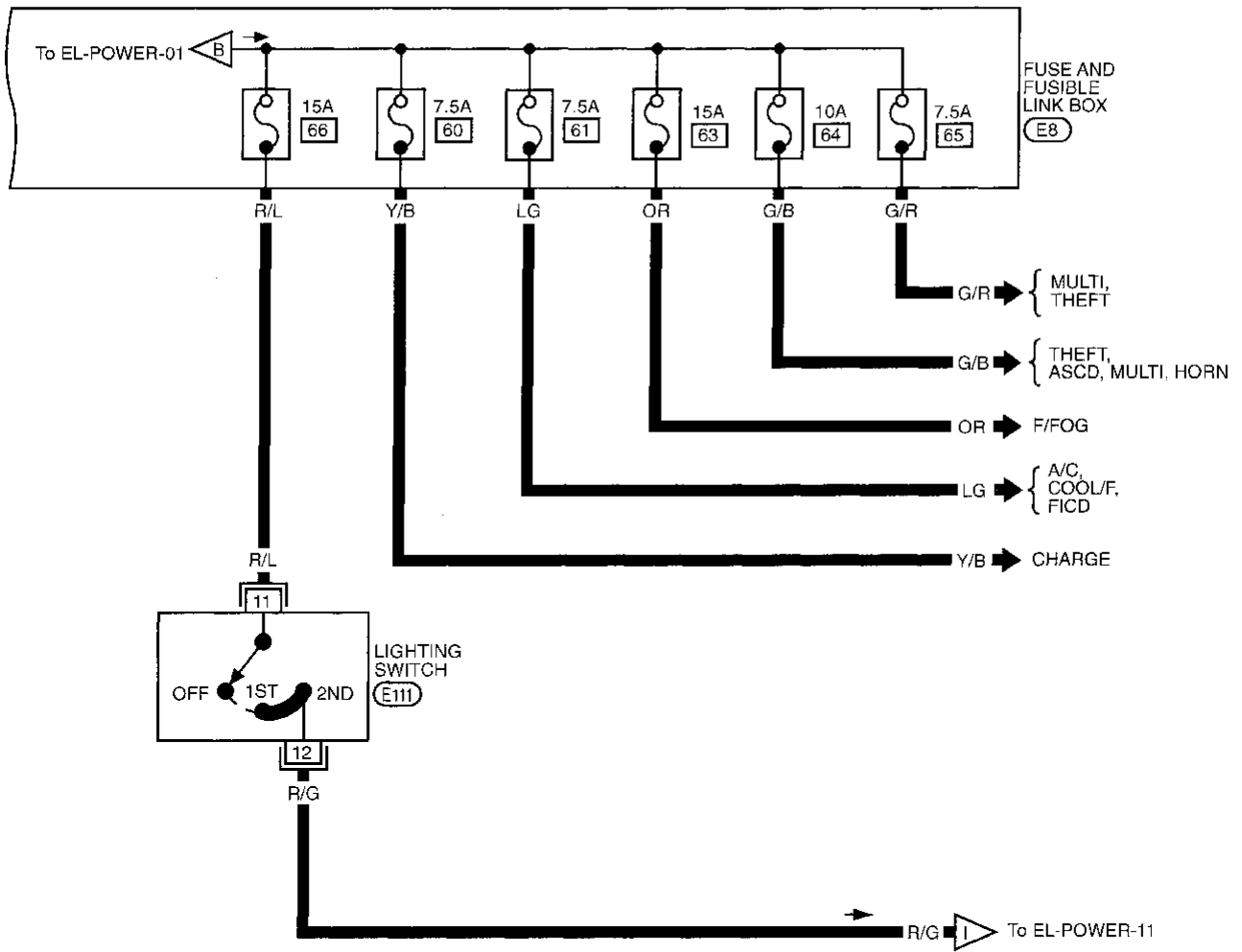


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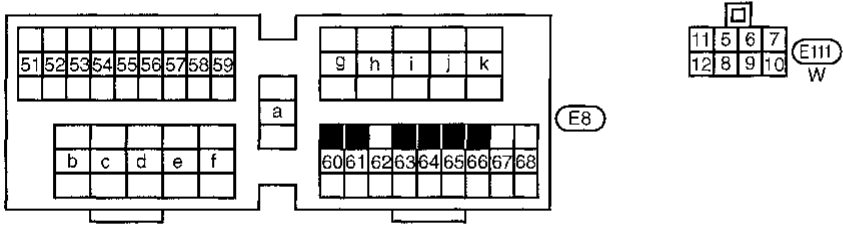
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03



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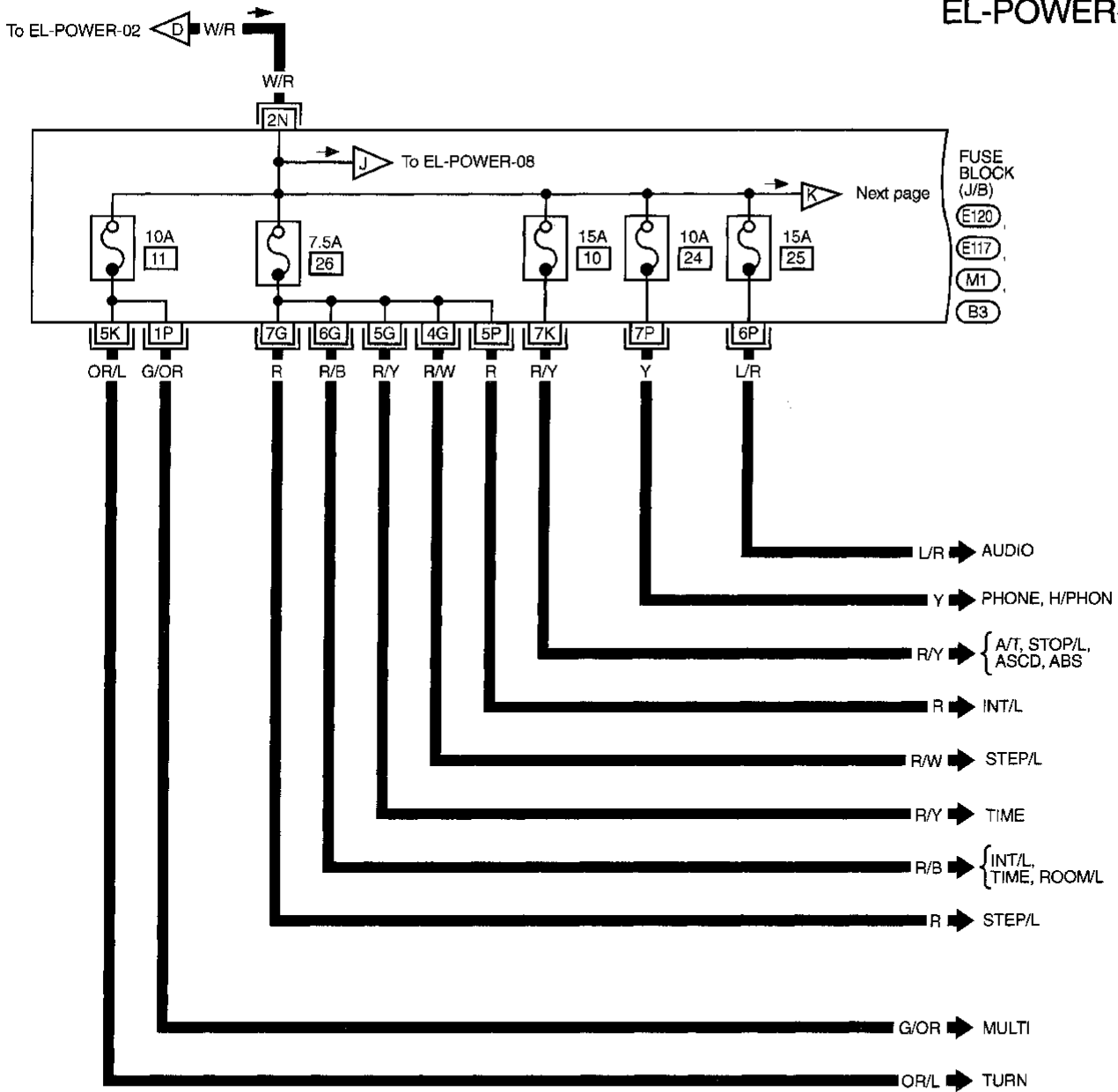


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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-04



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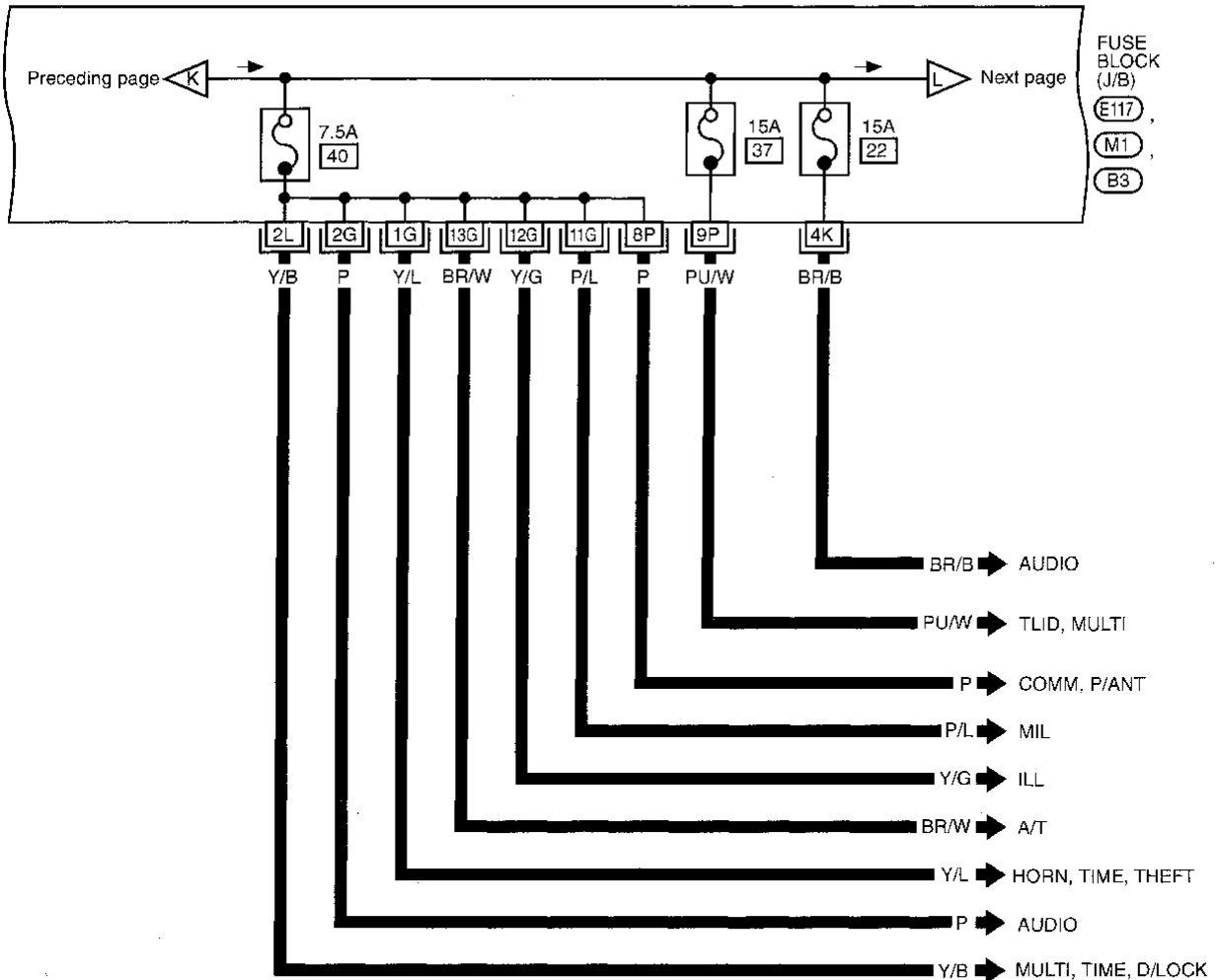
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-05



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(M1) (B4)
 (E117)

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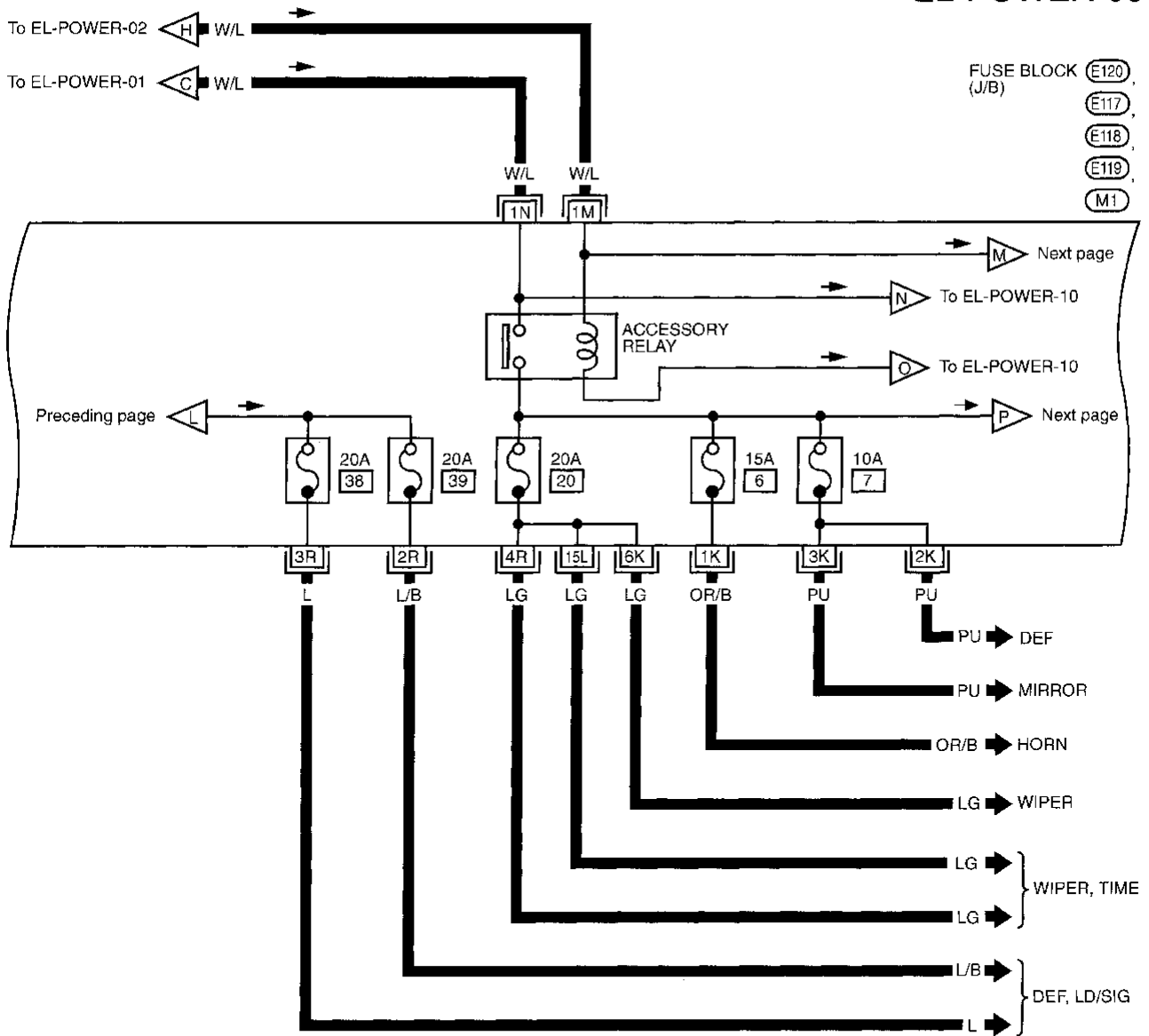
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-06



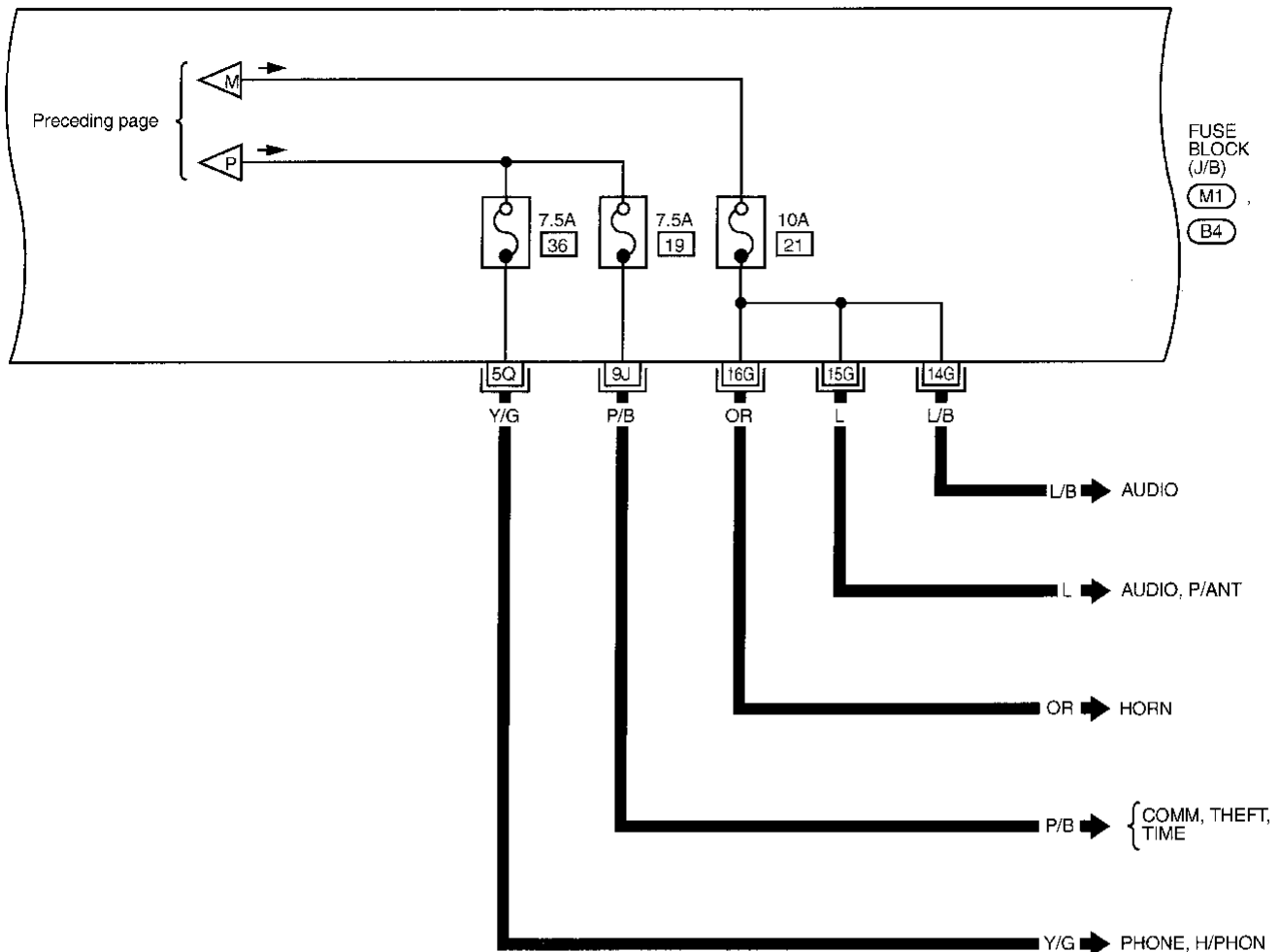
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- (M1), (E117)
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- (E120)

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-07



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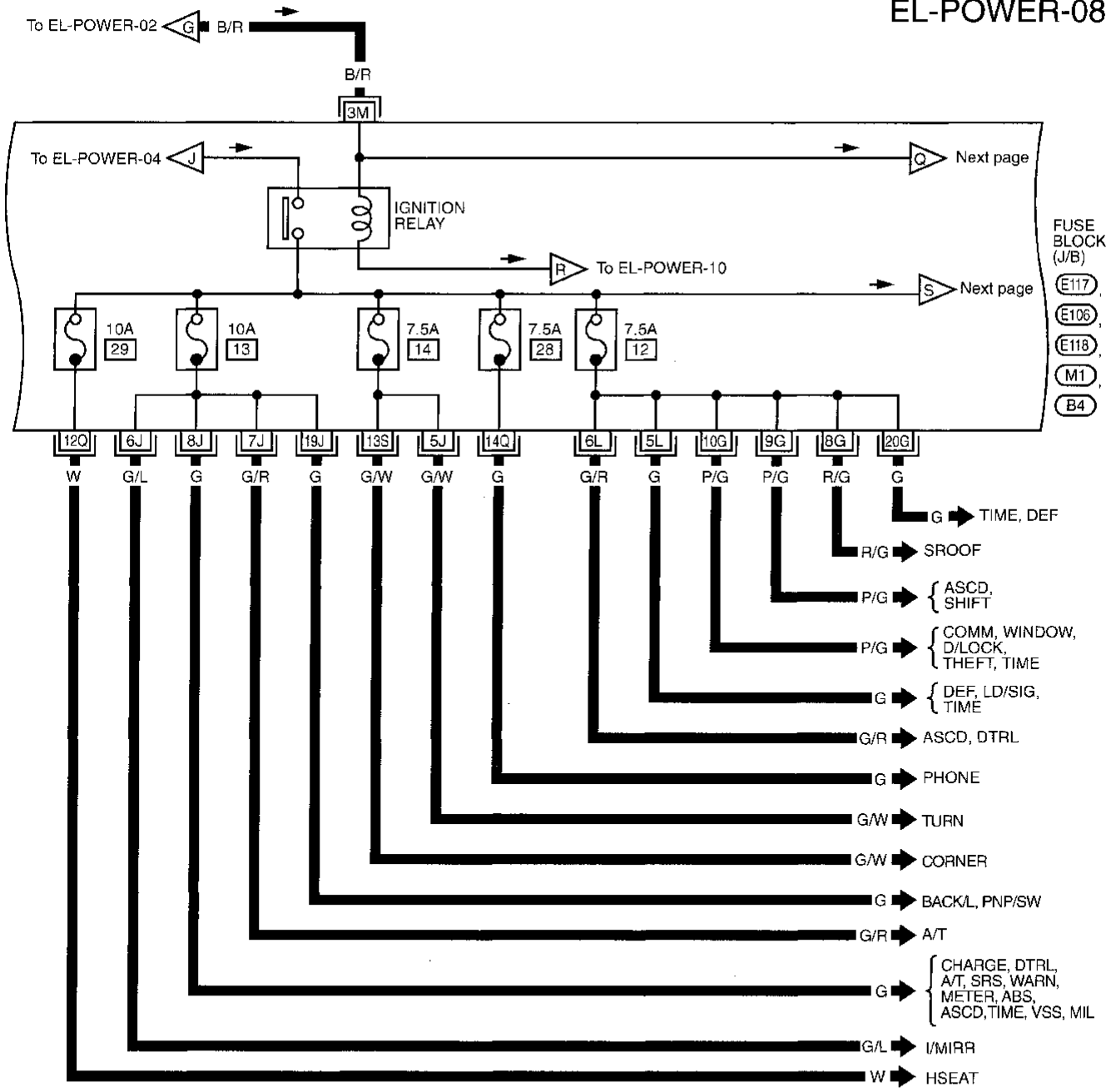
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-08



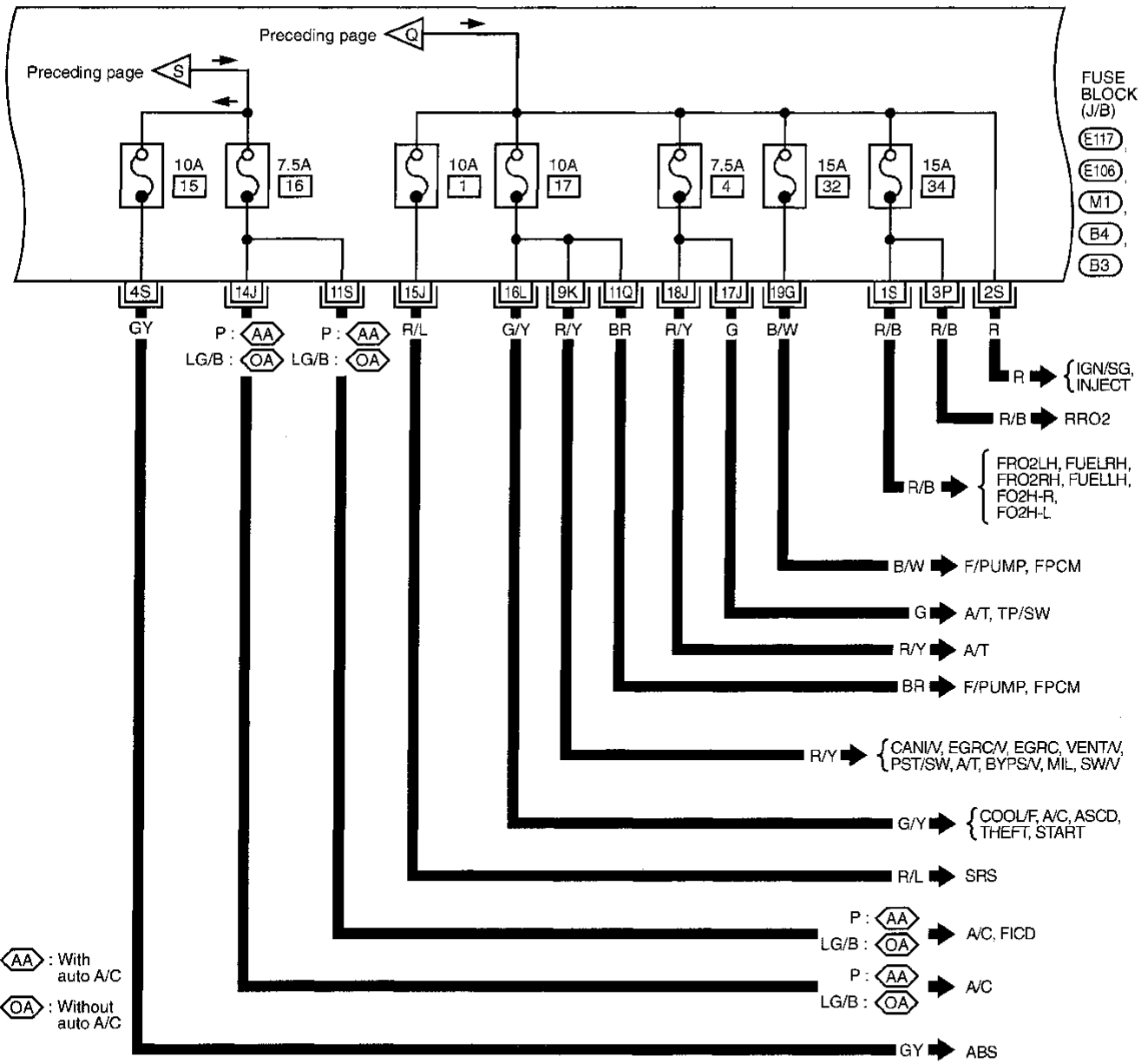
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(M1) , (E117)
 (B4) , (E106)
 (E118)

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-09



AA : With auto A/C
 OA : Without auto A/C

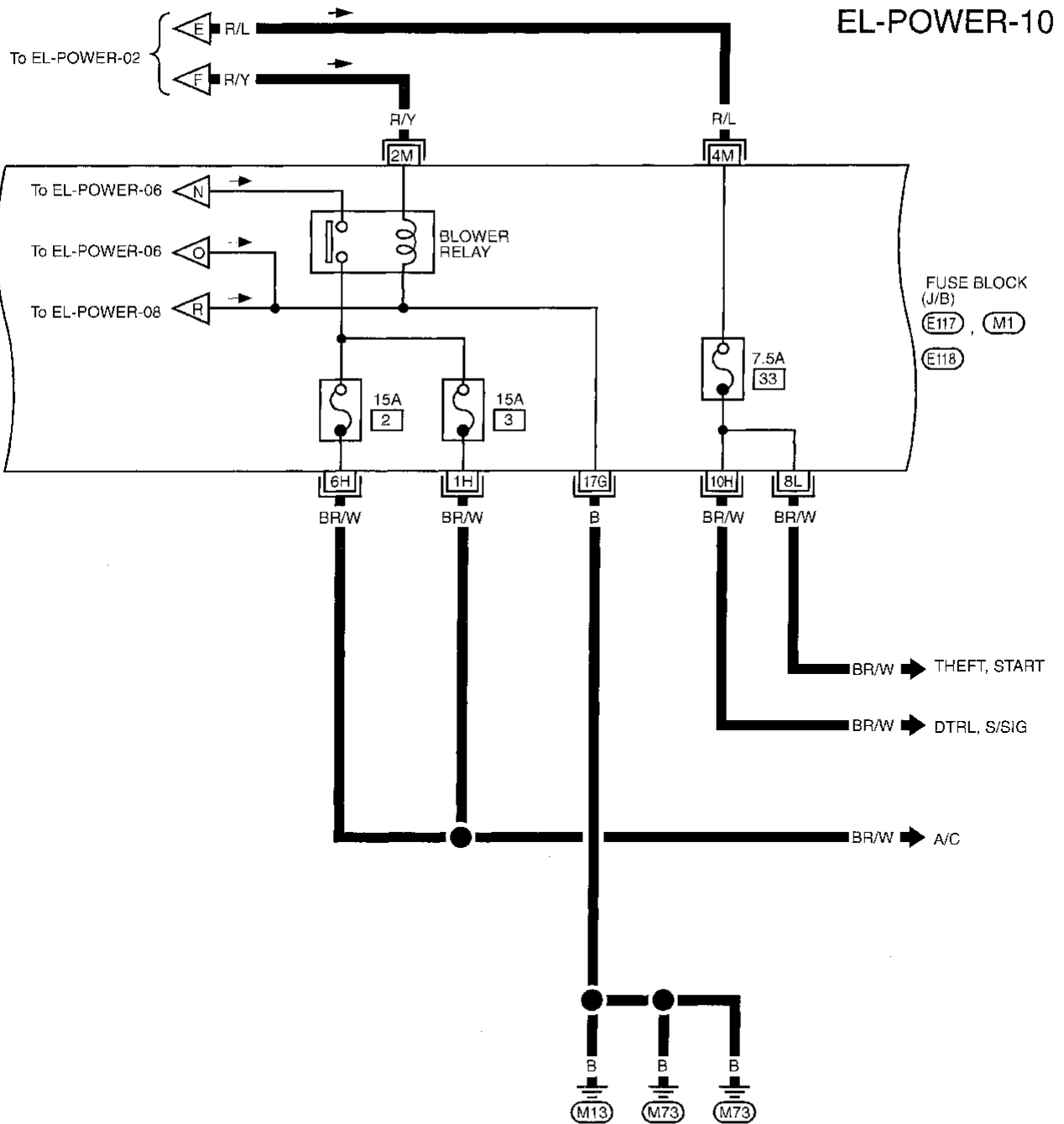
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)



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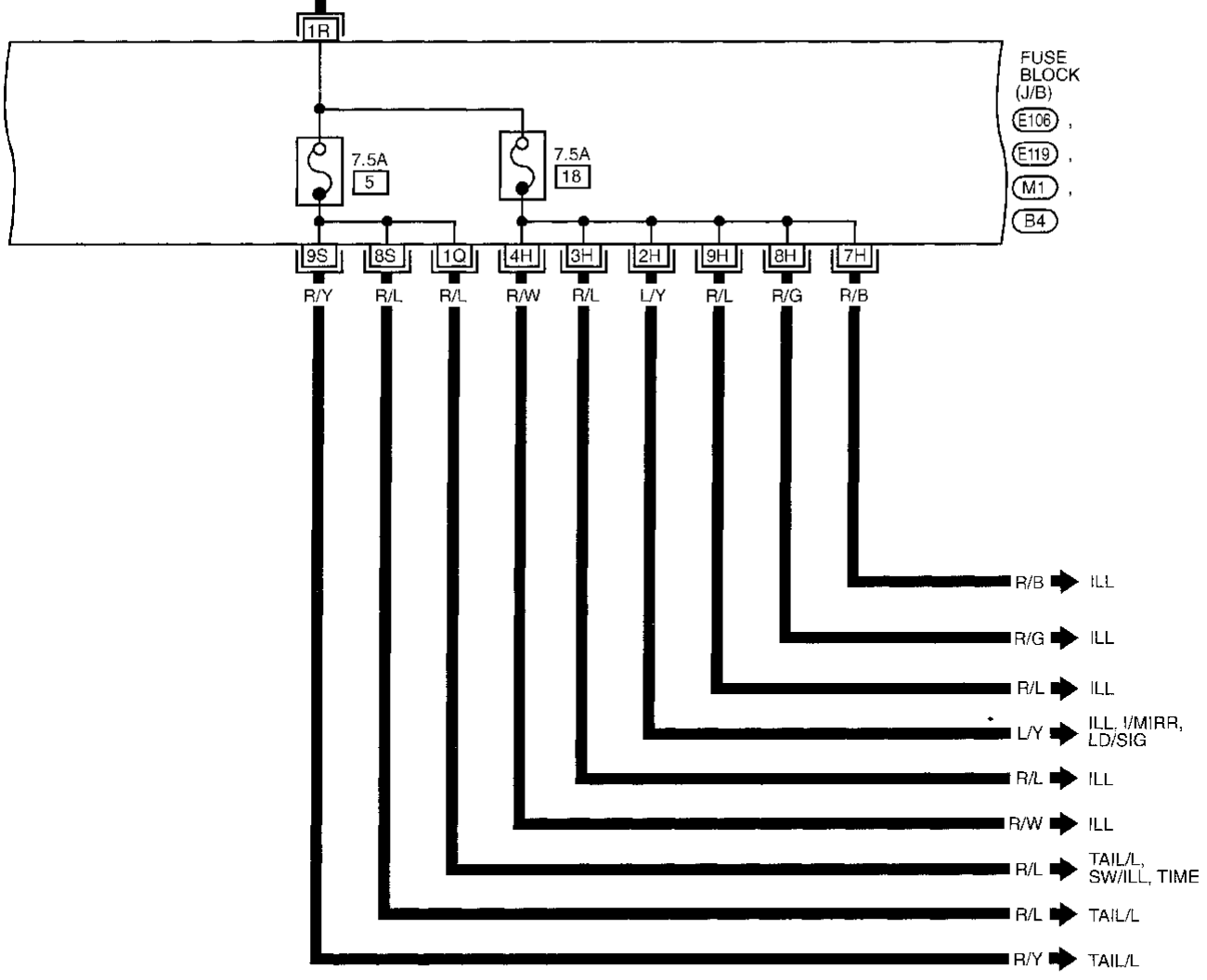
(M1), (E117)
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-11

To EL-POWER-03 R/G



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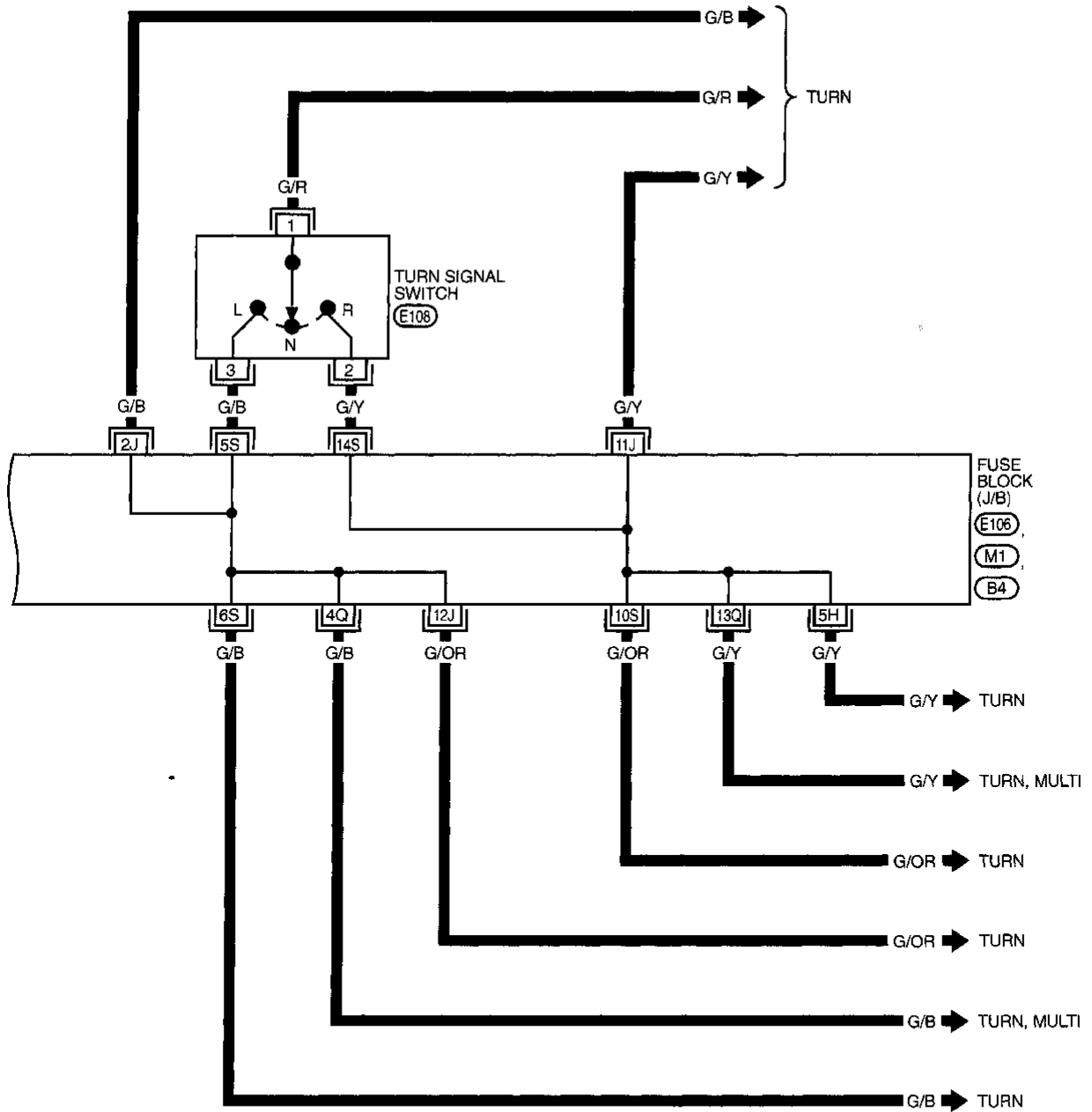
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-12



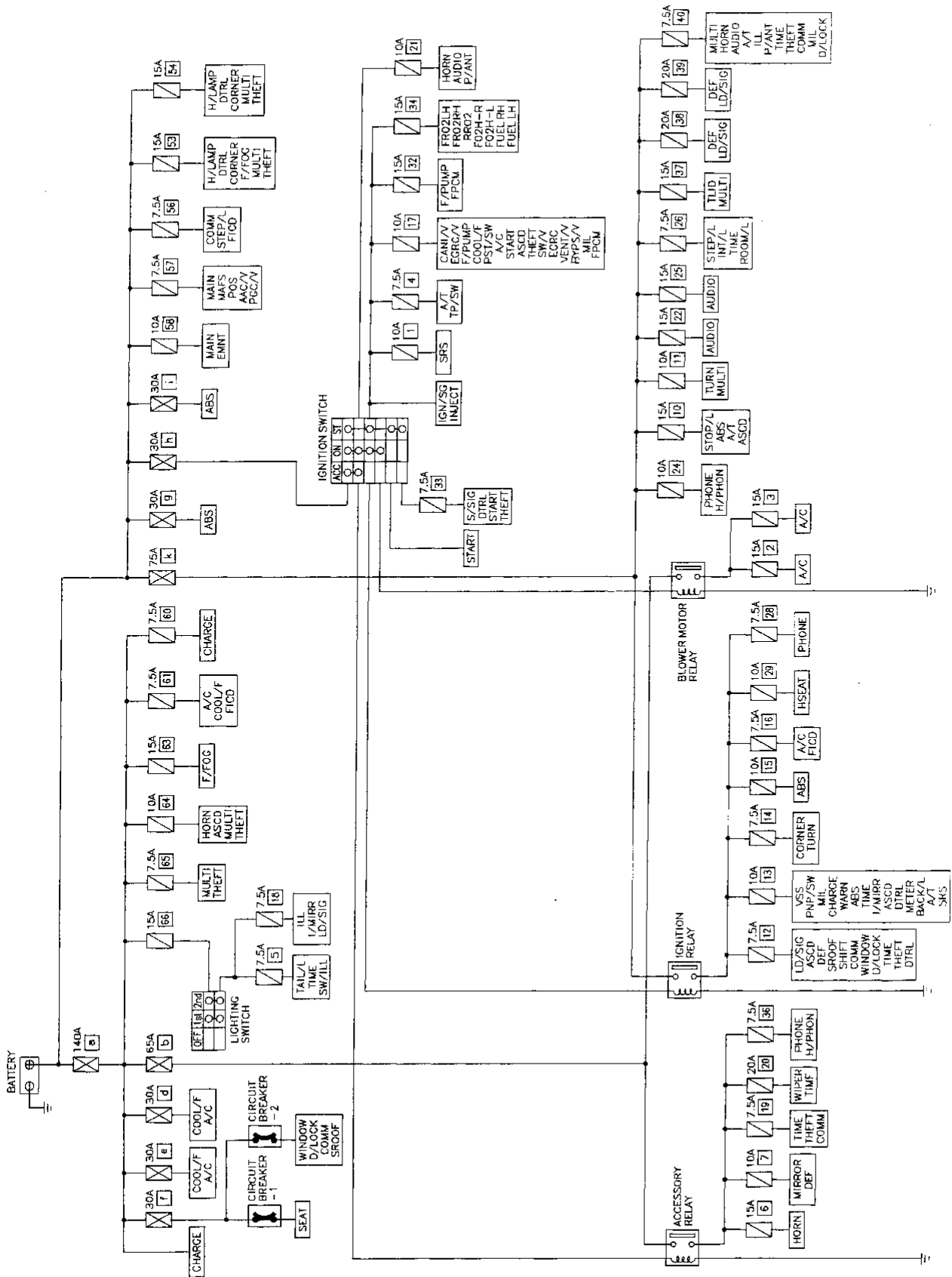
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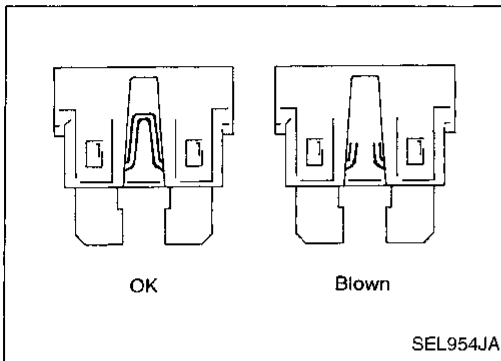
POWER SUPPLY ROUTING

Schematic



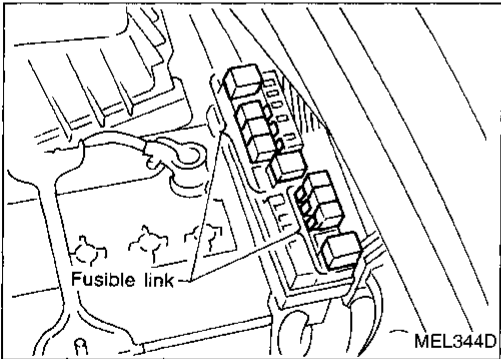
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POWER SUPPLY ROUTING



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 clock if vehicle is not used for a long period of time.

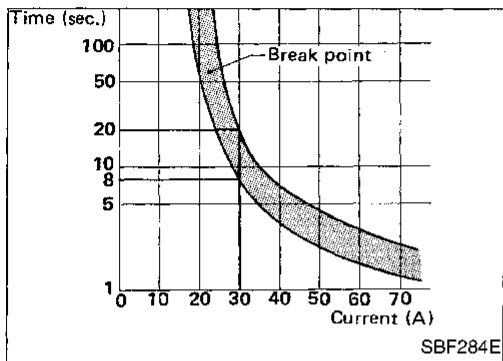


Fusible Link

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.

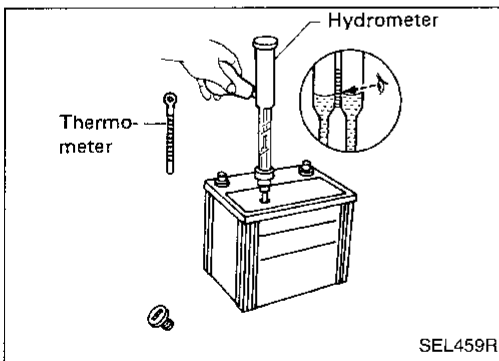
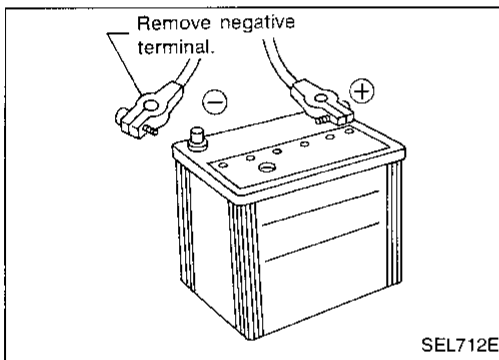
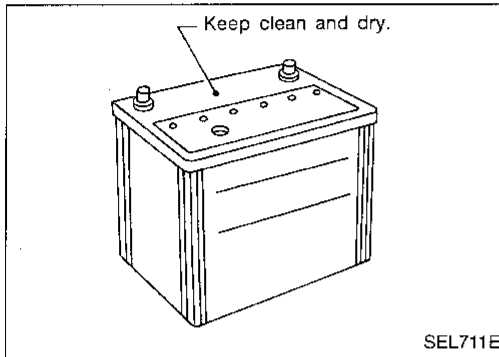
Circuit breakers are used in the following systems.

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

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.

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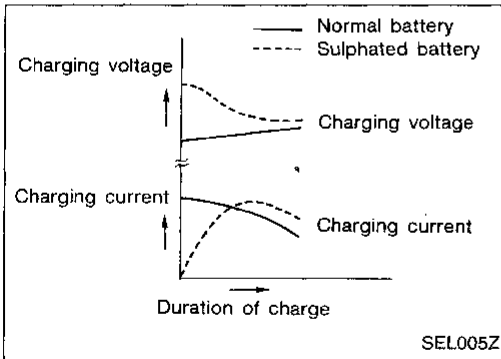
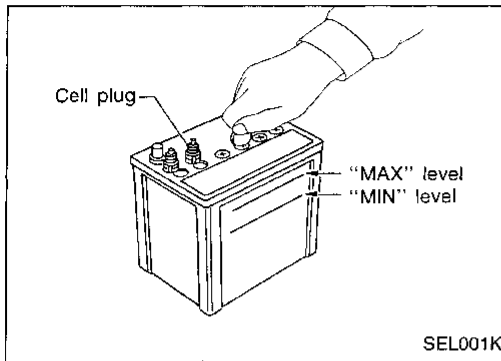
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BATTERY

How to Handle Battery (Cont'd)

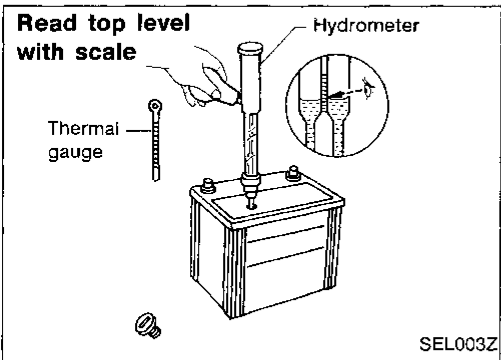
- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



SULPHATION

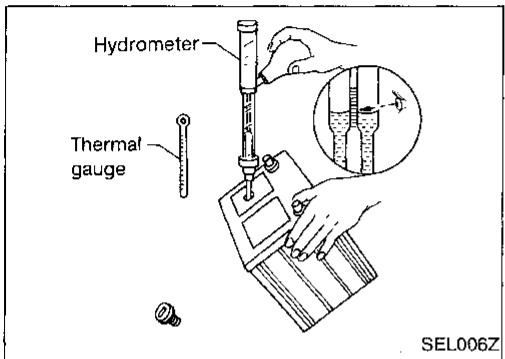
A battery will be completely discharged if it is left unattended for a long time and the specific gravity becomes less than 1.100. This may result in sulphation on the cell plates.

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.



- When the electrolyte level is too low, tilt battery case for easier measurement.

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	GI
66 (150)	0.028	MA
60 (140)	0.024	EM
54 (129)	0.020	LC
49 (120)	0.016	EC
43 (110)	0.012	FE
38 (100)	0.008	CL
32 (90)	0.004	MT
27 (80)	0	AT
21 (70)	-0.004	FA
16 (60)	-0.008	RA
10 (50)	-0.012	BR
4 (39)	-0.016	ST
-1 (30)	-0.020	RS
-7 (20)	-0.024	BT
-12 (10)	-0.028	HA
-18 (0)	-0.032	EL

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

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

STARTING SYSTEM

System Description

M/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 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/C)]
- 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/C)]
- 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.

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 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 .

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 switch terminal ①
- through inhibitor relay terminal ①, with the selector lever in the P or N position
- to body grounds (**F18**) and (**F19**).

The inhibitor relay is energized and power is supplied

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

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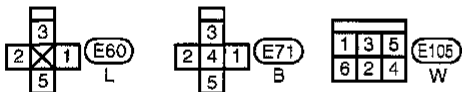
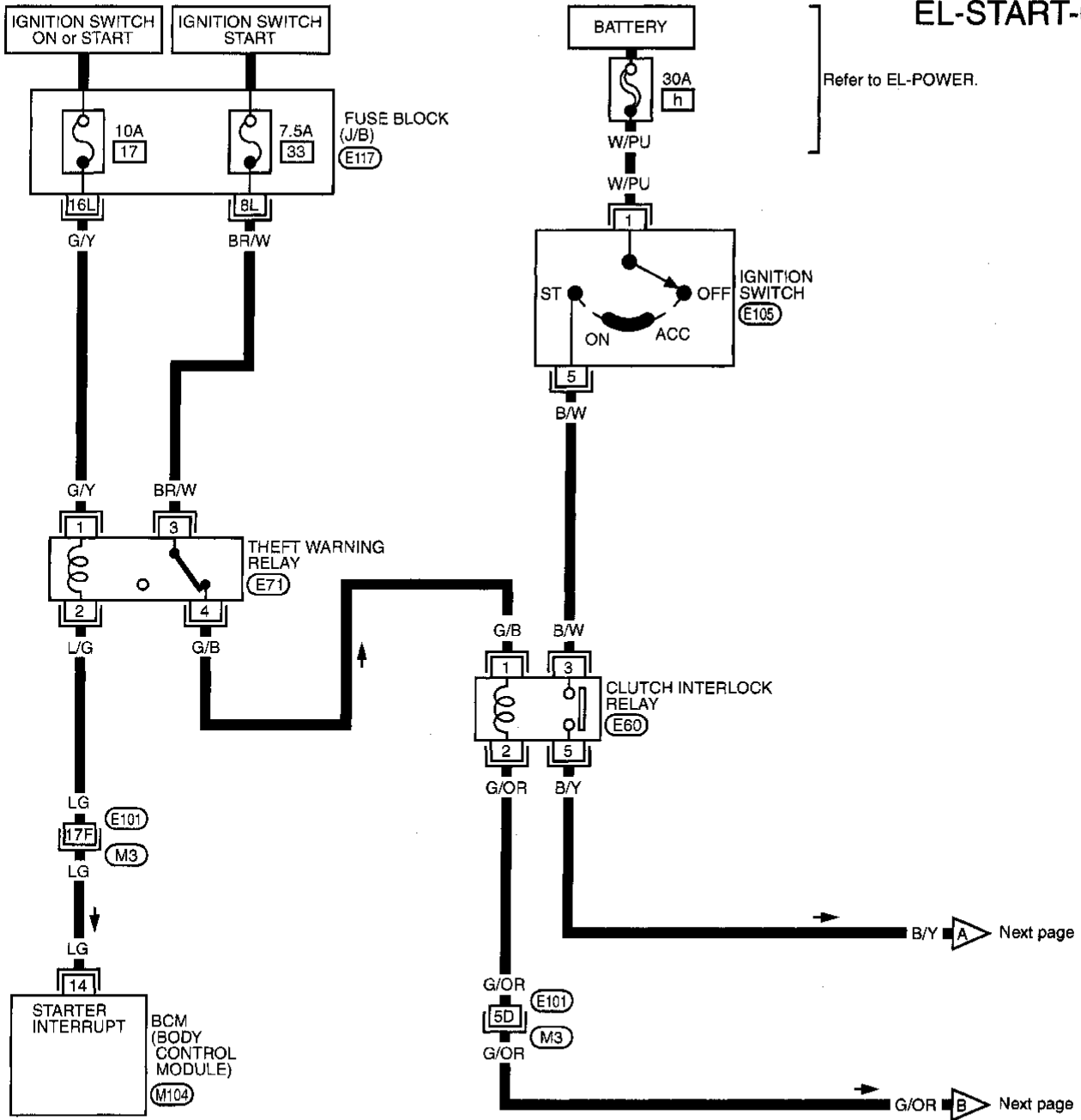
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STARTING SYSTEM

Wiring Diagram — START —

M/T MODEL

EL-START-01



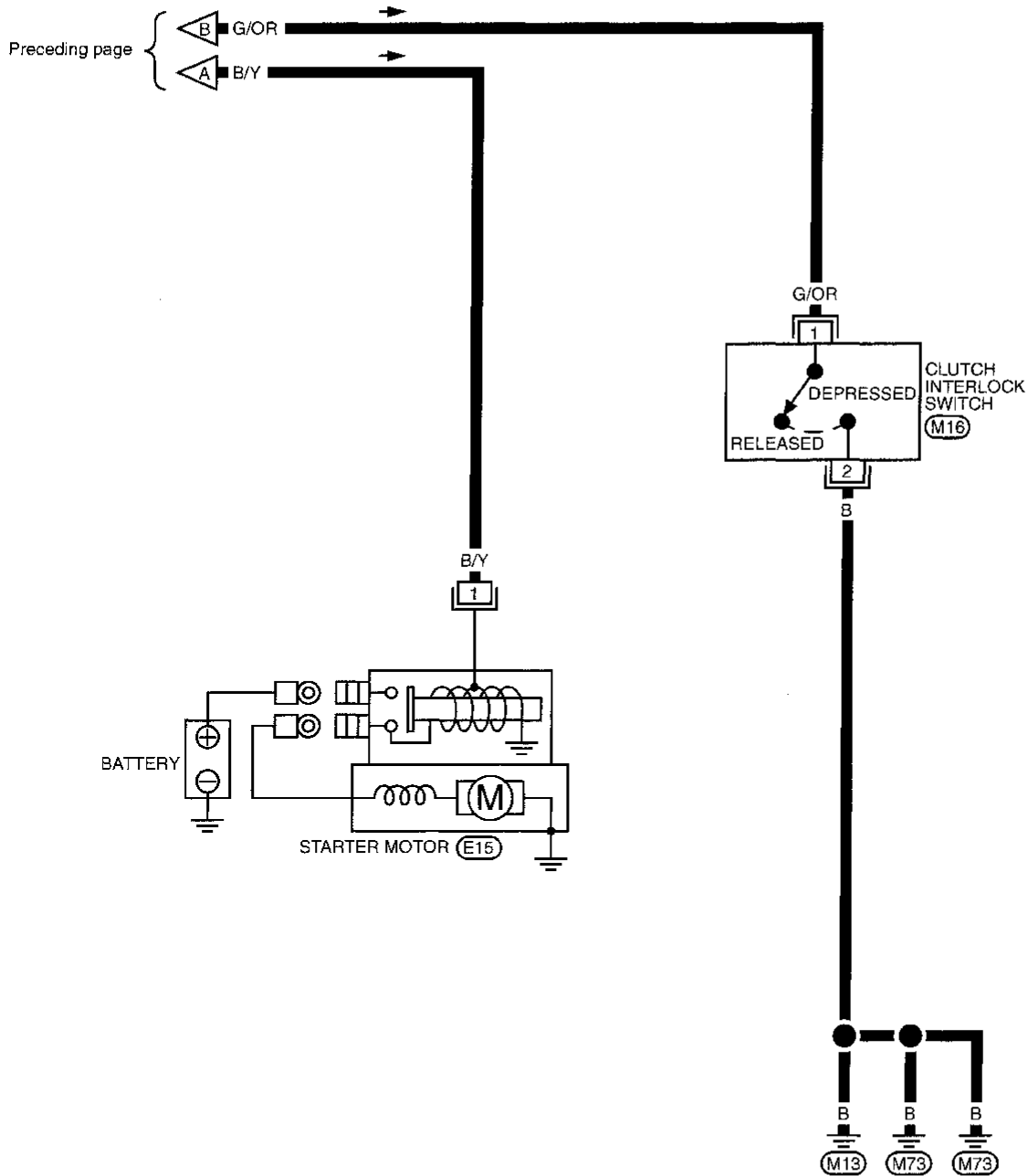
Refer to last page (Foldout page).

- (M3), (E101)
- (E117)
- (M104)

STARTING SYSTEM

Wiring Diagram — START — (Cont'd)

EL-START-02



1 (E15)
GY

1 2 (M16)
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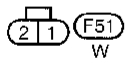
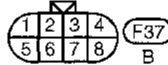
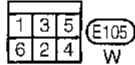
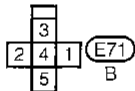
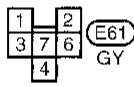
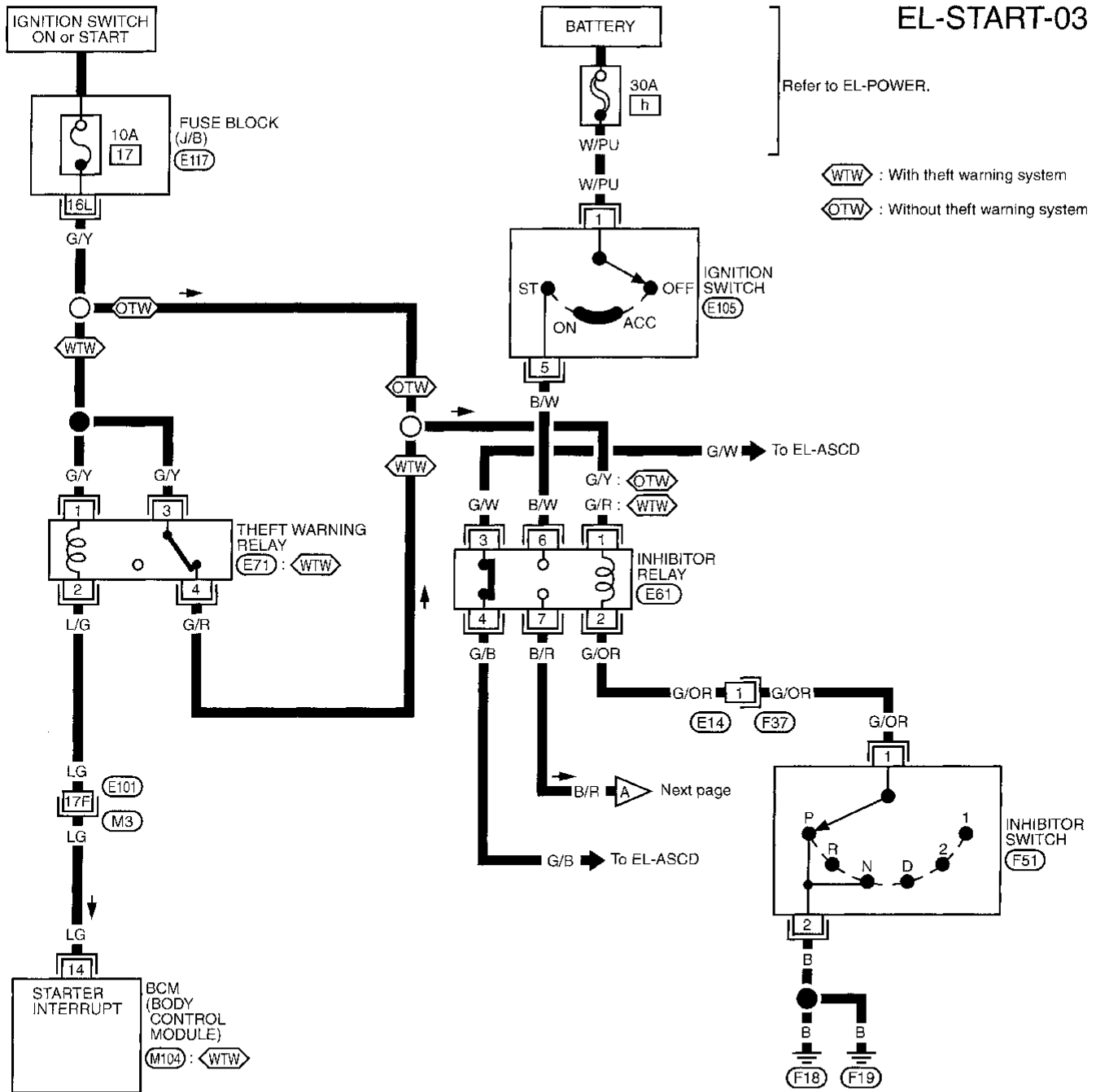
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STARTING SYSTEM

Wiring Diagram — START — (Cont'd)

A/T MODEL

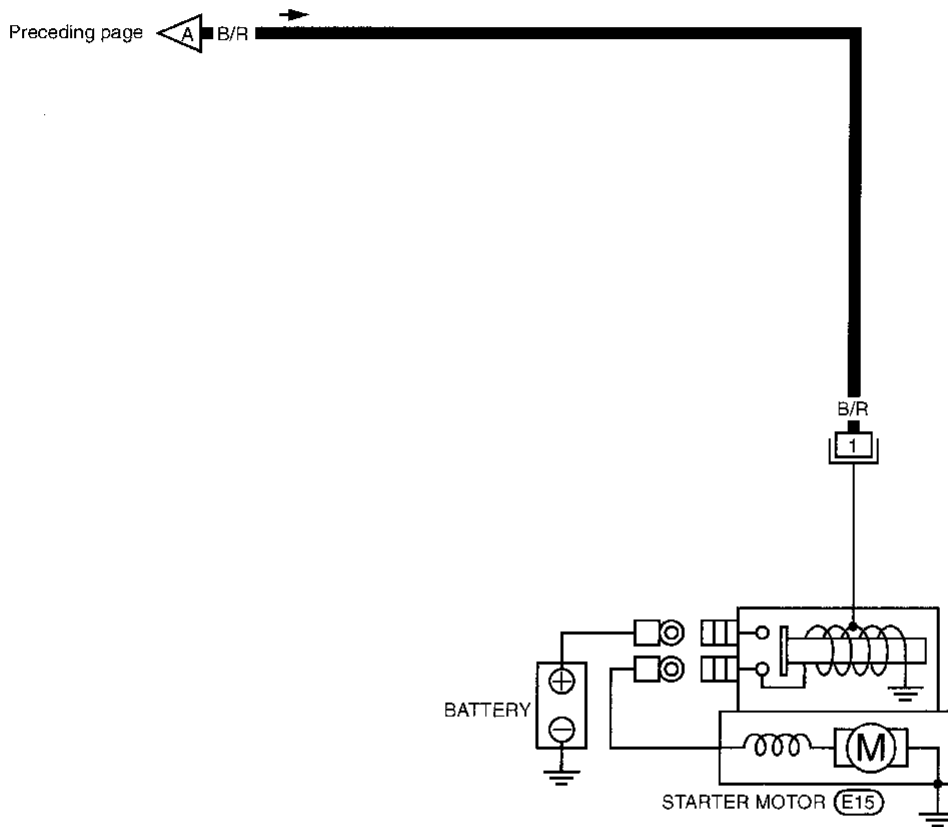
EL-START-03



STARTING SYSTEM

Wiring Diagram — START — (Cont'd)

EL-START-04



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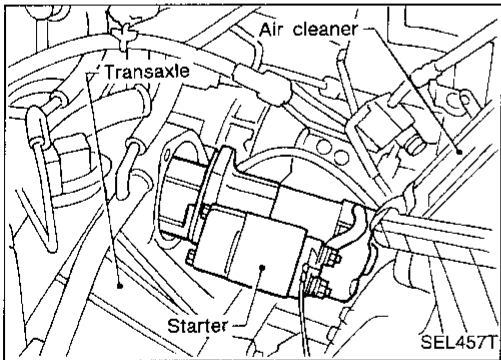
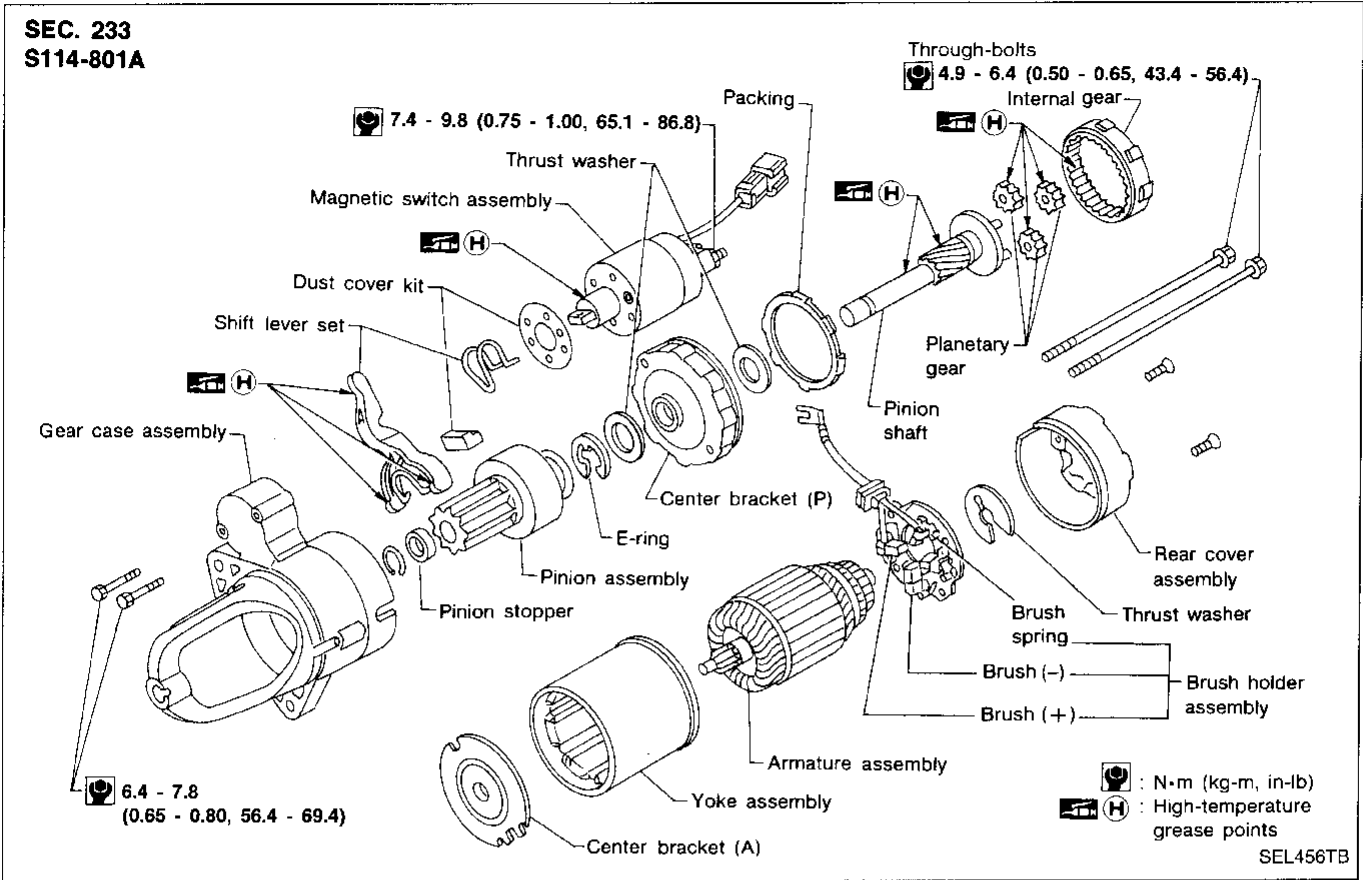
EL

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STARTING SYSTEM

Construction

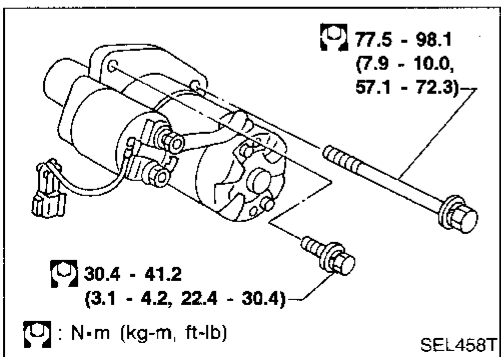
SEC. 233
S114-801A



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

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CHARGING SYSTEM

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 ⑤ through:

- 140A fusible link (letter ②), located in the fuse and fusible link box), and
- 7.5A fuse (No. ⑥), located in the fuse and fusible link box).

Voltage output through alternator terminal ⑥, is controlled by the IC regulator at terminal ⑤. The charging circuit is protected by the 140A fusible link.

Terminal ⑦ of the alternator supplies ground through body ground (E35).

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

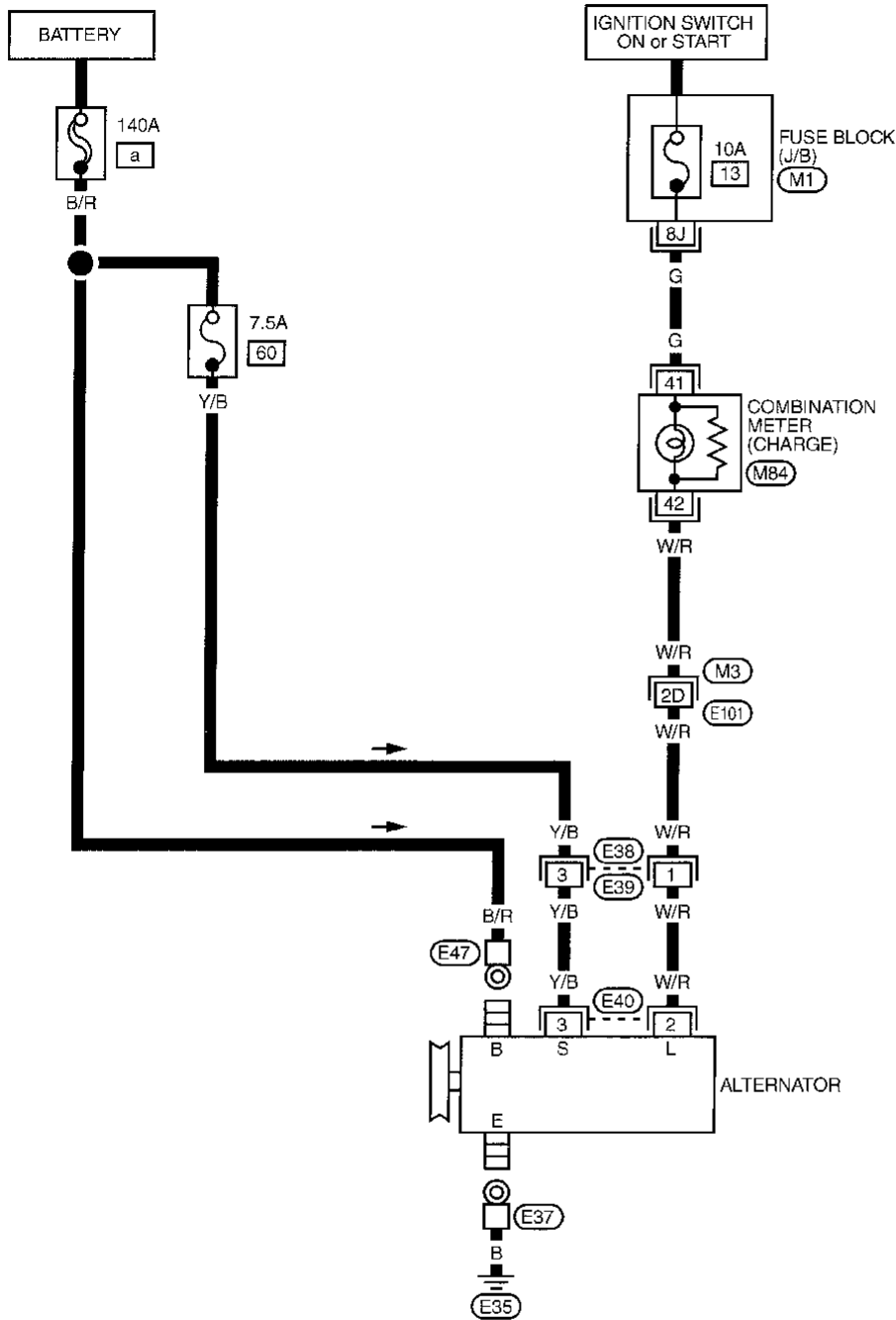
- through 10A fuse [No. ⑬], located in the fuse block (J/B)]
- to combination meter terminal ④ for the charge warning indicator.

Ground is supplied to terminal ④ of the combination meter through terminal ⑦ 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-35).

CHARGING SYSTEM

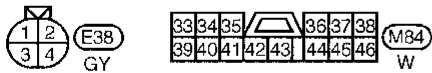
Wiring Diagram — CHARGE —



EL-CHARGE-01

Refer to EL-POWER.

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Refer to last page (Foldout page).

(M3), (E101)

(M1)

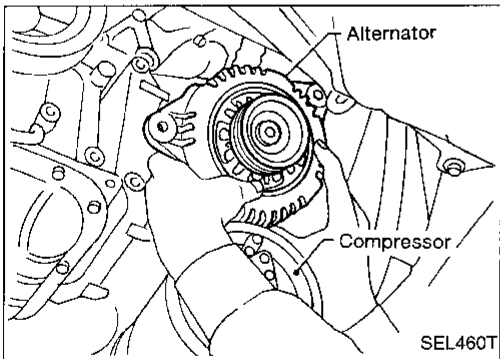
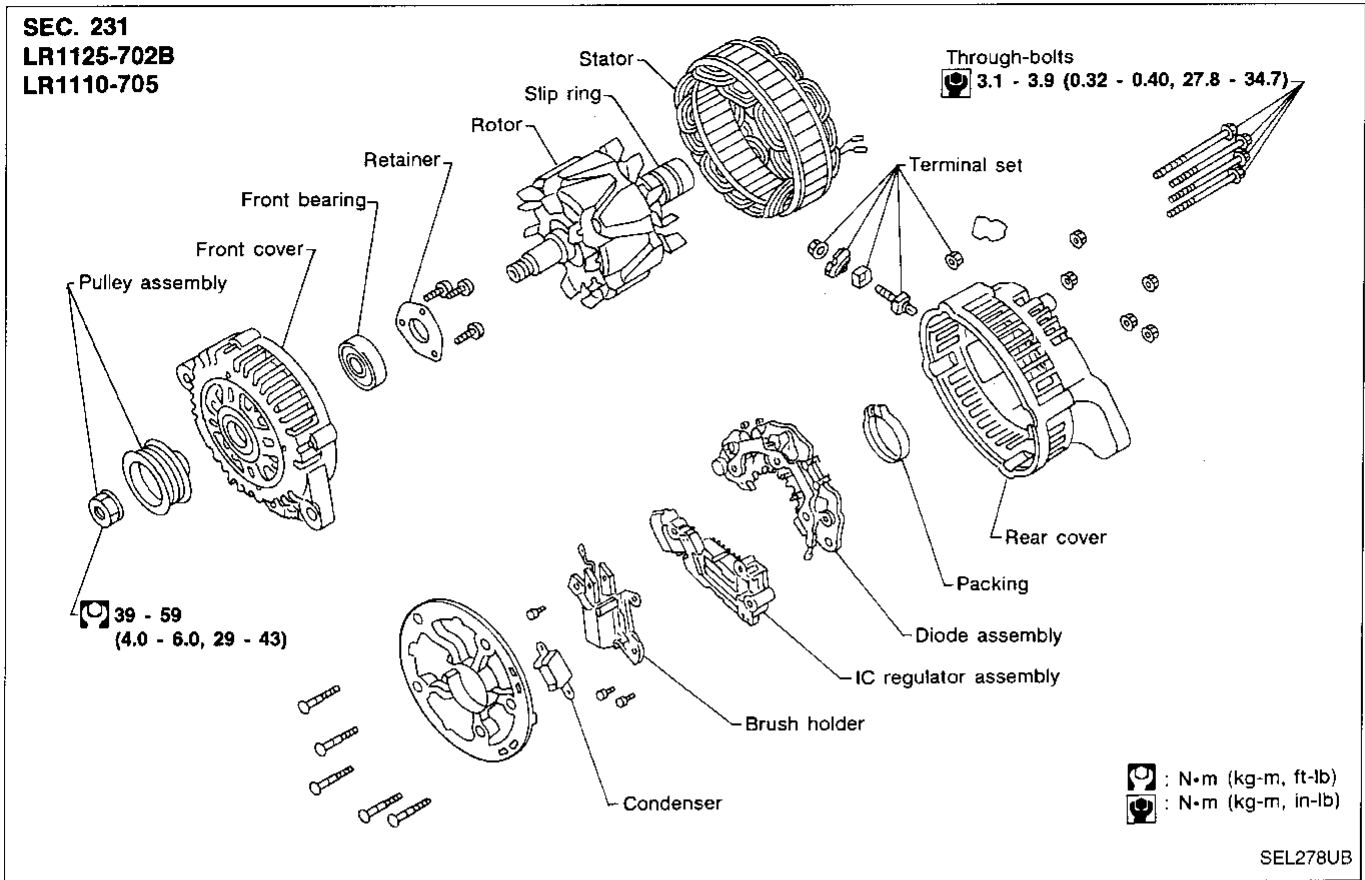
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CHARGING SYSTEM

Construction



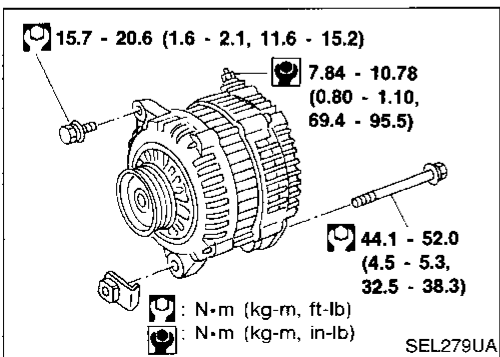
Removal and Installation

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.

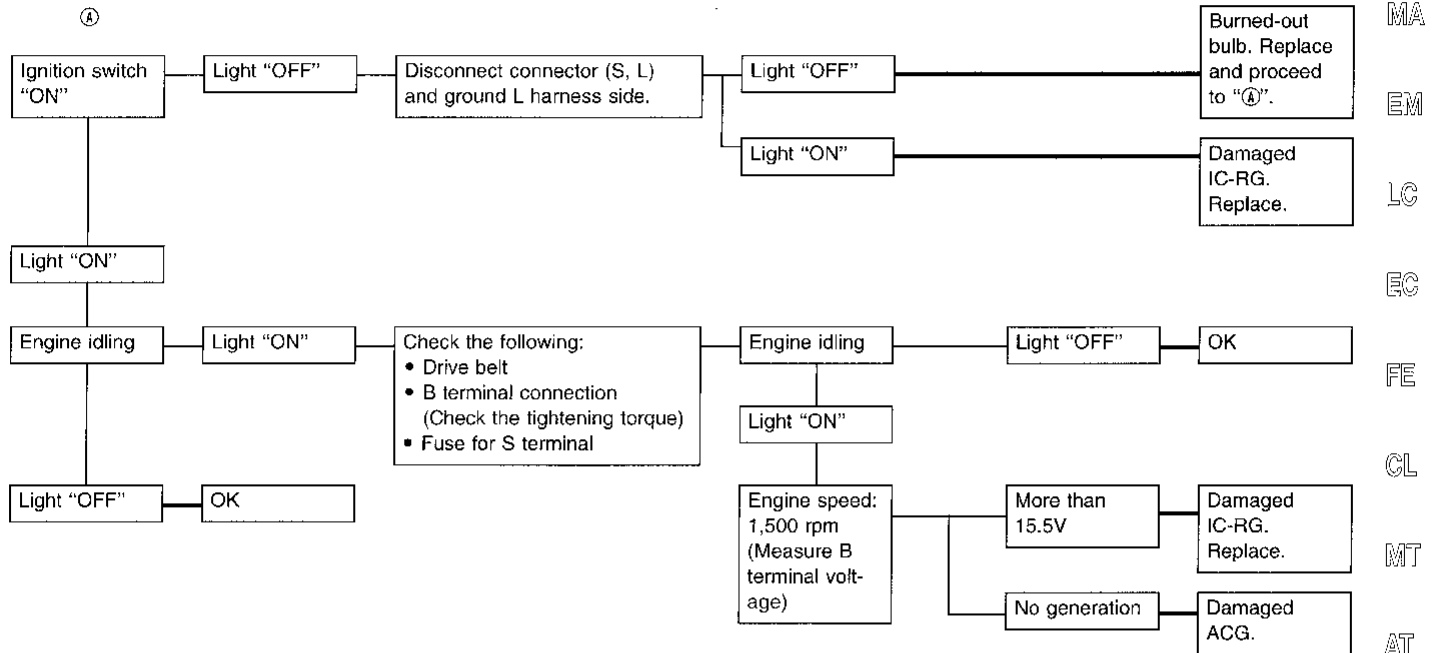


Trouble Diagnoses

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.

WITH IC REGULATOR



Make sure connector (S, L) is connected correctly.

- 1) Use fully charged battery.
- 2) Light : Charge warning light
ACG : Alternator parts except IC regulator
IC-RG : IC regulator
OK : IC-alternator is in good condition.
- 3) When reaching "Damaged ACG", remove alternator from vehicle and disassembly, inspect and correct or replace faulty parts.

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CHARGING SYSTEM

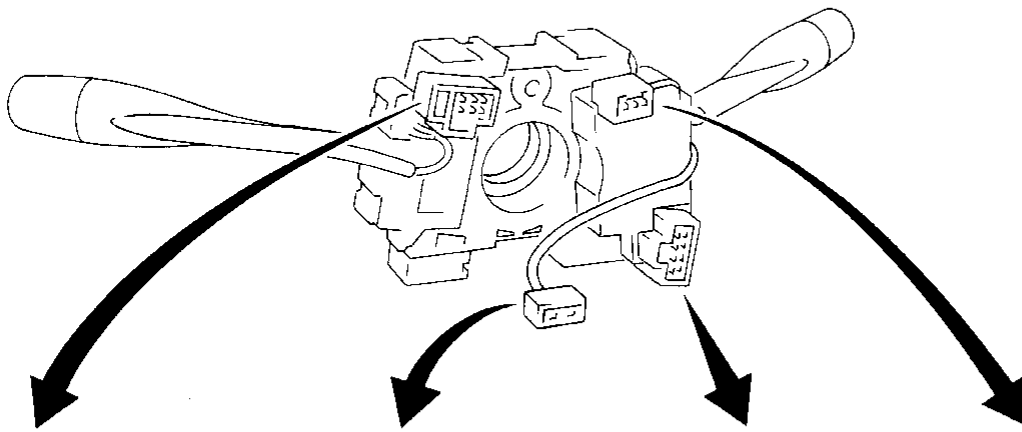
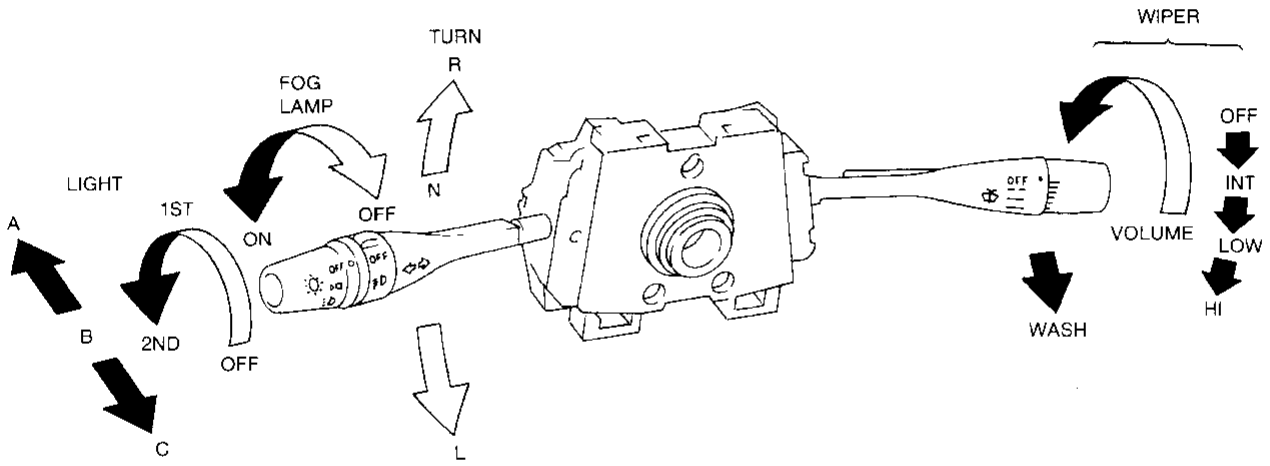
Service Data and Specifications (SDS)

ALTERNATOR

Type		LR1125-702B	LR1110-705
		HITACHI make	
Applied model		Non-California and Canada models	California models
Nominal rating	V-A	12-125	12-110
Ground polarity		Negative	
Minimum revolution under no-load (When 13.5 volts is applied)	rpm	Less than 1,100	Less than 1,000
Hot output current (When 13.5 volts is applied)	A/rpm	More than 36/1,300 More than 94/2,500 More than 123/5,000	More than 34/1,300 More than 82/2,500 More than 105/5,000
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	2.35	2.31

COMBINATION SWITCH

Combination Switch/Check

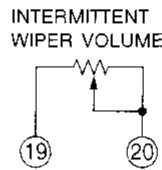


LIGHTING SWITCH

	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					



FRONT FOG LAMP SWITCH

	OFF	ON
31		
32		

TURN SIGNAL LAMP SWITCH

	L	N	R
1			
2			
3			

CORNERING LAMP SWITCH

	L	N	R
61			
62			
63			

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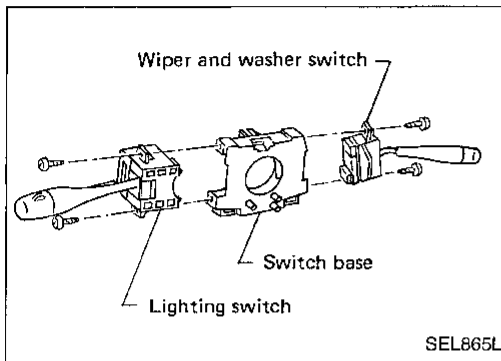
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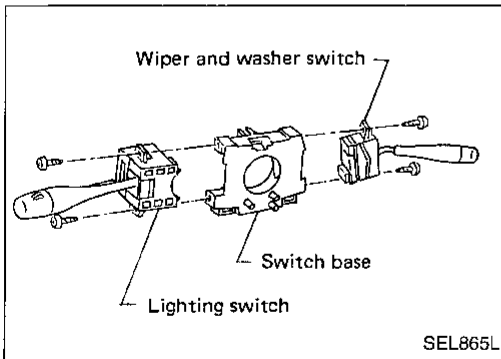
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COMBINATION SWITCH



Combination Switch/Replacement

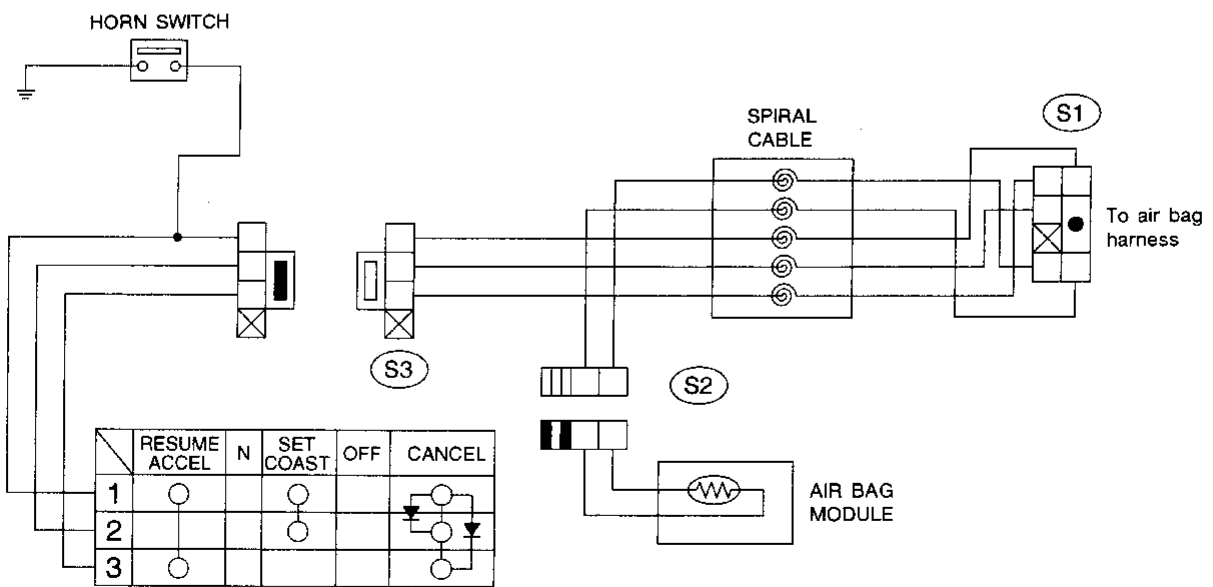
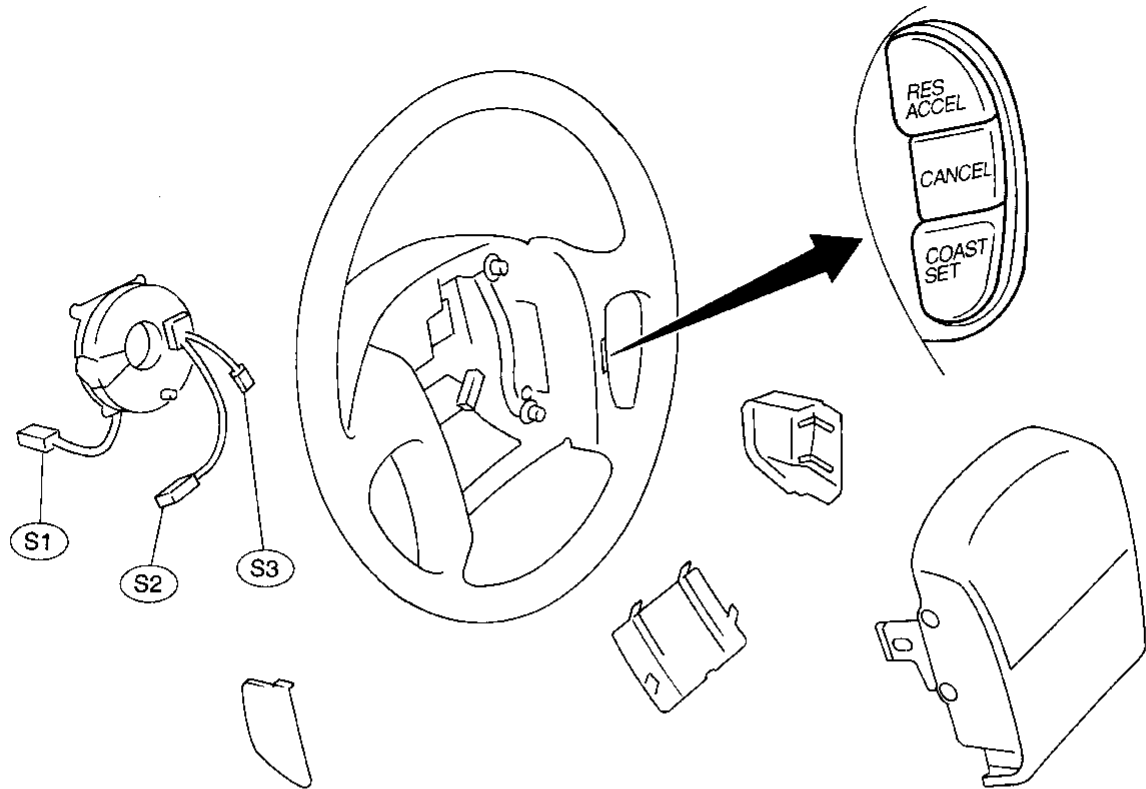
- Each switch can be replaced without removing combination switch base.



- To remove combination switch base, remove base attaching screw.

COMBINATION SWITCH

Steering Switch/Check



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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 E30.

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

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

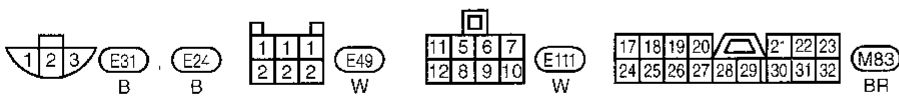
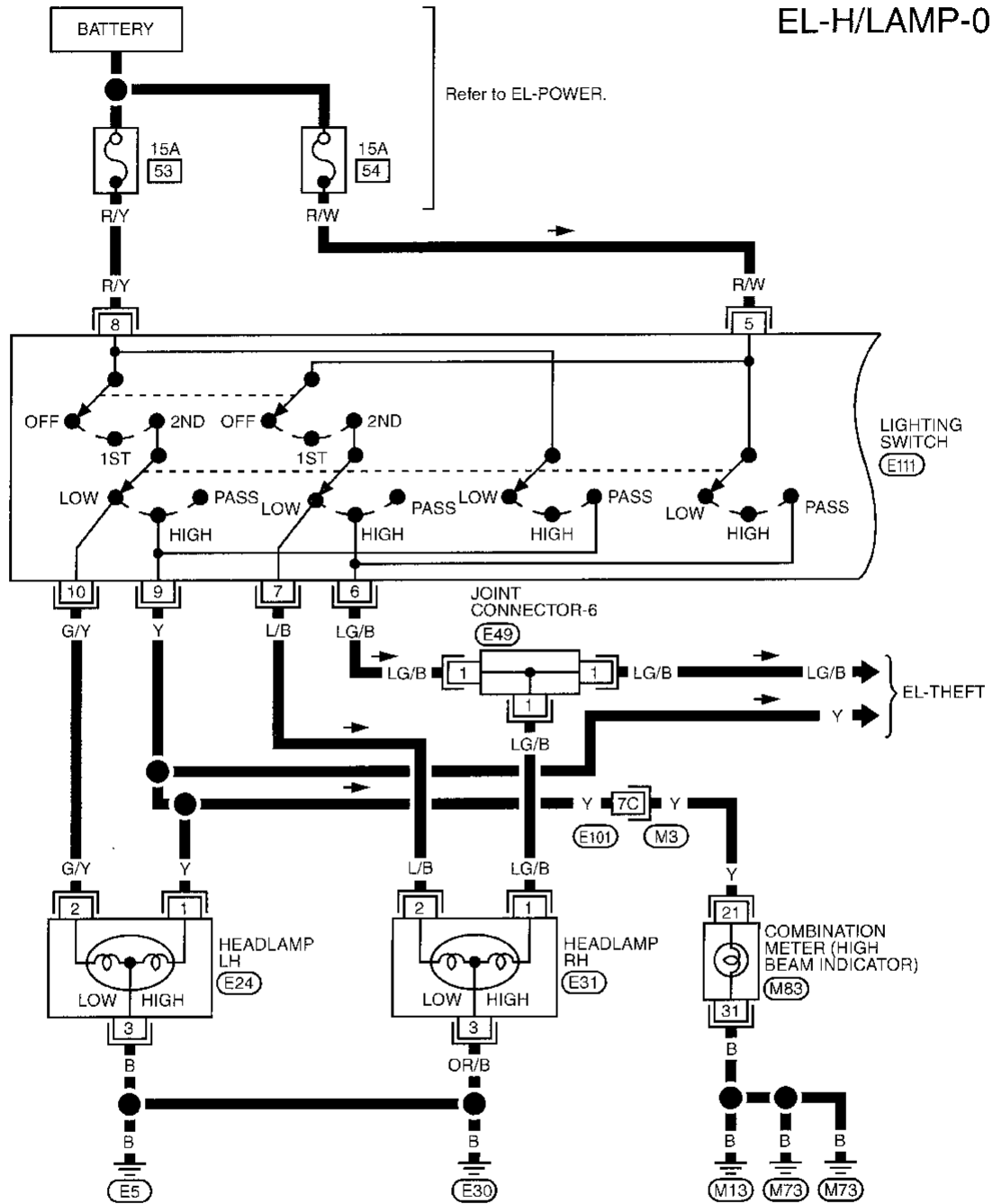
The theft warning system will flash the high beams if the system is triggered. Refer to “THEFT WARNING SYSTEM — IVMS” (EL-245).

HEADLAMP

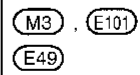
Wiring Diagram — H/LAMP —

FOR U.S.A.

EL-H/LAMP-01



Refer to last page (Foldout page).



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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.

System Description (For Canada)

The headlamp system for Canada vehicles contains a daytime light control unit. It 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.

Power is supplied at all times

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

Power is also supplied at all times

- 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.

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.

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

HEADLAMP OPERATION

Low beam operation

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

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

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

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.

Ground is supplied to headlamp terminal ③ through body grounds E5 and E30 (through daytime light control unit).

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
- 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 ⑨
- to daytime light control unit terminal ⑧,
- through daytime light control unit terminal ⑥
- to RH headlamp terminal ①.

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

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

DAYTIME LIGHT OPERATION

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

- to daytime light control unit terminal ③,
- 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.

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

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HEADLAMP — Daytime Light System —

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	△*	△*	O	△*	△*	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"

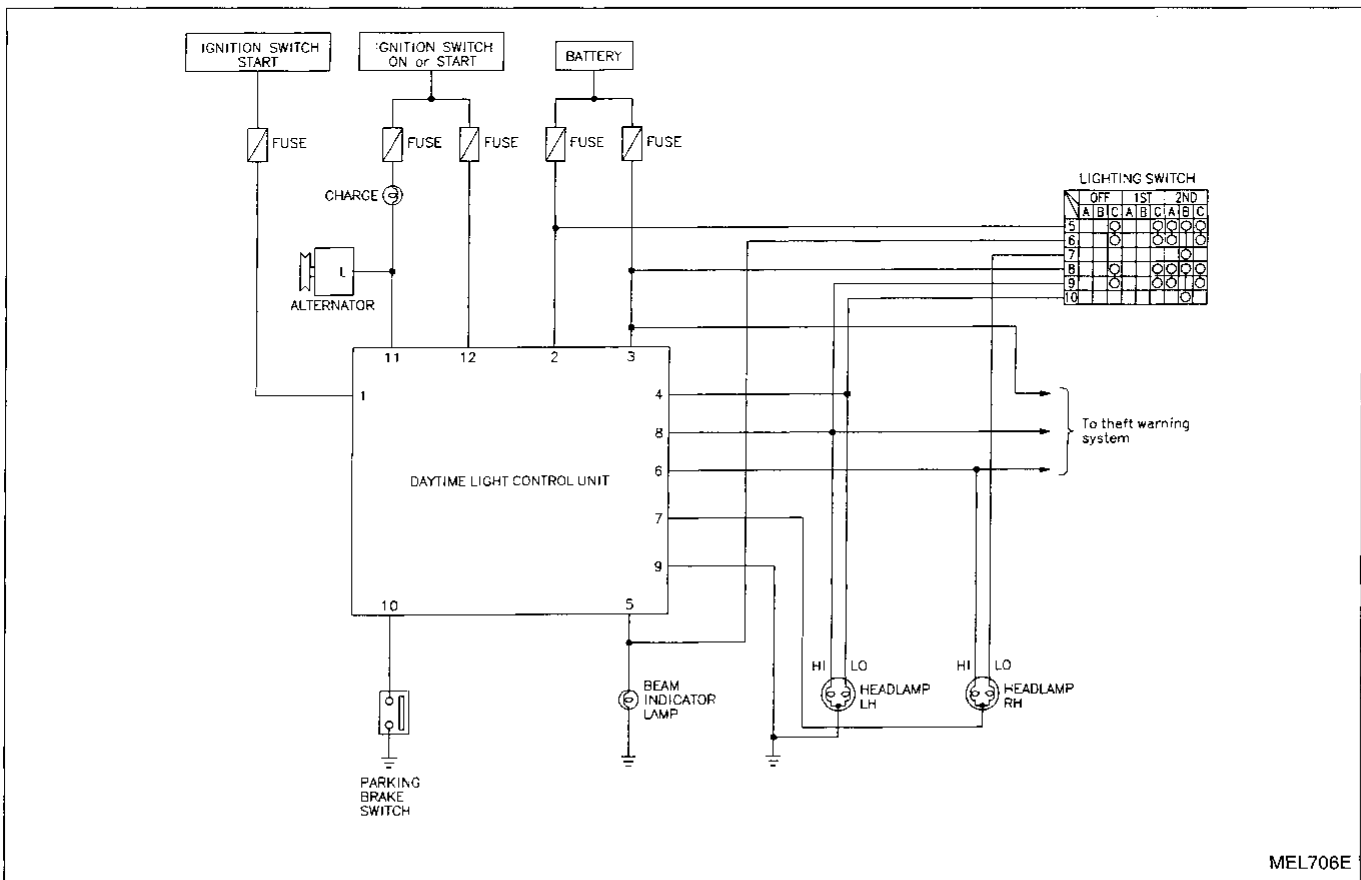
△ : Lamp dims.

* : 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



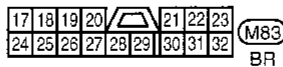
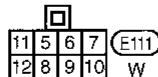
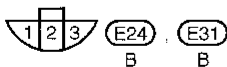
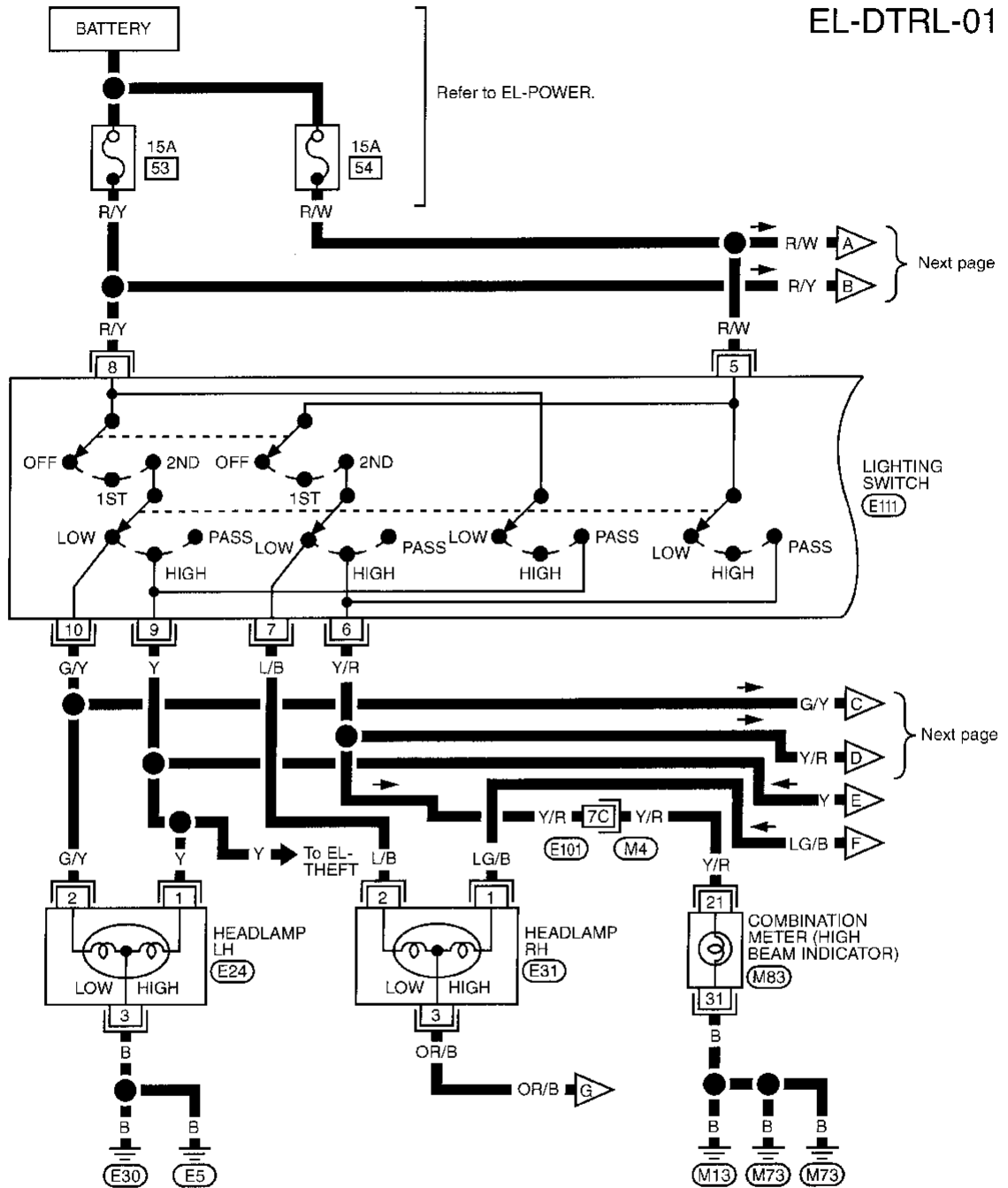
MEL706E

HEADLAMP — Daytime Light System —

Wiring Diagram — DTRL —

FOR CANADA

EL-DTRL-01



Refer to last page (Foldout page).
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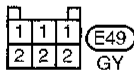
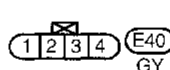
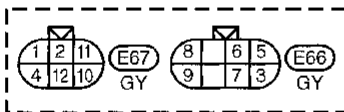
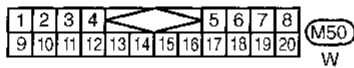
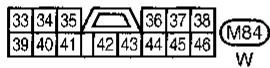
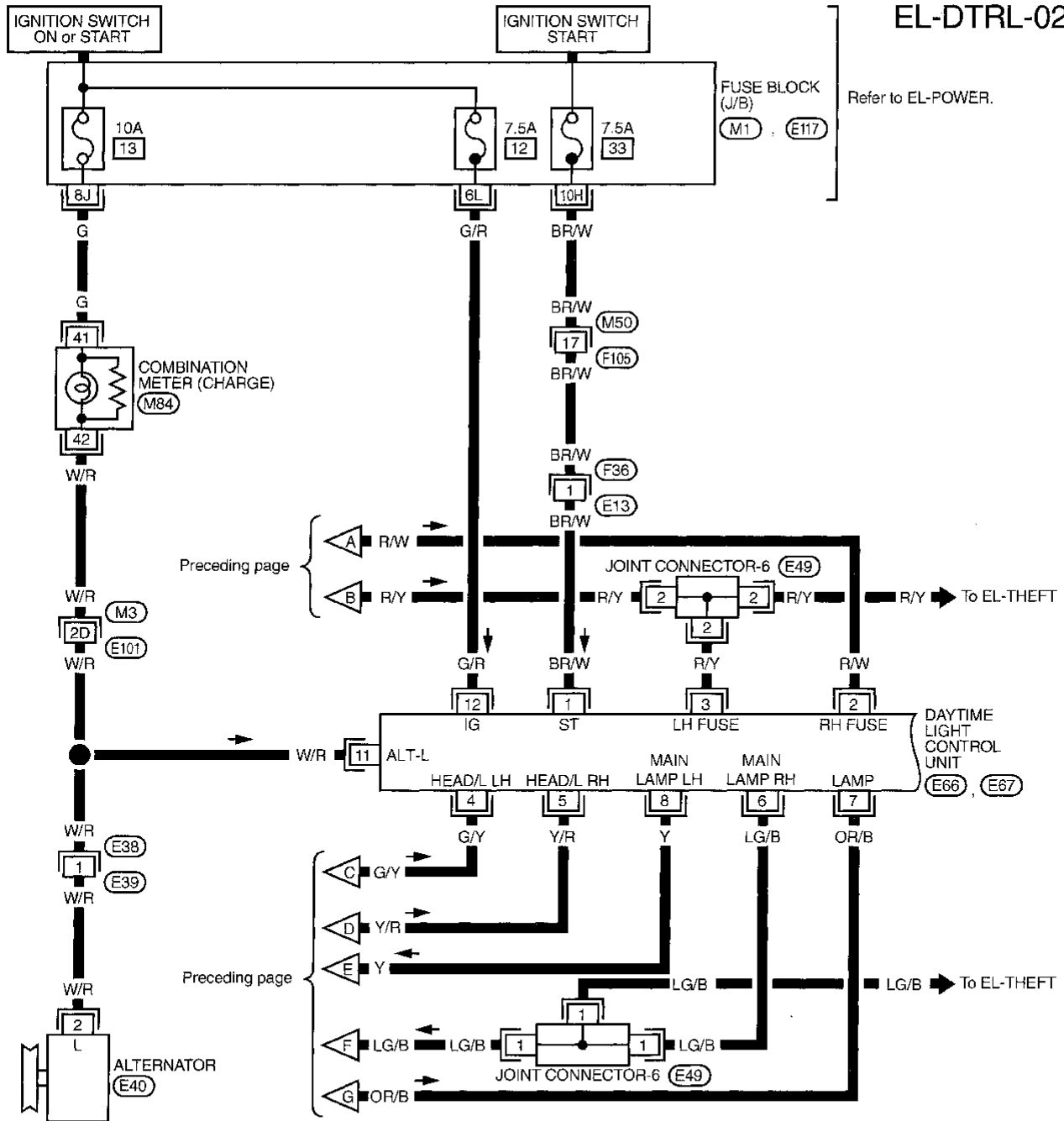
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HEADLAMP — Daytime Light System —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02



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(M3) , (E101)

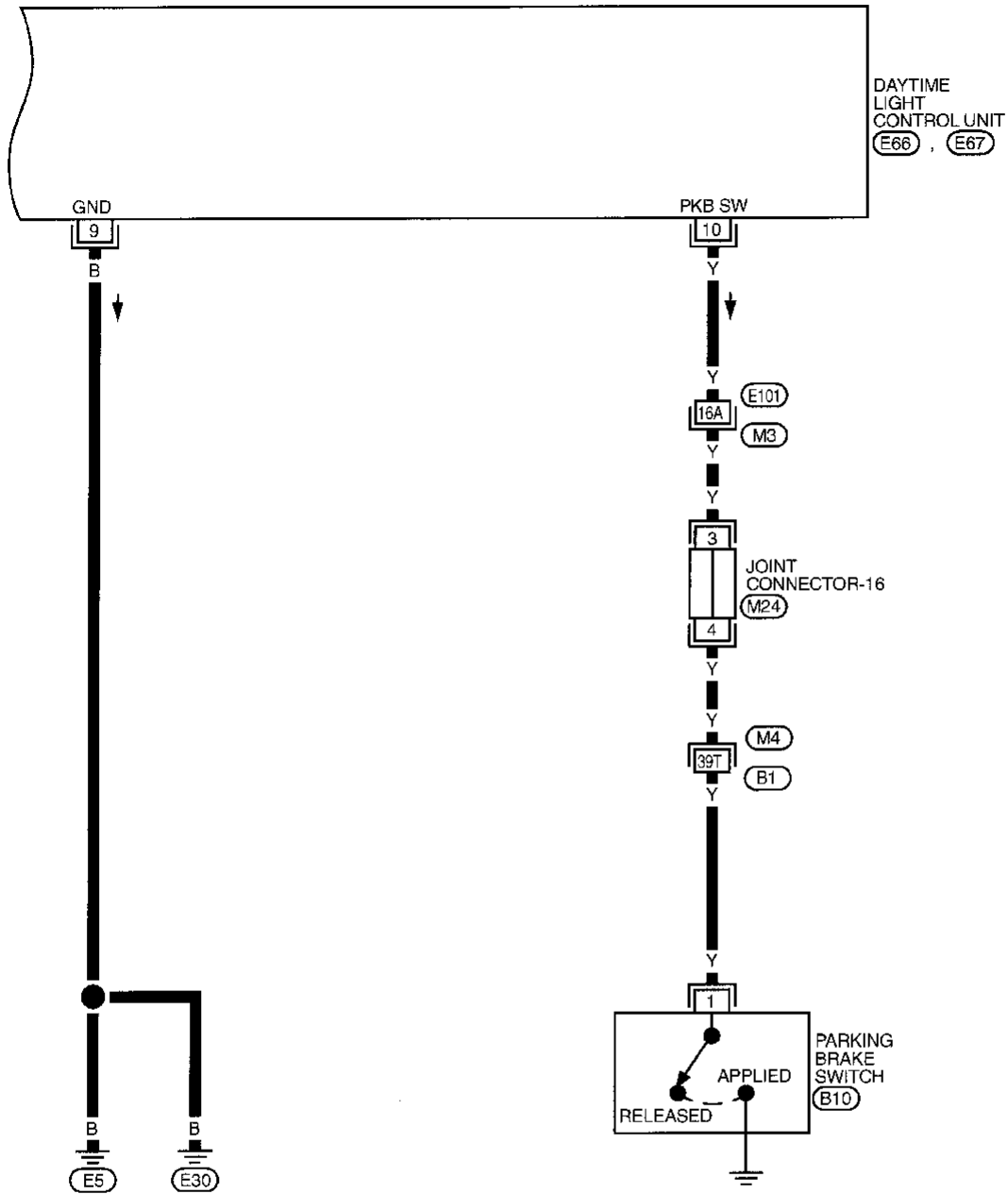
(M1) , (E117)

(E49)

HEADLAMP — Daytime Light System —

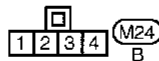
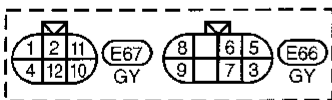
Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-03



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(M3), (E101)










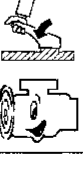
(M4), (B1)

(M24)

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 (Lo beam)	When turning lighting switch to "2ND" ("B")	Battery positive voltage
5	Lighting switch (Hi beam)	When turning lighting switch to "HIGH" ("A")	Battery positive voltage
		When turning lighting switch to "PASS" ("C")	Battery positive voltage
6	RH hi 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 hi 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
9	Ground	—	—

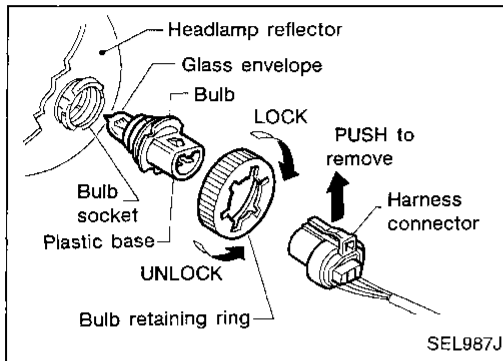
HEADLAMP — Daytime Light System —

Trouble Diagnoses (For Canada) (Cont'd)

Terminal No.	Item	Condition		Judgement standard
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"	1V or less
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"	1V or less

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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.**

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.

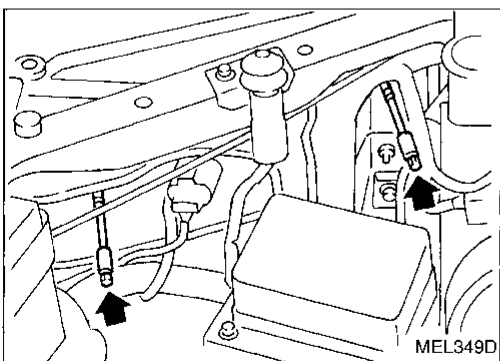
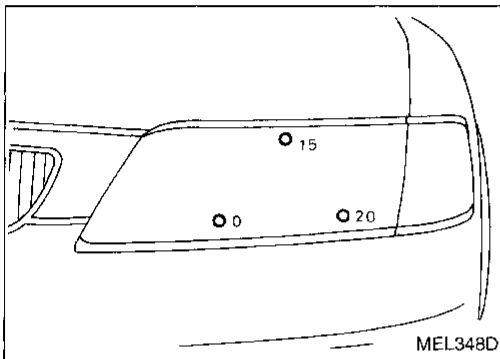
- a. **Keep all tires inflated to correct pressures.**
- b. **Place vehicle and tester on one and same flat surface.**
- c. **See that there is no-load in vehicle (coolant, engine oil filled up to correct level and full fuel tank) other than the driver (or equivalent weight placed in driver's position).**

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

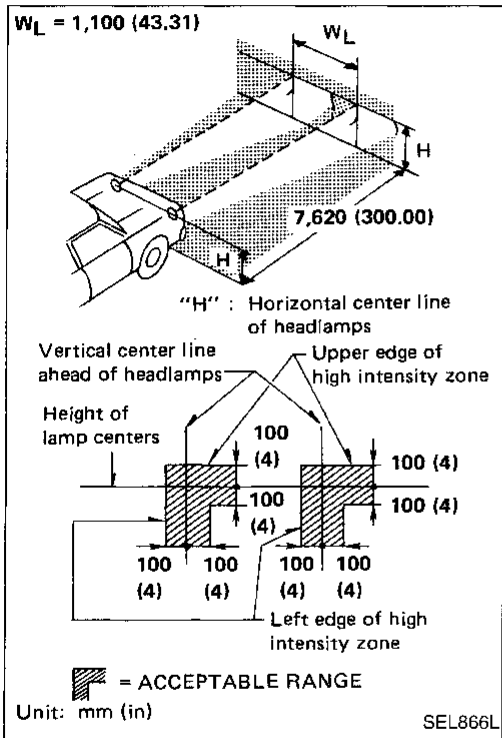


LOW BEAM

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.**

HEADLAMP

Aiming Adjustment (Cont'd)



- 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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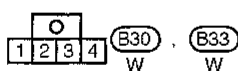
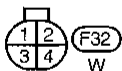
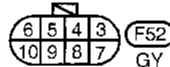
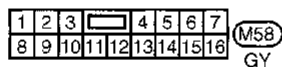
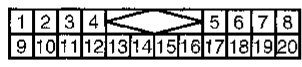
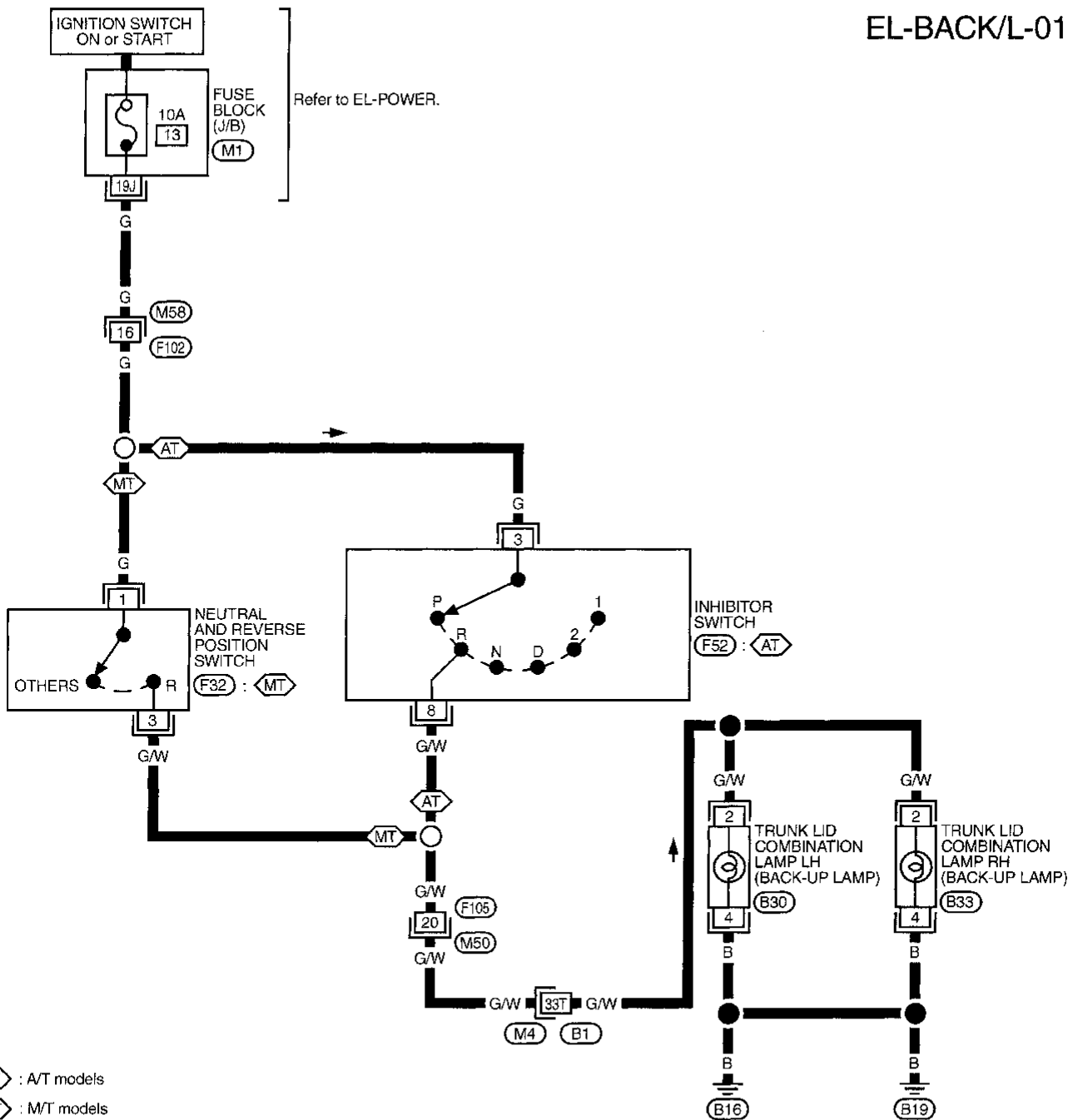
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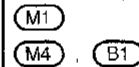
EXTERIOR LAMP

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

EL-BACK/L-01



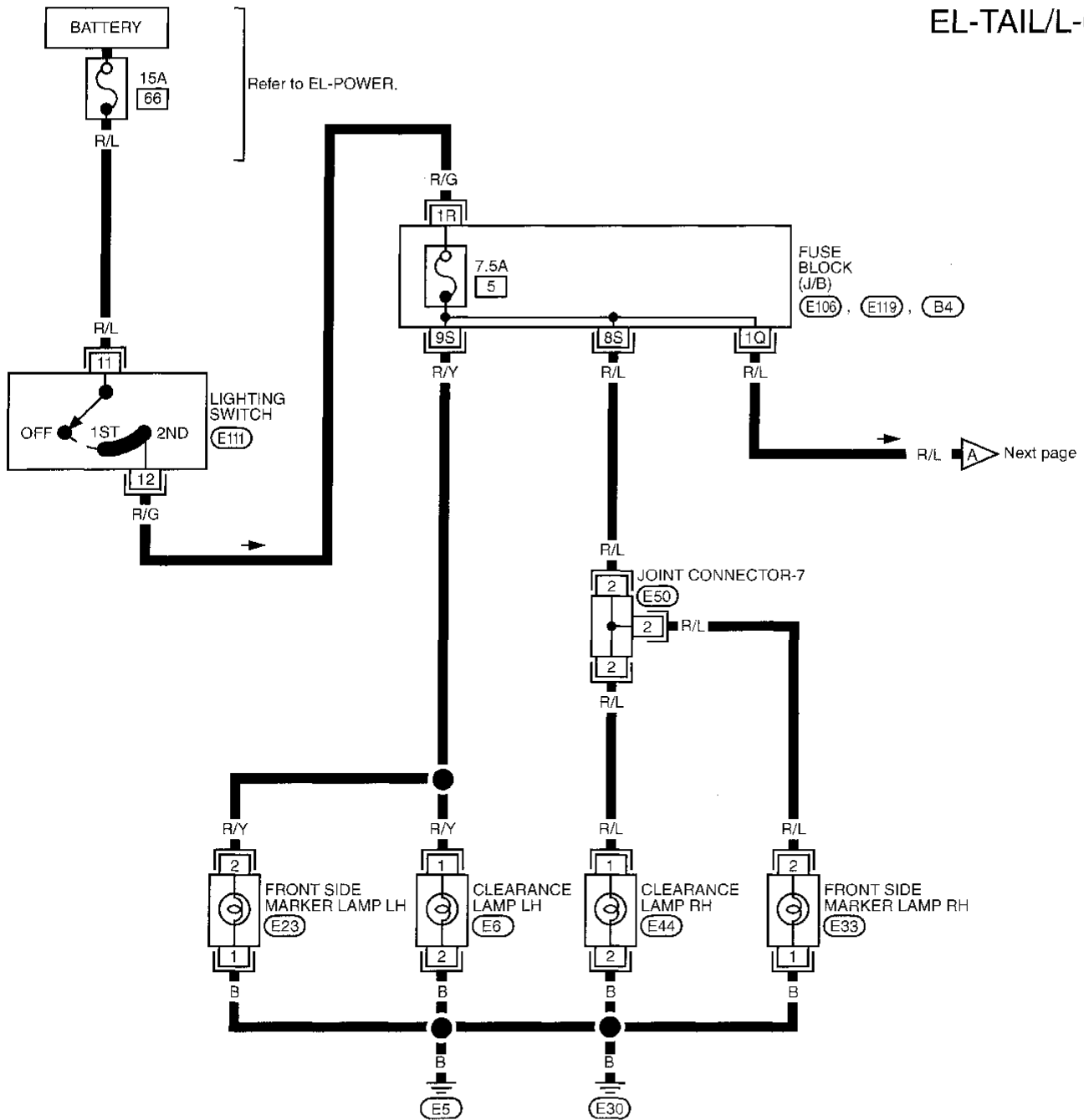
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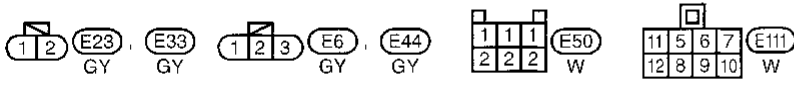
EXTERIOR LAMP

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

EL-TAIL/L-01



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 (B4), (E106)
 (E119)
 (E50)

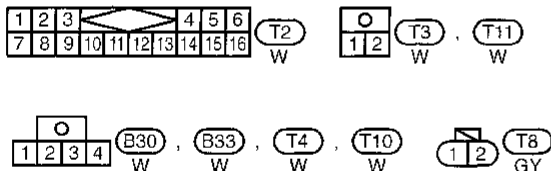
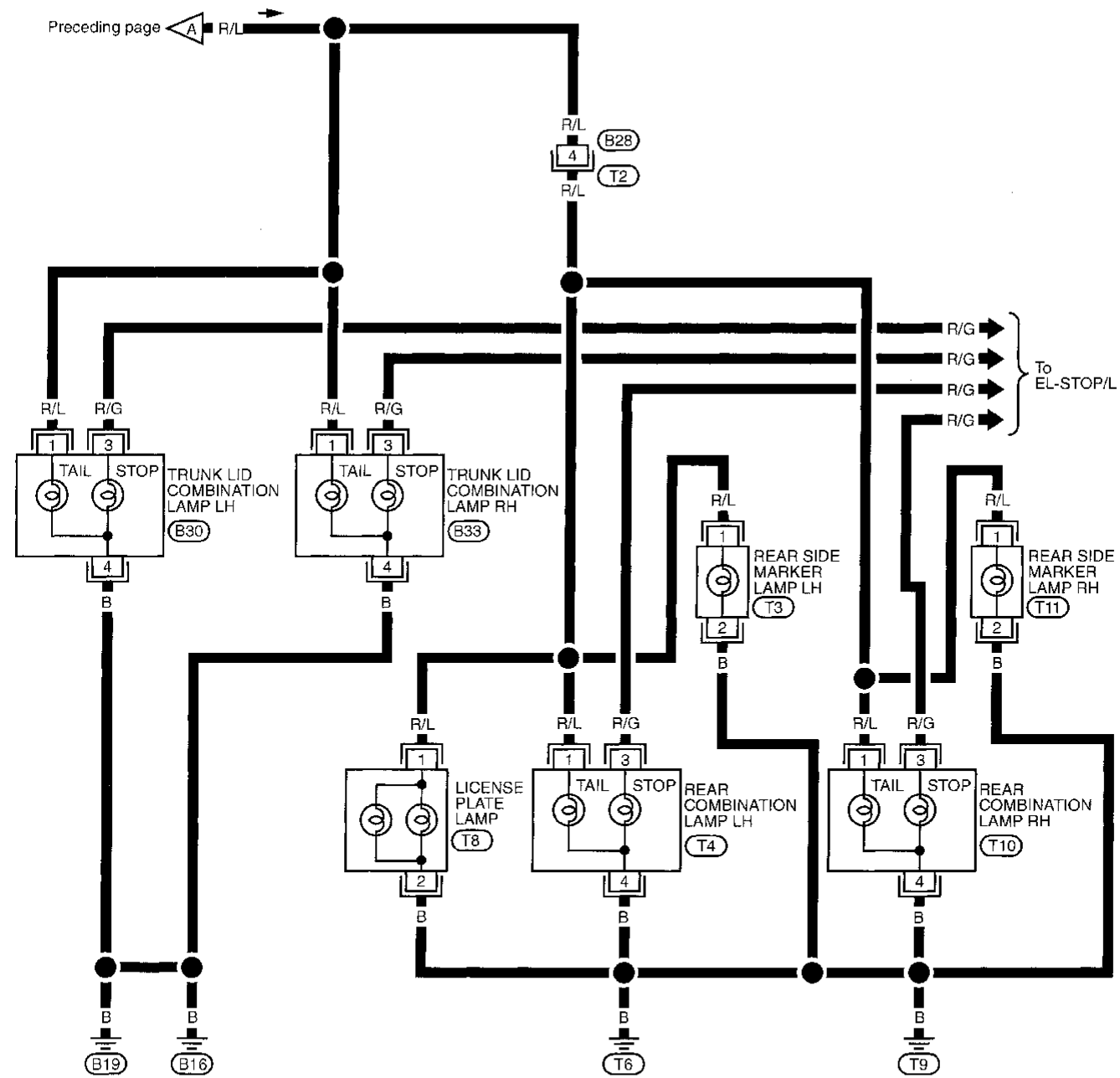


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EXTERIOR LAMP

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

EL-TAIL/L-02



MEL708E

EXTERIOR LAMP

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 ⑤ and ⑩ .

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 ⑤ and ⑩ .

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

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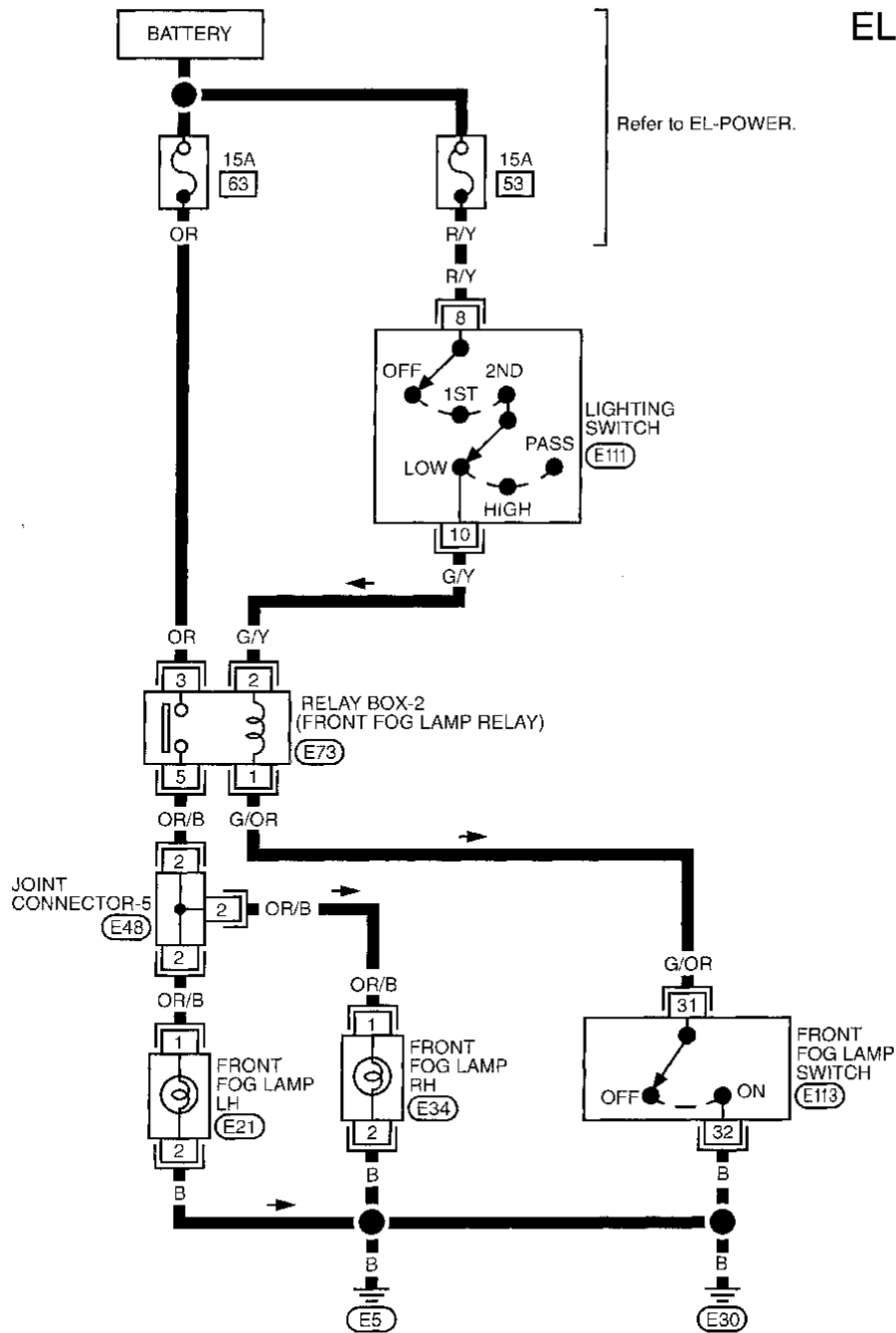
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EXTERIOR LAMP

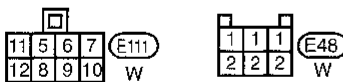
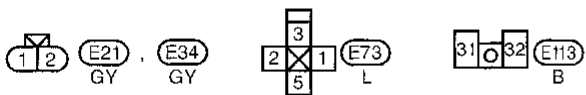
Front Fog Lamp/Wiring Diagram — F/FOG —

EL-F/FOG-01



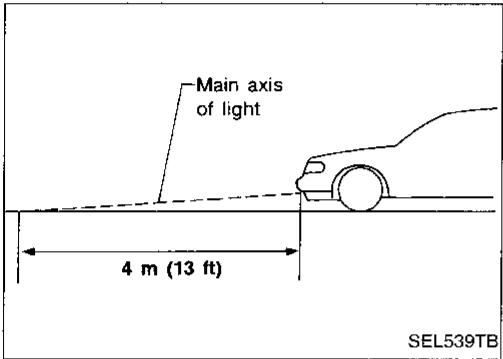
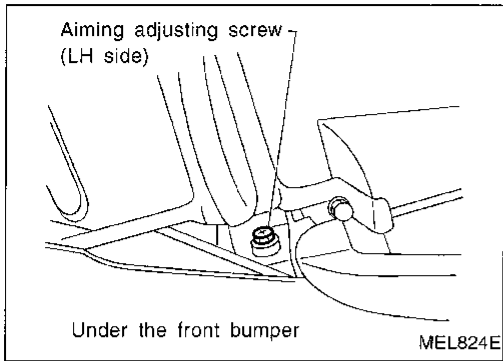
Refer to EL-POWER.

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(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.

Check the distance between the vehicle and the ground point where the main axis of light of fog lamp reaches. Keep the distance within 4 m (13 ft).

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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 ⑧
- through terminal ① 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 ⑩ (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 ⑩ 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 ⑩ (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 ⑩ 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 ⑧
- through terminal ① 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 ⑩ (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 ⑩ (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.

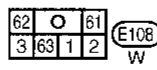
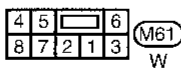
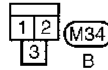
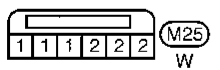
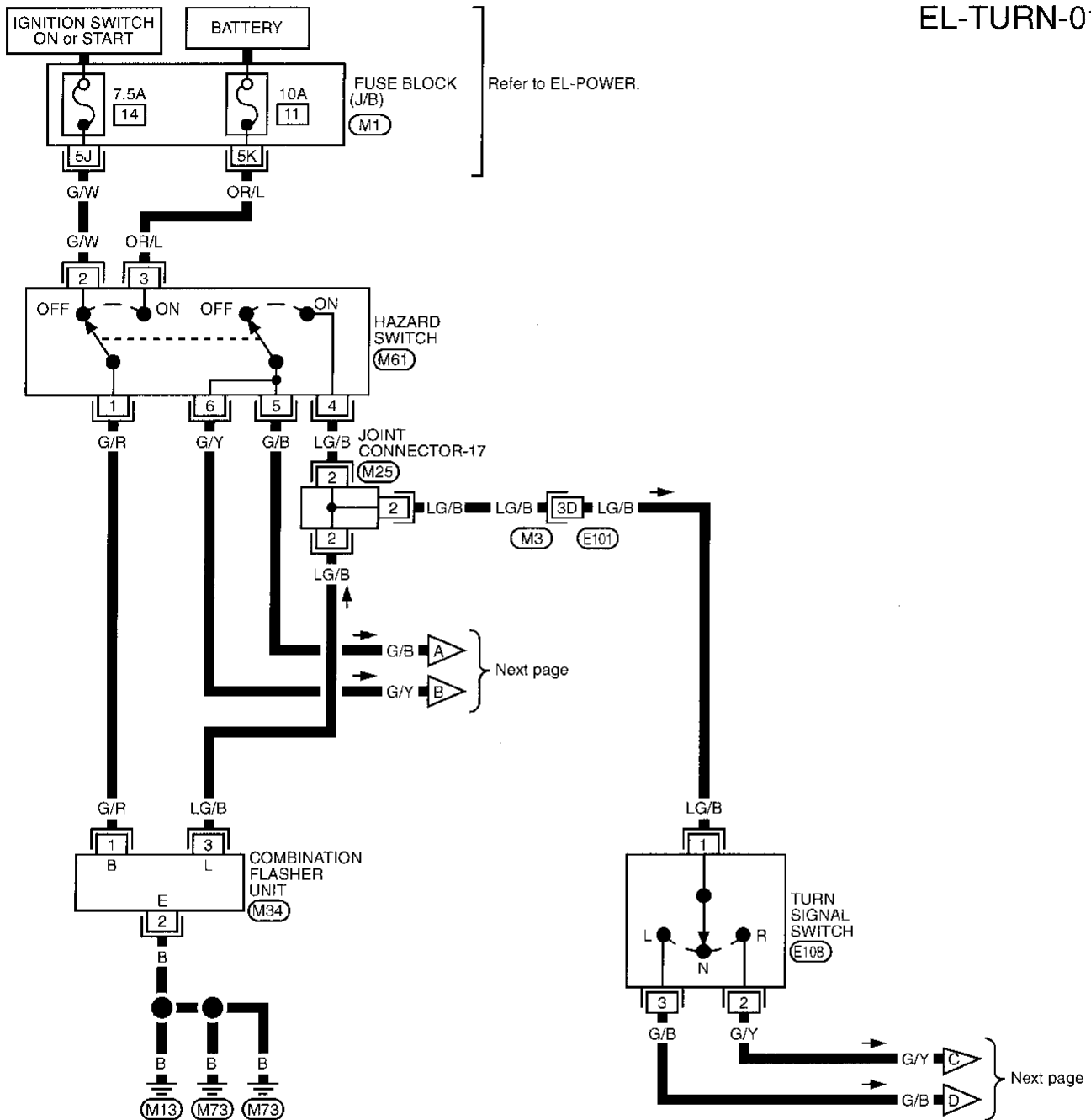
Ground is supplied to combination meter terminal ⑩ through body grounds M13 and M73.

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/Wiring Diagram — TURN —

EL-TURN-01



Refer to last page (Foldout page).

(M3), (E101)

(M1)

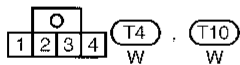
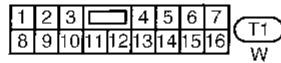
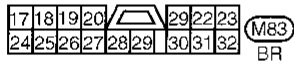
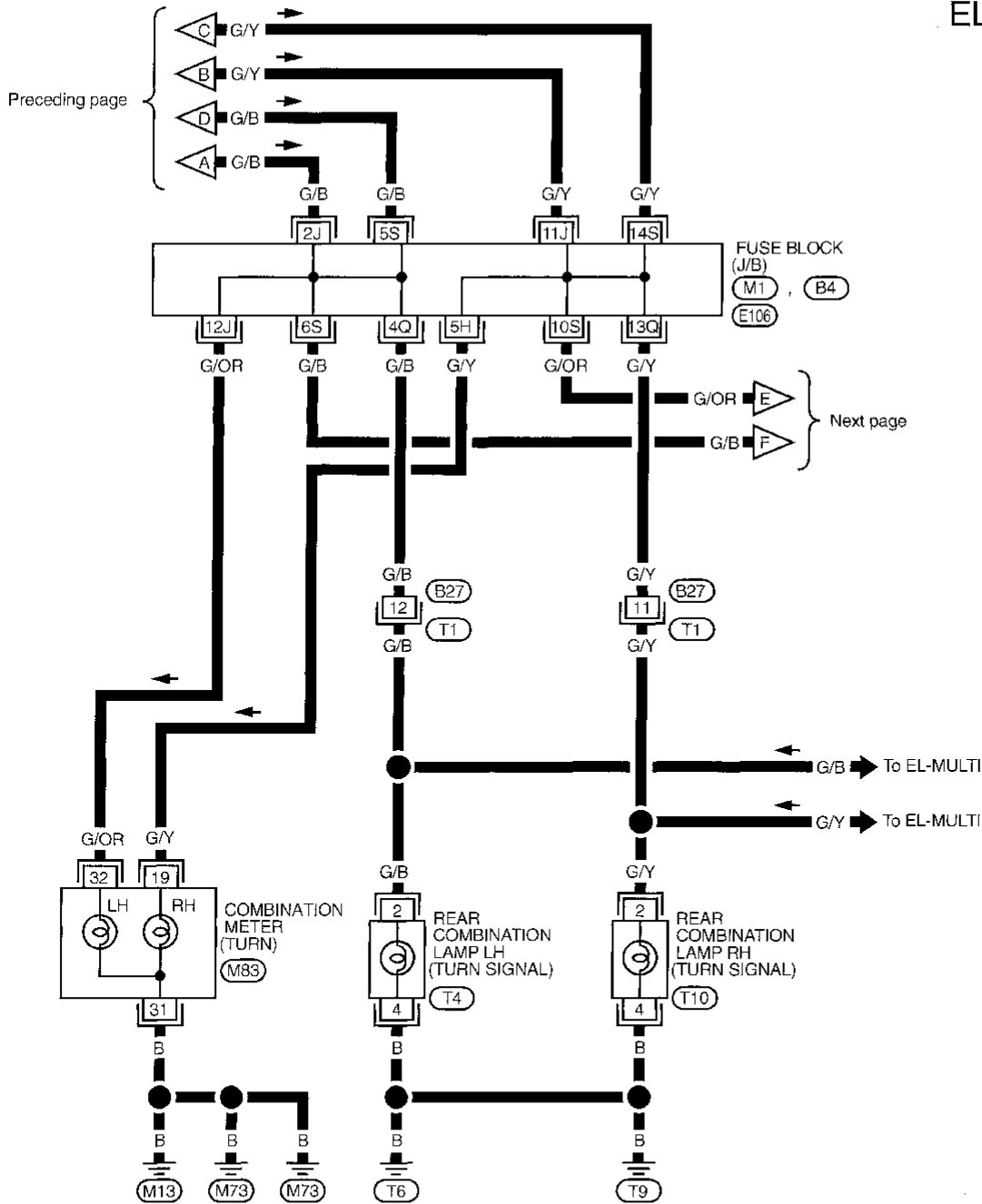
(M25)

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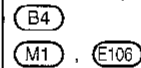
EXTERIOR LAMP

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

EL-TURN-02



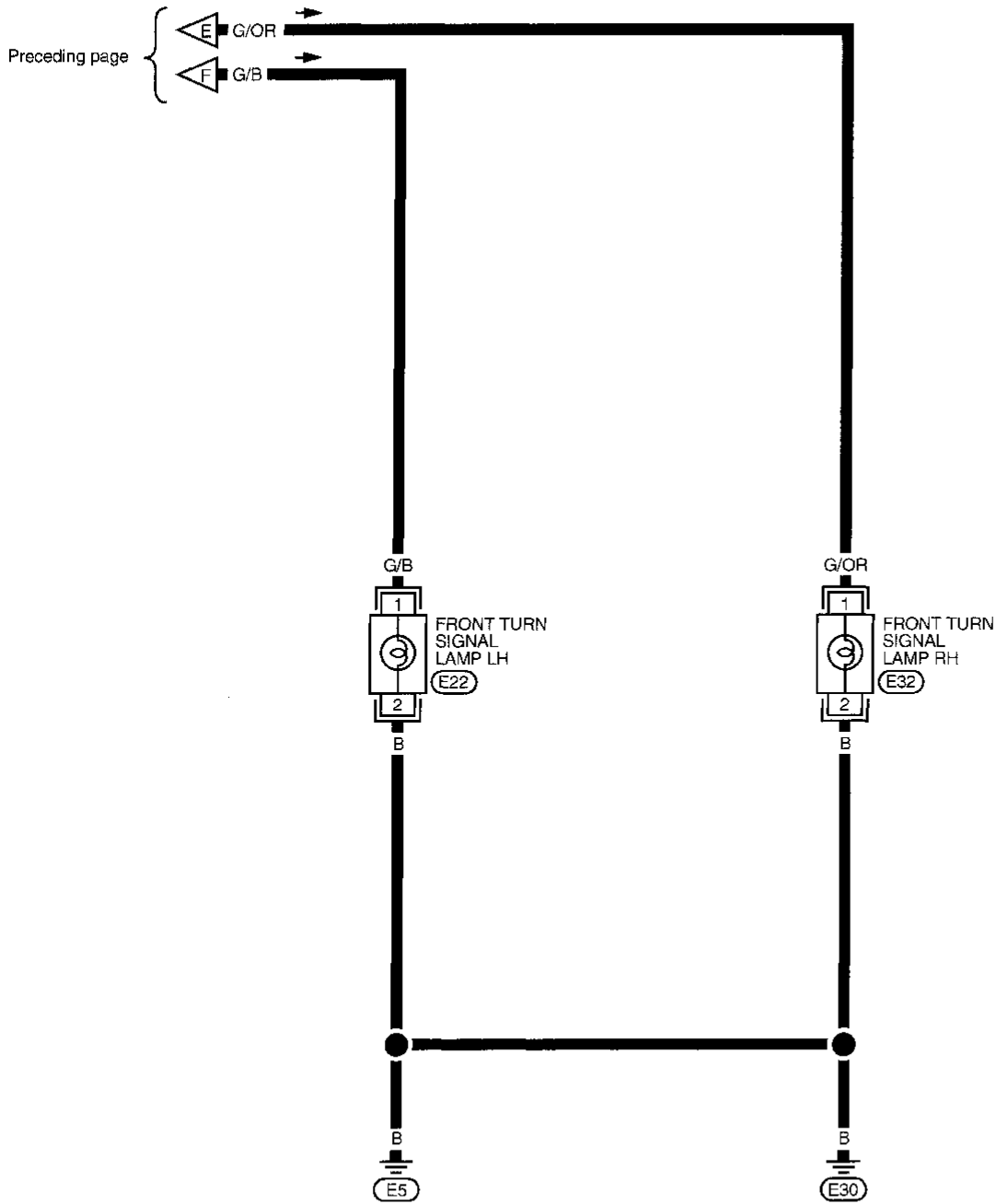
Refer to last page (Foldout page).



EXTERIOR LAMP

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

EL-TURN-03



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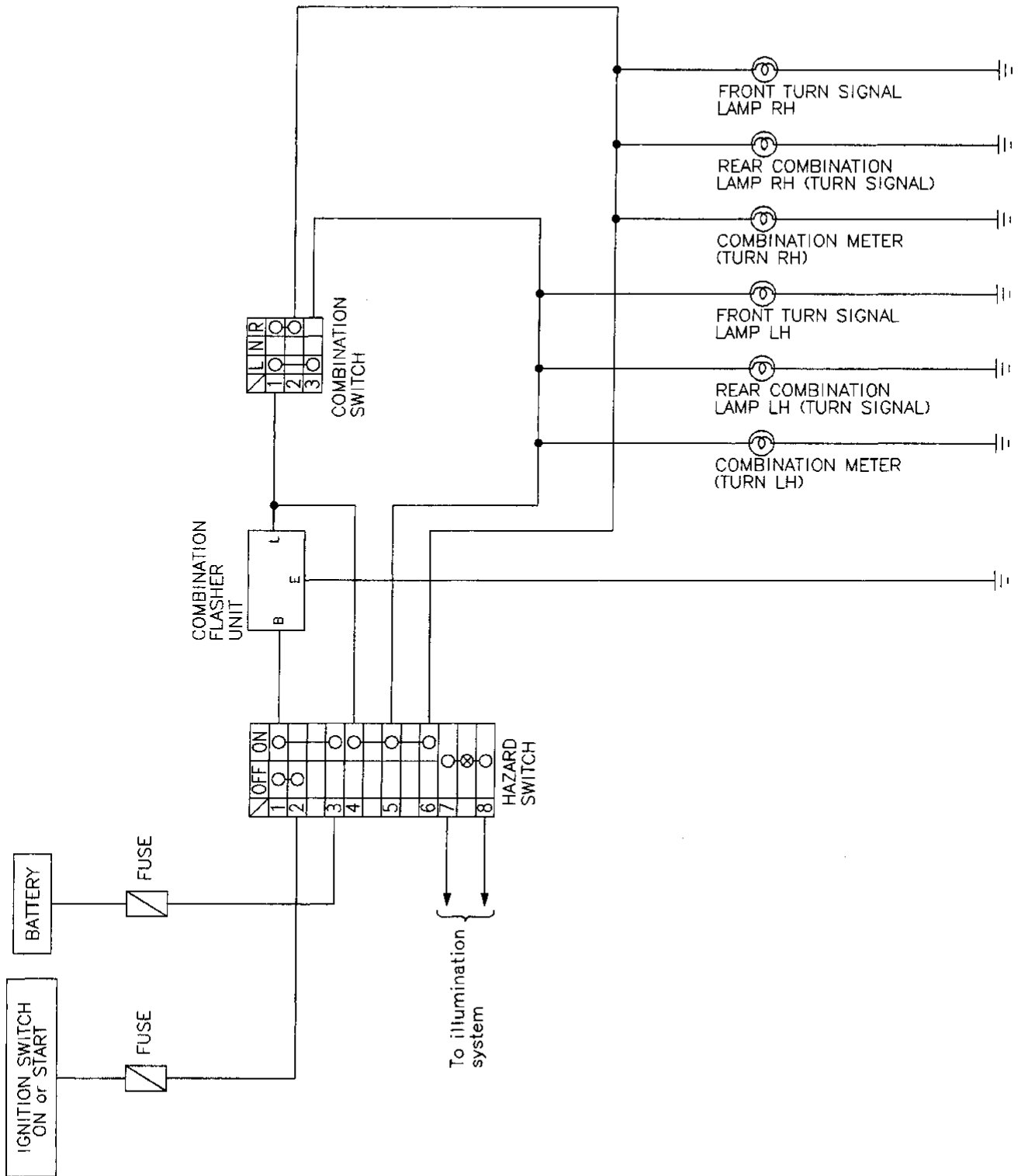
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EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/ Schematic



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

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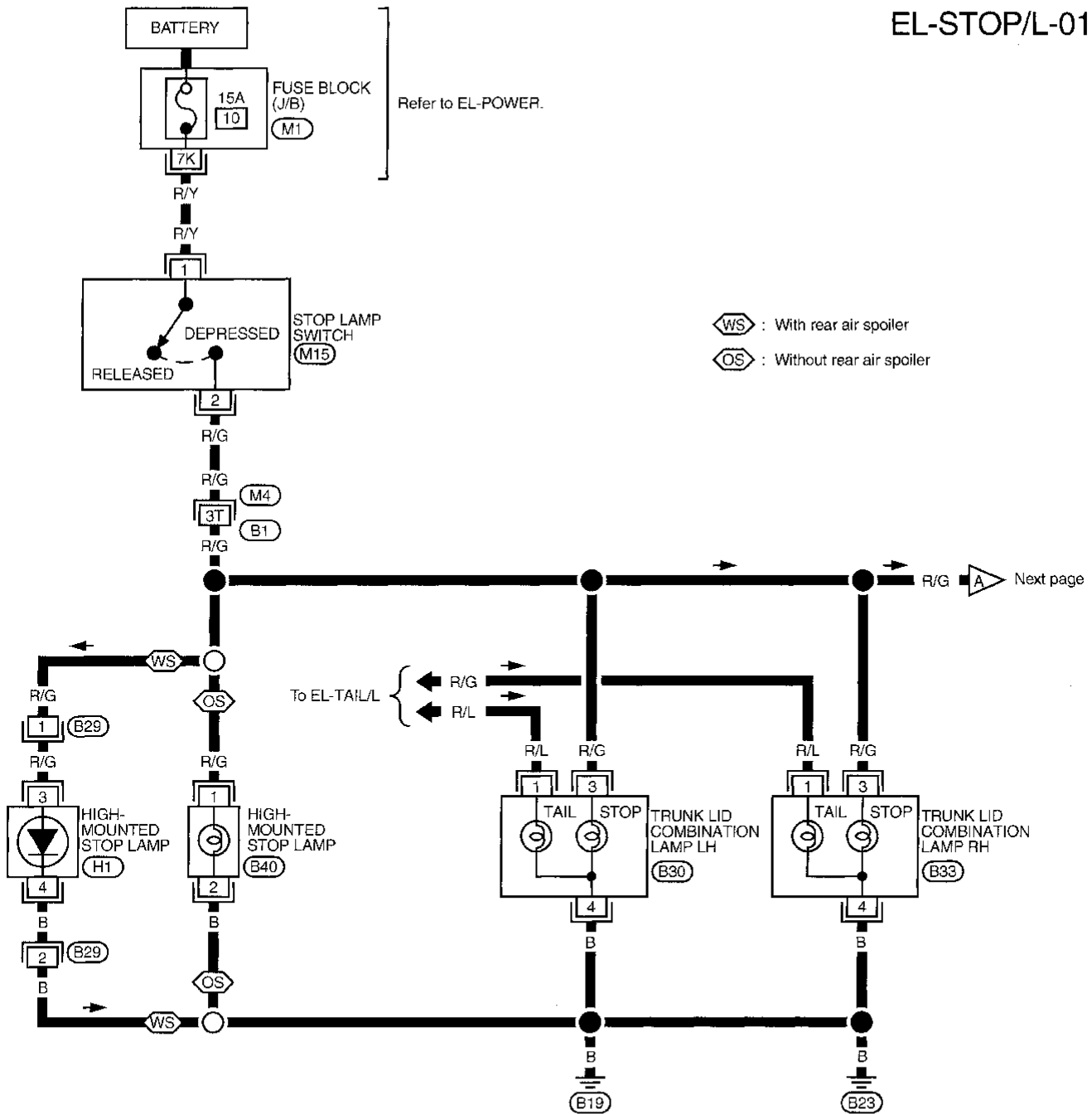
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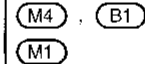
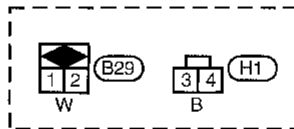
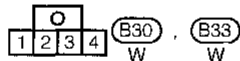
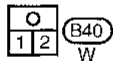
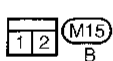
EXTERIOR LAMP

Stop Lamp/Wiring Diagram — STOP/L —

EL-STOP/L-01



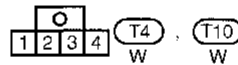
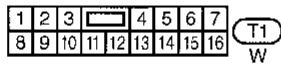
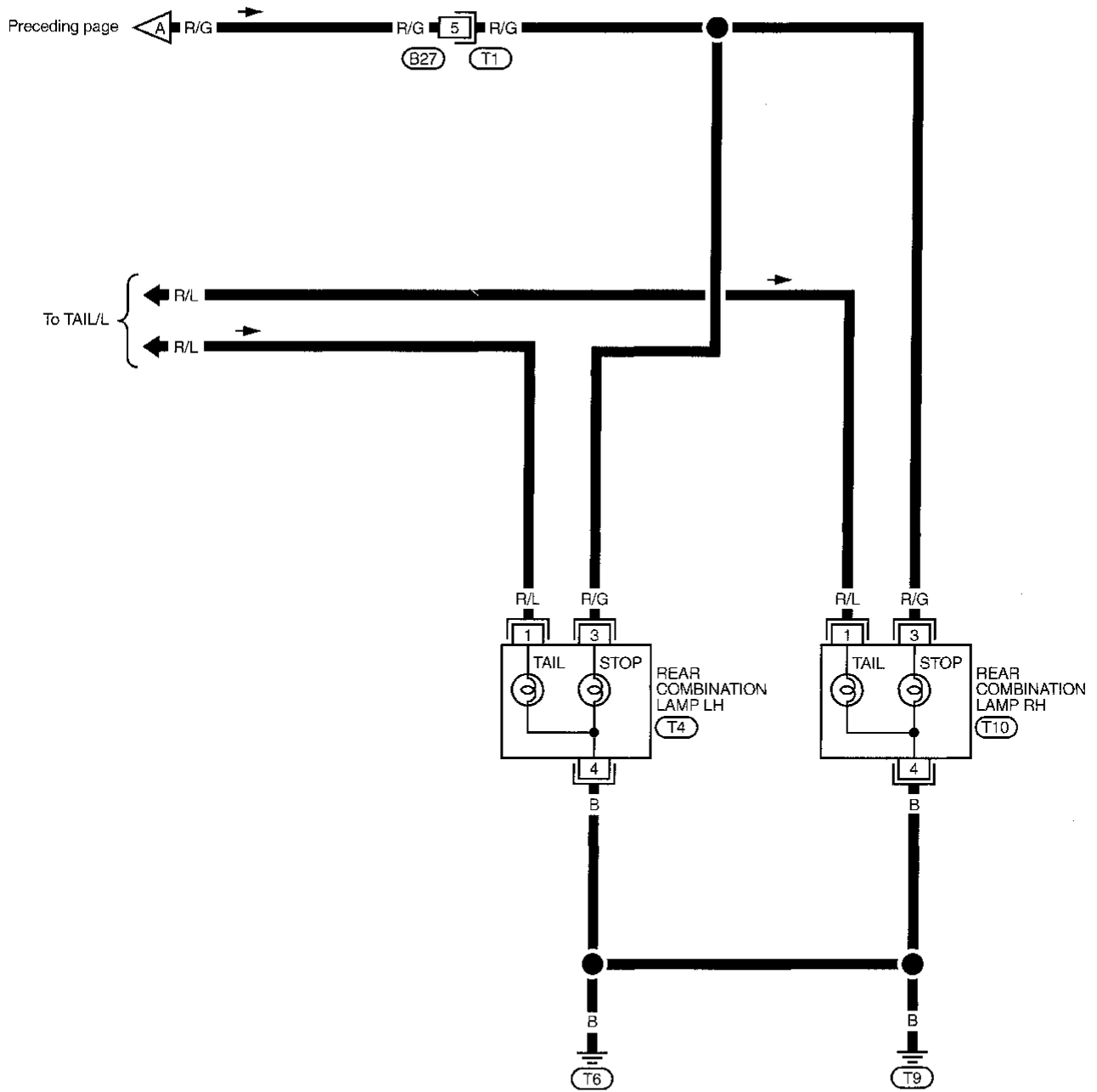
Refer to last page (Foldout page).



EXTERIOR LAMP

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

EL-STOP/L-02



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EXTERIOR LAMP

Cornering Lamp/System Description

The lighting switch must be in the 2ND and LOW ("B") or HIGH ("A") position for the cornering lamps to operate.

Power is supplied at all times to terminal ⑧ of the lighting switch through

- 15A fuse (No. ⑤③ , located in the fuse and fusible link box).

With the ignition switch in the ON or START position, power is supplied to cornering lamp relay terminal ③ through:

- 7.5A fuse [No. ①④ , located in the fuse block (J/B)].

Power is supplied to cornering lamp relay terminal ①

- through terminal ⑩ of the lighting switch in the LOW ("B") position or
- through terminal ⑥ of the lighting switch in the HIGH ("A") position.

Ground is supplied to cornering lamp relay terminal ② through body grounds ⑤⑤ and ⑤③①.

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

Power is supplied

- from terminal ⑤ of the cornering lamp relay
- to cornering lamp switch terminal ⑥① .

RH turn

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

- from terminal ⑥① of the cornering lamp switch
- through terminal ⑥② of the cornering lamp switch
- to cornering lamp RH terminal ③ .

Ground is supplied to terminal ② of cornering lamp RH through body grounds ⑤⑤ and ⑤③①.

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

LH turn

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

- from terminal ⑥① of the cornering lamp switch
- through terminal ⑥③ of the cornering lamp switch
- to cornering lamp LH terminal ③ .

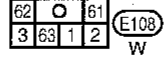
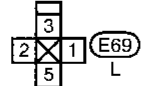
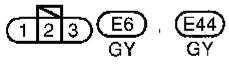
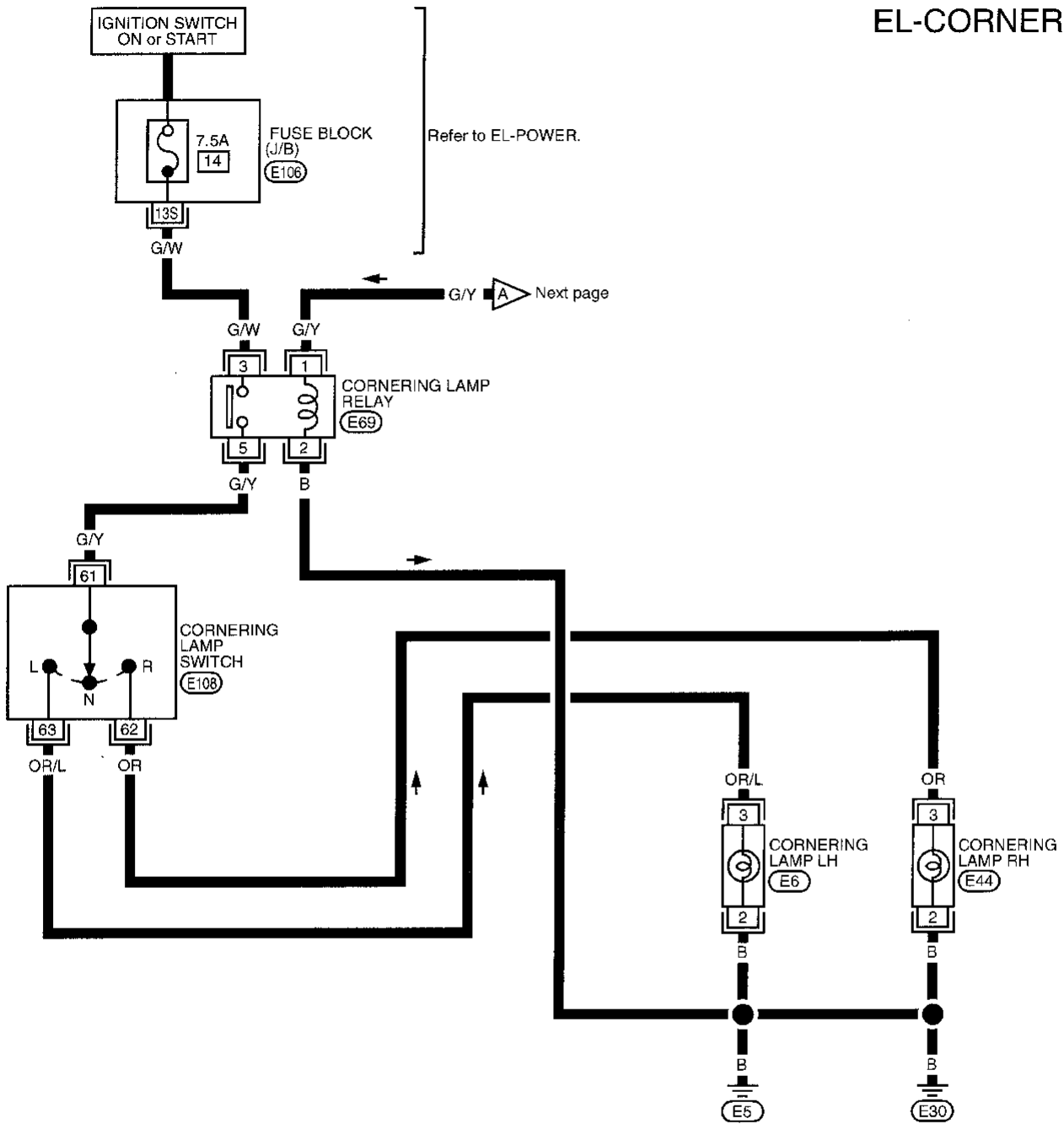
Ground is supplied to terminal ② of cornering lamp LH through body grounds ⑤⑤ and ⑤③①.

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

EXTERIOR LAMP

Cornering Lamp/Wiring Diagram — CORNER —

EL-CORNER-01



Refer to last page (Foldout page).
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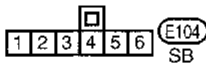
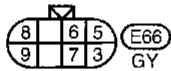
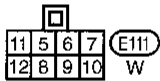
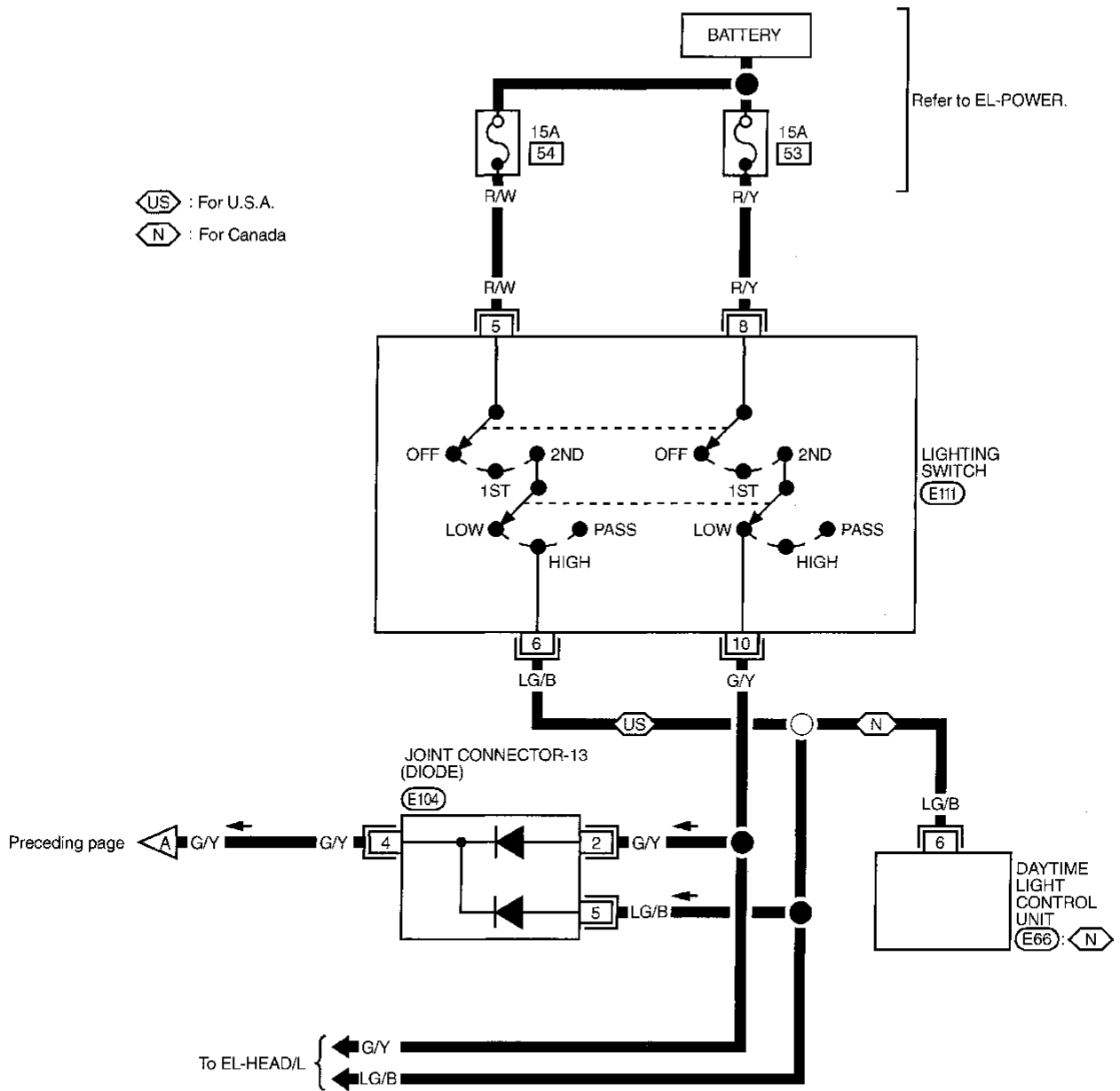
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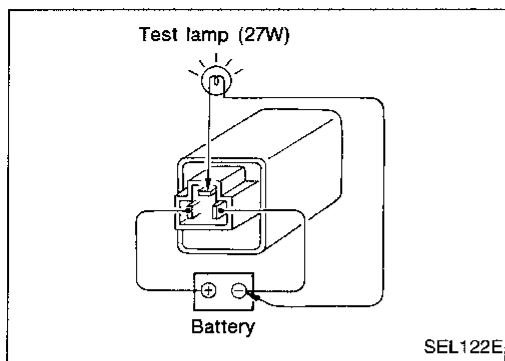
EXTERIOR LAMP

Cornering Lamp/Wiring Diagram — CORNER — (Cont'd)

EL-CORNER-02



EXTERIOR LAMP



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.

GI

MA

EM

Bulb Specifications

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

LC

EC

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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 11.

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 illumination, 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
Audio	8	7
CD player	23	22
Push control unit (Models with auto A/C)	1	4
Push control unit (Models without auto A/C)	15	16
A/T device	4	3
Hazard switch	7	8
Power window switch (Front LH/RH)	7 / 14	10 / 10
Ashtray	1	2
Combination meter	36	5 and 40
Clock	2	1
ASCD main switch	5	6
Rear window defogger switch	5	6
Glove box lamp	1	2
Illumination control switch	1	2 and 3
Vanity mirror	1	2

With the exception of the glove box lamp, 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 1 is grounded through the glove box lamp switch terminal 2 and body grounds M13 and M73.

The ashtray illumination terminal 2 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.

Spot and Trunk Room Lamps/System Description

Power is supplied at all times

- through 7.5A fuse [No. 26], located in the fuse block (J/B)]
- to spot lamp terminal 1, and
- to trunk room lamp terminal 1.

Ground is supplied when switch is ON

- to spot lamp terminal 1 from the spot lamp terminal 2
- through body grounds M13 and M73.

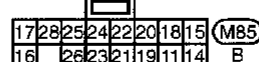
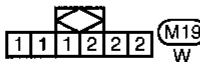
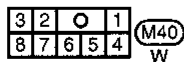
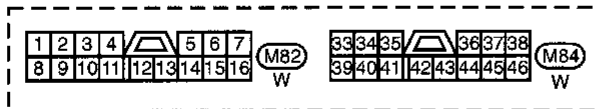
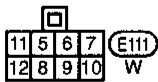
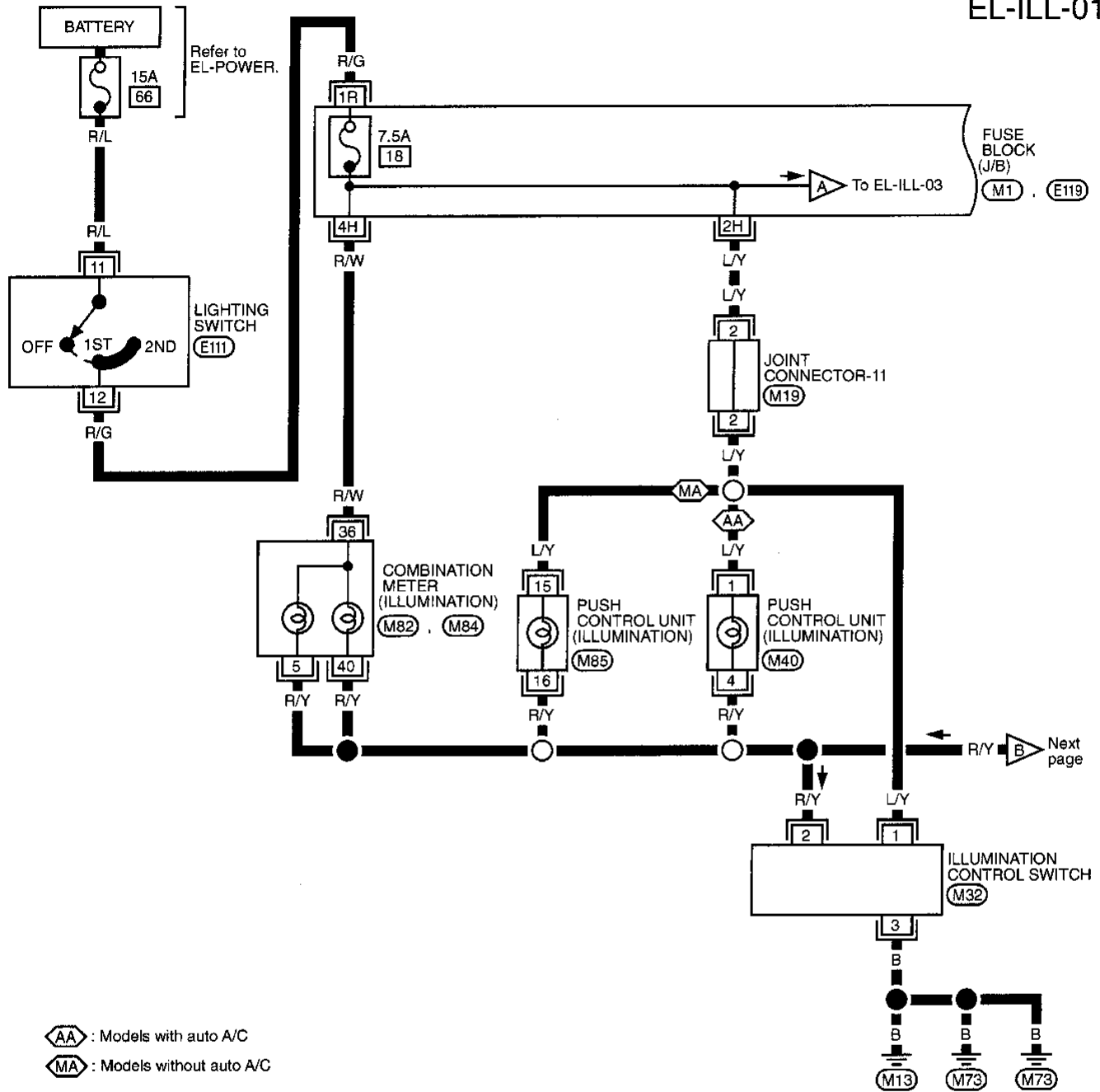
Ground is supplied when trunk room lamp switch is ON

- to trunk room lamp terminal 1 from the trunk room lamp switch terminal 2
- through body grounds B16 and B19.

INTERIOR LAMP

Illumination/Wiring Diagram — ILL —

EL-ILL-01



Refer to last page (Foldout page).

M1, E119

M19

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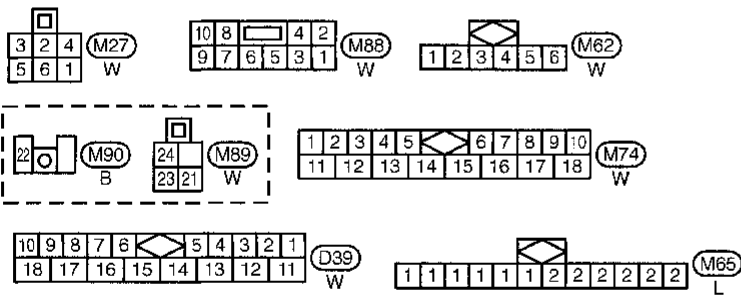
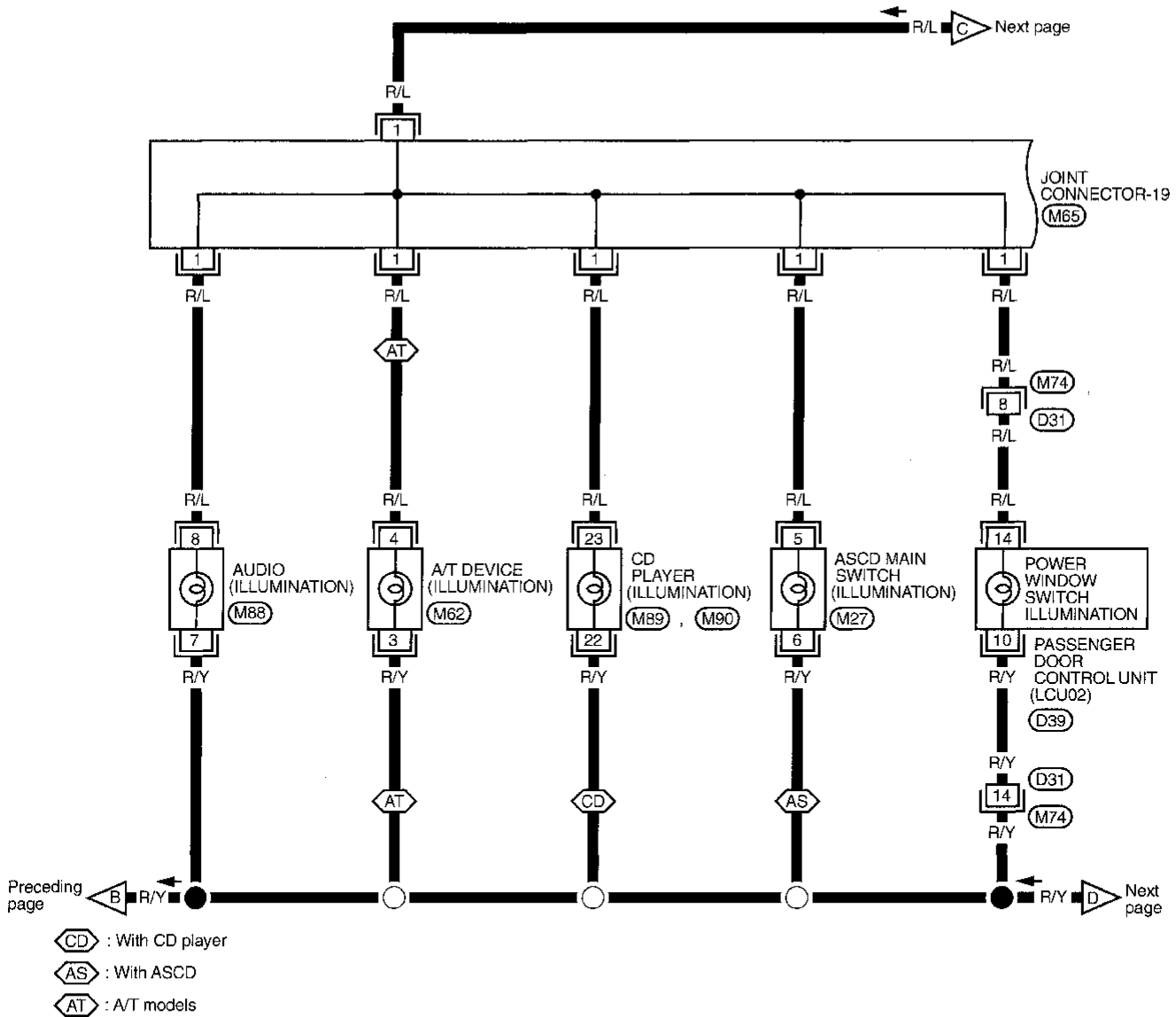
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INTERIOR LAMP

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

EL-ILL-02

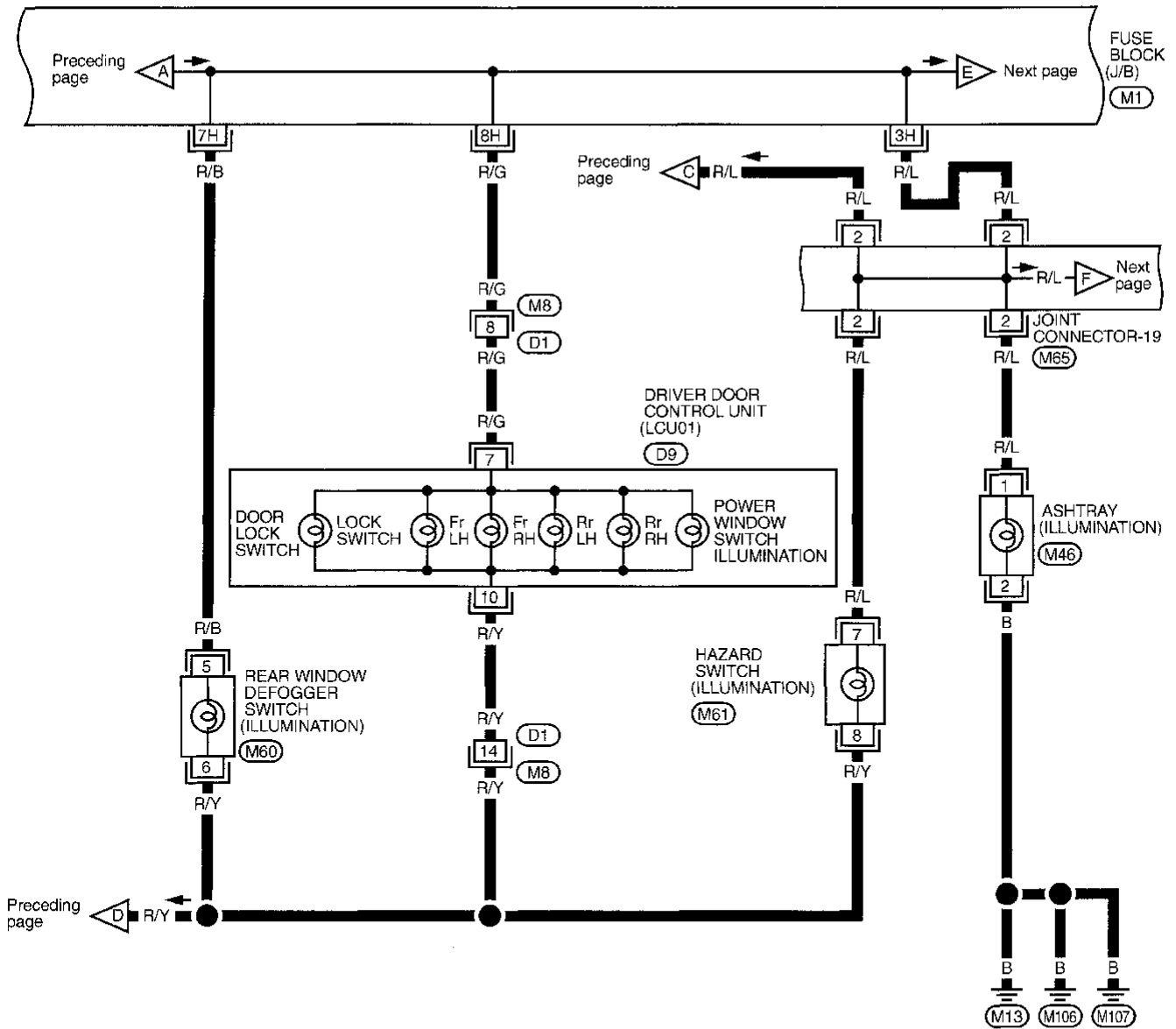


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(M65)

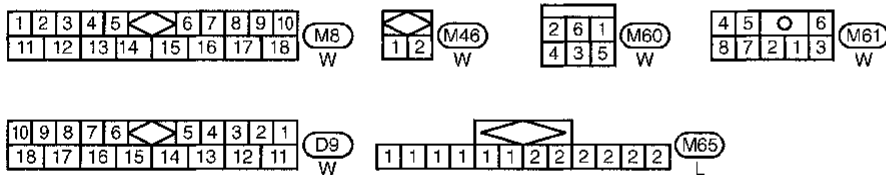
INTERIOR LAMP

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

EL-ILL-03



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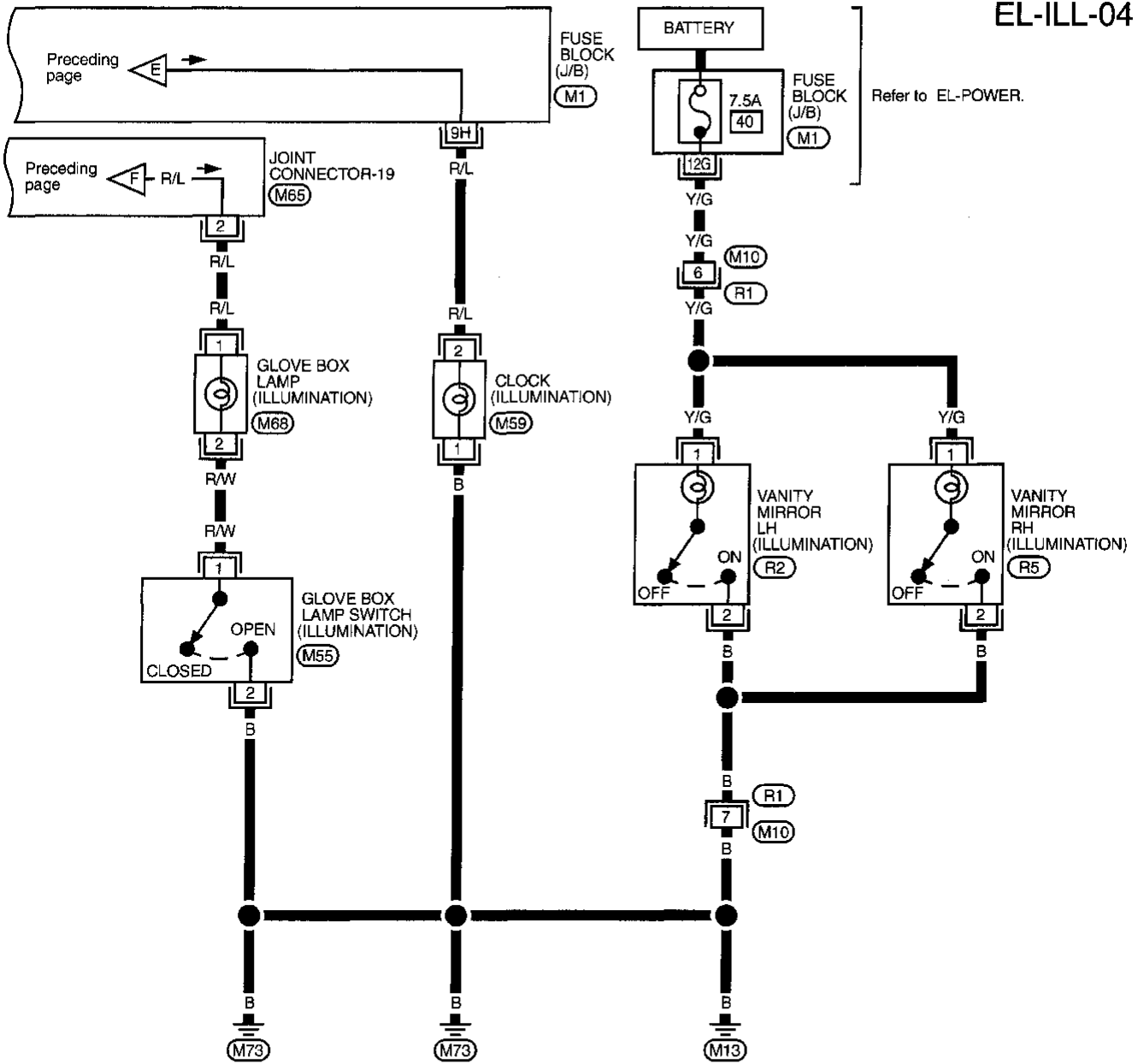
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(M1)
(M65)

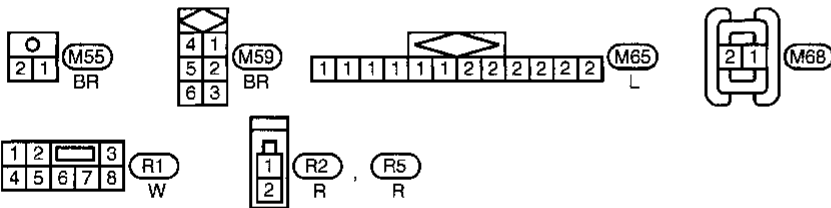
INTERIOR LAMP

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

EL-ILL-04



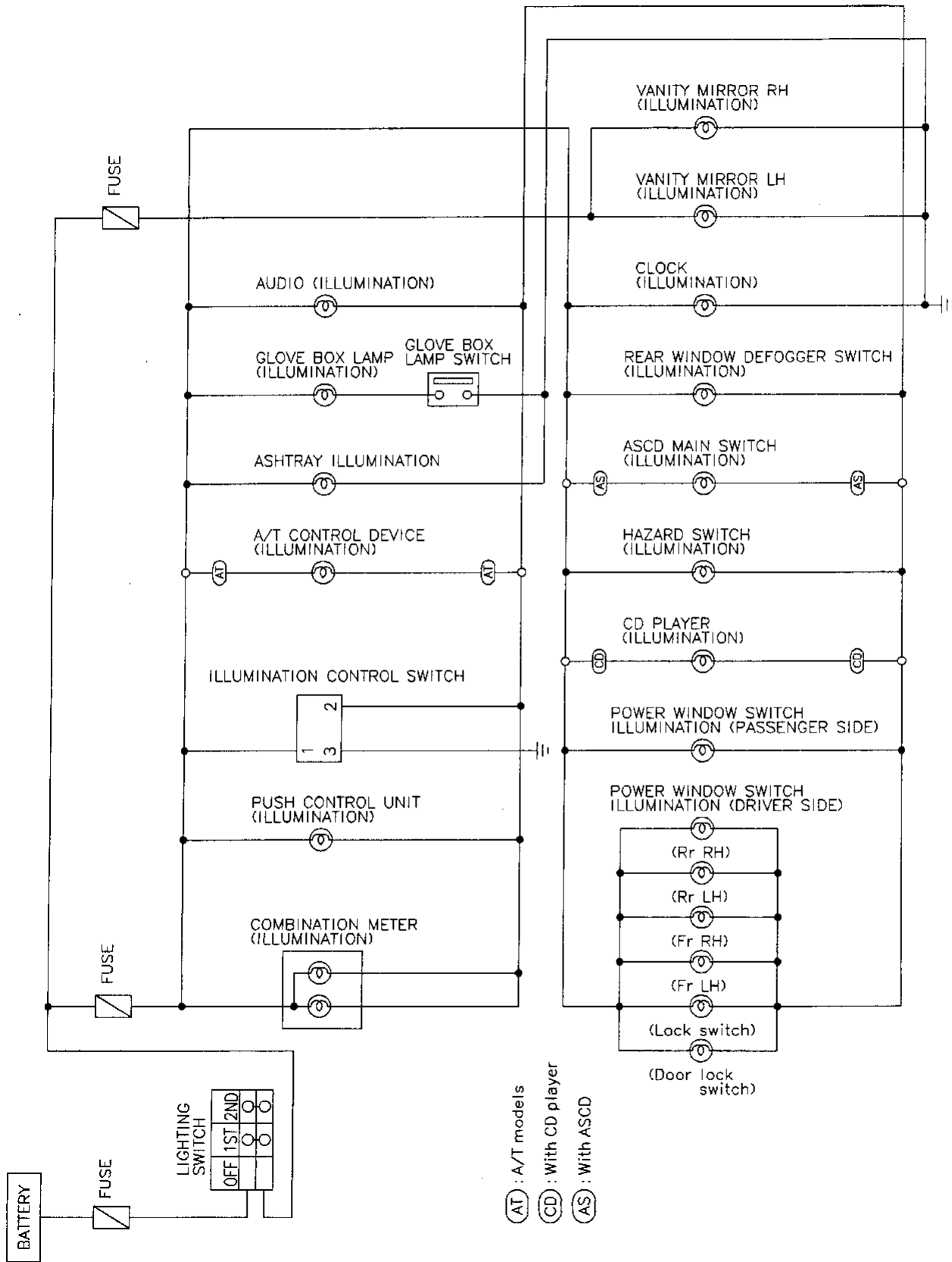
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M1
M65

INTERIOR LAMP

Illumination/Schematic

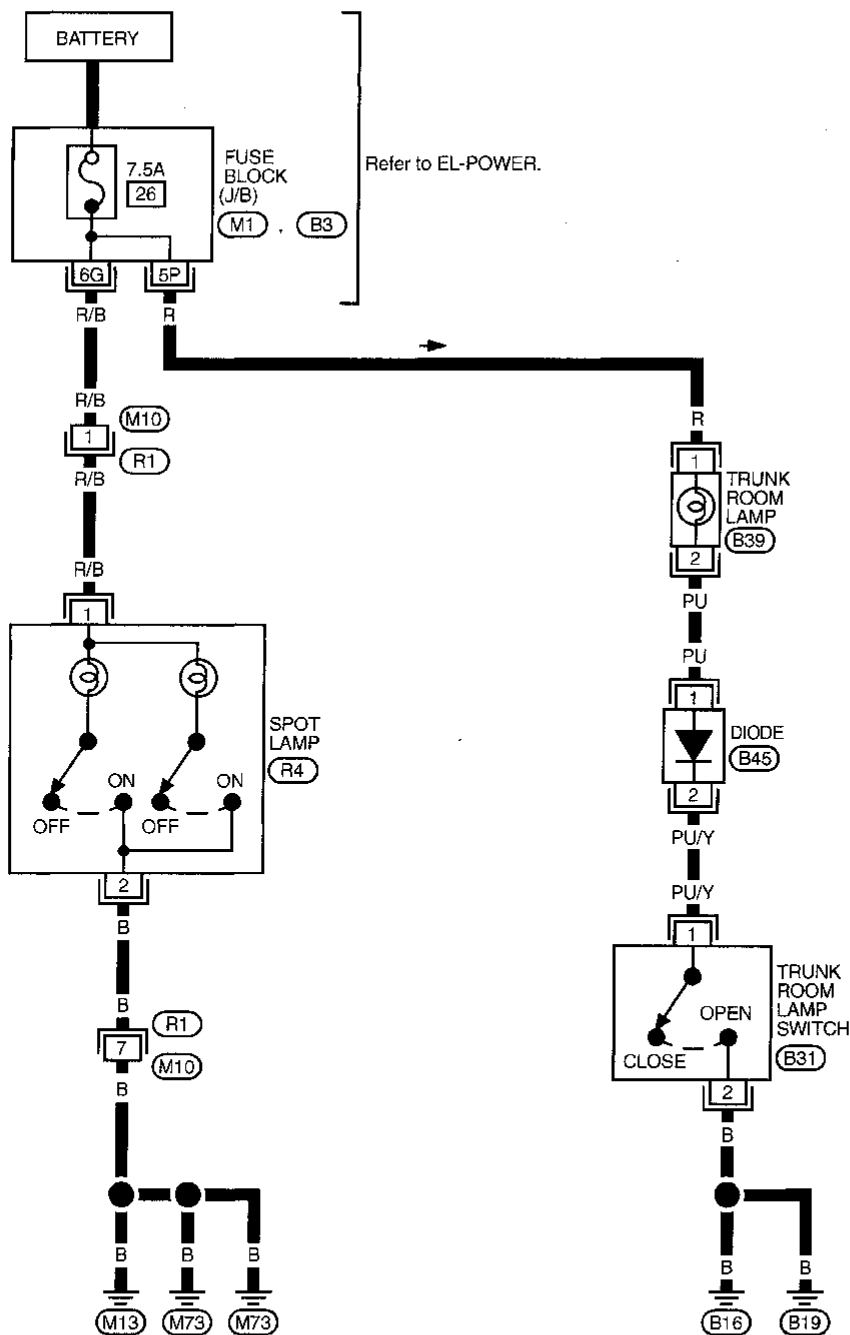


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INTERIOR LAMP

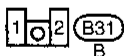
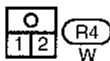
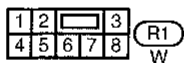
Spot and Trunk Room Lamp/Wiring Diagram — INT/L —

EL-INT/L-01



Refer to last page (Foldout page).

(M1) (B3)



INTERIOR LAMP

Bulb Specifications

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

GI

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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
- for the tachometer, speedometer and
- for the fuel gauge and water temperature gauge.

Ground is supplied

- to combination meter terminals 10 and 38
- through body grounds M13 and M73.

The reading on the water temperature gauge is based on the resistance change of the thermal transmitter.

A variable ground is supplied to terminal 37 of the combination meter for the water temperature gauge.

The tachometer is regulated by a signal

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

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.

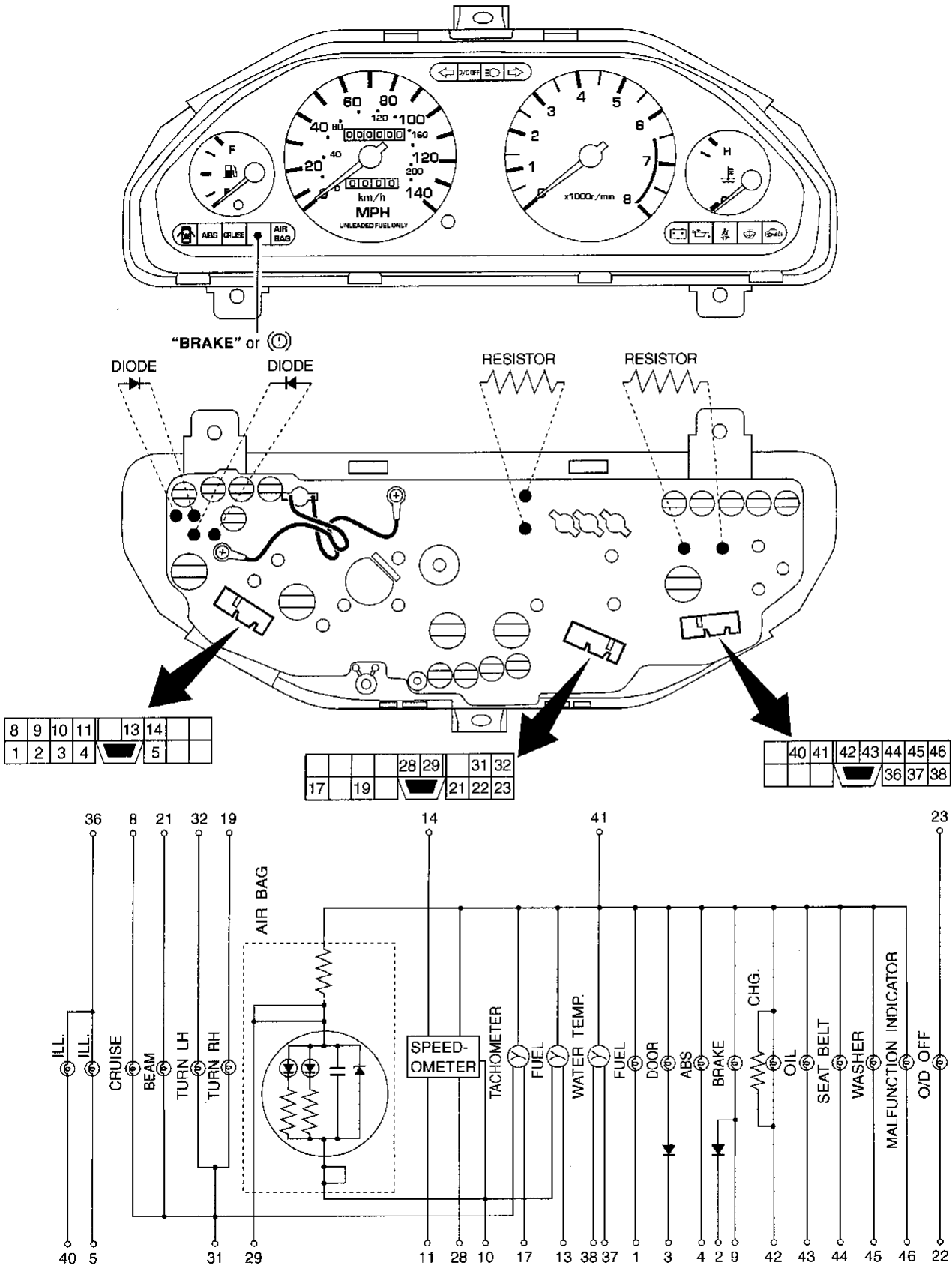
The vehicle speed sensor provides a voltage signal to the combination meter for the speedometer and the voltage is converted into the vehicle speed.

The voltage is supplied

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

METERS AND GAUGES

Combination Meter

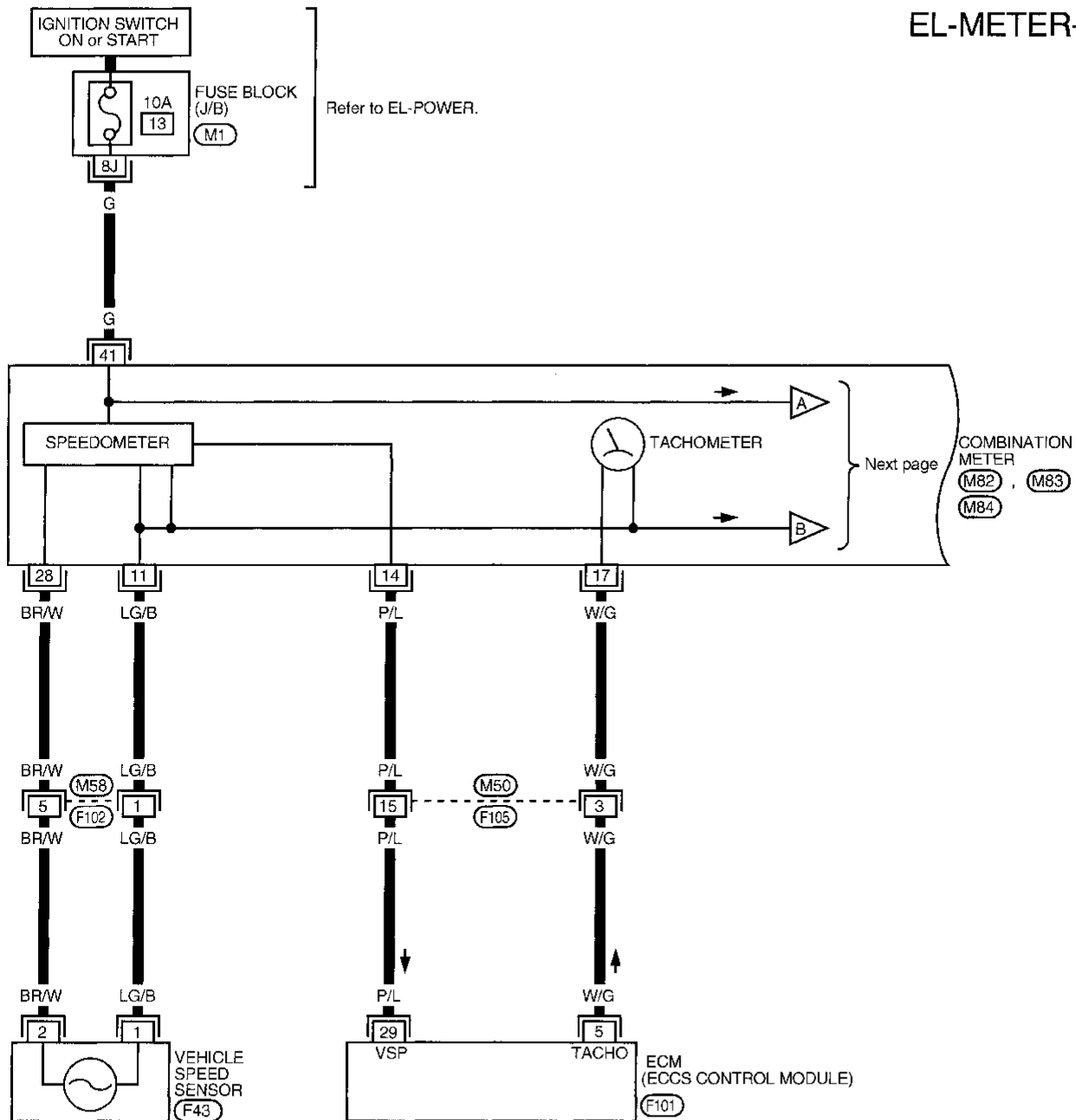


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METERS AND GAUGES

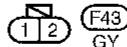
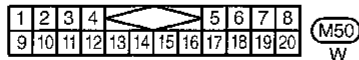
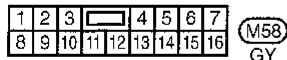
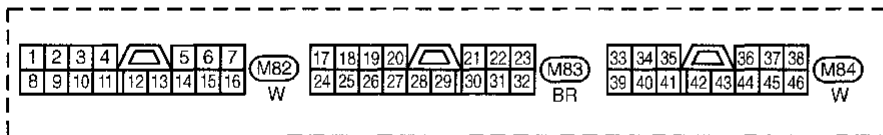
Speedometer, Tachometer, Temp. and Fuel Gauges/Wiring Diagram — METER —

EL-METER-01



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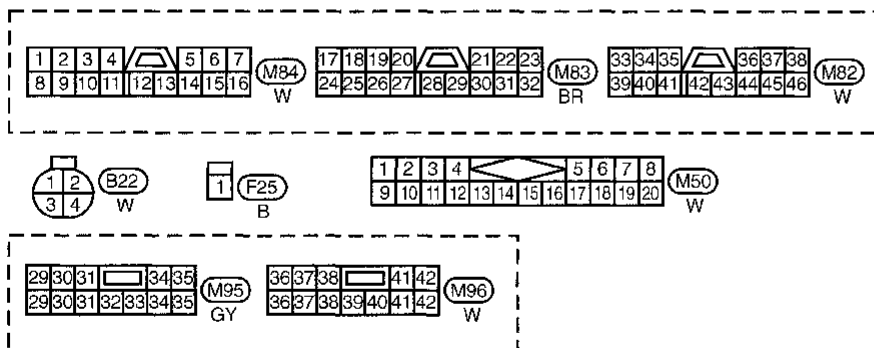
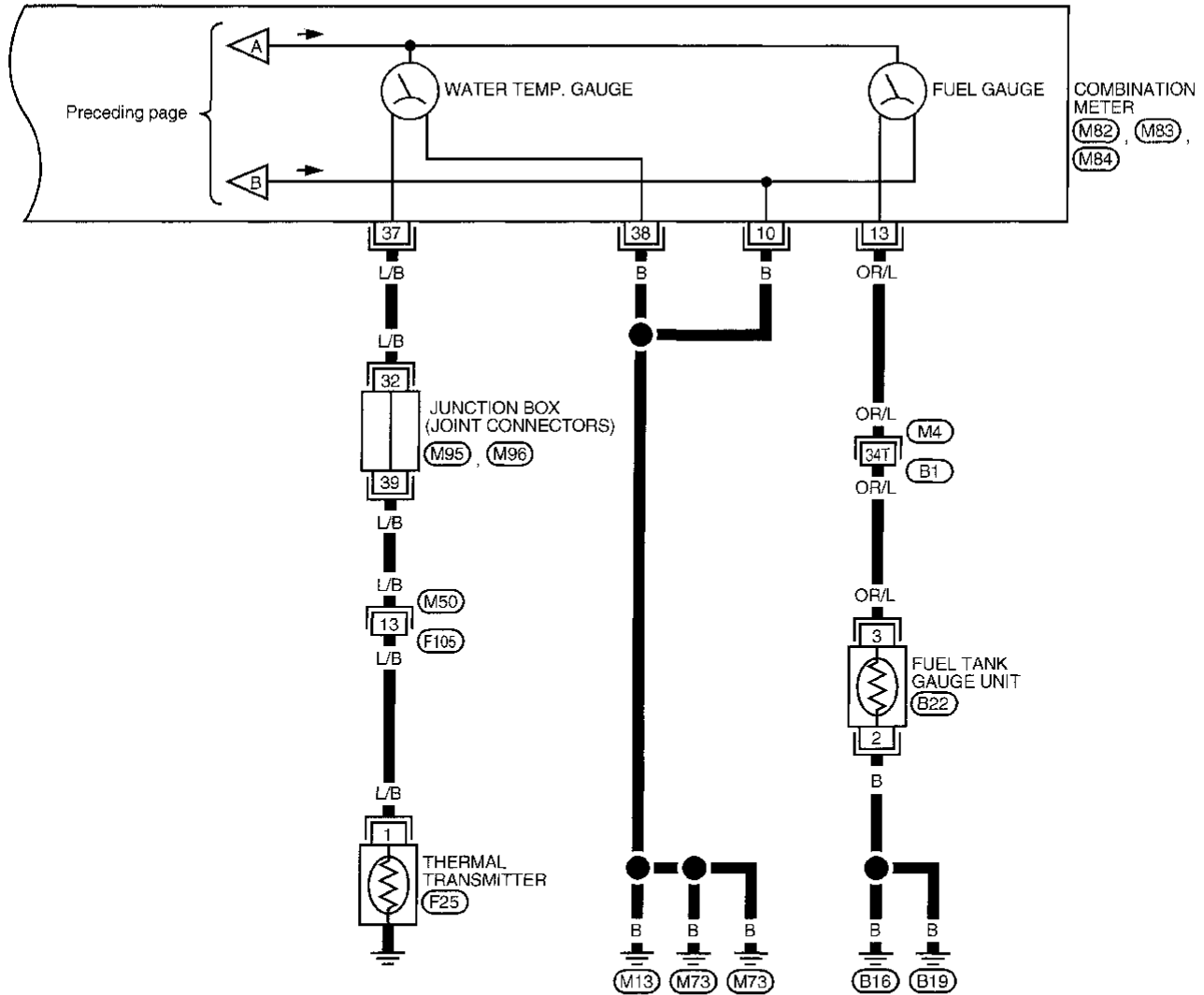
(M1)
(F101)



METERS AND GAUGES

Speedometer, Tachometer, Temp. and Fuel Gauges/Wiring Diagram — METER — (Cont'd)

EL-METER-02



Refer to last page (Foldout page).

- (M4) (B1)
- (M95)
- (M96)

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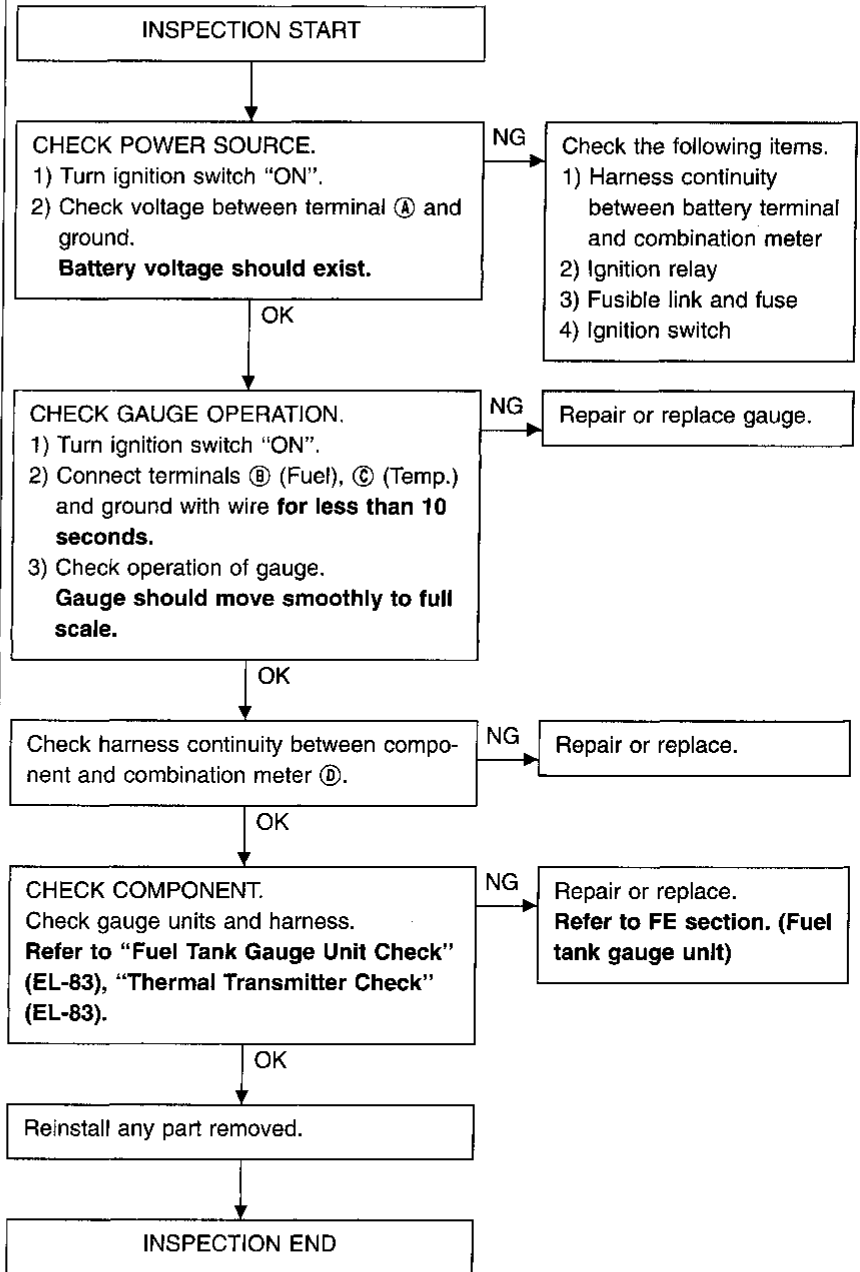
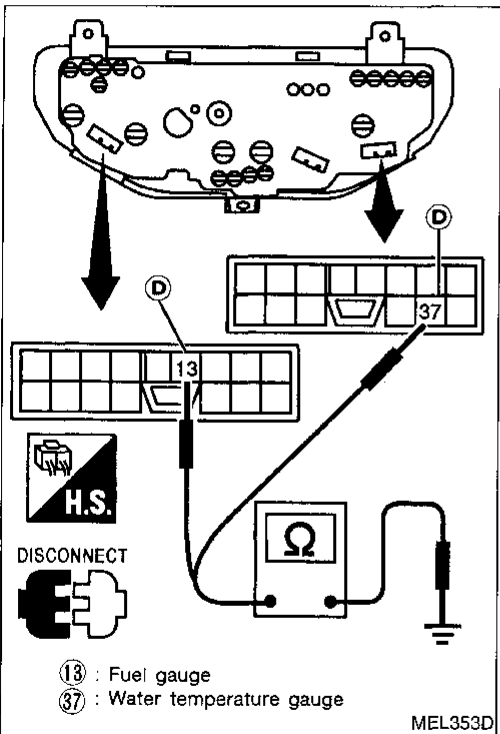
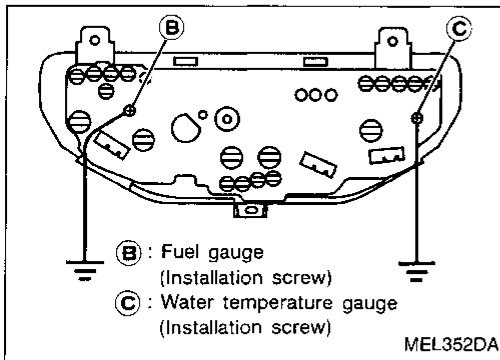
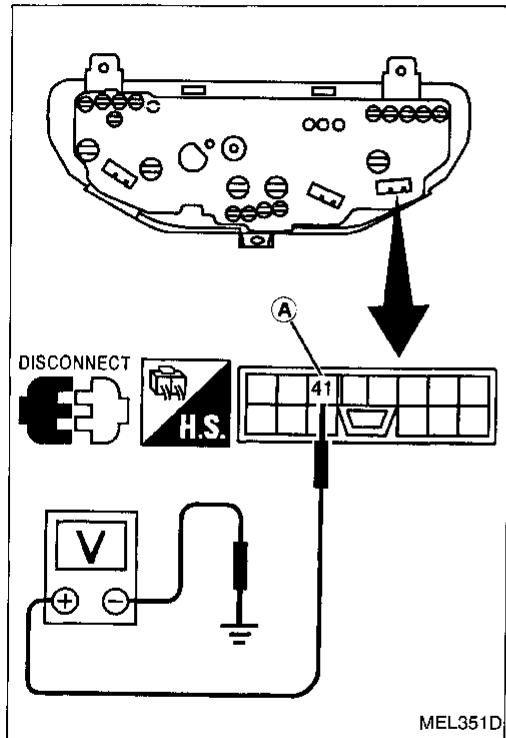
BT

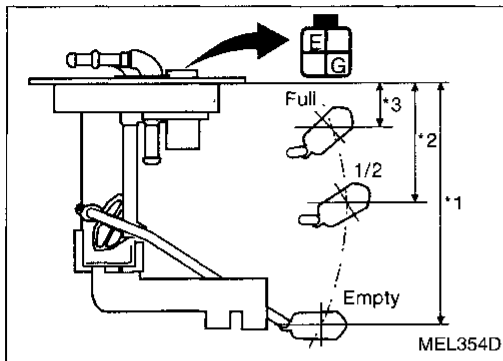
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Inspection/Fuel Gauge and Water Temperature Gauge



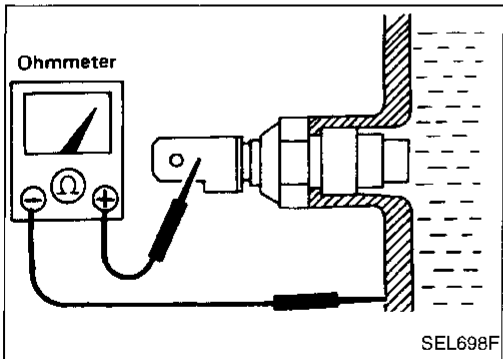


Fuel Tank Gauge Unit Check

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

Ohmmeter		Float position mm (in)			Resistance value (Ω)
(+)	(-)				
G	E	*3	Full	32 (1.26)	Approx. 5 - 8
		*2	1/2	93 (3.66)	32 - 34
		*1	Empty	157 (6.18)	80 - 81

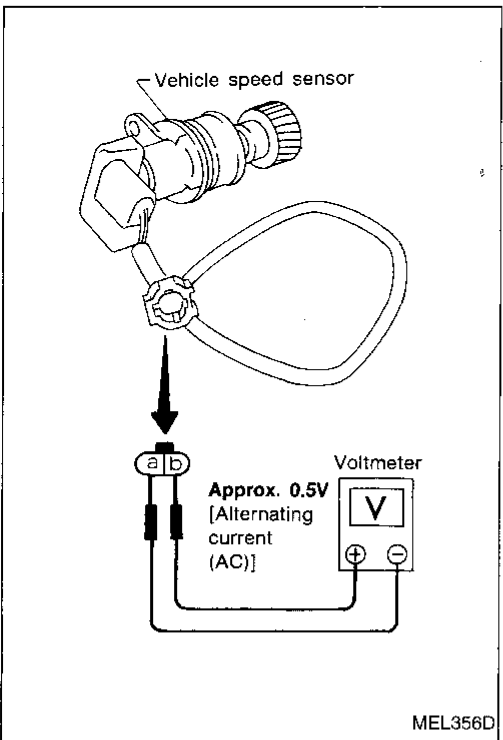
*1 and *3: When float rod is in contact with stopper.



Thermal Transmitter Check

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

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



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.

G1

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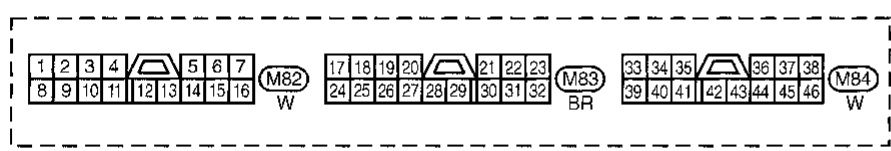
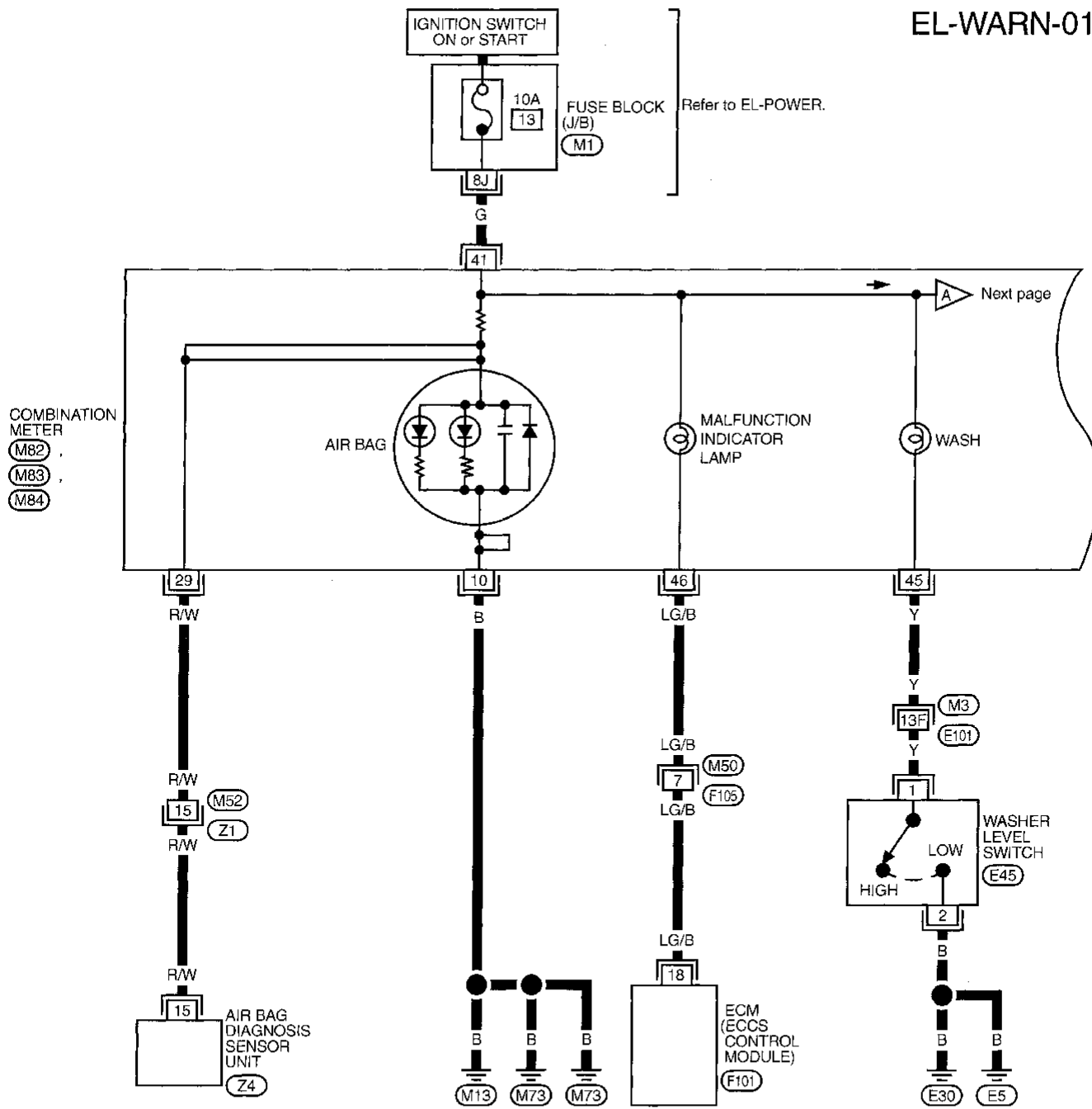
EL

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WARNING LAMPS

Wiring Diagram — WARN —

EL-WARN-01

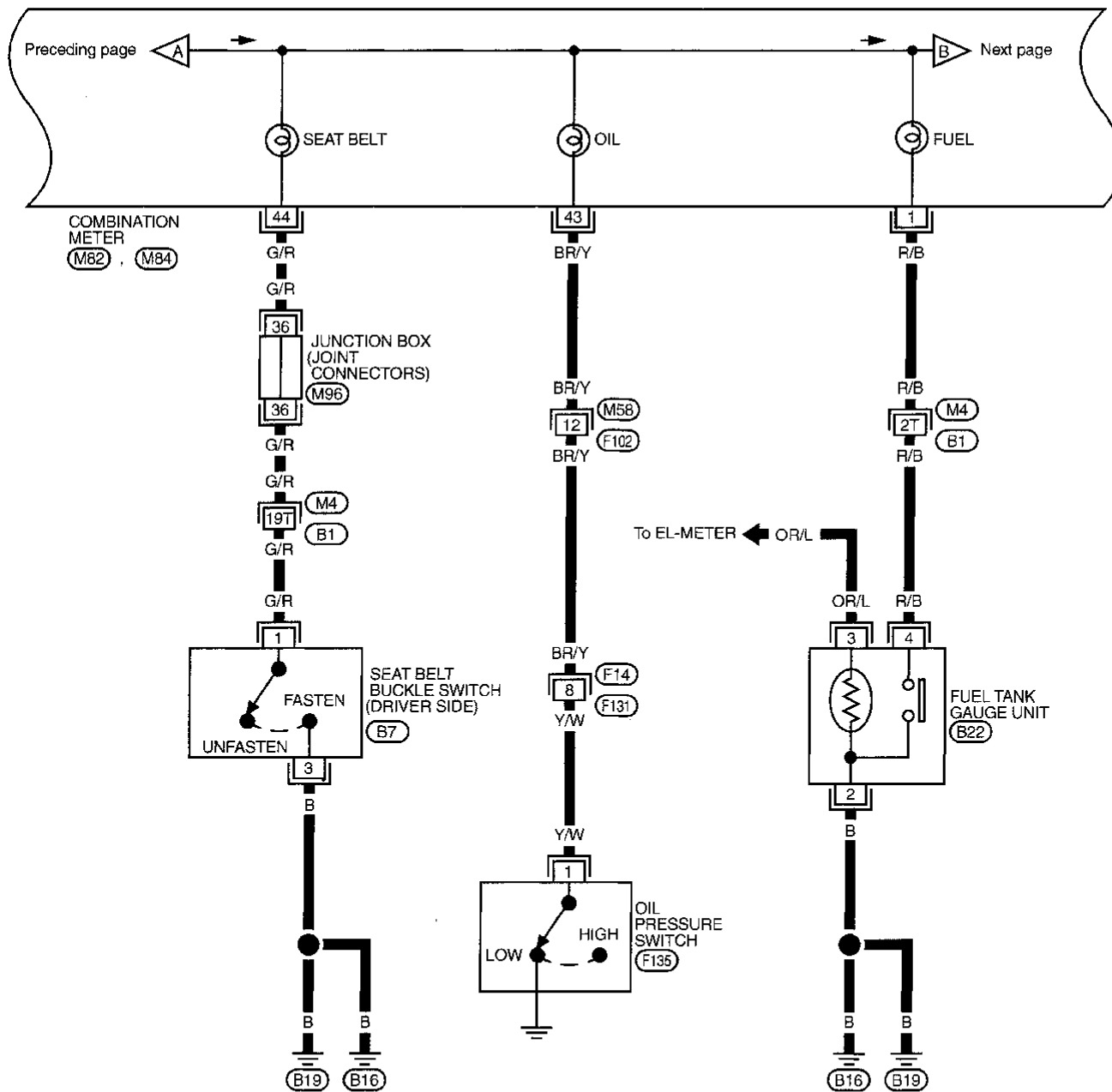


Refer to last page (Foldout page).
 (M3, E101)
 (M1)
 (F101)
 (Z4)

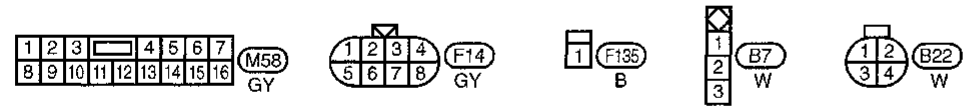
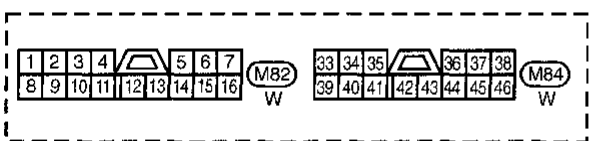
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

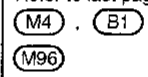
EL-WARN-02



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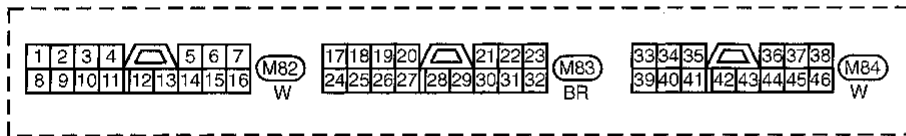
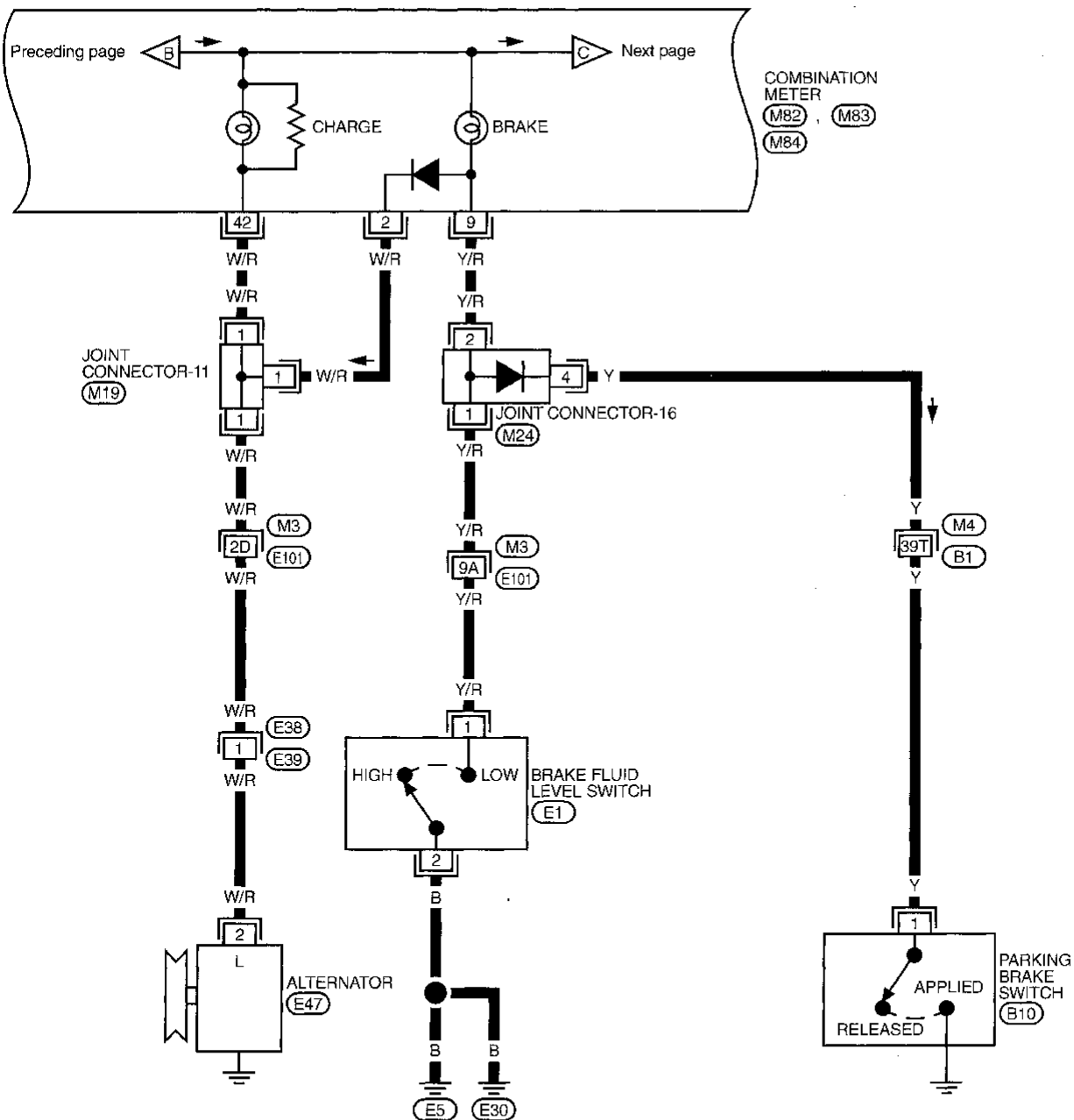
Refer to last page (Foldout page).



WARNING LAMPS

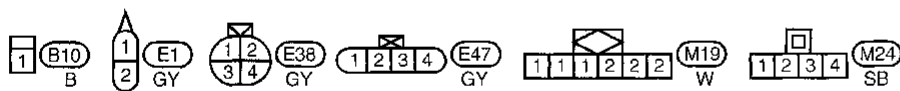
Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



Refer to last page (Foldout page).

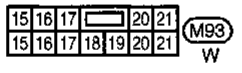
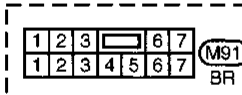
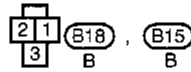
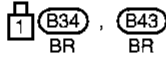
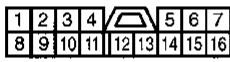
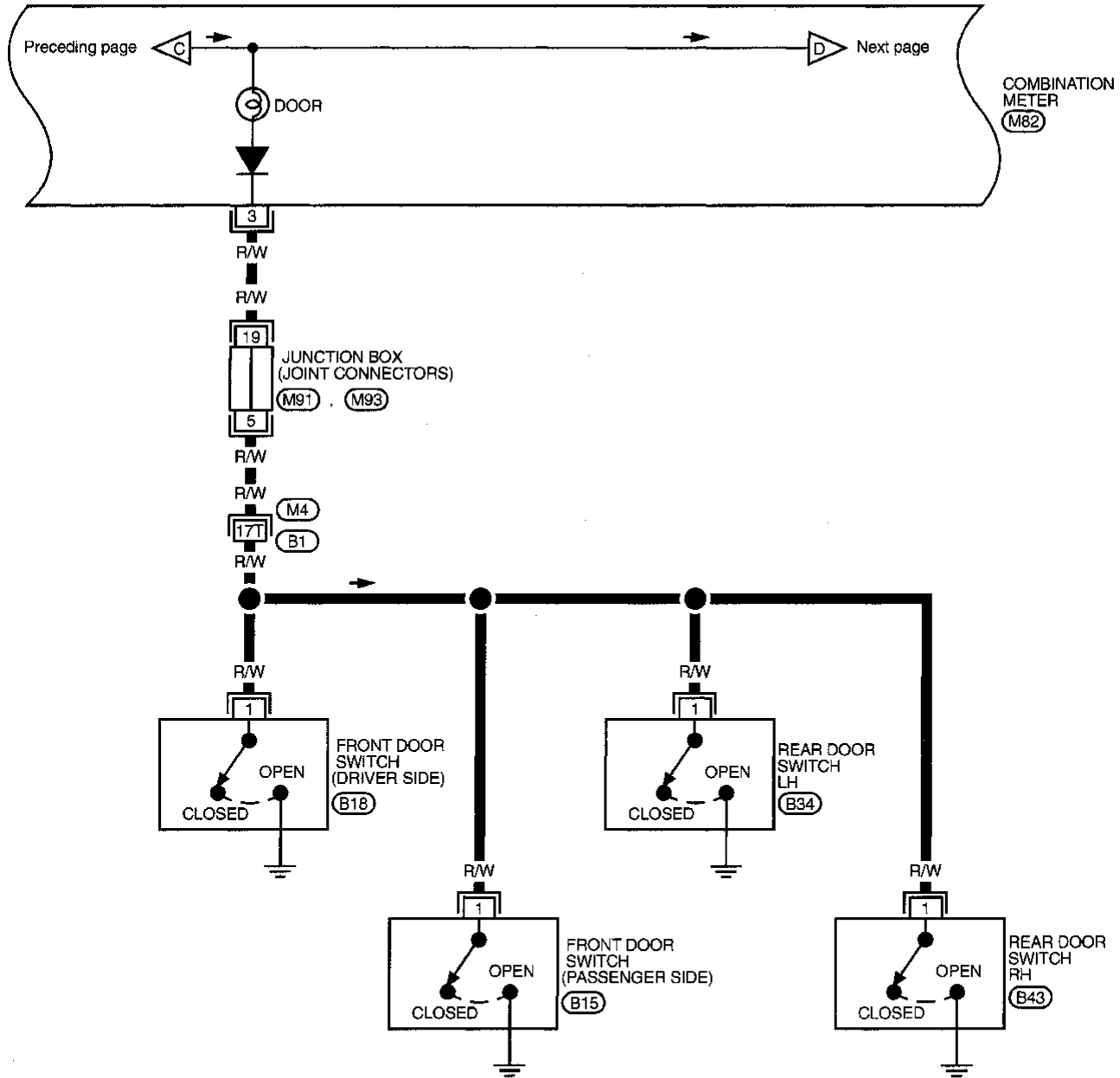
- M3, E101
- M4, B1
- M19
- M24



WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-04



Refer to last page (Foldout page).

(M4), (B1)

(M91)

(M93)

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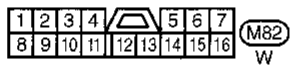
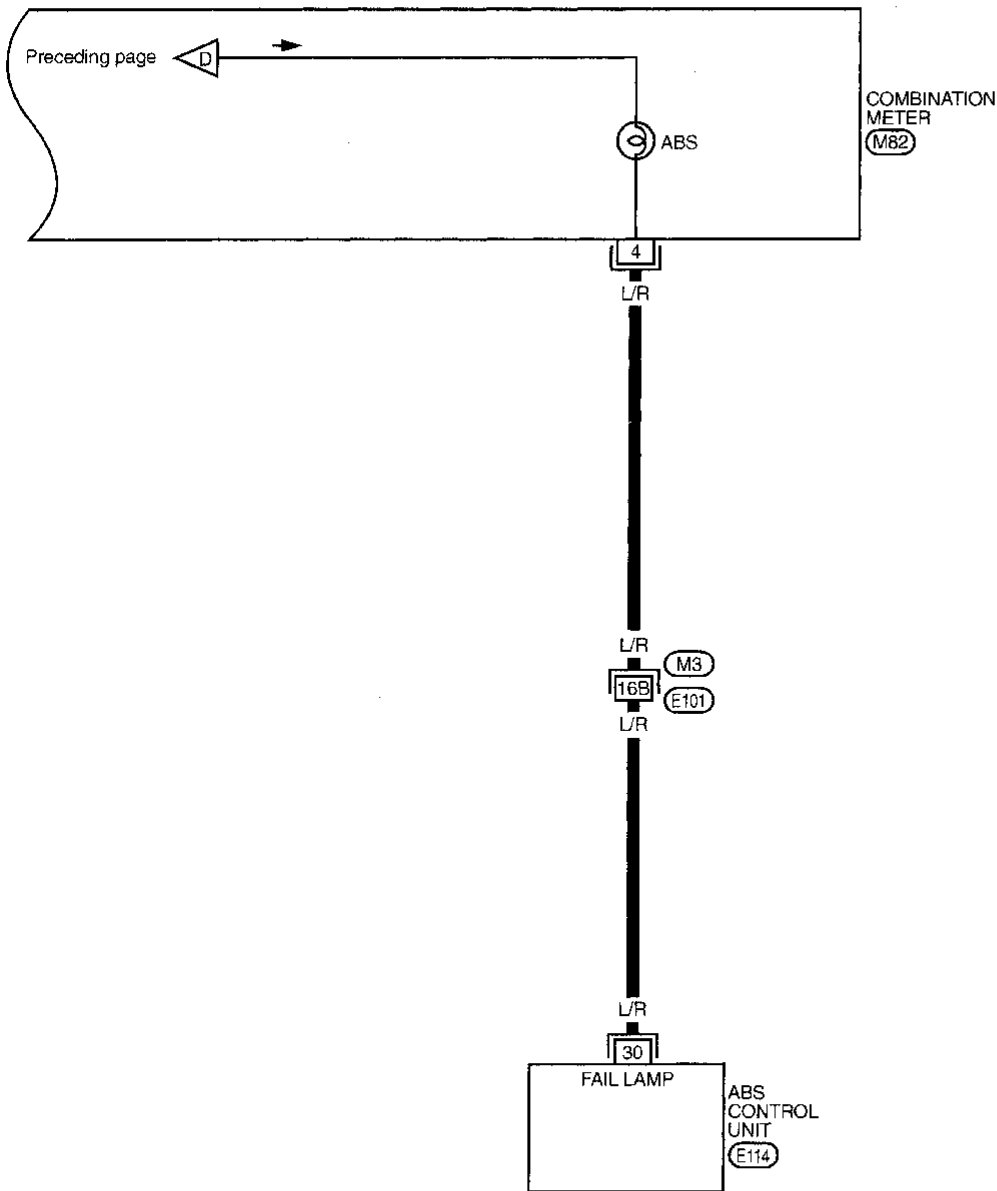
EL

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WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-05



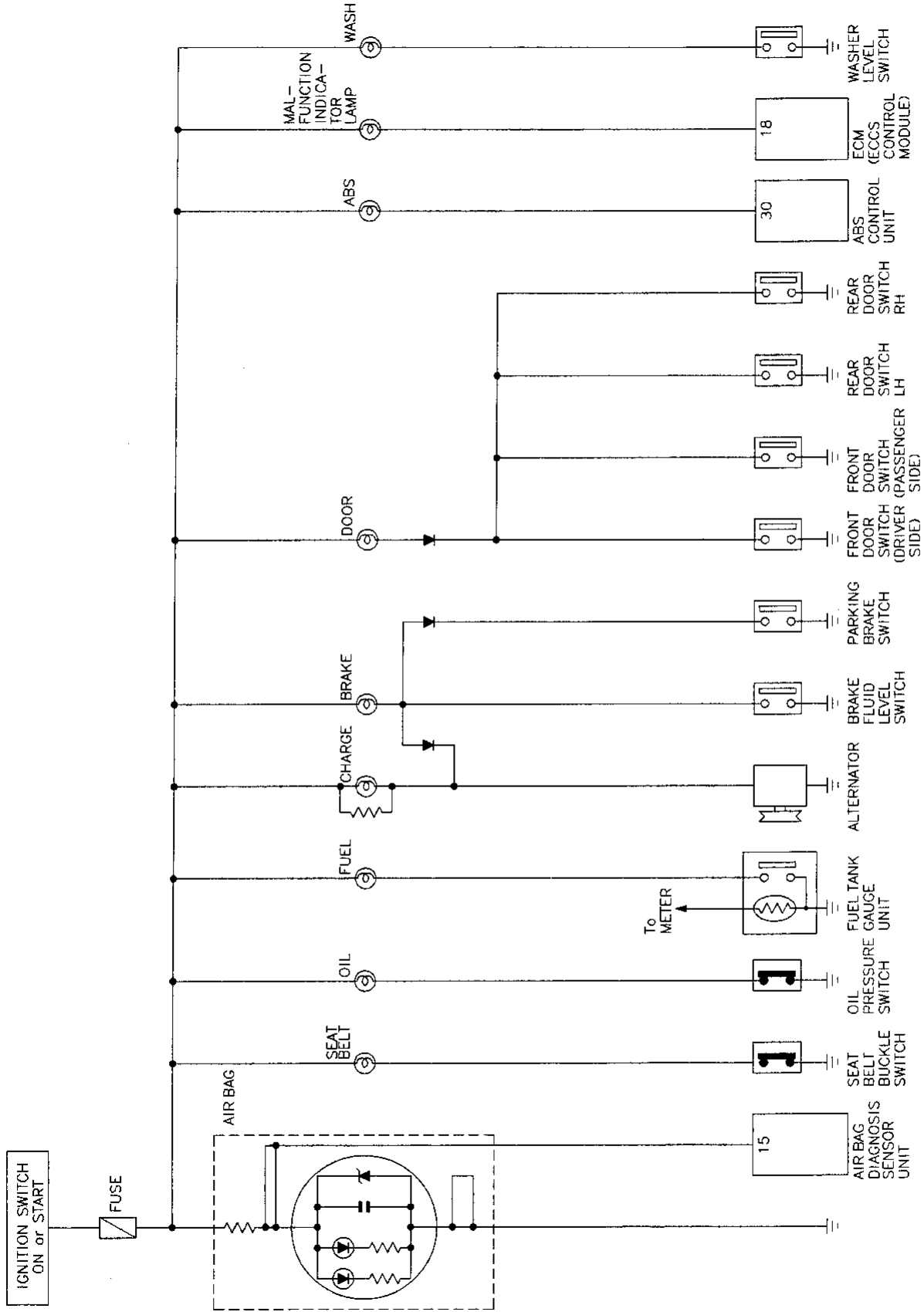
Refer to last page (Foldout page).

(M3) , (E101)

(E114)

WARNING LAMPS

Schematic



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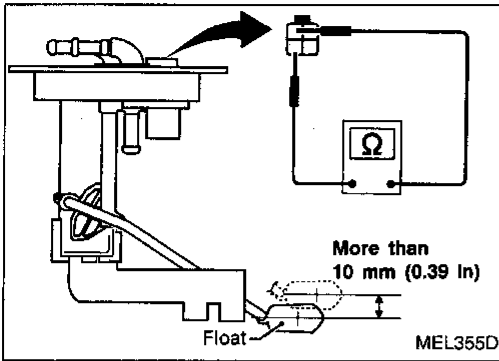
BT

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WARNING LAMPS

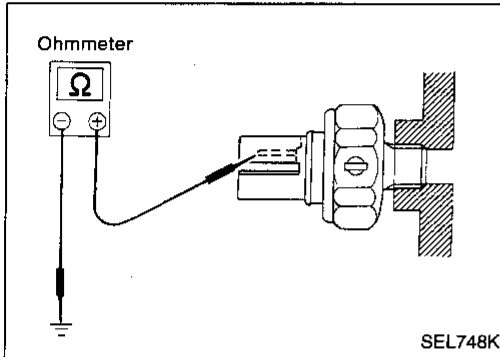


Fuel Warning Lamp Sensor Check

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

CAUTION:

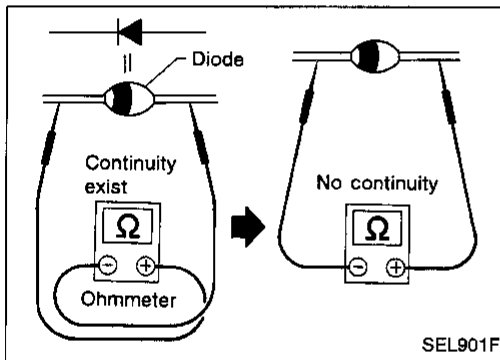
Do not move the float beyond its mobile range.



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

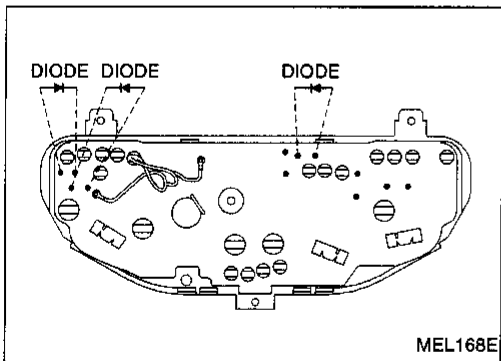
Check the continuity between the terminals of oil pressure switch and body ground.



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-79).

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 (E5) and (E30).

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 wiper relay terminal ③
- through terminal ④ of the wiper relay,
- to front wiper motor terminal ⑤
- through terminal ⑥ of the front wiper motor, and
- through body grounds (M13) and (M73).

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 ⑳
- from front wiper switch terminal ⑮
- through body grounds (E5) and (E30).

The desired interval time is input

- to BCM terminal ⑰
- 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 ⑩.

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 (E5) and (E30).

Front wiper motor operates at desired low speeds with BCM terminal ⑳ 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

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WIPER AND WASHER

System Description (Cont'd)

- to BCM terminal ②⑥
- from terminal ①⑧ of the front wiper switch
- through terminal ①⑦ of the front wiper switch, and
- through body grounds ④E5 and ④E30.

With power and ground supplied, the washer motor operates.

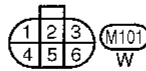
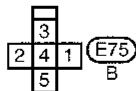
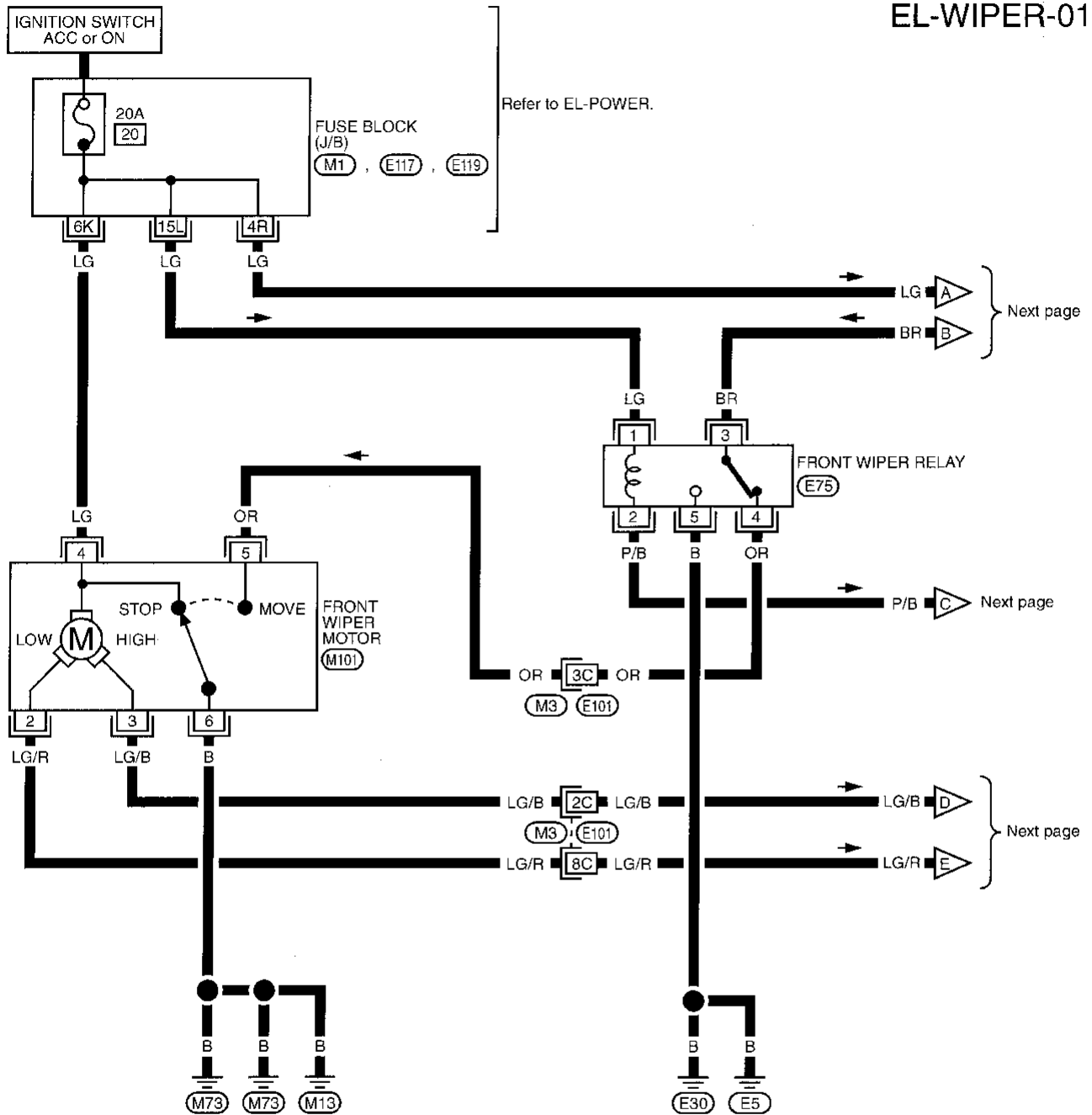
The front wiper motor operates at low speed for about 3 seconds. This feature is controlled by the BCM in the same manner as the intermittent operation.

For further information, refer to "TIME CONTROL SYSTEM—IVMS" (EL-231).

WIPER AND WASHER

Front Wiper and Washer/Wiring Diagram — WIPER —

EL-WIPER-01



Refer to last page (Foldout page).

(M1), (E101)

(M3), (E119)

(E117)

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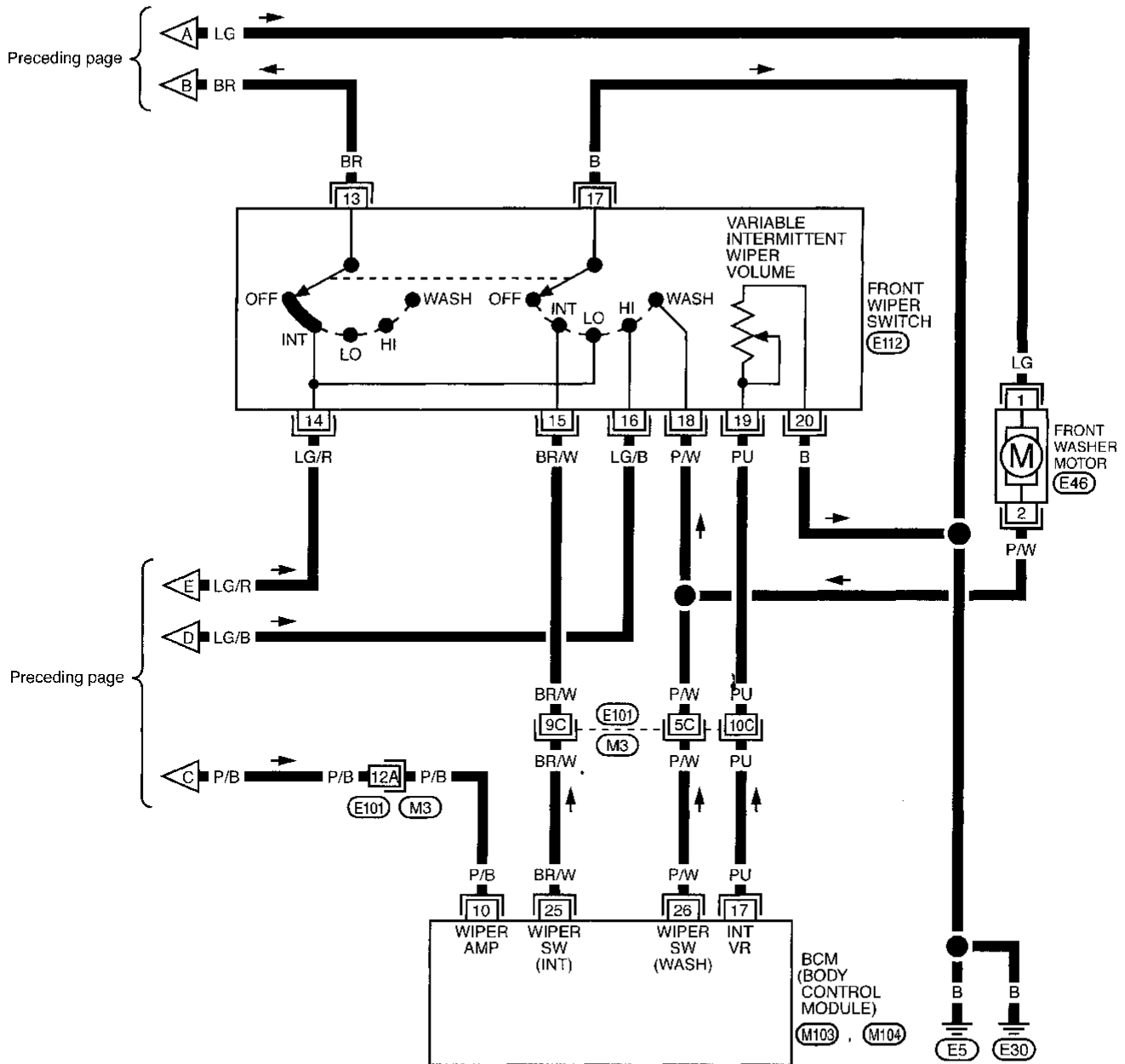
EL

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WIPER AND WASHER

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

EL-WIPER-02

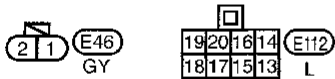


Refer to last page (Foldout page).

(M3), (E101)

(M103)

(M104)



MEL733E

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".

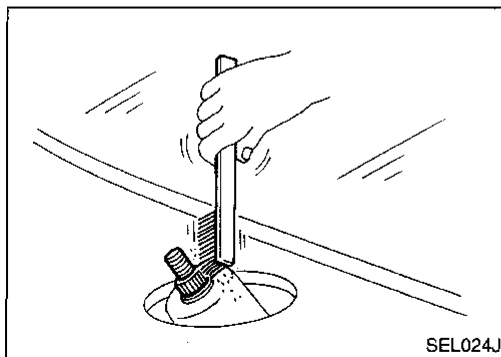
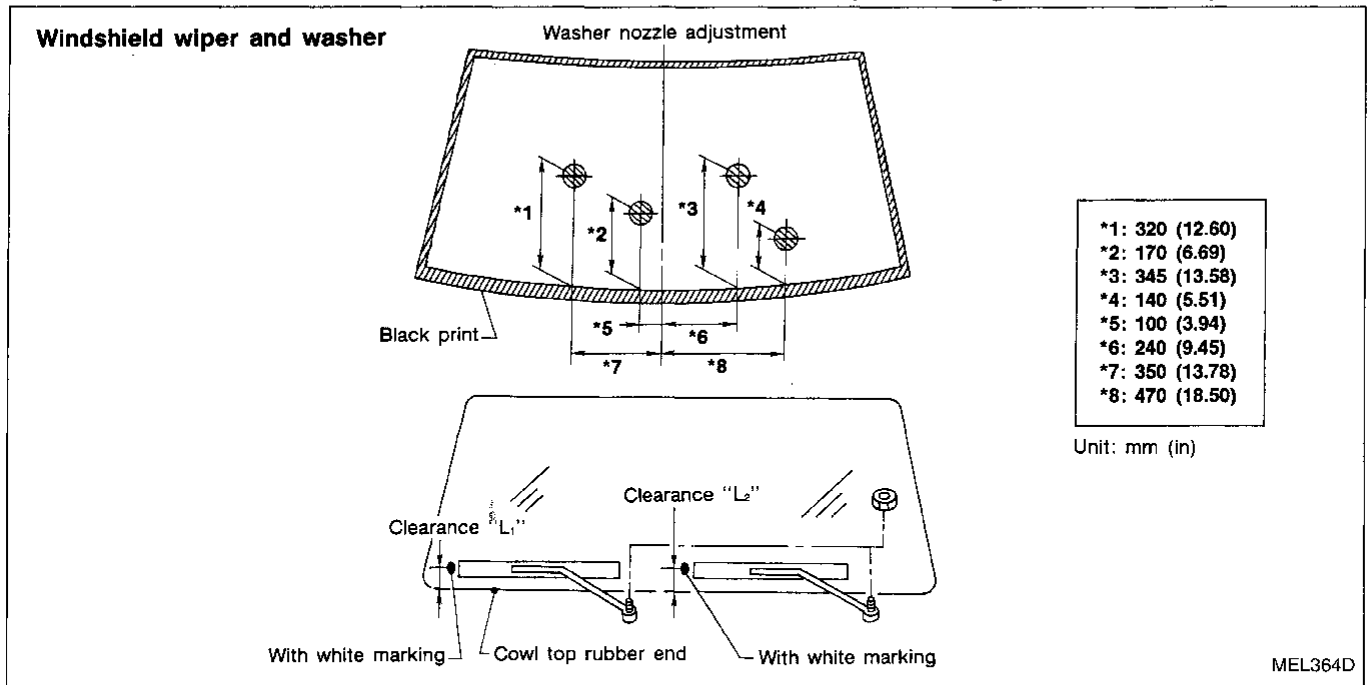
Clearance "L₁": 40 - 56 mm (1.57 - 2.20 in)

Clearance "L₂": 37 - 47 mm (1.46 - 1.85 in)

- Tighten windshield wiper arm nuts to specified torque.

Windshield wiper:

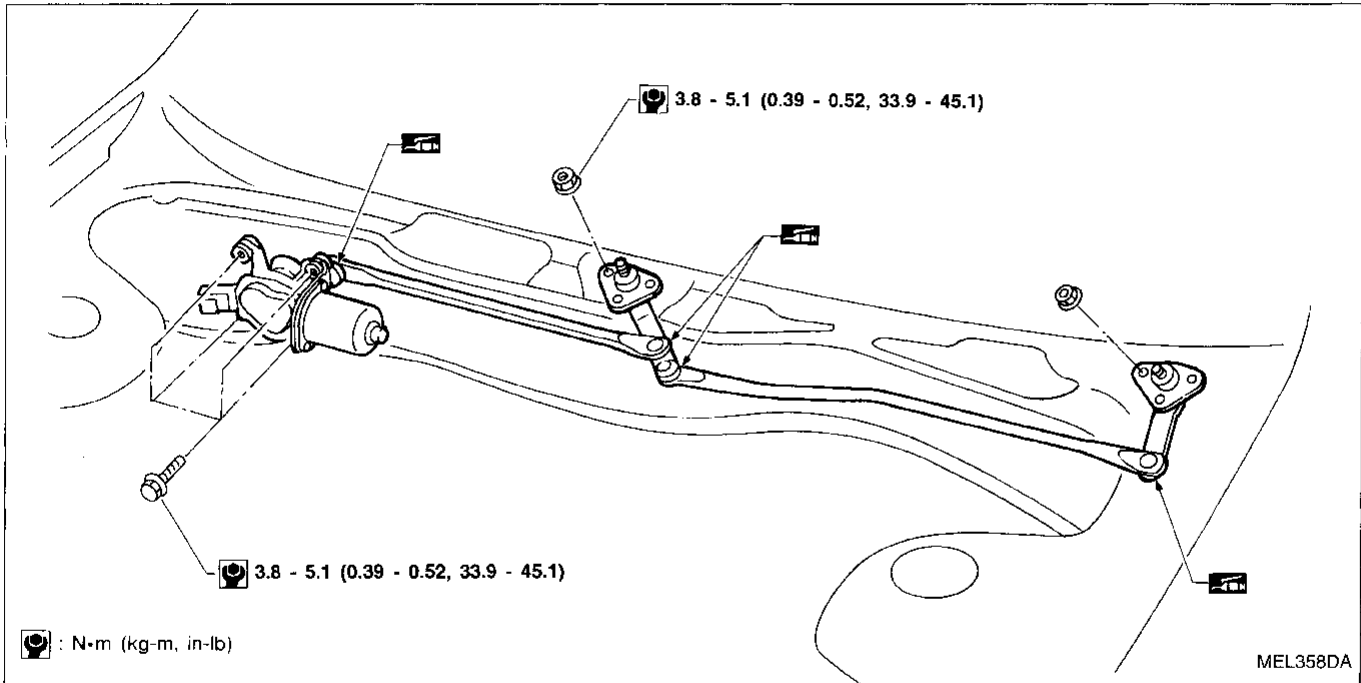
21 - 26 N·m (2.1 - 2.7 kg·m, 15 - 20 ft·lb)



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

WIPER AND WASHER

Wiper Linkage



REMOVAL

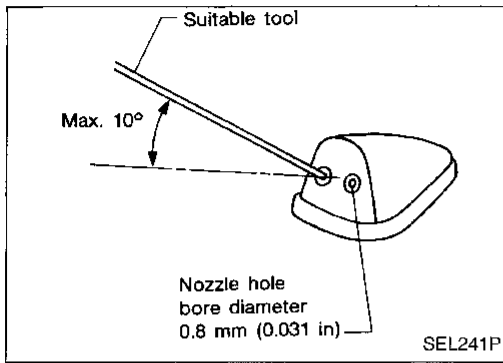
1. Remove 4 bolts that secure wiper motor.
2. Detach wiper motor from wiper linkage at ball joint.
3. Remove wiper linkage.

Be careful not to break ball joint rubber boot.

INSTALLATION

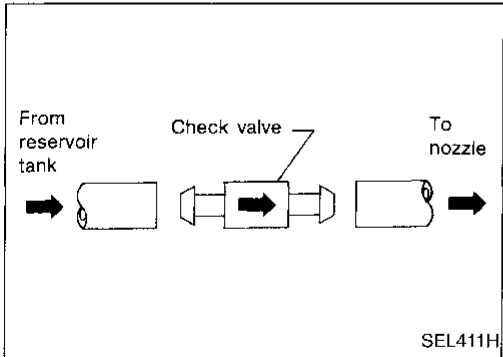
- Grease ball joint portion before installation. Installation is in reverse order of removal.

WIPER AND WASHER



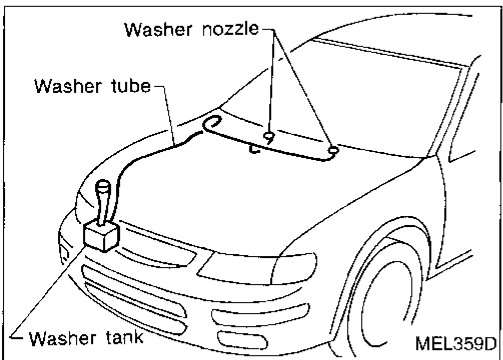
Washer Nozzle Adjustment

- Adjust washer nozzle with suitable tool as shown in the figure at left.
Adjustable range: $\pm 10^\circ$



Check Valve

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



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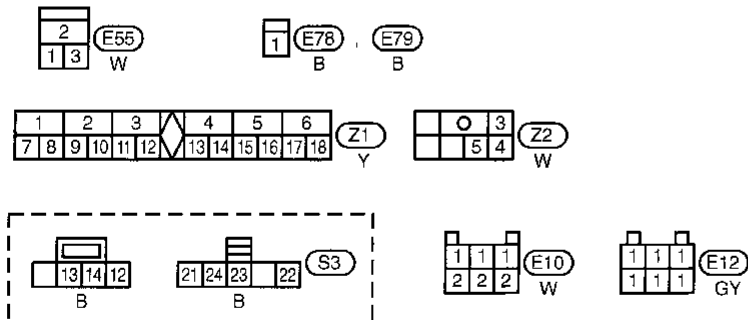
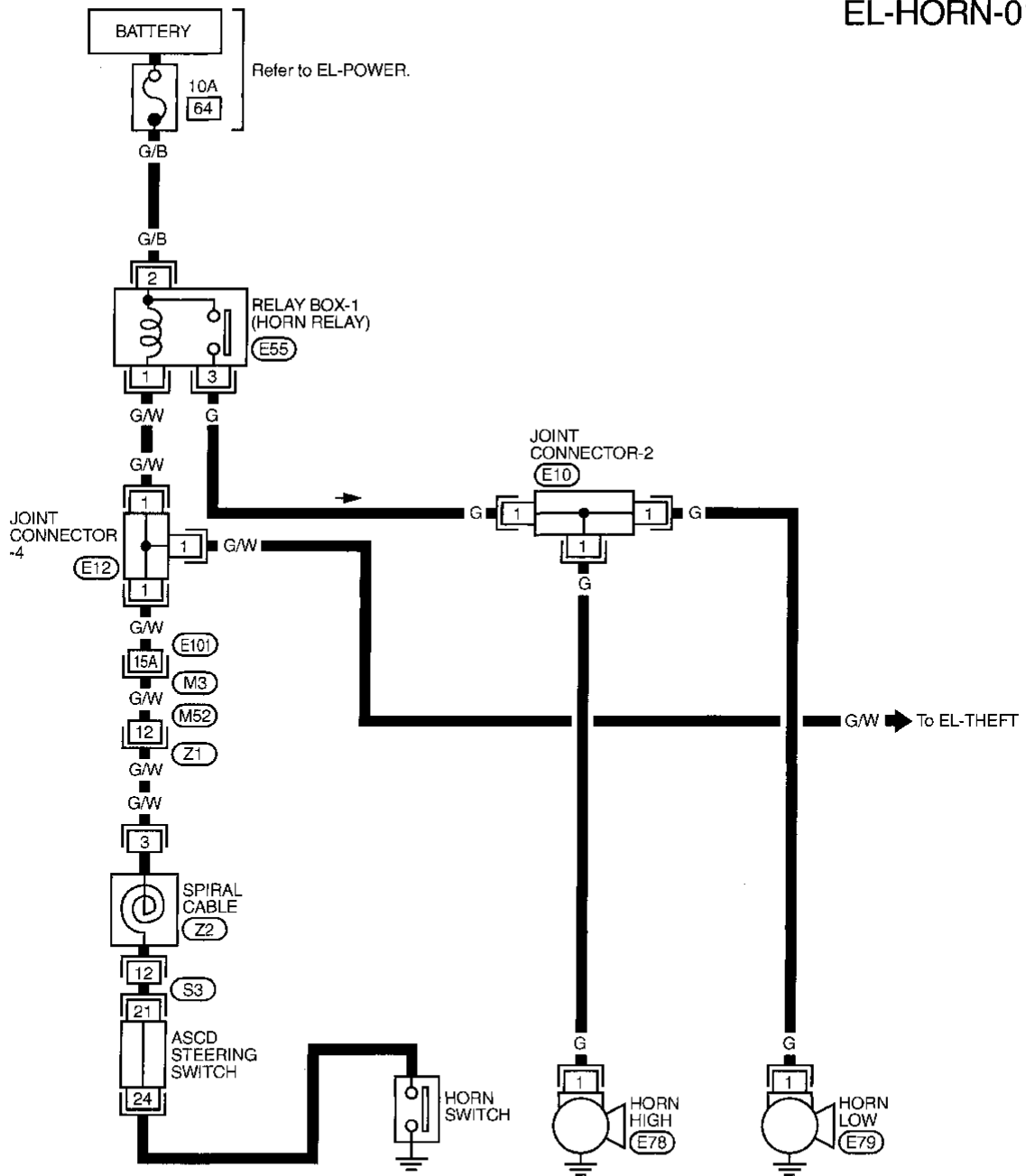
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HORN, CIGARETTE LIGHTER, CLOCK

Wiring Diagram — HORN —

EL-HORN-01



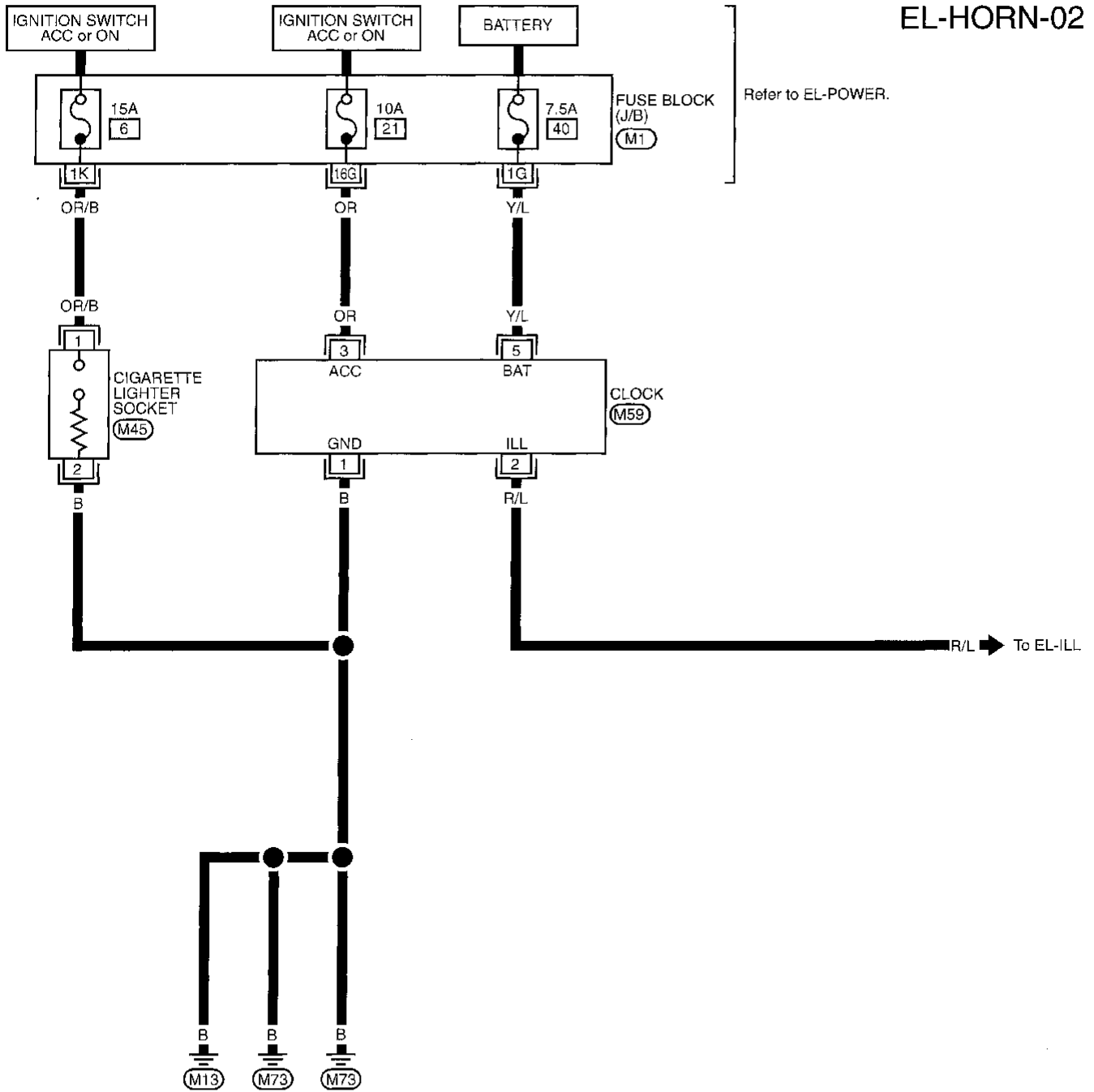
Refer to last page (Foldout page).

- (M3), (E101)
- (E10)
- (E12)

HORN, CIGARETTE LIGHTER, CLOCK

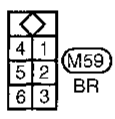
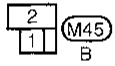
Wiring Diagram — HORN — (Cont'd)

EL-HORN-02



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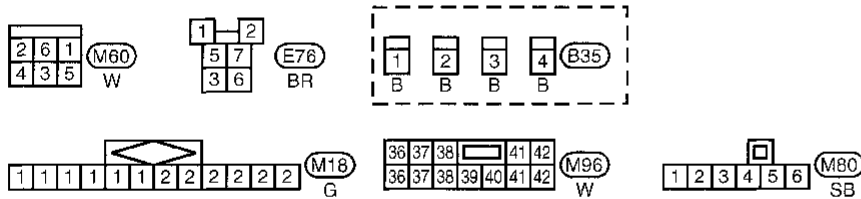
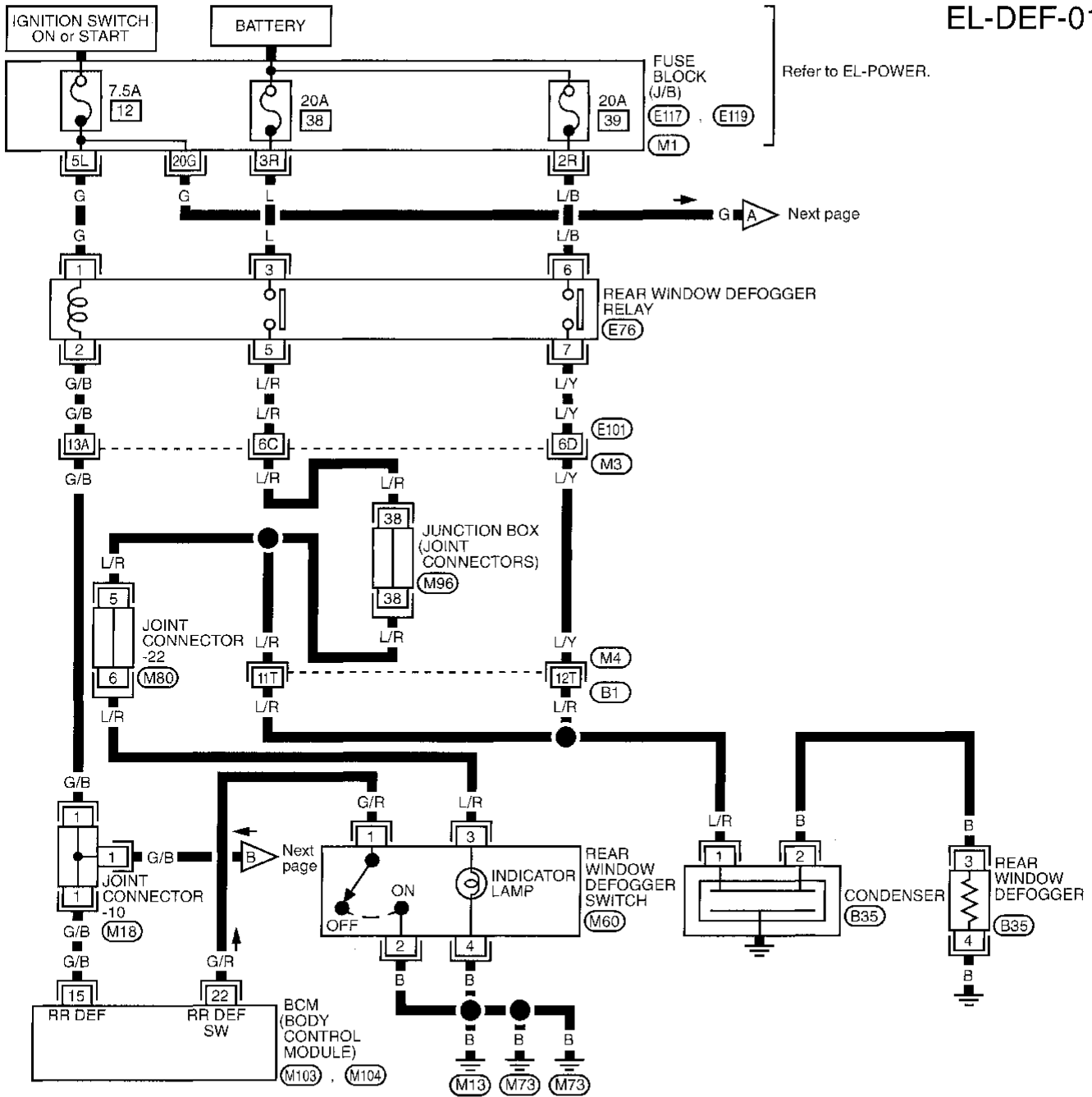


Refer to last page (Foldout page).
(M1)

REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

EL-DEF-01



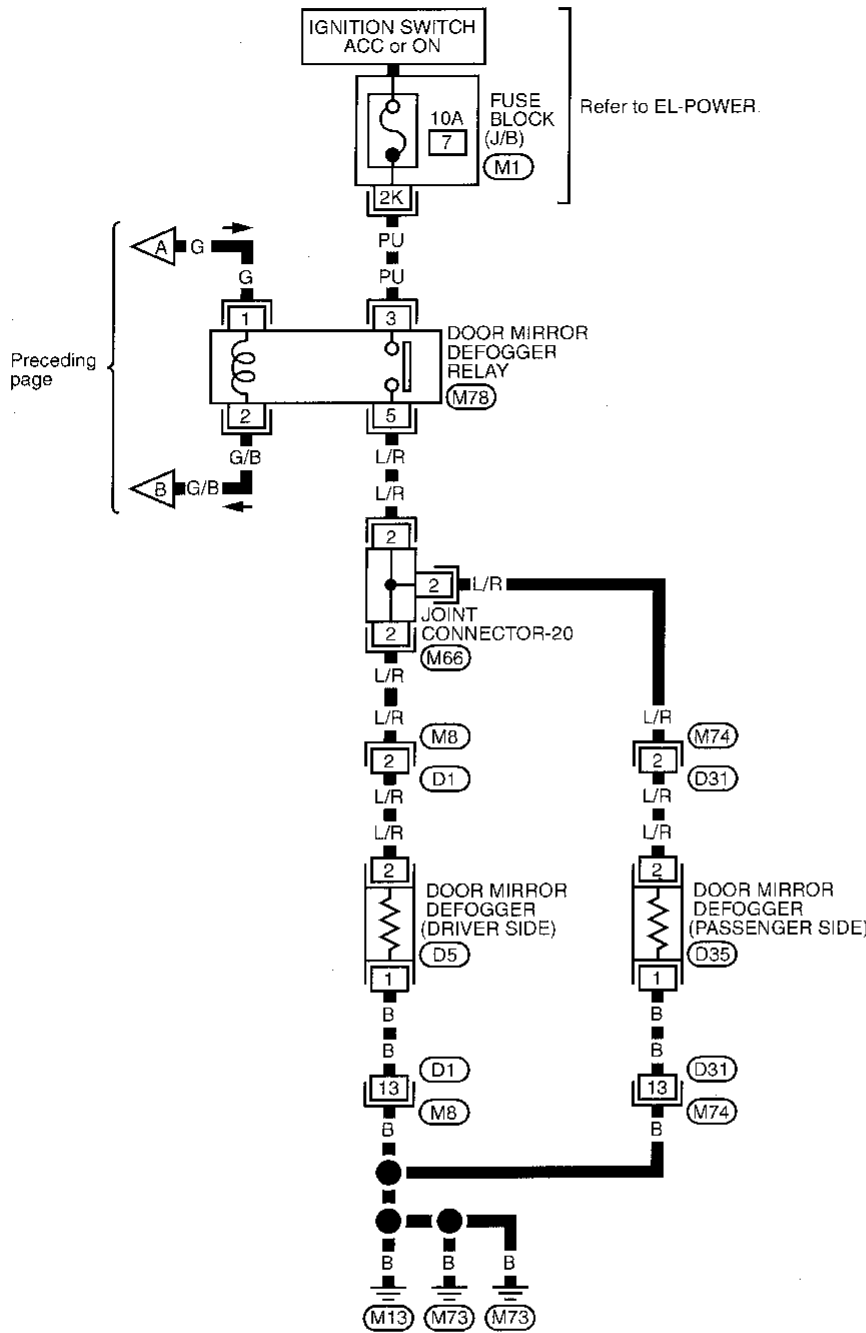
Refer to last page (Foldout page).

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

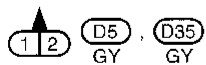
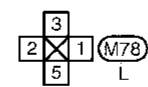
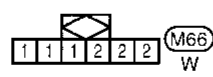
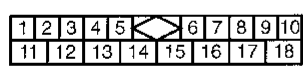
REAR WINDOW DEFOGGER

Wiring Diagram — DEF — (Cont'd)

EL-DEF-02



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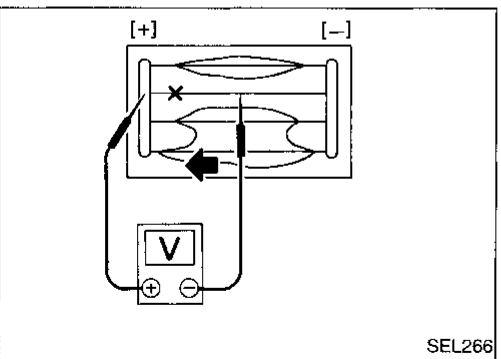
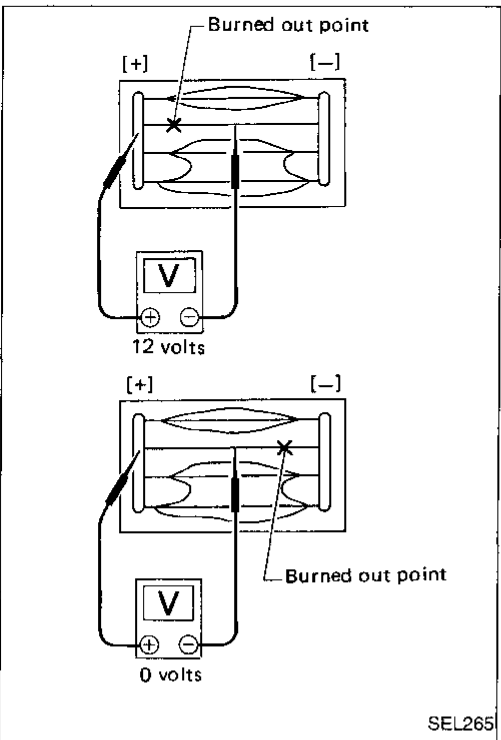
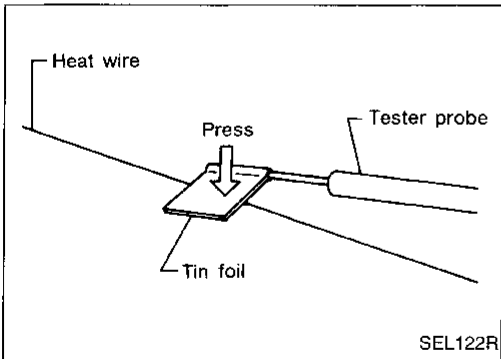
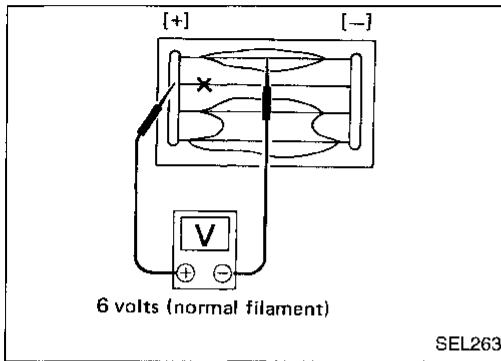


Refer to last page (Foldout page).



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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.

REAR WINDOW DEFOGGER

Filament Repair

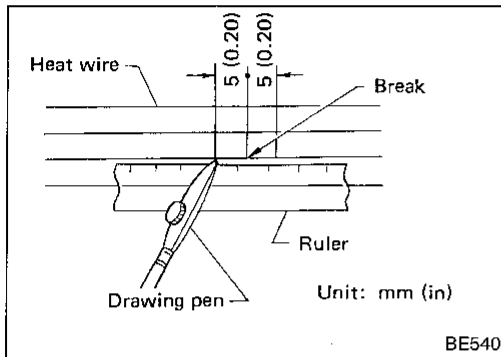
REPAIR EQUIPMENT

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

GI

MA

EM



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.

LC

EC

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.

FE

CL

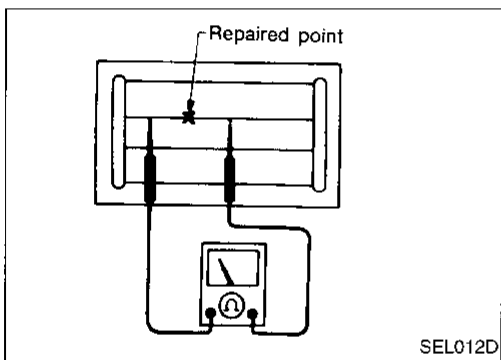
WT

Do not touch repaired area while test is being conducted.

AT

FA

RA



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.

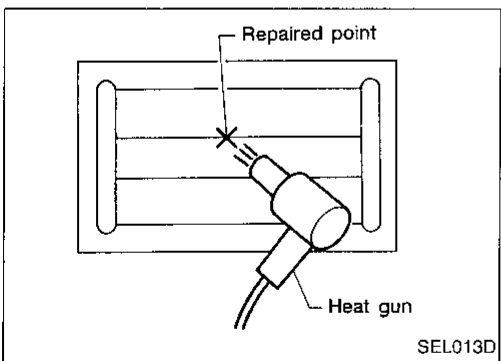
BR

ST

RS

BT

HA



EL

IDX

Audio/System Description

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

WITH BOSE SYSTEM

Power is supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B)]
- to radio and CD player terminal ⑥.

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 radio and CD player terminal ⑩.

Ground is supplied through the case of the radio.

Also, radio and CD player terminal ⑫ is grounded to body grounds (M13) and (M73) through audio amp. relay terminals ① and ②.

Power is supplied at all times

- through 15A fuse [No. 22], located in the fuse block (J/B)]
- 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.

When the radio POWER button is pressed, audio signals are supplied

- through radio and CD player 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 speakers.

EXCEPT BOSE SYSTEM

4-speaker models

Power is supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B)]
- to radio and cassette player terminal ⑥.

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 radio and cassette player terminal ⑩.

Ground is supplied through the case of the radio.

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

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

6-speaker with amp. models

Power is supplied at all times

- through 7.5A fuse [No. 40], located in the fuse block (J/B)]
- to radio and cassette player terminal ⑥.

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 radio and cassette player terminal ⑩.

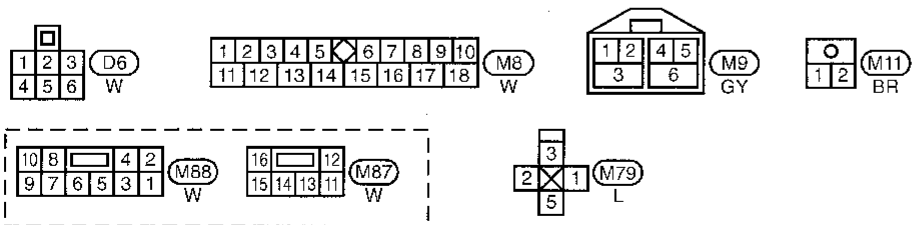
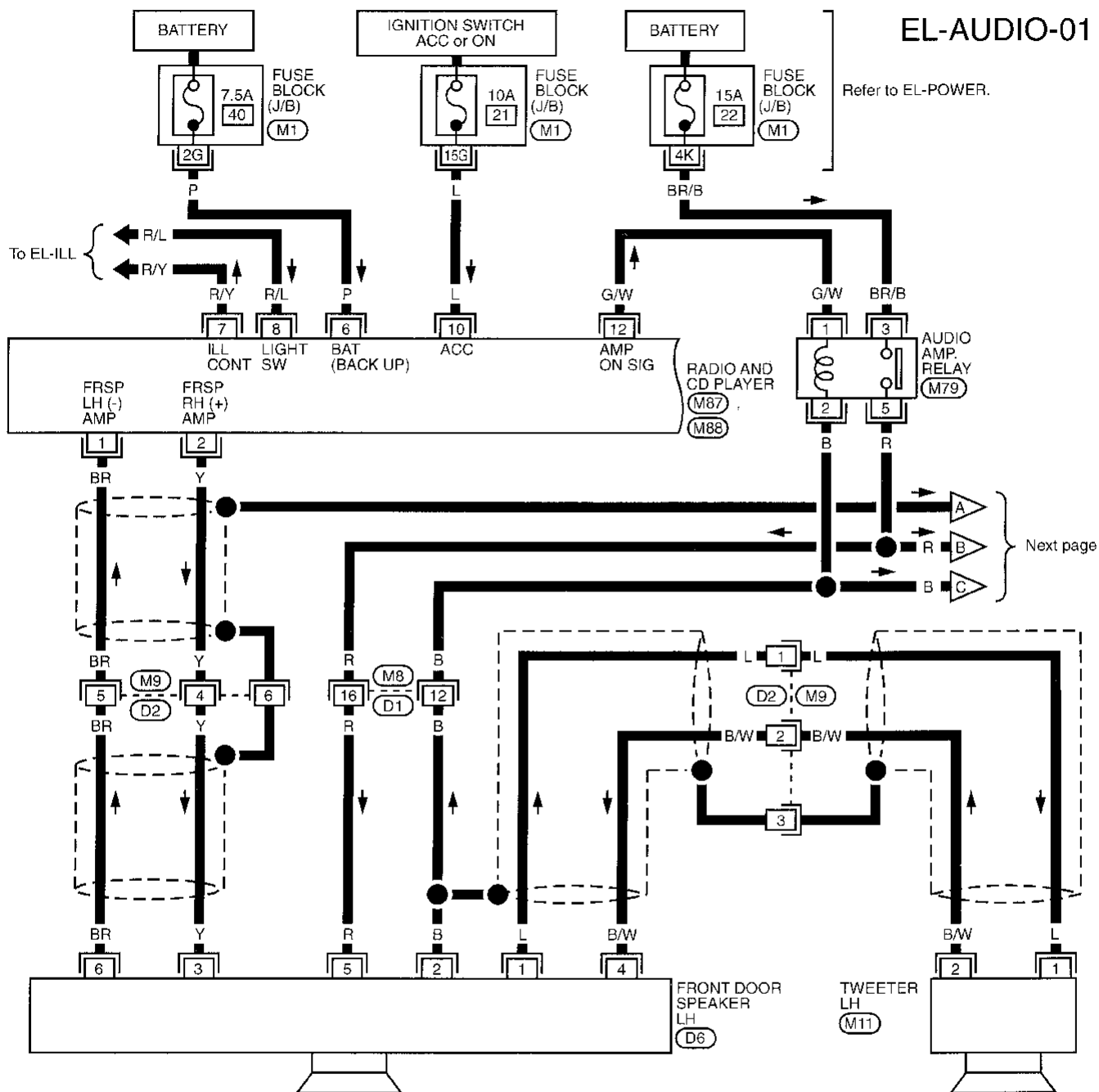
Ground is supplied through the case of the radio.

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

- through radio and cassette player terminals ①, ②, ③, ④, ⑬, ⑭, ⑮ and ⑯
- to terminals ⑰, ⑱, ⑲ and ⑳ of the front speaker amp. and
- to terminals ㉑, ㉒, ㉓ and ㉔ of the rear speaker amp.,
- through front speaker amp. terminals ㉕, ㉖, ㉗ and ㉘ and rear speaker amp. terminals ㉙, ㉚, ㉛ and ㉜
- to terminals ① and ② of the LH and RH front speaker, LH and RH tweeter and LH and RH rear speaker.

Audio/Wiring Diagram — AUDIO —

BOSE SYSTEM



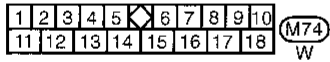
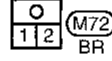
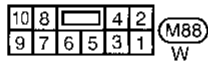
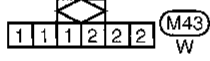
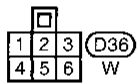
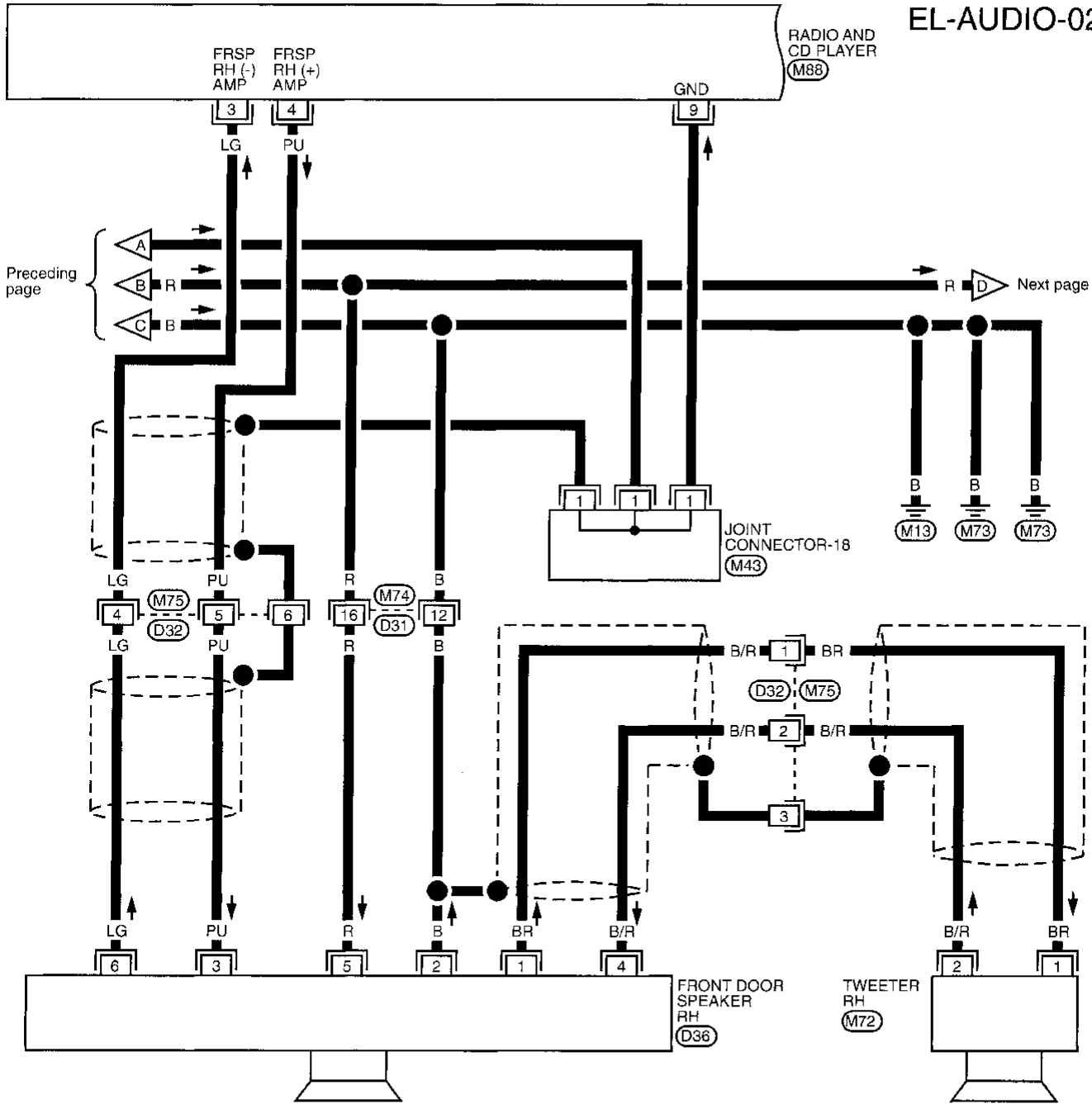
Refer to last page (Foldout page).
(M1)

G1
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AUDIO AND POWER ANTENNA

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

EL-AUDIO-02

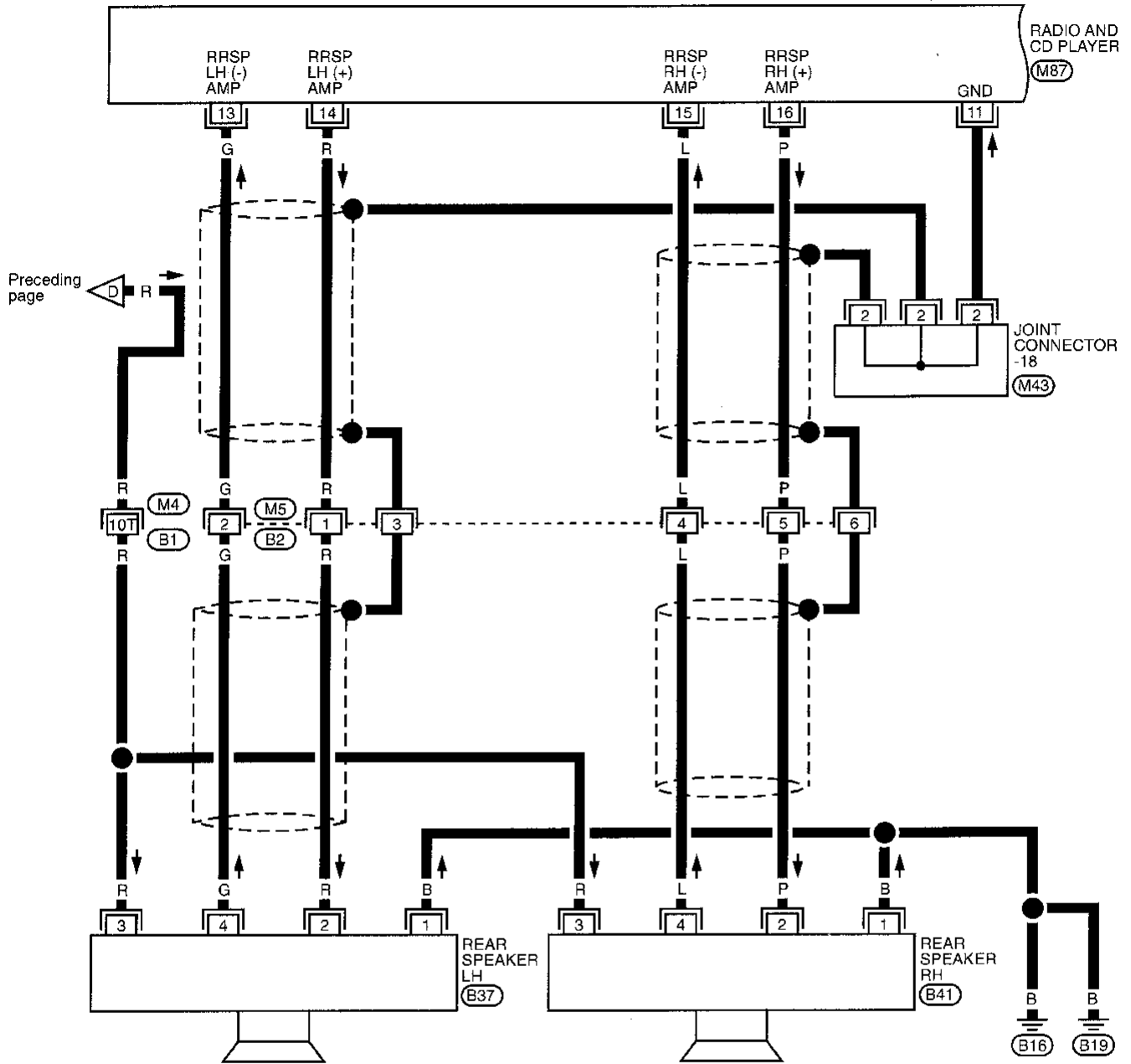


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(M43)

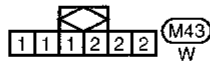
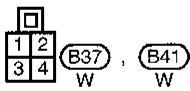
AUDIO AND POWER ANTENNA

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

EL-AUDIO-03



GI
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Refer to last page (Foldout page).

(B1) (M4)

(M43)

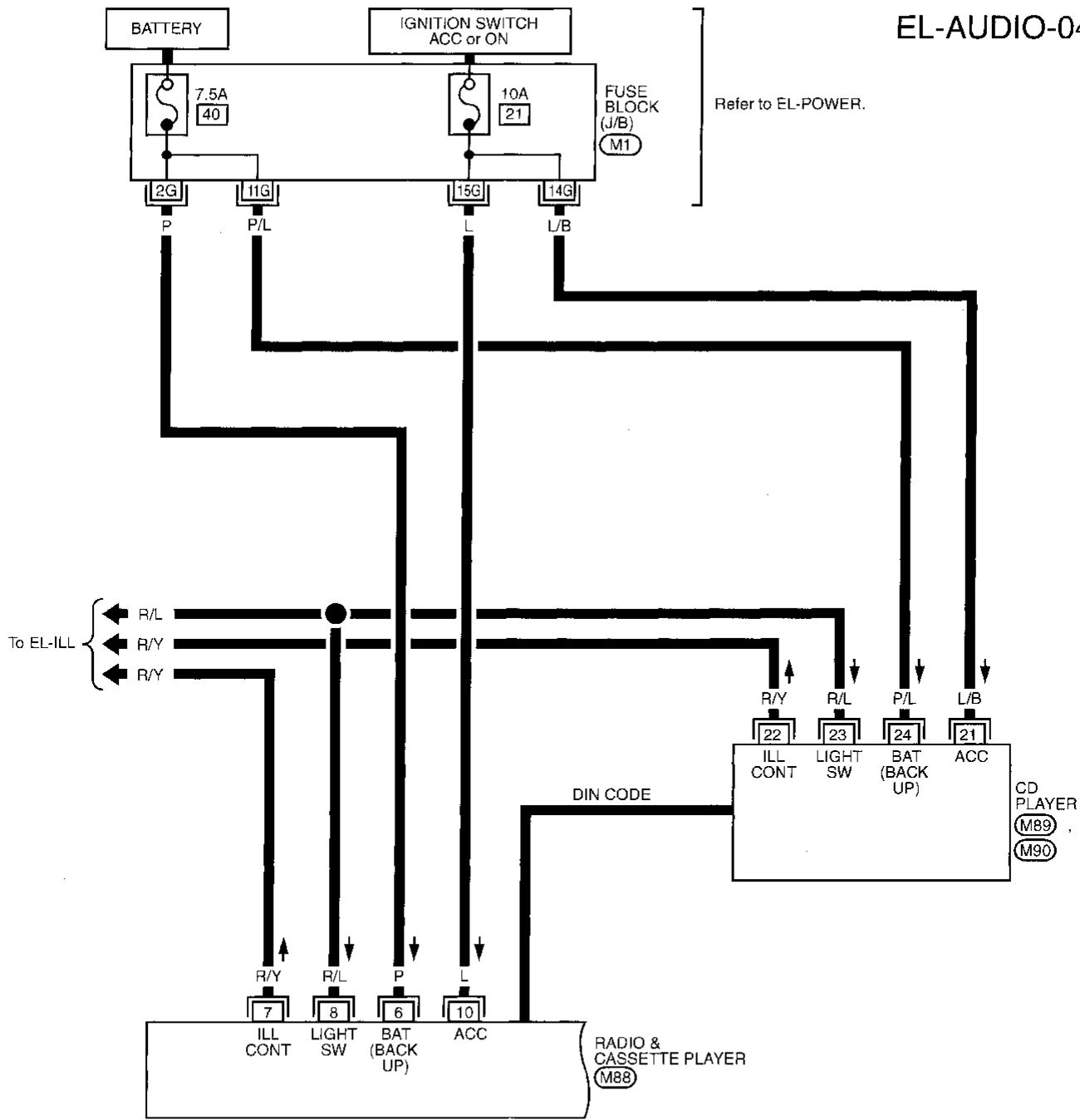
BT
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AUDIO AND POWER ANTENNA

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

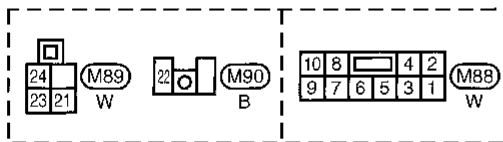
EXCEPT FOR BOSE SYSTEM (4-speaker type)

EL-AUDIO-04



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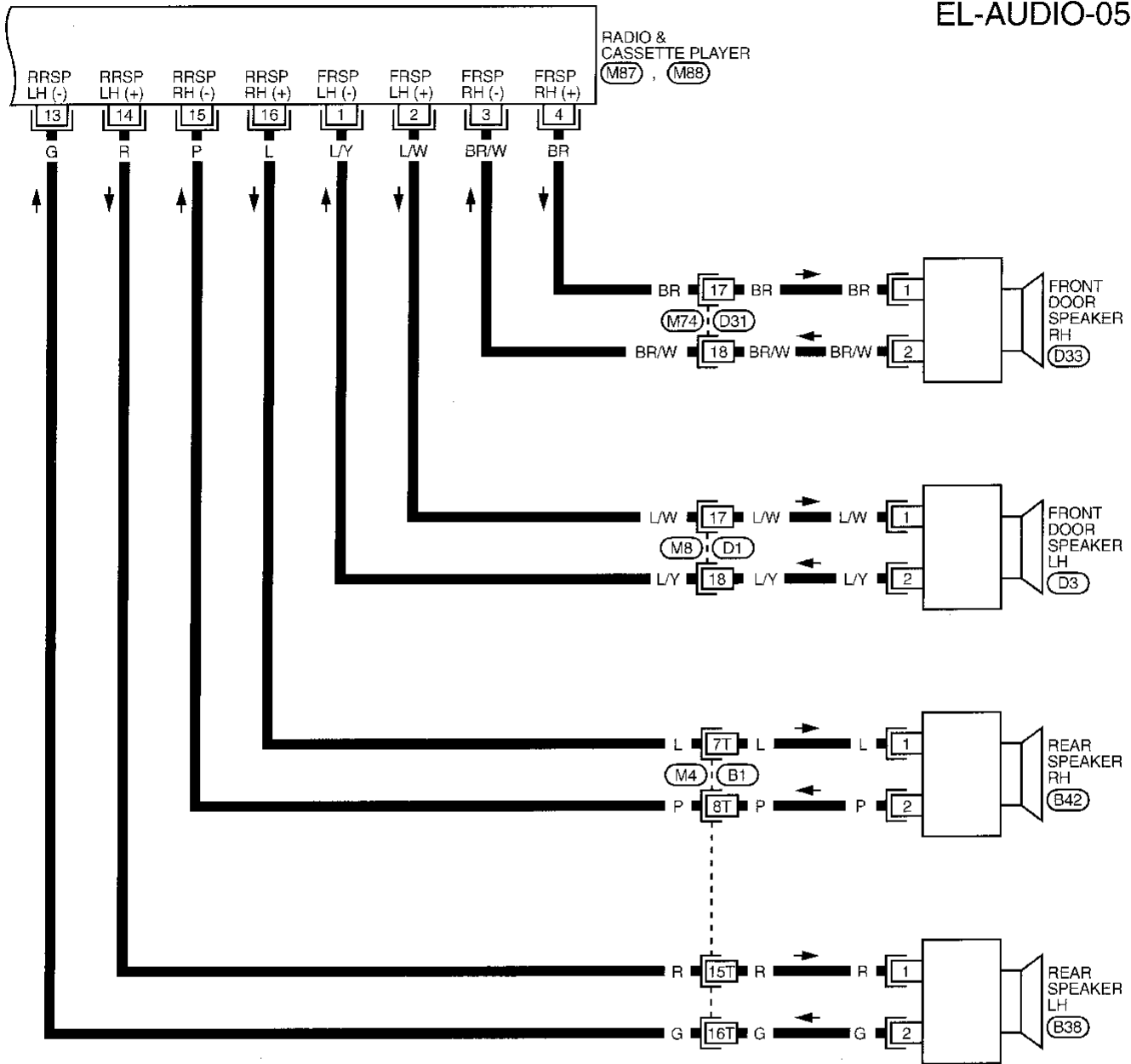
M1



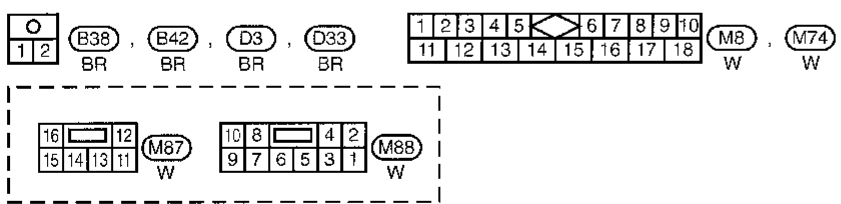
AUDIO AND POWER ANTENNA

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

EL-AUDIO-05



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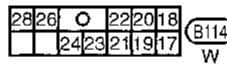
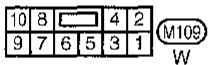
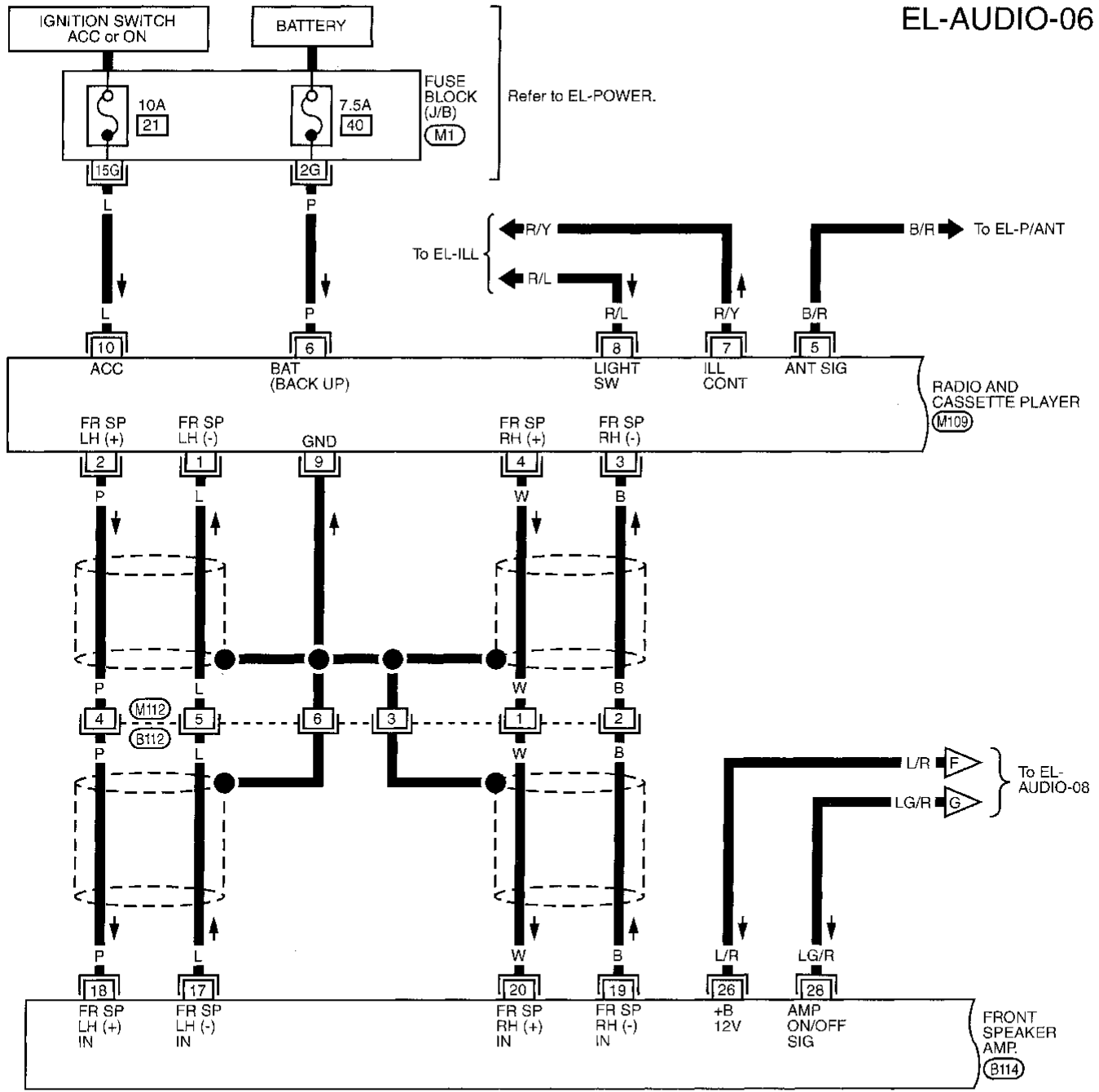
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(M4), (B1)

AUDIO AND POWER ANTENNA

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

EXCEPT FOR BOSE SYSTEM (6-speaker with amp. type)

EL-AUDIO-06



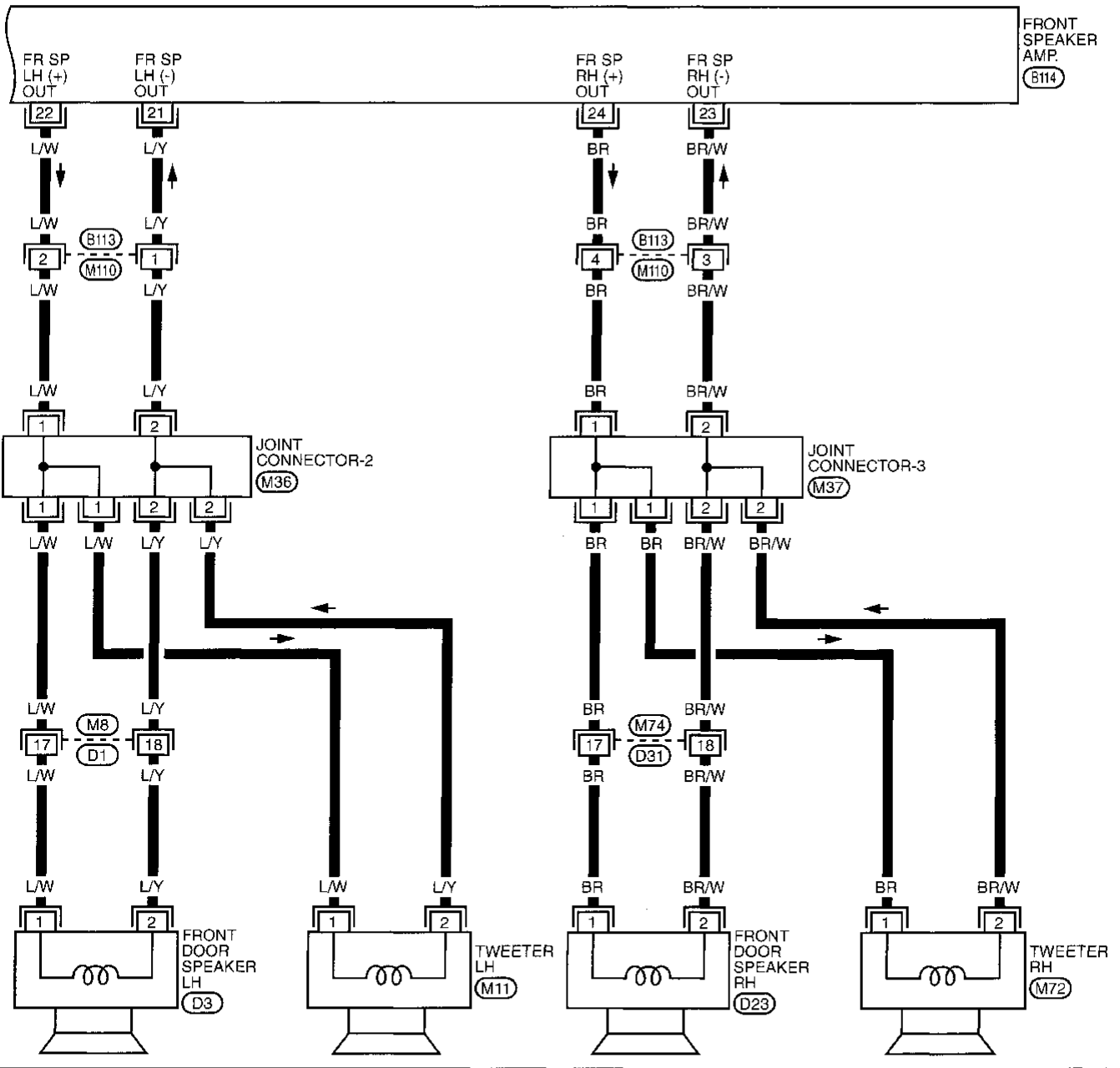
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M1

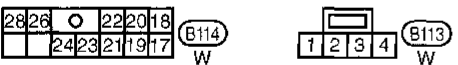
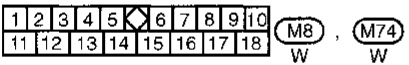
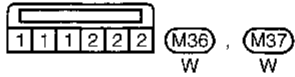
AUDIO AND POWER ANTENNA

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

EL-AUDIO-07



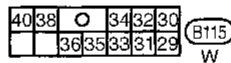
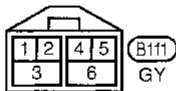
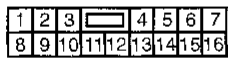
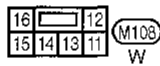
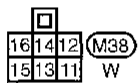
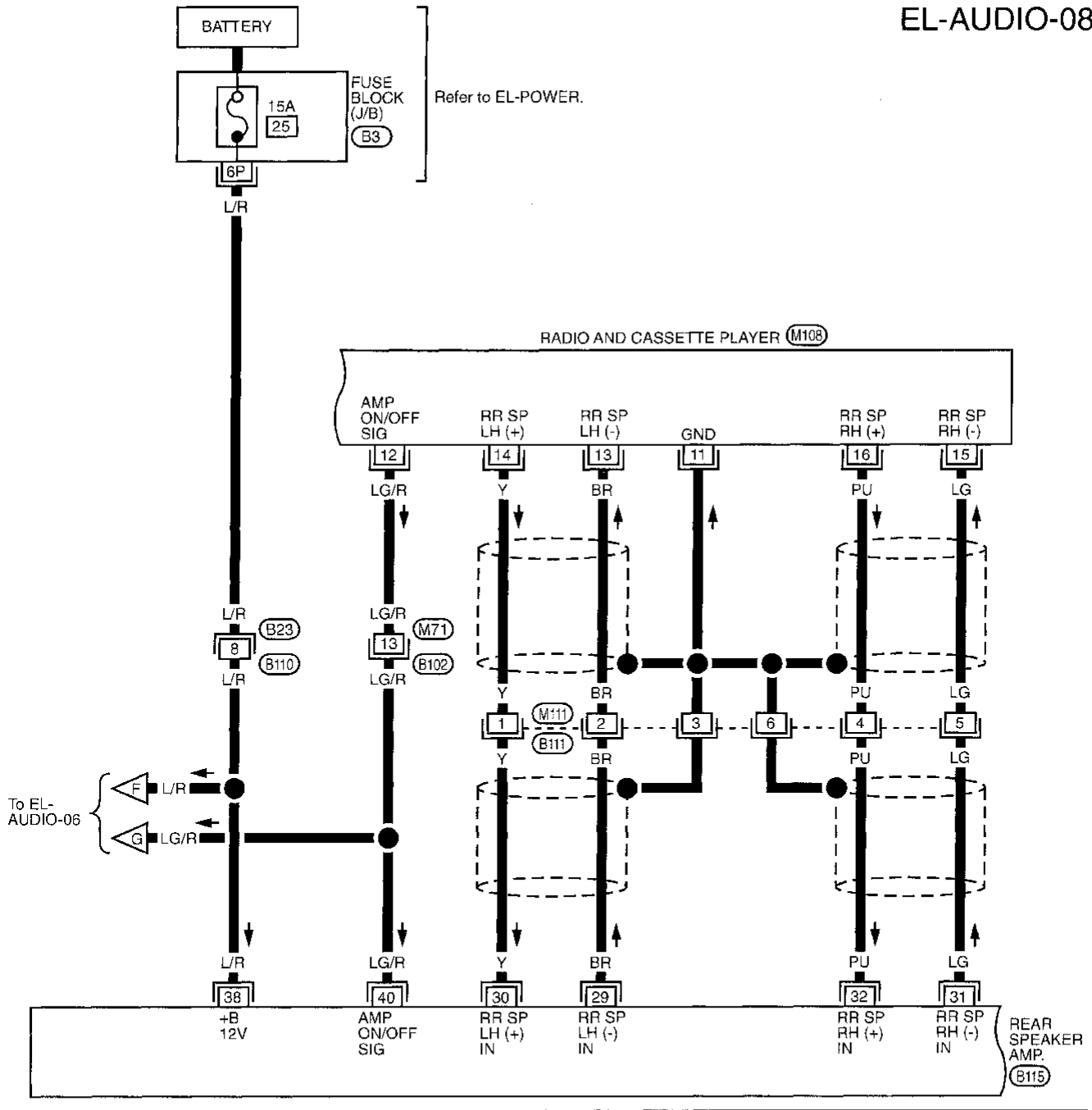
- GI
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- HA
- EL**
- IDX



AUDIO AND POWER ANTENNA

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

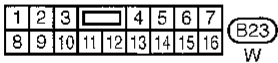
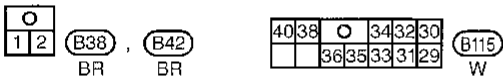
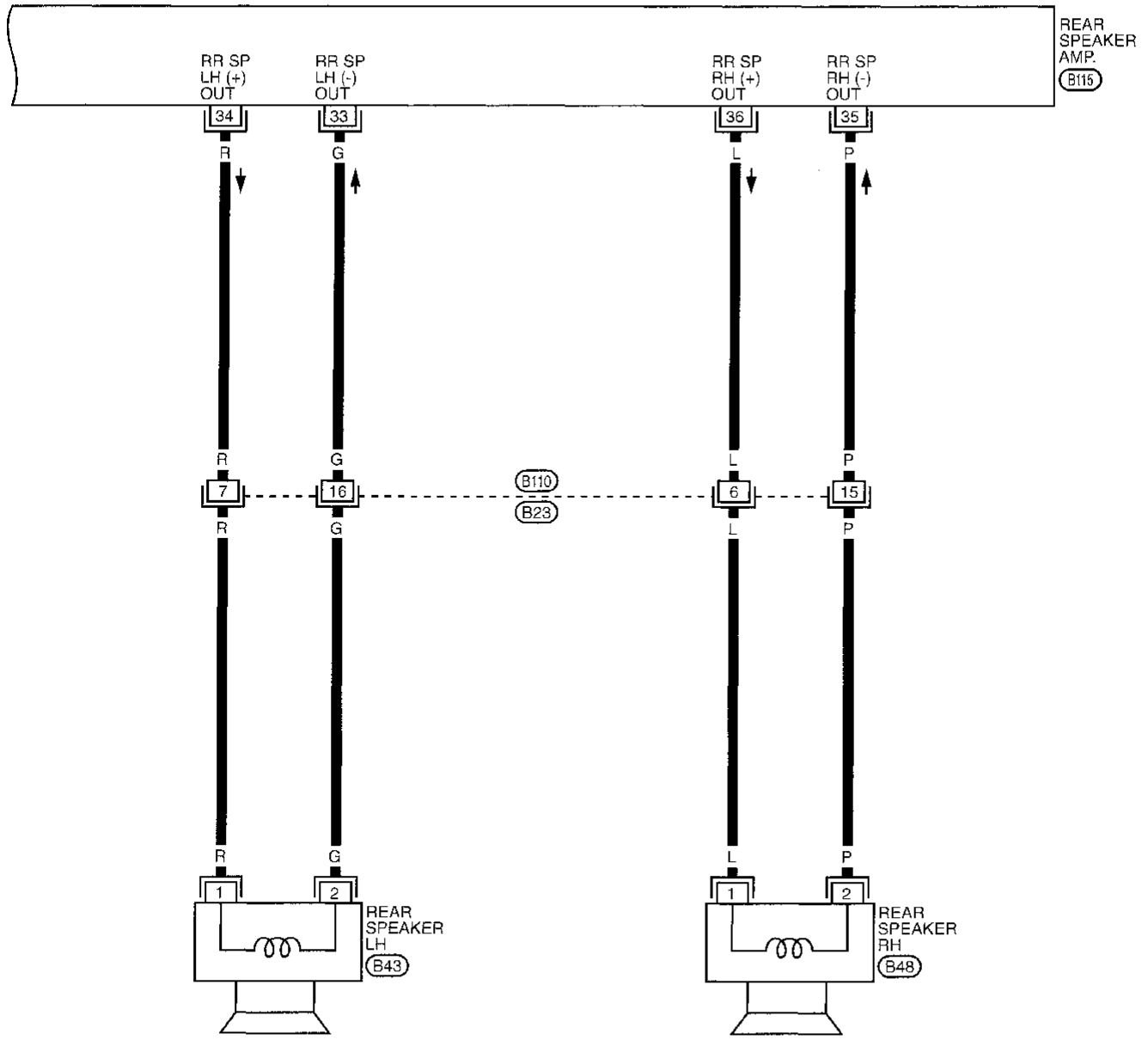
EL-AUDIO-08



AUDIO AND POWER ANTENNA

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

EL-AUDIO-09



CI
MA
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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 radio and CD player 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 radio and CD player 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.

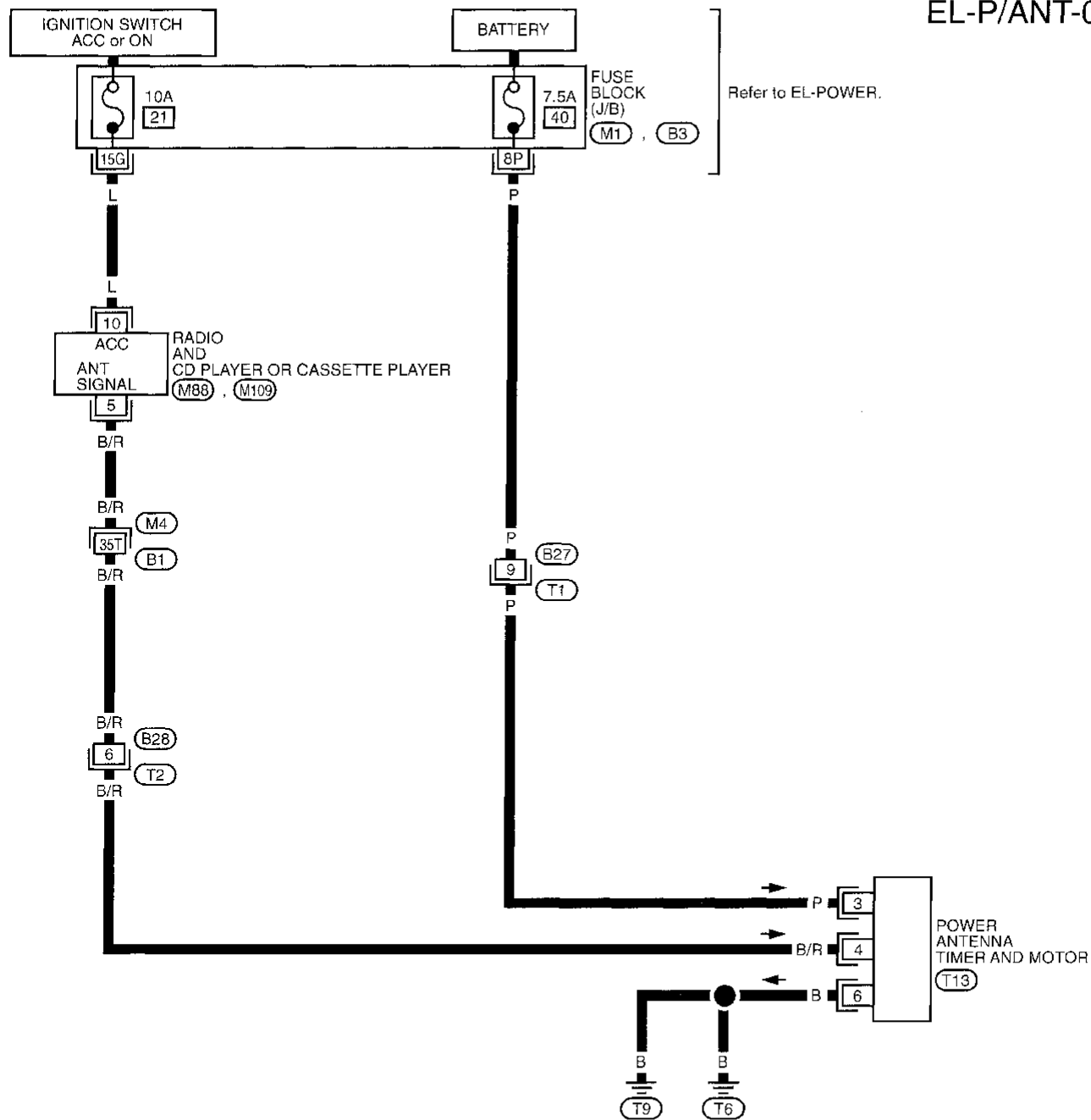
When the radio is turned to the OFF position, battery voltage is interrupted

- from radio and CD player terminal ⑤
- to power antenna terminal ④.

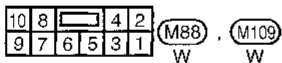
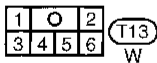
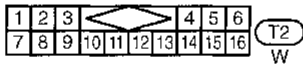
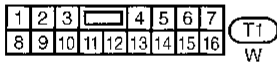
The antenna retracts.

Power Antenna/Wiring Diagram — P/ANT —

EL-P/ANT-01



Refer to EL-POWER.



Refer to last page (Foldout page).

M4, B1

M1, B3

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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. <u>21</u>), located in fuse block). Turn ignition switch ON and verify battery positive voltage is present at terminal <u>Ⓣ</u> 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. 7.5A fuse 2. Radio 	<ol style="list-style-type: none"> 1. Check 7.5A fuse (No. <u>40</u>), located in fuse block). Verify battery positive voltage is present at terminal <u>Ⓠ</u> 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. <u>22</u>), located in fuse block). Verify battery positive voltage is present at terminal <u>Ⓝ</u> of audio amp. relay. 2. Check audio amp. relay. 3. Check audio amp. relay ground (Terminal <u>Ⓜ</u>). 4. Turn ignition switch ACC and radio ON. Verify battery positive voltage is present at terminal <u>Ⓛ</u> 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 <u>Ⓜ</u> : FR LH, <u>Ⓜ</u> : FR RH, <u>Ⓛ</u> : RR LH, <u>Ⓛ</u> : 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)

4-SPEAKER TYPE

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.

6-SPEAKER WITH AMP. TYPE

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. AMP ON signal 	<ol style="list-style-type: none"> 1. Check 15A fuse (No. 25, located in fuse block). Verify battery positive voltage is present at terminal 26 of front speaker amp. and 38 of rear speaker amp. 2. Turn ignition switch ACC and radio ON. Verify battery positive voltage is present at terminal 28 (FR amp.) or 40 (RR amp.).
Front or rear speakers are inoperative.	<ol style="list-style-type: none"> 1. Poor speaker amp. case ground 2. Speaker amp. 3. Speaker amp. circuit 4. Radio output 5. Radio 	<ol style="list-style-type: none"> 1. Check speaker amp. case ground. 2. Check speaker amp. output voltage. 3. Check harness between amp. and speaker. 4. Check radio output voltage for amp. 5. Remove radio for repair.
Individual speaker is noisy or inoperative.	<ol style="list-style-type: none"> 1. Speaker 2. Harness 	<ol style="list-style-type: none"> 1. Check speaker. 2. Check harness between amp. and speaker or radio and amp.

POWER ANTENNA

Symptom	Possible causes	Repair order
Power antenna does not operate.	<ol style="list-style-type: none"> 1. 7.5A fuse 2. 10A fuse 3. Radio signal 4. Power antenna timer ground 5. Power antenna timer and motor 	<ol style="list-style-type: none"> 1. Check 7.5A fuse (No. 40, located in fuse block). Verify that battery positive voltage is present at terminal 3 of power antenna timer and motor. 2. Check 10A fuse (No. 21, located in fuse block). Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of radio. 3. Turn ignition switch and radio ON. Verify that battery positive voltage is present at terminal 4 of power antenna timer. 4. Check power antenna timer ground (Terminal 6). 5. Check power antenna timer and motor.

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AUDIO AND POWER ANTENNA

Trouble Diagnoses (Cont'd)

SPEAKER INSPECTION

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

ANTENNA INSPECTION

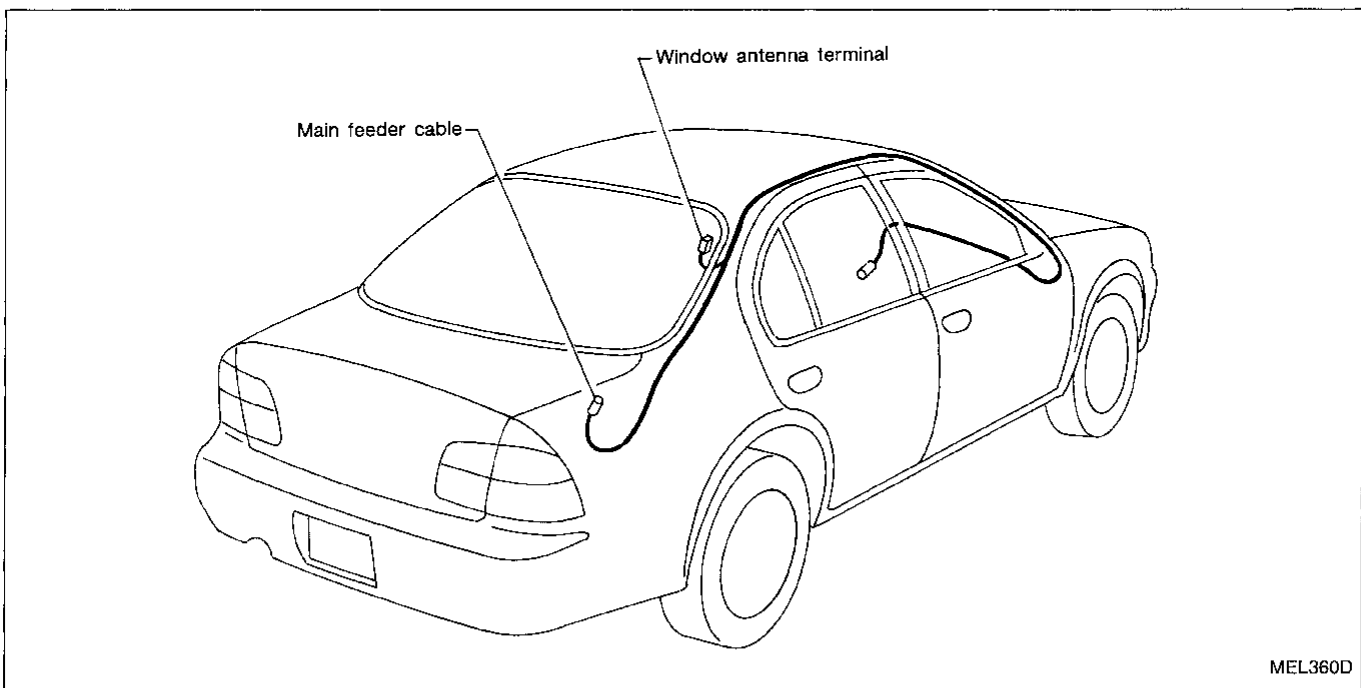
1. Using a jumper wire, clip an auxiliary ground between antenna and body.
 - If reception improves, check antenna ground (at body surface).
 - If reception does not improve, check main feeder cable for short circuit or open circuit.

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.)

Location of Antenna



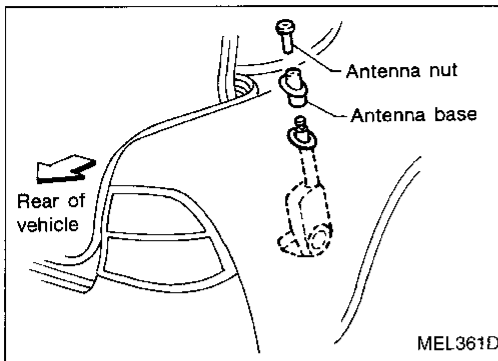
MEL360D

AUDIO AND POWER ANTENNA

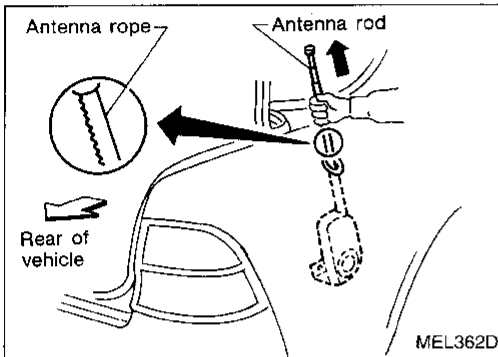
Antenna Rod Replacement

REMOVAL

1. Remove antenna nut and antenna base.

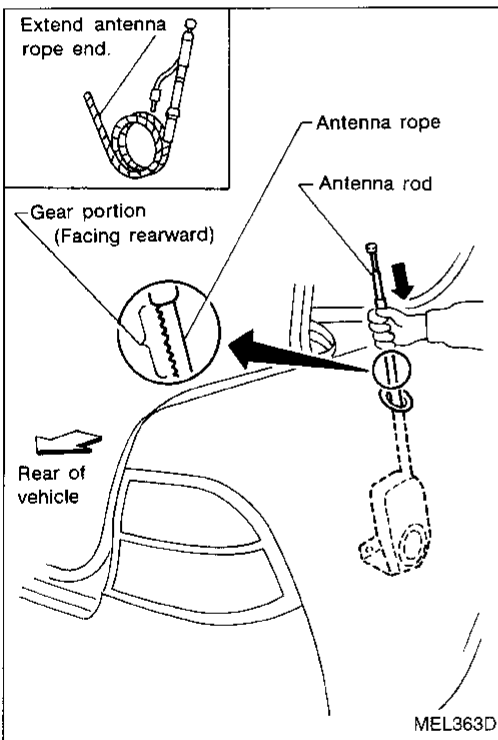


2. Withdraw antenna rod while raising it by operating antenna motor.



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.



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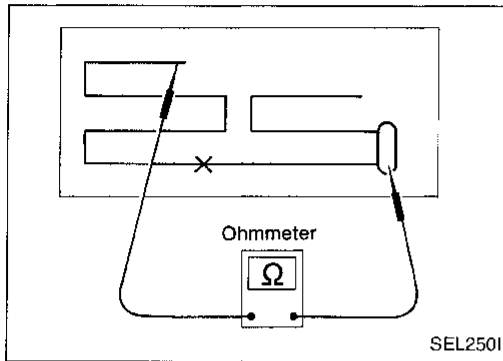
RS

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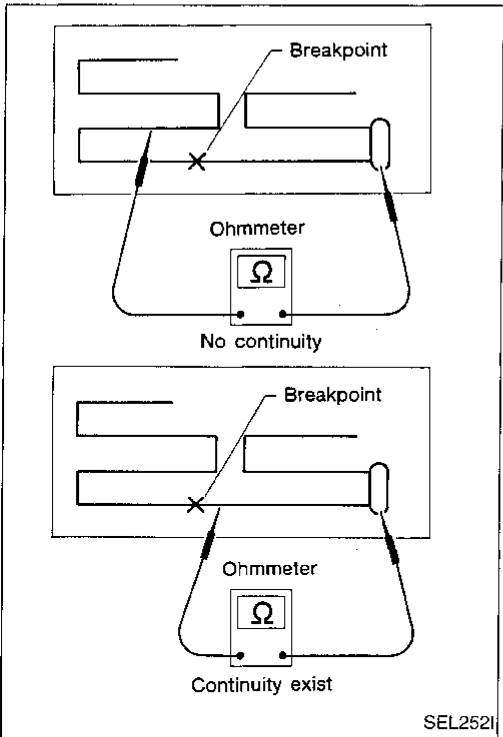
IDX



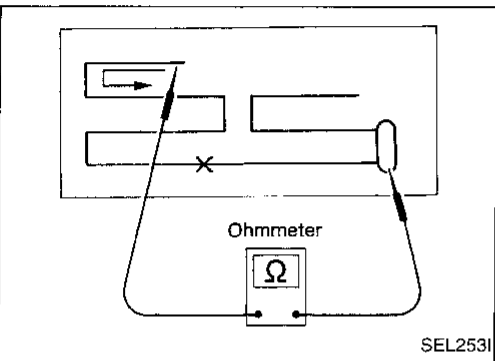
Window Antenna Repair

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.



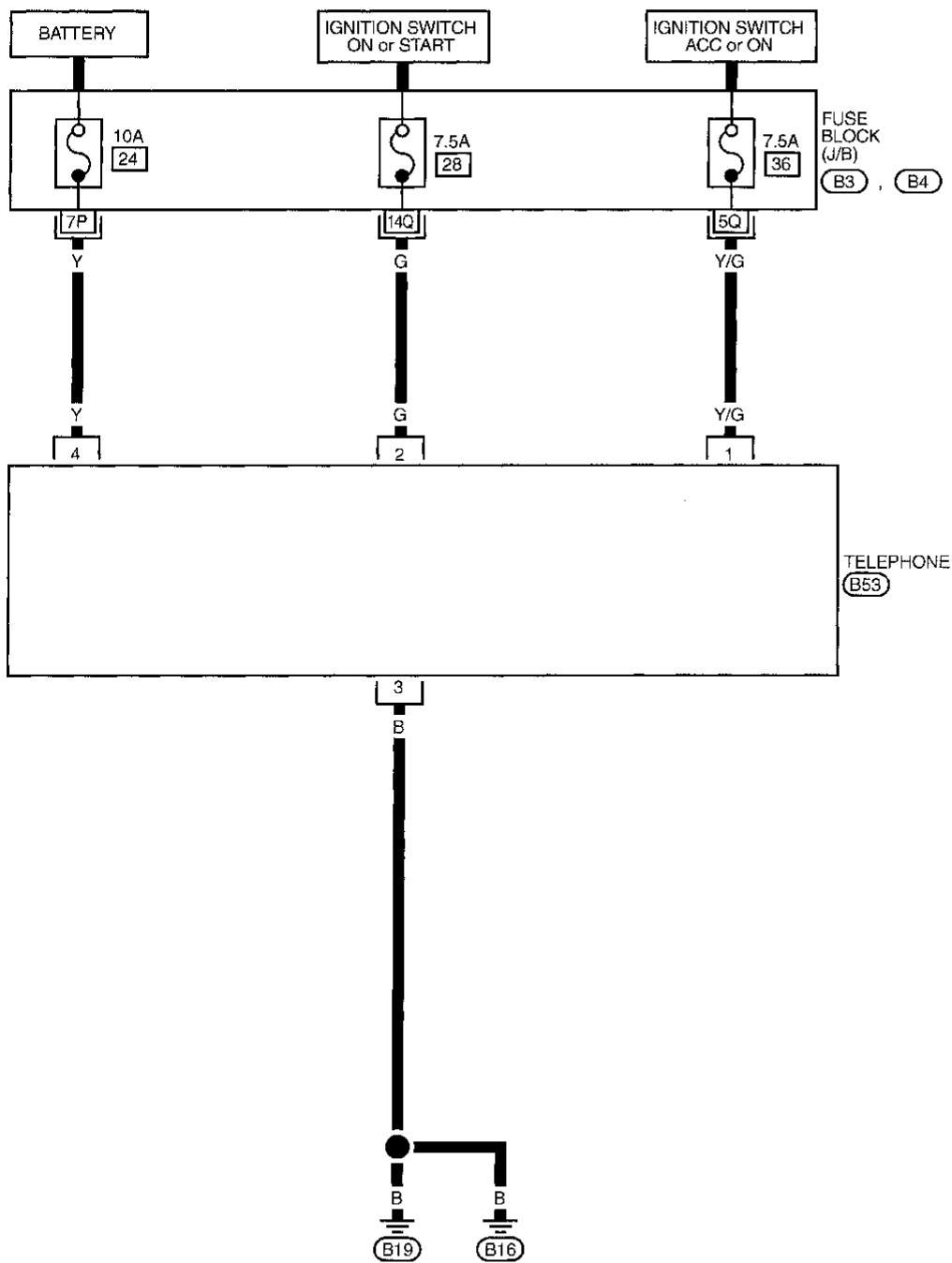
3. To locate broken point, move probe along element. Tester needle will swing abruptly when probe passes the point.

ELEMENT REPAIR

Refer to REAR WINDOW DEFOGGER "Filament Repair" (EL-102).

TELEPHONE

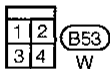
Telephone Pre Wire/Wiring Diagram — PHONE —



EL-PHONE-01

Refer to EL-POWER.

TELEPHONE
(B53)



Refer to last page (Foldout page).
(B3) , (B4)

GI

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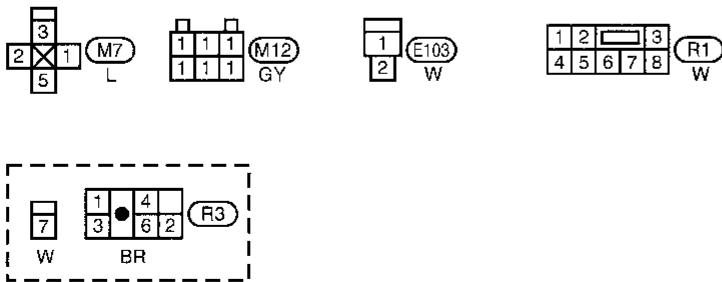
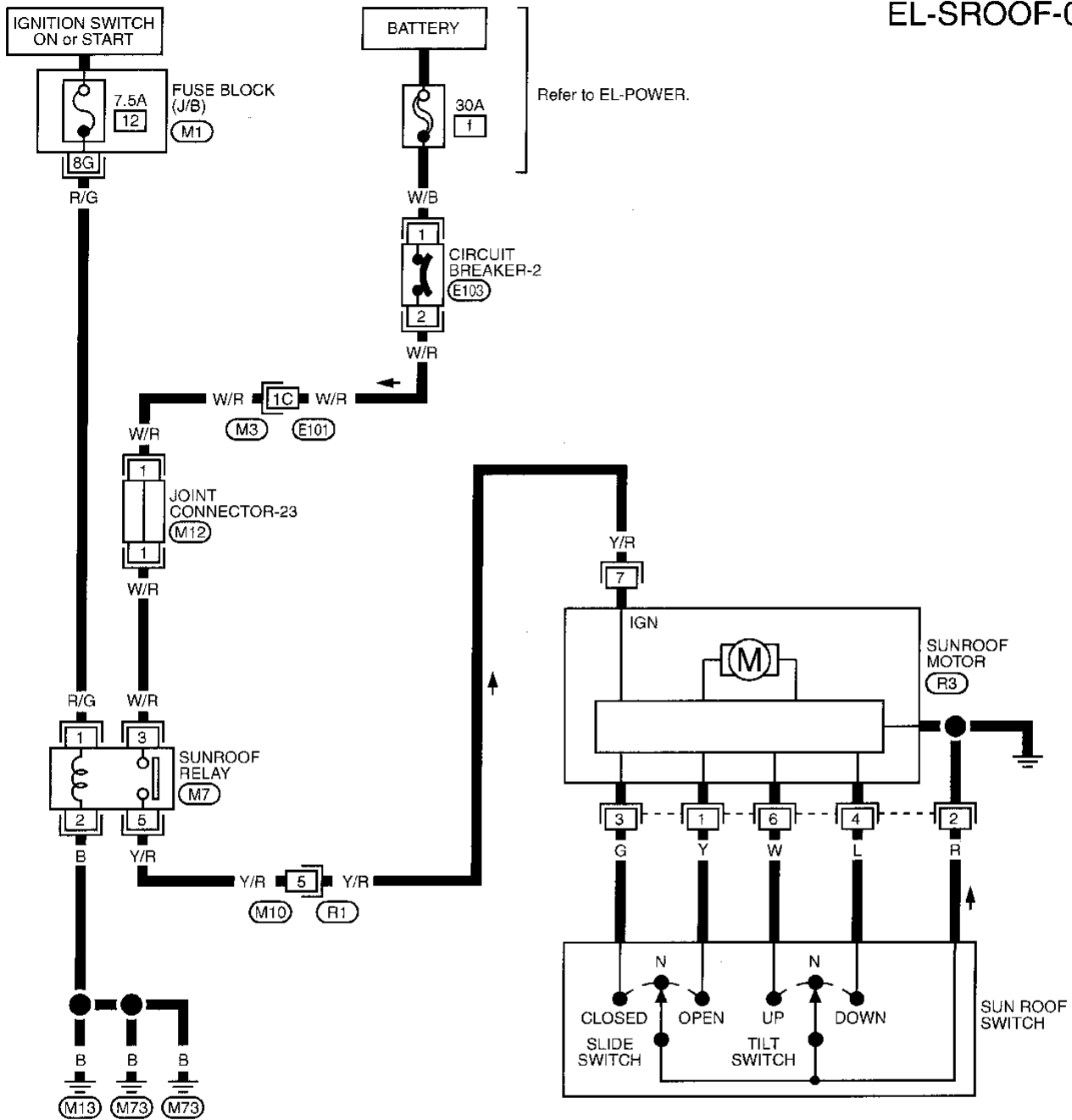
EL

IDX

ELECTRIC SUNROOF

Sunroof/Wiring Diagram — SROOF —

EL-SROOF-01



Refer to last page (Foldout page).

(M3), (E101)

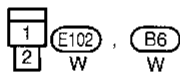
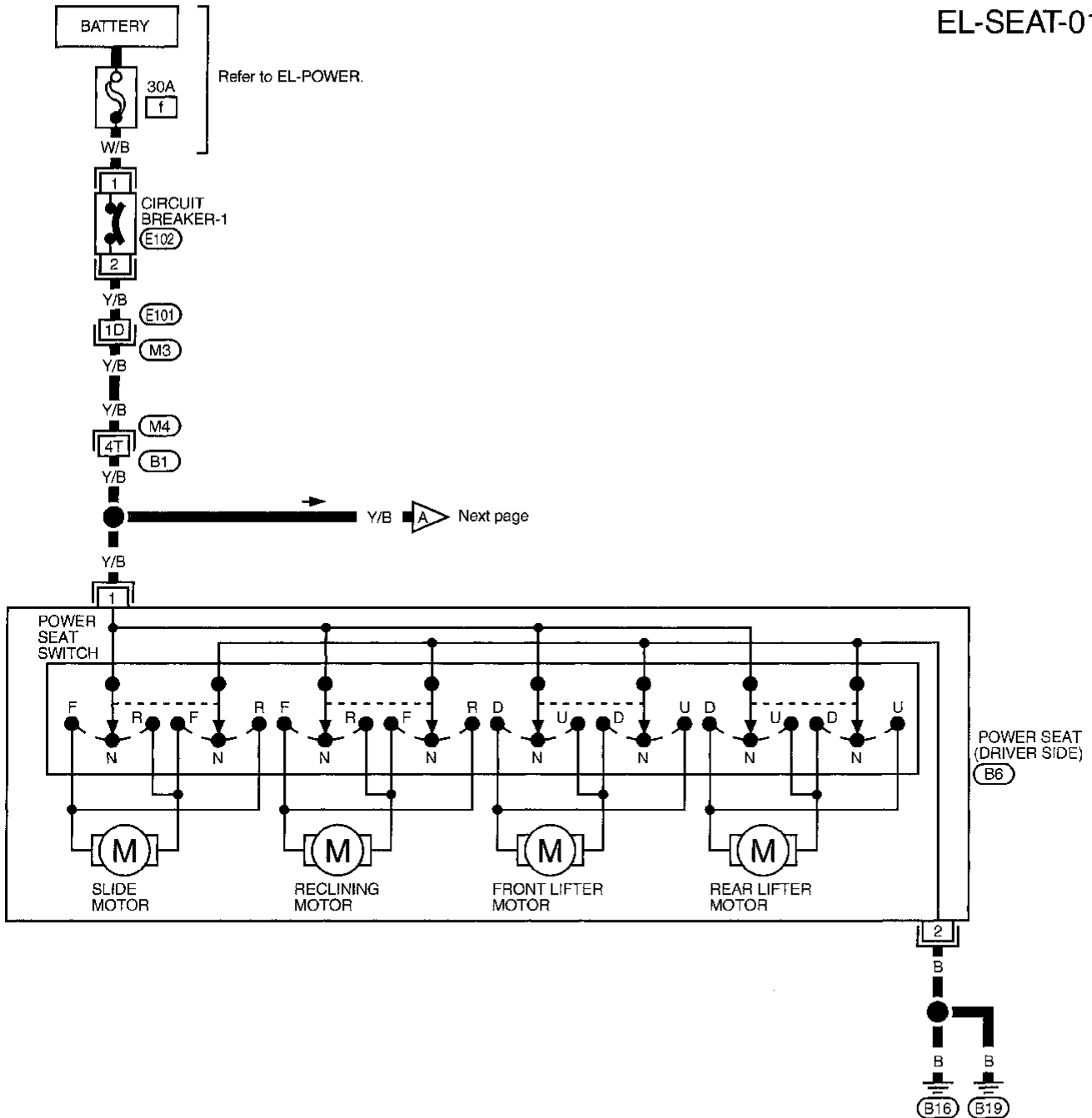
(M1)

(M12)

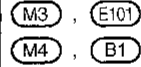
POWER SEAT

Power Seat/Wiring Diagram — SEAT —

EL-SEAT-01



Refer to last page (Foldout page).

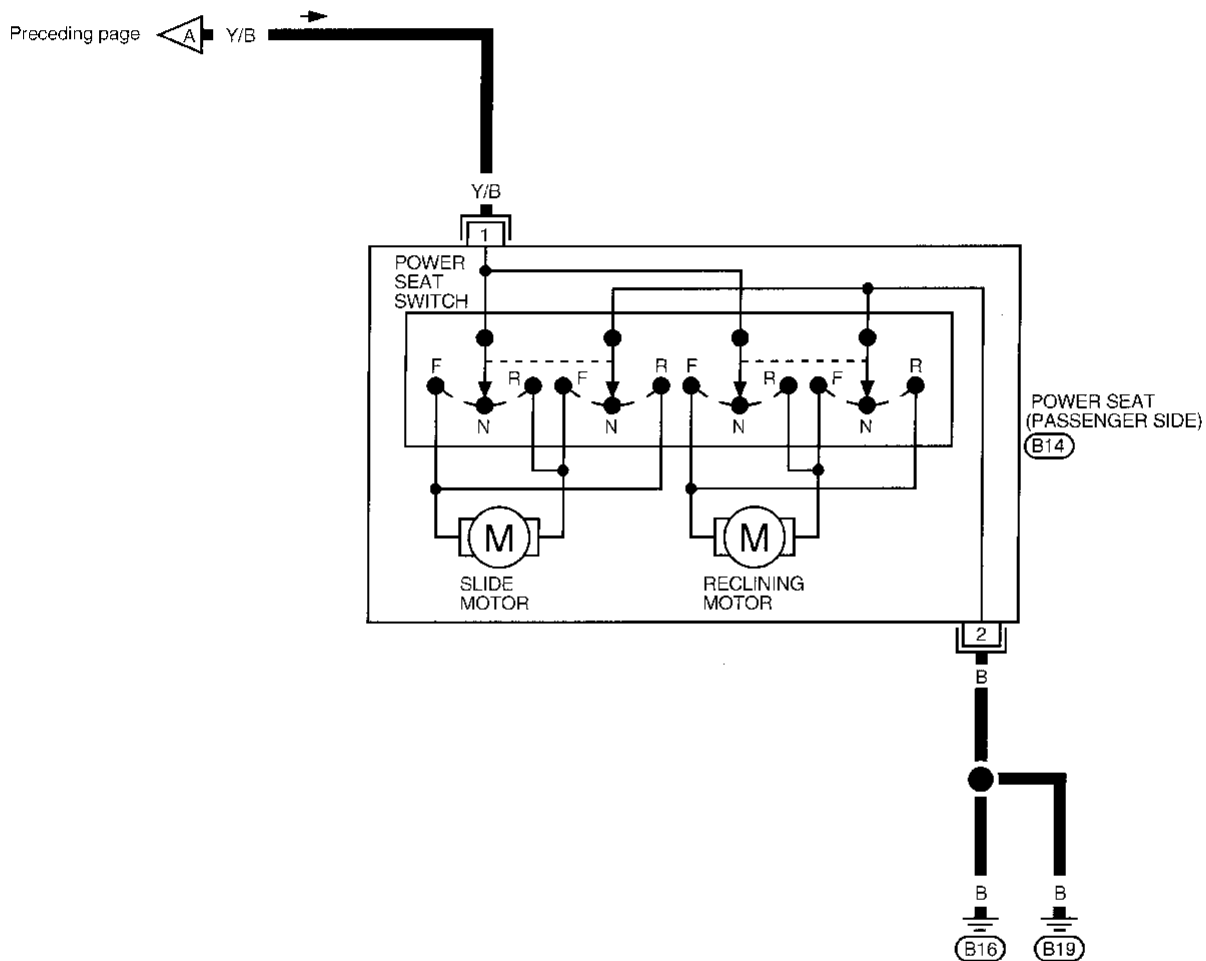


- GI
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- EL**
- IDX

POWER SEAT

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

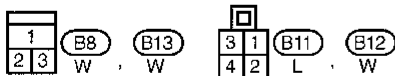
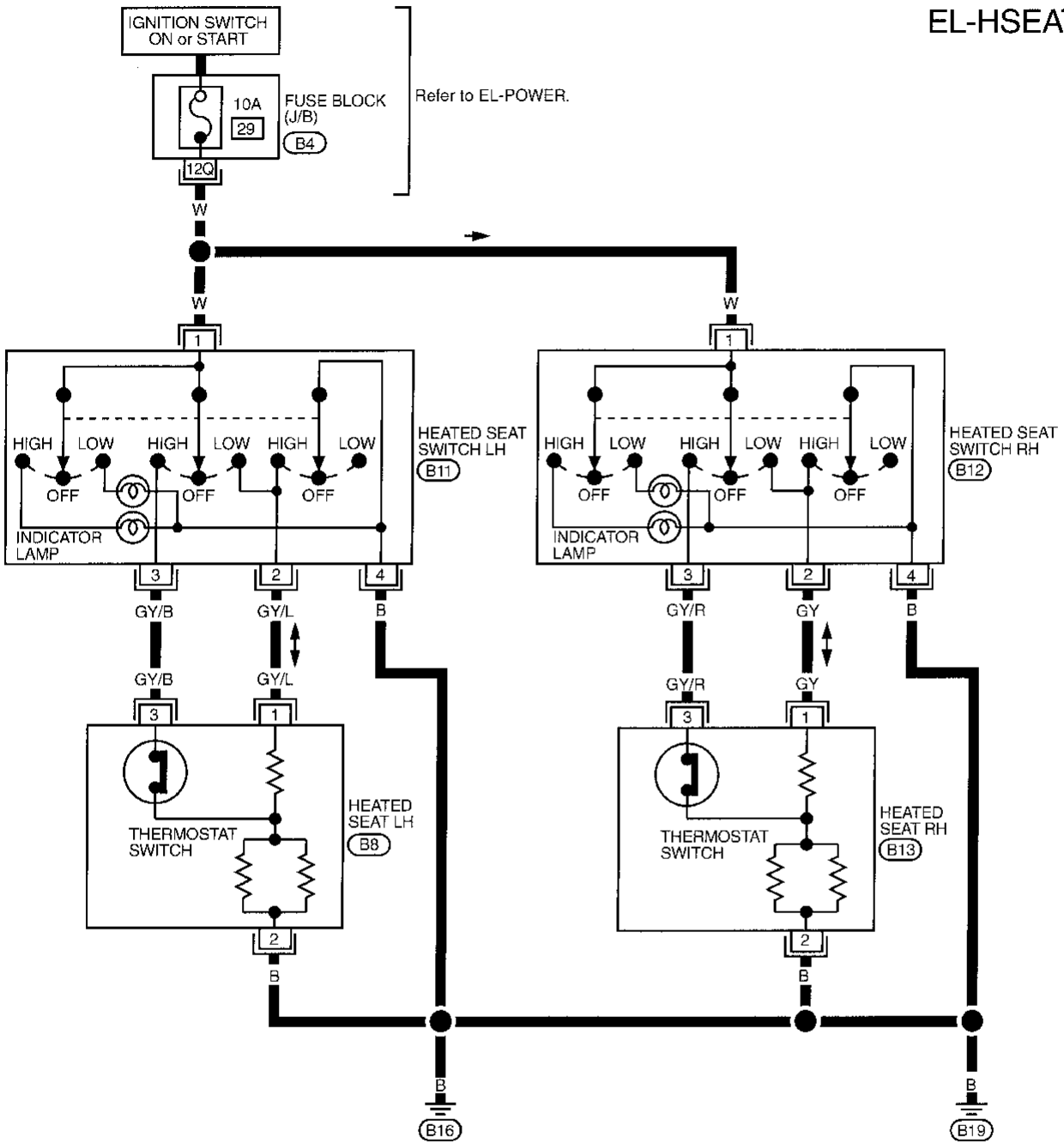
EL-SEAT-02



HEATED SEAT

Heated Seat/Wiring Diagram — HSEAT —

EL-HSEAT-01



Refer to last page (Foldout page).

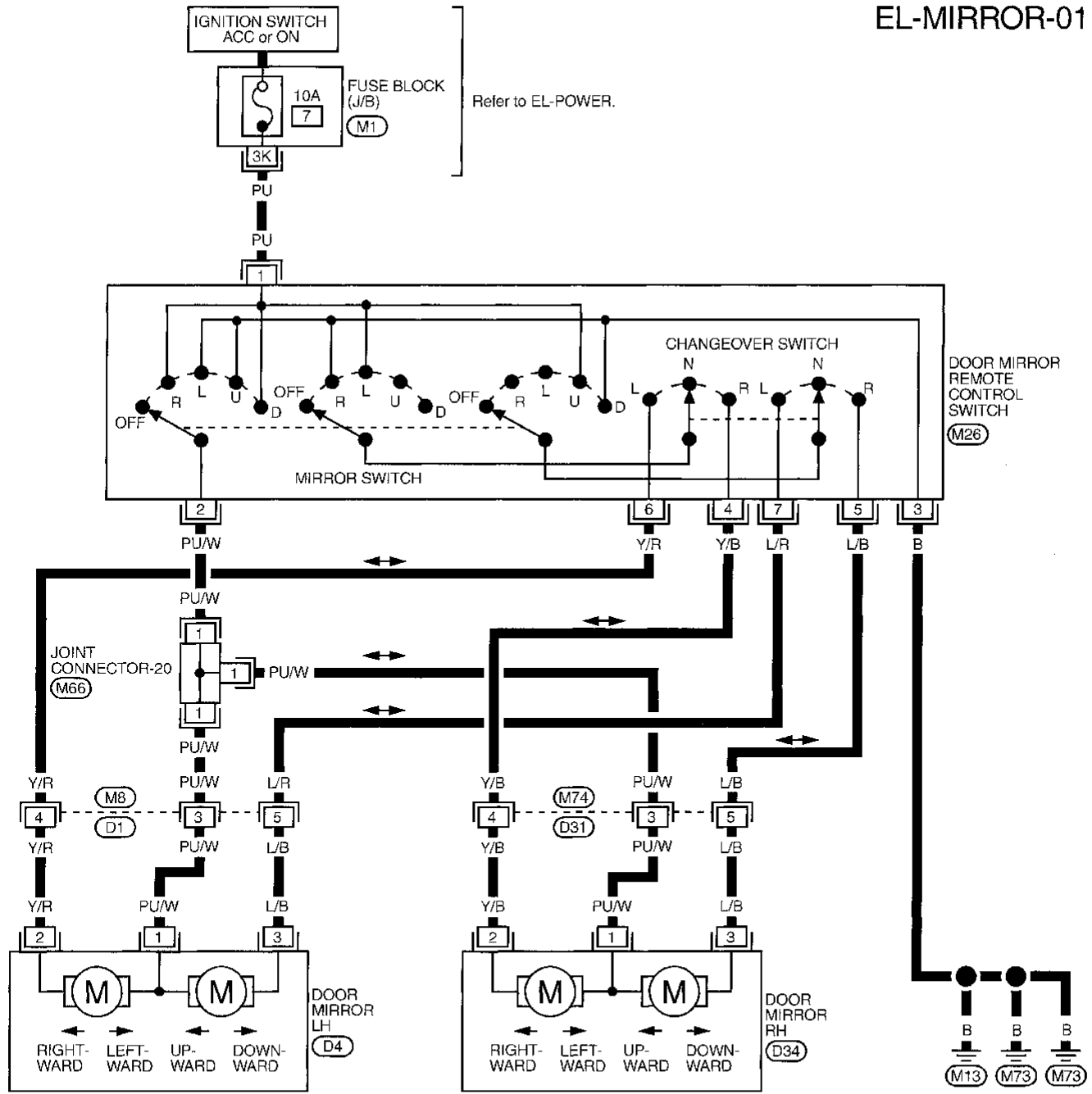
(B4)

GI
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FA
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POWER DOOR MIRROR

Wiring Diagram — MIRROR —

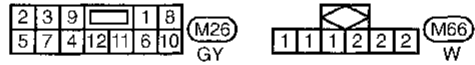
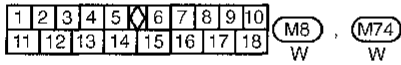
EL-MIRROR-01



DOOR MIRROR
REMOTE
CONTROL
SWITCH
(M26)

DOOR MIRROR
LH
(D4)

DOOR MIRROR
RH
(D34)



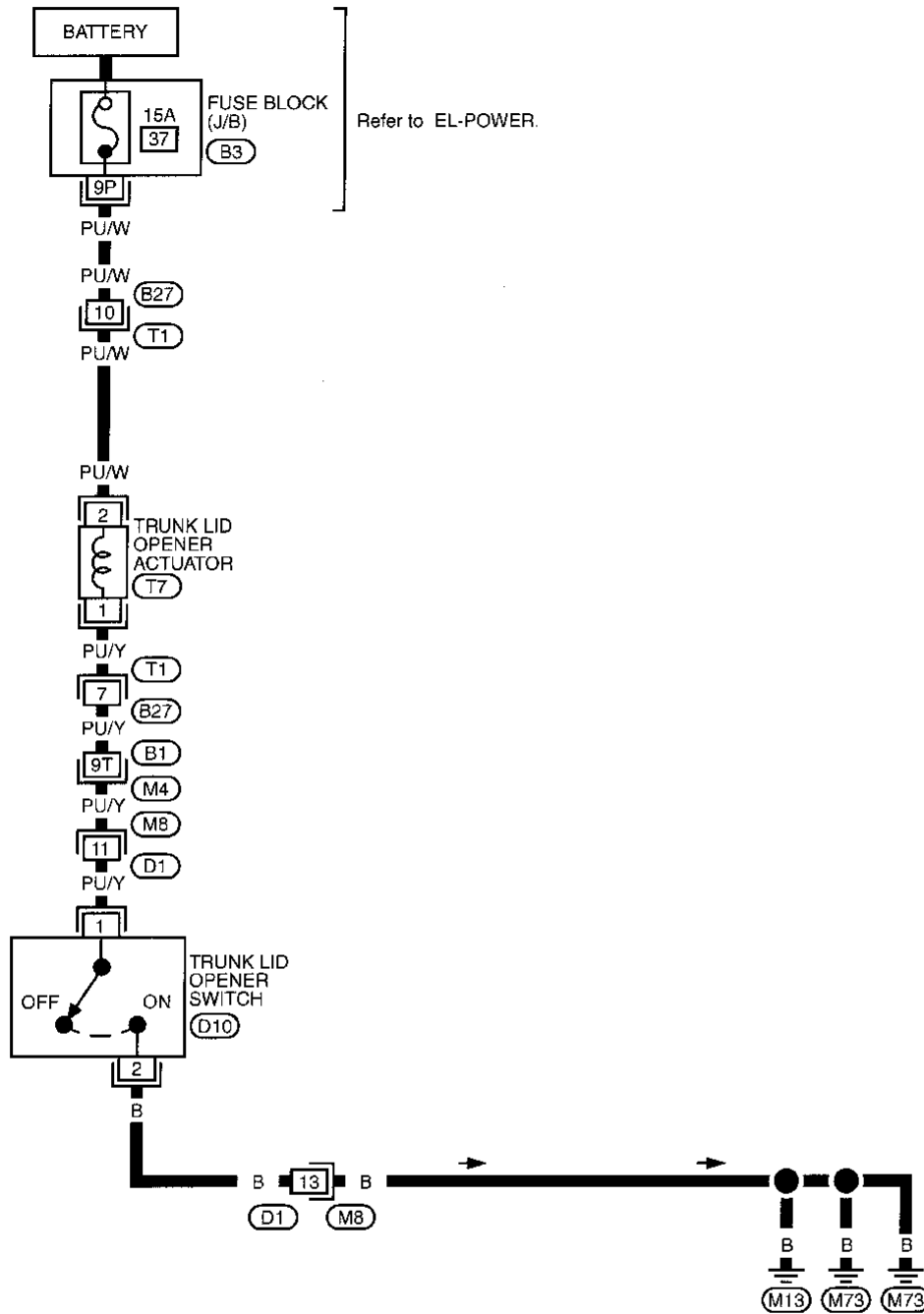
Refer to last page (Foldout page).



TRUNK LID AND FUEL FILLER LID OPENER

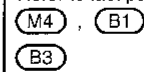
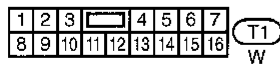
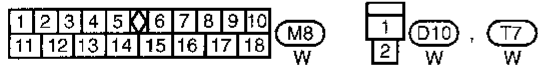
Wiring Diagram — TLID —

EL-TLID-01



Refer to EL-POWER.

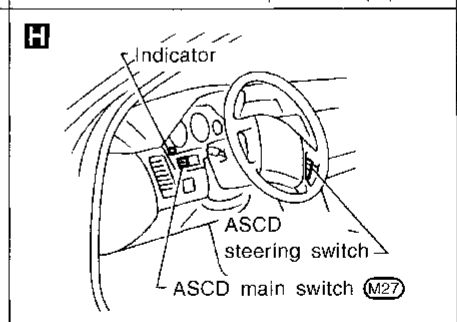
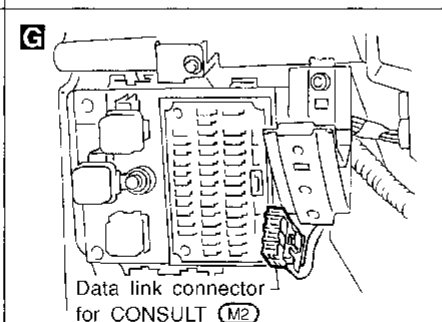
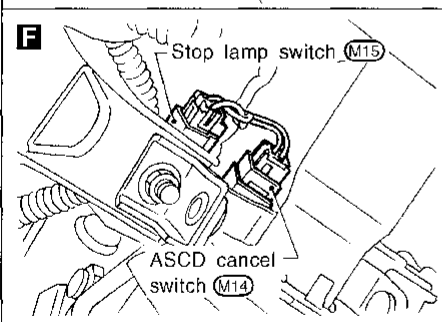
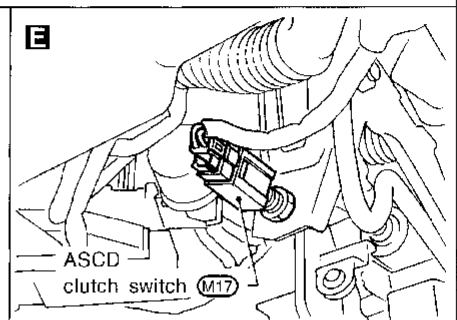
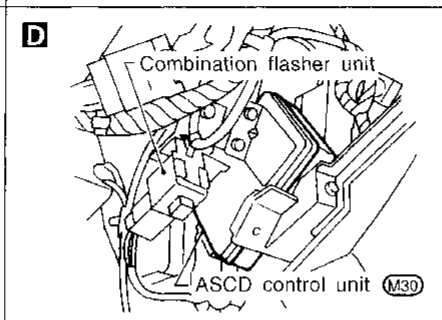
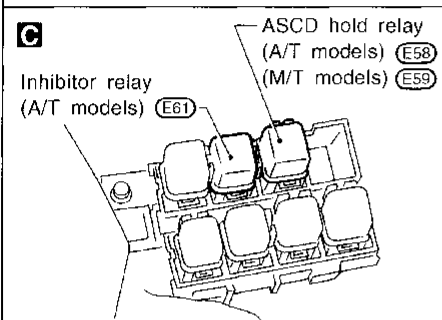
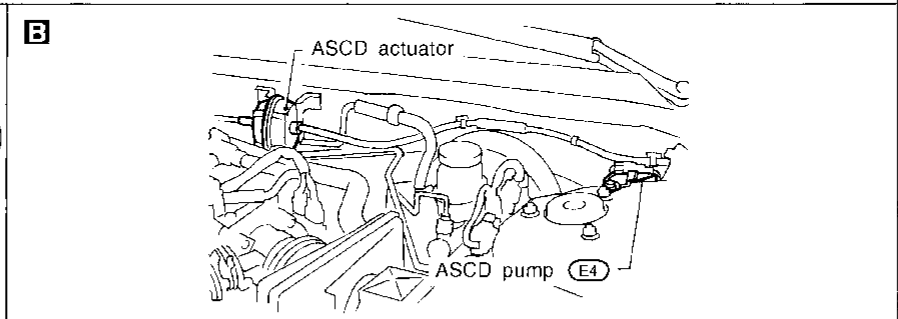
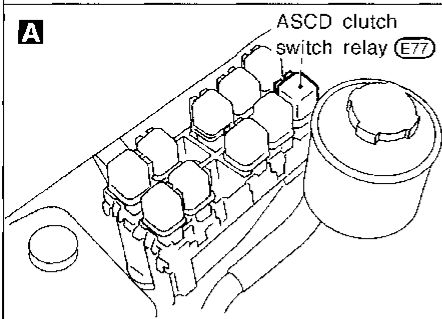
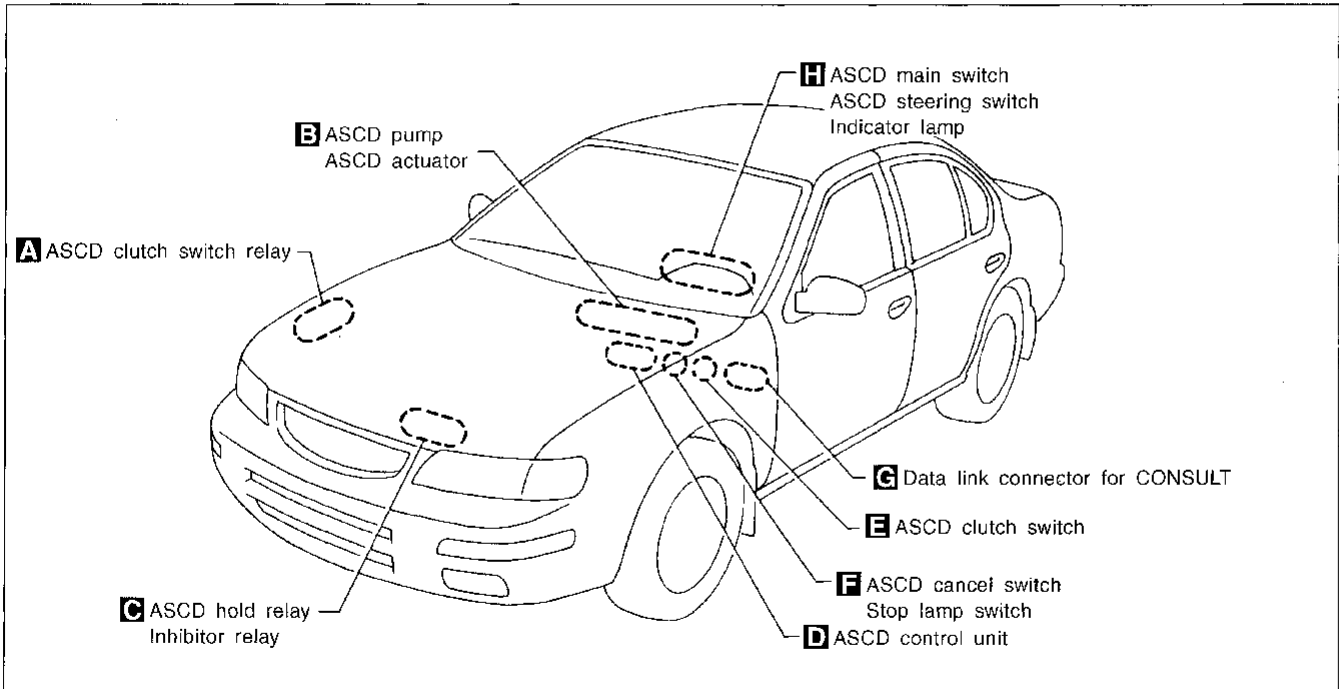
Refer to last page (Foldout page).



- GI
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- FA
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- BR
- ST
- RS
- BT
- HA
- EL**
- IDX

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

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 (M/T models).

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

- from terminal ② of the ASCD main switch
- to ASCD control unit terminal ④ and
- from terminal ③ of the ASCD main switch
- to ASCD hold relay terminal ①.

Ground is supplied

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

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

- from terminal ③ of the ASCD hold relay
- 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).

Power remains supplied also to ASCD control unit terminal ④ when the ASCD main switch is released to the N (neutral) position.

Ground is supplied

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

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 cancel switch.

A vehicle speed input is supplied

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

Power is supplied at all times

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

When the brake pedal is depressed, power is supplied

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

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 ⑫.

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

- from terminal 14 of the ASCD steering switch
- to ASCD control unit terminal ②.

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

- from terminal 13 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

- to ASCD control unit terminal ⑤ and

Power is interrupted when

- the shift lever is placed in P or N (A/T models)
- the clutch pedal is depressed (M/T models) or
- the brake pedal is depressed.

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description (Cont'd)

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 the RESUME/ACCEL button is depressed on A/T models, a signal is sent

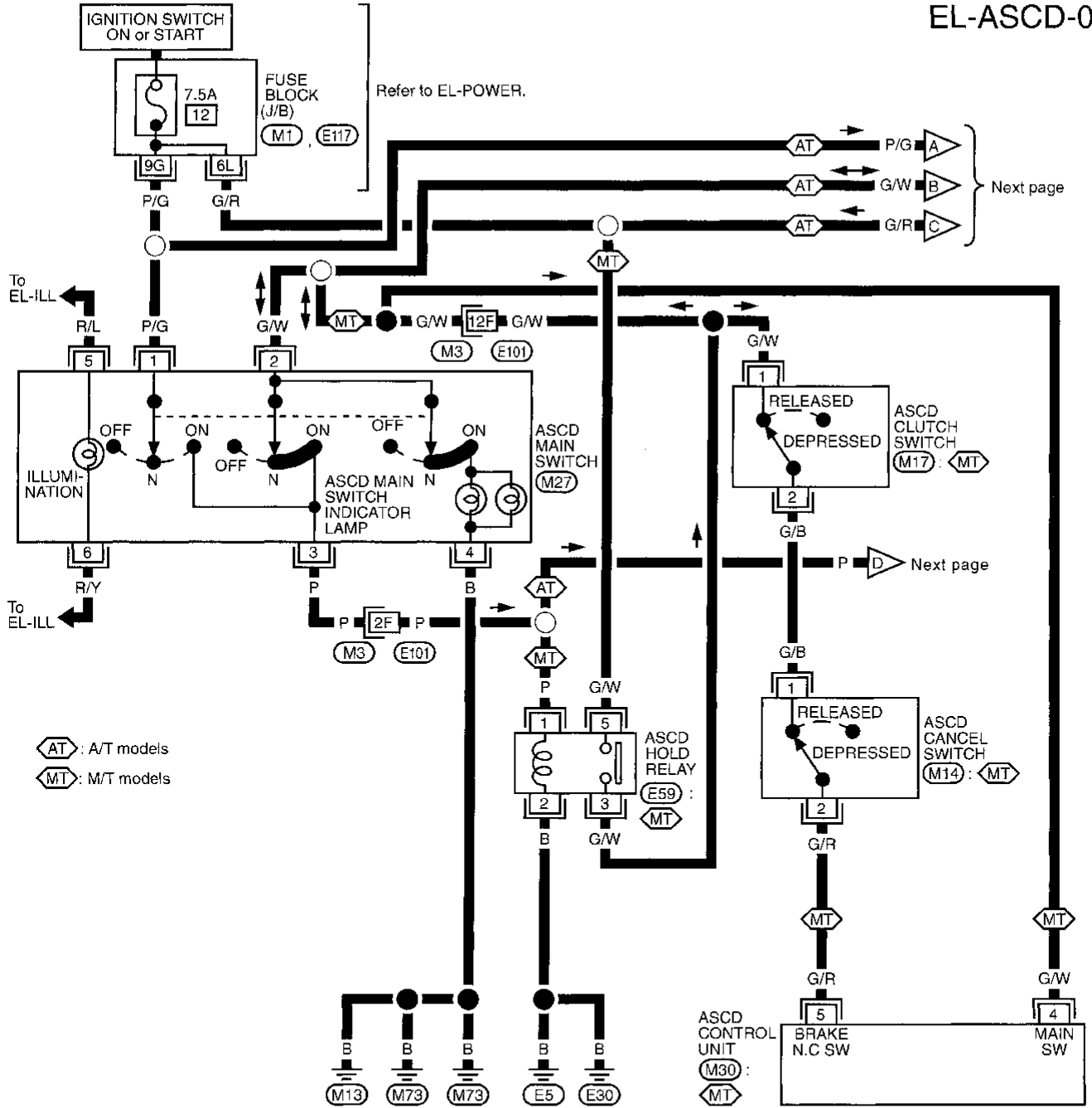
- from terminal ⑫ of the ASCD control unit
- to A/T control unit terminal ⑳ .

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

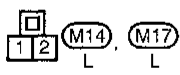
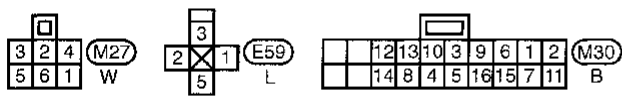
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD —

EL-ASCD-01



CI
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Refer to last page (Foldout page).
 (M1), (M3)
 (E101), (E117)

EL

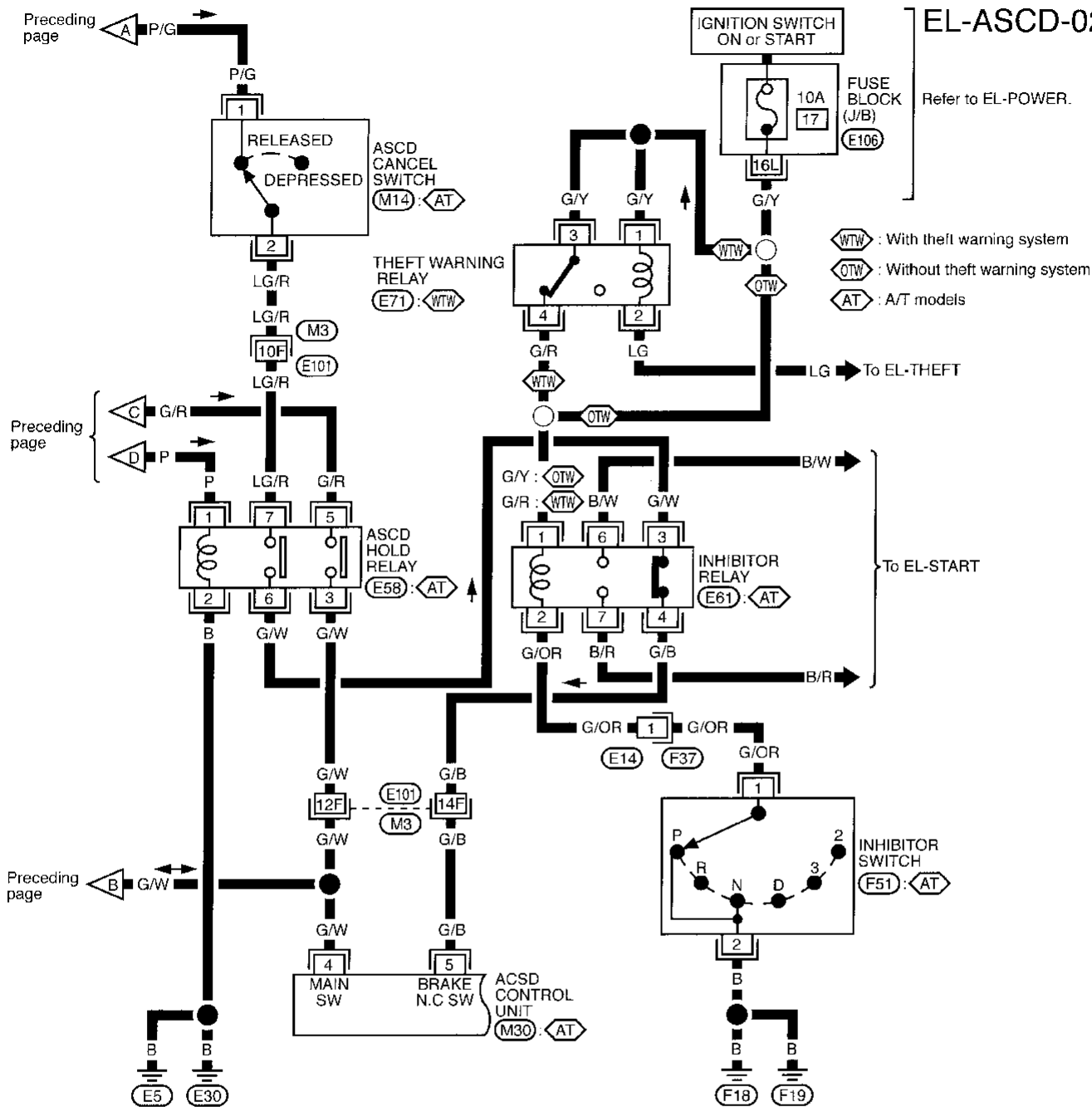
IDX

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-02

Refer to EL-POWER.

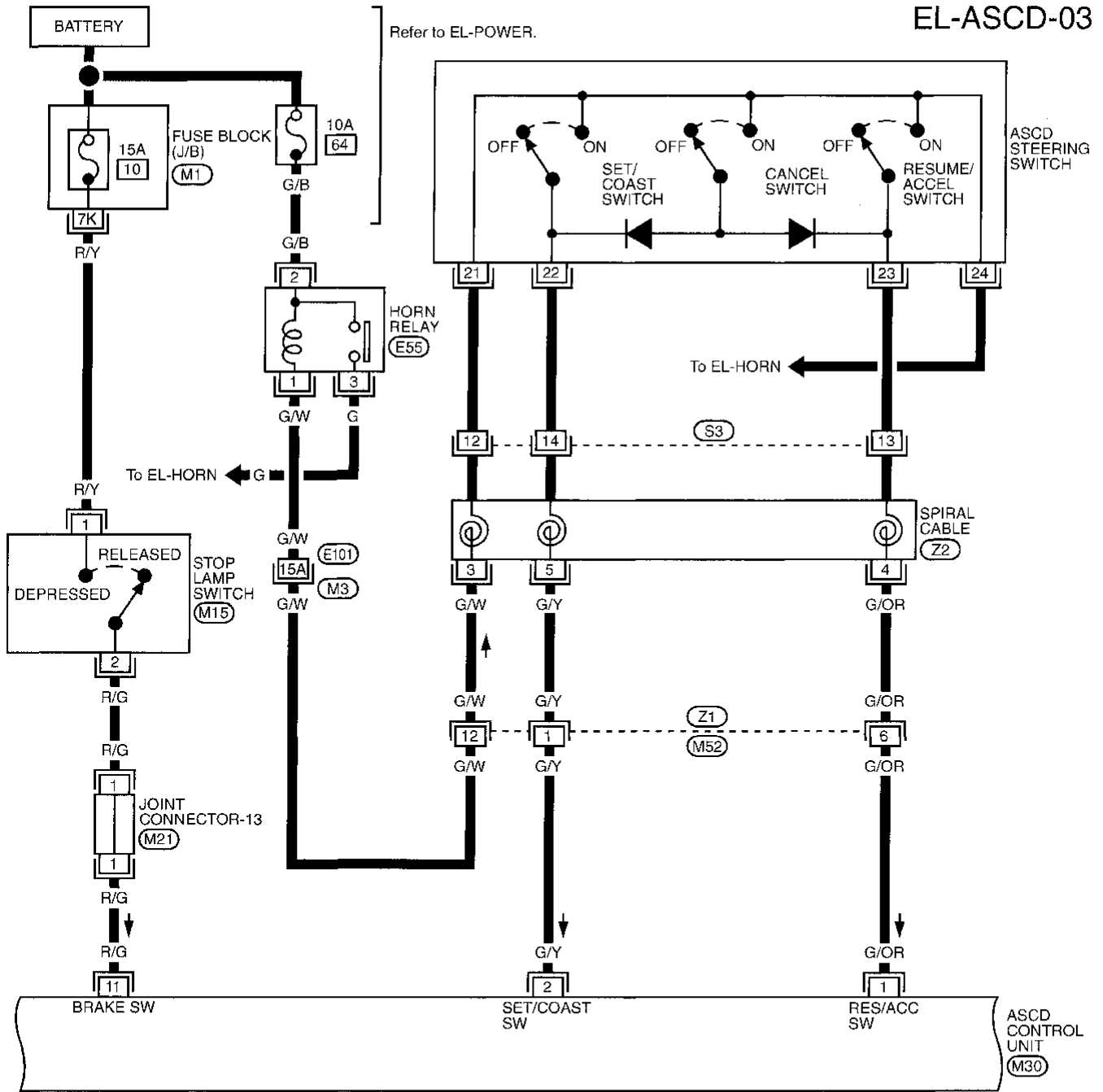


Refer to last page (Foldout page).

(M3), (E101)
(E106)

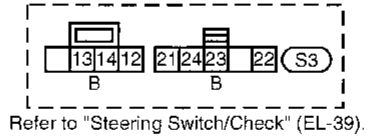
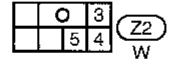
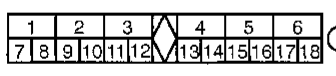
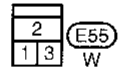
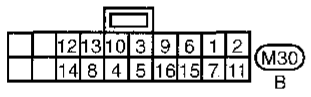
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)



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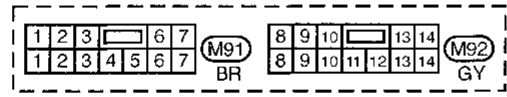
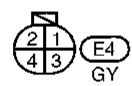
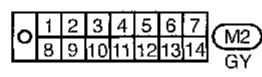
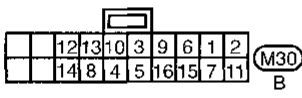
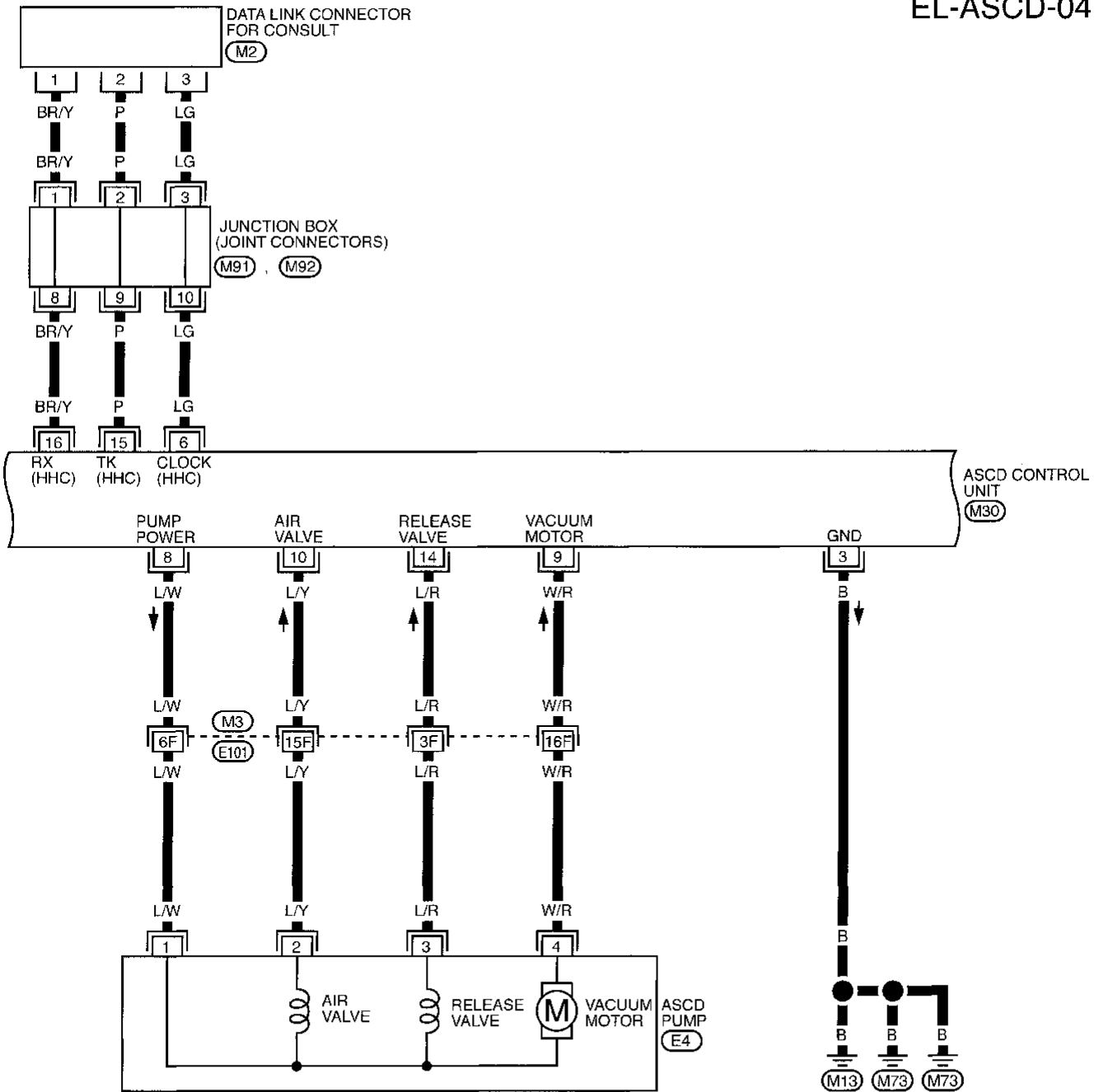


Refer to last page (Foldout page).
 M3, E101
 M1
 M21

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-04



Refer to last page (Foldout page).

(M3), (E101)

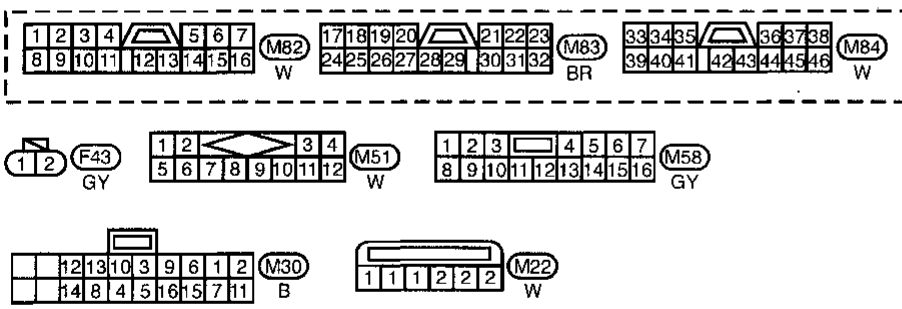
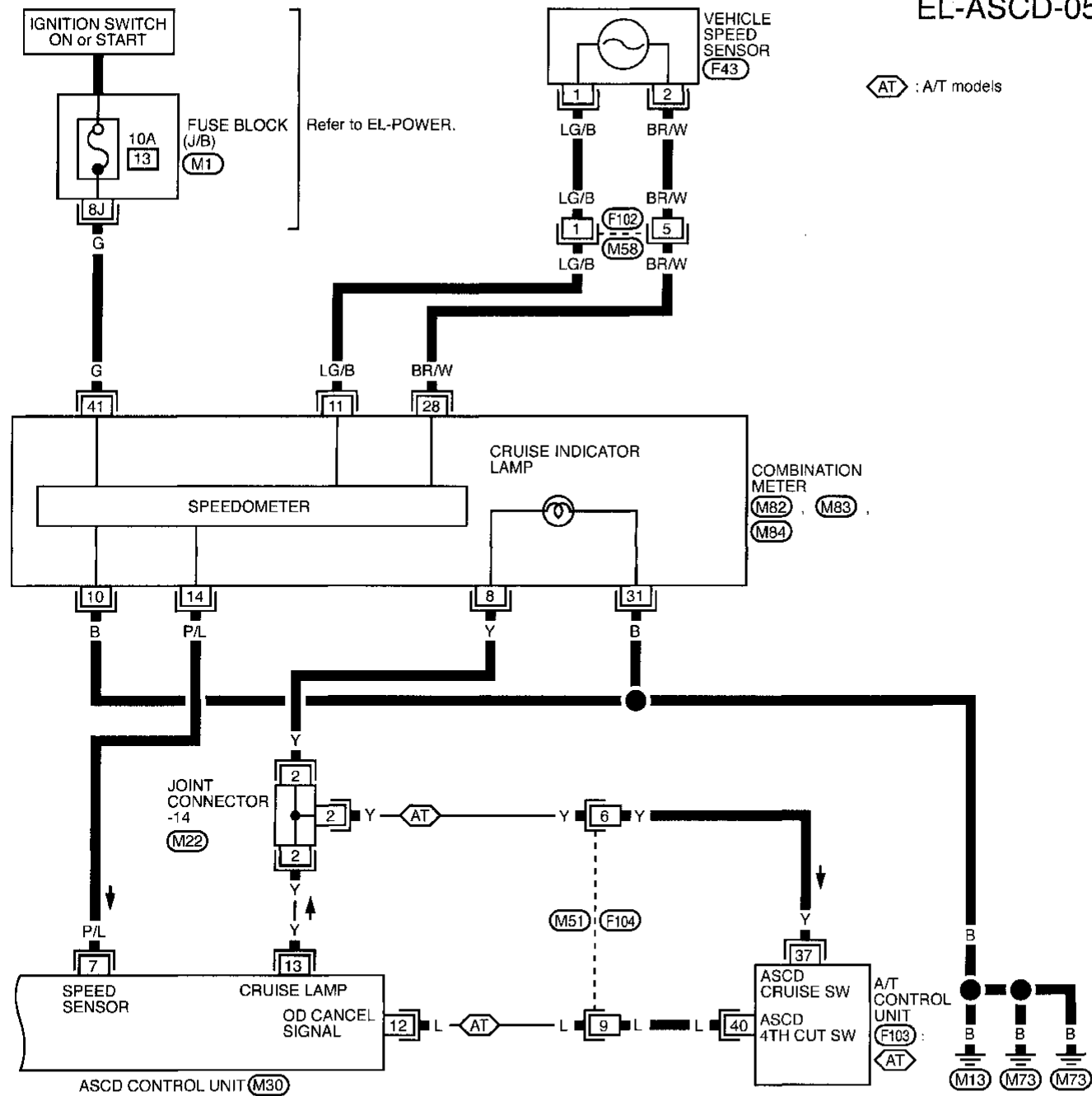
(M91)

(M92)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-05



Refer to last page (Foldout page).

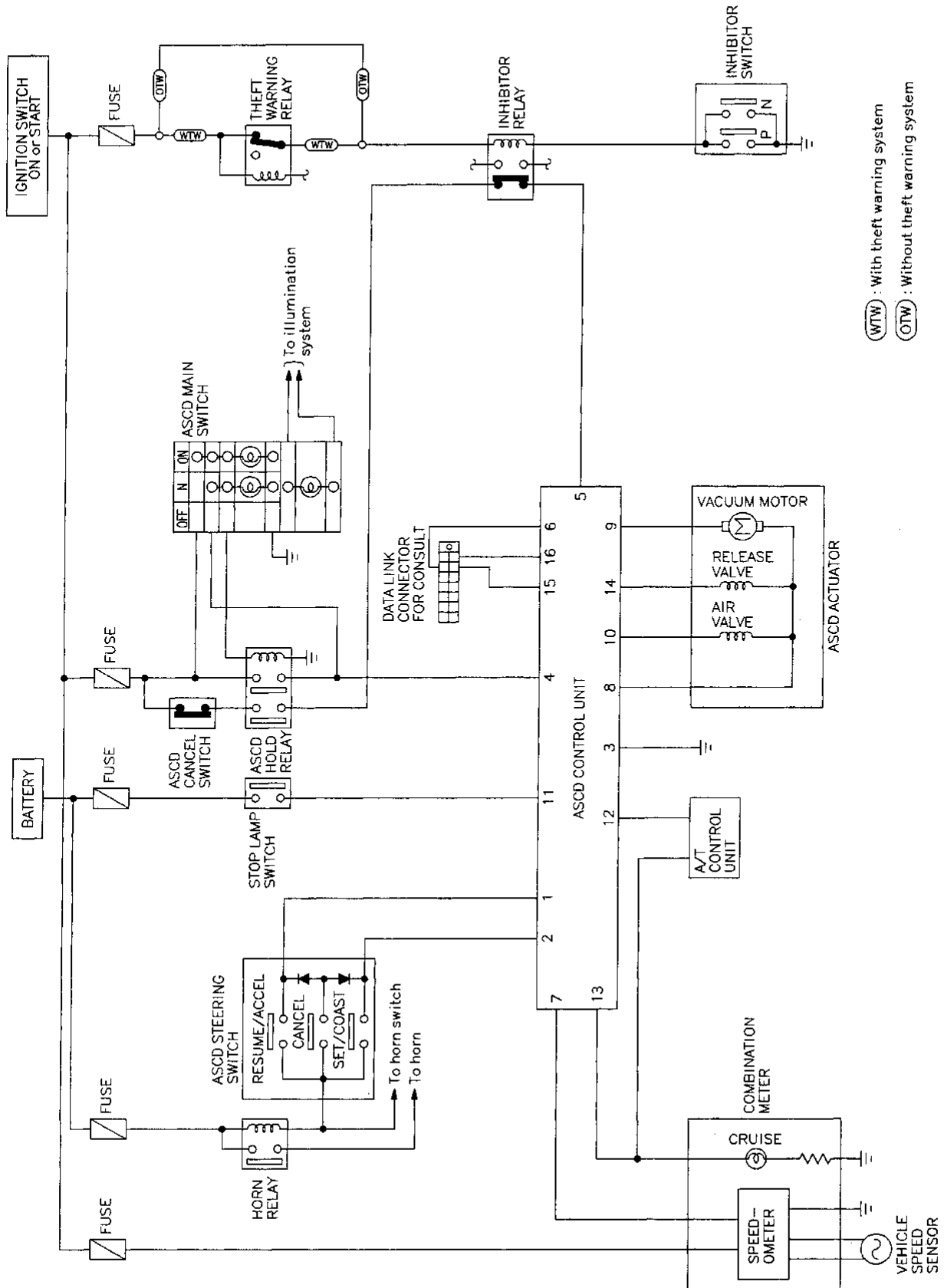
- (M1)
- (F103)
- (M22)

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic

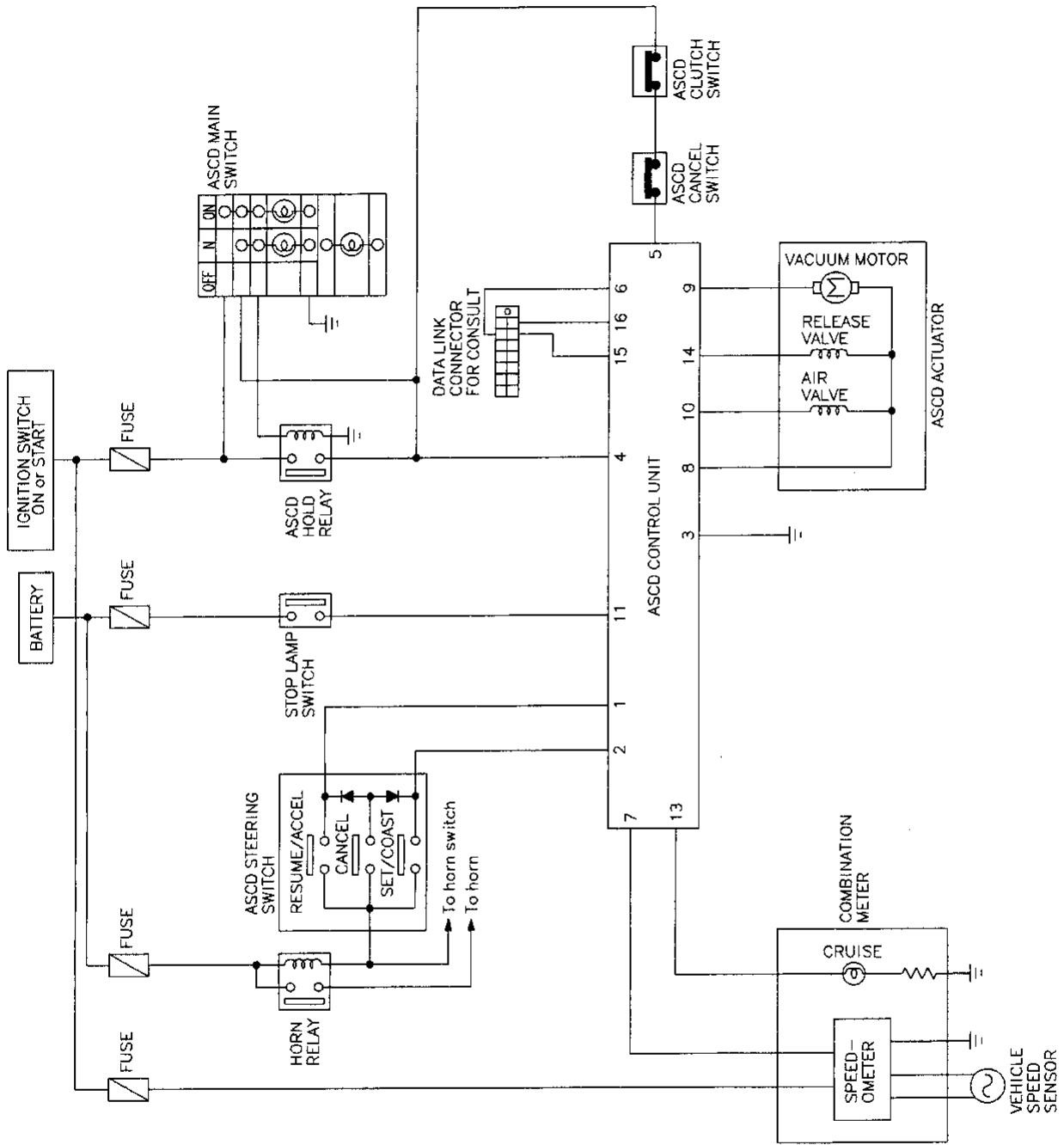
A/T MODELS



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic (Cont'd)

M/T MODELS



GI

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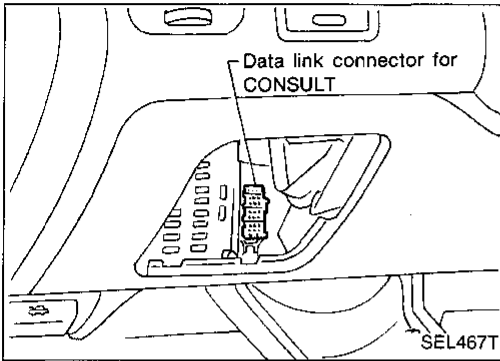
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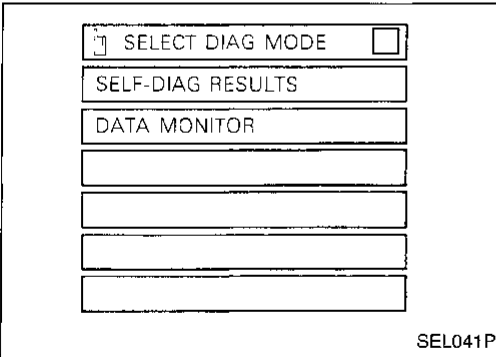
AUTOMATIC SPEED CONTROL DEVICE (ASCD)



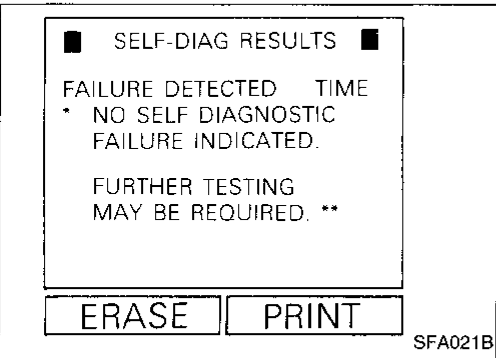
Trouble Diagnoses

CONSULT

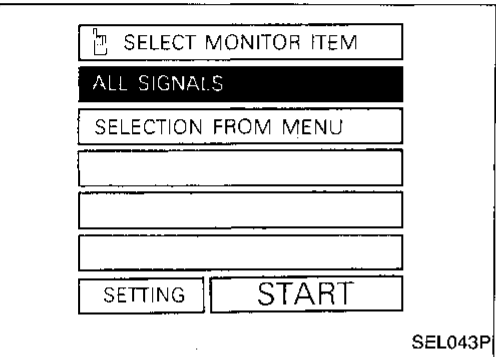
1. Turn off ignition switch.
2. Connect "CONSULT" to data link connector.



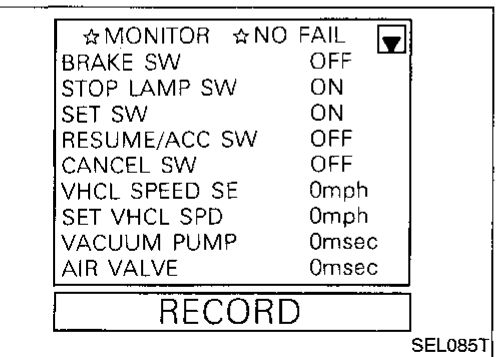
3. Turn on ignition switch.
4. Turn on ASCD main switch.
5. Touch START (on CONSULT display).
6. Touch ASCD.
7. Touch SELF-DIAG RESULTS.



- 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 valves is open. (An abnormally high voltage is entered.) 	Diagnostic procedure 7 (EL-148)
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-148)
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-148)
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-147)
CONTROL UNIT	<ul style="list-style-type: none"> The ASCD control unit is malfunctioning. 	Replace ASCD control unit.
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-148)
BRAKE SW/STOP/L SW	<ul style="list-style-type: none"> The brake switch or stop lamp switch is malfunctioning. 	Diagnostic procedure 4 (EL-145)

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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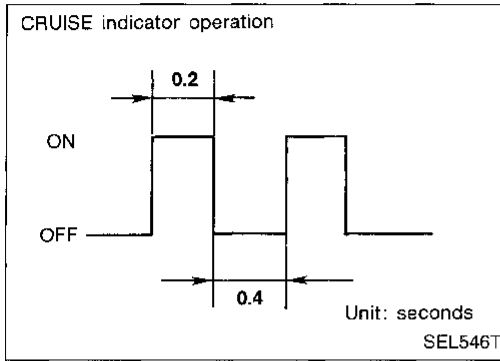
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

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.



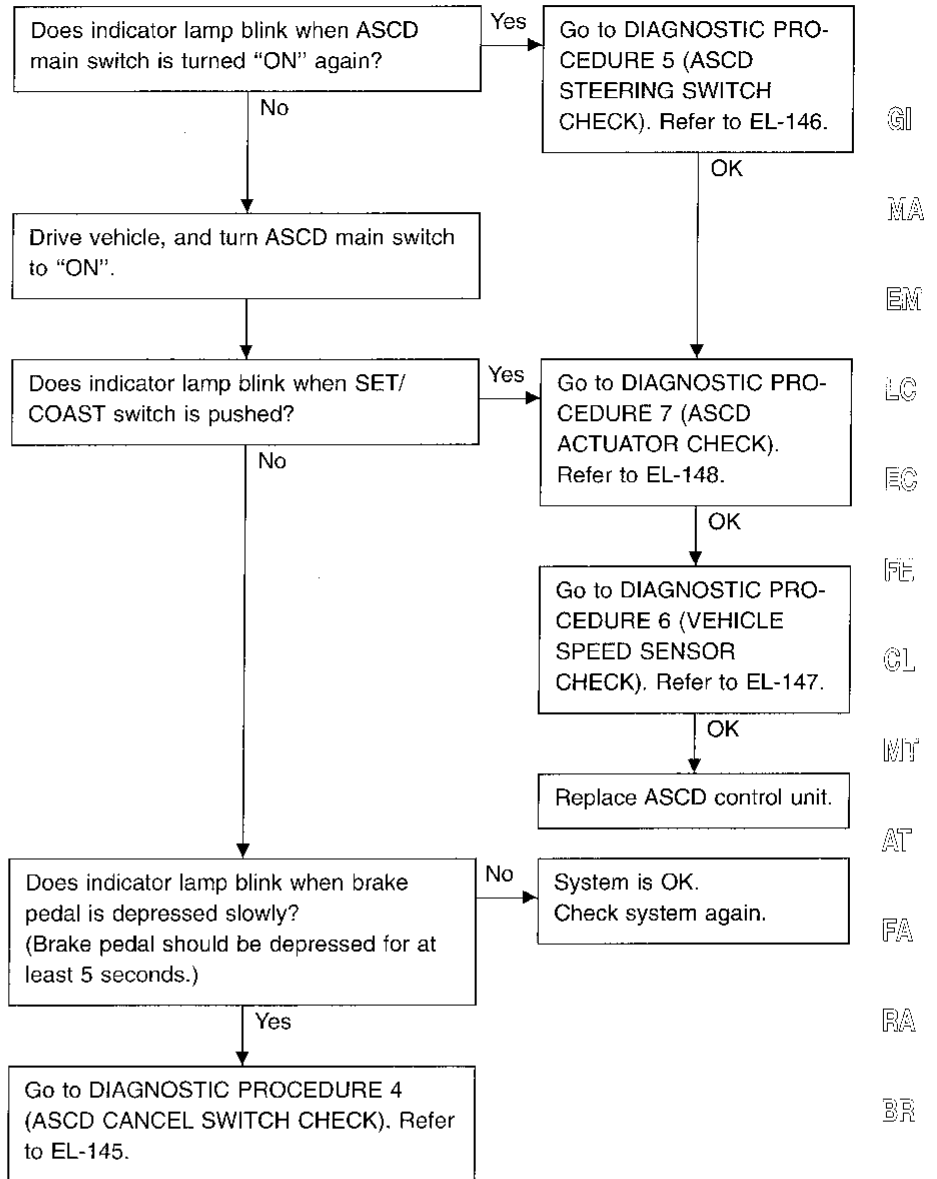
Malfunction detection conditions

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 cancel 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

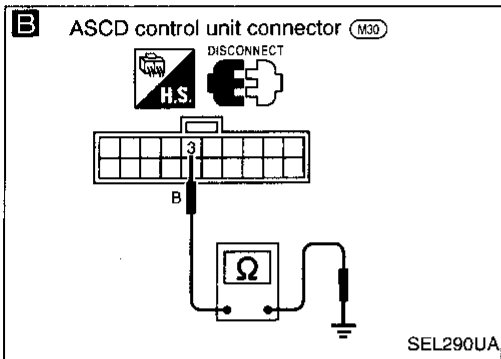
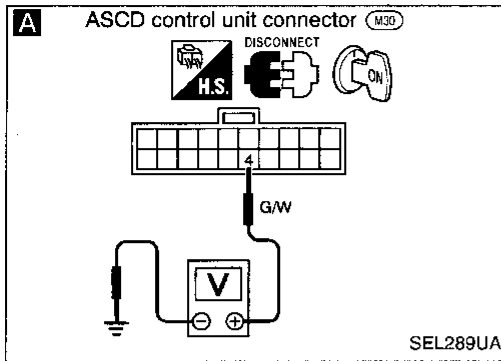
PROCEDURE	—		Diagnostic procedure							
REFERENCE PAGE	EL-138	EL-141	EL-143	EL-143	EL-144	EL-145	EL-146	EL-147	EL-148	EL-149
SYMPTOM	Self-diagnosis in CONSULT	Fail-safe system check	DIAGNOSTIC PROCEDURE 1 (POWER SUPPLY AND GROUND CIRCUIT CHECK)	DIAGNOSTIC PROCEDURE 2 (ASCD MAIN SWITCH CHECK)	DIAGNOSTIC PROCEDURE 3 (ASCD HOLD RELAY CHECK)	DIAGNOSTIC PROCEDURE 4 (ASCD CANCEL SWITCH CHECK)	DIAGNOSTIC PROCEDURE 5 (ASCD STEERING SWITCH CHECK)	DIAGNOSTIC PROCEDURE 6 (VEHICLE SPEED SENSOR CHECK)	DIAGNOSTIC PROCEDURE 7 (ASCD ACTUATOR CHECK)	DIAGNOSTIC PROCEDURE 8 (VACUUM HOSE AND ACCEL WIRE CHECK)
ASCD cannot be set.	X	X	X	X	X	X	X	X	X	X
Steering CANCEL switch will not operate.	X						X			
Steering ACCEL switch will not operate.	X						X			
Steering RESUME switch will not operate.	X						X			
Large difference between set speed and actual vehicle speed.	X	X	X			X	X	X	X	X
Deceleration is greatest immediately after ASCD has been set.	X	X	X			X	X	X	X	X
"CRUISE" indicator lamp blinks. (It indicates that system is in fail-safe.)	X	X	X			X	X	X	X	
Engine hunts.	X	X	X			X	X	X	X	X

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).

OK ↓

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 terminals ④ and body ground.
Battery voltage should exist.

NG → Go to DIAGNOSTIC PROCEDURE 3 (ASCD HOLD RELAY CIRCUIT CHECK). Refer to EL-144.

OK ↓

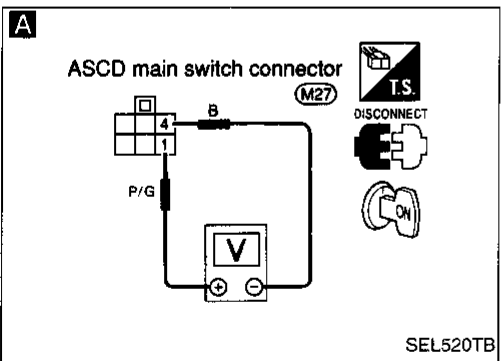
B CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT.

Check continuity between ASCD control unit harness terminal ③ and body ground.

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.

NG → Check the following.

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

OK ↓

Check ASCD main switch. Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-151).

NG → Replace ASCD main switch.

OK ↓

Go to next procedure.

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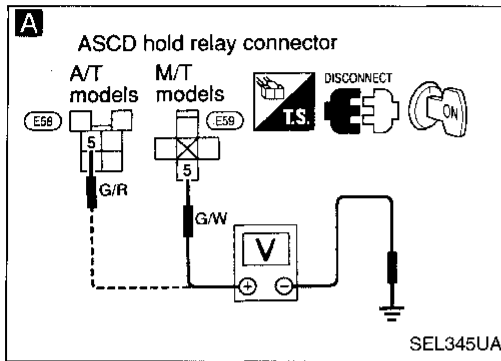
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

(ASCD HOLD RELAY CIRCUIT CHECK)



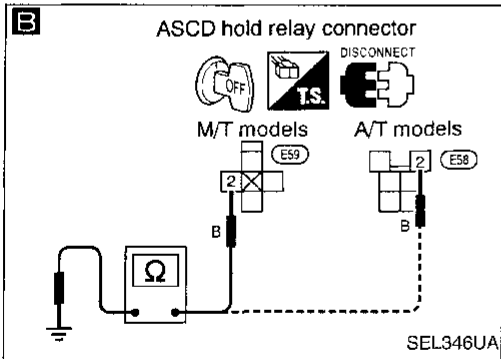
A

CHECK POWER SUPPLY CIRCUIT FOR ASCD HOLD RELAY.

1. Disconnect ASCD hold relay
2. Do approx. 12 volts exist between ASCD hold relay harness terminal ⑤ and body ground?

No → Check harness for open or short between fuse and ASCD hold relay.

Yes



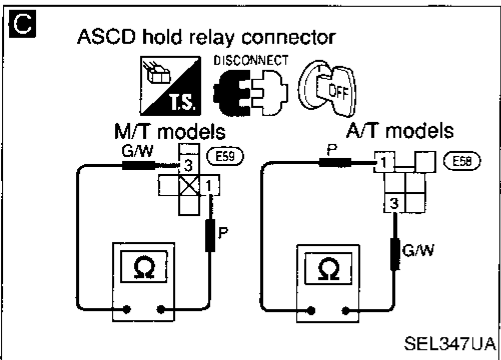
B

CHECK GROUND CIRCUIT FOR ASCD HOLD RELAY.

Does continuity exist between ASCD hold relay harness terminal ② and body ground?

No → Repair harness.

Yes



C

CHECK ASCD HOLD RELAY CIRCUIT.

Does continuity exist between ASCD hold relay harness terminals ③ and ①?

Yes → Check ASCD hold relay.

No

CHECK ASCD MAIN SWITCH.

Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-151).

NG → Replace ASCD main switch.

OK

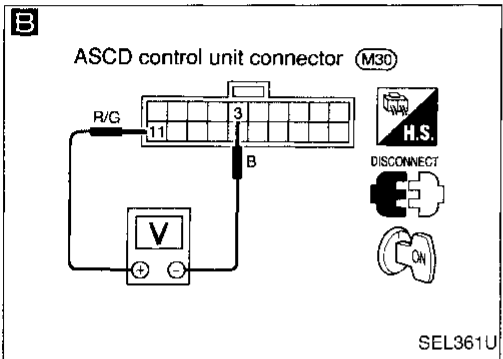
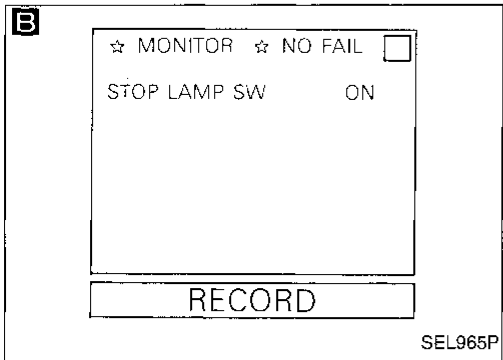
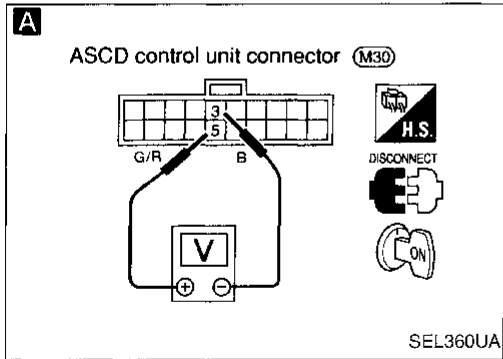
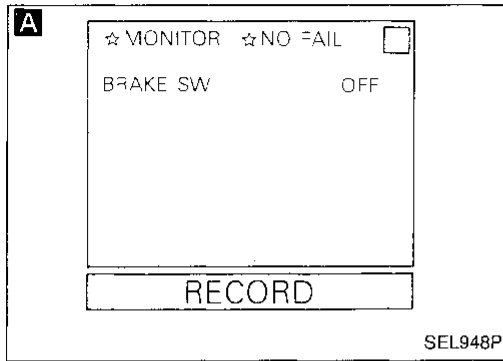
Go to next procedure.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

(ASCD CANCEL SWITCH CHECK)



A

CHECK CUT-OFF 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 shift lever (A/T) is in "N" or "P" range:

BRAKE SW OFF

When both brake pedal and clutch pedal (M/T) are released or A/T shift 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. Measure voltage between control unit connector terminals ⑤ and ③. When brake pedal or clutch pedal (M/T) is depressed or A/T shift lever (A/T) is in "N" or "P" range:

Approx. 0V

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

Battery voltage should exist.

NG →

CHECK THE FOLLOWING.

- ASCD cancel switch Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-152).
- ASCD clutch switch (M/T model) Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-152).
- Inhibitor switch (A/T model) Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-152).
- ASCD hold relay (A/T model)
- 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 harness terminals ⑪ and ③.

NG →

CHECK THE FOLLOWING.

- Harness for open or short between ASCD control unit and stop lamp switch.
- Fuse
- Stop lamp switch Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-152).

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

OK

ASCD cancel switch is OK.

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

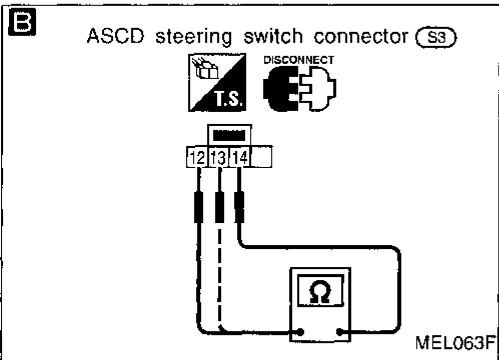
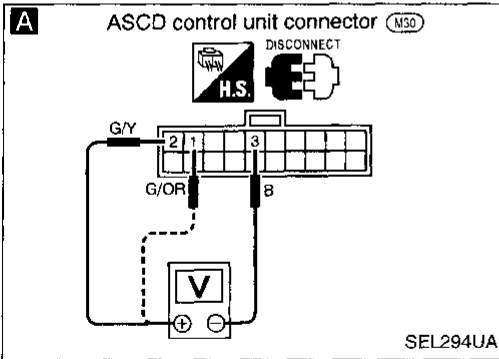
(ASCD STEERING SWITCH CHECK)

A

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

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

	Terminal No.		Switch condition	
	⊕	⊖	Pressed	Released
SET/COAST SW	②	③	12V	0V
RESUME/ACC SW	①	③	12V	0V
CANCEL SW	②	③	12V	0V
	①	③	12V	0V

OK → ASCD steering switch is OK.

NG

CHECK POWER SUPPLY FOR ASCD STEERING SWITCH.

Does horn work?

NG → Check the following.

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

OK

B

CHECK ASCD STEERING SWITCH.

Check continuity between terminals by pushing each button.

Button	Terminal		
	⑫	⑬	⑭
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

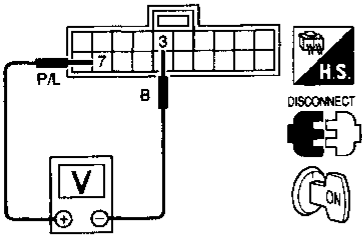
VHCL SPEED SE 45mph

RECORD

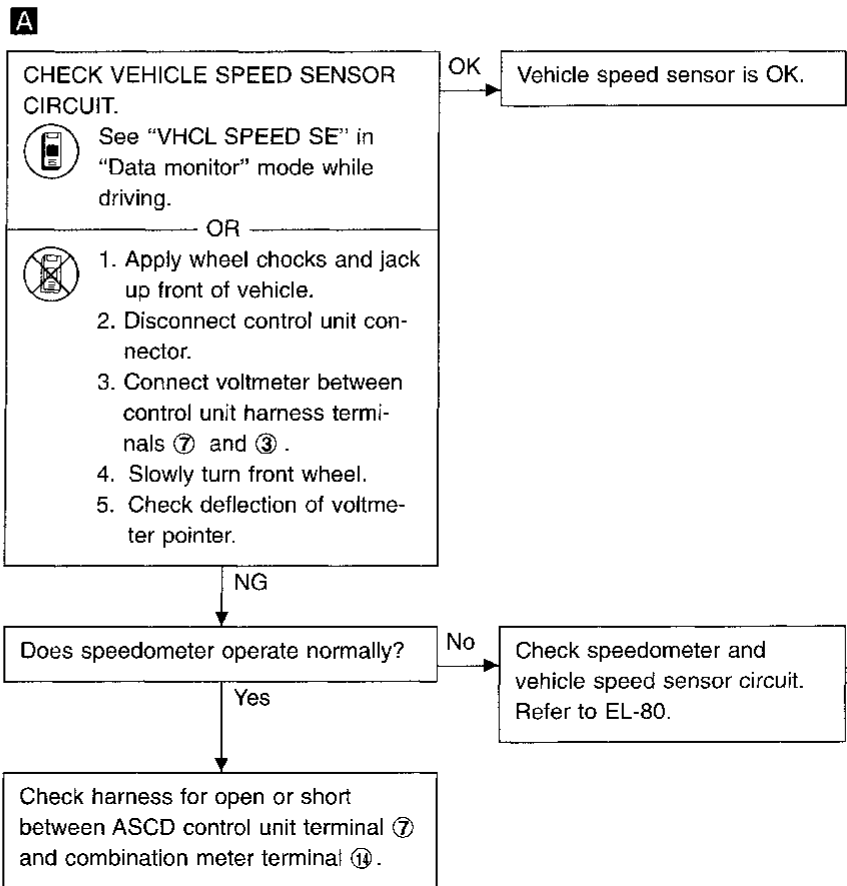
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ASCD control unit connector (M30)



SEL525TB



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

(ASCD ACTUATOR CHECK)

A

☆ MONITOR ☆ NO FAIL

PW SUP-VALVE ON

RECORD

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CHECK OUTPUT FOR ASCD ACTUATOR/ASCD PUMP.

1. Read out "PW SUP-VALVE" in "Data monitor" mode while driving.

PW SUP-VALVE:
ON (When ASCD is operating.)
OFF (When ASCD is not operating.)

OR

1. Turn ignition switch ON.
2. Check voltage between control unit harness terminals ⑧ and ③.

Voltage is 0V.

NG → Replace ASCD control unit.

B

1. Disconnect ASCD control unit connector.

2. Measure resistance between control unit harness terminals ⑧ and ⑨, ⑩, ⑪.

Terminals	Resistance [Ω]	
⑧	⑨	Approx. 8 - 45
	⑩	Approx. 65
	⑪	Approx. 65

OK → ASCD actuator is OK.

A

ASCD control unit connector (M30)

CONNECT

SEL526T

NG

CHECK ASCD ACTUATOR. Refer to "Electrical Components Inspection" (EL-151).

OK → Check harness for open or short between ASCD actuator and ASCD control unit.

NG

Replace ASCD actuator.

B

ASCD control unit connector (M30)

DISCONNECT

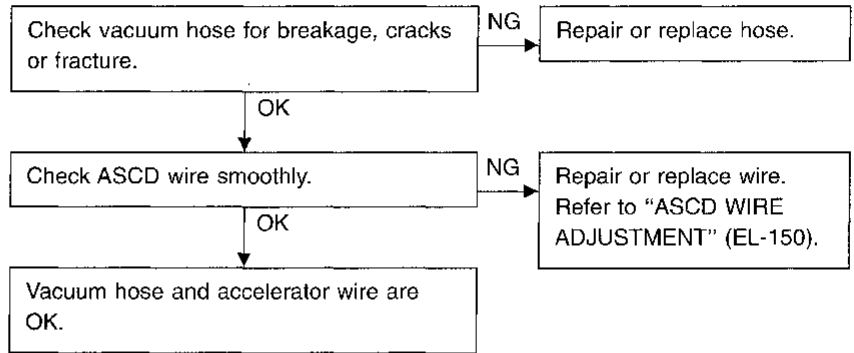
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

(VACUUM HOSE AND ACCEL WIRE CHECK)



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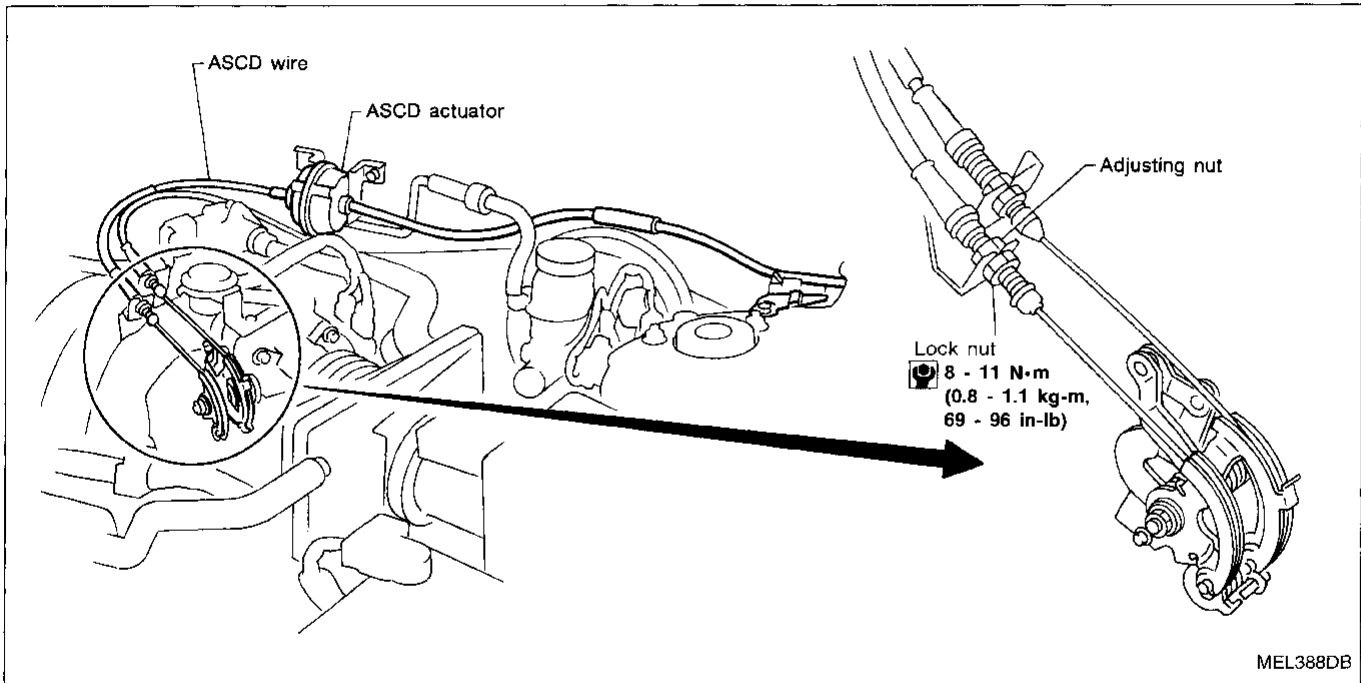
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

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.

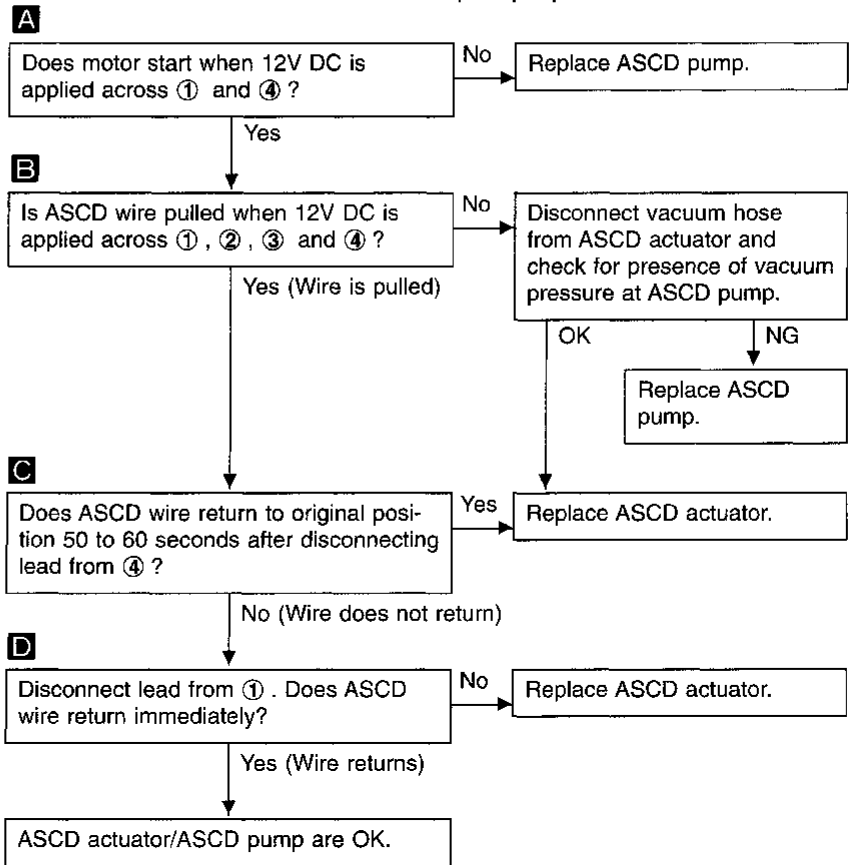
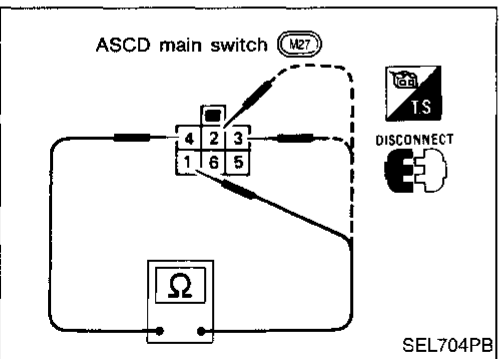
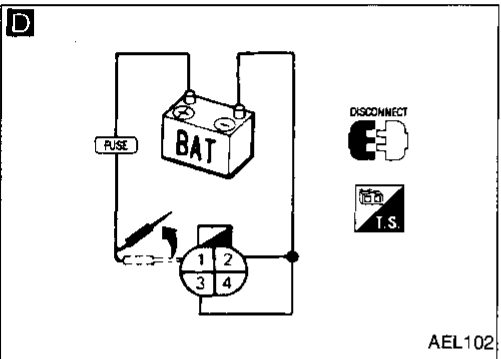
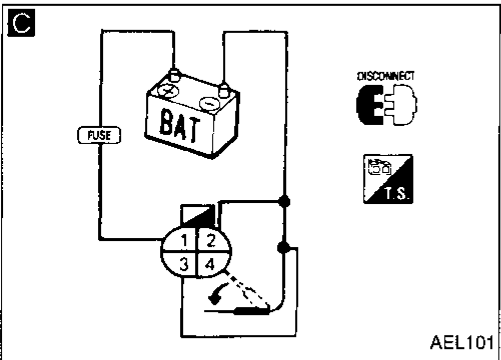
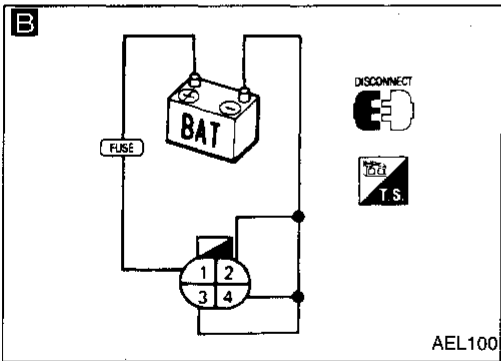
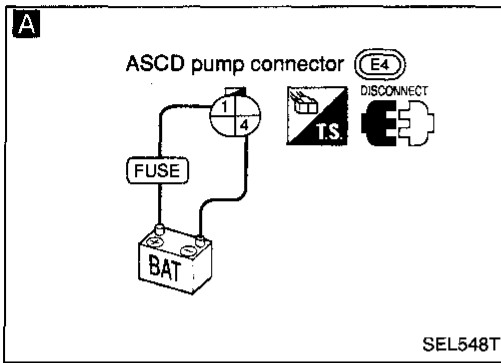
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ELECTRICAL COMPONENTS INSPECTION

ASCD actuator/ASCD pump

1. Disconnect ASCD pump connector.
2. Check ASCD actuator/ASCD pump operations as shown.



ASCDC main switch

Check continuity between terminals by pushing switch to each position.

Switch position	Terminals					
	1	2	3	4	5	6
ON	○	○	○	○	○	○
N		○	○	○	○	ILL.
OFF					○	○

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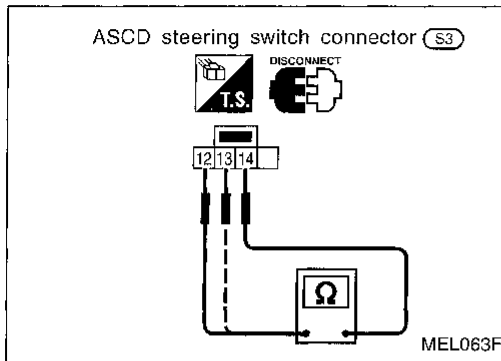
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

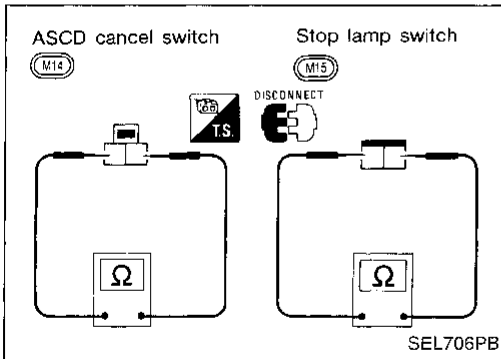
ASCD steering switch

Check continuity between terminals by pushing each button.



Button	Terminal		
	12	13	14
SET/COAST	○	○	○
RESUME/ACCEL	○	○	
CANCEL	○	▶	○
	○	▶	○

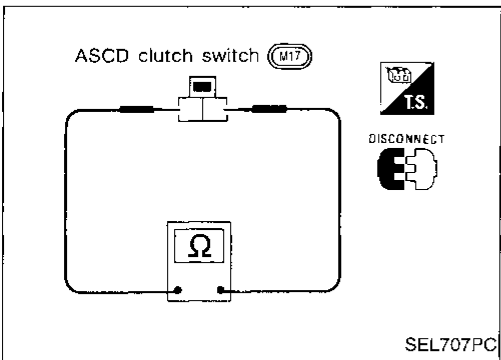
ASCD cancel switch and stop lamp switch



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

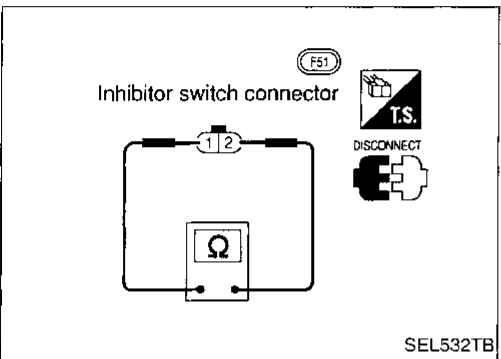
Check each switch after adjusting brake pedal — refer to BR section.

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)



Condition	Continuity
When shift lever position is "N" or "P"	Yes
When shift lever position is not "N" or "P"	No

Overall Description

OUTLINE

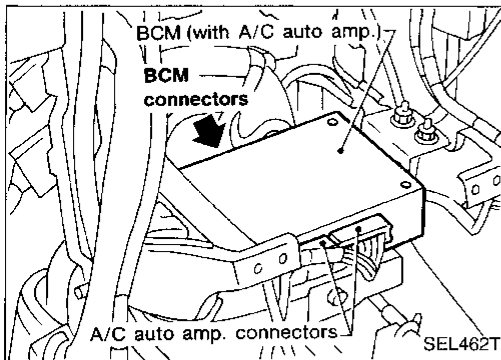
The In-Vehicle Multiplexing System, IVMS (LAN system), consists of a BCM (Body Control Module) and five LCU's (Local Control Units). Some switches and electrical loads are connected to each LCU. Some electrical systems are directly connected to the BCM. Control of each LCU, (which is provided by a switch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

Refer to the System Diagram (EL-156).

BCM (Body Control Module)

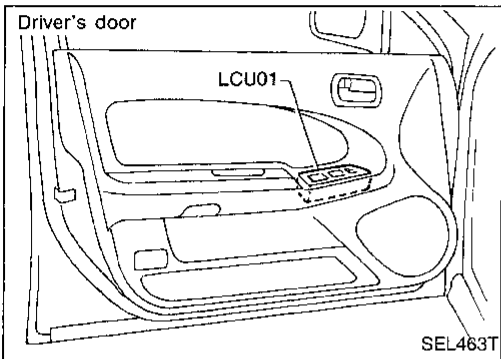
The BCM, which is a master unit of the IVMS (LAN), consists of microprocessor, memory and communication LSI sections and has communication and control functions. It receives data signals from the LCUs and sends electrical load data signals to them.

The BCM is described as a "control assembly (for IVMS)" in the Parts Catalog.



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 LCU's, 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.

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Overall Description (Cont'd)

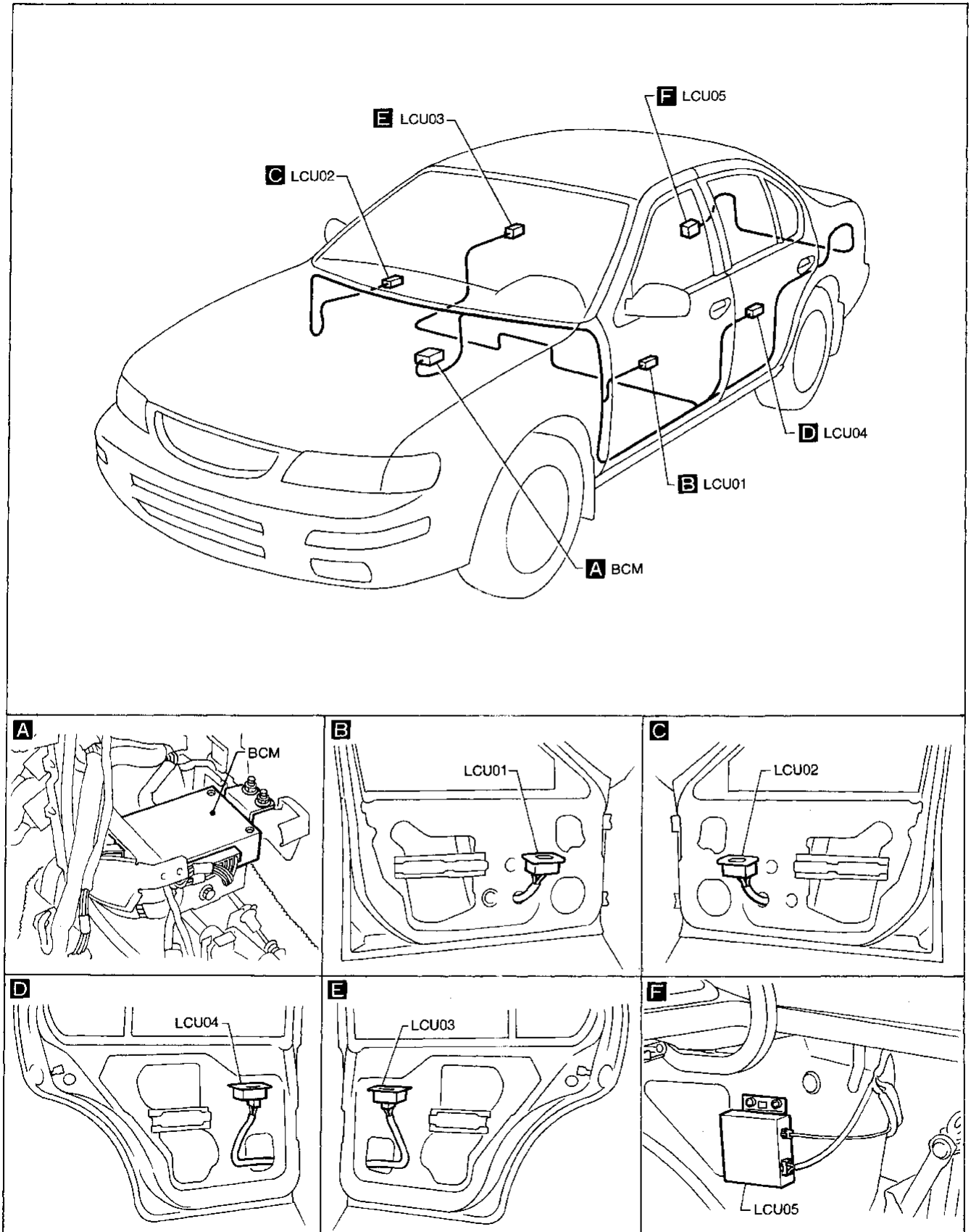
CONTROLLED SYSTEMS

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

- Power window
- Power door lock
- Time control system
 - Intermittent wiper
 - Rear window defogger timer
 - Ignition key warning
 - Light warning
 - Seat belt warning
 - Battery saver
- Step lamps
- Multi-remote control system
- Illumination
- Theft warning system
- Interior lamp (ON-OFF control)
- Trouble-diagnosing system
 - with CONSULT
 - ON-BOARD

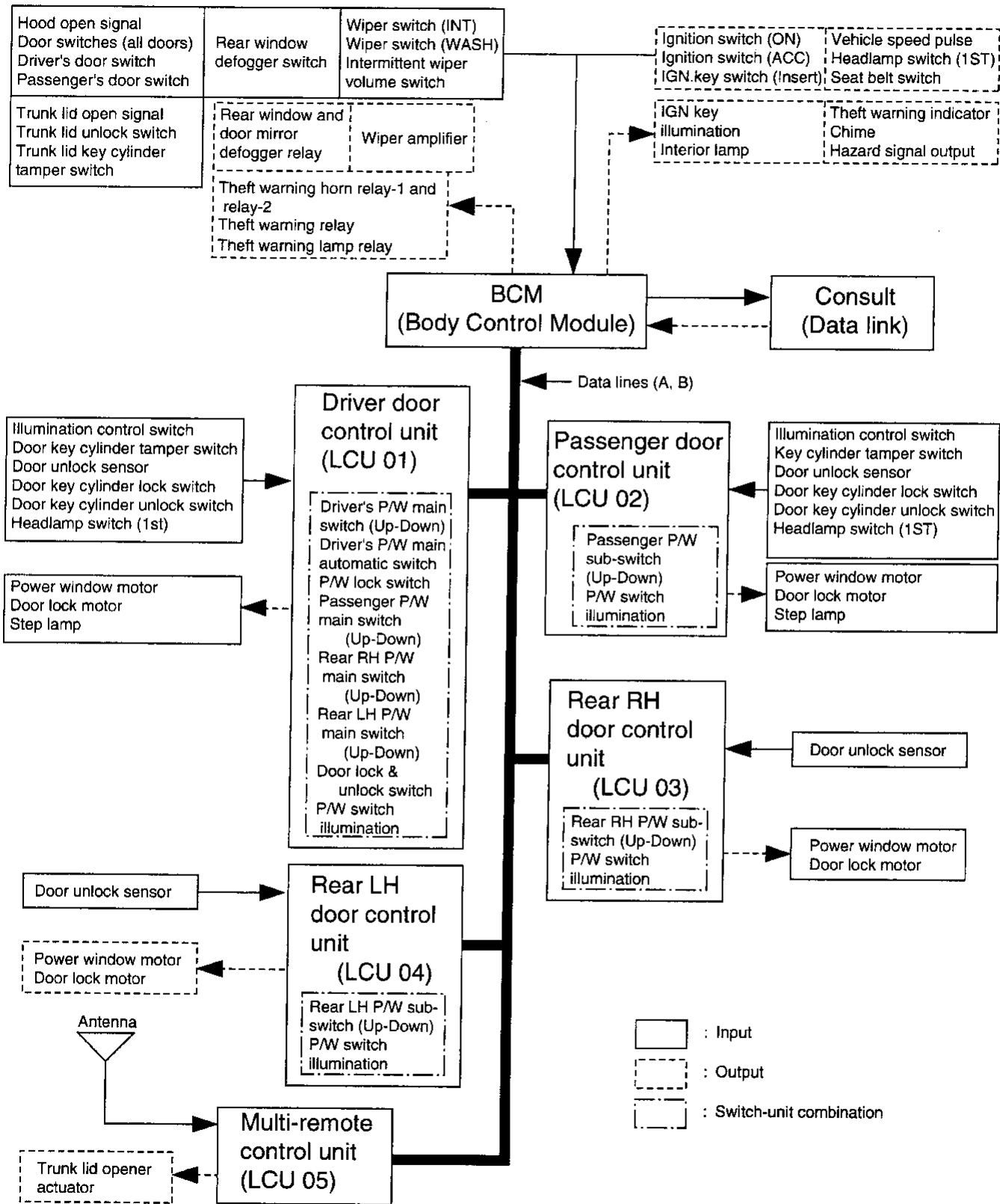
Also, IVMS has the “sleep/wake-up control” function. IVMS puts itself (the whole IVMS system) to sleep under certain conditions to prevent unnecessary power consumption. Then, when a certain input is detected, the system wakes itself up. For more detailed information, refer to “Sleep/Wake-up Control” (EL-157).

Component Parts Location



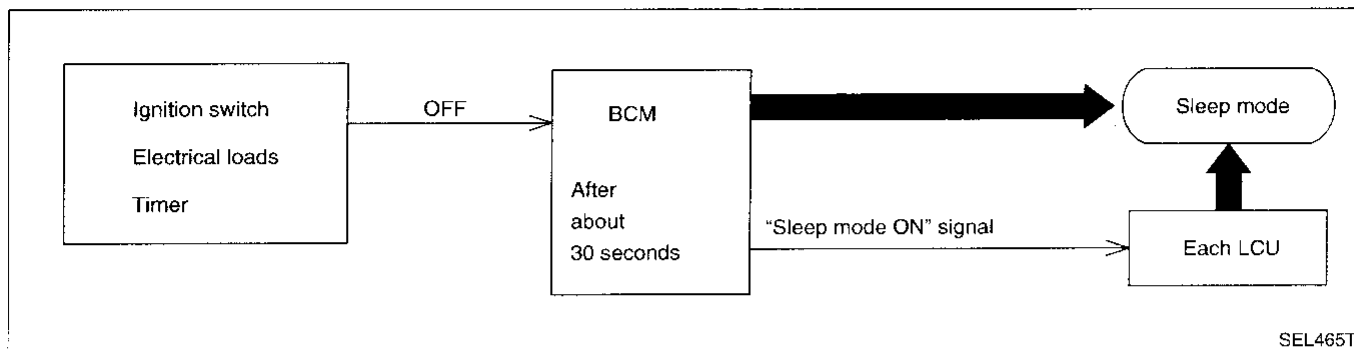
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System Diagram



Sleep/Wake-up Control

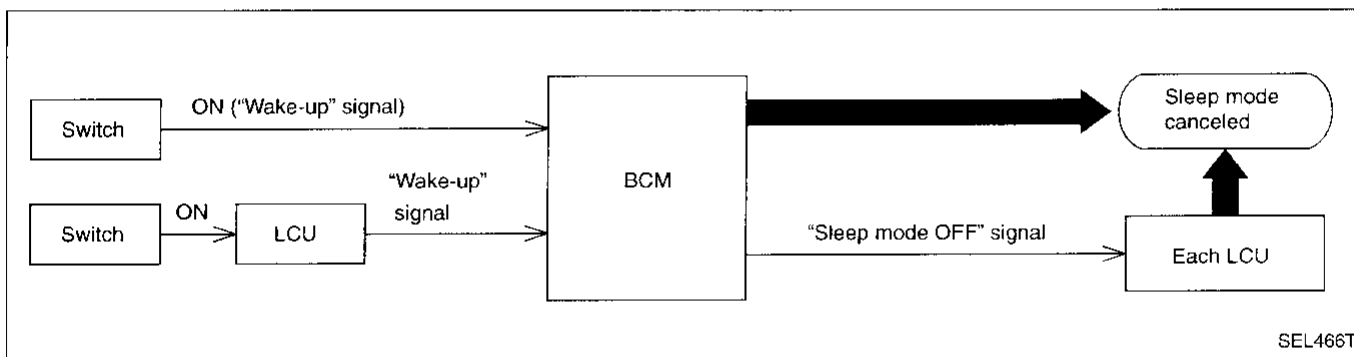
SLEEP CONTROL



“Sleep” control prevents unnecessary power consumption. About 30 seconds after the following conditions are met, the BCM suspends the communication between itself and all LCU’s. 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

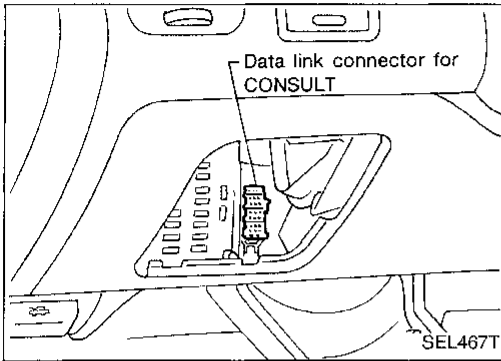


As shown above, when the BCM detects a “wake-up” signal, it wakes up the whole system and starts communicating again. The “sleep” mode of all LCU’s is now canceled, and the BCM returns to the normal control mode. When any one of the following switches are turned ON, the “sleep” mode is canceled:

- Ignition key switch (Insert)*
- Ignition switch “ACC” or “ON”
- Lighting switch (1st)
- Door switches (all doors)
- Trunk lid unlock switch
- Trunk lid key cylinder tamper switch
- Trunk room lamp switch
- Hood switch
- Door unlock sensors (all doors)
- Door key cylinder tamper switches (front doors)
- Door key cylinder lock switches and unlock switches (front doors)

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

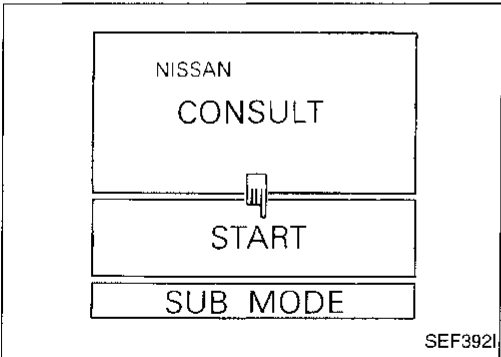
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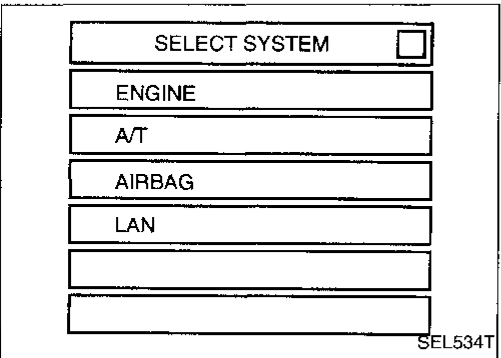
CONSULT

CONSULT INSPECTION PROCEDURE

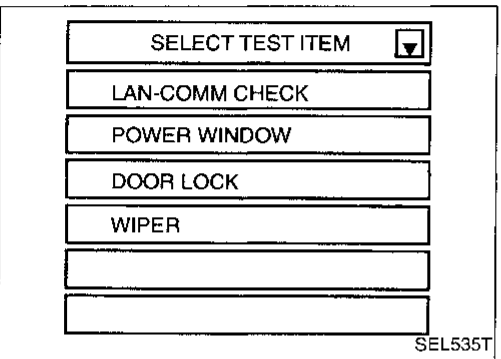
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to the data link connector.
(The data link connector is located in left dash side panel.)



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



5. Touch "LAN".



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

For further information, read the CONSULT Operation Manual.

IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

CONSULT (Cont'd)

DIAGNOSTIC ITEMS APPLICATION

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

X: Applicable

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

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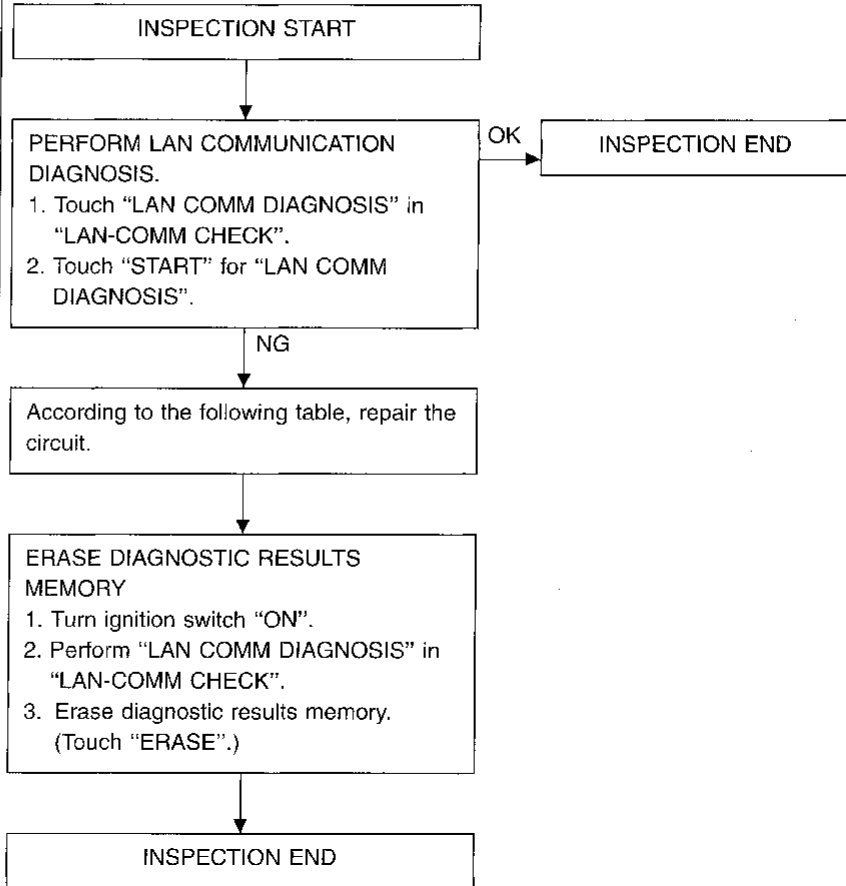
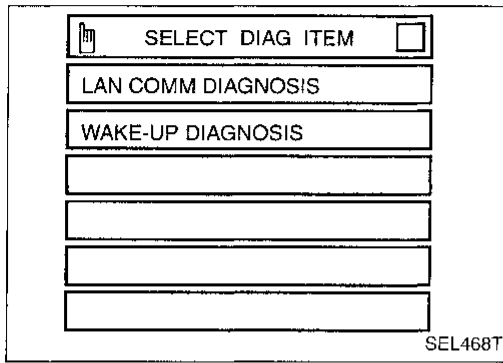
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IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

CONSULT (Cont'd)

IVMS COMMUNICATION DIAGNOSIS



IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM CONSULT (Cont'd)

DIAGNOSTIC CHART

Diagnostic item	Diagnostic explanation	Number of malfunctioning LCU	Expected cause	Service procedure
[COMM FAIL] (Communication malfunctioning)	A communication signal is sent from the BCM to the LCU. The LCU returns a signal to the BCM as it receives the signal above. The signals sent from the BCM and returned from the LCU should be the same. If they are different, the LCU and/or communication between the BCM and LCU are malfunctioning.	One All	1. Poor connection at LCU connector 2. Open or short circuit in the data lines A and/or B 3. Ground circuit of the LCU open 4. Malfunctioning LCU 1. Open or short circuit in the data lines. 2. Malfunctioning BCM	1. Check for connector looseness. 2. Check continuity of the data line circuits between the LCU in question and harness-to-harness connector. 3. Check ground circuit of the LCU in question. 4. Replace the LCU in question. 1. Check continuity of the data line circuits between the BCM and harness-to-harness connector. 2. Replace the BCM.
[A-LINE NO RESPONSE]* (Communication via data line A not responded)	A communication signal is sent from the BCM to the LCU via data lines A and B. The LCU returns the signal via the data line A. If the signal does not return, the data line A is malfunctioning.	One Two or more All	1. Poor connection in the data line A at the LCU connector 2. Open circuit in the data line A 3. Malfunctioning LCU 1. Poor connections at LCU connectors or harness-to-harness connectors 2. Open circuit in the data line A 3. Short circuit in the data line A with ground 4. Poor connection in the data line A at the BCM connectors 5. Open circuit in the data line A between the BCM and harness-to-harness connector 6. Malfunctioning BCM	1. Check for connector looseness. 2. Check continuity of the data line A circuit between the LCU in question and harness-to-harness connector. 3. Replace the LCU in question. 1. Check for connector looseness. 2. Check continuity of the data line A circuit for the LCU in question. 3. Check continuity between data line A terminal of BCM connectors and ground. 4. Check for connector looseness. 5. Check continuity of the data line A circuit for the BCM.
[B-LINE NO RESPONSE]* (Communication via data line B not responded)	A communication signal is sent from the BCM to the LCU via data lines A and B. The LCU returns the signal via the data line B. If the signal does not return, the data line B is malfunctioning.	One Two or more All	1. Poor connection in the data line B at the LCU connector 2. Open circuit in the data line B 3. Malfunctioning LCU 1. Poor connection at LCU connectors or harness-to-harness connectors 2. Open circuit in the data line B 3. Short circuit in the data line B with ground 4. Poor connection in the data line B at the BCM connectors 5. Open circuit in the data line B between the BCM and harness-to-harness connector 6. Malfunctioning BCM	4. Replace BCM. 1. Check for connector looseness. 2. Check continuity of the data line B circuit between the LCU in question and harness-to-harness connector. 3. Replace the LCU in question. 1. Check for connector looseness. 2. Check continuity of the data line B circuit for the LCU in question. 3. Check continuity between data line B terminal of the BCM connectors and ground. 4. Check for connector looseness. 5. Check continuity of the data line B circuit for the BCM.

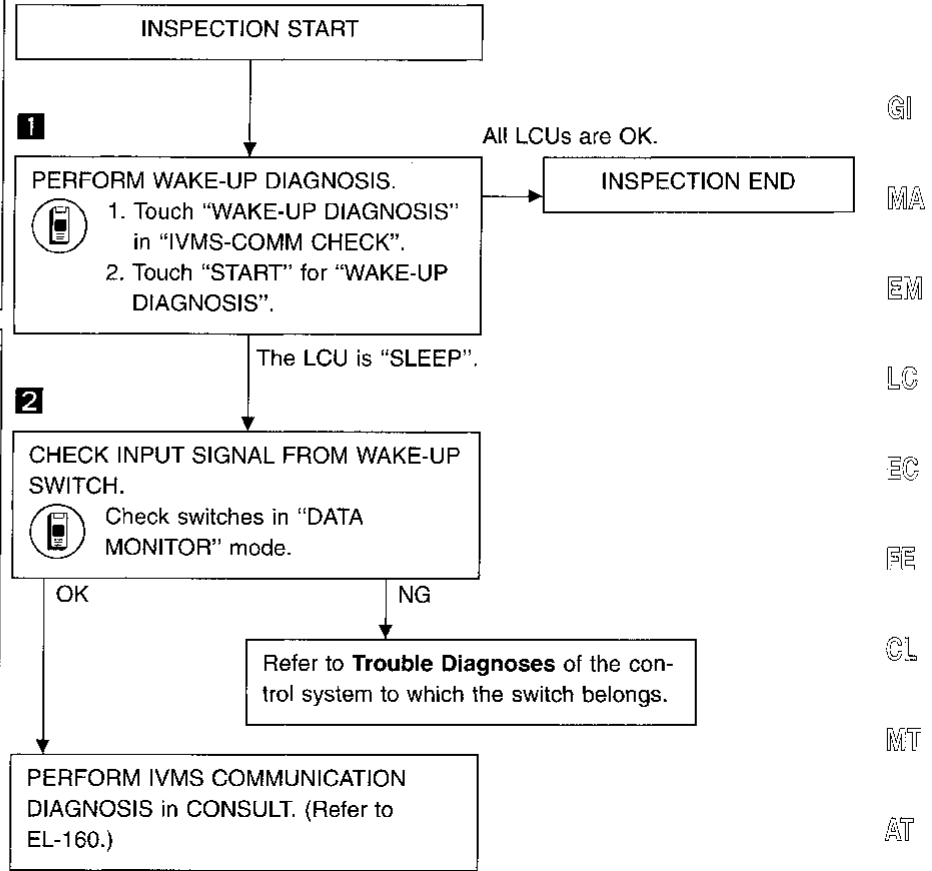
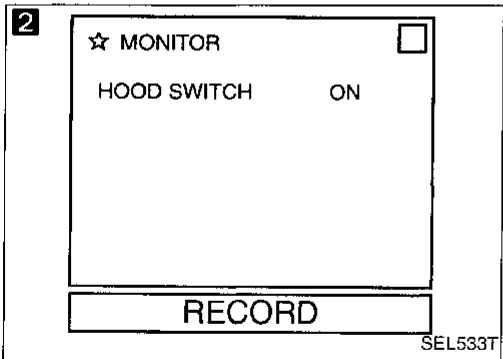
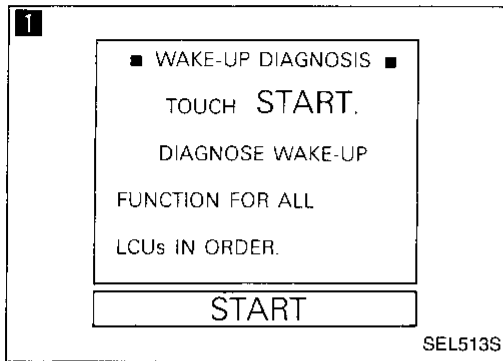
*: There may be cases that a malfunction is detected in one of the two data lines but all systems in the IVMS (such as power window or power door lock) are functioning correctly. In such cases, it is not essential to repair the malfunctioning data line. This is because communication is still accomplished via the other data line that is functioning.

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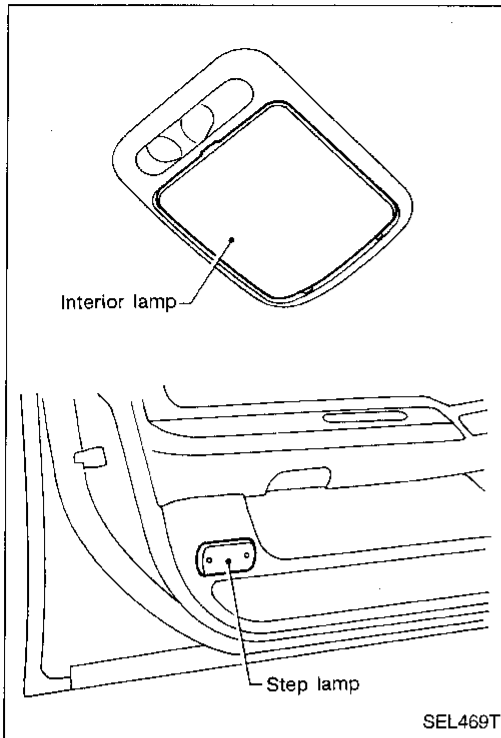
IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

CONSULT (Cont'd)

WAKE-UP DIAGNOSIS



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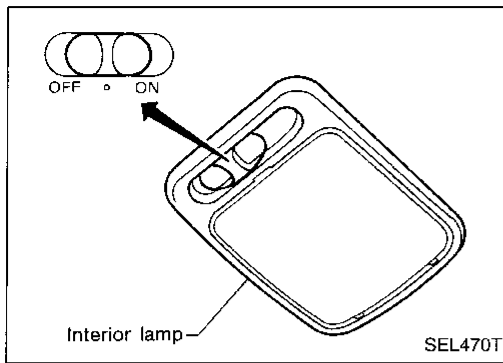
On-board Diagnosis

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 (both data lines A and B).	EL-166
Mode II	Switch monitor	Monitoring conditions of switches connected to BCM and LCUs.	EL-167
Mode III	Power door lock self-diagnosis	—	EL-206
Mode IV	Power window operation	Operation of driver side window	EL-191



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

HOW TO PERFORM MODE I

Condition

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

Turn ignition switch "ON".

Return ignition switch to "OFF" and press rear window defogger switch more than 10 times during 10 seconds.

Self-diagnostic results indicator lamps should turn on.

Turn ignition switch "ON" within 5 seconds after the indicator lamps turn on without touching rear window defogger switch.

Indicator lamp turn off.

After a second

Mode I is performed.

Turn ignition switch "OFF".

DIAGNOSIS END*

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

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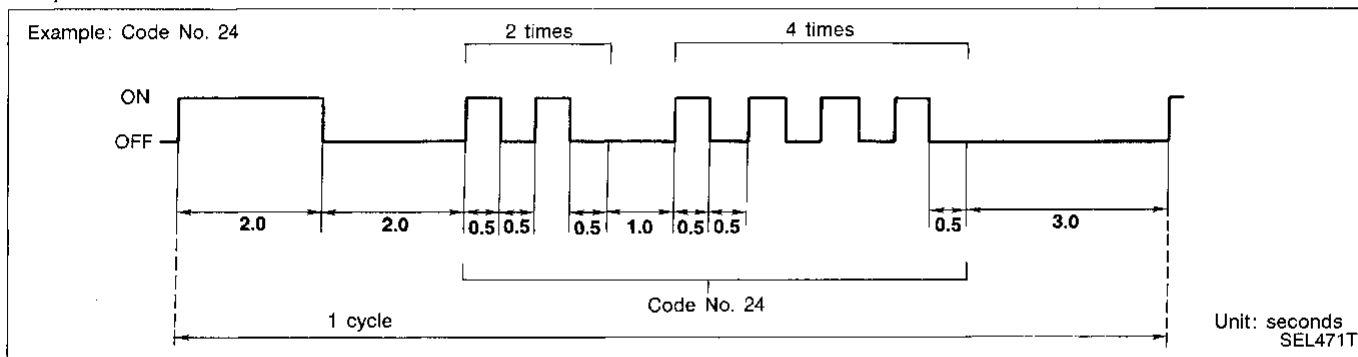
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IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

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 interior lamp and front step lamps as shown below:

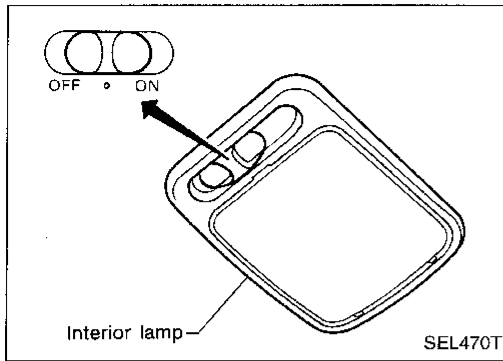


After indicator lamp turns on for 2 seconds then off for 2 seconds, it flashes [cycling ON (0.5 sec.)/OFF (0.5 sec.)] to indicate a malfunction code of the 10th digit. Then, 1 second after indicator lamp turns off, it again flashes [cycling ON (0.5 sec.)/OFF (0.5 sec.)] to indicate a malfunction code of the 1st digit.

For example, the indicator lamp goes on and off for 0.5 seconds twice and after 1.0 seconds, it goes on and off for 0.5 seconds four times. This indicates malfunction code "24". The self-diagnostic results will remain in the BCM memory.

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-161).
25		No response from data line A	Refer to Consult DIAGNOSTIC CHART, "A-LINE NO RESPONSE" (EL-161).
26		No response from data line B	Refer to Consult DIAGNOSTIC CHART, "B-LINE NO RESPONSE" (EL-161).
34	Passenger door control unit (LCU02)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-161).
35		No response from data line A	Refer to Consult DIAGNOSTIC CHART, "A-LINE NO RESPONSE" (EL-161).
36		No response from data line B	Refer to Consult DIAGNOSTIC CHART, "B-LINE NO RESPONSE" (EL-161).
41	Rear LH door control unit (LCU03)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-161).
42		No response from data line A	Refer to Consult DIAGNOSTIC CHART, "A-LINE NO RESPONSE" (EL-161).
43		No response from data line B	Refer to Consult DIAGNOSTIC CHART, "B-LINE NO RESPONSE" (EL-161).
44	Rear RH door control unit (LCU04)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-161).
45		No response from data line A	Refer to Consult DIAGNOSTIC CHART, "A-LINE NO RESPONSE" (EL-161).
46		No response from data line B	Refer to Consult DIAGNOSTIC CHART, "B-LINE NO RESPONSE" (EL-161).
54	Multi-remote control unit (LCU05)	Malfunctioning communication	Refer to Consult DIAGNOSTIC CHART, "COMM FAIL" (EL-161).
55		No response from data line A	Refer to Consult DIAGNOSTIC CHART, "A-LINE NO RESPONSE" (EL-161).
56		No response from data line B	Refer to Consult DIAGNOSTIC CHART, "B-LINE NO RESPONSE" (EL-161).
11	No malfunction		—

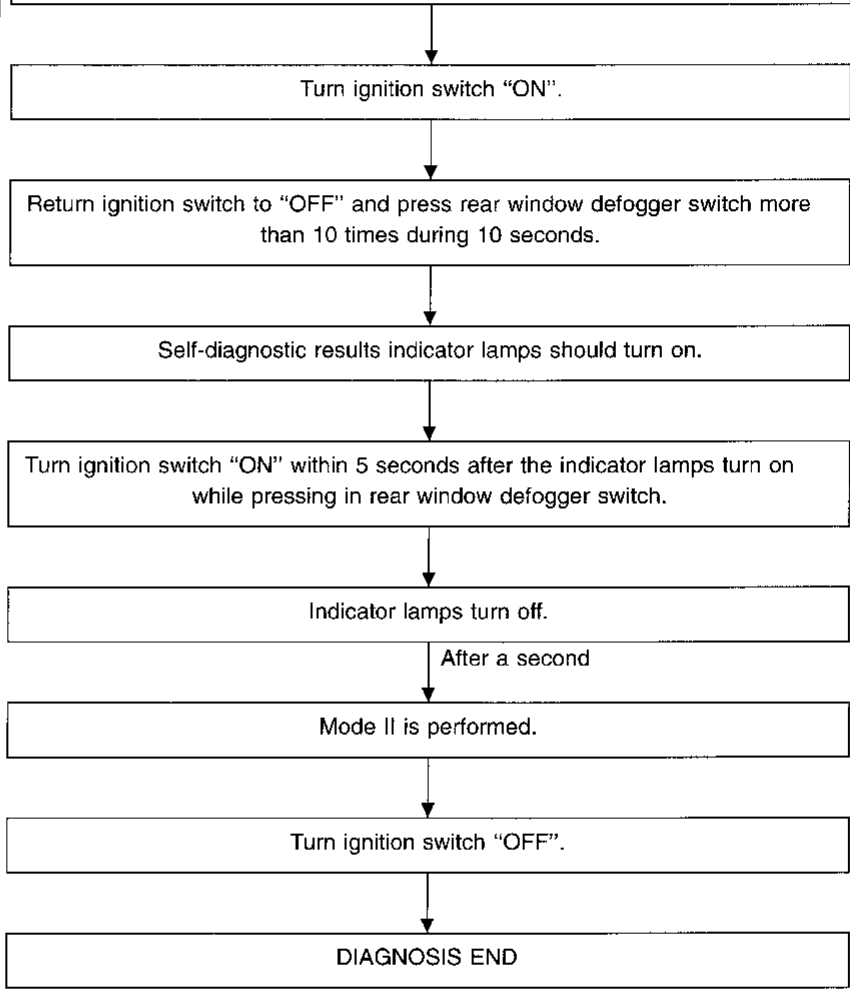


On-board Diagnosis — Mode II (Switch monitor)

HOW TO PERFORM MODE II

Condition

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



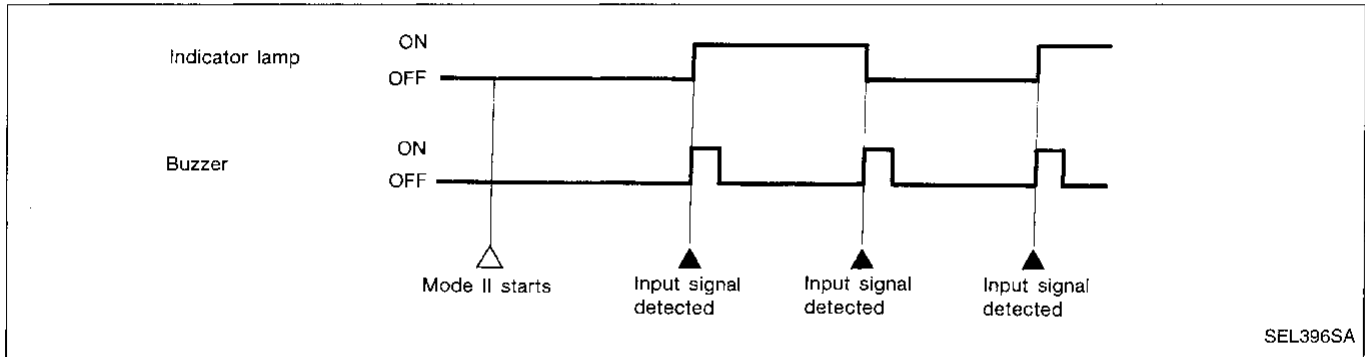
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IVMS (LAN) — TROUBLE DIAGNOSES SYSTEM

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.

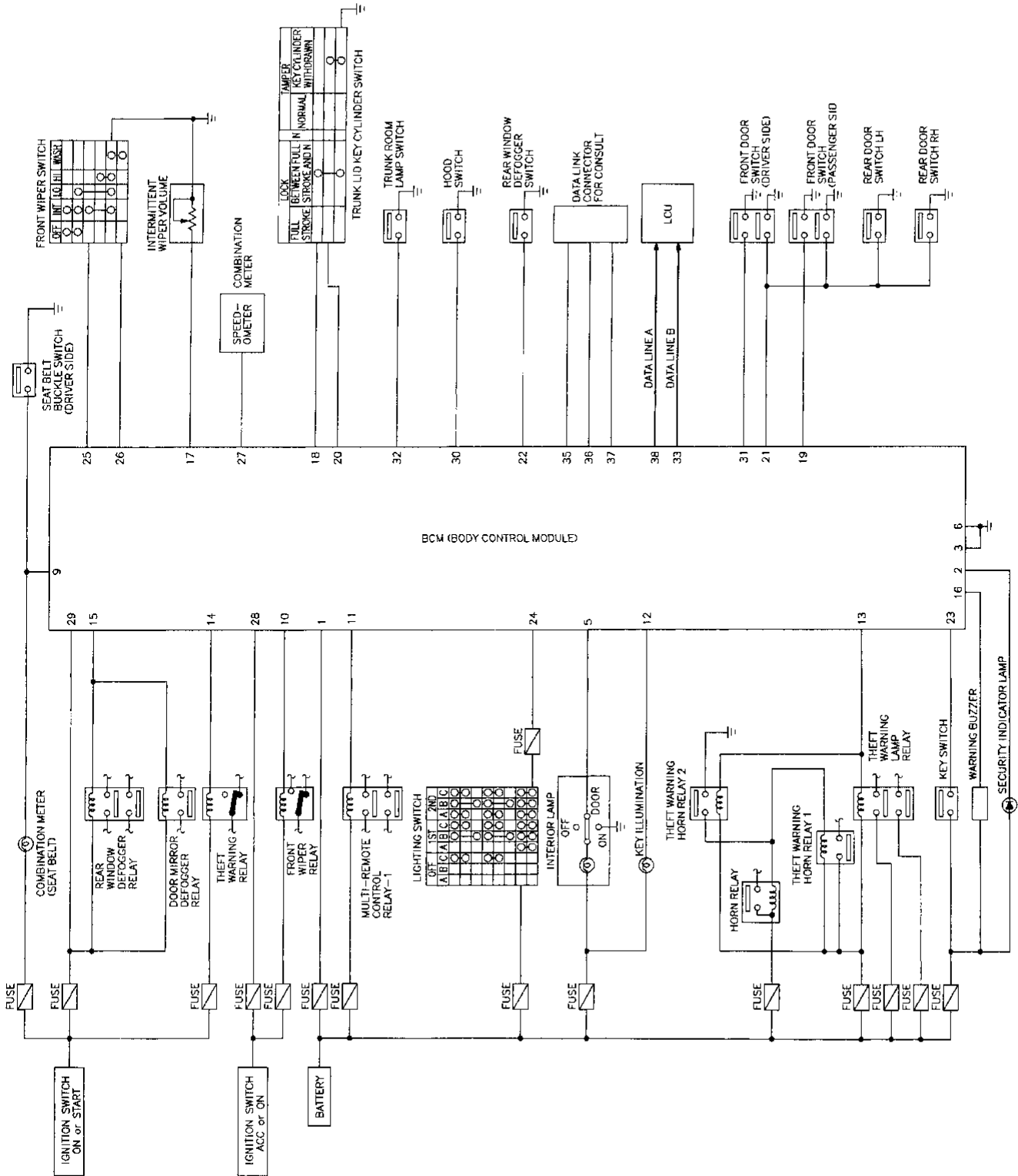


Switch monitor item

BCM	<ul style="list-style-type: none"> • Hood switch • Trunk room lamp switch • Trunk lid key cylinder tamper switch • Trunk lid unlock switch • Door switches • Headlamp 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 • Key cylinder tamper switch • Door unlock sensor • Passenger power window sub-switch (UP/DOWN)
	LCU 01	<ul style="list-style-type: none"> • Power window lock switch • Power window main switches (UP/DOWN) • Power window automatic switch • Illumination control switch • Door lock & unlock switch (LOCK/UNLOCK) • Door key cylinder switch • Key cylinder tamper switch 	LCU 03
LCU 04			<ul style="list-style-type: none"> • Power window sub-switch (Rear LH) (UP/DOWN)
LCU 05			<ul style="list-style-type: none"> • Door lock button • Door unlock button • Interior lamp button • Trunk lid opener button

Body Control Module (BCM)

CIRCUIT DIAGRAM



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IVMS (LAN) — TROUBLE DIAGNOSES

Body Control Module (BCM) (Cont'd)

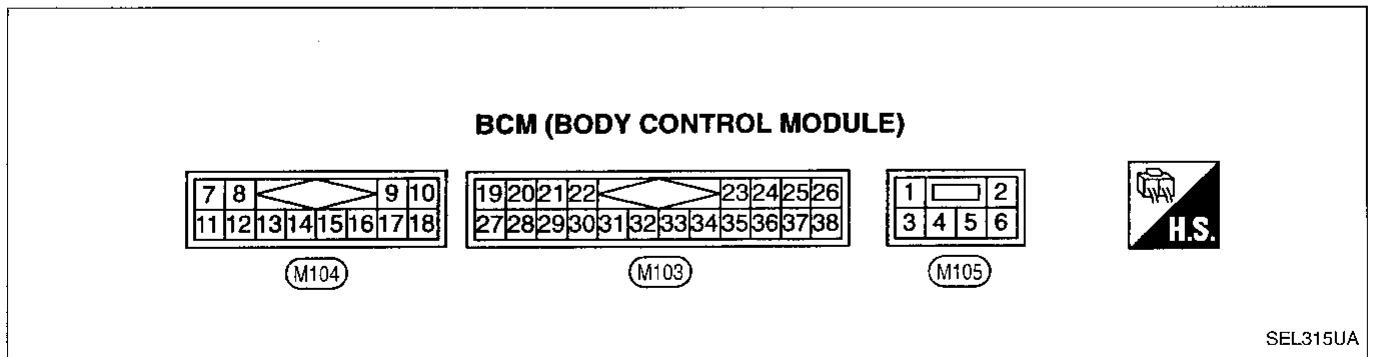
INPUT/OUTPUT OPERATION SIGNAL

Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition		Voltage (V) (Approximate values)
1	Power source	—	—		12
2	Theft warning indicator	O	Theft warning control	Illuminated	0
				Turned off	12
3	Ground	—	—		—
4	—	—	—		—
5	Interior lamp	O	ON (Illuminated)		0
			OFF		12
6	Ground	—	—		—
7	—	—	—		—
8					
9	Seat belt switch	I	Ignition switch "ON"	When the seat belt is fastened	5
				When the seat belt is not fastened	0
10	Wiper amplifier (ON signal)	O	Ignition switch "ACC" or "ON" Wiper switch	ON	0
				OFF	12
11	Hazard	O	Flasher lamp	ON	0
				OFF	12
12	Ignition keyhole illumination	O	ON		0
			OFF		12
13	Theft warning horn relays and theft warning lamp relay	O	ON		0
			OFF		12
14	Theft warning relay	O	Theft warning control	ON	0
				OFF	12
15	Defogger relay	O	Ignition switch "ON" Time control	ON	0
				OFF	12
16	Buzzer	O	ON		0
			OFF		12
17	Intermittent wiper volume switch	I	Ignition switch "ACC" or "ON" Wiper switch Intermittent time	Max. (20 sec)	3.6
				Min. (2 sec)	0
18	Trunk lid unlock switch	I	Unlocked (ON)		0
			Neutral (OFF)		5
19	Passenger's door switch	I	ON (Open)		0
			OFF (Closed)		12
20	Trunk lid tamper switch	I	ON		0
			OFF		5

IVMS (LAN) — TROUBLE DIAGNOSES

Body Control Module (BCM) (Cont'd)

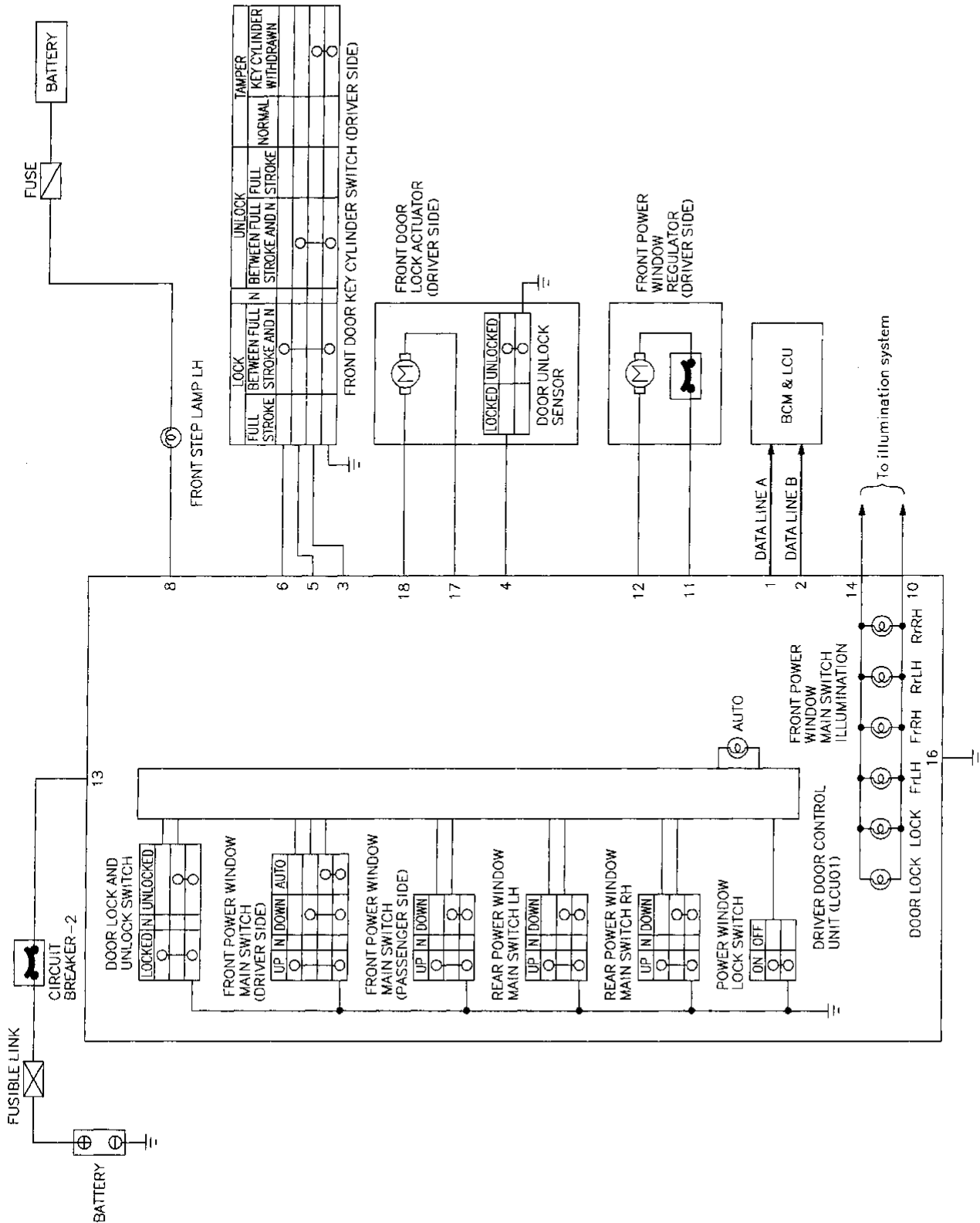
Terminal No.	Connections	INPUT (I)/ OUTPUT (O)	Operated condition	Voltage (V) (Approximate values)		
21	Door switches (All doors)	I	Door switch	ON (Open)	0	GI
				OFF (Closed)	12	
22	Rear window defogger switch	I	Ignition switch "ON"	ON	0	MA
				OFF	5	
23	Ignition key switch (Insert)	I	IGN key removed from ignition key cylinder (OFF)		0	EM
				IGN key inserted into ignition key cyl- inder (ON)	12	
24	Headlamp switch (1ST)	I	1ST, 2ND positions: ON		12	LC
				OFF	0	
25	Wiper switch (Intermittent)	I	Ignition switch "ACC" or "ON"	INT	0	EC
				OFF	12	
26	Wiper switch (Wash)	I	Ignition switch "ACC" or "ON"	WASH	0	FE
				OFF	12	
27	Vehicle speed pulse	I	Pulse		0 - 5	CL
28	Ignition switch (ACC)	I	Ignition switch "ACC"		12	
29	Ignition switch (ON)	I	Ignition switch "ON"		12	MT
30	Hood switch	I		Open (ON)	0	AT
				Closed (OFF)	5	
31	Driver's door switch	I		Open (ON)	0	FA
				Closed (OFF)	12	
32	Trunk lid open signal	I		Open (ON)	0	RA
				Closed (OFF)	12	
33	Data line (B)	I/O	—		—	
34	CONSULT			On-board diag- nostic results	—	BR
TX signal				—		
RX signal				—		
CLK signal				—		
35						
36						ST
37						
38	Data line (A)	I/O	—		—	RS



Local Control Units (LCUs)

CIRCUIT DIAGRAM

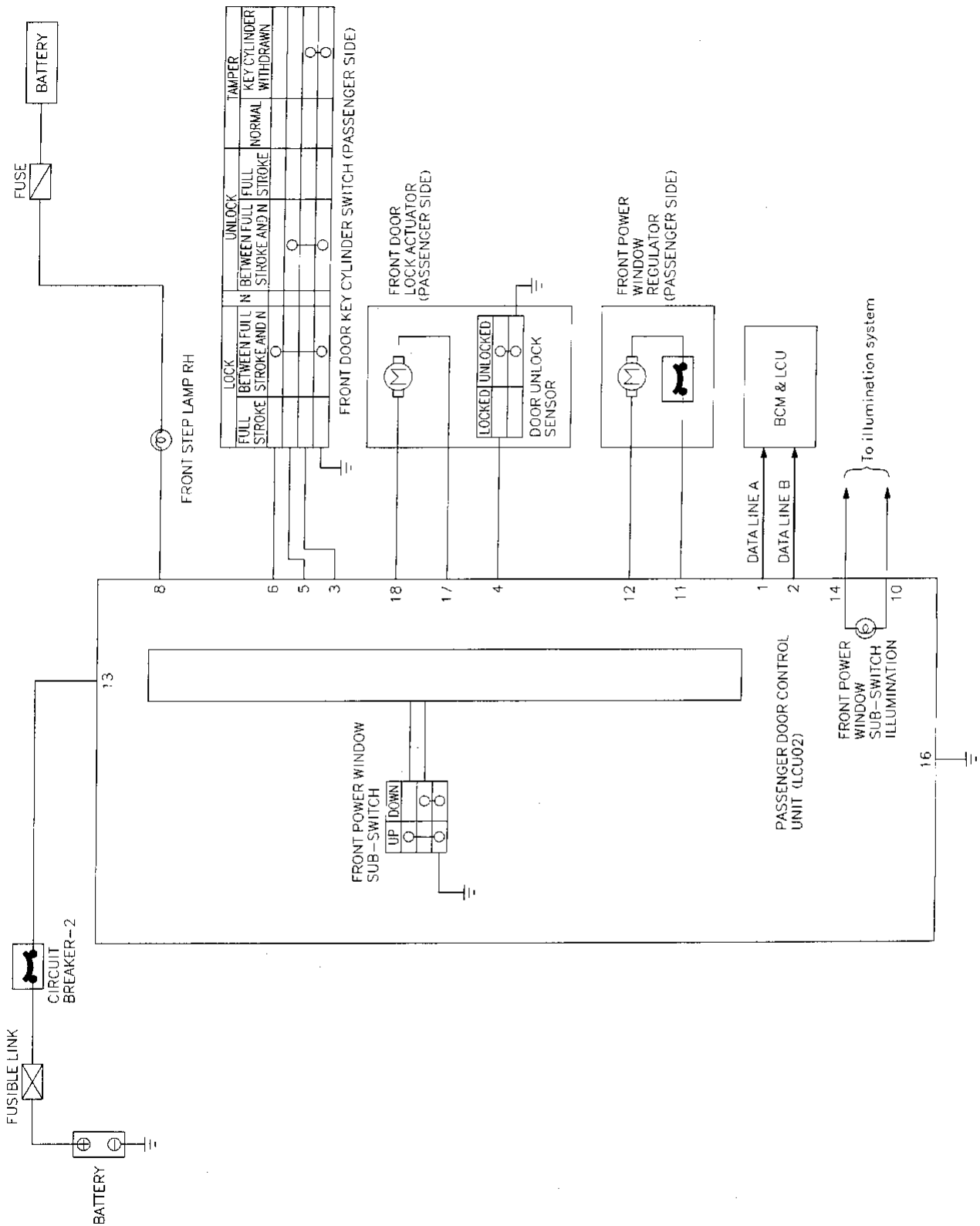
Driver door control unit (LCU01)



IVMS (LAN) — TROUBLE DIAGNOSES

Local Control Units (LCUs) (Cont'd)

Passenger door control unit (LCU02)



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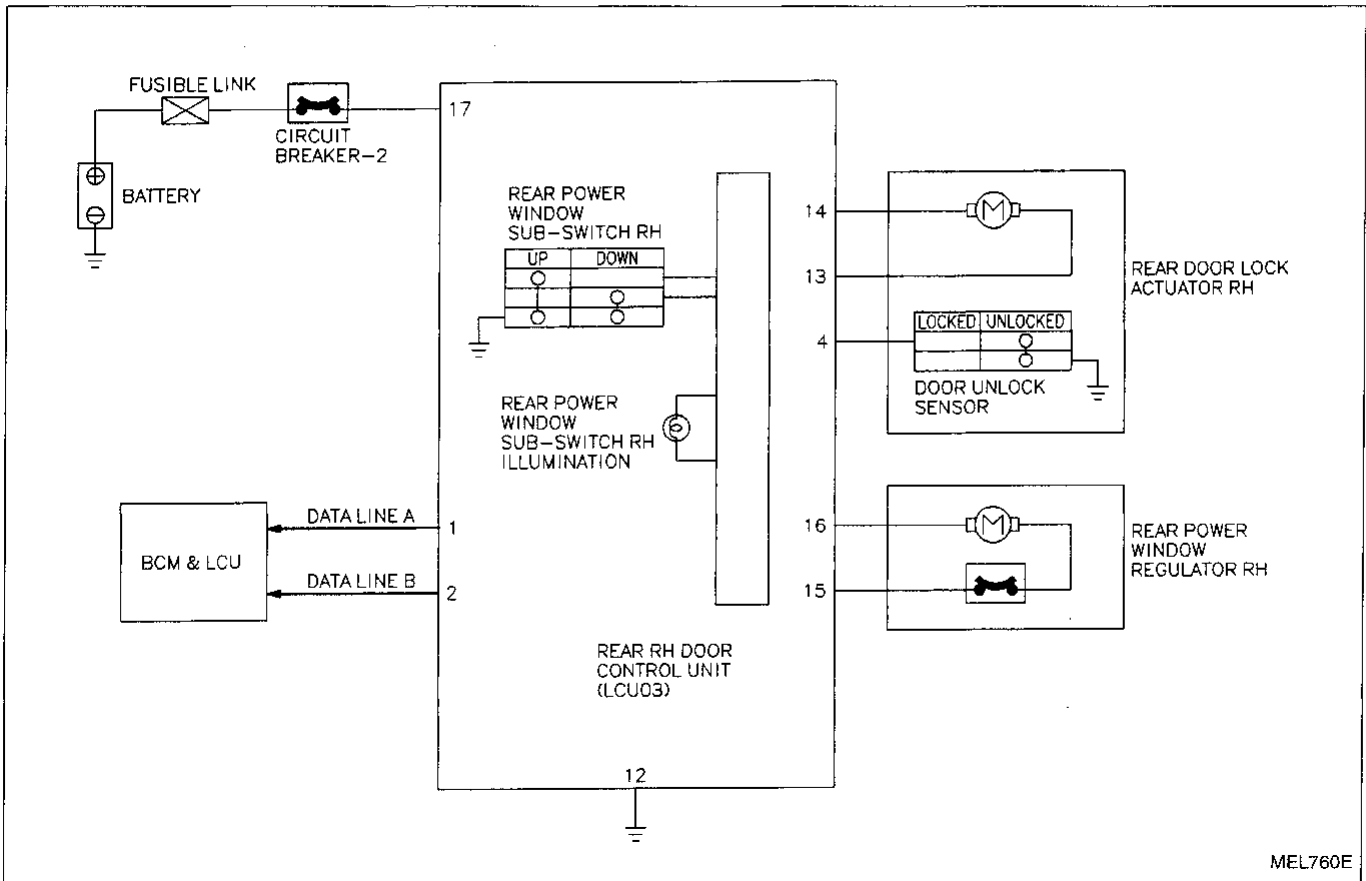
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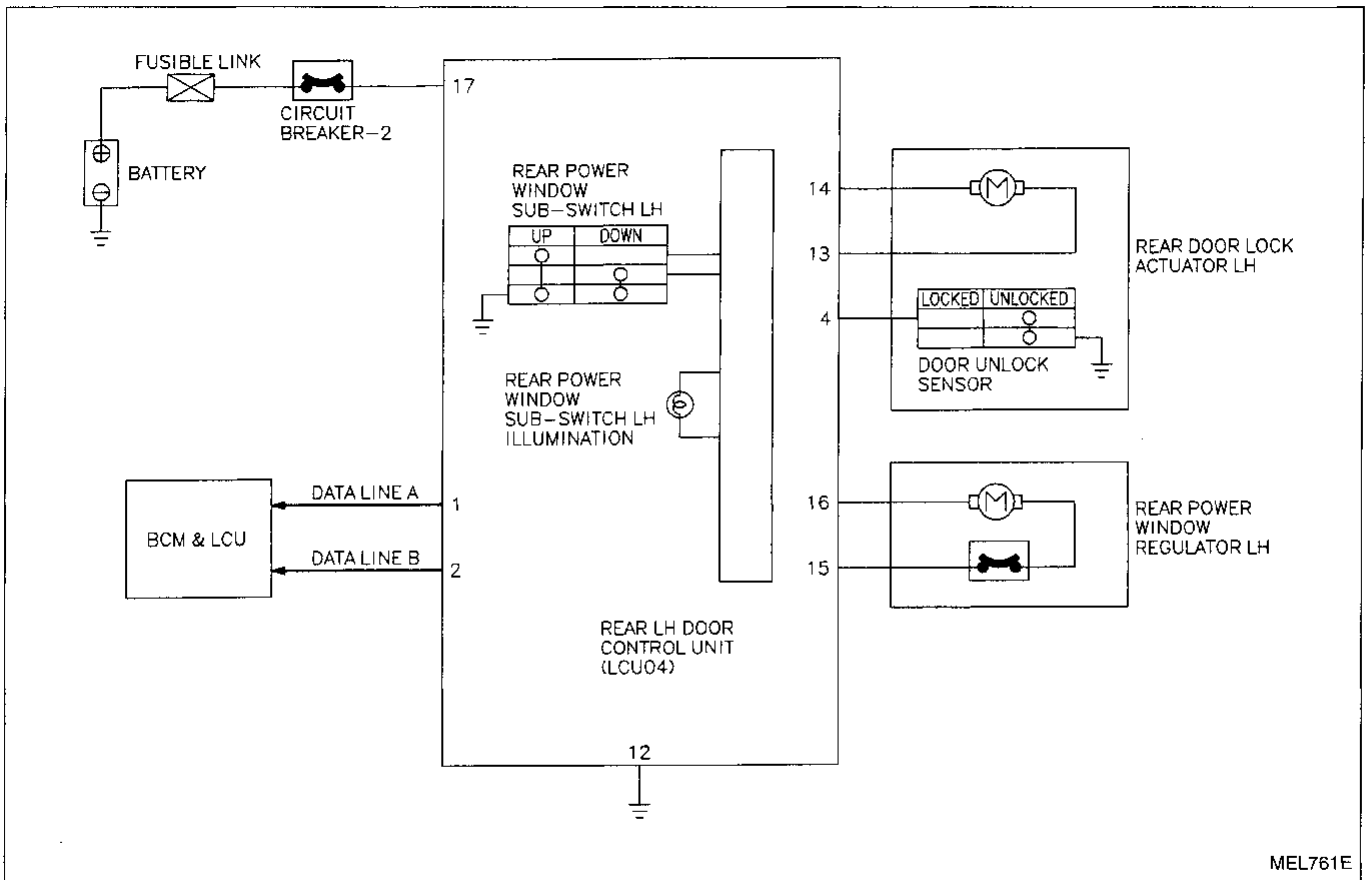
IVMS (LAN) — TROUBLE DIAGNOSES

Local Control Units (LCUs) (Cont'd)

Rear RH door control unit (LCU03)



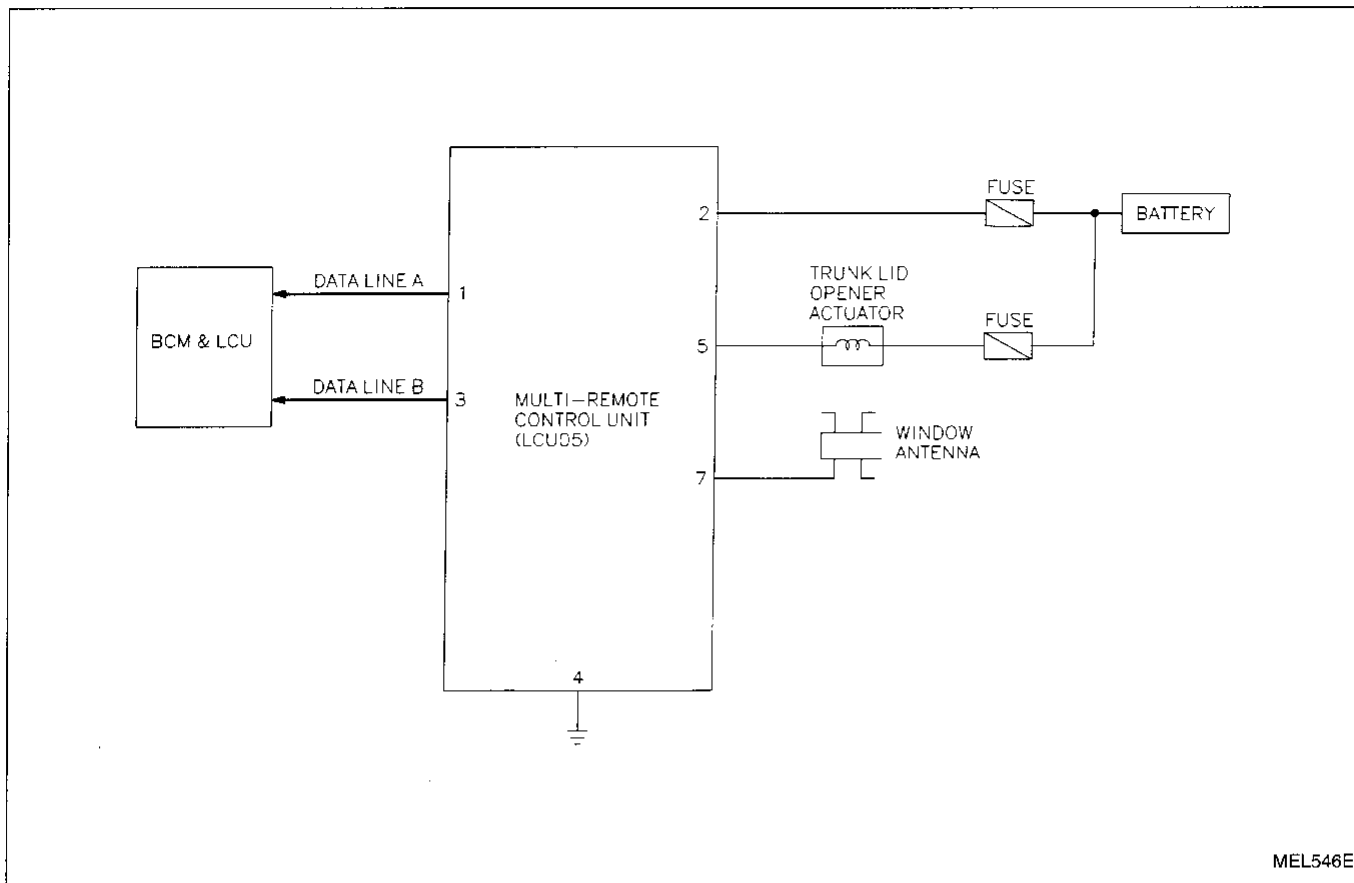
Rear LH door control unit (LCU04)



IVMS (LAN) — TROUBLE DIAGNOSES

Local Control Units (LCUs) (Cont'd)

Multi-remote control unit (LCU05)



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IVMS (LAN) — TROUBLE DIAGNOSES

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)	I/O	—		—
2	Data line (B)	I/O	—		—
3	Door key cylinder tamper switch	I	ON (Key cylinder removed)		0
			OFF (Key cylinder installed)		12
4	Door unlock sensor	I	Unlocked (ON)		0
			Locked (OFF)		5
5	Door key cylinder unlock switch	I	Unlocked (ON)		0
			Locked (OFF)		12
6	Door key cylinder lock switch	I	Locked (ON)		0
			Unlocked (OFF)		12
7	Headlamp switch (1st)	I	1st, 2nd: ON		12
			OFF		0
8	Step lamp	O	ON		0
			OFF		12
9	—	—	—		—
10	Illumination control signal	I	Brightened - Darkened		0 - 12
11	Power window motor (P/W) — Up	O	Driver's P/W switch	Up	12
				Free	0
12	Power window motor (P/W) — Down	O	Driver's P/W switch	Down	12
				Free	0
13	Power source (C/B)	—	—		12
14	—	—	—		—
15	—	—	—		—
16	Ground	—	—		—
17	Door lock motor — Lock	O	Door lock & unlock switch	Locked	12
				Free	0
18	Door lock motor — Unlock	O	Door lock & unlock switch	Unlocked	12
				Free	0

IVMS (LAN) — TROUBLE DIAGNOSES

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)	I/O	—	—	
2	Data line (B)	I/O	—	—	
3	Door key cylinder tamper switch	I	ON	0	
			OFF	12	
4	Door unlock sensor	I	Unlocked (ON)	0	
			Locked (OFF)	5	
5	Door key cylinder unlock switch	I	Unlocked (ON)	0	
			Locked (OFF)	12	
6	Door key cylinder lock switch	I	Locked (ON)	0	
			Unlocked (OFF)	12	
7	—	—	—	12	
8	Step lamp	O	ON	0	
			OFF	12	
9	—	—	—	—	
10	Illumination control signal	I	Brightened - Darkened	0 - 12	
11	Power window motor (P/W) — Up	O	Passenger's P/W switch	Up	12
				Free	0
12	Power window motor (P/W) — Down	O	Passenger's P/W switch	Down	12
				Free	0
13	Power source (C/B)	—	—	12	
14	Headlamp switch (1st)	I	1st, 2nd: ON	12	
			OFF	0	
15	—	—	—	—	
16	Ground	—	—	—	
17	Door lock motor — Lock	O	Door lock & unlock switch	Locked	12
				Free	0
18	Door lock motor — Unlock	O	Door lock & unlock switch	Unlocked	12
				Free	0

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IVMS (LAN) — TROUBLE DIAGNOSES

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)	I/O	—	—	
2	Data line (B)	I/O	—	—	
3	—	—	—	—	
4	Door unlock sensor	I	Unlocked (ON)	0	
			Locked (OFF)	5	
5	—	—	—	—	
6	—	—	—	—	
7	—	—	—	12	
8	—	—	—	—	
9	—	—	—	—	
10	—	—	—	—	
11	—	—	—	—	
12	Ground	—	—	—	
13	Door lock motor — Lock	O	Door lock & unlock switch	Locked	12
				Free	0
14	Door lock motor — Unlock	O	Door lock & unlock switch	Unlocked	12
				Free	0
15	Power window motor (P/W) — Up	O	Rear P/W switch	Up	12
				Free	0
16	Power window motor (P/W) — Down	O	Rear P/W switch	Down	12
				Free	0
17	Power source (C/B)	—	—	12	
18	—	—	—	—	

IVMS (LAN) — TROUBLE DIAGNOSES

Local Control Units (LCUs) (Cont'd)

Multi-remote control unit (LCU05)

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

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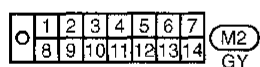
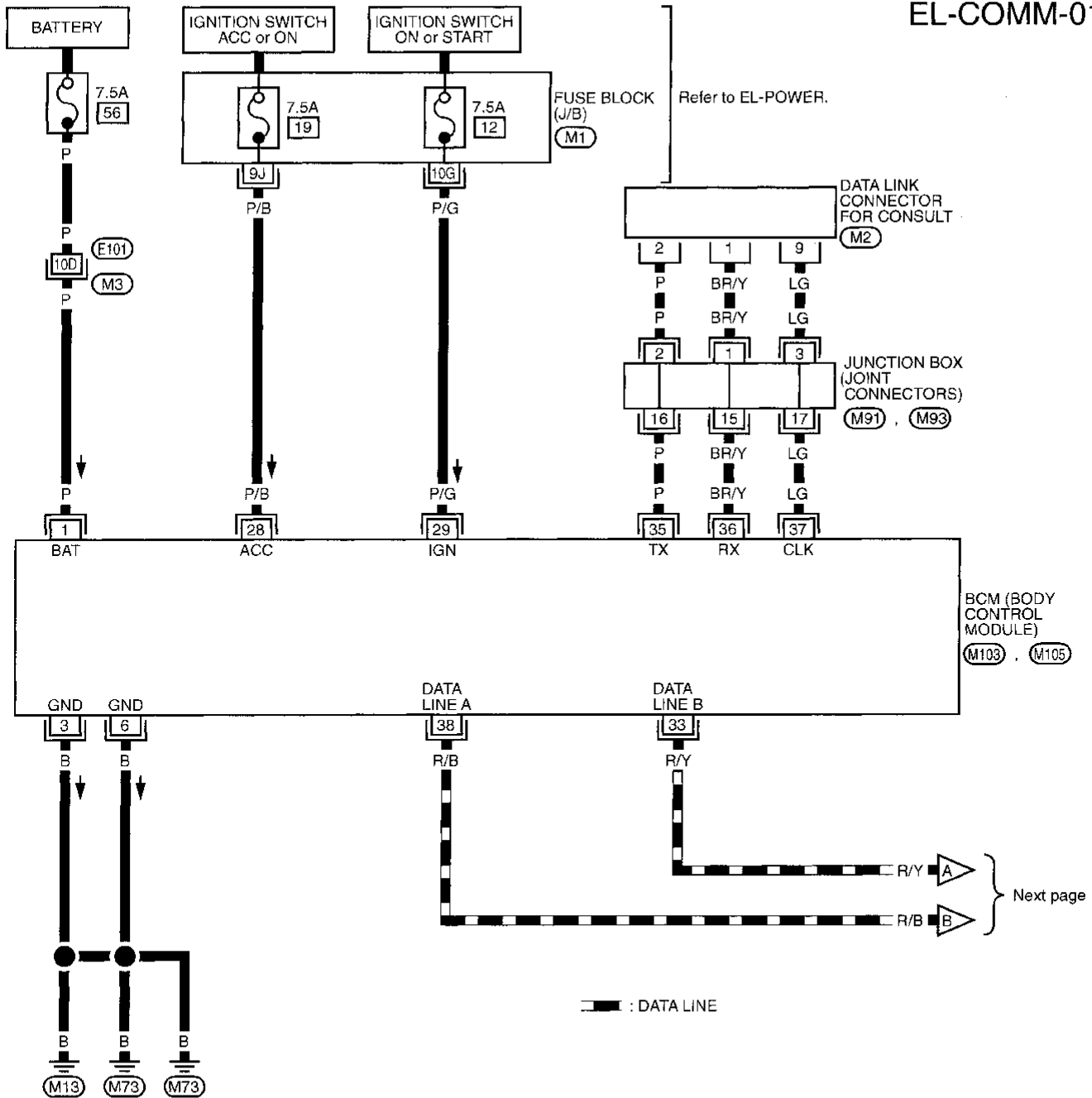
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Main Power Supply, Ground and Communication Circuits/Wiring Diagram
— COMM —

EL-COMM-01



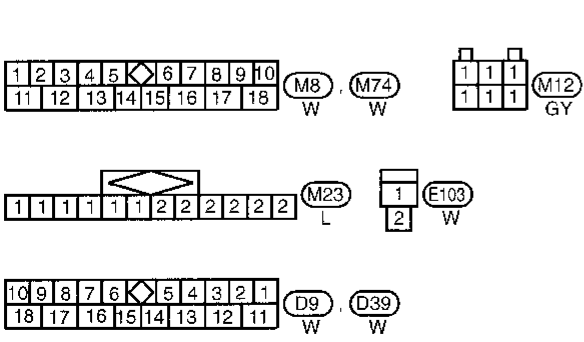
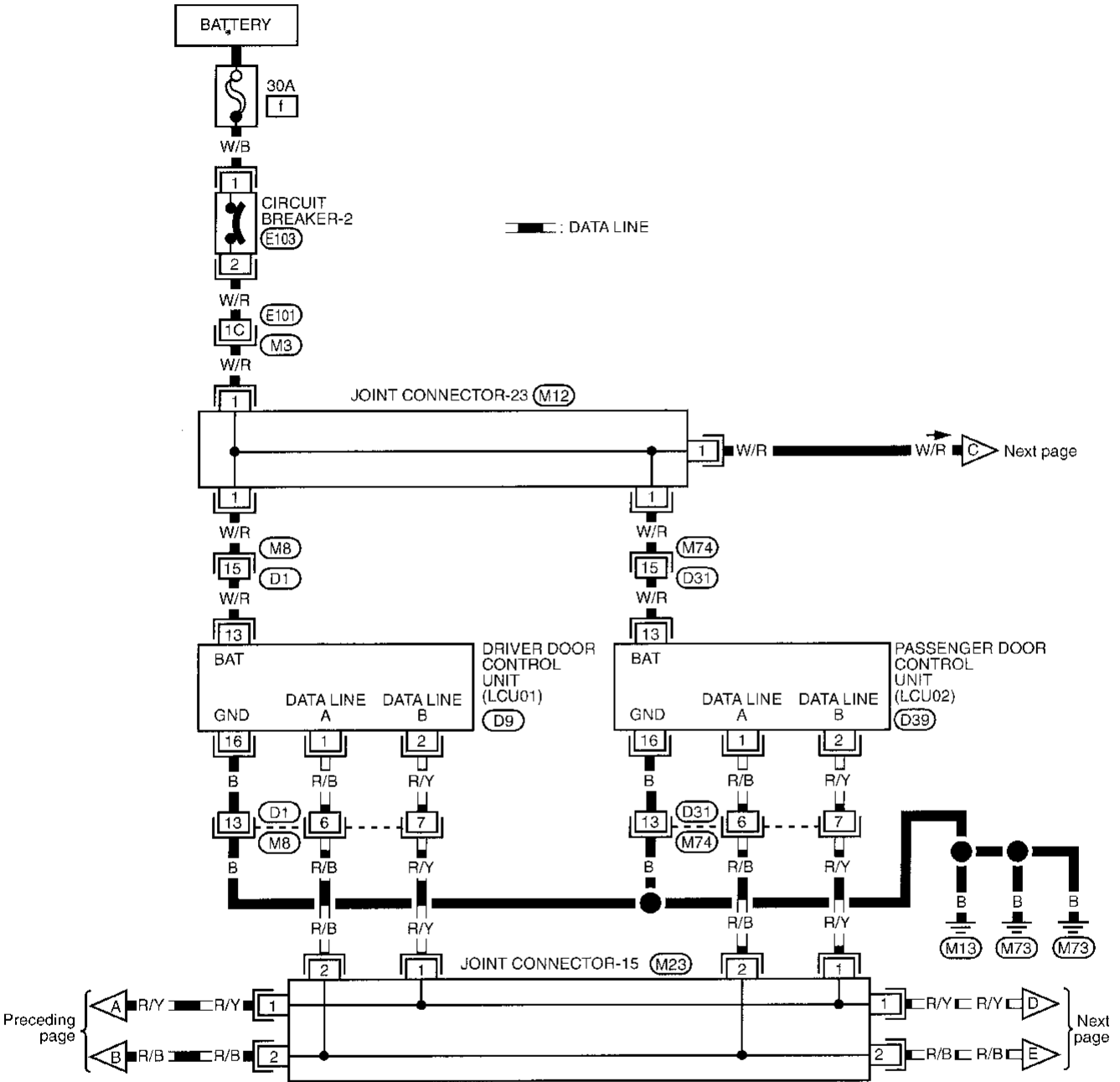
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- (M1)
- (M3) (E101)
- (M91)
- (M93)
- (M103)
- (M105)

IVMS (LAN) — TROUBLE DIAGNOSES

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

EL-COMM-02



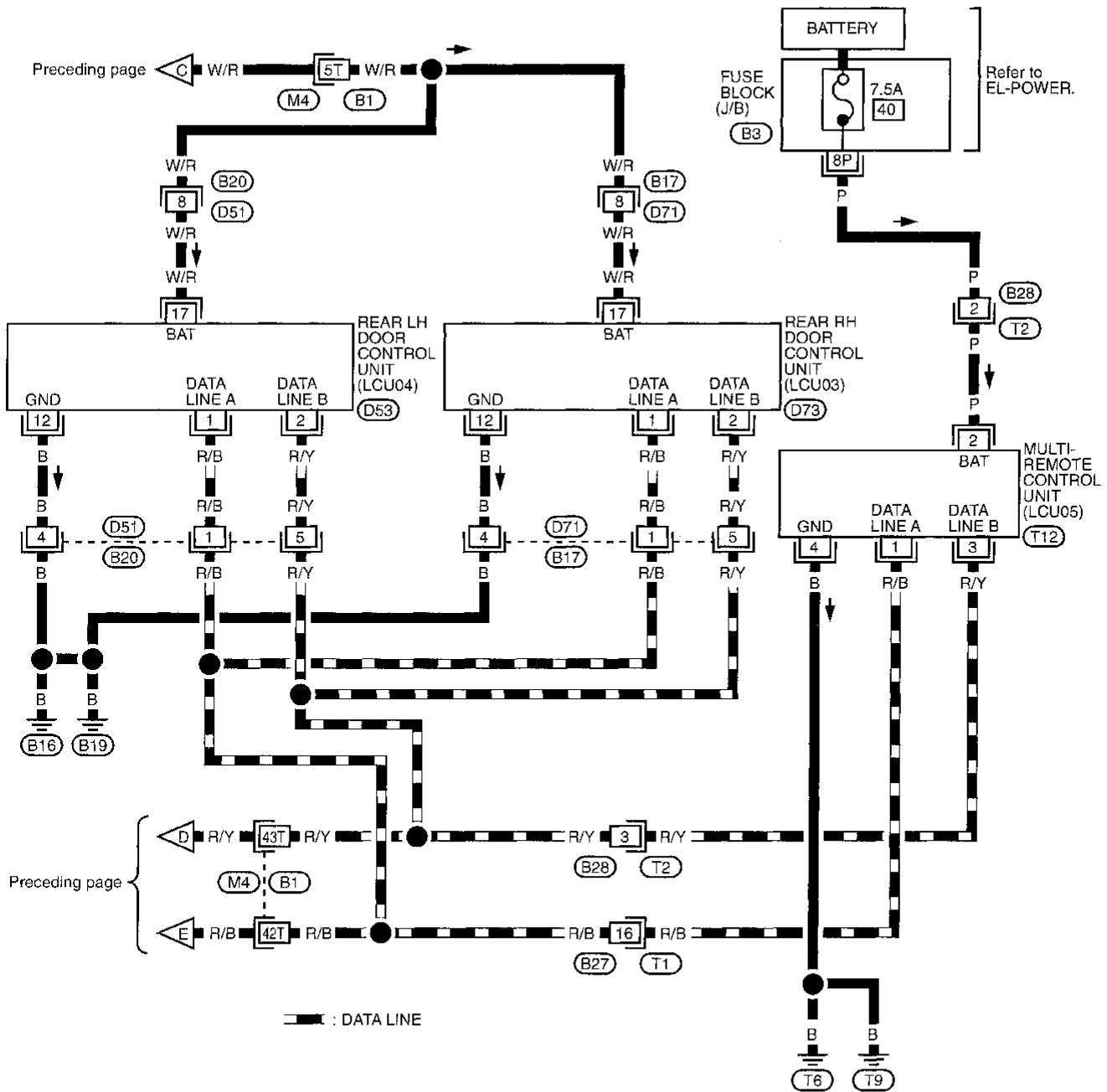
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 (M3) (E101)
 (M12)
 (M23)

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IVMS (LAN) — TROUBLE DIAGNOSES

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

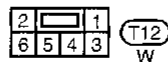
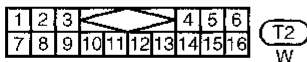
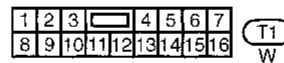
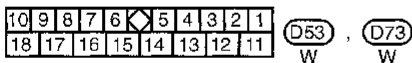
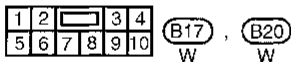
EL-COMM-03



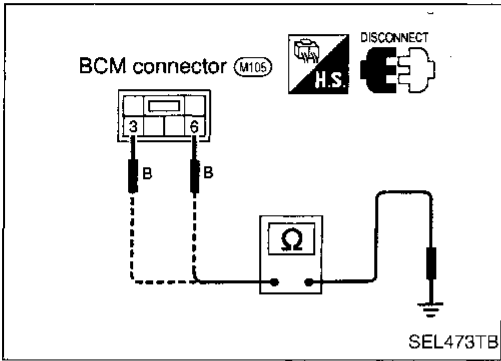
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(M4), (B1)

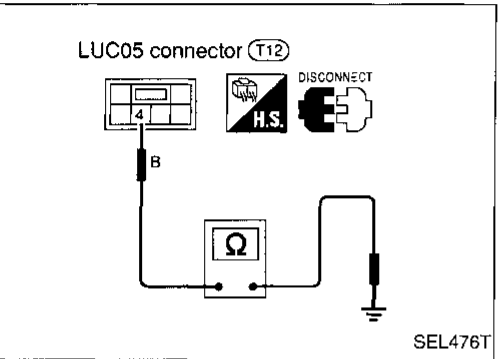
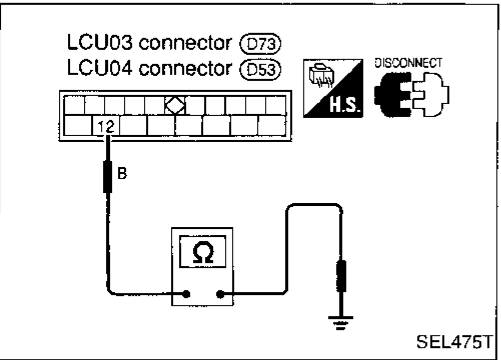
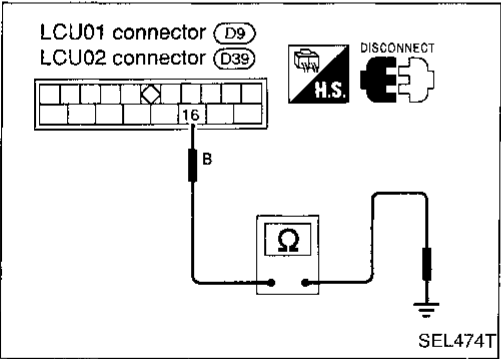
(B3)



Power Supply and Ground Circuit Check GROUND CIRCUIT CHECK



Control unit	Terminals	Continuity
BCM	③ - Ground	Yes
	⑥ - Ground	
LCU01	⑩ - Ground	
LCU02	⑫ - Ground	
LCU03	⑫ - Ground	
LCU04	④ - Ground	

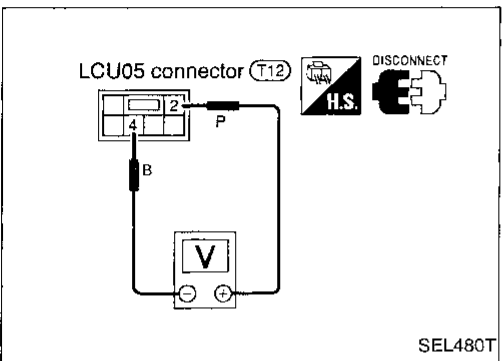
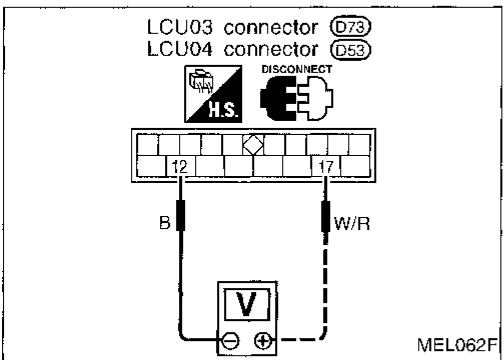
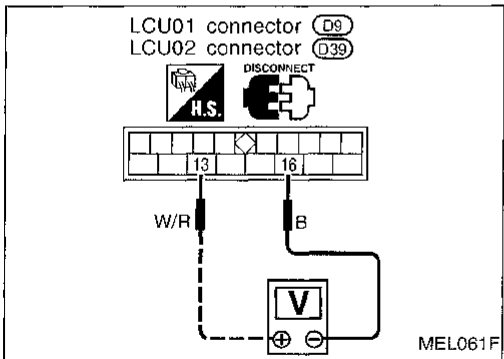
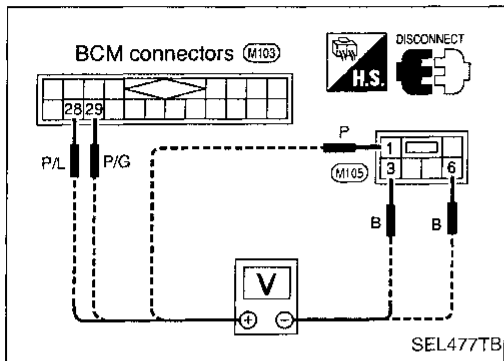


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IVMS (LAN) — TROUBLE DIAGNOSES

Power Supply and Ground Circuit Check (Cont'd)

POWER SUPPLY CIRCUIT CHECK



Control unit	Terminals	Ignition switch position			
		OFF	ACC	ON	START
BCM*	① - ③, ⑥	Battery voltage			
	②⑧ - ③, ⑥	Approx. 0V	Battery voltage		Approx. 0V
	②⑧ - ③, ⑥	Approx. 0V		Battery voltage	
LCU01	⑬ - ⑮	Battery voltage			
LCU02	⑬ - ⑮	Battery voltage			
LCU03 and LCU04	⑰ - ⑱	Battery voltage			
LCU05	② - ④	Battery voltage			

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

System Description

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

- from 7.5A fuse [No. 12 , located in the fuse block (J/B)]
- to BCM terminal 29 .

Driver door control unit (LCU01) terminals 1 and 2 are connected to BCM terminals 38 and 33 as DATA LINES A and B. Also, driver door control unit terminals 11 and 12 are connected to driver's side power window regulator terminals 2 and 1 respectively.

Rear LH door control unit (LCU04) and rear RH door control unit (LCU03) terminals 1 and 2 are connected to BCM terminals 38 and 33 as DATA LINES A and B. Also, rear LH and RH door control unit terminals 15 and 16 are connected to rear power window regulator LH and RH terminals 2 and 1 respectively.

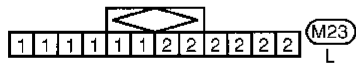
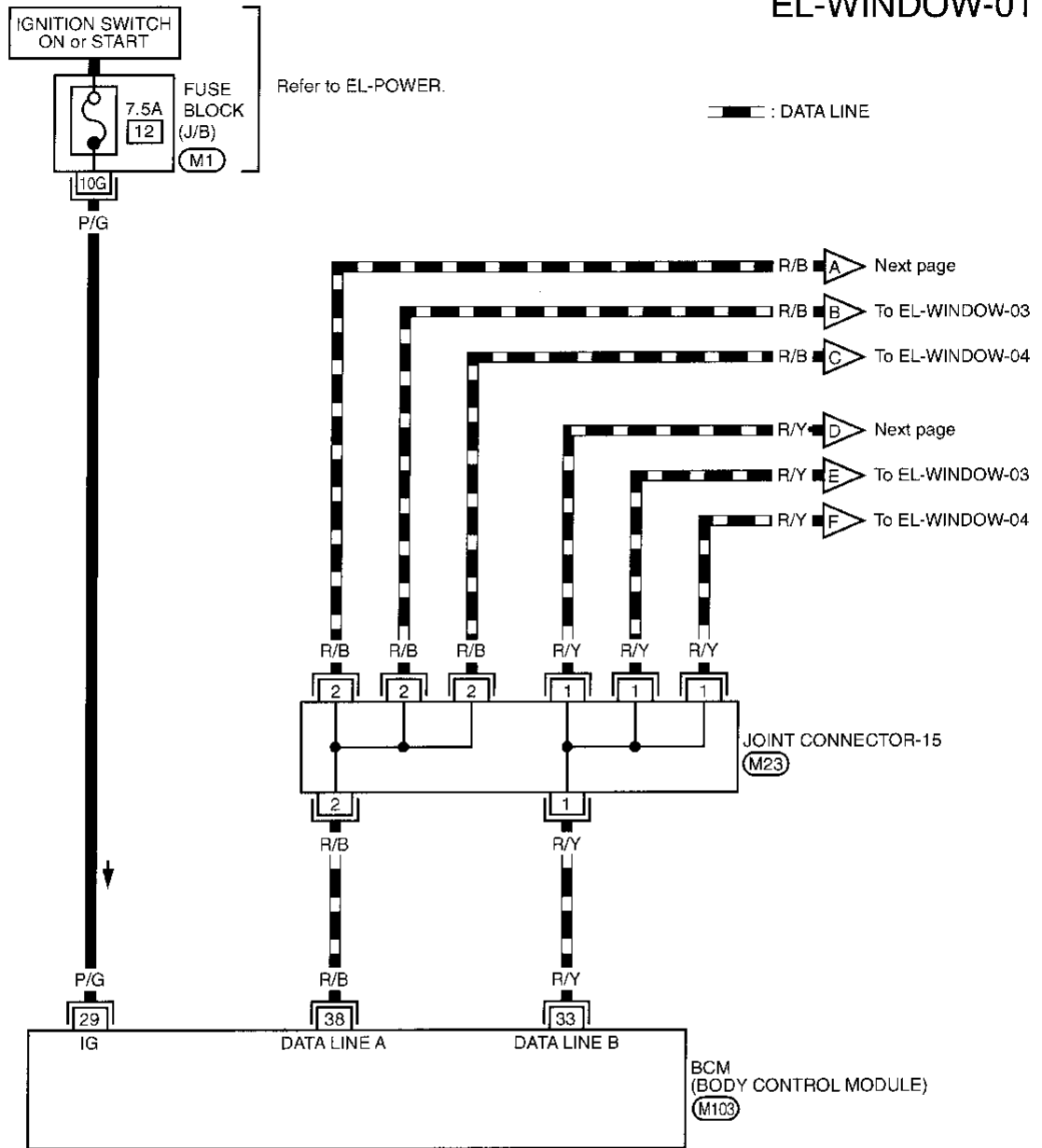
Passenger door control unit (LCU02) terminals 1 and 2 are connected to BCM terminals 38 and 33 as DATA LINES A and B. Also, passenger door control unit terminals 11 and 12 are connected to passenger side power window regulator terminals 2 and 1 respectively.

When a power window switch is pushed, a signal is sent to BCM as DATA LINES. BCM sends a signal to all door control units and all door control units supply power and ground to all power window regulators.

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Wiring Diagram — WINDOW —

EL-WINDOW-01



Refer to last page (Foldout page).

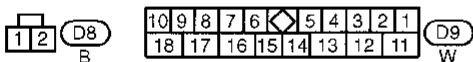
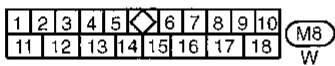
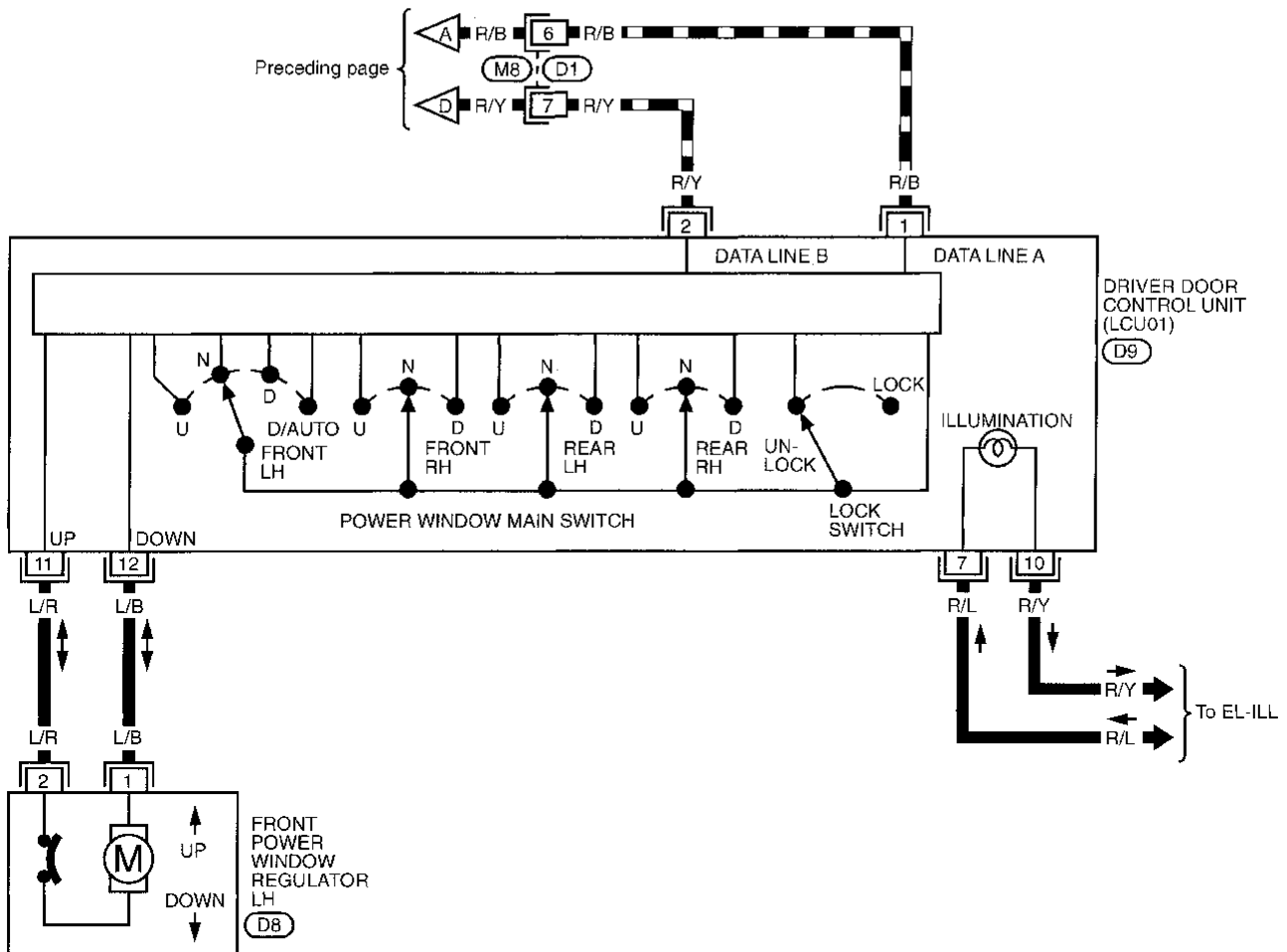
- (M1)
- (M23)
- (M103)

POWER WINDOW — IVMS

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02

— : DATA LINE

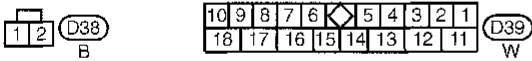
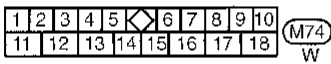
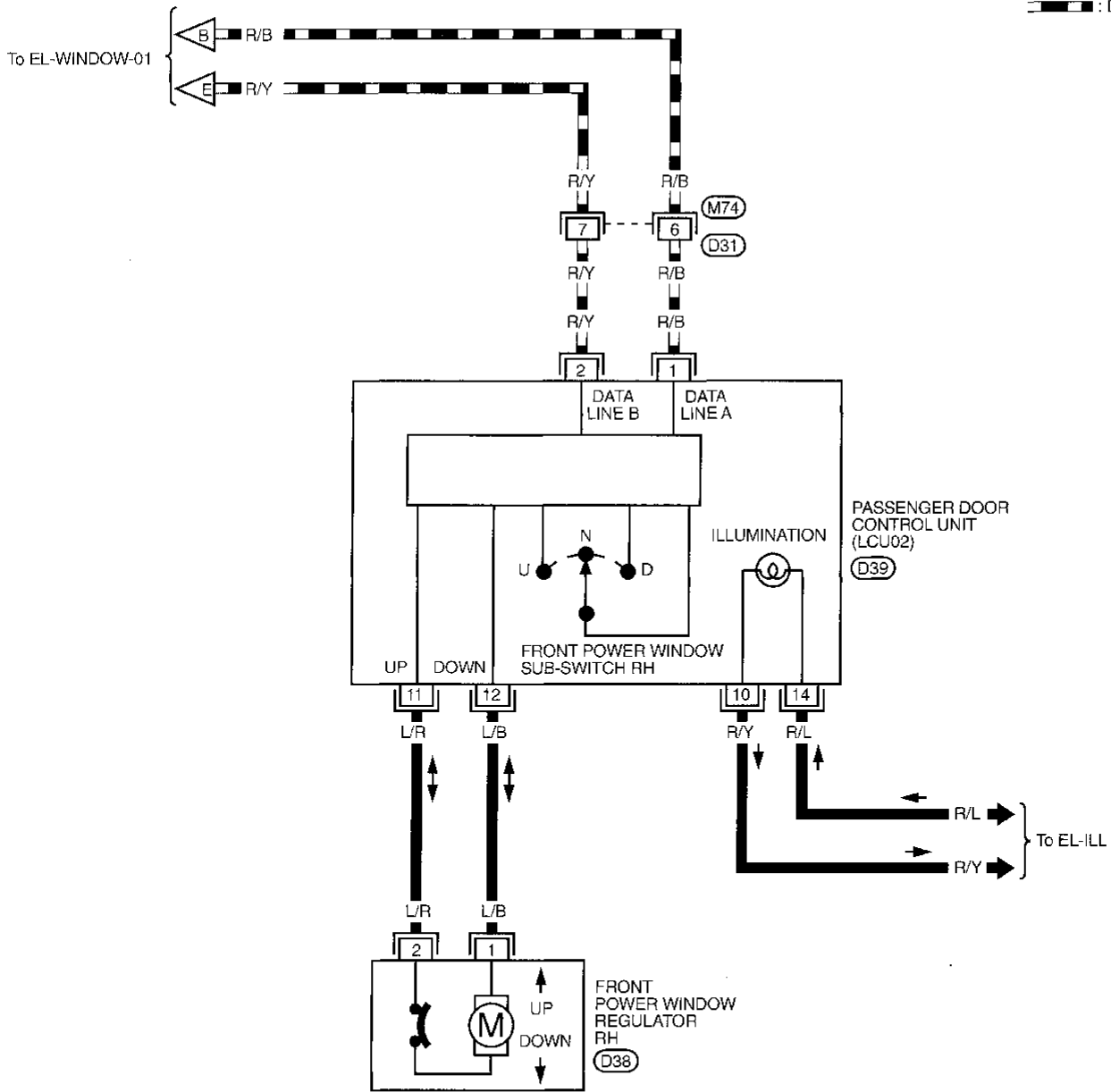


POWER WINDOW — IVMS

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03

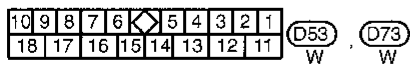
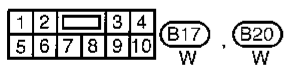
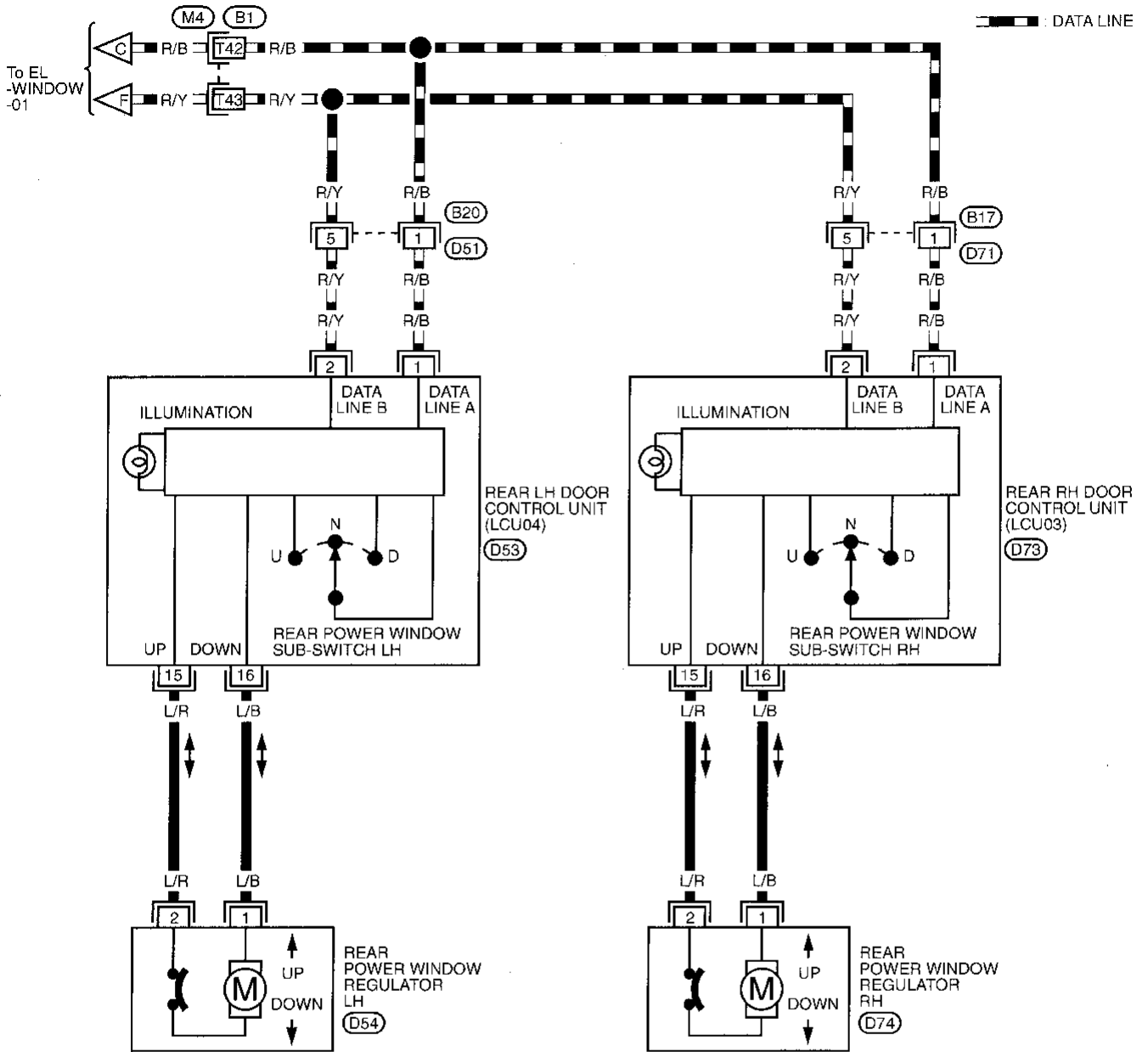
▬ : DATA LINE



POWER WINDOW — IVMS

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-04



Refer to last page (Foldout page).



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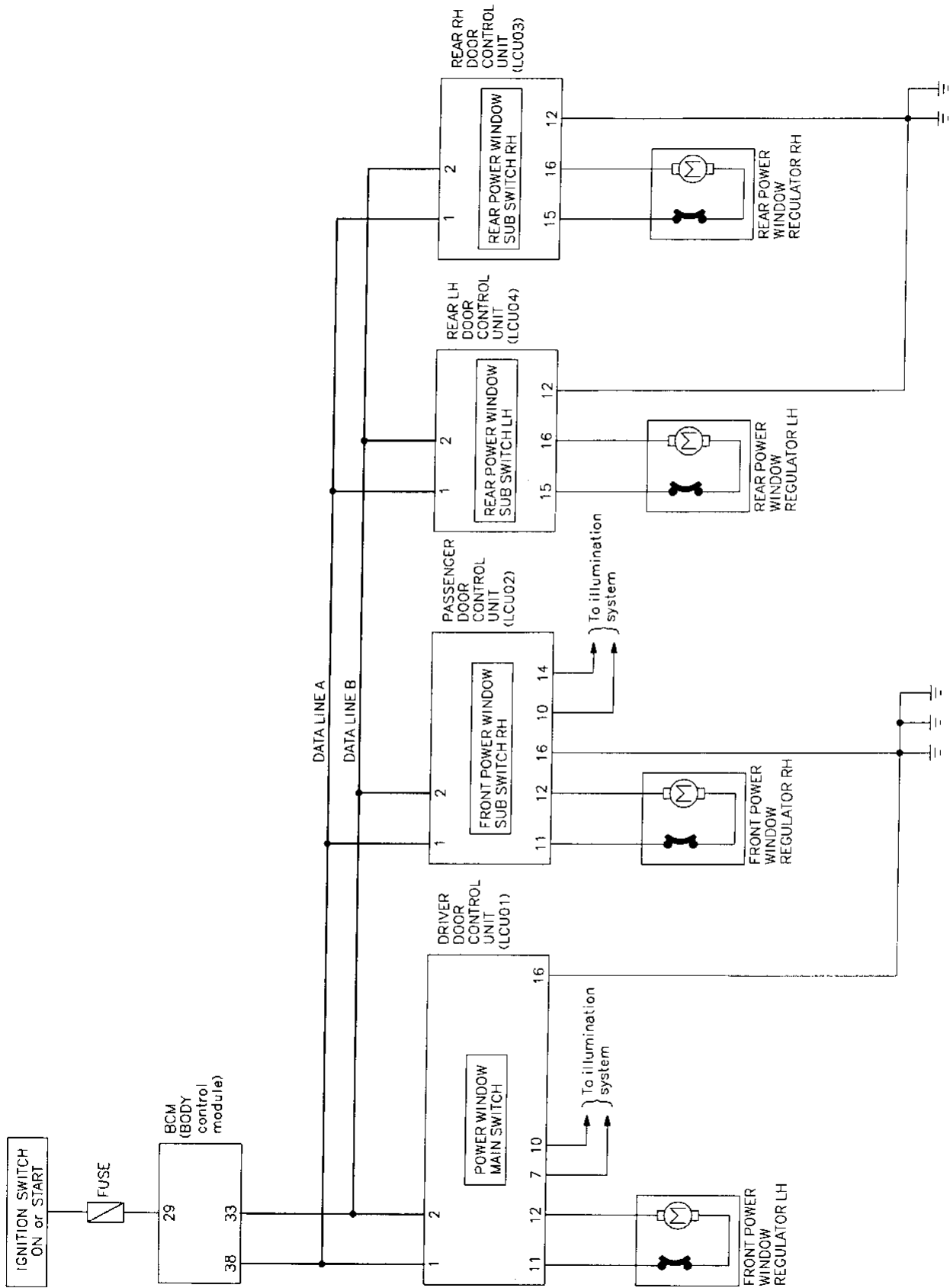
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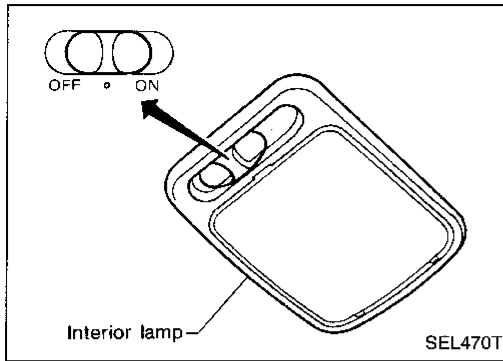
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Schematic



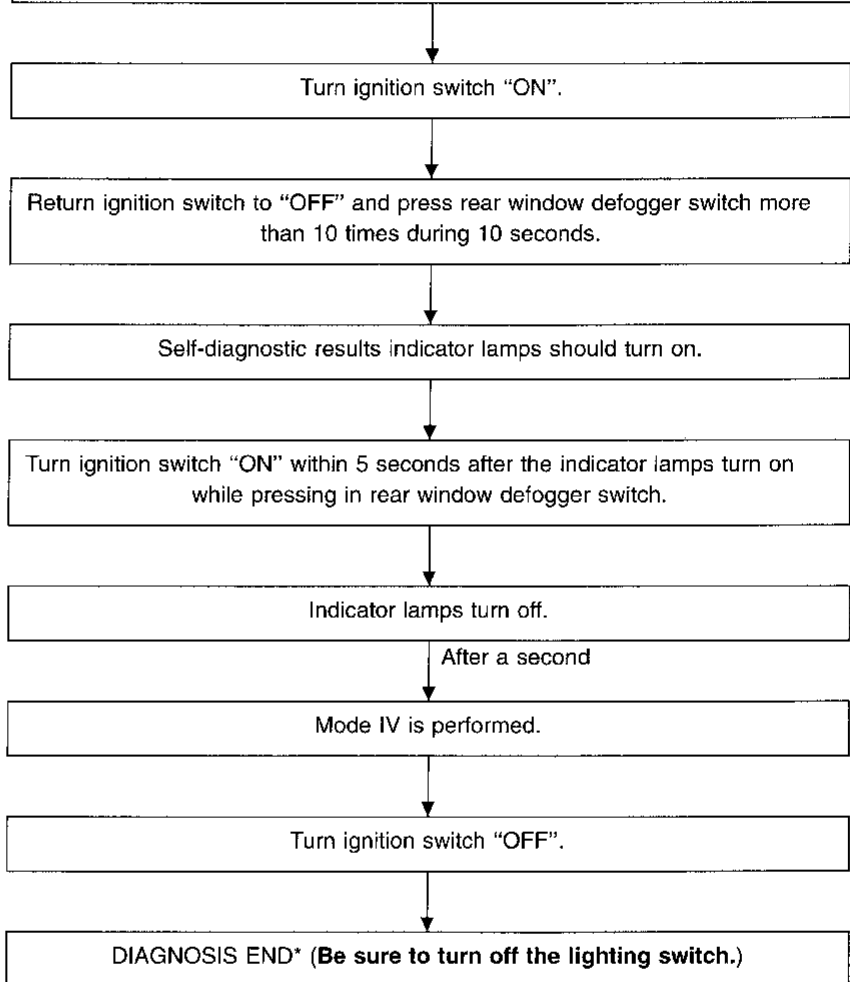


On-board Diagnosis — Mode IV (Power window monitor)

HOW TO PERFORM MODE IV

Condition

- Ignition switch: OFF
- Headlamp 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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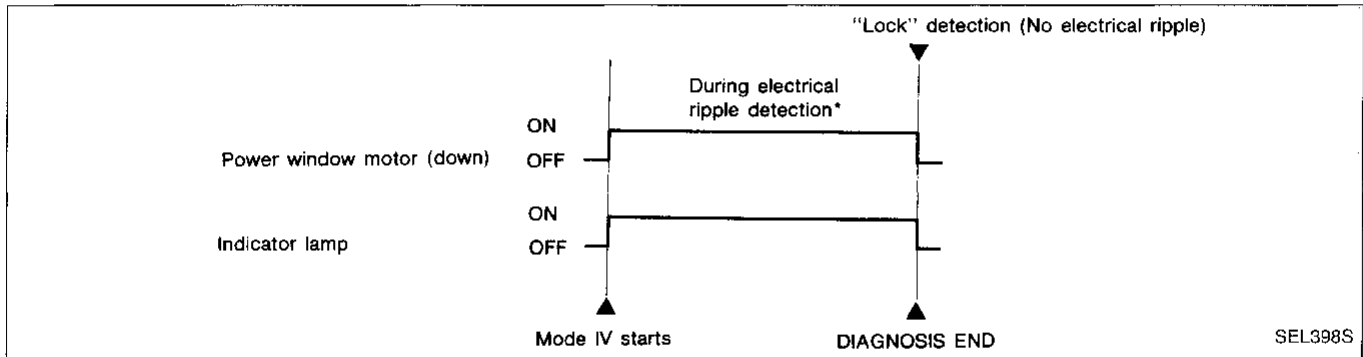
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POWER WINDOW — IVMS

On-board Diagnosis — Mode IV (Power window monitor) (Cont'd)

DESCRIPTION

In mode IV, front LH 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.



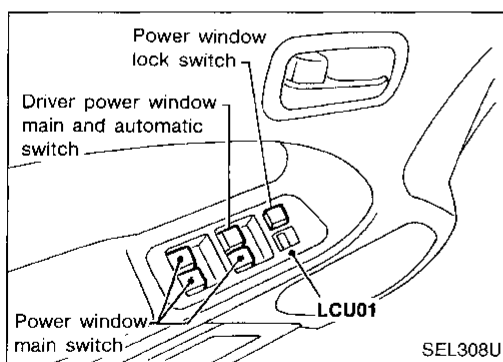
NOTE: As soon as manual switches (each seat's power window switch) turn ON, front LH power window motor (DOWN) stops and diagnosis ends.

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

Trouble Diagnoses

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 then release the switch.



SYMPTOM CHART

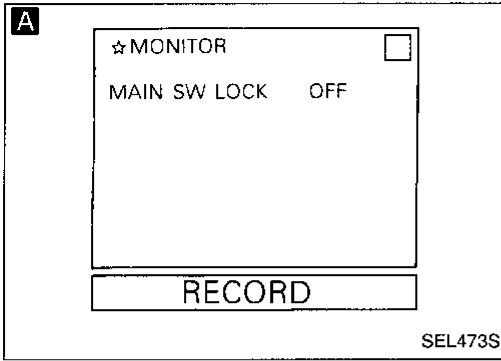
PROCEDURE	IVMS communication diagnosis		Power supply and ground circuit check		Diagnostic procedure			
	EL-160	EL-165	EL-183	EL-184	EL-194	EL-194	EL-195	EL-196
REFERENCE PAGE	EL-160	EL-165	EL-183	EL-184	EL-194	EL-194	EL-195	EL-196
SYMPTOM	CONSULT	On-board diagnosis (Mode I)	Ground circuit check	Power supply circuit check	Procedure 1 (Power window lock switch)	Procedure 2 (Power window main switch)	Procedure 3 (Power window sub-switch)	Procedure 4 (Power window regulator)
One or more of the sub-switches do not function.	X	X	X	X			X	X
One or more of the main switches on driver's door trim do not function (including automatic switch).	X	X	X	X		X		X
Power window lock switch on main switch does not lock and/or unlock all windows.	X	X	X	X	X			
All power window main switches and sub-switches do not function.	X	X	X	X	X	X	X	X

Perform "IVMS Communication Diagnosis", "Power Supply and Ground Circuit Check" before starting with power window diagnostic procedure.

POWER WINDOW — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1 — Power window lock switch



CHECK POWER WINDOW LOCK SWITCH CIRCUIT.

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.

OR

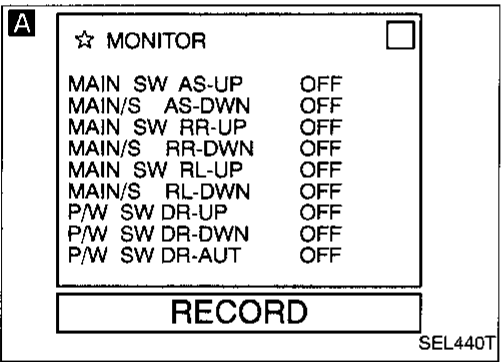
ON-BOARD

Check power window lock switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses, EL-167.)

NG → Replace LCU01.

OK ↓

Check IVMS communication (EL-160) and system operation again.



DIAGNOSTIC PROCEDURE 2 — Power window main switch (Driver side, Passenger side, Rear LH, RH)

CHECK DRIVER'S DOOR TRIM POWER WINDOW MAIN SWITCH CIRCUIT FOR MALFUNCTIONING PORTION.

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-167.)

NG → Replace LCU01.

OK ↓

Check IVMS communication (EL-160) and system operation again.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3 — Power window sub-switch (Passenger side, Rear LH, RH)


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


CHECK POWER WINDOW SUB-SWITCH CIRCUIT FOR MALFUNCTIONING PORTION.

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-167.)

↓ OK

Check IVMS communication (EL-160) and system operation again.

NG → Replace LCU for malfunctioning portion.

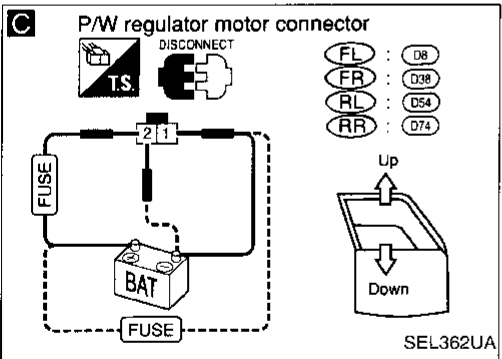
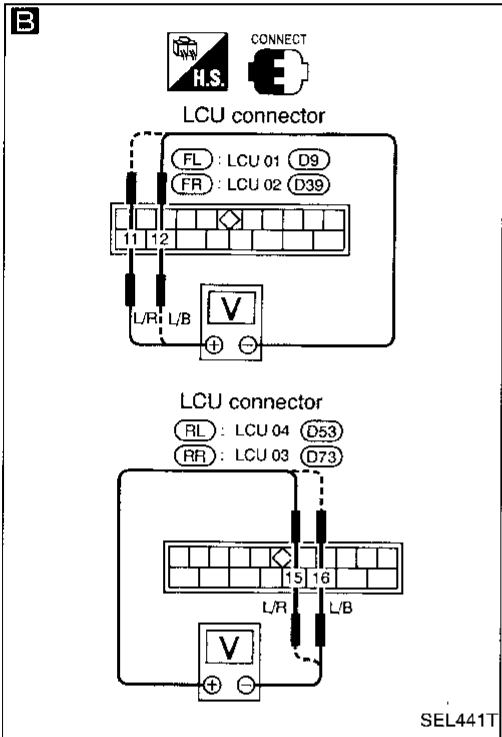
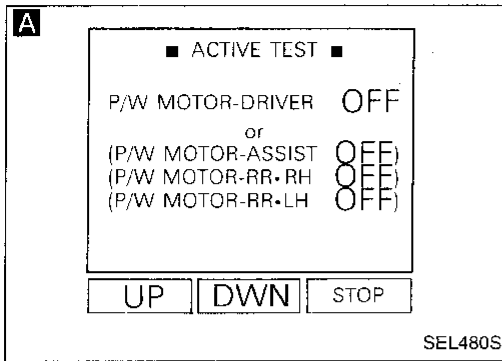
- Front RH: LCU02
- Rear LH: LCU04
- Rear RH: LCU03

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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4 — Power window regulator



A

CHECK POWER WINDOW REGULATOR CIRCUIT.

CONSULT

See "P/W MOTOR" in ACTIVE TEST mode.

Perform operation shown on display.

Power window motor should operate.

OR

OK → Power window regulator is OK.

ON-BOARD
(for driver window)

Check driver power window operation in driver power window operation (Mode IV). (Refer to On-board Diagnoses, EL-191.)

NOTE (except for driver window):
If **CONSULT** is not available, start with the diagnostic procedure **B**.

NG

B

Check voltage between LCU connector terminals ⑪ and ⑫, or/and ⑮ and ⑯.

Operation		Terminals		Voltage
		⊕	⊖	
Front (LCU01, LCU02)	Down	⑫	⑪	Battery voltage
	Up	⑪	⑫	
Rear (LCU03, LCU04)	Down	⑯	⑮	
	Up	⑮	⑯	

NG → Replace LCU for malfunctioning portion.

OK

C

Check power window motor operation.

Terminals		Operation
⊕	⊖	
①	②	Downward
②	①	Upward

NG → Replace power window motor.

OK

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

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 ⑳ through key switch terminal ② when key switch is in ON position (ignition key is inserted in the key cylinder).

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

- through 7.5A fuse [No. 12], located in the fuse block (J/B)
- to BCM terminal ㉑.

BCM terminal ㉒ is connected to driver door control unit (LCU01) terminal ①, passenger door control unit (LCU02) terminal ①, rear LH door control unit (LCU04) terminal ① and rear RH door control unit (LCU03) terminal ① by DATA LINE A.

Also, BCM terminal ㉓ is connected to driver door control unit (LCU01) terminal ②, passenger door control unit (LCU02) terminal ②, rear LH door control unit (LCU04) terminal ② and rear RH door control unit (LCU03) terminal ② by DATA LINE B.

Ground is supplied

- to BCM terminal ㉔ or ㉕
- 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 ㉖ and ㉗.

Ground is supplied

- to driver door control unit (LCU01) terminals ⑥, ⑤ or ④
- from front LH door key cylinder switch terminals ① or ②, or door unlock sensor (in the front LH door lock actuator) terminal ② when door key cylinder is in BETWEEN FULL STROKE AND N position
- through front LH door key cylinder switch terminal ④ or front LH door lock actuator terminal ④ and
- through body grounds ㉘ and ㉙.

Ground is supplied

- to rear LH door control unit (LCU04) or RH (LCU03) terminal ④
- from door unlock sensor (in the rear LH or RH door lock actuator) terminal ② when door lock is in UNLOCKED position
- through rear LH or RH door lock actuator terminal ④ and
- through body grounds ㉚ and ㉛.

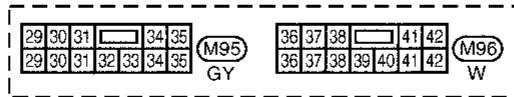
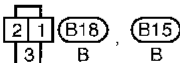
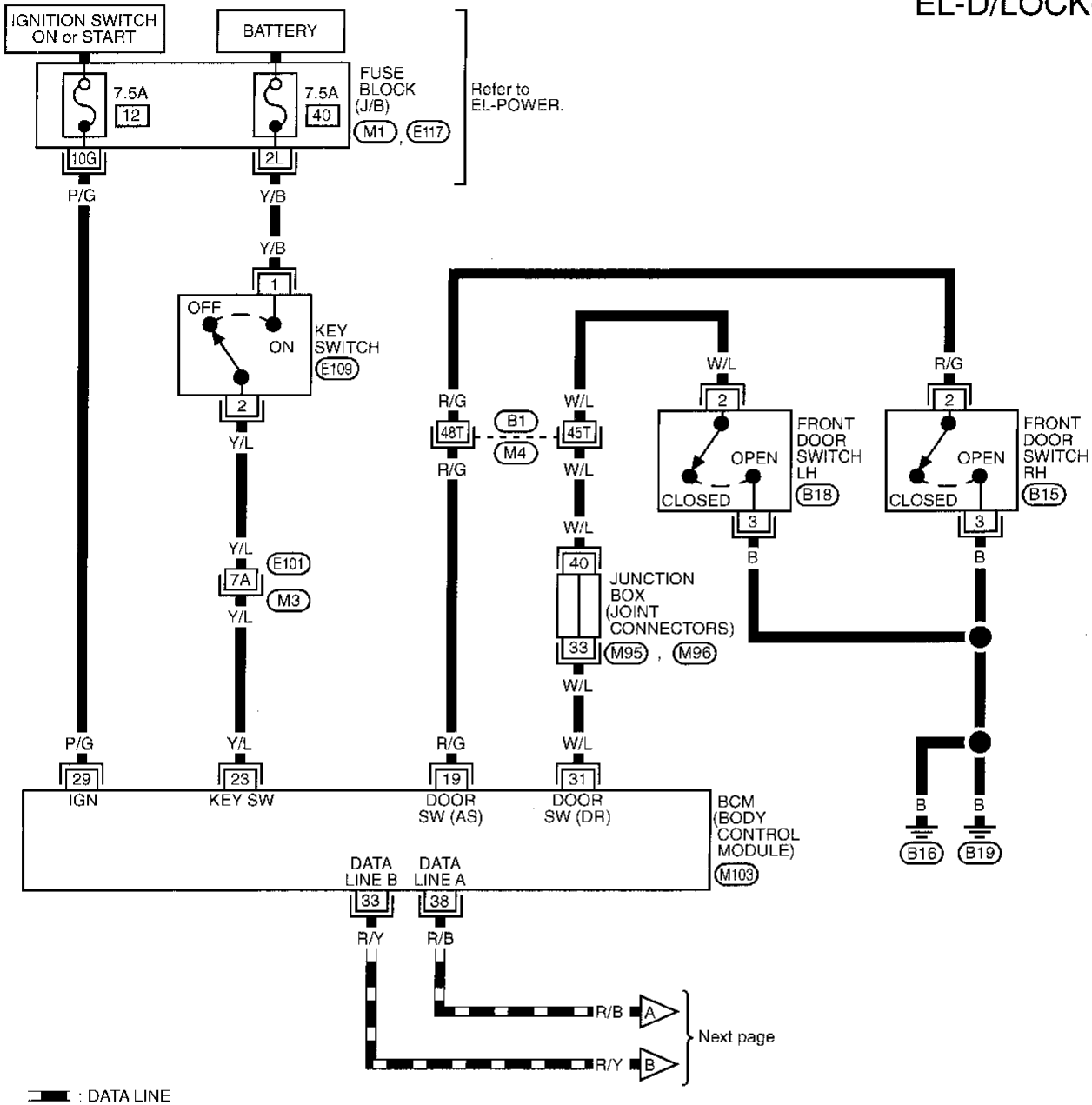
Ground is supplied

- to passenger door control unit (LCU02) terminals ⑥, ⑤ or ④
- from front RH door key cylinder switch terminals ① or ②, or door unlock sensor (in the front RH door lock actuator) terminal ② when door key cylinder is in BETWEEN FULL STROKE AND N position
- through front RH door key cylinder switch terminal ④ or front RH door lock actuator terminal ④ and
- through body grounds ㉜ and ㉝.

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Wiring Diagram — D/LOCK —

EL-D/LOCK-01



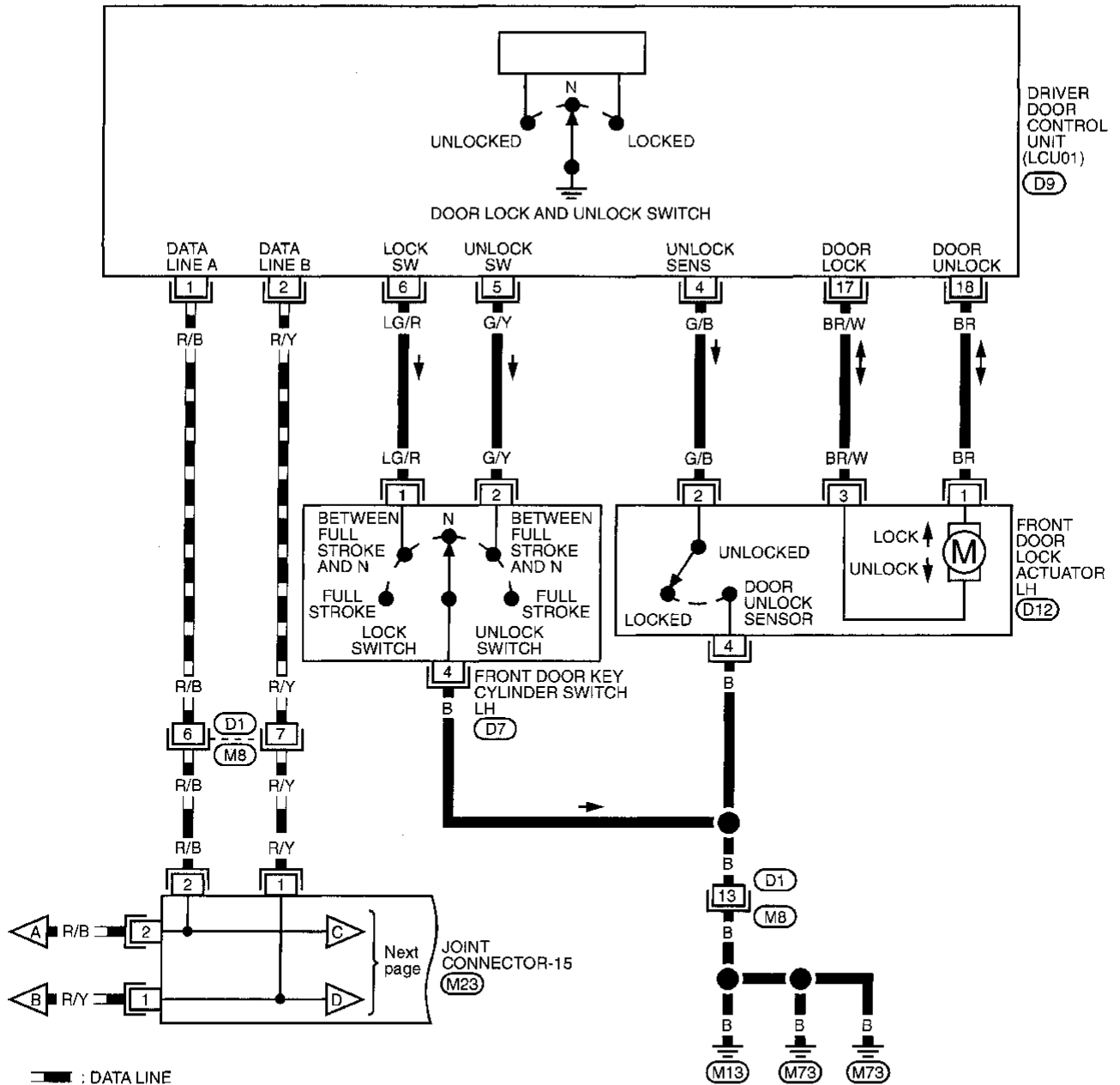
Refer to last page (Foldout page).

- (M1)
- (E117)
- (B1)
- (E101)
- (M95)
- (M96)
- (M103)
- (M4)
- (M3)

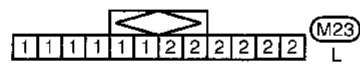
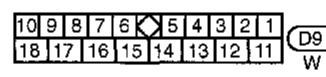
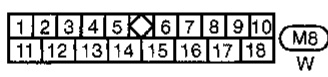
POWER DOOR LOCK — IVMS

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-02



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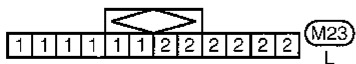
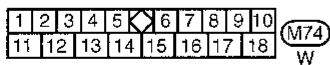
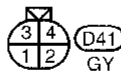
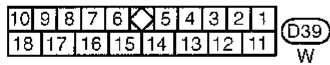
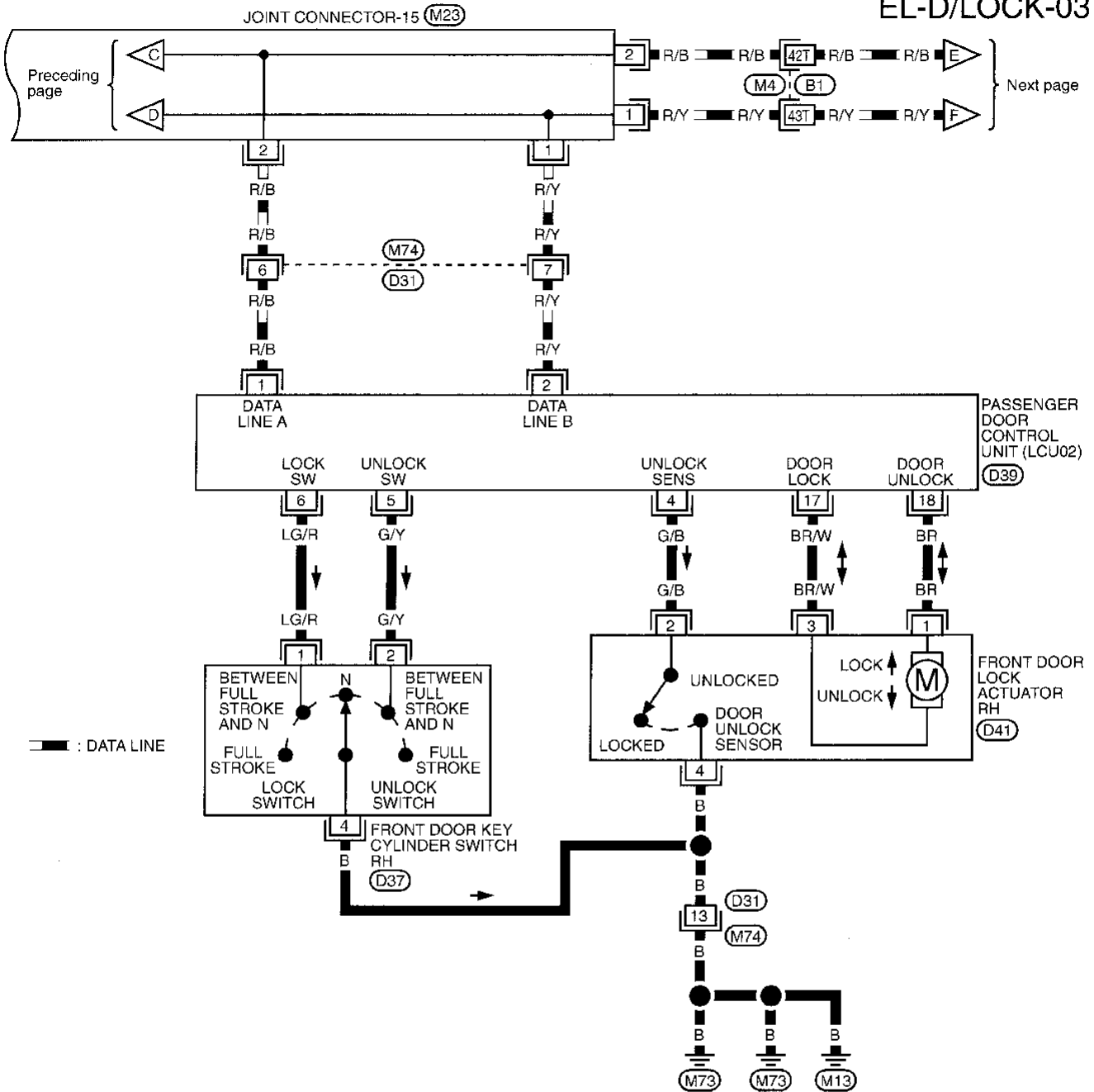
Refer to last page (Foldout page).

(M23)

POWER DOOR LOCK — IVMS

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-03



Refer to last page (Foldout page).

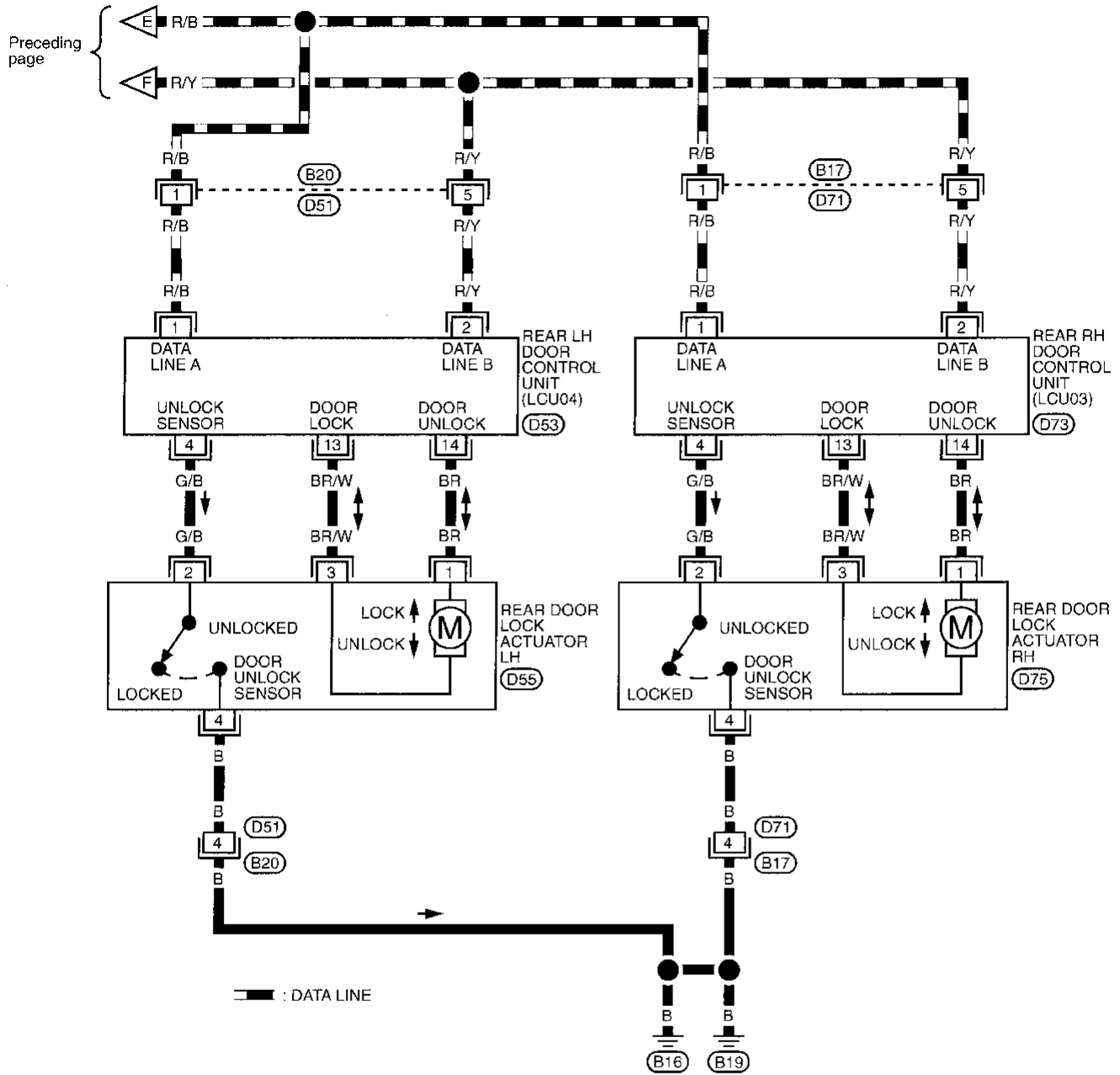
(M4), (B1)

(M23)

POWER DOOR LOCK — IVMS

Wiring Diagram — D/LOCK — (Cont'd)

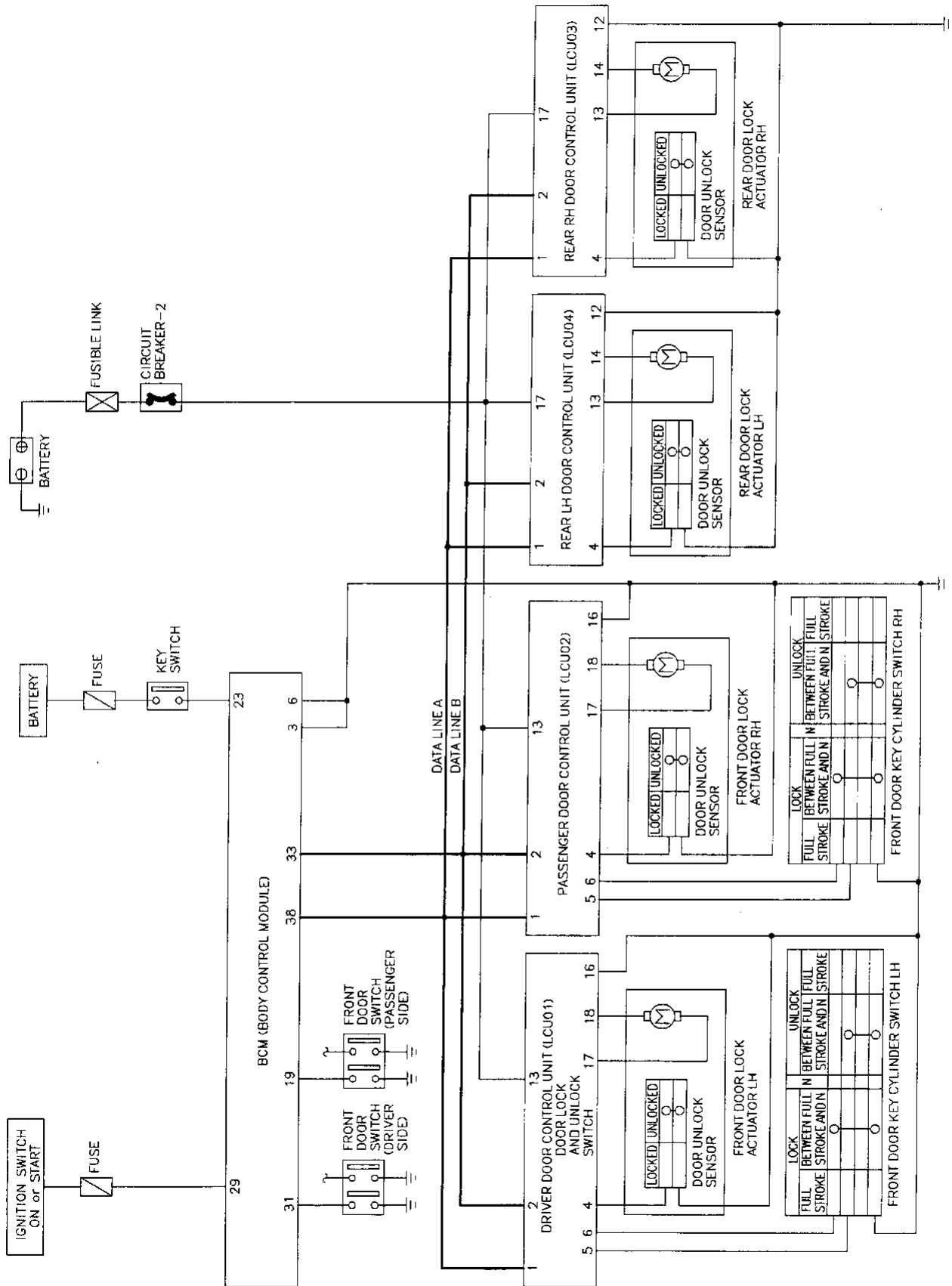
EL-D/LOCK-04

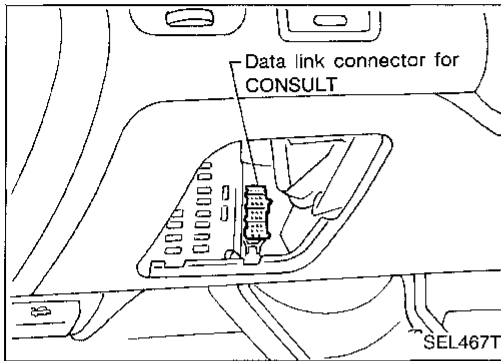


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POWER DOOR LOCK — IVMS

Schematic

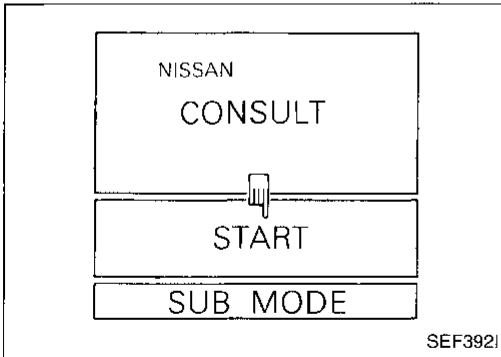




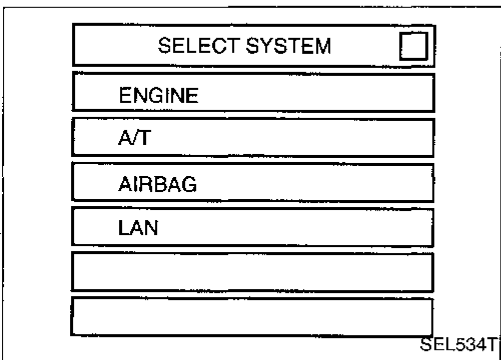
CONSULT

CONSULT INSPECTION PROCEDURE

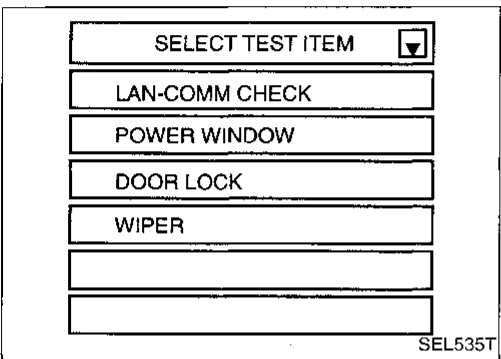
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to Data link connector.



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



5. Touch "LAN".



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

For further information, read the CONSULT Operation Manual.

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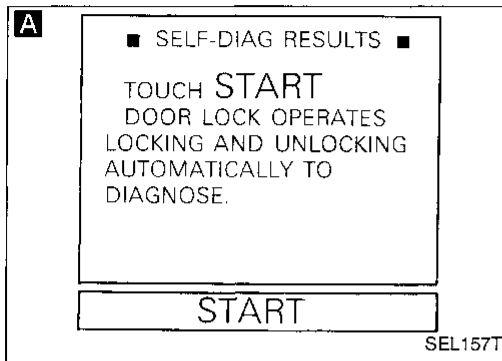
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POWER DOOR LOCK — IVMS

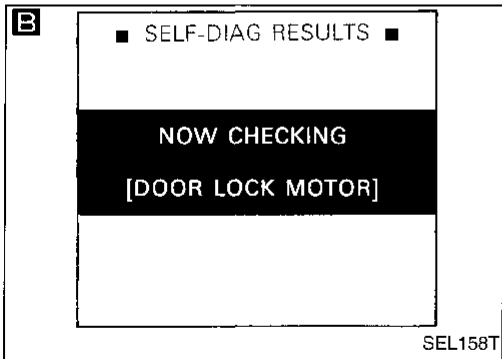
CONSULT (Cont'd)

POWER DOOR LOCK — Self-diagnostic results

Diagnostic procedure

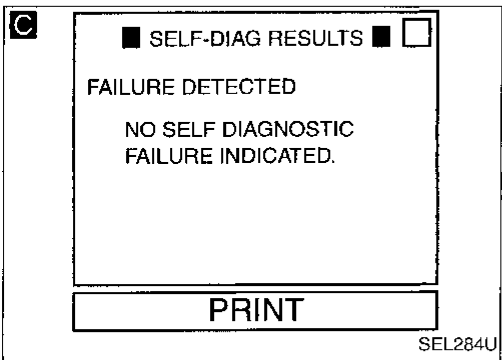


- A**
- 1) Choose "**DOOR LOCK**" in SELECT TEST ITEM.
 - 2) Touch "**SELF-DIAG RESULTS**" of SELECT DIAG mode.
 - 3) Touch "**START**".



B

Start self-diagnosis on all door motors. Lock and unlock all doors by operating door motors automatically.

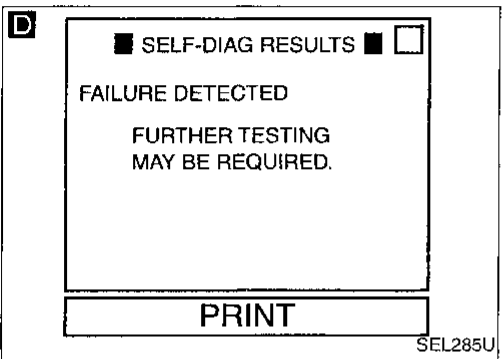


C D

Diagnostic contents are as shown in the figure at left.

C : When no malfunction is detected
D : When malfunction is detected

A summary of diagnostic results is given in the following chart.



POWER DOOR LOCK — IVMS

CONSULT (Cont'd)

Power door lock result list

Diagnostic item	Explanation	Repair order
*NO SELF DIAGNOSTIC FAILURE INDICATED/FURTHER TESTING MAY BE REQUIRED.**	Normal The door lock system is in good order.	—
DOOR LOCK MOTOR-DR	The circuit for the driver side door lock motor is malfunctioning.	1. Visually check the wiring harness connections. 2. Diagnose the door lock motor circuit referring to the DIAGNOSTIC PROCEDURES of "POWER DOOR LOCK — IVMS" (EL-208).
DOOR LOCK MOTOR-AS	The circuit for the passenger side door lock motor is malfunctioning.	
DOOR LOCK MOTOR-RR/RH	The circuit for the rear RH side door lock motor is malfunctioning.	
DOOR LOCK MOTOR-RR/LH	The circuit for the rear LH side door lock motor is malfunctioning.	

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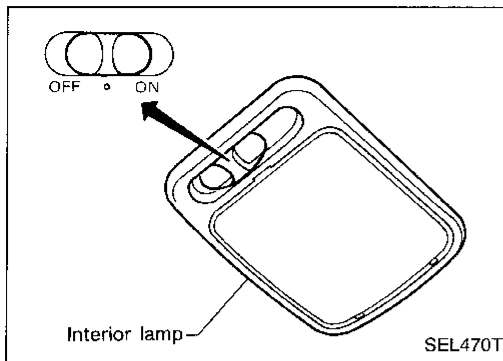
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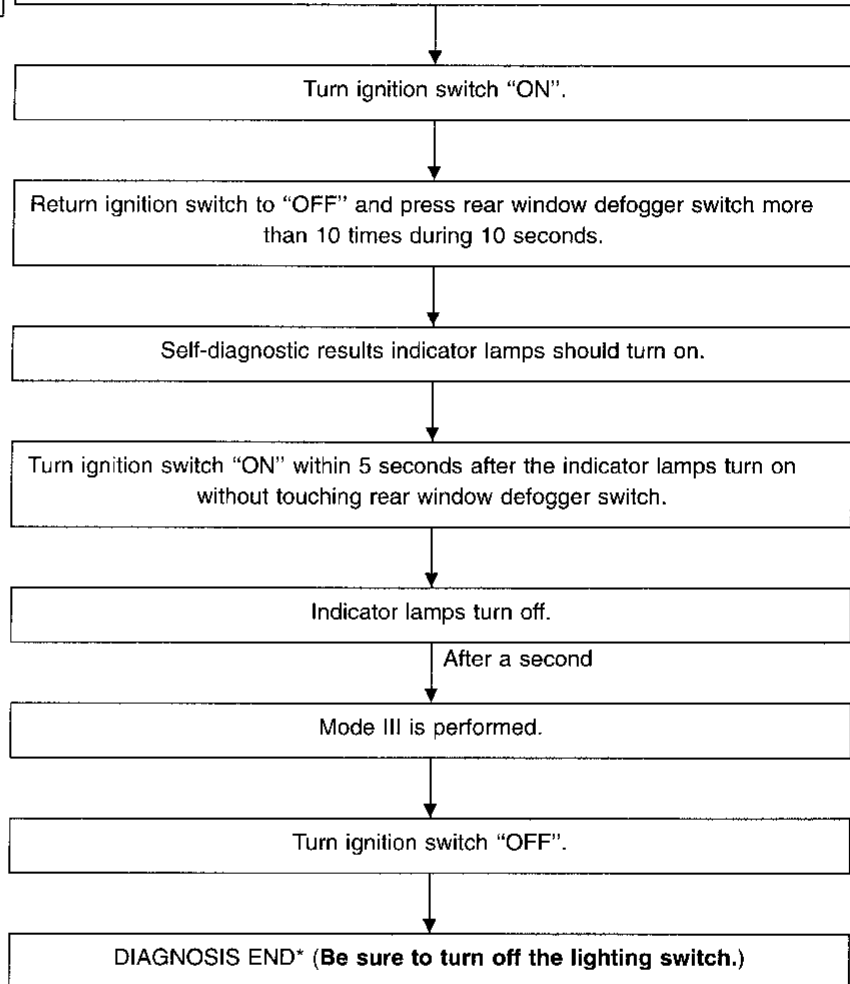


On-board Diagnosis — Mode III (Power door lock operation)

HOW TO PERFORM MODE III

Condition

- Ignition switch: OFF
- Headlamp switch 1st: ON
- Rear window defogger switch: OFF
- Doors: Closed
- Interior lamp: Center "○" position



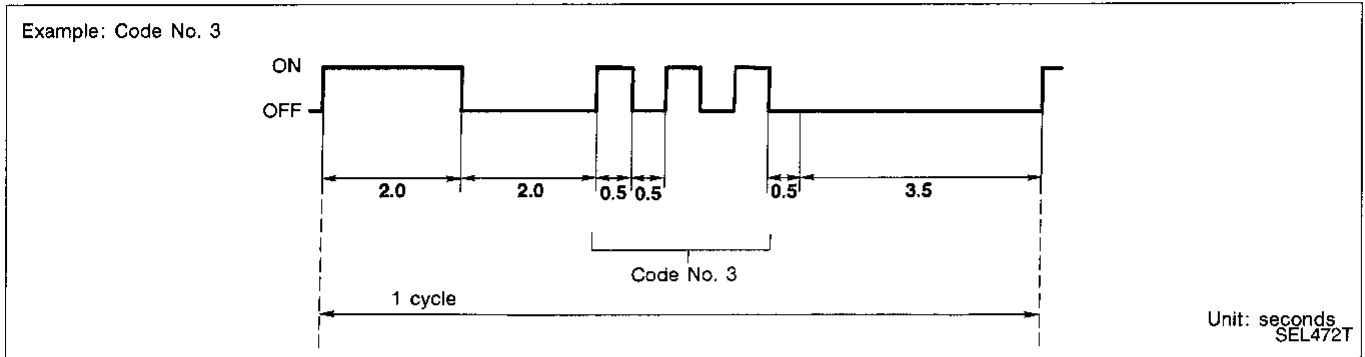
*: Diagnosis ends after self-diagnostic results have been indicated for 10 minutes if left unattended.

POWER DOOR LOCK — IVMS

On-board Diagnosis — Mode III (Power door lock operation) (Cont'd)

DESCRIPTION

In this mode, a malfunction code is indicated by the number of flashes from the interior lamp and front 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	Repair order
1	Front LH door lock motor circuit	1. Visually check the wiring harness connections. 2. Diagnose the door lock motor circuit referring to the DIAGNOSTIC PROCEDURES of "POWER DOOR LOCK — IVMS" (EL-208).
2	Front RH door lock motor circuit	
3	Rear RH door lock motor circuit	
4	Rear LH door lock motor circuit	
9	No malfunction in the above circuit	—

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Trouble Diagnoses

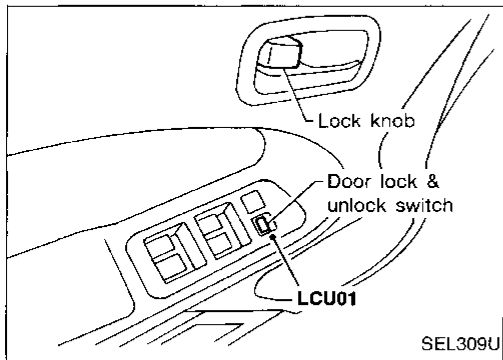
OPERATIVE CONDITION

- 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 steering 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)

If any of the following symptoms occur, key reminder door system is malfunctioning.

- With ignition key removed from the steering key cylinder and all doors closed, operating the lock & unlock switch or lock knob on the front LH or RH door trim unlocks all doors the instant they are locked.
- With ignition key inserted into the steering key cylinder and front LH or RH door opened, operating the lock & unlock switch or lock knob on the front LH or RH door trim to "Lock" does not unlock all doors.



POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

PROCEDURE	IVMS communication diagnosis		Power supply and ground circuit check		Self-diagnosis		Diagnostic procedure					
	EL-165	EL-165	EL-183	EL-184	EL-204	EL-206	EL-210	EL-211	EL-211	EL-212	EL-213	EL-214
SYMPTOM	CONSULT	On-board diagnosis (Mode I)	Ground circuit check	Power supply circuit check	CONSULT	On-board diagnosis (Mode III)	Procedure 1 (Door switch)	Procedure 2 (IGN key switch)	Procedure 3 (Lock & unlock switch)	Procedure 4 (Door key cylinder switch)	Procedure 5 (Door unlock sensor)	Procedure 6 (Door lock actuator)
Key reminder door system does not operate properly.	X	X	X	X	X	X	X	X			X	X
One or more doors are not locked and/or unlocked	X	X	X	X	X	X					X	X
Lock & unlock switch does not operate.	X	X	X	X	X	X			X			
None of the doors lock/unlock when operating door key cylinder switch.	X	X	X	X	X	X				X		
None of the doors lock when operating front door knob lock switch.	X	X	X	X	X	X					X	

Perform "IVMS Communication Diagnosis", "Power Supply and Ground Circuit Check" before starting with power door lock diagnostic procedure.

The following ABBREVIATIONS are used in this Trouble Diagnoses.

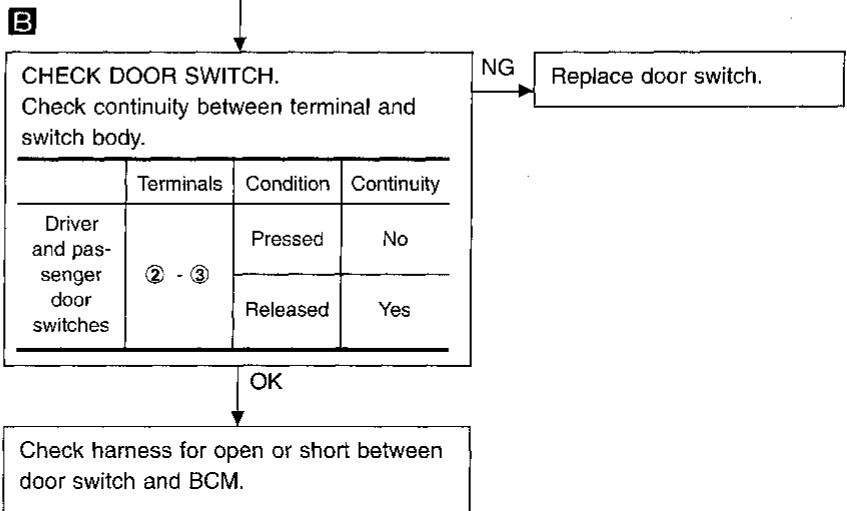
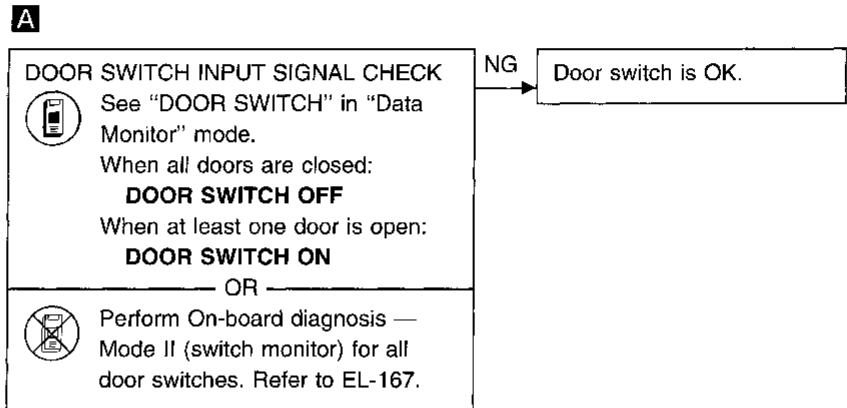
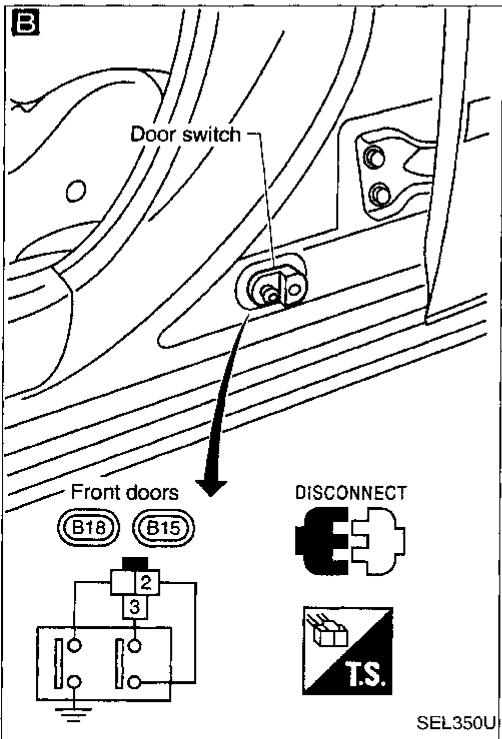
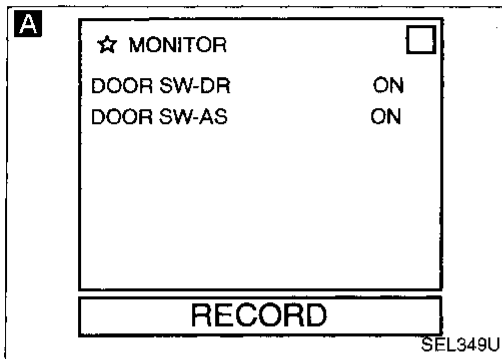
- FL**: Front LH
- FR**: Front RH
- RL**: Rear LH
- RR**: Rear RH

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POWER DOOR LOCK — IVMS

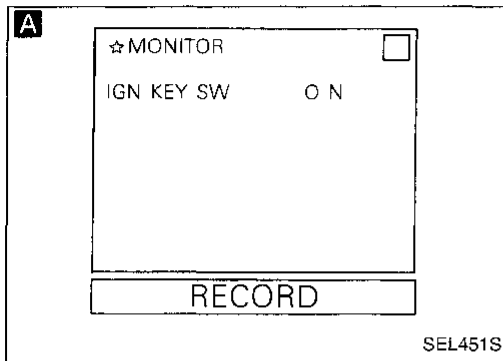
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1 — Door switch



Trouble Diagnoses (Cont'd)

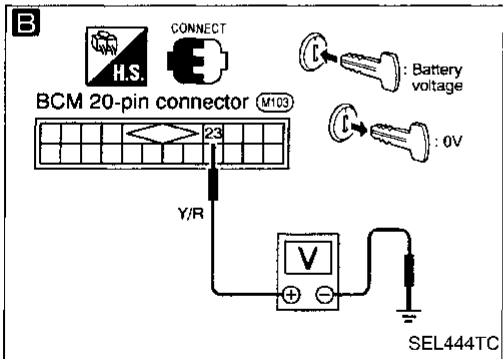
DIAGNOSTIC PROCEDURE 2 — Ignition key switch



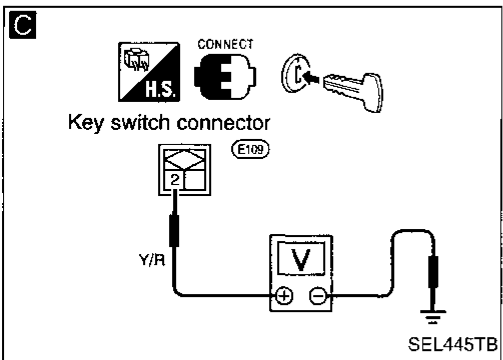
CHECK KEY SWITCH CIRCUIT. OK → Ignition key switch is OK.

A CONSULT
See "IGN KEY SW" in DATA MONITOR mode.
"IGN KEY SW" should be "ON" when IGN key is inserted in steering key cylinder.

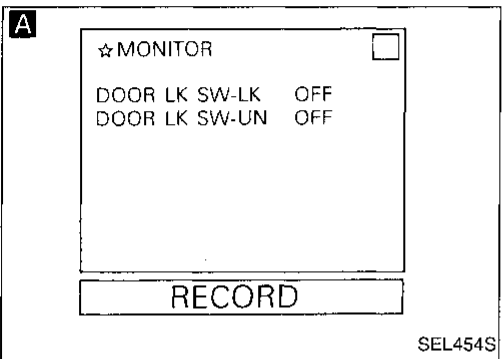
OR
B TESTER
Check voltage of the BCM connector terminal ② when key is inserted in steering key cylinder.
Battery voltage should exist.



NG
C Check voltage of key switch connector terminal ② when key is inserted in steering key cylinder.
Battery voltage should exist. OK → Repair harness between key switch and BCM connector.



NG
Check key switch unit and fuse circuit.



DIAGNOSTIC PROCEDURE 3 — Lock & unlock switch

CHECK DOOR LOCK & UNLOCK SWITCH CIRCUIT. OK → Lock & unlock switch is OK.

A CONSULT
See "DOOR LK SW-LK or UN" in DATA MONITOR mode.
These signals should be "ON" when door lock switch was operated.

OR
ON-BOARD
Check door lock & unlock switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses, EL-167.)

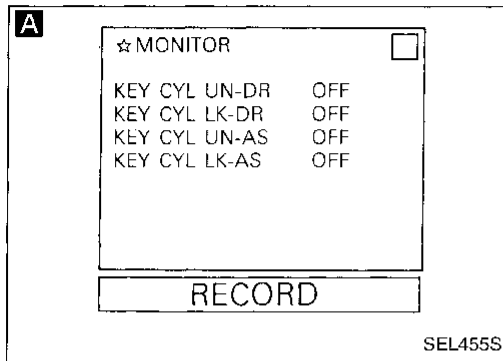
NG
Replace driver door control unit (LCU01).

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POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4 — Door key cylinder switch



CHECK DOOR KEY CYLINDER SIGNAL. OK →

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.)

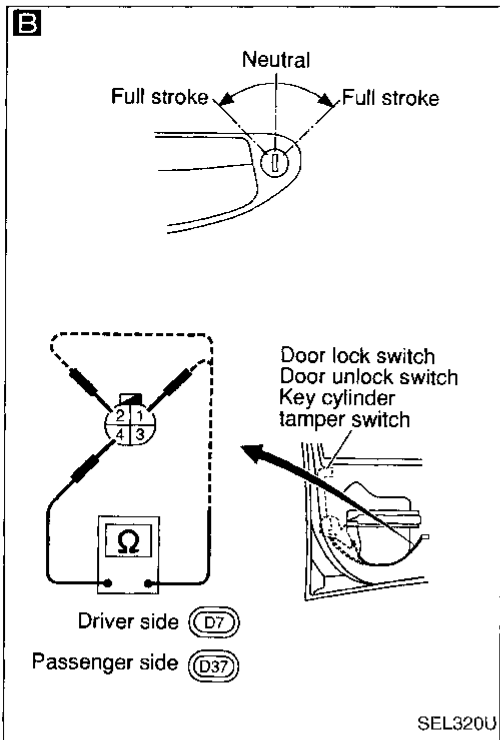
OR

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-167.)

Door key cylinder switch is OK.



B

CHECK DOOR KEY CYLINDER SWITCH. NG →

Terminals	Condition	Continuity
① - ④ ② - ④	Neutral	No
	Between locked and neutral	Yes
	Locked	No

OK ↓

Check harness for open or short between door key cylinder switch and LCU01/02.

Replace door key cylinder switch.

POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

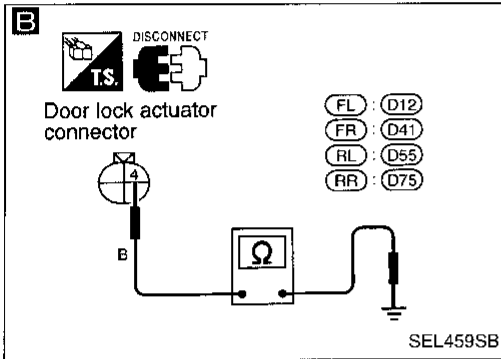
DIAGNOSTIC PROCEDURE 5 — Door unlock sensor

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 LOCK KNOB SWITCH CIRCUITS.

A CONSULT

See "LOCK SIG SW" in DATA MONITOR mode.

"LOCK SIG SW" should be "LOCK" when lock knob was locked.

OR

ON-BOARD

Check front door lock knob operation in Switch monitor (Mode II) mode.
(Refer to On-board Diagnoses, EL-167.)

OK → Door unlock sensor is OK.

NG

1) Disconnect LCU connector and door lock actuator connector.
2) Check harness for open or short between LCU connector terminal ④ and door lock actuator connector terminal ②.

NG → Repair harness.

OK

B

CHECK GROUND CIRCUIT FOR FRONT LH OR RH LOCK KNOB SWITCH.
Check harness continuity between door lock actuator connector harness terminal ④ and body ground.
Continuity should exist.

NG → Repair ground harness.

OK

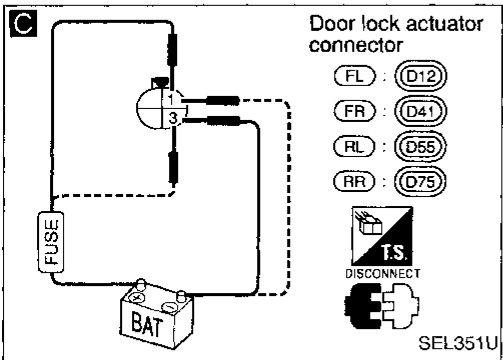
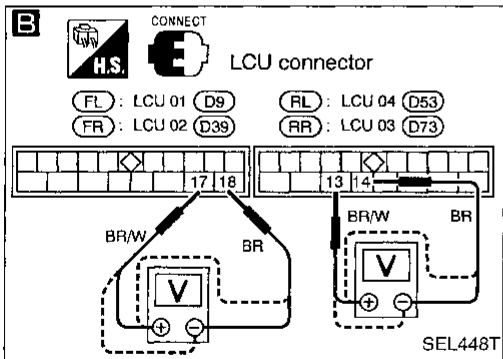
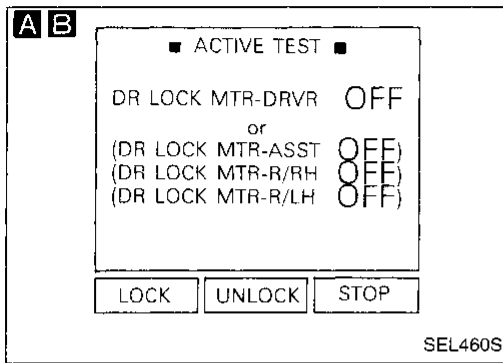
Replace front door lock actuator.

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POWER DOOR LOCK — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6 — Door lock actuator



A

CHECK DOOR LOCK MOTOR OPERATION.

CONSULT

See "DR LOCK MTR" in ACTIVE TEST mode.
*Perform operation shown on display.
Door lock motor should operate.

NOTE:
If CONSULT is not available, start with the diagnostic procedure **B**.

OK → Door lock actuator is OK.

*: When conducting the active test on the driver and passenger side, door lock motors switch between the "LOCK", "UNLOCK" and "STOP" positions at intervals of more than two seconds.

NG

B

Check voltage between LCU connector terminals ⑰ and ⑱, or/and ⑲ and ⑳.

Door lock operation	Terminals		Voltage
	⊕	⊖	
Front Lock (FL)	⑰	⑱	Battery voltage
Front Unlock (FR)	⑲	⑰	
Rear Lock (RL)	⑲	⑳	
Rear Unlock (RR)	⑳	⑲	

NG → Replace LCU for malfunctioning portion.

OK

C

CHECK DOOR LOCK ACTUATOR.

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

NG → Replace door lock actuator.

OK

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

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 11 .

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 .

Theft warning lamp relay terminal ② is connected to BCM terminal 13 .

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 terminal ⑤

BCM is connected to Multi-remote control unit, driver door control unit, passenger door control unit, rear LH door control unit and rear RH door control unit as DATA LINES A and B.

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 23 .

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

- to BCM terminal 21
- 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 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 .

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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

OPERATING PROCEDURE

Multi-remote control unit 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 and B.

Power door lock operation

Multi-remote control unit is connected to BCM, driver door control unit, passenger door control unit and rear LH/RH door control units as DATA LINES A and B.

- 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 will then send a LOCK signal

- from its terminals ① and ③ (DATA LINES A and B)
- to each door control unit terminal ① and ②

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

- to multi-remote control relay-1 terminal ②
- through BCM terminal ⑩.

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.

For detailed description, refer to "POWER DOOR LOCK — IVMS" (EL-197).

Trunk lid opener operation

Ground is supplied

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

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

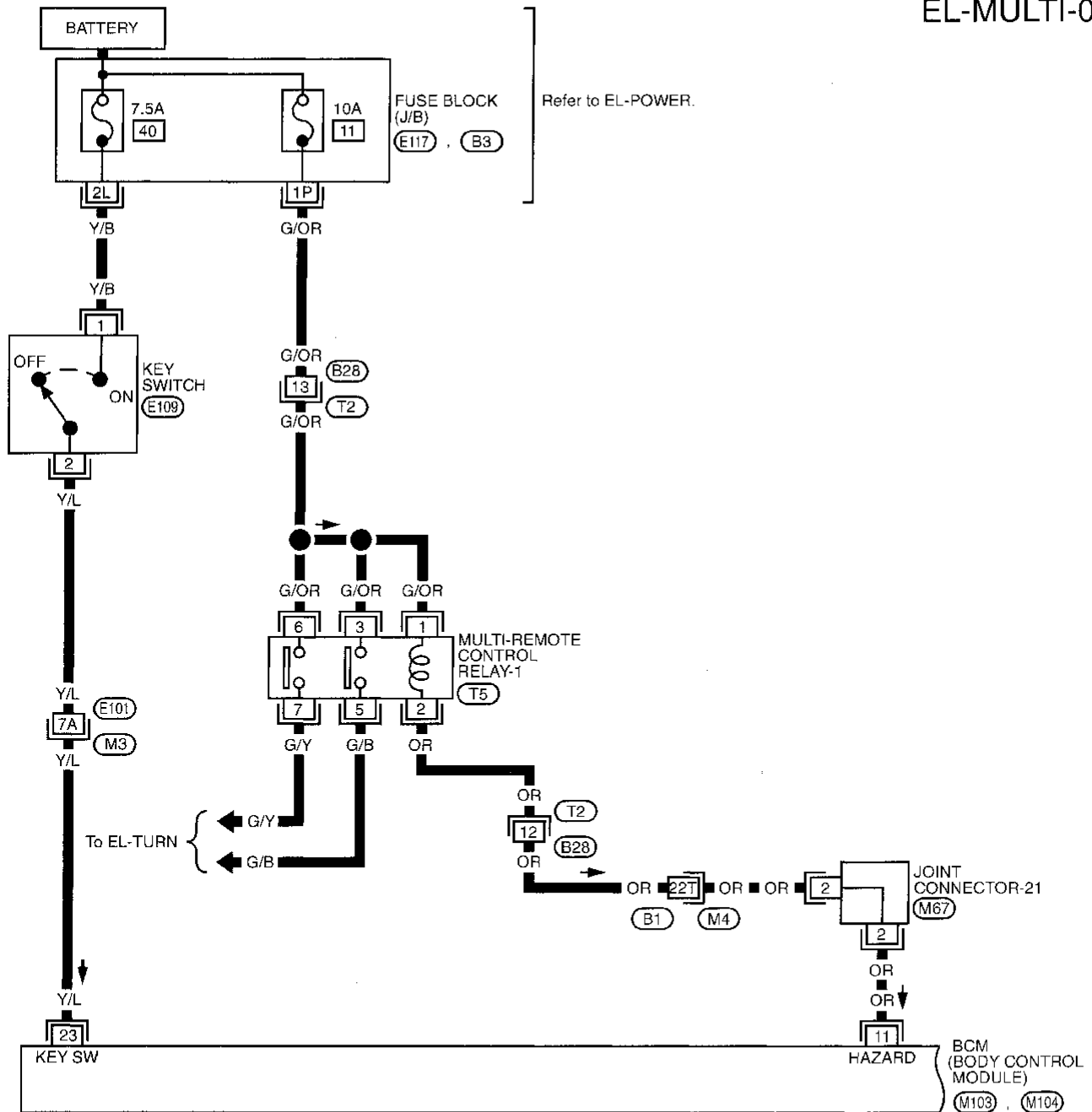
Panic alarm operation

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

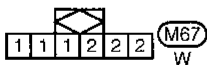
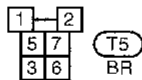
For detailed description, refer to "THEFT WARNING SYSTEM — IVMS" (EL-245).

Wiring Diagram — MULTI —

EL-MULTI-01



GI
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BS
BT



Refer to last page (Foldout page).

M3, E101

M4, B1

M67

M103

M104

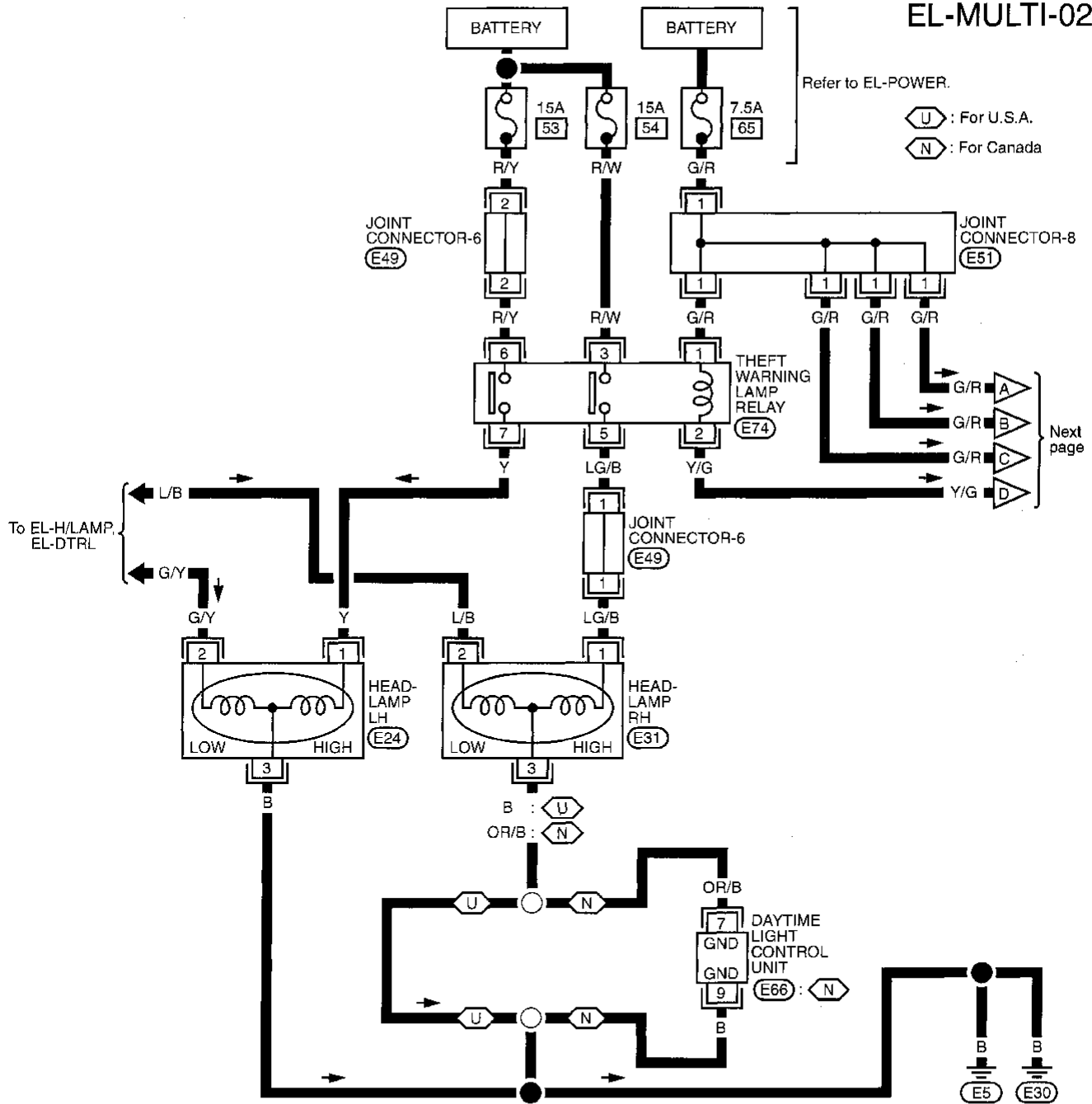
E117, B3

HA
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ICX

MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI — (Cont'd)

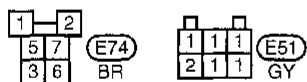
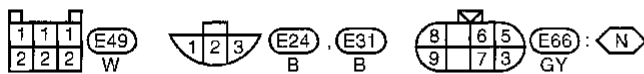
EL-MULTI-02



Refer to EL-POWER.

U : For U.S.A.
N : For Canada

Next page



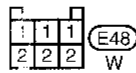
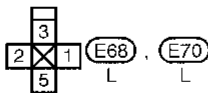
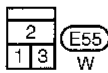
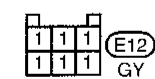
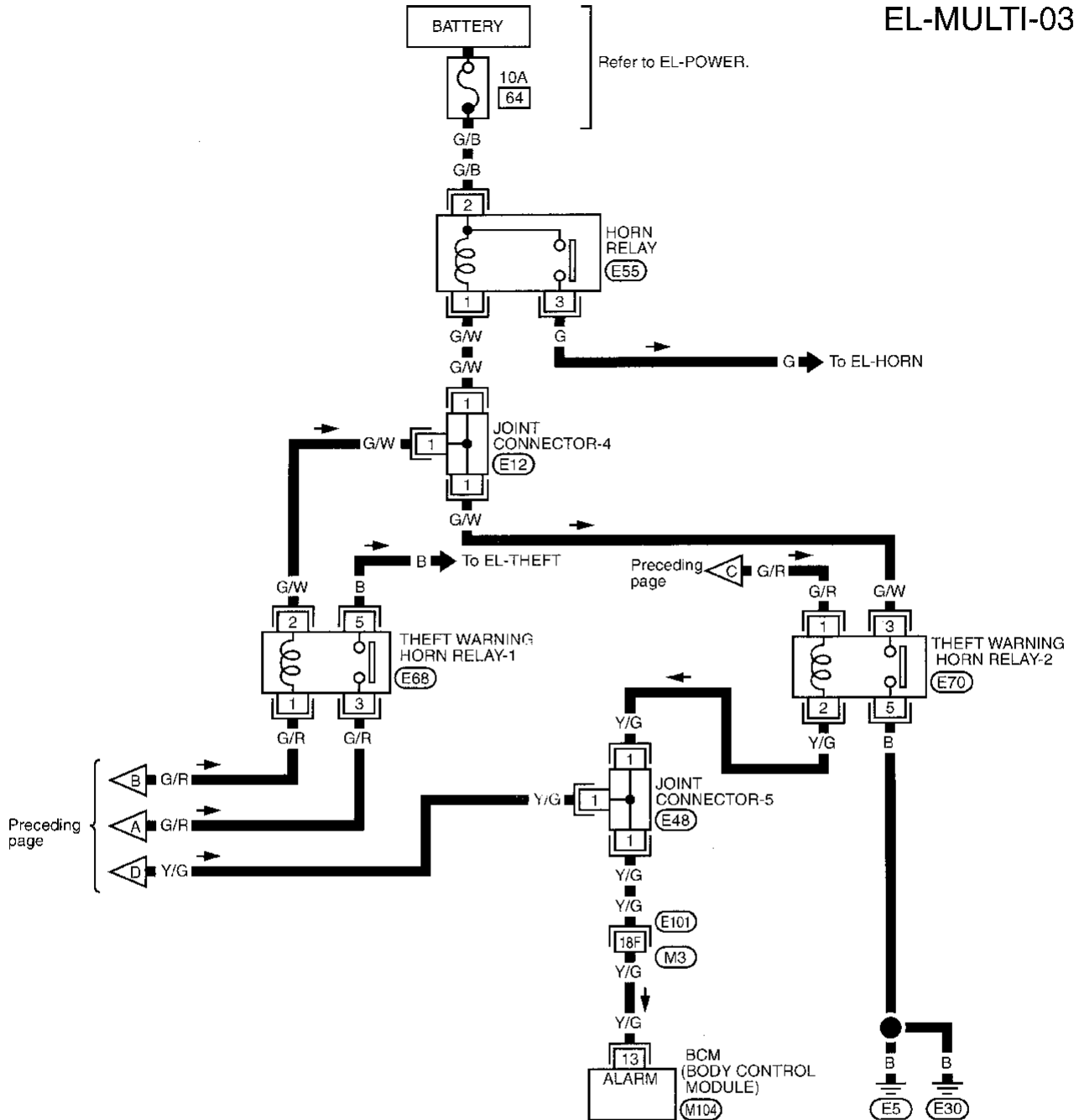
Refer to last page (Foldout page).

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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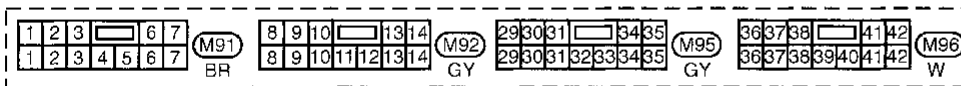
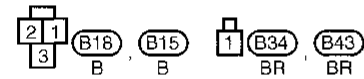
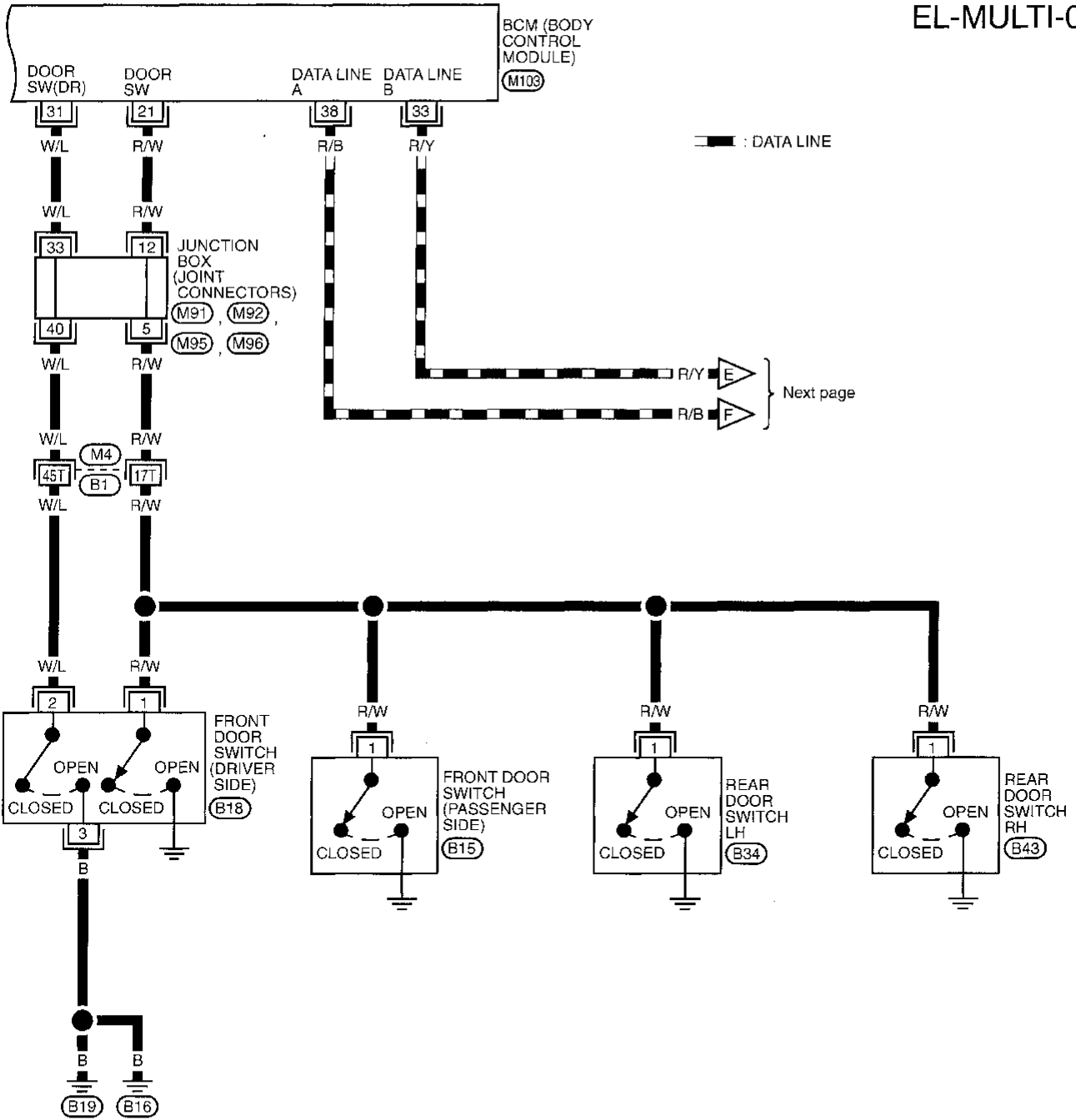
EL

IDX

MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI — (Cont'd)

EL-MULTI-04

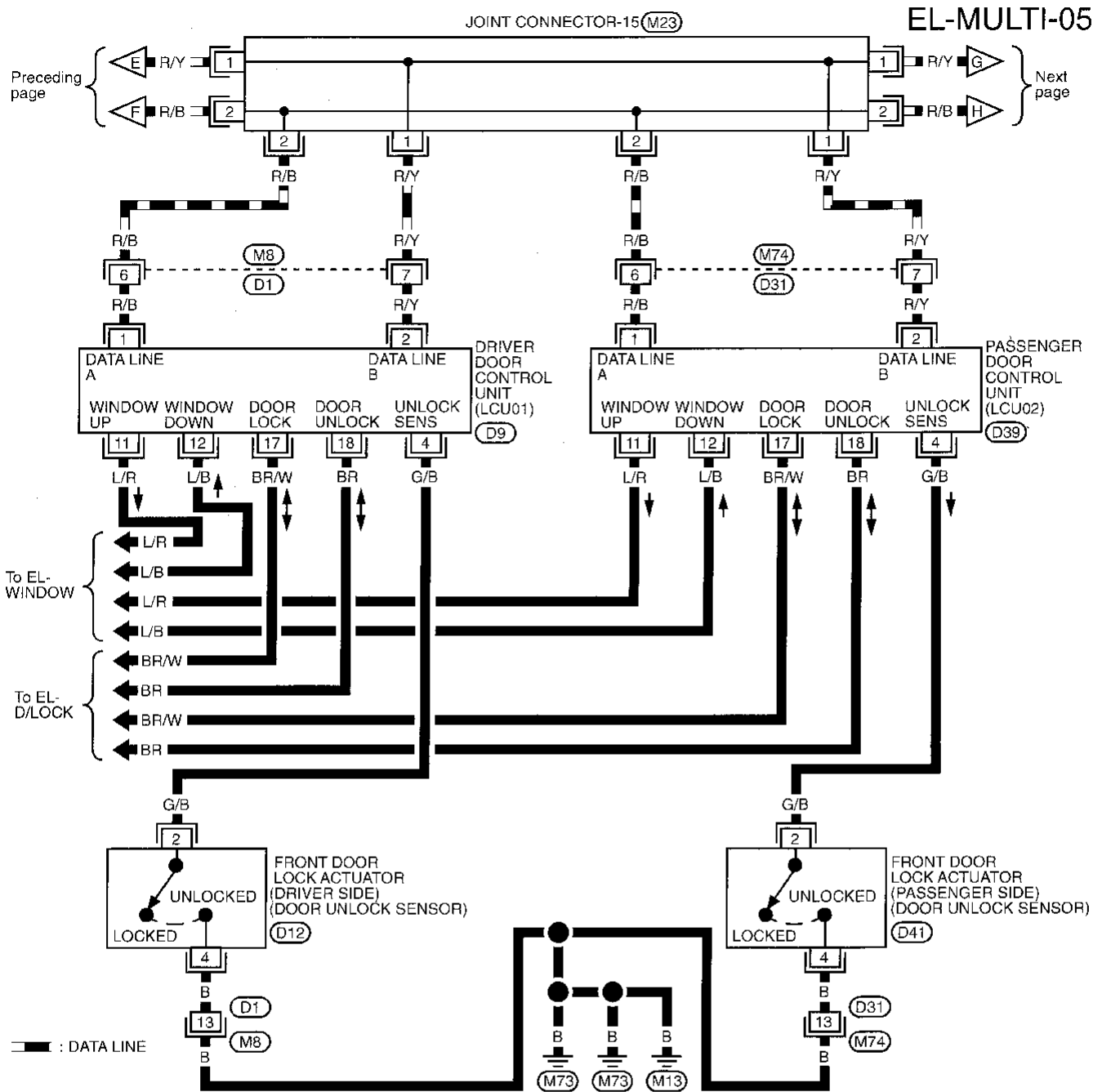


Refer to last page (Foldout page).

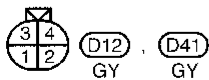
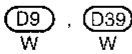
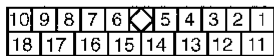
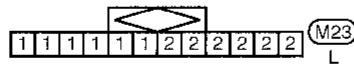
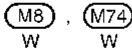
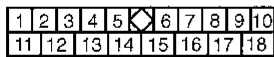
- (M4) (B1)
- (M91)
- (M92)
- (M95)
- (M96)
- (M103)

MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI — (Cont'd)



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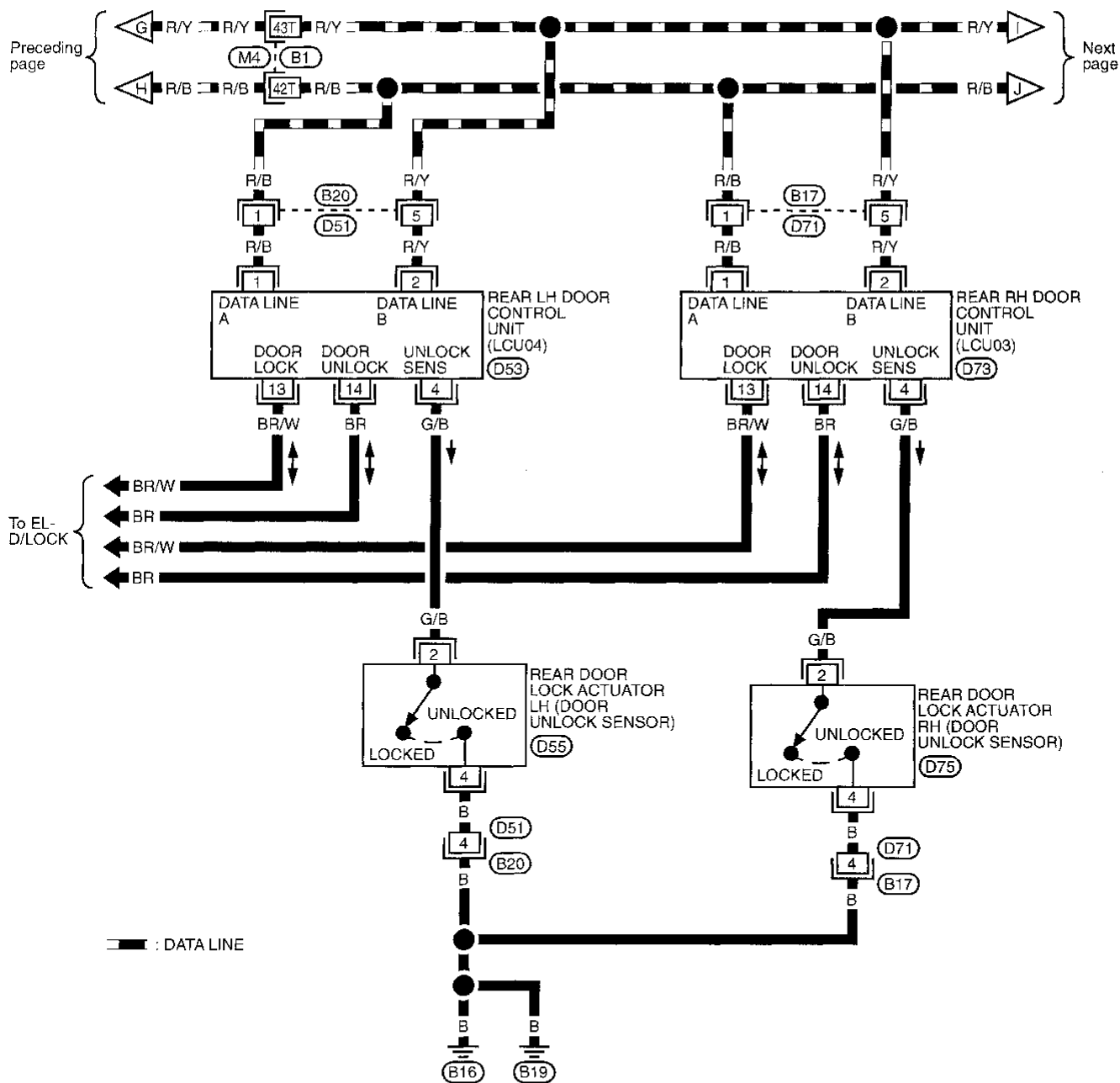


Refer to last page (Foldout page).
(M23)

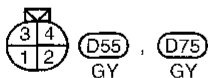
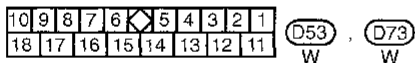
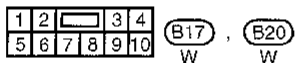
MULTI-REMOTE CONTROL SYSTEM — IVMS

Wiring Diagram — MULTI — (Cont'd)

EL-MULTI-06



--- : DATA LINE

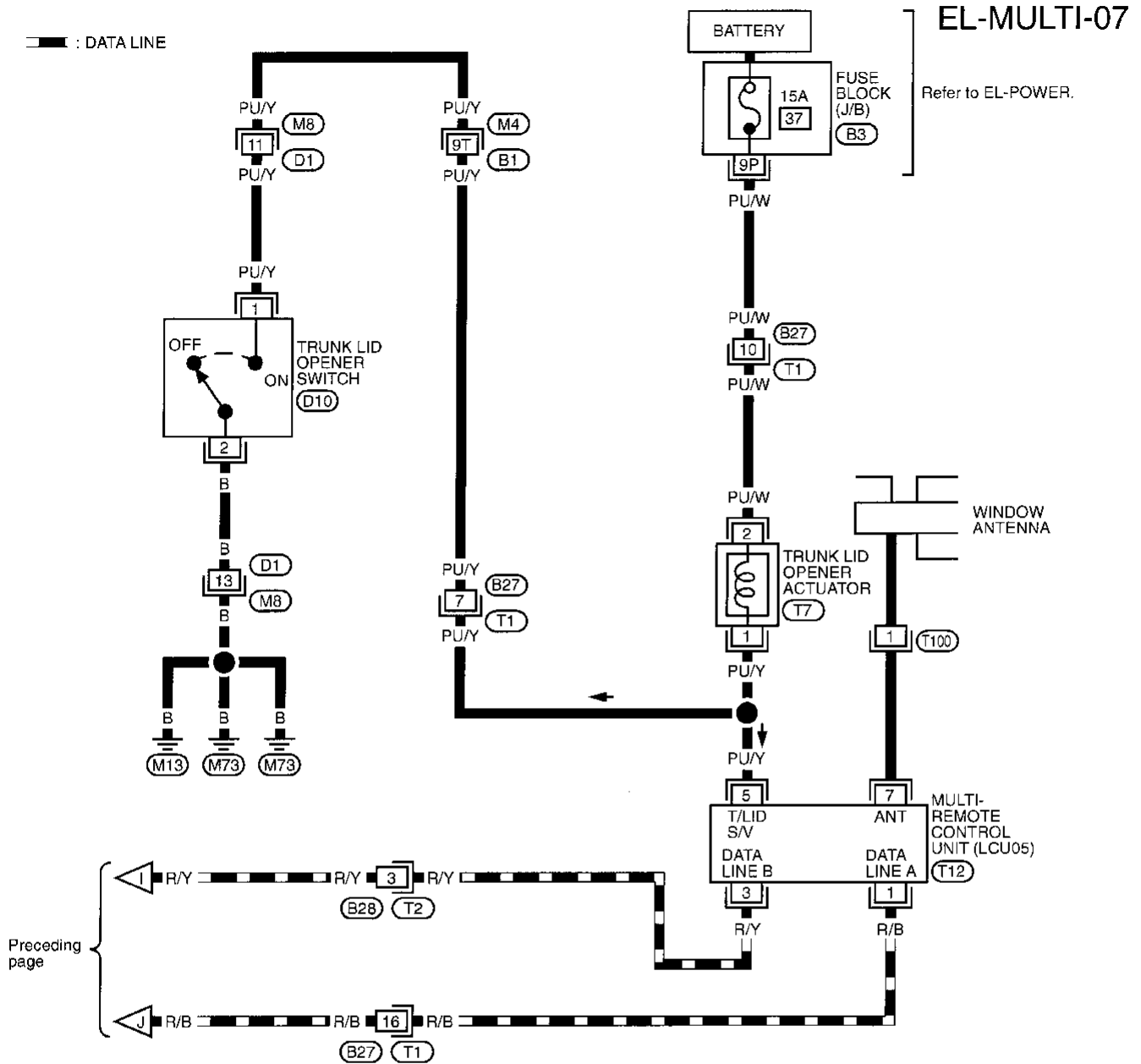


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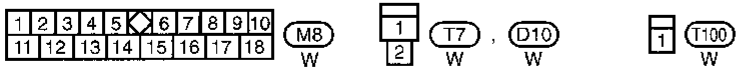
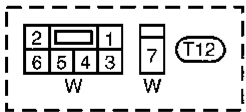
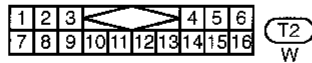
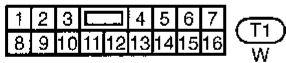
(M4) (B1)

MULTI-REMOTE CONTROL SYSTEM — IVMS

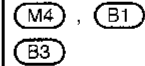
Wiring Diagram — MULTI — (Cont'd)



Preceding page

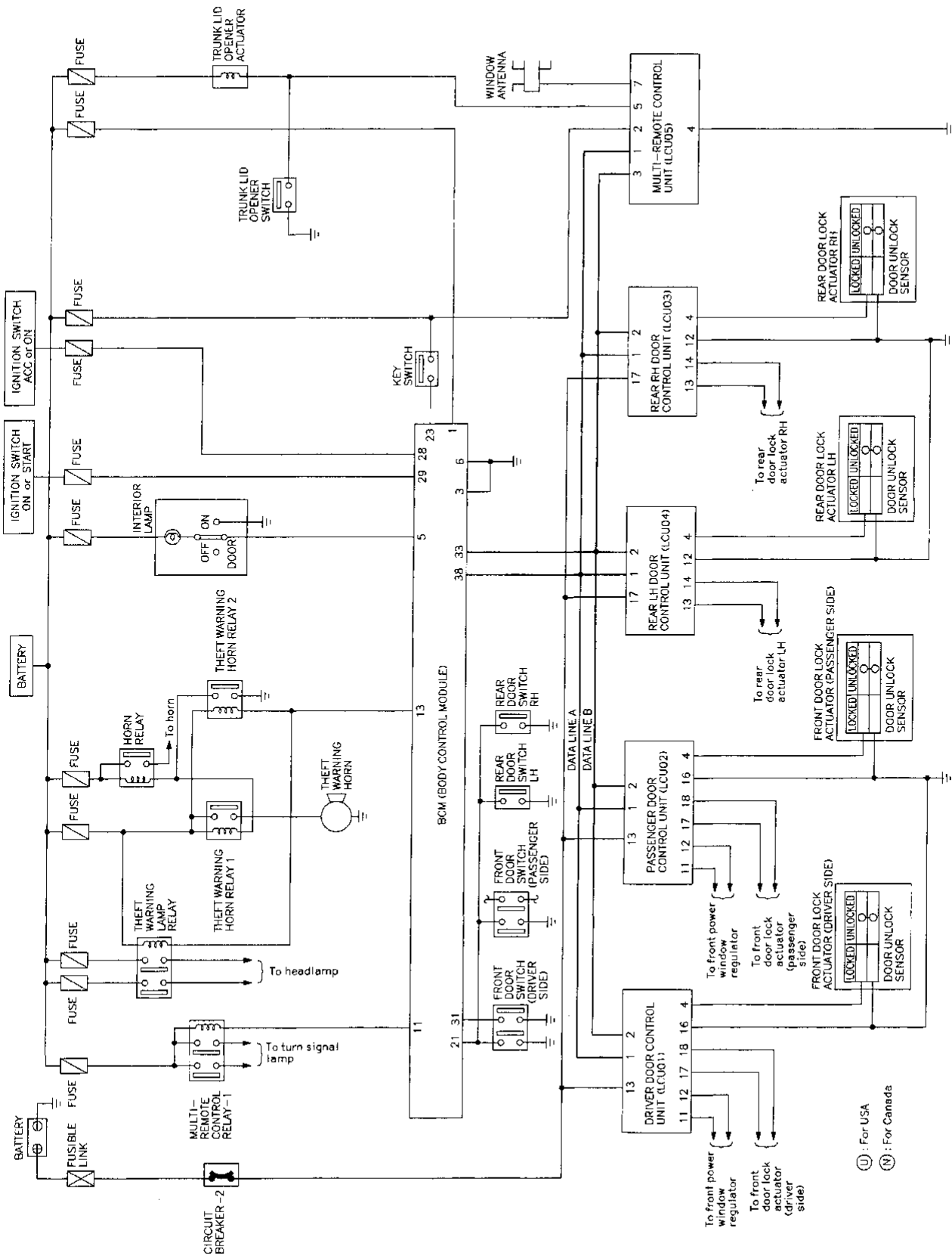


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- EC
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- BR
- ST
- RS
- BT
- HA
- EL**
- IDX

Schematic



MULTI-REMOTE CONTROL SYSTEM — IVMS

Trouble Diagnoses

SYMPTOM CHART

PROCEDURE	IVMS communication diagnosis		Power supply and ground circuit check		Diagnostic procedure							
	EL-160	EL-165	EL-183	EL-184	EL-226	EL-227	EL-228	EL-228	EL-229	EL-208	EL-256	EL-193
SYMPTOM	CONSULT	On-board diagnosis (Mode I)	Ground circuit check	Power supply circuit check	Diagnostic procedure 1	Diagnostic procedure 2	Diagnostic procedure 3	Diagnostic procedure 4	Diagnostic procedure 5	Check "POWER DOOR LOCK" system.	Check "THEFT WARNING" system.	Check "POWER WINDOW" system.
All functions of remote control system do not function.	X	X	X	X	X	X						
Door lock or unlock does not function.	X	X	X	X						X		
Panic alarm does not activate when panic alarm button is continuously pressed for more than 1.5 seconds.	X	X	X	X							X	
Front power windows do not lower when door lock button is continuously pressed for more than 1.5 seconds.	X	X	X	X								X
Trunk lid does not open when trunk open button is continuously pressed more than 0.5 seconds.	X	X	X	X			X	X				
Hazard reminder does not activate.									X			

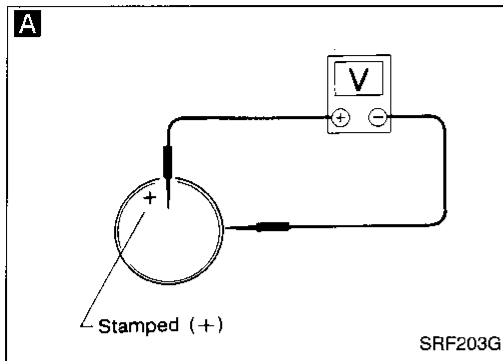
Perform "IVMS Communication Diagnosis", "Power Supply and Ground Circuit Check" before starting with multi-remote control system diagnostic procedure.

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

MULTI-REMOTE CONTROL SYSTEM — IVMS

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 ⊖	3V or more

NG

Replace battery.

OK

Enter the Identity (ID) code of another remote controller and recheck operation to see if the trouble is indicated.
(Refer to Replacing Remote Controller, EL-230.)

NG

Go to DIAGNOSTIC PROCEDURE 2 (EL-227).

OK

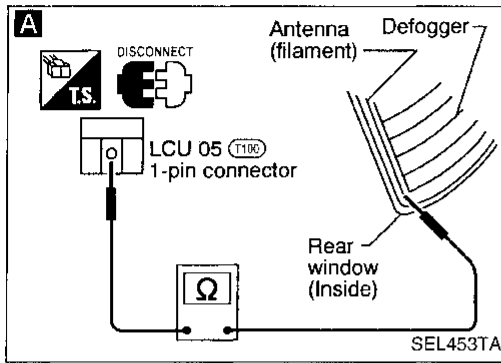
Replace the multi-remote controller.

Note:

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

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2



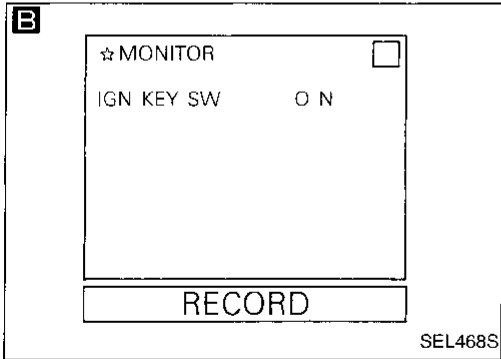
A

CHECK ANTENNA CIRCUIT.

- 1) Disconnect 1-pin connector from LCU05.
- 2) Remove 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-103).



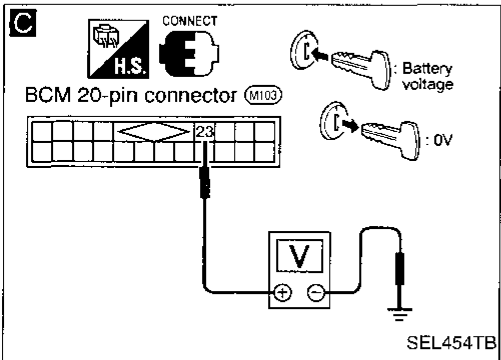
CHECK IGNITION KEY SWITCH CIRCUIT.

B CONSULT

See "IGN KEY SW" in DATA MONITOR mode.

"IGN KEY SW" should be "ON" when IGN key is inserted in steering key cylinder.

NG → Check and repair ignition key switch circuit.



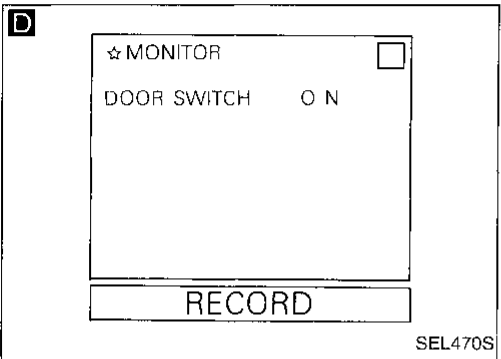
C TESTER

Check voltage when key is inserted in steering key cylinder.

Battery voltage should exist.

Condition	Voltage
Key inserted	Battery voltage
Key not inserted	0V

NG → Check and repair door switch circuit.



CHECK DOOR SWITCH CIRCUIT.

D CONSULT

See "DOOR SWITCH" in DATA MONITOR mode.

If all doors are closed, "DOOR SWITCH" should be "OFF".

OR

ON-BOARD

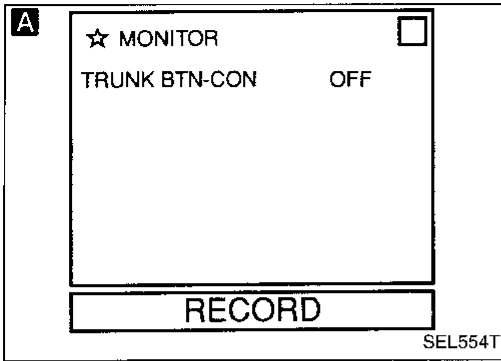
Check all doors switches in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses, EL-167.)

OK → Perform "WAKE-UP DIAGNOSIS" (EL-163) and IVMS communication diagnosis (EL-160) again.

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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3



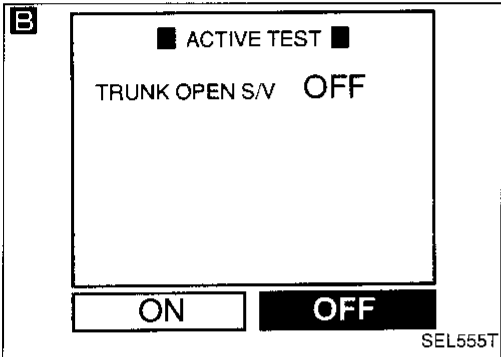
CHECK MULTI-REMOTE CONTROLLER OPERATION.

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.



OR

ON-BOARD

See Switch monitor (Mode II) mode. (Refer to On-board Diagnosis, EL-167).

OK

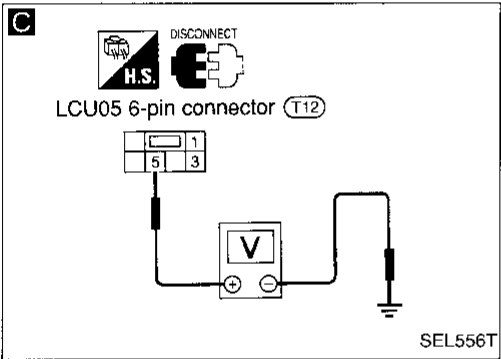
CHECK TRUNK LID OPENER CIRCUIT.

B CONSULT

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

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

OK → Check IVMS communication again. Refer to EL-160.



OR

C TESTER

Check voltage between LCU05 6-pin connector terminal ⑤ and ground when trunk lid opener switch is off.

Battery voltage should exist.

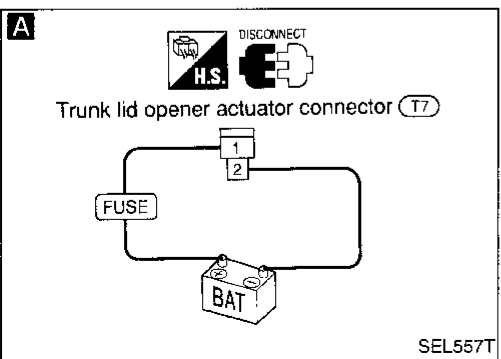
OK

Replace LCU05.

NG

Repair harness between LCU05 and trunk lid opener actuator.

DIAGNOSTIC PROCEDURE 4



A

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

NG → Replace trunk lid opener actuator.

OK

Check and repair harness.

Trouble Diagnoses (Cont'd)
DIAGNOSTIC PROCEDURE 5

Perform "HAZARD" in ACTIVE TEST mode.
Check operation of hazard lamps.
If CONSULT is not available, skip this procedure and go to the next procedure below.

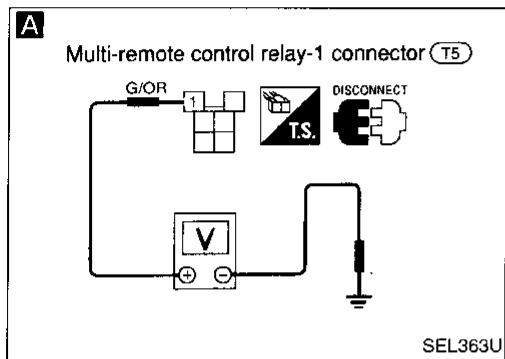
OK → Hazard reminder is OK.

NG →

Check multi-remote control relay-1 and relay-2.

NG → Replace.

OK →



A CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY-1.

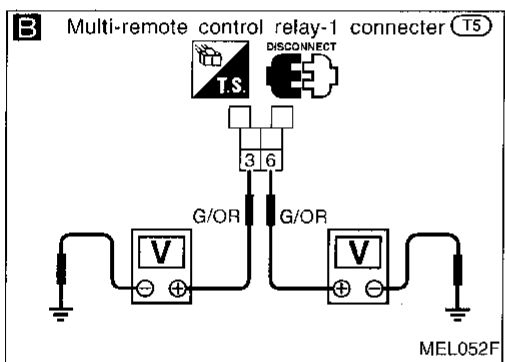
1. Disconnect multi-remote control relay-1 connector.
2. Measure voltage between terminal ① and body ground.

Positive battery voltage should exist.

NG → Check the following.

- 10A fuse (No. 11, located in the fuse block)
- Harness for open or short

OK →



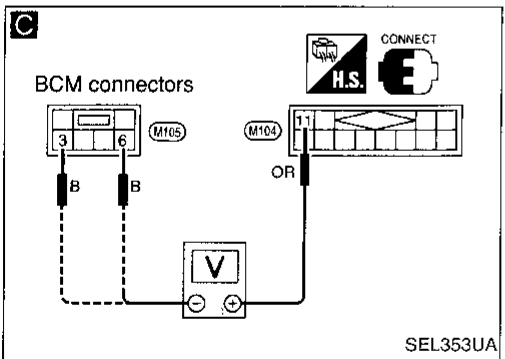
B CHECK THEFT WARNING RELAY-1 CIRCUIT.

1. Disconnect theft warning relay-1 connector.
2. Measure voltage between terminals ③ and body ground.
3. Measure voltage between terminals ⑥ and body ground.

Positive battery voltage should exist.

NG → Check harness for open or short.

OK →



C CHECK HAZARD REMINDER OUTPUT CIRCUIT.

1. Disconnect BCM connectors.
2. Measure voltage between BCM terminals ① and ③ or ⑥.

Positive battery voltage should exist.

NG → Check harness for open or short between multi-remote control relay and BCM.

OK →

Perform IVMS communication diagnosis again (EL-160 or EL-166).

OK → Hazard reminder is OK.

NG →

Replace BCM.

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Replacing Remote Controller or Multi-Remote Control Unit (LCU05)

Enter the identity (ID) code manually when:

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

ID Code Entry Procedure

To enter the ID code, follow this procedure.

“Setting mode”:

- (1) Close and lock all doors.
 - (2) Insert and remove the key from the ignition more than six times within 10 seconds. (The hazard warning lamp will then flash twice.)
- **At this time, the original ID codes are eliminated.**

ID code entry:

- (3) Turn ignition key to “ACC” position.
 - (4) Push lock button on the new remote controller once (for example, if door is locked using the remote controller during this ID code entry enable state, a new ID code can be entered).
- **At this time, the new ID code is entered. (The hazard warning lamp will then flash twice.)**

Additional ID code entry

- (5) If you need to activate additional remote controllers, unlock the driver’s door, then lock again with door lock knob.
- (6) Push lock button on the additional new remote controller once.
- (7) This ID code entry enable state and setting mode remain until the driver’s door is opened.

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 hazard warning lamps will flash twice but the entry will be ignored.**
- **Entry of maximum four ID codes is allowed and any attempt to enter more will be ignored.**
- **Any ID codes entered after termination of the “setting mode” will not be accepted. Additionally remote control signals will be inhibited when an ID code has not been entered during the “setting” mode.**

System Description

FUNCTION

- The IVMS has the following time control functions.

Item	Details of control
Intermittent wiper control	Regulates intermittent time approximately from 2 to 21 seconds depending on the intermittent wiping time setting.
Washer and wiper combination control	Operates wiper when washer switch is turned "ON" for at least 0.3 seconds.
Light warning buzzer timer	Sounds warning buzzer when driver's door is opened with light switch in the 1st or 2nd position and ignition switch "OFF".
Ignition key warning buzzer timer	Sounds warning buzzer when driver's door is opened with key in ignition.
Seat belt warning buzzer timer	Sounds warning buzzer for about 6 seconds if ignition switch is turned "ON" when driver's seat belt is unfastened.
Rear window defogger timer	Turn off rear window defogger and door mirror heater, if equipped, about 15 minutes after the rear window defogger switch is turned "ON".
Battery saver	Shuts off interior lamp, step lamps and ignition keyhole illumination in 30 minutes if any door is left open when ignition switch is "OFF". The battery saver will reset if ignition switch is cycled or any door is opened or closed.

INTERMITTENT WIPER CONTROL

Intermittent operation

Intermittent operation can be set variable by turning the intermittent wiper volume knob. The wiper motor then operates the wiper at low speed at a set interval of about 1 to 20 seconds. This function is controlled by the BCM.

Ground is supplied from body grounds (E5) and (E30) to front wiper switch terminals 17 and 20.

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

- to BCM terminal 25
- from wiper switch terminal 15

The desired interval time is input

- to BCM terminal 17
- from wiper switch terminal 19.

For further information, refer to "WIPER AND WASHER" (EL-91).

Washer and wiper combination operation

Operates wiper when washer switch is turned "ON" for at least 0.3 seconds.

Power is supplied at ignition switch ACC or ON

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

Ground is supplied from body grounds (E5) and (E30).

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

- to BCM terminal 26
- from wiper switch terminal 18.

Then ground is supplied from BCM terminal 10 to wiper relay terminal 2 to operate wiper.

REAR WINDOW DEFOGGER TIMER

The rear window defogger and door mirror defogger system are controlled by the BCM.

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

- to the rear window defogger relay terminal 1,
- to the door mirror defogger relay terminal 1 and
- to BCM terminal 29
- through 7.5A fuse [No. 12], located in the fuse block (J/B)].

Ground is supplied to terminal 2 of the rear window defogger switch through body grounds (M13) and (M73).

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System Description (Cont'd)

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

- through terminal ① of the rear window defogger switch
- to BCM terminal ②.

Terminal ⑬ of the BCM then supplies ground to the rear window defogger relay terminal ② and the door mirror defogger relay terminal ②.

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

For further information, refer to "REAR WINDOW DEFOGGER" (EL-100).

IGNITION KEY WARNING BUZZER TIMER

Power is supplied at all times

- through 7.5A fuse [No. ④①], located in the fuse block (J/B)]
- to warning buzzer terminal ①, and
- 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 ⑳.

Ground is supplied to BCM terminal ⑳ through front driver side door switch LH terminals ② and ③ when switch is in OPEN position from body grounds (B16) and (B19).

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

LIGHT WARNING BUZZER TIMER

Power is supplied at all times

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

Power is supplied at all times

- through 7.5A fuse [No. ④①], located in the fuse block (J/B)]
- to warning buzzer 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 ⑳.

Ground is supplied to BCM terminal ⑳ through front driver side door switch LH terminals ② and ③ when switch is in OPEN position from body grounds (B16) and (B19).

With the ignition switch in the ACC or OFF position, the driver's door OPEN, and the lighting switch in the 1ST or 2ND position, the warning buzzer will sound.

SEAT BELT WARNING BUZZER TIMER

Power is supplied at all times

- through 7.5A fuse [No. ④①], located in the fuse block (J/B)]
- to warning buzzer 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 ⑳.

Ground is supplied to BCM terminal ⑨ through seat belt buckle switch terminals ① and ③, when seat belt buckle switch is in UNFASTENED position, and body grounds (B16) and (B19).

This warning buzzer sounds for about 6 seconds

- when ignition switch is turned from OFF to ON and seat belt is unfastened (seat belt buckle switch ON).

Wiring Diagram — TIME —

INTERMITTENT WIPER CONTROL

EL-TIME-01 GI

MA

EM

LC

EC

FE

CL

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AT

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RA

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ST

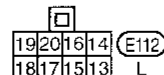
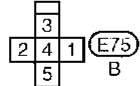
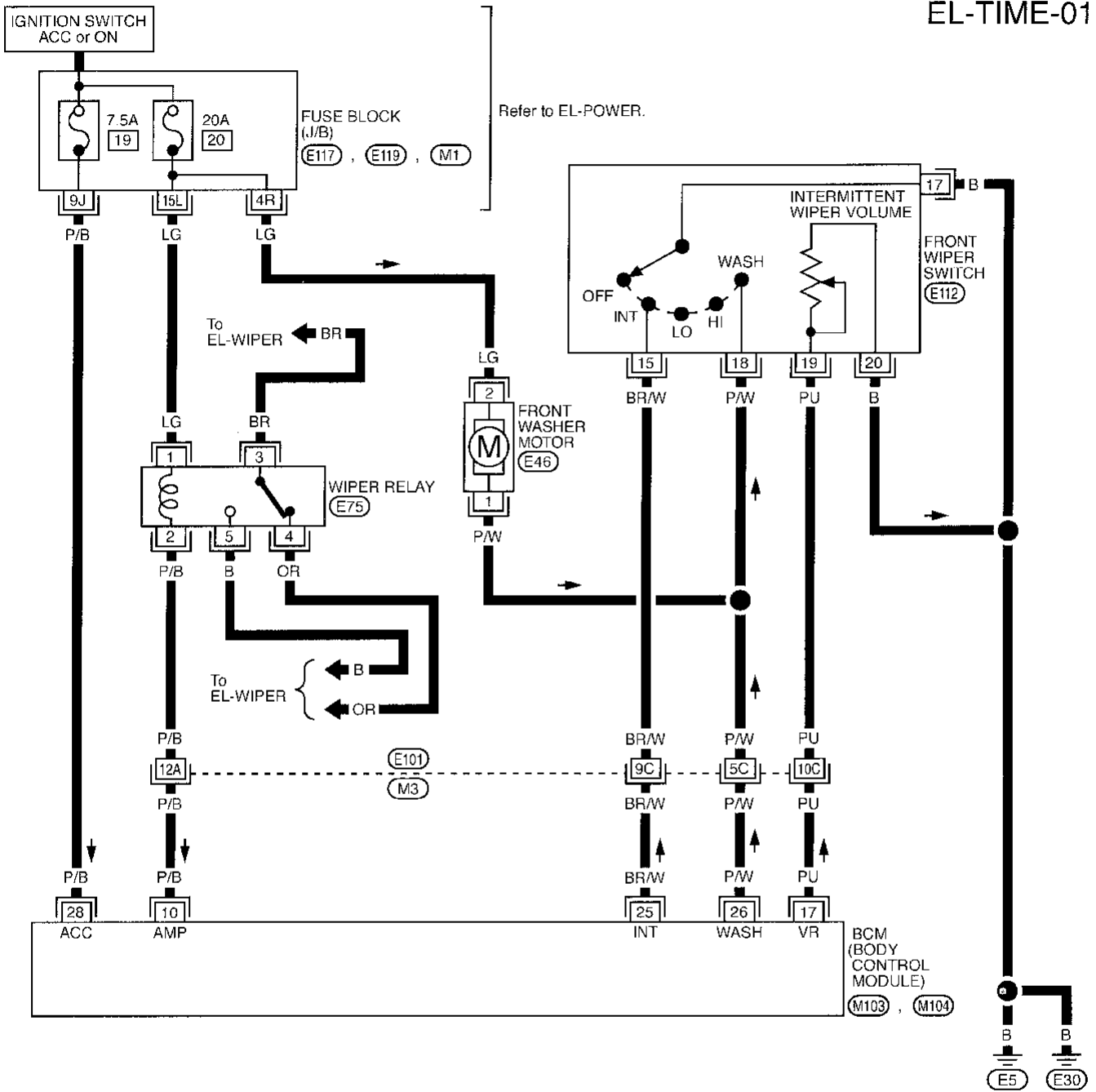
RS

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IDX



Refer to last page (Foldout page).

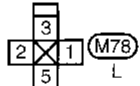
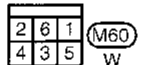
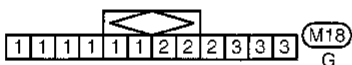
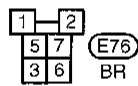
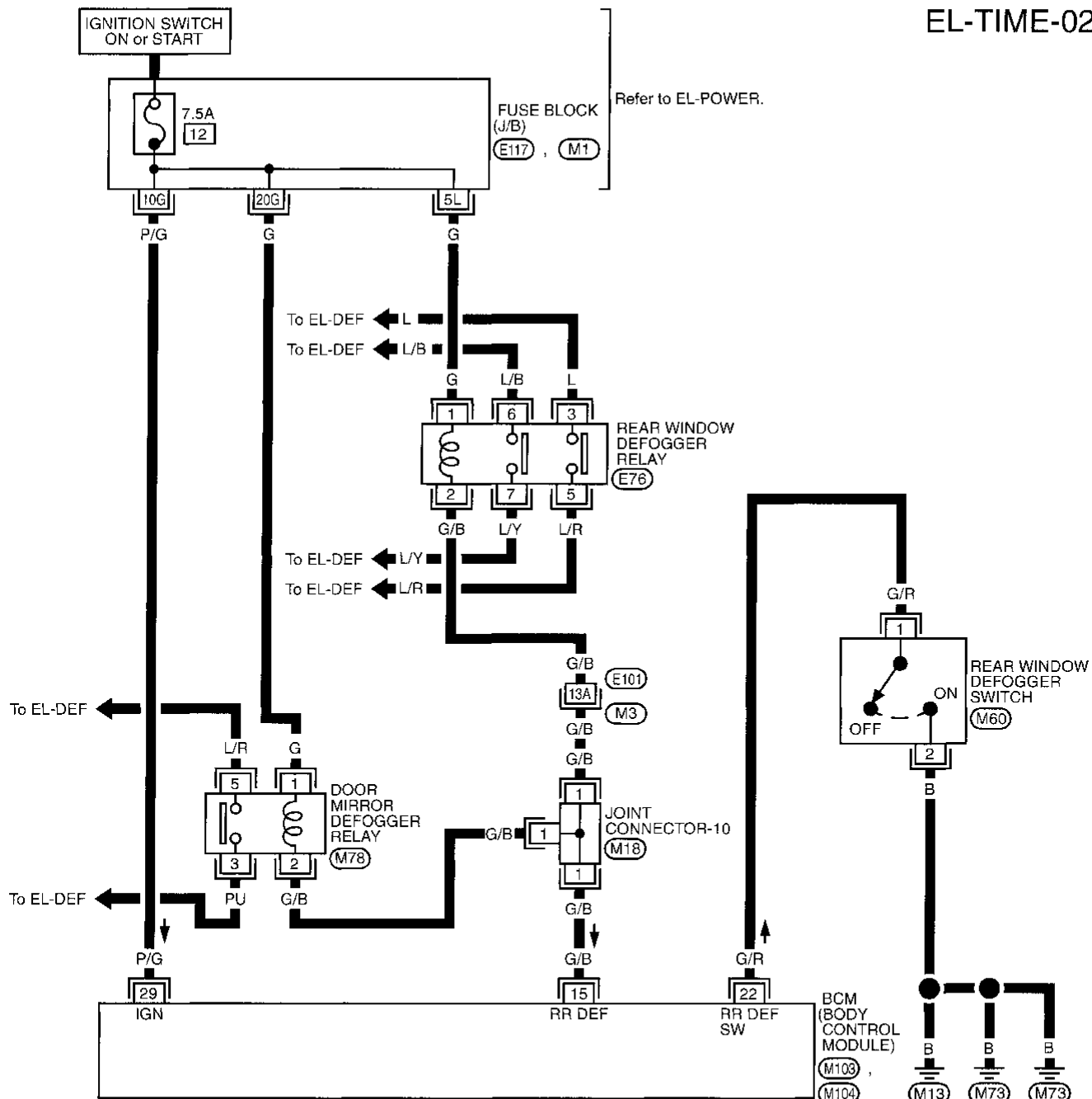
- (M3), (E101)
- (M1)
- (E117)
- (E119)
- (M103)
- (M104)

TIME CONTROL SYSTEM — IVMS

Wiring Diagram — TIME — (Cont'd)

REAR WINDOW DEFOGGER TIMER CONTROL

EL-TIME-02



Refer to last page (Foldout page).

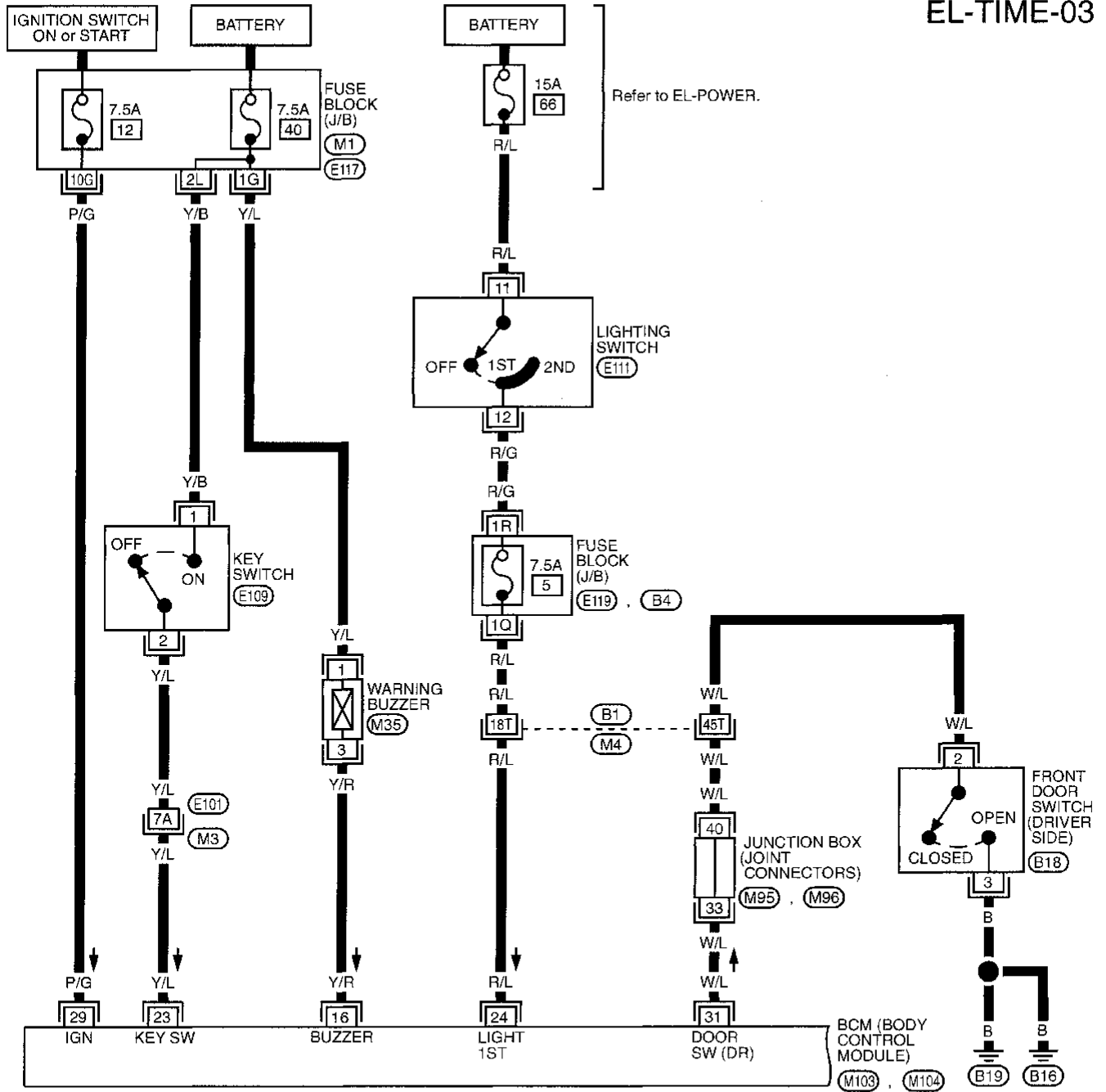
- (M3), (E101)
- (M1)
- (M18)
- (M48)
- (E117)
- (M103)
- (M104)

TIME CONTROL SYSTEM — IVMS

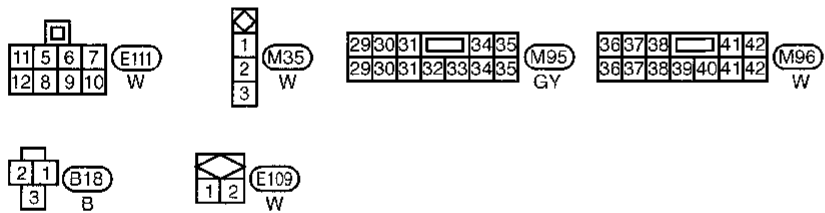
Wiring Diagram — TIME — (Cont'd)

IGNITION KEY, LIGHT AND SEAT BELT WARNING CONTROL

EL-TIME-03



GI
MA
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PS
BT



Refer to last page (Foldout page).

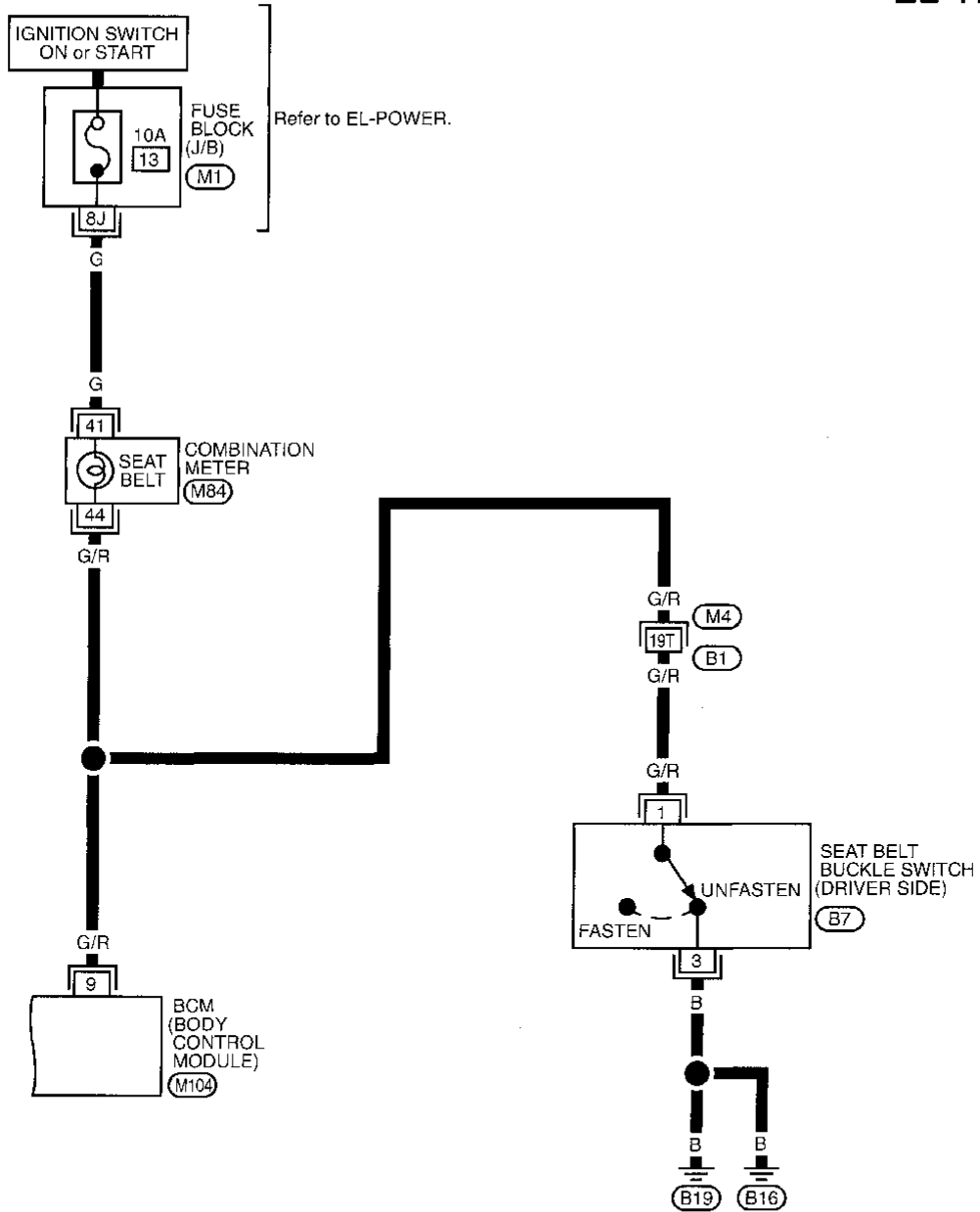
- (M4, B1)
- (M3, E101)
- (M1, M48)
- (B4, E119)
- (E117)
- (M95)
- (M96)
- (M103)
- (M104)

HA
EL
IDX

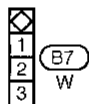
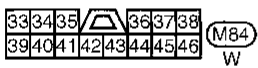
TIME CONTROL SYSTEM — IVMS

Wiring Diagram — TIME — (Cont'd)

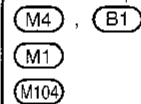
EL-TIME-04



Refer to EL-POWER.



Refer to last page (Foldout page).



Trouble Diagnoses

- Perform “Power Supply and Ground Circuit Check” as necessary before starting Diagnostic Procedures.

SYMPTOM CHART

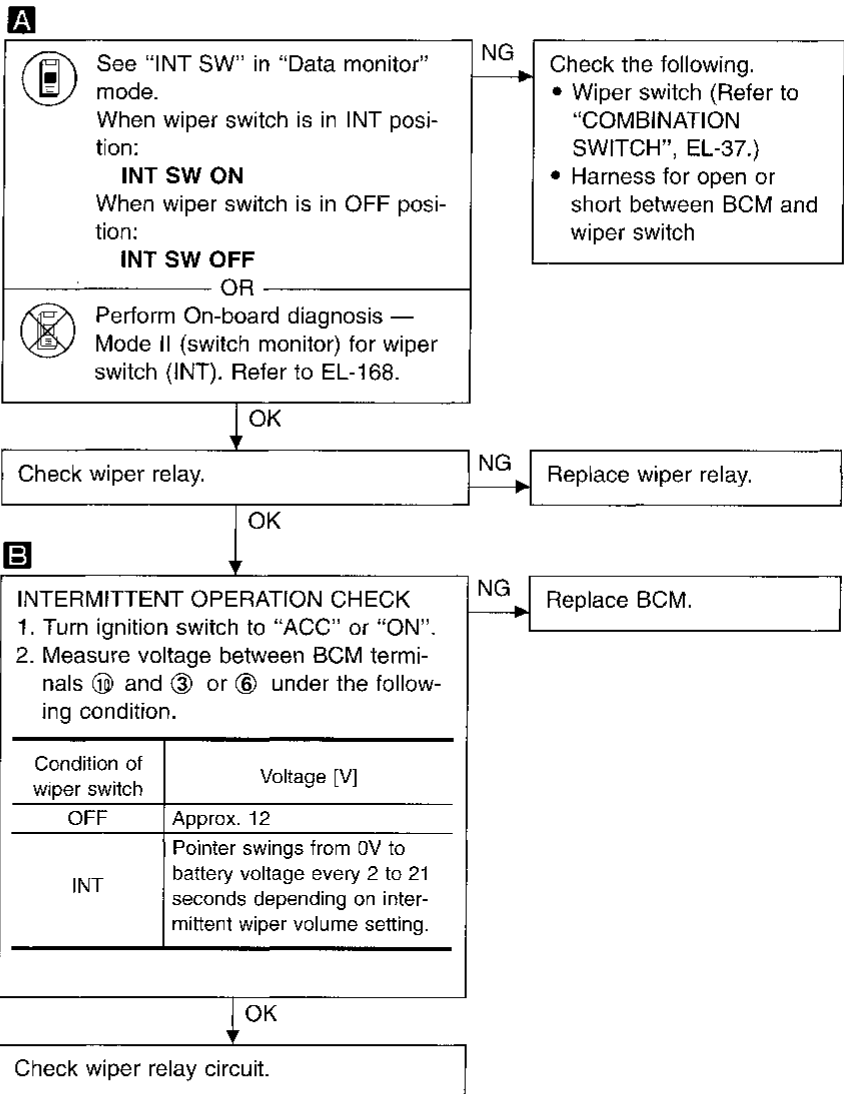
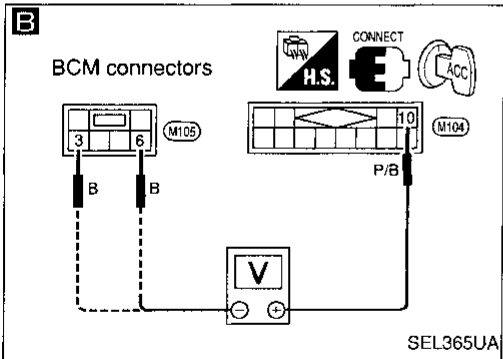
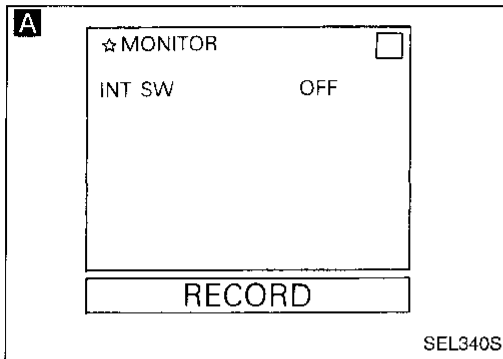
PROCEDURE		Power supply and ground circuit check		Diagnostic Procedure							
		EL-183	EL-184	EL-238	EL-239	EL-240	EL-241	EL-241	EL-242	EL-243	EL-244
REFERENCE PAGE		Ground circuit check	Power supply circuit check	Diagnostic Procedure 1	Diagnostic Procedure 2	Diagnostic Procedure 3	Diagnostic Procedure 4	Diagnostic Procedure 5	Diagnostic Procedure 6	Diagnostic Procedure 7	Diagnostic Procedure 8
SYMPTOM		BCM	BCM	X							
Wiper & washer	Intermittent wiper does not operate.	BCM	BCM	X							
	Intermittent time of wiper cannot be adjusted.	BCM	BCM		X						
	Wiper and washer activate individually but not in combination.	BCM	BCM			X					
Warning	Light warning chime does not activate.	BCM	BCM				X			X	
	Ignition key warning chime does not activate.	BCM	BCM					X		X	
	Seat belt warning chime does not activate.	BCM	BCM						X	X	
Rear defogger	Rear defogger does not activate, or go off after activating.	BCM	BCM								X

CI
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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Intermittent wiper does not operate.

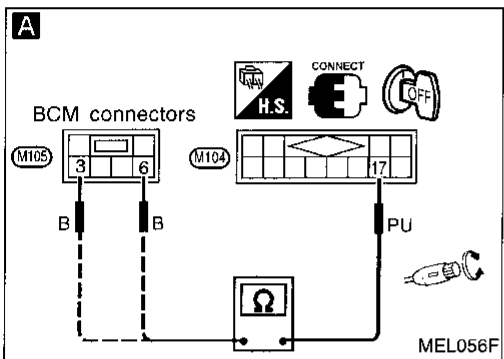
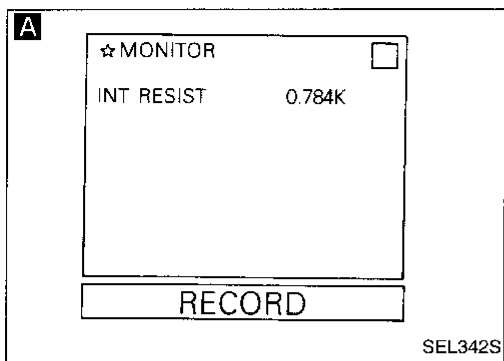


TIME CONTROL SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Intermittent time of wiper cannot be adjusted.



A

INTERMITTENT WIPER VOLUME INPUT SIGNAL CHECK

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

OR

Measure resistance between BCM terminals ⑬ and ③ or ⑥ while turning intermittent wiper volume.

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

OK → Replace BCM.

NG

Check the following.

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

OK → Replace intermittent wiper volume.

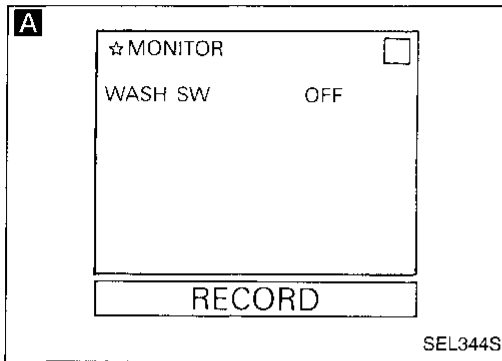
GI
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TIME CONTROL SYSTEM — IVMS

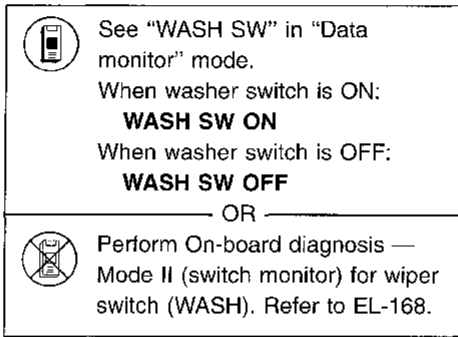
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

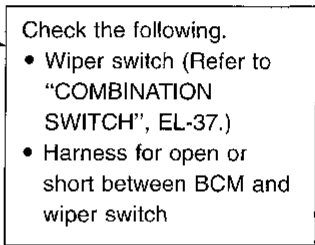
SYMPTOM: Wiper and washer activate individually but not in combination.



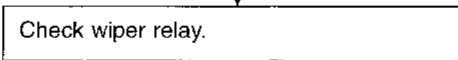
A



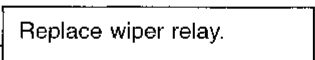
NG



OK

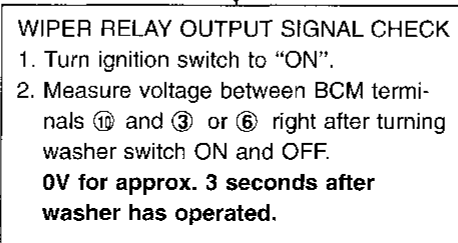


NG

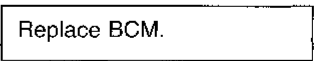


OK

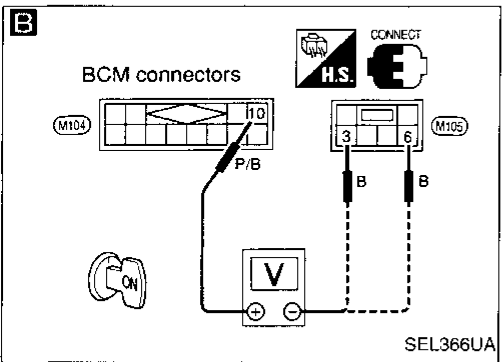
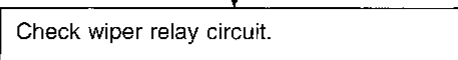
B



NG



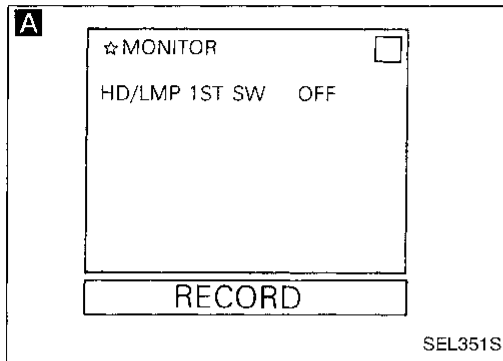
OK



Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

SYMPTOM: Light warning buzzer does not activate.



A

LIGHTING SWITCH INPUT SIGNAL CHECK

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

Perform On-board diagnosis — Mode II (Switch monitor) for light switch. Refer to EL-168.

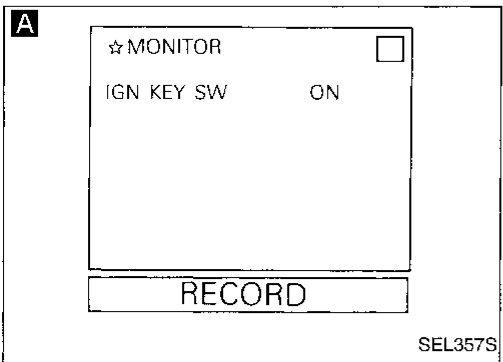
NG

Check the following.

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

OK

Go to Procedure 7.



DIAGNOSTIC PROCEDURE 5

SYMPTOM: Ignition key warning buzzer does not activate.

A

IGNITION KEY SWITCH INPUT SIGNAL CHECK

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

Check voltage between BCM terminal ② and body ground.

Condition of key switch	Voltage [V]
Key in ignition	Battery voltage
Key out of ignition	0

NG

Check ignition key switch.

OK

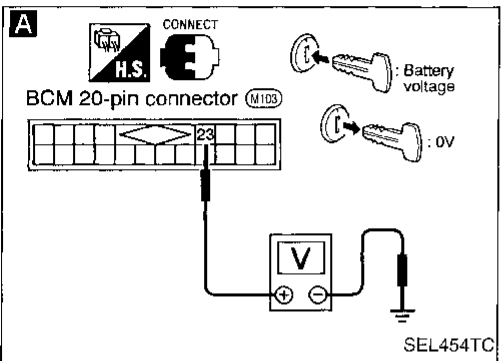
NG

Replace ignition key switch.

Check harness for open or short.

OK

Go to Procedure 7.

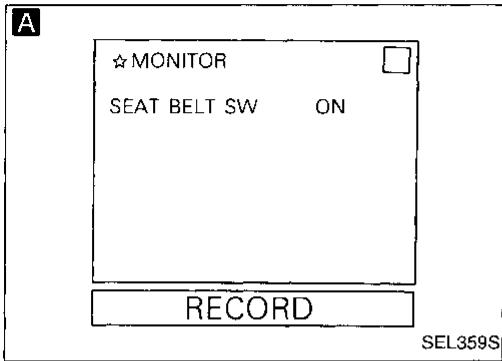


GI
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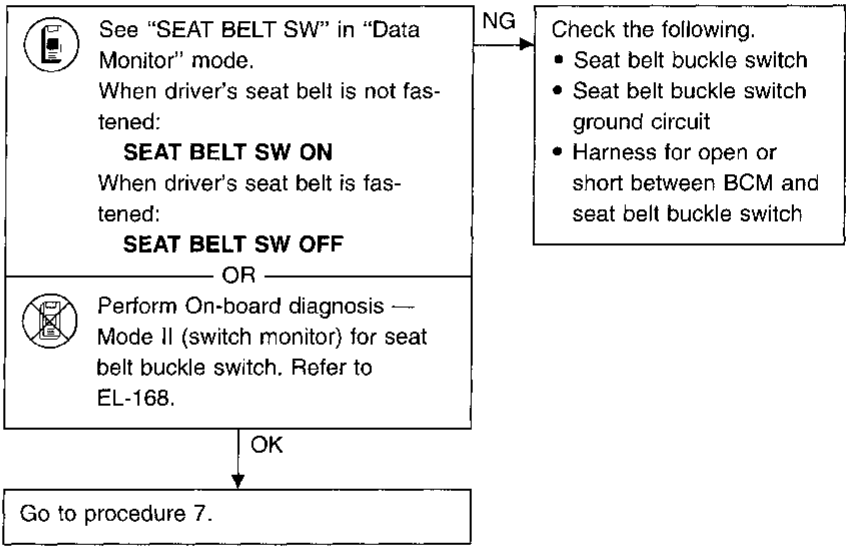
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

SYMPTOM: Seat belt warning buzzer does not activate.



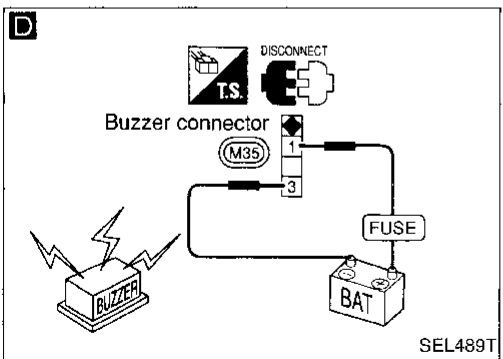
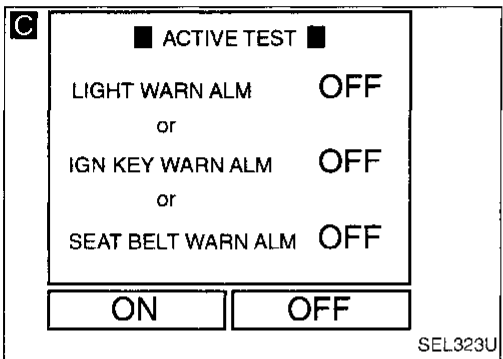
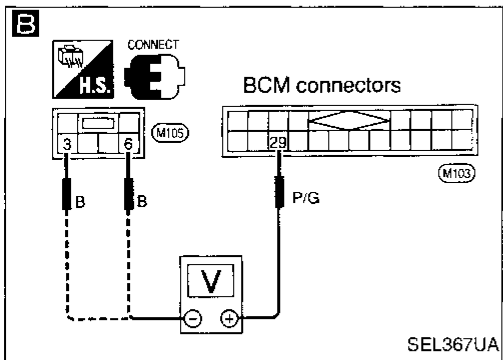
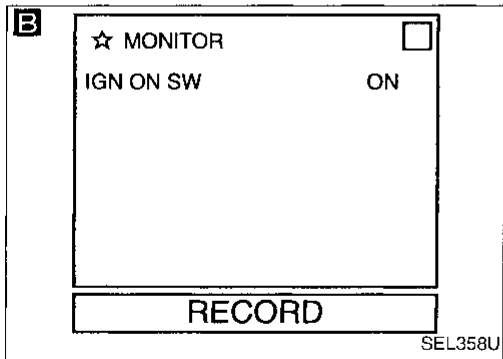
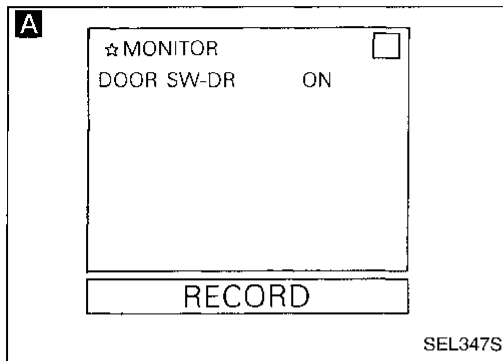
A



Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

SYMPTOM: Light warning/ignition key warning buzzer does not activate.



A

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

Perform On-board diagnosis — Mode II (switch monitor) for door switch (driver side). Refer to EL-168.

- NG → Check the following.
- Driver door switch
 - Driver door switch ground circuit
 - Harness for open or short between driver door switch and BCM

B

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
OR

Measure voltage between BCM terminal ② and ③ or ⑥.

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)
 - Harness for open or short between fuse and BCM

C

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.

D

BUZZER OPERATION CHECK
1. Disconnect buzzer connector.
2. Connect battery to buzzer and check buzzer operation.

NG → Replace buzzer.

OK → Check the following.

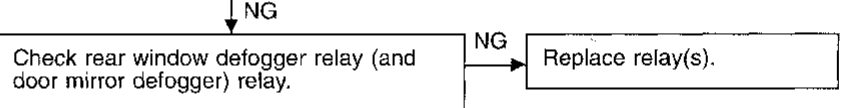
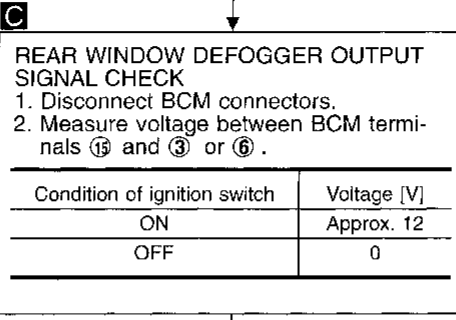
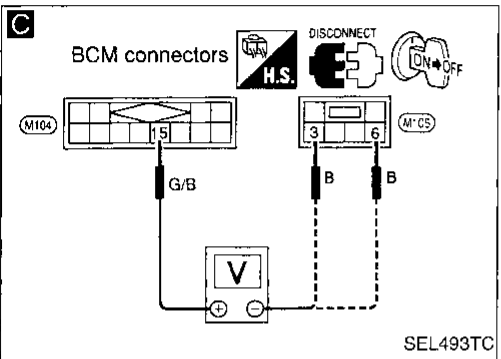
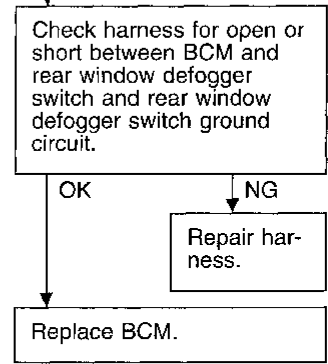
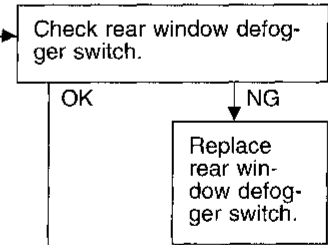
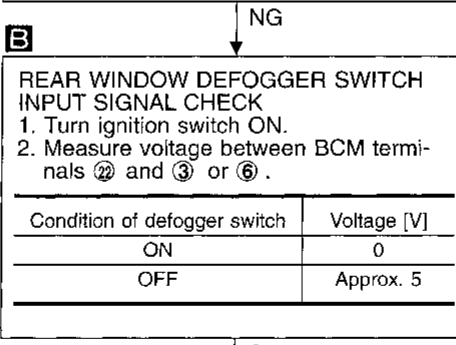
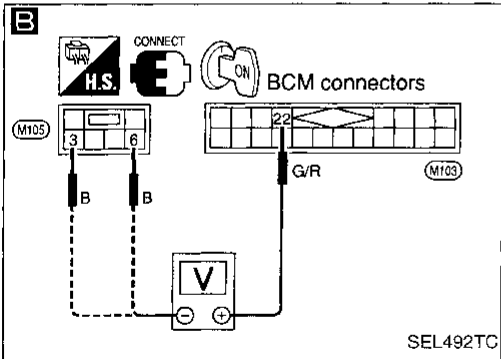
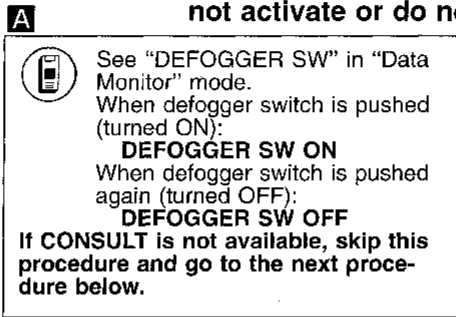
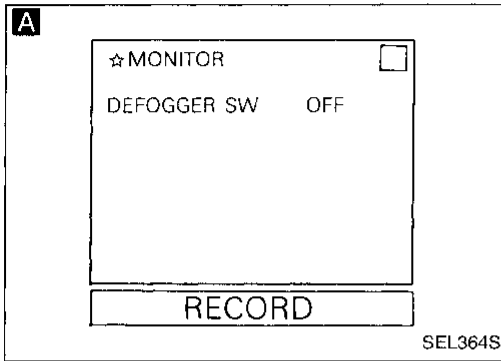
- 7.5A fuse (No. 40) located in the fuse block
- Harness for open or short between buzzer and BCM.

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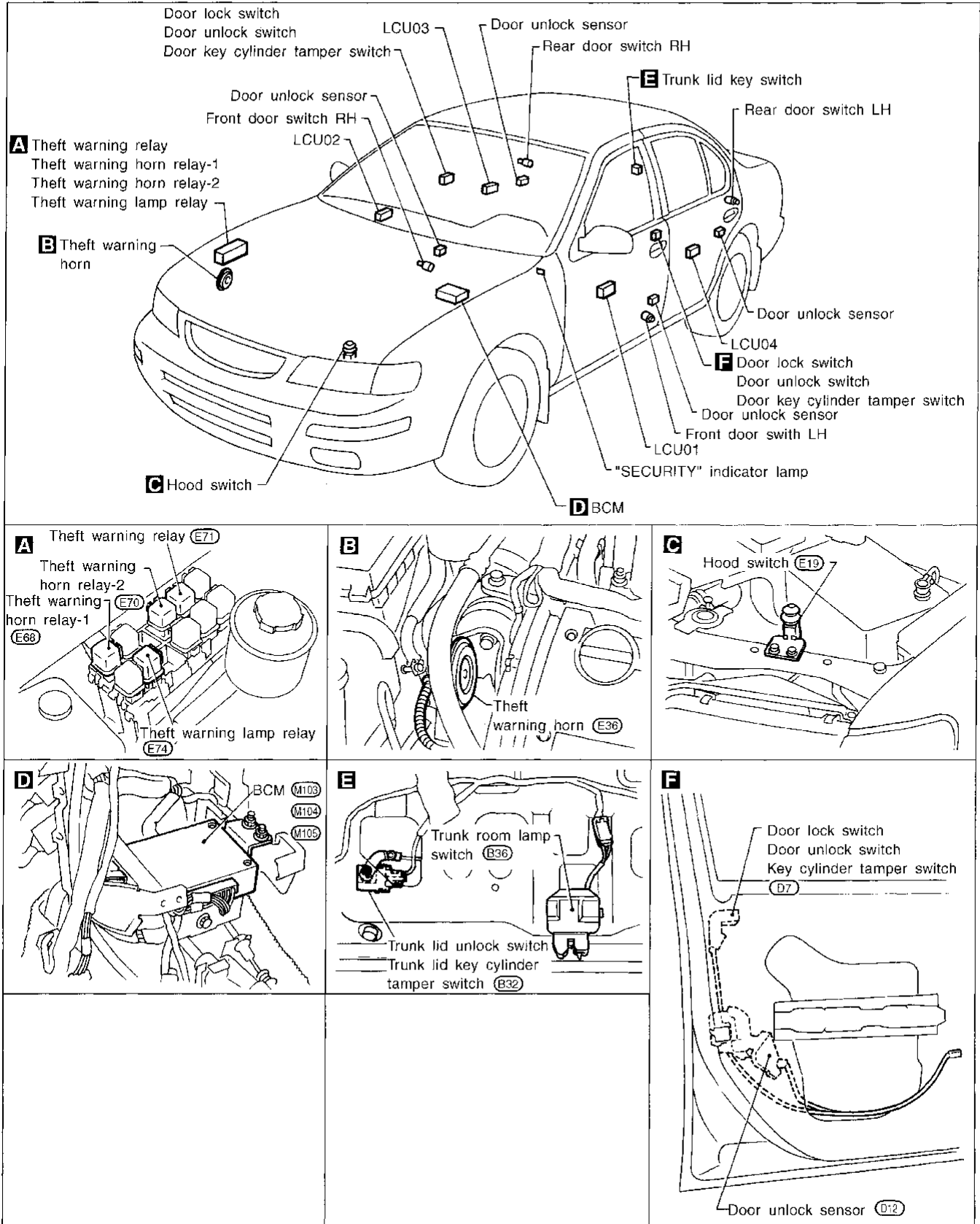
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

SYMPTOM: Rear window defogger (and door mirror heater) do not activate or do not turn off after activating.



Component Parts and Harness Connector Location



GI

MA

EM

LC

EC

FE

CL

MT

AT

FA

RA

BR

ST

RS

BT

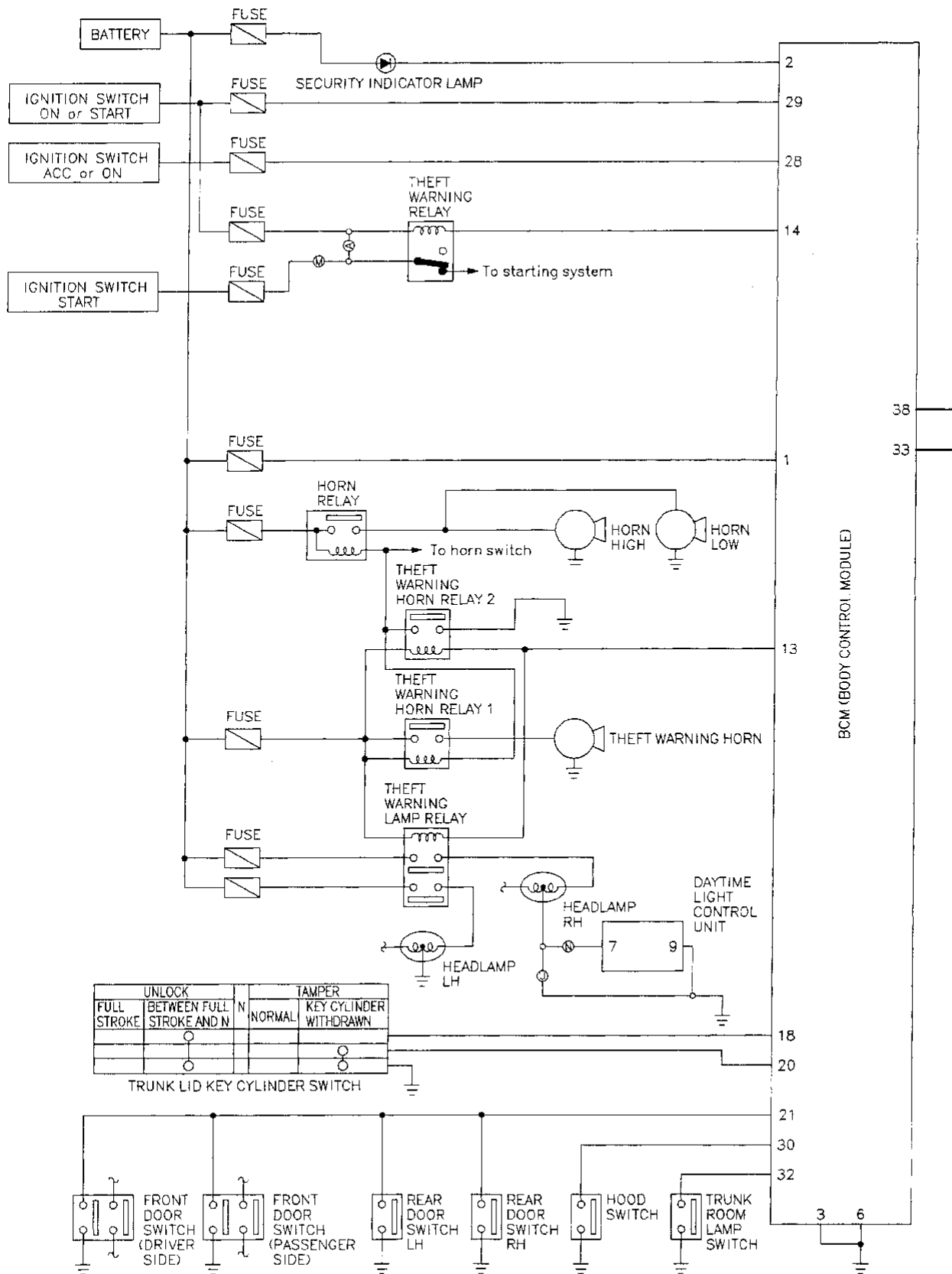
HA

EL

IDX

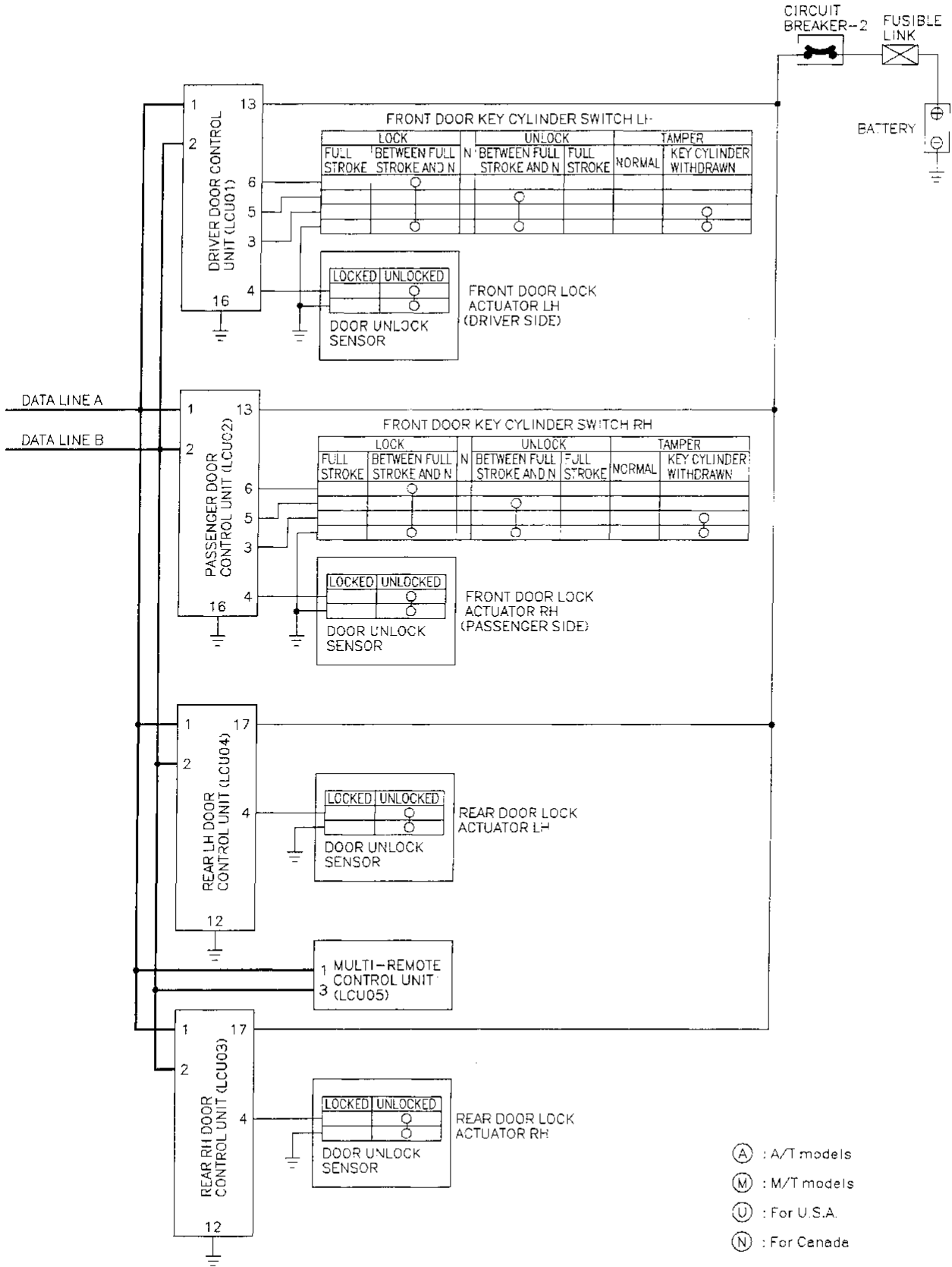
THEFT WARNING SYSTEM — IVMS

Schematic



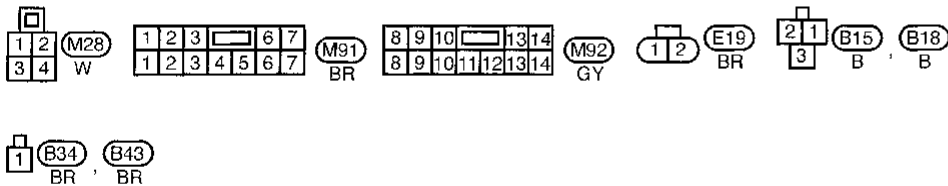
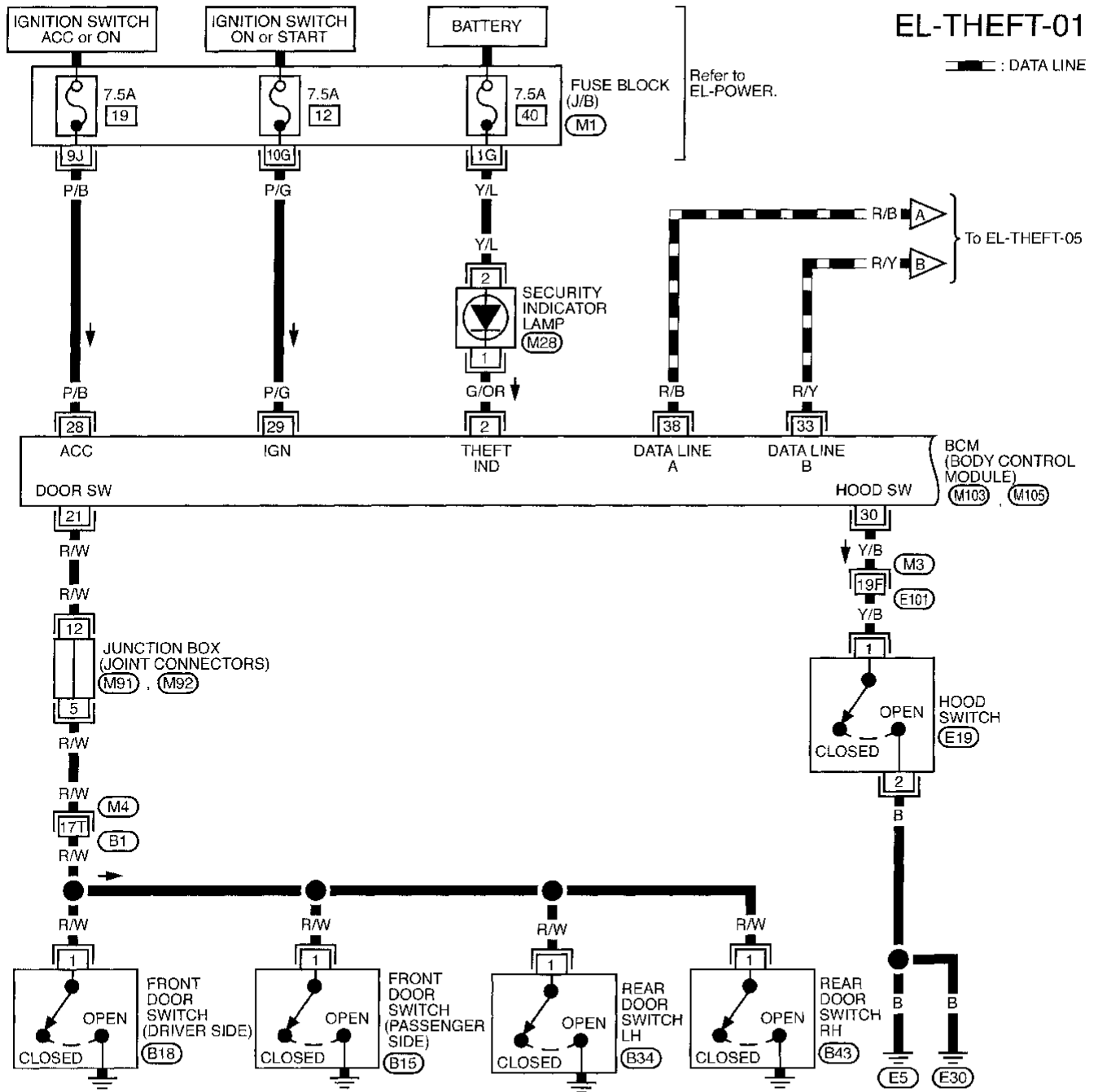
THEFT WARNING SYSTEM — IVMS

Schematic (Cont'd)



GI
 MA
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Wiring Diagram — THEFT —



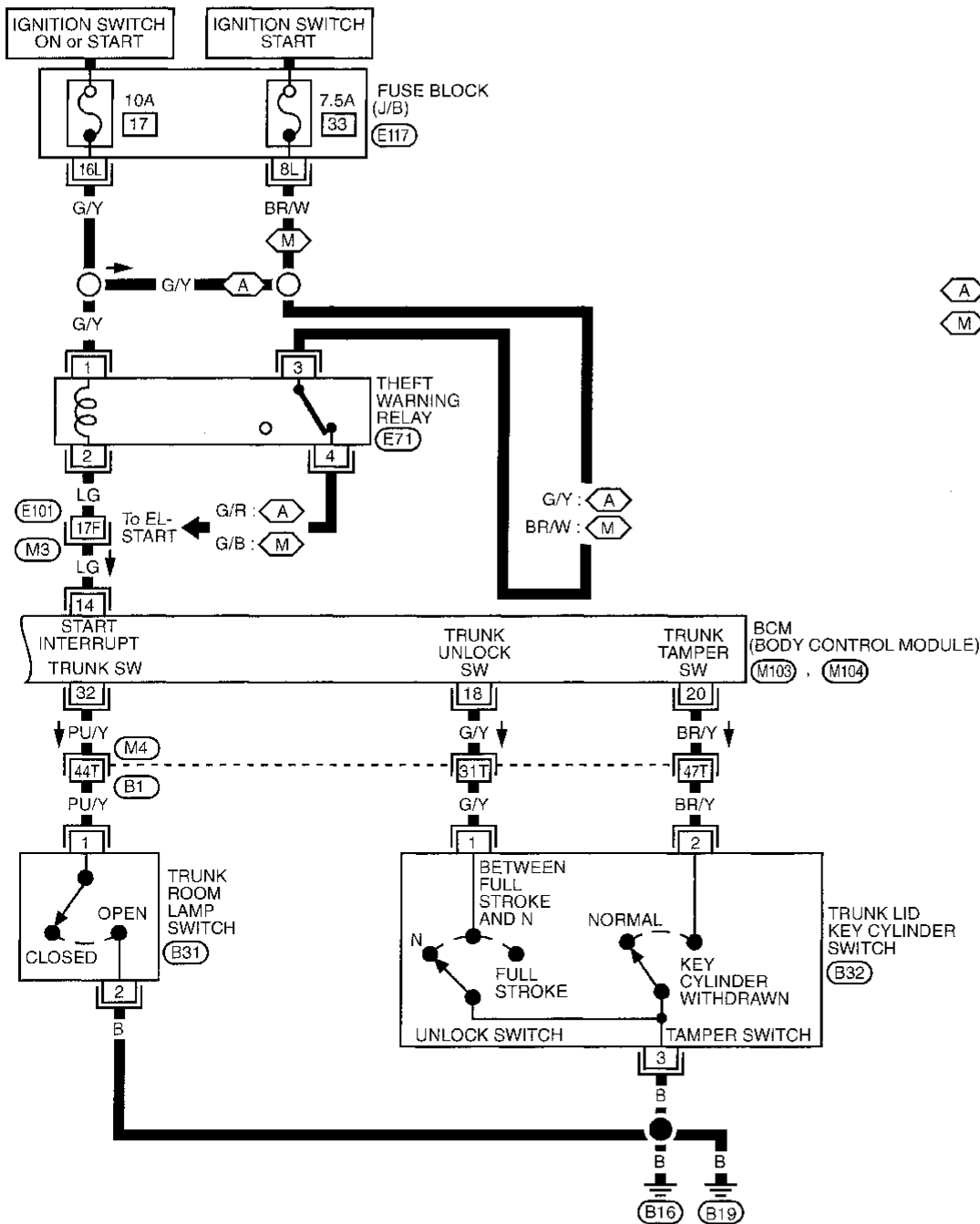
Refer to last page (Foldout page).

- (M3) (E101)
- (M4) (B1)
- (M1)
- (M91)
- (M92)
- (M103)
- (M105)

THEFT WARNING SYSTEM — IVMS

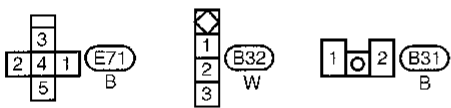
Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-02



A : A/T models
M : M/T models

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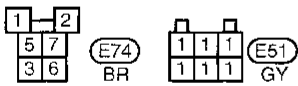
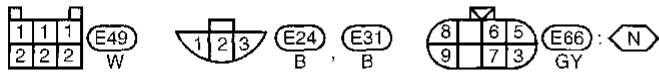
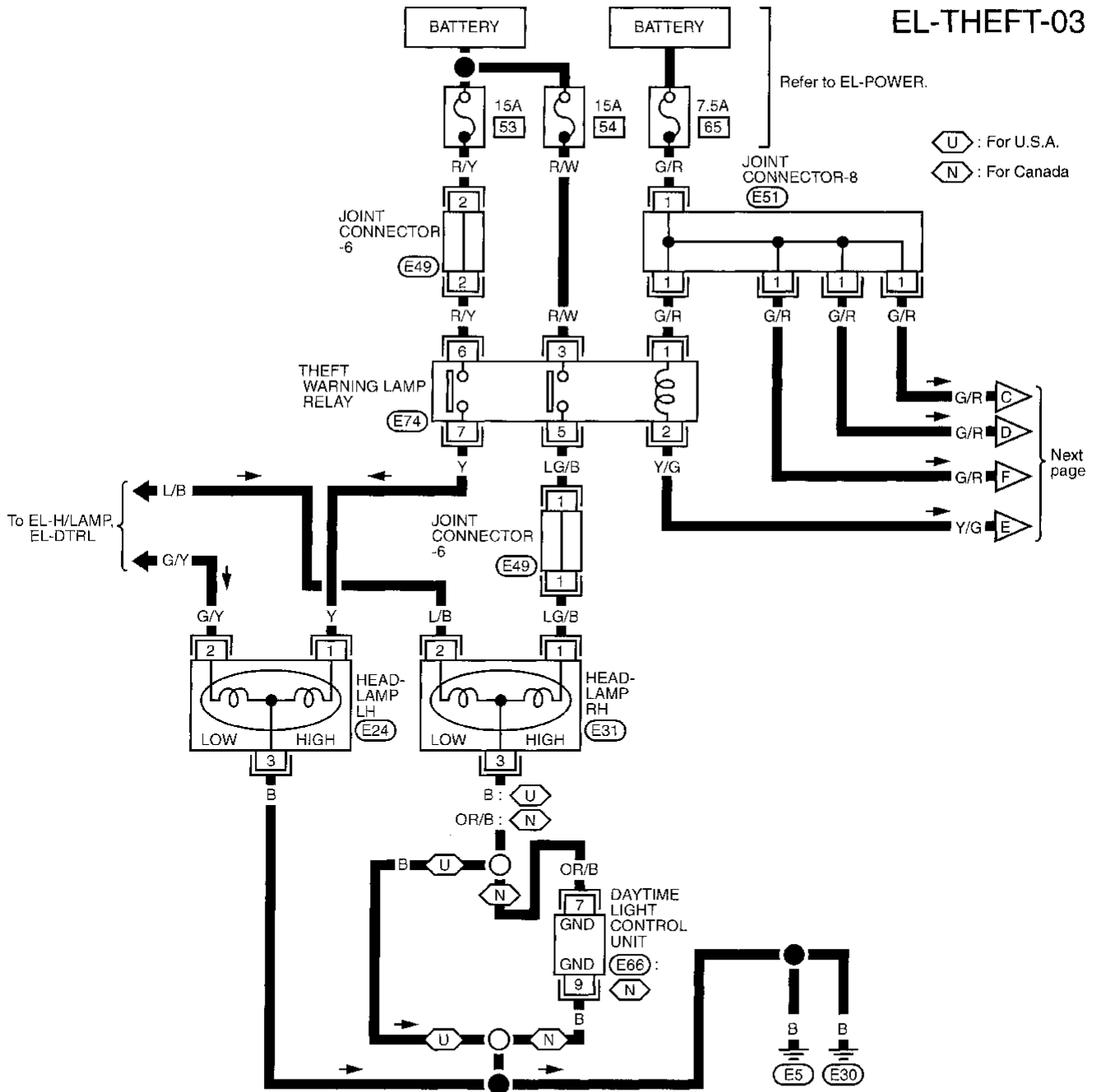


Refer to last page (Foldout page).
 M3, E101
 M4, B1
 M103
 M104
 E117

THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-03



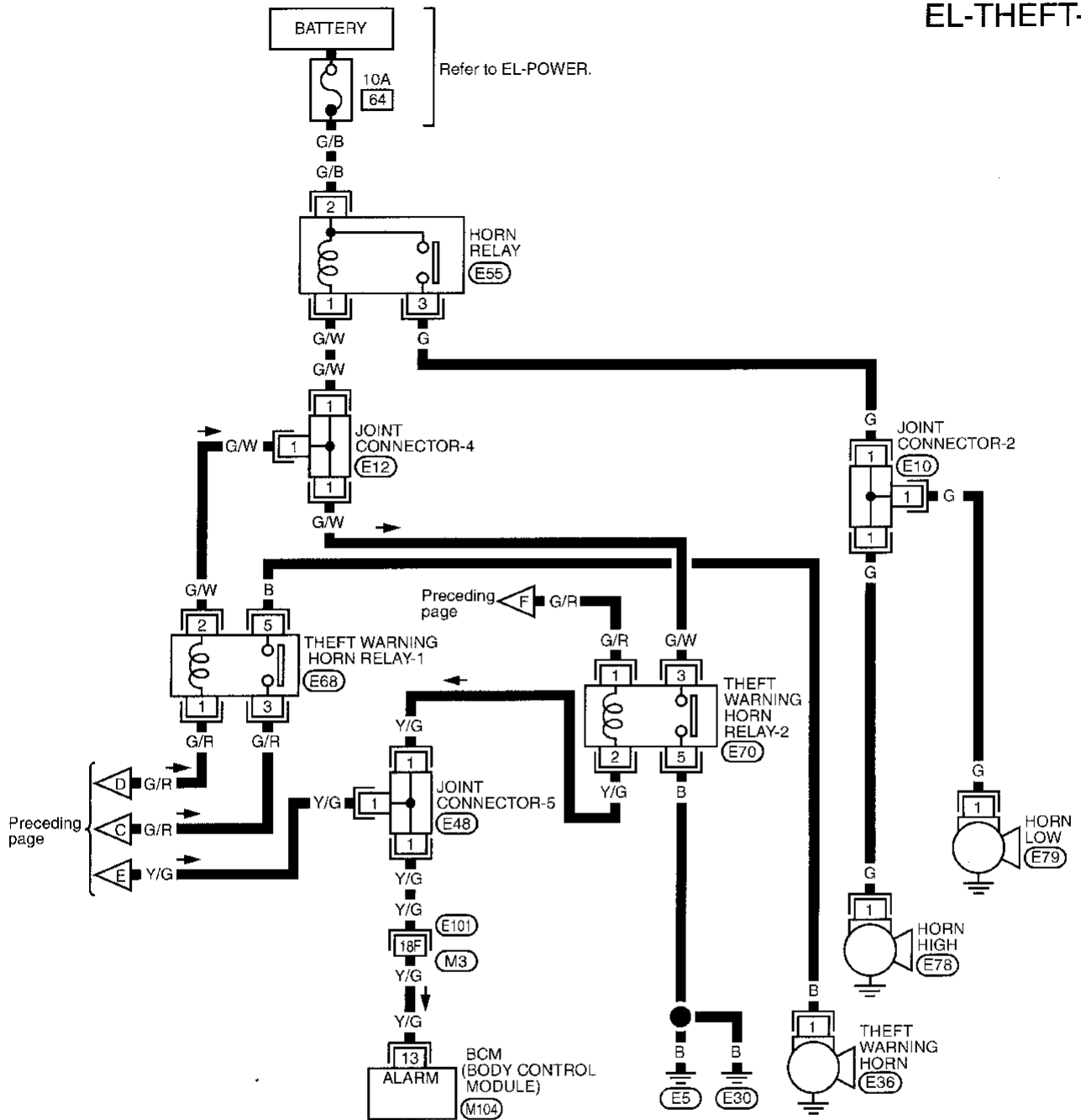
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THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

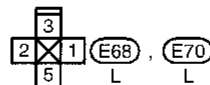
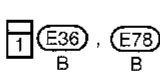
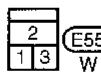
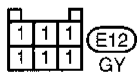
EL-THEFT-04



Preceding page

Preceding page

Refer to last page (Foldout page).



- (M3), (E101)
- (E10)
- (E12)
- (E48)
- (M104)

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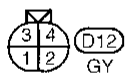
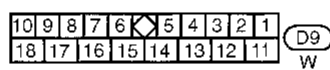
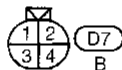
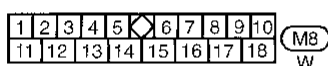
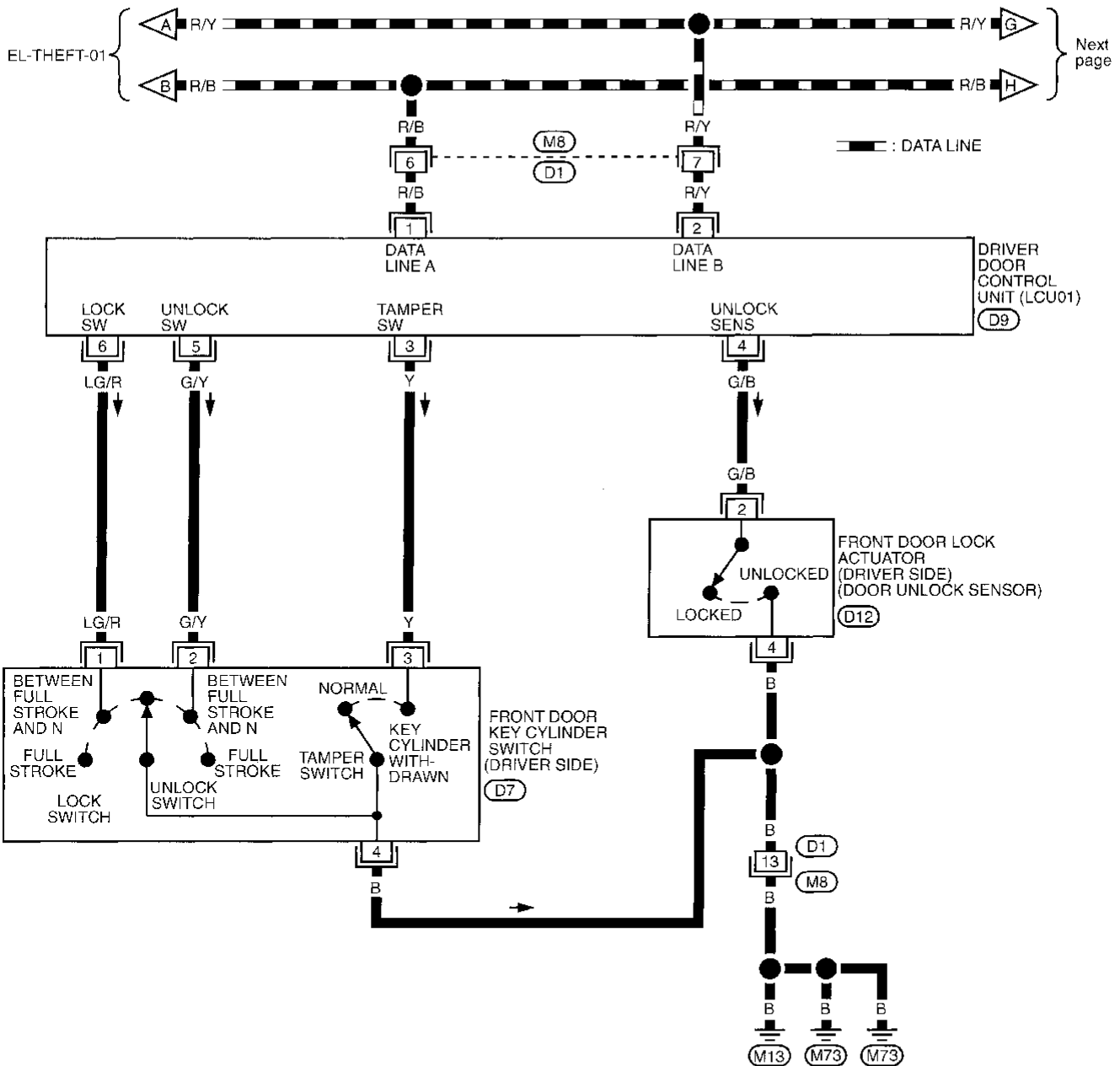
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THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

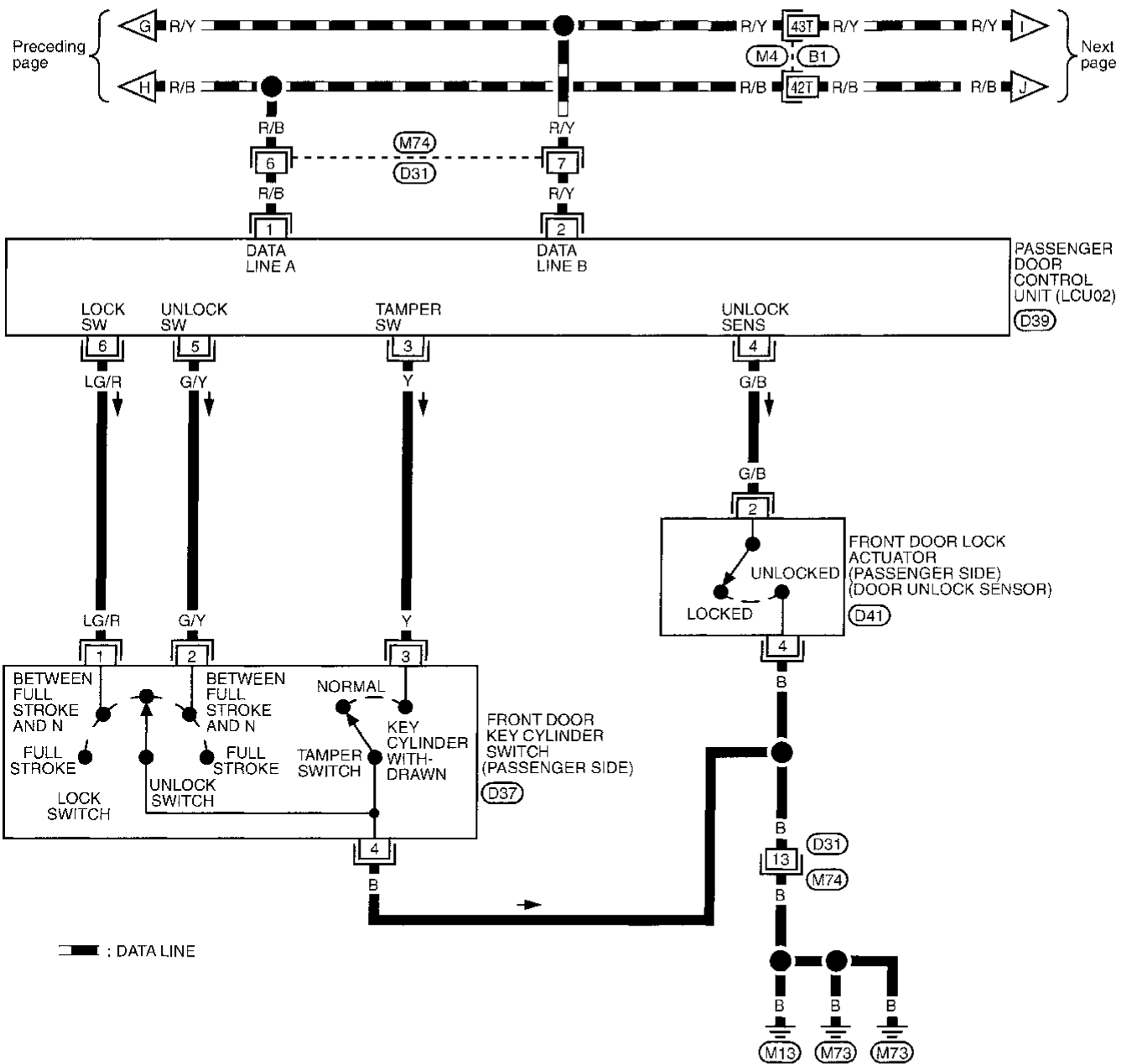
EL-THEFT-05



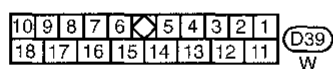
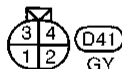
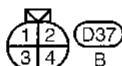
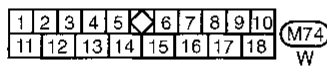
THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-06



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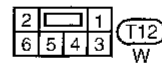
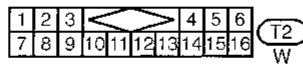
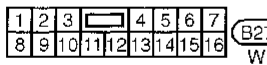
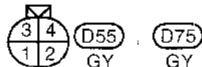
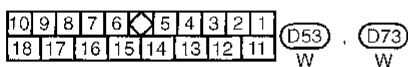
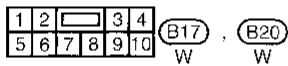
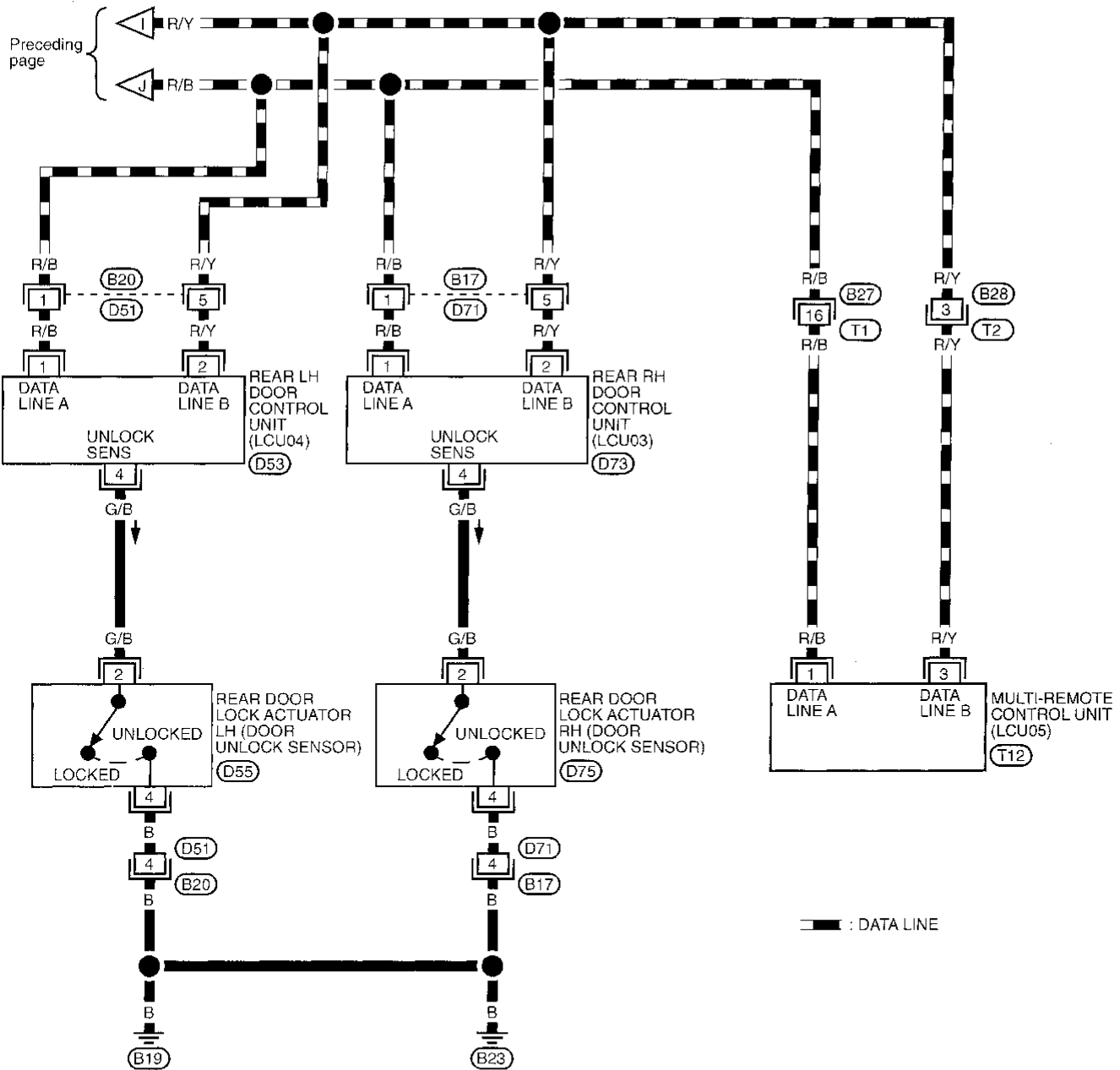


Refer to last page (Foldout page).
 (M4), (B1)

THEFT WARNING SYSTEM — IVMS

Wiring Diagram — THEFT — (Cont'd)

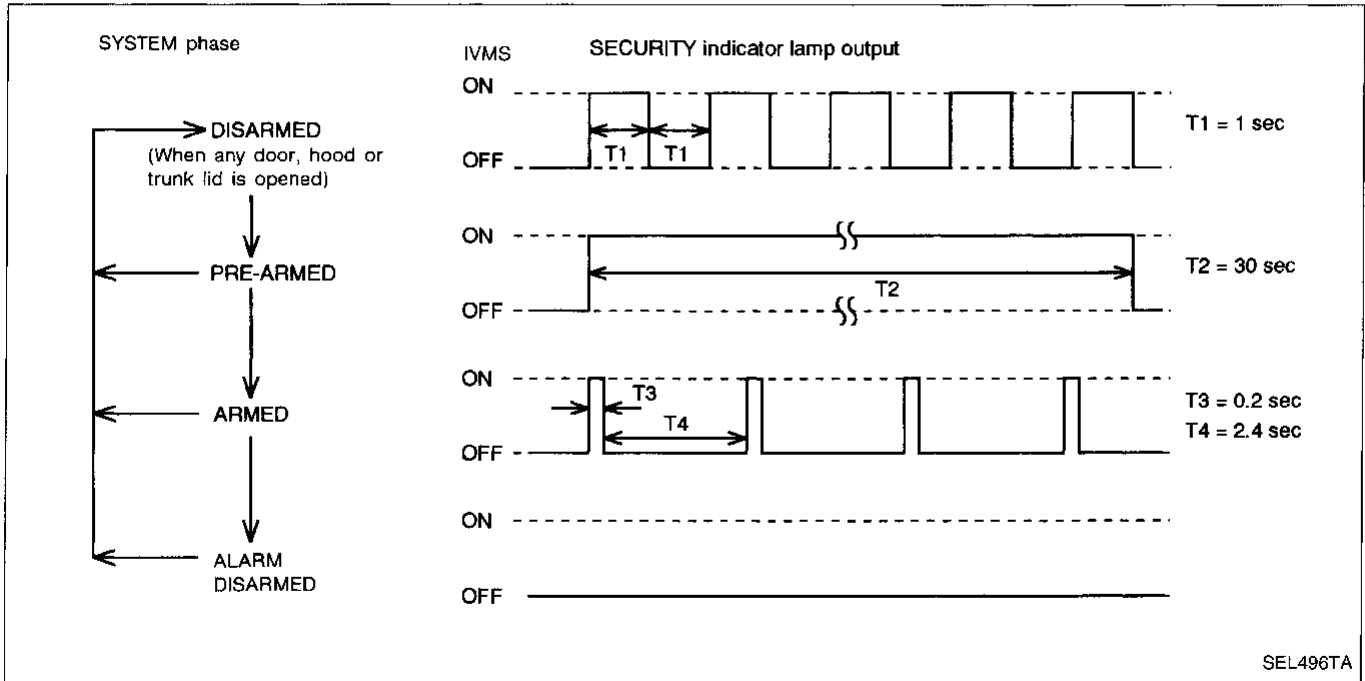
EL-THEFT-07



Trouble Diagnoses

DESCRIPTION

1. Operation flow



2. Setting the theft warning system

Initial condition

- (1) Close all doors.
- (2) Close hood and trunk lid.
- (3) Pull key out of ignition.

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 control. (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 or the trunk lid with the key.
- (b) Unlock the doors or the trunk lid with the multi-remote controller.

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 any of the following operations (a), (b) and (c) 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.)

The starting system is kept dead even after the alarm turns off.

- (a) Engine hood is opened without using the hood opener.
- (b) Door is unlocked or trunk lid is opened without using key or multi remote controller.
- (c) Key cylinder is pulled out from either front door or the trunk lid.

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

PROCEDURE	IVMS communication diagnosis		Power supply and ground circuit check		Diagnostic procedure								I
	EL-160	EL-166	EL-183	EL-184	EL-257	EL-259	EL-260	EL-261	EL-262	EL-263	EL-264	EL-265	
REFERENCE PAGE	EL-160	EL-166	EL-183	EL-184	EL-257	EL-259	EL-260	EL-261	EL-262	EL-263	EL-264	EL-265	EL-225
SYMPTOM	CONSULT	On-board diagnosis (Mode I)	Ground circuit check	Power supply circuit check	Diagnostic Procedure 1 (Door open and tamper switch signal 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 (Theft warning horn alarm check)	Diagnostic Procedure 6 (Headlamp alarm check)	Diagnostic Procedure 7 (Starter interrupt system check)	Diagnostic Procedure 8 (Trunk lid key unlock signal check)	Check "MULTI-REMOTE CONTROL" system.
Theft warning indicator does not turn "ON" or blinking.	X	X	X	X		X							
Theft warning system cannot be set by ...	All items	X	X	X	X		X						
	Door out side key	X	X	X	X			X					
	Multi-remote control	X	X	X	X								X
Theft warning system does not activate.	All function	X	X	X	X	X							
	Horn alarm	X	X	X	X				X				
	Turn lamp	X	X	X	X					X			
	Starter interrupt	X	X	X	X						X		
Theft warning system cannot be canceled by ...	Door out side key	X	X	X	X			X					
	Trunk lid key	X	X	X	X							X	
	Multi-remote control	X	X	X	X								X

Perform "IVMS Communication Diagnosis", "Power Supply and Ground Circuit Check" before starting with theft warning system diagnostic procedure.

X : Applicable

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

(Door open and tamper switch signal check)

A

☆MONITOR

DOOR SWITCH ON

RECORD

SEL299S

B

☆MONITOR

HOOD SWITCH ON

RECORD

SEL302S

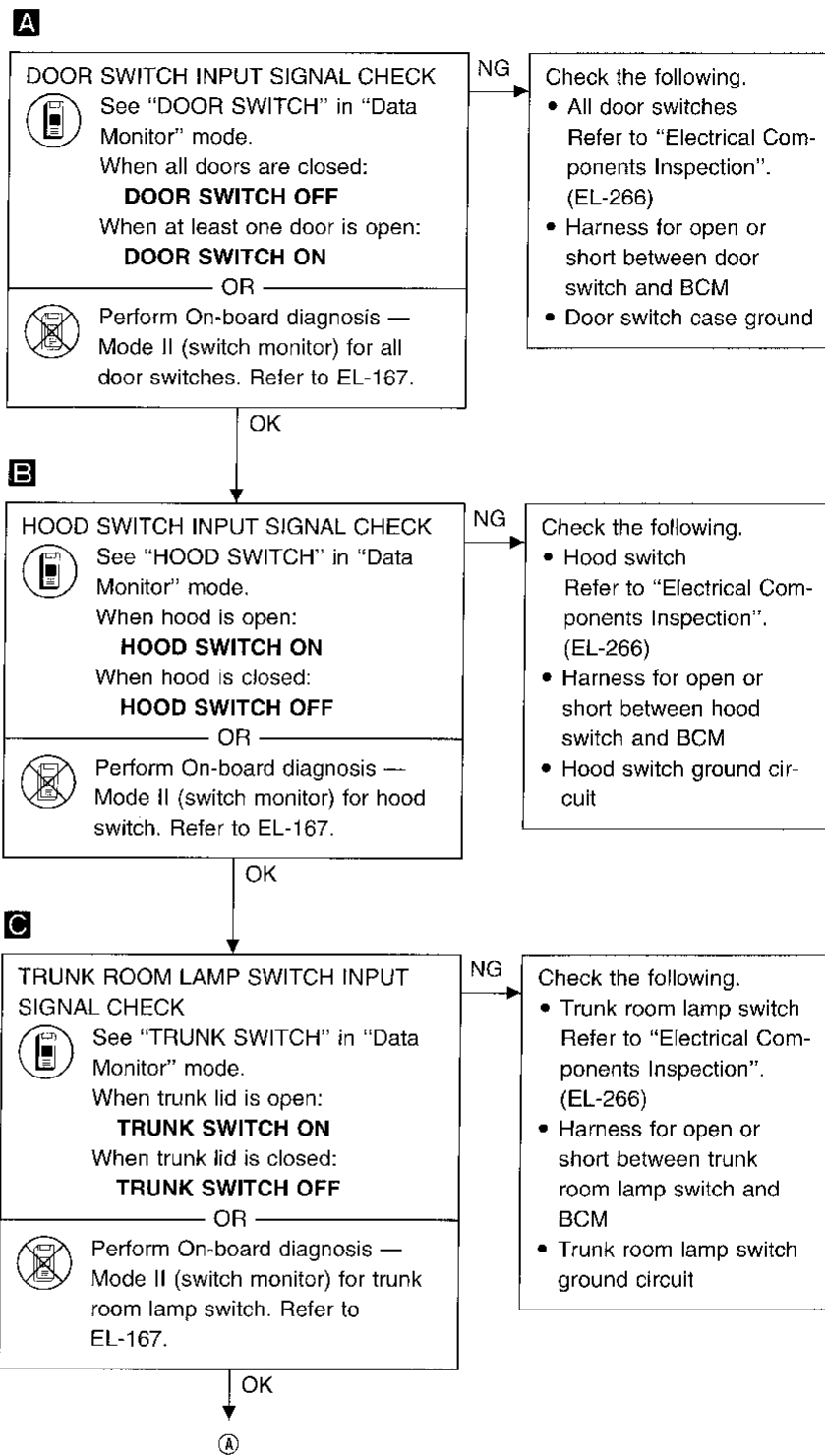
C

☆MONITOR

TRUNK SWITCH OFF

RECORD

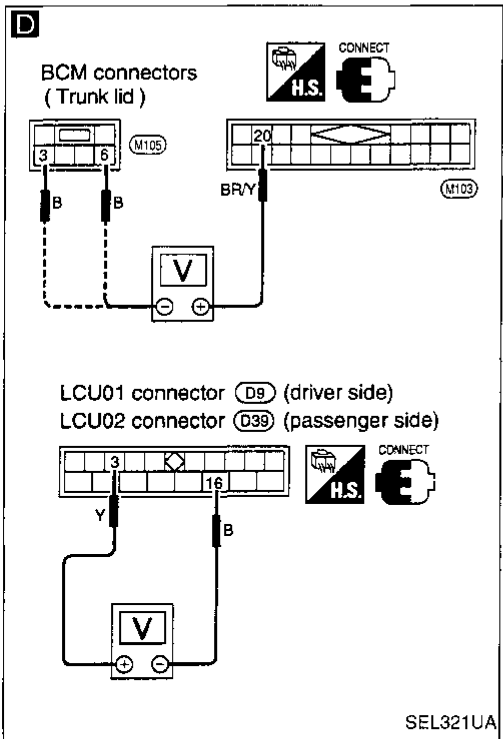
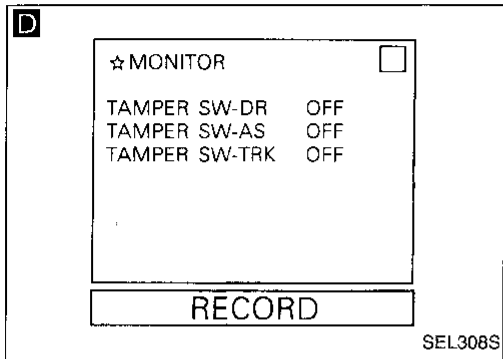
SEL305S



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THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)



A

D

KEY CYLINDER TAMPER SWITCH INPUT SIGNAL CHECK

See "TAMPER SW" in "Data Monitor" mode.

When driver side key cylinder is removed,
TAMPER SW-DR ON

When driver side key cylinder is installed,
TAMPER SW-DR OFF

When passenger side key cylinder is removed,
TAMPER SW-AS ON

When passenger side key cylinder is installed,
TAMPER SW-AS OFF

When trunk lid key cylinder is removed,
TAMPER SW-TRK ON

When trunk lid key cylinder is installed,
TAMPER SW-TRK OFF

OR

Measure voltage between BCM terminals ⑫ and ③ or ⑥ (trunk lid), LCU01 terminals ③ and ⑯ (driver side), and LCU02 terminals ③ and ⑯ (passenger side).

Condition		Voltage [V]
Key cylinder removed		0
Key cylinder installed	Front doors	Approx. 12
	Trunk lid	Approx. 5

- NG
- Check the following.
- Key cylinder tamper switch in question. Refer to "Electrical Components Inspection" (EL-267).
 - Harness for open or short between tamper switch and BCM/LCU
 - Tamper switch ground circuit

OK

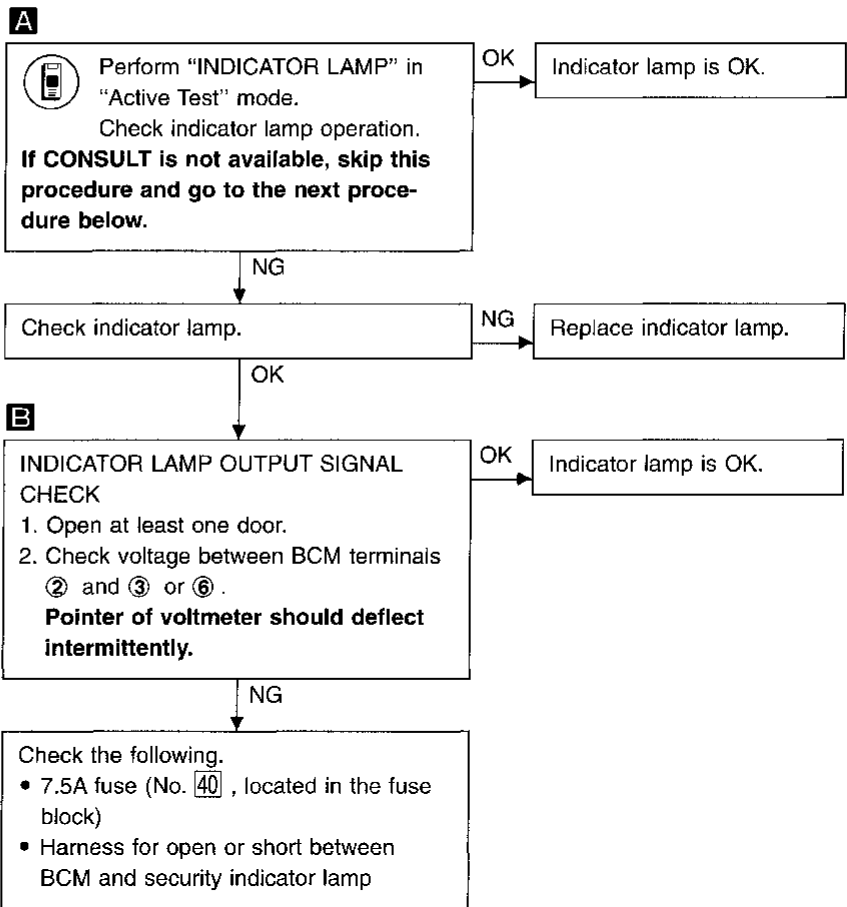
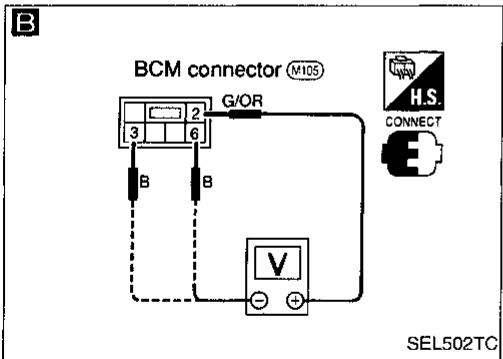
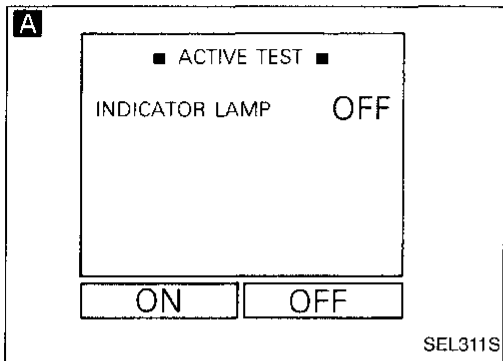
Door open and tamper switch is OK.

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

(Security indicator lamp check)



G1

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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

CHECK DOOR LOCK KNOB SWITCH CIRCUITS. OK → Door unlock sensor is OK.

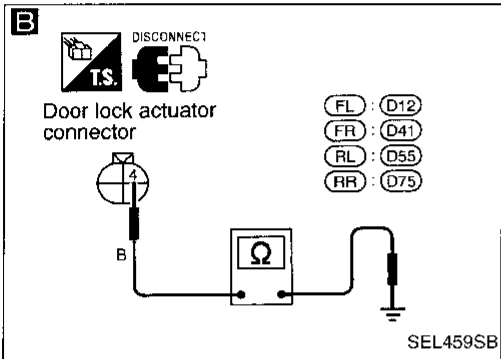
A  CONSULT

See "LOCK SIG SW" in DATA MONITOR mode.
"LOCK SIG SW" should be "LOCK" when lock knob was locked.

OR

 ON-BOARD

Check front door lock knob operation in Switch monitor (Mode II) mode.
 (Refer to On-board Diagnosis, EL-167.)



NG

1) Disconnect LCU connector and door lock actuator connector. NG → Repair harness.

2) Check harness for open or short between LCU connector terminal ④ and door lock actuator connector terminal ②.

OK

B

CHECK GROUND CIRCUIT FOR FRONT LH OR RH LOCK KNOB SWITCH. NG → Repair ground harness.

Check harness continuity between door lock actuator connector harness terminal ④ and body ground.
Continuity should exist.

OK

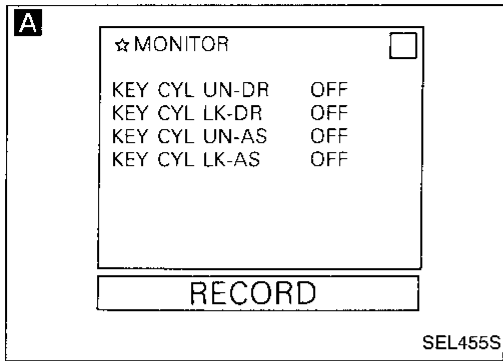
Replace front door lock actuator.

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.)

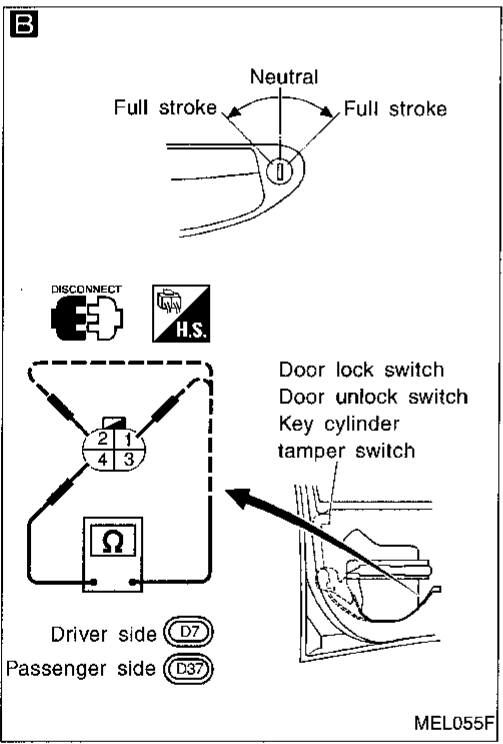
OR

 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-167.)

OK → Door key cylinder switch is OK.



NG

B

CHECK DOOR KEY CYLINDER SWITCH.

Terminals	Condition	Continuity
① - ④ ② - ④	Neutral	No
	Between locked and neutral	Yes
	Locked	No

NG → Replace door key cylinder switch.

OK

Check harness for open or short between door key cylinder switch and LCU01/02.

CI

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THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

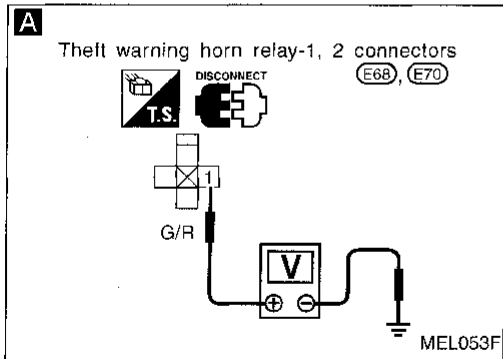
DIAGNOSTIC PROCEDURE 5

(Theft warning horn alarm check)

Perform "ALARM RELAY" in ACTIVE TEST mode.
Check horn operation.
If CONSULT is not available, skip this procedure and go to the next procedure below.

OK → Horn alarm is OK.

NG ↓



Check theft warning horn relay-1, 2.

NG → Replace.

OK ↓

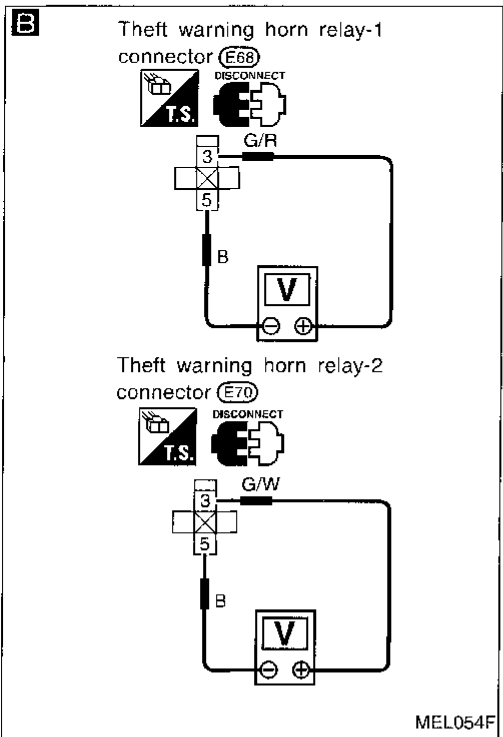
A CHECK POWER SUPPLY FOR THEFT WARNING HORN RELAY-1, 2.

1. Disconnect theft warning horn relay connectors.
2. Measure voltage between terminal ① and body ground.

Positive battery voltage should exist.

NG → Check 7.5A fuse (No. 65, located in the fusible link box)

OK ↓



B CHECK THEFT WARNING HORN CIRCUIT.

1. Disconnect theft warning horn relay connector.
2. Measure voltage between terminals ③ and ⑤.

Positive battery voltage should exist.

NG → Check the following.

- Harness for open or short
- Theft warning horn and theft warning horn relay ground

OK ↓

C CHECK ALARM OUTPUT CIRCUIT.

1. Disconnect BCM connectors.
2. Measure voltage between BCM terminals ⑬ and ③ or ⑥.

Positive battery voltage should exist.

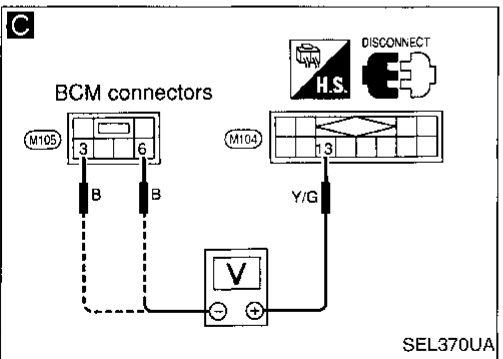
NG → Check harness for open or short between theft warning horn relay and BCM.

OK ↓

Perform IVMS communication diagnosis again (EL-160 or EL-166).

OK → Horn alarm is OK.

NG ↓




Replace BCM.

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

(Headlamp alarm check)

 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.

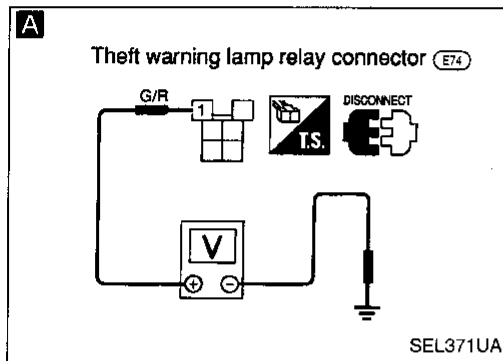
OK → Headlamp alarm is OK.

NG

Check theft warning lamp relay.

NG → Replace.

OK →



A

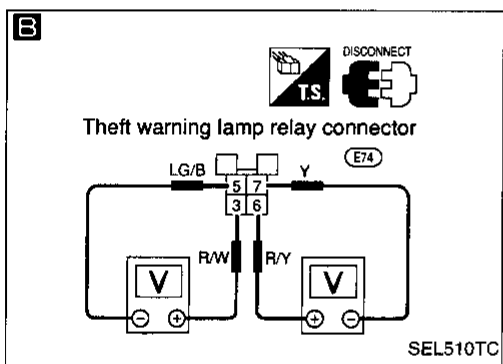
CHECK POWER SUPPLY FOR THEFT WARNING LAMP RELAY.

1. Disconnect theft warning lamp relay connector.
2. Measure voltage between terminal ① and body ground.

Positive battery voltage should exist.

NG → Check 7.5A fuse (No. 65), located in fusible link box.

OK →



B

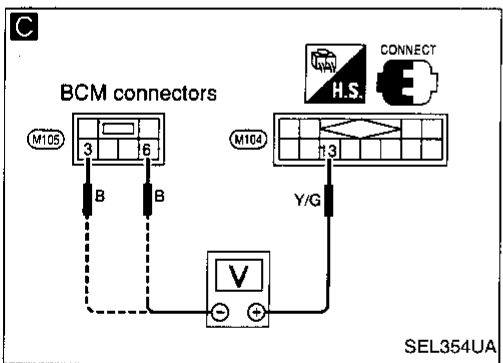
CHECK THEFT WARNING LAMP RELAY CIRCUIT.

1. Disconnect theft warning lamp relay connector.
2. Measure voltage between terminals ③ and ⑤.
3. Measure voltage between terminals ⑥ and ⑦.

Positive battery voltage should exist.

NG → Check harness for open or short.

OK →



C

CHECK ALARM OUTPUT CIRCUIT.

1. Disconnect BCM connectors.
2. Measure voltage between BCM terminals ⑬ and ③ or ⑥.

Positive battery voltage should exist.

NG → Check harness for open or short between theft warning lamp relay and BCM.

OK →

Perform IVMS communication diagnosis again (EL-160 or EL-166).

OK → Headlamp alarm is OK.

NG →

Replace BCM.


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THEFT WARNING SYSTEM — IVMS

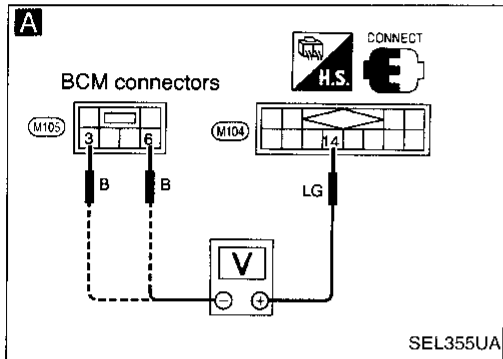
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

(Starter interrupt system check)

 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

A CHECK STARTER INTERRUPT CIRCUIT.
 1. Disconnect BCM connectors.
 2. Measure voltage between BCM terminals ⑭ and ③ or ⑥.

NG → Check 10A fuse (No. 17, located in fuse block).

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

OK

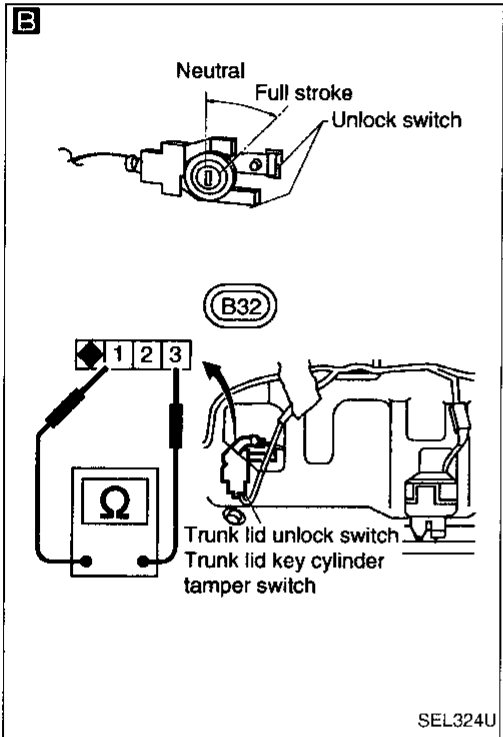
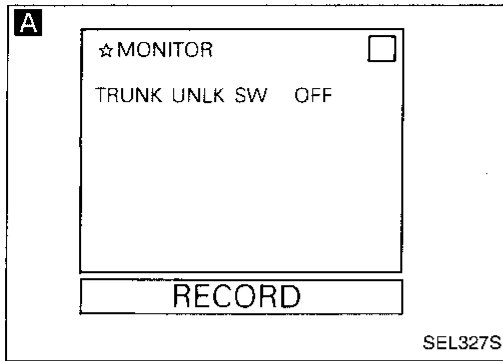
Check harness for open or short between theft warning relay and BCM.

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

(Trunk lid key unlock signal check)



A

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

Perform On-board diagnosis — Mode II (switch monitor) for trunk lid unlock switch. Refer to EL-167.

OK → Trunk lid key unlock switch is OK.

NG

B

CHECK TRUNK LID KEY CYLINDER SWITCH (UNLOCK SWITCH).

Terminals	Condition	Continuity
① - ③	Neutral	No
	Between unlocked and neutral	Yes
	Unlocked	No

NG → Replace trunk lid key unlock switch.

OK

Check harness for open or short between trunk lid key cylinder switch and BCM.

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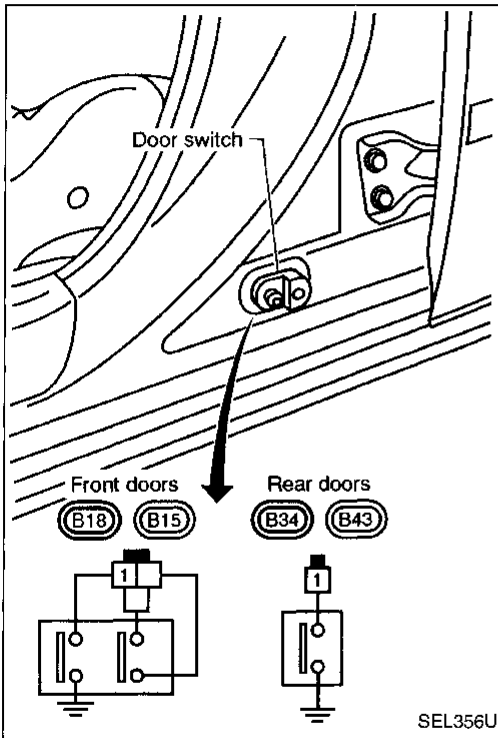
THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

ELECTRICAL COMPONENTS INSPECTION

Door switches

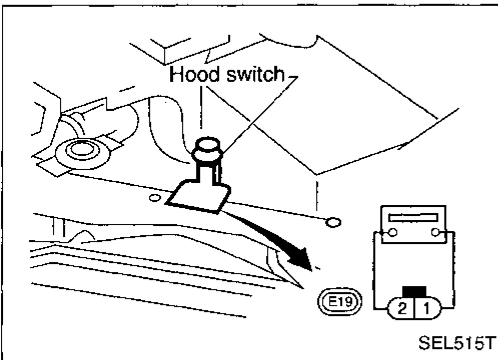
Check continuity between terminal and switch body.



	Terminals	Condition	Continuity
Front door switches	① - switch body	Pressed	No
		Released	Yes
Rear door switches	① - switch body	Pressed	No
		Released	Yes

Hood switch

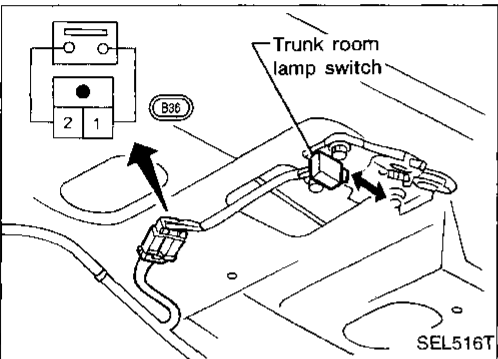
Check continuity between terminals.



Terminals	Condition	Continuity
① - ②	Pressed	No
	Released	Yes

Trunk room lamp switch

Check continuity between terminals.



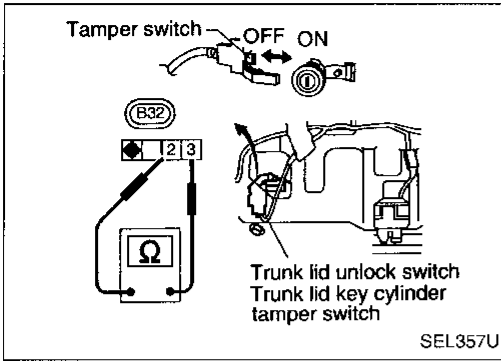
Terminals	Condition	Continuity
① - ②	Pressed	Yes
	Released	No

THEFT WARNING SYSTEM — IVMS

Trouble Diagnoses (Cont'd)

ELECTRICAL COMPONENTS INSPECTION

Trunk lid key cylinder tamper switch



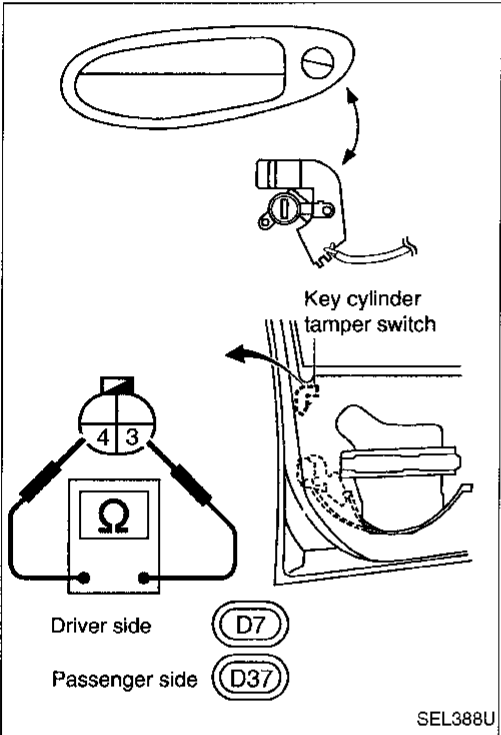
	Terminals	Condition	Continuity
Tamper switch	② - ③	Key cylinder installed	No
		Key cylinder removed	Yes

GI

WA

EM

Door key cylinder tamper switch



	Terminals	Condition	Continuity
Tamper switch	③ - ④	Key cylinder installed	No
		Key cylinder removed	Yes

LC

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System Description

Power is supplied at all times

- to lighting switch terminal ⑪
- 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 ⑳
- through lighting switch terminal ⑫ and
- 7.5A fuse [No. ⑤], located in the fuse block (J/C)].

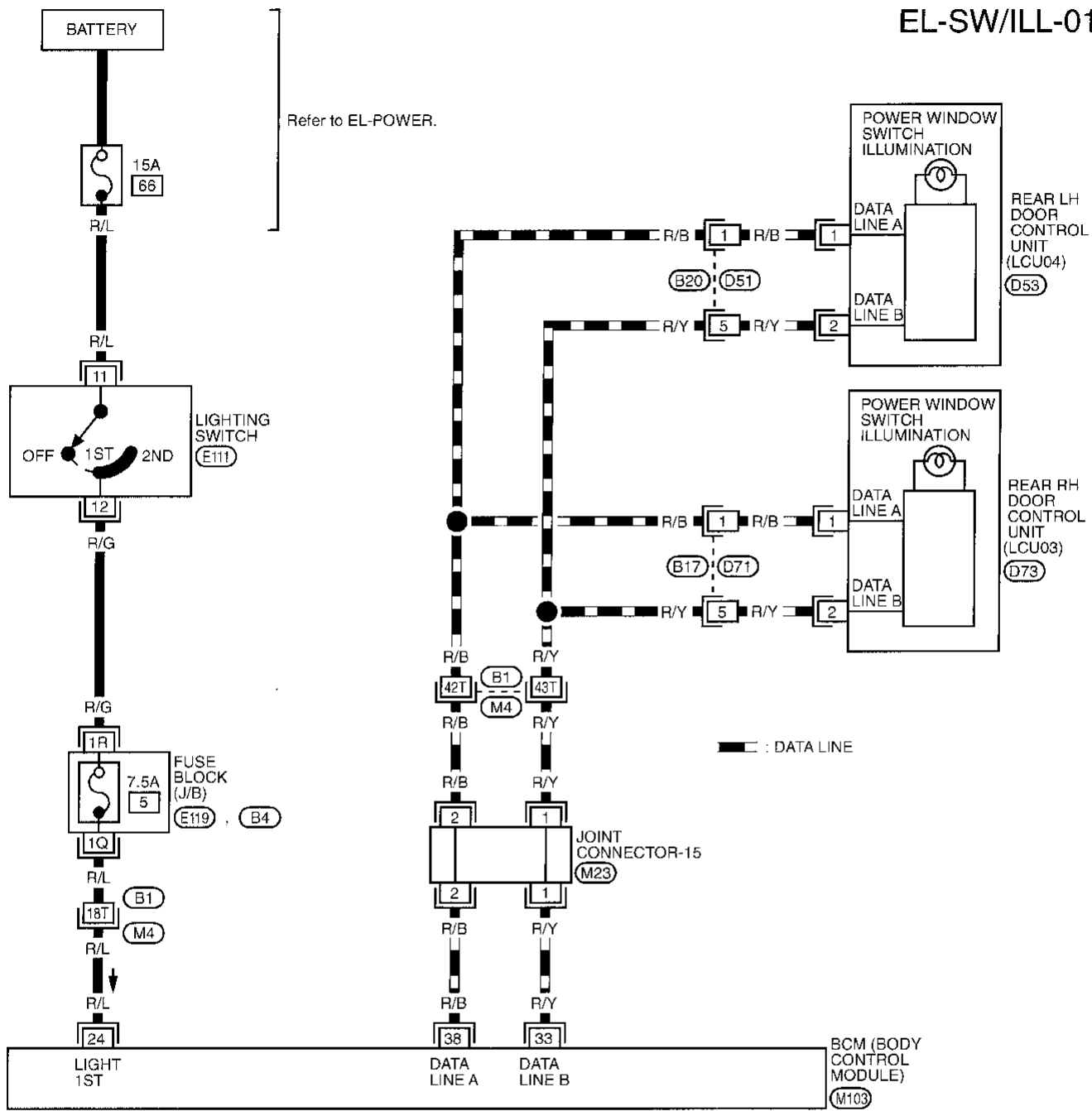
Terminals ① and ② of the power window switch illumination (located in the rear LH and RH door control units) are connected to BCM terminals ③⑧ and ③③ by DATA LINES A and B respectively.

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.

Wiring Diagram — SW/ILL —

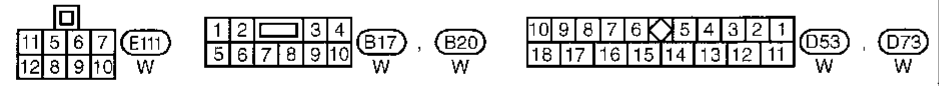
EL-SW/ILL-01

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DATA LINE

Refer to last page (Foldout page).



- M4, B1
- B4
- M23
- M103
- E119

Trouble Diagnoses

Perform "IVMS Communication Diagnoses" (EL-160) and "Power Supply and Ground Circuit Check" (EL-183) before starting with the following chart.

Symptom	Possible cause	Repair order
Power window switch illumination does not illuminate when lighting switch is turned to 1st or 2nd.*	<ol style="list-style-type: none"> 1. 7.5A fuse 2. Open in lighting switch circuit 3. LCU 4. BCM 	<ol style="list-style-type: none"> 1. Check 7.5A fuse (No. 5 , located in fuse block). 2. Check harness for open or short between 7.5A fuse and BCM. 3. Replace LCU. 4. Replace BCM.

* CONSULT (data monitor and/or active test) may also be used to confirm the cause of malfunction.

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 pulled out of ignition while driver's door is closed, and
- key is pulled out of ignition 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 29.

Driver door control unit (LCU01) terminal ① is connected to BCM terminal 39 by DATA LINE A. Also, driver door control unit terminal ② is connected to BCM terminal 33 by DATA LINE B.

Ground is supplied to driver door control unit terminal ④

- through front driver's 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 21 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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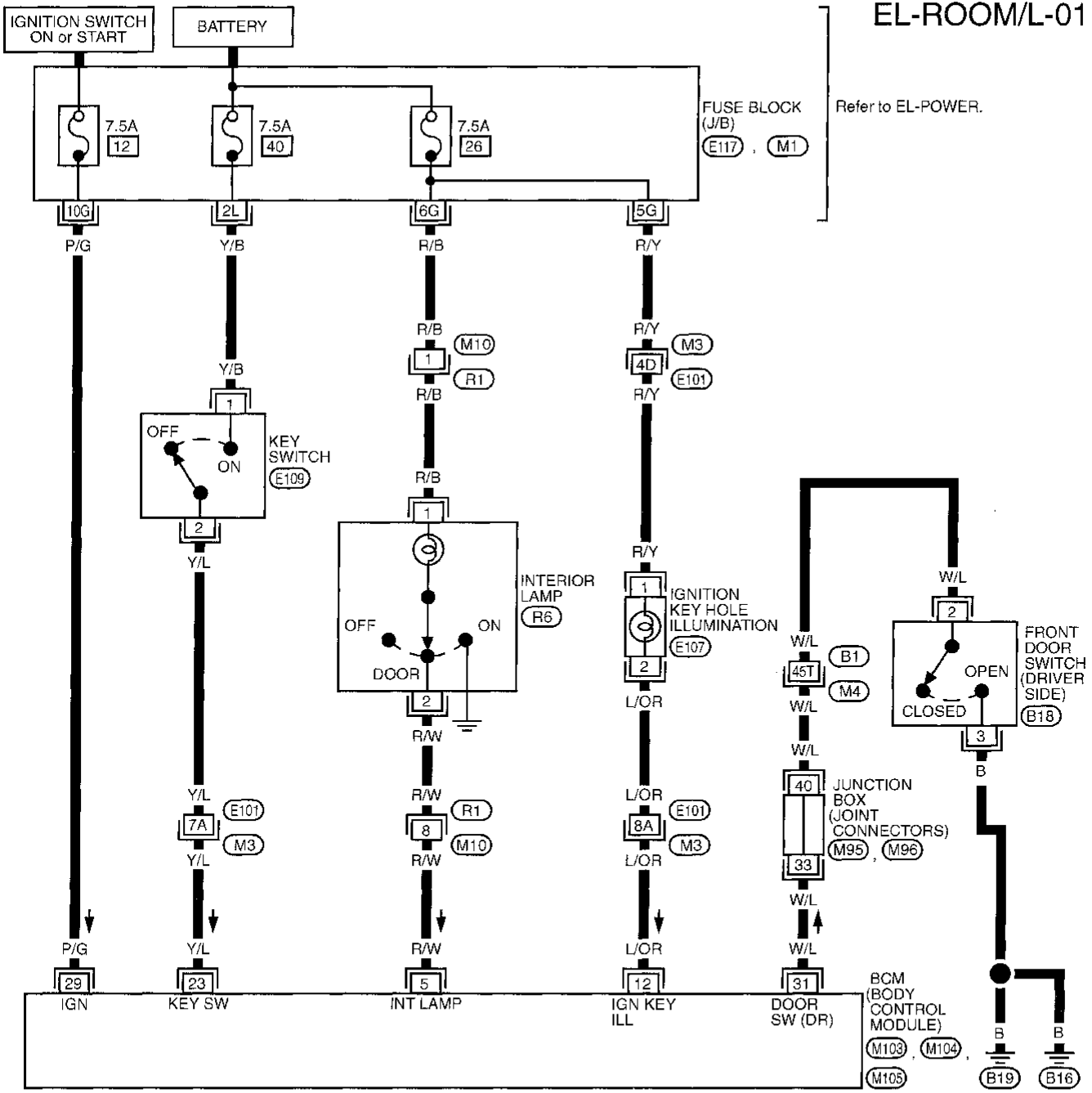
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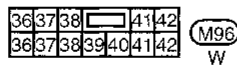
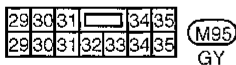
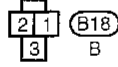
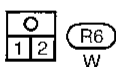
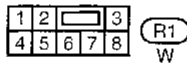
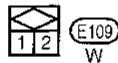
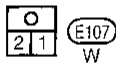
INTERIOR LAMP ON-OFF CONTROL — IVMS

Wiring Diagram — ROOM/L —

EL-ROOM/L-01



Refer to last page (Foldout page).



(M3, E101)

(M4, B1)

(M1)

(E117)

(M95)

(M96)

(M103)

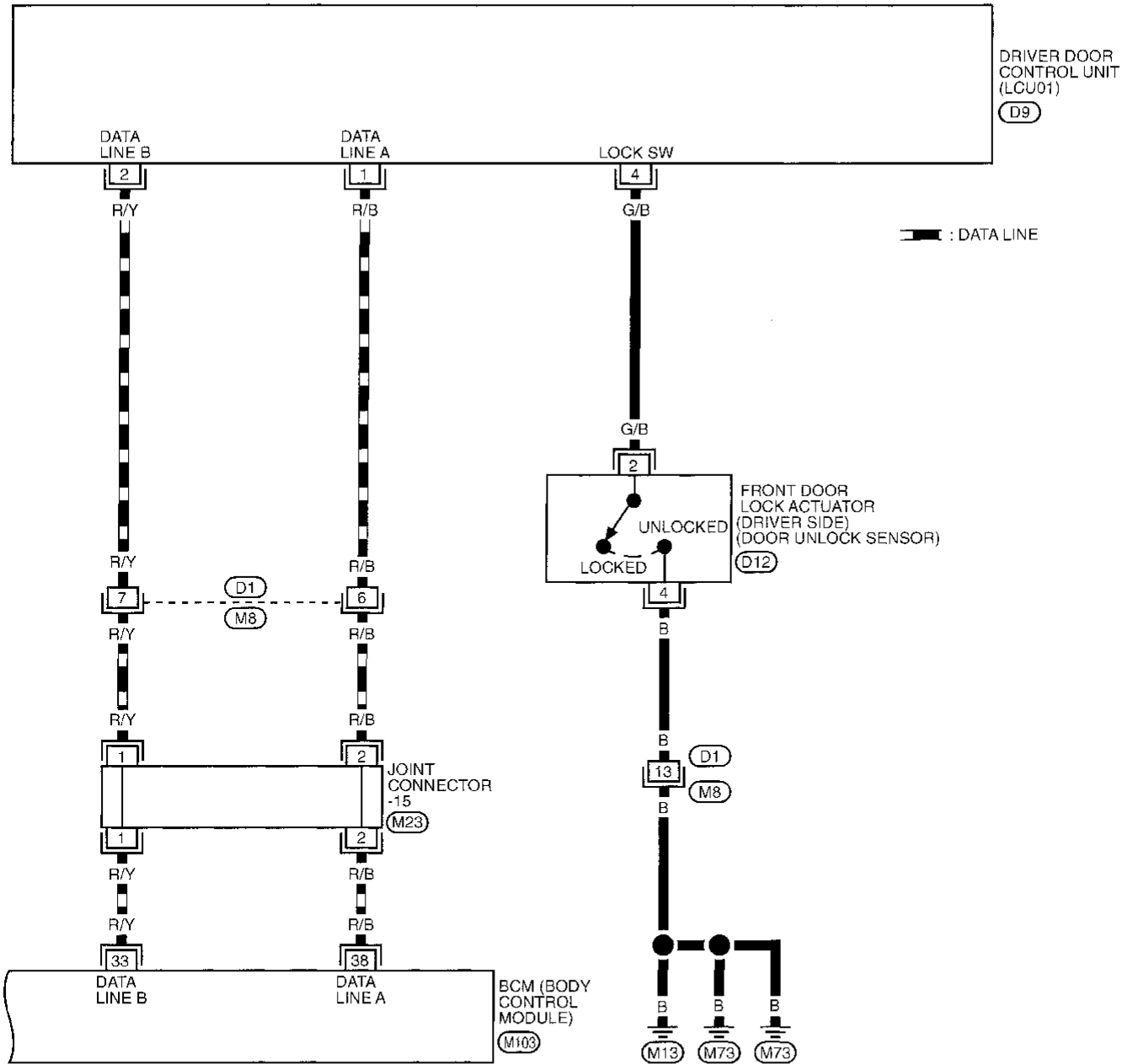
(M104)

(M105)

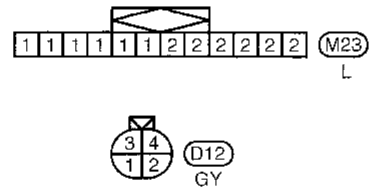
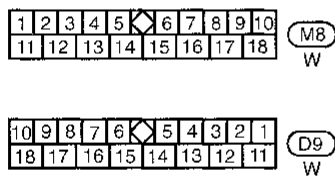
INTERIOR LAMP ON-OFF CONTROL — IVMS

Wiring Diagram — ROOM/L — (Cont'd)

EL-ROOM/L-02



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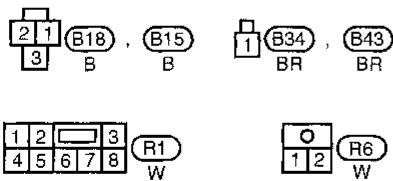
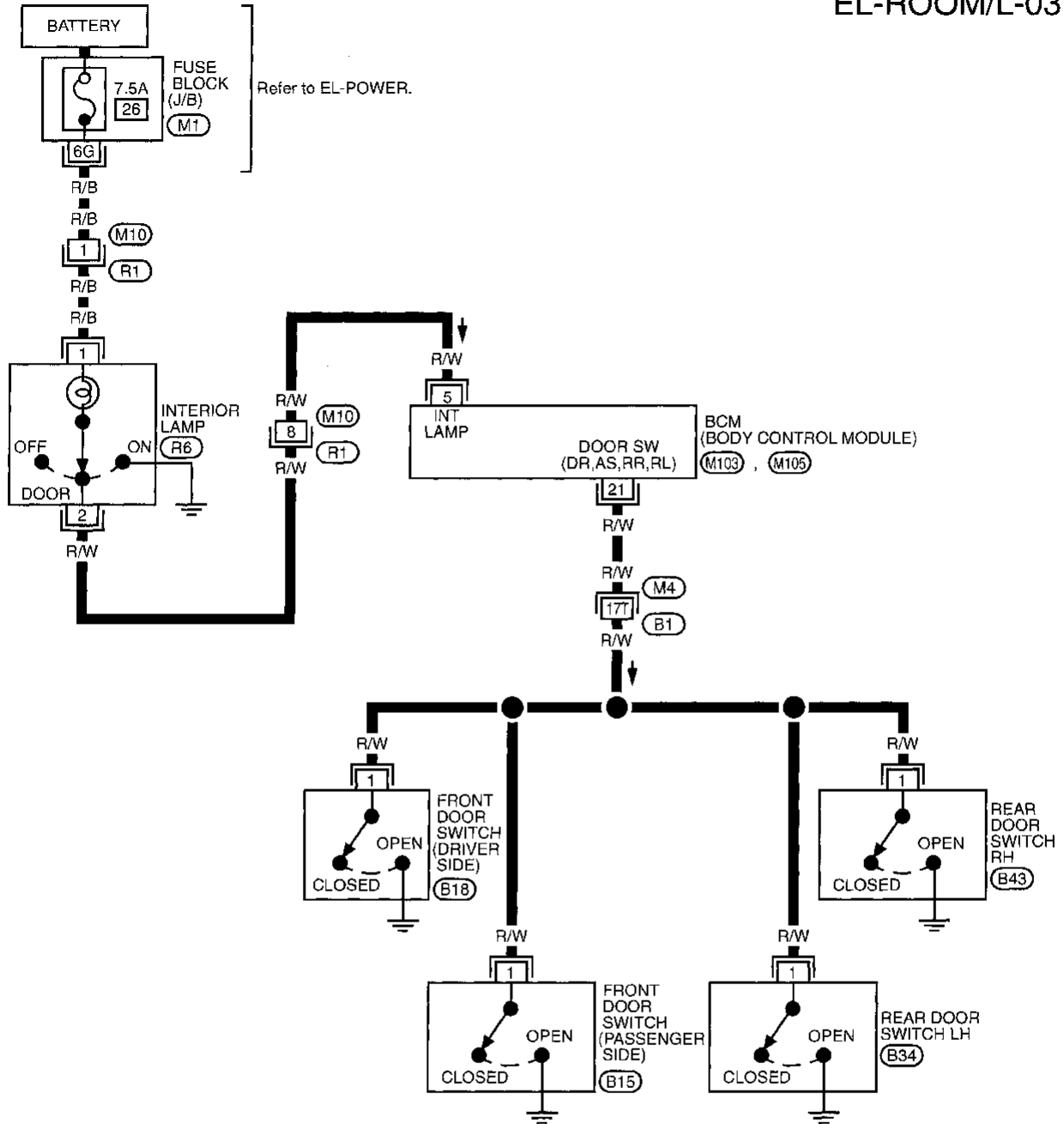


Refer to last page (Foldout page).
(M23)
(M103)

INTERIOR LAMP ON-OFF CONTROL — IVMS

Wiring Diagram — ROOM/L — (Cont'd)

EL-ROOM/L-03



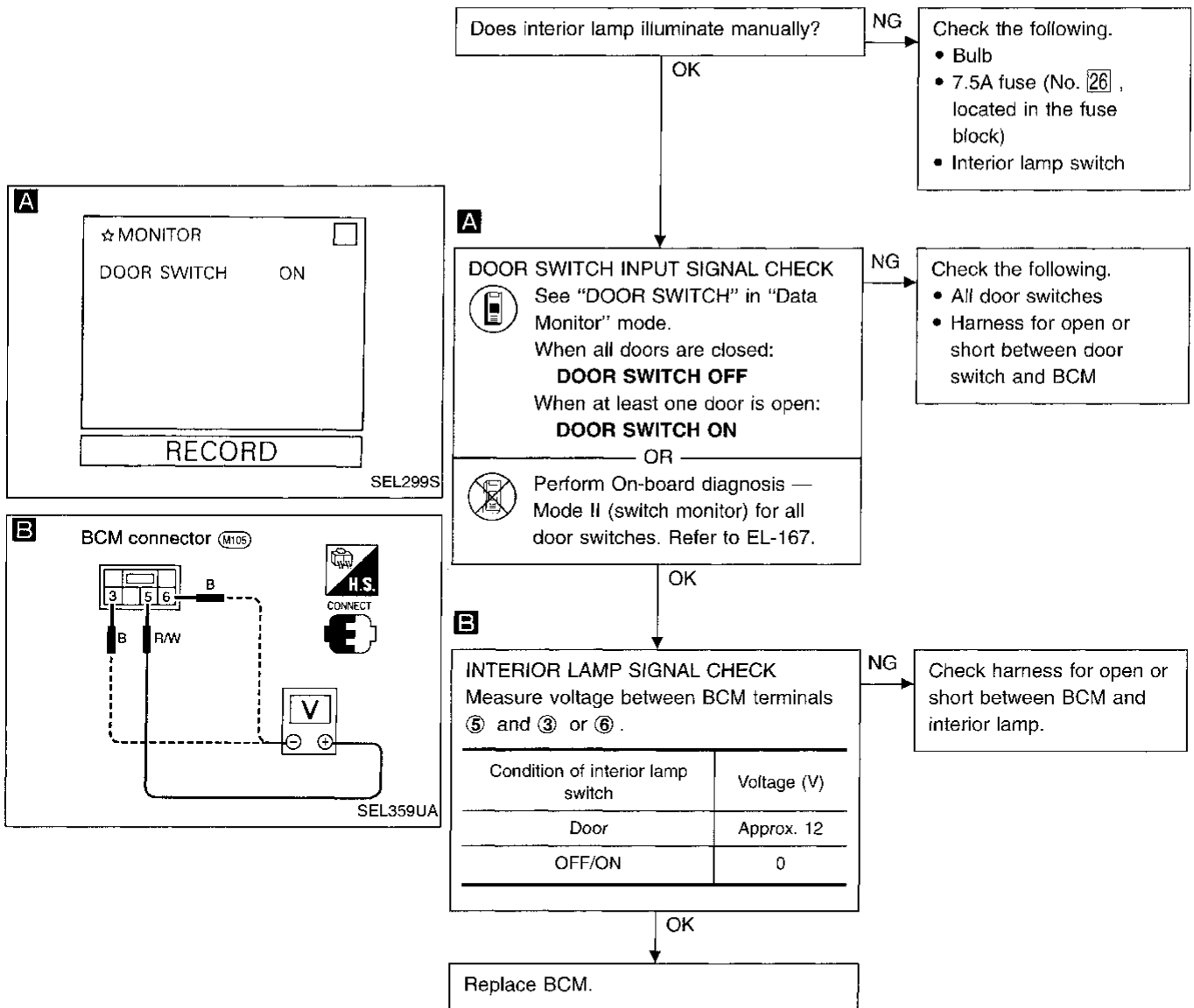
Refer to last page (Foldout page).

- (M4) , (B1)
- (M1)
- (M103)
- (M105)

Trouble Diagnoses

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Interior lamp does not illuminate/does not turn off when door is opened/closed.



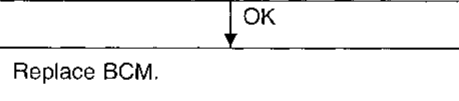
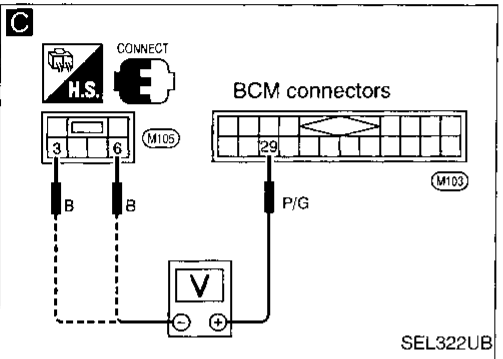
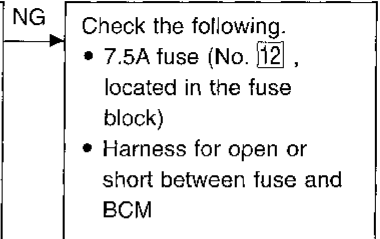
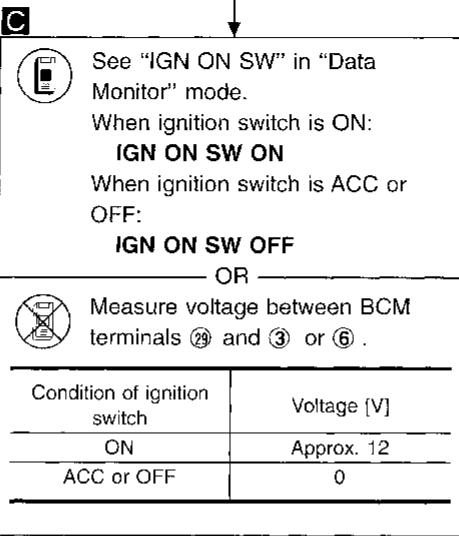
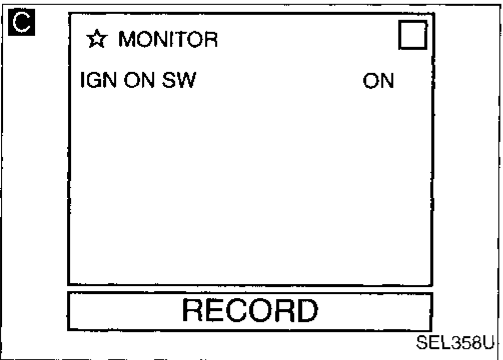
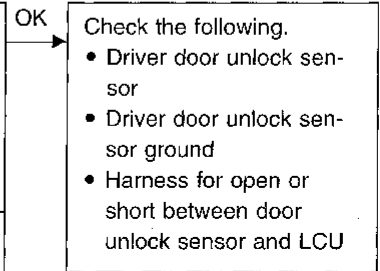
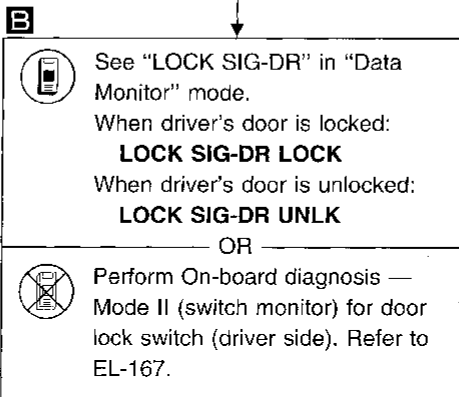
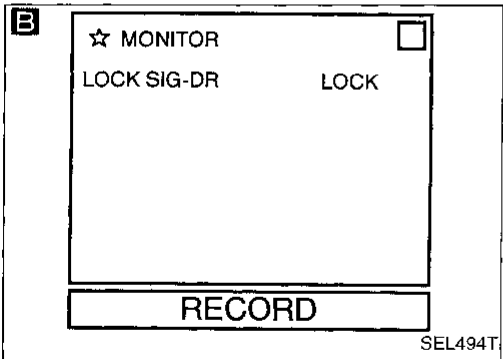
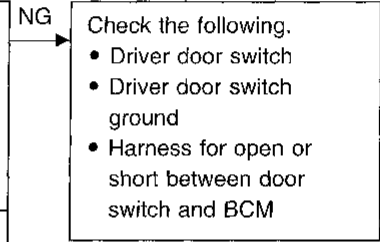
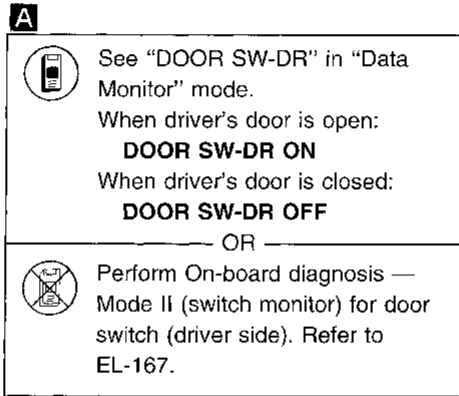
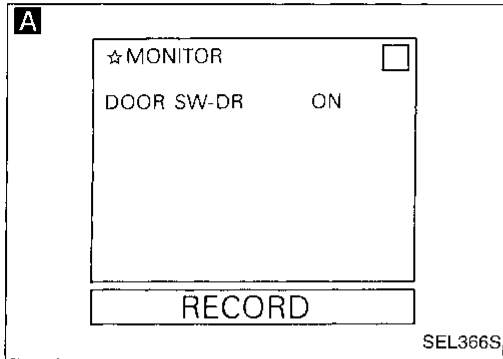
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INTERIOR LAMP ON-OFF CONTROL — IVMS

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.



System Description

Power is supplied at all times

- to BCM terminal ①
- through 7.5A fuse (No. 60 , 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 ⑬ of LCU01 and LCU02 through body grounds M13 and M73.

Terminal ① of LCU01 and LCU02 and terminal ⑳ of BCM are connected as DATA LINE A. Terminal ② of LCU01 and LCU02 and terminal ㉓ of BCM are connected by DATA LINE B.

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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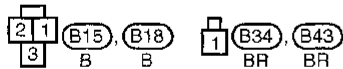
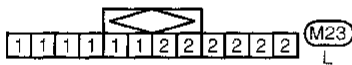
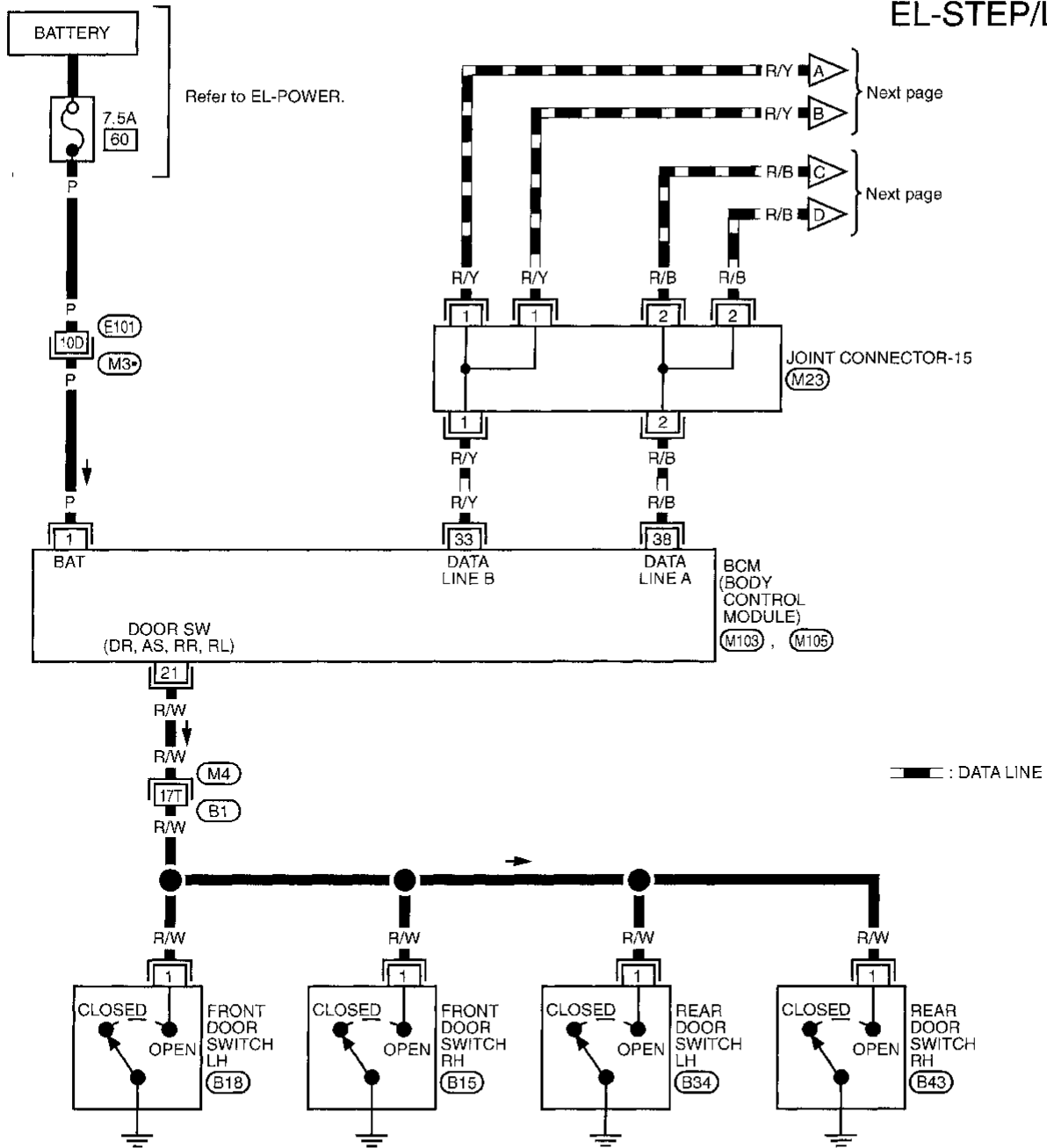
EL

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STEP LAMP — IVMS

Wiring Diagram — STEP/L —

EL-STEP/L-01



Refer to last page (Foldout page).

M3, E101

M4, B1

M23

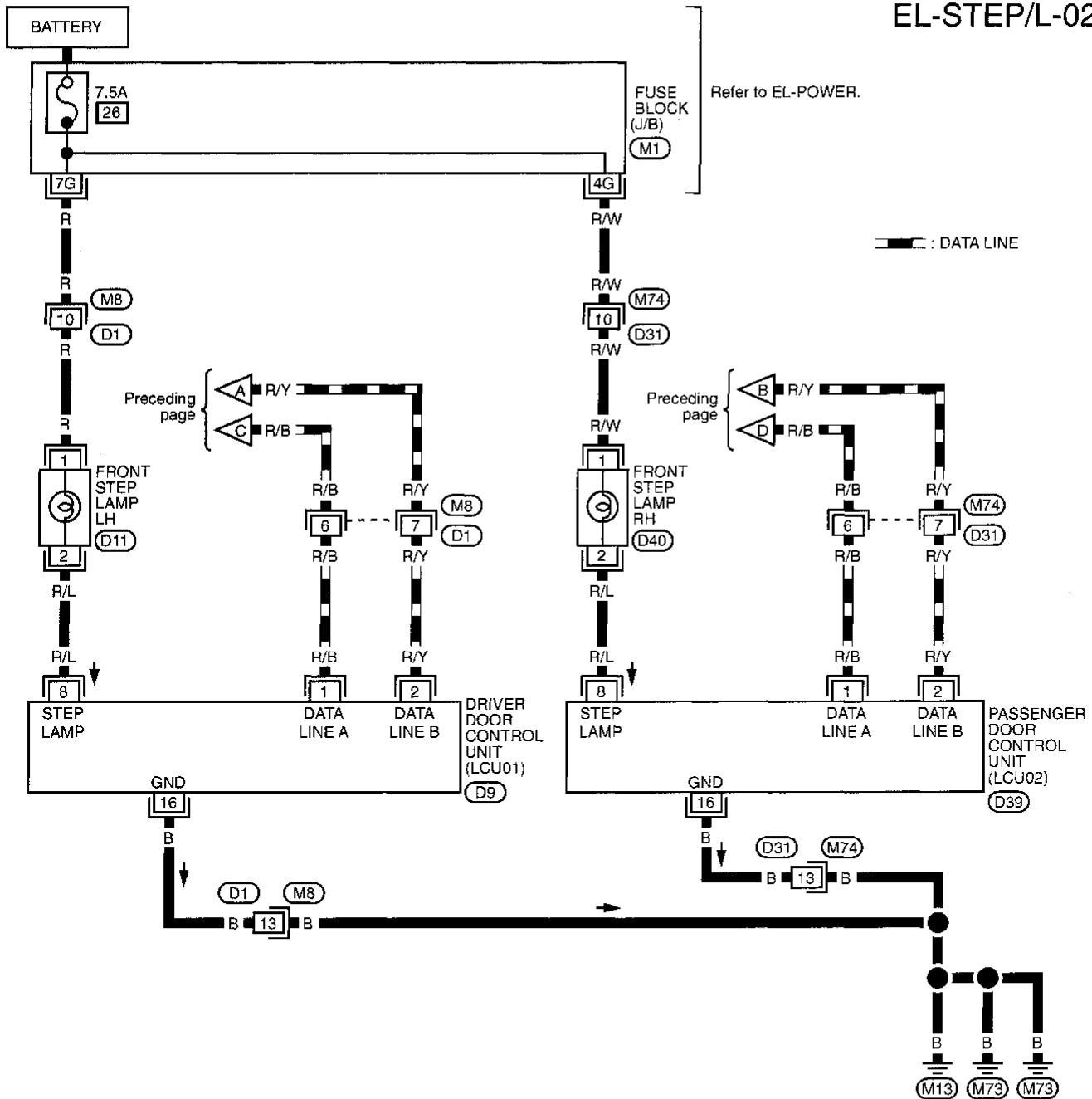
M103

M105

STEP LAMP — IVMS

Wiring Diagram — STEP/L — (Cont'd)

EL-STEP/L-02



1	2	3	4	5	6	7	8	9	10	M8	M74
11	12	13	14	15	16	17	18	W	W		

10	9	8	7	6	5	4	3	2	1	D9	D39	1	2	D11	D40
18	17	16	15	14	13	12	11	W	W	W	W	W	W		

Refer to last page (Foldout page).
M1

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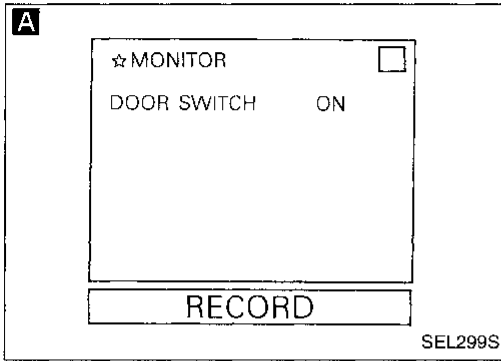
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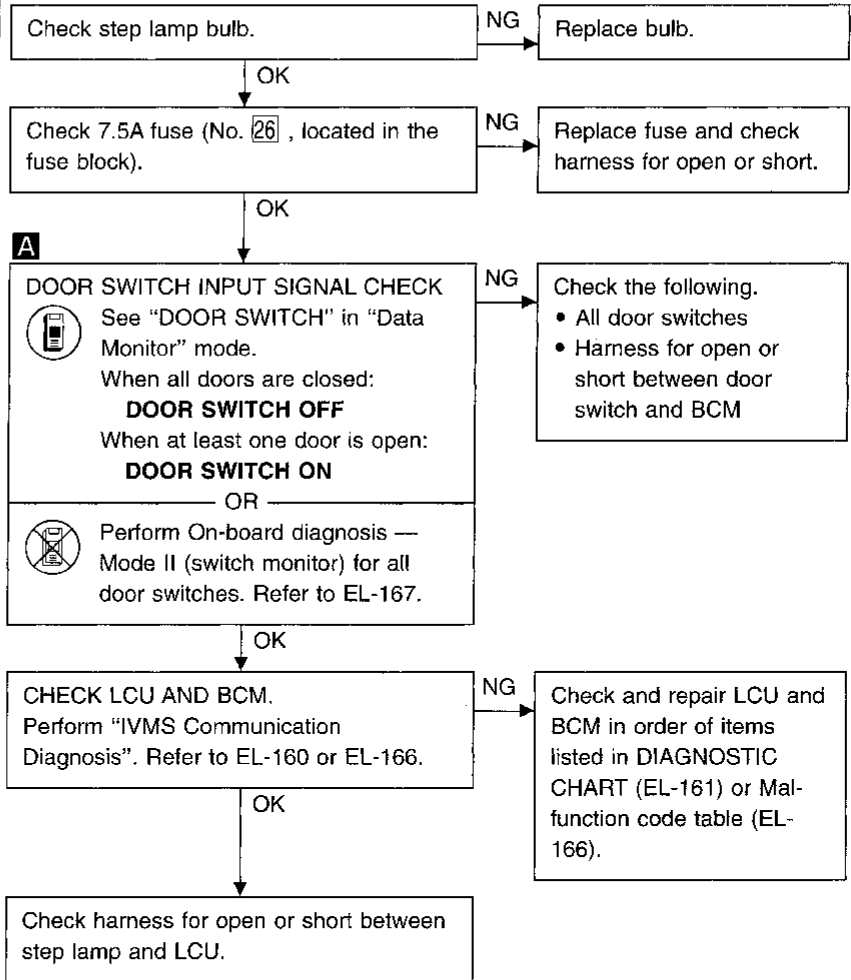
STEP LAMP — IVMS



Trouble Diagnoses

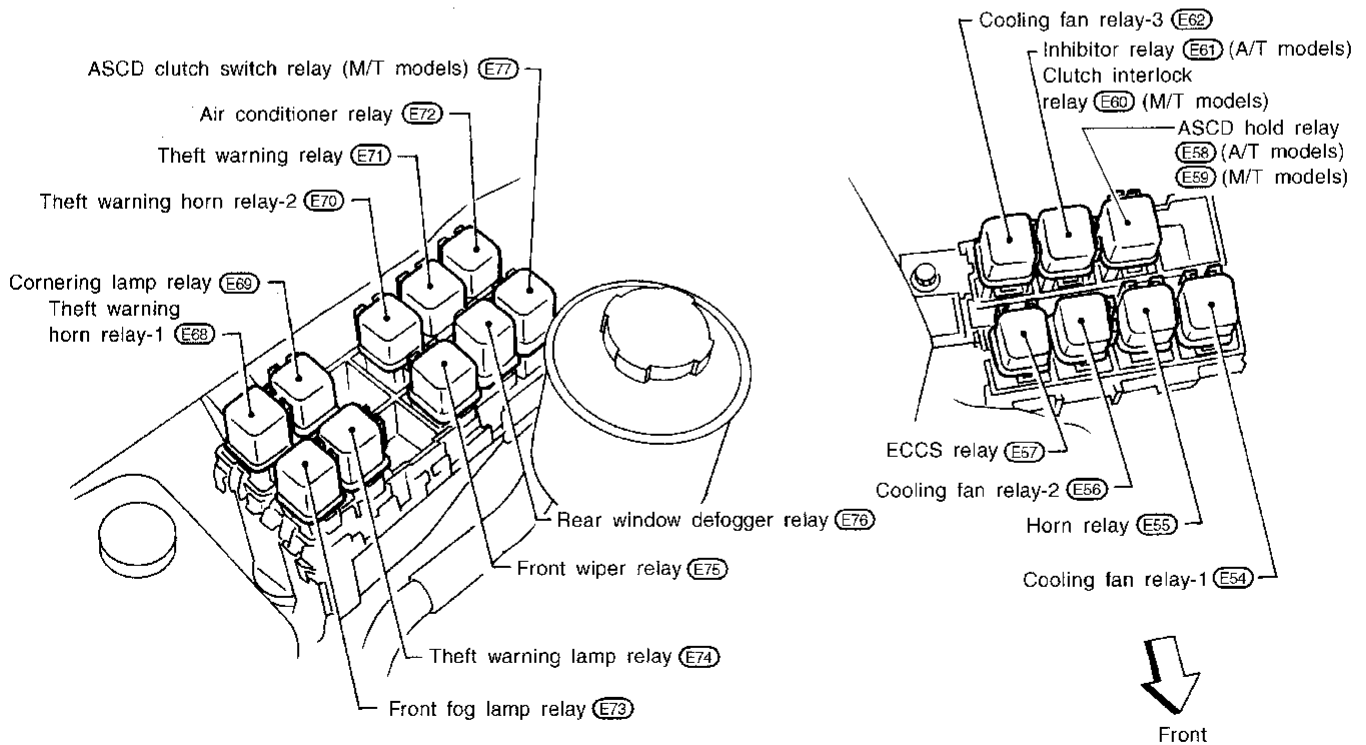
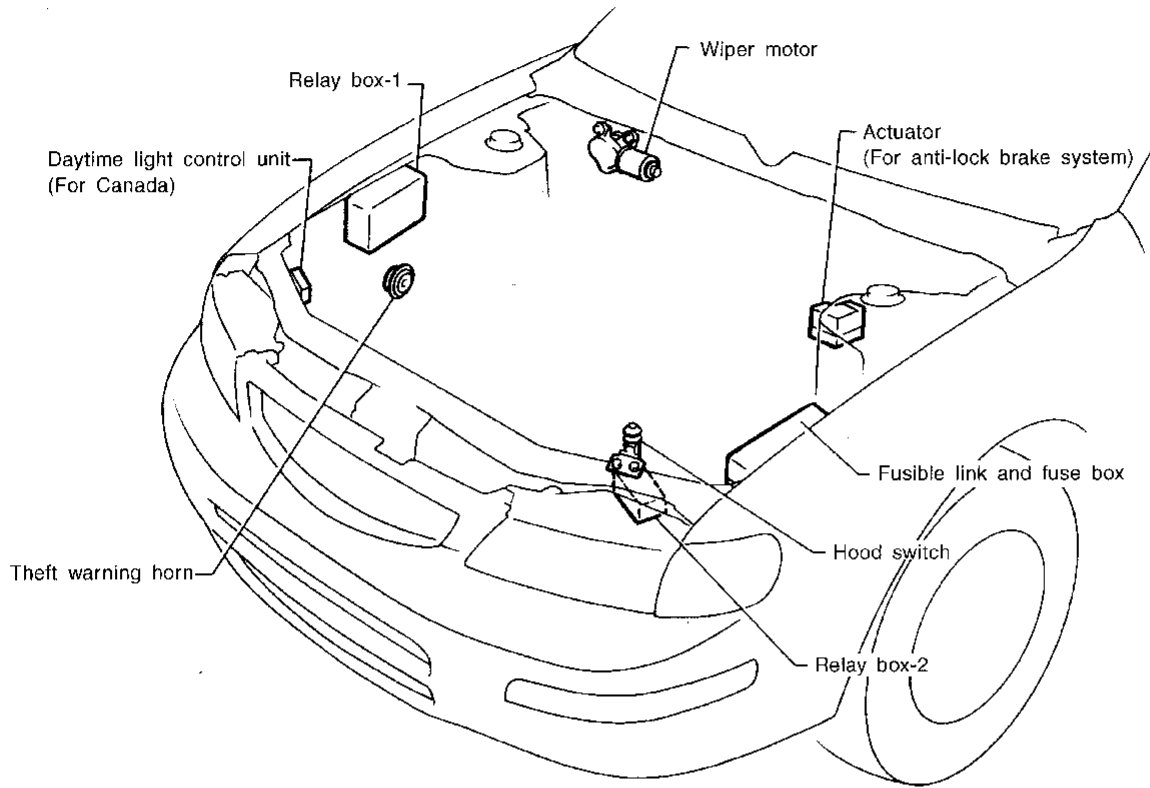
DIAGNOSTIC PROCEDURE

SYMPTOM: Step lamp does not illuminate/does not go off when door is opened/closed.



LOCATION OF ELECTRICAL UNITS

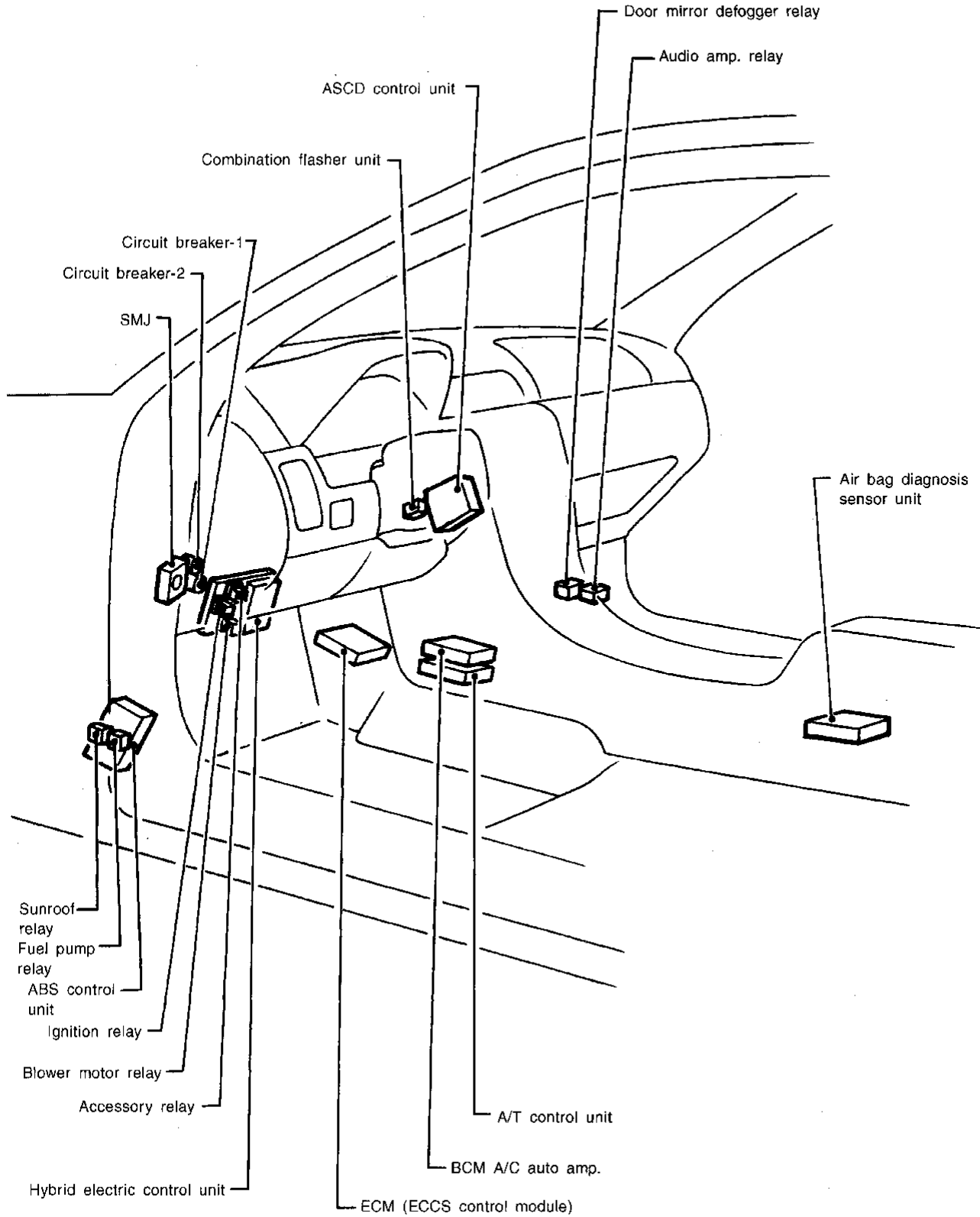
Engine Compartment



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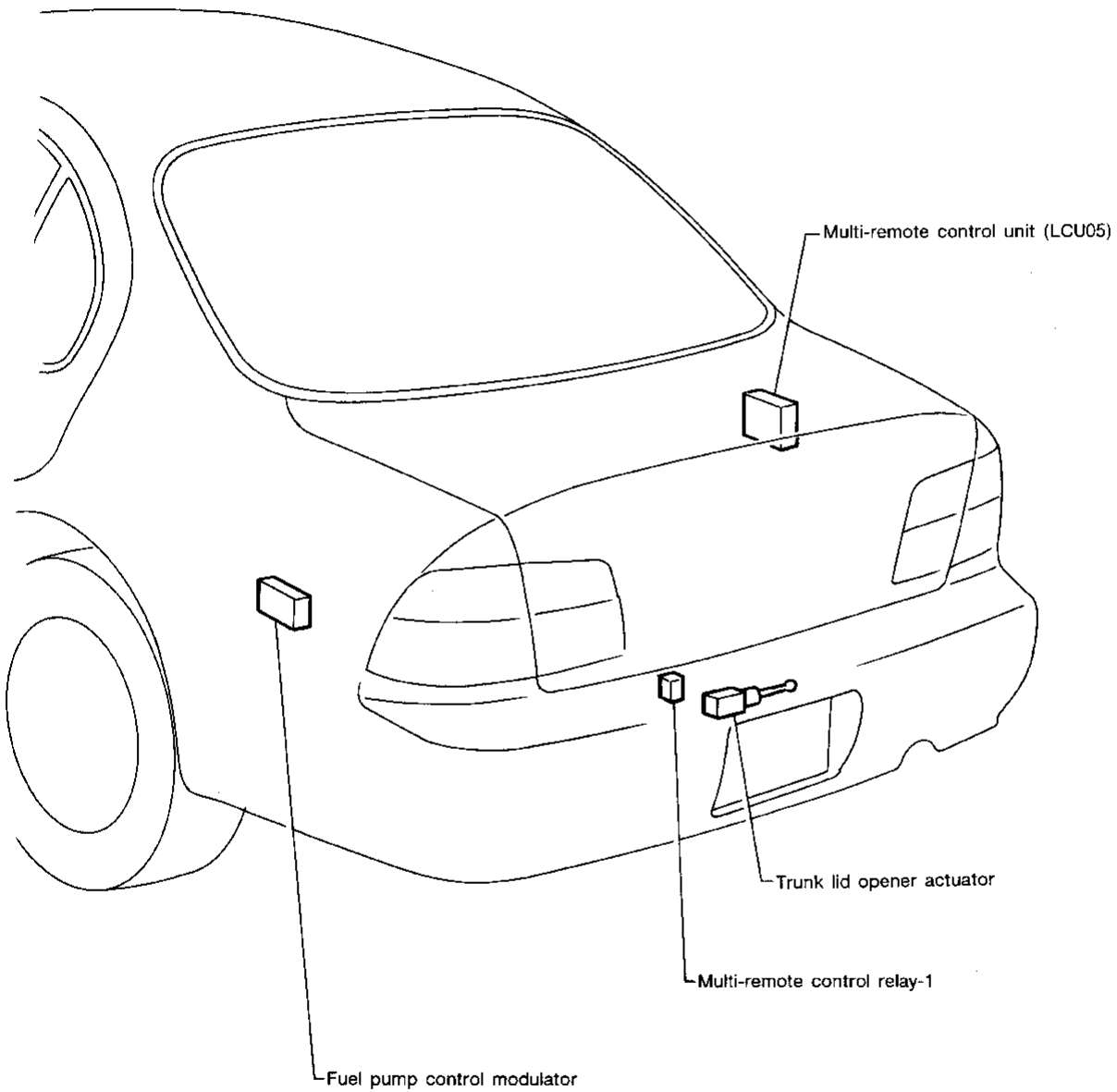
LOCATION OF ELECTRICAL UNITS

Passenger Compartment



LOCATION OF ELECTRICAL UNITS

Luggage Compartment



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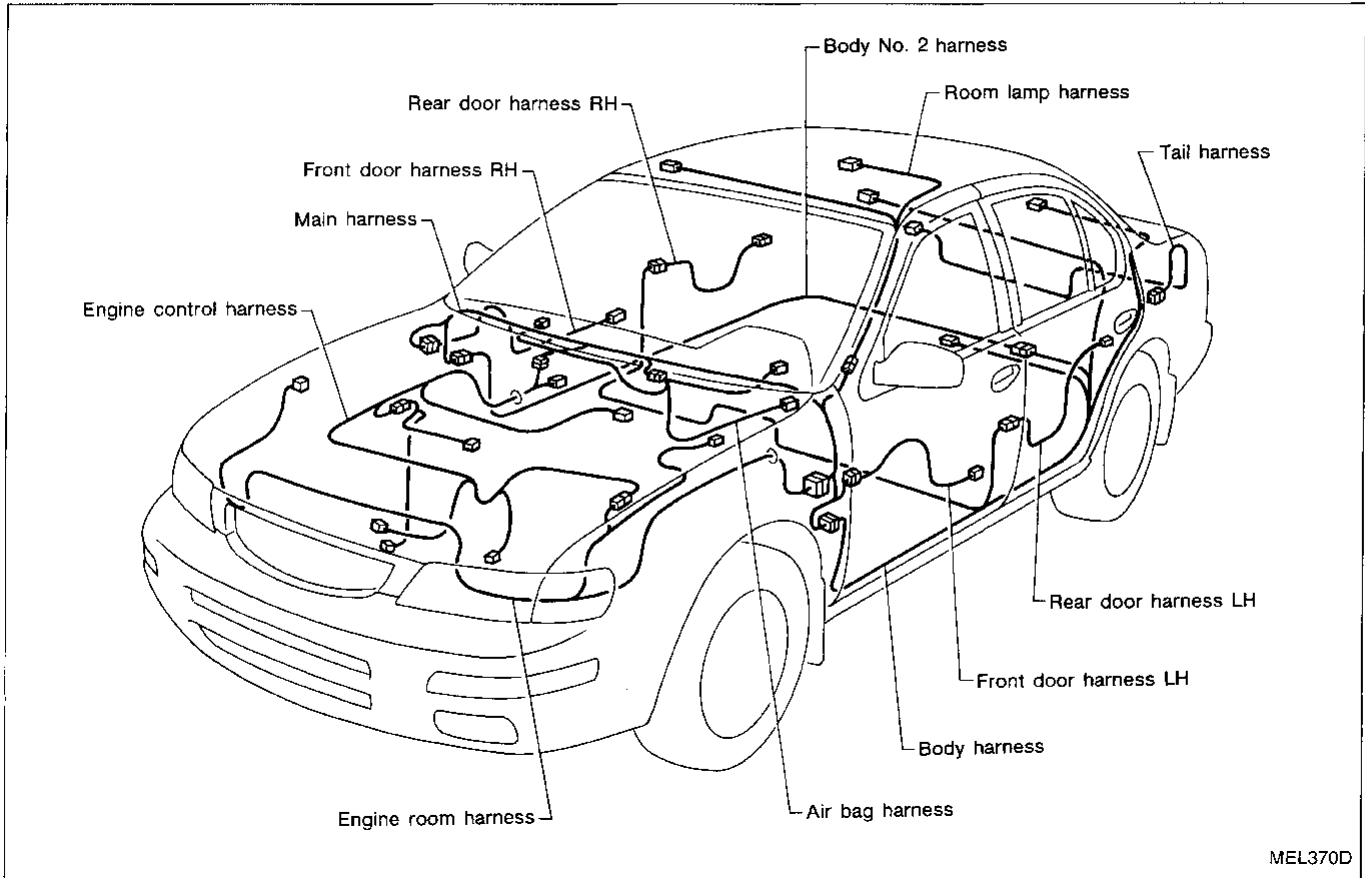
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HARNESS LAYOUT

Outline



The following Harness Layouts use a map style grid to help locate connectors on the drawings:

- Engine Room Harness (Engine Compartment)
- Main Harness
- Body Harness

The grid reference is placed on the page where connectors are listed in number order.

To the left of the connector number code there is a grid reference.

Example:

G2 (E1): ASCD actuator

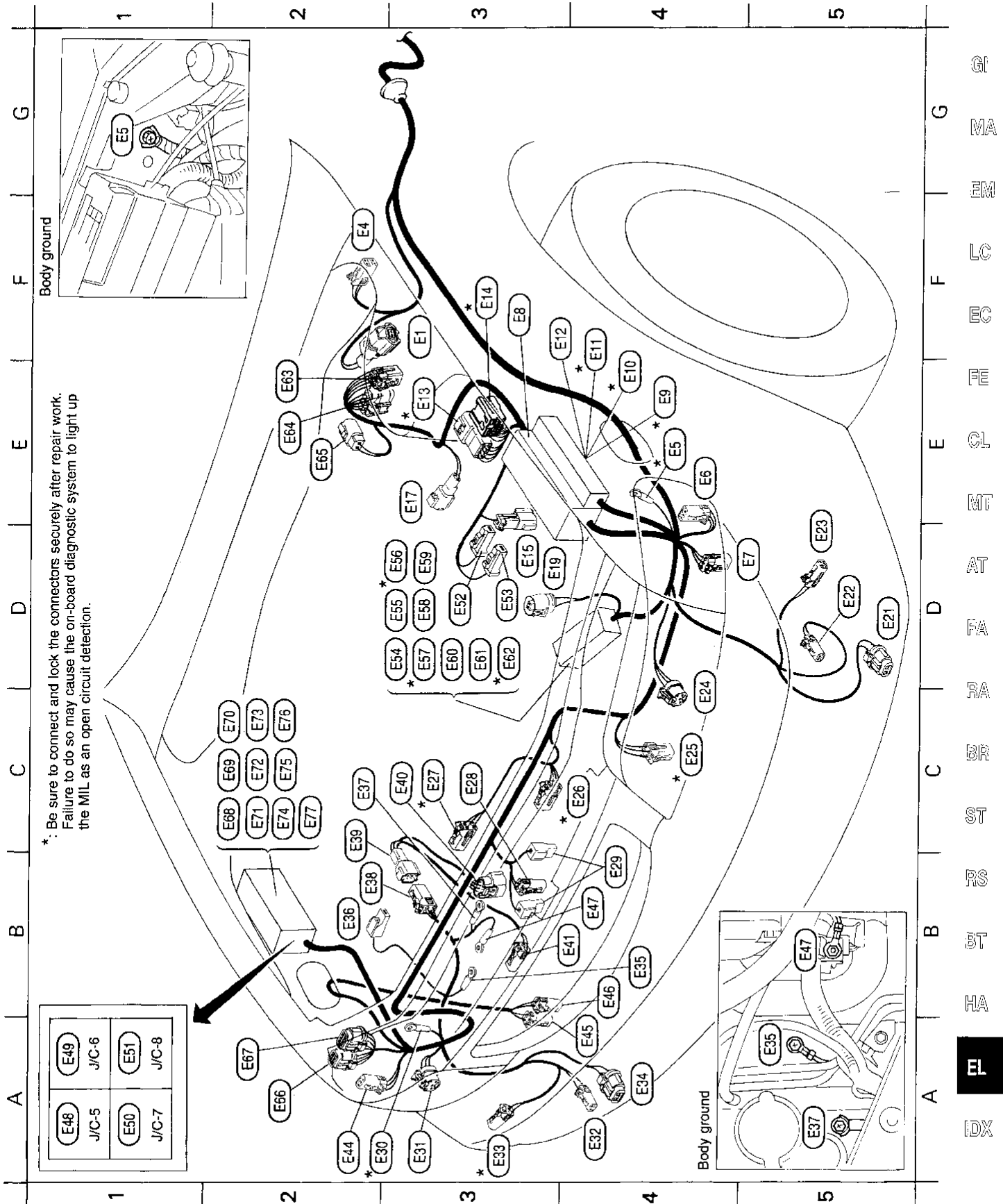
┌ grid reference

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.

HARNESS LAYOUT

Engine Room Harness



HARNESS LAYOUT

Engine Room Harness (Cont'd)

F3	(E1)	: Brake fluid level switch	D3	(E53)	: Battery
F2	(E4)	: ASCD pump	D3	(E54)	: Cooling fan relay-1
E5	(E5)	: Body ground	D3	(E55)	: Horn relay
E4	(E6)	: Clearance lamp and cornering lamp LH	D3	(E56)	: Cooling fan relay-2
D5	(E7)	: To front fog lamp harness (For optional)	D3	(E57)	: ECCS relay
F3	(E8)	: Fuse and fusible link box	D3	(E58)	: ASCD hold relay (A/T models)
E4	(E9)	: Joint connector-1 (White)	D3	(E59)	: ASCD hold relay (M/T models)
E4	(E10)	: Joint connector-2 (White)	D3	(E60)	: Clutch interlock relay
F4	(E11)	: Joint connector-3 (Gray)	D3	(E61)	: Inhibitor relay
F3	(E12)	: Joint connector-4 (Gray)	D3	(E62)	: Cooling fan relay-3
E3	(E13)	: To (E36)	E2	(E63)	: ABS control actuator
F3	(E14)	: To (E37)	E2	(E64)	: ABS control actuator
D3	(E15)	: Starter motor	E2	(E65)	: ABS control actuator
E3	(E17)	: Front wheel sensor LH (Anti-lock brake system)	A2	(E66)	: Daytime light control unit (For Canada)
D3	(E19)	: Hood switch (Theft warning system)	A2	(E67)	: Daytime light control unit (For Canada)
D5	(E21)	: Front fog lamp LH	C2	(E68)	: Theft warning horn relay-1
D5	(E22)	: Front turn signal lamp LH	C2	(E69)	: Cornering lamp relay
D5	(E23)	: Front side marker lamp LH	C2	(E70)	: Theft warning horn relay-2
C4	(E24)	: Headlamp LH	C2	(E71)	: Theft warning relay
C4	(E25)	: Triple-pressure switch	C2	(E72)	: Air conditioner relay
C4	(E26)	: Cooling fan motor-1	C2	(E73)	: Front fog lamp relay
C3	(E27)	: Cooling fan motor-2	C2	(E74)	: Theft warning lamp relay
C3	(E28)	: Ambient sensor	C2	(E75)	: Front wiper relay
B4	(E29)	: Horn	C2	(E76)	: Rear window defogger relay
A3	(E30)	: Body ground	C2	(E77)	: ASCD clutch switch relay
A3	(E31)	: Headlamp RH			
A4	(E32)	: Front turn signal lamp RH			
A3	(E33)	: Front side marker lamp RH			
A4	(E34)	: Front fog lamp RH			
B4	(E35)	: Body ground			
B2	(E36)	: Theft warning horn			
C2	(E37)	: Alternator			
B2	(E38)	: To (E39)			
C2	(E39)	: To (E38)			
C3	(E40)	: Alternator			
B4	(E41)	: Compressor (Air conditioner)			
A2	(E44)	: Clearance lamp and cornering lamp RH			
A4	(E45)	: Washer level switch			
B4	(E46)	: Front washer motor			
B4	(E47)	: Alternator			
A1	(E48)	: Joint connector-5 (White)			
A1	(E49)	: Joint connector-6 (White)			
A1	(E50)	: Joint connector-7 (White)			
A1	(E51)	: Joint connector-8 (Gray)			
D3	(E52)	: Battery			

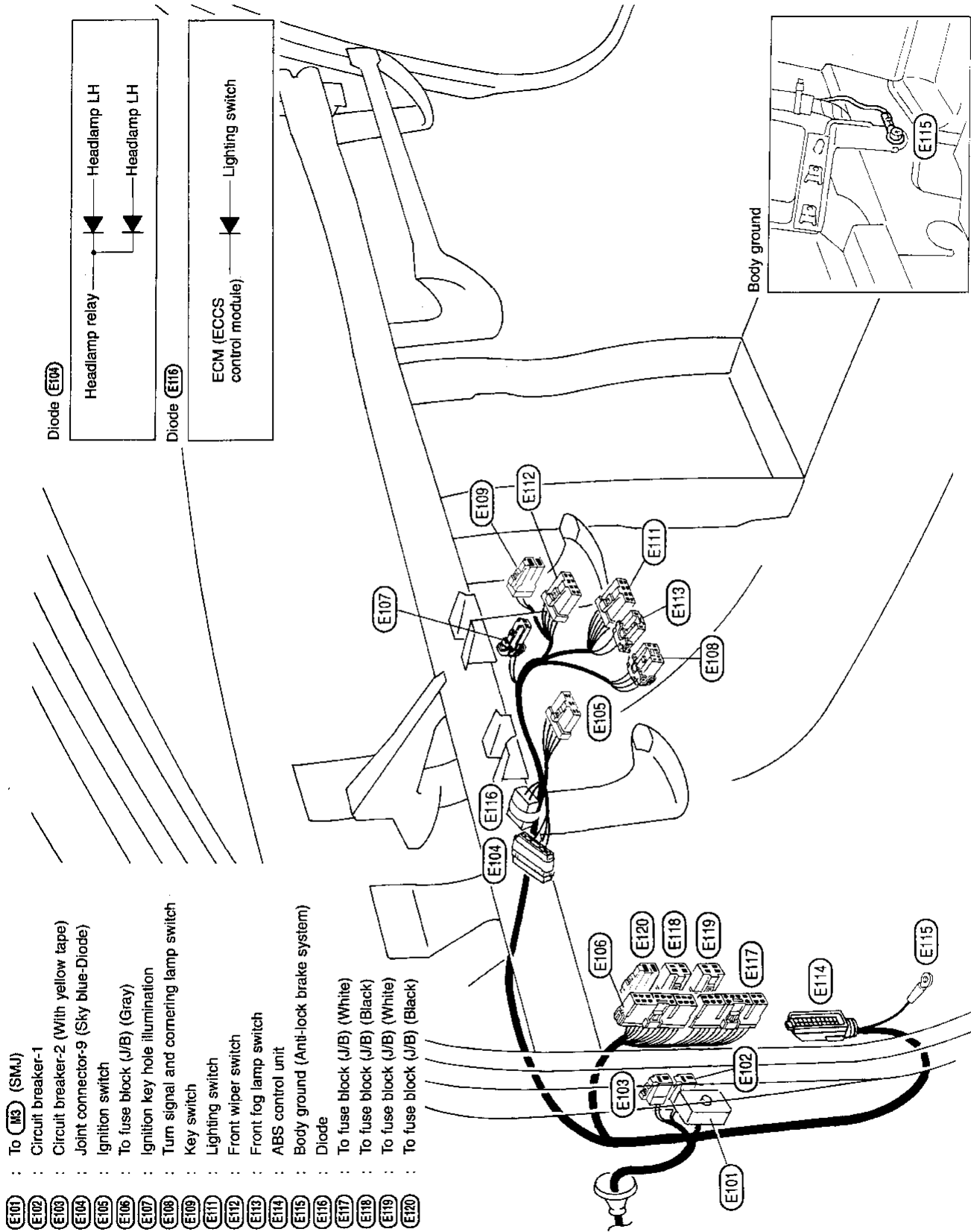
Relay box-1
(Refer to "LOCATION OF ELECTRICAL UNITS".)

Relay box-2
(Refer to "LOCATION OF ELECTRICAL UNITS".)

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

HARNESS LAYOUT

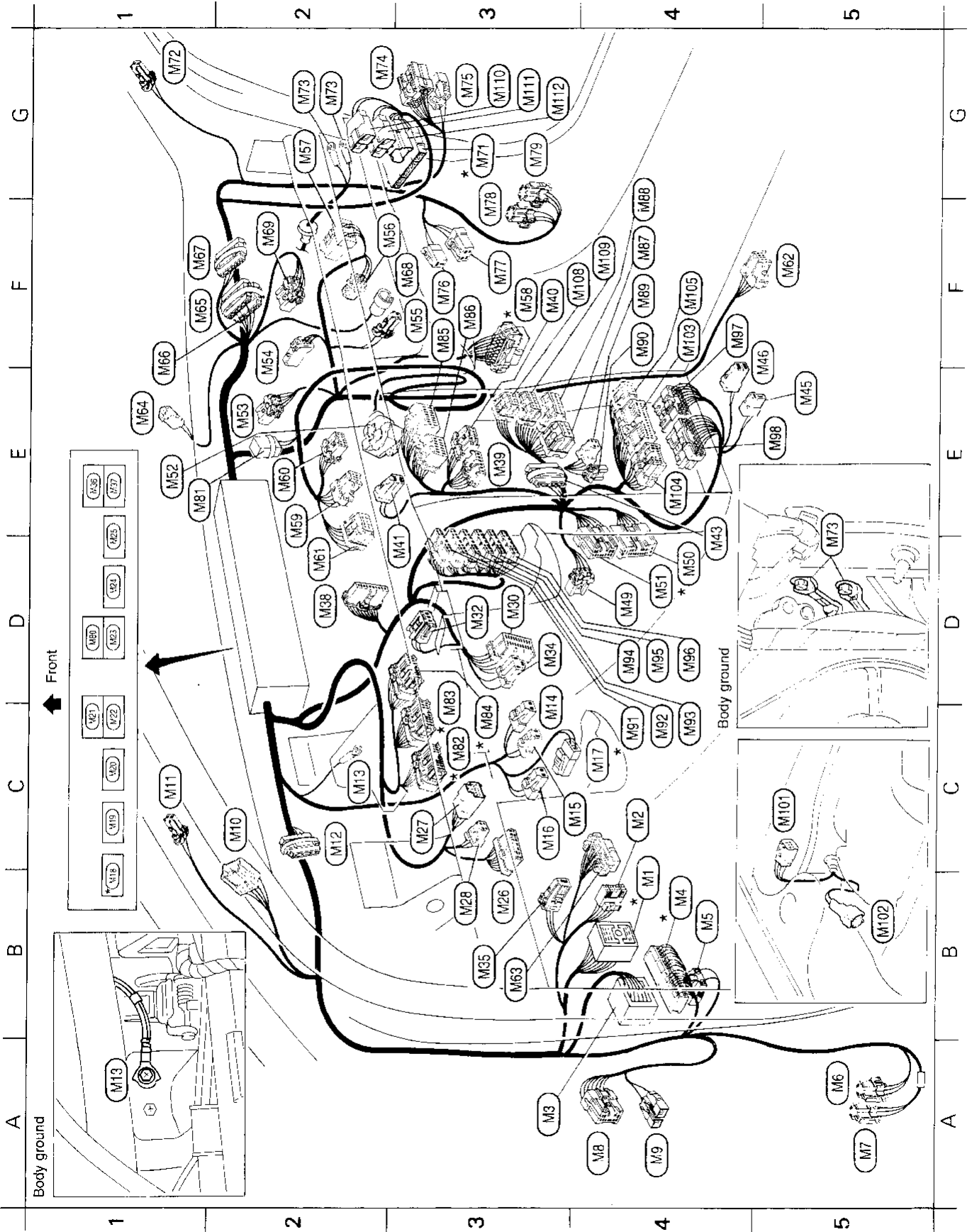
Engine Room Harness (Cont'd)



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HARNESS LAYOUT

Main Harness

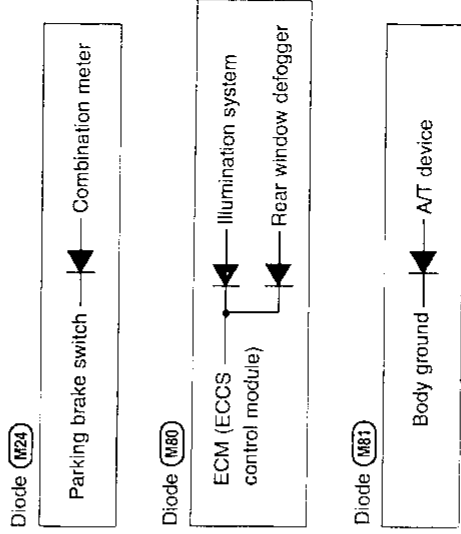


HARNESS LAYOUT

Main Harness (Cont'd)

* B4	Fuse block (J/B)	E2	Bi-level door motor	C5	Front wiper motor
C4	Data link connector for CONSULT	F2	Intake sensor	B5	Front wheel sensor RH (Anti-lock brake system)
A3	To (E10)	F3	Glove box lamp switch	F4	BCM (Body control module)
B4	To (B1)	F2	Thermo control amp.	E4	BCM (Body control module)
B4	To (B2)	G2	Fan control amp.	F4	BCM (Body control module)
A5	Fuel pump relay	F3	* To (F102)	F4	Audio (6-speaker system except for BOSE system)
A5	Sunroof relay (With yellow tape)	E2	Clock	F4	Audio (6-speaker system except for BOSE system)
A4	To (D1)	E2	Rear window defogger switch	G3	To (B113) (6-speaker system except for BOSE system)
A4	To (D2)	D2	Hazard switch	G3	To (B111) (6-speaker system except for BOSE system)
C2	To (R1)	F5	A/T device	G3	To (B112) (6-speaker system except for BOSE system)
C1	Tweeter LH (6-speaker system)	B3	Data link connector for GST		
C2	Joint connector-23 (Gray)	E1	Sunload sensor		
C2	Body ground	F1	Joint connector-19 (Blue)		
C3	ASCD cancel switch	F1	Joint connector-20 (White)		
C4	Stop lamp switch	F1	Joint connector-21 (White)		
C3	Clutch interlock switch (M/T models for USA)	F3	Glove box lamp		
C4	ASCD clutch switch	F2	Intake door motor		
C1	* Joint connector-10 (Green)	G3	* To (B102)		
C1	Joint connector-11 (White)	G1	Tweeter RH (6-speaker system)		
C1	Joint connector-12 (White)	G2	Body ground		
C1	Joint connector-13 (Gray)	G2	To (D31)		
C1	Joint connector-14 (White)	G3	To (D32)		
D1	Joint connector-15 (Blue)	F3	Blower motor		
D1	Joint connector-16 (Sky blue-Diode)	F3	Fan resistor (Manual A/C)		
E1	Joint connector-17 (White)	F3	Door mirror defogger relay		
B3	Door mirror remote control switch	F3	Audio amp. relay		
C3	ASCD main switch	G3	Joint connector-22 (Sky blue-Diode)		
B3	Security indicator lamp	D1	Diode		
D3	ASCD control unit	E1	Diode		
D3	Illumination control switch	C3	Combination meter		
D3	Combination flasher unit	C3	Combination meter		
B3	Warning buzzer	C3	Combination meter		
E1	Joint connector-18 (White)	F3	Push control unit (Manual A/C)		
E1	Joint connector-19 (White)	F3	Push control unit (Manual A/C)		
D2	Mode door motor	F4	Audio (BOSE and 4-speaker system)		
E3	Fan switch (Manual A/C)	F4	Audio (BOSE and 4-speaker system)		
F3	Push control unit (Auto A/C)	G4	CD player (Illumination)		
D3	In-vehicle sensor	F4	CD player (Illumination)		
E4	Joint connector-18 (White)	C4	Joint connector (Brown)		
F5	Cigarette lighter	C4	Joint connector (Gray)		
F5	Ashtray illumination	C4	Joint connector (White)		
D4	Air mix door motor	D4	Joint connector (White)		
D4	* To (F105)	D4	Joint connector (Brown)		
D4	To (F104)	D4	Joint connector (Gray)		
E1	To (Z1)	F4	Joint connector (White)		
		E5	A/C auto amp. (In BCM)		
			A/C auto amp. (In BCM)		

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

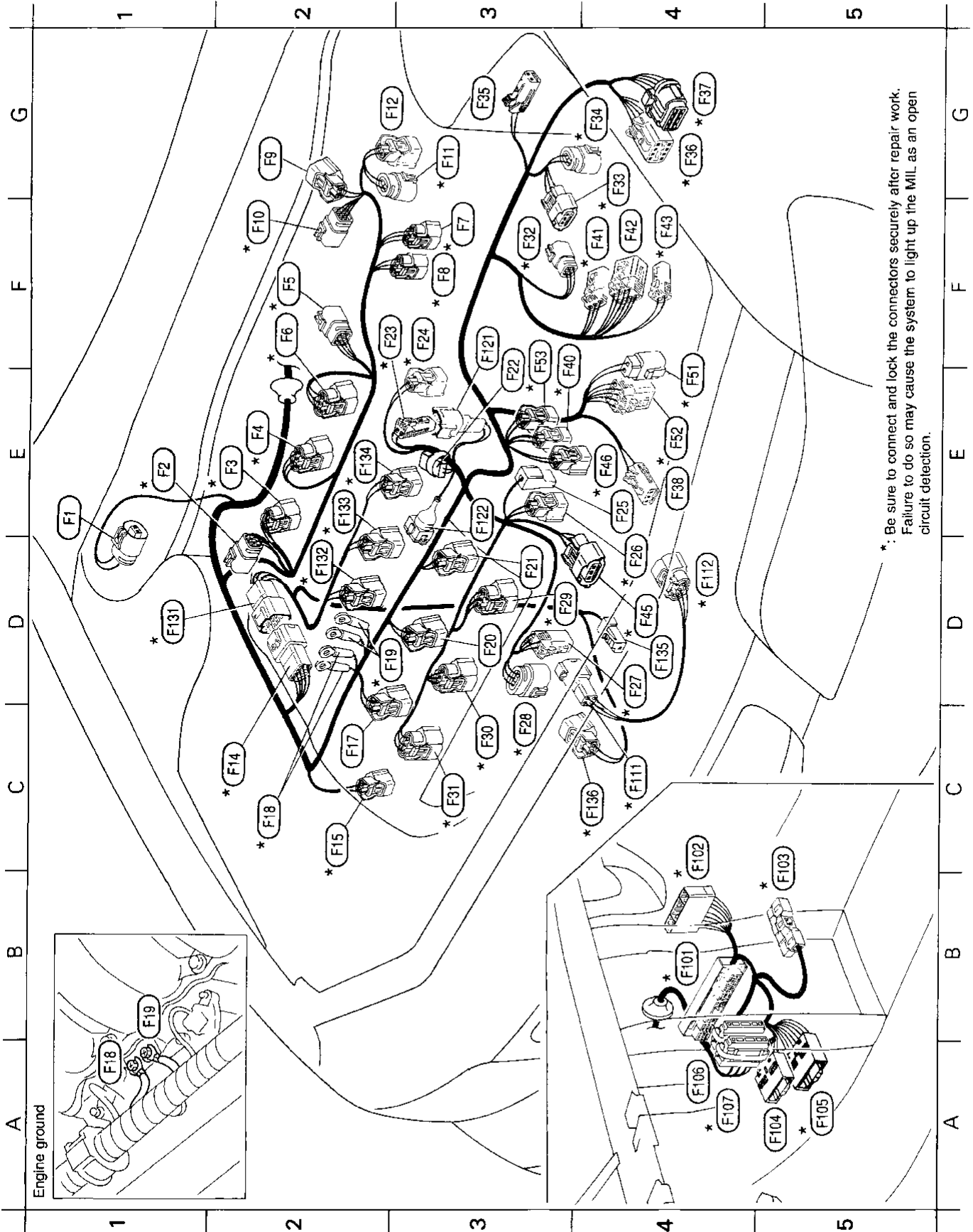


Junction box

CI MA EM LG EC FC FT CL WT AT FA PA BR ST RC BT FA EL IX

HARNESS LAYOUT

Engine Control Harness



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

HARNES LAYOUT

Engine Control Harness (Cont'd)

E1	(F1)	: Power steering oil pressure switch
E1	* (F2)	: Front heated oxygen sensor RH
E2	* (F3)	: Ignition coil No. 1
E2	* (F4)	: Ignition coil No. 3
F2	* (F5)	: Canister purge control valve
F2	* (F6)	: Ignition coil No. 5
F3	* (F7)	: Throttle position switch
F3	* (F8)	: Throttle position sensor
G2	* (F9)	: IACV-FICD solenoid valve-2
F2	* (F10)	: IACV-AAC valve
G3	* (F11)	: EGR temperature sensor
G2	* (F12)	: IACV-FICD solenoid valve-1
C2	* (F14)	: To (F13)
C2	* (F15)	: Camshaft position sensor (PHASE)
C2	* (F17)	: Injector No. 2
C2	* (F18)	: Engine ground
D2	* (F19)	: Engine ground
D3	* (F20)	: Injector No. 4
D3	* (F21)	: Injector No. 6
E3	* (F22)	: Condenser
F2	* (F23)	: To (F12)
F3	* (F24)	: EGRC-solenoid valve
E4	* (F25)	: Thermal transmitter
D4	* (F26)	: Engine coolant temperature sensor
D4	* (F27)	: To (F11)
C3	* (F28)	: Front heated oxygen sensor LH
D3	* (F29)	: Ignition coil No. 6
C3	* (F30)	: Ignition coil No. 4
C3	* (F31)	: Ignition coil No. 2
F3	* (F32)	: Neutral and reverse position switch
G4	* (F33)	: Mass air flow sensor
G4	* (F34)	: Intake air temperature sensor
G3	* (F35)	: Dropping resistor
G4	* (F36)	: To (E13)
G4	* (F37)	: To (E14)
E4	* (F38)	: Front engine mounting
E3	* (F40)	: EVAP canister purge control solenoid valve
F4	* (F41)	: Revolution sensor (A/T models)
F4	* (F42)	: Terminal cord assembly (A/T models)
F4	* (F43)	: Vehicle speed sensor
D4	* (F45)	: Absolute pressure sensor
E4	* (F46)	: MAP/BARO switch solenoid valve
E4	* (F51)	: Inhibitor switch
E4	* (F52)	: Inhibitor switch
E3	* (F53)	: EGRC-solenoid valve

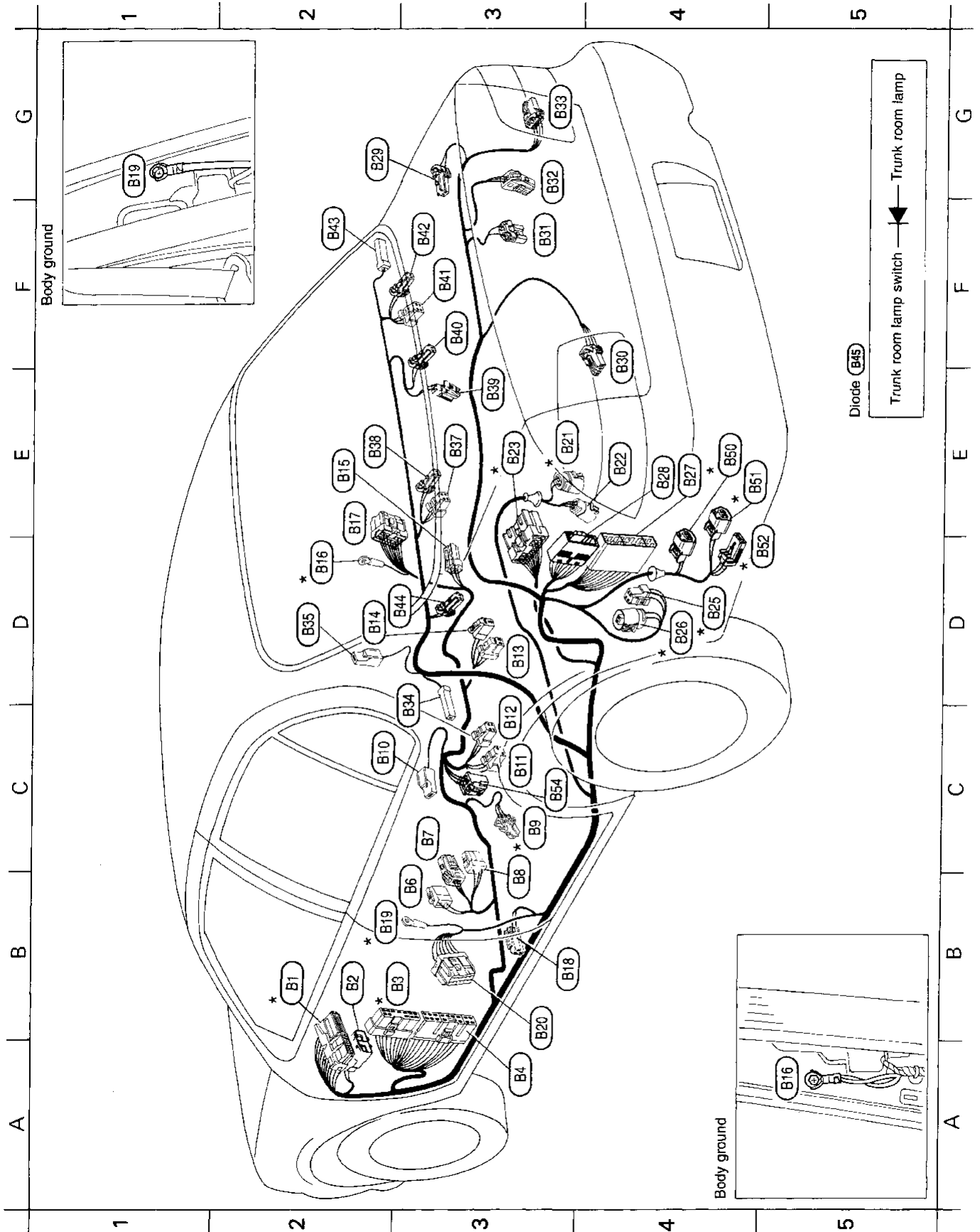
B4	* (F101)	: ECM (ECCS control module)
C4	* (F102)	: To (M58)
B5	* (F108)	: AT control unit (A/T models)
A5	* (F104)	: To (M51)
A5	* (F105)	: To (M50)
A4	* (F106)	: Joint connector-24 (Gray)
A4	* (F107)	: Joint connector-25 (Blue)
C4	* (F111)	: To (F27)
D4	* (F112)	: Crankshaft position sensor (POS)
F3	* (F121)	: To (F23)
E3	* (F122)	: Knock sensor
D1	* (F131)	: To (F14)
D2	* (F132)	: Injector No. 1
E2	* (F133)	: Injector No. 3
E2	* (F134)	: Injector No. 5
D4	* (F135)	: Oil pressure switch
C4	* (F136)	: Crankshaft position sensor (REF)

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HARNESS LAYOUT

Body Harness



HARNES LAYOUT

Body Harness (Cont'd)

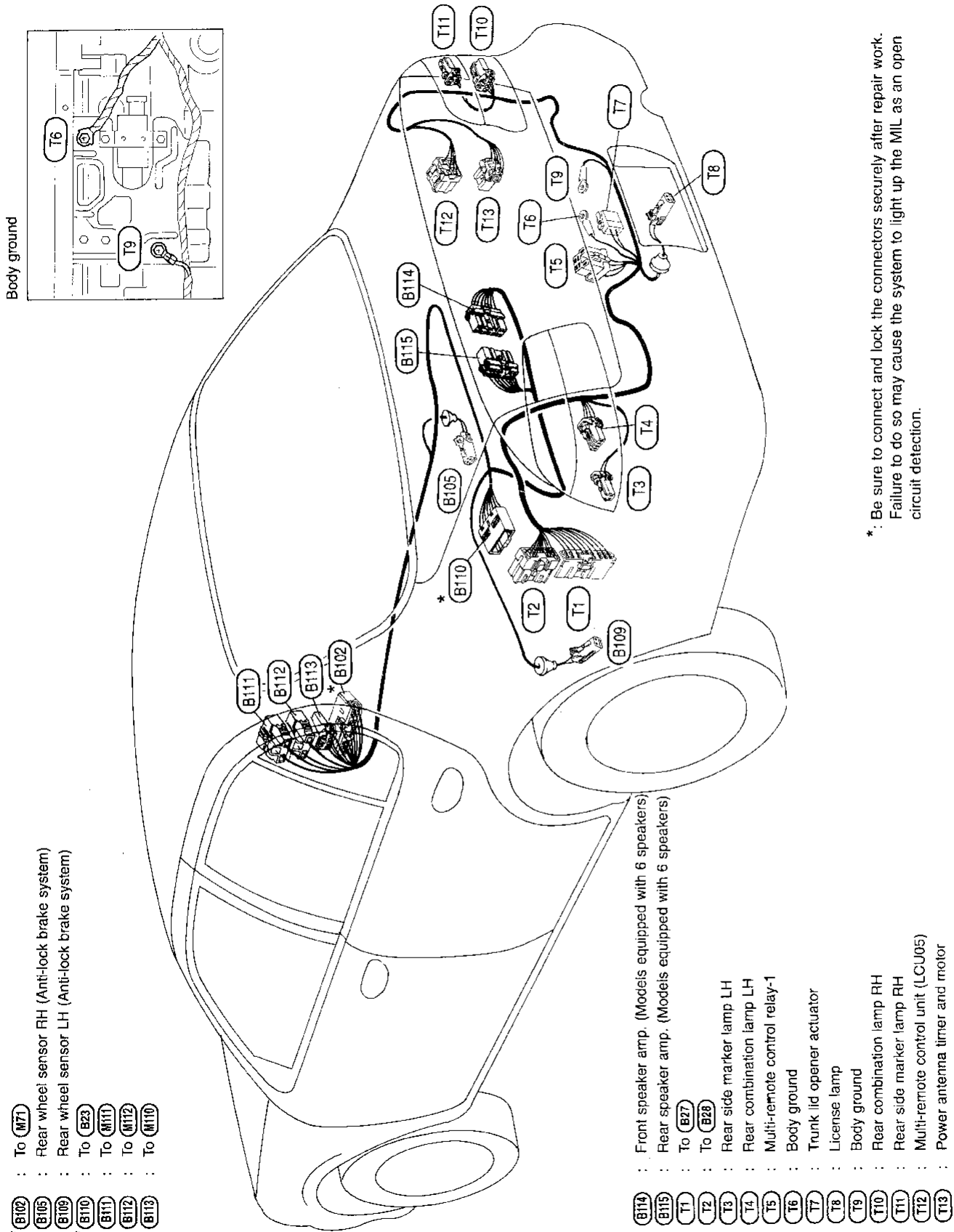
B2	*	B1	:	To (M4)
B2		B2	:	To (M5)
B3	*	B3	:	Fuse block (J/B)
A3		B4	:	Fuse block (J/B)
B3		B6	:	To power seat harness LH
C3		B7	:	Seat belt buckle switch
B3		B8	:	Heated seat LH
C3	*	B9	:	Rear heated oxygen sensor
C2		B10	:	Parking brake switch
C3		B11	:	Heated seat switch LH
C3		B12	:	Heated seat switch RH
D3		B13	:	Heated seat RH
D2		B14	:	To power seat harness RH
E2		B15	:	Front door switch RH
D2	*	B16	:	Body ground
E2		B17	:	To (D71)
B3		B18	:	Front door switch LH
B2	*	B19	:	Body ground
B3		B20	:	To (D51)
E3	*	B21	:	Fuel pump
E4		B22	:	Fuel tank gauge unit
E3	*	B23	:	To (B110)
D4	*	B25	:	Fuel pump control module
D4	*	B26	:	Dropping resistor
E4		B27	:	To (T1)
E4		B28	:	To (T2)
G2		B29	:	To high-mounted stop lamp sub-harness (Models equipped with rear air spoiler)
F4		B30	:	Trunk lid combination lamp LH
F3		B31	:	Trunk room lamp switch
G3		B32	:	Trunk lid key cylinder switch and tamper switch
G3		B33	:	Trunk lid combination lamp RH
D3		B34	:	Rear door switch LH
D2		B35	:	Rear window defogger
E3		B37	:	Rear speaker LH (Models equipped with 6 speakers)
E2		B38	:	Rear speaker LH (Models equipped with 4 speakers)
E3		B39	:	Trunk room lamp
F3		B40	:	High-mounted stop lamp (Models without rear air spoiler)
F3		B41	:	Rear speaker RH (Models equipped with 6 speakers)
F3		B42	:	Rear speaker RH (Models equipped with 4 speakers)
F2		B43	:	Rear door switch RH
D3		B44	:	Not used
F5		B45	:	Diode
E4	*	B50	:	EVAP canister vent control valve
E4	*	B51	:	Vacuum cut valve bypass valve
D4	*	B52	:	Fuel tank pressure sensor
C3		B54	:	Telephone pre wire

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HARNESS LAYOUT

Body No. 2 Harness and Tail Harness



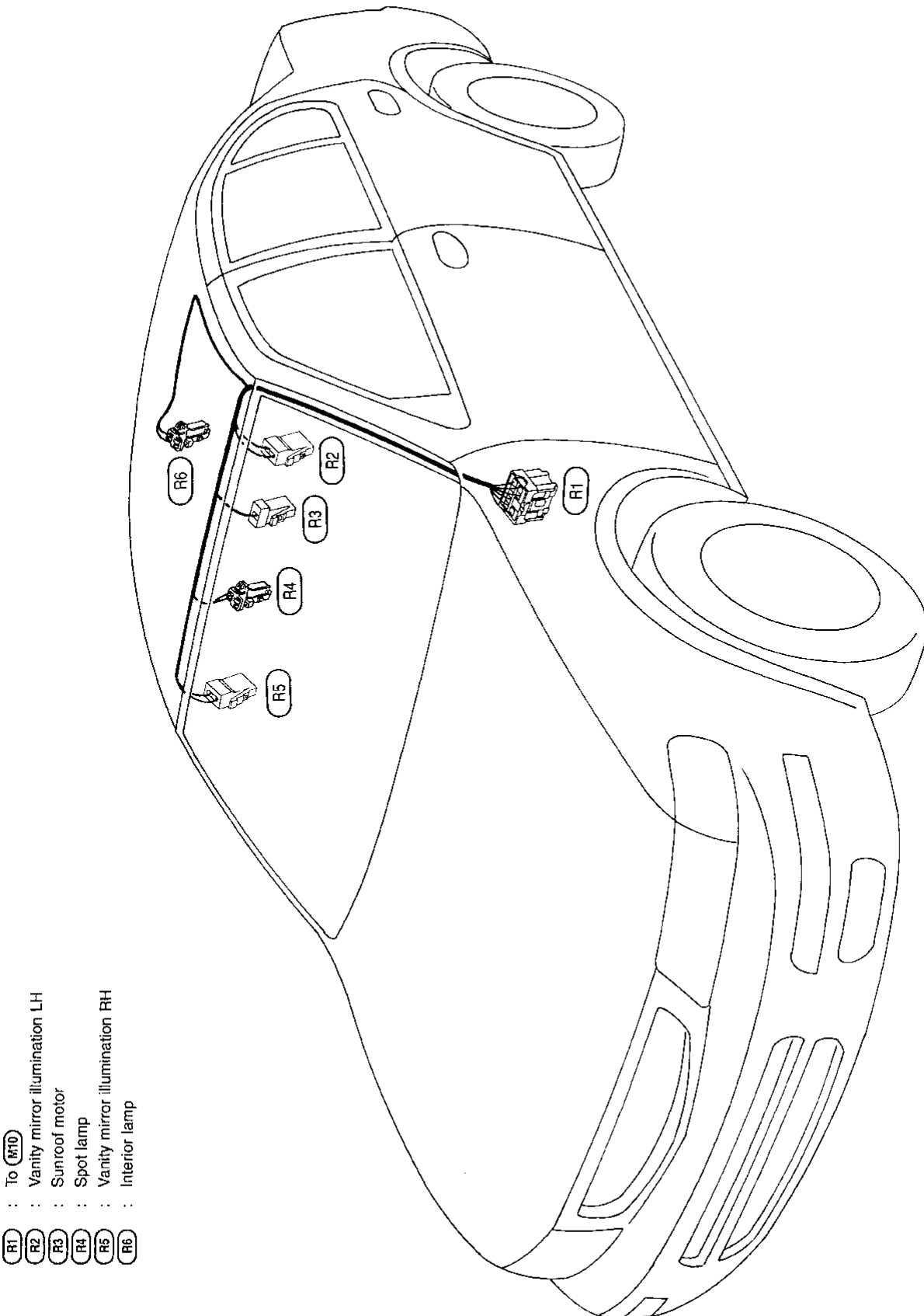
- * B102 : To M71
- B105 : Rear wheel sensor RH (Anti-lock brake system)
- B109 : Rear wheel sensor LH (Anti-lock brake system)
- * B110 : To E23
- B111 : To M111
- B112 : To M112
- B113 : To M110

- B114 : Front speaker amp. (Models equipped with 6 speakers)
- B115 : Rear speaker amp. (Models equipped with 6 speakers)
- T1 : To B27
- T2 : To B28
- T3 : Rear side marker lamp LH
- T4 : Rear combination lamp LH
- T5 : Multi-remote control relay-1
- T6 : Body ground
- T7 : Trunk lid opener actuator
- T8 : License lamp
- T9 : Body ground
- T10 : Rear combination lamp RH
- T11 : Rear side marker lamp RH
- T12 : Multi-remote control unit (LCU05)
- T13 : Power antenna timer and motor

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HARNESS LAYOUT

Room Lamp Harness



- (R1)** : To **(MID)**
- (R2)** : Vanity mirror illumination LH
- (R3)** : Sunroof motor
- (R4)** : Spot lamp
- (R5)** : Vanity mirror illumination RH
- (R6)** : Interior lamp

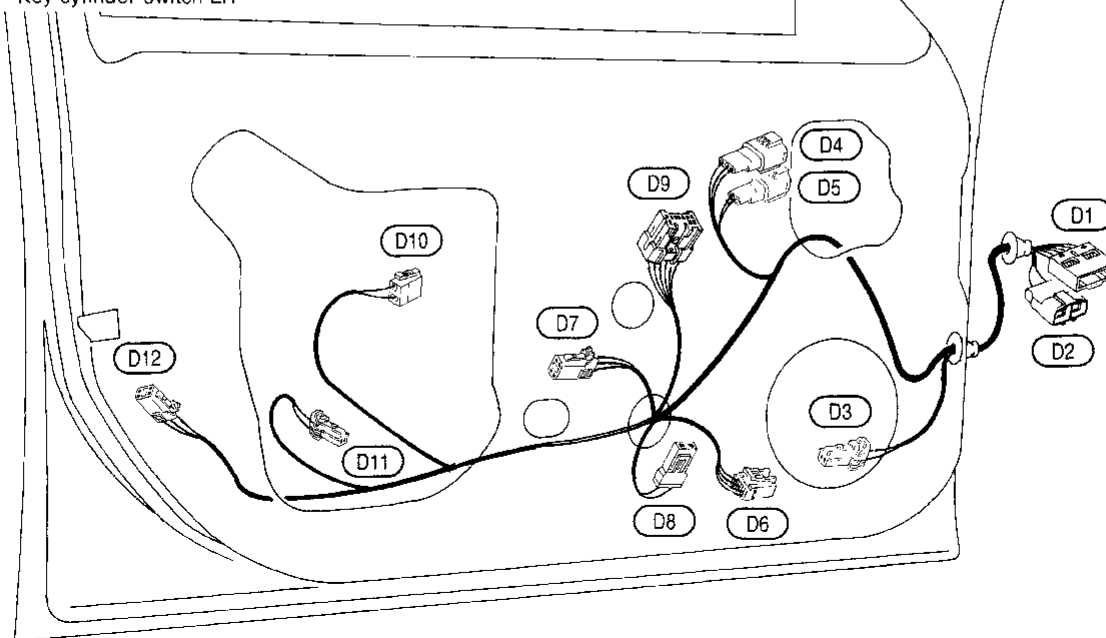
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HARNESS LAYOUT

FRONT

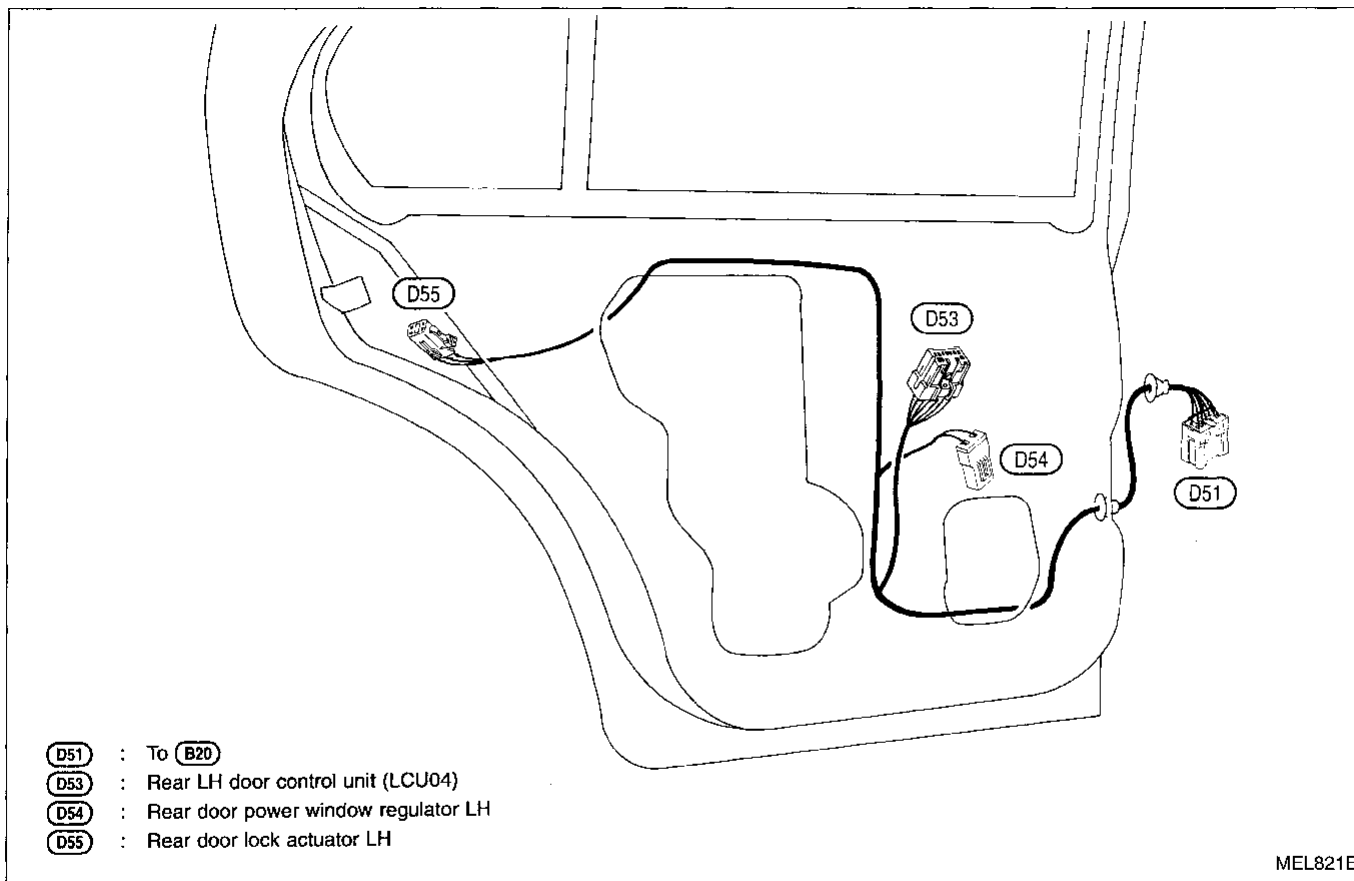
Door Harness (LH side)

- | | |
|---|---|
| (D1) : To (M8) | (D8) : Power window regulator |
| (D2) : To (M9) | (D9) : Driver door control unit (LCU01) |
| (D3) : Front door speaker LH (Except for BOSE system) | (D10) : Trunk lid opener switch |
| (D4) : Door mirror LH | (D11) : Front door step lamp LH |
| (D5) : Door mirror defogger LH | (D12) : Front door lock actuator LH |
| (D6) : Front door speaker LH (BOSE system) | |
| (D7) : Key cylinder switch LH | |



MEL378D

REAR



- | |
|---|
| (D51) : To (B20) |
| (D53) : Rear LH door control unit (LCU04) |
| (D54) : Rear door power window regulator LH |
| (D55) : Rear door lock actuator LH |

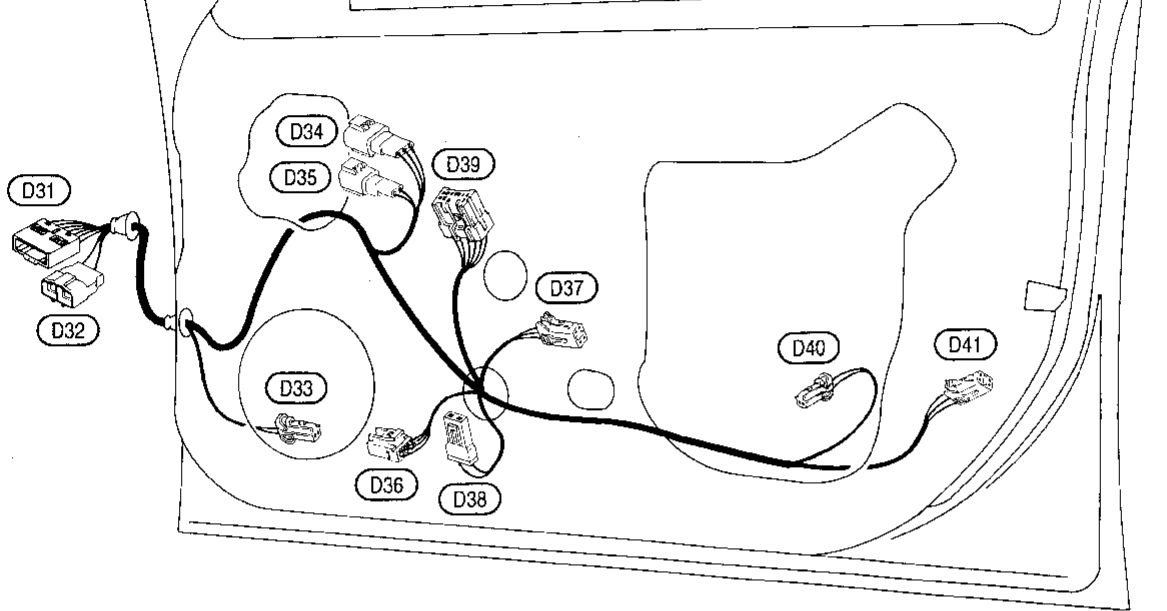
MEL821E

HARNESS LAYOUT

FRONT

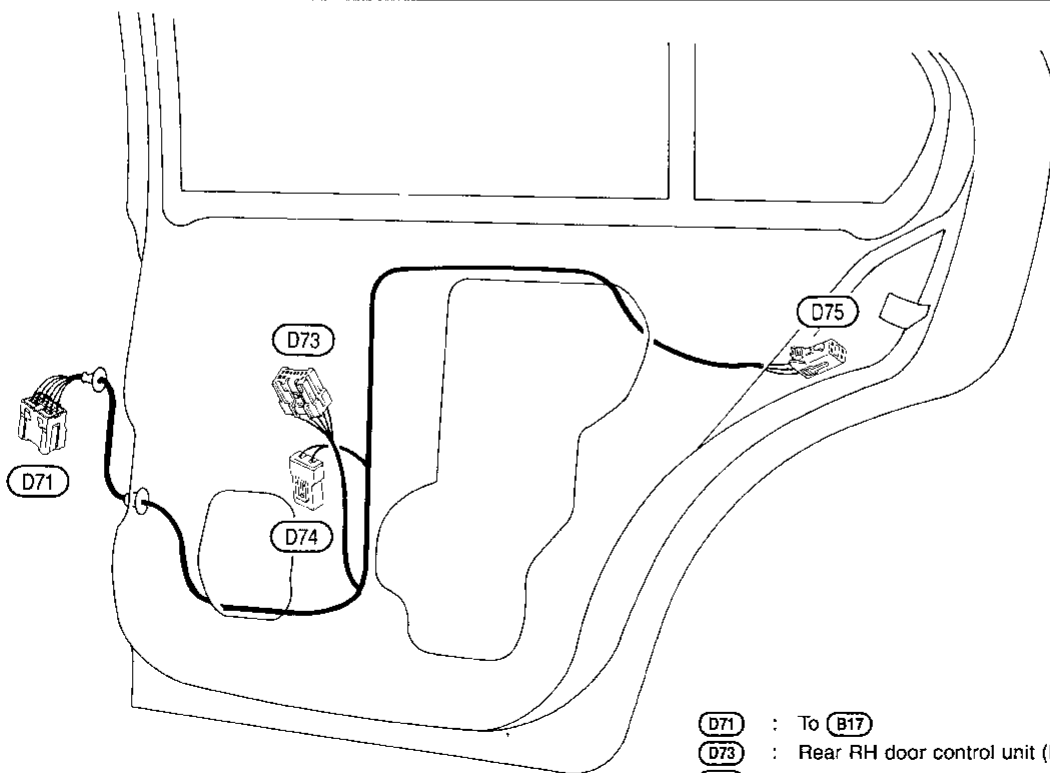
Door Harness (RH side)

- | | |
|---|--|
| D31 : To M74 | D37 : Key cylinder switch RH |
| D32 : To M75 | D38 : Power window regulator |
| D33 : Front door speaker RH (Except for BOSE system) | D39 : Passenger door control unit (LCU02) |
| D34 : Door mirror RH | D40 : Front door step lamp RH |
| D35 : Door mirror defogger RH | D41 : Front door lock actuator RH |
| D36 : Front door speaker RH (BOSE system) | |



MEL380DA

REAR



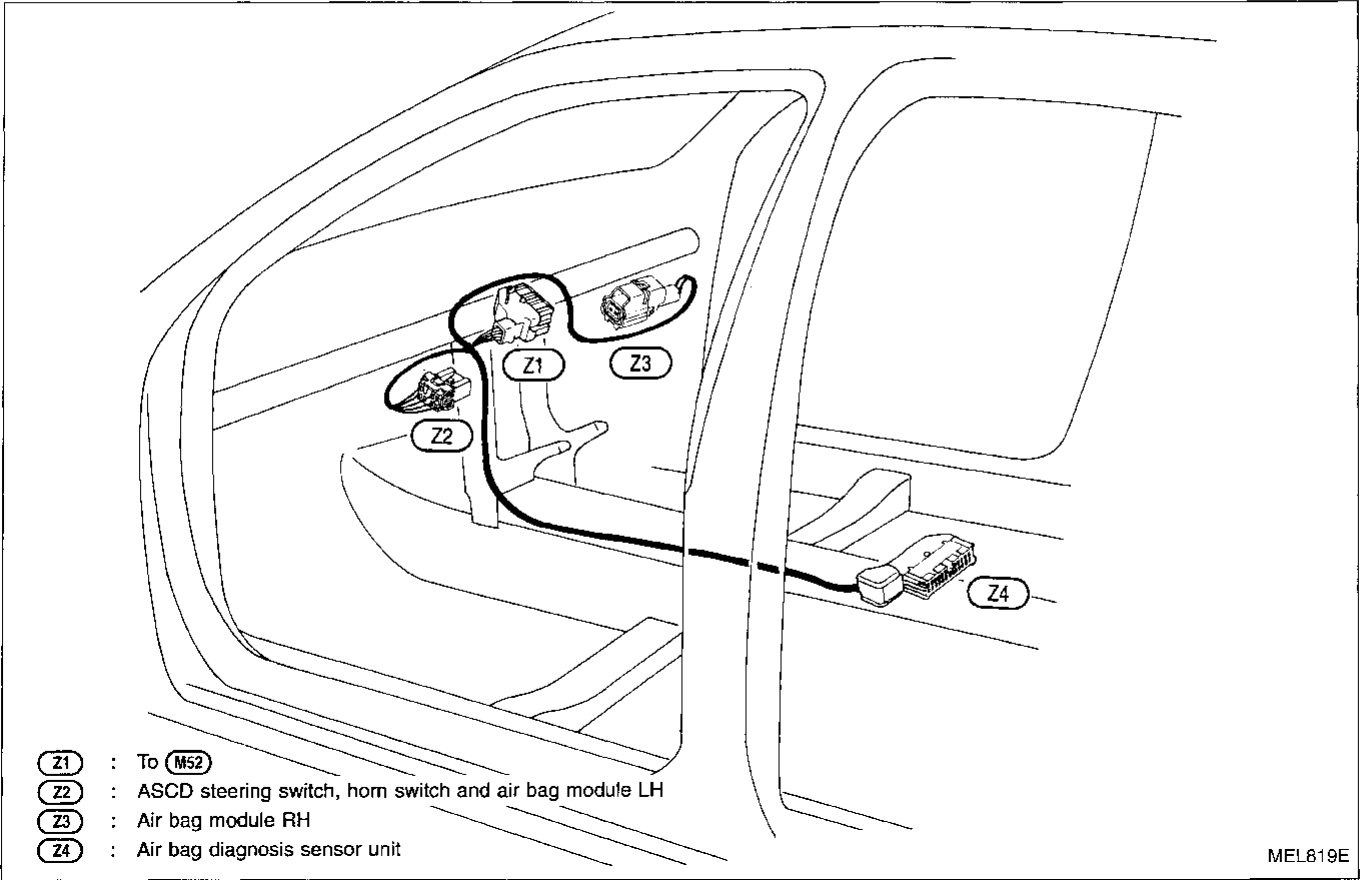
- | |
|--|
| D71 : To B17 |
| D73 : Rear RH door control unit (LCU03) |
| D74 : Rear door power window regulator LH |
| D75 : Rear door lock actuator LH |

MEL823E

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HARNESS LAYOUT

Air Bag Harness



GROUND DISTRIBUTION

EARTH	CONNECT TO	CONN. NO.	CELL CORD	
E5/E30	ABS CONTROL ACTUATOR	E63	BR-ABS	
	ASCD HOLD RELAY	E58, E59	EL-ASCD	
	BRAKE FLUID LEVEL SWITCH	E1	EL-WARN	GI
	CLEARANCE LAMP LH	E6	EL-TAIL/L	
	CLEARANCE LAMP RH	E44	EL-TAIL/L	MA
	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	EM
	COOLING FAN RELAY-1	E54	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	LC
	COOLING FAN RELAY-3	E62	EC-COOL/F HA-A/C, A HA-A/C, M	
	CORNERING LAMP LH	E6	EL-CORNER	
	CORNERING LAMP RH	E44	EL-CORNER	EC
	CORNERING LAMP RELAY	E69	EL-CORNER	
	DAYTIME LIGHT CONTROL UNIT	E66	EL-DTRL	FE
	FRONT FOG LAMP LH	E21	EL-F/FOG	
	FRONT FOG LAMP RH	E34	EL-F/FOG	CL
	FRONT FOG LAMP SWITCH	E113	EL-F/FOG	
	FRONT TURN SIGNAL LAMP LH	E22	EL-TURN	MT
	FRONT TURN SIGNAL LAMP RH	E32	EL-TURN	
	FRONT WIPER SWITCH	E112	EL-WIPER EL-TIME	AT
	HEADLAMP LH	E24	EL/H/LAMP EL-DTRL EL-THEFT	
	HEADLAMP RH	E31	EL-H/LAMP EL-THEFT	FA
	HOOD SWITCH	E19	EL-THEFT	
	THEFT WARNING HORN RELAY-1	E68	EL-MULTI EL-THEFT	RA
	THEFT WARNING HORN RELAY-2	E70	EL-MULTI EL-THEFT	
	TRIPLE-PRESSURE SWITCH	E25	EC-COOL/F HA-A/C, A	BR
	WASHER LEVEL SWITCH	E45	EL-WARN	
	FRONT WIPER RELAY	E75	EL-WIPER	ST
	A/C AUTO AMP (In BCM)	M98	HA-AC, A	
	E35	ALTERNATOR	E37	EL-CHARGE
E115	SHIELD WIRE (FRONT LH WHEEL SENSOR)	E17	BR-ABS	RS
	SHIELD WIRE (FRONT RH WHEEL SENSOR)	M102	BR-ABS	
	SHIELD WIRE (REAR LH WHEEL SENSOR)	B109	BR-ABS	BT
	SHIELD WIRE (REAR RH WHEEL SENSOR)	B105	BR-ABS	
M13/M73	ABS CONTROL UNIT	E114	BR-ABS	HA
	A/T DEVICE (OD CONTROL SWITCH)	M62	AT-A/T	
	A/T DEVICE (PARK POSITION SWITCH)	M62	AT-SHIFT	EL
	A/T DEVICE (SHIFT LOCK SOLENOID)	M62	AT-SHIFT	
	ACCESSORY RELAY	M1	EL-POWER	IDX
	ASCD CLUTCH SWITCH	M17	EL-ASCD	
	ASCD CONTROL UNIT	M30	EL-ASCD	

GROUND DISTRIBUTION

EARTH	CONNECT TO	CONN. NO.	CELL CORD
M13/M73	ASCD MAIN SWITCH	M27	EL-ASCD
	ASHTRAY ILLUMINATION	M46	EL-ILL
	AUDIO AMP RELAY	M79	EL-AUDIO
	BCM (BODY CONTROL MODULE)	M105	EL-COMM
	BLOWER RELAY	M1	EL-POWER
	CIGARETTE LIGHTER SOCKET	M45	EL-HORN
	CLOCK	M59	EL-HORN
	CLOCK (ILLUMINATION)	M59	EL-ILL
	CLUTCH INTERLOCK SWITCH	M16	EL-START
	COMBINATION FLASHER UNIT	M34	EL-TURN
	COMBINATION METER (AIR BAG)	M82	RS-SRS EL-WARN
	COMBINATION METER (FUEL GAUGE)	M84	EL-METER
	COMBINATION METER (HIGH BEAM INDICATOR)	M83	EL-H/LAMP EL-DTRL
	COMBINATION METER (SPEEDOMETER)	M82, M8	AT-A/T EL-METER EL-ASCD
	COMBINATION METER (TACHOMETER)	M82, M8	EL-METER
	COMBINATION METER (TURN)	M83	EL-TURN
	COMBINATION METER (WATER TEMP GAUGE)	M82	EL-METER
	DATA LINK CONNECTOR FOR CONSULT	M2	EC-MIL AT-A/T BR-ABS RS-SRS EL-COMM
	DATA LINK CONNECTOR FOR GST	M63	EC-MIL
	DOOR MIRROR REMOTE CONTROL SWITCH	M26	EL-MIRROR
	FAN CONTROL AMP.	M57	HA-AC, A
	FRONT WIPER MOTOR	M101	EL-WIPER
	GLOVE BOX LAMP SWITCH	M55	EL-ILL
	IGNITION RELAY	M1	EL-POWER
	ILLUMINATION CONTROL SWITCH	M32	EL-ILL EL-I/MIRROR
	INTAKE DOOR MOTOR	M69	HA-A/C, A
	MODE DOOR MOTOR	M38	HA-A/C, A
	PUSH CONTROL UNIT	M40	HA-A/C, A
	REAR WINDOW DEFOGGER SWITCH	M60	EL-DEF EL-TIME
	REAR WINDOW DEFOGGER SWITCH (INDICATOR LAMP)	M60	EL-DEF
	SUN ROOF RELAY	M7	EL-SROOF
	IACV-FICD SOLENOID VALVE-2	F9	EC-FICD
	DOOR MIRROR DEFOGGER LH	D5	EL-DEF
	DOOR MIRROR DEFOGGER RH	D35	EL-DEF
	DRIVER DOOR CONTROL UNIT (LCU01)	D9	EL-COMM EL-STEP/L
	DRIVER SIDE KEY CYLINDER SWITCH	D7	EL-THEFT
PASSENGER SIDE KEY CYLINDER SWITCH	D37	EL-THEFT	

GROUND DISTRIBUTION

EARTH	CONNECT TO	CONN. NO.	CELL CORD	
M13/M73	FRONT DOOR LOCK ACTUATOR LH (DOOR UNLOCK SENSOR)	D12	EL-D/LOCK EL-THEFT EL-TIME EL-MULTI	
	FRONT DOOR LOCK ACTUATOR RH (DOOR UNLOCK SENSOR)	D41	EL-D/LOCK EL-THEFT EL-MULTI	GL
	FRONT DOOR SPEAKER LH	D6	EL-AUDIO	
	FRONT DOOR SPEAKER RH	D36	EL-AUDIO	HA
	PASSENGER DOOR CONTROL UNIT (LCU02)	D39	EL-COMM EL-STEP/L	
	SHIELD WIRE (FRONT DOOR SPEAKER AND TWEETER LH)	M11, D6	EL-AUDIO	EM
	SHIELD WIRE (FRONT DOOR SPEAKER AND TWEETER RH)	M72, D36	EL-AUDIO	LC
	TRUNK LID OPENER SWITCH	D10	EL-TLID EL-MULTI	
	SPOT LAMP	R4	EL-INT/L	EC
	VANITY MIRROR ILLUMINATION LH	R2	EL-ILL	
	VANITY MIRROR ILLUMINATION RH	R5	EL-ILL	EC
	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	MT
IACV-FICD SOLENOID VALVE-1		F12	EC-FICD	
IGNITION COIL NO. 1		F3	EC-IGN/SG	
IGNITION COIL NO. 2		F31	EC-IGN/SG	AT
IGNITION COIL NO. 3		F4	EC-IGN/SG	
IGNITION COIL NO. 4		F30	EC-IGN/SG	FA
IGNITION COIL NO. 5		F6	EC-IGN/SG	
IGNITION COIL NO. 6		F29	EC-IGN/SG	HA
INHIBITOR SWITCH		F51	EL-START EL-ASCD	
NEUTRAL POSITION SWITCH		F32	EC-PNP/SW	BR
POWER STEERING OIL PRESSURE SWITCH		F1	EC-PST/SW	
SHIELD WIRE [CAMSHAFT POSITION SENSOR (PHASE)]		F15	EC-PHASE	ST
SHIELD WIRE [CRANKSHAFT POSITION SENSOR (POS)]		F112	EC-POS	RS
SHIELD WIRE [CRANKSHAFT POSITION SENSOR (REF)]		F136	EC-REF	
SHIELD WIRE FRONT HEATED OXYGEN SENSOR LH		F28	EC-FRO2LH EC-FUELLH EC-F02H-L	BT
SHIELD WIRE FRONT HEATED OXYGEN SENSOR RH		F2	EC-FRO2RH EC-FUELRH EC-F02H-R	HA
SHIELD WIRE (KNOCK SENSOR)		F122	EC-KS	
SHIELD WIRE (MASS AIR FLOW SENSOR)		F33	EC-MAFS	EL
SHIELD WIRE (THROTTLE POSITION SENSOR)	F8	EC-TPS, AT-A/T		
SHIELD WIRE (ABSOLUTE PRESSURE SENSOR)	F45	EC-AP/SEN	DX	

GROUND DISTRIBUTION

EARTH	CONNECT TO	CONN. NO.	CELL CORD
F18/F19	DATA LINK CONNECTOR FOR GST	M63	EC-MIL
	FUEL PUMP	B21	EC-F/PUMP
	SHIELD WIRE (FUEL TANK PRESSURE SENSOR)	B52	EC-PRE/SE
	SHIELD WIRE (REAR HEATED OXYGEN SENSOR)	B9	EC-RR02
B16/B19	DROPPING RESISTOR	B26	EC-F/PUMP
	FRONT DOOR SWITCH LH	B18	EL-MULTI EL-TIME RS-SRS EL-ROOM/ L EL-D/LOCK EL-WINDOW
	FRONT DOOR SWITCH RH	B15	EL-D/LOCK
	FUEL TANK GAUGE UNIT	B22	EL-METER EL-WARN EC-FTS
	FUEL PUMP CONTROL MODULE	B25	EC-FPCM EC-F/PUMP
	HEATED SEAT SWITCH LH	B11	EL-HSEAT
	HEATED SEAT SWITCH RH	B12	EL-HSEAT
	HEATED SEAT LH	B8	EL-HSEAT
	HEATED SEAT RH	B13	EL-HSEAT
	TELEPHONE (TELEPHONE PRE WIRE)	B54	EC-PHONE
T6/T9	HIGH-MOUNTED STOP LAMP (With rear air spoiler)	B29	EL-STOP/L
	HIGH-MOUNTED STOP LAMP (Without rear air spoiler)	B40	EL-STOP/L
	POWER SEAT LH	B6	EL-SEAT
	POWER SEAT RH	B14	EL-SEAT
	REAR SPEAKER LH	B37	EL-AUDIO
	REAR SPEAKER RH	B41	EL-AUDIO
	SEAT BELT BUCKLE SWITCH	B7	EL-WARN EL-TIME
	TELEPHONE PRE-WIRE	B54	EL-PHONE
	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
	TRUNK LID KEY CYLINDER SWITCH	B32	EL-THEFT
	TRUNK ROOM LAMP SWITCH	B31	EL-INT/L EL-THEFT
	REAR LH DOOR CONTROL UNIT (LCU04)	D53	EL-CONN
	REAR DOOR LOCK ACTUATOR LH	D55	EL-D/LOCK EL-MULTI EL-THEFT
	REAR RH DOOR CONTROL UNIT (LCU03)	D73	EL-COMM
	REAR DOOR LOCK ACTUATOR RH	D75	EL-D/LOCK EL-MULTI EL-THEFT
	HEATED SEAT SWITCH RH	B12	EL-HSEAT
	REAR WINDOW DEFOGGER	B35	EL-DEF
	MULTI-REMOTE CONTROL UNIT (LCU05)	T12	EL-COMM
	POWER ANTENNA TIMER	T13	EL-P/ANT
REAR COMBINATION LAMP LH	T4	EL-TAIL/L EL-STOP/L EL-TURN	
REAR COMBINATION LAMP RH	T10	EL-TAIL/L EL-STOP/L EL-TURN	