

ELECTRICAL SYSTEM

SECTION **EL**

When you read wiring diagram:

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

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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, TRACTION CONTROL SYSTEM	BR SECTION
ELECTRONICALLY CONTROLLED POWER STEERING SYSTEM	ST SECTION
SRS "AIR BAG"	RS SECTION
HEATER AND AIR CONDITIONER	HA SECTION

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PRECAUTIONS

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

The Supplemental Restraint System “Air Bag” and “Seat Belt Pre-tensioner”, used along with a seat belt, help 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), seat belt pre-tensioners, 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 INFINITI 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 for the complete harness, for easy identification.

HARNESS CONNECTOR

Description

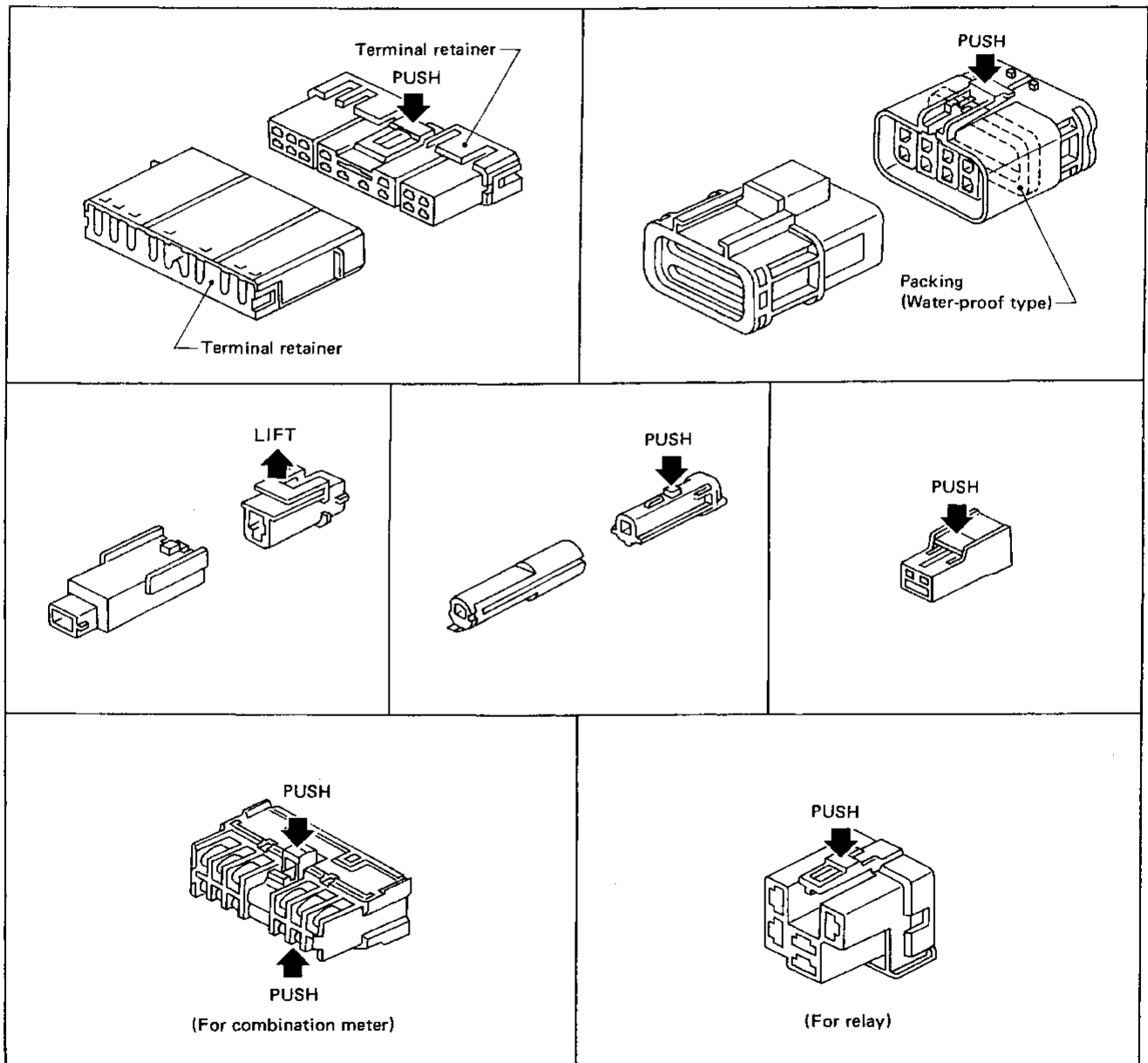
HARNESS CONNECTOR

- All harness connectors have been modified to prevent accidental loosening 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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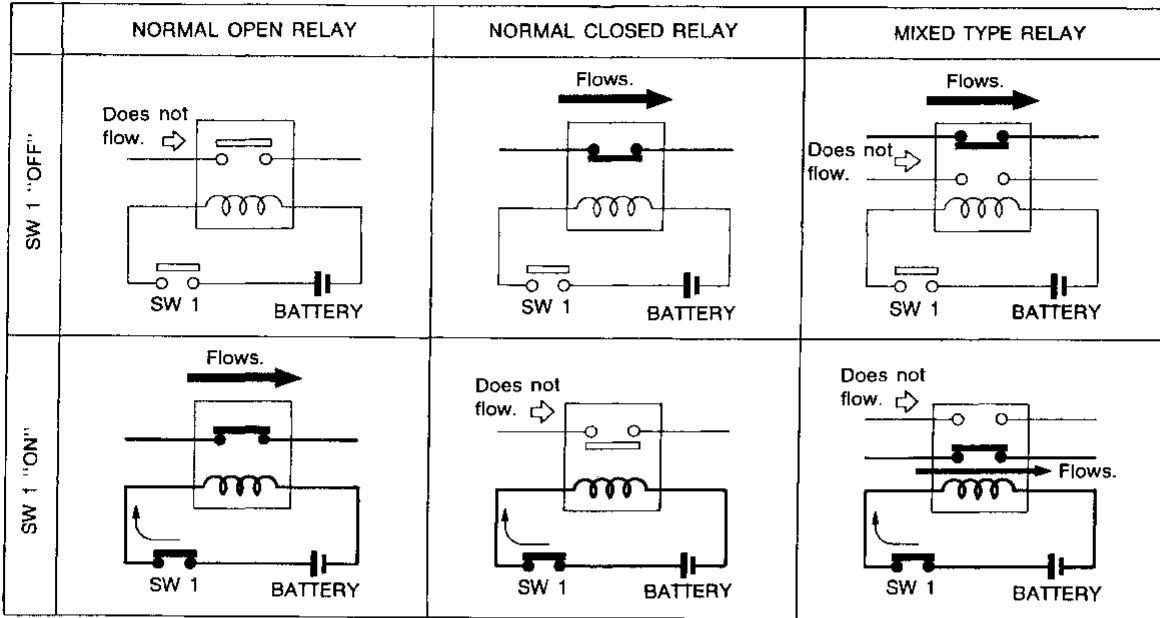
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STANDARDIZED RELAY

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

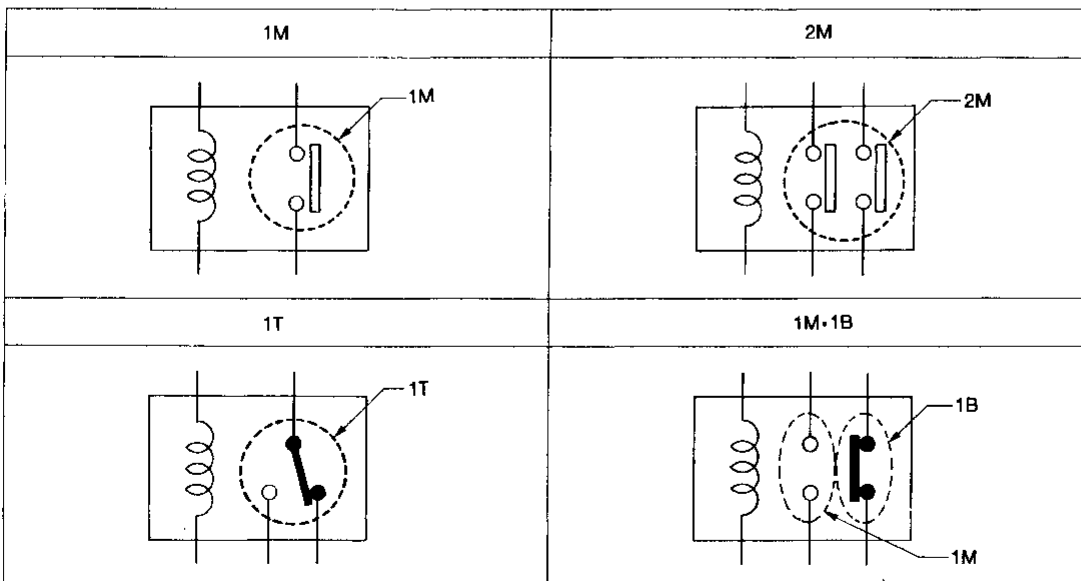
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



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TYPE OF STANDARDIZED RELAYS

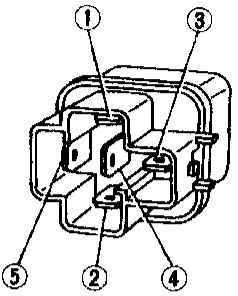
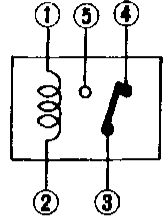
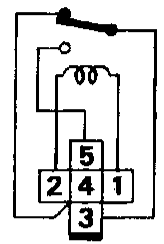
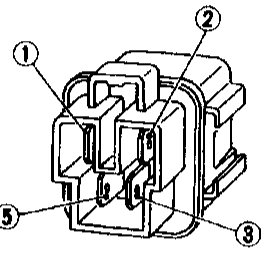
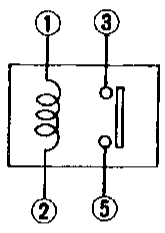
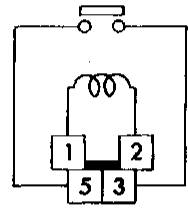
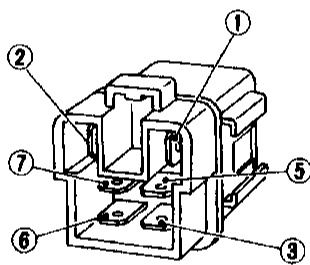
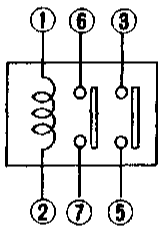
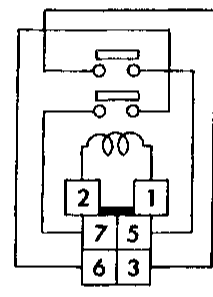
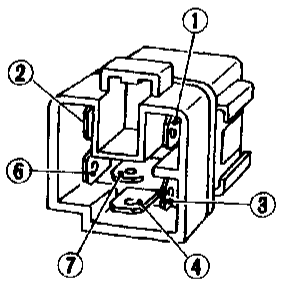
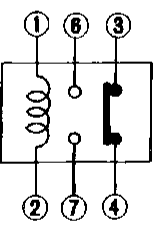
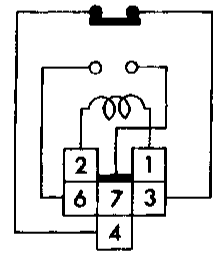
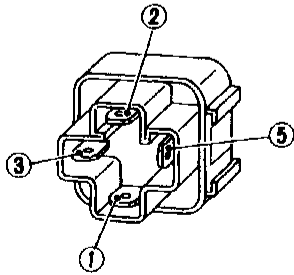
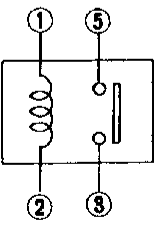
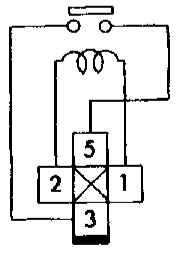
1M 1 Make 2M 2 Make
 1T 1 Transfer 1M·1B 1 Make 1 Break



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STANDARDIZED RELAY

Description (Cont'd)

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

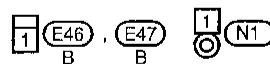
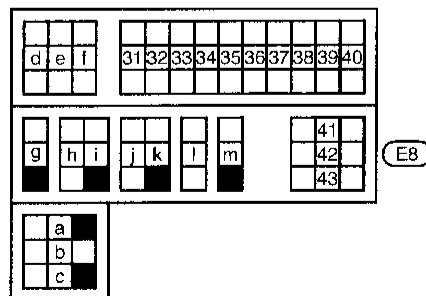
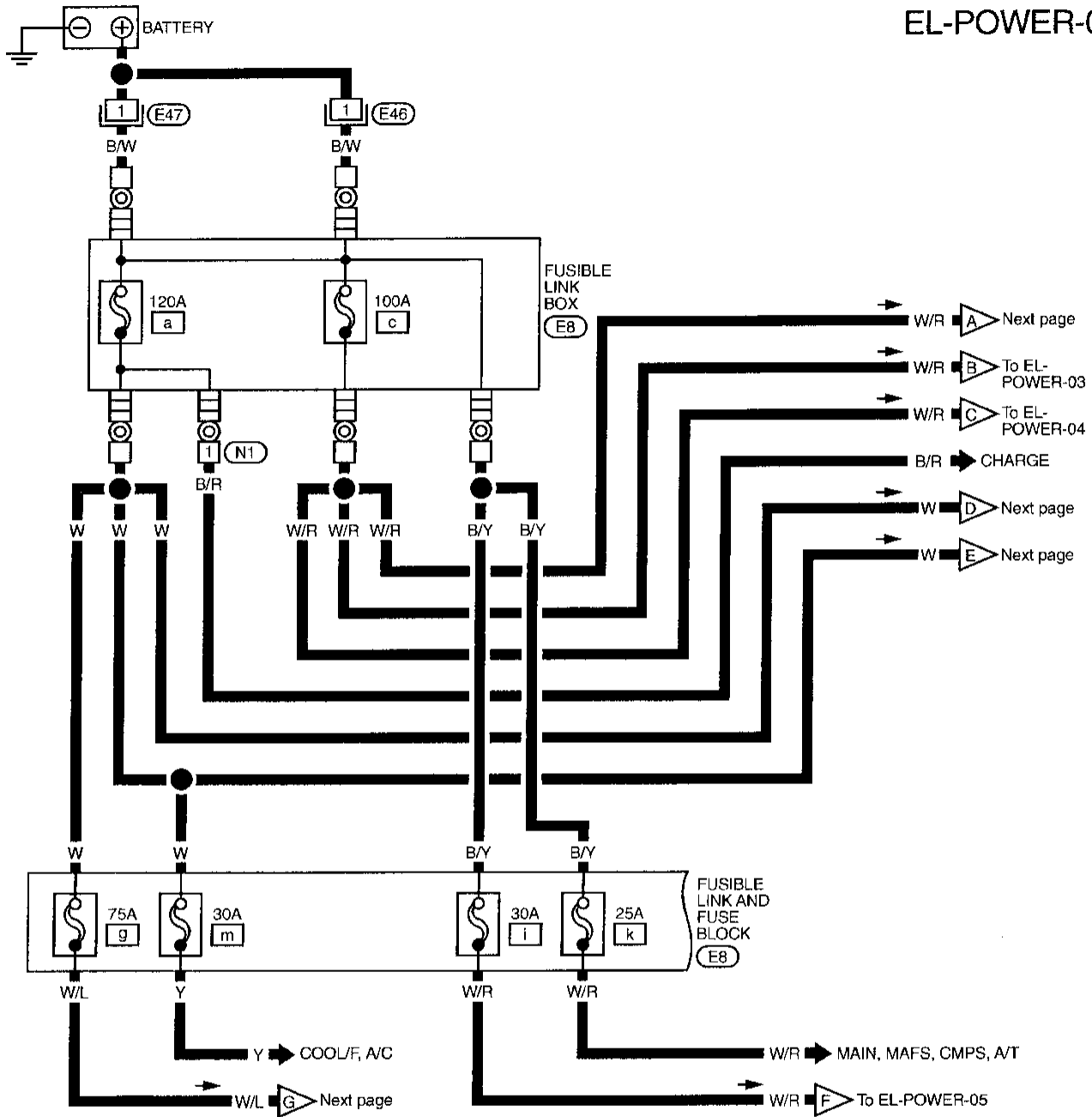
The arrangement of terminal numbers on the actual relays may differ from those shown above.

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POWER SUPPLY ROUTING

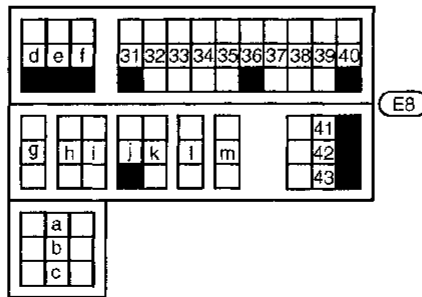
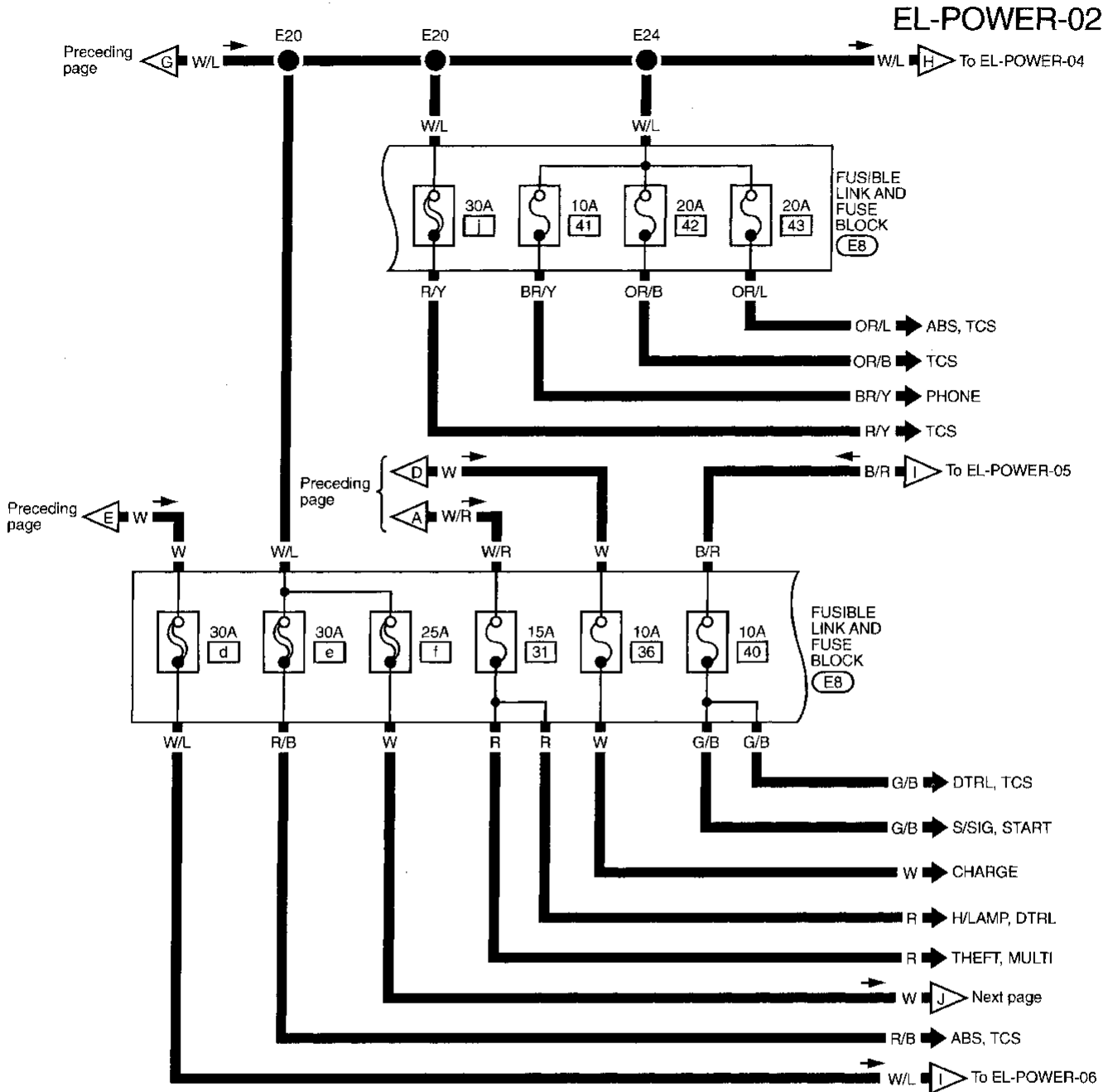
Wiring Diagram — POWER —

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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

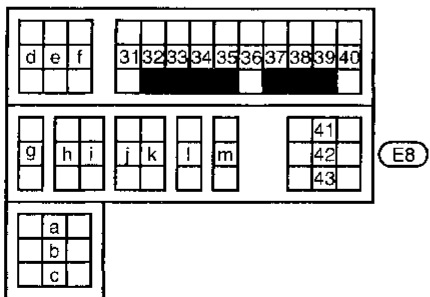
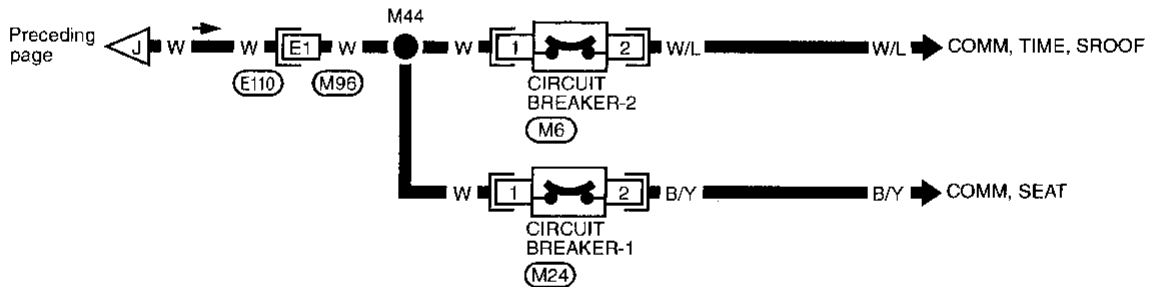
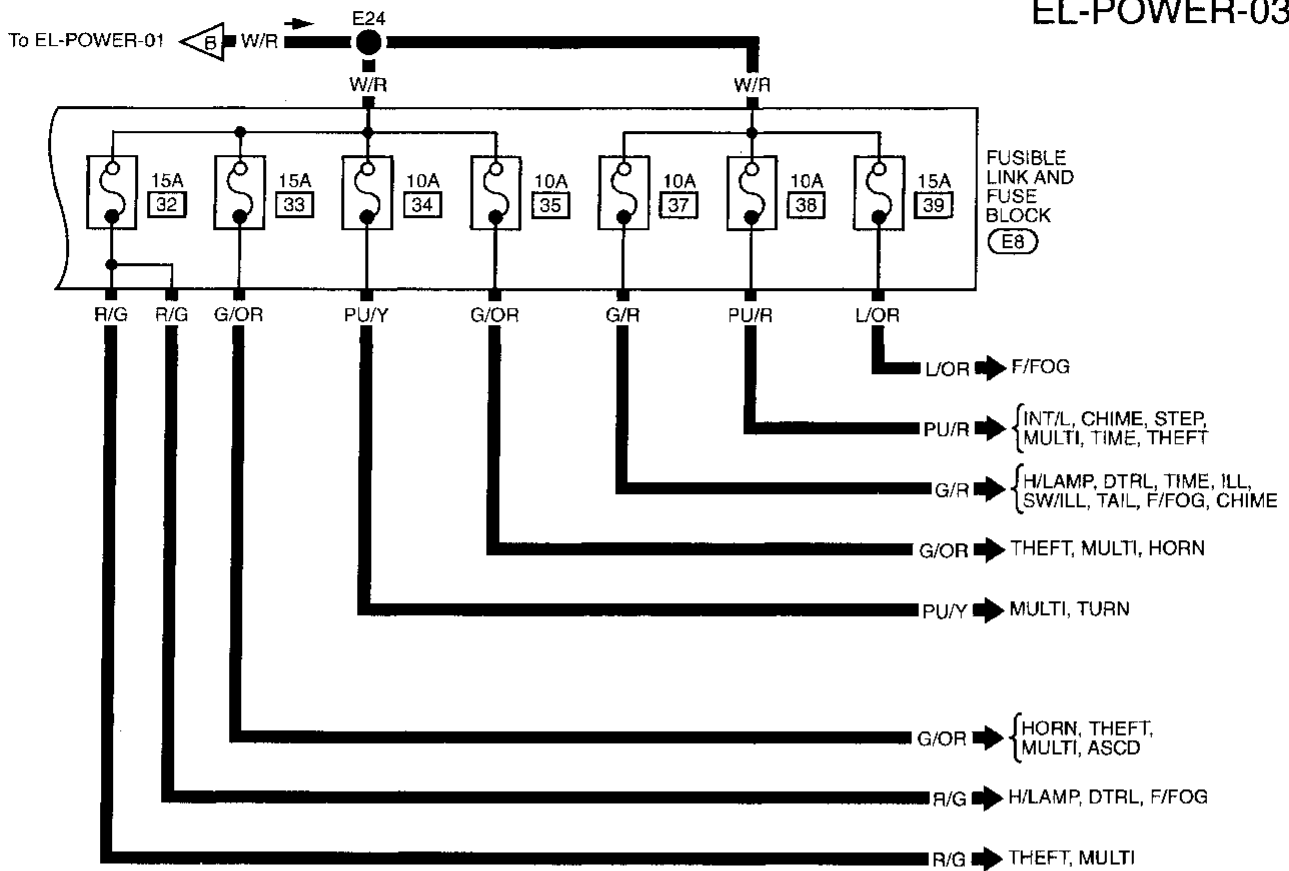


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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

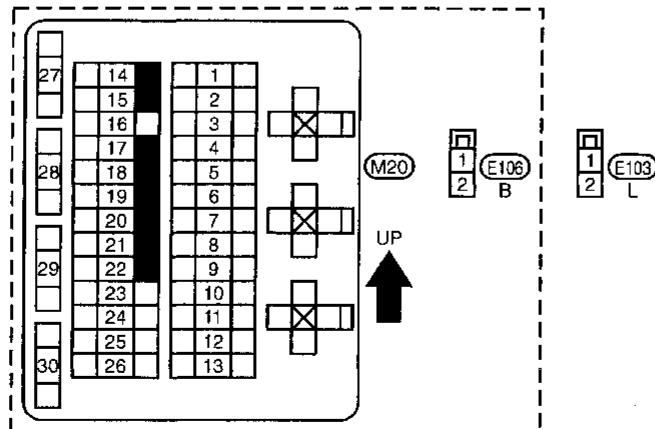
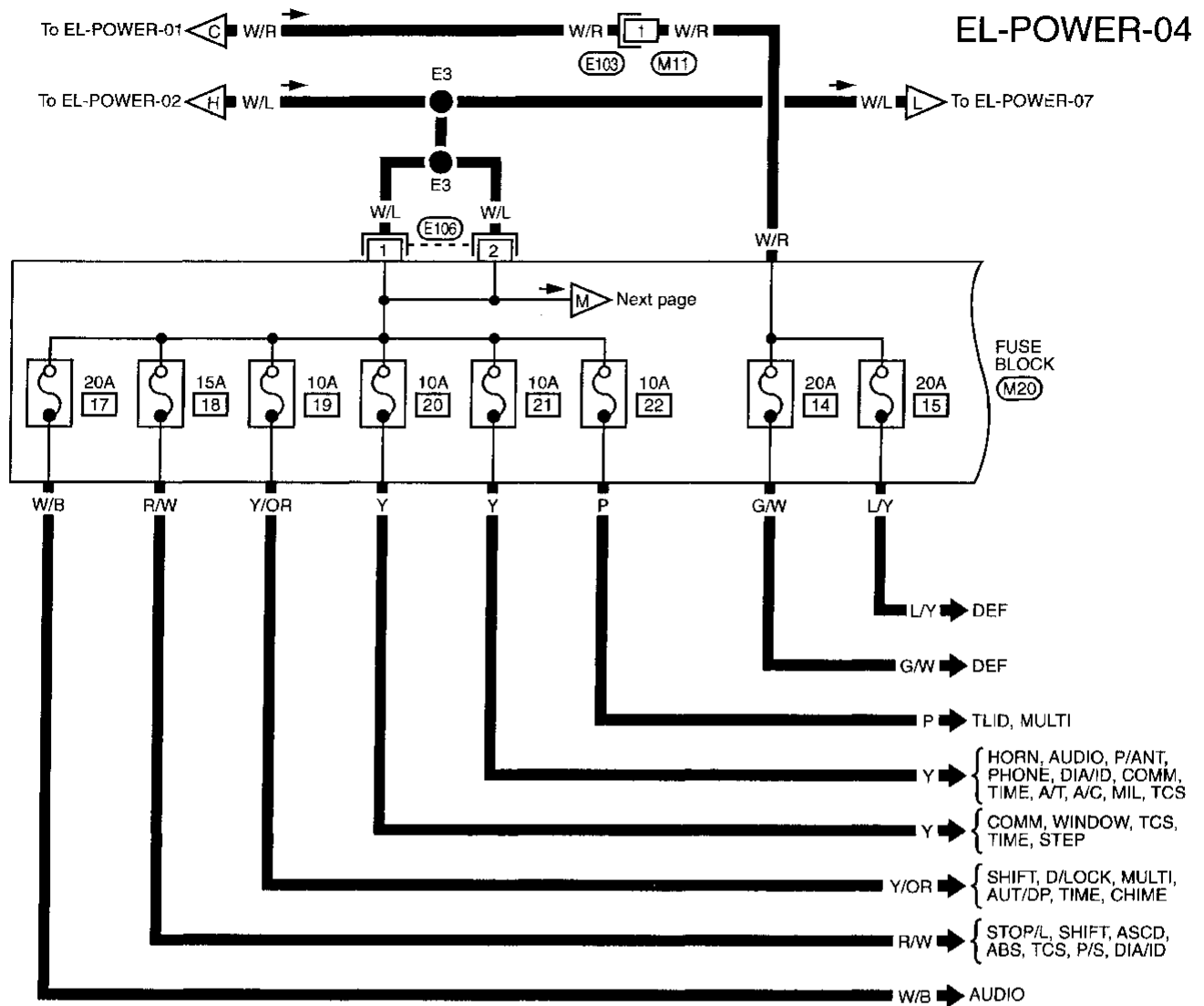
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E110, M96

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

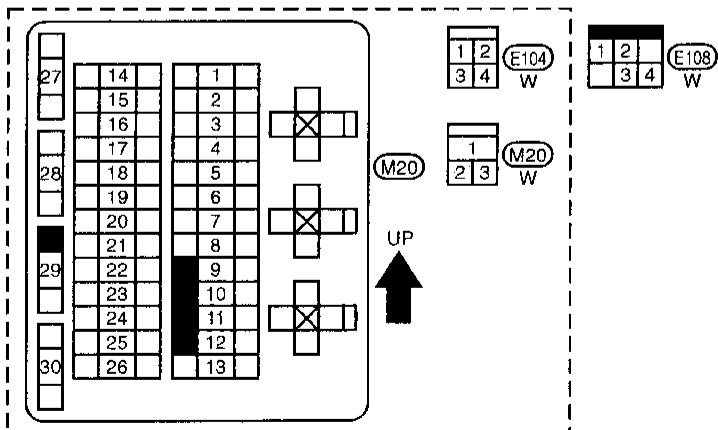
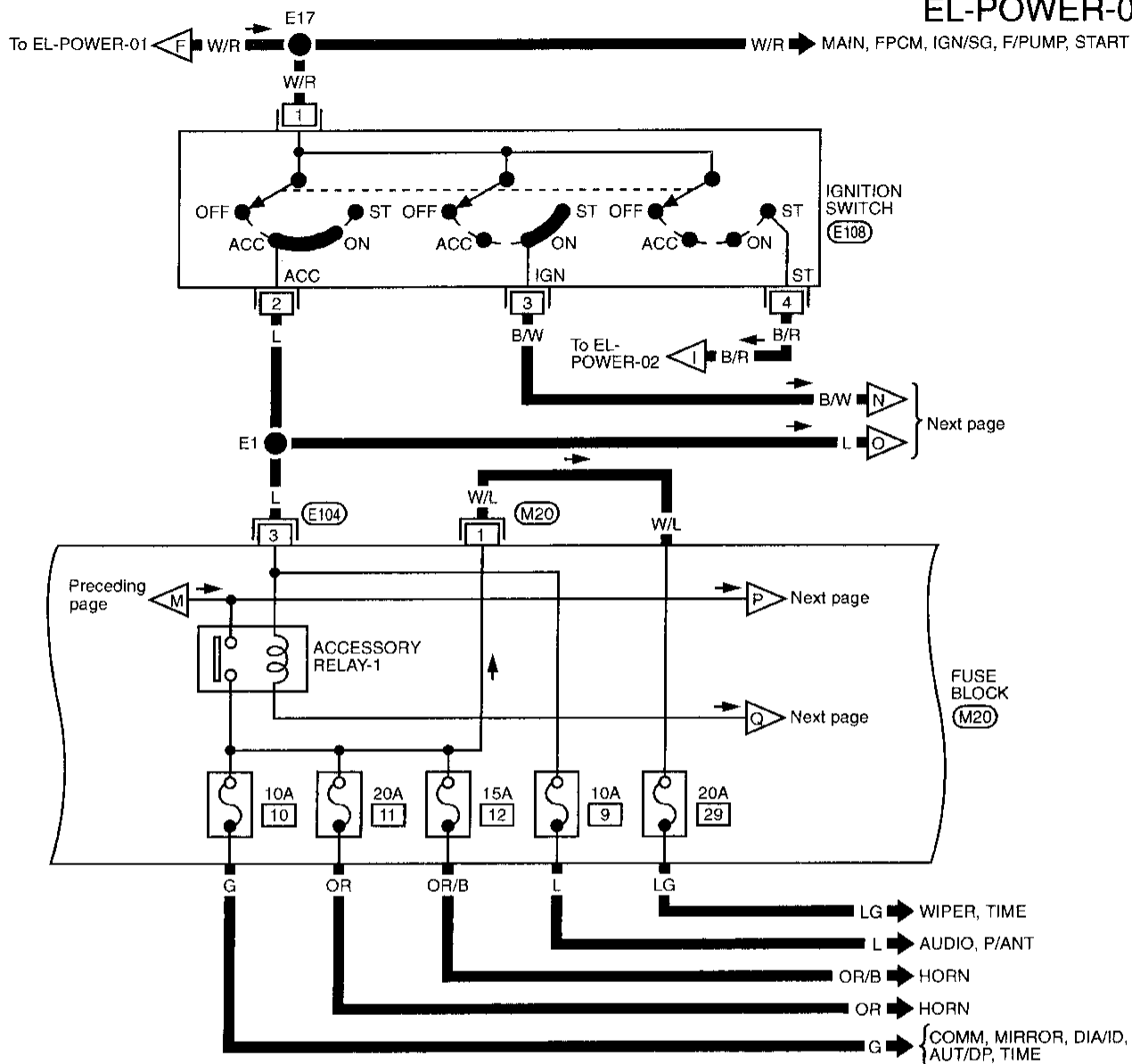


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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

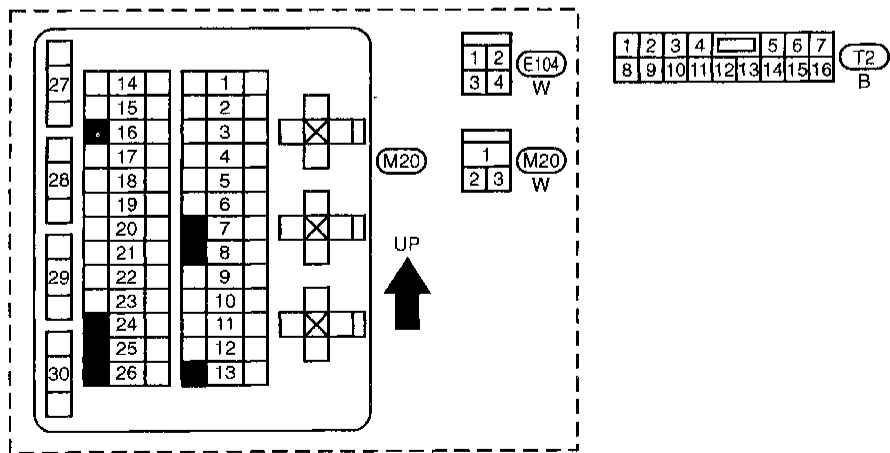
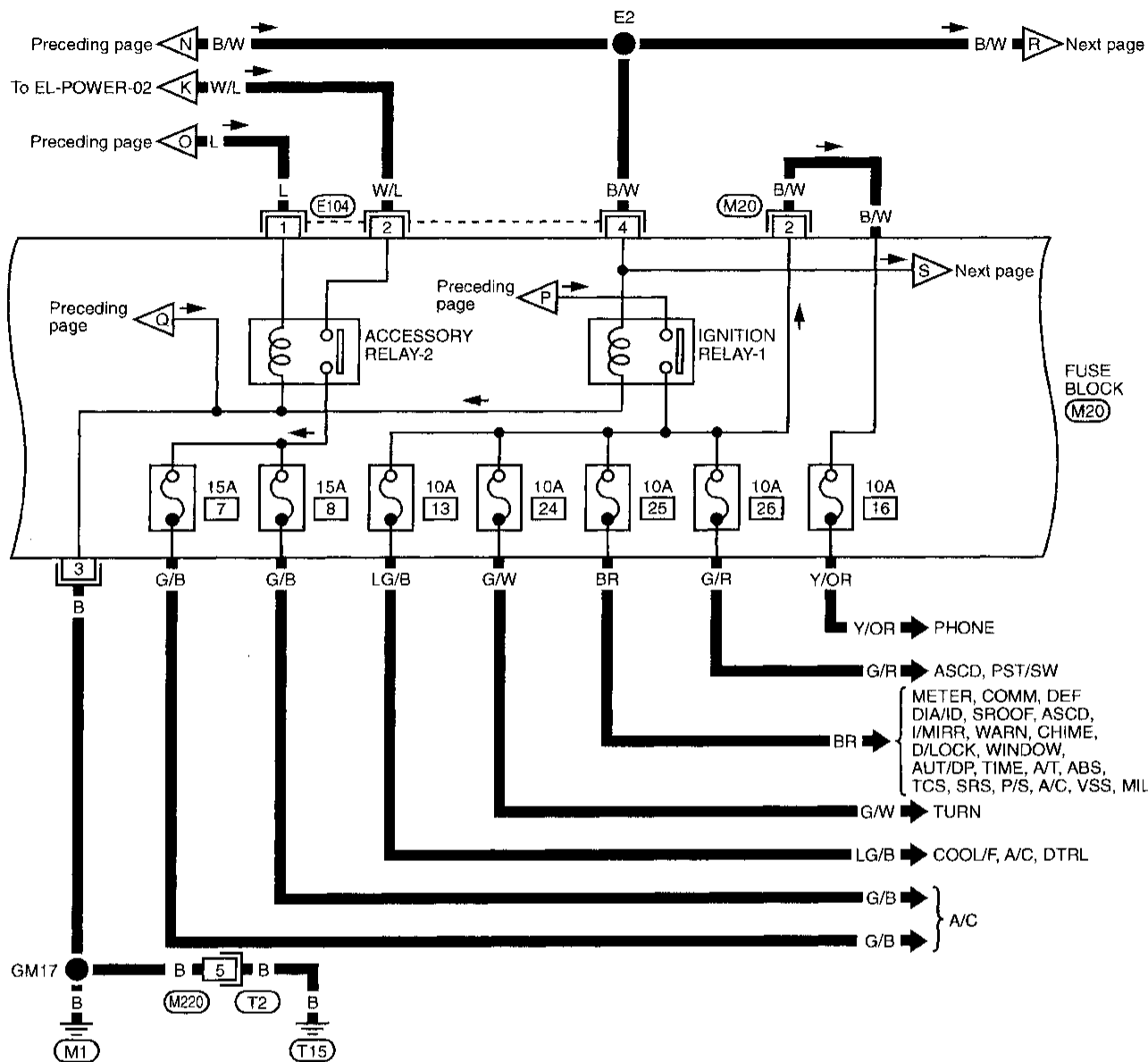
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

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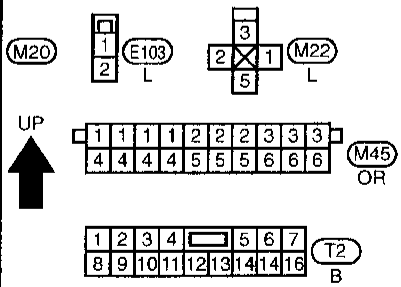
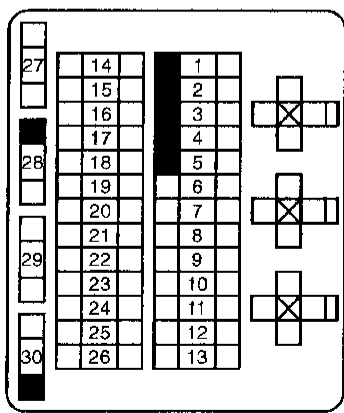
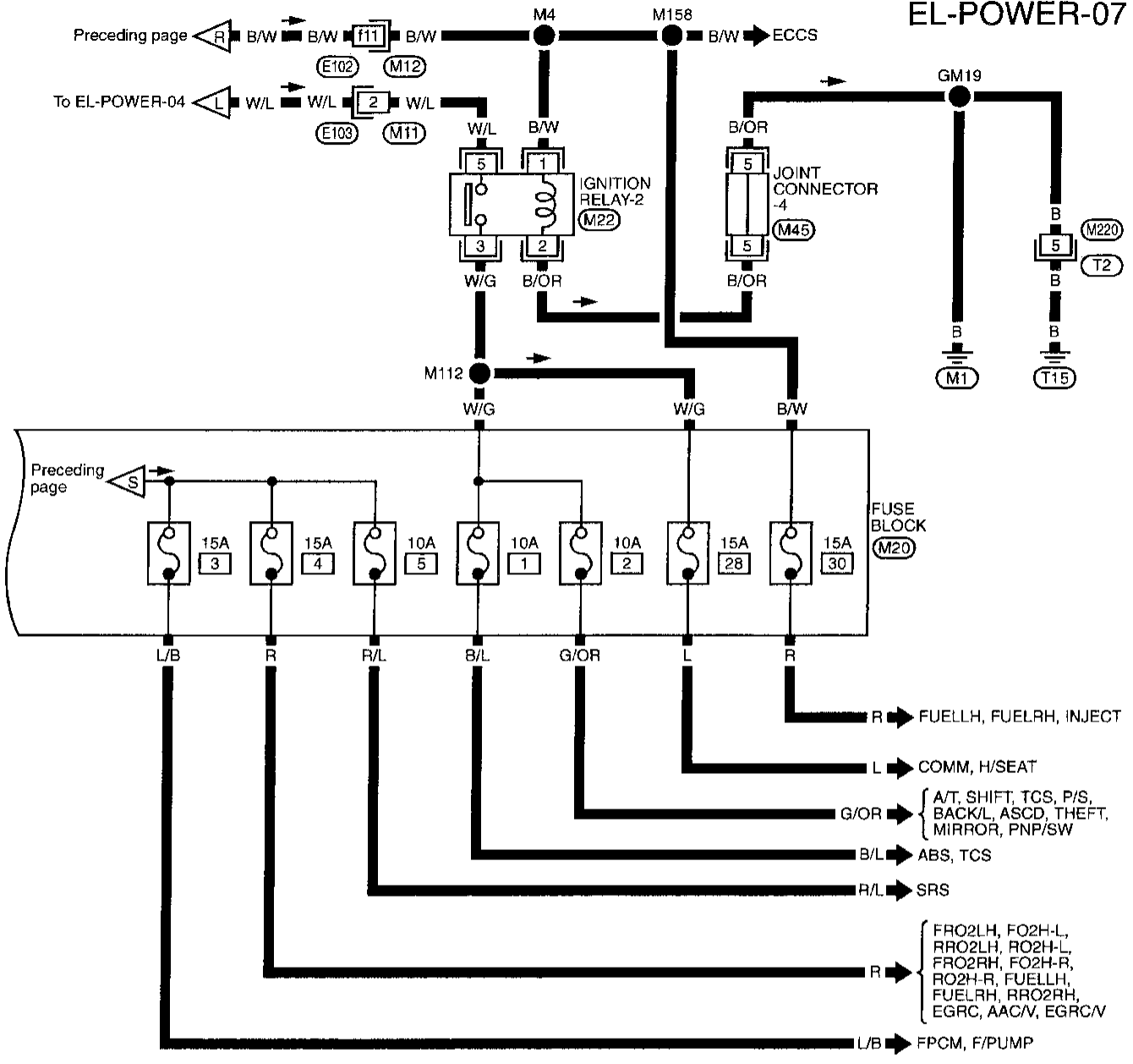


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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

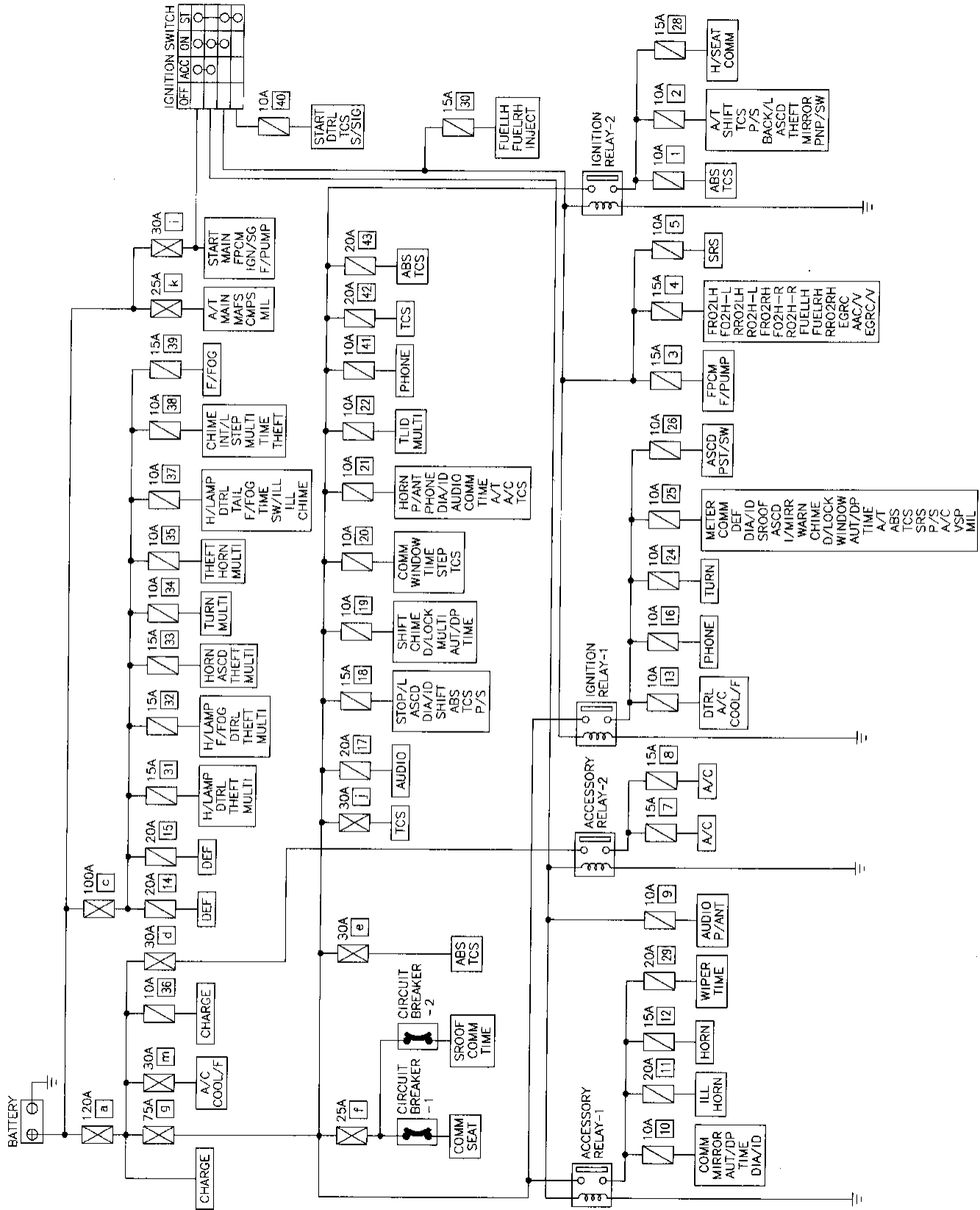
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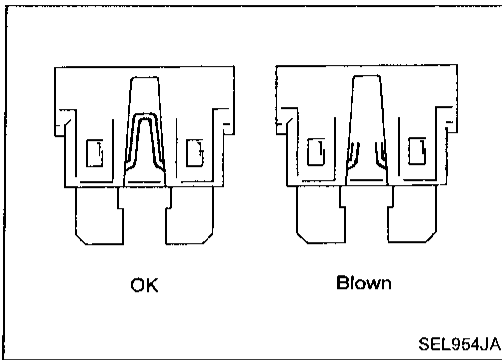
POWER SUPPLY ROUTING

Schematic



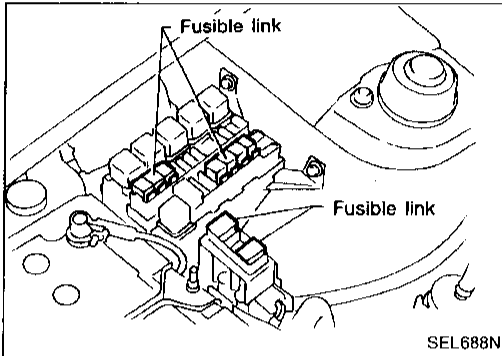
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POWER SUPPLY ROUTING



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.

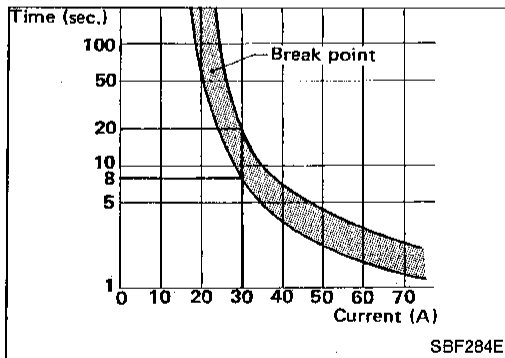


Fusible Link

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 should melt, 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 of problem.
- Never wrap outside of fusible link with vinyl tape.
Important: Never let fusible link touch any other wiring harnesses, vinyl or rubber parts.



Circuit Breaker

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

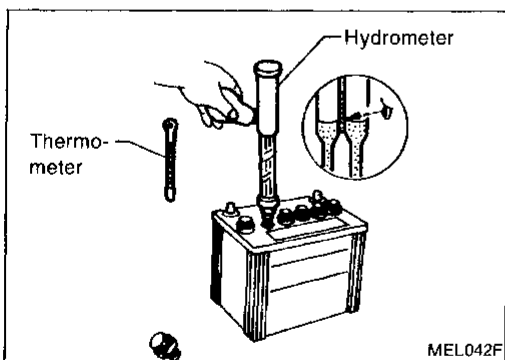
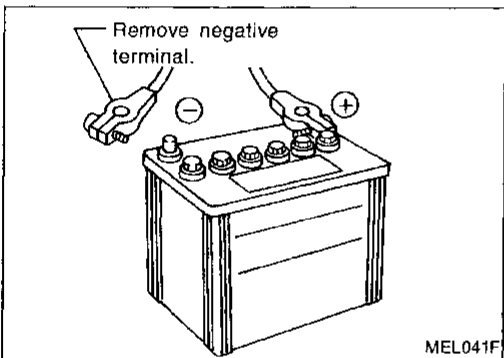
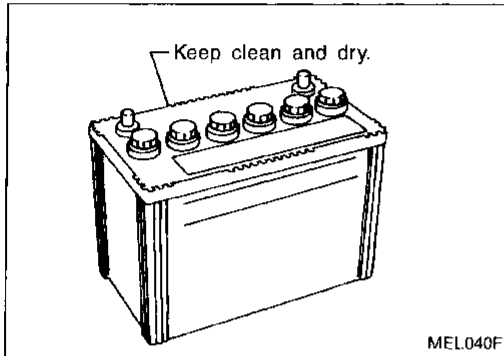
Circuit breakers are used in the following systems.

- Power window (LAN)
- Power door lock (LAN)
- Electric sun roof
- Power seat (LAN)

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.
- 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 charge condition of the battery. Periodically check the specific gravity of the electrolyte. Keep a close check on charge condition to prevent overdischarge.

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.

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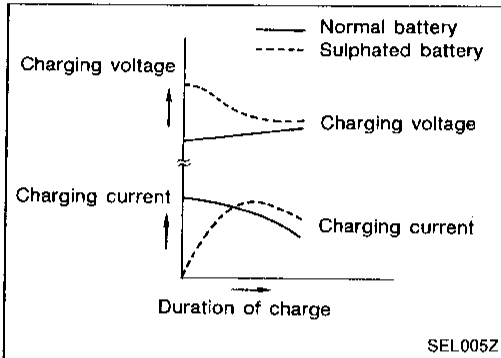
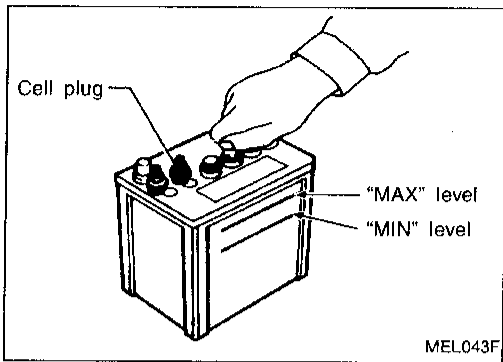
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BATTERY

How to Handle Battery (Cont'd)

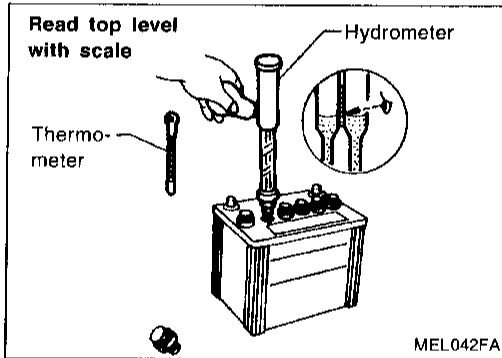
- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



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.

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

Hydrometer temperature correction

Battery electrolyte temperature °C (°F)	Add to specific gravity reading
71 (160)	0.032
66 (150)	0.028
60 (140)	0.024
54 (130)	0.020
49 (120)	0.016
43 (110)	0.012
38 (100)	0.008
32 (90)	0.004
27 (80)	0
21 (70)	-0.004
16 (60)	-0.008
10 (50)	-0.012
4 (40)	-0.016
-1 (30)	-0.020
-7 (20)	-0.024
-12 (10)	-0.028
-18 (0)	-0.032

BATTERY

How to Handle Battery (Cont'd)

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

CHARGING THE BATTERY

CAUTION:

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

Charging rates:

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

Do not charge at more than 50 ampere rate.

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.

Service Data and Specifications (SDS)

Type		95D31R
Capacity	V-AH	12-80
Cold Cranking Current (For reference value)	A	622

System Description

Power is supplied at all times

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

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

- through 10A fuse [No. **40**], located in the fuse block]
- to theft warning relay-2 terminal ④.

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

- through theft warning relay-2 terminal ③
- to starter relay terminal ③
- through starter relay terminal ④
- to body grounds **E15** and **E33**.

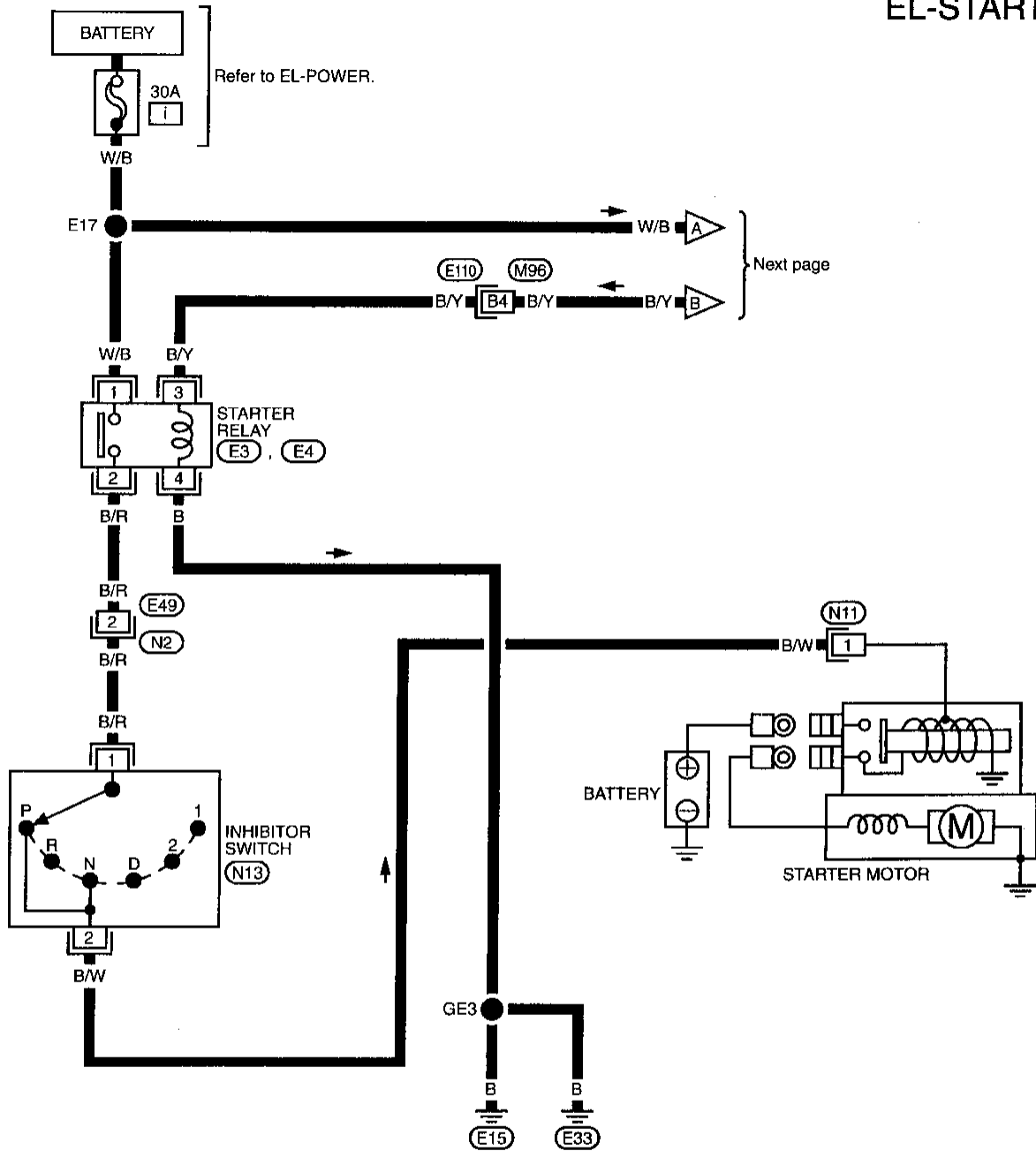
The starter relay is energized and power is supplied with the selector lever in the P or N position

- from starter relay terminal ②
- to terminal ① of the starter motor windings.

STARTING SYSTEM

Wiring Diagram — START —

EL-START-01



Refer to last page (Foldout page).
E110, M96

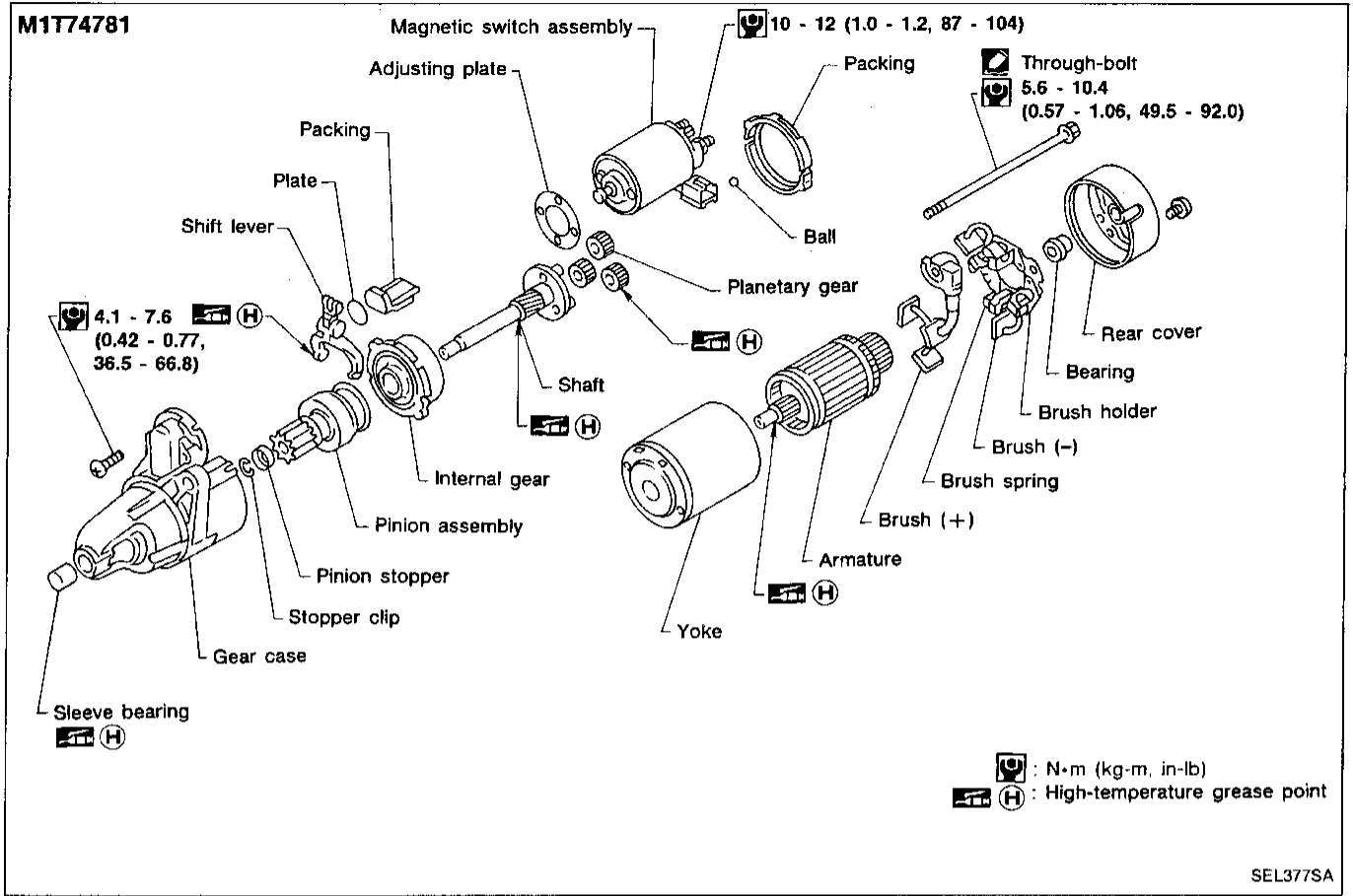
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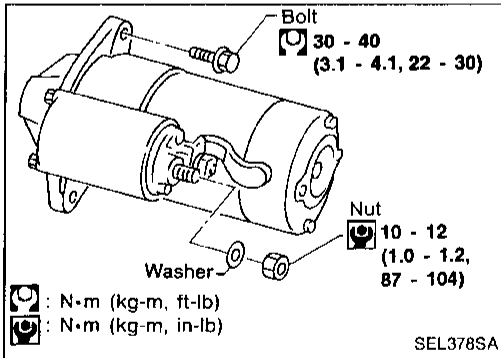
STARTING SYSTEM

Construction



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Removal and Installation



STARTING SYSTEM

Service Data and Specifications (SDS)

STARTER

Type		M1T74781A	
		MITSUBISHI make	
		Reduction gear	
System voltage		V	12
No-load	Terminal voltage	V	11.0
	Current	A	50 - 75
	Revolution	rpm	2,900 - 4,000
Minimum length of brush		mm (in)	12.0 (0.472)
Brush spring tension (With new brush)		N (kg, lb)	13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7)
Minimum diameter of commutator		mm (in)	28.8 (1.134)
Clearance between pinion front edge and pinion stopper		mm (in)	0.5 - 2.0 (0.020 - 0.079)
Clearance between bearing metal and armature shaft		mm (in)	Less than 0.2 (0.008)

CHARGING SYSTEM

System Description

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

- 120A fusible link (letter **(a)**, located in the fuse and fusible link box), and
- 10A fuse (No. **(36)**, located in the fuse and fusible link box).

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

Terminal **(E)** of the alternator supplies ground through body ground **(N4)**. **MA**

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

- through 10A fuse [No. **(25)**, located in the fuse block] and resistors
- to diagnostic information display control unit terminal **(13)** and **(L)** of the alternator. **EM**

When the alternator is providing sufficient voltage, the power supply is opened and the "OK" is displayed. **LC**

If the diagnostic information display indicates "CHARGE" with the engine running, a malfunction is indicated. Refer to "Trouble Diagnoses" (EL-28). **EC**

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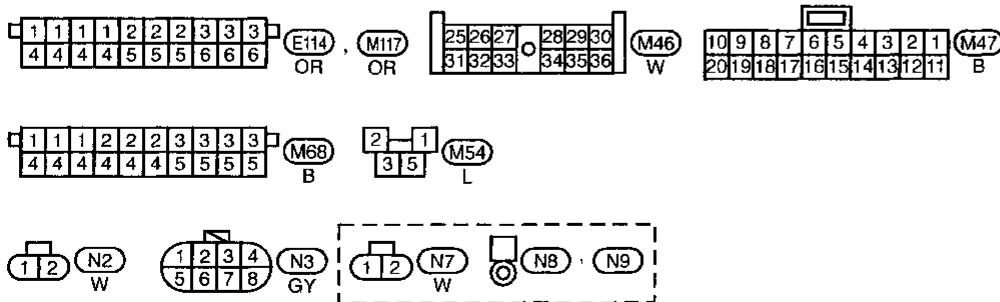
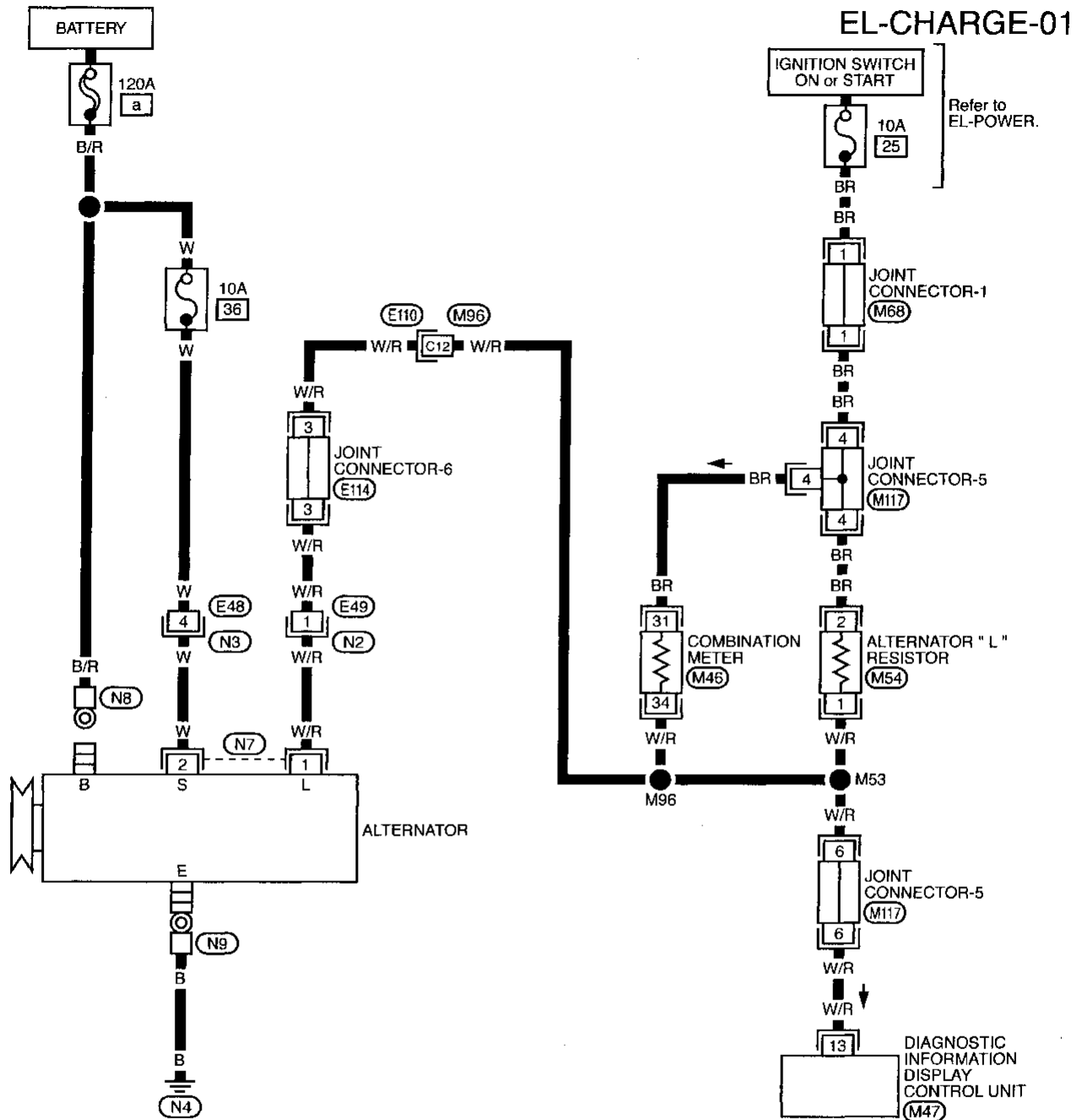
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CHARGING SYSTEM

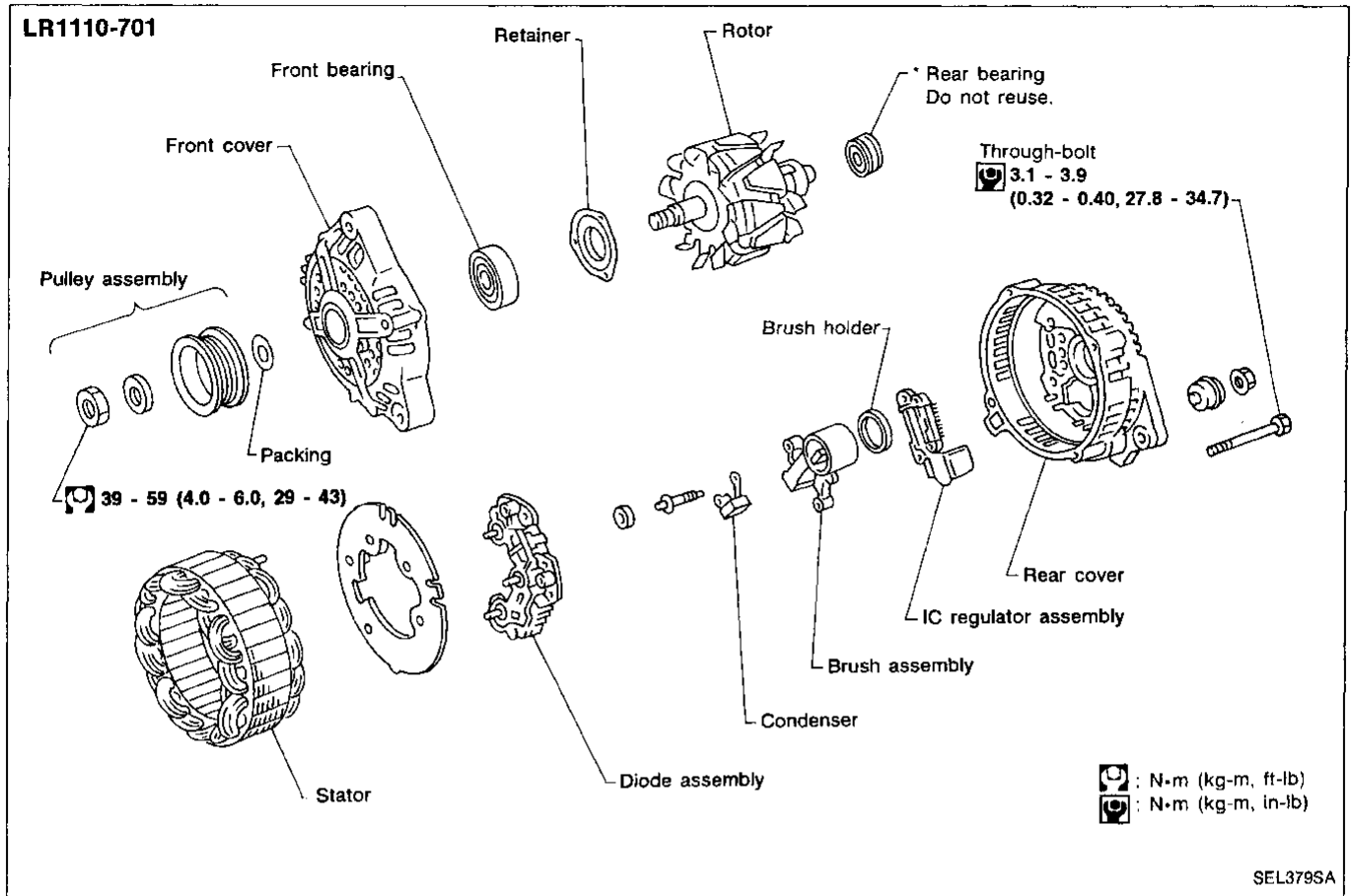
Wiring Diagram — CHARGE —



Refer to last page (Foldout page).
E110, M96

CHARGING SYSTEM

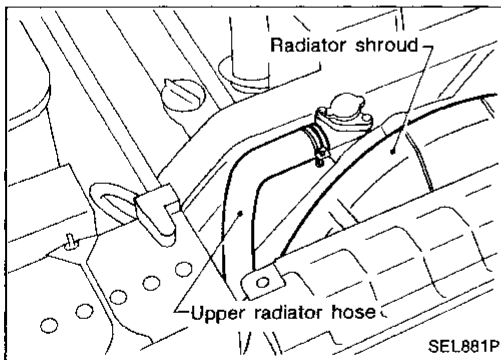
Construction



*Rear bearing

CAUTION:

Rear cover may be hard to remove because a ring is used to lock outer race of rear bearing. Be careful not to lose this ring during removal.



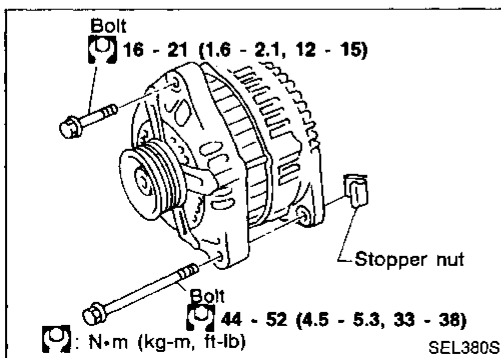
Removal and Installation

REMOVAL

1. Drain approximately one liter of coolant. Then remove radiator upper hose and radiator bracket.
2. Remove radiator shroud.
3. Remove cooling fan.
4. Remove alternator upper bracket.
5. Remove air conditioner pipe mounting bracket.
6. Remove idler pulley. Then remove belt.
7. Remove the two power steering cooler pipe mounting screws.
8. Remove alternator mounting bolt (through-bolt).
9. Remove harness heat shroud by pulling alternator to radiator side.

INSTALLATION

- Installation procedures is in reverse order of removal.



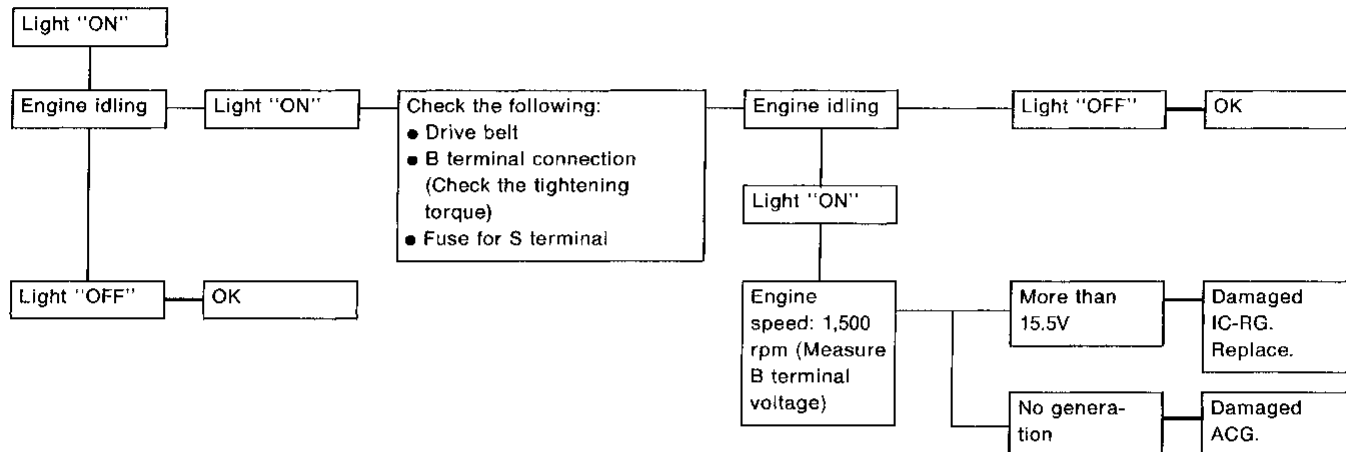
CHARGING SYSTEM

Trouble Diagnoses

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

Before starting, inspect the fusible link.

WITH IC REGULATOR



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

Light "ON": Message on diagnostic information display is "CHARGE"

Light "OFF": Message on diagnostic information display is "OK"

- 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.

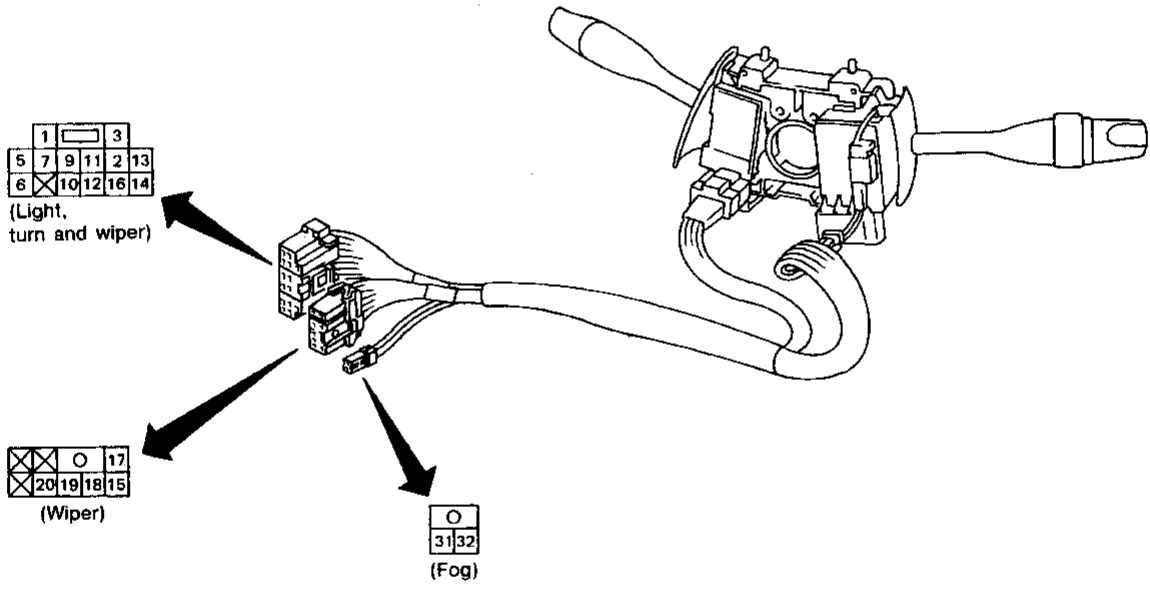
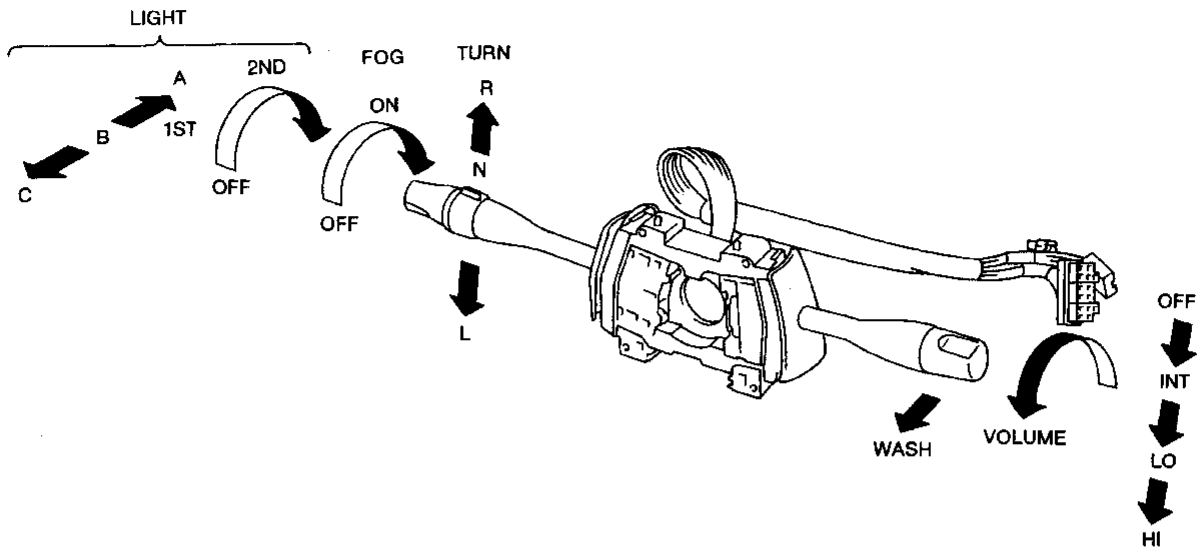
Service Data and Specifications (SDS)

ALTERNATOR

Type		LR1110-701
		HITACHI make
Applied engine		VH45DE
Nominal rating	V-A	12-110
Ground polarity		Negative
Minimum revolution under no-load (when 13.5 volts is applied)	rpm	Less than 950
Hot output current	A/rpm	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 (0.24)
Slip ring minimum outer diameter	mm (in)	More than 31.6 (1.244)
Rotor (field coil) resistance	Ω	2.4

COMBINATION SWITCH

Combination Switch/Check

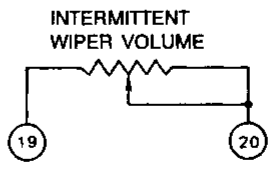


LIGHTING SWITCH

	OFF			1ST			2ND		
	A	B	C	A	B	C	A	B	C
5									
6									
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WIPER SWITCH

	OFF	INT	LO	HI	WASH
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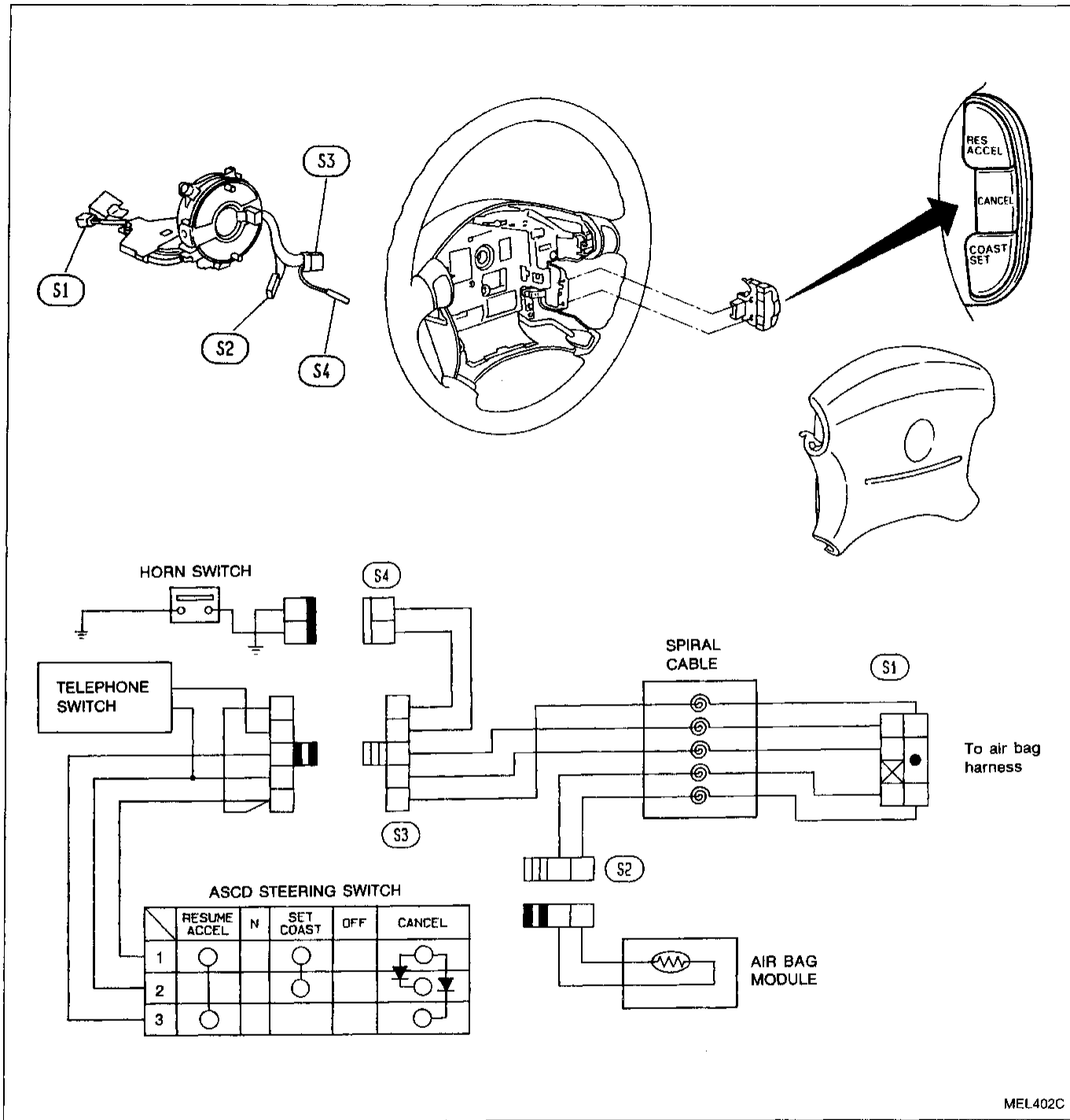
TURN SIGNAL SWITCH

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COMBINATION SWITCH

Steering Switch/Check

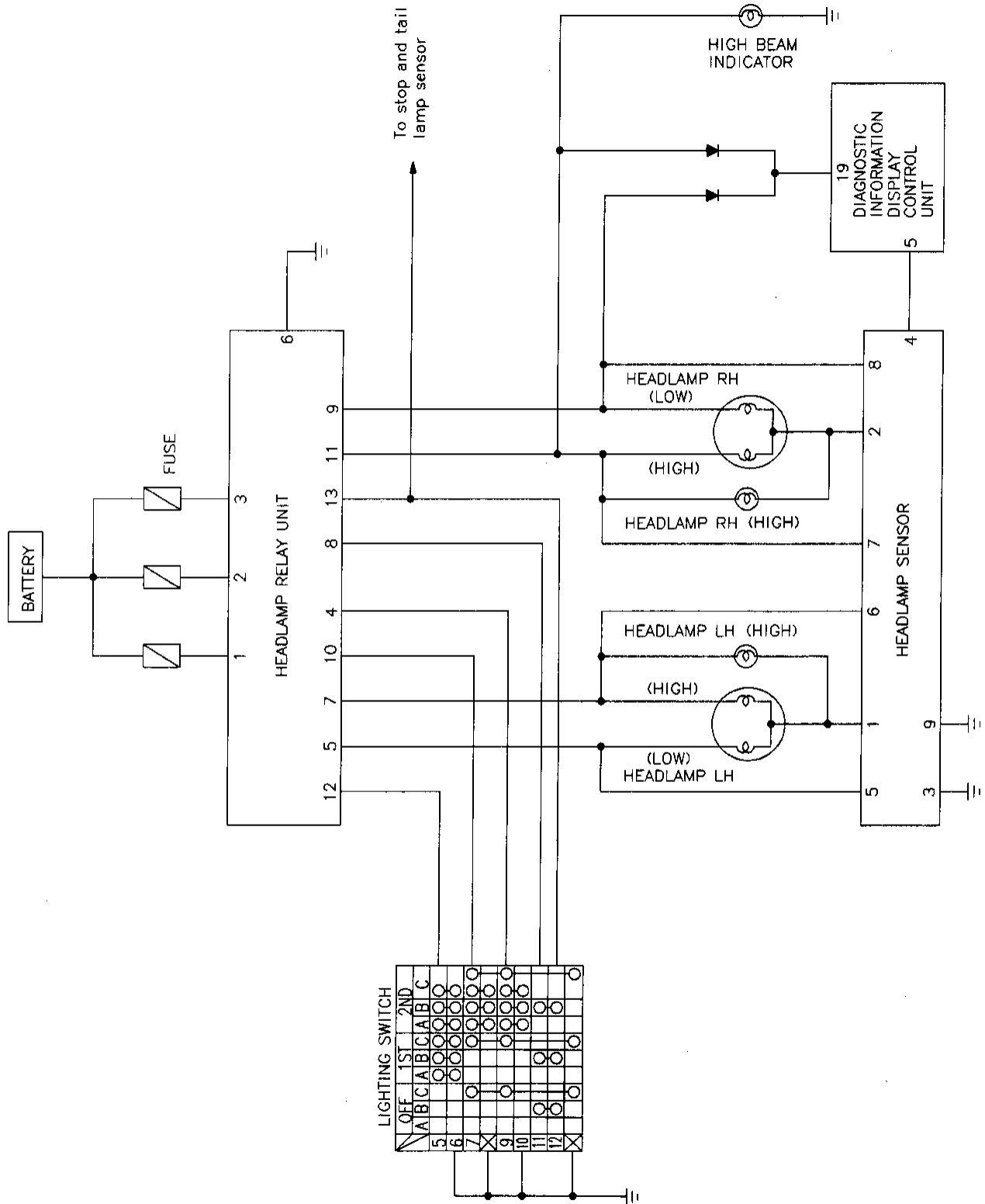


MEL402C

HEADLAMP

Schematic

FOR U.S.A.

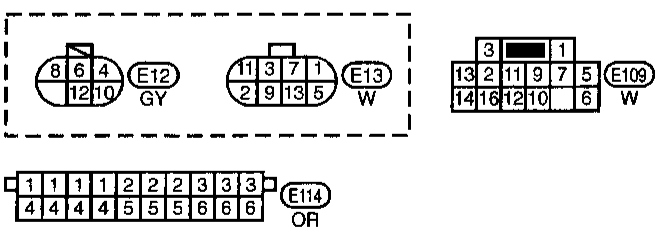
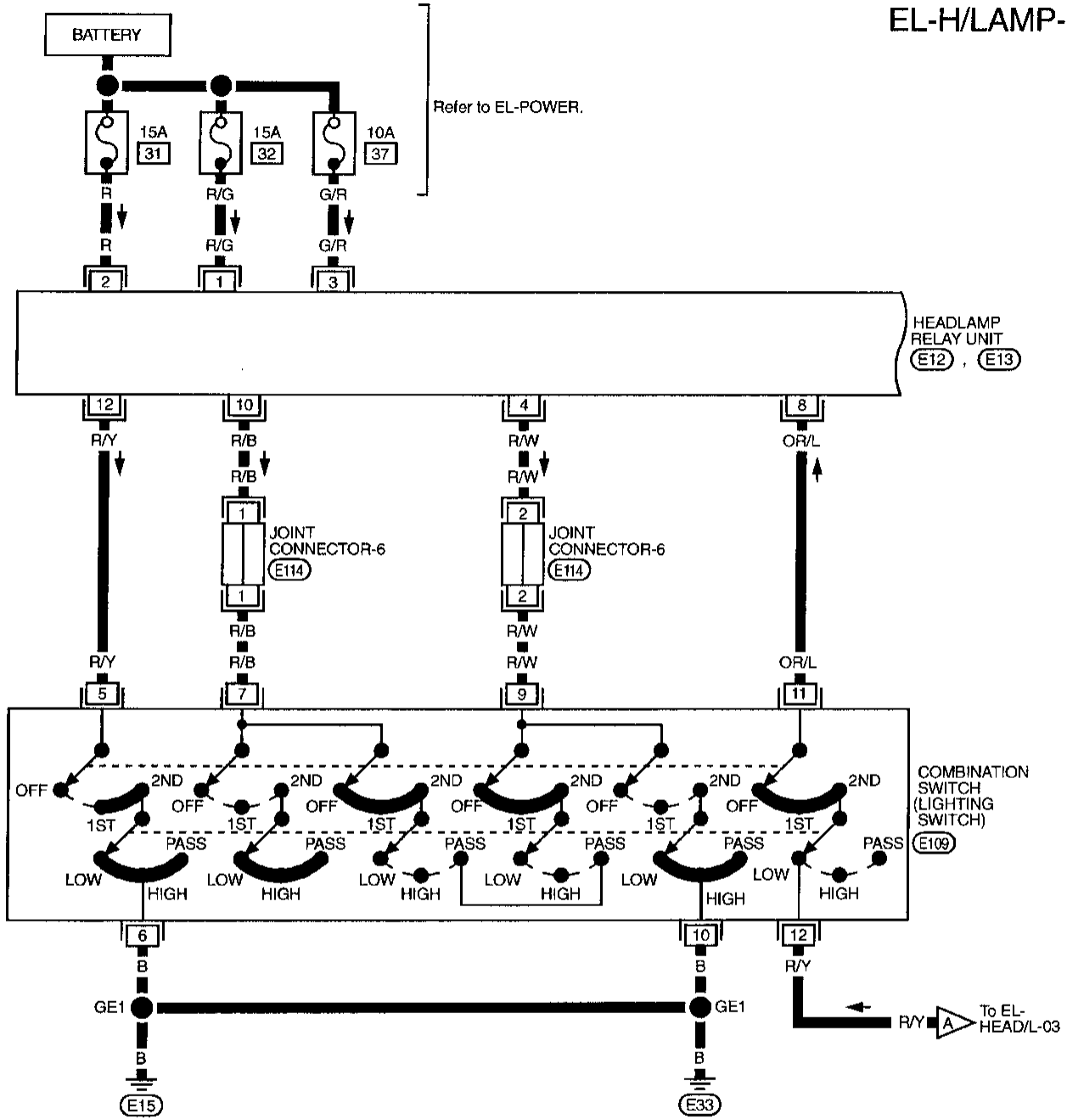


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HEADLAMP

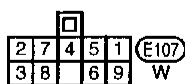
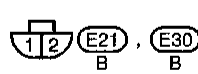
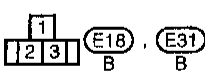
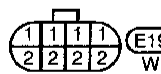
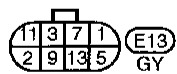
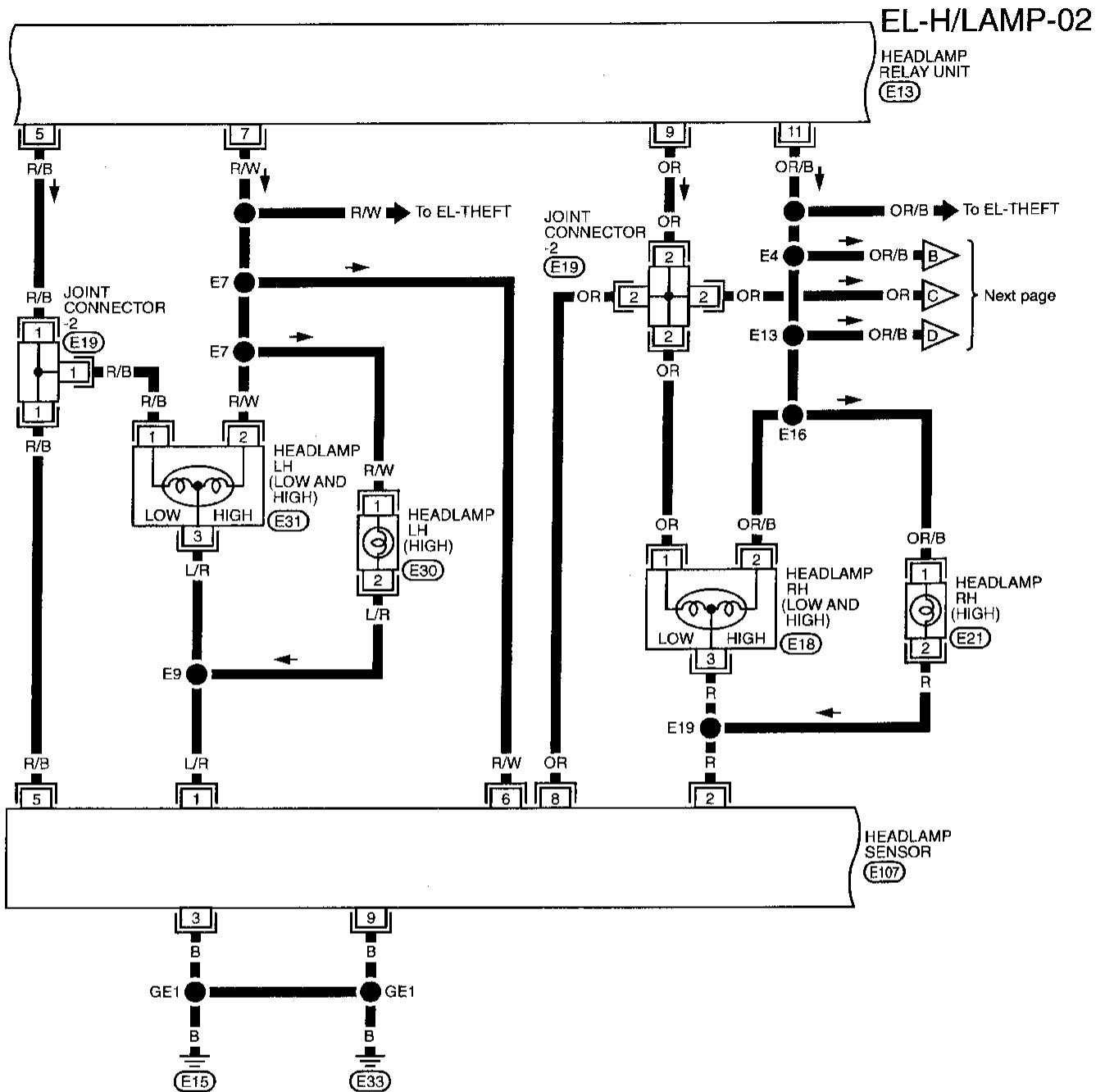
Wiring Diagram — H/LAMP —

EL-H/LAMP-01



HEADLAMP

Wiring Diagram — H/LAMP — (Cont'd)



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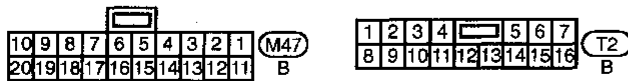
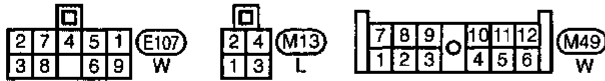
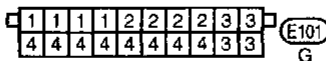
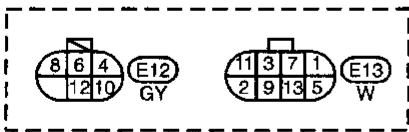
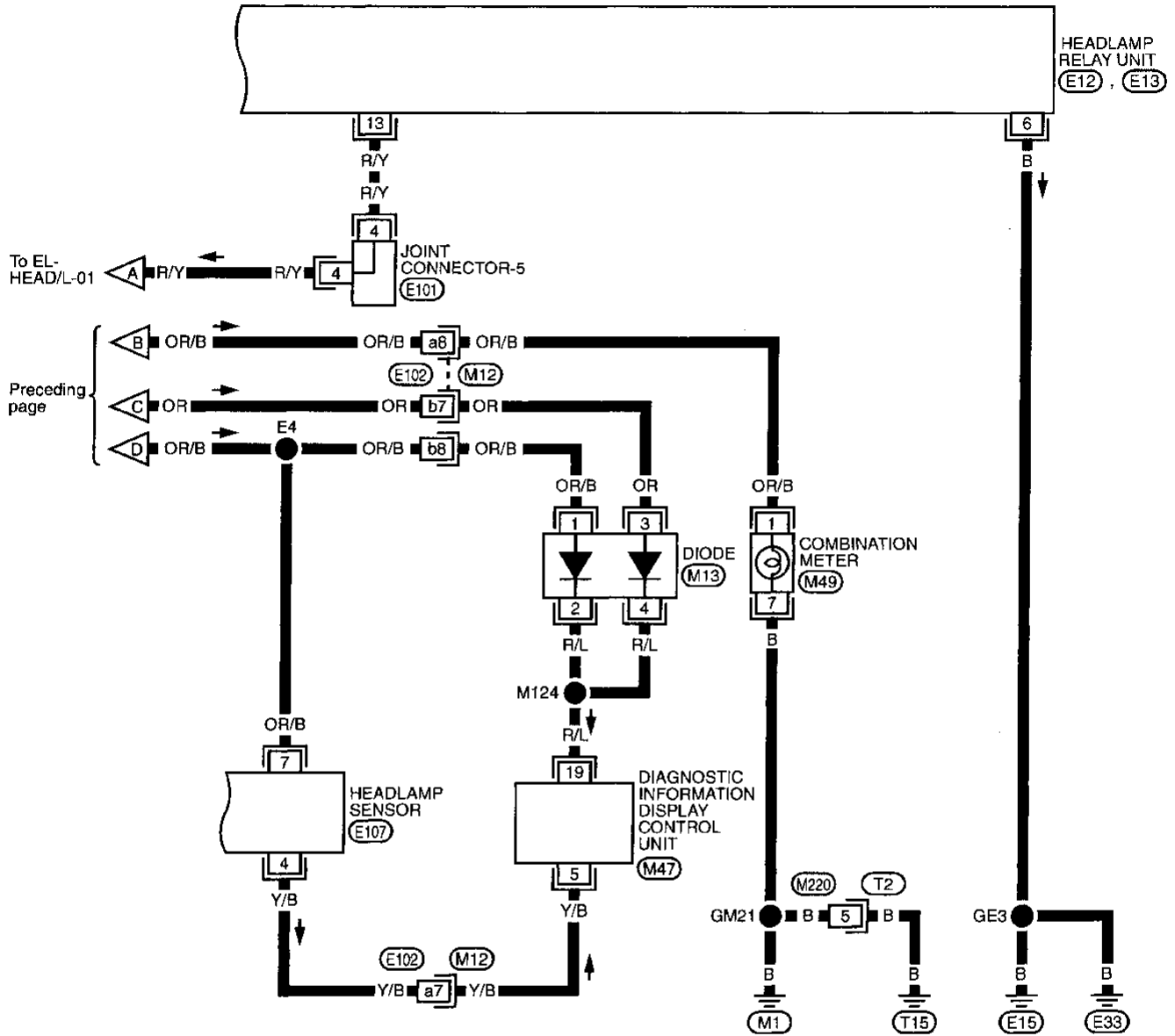
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HEADLAMP

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-03



Refer to last page (Foldout page).
E102, M12

HEADLAMP

Operation (Daytime light system 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.

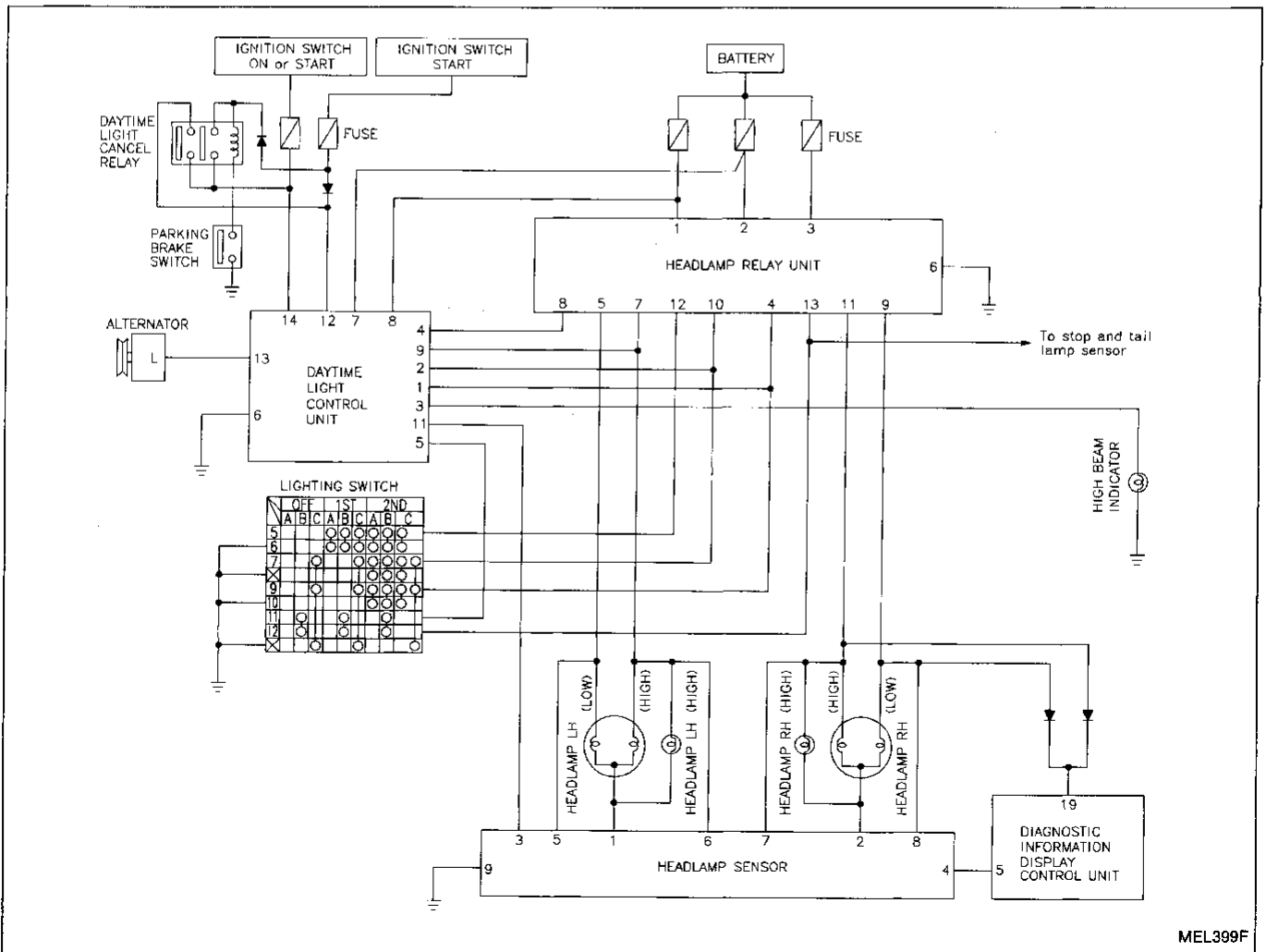
Engine		With engine stopped									With engine running								
Lighting switch		OFF			1ST			2ND			OFF			1ST			2ND		
Headlamp	High beam	X	X	O	X	X	O	O	X	O	△*	△*	O	△*	△*	O	O	X	O
	Low beam	X	X	X	X	X	X	X	O	X	X	X	X	X	X	X	X	O	X
Clearance and tail lamp		X	X	X	O	O	O	O	O	O	X	X	X	O	O	O	O	O	O
License and instrument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

A: Main
 B: Dim.
 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

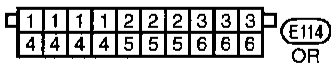
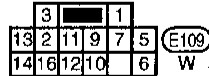
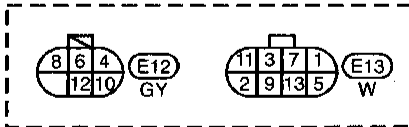
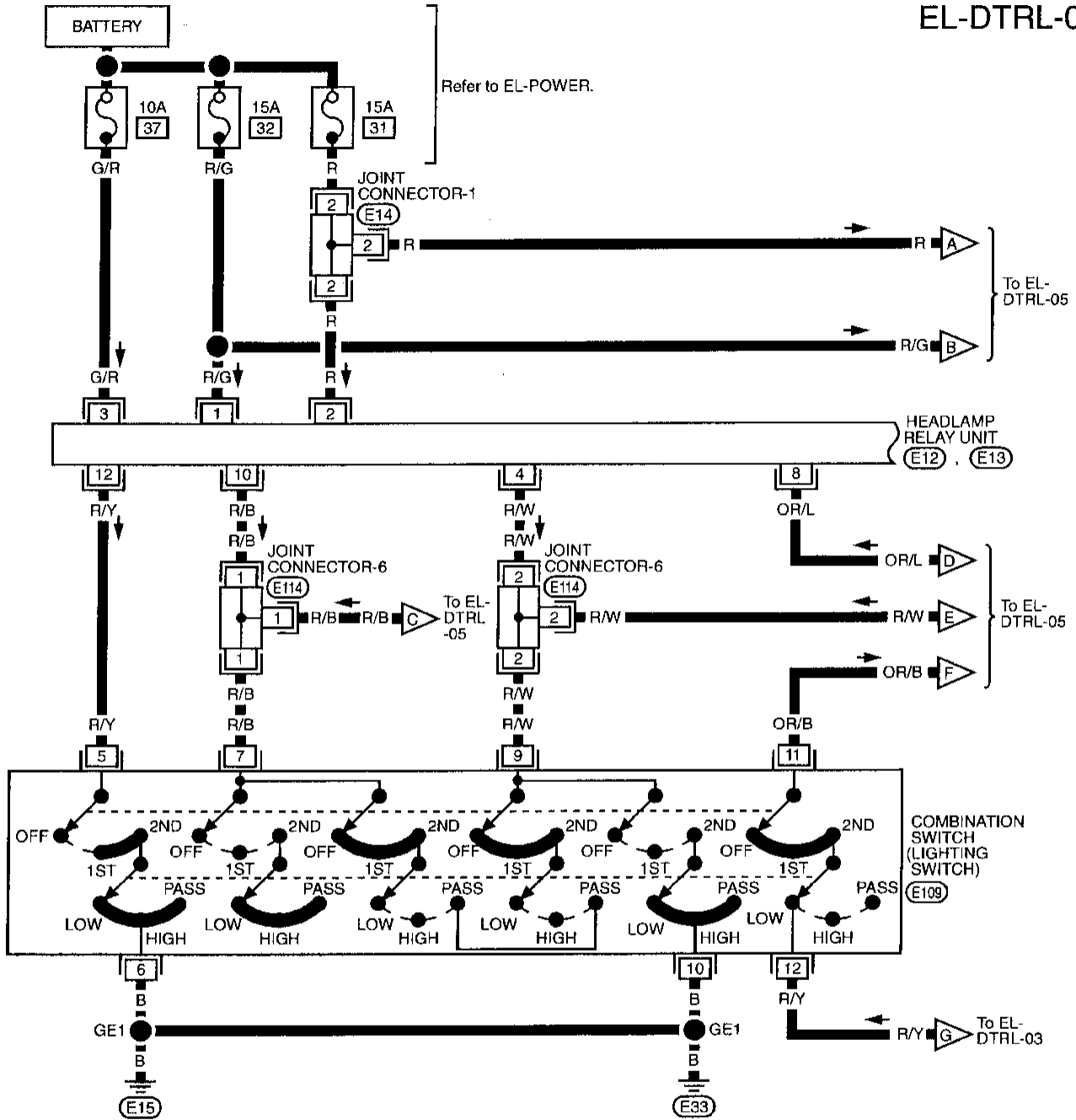


MEL399F

HEADLAMP

Wiring Diagram — DTRL —

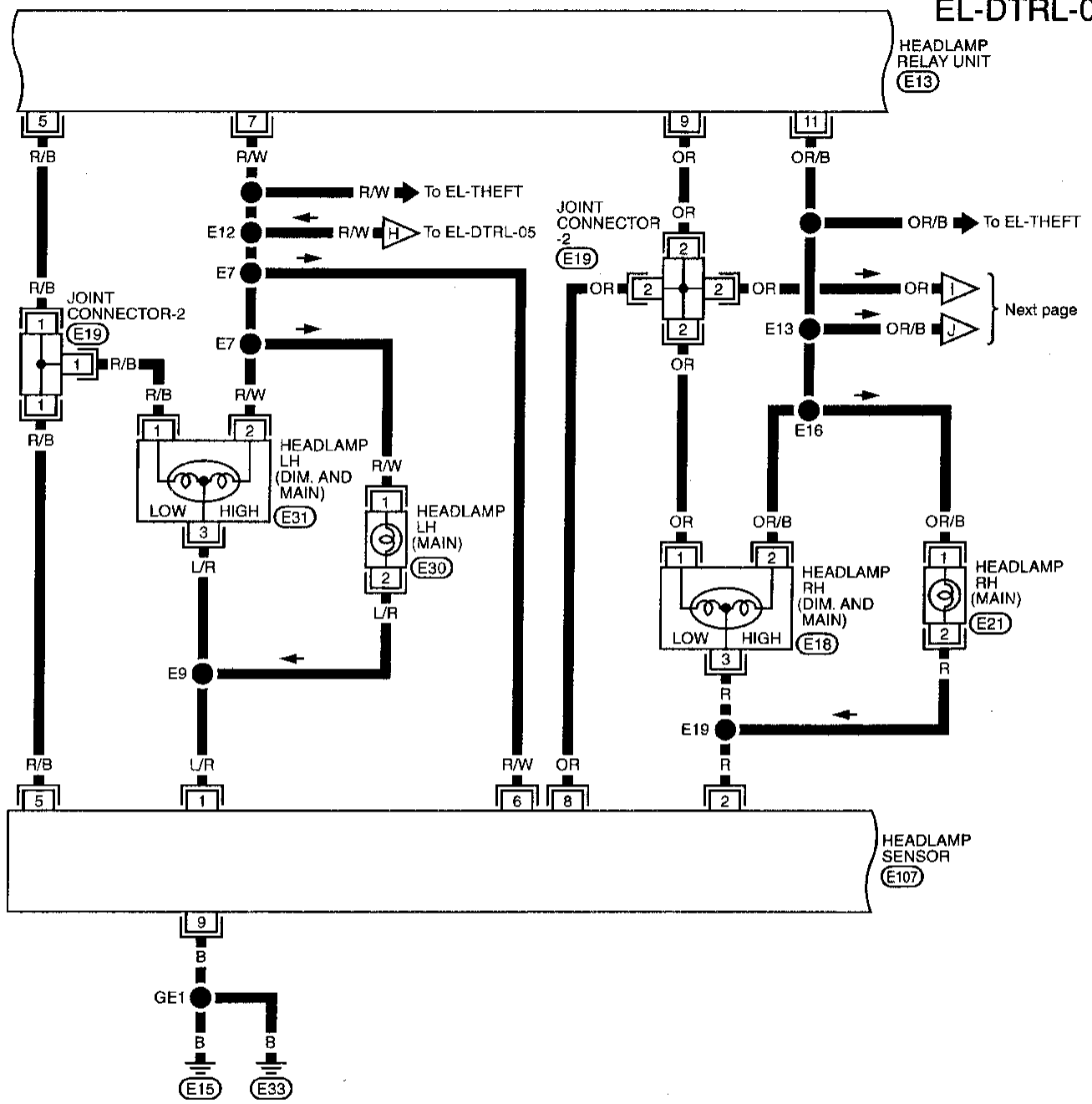
EL-DTRL-01



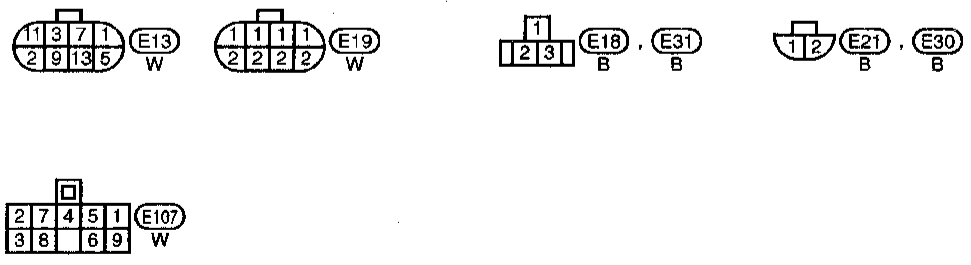
HEADLAMP

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02

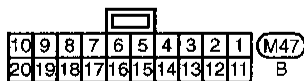
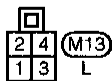
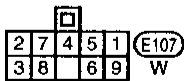
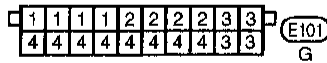
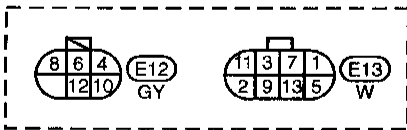
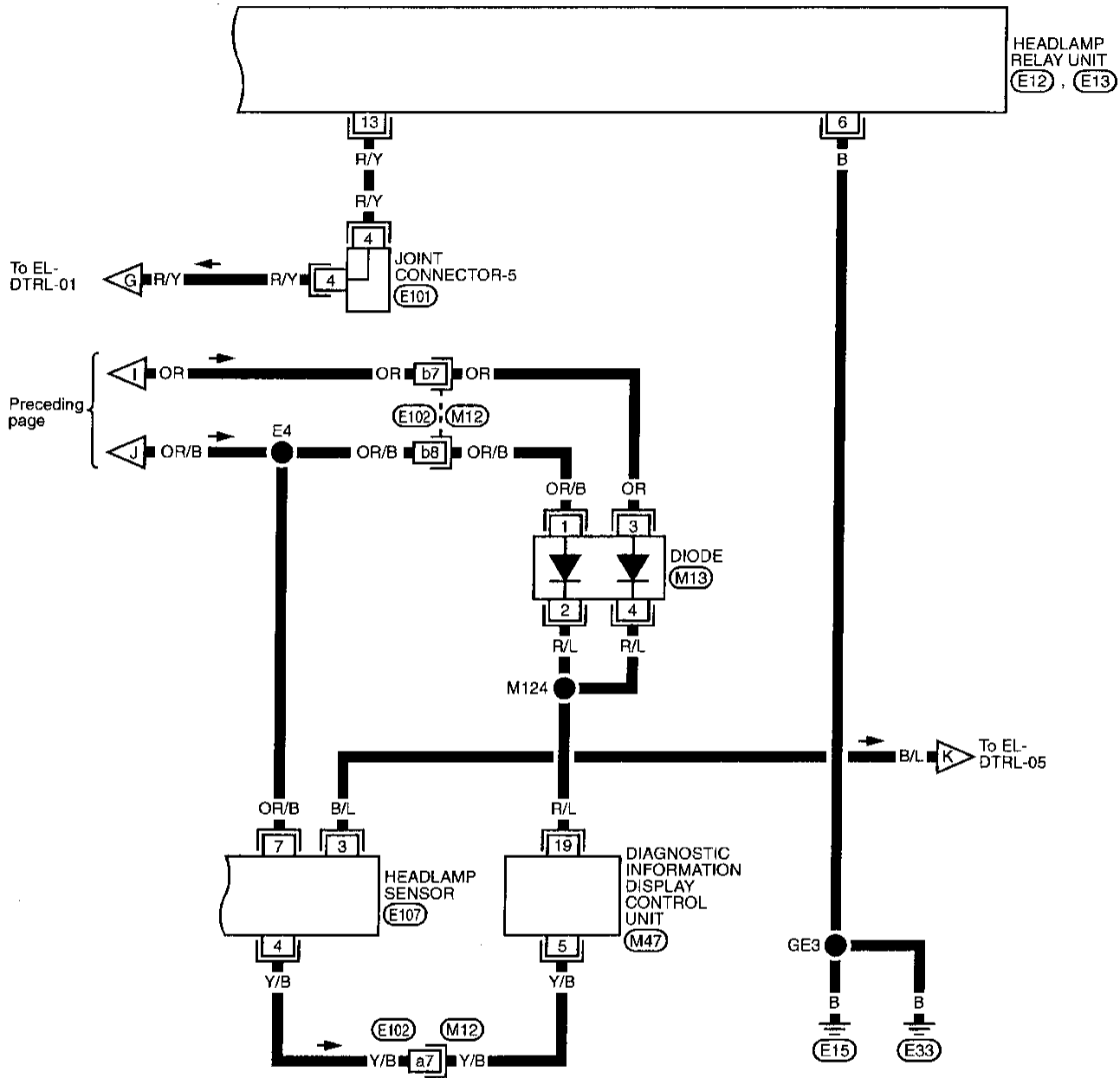


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HEADLAMP Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-03

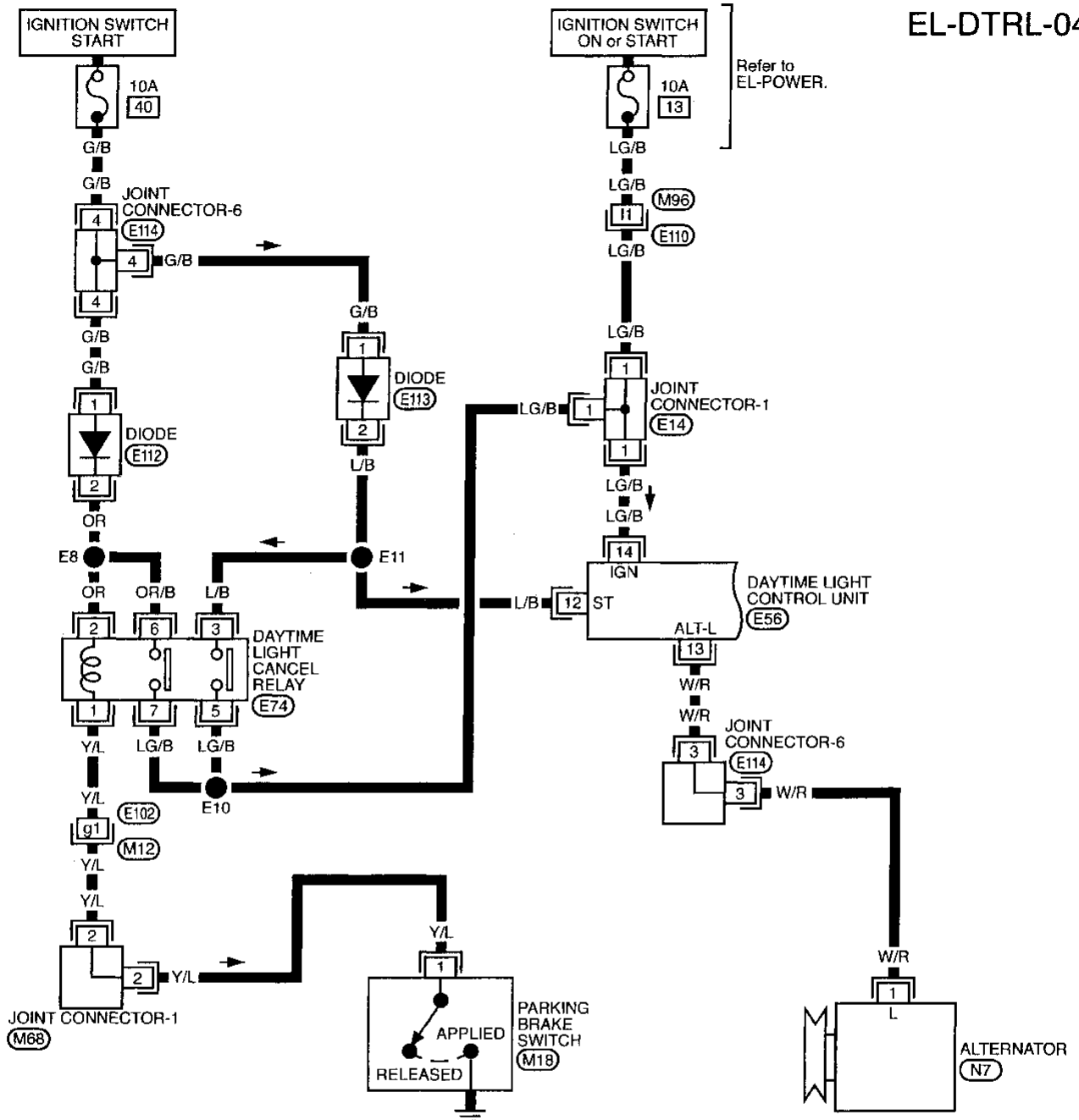


Refer to last page (Foldout page).
E102, M12

HEADLAMP

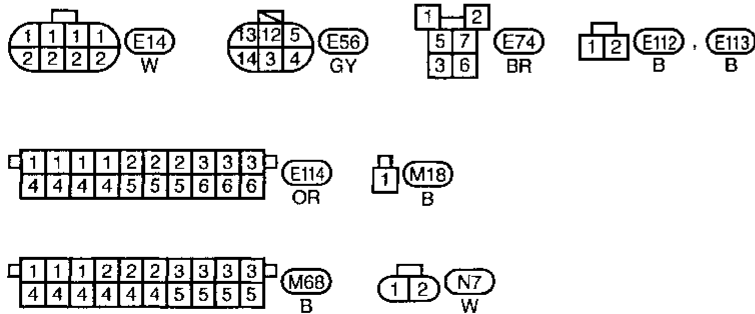
Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-04



Refer to EL-POWER.

Refer to last page (Foldout page).



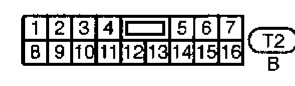
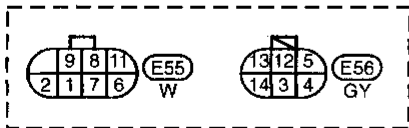
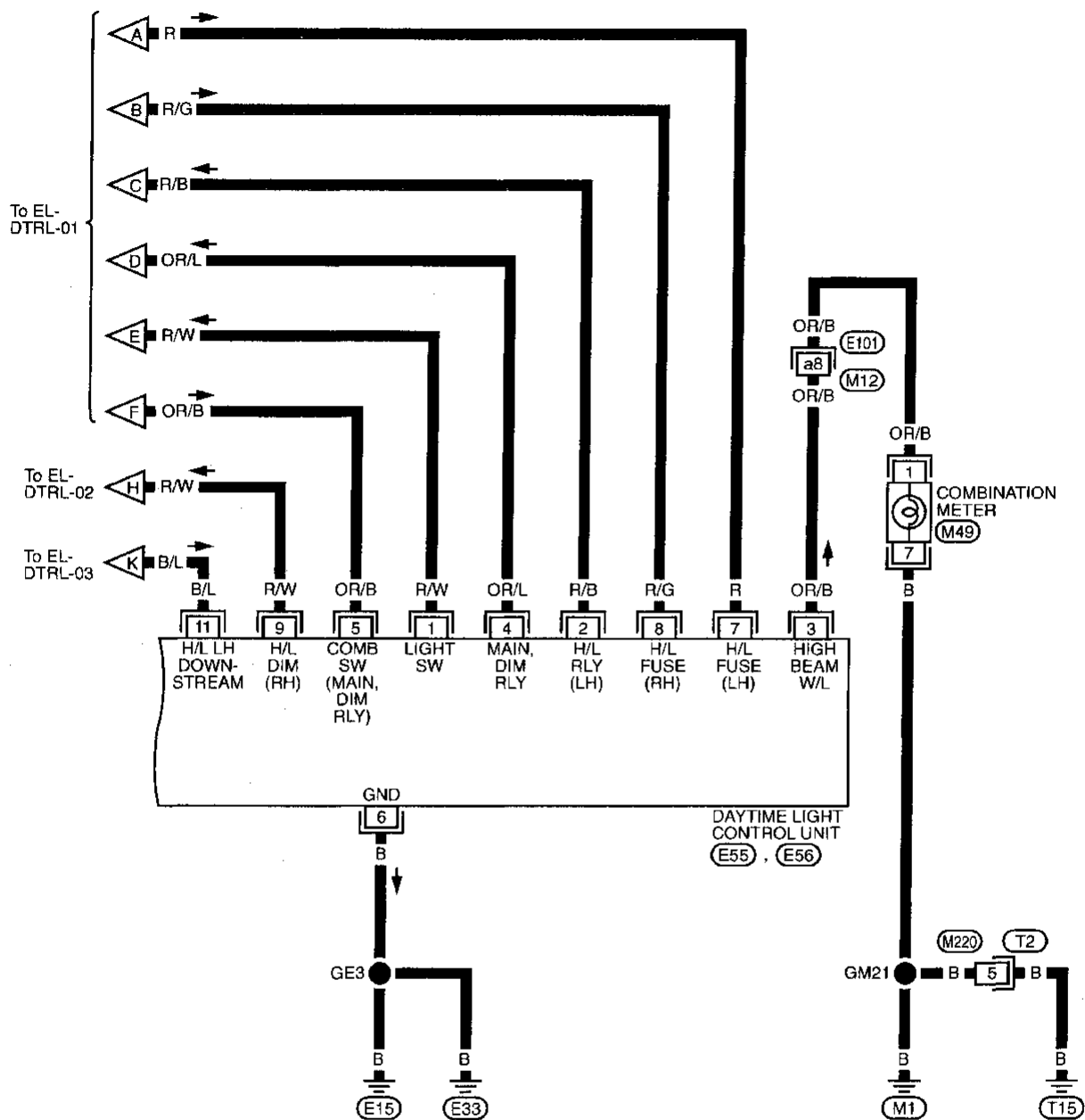
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HEADLAMP

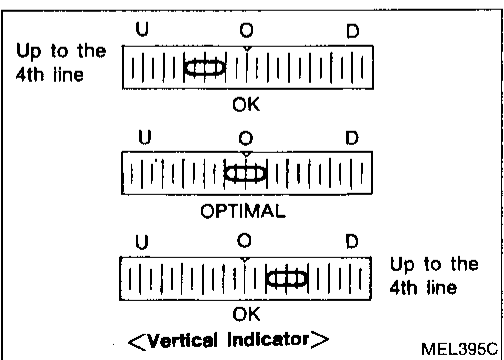
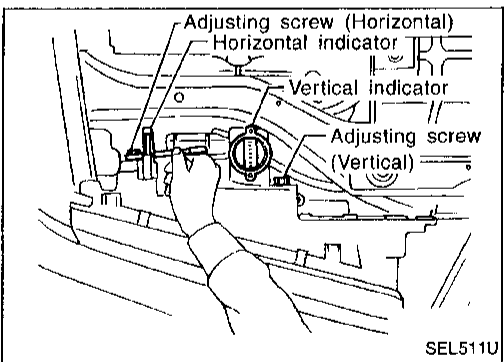
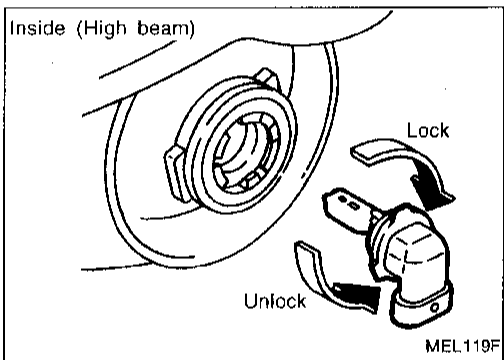
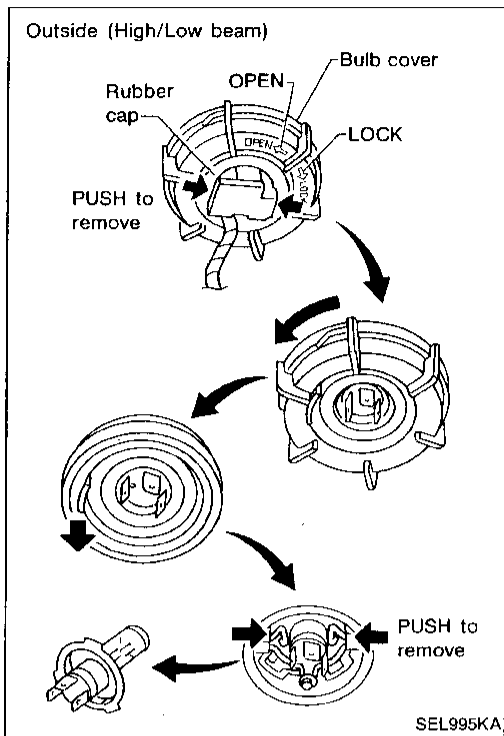
Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-05



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(E101), (M12)

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. Disconnect the harness connector from the back side of the bulb.
 3. Turn the bulb retaining ring counterclockwise until it is free from the headlamp reflector, and then remove it.
 4. Pull off the rubber cap.
 5. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
 6. Install in the reverse order of removal.

CAUTION:

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

Aiming Adjustment

Before performing aiming adjustment, make sure of the following.

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

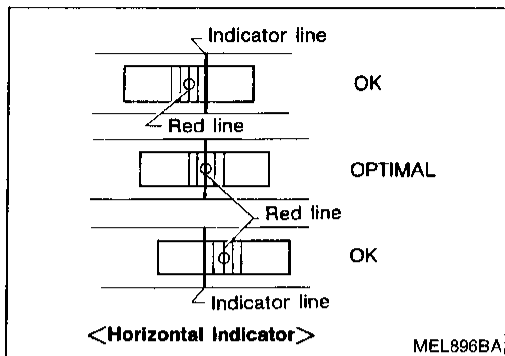
LOW BEAM

1. Open the hood.
2. Adjust the vertical indicator by turning the adjusting screw (vertical direction).

The bubble in the gauge should be centered on the "o" mark as shown in the illustration.

HEADLAMP

Aiming Adjustment (Cont'd)



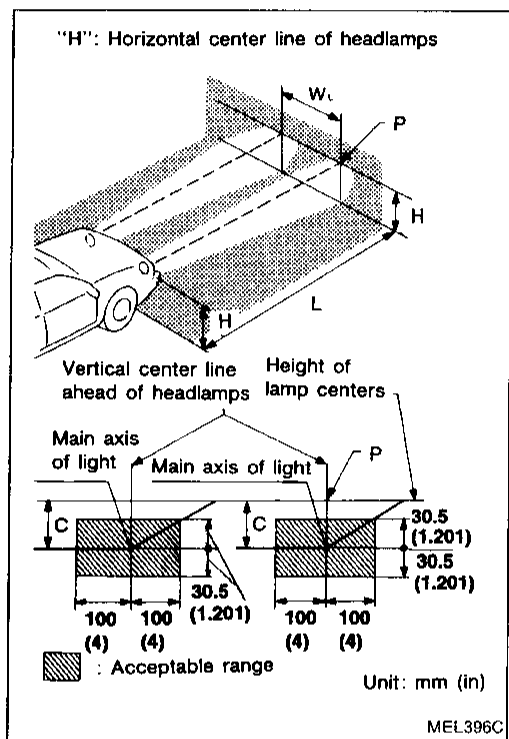
- Adjust the horizontal indicator by turning the adjusting screw. (horizontal direction)
The inner red line with the "o" mark should align with the indicator line.

ADJUSTMENT AFTER HEADLAMP ASSEMBLY REPLACEMENT

If the vehicle has had front body repair and the headlamp assembly has been replaced, the aiming should be checked using the aiming chart as shown in the illustration.

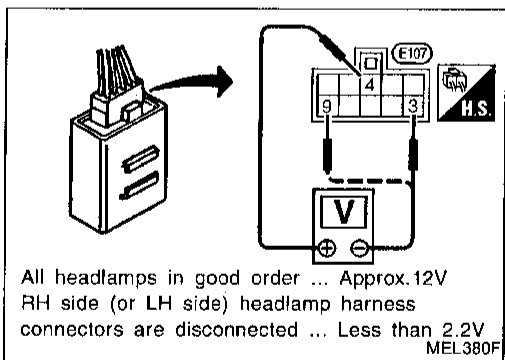
- Adjust headlamps so that main axis of light is parallel to center line of body and is aligned with point P shown in the illustration.
- Dotted lines in illustration show center of headlamp.
 "H": Horizontal center line of headlamps
 "W_L": Distance between each headlamp center
 "L": 7,620 mm (300.00 in)
 "C": 75.5 mm (2.972 in)

Even if the horizontal indicator does not align with the indicator line or the bubble is not centered in the vertical indicator after aiming by the chart, it is acceptable if they are within the OK ranges.



Headlamp Sensor Check

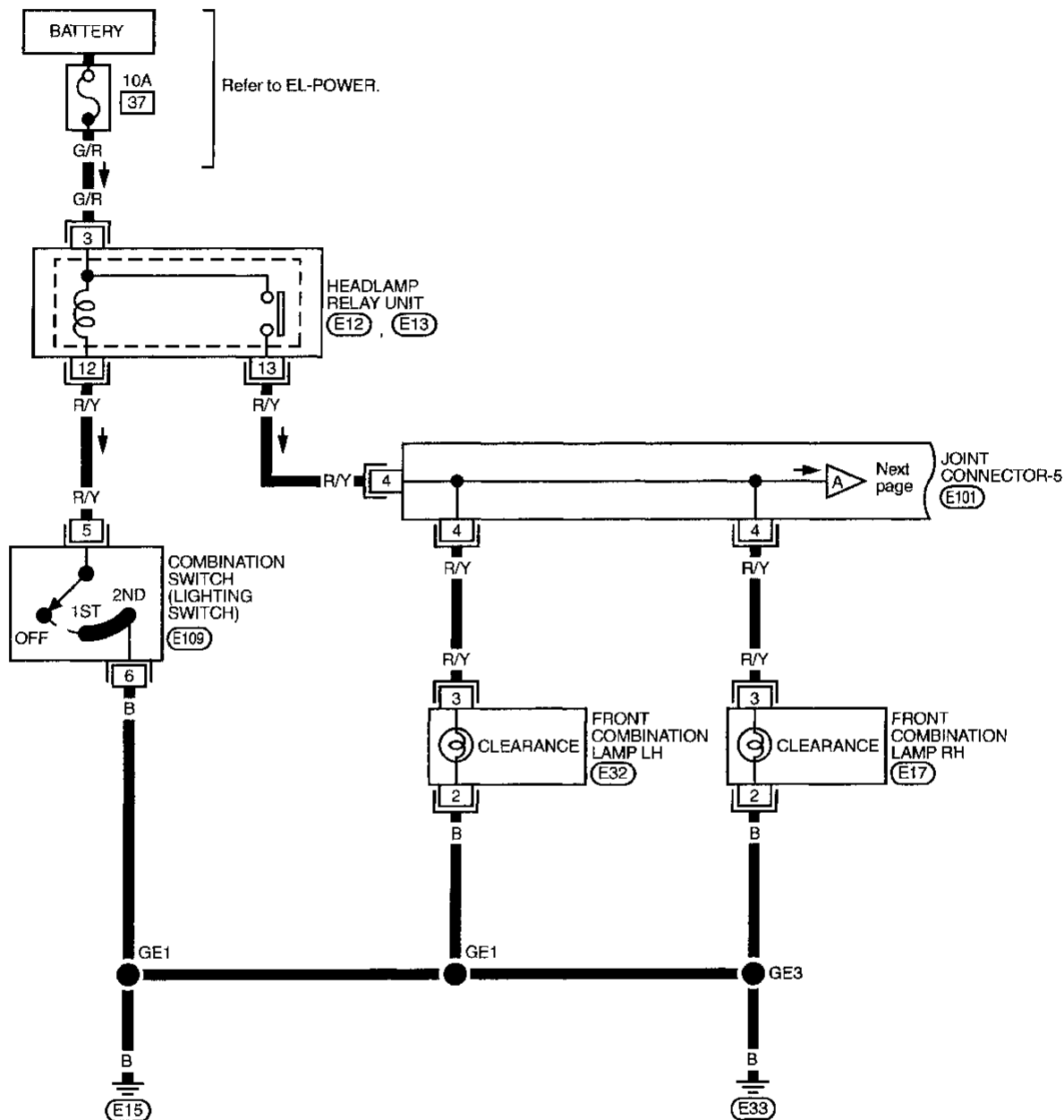
- Before checking, ensure that bulbs meet specifications.
- Start engine.
 - Turn headlamp switch (2nd position) on.



EXTERIOR LAMP

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

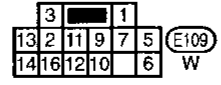
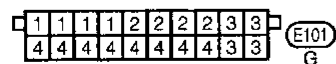
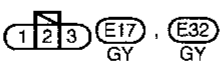
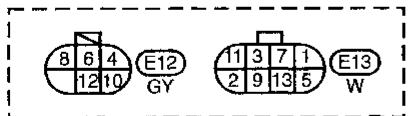
EL-TAIL/L-01



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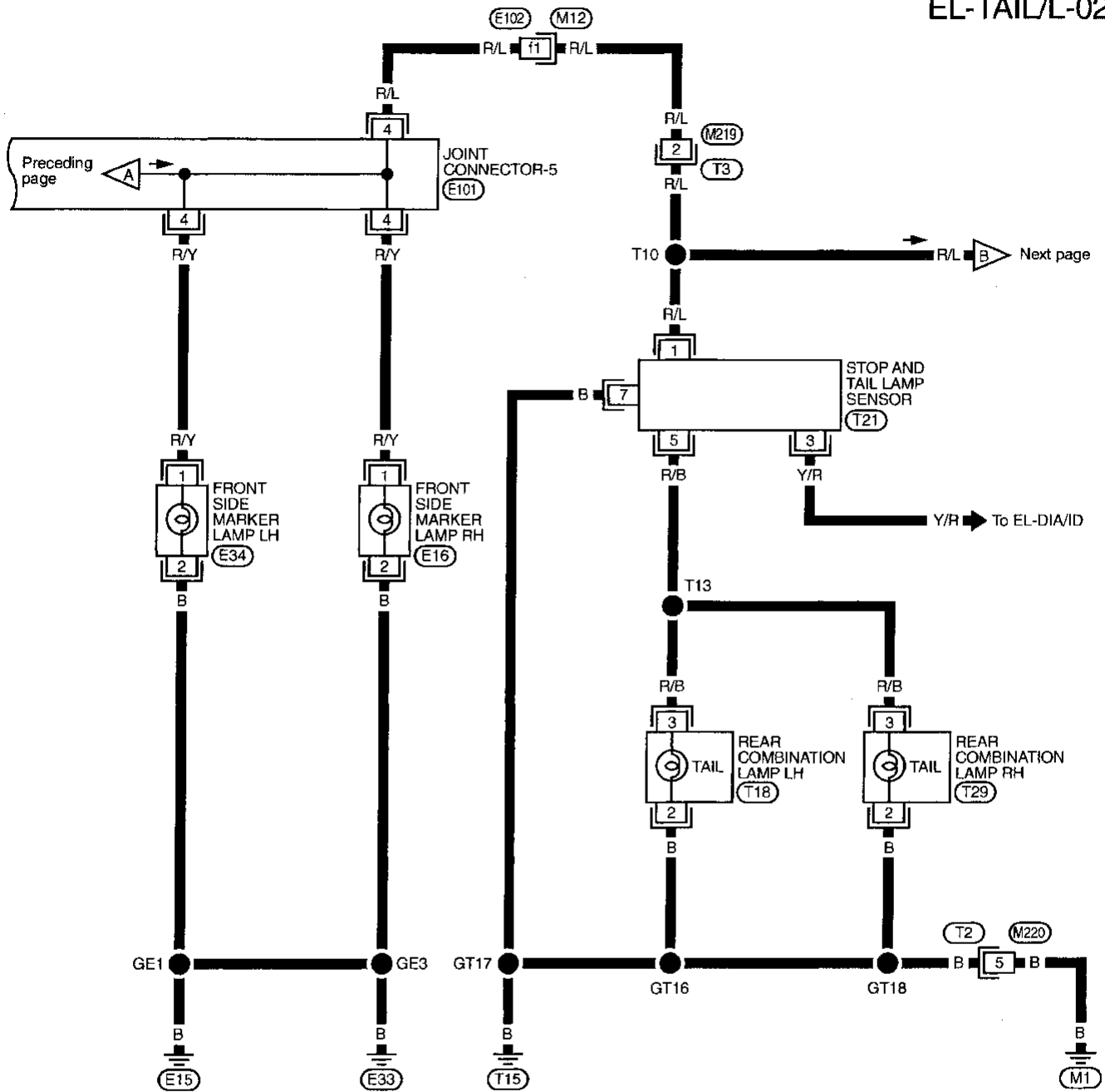
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EXTERIOR LAMP

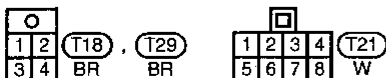
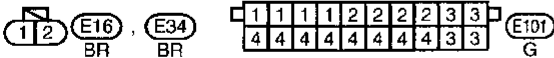
Clearance, License and Tail Lamps/Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-02



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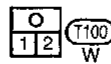
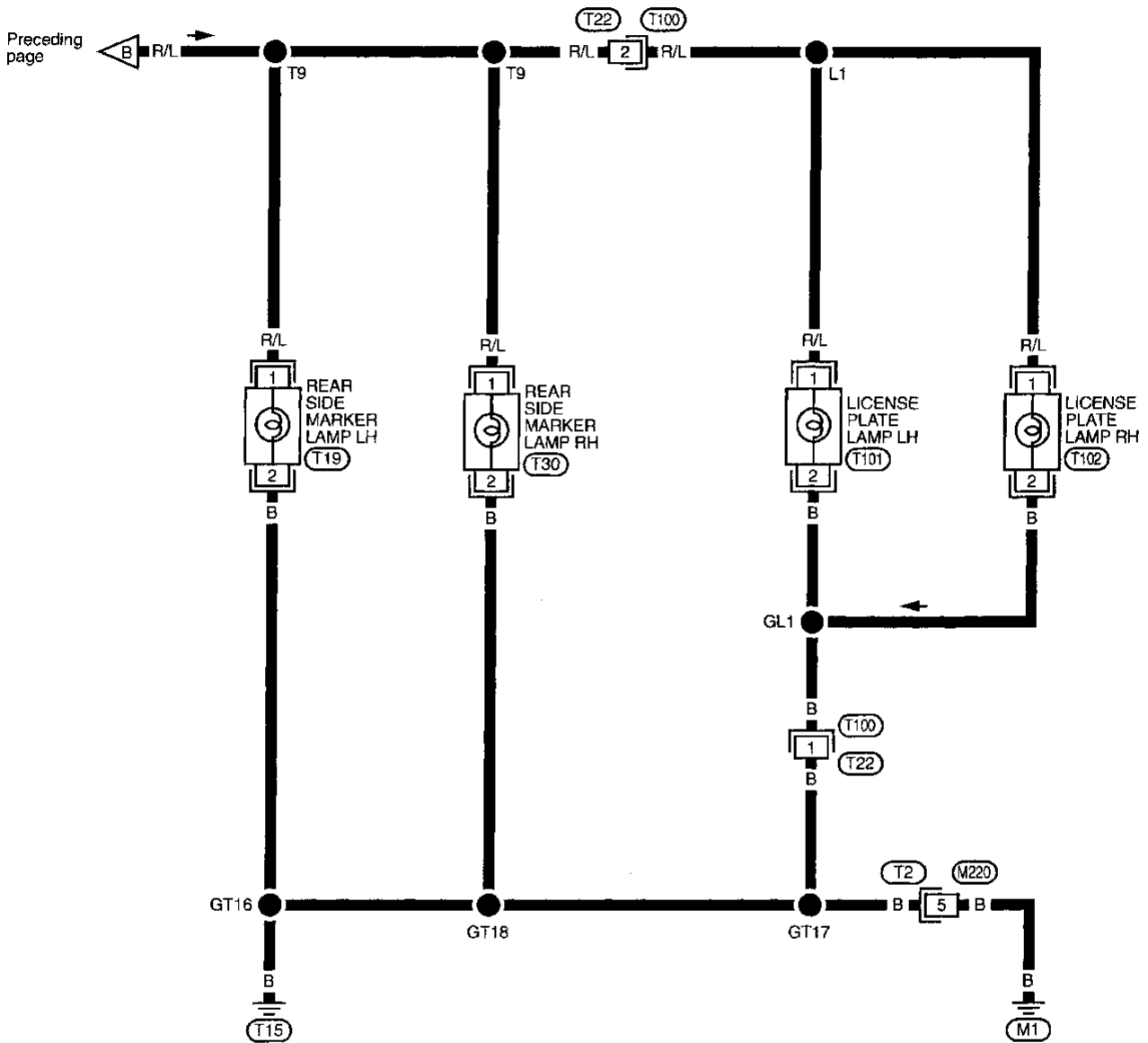
E102 , M12



EXTERIOR LAMP

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

EL-TAIL/L-03



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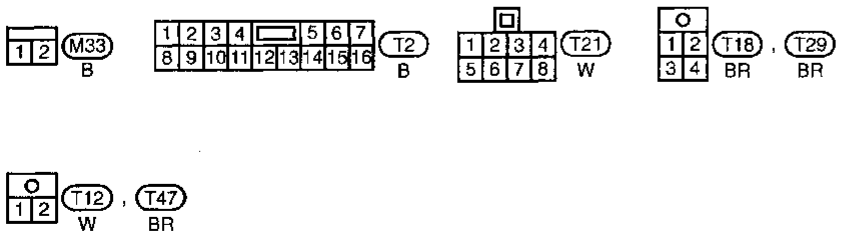
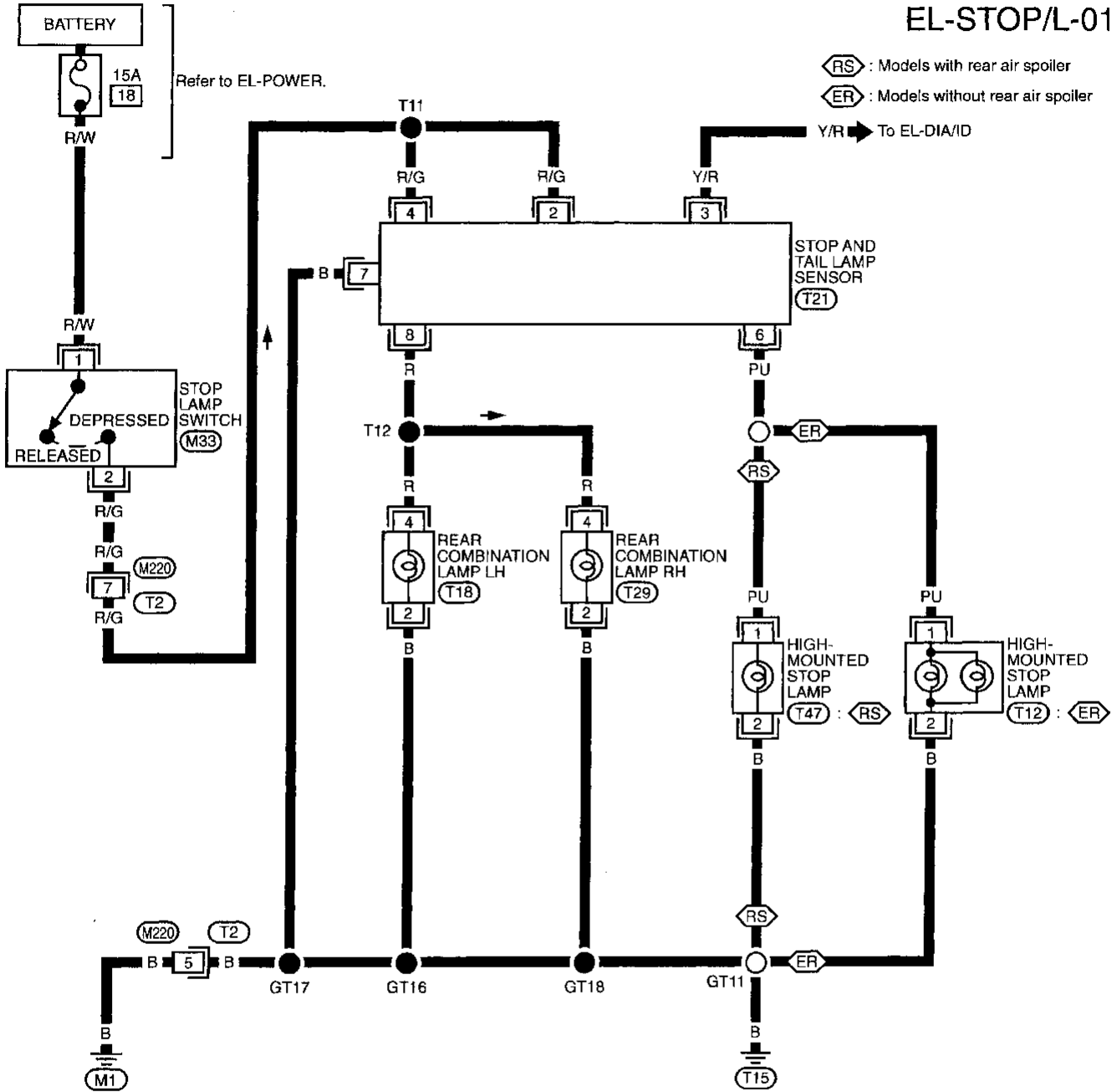
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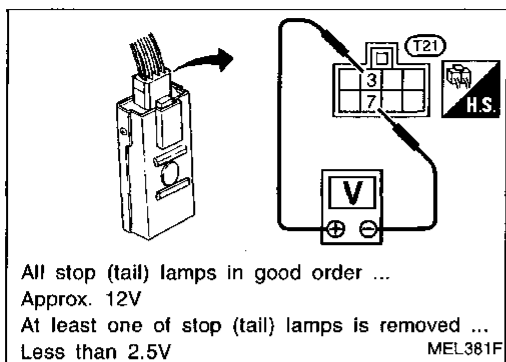
EXTERIOR LAMP

Stop Lamp/Wiring Diagram — STOP/L —

EL-STOP/L-01



EXTERIOR LAMP



Stop and Tail Lamp Sensor Check

- Before checking, ensure that bulbs meet specifications.

STOP LAMP

1. Start engine.
2. Turn stop lamp switch on.

TAIL LAMP

1. Start engine.
2. Turn lighting switch on.

GI

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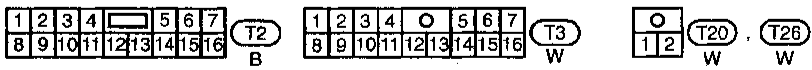
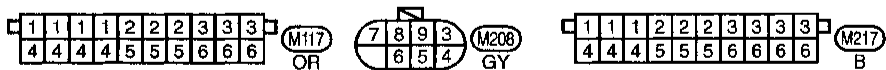
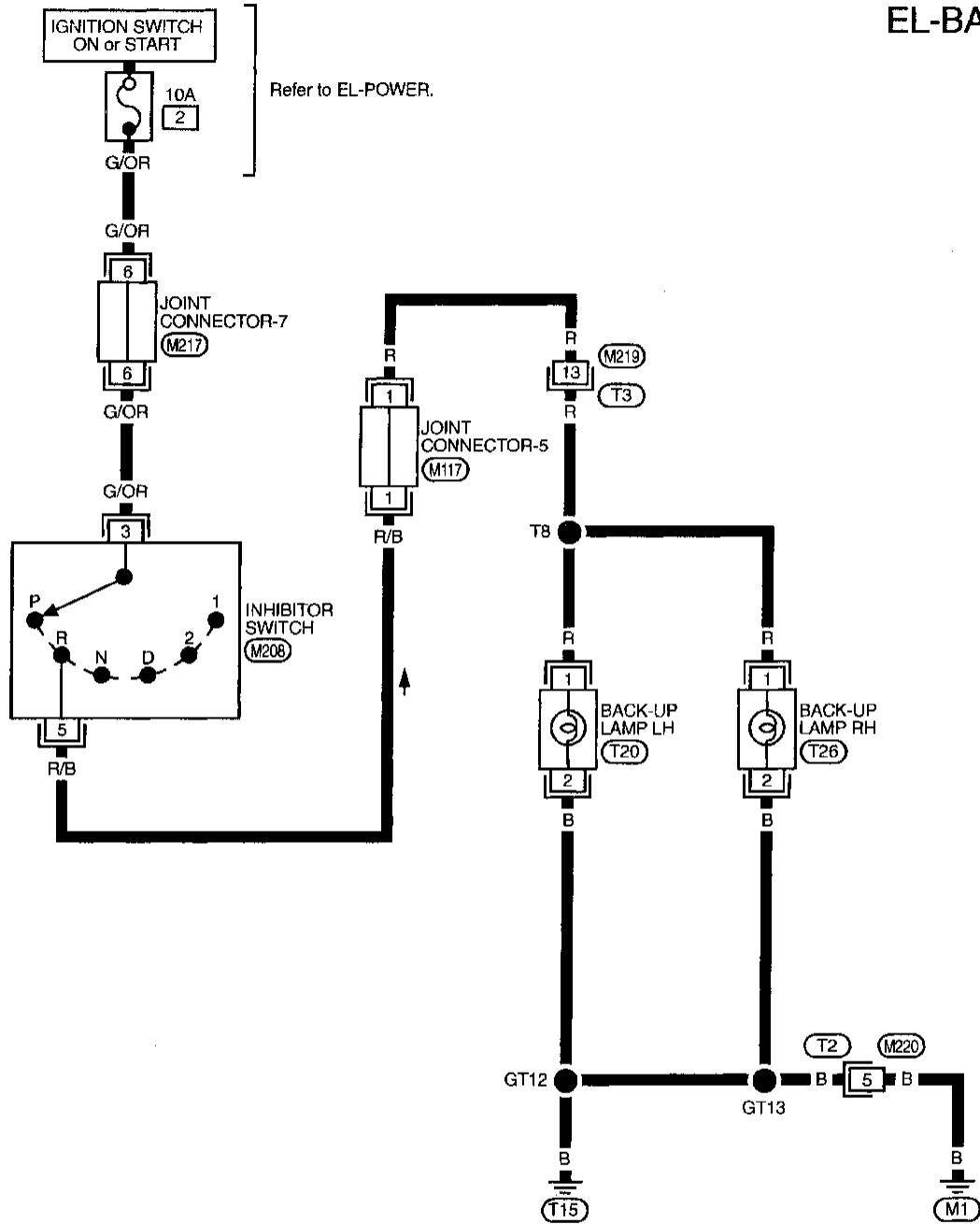
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EXTERIOR LAMP

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

EL-BACK/L-01



EXTERIOR LAMP

Front Fog Lamp/System Description

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

- 15A fuse (No. 39, located in the fuse block).

With the lighting switch in the 2ND position, power is supplied

- through 15A fuse (No. 32, located in the fuse box)
- to the headlamp relay unit terminal ①
- through terminals ④ and ⑤ of the headlamp relay unit
- to lighting switch terminal ⑨ and front fog lamp relay terminal ①.

Ground is supplied to terminal ⑩ of the lighting switch through body grounds E15 and E33.

Front fog lamp operation

The lighting switch must be in the 2ND position for front fog lamp operation.

With the front fog lamp switch in the ON position

- ground is supplied to fog lamp relay terminal ② through the front fog lamp switch and body grounds E15 and E33.

The front fog lamp relay is energized and power is supplied

- from fog lamp relay terminal ④
- to terminal ① of each front fog lamp.

Ground is supplied to terminal ② of each front fog lamp through body grounds E15 and E33.

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

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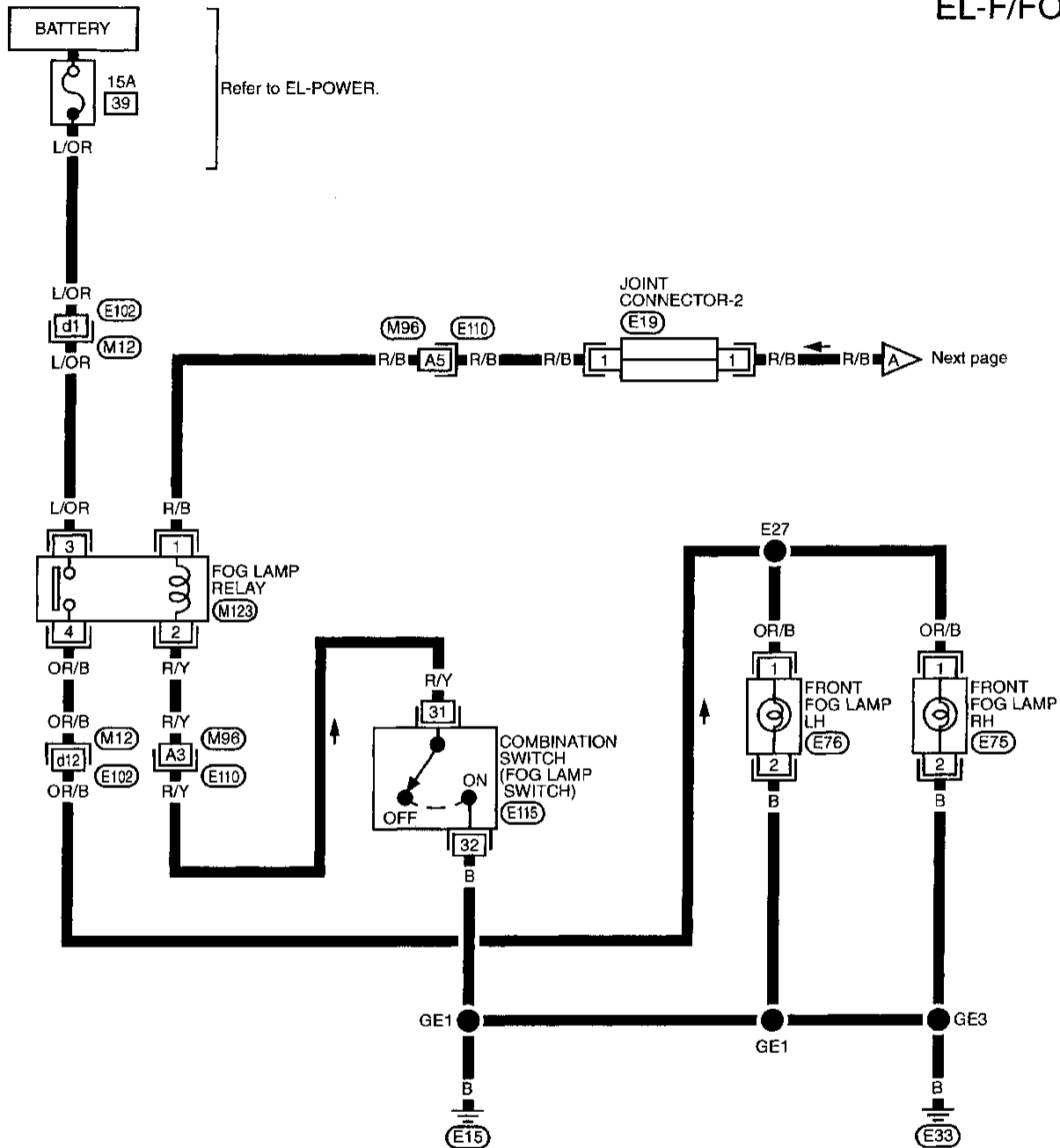
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EXTERIOR LAMP

Front Fog Lamp/Wiring Diagram — F/FOG —

EL-F/FOG-01



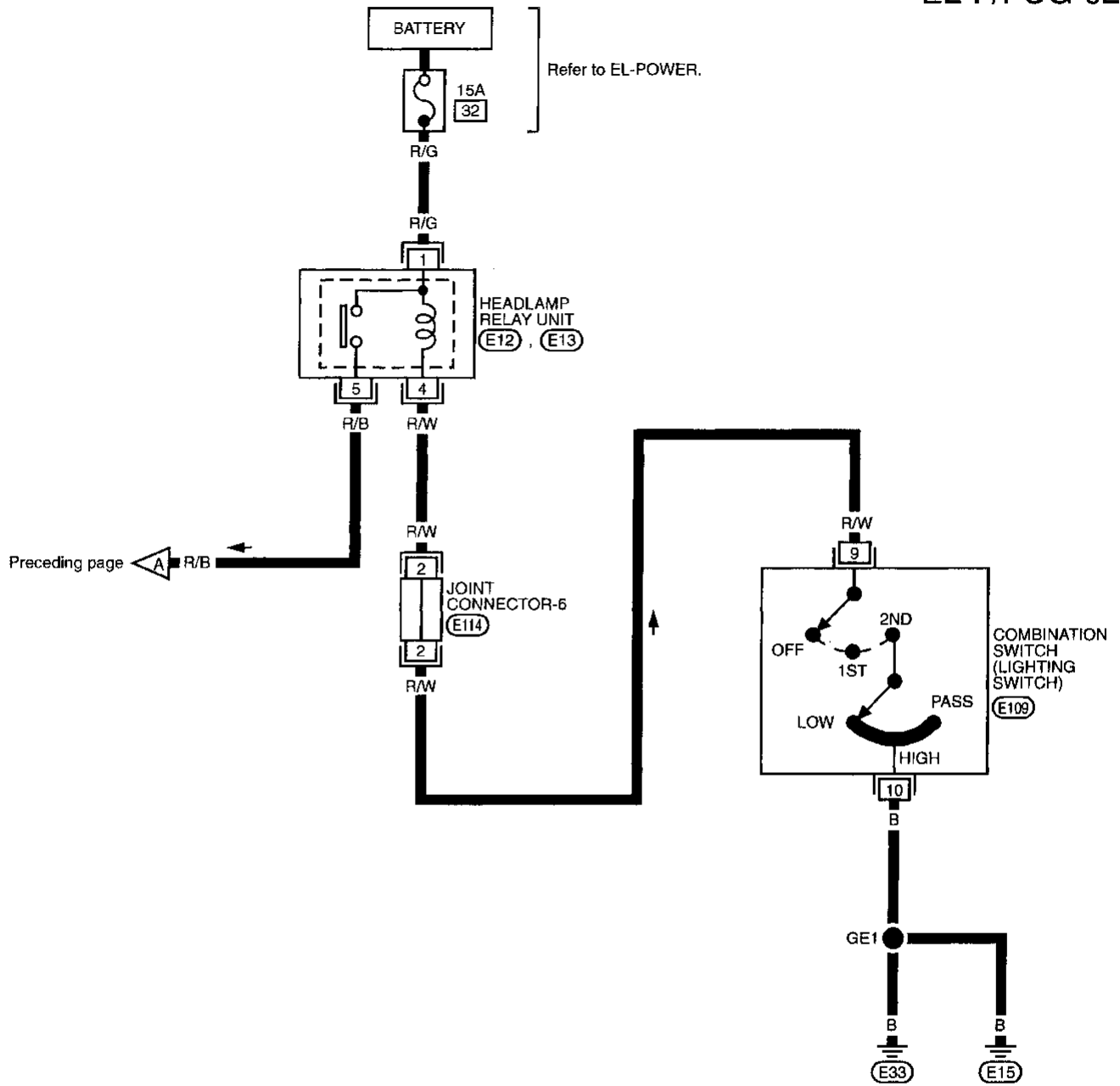
Refer to last page (Foldout page).

E102, M12
E110, M98

EXTERIOR LAMP

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

EL-F/FOG-02



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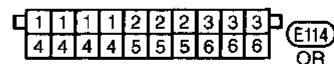
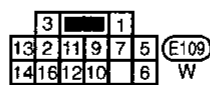
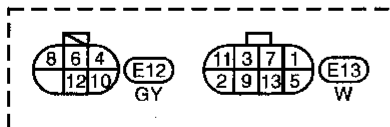
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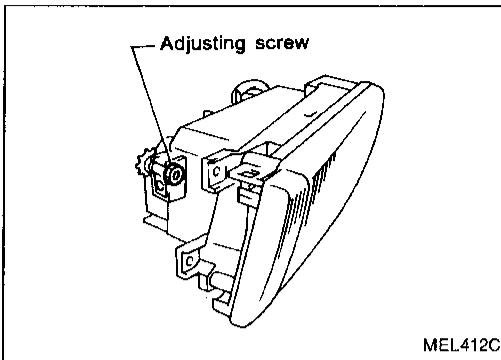
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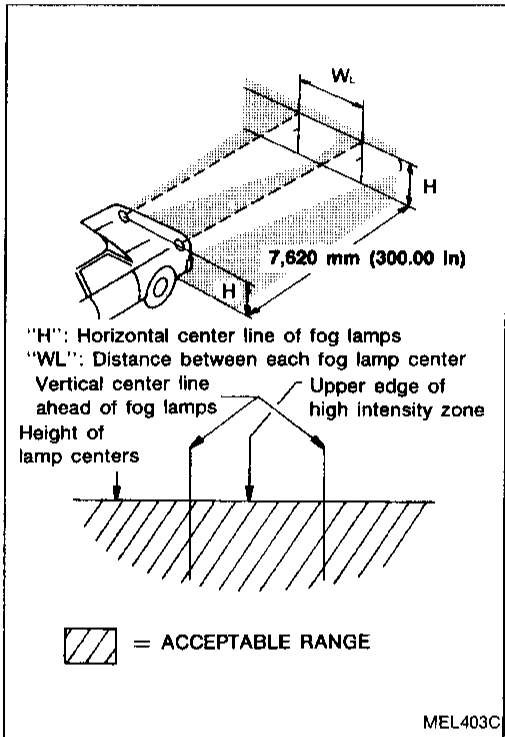


EXTERIOR LAMP

Fog Lamp Aiming Adjustment



- Adjust fog lamp so that upper edge of high intensity zone is within the acceptable range as shown at left.



- Dotted lines in illustration show center of fog lamp.
"H" Horizontal center line of fog lamp
"W_L" Distance between each fog lamp center

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 10A fuse [No. 24], located in the fuse block]
- to hazard switch terminal ②
- through terminal ① of the hazard switch
- to combination flasher unit terminal ①
- through terminal ③ of the combination flasher unit
- to turn signal switch terminal ①.

Ground is supplied to combination flasher unit terminal ② through body grounds (M1) and (T15).

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
- rear combination lamp LH terminal ① and
- combination meter terminal ⑫.

Ground is supplied to the front turn signal lamp LH terminal ② through body grounds (E15) and (E33).

Ground is supplied to the rear combination lamp LH terminal ② through body grounds (M1) and (T15).

Ground is supplied to combination meter terminal ⑨ through body grounds (M1) and (T15).

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
- rear combination lamp RH terminal ① and
- combination meter terminal ⑥.

Ground is supplied to the front turn signal lamp RH terminal ② through body grounds (E15) and (E33).

Ground is supplied to the rear combination lamp RH terminal ② through body grounds (M1) and (T15).

Ground is supplied to combination meter terminal ⑨ through body grounds (M1) and (T15).

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. 34], located in the fuse block].

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

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

Ground is supplied to the combination flasher unit terminal ② through body grounds (M1) and (T15).

Power is supplied through terminal ⑤ of the hazard switch to

- front turn signal lamp LH terminal ①
- rear combination lamp LH terminal ① and
- combination meter terminal ⑫.

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

- front turn signal lamp RH terminal ①
- rear combination lamp RH terminal ① and
- combination meter terminal ⑥.

Ground is supplied to terminal ② of the front turn signal lamps through body grounds (E15) and (E33).

Ground is supplied to terminal ② of the rear combination lamps through body grounds (M1) and (T15).

Ground is supplied to combination meter terminal ⑨ through body grounds (M1) and (T15).

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

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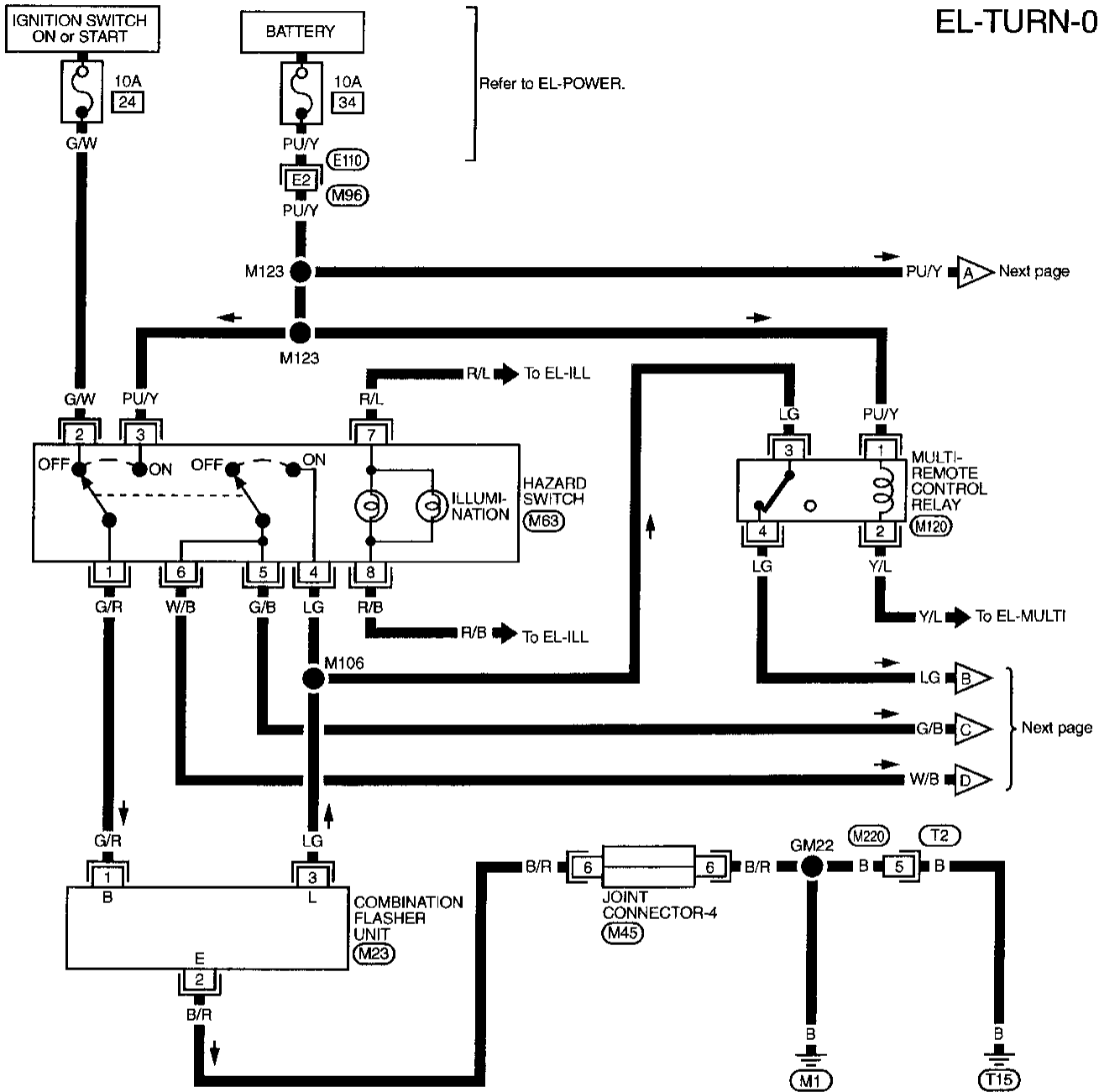
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EXTERIOR LAMP

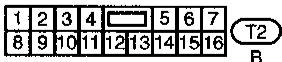
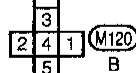
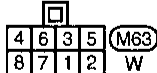
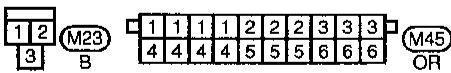
Turn Signal and Hazard Warning Lamps/Wiring Diagram — TURN —

EL-TURN-01



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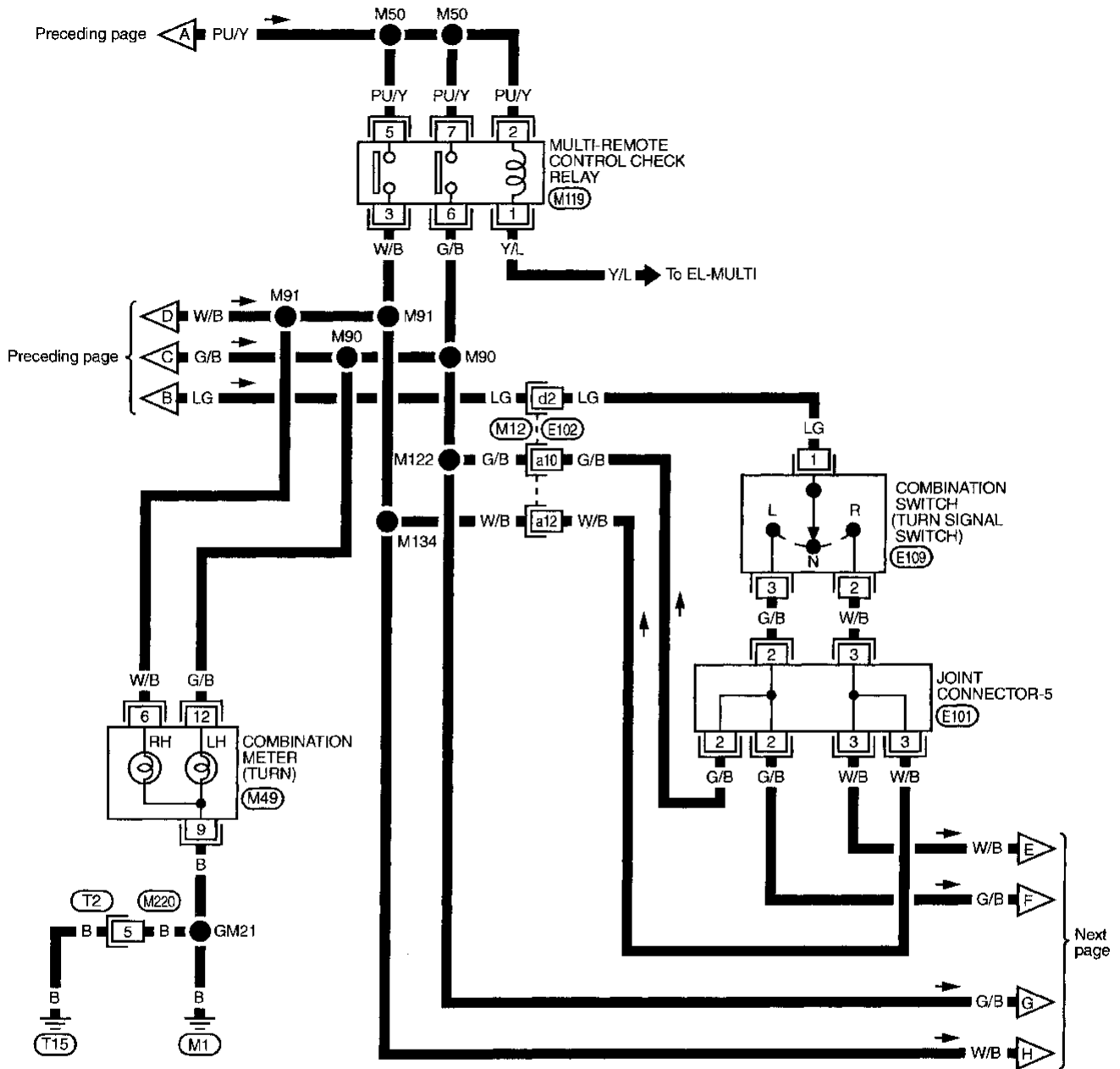
E110, M96



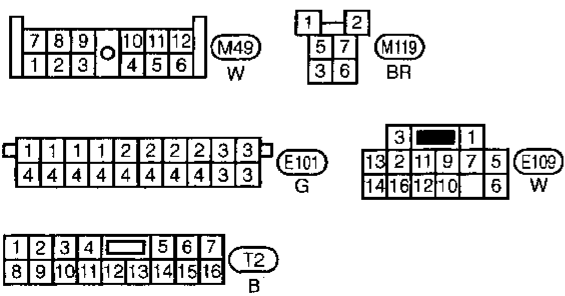
EXTERIOR LAMP

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

EL-TURN-02



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Refer to last page (Foldout page).
E102, M12

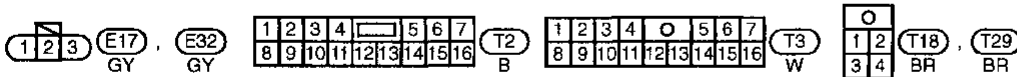
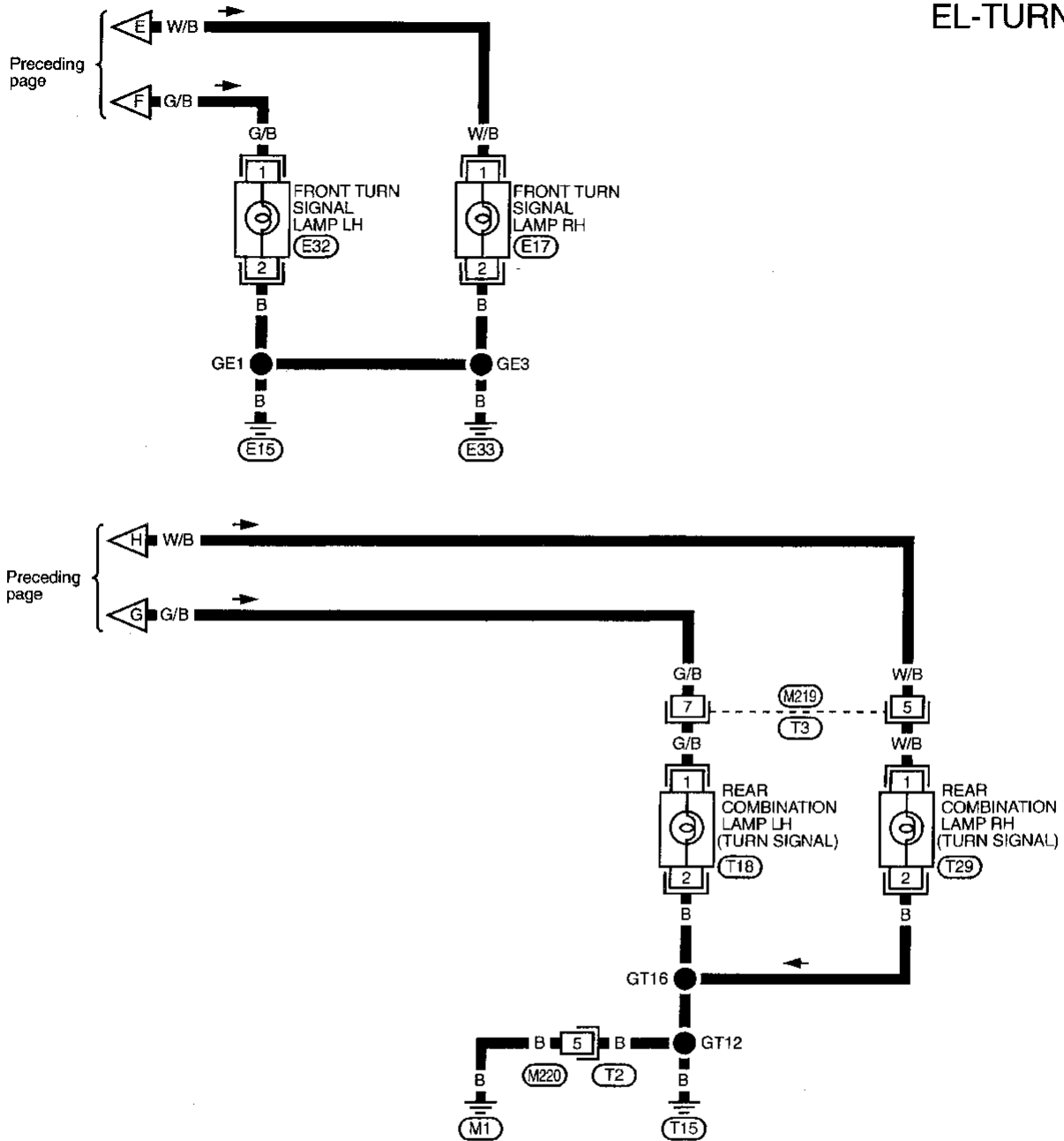
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EXTERIOR LAMP

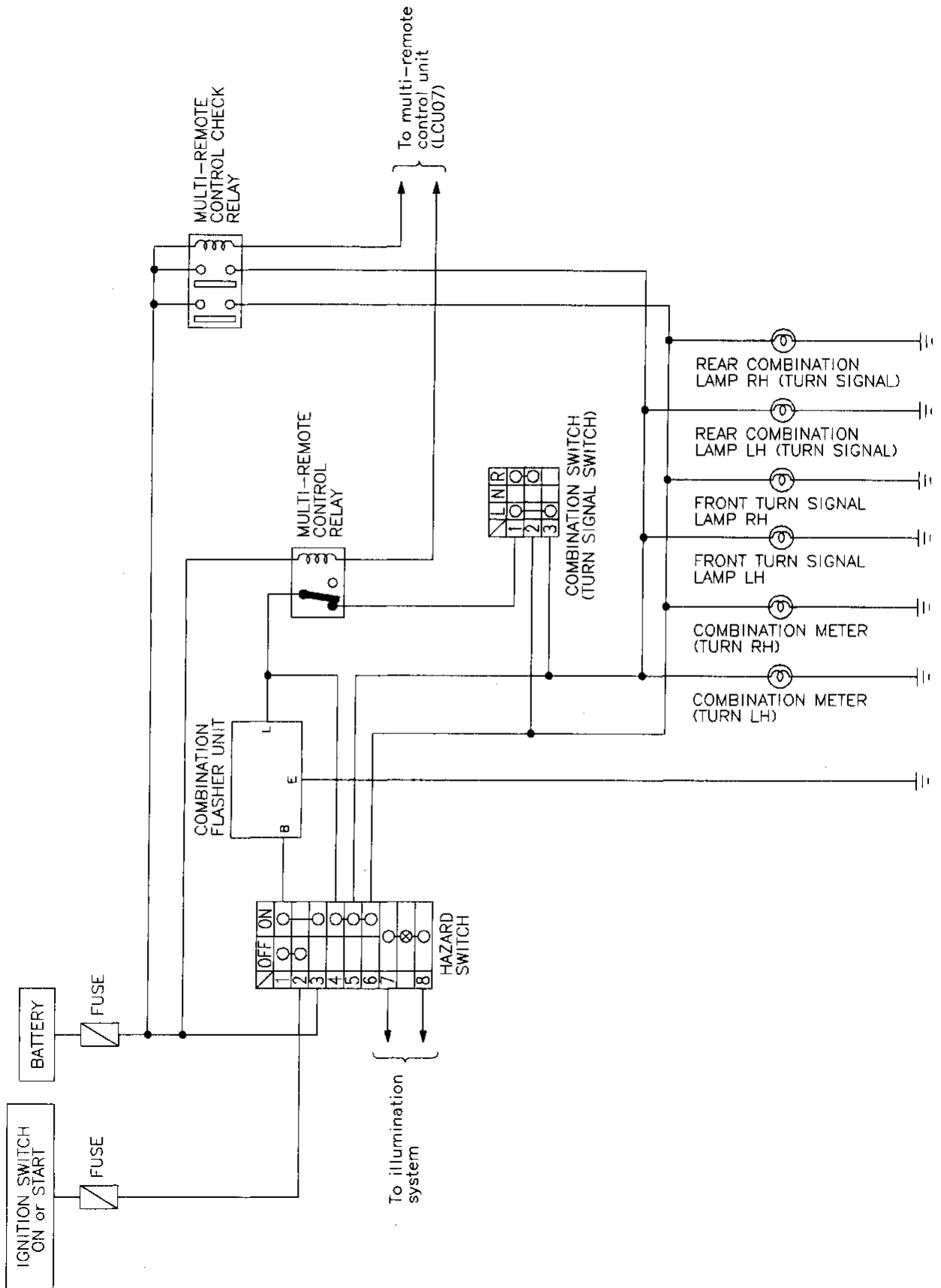
Turn Signal and Hazard Warning Lamps/Wiring Diagram — TURN — (Cont'd)

EL-TURN-03



EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/ Schematic



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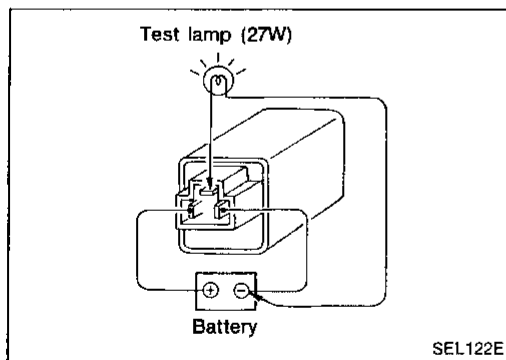
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EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/ Trouble Diagnoses

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> 1. Hazard switch 2. Combination flasher unit 3. Open in combination flasher unit circuit 	<ol style="list-style-type: none"> 1. Check hazard switch. 2. Refer to combination flasher unit check. 3. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> 1. 10A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit 	<ol style="list-style-type: none"> 1. Check 10A fuse (No. <u>24</u>), located in fuse block). Turn ignition switch ON and verify battery positive voltage is present at terminal <u>2</u> of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check LG wire between combination flasher unit and turn signal switch for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	<ol style="list-style-type: none"> 1. 10A fuse 2. Hazard switch 3. Open in hazard switch circuit 	<ol style="list-style-type: none"> 1. Check 10A fuse (No. <u>34</u>), located in fuse block). Verify battery positive voltage is present at terminal <u>3</u> of hazard switch. 2. Check hazard switch. 3. Check LG wire between combination flasher unit and hazard switch for open circuit.
Front turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds <u>E15</u> and <u>E33</u> 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds <u>E15</u> and <u>E33</u>.
Rear turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds <u>M1</u> and <u>T5</u> 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds <u>M1</u> and <u>T5</u>.
LH and RH turn indicators do not operate.	<ol style="list-style-type: none"> 1. Ground 	<ol style="list-style-type: none"> 1. Check grounds <u>M1</u> and <u>T5</u>.
LH or RH turn indicator does not operate.	<ol style="list-style-type: none"> 1. Bulb 	<ol style="list-style-type: none"> 1. Check bulb in combination meter.



Combination Flasher Unit Check

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

EXTERIOR LAMP

Bulb Specifications

	Wattage (12 volt)	Bulb No.	
Headlamp			GI
✓ Inside (High beam)	65	9005	
✓ Outside (High/Low beam)	60/55	HB2	MA
Front combination lamp			
✓ Turn signal/Clearance	27/8	1157NA	EM
Front side marker lamp	5	217	
✓ Front fog lamp	55	—	LC
Rear combination lamp			
✓ Turn signal	27	1156	EC
✓ Stop/Tail	27/8	1157	
✓ Back-up lamp	27	1156	FE
Rear side marker lamp	3.8	194	
✓ License plate lamp	5	—	
✓ High-mounted stop lamp	18	921	AT

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INTERIOR LAMP

Illumination/System Description

Power is supplied at all times

- through 10A fuse (No. 37), located in the fuse and fusible link box
- to lighting switch terminal ⑤ through headlamp relay terminals ③ and ⑫.

When the lighting switch is turned to the 1ST or 2ND position, headlamp relay is energized.

Then power is supplied to each illumination power terminal.

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

The ashtray 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
Ashtray	①	②
Glove box lamp	②	①
Illumination control switch	① and ③	④
ASCD main switch	⑤	⑥
Rear window defogger switch	③	④
Cigarette lighter	①	②
TCS switch	③	④
Power window main switch	⑥	⑦
1st position switch	②	①
A/C control unit	①	④
Hazard switch	⑦	⑧
Clock	②	③
Door mirror switch	⑬	⑭
Radio	⑧	⑦
Heated seat switch (LH & RH)	④ / ⑥	⑦
Auto anti-dazzling inside mirror	②	③
Front power window sub switch (LH & RH)	⑤	⑥
Front power seat switch assembly (LH & RH)	⑦	⑤
Combination meter	⑤	⑨ and ⑳

With the exception of the glove box lamp and the ashtray illumination, the ground for all of the components are controlled through terminals ③ and ④ of the illumination control switch and body grounds M102 and B18.

When the glove box is open, glove box lamp terminal ① is grounded through the glove box lamp switch terminal ② and body grounds M102 and B18.

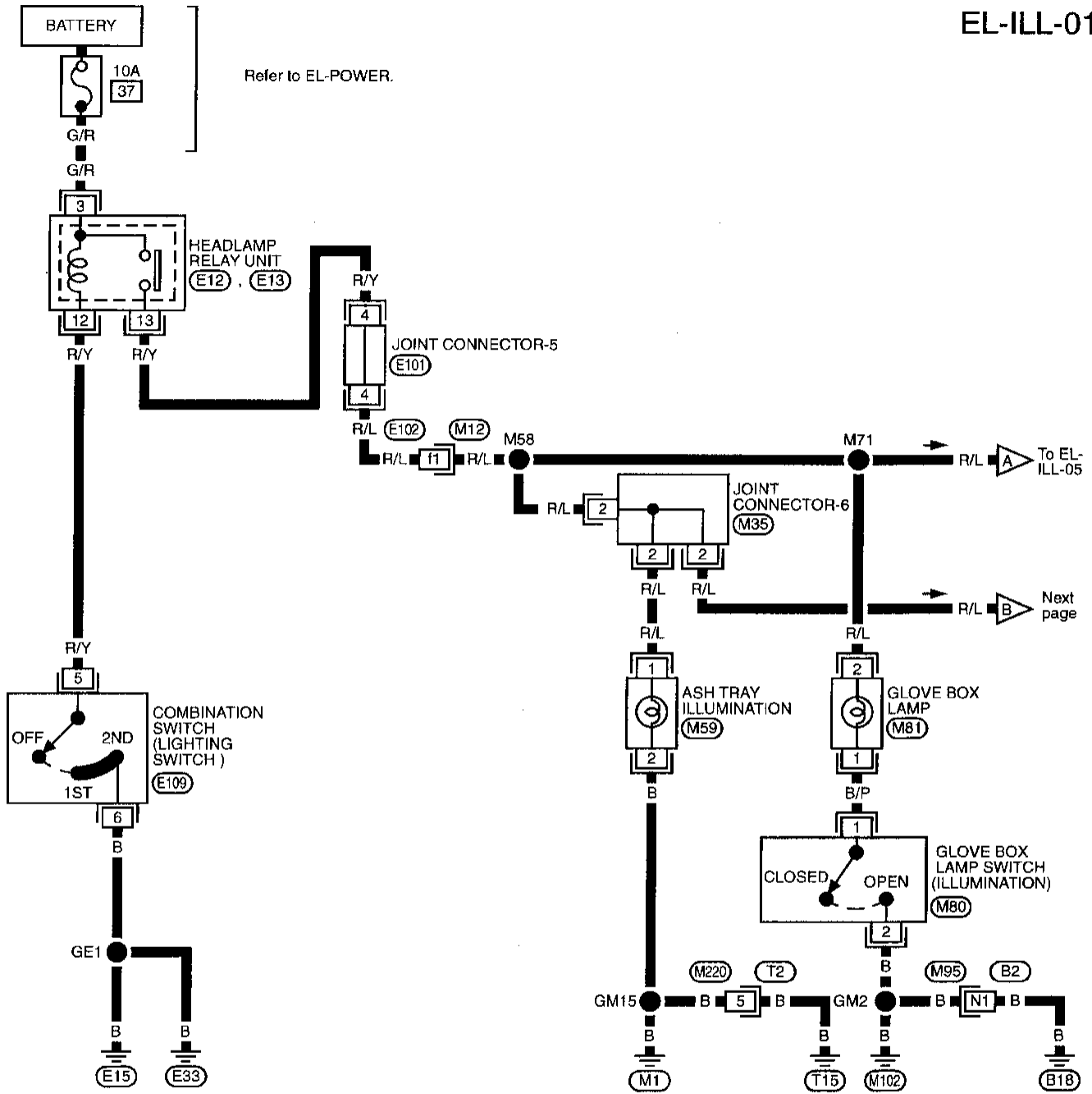
The ashtray illumination terminal ② and vanity mirror illumination terminal ② are grounded directly through body grounds M1 and T15.

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

INTERIOR LAMP

Illumination/Wiring Diagram — ILL —

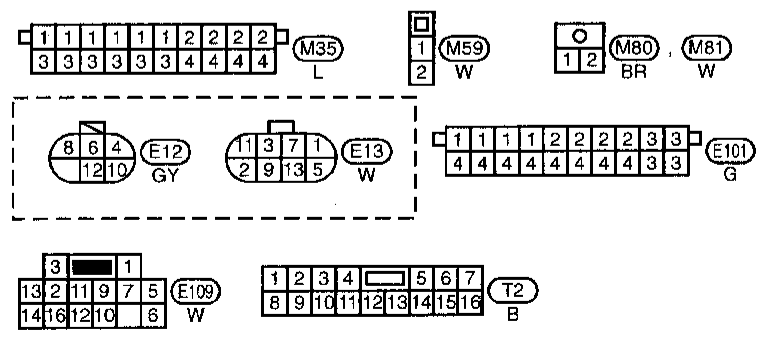
EL-ILL-01



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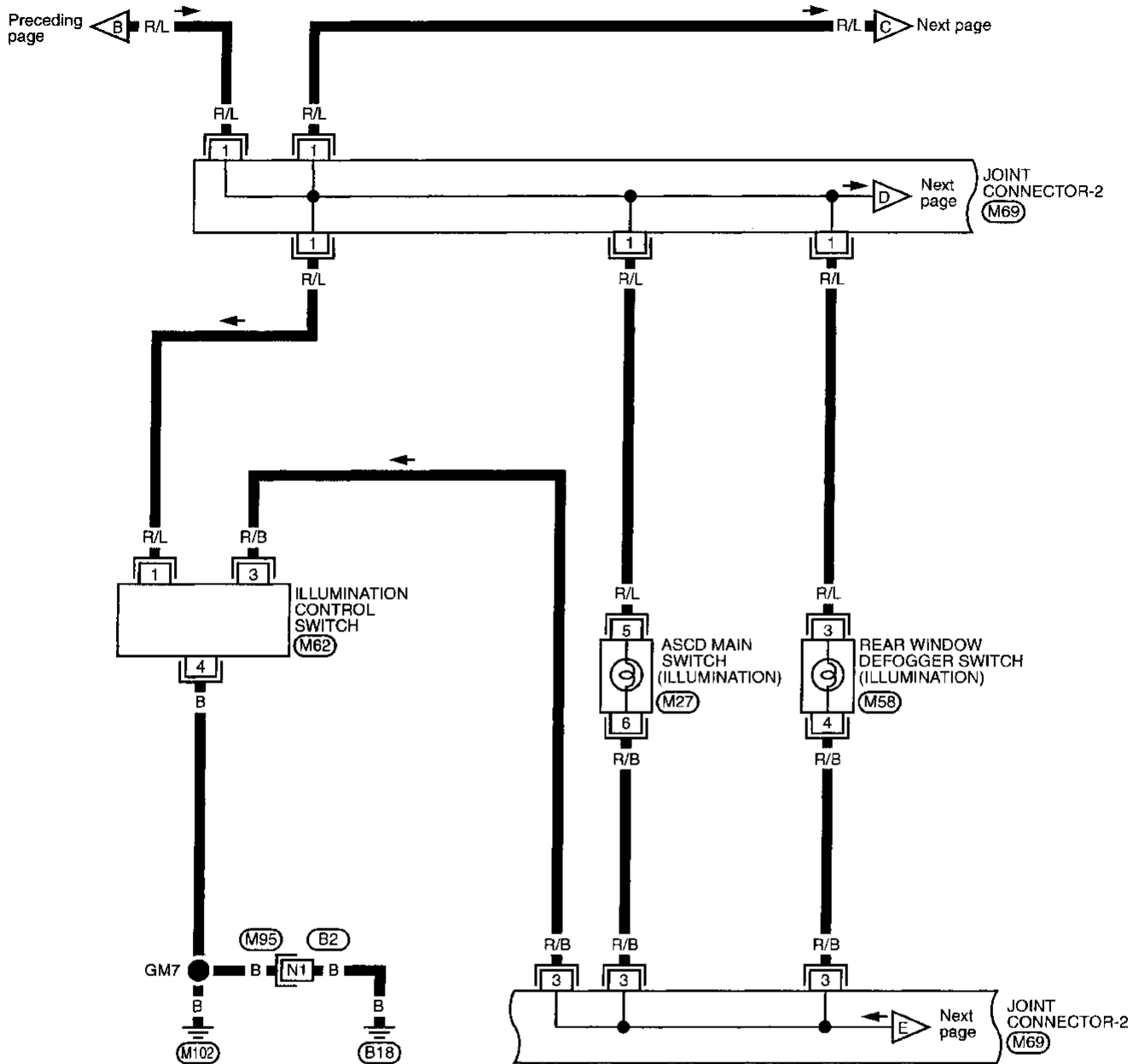
Refer to last page (Foldout page).

E102, M12
M95, B2

INTERIOR LAMP

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

EL-ILL-02



6	5	M27
4	1	L

6	2	1	M58
5	4	3	L

1	3	M62
4	2	W

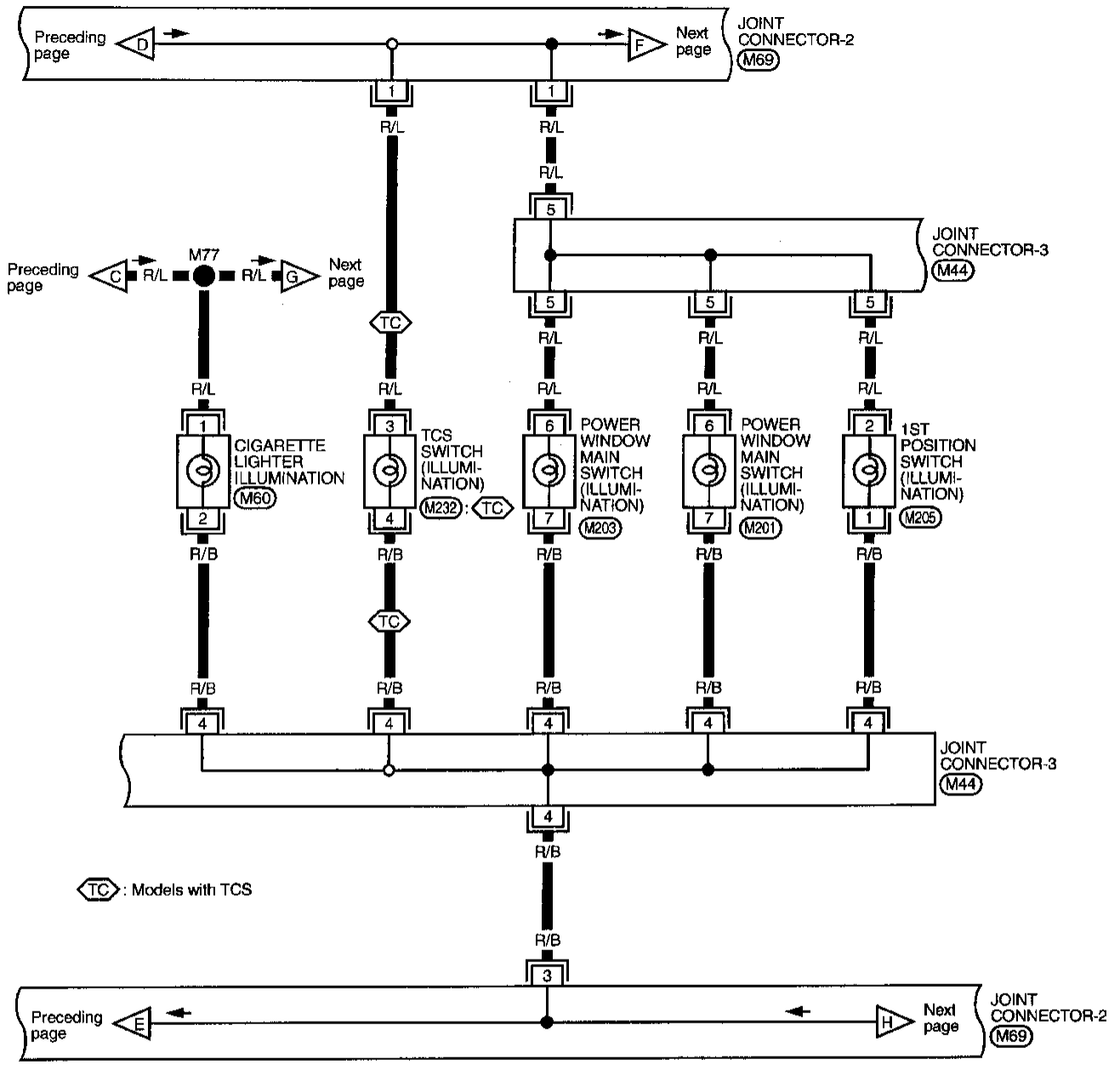
1	1	1	1	1	1	1	1	2	2	M69
3	3	3	3	3	3	3	3	2	2	GY

Refer to last page (Foldout page).
(M95) , (B2)

INTERIOR LAMP

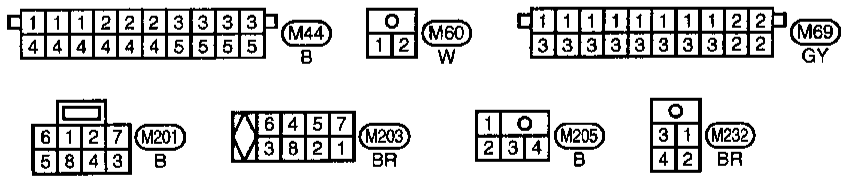
Illumination/Wiring Diagram — ILL — (Cont'd)

EL-ILL-03



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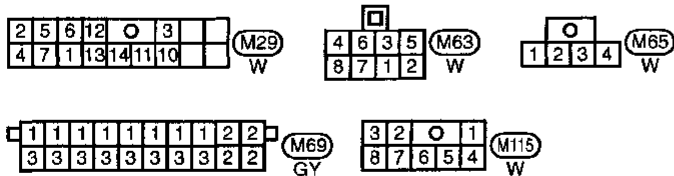
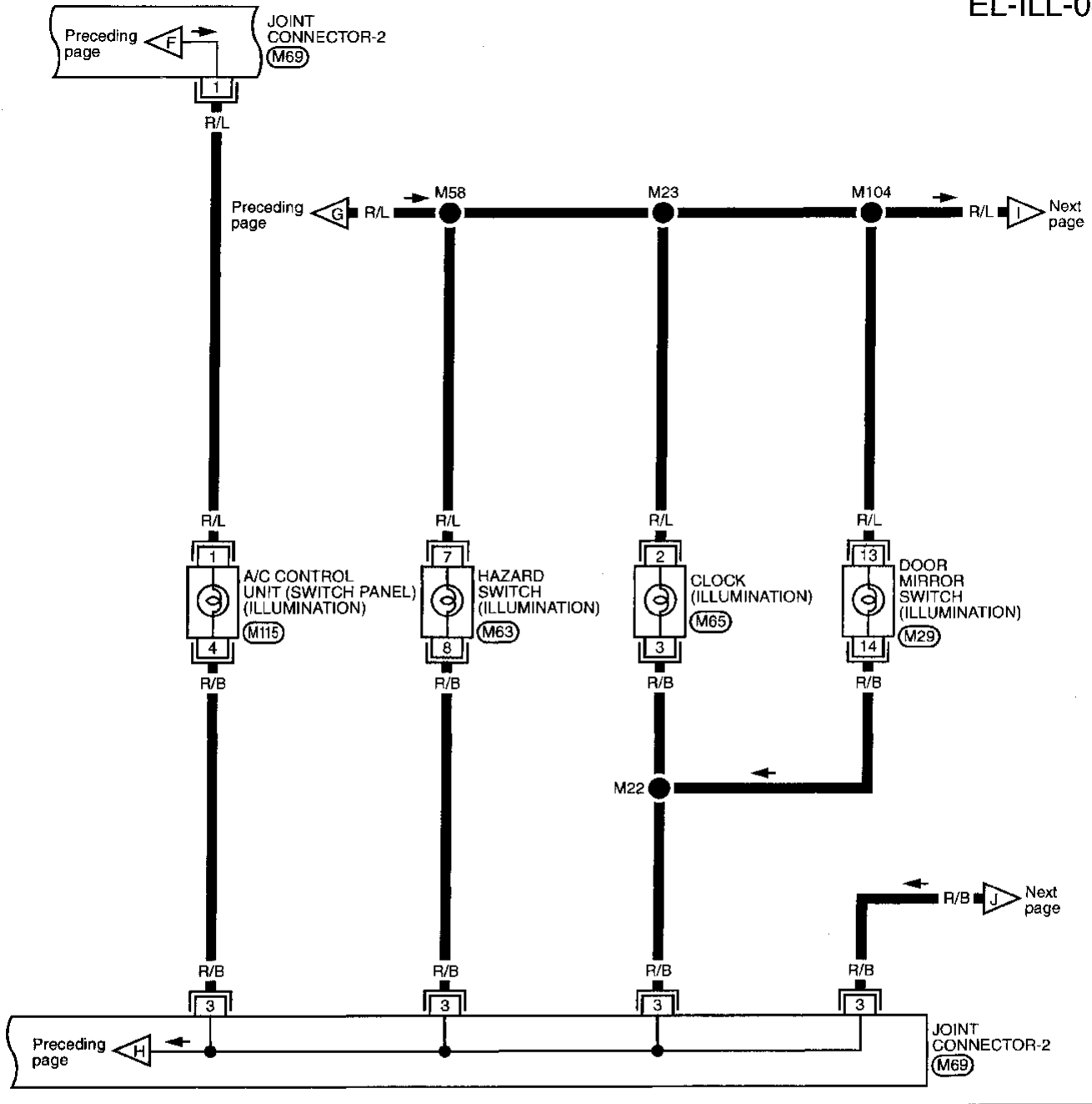
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INTERIOR LAMP

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

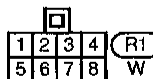
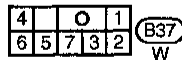
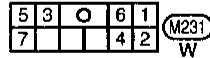
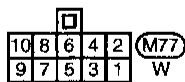
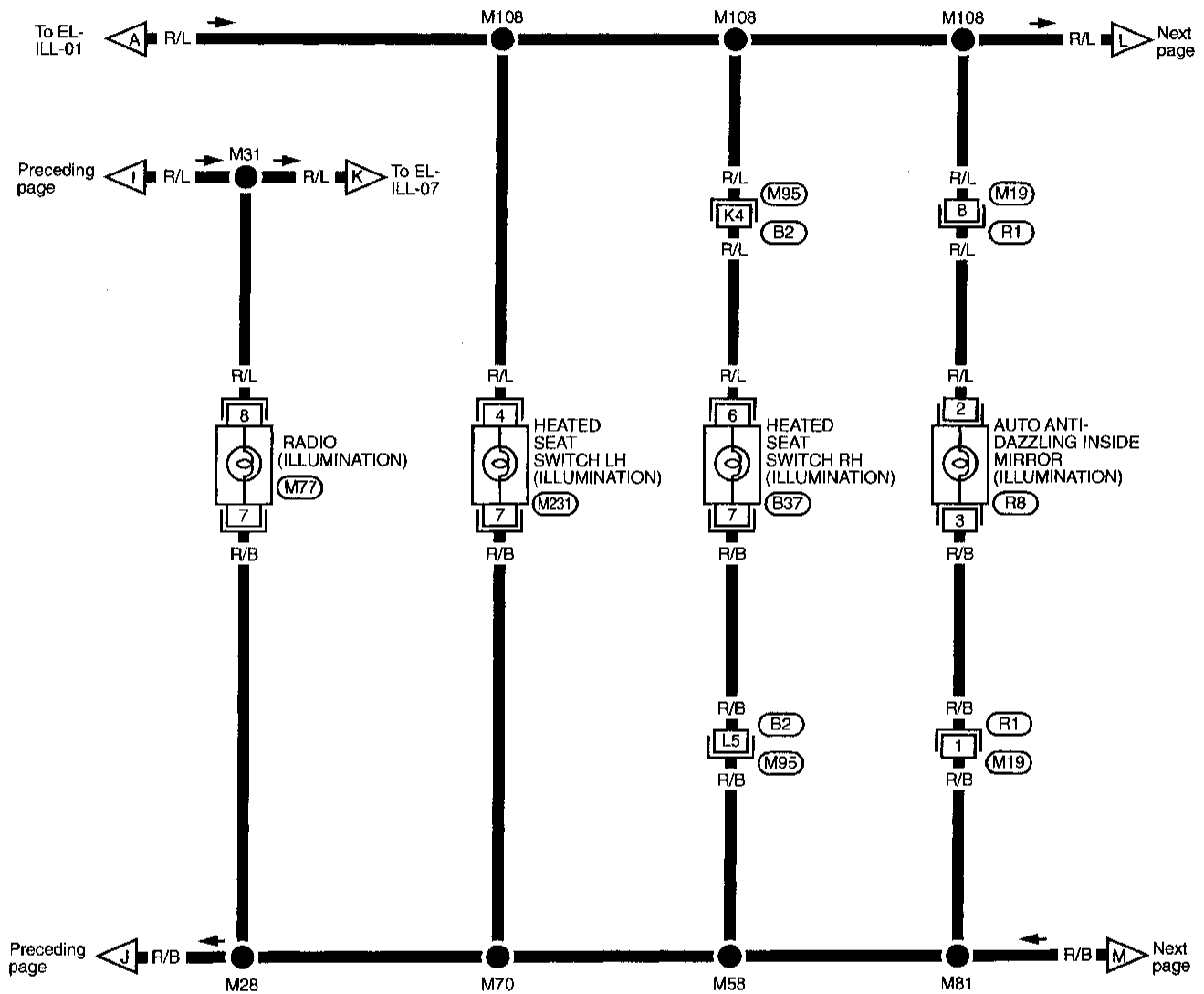
EL-ILL-04



INTERIOR LAMP

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

EL-ILL-05



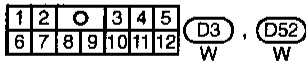
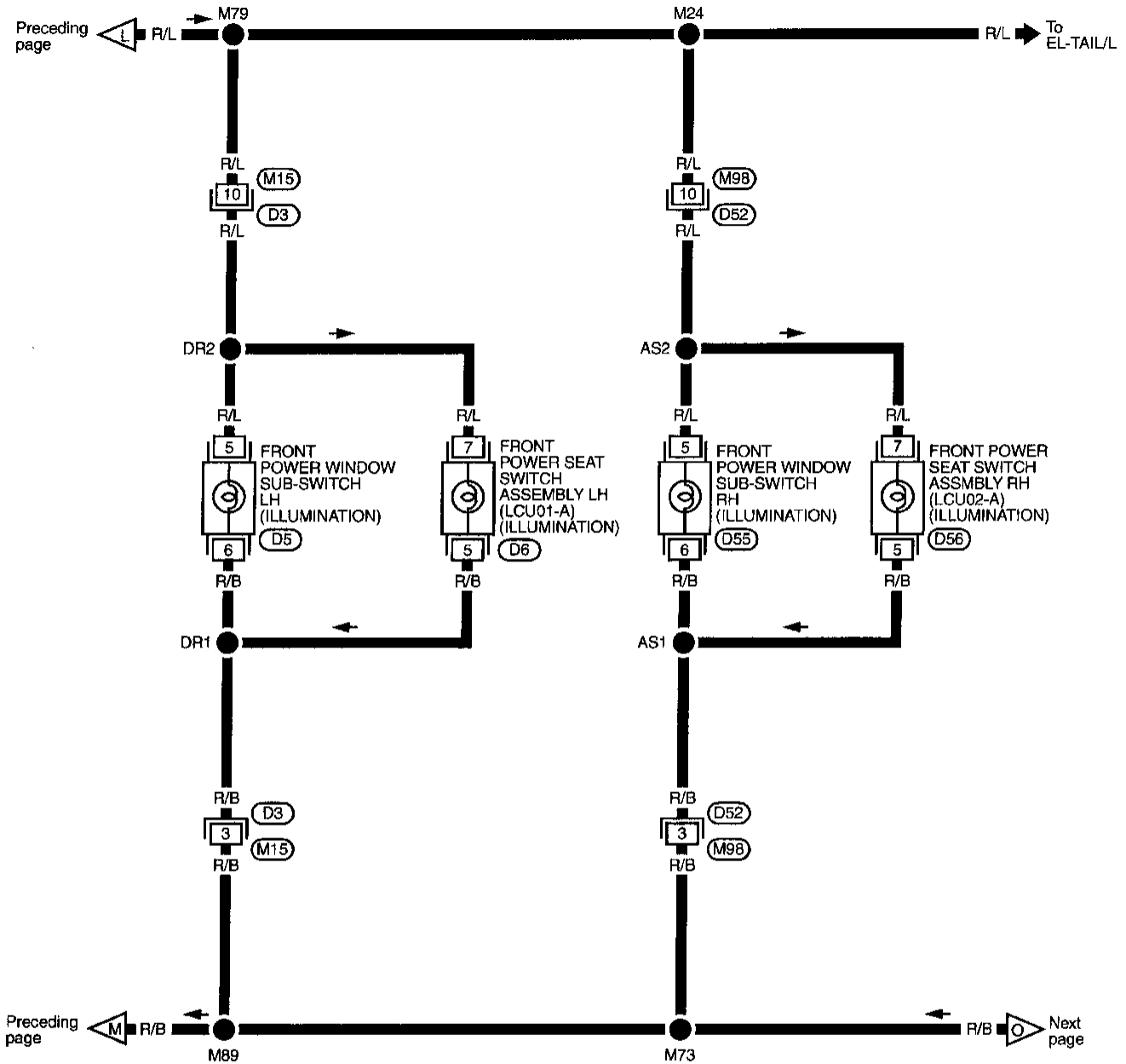
Refer to last page (Foldout page).
(M95) , (B2)

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INTERIOR LAMP

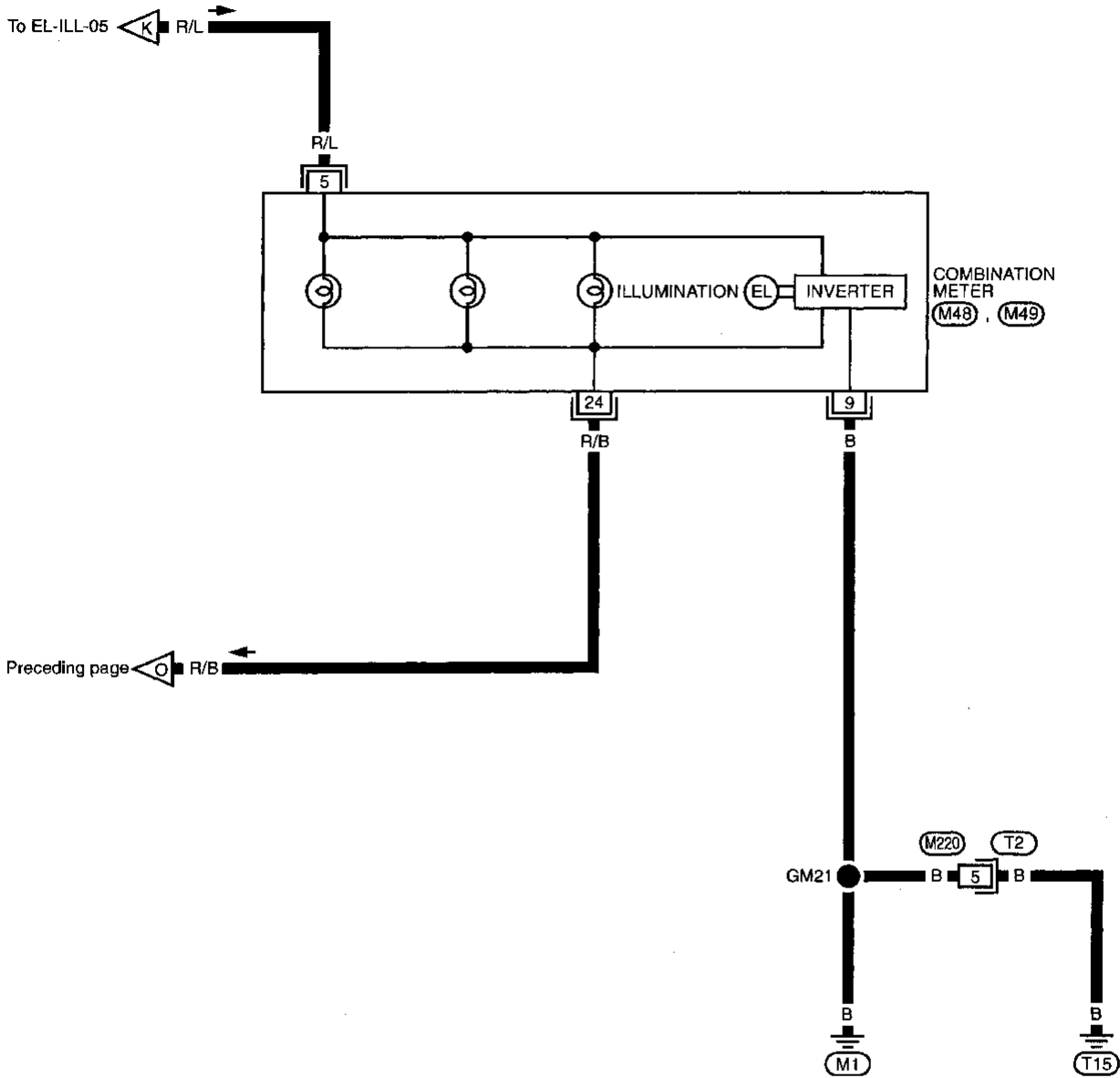
Illumination/Wiring Diagram — ILL — (Cont'd)

EL-ILL-06

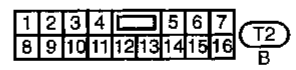
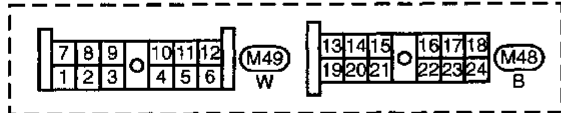


INTERIOR LAMP Illumination/Wiring Diagram — ILL — (Cont'd)

EL-ILL-07



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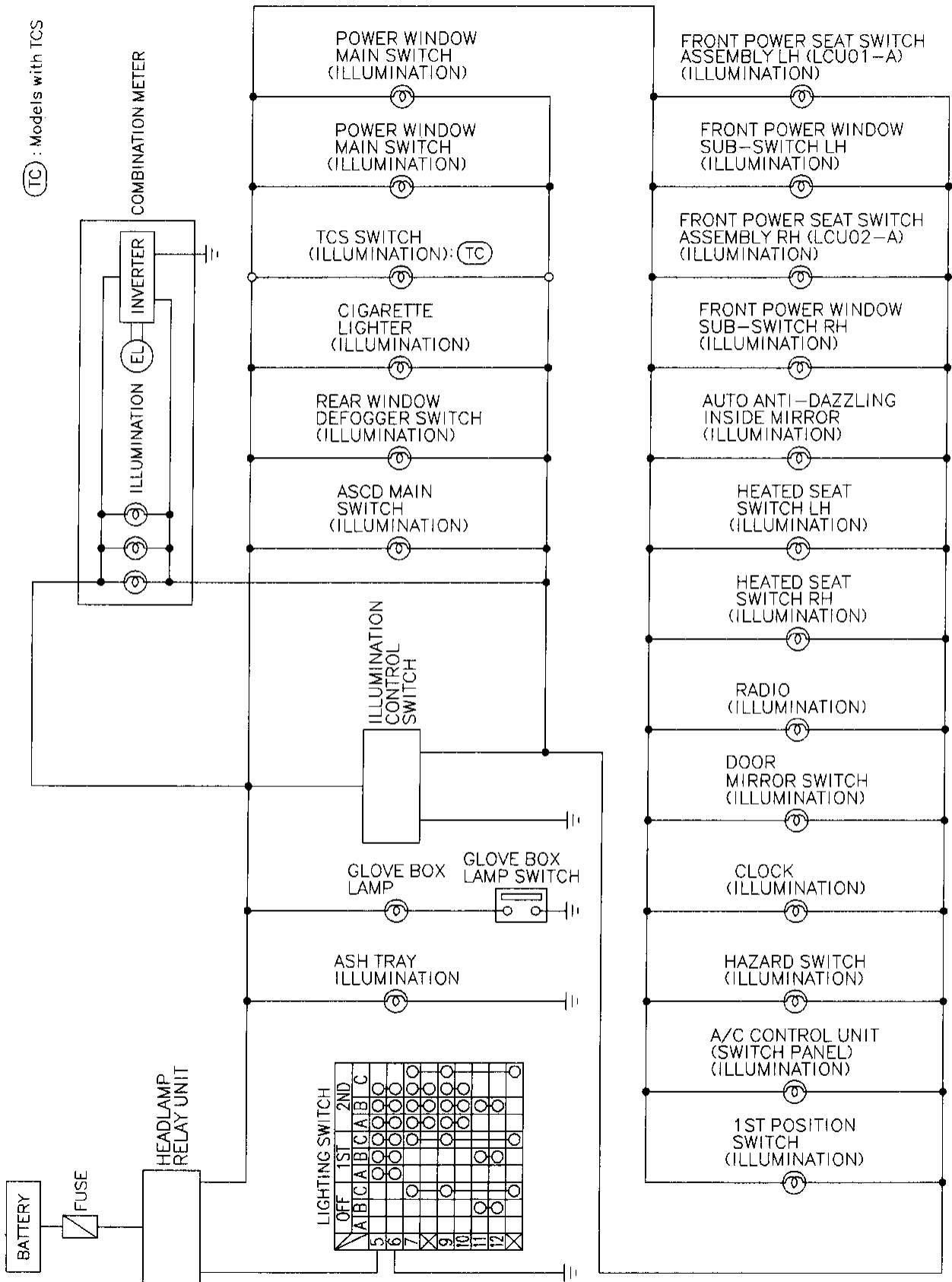


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INTERIOR LAMP

Illumination/Schematic



INTERIOR LAMP

Interior, Spot, Foot and Trunk Room Lamps/ System Description

SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Power is supplied at all times

- through 10A fuse [No. 38], located in the fuse block]
- to spot lamp terminal ①,
- to vanity mirror 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
- to vanity mirror lamp terminal ① from the vanity mirror lamp terminal ②
- through body grounds (M1) and (T15).

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 (M1) and (T15).

INTERIOR, FOOT AND KEY ILLUMINATION LAMPS

Interior, foot and key illumination lamps are controlled by LAN. For description of the lamps, refer to "INTERIOR LAMP CONTROL — LAN" (EL-326).

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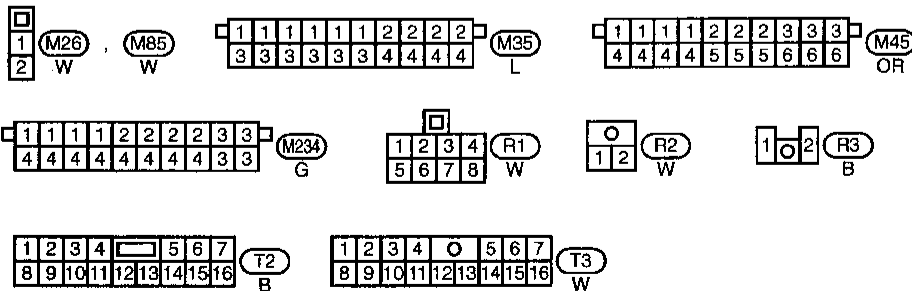
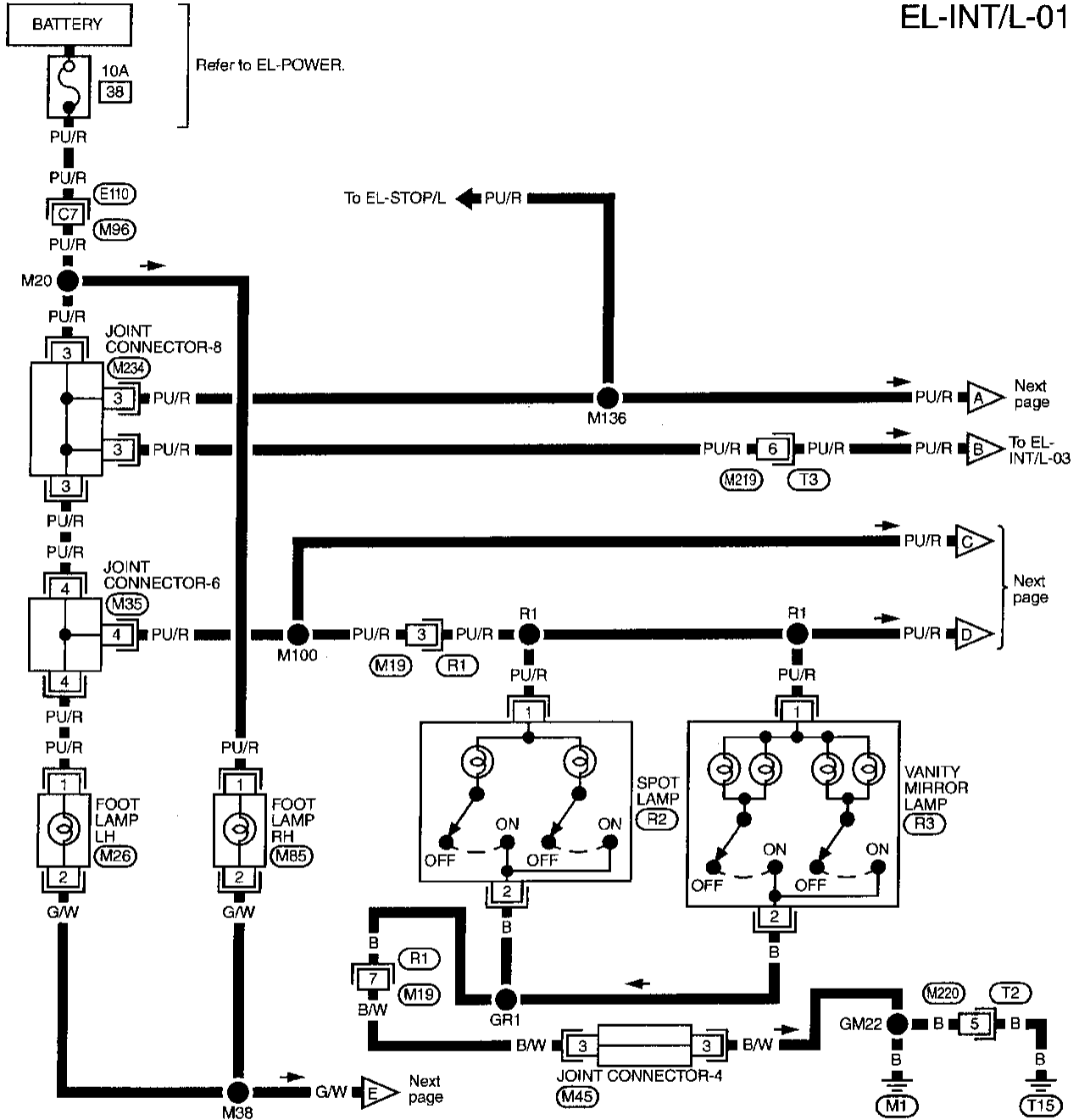
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INTERIOR LAMP

Interior, Spot, Foot and Trunk Room Lamps/ Wiring Diagram — INT/L —

EL-INT/L-01



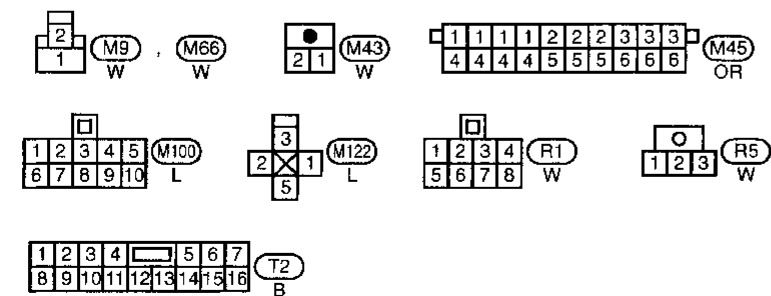
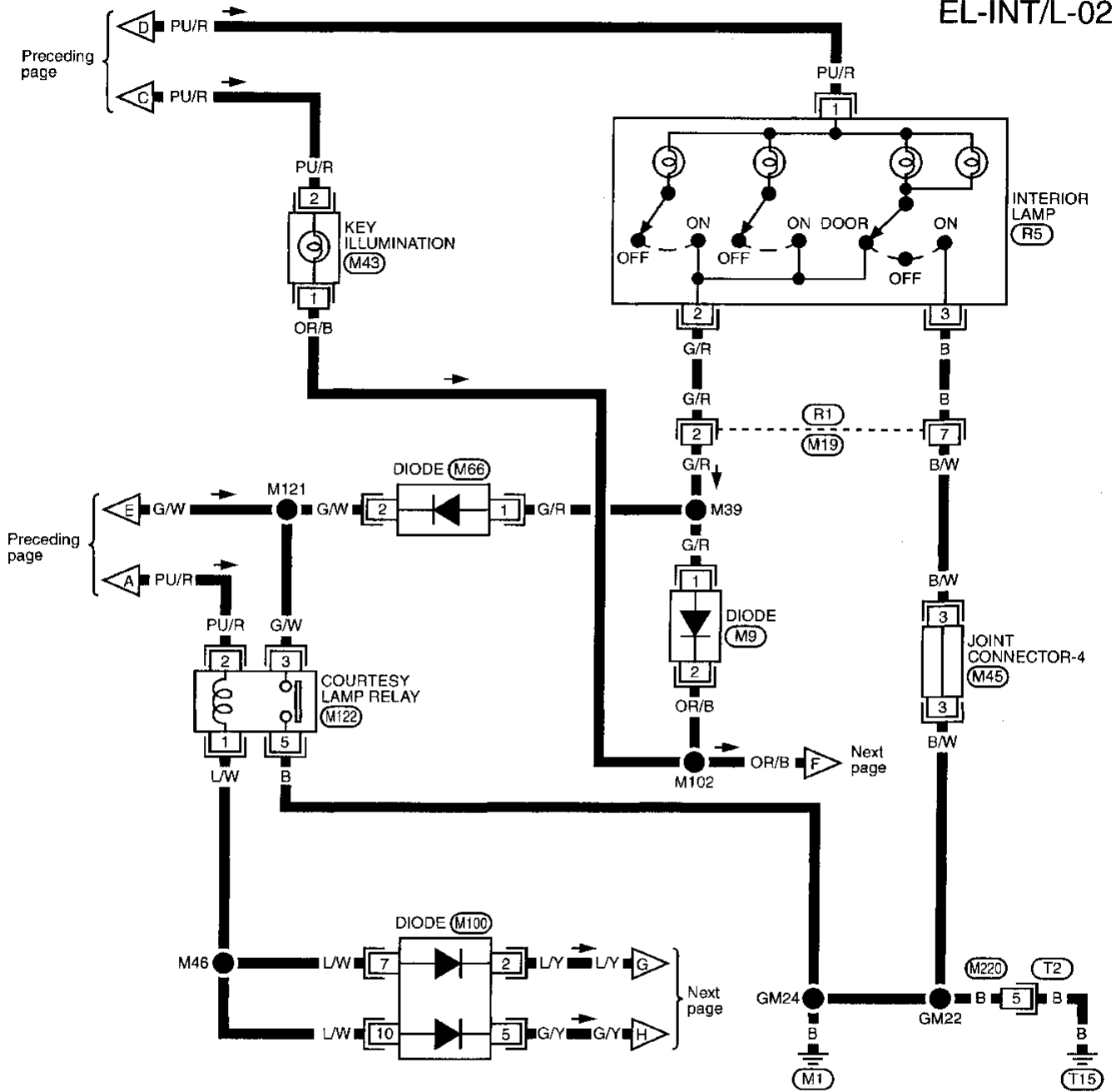
Refer to last page (Foldout page).

(E110), (M96)

INTERIOR LAMP

Interior, Spot, Foot and Trunk Room Lamps/ Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-02



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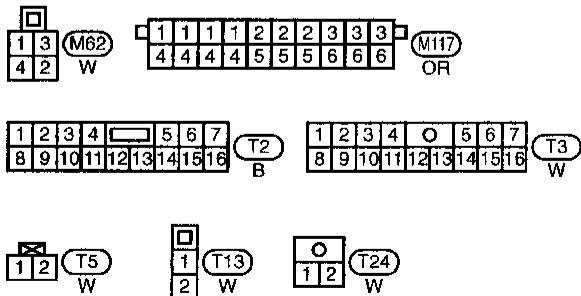
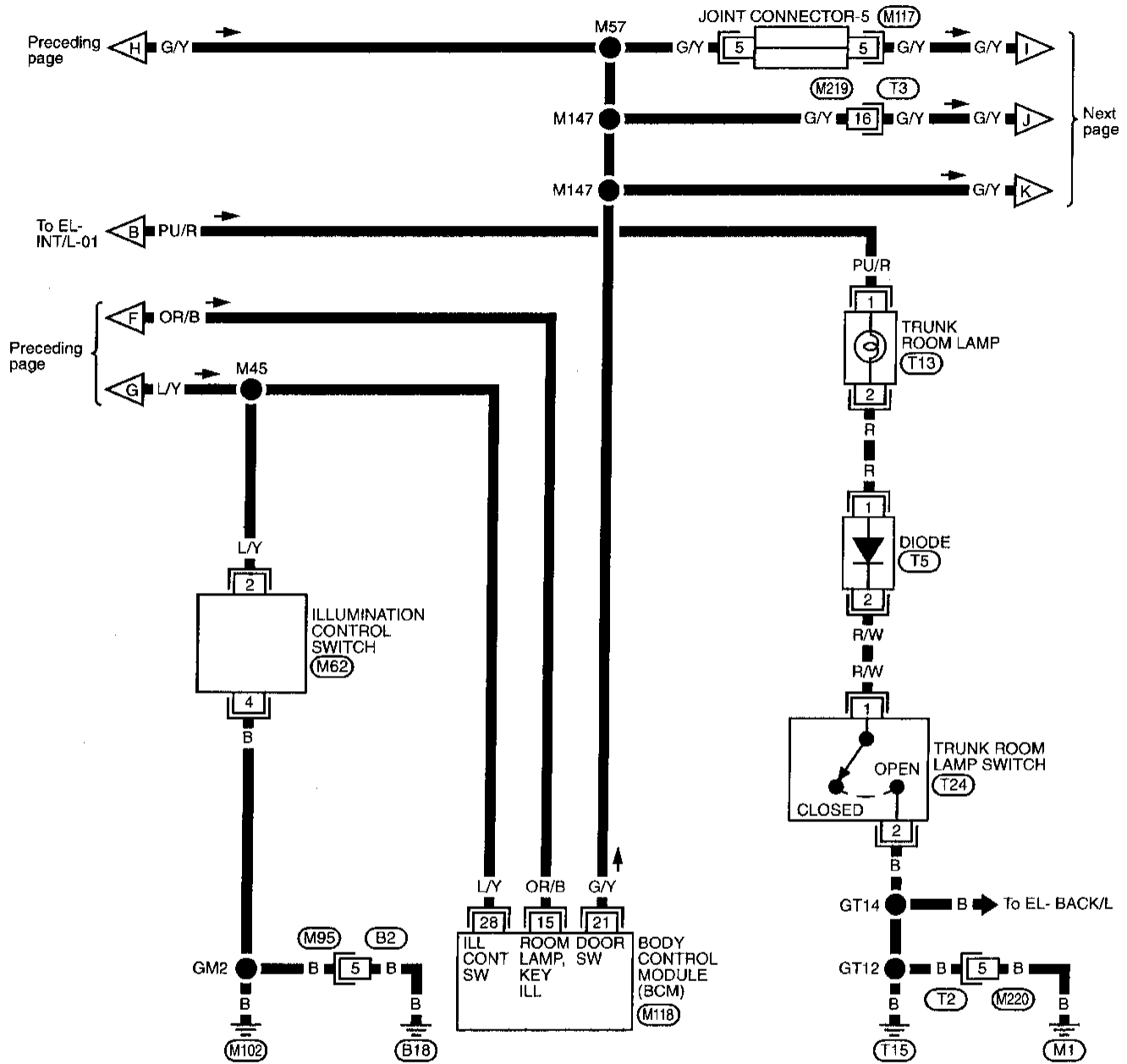
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INTERIOR LAMP

Interior, Spot, Foot and Trunk Room Lamps/ Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-03



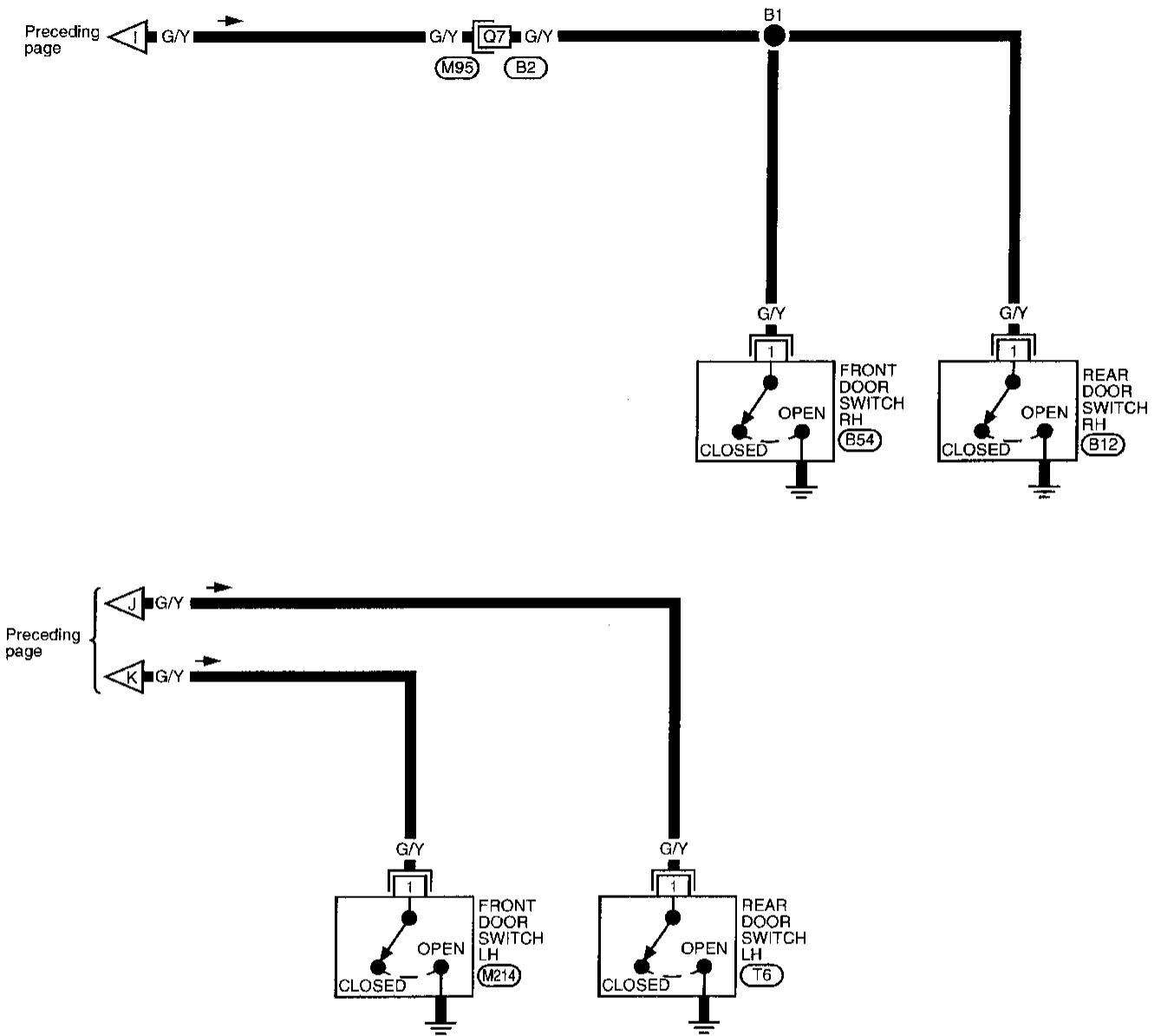
Refer to last page (Foldout page).

M95, B2
M118

INTERIOR LAMP

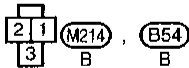
Interior, Spot, Foot and Trunk Room Lamps/ Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-04



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Refer to last page (Foldout page).



(M95) , (B2)

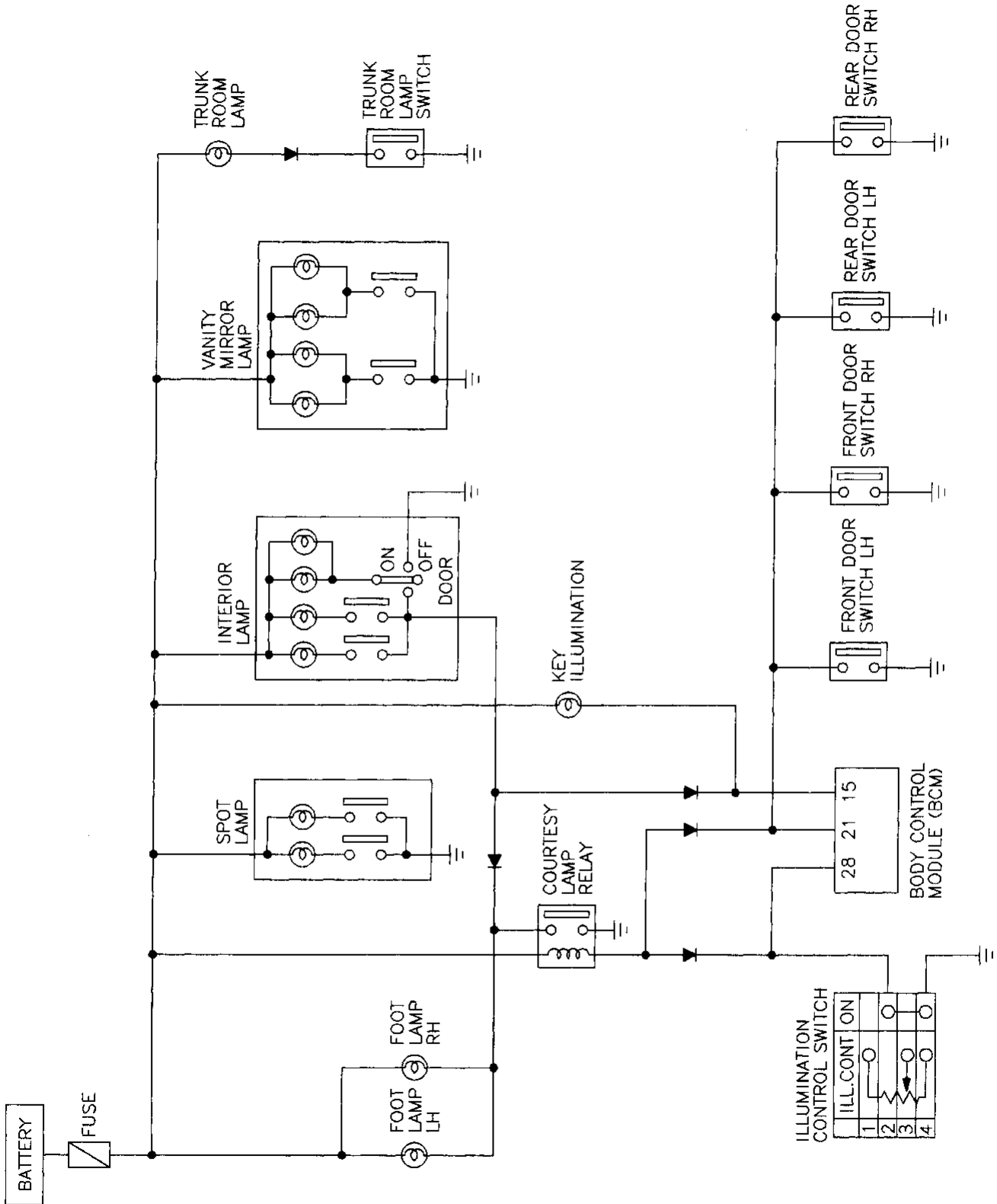
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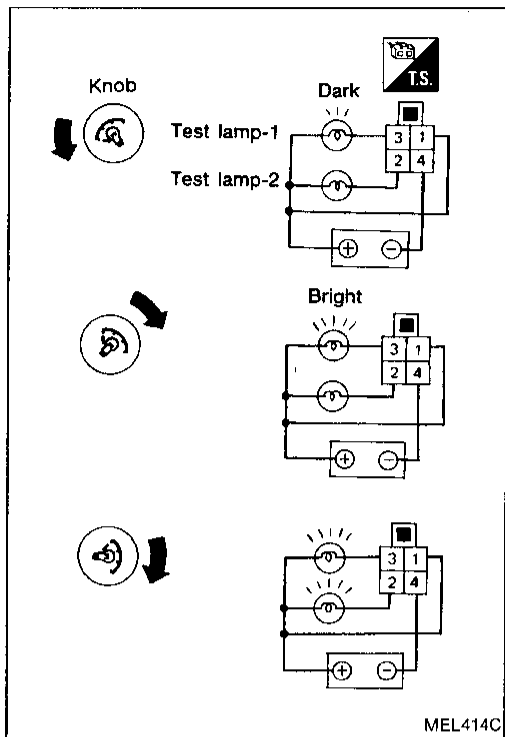
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INTERIOR LAMP

Interior, Spot, Foot and Trunk Room Lamps/ Schematic



INTERIOR LAMP



Illumination Control Switch Check

Connect as shown in figure at left.

Illumination control switch is in good order when test lamps activate as indicated below:

- When knob is turned counterclockwise or clockwise, test lamp-1 darkens or brightens accordingly. Turning knob clockwise further turns on switch and illuminates test lamp-2.

Bulb Specifications

	Wattage (12 volt)	Bulb No.
Interior lamp	10	—
Spot lamp		
(Type A)	10	—
(Type B)	8	—
✓ Step lamp	3.4	—
✓ Trunk room lamp	3.4	—
✓ Vanity mirror lamp	1.8	—
✓ Foot lamp	3.4	—

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System Description

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

- through 10A fuse [No. 25], located in the fuse block]
- to combination meter terminal 31
- for the tachometer, speedometer and
- to combination meter terminal 3
- for the fuel gauge and water temperature gauge.

Ground is supplied

- to combination meter terminals 29 and 4
- through body grounds M103 and M109.

WATER TEMP. GAUGE

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

A variable ground is supplied to terminal 18 of the combination meter for the water temperature gauge.

TACHOMETER

The tachometer is regulated by a signal

- from terminal 5 of the ECM (ECCS control module)
- to combination meter terminal 27 for the tachometer.

FUEL GAUGE

The fuel gauge is regulated by a variable ground signal supplied

- to combination meter terminal 36 for the fuel gauge
- from terminal 5 of the fuel tank gauge unit
- through terminal 6 of the fuel tank gauge unit and
- through body grounds B18 and M102.

SPEEDOMETER

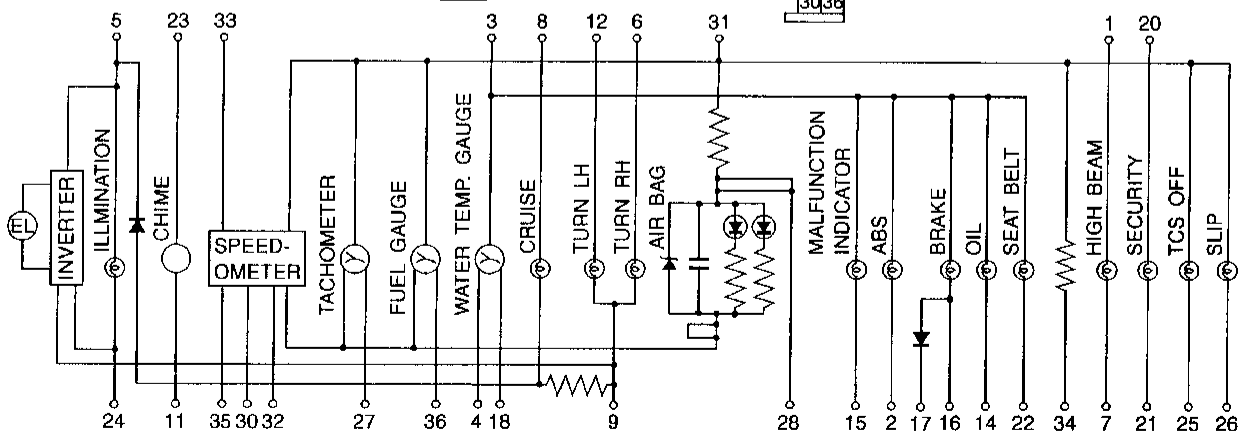
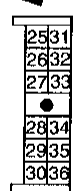
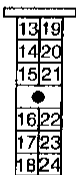
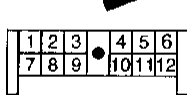
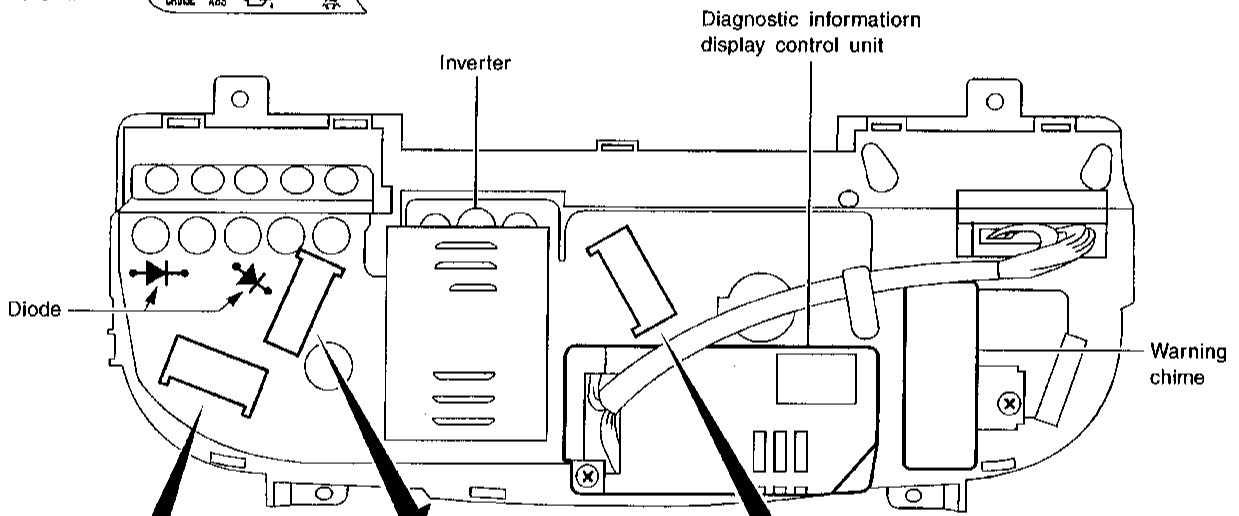
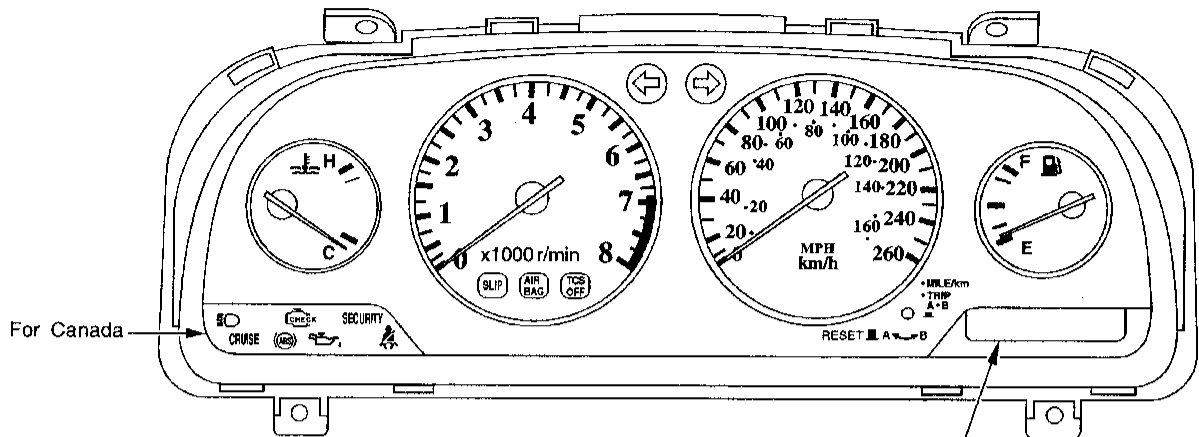
The vehicle speed sensor provides a voltage signal to the combination meter for the speedometer and the voltage is converted into the vehicle speed.

The voltage is supplied

- to combination meter terminals 32 and 33 for the speedometer
- from terminals 1 and 2 of the vehicle speed sensor.

METER AND GAUGES

Combination Meter

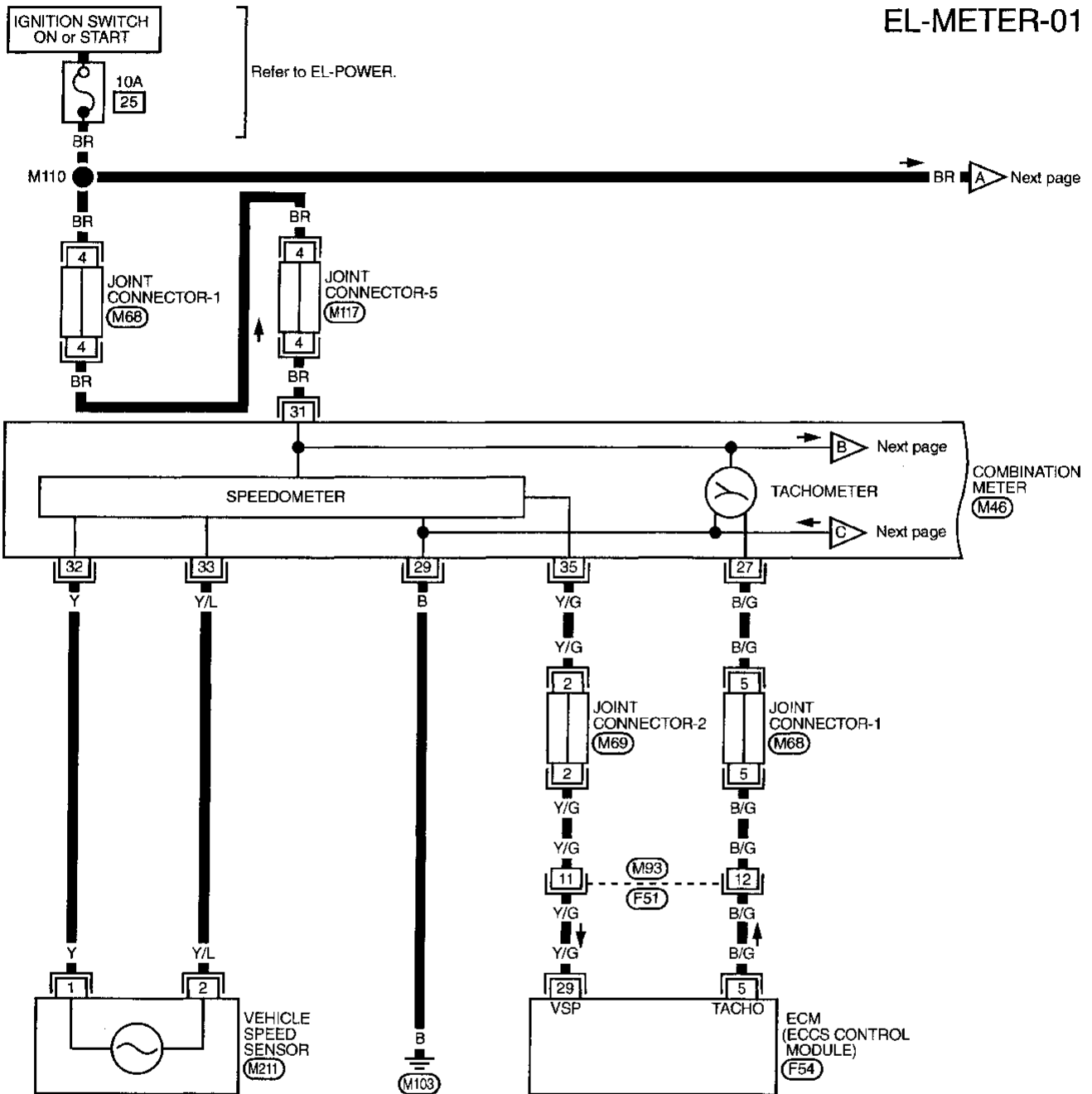


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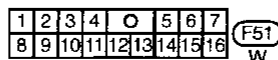
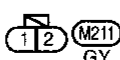
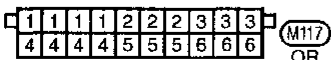
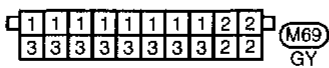
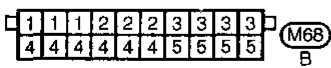
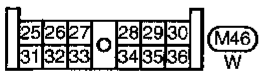
METER AND GAUGES

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

EL-METER-01



Refer to last page (Foldout page).

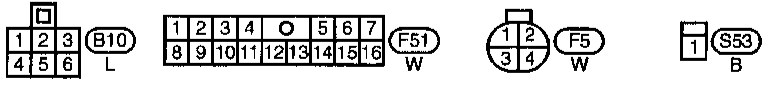
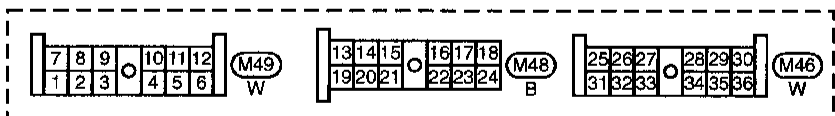
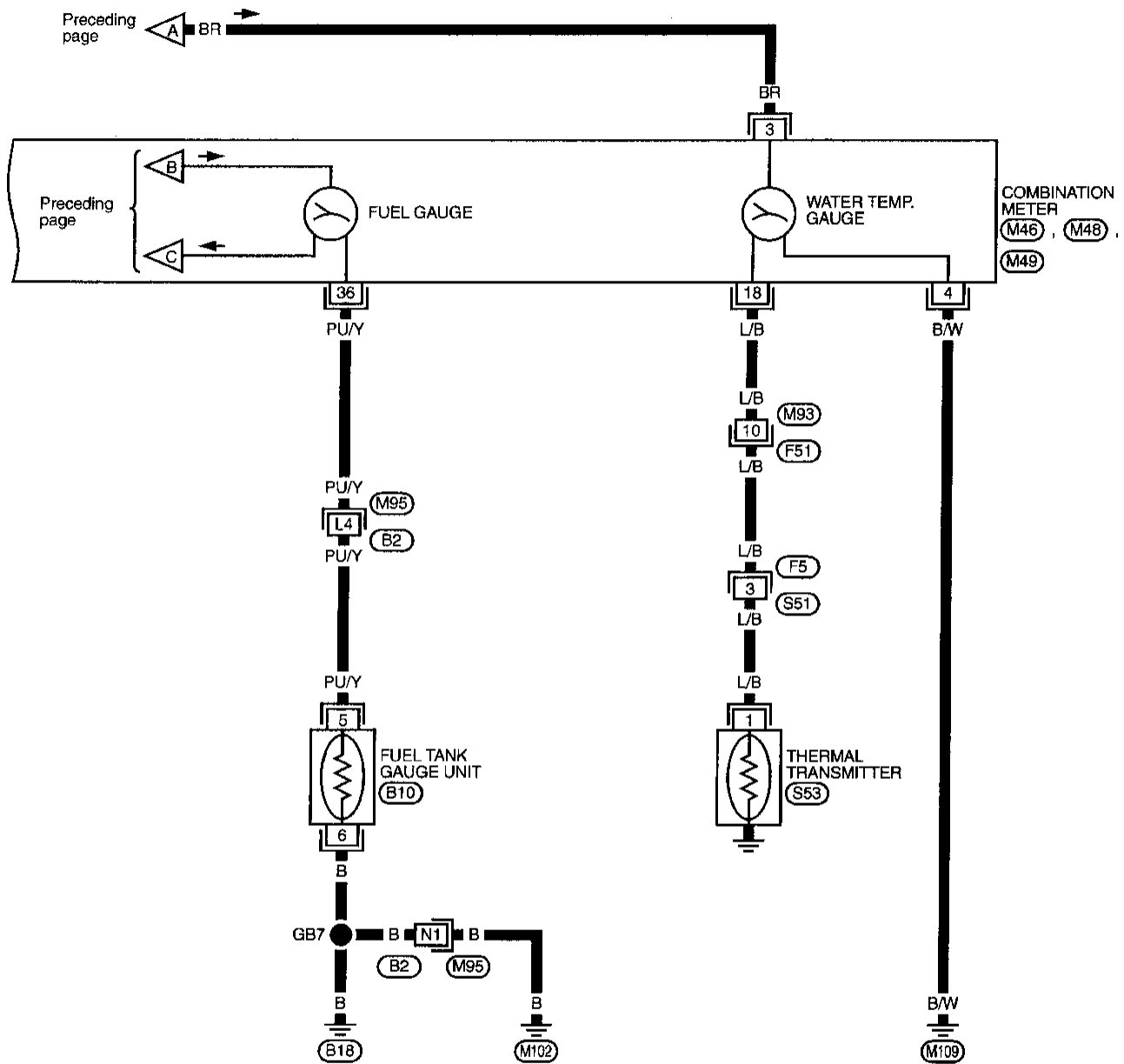


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METER AND GAUGES

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

EL-METER-02



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 (M95), (B2)

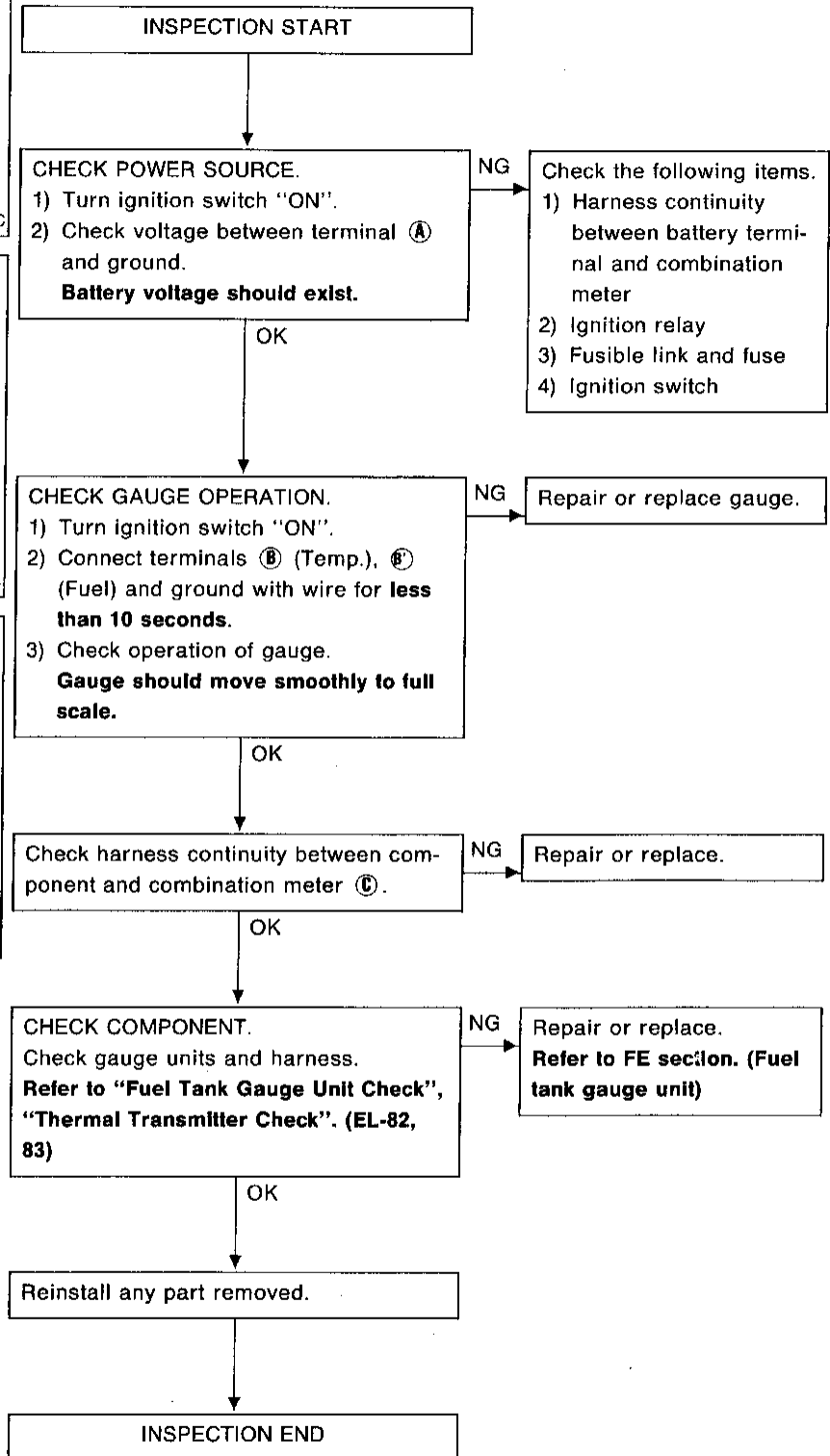
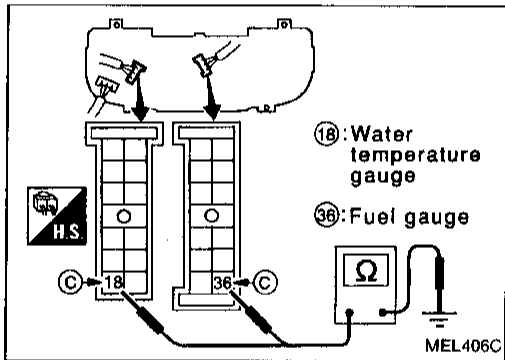
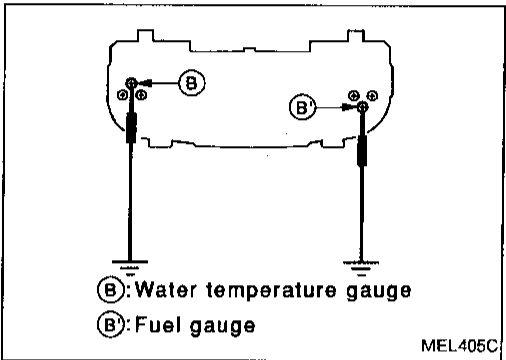
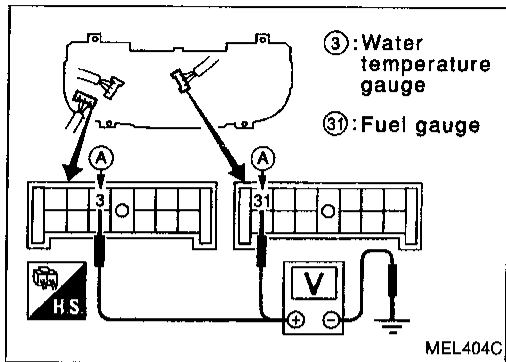
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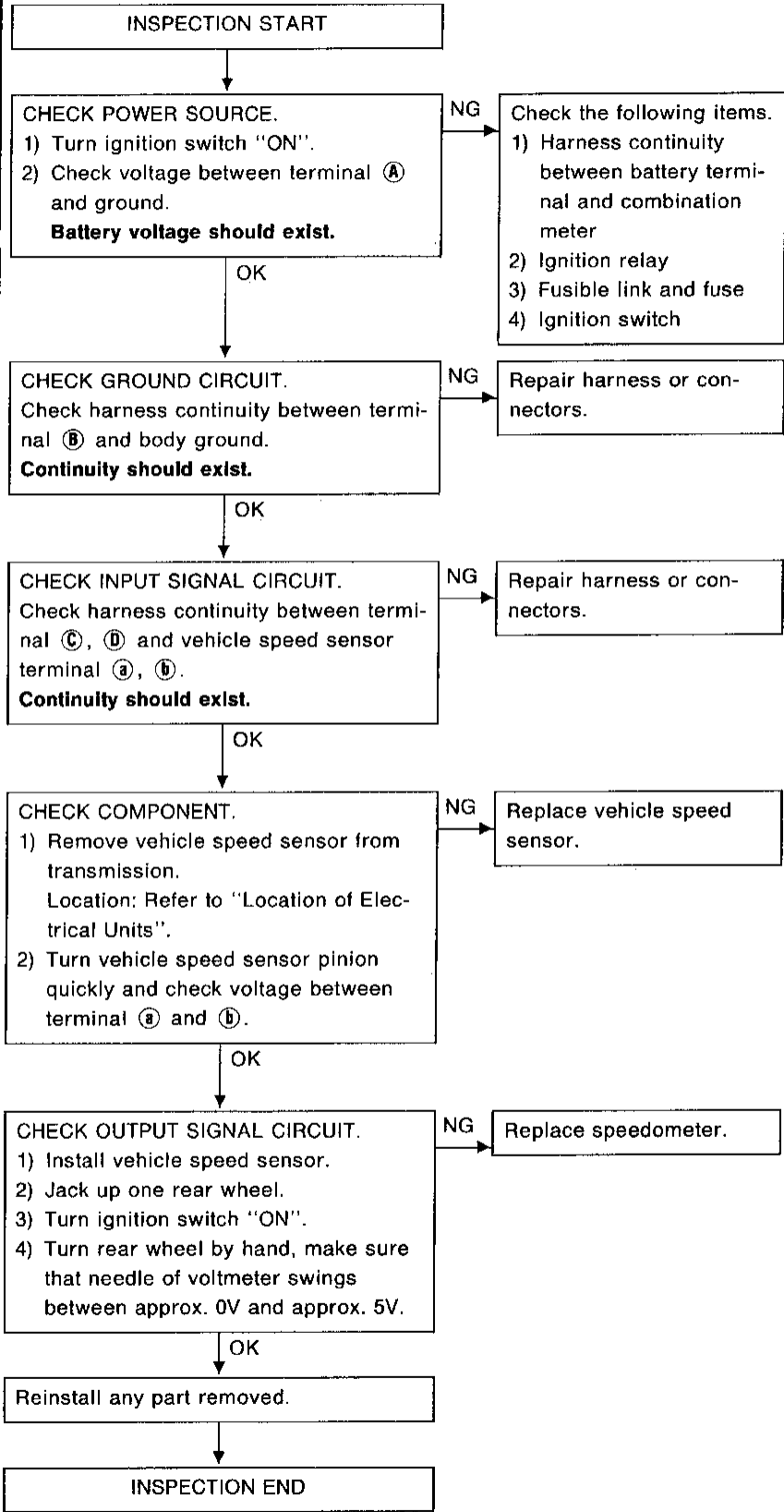
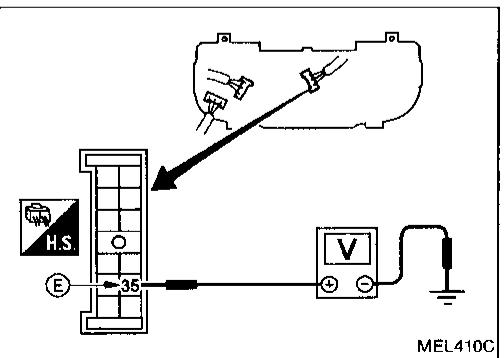
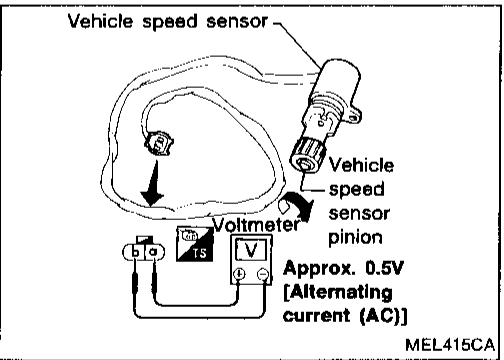
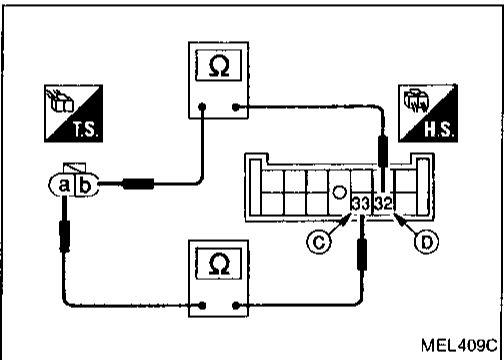
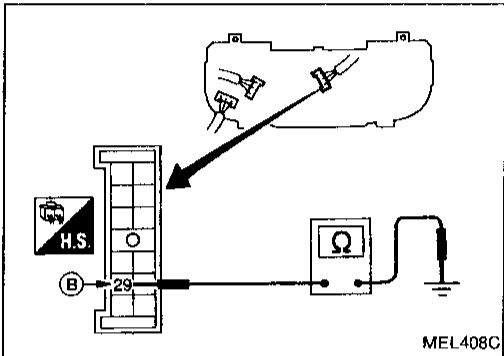
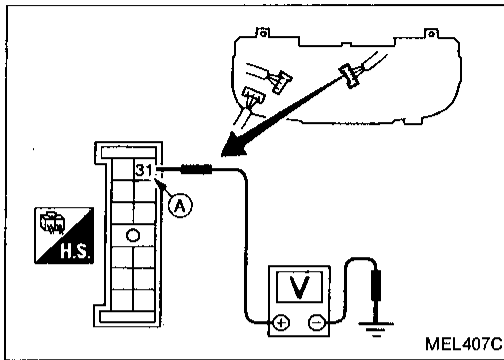
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METER AND GAUGES

Inspection/Fuel Gauge and Water Temperature Gauge



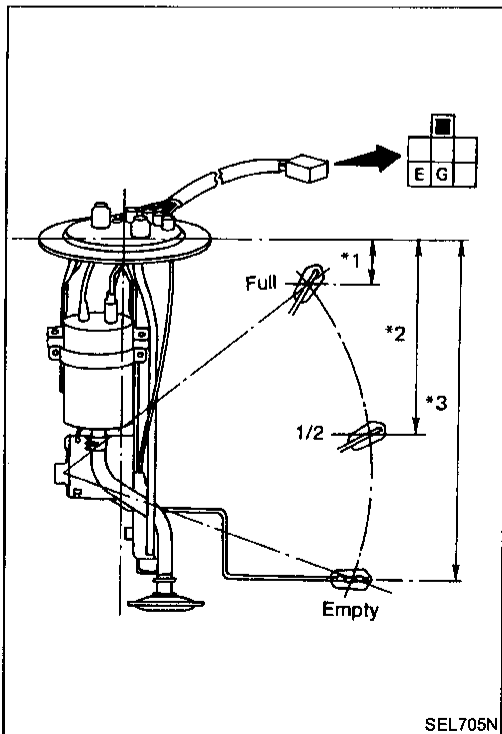
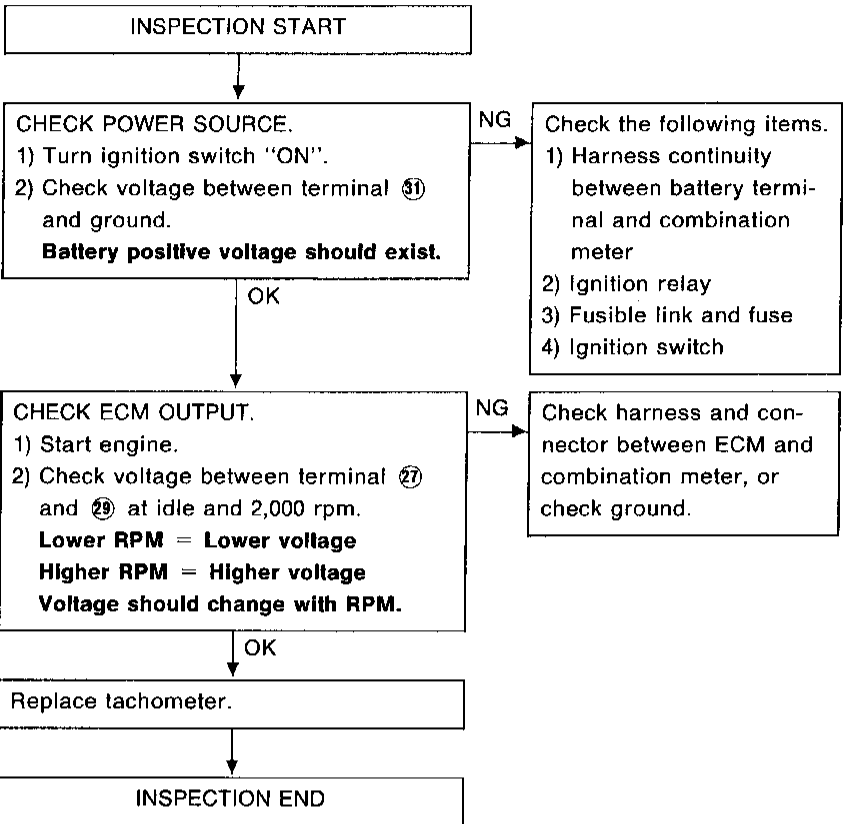
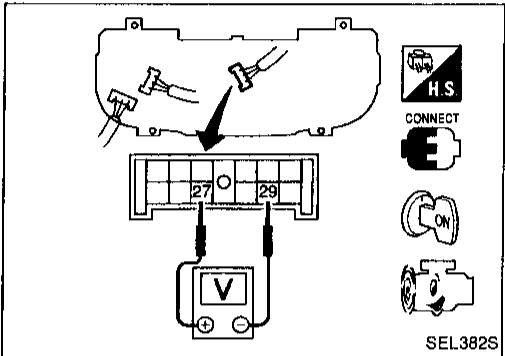
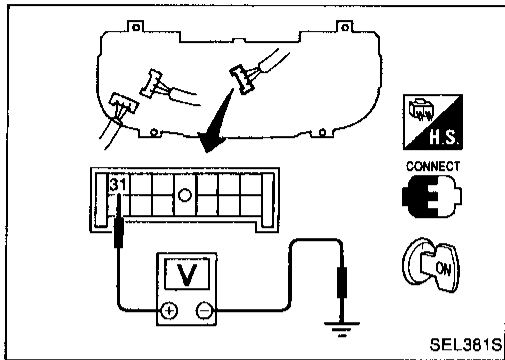
Inspection/Vehicle Speed Sensor Signal Circuit



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METER AND GAUGES

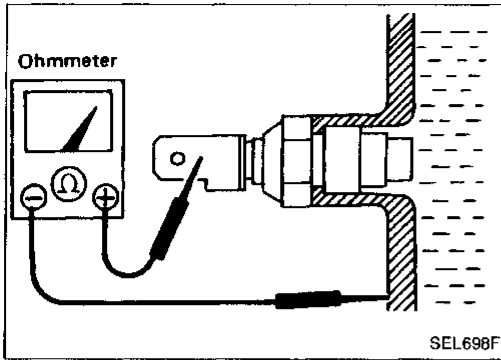
Inspection/Tachometer



Fuel Tank Gauge Unit Check

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

Ohmmeter		Float position		Resistance value (Ω)	
(+)	(-)	mm (in)			
G	E	* 3	Full	42.8 (1.685)	Approx. 4.3 - 5.8
		* 2	1/2	185.0 (7.28)	Approx. 27.7 - 34.3
		* 1	Empty	308.7 (12.15)	Approx. 79.3 - 84.8



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

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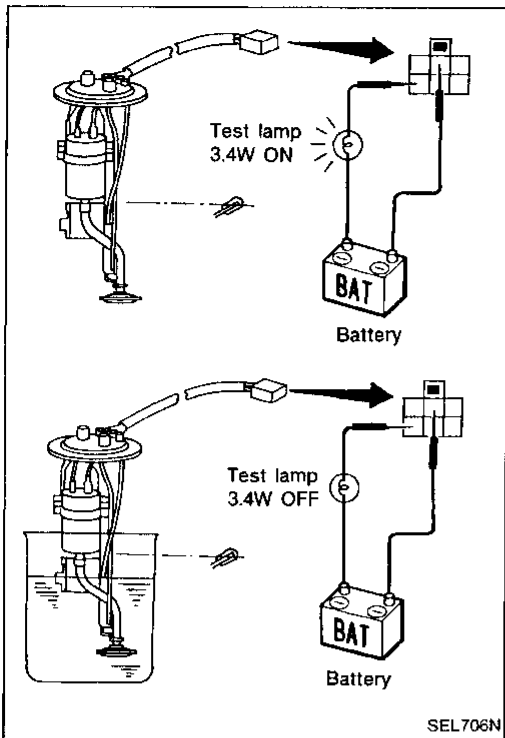
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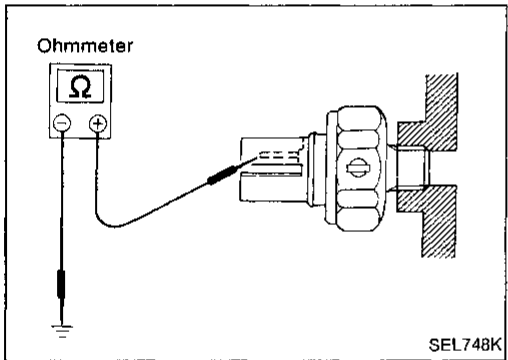
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WARNING LAMPS AND CHIME



Fuel Warning Lamp Sensor Check

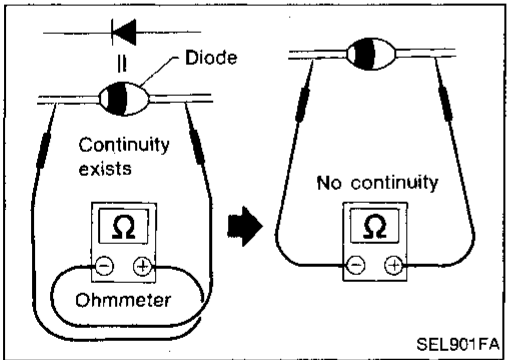
- It will take a short time for the bulb to light.



Oil Pressure Switch Check

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

	Oil pressure kPa (kg/cm ² , psi)	Continuity
Engine start	More than 10 - 20 (0.1 - 0.2, 1.4 - 2.8)	NO
Engine stop	Less than 10 - 20 (0.1 - 0.2, 1.4 - 2.8)	YES



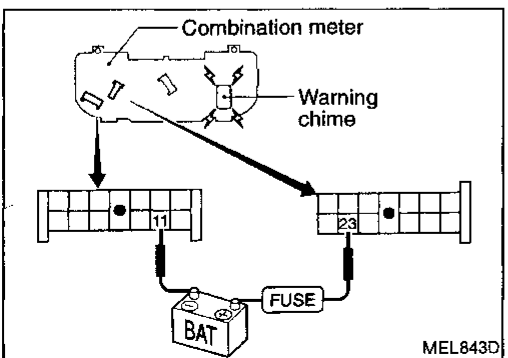
Diode Check

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

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

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

Refer to "Combination Meter". (EL-77)

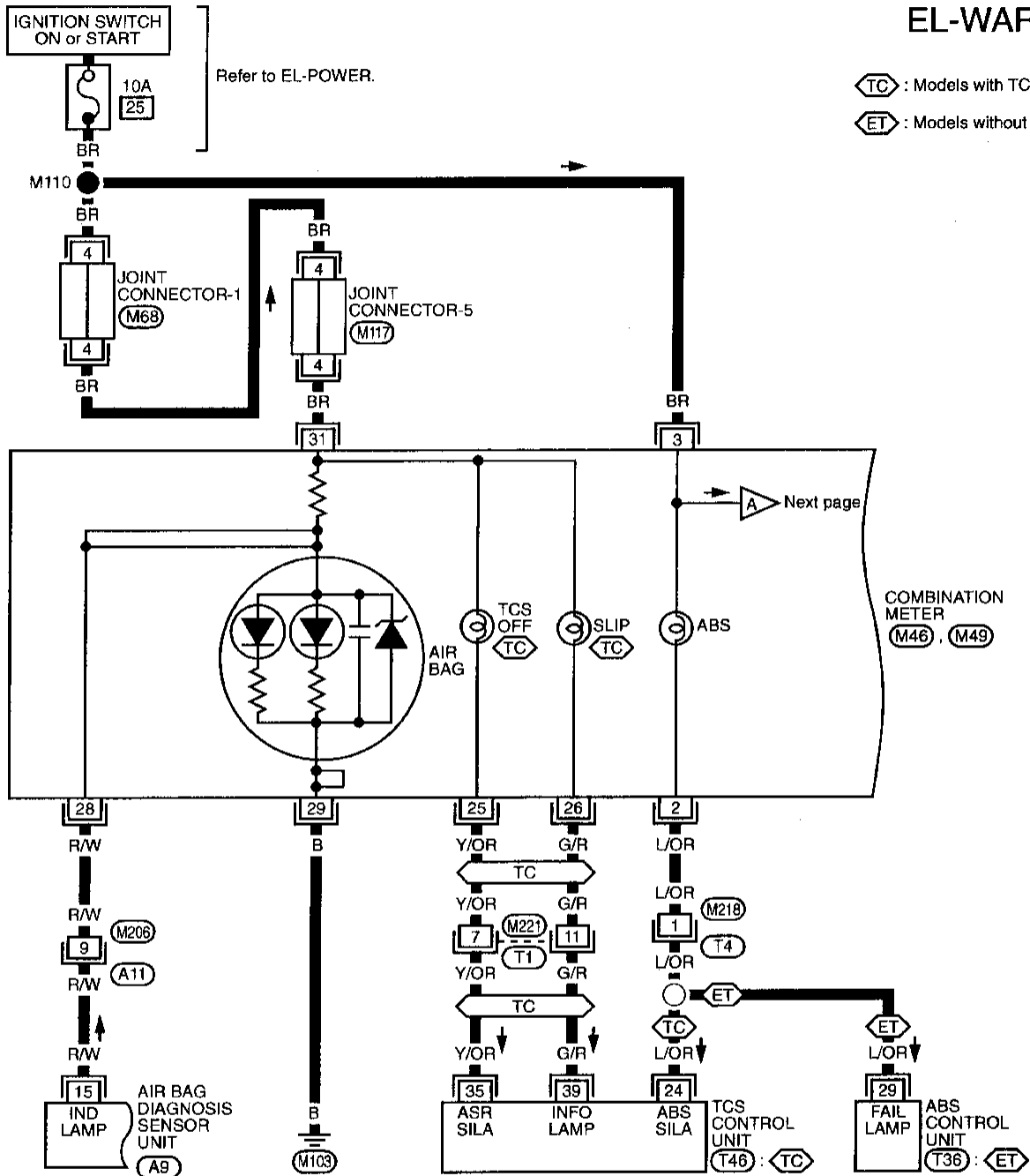


Warning Chime Check

WARNING LAMPS AND CHIME

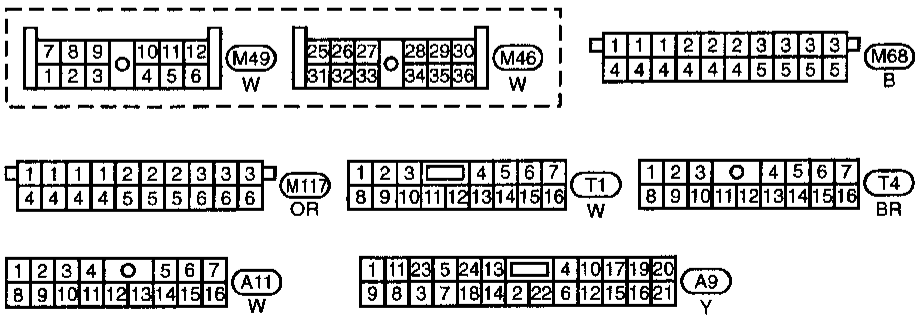
Warning Lamps/Wiring Diagram — WARN —

EL-WARN-01



TC : Models with TCS
 ET : Models without TCS

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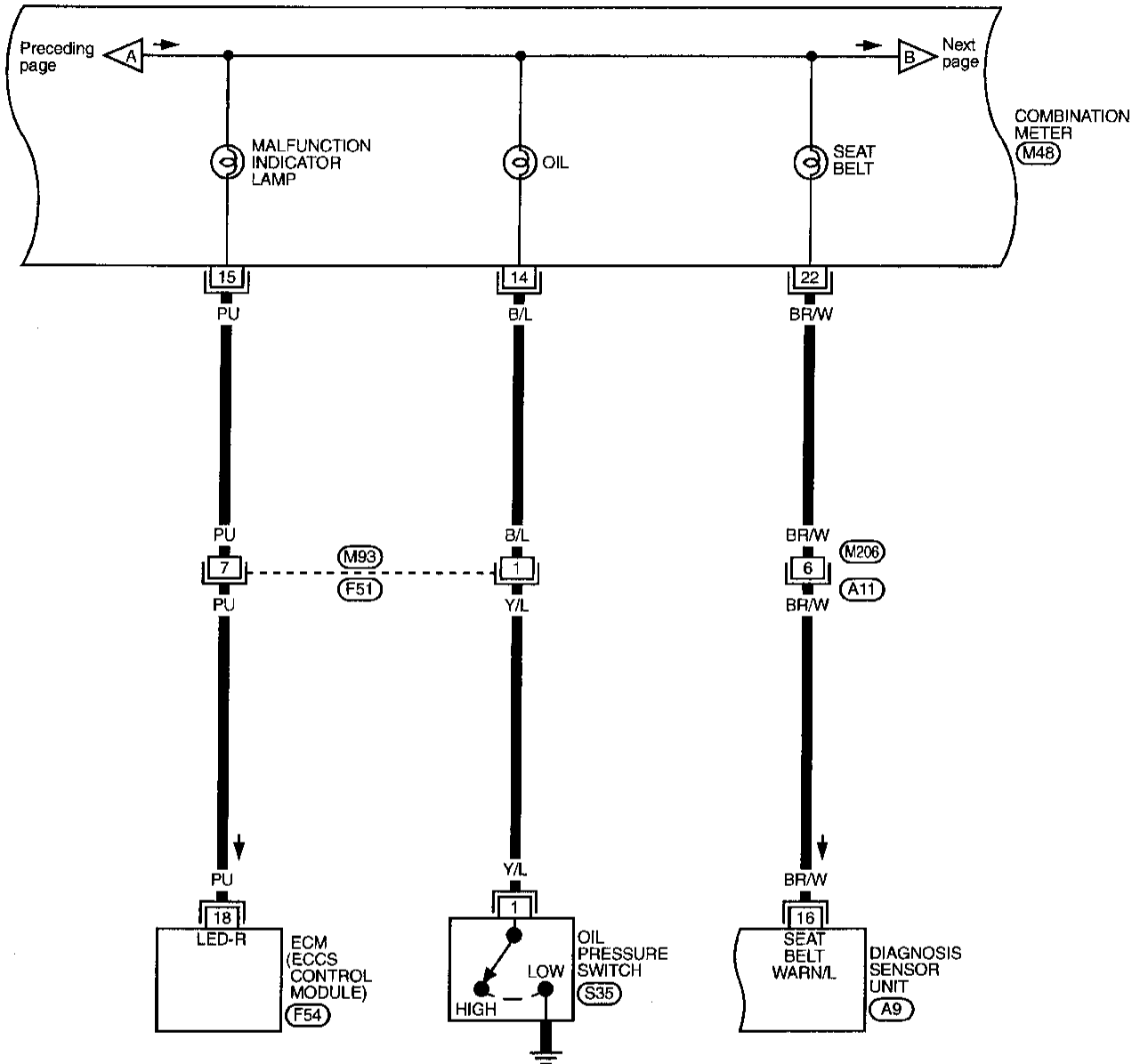
Refer to last page (Foldout page).
 T36
 T46

EL
 IDX

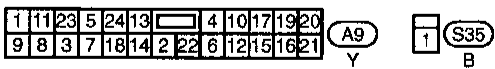
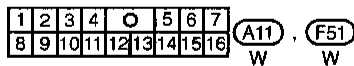
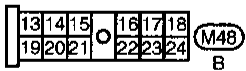
WARNING LAMPS AND CHIME

Warning Lamps/Wiring Diagram — WARN — (Cont'd)

EL-WARN-02



Refer to last page (Foldout page).

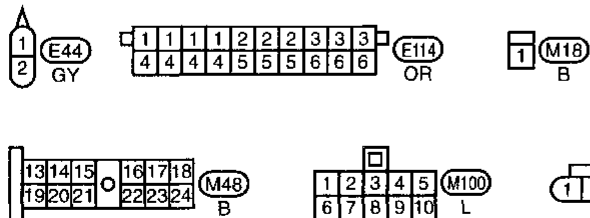
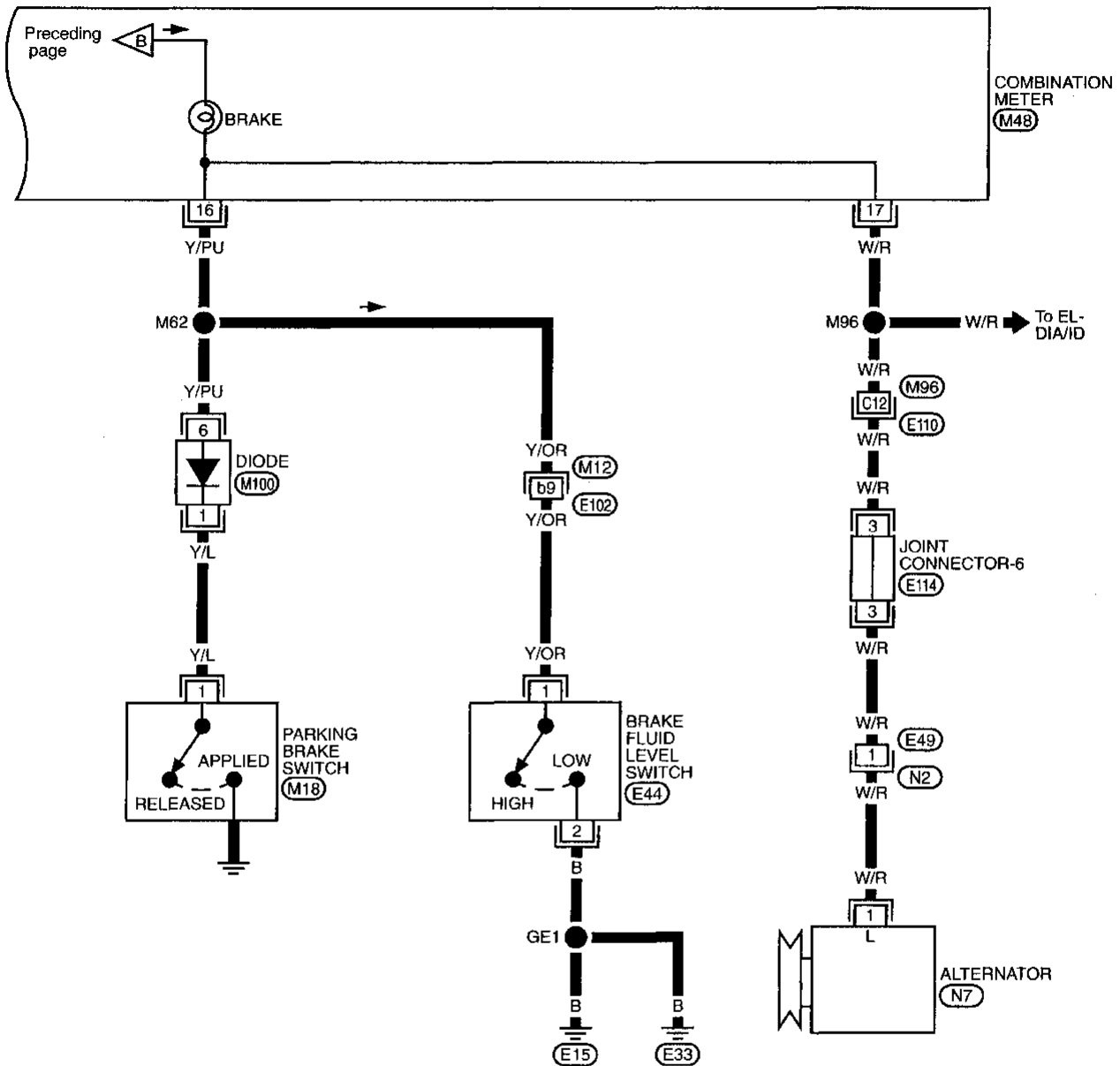


(F54)

WARNING LAMPS AND CHIME

Warning Lamps/Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



Refer to last page (Foldout page).

(E102), (M12)
(E110), (M96)

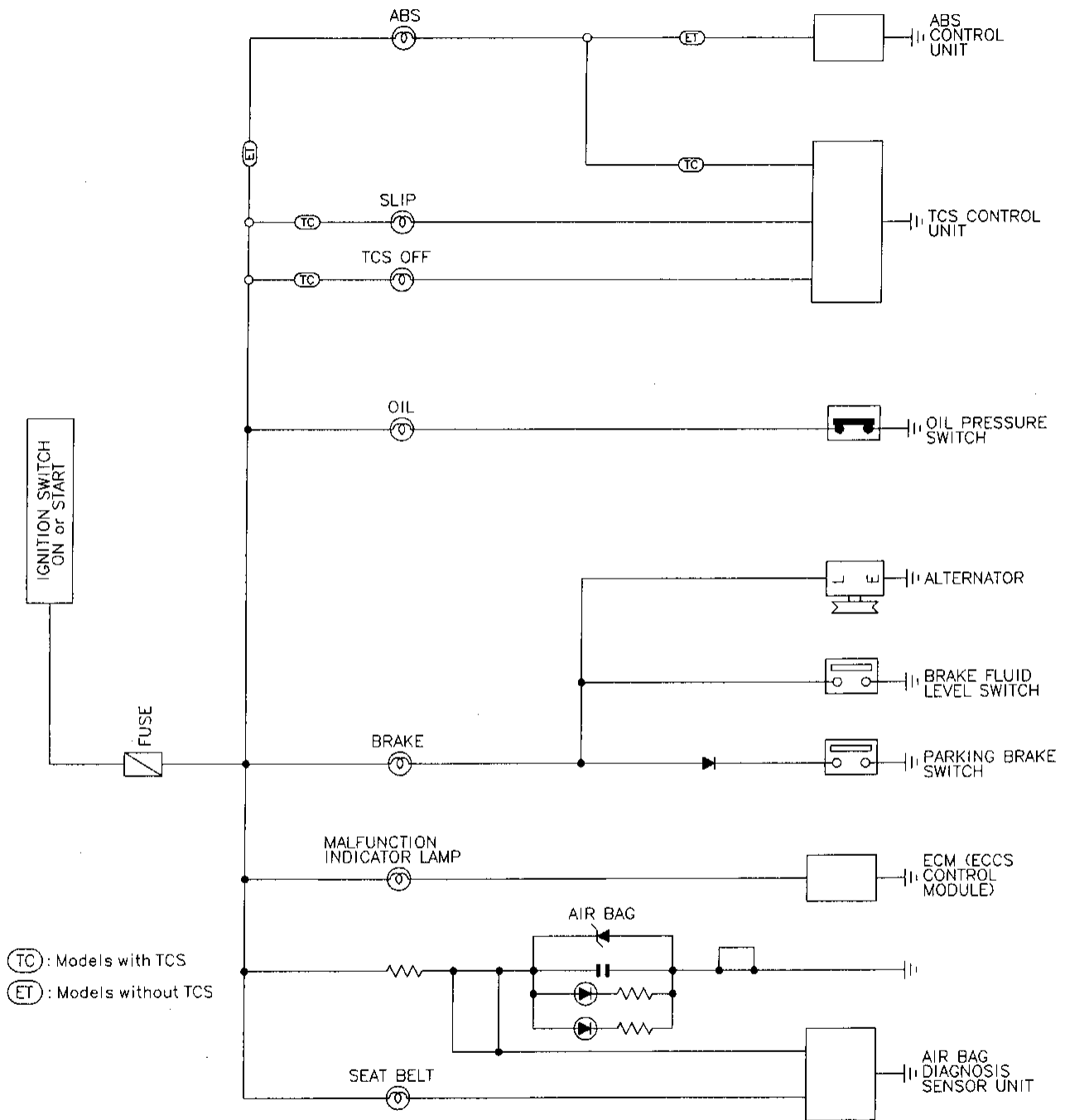
GI
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HA

EL

IDX

WARNING LAMPS AND CHIME

Warning Lamps/Schematic



System Description

FUNCTION

- The following warning chime functions are controlled by LAN.

Item	Details of control
Ignition key warning chime timer	Sounds warning chime when driver's door is opened with key in ignition.
Light warning chime timer	Sounds warning chime when driver's door is opened with light switch in the 1st or 2nd position and ignition switch "OFF".
Seat belt warning chime timer	Sounds warning chime for about 6 seconds if ignition switch is turned "ON" when driver's seat belt is unfastened.

Front power seat control unit LH (LCU05) terminals ④⑤ and ④⑥ are connected to BCM terminals ④⑧ and ④④ as DATA LINES A and B.

IGNITION KEY WARNING CHIME TIMER

Power is supplied at all times

- through 10A fuse [No. ①⑨], located in the fuse block
- to key switch terminal ②.
- Through 10A fuse [No. ③⑧], located in the fuse block
- to combination meter (chime) terminal ②③.

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

- through 10A fuse [No. ②⑤], located in the fuse block
- to BCM terminals ④⑨ and ④⑩.

Ground is supplied to front power seat control unit LH (LCU05) terminal ④⑥ from body grounds ④①① and ④①⑤ through front door switch LH terminals ② and ③ when switch is in OPEN position.

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

LIGHT WARNING CHIME TIMER

Power is supplied at all times

- through 10A fuse [No. ③⑦], located in the fuse block
- to headlamp relay unit terminal ③.
- Through 10A fuse [No. ③⑧], located in the fuse block
- to combination meter (chime) terminal ②③.

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

- through 10A fuse [No. ②⑤], located in the fuse block
- to BCM terminals ④⑨ and ④⑩.

When the lighting switch is in the 1ST or 2ND position, the headlamp relay unit is energized.

Power is supplied

- from terminal ①② of the headlamp relay unit
- to lighting switch terminal ⑤ and
- to BCM terminal ②④.

Ground is supplied to terminal ⑥ of the lighting switch through body grounds ④①⑤ and ④③③.

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

SEAT BELT WARNING CHIME TIMER

Power is supplied at all times

- through 10A fuse [No. ③⑧], located in the fuse block
- to combination meter (chime) terminal ②③.

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

- through 10A fuse [No. ②⑤], located in the fuse block
- to BCM terminals ④⑨ and ④⑩.

Ground is supplied to front power seat control unit LH (LCU05) terminal ④⑤ from body grounds ④①① and ④①⑤ through seat belt buckle switch terminals ① and ②, when seat belt buckle switch is in UNFASTENED position.

The warning chime will sound.

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

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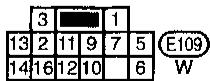
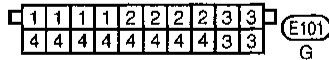
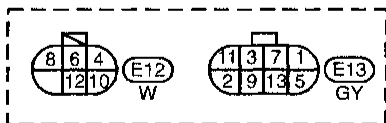
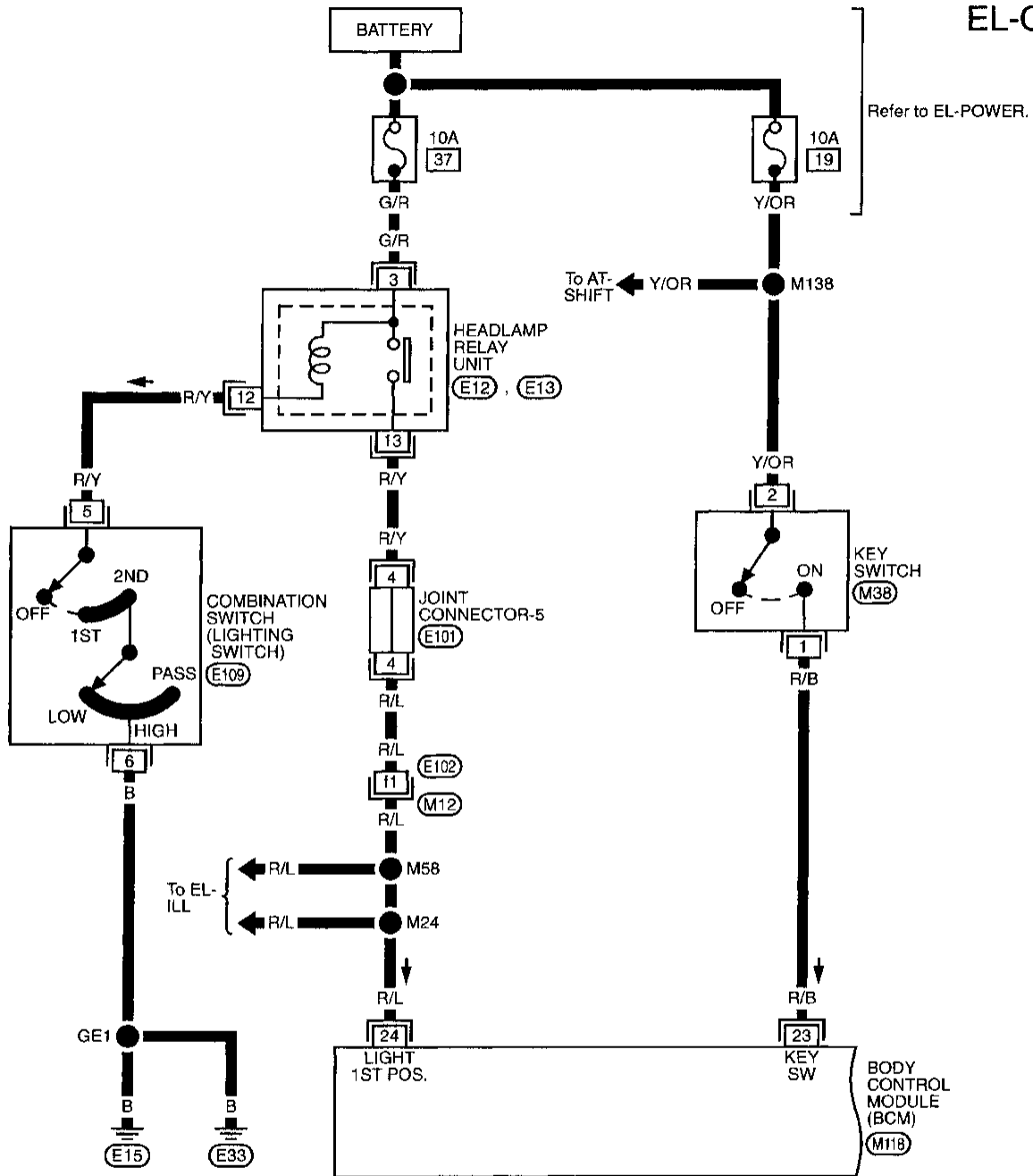
EL

IDX

WARNING LAMPS AND CHIME

Warning Chime/Wiring Diagram — CHIME —

EL-CHIME-01



Refer to last page (Foldout page).

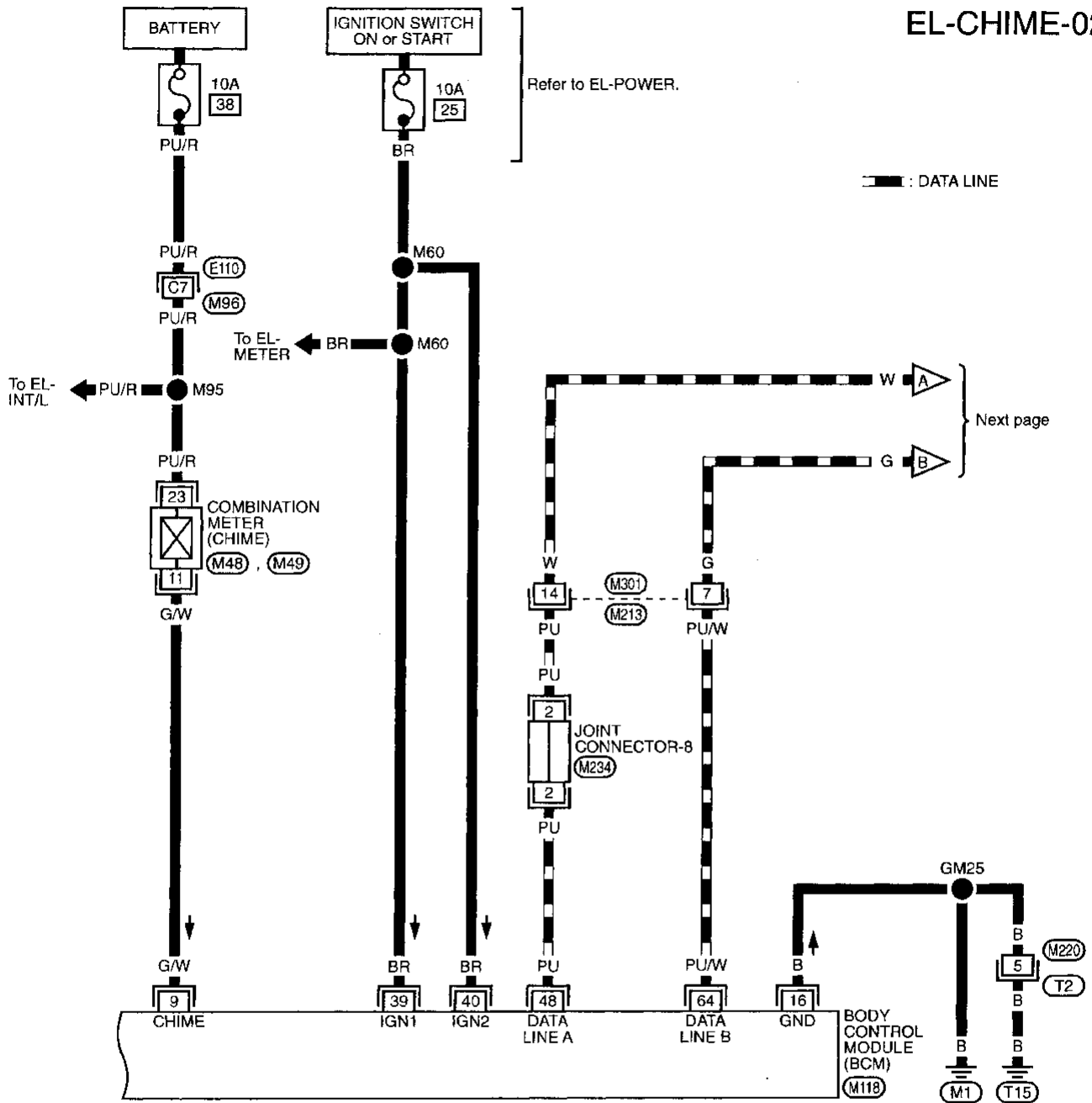
E102, M12

M118

WARNING LAMPS AND CHIME

Warning Chime/Wiring Diagram — CHIME — (Cont'd)

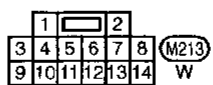
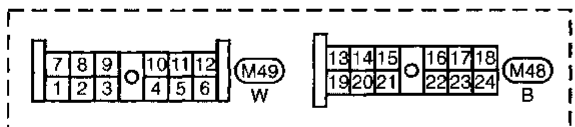
EL-CHIME-02



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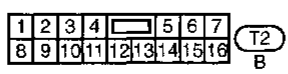
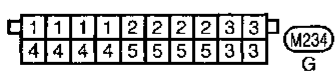
EL

IDX



Refer to last page (Foldout page).

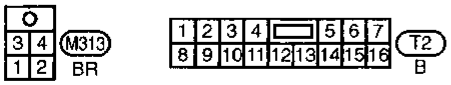
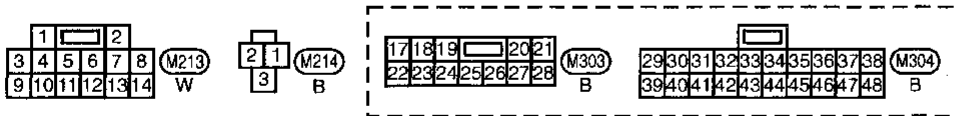
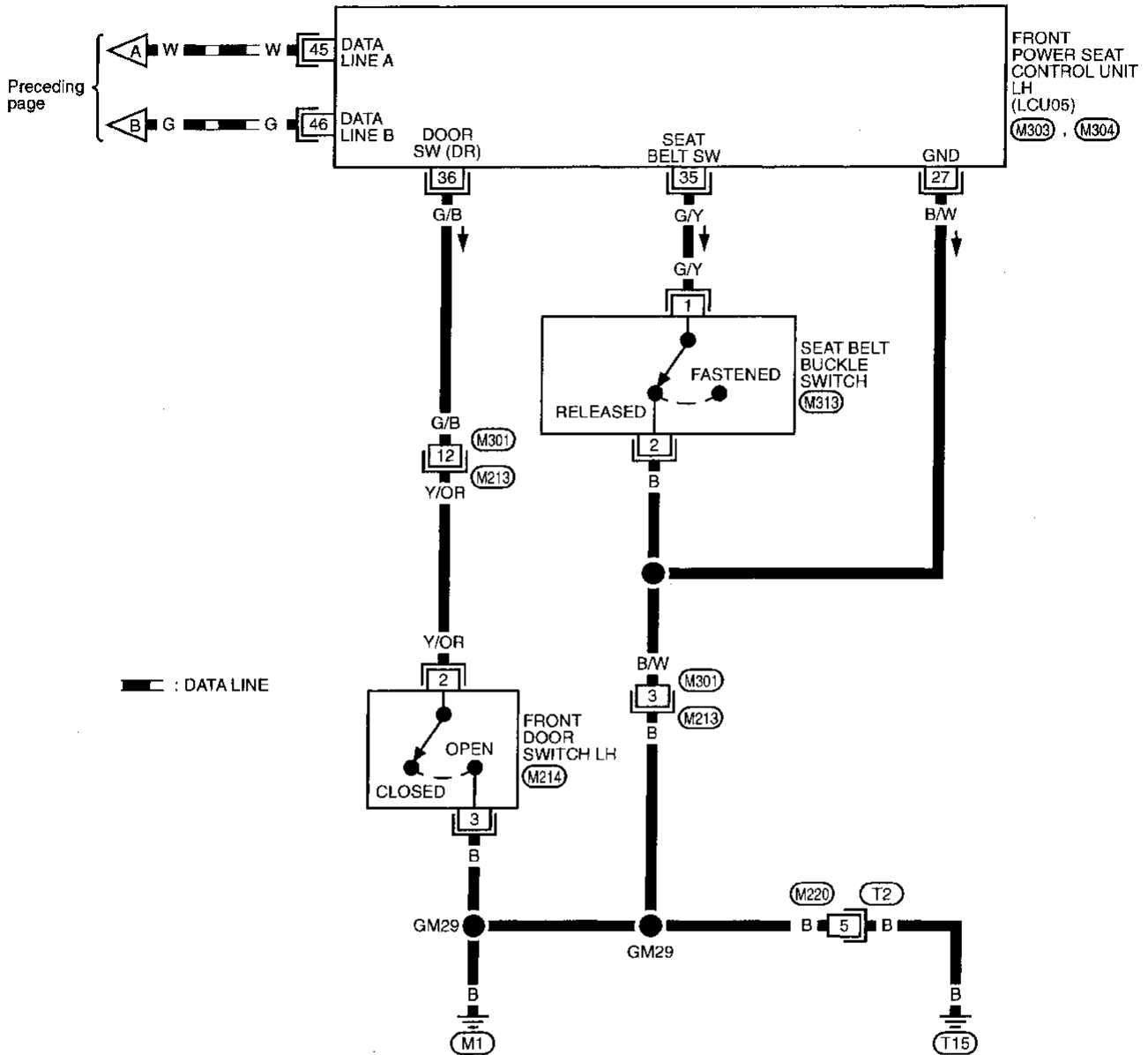
E110, M96
M118



WARNING LAMPS AND CHIME

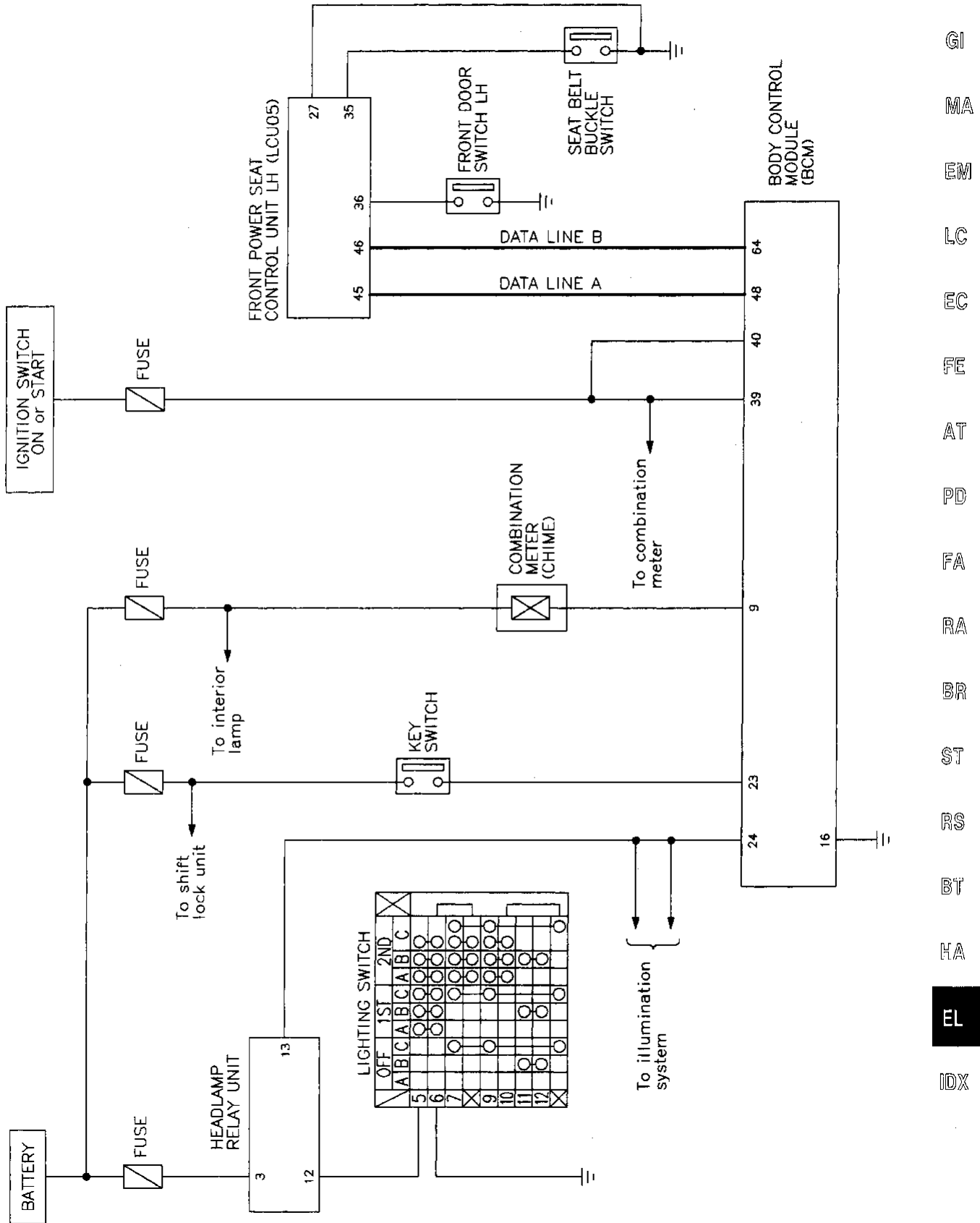
Warning Chime/Wiring Diagram — CHIME — (Cont'd)

EL-CHIME-03

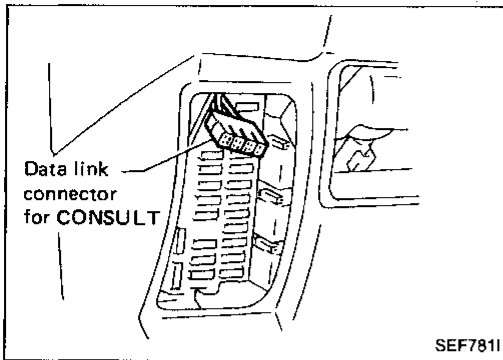


WARNING LAMPS AND CHIME

Warning Chime/Schematic



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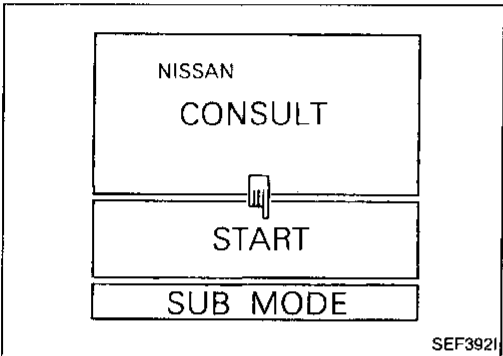


Trouble Diagnoses

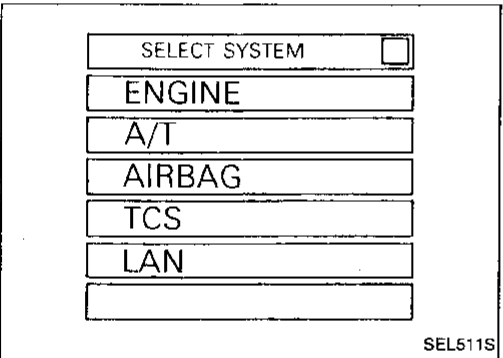
CONSULT

CONSULT inspection procedure

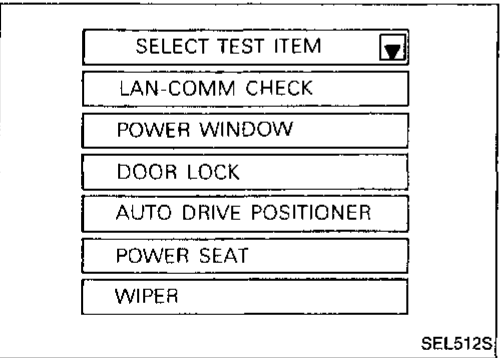
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to Data link connector for CONSULT. (Data link for connector for CONSULT is located in left dash side panel.)
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "LAN".



6. Perform each diagnostic item.

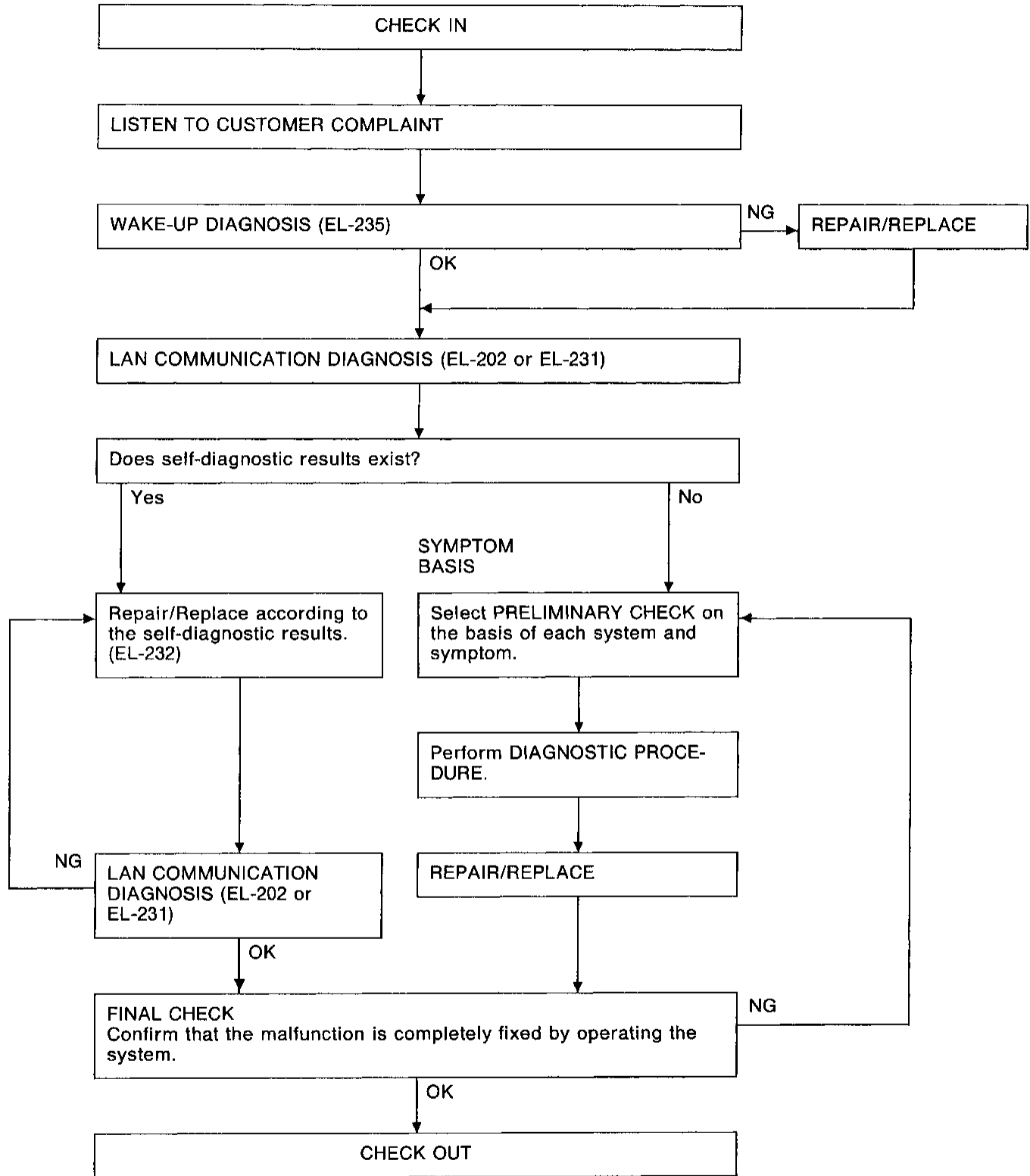


6. Perform each diagnostic item.
- For further information, read the CONSULT Operation Manual.**

WARNING LAMPS AND CHIME

Trouble Diagnoses (Cont'd)

WORK FLOW



GI
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NOTE:

When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the "disconnected" data will be memorized by the BCM. Therefore, "LAN communication diagnosis" with CONSULT will indicate "PAST NO RESPONSE" after the LCU connectors are connected.

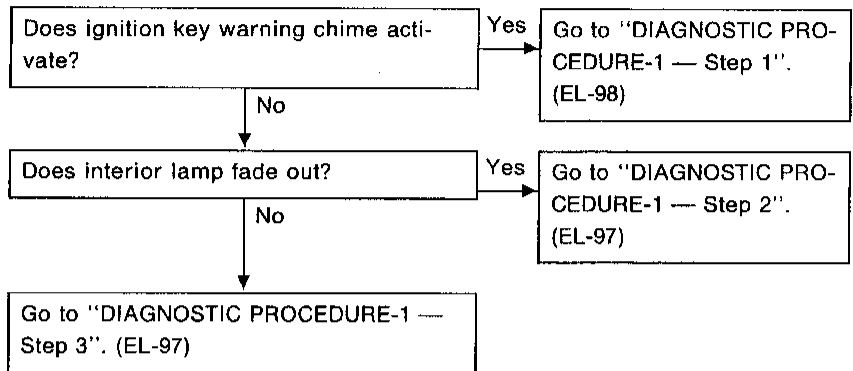
WARNING LAMPS AND CHIME

Trouble Diagnoses (Cont'd)

PRELIMINARY CHECK

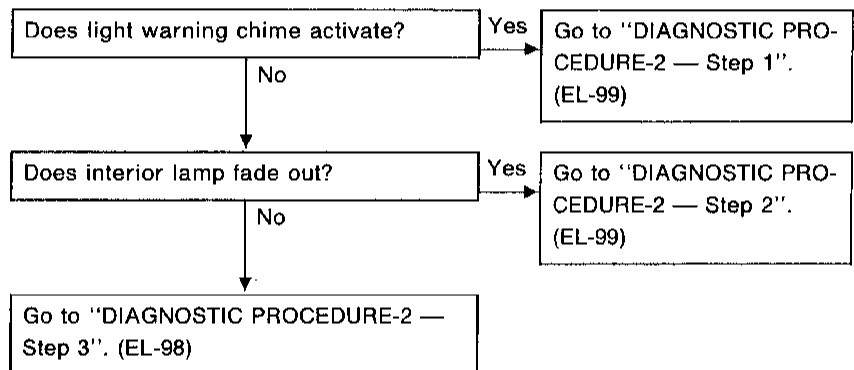
Procedure 1

- Light warning chime does not activate.



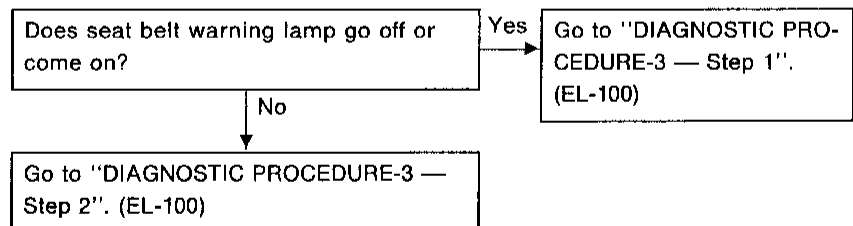
Procedure 2

- Ignition key warning chime dose not activate.



Procedure 3

- Seat belt warning chime does not activate.



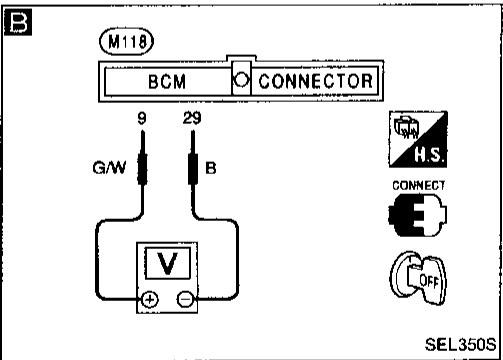
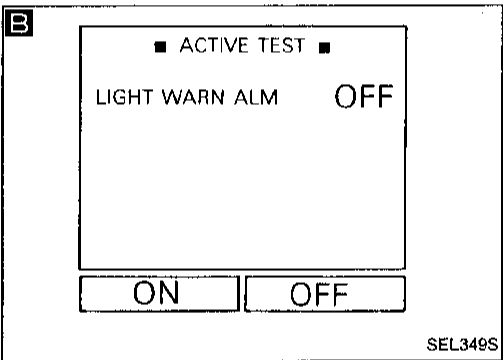
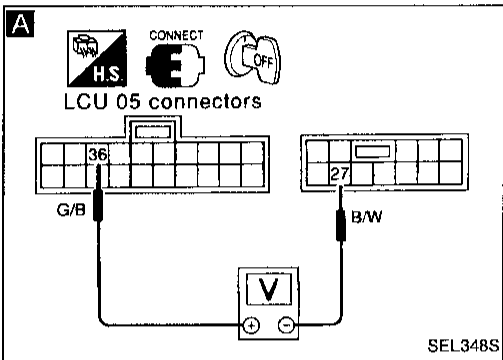
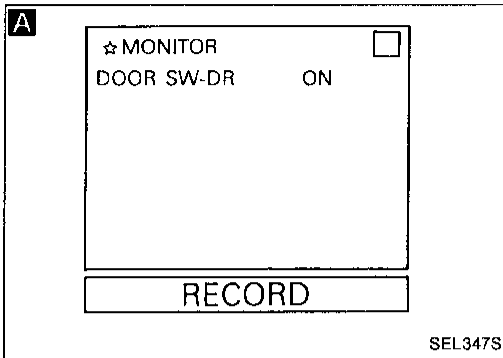
WARNING LAMPS AND CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Light warning chime does not activate.

- Perform "PRELIMINARY CHECK — Procedure 1" before referring to the following flow chart.



A Step 3

DOOR SWITCH INPUT SIGNAL CHECK

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

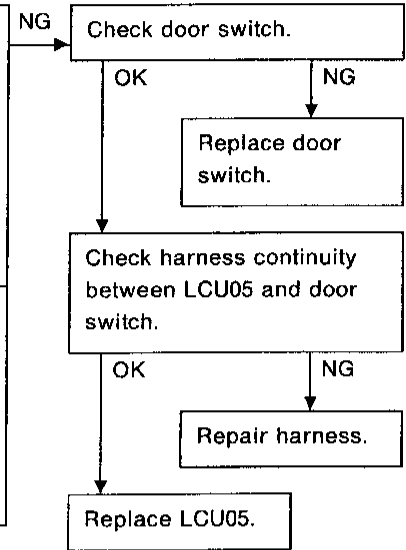
When driver's door is open.:
DOOR SW-DR ON

When driver's door is closed.:
DOOR SW-DR OFF

OR

Measure voltage between LCU05 terminals ⑩ and ⑰.

Condition of driver's door	Voltage [V]
Door is closed.	Approx. 12
Door is open.	0



B Step 2

CHIME OUTPUT SIGNAL CHECK

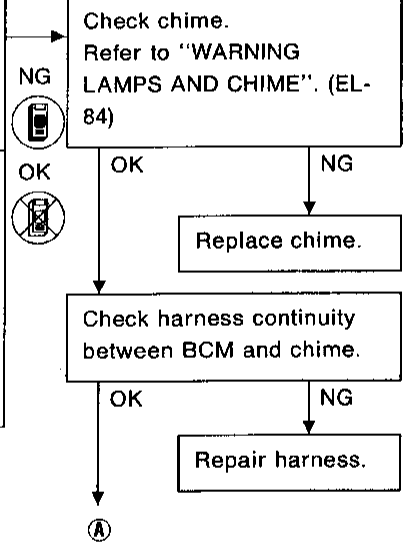
Perform "Active test" of light warning.

Check chime operation.

OR

Measure voltage between BCM terminals ⑨ and ⑳.

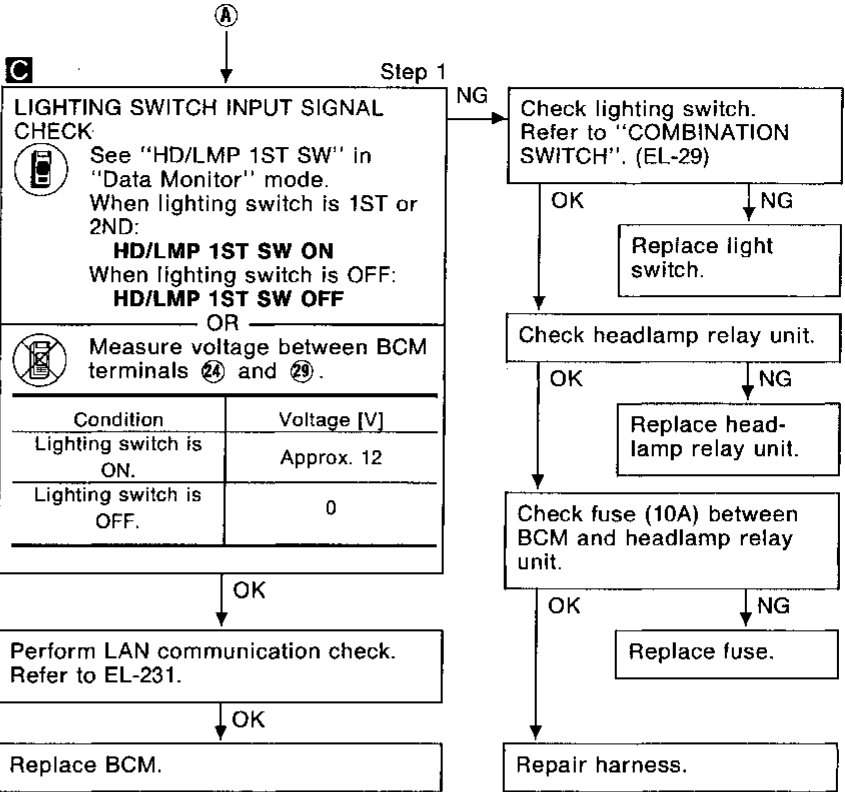
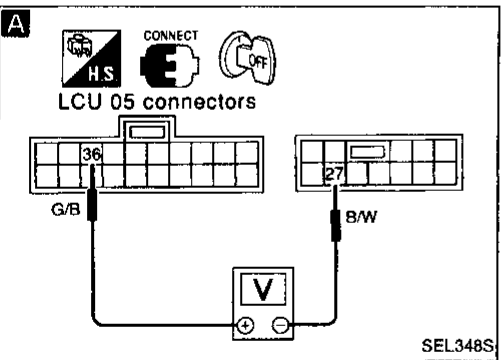
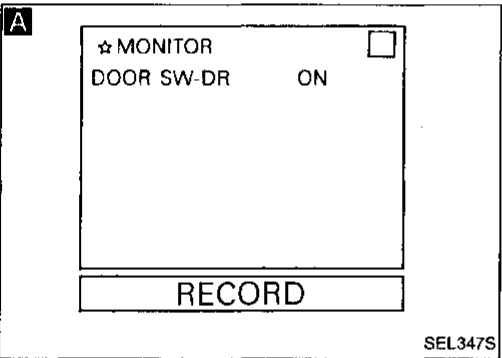
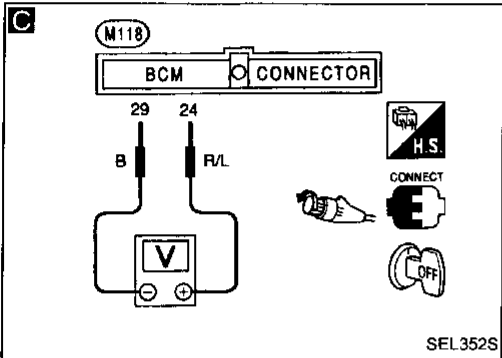
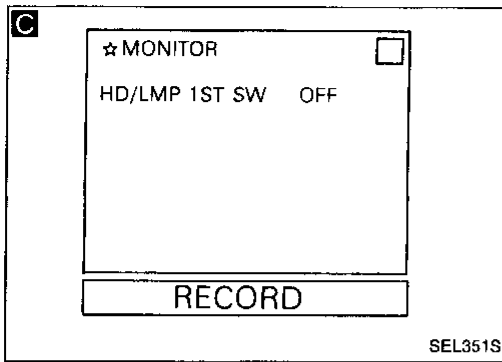
Condition of driver's door	Voltage [V]
Door is closed.	Approx. 12
Door is open.	Pointer deflects intermittently



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WARNING LAMPS AND CHIME

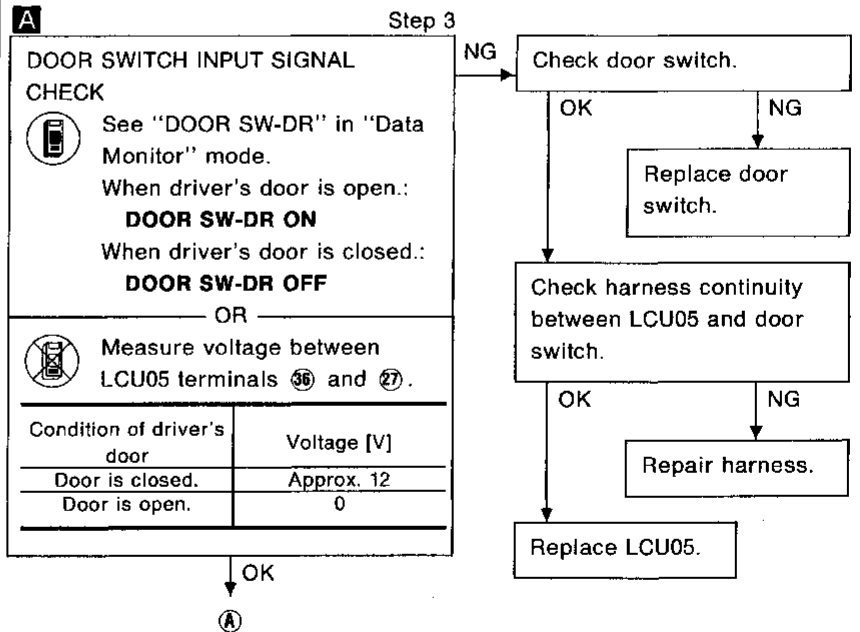
Trouble Diagnoses (Cont'd)



DIAGNOSTIC PROCEDURE 2

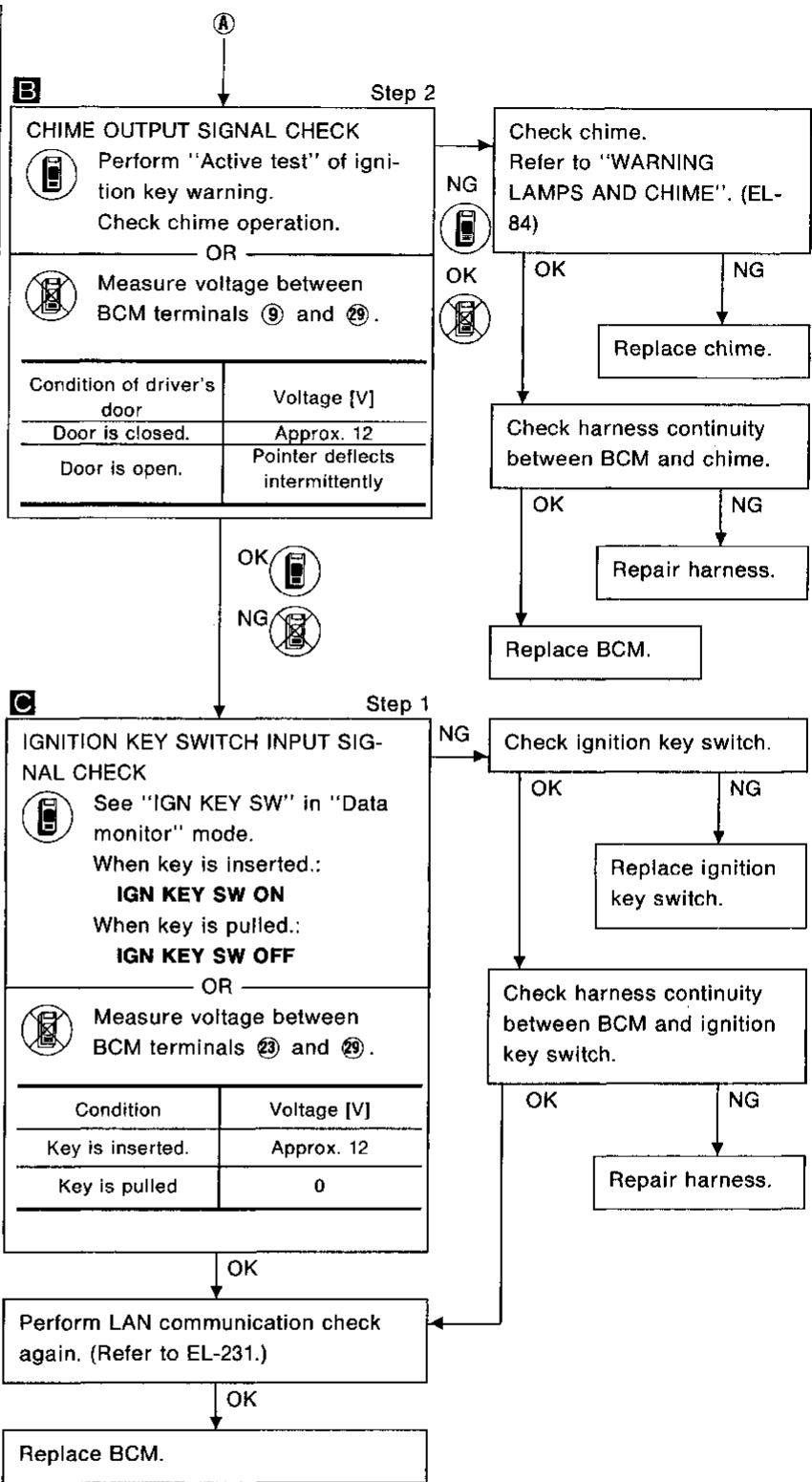
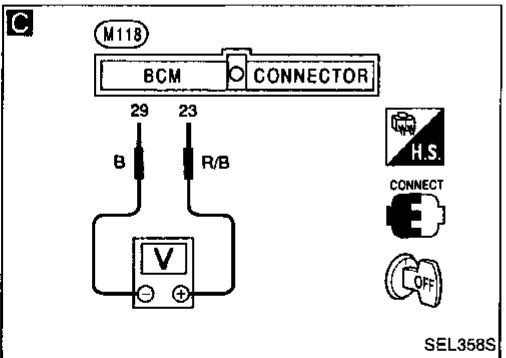
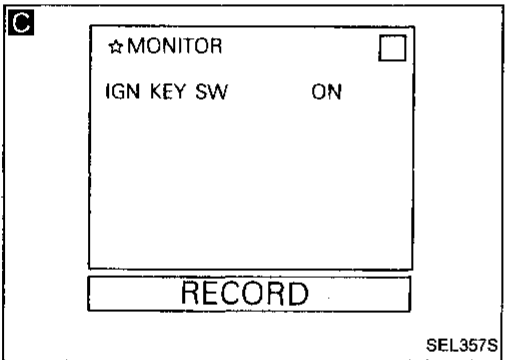
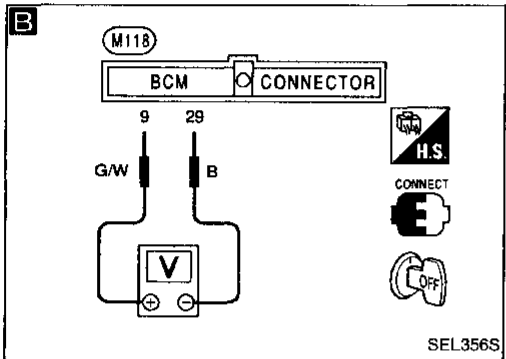
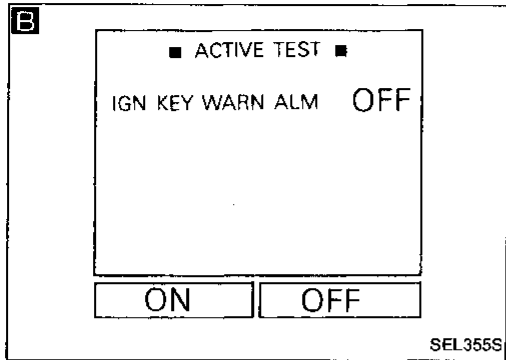
SYMPTOM: Ignition key warning chime does not activate.

- Perform "PRELIMINARY CHECK — Procedure 2" before referring to the following flow chart.



WARNING LAMPS AND CHIME

Trouble Diagnoses (Cont'd)



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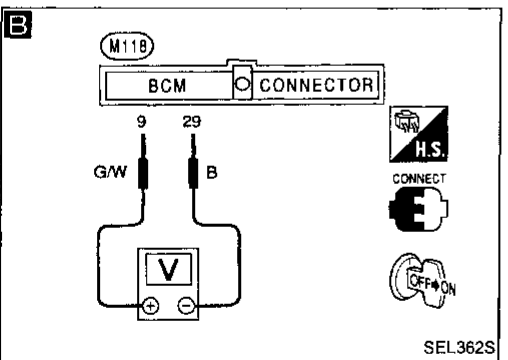
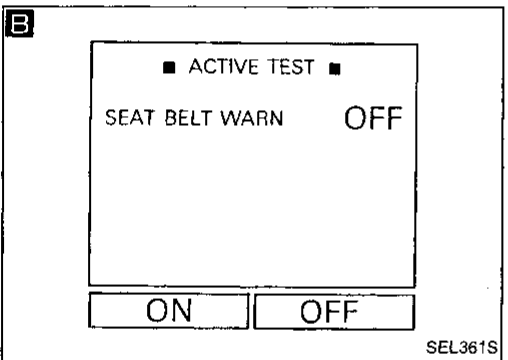
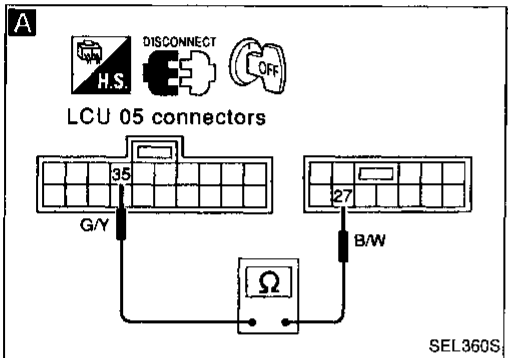
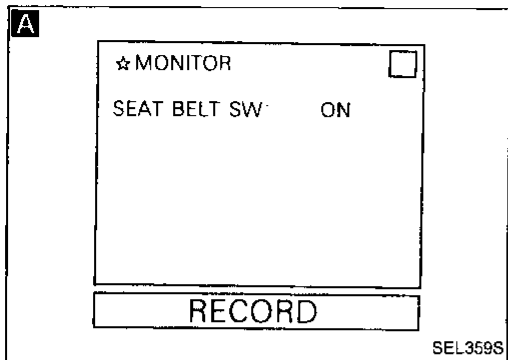
WARNING LAMPS AND CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: Seat belt warning chime does not activate.

- Perform "PRELIMINARY CHECK — Procedure 3" before referring to the following flow chart.



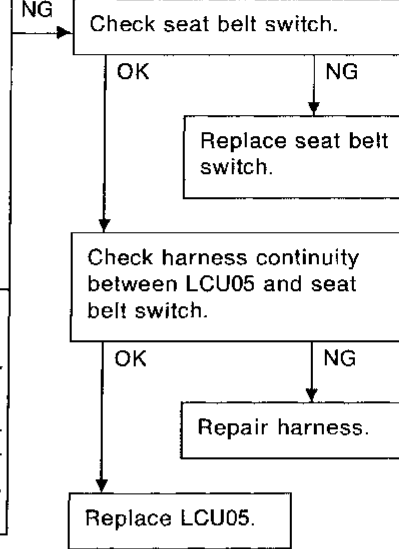
A Step 2

SEAT BELT SWITCH INPUT SIGNAL CHECK

See "SEAT BELT SW" in "Data monitor" mode. When driver's seat belt is unfastened:
SEAT BELT SW ON
When driver's seat belt is fastened:
SEAT BELT SW OFF
OR

Check continuity between LCU05 terminals ③⑤ and ②⑦.

Condition of driver's seat belt	Continuity
Unfastened	Yes
Fastened	No



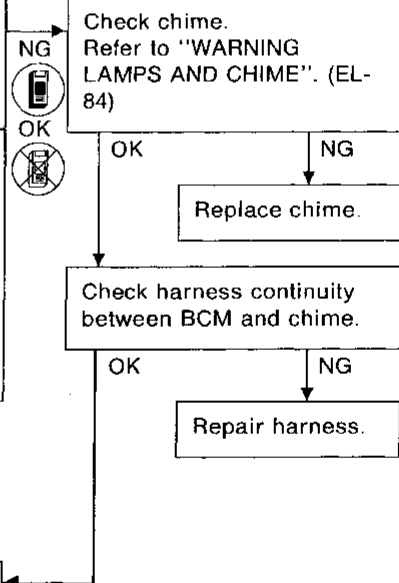
B Step 1

CHIME OUTPUT SIGNAL CHECK

Perform "Active test" of seat belt warning. Check chime operation.
OR

1. Turn ignition switch "ON".
2. Measure voltage between BCM terminals ⑨ and ⑲.

Condition of seat belt	Voltage [V]
Unfastened	Pointer deflects intermittently.
Fastened	Approx. 12



Perform LAN communication check again. (Refer to EL-231.)

OK

Replace BCM.

DIAGNOSTIC INFORMATION DISPLAY

Description

DISPLAY ITEM

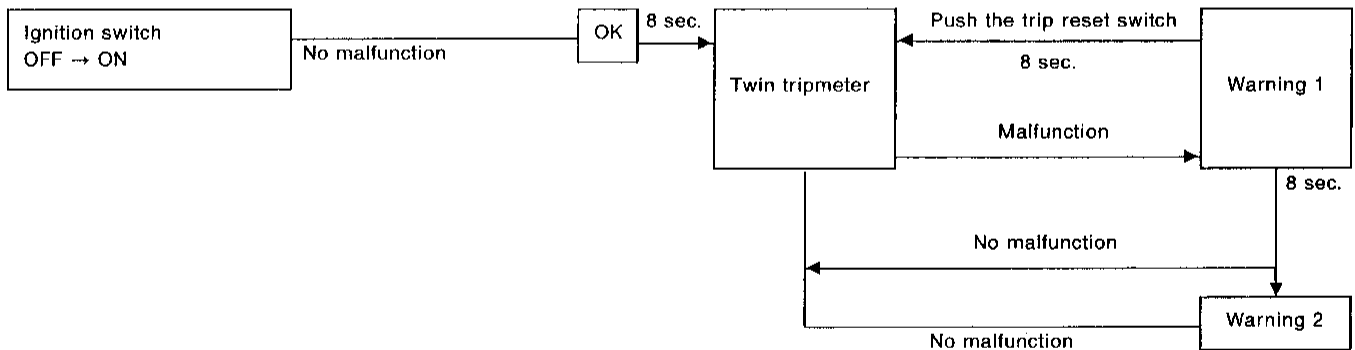
The display unit is made up of 13 × 2 LEDs and the display messages are as follows:

Priority	Item	Display	Priority	Item	Display
—	(Starting message with no warning)	OK	5	Headlamp	HEADLAMP INOPERATIVE
	Twin tripmeter (Mile)	A; XXX. X MILE B; XXX. X MILE	6	Stop lamp	STOP LAMP INOPERATIVE
	Twin tripmeter (km)	A; XXX. X km B; XXX. X km	7	Tail lamp	TAIL LAMP INOPERATIVE
1	A/T	TRANSMISSION MALFUNCTION	8	Stop & Tail lamp system	TAIL/STOP LAMP INOPERATIVE
2	Doors	DOOR OPEN			
3	Washer liquid	A; XXX. X MILE LOW WASHER	9	Charging system	LOW BATTERY CHARGE
4	Fuel amount	A; XXX. X MILE LOW FUEL			

OPERATION

Turn ignition key to "ON". If there is no malfunction in the monitored items, the display indicates "OK" for eight seconds. After that the twin tripmeter appears. The twin tripmeter ceases to appear if any warning signal is detected. Diagnostic information is shown instead. If two or more warnings are given, the messages appear in turn at intervals of eight seconds.

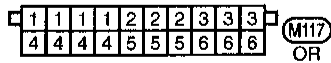
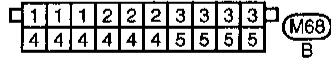
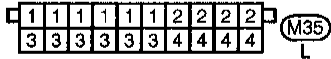
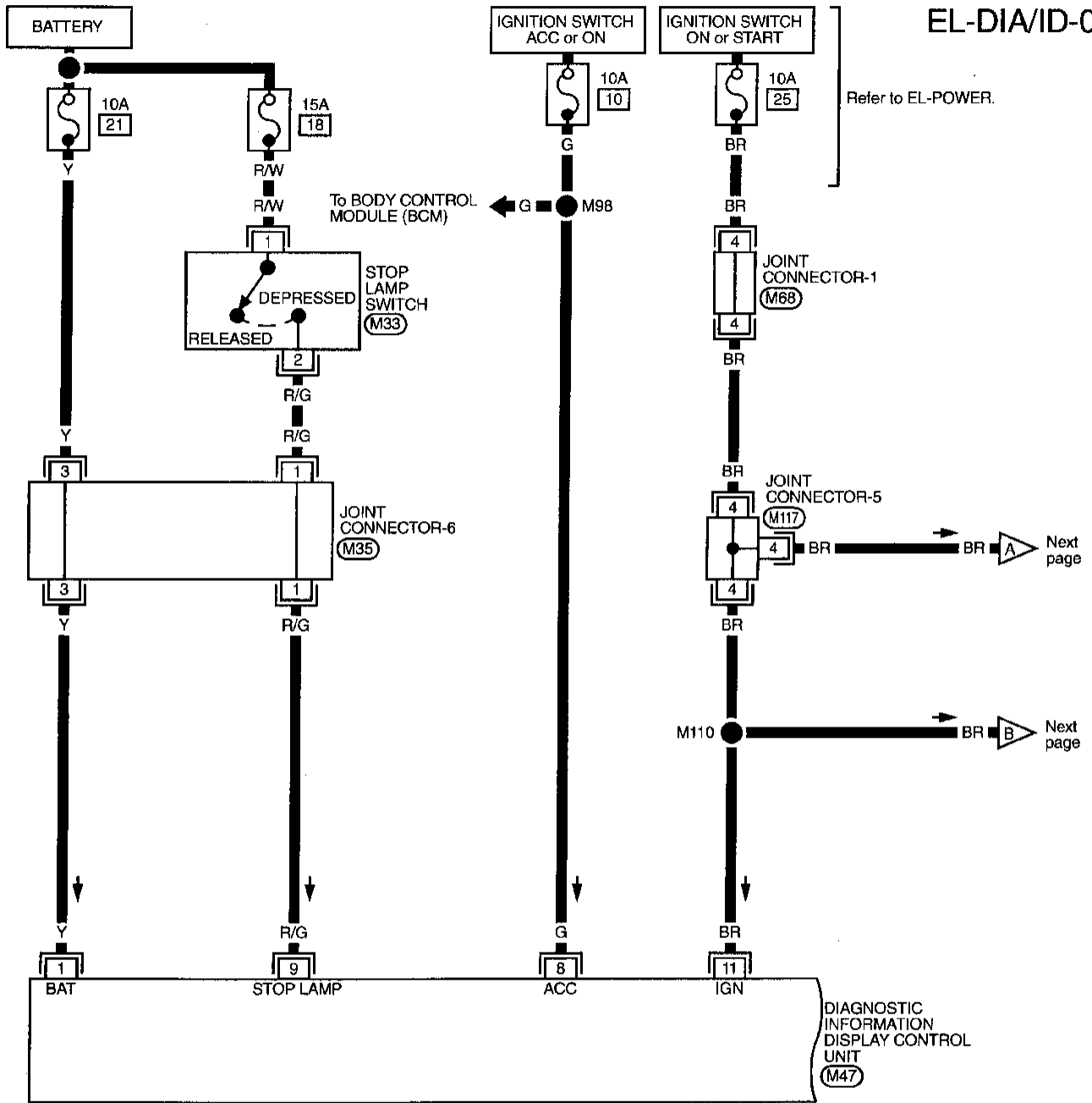
While a warning is displayed, push the trip reset switch momentarily. The twin tripmeter indication can be obtained for eight seconds.



DIAGNOSTIC INFORMATION DISPLAY

Wiring Diagram — DIA/ID —

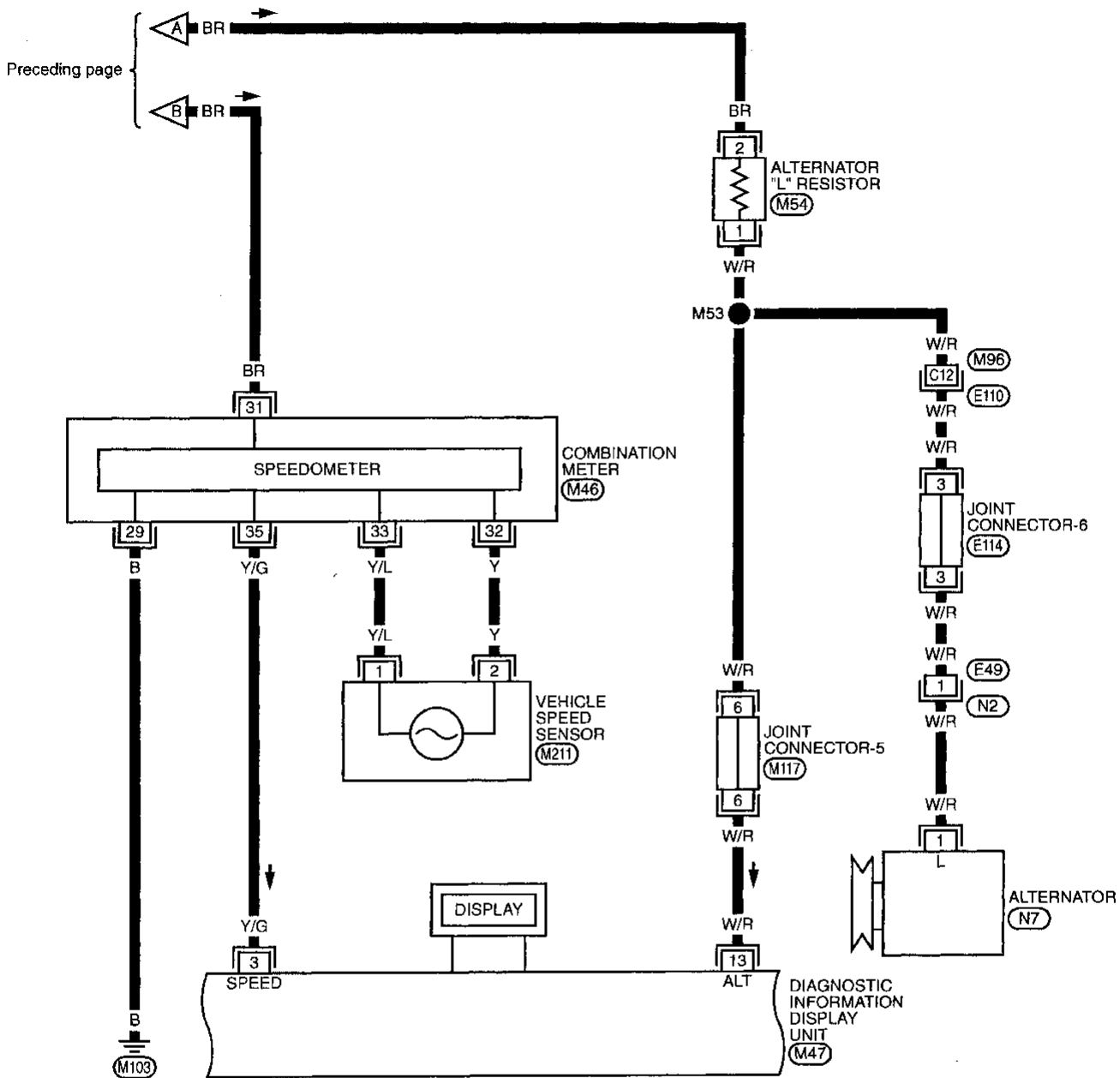
EL-DIA/ID-01



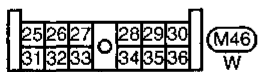
DIAGNOSTIC INFORMATION DISPLAY

Wiring Diagram — DIA/ID — (Cont'd)

EL-DIA/ID-02



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Refer to last page (Foldout page).

(M96) . (E110)

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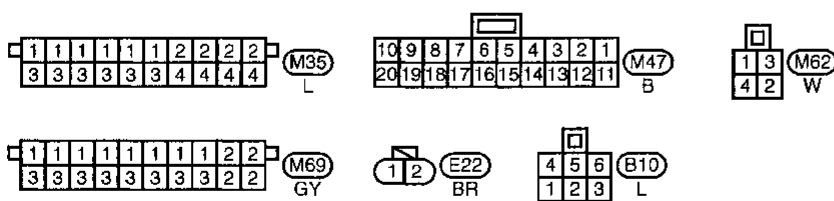
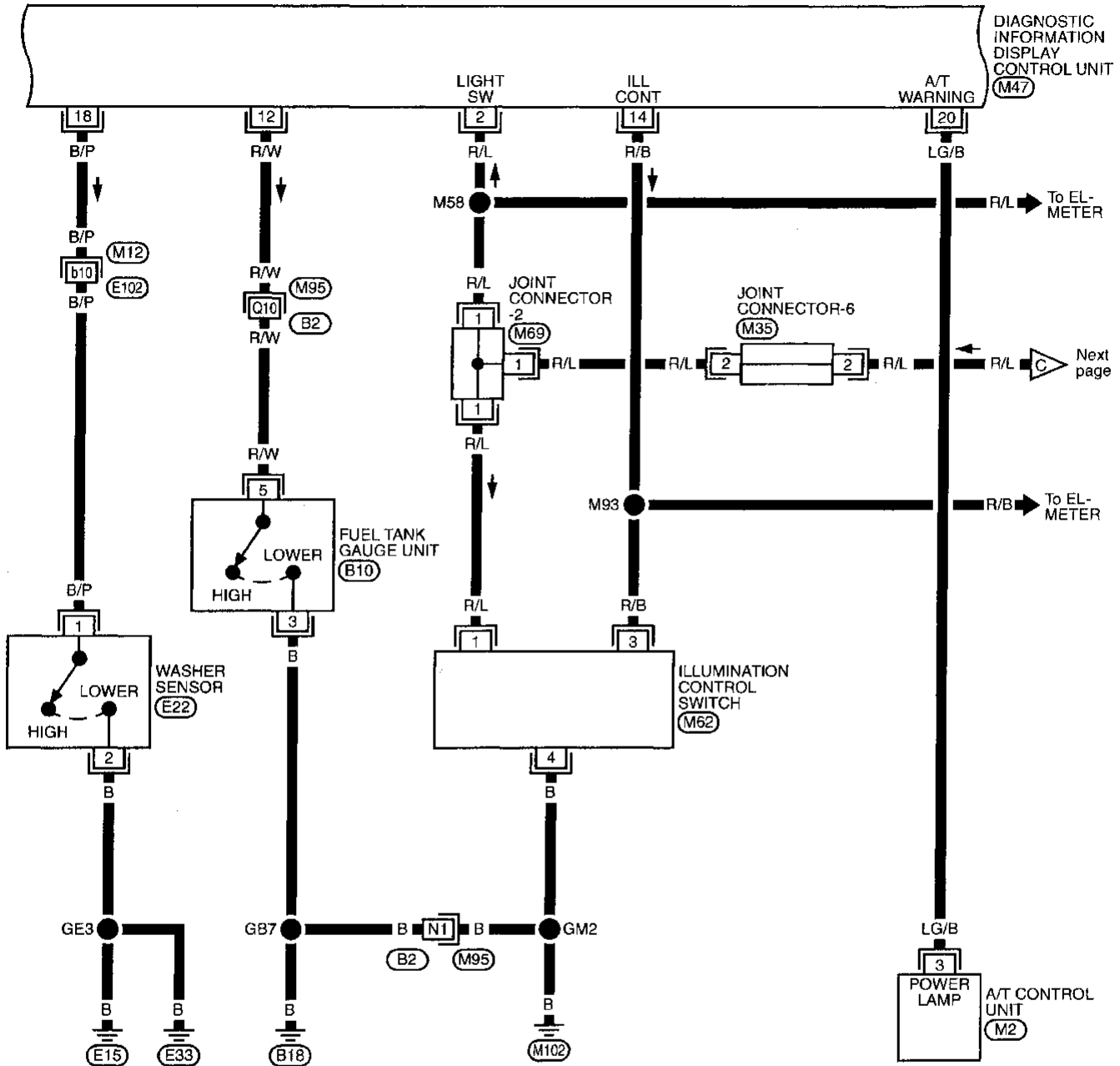
FDX

DIAGNOSTIC INFORMATION DISPLAY

Wiring Diagram — DIA/ID — (Cont'd)

EL-DIA/ID-03

DIAGNOSTIC INFORMATION DISPLAY CONTROL UNIT (M47)



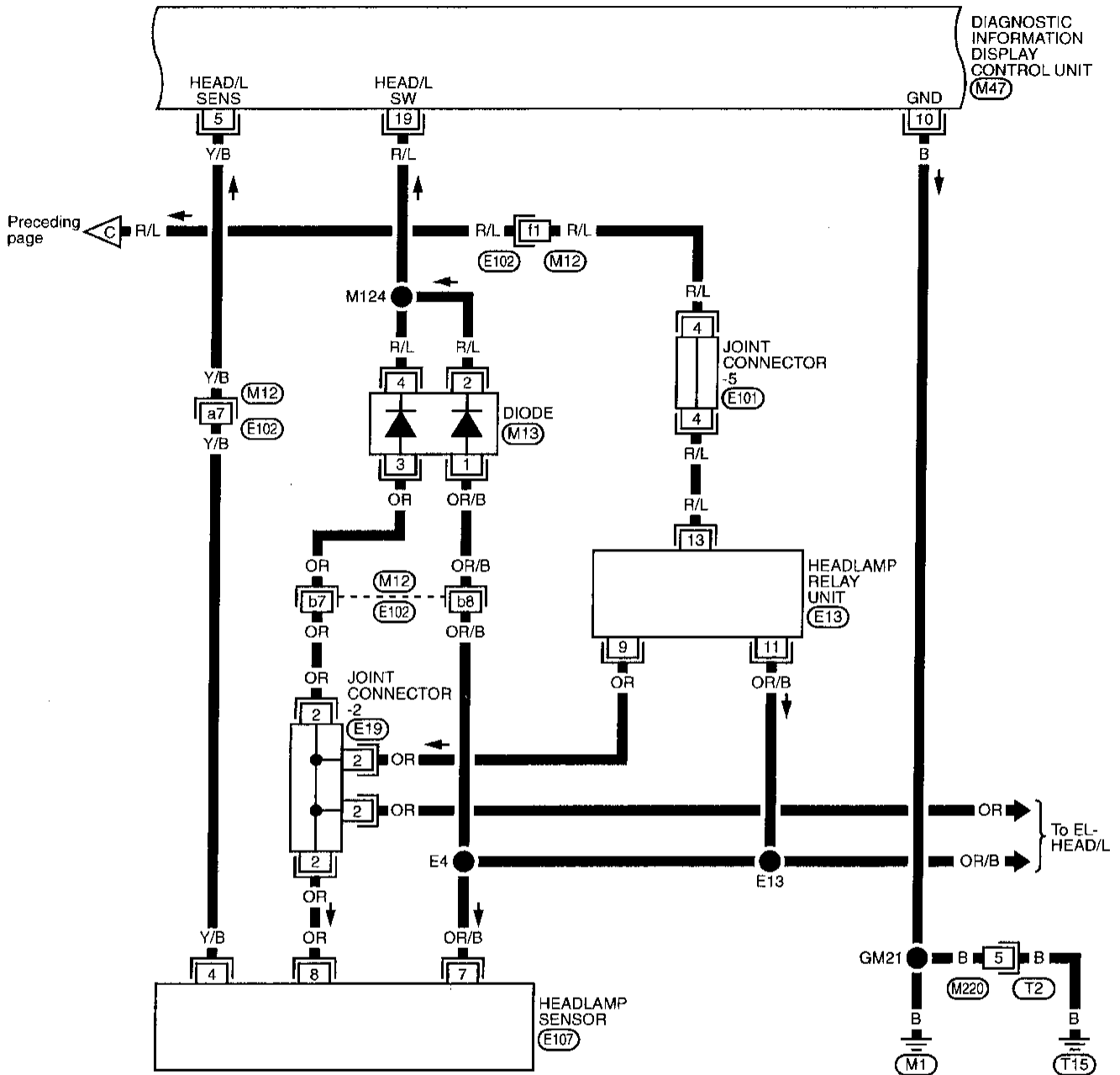
Refer to last page (Foldout page).

- (M12), (E102)
- (M95), (B2)
- (M2)

DIAGNOSTIC INFORMATION DISPLAY

Wiring Diagram — DIA/ID — (Cont'd)

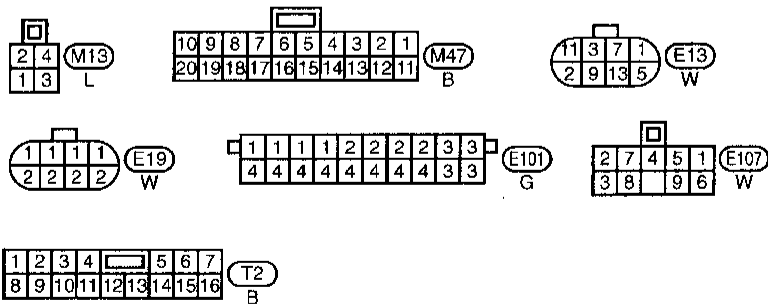
EL-DIA/ID-04



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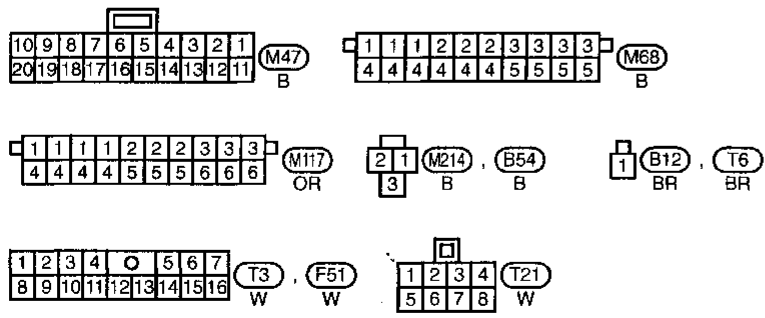
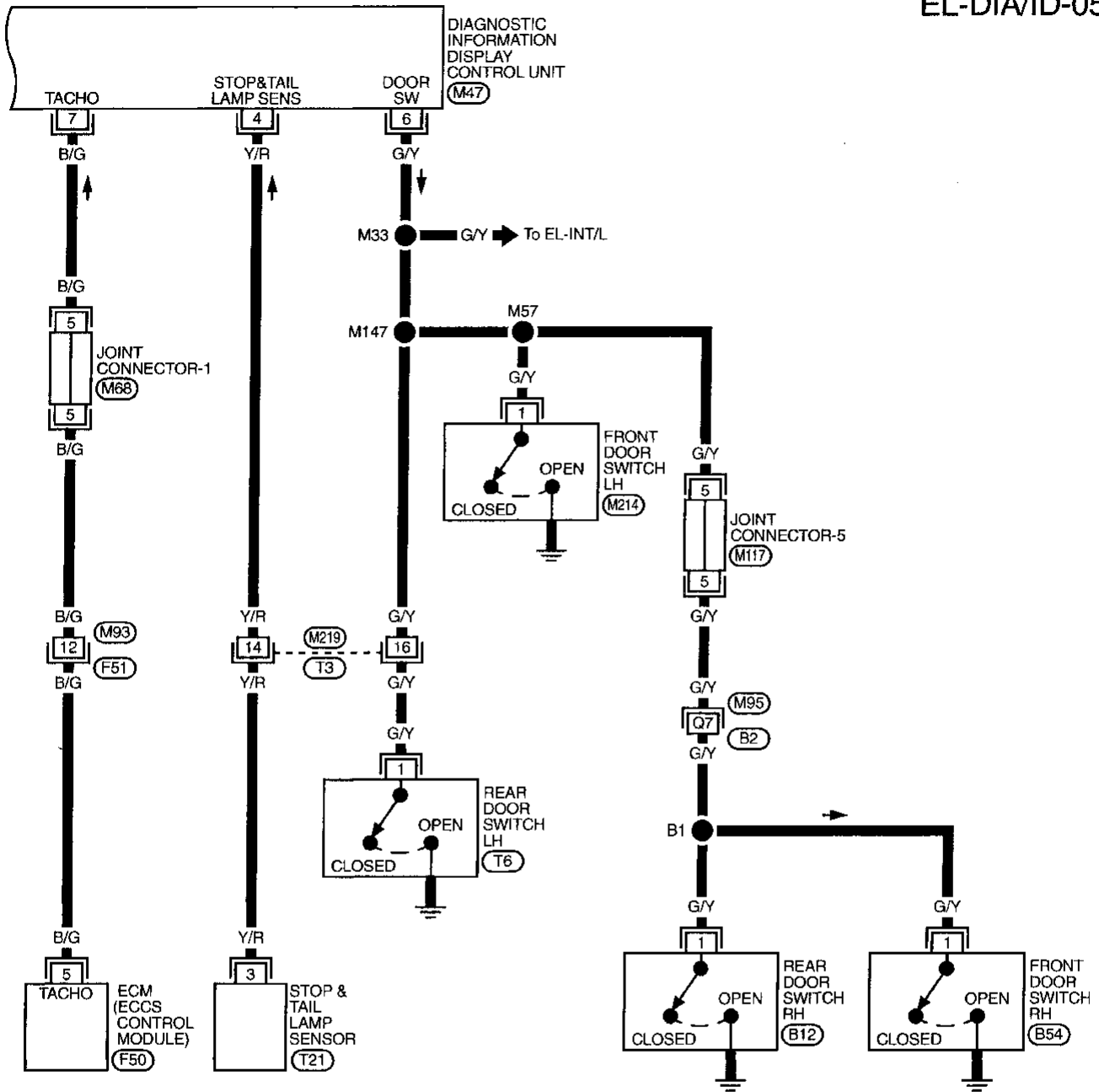


Refer to last page (Foldout page).
 (M12) (E102)

DIAGNOSTIC INFORMATION DISPLAY

Wiring Diagram — DIA/ID — (Cont'd)

EL-DIA/ID-05

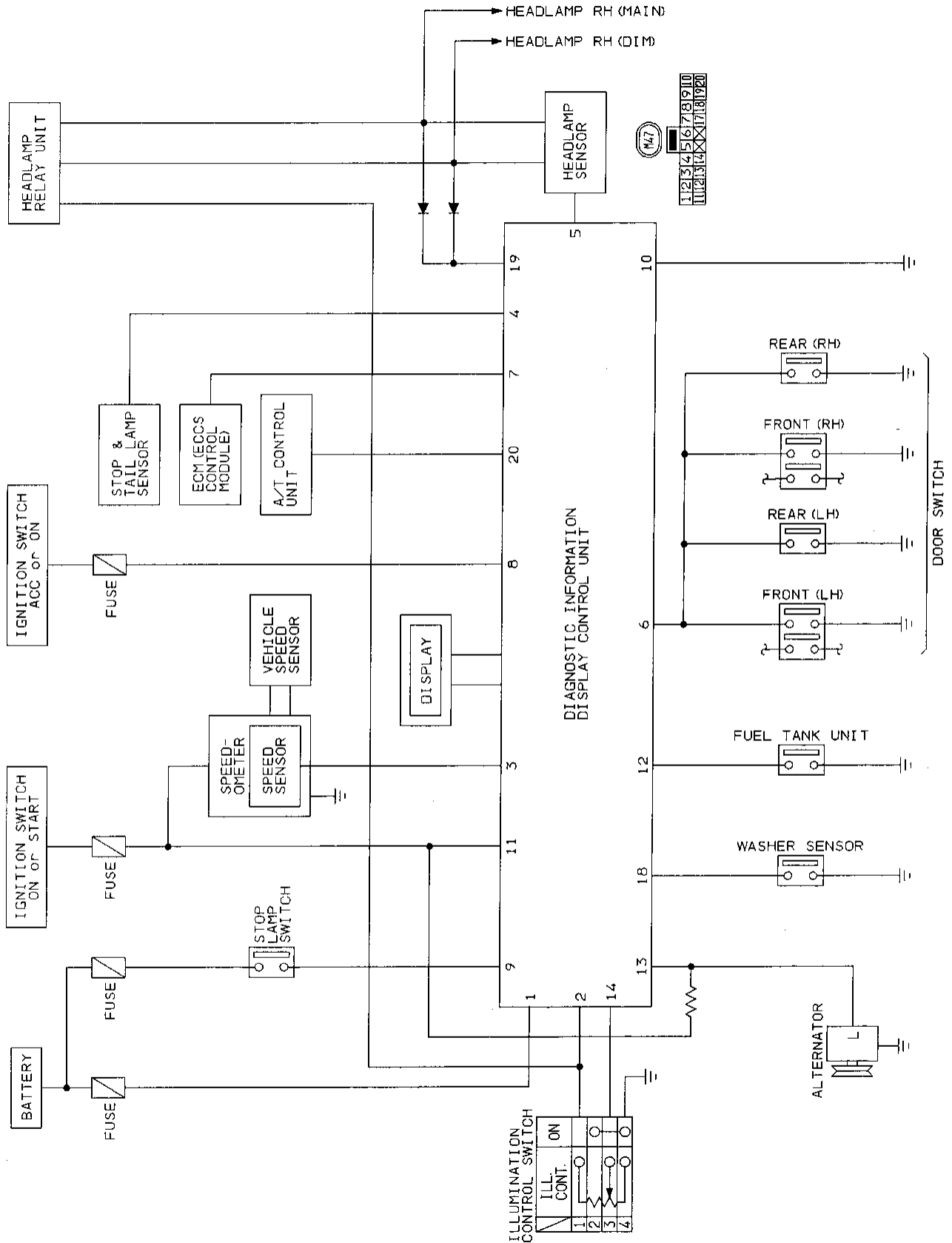


Refer to last page (Foldout page).

(M95), (B2)

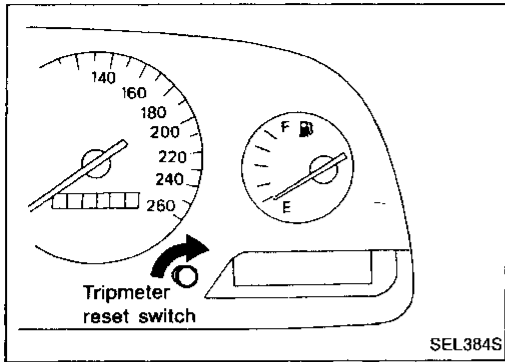
(F50)

Schematic



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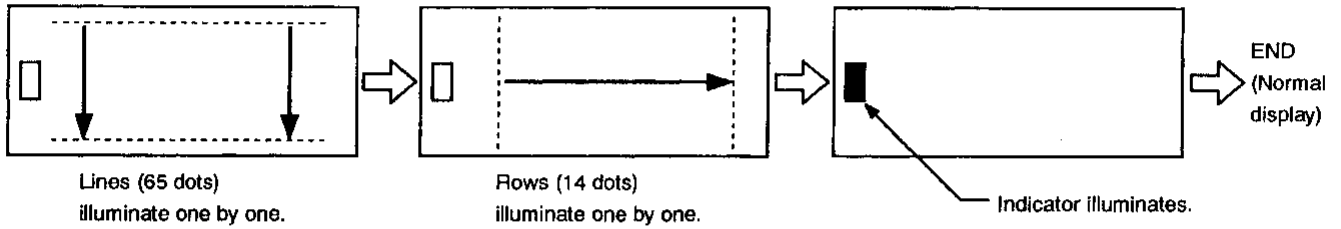
DIAGNOSTIC INFORMATION DISPLAY



Trouble Diagnoses

SEGMENT CHECK (SELF-CHECK)

While turning the tripmeter reset switch to the right, turn the ignition switch from "OFF" to "ON". The display starts automatically.



SEL096U

DIAGNOSTIC INFORMATION DISPLAY

Trouble Diagnoses (Cont'd)

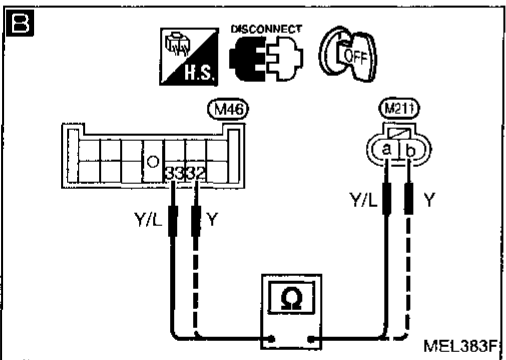
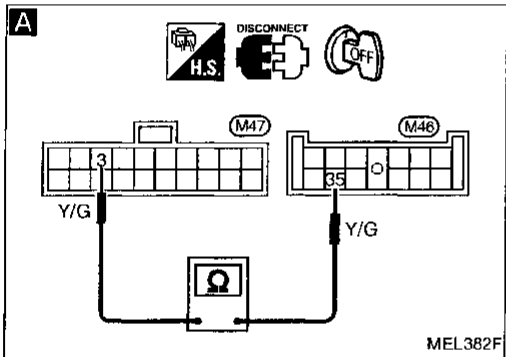
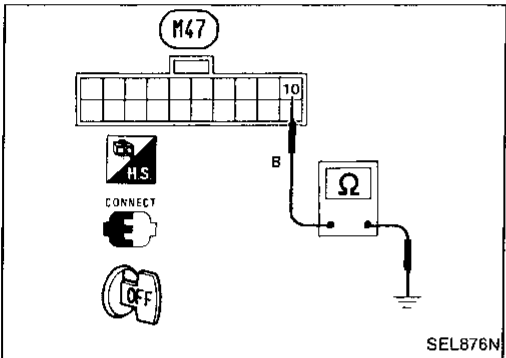
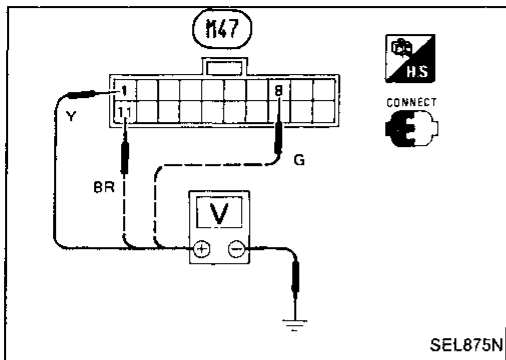
MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

Main power supply

Terminals		Ignition switch		
(+)	(-)	OFF	ACC	ON
①	Ground	Battery voltage	Battery voltage	Battery voltage
⑧	Ground	0V	Battery voltage	Battery voltage
⑩	Ground	0V	0V	Battery voltage

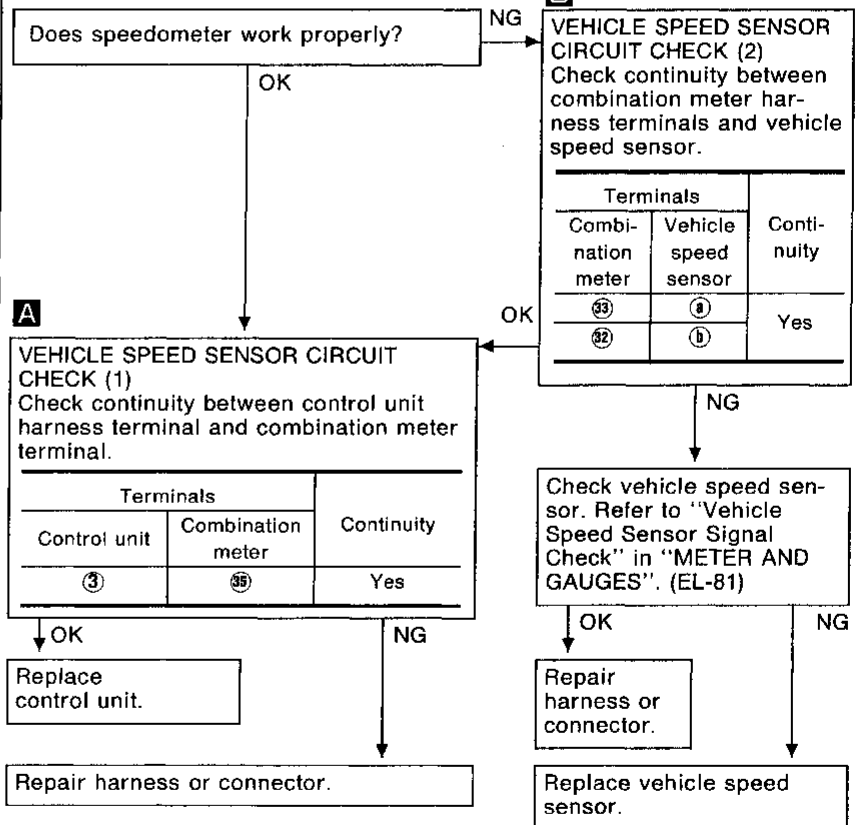
Ground circuit

Terminal	Continuity
⑩ - Ground	Yes



SYMPTOM:

Twin tripmeter does not work. (Remains at "0" or some number and does not accumulate.)

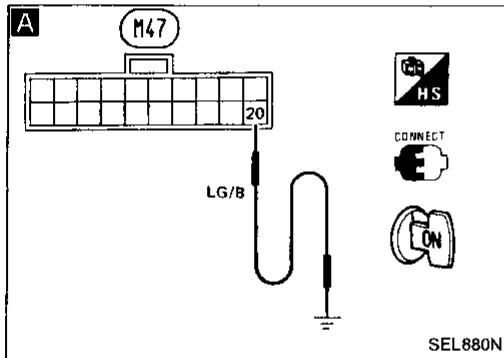
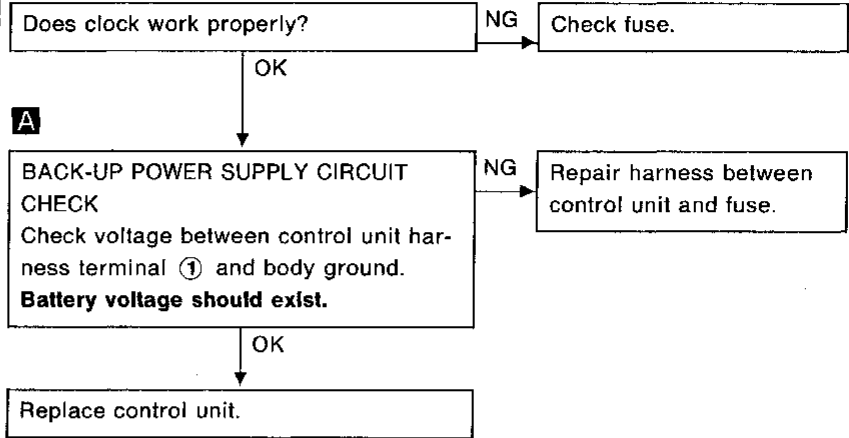
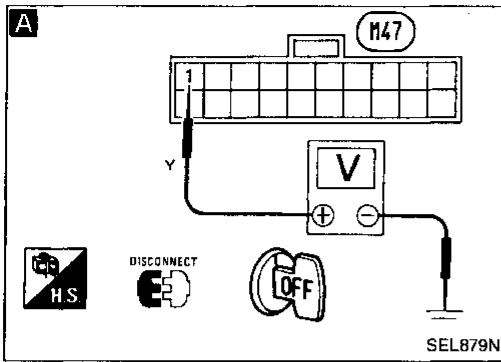


DIAGNOSTIC INFORMATION DISPLAY

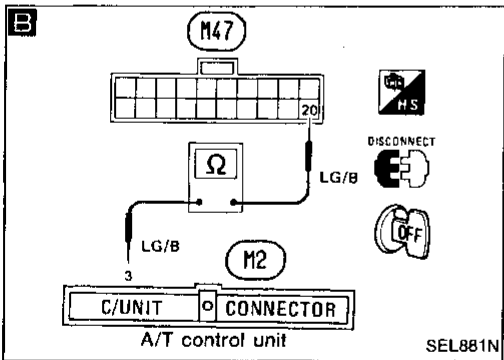
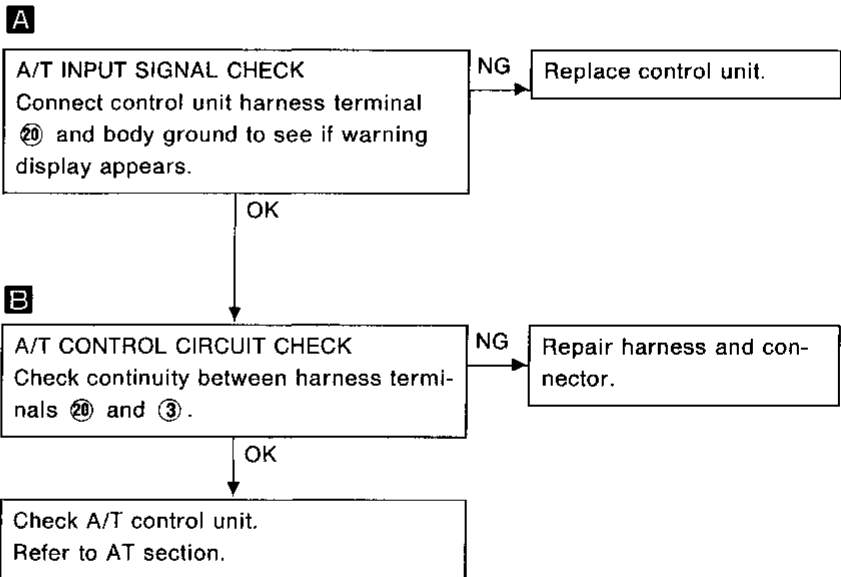
Trouble Diagnoses (Cont'd)

SYMPTOM:

Twin tripmeter is reset when ignition switch is turned off.

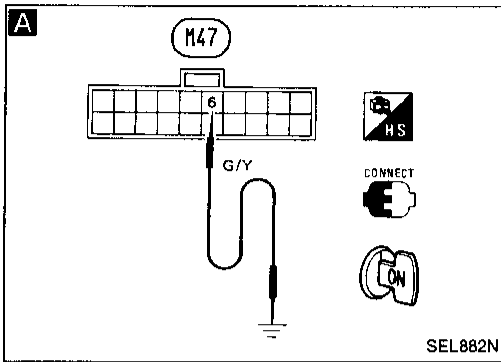


Warning Display: TRANSMISSION MALFUNCTION

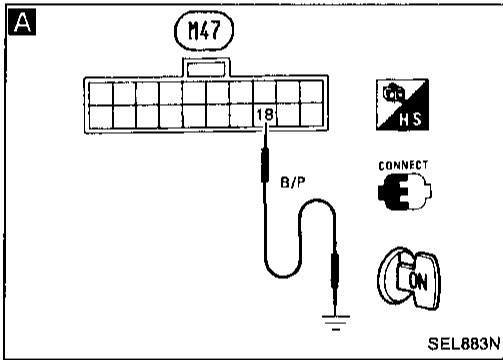
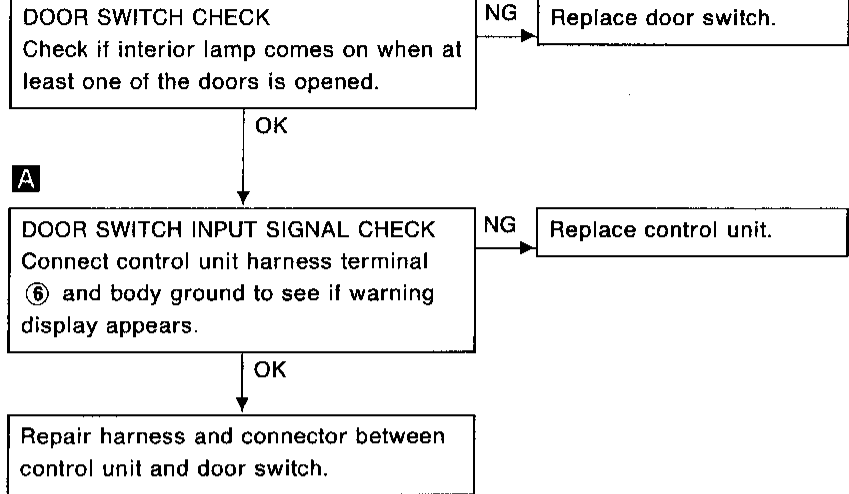


DIAGNOSTIC INFORMATION DISPLAY

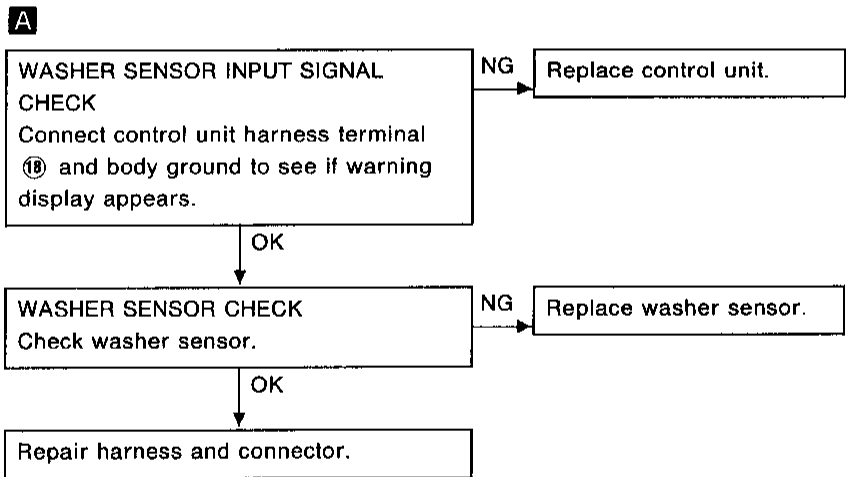
Trouble Diagnoses (Cont'd)



Warning Display: DOOR OPEN



Warning Display: LOW WASHER

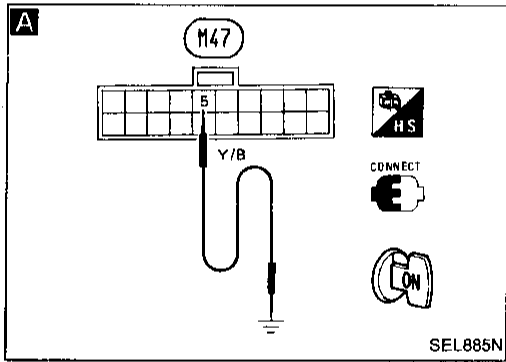
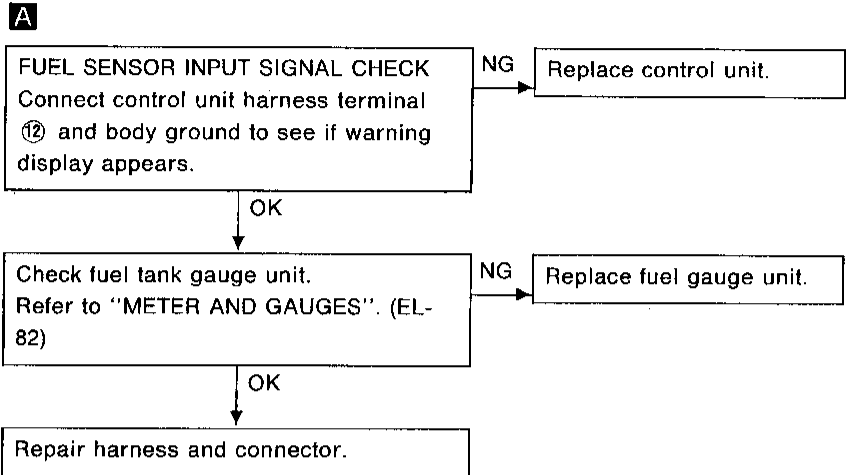
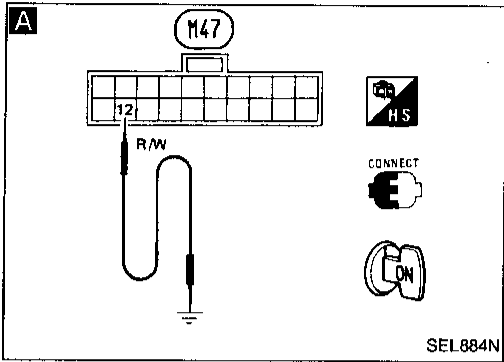


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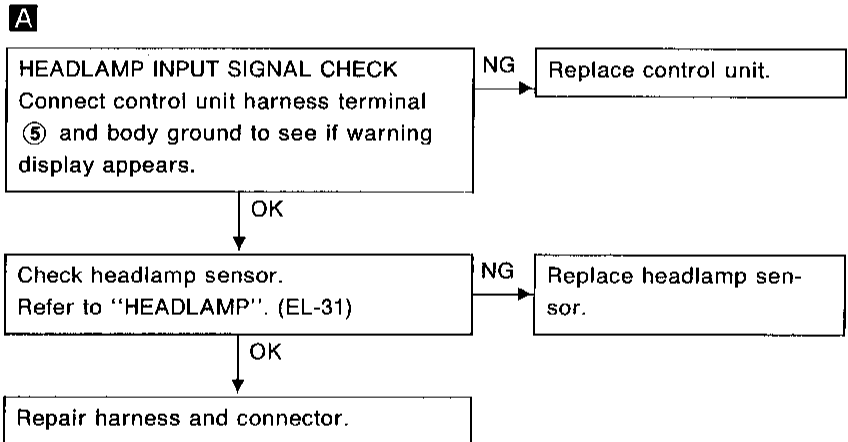
DIAGNOSTIC INFORMATION DISPLAY

Trouble Diagnoses (Cont'd)

Warning Display: LOW FUEL

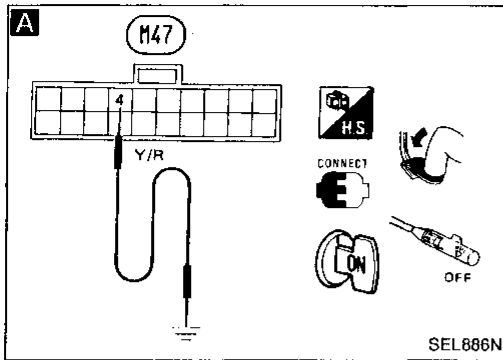


Warning Display: HEADLAMP INOPERATIVE

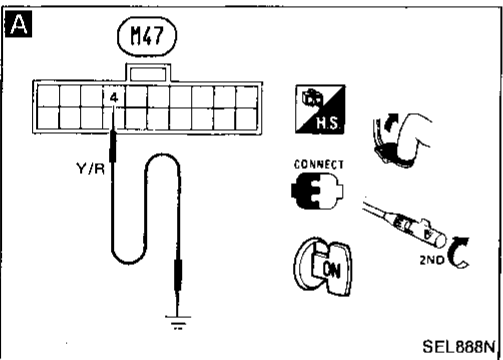
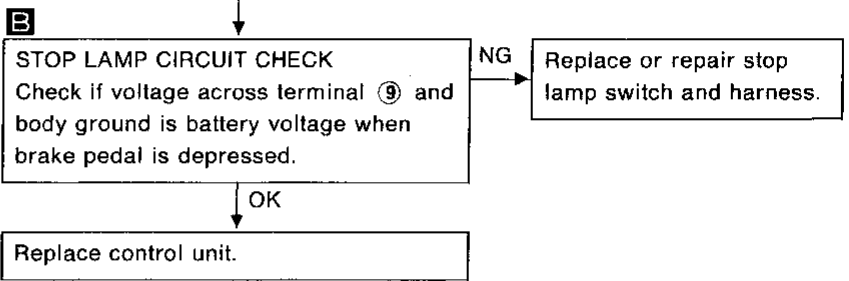
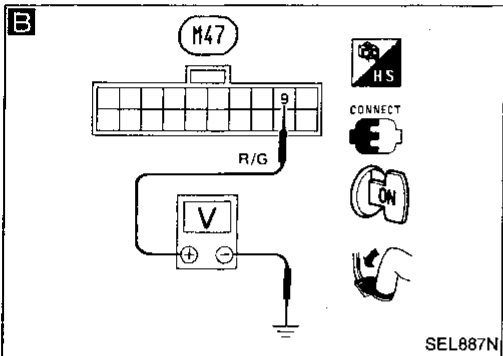
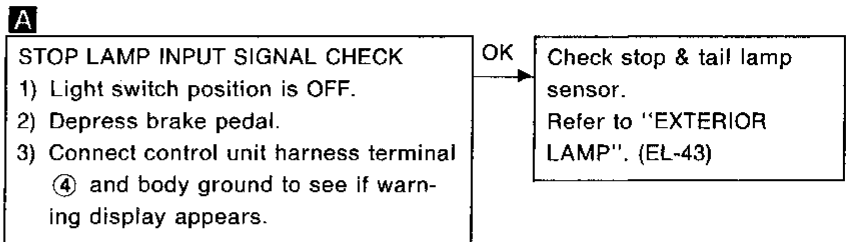


DIAGNOSTIC INFORMATION DISPLAY

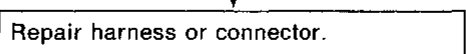
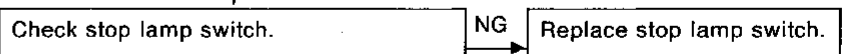
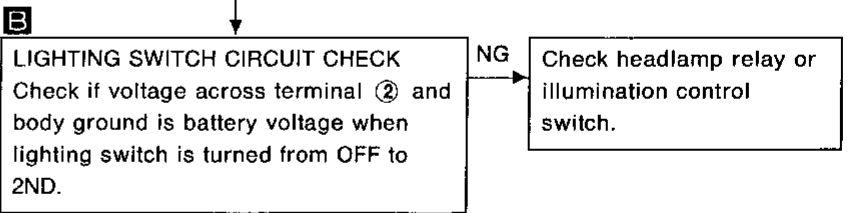
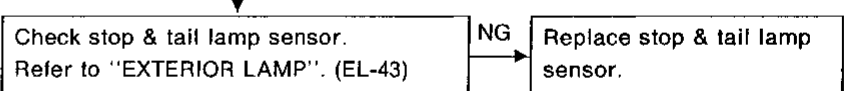
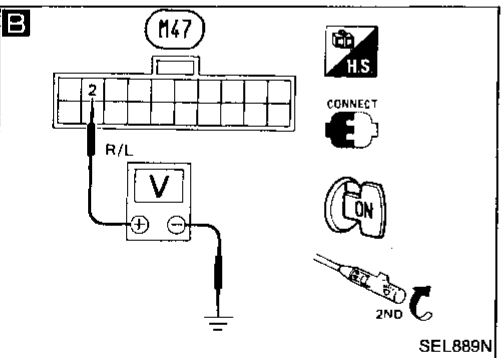
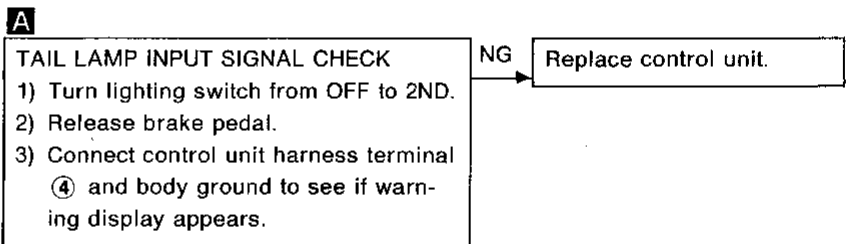
Trouble Diagnoses (Cont'd)



Warning Display: STOP LAMP INOPERATIVE



Warning Display: TAIL LAMP INOPERATIVE

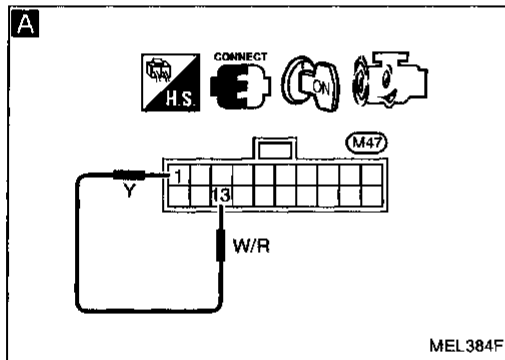
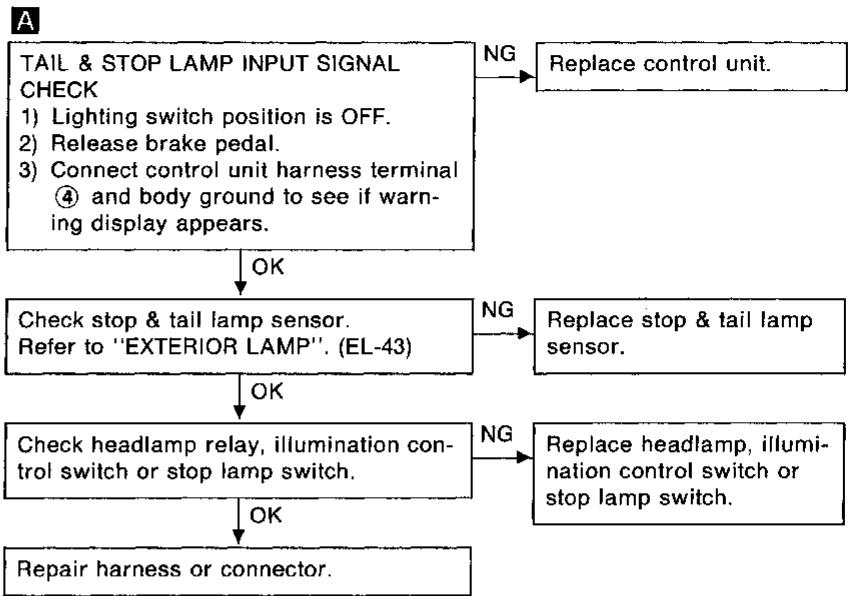
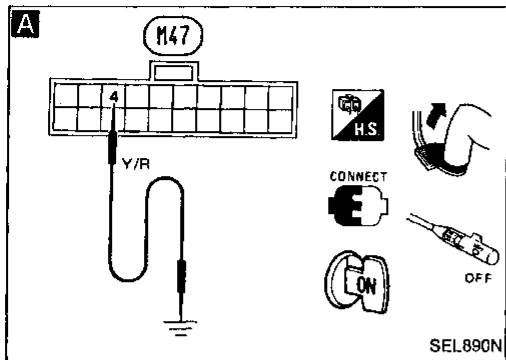


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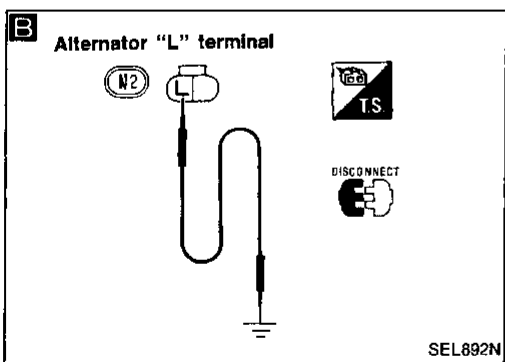
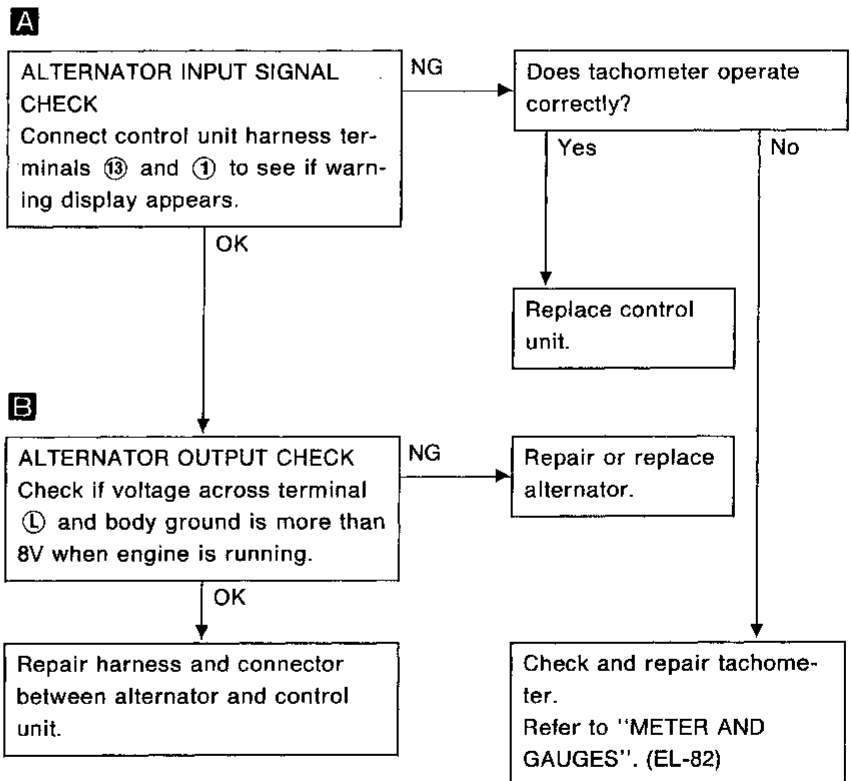
DIAGNOSTIC INFORMATION DISPLAY

Trouble Diagnoses (Cont'd)

Warning Display: TAIL/STOP LAMP INOPERATIVE



Warning Display: LOW BATTERY CHARGE



System Description

WIPER OPERATION

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

- through 20A fuse [No. 29], located in the fuse block
- to wiper motor terminal ②.

Low and high speed wiper operation

Ground is supplied to wiper switch terminal ⑰ through body grounds (M1) and (T15).

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

- through terminal ⑭ of the wiper switch
- to wiper motor terminal ⑥.

With power and ground supplied, the 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 wiper switch
- to wiper motor terminal ⑤.

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

Auto stop operation

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

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

- from terminal ⑭ of the wiper switch
- to wiper motor terminal ⑥, in order to continue 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 wiper switch and through wiper amplifier terminals ② and ⑦,
- to wiper motor terminal ③
- through terminal ④ of the wiper motor, and
- through body grounds (E15) and (E33).

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

FUNCTION

- The following time control functions are controlled by LAN.

Item	Details of control
Intermittent wiper control	Regulates intermittent time approximately from 4 to 12 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.

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 4 to 12 seconds. This function is controlled by the BCM.

Ground is supplied from body grounds (M1) and (T15) to front wiper switch terminals ⑰ and ⑳.

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

- to BCM terminal ⑳
- from wiper amplifier terminal ①

The desired interval time is input

- to BCM terminal ⑳
- from wiper switch terminal ⑱.

Based on these two inputs, an intermittent ground is supplied

- to wiper amplifier terminal ⑥
- from BCM terminal ①.

Then ground is supplied to activate the wiper amplifier.

WIPER AND WASHER

System Description (Cont'd)

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. 29], located in the fuse block]
- to wiper amplifier terminal ⑤.

Ground is supplied from body grounds E15 and E33.

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

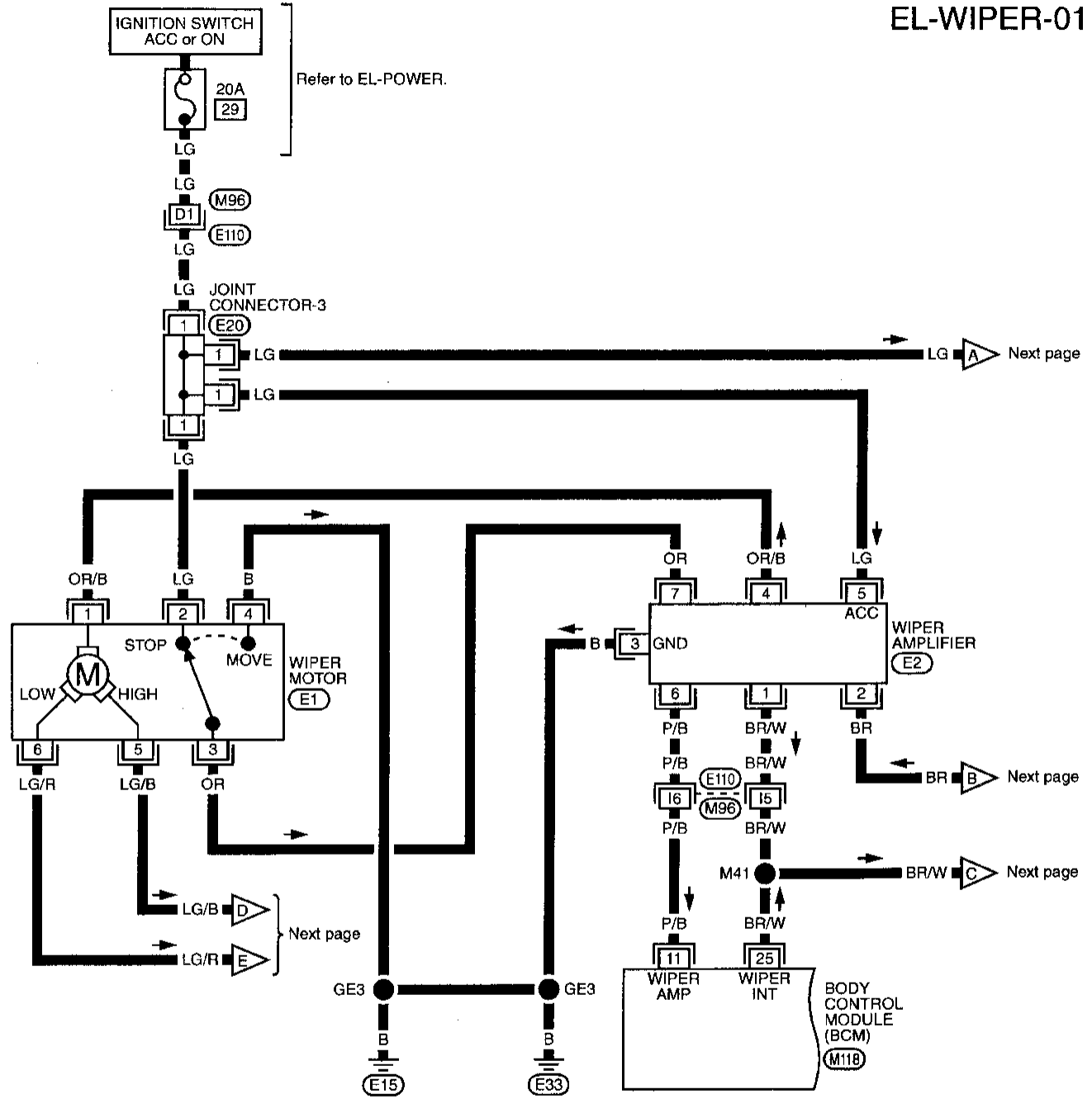
- to BCM terminal ②.
- from wiper switch terminal ⑩.

Then ground is supplied from BCM terminal ⑪ to wiper amplifier terminal ⑥ to operate wiper.

WIPER AND WASHER

Front Wiper and Washer/Wiring Diagram — WIPER —

EL-WIPER-01



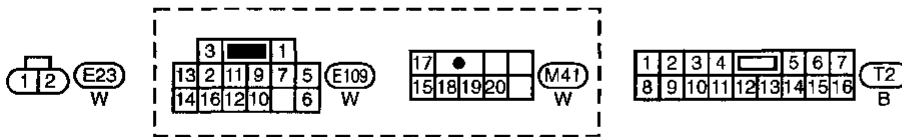
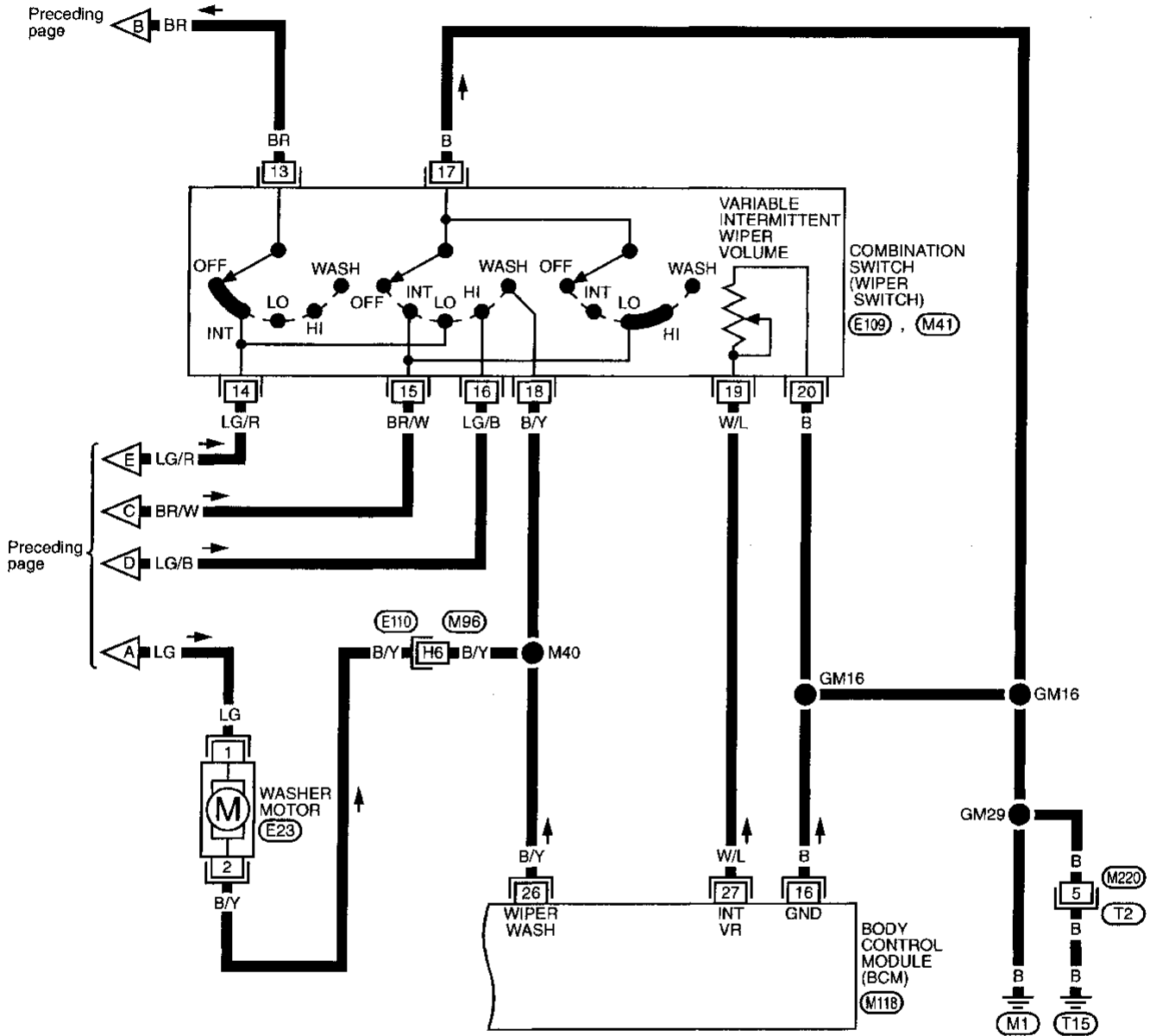
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WIPER AND WASHER

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

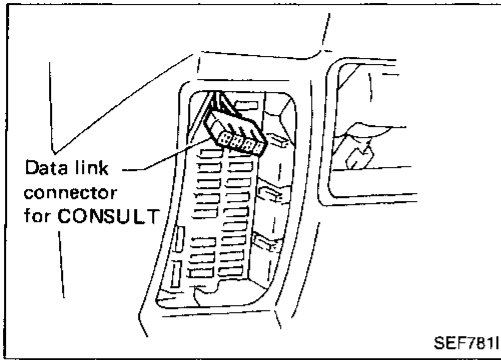
EL-WIPER-02



Refer to last page (Foldout page).

(M96), (E110)

(M118)



Trouble Diagnoses

CONSULT

CONSULT inspection procedure

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

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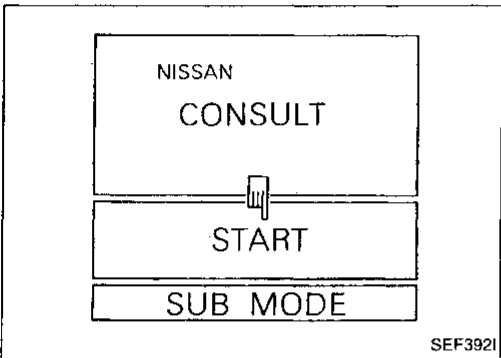
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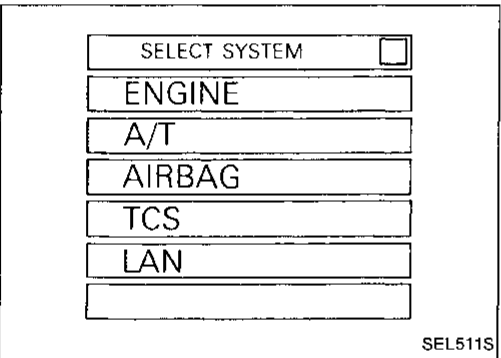
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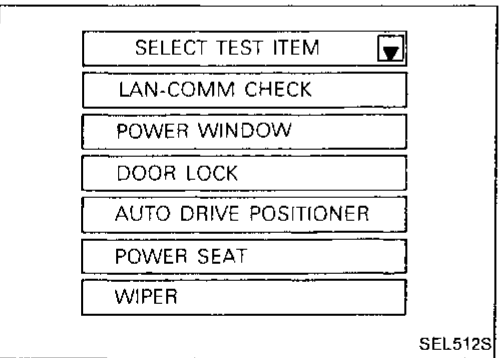
IDX



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



5. Touch "LAN".

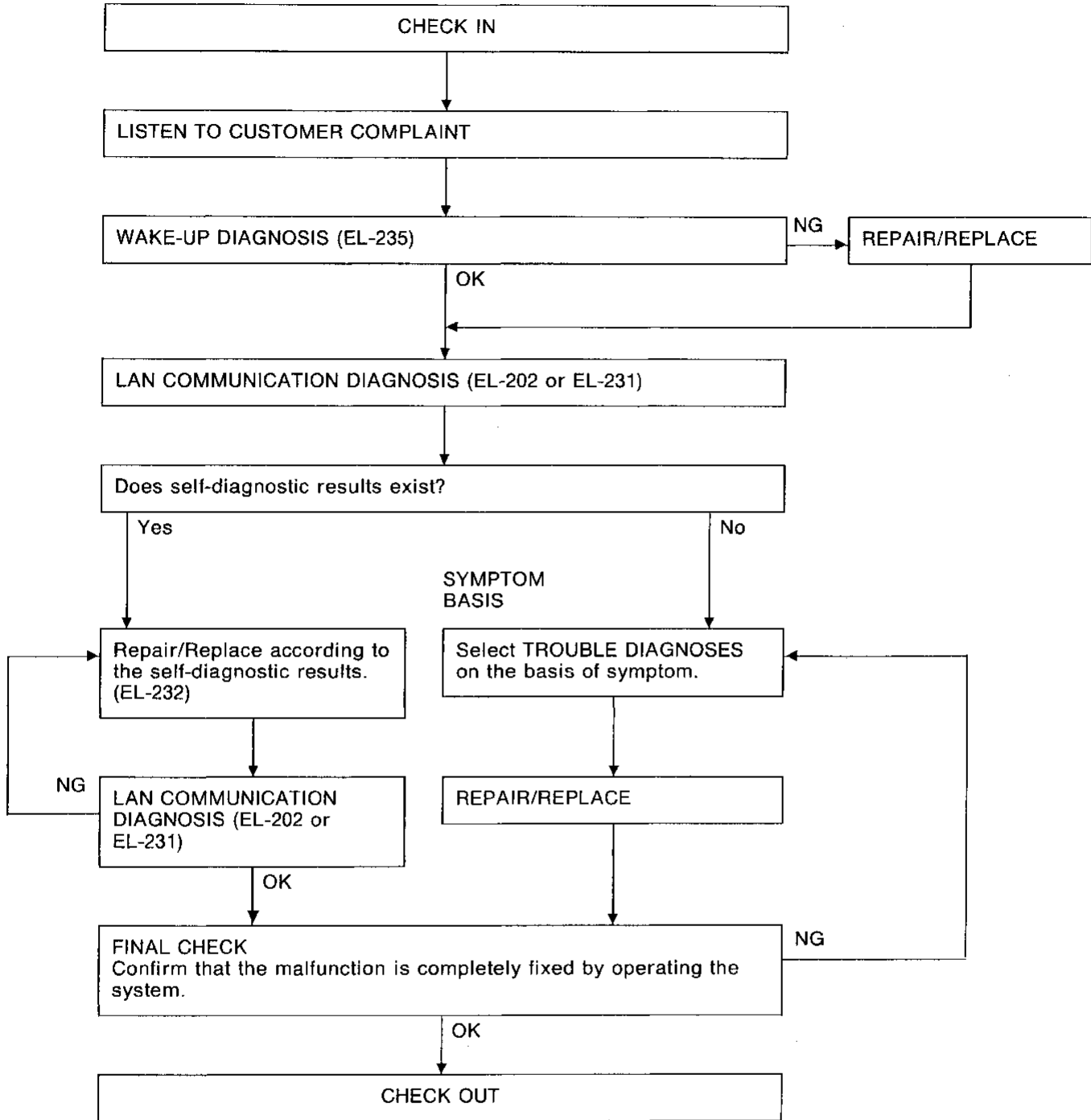


6. Perform each diagnostic item.
- For further information, read the CONSULT Operation Manual.**

WIPER AND WASHER

Trouble Diagnoses (Cont'd)

WORK FLOW



NOTE:

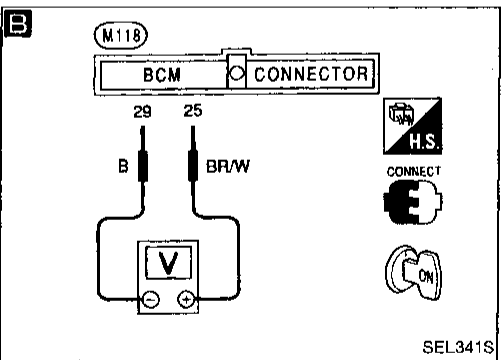
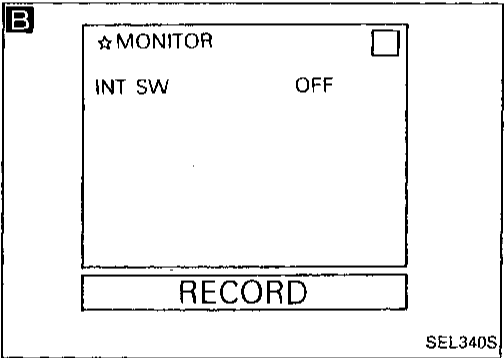
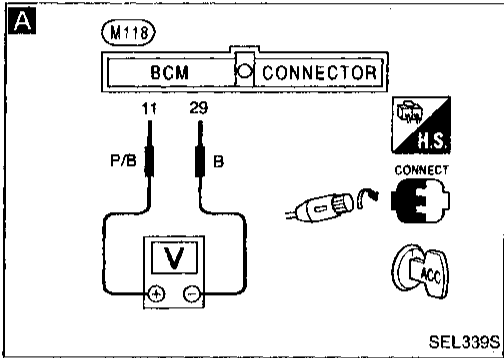
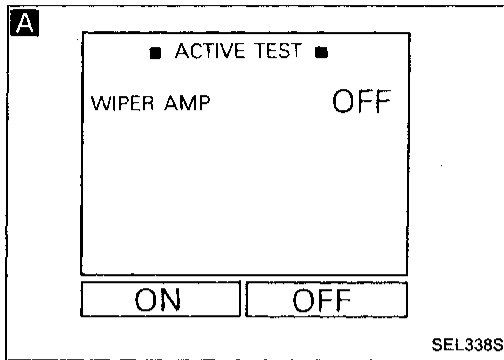
When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, “LAN communication diagnosis” with CONSULT will indicate “PAST NO RESPONSE” after the LCU connectors are connected.

WIPER AND WASHER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Intermittent wiper does not operate.



A

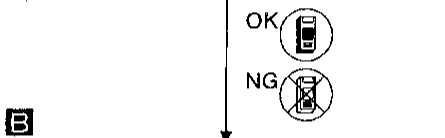
WIPER AMPLIFIER CIRCUIT CHECK

1. Perform "Active test" of wiper amplifier.
2. Check wiper operation.

OR

1. Turn ignition switch to "ACC".
2. Turn wiper switch to "INT" or "OFF".
3. Measure voltage between BCM terminals ⑪ and ⑳.

Condition of wiper switch	Voltage [V]
OFF	Approx. 12
INT	Pointer swings from 0 to 12 every 2 to 21 seconds.



B

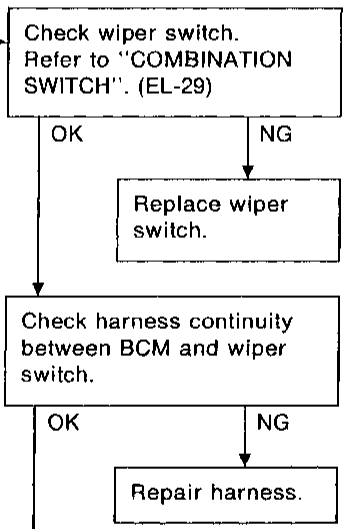
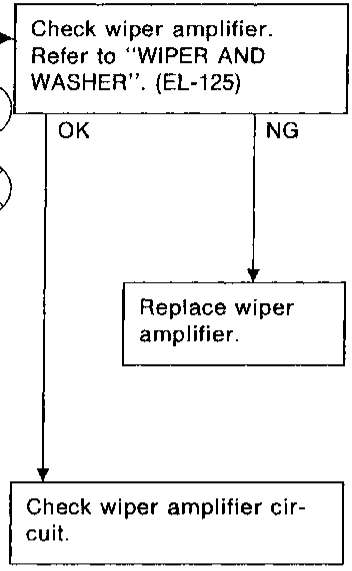
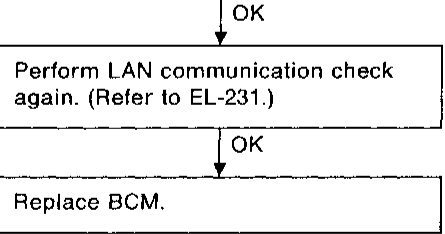
INTERMITTENT SWITCH INPUT SIGNAL CHECK

1. See "INT SW" in "Data monitor" mode.
- When wiper switch is in INT position:
 - INT SW ON**
- When wiper switch is in OFF position:
 - INT SW OFF**

OR

1. Measure voltage between BCM terminals ⑳ and ㉑.

Condition of wiper switch	Voltage [V]
OFF	Approx. 12
INT	0



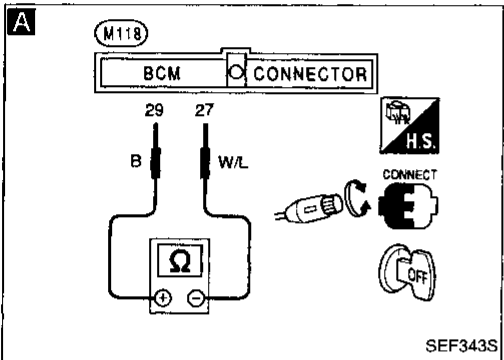
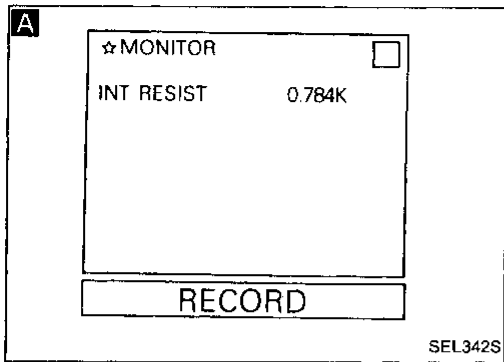
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WIPER AND WASHER

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]
S	0
L	Approx. 1

OR

Measure resistance between BCM terminals 27 and 29 while turning intermittent wiper volume.

Position of wiper knob	Resistance [kΩ]
S	0
L	Approx. 1

OK → Perform LAN communication check again. (Refer to EL-231.)

OK

Replace BCM.

NG

Check intermittent wiper volume. Refer to "COMBINATION SWITCH". (EL-29)

NG

Replace intermittent wiper volume.

OK

Check harness continuity between BCM and intermittent wiper volume.

NG

Repair harness.

OK

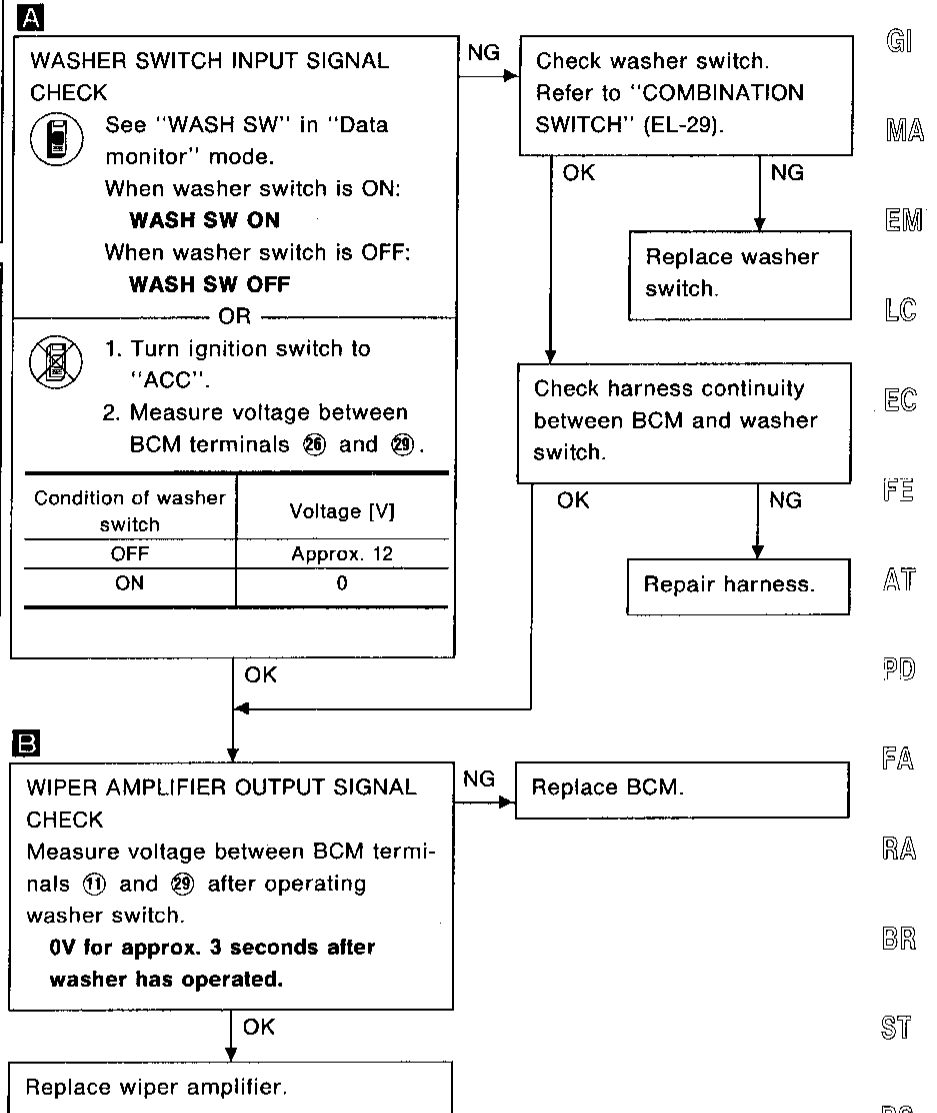
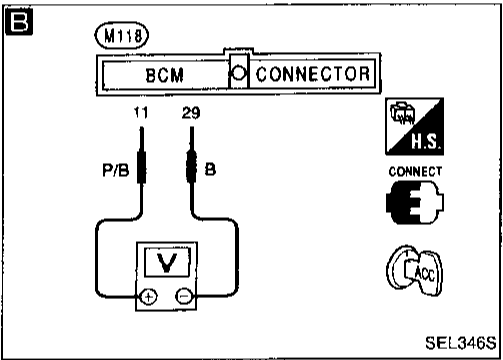
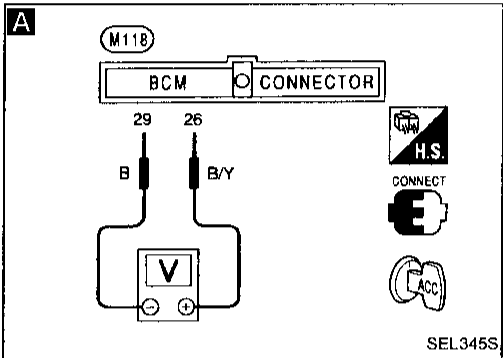
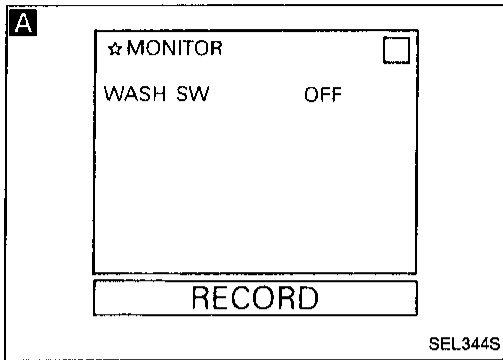
Replace BCM.

WIPER AND WASHER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

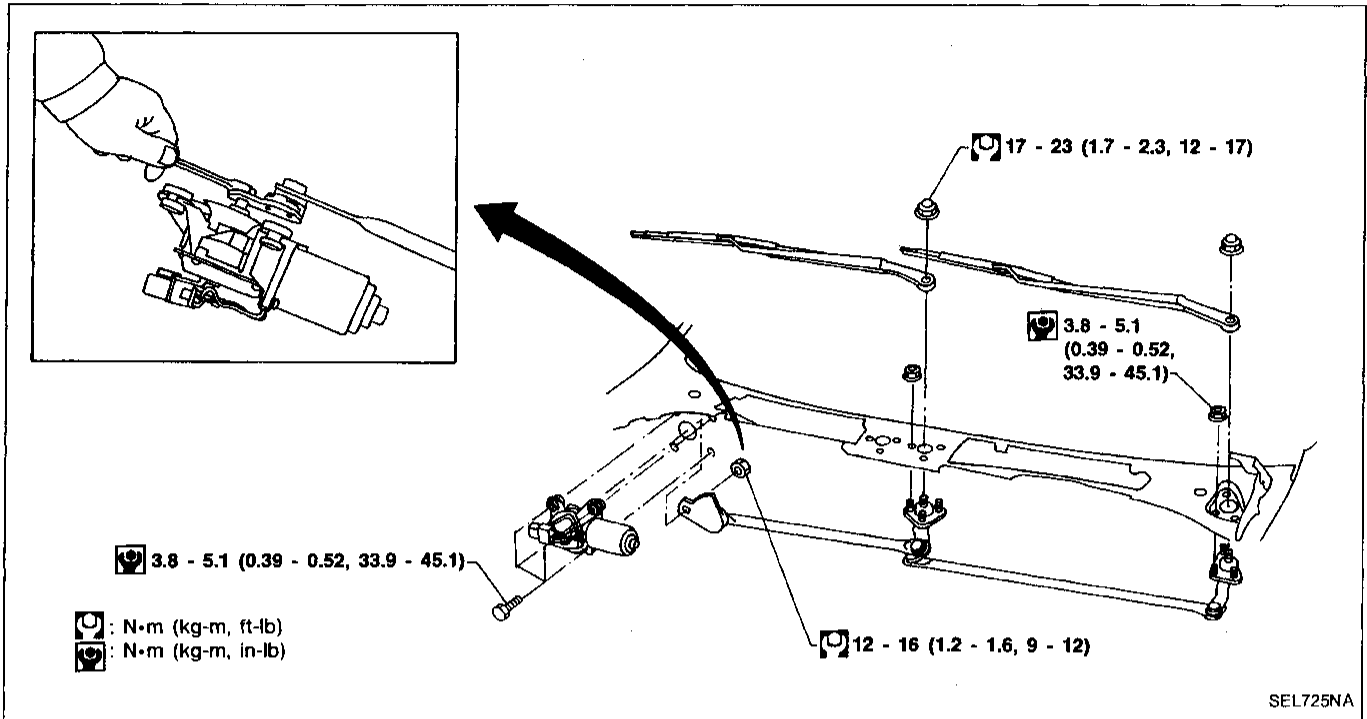
SYMPTOM: Wiper and washer activate individually but not in combination.



WIPER AND WASHER

Wiper Removal and Installation

Before removing front wiper motor link, turn wiper switch OFF and disconnect motor leads at connectors.



Wiper Arm Installation

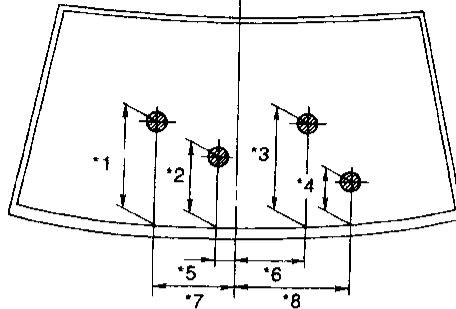
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
 2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L₁" or "L₂" immediately before tightening nut.
 3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it "OFF".
 4. Ensure that wiper blades stop within clearance "L₁" & "L₂".
 - Clearance "L₁": 0 - 10 mm (0 - 0.39 in)
 - Clearance "L₂": 0 - 10 mm (0 - 0.39 in)
- Tighten windshield wiper arm nuts to specified torque.
Windshield wiper:
: 17 - 23 N·m (1.7 - 2.3 kg-m, 12 - 17 ft-lb)
 - Before reinstalling wiper arm, clean up the pivot area. This will reduce possibility of wiper arm looseness.

WIPER AND WASHER

Wiper Arm Installation (Cont'd)

Windshield wiper and washer

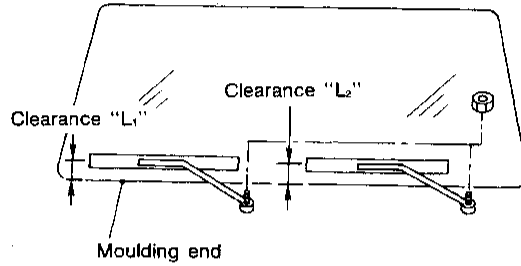
Washer nozzle adjustment



*1: 490 (19.29)
*2: 235 (9.25)
*3: 475 (18.70)
*4: 290 (11.42)
*5: 150 (5.91)
*6: 160 (6.30)
*7: 285 (11.22)
*8: 520 (20.47)

Unit: mm (in)

All the diameters of these circles are less than 80 (3.15).

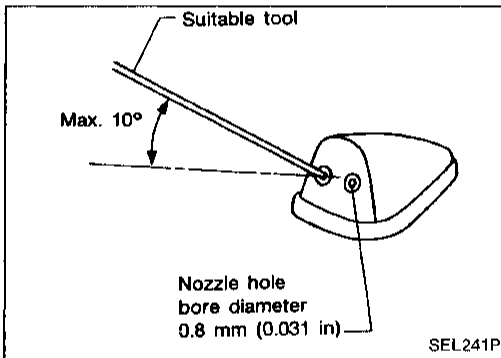


SEL709N

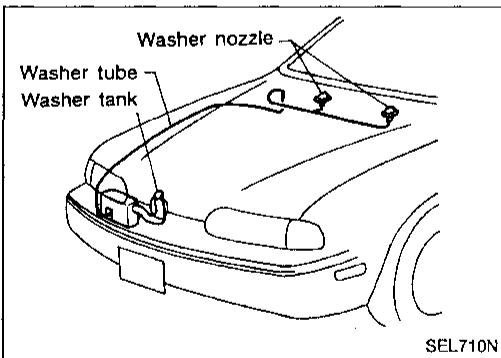
Washer Nozzle Adjustment

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

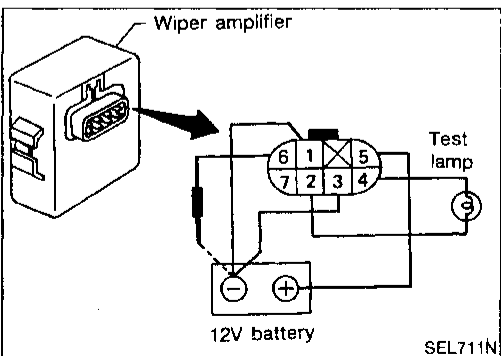
Adjustable range: $\pm 10^\circ$



SEL241P



SEL710N



SEL711N

Wiper Amplifier Check

- Connect as shown in the figure to the left.
- If test lamp comes on when connect to terminal ⑥ and battery ground, wiper amplifier is normal.

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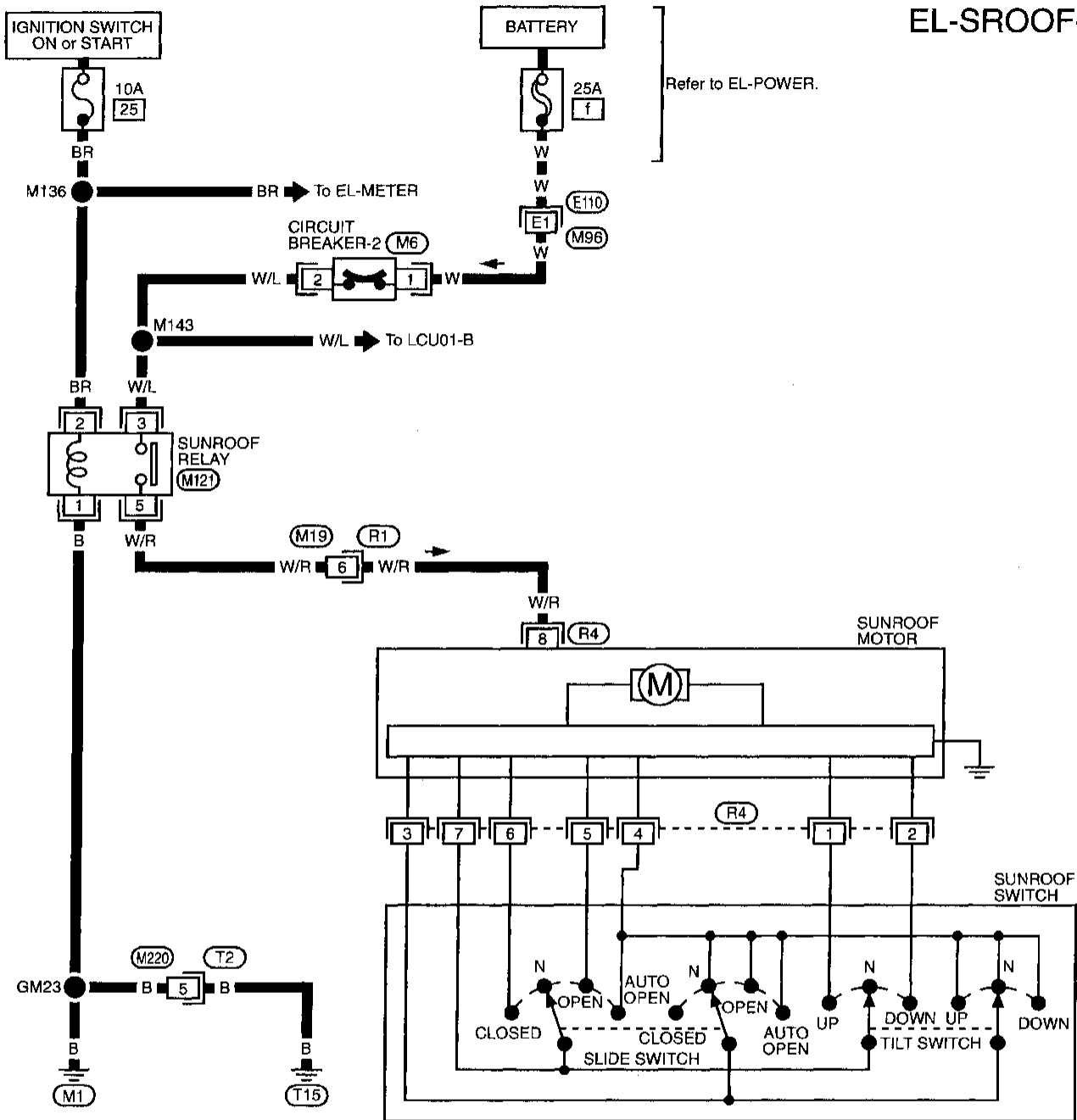
EL

IDX

ELECTRIC SUNROOF

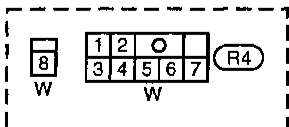
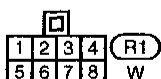
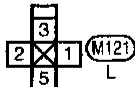
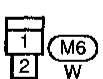
Wiring Diagram — SROOF —

EL-SROOF-01



Refer to EL-POWER.

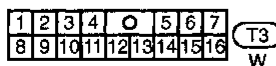
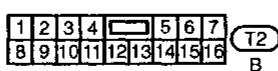
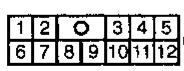
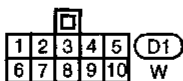
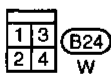
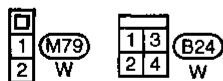
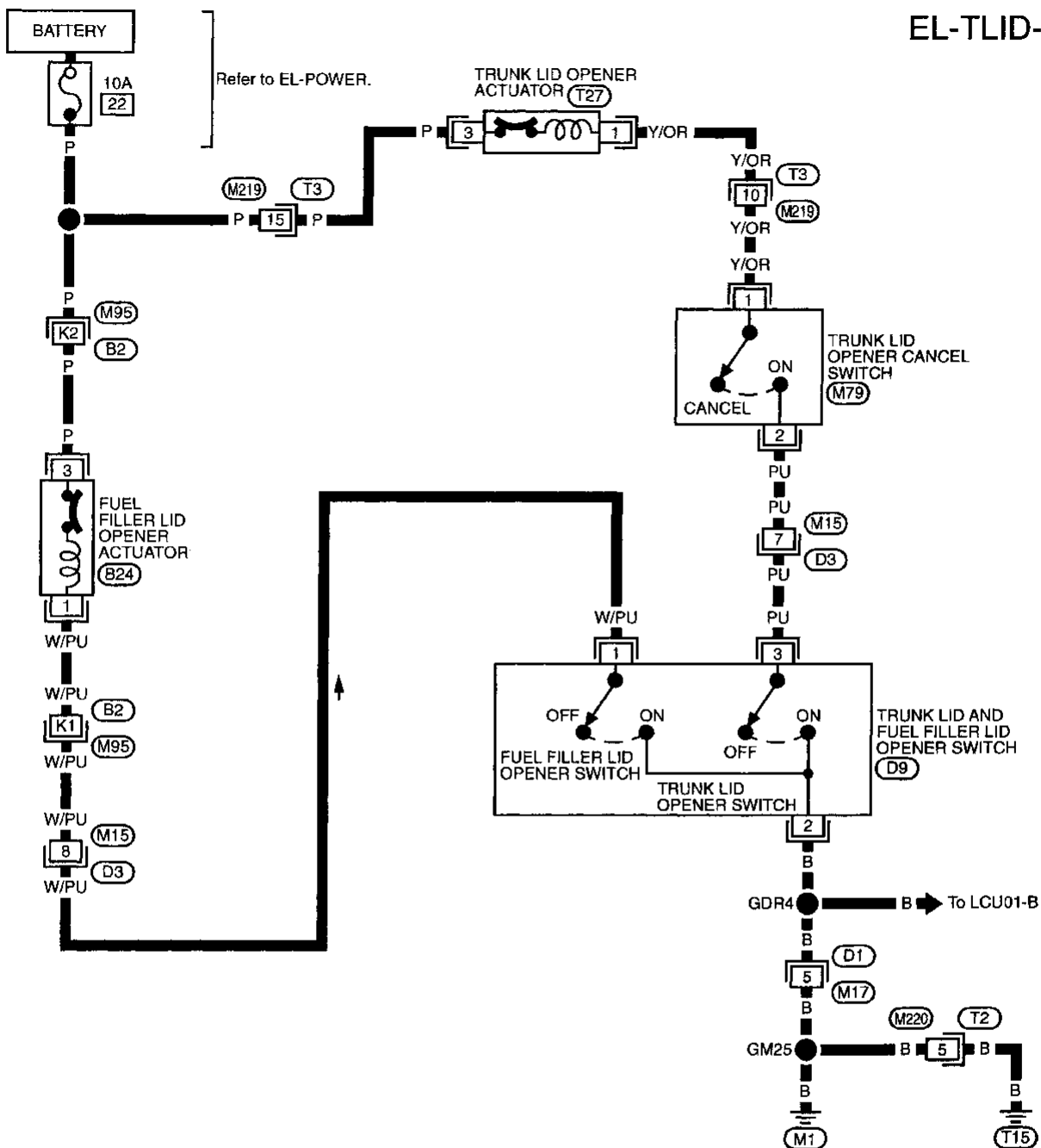
Refer to last page (Foldout page).
E110, M96



TRUNK LID AND FUEL FILLER LID OPENER

Wiring Diagram — TLID —

EL-TLID-01



Refer to last page (Foldout page).
M95, B2

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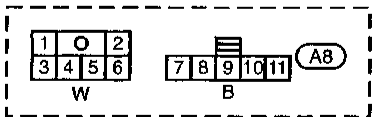
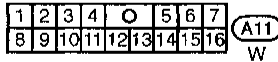
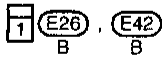
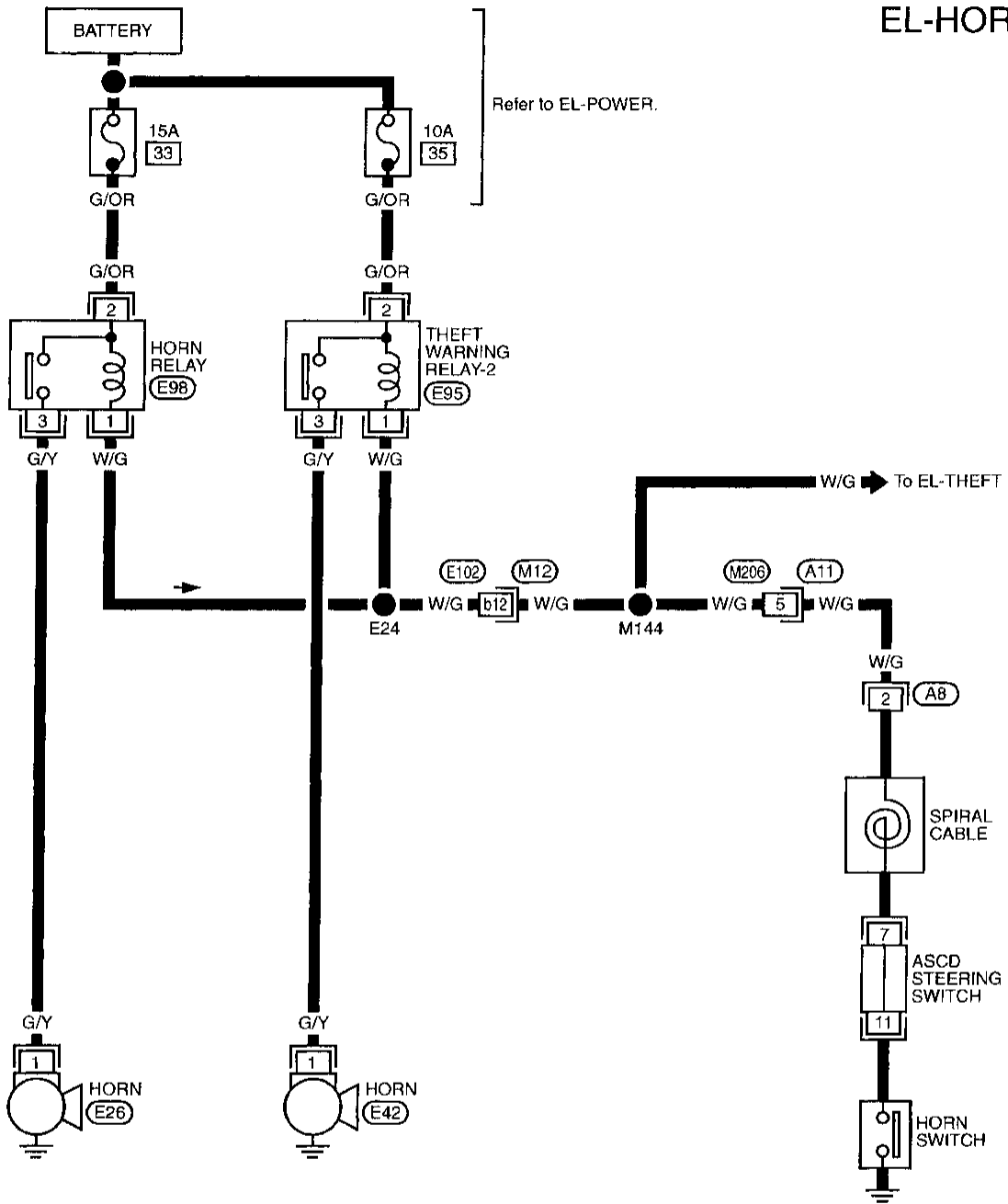
EL

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HORN, CIGARETTE LIGHTER, CLOCK

Wiring Diagram — HORN —

EL-HORN-01

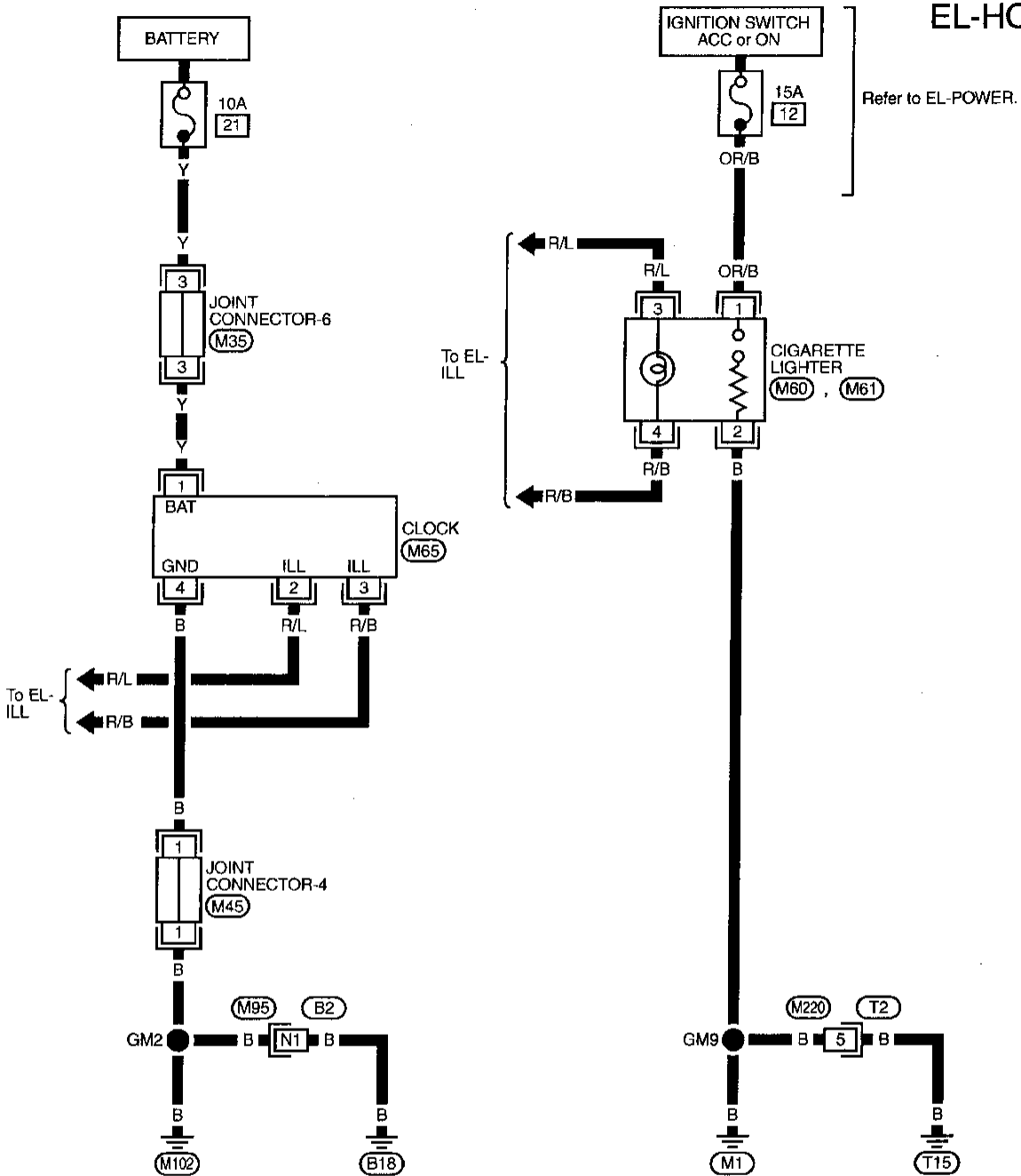


Refer to last page (Foldout page).
E102, M12

HORN, CIGARETTE LIGHTER, CLOCK

Wiring Diagram — HORN — (Cont'd)

EL-HORN-02

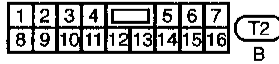
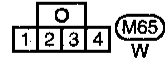
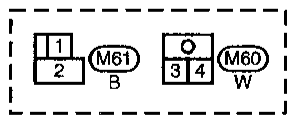
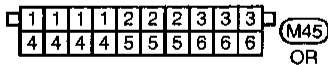
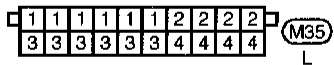


Refer to EL-POWER.

To EL-ILL

To EL-ILL

Refer to last page (Foldout page).
M95, B2

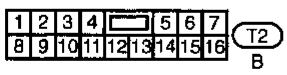
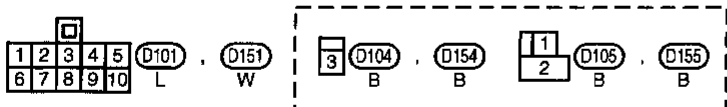
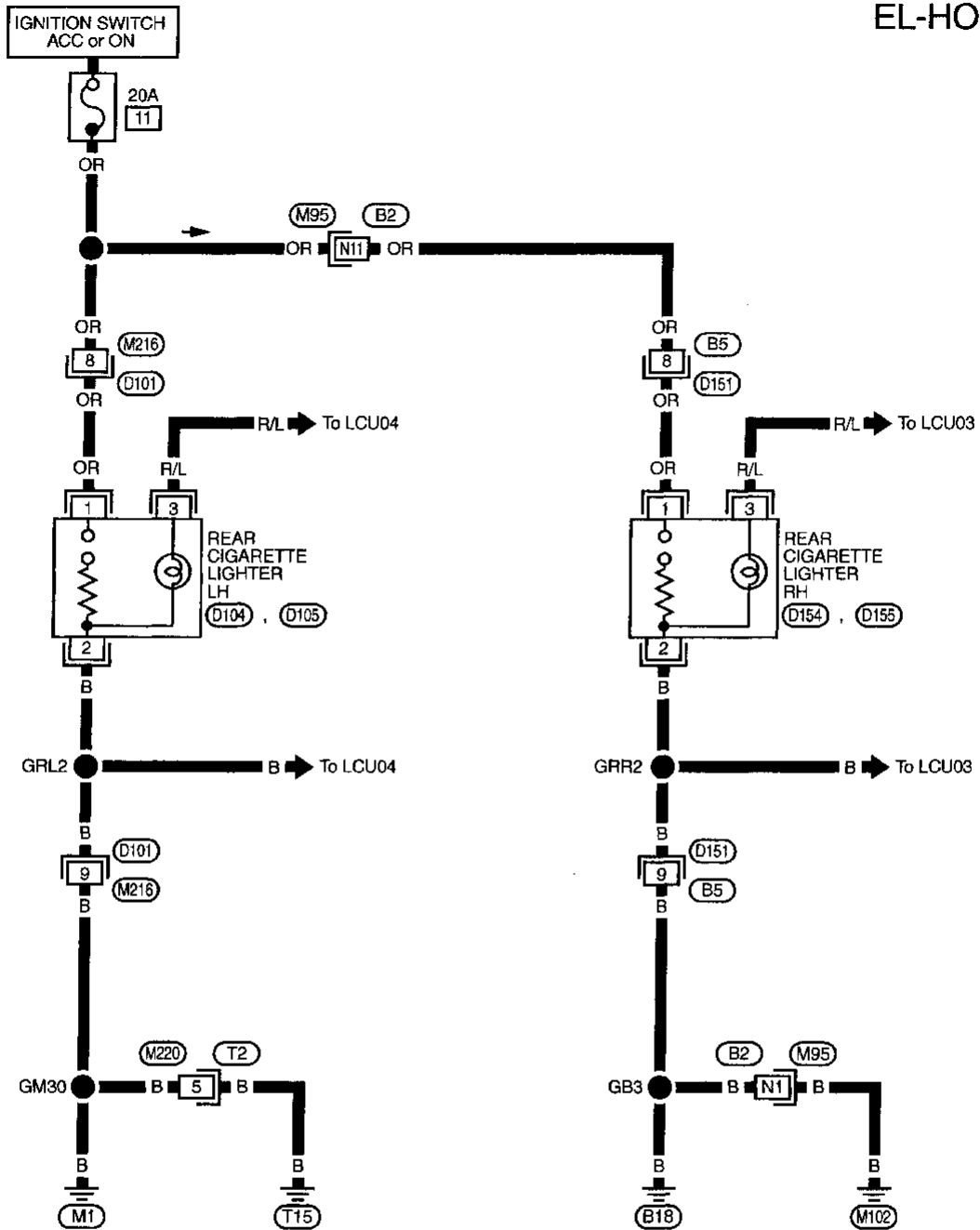


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HORN, CIGARETTE LIGHTER, CLOCK

Wiring Diagram — HORN — (Cont'd)

EL-HORN-03



Refer to last page (Foldout page).
 (M95) , (B2)

REAR WINDOW DEFOGGER

System Description

FUNCTION

- The following time control function is controlled by LAN.

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

GI

MA

REAR WINDOW DEFOGGER TIMER

The rear window defogger system is controlled by the BCM.

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

- to the rear window defogger relay terminal ②,
- through 10A fuse [No. 25], located in the fuse block].

Ground is supplied to terminal ② of the rear window defogger switch through body grounds (M1) and (T15).

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 ⑧ of the BCM then supplies ground to the rear window defogger relay terminal ①.

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

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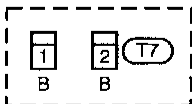
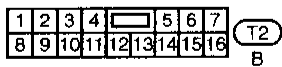
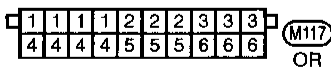
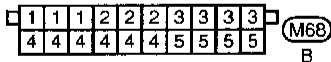
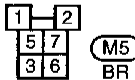
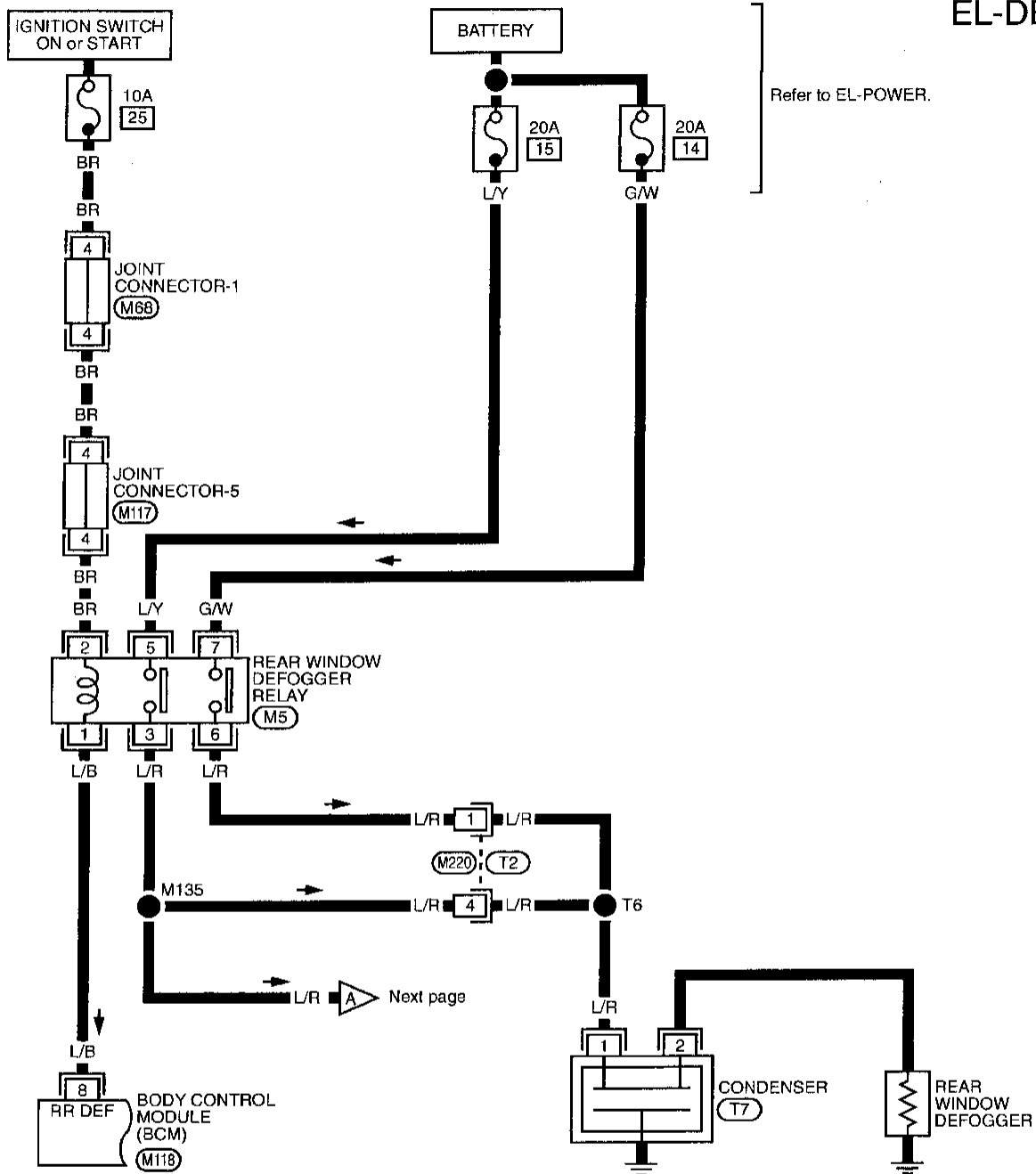
EL

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REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

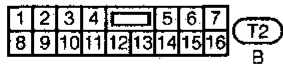
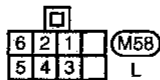
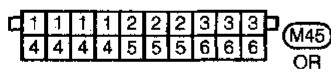
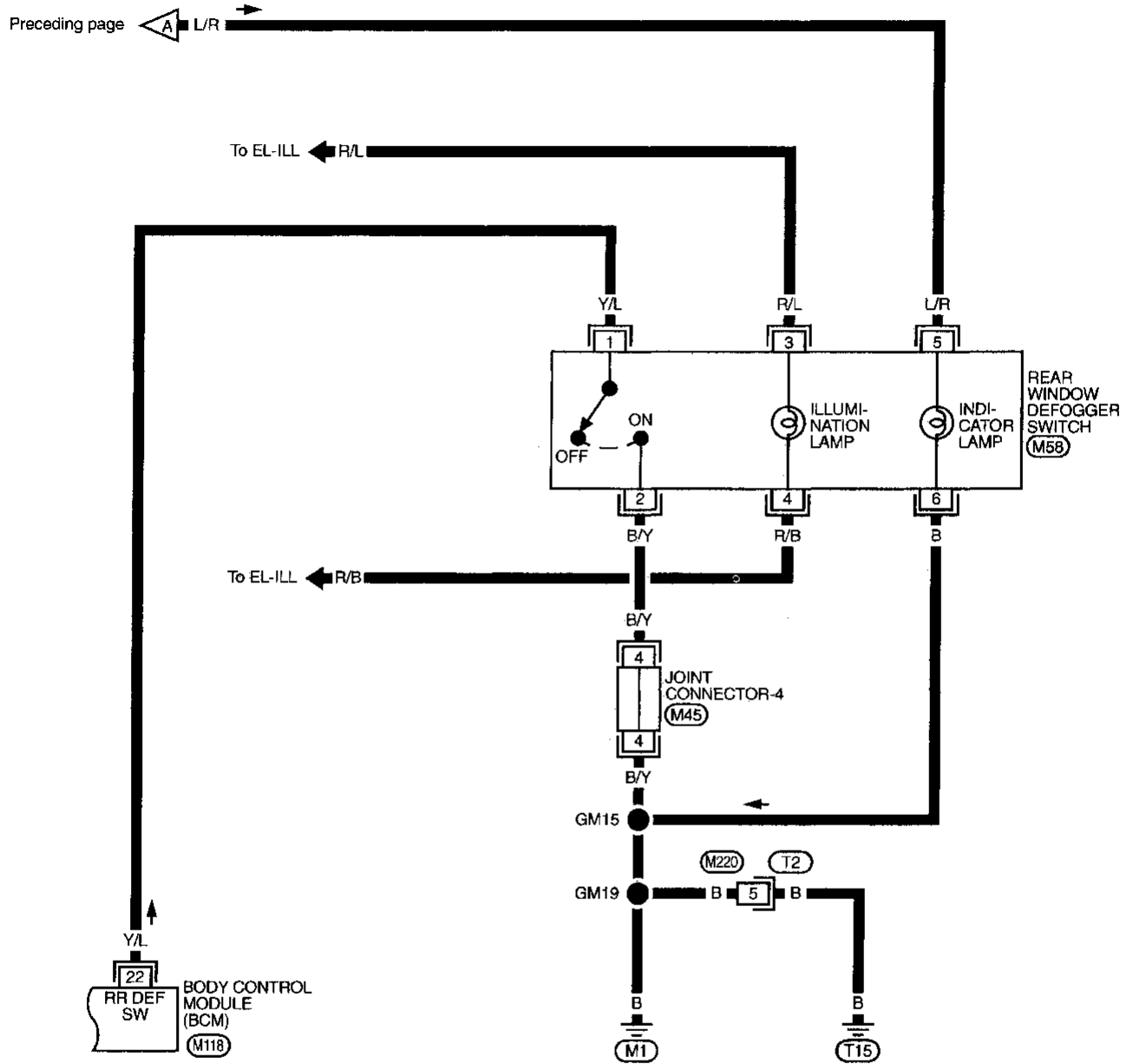
EL-DEF-01



REAR WINDOW DEFOGGER

Wiring Diagram — DEF — (Cont'd)

EL-DEF-02



Refer to last page (Foldout page).

(M118)

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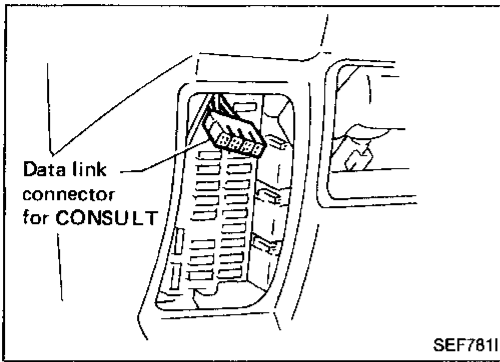
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REAR WINDOW DEFOGGER

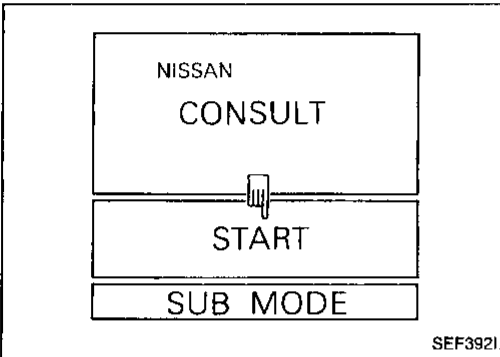


Trouble Diagnoses

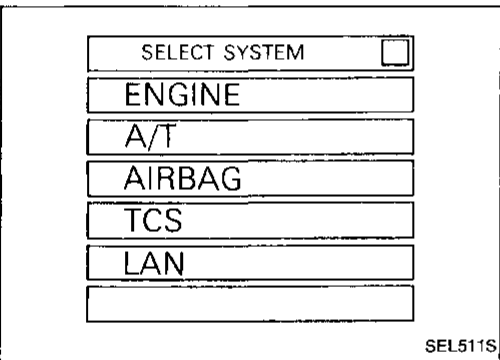
CONSULT

CONSULT inspection procedure

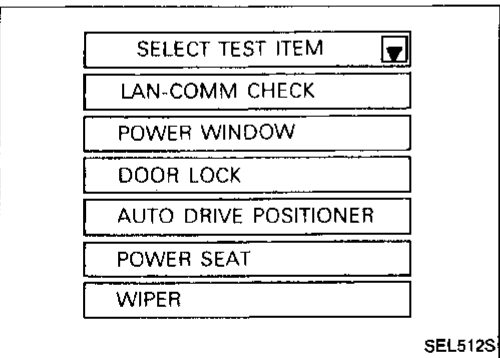
1. Turn ignition switch "OFF".
2. Connect "CONSULT" to Data link connector for CONSULT. (Data link for connector for CONSULT is located in left dash side panel.)



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



5. Touch "LAN".



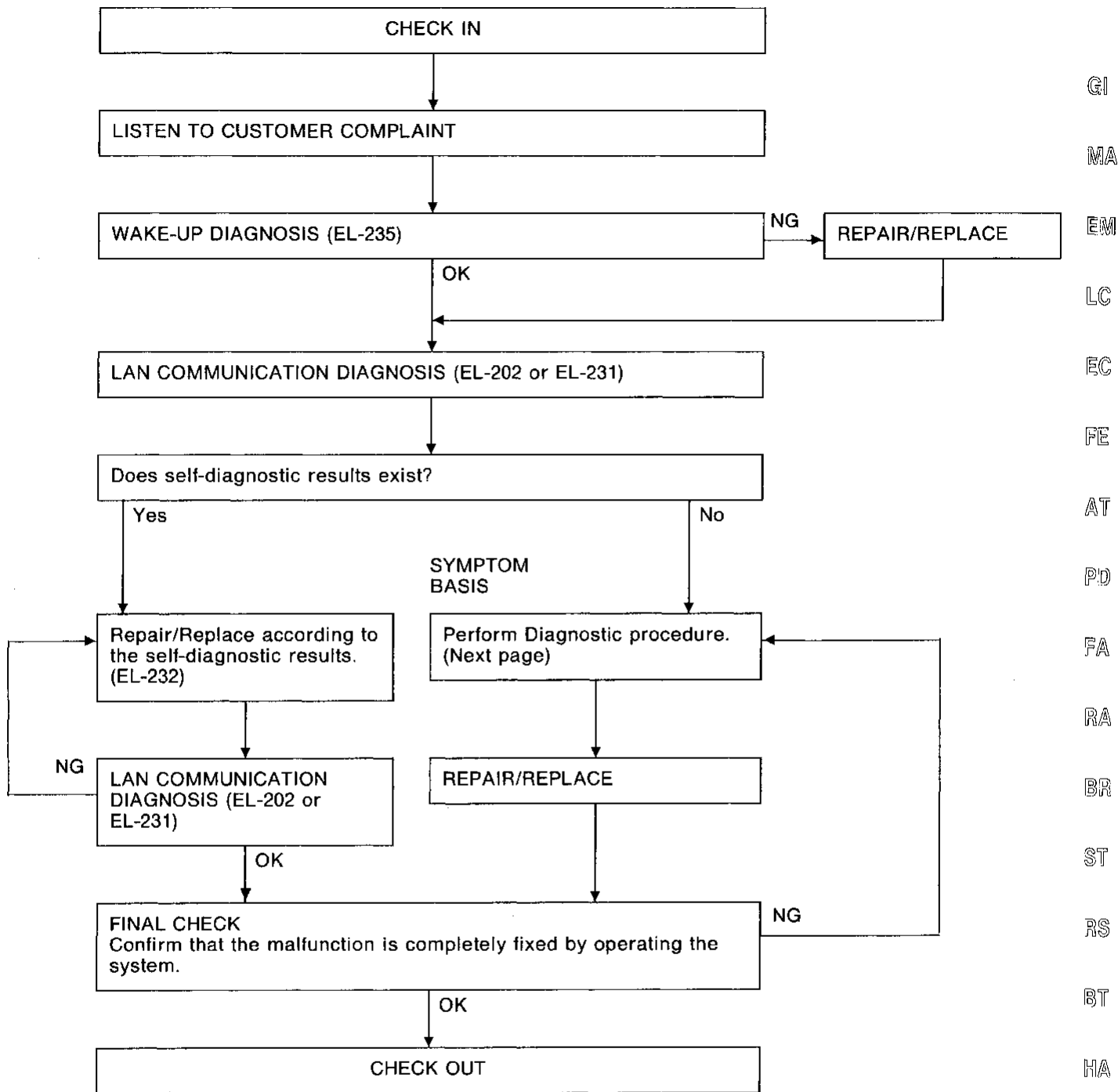
6. Perform each diagnostic item.

For further information, read the CONSULT Operation Manual.

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

WORK FLOW



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NOTE:

When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, “LAN communication diagnosis” with CONSULT will indicate “PAST NO RESPONSE” after the LCU connectors are connected.

EL

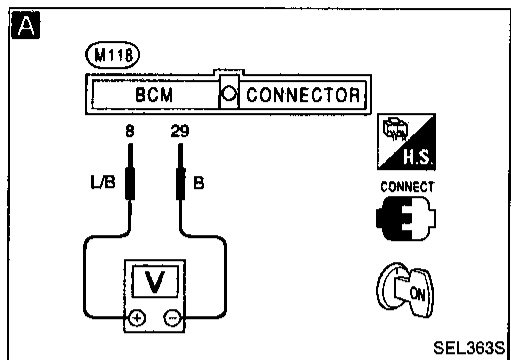
IDX

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE

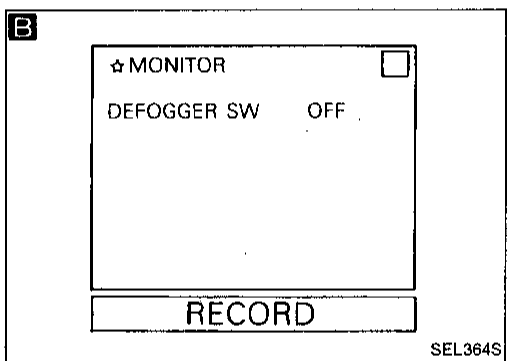
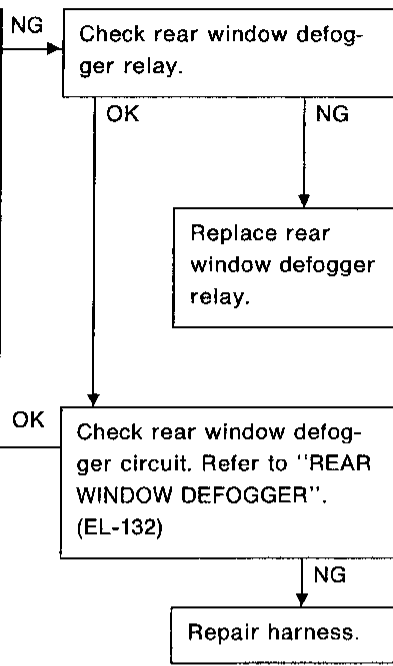
SYMPTOM: Rear defogger does not activate, or does not go off after activating.



A

REAR WINDOW DEFOGGER OUTPUT SIGNAL CHECK
Measure voltage between BCM terminals ⑧ and ⑳.

Condition of defogger switch	Voltage [V]
Defogger switch is "OFF"	Approx. 12
Defogger switch is "ON"	0



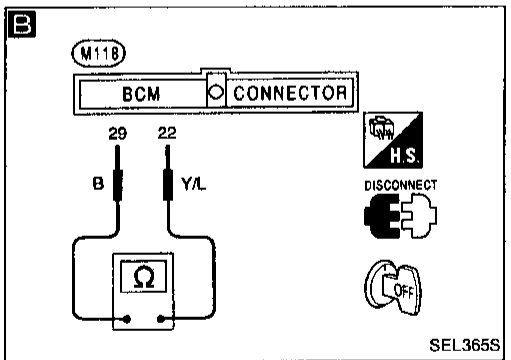
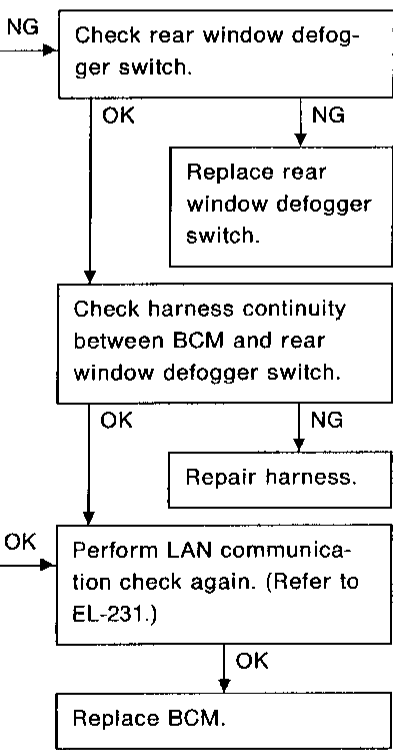
B

REAR WINDOW DEFOGGER INPUT SIGNAL CHECK
See "DEFOGGER SW" in "Data Monitor" mode.
When defogger switch is pushed:
DEFOGGER SW ON
When defogger switch is released:
DEFOGGER SW OFF

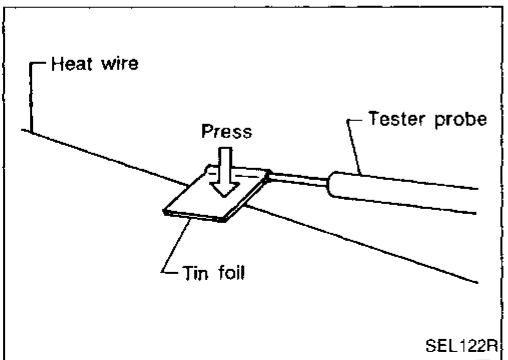
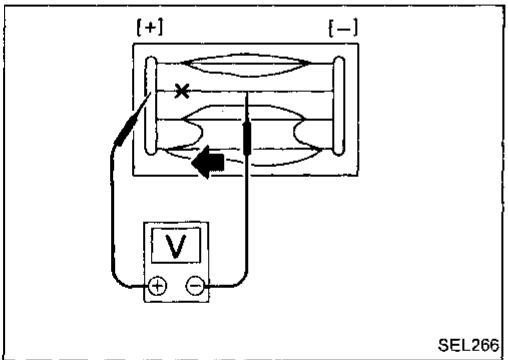
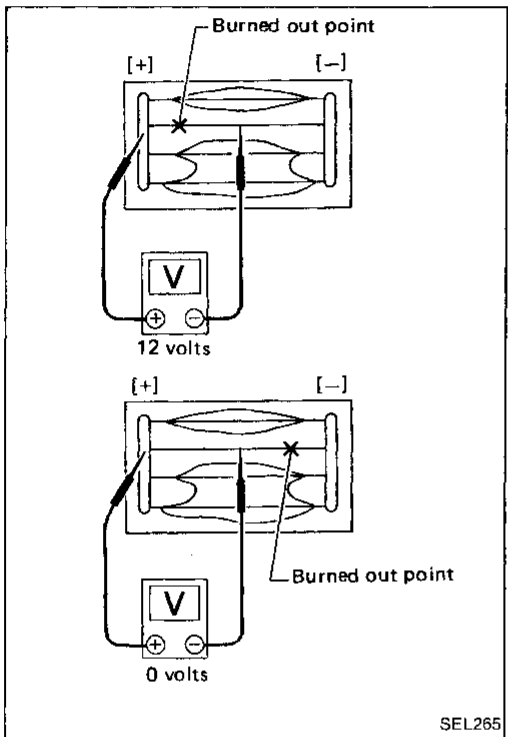
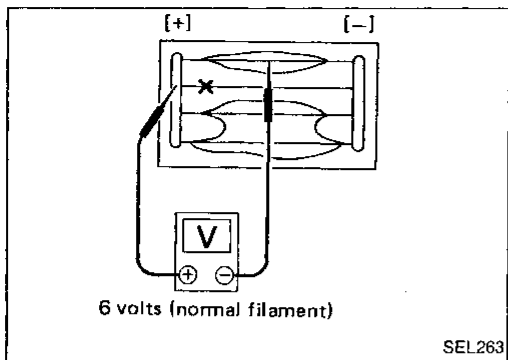
OR

1. Disconnect BCM harness connector.
2. Check continuity between BCM terminals ㉒ and ㉑.

Condition of defogger switch	Continuity
Defogger switch is released	No
Defogger switch is pushed	Yes



REAR WINDOW DEFOGGER



Filament Check

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

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

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

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

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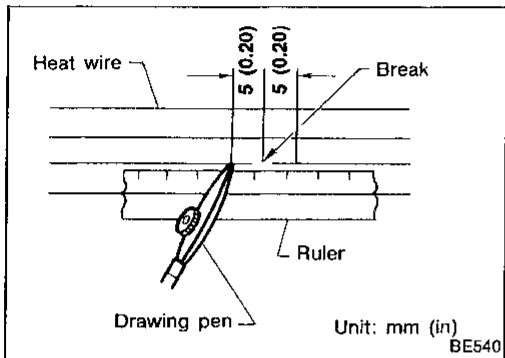
IDX

REAR WINDOW DEFOGGER

Filament Repair

REPAIR EQUIPMENT

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



REPAIRING PROCEDURE

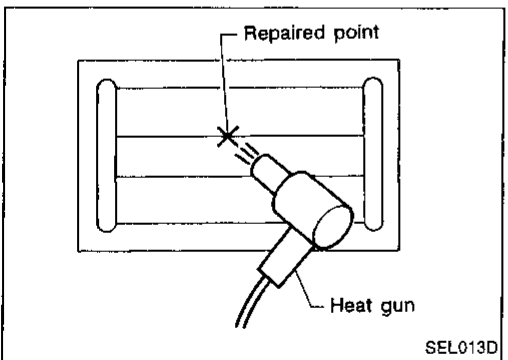
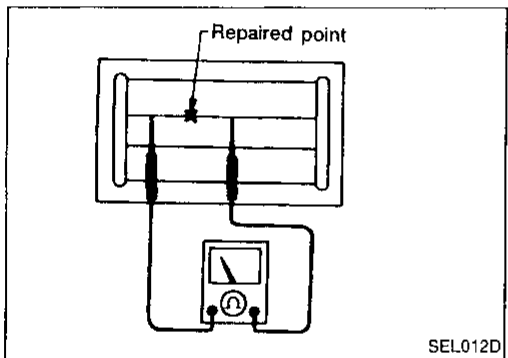
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

Shake silver composition container before use.

3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

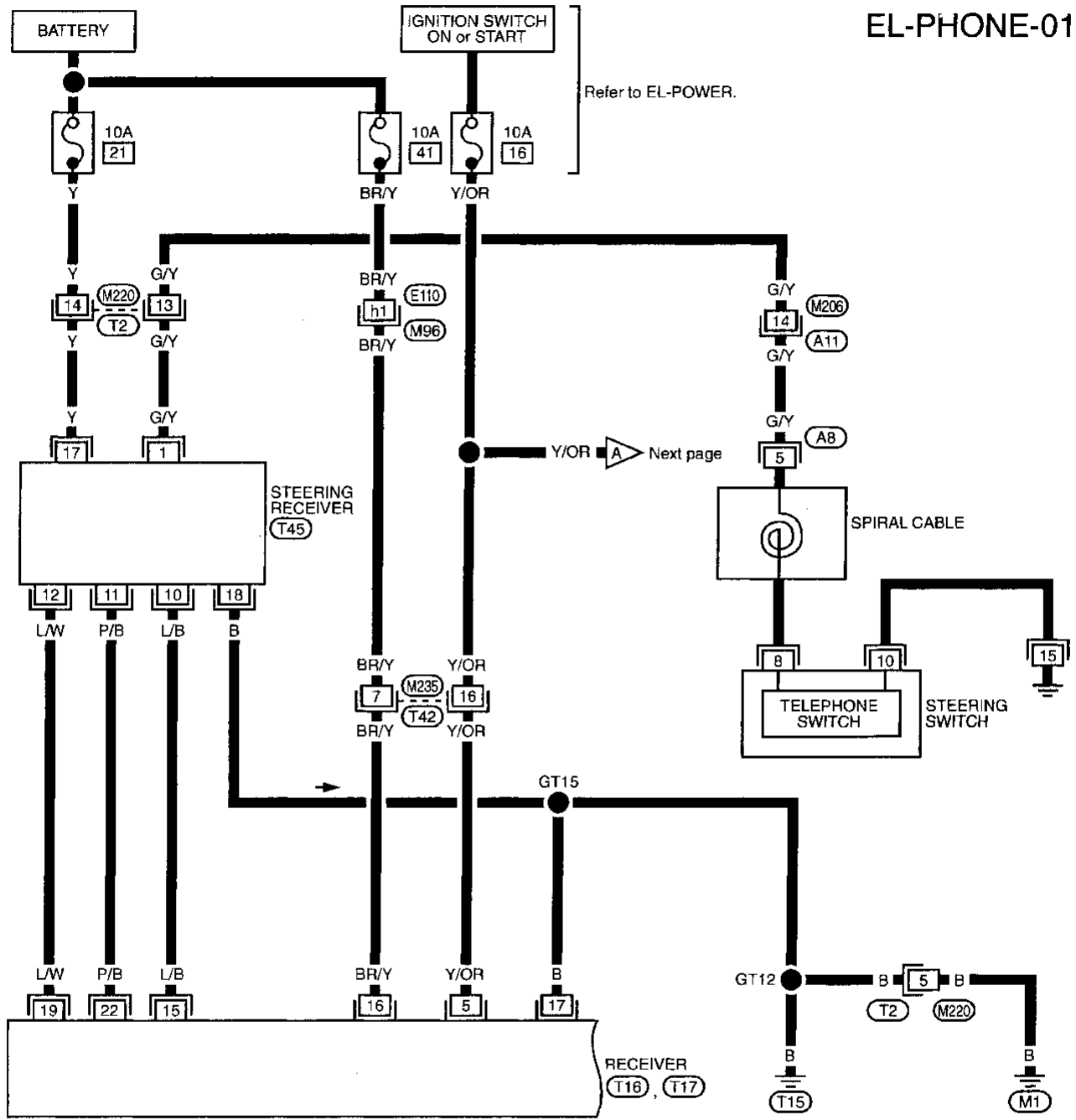
Do not touch repaired area while test is being conducted.



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

Handsfree Telephone/Wiring Diagram
— H/PHON —

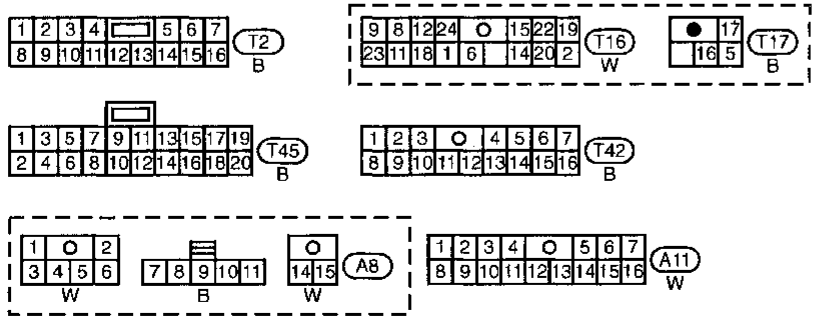
EL-PHONE-01



Refer to EL-POWER.

Next page

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(E110), (M96)



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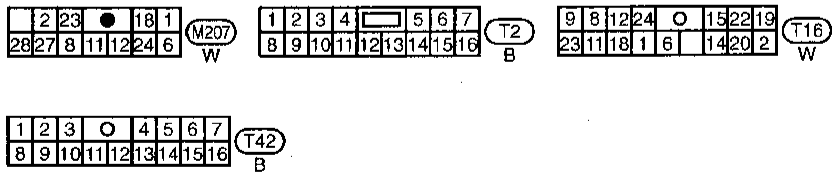
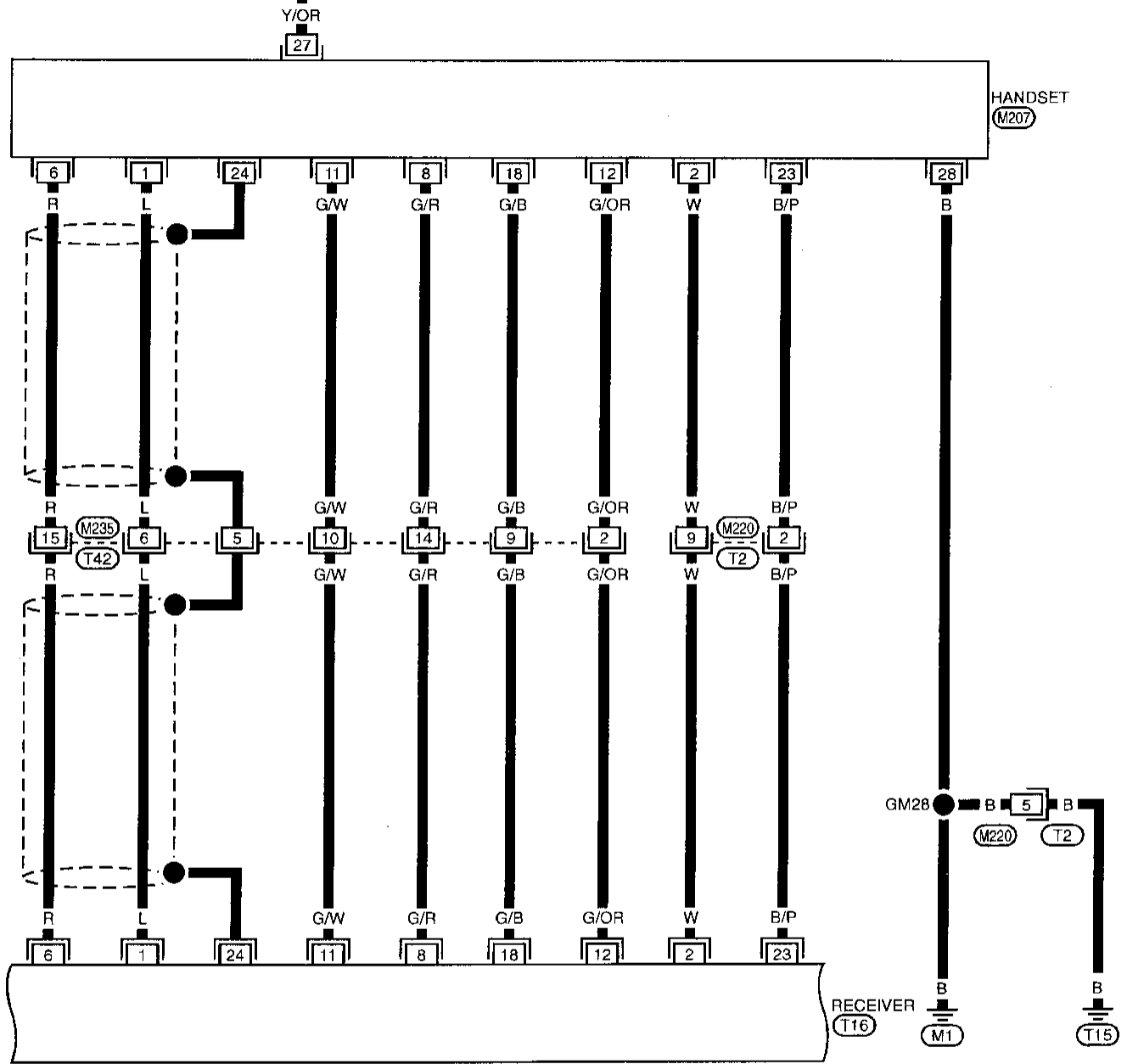
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TELEPHONE

Handsfree Telephone/Wiring Diagram — H/PHON — (Cont'd)

EL-PHONE-02

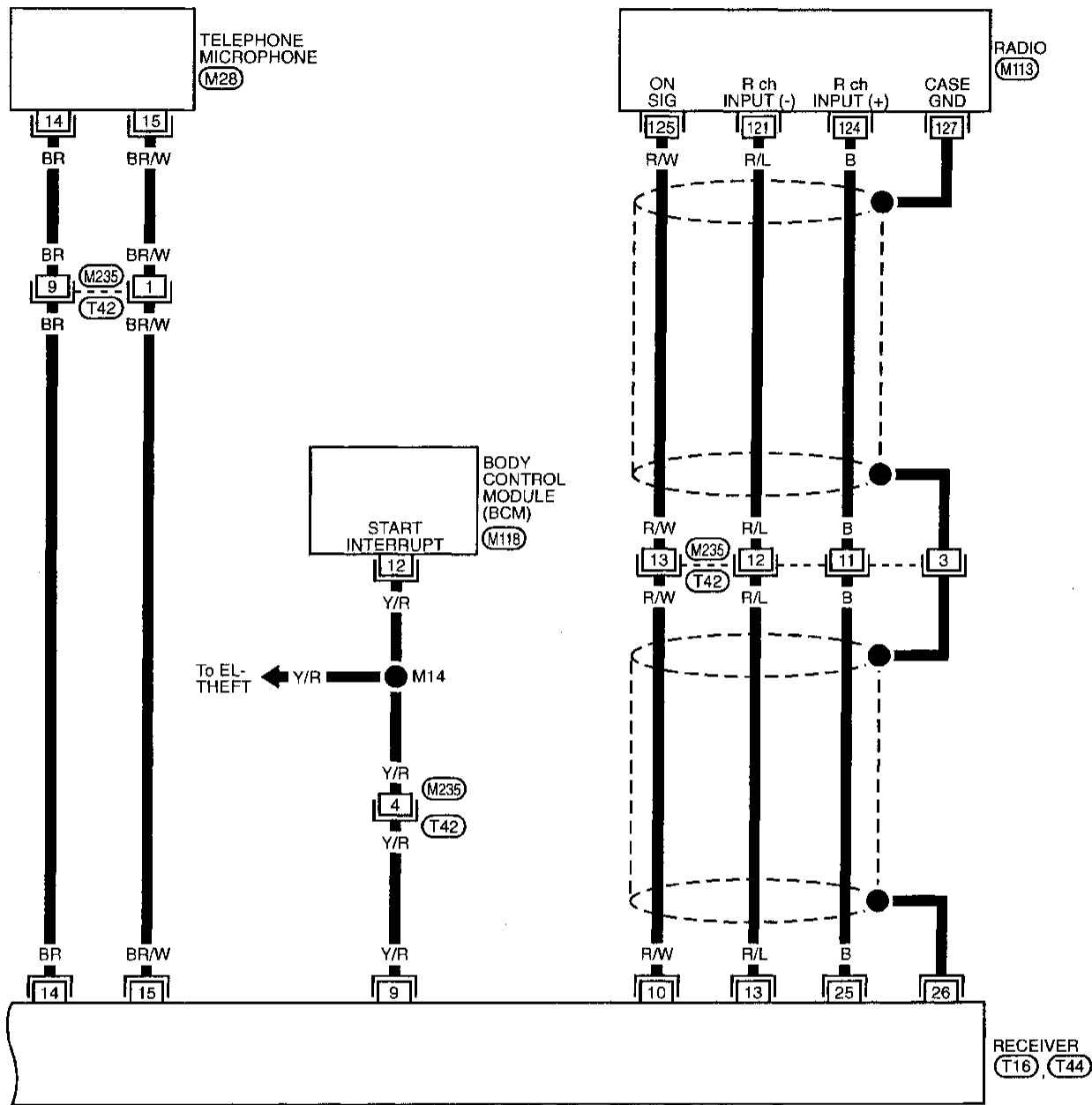
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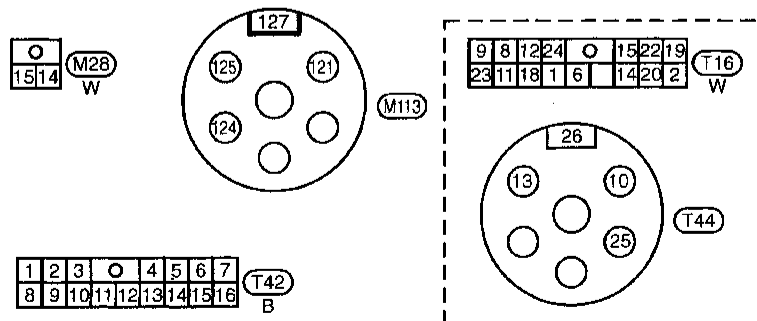
TELEPHONE

Handsfree Telephone/Wiring Diagram — H/PHON — (Cont'd)

EL-PHONE-03



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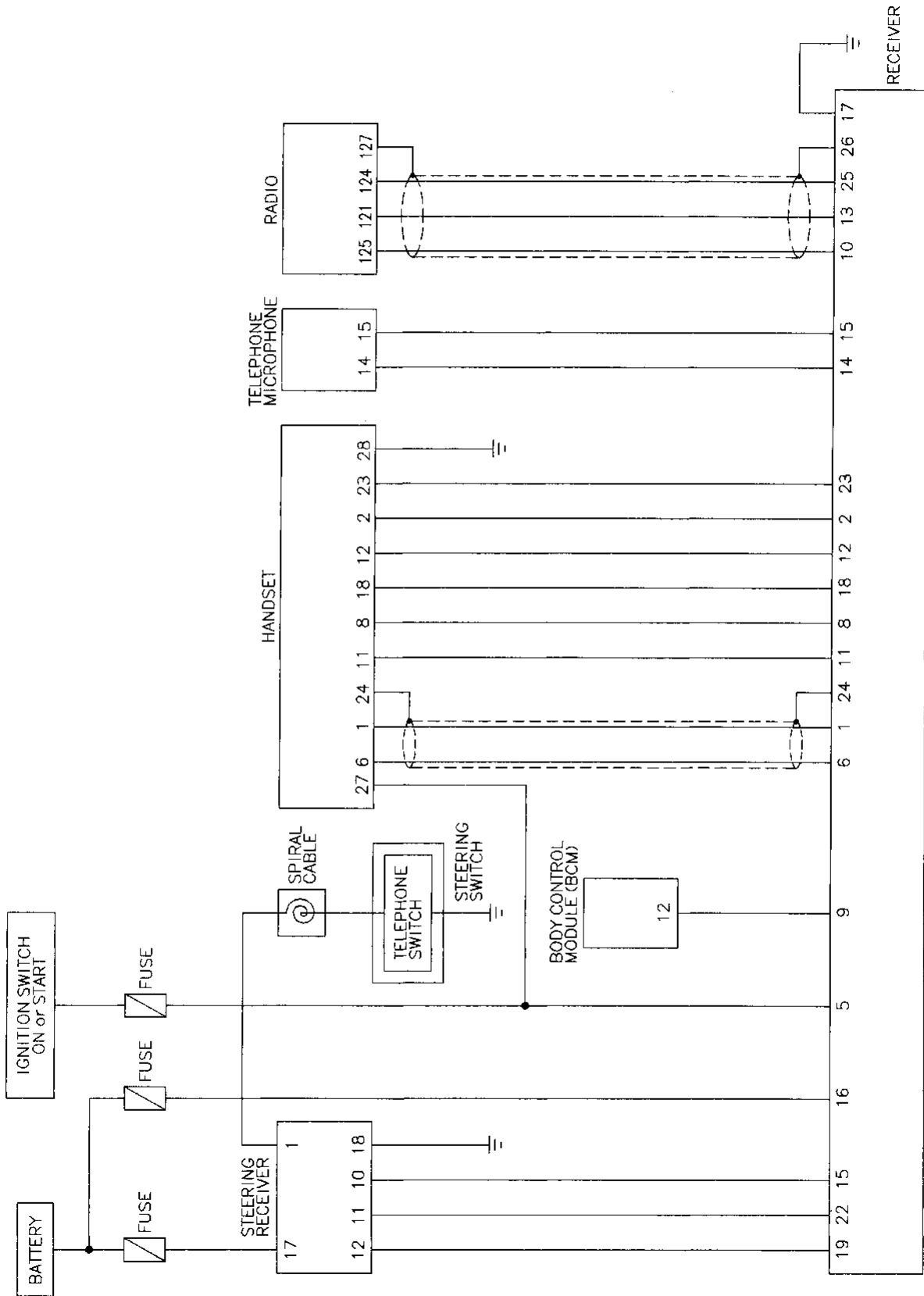
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M118

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TELEPHONE

Handsfree Telephone/Schematic



AUDIO AND POWER ANTENNA

Audio/System Description

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

Power is supplied at all times

- through 10A fuse [No. 21], located in the fuse block
- to radio terminal ⑥ and CD auto changer terminal ⑫.

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

- through 10A fuse [No. 9], located in the fuse block
- to radio terminal ⑩ and CD auto changer terminal ⑮.

Ground is supplied through the case of the radio and

- terminal ⑮ of CD auto changer.

Also, radio terminal ⑫ is grounded to body ground (M103) through audio amp. relay terminals ① and ②.

When the radio POWER button is pressed, power is supplied

- through 20A fuse [No. 17], located in the fuse block] and through audio amp. relay terminals ④ and ③
- to front door speaker LH terminal ③
- to front door speaker RH terminal ③ and
- to rear speaker LH terminal ③ and RH terminal ③.

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

- through radio terminals ①, ②, ③, ④, ⑬, ⑭, ⑮ and ⑯
- to terminals ① and ② of the LH and RH front speakers and terminals ① and ② of the LH and RH rear speakers
- to LH and RH tweeters through terminals ⑤ and ⑥ of the front and rear speakers.

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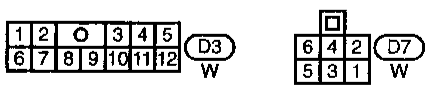
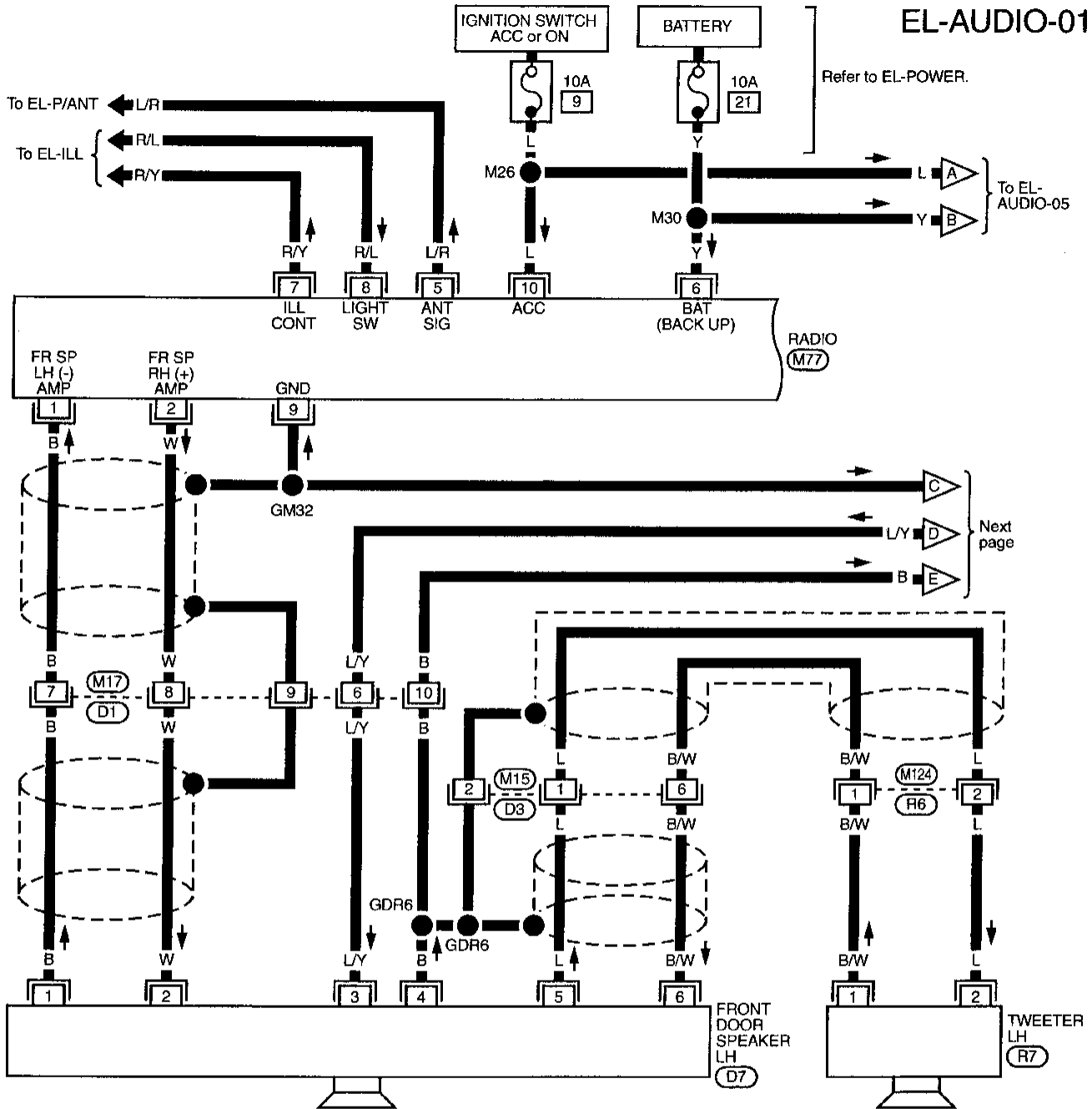
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AUDIO AND POWER ANTENNA

Audio/Wiring Diagram — AUDIO —

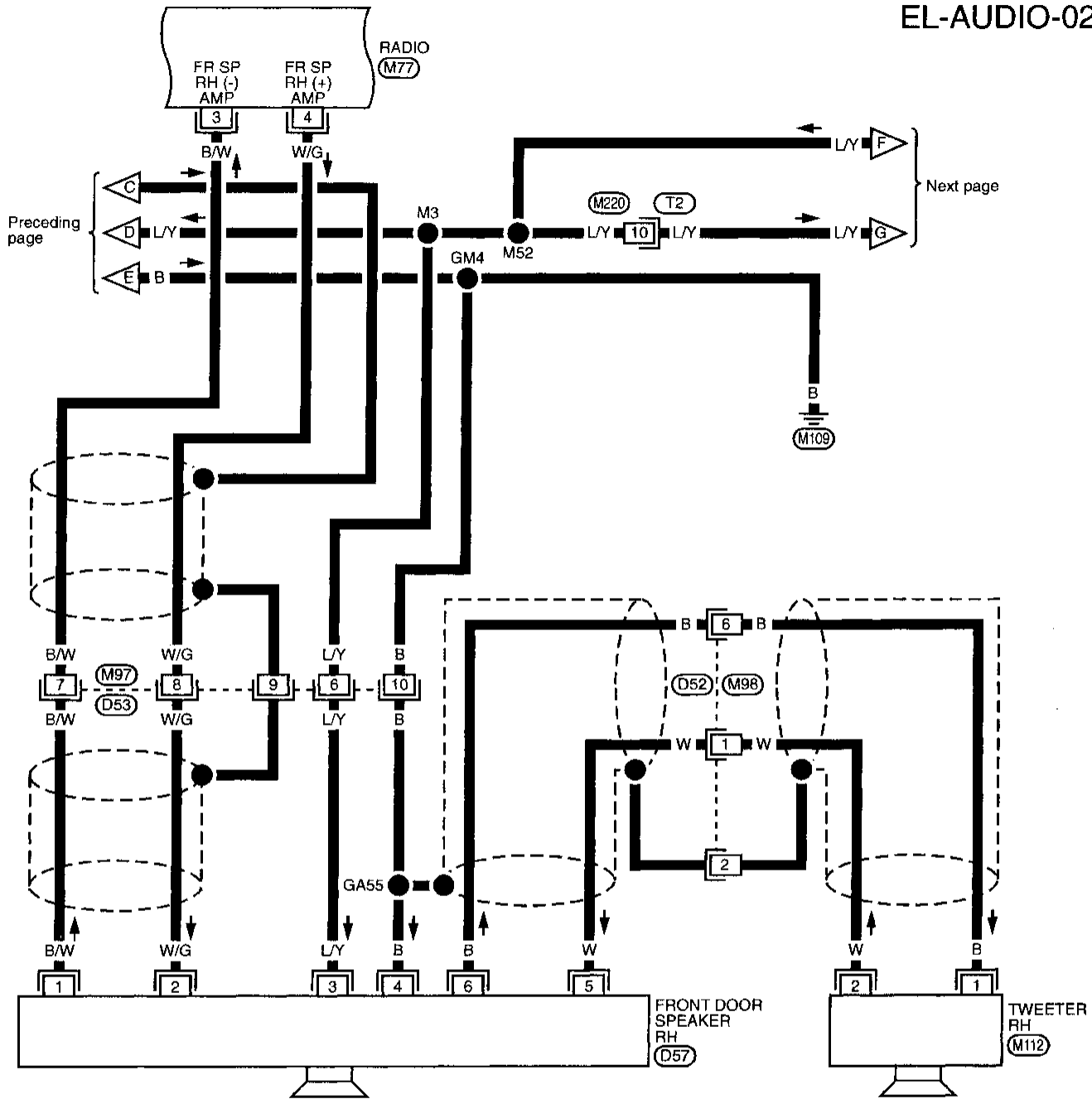
EL-AUDIO-01



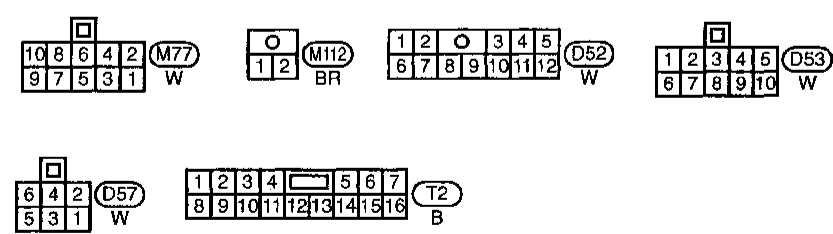
AUDIO AND POWER ANTENNA

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

EL-AUDIO-02



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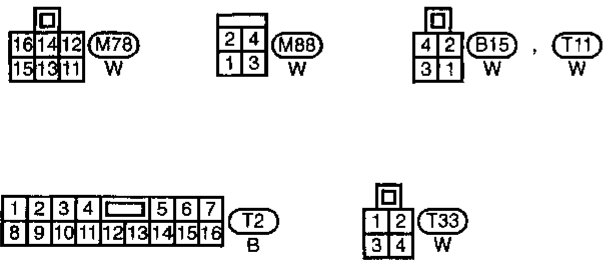
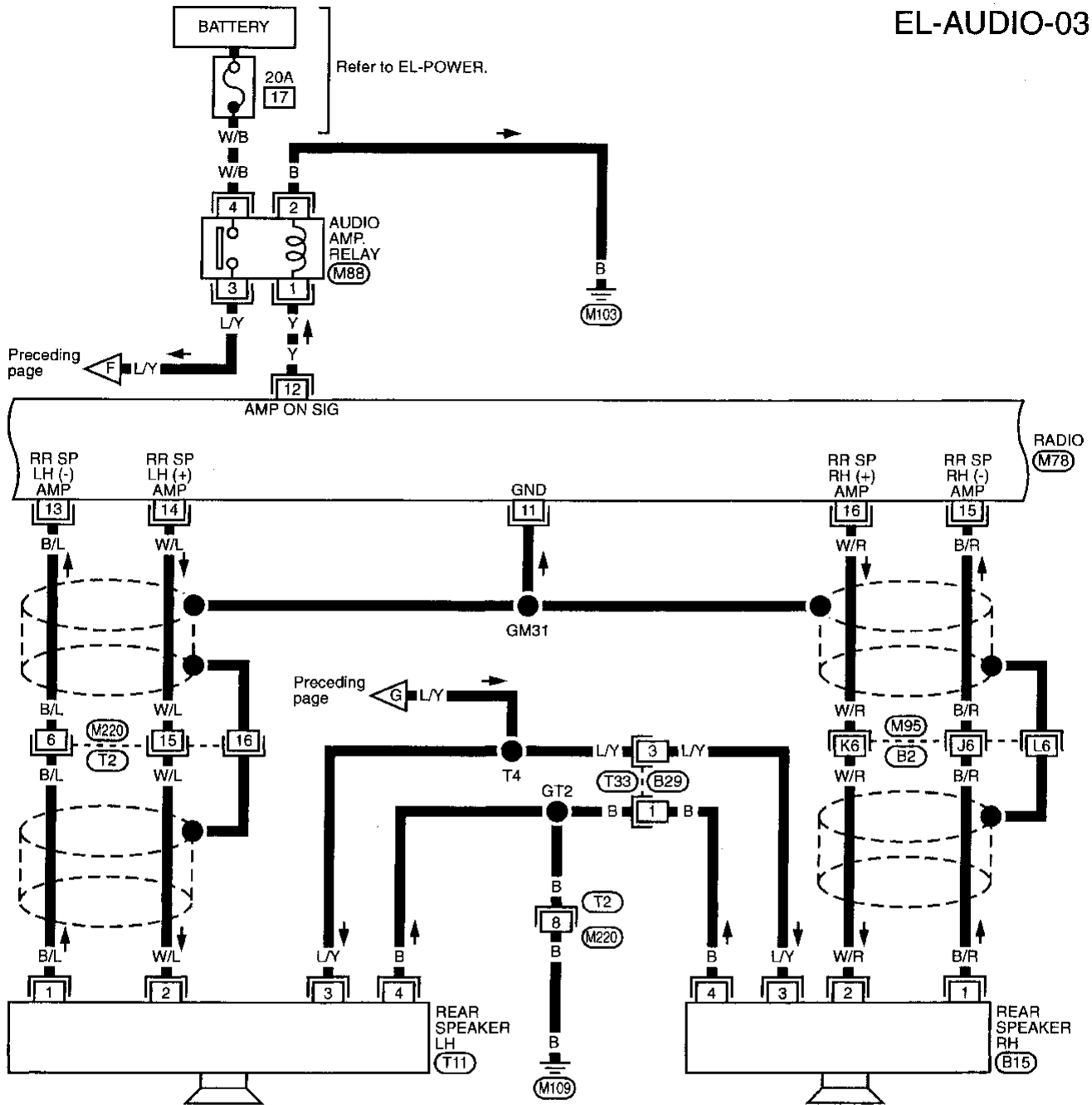
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AUDIO AND POWER ANTENNA

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

EL-AUDIO-03

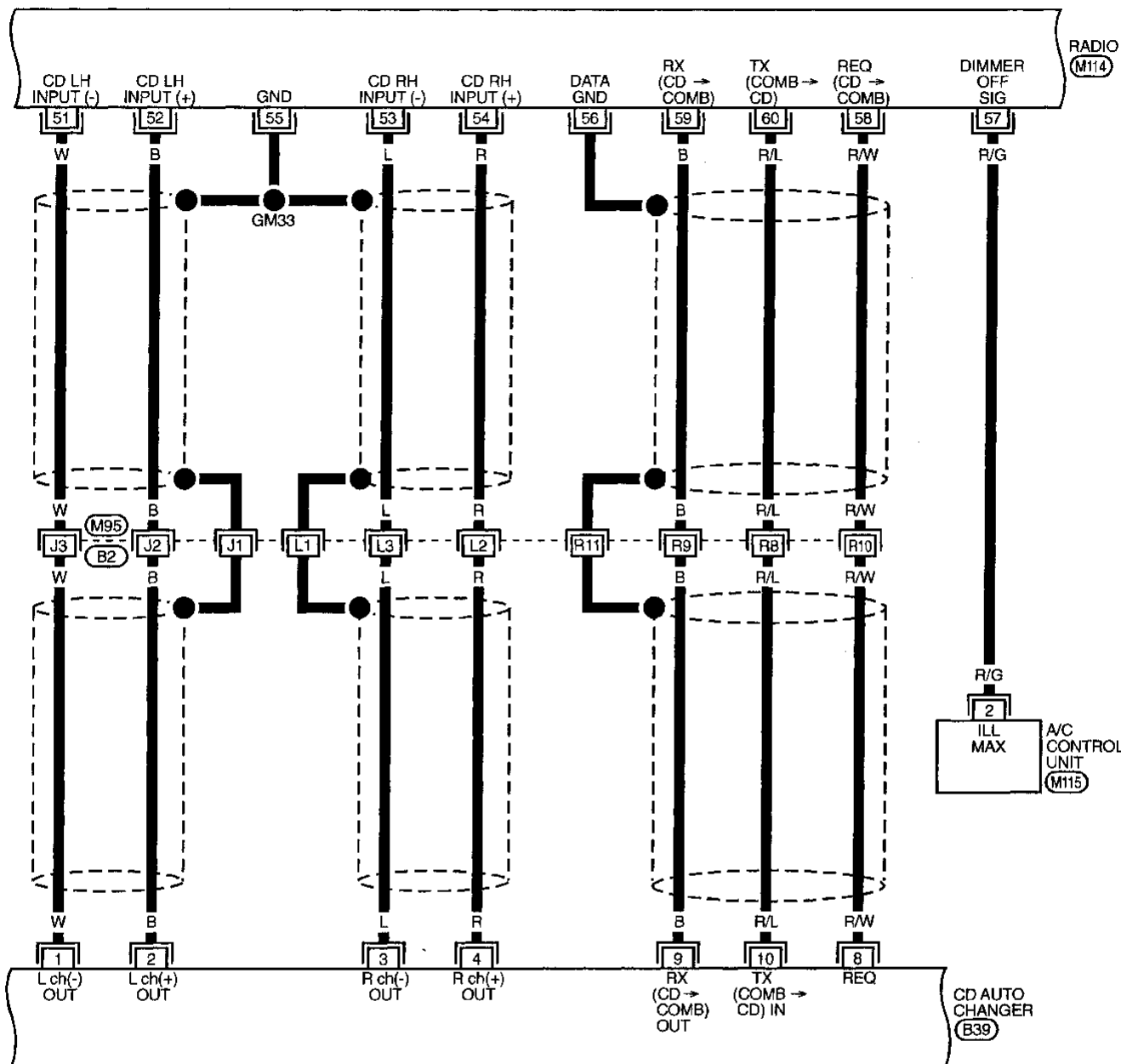


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 (M95) (B2)

AUDIO AND POWER ANTENNA

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

EL-AUDIO-04



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62	60	54	52	(M114) W
61	59	57	55	

3	2	1	(M115) W
8	7	6	

16	14	12	6	4	2	(B39) W
15	13	11	10	9	8	

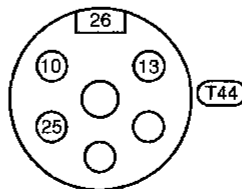
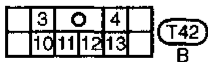
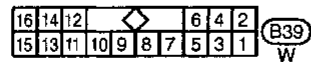
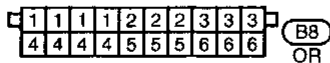
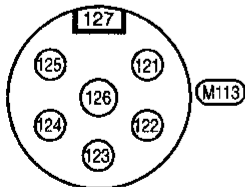
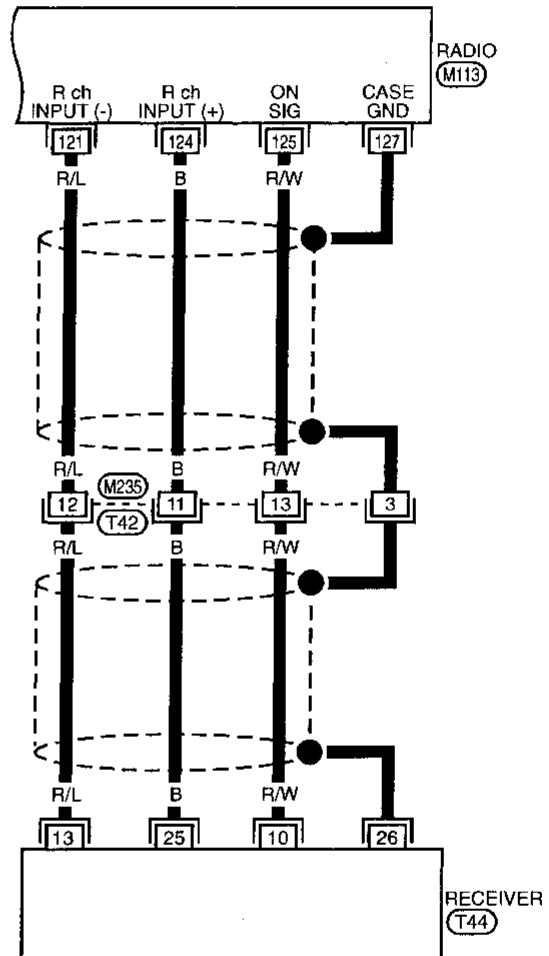
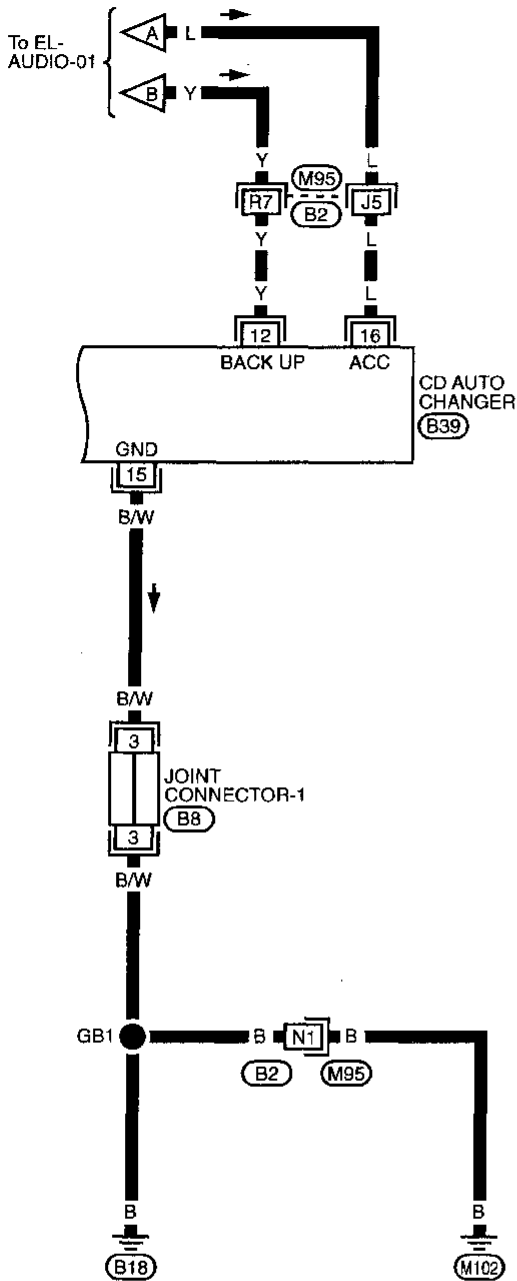
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 (M95), (B2)

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AUDIO AND POWER ANTENNA

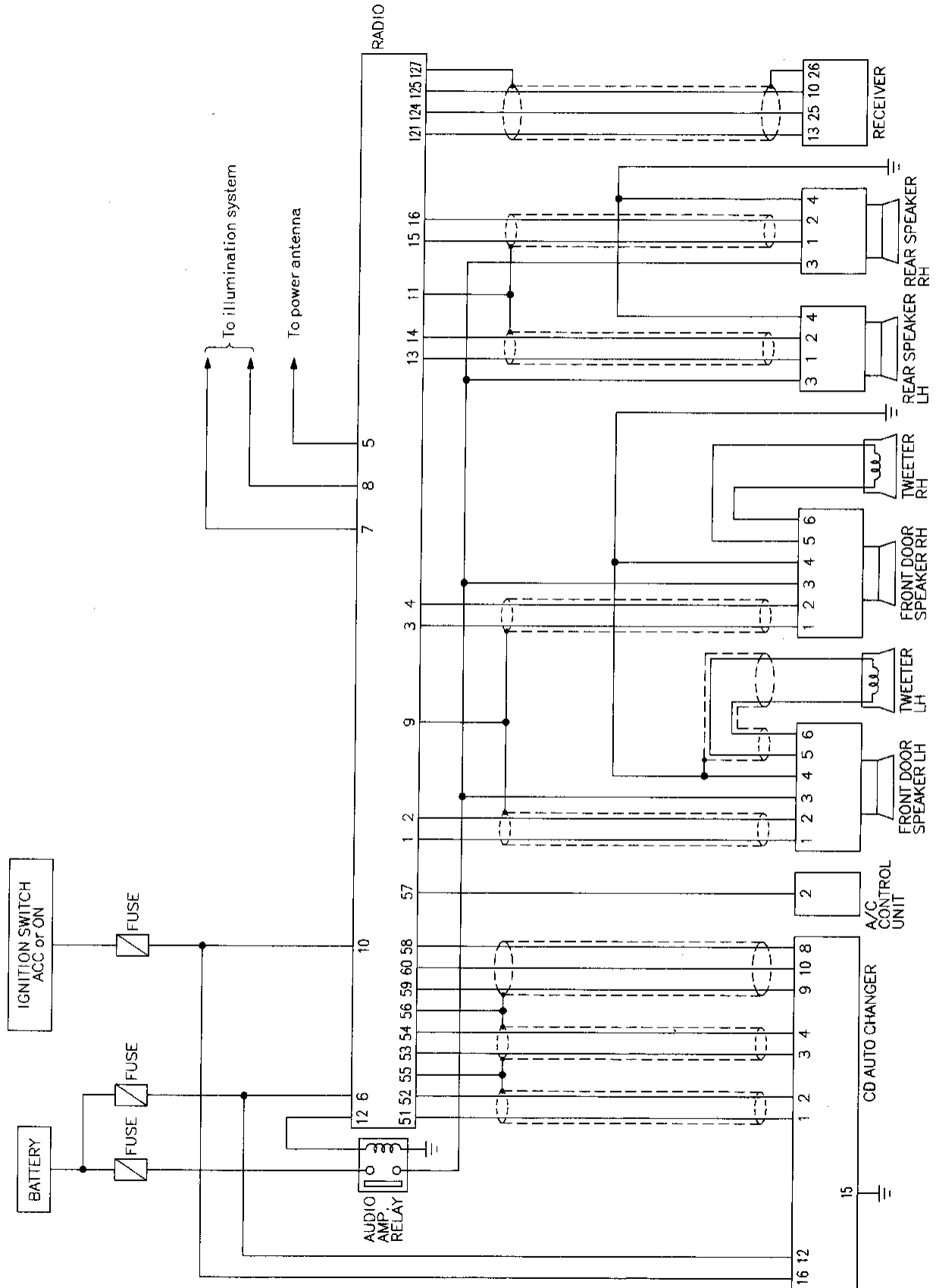
Audio/Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-05



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(M95) , (B2)

Schematic



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Power Antenna/System Description

Power is supplied at all times

- through 10A fuse [No. 21], located in the fuse block]
- to power antenna timer terminal ④.

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

- through 10A fuse [No. 9], located in the fuse block]
- to radio terminal ⑩.

Ground is supplied to the power antenna timer terminal ⑧ through body grounds B18 and M102.

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

- through radio terminal ⑤
- to power antenna timer terminal ⑤.
- to power antenna motor terminal ①
- through power antenna timer terminal ⑨.

Ground is supplied

- to power antenna motor terminal ②
- through power antenna motor terminal ⑩.

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 terminal ⑤
- to power antenna terminal ⑤.

Power is supplied

- to power antenna motor terminal ②
- through power antenna timer terminal ⑩.

Ground is supplied

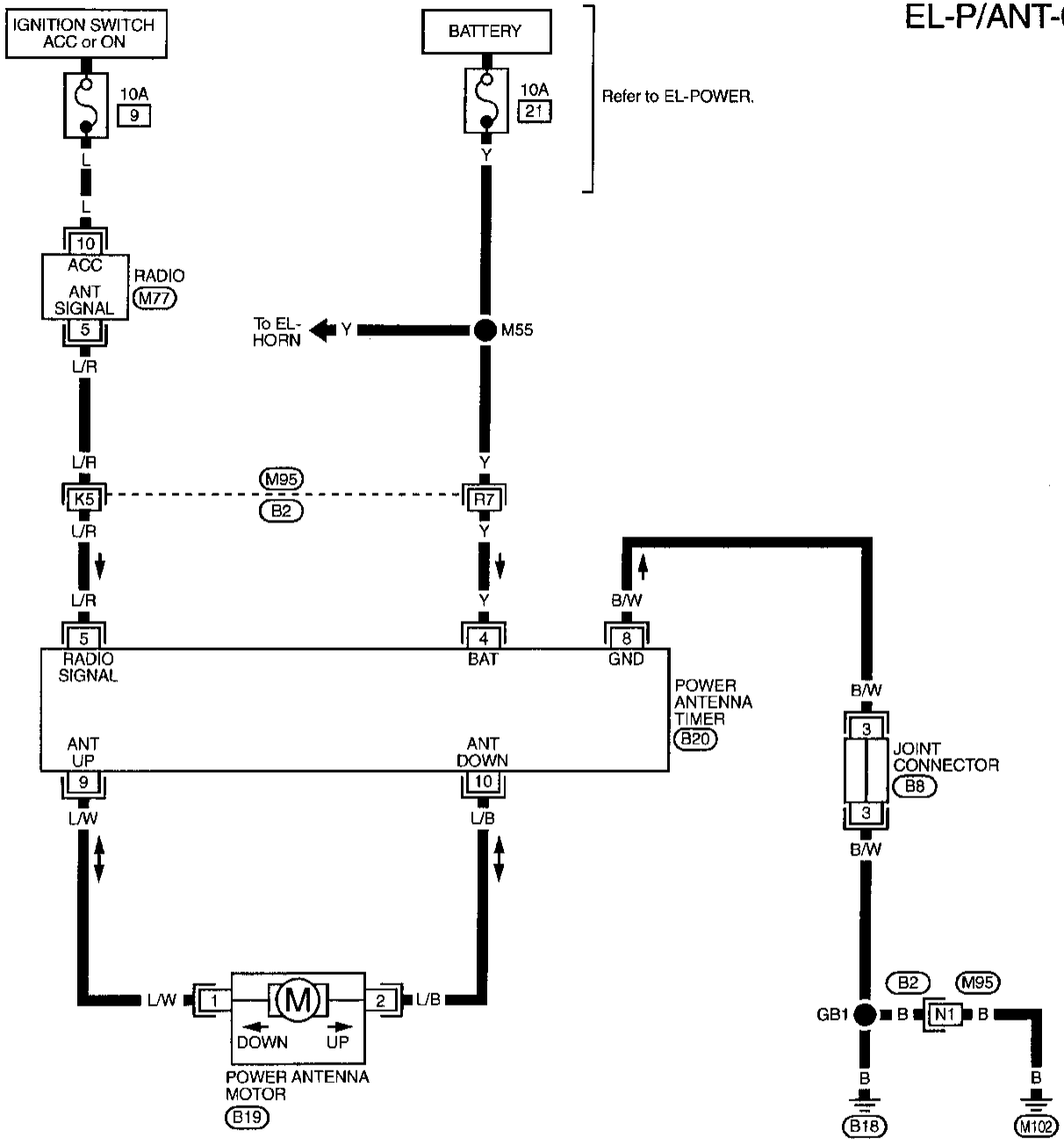
- to power antenna motor terminal ①
- through power antenna timer terminal ⑨.

The antenna retracts.

AUDIO AND POWER ANTENNA

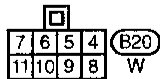
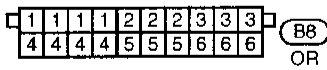
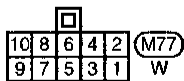
Power Antenna/Wiring Diagram — P/ANT —

EL-P/ANT-01



Refer to EL-POWER.

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(M95) (B2)

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

BOSE SYSTEM

Symptom	Possible causes	Repair order
Radio controls are operational, but no sound is heard from any speaker.	<ol style="list-style-type: none"> 1. 20A 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. 17), located in fuse block). Verify battery positive voltage is present at terminal 4 of audio amp. relay. 2. Check audio amp. relay. 3. Check audio amp. relay ground (Terminal 2). 4. Turn ignition switch ACC and radio ON. Verify battery positive voltage is present at terminal 1 of audio amp. relay. 5. Check radio output voltage. 6. Remove radio for repair.
Individual speaker is noisy or inoperative.	<ol style="list-style-type: none"> 1. Speaker ground 2. Power supply 3. Radio output 4. Speaker 	<ol style="list-style-type: none"> 1. Check speaker ground (Terminal 4: FR LH, 4: FR RH, 4: RR LH, 4: 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)

POWER ANTENNA

Symptom	Possible causes	Repair order
Power antenna does not operate.	1. 10A fuse	1. Check 10A fuse (No. 21, located in fuse block). Verify that battery positive voltage is present at terminal ④ of power antenna timer.
	2. 10A fuse	2. Check 10A fuse (No. 9, located in fuse block). Turn ignition switch ON and verify that battery positive voltage is present at terminal ⑩ of radio.
	3. Radio signal	3. Turn Ignition switch and radio ON. Verify that battery positive voltage is present at terminal ⑤ of power antenna timer.
	4. Power antenna timer ground	4. Check power antenna timer ground (Terminal ⑧).
	5. Power antenna timer and motor	5. Check power antenna timer and motor.

ANTENNA INSPECTION

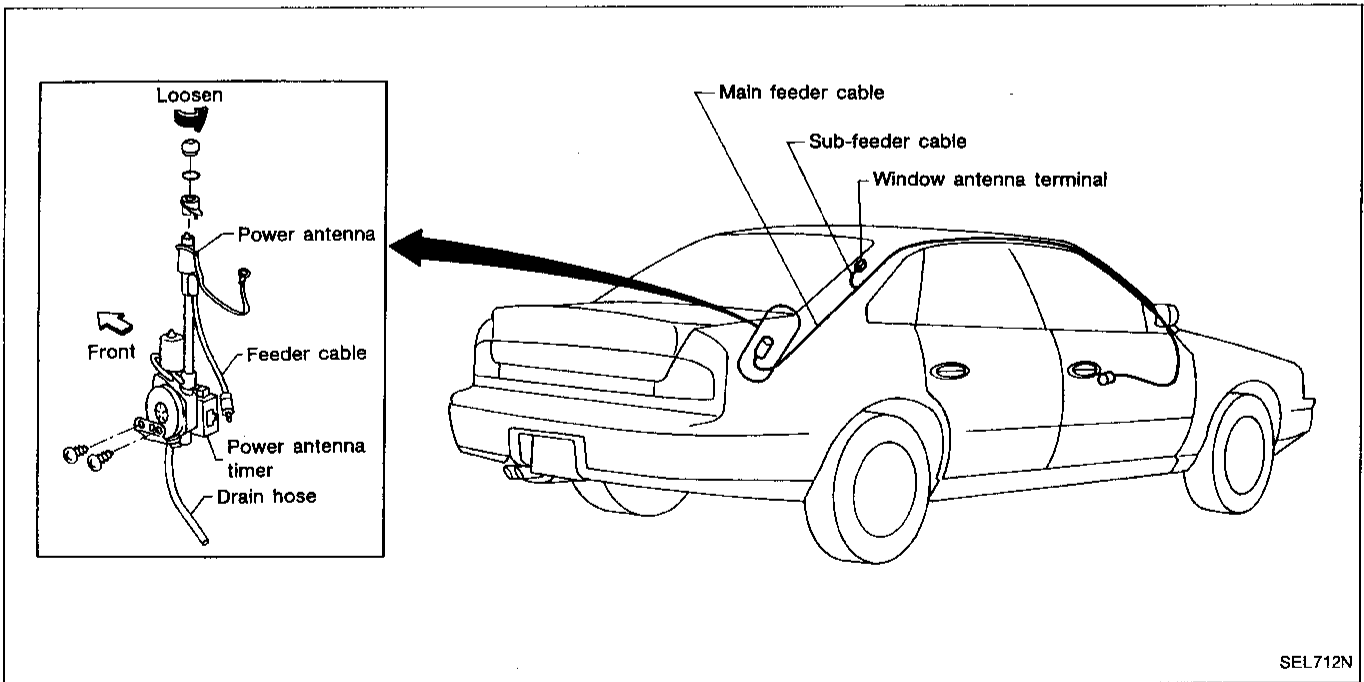
- Using a jumper wire, clip an auxiliary ground between antenna and body.
 - If reception improves, check antenna ground (at body surface).
 - If reception does not improve, check main feeder cable for short circuit or open circuit.

RADIO INSPECTION

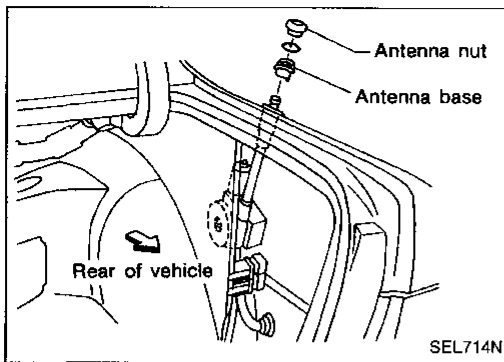
All voltage inspections are made with:

- 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



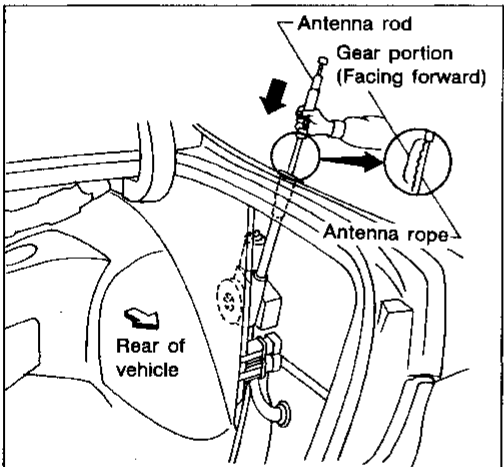
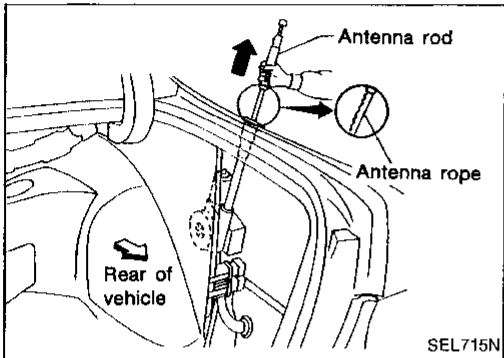
AUDIO AND POWER ANTENNA



Antenna Rod Replacement

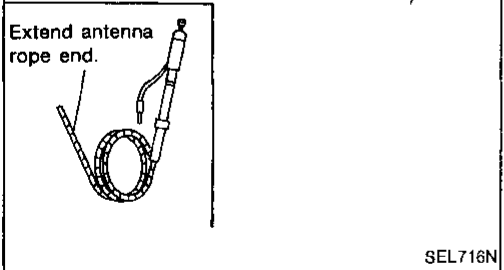
REMOVAL

1. Remove antenna nut and antenna base.
2. Withdraw antenna rod while raising it by operating antenna motor.



INSTALLATION

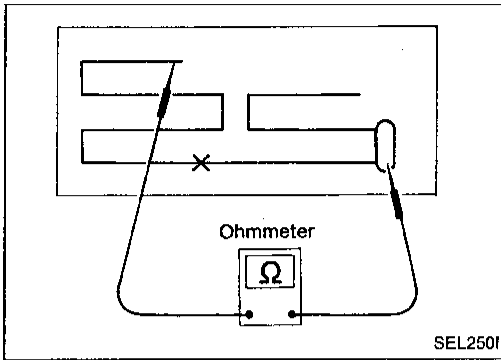
1. Lower antenna rod by operating antenna motor.
2. Insert gear section of antenna rope into place with it facing toward antenna motor.
3. As soon as antenna rope is wound on antenna motor, stop antenna motor. Insert antenna rod lower end into antenna motor pipe.
4. Retract antenna rod completely by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



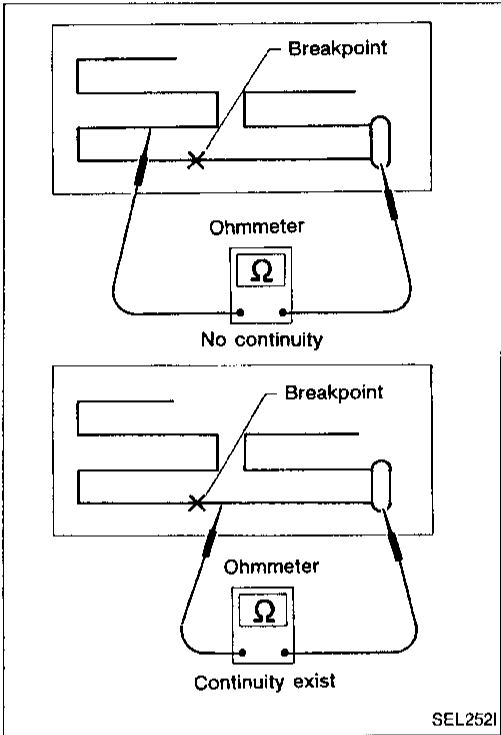
Window Antenna Repair

ELEMENT CHECK

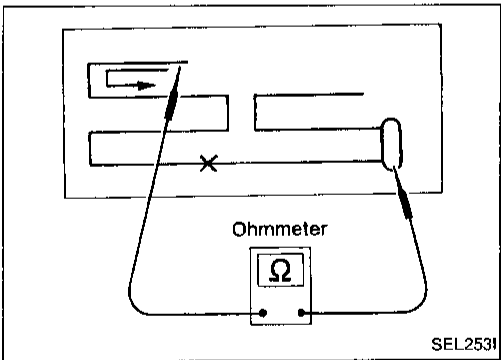
1. Attach probe circuit tester (in ohm range) to antenna terminal on each side.



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-138).

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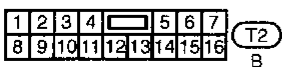
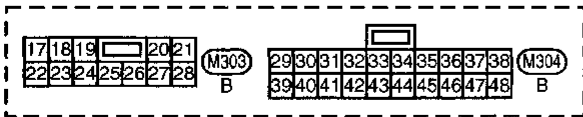
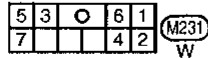
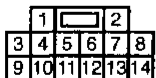
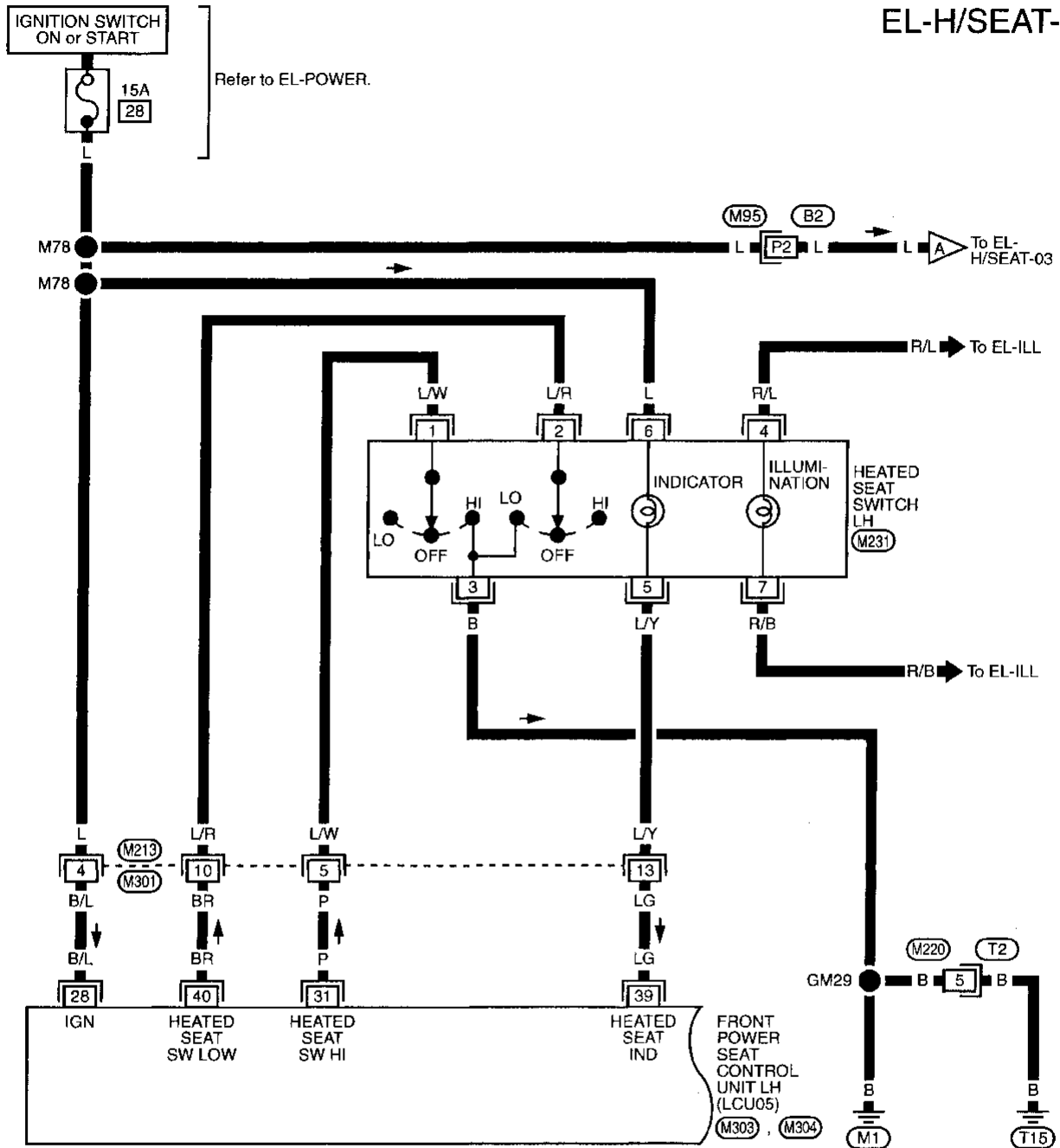
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HEATED SEAT

Heated Seat/Wiring Diagram — HSEAT —

EL-H/SEAT-01



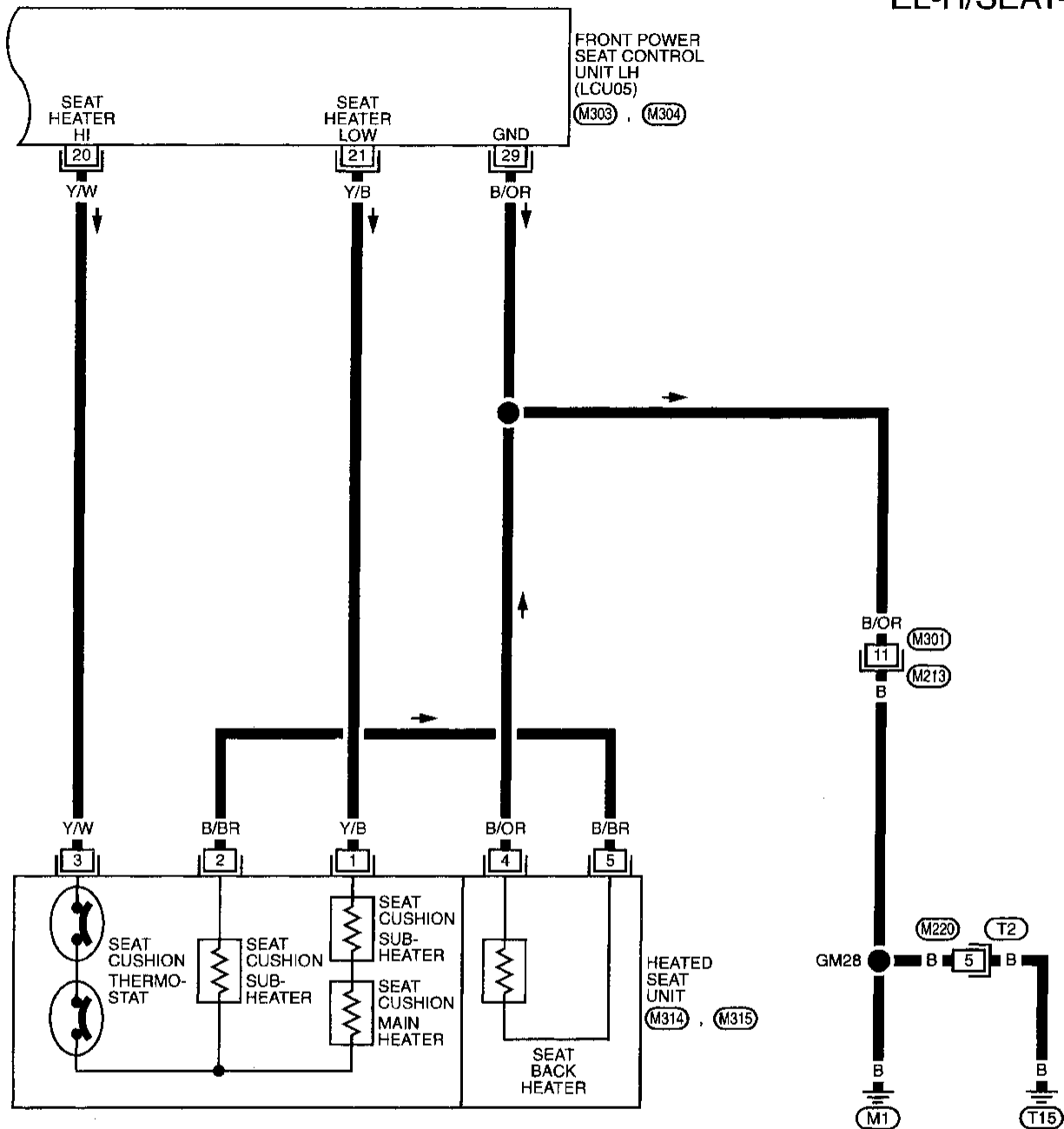
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(M95) , (B2)

HEATED SEAT

Heated Seat/Wiring Diagram — HSEAT — (Cont'd)

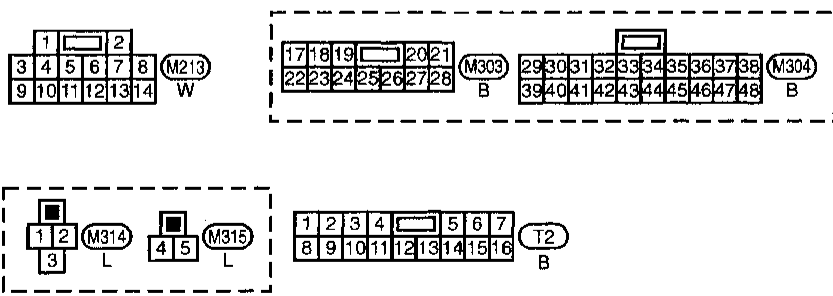
EL-H/SEAT-02



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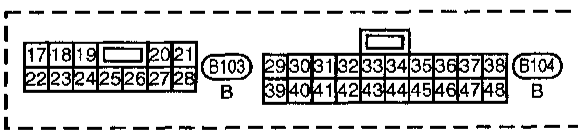
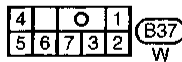
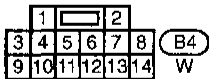
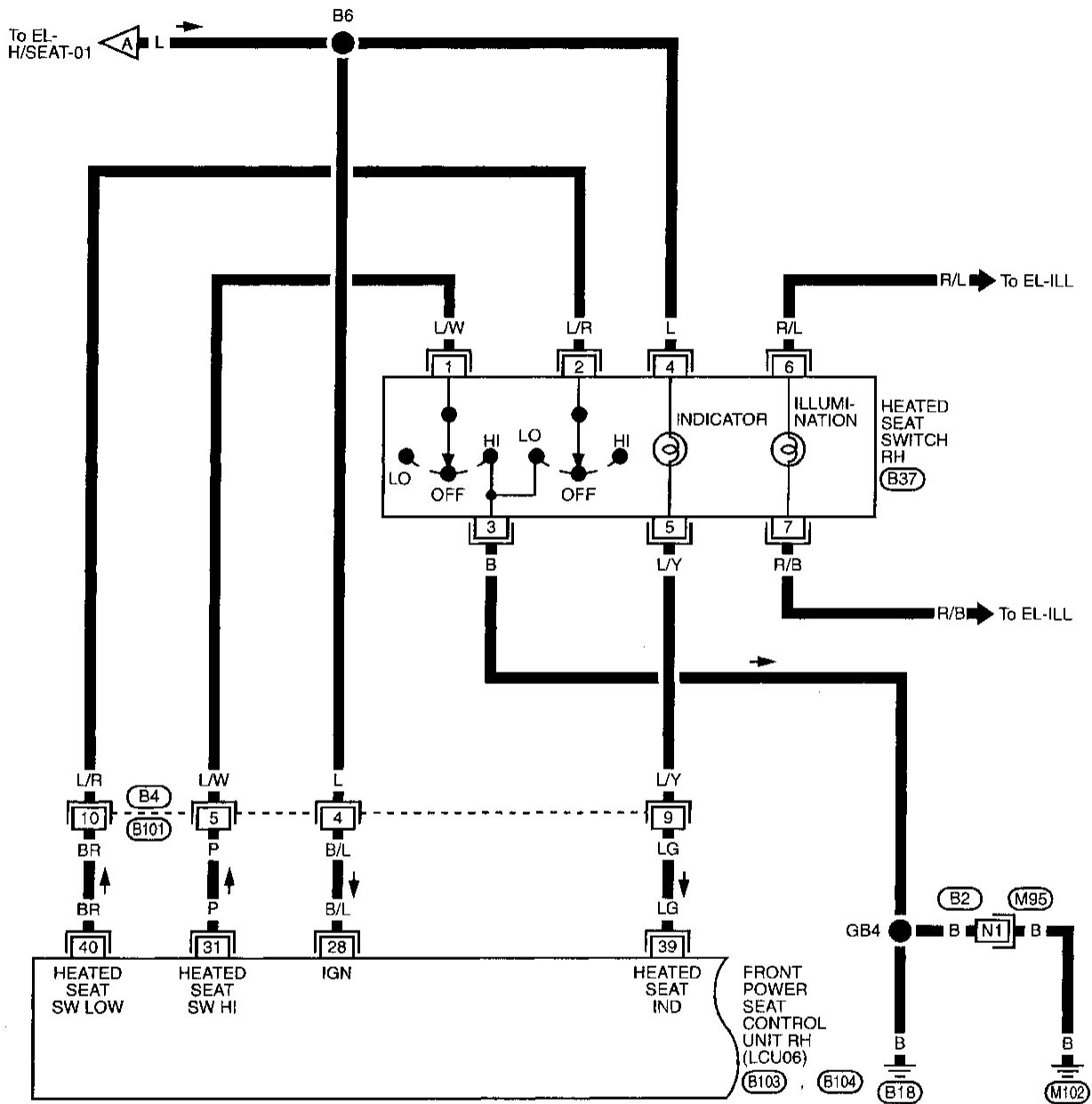
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HEATED SEAT

Heated Seat/Wiring Diagram — HSEAT — (Cont'd)

EL-H/SEAT-03

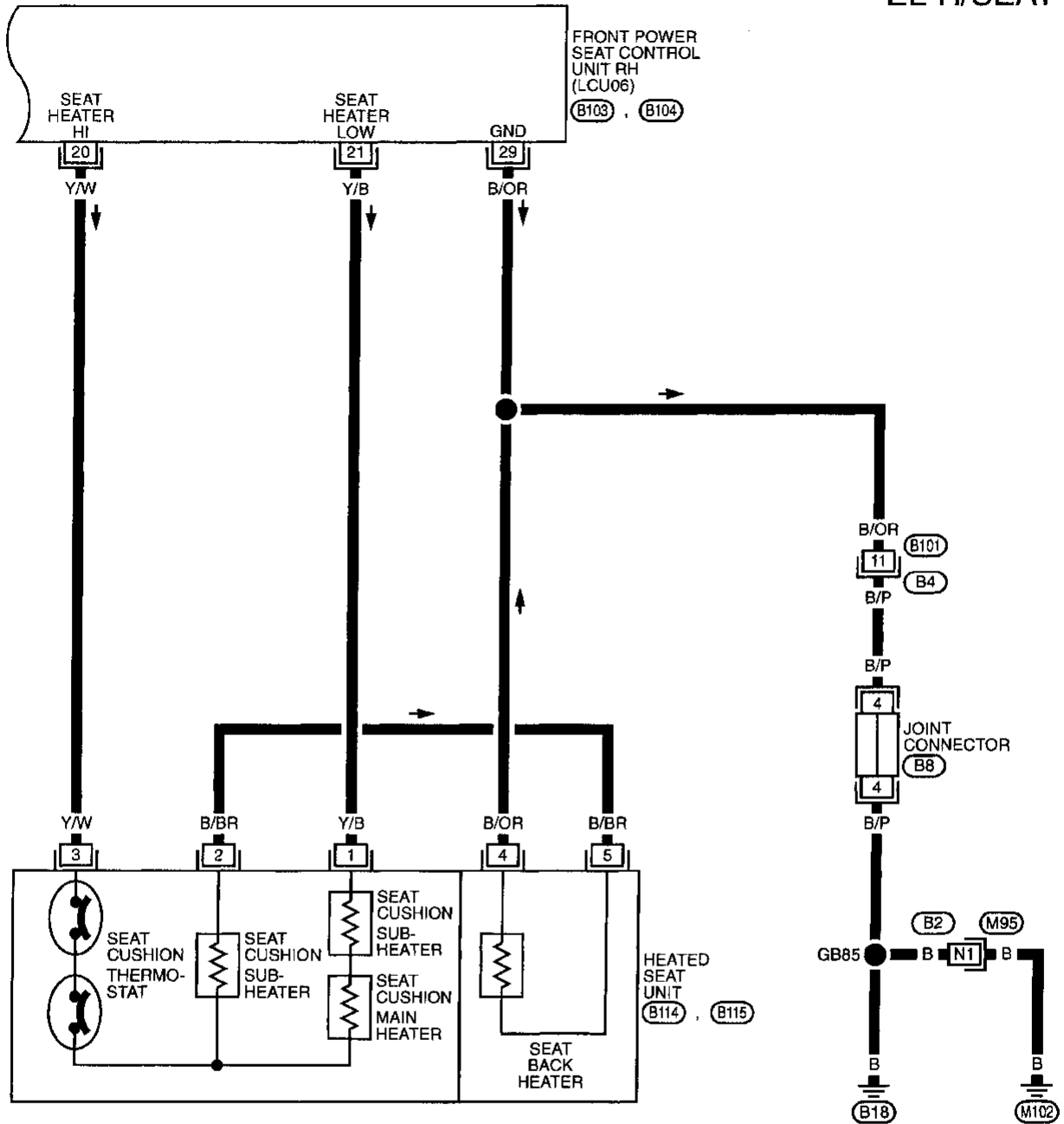


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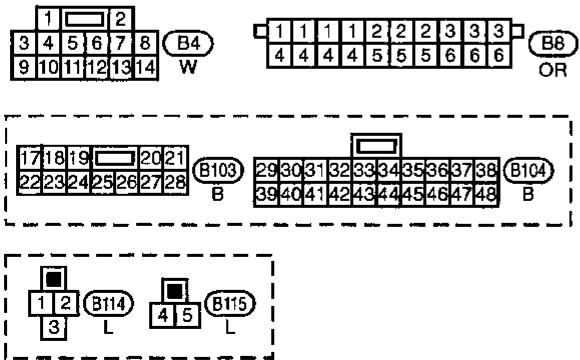
HEATED SEAT

Heated Seat/Wiring Diagram — HSEAT — (Cont'd)

EL-H/SEAT-04



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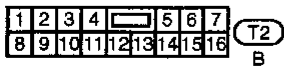
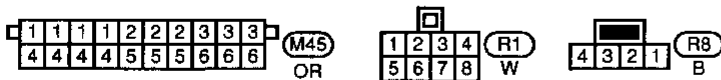
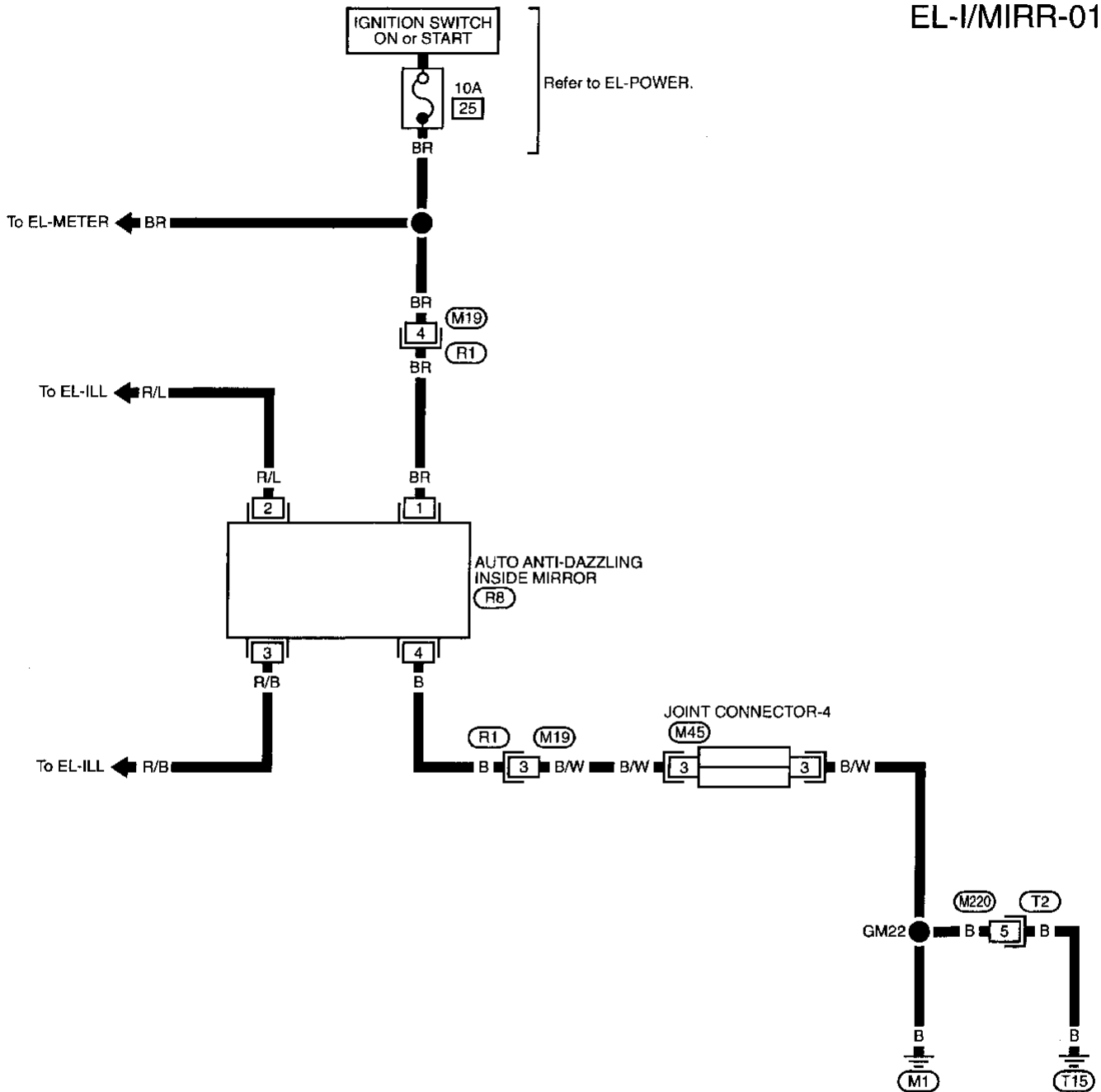
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INSIDE MIRROR

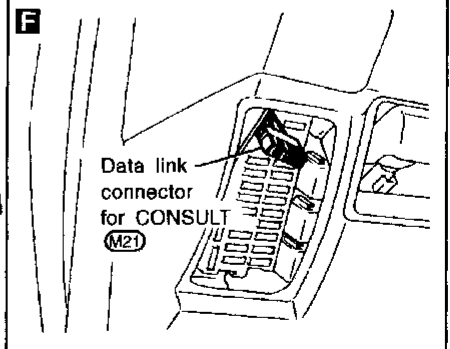
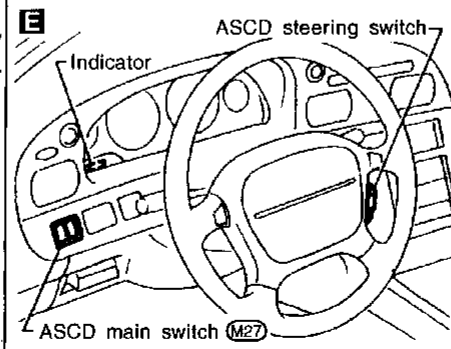
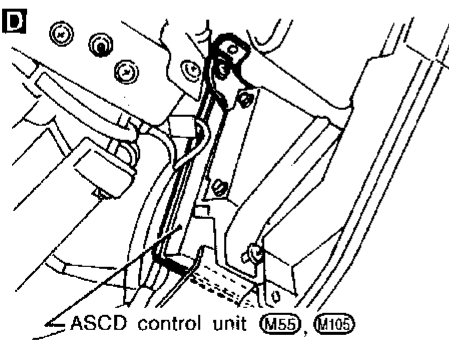
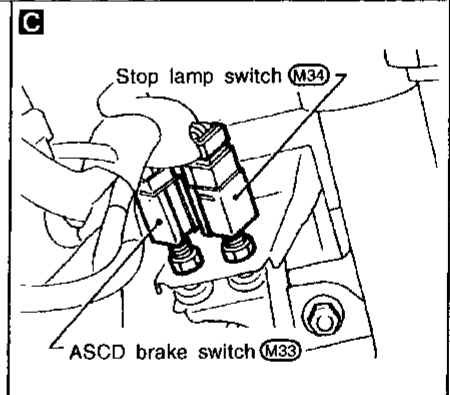
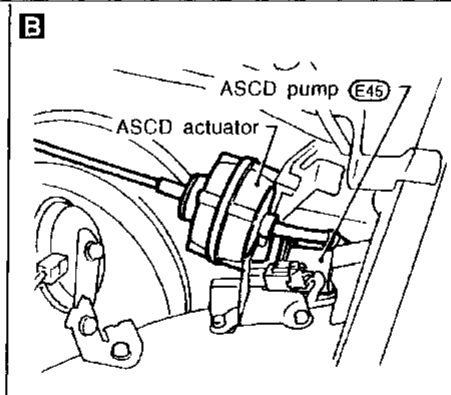
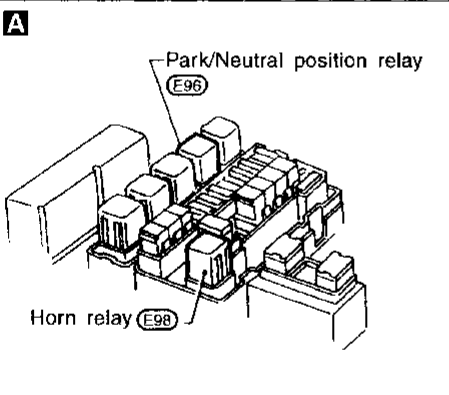
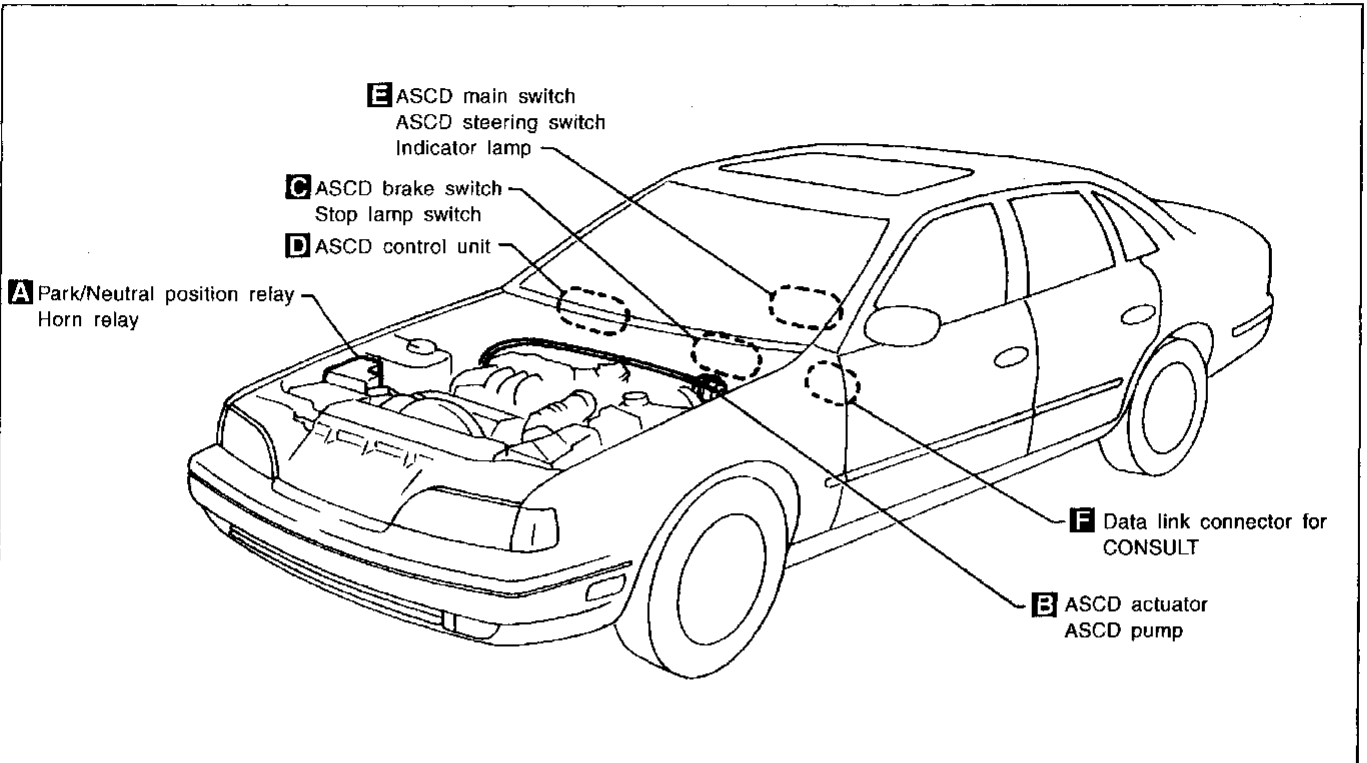
Auto Anti-dazzling Inside Mirror/Wiring Diagram — I/MIRR —

EL-I/MIRR-01



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location



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

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 10A fuse [No. 26], located in the fuse block]
- to ASCD main switch terminal ① and
- to ASCD hold relay terminal ⑤.

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 ②.

Ground is supplied

- to ASCD hold relay terminal ①
- through body grounds (M1) and (T15).

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

- from terminal ③ of the ASCD hold relay
- to PARK/NEUTRAL position relay terminal ④.

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 (M1) and (T15).

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
- PARK/NEUTRAL position relay and
- ASCD cancel switch.

A vehicle speed input is supplied

- from terminal 45 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. 18], located in the fuse block].

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 15A fuse (No. 33), located in the fuse block)
- to horn relay terminal ②
- through terminal ① of the horn relay
- to ASCD steering switch terminal ⑦.

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

- from terminal ⑧ of the ASCD steering switch
- to ASCD control unit terminal ②.

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

- from terminal ⑨ 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 ①.

Power is interrupted when

- the selector lever is placed in P or N
- the brake pedal is depressed.

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 actuator terminal ①.

Ground is supplied to the vacuum motor

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

Ground is supplied to the air valve

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

Ground is supplied to the release valve

- from terminal ⑭ of the ASCD control unit
- to ASCD actuator 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 ⑶.

Ground is supplied

- to combination meter terminal ⑨
- through body grounds M1 and T15.

With power and ground supplied, the CRUISE indicator illuminates.

When the RESUME/ACCEL button is depressed, a signal is sent

- from terminal ⑫ of the ASCD control unit
- to A/T control unit terminal ⑩.

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

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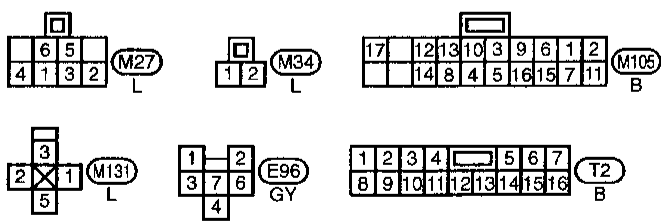
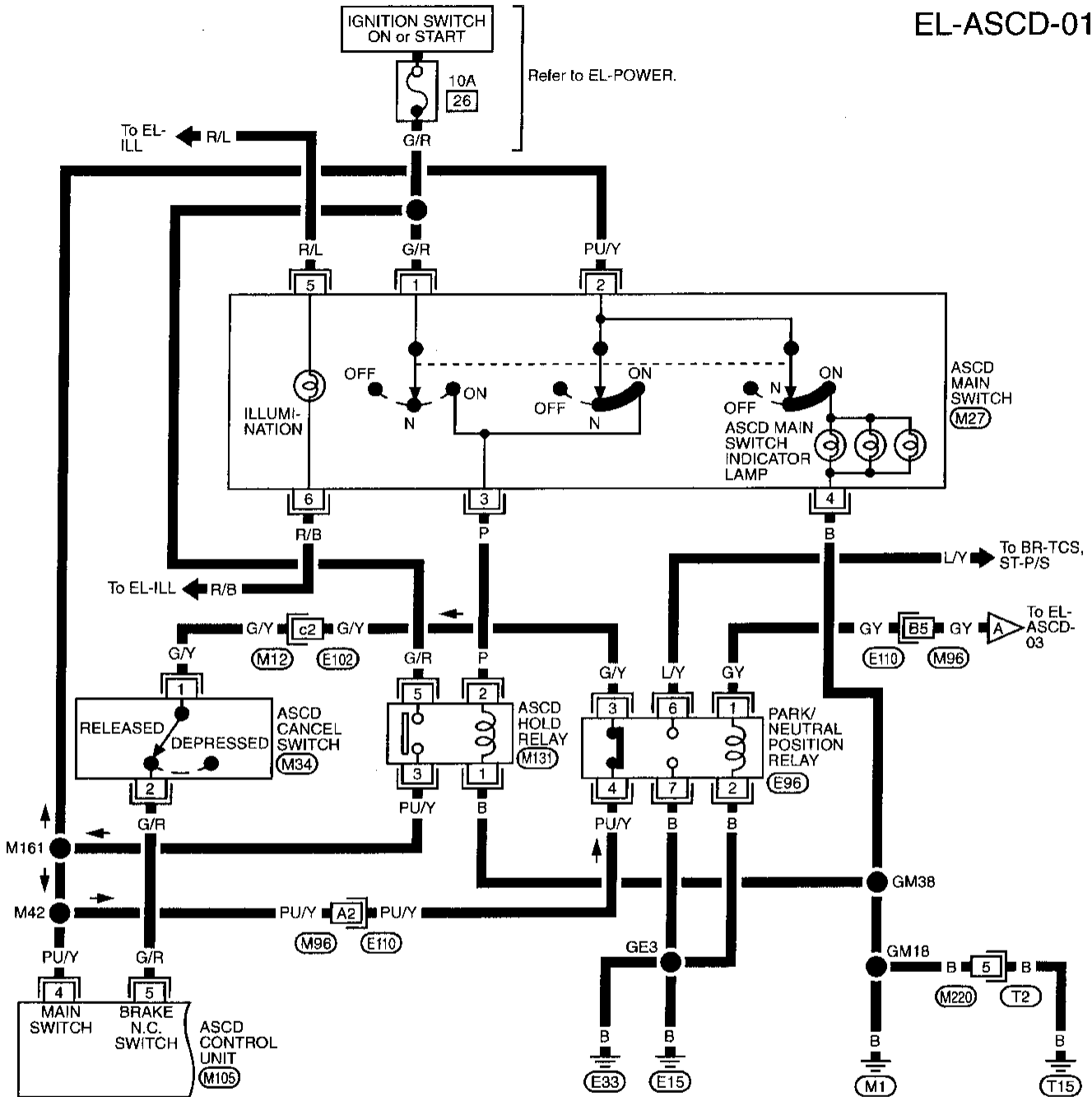
EL

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD —

EL-ASCD-01



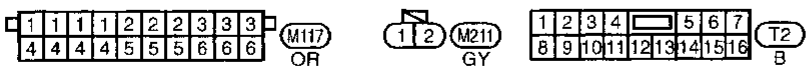
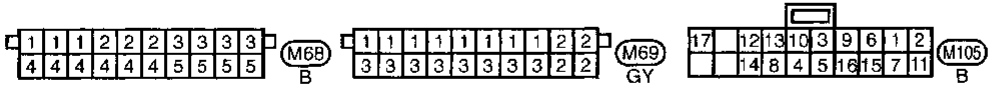
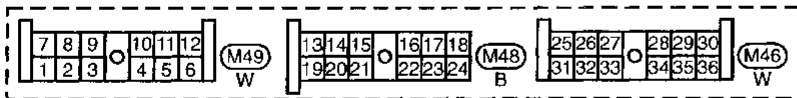
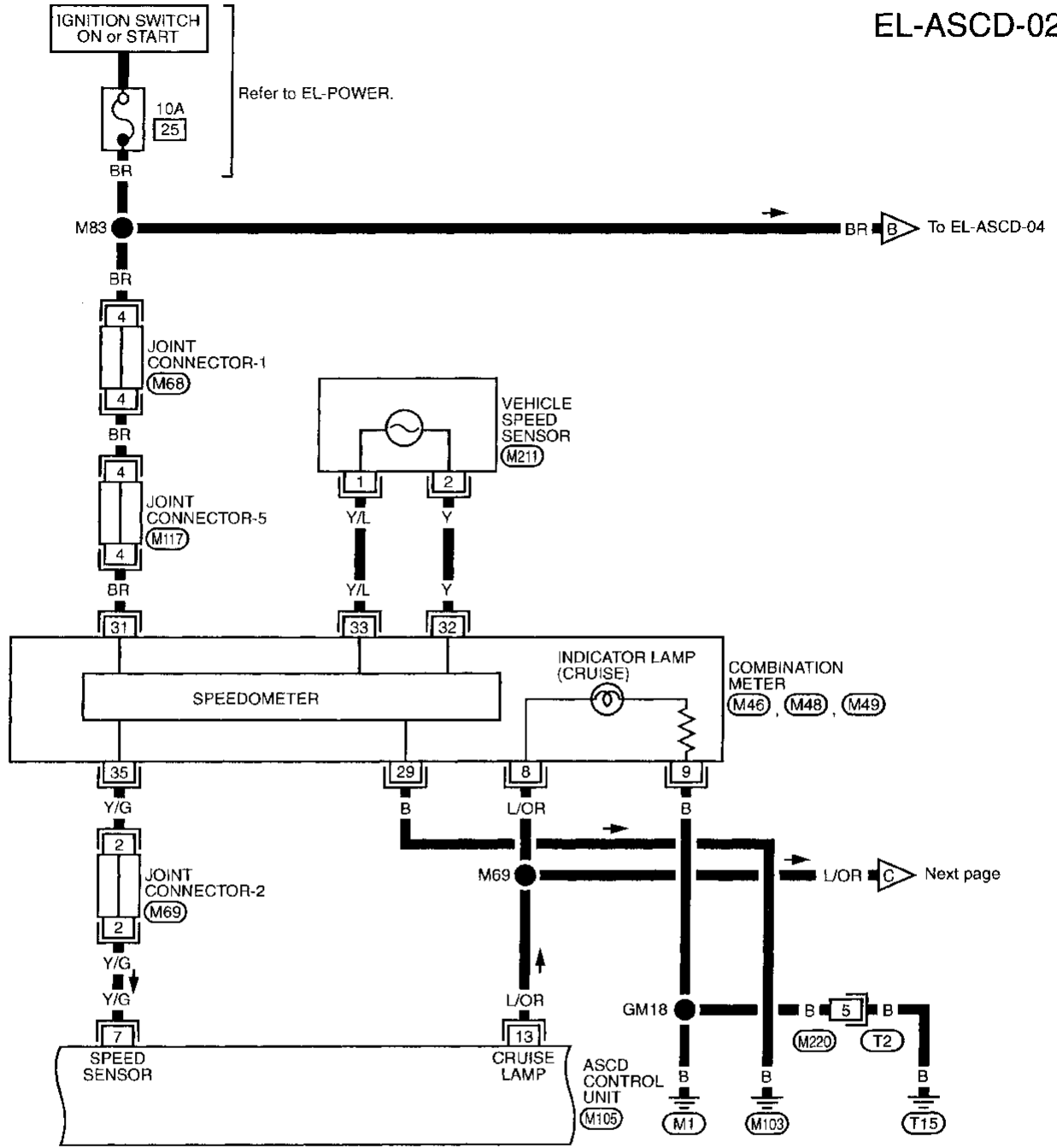
Refer to last page (Foldout page).

- (E102) (M12)
- (E110) (M96)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-02



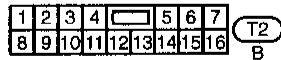
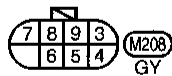
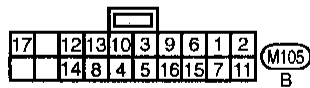
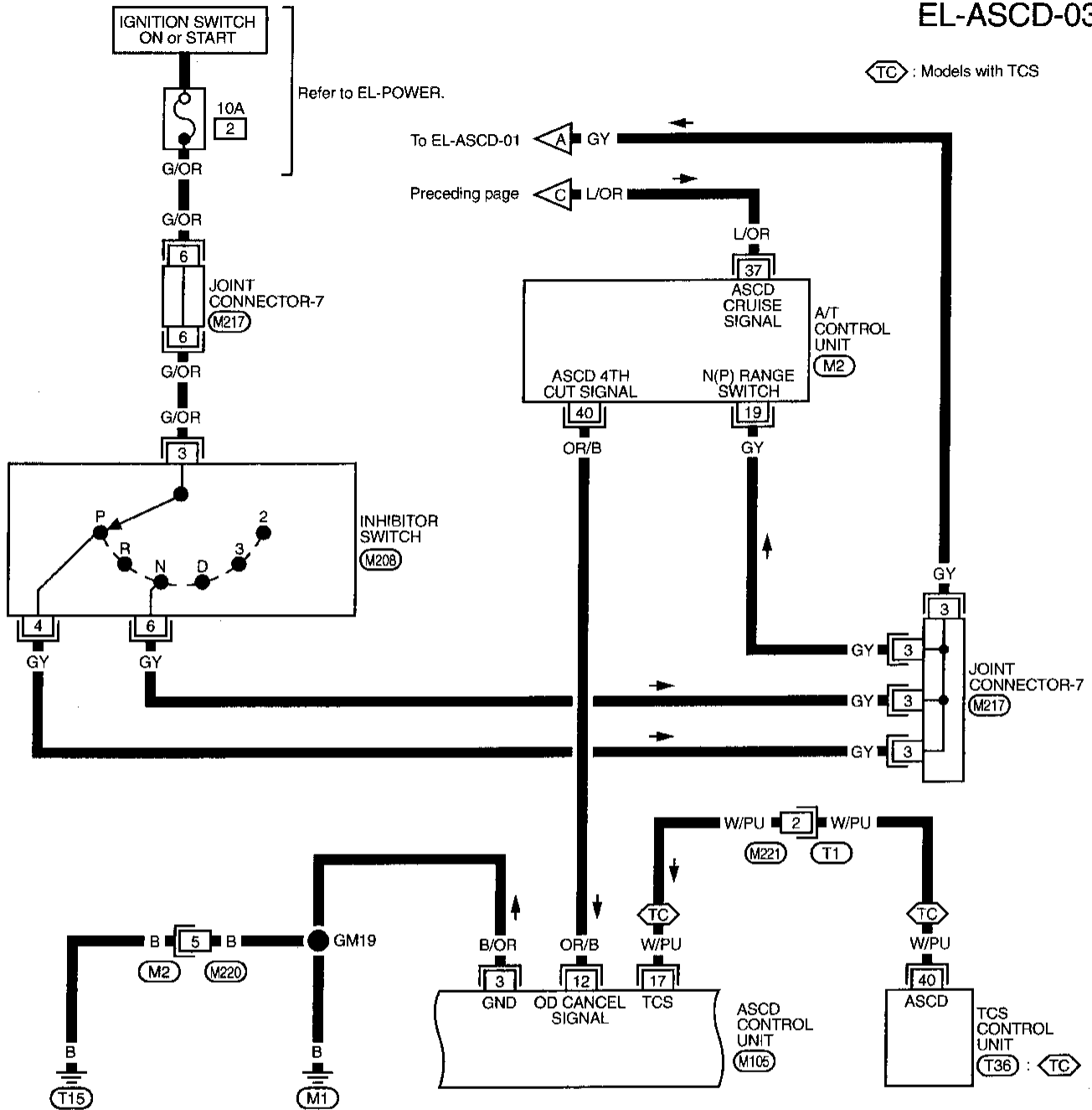
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

EL-ASCD-03

TC : Models with TCS



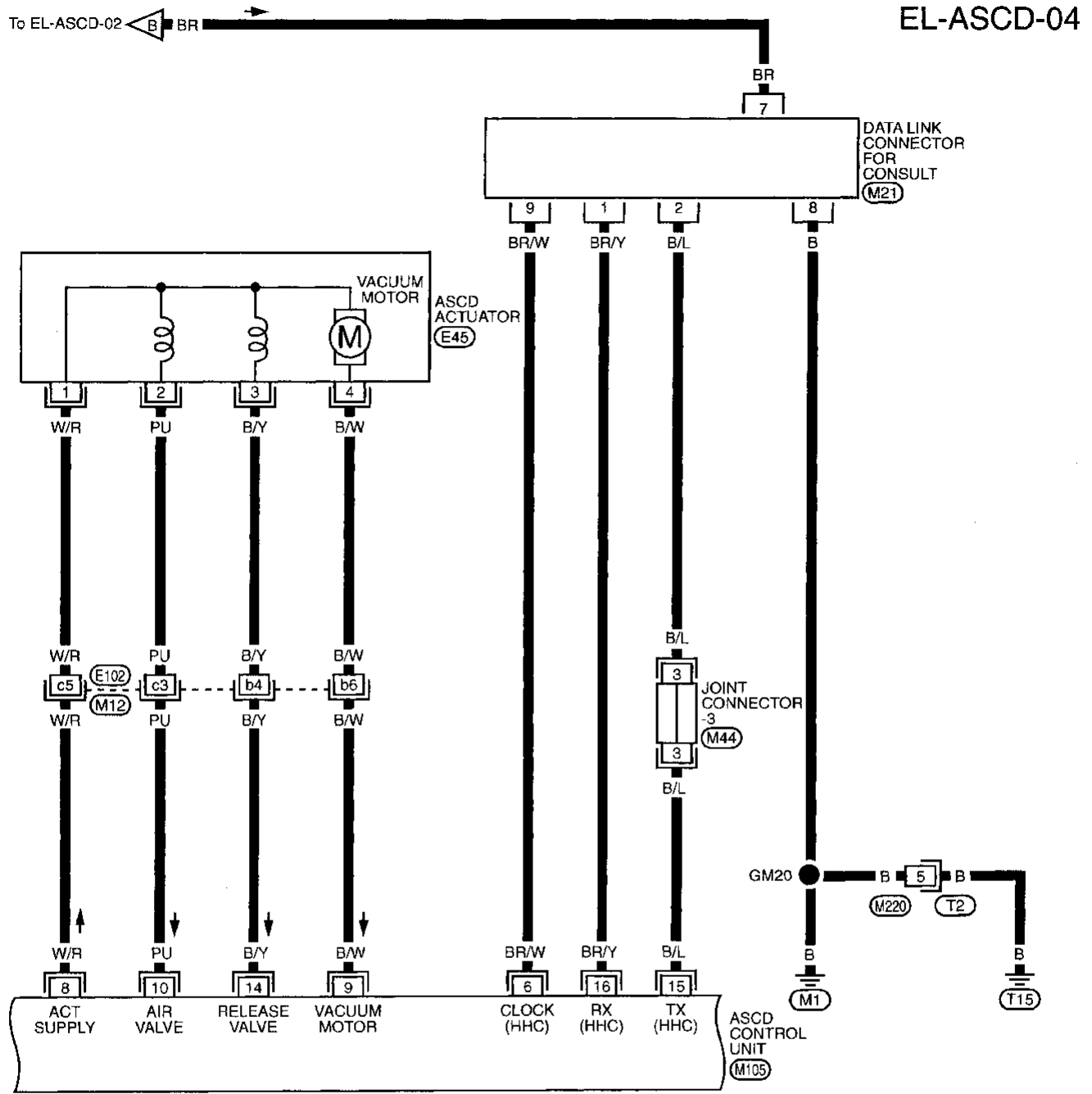
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M2

T36

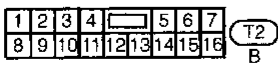
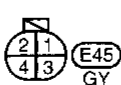
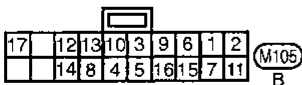
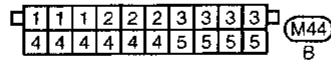
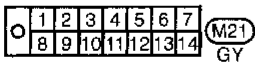
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)



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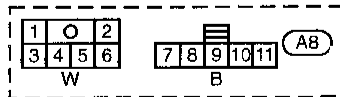
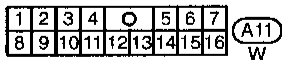
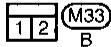
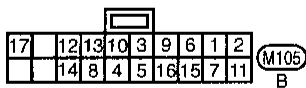
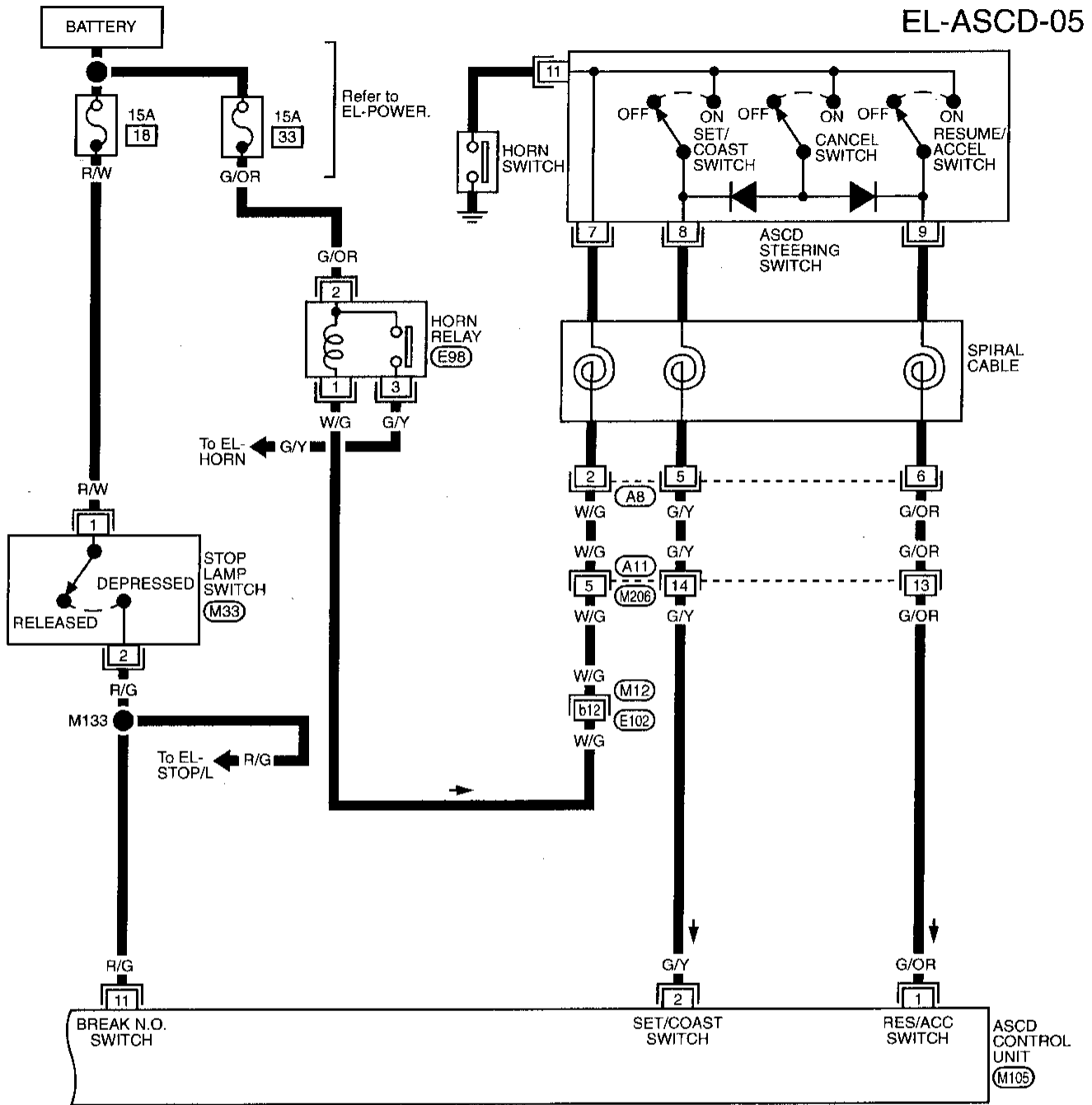
Refer to last page (Foldout page).
 (E102) , (M12)



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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

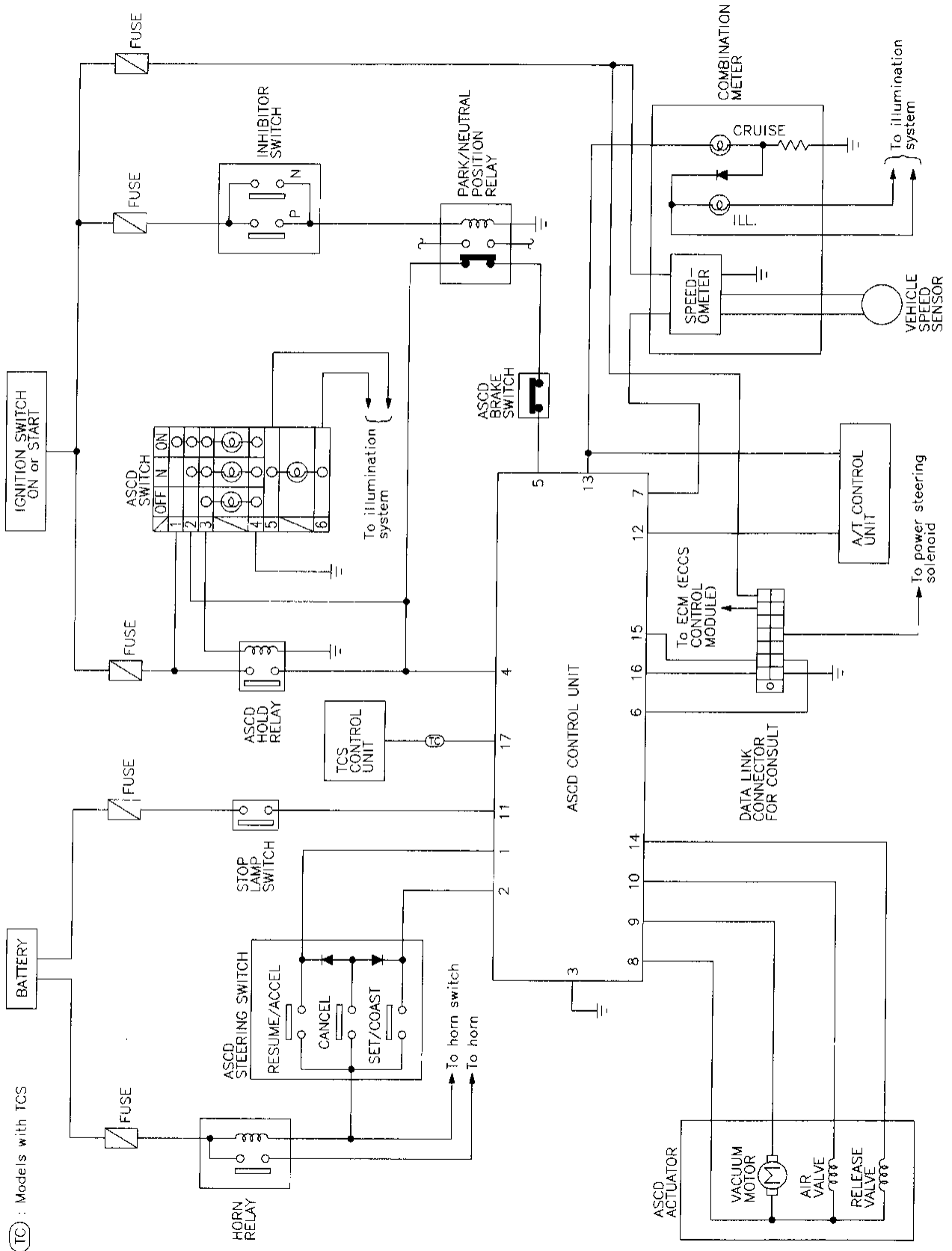
Wiring Diagram — ASCD — (Cont'd)



Refer to last page (Foldout page).
(E102) . (M12)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

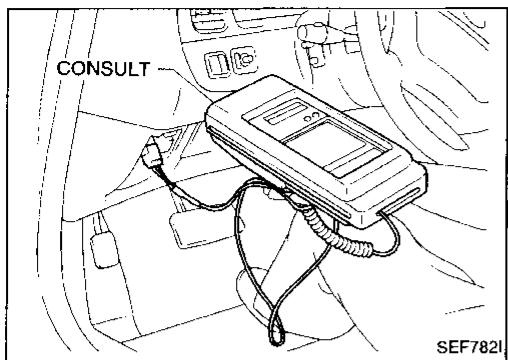
Schematic



(TC) : Models with TCS

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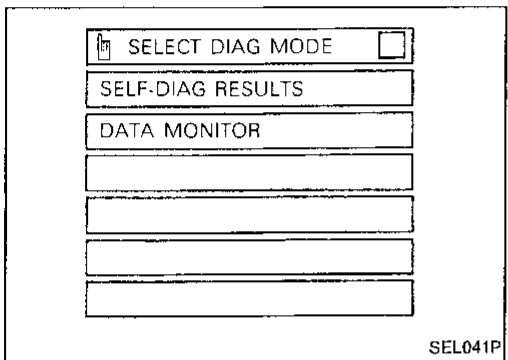
AUTOMATIC SPEED CONTROL DEVICE (ASCD)



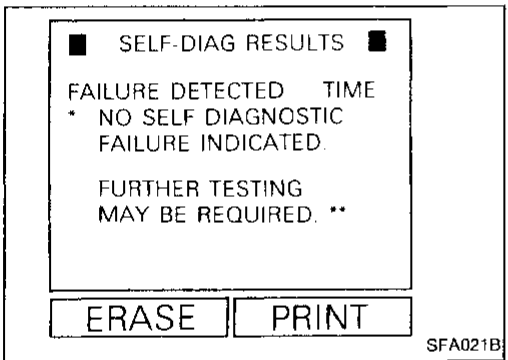
Trouble Diagnoses

CONSULT

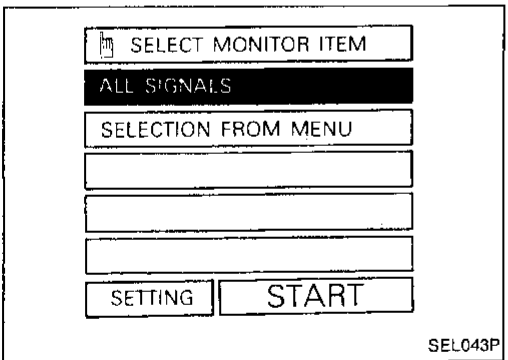
1. Turn off ignition switch.
2. Connect "CONSULT" to Data link connector for CONSULT.



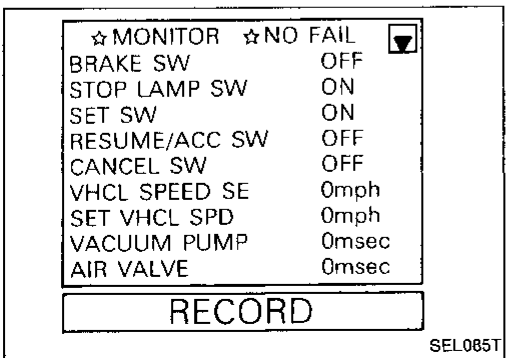
3. Turn on ignition switch.
4. Turn on ASCD main switch.
5. Touch START (on CONSULT display).
6. Touch ASCD.
7. Touch SELF-DIAG RESULTS.



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



8. Touch DATA MONITOR.



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

For further information, read the CONSULT Operation Manual.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

Self-diagnostic results

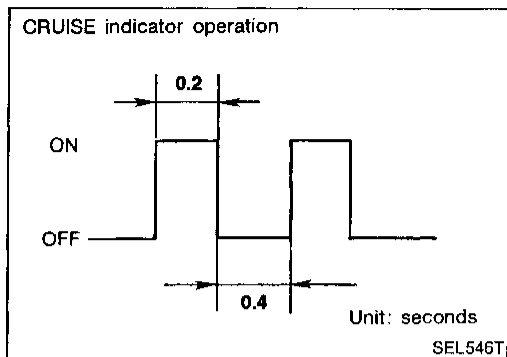
Diagnostic item	Description	Repair/Check order
* NO SELF DIAGNOSTIC FAILURE INDICATED. FURTHER TESTING MAY BE REQUIRED.**	<ul style="list-style-type: none"> ● Even if no self diagnostic failure is indicated, further testing may be required as far as the customer complains. 	—
POWER SUPPLY-VALVE	<ul style="list-style-type: none"> ● The power supply circuit for the valves is open. (An abnormally high voltage is entered.) 	Diagnostic procedure 7 (EL-180)
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-180)
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-180)
VHCL SP-S/FAILSAFE	<ul style="list-style-type: none"> ● The vehicle speed sensor or the fall-safe circuit is malfunctioning. 	Diagnostic procedure 6 (EL-179)
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-180)
BRAKE SW/STOP/L SW	<ul style="list-style-type: none"> ● The brake switch or stop lamp switch is malfunctioning. 	Diagnostic procedure 4 (EL-177)

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.

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.

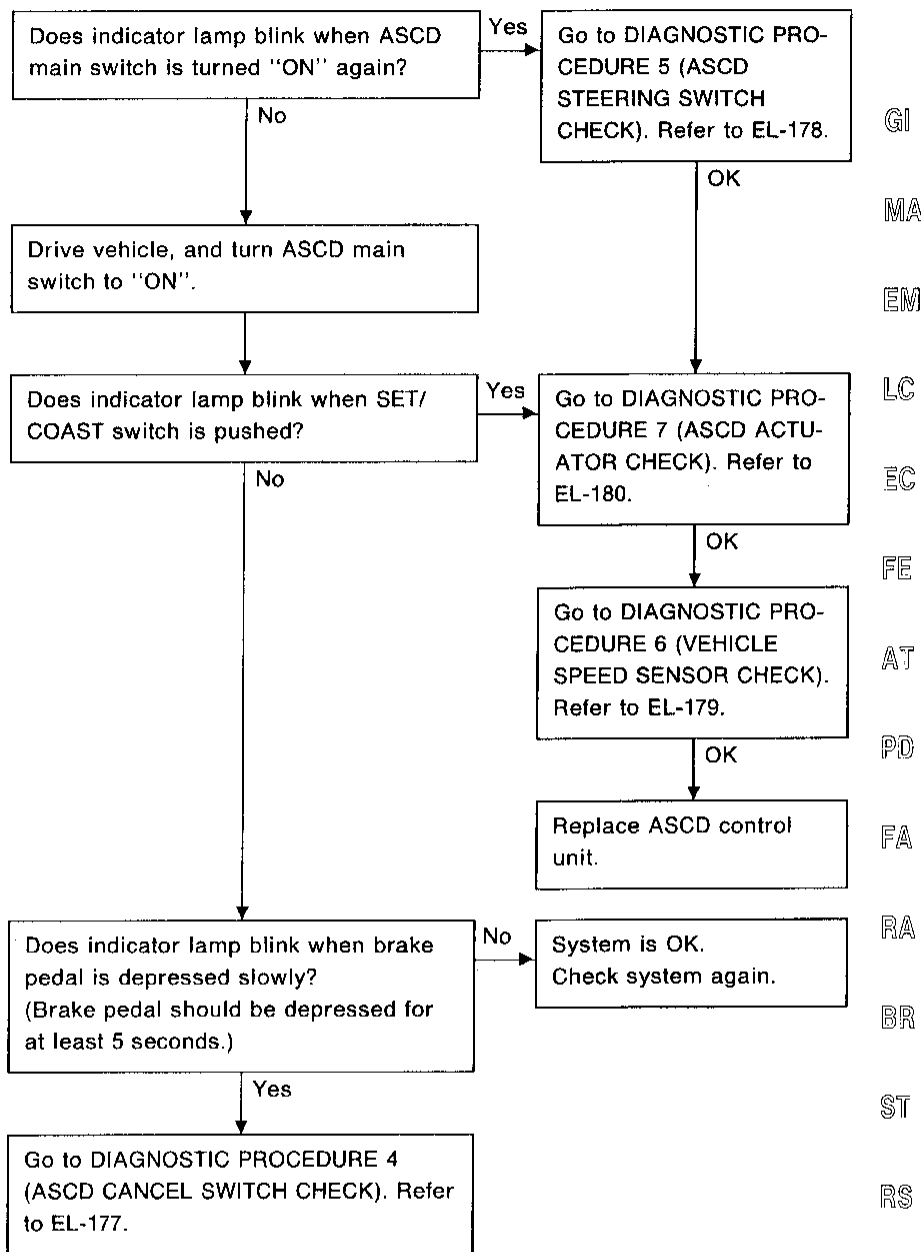
Malfunction detection conditions

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

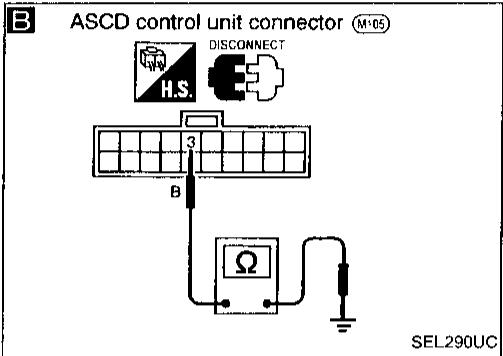
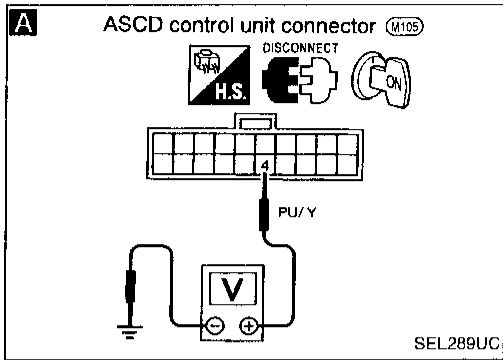
PROCEDURE	Diagnostic procedure									
REFERENCE PAGE	EL-170	EL-173	EL-175	EL-175	EL-176	EL-177	EL-178	EL-179	EL-180	EL-181
SYMPTOM	Self-diagnosis in CONSULT	Fail-safe system check	DIAGNOSTIC PROCEDURE 1 (POWER SUPPLY AND GROUND CIRCUIT CHECK)	DIAGNOSTIC PROCEDURE 2 (ASCD MAIN SWITCH CHECK)	DIAGNOSTIC 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-176.

OK ↓

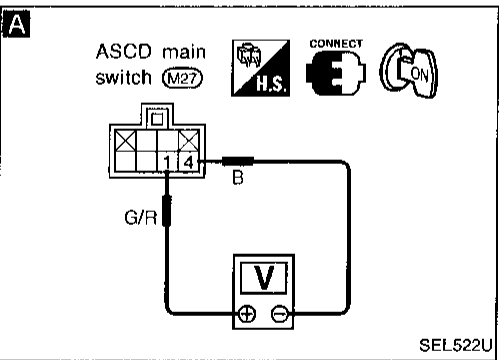
B CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT.

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.

Measure voltage between main switch terminals ① and ④.

Battery voltage should exist.

NG → Check the following.

- 10A fuse (No. 26 , 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-184).

NG → Replace ASCD main switch.

OK ↓

Go to next procedure.

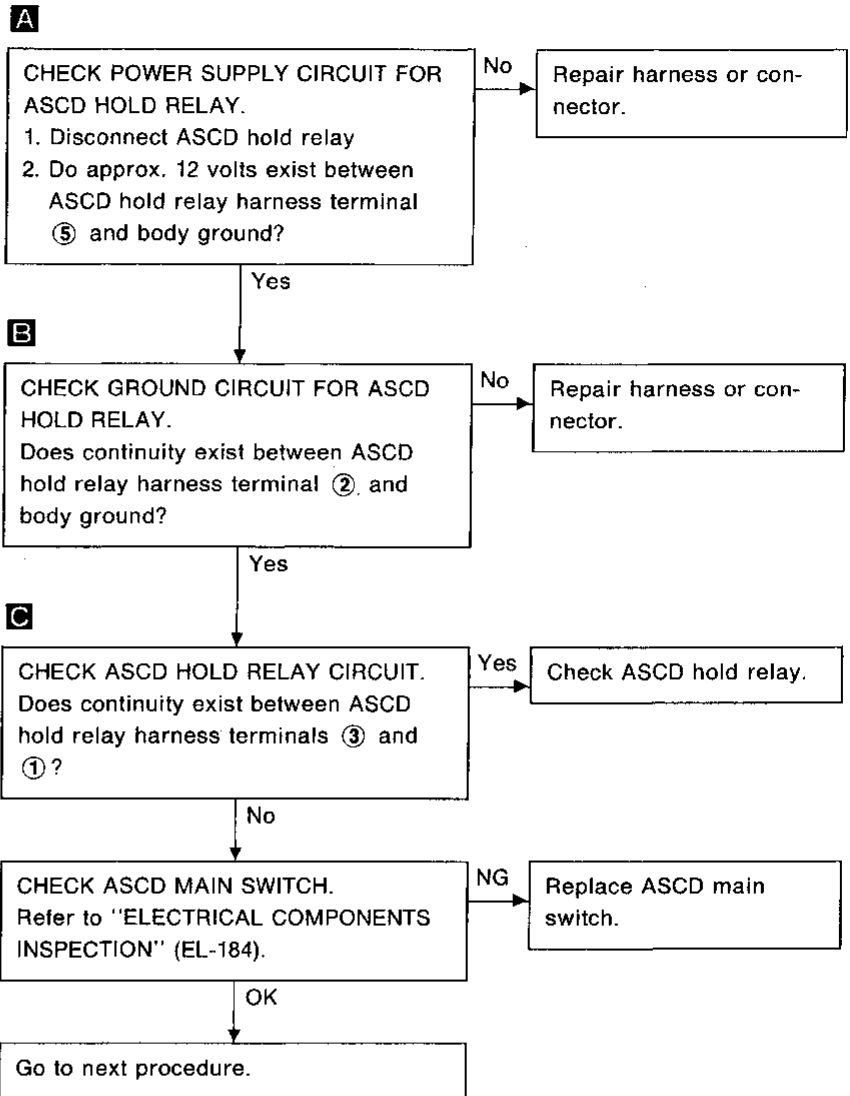
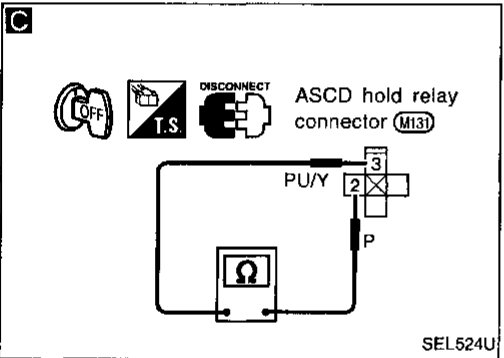
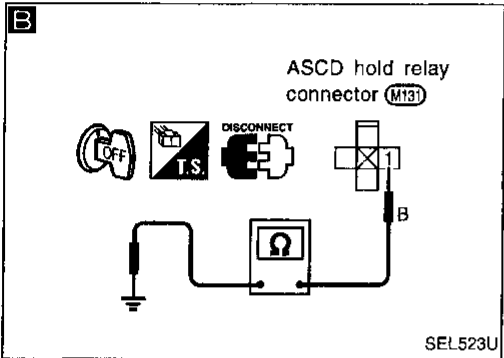
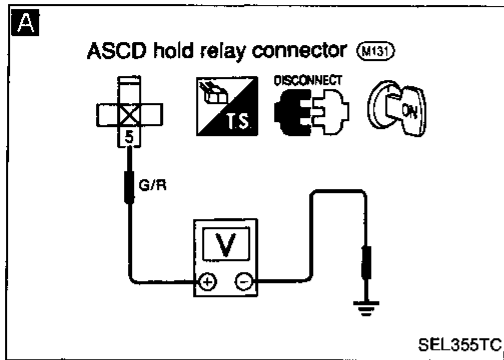
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

(ASCD HOLD RELAY CIRCUIT CHECK)

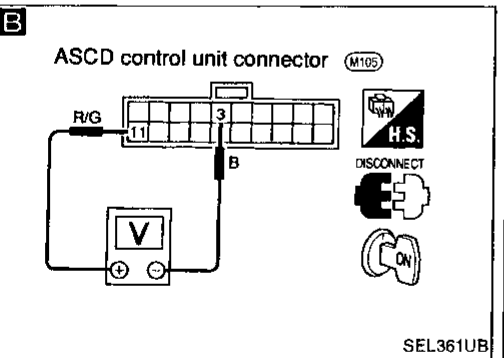
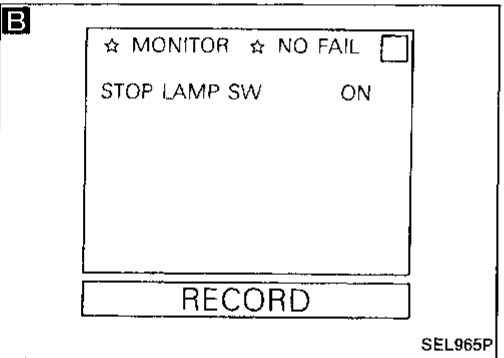
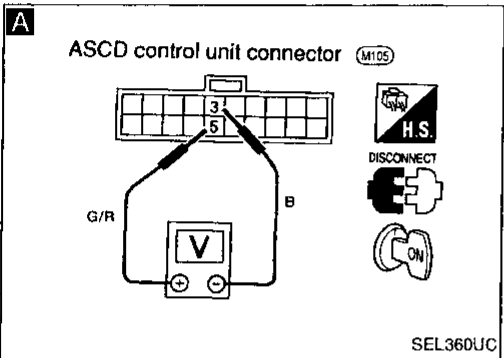
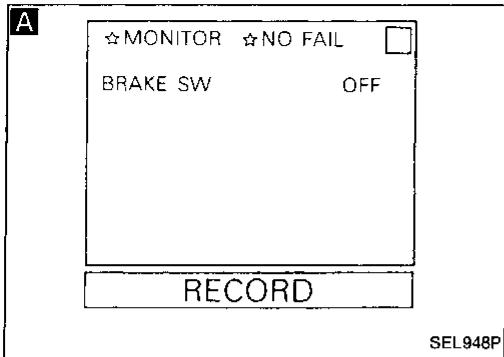


AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

(ASCD CANCEL SWITCH CHECK)



A

CHECK CUT-OFF CIRCUIT FOR ASCD CONTROL UNIT.

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

When brake pedal is depressed or A/T shift lever is in "N" or "P" range:

BRAKE SW OFF

When brake pedal is released and A/T shift lever is not in "N" or "P" range:

BRAKE SW ON

OR

CHECK THE FOLLOWING.

- ASCD cancel switch Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-184).
- Inhibitor switch Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-184).
- Harness for open or short

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 is depressed or A/T shift lever is in "N" or "P" range:
- Approx. 0V**
- When brake pedal is released and A/T shift lever is not in "N" or "P" range:
- Battery voltage should exist.**

OK

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.

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-184).

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

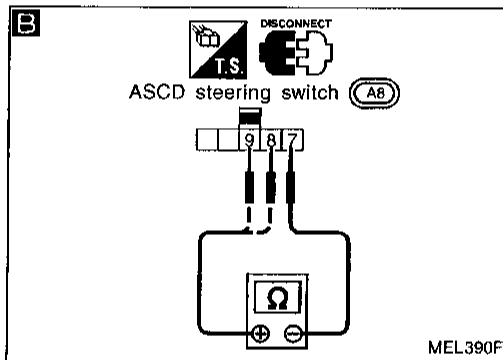
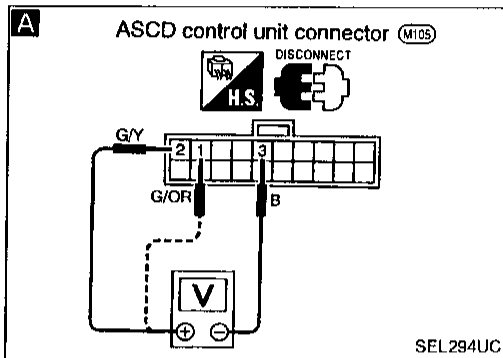
SET SW ON

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	6V	0V
	①	③	6V	0V

OK

ASCD steering switch is OK.

NG

CHECK POWER SUPPLY FOR ASCD STEERING SWITCH.
Does horn work?

NG

- Check the following.
- 15A fuse (No. 33, 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.

NG

Replace ASCD steering switch.

Button	Terminal		
	⑦	⑨	⑧
SET/COAST	○	—	○
RESUME/ACCEL	○	○	—
CANCEL	○	▶	○
	○	▶	○

OK

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

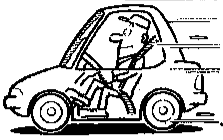
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

(VEHICLE SPEED SENSOR CHECK)

A



☆MONITOR ☆NO FAIL

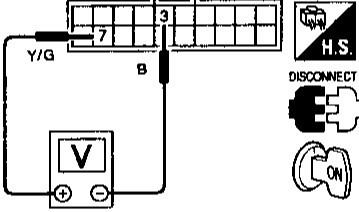
VHCL SPEED SE 45mph

RECORD

SEL084T

A


ASCD control unit connector (M105)




SEL525TD

A

CHECK VEHICLE SPEED SENSOR CIRCUIT.

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

OR

 1. Apply wheel chocks and jack up rear of vehicle.
 2. Disconnect control unit connector.
 3. Connect voltmeter between control unit harness terminals ⑦ and ③.
 4. Slowly turn front wheel.
 5. Check deflection of voltmeter pointer.

OK →

Vehicle speed sensor is OK.

NG ↓

Does speedometer operate normally?

No →

Check vehicle speed sensor. Refer to "ELECTRICAL COMPONENTS INSPECTION" (EL-184).

Yes ↓

Check harness for open or short between ASCD control unit terminal ⑦ and combination meter terminal ⑭.

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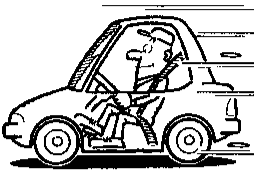
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

(ASCD ACTUATOR CHECK)

A



☆ MONITOR ☆ NO FAIL


PW SUP-VALVE ON

RECORD

SEL860R


A

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.

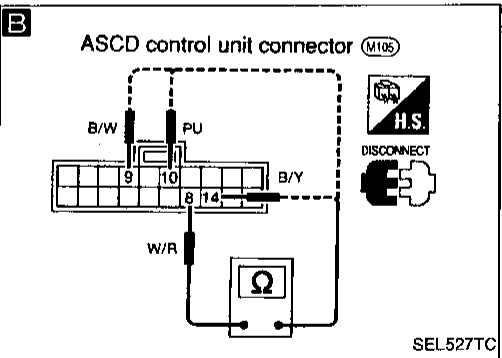
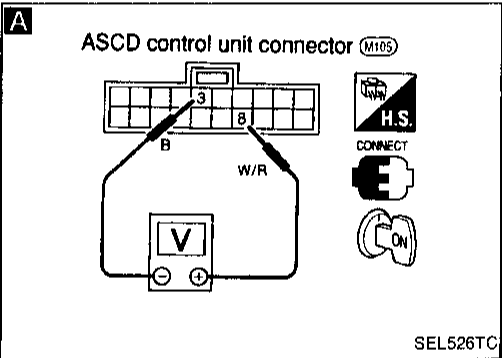
B

1. Disconnect ASCD control unit connector.

2. Measure resistance between control unit harness terminals ⑧ and ⑨, ⑩, ⑭.

Terminals	Resistance [Ω]	
⑧	⑨	Approx. 8 - 45
	⑩	Approx. 65
	⑭	Approx. 65

OK → ASCD actuator is OK.



NG

CHECK ASCD ACTUATOR.
 Refer to "Electrical Components Inspection" (EL-183).

NG

Replace ASCD actuator.

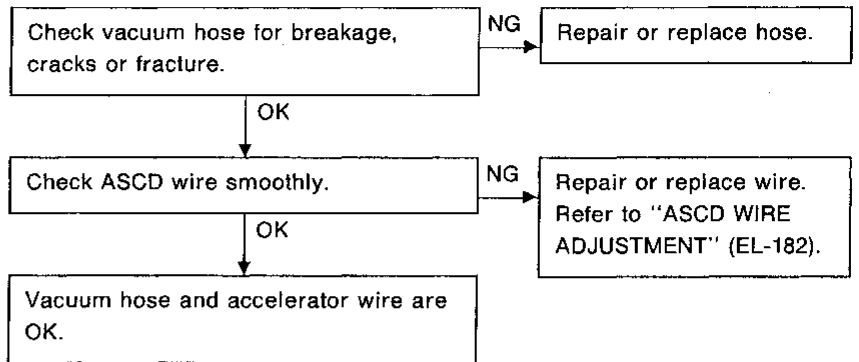
OK → Check harness for open or short between ASCD actuator and ASCD control unit.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

(VACUUM HOSE AND ACCEL WIRE CHECK)



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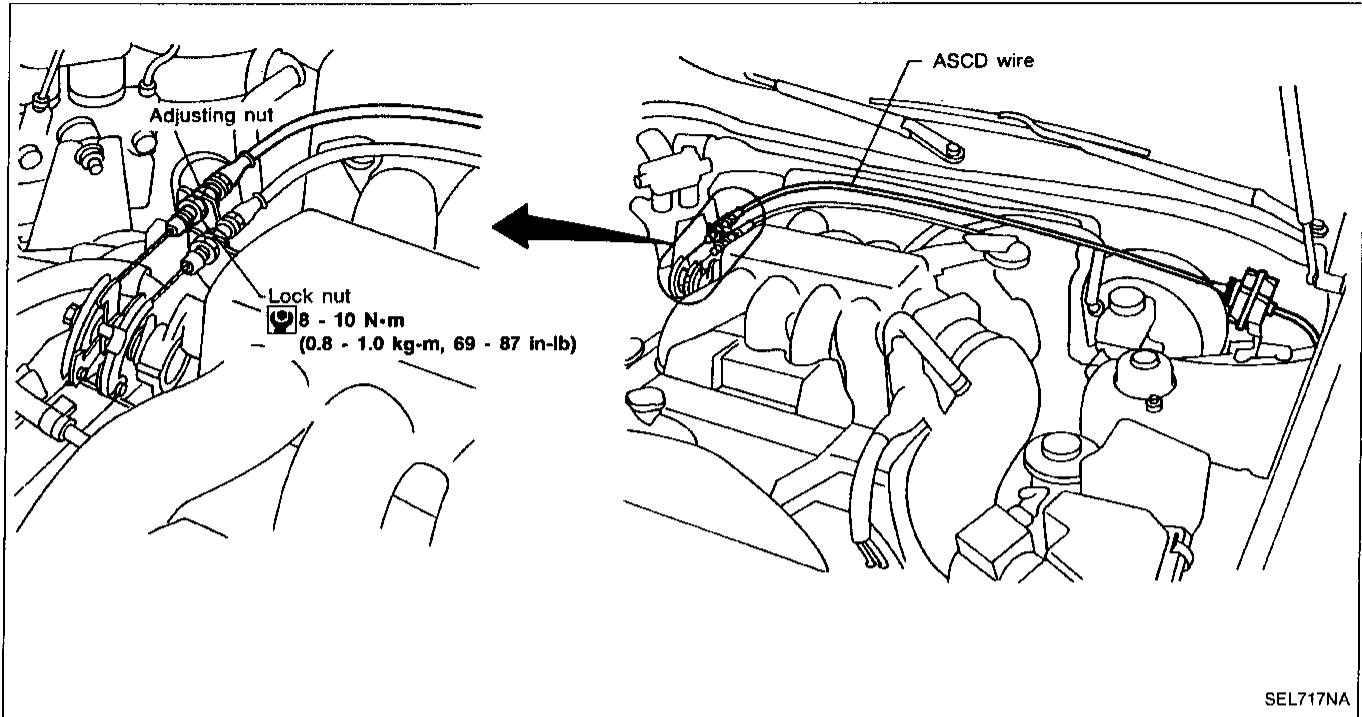
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

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 and adjusting nuts.
2. Make sure that accelerator wire is properly adjusted. (Refer to FE section, "ACCELERATOR CONTROL SYSTEM".)
3. Tighten adjusting nut until throttle drum starts moving.
4. Loosen adjusting nut again 1/2 to 1 turn.
5. Tighten lock nut.

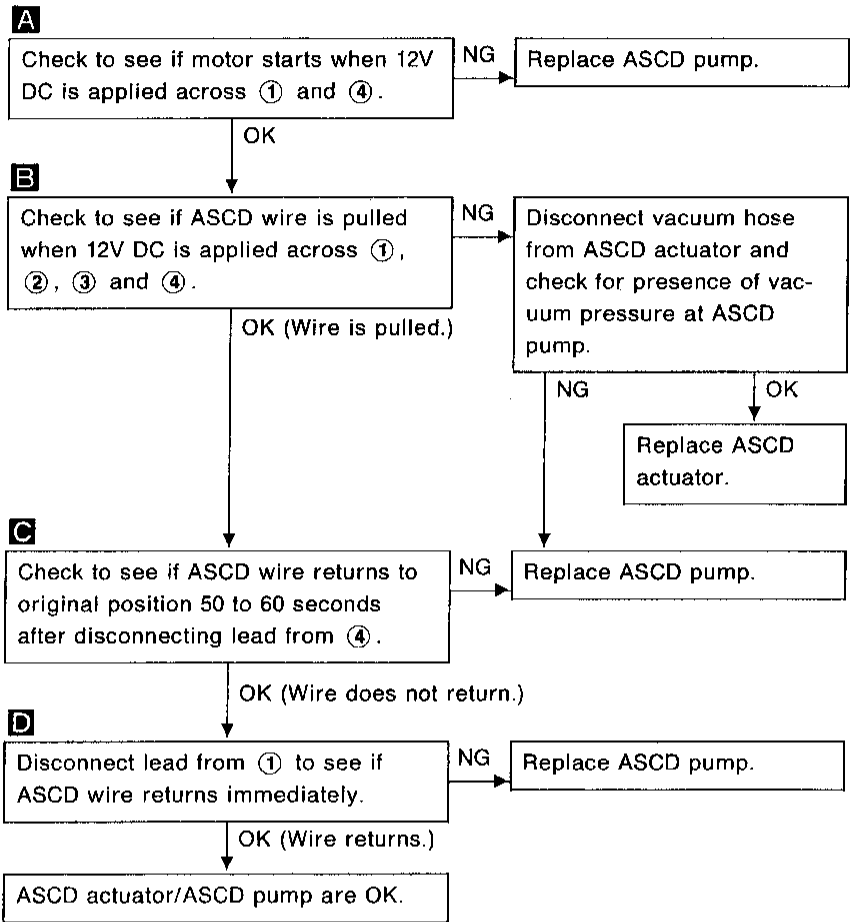
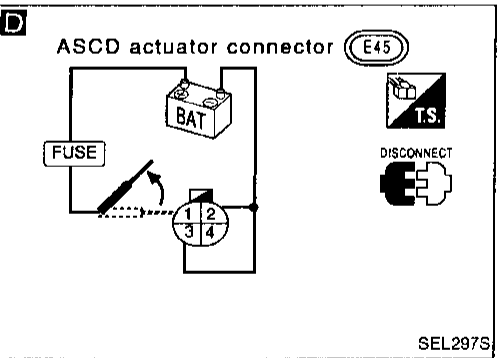
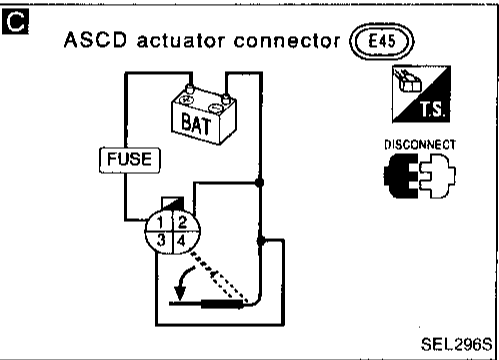
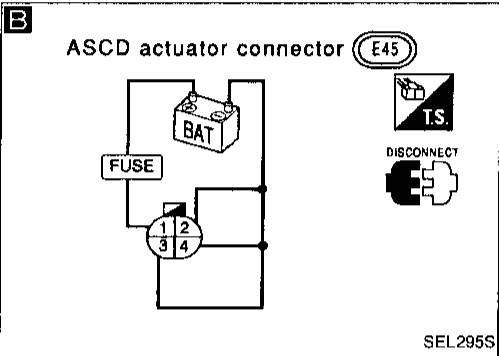
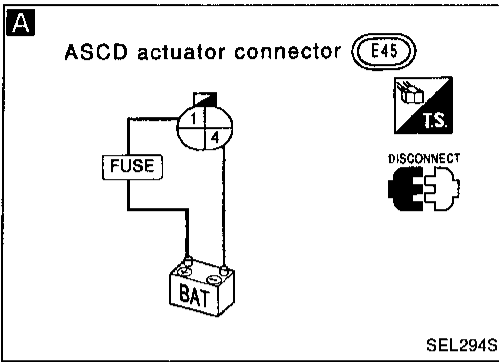
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ELECTRICAL COMPONENTS INSPECTION

ASCD actuator/ASCD pump

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



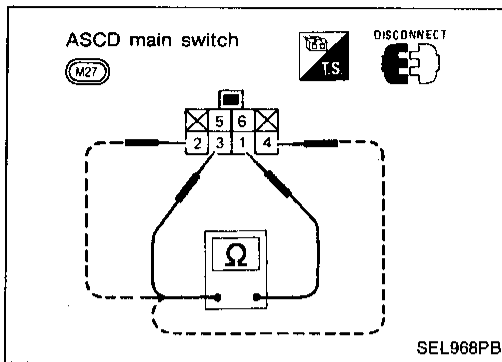
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

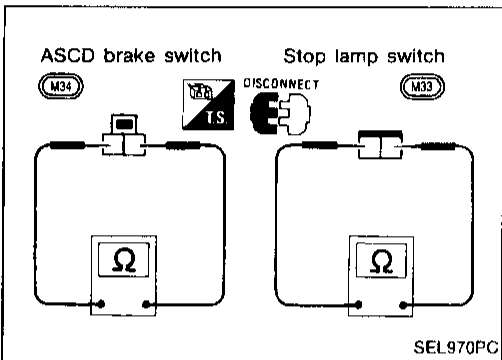
ASCD main switch

Check continuity between terminals by pushing switch to each position.



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

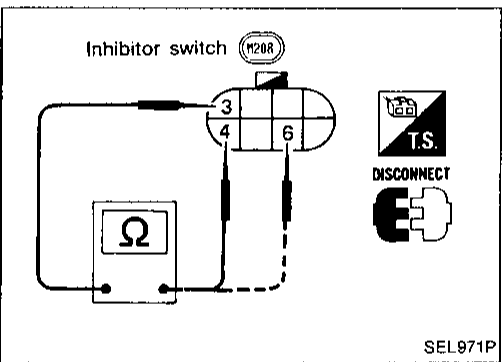
ASCD cancel switch and stop lamp switch



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

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

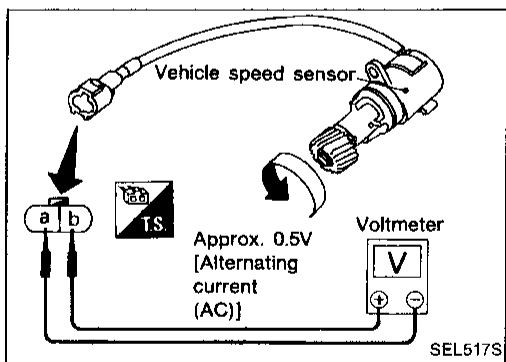
Inhibitor switch



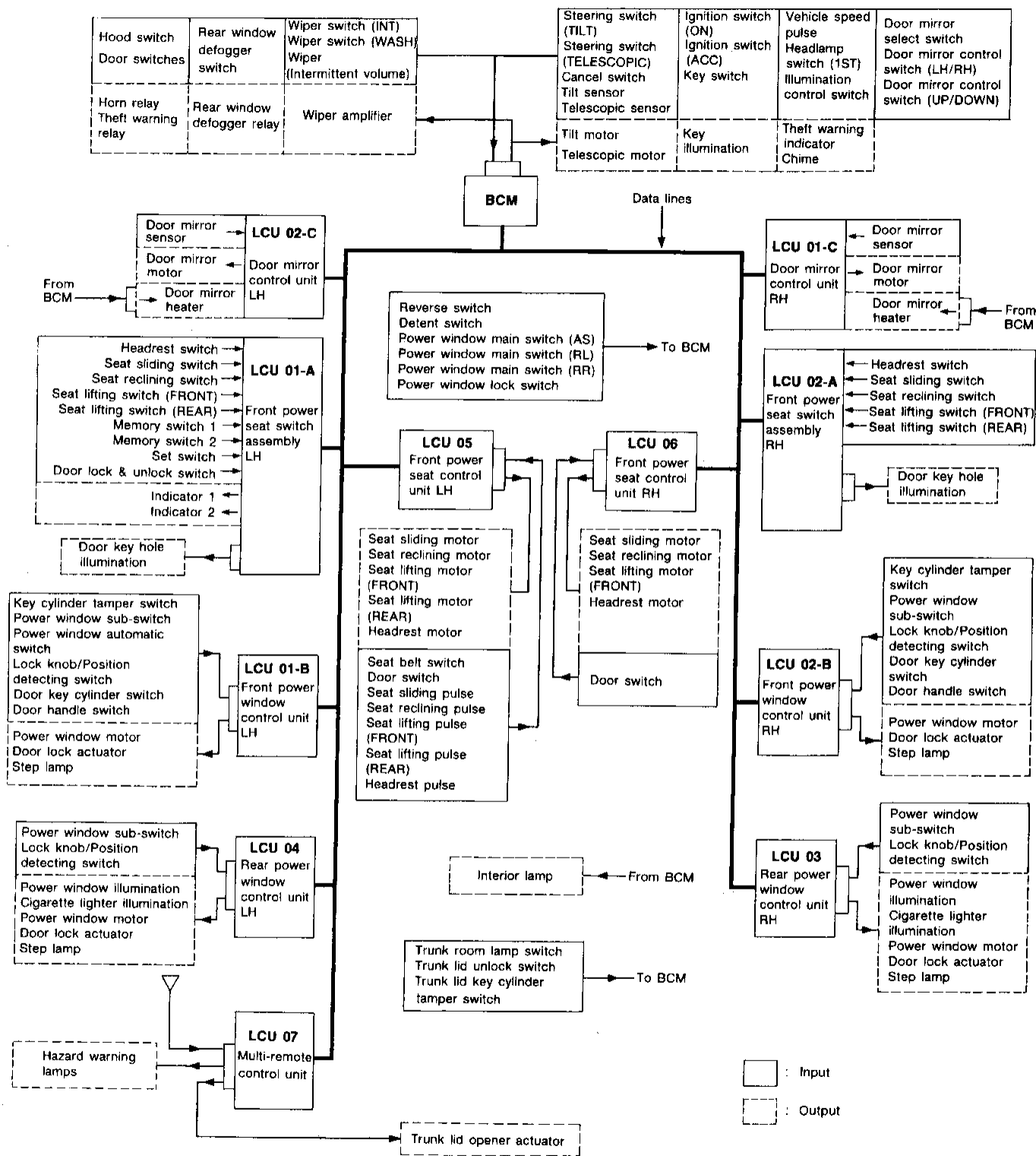
Condition	Continuity
When shift lever position is "N" or "P"	Yes
When shift lever position is any position except "N" or "P"	No

Vehicle speed sensor

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



System Diagram



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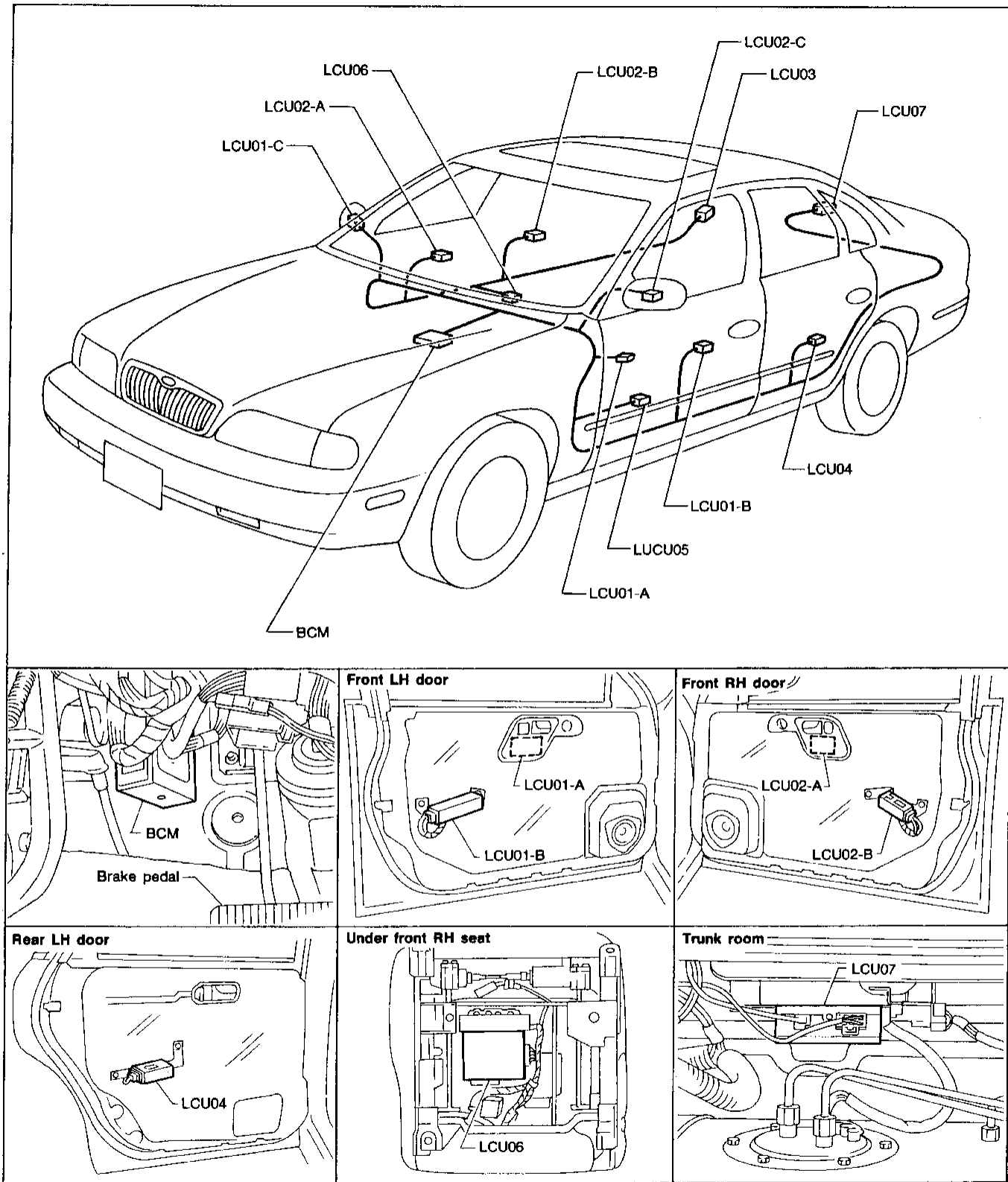
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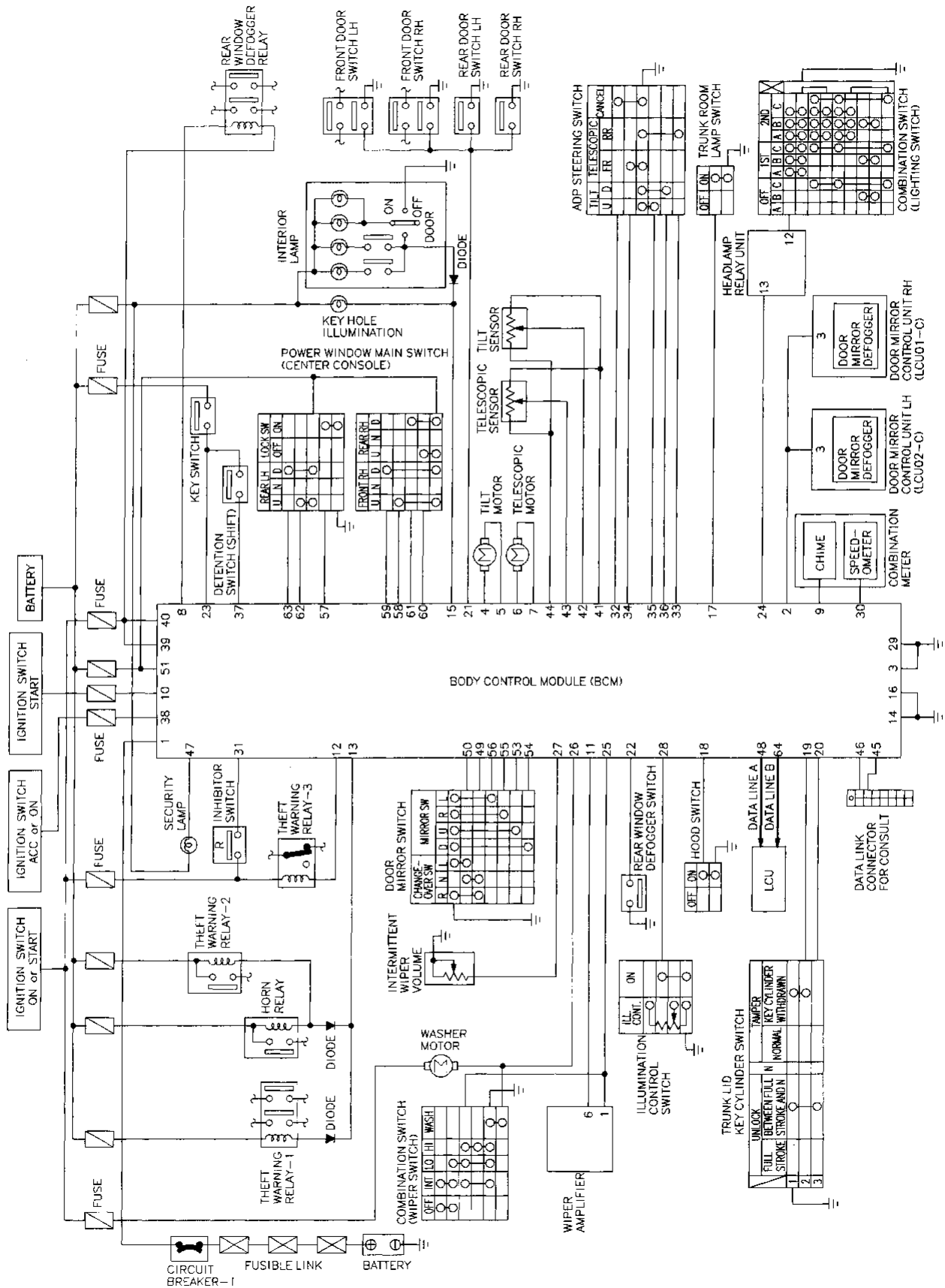
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Component Parts Location



Circuit Diagram

BCM (BODY CONTROL MODULE)

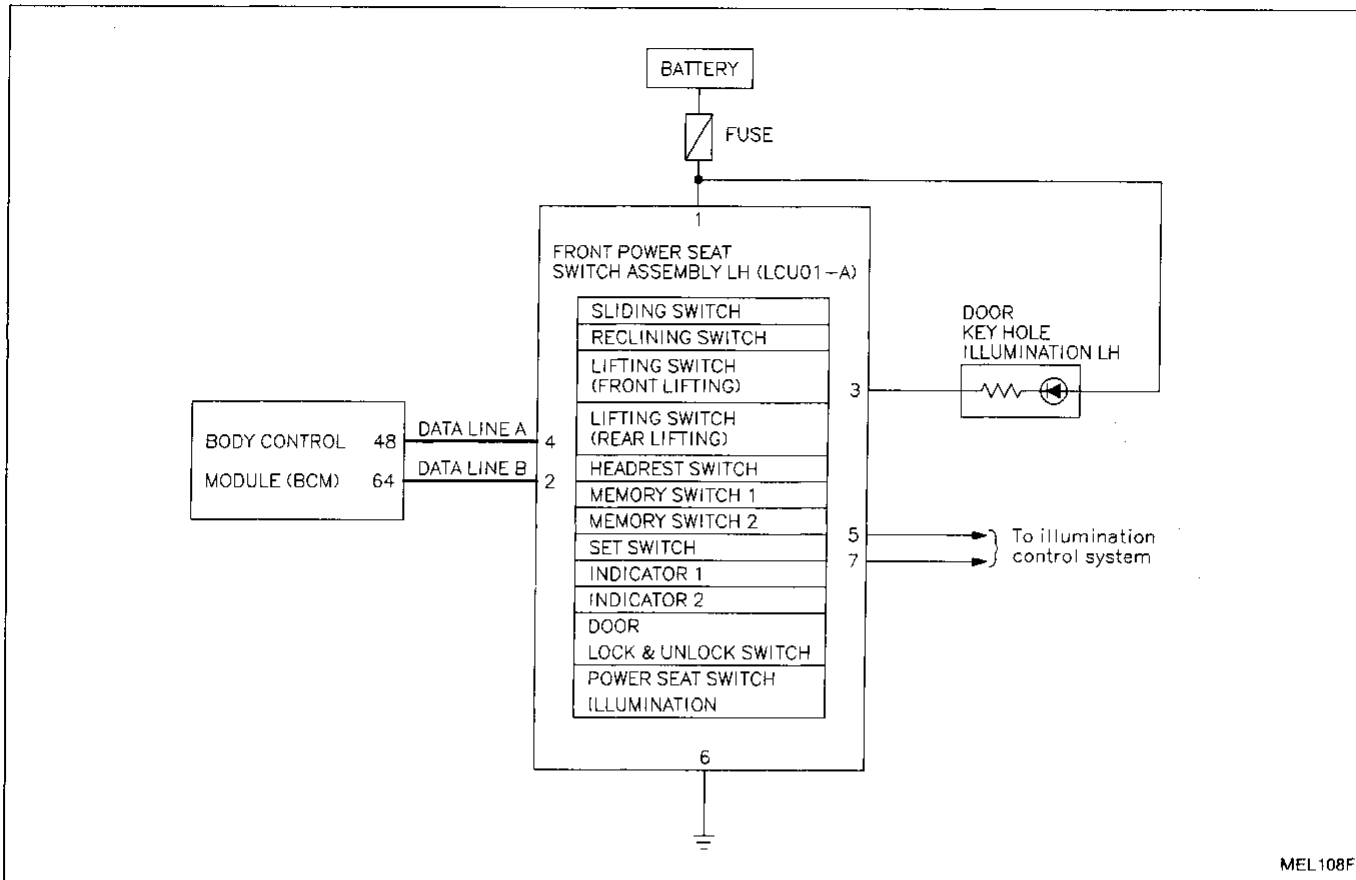


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LAN — SYSTEM DESCRIPTION

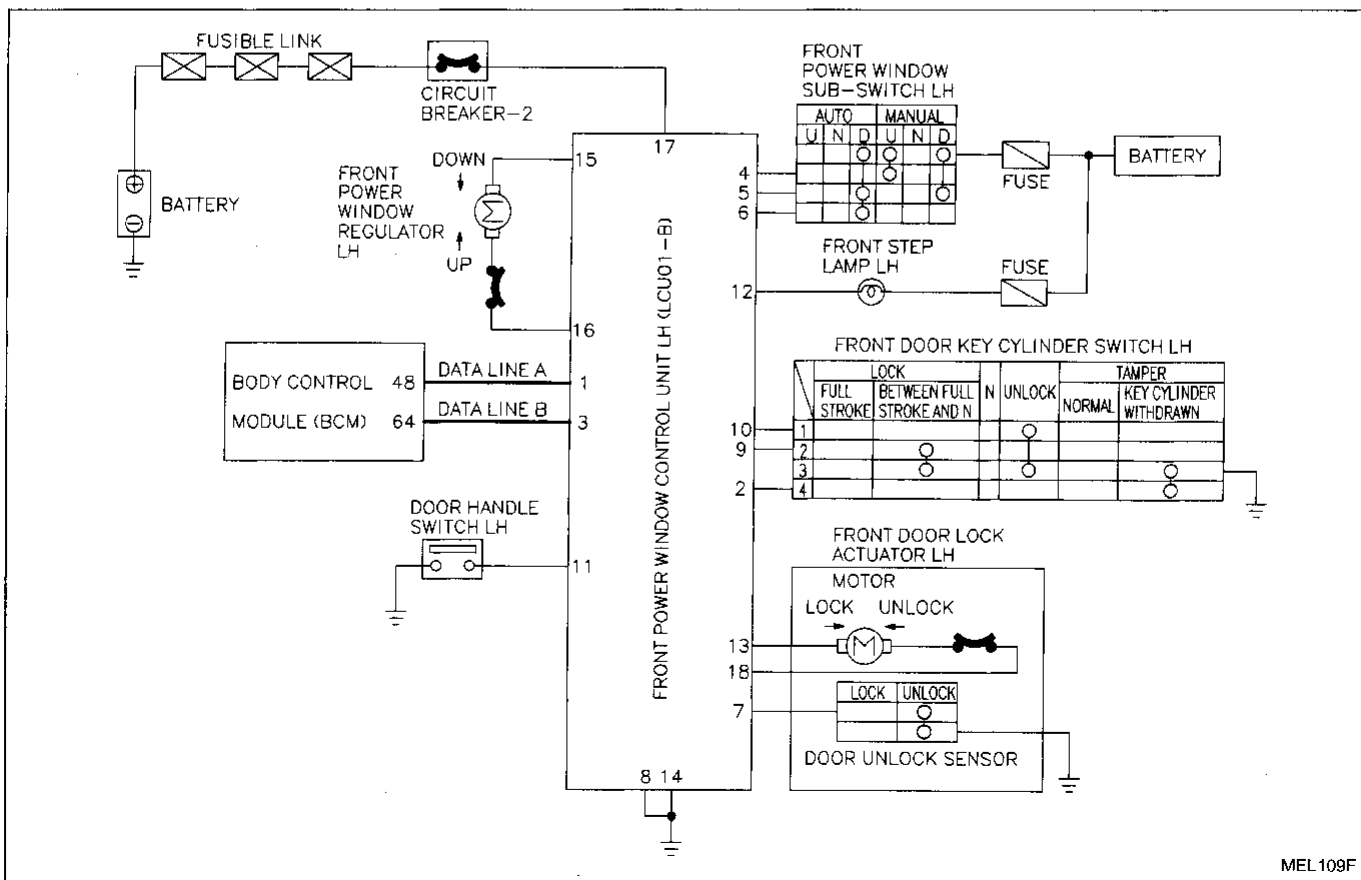
Circuit Diagram (Cont'd)

LCU01-A



MEL108F

LCU01-B

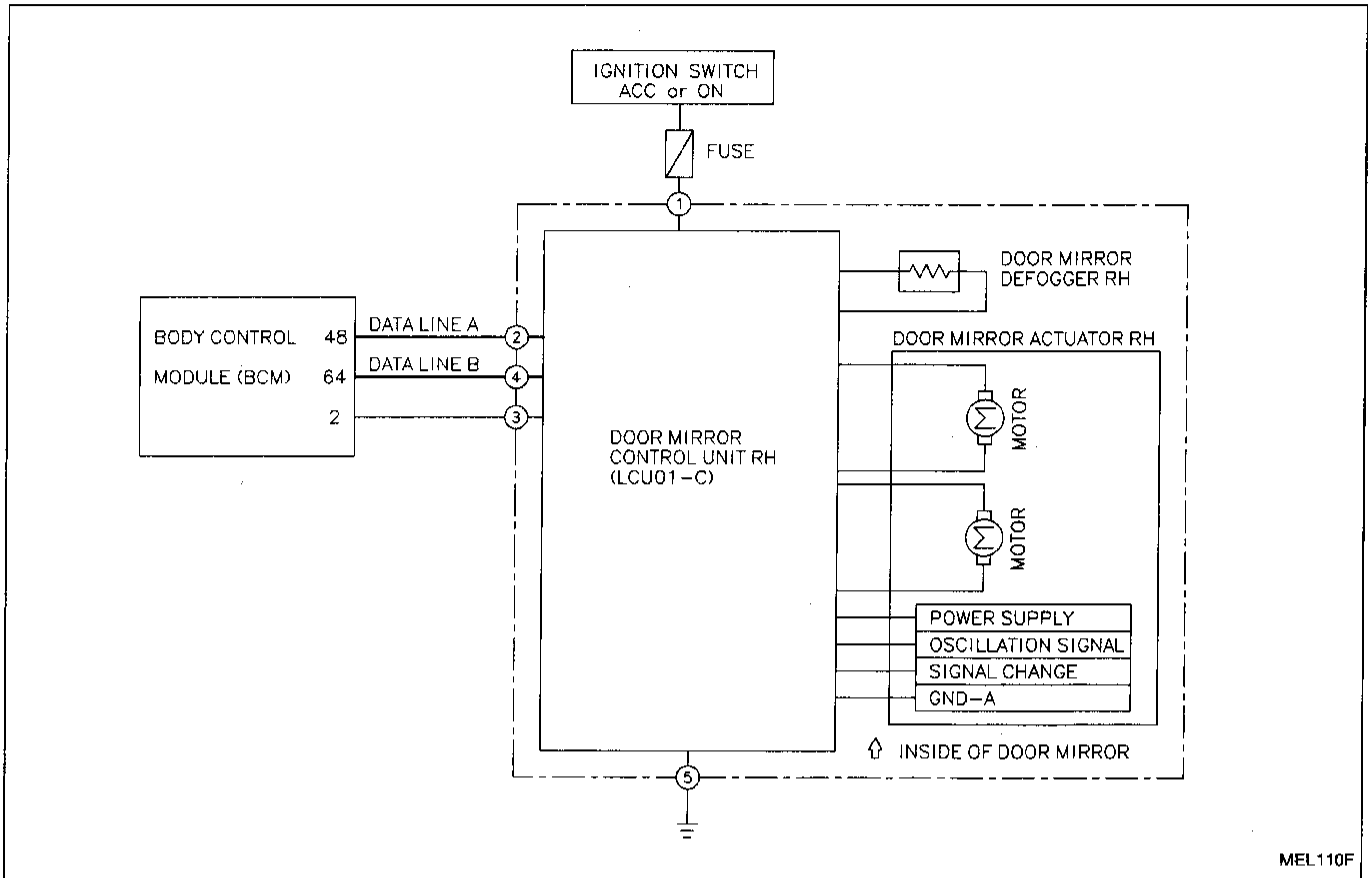


MEL109F

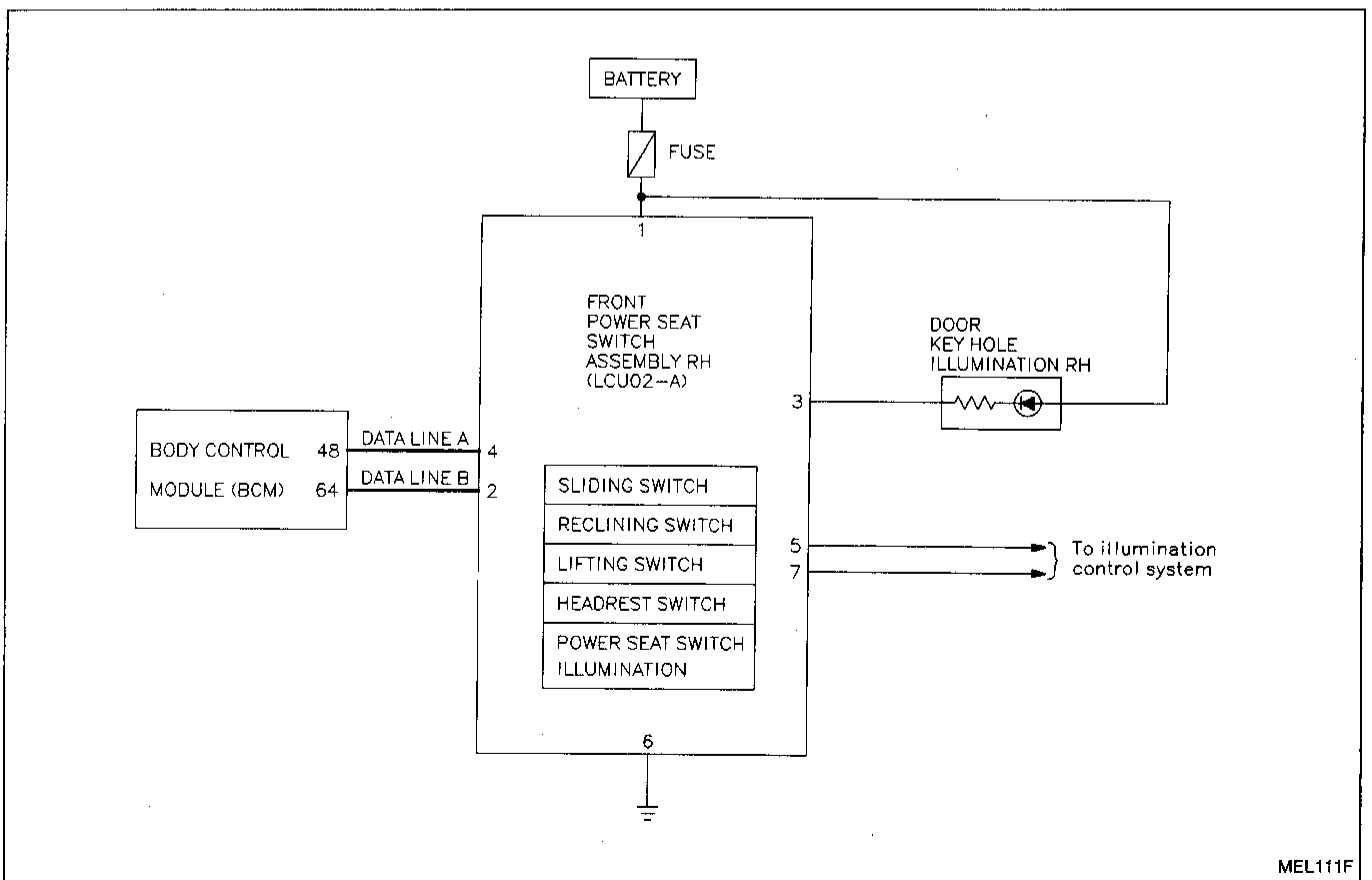
LAN — SYSTEM DESCRIPTION

Circuit Diagram (Cont'd)

LCU01-C



LCU02-A

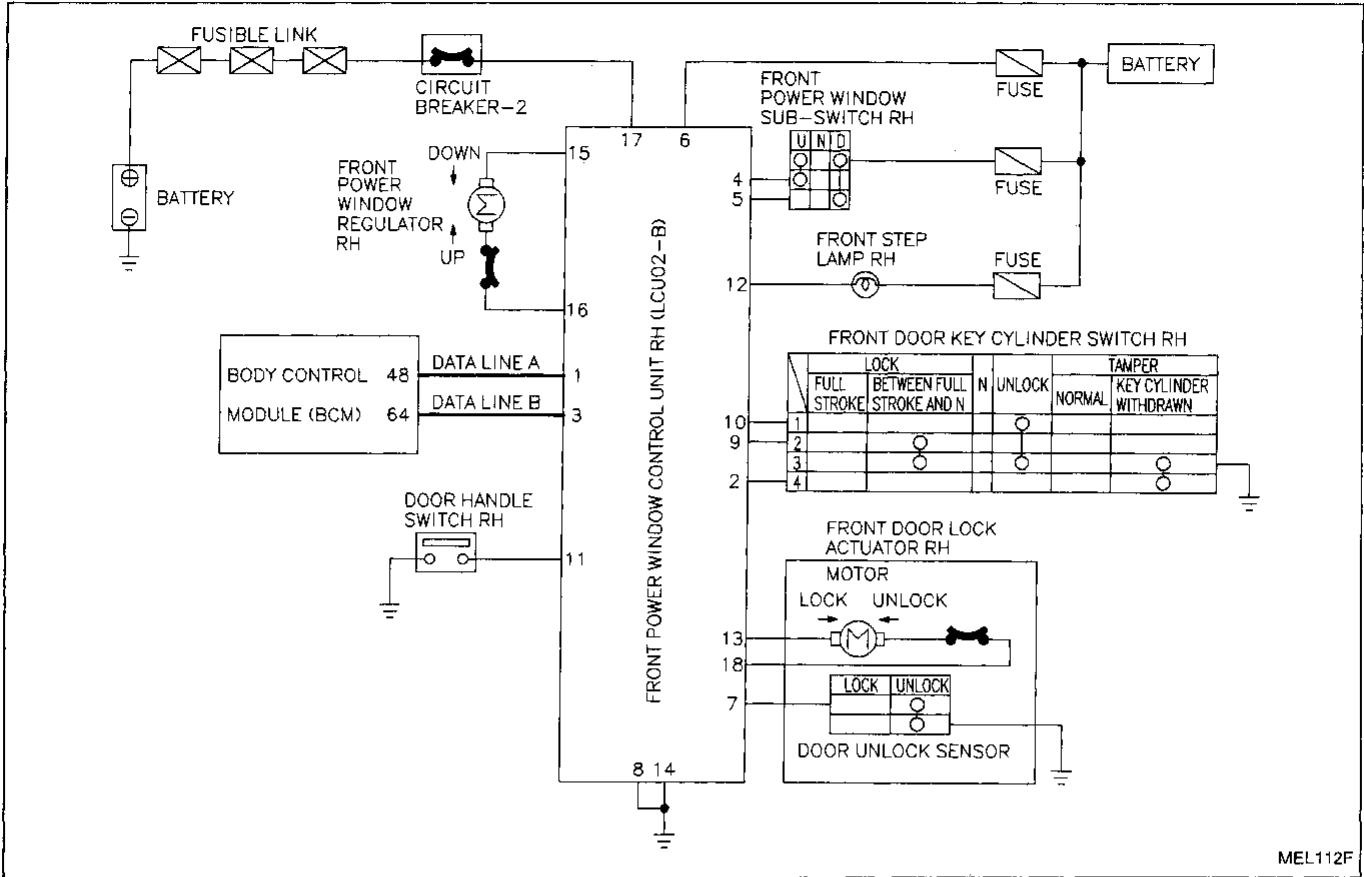


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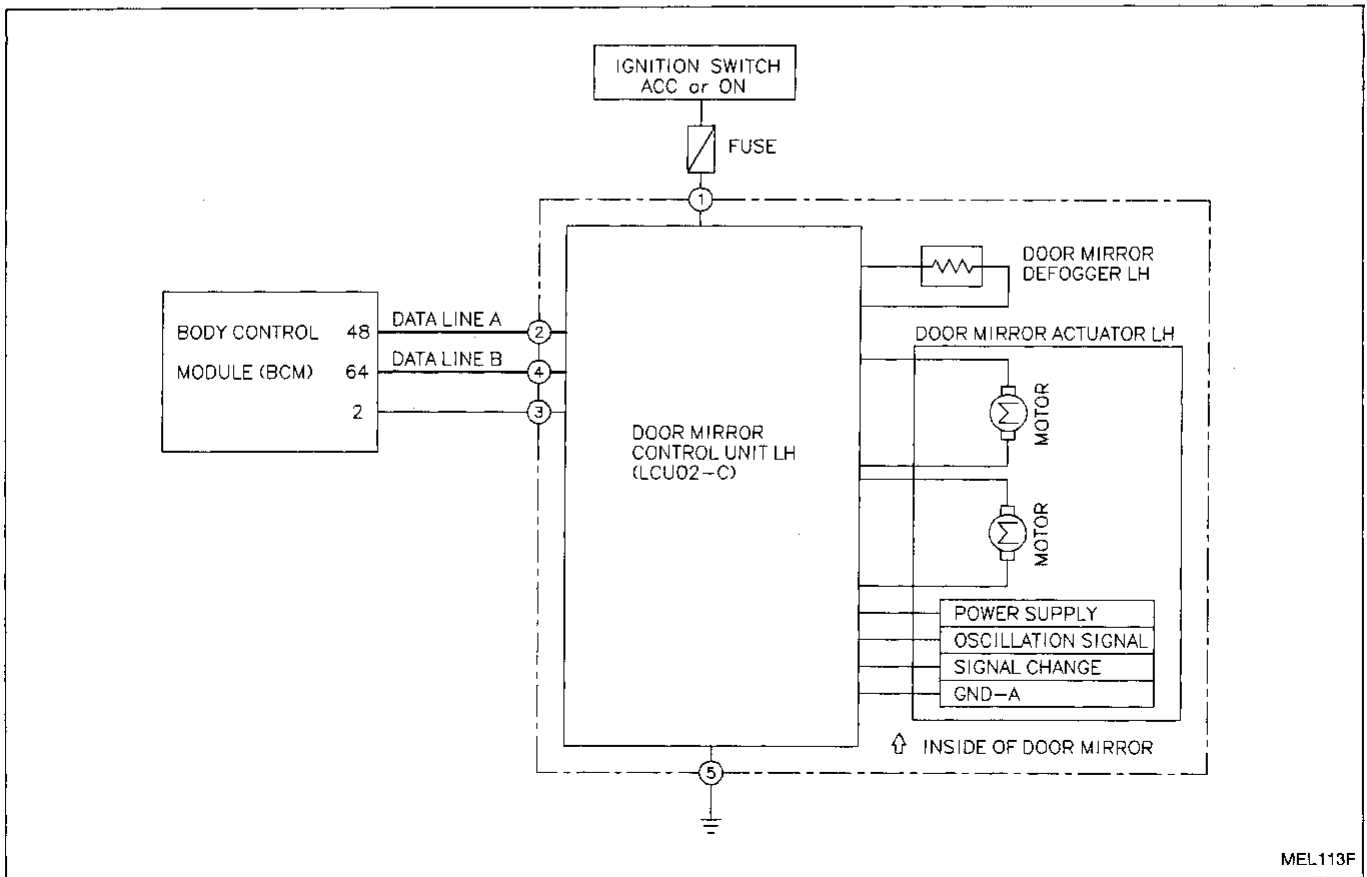
LAN — SYSTEM DESCRIPTION

Circuit Diagram (Cont'd)

LCU02-B



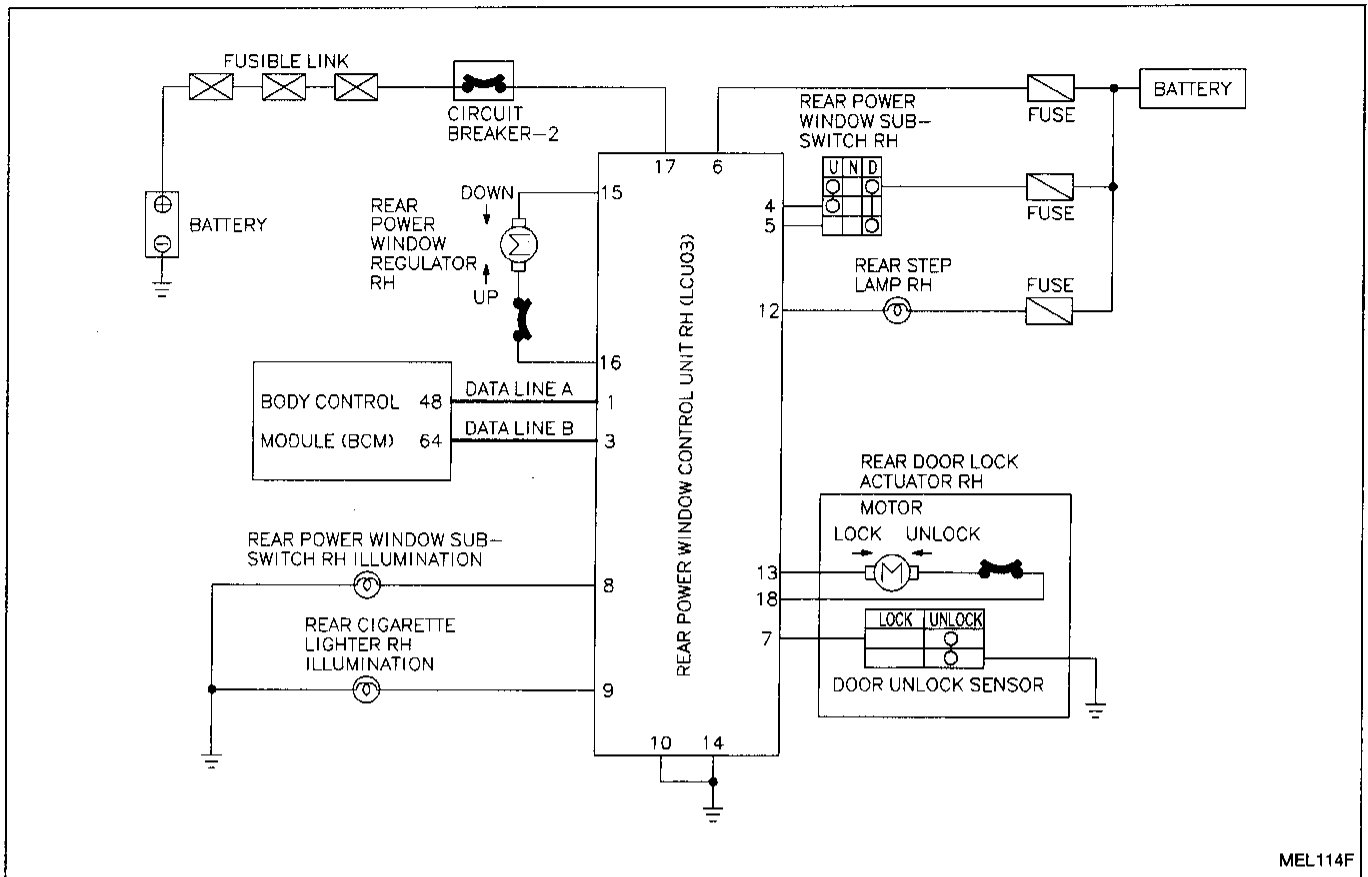
LCU02-C



LAN — SYSTEM DESCRIPTION

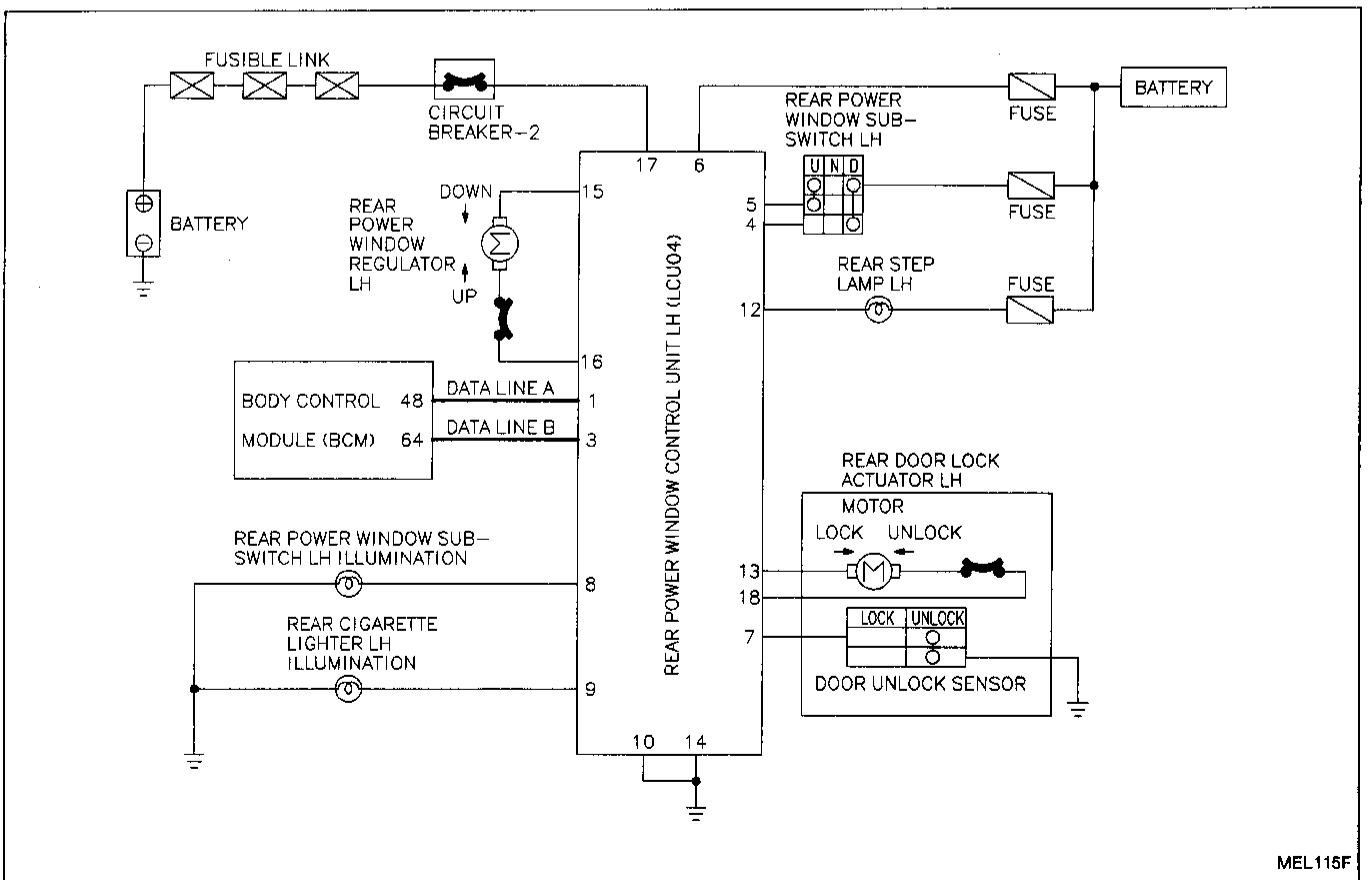
Circuit Diagram (Cont'd)

LCU03



MEL114F

LCU04



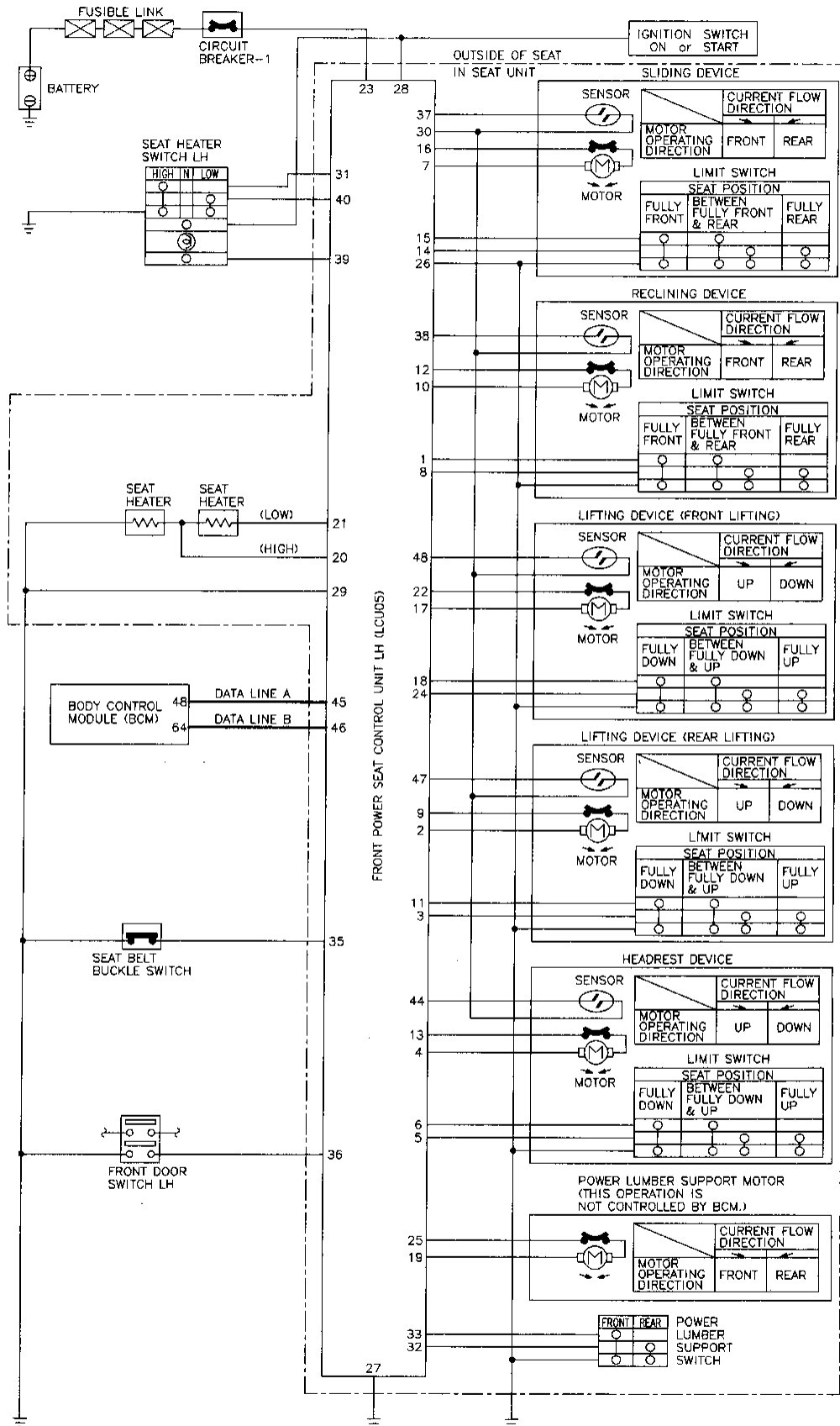
MEL115F

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LAN — SYSTEM DESCRIPTION

Circuit Diagram (Cont'd)

LCU05

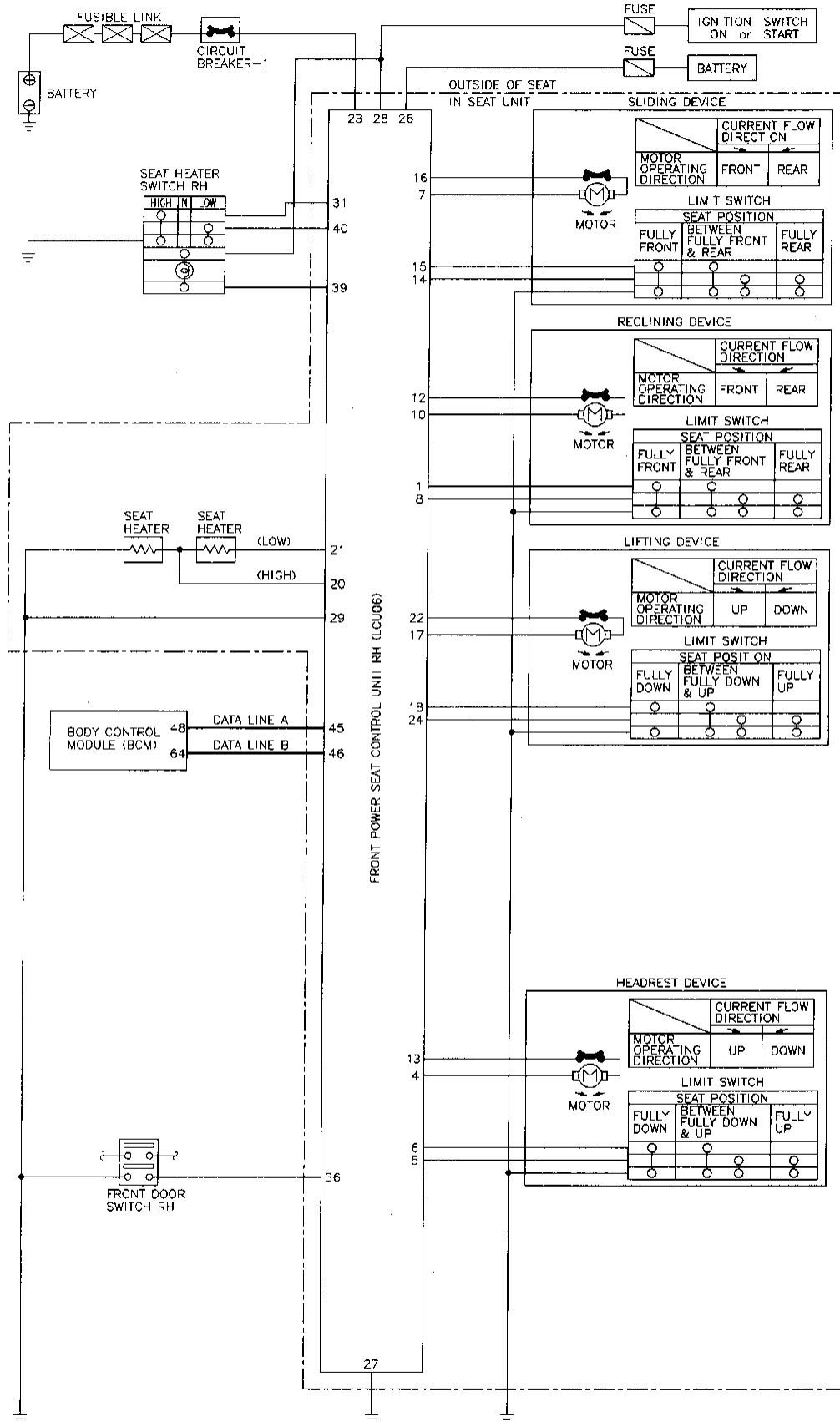


MEL116F

LAN — SYSTEM DESCRIPTION

Circuit Diagram (Cont'd)

LCU06

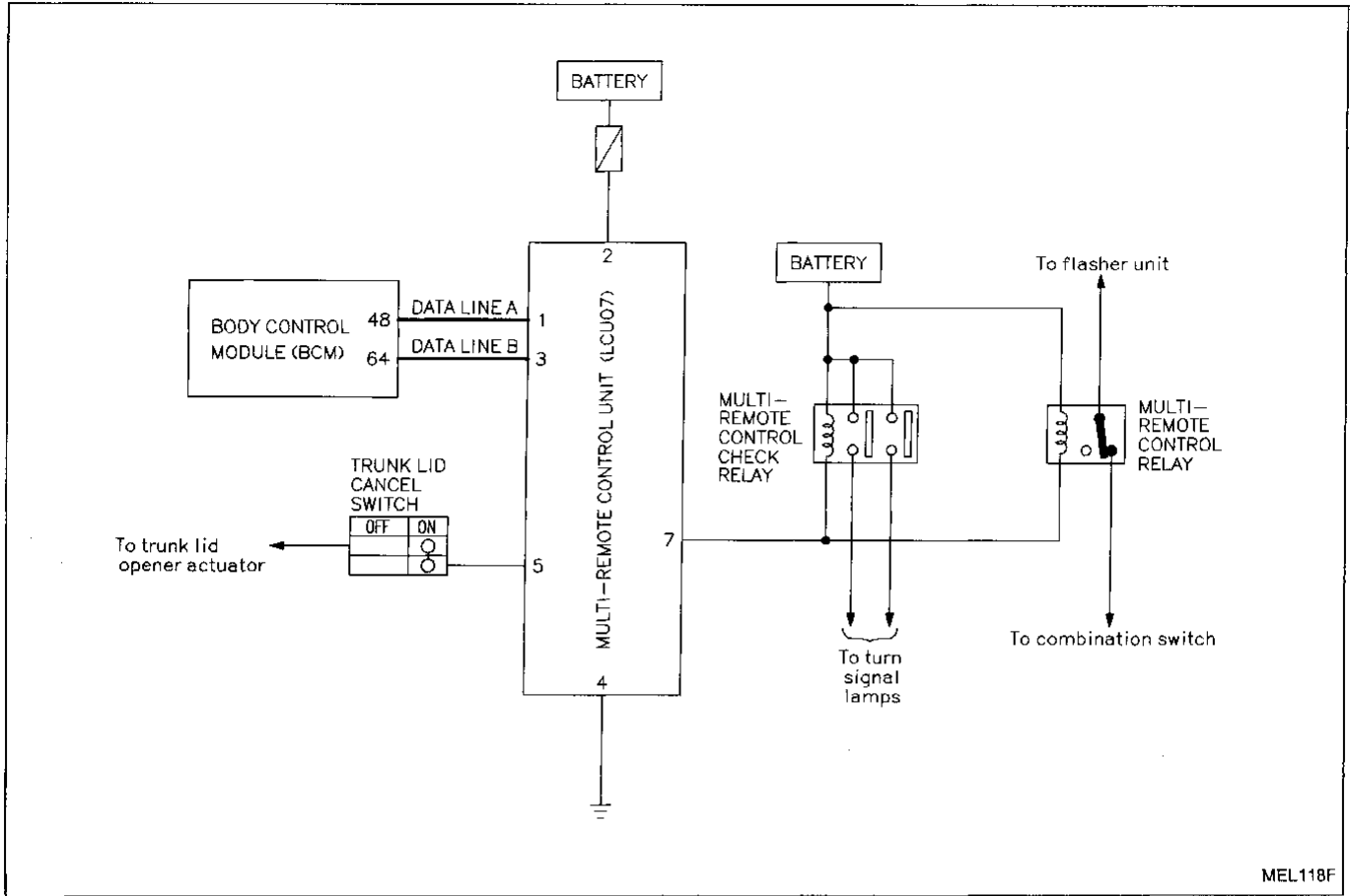


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LAN — SYSTEM DESCRIPTION

Circuit Diagram (Cont'd)

LCU07



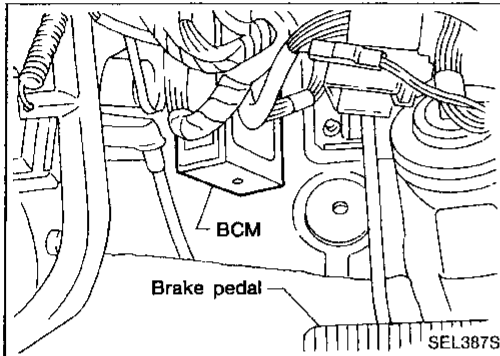
MEL118F

Overall Description

OUTLINE

The LAN system consists of a BCM (Body Control Module) and eleven LCUs (Local Control Units). Some switches and electrical loads are connected to each LCU. Some electrical systems are directly connected to the BCM. Control of each LCU, (which is provided by a switch and electrical load), is accomplished by the BCM, via two data lines connected between the two.

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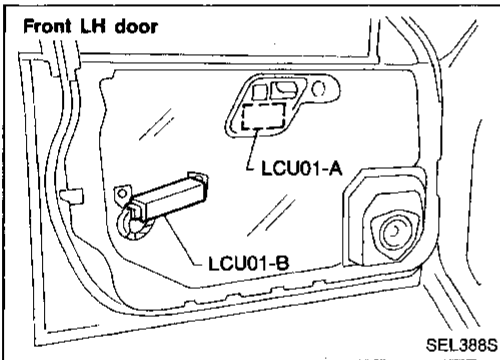


BCM (Body Control Module)

The BCM is a master unit of the LAN (Local Area Network) system. It 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 LAN)" in the Parts Catalog.

LC
EC
FE
AT



LCU (Local Control Unit)

The LCU, which is a slave unit of the BCM, has only a communication function. It consists of communication LSI and input-output interface circuits. It receives a data signal from the BCM. It controls the ON/OFF operation of electrical loads and the sleep operation. Also, it sends a switch signal to the BCM.

PD
FA
RA
BR

LCU No. table

LCU No.	Control unit name
LCU 01-A	FRONT POWER SEAT SWITCH ASSEMBLY LH
LCU 01-B	FRONT POWER WINDOW CONTROL UNIT LH
LCU 01-C	DOOR MIRROR CONTROL UNIT RH
LCU 02-A	FRONT POWER SEAT SWITCH ASSEMBLY RH
LCU 02-B	FRONT POWER WINDOW CONTROL UNIT RH
LCU 02-C	DOOR MIRROR CONTROL UNIT LH
LCU 03	REAR POWER WINDOW CONTROL UNIT RH
LCU 04	REAR POWER WINDOW CONTROL UNIT LH
LCU 05	FRONT POWER SEAT CONTROL UNIT LH
LCU 06	FRONT POWER SEAT CONTROL UNIT RH
LCU 07	MULTI-REMOTE CONTROL UNIT

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LAN — SYSTEM DESCRIPTION

Overall Description (Cont'd)

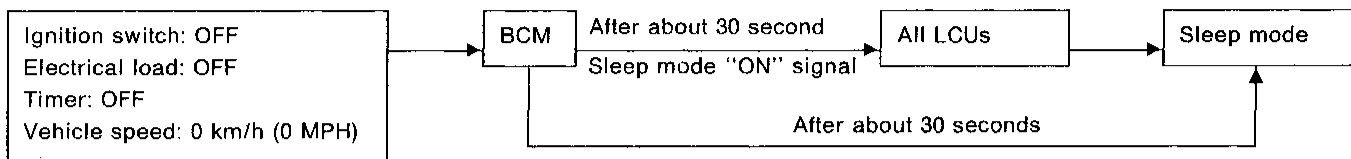
CONTROL SYSTEM

System controlled in LAN system is as follows:

Control system	Remarks	Control unit
Power window control		BCM, LCU 01-B, LCU 02-B, LCU 03, LCU 04, LCU 05
Power door lock control		BCM, LCU 01-A, LCU 01-B, LCU 02-B, LCU 03, LCU 04, LCU 05, LCU 06
Automatic drive positioner control		BCM, LCU 01-A, LCU 01-C, LCU 02-C, LCU 05
Power seat (passenger's seat) control		BCM, LCU 02-A, LCU 06
Time control system	Intermittent wiper control	Including combination wiper-washer switch
	Rear window defogger timer control	Including door mirror heater timer control
	Ignition key warning control	
	Light warning control	
	Interior lamp timer control	
	Seat belt timer control	Chime control only
	Door keyhole illumination control	
Theft warning control		BCM, LCU 01-B, LCU 02-B, LCU 03, LCU 04
Step lamp control		BCM, LCU 01-B, LCU 02-B, LCU 03, LCU 04
Illumination control	Switch illumination, cigarette lighter illumination, etc.	BCM, LCU 03, LCU 04
Door mirror automatic tilt down reverse control		BCM, LCU 01-C, LCU 02-C
Multi-remote control		BCM, LCU 01-B, LCU 02-B, LCU 03, LCU 04, LCU 07

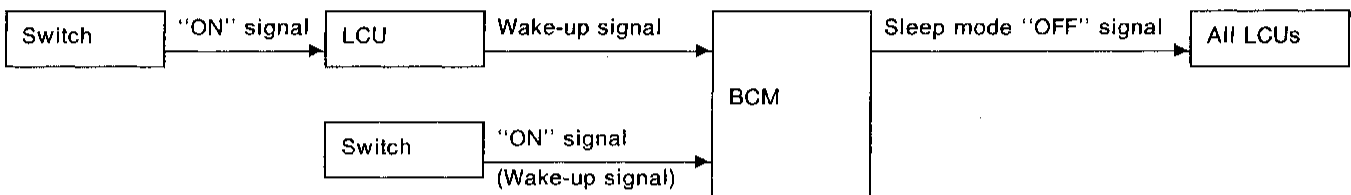
Sleep/Wake-up Control

SLEEP CONTROL



Sleep control prevents unnecessary power consumption. When BCM detects the above condition, the communication between BCM and all LCUs is stopped. Then, it is set in sleep mode after about 30 seconds.

WAKE-UP CONTROL



BCM releases the sleep mode of all LCUs and returns to normal control mode in the following conditions:

1. When BCM detects an ON signal from switches (shown below) which are directly connected to BCM.
2. When BCM detects a wake-up signal from the data line to LCUs.

When BCM detects a key switch OFF signal, it also returns to normal control mode.

Wake-up switch

- Key switch ✓
- Ignition switch (ACC) ✓
- Headlamp switch (1st) ✓
- Illumination control switch
- Door switch ✓
- Steering switch (TILT) (UP/DOWN)
- Steering switch (TELESCOPIC) (FRONT/DOWN)
- Hood switch ✓
- Trunk lid unlock switch
- Trunk lid key cylinder tamper switch ✓
- Trunk room lamp switch ✓

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Fail-safe System

SYSTEM DESCRIPTION

Fail-safe system operates when the computing function of the BCM is judged to be malfunctioning. If BCM sends no signal or an abnormal signal to an LCU 15 times in succession, the LCU is set in a fail-safe condition. During the fail-safe condition, operation of each electrical load is as indicated in the Table below.

Control system	Electrical load	Operation	Remarks
Power window control	Front power window motor LH (UP/DOWN)	Does not operate	
	Front power window motor RH (UP/DOWN)	Does not operate	
	Rear power window motor LH (UP/DOWN)	Does not operate	
	Rear power window motor RH (UP/DOWN)	Does not operate	
Power door lock control	Door lock motor (DR) (LOCK/UNLOCK)	Does not operate	
	Door lock motor (AS) (LOCK/UNLOCK)	Does not operate	
	Door lock motor (RL) (LOCK/UNLOCK)	Does not operate	
	Door lock motor (RR) (LOCK/UNLOCK)	Does not operate	
Automatic drive positioner control	Tilt motor (UP/DOWN)	Operates	
	Telescopic motor (FRONT/REAR)	Operates	
	Seat sliding motor (FRONT/REAR)	Does not operate	
	Seat reclining motor (FRONT/REAR)	Does not operate	
	Seat lifting front motor (UP/DOWN)	Does not operate	
	Seat lifting rear motor (UP/DOWN)	Does not operate	
	Headrest motor (UP/DOWN)	Does not operate	
	Door mirror motor LH	Does not operate	
	Door mirror motor RH	Does not operate	
	Memory switch indicators	Goes off	
Power seat (passenger's seat) control	Seat sliding motor (FRONT/REAR)	Does not operate	
	Seat reclining motor (FRONT/REAR)	Does not operate	
	Seat lifting front motor (UP/DOWN)	Does not operate	
	Headrest motor (UP/DOWN)	Does not operate	
Intermittent wiper control	Intermittent wiper	Operates	
	Combination wiper-washer switch	Operates	

LAN — SYSTEM DESCRIPTION

Fail-safe System (Cont'd)

Control system	Electrical load	Operation	Remarks
Rear window defogger timer control	<ul style="list-style-type: none"> ● Rear window defogger ● Door mirror heater 	Operates	
Ignition key warning control	Chime	Operates	GI
Light warning control	Chime	Operates	
Interior lamp timer control	Interior lamp	Operates	MA
	Key illumination	Operates	
Seat belt timer control	Chime	Operates	EM
Door keyhole illumination control	Door keyhole illumination (DR)	Goes off	LC
	Door keyhole illumination (AS)	Goes off	
Theft warning control	Horn relay	Operates	EC
	Theft warning relay	Operates	
	Indicator lamp	Operates	FE
Step lamp control	Step lamp (DR)	Goes off	AT
	Step lamp (AS)	Goes off	
	Step lamp (RL)	Goes off	
	Step lamp (RR)	Goes off	
Illumination control	Power window switch illumination (RL)	Goes off	PD
	Power window switch illumination (RR)	Goes off	FA
Multi-remote control	Trunk lid opener actuator	Does not operate	Cannot be operated by multi-remote controller
	Hazard warning lamps	Does not operate	

GI

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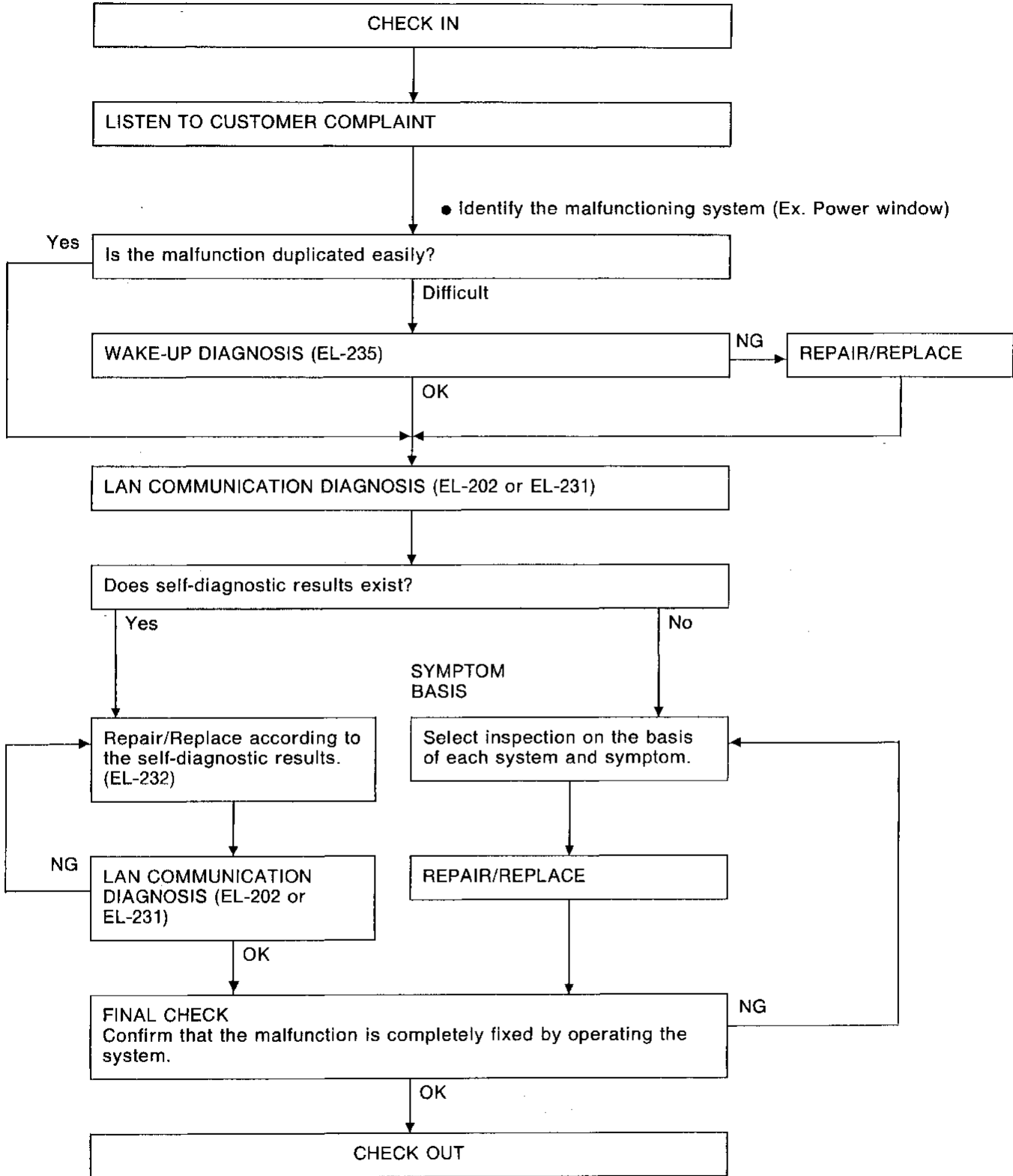
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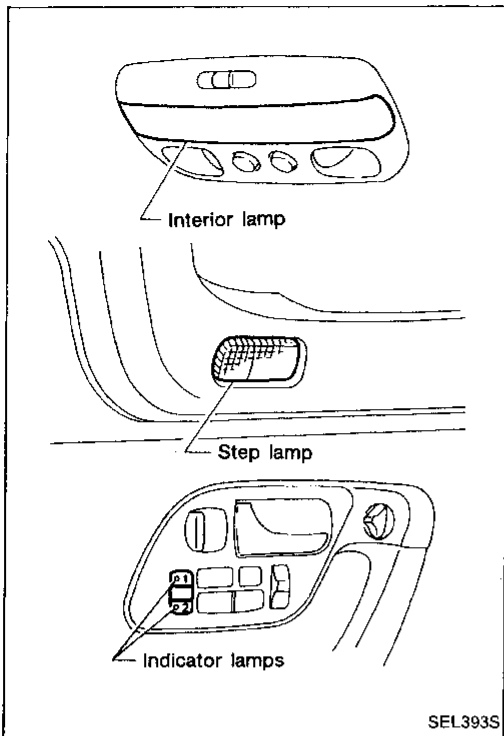
LAN — TROUBLE DIAGNOSES

Work Flow



NOTE:

When LCU connectors are disconnected for more than 1 minute such as during trouble diagnoses, the “disconnected” data will be memorized by the BCM. Therefore, “LAN communication diagnosis” with CONSULT will indicate “PAST NO RESPONSE” after the LCU connectors are connected.



On-board Diagnosis

SELF-DIAGNOSTIC RESULTS INDICATOR LAMP

A interior lamp, step lamps (all seats) and automatic drive positioner indicator lamps have been adopted on the model. These lamps blink simultaneously in response to self-diagnostic results.

SELF-DIAGNOSTIC FUNCTION

Mode	Function	Self-diagnostic results indicator lamp		
		Interior lamp	Step lamps (all seats)	Automatic drive positioner indicator lamps
Mode I	LAN communication diagnosis	X	X	X
Mode II	Switch monitor	X	X	X
Mode III	Power door lock operation	X	X	X
Mode IV	Power window monitor	X	X	X
Mode V	Automatic drive positioner operation	—	—	X

X : applicable
 —: not applicable

GI

MA

EM

LC

EC

FE

AT

PD

FA

RA

BR

ST

RS

BT

HA

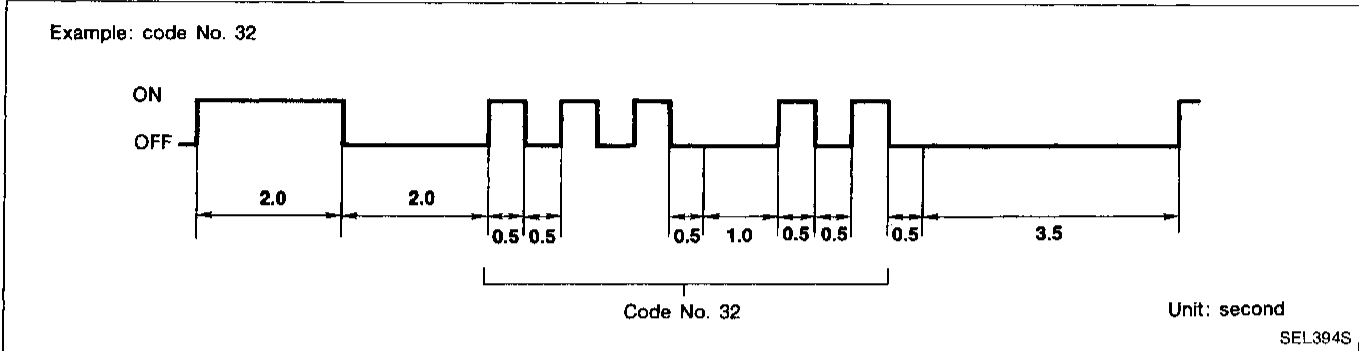
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IDX

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

DESCRIPTION

In this mode, a malfunction code is indicated by the number of flashes of the following: Interior lamp, each seat's step lamp and automatic drive positioner indicator lamps.



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 the first digit of a malfunction code. Then, 1 second after indicator lamp turns off, it again flashes [cycling ON (0.5 sec.)/OFF (0.5 sec.)] to indicate the 2nd digit of a malfunction code. For example, the indicator lamp goes on and off for 0.5 seconds three times. After 1.0 seconds, it goes on and off for 0.5 seconds twice. This indicates malfunction code "32". The self-diagnostic results will remain in the BCM memory.

Malfunction code table

Code No.	Detected items
11	No malfunction in the following circuit
21	LCU 01-A (Both data lines: Communication failure)
22	LCU 01-A (Data line A: No response)
23	LCU 01-A (Data line B: No response)
24	LCU 01-B (Both data lines: Communication failure)
25	LCU 01-B (Data line A: No response)
26	LCU 01-B (Data line B: No response)
27	LCU 01-C (Both data lines: Communication failure)
28	LCU 01-C (Data line A: No response)
29	LCU 01-C (Data line B: No response)
31	LCU 02-A (Both data lines: Communication failure)
32	LCU 02-A (Data line A: No response)
33	LCU 02-A (Data line B: No response)
34	LCU 02-B (Both data lines: Communication failure)
35	LCU 02-B (Data line A: No response)
36	LCU 02-B (Data line B: No response)
37	LCU 02-C (Both data lines: Communication failure)
38	LCU 02-C (Data line A: No response)
39	LCU 02-C (Data line B: No response)
41	LCU 03 (Both data lines: Communication failure)
42	LCU 03 (Data line A: No response)
43	LCU 03 (Data line B: No response)
44	LCU 04 (Both data lines: Communication failure)

LAN — TROUBLE DIAGNOSES

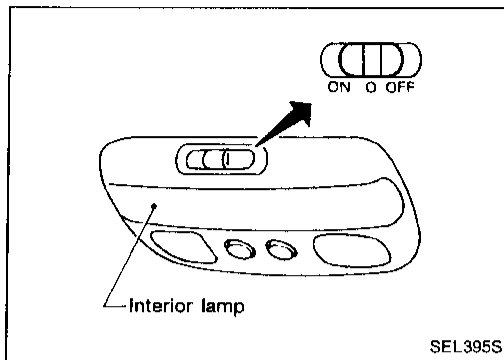
On-board Diagnosis — Mode I (LAN communication diagnosis) (Cont'd)

Code No.	Detected items	
45	LCU 04 (Data line A: No response)	GI
46	LCU 04 (Data line B: No response)	
47	LCU 05 (Both data lines: Communication failure)	MA
48	LCU 05 (Data line A: No response)	
49	LCU 05 (Data line B: No response)	EM
51	LCU 06 (Both data lines: Communication failure)	
52	LCU 06 (Data line A: No response)	LC
53	LCU 06 (Data line B: No response)	
54	LCU 07 (Both data lines: Communication failure)	EC
55	LCU 07 (Data line A: No response)	
56	LCU 07 (Data line B: No response)	FE
		AT
		PD
		FA
		RA
		BR
		ST
		RS
		BT
		HA
		EL
		IDX

LAN — TROUBLE DIAGNOSES

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

HOW TO PERFORM MODE I



Condition

- Ignition switch: OFF
- Shift lever: "P" range
- Power window lock 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 go on.

Turn ignition switch "ON" when the indicator lamps are on.

Mode I should be performed.

Turn ignition switch "OFF".

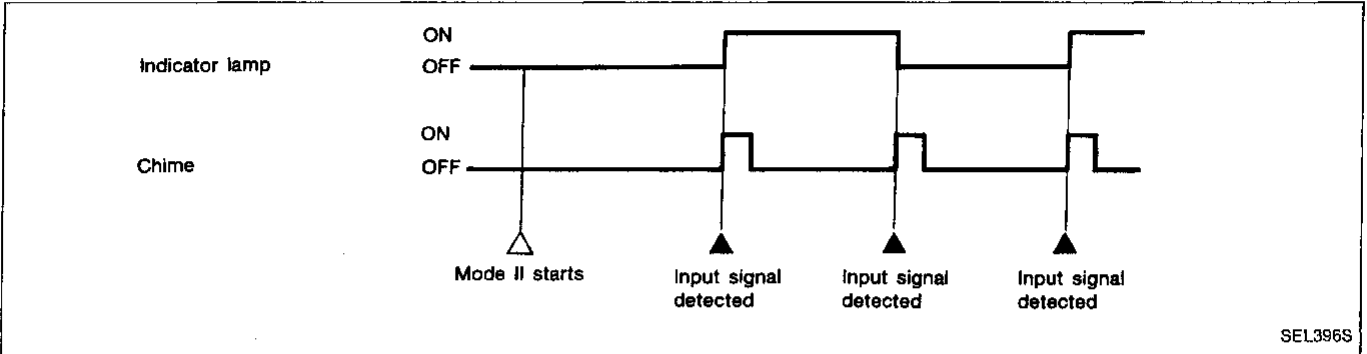
DIAGNOSIS END*

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

On-board Diagnosis — Mode II (Switch monitor)

DESCRIPTION

In this mode, when BCM detects the input signal from a switch in LAN as shown below, the detection is indicated by an interior lamp, each seat's step lamp and automatic drive positioner indicator lamps with chime.



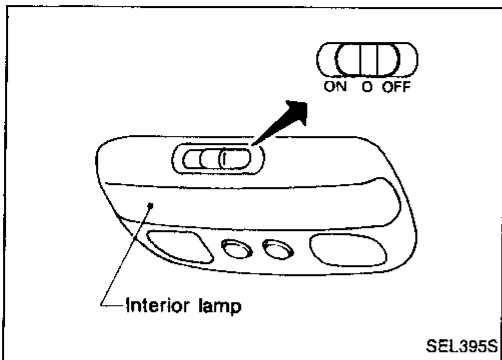
Switch monitor item

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 ● Rear window defogger switch ● Headlamp switch (1st) ● Wiper switch (INT) ● Wiper switch (WASH) ● Illumination control switch ● Automatic drive positioner cancel switch ● Steering switch (TILT) (UP/DOWN) ● Steering switch (TELESCOPIC) (FRONT/ REAR) ● Door mirror select switch (LH/RH) ● Door mirror control switch (LH/RH) ● Door mirror control switch (UP/DOWN) ● Power window lock switch ● Power window main switches (UP/ DOWN) 	LCU 01-B	<ul style="list-style-type: none"> ● Power window sub-switch (UP/DOWN) ● Power window automatic switch ● Door key cylinder switch ● Key cylinder tamper switch ● Lock knob/Position detecting switch ● Door handle switch
		LCU 02-A	<ul style="list-style-type: none"> ● Headrest switch (UP/DOWN) ● Seat sliding switch (FRONT/REAR) ● Seat reclining switch (FRONT/REAR) ● Seat lifting switch FR (UP/DOWN) ● Seat lifting switch RR (UP/DOWN)
		LCU 02-B	<ul style="list-style-type: none"> ● Door key cylinder switch ● Key cylinder tamper switch ● Lock knob/Position detecting switch ● Power window sub-switch (UP/DOWN) ● Door handle switch
		LCU 03	<ul style="list-style-type: none"> ● Power window sub-switch (UP/DOWN) ● Lock knob/Position detecting switch
		LCU 04	<ul style="list-style-type: none"> ● Power window sub-switch (UP/DOWN) ● Lock knob/Position detecting switch
		LCU 05	<ul style="list-style-type: none"> ● Door switch ● Seat belt switch
		LCU 06	<ul style="list-style-type: none"> ● Door switch
LCU 01-A	<ul style="list-style-type: none"> ● Headrest switch (UP/DOWN) ● Seat sliding switch (FRONT/REAR) ● Seat reclining switch (FRONT/REAR) ● Seat lifting switch FR (UP/DOWN) ● Seat lifting switch RR (UP/DOWN) ● Memory switch 1 ● Memory switch 2 ● Set switch ● Door lock & unlock switch (LOCK/ UNLOCK) 	LCU 07	<ul style="list-style-type: none"> ● Door lock button ● Door unlock button ● Interior lamp button ● Trunk lid opener button

LAN — TROUBLE DIAGNOSES

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

HOW TO PERFORM MODE II



Condition

- Ignition switch: OFF
- Shift lever: "P" range
- Power window lock 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 go on.

Keep the rear window defogger switch pressed in, and turn ignition switch "ON" when the indicator lamps are on.

Mode II should be performed.

Turn ignition switch "OFF".

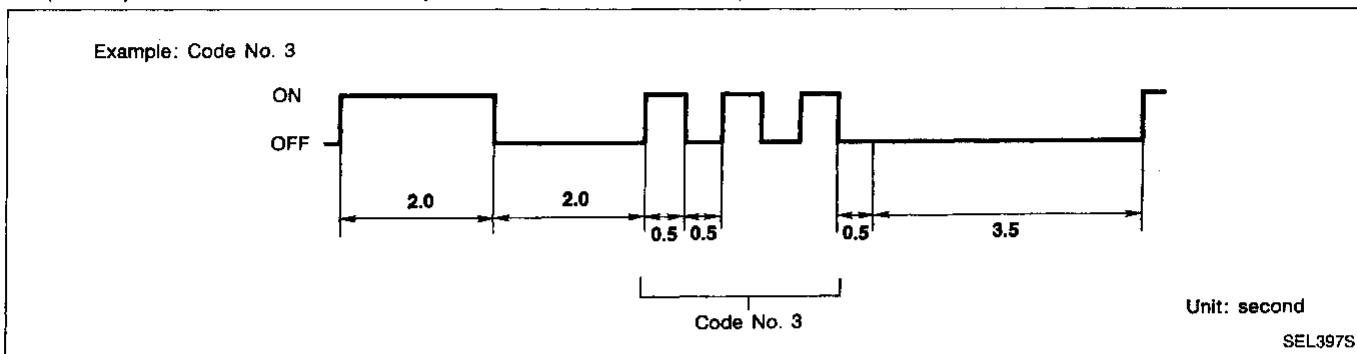
DIAGNOSIS END

LAN — TROUBLE DIAGNOSES

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

DESCRIPTION

In this mode, a malfunction code is indicated by the number of flashes from the interior lamp, each seat's step lamp and automatic drive positioner indicator 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.

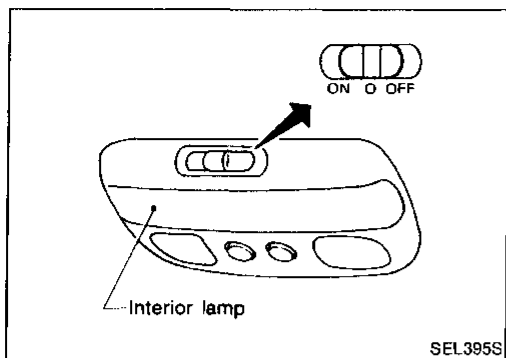
Malfunction code table

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 PROCEDURE 4, 5 of POWER DOOR LOCK — LAN (EL-249, 250).
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	—

LAN — TROUBLE DIAGNOSES

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

HOW TO PERFORM MODE III



Condition

- Ignition switch: OFF
- Power window lock switch: ON
- 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 go on.

Turn ignition switch "ON" when the indicator lamps are on.

Mode III should be performed.

Turn ignition switch "OFF".

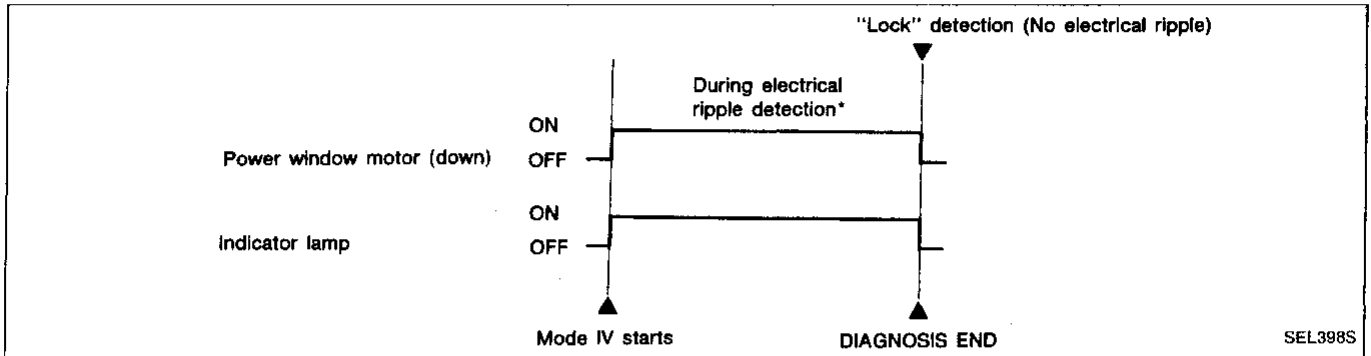
DIAGNOSIS END*

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

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

DESCRIPTION

In mode IV, front LH window is automatically operated. In conjunction with power window motor (DOWN) "ON", indicator lamps (interior lamp, each seat's step lamp and automatic drive positioner indicator lamps) go on. When power window "lock" is detected, power window motor will stop and the indicator lamps will go off.



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

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

GI

MA

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HA

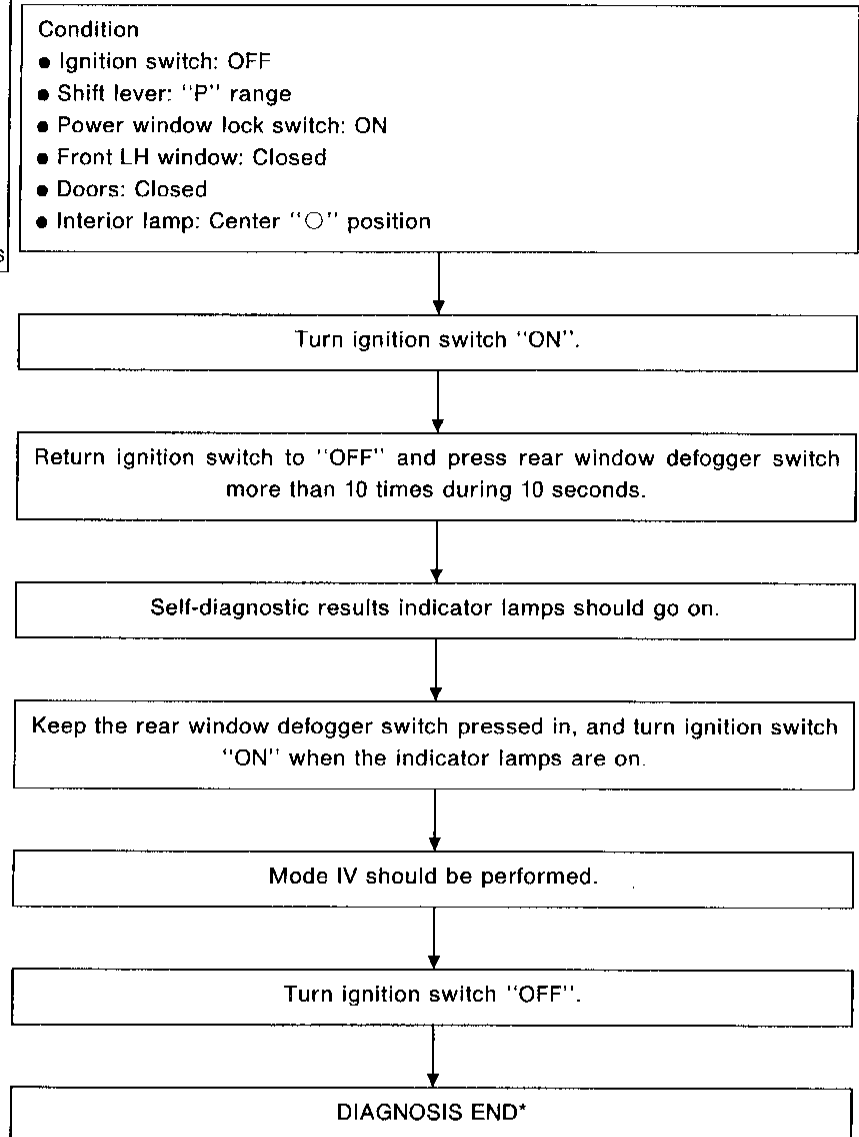
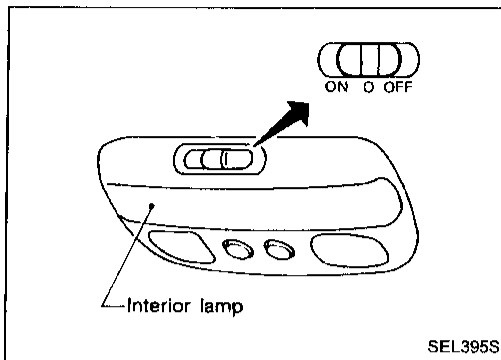
EL

IDX

LAN — TROUBLE DIAGNOSES

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

HOW TO PERFORM MODE IV



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

LAN — TROUBLE DIAGNOSES

On-board Diagnosis — Mode V (Automatic drive positioner operation)

DESCRIPTION

In this mode, a malfunction code is indicated by the number of flashes from the automatic drive positioner indicator lamps (indicator lamp 1, indicator lamp 2) as shown below:

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

Diagnostic item	Indication	Repair order
Seat sliding circuit		DIAGNOSTIC PROCEDURE 6-1 of AUTOMATIC DRIVE POSITIONER — LAN
Seat reclining circuit		DIAGNOSTIC PROCEDURE 6-2 of AUTOMATIC DRIVE POSITIONER — LAN
Seat lifting circuit (FRONT)		DIAGNOSTIC PROCEDURE 6-3 of AUTOMATIC DRIVE POSITIONER — LAN
Seat lifting circuit (REAR)		DIAGNOSTIC PROCEDURE 6-4 of AUTOMATIC DRIVE POSITIONER — LAN
Headrest circuit (UP/DOWN)		DIAGNOSTIC PROCEDURE 6-5 of AUTOMATIC DRIVE POSITIONER — LAN
Telescopic circuit		DIAGNOSTIC PROCEDURE 3 of AUTOMATIC DRIVE POSITIONER — LAN
Tilt circuit		DIAGNOSTIC PROCEDURE 3 of AUTOMATIC DRIVE POSITIONER — LAN
Door mirror circuit (UP/DOWN)*		DIAGNOSTIC PROCEDURE 7 of AUTOMATIC DRIVE POSITIONER — LAN
Door mirror circuit (LH/RH)*		DIAGNOSTIC PROCEDURE 7 of AUTOMATIC DRIVE POSITIONER — LAN
Vehicle speed sensor circuit		DIAGNOSTIC PROCEDURE 2 of AUTOMATIC DRIVE POSITIONER — LAN

Unit: second

SEL186T

*: In the case that only LH door mirror malfunctions, the indicator lamp 1 goes on and off. In the case that only RH door mirror malfunctions, the indicator lamp 2 goes on and off.

GI

MA

EM

LC

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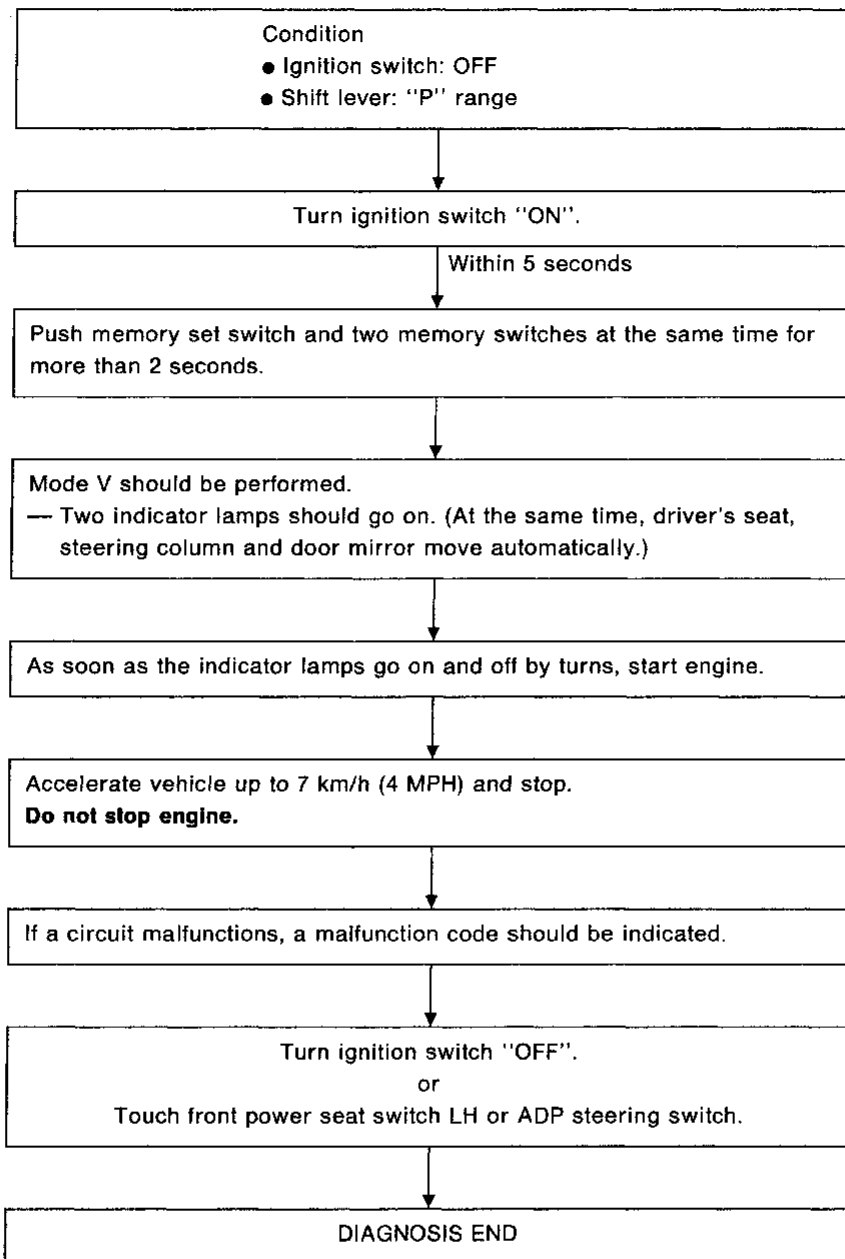
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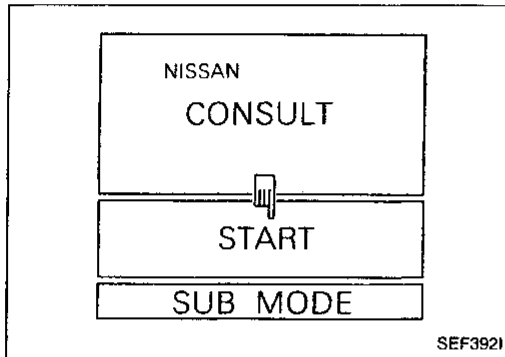
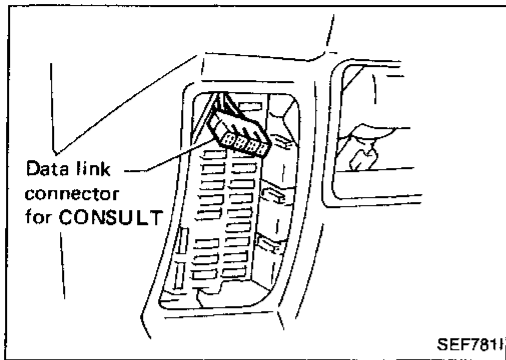
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LAN — TROUBLE DIAGNOSES

On-board Diagnosis — Mode V (Automatic drive positioner operation) (Cont'd)

HOW TO PERFORM MODE V





CONSULT

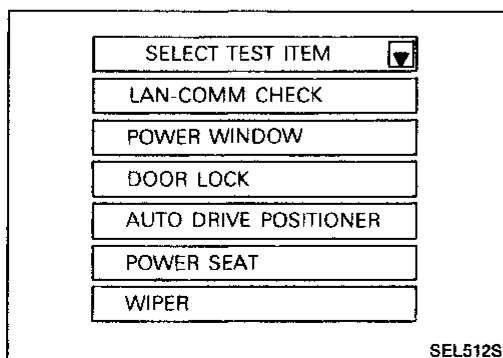
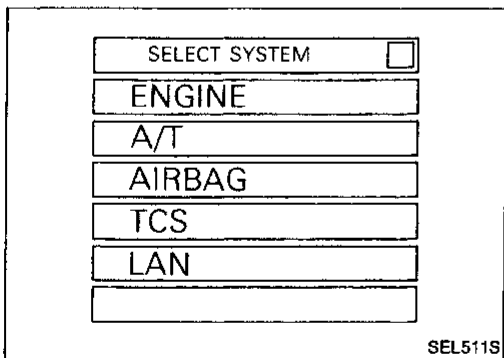
CONSULT INSPECTION PROCEDURE

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

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

NOTICE: If electrical loads are operating under the conditions indicated in the following table, touch "START". Then, their operational modes will change until "SELECT SYSTEM" is shown on the display.

Condition	Operation after touching "START"
Power window: Operating in "AUTO"	Stops.
Auto drive positioner: Operating in "AUTO"	Stops.
Intermittent wiper: Operating	Irregular intermittent time
Rear window defogger timer: Operating	OFF
Interior lamp: While dimming	Goes out.
Step lamp: Illuminating	Flashes.



5. Touch "LAN".

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

For further information, read the CONSULT Operation Manual.

GI
 MA
 EM
 LC
 EC
 FE
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 PD
 FA
 RA
 BR
 ST
 RS
 BT
 HA
 EL
 IDX

LAN — TROUBLE DIAGNOSES

CONSULT (Cont'd)

NOTICE: While diagnoses are being performed using CONSULT, control system input-output signal operations are as indicated in the following table.

Control system	Operation	Remarks
Power window control		
Power window main switch	—	
Power window lock switch	—	
Power window sub-switch	X	Operates even when ignition switch is "OFF".
"AUTO" operation (Driver's seat)	—	
Power door lock control	—	
Automatic drive positioner control		
Auto operation	—	
Cancel switch, Set switch, Memory switch (1, 2)	—	
Manual operation	X	
Power seat (passenger's seat) control	X	Does not operate while "ACTIVE TEST" is being performed.
Time control system	Intermittent wiper control	—
	Rear window defogger timer control	—
	Ignition key warning control	—
	Light warning control	—
	Interior lamp control	—
	Seat belt timer control	—
	Door keyhole illumination control	—
Theft warning control	—	
Step lamp control	—	
Illumination control	—	
Door mirror automatic tilt down reverse control	—	
Multi-remote control	—	

X: Operates

—: Does not operate

LAN COMMUNICATION CHECK

DIAGNOSTIC ITEM	FUNCTION	DIAGNOSTIC RESULTS DISPLAY	
LAN COMM DIAGNOSIS	Check whether or not communication between BCM and LCU's is in good order.	<ul style="list-style-type: none"> ● "NO FAILURE" ● "A-LINE", "B-LINE", "A-B-LINE" ● "COMM FAIL" ● "NO RESPONSE" ● "SLEEP" ● "PAST COMM FAIL" ● "PAST NO RESPONSE" 	
		OK	"NO FAILURE"
WAKE-UP DIAGNOSIS	Set the LAN system in "SLEEP" mode and check whether or not the LAN system is shifted to "WAKE-UP" mode on a particular LCU when the corresponding LCU switch is operated.	NG	Malfunction LCU name is displayed.

LAN — TROUBLE DIAGNOSES

CONSULT (Cont'd)

DIAGNOSTIC SYSTEM APPLICATION

CONTROL SYSTEM		MODE		
		SELF-DIAGNOSTIC RESULTS	DATA MONITOR	ACTIVE TEST
Power window control			X	X
Power door lock control		X	X	X
Automatic drive positioner control		X	X	X
Power seat control			X	X
Time control system	Intermittent wiper control		X	X
	Rear window defogger timer control		X	X
	Ignition key warning control		X	X
	Light warning control		X	X
	Interior lamp control		X	X
	Seat belt timer control		X	X
	Door keyhole illumination control		X	X
Theft warning control			X	X
Step lamp control			X	X
Illumination control			X	X
Door mirror automatic tilt down reverse control*			X	X
Multi-remote control			X	X

X: Applicable

*: The diagnosis for this control is included in "Automatic drive positioner control" on CONSULT.

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

FUNCTION

Diagnostic mode	Function
Self-diagnostic results	Self-diagnostic results can be read and erased quickly.
Data monitor	Input/Output data in the BCM can be read.
Active test	Mode in which CONSULT drives some actuators apart from the control units.
BCM part numbers	BCM part numbers can be read.

GI

MA

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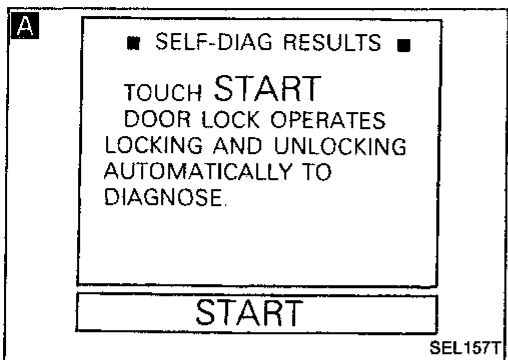
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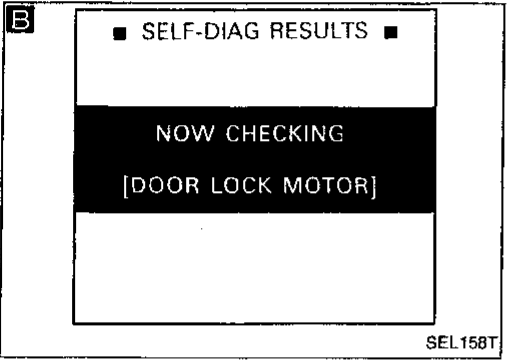
CONSULT — Self-diagnostic Results

POWER DOOR LOCK

Diagnostic procedure

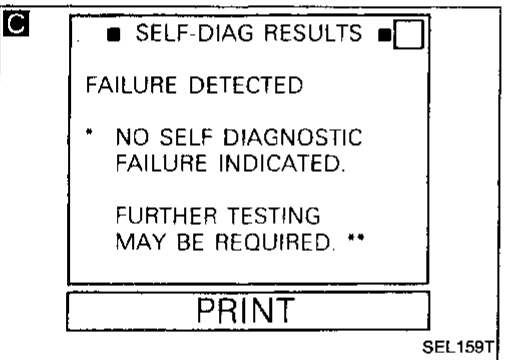


- A**
- 1) Choose "**DOOR LOCK**" in SELECT TEST ITEM.
 - 2) Touch "**SELF-DIAG RESULTS**" of SELECT DIAG mode.
 - 3) Touch "**START**".



B

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

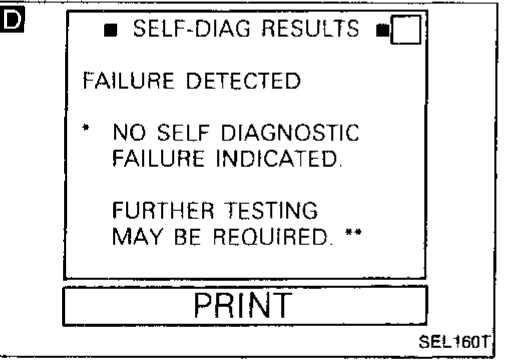


C D

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.



LAN — TROUBLE DIAGNOSES

CONSULT — Self-diagnostic Results (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 PROCEDURE 4, 5 of POWER DOOR LOCK — LAN (EL-249, 250) .
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.	

GI

MA

EM

LC

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EL

DX

LAN — TROUBLE DIAGNOSES

CONSULT — Self-diagnostic Results (Cont'd)

AUTOMATIC DRIVE POSITIONER (ADP)

Diagnostic procedure

A

■ SELF-DIAG RESULTS ■

TOUCH **START**.
BOTH THE SEAT AND THE STEERING COLUMN MOVE TO DIAGNOSE. AFTER THEY COME TO A STOP, TRY TO DRIVE THE CAR AT THE SPEED OF 4 mph [7 km/h] OR MORE WITHIN 15 sec.

START

SEL161T

A

- 1) Choose "**AUTO DRIVE POSITIONER**" in SELECT TEST ITEM.
- 2) Touch "**SELF-DIAG RESULTS**" of SELECT DIAG MODE.
- 3) Touch "**START**".

B

■ SELF-DIAG RESULTS ■

NOW CHECKING
[SEAT/STEERING SYSTEM]

SEL162T

B

Seats, steering wheel and door mirrors automatically move, and self-diagnosis on these parts will start.

C

■ SELF-DIAG RESULTS ■

FAILURE DETECTED
HEAD REST LIFTER

NOW CHECKING
[VHCL SPD SEN SYSTEM]
DRIVE OVER 4mph [7km/h]

SEL163T

C

After completing self-diagnosis, diagnostic contents appear on the display as shown at left. Within 15 seconds after completing self-diagnosis, drive vehicle at speeds greater than 7 km/h (4 MPH) and start self-diagnosis on the vehicle speed sensor.

D

■ SELF-DIAG RESULTS ■

FAILURE DETECTED

* NO SELF DIAGNOSTIC FAILURE INDICATED.

FURTHER TESTING MAY BE REQUIRED. **

ERASE **PRINT**

SEL164T

D E

After completing self-diagnosis, diagnostic contents appear on the display as shown at left.

D : When no malfunction is detected
E : When malfunction is detected

A summary of self-diagnostic results is given in the following charts.

E

■ SELF-DIAG RESULTS ■

FAILURE DETECTED
SEAT LIFTER-RR
VEHICLE SPEED SENSOR

ERASE **PRINT**

SEL165T

LAN — TROUBLE DIAGNOSES

CONSULT — Self-diagnostic Results (Cont'd)

AUTOMATIC DRIVE POSITIONER RESULT LIST — Self-diagnosis on seats, steering wheel and door mirrors

Diagnostic item	Explanation	Repair order	
*NO SELF DIAGNOSTIC FAILURE INDICATED/FURTHER TESTING MAY BE REQUIRED.**	Normal The automatic drive positioner system is in good order.	—	GI
SEAT SLIDE	Condition: While the seat slide is moving backward for 2.5 seconds, then forward for 2.5 seconds. If the number of seat slide sensor pulses changes 2 times or less, the seat slide is determined to be malfunctioning.	Diagnose the seat slide device referring to the DIAGNOSTIC PROCEDURE 6-1 of AUTOMATIC DRIVE POSITIONER — LAN (EL-292) .	MA EM LC
SEAT RECLINING	Condition: While the seat is reclining forward for 2.5 seconds, then backward for 2.5 seconds. If the number of seat reclining sensor pulses changes 2 times or less, the seat reclining device is determined to be malfunctioning.	Diagnose the seat reclining device referring to the DIAGNOSTIC PROCEDURE 6-2 of AUTOMATIC DRIVE POSITIONER — LAN (EL-293) .	EC FE AT
SEAT LIFTER-FR	Condition: While the lifter's front section is moving down for 2.5 seconds, then up for 2.5 seconds. If the number of sensor pulses (located in the front section of the seat lifter) changes 2 times or less, the front seat lifter is determined to be malfunctioning.	Diagnose the seat front lifter device referring to the DIAGNOSTIC PROCEDURE 6-3 of AUTOMATIC DRIVE POSITIONER — LAN (EL-294) .	PD FA RA
SEAT LIFTER-RR	Condition: While the lifter's rear section is moving down for 2.5 seconds, then up for 2.5 seconds. If the number of sensor pulses (located in the rear section of the seat lifter) changes 2 times or less, the rear seat lifter is determined to be malfunctioning.	Diagnose the seat rear lifter device referring to the DIAGNOSTIC PROCEDURE 6-4 of AUTOMATIC DRIVE POSITIONER — LAN (EL-295) .	BR ST RS
HEAD REST LIFTER	Condition: While the head rest is moving down for 2.5 seconds, then up for 2.5 seconds. If the number of head rest sensor pulses changes 2 times or less, the head rest lifter is determined to be malfunctioning.	Diagnose the headrest device referring to the DIAGNOSTIC PROCEDURE 6-5 of AUTOMATIC DRIVE POSITIONER — LAN (EL-296) .	BT HA
STEERING TELESCO	Condition: While steering telesco is moving forward for 1 second, then backward for 1 second. If telesco sensor output changes 0.2 volts or less, the steering telesco section is determined to be malfunctioning.	Diagnose the steering telescopic motor and sensor referring to the DIAGNOSTIC PROCEDURE 3 of AUTOMATIC DRIVE POSITIONER — LAN (EL-286) .	EL DX

LAN — TROUBLE DIAGNOSES

CONSULT — Self-diagnostic Results (Cont'd)

Diagnostic item	Explanation	Repair order
STEERING TILT	<p>Condition: While the steering wheel is tilting up for 1 second, then down for 1 second.</p> <p>If tilt sensor output changes 0.2 volts or less, the steering tilt device is determined to be malfunctioning.</p>	<p>Diagnose the steering tilt motor and sensor referring to the DIAGNOSTIC PROCEDURE 3 of AUTOMATIC DRIVE POSITIONER — LAN (EL-286).</p>
MIRROR-LH or RH UP-DOWN or R-L	<p>If the oscillation signal from each sensor is 1.25 kHz or more when the door mirror is moved for 2.5 seconds in the lower right direction, the door mirror is functioning properly. If it is less than 1.25 kHz, move the door mirror in the upper left direction for 2.5 seconds and recheck. If the oscillation signal from each sensor is less than 1.25 kHz, the door mirror is determined to be malfunctioning.</p>	<p>Diagnose the LH or RH door mirror actuator referring to the DIAGNOSTIC PROCEDURE 7 of AUTOMATIC DRIVE POSITIONER — LAN (EL-297).</p>
VEHICLE SPEED SENSOR	<p>If the vehicle speed sensor output of less than 7 km/h (4 MPH) is detected within 15 seconds after completing self-diagnosis on the seat, steering system and door mirrors, the vehicle speed sensor is determined to be malfunctioning.</p>	<p>Diagnose the vehicle speed sensor circuit referring to the DIAGNOSTIC PROCEDURE 2 (EL-283) of AUTOMATIC DRIVE POSITIONER — LAN.</p>

LAN — TROUBLE DIAGNOSES

CONSULT — Self-diagnostic Results (Cont'd)

AUTOMATIC DRIVE POSITIONER RESULT LIST — PAST Malfunction (Past malfunctions are shown on the display unless they are repaired and the data stored in BCM is cleared using CONSULT.)

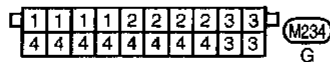
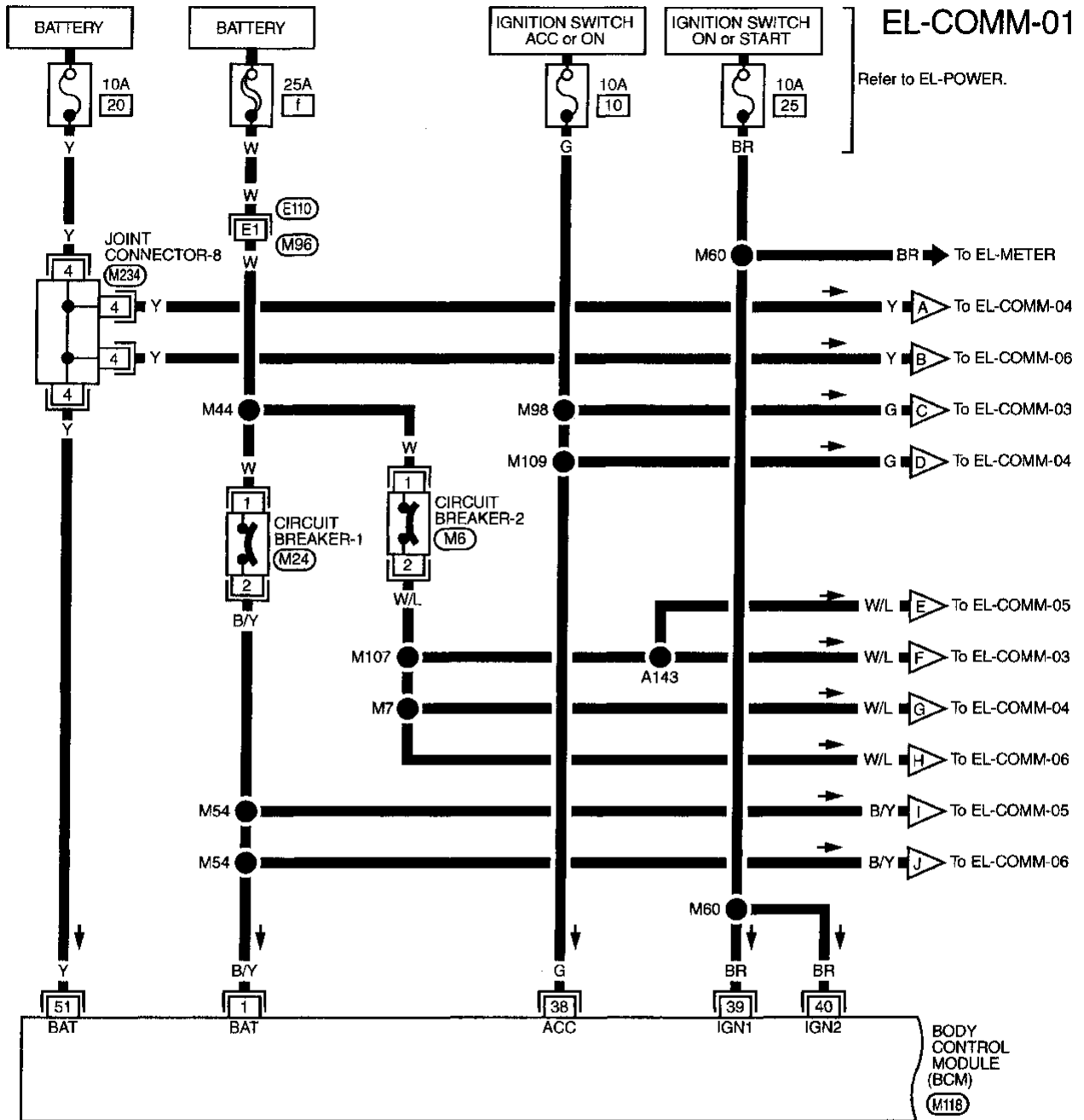
Diagnostic item	Explanation	Repair order (If malfunctioning)	
SEAT SLIDE [PAST INPUT FAIL]	If the "ON" signal (input) from the seat slide manual switch continues for at least 10 seconds while vehicle is being driven at speeds greater than 7 km/h (4 MPH), the seat slide input system is determined to be malfunctioning.	Diagnose the seat slide switch referring to the DIAGNOSTIC PROCEDURE 5 of AUTOMATIC DRIVE POSITIONER — LAN (EL-291) .	CI MA EM
SEAT RECLINING [PAST INPUT FAIL]	If the "ON" signal (input) from the seat reclining manual switch continues for at least 10 seconds while vehicle is being driven at speeds greater than 7 km/h (4 MPH), the seat reclining input system is determined to be malfunctioning.	Diagnose the seat reclining switch referring to the DIAGNOSTIC PROCEDURE 6-2 of AUTOMATIC DRIVE POSITIONER — LAN (EL-293) .	LC EC
STEERING TILT [PAST INPUT FAIL]	If the "ON" signal (input) from the steering tilt manual switch continues for at least 10 seconds whether or not vehicle is driven, the steering tilt input system is determined to be malfunctioning.	Diagnose the steering tilt switch referring to the DIAGNOSTIC PROCEDURE 3 of AUTOMATIC DRIVE POSITIONER — LAN (EL-286) .	FE AT
DETENT SW [PAST INPUT FAIL]	If a vehicle speed of greater than 7 km/h (4 MPH) is detected while the AT select lever is set to "P" (the detent switch "0" volts), the detent switch input system is determined to be malfunctioning.	Diagnose the detention switch referring to the DIAGNOSTIC PROCEDURE 1 of AUTOMATIC DRIVE POSITIONER — LAN (EL-281) .	PD FA
SEAT SLIDE [PAST OUTPUT FAIL]	During the time the vehicle is being driven at speeds greater than 7 km/h (4 MPH), if the seat slides greater than 6 mm (0.24 in) within 2.5 seconds after the seat slide sensor receives an input signal (when neither manual input nor ADP output signal is produced), the seat slide output system is determined to be malfunctioning.	Diagnose the seat slide device referring to the DIAGNOSTIC PROCEDURE 6-1 of AUTOMATIC DRIVE POSITIONER — LAN (EL-292) .	RA BR ST
SEAT RECLINING [PAST OUTPUT FAIL]	During the time the vehicle is being driven at speeds greater than 7 km/h (4 MPH), if the seat reclines greater than 1° within 2.5 seconds after the seat reclining sensor receives an input signal (when neither manual input nor ADP output signal is produced), the seat reclining output system is determined to be malfunctioning.	Diagnose the seat reclining device referring to the DIAGNOSTIC PROCEDURE 6-2 of AUTOMATIC DRIVE POSITIONER — LAN (EL-293) .	RS BT HA
STEERING TILT [PAST OUTPUT FAIL]	During the time the vehicle is being driven at speeds greater than 7 km/h (4 MPH), if the steering wheel tilts greater than 1° within 2.5 seconds after the steering tilt sensor receives an input signal (when neither manual input signal nor ADP output signal is produced), the steering tilt output system is determined to be malfunctioning.	Diagnose the steering tilt motor and sensor referring to the DIAGNOSTIC PROCEDURE 3 of AUTOMATIC DRIVE POSITIONER — LAN (EL-286) .	EL IDX

LAN — TROUBLE DIAGNOSES

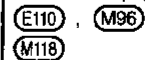
CONSULT — Self-diagnostic Results (Cont'd)

Diagnostic item	Explanation	Repair order (If malfunctioning)
TELESCO SEN [PAST]	If a voltage greater than 4.9 volts (in relation to the sensor power source of 5 volts) or less than 0.1 volts is detected across the telesco sensor, the telesco sensor system is determined to be malfunctioning.	Diagnose the steering telescopic motor and sensor referring to the DIAGNOSTIC PROCEDURE 3 of AUTOMATIC DRIVE POSITIONER — LAN (EL-286) .
TILT SEN [PAST]	If a voltage greater than 4.9 volts (in relation to the sensor power source of 5 volts) or less than 0.1 volts is detected across the steering tilt sensor, the tilt sensor system is determined to be malfunctioning.	Diagnose the steering tilt motor and sensor referring to the DIAGNOSTIC PROCEDURE 3 of AUTOMATIC DRIVE POSITIONER — LAN (EL-286) .

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



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M118

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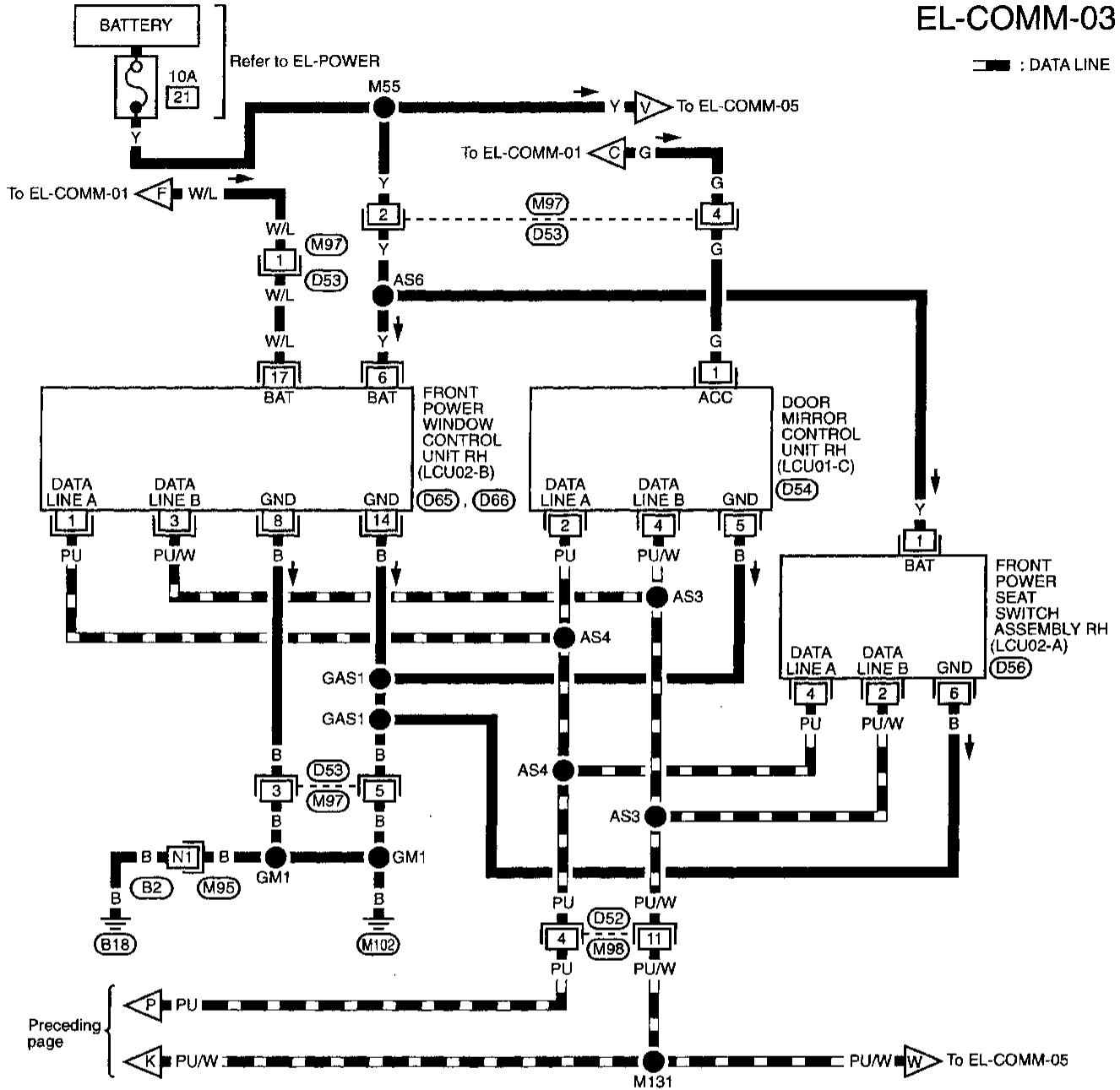
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LAN — TROUBLE DIAGNOSES

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

EL-COMM-03

— : DATA LINE

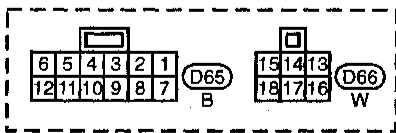
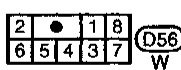
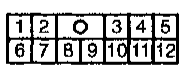


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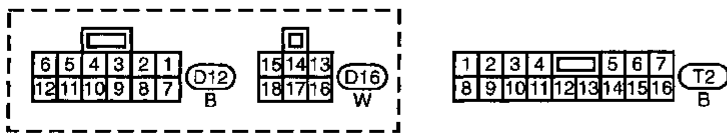
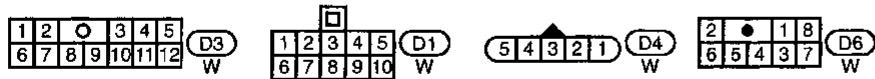
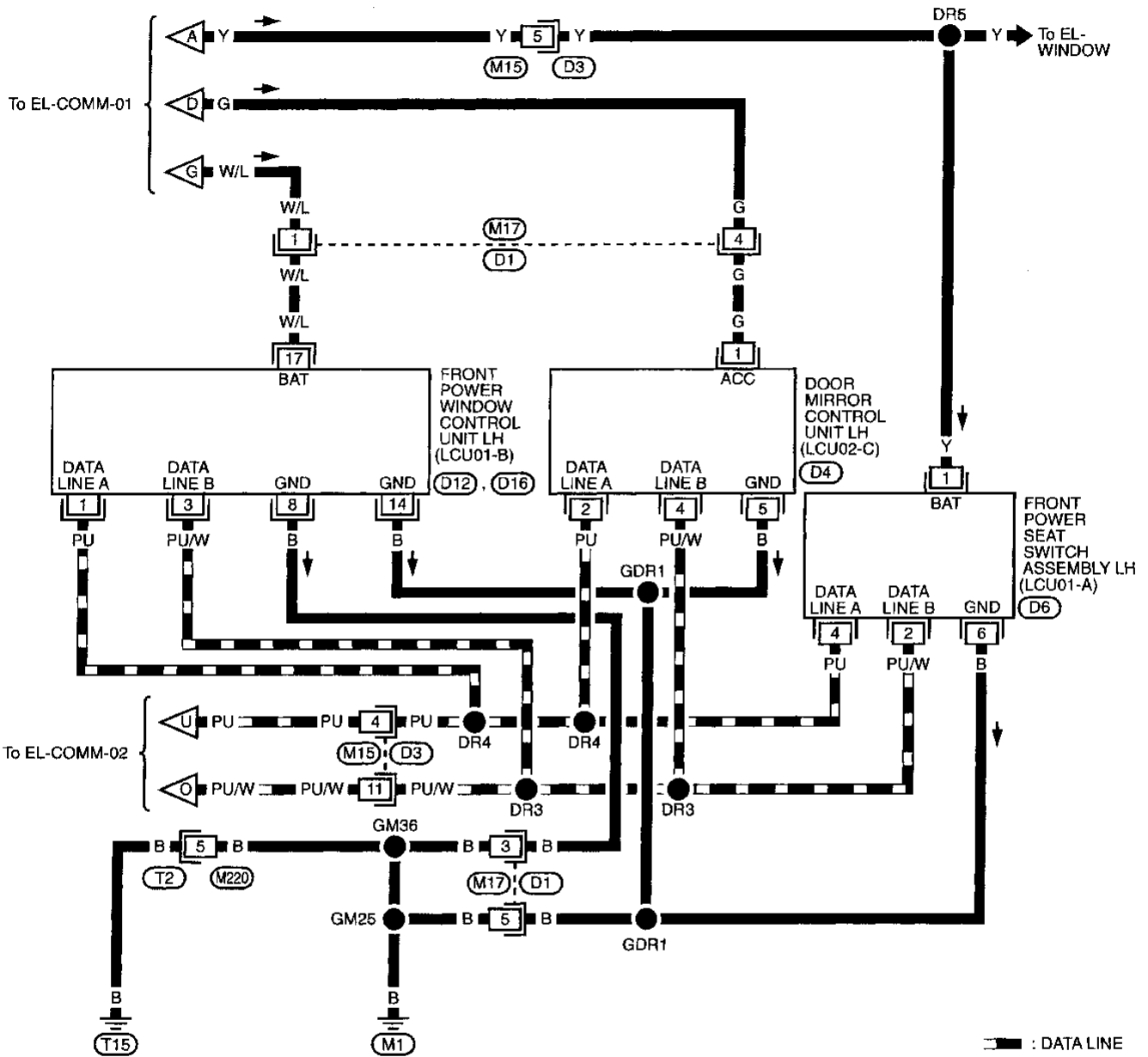
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LAN — TROUBLE DIAGNOSES

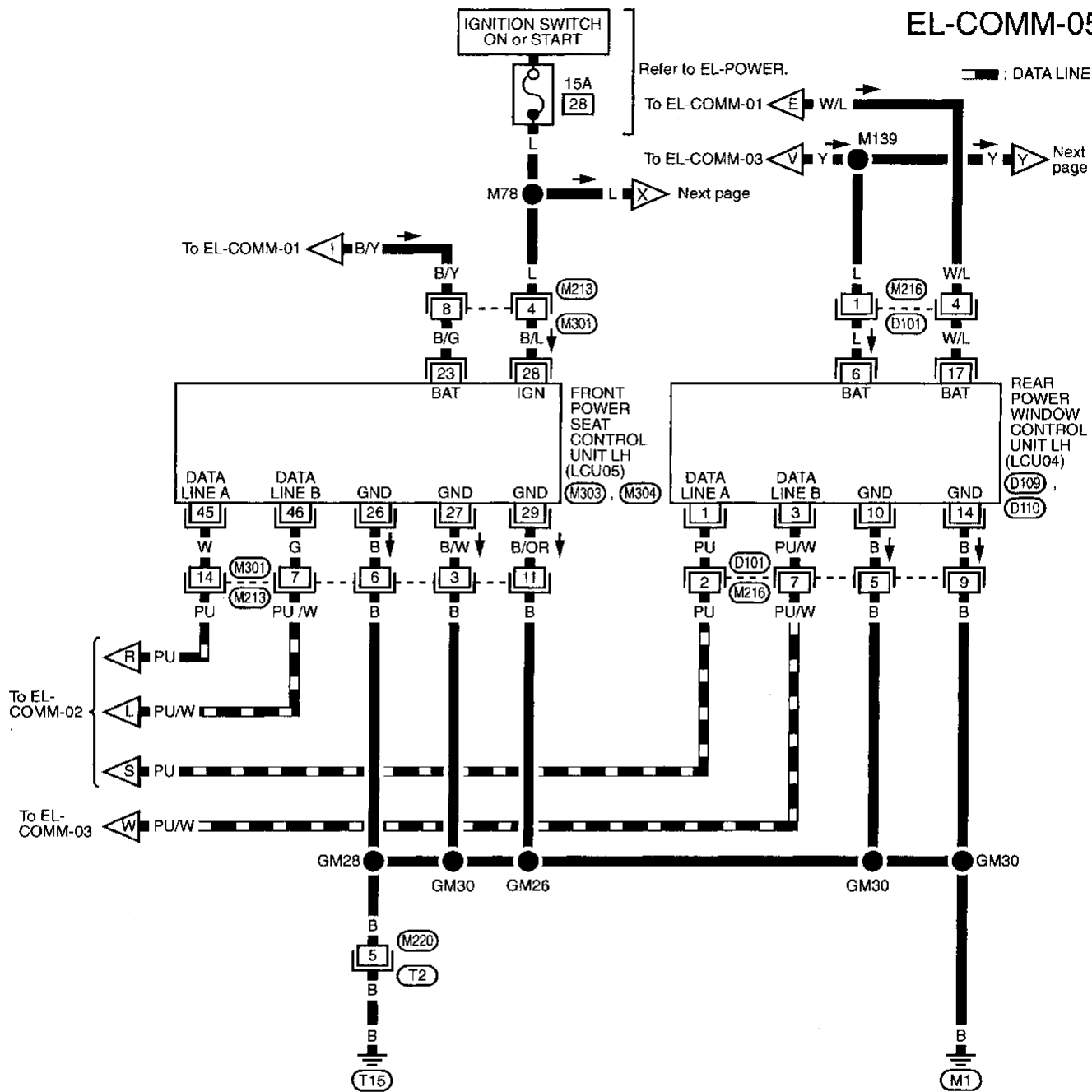
Main Power Supply, Ground and Communication Circuits/Wiring Diagram — COMM — (Cont'd)

EL-COMM-04



LAN — TROUBLE DIAGNOSES

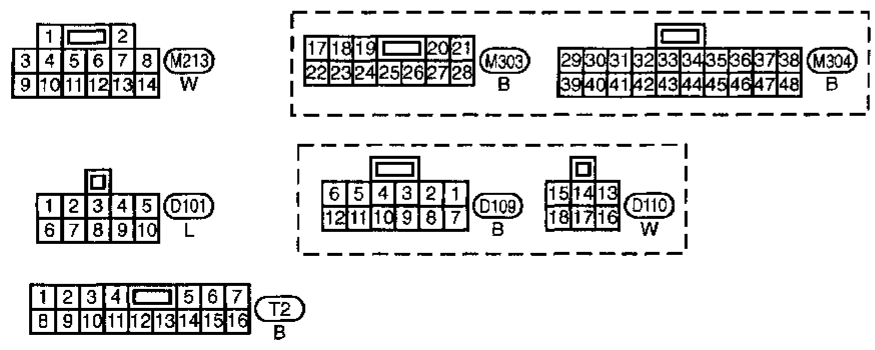
Main Power Supply, Ground and Communication Circuits/Wiring Diagram — COMM — (Cont'd)



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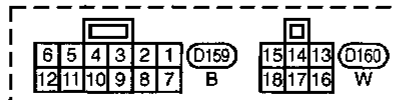
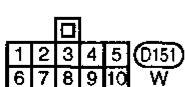
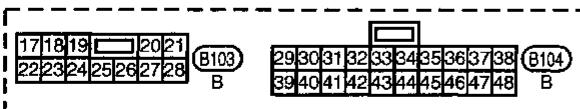
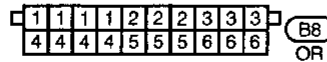
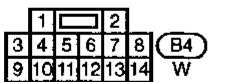
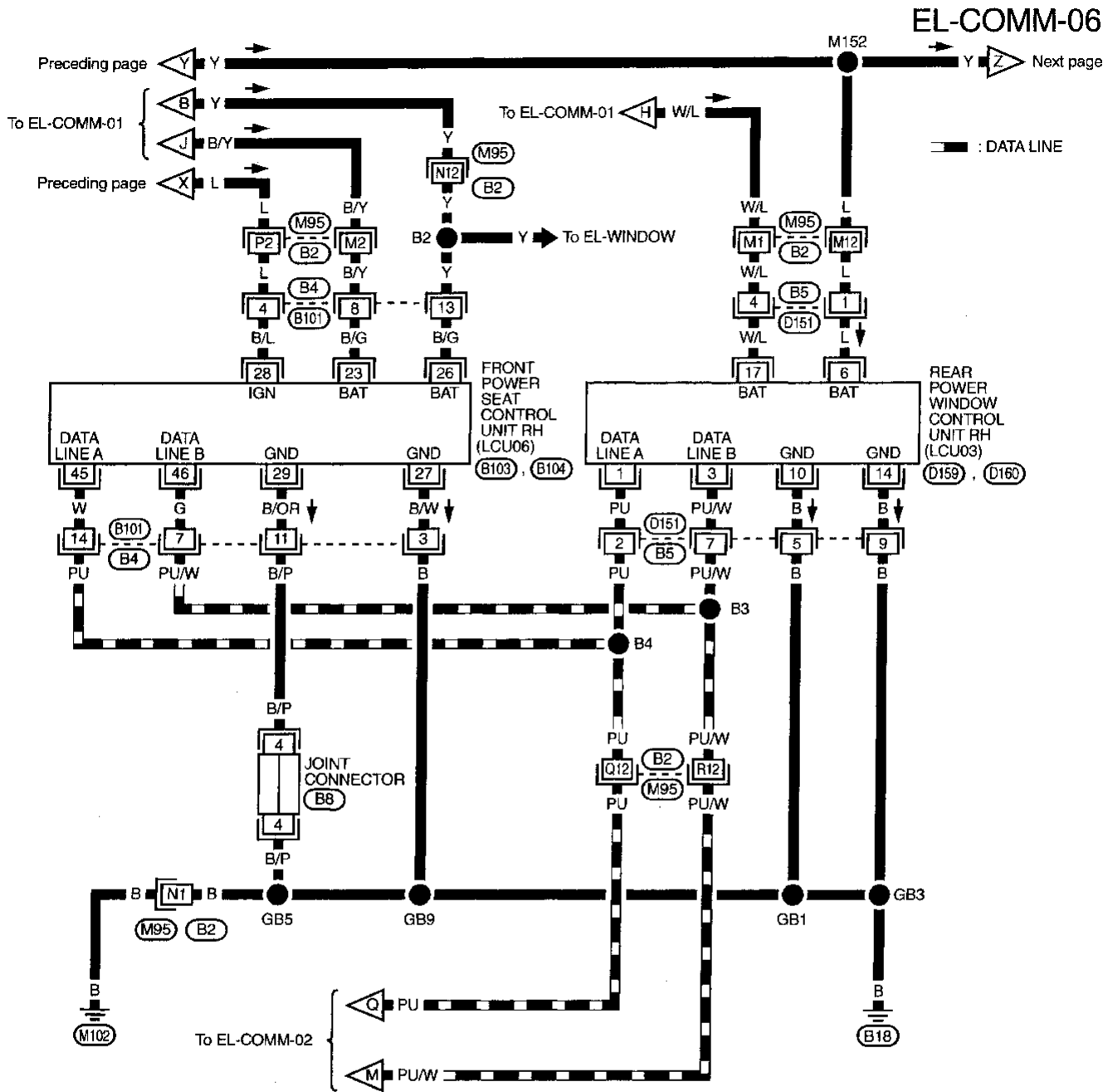
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LAN — TROUBLE DIAGNOSES

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

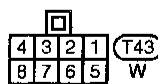
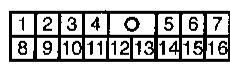
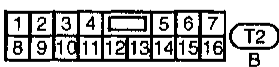
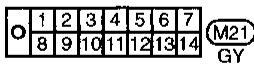
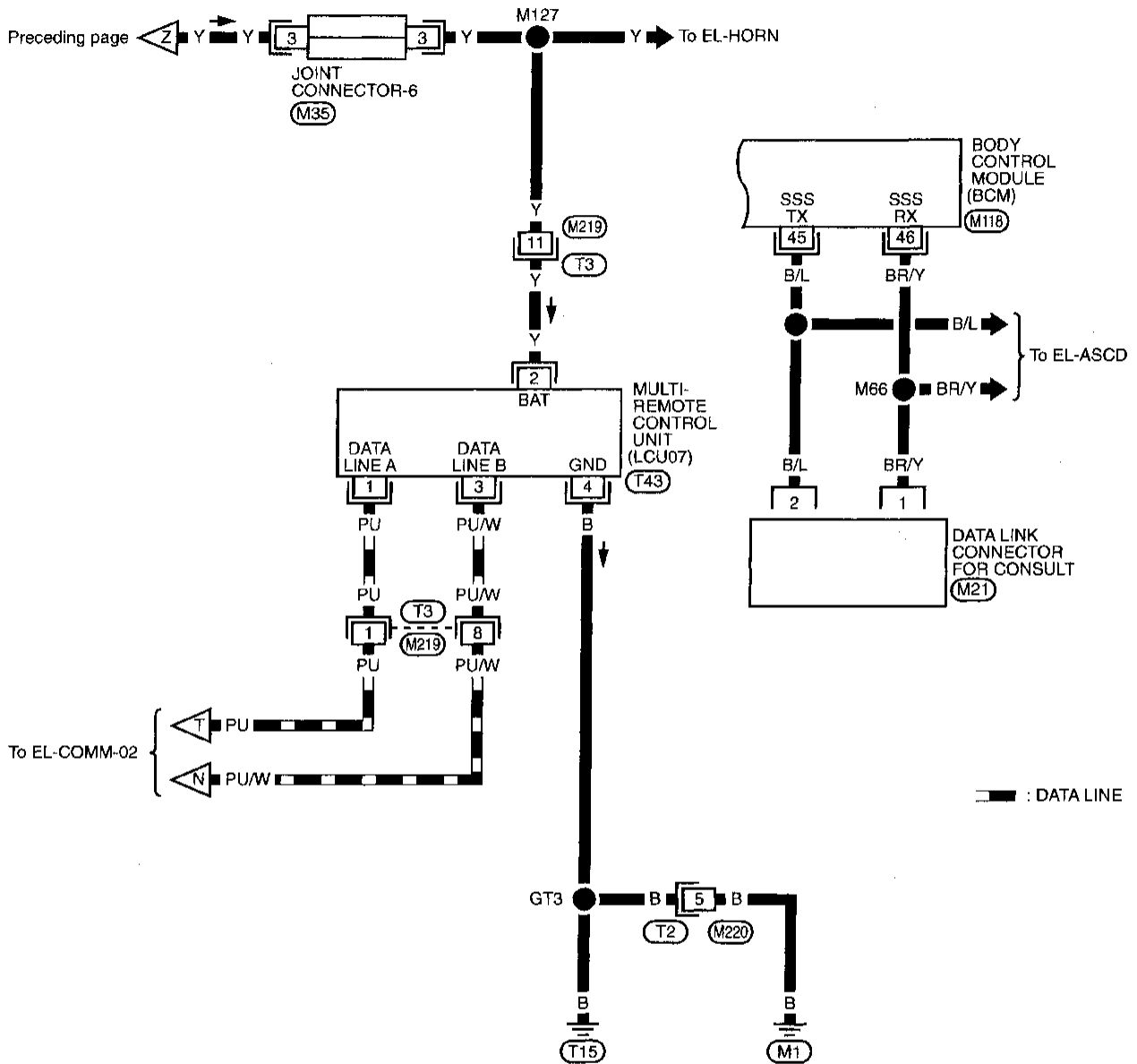


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LAN — TROUBLE DIAGNOSES

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

EL-COMM-07



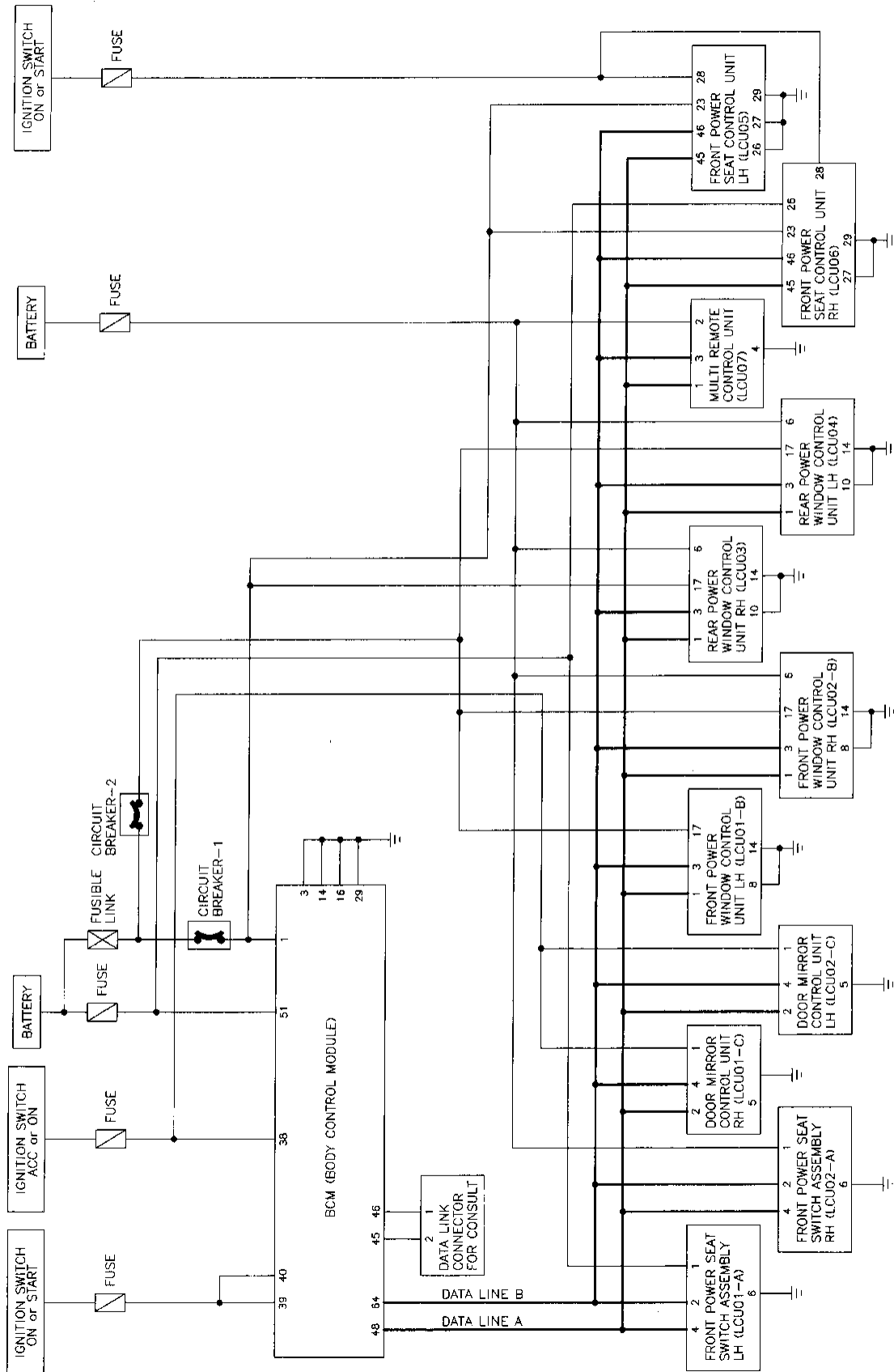
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Main Power Supply, Ground and Communication Circuits/Schematic



■ LAN COMM DIAGNOSIS ■

TOUCH START.

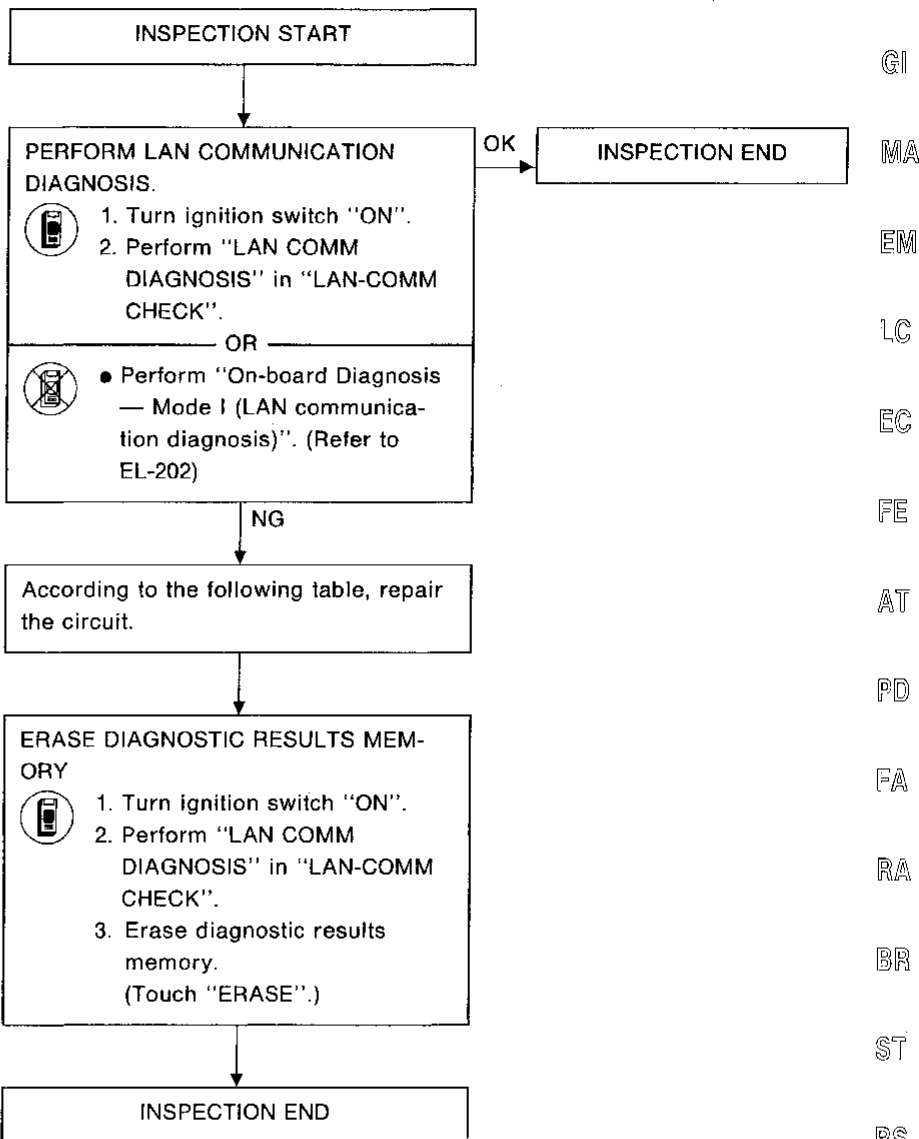
DIAGNOSE LAN COMM
BETWEEN BCM AND
ALL LCUs.

START

SEL514S

LAN Communication Check

LAN COMMUNICATION DIAGNOSIS



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LAN — TROUBLE DIAGNOSES

LAN Communication Check (Cont'd)

DIAGNOSTIC PROCEDURE

Diagnostic results	LCU No.							Number of malfunctioning LCUs	Cause	Service procedure
	LCU No.									
	1-A	1-B	1-C	2-A	2-B	2-C	3			
COMMUNICATION FAILURE	○							○	① Brief communication failure ② Open LCU's data ground line ③ Malfunctioning LCU's communication IC	① Perform LAN communication diagnosis several times. Check for continuity in LCU's data ground circuit. (Refer to Example 1 and Wiring Diagram) (EL-223) ② Replace LCU.*
	○							○	① Brief communication failure ② Malfunctioning LCU's communication IC	① Perform LAN communication diagnosis several times. ② Replace LCU.*
Data line A; NO RESPONSE	All LCUs							All	① Brief communication failure ② Malfunctioning BCM's communication IC	① Perform LAN communication diagnosis several times. ② Replace BCM.*
			○					○	① Open LCU's data ground line ② Poor connection in data line A of the LCU connector or junction connector ③ Open data line A between LCU and junction connector ④ Malfunctioning data line A circuit in LCU	① Check for continuity in LCU's data ground circuit. (Refer to Example 1 and Wiring Diagram) (EL-223) ② Check for loose connector. ③ Check for continuity in data line A between LCU and junction connector. (Refer to Example 2 and Wiring Diagram) (EL-223) ④ Replace LCU.*
	○							○	① Poor connection in data line A of the LCU connector or junction connector ② Open data line A between LCU and junction connector ③ Malfunctioning data line A circuit in LCU	① Check for loose connector. ② Check for continuity in data line A between LCU and junction connector. (Refer to Example 2 and Wiring Diagram) (EL-223) ③ Replace LCU.*
	○							○	Open data line A	① Refer to wiring diagram (EL-223) and check for continuity in data line A of malfunctioning LCU located closest to BCM. (Refer to Example 3)
	All LCUs							All	① Poor connection in data line A at BCM connector ② Open data line A at BCM ③ Data line A shorted to ground ④ Malfunctioning data line A circuit in BCM	① Check for loose BCM connector. ② Check for continuity in data line A at BCM. (Refer to Example 3 and Wiring Diagram) (EL-223) ③ Check for continuity between data line A and ground. (Refer to Example 4 and Wiring Diagram) (EL-223) ④ Replace BCM.*

*: BCM or LCU may be the cause of a problem, but this is rarely the case.

LAN — TROUBLE DIAGNOSES

LAN Communication Check (Cont'd)

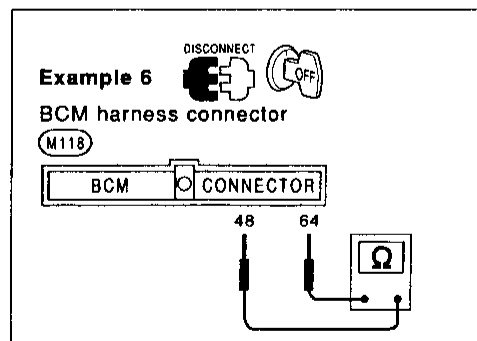
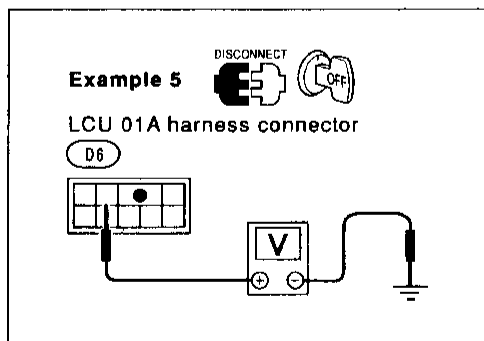
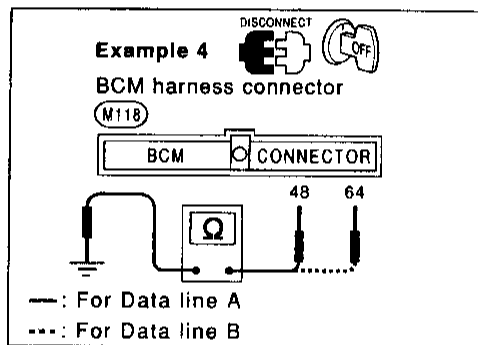
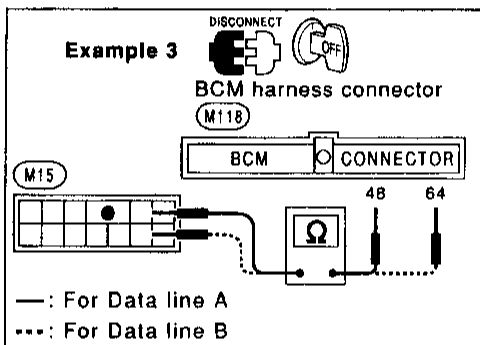
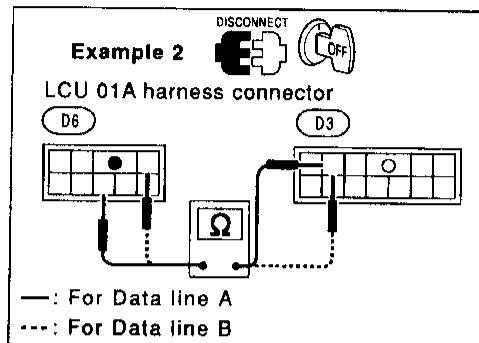
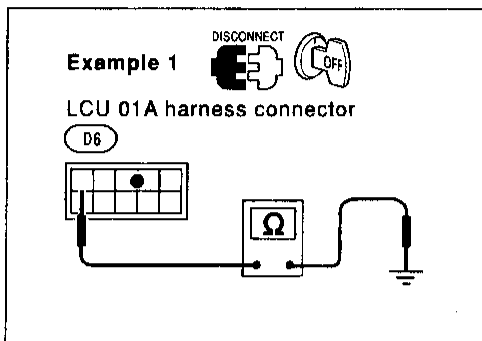
Diagnostic results	LCU No.							Number of malfunctioning LCUs	Cause	Service procedure
	1-A	1-B	1-C	2-A	2-B	2-C	3			
Data line B: NO RESPONSE	○	○	○	○	○	○	○	○	<ol style="list-style-type: none"> ① Poor connection in data line B of the LCU connector or junction connector ② Open data line B between LCU and harness connector. ③ Malfunctioning data line B circuit in LCU 	<ol style="list-style-type: none"> ① Check for loose connector. ② Check for continuity in data line B between LCU and junction connector. (Refer to Example 2 and Wiring Diagram (EL-223)) ③ Replace LCU.*
	○	○	○	○	○	○	○	○	<ol style="list-style-type: none"> ① Open data line B 	<ol style="list-style-type: none"> ① Refer to wiring diagram (EL-223) and check for continuity in data line B of malfunctioning LCU located closest to BCM. (Refer to Example 3)
Data line A, B: NO RESPONSE	All LCUs							All	<ol style="list-style-type: none"> ① Poor connection of data line B at BCM connector ② Open data line B at BCM ③ Data line B shorted to ground ④ Malfunctioning data line B circuit in BCM 	<ol style="list-style-type: none"> ① Check for loose BCM connector. ② Check for continuity in data line B at BCM. (Refer to Example 3 and Wiring Diagram (EL-223)) ③ Check for continuity between data line B and ground. (Refer to Example 4 and Wiring Diagram (EL-223)) ④ Replace BCM.*
	All LCUs							One	<ol style="list-style-type: none"> ① Blown LCU fuse, fusible link, or faulty circuit breaker ② Open power supply harness ③ Disconnected harness connector or poor connector connection ④ Open data lines A and B between LCU and junction connector ⑤ LCU communication circuit failure 	<ol style="list-style-type: none"> ① Check LCU fuse, fusible link and circuit breaker. ② Check input to LCU's power supply. (Refer to Example 5 and Wiring Diagram (EL-223)) ③ Check for loose connector. ④ Check for continuity of data lines A and B between LCU and junction connector. (Refer to Example 2 and Wiring Diagram (EL-223)) ⑤ Replace LCU.*
Data line A, B: NO RESPONSE	All LCUs							Two or more	<ol style="list-style-type: none"> ① Blown LCU fuse, fusible link or faulty circuit breaker ② Open power supply harness ③ Disconnected harness connector or poor connector connection ④ Open data lines A and B 	<ol style="list-style-type: none"> ① Check LCU fuse, fusible link and circuit breaker. ② Check input to LCU's power supply. (Refer to Example 5 and Wiring Diagram (EL-223)) ③ Check for loose connector at BCM. ④ Check for continuity between data lines A and B. (Refer to Example 3 and Wiring Diagram (EL-223))
	All LCUs							All	<ol style="list-style-type: none"> ① Poor connection of data lines A and B at BCM connector ② Open data lines A and B at BCM ③ Short circuit between data lines A and B ④ Data lines A and B shorted to ground ⑤ Malfunctioning communication circuit in BCM 	<ol style="list-style-type: none"> ① Check for loose BCM connector. ② Check for continuity between data lines A and B at BCM. (Refer to Example 3 and Wiring Diagram (EL-223)) ③ Check for continuity between data lines A and B. (Refer to Example 6 and Wiring Diagram (EL-223)) ④ Check for continuity between data line A and ground, and data line B and ground. (Refer to Example 4 and Wiring Diagram (EL-223)) ⑤ Replace BCM.*

*: BCM or LCU may be the cause of a problem, but this is rarely the case.

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LAN — TROUBLE DIAGNOSES

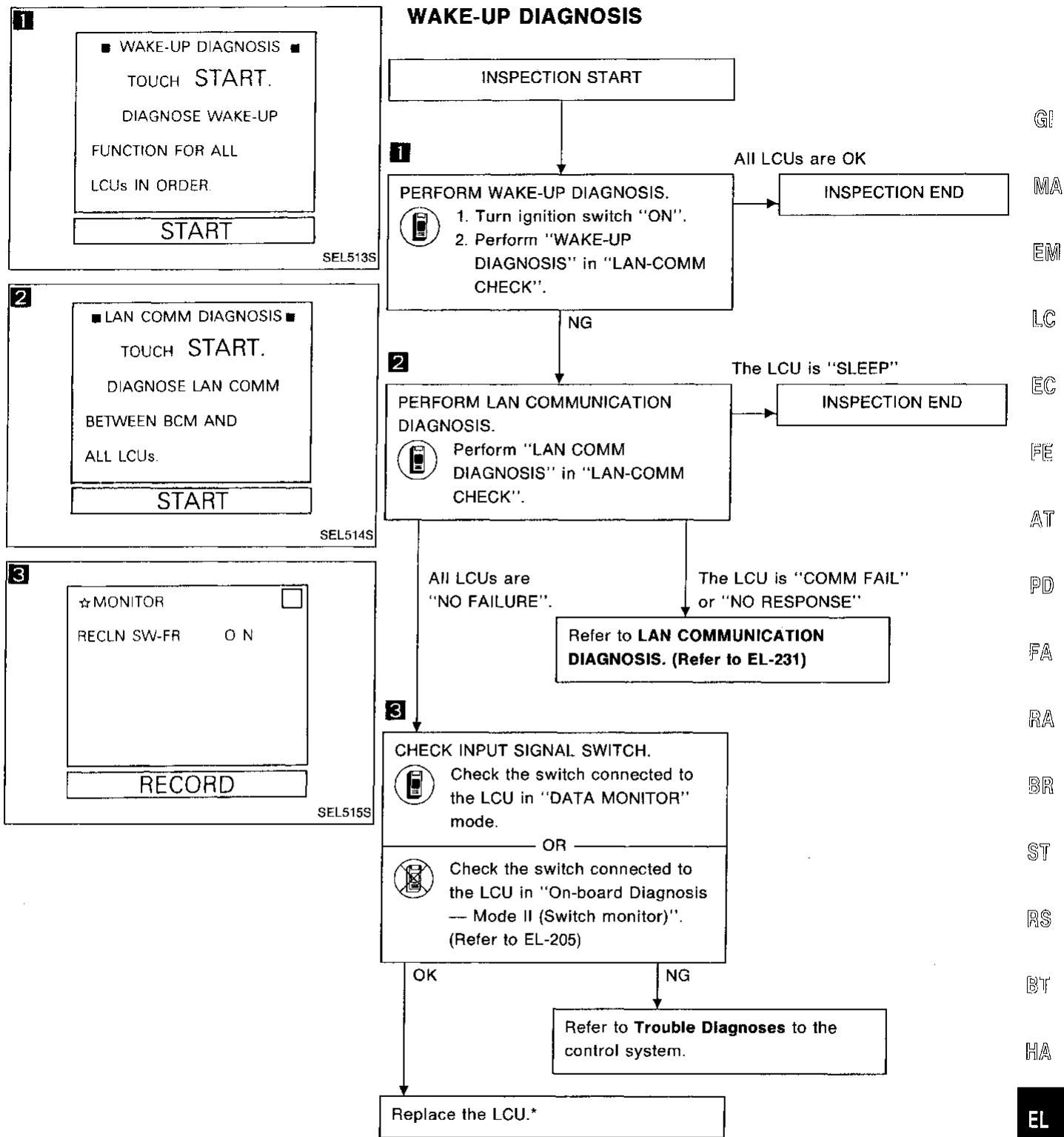
LAN Communication Check (Cont'd)



LAN — TROUBLE DIAGNOSES

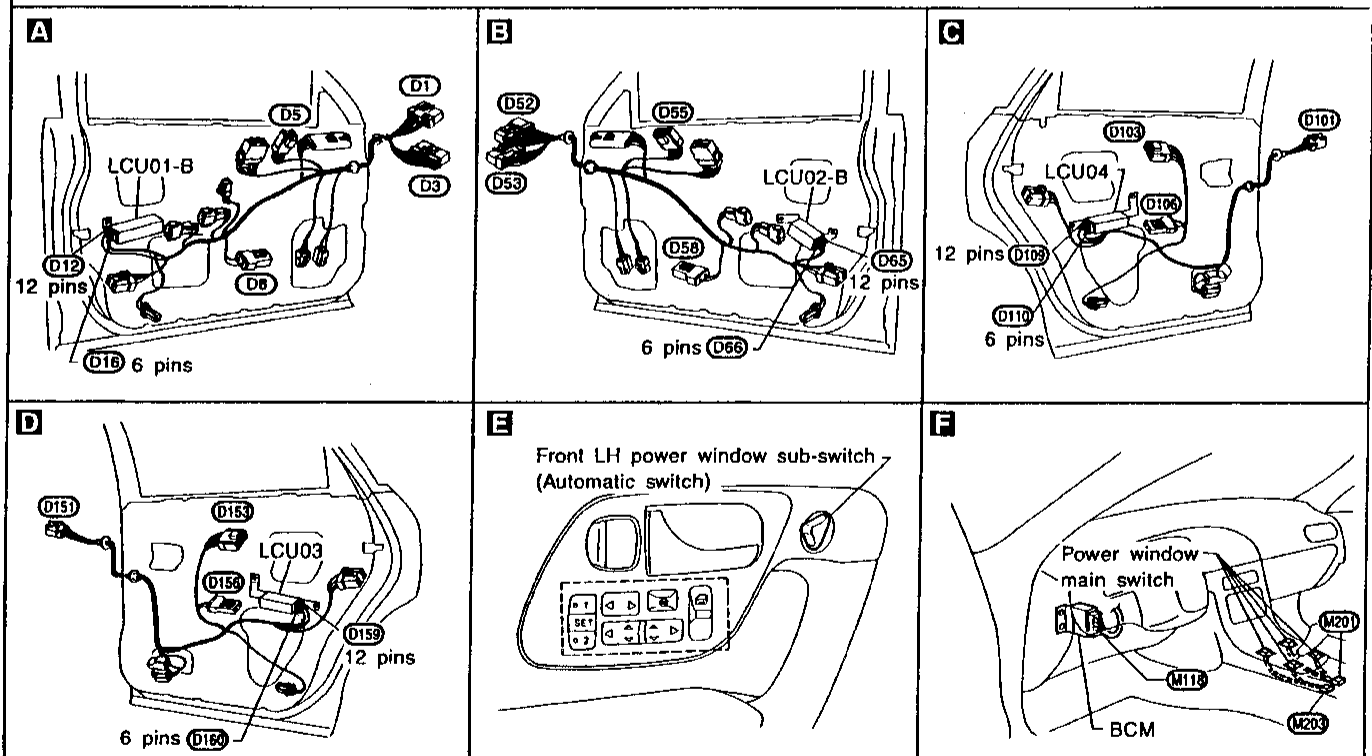
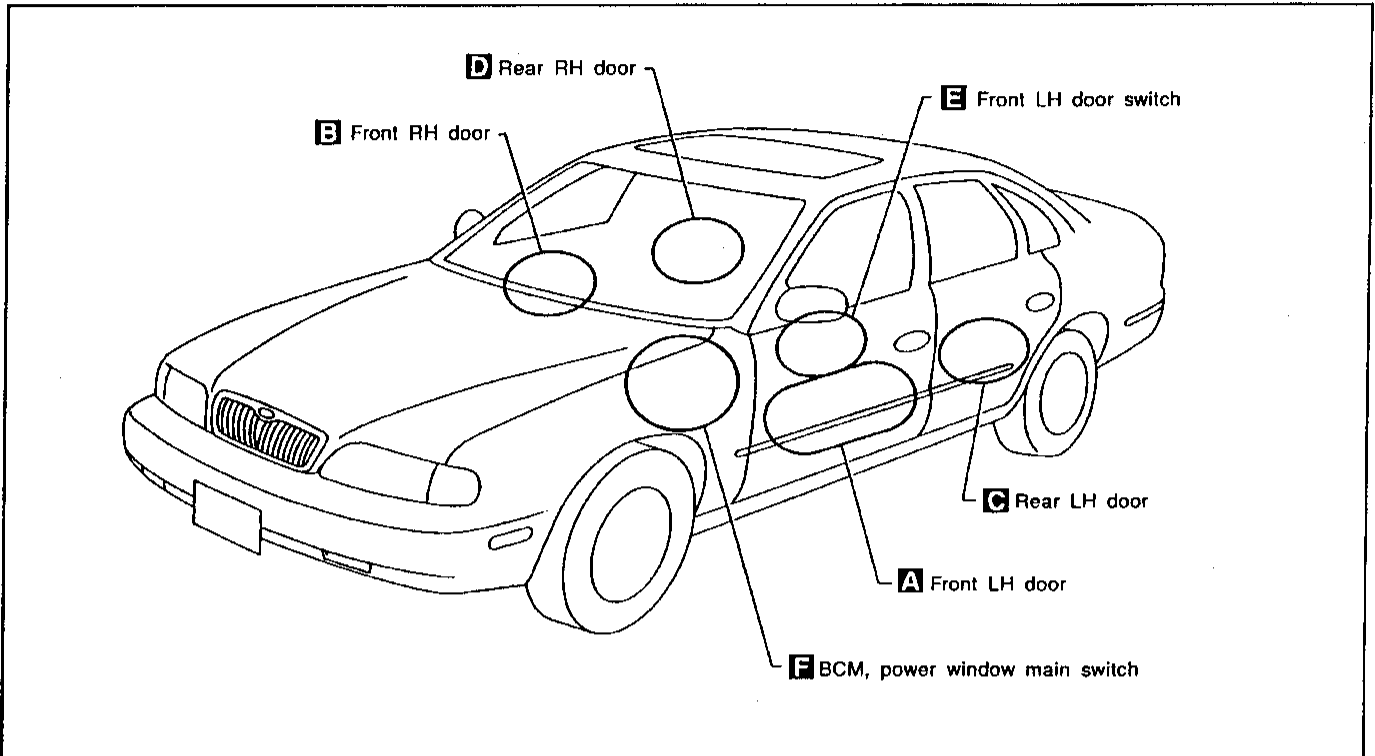
LAN Communication Check (Cont'd)

WAKE-UP DIAGNOSIS



*: LCU may be the cause of a problem, but this is rarely the case.

Component Parts and Harness Connector Location



System Description

The power window system consists of a BCM, four LCUs (LCU01-B, LCU02-B, LCU03, LCU04), a power window main switch, four power window sub switches and four power window regulators. The BCM and four LCUs are connected as two DATA LINES (DATA LINE A and B).

Power is supplied at all times

- from 10A fuse [No. 20], located in the fuse block
- to power window main switch terminal ③ M203 and ⑤ M201,
- to front power window sub-switch LH terminal ① D5,
- to front power window sub-switch RH terminal ① D55,
- to rear power window sub-switch LH terminal ① 0103 and
- to rear power window sub-switch RH terminal ① 0153.

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

- from 10A fuse [No. 25], located in the fuse block
- to BCM terminals 39 and 40.

Power is supplied to BCM through the power window main switch depending on the switch operation. BCM sends a signal to the each LCUs through power window sub-switch depending on the switch operation. The LCU supply power and ground to each power window regulators.

OPERATIVE CONDITION

- Power windows can be raised or lowered with each sub-switch or the power window main switch located on the center console when ignition key is in the "ON" position and power window lock switch on the center console is unlocked.
- When power window lock switch is locked, all except front LH window cannot be raised or lowered.
- To fully open the side window, make sure that ignition key is in the "ON" position, then operate the automatic switch (Front LH sub-switch) as follows. Press down completely on the automatic switch and release it; it need not be held. The window will automatically open all the way. To stop the window, press then release the "UP" side of the switch.

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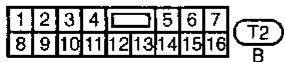
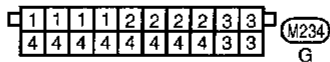
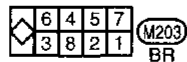
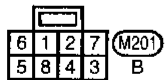
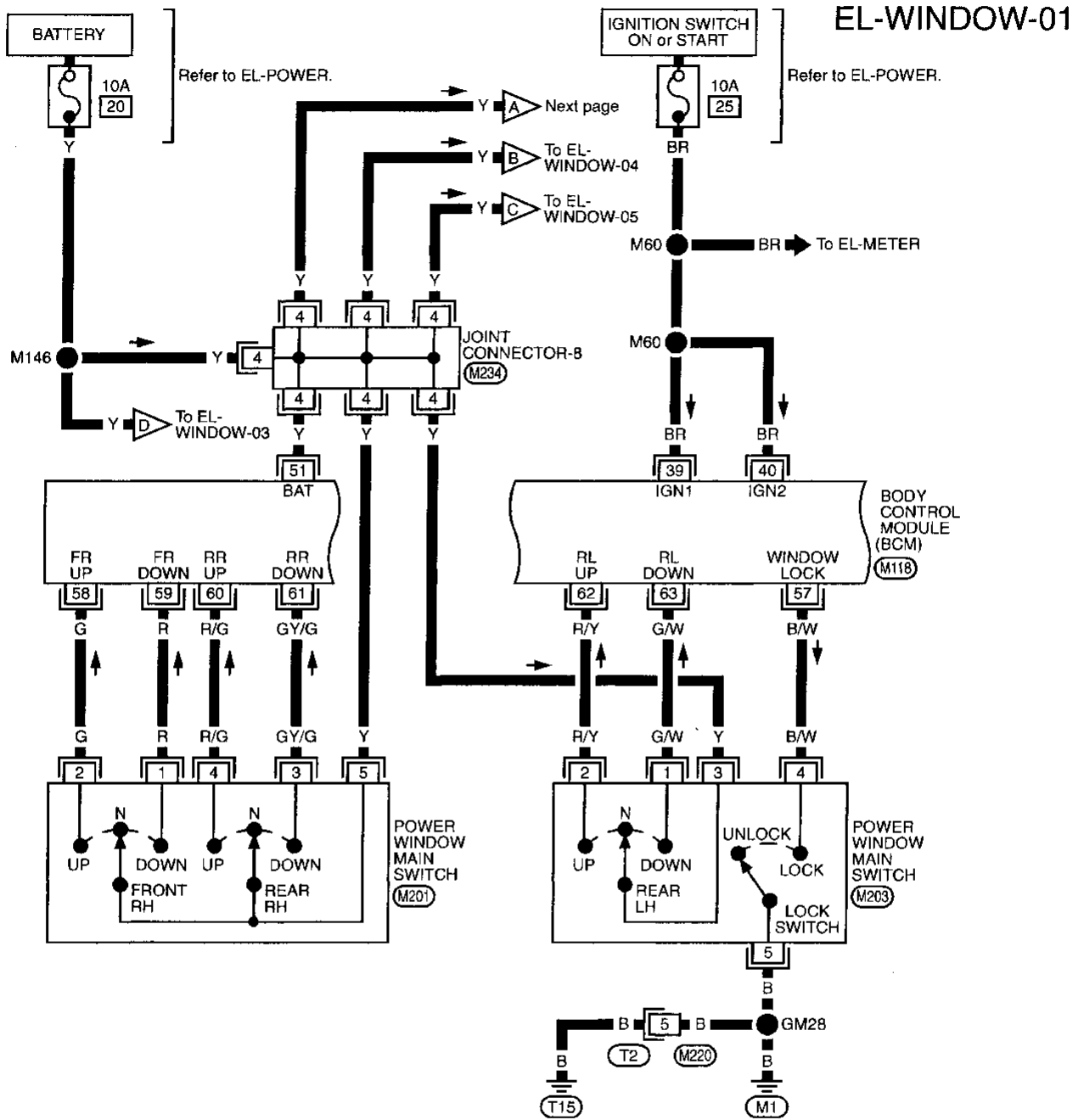
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Wiring Diagram — WINDOW —



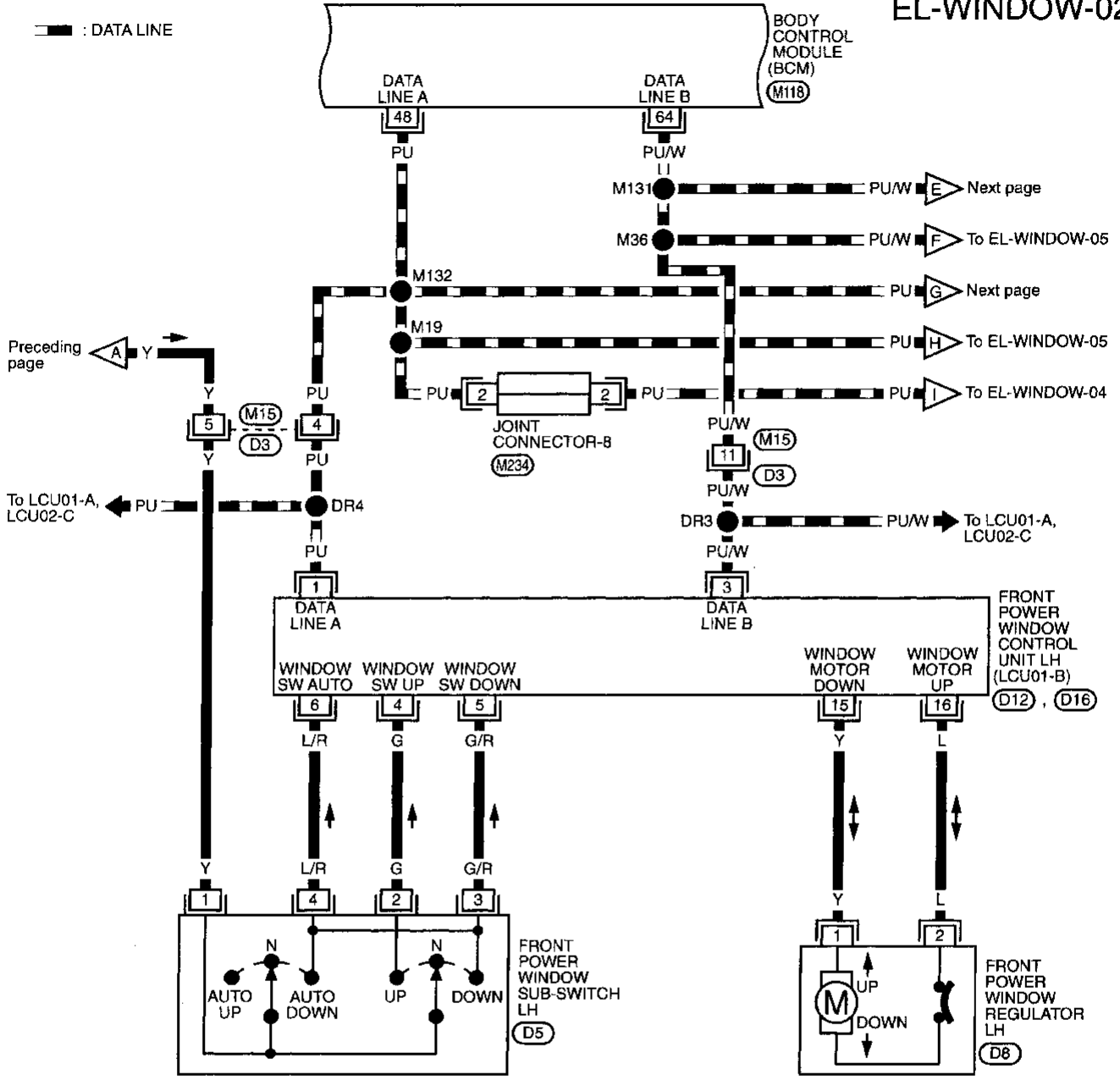
Refer to last page (Foldout page).

M118

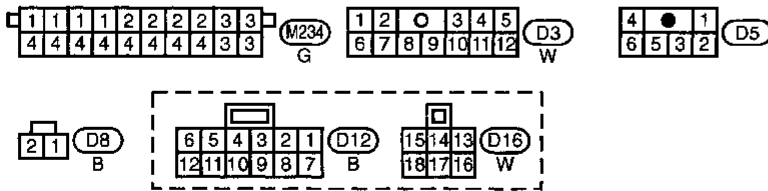
POWER WINDOW — LAN

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02



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Refer to last page (Foldout page).
M118

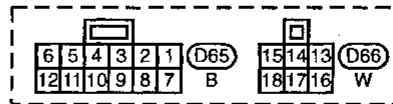
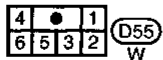
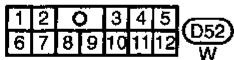
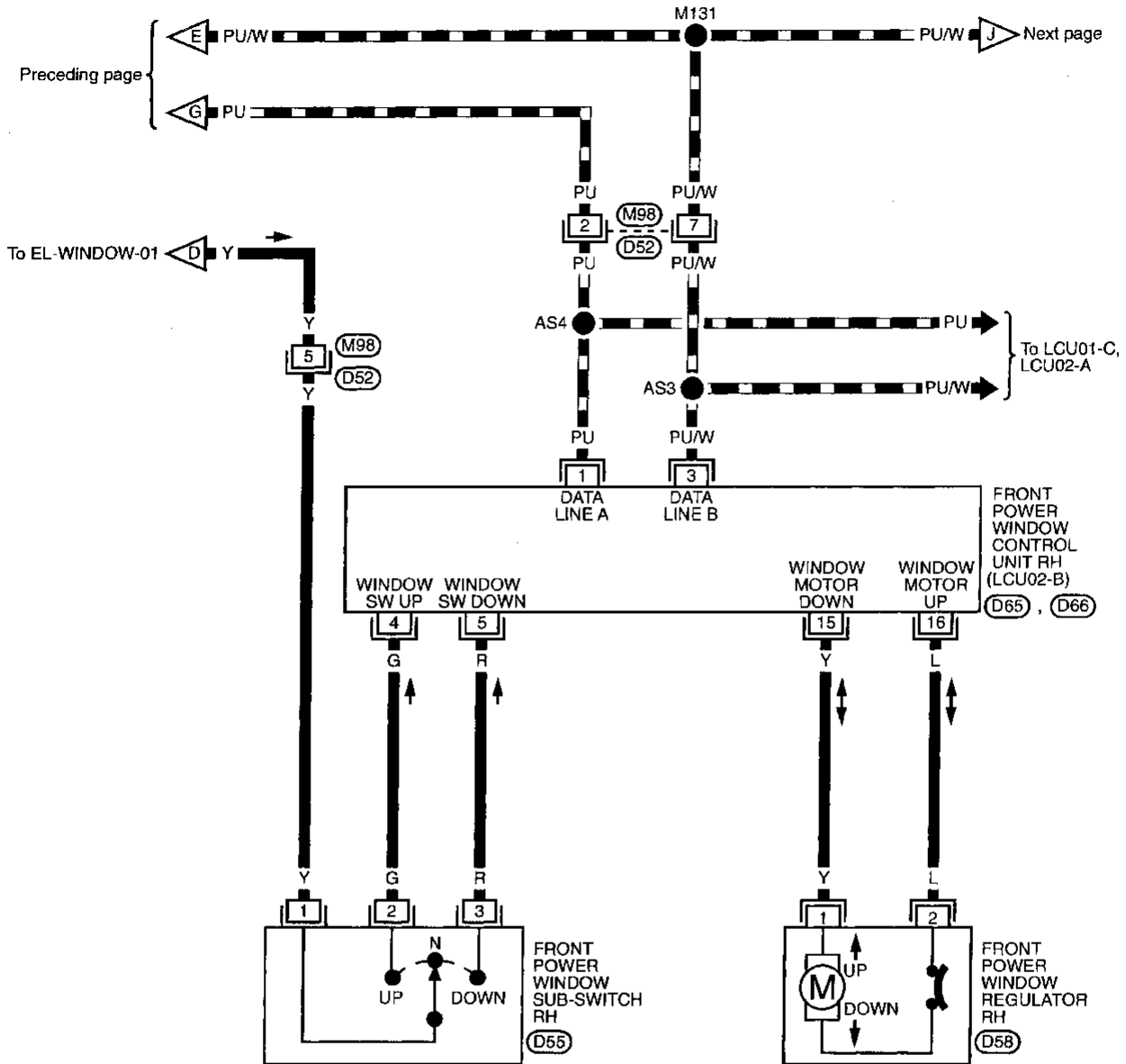
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POWER WINDOW — LAN

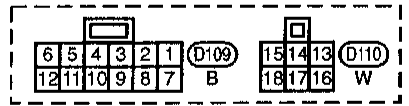
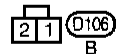
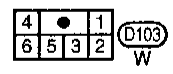
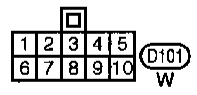
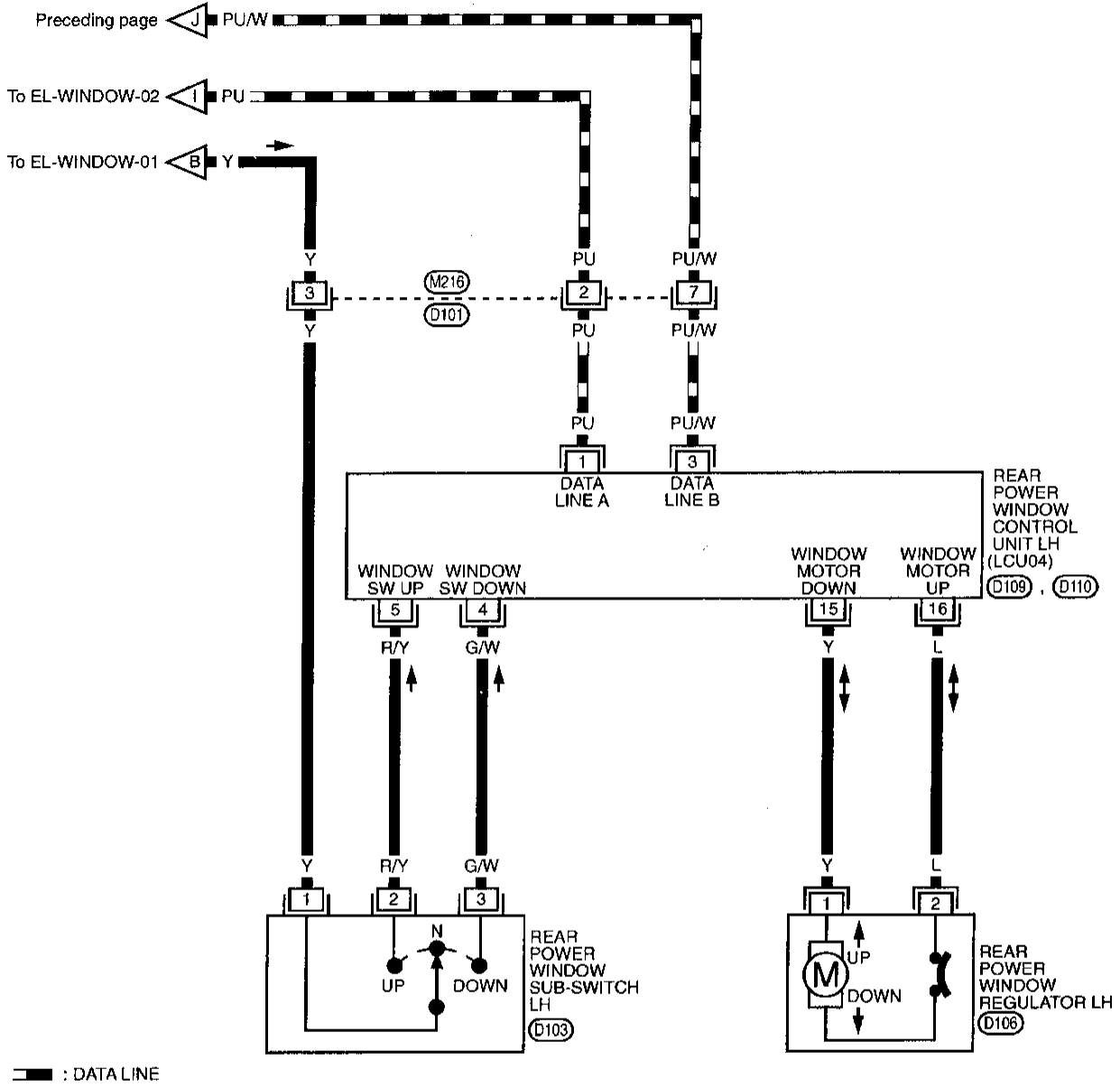
Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03

— : DATA LINE



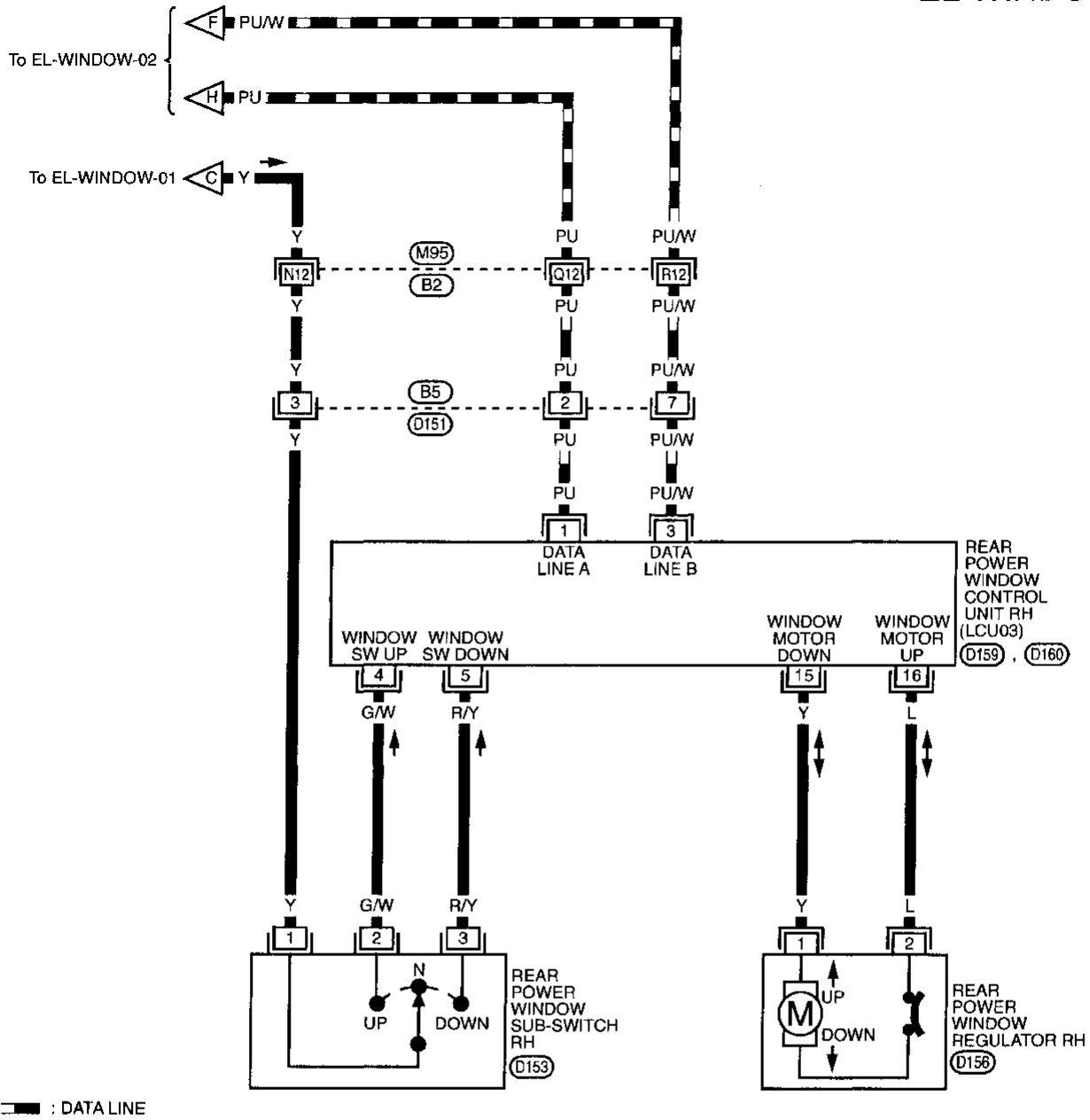
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POWER WINDOW — LAN

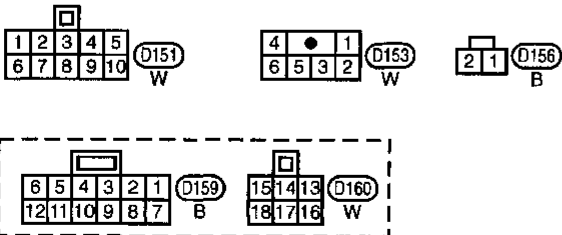
Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-05



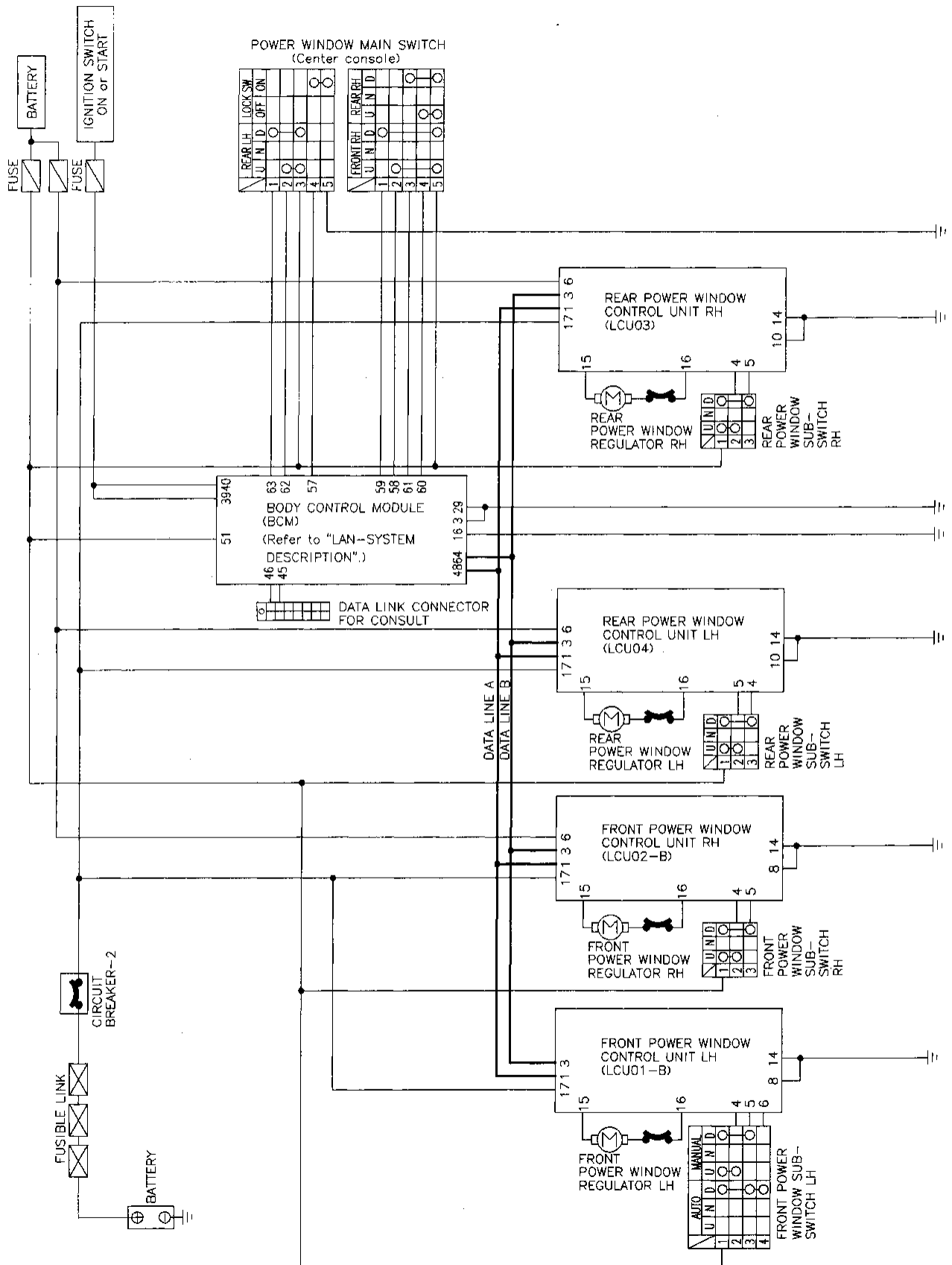
Refer to last page (Foldout page).

(M95), (B2)



POWER WINDOW — LAN

Schematic



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Trouble Diagnoses

TROUBLE SYMPTOM

Perform "LAN Communication Check" (refer to EL-231) before starting with the following items.

-
- | | |
|---|--------------------------|
| ● Power window lock switch on center console does not lock or unlock windows.
(All except front LH window malfunction.) | — DIAGNOSTIC PROCEDURE 1 |
| ● One or more of each sub-switch malfunctions. | — DIAGNOSTIC PROCEDURE 2 |
| ● Power window automatic switch in driver's compartment does not lower front LH window. | — DIAGNOSTIC PROCEDURE 3 |
| ● Power window main switch on center console does not operate front RH and rear windows. Each sub-switch operates its window properly. | — DIAGNOSTIC PROCEDURE 4 |
| ● Power window main switch on center console does not raise or lower the front RH window and/or rear windows. Each sub-switch operates its window properly. | — DIAGNOSTIC PROCEDURE 5 |
-

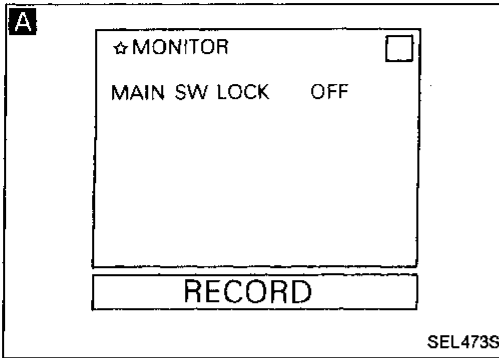
The following ABBREVIATIONS are used in this Trouble Diagnoses.

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

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Power windows do not lock or unlock using window lock switch on center console.



CHECK POWER WINDOW LOCK SWITCH CIRCUIT.

A CONSULT

See "MAIN SW LOCK" in DATA MONITOR mode.

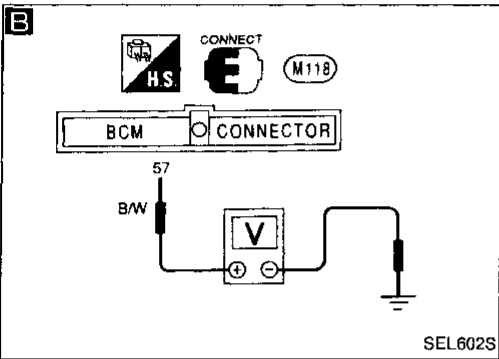
"MAIN SW LOCK" should change from "OFF" to "ON" when pushing power window lock switch.

B TESTER

Check voltage of power window lock signal while power window lock switch is "ON".

P/W lock switch operation	Voltage
OFF	Approx. 5V
ON	0V

OK → Check LAN communication again.

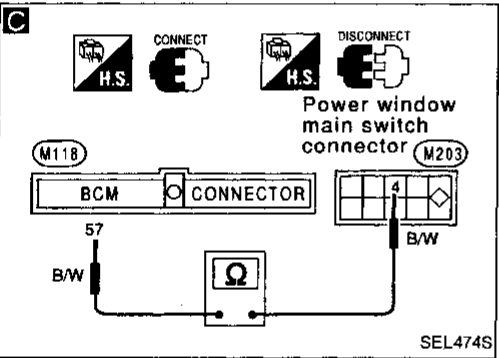


NG

C 1) Disconnect power window main switch connector.
2) Check continuity.

Terminals	Continuity
⑤ - ④	Yes

NG → Repair harness.

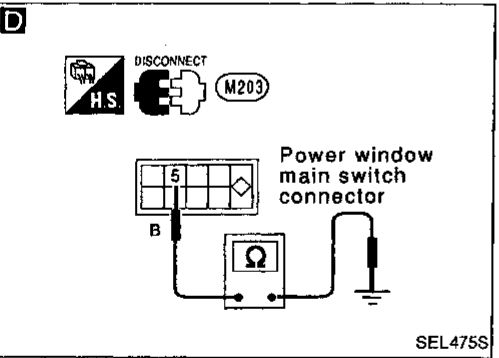


OK

D Check continuity.

Terminals	Continuity
⑤ - GND	Yes

NG → Repair ground harness.

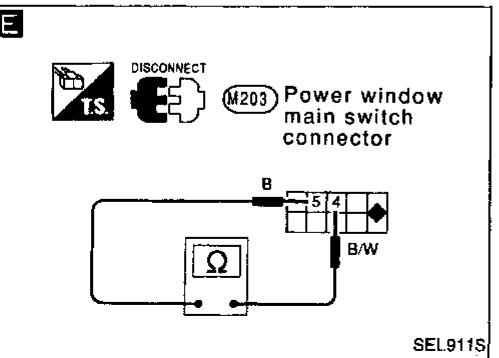


OK

E Check continuity with power window lock switch "ON".

Terminals	Continuity
⑤ - ④	Yes

OK → Check power window lock switch circuit and LAN communication again.



NG

Replace power window main switch.

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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: One or more of the power window sub-switches do not operate.

A

☆MONITOR

P/W SW DR-UP OFF

P/W SW DR-DWN OFF

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

SEL477S

CHECK POWER WINDOW SUB-SWITCH CIRCUIT FOR TROUBLE PORTION.

A **CONSULT**

See "P/W SW UP or DWN" in DATA MONITOR mode.

"P/W SW UP or DWN" 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-205.)

OK → (Go to **A** on next page.)

B

CONNECT

LCU 12-pin connector

FL : LCU 01B (D12)

FR : LCU 02B (D65)

RR : LCU 03 (D159)

DISCONNECT

P/W sub-switch connector

FL : (D5)

FR : (D55)

RR : (D153)

RL : LCU 04 (D109)

RL : (D103)

SEL478S

B

NG

1) Disconnect P/W sub-switch connector.

2) Check continuity.

FL **FR** **RR**

Terminals	Continuity
④ - ②	Yes
⑤ - ③	

RL

Terminals	Continuity
④ - ③	Yes
⑤ - ②	

NG → Repair harness.

C

DISCONNECT

H.S.

P/W sub-switch connector

FL : (D5) FR : (D55)

RL : (D103) RR : (D153)

SEL912S

C

OK

Check voltage for P/W sub-switch connector ① and ground.

NG → Repair power supply circuit.

Terminals	Voltage
① - GND	Battery voltage

D

CONNECT

H.S.

FL : LCU 01B (D12)

FR : LCU 02B (D65)

RL : LCU 04 (D109)

RR : LCU 03 (D159)

SEL536S

D

OK

1) Connect P/W sub-switch connector.

2) Check battery voltage when P/W sub-switch is as follows:

Up	④ - Ground	Battery voltage
Down	⑤ - Ground	Battery voltage

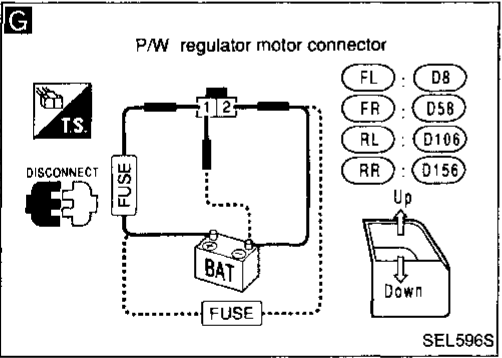
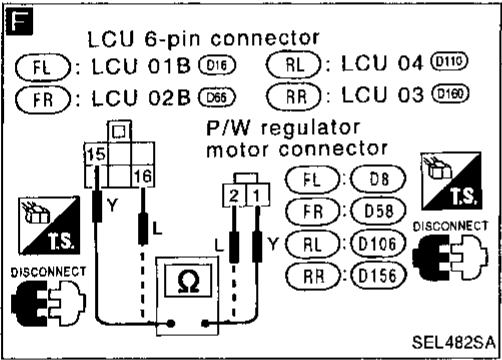
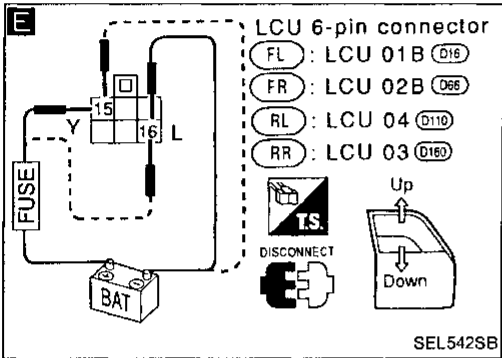
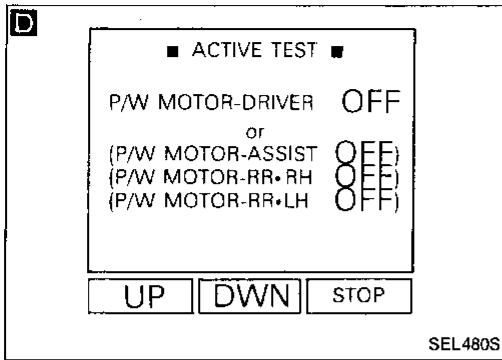
NG → Replace P/W sub-switch.

OK

Check power window sub-switch circuit and LAN communication again.

POWER WINDOW — LAN

Trouble Diagnoses (Cont'd)



A

CHECK POWER WINDOW MOTOR CIRCUIT.

D CONSULT

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

Perform operation shown on display.
Power window motor should operate.

OR

E TESTER

- 1) If motor does not operate, disconnect the corresponding LCU 6-pin connector.
- 2) Check power window motor operation.

Terminals		Operation
⊕	⊖	
(15)	(16)	Downward
(16)	(15)	Upward

NG

F

- 1) Disconnect LCU 6-pin connector and from P/W regulator motor connector.
- 2) Check continuity.

Terminals	Continuity
(15) - (1)	Yes
(16) - (2)	

OK

G

Check P/W regulator motor circuit.

Terminals		Operation
⊕	⊖	
(1)	(2)	Downward
(2)	(1)	Upward

NG

Check P/W motor harness for open or short circuit.

OK

Replace P/W regulator motor.

OK → Check LAN communication again.

NG → Repair harness.

OK → Check LAN communication again.

NG → Repair harness.

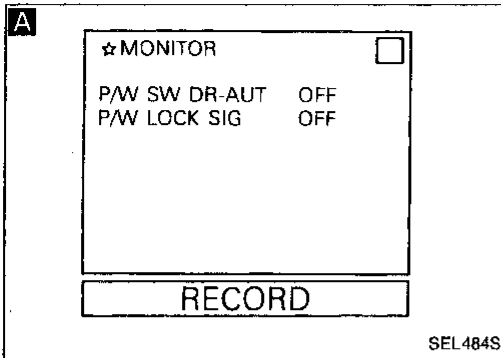
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POWER WINDOW — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: Power window automatic switch in driver's compartment does not operate.



CHECK POWER WINDOW AUTOMATIC SWITCH CIRCUIT.

A **CONSULT**

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

"P/W SW DR-AUT" should change from "OFF" to "ON" when pushing P/W automatic switch.

OR

ON-BOARD

Check P/W automatic switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses EL-205.)

A **CONSULT**

Check "P/W LOCK SIG" in DATA MONITOR mode. "P/W LOCK SIG" should change from "OFF" to "ON" when driver's P/W is operated toward fully down or up with P/W sub-switch.

OR

ON-BOARD

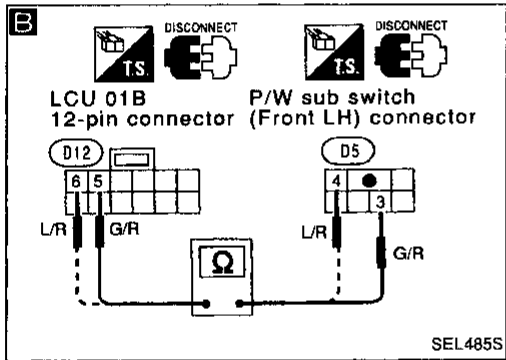
Check power window motor electrical ripple in Power Window monitor (Mode IV) mode (Refer to On-board Diagnoses EL-209.)

OK

NG

Check LAN communication again.

Replace LCU 01-B.



B

1) Disconnect LCU-01-B 12-pin connector and P/W sub-switch (Front LH) connector.

2) Check continuity.

Terminals	Continuity
⑤ - ③	Yes
⑥ - ④	

NG

Repair harness.

C

Check power window automatic down signal when driver's P/W sub-switch is completely pressed.

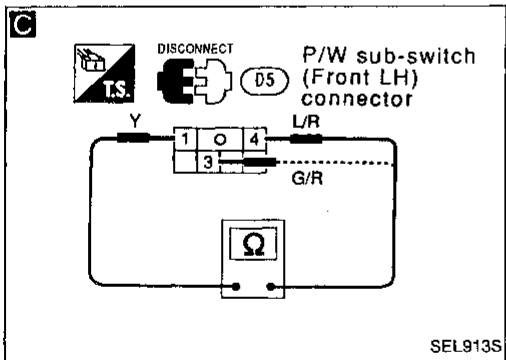
Continuity should exist.

OK

NG

Check P/W sub-switch circuit and LAN communication again.

Replace P/W sub-switch (Front LH).

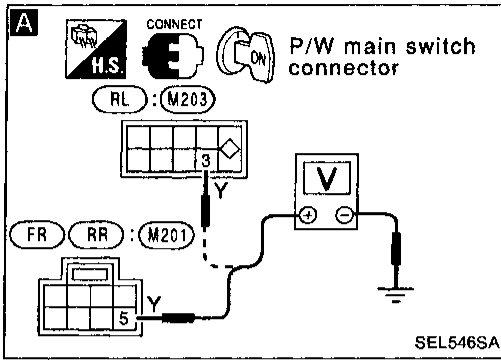


POWER WINDOW — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

SYMPTOM: Front RH window and rear windows do not operate using power window main switch on center console. They operate using respective sub-switches.



A

CHECK POWER SOURCE FOR POWER WINDOW MAIN SWITCH.
Check voltage between P/W main switch connector terminal ⑤ or ③ and ground.

Terminals	Voltage
⑤ - Ground	Battery voltage
③ - Ground	

NG → Check power supply circuit.

OK ↓
Go to DIAGNOSTIC PROCEDURE 5.

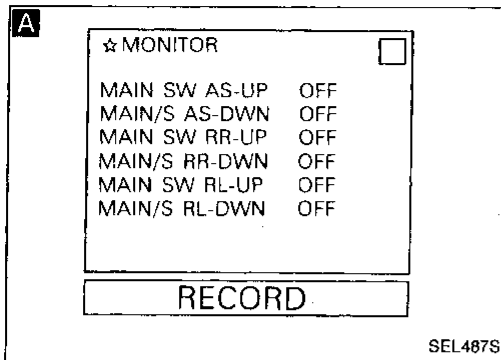
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POWER WINDOW — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

SYMPTOM: Front RH window and one or more of the rear windows do not raise or lower using power window main switch on center console.



CHECK CENTER CONSOLE POWER WINDOW MAIN SWITCH CIRCUIT FOR TROUBLE PORTION.

OK

Check LAN communication again.

A CONSULT

See "MAIN SW UP or DOWN" in DATA MONITOR mode.

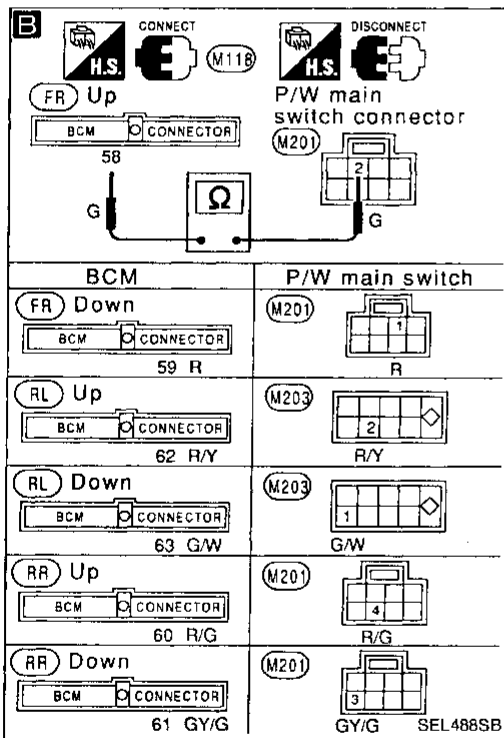
"MAIN SW UP or DOWN" should change from "OFF" to "ON" when pushing power window main switches.

OR

ON-BOARD

Check power window main switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses EL-205.)

NG



- B**
- 1) Disconnect power window main switch connectors.
 - 2) Check continuity in troubled circuit selected from those indicated in the following table.

NG

Repair harness.

		Terminals	Continuity
Front RH	Up	58 - 2	Yes
	Down	59 - 1	
Rear LH	Up	62 - 2	
	Down	63 - 1	
Rear RH	Up	60 - 4	
	Down	61 - 3	

OK

- C**
- 1) Connect power window main switch connectors.
 - 2) Check battery voltage when power window is as follows:

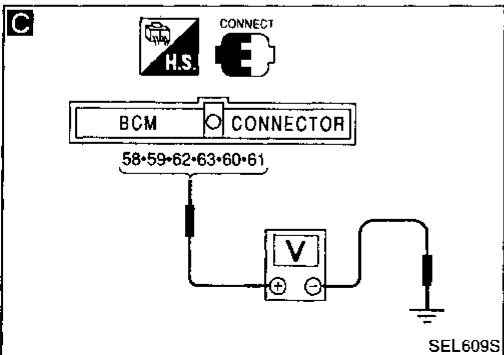
NG

Replace power window main switch.

Main switch operation	Terminals	Battery voltage	
Front RH	Up	58 - Ground	Yes
	Down	59 - Ground	
Rear LH	Up	62 - Ground	
	Down	63 - Ground	
Rear RH	Up	60 - Ground	
	Down	61 - Ground	

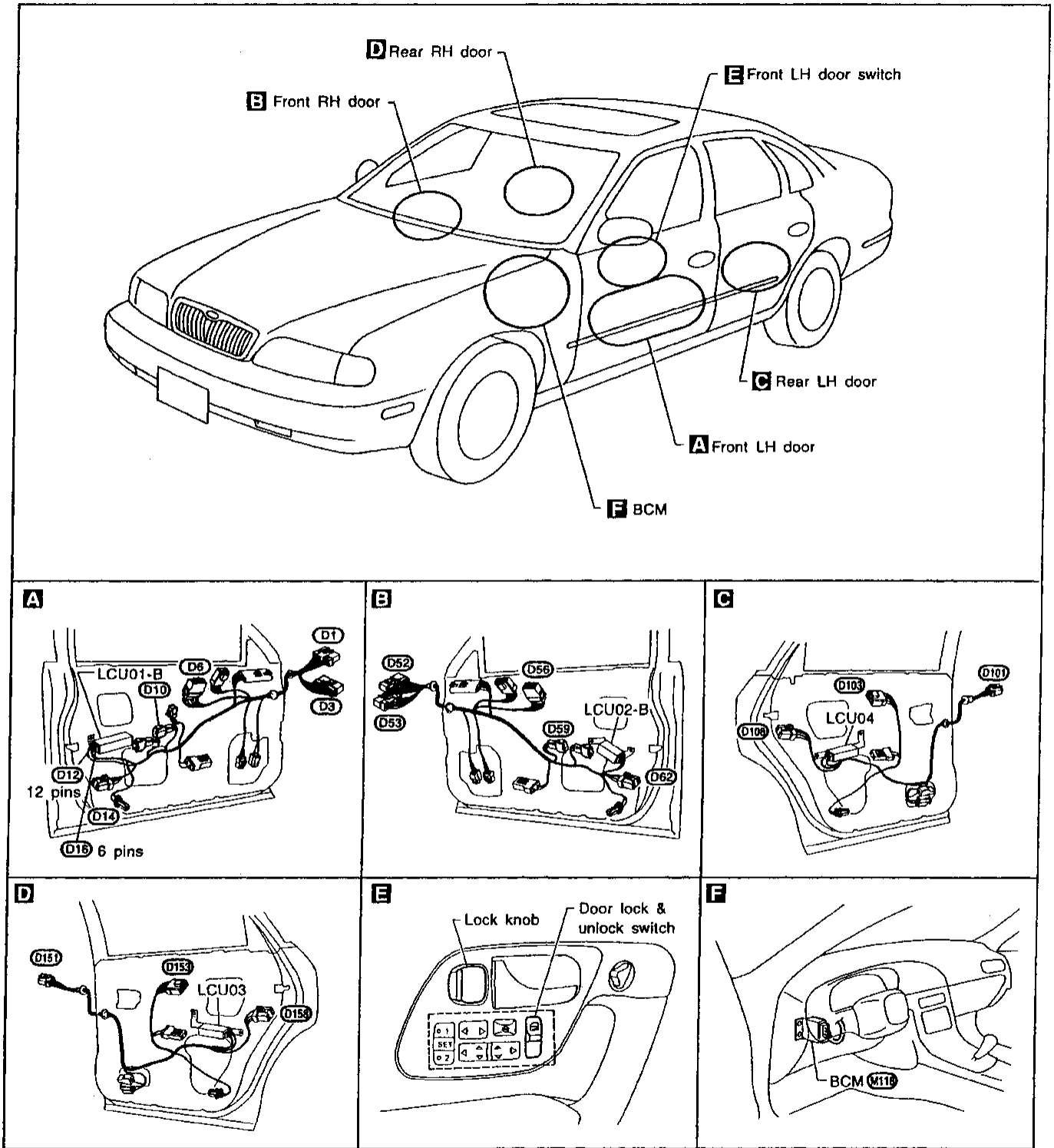
OK

Check power window main switch circuit and LAN communication again.



POWER DOOR LOCK — LAN

Component Parts and Harness Connector Location



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System Description

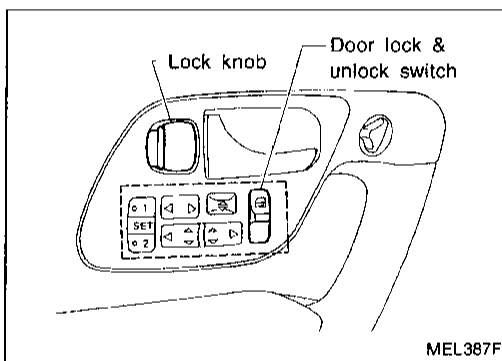
OPERATIVE CONDITION

- 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)

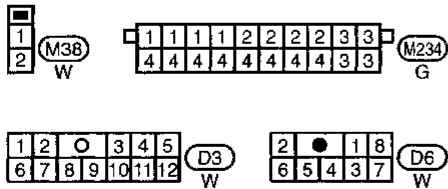
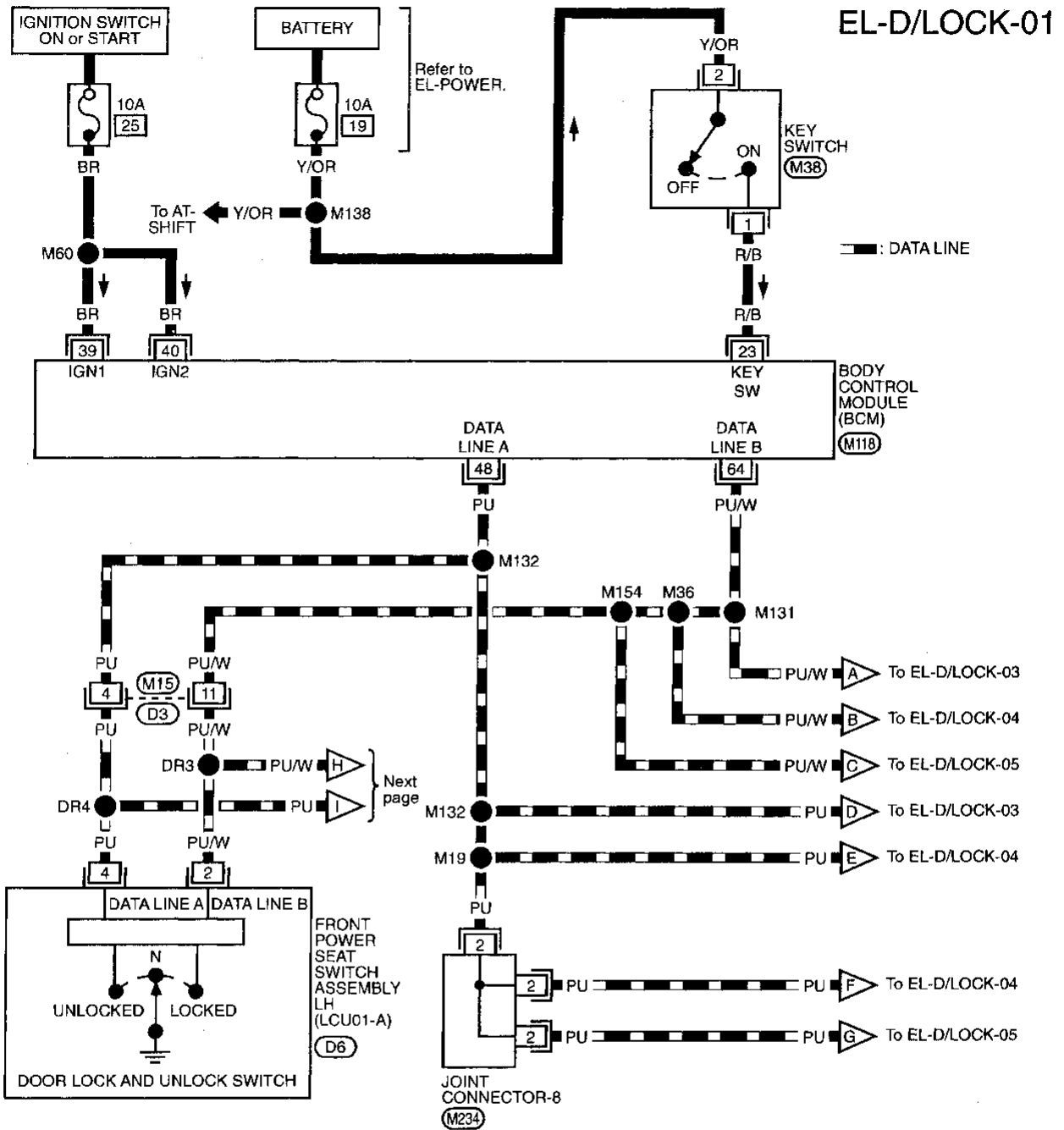
If any of the following symptoms occur, key reminder door system is malfunctioning.

- 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 — LAN

Wiring Diagram — D/LOCK —



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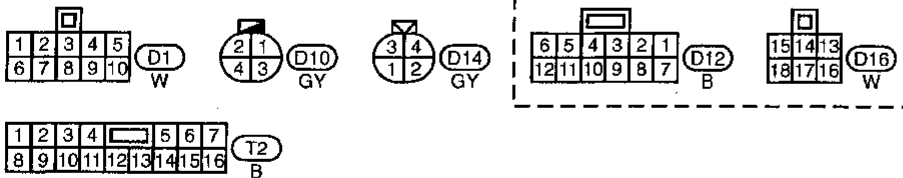
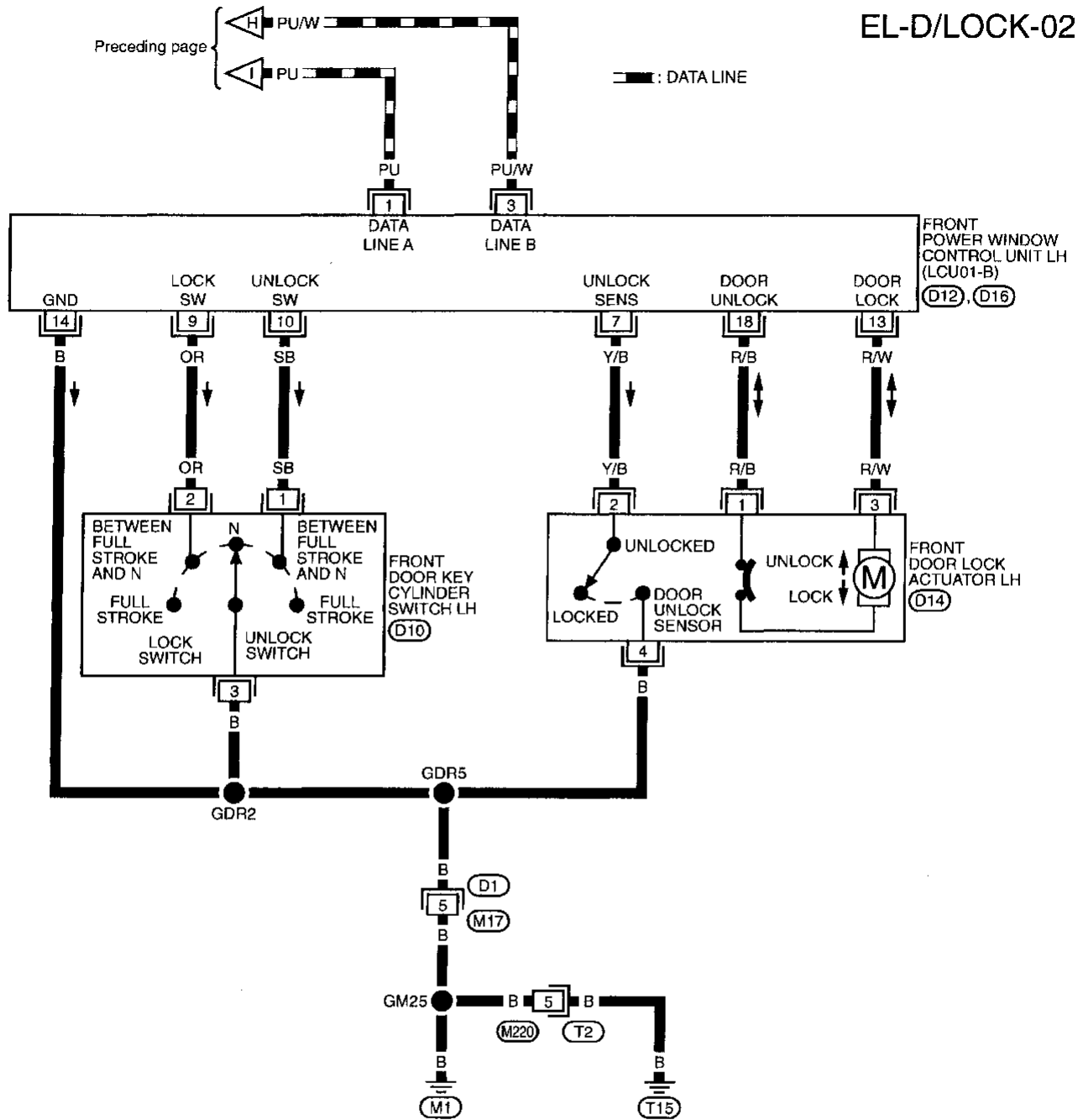
EL

IDX

POWER DOOR LOCK — LAN

Wiring Diagram — D/LOCK — (Cont'd)

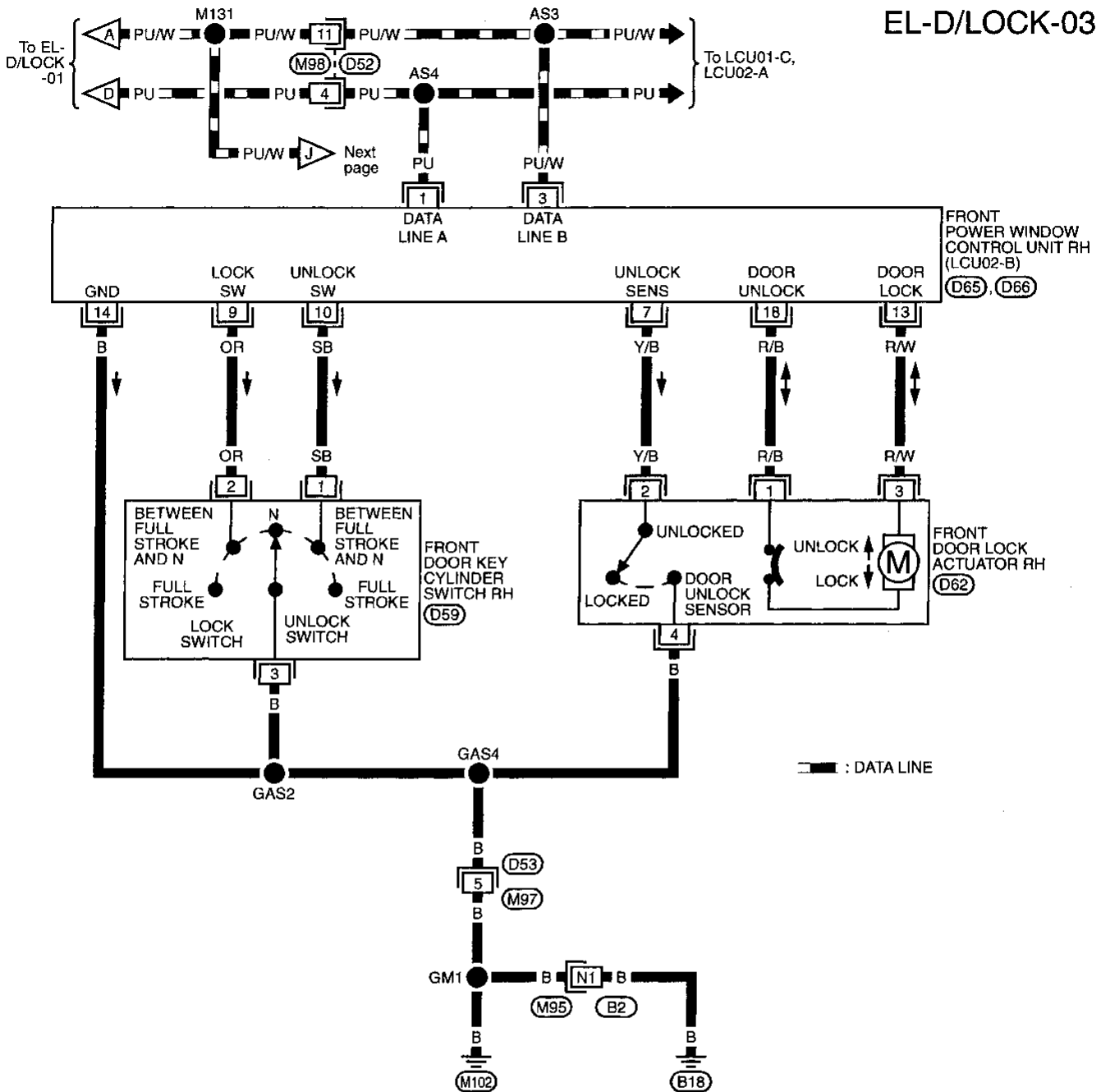
EL-D/LOCK-02



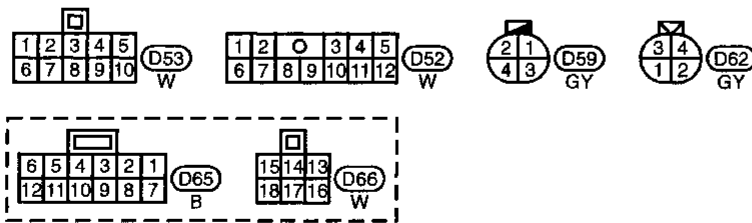
POWER DOOR LOCK — LAN

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-03



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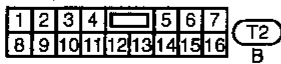
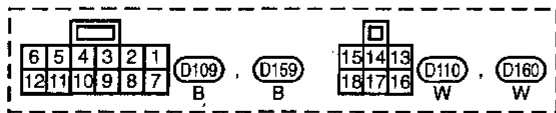
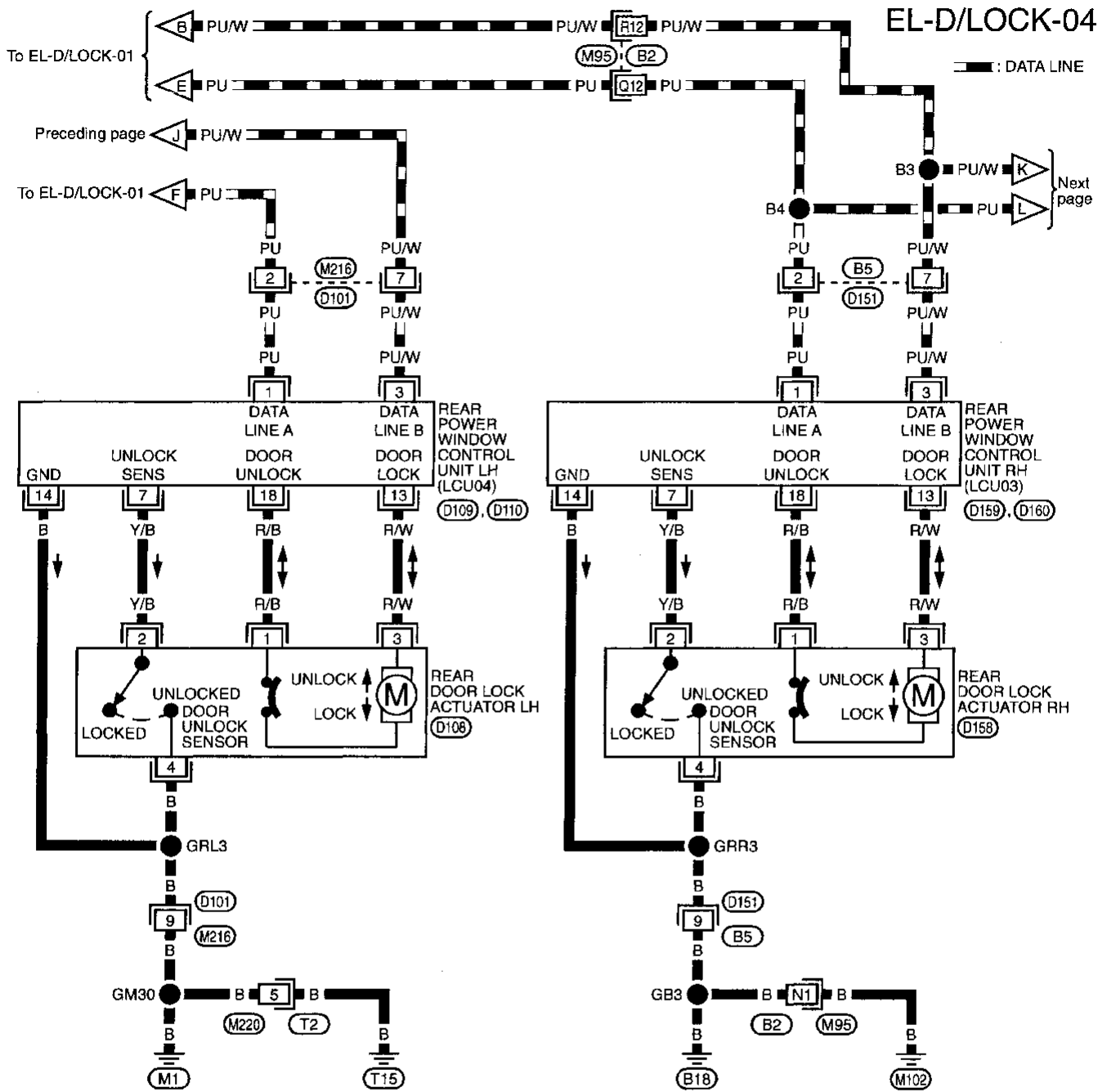


Refer to last page (Foldout page).
M95, B2

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POWER DOOR LOCK — LAN

Wiring Diagram — D/LOCK — (Cont'd)



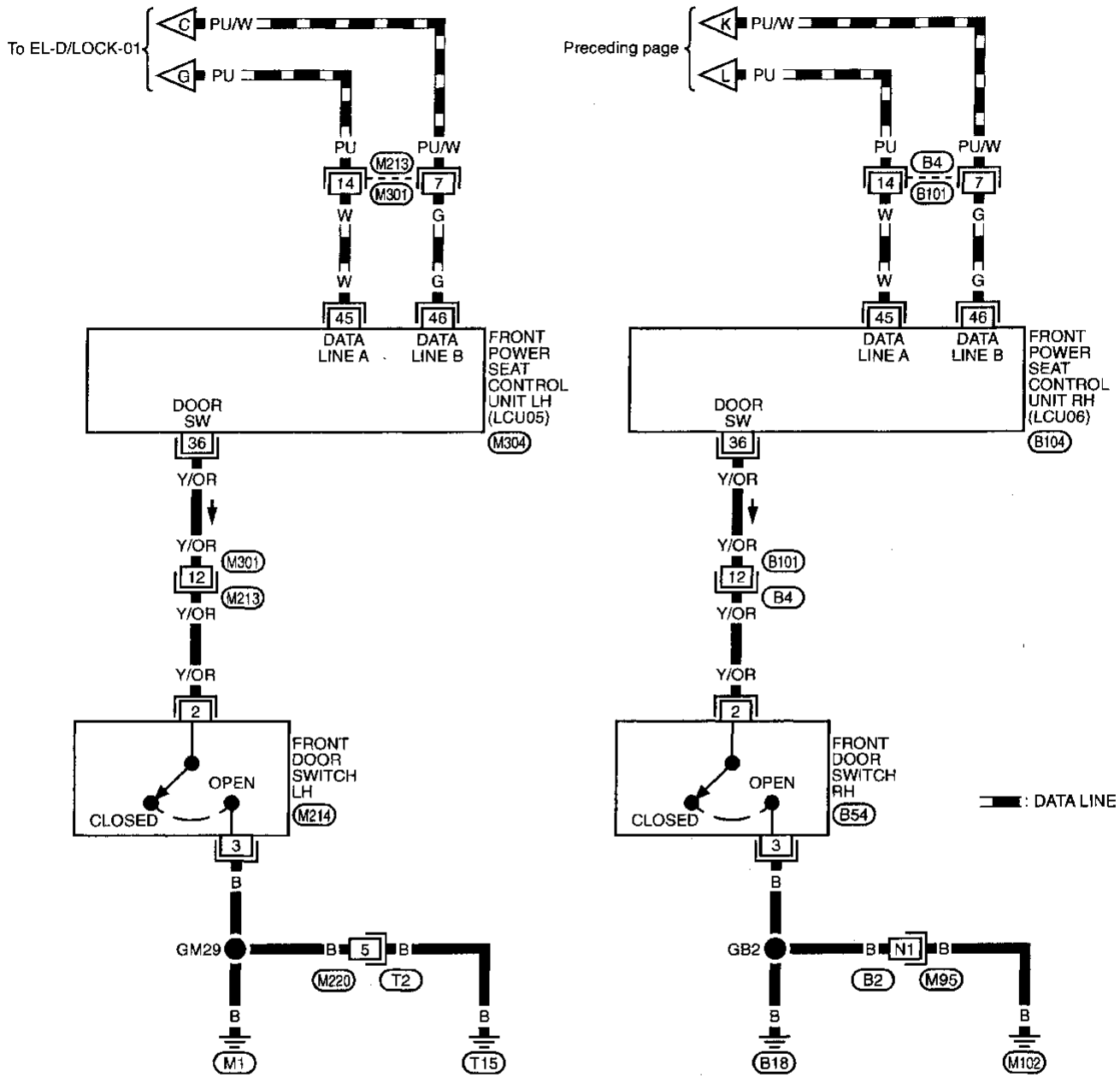
Refer to last page (Foldout page).

M95, B2

POWER DOOR LOCK — LAN

Wiring Diagram — D/LOCK — (Cont'd)

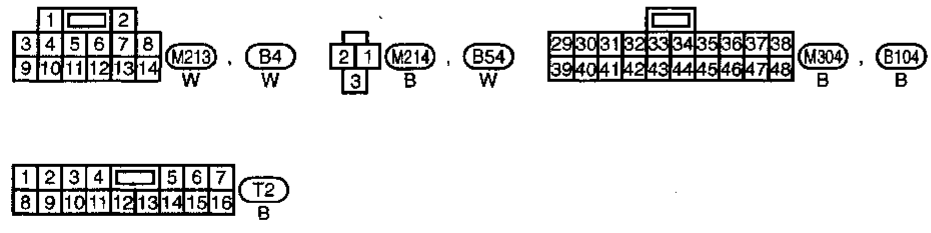
EL-D/LOCK-05



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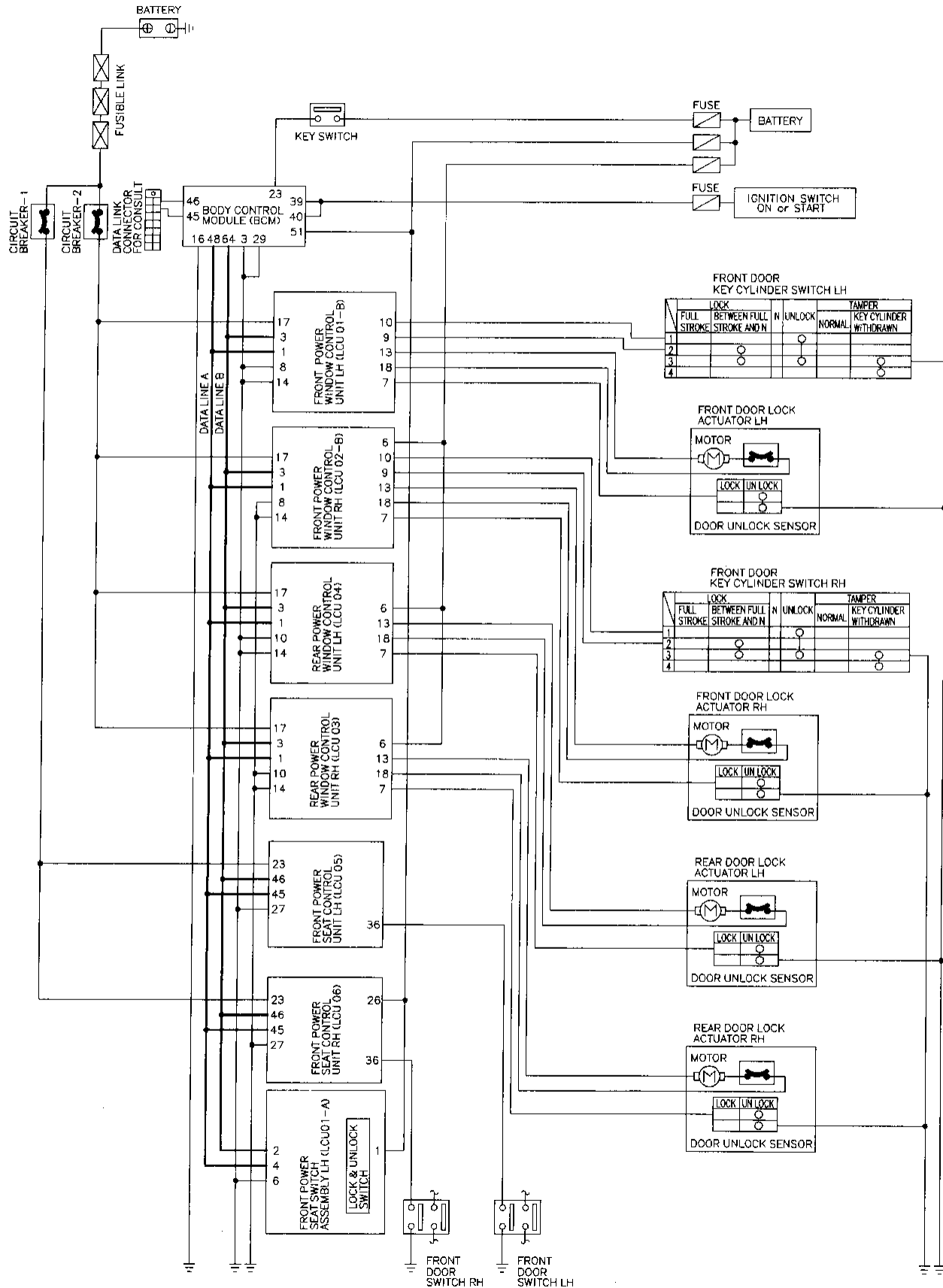
Refer to last page (Foldout page).
(M95), (B2)

HA
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POWER DOOR LOCK — LAN

Schematic

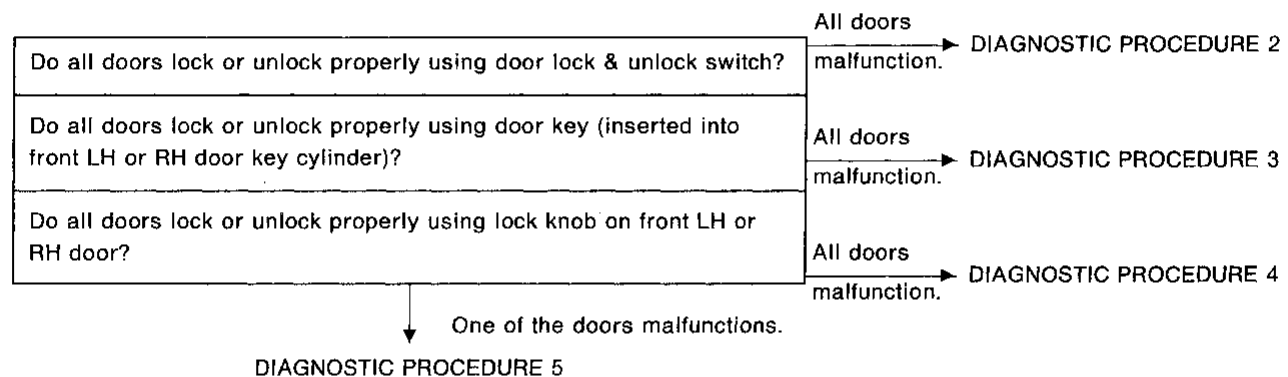


Trouble Diagnoses

TROUBLE SYMPTOM

Perform "LAN Communication Check" (refer to EL-231) and "SELF-DIAG RESULTS" mode in DOOR LOCK with CONSULT or On-board Diagnosis-Mode III (refer to EL-207) before starting with the following items:

- Key reminder door system does not operate properly. 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, moving 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, moving the lock & unlock switch or lock knob on the front LH or RH door trim to "Lock" does not unlock all doors.
- One or more of the doors do not unlock or lock using door lock & unlock switches, lock knob or door key, as shown in table below.



The following ABBREVIATIONS are used in this Trouble Diagnoses.

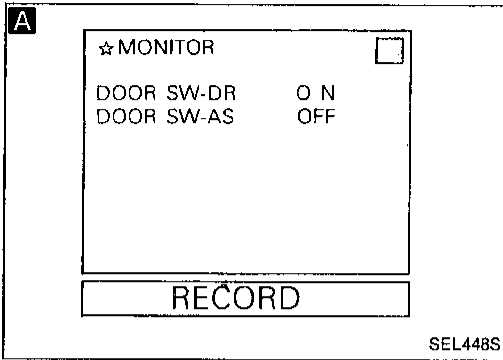
- FL: Front LH
- FR: Front RH
- RL: Rear LH
- RR: Rear RH

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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Key reminder door system does not operate properly.



CHECK DOOR SWITCH CIRCUIT.

A CONSULT

See "DOOR SW DR" and "DOOR SW AS" in DATA MONITOR mode.

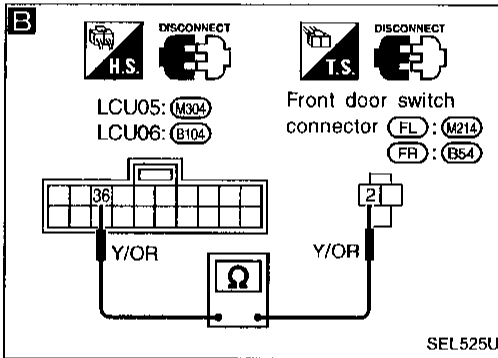
Front LH, RH door	"DOOR SW" display
Open	"ON"
Closed	"OFF"

OR

ON-BOARD

Check front LH and RH door switches in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses EL-205.)

OK → Go to next page (A).

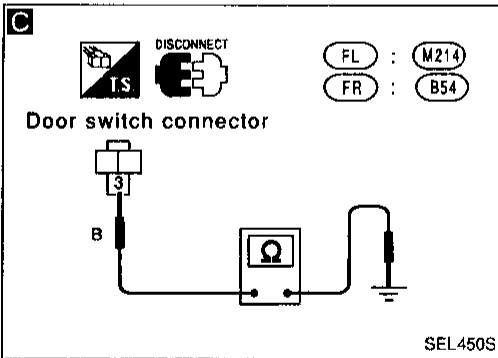


B

1) Disconnect LCU 12-pin connector, and front door switch connector.
2) Check continuity.

Terminals	Continuity
⑫ - ②	Yes

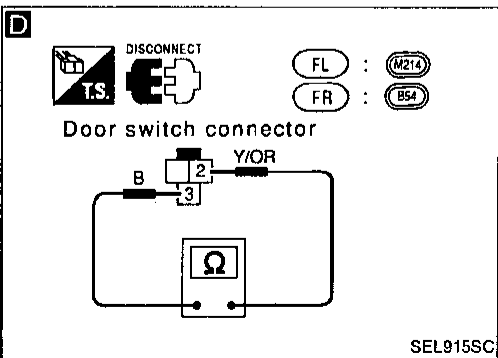
NG → Repair harness.



C

Check harness continuity between front door switch connector terminal ③ and body ground.
Continuity should exist.

NG → Repair ground harness.



D

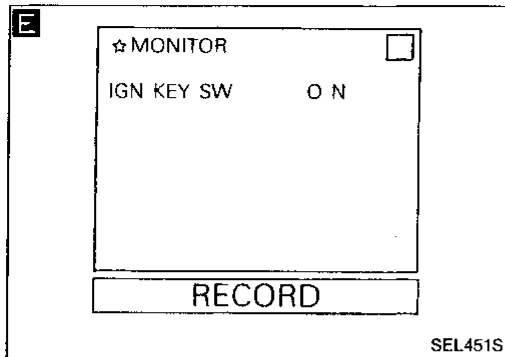
Check continuity of door switch circuit with door open.
Continuity should exist.

NG → Replace door switch.

Check door switch circuit and LAN communication again.

POWER DOOR LOCK — LAN

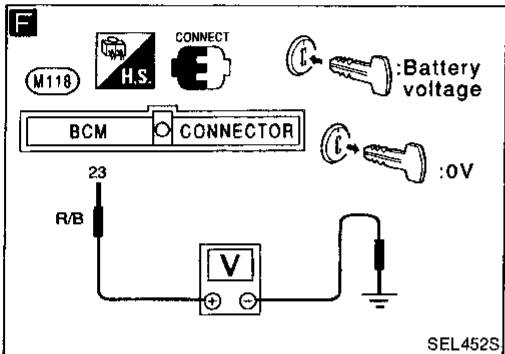
Trouble Diagnoses (Cont'd)



A

CHECK KEY SWITCH CIRCUIT.
E 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

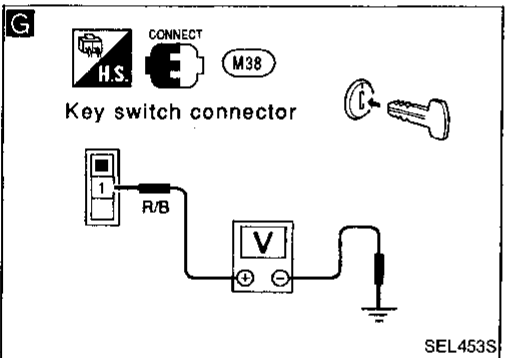
F TESTER

Check voltage when key is inserted in steering key cylinder.
Battery voltage should exist.

Repair harness between key switch and BCM connector.

G

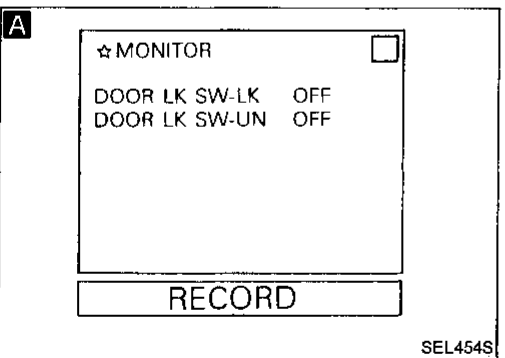
Check voltage of key switch connector terminal ① when key is inserted in steering key cylinder.
Battery voltage should exist.



OK

Go to DIAGNOSTIC PROCEDURE 5.

Check key switch unit and fuse circuit.



DIAGNOSTIC PROCEDURE 2

SYMPTOM: All doors do not lock or unlock using the door lock & unlock switch.

CHECK DOOR LOCK & UNLOCK SWITCH CIRCUIT.
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-205.)

OK

Go to DIAGNOSTIC PROCEDURE 5.

NG

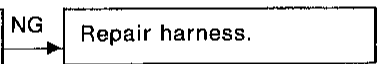
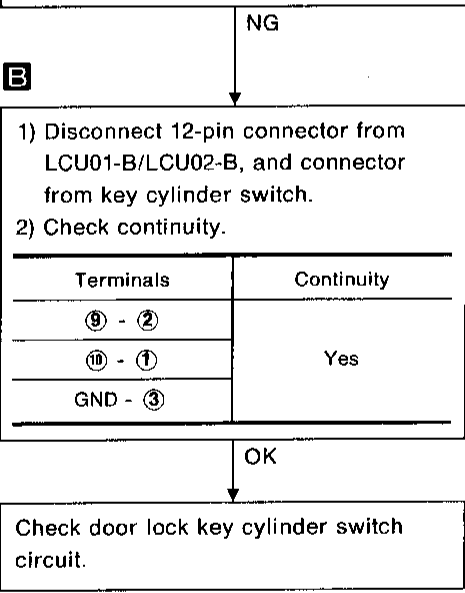
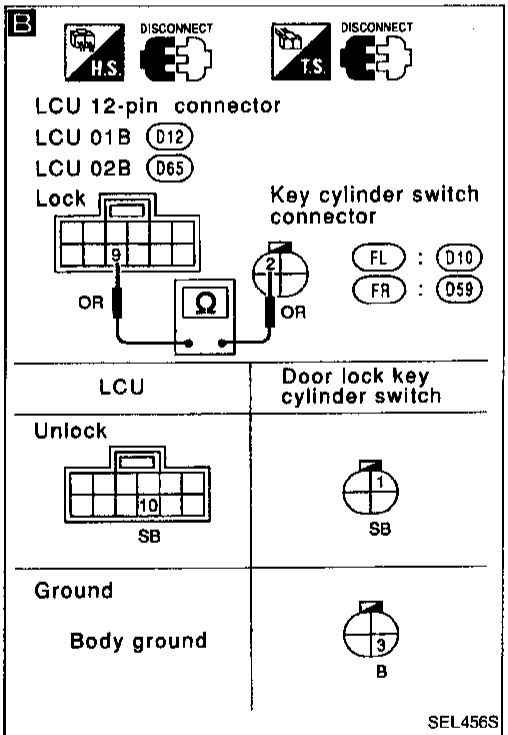
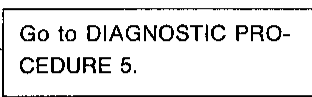
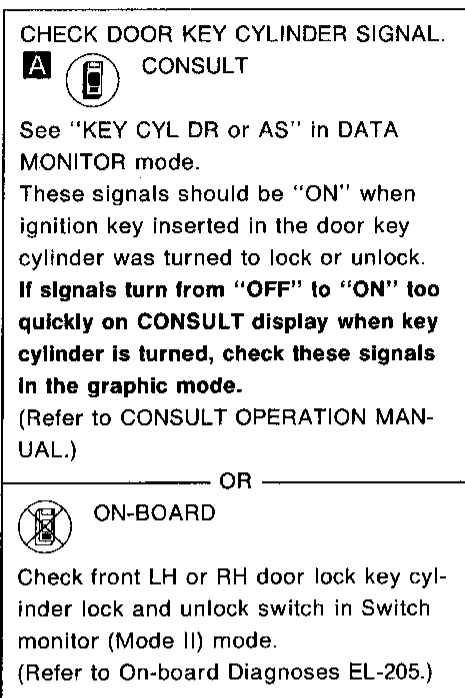
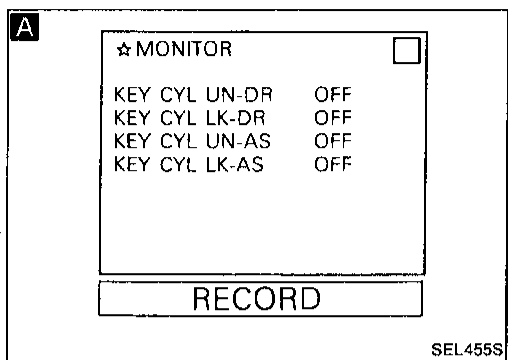
Replace front LH power seat switch assembly (LCU01-A).

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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: All except the front LH or RH door do not lock or unlock using the front LH or RH door lock & unlock key inserted into the door key cylinder.

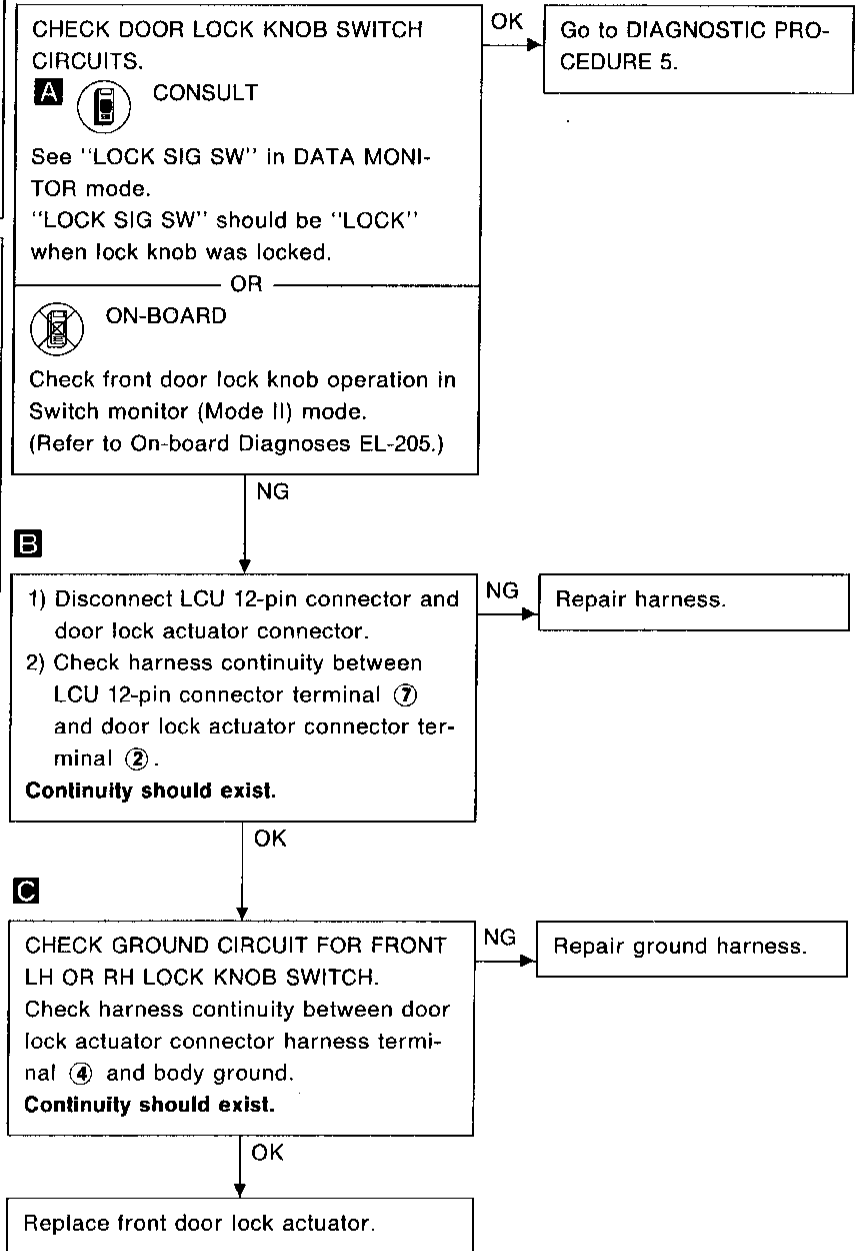
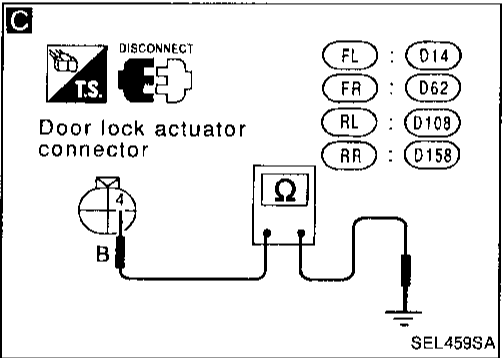
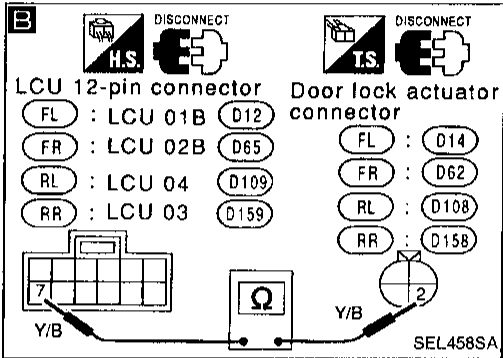
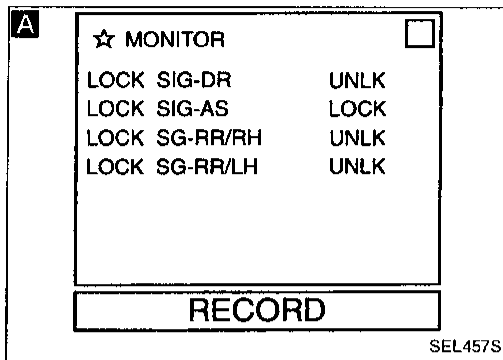


POWER DOOR LOCK — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

SYMPTOM: All except the front LH or RH doors do not lock using the front LH or RH door lock knob.



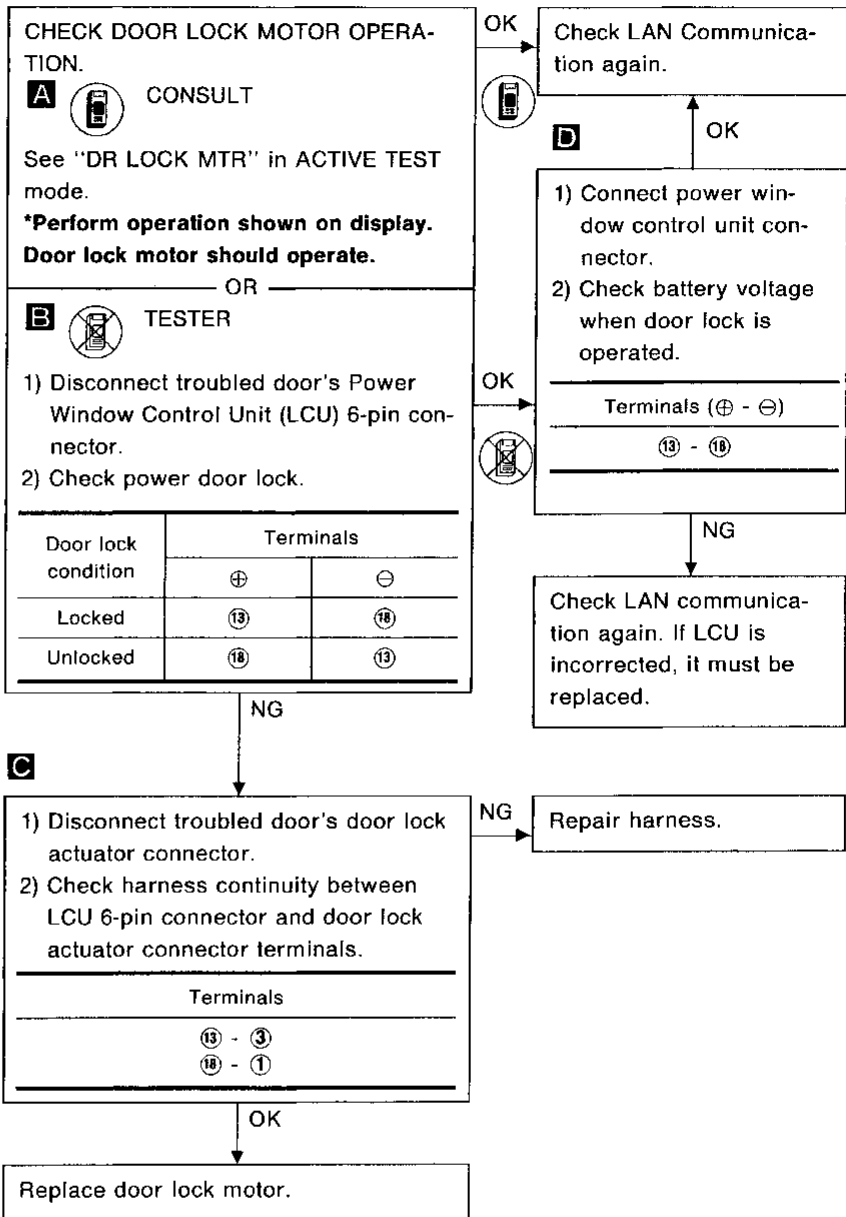
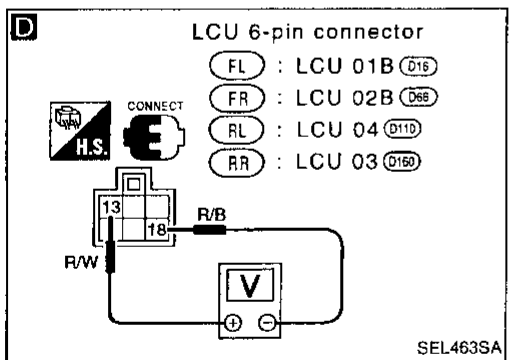
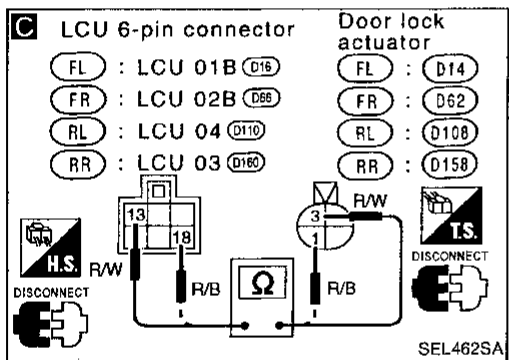
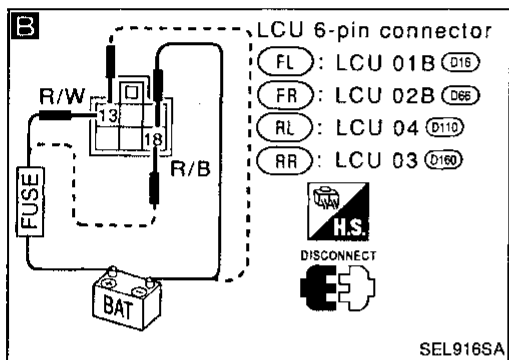
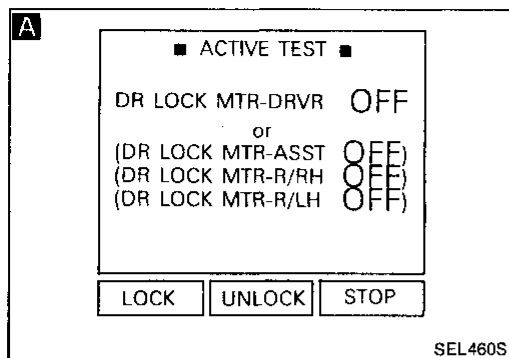
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POWER DOOR LOCK — LAN

Trouble Diagnoses (Cont'd)

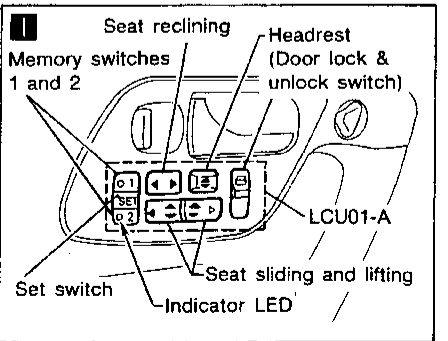
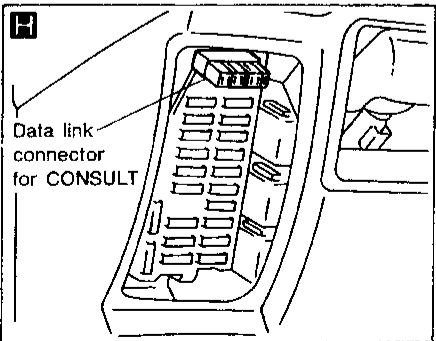
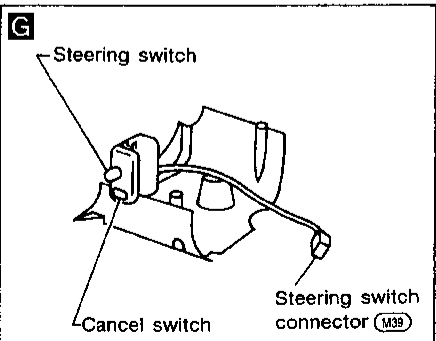
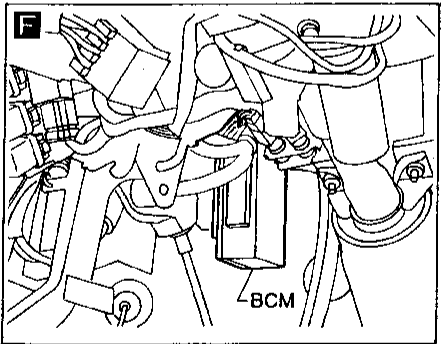
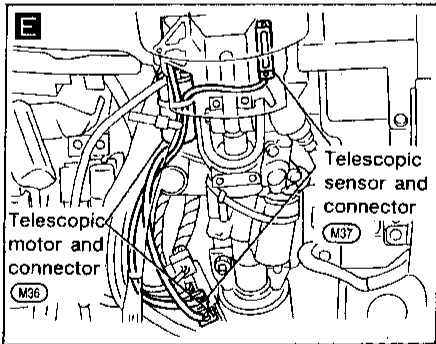
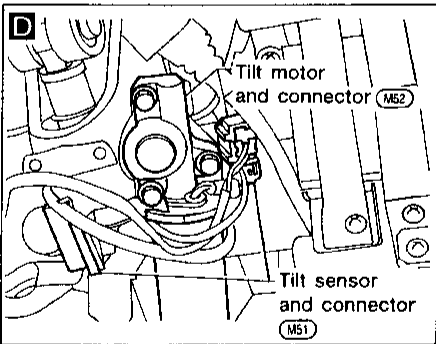
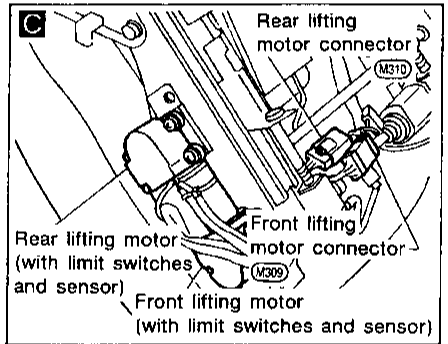
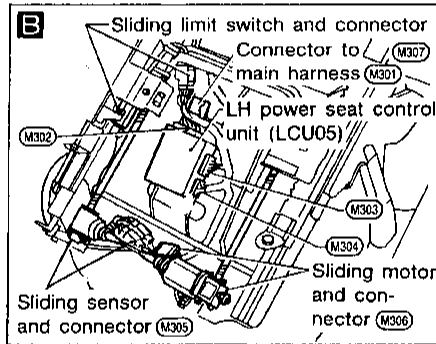
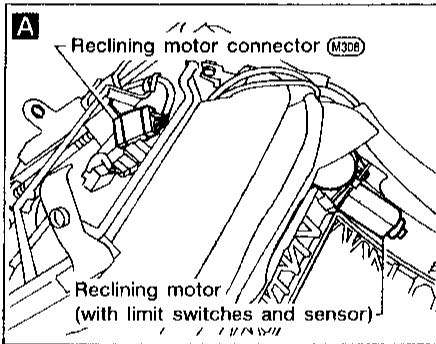
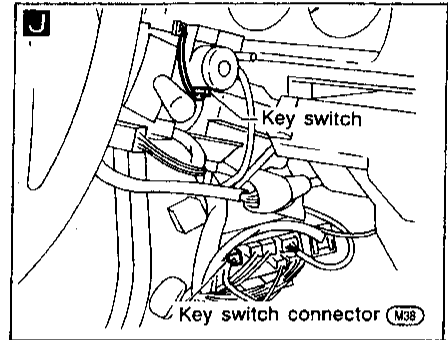
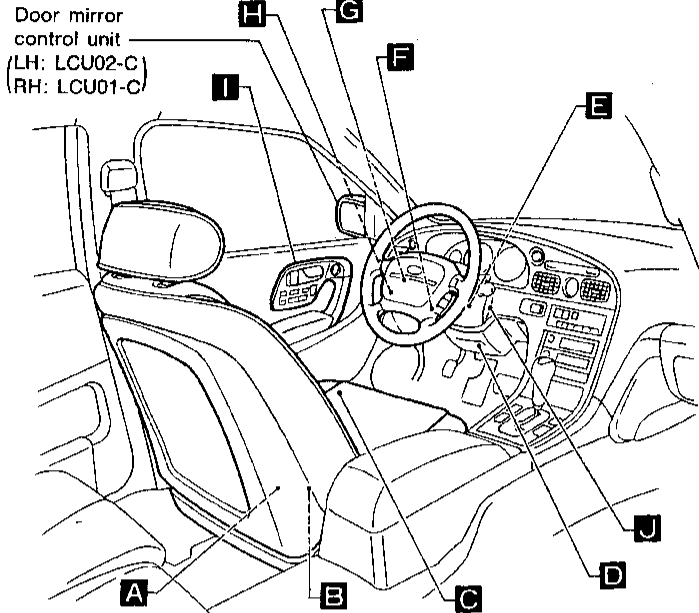
DIAGNOSTIC PROCEDURE 5

SYMPTOM: Each door does not lock or unlock using its door lock knob. (Door lock motor malfunctions.)



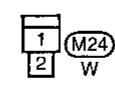
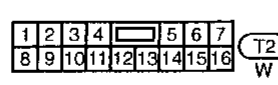
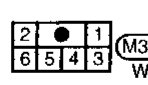
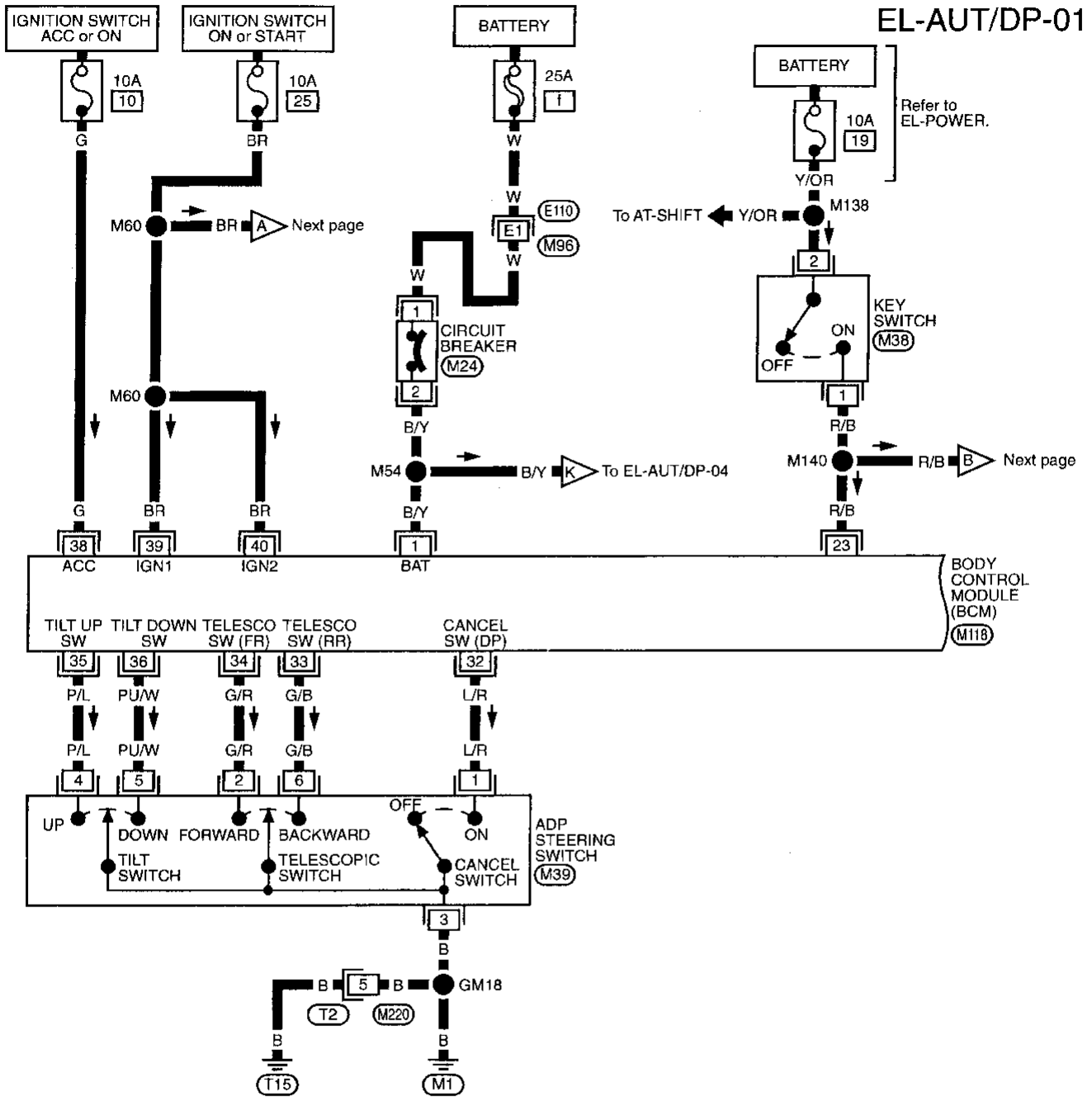
*: When conducting the active test on the driver and passenger side door lock motors, switch between the "LOCK", "UNLOCK" and "STOP" positions at intervals of more than two seconds.

Component Parts and Harness Connector Location

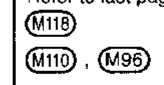


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Wiring Diagram — AUT/DP —



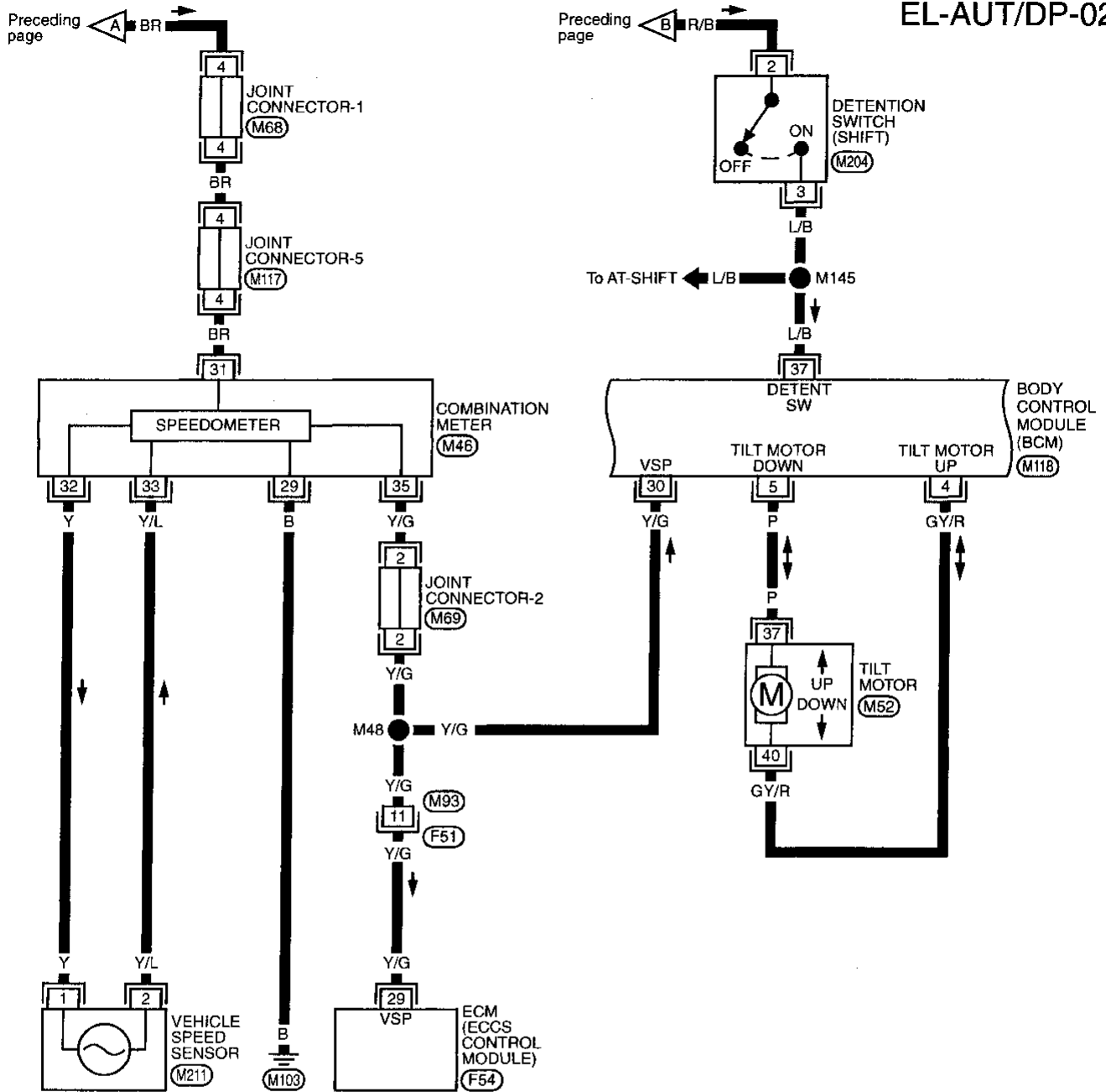
Refer to last page (Foldout page).



AUTOMATIC DRIVE POSITIONER — LAN

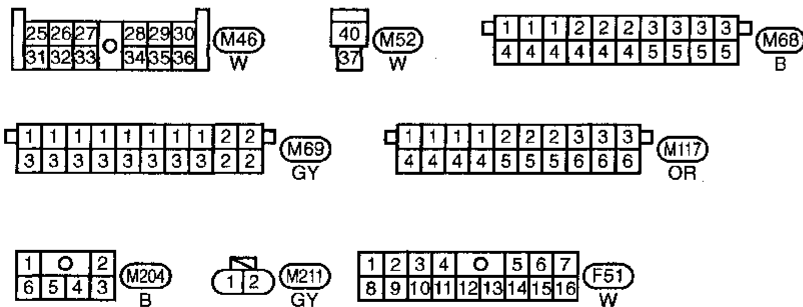
Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-02



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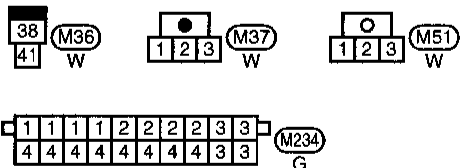
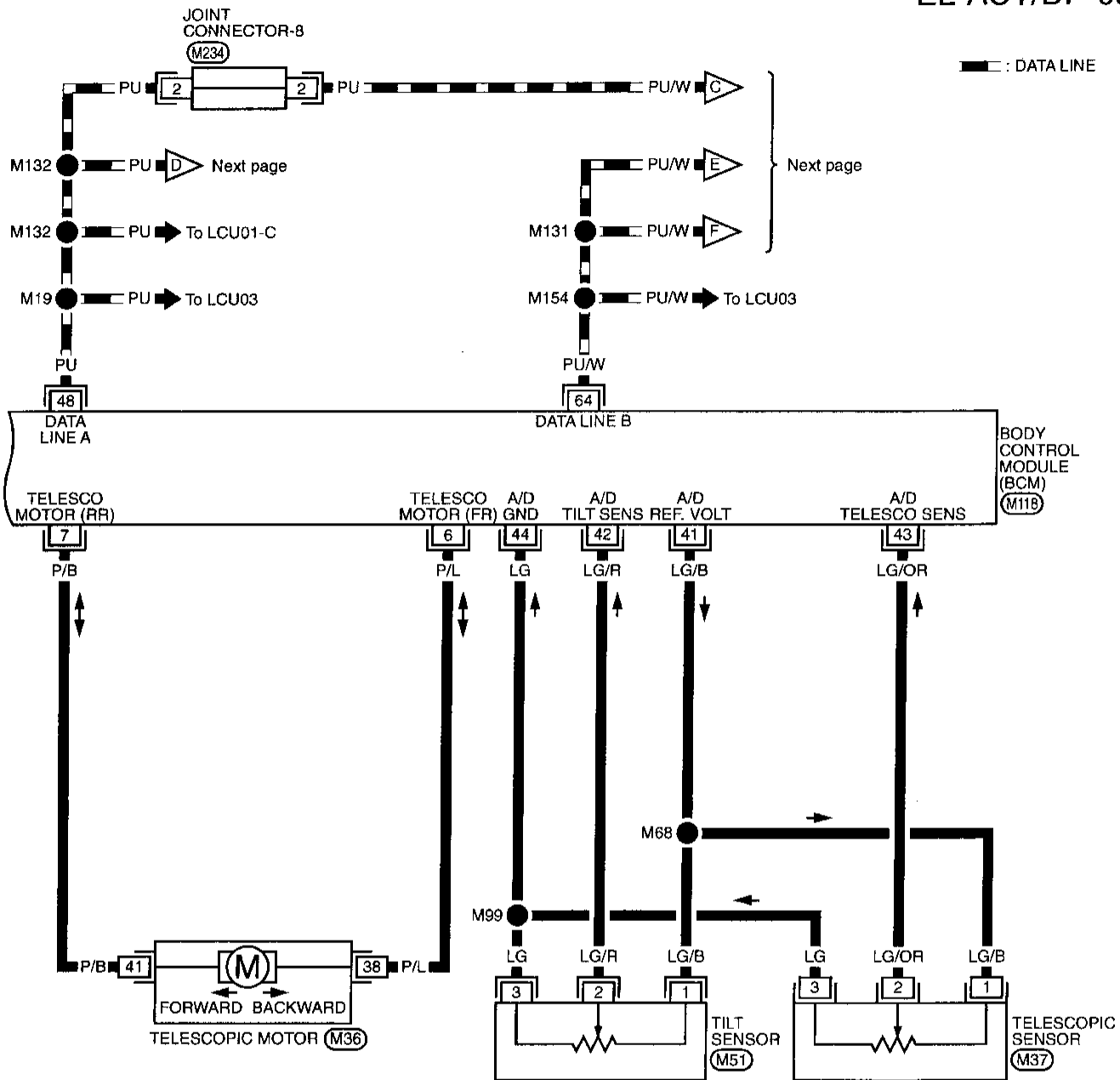
(M118)
(F54)

AUTOMATIC DRIVE POSITIONER — LAN

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-03

— : DATA LINE

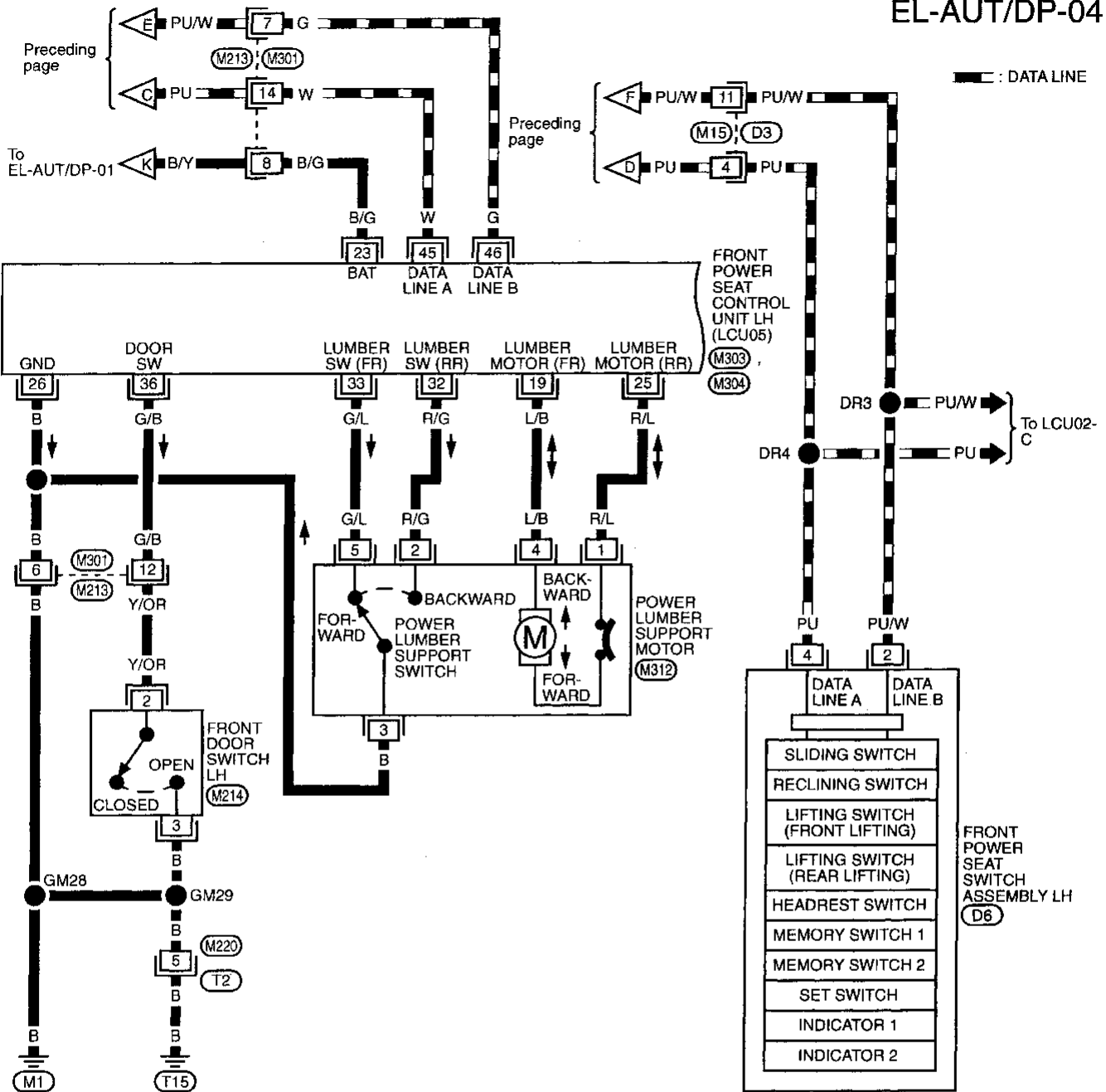


Refer to last page (Foldout page).
(M118)

AUTOMATIC DRIVE POSITIONER — LAN

Wiring Diagram — AUT/DP — (Cont'd)

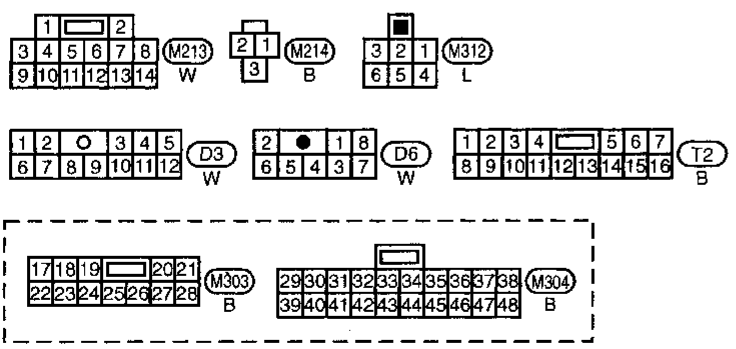
EL-AUT/DP-04



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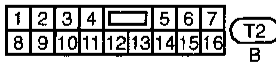
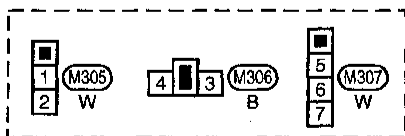
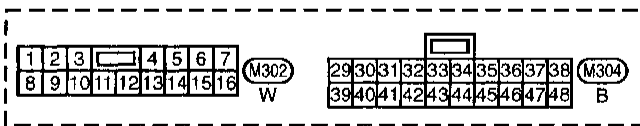
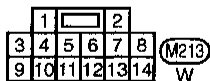
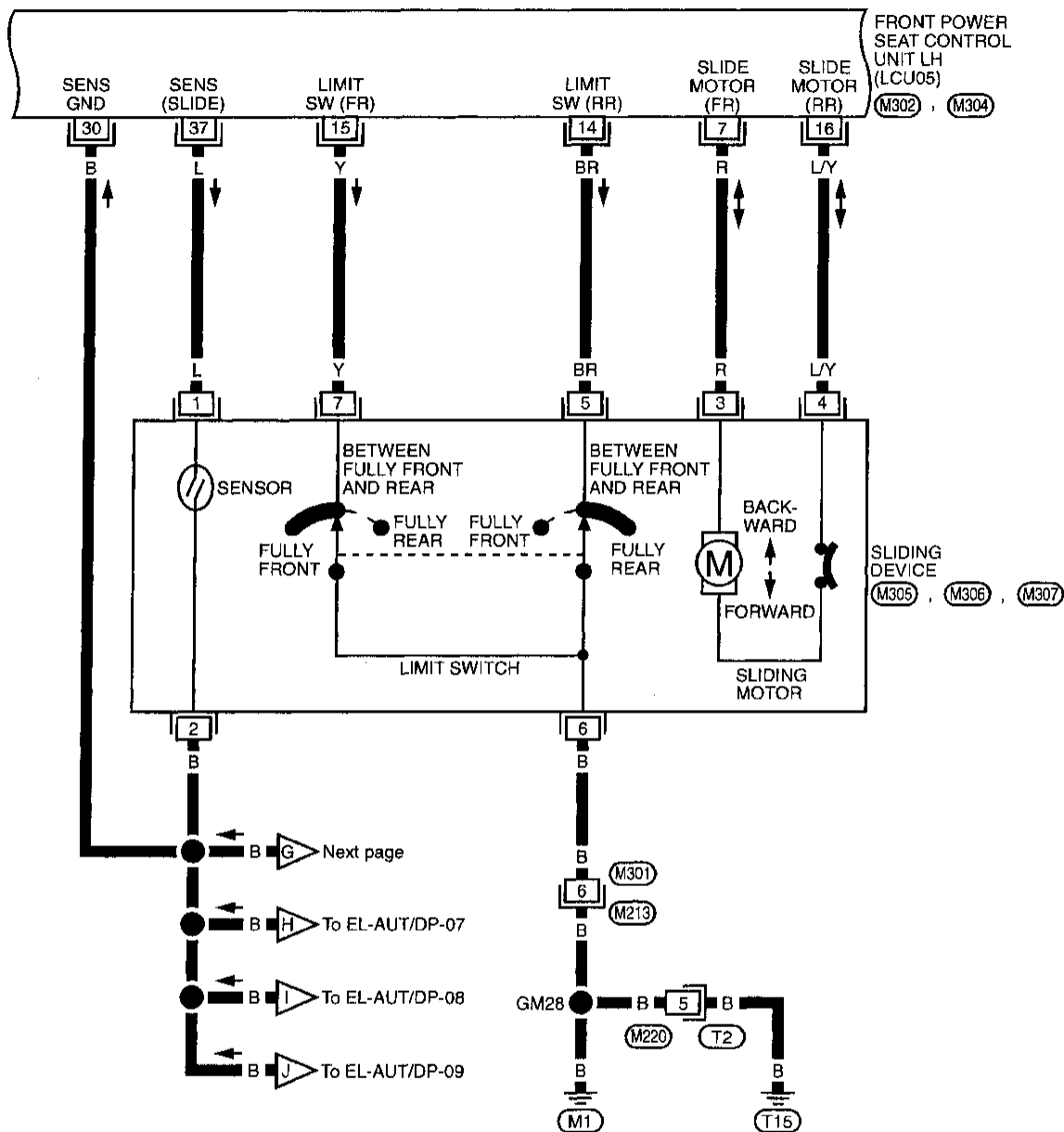
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AUTOMATIC DRIVE POSITIONER — LAN

Wiring Diagram — AUT/DP — (Cont'd)

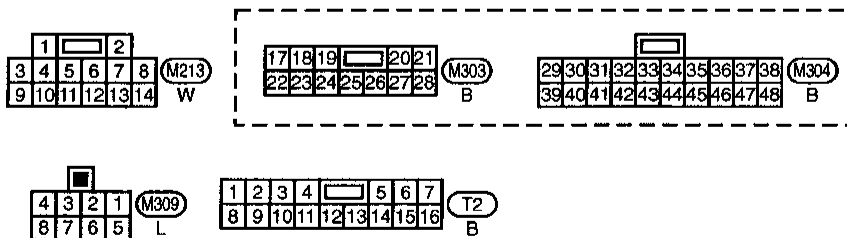
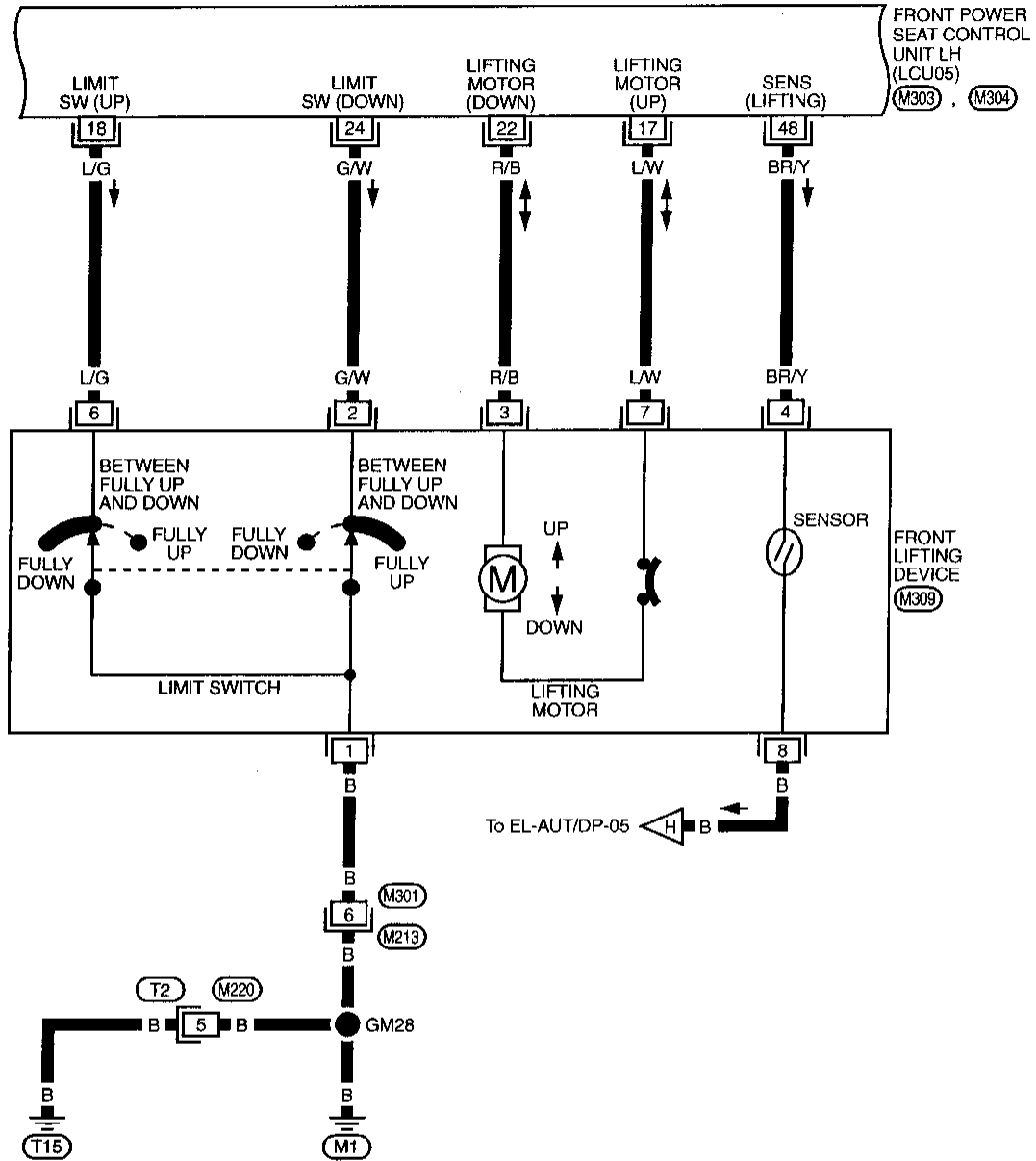
EL-AUT/DP-05



AUTOMATIC DRIVE POSITIONER — LAN

Wiring Diagram — AUT/DP — (Cont'd)

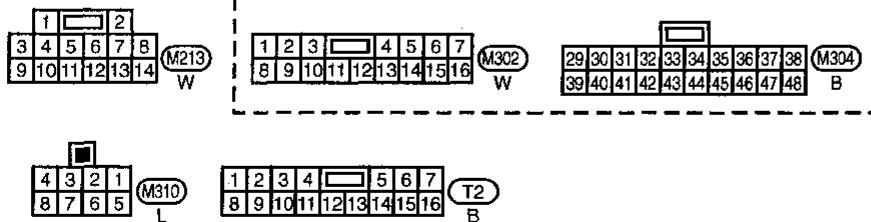
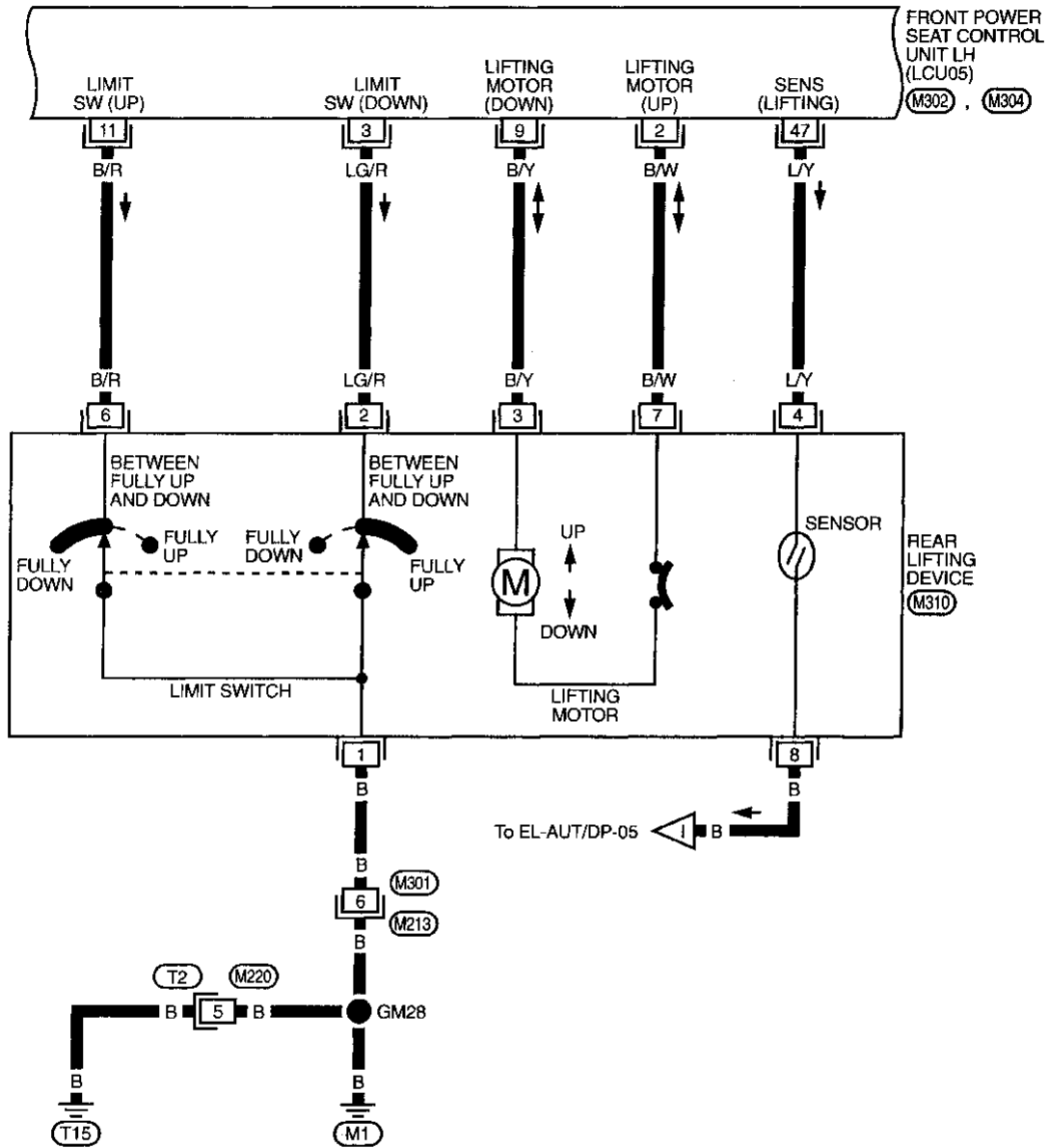
EL-AUT/DP-07



AUTOMATIC DRIVE POSITIONER — LAN

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-08

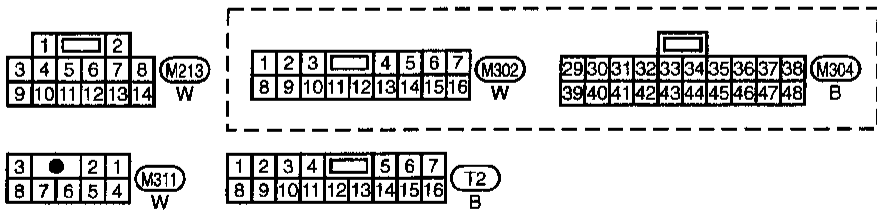
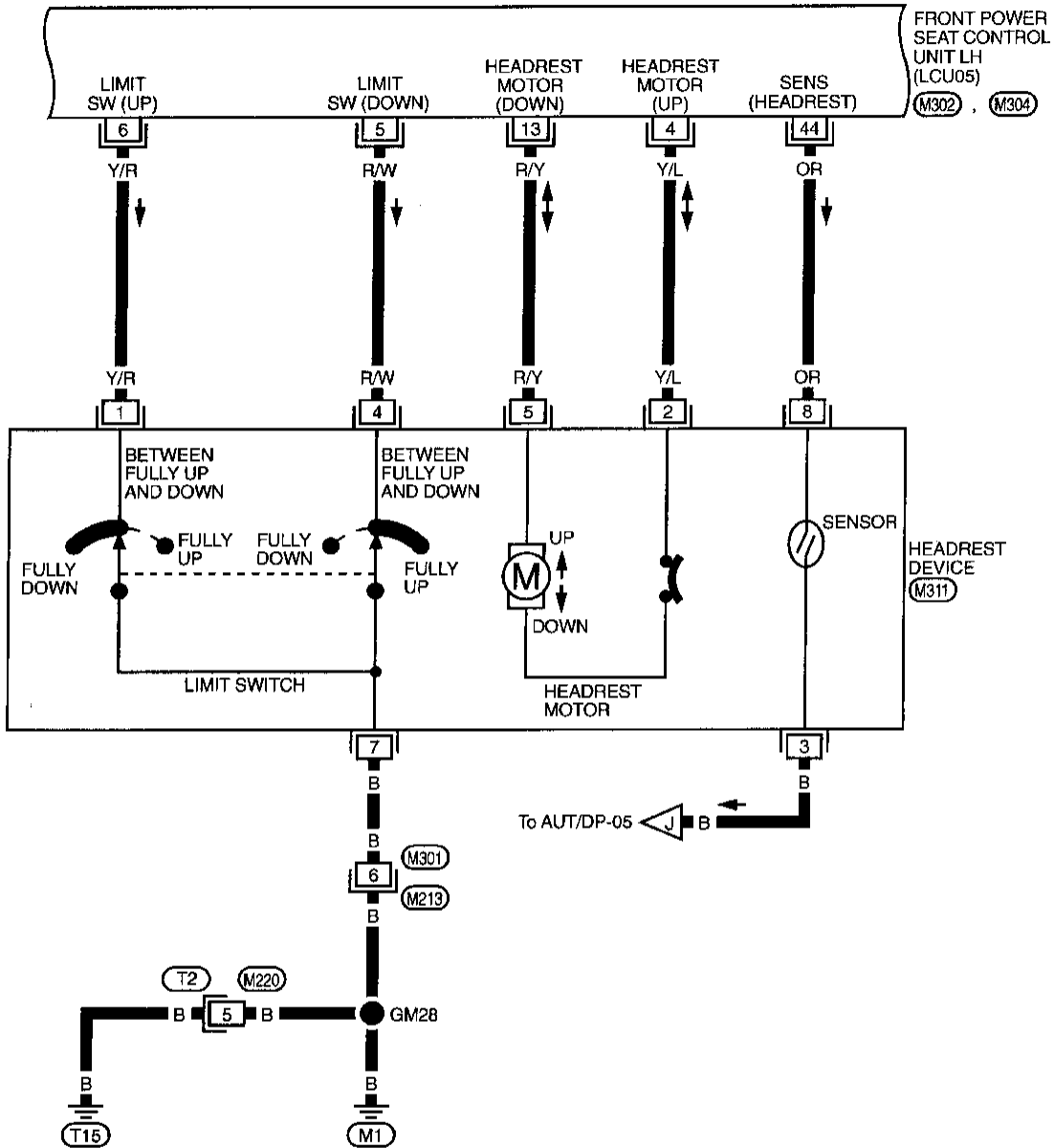


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AUTOMATIC DRIVE POSITIONER — LAN

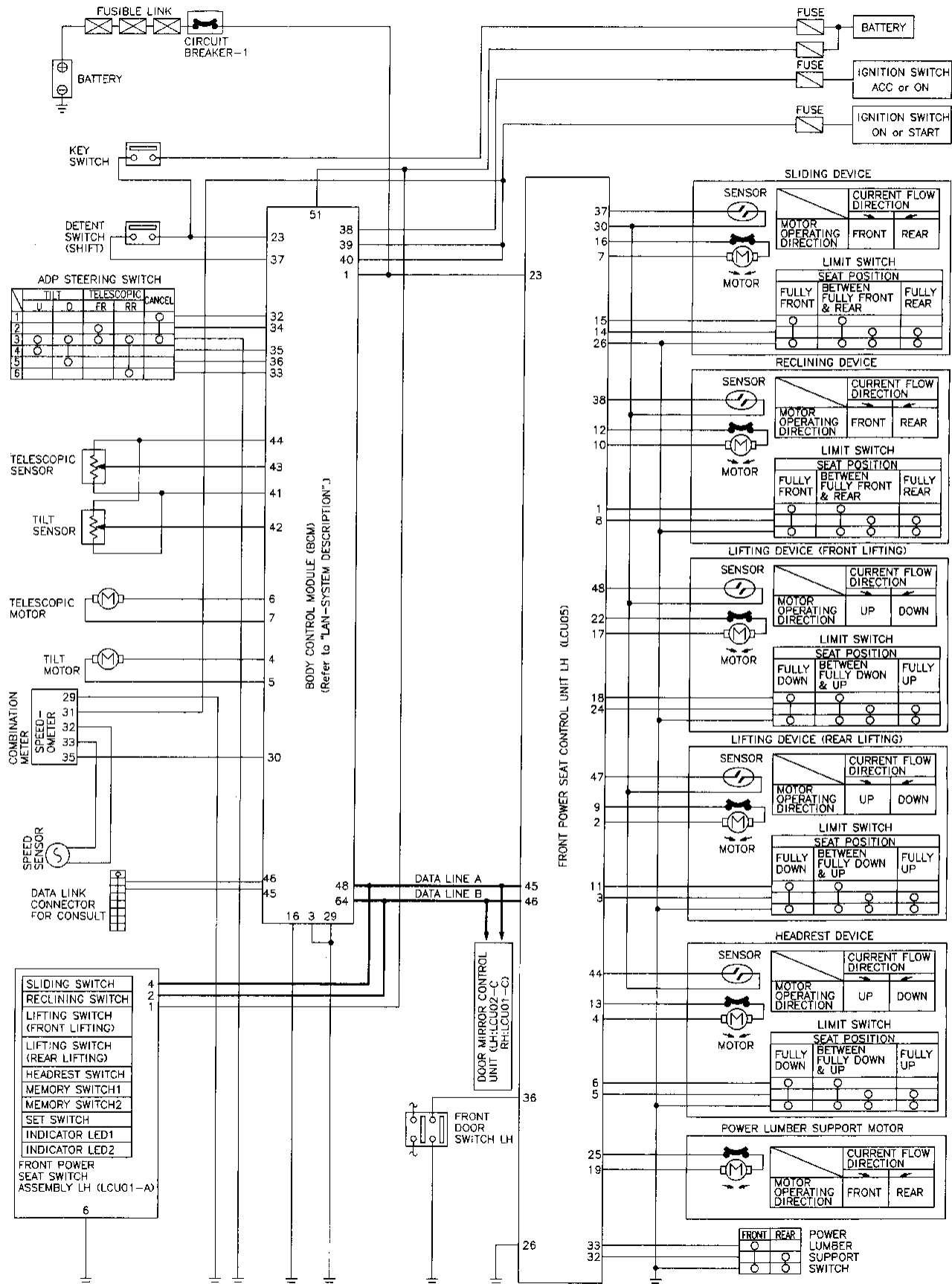
Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-09



AUTOMATIC DRIVE POSITIONER — LAN

Schematic



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System Description

OPERATIVE CONDITION

The drive position can be set in 2 ways, manually and automatically.

Manual operation:

The driver's seat can be adjusted for rake, front cushion height, rear cushion height, pedal reach and headrest height with the LH power seat switches. The steering column can be adjusted for tilt and reach (telescopic) with the steering switch. The door mirror can be adjusted in the desired direction with the remote control switch when the IGN switch is "ACC". Except for the door mirror, manual setting can be operated with the IGN key removed from steering key cylinder.

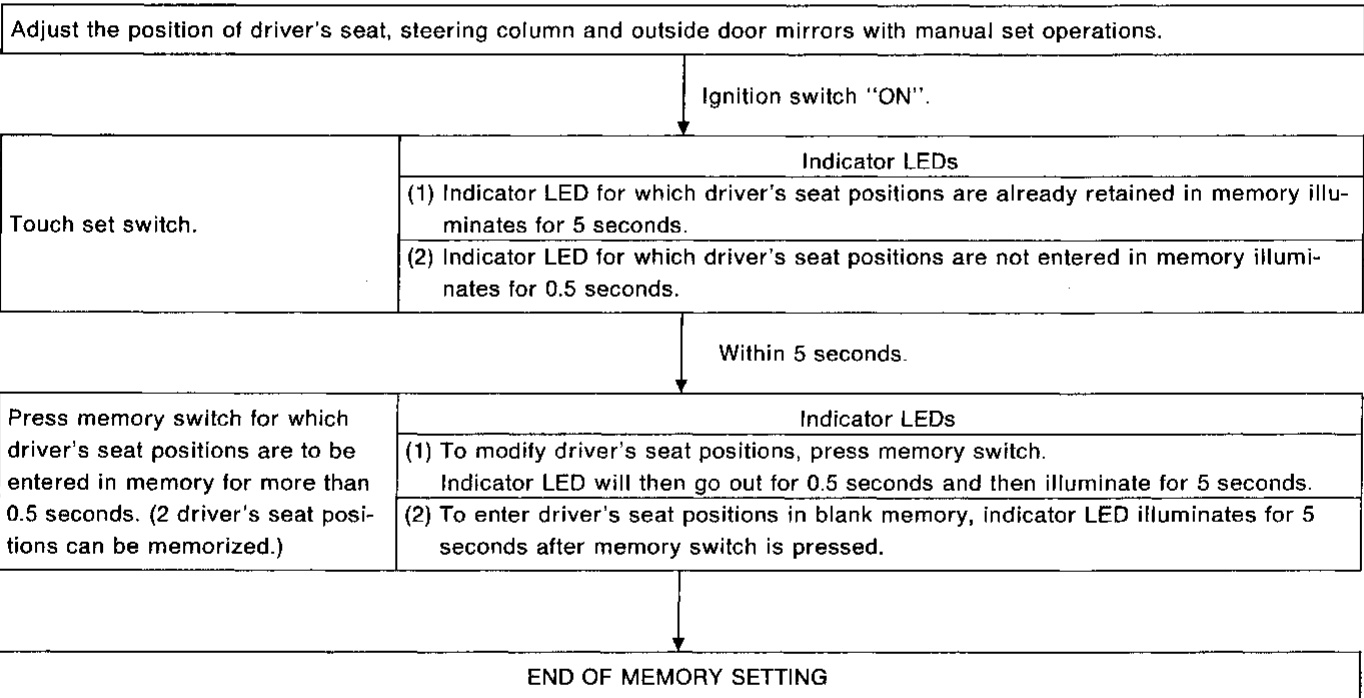
Automatic operation:

The driver's seat, steering column and LH, RH door mirrors are adjusted to the proper positions for the driver automatically, in 3 different ways: MEMORY AUTOMATIC SET, AUTOMATIC EXITING SETTING and AUTOMATIC SET RETURN. (Automatic Drive Positioner = ADP)

(1) CONDITIONS INHIBITING AUTOMATIC OPERATION

- When the A/T selector lever is in any position other than "P".
- When the vehicle speed is above 7 km/h (4 MPH).
- When one of the position switches for the driver's seat or the steering column is turned on.
- When the cancel switch is ON.
- When the tilt or telescopic sensor circuit is damaged.
- All data retained in memory are erased when battery is disconnected.

(2) PROCEDURE FOR MEMORIZING THE DESIRED POSITIONS

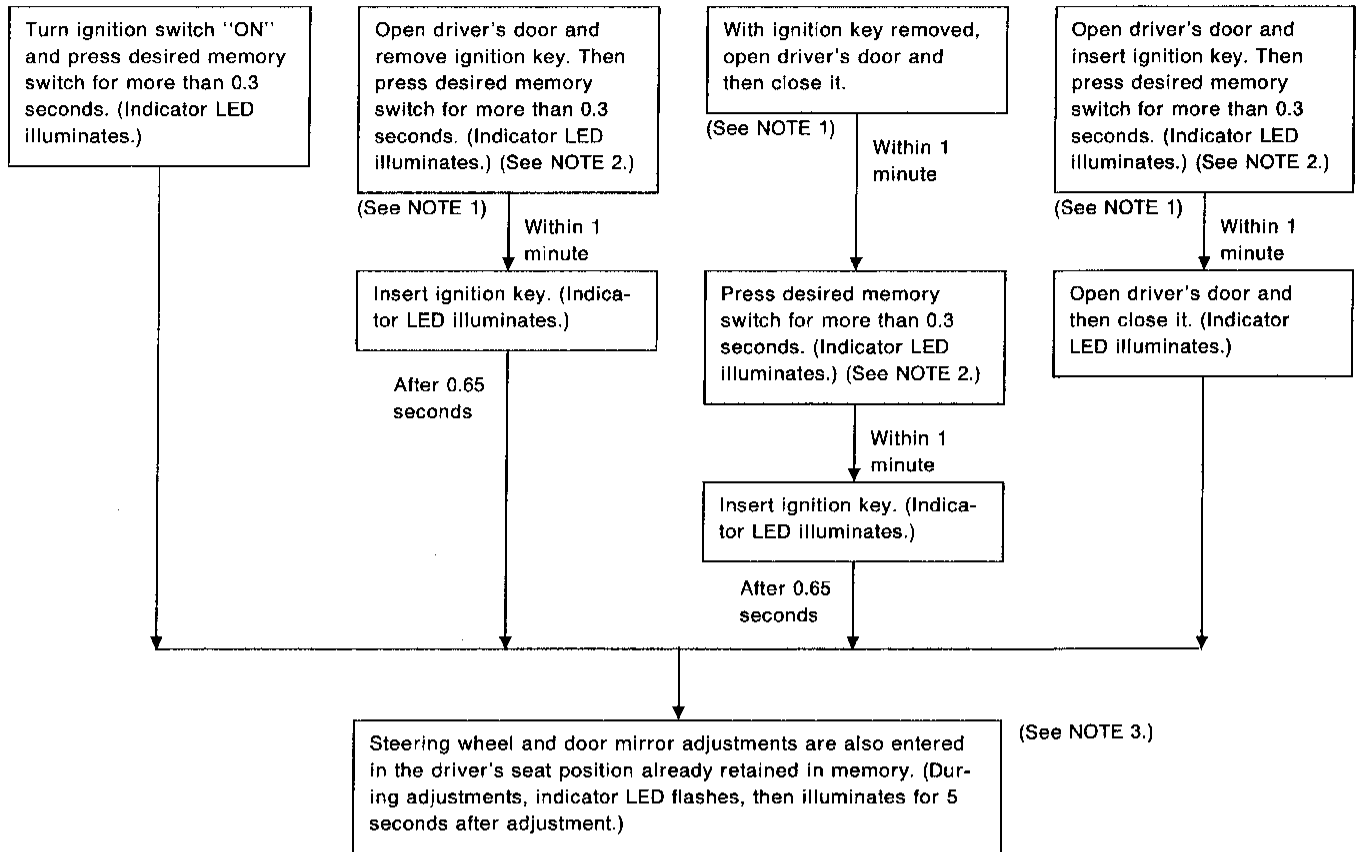


NOTE: When memory switch for which driver's seat positions are already retained in memory is pressed, new seat positions will be retained in memory in place of the previously set positions.

AUTOMATIC DRIVE POSITIONER — LAN

System Description (Cont'd)

(3) MEMORY AUTOMATIC SET



- NOTES: (1) Do not keep cancel switch pressed as it will not operate.
 (2) Seat sliding moves about 40 mm (1.57 in) rearward from the memorized position.
 (3) Three items, the driver's seat position, steering wheel and door mirror adjustment (see the following Table), operate simultaneously in the order of priority.

The order of priority	Operated portion
1	Seat sliding (and door mirror)
2	Steering telescopic
3	Steering tilt
4	Seat reclining
5	Seat front lifting
6	Seat rear lifting
7	Seat headrest height

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AUTOMATIC DRIVE POSITIONER — LAN

System Description (Cont'd)

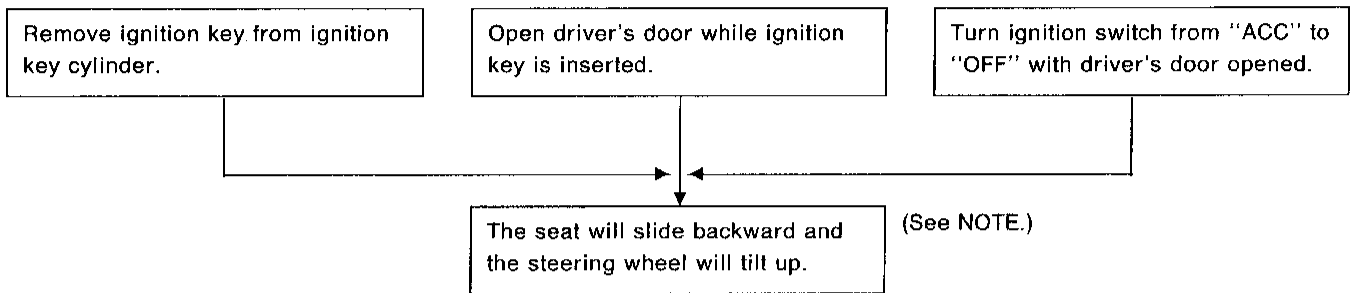
(4) AUTOMATIC EXITING SETTING

For ease of entry and exit, move driver's seat and steering wheel to "exiting" positions.

"Exiting" positions:

Driver's seat ... Moves about 40 mm (1.57 in) slide rear from normal sitting position.

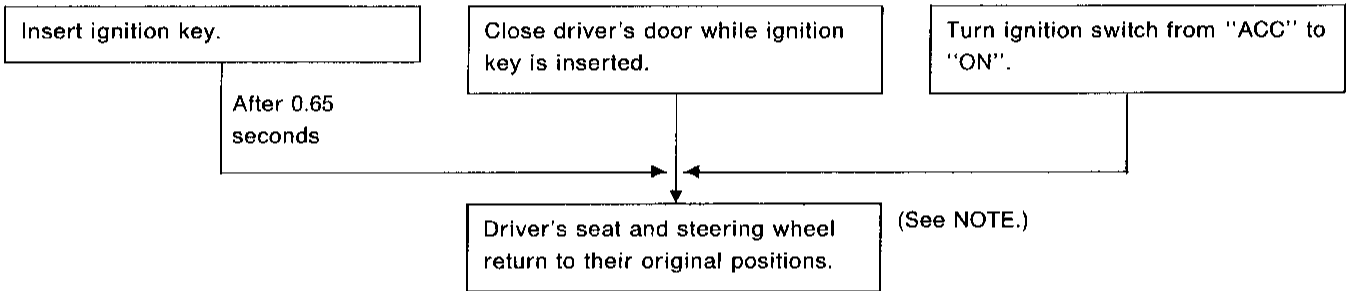
Steering wheel ... Tilts up completely and telescopes forward.



NOTE: Driver's seat slides and steering wheel tilts and telescopes simultaneously.

(5) AUTOMATIC SET RETURN

With driver's seat and steering wheel set to their "exiting" positions, operating one of the following procedures moves them to the positions previously retained in memory.



NOTE: Driver's seat slides and steering wheel tilts and telescopes simultaneously.

Malfunction Indication

Indicator LEDs of memory switch 1 and 2 blink when abnormal condition occurs to the parts relating to seat sliding, seat reclining and steering tilt as follows. When indicator LEDs are repeatedly blinking, conduct trouble diagnosis with CONSULT (Refer to EL-216.) or on-board self-diagnosis system (Refer to EL-211.) and repair malfunctioning parts as required.

After repair, please erase the data stored in BCM using CONSULT.

INPUT ABNORMAL

Detection

If "ON" signals sent from any of the manual switches under the vehicle conditions indicated in the following chart continues for a period of at least T1, the LEDs of memory switch 1 and 2 blink as an input malfunction.

OPERATED PORTION	T1	Vehicle condition
Seat sliding	10±2 sec.	Only when vehicle is driven at speeds greater than 7 km/h (4 MPH).
Seat reclining	Same as above	Same as above
Steering tilt	Same as above	"ON" signals are detected regardless of vehicle speed.

Absolving

- While LEDs are blinking, neither automatic drive positioner nor manual operation (which indicates a malfunction) is effected.
- While LEDs are blinking, they go out as soon as switch input (which indicates a malfunction) is "OFF", releasing the "inoperative" mode.

However, in the following cases (where the "inoperative" mode is not released), a switch may be seized. Replace the affected switch.

① CONSULT

After self-diagnosis is performed using CONSULT and the CONSULT and BCM are disconnected, LEDs still blink.

② ON-BOARD (MODE V)

Although on-board self-diagnosis is not performed, LEDs blink.

- After LEDs go out, if "AUTOMATIC EXISTING SETTING" for the automatic drive positioner is not effected, MEMORY, AUTOMATIC SET, etc., in relation to the automatic drive positioner will not be effected.

OUTPUT ABNORMAL

Detection

During the time the vehicle is being driven at speeds greater than 7 km/h (4 MPH), if any of the parts (indicated in the following chart) move more than the specified amount within a period of "T2" when no "ON" input is sent from any of the switches (indicated in the following chart) or an output from the automatic drive positioner is not produced, LEDs blink to indicate a malfunction.

OPERATED PORTION	T2	Allowable measurement
Seat sliding	Approx. 2.5 sec.	Within 6 mm (0.24 in)
Seat reclining	Same as above	Change angle within 1°
Steering tilt	Same as above	Change angle within 1°

Absolving

- While LED is blinking, neither automatic drive positioner nor manual operation (which indicates a malfunction) is effected.
- At the beginning of self-diagnosis using CONSULT or On-board, LED goes out and "inoperative" mode is canceled.
- If "AUTOMATIC EXISTING SETTING" for automatic drive positioner is not being effected, MEMORY, AUTOMATIC SET, etc., relating to the automatic drive positioner cannot be effected.

Trouble Diagnoses

TROUBLE SYMPTOM

Perform "LAN Communication Check" (refer to EL-231) and "SELF-DIAG RESULTS" mode in "AUTO DRIVE POSITIONER" with CONSULT or On-board self-diagnosis (Mode V) before starting with the following items.

- On-board self-diagnosis (Mode V) cannot be performed. ——— DIAGNOSTIC PROCEDURE 1
(Refer to EL-211.)
- Automatic drive positioner does not work for any function. ——— DIAGNOSTIC PROCEDURE 2
- When one of automatic drive positioner's functions does not operate, use manual operation to check that affected function is still inoperative, then perform self-diagnosis as follows.
 - 1) Steering column does not tilt or telescope forward or backward manually. ——— DIAGNOSTIC PROCEDURE 3
 - 2) None of the seats operate manually. ——— DIAGNOSTIC PROCEDURE 4
 - 3) One or more of the front and rear seat slide lifters and the headrest up-down controls do not operate manually. ——— DIAGNOSTIC PROCEDURE 5
→ DIAGNOSTIC PROCEDURES 6-1 to 6-5
 - 4) Door mirrors do not set automatically. ——— DIAGNOSTIC PROCEDURE 7

After repairing completely, make a final check of the system with "SELF-DIAG RESULTS" of consult or with On-board Diagnosis — Mode V. (Refer to EL-211.)

AUTOMATIC DRIVE POSITIONER — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: On-board self-diagnoses cannot be performed.
(Interior lamp, step lamp and ADP's LED do not flash.)

A

☆ MONITOR

SET SW	OFF
MEMORY SW 1	OFF
MEMORY SW 2	OFF
DETENT SW	O N
IGN ON SW	O N

RECORD

SEL401S

B

CONNECT

M118

BCM CONNECTOR

39

BR

SEL402SA

C

CONNECT

M118

BCM CONNECTOR

37

L/B

SEL403S

D

CONNECT DISCONNECT

M118

BCM CONNECTOR

M204

Detention switch connector

37

L/B

SEL409S

E

CONNECT

M204

Detention switch connector

R/B

2

3

L/B

SEL524S

CHECK IGNITION SWITCH ON SIGNAL.

A CONSULT

See "IGN ON SW" in DATA MONITOR mode.

"IGN ON SW" should be "ON".

OR

B TESTER

Check voltage between BCM connector terminal 39 and ground while ignition switch is "ON".

Terminals	Voltage
39 - GND	Battery voltage

OK

↓

CHECK DETENTION SWITCH SIGNAL.

A CONSULT

See "DETENT SW" in DATA MONITOR mode.

"DETENT SW" should be "OFF" when set A/T selector lever in "P" position.

OR

C TESTER

1) Set A/T selector lever in "P" position.

2) Check voltage.

Terminals	Voltage
37 - GND	Approx. 12V → 0V

OK

↓

NG → Check ignition switch circuit.

Repair harness.

D

1) Disconnect detention switch connector.

2) Check continuity.

Terminals	Continuity
37 - 3	Yes

OK

E

1) Connect detention switch connector.

2) Insert key in the ignition key cylinder.

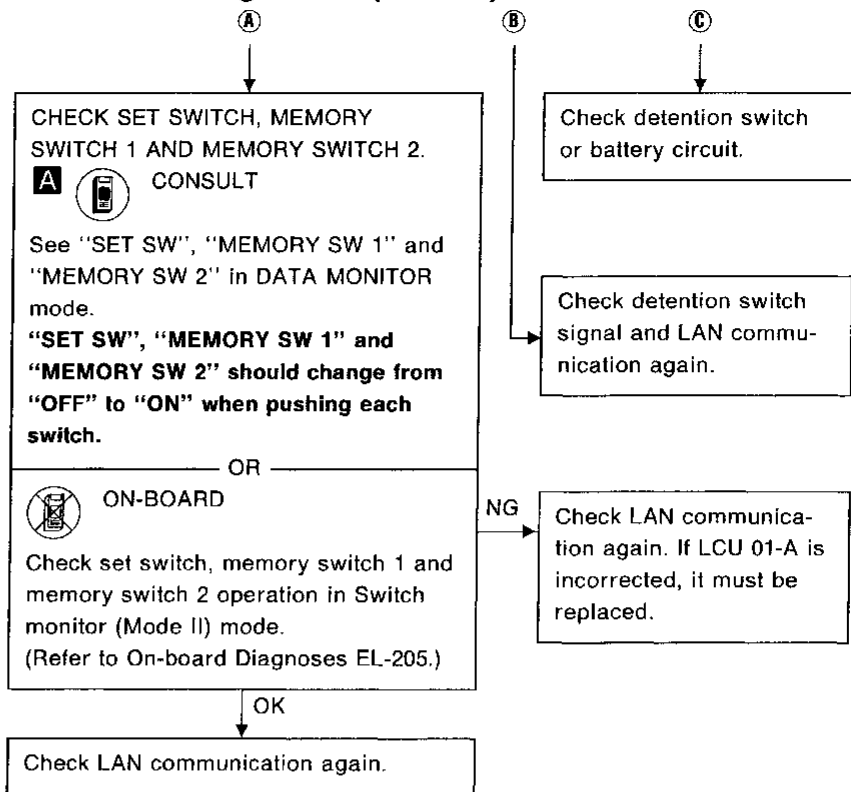
3) Check voltage with A/T selector lever in "P" position.

Battery voltage should exist.

OK

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FA
RA
BR
ST
RS
BT
HA
EL
IDX

Trouble Diagnoses (Cont'd)



AUTOMATIC DRIVE POSITIONER — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Automatic drive positioner does not function.

A

☆ MONITOR		<input type="checkbox"/>
SET SW	OFF	
MEMORY SW 1	OFF	
MEMORY SW 2	OFF	
CANCEL SW	O N	
DOOR SW-DR	OFF	
VHCL SPEED SE UNDER7km/		
DETENT SW	O N	
IGN ON SW	O N	
IGN ACC SW	O N	

RECORD

SEL404S

B

SEL405S

C

SEL406S

D

SEL407S

E

SEL605S

CHECK ACC SWITCH ON SIGNAL.

A **CONSULT**

See "IGN ACC SW" in DATA MONITOR mode.
"IGN ACC SW" should be "ON".

OR

B **TESTER**

Check voltage between BCM connector terminal 38 and ground while ignition switch is "ACC".

Terminals	Voltage
38 - GND	Battery voltage

CHECK THE FOLLOWING.

- Fuse
- Harness continuity between BCM connector terminal 38 and fuse.

CHECK IGNITION SWITCH ON SIGNAL.

A **CONSULT**

See "IGN ON SW" in DATA MONITOR mode.
"IGN ON SW" should be "ON".

OR

C **TESTER**

Check voltage between BCM connector terminal 39 and ground while ignition switch is "ON".

Terminals	Voltage
39 - GND	Battery voltage

CHECK THE FOLLOWING.

- Fuse
- Harness continuity between BCM connector terminal 39 and fuse.

CHECK CANCEL SWITCH CIRCUIT.

A **CONSULT**

See "CANCEL SW" in DATA MONITOR mode.
"CANCEL SW" should change from "OFF" to "ON" when pushing cancel switch.

OR

ON-BOARD

Check cancel switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses EL-205.)

1) Disconnect ADP steering switch connector.
 2) Check continuity.

Terminals	Continuity
32 - 1	Yes

1) Connect ADP steering switch connector.
 2) Check voltage with cancel switch "ON".

Terminals	Voltage
32 - Ground	0V

OK

(Go to next page.)

OK

Replace ADP steering switch.

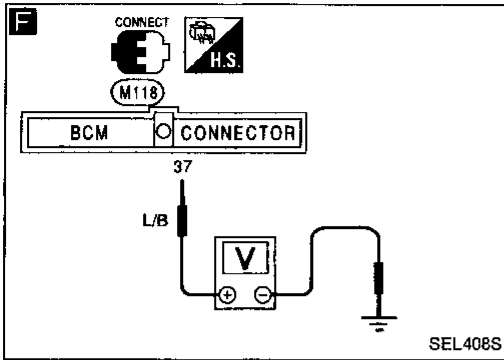
OK

Check cancel switch circuit and LAN communication again.

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 RA
 BR
 ST
 RS
 BT
 HA
 EL
 IDX

AUTOMATIC DRIVE POSITIONER — LAN

Trouble Diagnoses (Cont'd)



Ⓐ

CHECK DETENTION SWITCH SIGNAL.

A **CONSULT**

See "DETENT SW" in DATA MONITOR mode.
"DETENT SW" should be "OFF" when setting A/T selector lever in "P" position.

OR

F **TESTER**

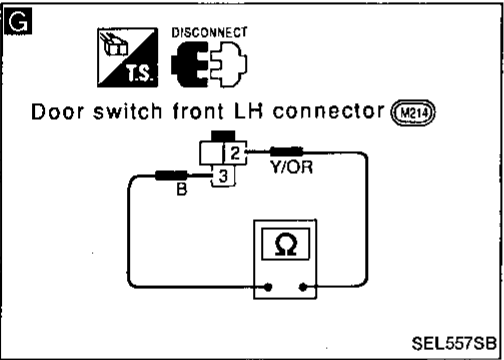
1) Set A/T selector lever in "P" position.
 2) Check voltage.

Terminals	Voltage
③⑦ - GND	Approx. 12V → 0V

NG → Check detention switch circuit. (Refer to DIAGNOSTIC PROCEDURE 1.)

CHECK THE FOLLOWING.

- Harness between LCU05 and front LH door switch
- Ground circuit for front LH door switch



Ⓐ

CHECK DRIVER DOOR SWITCH SIGNAL.

A **CONSULT**

See "DOOR SW DR" in DATA MONITOR mode.

Driver's door	"DOOR SW DR"
Open	"ON"
Closed	"OFF"

OR

ON-BOARD

Check driver's door switch operation in Switch monitor (Mode II) mode.
 (Refer to On-board Diagnoses EL-205.)

NG → 1) Disconnect door switch front LH connector.
 2) Check continuity.

Terminals	Continuity
③⑤ - ②	Yes

NG → Replace door switch.

OK

Ⓑ

(Go to next page.)

AUTOMATIC DRIVE POSITIONER — LAN

Trouble Diagnoses (Cont'd)

Ⓑ


CHECK SET SWITCH, MEMORY SWITCH 1 AND MEMORY SWITCH 2.

A  CONSULT

See "SET SW", "MEMORY SW 1" and "MEMORY SW 2" in DATA MONITOR mode.

"SET SW", "MEMORY SW 1" and "MEMORY SW 2" should change from "OFF" to "ON" when pushing each switch.

OR

 ON-BOARD

Check set switch, memory switch 1 and memory switch 2 operation in Switch monitor (Mode II) mode.

(Refer to On-board Diagnoses EL-205.)

NG

Check LAN communication again. If LCU 01-A is incorrected, it must be replaced.

GI

MA

EM

LC


EC

FE

AT

OK


CHECK VEHICLE SPEED SENSOR CIRCUIT.

A  CONSULT

See "VHCL SPEED SE" in DATA MONITOR mode.

When vehicle is stopped, "UNDER 7 km" should be shown under "VHCL SPEED SEN" on display.

OR

 ON-BOARD

Check vehicle speed sensor circuit in Automatic drive positioner operation (Mode V) mode.

(Refer to On-board Diagnoses EL-211.)

OK

Check LAN communication again.

PD

FA

RA

BR

ST

RS

NG

H

1) Disconnect speedometer connector.
2) Check harness continuity between BCM connector terminal ⑩ and speedometer connector terminal ⑮. Continuity should exist.

NG

Repair harness.

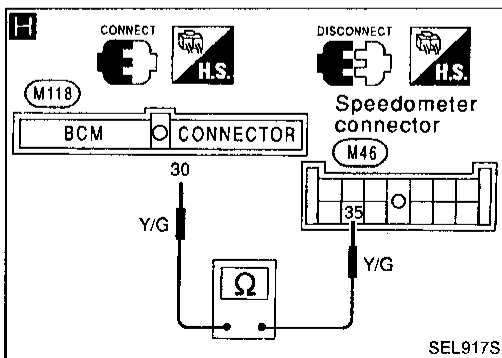
HA

EL

OK

Repair vehicle speed sensor circuit.

IDX



Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: Steering column does not tilt and telescope forward or backward manually.

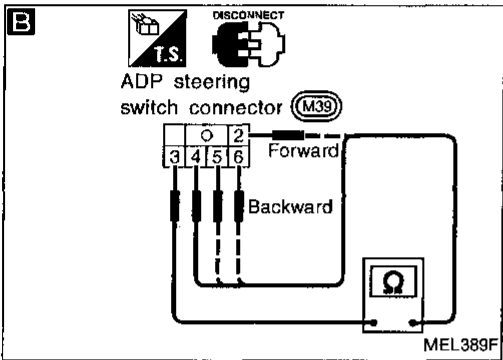
A

☆ MONITOR

TELESCO SW-FR	OFF
TELESCO SW-RR	OFF
TILT SW-UP	OFF
TILT SW-DOWN	OFF

RECORD

SEL412S



CHECK TILT AND TELESCOPIC OPERATION OF ADP STEERING SWITCH. CHECK TROUBLED SWITCHES.

A CONSULT

See "TILT SW-UP or DOWN", "TELESCO SW-FR or RR" in DATA MONITOR mode.

"TILT SW-UP or DOWN", "TELESCO SW-FR or RR" should change from "OFF" to "ON" when each switch are turned ON.

OR

ON-BOARD

Check tilt up or down, telescopic forward or backward switch operation in Switch monitor (Mode II) mode. (Refer to On-board Diagnoses EL-205.)

OK → (Go to **A**) on next page.)

B

Check ADP steering switch.

Operation		Terminal				
		②	③	④	⑤	⑥
Tilt	Up		○—○			
	Down		○—○			
Telescopic	Forward	○—○				
	Backward		○—○			○—○

NG → Replace ADP steering switch.

C

CONNECT H.S. (M11B) DISCONNECT H.S. (M39)

Tilt Up ADP steering switch connector

BCM or Body ground	ADP steering switch
Tilt Down 36 PU/W	 PU/W
Telescopic Forward 34 G/R	 G/R
Telescopic Backward 33 G/B	 G/B
GND Body GND	 B

SEL413S

C

1) Disconnect ADP steering switch connector.

2) Check continuity in ground circuit and trouble circuit selected from those shown below.

Operation		Terminals	Continuity
Tilt	Up	③⑤ - ④	
	Down	③⑥ - ⑤	
Telescopic	Forward	③④ - ②	
	Backward	③③ - ⑥	
Ground circuit		GND - ③	

OK → Check ADP steering switch circuit and LAN communication again.

NG → Repair harness.

AUTOMATIC DRIVE POSITIONER — LAN

Trouble Diagnoses (Cont'd)

D Tilt Up-Down

■ ACTIVE TEST ■

TILT MOTOR OFF

UP DWN STOP

OR

Telescopic Forward-Backward

■ ACTIVE TEST ■

TELESCO MOTOR OFF

FR RR STOP

SEL414S

(A)

CHECK TILT OR TELESCOPIC MOTOR.

D **CONSULT**

See "TILT MOTOR" or "TELESCO MOTOR" in ACTIVE TEST mode.
Perform operation shown on display.
Motor should operate.

OR

E **TESTER**

1) Disconnect BCM connector.
 2) Check motor for trouble.

Terminals (Color)		Operation
⊕	⊖	
④ (GY/R)	⑤ (P)	Tilt-up
⑤	④	Tilt-Down
⑥ (P/L)	⑦ (P/B)	Telescopic-Forward
⑦	⑥	Telescopic-Backward

OK → (C) (Skip page.)



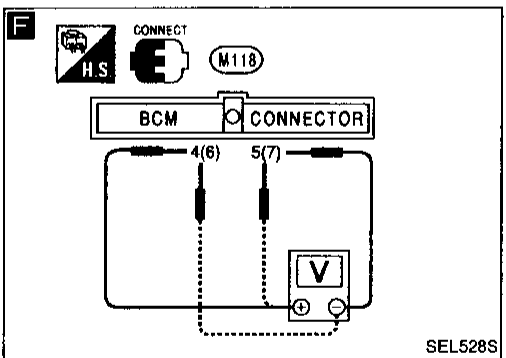
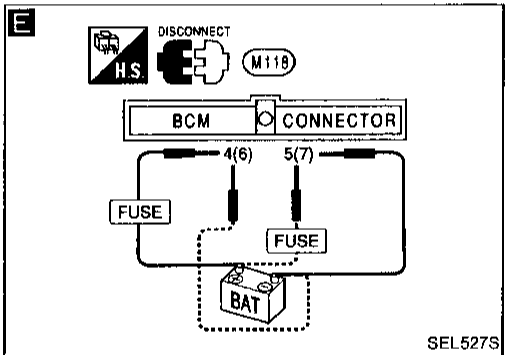
OK → **F**



CHECK OPERATION VOLTAGE TO TILT OR TELESCOPIC MOTOR.

1) Connect BCM connector.
 2) Disconnect tilt or telescopic motor connector (M52) or (M36).
 3) Check voltage when ADP steering switch is as follows:

Operation	Terminals ⊕ - ⊖	Voltage
Tilt-up	④ - ⑤	
Tilt-Down	⑤ - ④	
Telescopic Forward	⑥ - ⑦	
Telescopic Backward	⑦ - ⑥	



NG

(B)

(Go to next page.)

NG

Replace BCM.

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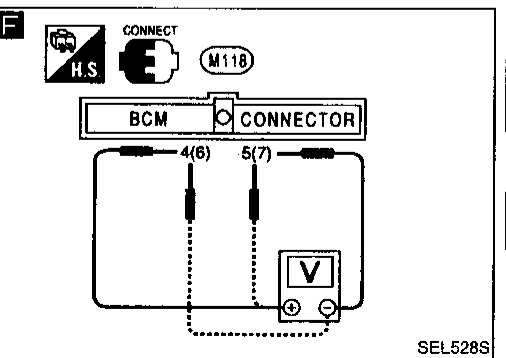
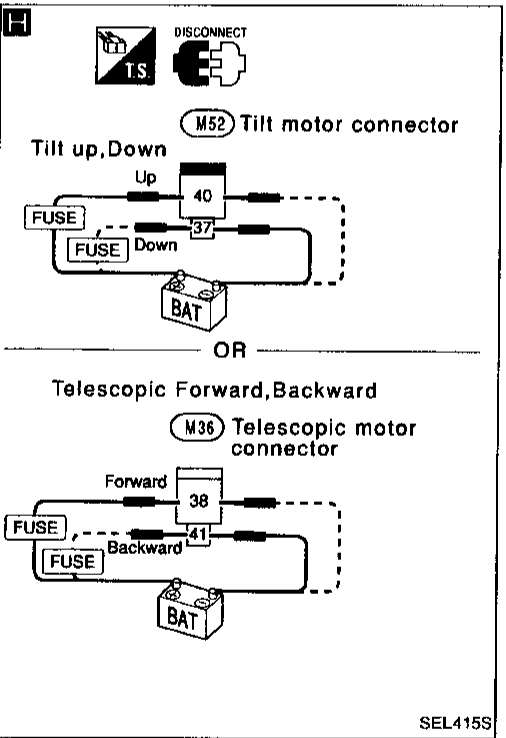
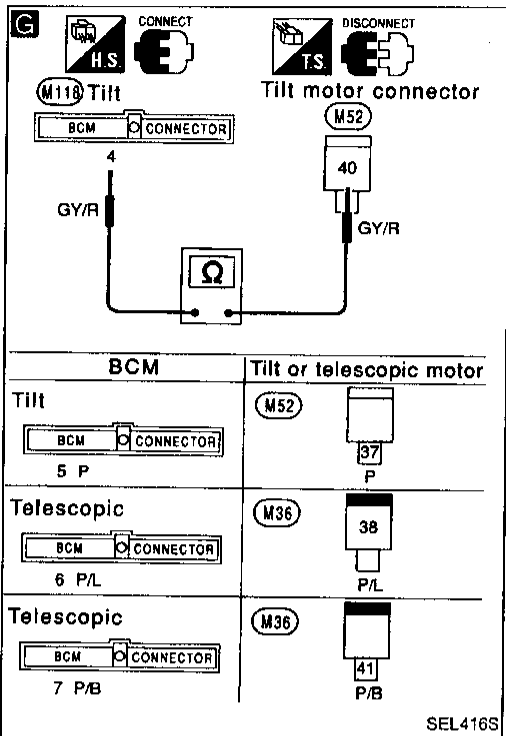
HA

EL

IDX

AUTOMATIC DRIVE POSITIONER — LAN

Trouble Diagnoses (Cont'd)



B

C

Check continuity in troubled circuit.

	Terminals	Continuity
Tilt	④ - ④⑩	Yes
	⑤ - ③⑦	
Telescopic	⑥ - ③⑧	
	⑦ - ④①	
Tilt	④ - ⑤	No
	⑥ - ⑦	

NG → Repair harness.

D

1) Disconnect tilt or telescopic motor connector.
2) Check motor for trouble.

Terminals		Operation
⊕	⊖	
④⑩	③⑦	Tilt-up
③⑦	④⑩	Tilt-Down
③⑧	④①	Telescopic-Forward
④①	③⑧	Telescopic-Backward

NG → Replace tilt or telescopic motor.

E

CHECK OPERATION VOLTAGE TO TILT OR TELESCOPIC SEN.

- 1) Connect BCM connector.
- 2) Disconnect tilt or telescopic motor connector (M52 or M36).
- 3) Check voltage when ADP steering switch is as follows:

Operation	Terminals ⊕ - ⊖	Voltage
Tilt-Up	④ - ⑤	Battery voltage
Tilt-Down	⑤ - ④	
Telescopic Forward	⑥ - ⑦	
Telescopic Backward	⑦ - ⑥	

OK → Check tilt or telescopic motor again.

NG → Replace BCM.

Trouble Diagnoses (Cont'd)

I Fully tilted up and telescopic forward position.

☆ MONITOR		<input type="checkbox"/>
TILT SEN	2.05V	
TELESCO SEN	4.31V	

RECORD

↕ Voltage changes gradually.

Fully tilted down and telescopic backward position.

☆ MONITOR		<input type="checkbox"/>
TILT SEN	3.68V	
TELESCO SEN	0.49V	

RECORD

SEL417S

⑥

CHECK TILT OR TELESCOPIC SENSOR.

I **CONSULT**

See "TILT SEN" or "TELESCO SEN" in DATA MONITOR mode.

- The more downward (tilt) or forward (telescopic) the position of the steering column, the more voltage displayed increases.
- The more upward (tilt) or backward (telescopic) the position of the steering column, the more voltage displayed decreases.

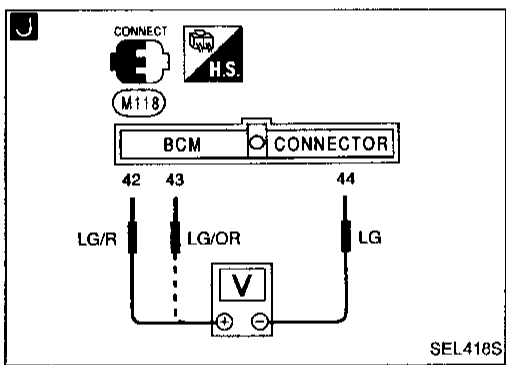
OR

U **TESTER**

Operate applicable switch and conduct voltage test on its circuit.

	Terminals	Voltage
Tilt	④② - ④④	Approximately 0.1 - 4.9V
Telescopic	④③ - ④④	

OK → Check LAN communication again.



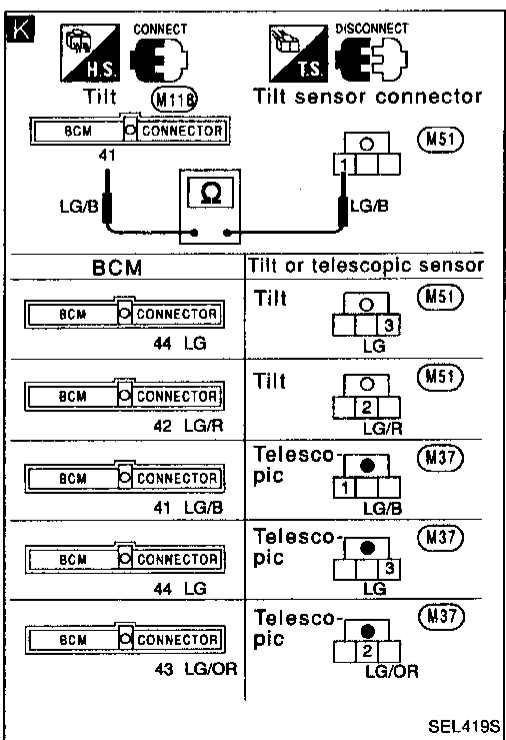
NG

K

- 1) Disconnect tilt or telescopic sensor connector.
- 2) Check continuity in troubled circuit.

	Terminals	Continuity
Tilt	④① - ①	Yes
	④④ - ③	
	④② - ②	
Telescopic	④① - ①	
	④④ - ③	
	④③ - ②	

NG → Repair harness.



OK

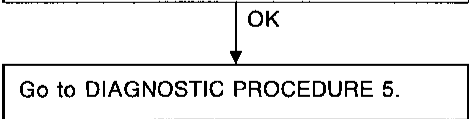
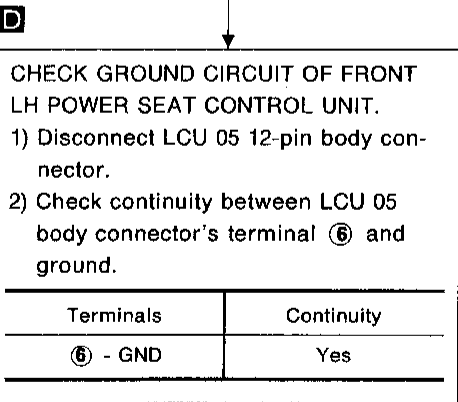
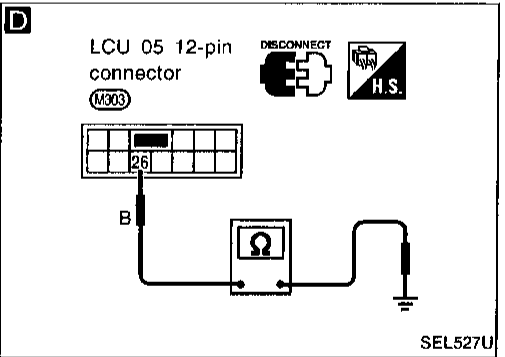
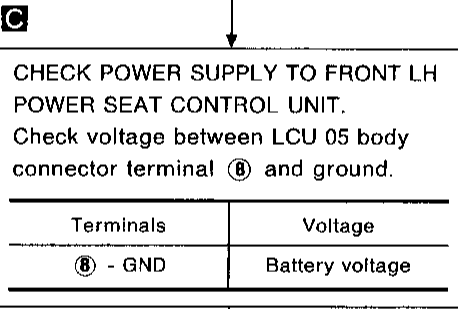
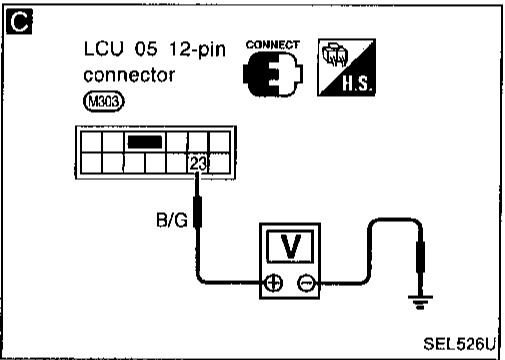
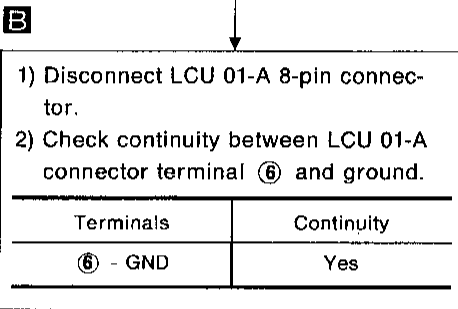
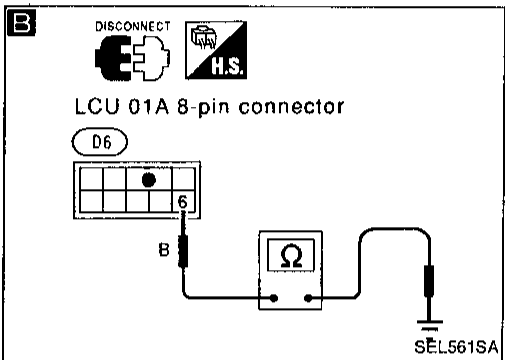
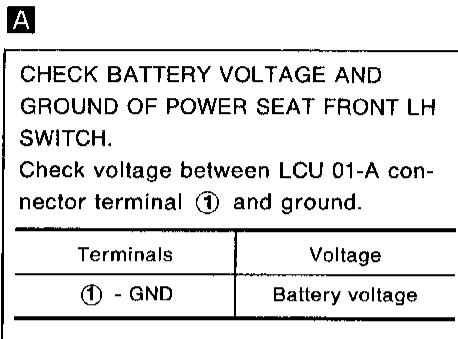
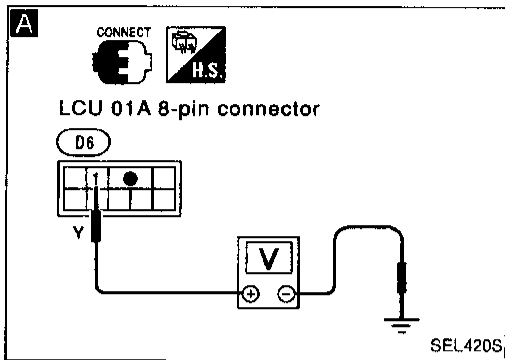
Replace tilt or telescopic sensor.

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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

SYMPTOM: None of the seats operate manually.



AUTOMATIC DRIVE POSITIONER — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

SYMPTOM: One or more manual operations (sliding, reclining, front lifting, rear lifting and headrest height) are malfunctioning.


A

☆ MONITOR	
SLIDE SW-FR	OFF
SLIDE SW-RR	OFF
RECLN SW-FR	OFF
RECLN SW-RR	OFF
LIFT FR SW-UP	OFF
LIFT FR SW-DN	OFF
LIFT RR SW-UP	OFF
LIFT RR SW-DN	OFF
HD REST SW-UP	OFF
HD REST SW-DN	OFF

RECORD

SEL424S


CHECK SEAT SLIDING, RECLINING, FRONT AND REAR LIFTING AND HEADREST SWITCH OPERATION.

A  CONSULT

See "SLIDE SW, RECLN SW, LIFT FR or RR SW, HD REST SW" in DATA MONITOR mode.

These switches should change from "OFF" to "ON" when switch is operated.

OR

 ON-BOARD

Check each switch operation in Switch monitor (Mode II) mode.
(Refer to On-board Diagnosis EL-205.)

OK

Go to DIAGNOSTIC PROCEDURE 6-1 to 6-5.

NG

Check "LAN Communication" again.

GI

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LC

EC

FE

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PD

FA

RA

BR

ST

RS

BT

HA

EL

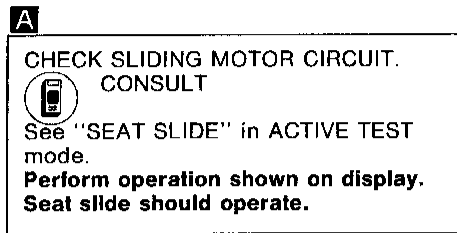
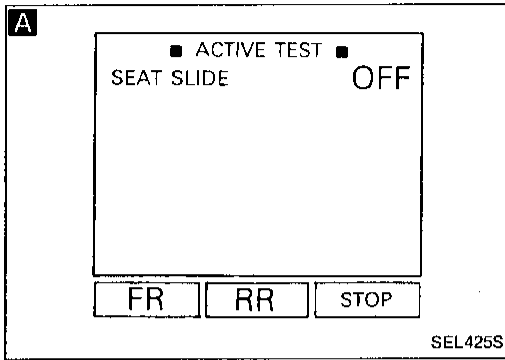
IDX

AUTOMATIC DRIVE POSITIONER — LAN

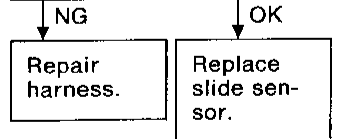
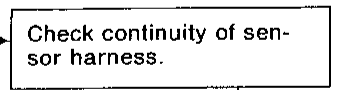
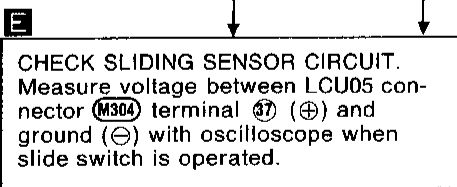
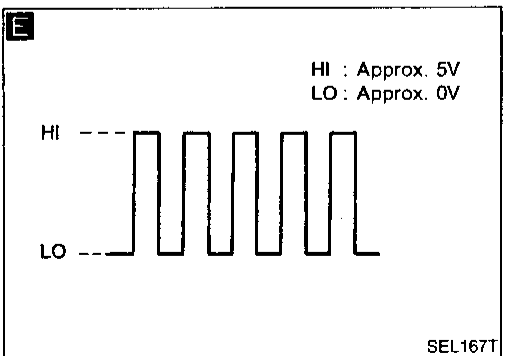
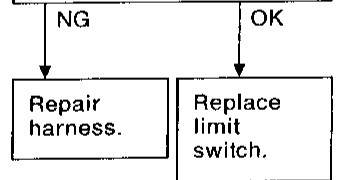
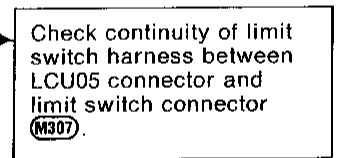
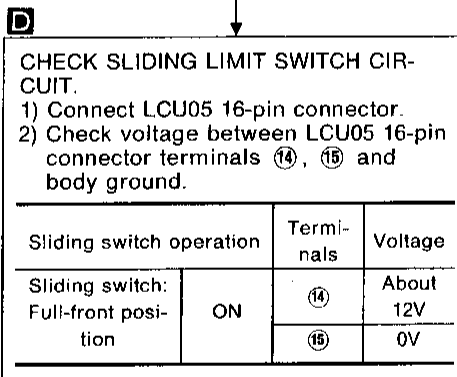
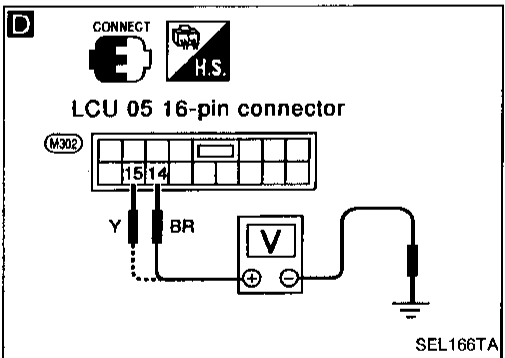
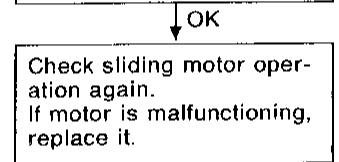
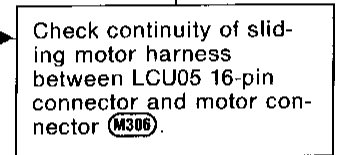
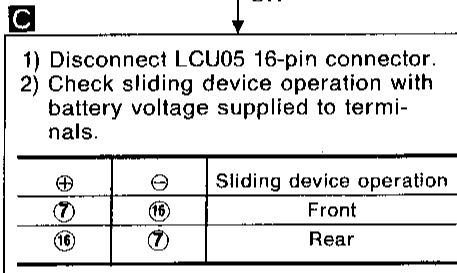
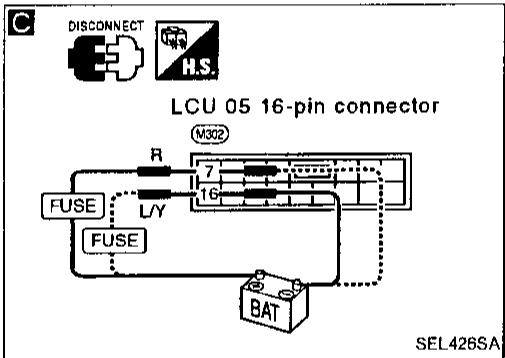
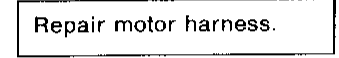
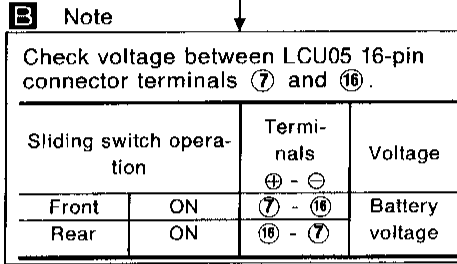
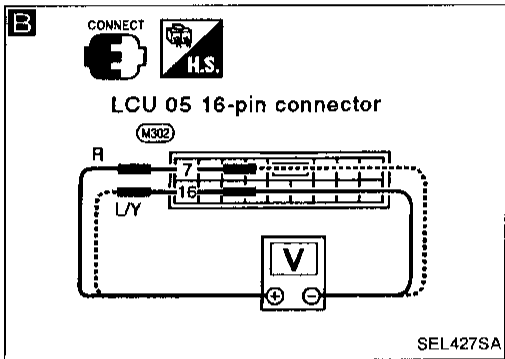
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6-1

SYMPTOM: Seat slide does not operate manually.



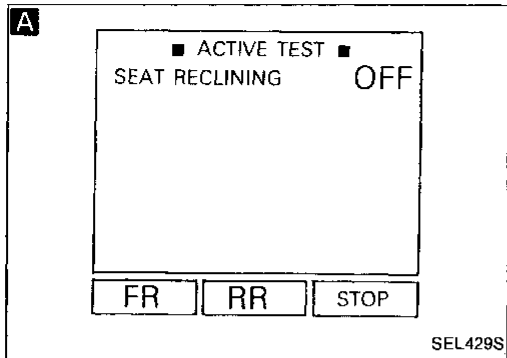
Note:
If CONSULT is not available, start with the diagnostic procedure **B**.



Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6-2

SYMPTOM: Seats do not recline manually.



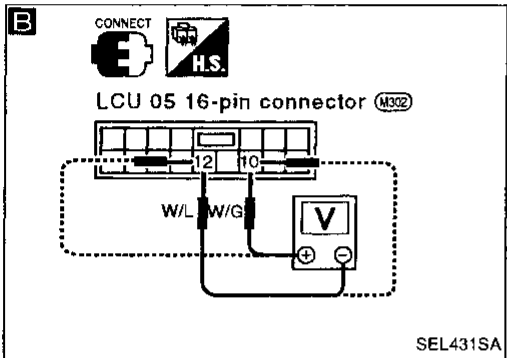
A CHECK RECLINING MOTOR CIRCUIT. CONSULT

See "SEAT RECLINING" in ACTIVE TEST mode. Perform operation shown on display. Reclining motor should operate.

OK → Go to **A** below.

NG → **B**

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



B Note

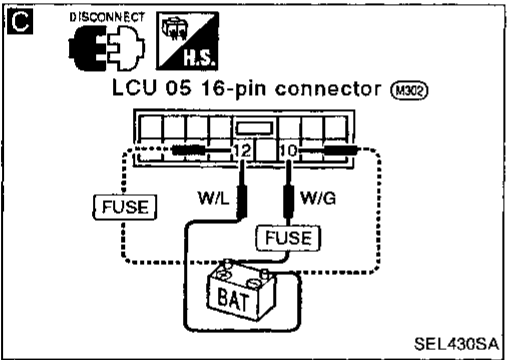
Check voltage between LCU05 16-pin connector terminals ⑩ and ⑫.

Reclining switch operation	Terminals	Voltage
Forward	⑩ - ⑫	Battery voltage
Backward	⑫ - ⑩	Battery voltage

OK → **C**

NG → Replace LCU05 (Driver's power seat C/U).

Repair motor harness.



C

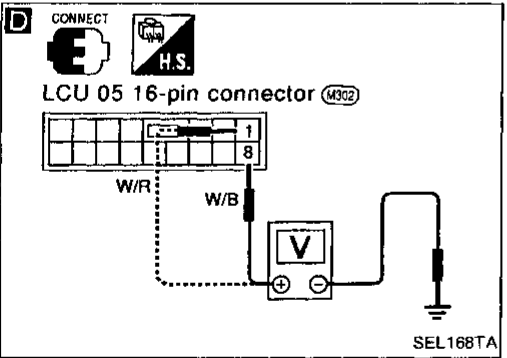
- 1) Disconnect LCU05 16-pin connector.
- 2) Check reclining device operation with battery voltage supplied to terminals.

⊕	⊖	Reclining device operation
⑩	⑫	Forward
⑫	⑩	Backward

OK → **D**

NG → Check continuity of reclining motor harness between LCU05 16-pin connector and motor connector (M308).

Check reclining motor operation again. If motor is malfunctioning, replace it.



D CHECK RECLINING LIMIT SWITCH CIRCUIT.

- 1) Connect LCU05 16-pin connector.
- 2) Check voltage between LCU05 16-pin connector terminals ⑧, ① and body ground.

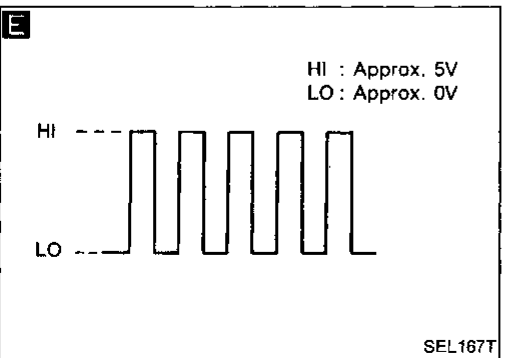
Reclining switch operation	Terminals	Voltage
Reclining switch: Max. forward tilt position	⑧	About 12V
	①	0V

OK → **E**

NG → Check continuity of limit switch harness between LCU05 connector and limit switch connector (M308).

Repair harness.

Replace limit switch.



E CHECK RECLINING SENSOR CIRCUIT. Measure voltage between LCU05 connector (M304) terminal ③⑧ (⊕) and ground (⊖) with oscilloscope when reclining switch is operated.

OK → End (Check operation again.)

NG → Check continuity of sensor harness.

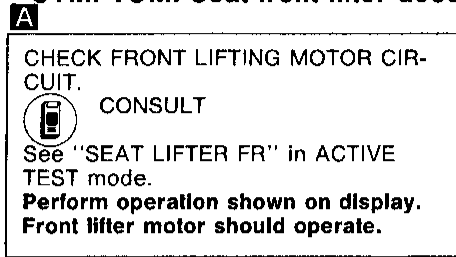
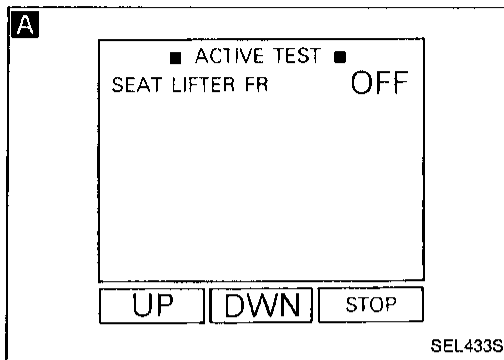
Repair harness.

Replace reclining sensor.

Trouble Diagnoses (Cont'd)

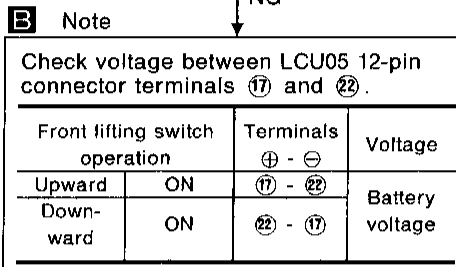
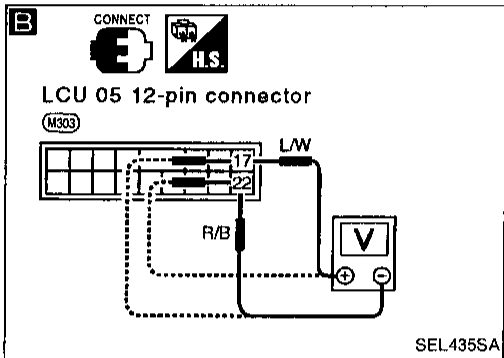
DIAGNOSTIC PROCEDURE 6-3

SYMPTOM: Seat front lifter does not operate manually.



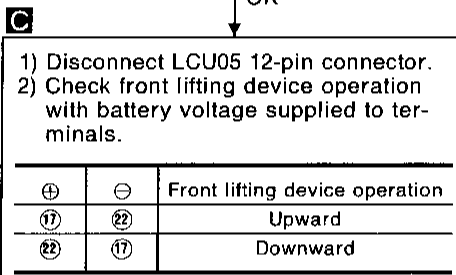
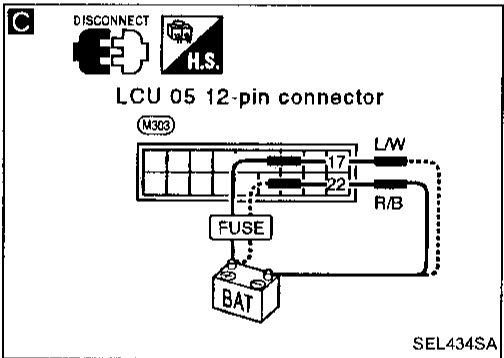
OK → Go to **A** below.

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



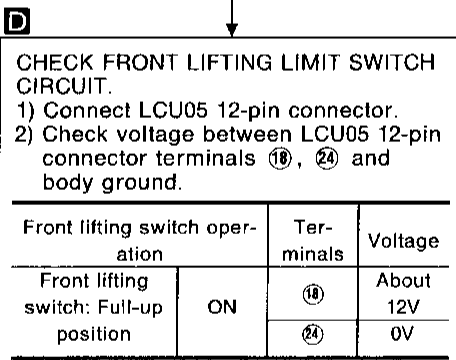
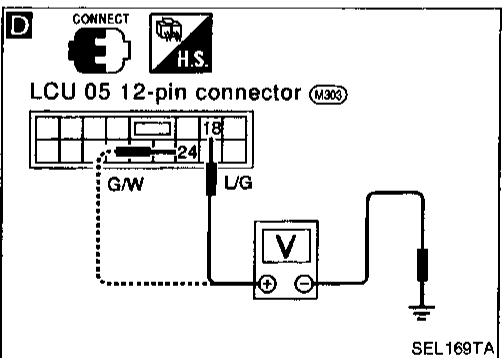
NG → Replace LCU05 (Driver's power seat C/U).

Repair motor harness.



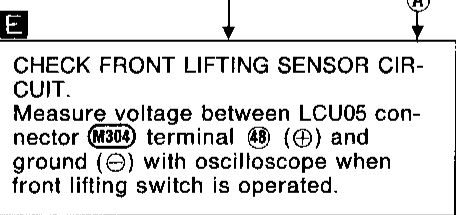
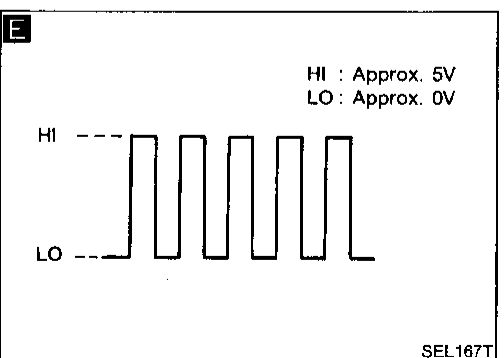
NG → Check continuity of front lifting motor harness between LCU05 12-pin connector and motor connector (M309).

Check front lifting motor operation again. If motor is malfunctioning, replace it.



NG → Check continuity of limit switch harness between LCU05 connector and limit switch connector (M309).

NG → Repair harness.
OK → Replace limit switch.



OK → Check continuity of sensor harness.

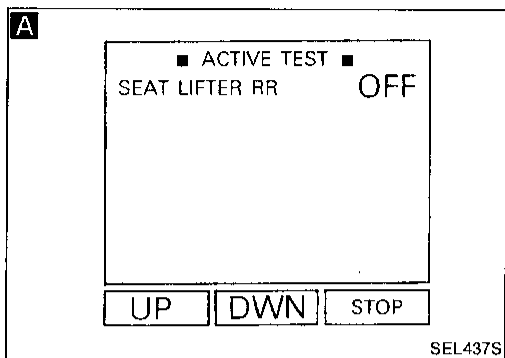
NG → Repair harness.
OK → Replace front lifting sensor.

OK → End (Check operation again.)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6-4

SYMPTOM: Seat rear lifter does not operate manually.

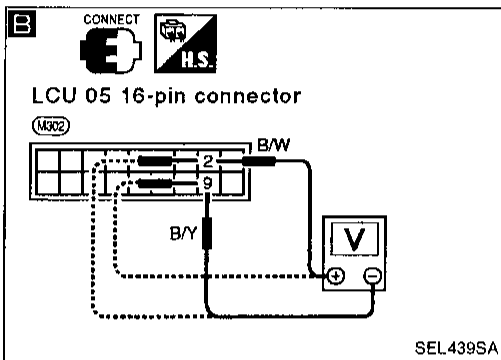


A CHECK REAR LIFTING MOTOR CIRCUIT. OK → Go to **A** below.

CONSULT

See "SEAT LIFTER RR" in ACTIVE TEST mode. **Perform operation shown on display. Seat rear lifter should operate.**

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



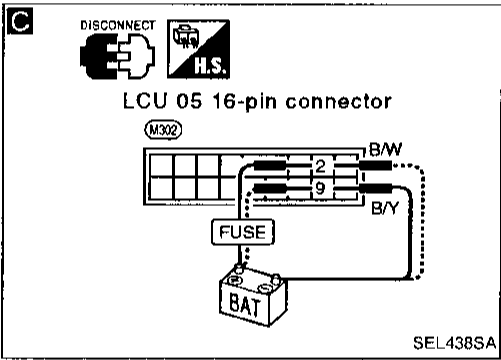
B Note

Check voltage between LCU05 16-pin connector terminals ② and ⑨.

Rear lifting switch operation	Terminals	Voltage
Upward	② - ⑨	Battery voltage
Downward	⑨ - ②	Battery voltage

Replace LCU05 (Driver's power seat C/U).

Repair motor harness.



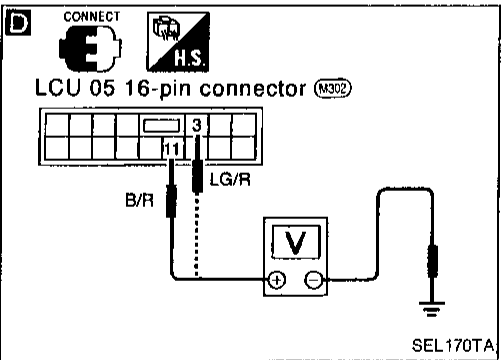
C

- Disconnect LCU05 16-pin connector.
- Check rear lifting device operation with battery voltage supplied to terminals.

⊕	⊖	Rear lifting device operation
②	⑨	Upward
⑨	②	Downward

Check continuity of rear lifting motor harness between LCU05 16-pin connector and motor connector (M310).

Check rear lifting motor operation again. If motor is malfunctioning, replace it.



D CHECK REAR LIFTING LIMIT SWITCH.

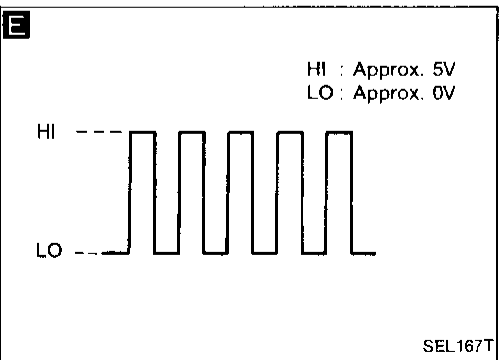
- Connect LCU05 16-pin connector.
- Check voltage between LCU05 16-pin connector terminals ⑪, ③ and body ground.

Rear lifting switch operation	Terminals	Voltage
Rear lifting switch: Full-up position	⑪	About 12V
	③	0V

Check continuity of limit switch harness between LCU05 connector and limit switch connector (M310).

Repair harness.

Replace limit switch.



E CHECK REAR LIFTING SENSOR CIRCUIT. Measure voltage between LCU05 connector (M304) terminal ⑫ (⊕) and ground (⊖) with oscilloscope when front lifting switch is operated.

Check continuity of sensor harness.

Repair harness.

Replace rear lifting sensor.

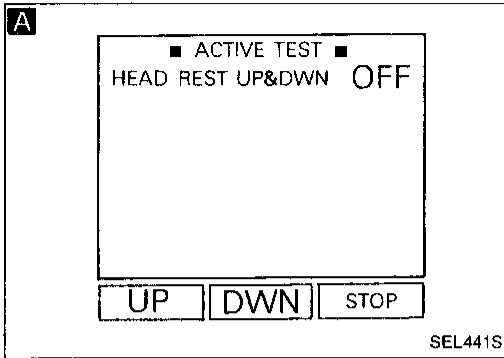
End (Check operation again.)

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Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6-5

SYMPTOM: Headrest does not operate manually.

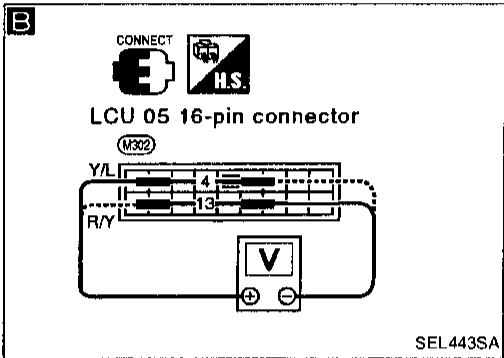


A CHECK HEADREST MOTOR CIRCUIT. CONSULT

See "HEAD REST UP & DWN" in ACTIVE TEST mode. Perform operation shown on display. Headrest should move up and down.

OK → Go to **A** below.

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



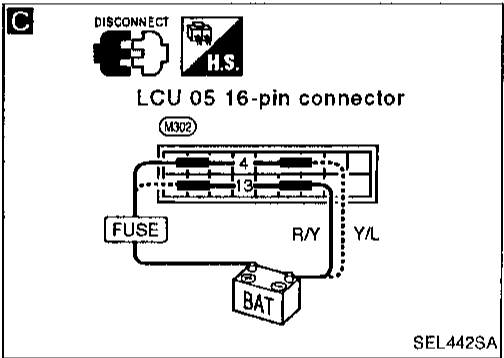
B Note

Check voltage between LCU05 16-pin connector terminals (4) and (13).

Headrest switch operation	Terminals	Voltage
Up	(4) - (13)	Battery voltage
Down	(13) - (4)	Battery voltage

NG → Replace LCU05 (Driver's power seat C/U).

Repair motor harness.



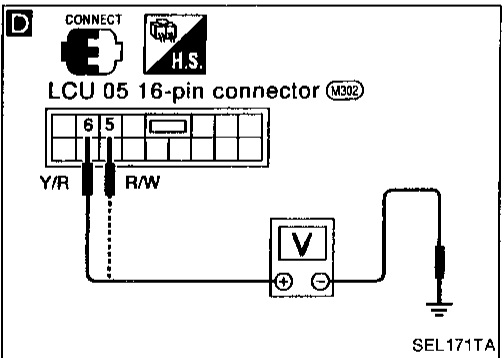
C

- 1) Disconnect LCU05 16-pin connector.
- 2) Check headrest device operation with battery voltage supplied to terminals.

(+) Terminal	(-) Terminal	Headrest device operation
(4)	(13)	Up
(13)	(4)	Down

NG → Check continuity of headrest motor harness between LCU05 16-pin connector and motor connector (M311).

OK → Check headrest motor operation again. If motor is malfunctioning, replace it.



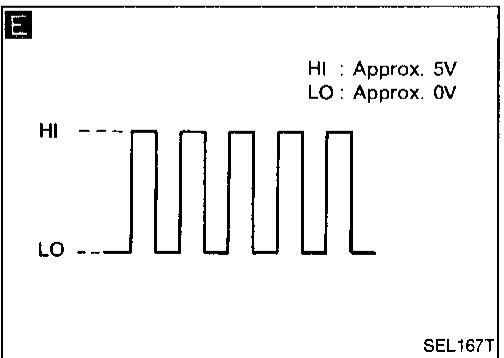
D CHECK HEADREST LIMIT SWITCH.

- 1) Connect LCU05 16-pin connector.
- 2) Check voltage between LCU05 16-pin connector terminals (6), (5) and body ground.

Headrest switch operation	Terminals	Voltage
Headrest: Full-up position	(6)	About 12V
	(5)	0V

NG → Check continuity of limit switch harness between LCU05 connector and limit switch connector (M310).

NG → Repair harness.
OK → Replace limit switch.



E CHECK HEADREST SENSOR CIRCUIT. Measure voltage between LCU05 connector (M304) terminal (44) (+) and ground (-) with oscilloscope when headrest switch is operated.

OK → End (Check operation again.)

NG → Check continuity of sensor harness.

NG → Repair harness.
OK → Replace headrest sensor.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

SYMPTOM: Door mirror does not set automatically.

A

☆ MONITOR		<input type="checkbox"/>
SET SW	OFF	
MEMORY SW 1	OFF	
MEMORY SW 2	OFF	
CANCEL SW	O N	
DOOR SW-DR	OFF	
VHCL SPEED SE UNDER7km/		
DETENT SW	O N	
IGN ON SW	O N	
IGN ACC SW	O N	

RECORD

SEL404S

B

SEL405S

C

SEL187T

D

■ ACTIVE TEST ■

MIRROR MOTOR RH OFF

or

(MIRROR MOTOR LH OFF)

UP DWN | R | L | STOP

SEL445S

E

☆ MONITOR		<input type="checkbox"/>
MIR/SE RH R-L	39.4 KHz	
MIR/SE RH U-D	40.6 KHz	
MIR/SE LH R-L	38.7 KHz	
MIR/SE LH U-D	40.7 KHz	

RECORD

SEL189T

A CHECK ACC SWITCH ON SIGNAL. CONSULT

See "IGN ACC SW" in DATA MONITOR mode. "IGN ACC SW" should be "ON".

OR

B TESTER

Check voltage between BCM connector terminal ③⑧ and ground while ignition switch is "ACC".

Terminals	Voltage
③⑧ - GND	Battery voltage

NG

CHECK THE FOLLOWING.

- Fuse
- Harness continuity between BCM connector terminal ③⑧ and fuse.

C

Check voltage between door mirror control unit terminal ① and ⑤ while ignition switch is "ACC" or "ON".

Terminals	Voltage
⊕ - ⊖	Battery voltage
① - ⑤	Battery voltage

NG

Repair harness of battery or ground.

D

CHECK DOOR MIRROR ACTUATOR.

See "MIRROR MOTOR LH" or "MIRROR MOTOR RH" in ACTIVE TEST mode. Perform operation shown on display. Door mirror actuator should operate.

NG

Check door mirror actuator circuit. (Refer to DOOR MIRROR — LAN EL-317.)

E

CHECK DOOR MIRROR SENSOR.

See "MIR/SE RH or LH" frequency changed in DATA MONITOR mode when door mirror control switch is operated.

NG

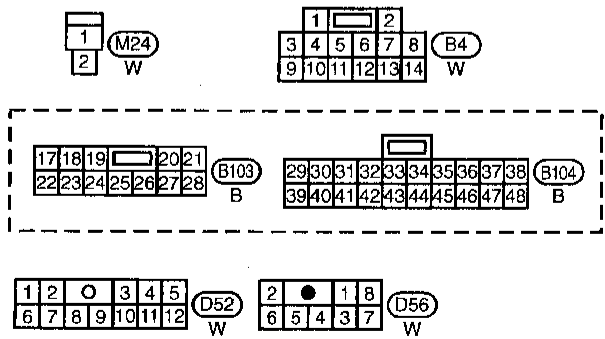
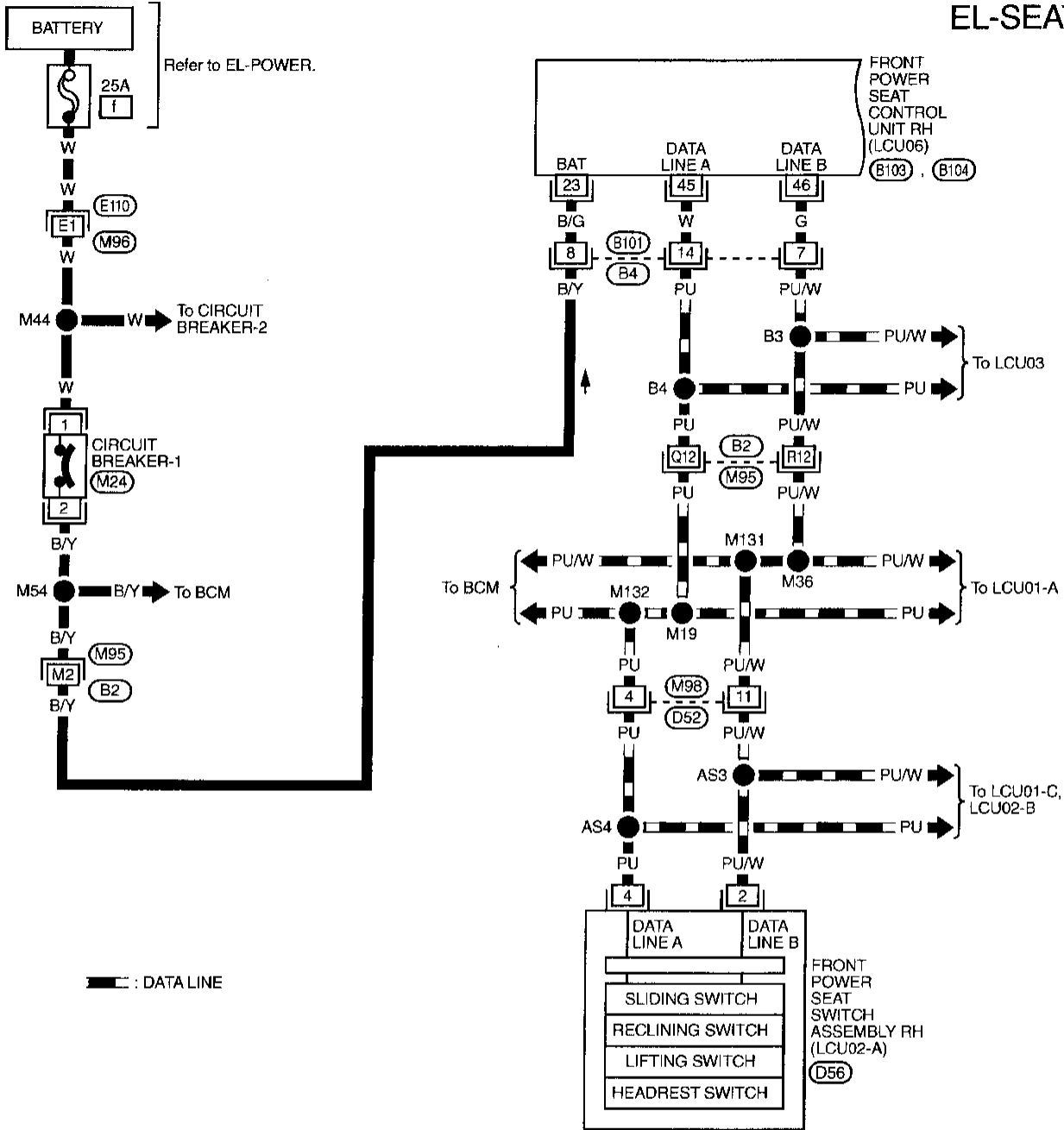
Replace door mirror control unit and door mirror actuator.

Check door mirror operation with automatic drive positioner and LAN Communication again.

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Wiring Diagram — SEAT —

EL-SEAT-01

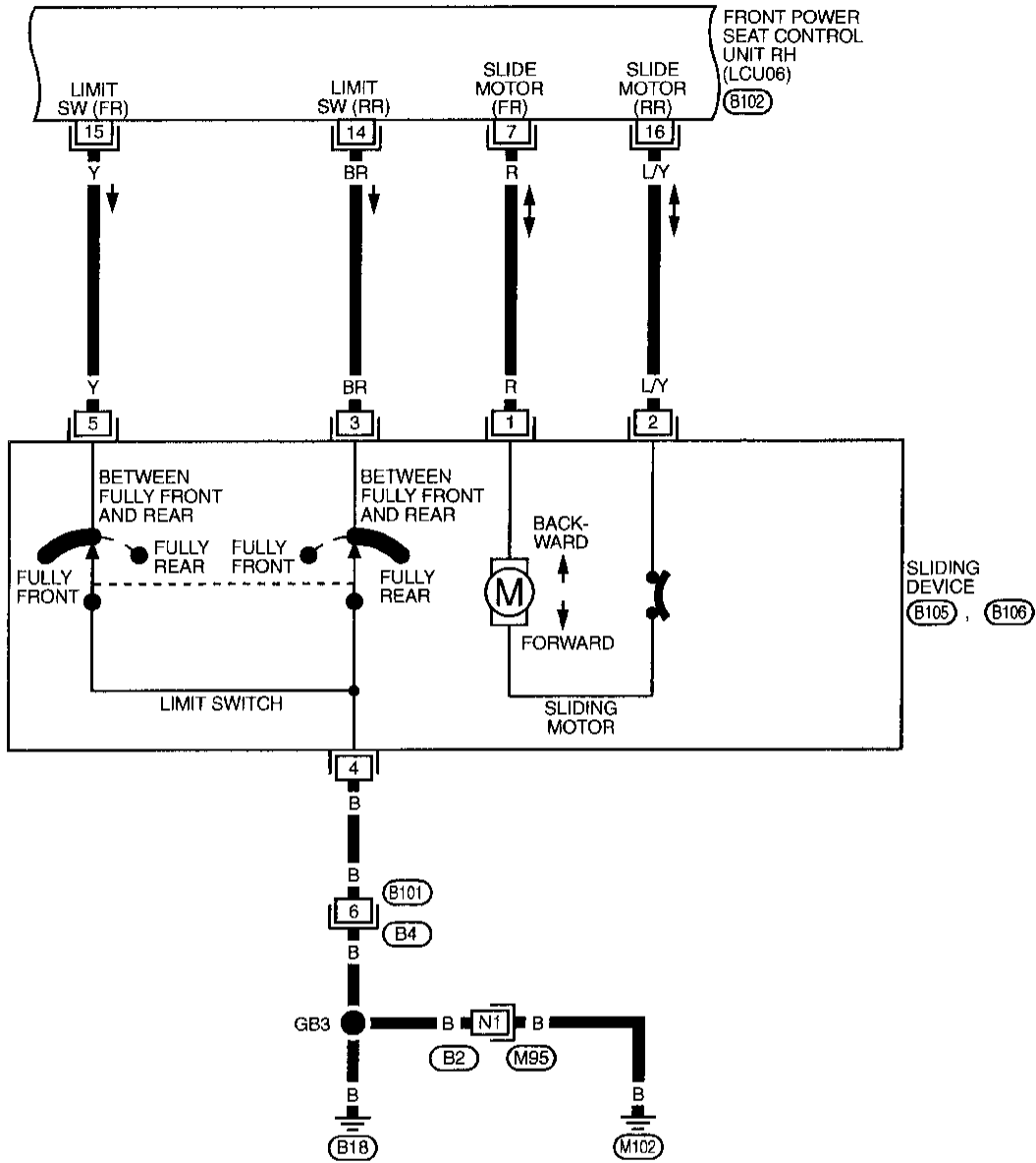


Refer to last page (Foldout page).
 (E110), (M96)
 (M95), (B2)

POWER SEAT (FRONT RH) — LAN

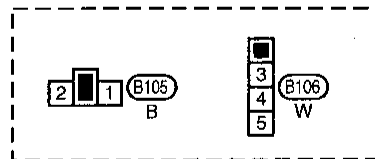
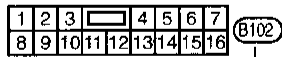
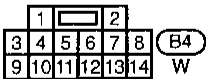
Wiring Diagram — SEAT — (Cont'd)

EL-SEAT-02



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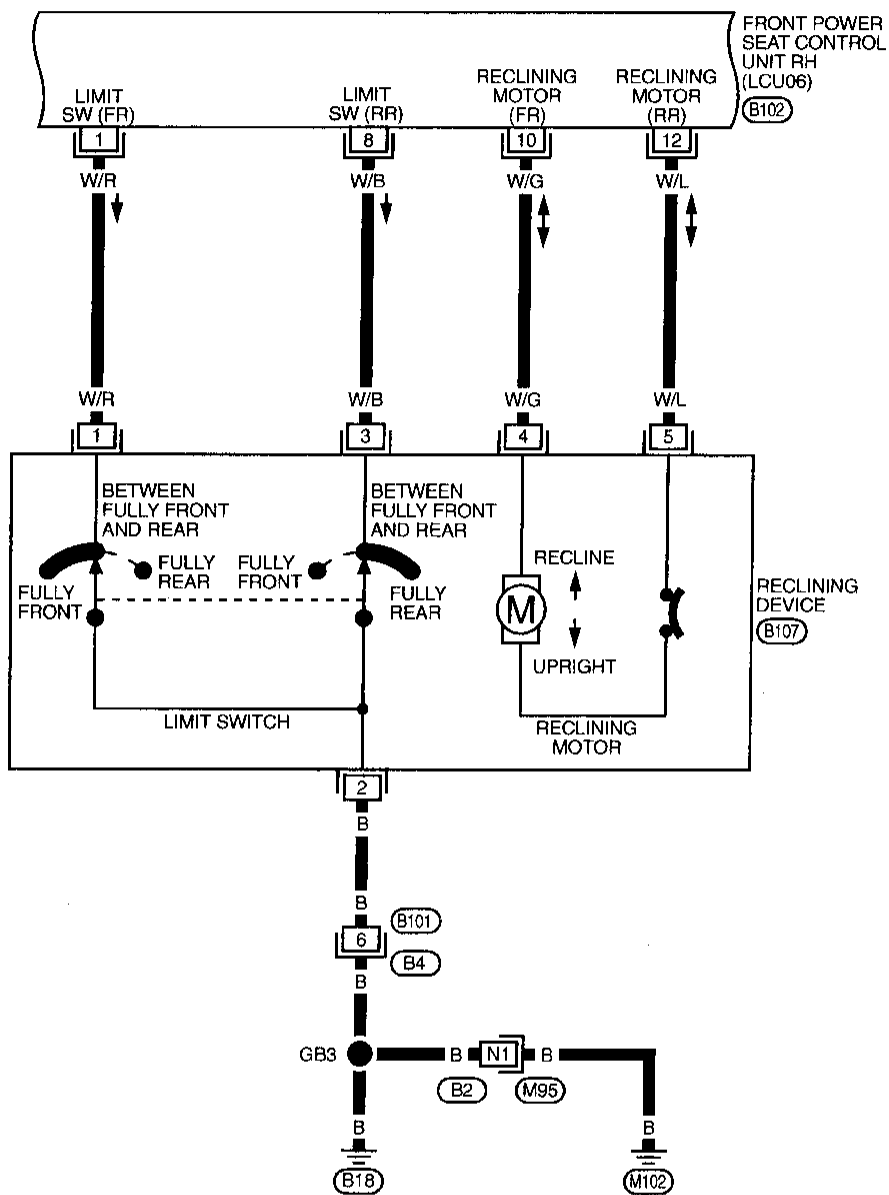


Refer to last page (Foldout page).
M95, B2

POWER SEAT (FRONT RH) — LAN

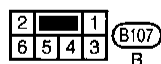
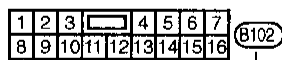
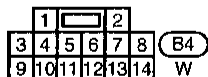
Wiring Diagram — SEAT — (Cont'd)

EL-SEAT-03



Refer to last page (Foldout page).

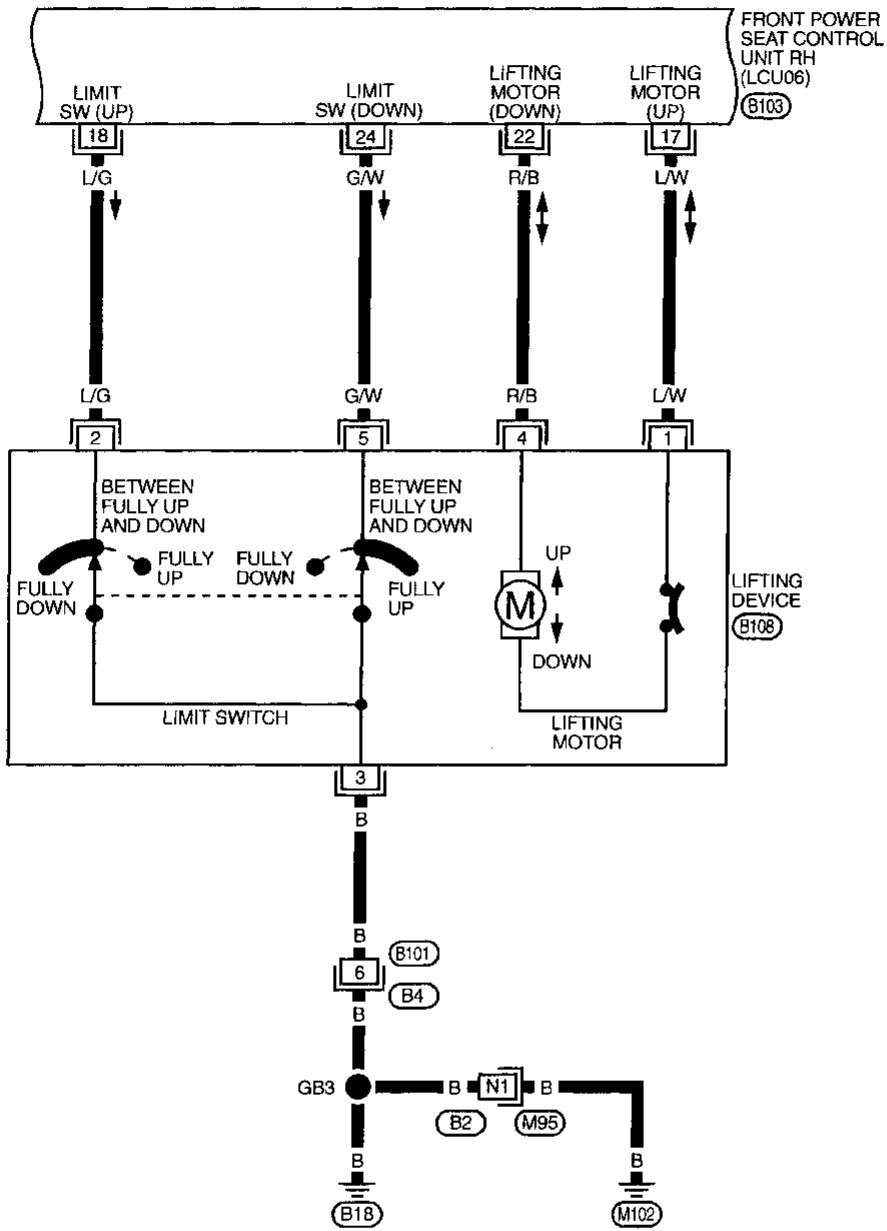
M95, B2



POWER SEAT (FRONT RH) — LAN

Wiring Diagram — SEAT — (Cont'd)

EL-SEAT-04

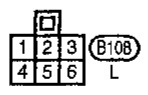
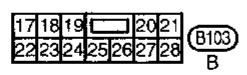
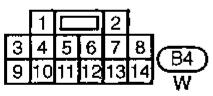


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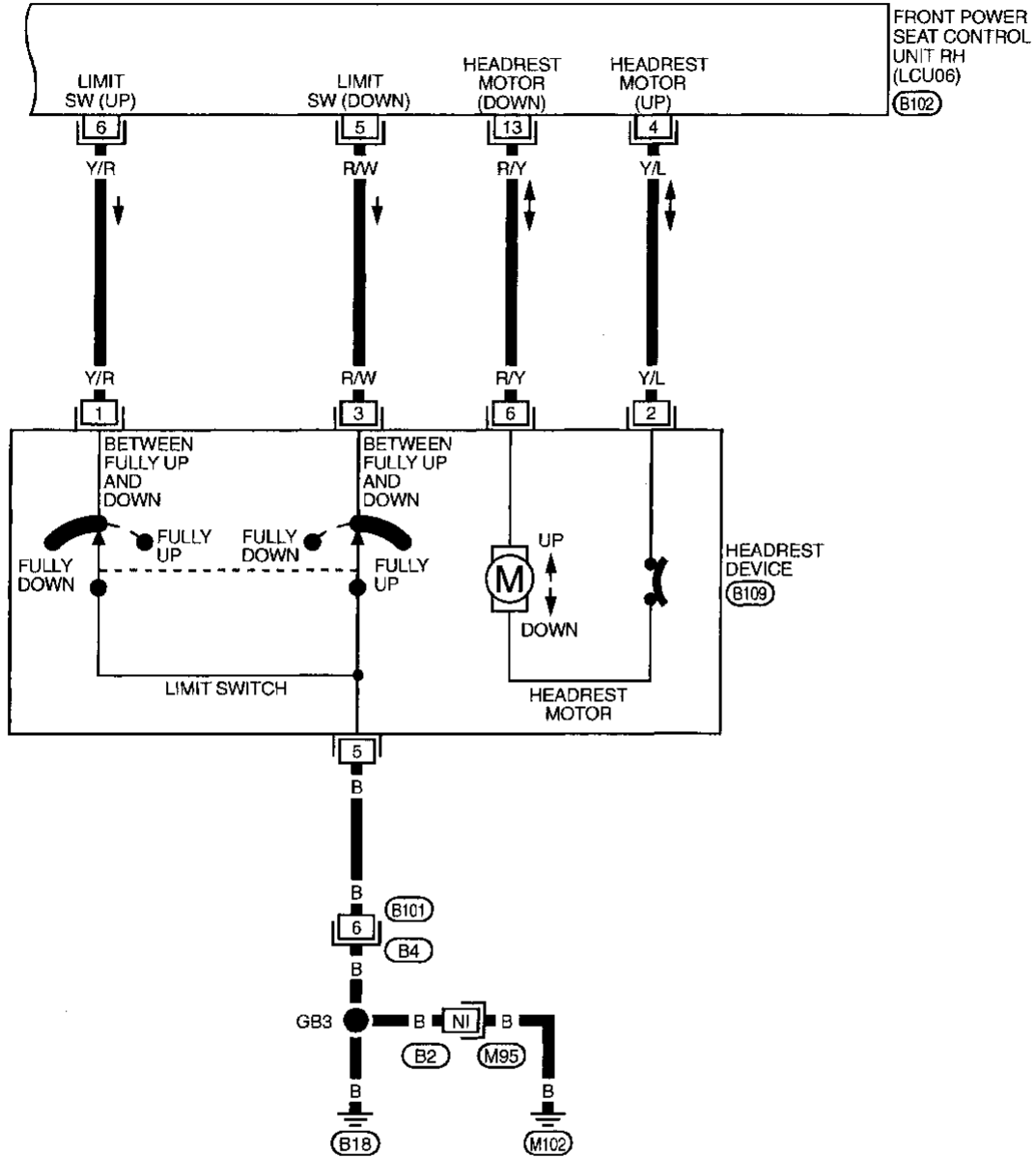
Refer to last page (Foldout page).
(M95) (B2)



POWER SEAT (FRONT RH) — LAN

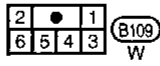
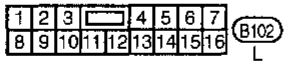
Wiring Diagram — SEAT — (Cont'd)

EL-SEAT-05



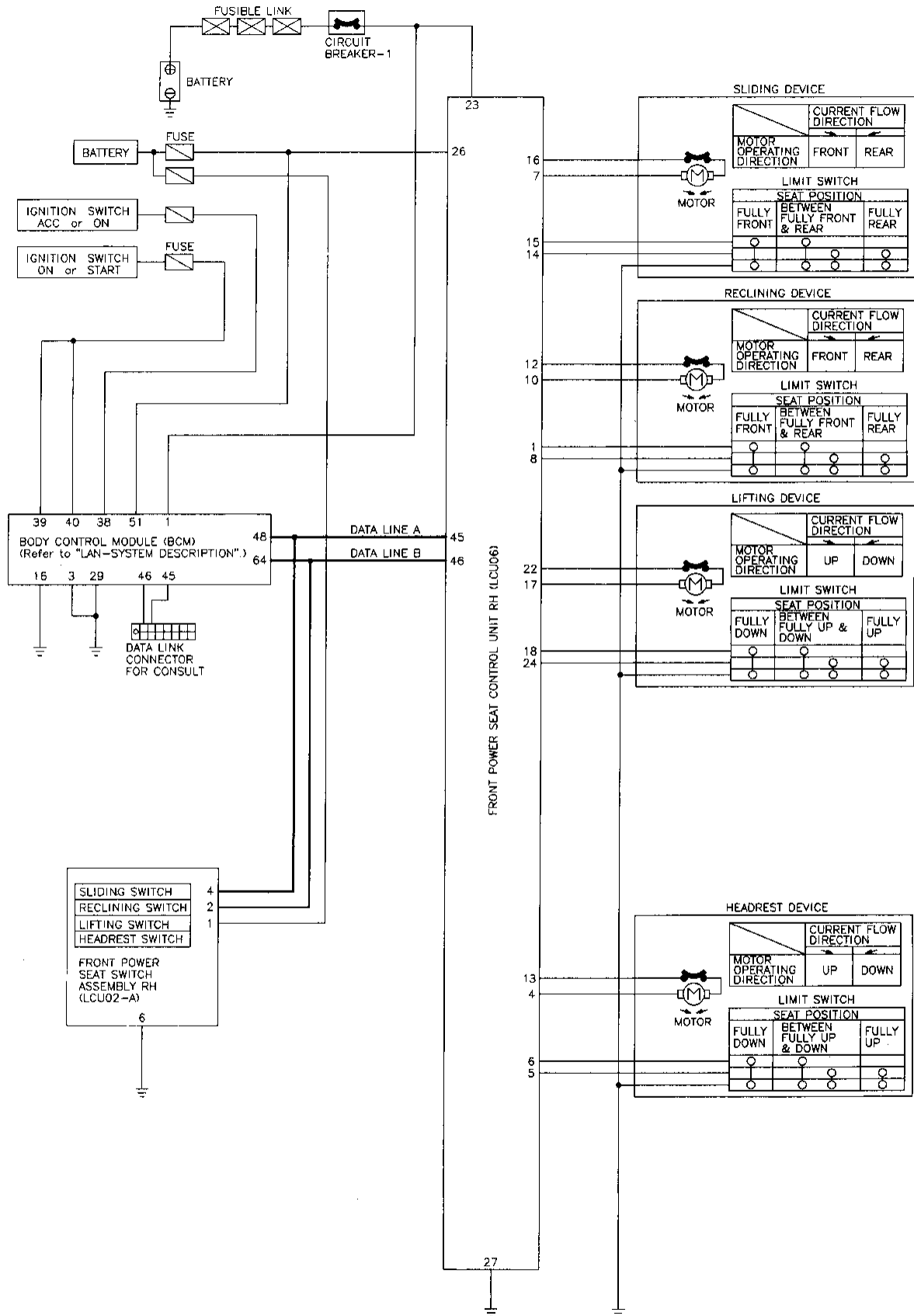
Refer to last page (Foldout page).

(M95) (B2)



POWER SEAT (FRONT RH) — LAN

Schematic



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System Description

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 ③

When multi-remote control unit (LCU07) receives a LOCK signal, ground is supplied

- to multi-remote control relay terminal ②.

Multi-remote control relays are 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 — LAN" (EL-251).

Trunk lid opener operation

Ground is supplied

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

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

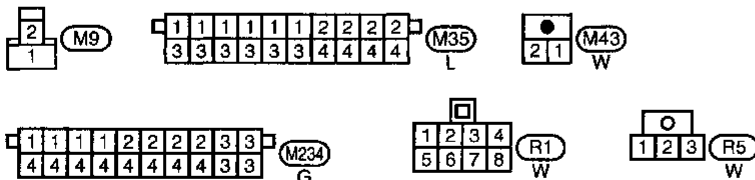
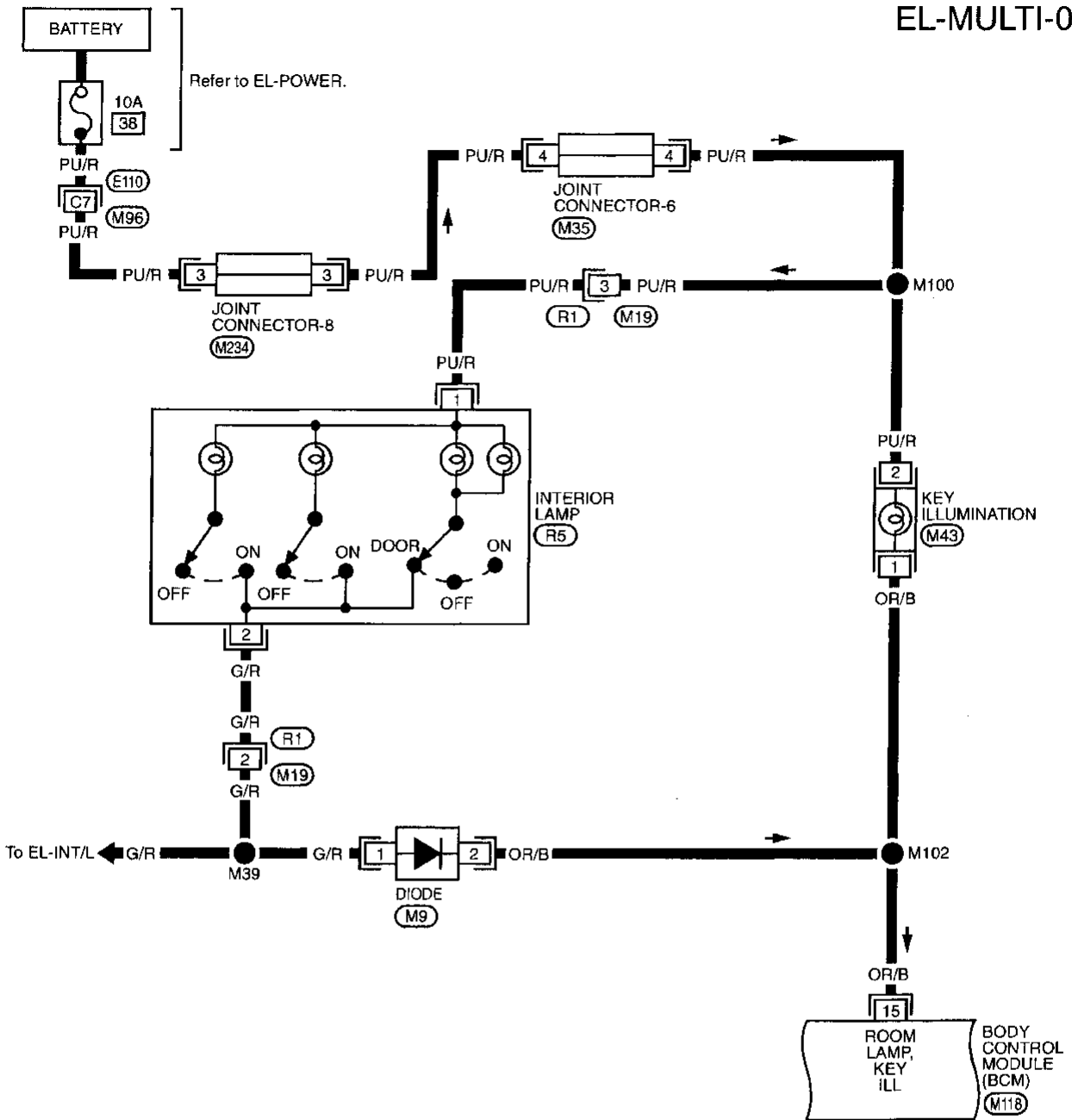
Panic alarm operation

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

MULTI-REMOTE CONTROL SYSTEM — LAN

Wiring Diagram — MULTI — (Cont'd)

EL-MULTI-02



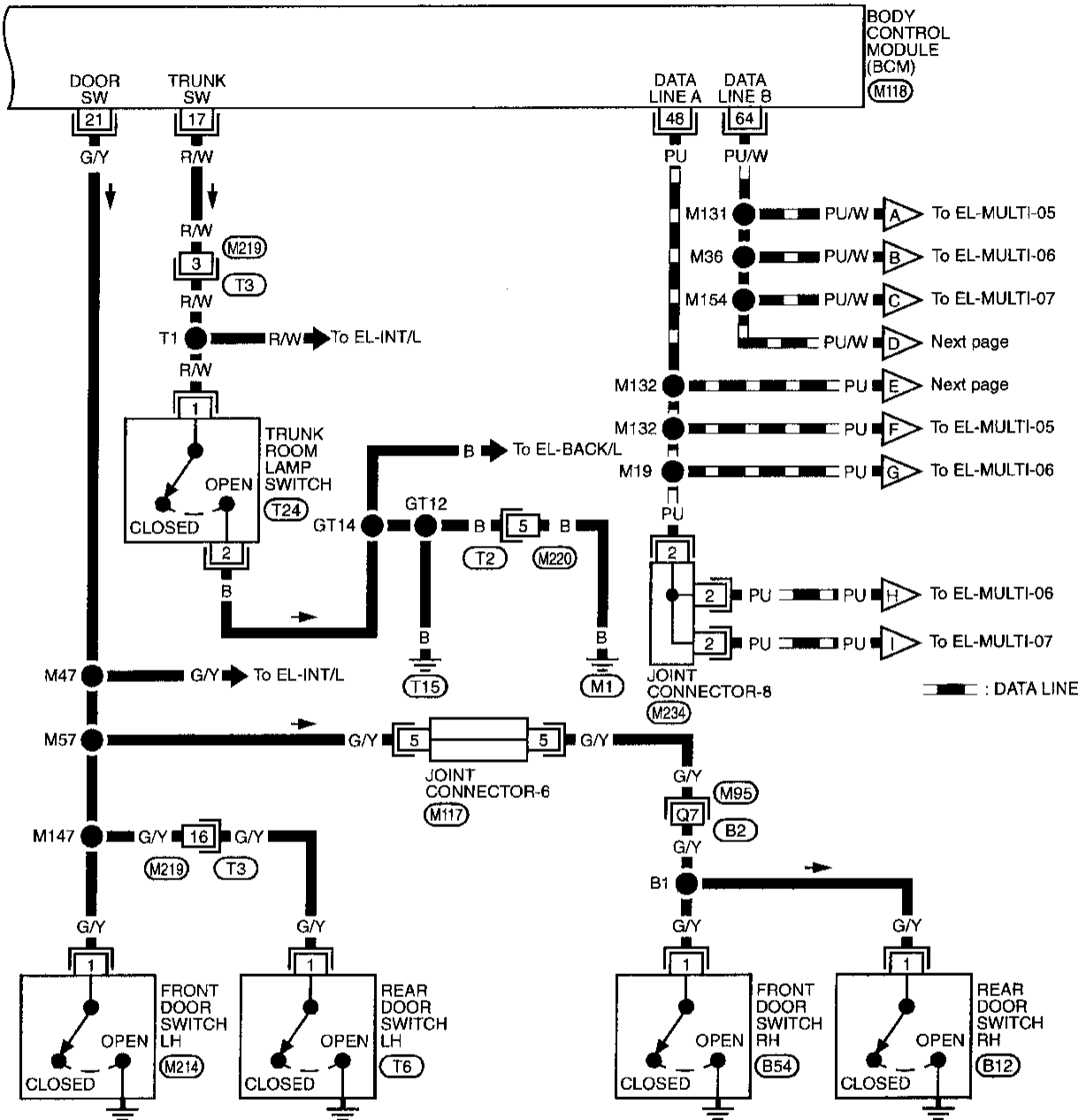
Refer to last page (Foldout page).

E110, M96

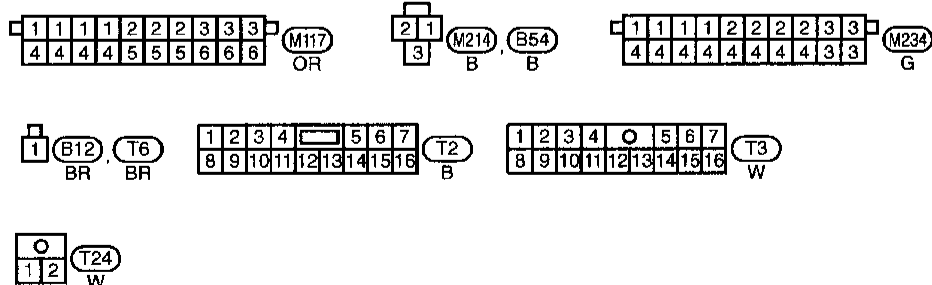
M118

Wiring Diagram — SEAT —

EL-MULTI-03



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Refer to last page (Foldout page).

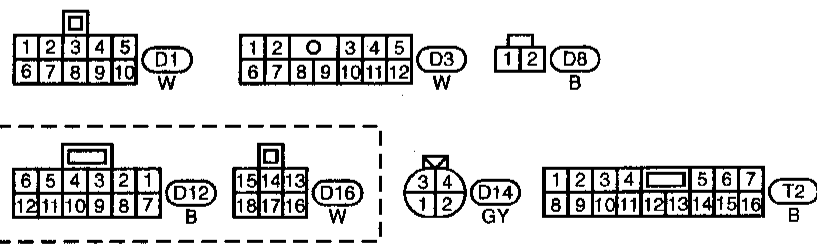
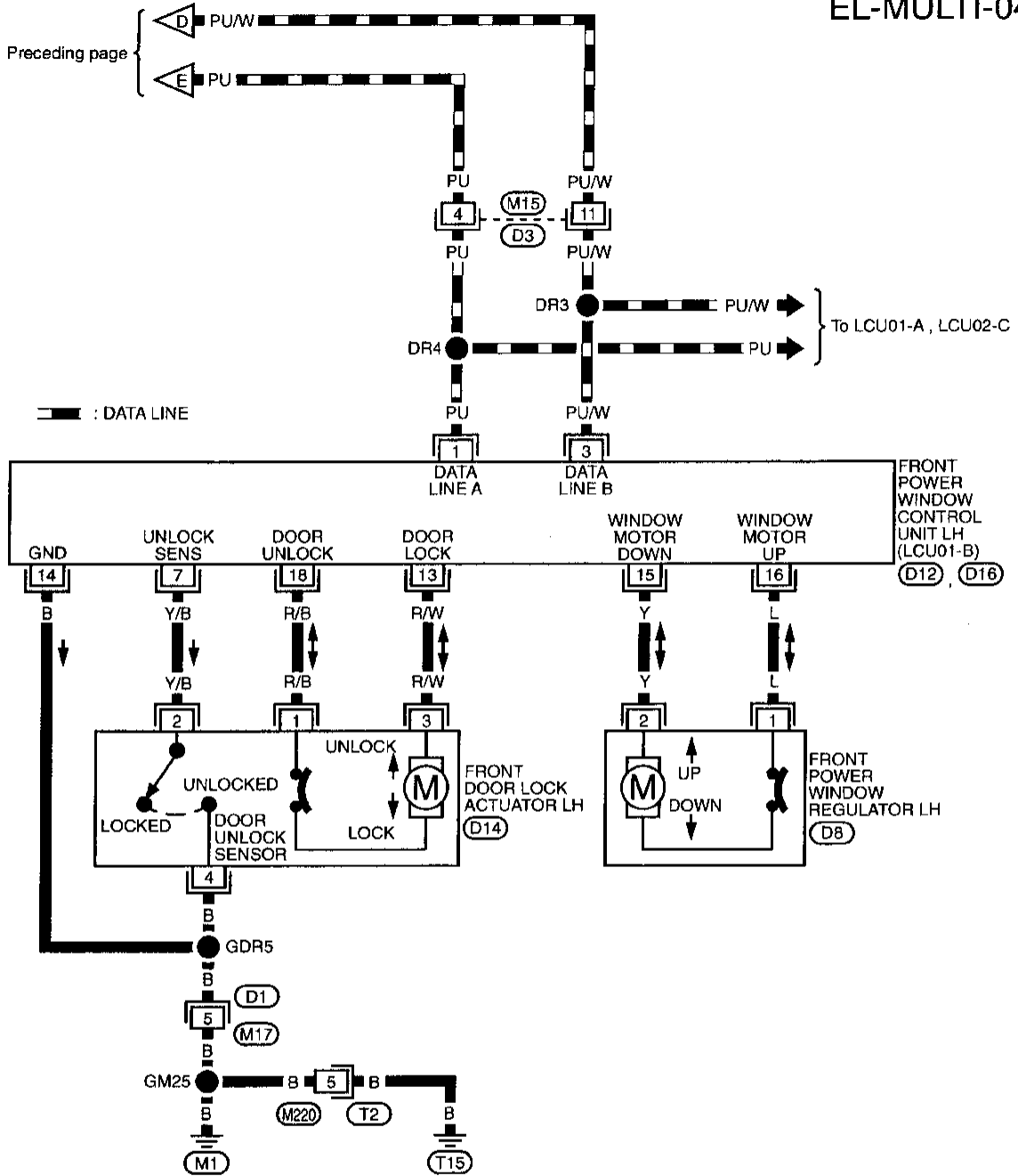
(M95), (B2)
(M11B)

EL
IDX

MULTI-REMOTE CONTROL SYSTEM — LAN

Wiring Diagram — SEAT — (Cont'd)

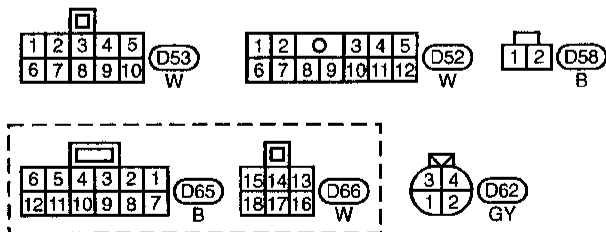
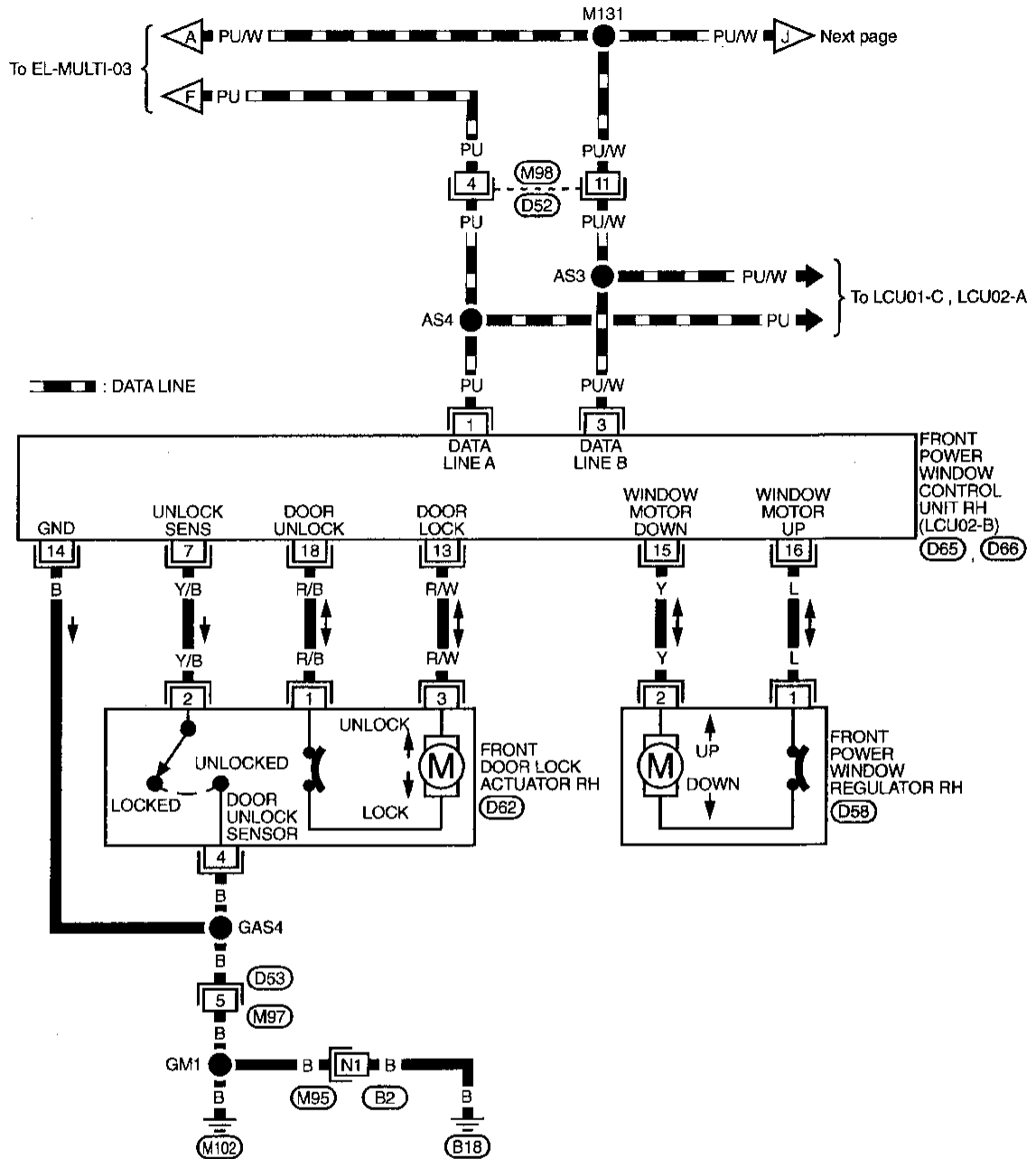
EL-MULTI-04



MULTI-REMOTE CONTROL SYSTEM — LAN

Wiring Diagram — SEAT — (Cont'd)

EL-MULTI-05



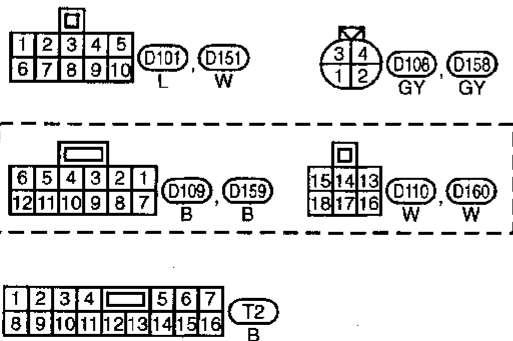
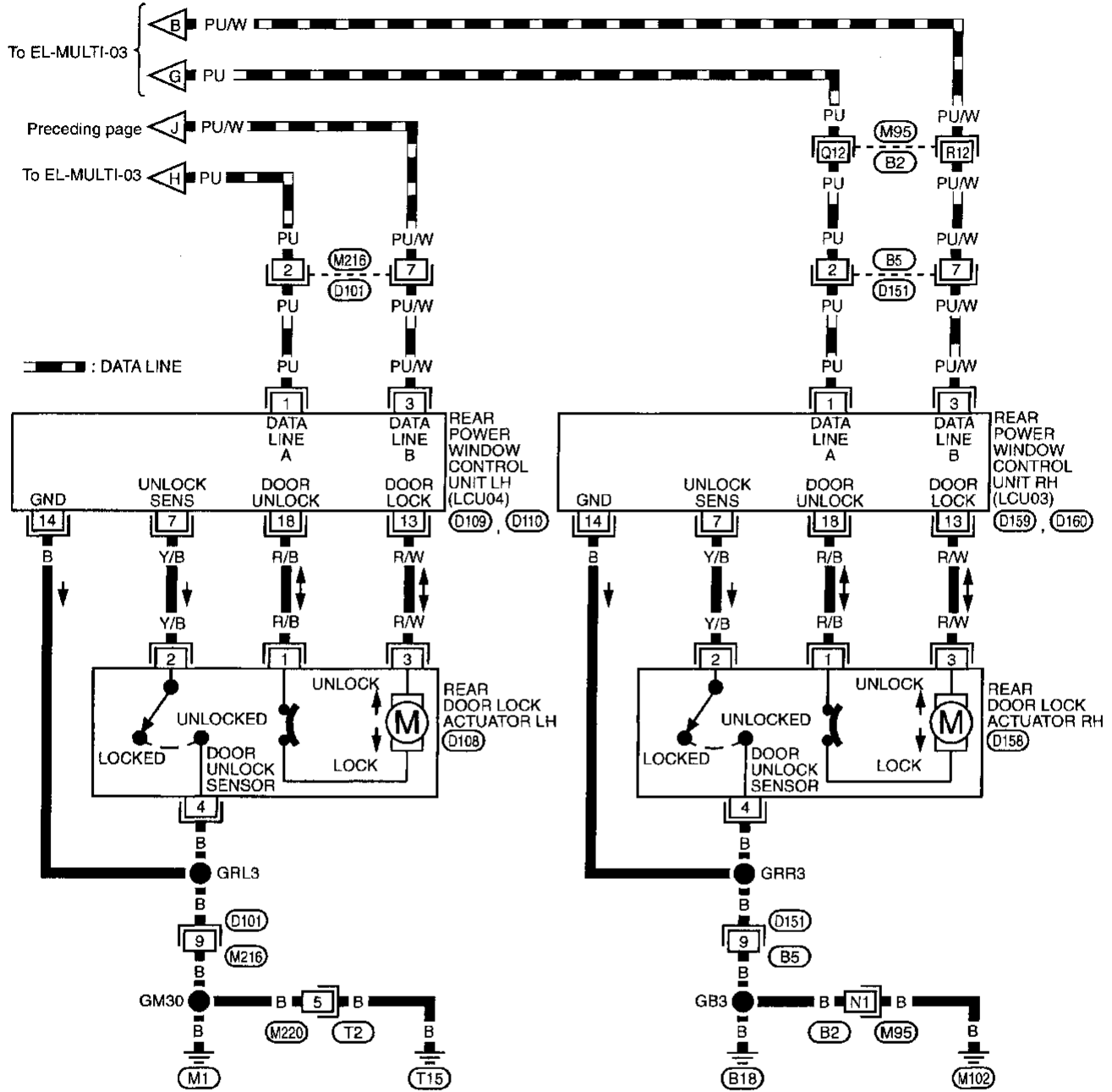
Refer to last page (Foldout page).
 (M95), (B2)

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MULTI-REMOTE CONTROL SYSTEM — LAN

Wiring Diagram — SEAT — (Cont'd)

EL-MULTI-06

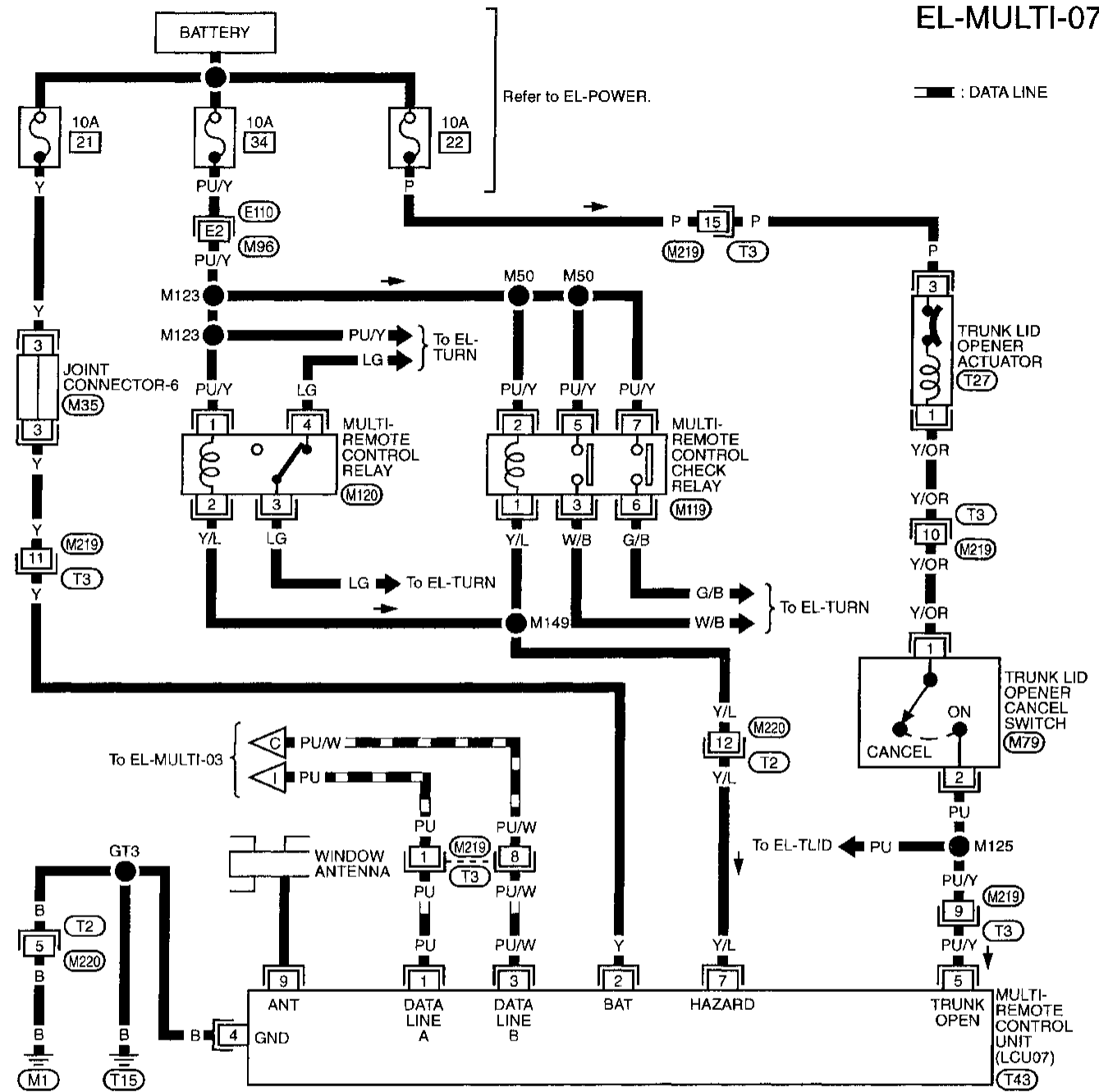


Refer to last page (Foldout page).
(M95), (B2)

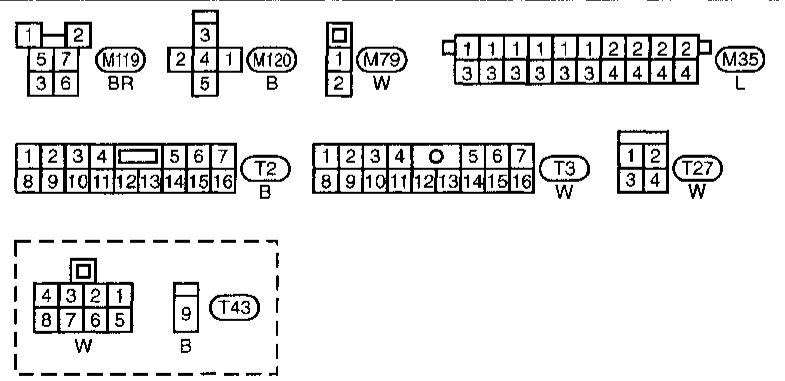
MULTI-REMOTE CONTROL SYSTEM — LAN

Wiring Diagram — SEAT — (Cont'd)

EL-MULTI-07



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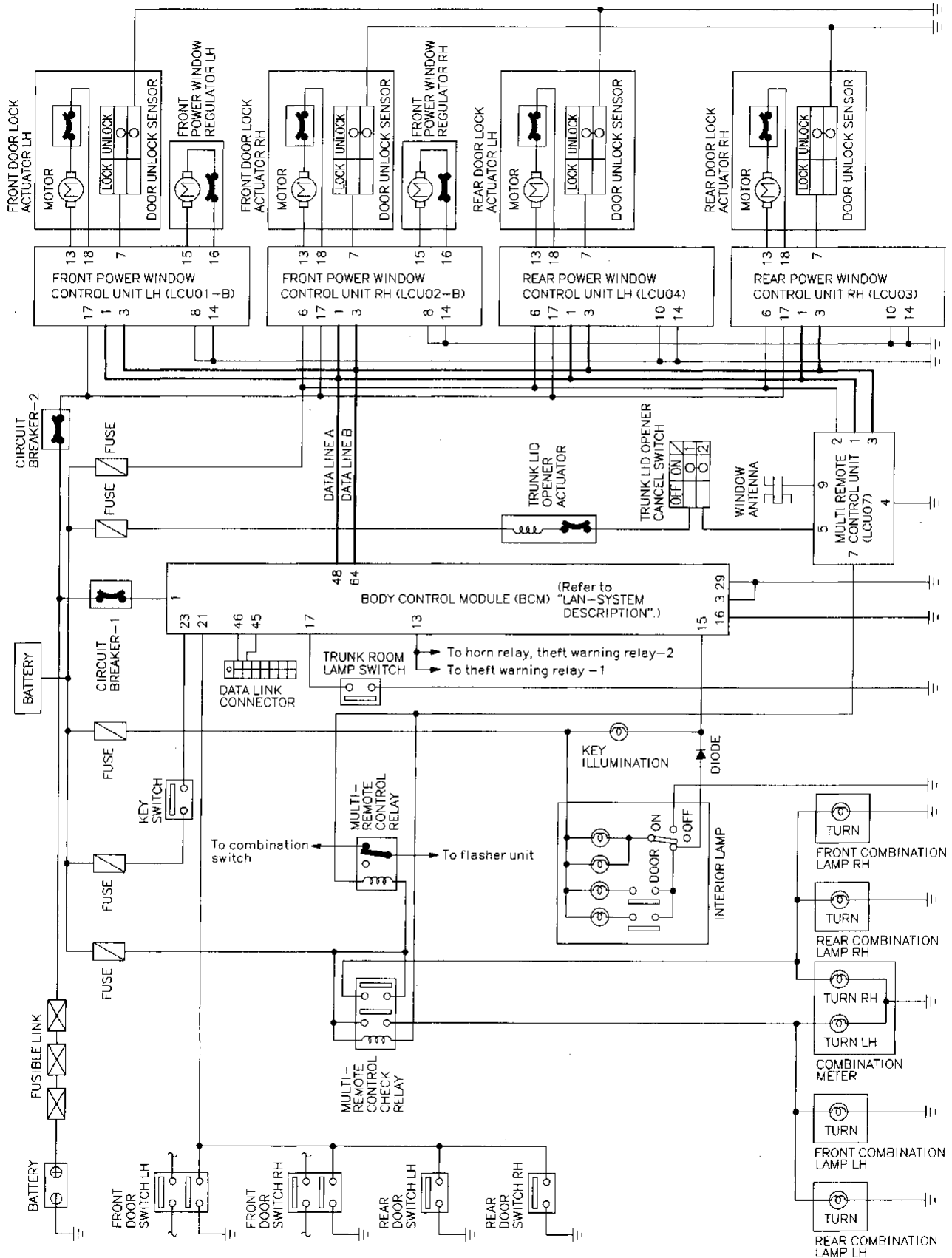


Refer to last page (Foldout page).
E110, M96

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MULTI-REMOTE CONTROL SYSTEM — LAN

Schematic



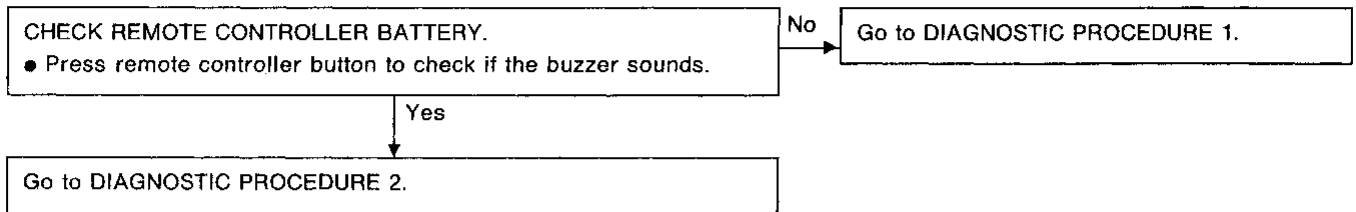
MEL011F

Trouble Diagnoses

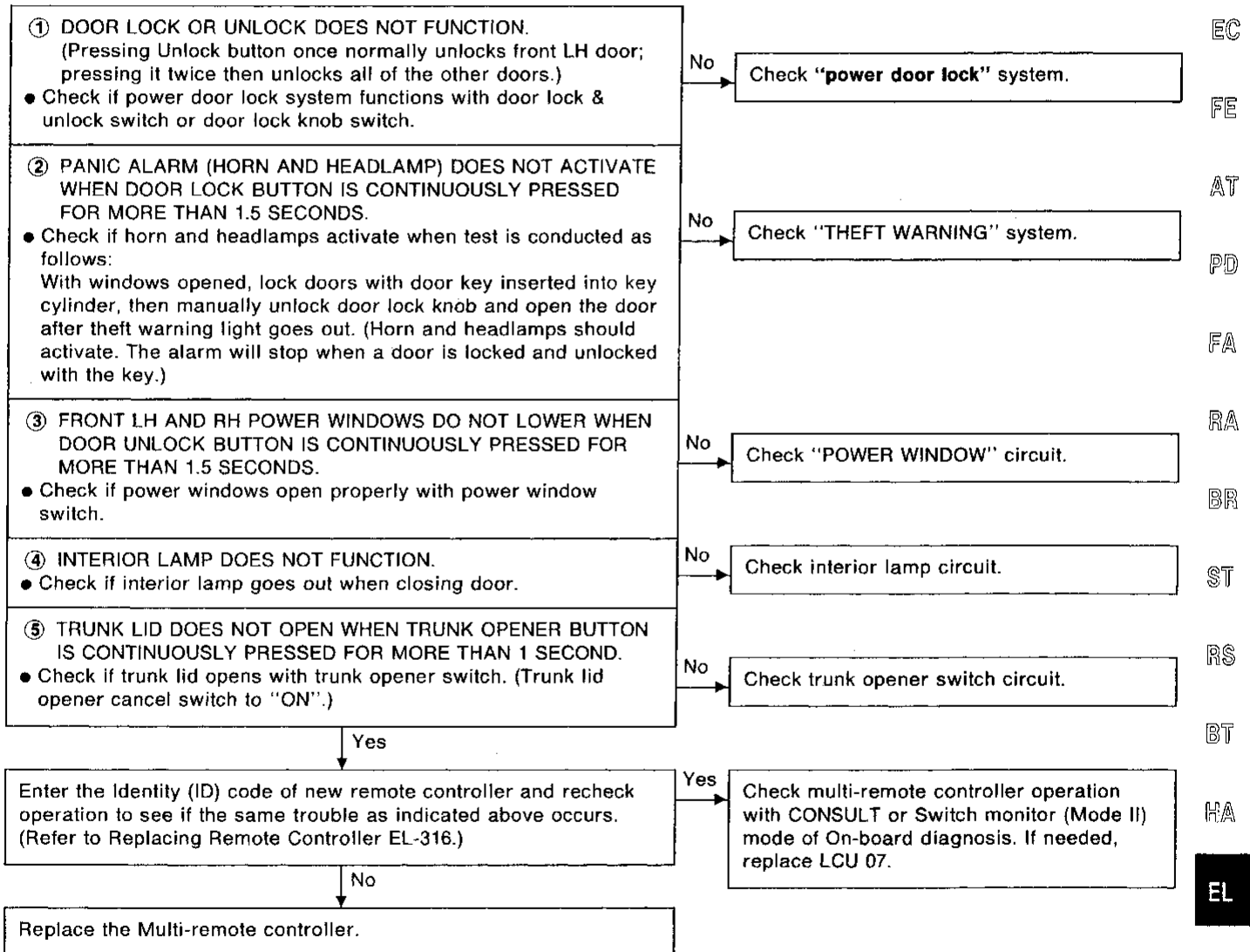
TROUBLE SYMPTOM

Perform "LAN Communication Check" (refer to EL-231) before starting with the following items.

- No remote controls function.



- Multi-remote controller does not operate a part of the functions.

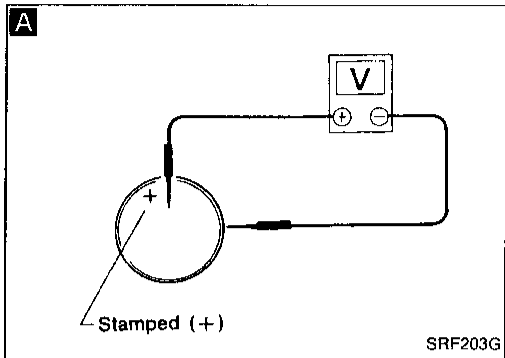


Note: The multi-remote control system does not activate with the ignition key inserted in the ignition key cylinder.

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Remote controller buzzer does not sound when the button is pressed.



A

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

Measuring terminal		Standard value
⊕	⊖	
Battery positive terminal ⊕	Battery negative terminal ⊖	3V or more

NG → Replace battery.

OK

1) Push door lock button of remote controller before installing battery.
2) Reset battery in remote controller to make sure the buzzer sounds twice.

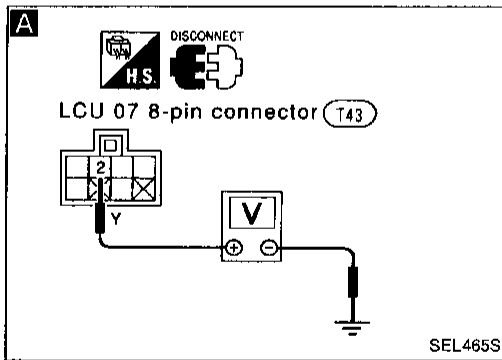
OK → Check system operation.

NG

Replace controller.

Note:

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



DIAGNOSTIC PROCEDURE 2

SYMPTOM: All remote controls do not function even if remote controller buzzer does sound.

A

CHECK MAIN POWER SUPPLY AND GROUND CIRCUIT TO MULTI-REMOTE CONTROL UNIT (LCU07).

- 1) Remove key from ignition.
- 2) Disconnect 8-pin connector from LCU07 and check voltage across remote control unit terminal ② and ground.

Battery voltage should exist.

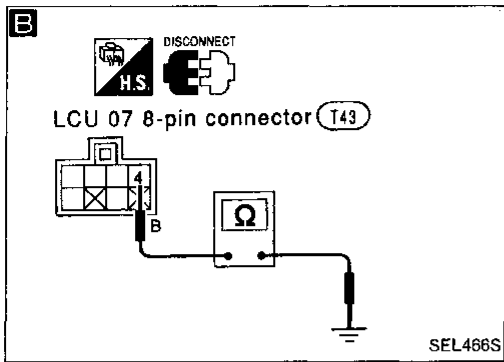
NG → Check and repair power supply harness.

OK

Ⓐ

MULTI-REMOTE CONTROL SYSTEM — LAN

Trouble Diagnoses (Cont'd)



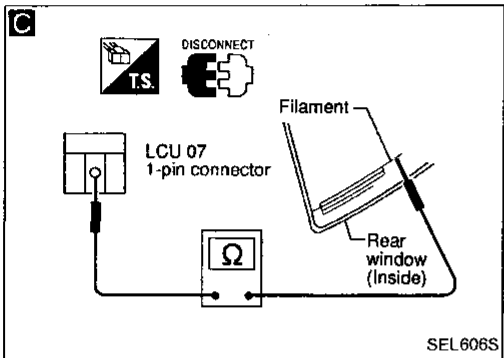
A

B

Check continuity between terminal ④ and ground.
Continuity should exist.

NG → Check and repair ground harness.

OK

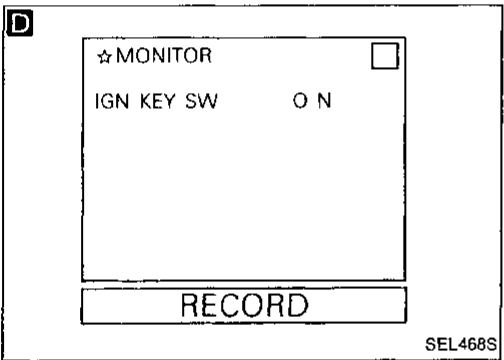


C

CHECK ANTENNA CIRCUIT.
Disconnect 1-pin connector from LCU07. 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".)

OK



CHECK IGNITION KEY SWITCH CIRCUIT.

NG → Check and repair ignition key switch circuit.

OK

D **CONSULT**

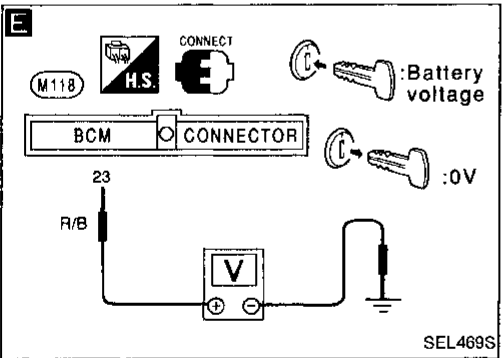
See "IGN KEY SW" in DATA MONITOR mode.
"IGN KEY SW" should be "ON" when IGN key is inserted in steering key cylinder.

OR

E **TESTER**

Check voltage when key is inserted in steering key cylinder.
Battery voltage should exist.

OK



F **CONSULT**

Check door switch circuit.

NG → Check and repair door switch circuit.

OK

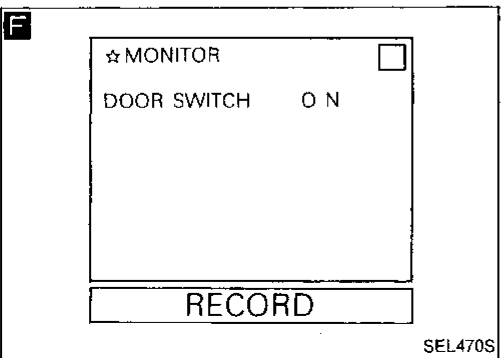
See "DOOR SWITCH" in DATA MONITOR mode.
If all doors are closed, "DOOR SWITCH" should be "OFF".

OR

ON-BOARD

Check all doors switches in Switch monitor (Mode II) mode.
(Refer to On-board Diagnoses EL-205.)

OK



Check "WAKE-UP DIAGNOSIS" and LAN communication again.

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Replacing Remote Controller or Multi-Remote Control Unit (LCU07)

Enter the identity (ID) code manually when:

- remote controller or multi-remote control unit LCU07 is replaced.
- an additional remote controller is activated.

ID Code Entry Procedure

To enter the ID code, follow this procedure.

“Setting mode”.

- (1) Open the trunk.
 - (2) Close and lock all doors.
 - (3) Insert and remove the key from the ignition more than six times within 10 seconds.
- **At this time, the original ID codes are eliminated.**

ID code entry:

- (4) Unlock and lock the driver's door inside lock lever once.
 - (5) 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.**
- (6) If you need to activate additional remote controllers (including the original) repeat the step (4) and (5) for each additional controller.
 - (7) This ID code entry enable state and setting mode remain until any one of the doors is opened.

Note

- **If the same ID code that exists in the memory is input, the entry will be ignored.**
- **Entry of maximum four ID codes is allowed and any attempt to enter more will be ignored.**
- **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

OPERATIVE CONDITION

Outside door mirrors are adjusted using the following three systems.

Manual Remote Control:

The power door mirror system consists of a Door Mirror Remote control switch, mounted on the lower left side of the instrument panel.

Two motors are included in each door mirror.

One motor controls the horizontal position of the power mirror, the other controls the vertical position of the power mirror.

To adjust the door mirror, make sure that the ignition key is "ACC", then operate the selector knob on the Remote Control switch as follows. Set the selector knob to the "L" position to adjust the driver side mirror or to the "R" position to adjust the passenger side mirror. Move the knob up, down, left, or right until the mirror is in the desired position.

Return the selector knob to the center position after setting.

Automatic Drive Positioner System:

This system adjusts the driver's seat position, tilt and telescopic adjustment of the steering wheel and the left and right door mirrors. (Refer to "AUTOMATIC DRIVE POSITIONER — LAN" EL-265.)

Outside Door Mirror Automatic Tilt Down Reverse System:

This system controls the door mirrors so that they face downward to assure rearward visibility while the vehicle is being backed up.

Door mirror is set to the appropriate position for reversing by moving the door mirror selector knob to "L" or "R" and A/T selector lever to "R" position when the ignition switch is ON.

Door mirrors are set to downward position already retained in memory using the automatic drive positioner memory switch 1 or 2. If door mirror positions are not retained in memory, move the door mirror selector knob to "L" or "R" position. This sets the corresponding door mirror from the current position to the standard downward position for reversing.

Note: In any of the following situations, the reverse system will be canceled and the door mirrors will not move even though the A/T selector lever is positioned to "R".

(a) Ignition switch is turned "OFF".

(b) Driver's door is opened.

(c) The vehicle speed is over 24 km/h (15 MPH)

In order to reset the reverse system, move the door mirror selector knob to "Neutral (Center)" once and then move it to "L" or "R" while not in any of the three situations (a, b, c) above.

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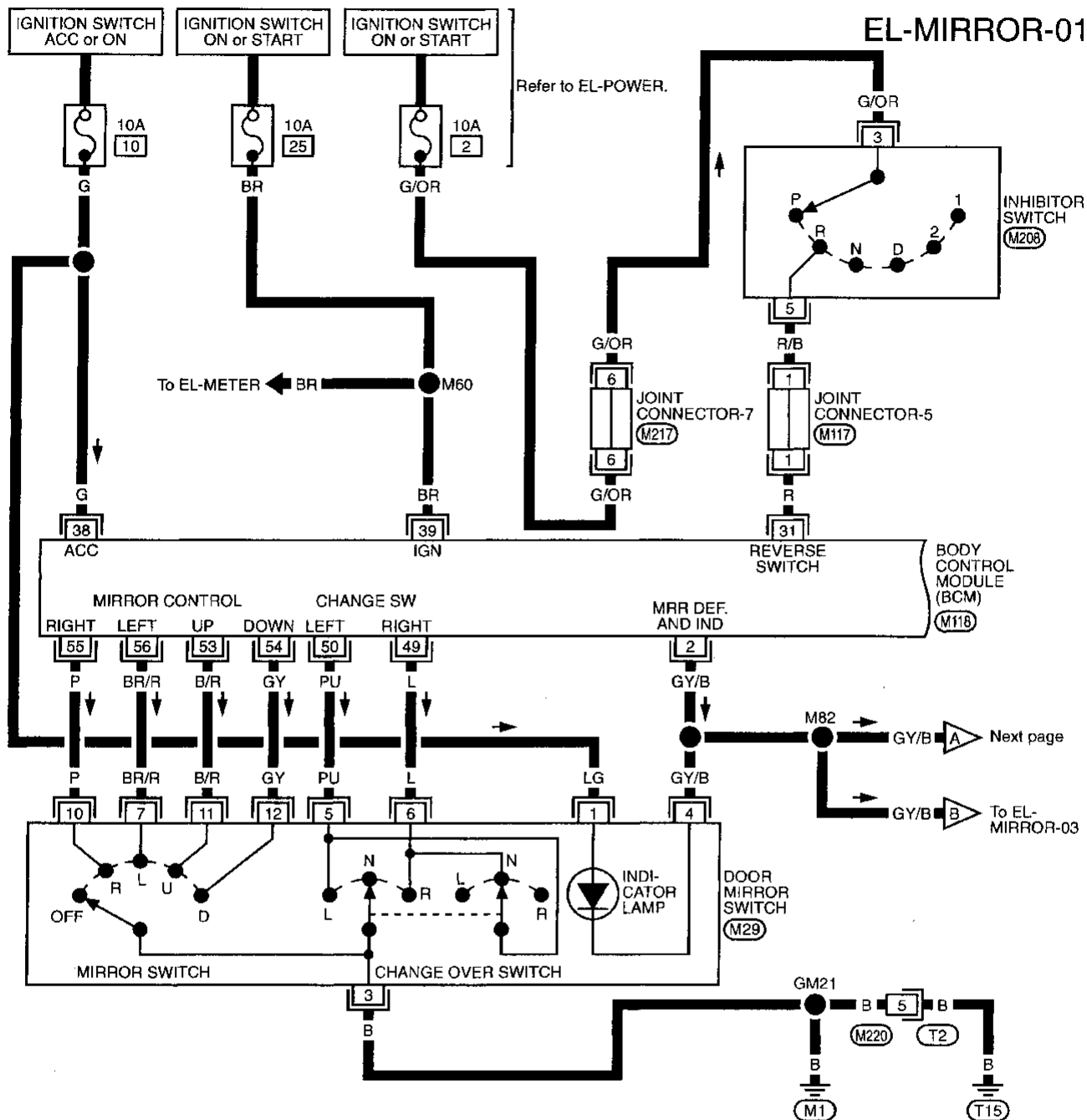
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Wiring Diagram — MIRROR —



2	5	6	12	3	
4	7	1	13	14	11

(M29) W

1	1	1	1	2	2	2	3	3	3
4	4	4	4	5	5	5	6	6	6

(M117) OR

7	8	9	3
6	5	4	

(M208) GY

1	1	1	2	2	2	3	3	3	3
4	4	4	5	5	5	6	6	6	6

(M217) B

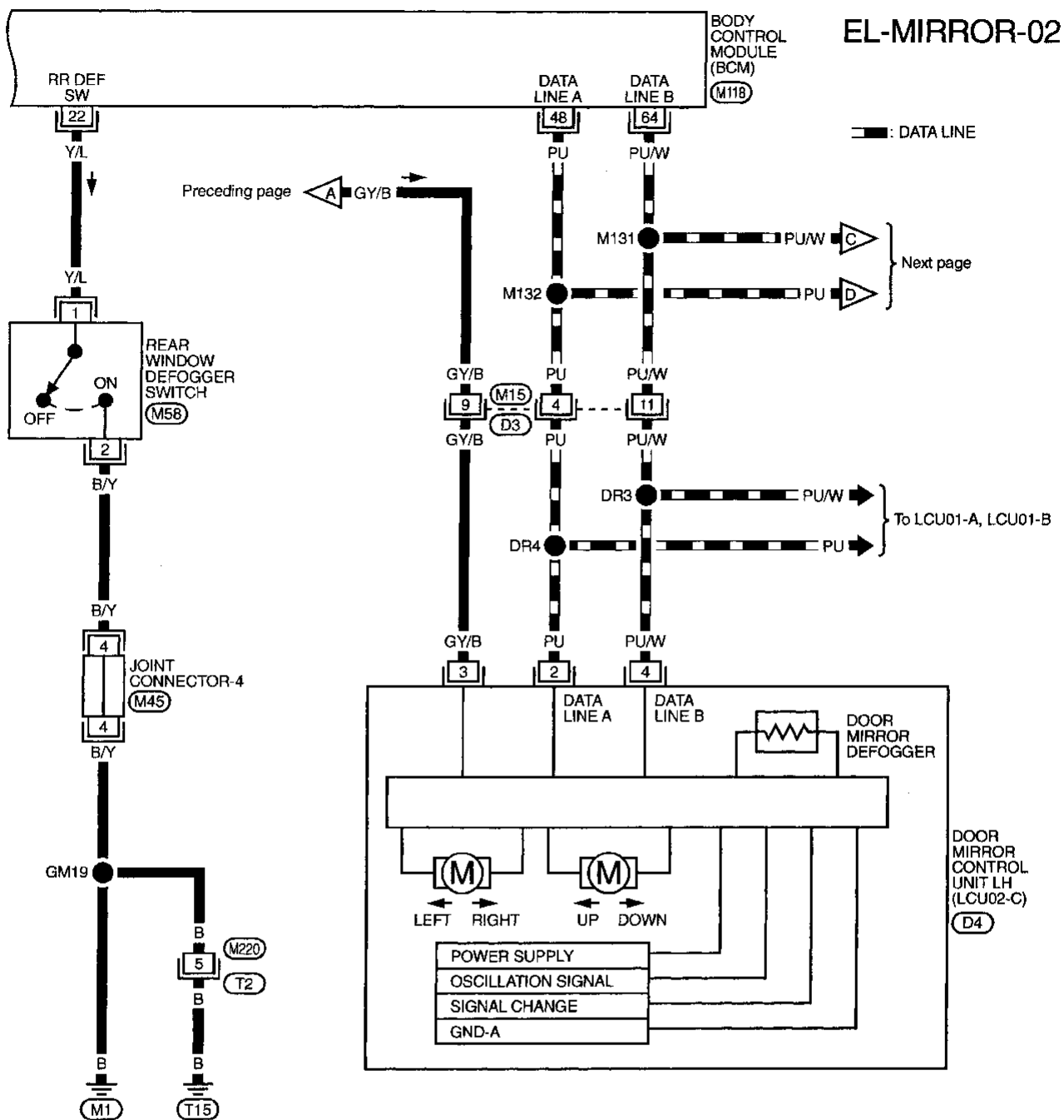
1	2	3	4	5	6	7
8	9	10	11	12	13	14

(T2) B

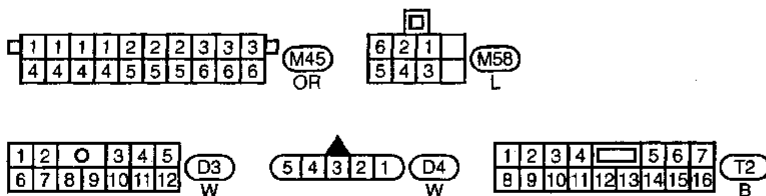
Refer to last page (Foldout page).
(M118)

DOOR MIRROR — LAN

Wiring Diagram — MIRROR — (Cont'd)



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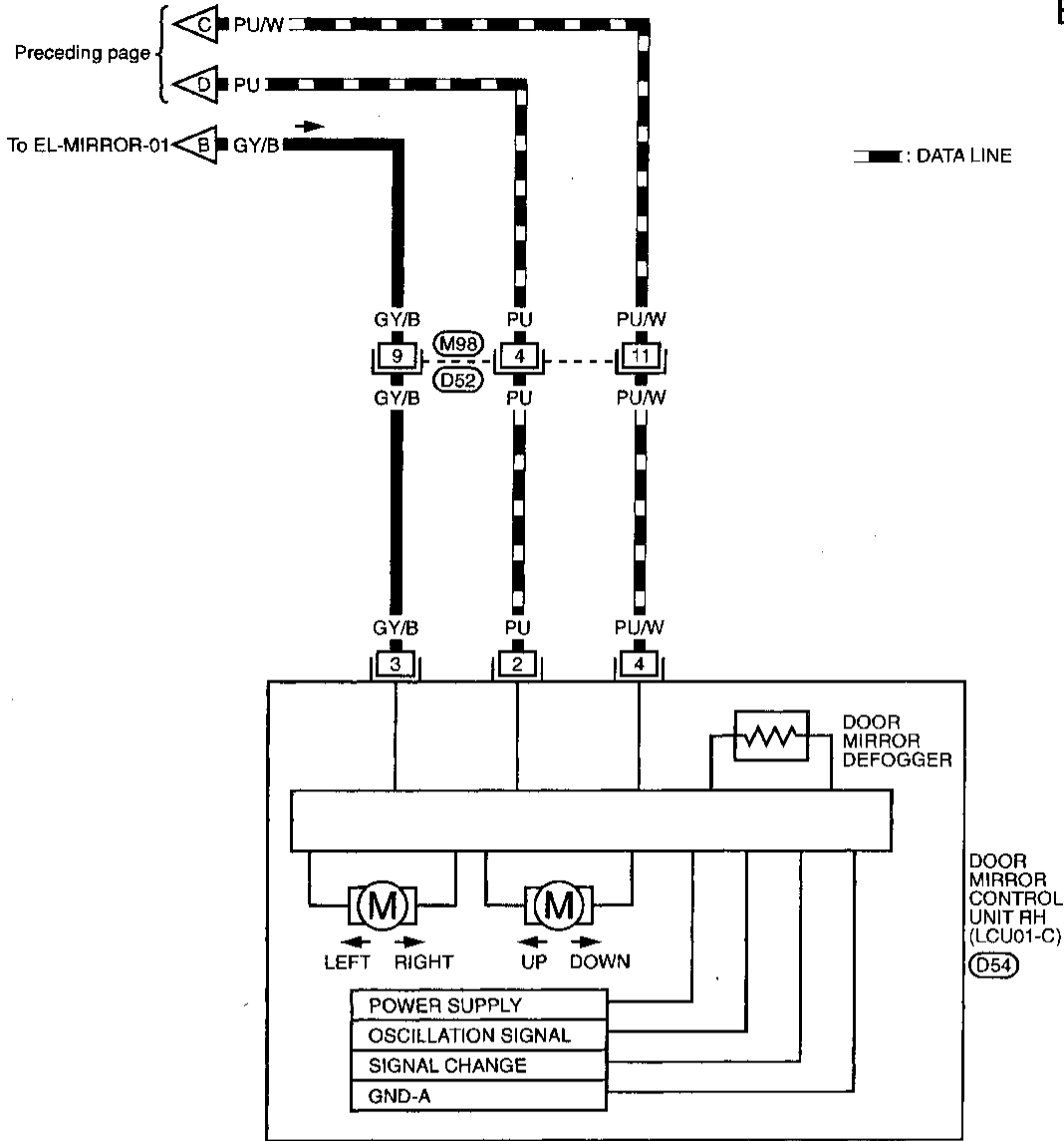


Refer to last page (Foldout page).
(M118)

DOOR MIRROR — LAN

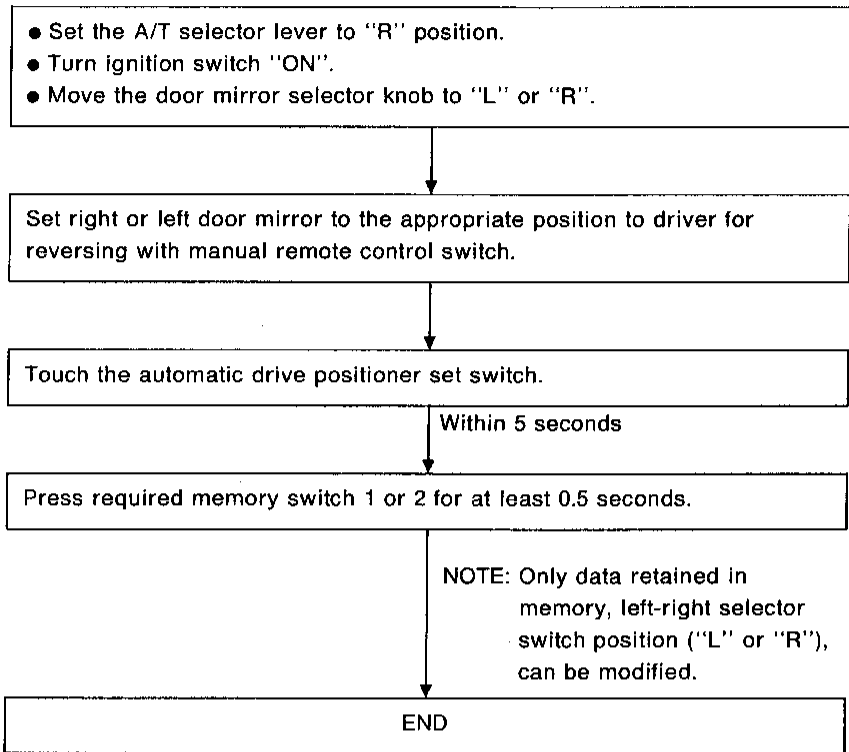
Wiring Diagram — MIRROR — (Cont'd)

EL-MIRROR-03



Trouble Diagnoses

● **Setting door mirror positions in memory (while backing up vehicle)**



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TROUBLE SYMPTOM

Perform "LAN Communication Check" (Refer to EL-231.) before starting with the following items.

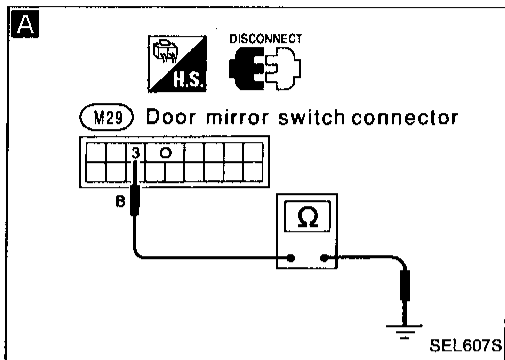
- None of the outside door mirrors operate with the manual remote control switch. ——— DIAGNOSTIC PROCEDURE 1.
- Outside door mirror does not operate one or more of the controls with manual remote control switch. ——— DIAGNOSTIC PROCEDURE 2.
- Door mirror automatic tilt down reverse system does not operate. ——— DIAGNOSTIC PROCEDURE 3.

DOOR MIRROR — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: None of the outside door mirrors operate with the manual remote control switch.



A

CHECK MIRROR SWITCH GROUND CIRCUIT.
Check harness continuity between door mirror switch connector terminal ③ and body ground.
Continuity should exist.

OK

Go to DIAGNOSTIC PROCEDURE 2.

NG

Repair harness.

DOOR MIRROR — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Outside door mirror does not operate one or more of the controls with manual remote control switch.

A

☆ MONITOR

MIR CON SW-UP OFF

MIR CON SW-DN OFF

MIR CON SW-RH OFF

MIR CON SW-LH OFF

MIR CHNG SW-R OFF

MIR CHNG SW-L OFF

RECORD

SEL490S

B

■ ACTIVE TEST ■

MIRROR MOTOR RH OFF

or

(MIRROR MOTOR LH OFF)

UP DOWN R L STOP

SEL491S

C

CONNECT

M11B

DISCONNECT

M29

Select switch: Right side Door mirror switch connector

BCM	Mirror switch
Left side 50 PU	 5 PU
Control switch: Down 54 GY	 12 GY
Up 53 B/R	 11 B/R
Right 55 P	 10 P
Left 56 BR/R	 7 BR/R

SEL492S

C

CHECK DOOR MIRROR CONTROL SWITCH.

A CONSULT

See "MIR CON SW" in DATA MONITOR mode of AUTOMATIC DRIVE POSITIONER.

"MIR CON SW" should change from "OFF" to "ON" when pushing door mirror switch lever.

OR

ON-BOARD

Check door mirror switch in Switch monitor (Mode II) mode.

(Refer to On-board Diagnoses EL-205.)

B

CHECK THE DOOR MIRROR MOTOR.

CONSULT

See "MIRROR MOTOR RH or LH" in ACTIVE TEST mode of AUTOMATIC DRIVE POSITIONER.

Perform operation shown on display. Door mirror motor should operate.

NG

Check door mirror actuator circuit.

OK

Check LAN communication again.

C

- 1) Disconnect door mirror switch connector.
- 2) Check continuity in applicable switch circuit selected from those listed in the Table below.

		Terminals	Continuity
Select switch	Right	49 - 6	Yes
	Left	50 - 5	
Control switch	Down	54 - 12	
	Up	53 - 11	
	Right	55 - 10	
	Left	56 - 7	

NG

Repair harness.

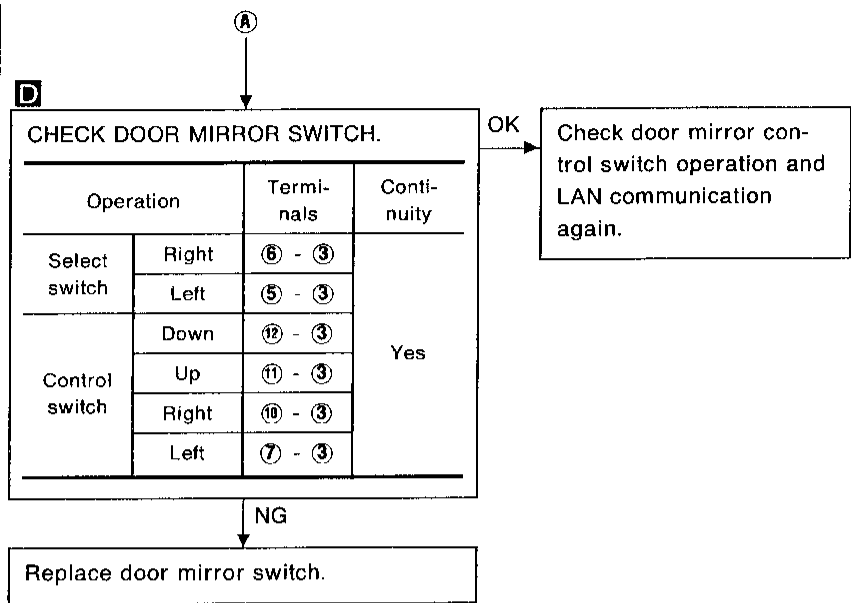
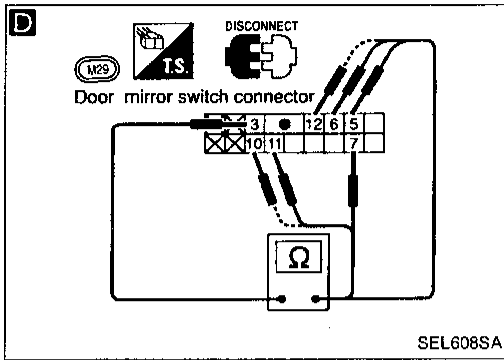
OK

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DOOR MIRROR — LAN

Trouble Diagnoses (Cont'd)

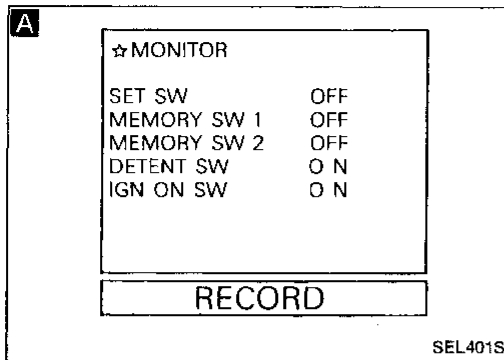


DOOR MIRROR — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: Door mirror automatic tilt down reverse system does not operate. (Manual operation is OK)



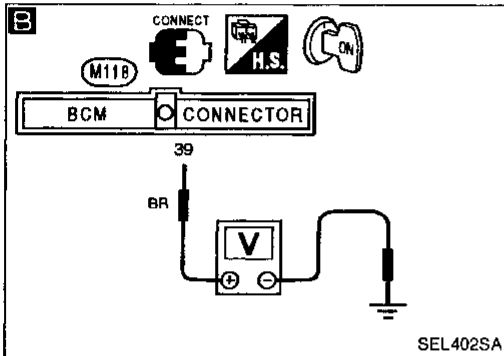
CHECK IGNITION SWITCH ON SIGNAL.

A CONSULT

See "IGN ON SW" in DATA MONITOR mode of AUTOMATIC DRIVE POSITIONER.

"IGN ON SW" should be "ON".

NG → Check ignition switch circuit.

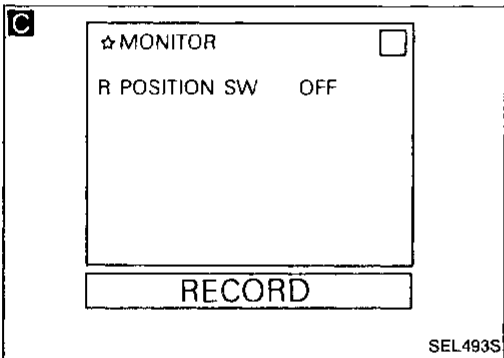


B TESTER

Check voltage between BCM connector terminal ③⑨ and ground while ignition switch is "ON".

Terminals	Voltage
③⑨ - GND	Battery voltage

OK



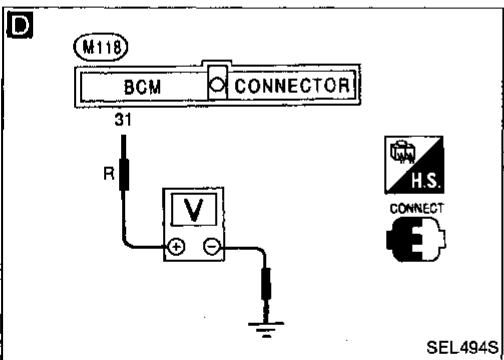
CHECK REVERSE SWITCH CIRCUIT.

C CONSULT

See "R POSITION SW" in DATA MONITOR mode of AUTOMATIC DRIVE POSITIONER.

"R POSITION SW" should be "ON".

OK → Check LAN communication again.



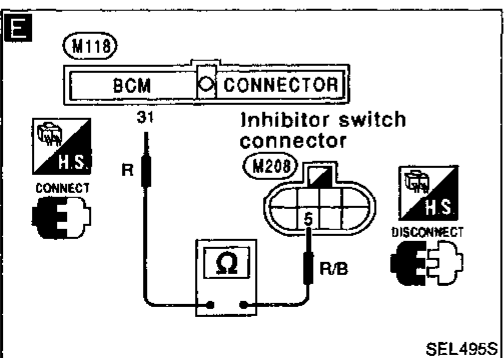
D TESTER

Check inhibitor switch reverse range position signal.

- 1) Set A/T selector lever in "R" position.
- 2) Check voltage.

Terminals	Voltage
③① - GND	Battery voltage

NG



- 1) Disconnect inhibitor switch connector.
- 2) Check harness continuity between BCM connector terminal ③① and inhibitor switch connector terminal ⑤.

Continuity should exist.

OK → Check INHIBITOR SWITCH circuit.

NG

Repair harness.

System Description

INTERIOR LAMP, IGNITION KEYHOLE AND DOOR KEYHOLE ILLUMINATION TIMER CONTROL

Function

Interior lamp timer keeps interior lamp, ignition keyhole and door keyhole illuminated for about 10 seconds when:

- driver or passenger side door is opened and then closed and
- driver or passenger side door outside handle is pulled and then released.

Power supply and ground

Power is supplied at all times

- through 10A fuse [No. 38], located in the fuse block
- to interior lamp terminal ①,
- to ignition keyhole illumination terminal ②.

Power is also supplied at all times

- through 10A fuse [No. 20], located in the fuse block
- to LH keyhole illumination terminal ④.
- through 10A fuse [No. 21], located in the fuse block
- to RH door keyhole illumination terminal ④.

Front power seat control units LH (LCU05) and RH (LCU06) are connected to BCM by DATA LINE A and B.

Ground is supplied to front power seat control units LH (LCU05) and RH (LCU06)

- through front LH or front RH door switch terminals ② and ③ when front door is opened
- through body grounds M1 and T15 or B18 and M102.

Front power window control units LH (LCU01-B) and RH (LCU02-B) are connected to BCM by DATA LINE A and B.

Ground is also supplied to front power window control units LH (LCU01-B) and RH (LCU02-B)

- through door handle switch LH and RH terminals ① and ② when front door handle is pulled
- through body grounds M1 and T15 or B18 and M102.

Timer operation

Driver or passenger side door is opened and then closed or driver or passenger side door outside handle is pulled and then released.

Ground is then supplied to interior lamp terminal ②, ignition keyhole illumination terminal ① through BCM terminal 15 to illuminate.

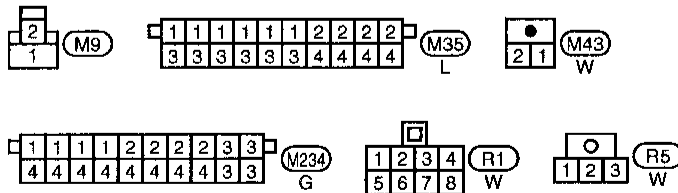
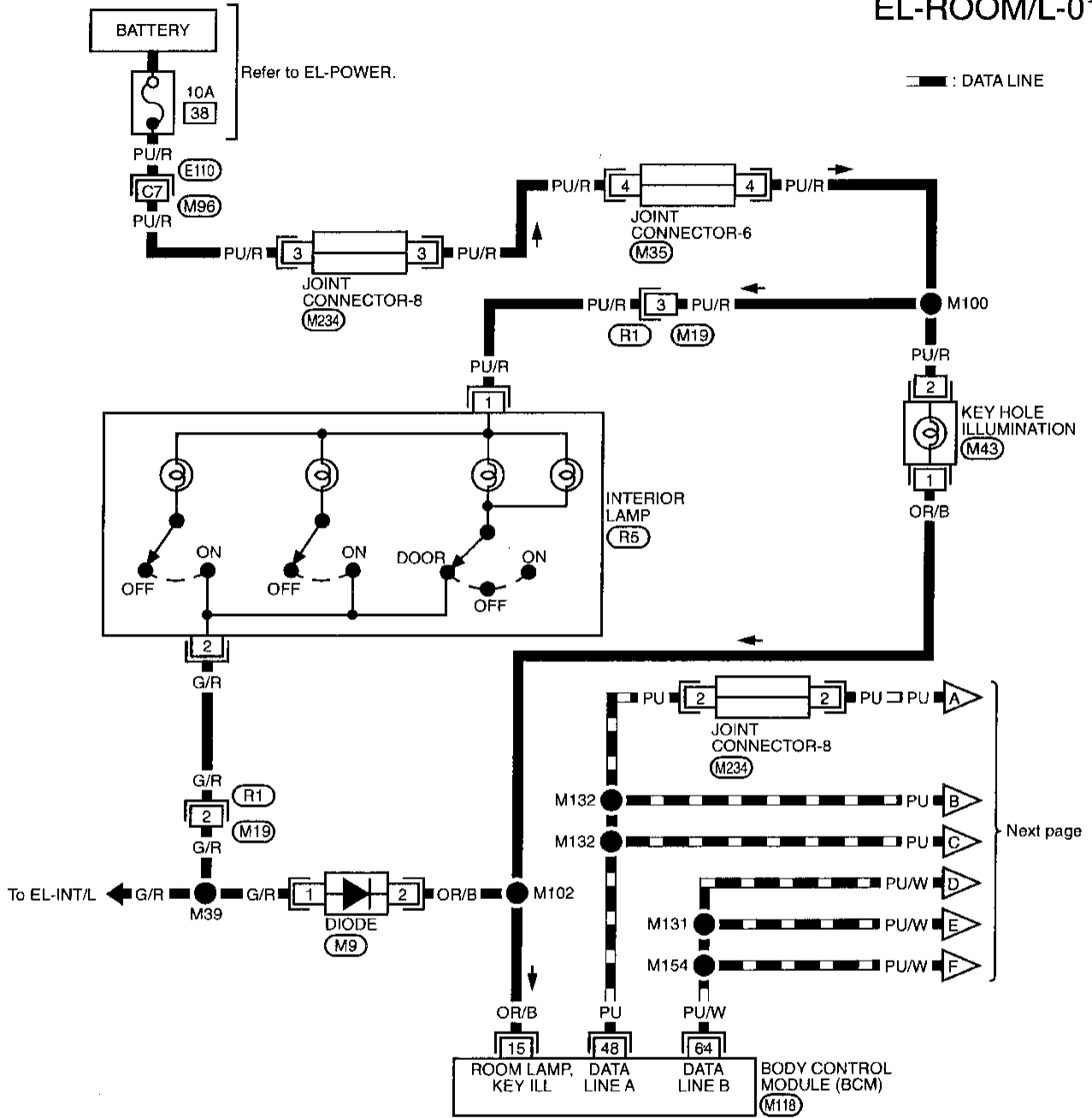
Ground is also supplied to door keyhole illumination LH and RH terminal ③ through front power seat switch assembly LH (LCU01-A) or RH (LCU02-A) to illuminate.

INTERIOR LAMP CONTROL — LAN

Wiring Diagram — ROOM/L —

INTERIOR LAMP AND KEYHOLE ILLUMINATION CONTROL

EL-ROOM/L-01



Refer to last page (Foldout page).

E110, M96
M118

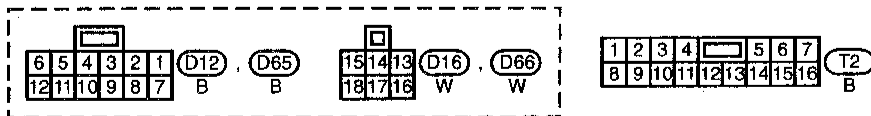
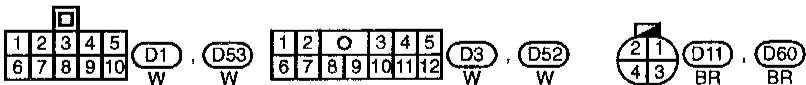
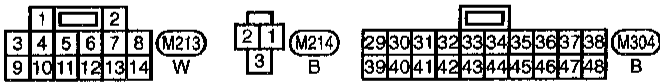
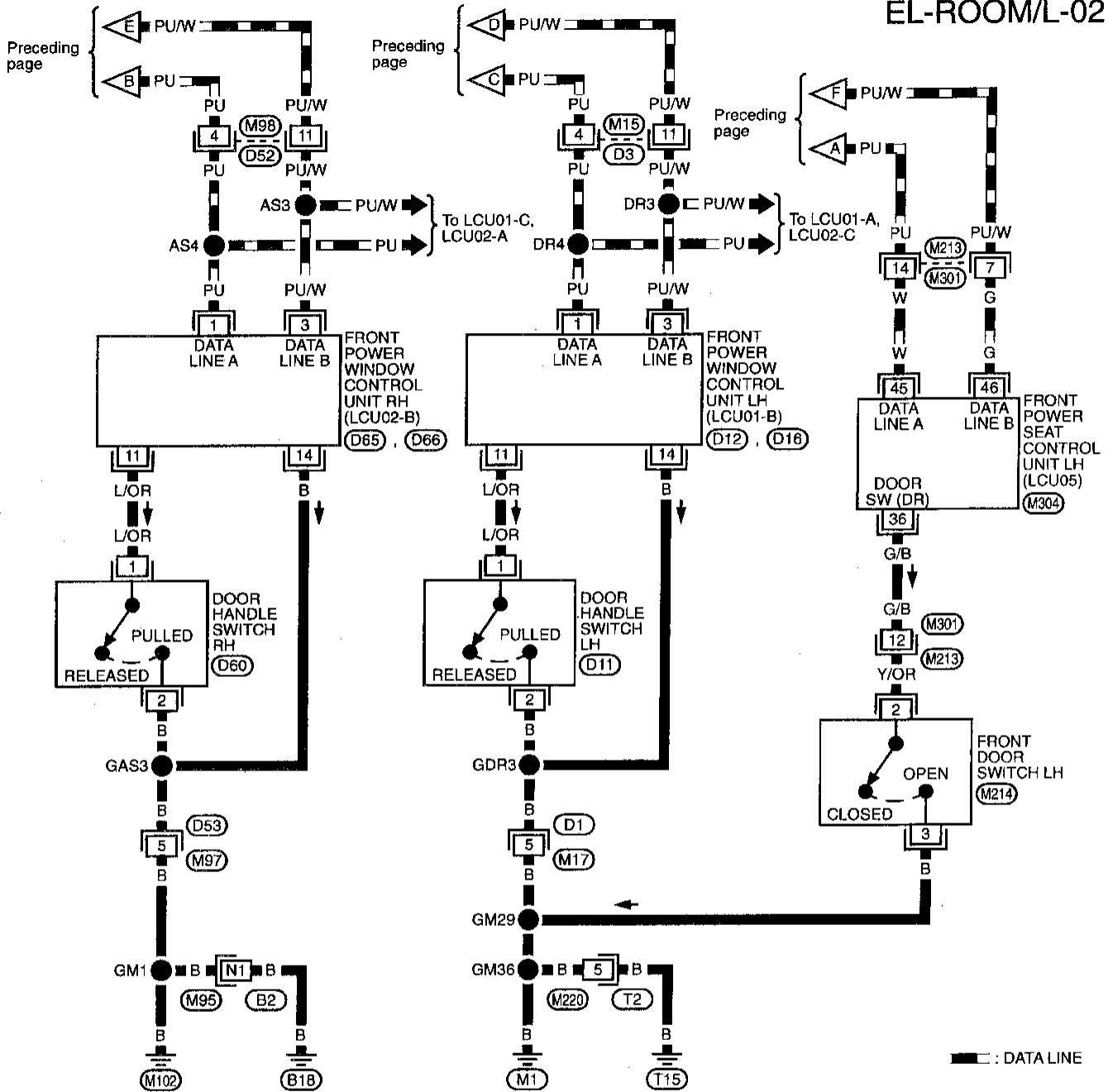
EL

IDX

INTERIOR LAMP CONTROL — LAN

Wiring Diagram — ROOM/L — (Cont'd)

EL-ROOM/L-02



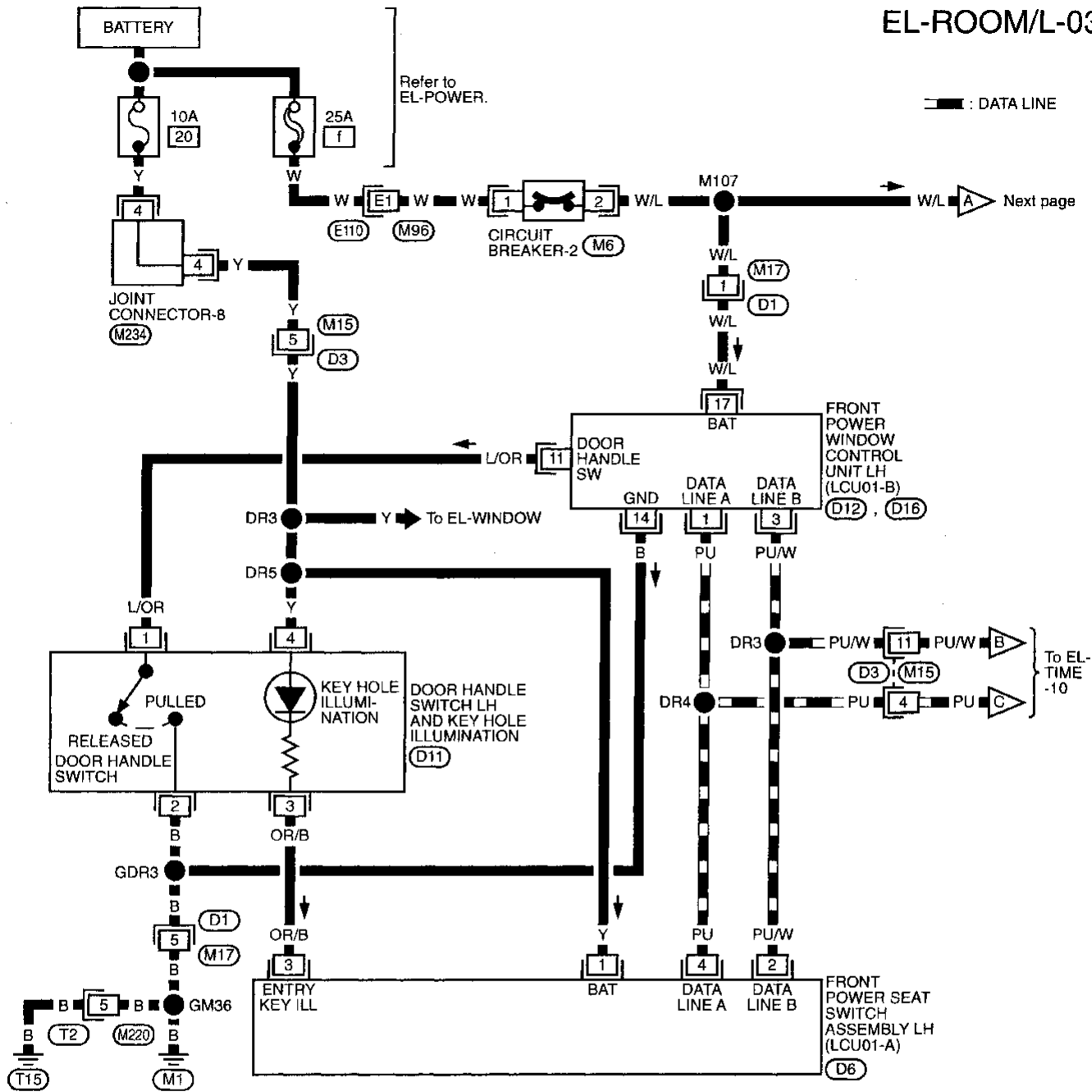
Refer to last page (Foldout page).

(M95) (B2)

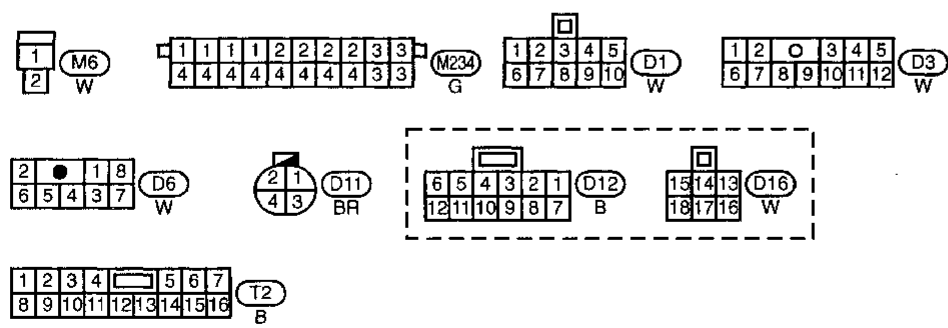
INTERIOR LAMP CONTROL — LAN

Wiring Diagram — ROOM/L — (Cont'd)

EL-ROOM/L-03



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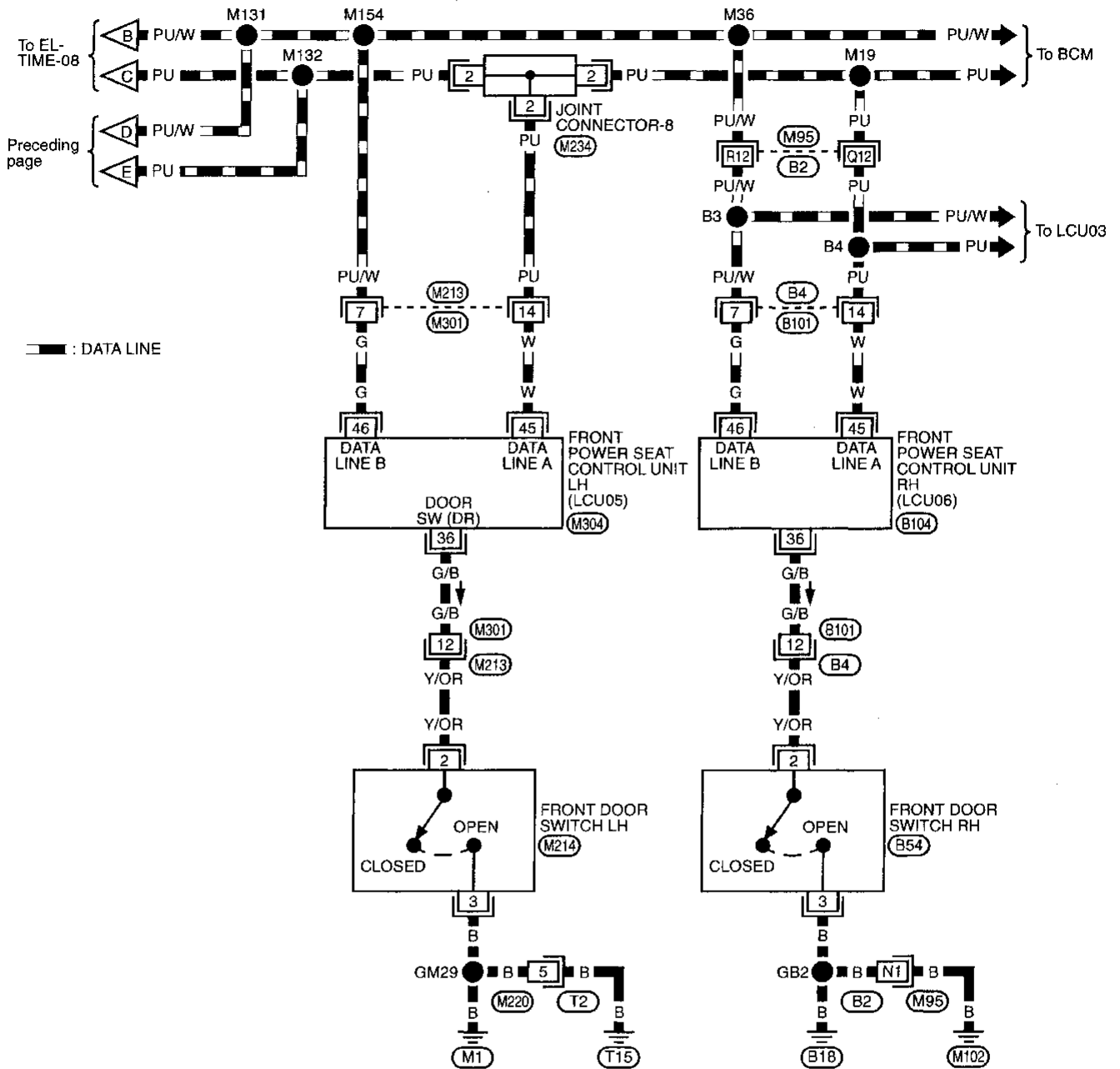
Refer to last page (Foldout page).
E110, M96

HA
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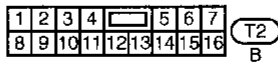
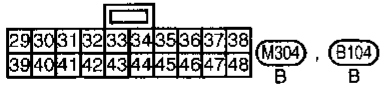
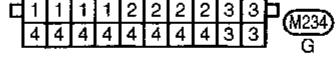
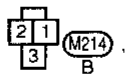
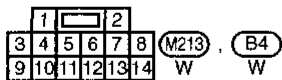
INTERIOR LAMP CONTROL — LAN

Wiring Diagram — ROOM/L — (Cont'd)

EL-ROOM/L-05



--- : DATA LINE



Refer to last page (Foldout page).
(M95), (B2)

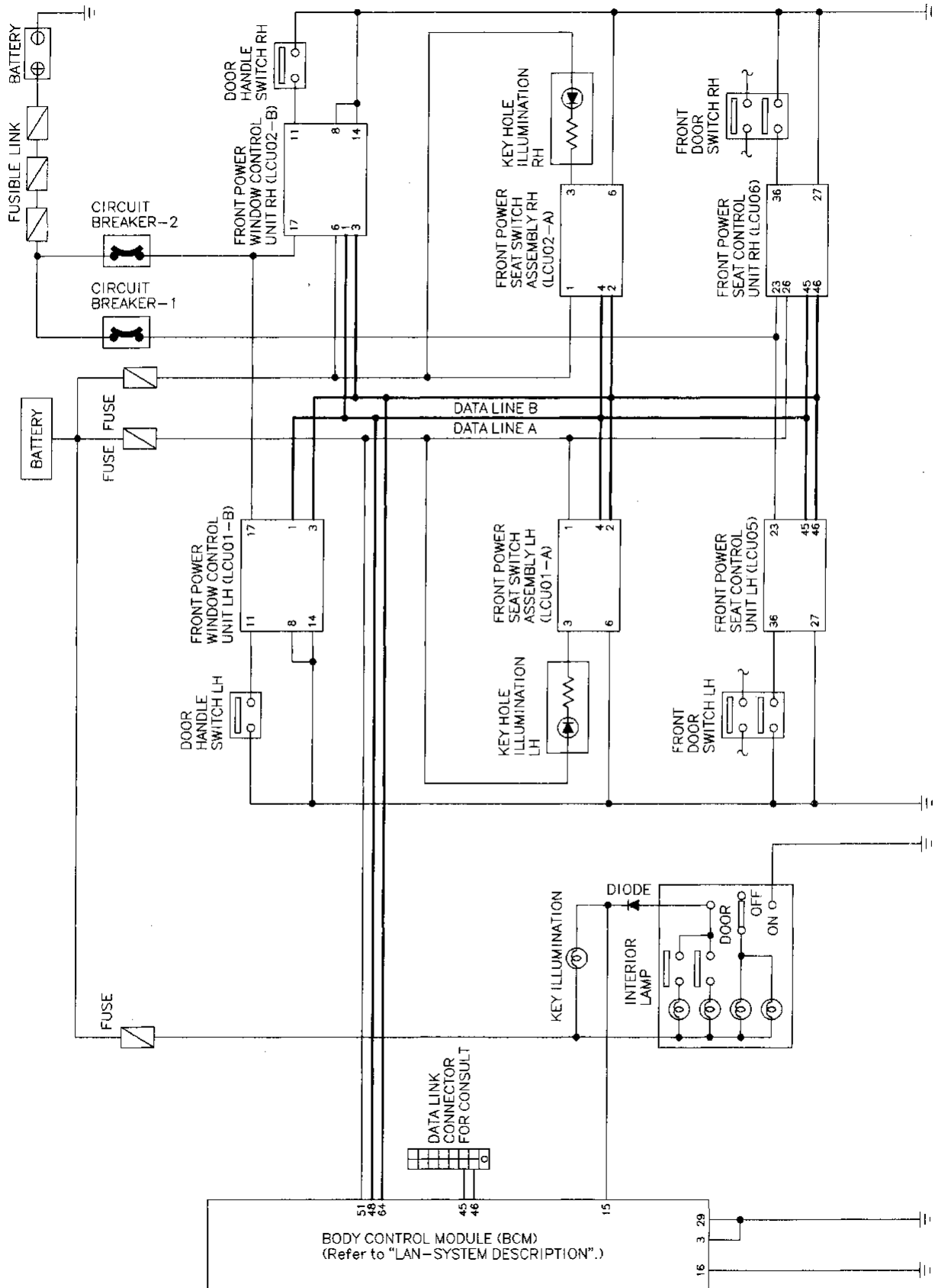
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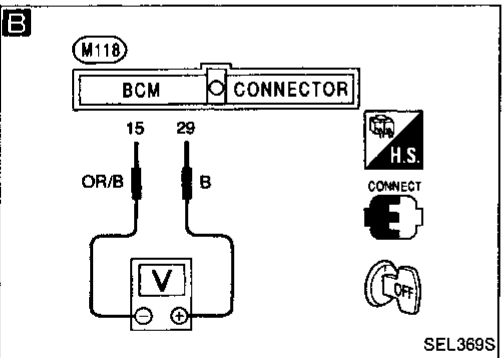
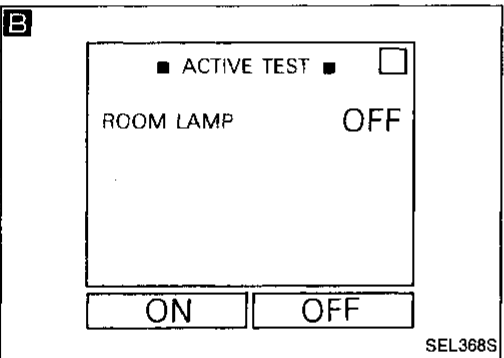
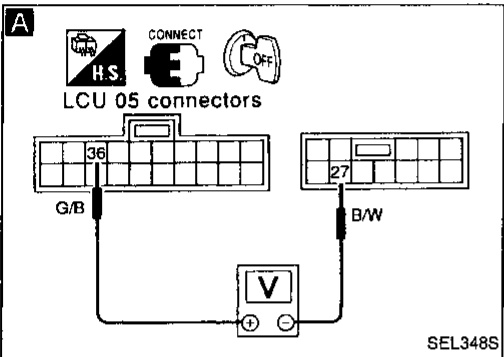
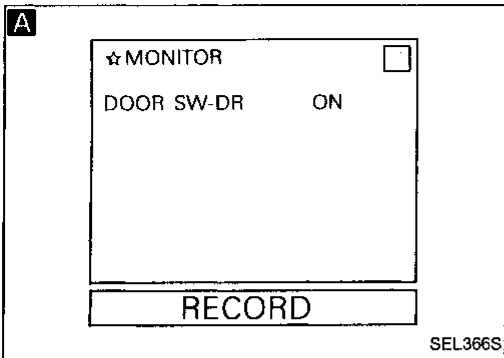


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INTERIOR LAMP CONTROL — LAN

Schematic

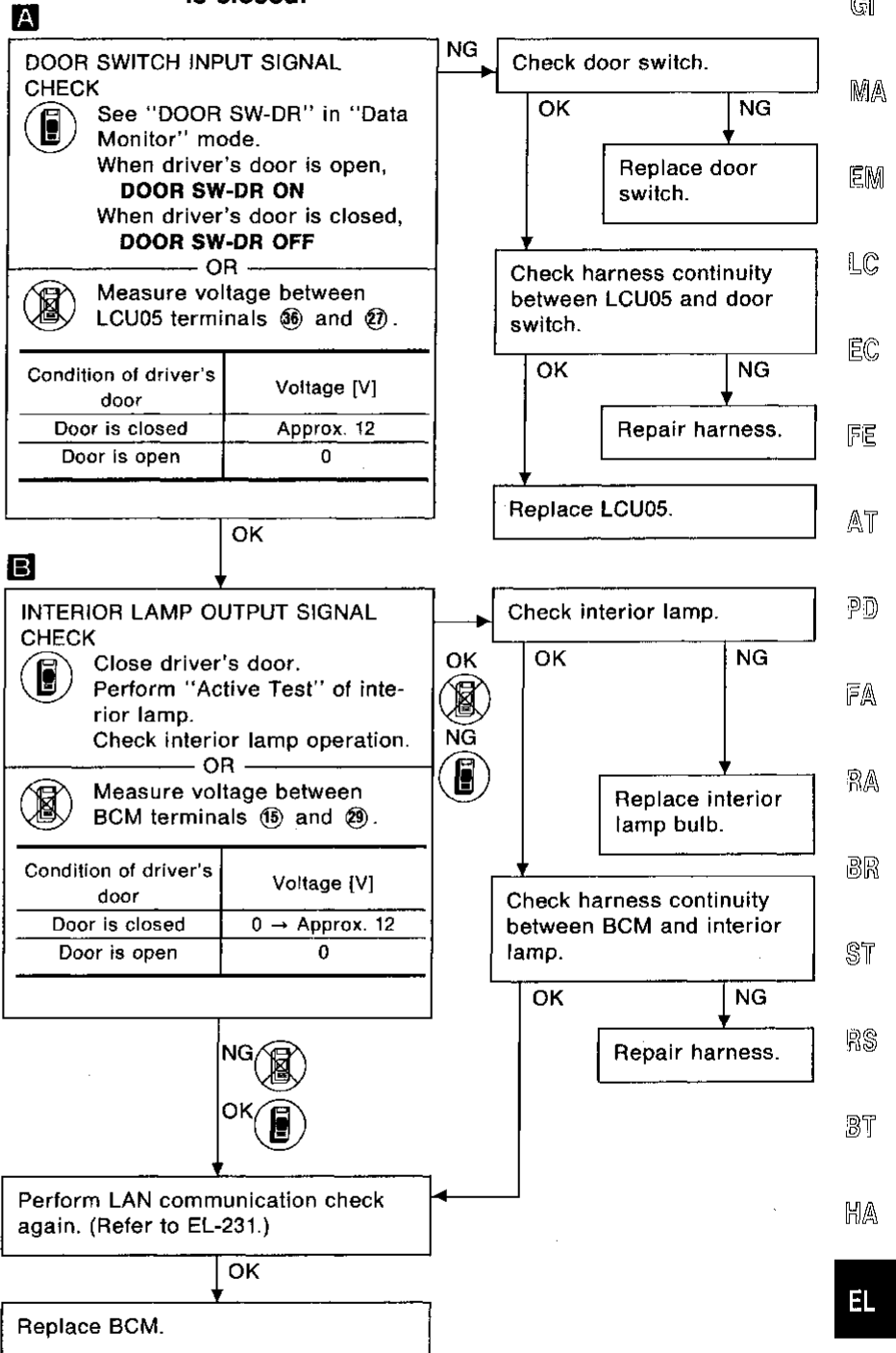




Trouble Diagnoses

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Interior lamp does not fade out after driver's door is closed.



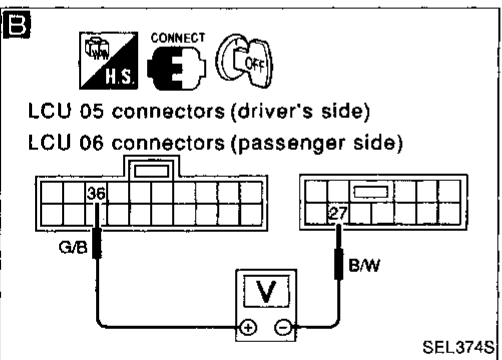
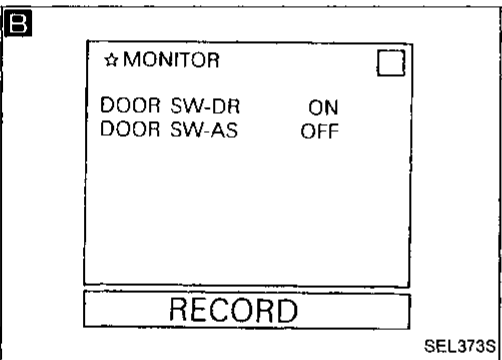
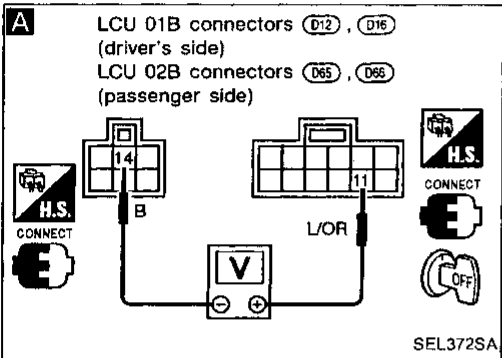
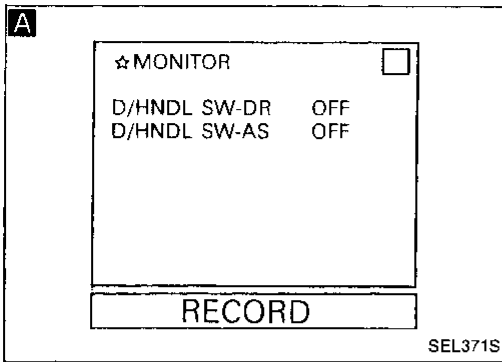
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INTERIOR LAMP CONTROL — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Door keyhole illumination does not come on.



A

DOOR OUTSIDE HANDLE SWITCH INPUT SIGNAL CHECK

See "D/HNDL SW" in "Data Monitor" mode.

When driver side door outside handle is pulled,
D/HNDL SW-DR ON

When driver side door outside handle is released,
D/HNDL SW-DR OFF

When passenger side door outside handle is pulled,
D/HNDL SW-AS ON

When passenger side door outside handle is released,
D/HNDL SW-AS OFF

OR

Measure voltage between LCU01B terminals ⑪ and ⑭ (driver side) and then LCU02B terminals ⑪ and ⑭ (passenger side).

Condition of door outside handle on each side	Voltage [V]
Handle is pulled	0
Handle is released	Approx. 5

B

DOOR SWITCH INPUT SIGNAL CHECK

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

When driver side door is opened,
DOOR SW-DR ON

When driver side door is closed,
DOOR SW-DR OFF

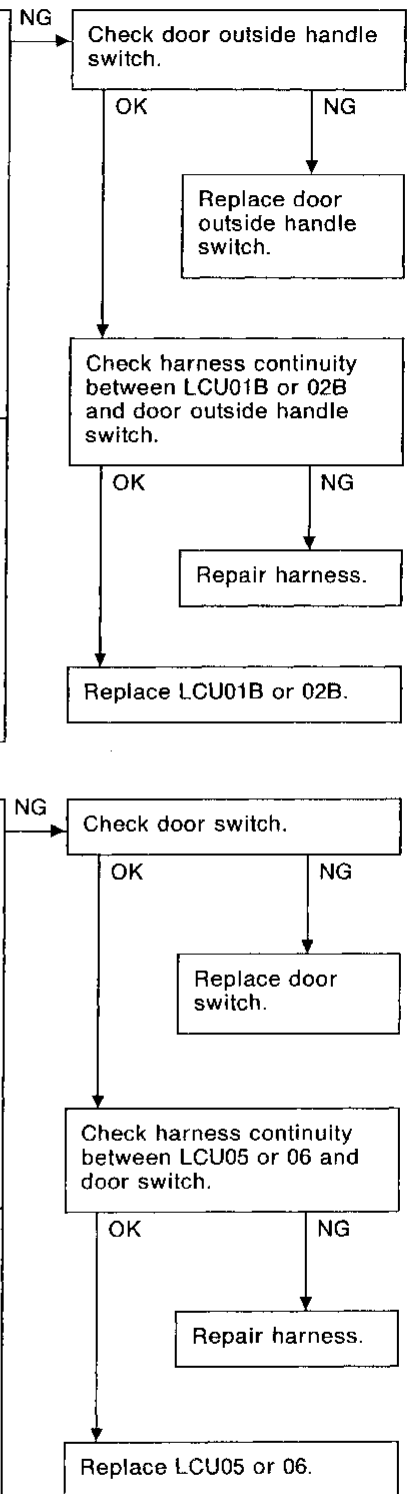
When passenger side door is opened,
DOOR SW-AS ON

When passenger side door is closed,
DOOR SW-AS OFF

OR

Measure voltages between LCU05 terminals ⑚ and ②⑦ (driver side) and then LCU06 terminals ⑚ and ②⑦ (passenger side).

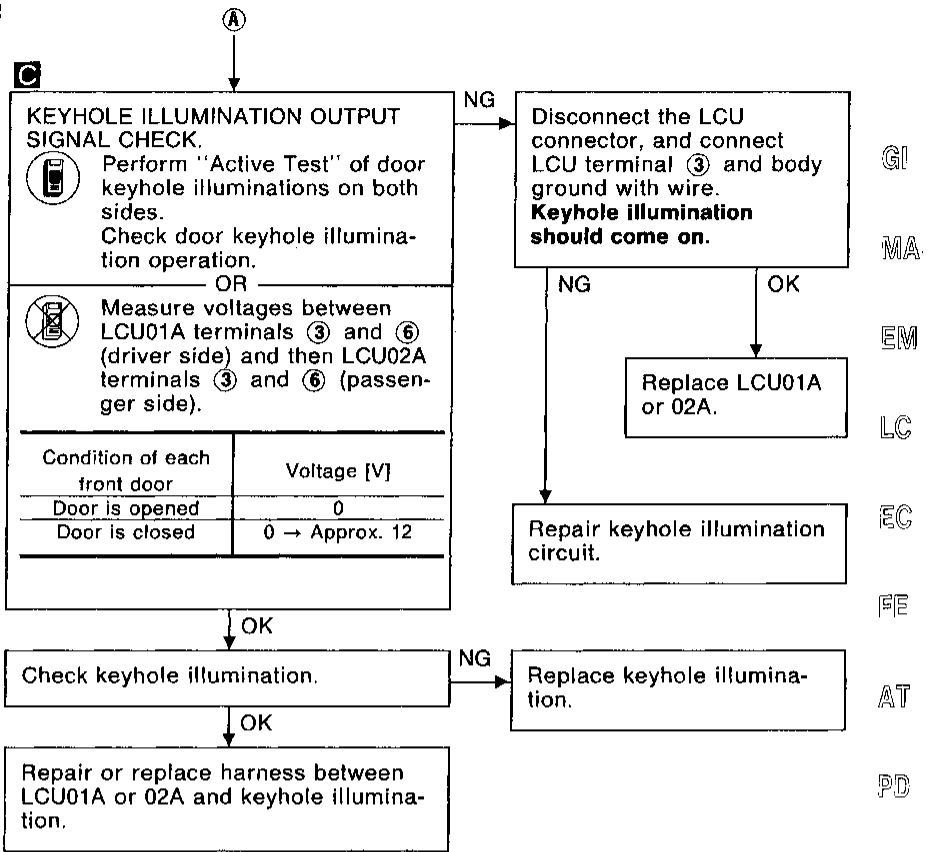
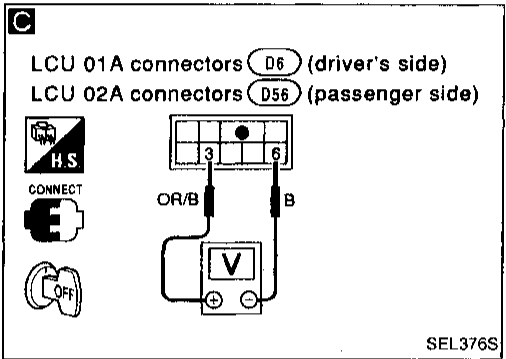
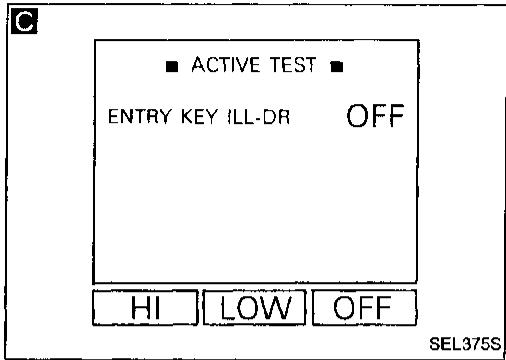
Condition of each front door	Voltage [V]
Door is opened	0
Door is closed	Approx. 12



OK
A

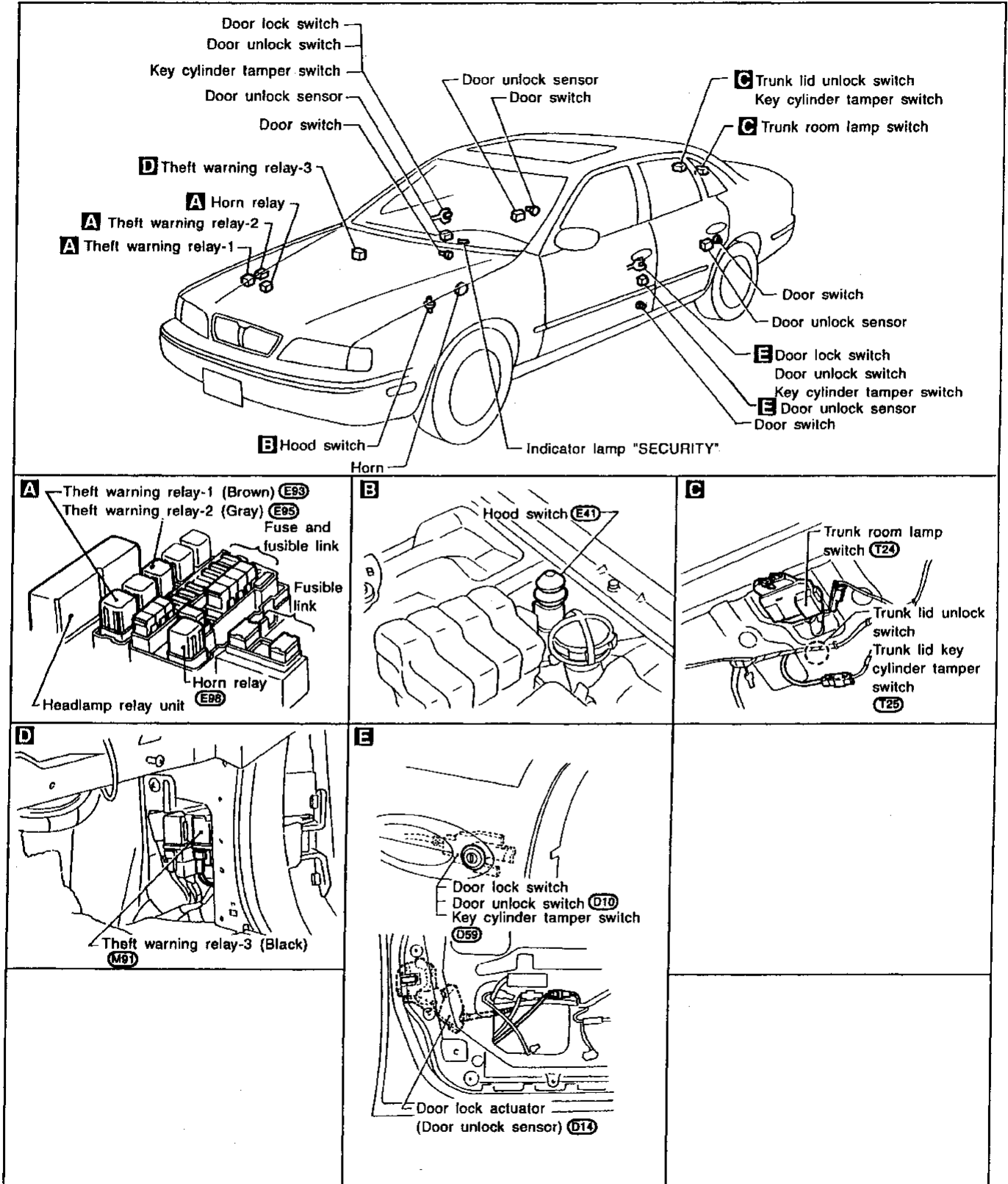
INTERIOR LAMP CONTROL — LAN

Trouble Diagnoses (Cont'd)



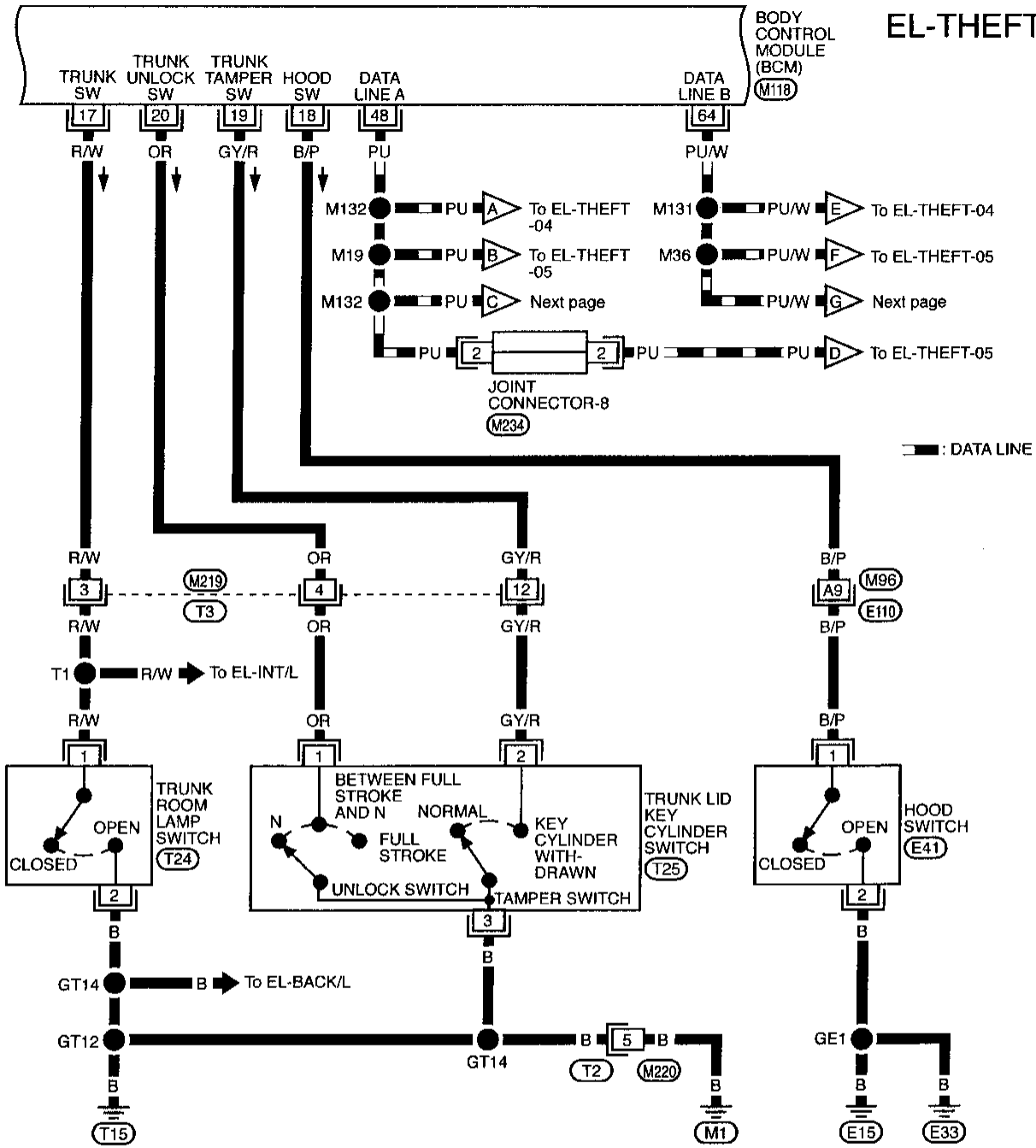
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Component Parts and Harness Connector Location

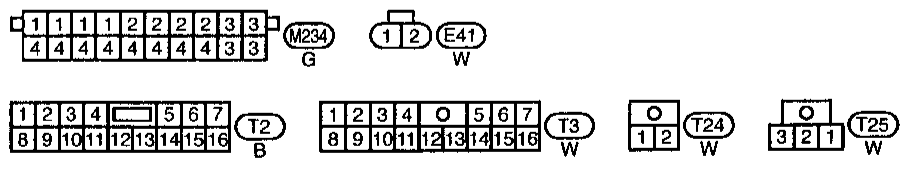


THEFT WARNING SYSTEM — LAN

Wiring Diagram — THEFT — (Cont'd)



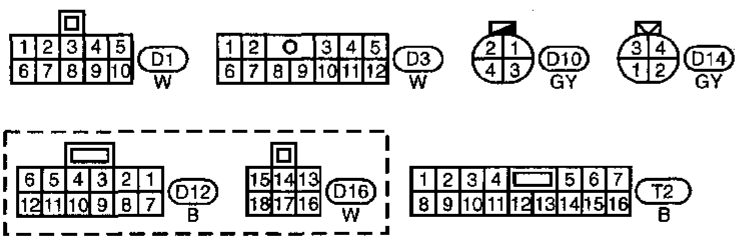
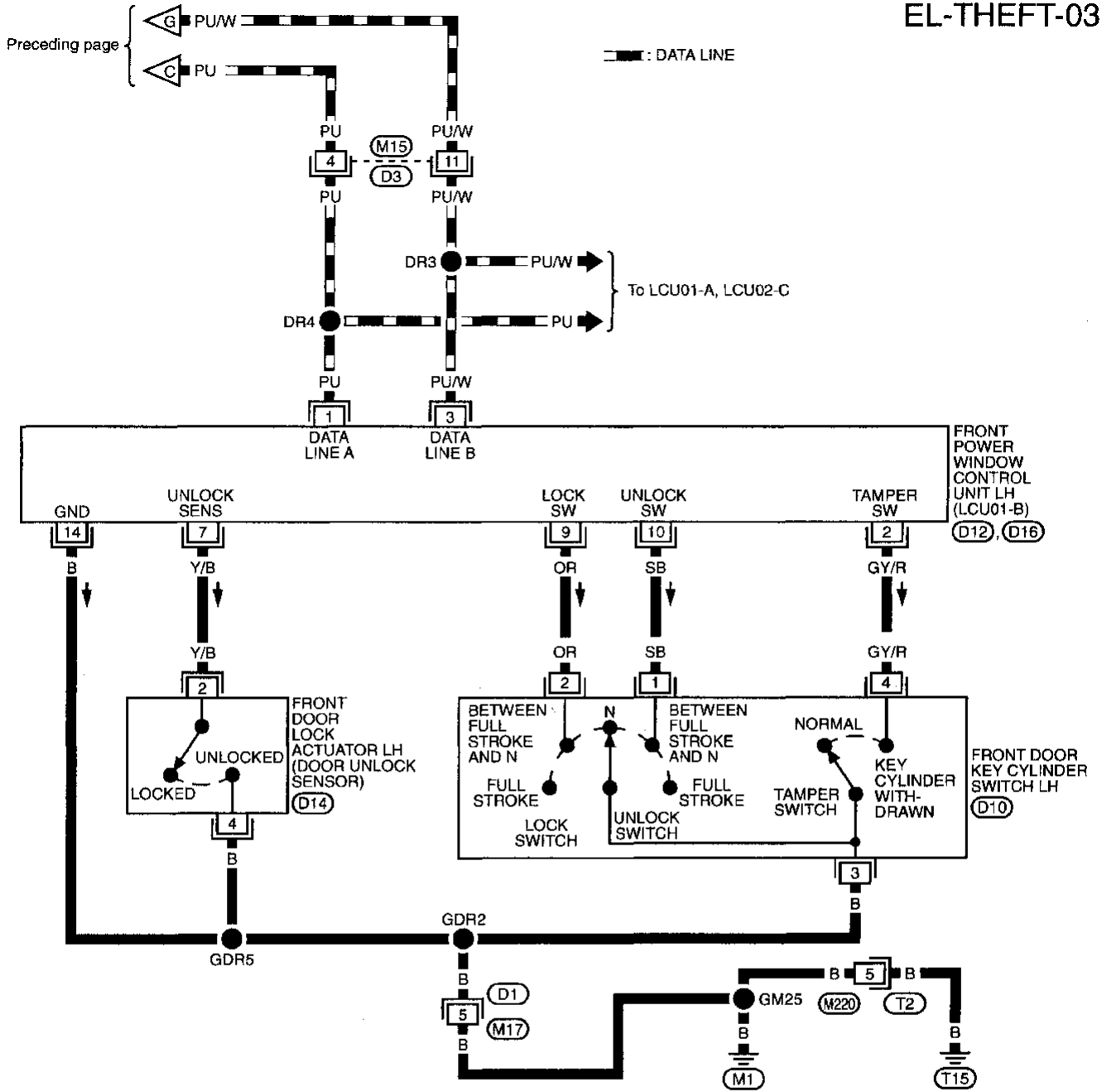
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 (M96), (E110)
 (M118)



THEFT WARNING SYSTEM — LAN

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-03

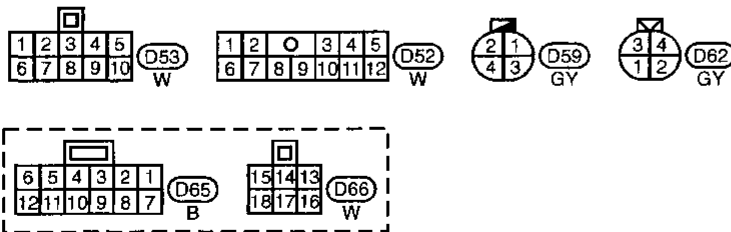
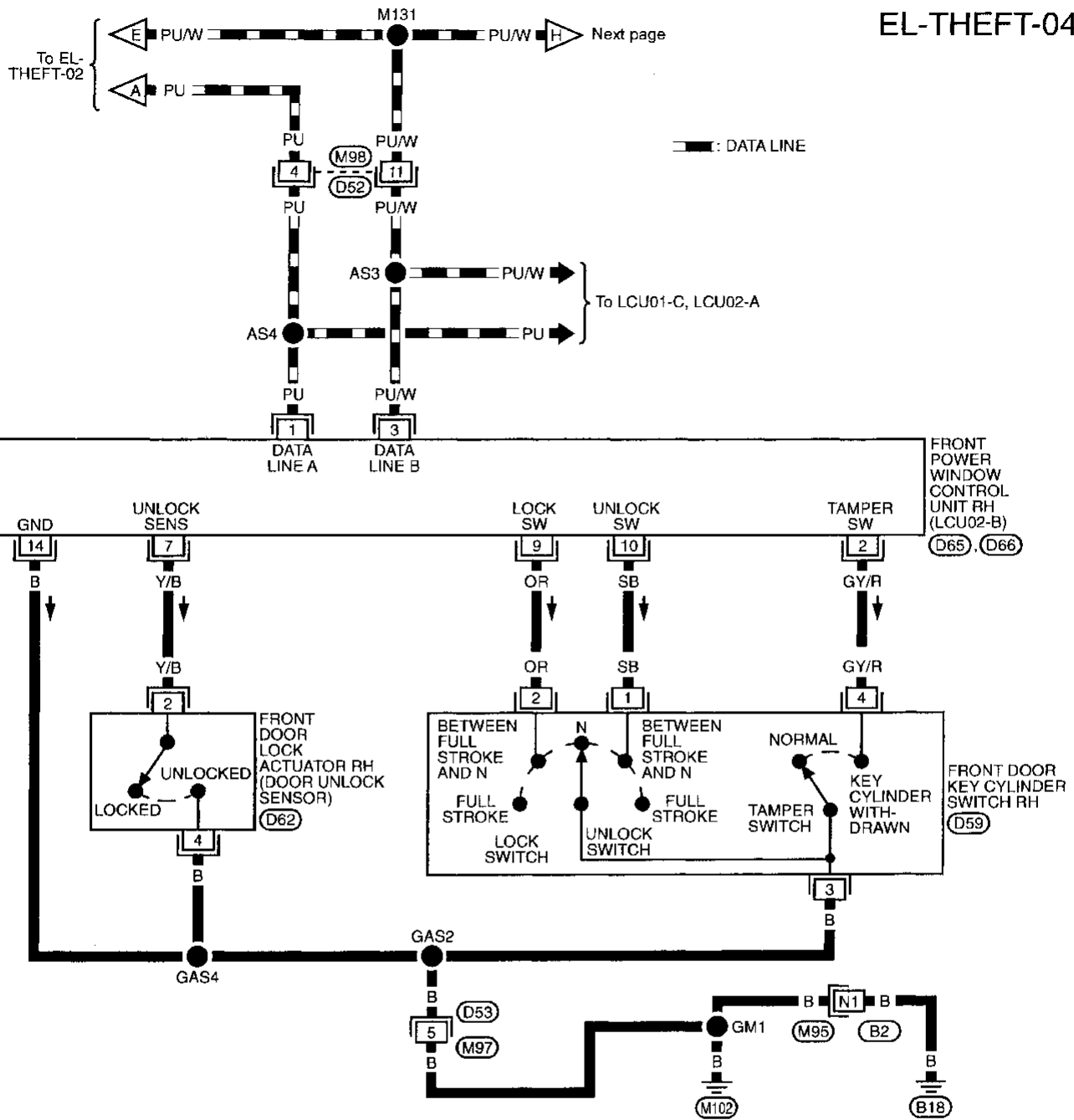


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THEFT WARNING SYSTEM — LAN

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-04

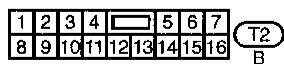
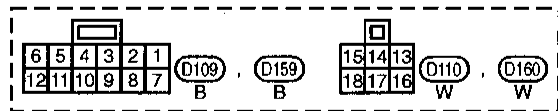
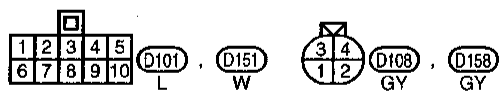
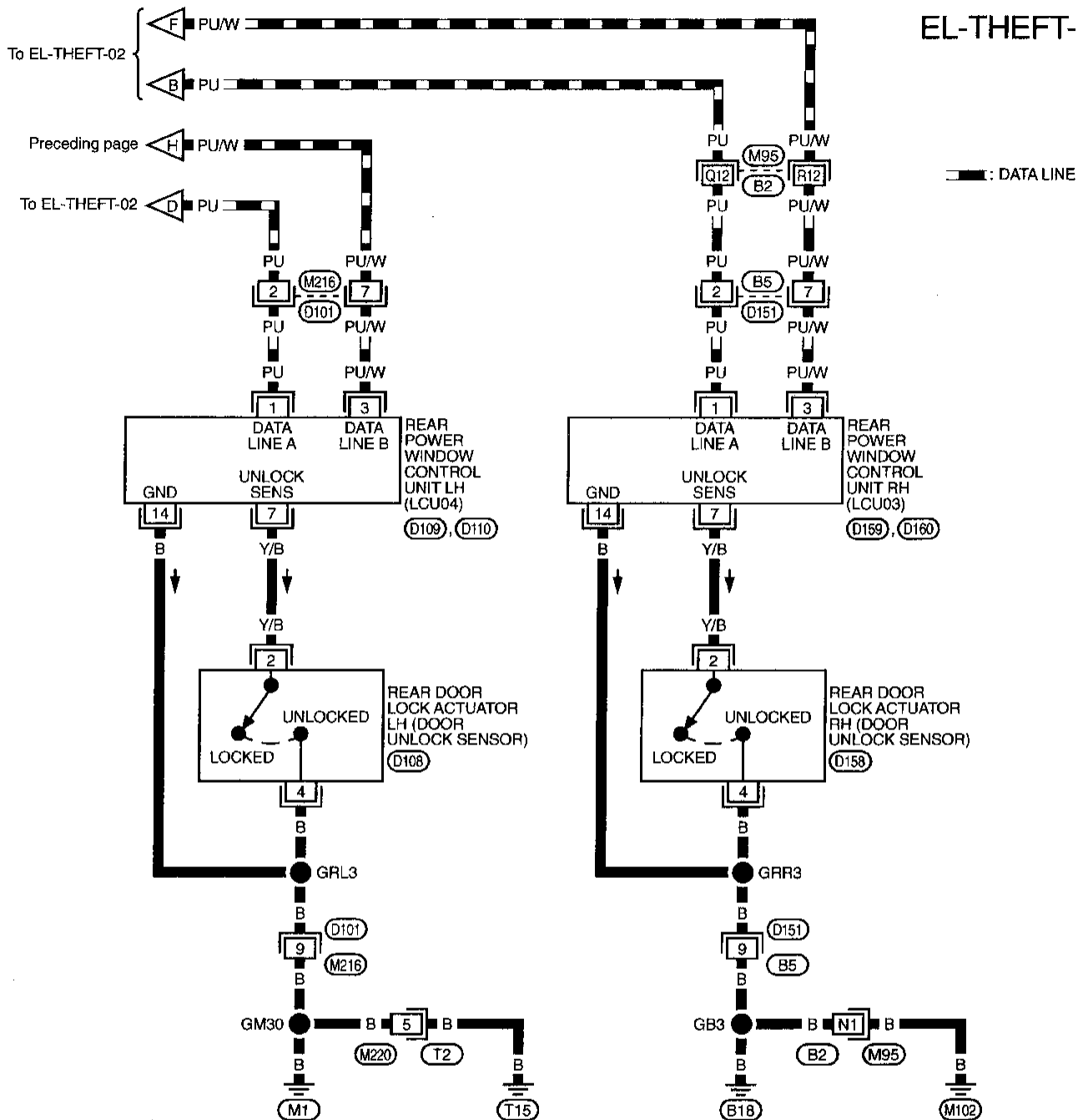


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M95, B2

THEFT WARNING SYSTEM — LAN

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-05



Refer to last page (Foldout page).

M95, B2

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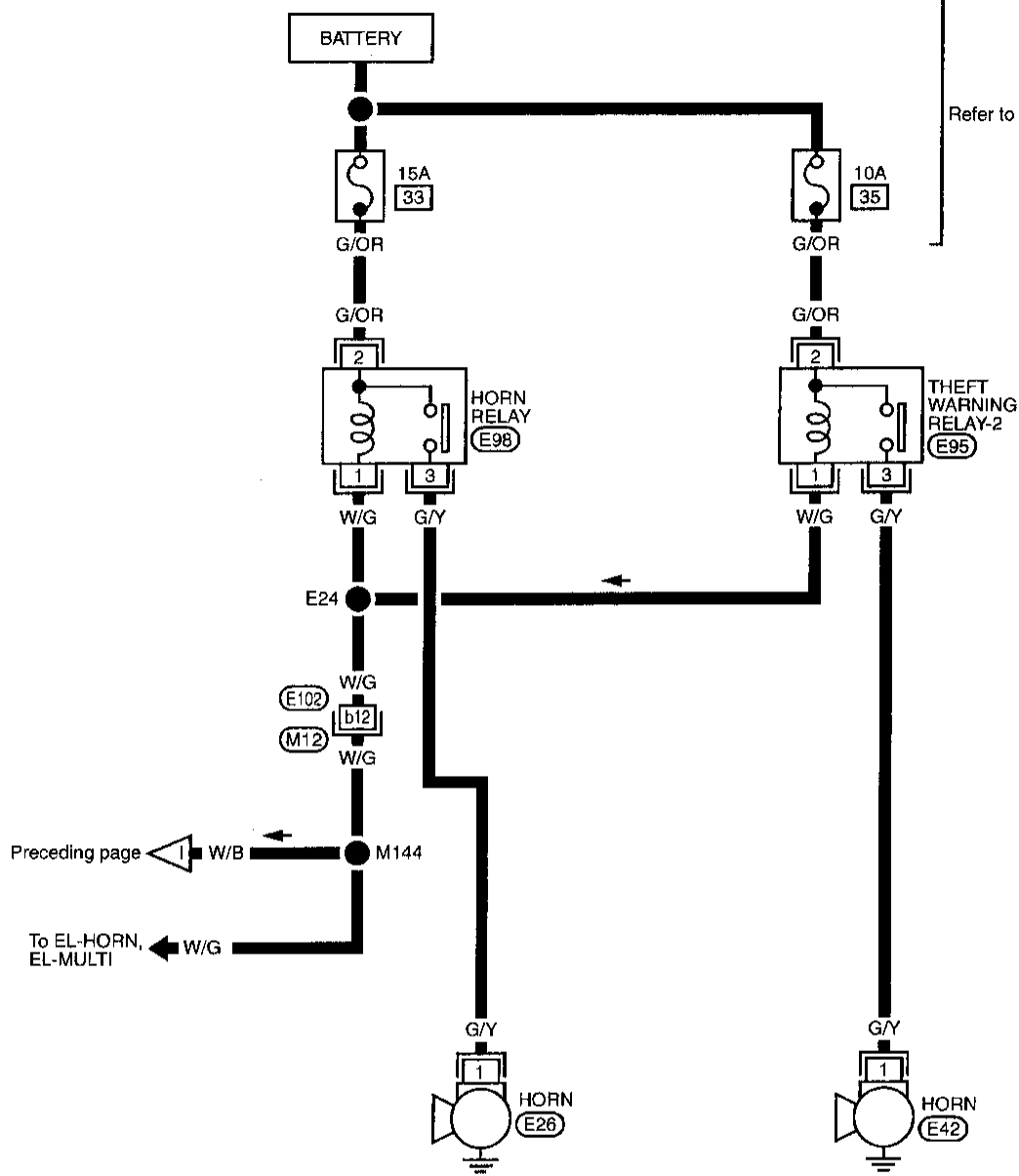
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THEFT WARNING SYSTEM — LAN

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-07



Refer to EL-POWER.

Preceding page

To EL-HORN, EL-MULTI

Refer to last page (Foldout page).

(E102) , (M12)



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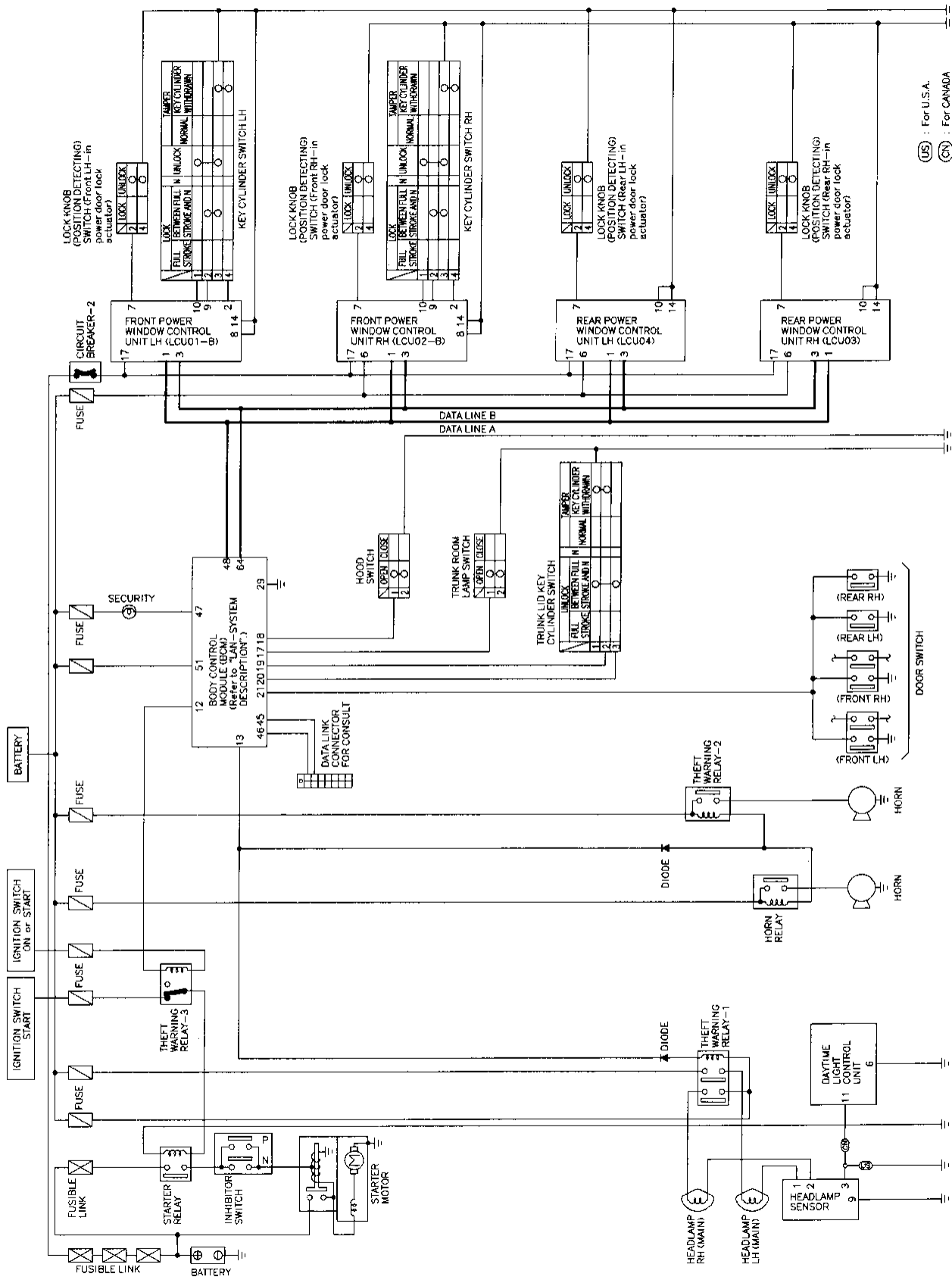
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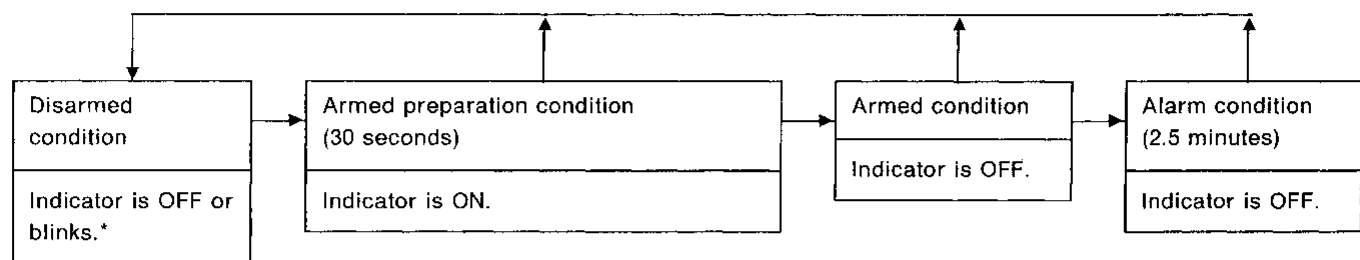
THEFT WARNING SYSTEM — LAN

Schematic



Description

1. OPERATION FLOW



* Indicator blinks when a door, hood, or trunk lid is open.

2. SETTING OF THE THEFT WARNING SYSTEM

Setting conditions

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

Setting operation

When any of the following operations (a), (b) or (c) is performed, the theft warning indicator lamp will be ON or OFF as shown below.

- (a) Lock driver's or passenger's door using the key. (All doors are locked by power door lock operation.)
- (b) Lock all doors using the multi remote control system.
- (c) Lock one door without using the key with other doors locked.

Elapsed time after operation	Indicator lamp
Within about 30 seconds	ON
After about 30 seconds	OFF

3. CANCELING OF THE THEFT WARNING SYSTEM IN THE SET CONDITION

When any of the following operation (a), (b), (c) or (d) is performed, the theft warning is canceled.

- (a) Unlock driver's or passenger's door using the key.
- (b) Unlock all doors using the multi remote control system.
- (c) Insert the ignition key in the key cylinder and turn it to the ACC or ON position.
- (d) Unlock the trunk lid with the key.

(The theft warning system is temporarily canceled only while the trunk lid is open. After the trunk lid is closed, the system is reset.)

4. CHECK OF THE THEFT WARNING SYSTEM OPERATION

Check if the security indicator is OFF.

When any of the following operation (a) or (b) is performed, system sounds the horns and the theft warning horn and flashes the headlamps for about 2.5 minutes for alert purposes. At the same time, the system disconnects the starter motor circuit.

- (a) Open the engine hood (trunk lid) using the engine hood (trunk lid) opener.
- (b) Unlock and open any of the doors without key operation.

5. CANCELING OF THE THEFT WARNING SYSTEM IN OPERATING CONDITION

The theft warning operation can be canceled when any of the following conditions are met.

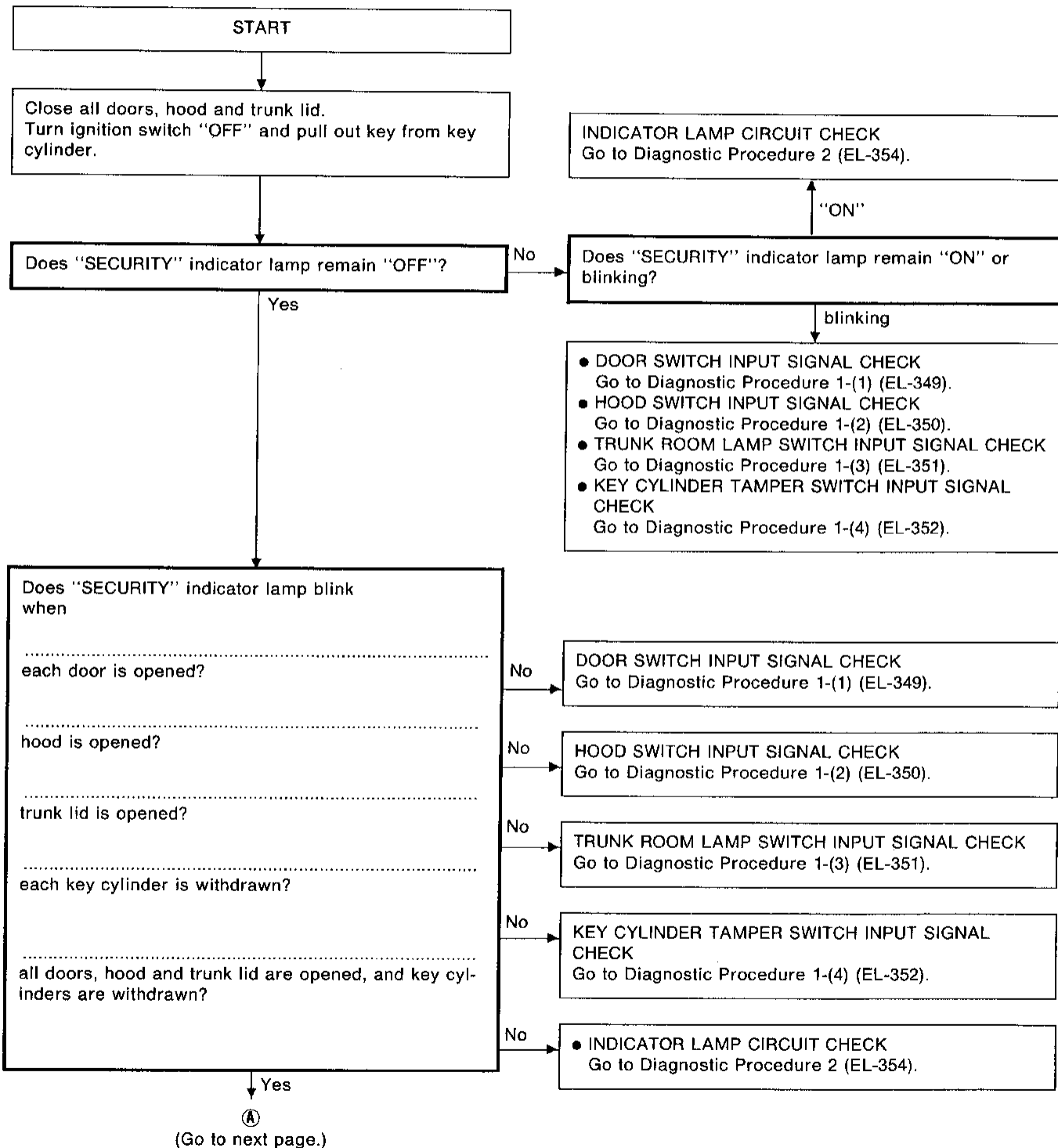
- (a) Unlock driver's, passenger's door or trunk using the key.
- (b) Unlock doors using the multi remote control system.

Trouble Diagnoses

Before starting with the following "SYSTEM OPERATION CHECK", be sure to perform "LAN Communication Diagnosis" (EL-231).

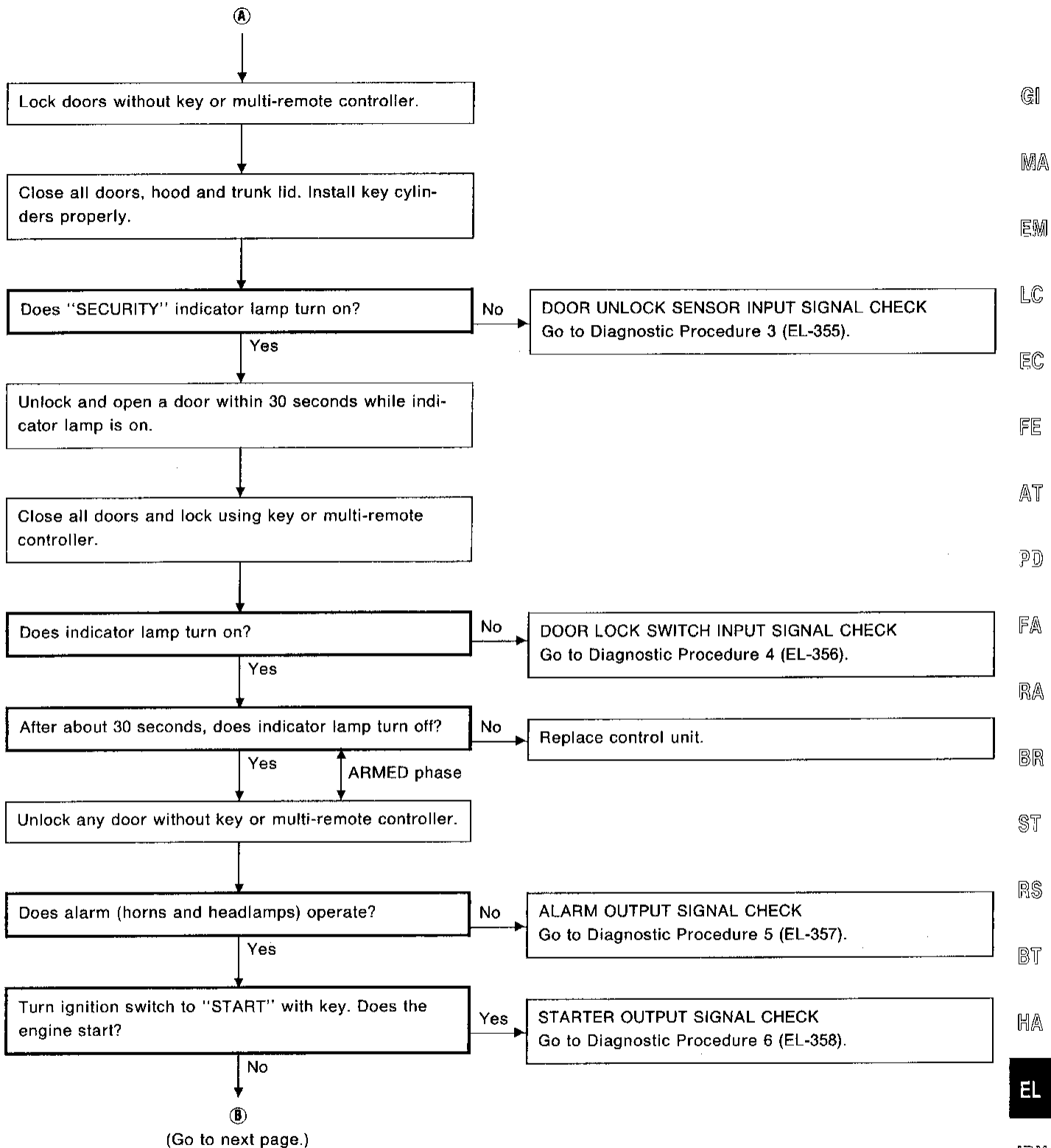
SYSTEM OPERATION CHECK

If ignition switch is turned to "ACC" at a step between START and ARMED or in the ARMED phase shown in this flow chart, the system operation is canceled.



THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)



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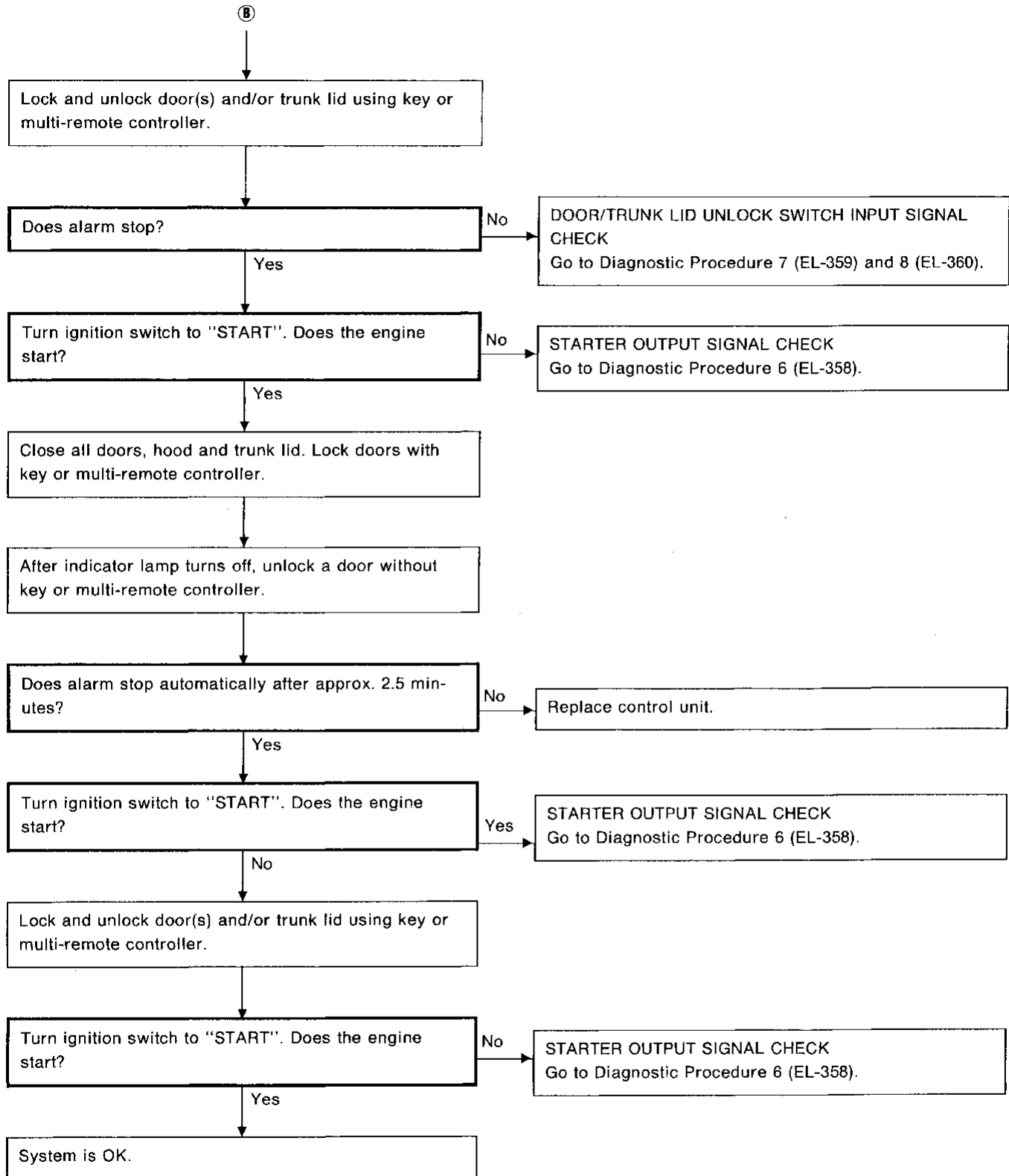
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THEFT WARNING SYSTEM — LAN
Trouble Diagnoses (Cont'd)



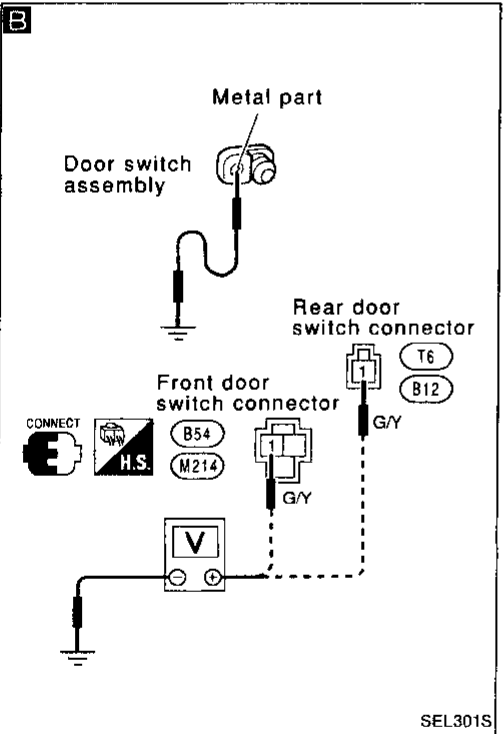
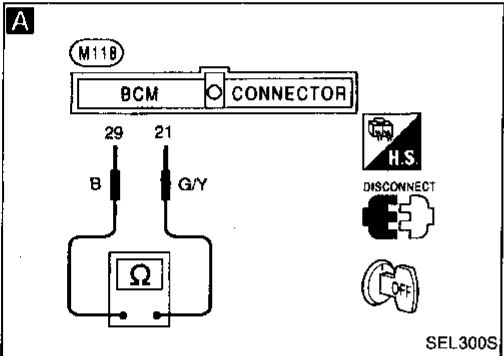
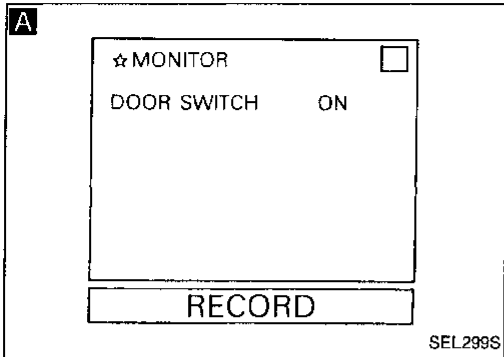
THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

- SYMPTOM:**
- Indicator lamp does not blink.
 - Indicator lamp remains blinking.

Diagnostic procedure 1-(1)



A

DOOR SWITCH INPUT SIGNAL CHECK



See "DOOR SWITCH" in "Data Monitor" mode.

When all doors are closed,

DOOR SWITCH OFF

When at least one door is open,

DOOR SWITCH ON

OR



1. Disconnect BCM connector.
2. Check continuity between BCM terminals ②① and ②⑨.

Condition	Continuity
All doors closed	No
At least one door open	Yes

OK

Go to Diagnostic Procedure 2. (EL-354)

NG

Check door switch. Refer to "Electrical Components Inspection". (EL-361)

NG

Replace door switch.

OK

B

DOOR SWITCH CIRCUIT CHECK

1. Remove door switch assembly.
2. Connect metal part of door switch assembly with body ground.
3. Check voltage between door switch connector terminal ① and body ground.

Condition	Voltage [V]
Door switch pushed	Approx. 12
Door switch released	Approx. 0

NG

Repair harness or connectors.

OK

Perform LAN communication check again. (Refer to EL-231.)

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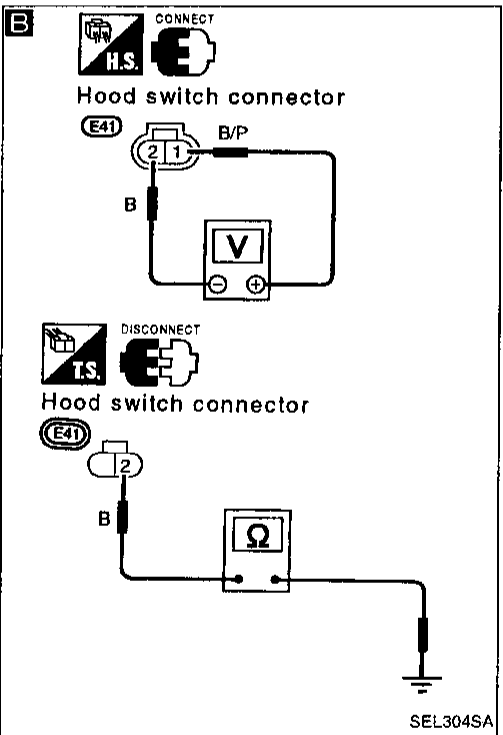
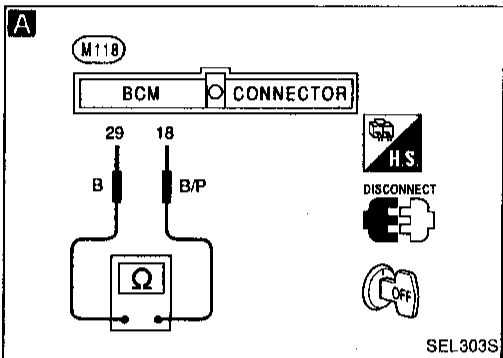
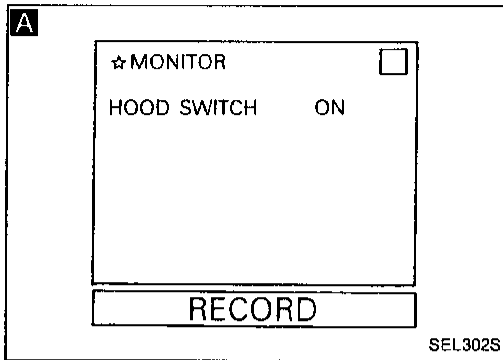
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Trouble Diagnoses (Cont'd)

Diagnostic procedure 1-(2)



A

HOOD SWITCH INPUT SIGNAL CHECK

See "HOOD SWITCH" in "Data Monitor" mode.
When hood is open,
HOOD SWITCH ON
When hood is closed,
HOOD SWITCH OFF

OR

1. Disconnect BCM connector.
2. Check continuity between BCM terminals ⑩ and ⑲.

Condition	Continuity
Hood open	Yes
Hood closed	No

NG

Check fitting condition of hood and hood switch.

OK

Check hood switch. Refer to "Electrical Components Inspection". (EL-361)

NG

OK

B

HOOD SWITCH CIRCUIT CHECK

1. Remove hood switch assembly.
2. Check voltage between hood switch connector terminals ① and ②.

Condition of hood switch	Voltage [V]
Pushed	Approx. 0
Released	Approx. 12

3. Disconnect hood switch connector.
4. Check harness continuity between hood switch terminal ② and body ground.
Continuity should exist.

NG

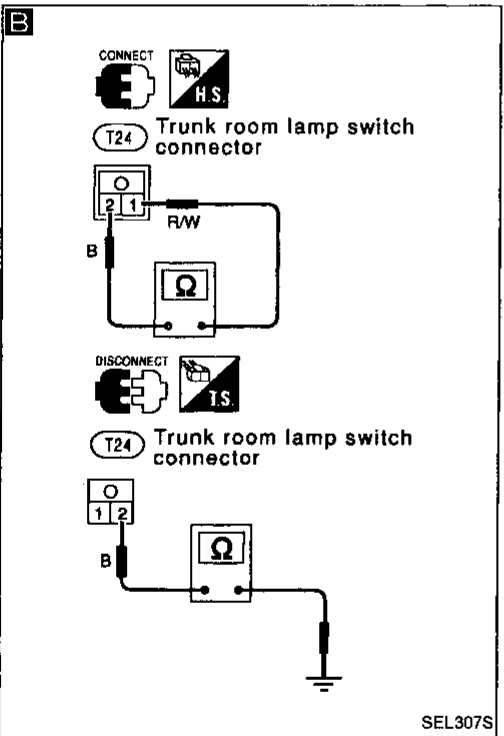
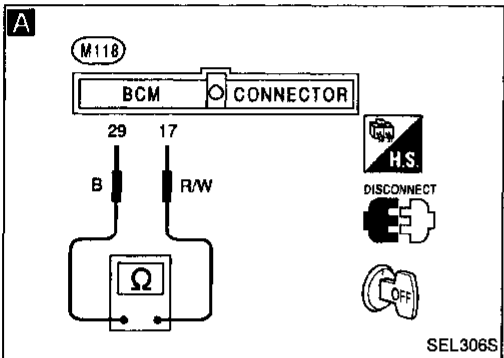
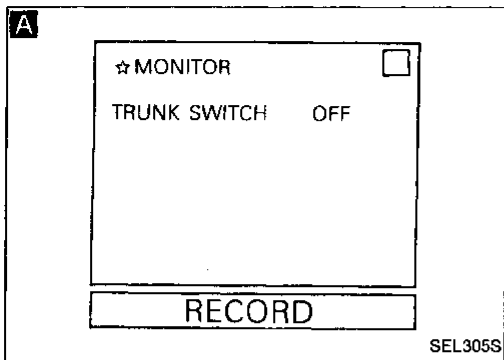
OK

Perform LAN communication check again. (Refer to EL-231.)

THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

Diagnostic procedure 1-(3)



A

TRUNK ROOM LAMP SWITCH INPUT SIGNAL CHECK

See "TRUNK SWITCH" in "Data Monitor" mode.

When trunk lid is open,
TRUNK SWITCH ON

When trunk lid is closed,
TRUNK SWITCH OFF

OR

1. Disconnect BCM connector.
2. Check continuity between BCM terminals ⑰ and ⑳.

Condition	Continuity
Trunk lid open	Yes
Trunk lid closed	No

OK → Go to Diagnostic Procedure 2. (EL-354)

NG → Does trunk room lamp come on?

No → Check trunk room lamp switch. Refer to "Electrical Components Inspection". (EL-361)

OK → Replace trunk room lamp switch.

NG →

B

TRUNK ROOM LAMP SWITCH CIRCUIT CHECK

1. Remove trunk room lamp switch assembly.
2. Check voltage between trunk room lamp switch connector terminals ① and ②.

Condition of trunk lid	Voltage [V]
Closed	Approx. 0
Open	Approx. 5

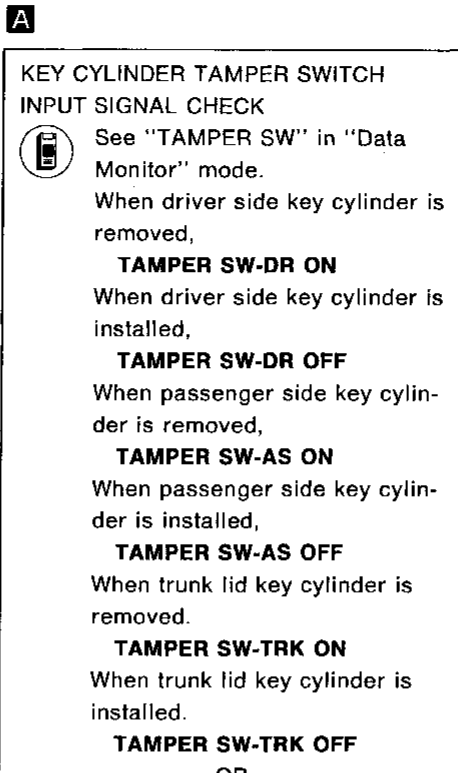
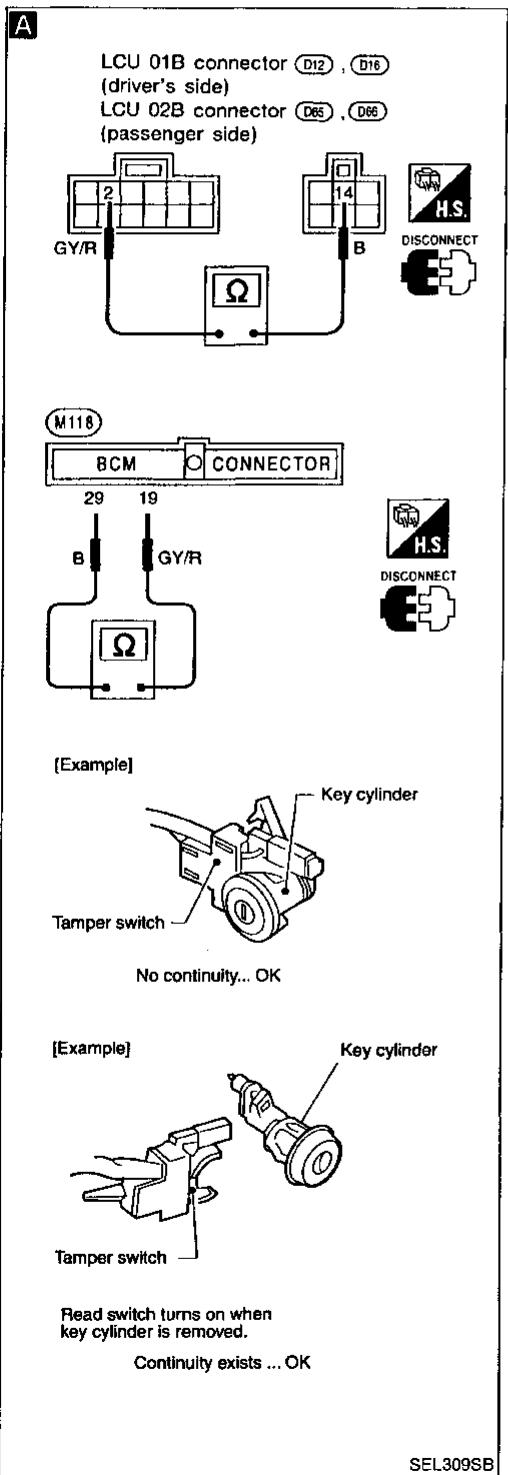
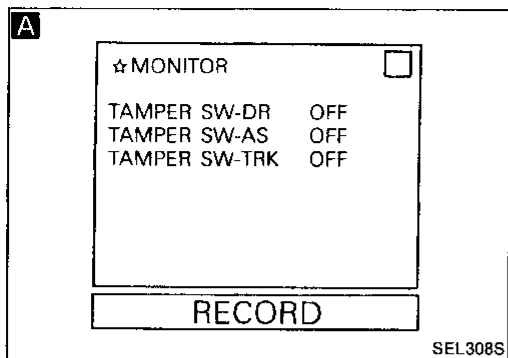
NG → Repair harness or connectors.

OK → Perform LAN communication check again. (Refer to EL-231.)

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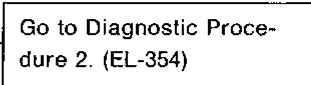
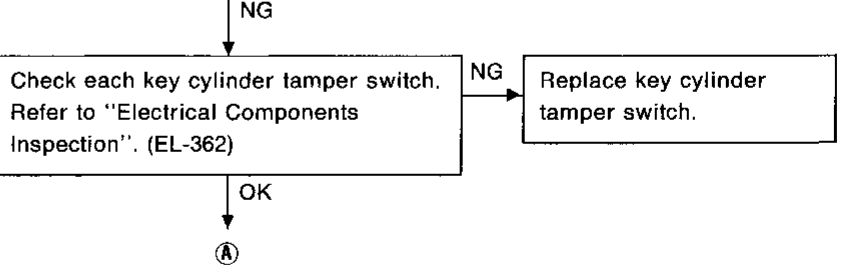
Trouble Diagnoses (Cont'd)

Diagnostic procedure 1-(4)

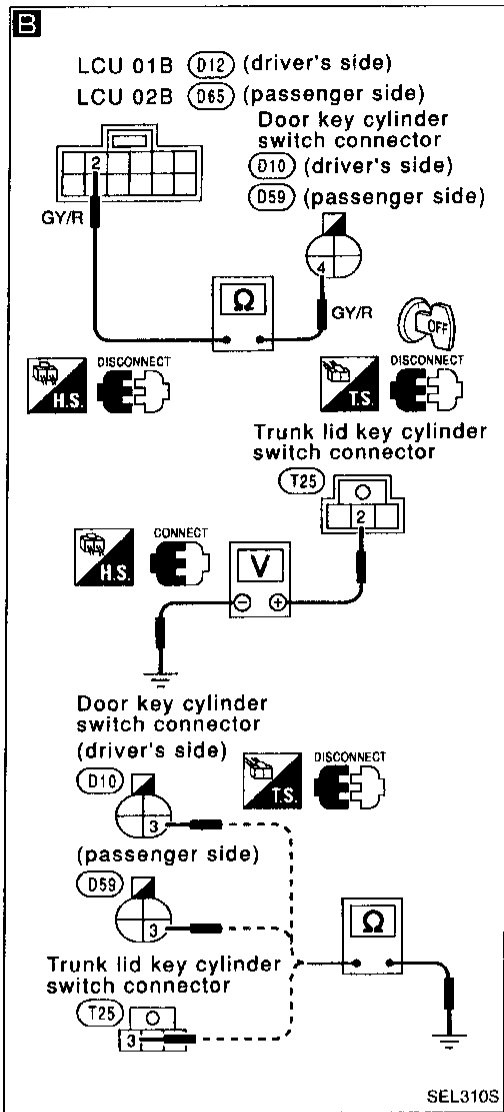


1. Disconnect BCM connector, LCU01B connectors, and LCU02B connectors.
2. Check continuity between LCU01B terminals ② and ⑭ (driver side), LCU02B terminals ② and ⑭ (passenger side), and then BCM terminals ⑰ and ⑳ (trunk lid).

Condition	Continuity
Key cylinder installed	No
Key cylinder removed	Yes



Trouble Diagnoses (Cont'd)



B

KEY CYLINDER TAMPER SWITCH CIRCUIT CHECK

1. Disconnect LCU01B connector, LCU02B connector, driver side key cylinder switch connector, and passenger side key cylinder switch connector.
2. Check harness continuity between LCU01B terminal ② and driver side key cylinder switch connector terminal ④ and then LCU02B terminal ② and passenger side key cylinder switch connector terminal ④.
Continuity should exist.
3. Check voltage between trunk lid key cylinder switch connector terminal ② and body ground.
Voltage should be approx. 5V.
4. Check continuity between key cylinder switch connector terminal ③ and body ground and then trunk lid key cylinder switch connector terminal ③ and body ground.
Continuity should exist.

NG → Repair harness and connectors.

OK → Perform LAN communication check again. (Refer to EL-231.)

OK → Replace BCM or LCU01B or 02B.

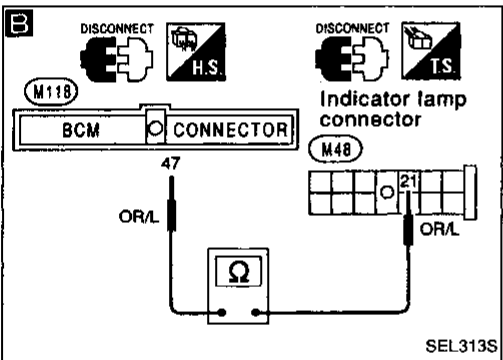
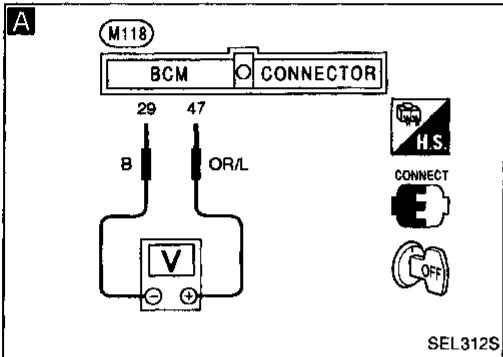
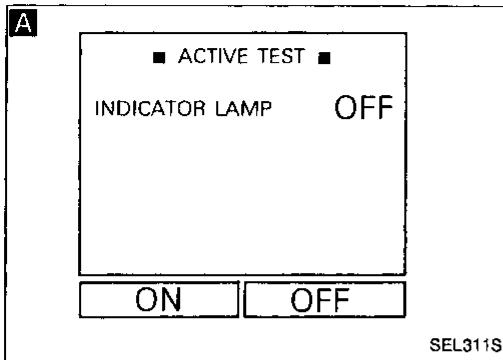
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THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Indicator lamp does not blink.



Check indicator lamp. NG → Replace indicator lamp.

OK ↓

A
INDICATOR LAMP OUTPUT SIGNAL CHECK
 Perform "Active Test" of indicator lamp. Check indicator lamp operation. OK → Perform LAN communication check again. (Refer to EL-231.)

OR

1. Open at least one door.
 2. Check voltage between BCM terminals 47 and 29.
Pointer of voltmeter should deflect intermittently.

OK →
 NG →

OK ↓
 NG → Replace BCM.

Check fuse. NG → Replace fuse.

OK ↓

B
INDICATOR LAMP CIRCUIT CHECK
 1. Disconnect BCM connector.
 2. Check harness continuity between BCM terminal 47 and indicator lamp connector terminal 21.
Continuity should exist. NG → Repair harness or connectors.

OK ↓

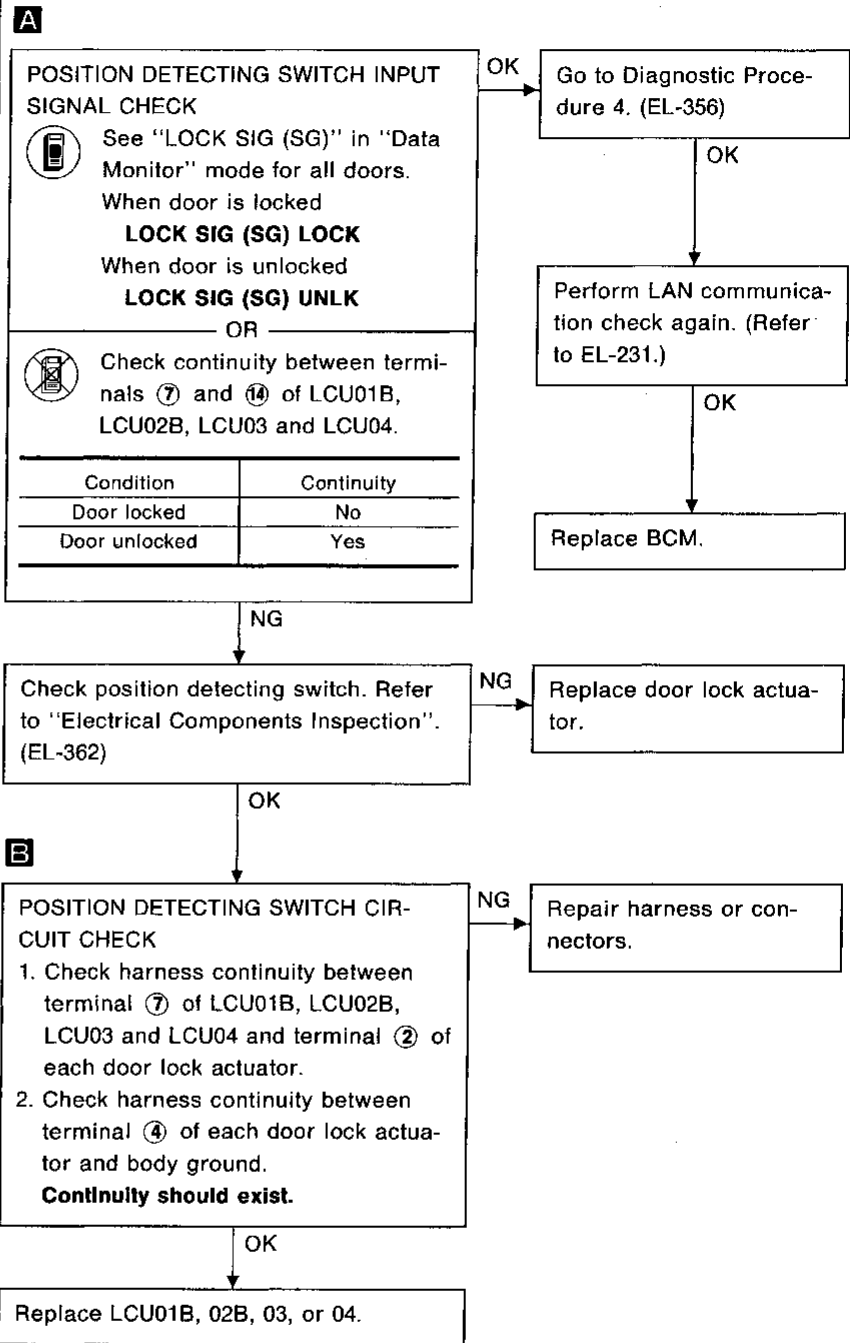
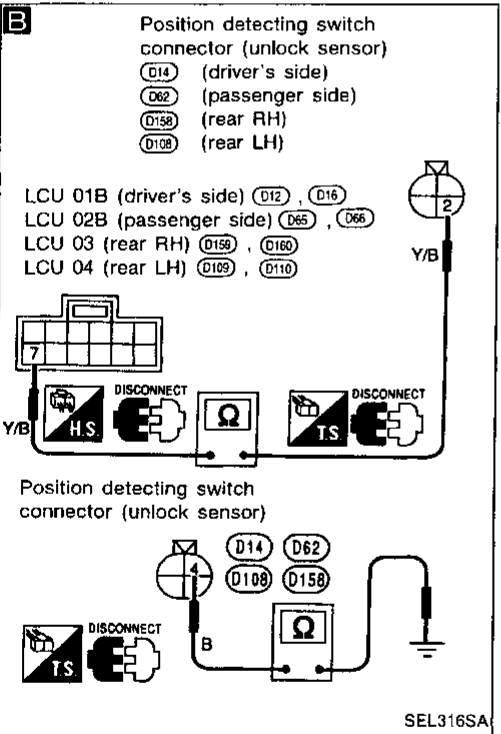
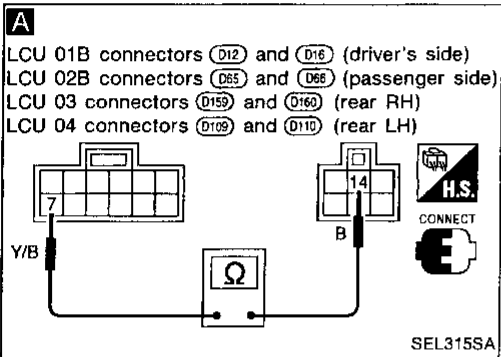
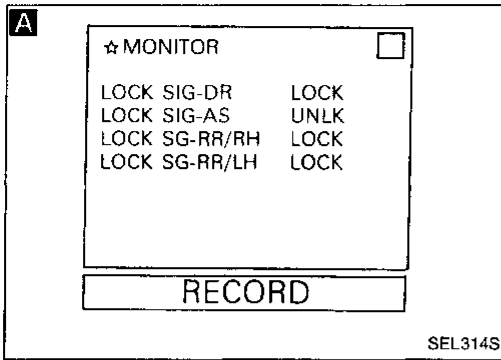
Check harness between battery and indicator lamp.

THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: Indicator lamp does not come on.

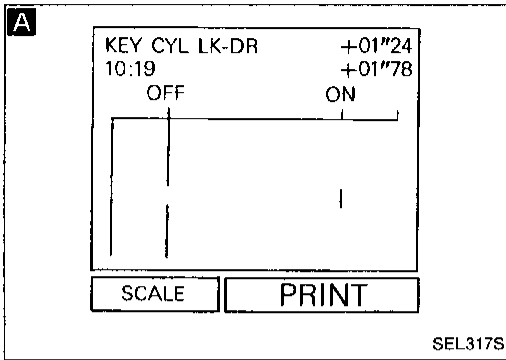


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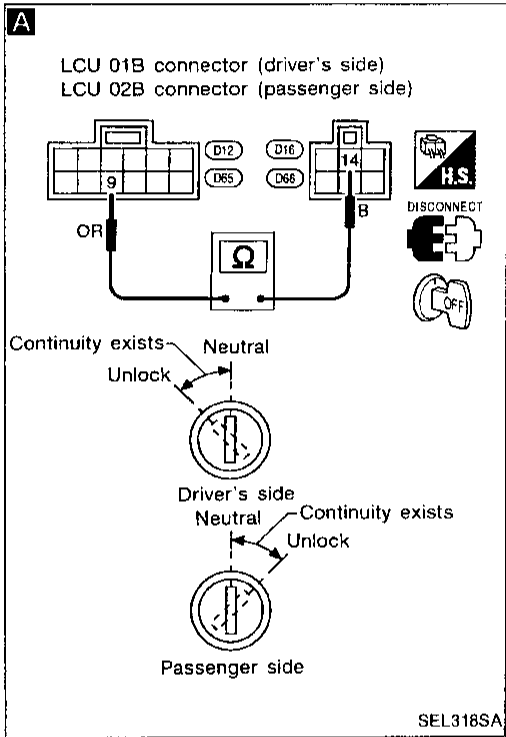
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

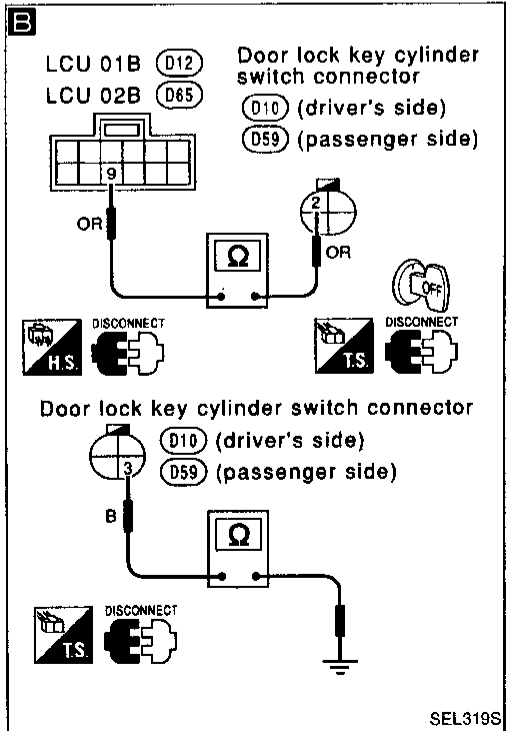
SYMPTOM: Indicator lamp does not come on.



SEL317S



SEL318SA



SEL319S

A

DOOR LOCK KEY CYLINDER SWITCH INPUT SIGNAL CHECK (LOCK SIGNAL)

See "KEY CYL LK-DR (AS)" in "Data Monitor" mode for both sides. When key is turned from Neutral to Lock position, KEY CYL LK-DR (AS) should be "ON" for a moment.

OK

Perform LAN communication check again. (Refer to EL-231.)

OK

Replace BCM.

OR

Check continuity between LCU01B terminals 9 and 14 (driver side) and then LCU02B terminals 9 and 14 (passenger side).

Key position	Continuity
Neutral/lock	No
Between neutral and lock	Yes

NG

Check door lock key cylinder switch. Refer to "Electrical Components Inspection". (EL-362)

NG

Replace key cylinder switch.

OK

B

DOOR LOCK KEY CYLINDER SWITCH CIRCUIT CHECK

1. Check harness continuity between terminal 9 of LCU01B and LCU02B and door lock key cylinder switch terminal 2 on each side.
2. Check continuity between door lock key cylinder switch terminal 3 on each side and body ground. Continuity should exist.

NG

Repair harness or connectors.

OK

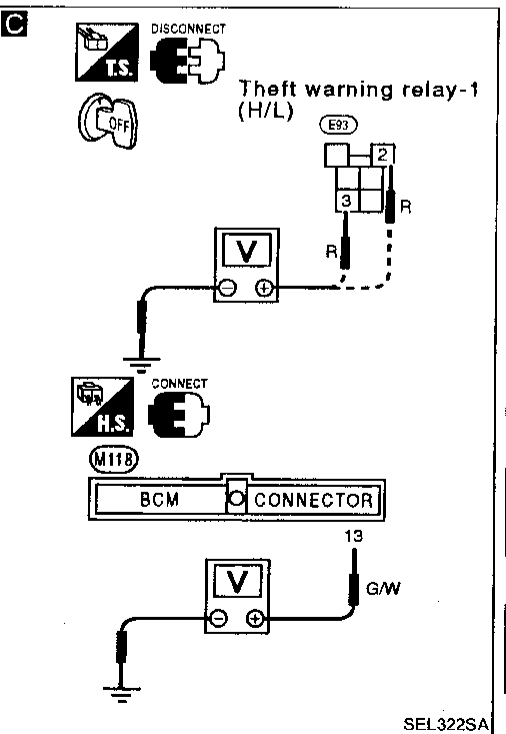
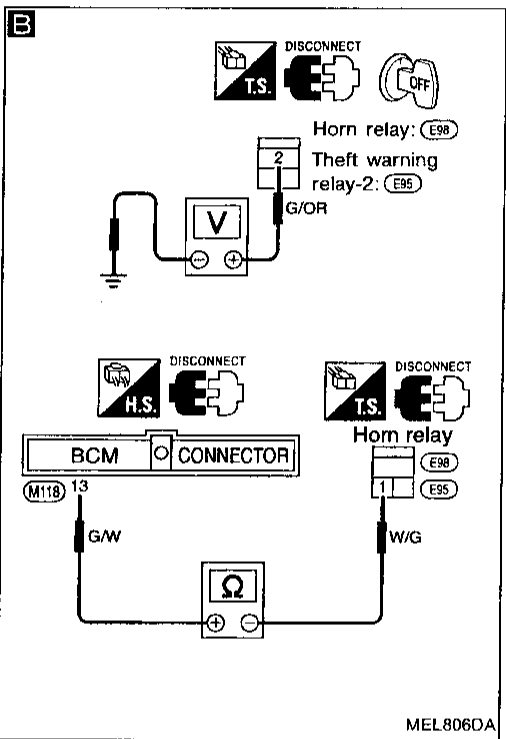
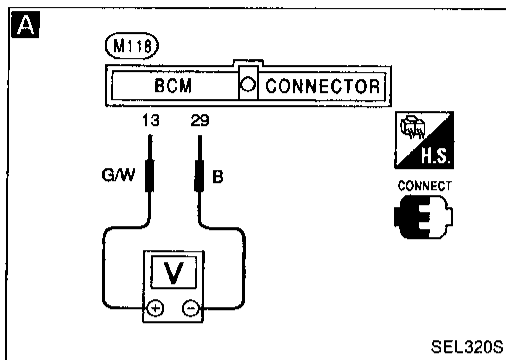
Replace LCU01B or 02B.

THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

SYMPTOM: Alarm does not operate.



A

ALARM SIGNAL OUTPUT CHECK
Check voltage between BCM terminals ⑬ and ⑳

Condition	Voltmeter
Except alarm phase	12V
Alarm phase	Pointer deflects intermittently

NG → Perform LAN communication check again. (Refer to EL-231.)
OK → Replace BCM.

OK

Check horn relay and theft warning relay-2.

NG → Replace horn relay or theft warning horn relay-2.
OK

B

THEFT WARNING HORN CIRCUIT CHECK

1. Check if voltage across horn relay harness terminal ② and body ground is 12V.
2. Check continuity between horn relay terminal ① and BCM terminal ⑬. **Continuity should exist.**

NG → Repair harness and connectors.
OK

Check theft warning relay-1.

NG → Replace theft warning relay-1.
OK

C

THEFT WARNING HEADLAMP CIRCUIT CHECK

1. Disconnect theft warning relay-1 connector.
2. Check voltage between theft warning relay-1 terminal ② and body ground, and then terminal ③ and body ground. **Voltage should be approx. 12V.**
3. Connect theft warning relay-1 connector.
4. Check voltage between BCM connector terminal ⑬ and body ground. **Voltage should be approx. 12V.**

NG → Repair harness and connectors.
OK

Do headlamps come on when lighting switch is turned "ON"?

No → Check headlamp system. Refer to "HEADLAMP". (EL-31)
Yes

Repair harness and connectors between lamp relay and headlamps.

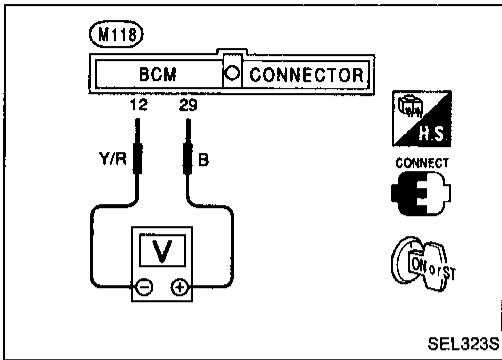
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THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

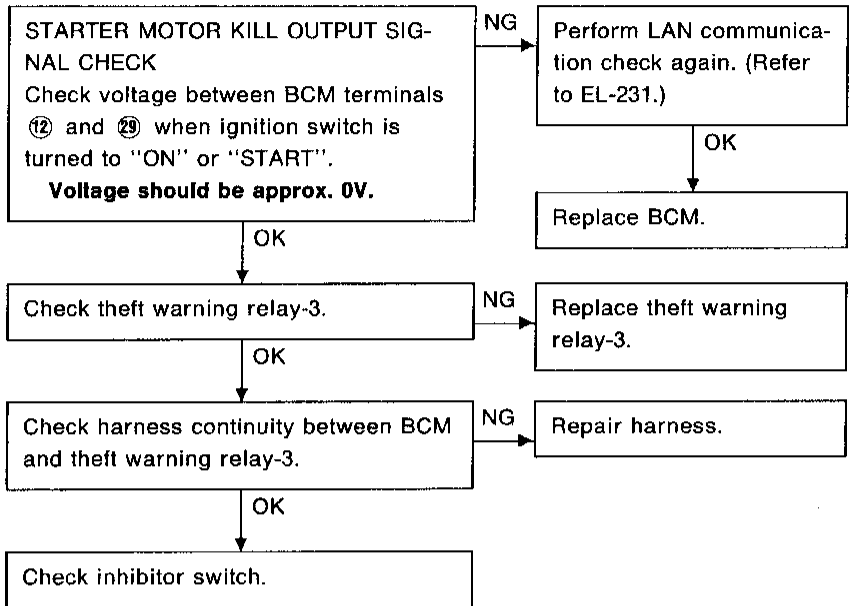
SYMPTOM: Starter motor can be operated. (Starter-killed phase)



STARTER MOTOR KILL OUTPUT SIGNAL CHECK

Check voltage between BCM terminals ⑫ and ⑳ when ignition switch is turned to "ON" or "START".

Voltage should be approx. 0V.

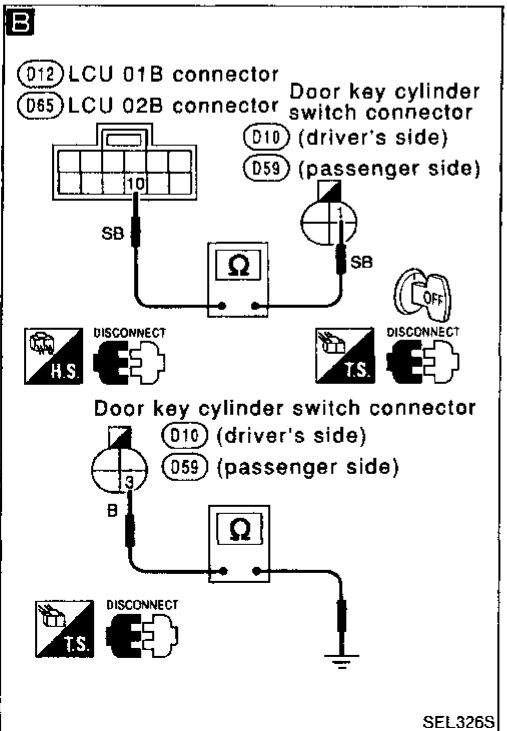
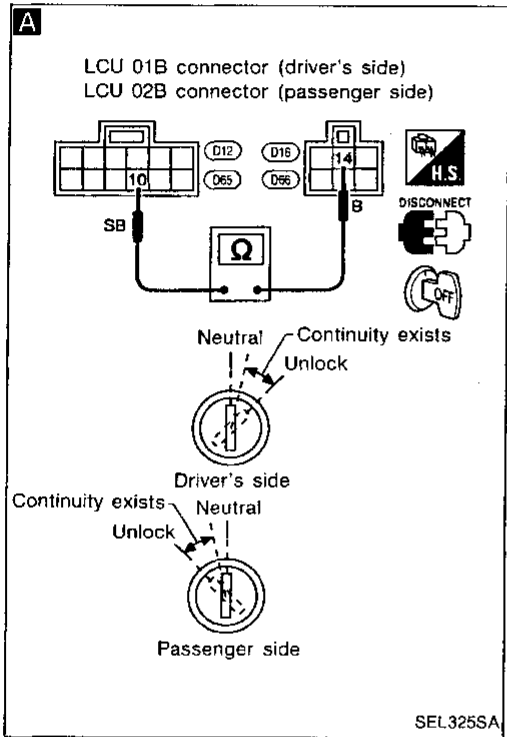
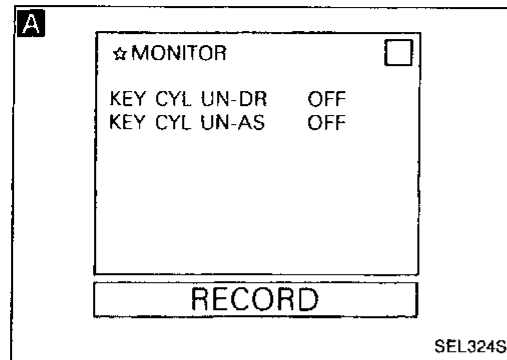


THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

SYMPTOM: Alarm does not stop even if stop signal is given.



A

DOOR KEY CYLINDER SWITCH INPUT SIGNAL CHECK (UNLOCK SIGNAL)

See "KEY CYL UN-DR (AS)" in "Data Monitor" mode for both sides.

When key in key cylinder is on unlock side,
KEY CYL UN-DR (AS) OFF

When key in key cylinder is on neutral side,
KEY CYL UN-DR (AS) ON

OR

Check continuity between terminals ⑩ and ⑭ of LCU01B and LCU02B.

Key position	Continuity
Neutral side	No
Unlock side and unlock	Yes

OK → Perform LAN communication check again. (Refer to EL-231.)

OK → Replace BCM.

NG → Check door key cylinder switch. Refer to "Electrical Components Inspection". (EL-362)

NG → Replace key cylinder switch.

OK →

B

DOOR KEY CYLINDER SWITCH CIRCUIT CHECK

- Check harness continuity between LCU01B terminal ⑩ and driver side door key cylinder switch terminal ① and then LCU02B terminal ⑩ and passenger side door key cylinder switch terminal ①.
- Check continuity between door key cylinder switch terminal ③ on each side and body ground.

Continuity should exist.

NG → Repair harness or connectors.

OK → Replace LCU01B or 02B

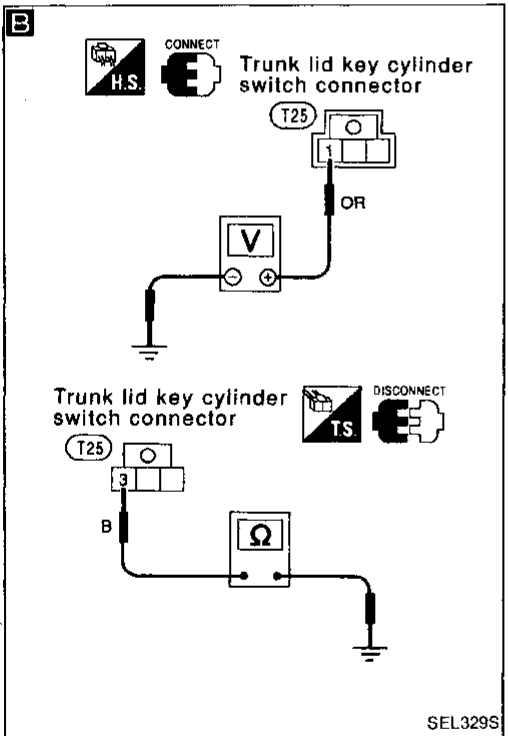
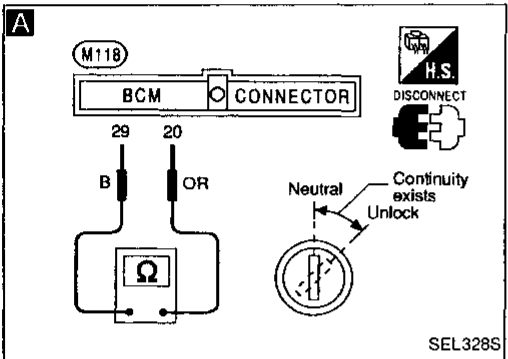
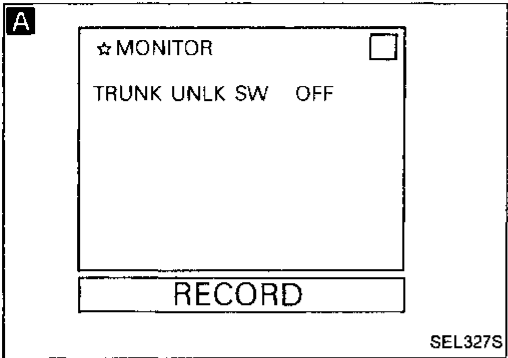
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THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

SYMPTOM: Alarm does not stop even if stop signal is given.



A

TRUNK LID KEY CYLINDER SWITCH INPUT SIGNAL CHECK (UNLOCK SIGNAL)

See "TRUNK UNLK SW" in "Data Monitor" mode
When key in key cylinder is at neutral or unlock position

TRUNK UNLK SW OFF
When key in key cylinder is between neutral and unlock

TRUNK UNLK SW ON

OR

1. Disconnect BCM connector.
2. Check continuity between BCM connector terminal ⑳ and ㉑.

Key position	Continuity
Neutral/unlock	No
Between neutral and unlock	Yes

OK → Perform LAN communication check again. (Refer to EL-231.)

Replace BCM.

NG

Check trunk lid key cylinder switch. Refer to "Electrical Components Inspection". (EL-362)

NG → Replace trunk lid key cylinder switch.

B

TRUNK LID KEY CYLINDER SWITCH CIRCUIT CHECK

1. Check voltage between trunk lid key cylinder switch connector terminal ① and body ground.

Key position	Voltage [V]
Neutral/unlock	Approx. 5
Between neutral and unlock	Approx. 0

2. Disconnect trunk lid key cylinder switch connector.
3. Check continuity between trunk lid key cylinder switch terminal ③ and body ground.
Continuity should exist.

NG → Repair harness or connectors.

OK

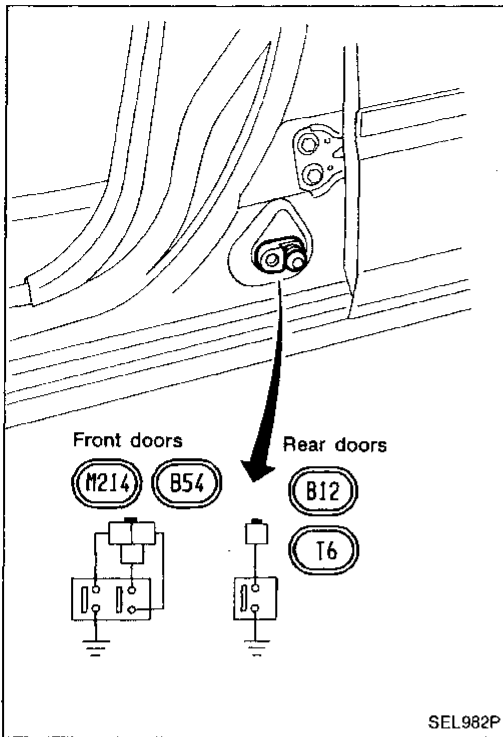
Perform LAN communication check again. (Refer to EL-231.)

Trouble Diagnoses (Cont'd)

ELECTRICAL COMPONENTS INSPECTION

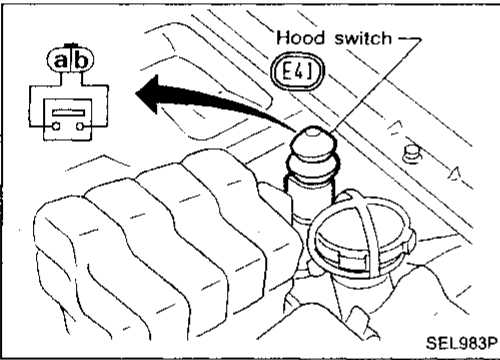
Door switches

Check continuity between terminal and switch body.



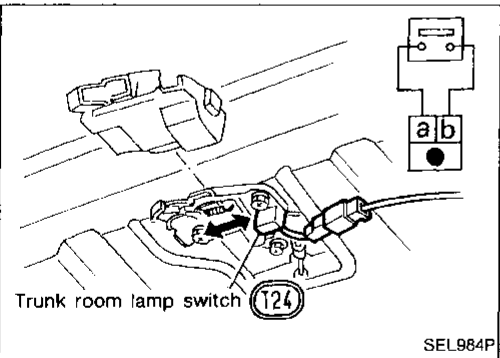
Hood switch

Check continuity between terminals when hood switch is pushed and released.



	Terminal
Pushed	No continuity
Released	a — b

Trunk room lamp switch



Trunk lid	Terminal
Closed	No continuity
Open	a — b

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THEFT WARNING SYSTEM — LAN

Trouble Diagnoses (Cont'd)

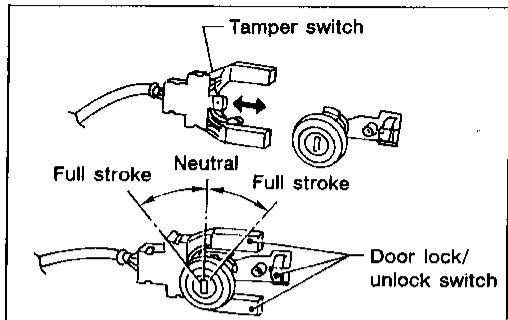
Key cylinder tamper switch, door lock switch and door unlock switch

● Door

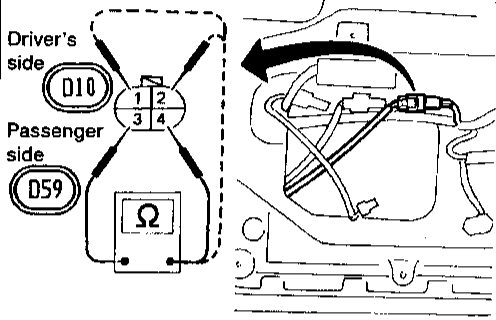
TAMPER SWITCH	
Key cylinder is installed	No continuity
Key cylinder is removed	③ — ④
DOOR LOCK SWITCH	
Full stroke	No continuity
Between full stroke and neutral	② — ③
Neutral	No continuity
DOOR UNLOCK SWITCH	
Neutral side	No continuity
Unlock side	① — ③

● Trunk lid

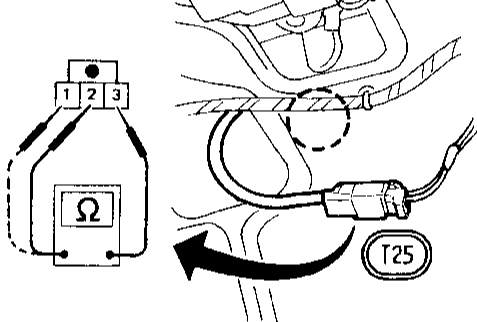
TAMPER SWITCH	
Key cylinder is installed	No continuity
Key cylinder is removed	② — ③
TRUNK LID UNLOCK SWITCH	
Full stroke	No continuity
Between full stroke and neutral	① — ③
Neutral	No continuity



Door



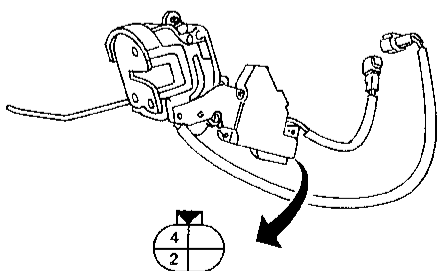
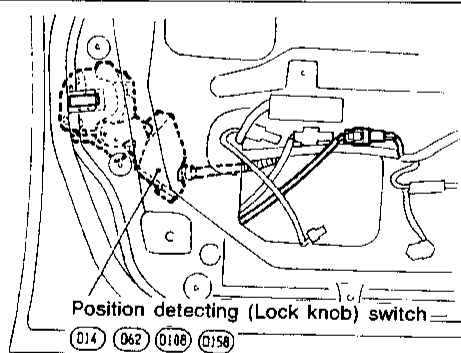
Trunk lid



SEL985P

Position detecting (Lock knob) switch

LOCK	No continuity
UNLOCK	④ — ②



SEL986P

System Description

Power is supplied at all times

- to BCM terminal ⑤①
- through 10A fuse (No. ⑳), located in the fuse block).

Power is supplied at all times

- to front step lamp LH and RH terminals ② and rear step lamp LH and RH terminals ②
- through 10A fuse [No. ⑳], located in the fuse block].

LCU01-B, LCU02-B, LCU03 and LCU04 terminal ① and BCM terminal ④⑧ are connected as DATA LINE A.

LCU01-B, LCU02-B, LCU03 and LCU04 terminal ③ and BCM terminal ⑥④ are connected as 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 LCU01-B, LCU02-B, LCU03 and LCU04 to turn on step lamps. Then ground is supplied to each step lamp terminal ① through LCU01-B, LCU02-B, LCU03 and LCU04 terminal ⑫.

With power and ground supplied, step lamps turn on.

ILLUMINATION CONTROL SWITCH OPERATION

When illumination control switch is turned ON, ground is supplied

- to BCM terminal ②⑧ through illumination control switch terminals ② and ④
- through body grounds ①⑩② and ①⑩⑧.

Then BCM sends a signal to LCU01-B, LCU02-B, LCU03 and LCU04 to turn on step lamps.

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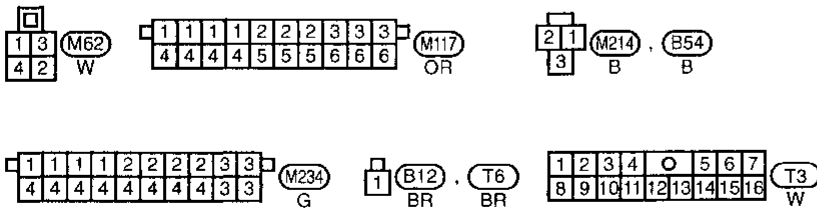
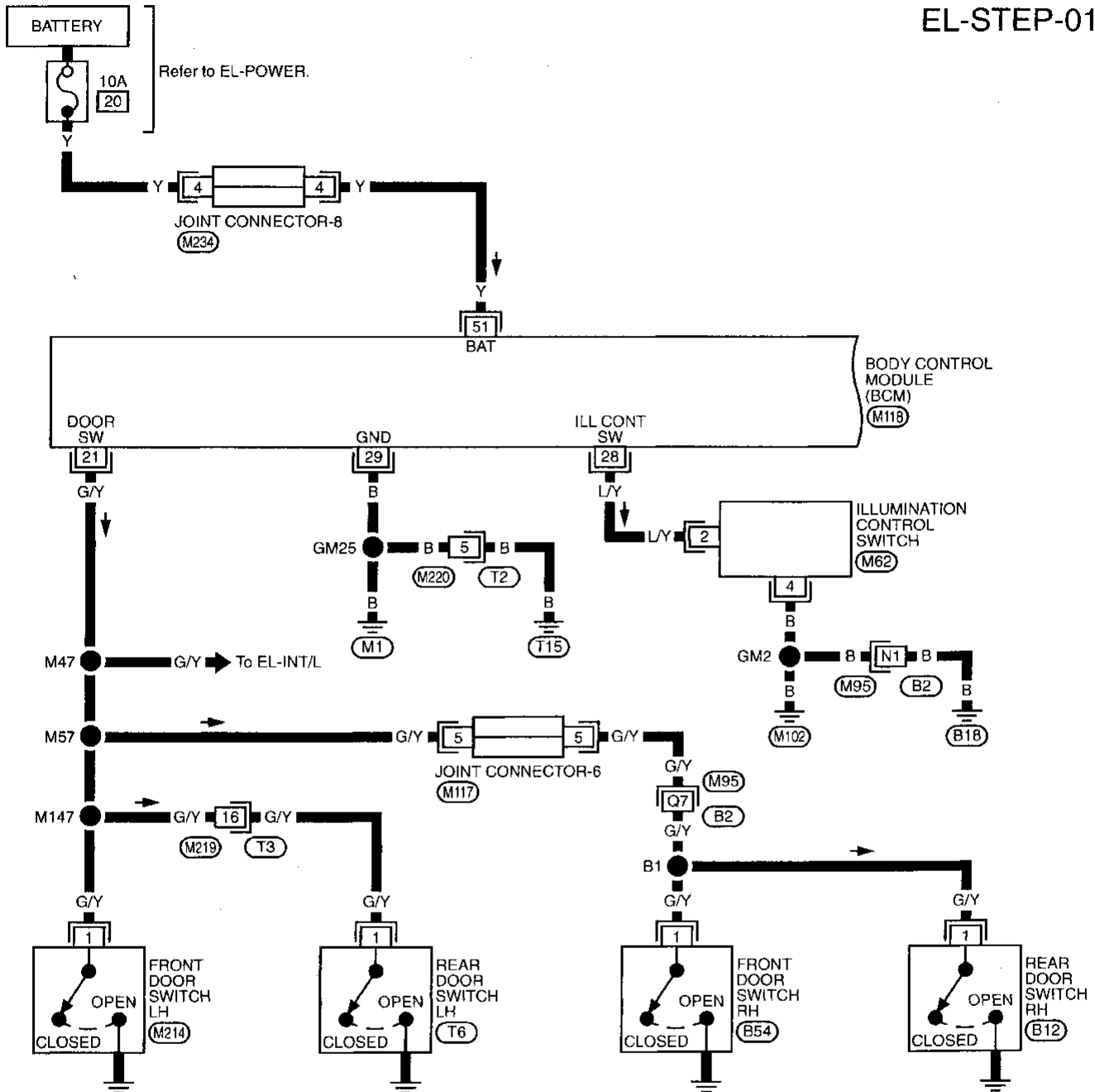
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STEP LAMPS — LAN

Wiring Diagram — STEP —

EL-STEP-01



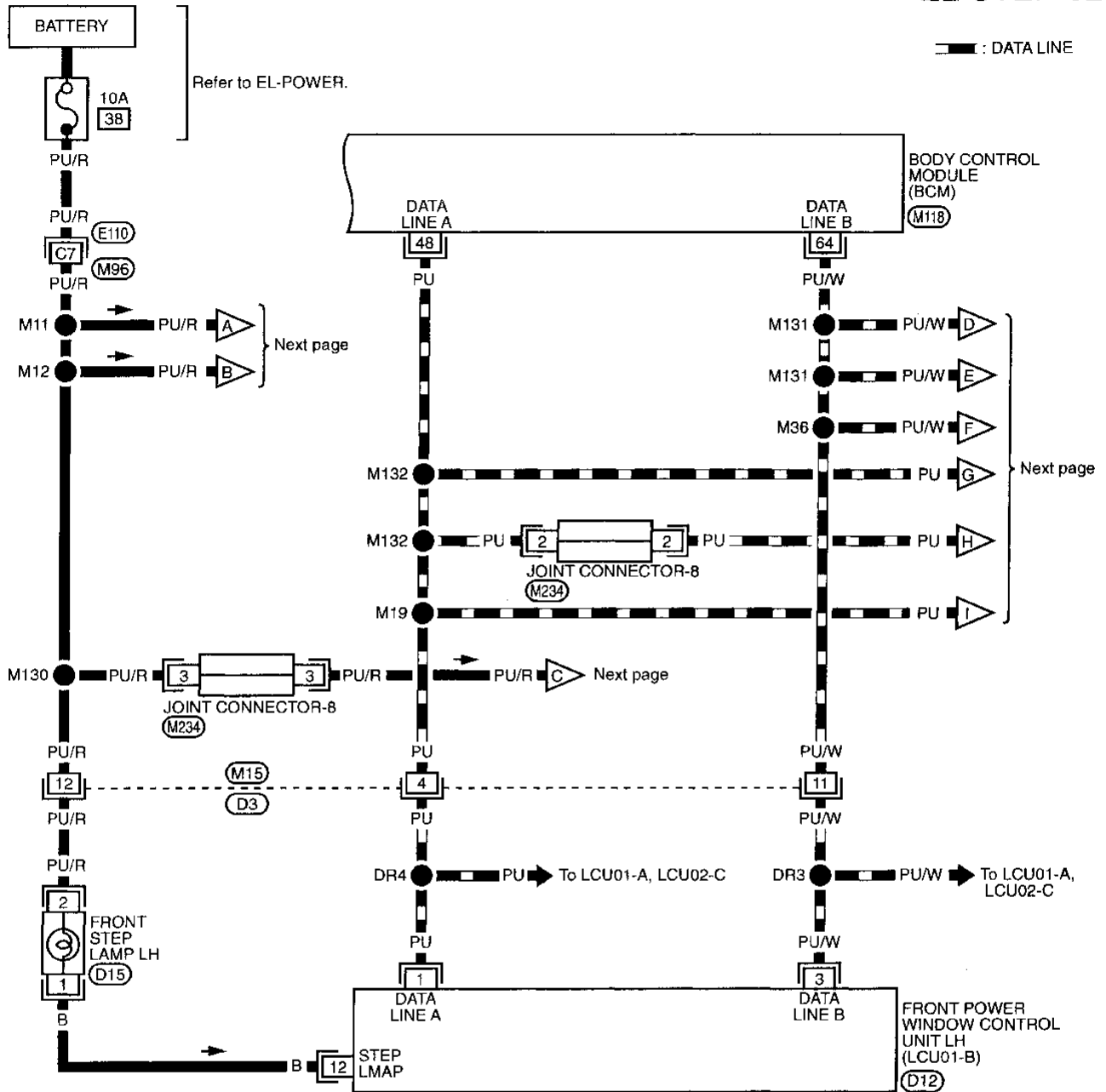
Refer to last page (Foldout page).

M95, B2
M118

STEP LAMPS — LAN

Wiring Diagram — STEP — (Cont'd)

EL-STEP-02



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1	1	1	1	2	2	2	2	3	3
4	4	4	4	4	4	4	4	3	3

(M234) G

1	2	0	3	4	5	
6	7	8	9	10	11	12

(D3) W

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

(D12) B

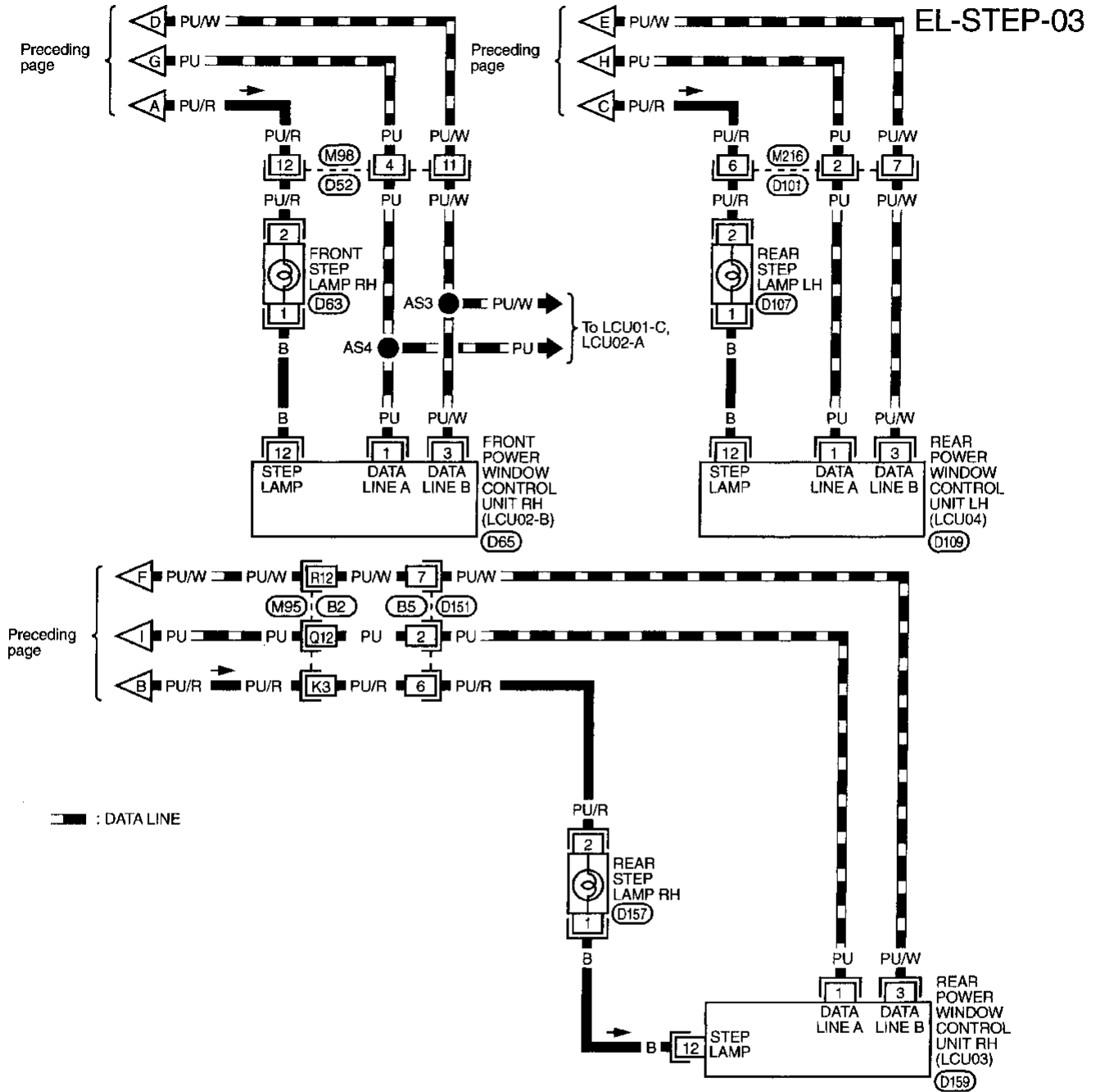
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(D15) W

Refer to last page (Foldout page).
(E110), (M96)
(M118)

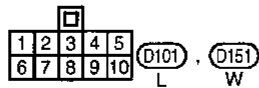
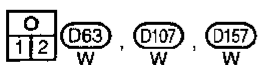
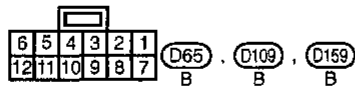
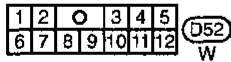
STEP LAMPS — LAN

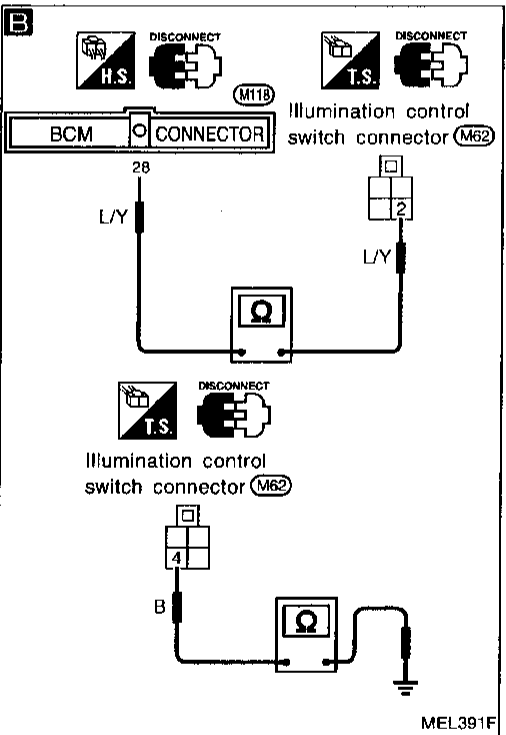
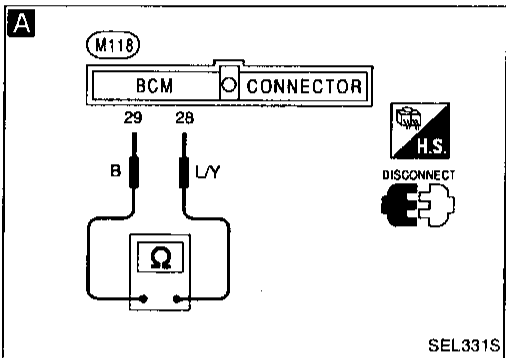
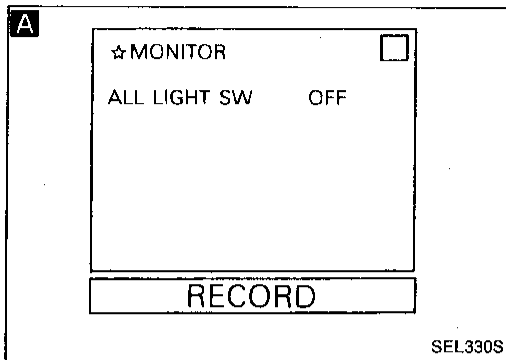
Wiring Diagram — STEP — (Cont'd)



Refer to last page (Foldout page).

M95, B2





Trouble Diagnoses

DIAGNOSTIC PROCEDURE 1

SYMPTOM: No step lamp lights up when illumination control switch is turned "ON".

A

ILLUMINATION CONTROL SWITCH INPUT SIGNAL CHECK

See "ALL LIGHT SW" in "Data Monitor" mode.

When illumination control switch is turned on,
ALL LIGHT SW ON

When illumination control switch is turned off,
ALL LIGHT SW OFF

OR

1. Disconnect BCM connector.
2. Check continuity between BCM connector terminals ②⑧ and ②⑨.

Condition of ill. cont. switch	Continuity
OFF	No
ON	Yes

NG

Check illumination control switch. Refer to "INTERIOR LAMP". (EL-61)

OK

B

ILLUMINATION CONTROL SWITCH CIRCUIT CHECK

1. Check harness continuity between BCM terminal ②⑧ and illumination control switch terminal ②.
2. Check continuity between illumination control switch terminal ④ and body ground.

Continuity should exist.

OK

Check connections at each connector.

OK

Perform LAN communication check again. (Refer to EL-231.)

OK

Replace BCM.

NG

Replace illumination control switch.

OK

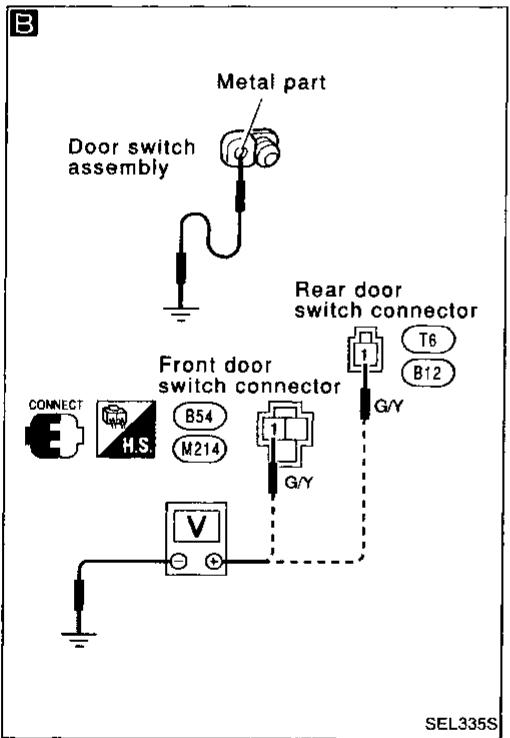
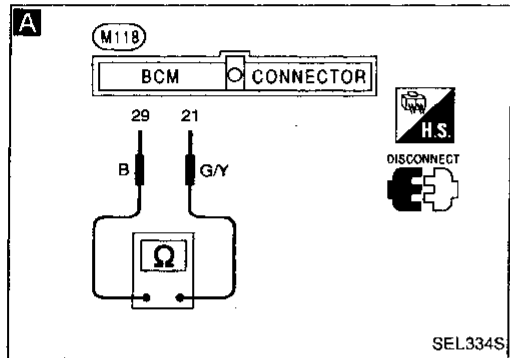
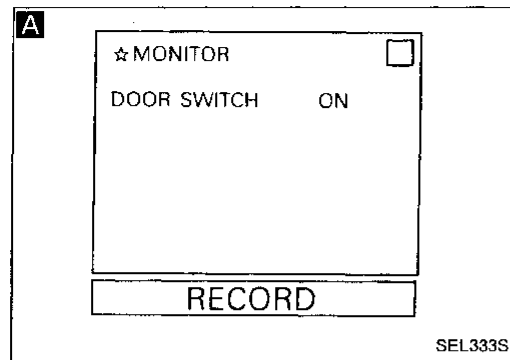
Repair harness or connectors.

STEP LAMPS — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: No step lamp lights up when any one or more doors are opened.



A

DOOR SWITCH INPUT SIGNAL CHECK

See "DOOR SWITCH" in "Data Monitor" mode. Open and then close one door at a time for all doors.

When at least one door is open,
DOOR SWITCH ON

When all doors are closed,
DOOR SWITCH OFF

OR

1. Disconnect BCM connector.
2. Check continuity between BCM connector terminals ②1 and ②9.

Condition	Continuity
At least one door open	Yes
All doors closed	No

OK → Perform LAN communication check again. (Refer to EL-231.)

OK → Replace BCM.

NG → Check door switch.

NG → Replace door switch.

OK →

B

DOOR SWITCH CIRCUIT CHECK

1. Remove door switch assembly.
2. Connect metal part of door switch assembly with body ground.
3. Check voltage between door switch connector terminal ① and body ground.

Condition	Voltage [V]
Door switch pushed	Approx. 12
Door switch released	Approx. 0

NG → Repair harness or connectors.

OK → Check connections at each connector.

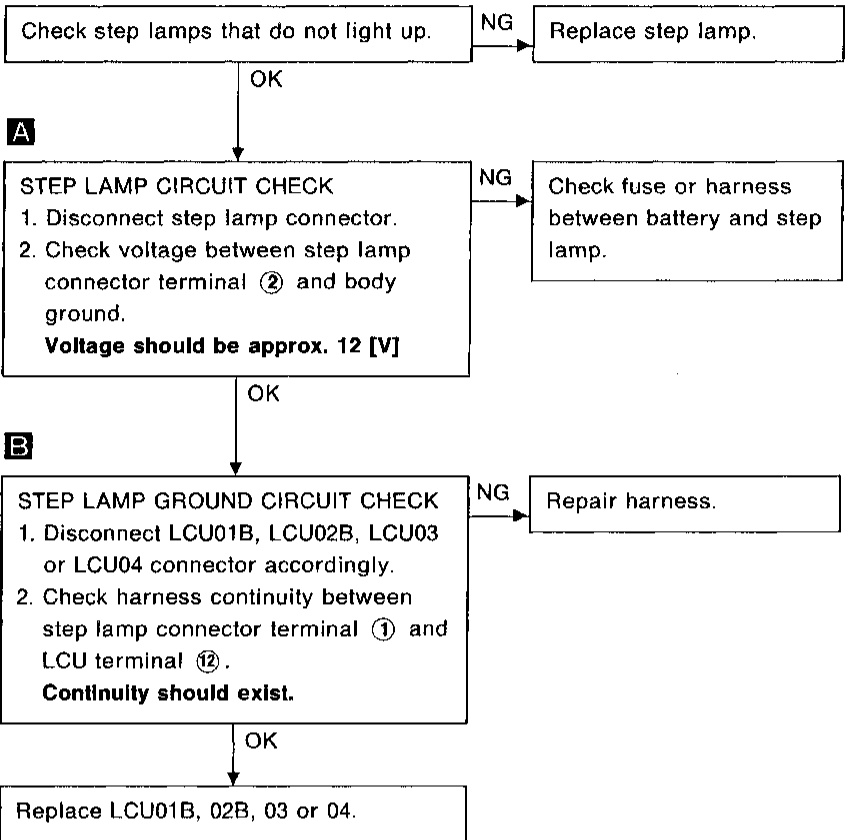
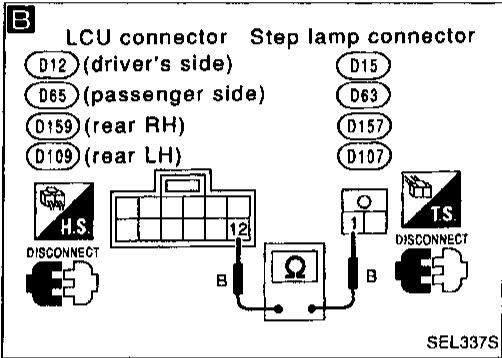
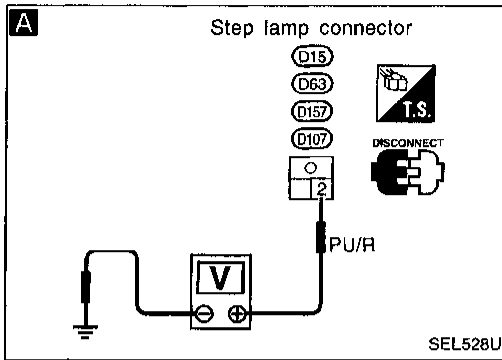
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STEP LAMPS — LAN

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: Some step lamps do not light up while other step lamps do.



System Description

Power is supplied at all times

- to headlamp relay unit terminal ③
- through 10A fuse (No. ③7), located in the fuse block).

When the lighting switch is in 1ST or 2ND position with the headlamp relay unit energized, power is supplied

- to BCM terminal ②4
- through the headlamp relay unit terminal ⑬.

Ground is supplied

- to the lighting switch terminal ⑥ through body grounds ①5 and ①33.

Terminals ① and ③ of the power window switch illumination (located in the rear LH and RH door control units) are connected to BCM terminals ④8 and ④4 as DATA LINES A and B respectively.

When power is supplied to BCM terminal ②4, BCM sends a signal to rear LH and RH door control units to turn on power window switch illumination. Power and ground are supplied to power window switch illumination, then power window switch illumination turns on.

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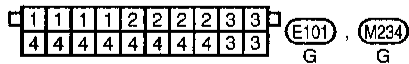
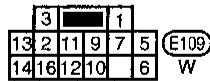
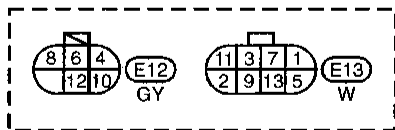
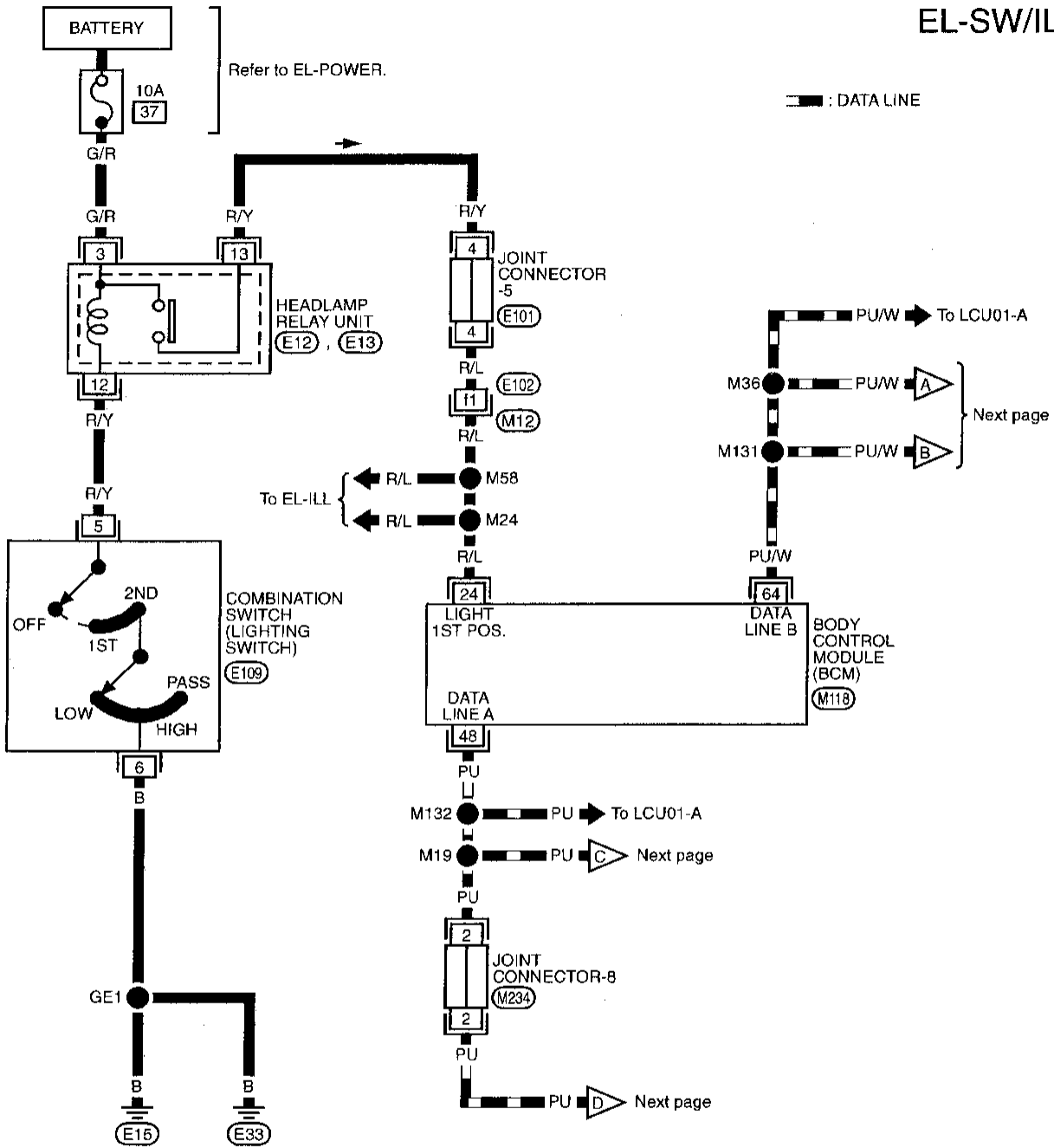
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Wiring Diagram — SW/ILL —

EL-SW/ILL-01



Refer to last page (Foldout page).

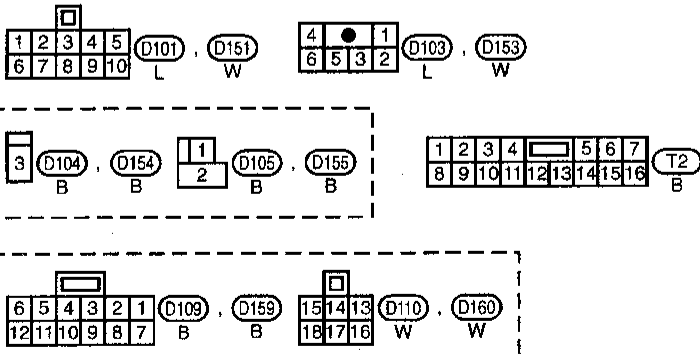
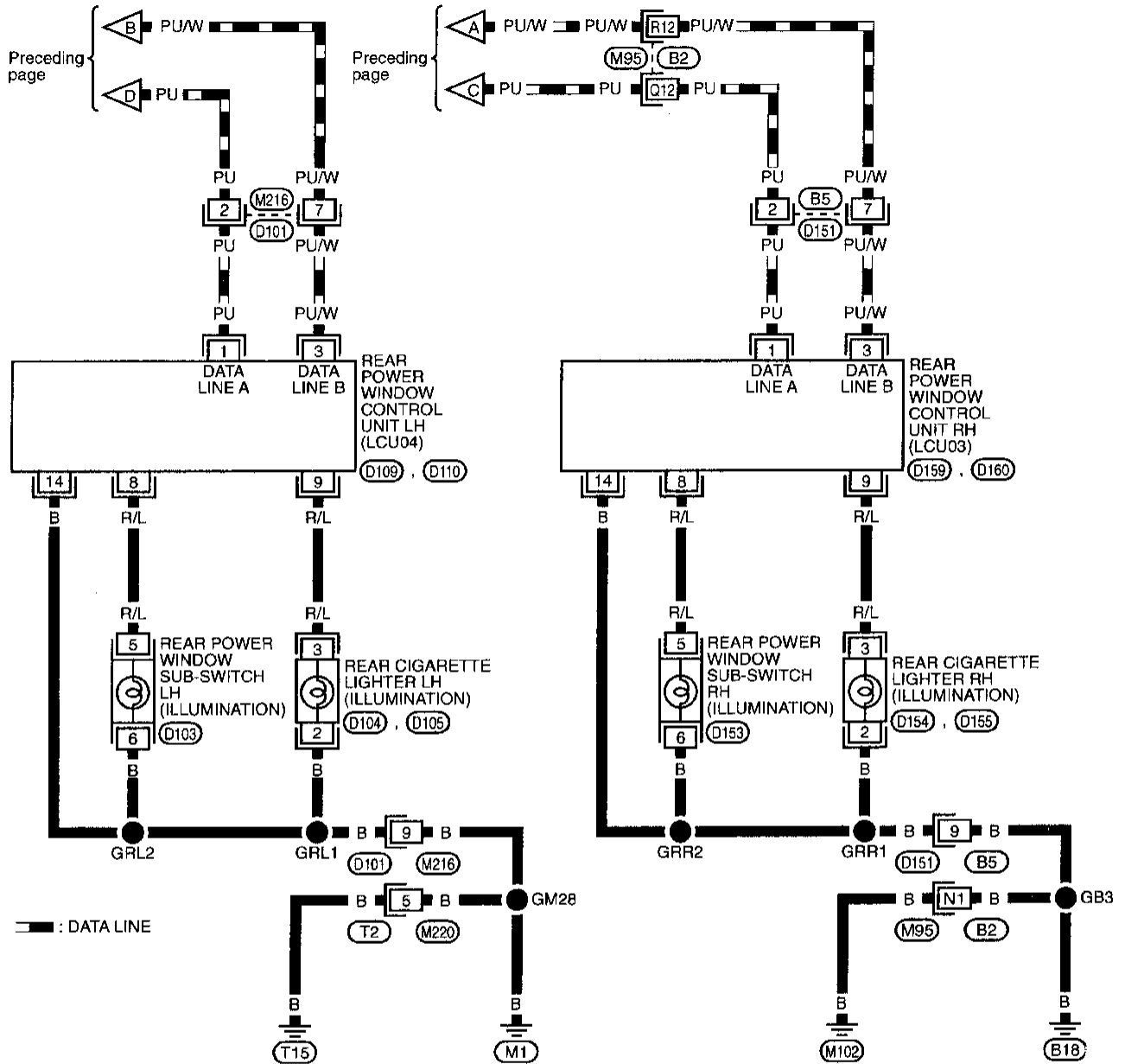
(E102), (M12)

(M118)

ILLUMINATION — LAN

Wiring Diagram — SW/ILL — (Cont'd)

EL-SW/ILL-02



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 (M95), (B2)

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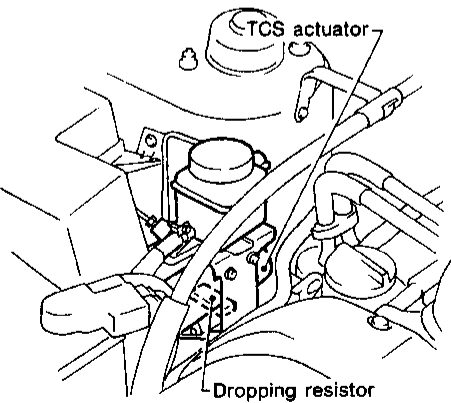
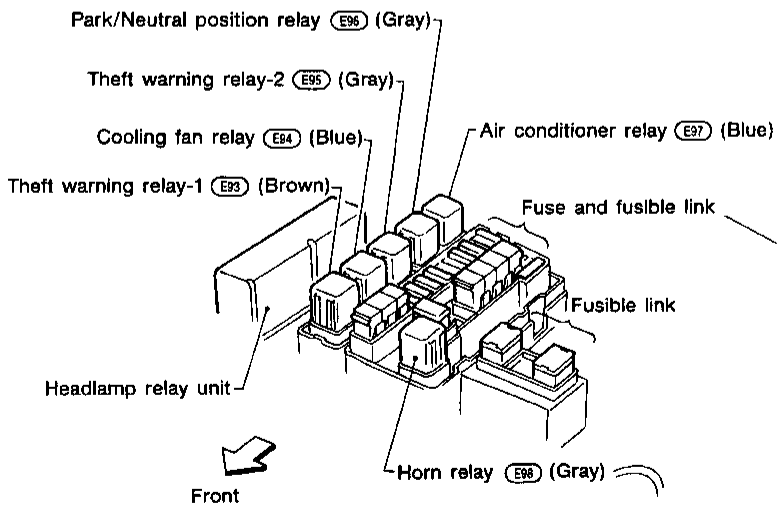
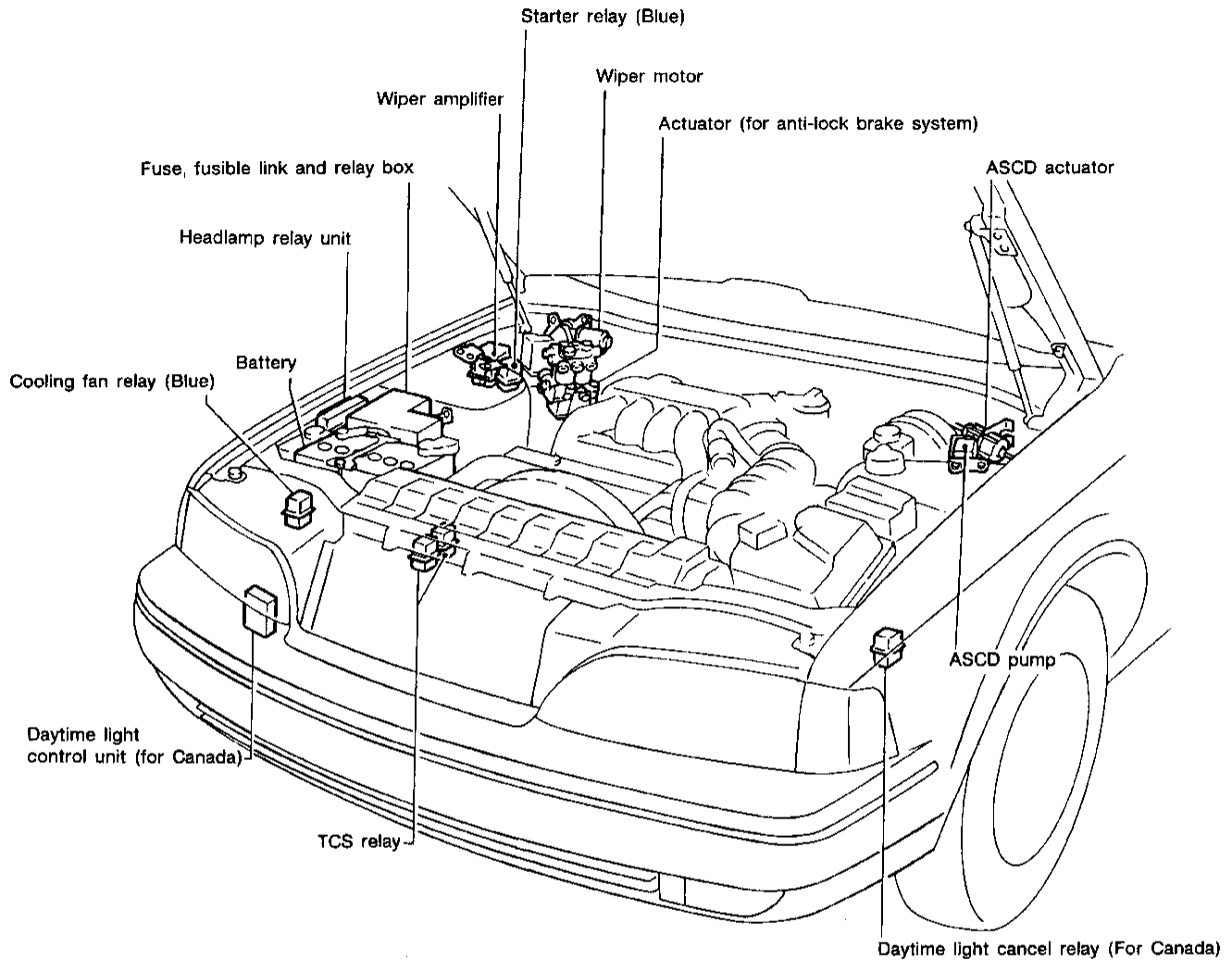
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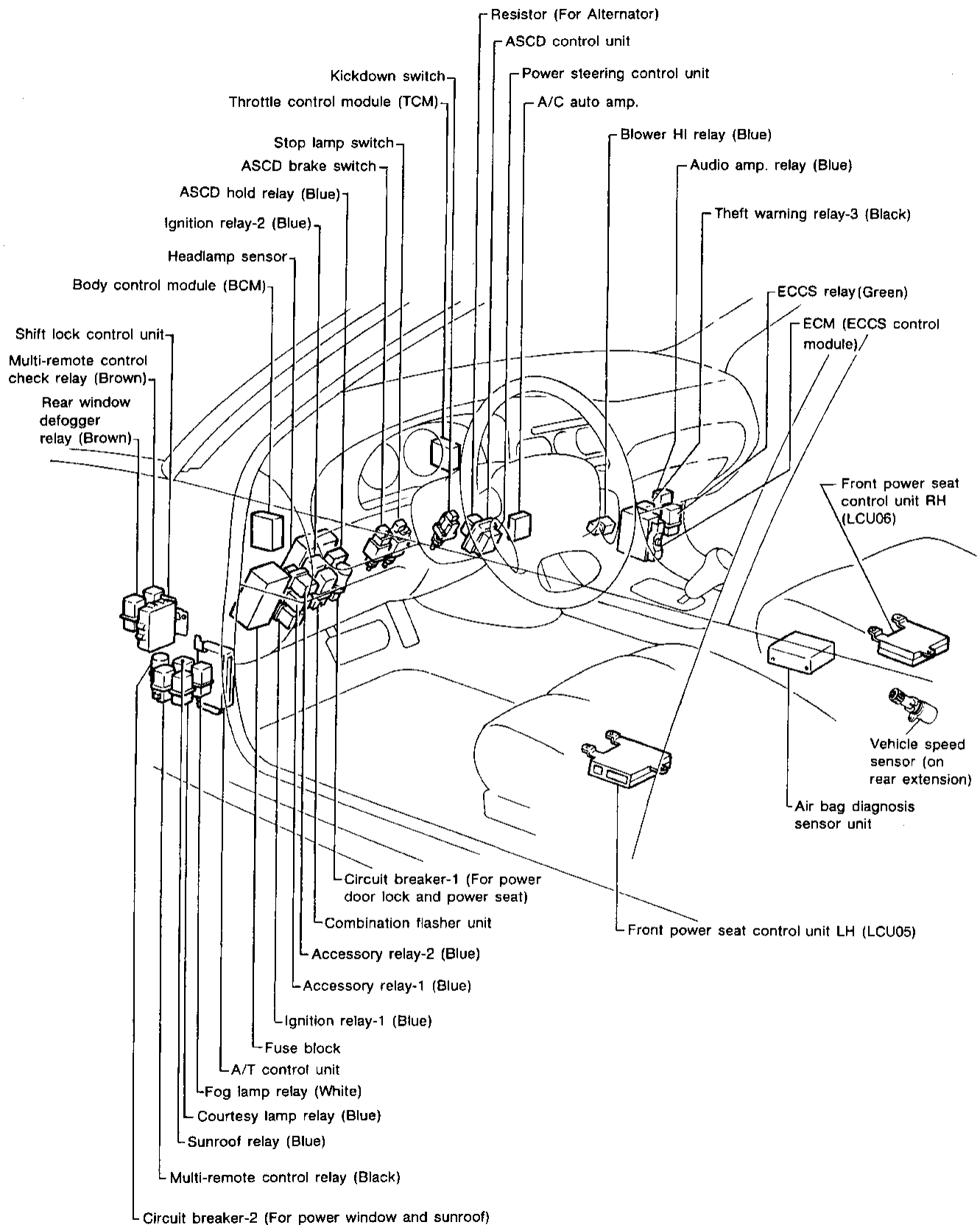
LOCATION OF ELECTRICAL UNITS

Engine Compartment



LOCATION OF ELECTRICAL UNITS

Passenger Compartment



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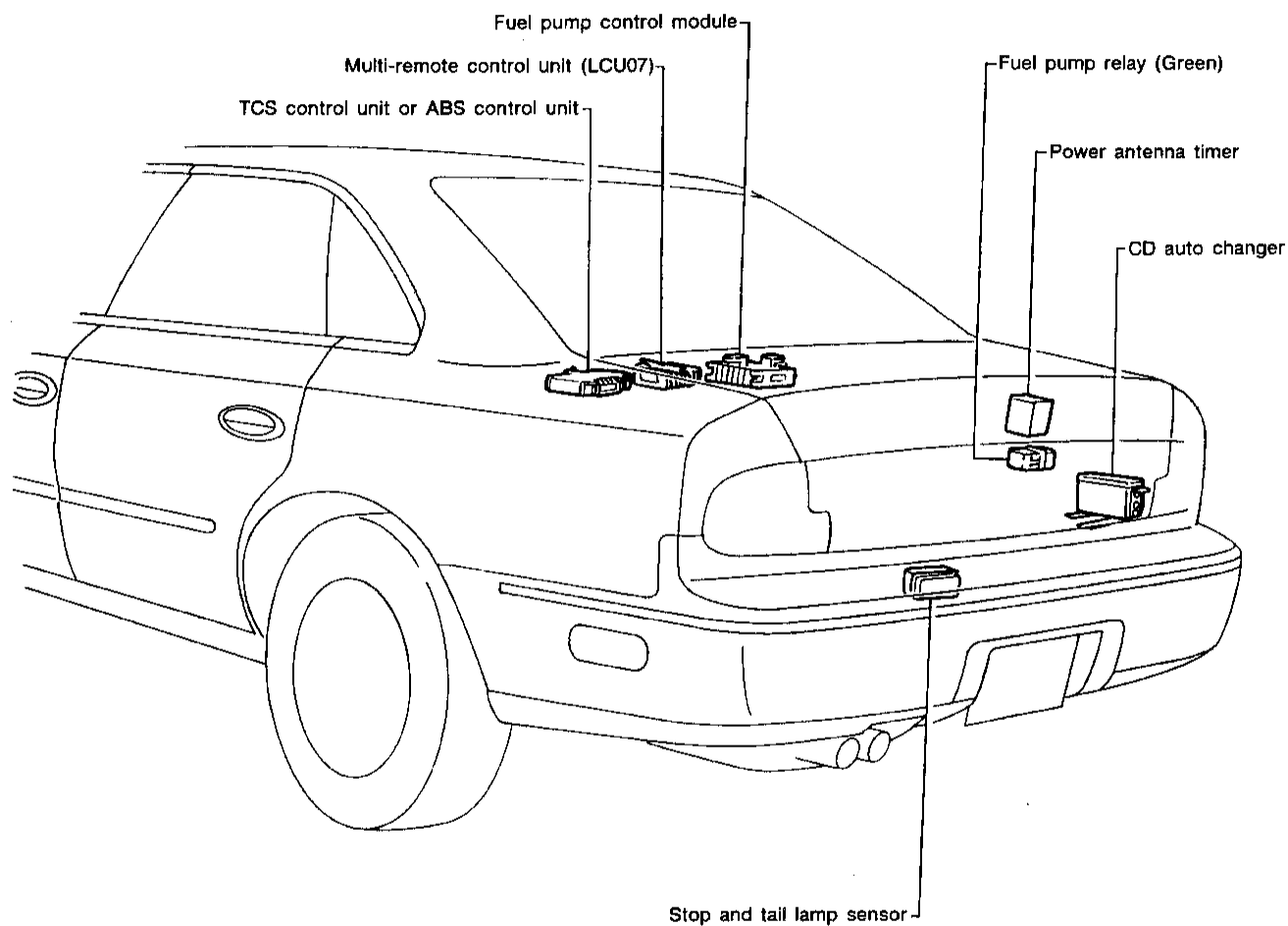
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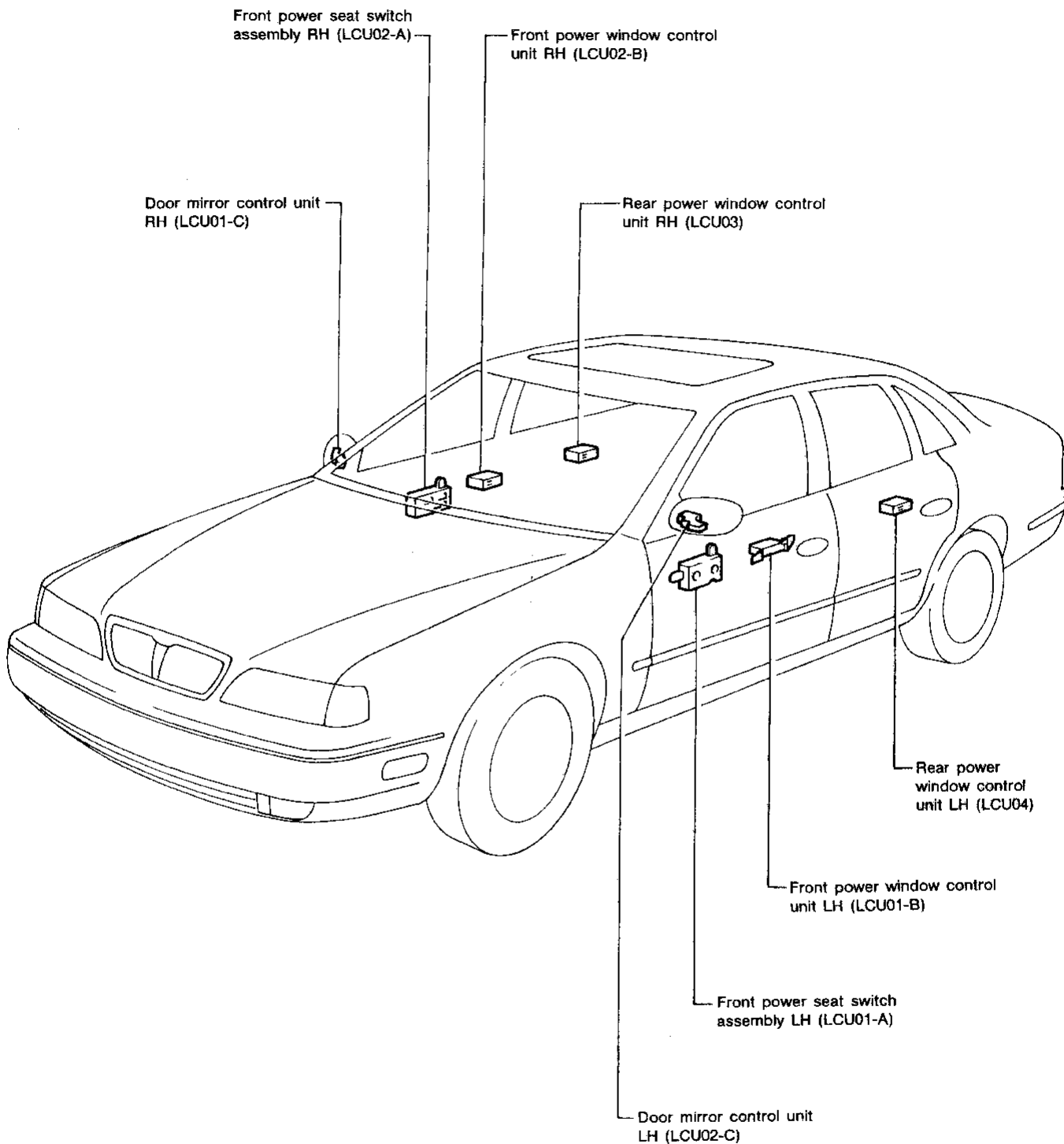
LOCATION OF ELECTRICAL UNITS

Luggage Compartment



LOCATION OF ELECTRICAL UNITS

Door



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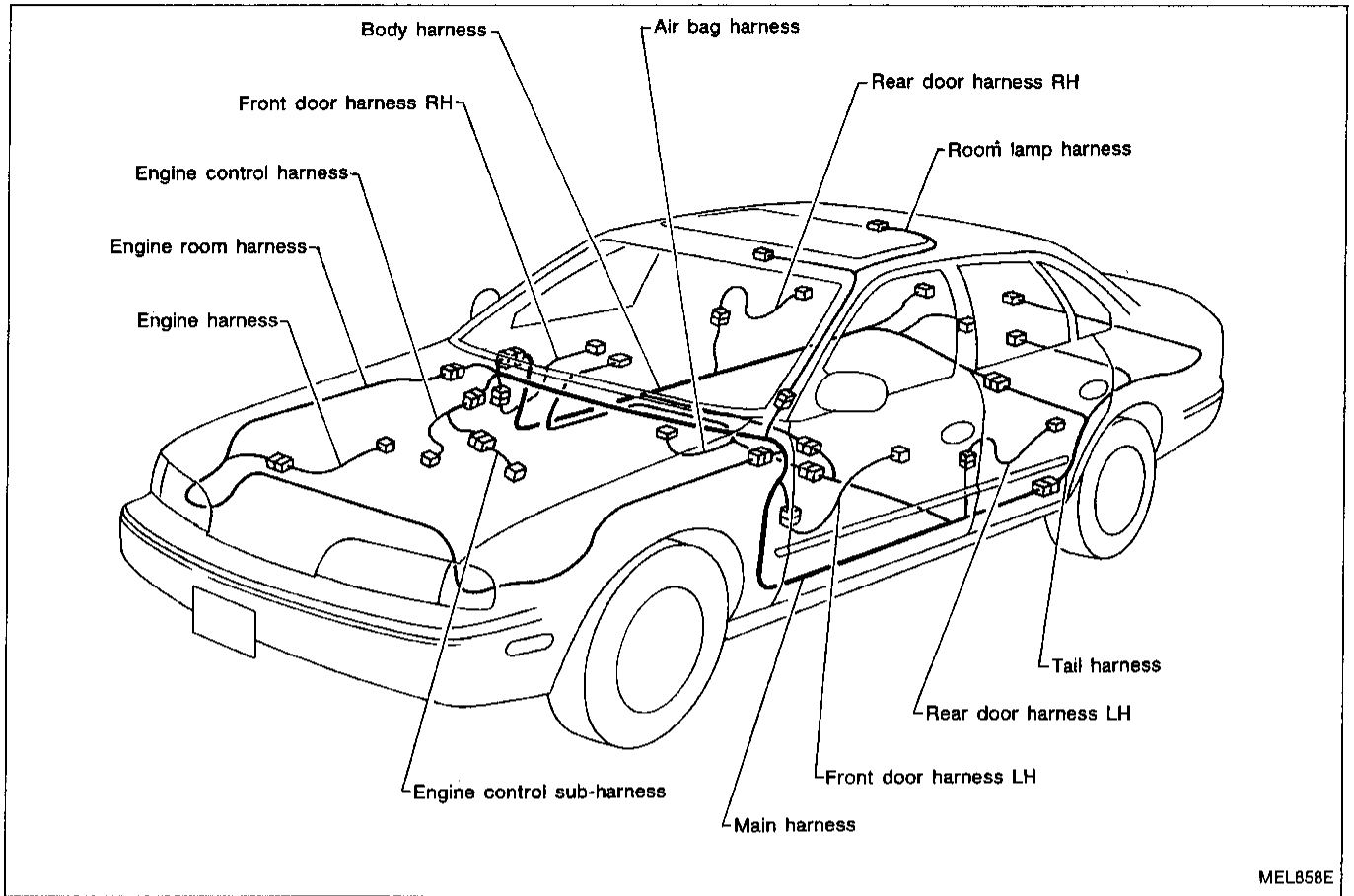
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LOCATION OF ELECTRICAL UNITS

NOTE

HARNES LAYOUT

Outline



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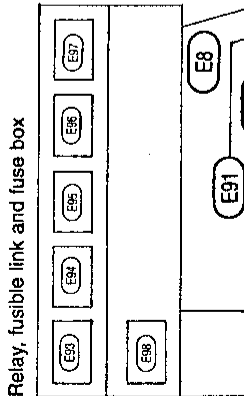
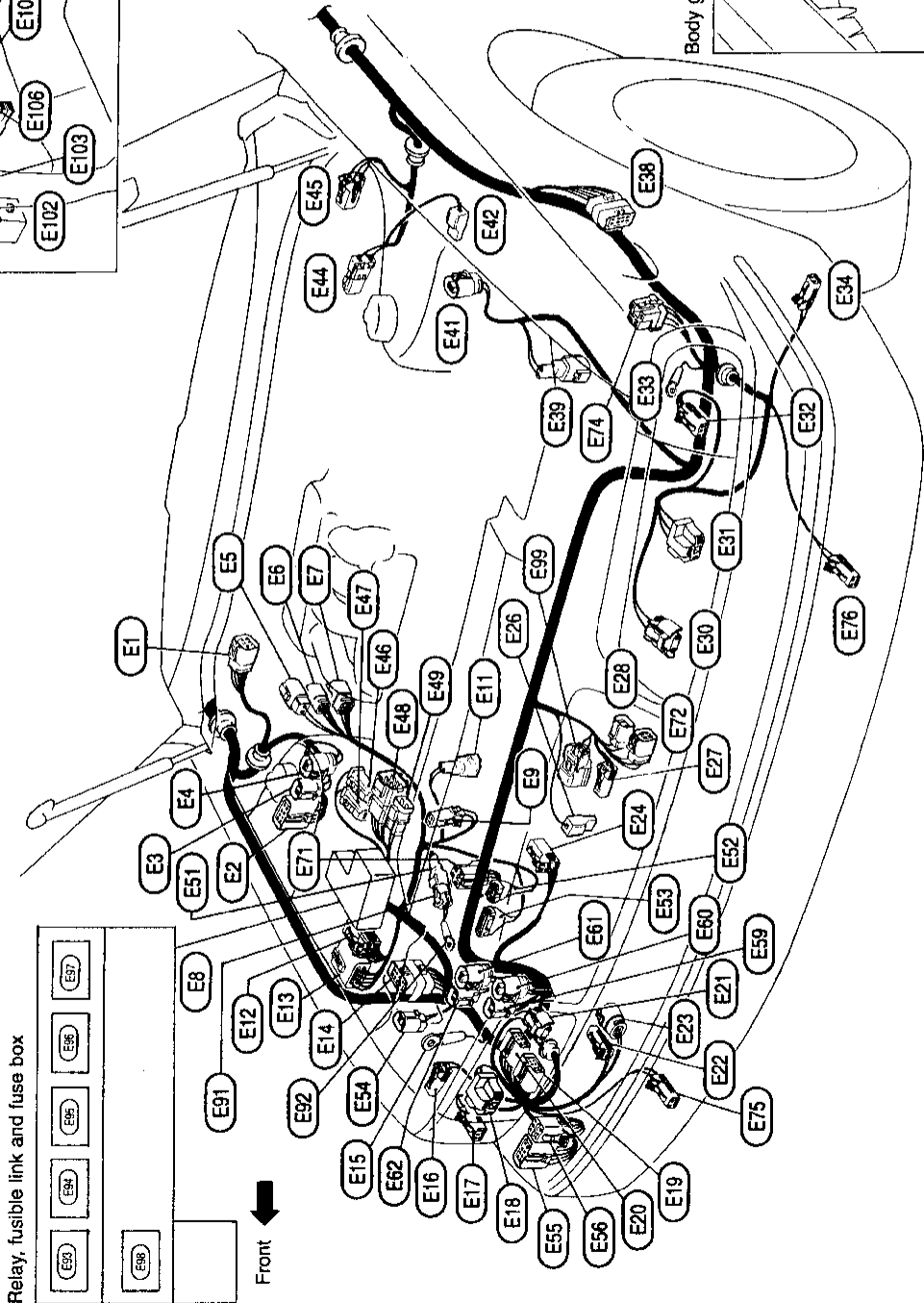
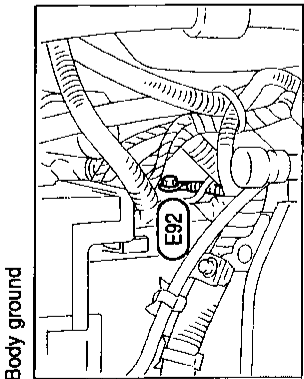
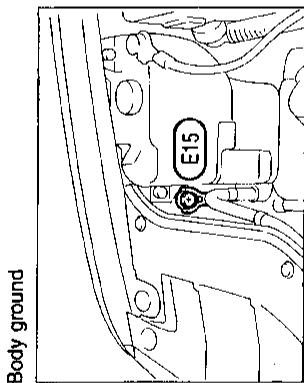
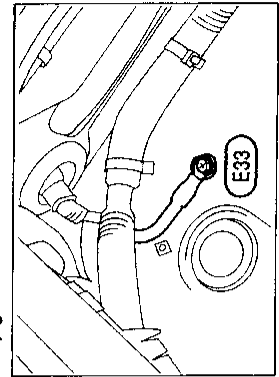
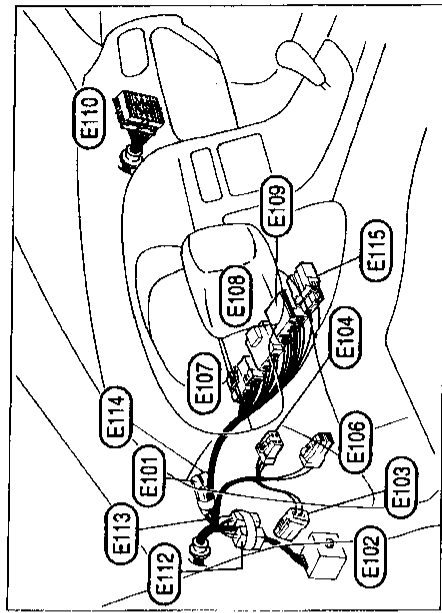
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HARNES LAYOUT

Engine Room Harness



Body ground

Body ground

Body ground

Front

HARNESS LAYOUT

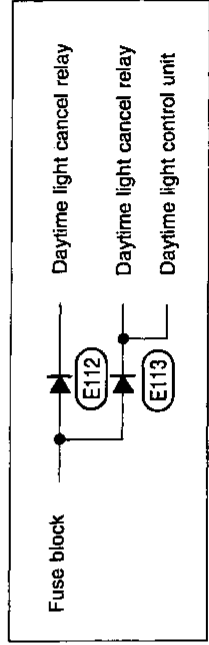
Engine Room Harness (Cont'd)

- E1 : Wiper motor
- E2 : Wiper amplifier
- E3 : Starter relay
- E4 : Starter relay
- E5 : Actuator (Anti-lock brake system)
- E6 : Actuator (Anti-lock brake system)
- E7 : Actuator (Anti-lock brake system)
- E8 : Relay, fusible link and fuse box
(Refer to "LOCATION OF ELECTRICAL UNITS".)
- E9 : Dropping resistor
- E11 : Front sensor RH (Anti-lock brake system) (Gray)
- E12 : Headlamp relay unit
- E13 : Headlamp relay unit
- E14 : Joint connector-1
- E15 : Body ground
- E16 : Front side marker lamp RH
- E17 : Front combination lamp RH
- E18 : Headlamp RH (DIM. and MAIN)
- E19 : Joint connector-2
- E20 : Joint connector-3
- E21 : Headlamp RH (MAIN)
- E22 : Washer sensor
- E23 : Washer motor
- E24 : Triple-pressure switch
- E26 : Horn
- E27 : Ambient sensor (A/C)
- E28 : Cooling fan motor (For Canada)
- E30 : Headlamp LH (MAIN)
- E31 : Headlamp LH (DIM. and MAIN)
- E32 : Front combination lamp LH
- E33 : Body ground
- E34 : Front side marker lamp LH
- E38 : Joint connector-4
- E39 : Front sensor LH (Anti-lock brake system)
- E41 : Hood switch (Theft warning system)
- E42 : Horn
- E44 : Brake fluid level switch
- E45 : ASCD pump
- E46 : Battery
- E47 : Battery
- E48 : To N3
- E49 : To N2
- E51 : To E91 (Models with TCS)
- E52 : TCS actuator
- E53 : TCS actuator
- E54 : Loading pump for TCS
- E55 : Daytime light control unit (For Canada)
- E56 : Daytime light control unit (For Canada)
- E59 : TCM relay (Models with TCS)
- E60 : TCM relay (Models with TCS)
- E61 : TCS relay (Models with TCS)
- E62 : TCS relay (Models with TCS)
- E71 : Cooling fan relay (Blue) (For USA)
- E72 : Cooling fan motor (For USA)
- E74 : Daytime light cancel relay (For Canada)
- E75 : Front fog lamp RH
- E76 : Front fog lamp LH
- E81 : To E51 (Models with TCS)
- E82 : Body ground (Models with TCS)
- E83 : Theft warning relay-1
- E84 : Cooling fan relay
- E85 : Theft warning relay-2
- E86 : Park/Neutral position relay
- E87 : Air conditioner relay
- E88 : Horn relay
- E89 : Intake air temperature sensor
- E91 : In relay, fusible link and fuse box
- E92 : In relay, fusible link and fuse box
- E93 : In relay, fusible link and fuse box
- E94 : In relay, fusible link and fuse box
- E95 : In relay, fusible link and fuse box
- E96 : In relay, fusible link and fuse box
- E97 : In relay, fusible link and fuse box
- E98 : In relay, fusible link and fuse box
- E99 : In relay, fusible link and fuse box

Passenger compartment

- E101 : Joint connector-5 (Green)
- E102 : To M12
- E103 : To M11
- E104 : Fuse block
- E106 : Fuse block
- E107 : Headlamp sensor
- E108 : Ignition switch
- E109 : Combination switch
- E110 : To M96
- E112 : Diode (For Canada)
- E113 : Diode (For Canada)
- E114 : Joint connector-6 (Orange)
- E115 : Combination switch

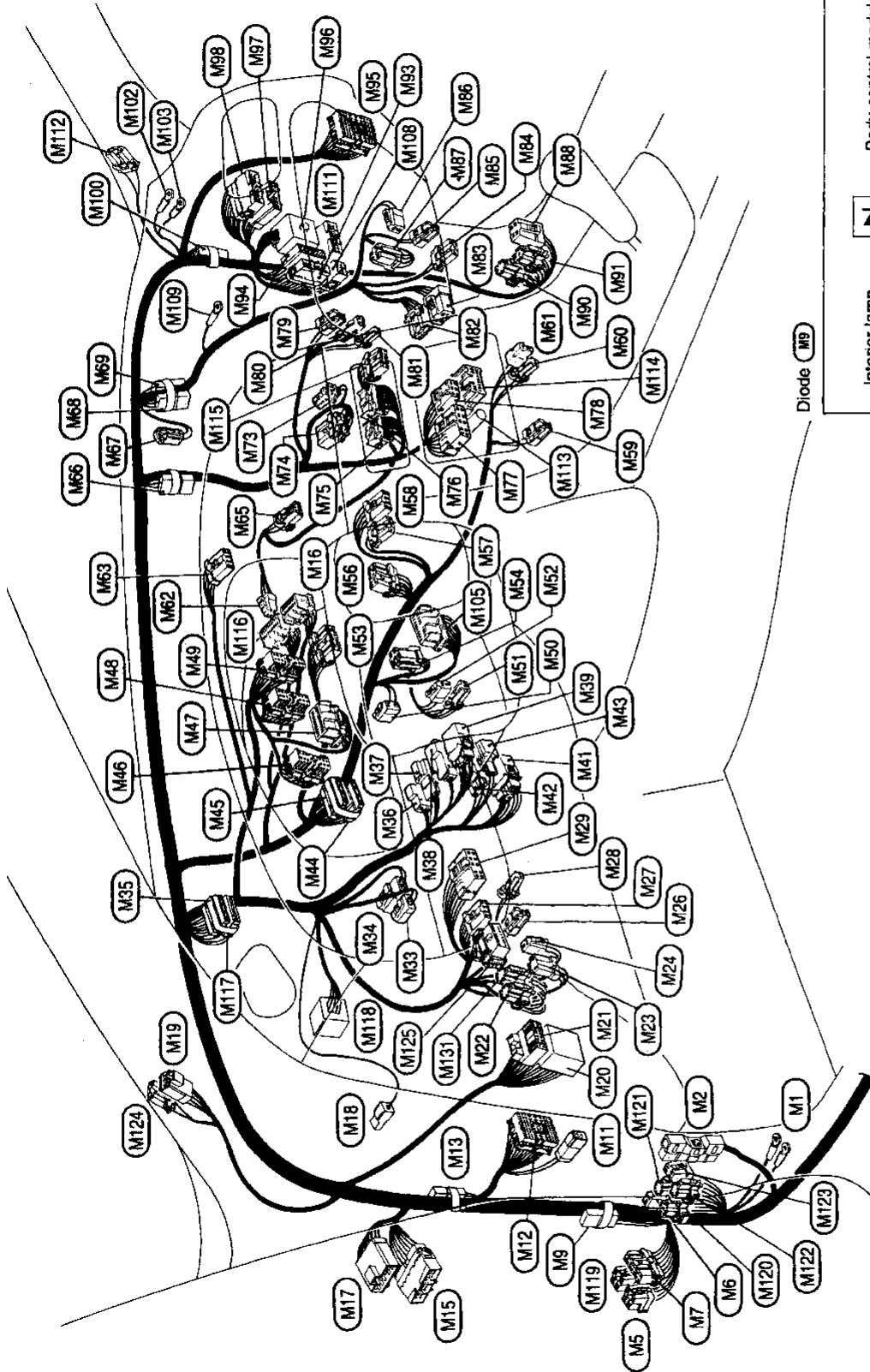
Diode E112 E113



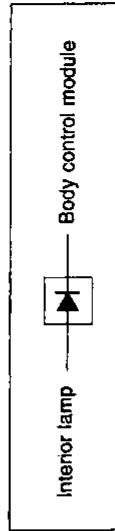
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HARNESS LAYOUT

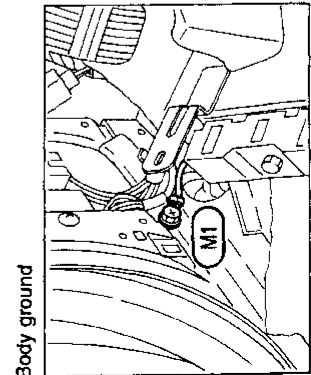
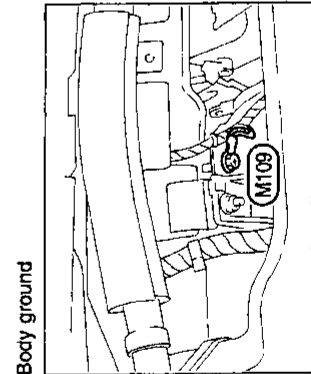
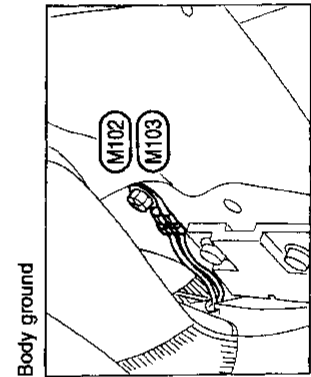
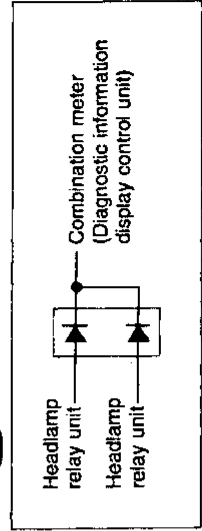
Main Harness



Diode (M12)



Diode (M13)

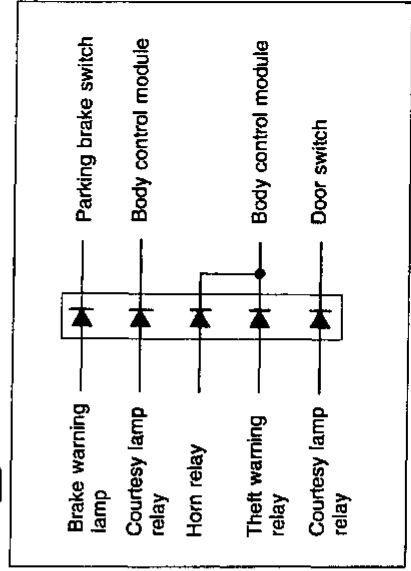


HARNES LAYOUT

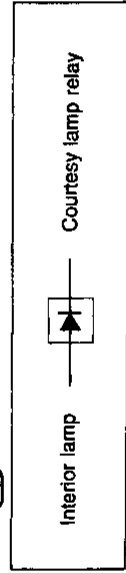
Main Harness (Cont'd)

<p>M1 : Body ground</p> <p>M2 : A/T control unit</p> <p>M5 : Rear window defogger relay (Brown)</p> <p>M6 : Circuit breaker-2</p> <p>M7 : Shift lock control unit</p> <p>M9 : Diode</p> <p>M11 : To (E103)</p> <p>M12 : To (E102)</p> <p>M13 : Diode</p> <p>M15 : To (D3)</p> <p>M16 : Throttle control module</p> <p>M17 : To (D1)</p> <p>M18 : Parking brake switch</p> <p>M19 : To (R1)</p> <p>M20 : Fuse block</p> <p>M21 : Data link connector for CONSULT</p> <p>M22 : Ignition relay-2</p> <p>M23 : Combination flasher unit</p> <p>M24 : Circuit breaker-1</p> <p>M26 : Foot lamp-LH</p> <p>M27 : ASCD switch</p> <p>M28 : Telephone microphone</p> <p>M29 : Door mirror switch</p> <p>M33 : Stop lamp switch</p> <p>M34 : ASCD brake switch</p> <p>M35 : Joint connector-6 (Blue)</p> <p>M36 : Telescopic motor</p> <p>M37 : Telescopic sensor</p> <p>M38 : Key switch</p> <p>M39 : Auto drive positioner steering switch</p> <p>M41 : Wiper switch</p> <p>M42 : Key lock solenoid</p> <p>M43 : Key illumination</p> <p>M44 : Joint connector-3 (Black)</p> <p>M45 : Joint connector-4 (Orange)</p> <p>M46 : Combination meter (White)</p> <p>M47 : Diagnostic information display control unit</p> <p>M48 : Combination meter (Black)</p> <p>M49 : Combination meter (White)</p> <p>M50 : Mode door motor</p> <p>M51 : Tilt sensor</p> <p>M52 : Tilt motor</p> <p>M53 : Kickdown switch</p> <p>M54 : Alternator "L" resistor</p> <p>M56 : Power steering control unit</p>	<p>M57 : In-vehicle sensor (A/C)</p> <p>M58 : Rear window defogger switch</p> <p>M59 : Ashray illumination</p> <p>M60 : Cigarette lighter illumination</p> <p>M61 : Cigarette lighter</p> <p>M62 : Illumination control switch</p> <p>M63 : Hazard switch</p> <p>M65 : Clock</p> <p>M66 : Diode</p> <p>M67 : Sunload sensor (A/C)</p> <p>M68 : Joint connector-1 (Black)</p> <p>M69 : Joint connector-2 (Gray)</p> <p>M73 : Water temperature sensor (A/C)</p> <p>M74 : Air mix door motor (A/C)</p> <p>M75 : Auto amp. (A/C)</p> <p>M76 : Auto amp. (A/C)</p> <p>M77 : Radio</p> <p>M78 : Radio</p> <p>M79 : Trunk lid opener cancel switch</p> <p>M80 : Glove box lamp switch</p> <p>M81 : Glove box lamp</p> <p>M82 : Intake door motor</p> <p>M83 : Fan control amp.</p> <p>M84 : Intake sensor (A/C)</p> <p>M85 : Foot lamp-RH</p> <p>M86 : Blower motor (A/C)</p> <p>M87 : Blower HI relay (A/C)</p> <p>M88 : Audio amp. relay</p> <p>M90 : ECCS relay</p> <p>M91 : Theft warning relay-3</p> <p>M93 : To (C51) (White)</p> <p>M94 : To (C52) (Blue)</p> <p>M95 : To (B2)</p> <p>M96 : To (E110)</p> <p>M97 : To (D53)</p>	<p>M98 : To (D52)</p> <p>M100 : Diode</p> <p>M102 : Body ground</p> <p>M103 : Body ground</p> <p>M105 : ASCD control unit (Models with TCS)</p> <p>M106 : To (C57) (Models with TCS)</p> <p>M109 : Body ground (Models with TCS)</p> <p>M111 : To (C58)</p> <p>M112 : Tweeter RH</p> <p>M113 : Radio</p> <p>M114 : Radio</p> <p>M115 : A/C control unit</p> <p>M116 : Throttle control module</p> <p>M117 : Joint connector-5 (Orange)</p> <p>M118 : Body control module (BCM)</p> <p>M119 : Multi-remote control check relay (Brown)</p> <p>M120 : Multi-remote control relay (Black)</p> <p>M121 : Sunroof relay (Blue)</p> <p>M122 : Courtesy lamp relay (Blue)</p> <p>M123 : Fog lamp relay (White)</p> <p>M124 : To (R6)</p> <p>M125 : Data link connector for GST</p> <p>M131 : ASCD hold relay</p>
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Diode (M100)



Diode (M66)

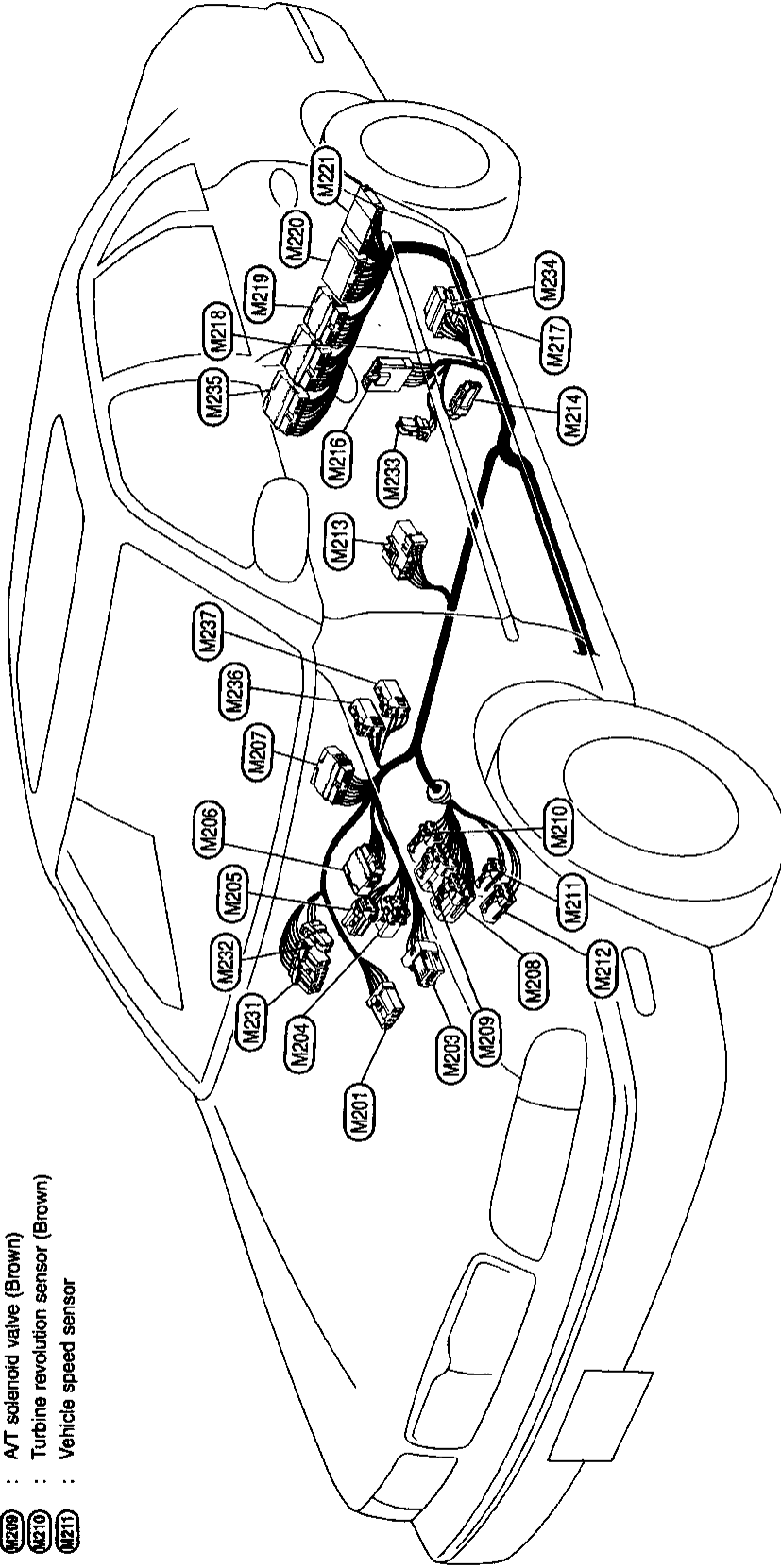


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HARNES LAYOUT

Main Harness (Cont'd)

- M201 : Power window main switch (Center console)
- M202 : Power window main switch (Center console)
- M203 : Shift lock solenoid & detention switch
- M204 : 1st position switch
- M205 : To (A11)
- M206 : Handset & speaker (For telephone)
- M207 : Inhibitor switch (Gray)
- M208 : A/T solenoid valve (Brown)
- M209 : Turbine revolution sensor (Brown)
- M210 : Vehicle speed sensor

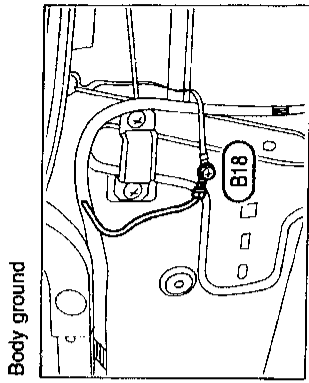


- M212 : Revolution sensor (Gray)
- M213 : To (M30) (Power seat sub-harness LH)
[To front power seat control unit LH, LCU05 (M302), (M303), (M304), (M30A)]
- M214 : Front door switch LH
- M215 : To (D10)
- M216 : Joint connector-7 (Black)
- M217 : To (T4) (Brown)
- M218 : To (T3) (White)
- M219 : To (T2) (Black)

- M221 : To (T1) (White) (Models with TCS)
- M222 : Heated seat switch LH
- M223 : TCS switch
- M224 : ELR solenoid LH
- M225 : Joint connector-8 (Green)
- M226 : To (T2) (Black)
- M227 : Rear heated oxygen sensor LH
- M228 : Rear heated oxygen sensor RH

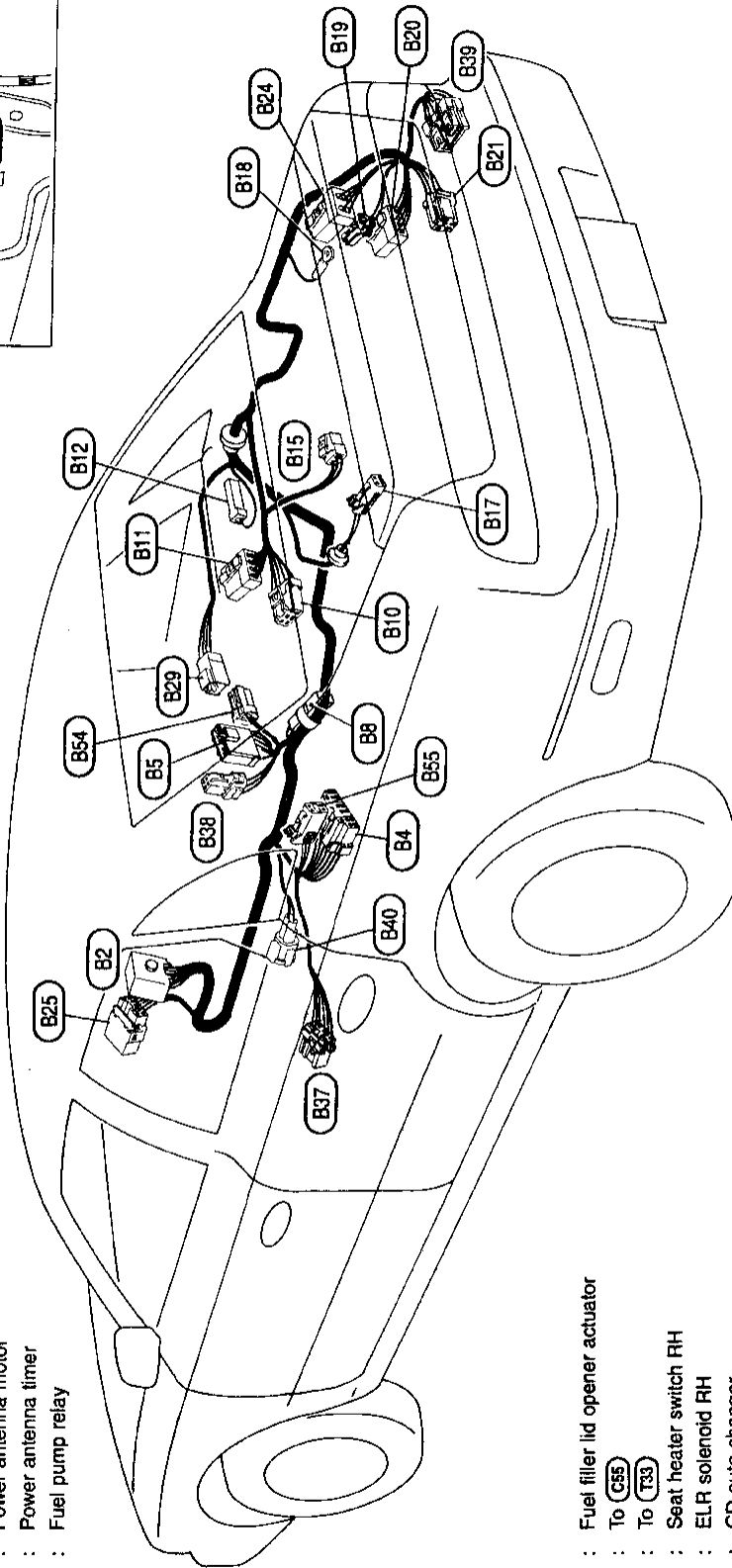
HARNESS LAYOUT

Body Harness



- : To **(M95)**
- : To **(B10)** (Power seat sub-harness RH) (To front power seat control unit RH, LCU06 **(B102)**, **(B103)**, **(B104)**)
- : To **(D16)**
- : Joint connector (Orange)
- : Fuel tank gauge unit
- : Fuel pump control module
- : Rear door switch RH
- : Rear speaker RH
- : Rear brake pad sensor
- : Body ground
- : Power antenna motor
- : Power antenna timer
- : Fuel pump relay

- (B2)**
- (B4)**
- (B5)**
- (B8)**
- (B10)**
- (B11)**
- (B12)**
- (B15)**
- (B17)**
- (B18)**
- (B19)**
- (B20)**
- (B21)**



- : Fuel filler lid opener actuator
- : To **(C55)**
- : To **(T33)**
- : Seat heater switch RH
- : ELR solenoid RH
- : CD auto changer
- : To **(A12)**
- : Front door switch RH
- : Rear heated oxygen sensor

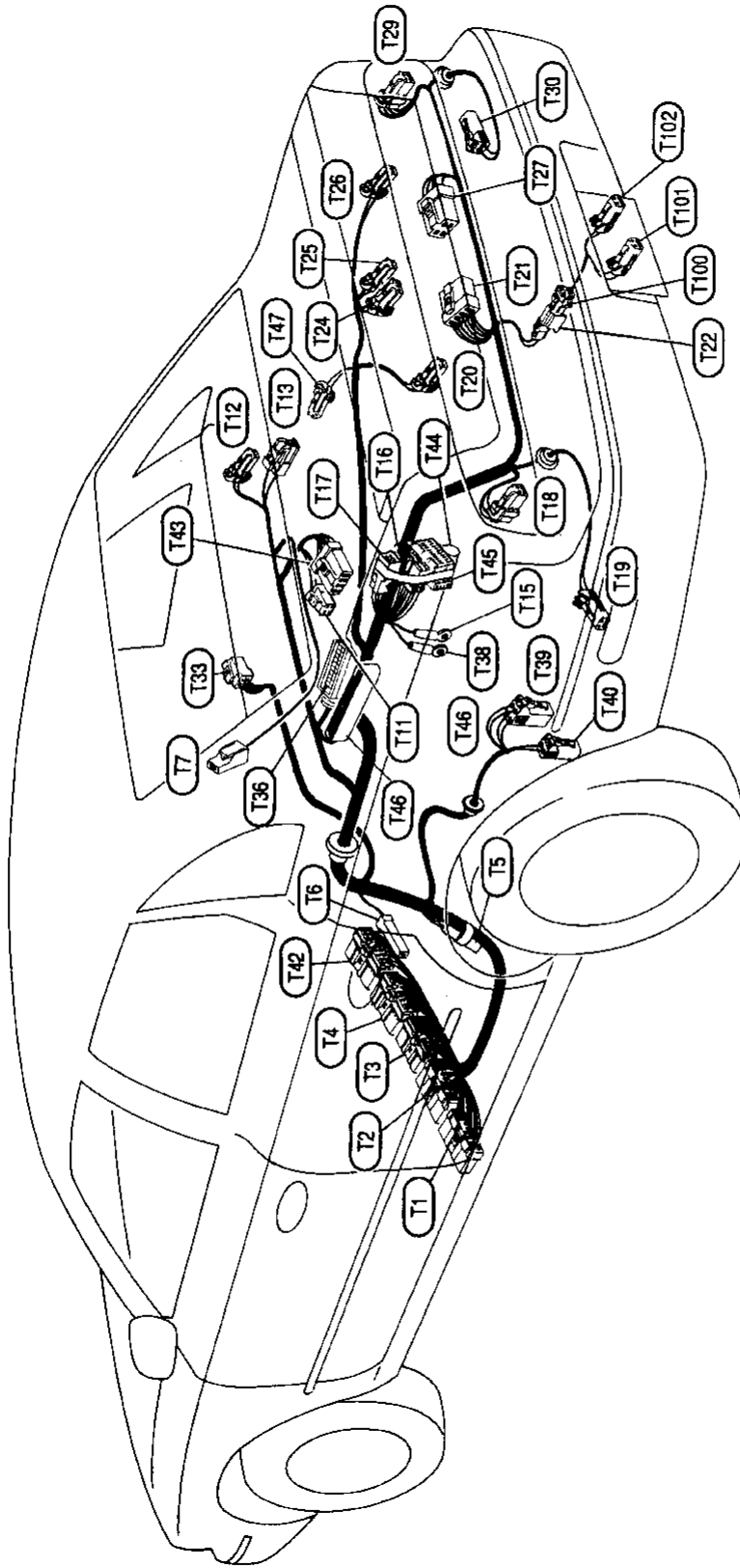
- (B24)**
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HARNES LAYOUT

Tail Harness



HARNES LAYOUT

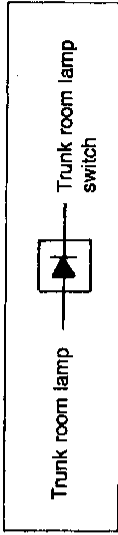
Tail Harness (Cont'd)

- T1 : To (M221) (White)
- T2 : To (M220) (Black)
- T3 : To (M219) (White)
- T4 : To (M218) (Brown)
- T5 : Diode
- T6 : Rear door switch LH
- T7 : Rear window defogger
- T11 : Rear speaker LH
- T12 : High-mounted stop lamp (Models without rear air spoiler)
- T13 : Trunk room lamp
- T15 : Body ground
- T16 : Receiver (For telephone)
- T17 : Receiver (For telephone)

- T18 : Rear combination lamp LH
- T19 : Rear side marker lamp LH
- T20 : Back-up lamp LH
- T21 : Stop and tail lamp sensor
- T22 : To (T100) (License plate lamp sub-harness)
- T24 : Trunk room lamp switch
- T25 : Trunk lid key cylinder switch
- T26 : Back-up lamp RH
- T27 : Trunk lid opener actuator
- T29 : Rear combination lamp RH
- T30 : Rear side marker lamp RH
- T33 : To (B23)
- T36 : ABS control unit
- T38 : Body ground

- T39 : Rear skid sensor (Models with TCS)
- T40 : Rear skid sensor (Models without TCS)
- T42 : To (M235) (Black)
- T43 : Multi-remote control unit (LCU07)
- T44 : Receiver (For telephone)
- T45 : Receiver (For telephone)
- T46 : TCS control unit
- T47 : High-mounted stop lamp (Models with rear air spoiler)
- T100 : To (T22)
- T101 : License plate lamp LH
- T102 : License plate lamp RH

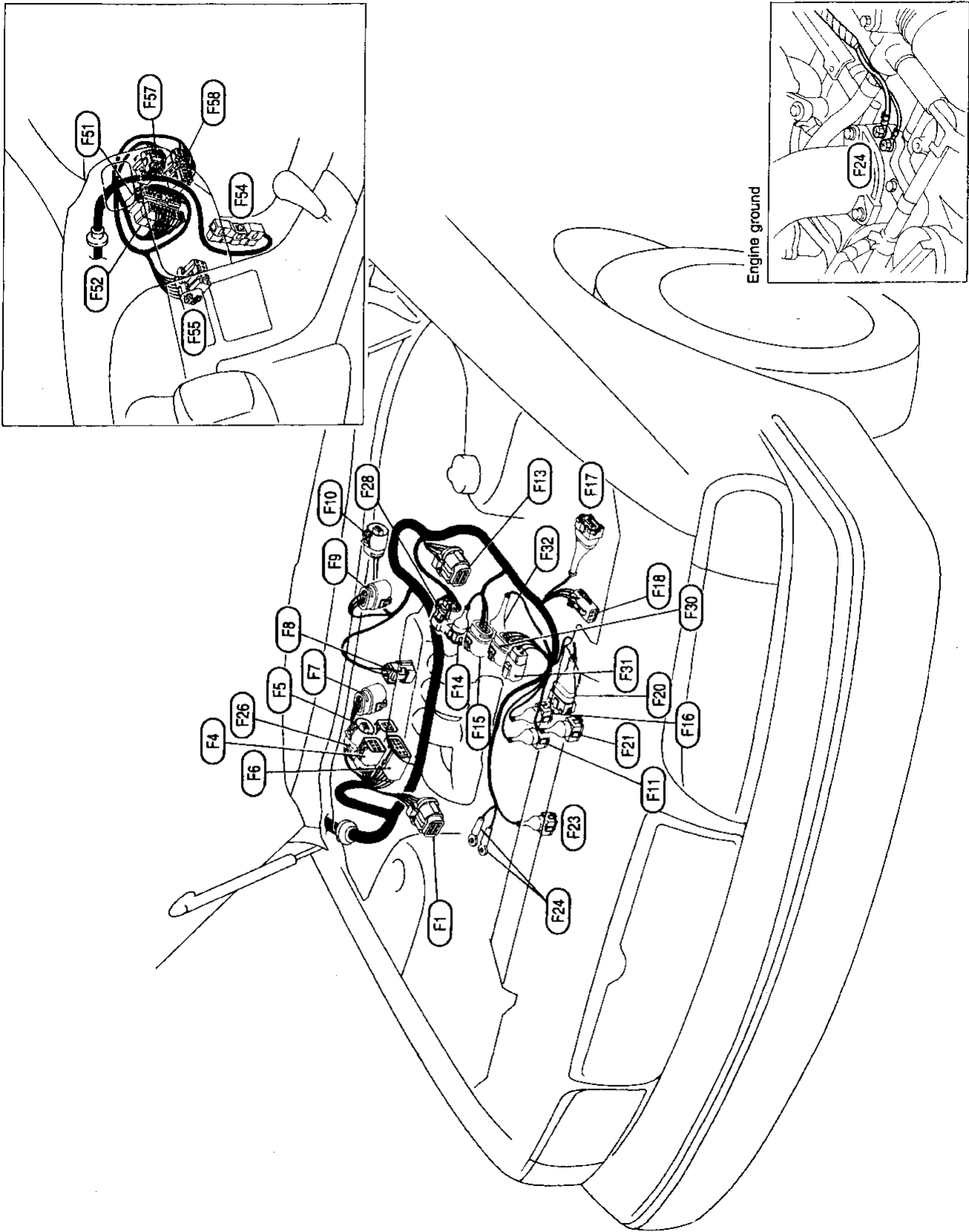
Diode (T5)



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HARNESS LAYOUT

Engine Control Harness



HARNES LAYOUT

Engine Control Harness (Cont'd)

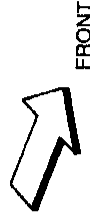
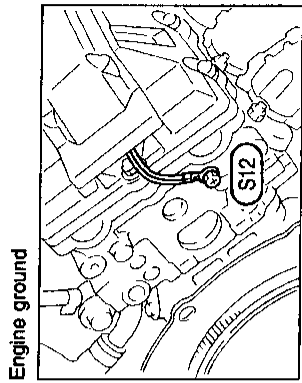
F1	To S8		
F4	To S1		
F5	To S51		
F6	To S52		
F7	Front heated oxygen sensor RH		
F8	IACV-AAC valve		
F9	Front heated oxygen sensor LH		
F10	EGR temperature sensor		
F11	EGR valve & EVAP canister control solenoid valve		
F13	To S69		
F14	Throttle position switch (Models without TCS)		
F15	Throttle position sensor (Models without TCS)		
F16	Canister control solenoid valve		
F17	Mass air flow sensor		
F18	To S31		
F20	Camshaft position sensor		
F21	VTC solenoid valve LH		
F23	VTC solenoid valve RH		
F24	Engine ground		
F26	To S21 (Models with TCS)		
F28	Secondary throttle position sensor (Models with TCS)		
F30	Throttle position sensor (Models with TCS)		
F31	Throttle motor (Models with TCS)		
F32	Throttle position switch (Models with TCS)		
F51	To M93		
F52	To M94		
F54	ECM (ECCS control module)		
F55	To E25		
F57	To M108 (Models with TCS)		
F58	To M111		

Passenger compartment

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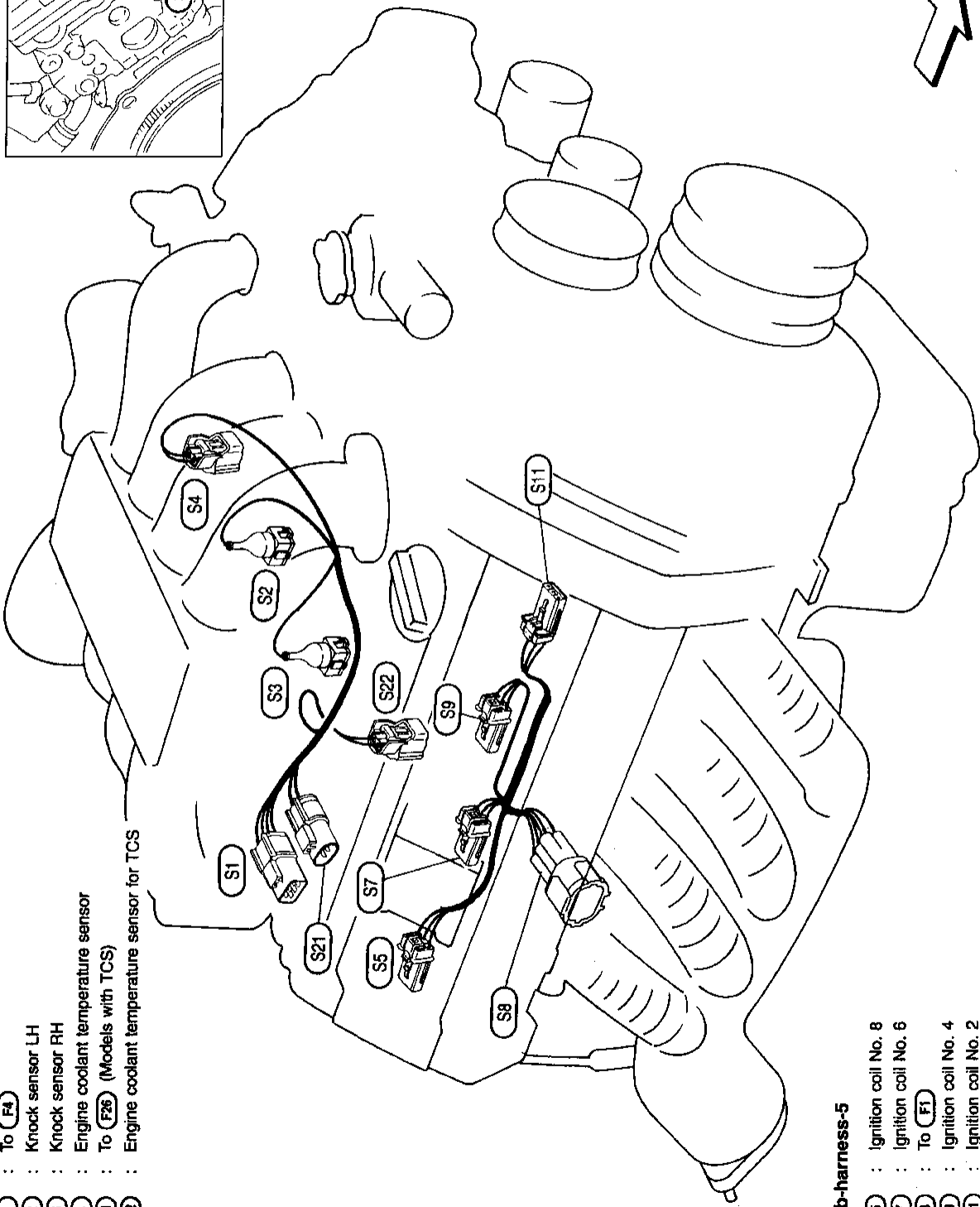
HARNESS LAYOUT

Engine Control Sub-harness



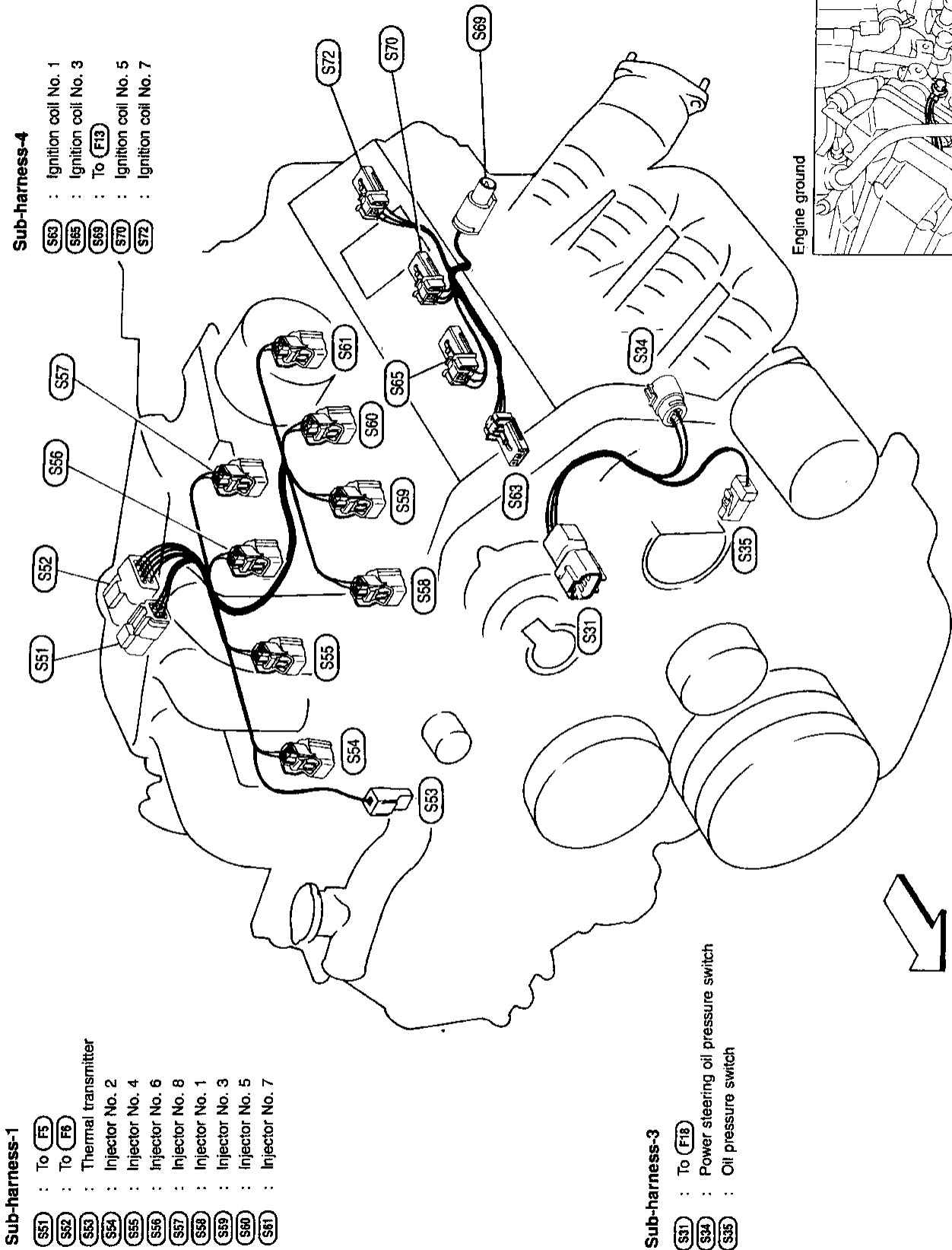
- Sub-harness-2**
- S1 : To F4
 - S2 : Knock sensor LH
 - S3 : Knock sensor RH
 - S4 : Engine coolant temperature sensor
 - S21 : To F26 (Models with TCS)
 - S22 : Engine coolant temperature sensor for TCS

- Sub-harness-5**
- S5 : Ignition coil No. 8
 - S7 : Ignition coil No. 6
 - S8 : To F1
 - S9 : Ignition coil No. 4
 - S11 : Ignition coil No. 2



HARNESS LAYOUT

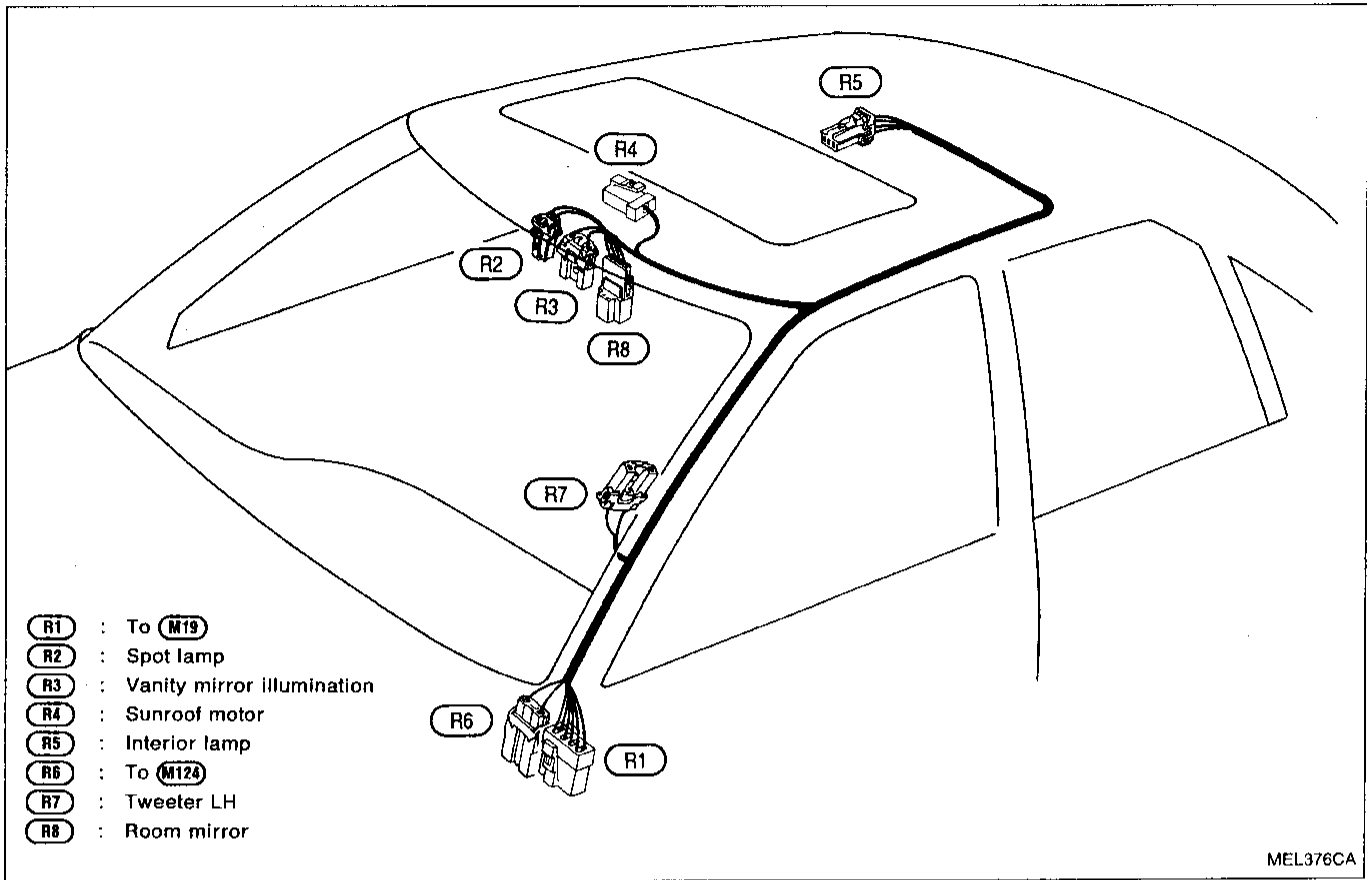
Engine Control Sub-harness (Cont'd)



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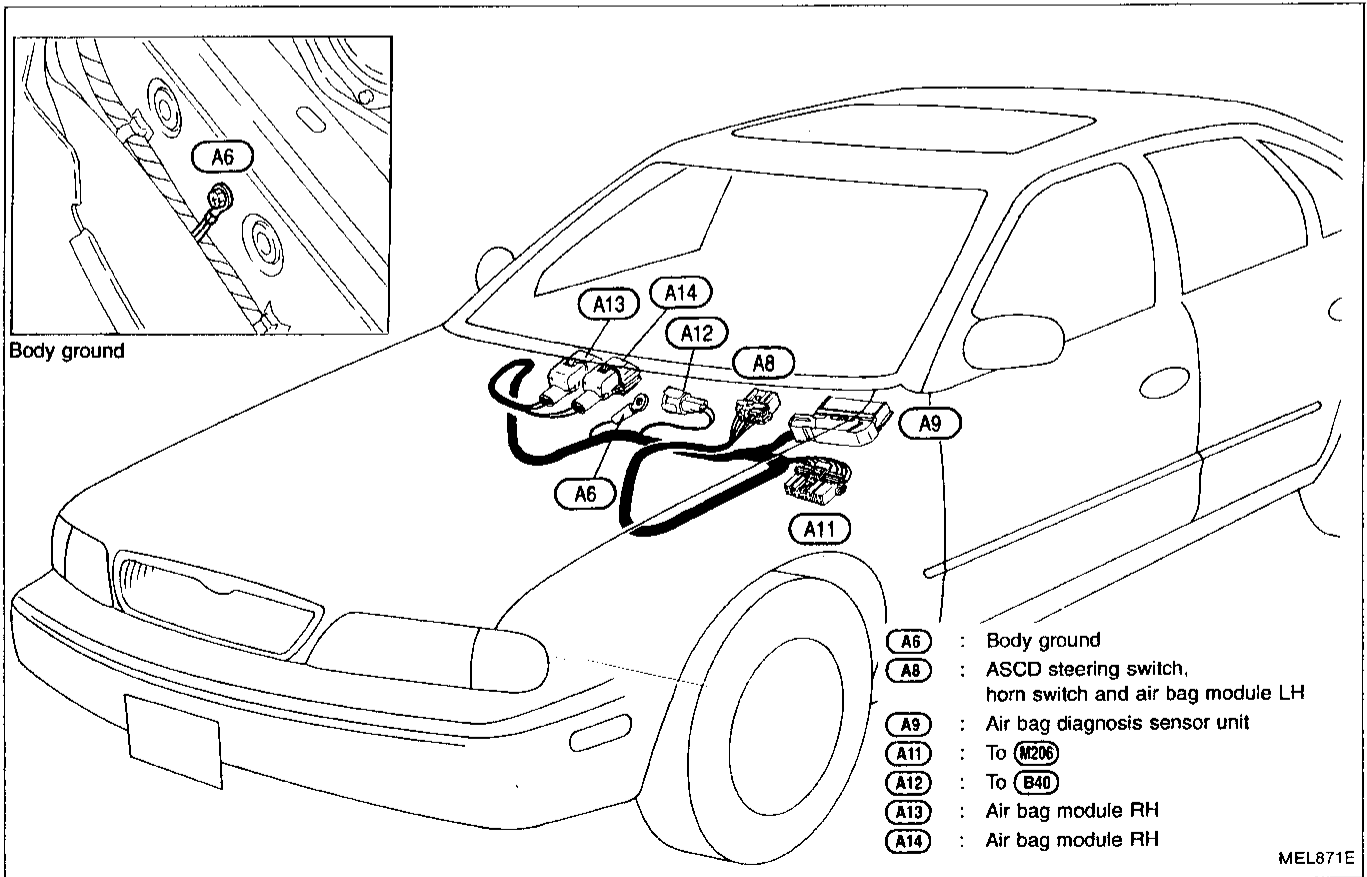
HARNES LAYOUT

Room Lamp Harness



MEL376CA

Air Bag Harness



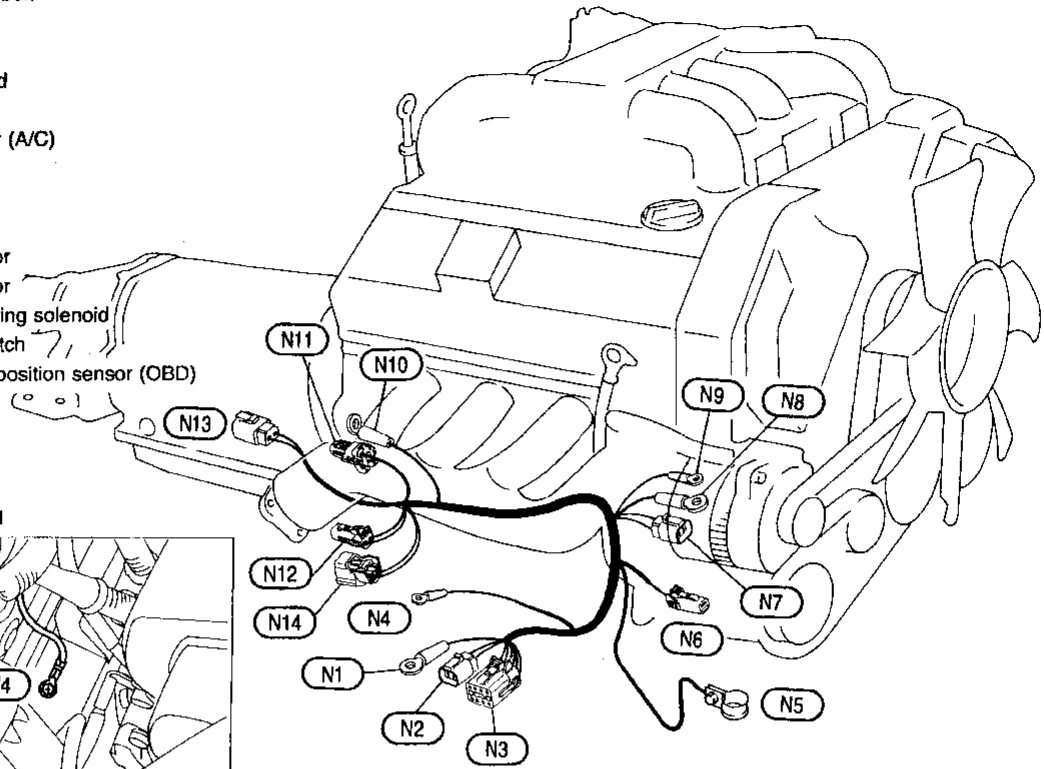
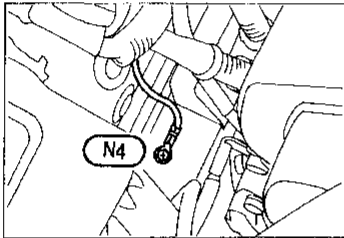
MEL871E

HARNESS LAYOUT

Engine Harness

- (N1) : Fusible link box
- (N2) : To (E49)
- (N3) : To (E48)
- (N4) : Body ground
- (N5) : Battery
- (N6) : Compressor (A/C)
- (N7) : Alternator
- (N8) : Alternator
- (N9) : Alternator
- (N10) : Starter motor
- (N11) : Starter motor
- (N12) : Power steering solenoid
- (N13) : Inhibitor switch
- (N14) : Crankshaft position sensor (OBD)

Body ground



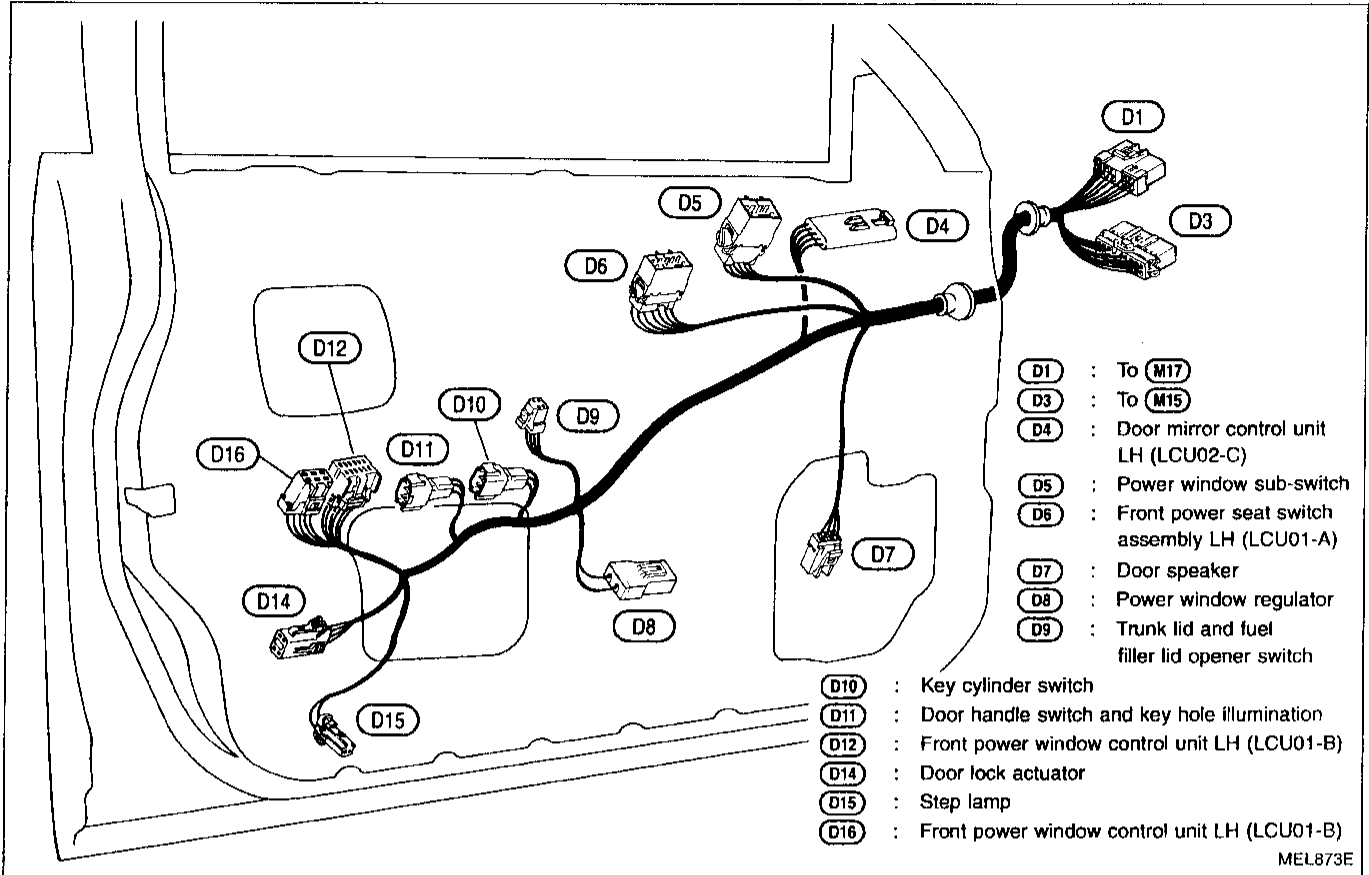
MEL872E

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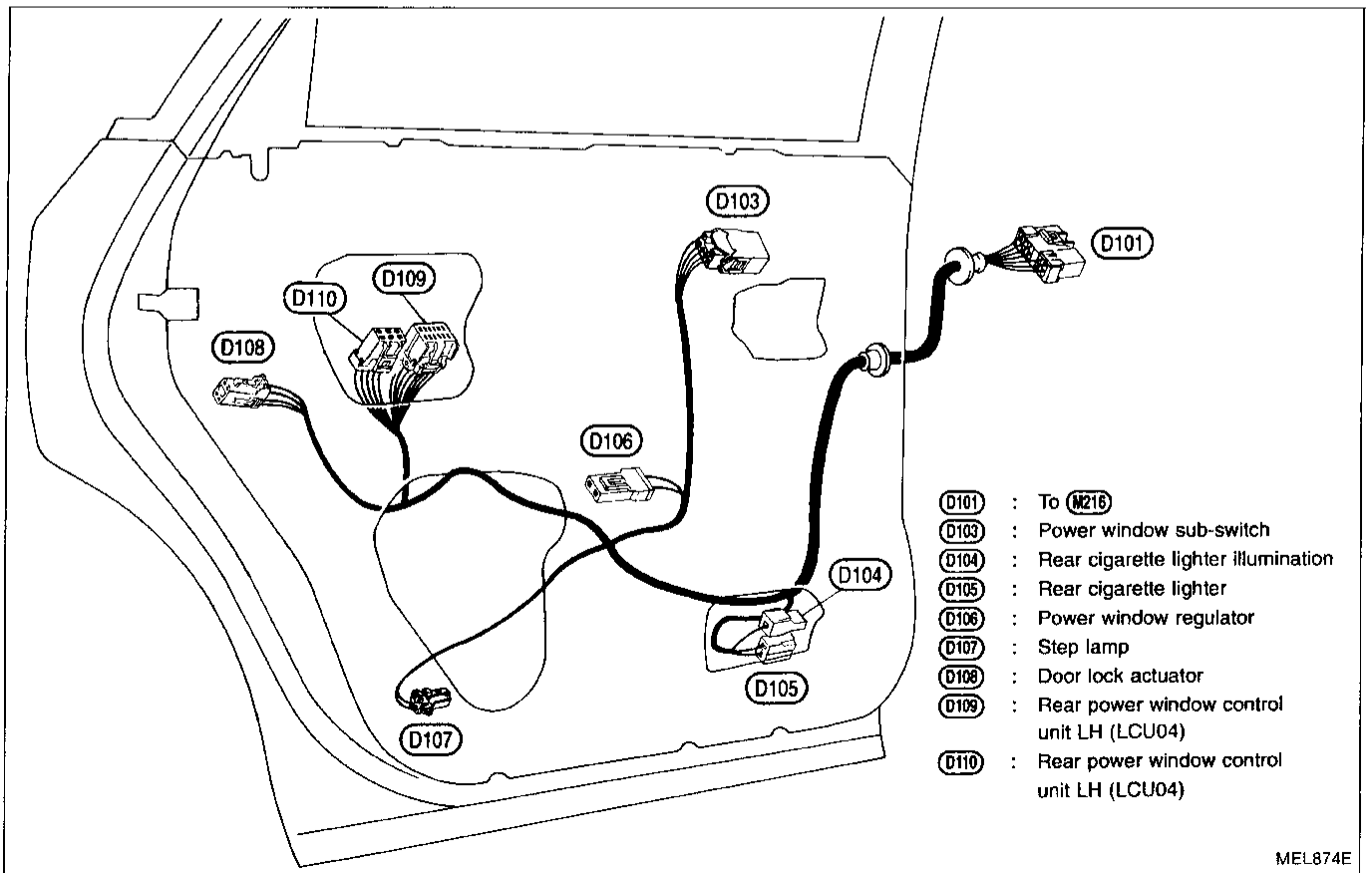
HARNESS LAYOUT

FRONT

Door Harness (LH side)



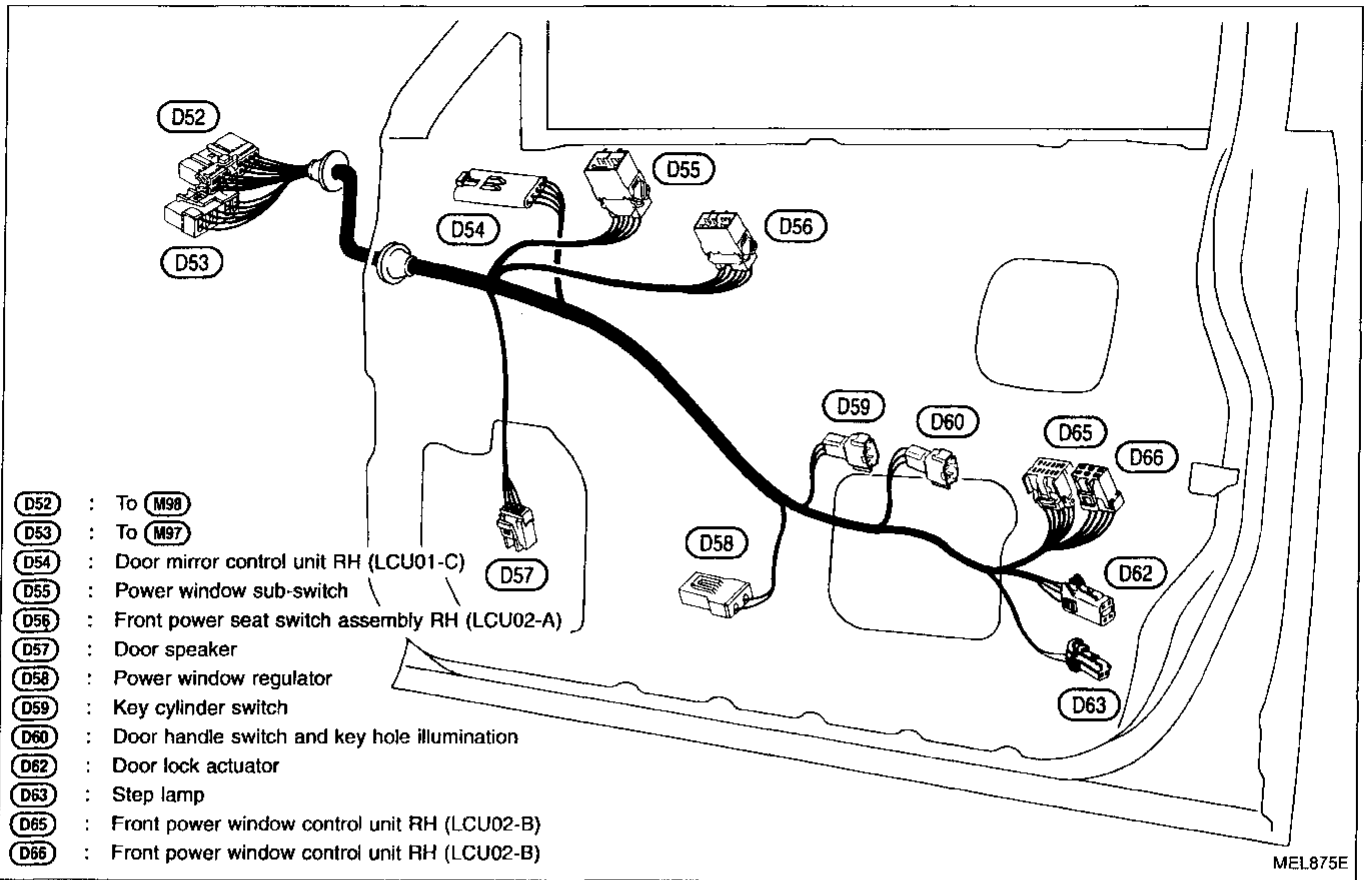
REAR



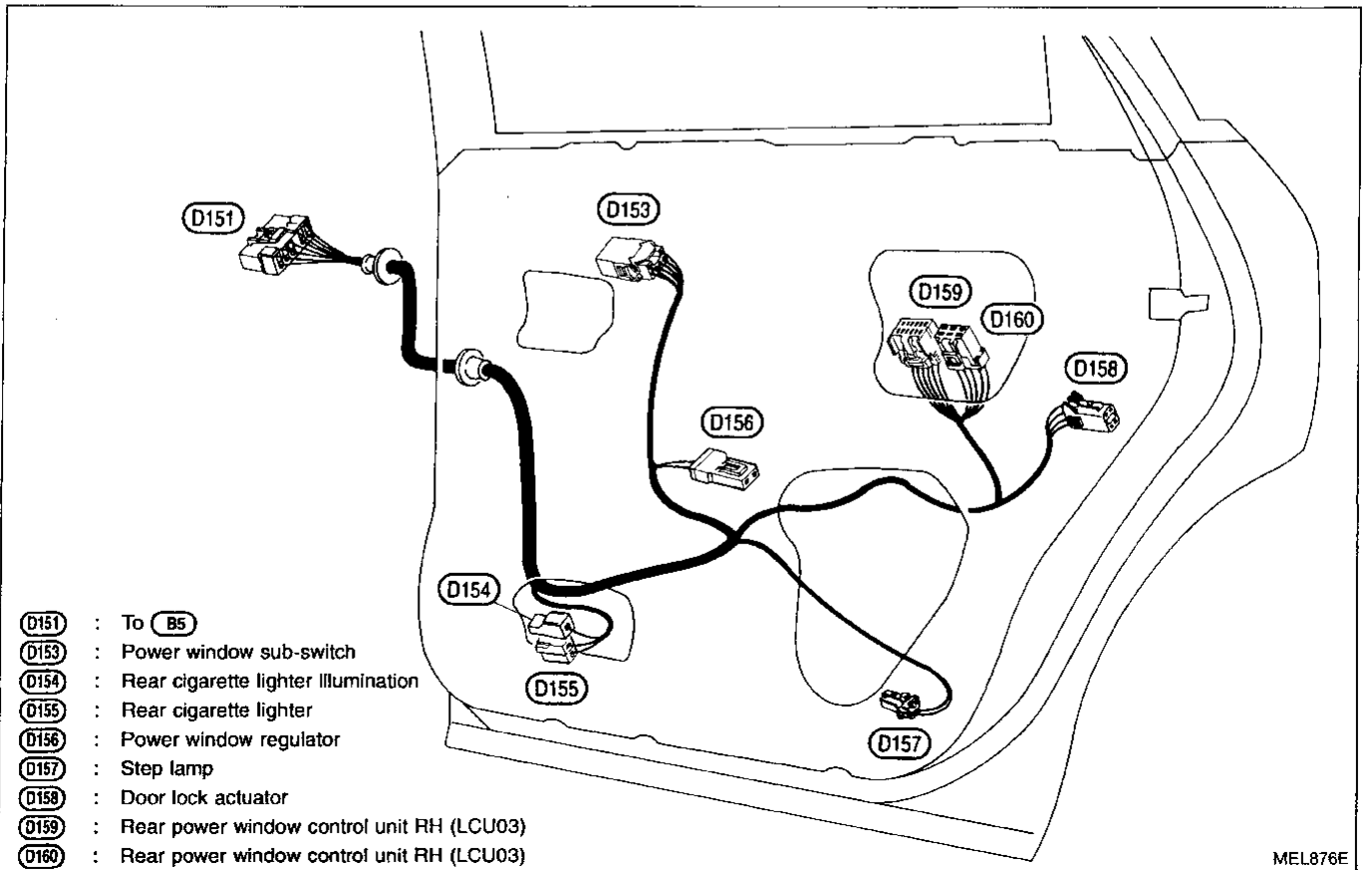
HARNESS LAYOUT

FRONT

Door Harness (RH side)



REAR

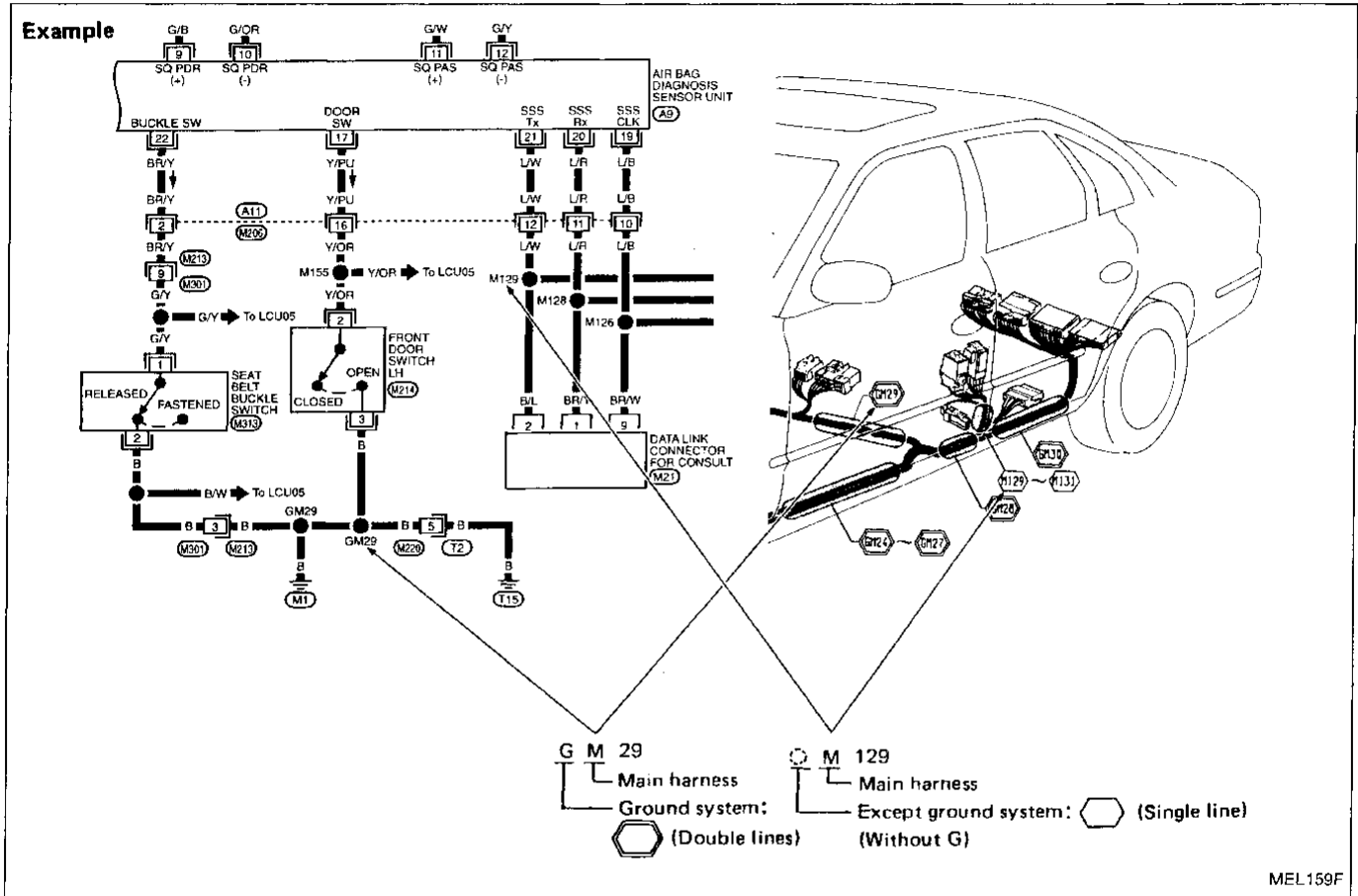


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SPLICE LOCATION

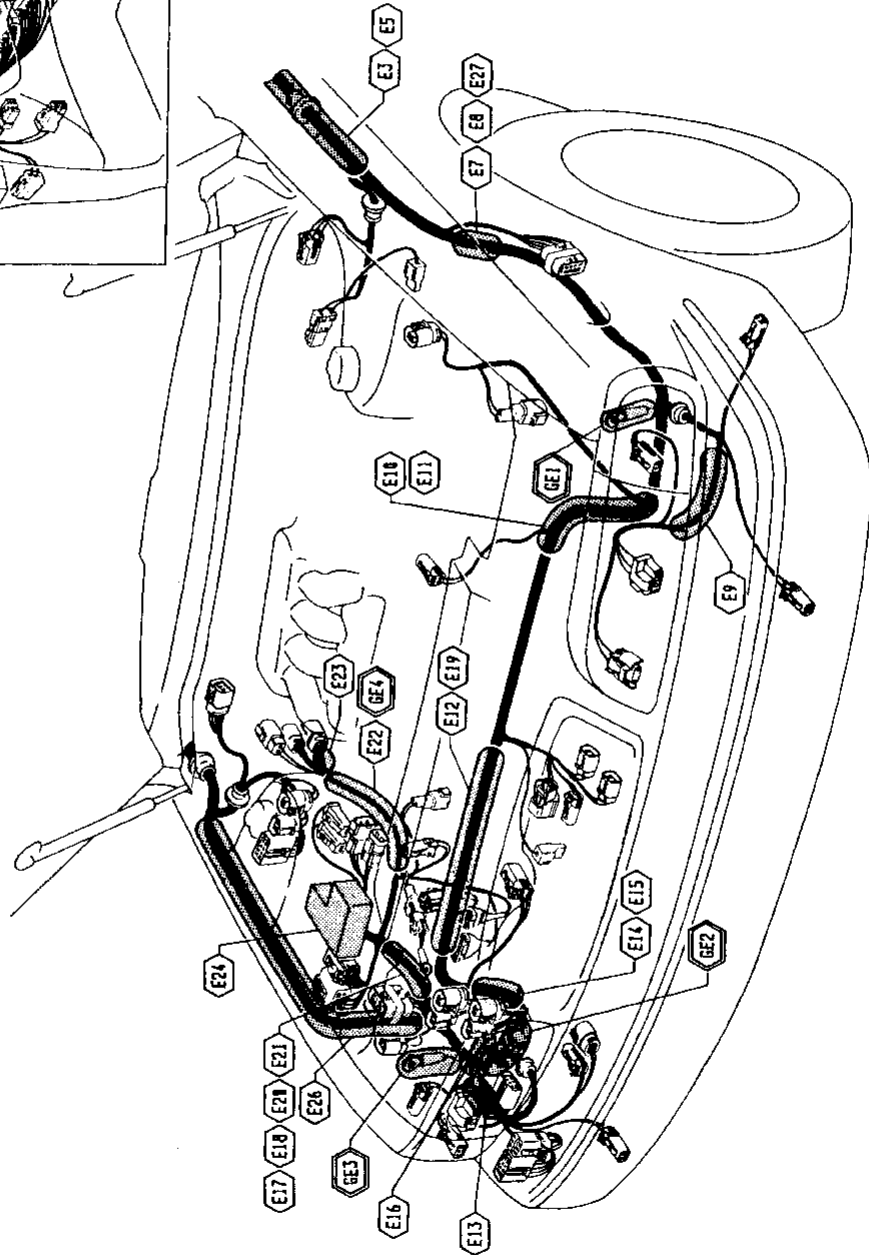
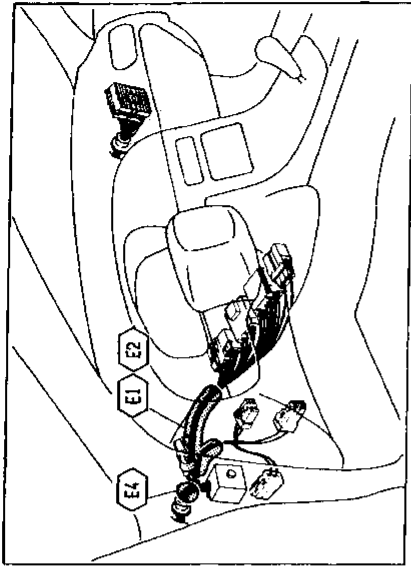
How to Read Splice Location

- "GM25", "M130" etc., which are shown in the wiring diagram, refer to wiring harness splice points. These points are located in shaded areas "GM29", "M129", etc. in illustrations under the title "SPLICE LOCATION".
- Wiring harness splice points are subject to change without prior notice.



SPLICE LOCATION

Engine Room Harness



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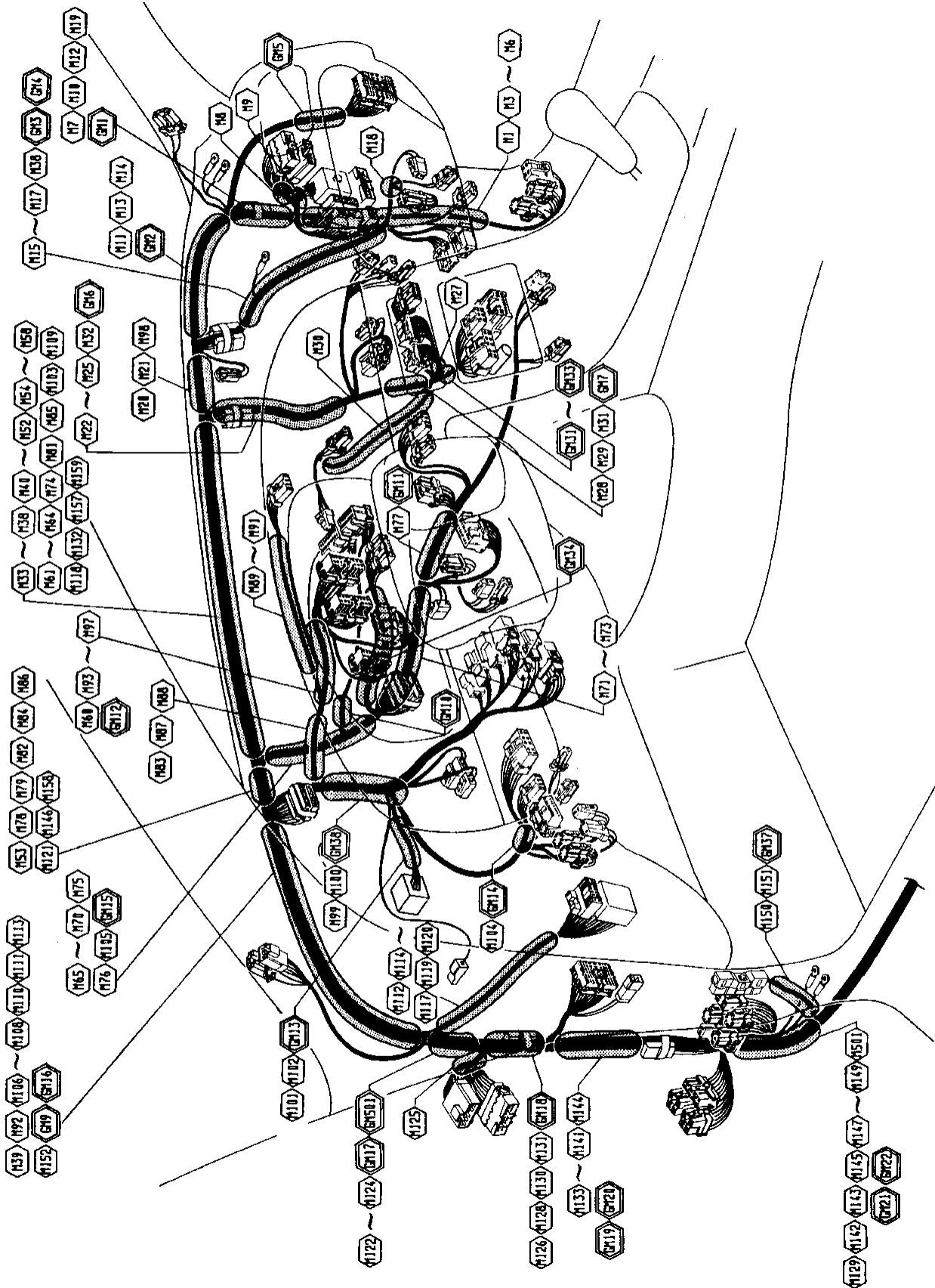
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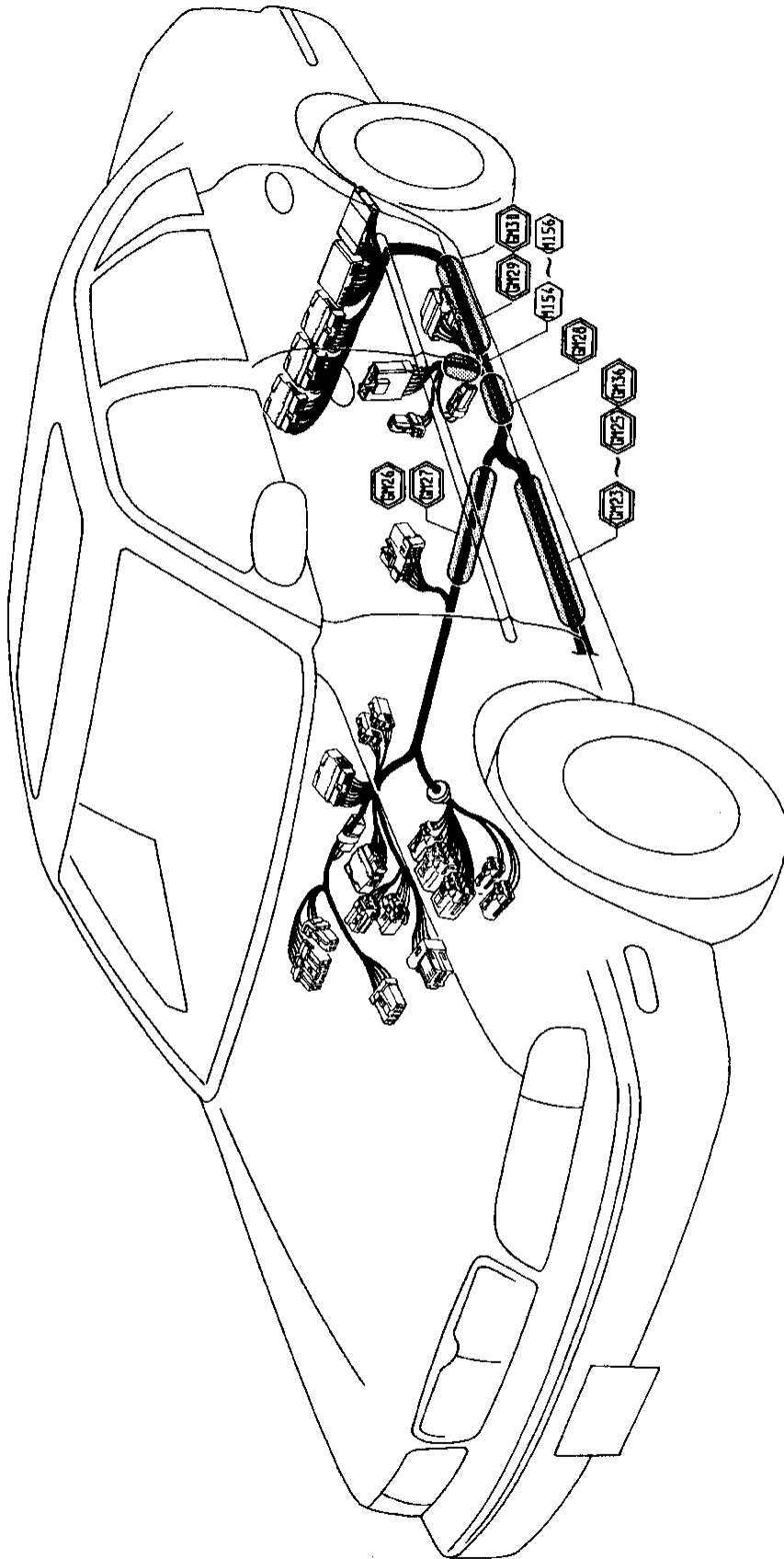
SPLICE LOCATION

Main Harness



SPLICE LOCATION

Main Harness (Cont'd)



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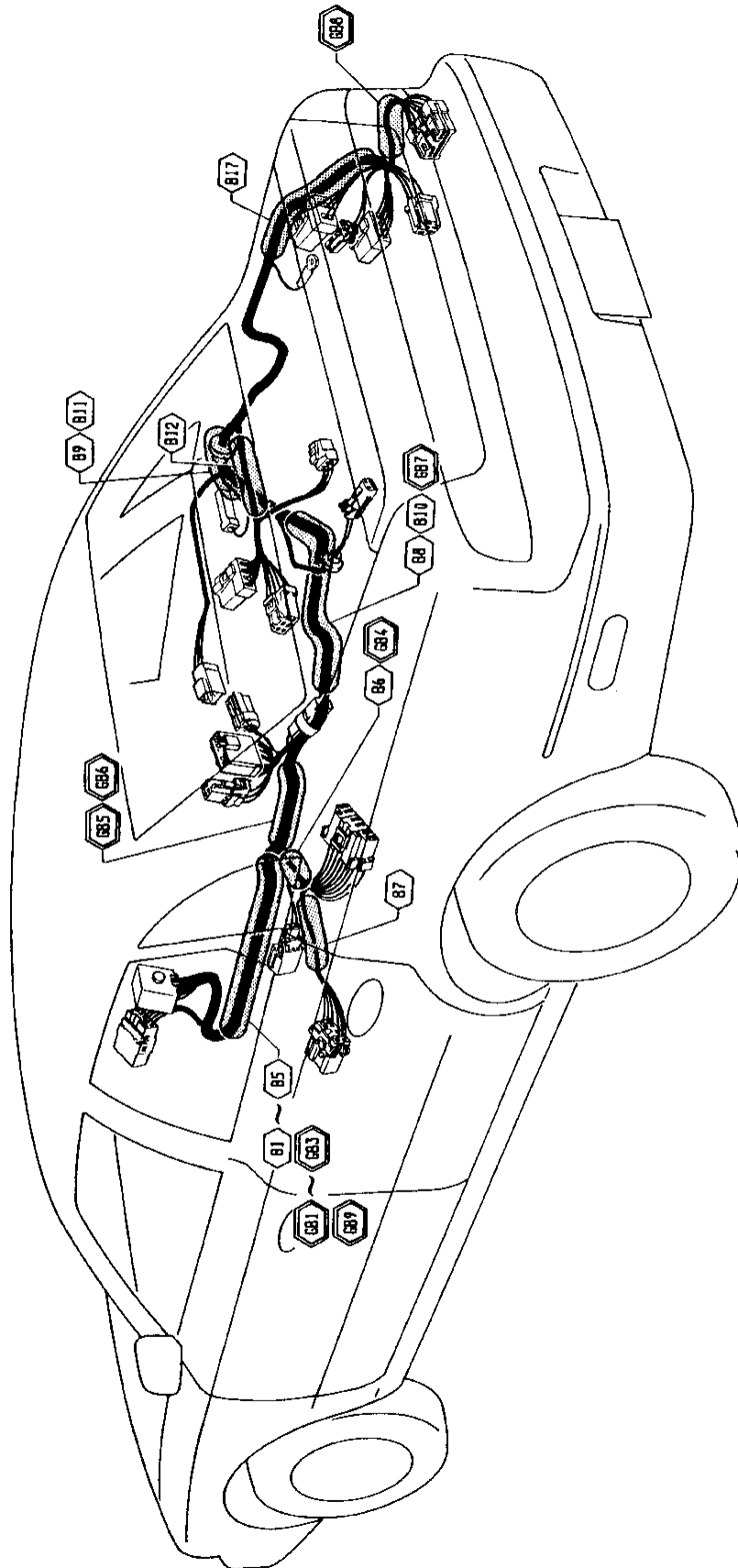
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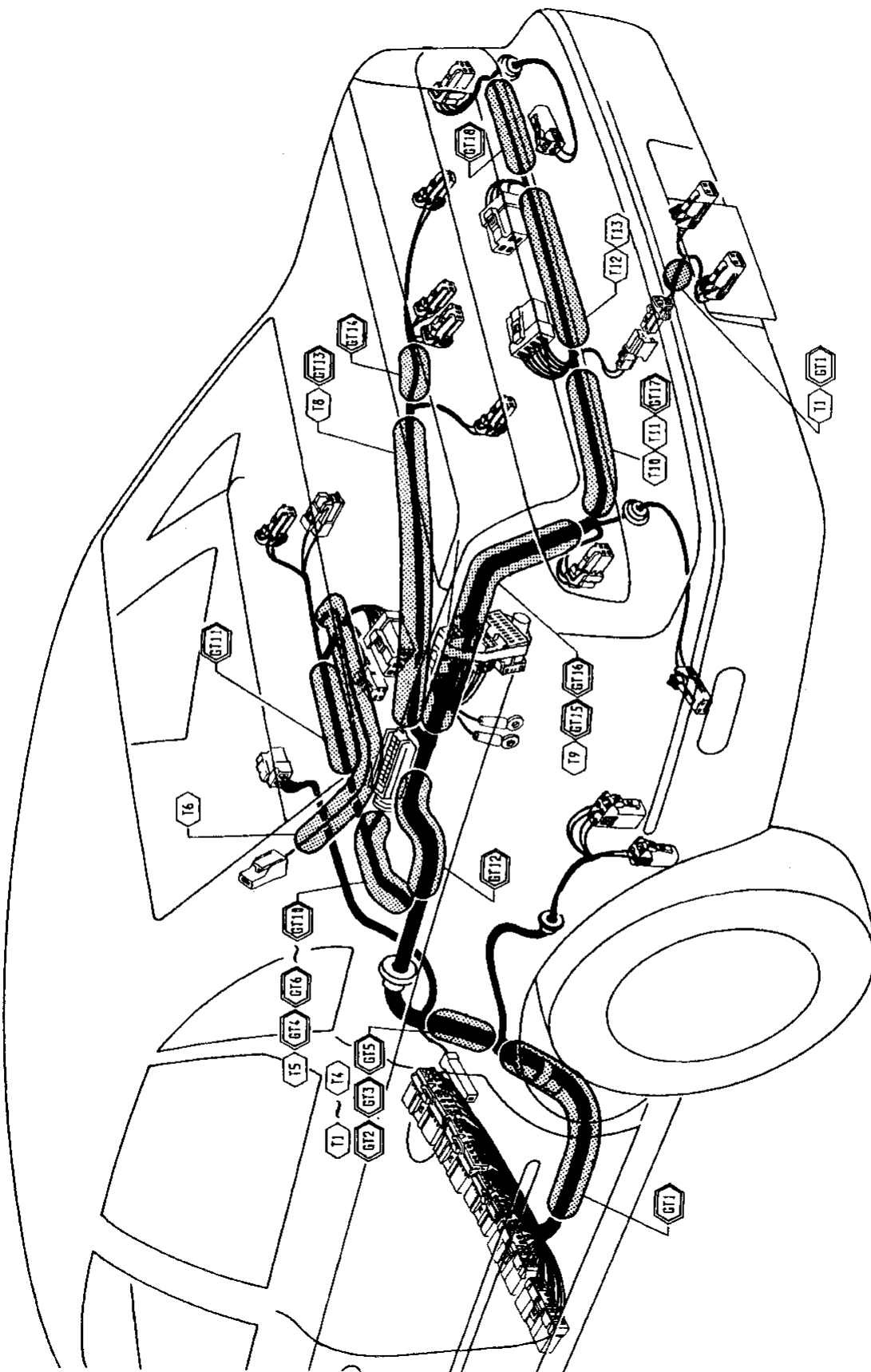
SPLICE LOCATION

Body Harness



SPLICE LOCATION

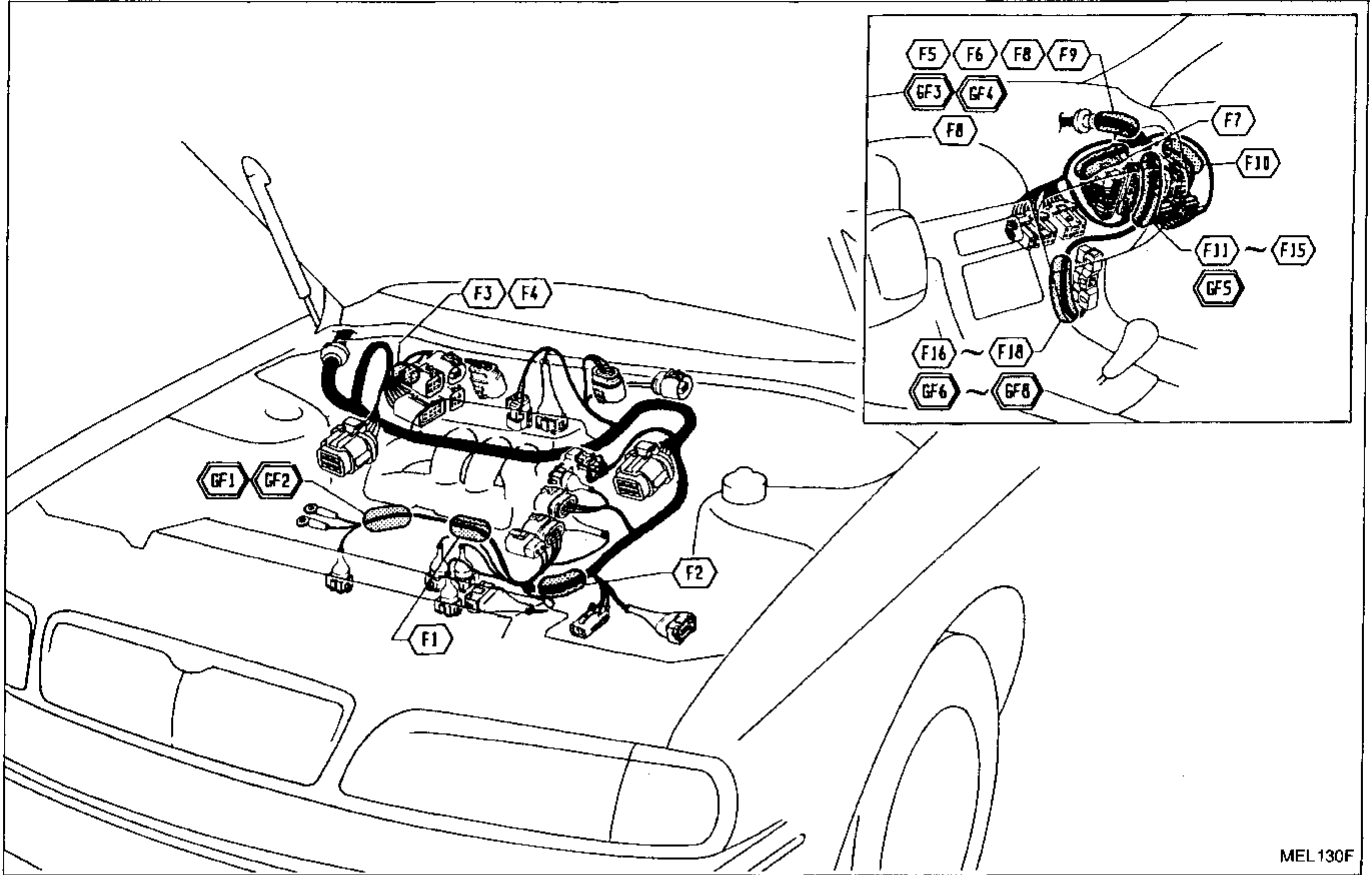
Tail Harness



- GI
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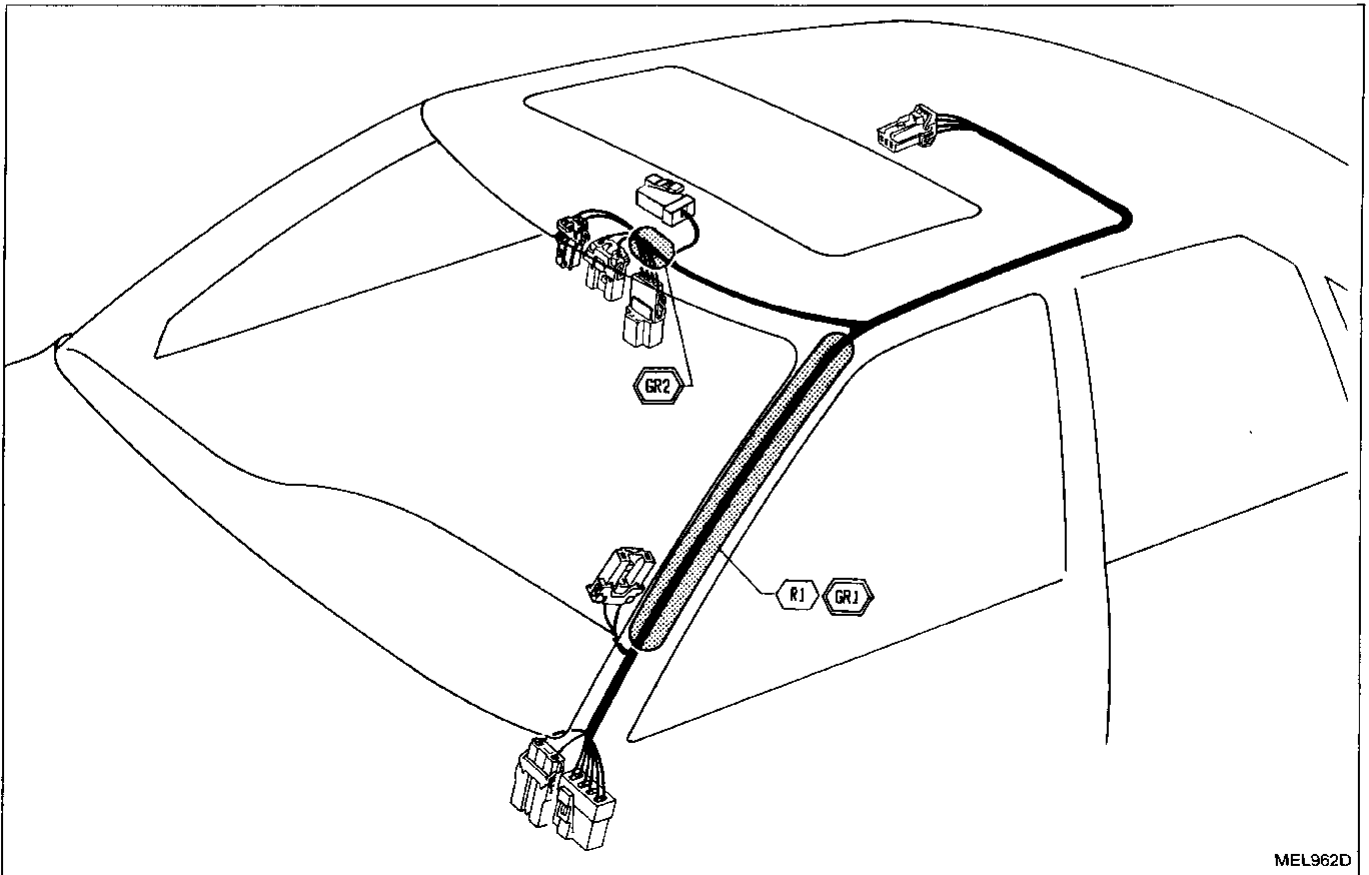
SPLICE LOCATION

Engine Control Harness



MEL130F

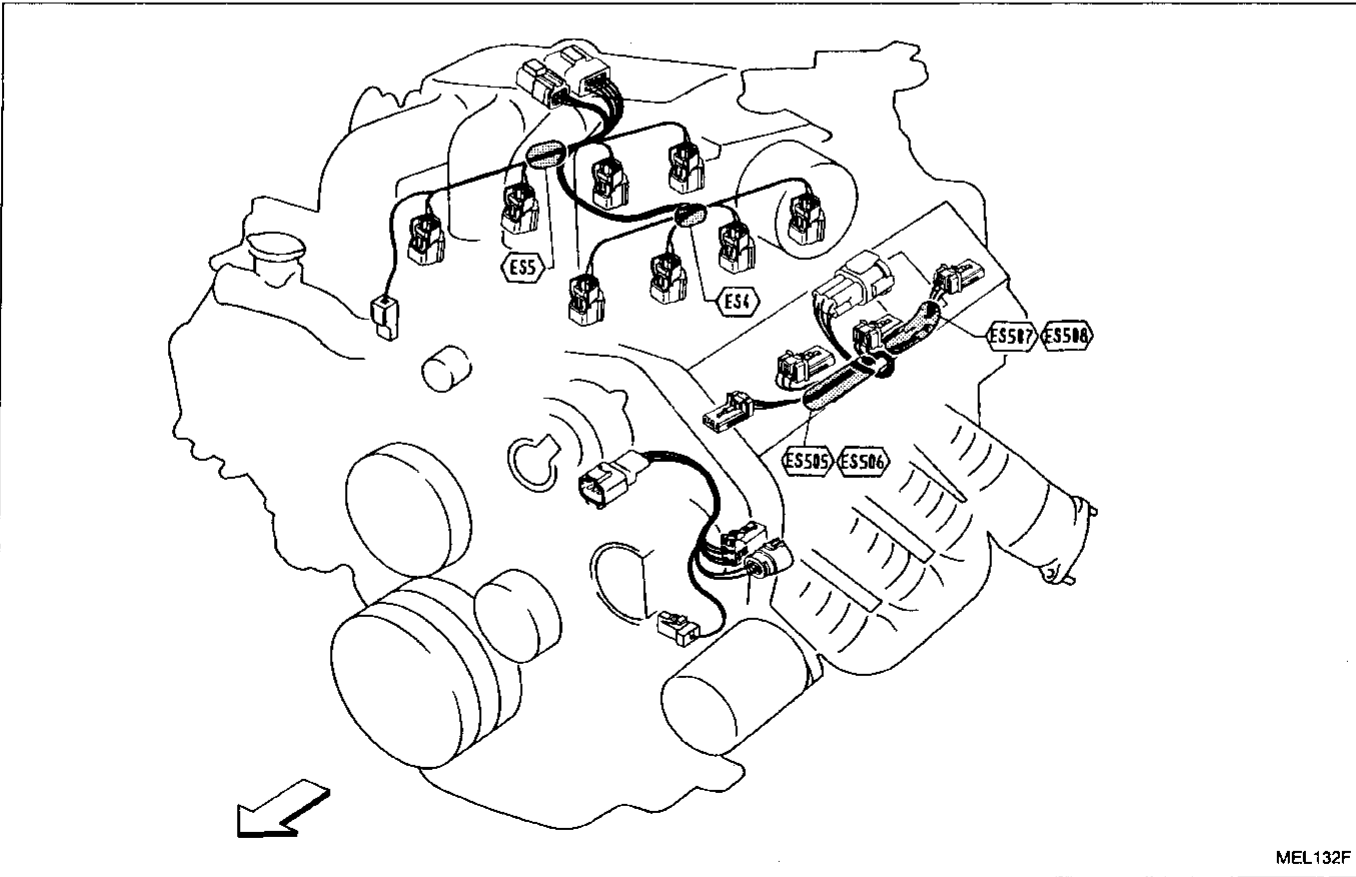
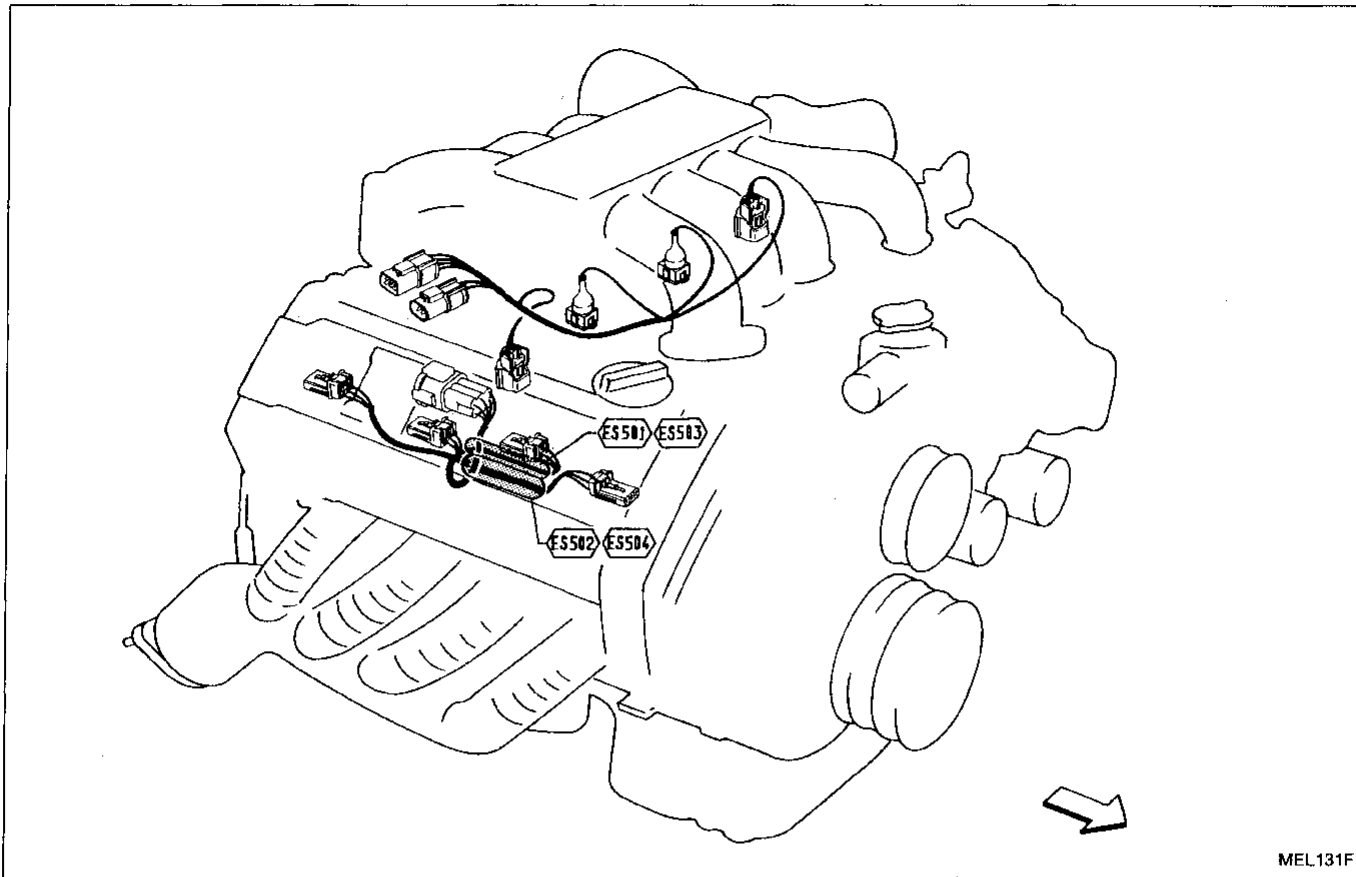
Room Lamp Harness



MEL962D

SPLICE LOCATION

Engine Control Sub-harness

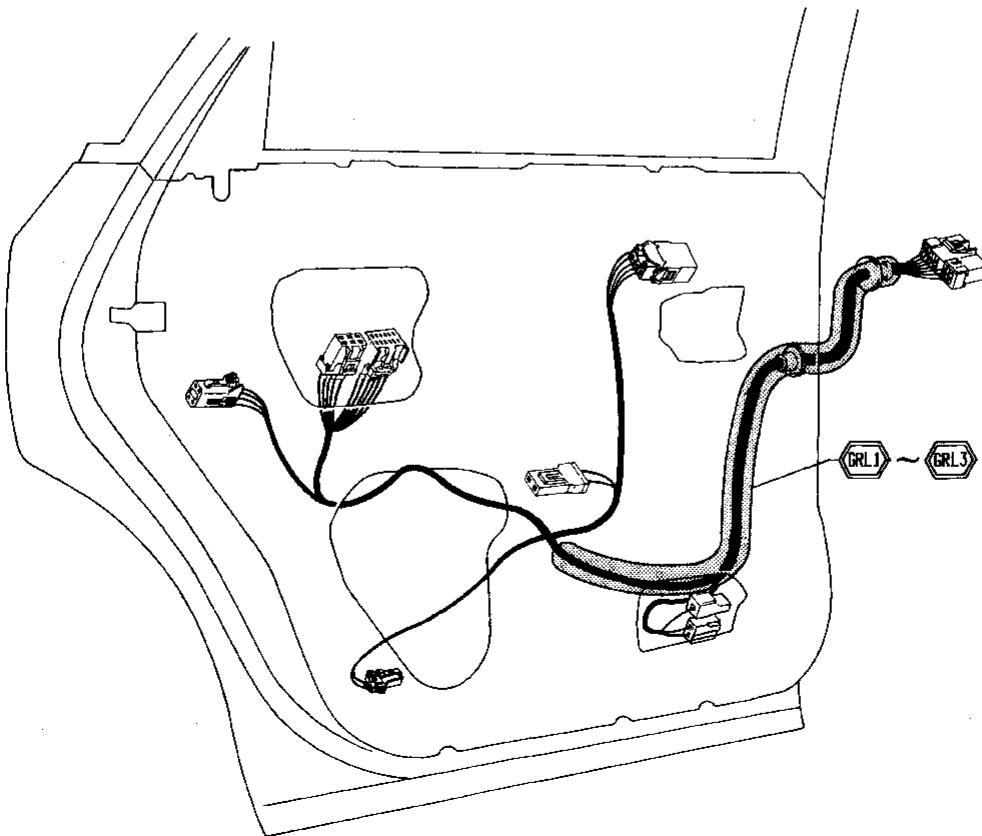
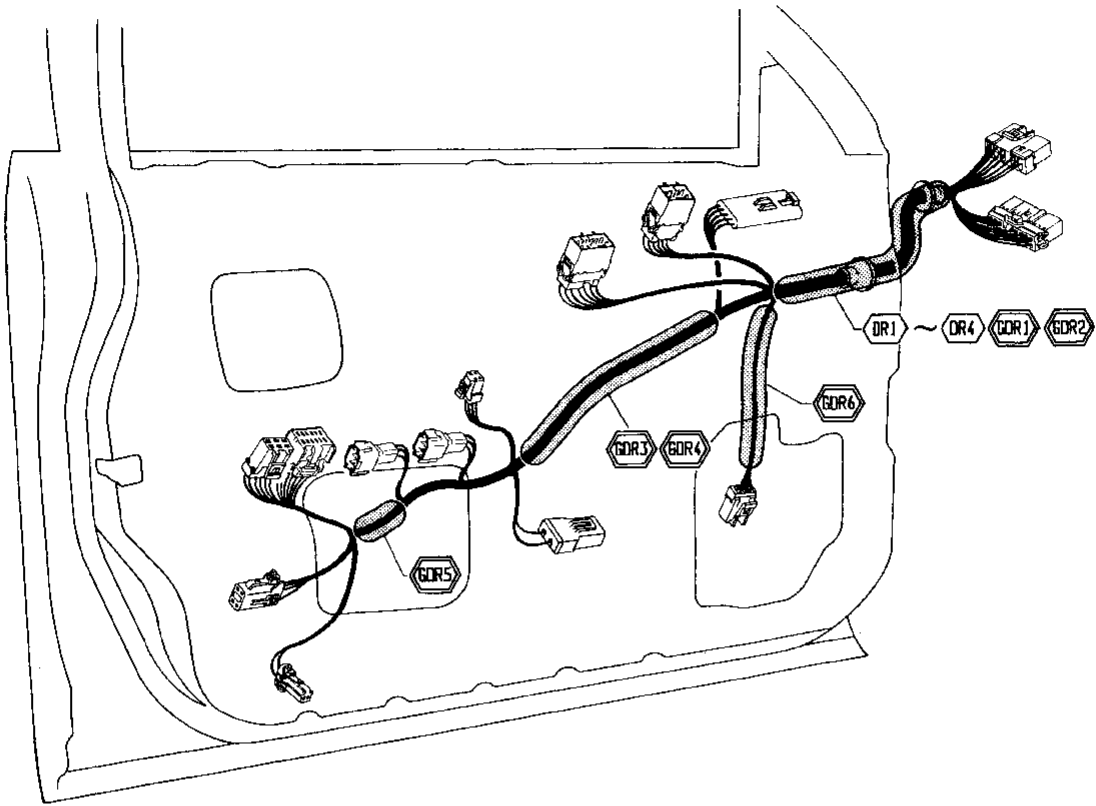


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SPLICE LOCATION

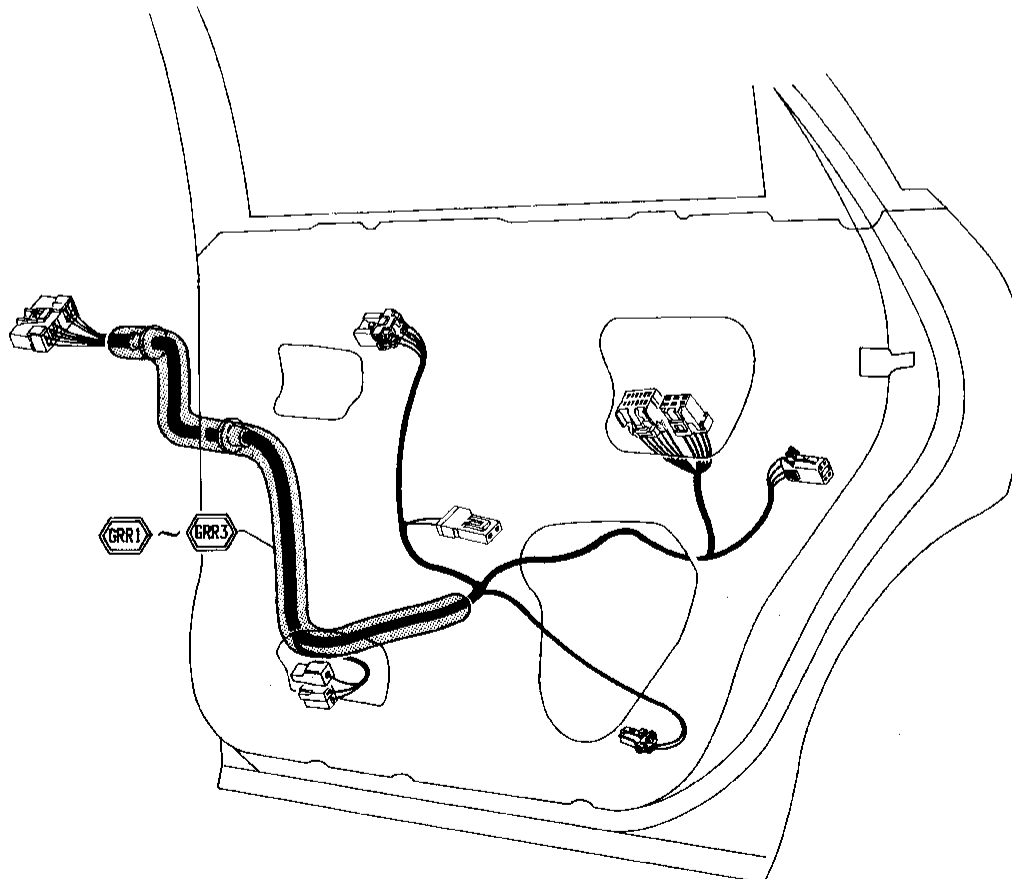
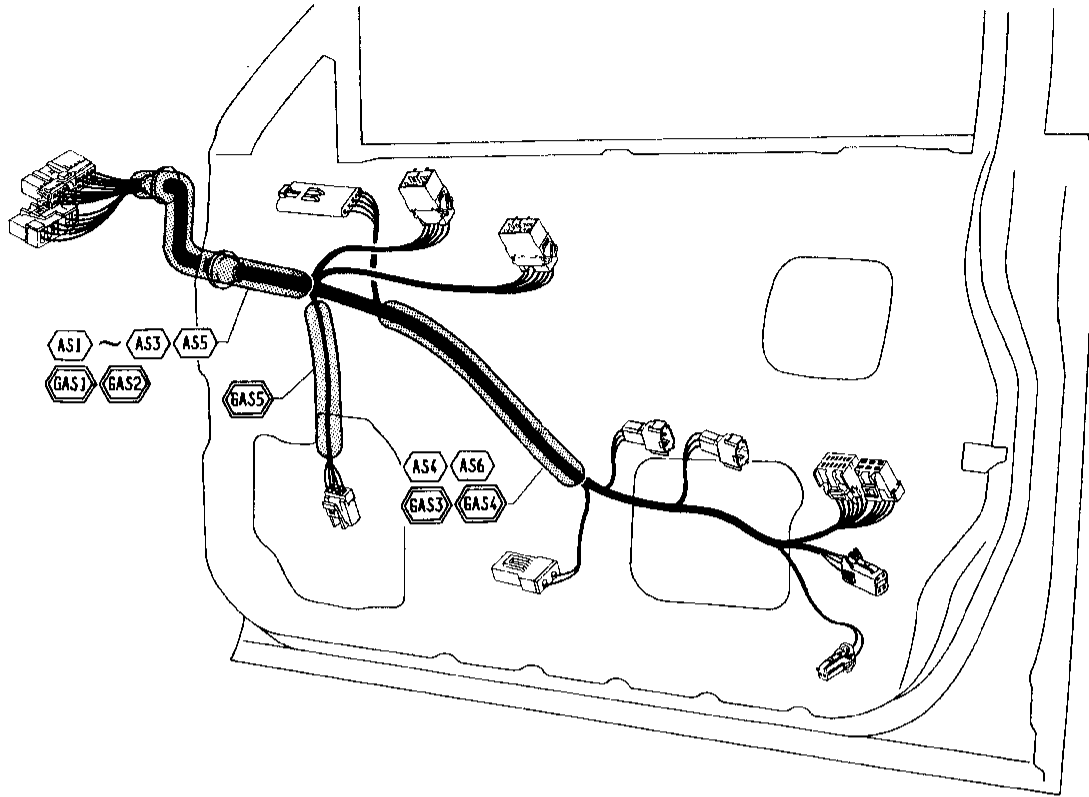
Door Harness

LH SIDE



SPLICE LOCATION Door Harness (Cont'd)

RH SIDE



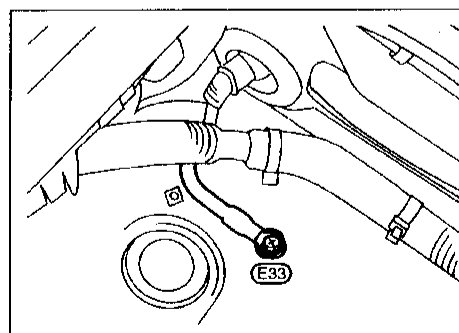
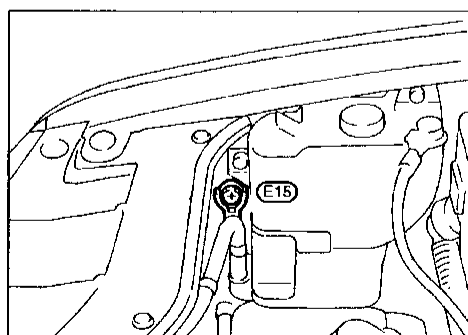
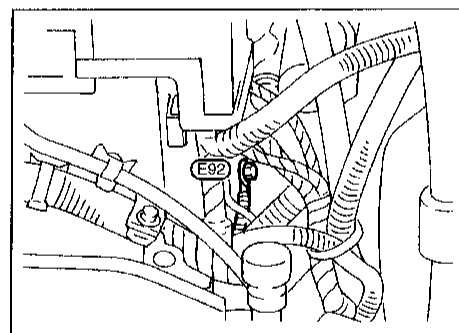
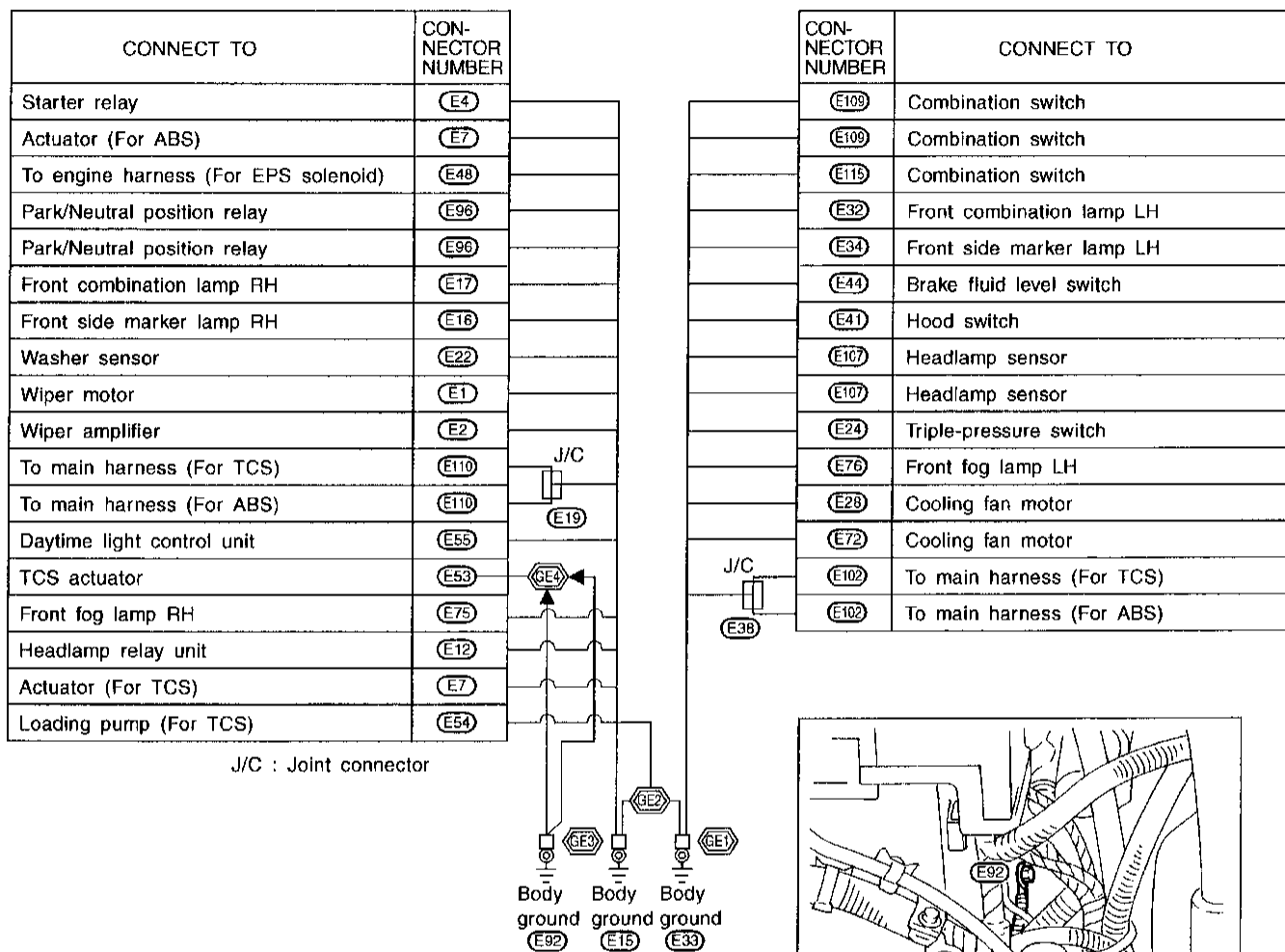
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EL-405

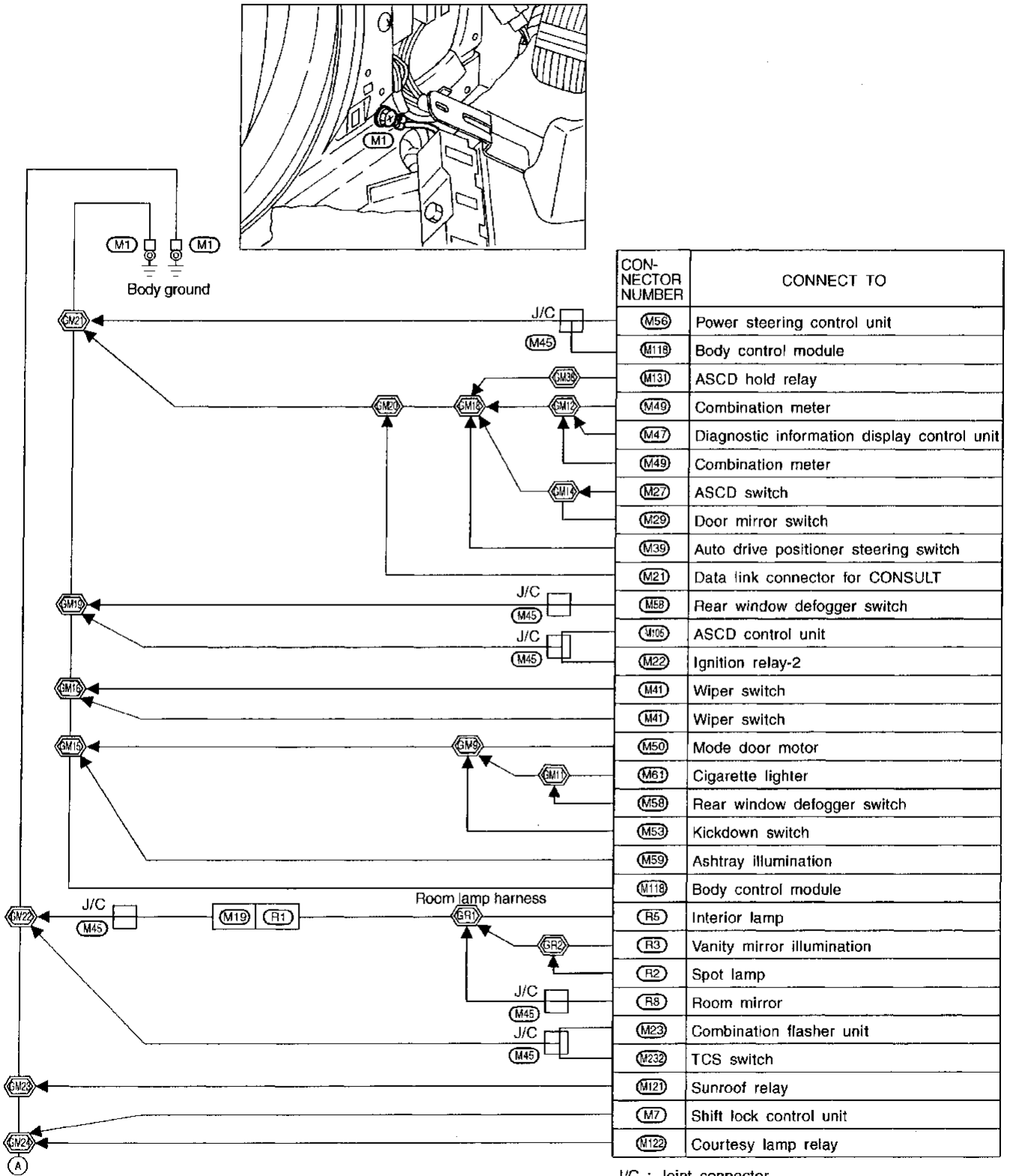
GROUND DISTRIBUTION

Engine room harness



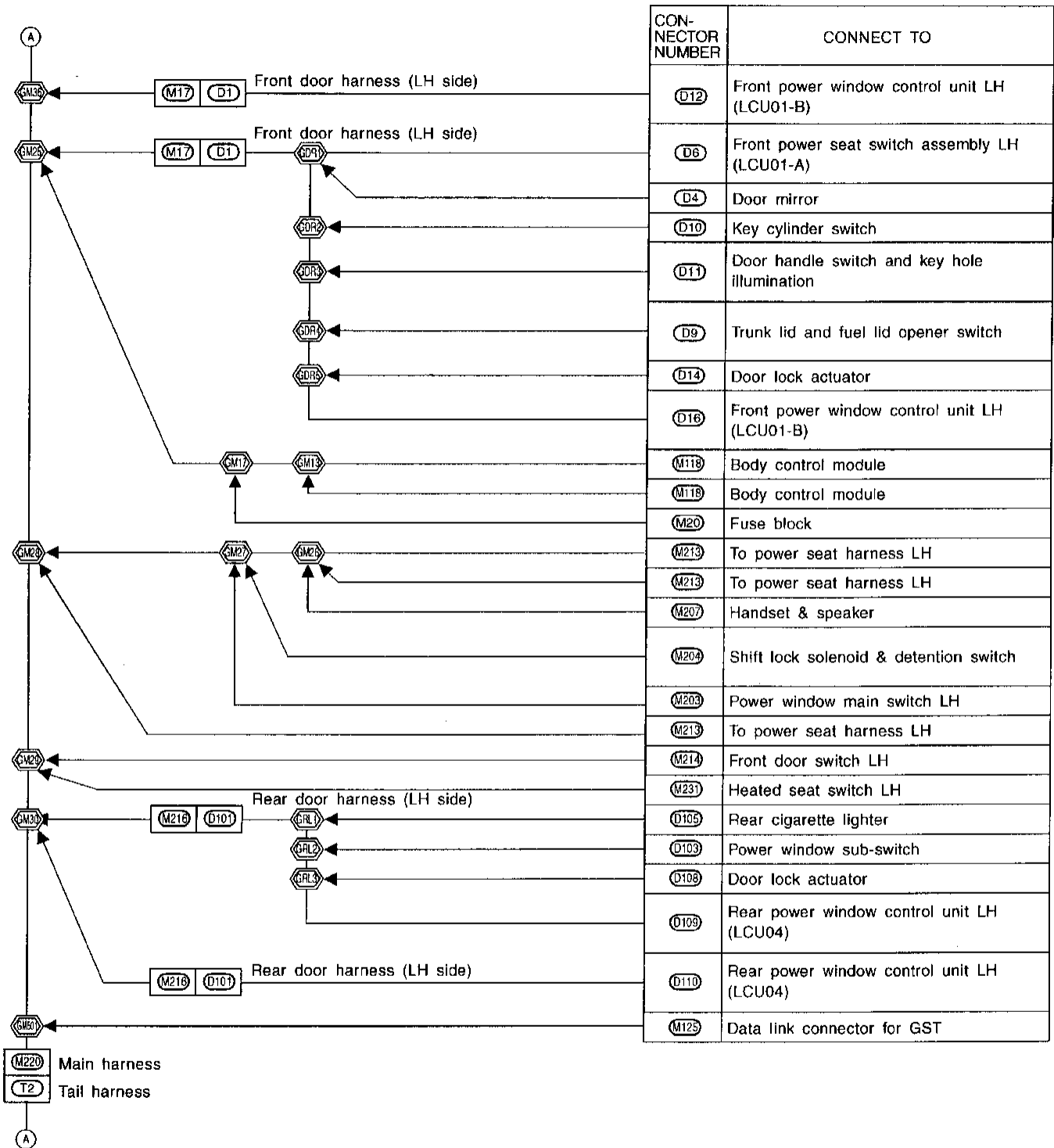
GROUND DISTRIBUTION

Main harness (LH side)



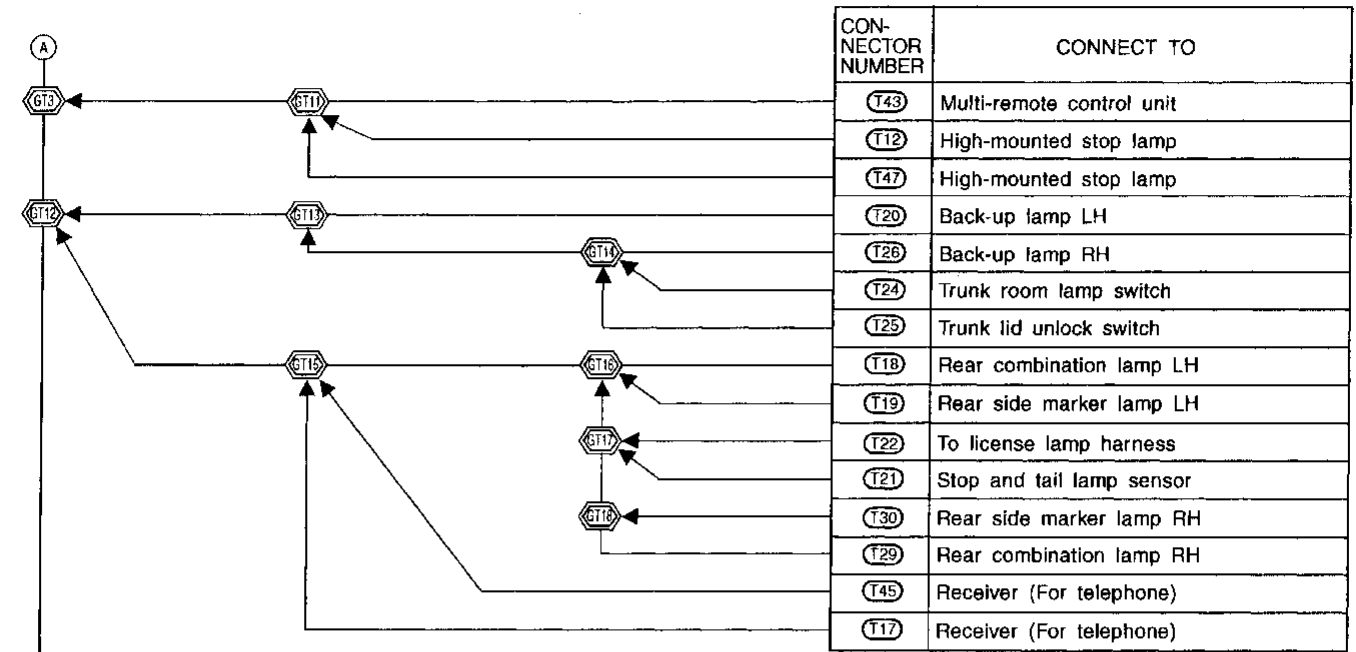
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GROUND DISTRIBUTION

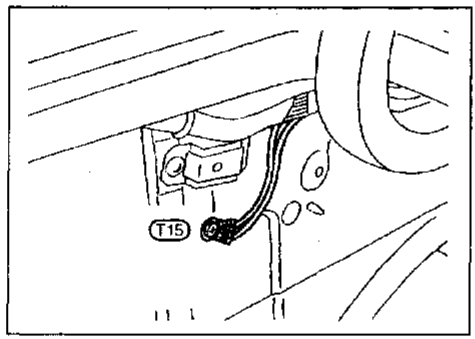


CON-NECTOR NUMBER	CONNECT TO
D12	Front power window control unit LH (LCU01-B)
D6	Front power seat switch assembly LH (LCU01-A)
D4	Door mirror
D10	Key cylinder switch
D11	Door handle switch and key hole illumination
D9	Trunk lid and fuel lid opener switch
D14	Door lock actuator
D16	Front power window control unit LH (LCU01-B)
M118	Body control module
M118	Body control module
M20	Fuse block
M213	To power seat harness LH
M213	To power seat harness LH
M207	Handset & speaker
M204	Shift lock solenoid & detention switch
M203	Power window main switch LH
M213	To power seat harness LH
M214	Front door switch LH
M231	Heated seat switch LH
D105	Rear cigarette lighter
D103	Power window sub-switch
D108	Door lock actuator
D109	Rear power window control unit LH (LCU04)
D110	Rear power window control unit LH (LCU04)
M125	Data link connector for GST

GROUND DISTRIBUTION



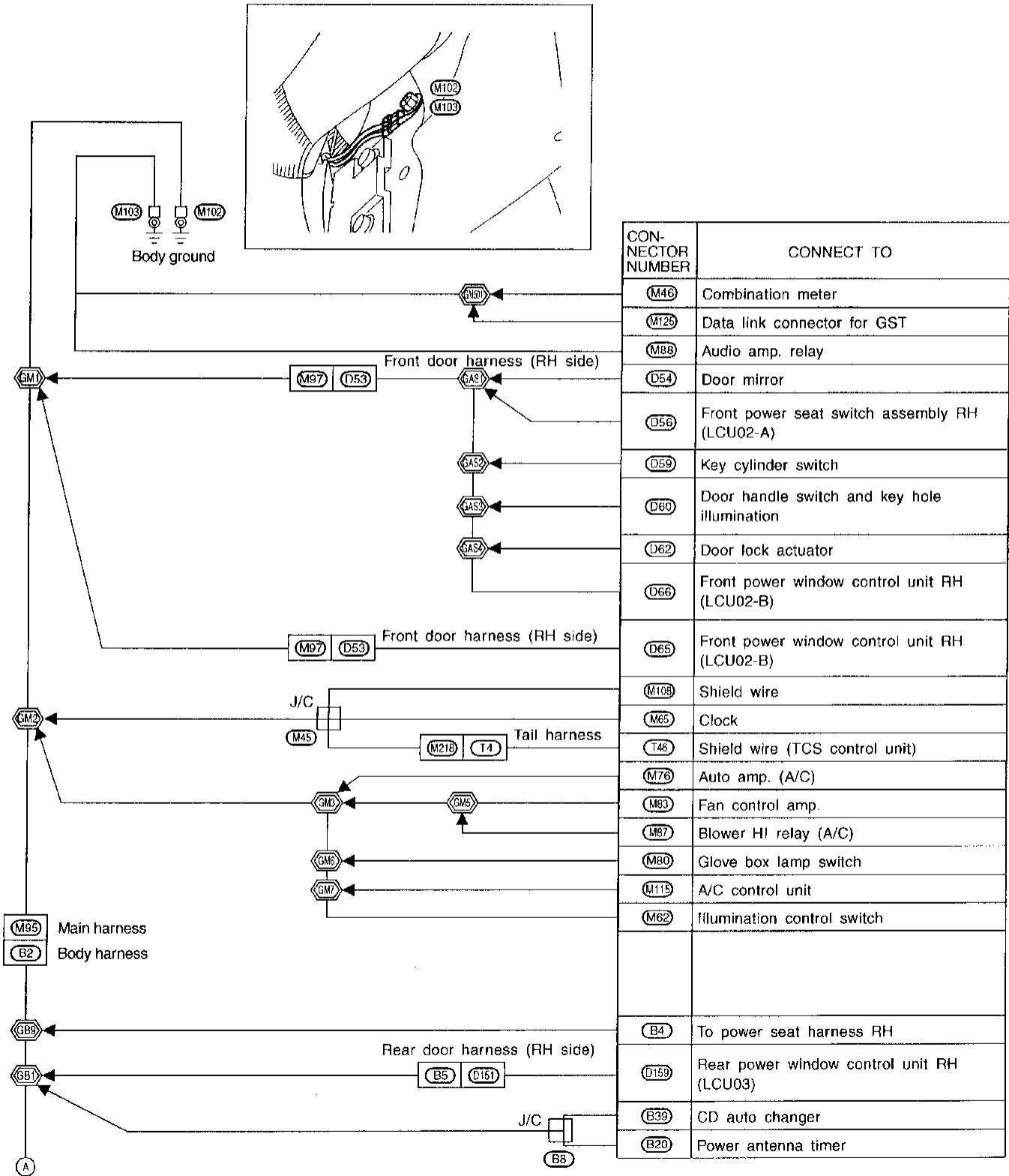
(A)
 (GT12)
 (GT12)
 (T15)
 Body
 ground



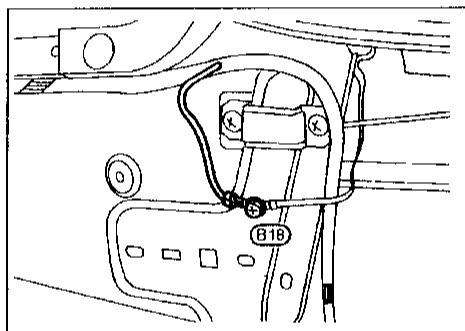
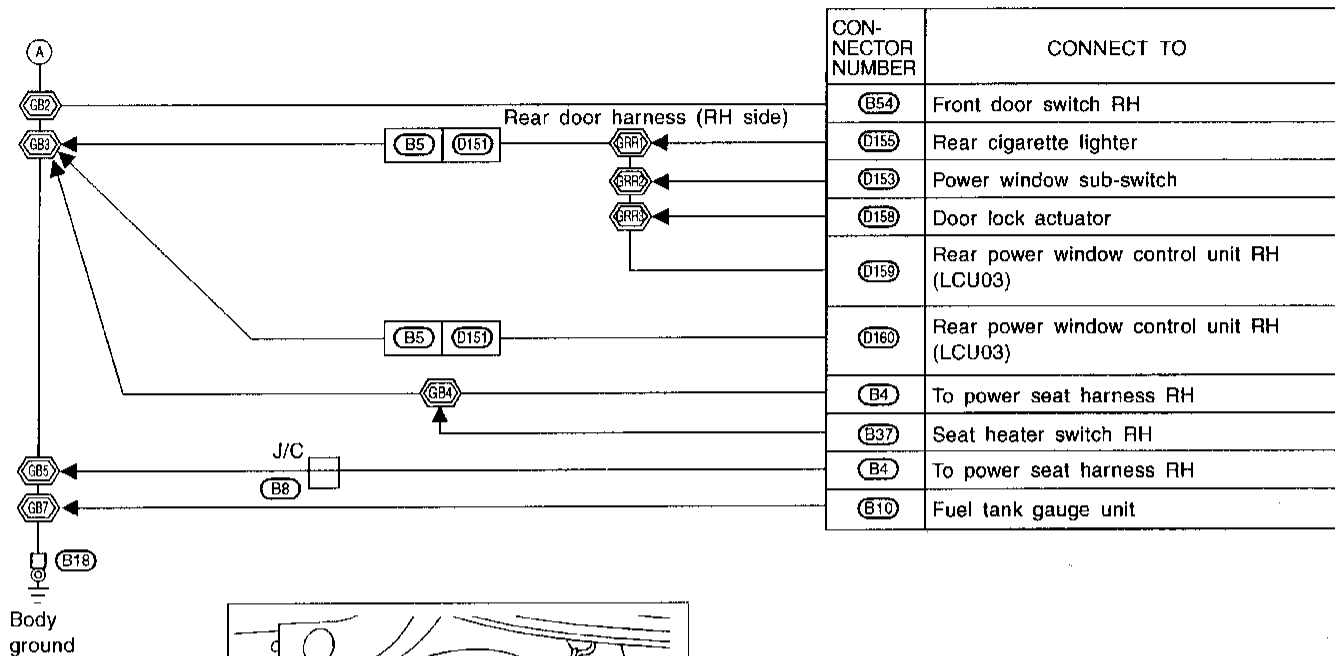
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GROUND DISTRIBUTION

Main harness (RH side)



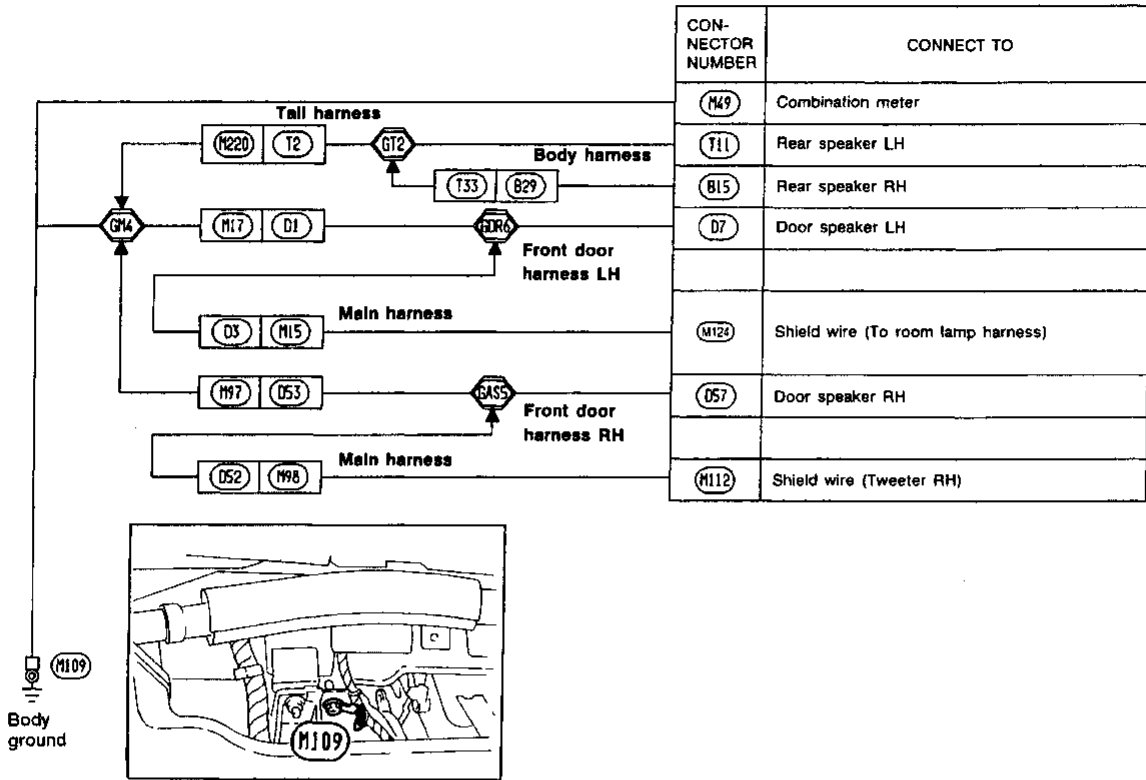
GROUND DISTRIBUTION



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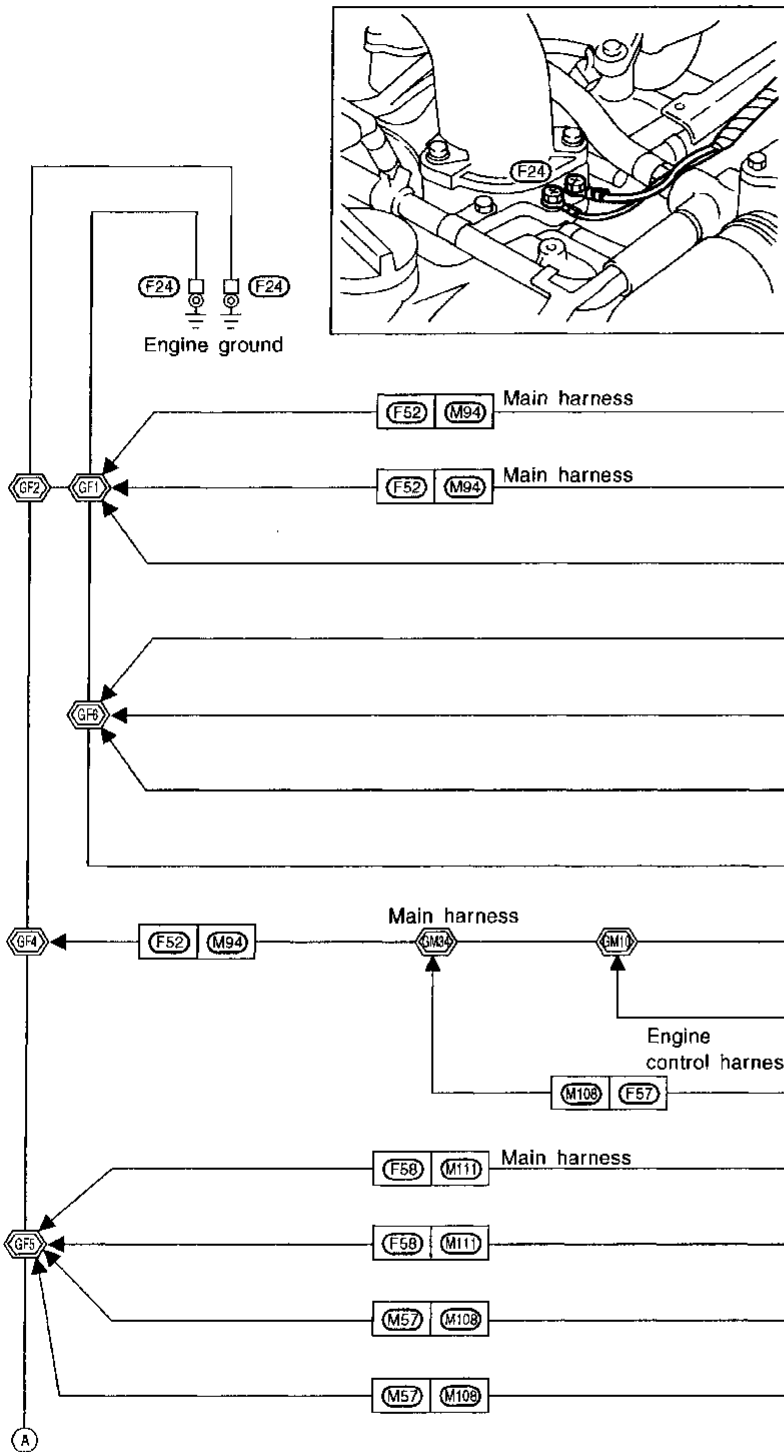
GROUND DISTRIBUTION

Main harness



GROUND DISTRIBUTION

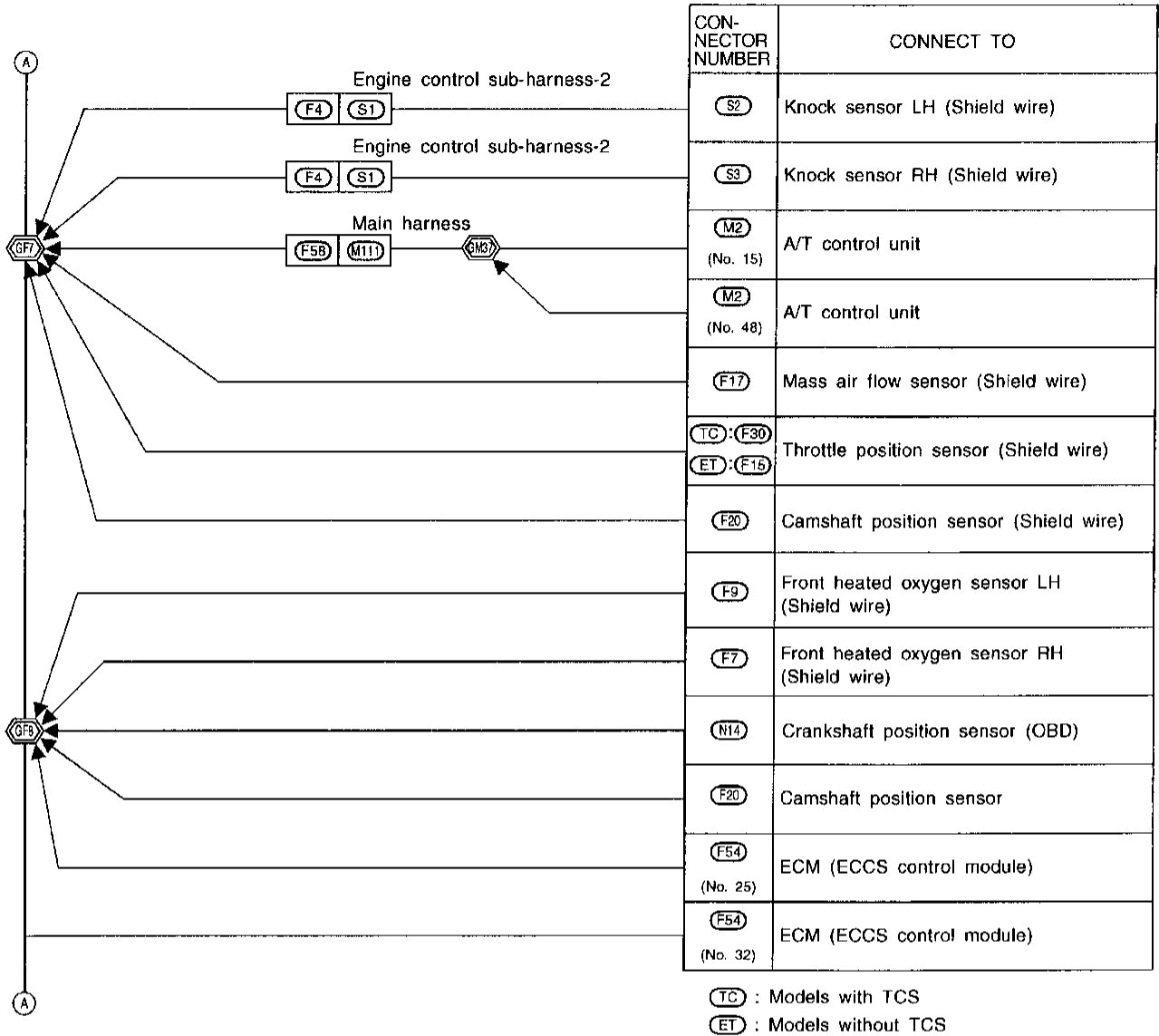
Engine control harness



CON-NECTOR NUMBER	CONNECT TO
(M116) (No. 103)	Throttle control module
(M116) (No. 107)	Throttle control module
(F54) (No. 19)	ECM (ECCS control module)
(F54) (No. 10)	ECM (ECCS control module)
(F54) (No. 108)	ECM (ECCS control module)
(F54) (No. 116)	ECM (ECCS control module)
(F54) (No. 124)	ECM (ECCS control module)
(M116) (No. 20)	Throttle control module
(M116) (No. 10)	Throttle control module
(F28)	Secondary throttle position sensor (Shield wire)
(M236)	Rear heated oxygen sensor LH
(M236)	Rear heated oxygen sensor LH (Shield wire)
(M237)	Rear heated oxygen sensor RH
(M237)	Rear heated oxygen sensor RH (Shield wire)

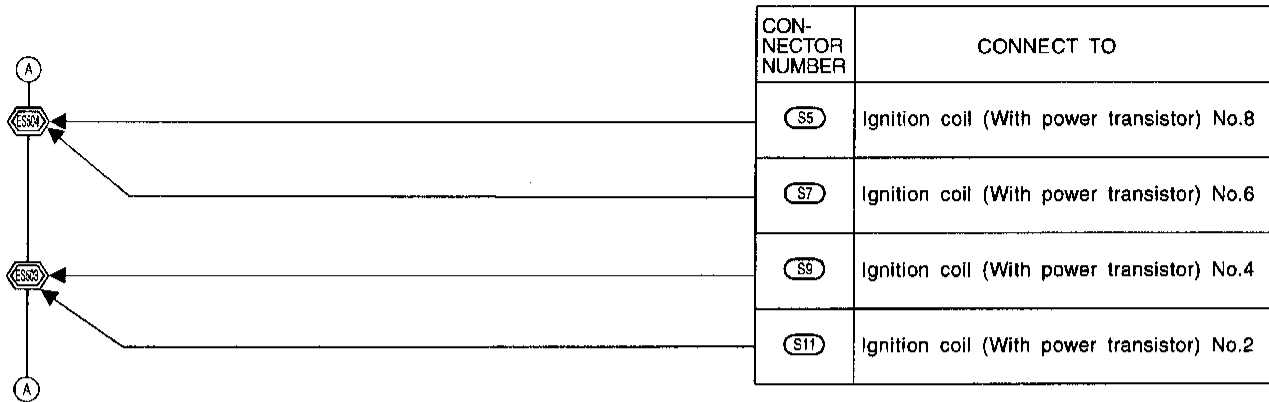
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GROUND DISTRIBUTION



GROUND DISTRIBUTION

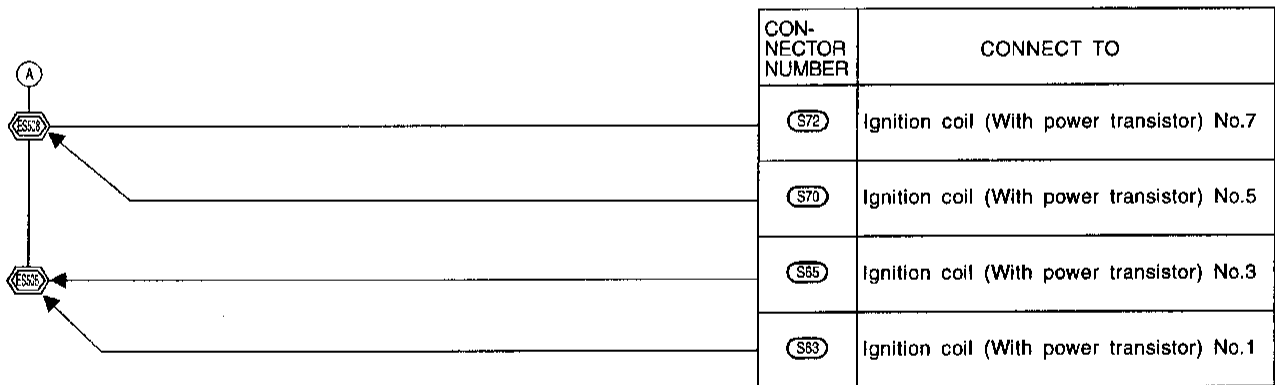
Sub-harness-5



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Sub-harness-4



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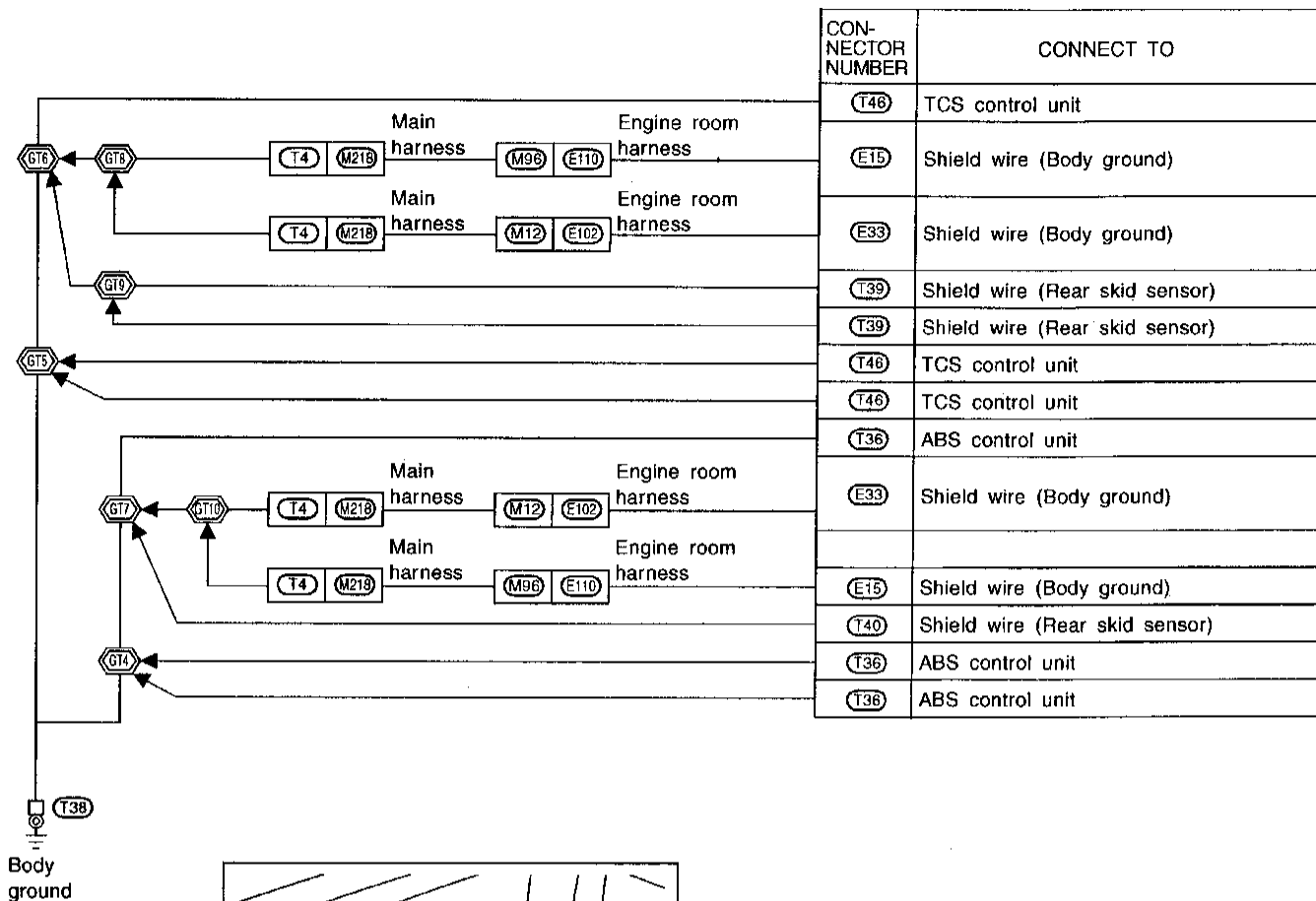
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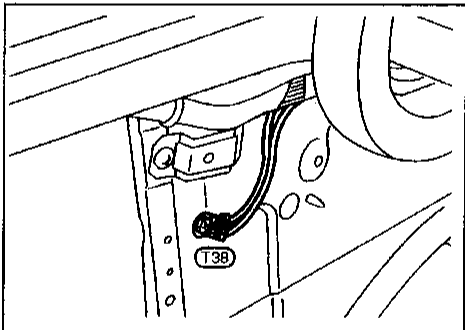
MEL140F

GROUND DISTRIBUTION

Tall harness



CON-NECTOR NUMBER	CONNECT TO
(T48)	TCS control unit
(E15)	Shield wire (Body ground)
(E33)	Shield wire (Body ground)
(T39)	Shield wire (Rear skid sensor)
(T39)	Shield wire (Rear skid sensor)
(T46)	TCS control unit
(T46)	TCS control unit
(T36)	ABS control unit
(E33)	Shield wire (Body ground)
(E15)	Shield wire (Body ground)
(T40)	Shield wire (Rear skid sensor)
(T36)	ABS control unit
(T36)	ABS control unit



MEL141F