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When you read wiring diagrams:
 ● Read GI section, "HOW TO READ WIRING DIAGRAMS".
When you perform trouble diagnoses, read GI section, "HOW TO FOLLOW FLOW CHART IN TROUBLE DIAGNOSES" and "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT".

WIRING DIAGRAM REFERENCE CHART

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

EL

INDEX

PRECAUTIONS



Supplemental Restraint System (SRS) "AIR BAG"

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

WARNING:

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

HARNESS CONNECTOR

Description

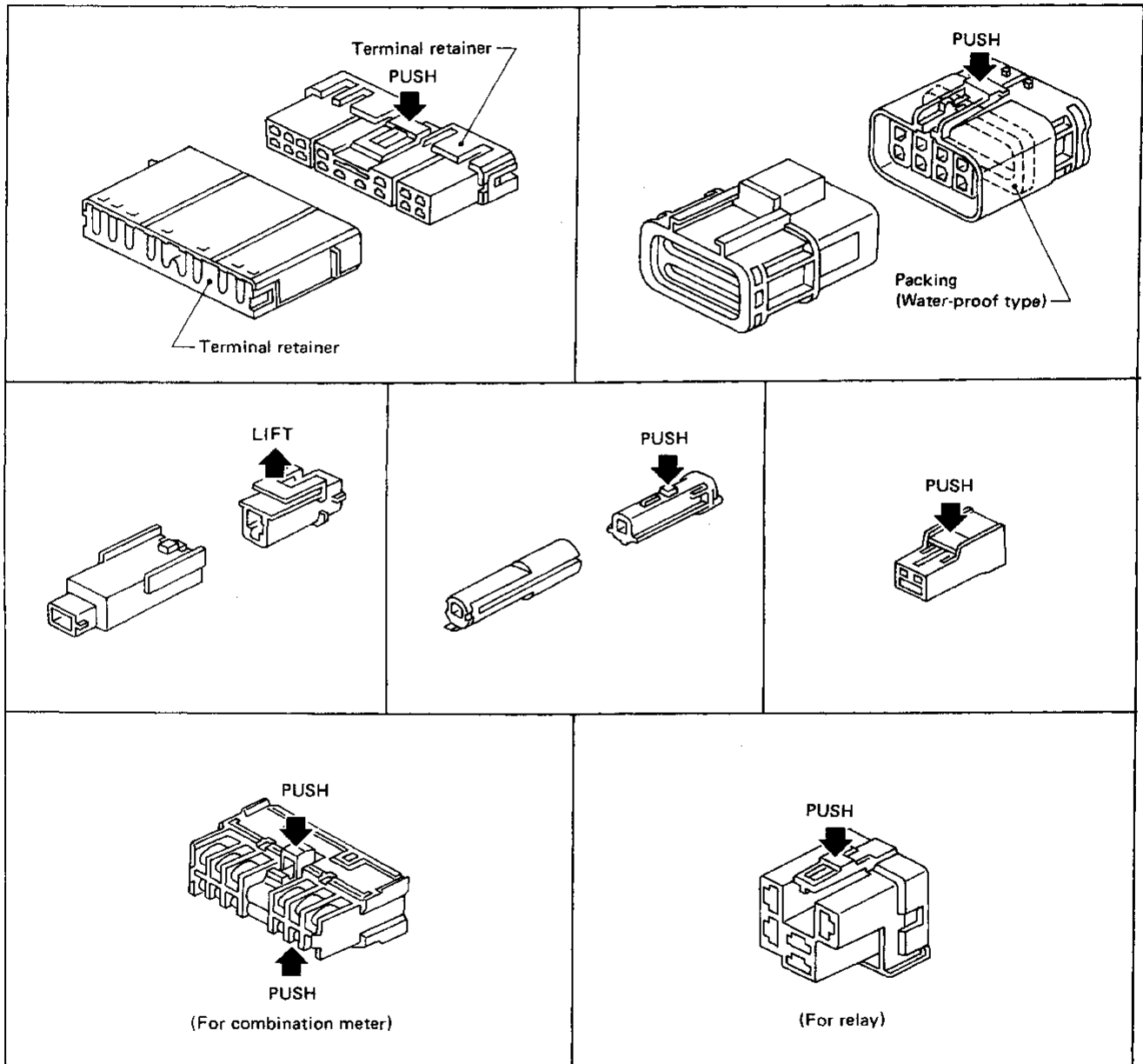
HARNESS CONNECTOR

- All harness connectors have been designed to prevent accidental looseness 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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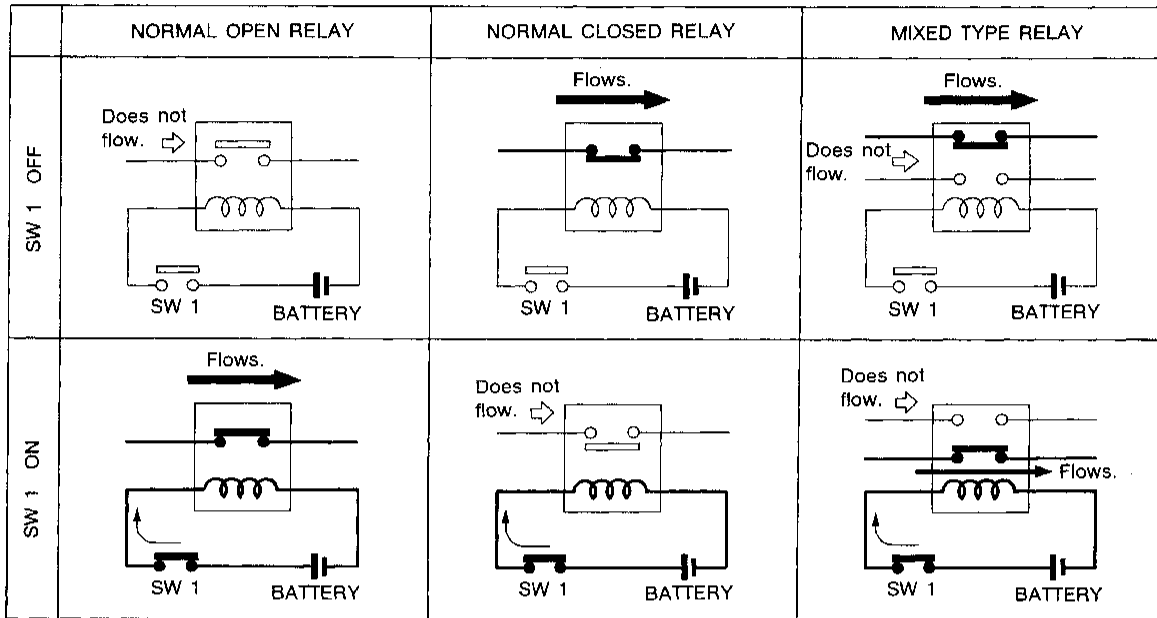
SEL769D

STANDARDIZED RELAY

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

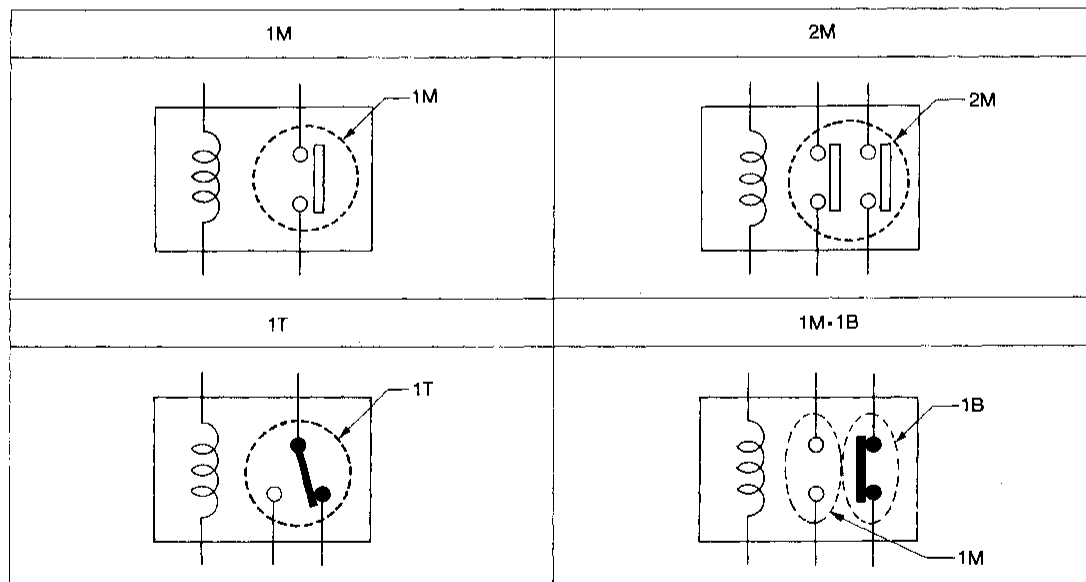
Relays can be divided into three main types: normal open, normal closed and mixed type relays.



AEL669A

TYPE OF STANDARDIZED RELAYS

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



SEL882H

STANDARDIZED RELAY

Description (Cont'd)

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

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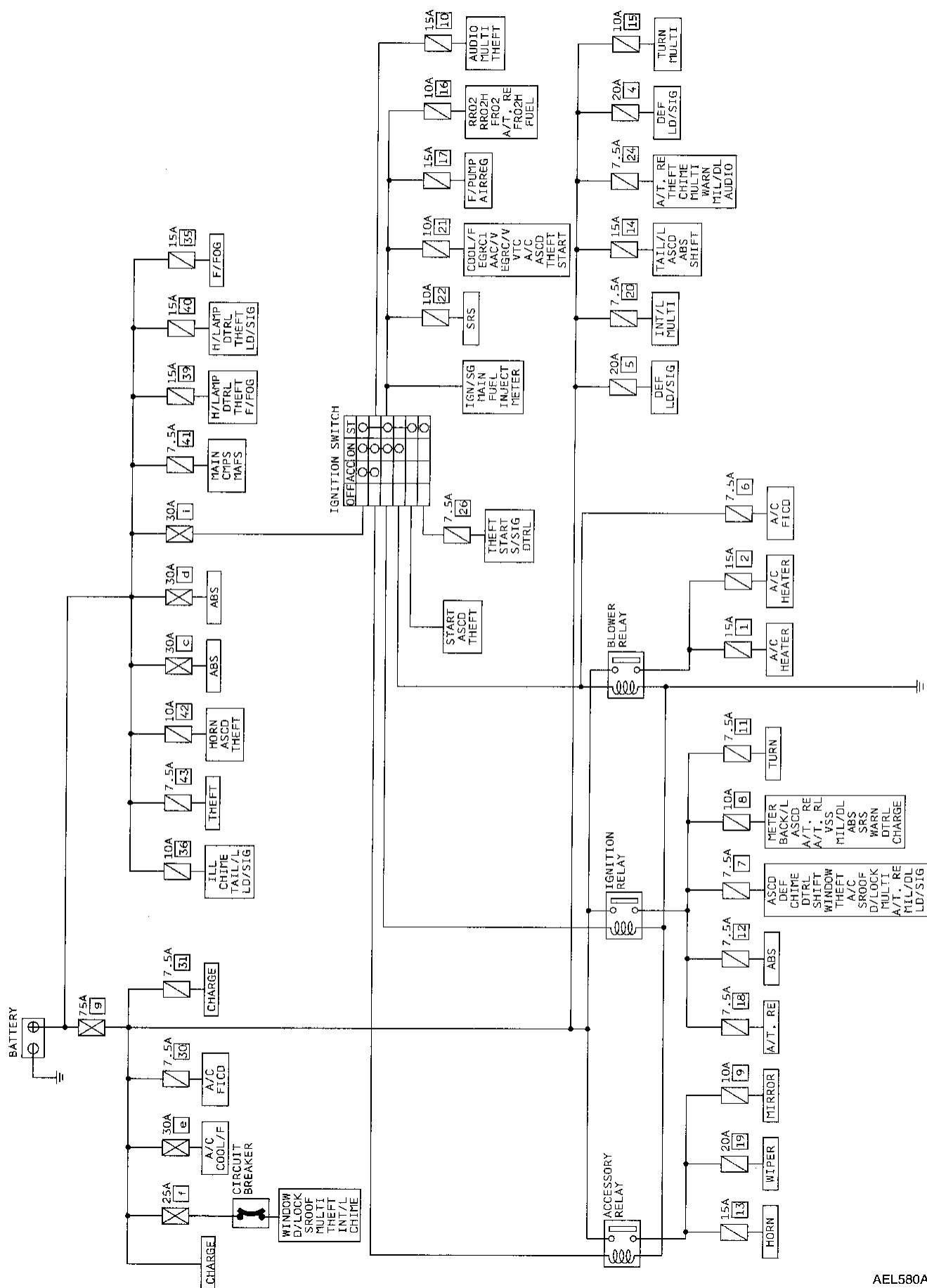
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Schematic



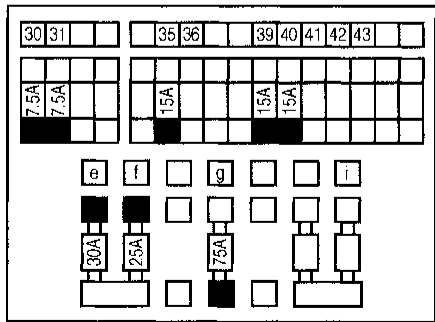
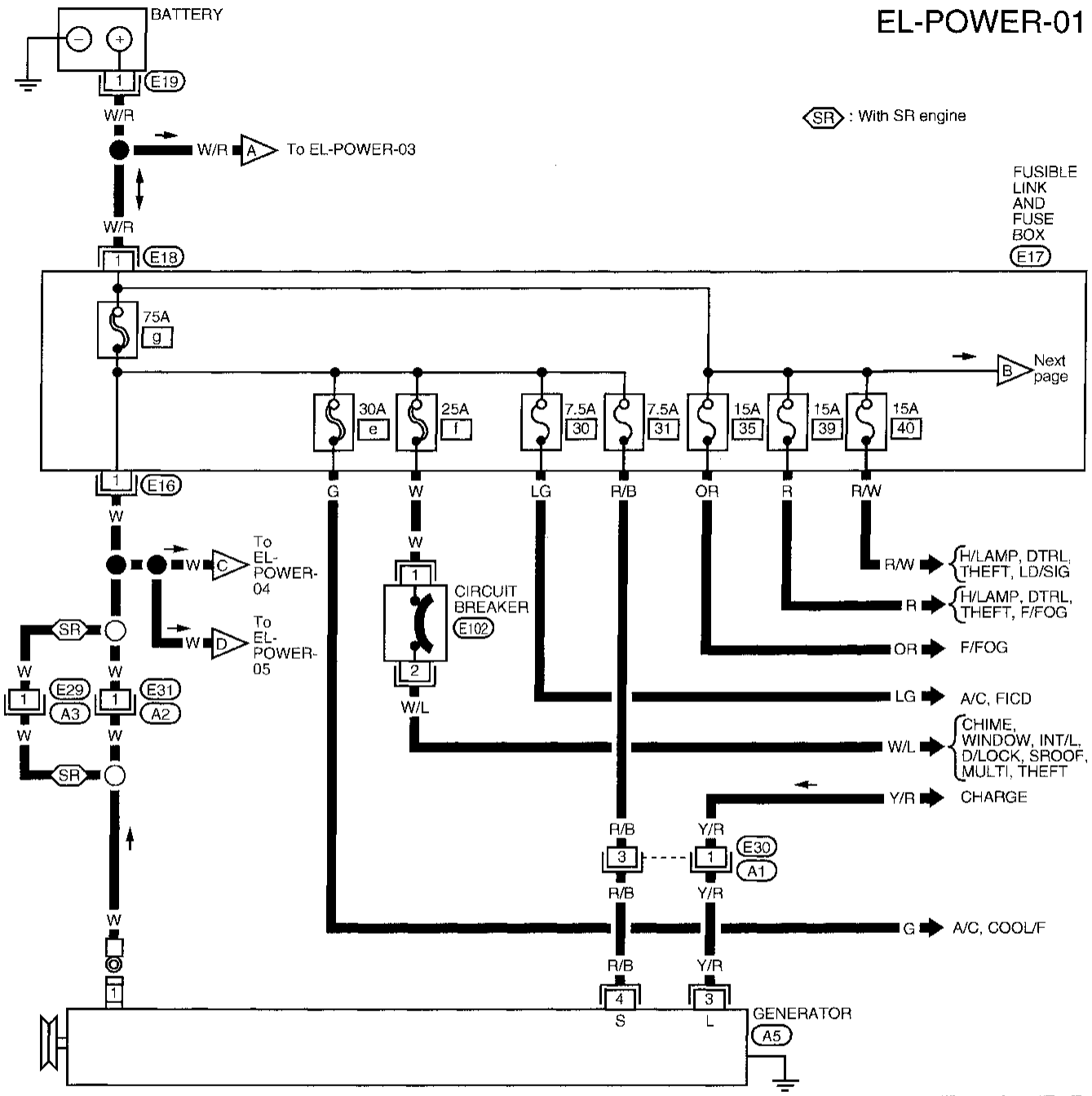
AEL580A

POWER SUPPLY ROUTING

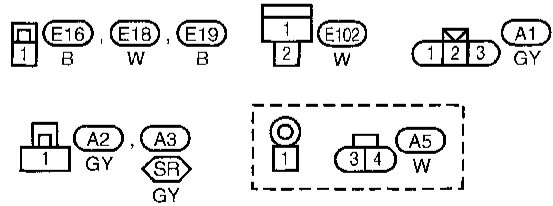
Wiring Diagram -POWER-

EL-POWER-01

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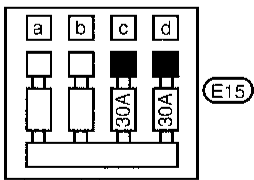
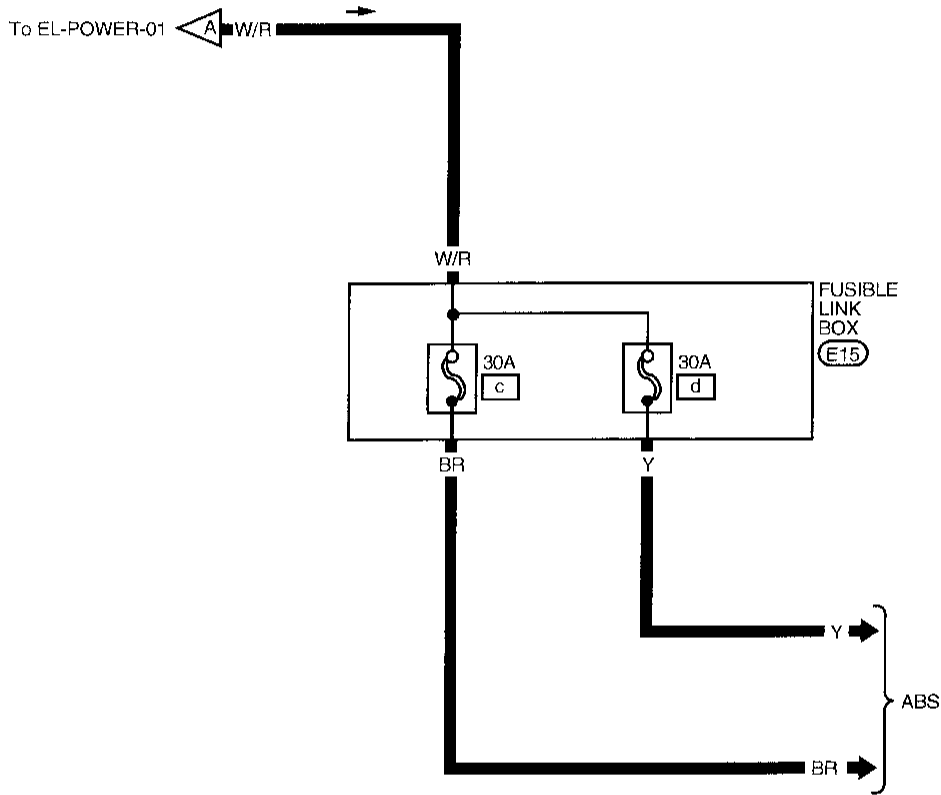
(E17)



POWER SUPPLY ROUTING

Wiring Diagram -POWER- (Cont'd)

EL-POWER-03



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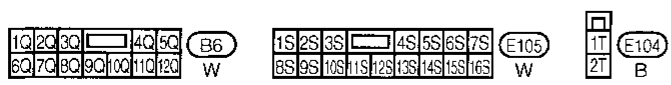
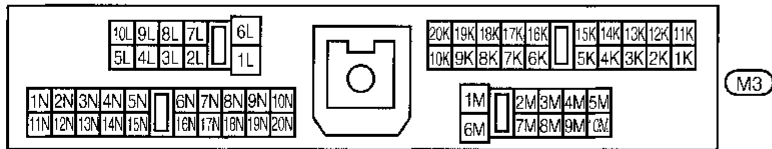
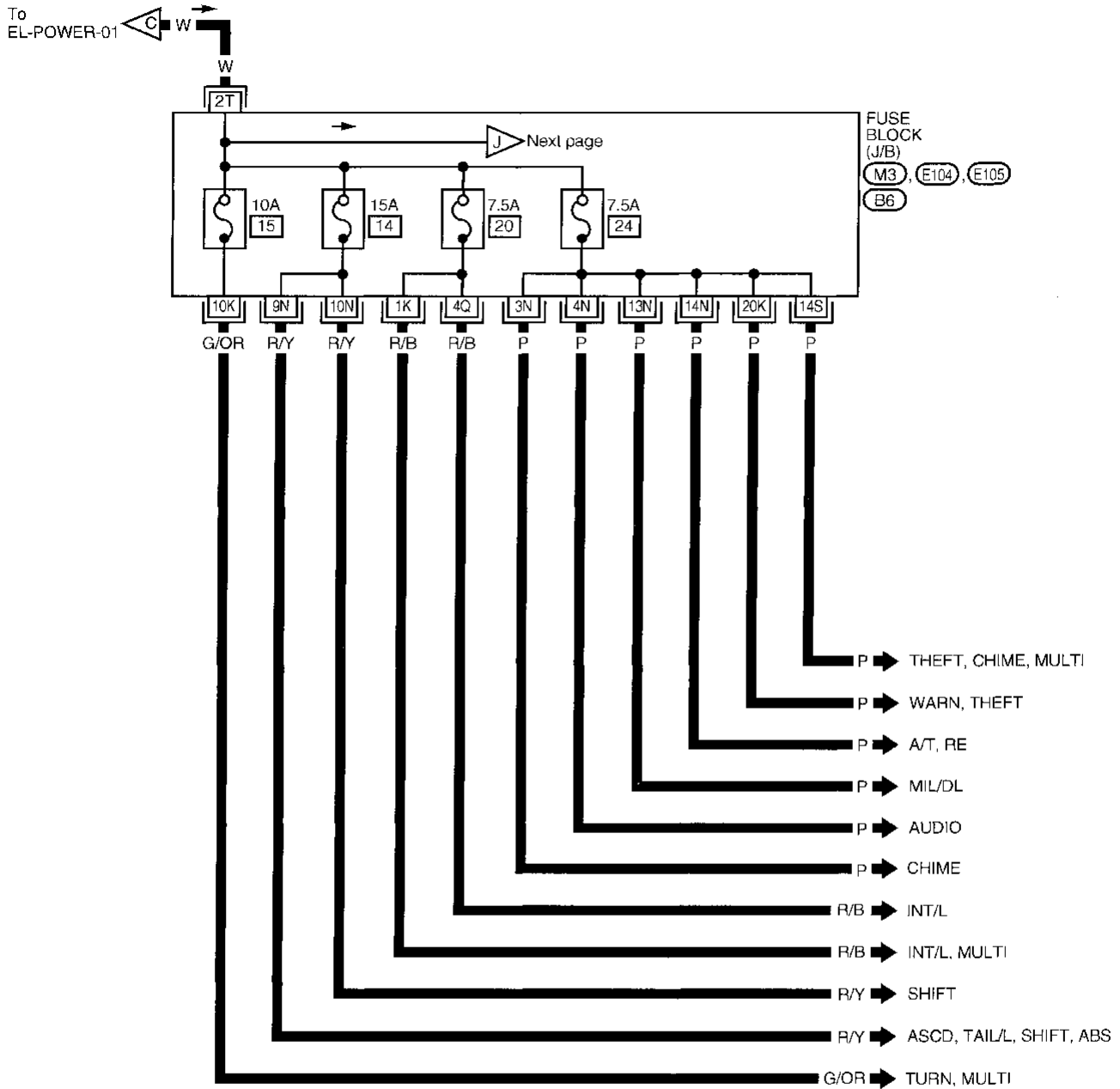
EL

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POWER SUPPLY ROUTING

Wiring Diagram -POWER- (Cont'd)

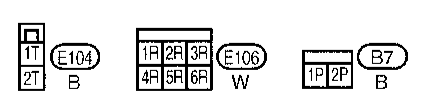
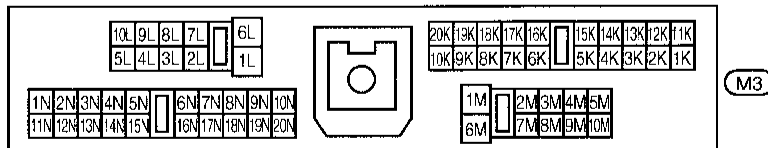
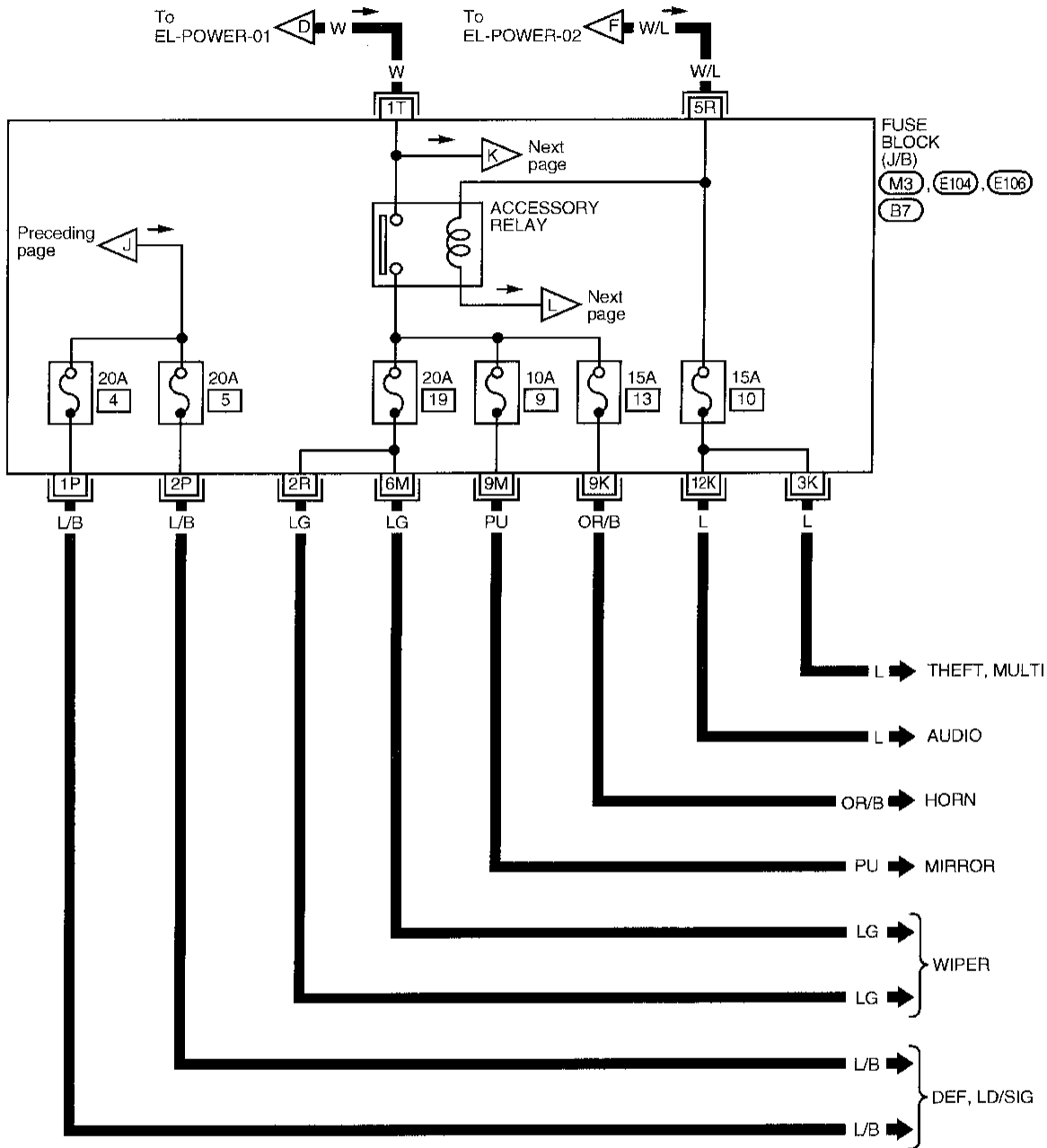
EL-POWER-04



POWER SUPPLY ROUTING

Wiring Diagram -POWER- (Cont'd)

EL-POWER-05

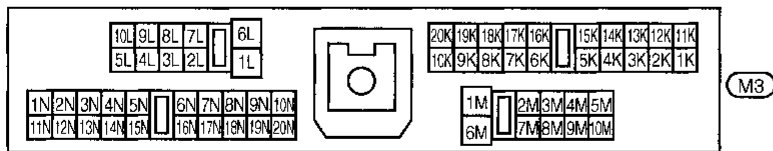
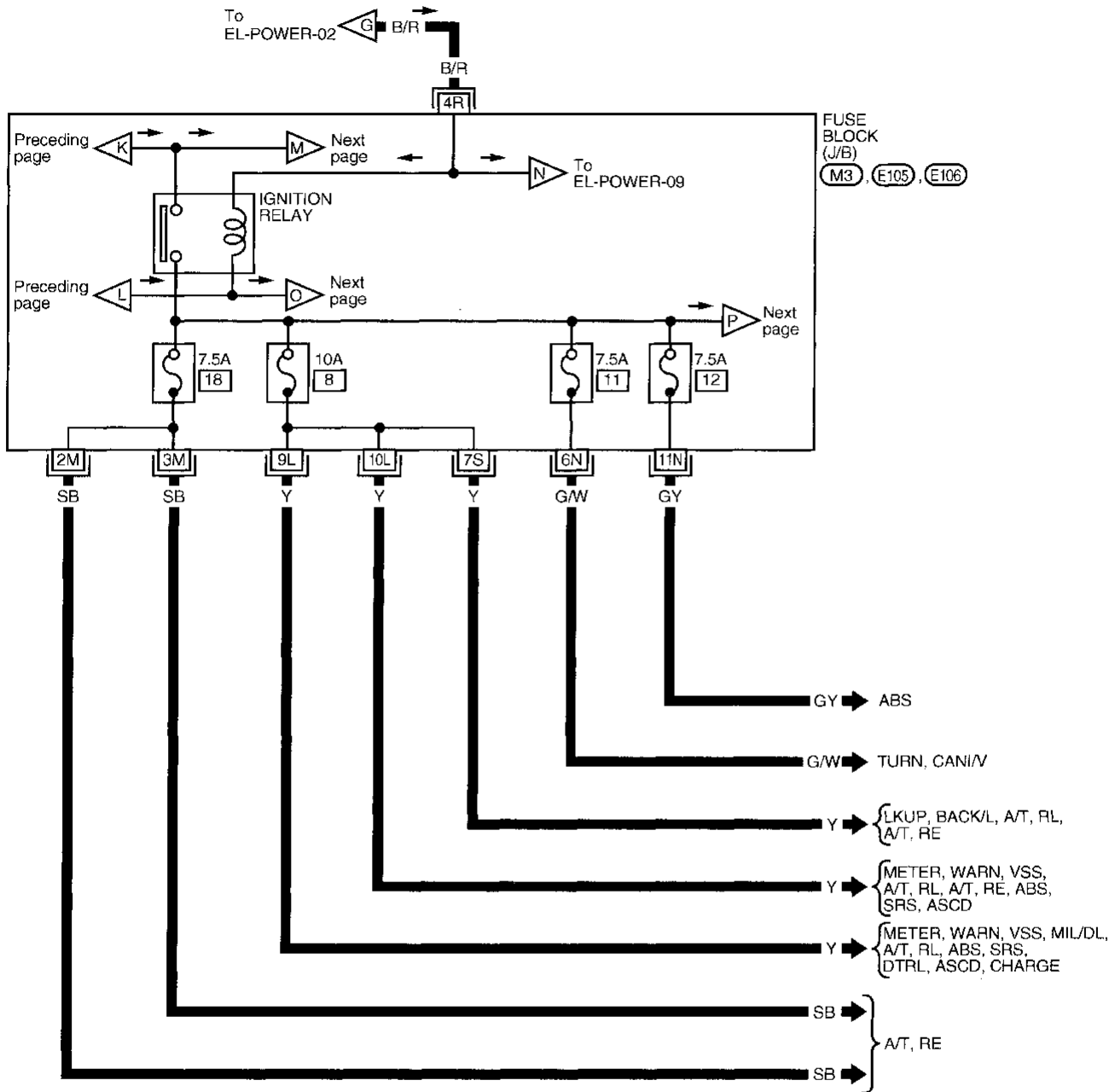


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POWER SUPPLY ROUTING

Wiring Diagram -POWER- (Cont'd)

EL-POWER-06

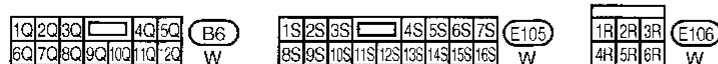
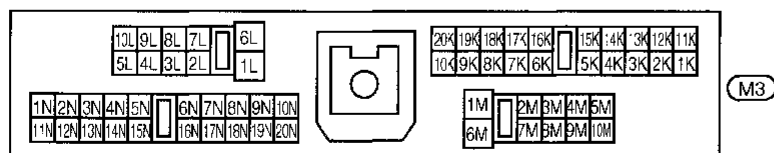
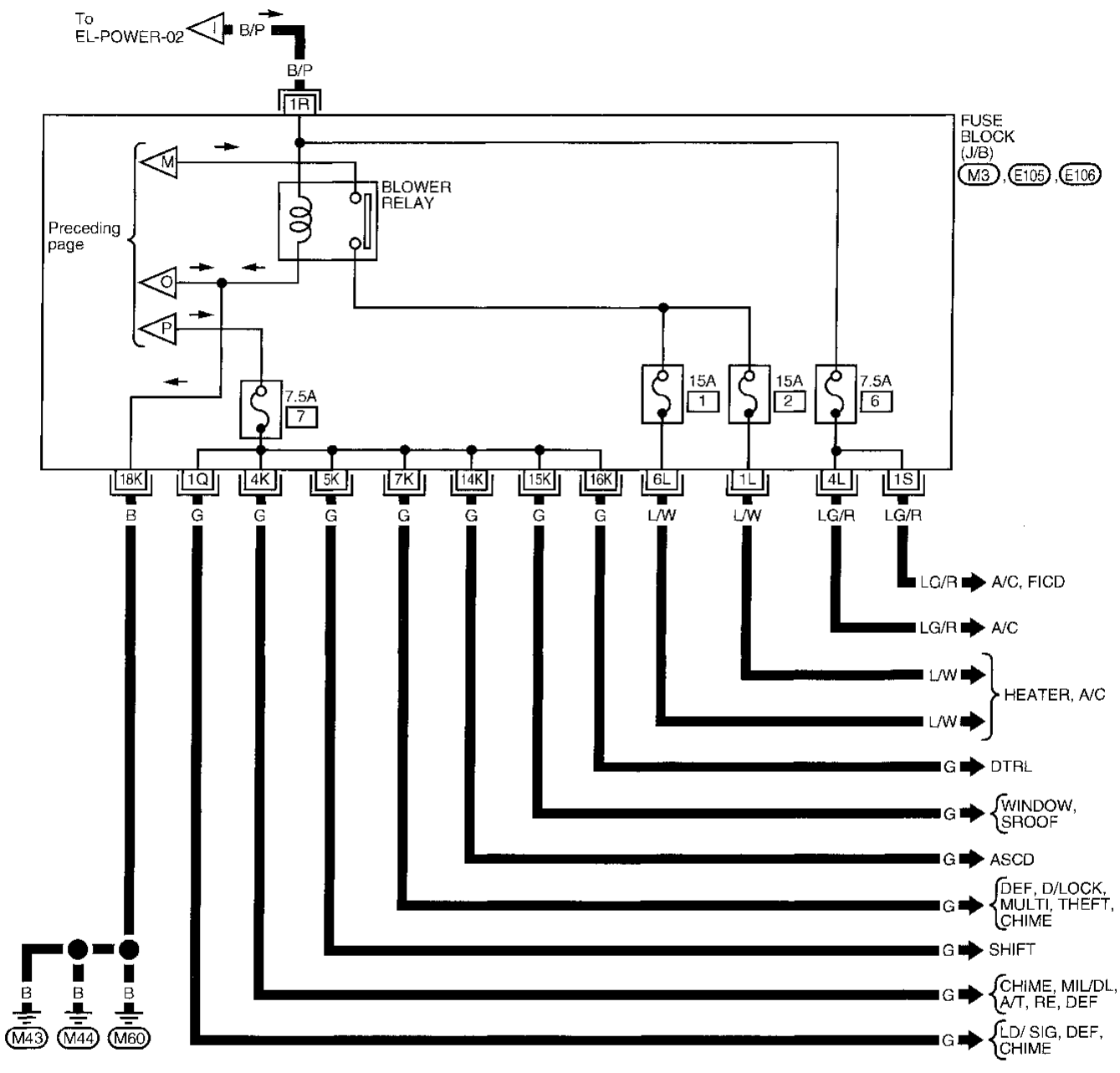


POWER SUPPLY ROUTING

Wiring Diagram -POWER- (Cont'd)

EL-POWER-07

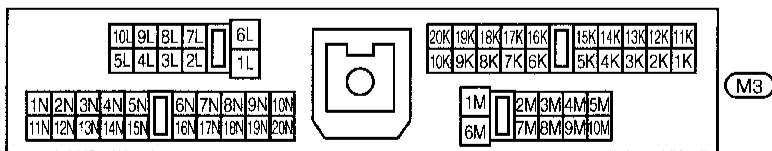
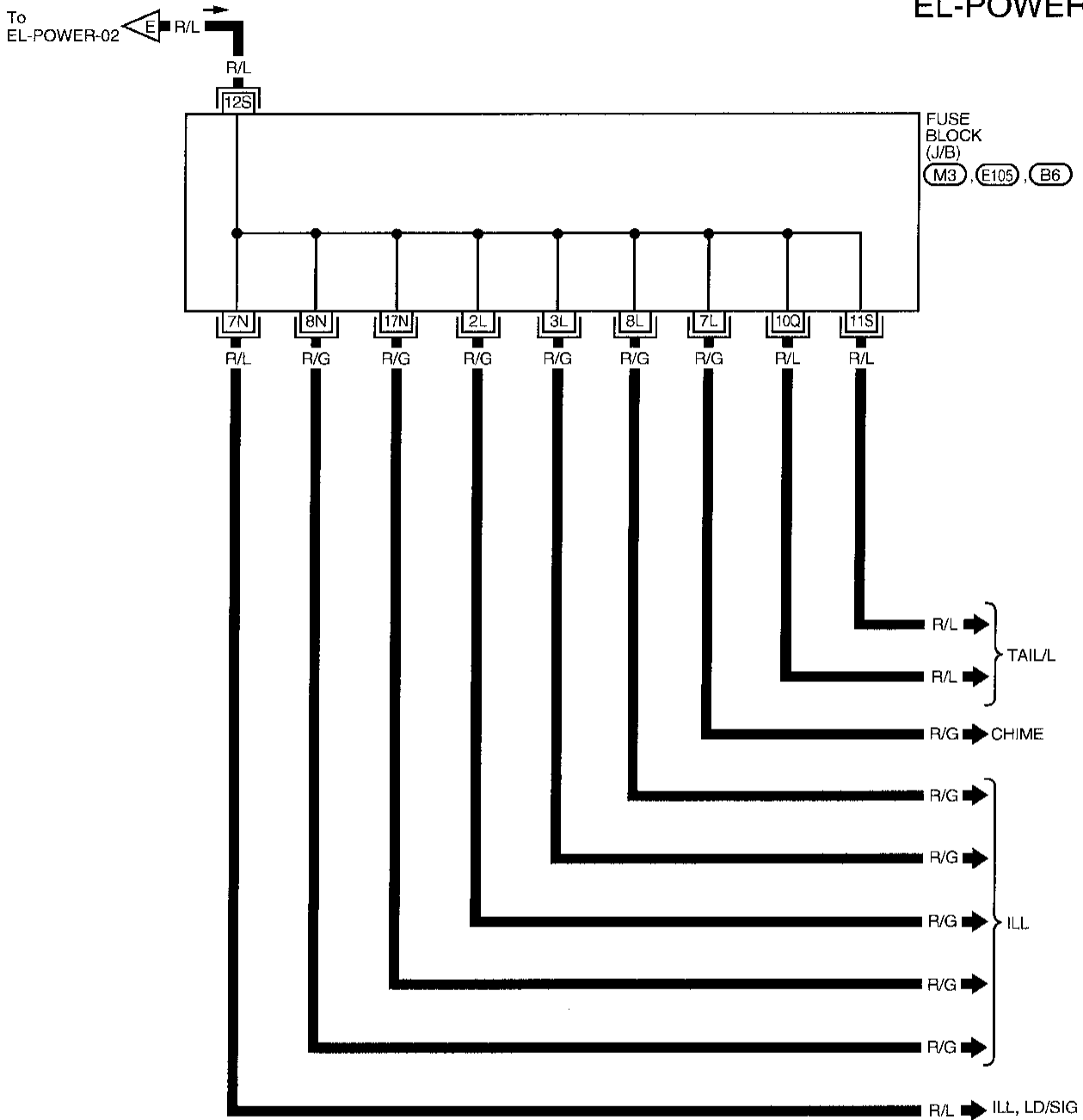
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POWER SUPPLY ROUTING

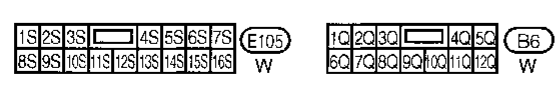
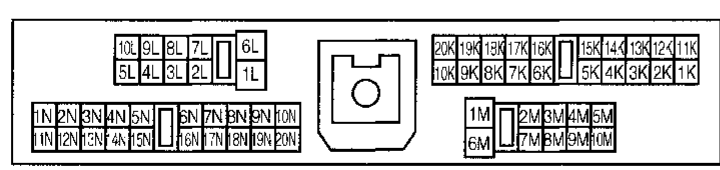
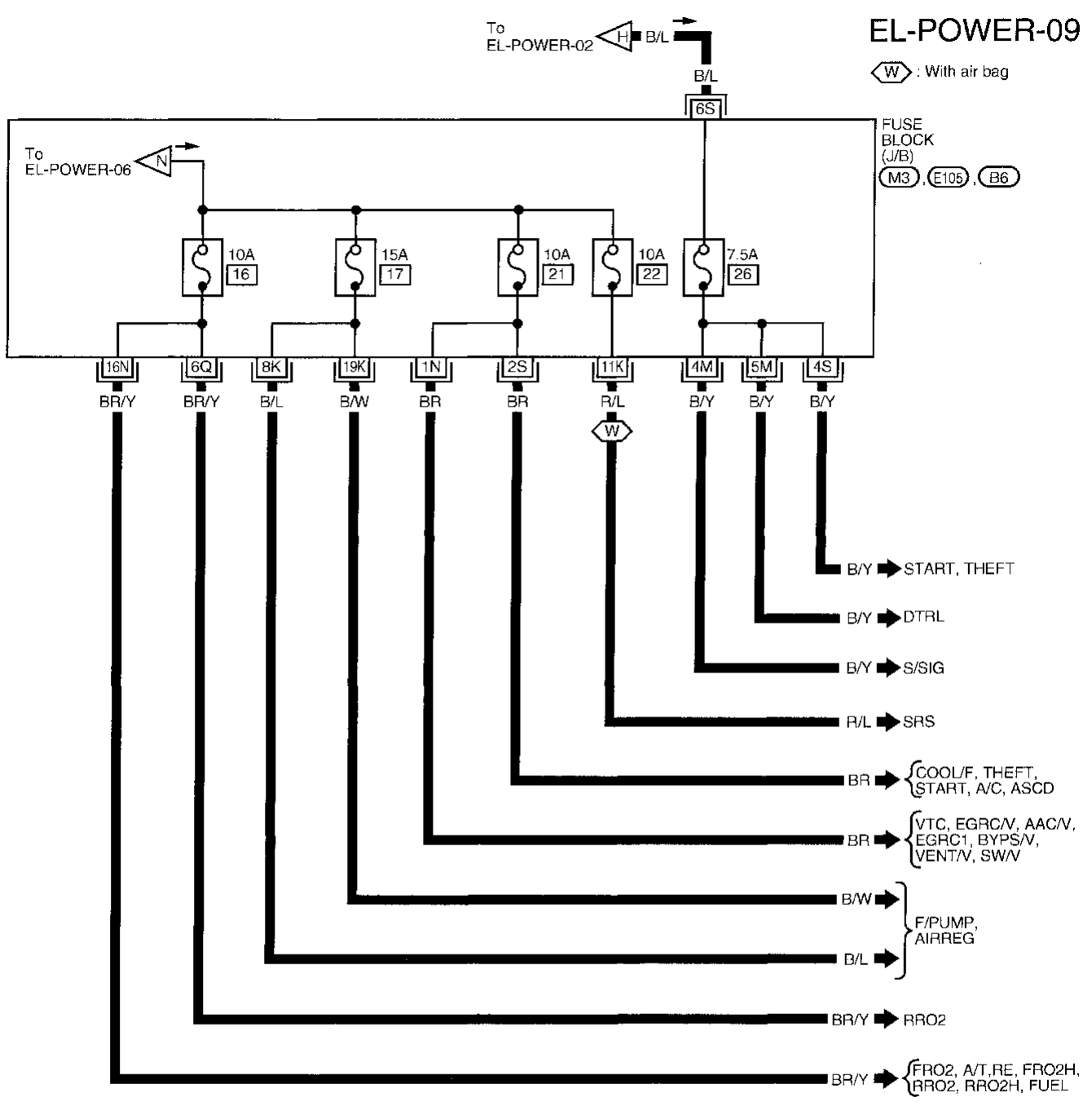
Wiring Diagram -POWER- (Cont'd)

EL-POWER-08



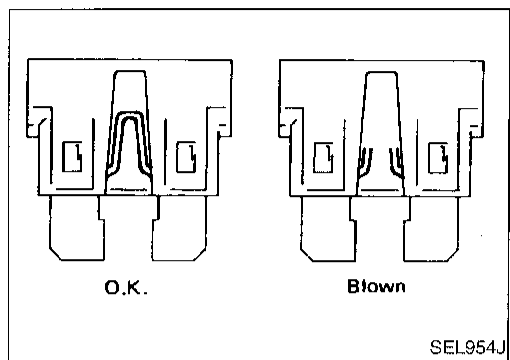
POWER SUPPLY ROUTING

Wiring Diagram -POWER- (Cont'd)



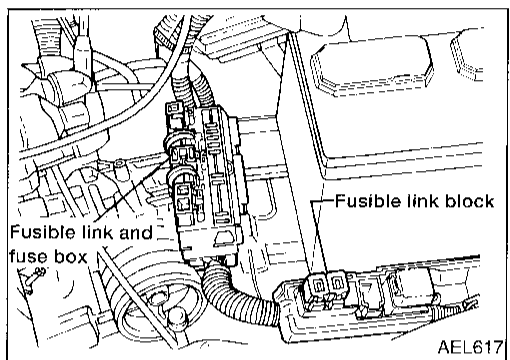
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POWER SUPPLY ROUTING



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 "ELECTRICAL PARTS (BAT)" if vehicle is not used for a long period of time.

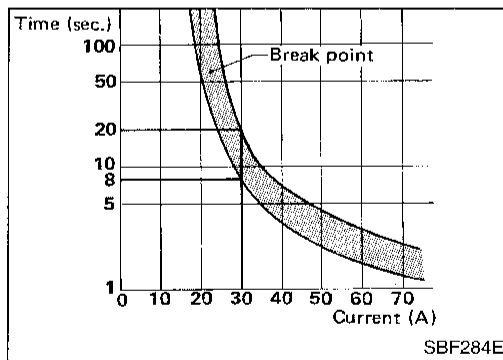


Fusible Link

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 harness, vinyl or rubber parts.



Circuit Breaker Inspection

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

Circuit breakers are used in the following systems:

- Power door lock
- Power window
- Power sun roof

GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN. NO.	CELL CODE
E13/E25	BRAKE FLUID LEVEL SWITCH	E1	EL-WARN
	COMBINATION SWITCH (FRONT FOG LAMP SWITCH)	E112	EL-F/FOG
	COOLING FAN MOTOR-1 (With SR engine and M/T)	E21	EC-COOL/F HA-A/C
	COOLING FAN MOTOR-2 (With SR engine and M/T)	E23	EC-COOL/F HA-A/C
	COOLING FAN MOTOR-1 (Except SR engine and M/T)	E20	EC-COOL/F HA-A/C
	COOLING FAN MOTOR-2 (Except SR engine and M/T)	E24	EC-COOL/F HA-A/C
	COOLING FAN RELAY-3 (Except SR engine and M/T)	E46	EC-COOL/F HA-A/C
	FRONT FOG LAMP LH	E11	EL-F/FOG
	FRONT FOG LAMP RH	E26	EL-F/FOG
	FRONT SIDE MARKER LAMP LH	E9	EL-TAIL/L
	FRONT SIDE MARKER LAMP RH	E28	EL-TAIL/L
	FRONT TURN SIGNAL LAMP LH	E9	EL-TURN
	FRONT TURN SIGNAL LAMP RH	E28	EL-TURN
	HEADLAMP LH	E10	EL-H/LAMP EL-THEFT
	HEADLAMP RH	E27	EL-H/LAMP EL-DTRL EL-THEFT
	HOOD SWITCH	E35	EL-THEFT
	HORN RELAY-2	E45	EL-THEFT
	INHIBITOR SWITCH (GA engine)	E213	EC-PNP/SW AT-A/T, RL EL-START EL-ASCD EL-THEFT
	INHIBITOR SWITCH (SR engine)	E212	EC-PNP/SW EL-START EL-ASCD EL-THEFT
	NEUTRAL POSITION SWITCH	E205	EC-PNP/SW
WASHER FLUID LEVEL SWITCH	E32	EL-WARN	
WIPER SWITCH	E109	EL-WIPER	
A4	GENERATOR	A5	EL-CHARGE
M43/M44/M60	ACCESSORY RELAY	M3	EL-POWER
	ASCD CONTROL UNIT	M26	EL-ASCD
	ASCD HOLD RELAY	M24	EL-ASCD
	ASCD MAIN SWITCH	M6	EL-ASCD
	A/T DEVICE	M36	AT-SFT, RL
	A/T DEVICE (OVERDRIVE CONTROL SWITCH)	M36	AT-A/T, RL
	BLOWER RELAY	M3	EL-POWER
	CIGARETTE LIGHTER SOCKET	M35	EL-HORN
	CLUTCH INTERLOCK SWITCH	M21	EL-START EL-THEFT
	COMBINATION FLASHER UNIT	M40	EL-TURN
	COMBINATION METER (AIR BAG WARNING LAMP) (Without tachometer)	M42	RS-SRS EL-WARN
	COMBINATION METER (AIR BAG WARNING LAMP) (With tachometer)	M66	RS-SRS EL-WARN
	COMBINATION METER (CRUISE INDICATOR LAMP)	M66	EL-ASCD
	COMBINATION METER (FUEL GAUGE) (Without tachometer)	M67	EL-METER
	COMBINATION METER (FUEL GAUGE) (With tachometer)	M66	EL-METER
	COMBINATION METER (HIGH BEAM INDICATOR) (Without tachometer)	M42	EL-H/LAMP EL-DTRL

GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN. NO.	CELL CODE
M43/M44/M60	COMBINATION METER (HIGH BEAM INDICATOR) (With tachometer)	M65	EL-H/LAMP EL-DTRL
	COMBINATION METER (SPEEDOMETER) (Without tachometer)	M67	EC-VSS EL-ASCD EL-METER
	COMBINATION METER (SPEEDOMETER) (With tachometer)	M66	EC-VSS AT-A/T, RE EL-METER EL-ASCD
	COMBINATION METER (TACHOMETER)	M66	EL-METER
	COMBINATION METER (TURN SIGNAL LAMP) (Without tachometer)	M67	EL-TURN
	COMBINATION METER (TURN SIGNAL LAMP) (With tachometer)	M66	EL-TURN
	COMBINATION METER (WATER TEMP. GAUGE) (Without tachometer)	M67	EL-METER
	COMBINATION METER (WATER TEMP. GAUGE) (With tachometer)	M66	EL-METER
	DATA LINK CONNECTOR FOR CONSULT	M4	EC-MIL/DL AT-A/T, RE
	DATA LINK CONNECTOR FOR GST	M25	EC-MIL/DL
	DAYTIME LIGHT CONTROL UNIT	M56	EL-DTRL
	DOOR MIRROR SWITCH	M5	EL-MIRROR
	FAN SWITCH	M48	HA-HEATER HA-A/C EC-LD/SIG
	IGNITION RELAY	M3	EL-POWER
	ILLUMINATION CONTROL SWITCH	M7	EL-ILL
	INTERMITTENT WIPER AMPLIFIER	M64	EL-WIPER
	OVERDRIVE CONTROL SWITCH	M36	AT-A/T, RE
	PARK POSITION SWITCH	M36	AT-SFT, RE
	POWER WINDOW RELAY	M1	EL-WINDOW EL-SROOF
	REAR WINDOW DEFOGGER SWITCH	M28	EL-DEF
	REAR WINDOW DEFOGGER TIMER	M38	EL-DEF
	RECIRCULATION SWITCH	M49	HA-A/C
	SHIFT LOCK CONTROL UNIT	M23	AT-SFT, RE
	SHIFT LOCK SOLENOID	M36	AT-SFT, RE
	SMART ENTRANCE CONTROL UNIT	M37	EL-INT/L EL-CHIME EL-D/LOCK EL-DEF EL-MULTI EL-THEFT
	SUNROOF RELAY	M2	EL-SROOF
	WARNING CHIME UNIT	M39	EL-CHIME
	WIPER MOTOR (Without ABS)	M61	EL-WIPER
	WIPER MOTOR (With ABS)	B101	EL-WIPER
	DOOR LOCK/UNLOCK SWITCH RH	D15	EL-D/LOCK
	FRONT DOOR LOCK ACTUATOR LH	D8	EL-D/LOCK
	FRONT DOOR LOCK ACTUATOR RH	D17	EL-D/LOCK
	FRONT DOOR LOCK ACTUATOR LH (DOOR UNLOCK SENSOR)	D8	EL-MULTI EL-THEFT
	FRONT DOOR LOCK ACTUATOR RH (DOOR UNLOCK SENSOR)	D17	EL-MULTI EL-THEFT
	DOOR KEY CYLINDER SWITCH LH	D7	EL-THEFT
	DOOR KEY CYLINDER SWITCH RH	D16	EL-THEFT
	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH	D6	EL-D/LOCK EL-WINDOW
	AIR BAG DIAGNOSIS SENSOR UNIT	Z4	RS-SRS

GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN. NO.	CELL CODE	
B14/B17	FRONT DOOR SWITCH LH	B13	RS-SRS EL-CHIME	GI
	FUEL PUMP	B16	EC-F/PUMP	
	FUEL TANK GAUGE UNIT	B15	EL-METER EL-WARN	MA
	SEAT BELT SWITCH	B12	EL-CHIME EL-WARN	
	REAR DOOR LOCK ACTUATOR LH	D25	EL-D/LOCK	EM
	REAR DOOR LOCK ACTUATOR RH	D21	EL-D/LOCK	
	REAR DOOR LOCK ACTUATOR LH (DOOR UNLOCK SENSOR)	D21	EL-MULTI EL-THEFT	LC
	REAR DOOR LOCK ACTUATOR RH (DOOR UNLOCK SENSOR)	D25	EL-MULTI EL-THEFT	
B106	ABS CONTROL UNIT	B107	BR-ABS	EC
	ABS RELAY BOX	B113	BR-ABS	
B108	SHIELD WIRE (FRONT WHEEL SENSOR LH)	E3	BR-ABS	FE
	SHIELD WIRE (FRONT WHEEL SENSOR RH)	B104	BR-ABS	
	SHIELD WIRE (REAR WHEEL SENSOR LH)	B109	BR-ABS	CL
	SHIELD WIRE (REAR WHEEL SENSOR RH)	B110	BR-ABS	
B202	REAR WINDOW DEFOGGER	B201	EL-DEF	
F12/F23 (GA engine)	DISTRIBUTOR (CAMSHAFT POSITION SENSOR)	F4	EC-CMPS	MT
	DISTRIBUTOR (POWER TRANSISTOR)	F4	EC-IGN/SG	
	ECM (ECCS CONTROL MODULE)	F24	EC-FRO2/H EC-FUEL EC-MAIN EC-RR02 AT-A/T, RL	AT
	IACV-FICD SOLENOID VALVE	F9	EC-FICD HA-A/C	
	SHIELD WIRE [CAMSHAFT POSITION SENSOR (POS)]	F4	EC-CMPS	FA
	SHIELD WIRE [CAMSHAFT POSITION SENSOR (REF)]	F4	EC-CMPS	
	SHIELD WIRE [CRANKSHAFT POSITION SENSOR (GND-A)]	F3	EC-CKPS	RA
	SHIELD WIRE [CRANKSHAFT POSITION SENSOR (RGC/S)]	F3	EC-CKPS	
	SHIELD WIRE [FRONT HEATED OXYGEN SENSOR (O2SF)]	F1	EC-FRO2 EC-FRO2/H EC-FUEL	BR
	SHIELD WIRE (KNOCK SENSOR)	F102	EC-KS	ST
	SHIELD WIRE (MASS AIR FLOW SENSOR)	F7	EC-MAFS	
	SHIELD WIRE [REAR HEATED OXYGEN SENSOR (O2SR)]	F25	EC-RRO2	RS
	SHIELD WIRE (RESISTOR)	F6	EC-IGN/SG	
	SHIELD WIRE [THROTTLE POSITION SENSOR (TV01)]	F10	EC-TPS AT-A/T, RL	BT
	SHIELD WIRE [REAR HEATED OXYGEN SENSOR (O2SR)]	F25	EC-RRO2	
	DATA LINK CONNECTOR FOR GST	M25	EC-MIL/DL	HA
	POWER STEERING OIL PRESSURE SWITCH (Without ABS brake system)	M62	EC-PST/SW	EL
	SHIELD WIRE [ABSOLUTE PRESSURE SENSOR] (Without ABS brake system)	M72	EC-AP/SEN	
	POWER STEERING OIL PRESSURE SWITCH (With ABS brake system)	B102	EC-PST/SW	IDX
	SHIELD WIRE [ABSOLUTE PRESSURE SENSOR] (With ABS brake system)	B112	EC-AP/SEN	
SHIELD WIRE (EVAP CONTROL SYSTEM PRESSURE SENSOR)	T13	EC-PRE/SE		

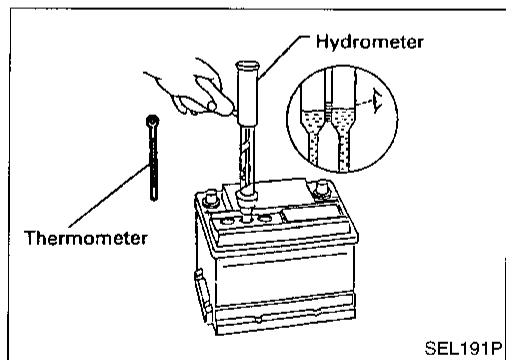
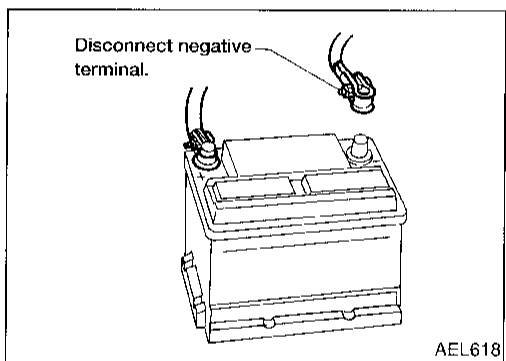
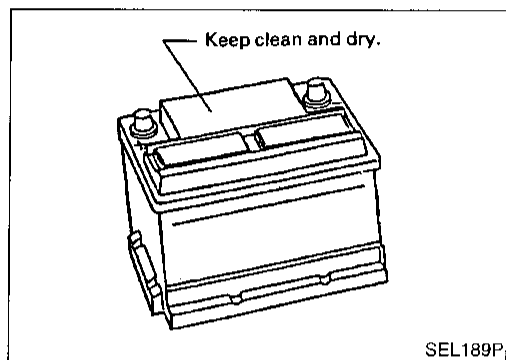
GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN. NO.	CELL CODE
F12/F18 (SR engine)	A/T FLUID TEMPERATURE SENSOR	F9	AT-A/T, RE
	DISTRIBUTOR (CAMSHAFT POSITION SENSOR)	F2	EC-CMPS
	DISTRIBUTOR (POWER TRANSISTOR)	F2	EC-IGN/SG
	ECM (ECCS CONTROL MODULE)	F25	EC-MAIN EC-RRO2 AT-A/T, RE
	IACV-AIR REGULATOR	F22	EC-AIRREG
	IACV-FICD SOLENOID VALVE	F20	EC-FICD HA-A/C
	SHIELD WIRE [CAMSHAFT POSITION SENSOR (POS)]	F2	EC-CMPS
	SHIELD WIRE [CAMSHAFT POSITION SENSOR (REF)]	F2	EC-CMPS
	SHIELD WIRE [CRANKSHAFT POSITION SENSOR (GND-A)]	F3	EC-CKPS
	SHIELD WIRE [CRANKSHAFT POSITION SENSOR (RGC/S)]	F3	EC-CKPS
	SHIELD WIRE [FRONT HEATED OXYGEN SENSOR (O2SF)]	F1	EC-FRO2 EC-FRO2/H EC-FUEL
	SHIELD WIRE (KNOCK SENSOR)	F56	EC-KS
	SHIELD WIRE (MASS AIR FLOW SENSOR)	F7	EC-MAFS
	SHIELD WIRE (RESISTOR)	F6	EC-IGN/SG
	SHIELD WIRE [THROTTLE POSITION SENSOR (TV01)] (A/T models)	F16	EC-TPS AT-A/T, RE
	SHIELD WIRE [THROTTLE POSITION SENSOR (TV01)] (M/T models)	F10	EC-TPS
	A/T CONTROL UNIT	M8	AT-A/T, RE
	DATA LINK CONNECTOR FOR GST	M25	EC-MIL/DL
	POWER STEERING OIL PRESSURE SWITCH (Without ABS brake system)	M62	EC-PST/SW
	POWER STEERING OIL PRESSURE SWITCH (With ABS brake system)	B102	EC-PST/SW
SHIELD WIRE [REAR HEATED OXYGEN SENSOR (O2SR)]	B11	EC-RRO2	
T9/T10	HIGH-MOUNTED STOP LAMP	T5	EL-TAIL/L
	LICENSE PLATE LAMP LH	T3	EL-TAIL/L
	LICENSE PLATE LAMP RH	T3	EL-TAIL/L
	REAR COMBINATION LAMP LH (BACK-UP)	T2	EL-BACK/L
	REAR COMBINATION LAMP RH (BACK-UP)	T7	EL-BACK/L
	REAR COMBINATION LAMP LH (TURN SIGNAL)	T8	EL-TURN EL-TAIL/L
	REAR COMBINATION LAMP RH (TURN SIGNAL)	T11	EL-TURN EL-TAIL/L
	TRUNK LID KEY CYLINDER SWITCH (UNLOCK SWITCH)	T6	EL-THEFT
	TRUNK ROOM LAMP SWITCH	T4	EL-INT/L EL-THEFT

BATTERY

CAUTION:

- If it becomes necessary to start engine with 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.



How to Handle Battery

METHODS OF PREVENTING 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.
- **During every routine maintenance, check the electrolyte level.** This also applies to batteries designated as "low maintenance" and "maintenance-free".
- When the vehicle is not going to be used over a long period of time, disconnect the negative battery terminal.

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

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 acid contacts eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention.

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

BATTERY

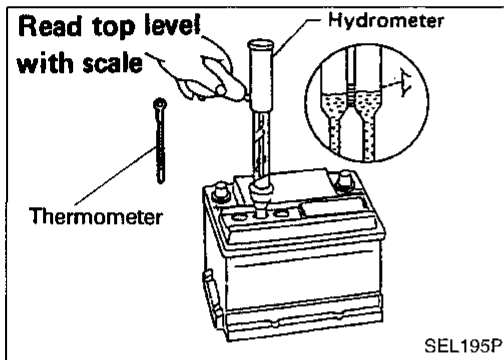
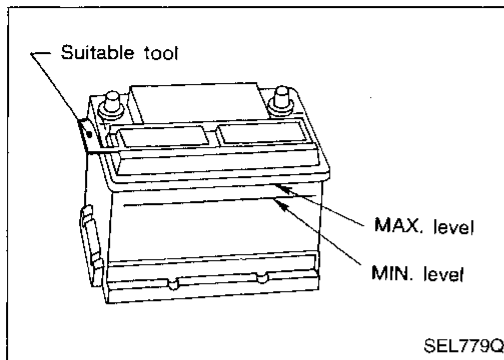
How to Handle Battery (Cont'd)

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

SULPHATION

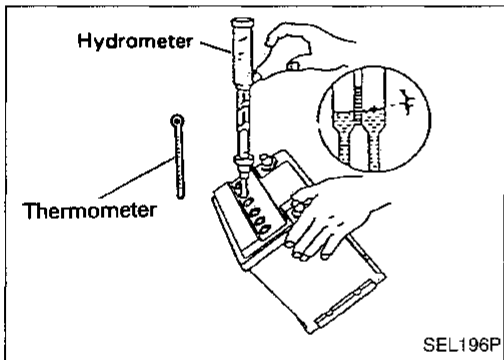
A battery (with specific gravity less than 1.100) will completely discharge when left unattended for a long period of time. This will result in sulphation on the cell plates.

A sulphated battery may sometimes be brought back into service by a slow charge, 12 hours or more. A capacity test should be run after the battery is charged to ensure that the battery is not damaged.



SPECIFIC GRAVITY CHECK

- Read hydrometer and thermometer readings at eye level.



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

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

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

BATTERY

How to Handle Battery (Cont'd)

CHARGING THE BATTERY

CAUTION:

- Do not "quick charge" a fully discharged battery. GI
- Keep the battery away from open flame while it is being charged. MA
- 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. EM
- If battery electrolyte temperature rises above 60°C (140°F), stop charging. Always charge battery at a temperature below 60°C (140°F). LC

Charging rates:

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

Do not charge at more than 50 ampere rate. GL

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 are referred to as initial charge rate. MT

- If, after charging, the specific gravity of any two cells varies more than .050, the battery should be replaced. AT
- After the battery is charged, always perform a "capacity test" as follows, to assure that the battery is serviceable. EA

MEMORY RESET PA

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

- Radio AM and FM preset BR
- Radio Clock ST

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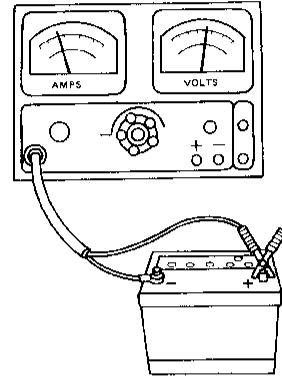
BATTERY

How to Handle Battery (Cont'd)

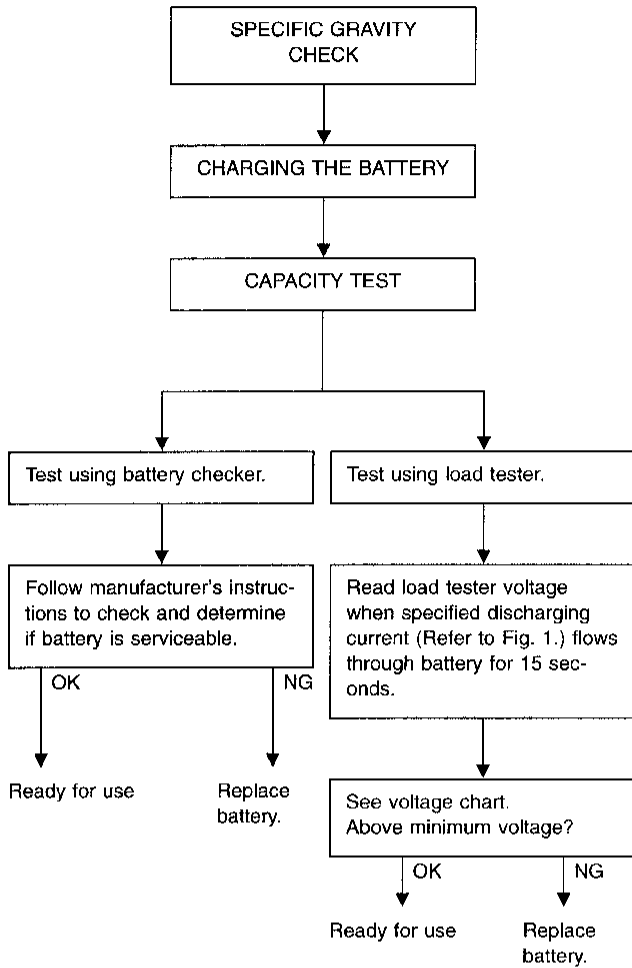
- Check battery type and determine the specified current using the following table.

Fig. 1 DISCHARGING CURRENT (Load tester)

Group Size	Current (A)
21F (USA)	245
24F (Canada)	275



SEL008Z



Voltage chart

Estimated electrolyte temperature °C (°F)	Minimum voltage under 15 second load
21 (70)	9.6
16 (60)	9.5
10 (50)	9.4
4 (40)	9.3
-1 (30)	9.1
-7 (20)	8.9
-12 (10)	8.7
-18 (0)	8.5

Service Data and Specifications (SDS)

Applied area		USA	Canada
Group size		21F	24F
Capacity	V-AH	12-60	12-65
Cold cranking current (For reference value)	A	490	550
Reserve capacity	Minutes	88	113

System Description

M/T models

Power is supplied at all times:

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

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

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

For models with theft warning system

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

- through 10A fuse (No. **21** , located in the fuse block [J/B])
- to theft warning relay terminal ①.

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

- through 7.5A fuse (No. **26** , located in the fuse block [J/B])
- to theft warning relay terminal ③
- through theft warning relay terminal ④
- to clutch interlock relay terminal ①.

If the theft warning system is triggered, terminal ② of the theft warning relay is grounded and power to the clutch interlock relay is interrupted.

For models without theft warning system

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

- through 7.5A fuse (No. **26** , located in the fuse block [J/B])
- to clutch interlock relay terminal ①.

Ground is supplied to clutch interlock relay terminal ②, when the clutch pedal is depressed through the clutch interlock switch and body grounds **M43** , **M44** and **M60** .

The clutch interlock relay is energized and power is supplied:

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

The starter motor plunger closes and provides a closed circuit between the battery and the starter motor. The starter motor is grounded to the engine block. With power and ground supplied, cranking occurs and the engine starts.

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STARTING SYSTEM

System Description (Cont'd)

A/T models

Power is supplied at all times:

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

For models with theft warning system (and with ASCD)

Power is supplied:

- through 10A fuse (No. **21**), located in the fuse block [J/B])
- to theft warning relay terminal **1**
- to theft warning relay terminal **3**
- through theft warning relay terminal **4**
- to inhibitor relay terminal **1**.

If the theft warning system is triggered, terminal **2** of the theft warning relay is grounded and power to the inhibitor relay is interrupted.

When the theft warning system is not triggered and the ignition switch is in the START position, power is supplied:

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

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

- from inhibitor switch terminal **1**
- to inhibitor relay terminal **2**
- through inhibitor switch terminal **2**
- to body grounds **E13** and **E25**.

The inhibitor relay is energized, and power is supplied:

- from inhibitor relay terminal **7**
- to terminal **1** of the starter motor windings.

The starter motor plunger closes and provides a closed circuit between the battery and starter motor. The starter motor is grounded to the engine block. With power and ground supplied, cranking occurs and the engine starts.

For models without theft warning system

Power is supplied:

- through 10A fuse (No. **21**), located in the fuse block [J/B])
- to inhibitor relay terminal **1**.

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

- from ignition switch terminal **5**
- to inhibitor relay terminal **6** (models with ASCD)
- to inhibitor relay terminal **3** (models without ASCD).

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

- from inhibitor switch terminal **1**
- to inhibitor relay terminal **2**
- through inhibitor switch terminal **2**
- to body grounds **E13** and **E25**.

The inhibitor relay is energized and power is supplied:

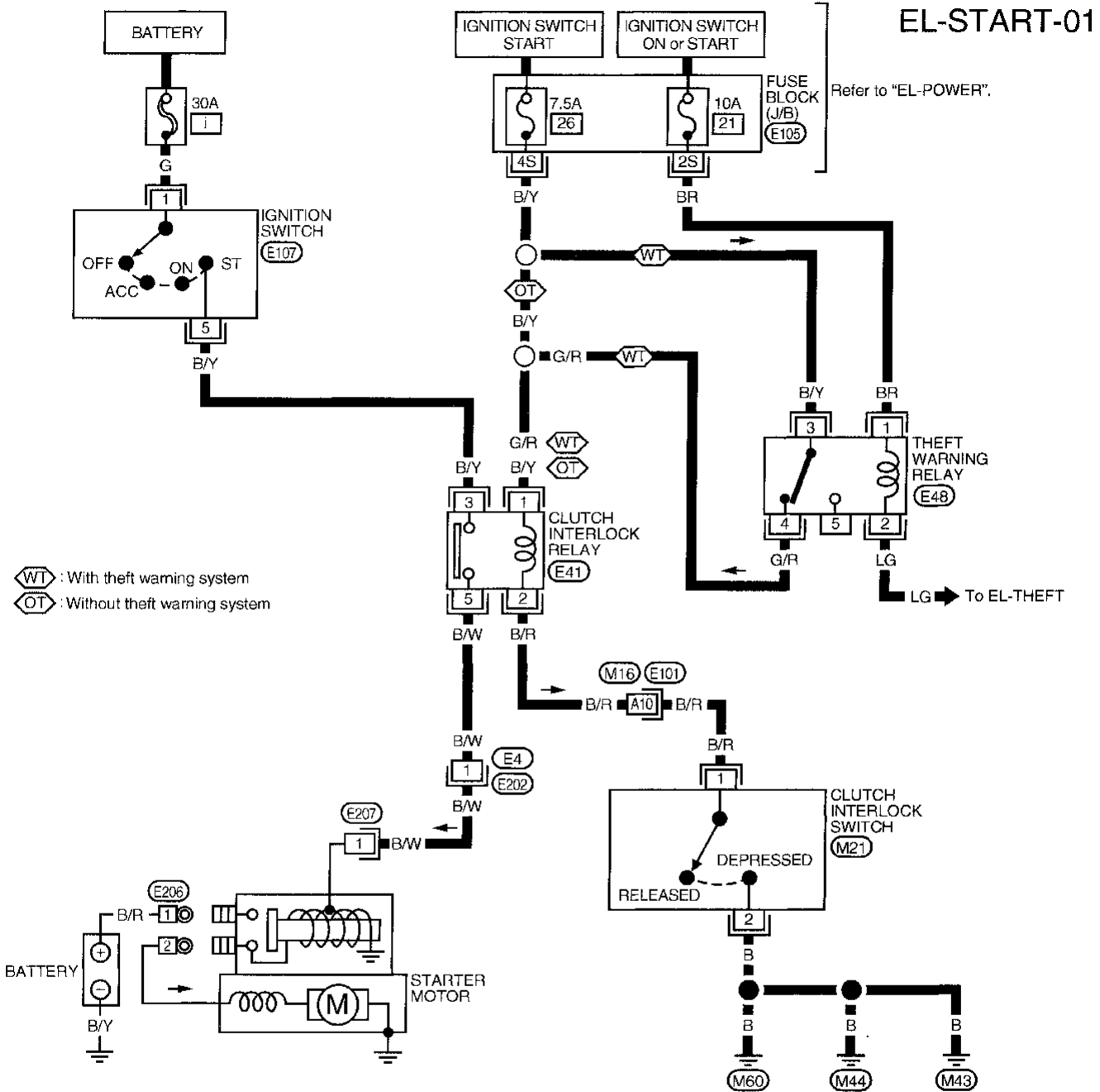
- from inhibitor relay terminal **7** (models with ASCD)
- from inhibitor relay terminal **5** (models without ASCD)
- to terminal **1** of the starter motor windings.

The starter motor plunger closes and provides a closed circuit between the battery and starter motor. The starter motor is grounded to the engine block. With power and ground supplied, cranking occurs and the engine starts.

STARTING SYSTEM

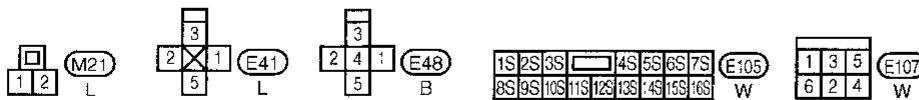
Wiring Diagram -START-

M/T MODELS



Refer to last page (Foldout page).

(M16), (E101)



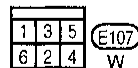
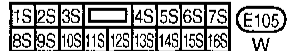
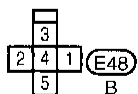
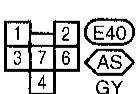
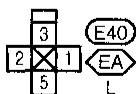
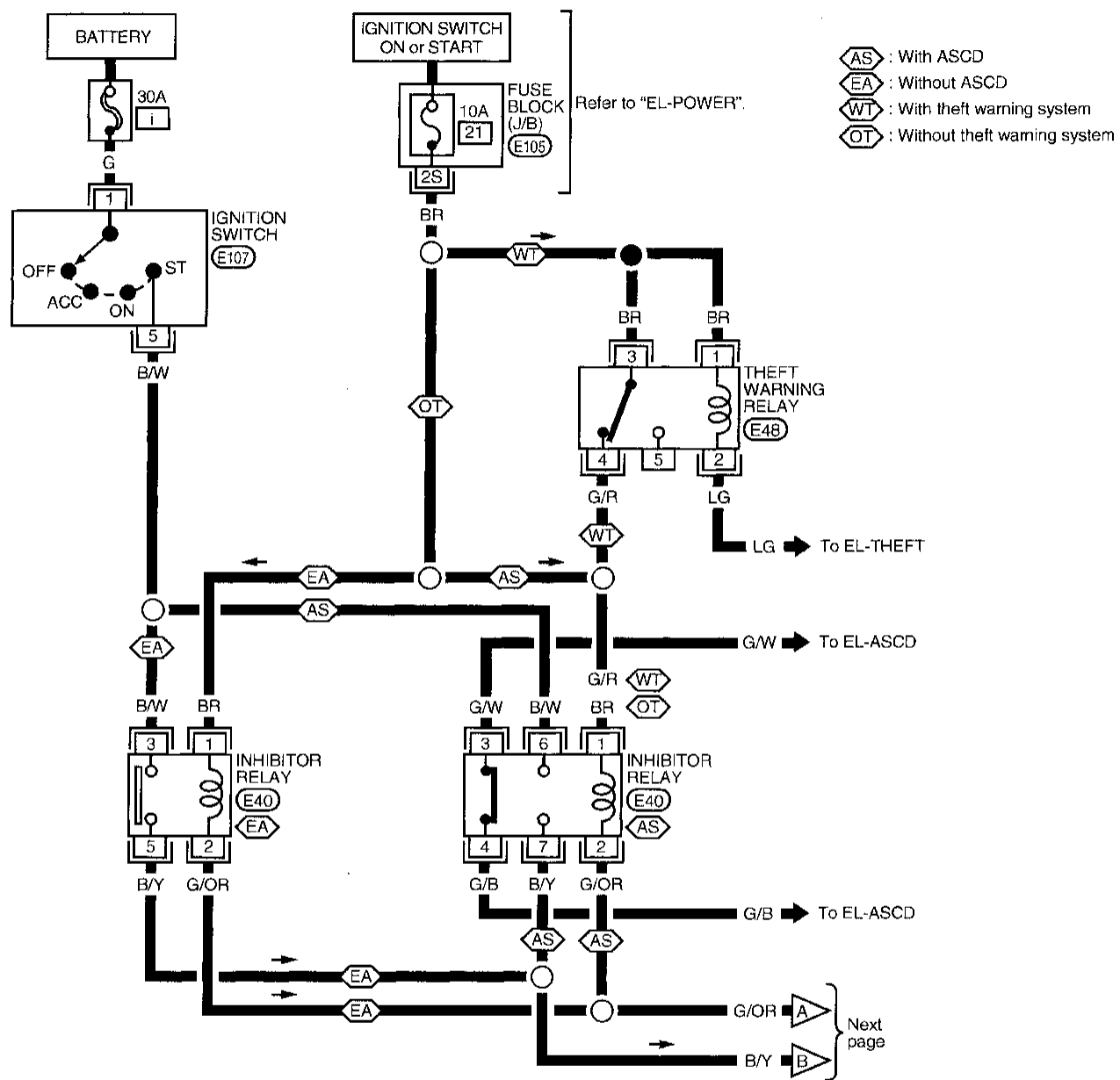
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STARTING SYSTEM

Wiring Diagram -START- (Cont'd)

A/T MODELS

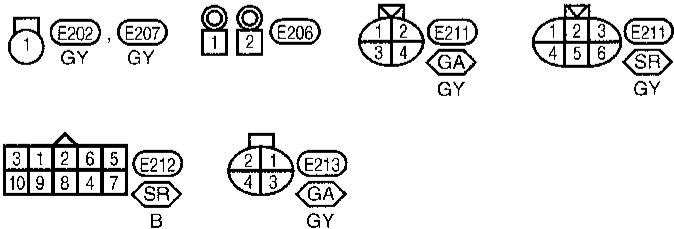
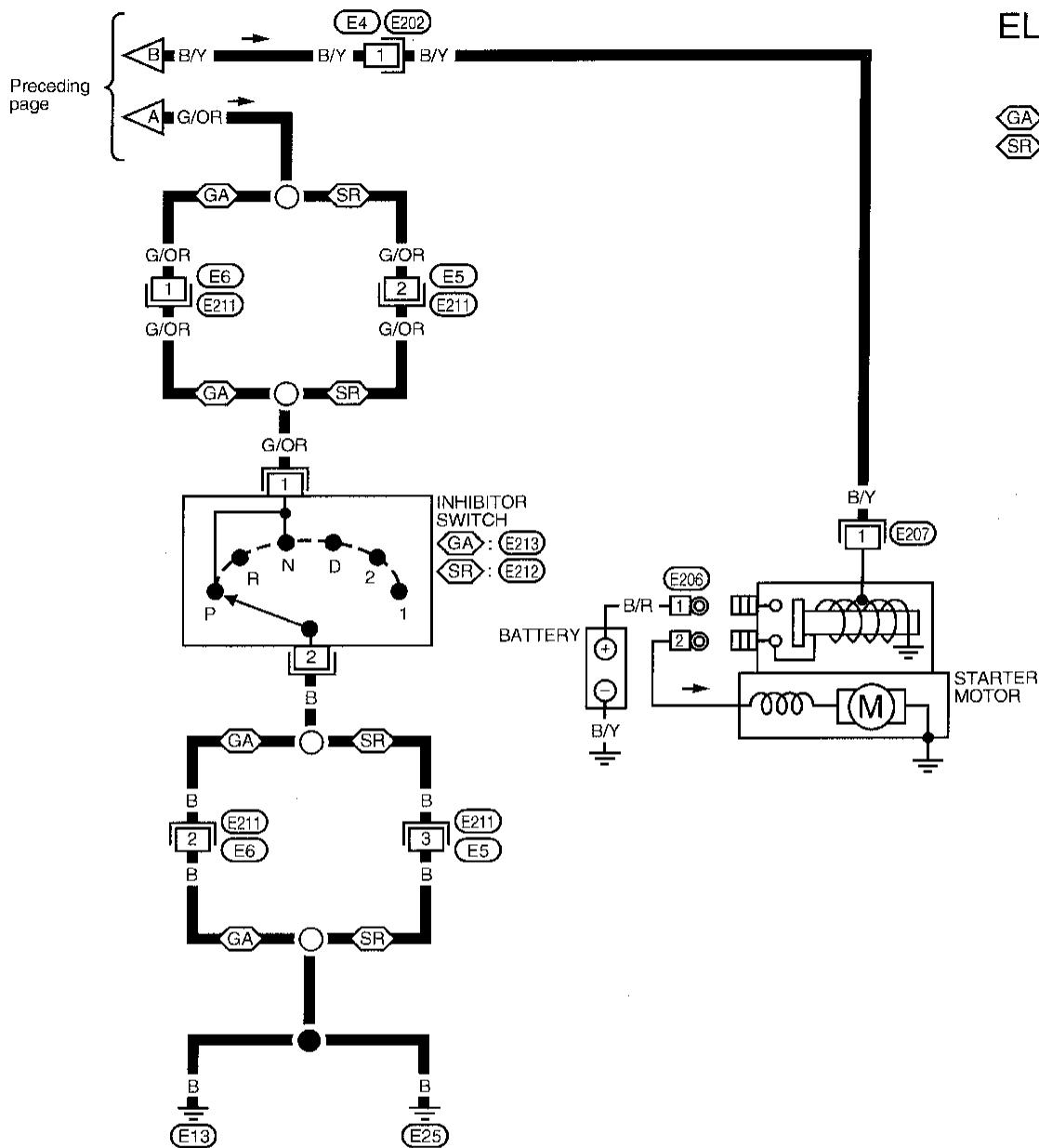
EL-START-02



STARTING SYSTEM

Wiring Diagram -START- (Cont'd)

EL-START-03



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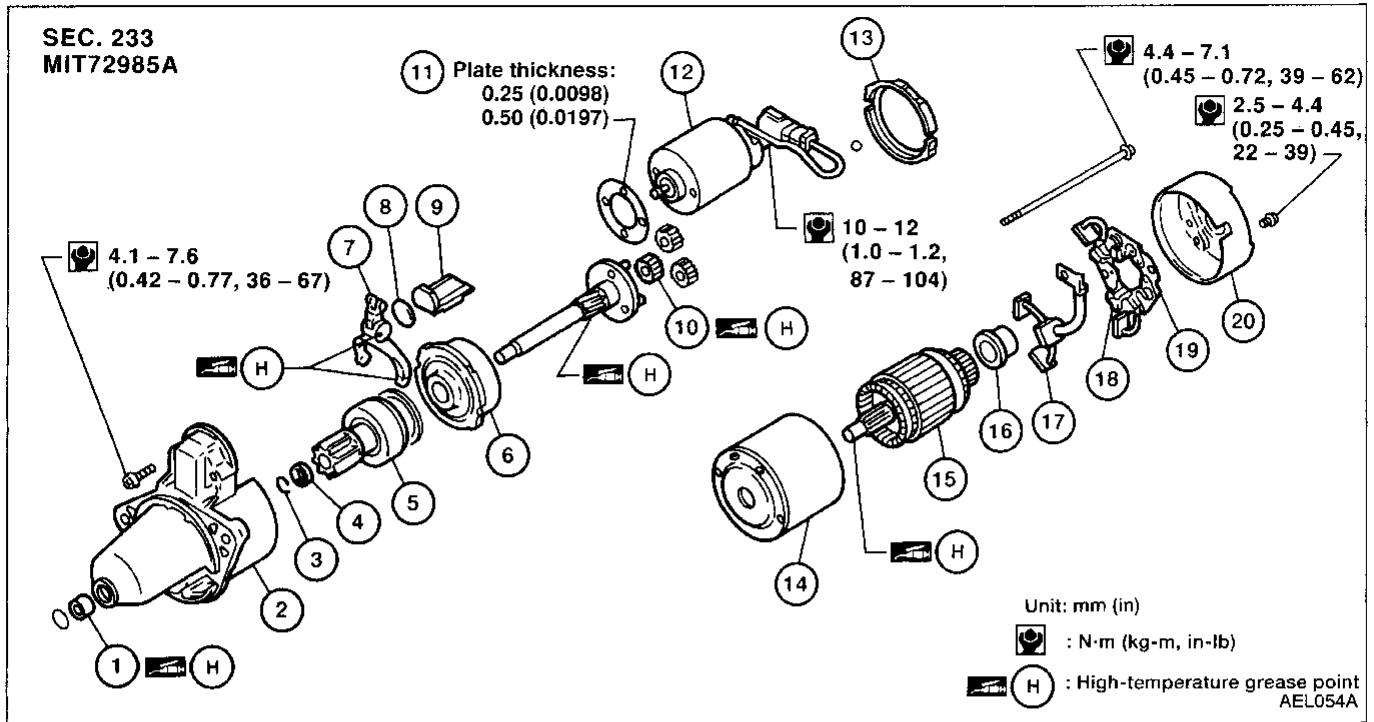
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STARTING SYSTEM

Starter



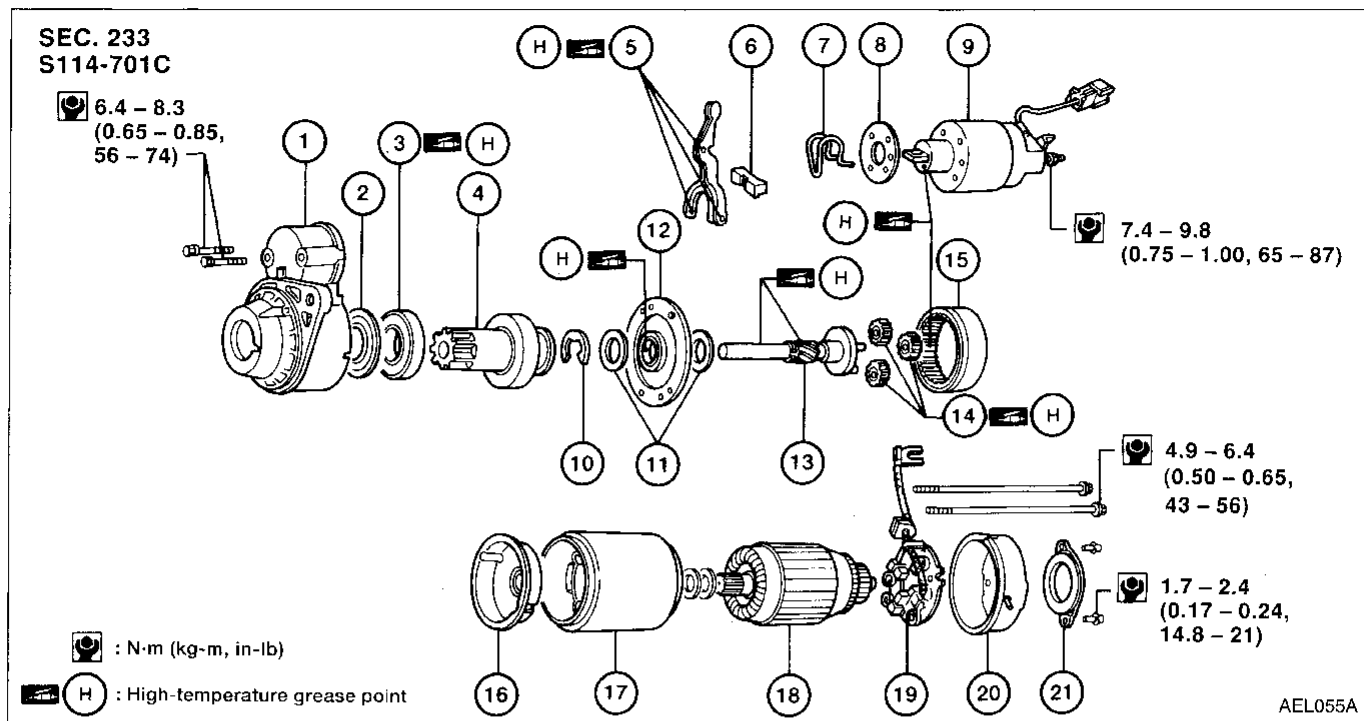
- ① Sleeve bearing
- ② Gear case
- ③ Stopper clip
- ④ Pinion stopper
- ⑤ Pinion assembly
- ⑥ Internal gear
- ⑦ Shift lever

- ⑧ Plate
- ⑨ Packing
- ⑩ Planetary gear
- ⑪ Adjusting plate
- ⑫ Magnetic switch assembly
- ⑬ Packing
- ⑭ Yoke

- ⑮ Armature
- ⑯ Bearing
- ⑰ Brush (+)
- ⑱ Brush spring
- ⑲ Brush holder
- ⑳ Rear cover

STARTING SYSTEM

Starter (Cont'd)



- ① Gear case
- ② Bearing cover
- ③ Ball bearing
- ④ Pinion assembly
- ⑤ Shift lever
- ⑥ Dust cover
- ⑦ Torsion spring

- ⑧ Adjusting plate
- ⑨ Magnetic switch assembly
- ⑩ E-ring
- ⑪ Thrust washer
- ⑫ Center bracket
- ⑬ Pinion shaft
- ⑭ Planetary gear

- ⑮ Internal gear
- ⑯ Center bracket
- ⑰ Yoke assembly
- ⑱ Armature
- ⑲ Brush holder assembly
- ⑳ Rear cover
- ㉑ Dust cover

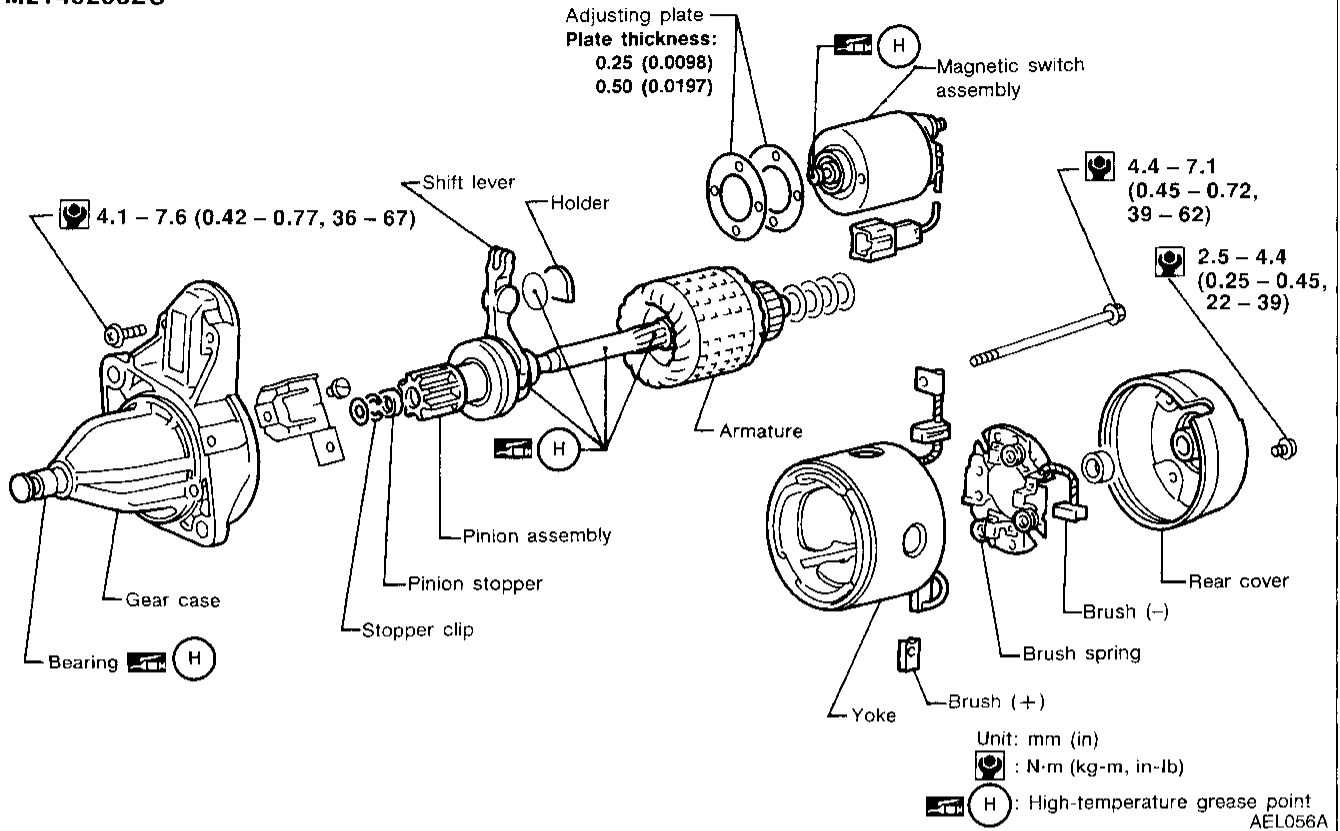
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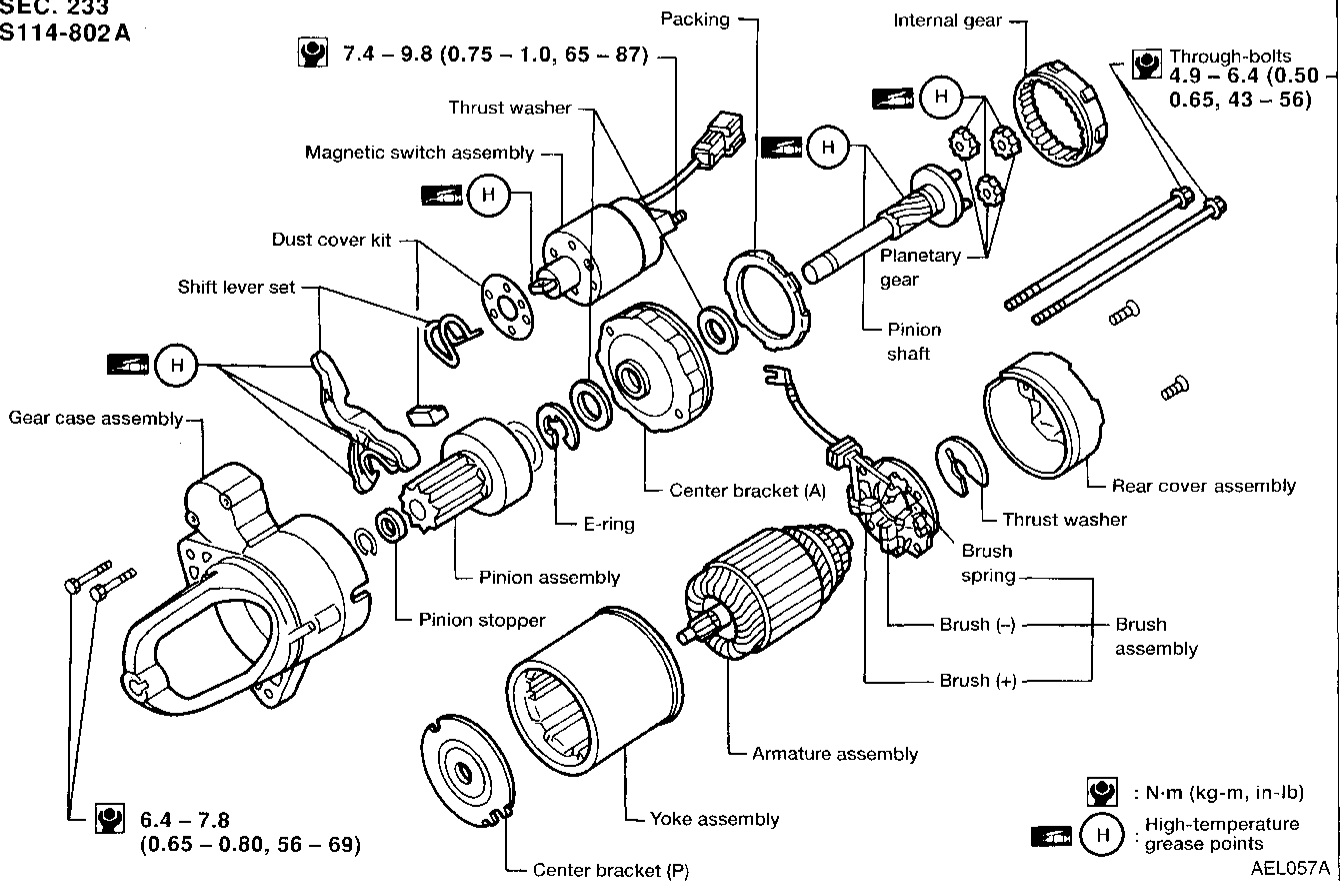
STARTING SYSTEM

Starter (Cont'd)

SEC. 233
M2T49283ZC



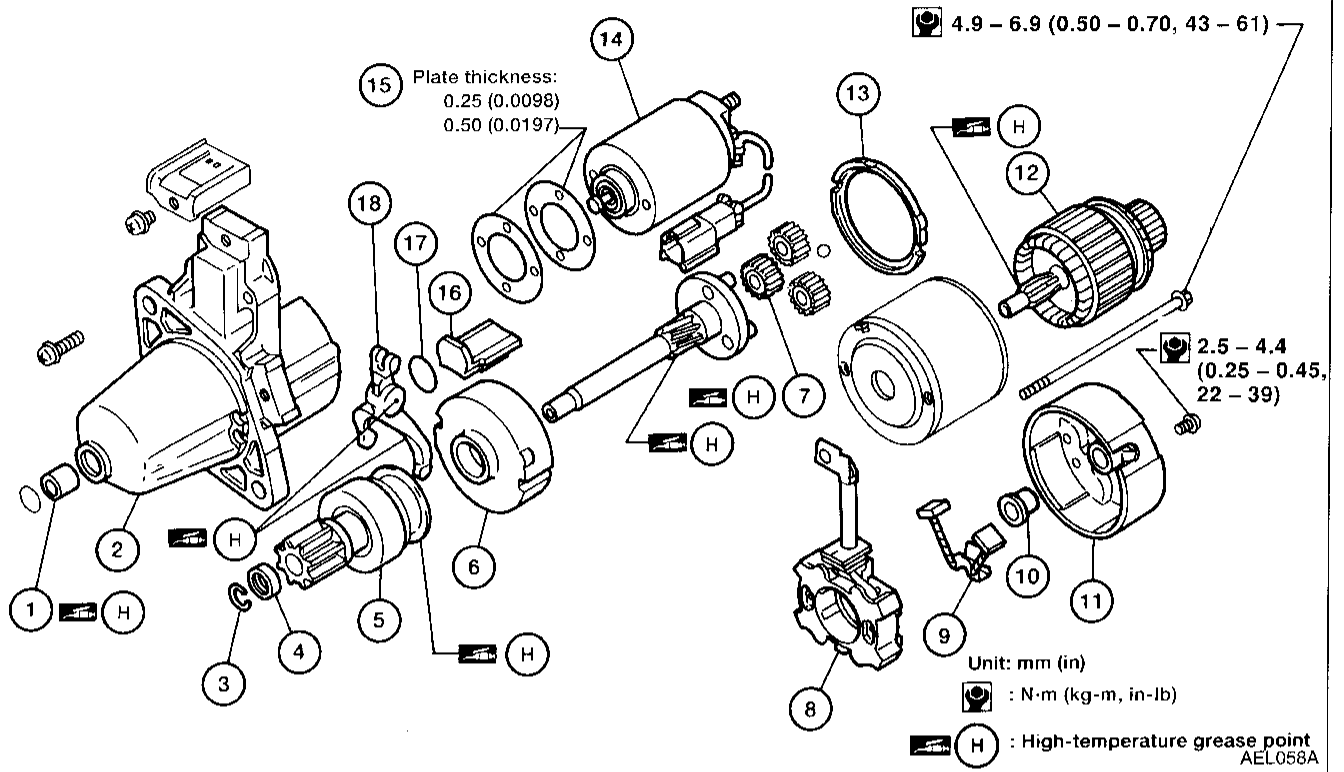
SEC. 233
S114-802A



STARTING SYSTEM

Starter (Cont'd)

SEC. 233
M0T80281ZC



- ① Sleeve bearing
- ② Gear case
- ③ Stopper clip
- ④ Pinion stopper
- ⑤ Pinion assembly
- ⑥ Internal gear

- ⑦ Planetary gear
- ⑧ Brush holder
- ⑨ Brush
- ⑩ Bearing
- ⑪ Rear cover
- ⑫ Armature

- ⑬ Packing
- ⑭ Magnetic switch assembly
- ⑮ Adjusting plate
- ⑯ Packing
- ⑰ Plate
- ⑱ Shift lever

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STARTING SYSTEM

Pinion/Clutch Check

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

Service Data and Specifications (SDS)

STARTER

Type	M0T80281ZC	M2T42983ZC	S114-802A	S114-701C	M1T72985A
	MITSUBISHI		HITACHI		MITSUBISHI
	Reduction	Non-reduction	Reduction		
Applied model	GA with M/T		GA with A/T	SR	
	Federal	California			
System voltage	V	12			
No-load					
Terminal voltage	V	11.0	11.5	11.0	
Current	A	90 Max	53 Max	90 Max	
Motor revolution	rpm	2750 Min.	6000 Min.	2750 Min.	2950 Min. 3000 Min.
Minimum diameter of commutator	mm (in)	28.8 (1.134)	31.4 (1.236)	28.0 (1.102)	32.0 (1.260) 28.8 (1.134)
Minimum length of brush	mm (in)	7.0 (0.276)	11.5 (0.453)	10.5 (0.413)	11.0 (0.433) 12.0 (0.472)
Brush spring tension	N (kg, lb)	11.8 - 23.5 (1.2 - 2.4, 2.7 - 5.3)	13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7)	14.7 - 17.7 (1.5 - 1.8, 3.3 - 4.0)	17.7 - 21.6 (1.8 - 2.2, 4.0 - 4.9) 13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7)
Clearance of bearing metal and armature shaft	mm (in)	0.2 (0.0078) Max	0.2 (0.0078) Max	—	0.03 - 0.3 (0.0012 - 0.0118) 0.2 (0.0078) Max
Clearance between Pinion front edge and Pinion stopper	mm (in)	0.5 - 2.0 (0.019 - 0.079)	0.5 - 2.0 (0.019 - 0.079)	0.3 - 2.5 (0.012 - 0.098)	0.05 - 1.5 (0.0020 - 0.0591) 0.5 - 2.0 (0.019 - 0.079)

CHARGING SYSTEM

System Description*

The generator provides DC voltage to operate the vehicle's electrical system and to keep the battery charged. The voltage output is controlled by the IC regulator.

GI

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

- 7.5A fuse (No. 31), located in the fusible link and fuse box).

MA

Terminal (B) of the generator supplies current to charge the battery and operate the vehicle's electrical system. Voltage output at this terminal is controlled by the amount of voltage detected by the IC regulator at terminal (S). The charging circuit is protected by the 75A fusible link (letter g), located in the fusible link and fuse box).

EM

Terminal (E) of the generator supplies ground through body ground (A4).

LC

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

- through 10A fuse (No. 8), located in the fuse block [J/B]
- to combination meter terminal (41) (34) for the charge warning lamp.

EC

Ground is supplied to terminal (35) (38) of the combination meter through terminal (L) of the generator. With power and ground supplied, the charge warning lamp will illuminate. When the generator is providing sufficient voltage the ground is opened and the charge warning lamp will go off.

FE

If the charge warning lamp illuminates with the engine running, a fault is indicated. Refer to "Trouble Diagnoses", "CHARGING SYSTEM", EL-37.

CL

*: Terminal numbers in () are for models without tachometer.

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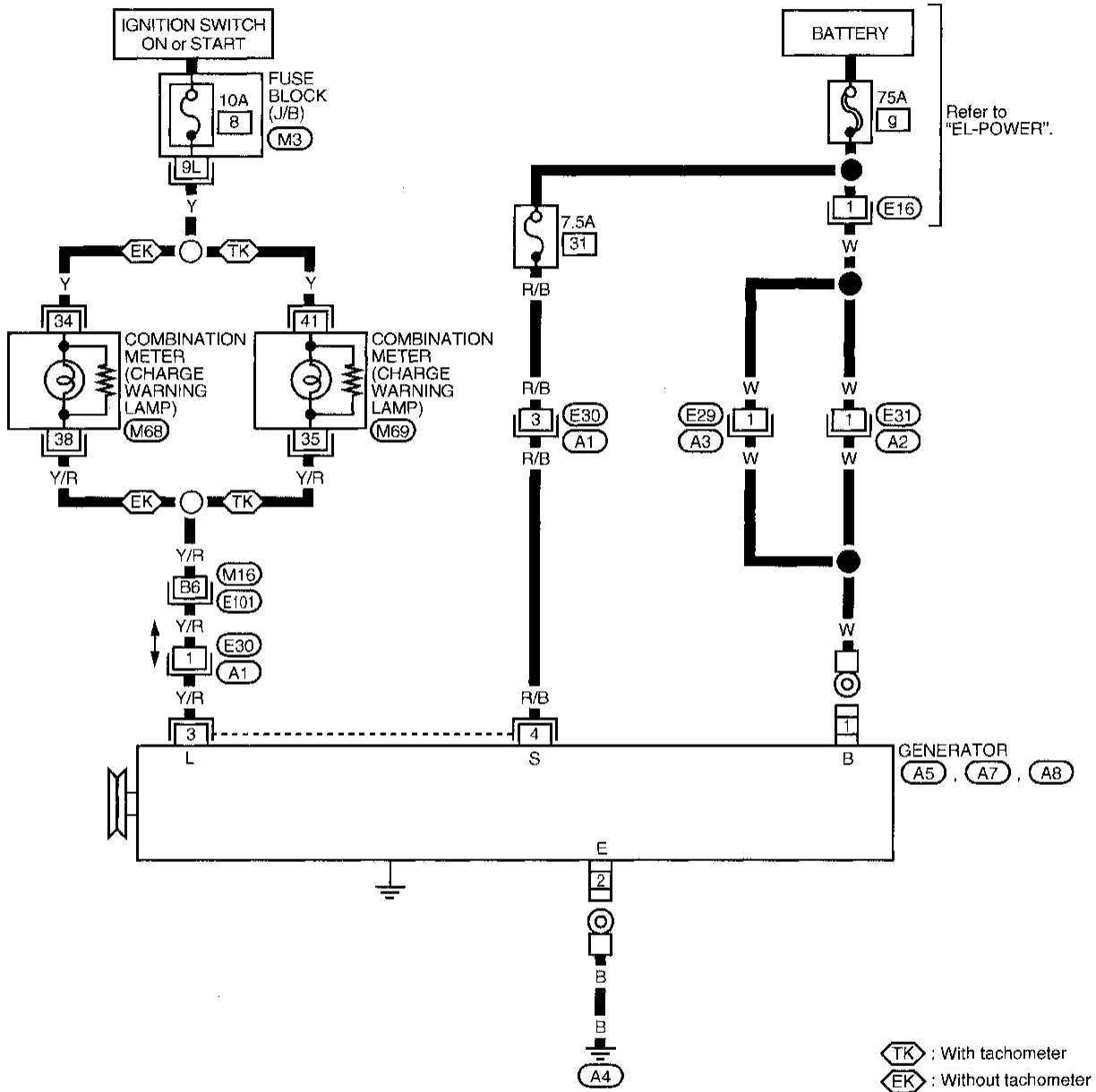
EL

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CHARGING SYSTEM

Wiring Diagram -CHARGE-

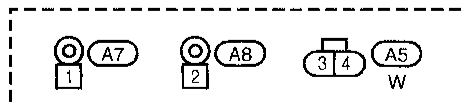
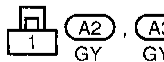
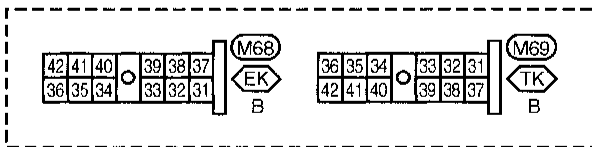
EL-CHARGE-01



Refer to "EL-POWER".

Refer to last page (Foldout page).

M16, E101
M3

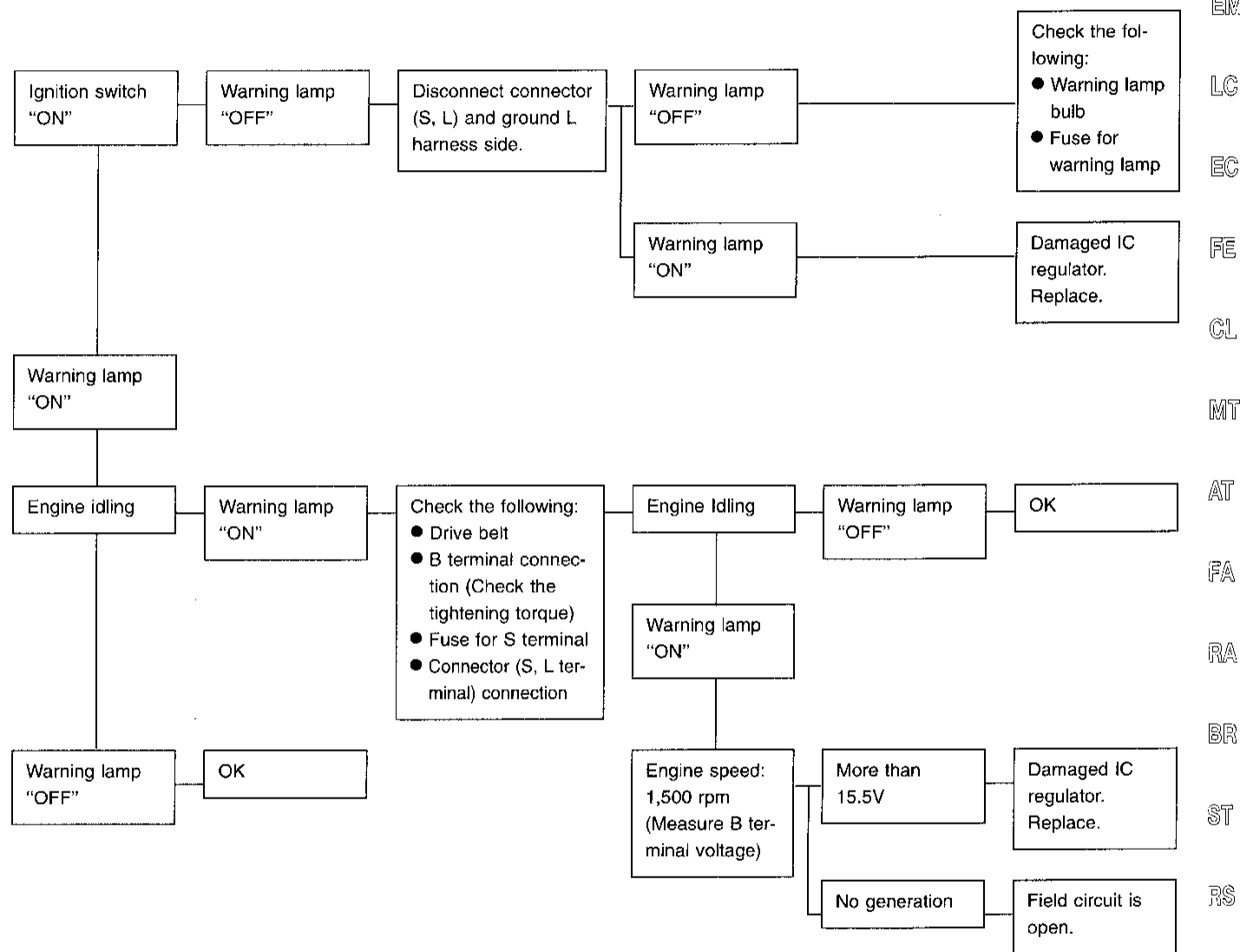


Trouble Diagnoses

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

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

WITH IC REGULATOR



Warning lamp: "CHARGE" warning lamp in combination meter

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

MALFUNCTION INDICATOR

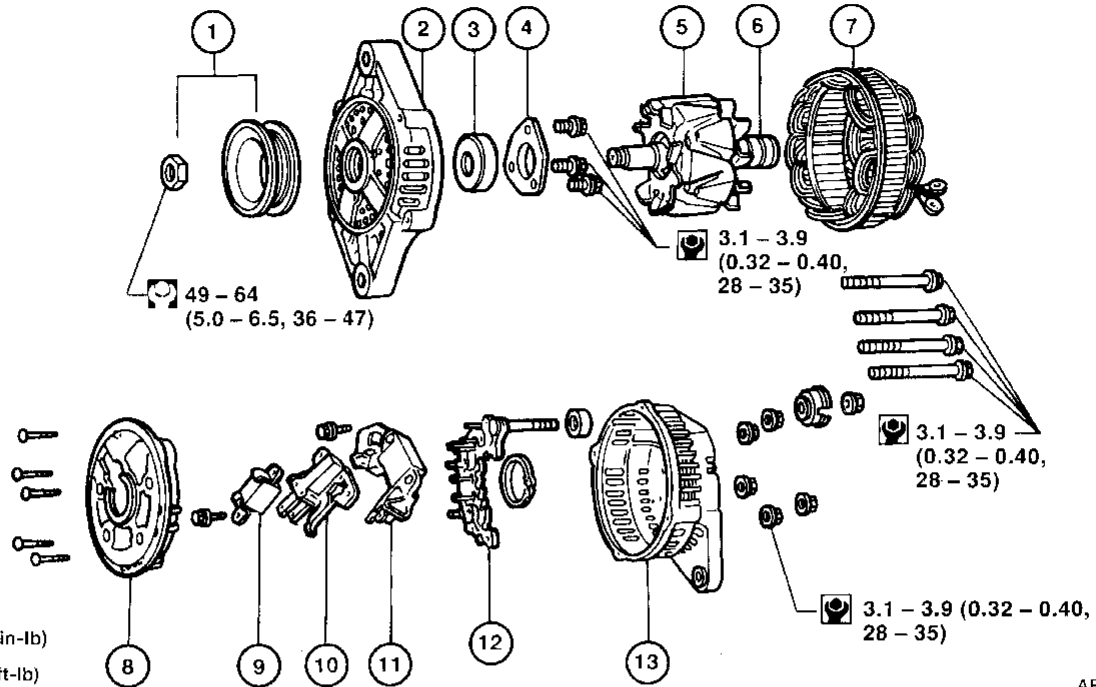
The IC regulator warning function activates to illuminate "CHARGE" warning lamp, if any of the following symptoms occur while alternator is operating:

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

CHARGING SYSTEM

Generator

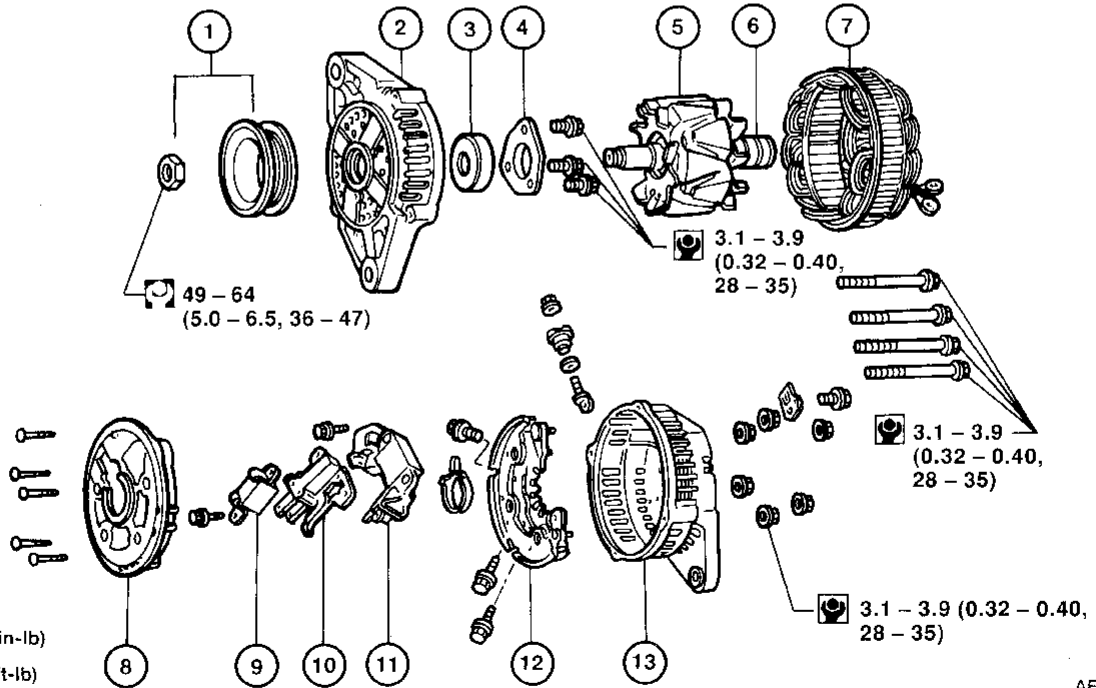
SEC. 231
LR180-751



AEL732A

- | | | |
|-------------------|-------------|-------------------------|
| ① Pulley assembly | ⑥ Slip ring | ⑩ Brush assembly |
| ② Front cover | ⑦ Stator | ⑪ IC regulator assembly |
| ③ Front bearing | ⑧ Fan guide | ⑫ Diode assembly |
| ④ Retainer | ⑨ Condenser | ⑬ Rear cover |
| ⑤ Rotor | | |

SEC. 231
LR180-741H



AEL060A

- | | | |
|-------------------|-------------|-------------------------|
| ① Pulley assembly | ⑥ Slip ring | ⑩ Brush assembly |
| ② Front cover | ⑦ Stator | ⑪ IC regulator assembly |
| ③ Front bearing | ⑧ Fan guide | ⑫ Diode assembly |
| ④ Retainer | ⑨ Condenser | ⑬ Rear cover |
| ⑤ Rotor | | |

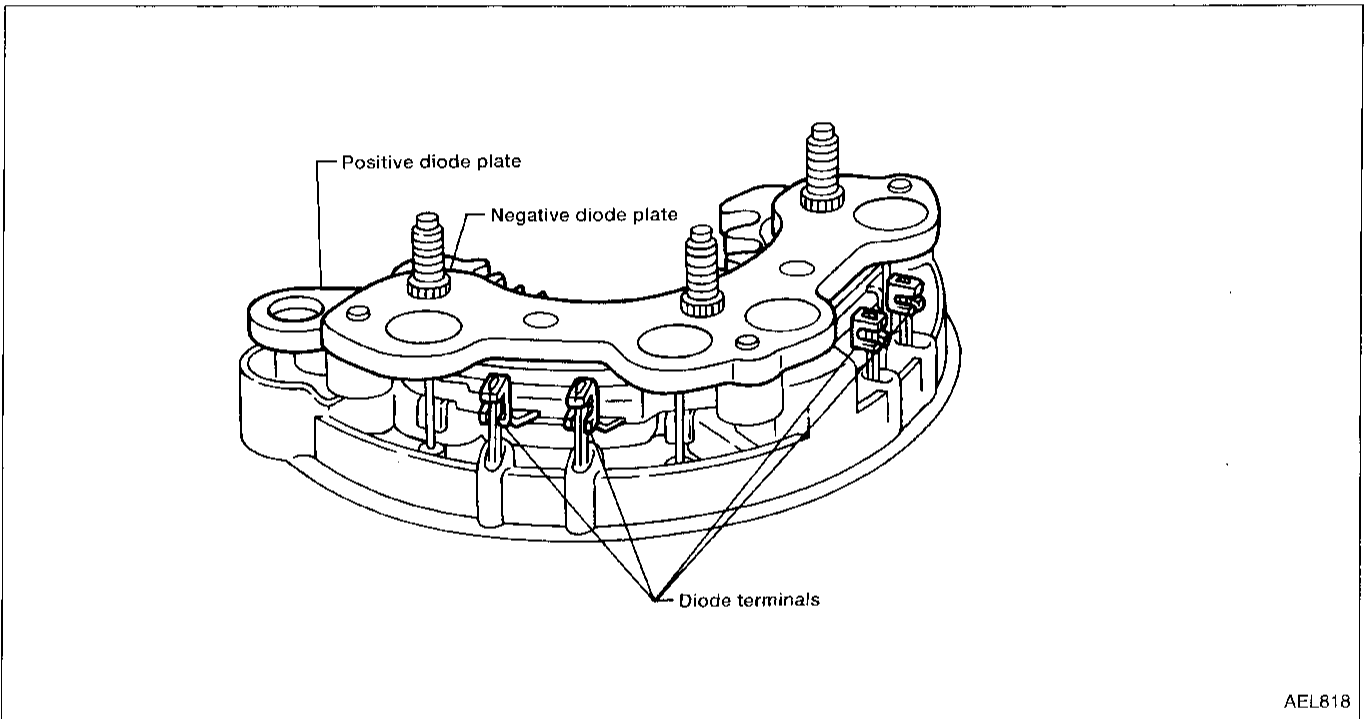
CHARGING SYSTEM

Diode Check

MAIN DIODES

- In order to check diodes, they must be unsoldered from the stator.
- Use an ohmmeter to check condition of diodes as indicated in chart below.
- If any of the test results are not satisfactory, replace diode assembly.

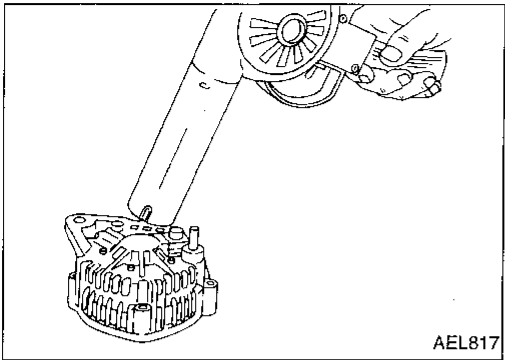
	Ohmmeter probes		Judgement
	Positive ⊕	Negative ⊖	
Diodes check (Positive side)	Positive diode plate	Diode terminals	Diode conducts in only one direction.
	Diode terminals	Positive diode plate	
Diodes check (Negative side)	Negative diode plate	Diode terminals	Diode conducts in only one direction.
	Diode terminals	Negative diode plate	



AEL818

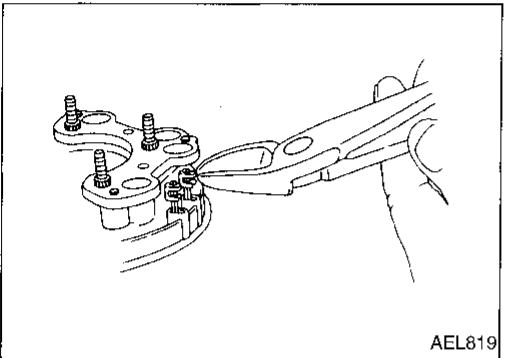
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CHARGING SYSTEM



Disassembly and Assembly

1. Remove rear cover.
 - Heat rear cover, using heat gun, to 50°C (90°F) above room temperature to prevent bearing damage.

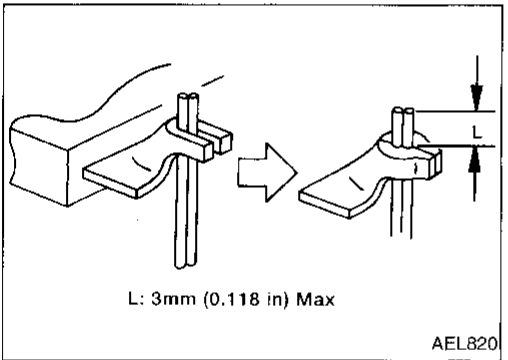


2. Disconnect stator/diode.
 - Cut diode terminals.
 - Unsolder stator coil leads.

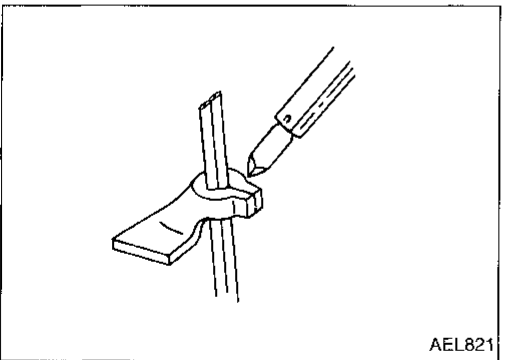
CAUTION:

Unsolder stator coil leads as fast as possible to avoid damaging diodes.

3. Remove stator and rotor.
4. Remove bearing retainer and bearing.
5. Assemble in reverse of disassembly.



- Insert stator coil lead into lower portion of diode terminal.
- Using pliers, crimp diode terminal around stator coil lead.
- Be sure stator coil leads do not protrude more than 3 mm (0.118 in.) past diode terminal.



- Solder stator coil lead and diode terminals.

CAUTION:

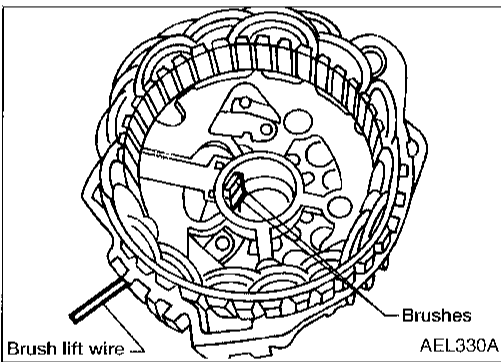
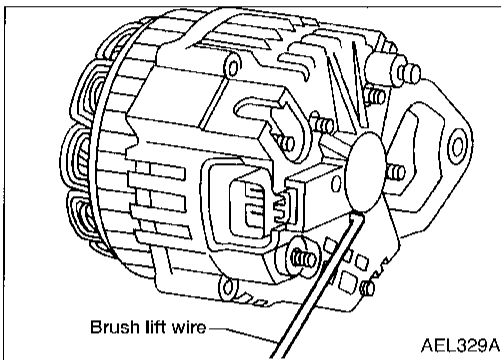
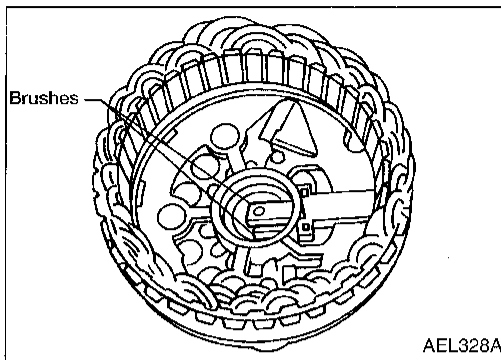
Solder stator coil leads and diode terminals as fast as possible to avoid damaging diodes. Use 9/1 Pb/Sn solder in assembly.

CHARGING SYSTEM

Disassembly and Assembly (Cont'd)

REAR COVER INSTALLATION

1. Before installing front cover with pulley and rotor with rear cover, push brush up with fingers and retain brush by inserting brush lift wire into brush lift hole from outside.
2. After installing front and rear sides of generator, pull out brush lift wire.



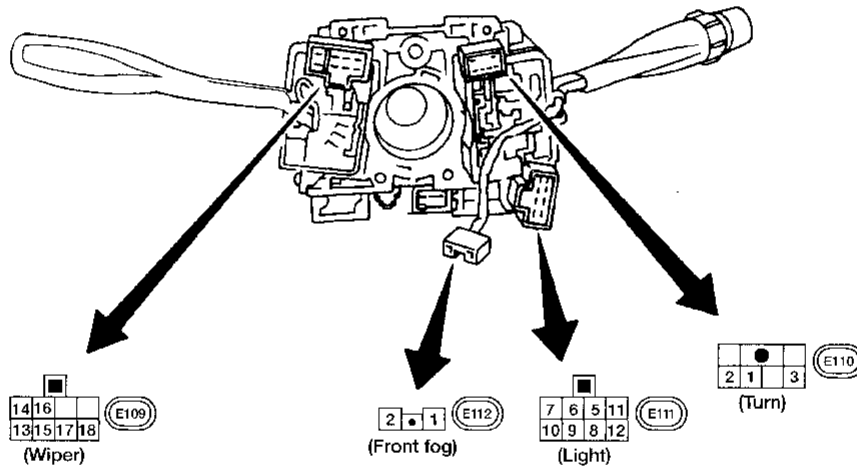
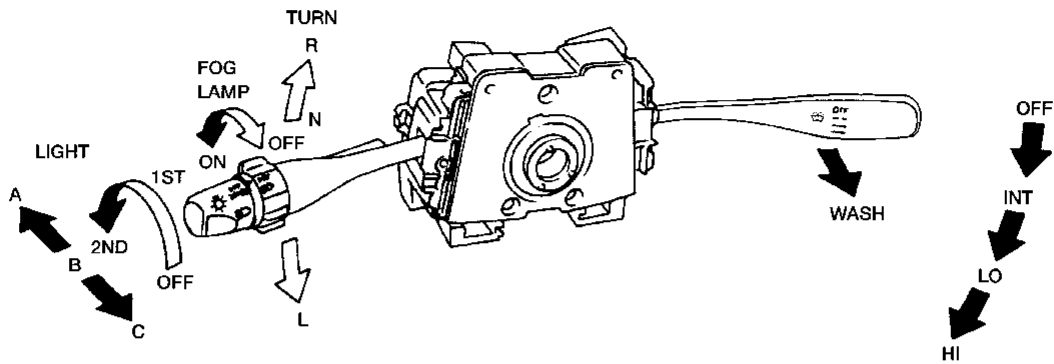
Service Data and Specifications (SDS)

GENERATOR

Type	LR180-741H		LR180-751	
	HITACHI		HITACHI	
Applied model	SR20DE		GA16DE	
Nominal rating	V-A	12-80		12-80
Ground polarity	Negative			
Minimum revolution under no-load (When 13.5 volts is applied)	rpm	Less than 1,000		Less than 1,000
Hot output current	A/rpm	More than 23/1,300 More than 63/2,500 More than 77/5,000		More than 23/1,300 More than 65/2,500 More than 77/5,000
Regulated output voltage	V	14.1 - 14.7		
Minimum length of brush	mm (in)	6.0 (0.236)		6.0 (0.236)
Brush spring pressure	N (g, oz)	1.000 - 3.432 (102 - 350, 3.60 - 12.34)		1.000 - 3.432 (102 - 350, 3.60 - 12.34)
Slip ring minimum outer diameter	mm (in)	More than 26.0 (1.024)		More than 26.0 (1.024)
Rotor (Field coil) resistance	Ω	2.6 - 2.7		2.6 - 2.7

COMBINATION SWITCH

Combination Switch/Check



LIGHTING SWITCH

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

WIPER SWITCH

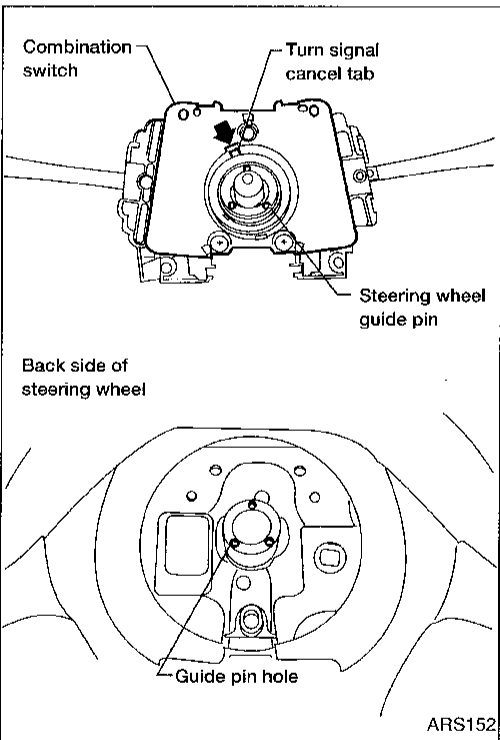
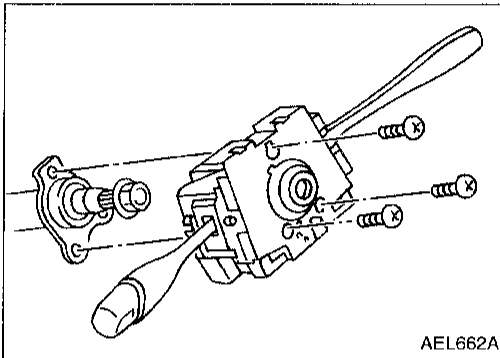
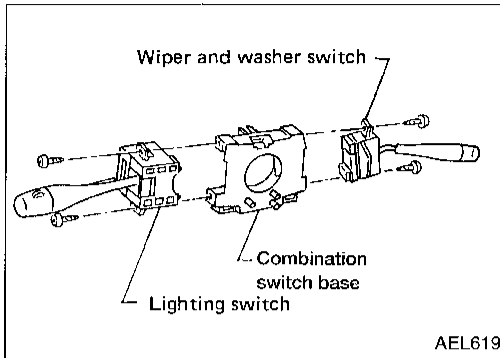
	OFF		INT	LO	HI	WASH
	13	○	○			
14	○	○	○			
15		○	○	○		
16					○	
17		○	○	○	○	
18						○

TURN SIGNAL SWITCH

	R	N	L
1	○		○
2	○		
3			○

FRONT FOG LAMP SWITCH

	OFF	ON
2		○
1		○



Combination Switch/Replacement

- Each switch can be replaced without removing combination switch base.
- To remove combination switch base, remove base attaching screws.
- Before installing the steering wheel, align the turn signal cancel tab with the notch of combination switch. For SRS airbag models, refer to RS section (“INSTALLATION”, Driver Air Bag Module and Spiral Cable”).

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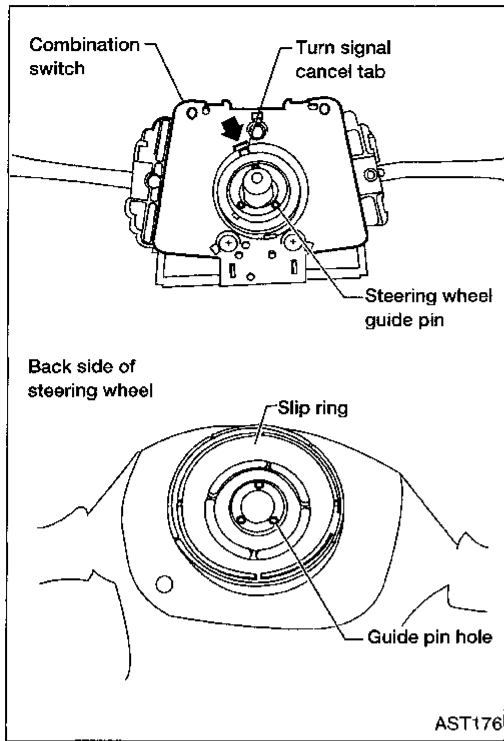
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COMBINATION SWITCH

Combination Switch/Replacement (Cont'd)

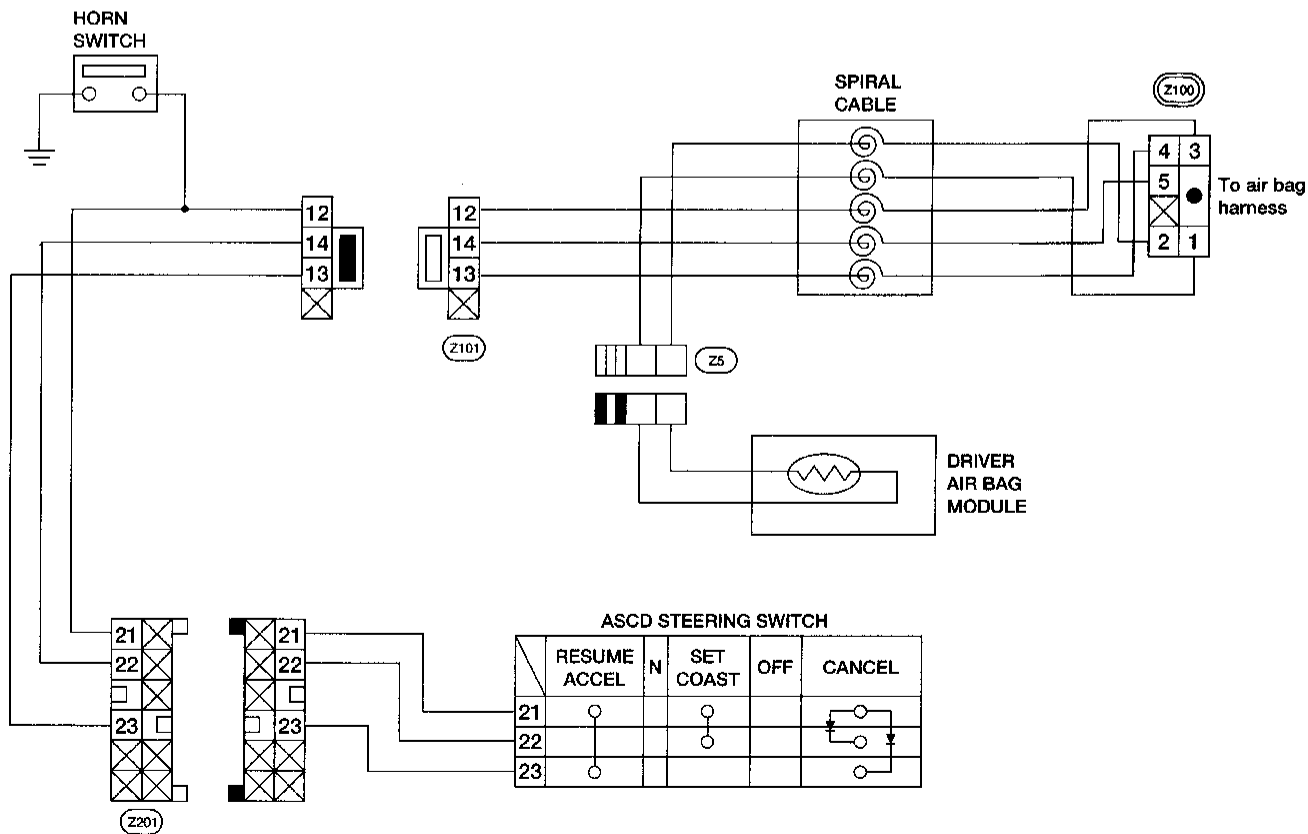
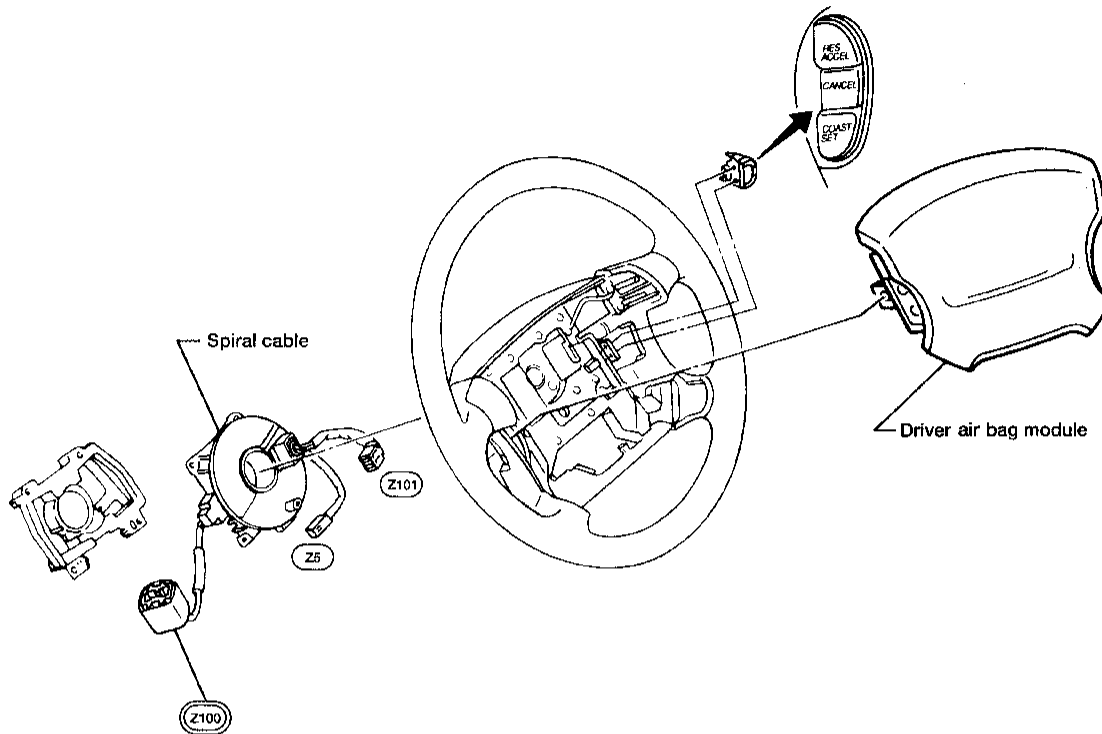
For non-airbag models, refer to ST section ("STEERING WHEEL (WITHOUT AIR BAG MODULE)", "Removal and Installation").



COMBINATION SWITCH

Steering Switch/Check

MODELS WITH SRS AIR BAG

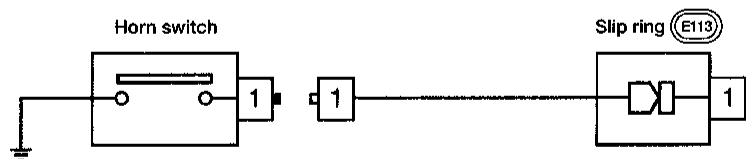
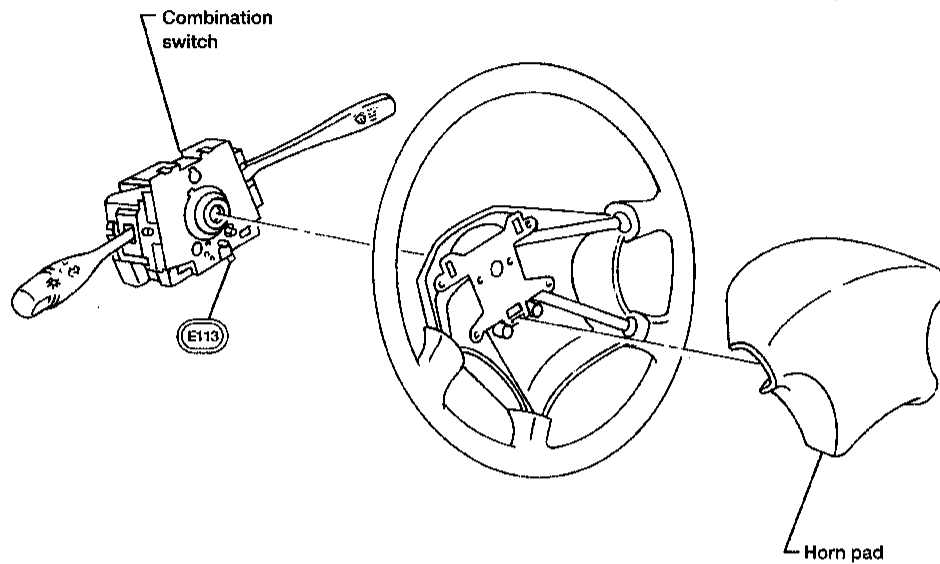


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COMBINATION SWITCH

Steering Switch/Check (Cont'd)

MODELS WITHOUT SRS AIR BAG



HEADLAMP

System Description (For USA)*

The headlamps are controlled by the lighting switch which is built into the combination switch.

Power is supplied at all times:

- to lighting switch terminal ⑤
- through 15A fuse (No. ③⑨ , located in the fusible link and fuse box), and
- to lighting switch terminal ⑧
- through 15A fuse (No. ④⑩ , located in the fusible link and fuse box).

Low beam operation

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

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

Terminal ③ of each headlamp supplies ground through body grounds ①⑬ and ①⑤ .
With power and ground supplied, the headlamp(s) will illuminate.

High beam operation/flash-to-pass operation

When the lighting switch is placed in the 2ND position and placed in HIGH "A" or Pass "C" position, power is supplied:

- from lighting switch terminal ⑥
- to terminal ① of the RH headlamp, and
- from lighting switch terminal ⑨
- to terminal ① of the LH headlamp, and
- to combination meter terminal ⑬ (⑫) for the HI BEAM indicator.

Ground is supplied to terminal ⑱ (⑰) of the combination meter through body grounds ④③ , ④④ and ④⑥ .

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

Theft warning system

The theft warning system will flash the high beams if the system is triggered. Refer to "System Description", "THEFT WARNING SYSTEM", EL-201.

*: Terminal numbers in () are for models without tachometer.

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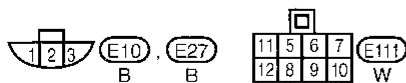
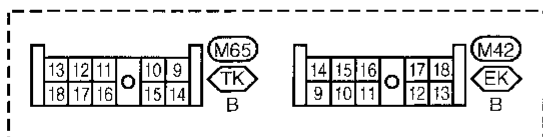
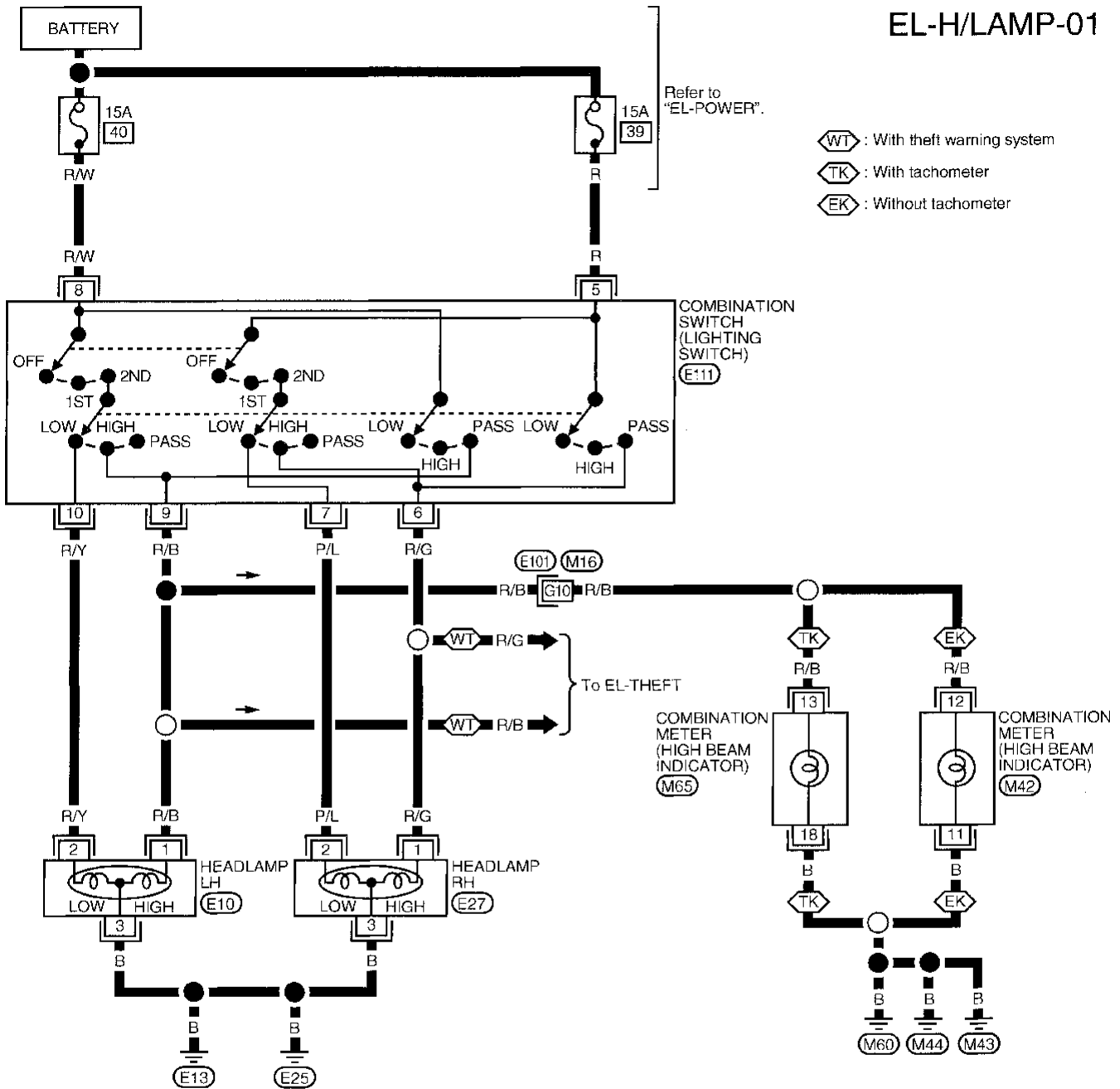
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HEADLAMP

Wiring Diagram (For USA) -H/LAMP-

EL-H/LAMP-01



Refer to last page (Foldout page).

(M16) (E101)

HEADLAMP

Trouble Diagnoses (For USA)

Symptom	Possible cause	Repair order
LH headlamps do not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E13) and (E25) 3. 15A fuse 4. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E13) and (E25). 3. Check 15A fuse (No. 40, located in fusible link and fuse box). Verify battery positive voltage is present at terminal (8) of lighting switch. 4. Check lighting switch.
RH headlamps do not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E13) and (E25) 3. 15A fuse 4. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E13) and (E25). 3. Check 15A fuse (No. 39, located in fusible link and fuse box). Verify battery positive voltage is present at terminal (5) of lighting switch. 4. Check lighting switch.
LH high beam does not operate, but LH low beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in LH high beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check R/B wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
LH low beam does not operate, but LH high beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in LH low beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check R/Y wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
RH high beam does not operate, but RH low beam operates.	<ol style="list-style-type: none"> 1. Bulb. 2. Open in RH high beam circuit 3. Lighting switch. 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check R/G wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
RH low beam does not operate, but RH high beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in RH low beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check P/L wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
High beam indicator does not work.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (M43), (M44) and (M60) 3. Open in high beam circuit 	<ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check grounds (M43), (M44) and (M60). 3. Check R/B wire between lighting switch and combination meter for an open circuit.

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System Description (For Canada)*

The headlamp system for Canada vehicles contains a daytime light control unit. This unit activates the high beam headlamps at approximately half illumination whenever the engine is running. If the parking brake is applied before the engine is started, daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is applied. For location of daytime light control unit, refer to EL-232.

Power is supplied at all times:

- through 15A fuse (No. 39), located in the fusible link and fuse box)
- to daytime light control unit terminal (2) and
- to lighting switch terminal (5).

Power is also supplied at all times:

- through 15A fuse (No. 40), located in the fusible link and fuse box)
- to daytime light control unit terminal (3) and
- to lighting switch terminal (8).

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

- through 7.5A fuse (No. 7), located in the fuse block [J/B])
- to daytime light control unit terminal (12).

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

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

Ground is supplied to daytime light control unit terminal (9) through body grounds (M43), (M44) and (M60).

HEADLAMP OPERATION

Low beam operation

When the lighting switch is moved to the 2ND position and placed in LOW "B" position (low beam operation), power is supplied:

- from lighting switch terminal (7)
- to RH headlamp terminal (2).

Ground is supplied to RH headlamp terminal (3) through body grounds (E13) and (E25).

Also, when the lighting switch is moved to the 2ND position and placed in LOW "B" position (low beam operation), power is supplied:

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

Ground is supplied:

- to LH headlamp terminal (3)
- from daytime light control unit terminal (7)
- through daytime light control unit terminal (9)
- through body grounds (M43), (M44) and (M60).

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

High beam operation/Flash-to-pass operation

When the lighting switch is moved to the 2ND position and placed in HIGH "A" or Pass "C" position, power is supplied:

- from lighting switch terminal (6)
- to RH headlamp terminal (1), and
- from lighting switch terminal (9)
- to daytime light control unit terminal (5), and
- to combination meter terminal (13) ((12) for the HI BEAM indicator
- through daytime light control unit terminal (6)
- to LH headlamp terminal (1).

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

Ground is supplied to terminal (18) ((11) of the combination meter through body grounds (M43), (M44) and (M60).

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

*: Terminal numbers in () are for models without tachometer.

HEADLAMP

System Description (For Canada)* (Cont'd)

DAYTIME LIGHT OPERATION

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

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

Ground is supplied to RH headlamp terminal ③ through body grounds E13 and E25.

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

Operation (Daytime light system for Canada)

The headlamps' high beams automatically turn on after starting the engine with the lighting switch in the OFF or 1st position. Lighting switch operations other than the above are the same as conventional light systems.

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

○: Lamp ON

X: Lamp OFF

△: Lamp dims

□: Added functions

*: When starting the engine with the parking brake released, the daytime light will come ON.
When starting the engine with the parking brake applied, the daytime light will not come ON.

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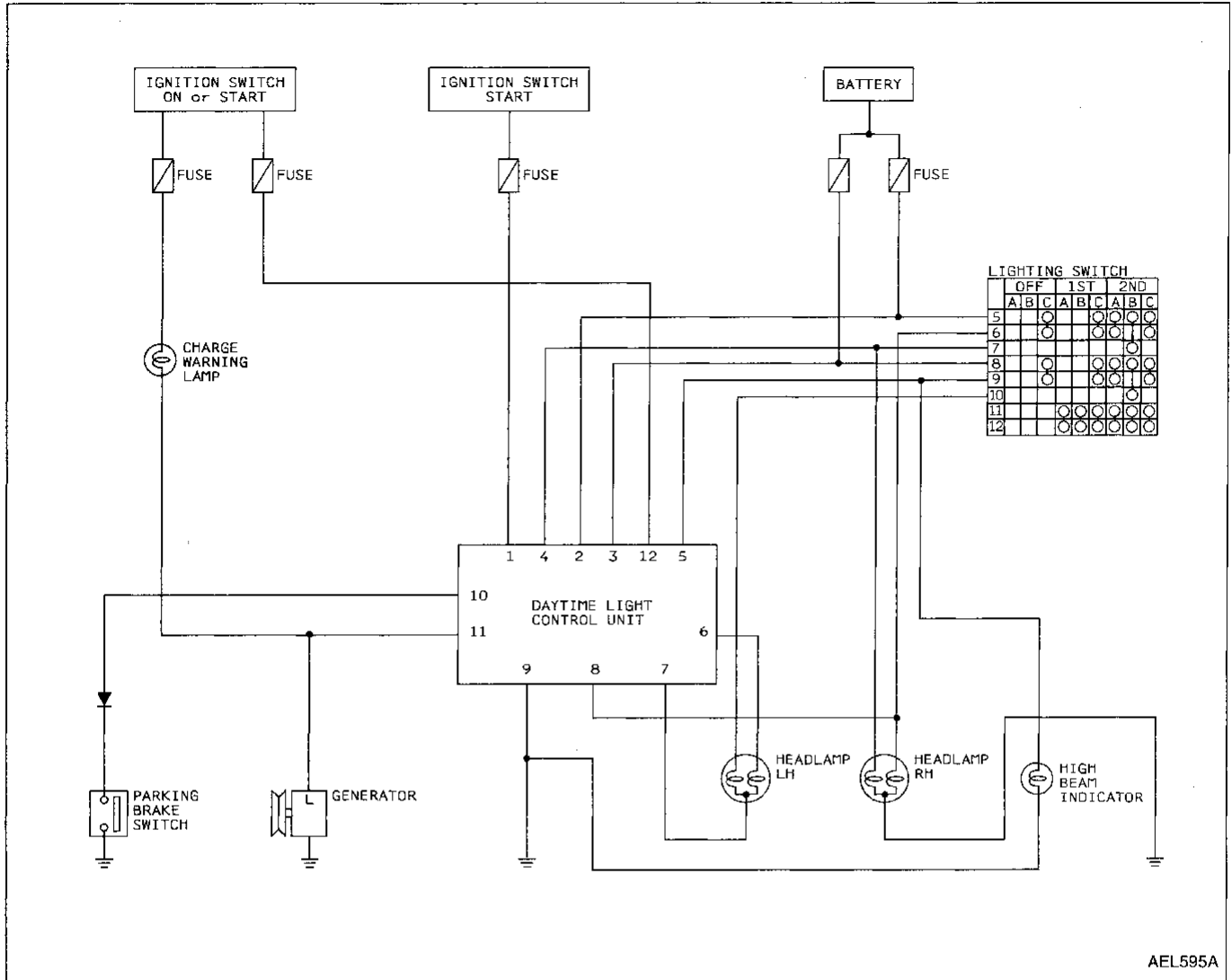
HA

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HEADLAMP

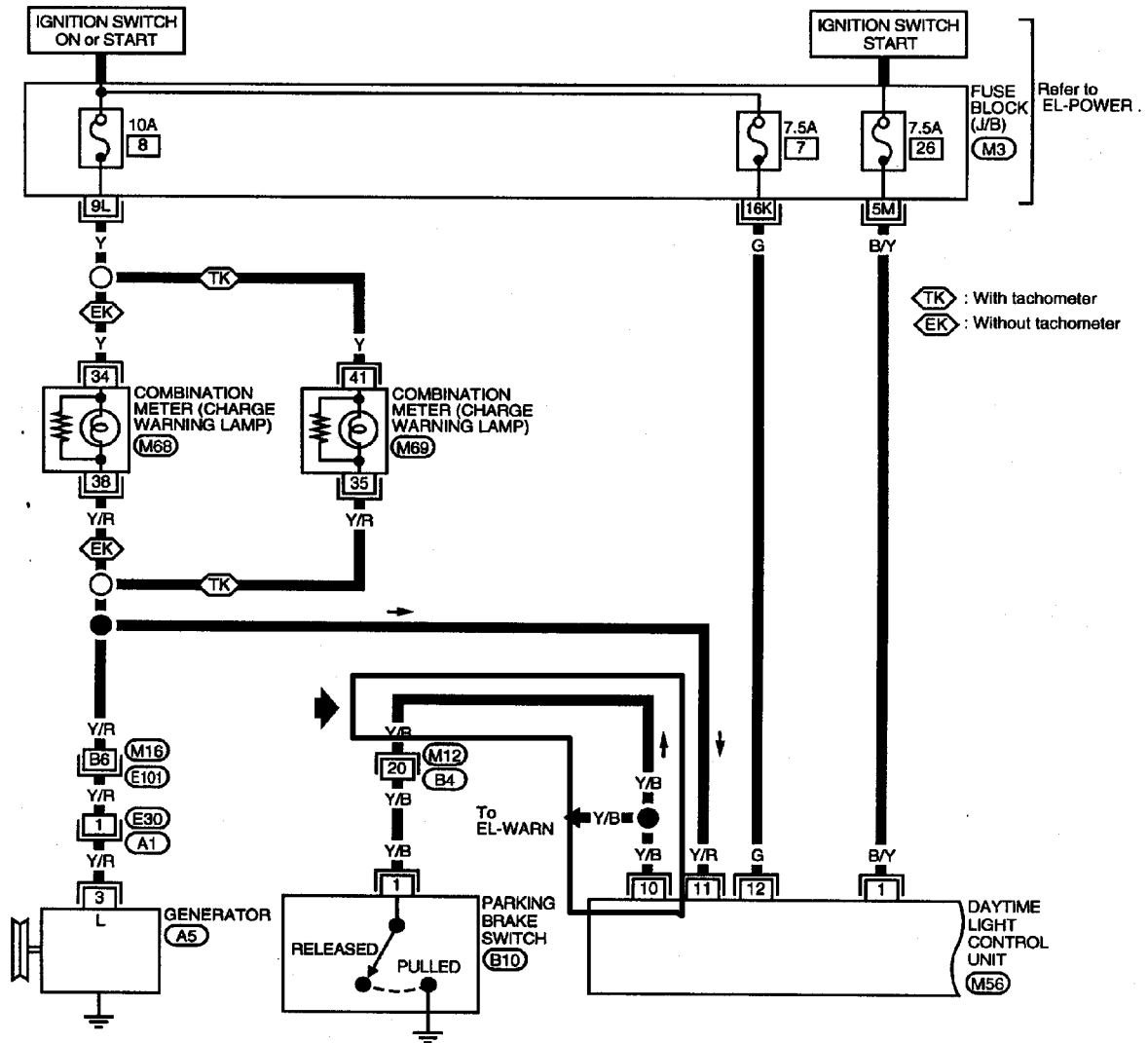
Schematic (For Canada)



HEADLAMP

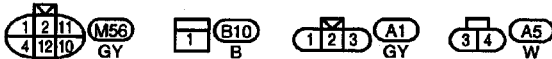
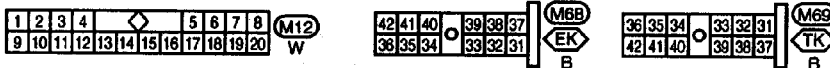
Wiring Diagram (For Canada) -DTRL-

EL-DTRL-01



Refer to last page (Foldout page).

M16, E101
M3



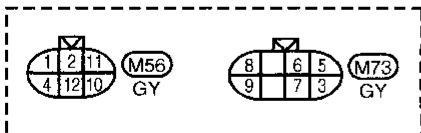
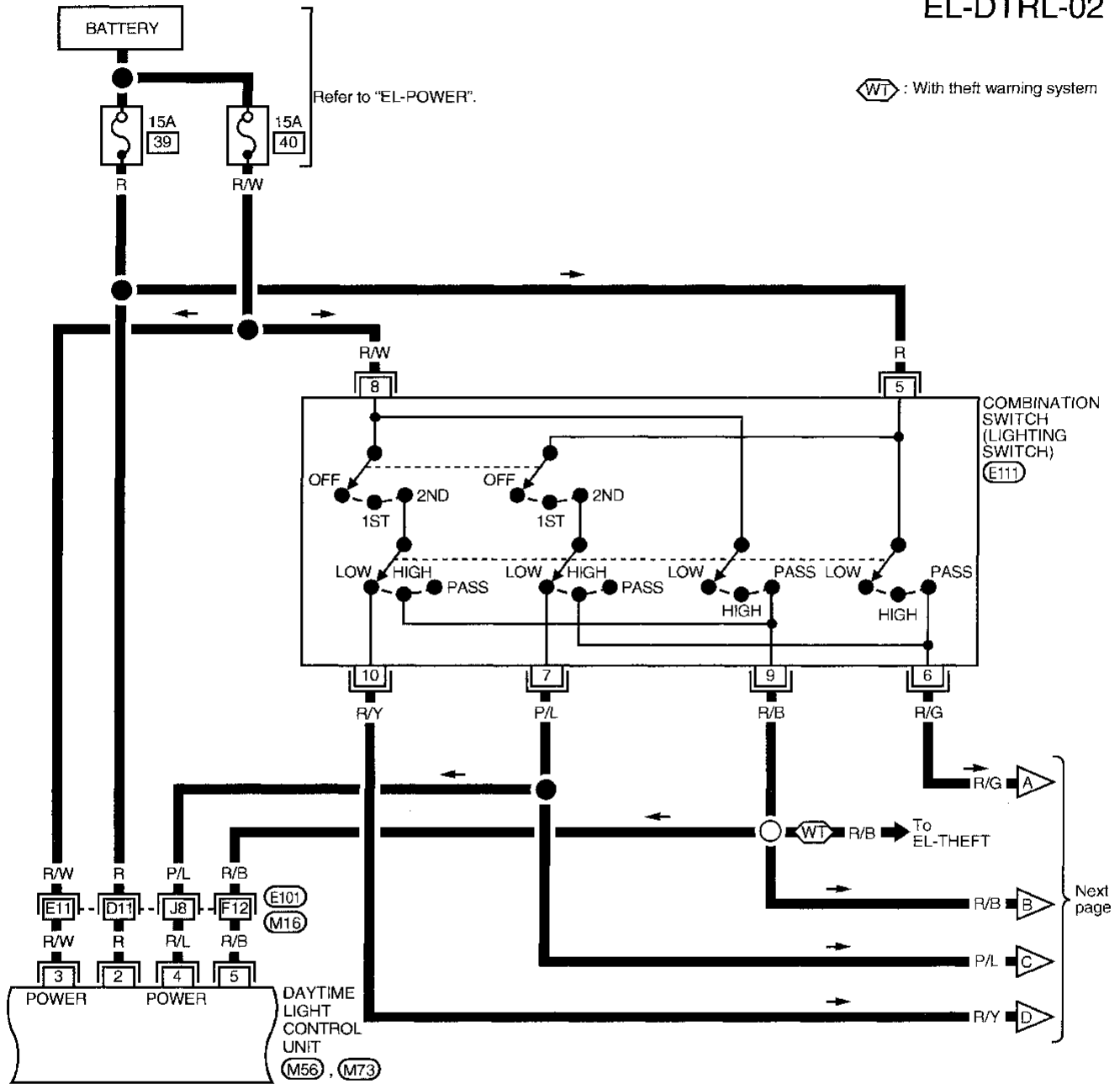
SMA98-080 '97 SENTRA/200SX JULY 1996 (04) SM7E-OB14UO

← ARROW INDICATES AMENDED INFORMATION

HEADLAMP

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

EL-DTRL-02

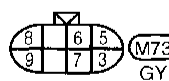
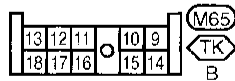
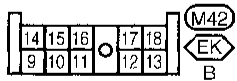
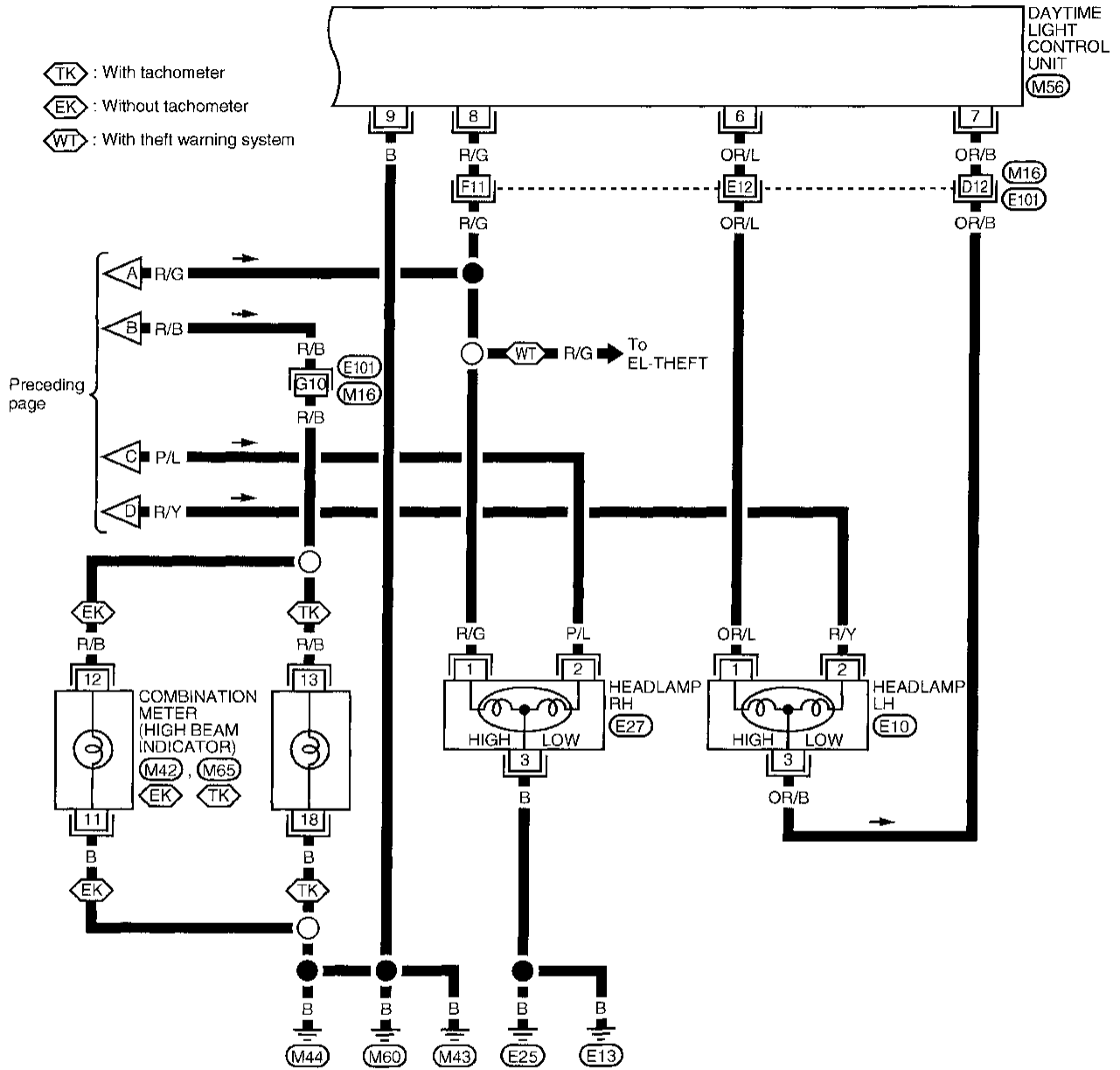


Refer to last page (Foldout page).
(M16), (E101)

HEADLAMP

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

EL-DTRL-03



Refer to last page (Foldout page).
M16, E101

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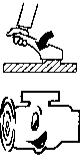
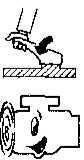
IDX

HEADLAMP

Trouble Diagnoses (For Canada)








DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

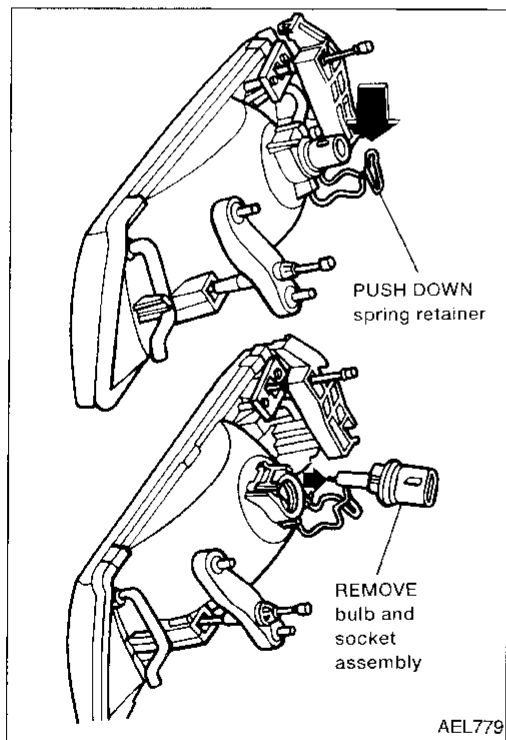
(Data are reference values.)

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

HEADLAMP

Trouble Diagnoses (For Canada) (Cont'd)

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



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. If removing the right-hand (passenger side) headlamp bulb, it is necessary to first reposition the engine coolant reservoir.
3. Disconnect the electrical connector from the bulb.
4. Push down spring retainer.
5. Pull out the headlamp bulb and socket as an assembly. Do not shake or rotate the bulb when removing it. Do not handle the glass envelope.

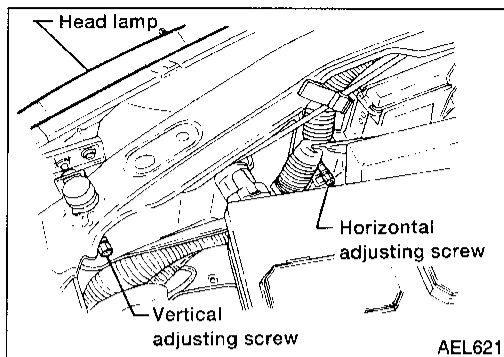
CAUTION:

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

Bulb Specifications

Item	Wattage (12 volt)	Bulb No.
Headlamp (Semi-sealed beam)	65/45	9004
High/Low		

HEADLAMP



Aiming Adjustment

When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. Aimers should be in good condition, calibrated and operated according to their operation manuals. Before performing aiming adjustment, make sure of the following:

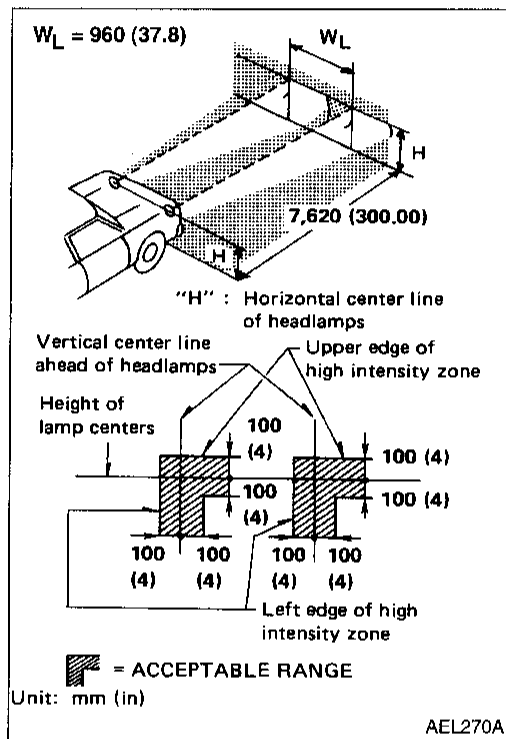
- Keep all tires inflated to correct pressure.
- Place vehicle on level ground.
- See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver's seat.

LOW BEAM

1. Turn headlamp low beam ON.
 2. Use adjusting screws to perform aiming adjustment.
- Adjust headlamps so that upper edge and left edge of high intensity zone are within the acceptable range as shown at left.
 - Dotted lines in illustration show center of headlamp.

"H": Horizontal center line of headlamp

"W_L": Distance between each headlamp center



EXTERIOR LAMP

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

EL-BACK/L-01

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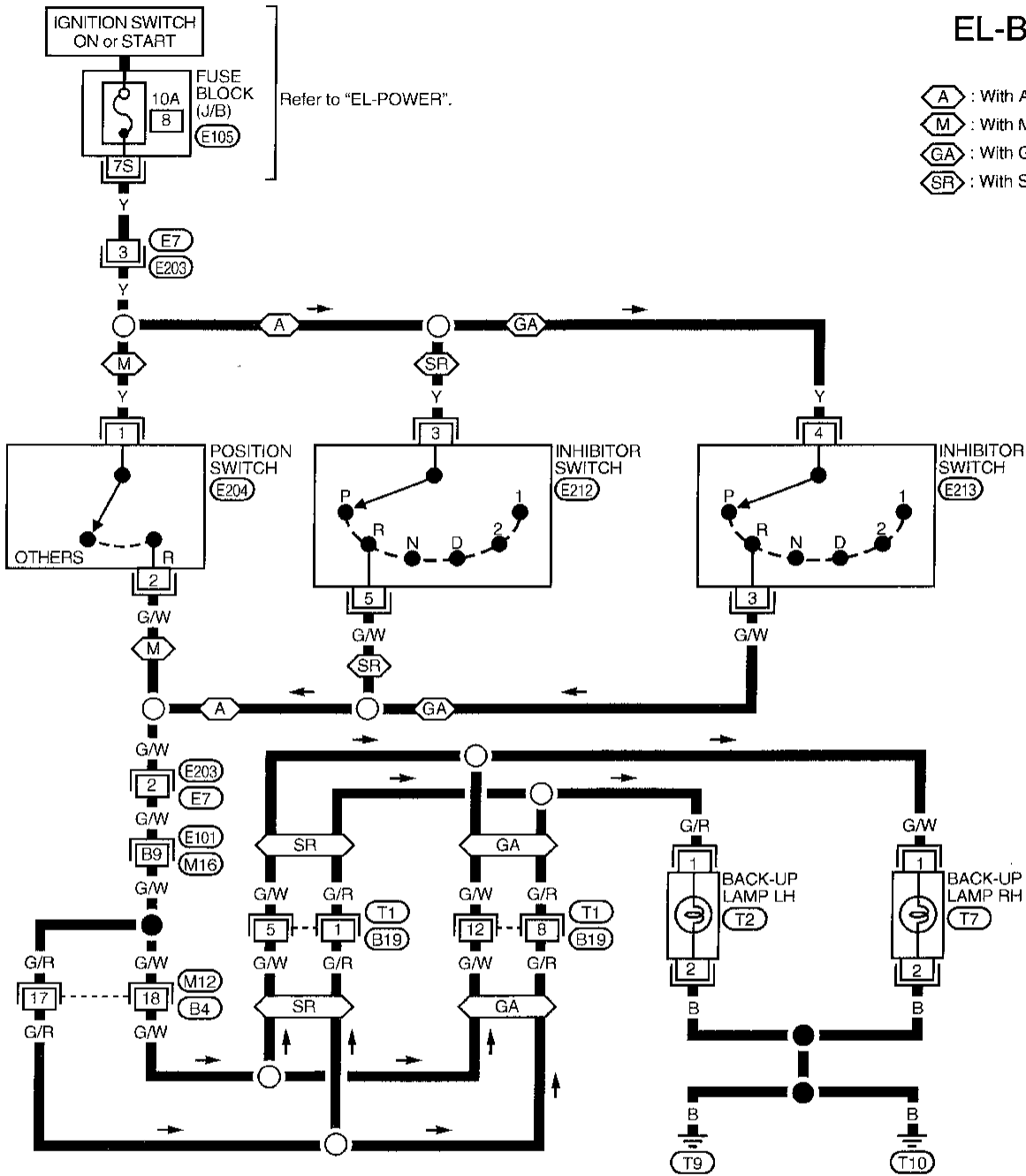
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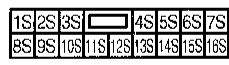
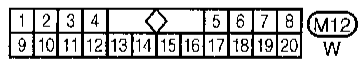
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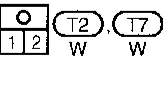
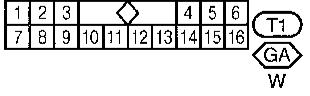
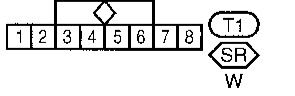
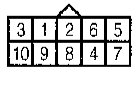
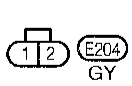


Refer to "EL-POWER".

- A : With A/T
- M : With M/T
- GA : With GA engine
- SR : With SR engine



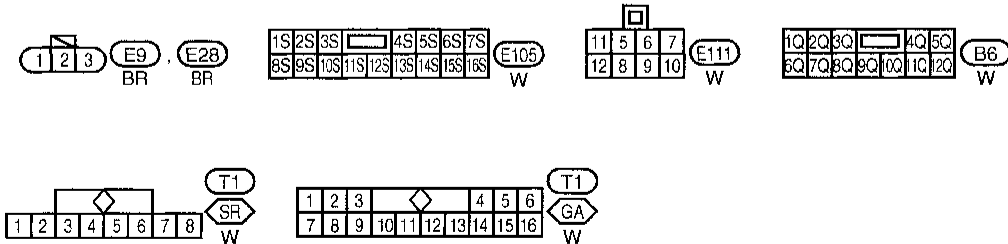
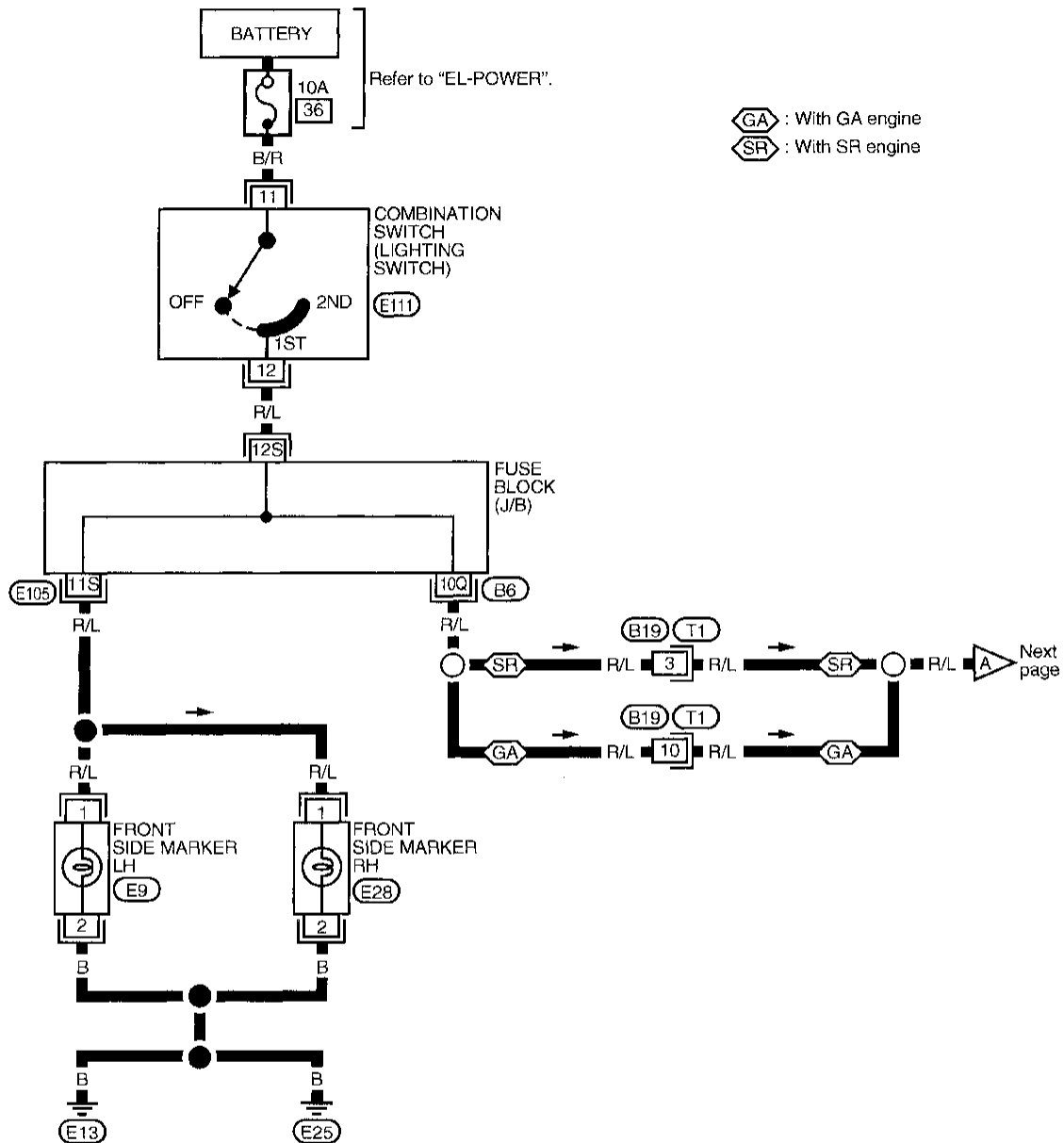
Refer to last page (Foldout page).
M16, E101



EXTERIOR LAMP

License, Tail and Stop Lamps/Wiring Diagram -TAIL/L-

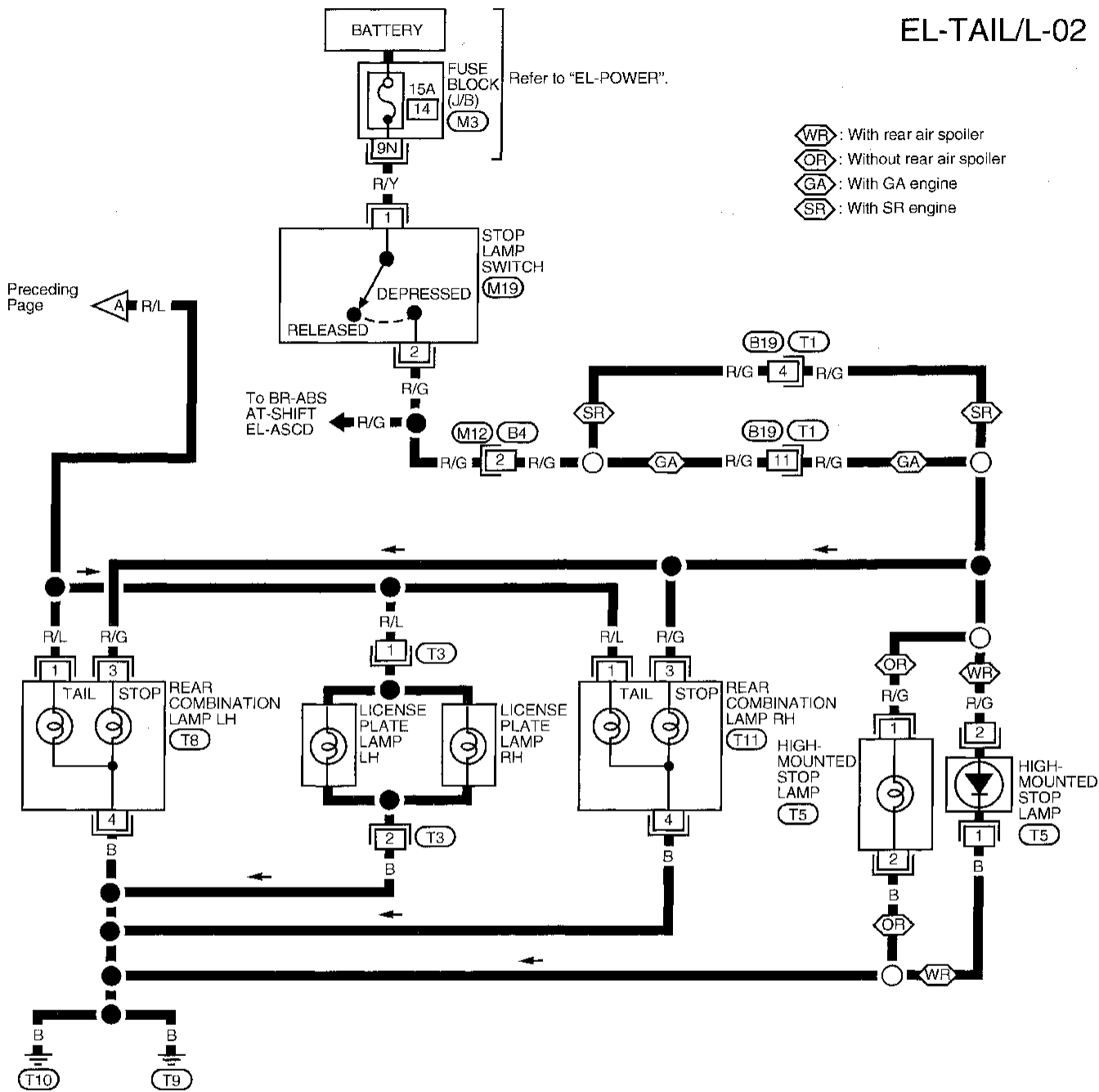
EL-TAIL/L-01



EXTERIOR LAMP

License, Tail and Stop Lamps/Wiring Diagram -TAIL/L- (Cont'd)

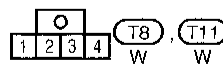
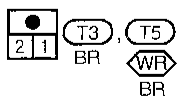
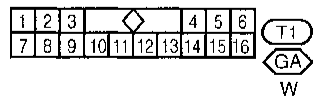
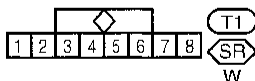
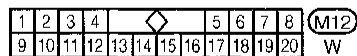
EL-TAIL/L-02



Preceding Page

- WR : With rear air spoiler
- OR : Without rear air spoiler
- GA : With GA engine
- SR : With SR engine

Refer to last page (Foldout page).



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Front Fog Lamp/System Description

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

- 15A fuse (No. ③⑤ , located in the fusible link and fuse box).

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

- through 15A fuse (No. ③⑤ , located in the fusible link and fuse box)
- to lighting switch terminal ⑤
- through terminal ⑦ of the lighting switch
- to front fog lamp relay terminal ①.

Fog lamp operation

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

With the front fog lamp switch in the ON position:

- ground is supplied to front fog lamp relay terminal ② through the front fog lamp switch and body grounds ①E13 and ①E25 .

The front fog lamp relay is energized and power is supplied:

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

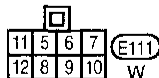
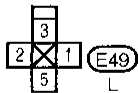
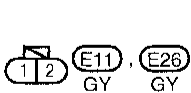
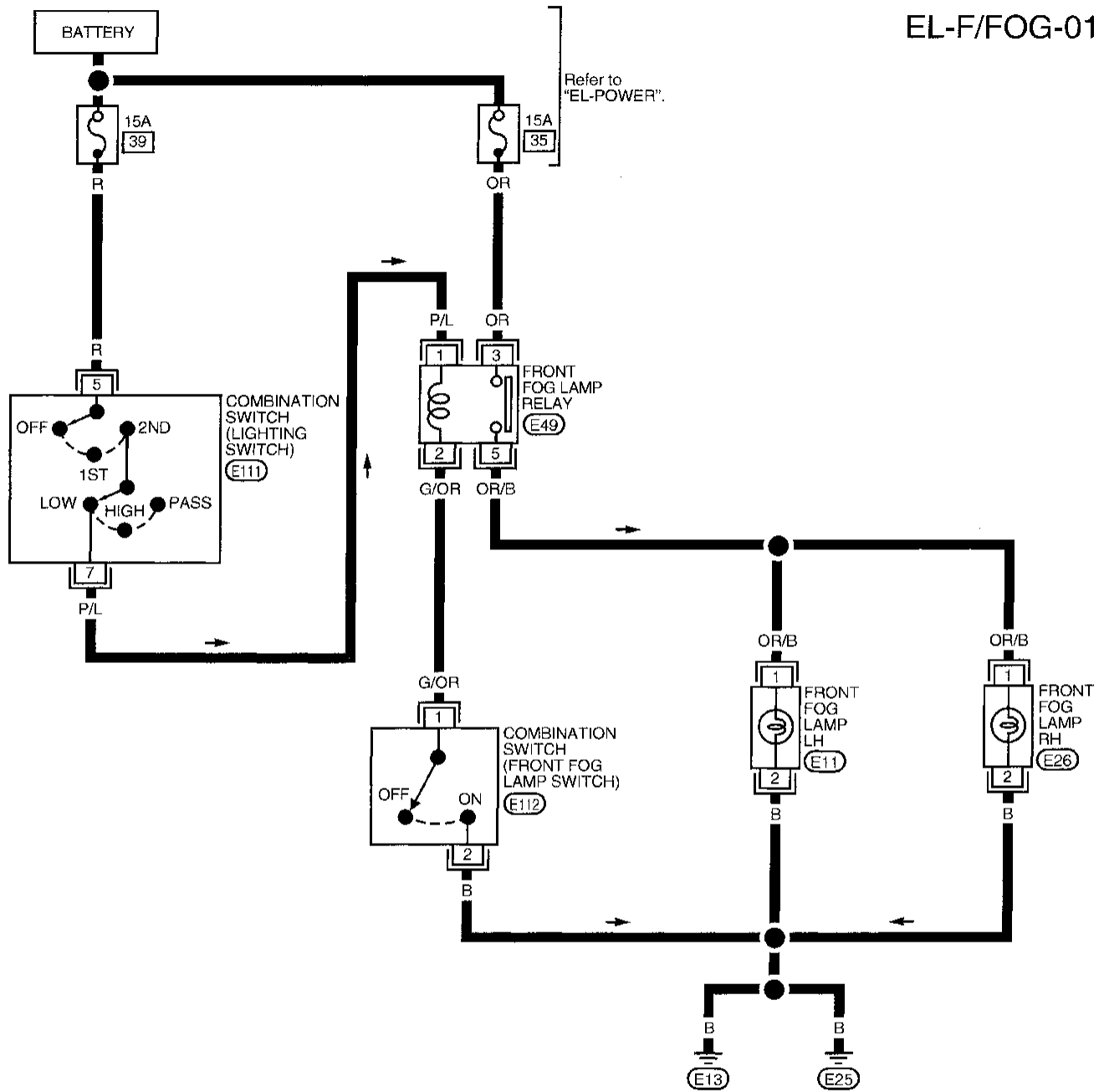
Ground is supplied to terminal ② of each front fog lamp through body grounds ①E13 and ①E25 .

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

EXTERIOR LAMP

Front Fog Lamp/Wiring Diagram -F/FOG-

EL-F/FOG-01



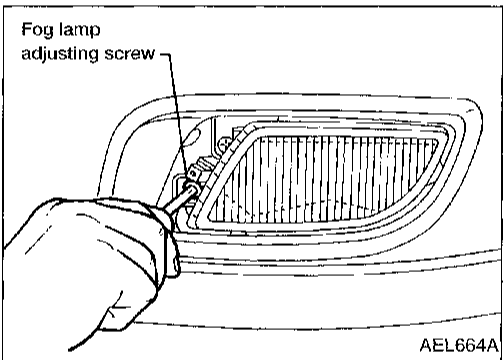
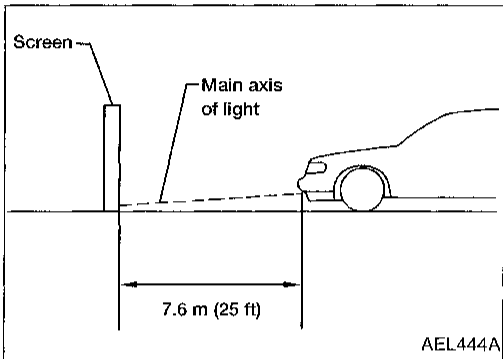
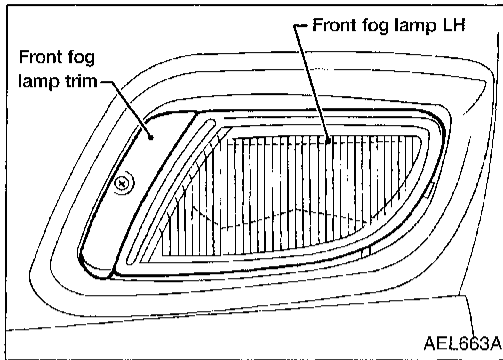
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EXTERIOR LAMP

Front Fog Lamp 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. Check 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.
- d. Remove front fog lamp trim.



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

3. Adjust vertical aiming using the fog lamp adjusting screw, as shown at left.

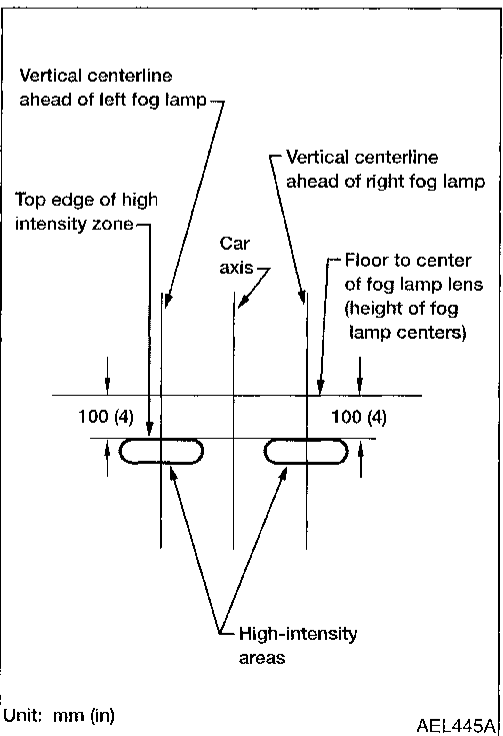
4. Adjust front fog lamps so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers, as shown at left.

- **When performing adjustment, if necessary, cover the headlamps, and opposite fog lamp.**

5. Reinstall front fog lamp trim.

Bulb Specifications

Item	Wattage (12 volt)	Bulb No.
Front fog lamp	35	H3 (special)



Turn Signal and Hazard Warning Lamps/System Description*

TURN SIGNAL OPERATION

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

- through 7.5A fuse (No. 11, located in the fuse block [J/B])
- to hazard switch terminal ②
- through terminal ① of the hazard switch
- to combination flasher unit terminal ①
- through terminal ③ of the combination flasher unit
- to turn signal switch terminal ①.

Ground is supplied to combination flasher unit terminal ② through body grounds M43, M44 and M60.

LH turn

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

- front turn signal lamp LH terminal ③
- rear combination lamp LH terminal ②, and
- combination meter terminal 16 (17).

Ground is supplied to the front turn signal lamp LH terminal ② through body grounds E13 and E25.

Ground is supplied to the rear combination lamp LH terminal ④ through body grounds T9 and T10.

Ground is supplied to combination meter terminal 27 (28) through body grounds M43, M44 and M60.

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

RH turn

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

- front turn signal lamp RH terminal ③
- rear combination lamp RH terminal ②, and
- combination meter terminal 26 (27).

Ground is supplied to the front turn signal lamp RH terminal ② through body grounds E13 and E25.

Ground is supplied to the rear combination lamp RH terminal ④ through body grounds T9 and T10.

Ground is supplied to combination meter terminal 27 (28) through body grounds M43, M44 and M60.

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

HAZARD LAMP OPERATION

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

- 10A fuse (No. 15, located in the fuse block [J/B]).
- With the hazard switch in the ON position, power is supplied:
- through terminal ① of the hazard switch
 - to combination flasher unit terminal ①
 - through terminal ③ of the combination flasher unit
 - to hazard switch terminal ④.

Ground is supplied to combination flasher unit terminal ② through body grounds M43, M44 and M60.

Power is supplied through terminal ⑤ of the hazard switch to:

- front turn signal lamp LH terminal ③
- rear combination lamp LH terminal ②, and
- combination meter terminal 16 (17).

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

- front turn signal lamp RH terminal ③
- rear combination lamp RH terminal ②, and
- combination meter terminal 26 (27).

Ground is supplied to terminal ② of the front turn signal lamps through body grounds E13 and E25.

Ground is supplied to terminal ④ of the rear combination lamps through body grounds T9 and T10.

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EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/System Description* (Cont'd)

Ground is supplied to combination meter terminal (27) (28) through body grounds (M43), (M44) and (M60).

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

*: Terminal numbers in () are for models without tachometer.

WITH MULTI-REMOTE CONTROL SYSTEM

Power is supplied at all times:

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

Ground is supplied to multi-remote control relays-1, -2 terminal (2), when the multi-remote control system is triggered, through the smart entrance control unit.

Refer to EL-187 "MULTI-REMOTE CONTROL SYSTEM".

The multi-remote control relays-1, -2 are energized.

Power is disconnected to the turn signal switch.

Power is supplied through terminal (5) of the multi-remote control relay-1:

- to front turn signal lamp LH terminal (3)
- to rear combination lamp LH terminal (2)
- to combination meter terminal (16) (17).

Power is supplied through terminal (7) of the multi-remote control relay-1:

- to front turn signal lamp RH terminal (3)
- to rear combination lamp RH terminal (2)
- to combination meter terminal (26) (27).

Ground is supplied to terminal (2) of each front turn signal lamp through body grounds (E13) and (E25).

Ground is supplied to terminal (4) of the rear combination lamps through body grounds (T9) and (T10).

Ground is supplied to combination meter terminal (27) (28) through body grounds (M43), (M44) and (M60).

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

*: Terminal numbers in () are for models without tachometer.

EXTERIOR LAMP

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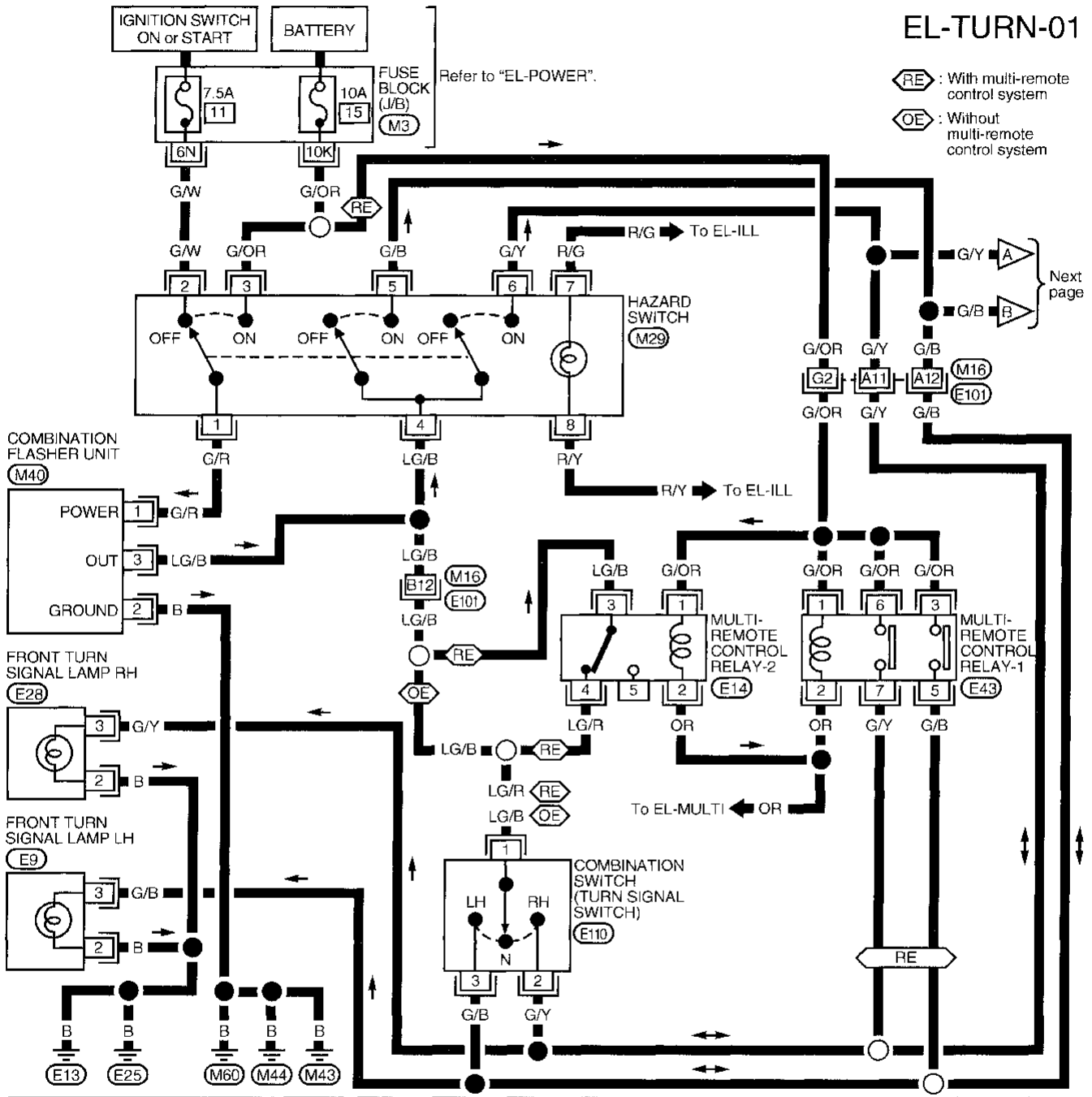
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EXTERIOR LAMP

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

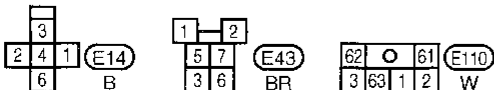
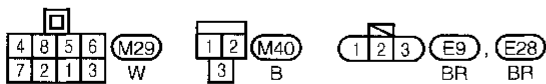
EL-TURN-01

-  RE : With multi-remote control system
-  OE : Without multi-remote control system



Refer to last page (Foldout page).

(M16), (E101)
(M3)

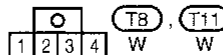
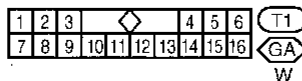
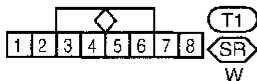
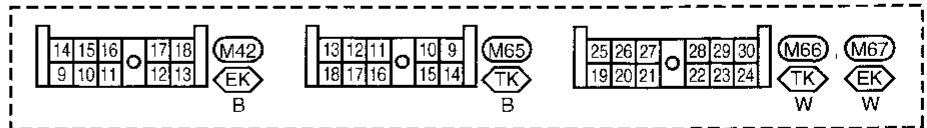
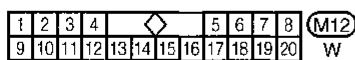
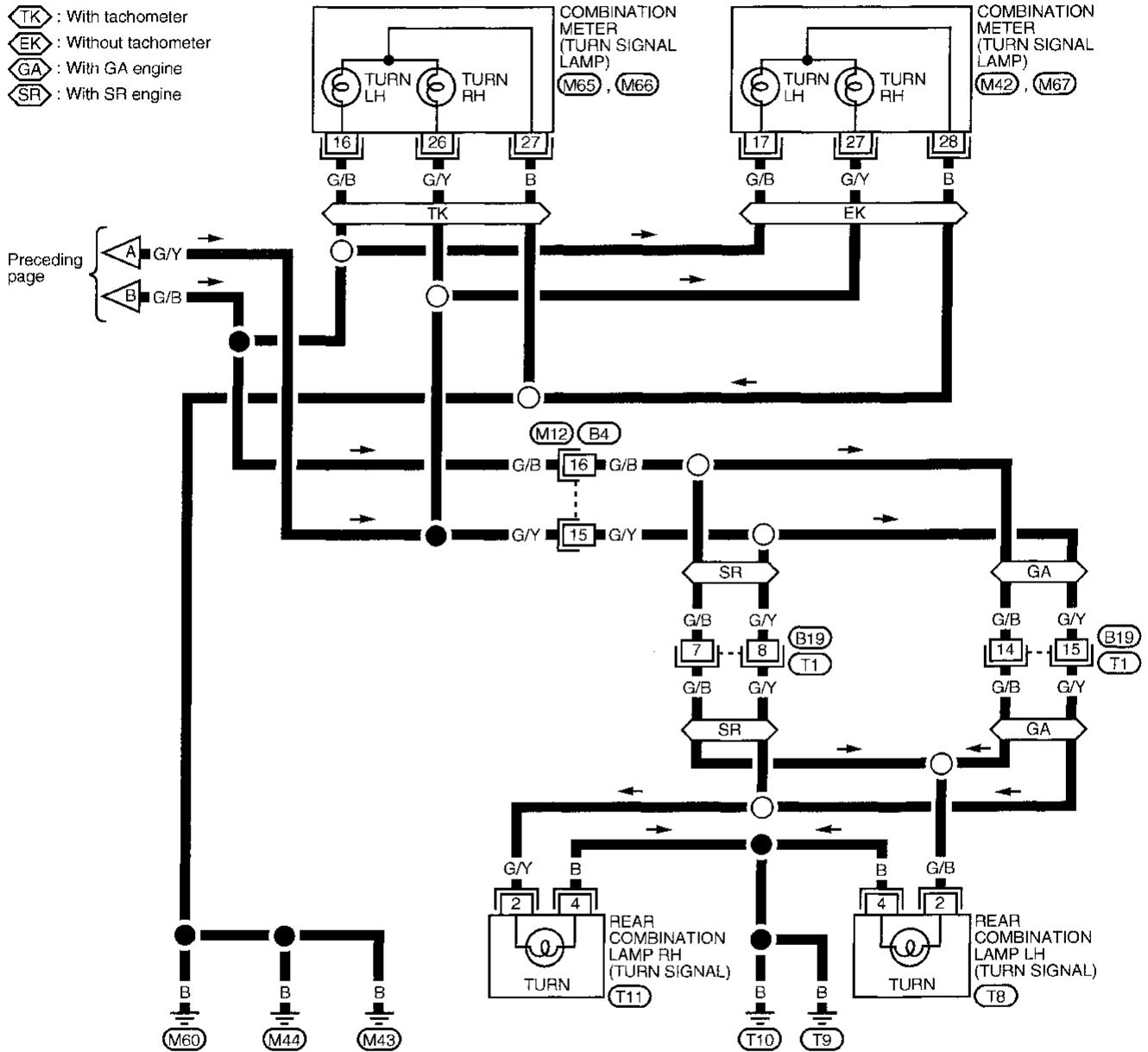


EXTERIOR LAMP

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

EL-TURN-02

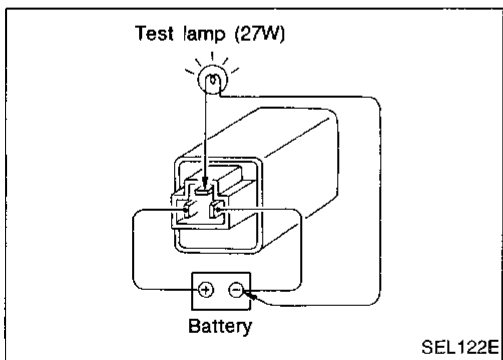
- TK : With tachometer
- EK : Without tachometer
- GA : With GA engine
- SR : With SR engine



EXTERIOR LAMP

Turn Signal and Hazard Warning Lamps/Trouble Diagnoses

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> 1. Hazard switch 2. Combination flasher unit 3. Open in combination flasher unit circuit 	<ol style="list-style-type: none"> 1. Check hazard switch. 2. Refer to combination flasher unit check. 3. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> 1. 7.5A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit 	<ol style="list-style-type: none"> 1. Check 7.5A fuse (No. 11), located in fuse block [J/B]). Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check LG/B wire between combination flasher unit and turn signal switch for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	<ol style="list-style-type: none"> 1. 10A fuse 2. Hazard switch 3. Open in hazard switch circuit 	<ol style="list-style-type: none"> 1. Check 10A fuse (No. 15), located in fuse block [J/B]). Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check LG/B wire between combination flasher unit and hazard switch for open circuit.
Front turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds E13 and E25 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds E13 and E25.
Rear turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds T9 and T10 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds T9 and T10.
LH and RH turn indicators do not operate.	Ground	Check grounds M43 , M44 and M60 .
LH or RH turn indicator does not operate.	Bulb	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

Item	Wattage (12 volt)	Bulb No.	
Headlamp (Semi-sealed beam)			GI
High/Low	65/45	9004	MA
Front combination lamp	27/8	1157NA	
Front fog lamp (200SX)	35	H3 (Special)	EM
Rear combination lamp			
Turn signal	27	1156	LG
Stop/Tail	27/8	1157	
Back-up (SENTRA)	13	912	EC
Back-up (200SX)	27	1156	EC
License plate lamp	5	168	
High-mounted stop lamp	13	912	FE
Trunk lid-mounted stop lamp	13	912	

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INTERIOR LAMP

Illumination/System Description

Power is supplied at all times:

- through 10A fuse (No. 36 , located in the fusible link and fuse box)
- to lighting switch terminal 11).

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

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

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

Component	Power terminal	Ground terminal
Illumination control switch	①	② and ③
Combination meter	④⑩ (18)**	③⑨ (19)**
Hazard switch	⑦	⑧
ASCD main switch*	⑤	⑥
A/T device indicator* (with GA engine)	④	③
A/T device indicator* (with SR engine)	③	⑥
Fan switch	①	②
Rear window defogger switch	⑤	⑥
Main power window and door lock/unlock switch*	③	④
Radio	⑧	⑦

* If equipped.

** Terminal numbers in () are for models without tachometer.

The ground for all of the components is controlled through terminals ② and ③ of the illumination control switch and body grounds M43 , M44 and M60 .

INTERIOR LAMP

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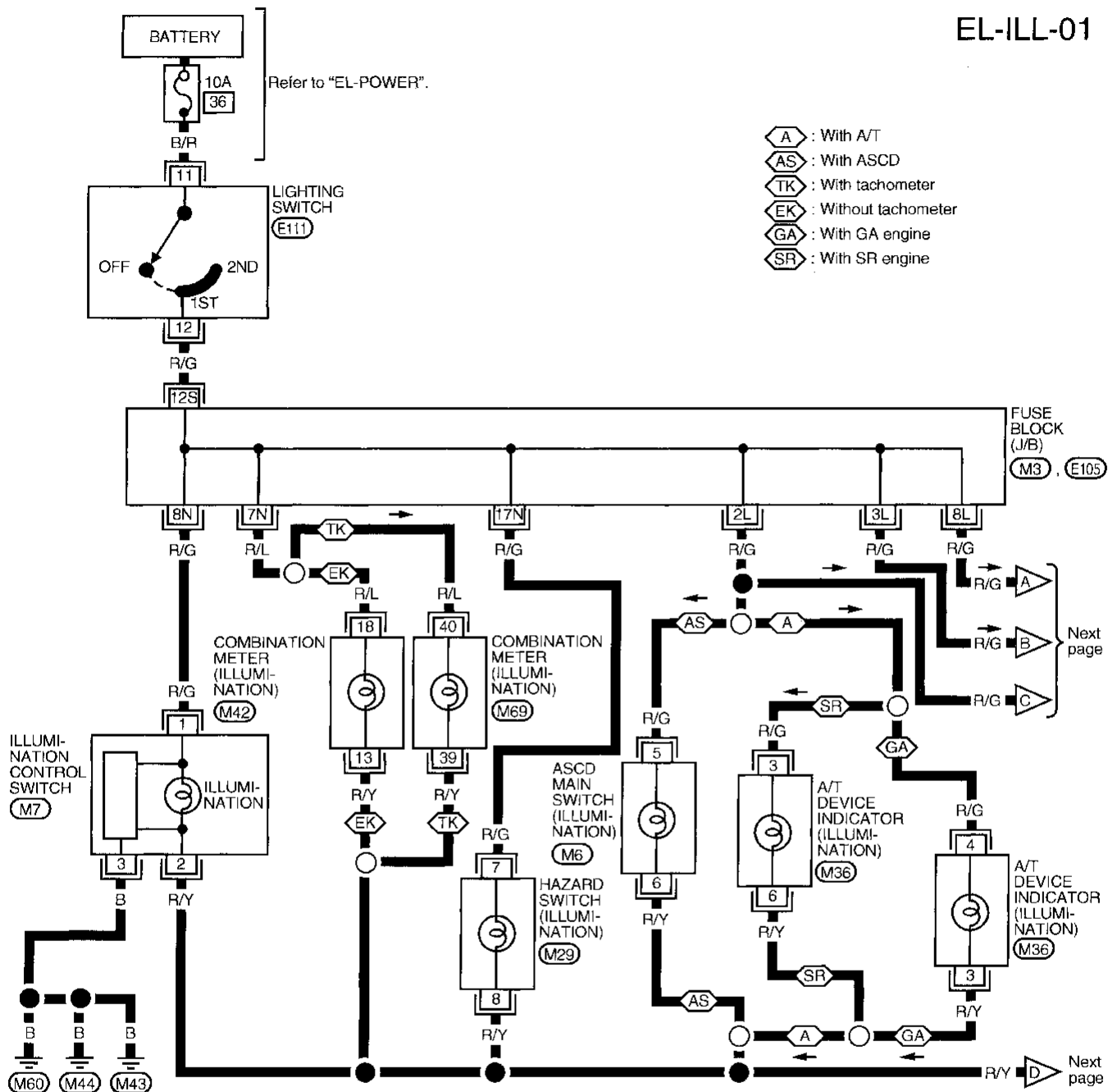
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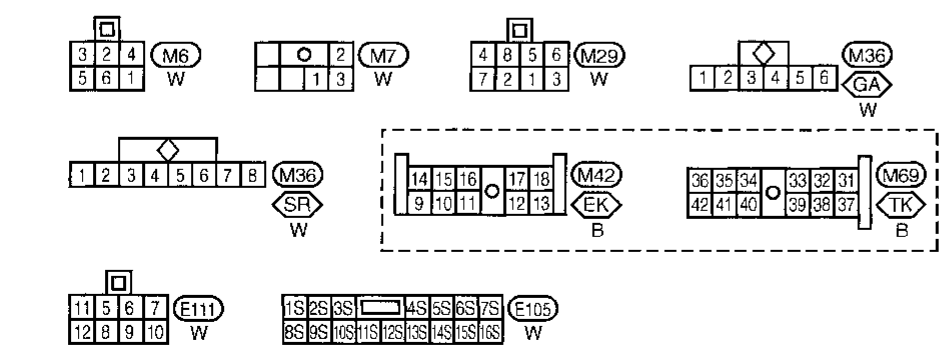
INTERIOR LAMP

Illumination/Wiring Diagram -ILL-

EL-ILL-01



- ⬡ A : With A/T
- ⬡ AS : With ASCD
- ⬡ TK : With tachometer
- ⬡ EK : Without tachometer
- ⬡ GA : With GA engine
- ⬡ SR : With SR engine



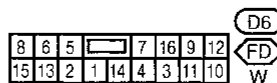
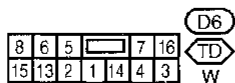
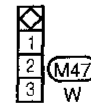
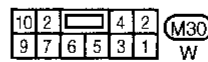
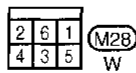
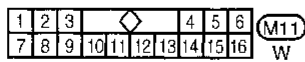
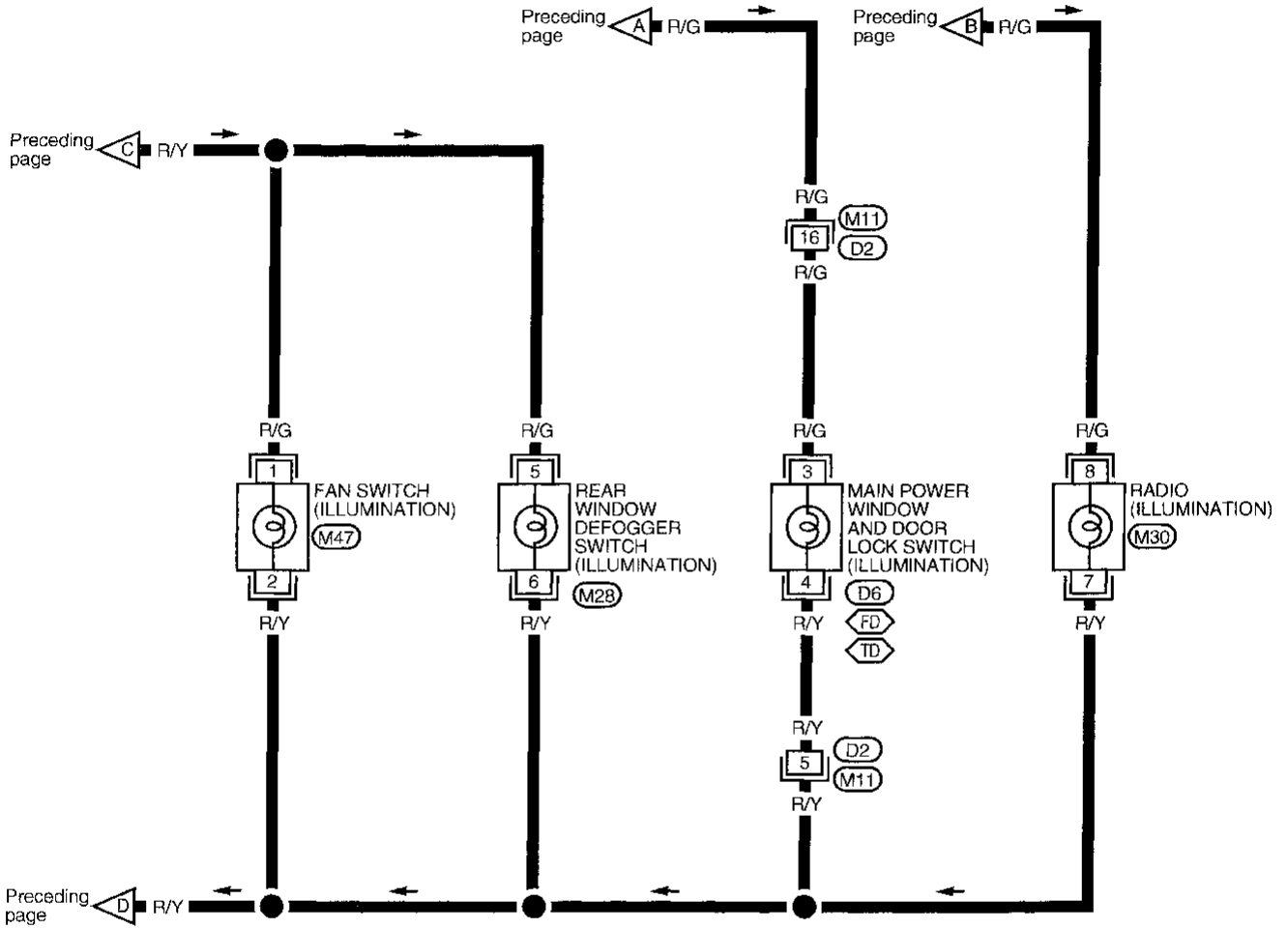
Refer to last page (Foldout page).
M3

INTERIOR LAMP

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

EL-ILL-02

TD : With 2-doors
FD : With 4-doors



AEL606A

INTERIOR LAMP

Interior and Trunk Room Lamps/System Description

Power is supplied at all times:

- through 7.5A fuse (No. 20), located in the fuse block [J/B]
- to interior lamp terminal ①
- to trunk room lamp terminal ①.

Models with multi-remote control system

Power is supplied at all times:

- through 25A fusible link (letter f), located in the fusible link and fuse box)
- to circuit breaker terminal ①
- through circuit breaker terminal ②
- to smart entrance control unit terminal ① for multi-remote control system.

Ground is supplied to smart entrance control unit terminal ⑩ through body grounds M43, M44 and M60.

INTERIOR LAMP

Switch operation

With the interior lamp switch in the ON position, ground is supplied through screw terminal on interior lamp assembly to body to turn interior lamp ON.

When a door switch is set to OPEN (door is open) with the interior lamp switch in the DOOR position, ground is supplied:

- to interior lamp terminal ②
- through front door switch LH terminal ② or
- through any other door switch terminal ①.

The interior lamp will not illuminate if the interior lamp switch is in the OFF position.

Interior lamp control by multi-remote control system

The smart entrance control unit receives a remote control signal from multi-remote controller to turn interior lamp ON when the doors are unlocked. Ground is then supplied:

- to interior lamp terminal ②
- through smart entrance control unit terminal ⑨,
- through smart entrance control unit terminal ⑩ and
- through body grounds M43, M44 and M60.

With power and ground supplied, the interior lamp turns ON.

TRUNK ROOM LAMP

When the trunk room lamp switch is set to OPEN (trunk is opened), ground is supplied:

- to trunk room lamp terminal ②
- through trunk room switch terminal ①,
- through trunk room lamp switch terminal ② and
- through body grounds T9 and T10.

With power and ground supplied, the trunk room lamp turns ON.

INTERIOR LAMP

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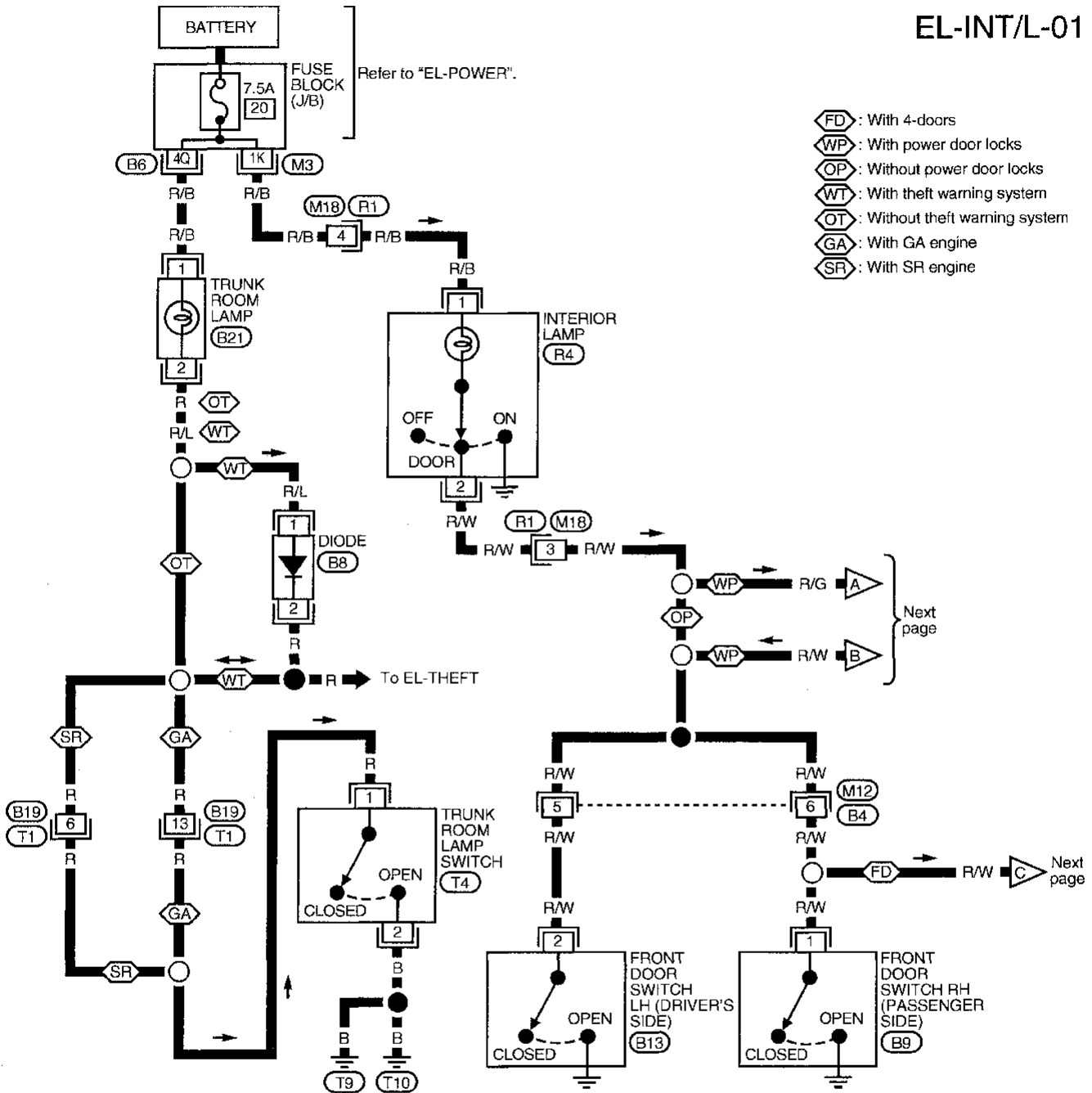
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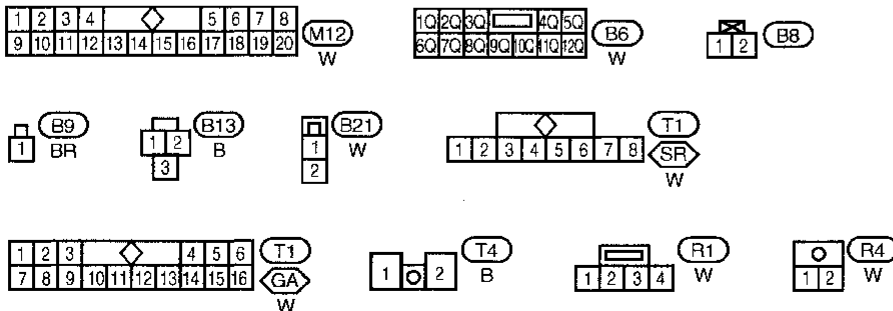
INTERIOR LAMP

Interior and Trunk Room Lamps/Wiring Diagram -INT/L-

EL-INT/L-01



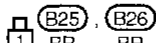
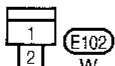
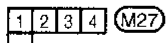
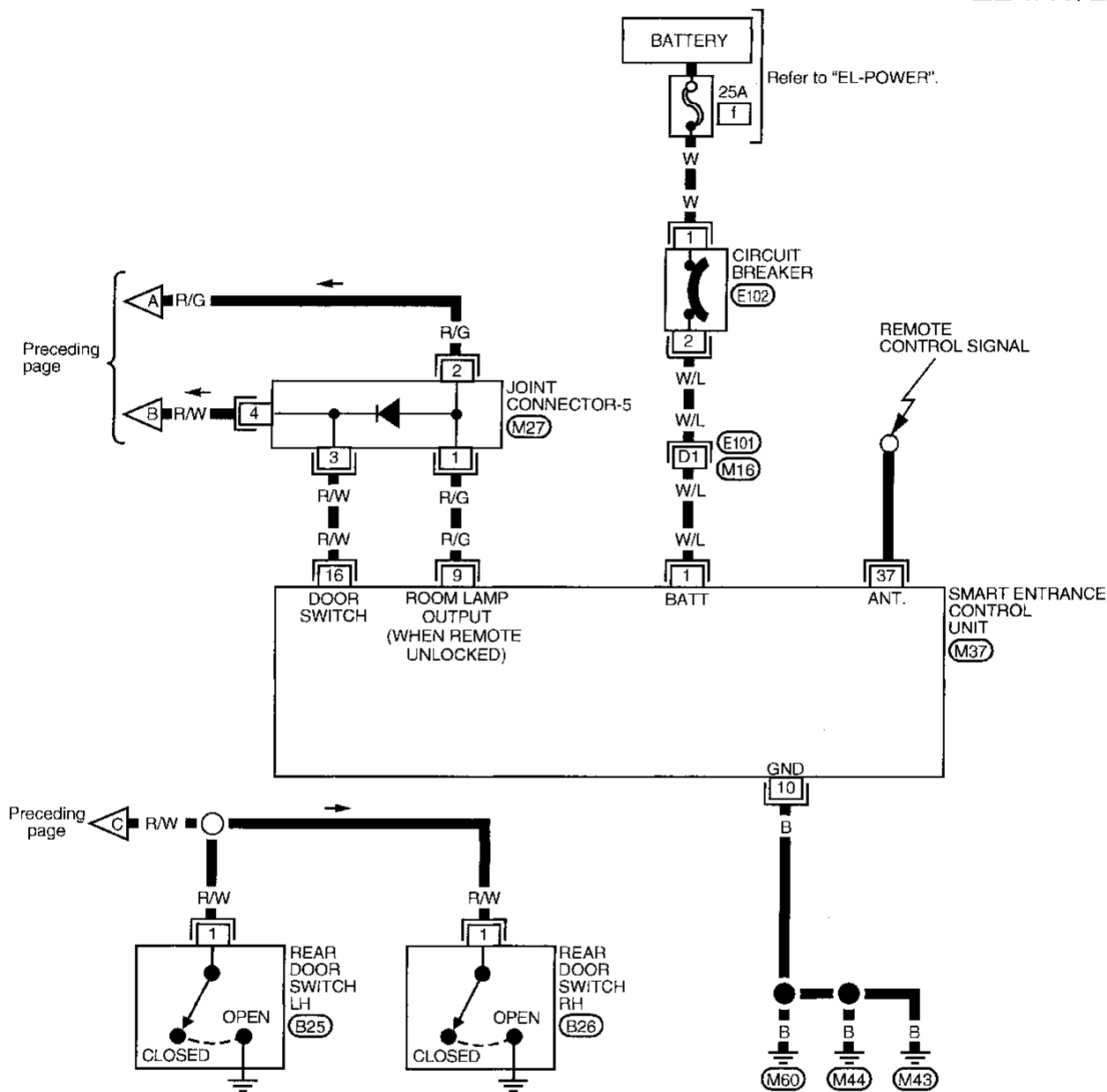
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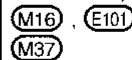
INTERIOR LAMP

Interior and Trunk Room Lamps/Wiring Diagram -INT/L- (Cont'd)

EL-INT/L-02



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INTERIOR LAMP

Bulb Specifications

Item	Wattage (12 volt)	Bulb No.
Interior lamp	8	
Trunk room lamp	3.4	158

System Description

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

- through 10A fuse (No. 8), located in the fuse block [J/B]
- to combination meter terminal 41 for the water temperature gauge,
- to combination meter terminal 22 for the tachometer and speedometer
- to combination meter terminal 10 for the fuel gauge.

Ground is supplied:

- to combination meter terminal 28
- through body grounds M43, M44 and M60.

WATER TEMPERATURE GAUGE

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

As the temperature of the coolant increases, the resistance of the thermal transmitter decreases. A variable ground is supplied to terminal 42 of the combination meter for the water temperature gauge. The needle on the gauge moves from "C" to "H".

TACHOMETER

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

The tachometer is regulated by a signal:

- from terminal 3 of the ECM (ECCS control module)
- to combination meter terminal 29 for the tachometer.

FUEL GAUGE

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

The fuel gauge is regulated by a variable ground signal supplied (with SR engine):

- to combination meter terminal 14 for the fuel gauge
- from terminal 1 of the fuel tank gauge unit
- through terminal 3 of the fuel tank gauge unit
- through body grounds B14 and B17.

The fuel gauge is regulated by a variable ground signal supplied (with GA engine):

- to combination meter terminal 14 for the fuel gauge
- from terminal 3 of the fuel tank gauge unit
- through terminal 2 of the fuel tank gauge unit
- through body grounds B14 and B17.

SPEEDOMETER

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

The voltage is supplied:

- to combination meter terminals 30 and 24 for the speedometer
- from terminals 1 and 2 of the vehicle speed sensor.

The speedometer converts the voltage into the vehicle speed displayed.

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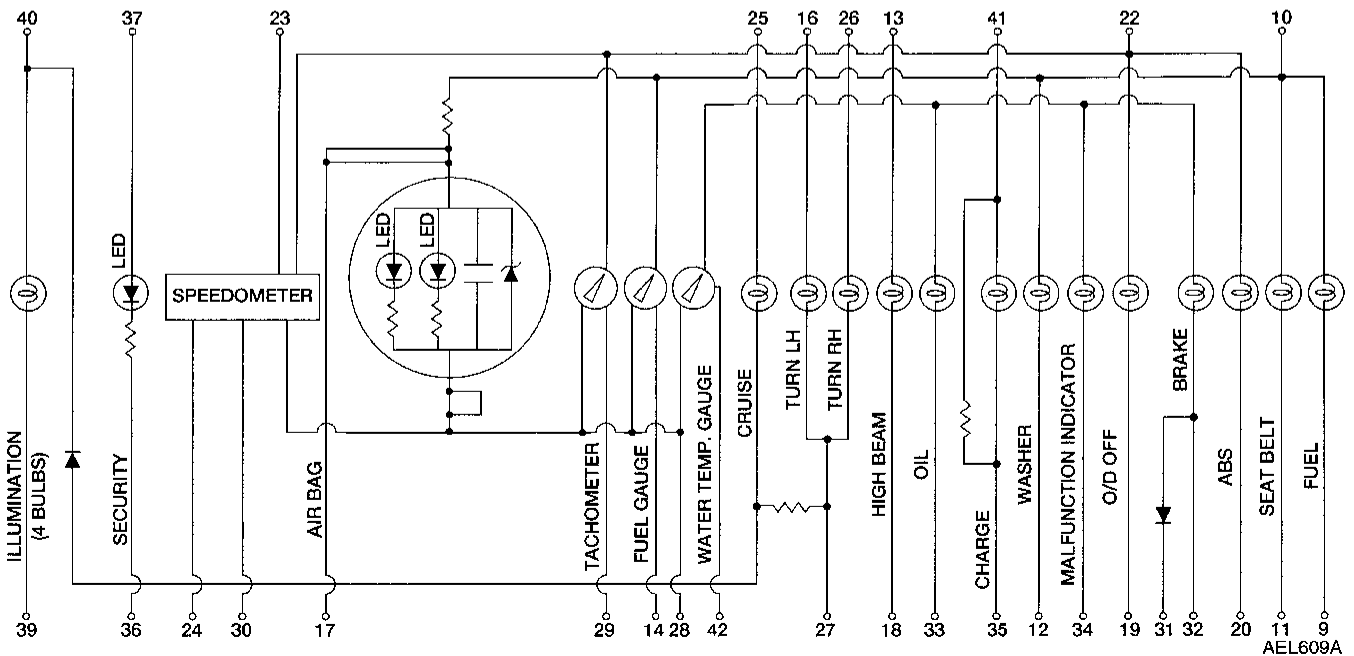
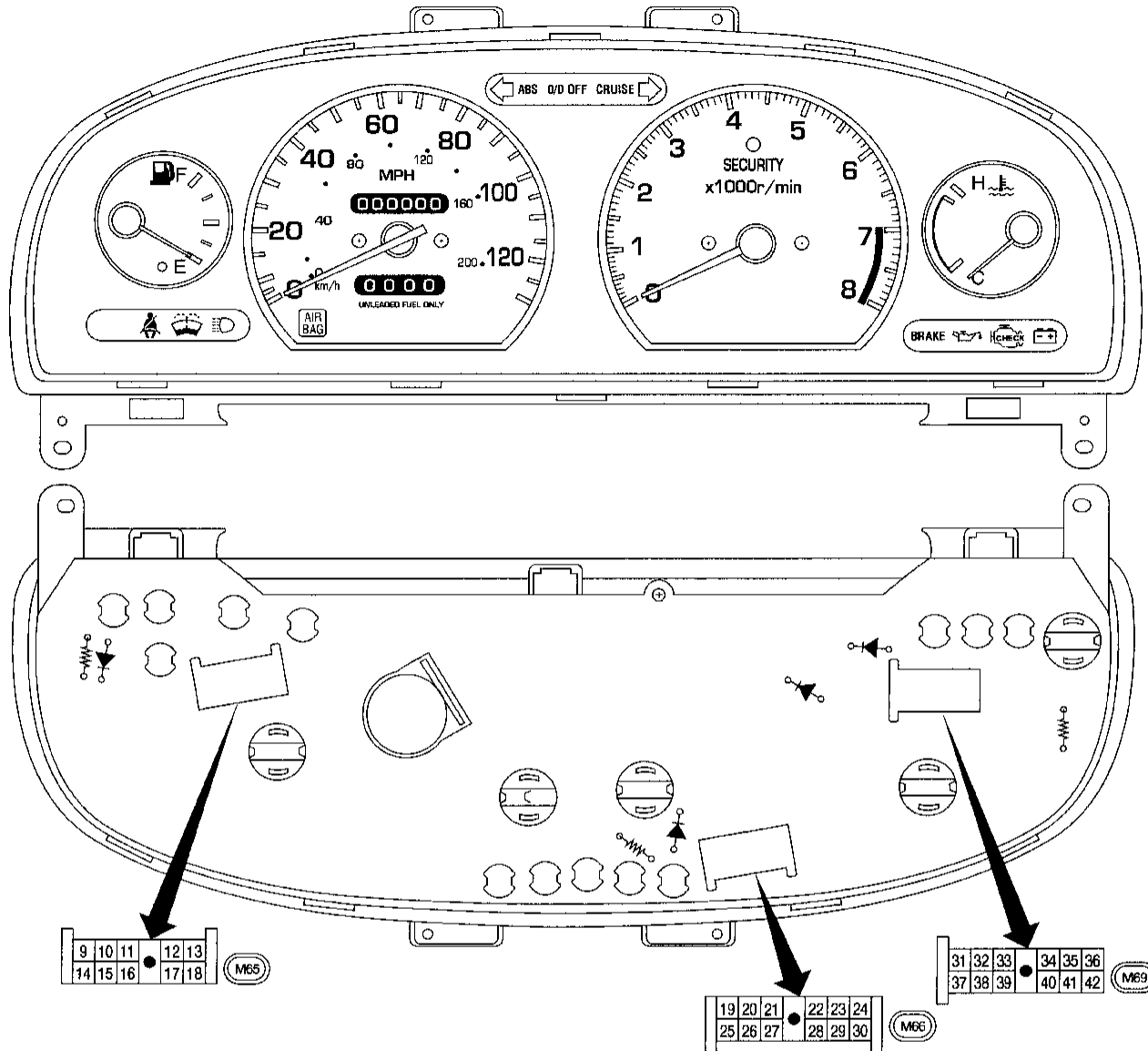
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METERS AND GAUGES/WITH TACHOMETER

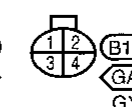
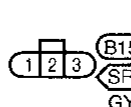
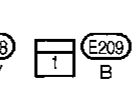
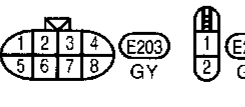
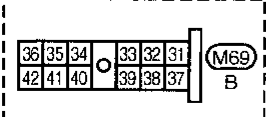
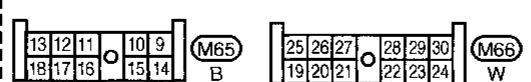
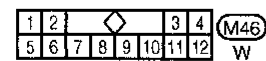
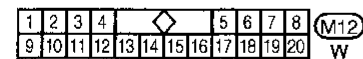
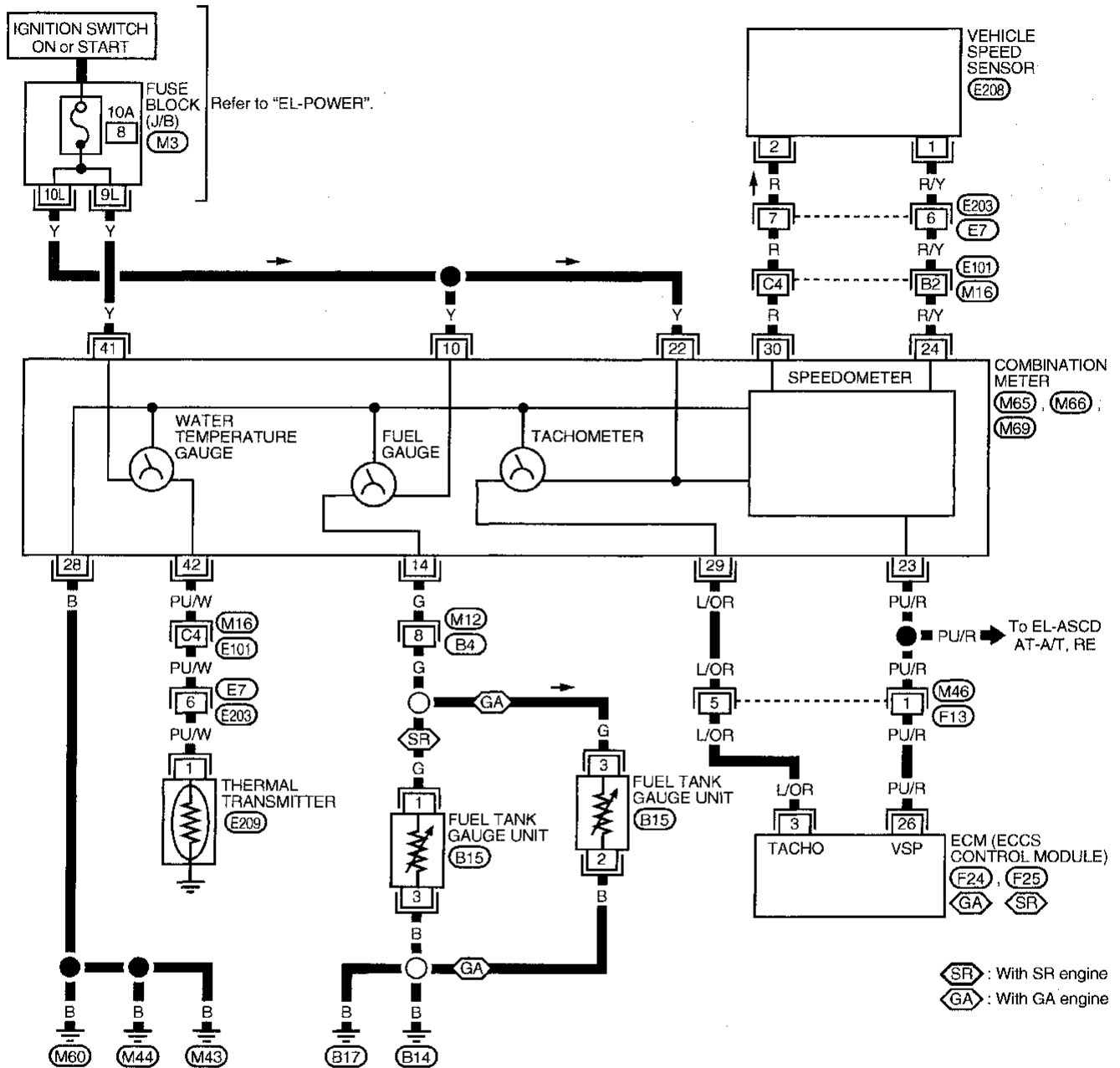
Combination Meter



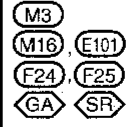
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Speedometer, Tachometer, Temp. and Fuel Gauges/Wiring Diagram -METER-

EL-METER-01

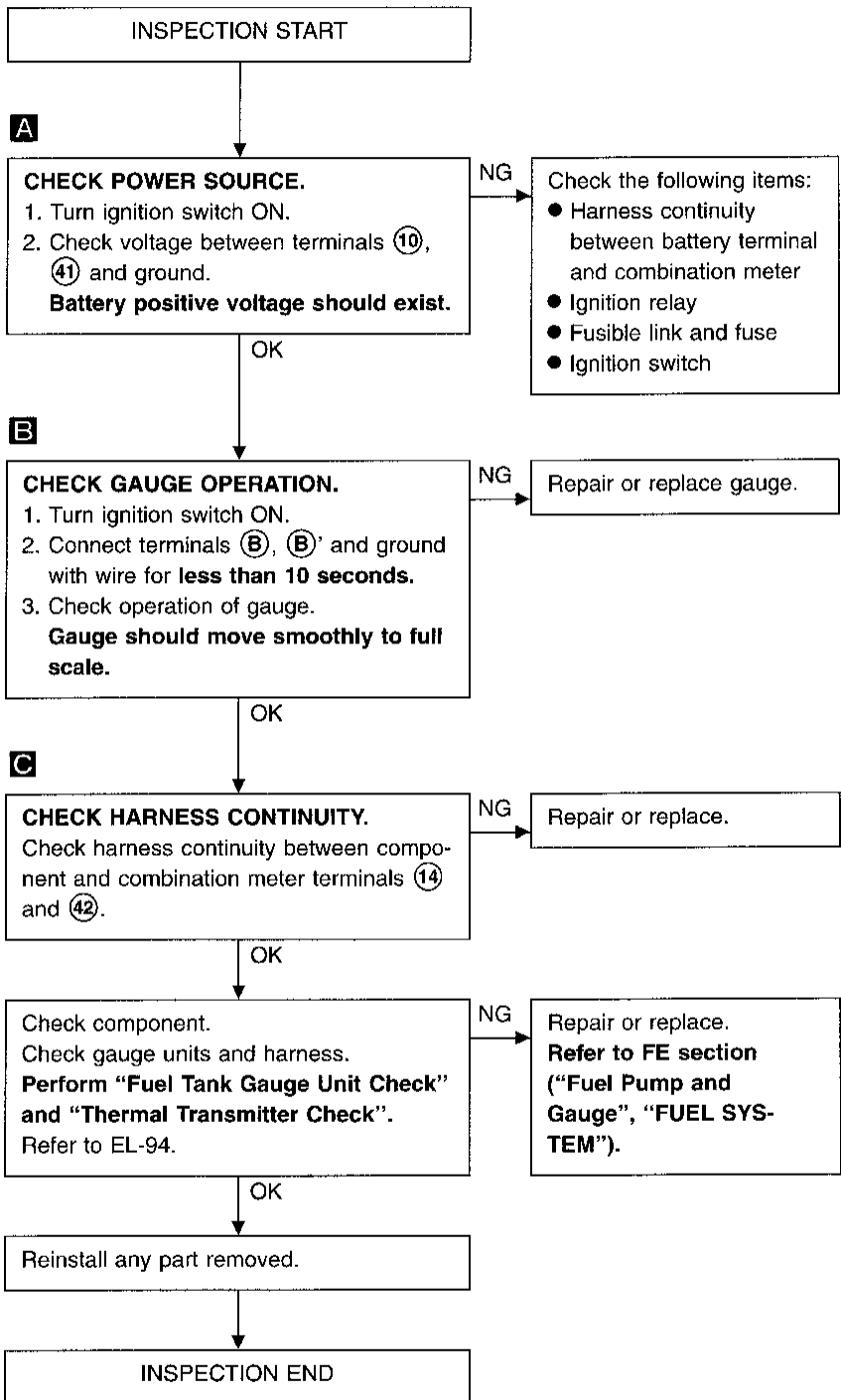
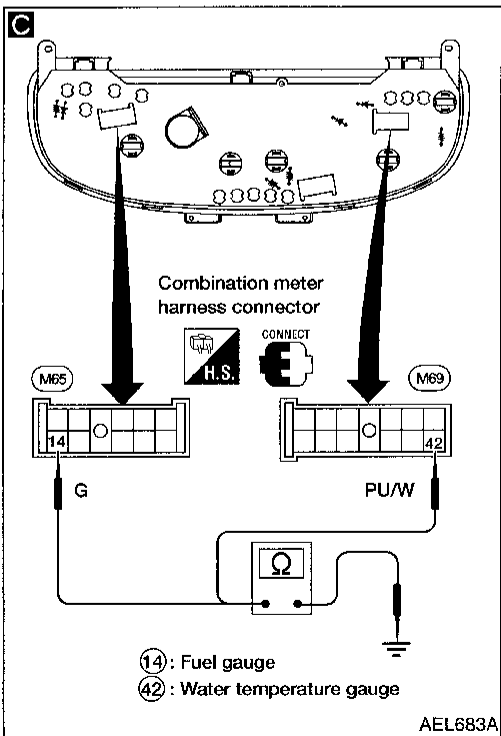
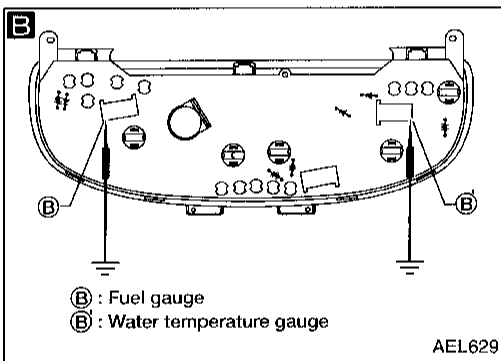
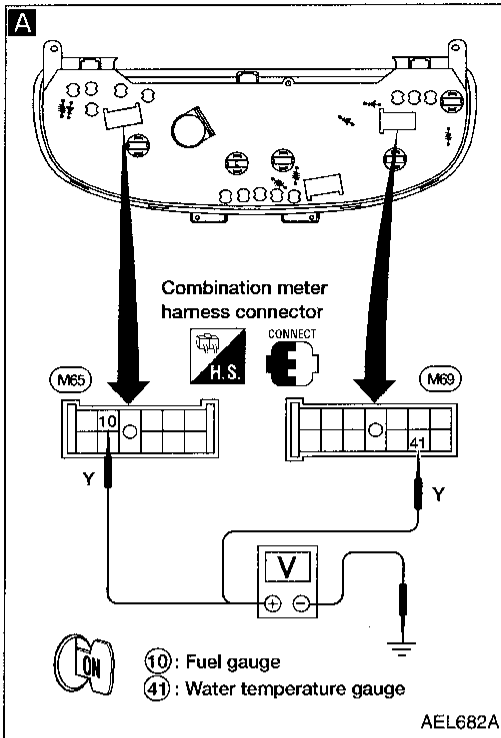


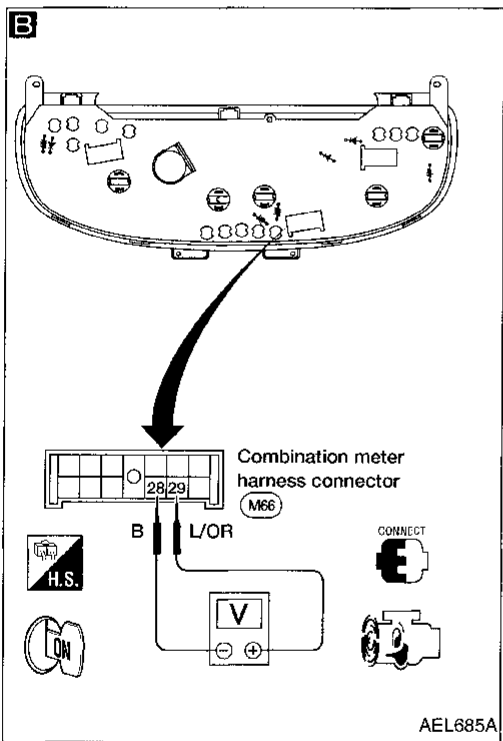
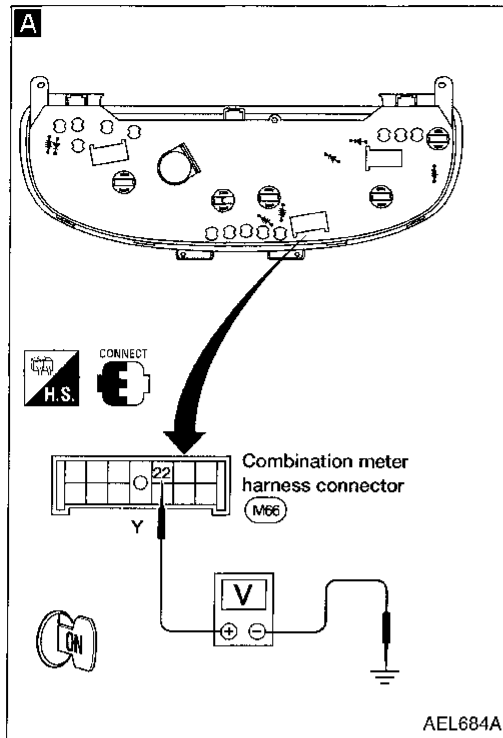
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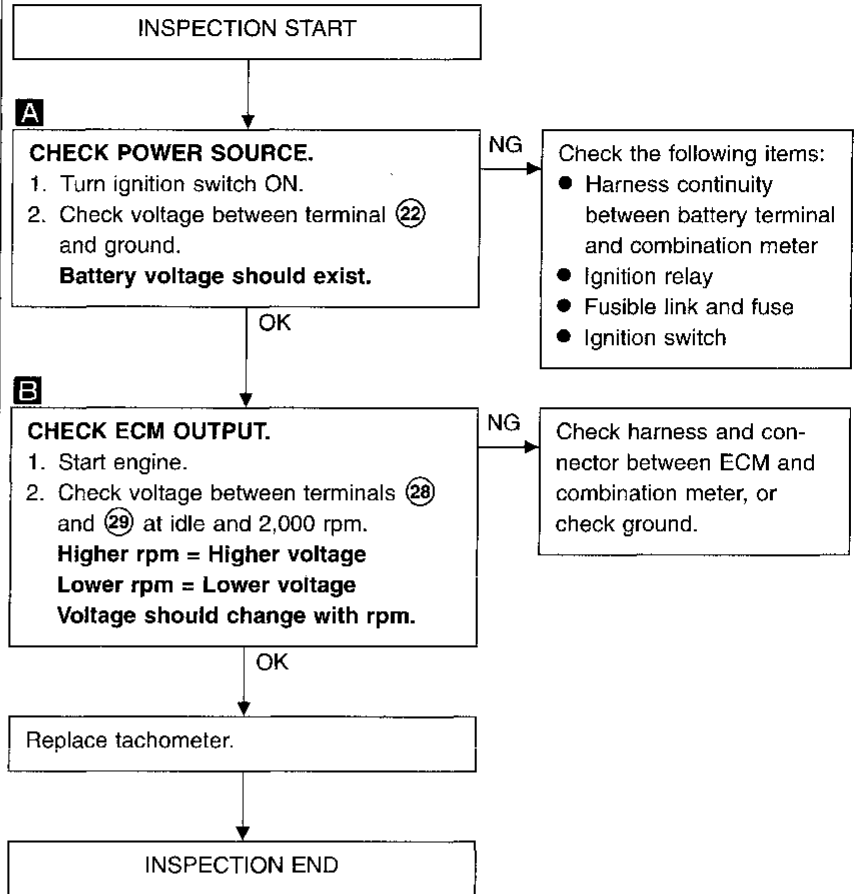
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Inspection/Fuel Gauge and Water Temperature Gauge





Inspection/Tachometer



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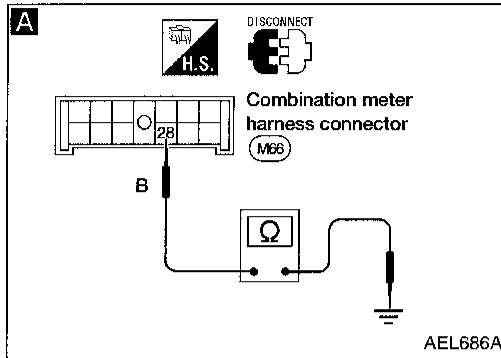
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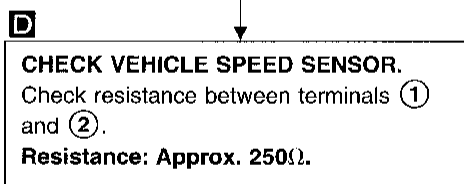
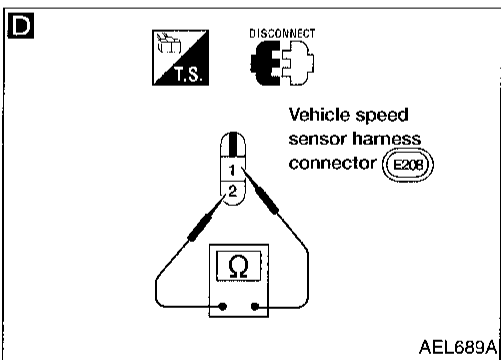
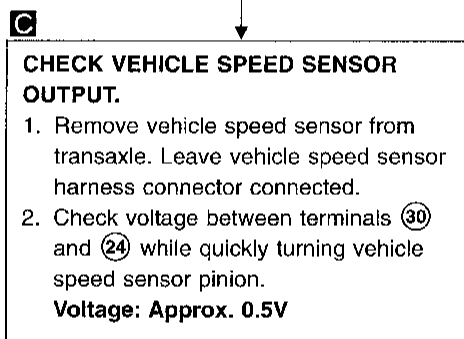
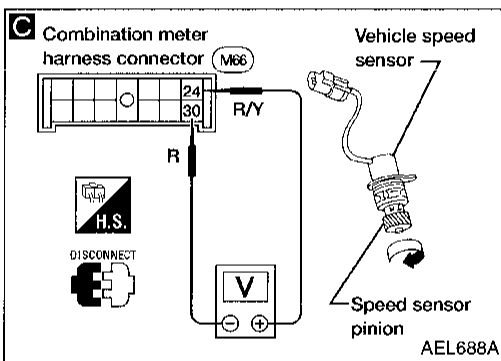
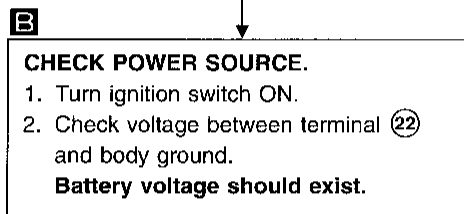
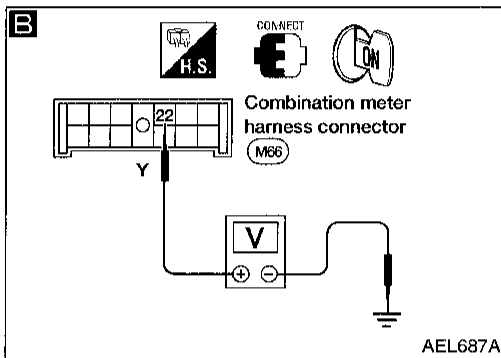
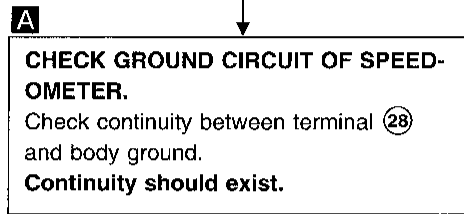
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Inspection/Speedometer and Vehicle Speed Sensor

SYMPTOM: Speedometer stays at 0 km/h (0 MPH).



INSPECTION START



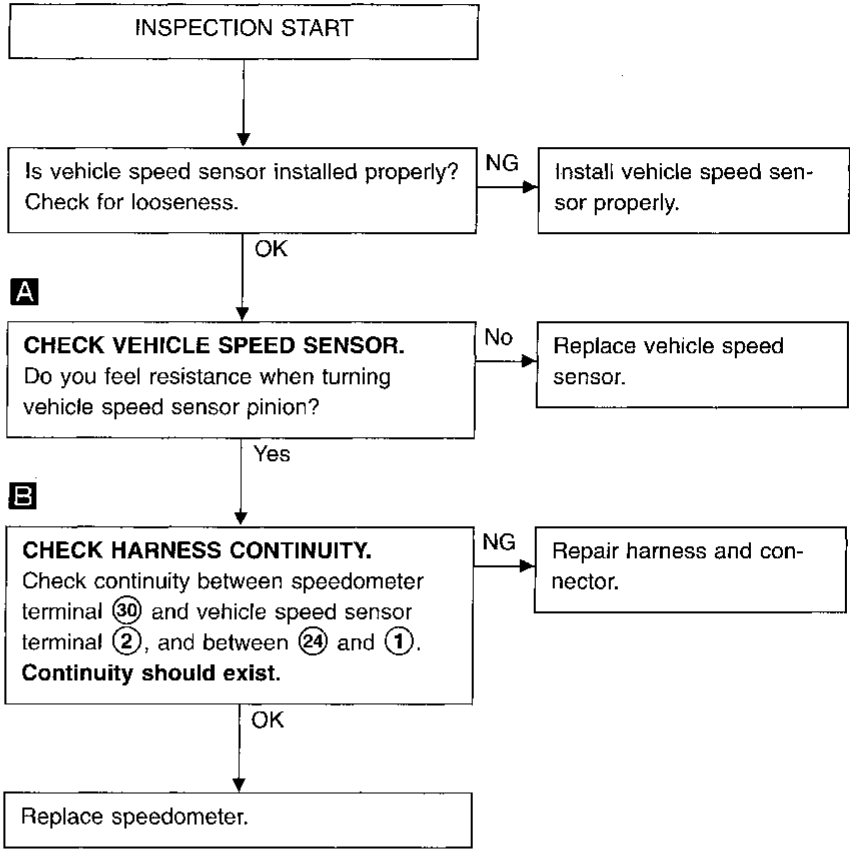
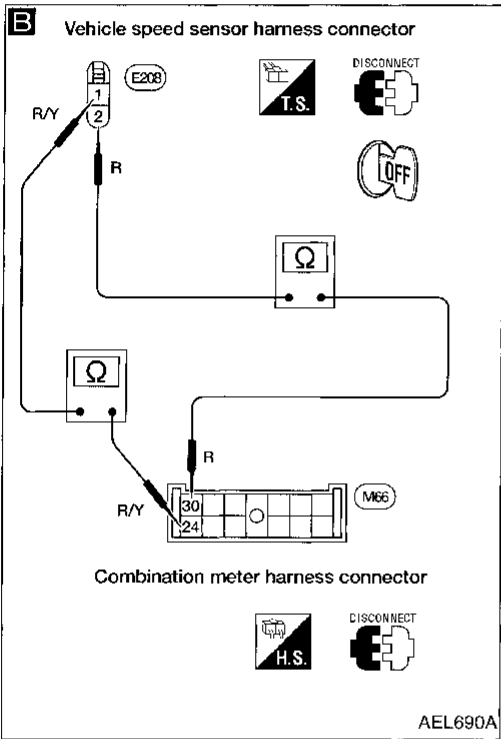
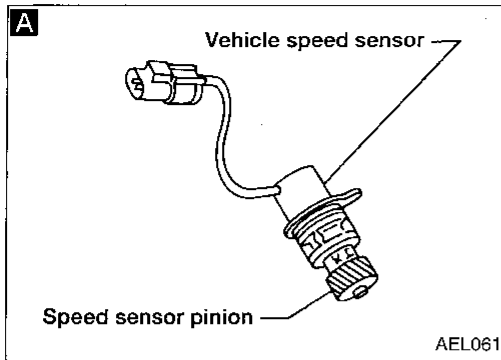
Repair harness or connector between speedometer and vehicle speed sensor.

INSPECTION END

METERS AND GAUGES/WITH TACHOMETER

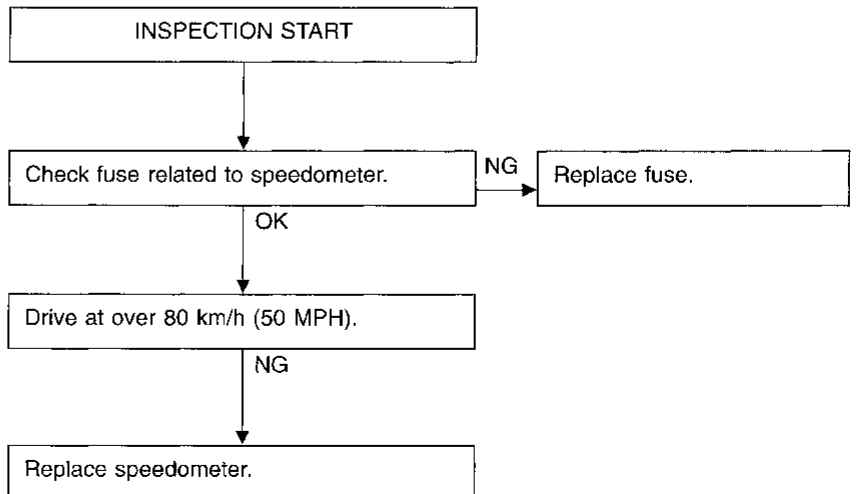
Inspection/Speedometer and Vehicle Speed Sensor (Cont'd)

SYMPTOM: Speedometer indication flutters.



Inspection/Speedometer and Fuse

SYMPTOM: Speedometer does not go back to 0 km/h (0 MPH).



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System Description

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

- through 10A fuse (No. 8, located in the fuse block [J/B])
- to combination meter terminal 34 for the water temperature gauge, fuel gauge and speedometer.

Ground is supplied:

- to combination meter terminal 30
- through body grounds M43, M44 and M60.

WATER TEMPERATURE GAUGE

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

As the temperature of the coolant increases, the resistance of the thermal transmitter decreases. A variable ground is supplied to terminal 29 of the combination meter for the water temperature gauge. The needle on the gauge moves from "C" to "H".

FUEL GAUGE

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

The fuel gauge is regulated by a variable ground signal supplied:

- to combination meter terminal 29 for the fuel gauge
- from terminal 3 of the fuel tank gauge unit
- through terminal 2 of the fuel tank gauge unit
- through body grounds B14 and B17.

SPEEDOMETER

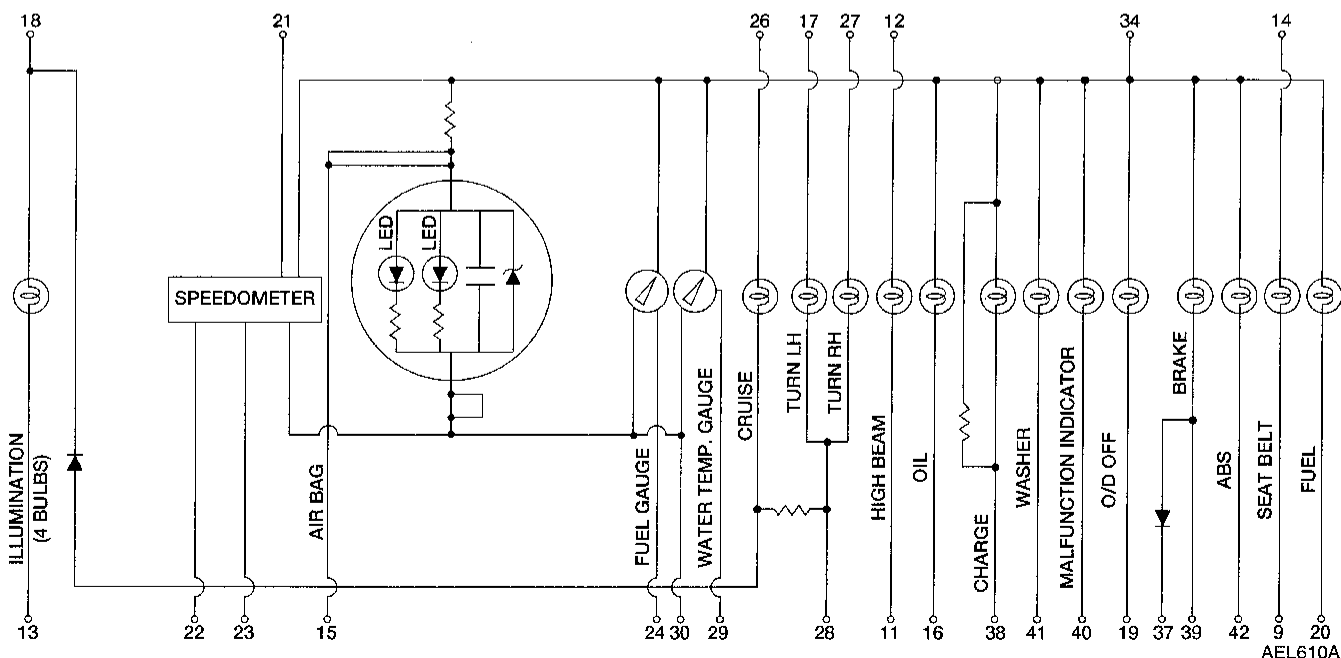
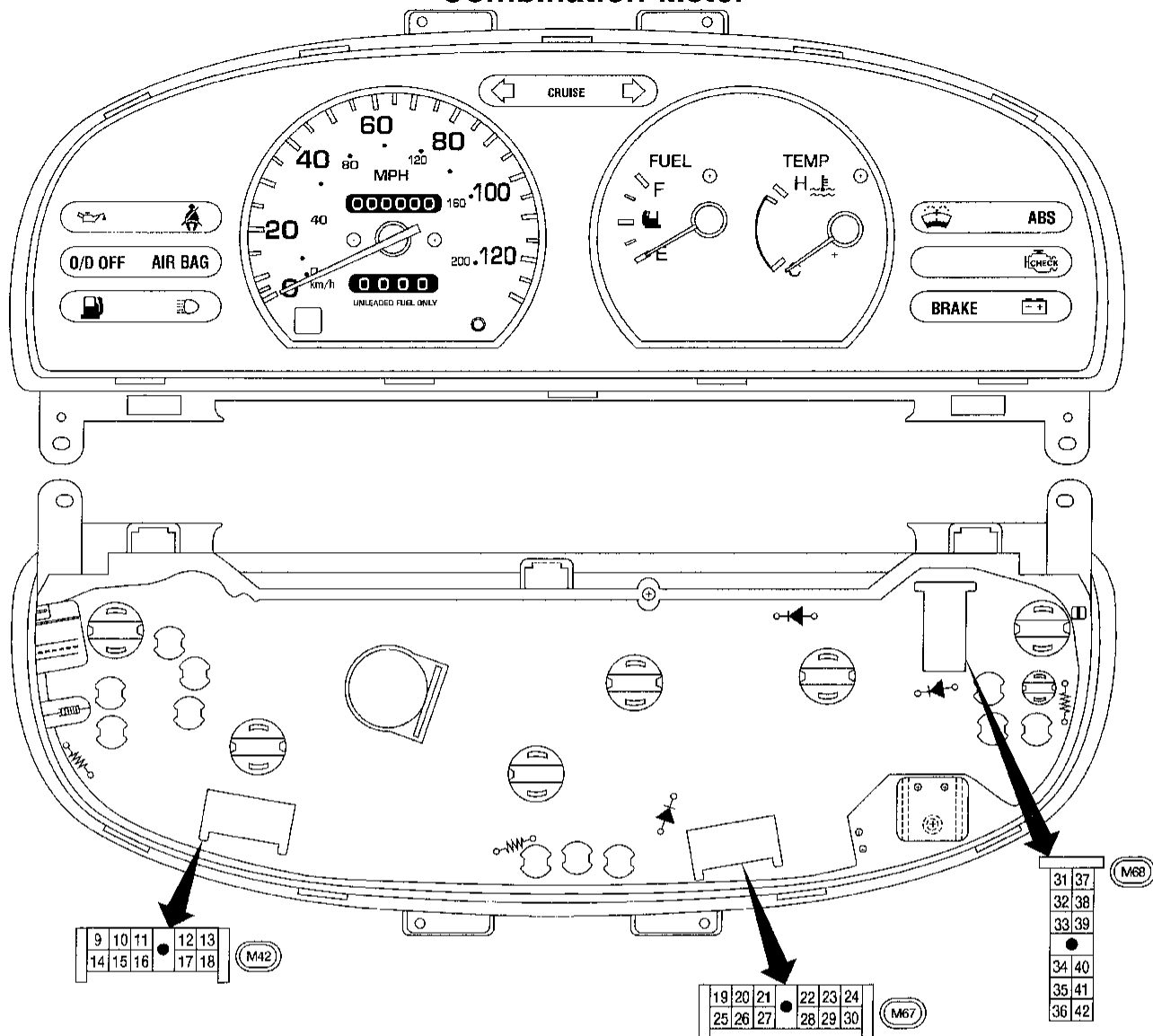
The vehicle speed sensor provides a voltage signal to the combination meter for the speedometer.

The voltage is supplied:

- to combination meter terminals 23 and 22 for the speedometer
- from terminals 1 and 2 of the vehicle speed sensor.

The speedometer converts the voltage into the vehicle speed displayed.

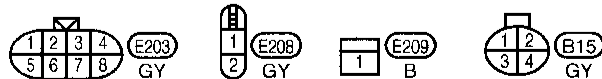
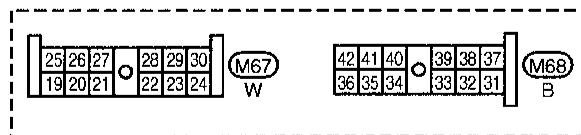
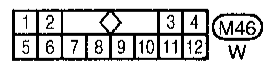
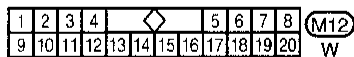
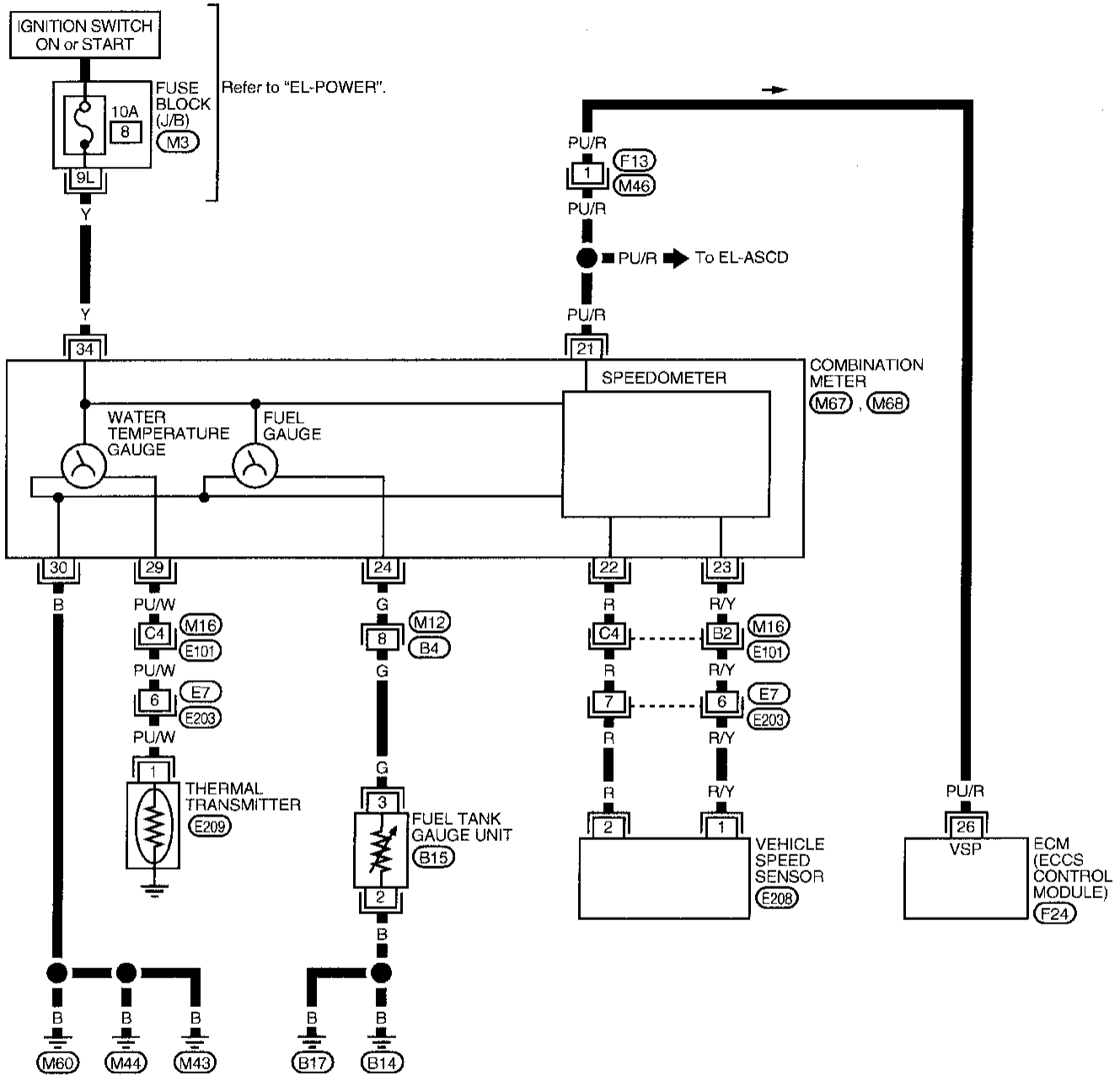
Combination Meter



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Speedometer, Temp. and Fuel Gauges/Wiring Diagram –METER–

EL-METER-02

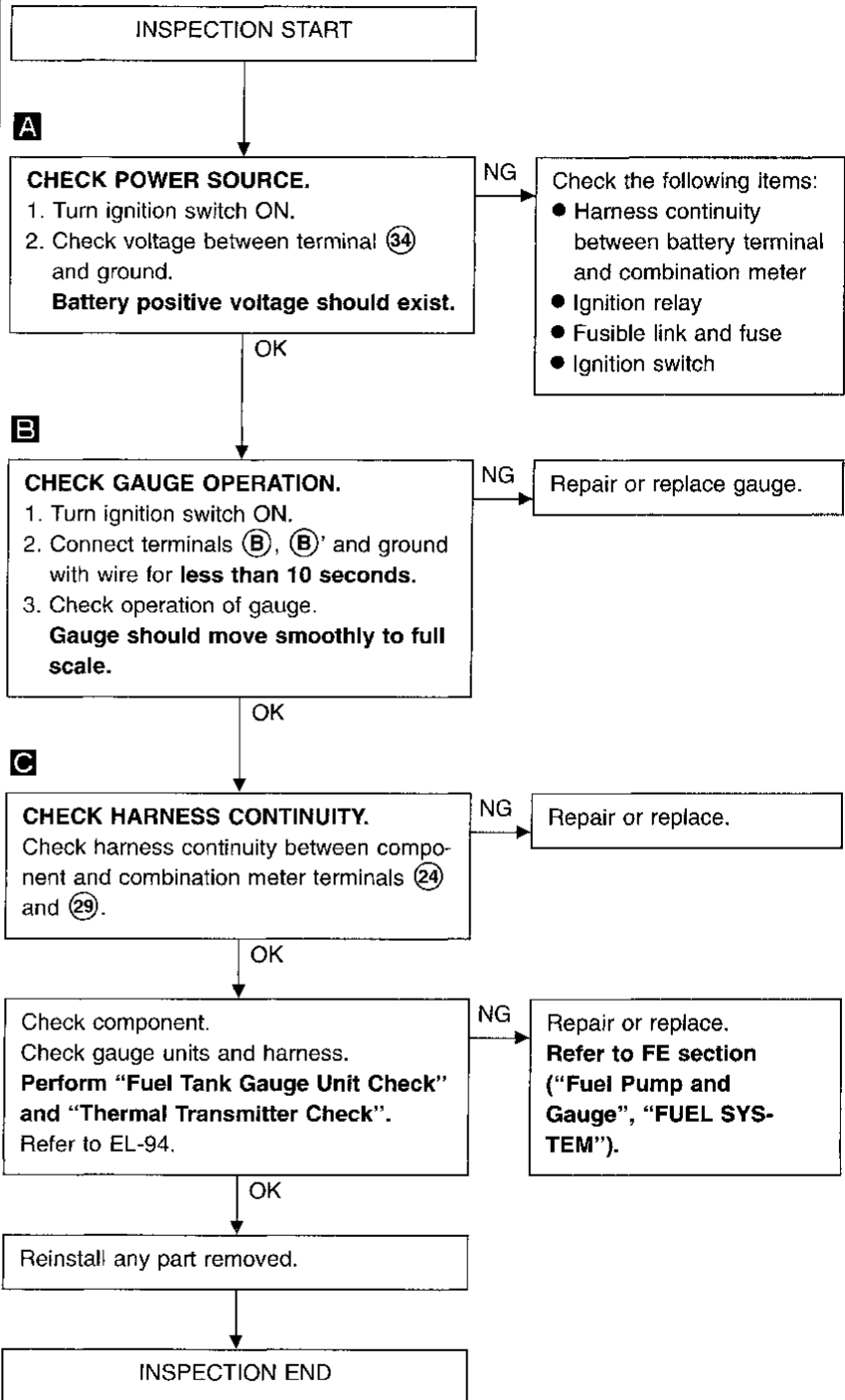
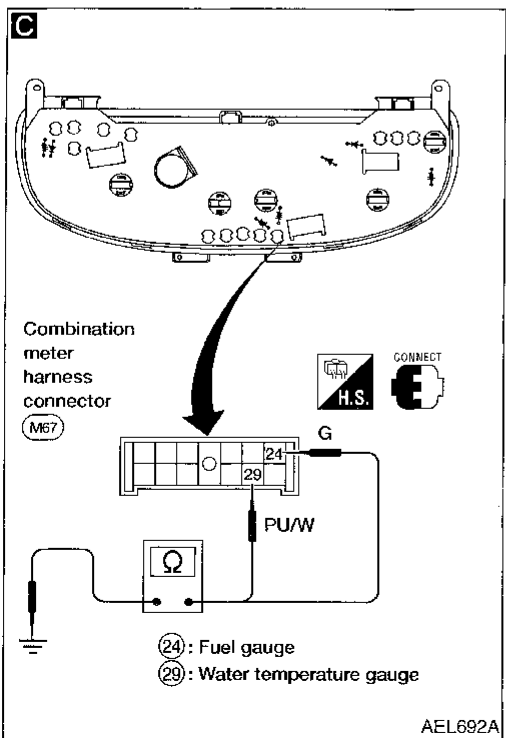
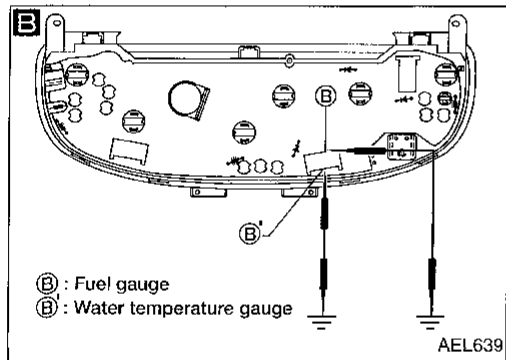
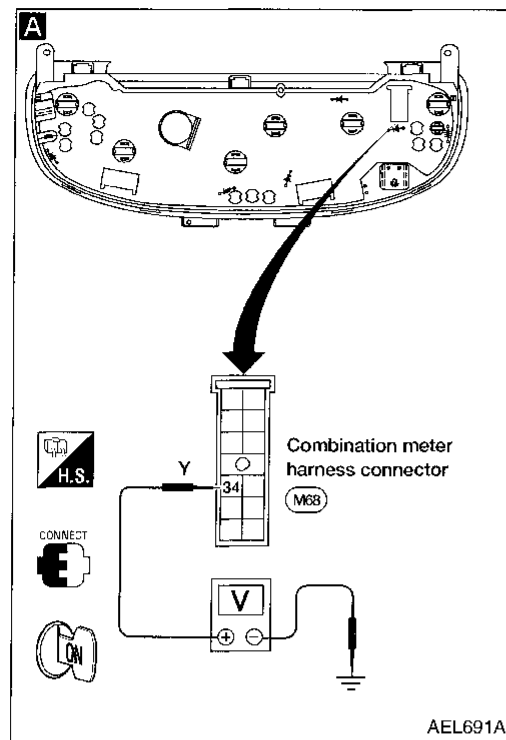


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Inspection/Fuel Gauge and Water Temperature Gauge



Inspection/Speedometer and Vehicle Speed Sensor

SYMPTOM: Speedometer stays at 0 km/h (0 MPH).

INSPECTION START

A

CHECK GROUND CIRCUIT OF SPEED-OMETER.
Check continuity between terminal (30) and body ground.
Continuity should exist.

NG → Repair harness or connector.

B

CHECK POWER SOURCE.
1. Turn ignition switch ON.
2. Check voltage between terminal (34) and body ground.
Battery voltage should exist.

NG → Check the following items:
 • Harness continuity between battery terminal and combination meter
 • Ignition relay
 • Fusible link and fuse
 • Ignition switch

C

CHECK VEHICLE SPEED SENSOR OUTPUT.
1. Remove vehicle speed sensor from transaxle. Leave vehicle speed sensor harness connector connected.
2. Check voltage between terminals (22) and (23) while quickly turning vehicle speed sensor pinion.
Voltage: Approx. 0.5V

OK → Replace speedometer.

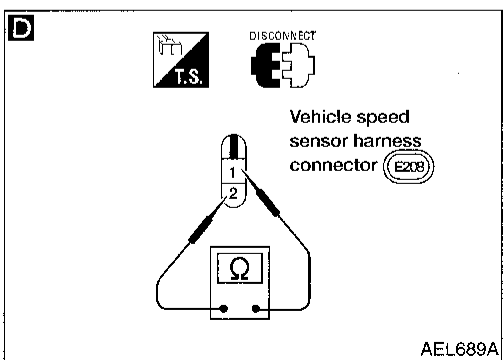
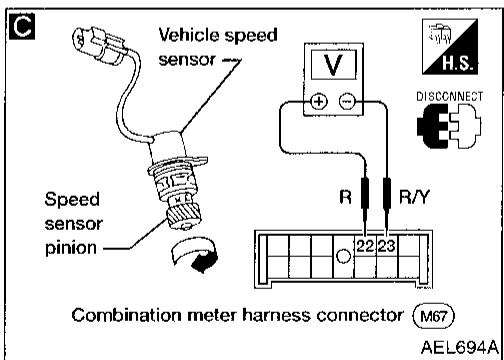
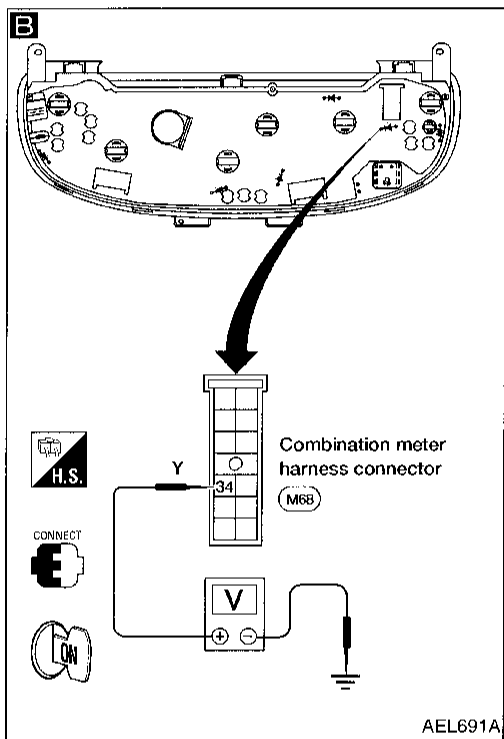
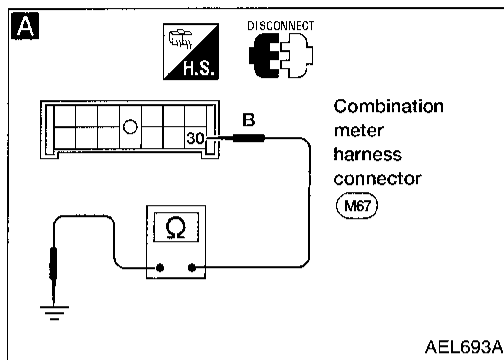
D

CHECK VEHICLE SPEED SENSOR.
Check resistance between terminals (1) and (2).
Resistance: Approx. 250Ω.

NG → Replace vehicle speed sensor.

Repair harness or connector between speedometer and vehicle speed sensor.

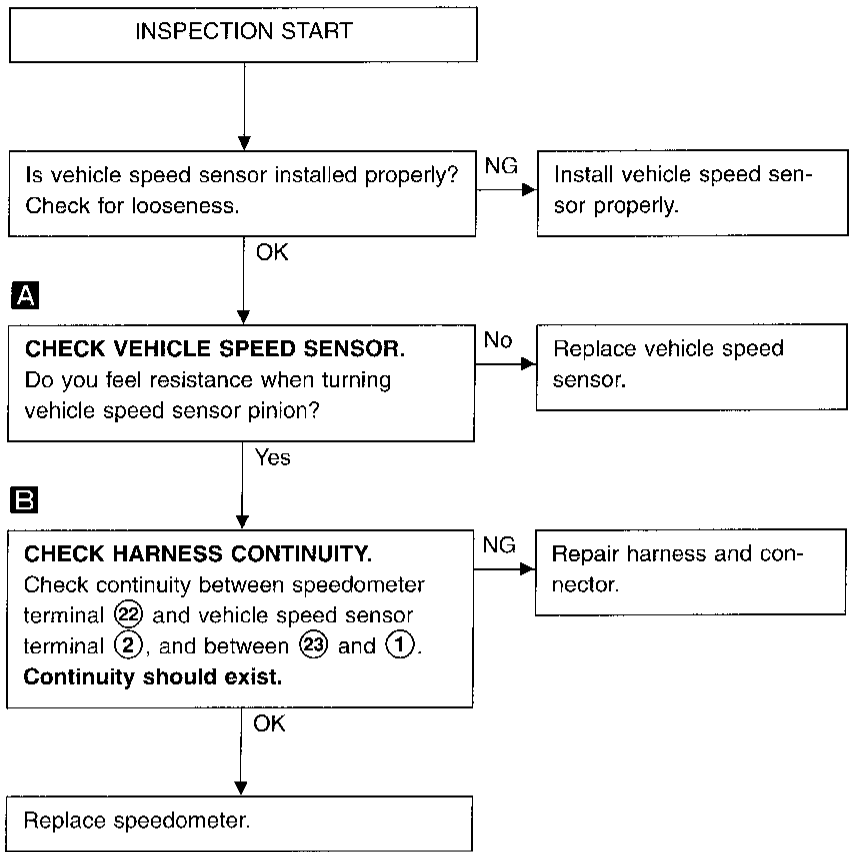
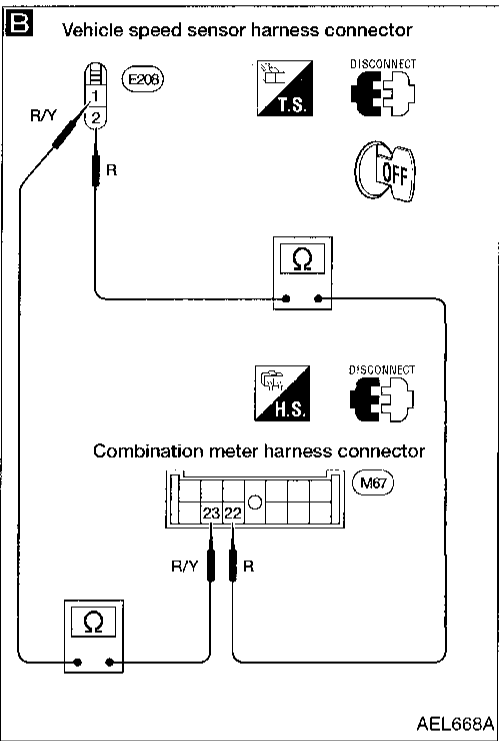
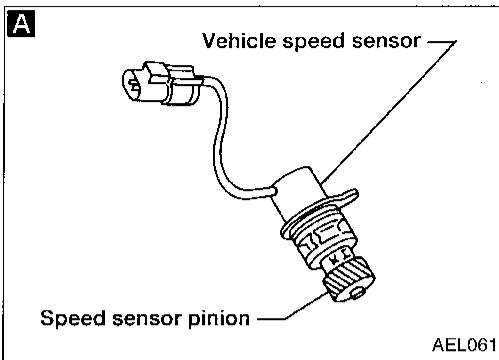
INSPECTION END



METERS AND GAUGES/WITHOUT TACHOMETER

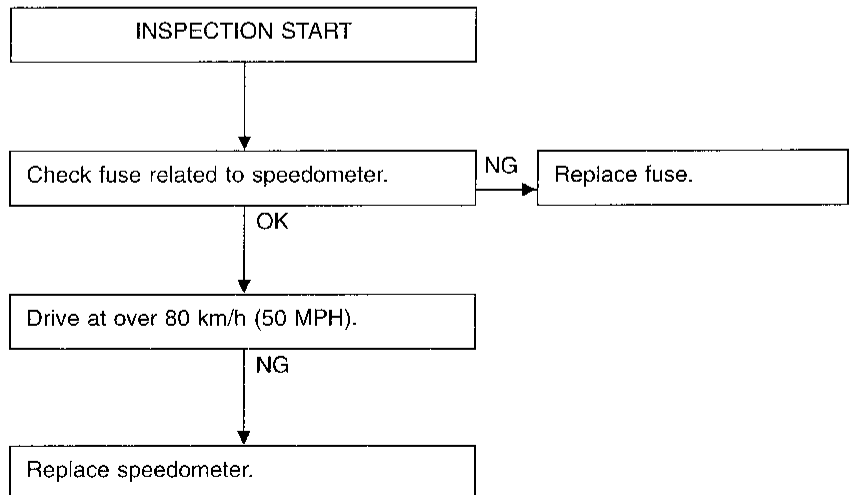
Inspection/Speedometer and Vehicle Speed Sensor (Cont'd)

SYMPTOM: Speedometer indication flutters.

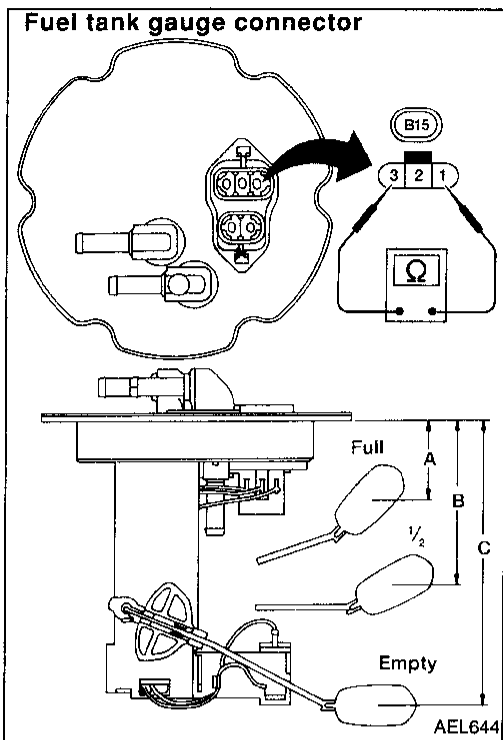


Inspection/Speedometer and Fuse

SYMPTOM: Speedometer does not go back to 0 km/h (0 MPH).



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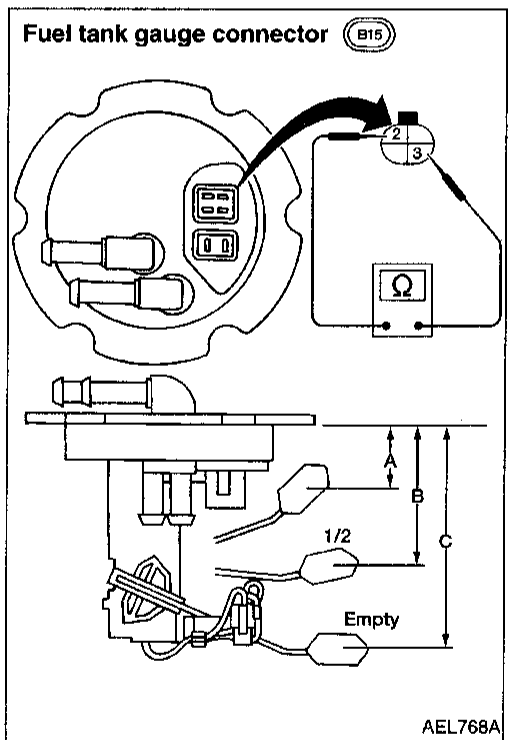
Fuel Tank Gauge Unit Check

MODELS WITH SR ENGINE

- For removal, refer to FE section "Fuel Pump and Gauge", "FUEL SYSTEM".

Check the resistance between terminals ① and ③.

Ohmmeter		Float position		Resistance value (Ω)
(+)	(-)	mm	(in)	
①	③	A	Full	38.4 (1.512) Approx. 4.5 - 5.5
		B	1/2	86.2 (3.394) Approx. 31.5 - 33.5
		C	Empty	129.1 (5.083) Approx. 80 - 83

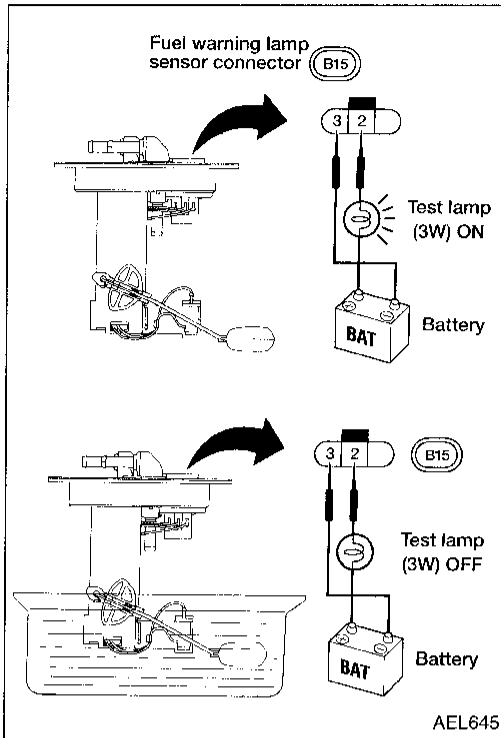


MODELS WITH GA ENGINE

- For removal, refer to FE section "Fuel Pump and Gauge", "FUEL SYSTEM".

Check the resistance between terminals ③ and ②.

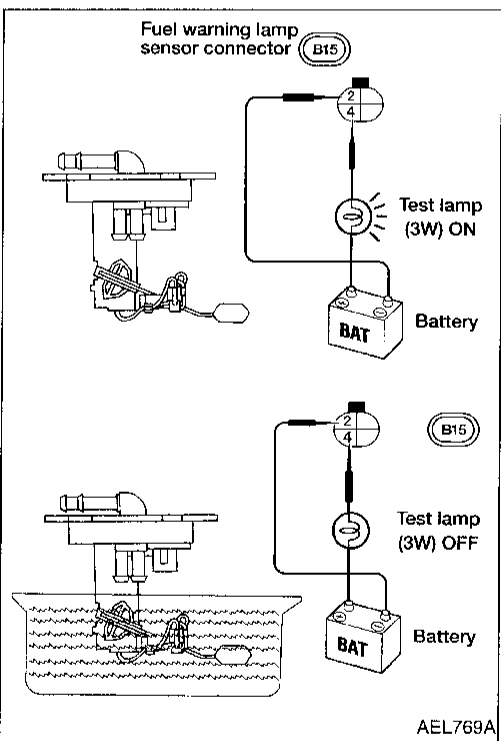
Ohmmeter		Float position		Resistance value (Ω)
(+)	(-)	mm	(in)	
③	②	A	Full	38.4 (1.512) Approx. 4.5 - 5.5
		B	1/2	86.2 (3.394) Approx. 31.5 - 33.5
		C	Empty	129.1 (5.083) Approx. 80.0 - 83.0



Fuel Warning Lamp Sensor Check

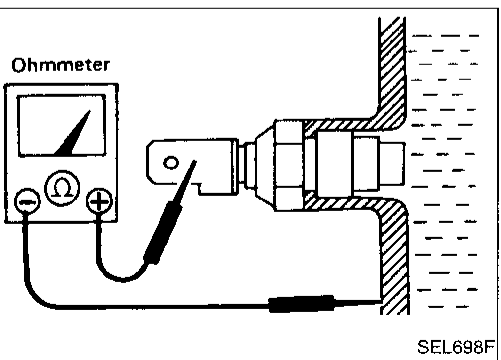
MODELS WITH SR ENGINE

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



MODELS WITH GA ENGINE

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



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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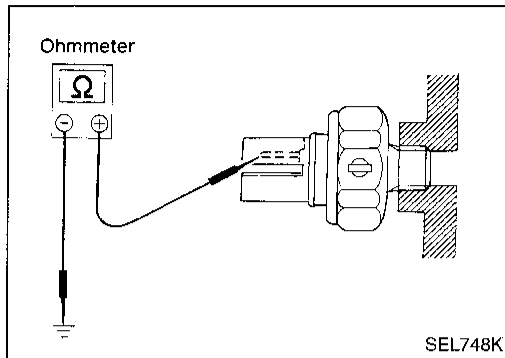
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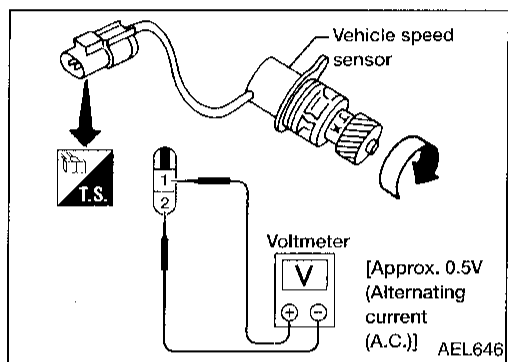
IDX



Oil Pressure Switch Check

	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

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



Vehicle Speed Sensor Signal Check

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

System Description*

If equipped with theft warning system, power is supplied at all times:

- through 7.5A fuse (No. 24 , located in the fuse block [J/B])
- to combination meter terminal 37 for the security lamp.

Ground for the security lamp is supplied depending on the system conditions:

- to combination meter terminal 36
- from terminal 2 of the smart entrance control unit.

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

- through 10A fuse (No. 8 , located in the fuse block [J/B])
- to combination meter terminal 10 (34) for the air bag warning lamp
- to combination meter terminal 22 (14) and
- to combination meter terminal 41.

Ground is supplied:

- to combination meter terminal 28 (10),
- through body grounds M43 , M44 and M60 .

Ground is supplied:

- to fuel tank gauge unit terminal 3 (with SR engine) and
- seat belt buckle switch terminal 2
- through body grounds B14 and B17 .

Ground is supplied:

- to brake fluid level switch terminal 2 and
- washer fluid level switch terminal 2 (For Canada models only)
- through body grounds E13 and E25 .

AIR BAG WARNING LAMP

During prove out or when an air bag malfunction occurs, the ground path is interrupted:

- from the air bag diagnosis sensor unit terminal 15
- to combination meter terminal 17 (15).

Ground is supplied:

- through combination meter terminal 28 (10).

With power and ground supplied, the air bag warning lamp (LEDs) illuminate.

For further information, refer to RS section ("TROUBLE DIAGNOSES").

DOOR AJAR WARNING LAMP

When a door is open, ground is supplied:

- to combination meter terminal 15
- from door switches terminal 1 and front door switch LH terminal 2.

With power and ground supplied, the door ajar warning lamp illuminates.

LOW FUEL LEVEL WARNING LAMP (with SR engine)

The amount of fuel in the fuel tank is determined by the fuel level sensor in the fuel tank. A signal is sent from fuel tank gauge unit terminal 2 to combination meter terminal 9. The fuel level sensor will illuminate the low fuel level warning lamp when the fuel level is low.

With power and ground supplied, the low fuel level warning lamp illuminates.

LOW FUEL LEVEL WARNING LAMP (with GA engine)

The amount of fuel in the fuel tank is determined by the fuel level sensor in the fuel tank. A signal is sent from fuel tank gauge unit terminal 4 to combination meter terminal 9 (20). The fuel level sensor will illuminate the low fuel level warning lamp when the fuel level is low.

With power and ground supplied, the low fuel level warning lamp illuminates.

LOW OIL PRESSURE WARNING LAMP

Low oil pressure causes oil pressure switch terminal 1 to provide ground to combination meter terminal 33 (16).

With power and ground supplied, the low oil pressure warning lamp illuminates.

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WARNING LAMPS

System Description* (Cont'd)

LOW WASHER FLUID LEVEL WARNING LAMP (For Canada models only)

When the washer fluid level is low, ground is supplied:

- to combination meter terminal ⑫ (④)
- from washer fluid level switch terminal ①.

With power and ground supplied, the low washer fluid level warning lamp illuminates.

SEAT BELT WARNING LAMP

When the driver's seat belt is unfastened, ground is supplied:

- to combination meter terminal ⑪ (⑨)
- from seat belt buckle switch terminal ①.

With power and ground supplied, the seat belt warning lamp illuminates.

MALFUNCTION INDICATOR LAMP

During prove out or when an engine control malfunction occurs, ground is supplied:

- to combination meter terminal ③④ (④①)
- from ECM terminal ⑱.

With power and ground supplied, the malfunction indicator lamp illuminates.

For further information, refer to EC section ["Malfunction Indicator Lamp (MIL)", "ON-BOARD DIAGNOSTIC SYSTEM DESCRIPTION"].

ABS WARNING LAMP

During prove out or when an ABS malfunction occurs, ground is supplied:

- to combination meter terminal ⑳ (④②)
- from ABS control unit terminal ③①.

With power and ground supplied, the ABS warning lamp illuminates.

For further information, refer to BR section ("Self-diagnosis", "TROUBLE DIAGNOSES").

BRAKE WARNING LAMP

When the parking brake is applied, or the brake fluid level is low, ground is supplied:

- to combination meter terminal ③② (③⑨)
- from parking brake switch terminal ①, or
- brake fluid level switch terminal ①.

With power and ground supplied, the brake warning lamp illuminates.

CHARGE WARNING LAMP

During prove out or when a generator malfunction occurs, ground is supplied:

- to combination meter terminals ③⑤ (③⑧) and ③① (③⑦)
- from generator terminal ③.

With power and ground supplied, the charge warning lamp and brake lamp illuminate.

SECURITY INDICATOR LAMP

Power is supplied at all times:

- through 7.5A fuse (No. ②④, located in the fuse block [J/B])
- to combination meter terminal ③⑦.

Under certain conditions, ground is supplied:

- to combination meter terminal ③⑥
- from theft warning control unit terminal ②.

With power and ground supplied, the security indicator lamp will illuminate.

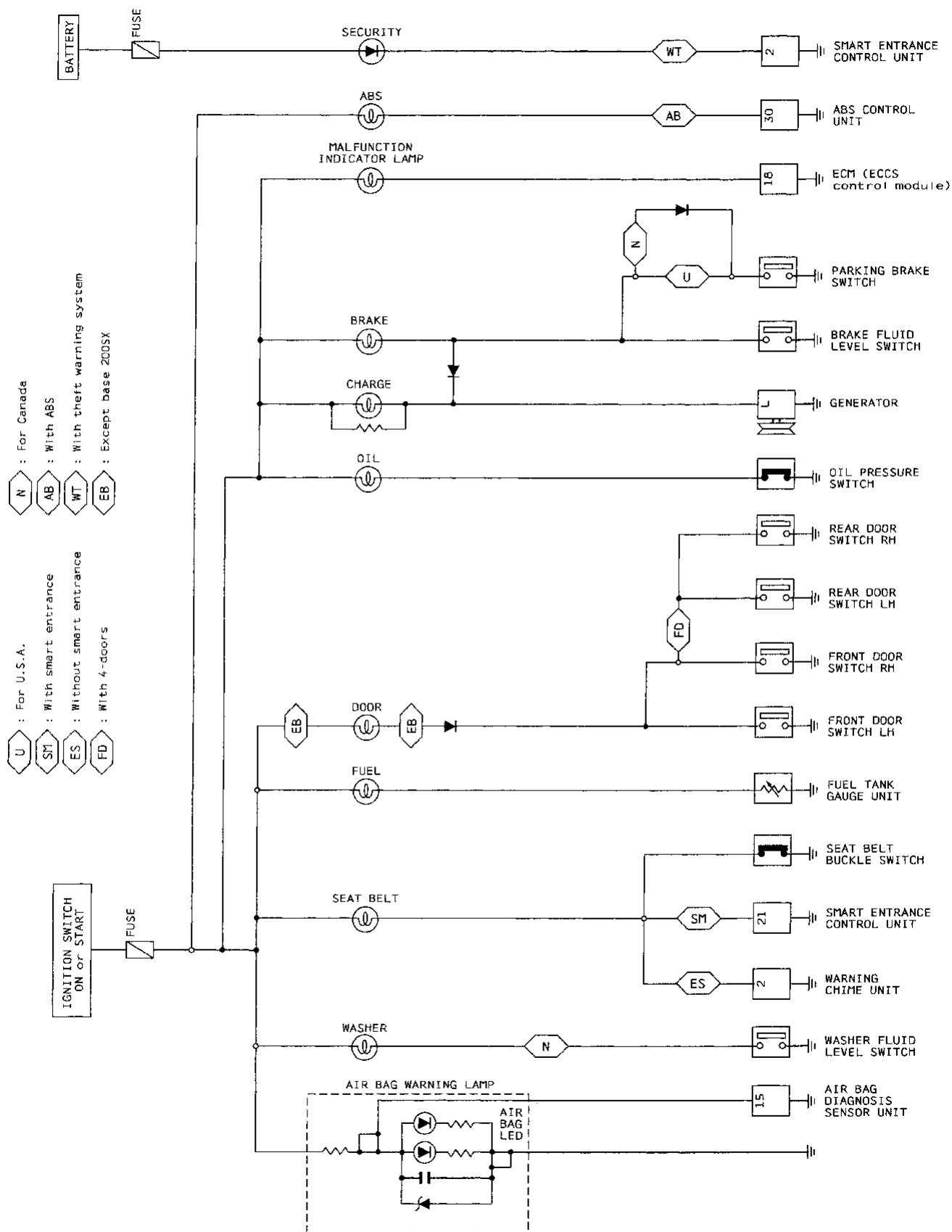
For further information, refer to "System Description", "THEFT WARNING SYSTEM", EL-201

*: Terminal numbers in () are for models without tachometer.

WARNING LAMPS

Schematic

MODELS WITH TACHOMETER



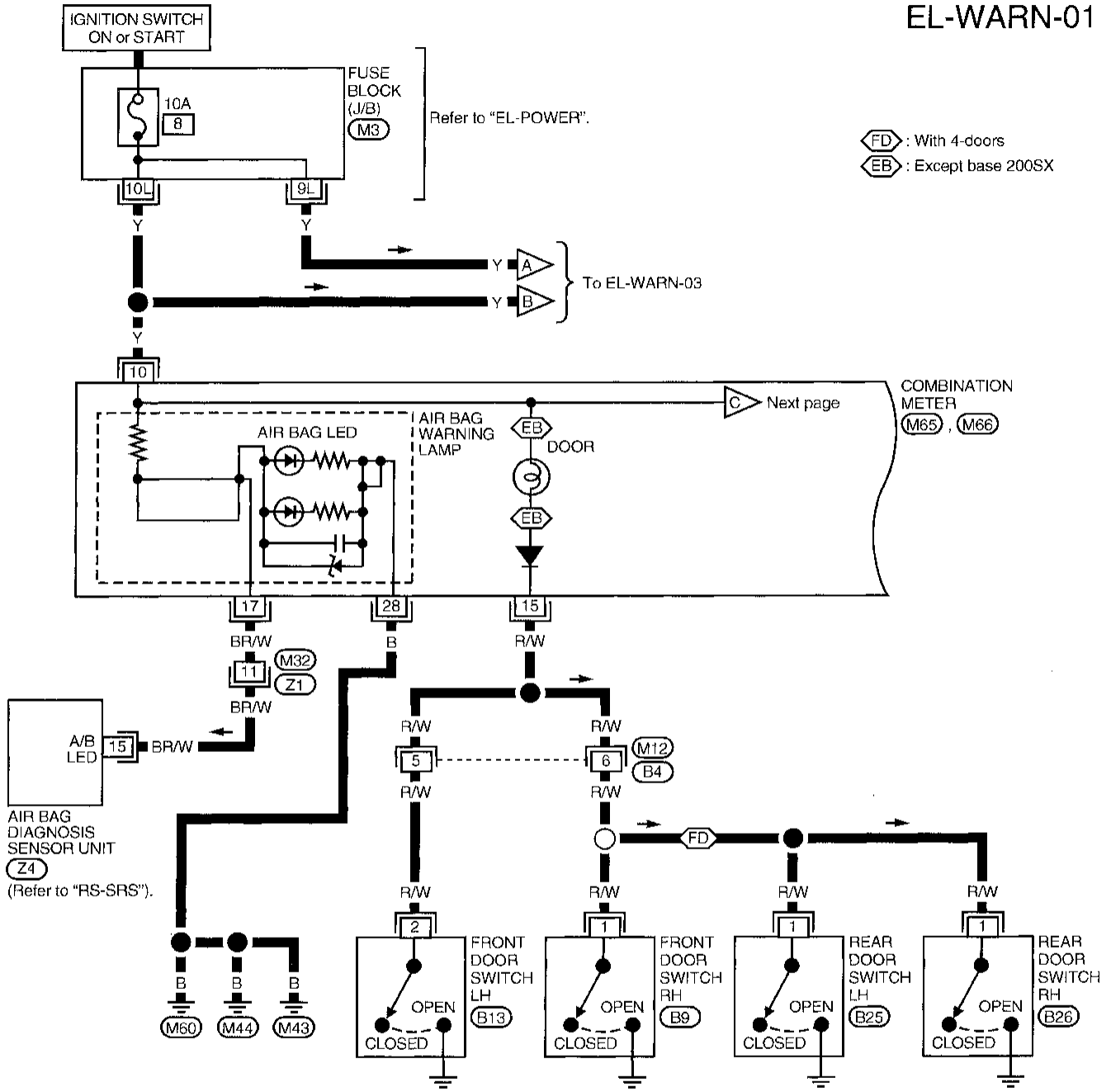
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WARNING LAMPS

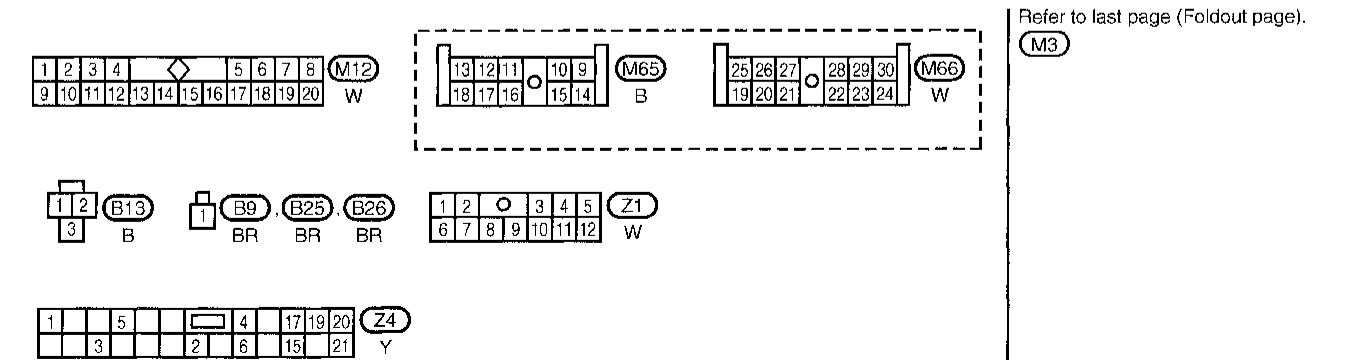
Wiring Diagram -WARN-

MODELS WITH TACHOMETER

EL-WARN-01



FD : With 4-doors
EB : Except base 200SX



Refer to last page (Foldout page).

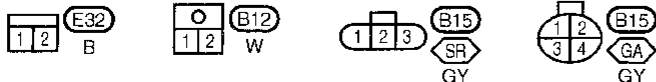
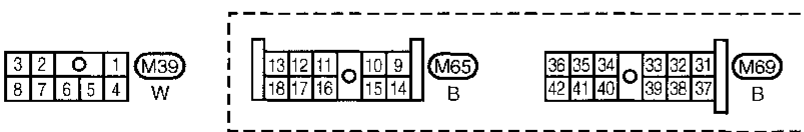
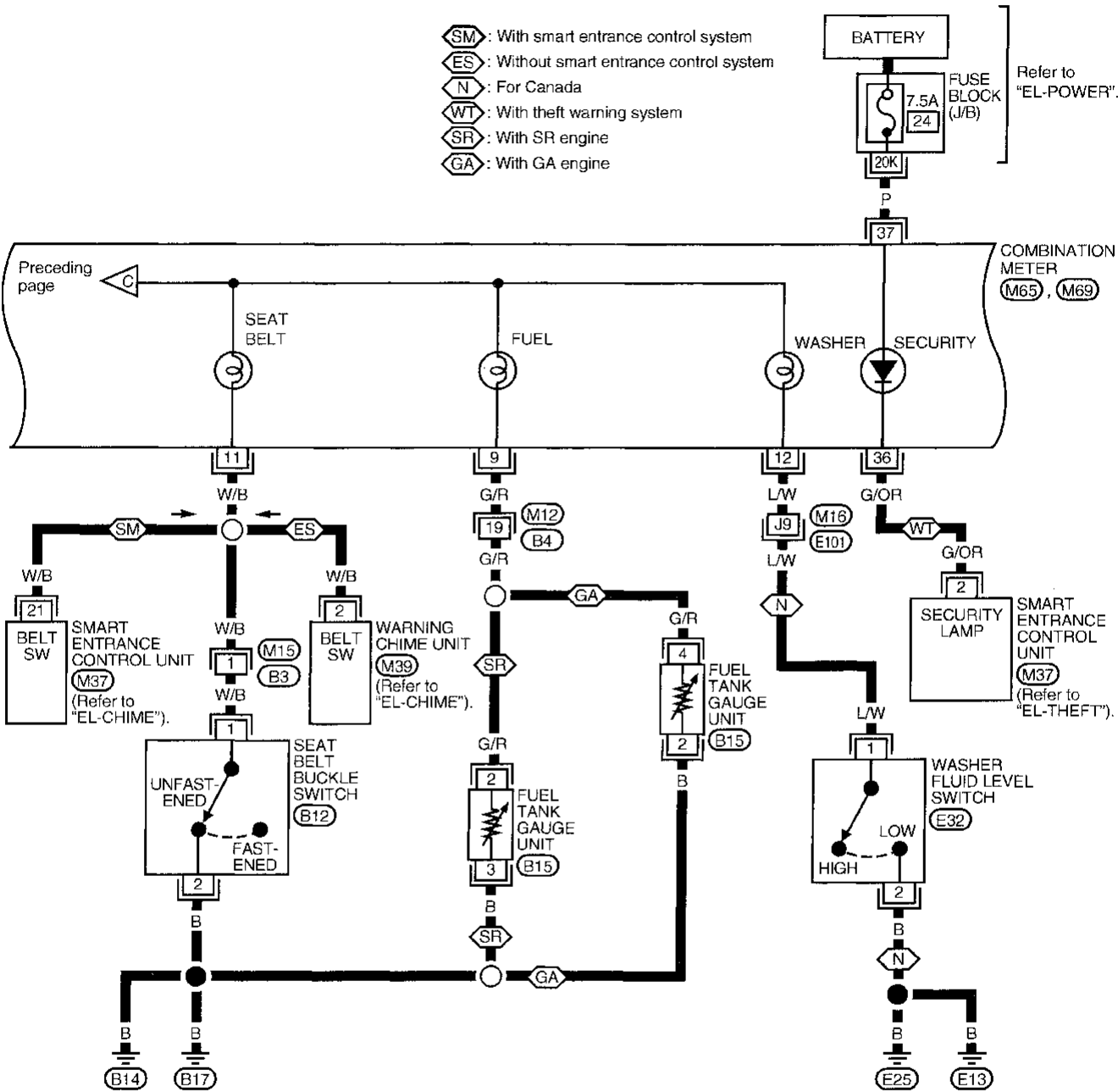
M3

WARNING LAMPS

Wiring Diagram -WARN- (Cont'd)

EL-WARN-02

- SM : With smart entrance control system
- ES : Without smart entrance control system
- N : For Canada
- WT : With theft warning system
- SR : With SR engine
- GA : With GA engine



Refer to last page (Foldout page).

M16, E101
M37

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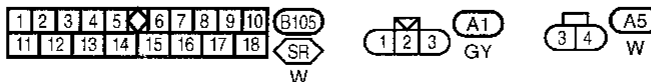
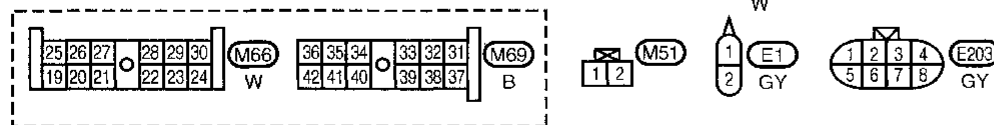
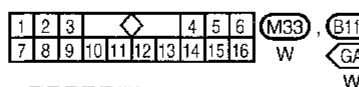
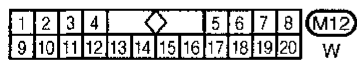
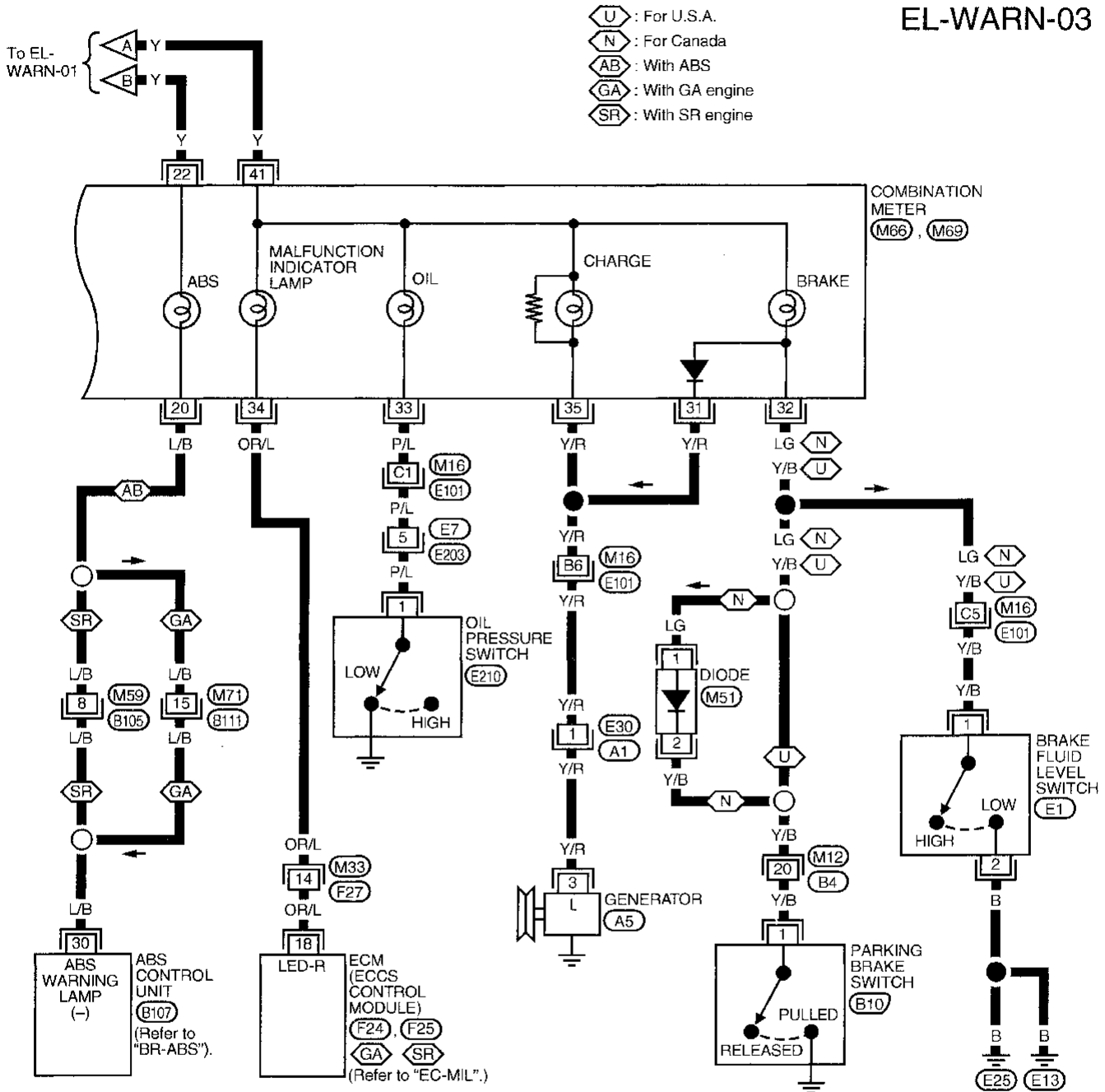
EL

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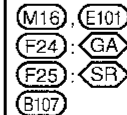
WARNING LAMPS

Wiring Diagram -WARN- (Cont'd)

EL-WARN-03



Refer to last page (Foldout page).



WARNING LAMPS

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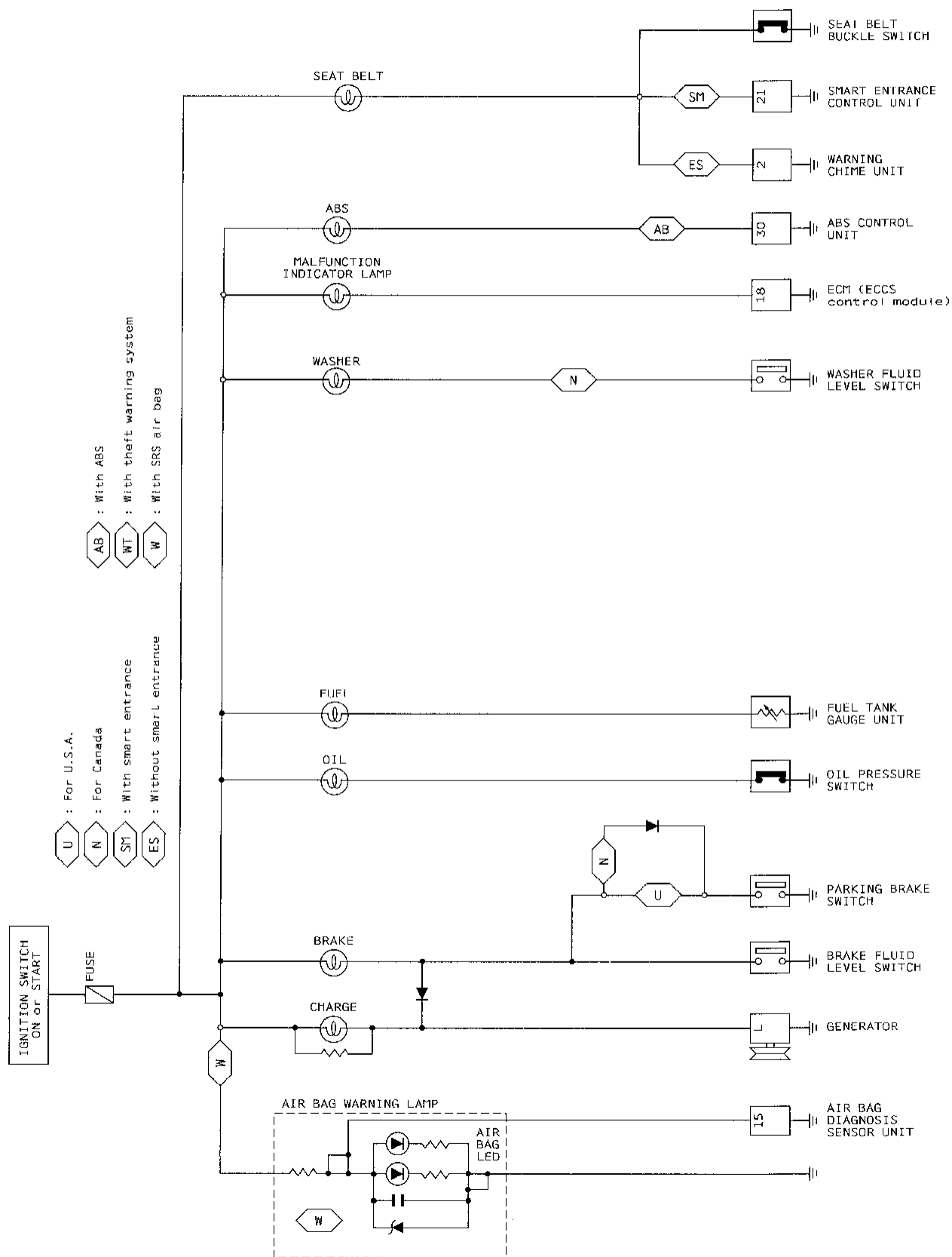
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WARNING LAMPS

Schematic

MODELS WITHOUT TACHOMETER



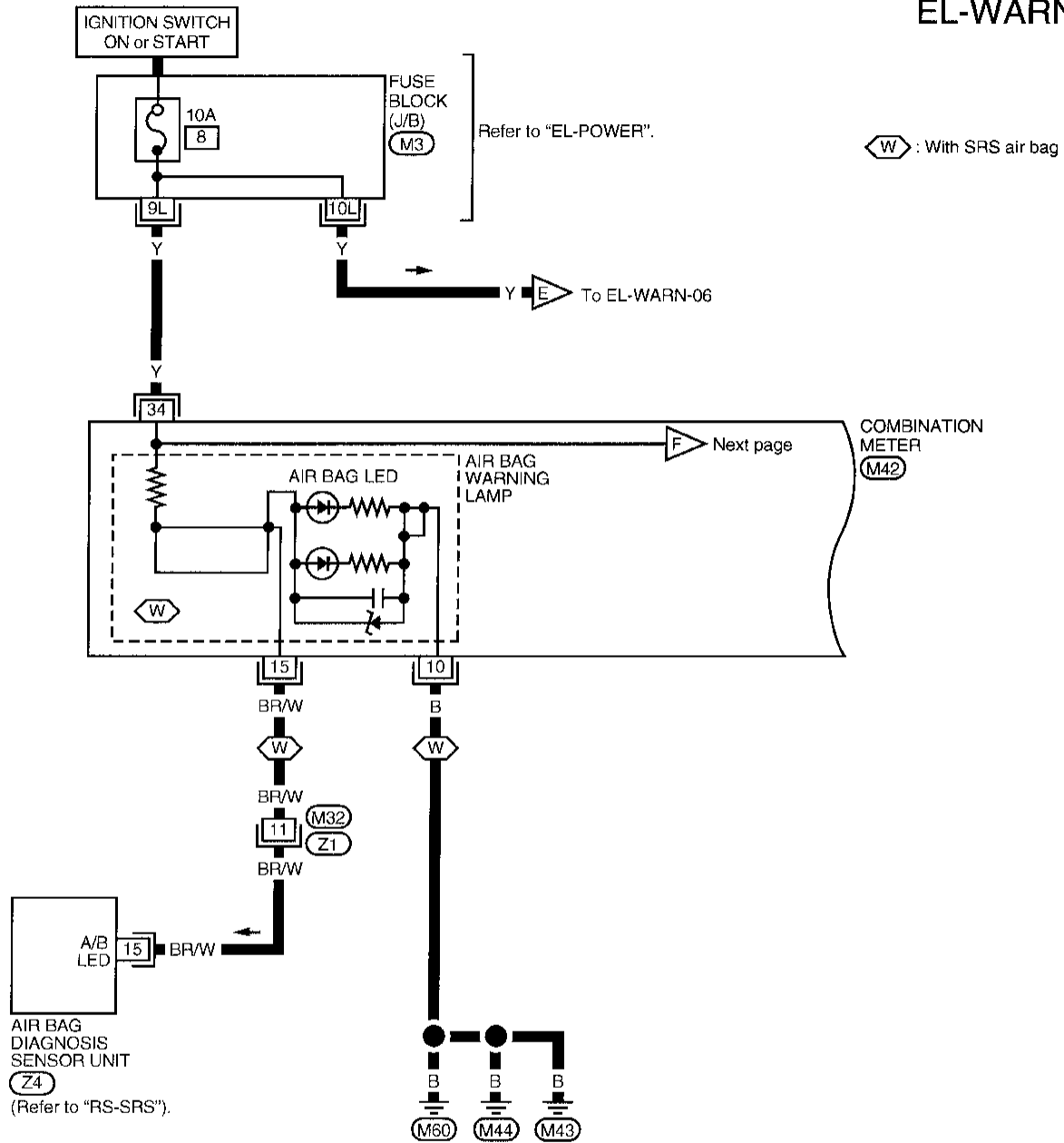
AEL614A

WARNING LAMPS

Wiring Diagram -WARN-

MODELS WITHOUT TACHOMETER

EL-WARN-04

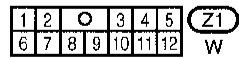
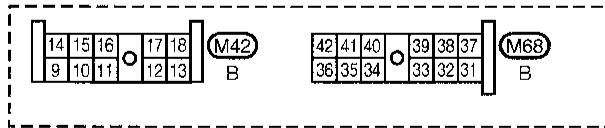


◊ : With SRS air bag

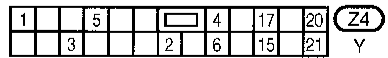
Next page

COMBINATION METER (M42)

AIR BAG DIAGNOSIS SENSOR UNIT (Z4)
(Refer to "RS-SRS").



Refer to last page (Foldout page).
M3



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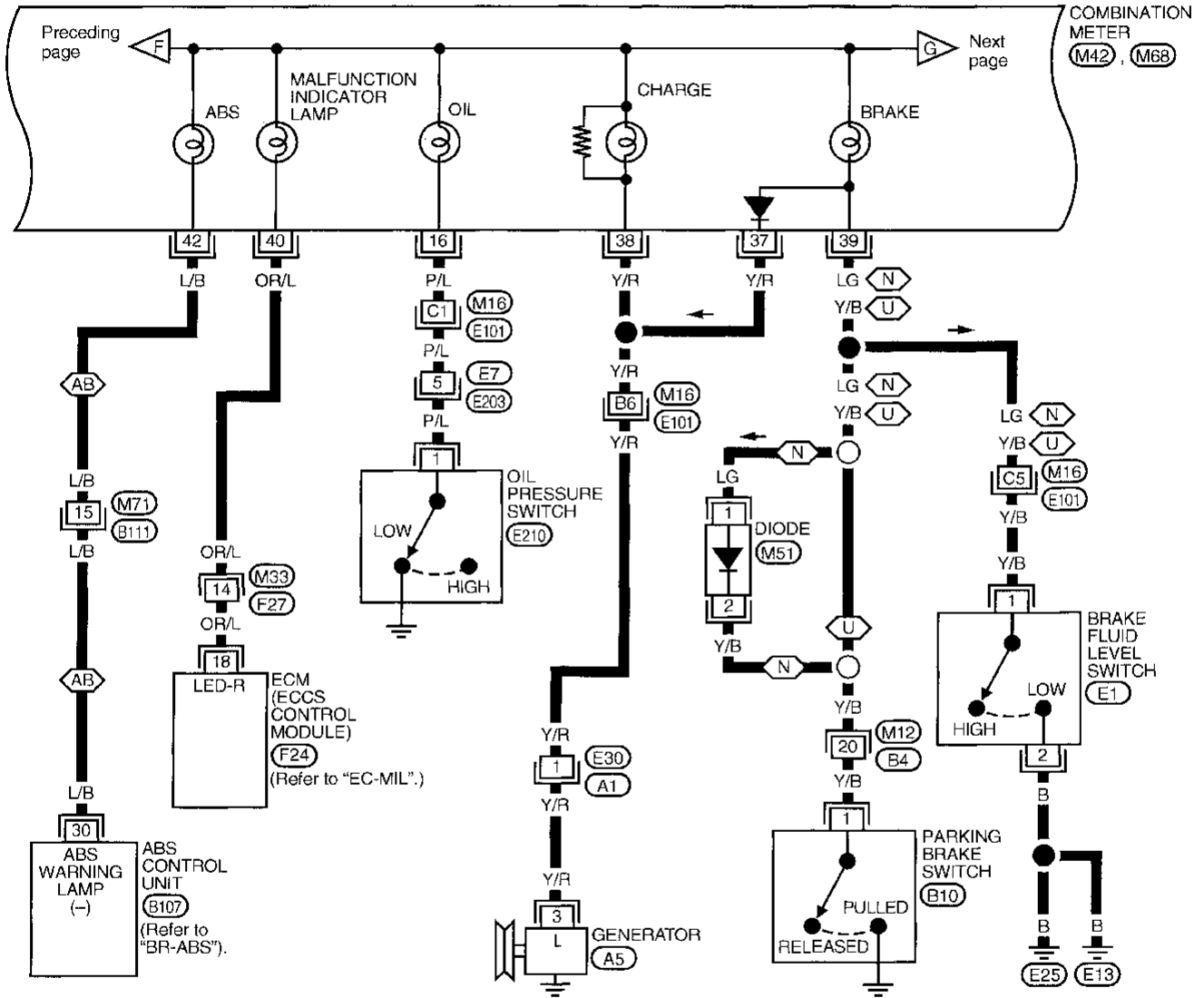
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WARNING LAMPS

Wiring Diagram -WARN- (Cont'd)

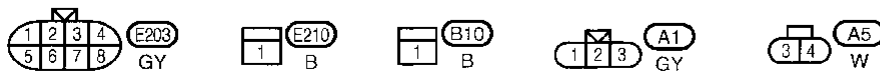
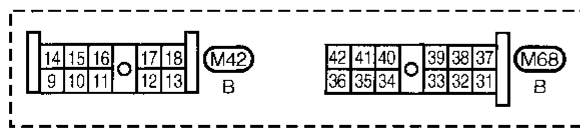
EL-WARN-05

- U : For U.S.A.
- N : For Canada
- AB : With ABS



1	2	3	4	5	6	7	8	M12
9	10	11	12	13	14	15	16	W

1	2	3	4	5	6	M33	B111		
7	8	9	10	11	12	13	14	W	W



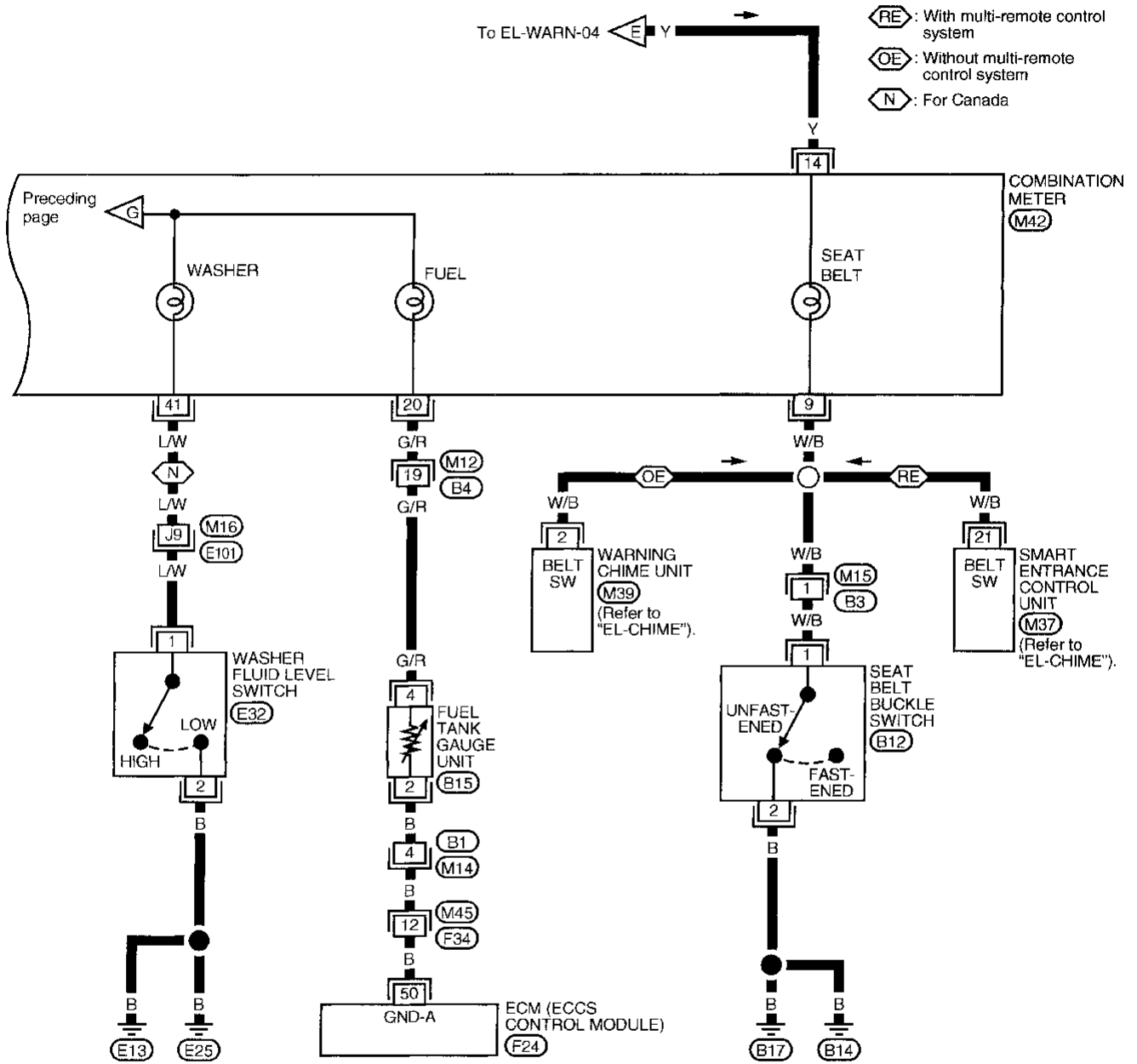
Refer to last page (Foldout page).

- M16, E101
- F24
- B107

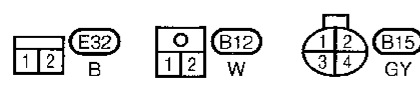
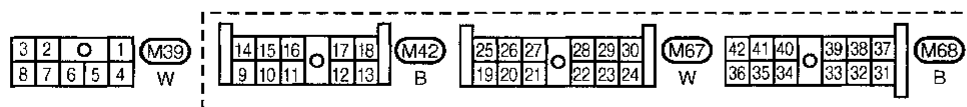
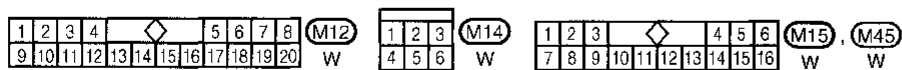
WARNING LAMPS

Wiring Diagram -WARN- (Cont'd)

EL-WARN-06

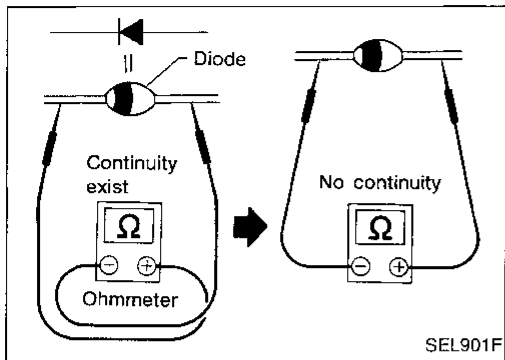


Refer to last page (Foldout page).



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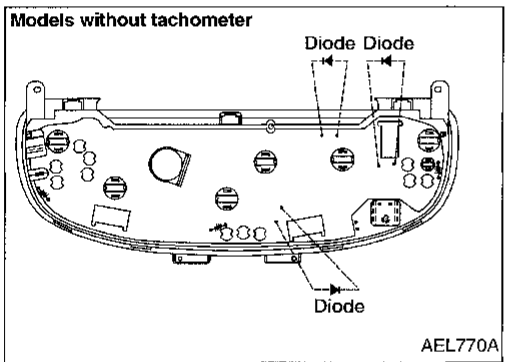
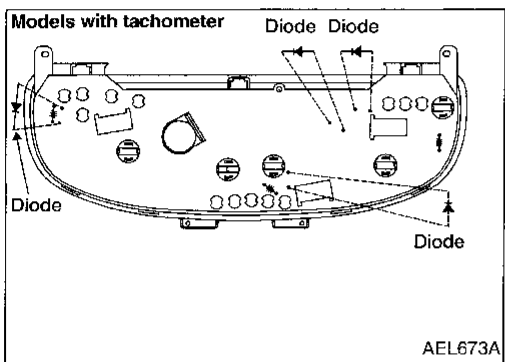
WARNING LAMPS



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 being used.



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

System Description

MODELS WITH POWER DOOR LOCKS

The warning chime is controlled by the smart entrance control unit.

Power is supplied at all times:

- through 7.5A fuse (No. 24 , located in the fuse block [J/B])
- to warning chime terminal ③
- to key switch terminal ①.

Power is supplied at all times:

- through 10A fuse (No. 36 , located in the fusible link and fuse box)
- to lighting switch terminal ⑪.

Power is supplied at all times:

- through 25A fusible link (letter f , located in the fusible link and fuse box)
- to circuit breaker terminal ①
- through circuit breaker terminal ②
- to smart entrance control unit terminal ①.

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

- through 7.5A fuse (No. 7 , located in the fuse block [J/B])
- to smart entrance control unit terminal ⑩.

Ground is supplied to smart entrance control unit terminal ⑩ through body grounds M43 , M44 and M60 .

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

- through smart entrance control unit terminal ⑫
- to warning chime terminal ①.

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

Ignition key warning chime

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

- from key switch terminal ②
- to smart entrance control unit terminal ⑭.

Ground is supplied:

- to smart entrance control unit terminal ⑮
- from front door switch LH terminal ①.

Front door switch LH terminal ③ is grounded through body grounds B14 and B17 .

Light warning chime

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

- from lighting switch terminal ⑫
- to smart entrance control unit terminal ⑮

Ground is supplied:

- to smart entrance control unit terminal ⑮
- from front door switch LH terminal ①.

Front door switch LH terminal ③ is grounded through body grounds B14 and B17 .

Seat belt warning chime

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

Ground is supplied:

- to smart entrance control unit terminal ⑮
- from seat belt switch terminal ①.

Seat belt switch terminal ② is grounded through body grounds B14 and B17 .

MODELS WITHOUT POWER DOOR LOCKS

The warning chime is controlled by the warning chime unit.

Power is supplied at all times:

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

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WARNING CHIME

System Description (Cont'd)

Power is supplied at all times:

- through 10A fuse (No. 36), located in the fusible link and fuse box
- to lighting switch terminal 11.

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

- through 7.5A fuse (No. 7), located in the fuse block [J/B]
- to warning chime unit terminal 1.

Ground is supplied to warning chime unit terminal 8 through body grounds M43, M44 and M60. When a signal, or combination of signals, is received by the warning chime unit, the warning chime will sound.

Ignition key warning chime

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

- from key switch terminal 2
- to warning chime unit terminal 5.

Ground is supplied:

- to warning chime unit terminal 7
- from front door switch LH terminal 1.

Front door switch LH terminal 3 is grounded through body grounds B14 and B17.

Light warning chime

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

- from lighting switch terminal 12
- to warning chime unit terminal 4.

Ground is supplied:

- to warning chime unit terminal 7
- from front door switch LH terminal 1.

Front door switch LH terminal 3 is grounded through body grounds B14 and B17.

Seat belt warning chime

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

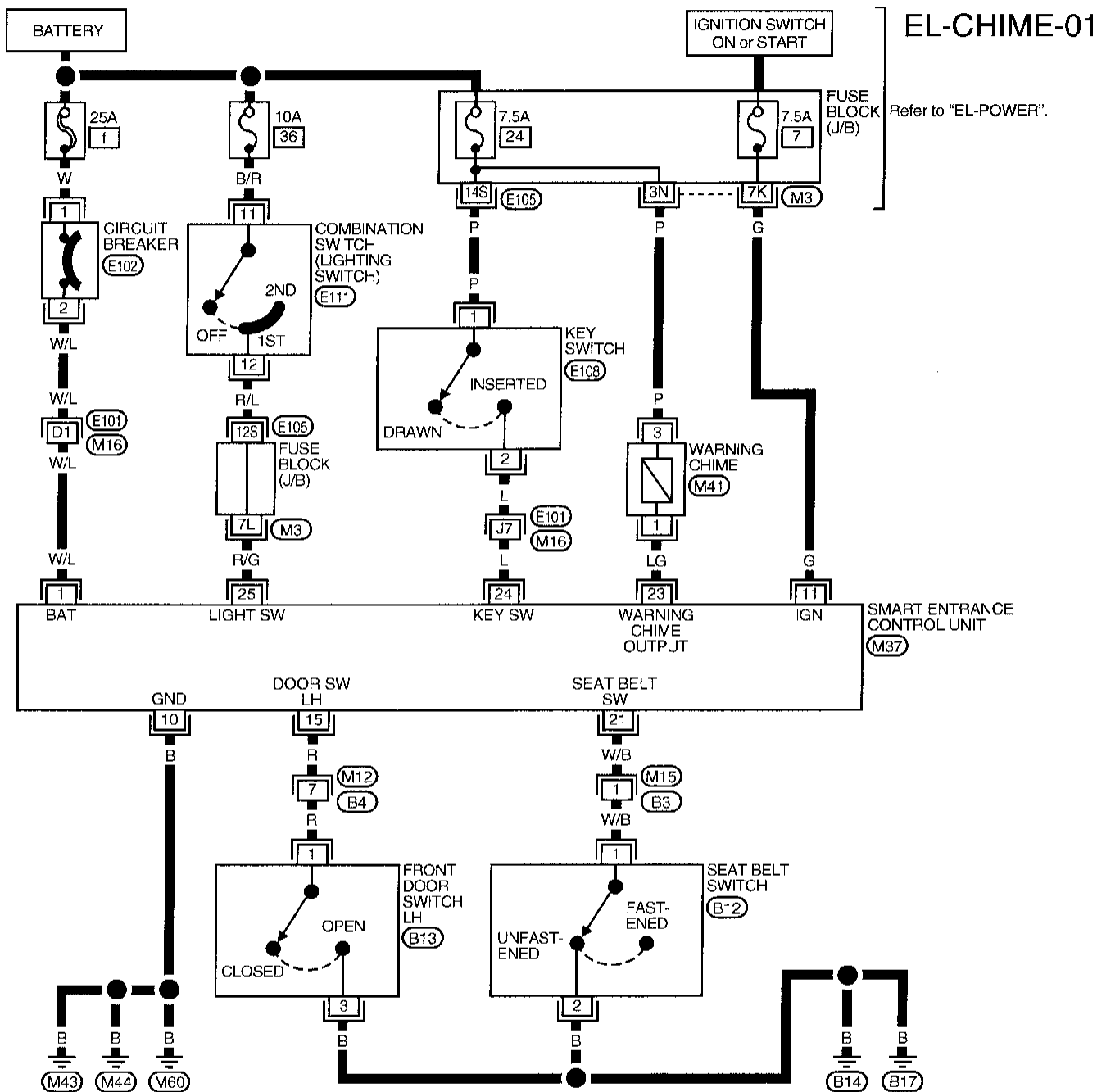
Ground is supplied:

- to warning chime unit terminal 2
- from seat belt switch terminal 1.

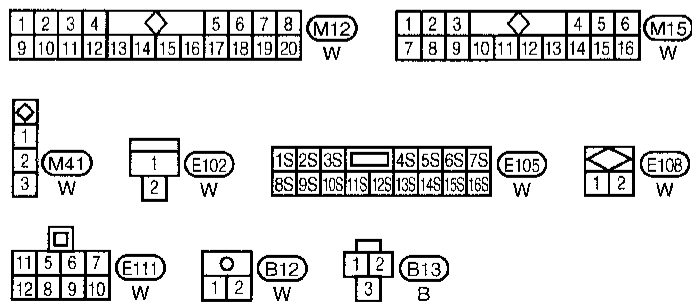
Seat belt switch terminal 2 is grounded through body grounds B14 and B17.

WARNING CHIME

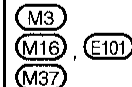
Wiring Diagram -CHIME- MODELS WITH POWER DOOR LOCKS



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Refer to last page (Foldout page).

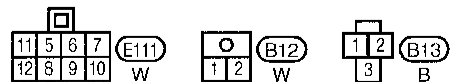
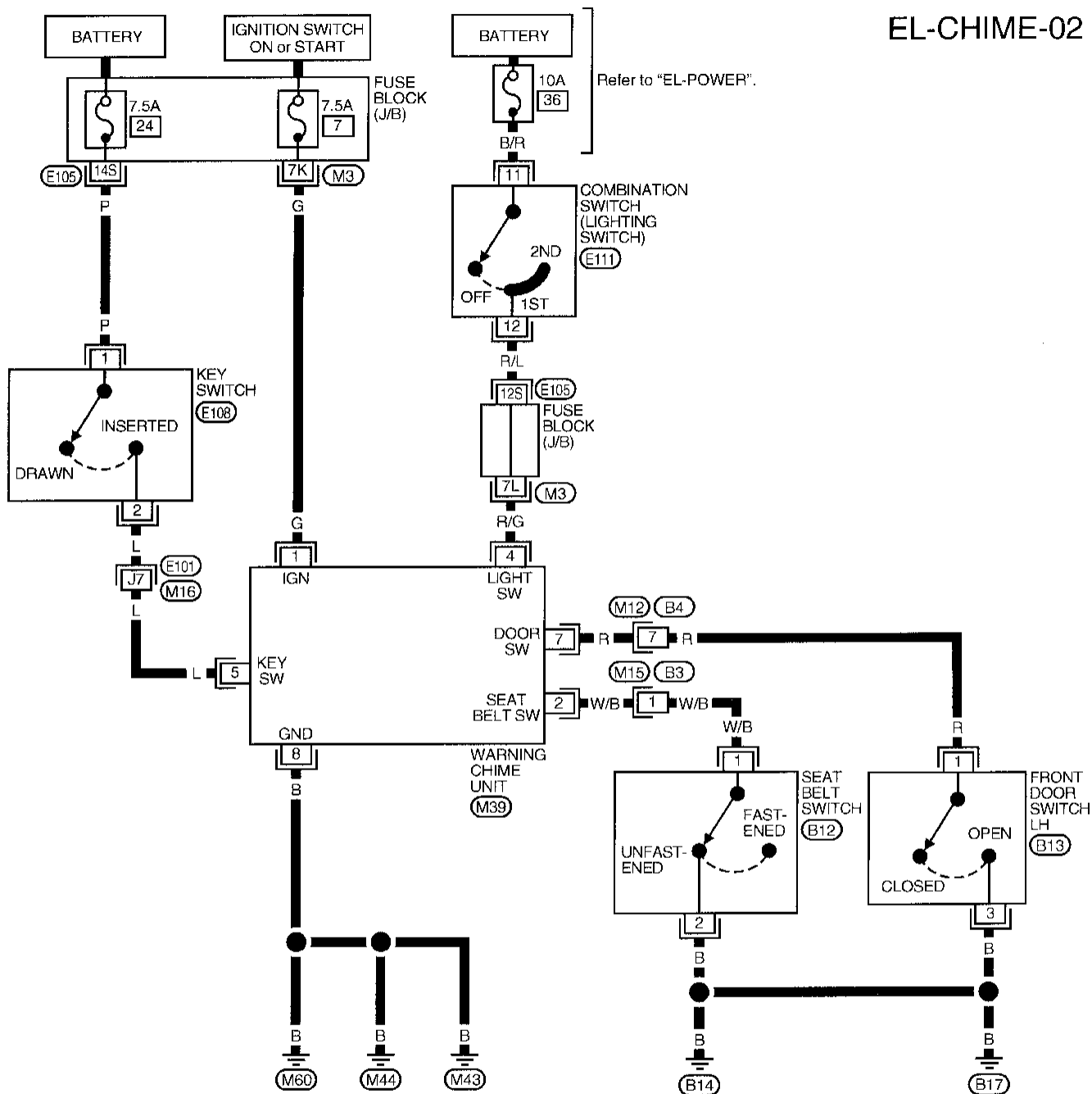


WARNING CHIME

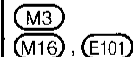
Wiring Diagram -CHIME- (Cont'd)

MODELS WITHOUT POWER DOOR LOCKS

EL-CHIME-02



Refer to last page (Foldout page).



WARNING CHIME

Trouble Diagnoses

SYMPTOM CHART

Models with power door locks

PROCEDURE	Preliminary Check			Main Power Supply and Ground Circuit Check	Diagnostic Procedure		
	EL-114	EL-114	EL-114		EL-117	EL-119	EL-121
REFERENCE PAGE	EL-114	EL-114	EL-114	EL-116	EL-117	EL-119	EL-121
SYMPTOM	Preliminary check 1	Preliminary check 2	Preliminary check 3	Main power supply and Ground circuit	Diagnostic Procedure 1	Diagnostic Procedure 2	Diagnostic Procedure 3
Light warning chime does not activate.	○			○	○		
Ignition key warning chime does not activate.		○		○		○	
Seat belt warning chime does not activate.			○	○			○

Models without power door locks

PROCEDURE	Preliminary Check			Main Power Supply and Ground Circuit Check	Diagnostic Procedure		
	EL-115	EL-115	EL-115		EL-118	EL-120	EL-121
REFERENCE PAGE	EL-115	EL-115	EL-115	EL-116	EL-118	EL-120	EL-121
SYMPTOM	Preliminary check 1	Preliminary check 2	Preliminary check 3	Main power supply and Ground circuit	Diagnostic Procedure 1	Diagnostic Procedure 2	Diagnostic Procedure 3
Light warning chime does not activate.	○			○	○		
Ignition key warning chime does not activate.		○		○		○	
Seat belt warning chime does not activate.			○	○			○

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WARNING CHIME

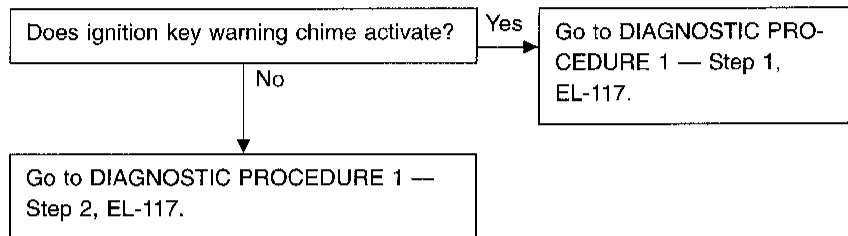
Trouble Diagnoses (Cont'd)

PRELIMINARY CHECK

Models with power door locks

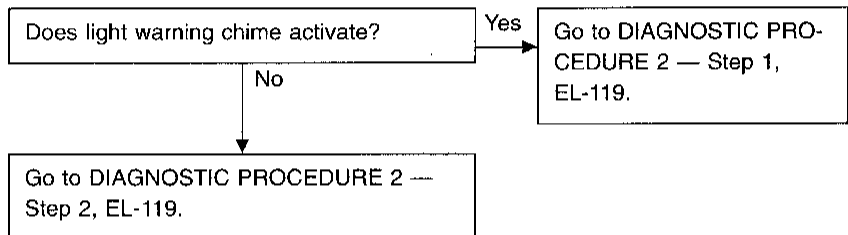
Preliminary check 1

- Light warning chime does not activate.



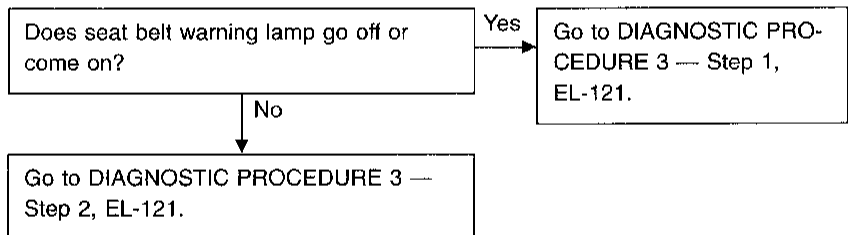
Preliminary check 2

- Ignition key warning chime does not activate.



Preliminary check 3

- Seat belt warning chime does not activate.



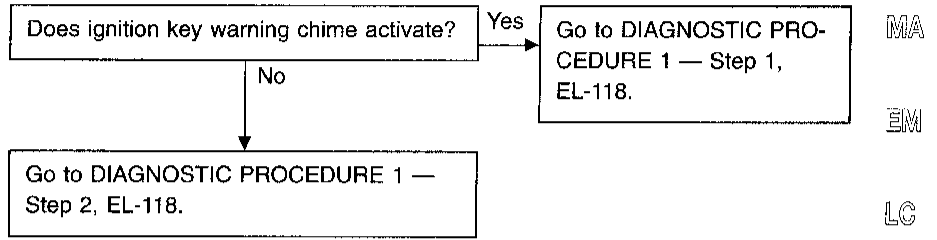
WARNING CHIME

Trouble Diagnoses (Cont'd)

Models without power door locks

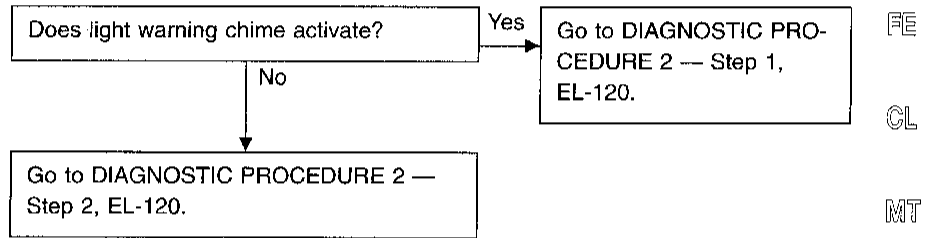
Preliminary check 1

- Light warning chime does not activate.



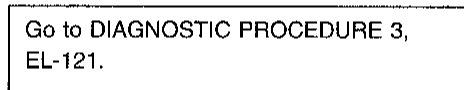
Preliminary check 2

- Ignition key warning chime does not activate.



Preliminary check 3

- Seat belt warning chime does not activate.



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WARNING CHIME

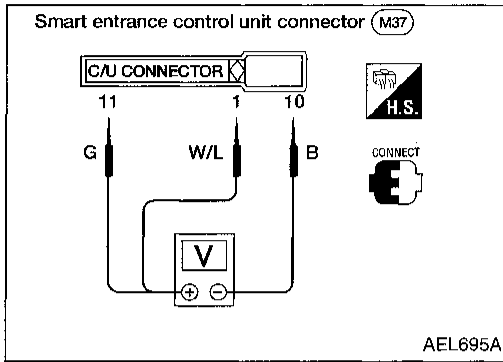
Trouble Diagnoses (Cont'd)

MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

Main power supply

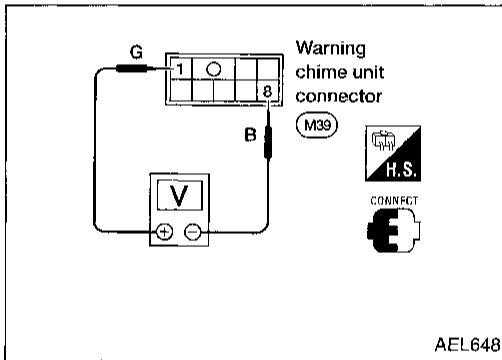
- Models with power door locks

Terminals	Battery voltage existence condition		
	Ignition switch position		
	OFF	ACC	ON
⑪ - ⑩	No	No	Yes
① - ⑩	Yes	Yes	Yes



- Models without power door locks

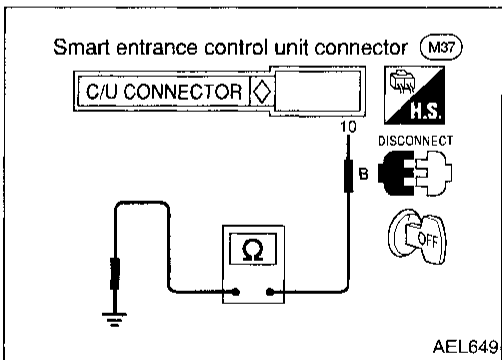
Terminals	Battery voltage existence condition		
	Ignition switch position		
	OFF	ACC	ON
① - ⑧	No	No	Yes



Ground circuit

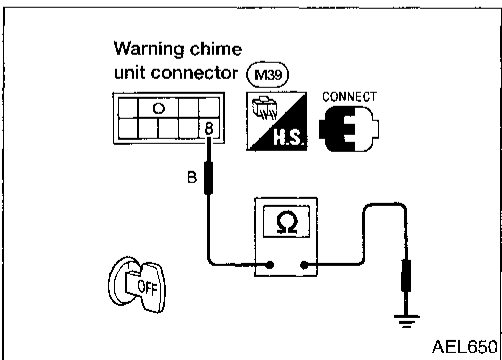
- Models with power door locks

Terminals	Continuity
⑩ - Ground	Yes



- Models without power door locks

Terminals	Continuity
⑧ - Ground	Yes



WARNING CHIME

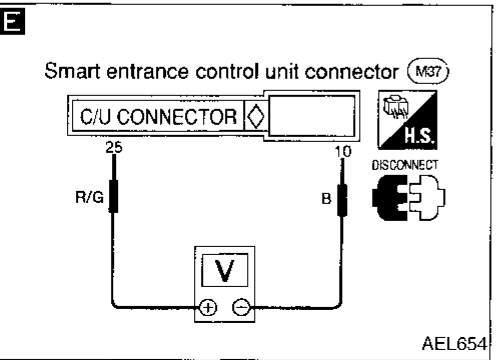
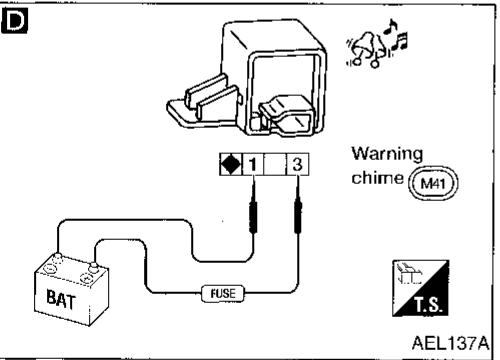
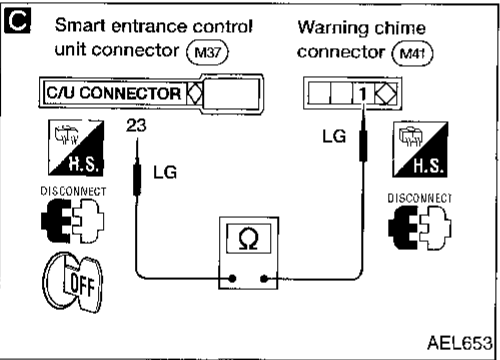
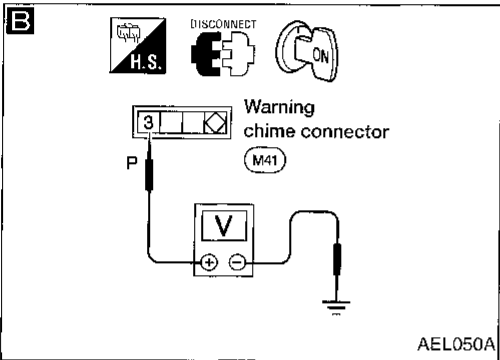
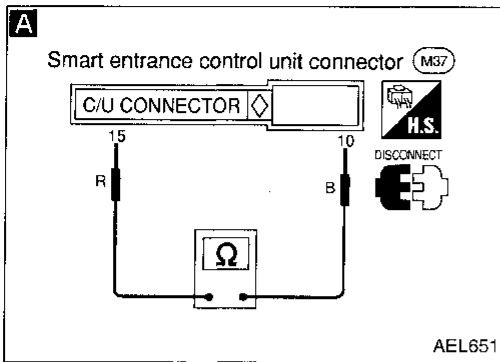
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Light warning chime does not activate.

- Perform Preliminary check 1 before referring to the following flow chart.

Models with power door locks



Step 2

A DOOR SWITCH INPUT SIGNAL CHECK.
Check continuity between control unit harness terminals (15) and (10).

Condition of driver's door	Continuity
LH door is closed.	No
LH door is open.	Yes

NG →

- Check door switch. Refer to EL-218.
- Check harness continuity between control unit harness terminal (15) and LH door switch harness terminal (1). **Continuity should exist.**
- Check harness continuity between LH door switch harness terminal (3) and body ground. **Continuity should exist.**

OK ↓

B WARNING CHIME POWER SUPPLY CHECK.
Measure voltage between warning chime harness terminal (3) and body ground. **Battery voltage should exist.**

NG → Check 7.5A fuse (24), harness and connector.

OK ↓

C WARNING CHIME OUTPUT SIGNAL CHECK.
Check continuity between warning chime harness terminal (1) and control unit harness terminal (23). **Continuity should exist.**

NG → Repair harness or connectors.

OK ↓

D WARNING CHIME CHECK
1. Disconnect warning chime connector.
2. Apply 12V direct current to warning chime.
Does warning chime work?

No → Replace warning chime.

Yes ↓

Step 1

E LIGHTING SWITCH INPUT SIGNAL CHECK.
Measure voltage between control unit harness terminals (25) and (10).

Condition	Voltage [V]
Lighting switch is ON.	Approx. 12
Lighting switch is OFF.	0

NG →

- Check lighting switch.
- Check harness continuity between control unit harness terminal (25) and lighting switch harness terminal (12). **Continuity should exist.**
- Measure voltage between lighting switch harness terminal (11) and body ground. **Battery voltage should exist.**

OK ↓

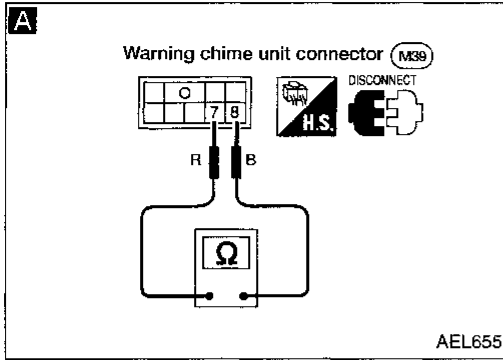
Replace control unit.

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WARNING CHIME

Trouble Diagnoses (Cont'd)

Models without power door locks

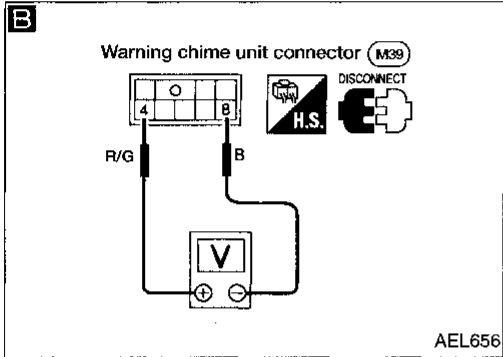


A Step 2

DOOR SWITCH INPUT SIGNAL CHECK.
Check continuity between warning chime unit harness terminals ⑦ and ⑧.

Condition of driver's door	Continuity
LH door is closed.	No
LH door is open.	Yes

- NG →
- Check door switch. Refer to EL-218.
 - Check harness continuity between warning chime unit harness terminal ⑦ and LH door switch harness terminal ①. **Continuity should exist.**
 - Check harness continuity between LH door switch harness terminal ③ and body ground. **Continuity should exist.**



B Step 1

LIGHTING SWITCH INPUT SIGNAL CHECK.
Measure voltage between warning chime unit harness terminals ④ and ⑧.

Condition	Voltage [V]
Lighting switch is ON.	Approx. 12
Lighting switch is OFF.	0

- NG →
- Check lighting switch.
 - Check harness continuity between warning chime unit harness terminal ④ and lighting switch harness terminal ⑫. **Continuity should exist.**
 - Measure voltage between lighting switch harness terminal ⑪ and body ground. **Battery voltage should exist.**

OK

Replace warning chime unit.

WARNING CHIME

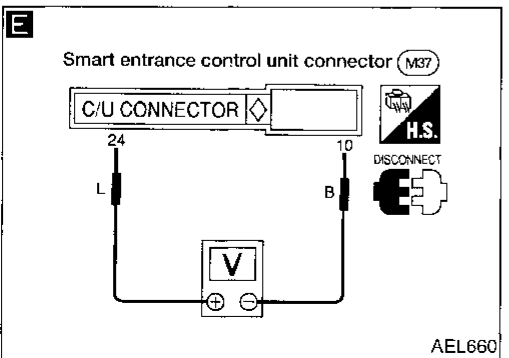
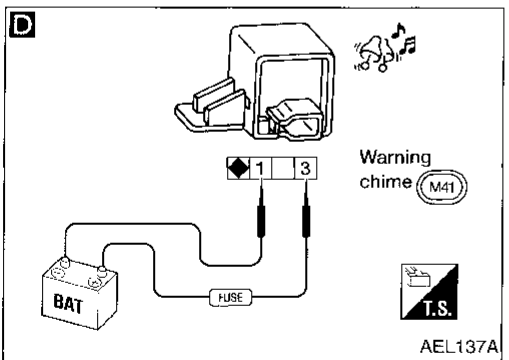
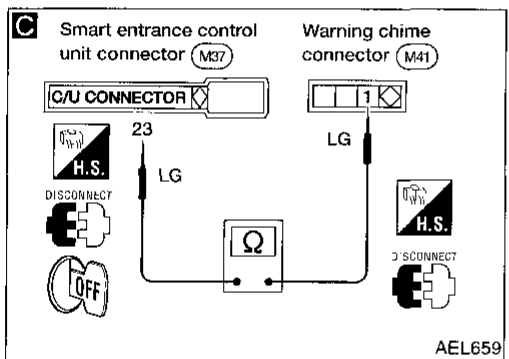
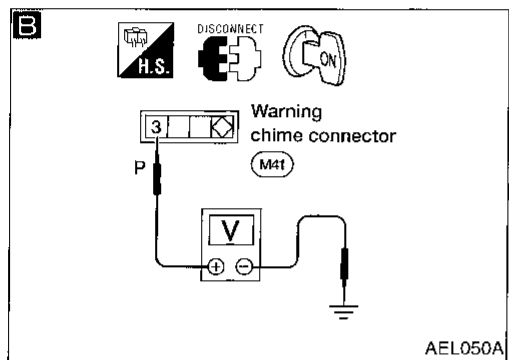
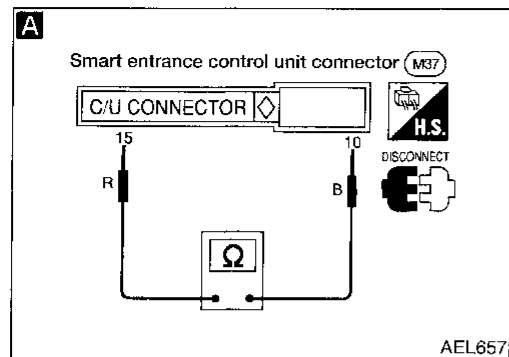
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Ignition key warning chime does not activate.

- Perform Preliminary check 2 before referring to the following flow chart.

Models with power door locks



Step 2

A DOOR SWITCH INPUT SIGNAL CHECK.
Check continuity between control unit harness terminals (15) and (10).

Condition of driver's door	Continuity
LH door is closed.	No
LH door is open.	Yes

• Check door switch. Refer to EL-218.
• Check harness continuity between control unit harness terminal (15) and LH door switch harness terminal (1). **Continuity should exist.**
• Check harness continuity between LH door switch harness terminal (3) and body ground. **Continuity should exist.**

B WARNING CHIME POWER SUPPLY CHECK.
Measure voltage between warning chime harness terminal (3) and body ground. **Battery voltage should exist.**

• Check 7.5A fuse (24), harness and connector.

C WARNING CHIME OUTPUT SIGNAL CHECK.
Check continuity between warning chime harness terminal (1) and control unit harness terminal (23). **Continuity should exist.**

Repair harness or connectors.

D WARNING CHIME CHECK.
1. Disconnect warning chime connector
2. Apply 12V direct current to warning chime.
Does warning chime work?

Replace warning chime.

Step 1

E IGNITION KEY SWITCH INPUT SIGNAL CHECK.
Measure voltage between control unit harness terminals (24) and (10).

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

• Check ignition key switch.
• Check harness continuity between control unit harness terminal (24) and key switch harness terminal (2). **Continuity should exist.**
• Measure voltage between key switch harness terminal (1) and body ground. **Battery voltage should exist.**

Replace control unit.

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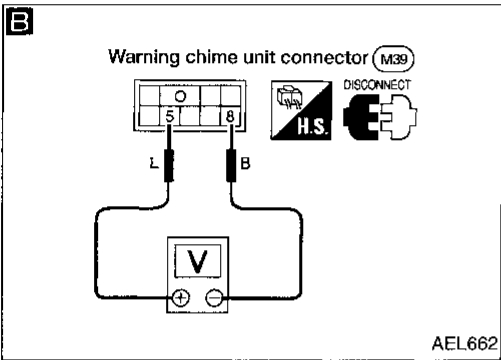
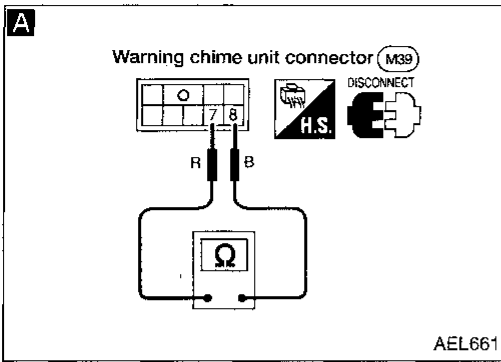
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WARNING CHIME

Trouble Diagnoses (Cont'd)

Models without power door locks



A Step 2

DOOR SWITCH INPUT SIGNAL CHECK.

Check continuity between warning chime unit harness terminals ⑦ and ⑧.

Condition of driver's door	Continuity
LH door is closed.	No
LH door is open.	Yes

NG

- Check door switch. Refer to EL-218.
- Check harness continuity between warning chime unit harness terminal ⑦ and LH door switch harness terminal ①. **Continuity should exist.**
- Check harness continuity between LH door switch harness terminal ③ and body ground. **Continuity should exist.**

OK

B Step 1

IGNITION KEY SWITCH INPUT SIGNAL CHECK.

Measure voltage between warning chime unit harness terminals ⑤ and ⑧.

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

NG

- Check ignition key switch.
- Check harness continuity between warning chime unit harness terminal ⑤ and key switch harness terminal ②. **Continuity should exist.**
- Measure voltage between key switch harness terminal ① and body ground. **Battery voltage should exist.**

OK

Replace warning chime unit.

WARNING CHIME

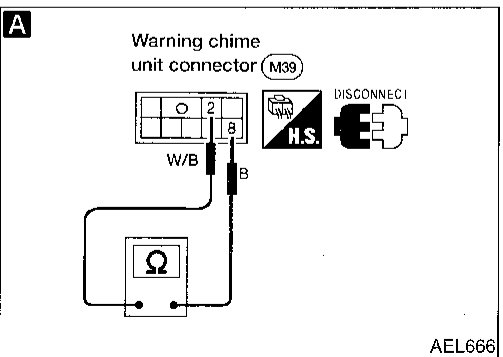
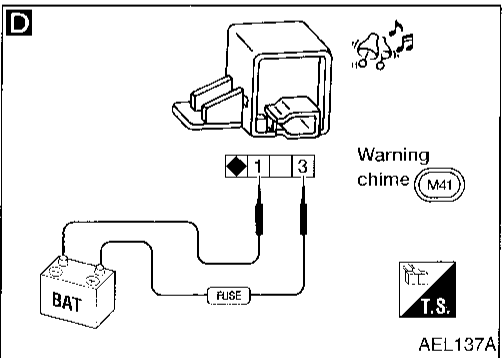
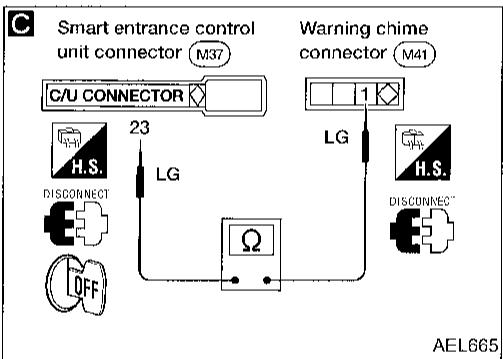
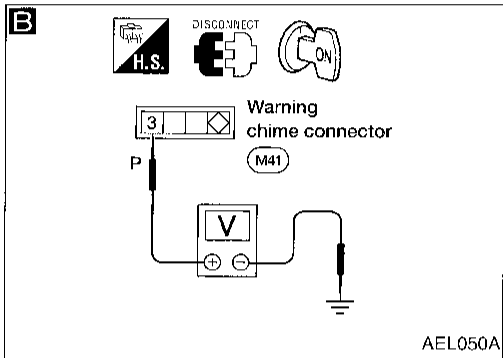
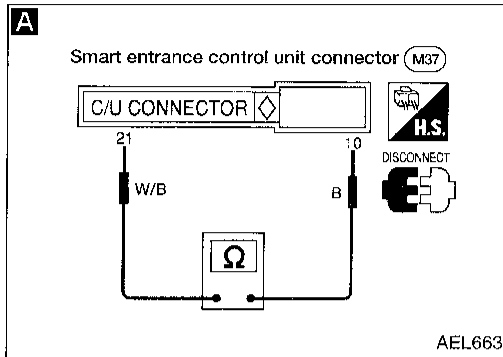
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: Seat belt warning chime does not activate.

- Perform Preliminary check 3 before referring to the following flow chart.

Models with power door locks



Step 2

A SEAT BELT SWITCH INPUT SIGNAL CHECK.
Check continuity between control unit harness terminals (21) and (10).

Condition	Continuity
Unfastened	Yes
Fastened	No

NG →

- Check seat belt switch.
- Check harness continuity between control unit harness terminal (21) and seat belt switch harness terminal (1). **Continuity should exist.**
- Check harness continuity between seat belt switch harness terminal (2) and body ground. **Continuity should exist.**

OK ↓

Step 1

B WARNING CHIME POWER SUPPLY CHECK.
Measure voltage between warning chime harness terminal (3) and body ground. **Battery voltage should exist.**

NG → Check 7.5A fuse (24), harness and connector.

OK ↓

C WARNING CHIME OUTPUT SIGNAL CHECK.
Check continuity between warning chime harness terminal (1) and control unit harness terminal (23). **Continuity should exist.**

NG → Repair harness or connectors.

OK ↓

D WARNING CHIME CHECK.
1. Disconnect warning chime connector.
2. Apply 12V direct current to warning chime.
Does warning chime work?

No → Replace warning chime.

Yes → Replace control unit.

Models without power door locks

A SEAT BELT SWITCH INPUT SIGNAL CHECK.
Check continuity between warning chime unit harness terminals (2) and (8).

Condition	Continuity
Unfastened	Yes
Fastened	No

NG →

- Check seat belt switch.
- Check harness continuity between warning chime unit harness terminal (2) and seat belt switch harness terminal (1). **Continuity should exist.**
- Check harness continuity between seat belt switch harness terminal (2) and body ground. **Continuity should exist.**

OK ↓

Replace warning chime unit.

System Description

WIPER OPERATION

The wiper switch is controlled by a lever built into the combination switch.

There are three wiper switch positions:

- LO speed
- HI speed
- INT (with Intermittent)

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

- through 20A fuse (No. 19 , located in the fuse block [J/B])
- to wiper motor terminal ⑥
- to wiper amplifier terminal ⑤ (with intermittent).

Ground is supplied to wiper amplifier terminal ③ through body grounds M43 , M44 and M60 (with intermittent).

Low and high speed wiper operation

Ground is supplied to wiper switch terminal ⑰ through body grounds E13 and E25 .

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

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

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

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

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

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

Auto stop operation (with intermittent)

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

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

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

Ground is also supplied:

- through terminal ⑬ of the wiper switch
- to wiper amplifier terminal ②
- through terminal ⑦ of the wiper amplifier
- to wiper motor terminal ⑤
- through terminal ④ of the wiper motor, and
- through body grounds M43 , M44 and M60 .

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

Auto stop operation (without intermittent)

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

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

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

Ground is also supplied:

- through terminal ⑬ of the wiper switch
- to wiper motor terminal ⑤
- through terminal ④ of the wiper motor, and
- through body grounds M43 , M44 and M60 .

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

Intermittent operation

The wiper motor operates the wiper arms one time at low speed at an interval of approximately 7 seconds. This feature is controlled by the intermittent wiper amplifier.

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

- to wiper amplifier terminal ①

WIPER AND WASHER

System Description (Cont'd)

- from wiper switch terminal ⑮
- through body grounds ①E13 and ①E25 , and
- to wiper motor terminal ②
- through the wiper switch terminal ⑭
- to wiper switch terminal ⑬
- through wiper amplifier terminal ②
- to wiper amplifier terminal ③
- through body grounds ①M43 , ①M44 and ①M60 .

WASHER OPERATION

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

- through 20A fuse (No. ①I9 , located in the fuse block [J/B])
- to washer motor terminal ①.

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

- to washer motor terminal ②, and
- to wiper amplifier terminal ⑥ (with intermittent)
- from terminal ⑱ of the wiper switch
- through terminal ⑰ of the wiper switch, and
- through body grounds ①E13 and ①E25 .

With power and ground supplied, the washer motor operates.

If equipped with intermittent wipers, the wiper motor is activated when the lever is pulled to WASH for 1 second or more. The motor operates at low for approximately 3 seconds. This feature is controlled by the wiper amplifier in the same manner as the intermittent operation.

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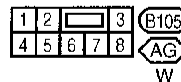
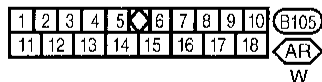
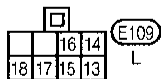
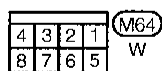
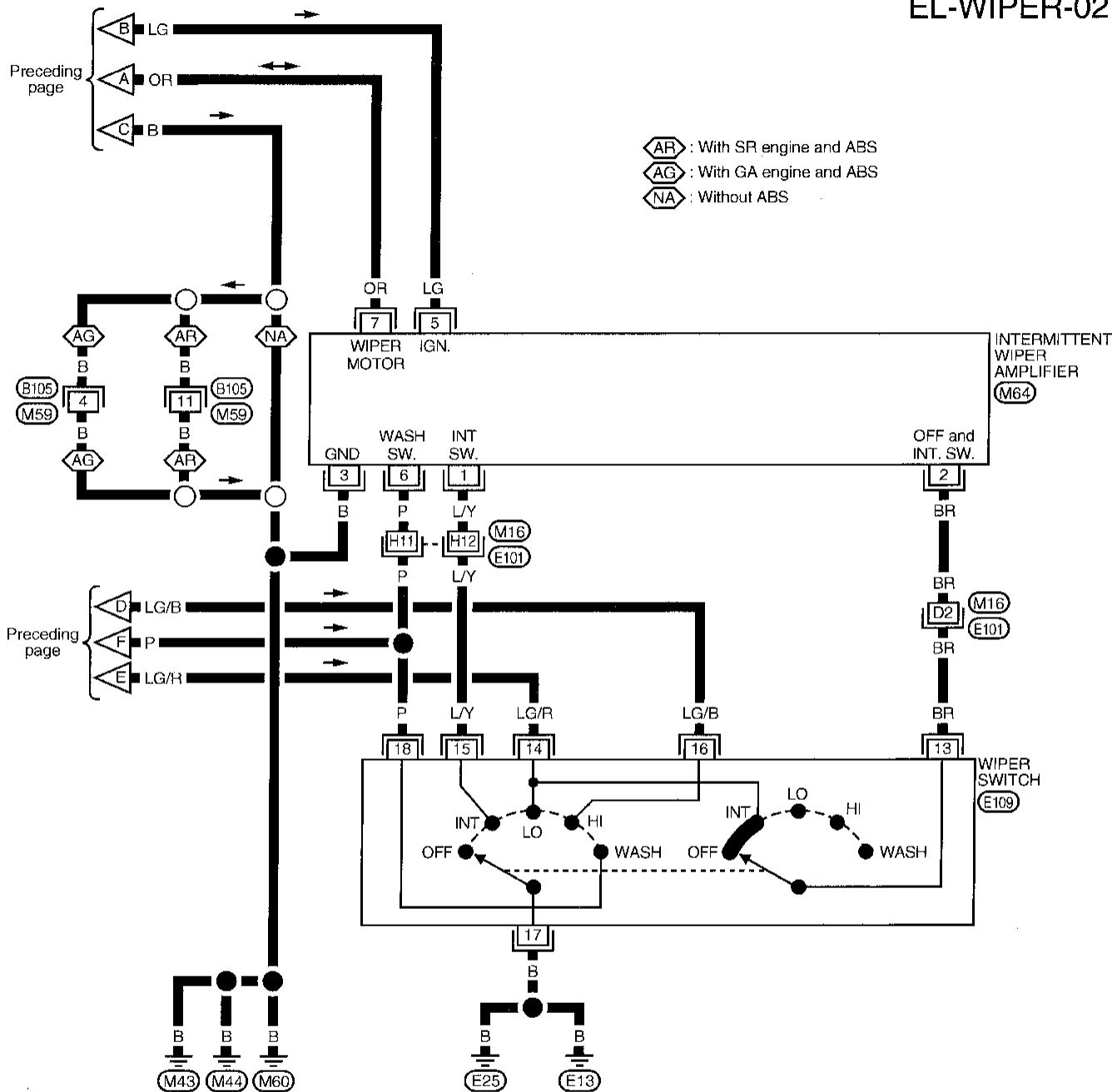
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WIPER AND WASHER

Wiring Diagram -WIPER- (Cont'd)

EL-WIPER-02



Refer to last page (Foldout page).

(M16) (E101)

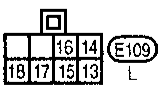
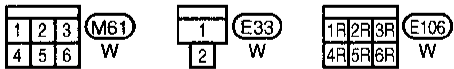
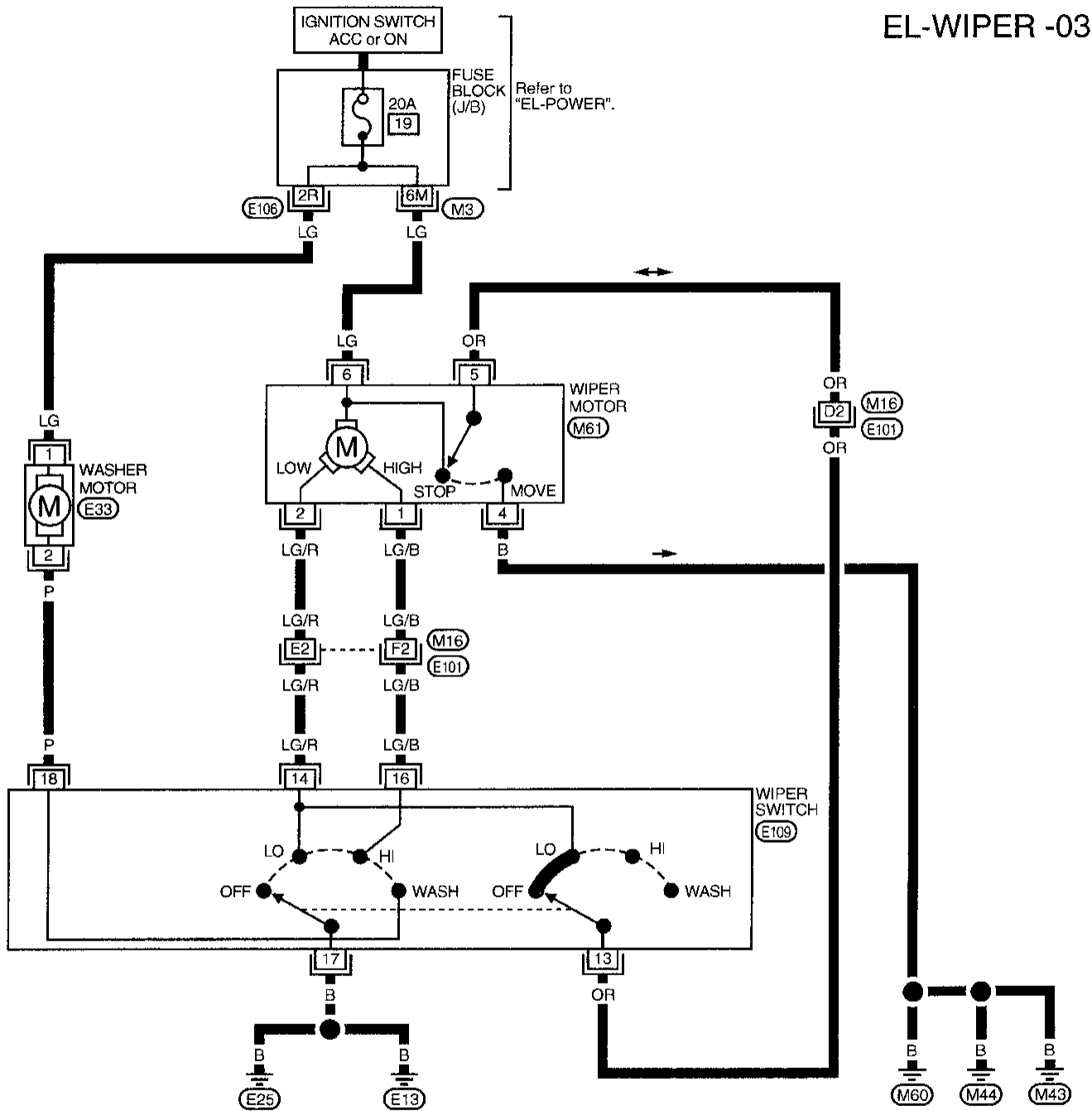
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WIPER AND WASHER

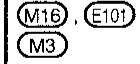
Wiring Diagram -WIPER- (Cont'd)

MODELS WITHOUT INTERMITTENT WIPERS

EL-WIPER -03



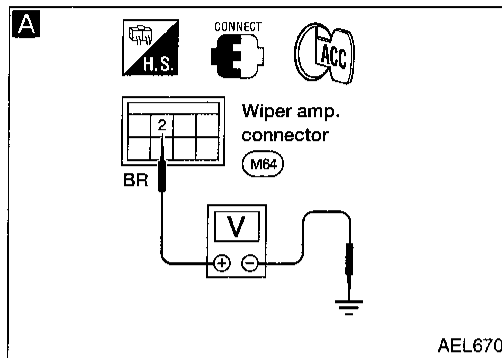
Refer to last page (Foldout page).



Trouble Diagnoses

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Intermittent wiper does not operate.

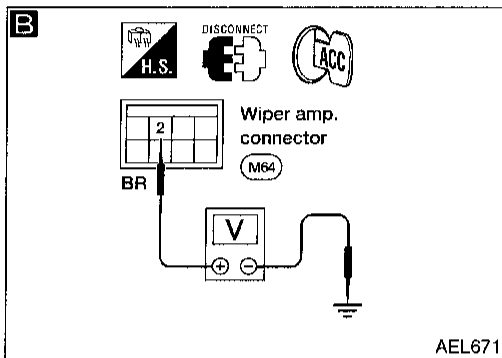


A
WIPER AMP. OUTPUT SIGNAL CHECK.

1. Turn ignition switch to ACC.
2. Move wiper switch to INT or OFF.
3. Measure voltage between wiper amp. harness terminal ② and body ground.

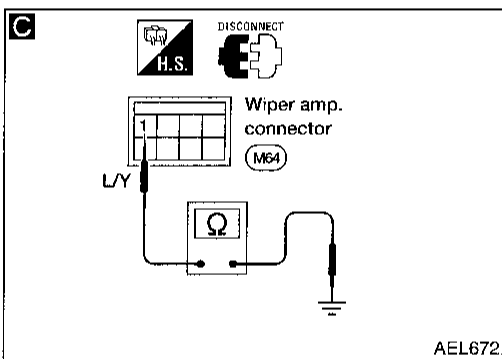
Condition of wiper switch	Voltage [V]
OFF	Approx. 12
INT	Pointer swings from 0 to 12 every 7 seconds

OK → Check wiper motor.



B
VOLTAGE CHECK.
Measure voltage between wiper amp. harness terminal ② and body ground.
Battery voltage should exist.

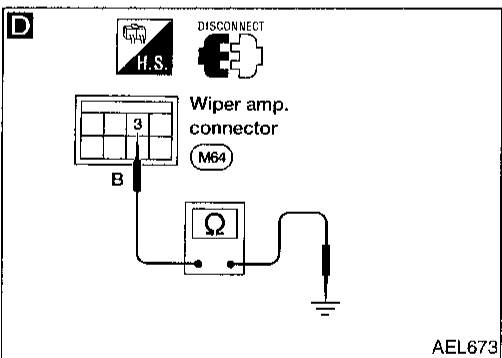
- NG →
- Check wiper switch.
 - Check wiper motor.
 - Check harness continuity between wiper amp. harness terminal ② and wiper switch harness terminal ⑬.
Continuity should exist.
 - Check harness continuity between wiper switch harness terminal ⑭ and wiper motor harness terminal ②.
Continuity should exist.



C
INTERMITTENT SWITCH INPUT SIGNAL CHECK.
Check harness continuity between wiper amp. harness terminal ① and body ground.

Condition of wiper switch	Continuity
OFF	No
INT	Yes

- NG →
- Check wiper switch.
 - Check harness continuity between wiper amp. harness terminal ① and wiper switch harness terminal ⑮.
Continuity should exist.
 - Check harness continuity between wiper switch harness terminal ⑰ and body ground.
Continuity should exist.



D
WIPER AMP. GROUND CIRCUIT CHECK.
Check harness continuity between wiper amp. harness terminal ③ and body ground.
Continuity should exist.

NG → Repair harness or connector.

OK → Replace wiper amp.

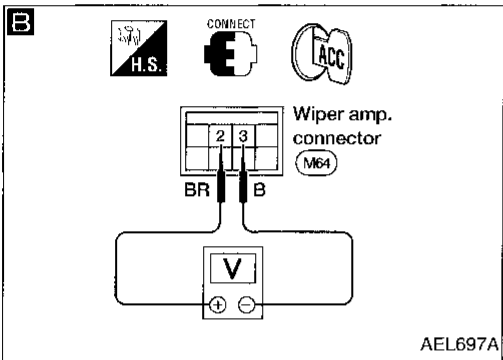
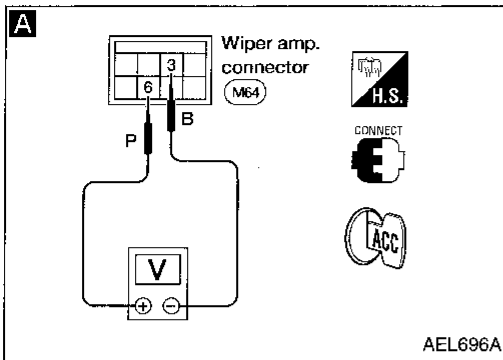
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WIPER AND WASHER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

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



A

WASHER SWITCH INPUT SIGNAL CHECK.

1. Turn ignition switch to ACC.
2. Measure voltage between wiper amp. harness terminals ⑥ and ③.

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

NG → Check harness continuity between wiper amp. harness terminal ⑥ and wiper switch harness terminal ⑱.

OK

B

WIPER AMP. OUTPUT SIGNAL CHECK.

Measure voltage between wiper amp. harness terminals ② and ③ after operating washer switch.
0V for approx. 3 seconds after washer has operated.

NG → Check wiper switch.

OK

Replace wiper amp.

Wiper Installation and Adjustment

1. Turn ignition ON.
2. Prior to wiper arm installation, turn on wiper switch and then turn it OFF. Allow wiper to operate until its Auto Stop position is reached before turning ignition OFF.
3. Lift the blade up and then set it down onto glass surface. Set the blade center to clearance "L" just before tightening nut.
4. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it OFF.
5. Ensure that wiper blades stop within clearance "L".

Clearance "L": 27 - 41 mm (1.06 - 1.61 in)

- Tighten windshield wiper arm nuts to specified torque.

Windshield wiper:

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

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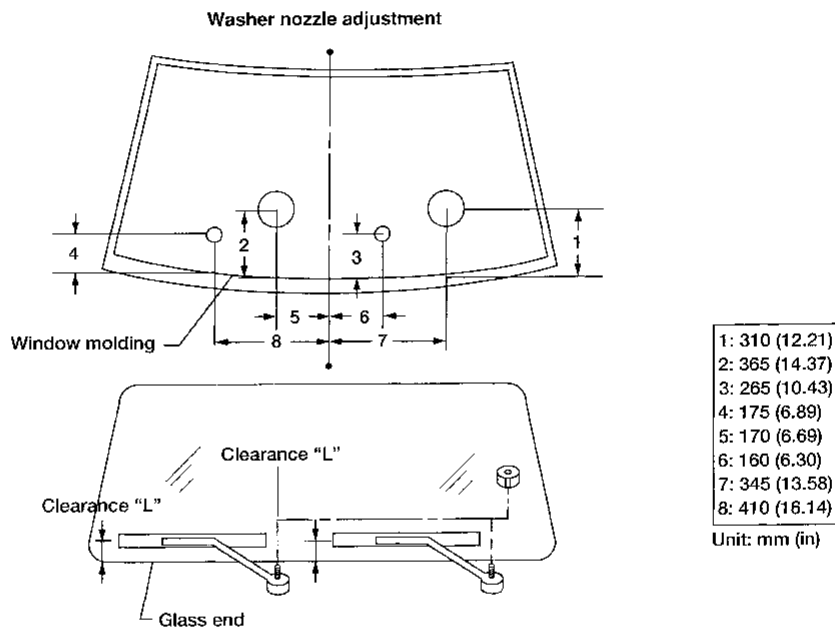
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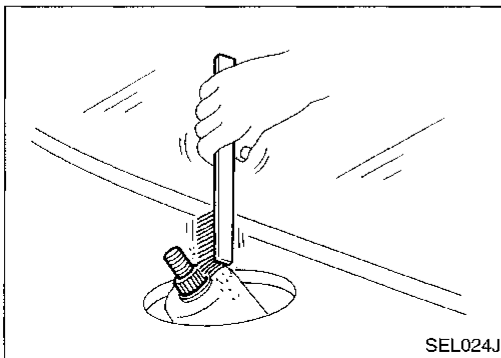
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Windshield wiper and washer



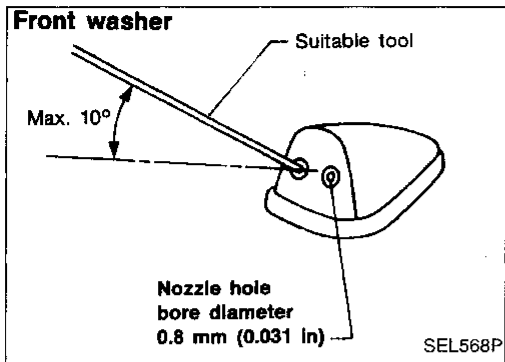
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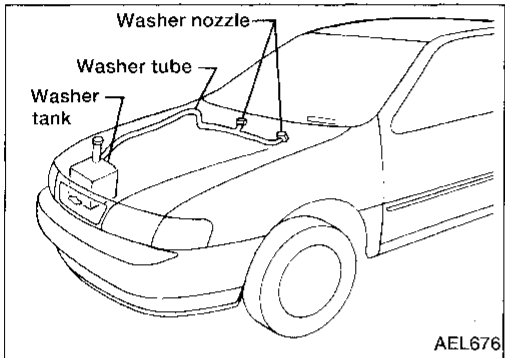
- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.

WIPER AND WASHER

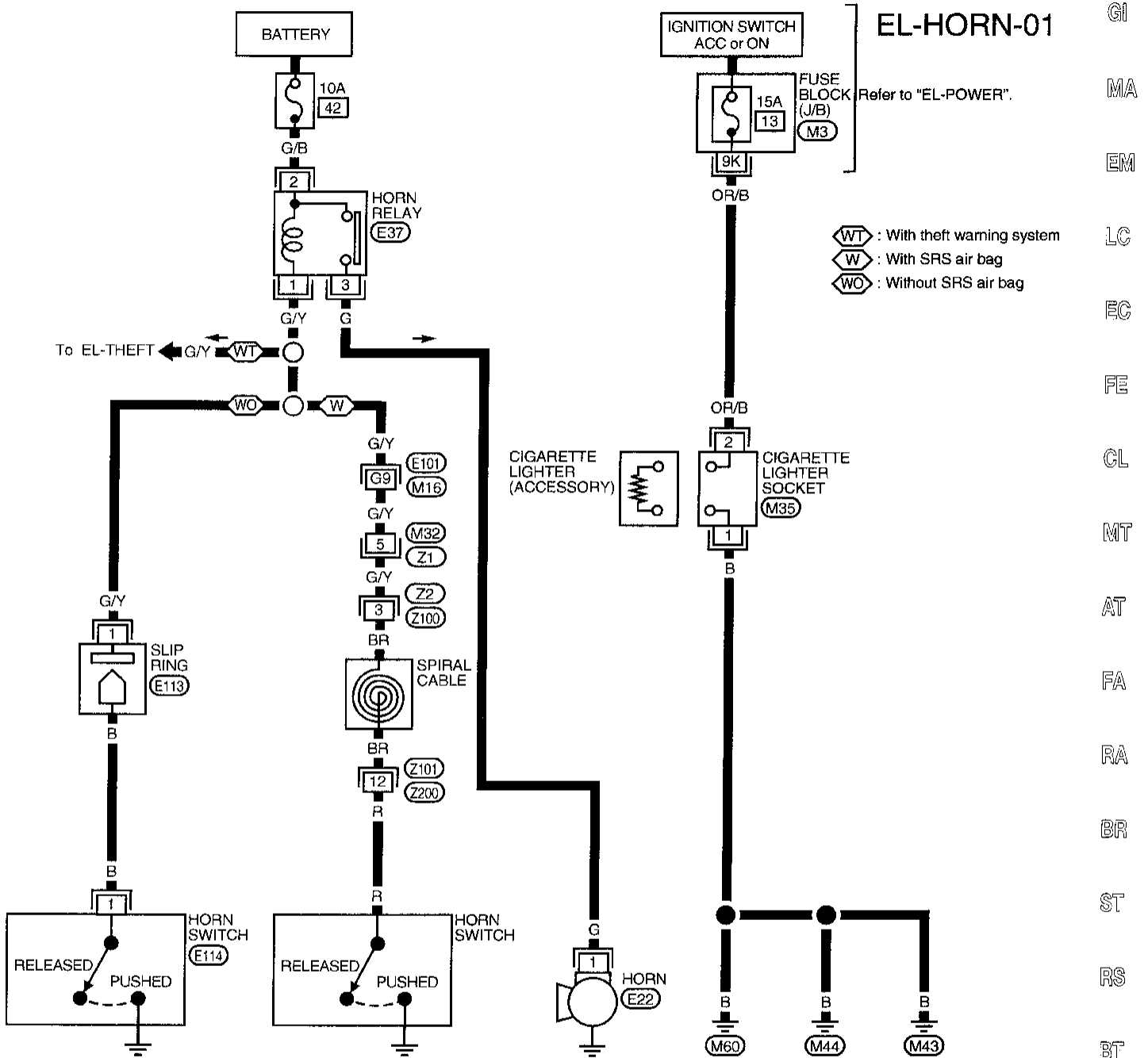


Washer Nozzle Adjustment

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



Wiring Diagram -HORN-



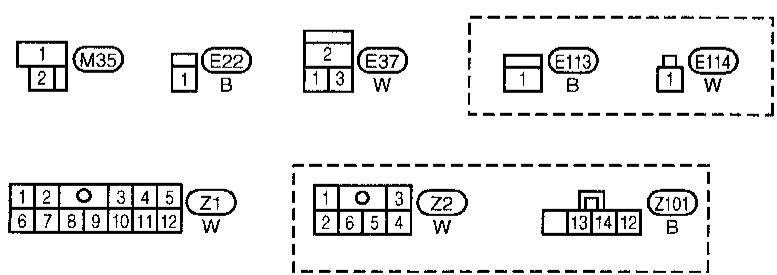
EL-HORN-01

Refer to "EL-POWER".

- : With theft warning system
- : With SRS air bag
- : Without SRS air bag

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REAR WINDOW DEFOGGER

System Description

If equipped with power door locks, the rear defogger system is controlled by the smart entrance control unit. If not equipped with power door locks, the rear defogger system is controlled by the rear window defogger timer. The rear window defogger operates for approximately 15 minutes.

Power is supplied at all times:

- through 20A fuse (No. ④ , located in the fuse block [J/B])
- to rear window defogger relay terminal ③ and
- through 20A fuse (No. ⑤ , located in the fuse block [J/B])
- to rear window defogger relay terminal ⑥.

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

- through 7.5A fuse (No. ⑦ , located in the fuse block [J/B])
- to rear window defogger relay terminal ① and
- to smart entrance control unit terminal ⑪ (models with power door lock), or
- to rear window defogger timer terminal ① (models without power door lock).

Ground is supplied to terminal ② of the rear window defogger switch through body grounds ①M43 , ①M44 and ①M60 .

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

- through terminal ① of the rear window defogger switch
- to smart entrance control unit terminal ⑫ (models with power door lock) or
- to rear window defogger timer terminal ③ (models without power door lock).

Terminal ③⑥ of the smart entrance control unit (models with power door lock) or terminal ② of the rear window defogger timer (models without power door lock) then supplies ground to the rear window defogger relay terminal ②.

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

Power is supplied:

- through terminals ⑤ and ⑦ of the rear window defogger relay
- to rear window defogger terminal ①.

Ground is supplied to terminal ② of rear window defogger through body ground ①B202 .

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

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

Power is supplied:

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

Terminal ④ of the rear window defogger switch is grounded through body grounds ①M43 , ①M44 and ①M60 .

REAR WINDOW DEFOGGER

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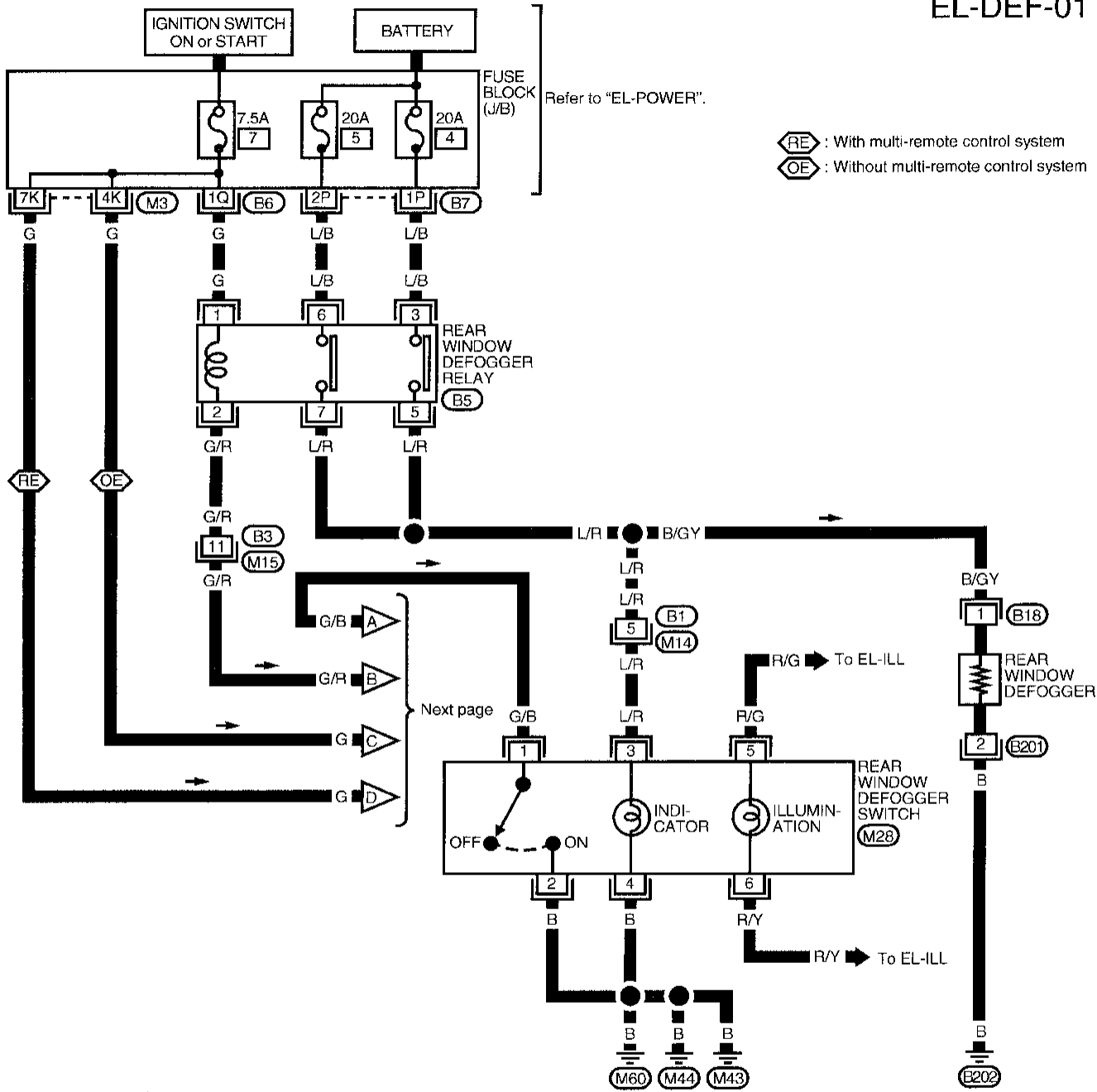
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REAR WINDOW DEFOGGER

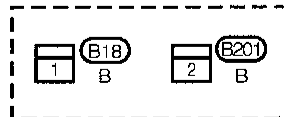
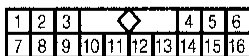
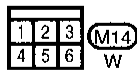
Wiring Diagram -DEF-

EL-DEF-01



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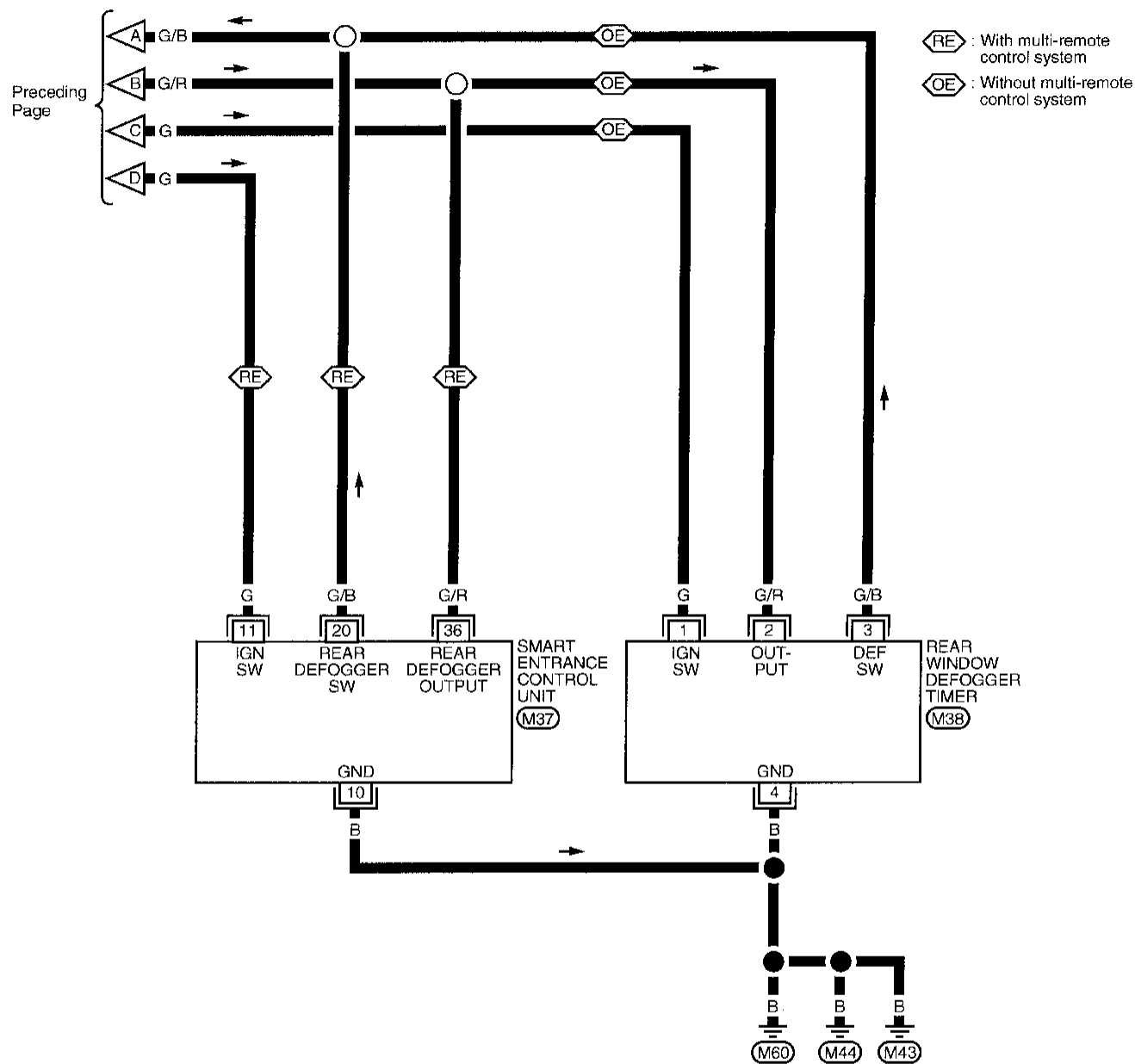
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REAR WINDOW DEFOGGER

Wiring Diagram -DEF- (Cont'd)

EL-DEF-02



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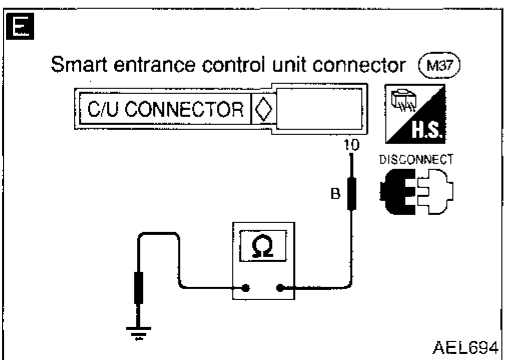
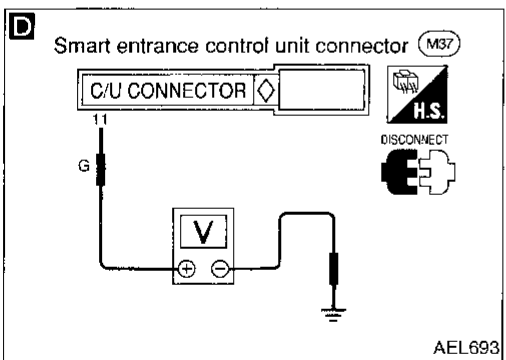
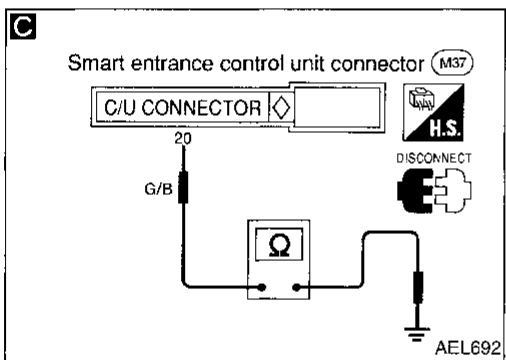
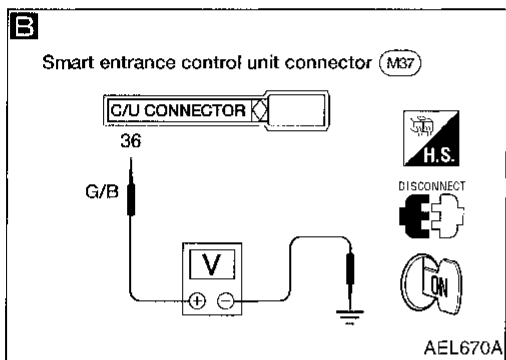
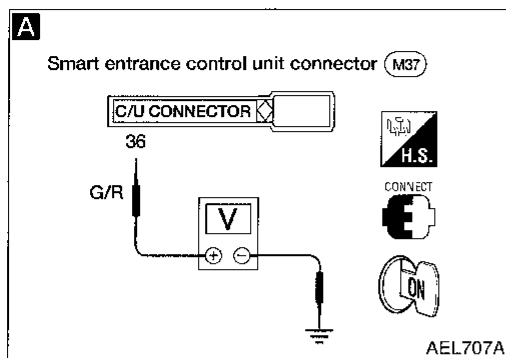
REAR WINDOW DEFOGGER

Trouble Diagnoses

DIAGNOSTIC PROCEDURE

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

Models with power door lock



A

REAR WINDOW DEFOGGER OUTPUT SIGNAL CHECK.

1. Turn ignition switch ON.
2. Measure voltage between control unit harness terminal (36) and body ground.

Condition	Voltage [V]
Rear defogger switch is OFF.	Approx. 12
Rear defogger switch is ON.	0

OK →

- Check rear window defogger relay. Refer to EL-138.
- Check rear window defogger circuit.
- Check rear window defogger filament. Refer to EL-138.

NG →

B

1. Disconnect control unit connector.
2. Turn ignition switch ON.
3. Check voltage between control unit harness terminal (36) and body ground. **Battery voltage should exist.**

NG →

Check the following.

- 7.5A fuse [No. 7, located in the fuse block (J/B)]
- Rear window defogger relay.
- Harness for open or short

OK →

C

REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL CHECK.

Check continuity between control unit harness terminal (20) and body ground.

Condition of defogger switch	Continuity
Rear defogger switch is pushed.	Yes
Rear defogger switch is released.	No

NG →

- Check rear window defogger switch. Refer to EL-138.
- Check continuity between control unit harness terminal (20) and rear window defogger switch harness terminal (1). **Continuity should exist.**
- Check continuity between rear window defogger switch harness terminal (2) and body ground. **Continuity should exist.**

OK →

D

IGNITION INPUT SIGNAL CHECK.

Check voltage between control unit harness terminal (11) and body ground.

Condition	Voltage [V]
Ignition switch is ON.	Approx. 12
Ignition switch is OFF.	0

NG →

Repair harness or connectors.

OK →

E

CONTROL UNIT GROUND CIRCUIT CHECK.

Check continuity between control unit harness terminal (10) and body ground. **Continuity should exist.**

NG →

Repair harness or connectors.

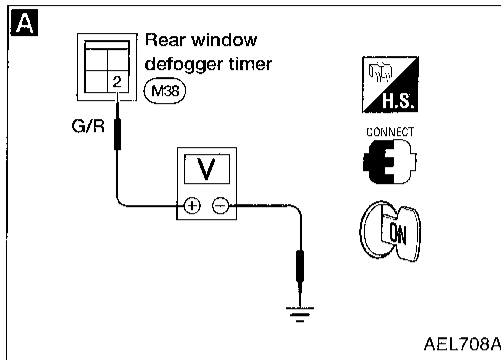
OK →

Replace control unit.

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

Models without power door lock



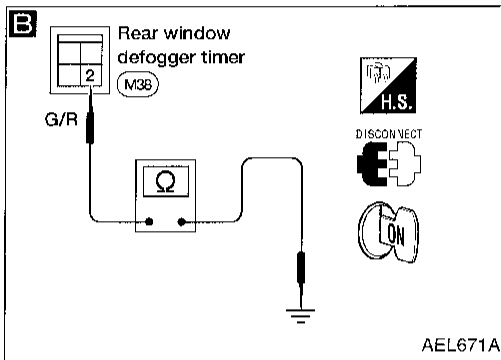
A

REAR WINDOW DEFOGGER OUTPUT SIGNAL CHECK.

1. Turn ignition switch ON.
2. Measure voltage between rear window defogger timer harness terminal ② and body ground.

Condition	Voltage [V]
Rear defogger switch is OFF.	Approx. 12
Rear defogger switch is ON.	0

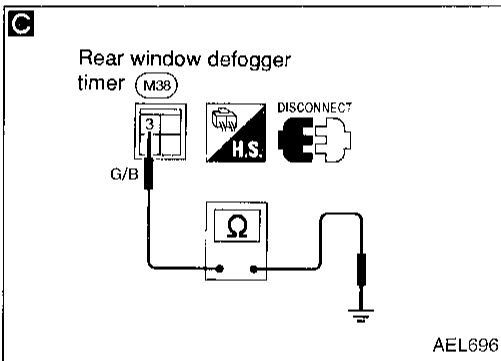
- OK
- Check rear window defogger relay. Refer to EL-138.
 - Check rear window defogger circuit.
 - Check rear window defogger filament. Refer to EL-138.



B

1. Disconnect rear window defogger timer connector.
2. Turn ignition switch ON.
3. Check voltage between rear window defogger timer terminal ② and body ground. **Battery voltage should exist.**

- NG
- Check the following.
- 7.5A fuse [No. 7], located in the fuse block (J/B)
 - Rear window defogger relay.
 - Harness for open or short



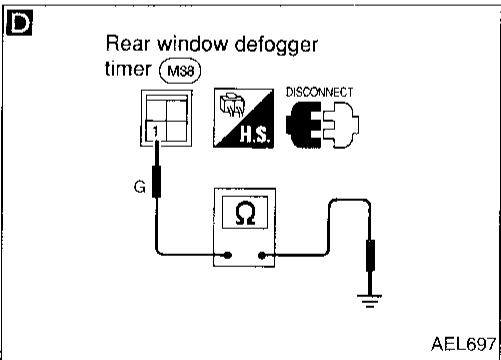
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REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL CHECK.

Check continuity between rear window defogger timer harness terminal ③ and body ground.

Condition of defogger switch	Continuity
Rear defogger switch is pushed.	Yes
Rear defogger switch is released.	No

- NG
- Check rear window defogger switch. Refer to EL-138.
 - Check continuity between rear window defogger timer harness terminal ③ and rear window defogger switch harness terminal ①. **Continuity should exist.**
 - Check continuity between rear window defogger switch harness terminal ② and body ground. **Continuity should exist.**



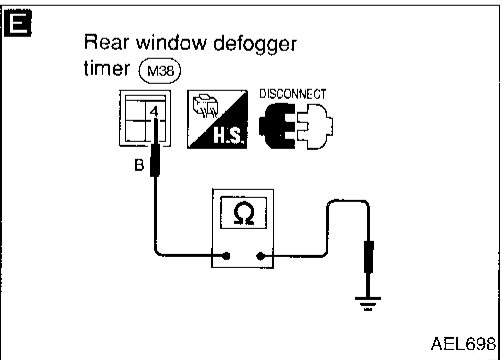
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IGNITION INPUT SIGNAL CHECK.

Check voltage between rear window defogger timer harness terminal ① and body ground.

Condition	Voltage [V]
Ignition switch is ON.	Approx. 12
Ignition switch is OFF.	0

- NG
- Repair harness or connectors.



E

CONTROL UNIT GROUND CIRCUIT CHECK.

Check continuity between rear window defogger timer harness terminal ④ and body ground. **Continuity should exist.**

- NG
- Repair harness or connectors.

OK

Replace control unit.

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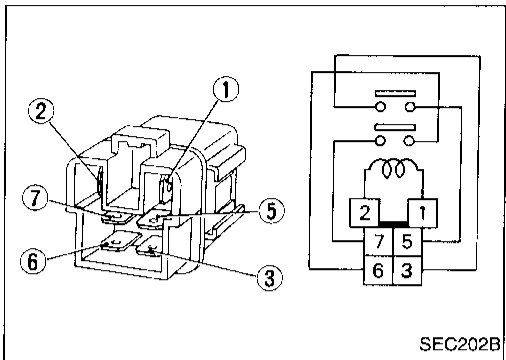
REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

ELECTRICAL COMPONENTS INSPECTION

Rear window defogger relay

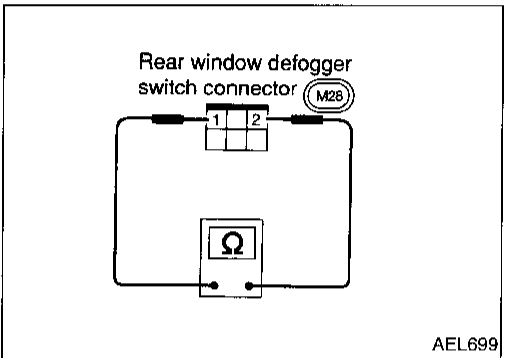
Check continuity between terminals ③ and ⑤, ⑥ and ⑦.



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

Rear window defogger switch

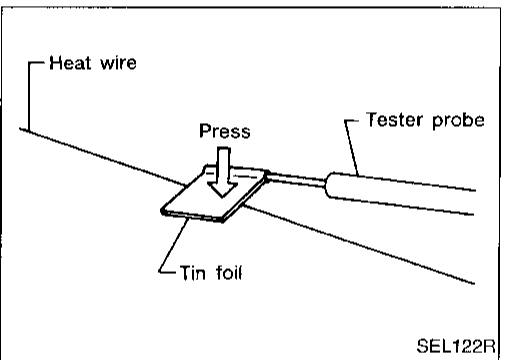
Check continuity between terminals when rear window defogger switch is pushed and released.



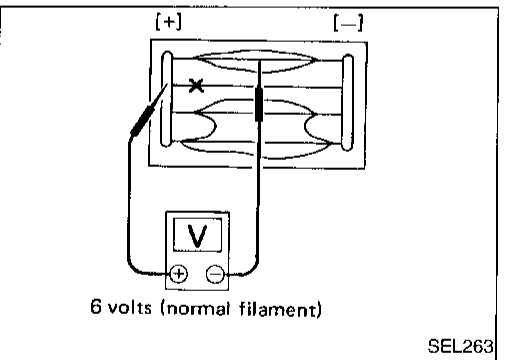
Terminals	Condition	Continuity
① - ②	Rear window defogger switch is pushed	Yes
	Rear window defogger switch is released	No

Filament Check

- When measuring voltage, wrap tin foil around the top of the negative probe. Press the foil against the wire with your finger. This action will prevent damage to the element.

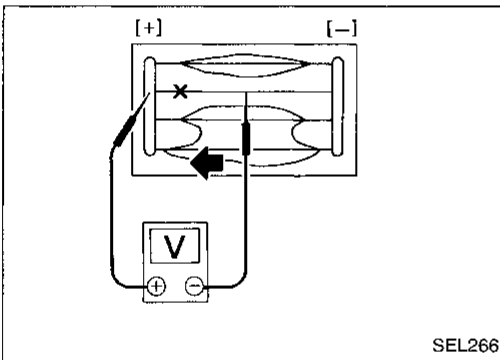
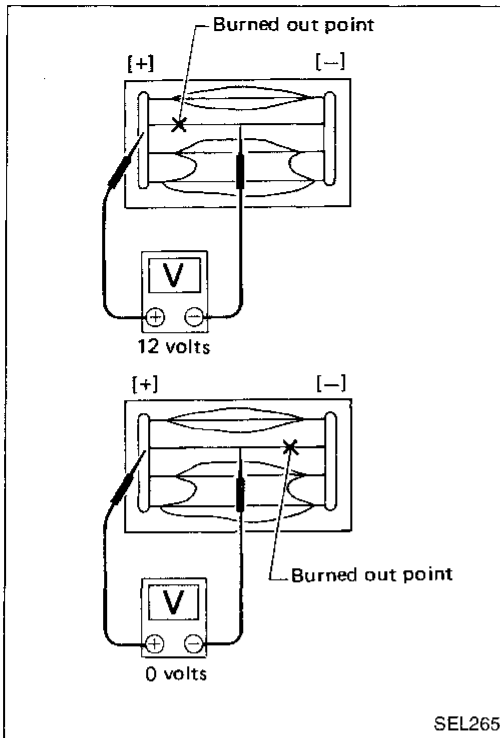


1. Attach probe circuit tester (in volt range) to middle portion of each filament.



REAR WINDOW DEFOGGER

Filament Check (Cont'd)



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

3. To locate burned out point, move probe to left and right along filament. Tester needle swings abruptly at the burned point.

Filament Repair

REPAIR EQUIPMENT

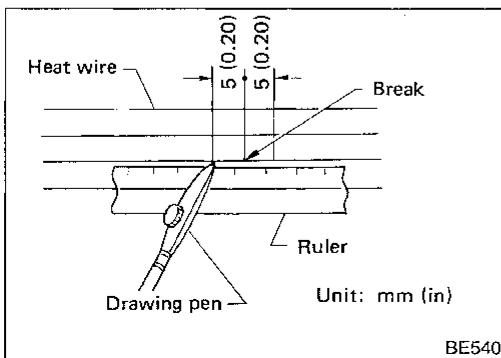
1. Conductive silver composition (Dupont No. 4817 or equivalent)
2. Ruler 30 cm (11.8 in) long
3. Drawing pen
4. Heat gun
5. Alcohol
6. Cloth

REPAIR 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.



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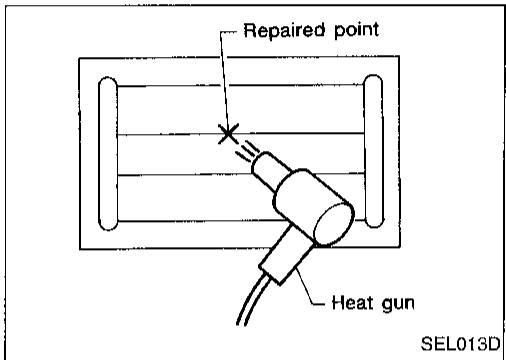
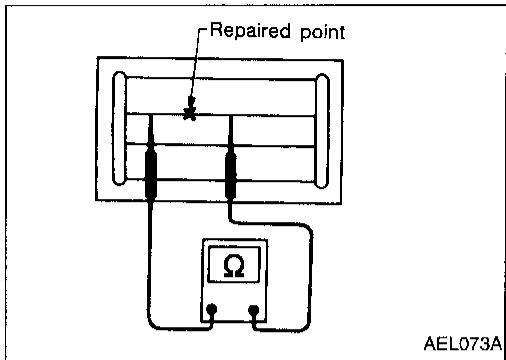
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REAR WINDOW DEFOGGER

Filament Repair (Cont'd)



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

Do not touch repaired area while test is being conducted.

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

System Description

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

Power is supplied at all times:

- through 7.5A fuse (No. 24 , located in the fuse block [J/B])
- to radio/radio and cassette player terminal ⑥.

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

- through 15A fuse (No. 10 , located in the fuse block [J/B])
- to radio/radio and cassette player terminal ⑩.

Ground is supplied through the case of the radio/radio and cassette player.

When the system is on, audio signals are supplied:

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

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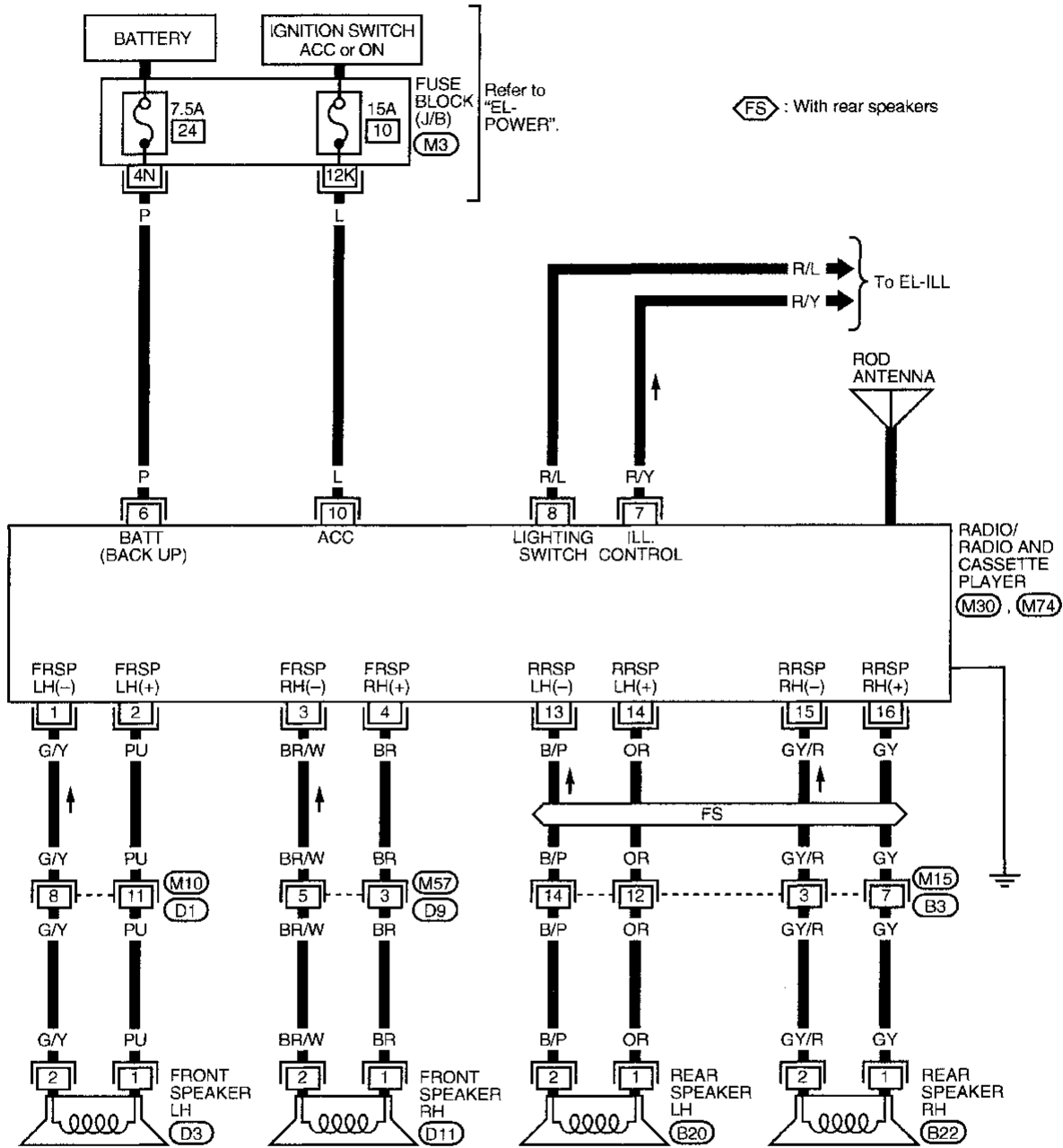
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AUDIO

Wiring Diagram -AUDIO-

EL-AUDIO-01

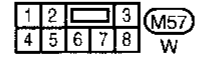
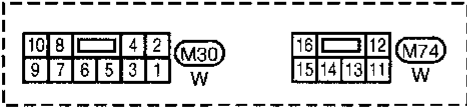
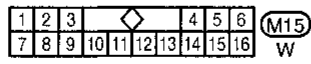
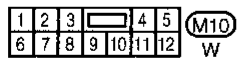


FS : With rear speakers

Refer to "EL-POWER".

RADIO/
RADIO AND
CASSETTE
PLAYER
(M30, M74)

Refer to last page (Foldout page).



M3

Trouble Diagnoses

Symptom	Possible causes	Repair order
Radio inoperative (no digital display and no sound from speakers).	<ol style="list-style-type: none"> 15A fuse Poor radio case ground Radio 	<ol style="list-style-type: none"> Check 15A fuse (No. 10 , located in fuse block [J/B]). Turn ignition switch ON and verify battery positive voltage is present at terminal 10 of radio. Check radio case ground. Remove radio for repair.
Radio controls are operational, but no sound is heard from any speaker.	<ol style="list-style-type: none"> Radio output Radio 	<ol style="list-style-type: none"> Check radio output voltages. Remove radio for repair.
Radio presets are lost when ignition switch is turned OFF.	<ol style="list-style-type: none"> 7.5A fuse Radio 	<ol style="list-style-type: none"> Check 7.5A fuse (No. 24 , located in fuse block [J/B]) and verify battery positive voltage is present at terminal 6 of radio. Remove radio for repair.
Rear speakers are inoperative.	<ol style="list-style-type: none"> Radio output Radio 	<ol style="list-style-type: none"> Check radio output voltages. Remove radio for repair.
Front speakers are inoperative.	<ol style="list-style-type: none"> Radio output Radio 	<ol style="list-style-type: none"> Check radio output voltages. Remove radio for repair.
Individual speaker is noisy or inoperative.	<ol style="list-style-type: none"> Speaker Radio output Speaker circuit Radio 	<ol style="list-style-type: none"> Check speaker. Check radio output voltages. Check wires for open or short between radio and speaker. Remove radio for repair.
AM stations are weak or noisy (FM stations OK).	<ol style="list-style-type: none"> Antenna Poor radio ground Radio 	<ol style="list-style-type: none"> Check antenna. Check radio ground. Remove radio for repair.
FM stations are weak or noisy (AM stations OK).	<ol style="list-style-type: none"> Antenna Radio 	<ol style="list-style-type: none"> Check antenna. Remove radio for repair.
Radio generates noise in AM and FM modes with engine running.	<ol style="list-style-type: none"> Poor radio ground Loose or missing ground bonding straps. Ignition condenser Generator Ignition coil or secondary wiring Radio 	<ol style="list-style-type: none"> Check radio ground. Check ground bonding straps. Replace ignition condenser. Check generator. Check ignition coil and secondary wiring. 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"> Poor radio ground Antenna Accessory ground Faulty accessory 	<ol style="list-style-type: none"> Check radio ground. Check antenna. Check accessory ground. Replace accessory.

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AUDIO

Trouble Diagnoses (Cont'd)

SPEAKER INSPECTION

1. Disconnect speaker harness connector.
2. Measure the resistance between speaker terminals ① and ②.
 - The resistance should be 2-4 Ω .
3. Using jumper wires, momentarily connect a 9V battery between speaker terminals ① and ②.
 - A momentary hum or pop should be heard.

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 connected (If removed for inspection, supply a ground to the case using a jumper wire.)

Radio voltages

Terminal	Voltage (V)
1	5 - 7.5
2	5 - 7.5
3	5 - 7.5
4	5 - 7.5
6	10.8 - 15.6
7	—
8	—
9	—
10	10.8 - 15.6
11	—
12	—
13	5 - 7.5
14	5 - 7.5
15	5 - 7.5
16	5 - 7.5

SUNROOF

System Description

POWER

Power is supplied to the sunroof motor assembly by the sunroof relay, or power window relay, if equipped. When the ignition switch is turned ON the relay is energized. The power circuit is protected by the circuit breaker. The sunroof motor assembly has an independent ground circuit.

GI

MA

TILT AND SLIDE OPERATION

The sunroof is controlled by the sunroof switch. With sunroof in closed position, depressing UP/CLOSE switch will tilt rear of sunroof up. The sunroof will stop when the switch is released, or when the sunroof reaches its maximum tilt position.

EM

The sunroof will tilt down when in tilt up position and DOWN/OPEN switch is depressed. The sunroof will stop when switch is released, or when sunroof is fully closed.

LC

With sunroof in closed position, pressing DOWN/OPEN switch will cause sunroof to slide open. The sunroof will slide open until switch is released or until it is all the way open. The sunroof will close when in open position, and UP/CLOSE switch is depressed. The sunroof will slide until switch is released, or when sunroof is fully closed.

EC

All automatic operations in sunroof are controlled by internal limit switches located in sunroof motor assembly.

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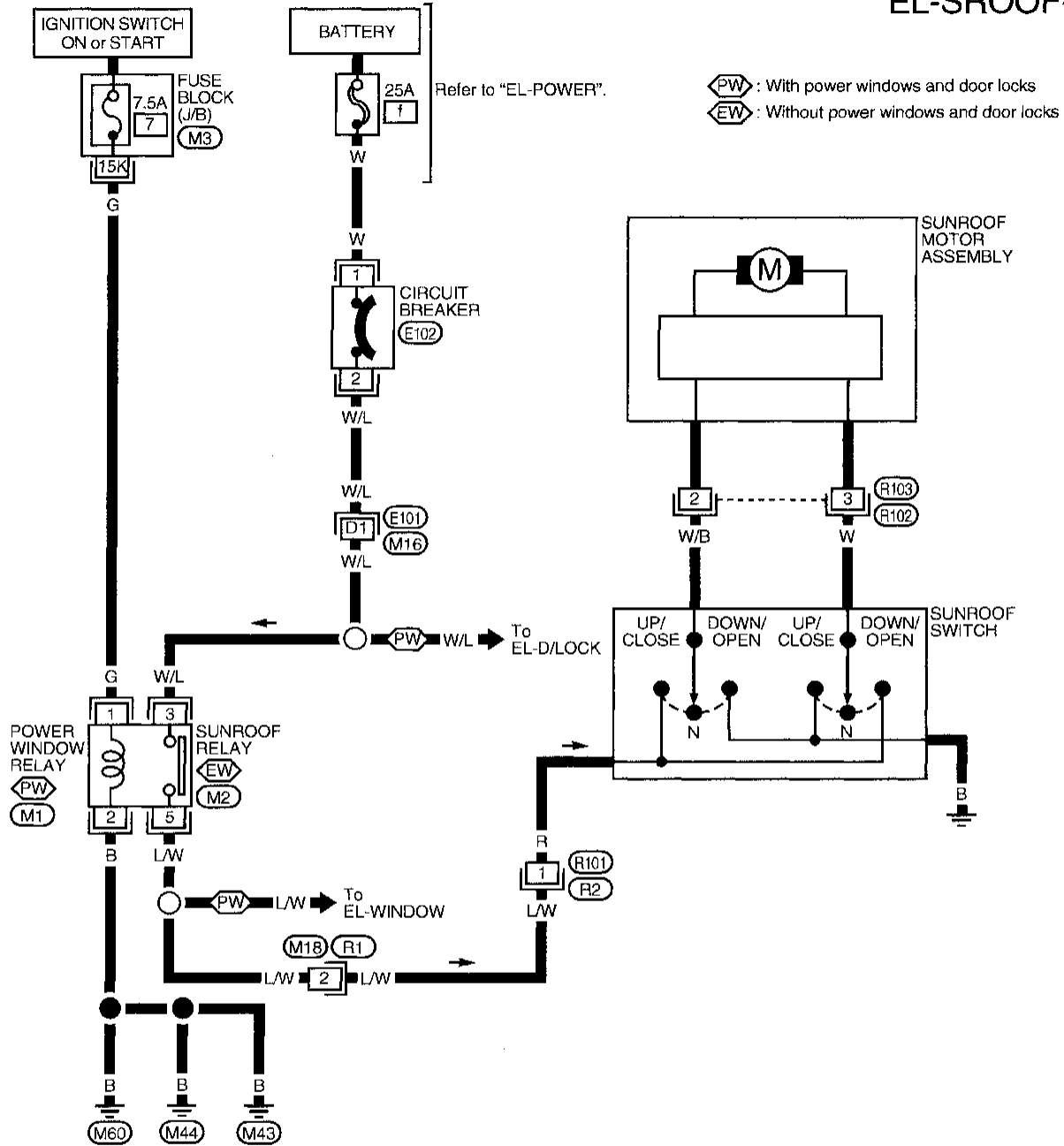
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SUNROOF

Wiring Diagram -SROOF-

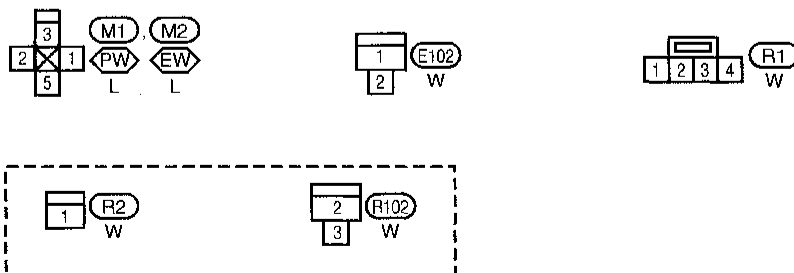
EL-SROOF-01



: With power windows and door locks
 : Without power windows and door locks

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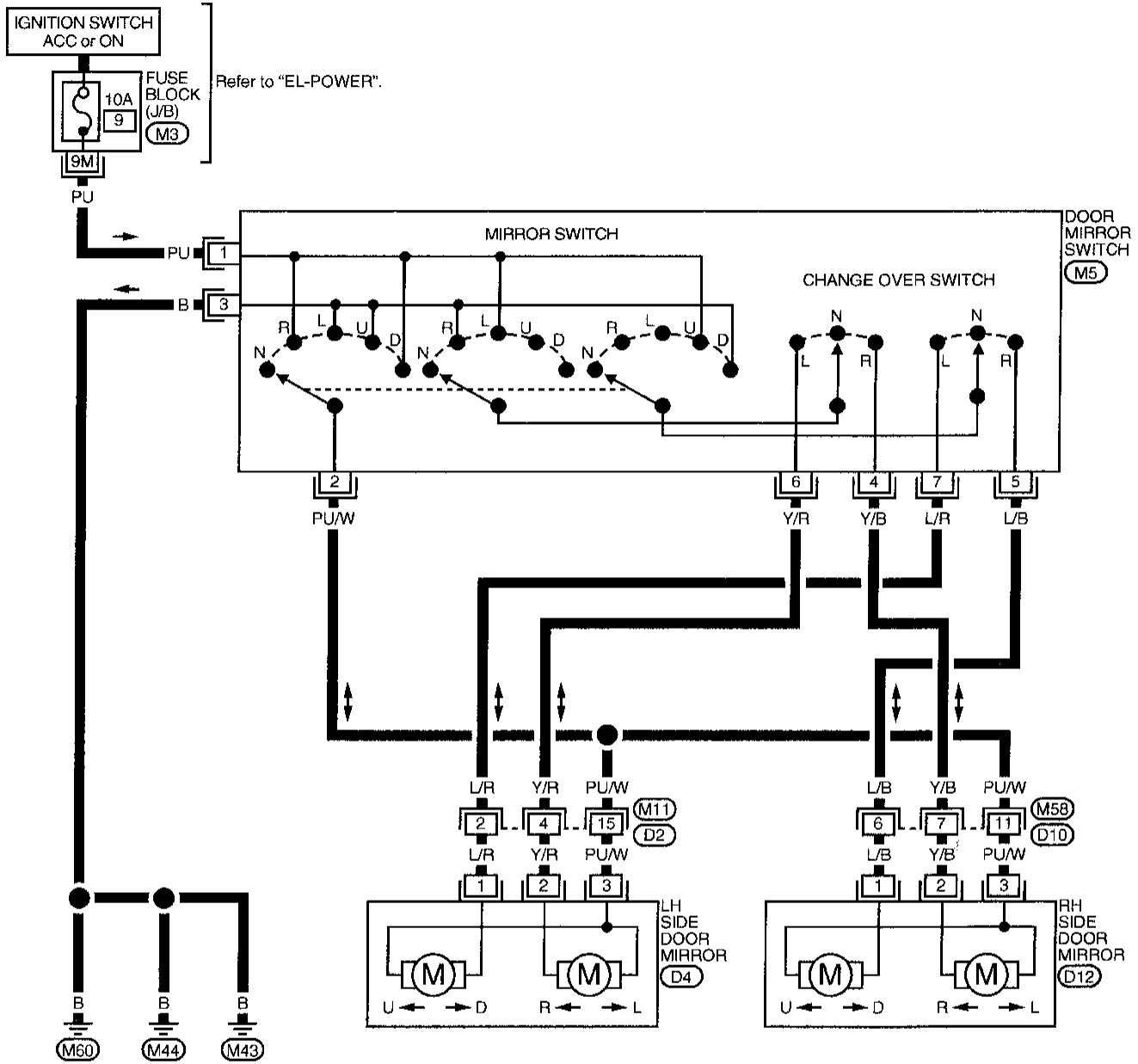


DOOR MIRROR

Wiring Diagram -MIRROR-

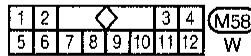
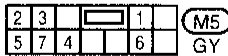
EL-MIRROR-01

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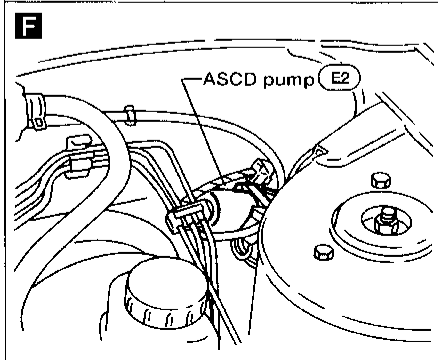
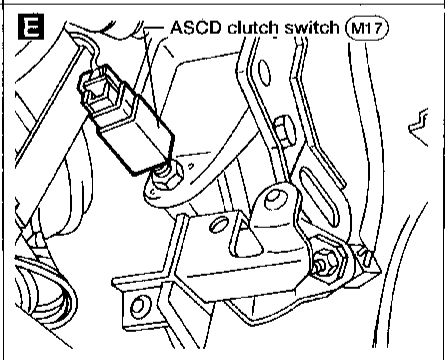
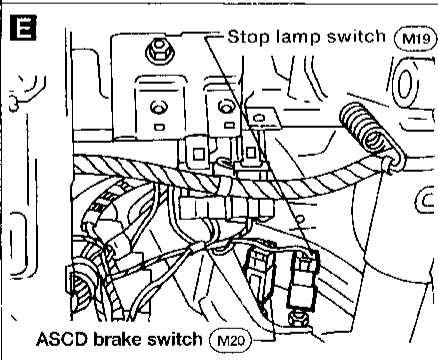
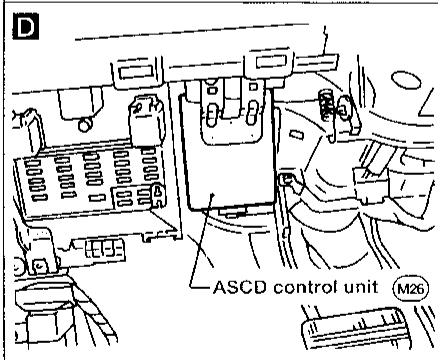
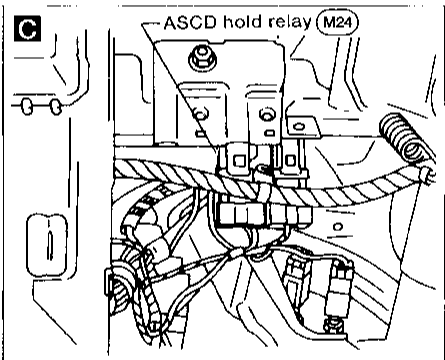
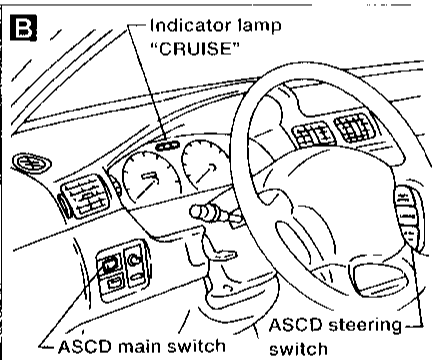
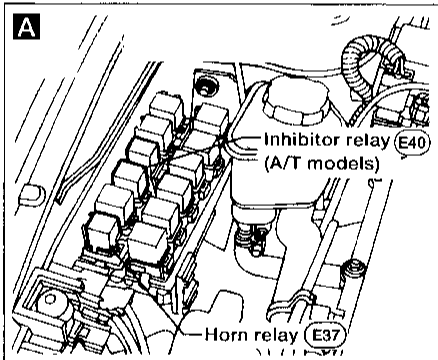
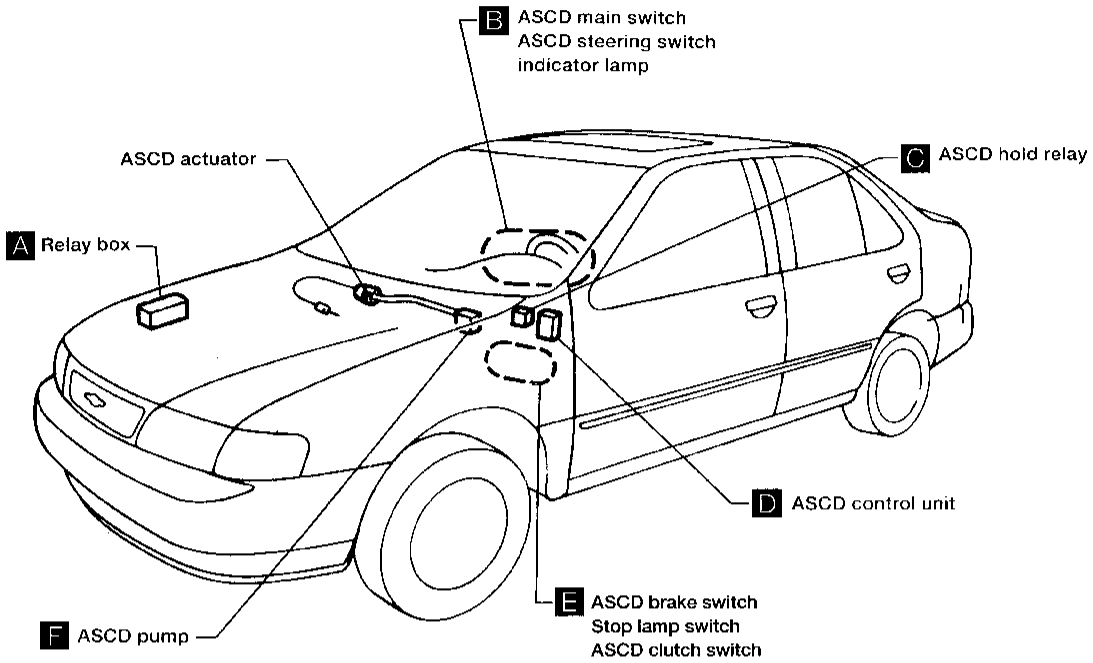
Refer to last page (Foldout page).

(M3)



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description*

Refer to Owner's Manual for ASCD operating instructions.

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

- through 7.5A fuse (No. 7), located in the fuse block [J/B])
- to ASCD main switch terminal ① and
- to ASCD hold relay terminal ⑤ (without GA engine and A/T)
- to ASCD hold relay terminal ⑦ (with GA engine and A/T) ←
- to ASCD brake switch terminal ① (with GA engine and A/T)
- through ASCD brake switch terminal ② (with GA engine and A/T)
- to ASCD hold relay terminal ⑤ (with GA engine and A/T).

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

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

Ground is supplied:

- to ASCD hold relay terminal ②
- through body grounds (M43), (M44) and (M60).

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

- from terminal ③ of the ASCD hold relay (without GA engine and A/T)
- from terminal ⑥ of the ASCD hold relay (with GA engine and A/T)
- to ASCD control unit terminal ④ and
- to ASCD clutch switch terminal ① (with M/T) or
- to inhibitor relay terminal ③ (with SR engine and A/T).

Power remains supplied 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 (M43), (M44) and (M60).

Inputs

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

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

A vehicle speed input is supplied:

- to ASCD control unit terminal ⑦
- from terminal ⑳ (㉓) of the combination meter.

Power is supplied at all times:

- through 15A fuse (No. 14), located in the fuse block [J/B])
- to stop lamp switch terminal ①.

When the brake pedal is depressed, power is supplied:

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

Power is supplied at all times:

- through 10A fuse (No. 42), located in the fusible link and fuse box)
- to horn relay terminal ②
- through terminal ① of the horn relay
- to ASCD steering switch terminal ㉑.

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

- from terminal ㉒ of the ASCD steering switch
- to ASCD control unit terminal ②.

When the RESUME/ACCEL button is depressed, power is supplied:

- from terminal ㉓ of the ASCD steering switch
- to ASCD control unit terminal ①.

*: Terminal numbers in () are for models without tachometer.

SMA98-077	'97 SENTRA/200SX	JULY 1996 (04)	SM7E-OB14UO
← ARROW INDICATES AMENDED INFORMATION			

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description* (Cont'd)

When the CANCEL button is depressed, power is supplied:

- to ASCD control unit terminals ① and ②.

When the system is activated, power is supplied:

- to ASCD control unit terminal ⑤.

Power is interrupted when:

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

Outputs

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

Power is supplied:

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

Ground is supplied to the vacuum motor:

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

Ground is supplied to the air valve:

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

Ground is supplied to the release valve:

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

When the system is activated, power is supplied:

- from terminal ⑬ of the ASCD control unit
- to combination meter terminal ⑳ (㉑) and
- to A/T control unit terminal ㉓ (with SR engine and A/T).

Ground is supplied:

- to combination meter terminal ㉒ (㉓)
- through body grounds M43, M44 and M60.

With power and ground supplied, the CRUISE indicator illuminates.

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

- from terminal ⑫ of the ASCD control unit
- to A/T control unit terminal ㉔ (with SR engine and A/T), or
- to A/T control valve terminal ② (with GA engine and A/T).

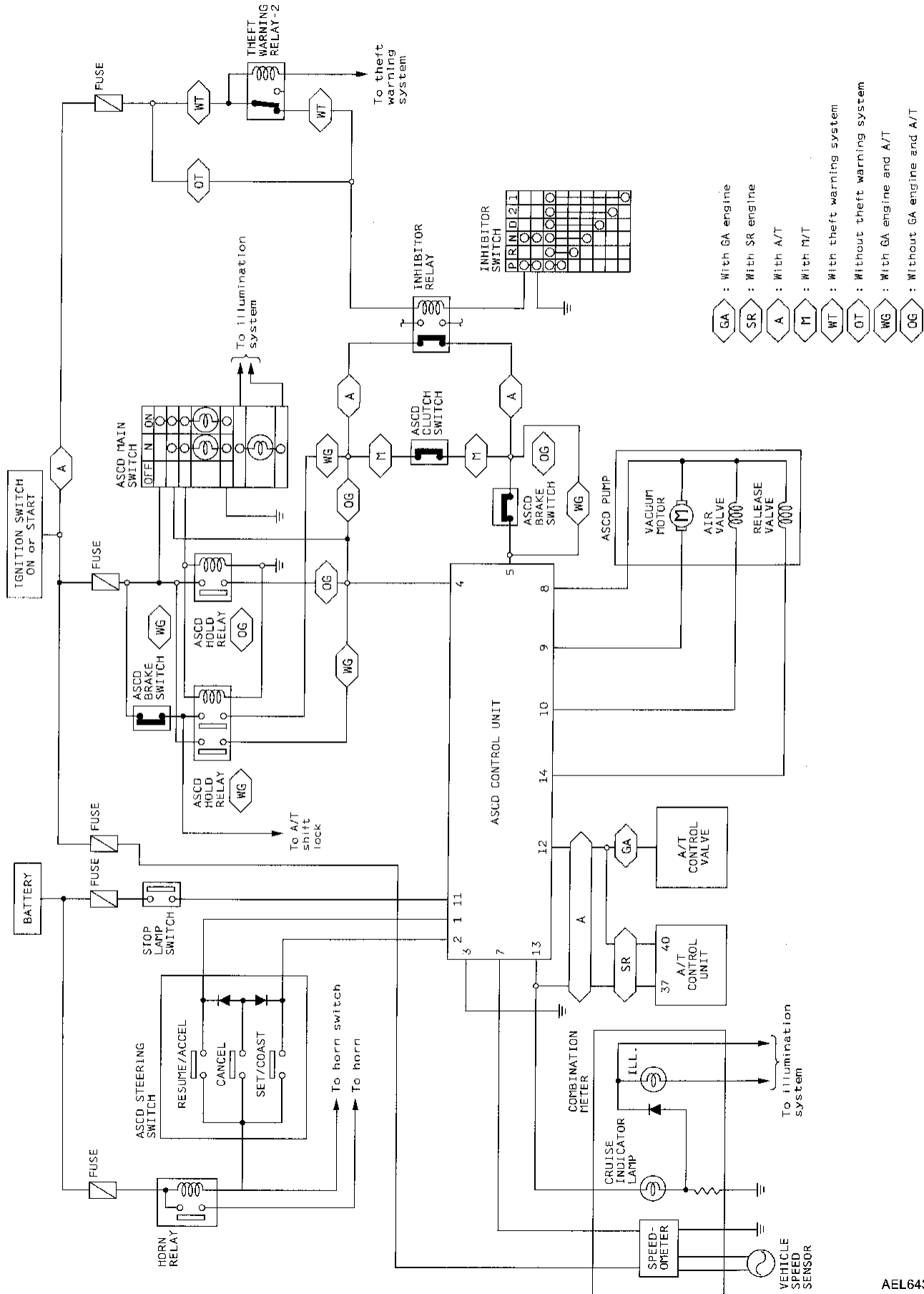
When this occurs, the A/T control unit cancels overdrive.

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

*: Terminal numbers in () are for models without tachometer.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic

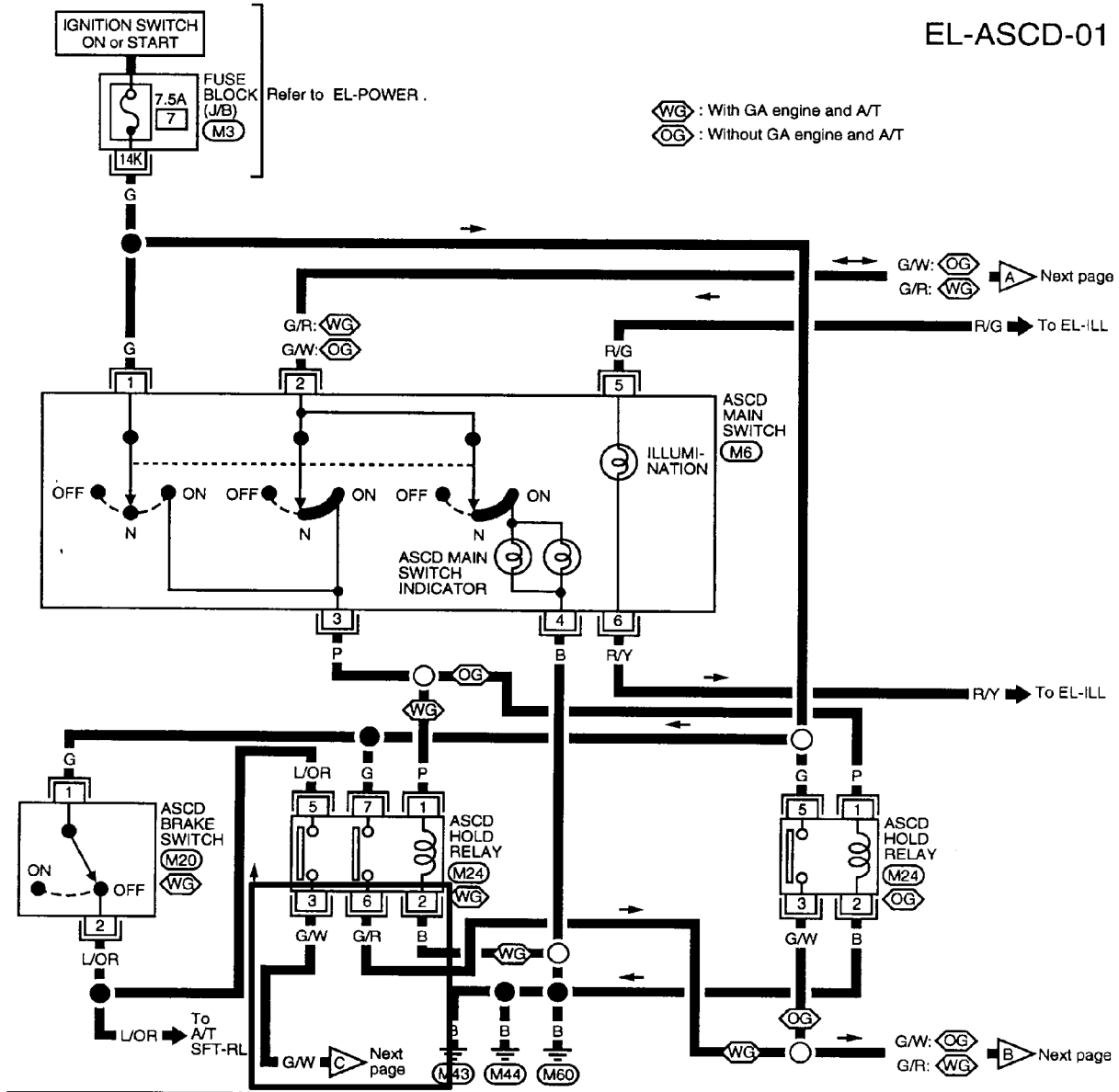


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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

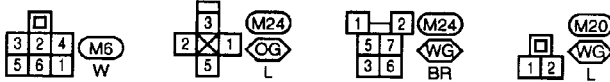
Wiring Diagram -ASCD-

EL-ASCD-01



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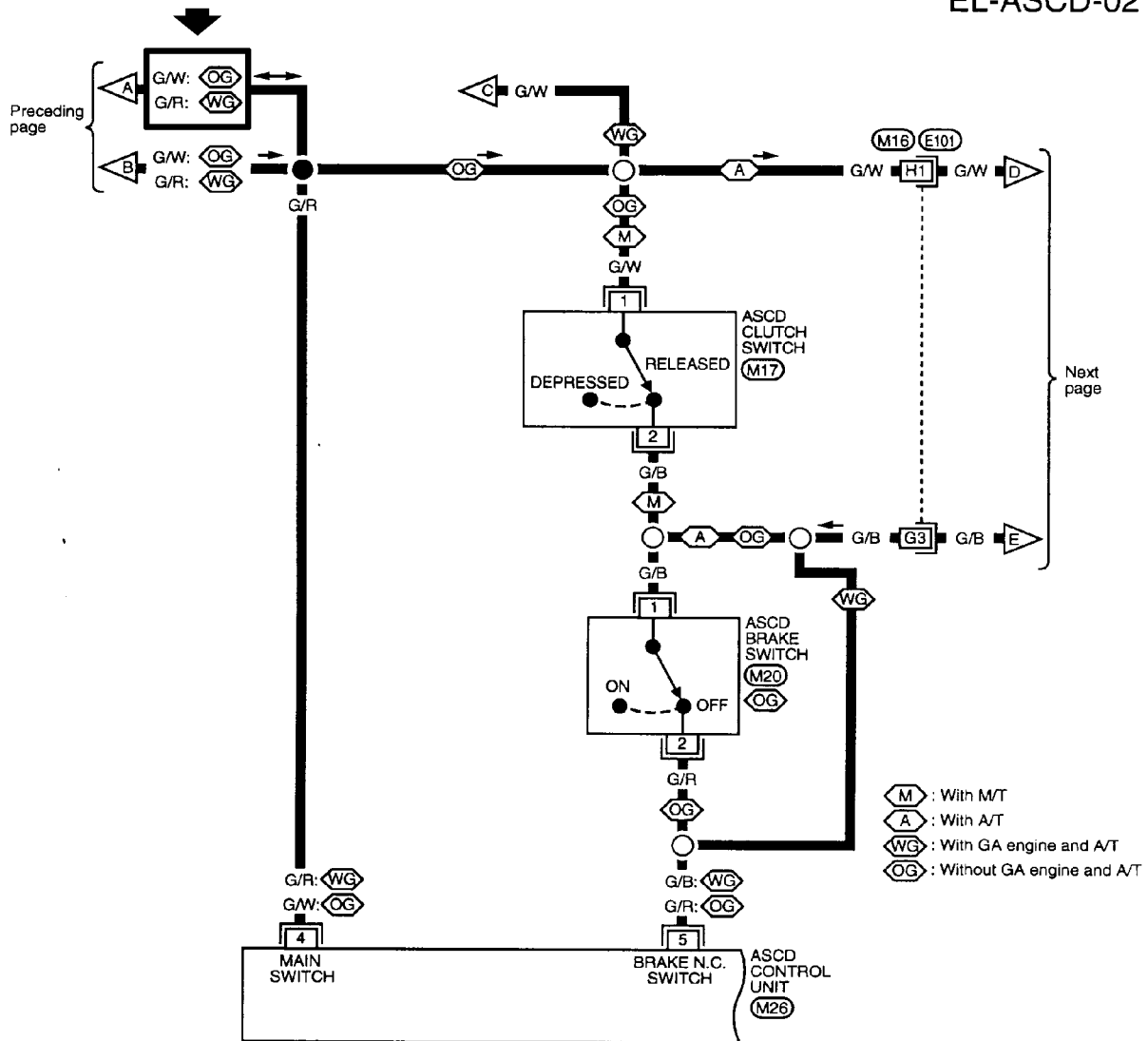
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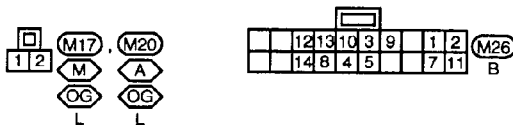
SMA98-077 '97 SENTRA/200SX	JULY 1996 (04)	SM7E-OB14UO
ARROW INDICATES AMENDED INFORMATION		

AUTOMATIC SPEED CONTROL DEVICE (ASCD) Wiring Diagram -ASCD- (Cont'd)

EL-ASCD-02



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(M16) (E101)

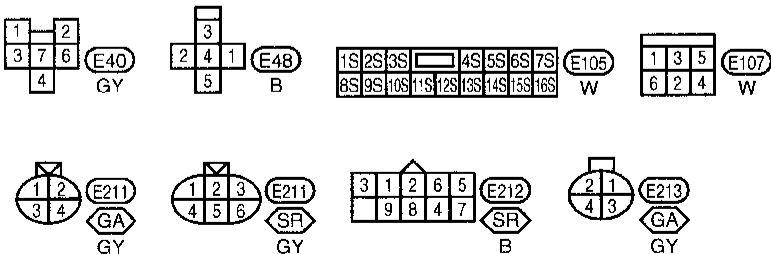
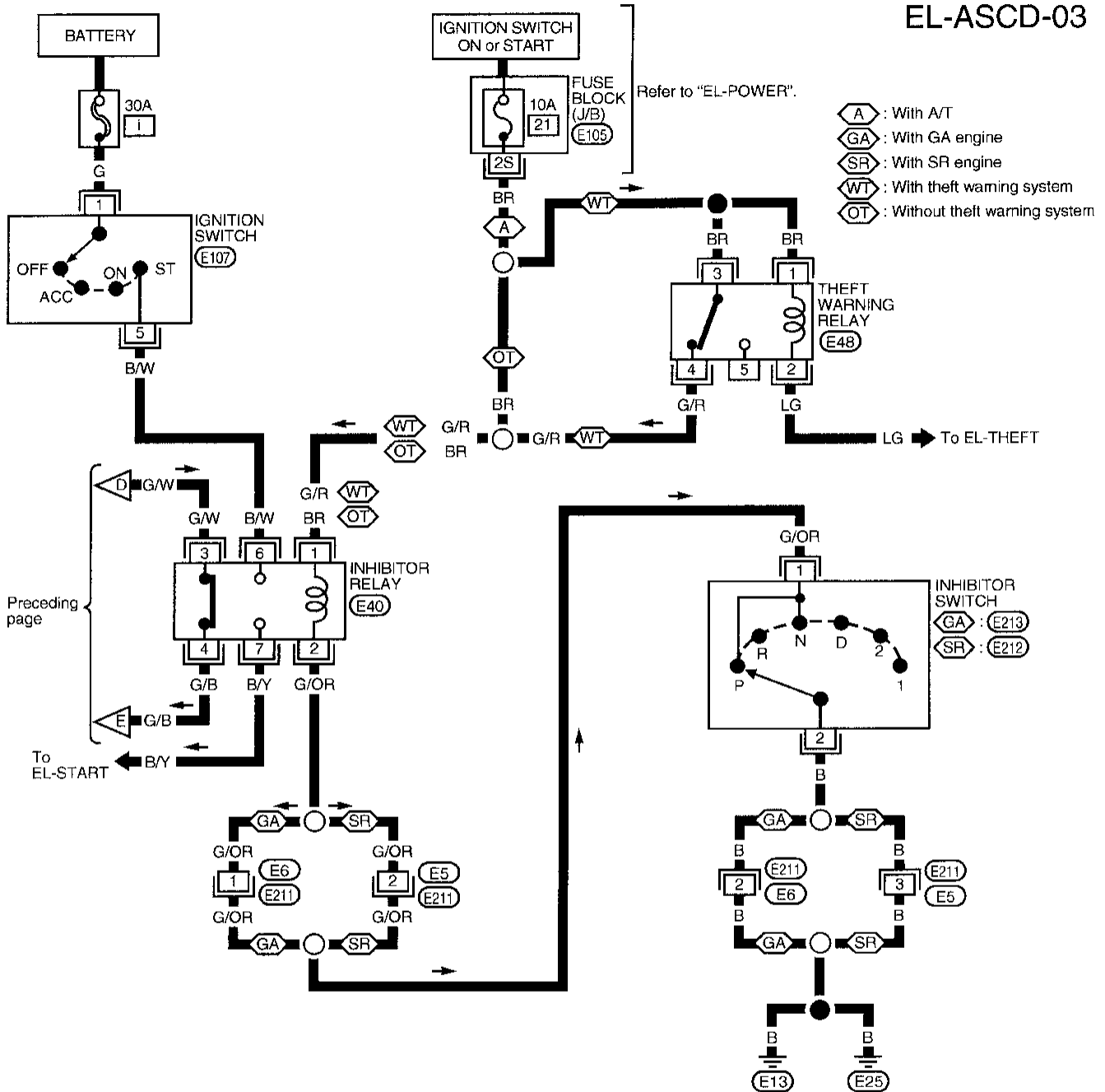


SMA98-077	'97 SENTRA/200SX	JULY 1996 (04)	SM7E-OB14UO
ARROW INDICATES AMENDED INFORMATION			

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram -ASCD- (Cont'd)

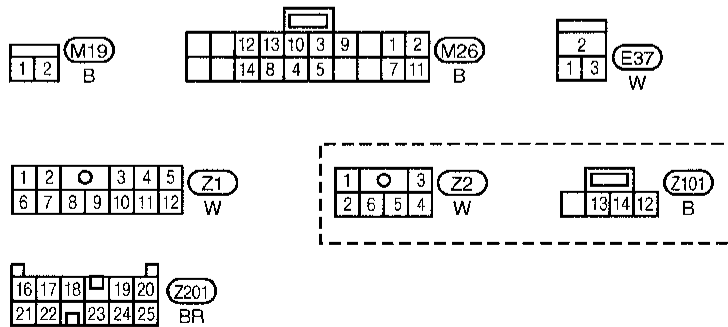
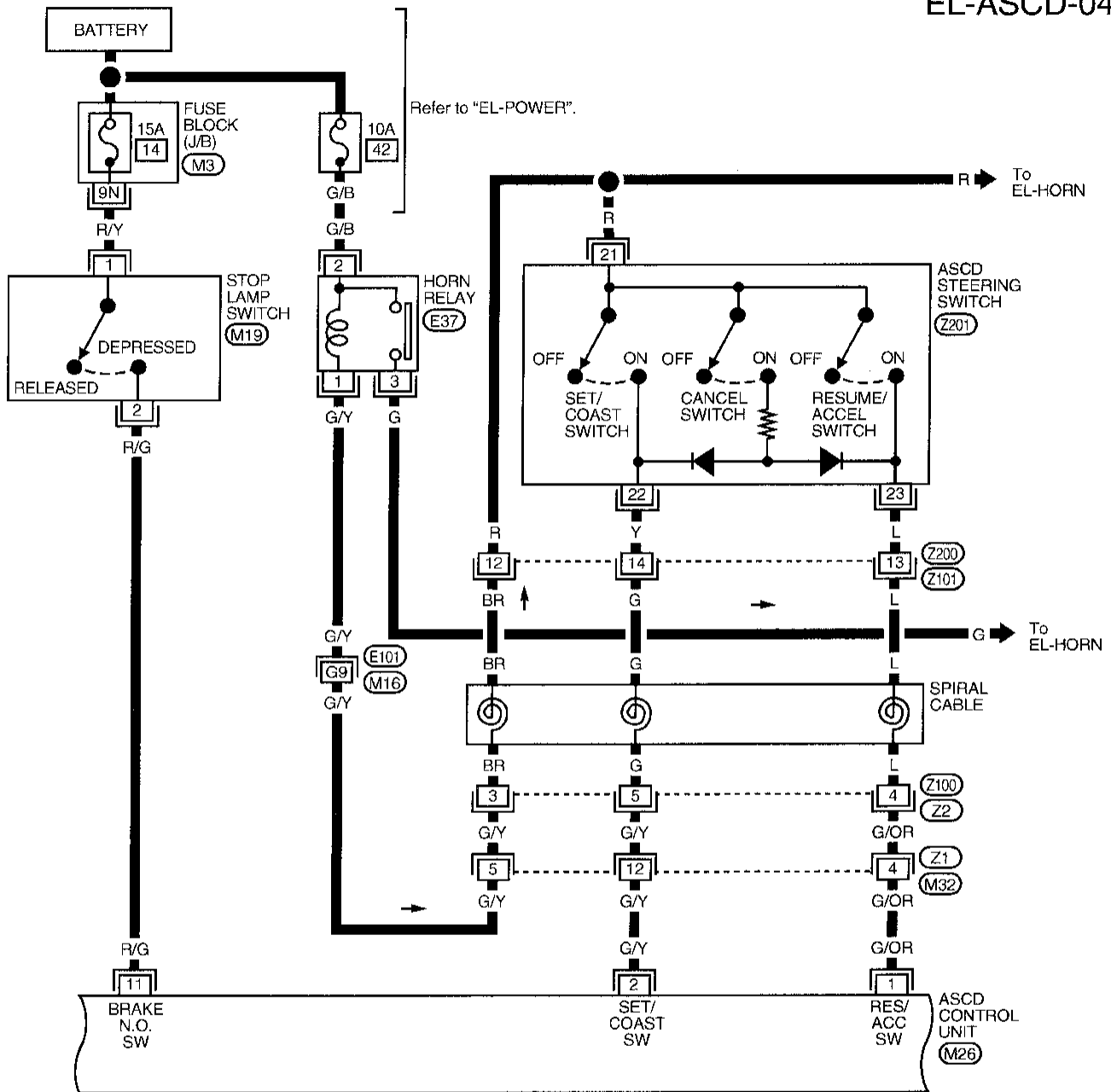
EL-ASCD-03



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram -ASCD- (Cont'd)

EL-ASCD-04



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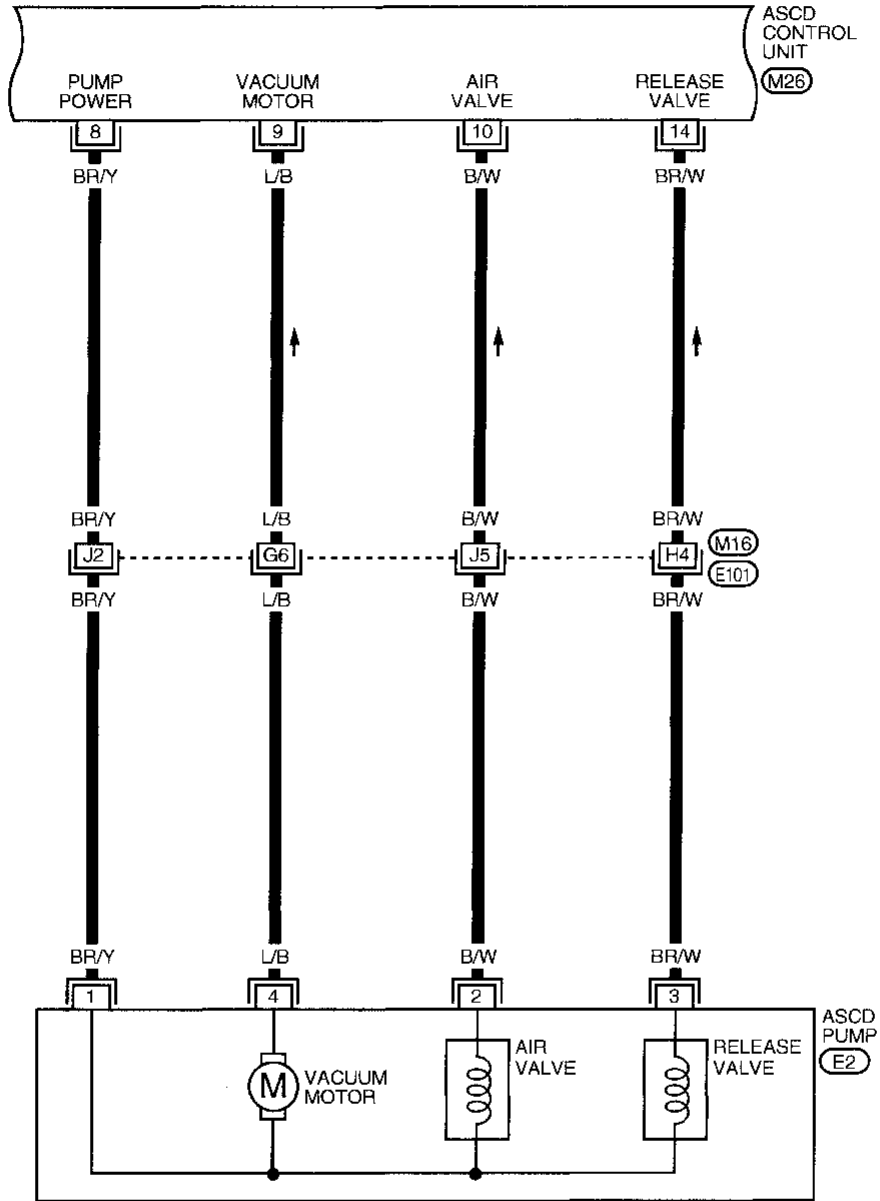
M16, E101
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

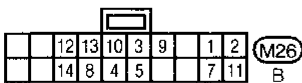
Wiring Diagram -ASCD- (Cont'd)

EL-ASCD-05



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(M16), (E101)

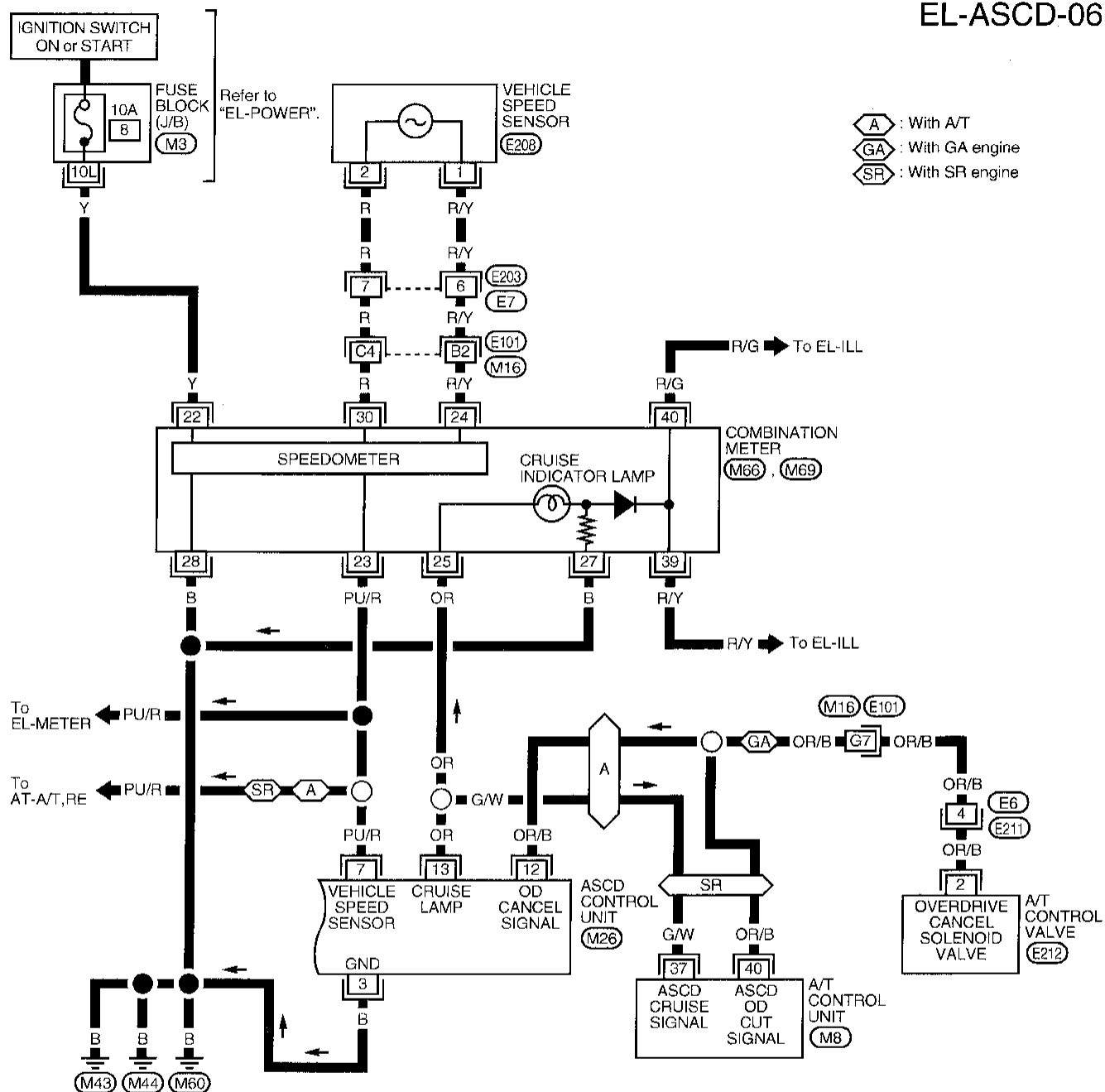


AUTOMATIC SPEED CONTROL DEVICE (ASCD)

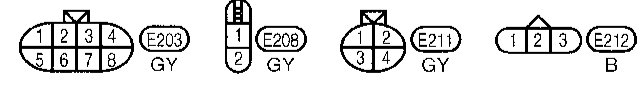
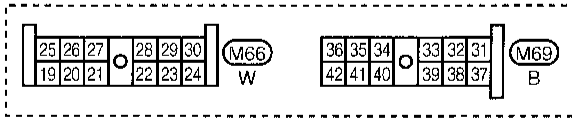
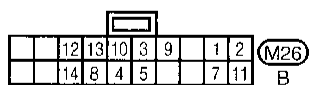
Wiring Diagram -ASCD- (Cont'd)

MODELS WITH TACHOMETER

EL-ASCD-06



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(M16) (E101)
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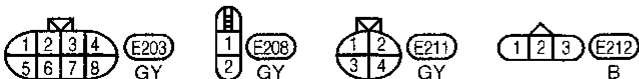
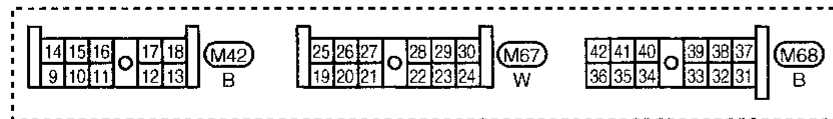
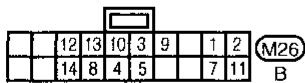
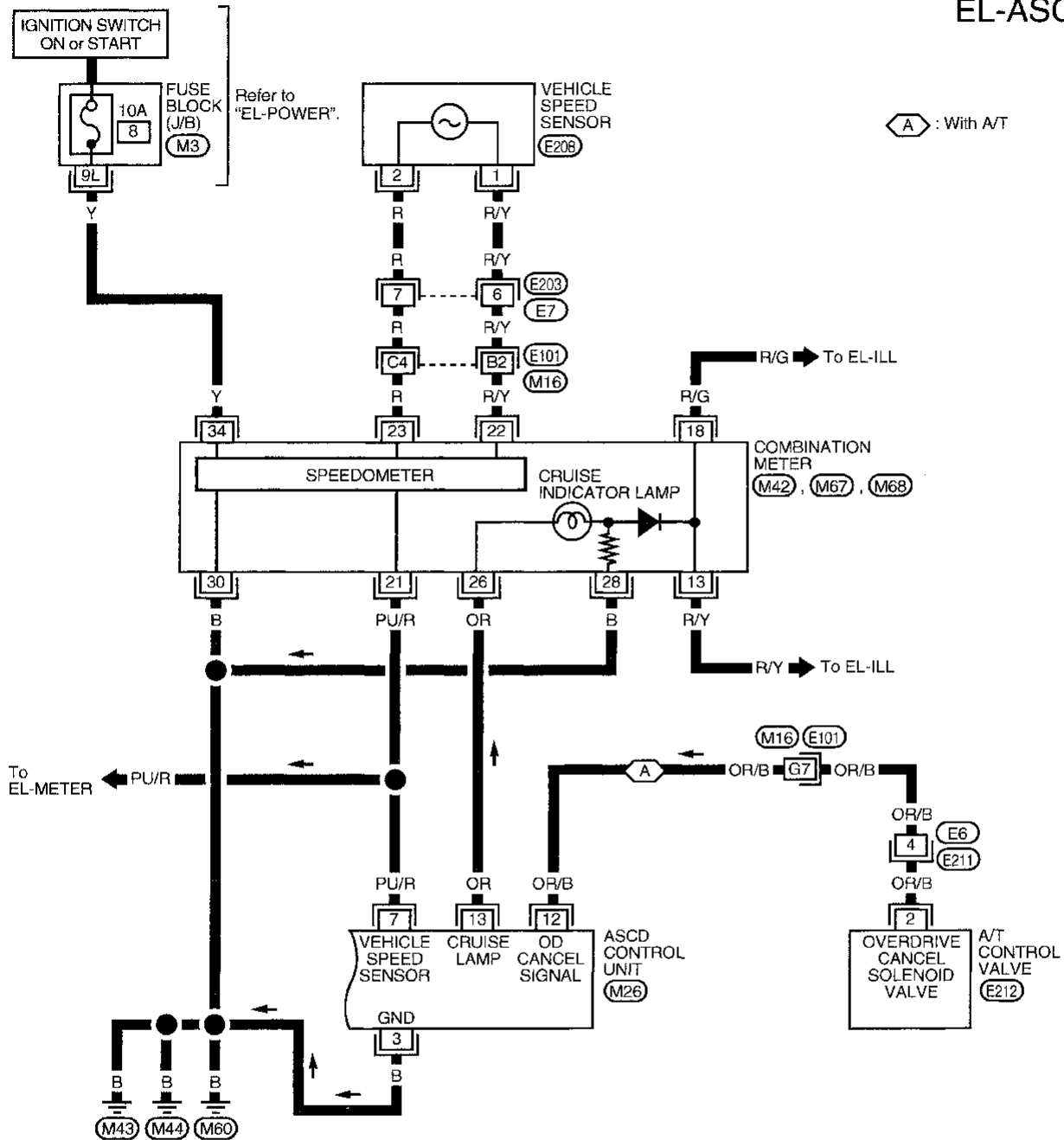
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram -ASCD- (Cont'd)

MODELS WITHOUT TACHOMETER

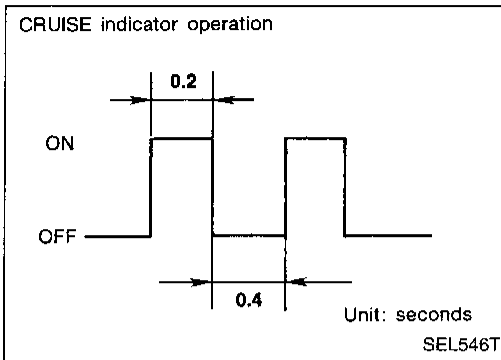
EL-ASCD-07



Refer to last page (Foldout page).

M16, E101
M3

AUTOMATIC SPEED CONTROL DEVICE (ASCD)



Trouble Diagnoses

FAIL-SAFE SYSTEM

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

Malfunction detection conditions

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

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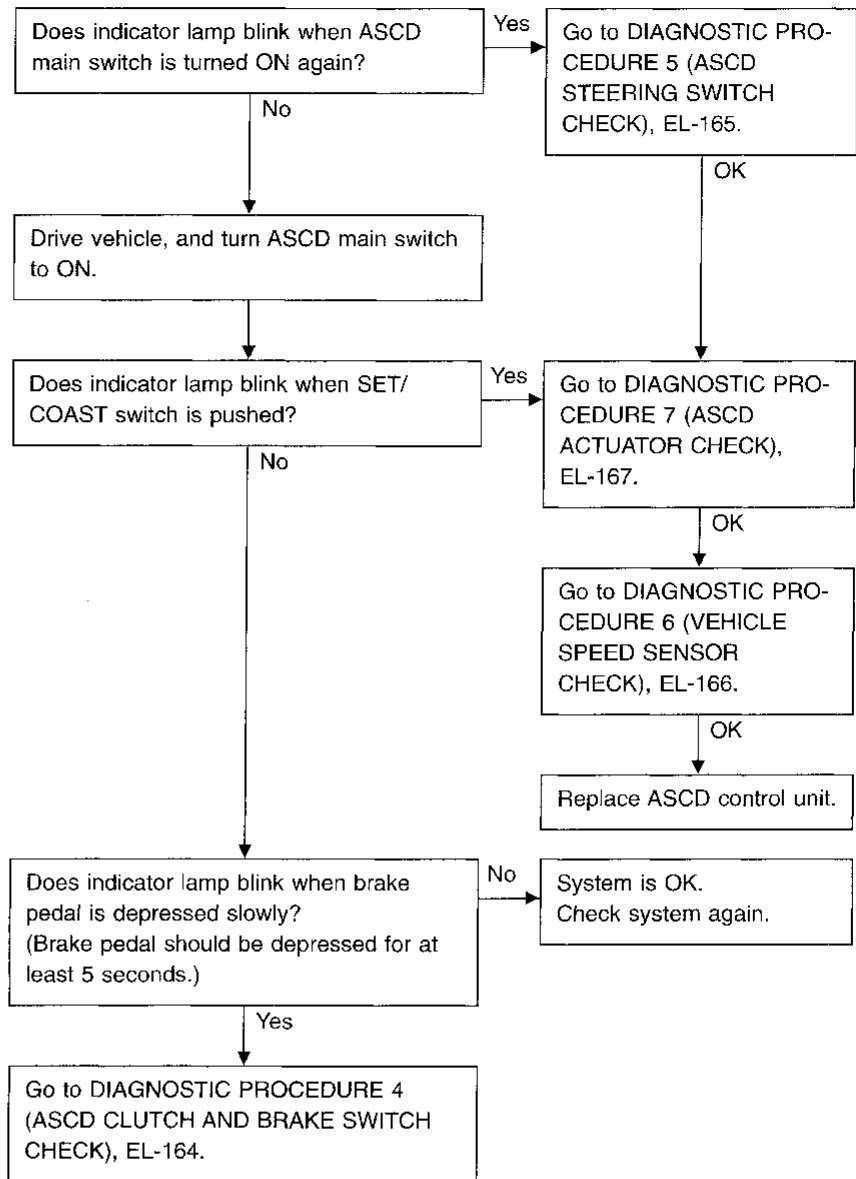
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

Fail-safe system check



AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

PROCEDURE	—	Diagnostic procedure							
REFERENCE PAGE	EL-160	EL-162	EL-162	EL-163	EL-164	EL-165	EL-166	EL-167	EL-168
SYMPTOM	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 CIRCUIT CHECK)	DIAGNOSTIC PROCEDURE 4 (ASCD CLUTCH AND BRAKE SWITCH CHECK)	DIAGNOSTIC PROCEDURE 5 (ASCD STEERING SWITCH CHECK)	DIAGNOSTIC PROCEDURE 6 (VEHICLE SPEED SENSOR CHECK)	DIAGNOSTIC PROCEDURE 7 (ASCD PUMP CIRCUIT CHECK)	DIAGNOSTIC PROCEDURE 8 (ASCD ACTUATOR/PUMP CHECK)
ASCD cannot be set. ("CRUISE" indicator lamp does not blink.)		X	X	X		X	X		
ASCD cannot be set. ("CRUISE" indicator lamp blinks.*1)	X				X	X	X	X	
Vehicle speed does not decrease after SET/COAST switch has been pressed.						X			X
Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.*2						X			X
Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.						X			X
System is not released after CANCEL switch (steering) has been pressed.						X			X
Large difference between set speed and actual vehicle speed.									X
Deceleration is greatest immediately after ASCD has been set.									X

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

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

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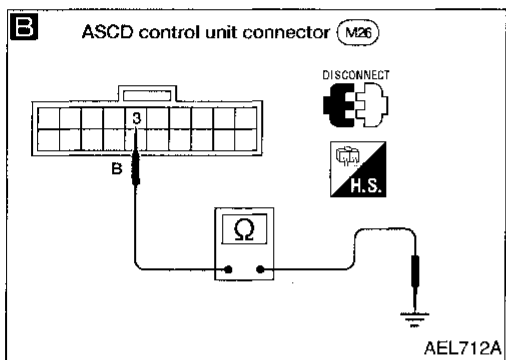
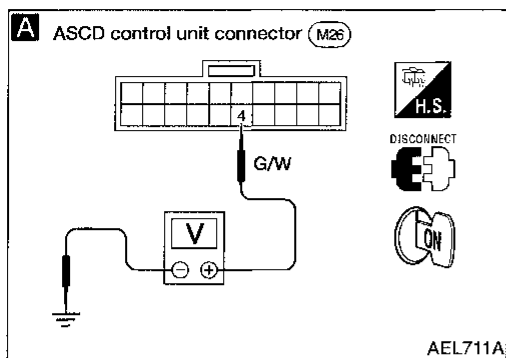
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

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 ASCD control unit connector terminal ④ and body ground.

NG → Go to DIAGNOSTIC PROCEDURE 3 (ASCD HOLD RELAY CIRCUIT CHECK), EL-163.

OK

- B**
- CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT.**
- Check continuity between ASCD control unit harness terminal ③ and body ground.

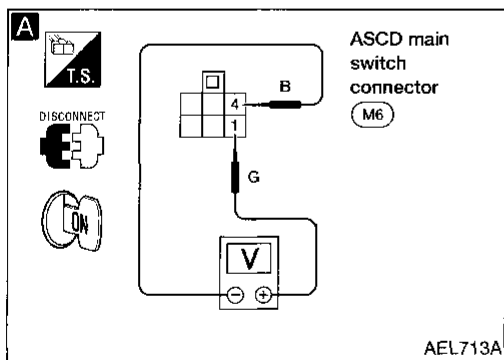
NG → Repair harness.

OK

Go to next procedure.

DIAGNOSTIC PROCEDURE 2

(ASCD MAIN SWITCH CHECK)



- A**
- CHECK POWER SUPPLY FOR ASCD MAIN SWITCH.**
1. Disconnect main switch connector.
 2. Measure voltage between main switch harness terminals ① and ④.
- Battery voltage should exist.**

NG → Check the following.

- 7.5A fuse (No. 7), located in the fuse block
- Harness for open or short between fuse and ASCD main switch.
- Ground circuit for ASCD main switch

OK

Check ASCD main switch. Refer to EL-170.

NG → Replace ASCD main switch.

OK

Go to next procedure.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

(ASCD HOLD RELAY CIRCUIT CHECK)

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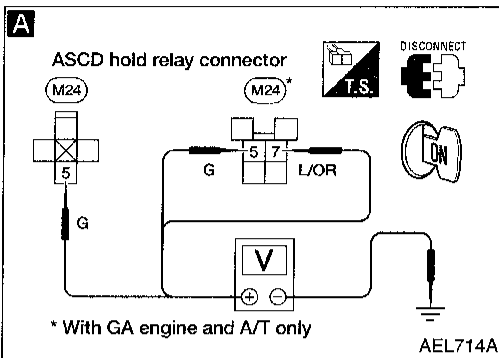
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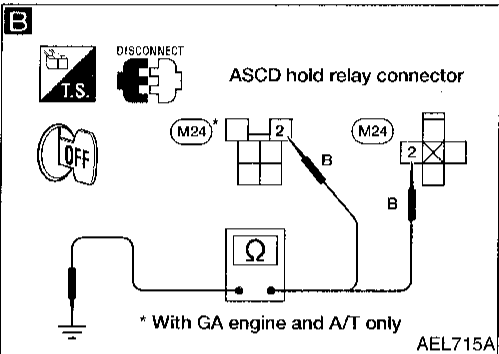


A

CHECK POWER SUPPLY CIRCUIT FOR ASCD HOLD RELAY.

1. Disconnect ASCD hold relay.
2. Do approx. 12 volts exist between ASCD hold relay harness terminal ⑤, ⑦ and body ground?

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

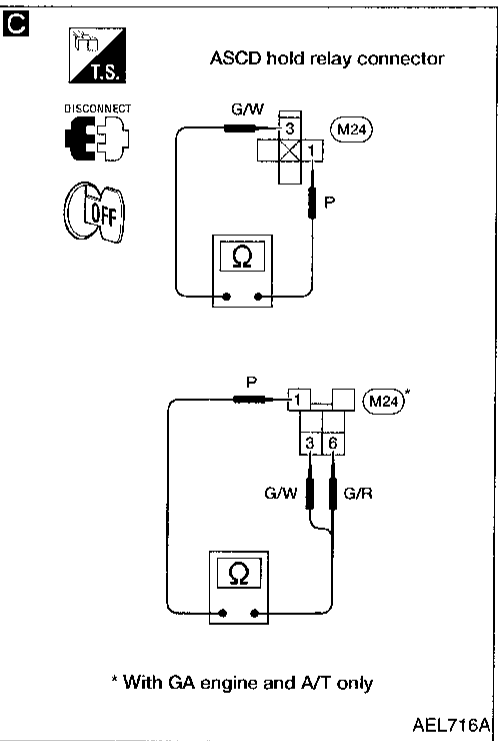


B

CHECK GROUND CIRCUIT FOR ASCD HOLD RELAY.

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

No → Repair harness.



C

CHECK ASCD HOLD RELAY CIRCUIT.

Does continuity exist between ASCD hold relay harness terminals ③, ⑥ and ①?

Yes → Check ASCD hold relay.

CHECK ASCD MAIN SWITCH.

Refer to "ELECTRICAL COMPONENTS INSPECTION", EL-170.

NG → Replace ASCD main switch.

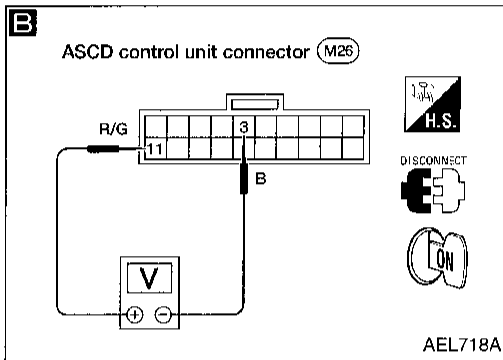
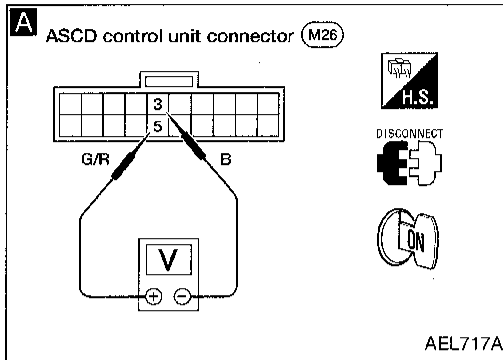
OK → Go to next procedure.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

(ASCD CLUTCH AND BRAKE SWITCH CHECK)



A

CHECK CUT-OFF CIRCUIT FOR ASCD CONTROL UNIT.

1. Disconnect ASCD control unit connector.
2. Turn ignition switch ON.
3. Turn ASCD main switch ON.
4. Measure voltage between ASCD control unit connector terminals ⑤ and ③. **When brake pedal or clutch pedal (M/T) is depressed or A/T selector lever is in ("N") or ("P") position:**
Approx. 0V
When brake pedal or clutch pedal (M/T) is released or A/T selector lever is in any positions other than ("N") or ("P"):
Battery voltage should exist.

NG →

CHECK THE FOLLOWING.

- ASCD brake switch
Refer to EL-170
- ASCD clutch switch (M/T models)
Refer to EL-170
- Inhibitor switch (A/T models)
Refer to EL-170
- ASCD hold relay
Refer to EL-5
- Inhibitor relay (A/T models)
Refer to EL-5
- Harness for open or short.

OK ↓

B

CHECK STOP LAMP SWITCH CIRCUIT.

1. Disconnect ASCD control unit connector.
2. Check voltage between ASCD control unit harness terminals ⑪ and ③.

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

NG →

CHECK THE FOLLOWING.

- Harness for open or short between ASCD control unit and stop lamp switch.
- 15A fuse (No. 14, located in the fuse block [J/B]).
- Stop lamp switch
Refer to EL-170.

OK ↓

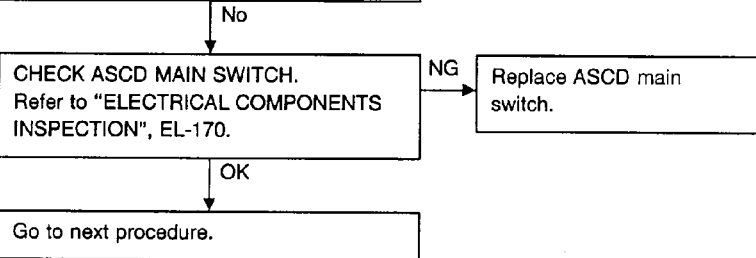
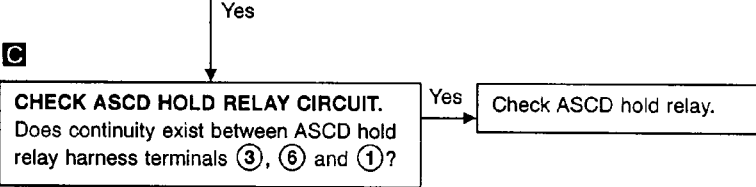
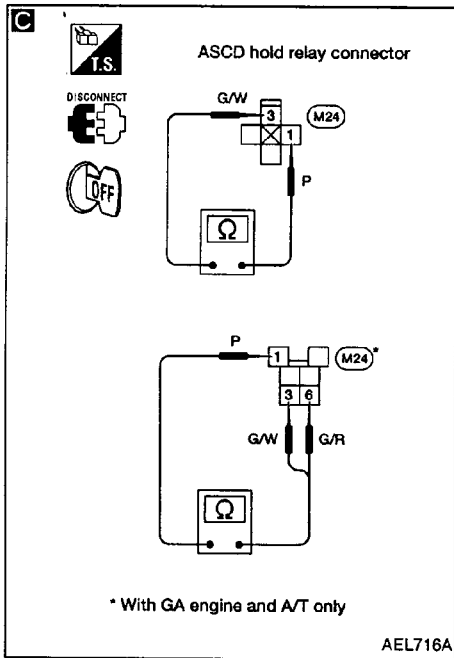
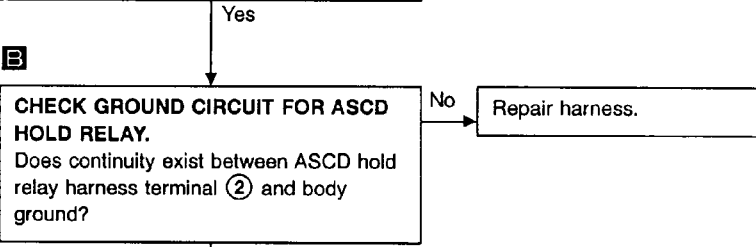
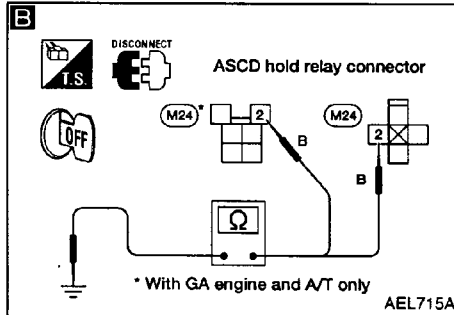
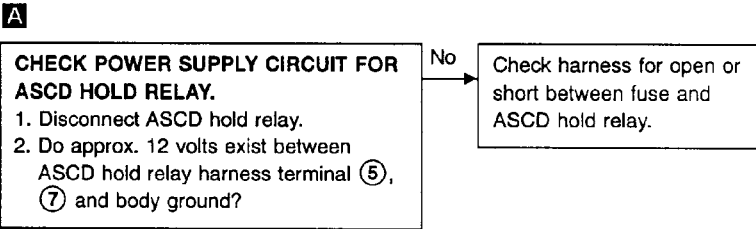
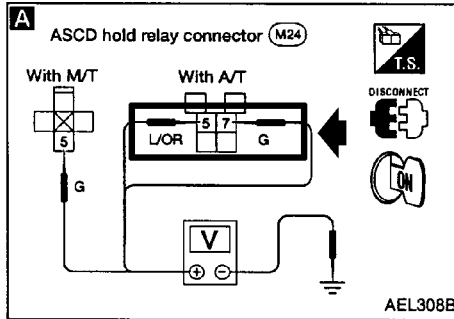
ASCD clutch and brake switch is OK.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses

DIAGNOSTIC PROCEDURE 3

(ASCD HOLD RELAY CIRCUIT CHECK)



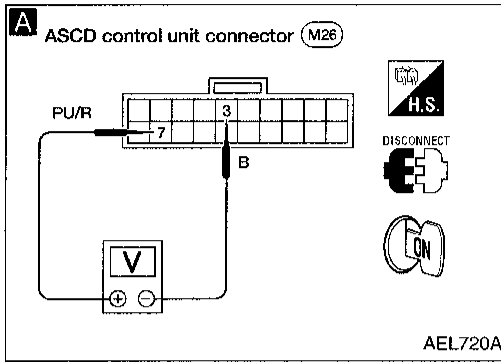
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ARROW INDICATES AMENDED INFORMATION			

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

(VEHICLE SPEED SENSOR CHECK)



A

CHECK VEHICLE SPEED SENSOR CIRCUIT.

1. Insert wheel chocks and jack up front of vehicle.
2. Disconnect ASCD control unit connector.
3. Connect voltmeter between ASCD 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 speedometer and vehicle speed sensor circuit. Refer to EL-86, (92)*.

Yes

Check harness for open or short between ASCD control unit terminal ⑦ and combination meter terminal ⑳ (21)*.

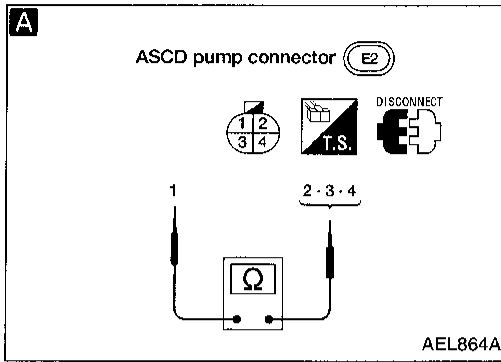
*: Terminal numbers in () are for models without tachometer.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

(ASCD PUMP CIRCUIT CHECK)



A

CHECK ASCD PUMP.

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

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

NG

Replace ASCD pump.

OK

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

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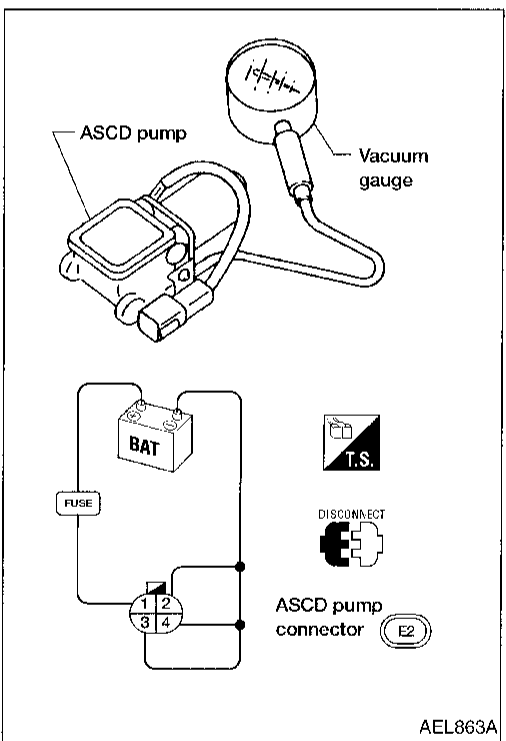
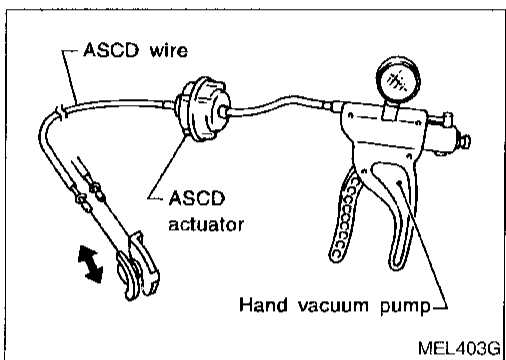
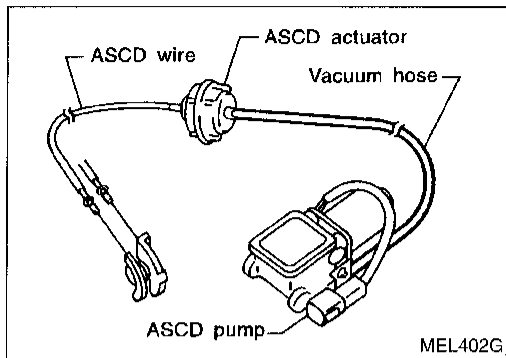
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

(ASCD ACTUATOR/PUMP CHECK)



A

CHECK VACUUM HOSE.

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

NG → Repair or replace hose.

OK

CHECK ASCD WIRE.

Check wire for improper installation, rust formation or breaks.

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

OK

B

CHECK ASCD ACTUATOR.

1. Disconnect vacuum hose from ASCD actuator.

2. Apply -40 kPa (-0.400 bar, -0.41 kg/cm², -5.8 psi) vacuum to ASCD actuator with hand vacuum pump.

ASCD wire should move to pull throttle drum.

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

**Vacuum pressure decrease:
Less than 2.7 kPa (0.0270 bar, 0.028 kg/cm², 0.39 psi)**

NG → Replace ASCD actuator.

OK

C

CHECK ASCD PUMP.

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

NG → Replace ASCD pump.

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

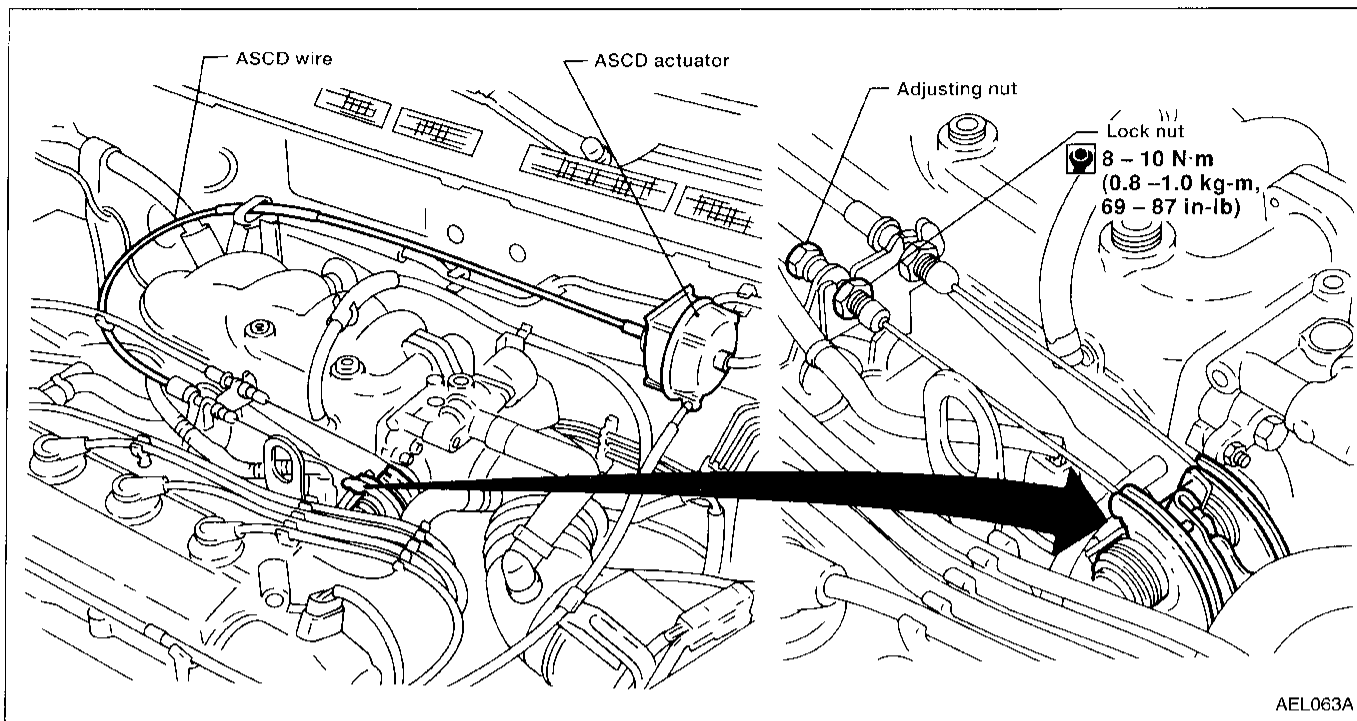
A vacuum pressure of at least -35 kPa (-0.350 bar, -0.36 kg/cm², -5.1 psi) should be generated.

OK

INSPECTION END

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 overly tighten ASCD wire during adjustment.

Confirm that accelerator wire is properly adjusted.

- For accelerator cable adjustment, refer to FE section (“Adjusting Accelerator Cable”, “ACCELERATOR CONTROL SYSTEM”).

Adjust the ASCD wire as follows:

1. Loosen lock nut and tighten adjusting nut until throttle drum starts to move.
 2. From that position turn back adjusting nut 0.5 to 1 turn, and secure lock nut.
(This prevents a delay in the operation of the ASCD.)
- For ASCD clutch and brake switch adjustment, refer to BR and CL sections “Adjustment”, “BRAKE PEDAL AND BRACKET” and “Adjusting Clutch Pedal”, “INSPECTION AND ADJUSTMENT”.

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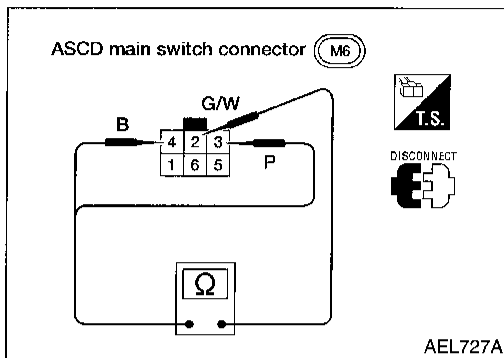
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD main switch

Check continuity between terminals by pushing switch to each position.

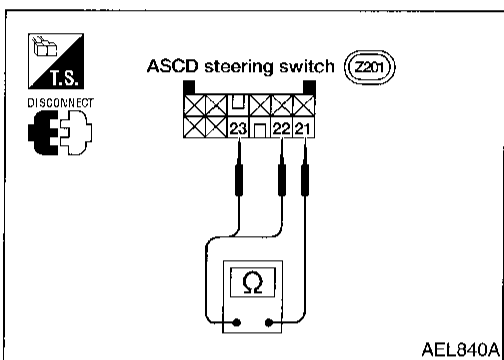


AEL727A

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

ASCD steering switch

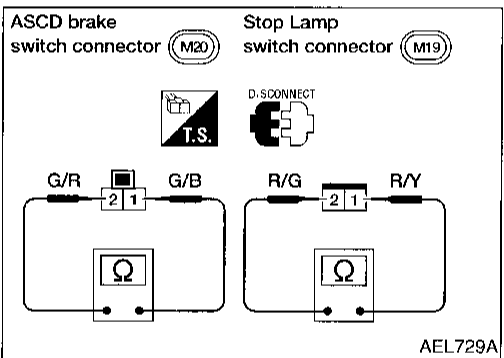
Check continuity between terminals by pushing each button.



AEL840A

Button	Terminal		
	21	22	23
SET/COAST	○	○	
RESUME/ACCEL	○		○
CANCEL	○	▶	
	○	▶	○

ASCD brake switch and stop lamp switch

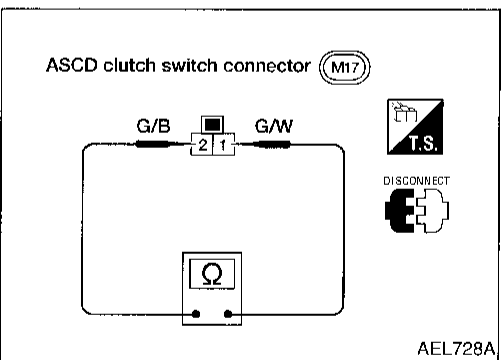


AEL729A

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 "Adjustment", "BRAKE PEDAL AND BRACKET".

ASCD clutch switch (For M/T models)

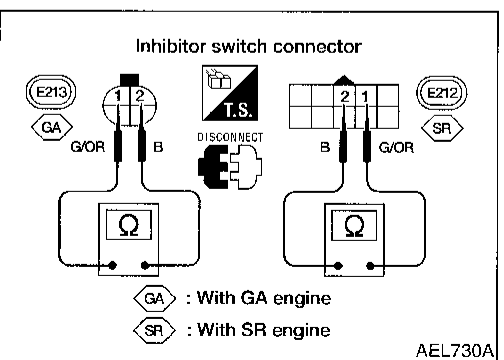


AEL728A

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

Check switch after adjusting clutch pedal — refer to CL section "Adjusting Clutch Pedal", "INSPECTION AND ADJUSTMENT".

Inhibitor switch (For A/T models)



AEL730A

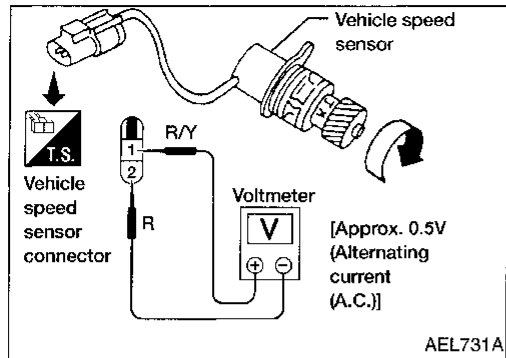
Shift lever position	Terminal	
	1	2
"P"	○	○
"N"	○	○
Except "N" or "P"		

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

Vehicle speed sensor

- 1 Remove vehicle speed sensor from transaxle.
- 2 Turn vehicle speed sensor pinion quickly and measure voltage across terminals ② and ①.



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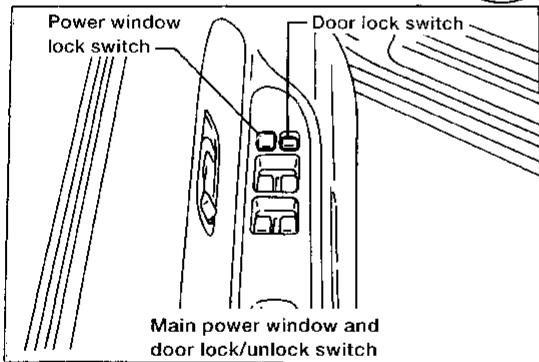
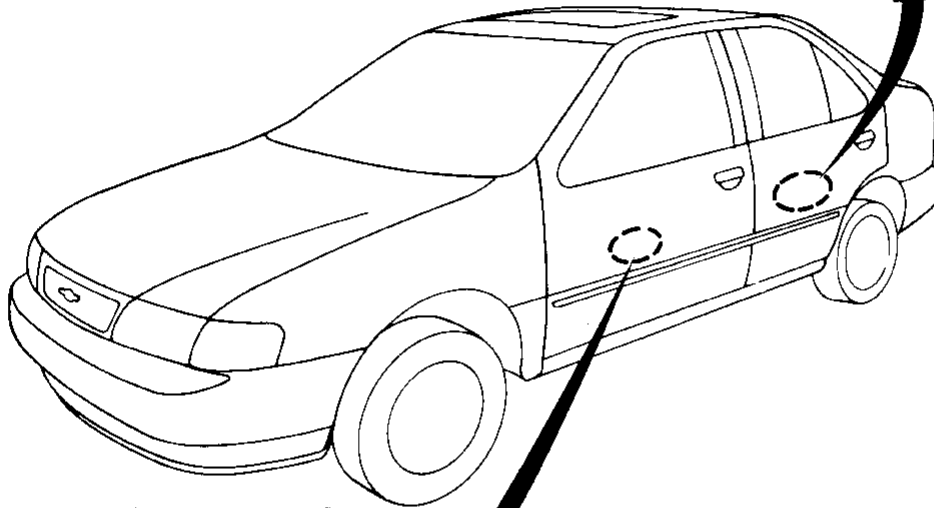
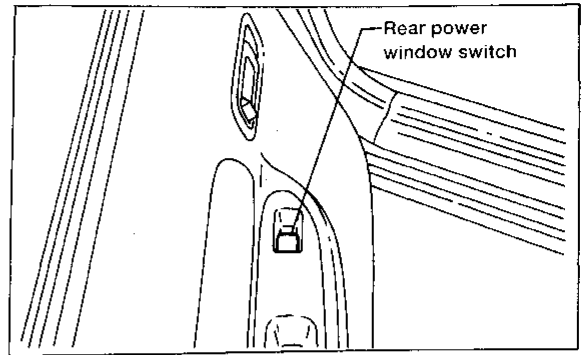
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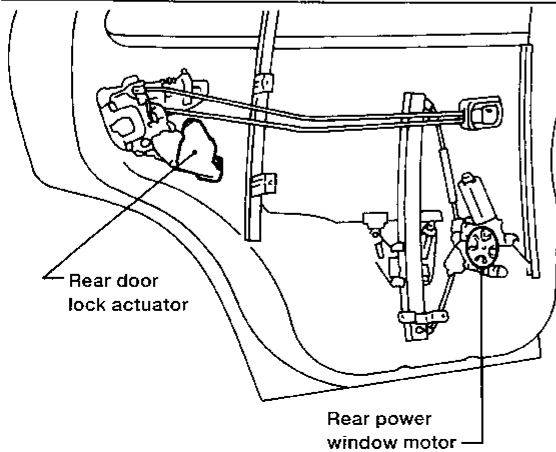
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POWER WINDOW

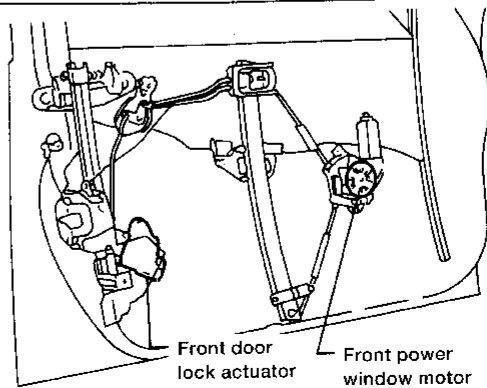
Component Layout



Rear door



Front door



System Description

Power is supplied at all times:

- from 25A fusible link (letter **f** , located in the fusible link and fuse box)
- to circuit breaker terminal ①
- through circuit breaker terminal ②
- to power window relay terminal ③.

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

- from 7.5A fuse (No. **7** , located in the fuse block [J/B])
- to power window relay terminal ①.

Ground is supplied to power window relay terminal ②:

- through body grounds **M43** , **M44** and **M60** .

The power window relay is energized and power is supplied:

- through terminal ⑤ of the power window relay
- to main power window and door lock/unlock switch terminal ①
- to power window switch (front RH) terminal ⑤
- to power window switch (rear LH) terminal ⑤, and
- to power window switch (rear RH) terminal ⑤.

Ground is supplied

- to main power window and door lock/unlock switch terminal ⑤
- through body grounds **M43** , **M44** and **M60** .

MANUAL OPERATION

Front door LH

WINDOW UP

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

- to front power window motor LH terminal ②
- through main power window and door lock/unlock switch terminal ⑬.

Ground is supplied:

- to front power window motor LH terminal ①
- through main power window and door lock/unlock switch terminal ⑮.

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

WINDOW DOWN

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

- to front power window motor LH terminal ①
- through main power window and door lock/unlock switch terminal ⑮.

Ground is supplied:

- to front power window motor LH terminal ②
- through main power window and door lock/unlock switch terminal ⑮.

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

Except front LH door

FRONT DOOR RH

NOTE:

Figures in parentheses () refer to terminal Nos. arranged in order when the UP or DOWN section of power window switch is pressed.

Operation by main switch

Power is supplied:

- through main power window and door lock/unlock switch terminal (⑭, ⑬)
- to power window switch (front RH) terminal (③, ④).

The subsequent operations are the same as those outlined under "Operation by sub-switches".

Operation by sub-switches

Power is supplied:

- through power window switch (front RH) terminal (①, ②)
- to power window motor (front RH) terminal (②, ①).

Ground is supplied:

- to power window motor (front RH) terminal (①, ②)

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POWER WINDOW

System Description (Cont'd)

- through power window switch (front RH) terminal (②, ①)
- to power window switch (front RH) terminal (④, ③)
- through main power window and door lock/unlock switch terminal (⑬, ⑭)
- to main power window and door lock/unlock switch terminal (⑤)
- through body grounds (M43), (M44) and (M60).

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

REAR DOOR LH

NOTE:

Figures in parentheses () refer to terminal Nos. arranged in order when the UP or DOWN section of power window switch is pressed.

Operation by main switch

Power is supplied:

- through main power window and door lock/unlock switch terminal (⑫, ⑪)
- to power window switch (rear LH) terminal (③, ④).

The subsequent operations are the same as those outlined under "Operation by sub-switches".

Operation by sub-switches

Power is supplied:

- through power window switch (rear LH) terminal (①, ②)
- to power window motor (rear LH) terminal (②, ①).

Ground is supplied:

- to front power window motor (rear LH) terminal (①, ②)
- through power window switch (rear LH) terminal (②, ①)
- to power window switch (rear LH) terminal (④, ③)
- through main power window and door lock/unlock switch terminal (⑪, ⑫)
- to main power window and door lock/unlock switch terminal (⑤)
- through body grounds (M43), (M44) and (M60).

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

REAR DOOR RH

NOTE:

Figures in parentheses () refer to terminal Nos. arranged in order when the UP or DOWN section of power window switch is pressed.

Operation by main switch

Power is supplied:

- through main power window and door lock/unlock switch terminal (⑩, ⑨)
- to power window switch (rear RH) terminal (③, ④).

The subsequent operations are the same as those outlined under "Operation by sub-switches".

Operation by sub-switches

Power is supplied:

- through power window switch (rear RH) terminal (①, ②)
- to power window motor (rear RH) terminal (②, ①).

Ground is supplied:

- to front power window motor (rear RH) terminal (①, ②)
- through power window switch (rear RH) terminal (②, ①)
- to power window switch (rear RH) terminal (④, ③)
- through main power window and door lock/unlock switch terminal (⑨, ⑩)
- to main power window and door lock/unlock switch terminal (⑤)
- through body grounds (M43), (M44) and (M60).

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

POWER WINDOW

System Description (Cont'd)

AUTO FEATURE

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

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

When the main power window switch (front LH) is pressed and released in the AUTO position, ground signal is supplied:

- to front power window motor LH terminal ②
- through main power window and door lock/unlock switch terminal ⑯.

Power is supplied:

- to front power window motor LH terminal ①
- through main power window and door lock/unlock switch terminal ⑮.

Then, the front door LH window will travel to the fully open position.

LOCK FEATURE

The power window lock is designed to lock-out window operation to all windows except the front door LH window.

Pressing the lock switch to the lock position disconnects the ground from the main power window and door lock/unlock switch. This prevents the power window motors from operating.

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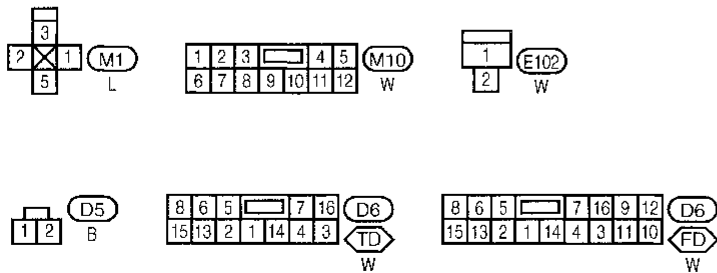
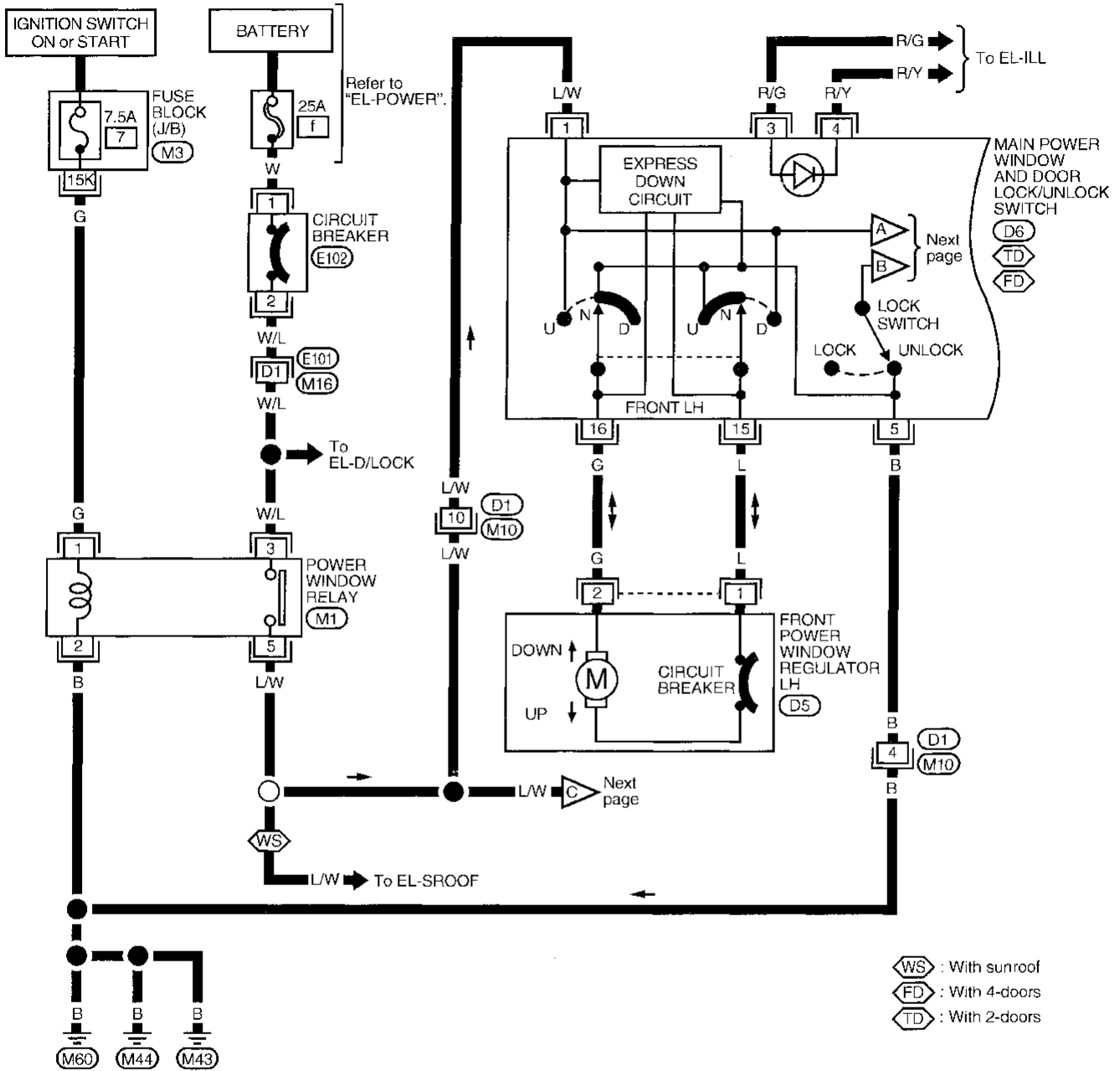
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POWER WINDOW

Wiring Diagram -WINDOW-

EL-WINDOW-01



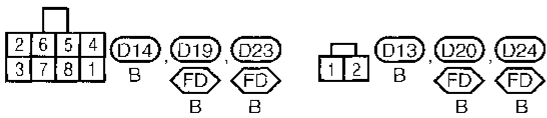
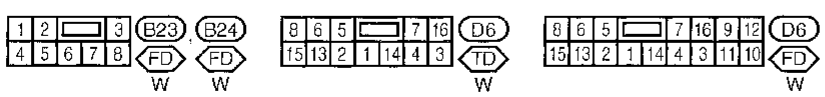
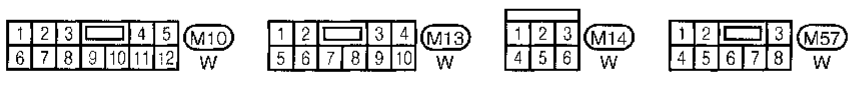
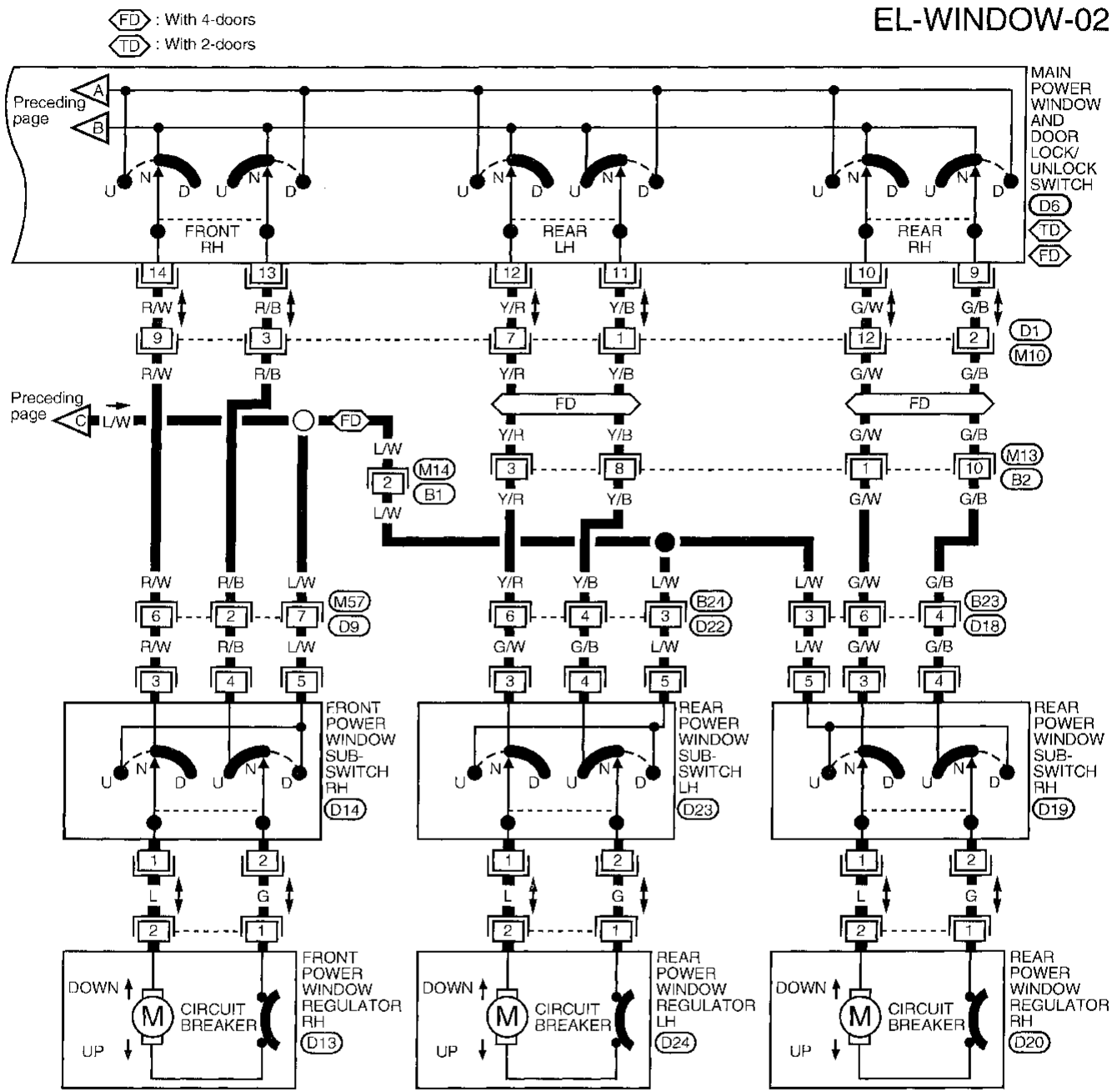
Refer to last page (Foldout page).

(M16) (E101)
(M3)

POWER WINDOW

Wiring Diagram -WINDOW- (Cont'd)

EL-WINDOW-02



POWER WINDOW

Trouble Diagnoses

Symptom	Possible causes	Repair order
None of the power windows can be operated from any switch.	<ol style="list-style-type: none"> 1. 7.5A fuse and 25A fusible link and circuit breaker. 2. Grounds (M43), (M44) and (M60). 3. Power window relay. 4. Open/short in main power window and door lock/unlock switch circuit. 	<ol style="list-style-type: none"> 1. Check 7.5A fuse (No. 7), located in fuse block [J/B]) and 25A fusible link (letter f), located in the fusible link and fuse box) and the circuit breaker. Turn ignition switch ON and verify battery positive voltage is present at terminal ① of main power window switch and terminal ⑤ of any other switches. 2. Check grounds (M43), (M44) and (M60). 3. Check power window relay. 4. Check L/W wire between power window relay and main power window door lock/unlock switch for open/short circuit.
Driver side power window cannot be operated but other windows can be operated.	<ol style="list-style-type: none"> 1. Driver side (front LH) power window motor circuit. 2. Driver side (front LH) power window motor. 	<ol style="list-style-type: none"> 1. Check driver side (front LH) power window motor circuit. 2. Check driver side (front LH) power window motor.
One or more passenger power windows cannot be operated.	<ol style="list-style-type: none"> 1. Power window switches (front RH, rear LH and RH). 2. Power window motors (front RH, rear LH and RH). 3. Main power window and door lock/unlock switch. 4. Power window circuits. 	<ol style="list-style-type: none"> 1. Check power window switches (front RH, rear LH and RH). 2. Check power window motors (front RH, rear LH and RH). 3. Check main power window and door lock/unlock switch. 4. Check wires between main power window and door lock/unlock switch and power window switches and motors for open/short circuits.
One or more passenger power windows cannot be operated by main switch but can be operated by passenger's switches.	Main power window and door lock/unlock switch.	Check main power window and door lock/unlock switch.

POWER DOOR LOCK

System Description

Power is supplied at all times:

- through 25A fusible link (Letter **f** , located in the fusible link and fuse box)
- to circuit breaker terminal ①
- through circuit breaker terminal ②
- to smart entrance control unit terminal ①.

Ground is supplied to smart entrance control unit terminal ⑩ through body grounds **M43** , **M44** and **M60** .

INPUT

When the main power window and door lock/unlock switch is in LOCK position, ground signal is supplied:

- to smart entrance control unit terminal ⑱
- through main power window and door lock/unlock switch terminal ⑦
- to main power window and door lock/unlock switch terminal ⑤
- through body grounds **M43** , **M44** and **M60** .

When the door lock/unlock switch RH is in LOCK position, ground signal is supplied:

- to smart entrance control unit terminal ⑱
- through door lock/unlock switch RH terminal ①
- to door lock/unlock switch RH terminal ②
- through body grounds **M43** , **M44** and **M60** .

When the main power window and door lock/unlock switch is in UNLOCK position, ground signal is supplied:

- to smart entrance control unit terminal ⑲
- through main power window and door lock/unlock switch terminal ⑧
- to main power window and door lock/unlock switch terminal ⑤
- through body grounds **M43** , **M44** and **M60** .

When the door lock/unlock switch RH is in UNLOCK position, ground signal is supplied:

- to smart entrance control unit terminal ⑲
- through door lock/unlock switch RH terminal ③
- to door lock/unlock switch RH terminal ②
- through body grounds **M43** , **M44** and **M60** .

OUTPUT

Unlock

Power is supplied:

- from smart entrance control unit terminal ③
- to front door lock actuator LH terminal ①
- from smart entrance control unit terminal ②
- to all other door lock actuators terminal ①.

Ground is supplied:

- from smart entrance control unit terminal ④,
- to all door lock actuators terminal ③.

With power and ground supplied, the door lock actuators move to the unlocked position.

Lock

Power is supplied:

- from smart entrance control unit terminal ④
- to all door lock actuators terminal ③.

Ground is supplied:

- from smart entrance control unit terminal ③
- to front door lock actuator LH terminal ①
- from smart entrance control unit terminal ②.
- to all other door lock actuators terminal ①.

With power and ground supplied, the door lock actuators move to the locked position.

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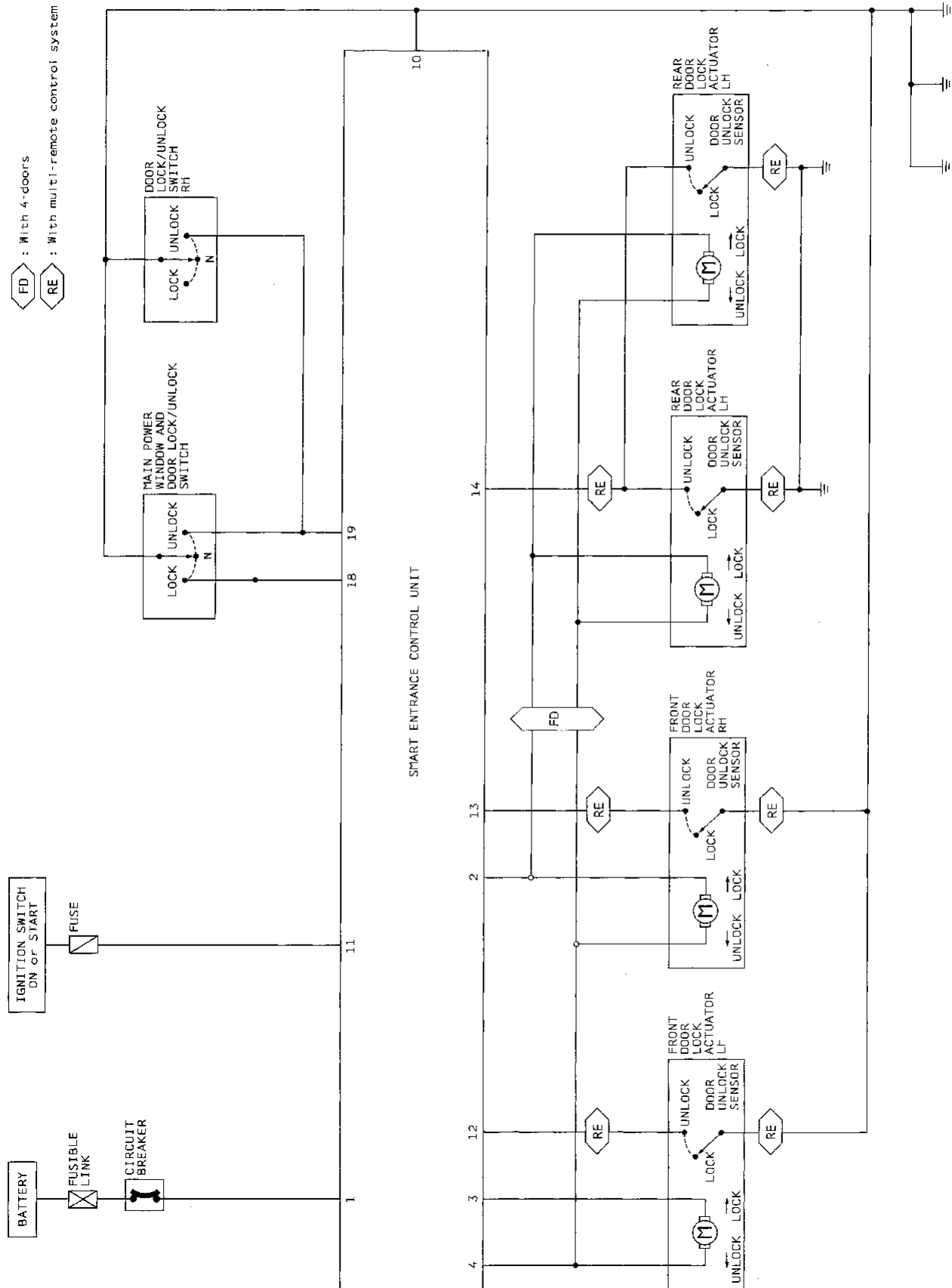
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POWER DOOR LOCK

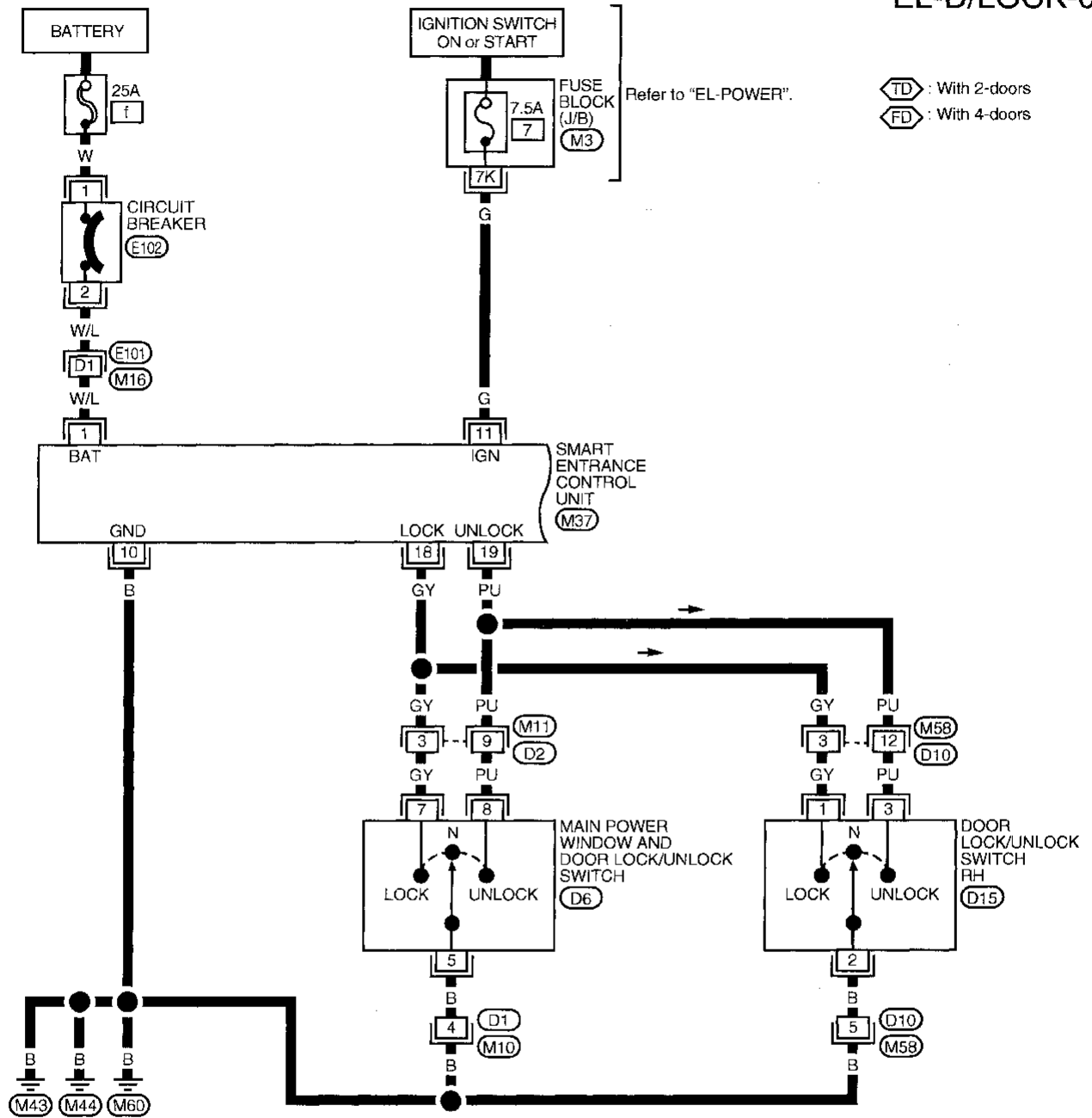
Schematic



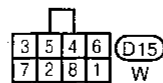
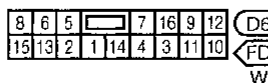
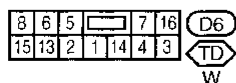
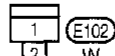
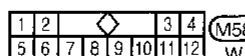
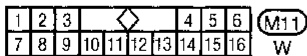
POWER DOOR LOCK

Wiring Diagram -D/LOCK-

EL-D/LOCK-01



Refer to last page (Foldout page).



- M16 E101
- M3
- M37

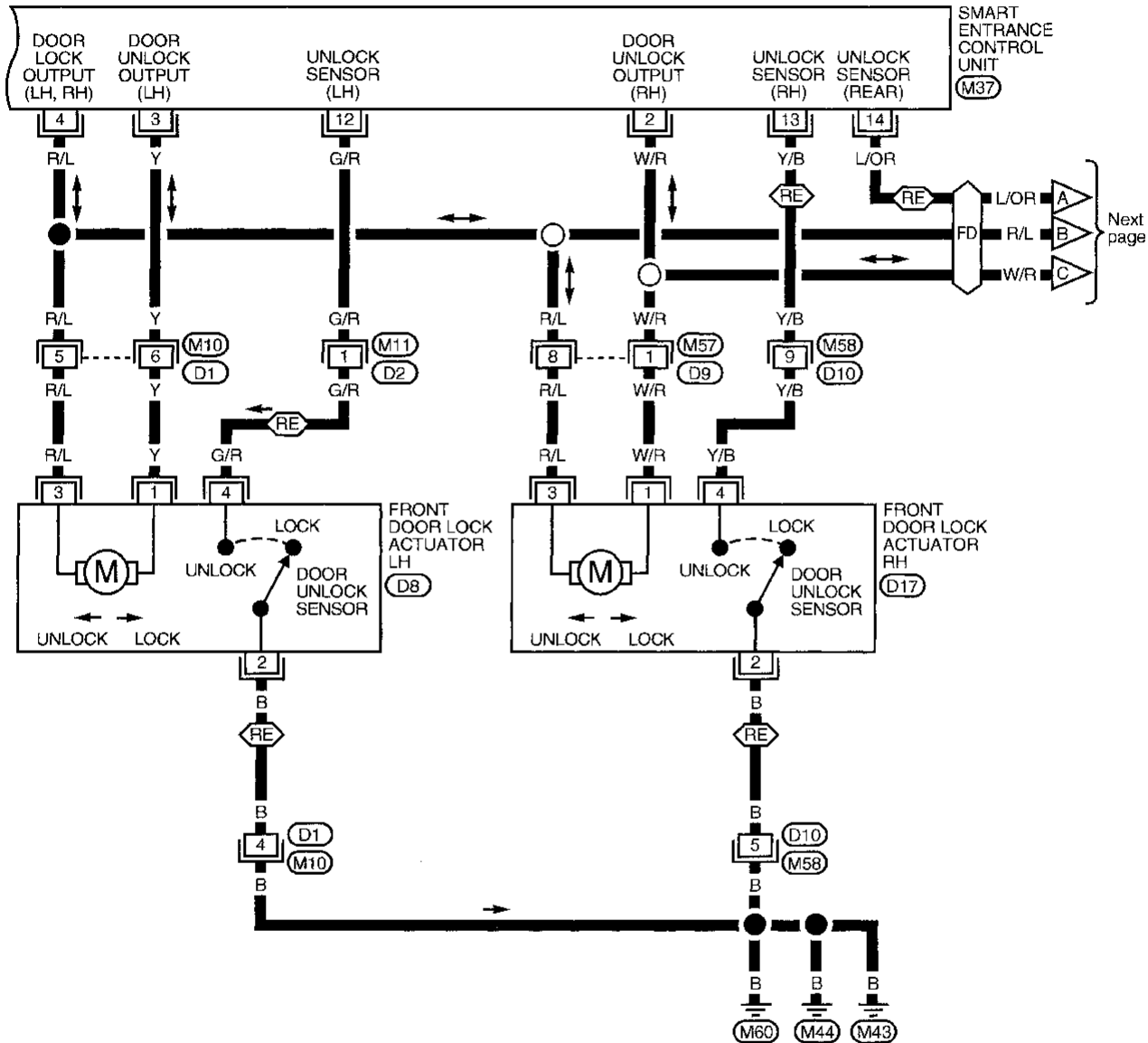
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POWER DOOR LOCK

Wiring Diagram -D/LOCK- (Cont'd)

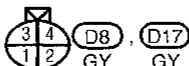
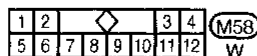
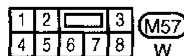
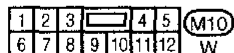
EL-D/LOCK-02

RE: With multi-remote control system
 FD: With 4-doors



Refer to last page (Foldout page).

(M37)

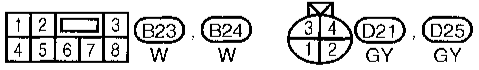
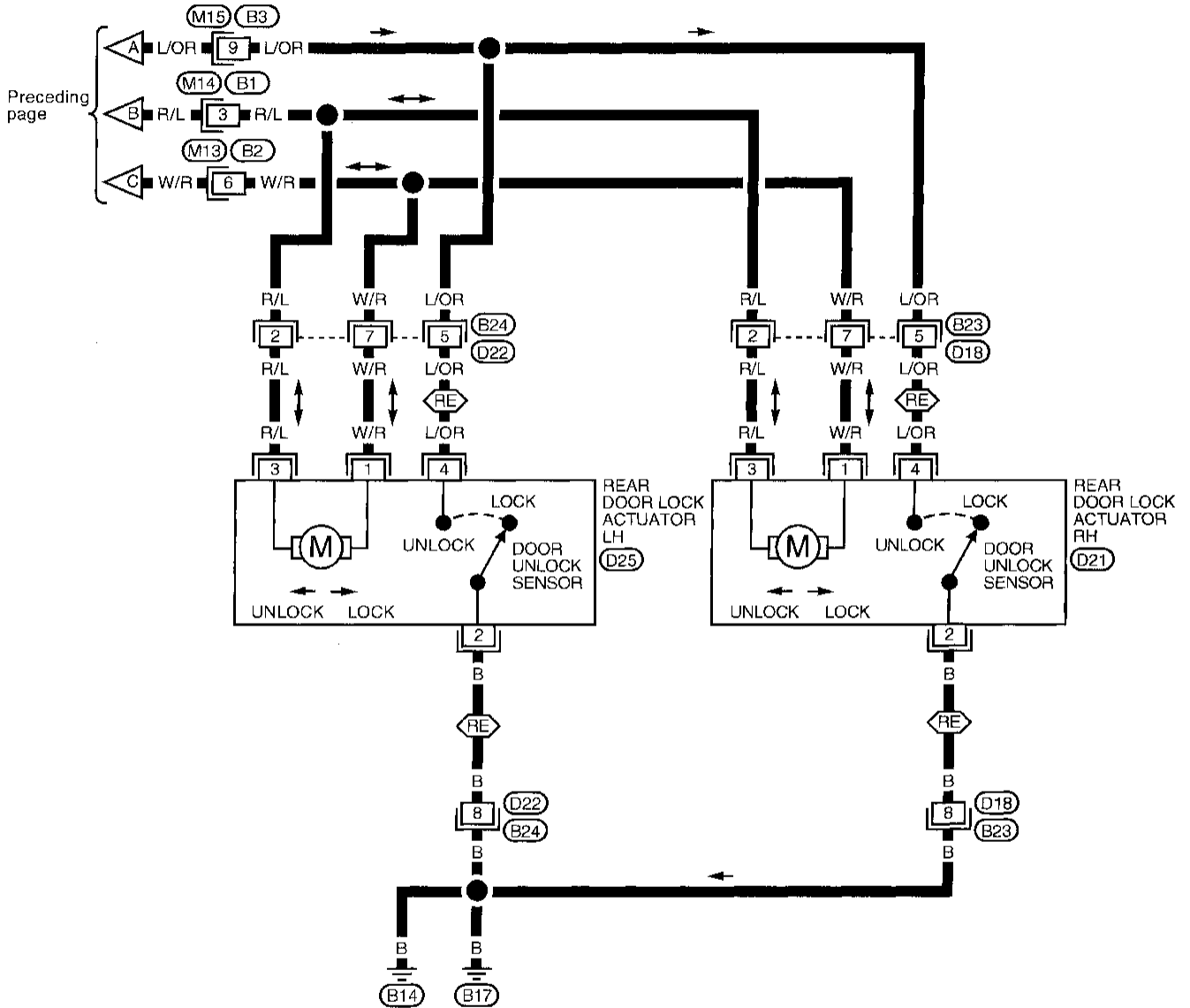


POWER DOOR LOCK

Wiring Diagram -D/LOCK- (Cont'd)

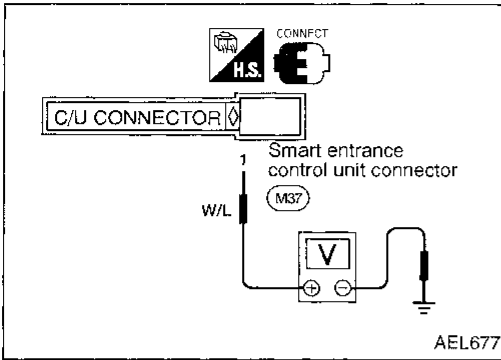
EL-D/LOCK-03

: With multi-remote control system



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POWER DOOR LOCK

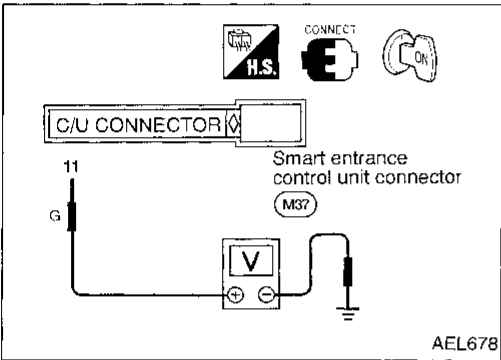


Trouble Diagnoses

MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

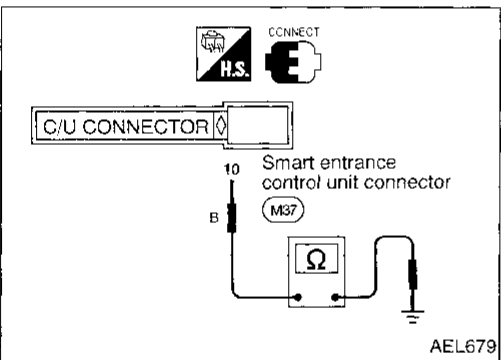
Main power supply for smart entrance control unit (SECU)

Terminals	Battery voltage existence
① - Ground (GND)	Yes



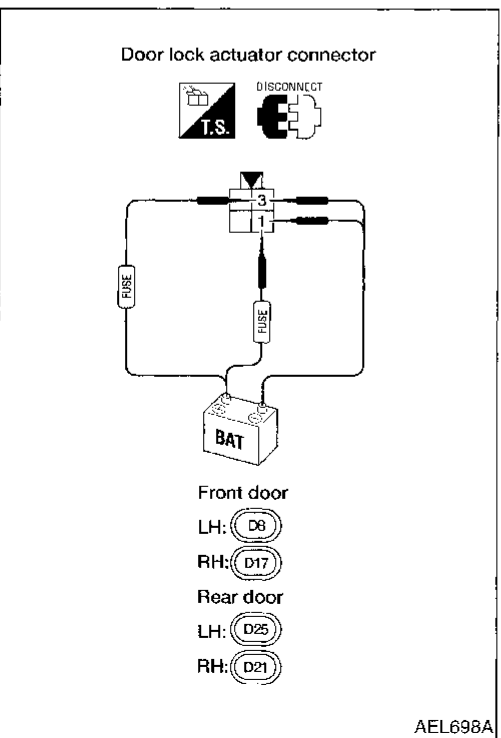
Main power supply while ignition switch is ON or START position

Terminals	Battery voltage existence
⑪ - Ground	Yes



Ground circuit for smart entrance control unit

Terminals	Continuity
⑩ - Ground	Yes



ELECTRICAL COMPONENTS INSPECTION

Power door lock motor

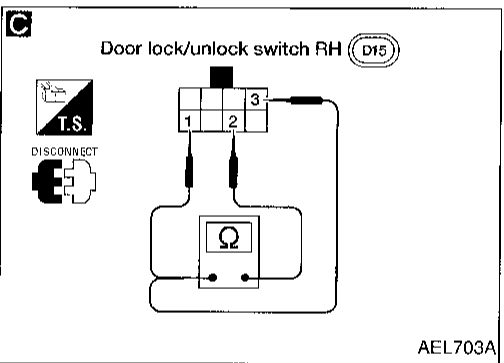
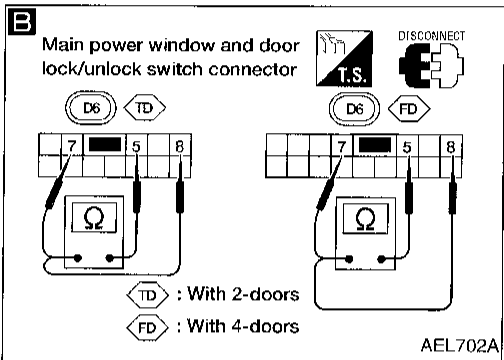
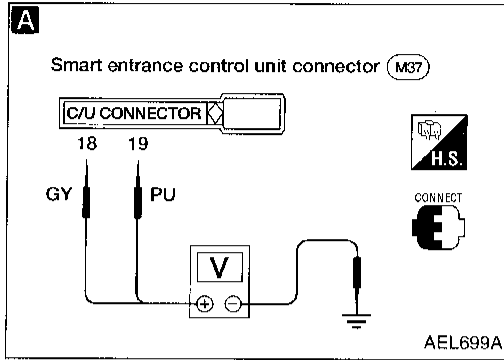
Door lock condition	Terminals	
	⊕	⊖
Unlocked → Locked	③	①
Locked → Unlocked	①	③

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE

SYMPTOM: Power door locks cannot be operated by door lock/unlock switches.



A

CHECK SIGNAL OF DOOR LOCK/UNLOCK SWITCH.

OK

➔ **A** (Go to next page.)

Terminals	Door lock/unlock switch (LH or RH) condition	Voltage (V)
⑮ - GND	Lock	0
	N and unlock	12
⑰ - GND	Unlock	0
	N and Lock	12

NG

B C

CHECK DOOR LOCK/UNLOCK SWITCHES.

1. Disconnect door lock/unlock switch.
2. Check continuity.

B Main power window and door lock/unlock switch

Condition	Terminals		
	⑤	⑦	⑧
Lock	○	○	
N	No Continuity		
Unlock	○		○

C Door lock/unlock switch RH

Condition	Terminals		
	①	②	③
Lock	○	○	
N	No Continuity		
Unlock		○	○

NG

Replace door lock/unlock switch.

OK

Check the following:

- Harness between door lock/unlock switch and control unit connector
- Door lock/unlock switch ground circuit

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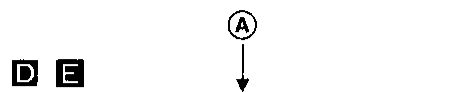
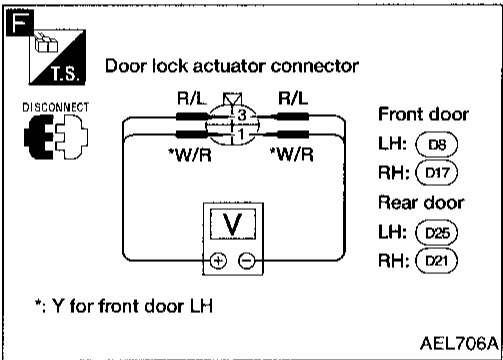
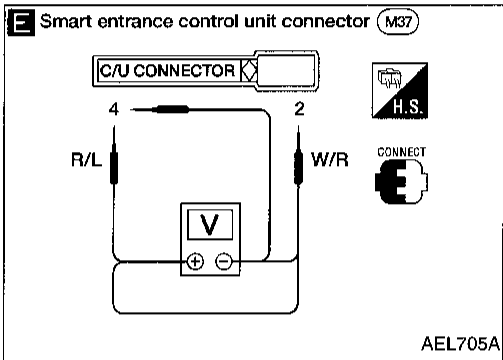
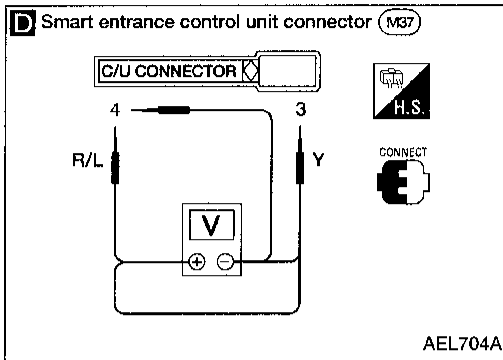
HA

EL

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)



D E

CHECK DOOR LOCK ACTUATOR CIRCUIT.
Check voltage for door lock motor.

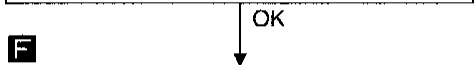
D Front door lock actuator LH

Door lock/unlock switch operation	Terminals		Voltage (V)
	⊕	⊖	
Lock	④	③	Battery voltage
Unlock	③	④	

E All other door lock actuators

Door lock/unlock switch operation	Terminals		Voltage (V)
	⊕	⊖	
Lock	④	②	Battery voltage
Unlock	②	④	

NG → Replace smart entrance control unit.

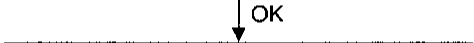


F

CHECK VOLTAGE FOR DOOR LOCK MOTOR.

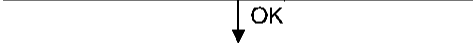
Door lock/unlock switch operation	Terminals		Voltage (V)
	⊕	⊖	
Lock	③	①	Battery voltage
Unlock	①	③	

NG → Repair harness between control unit connector and door lock actuator.



Go to power door lock motor in ELECTRICAL COMPONENTS INSPECTION. (See page EL-184.)

NG → Replace defective power door lock motor.



Check system again.

System Description

Power is supplied at all times:

- from 25A fusible link (letter **f** , located in the fusible link and fuse box)
- to circuit breaker terminal ①
- through circuit breaker terminal ②
- to smart entrance control unit terminal ①.

GI

Power is supplied at all times:

- from 7.5A fuse (No. 20 , located in the fuse block [J/B])
- to interior lamp terminal ①.

MA

EM

Power is supplied at all times:

- from 7.5A fuse (No. 24 , located in the fuse block [J/B])
- to key switch terminal ①.

LC

Power is supplied at all times:

- from 10A fuse (No. 15 , located in the fuse block [J/B])
- to multi-remote control relay-1 terminal ①
- to multi-remote control relay-1 terminal ⑥
- to multi-remote control relay-1 terminal ③
- to multi-remote control relay-2 terminal ①.

EC

FE

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

- from 15A fuse (No. 10 , located in the fuse block [J/B])
- to smart entrance control unit terminal ⑱.

CL

Terminal ⑩ of the smart entrance control unit is grounded through body grounds **M43** , **M44** and **M60** .

MT

INPUTS

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

- through key switch terminal ②
- to smart entrance control unit terminal 24.

AT

When any door switch is OPEN, ground is supplied:

- to smart entrance control unit terminal ⑱
- through front door switch LH terminal ②, or
- through any other door switch terminal ①.

FA

RA

When the front door lock actuator LH (door unlock sensor) is UNLOCKED, ground is supplied:

- to smart entrance control unit terminal ⑱
- through front door lock actuator LH (door unlock sensor) terminal ④
- to front door lock actuator LH (door unlock sensor) terminal ②
- through body grounds **M43** , **M44** and **M60** .

BR

When the front door lock actuator RH (door unlock sensor) is UNLOCKED, ground is supplied:

- to smart entrance control unit terminal ⑱
- through front door lock actuator RH (door unlock sensor) terminal ④
- to front door lock actuator RH (door unlock sensor) terminal ②
- through body grounds **M43** , **M44** and **M60** .

ST

RS

When either rear door lock actuator (door unlock sensor) is UNLOCKED, ground is supplied:

- to smart entrance control unit terminal ⑱
- through either rear door lock actuator (door unlock sensor) terminal ④
- to either rear door lock actuator (door unlock sensor) terminal ②
- through body grounds **B14** and **B17** .

BT

HA

Remote controller signal is input:

- through window antenna
- to smart entrance control unit terminal ⑳.

EL

The multi-remote control system controls operation of the:

- power door lock
- interior lamp
- panic alarm
- hazard lamp
- ID code entry.

IDX

OPERATING PROCEDURE

Power door lock operation

When the following input signals are both supplied:

- key switch OFF (when ignition key is not inserted in key cylinder);
- door switches CLOSED (when all the doors are closed); smart entrance control unit locks all the doors with input of LOCK signal from remote controller. When key switch is OFF (when ignition key is not inserted in key cylinder), smart entrance control unit unlocks the doors with input of UNLOCK signal from remote controller.

Refer to "POWER DOOR LOCK", EL-179 and "THEFT WARNING SYSTEM", EL-201.

Interior lamp operation

When the following input signals are both supplied:

- key switch OFF (when ignition key is not inserted in key cylinder);
- door switches CLOSED (when all the doors are closed); multi-remote control system turns on interior lamp (for 30 seconds) with input of UNLOCK signal from remote controller. For detailed description, refer to "Interior and Trunk Room Lamps/System Description", EL-76.

Panic alarm operation

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

For detailed description, refer to "System Description", "THEFT WARNING SYSTEM", EL-201.

Hazard lamp operation

When the following input signals are all supplied:

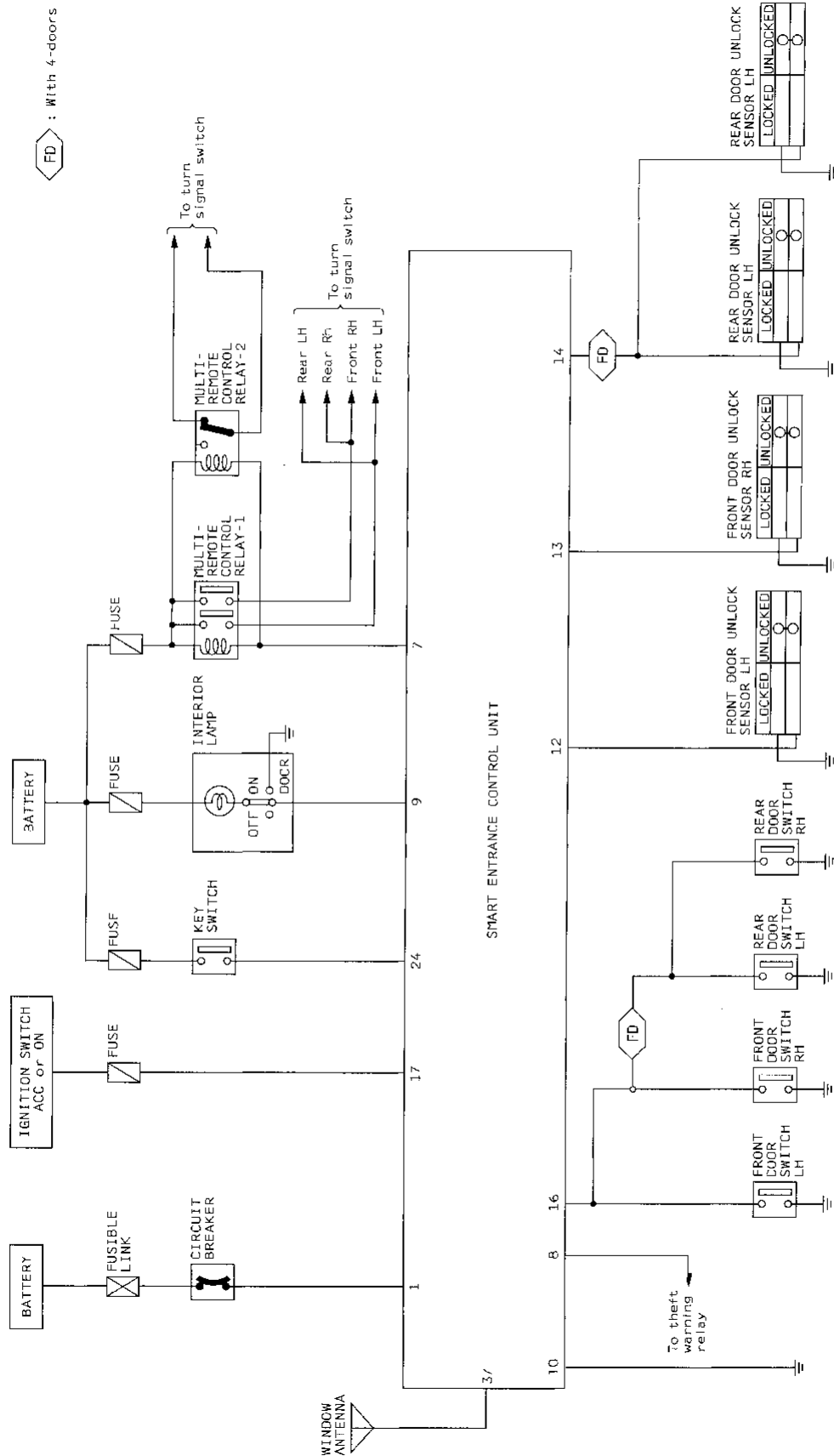
- key switch OFF (when ignition key is not inserted in key cylinder);
 - door switches CLOSED (when all the doors are closed)
 - door lock actuator (door unlock sensor) LOCKED (when all the doors are locked);
- multi-remote control system outputs the following ground signals with input of LOCK signal from remote controller:
- to multi-remote control relay-1 terminal ②
 - to multi-remote control relay-2 terminal ②
 - through smart entrance control unit terminal ⑦.

As a result, multi-remote control relay-1 and multi-remote control relay-2 are energized and hazard warning lamps flash on and off.

For detailed description refer to "Turn Signal and Hazard Warning Lamps/System Description", EL-65.

MULTI-REMOTE CONTROL SYSTEM

Schematic

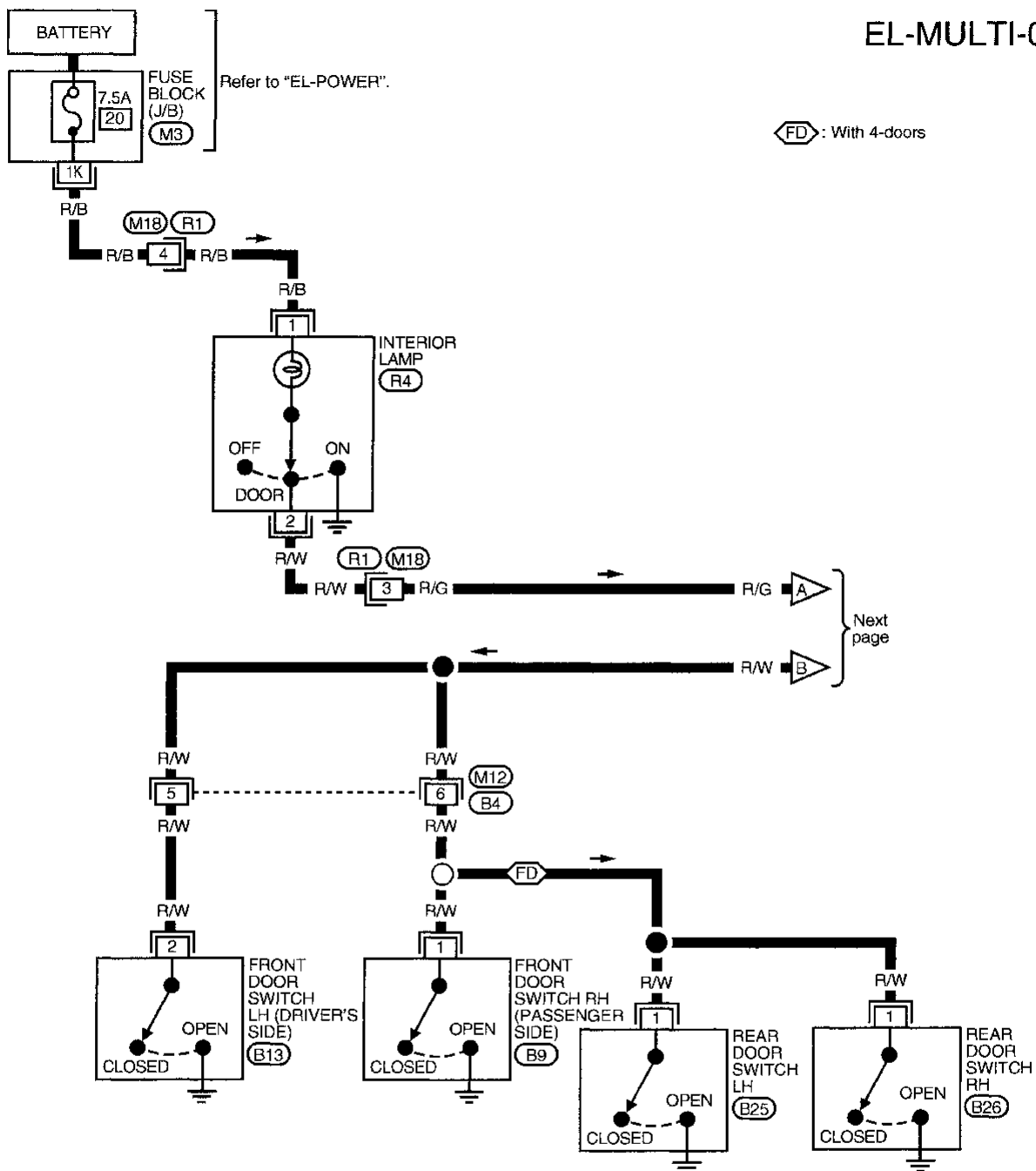


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MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram -MULTI-

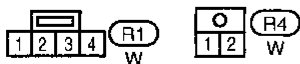
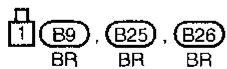
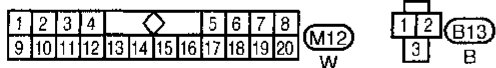
EL-MULTI-01



FD : With 4-doors

Next page

Refer to last page (Foldout page).

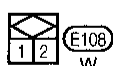
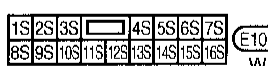
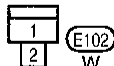
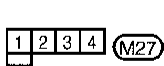
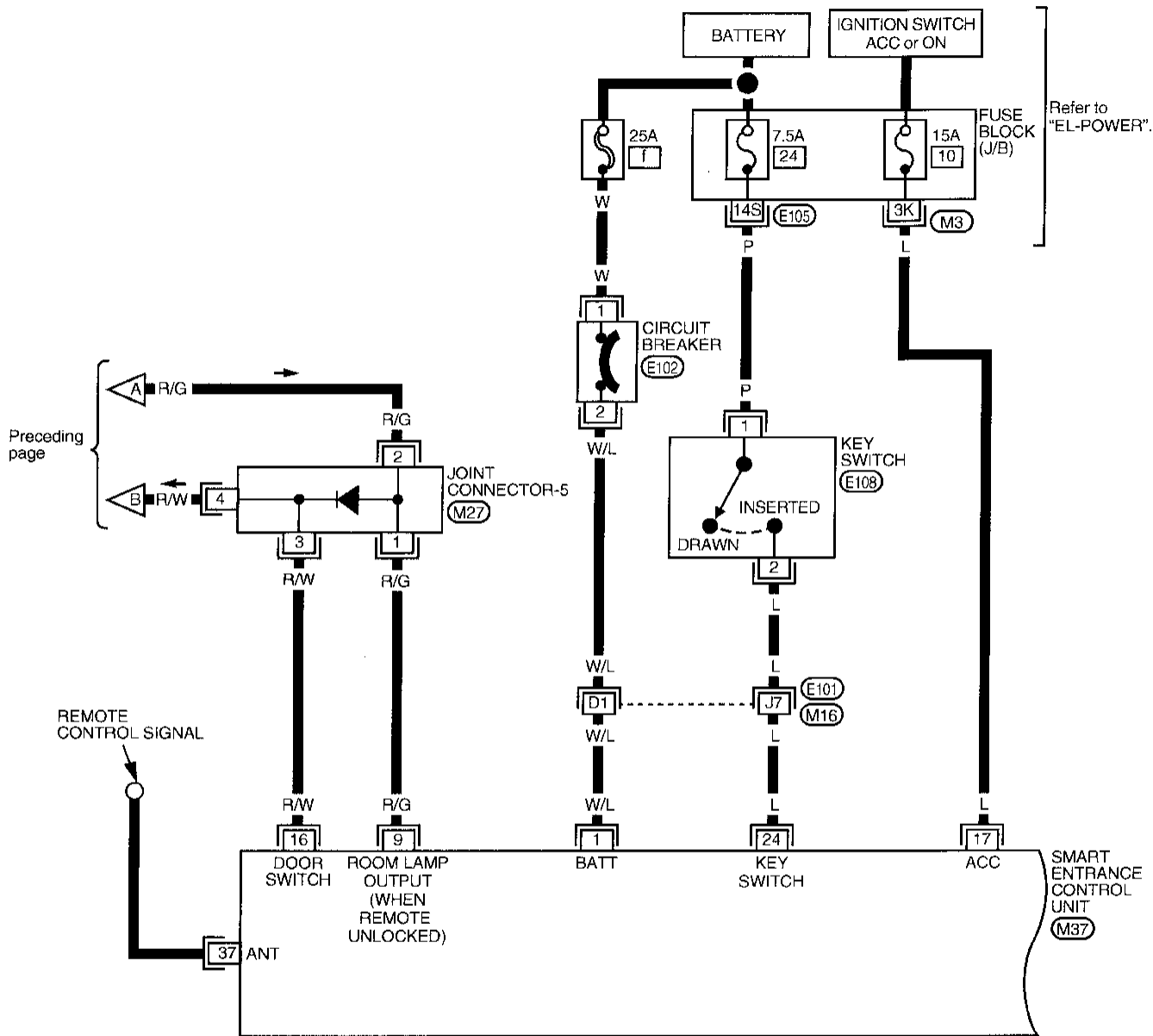


M3

MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram -MULTI- (Cont'd)

EL-MULTI-02



Refer to last page (Foldout page).

(M16), (E101)

(M3)

(M37)

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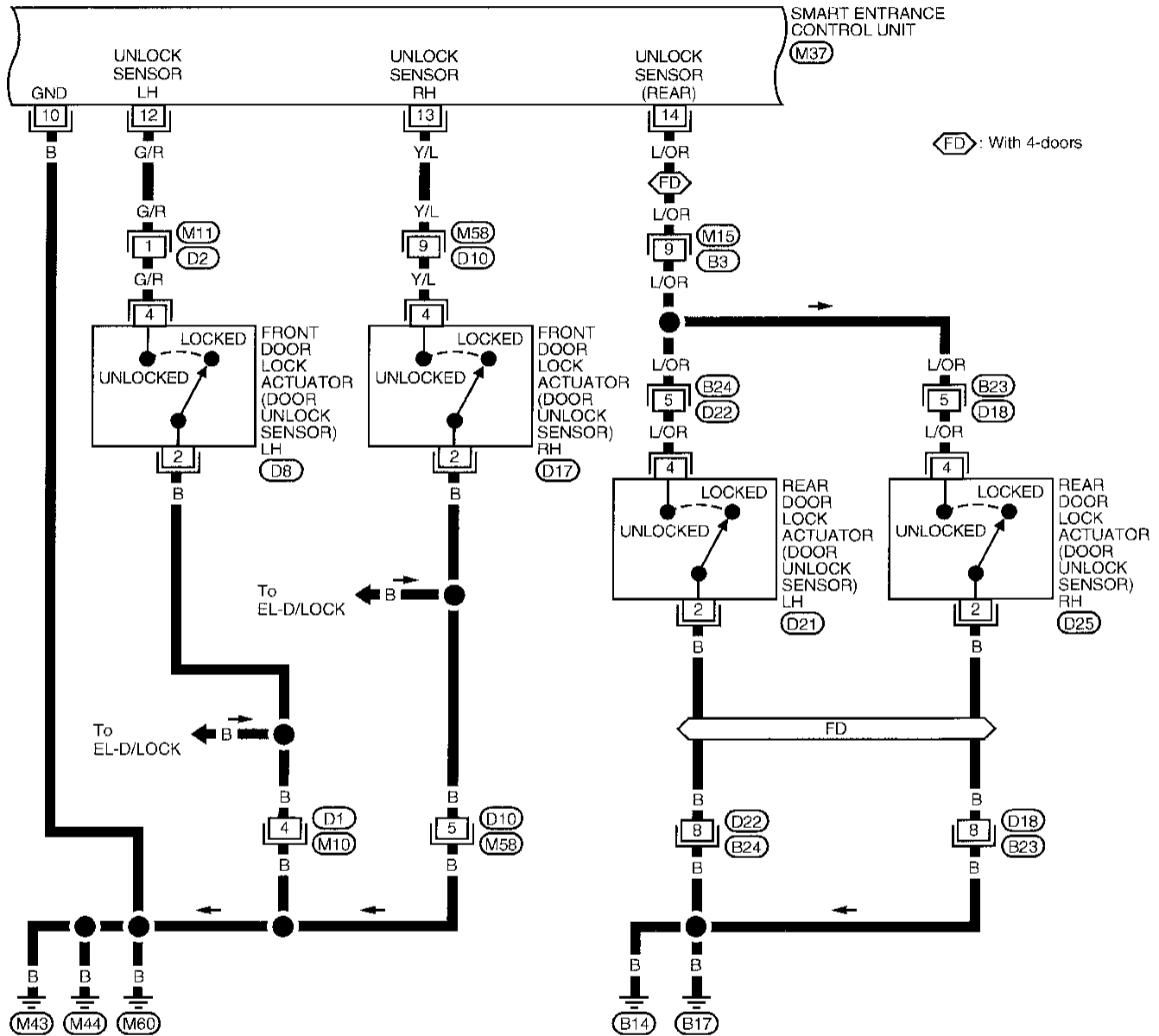
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MULTI-REMOTE CONTROL SYSTEM

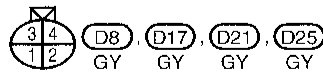
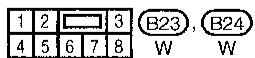
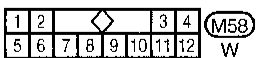
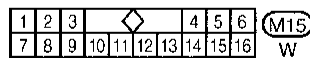
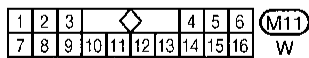
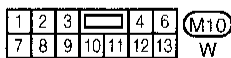
Wiring Diagram –MULTI– (Cont'd)

EL-MULTI-03



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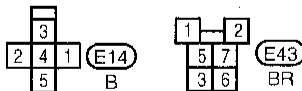
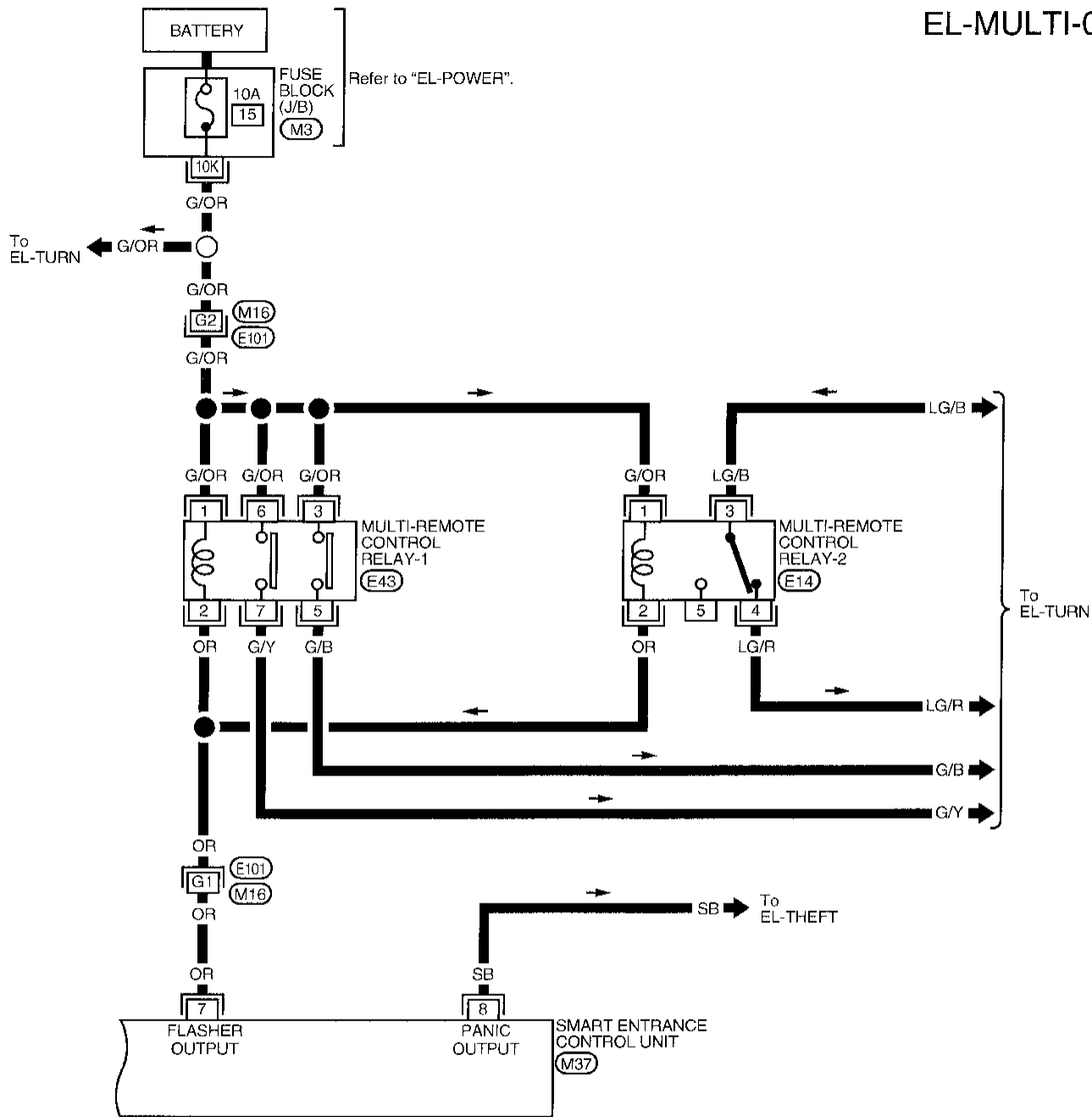
(M37)



MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram -MULTI- (Cont'd)

EL-MULTI-04



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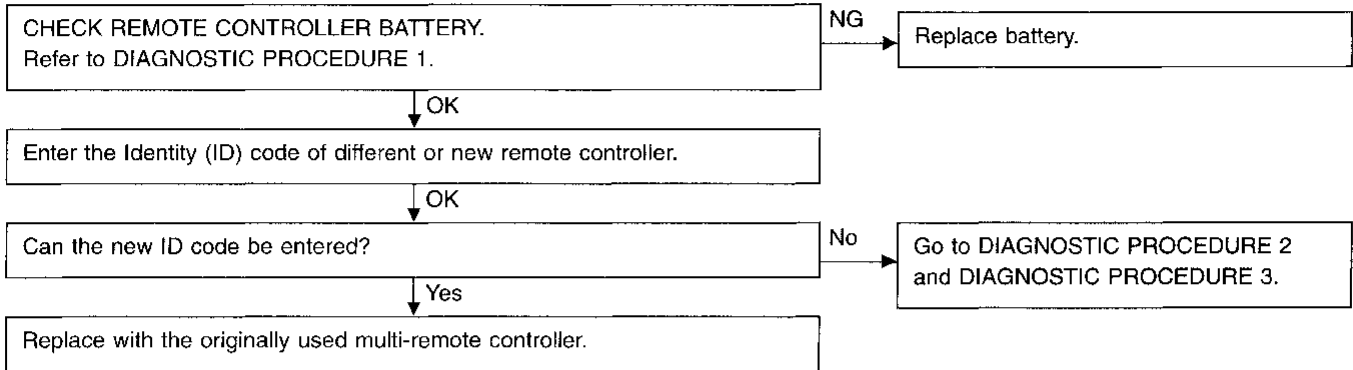
(M16), (E101)
(M3)
(M37)

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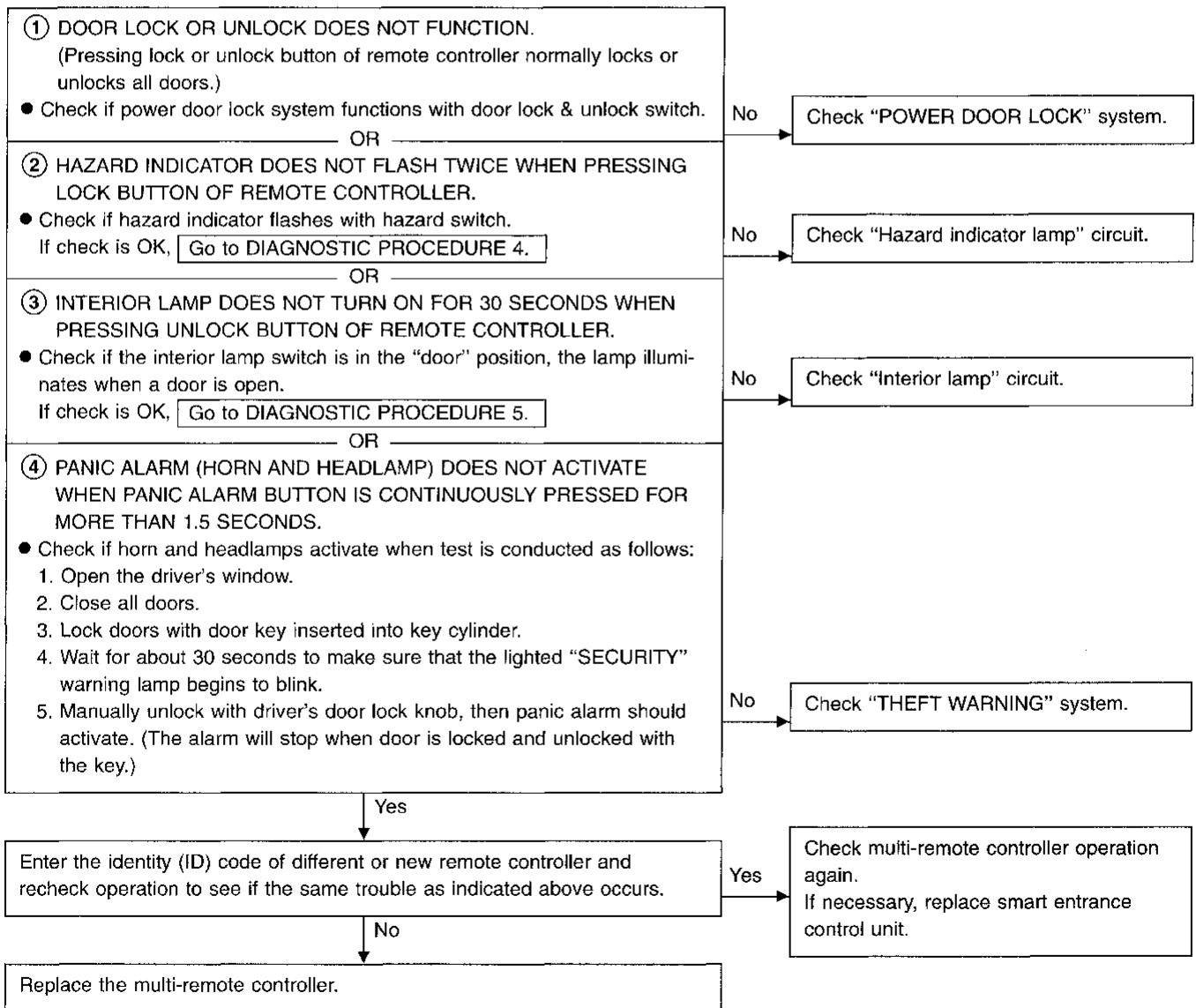
Trouble Diagnoses

TROUBLE SYMPTOM

- All functions of remote control system do not operate.



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



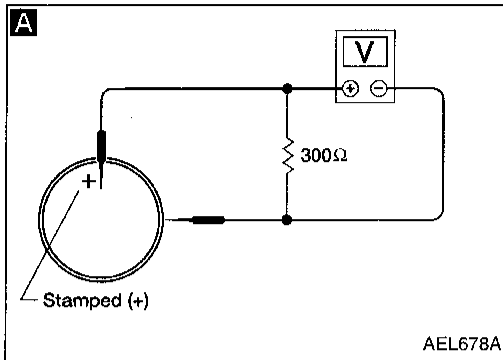
Note: The multi-remote control system does not activate with the ignition key inserted in the ignition key cylinder.

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

Check remote controller battery.

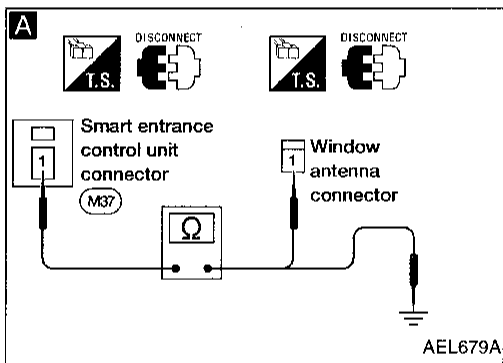


A

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

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

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



DIAGNOSTIC PROCEDURE 2

A

CHECK ANTENNA FEEDER CABLE.

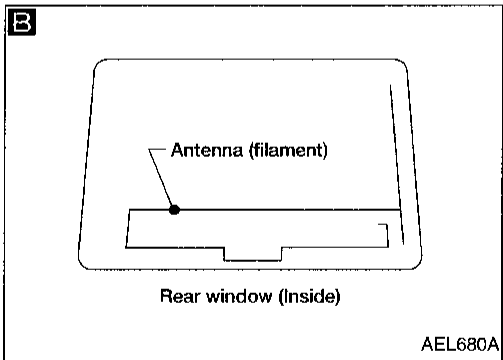
1. Disconnect feeder cable connector from smart entrance control unit.
2. Remove rear pillar garnish and disconnect feeder cable connector from rear window glass antenna. (Feeder cable connector is the one at bottom left.)
3. Check continuity between the feeder cable connectors.

Continuity should exist.

4. Check continuity between the feeder cable connector terminal and body ground.

Continuity should not exist.

NG → Replace feeder cable.



B

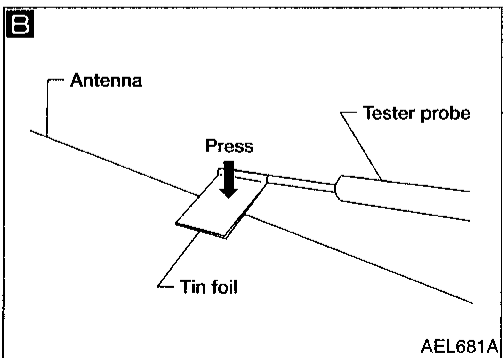
CHECK REAR WINDOW GLASS ANTENNA.

1. Remove rear pillar garnish and disconnect feeder cable connector from rear window glass antenna.
2. Check continuity between glass antenna terminal and end of glass antenna.

Continuity should exist.

Note: When checking continuity, wrap tin foil around top of the probe. Then press the foil against the wire with your finger.

NG → Repair glass window antenna. Refer to REAR WINDOW DEFOGGER "Filament Repair".



OK → Antenna of multi-remote control is OK.

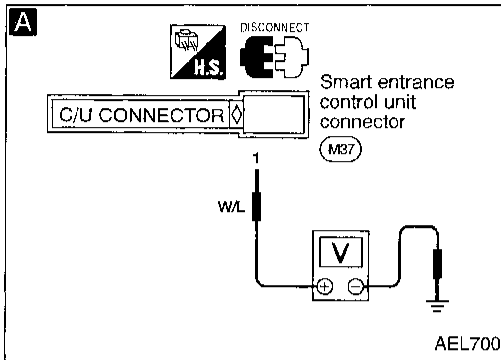
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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

All remote controls do not function even if remote controller is operated properly.



A

CHECK MAIN POWER SUPPLY AND GROUND CIRCUIT.

1. Remove key from ignition.
2. Disconnect connector from control unit.

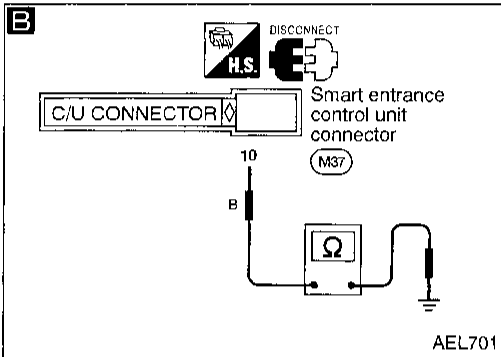
Check voltage across control unit terminal ① and GND.

Battery voltage should exist.

NG

Check the following.

- 25A fusible link (Letter **f**, located in fuse and fusible link box)
- **E102** circuit breaker
- Harness for open or short



B

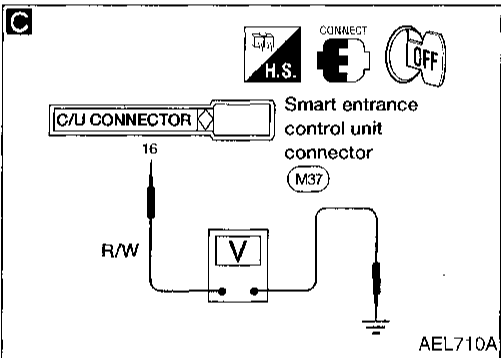
CHECK GROUND CONTINUITY.

Check continuity between terminal ⑩ and GND.

Continuity should exist.

NG

Check GND harness.



C

CHECK DOOR SWITCH CIRCUIT.

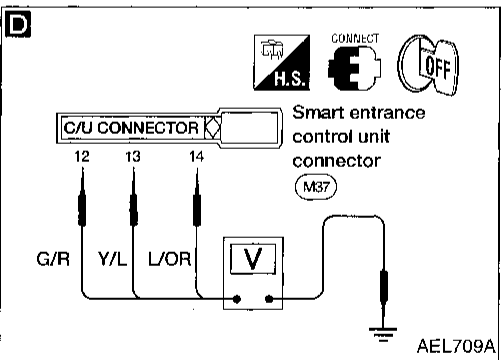
Check voltage between control unit terminal ⑯ and GND.

	Terminals		Condition	Voltage [V]
	⊕	⊖		
Any door switch	⑯ - GND		Open	0
All door switches			Close	Approx. 12

NG

Check the following:

- Door switch
- Door switch case ground condition
- Harness for open or short



D

CHECK UNLOCK SENSOR CIRCUIT.

Check voltage between control unit terminal ⑫, ⑬, ⑭ and GND.

	Terminals		Condition	Voltage
	⊕	⊖		
Front LH door	⑫	GND	Unlock	0
			Lock	Approx. 12
Front RH door	⑬	GND	Unlock	0
			Lock	Approx. 12
Rear door	⑭	GND	Unlock	0
			Lock	Approx. 12

NG

Check the following:

- Door unlock sensor
- Door unlock sensor ground circuit
- Harness for open or short

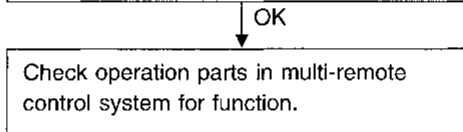
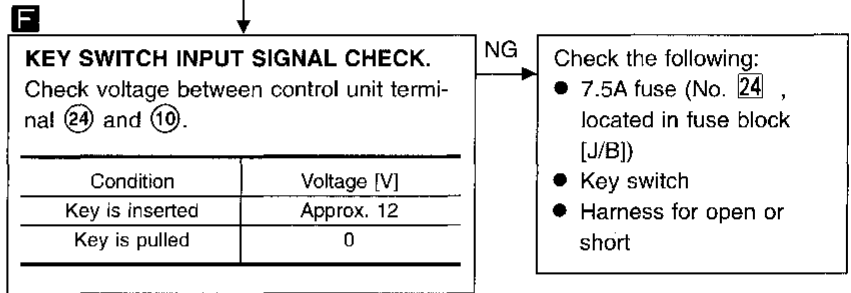
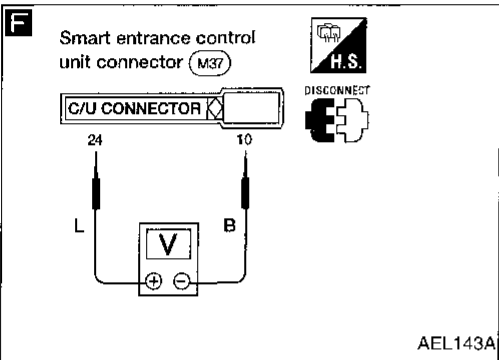
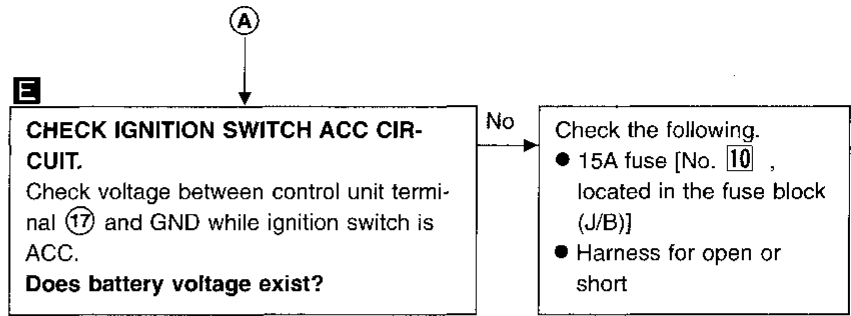
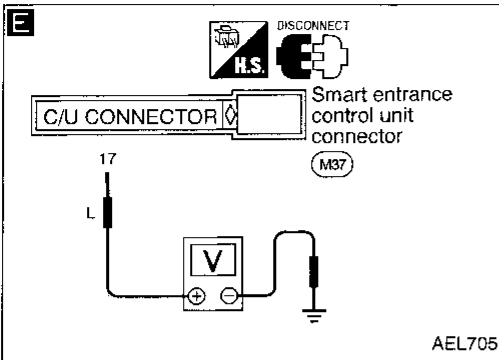
OK

A

(Go to next page.)

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)



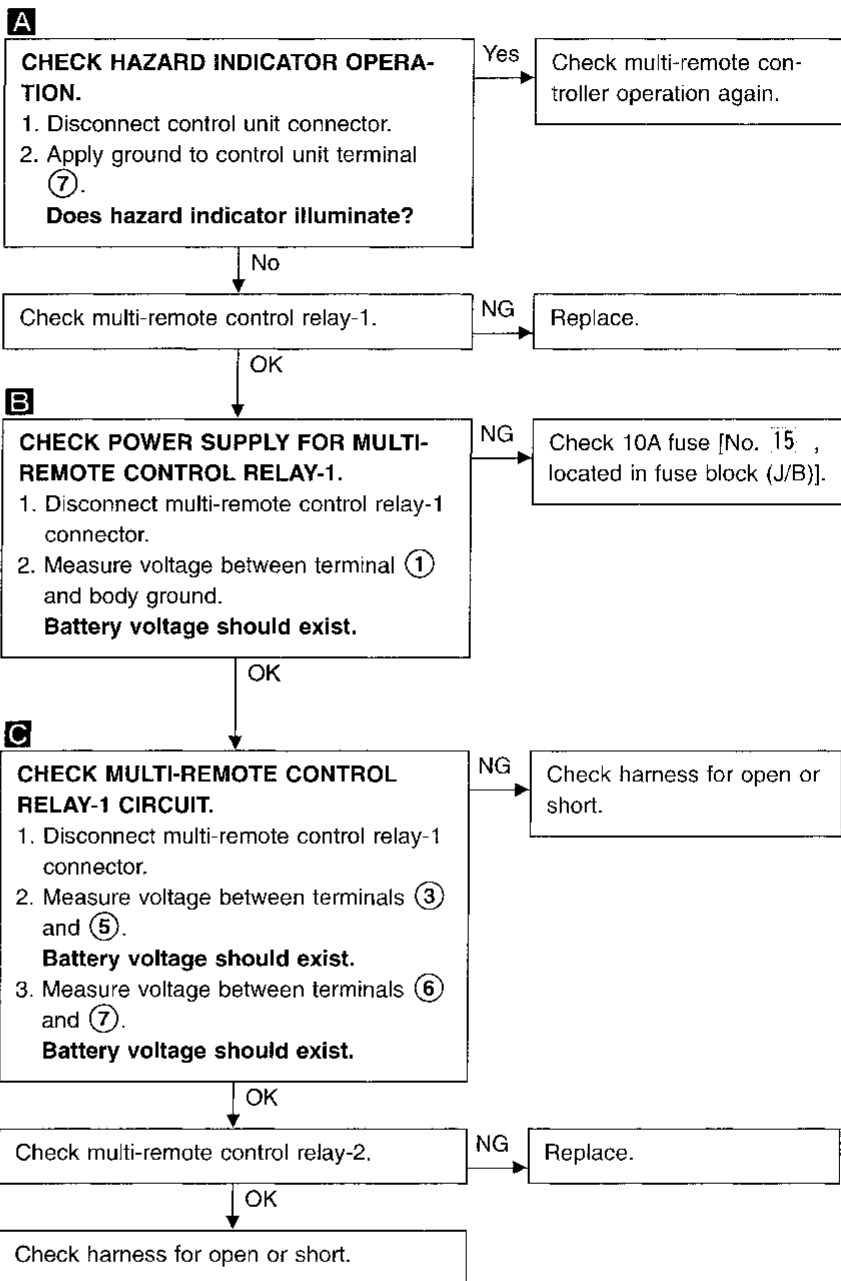
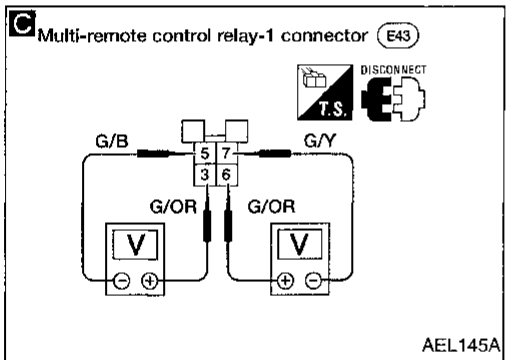
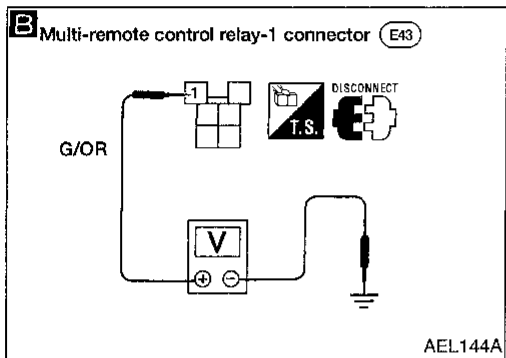
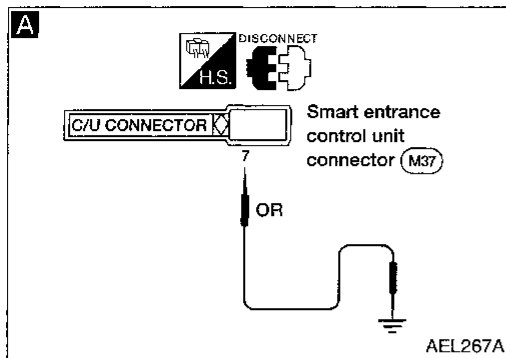
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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

Hazard indicator does not flash twice when pressing lock button of remote controller. Everything else functions.

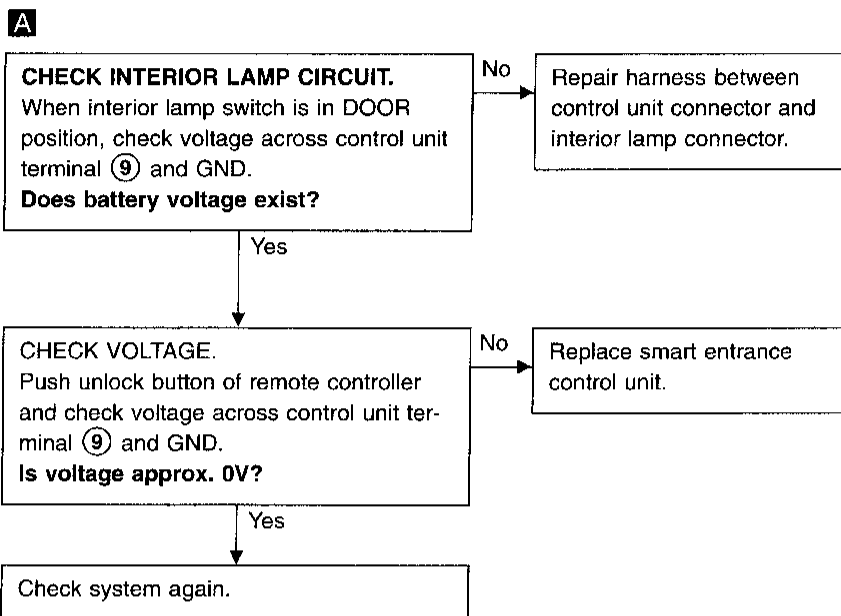
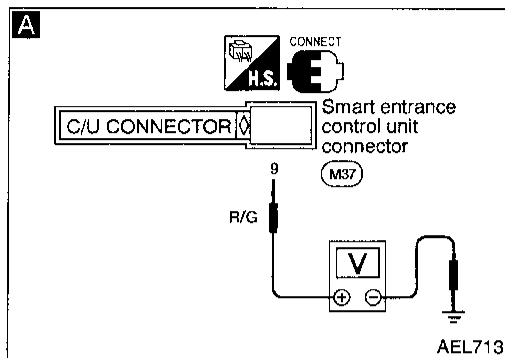


MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

Interior lamp does not turn on for 30 seconds when pressing unlock button of remote controller. Everything else functions.



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Replacing Remote Controller or Control Unit

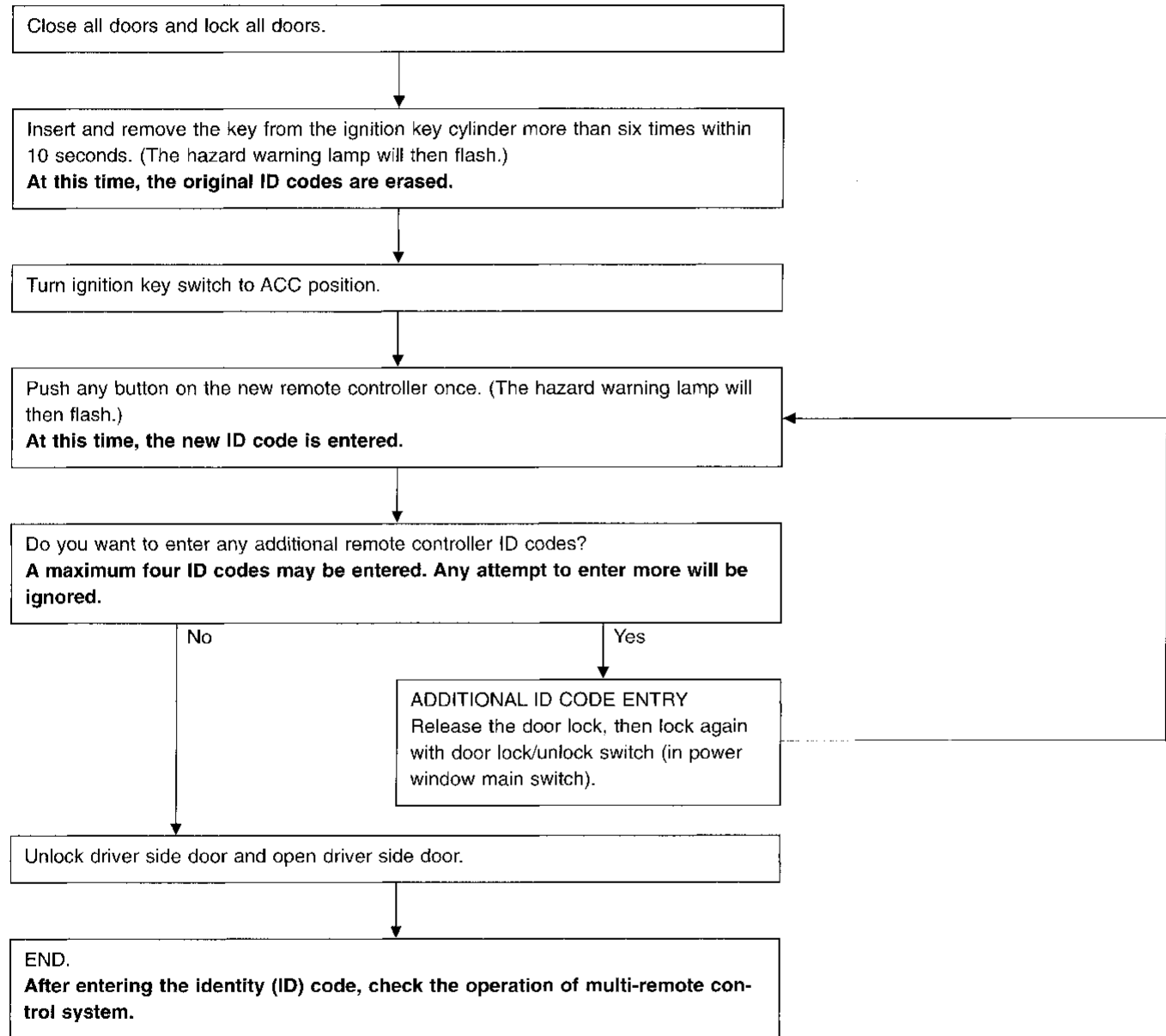
Enter the identity (ID) code manually when:

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

ID Code Entry Procedure

To enter the ID code, follow the procedures below.

PROCEDURE

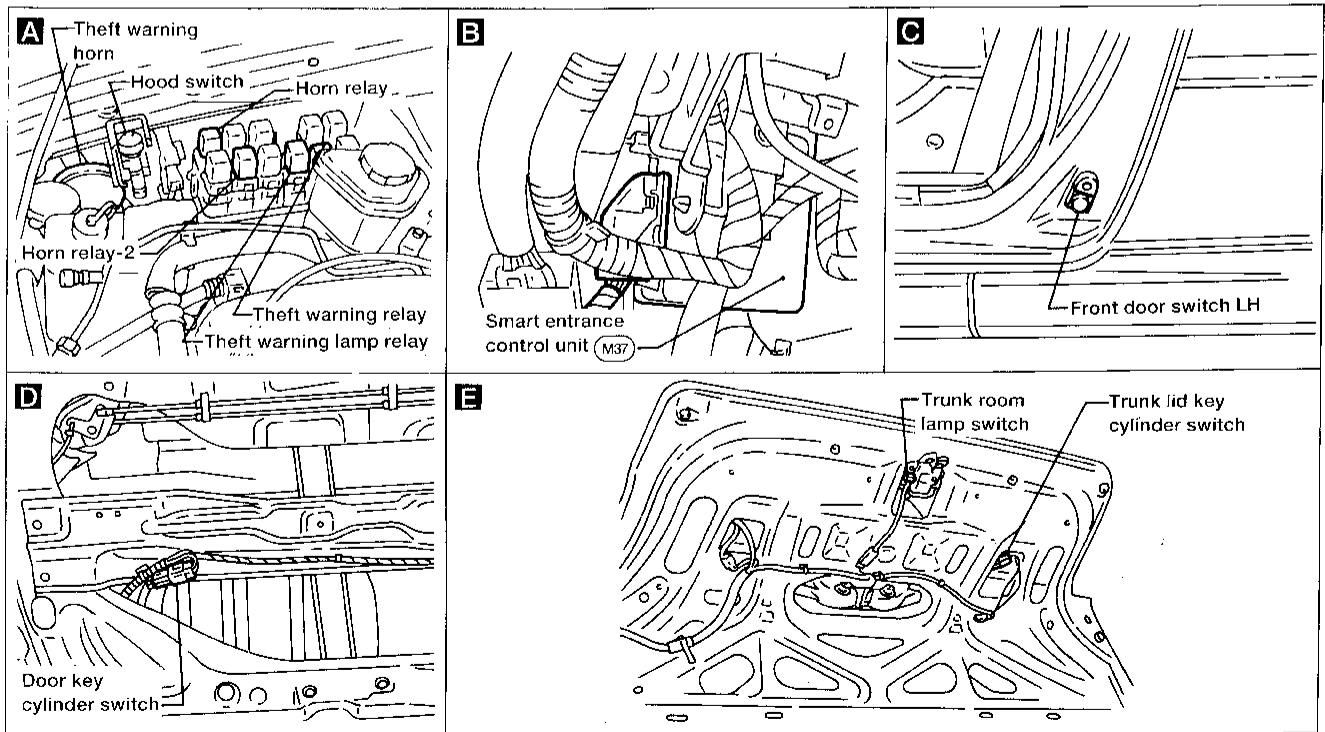
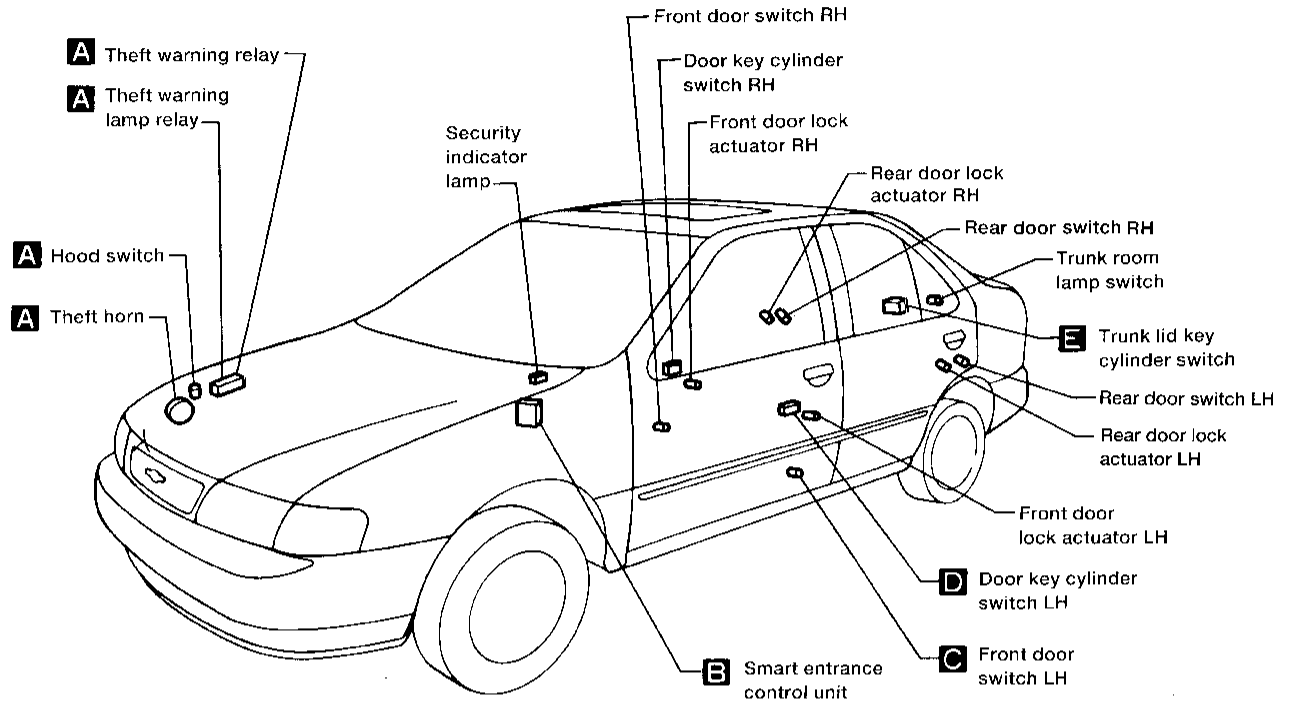


NOTE

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

THEFT WARNING SYSTEM

Component Parts and Harness Connector Location



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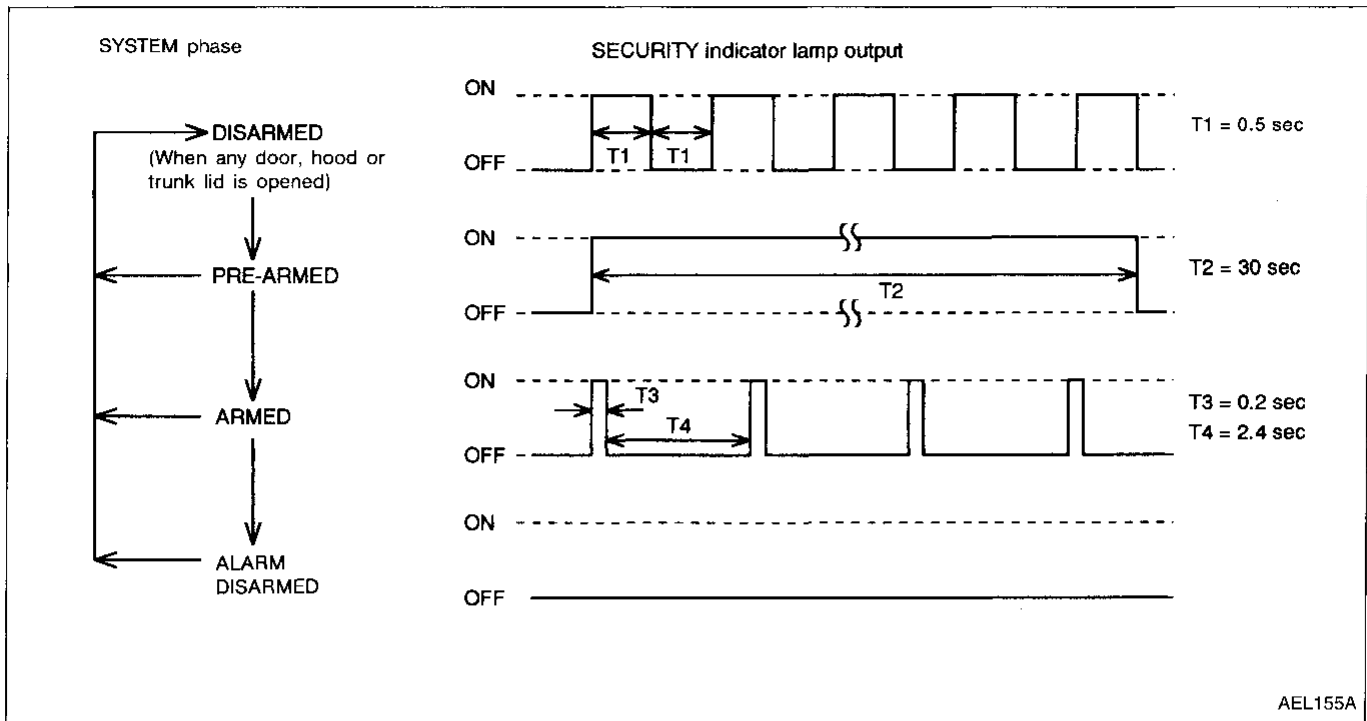
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THEFT WARNING SYSTEM

System Description

1. Operation flow



2. Setting the theft warning system

Initial condition

- Close all doors.
- Close hood and trunk lid.
- Pull key out of ignition.

Disarmed phase

The theft warning system is in the disarmed phase when any door(s), hood or trunk lid is open and the ignition key is not in the ACC or ON position. The security indicator lamp blinks every 0.5 second. When the ignition key is turned to the ACC or ON position, the security indicator lamp turns off.

Pre-armed phase and armed phase

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

After about 30 seconds, the system automatically shifts into the "armed" phase (the system is set). (The security indicator lamp blinks every 2.4 seconds.)

3. Canceling the set theft warning system

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

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

4. Activating the alarm operation of the theft warning system

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.4 seconds.)

When any of the following operations (a), (b) or (c) are performed, the system sounds the horns and flashes the headlamps for about 2.5 minutes. After 2.5 minutes the security indicator lamp will turn off. (At the same time, the system disconnects the starting system circuit.)

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

- Engine hood or trunk lid is opened before unlocking door with key or multi-remote controller.
- Door is unlocked without using key or multi-remote controller.
- Key cylinder is pulled out from either front door or the trunk lid.

THEFT WARNING SYSTEM

System Description (Cont'd)

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

Power is supplied at all times:

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

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

- through 10A fuse (No. 21 , located in the fuse block [J/B])
- to theft warning relay terminals ① and ③ (A/T models)
- to theft warning relay terminal ① (M/T models).

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

- from terminal ⑤ of the ignition switch
- to clutch interlock relay terminal ③ (M/T models) or
- to inhibitor relay terminal ⑥ (A/T models with ASCD).
- to inhibitor relay terminal ③ (A/T models without ASCD).

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

- through 7.5A fuse (No. 26 , located in the fuse block [J/B])
- to theft warning relay terminal ③ (M/T models).

Power is supplied at all times:

- through 7.5A fuse (No. 43 , located in the fusible link and fuse box)
- to horn relay-2 terminals ① and ③.

Power is supplied at all times:

- through 25A fusible link (letter **f** , located in the fusible link and fuse box)
- to circuit breaker terminal ①
- through circuit breaker terminal ②
- to smart entrance control unit terminal ①.

Power is supplied at all times:

- through 15A fuses (No. 39 and 40 , located in the fusible link and fuse box)
- to theft warning lamp relay terminals ③ and ⑥.

Power is supplied at all times:

- through 10A fuse (No. 42 , located in the fusible link and fuse box)
- to horn relay terminal ②.

Power is supplied at all times:

- through 7.5A fuse (No. 24 , located in the fuse block [J/B])
- to security indicator lamp terminal ③7
- to key switch terminal ①.

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

- through 7.5A fuse (No. 7 , located in the fuse block [J/B])
- to smart entrance control unit terminal ①1.

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

- through 15A fuse (No. 10 , located in the fuse block [J/B])
- to smart entrance control unit terminal ①7.

Ground is supplied:

- to smart entrance control unit terminal ①0
- through body grounds **M43** , **M44** and **M60** .

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

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

To activate the theft warning system, the ignition key must be removed, doors, hood and trunk closed, and the doors locked.

When a door is open, smart entrance control unit terminal ①6 receives a ground signal from door switches.

When a door is unlocked, smart entrance control unit terminal ①2, ①3 or ①4 receives a ground signal:

- from terminal ④ of all the door unlock sensors
- through body grounds **M43** , **M44** and **M60** for the front doors and
- through body grounds **B14** and **B17** for the rear doors.

When the hood is open, smart entrance control unit terminal ②9 receives a ground signal:

- from terminal ① of the hood switch

THEFT WARNING SYSTEM

System Description (Cont'd)

- through body grounds (E13) and (E25) .

When the trunk lid is open, smart entrance control unit terminal (26) receives a ground signal:

- from terminal (1) of the trunk room lamp switch
- through body grounds (T9) and (T10) .

If none of the described conditions exist, the theft warning system will activate automatically.

THEFT WARNING SYSTEM ACTIVATION (With key or remote controller used to lock doors)

If the key or remote controller is used to lock doors, terminal (30) receives a ground signal:

- from terminal (1) of the door key cylinder switch LH
- from terminal (2) of the door key cylinder switch RH
- through body grounds (M43) , (M44) and (M60) .

If this signal is received by the smart entrance control unit, the theft warning system will activate automatically.

With the theft warning system activated, smart entrance control unit terminal (33) supplies ground to the security indicator lamp.

THEFT WARNING SYSTEM OPERATION

The theft warning system is triggered by:

- opening a door or the trunk lid without using the key
- opening the hood
- tampering with the key cylinder in the door.

Once the theft warning system has been activated, it will be triggered if the smart entrance control unit receives a ground signal at terminal (16), (26) or (29). Also, when a door key tamper signal is received at the smart entrance control unit, the system will be triggered. The headlamps flash, the horn sounds intermittently, and the starting system is interrupted.

When a door key cylinder switch has been tampered with, smart entrance control unit terminal (28) receives a ground signal:

- from terminal (3) of the front LH or RH key cylinder switch
- through body grounds (M43) , (M44) and (M60) .

If the theft warning system is triggered, ground is supplied:

- from terminal (32) of the smart entrance control unit
- to theft warning relay terminal (2).

With power and ground supplied, power to the clutch interlock relay (M/T models) or inhibitor relay (A/T models) is interrupted. The starter motor will not crank and the engine will not start.

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

- from terminal (8) of the smart entrance control unit
- to theft warning lamp relay terminal (2) and
- to horn relay-2 terminal (2).

The headlamps flash and the horn sounds intermittently.

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

THEFT WARNING SYSTEM DEACTIVATION

To deactivate the theft warning system, a door or the trunk lid must be unlocked with the key or remote controller.

When the key is used to unlock a door, smart entrance control unit terminal (31) receives a ground signal:

- from terminal (2) of the LH key cylinder switch
- from terminal (1) of the RH key cylinder switch.

When the key is used to unlock the trunk lid, smart entrance control unit terminal (27) receives a ground signal from terminal (1) of the trunk key cylinder switch.

When the smart entrance control unit receives either one of these signals, the theft warning system is deactivated.

THEFT WARNING SYSTEM

System Description (Cont'd)

PANIC ALARM OPERATION

Multi-remote control system may or may not operate theft warning system (horn and headlamps) as required.

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

- from smart entrance control unit terminal ⑧
- to theft warning lamp relay terminal ② and
- to horn relay-2 terminal ②.

The headlamp flashes and the horn sounds intermittently:

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

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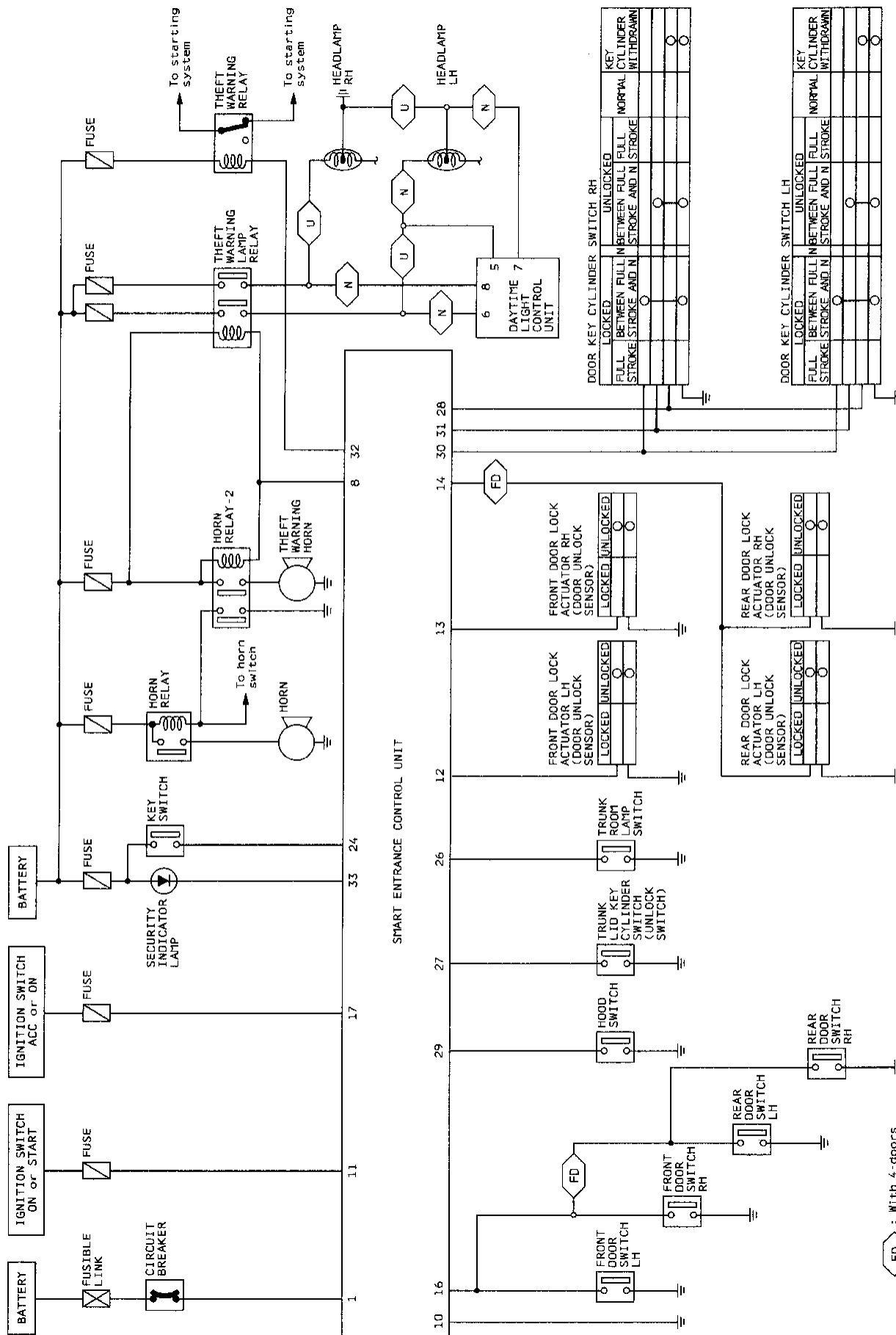
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THEFT WARNING SYSTEM

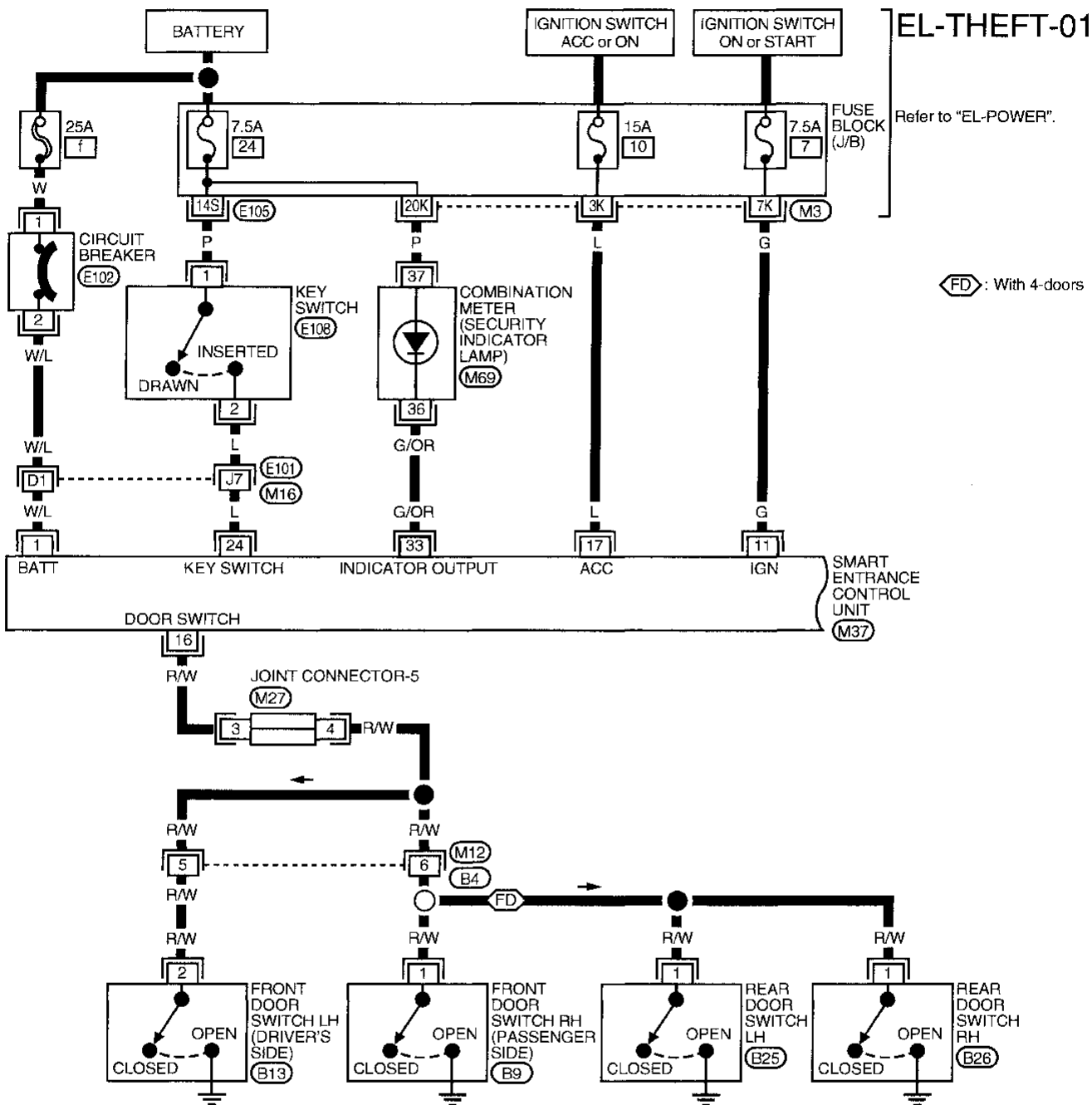
Schematic



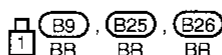
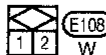
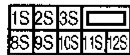
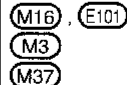
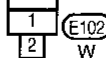
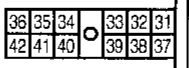
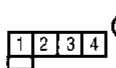
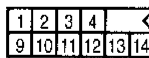
FD : With 4-doors
 U : For U.S.A.
 N : For Canada

THEFT WARNING SYSTEM

Wiring Diagram -THEFT-



Refer to last page (Foldout page).

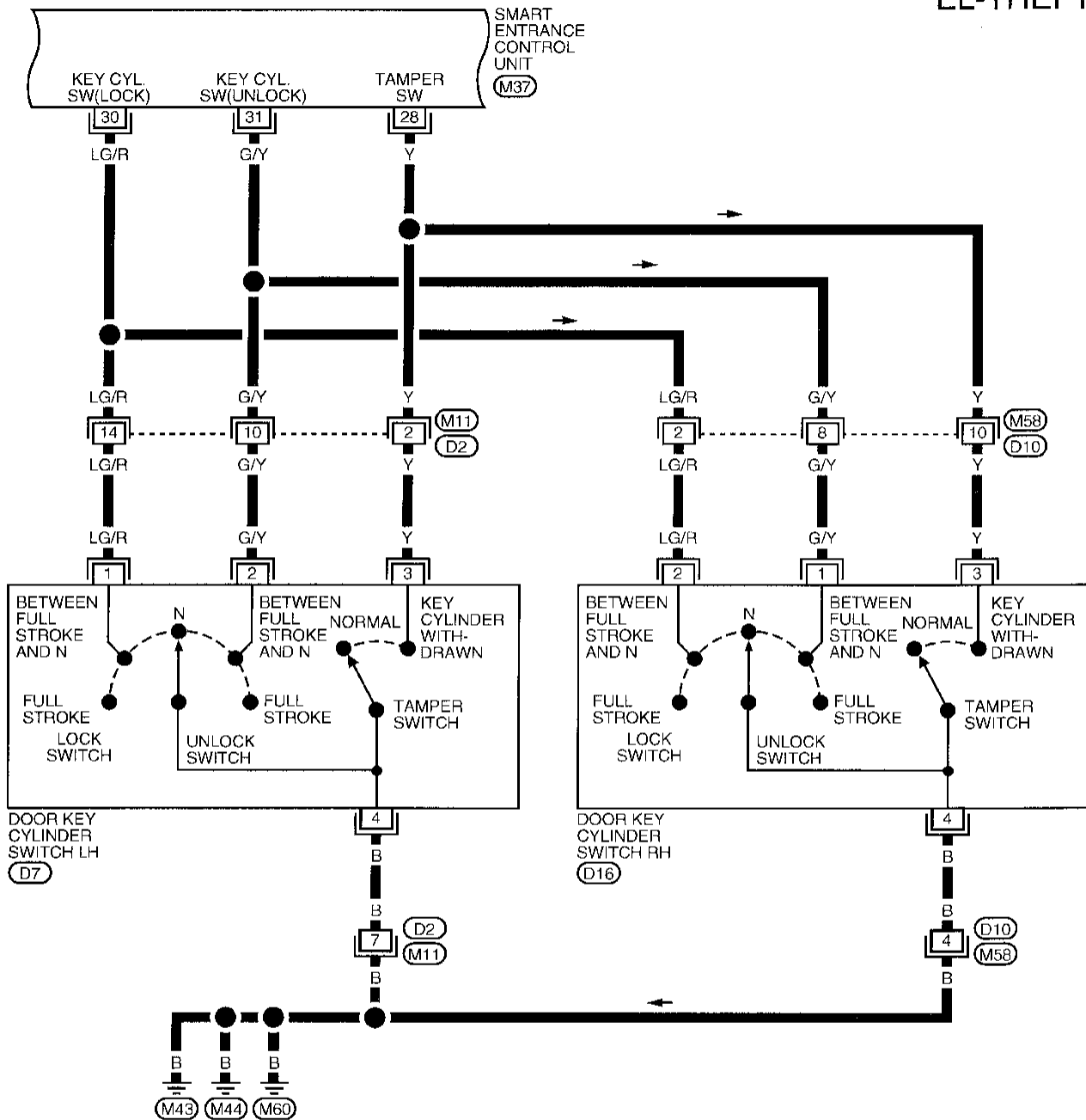


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THEFT WARNING SYSTEM

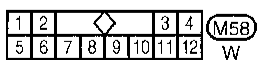
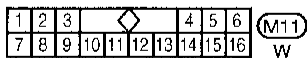
Wiring Diagram -THEFT- (Cont'd)

EL-THEFT-02



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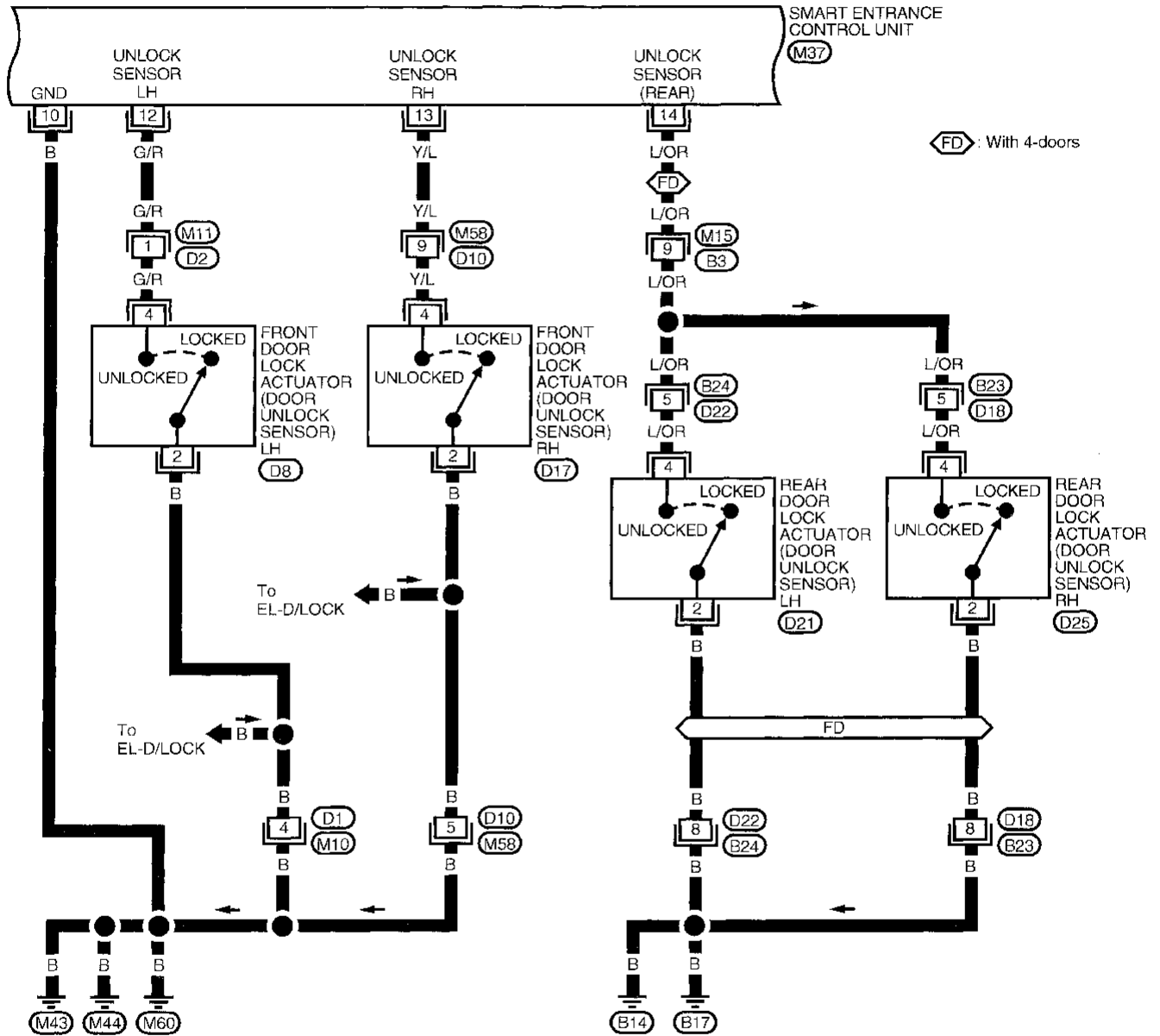
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THEFT WARNING SYSTEM

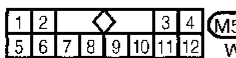
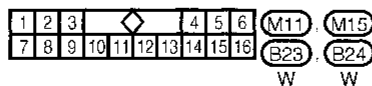
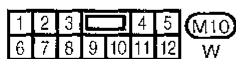
Wiring Diagram -THEFT- (Cont'd)

EL-THEFT-03



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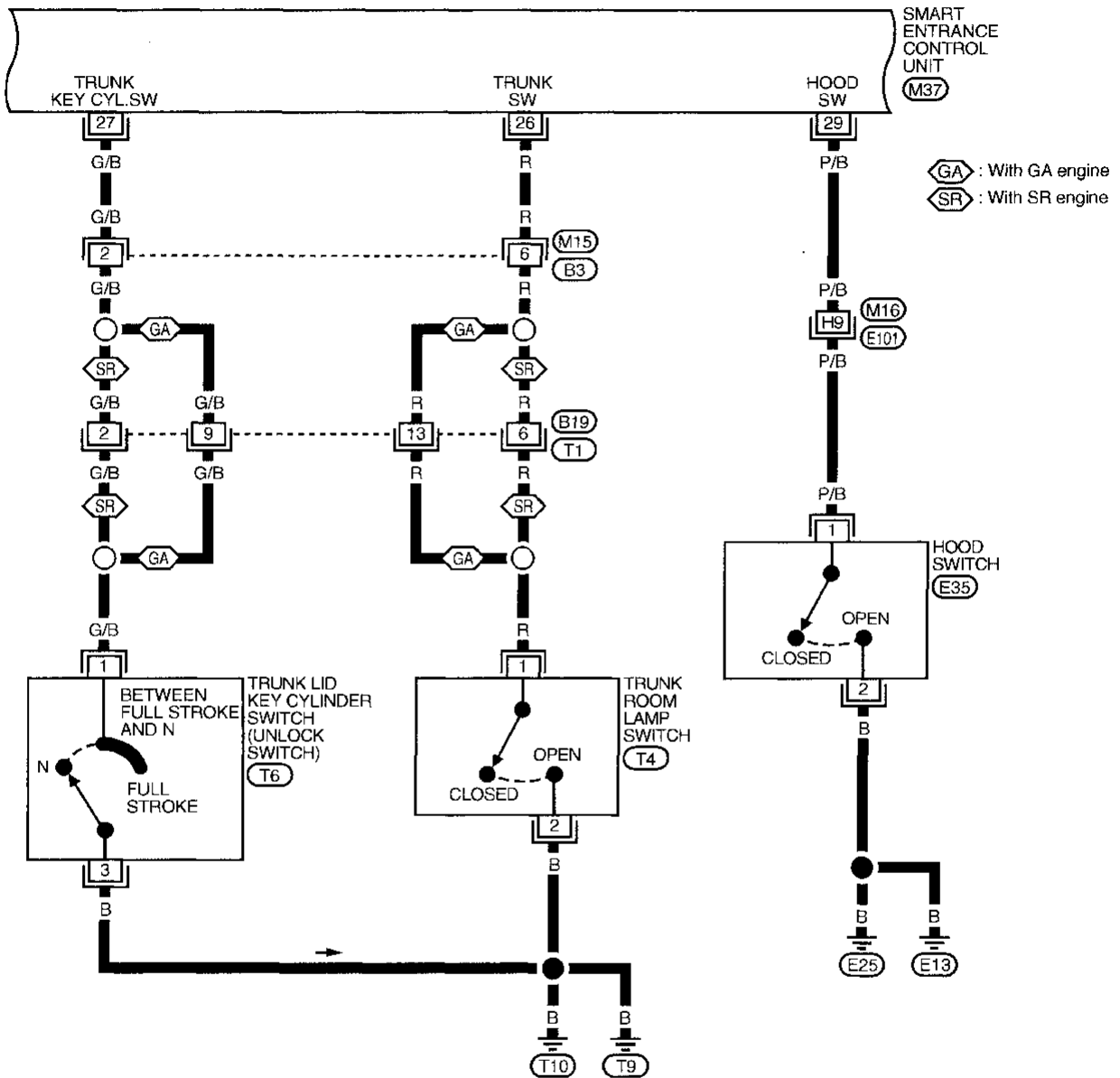
(M37)



THEFT WARNING SYSTEM

Wiring Diagram -THEFT- (Cont'd)

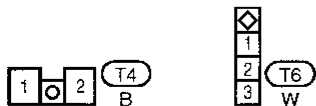
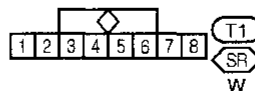
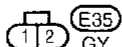
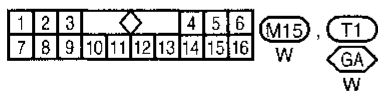
EL-THEFT-04



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(M16), (E101)

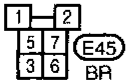
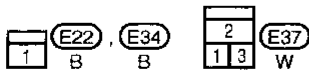
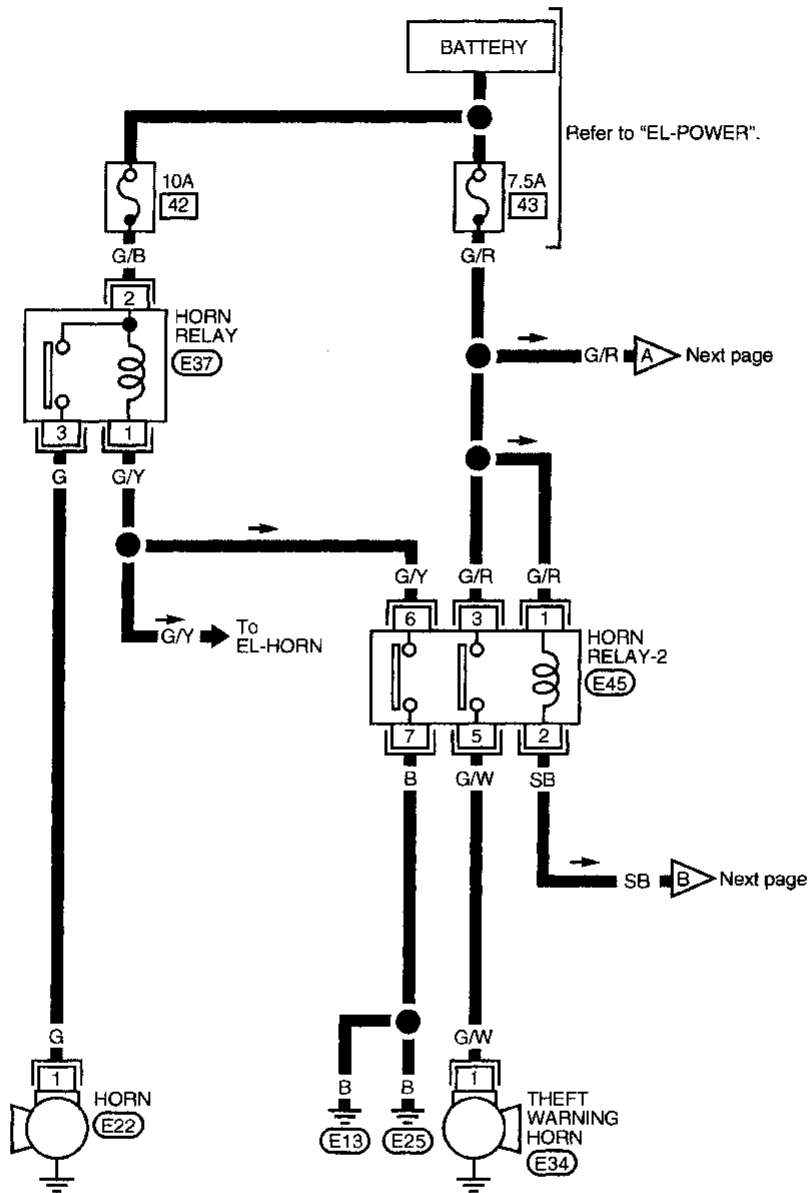
(M37)



THEFT WARNING SYSTEM

Wiring Diagram -THEFT- (Cont'd)

EL-THEFT-05



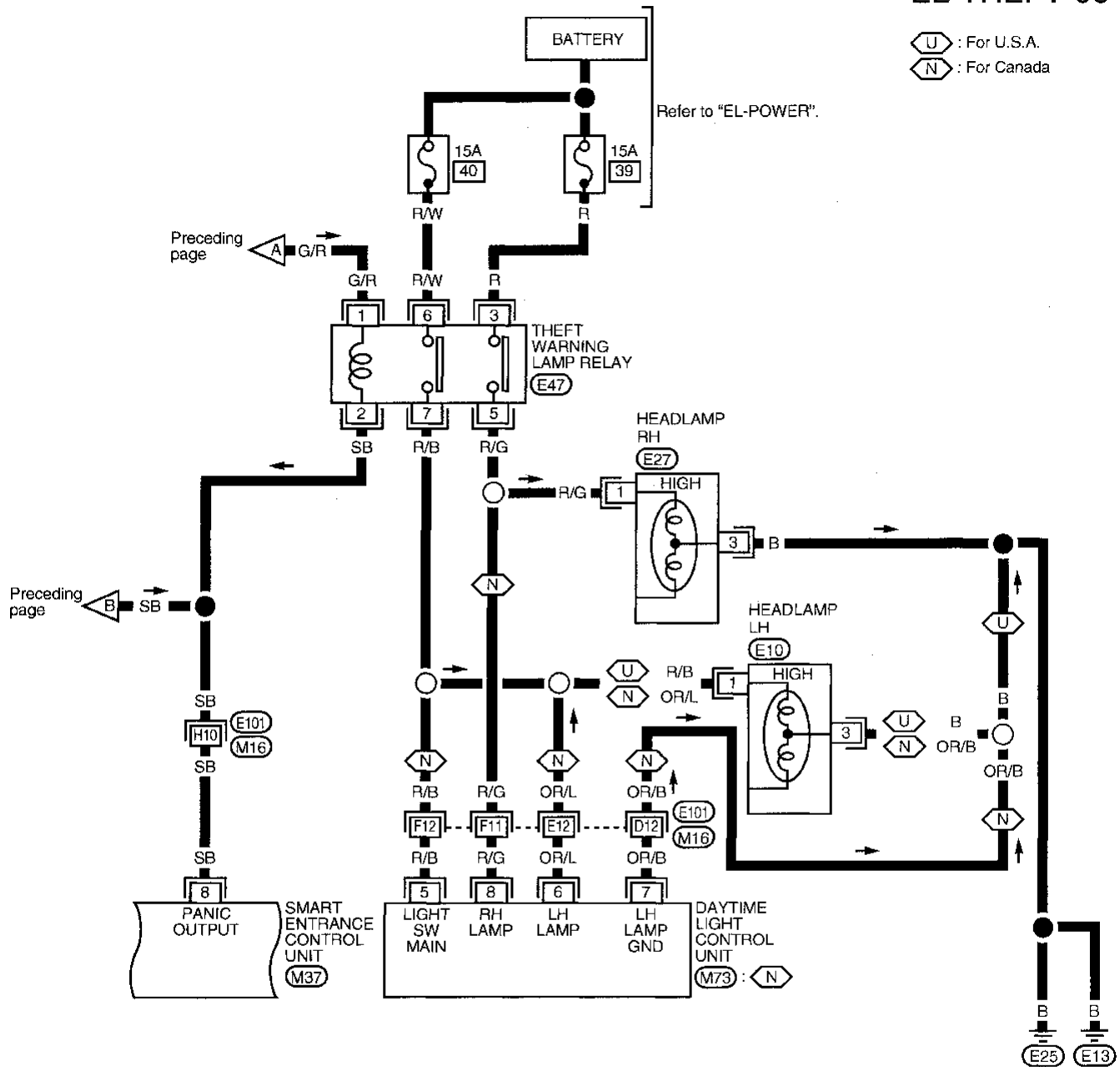
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THEFT WARNING SYSTEM

Wiring Diagram -THEFT- (Cont'd)

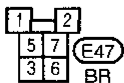
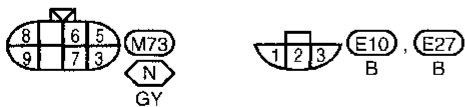
EL-THEFT-06

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



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M16, E101
M37

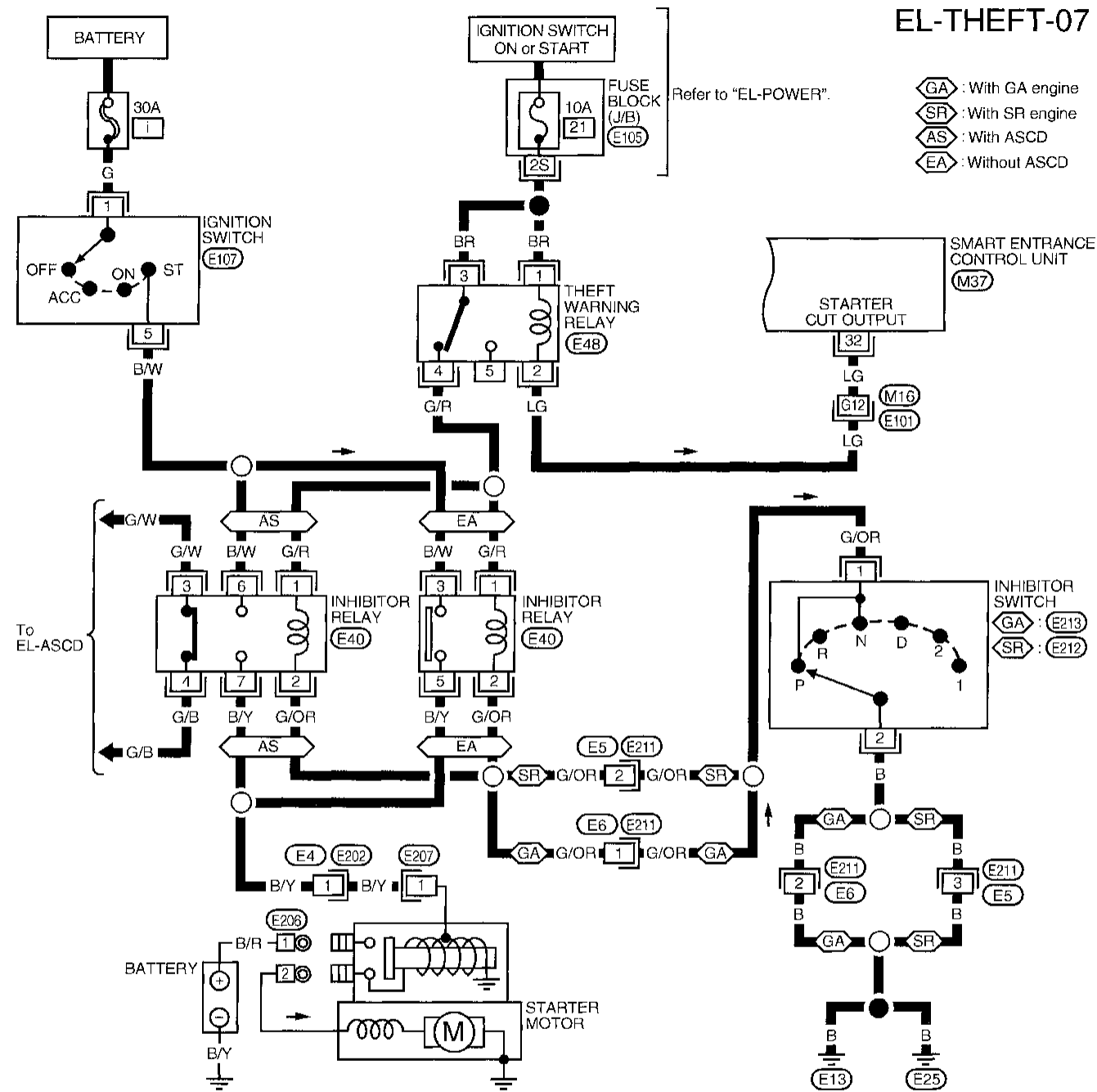


THEFT WARNING SYSTEM

Wiring Diagram -THEFT- (Cont'd)

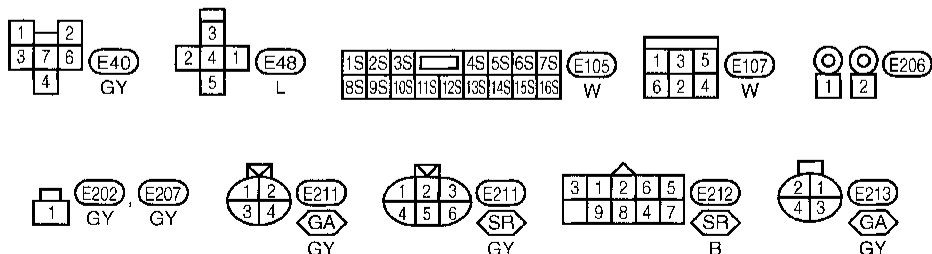
A/T MODELS

EL-THEFT-07



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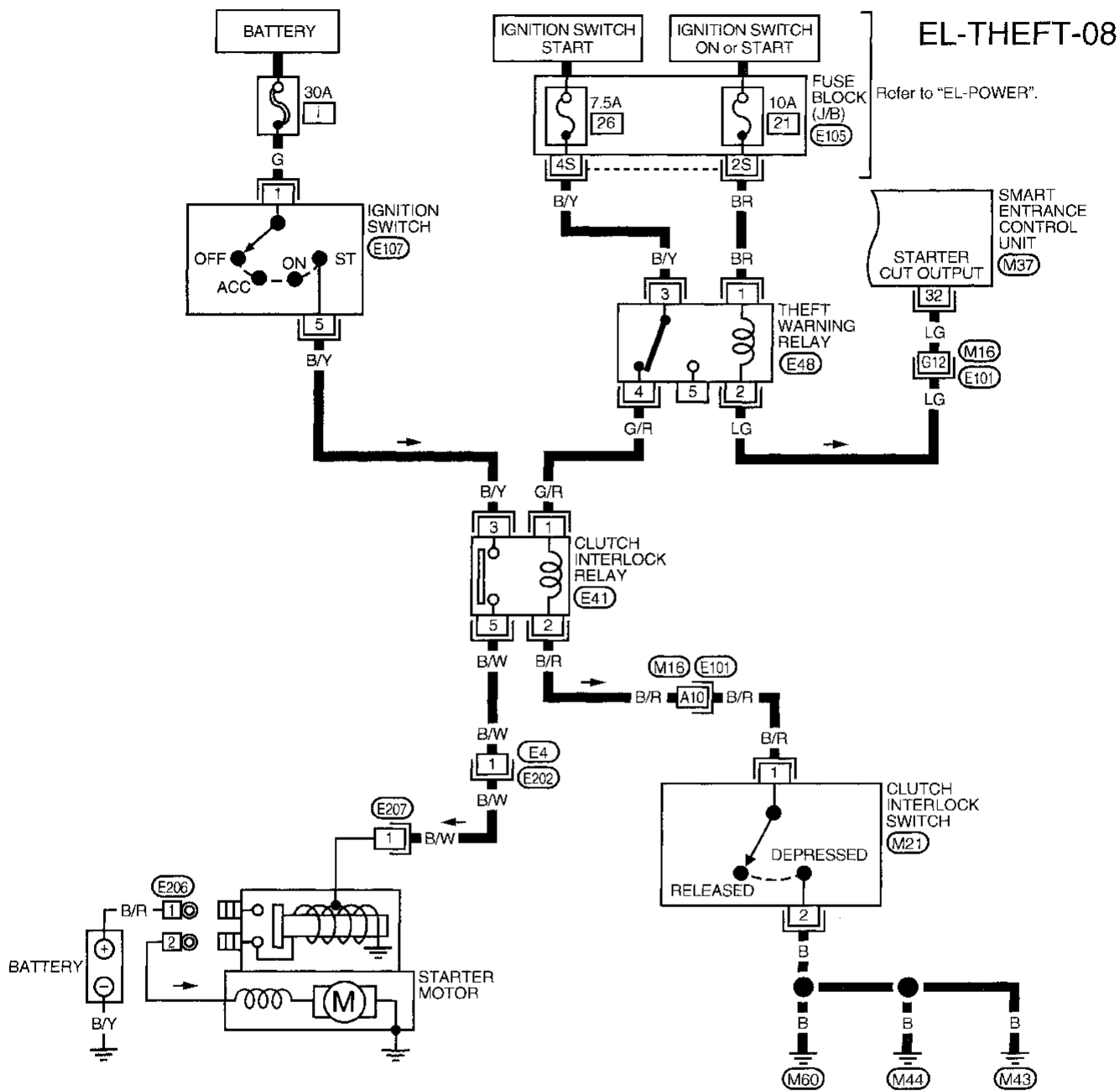
M16, E101
M37



THEFT WARNING SYSTEM

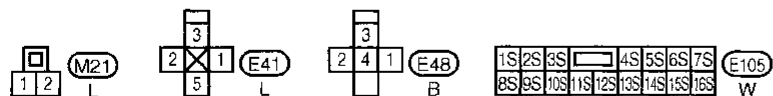
Wiring Diagram -THEFT- (Cont'd)

M/T MODELS



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(M16) (E101)
(M37)

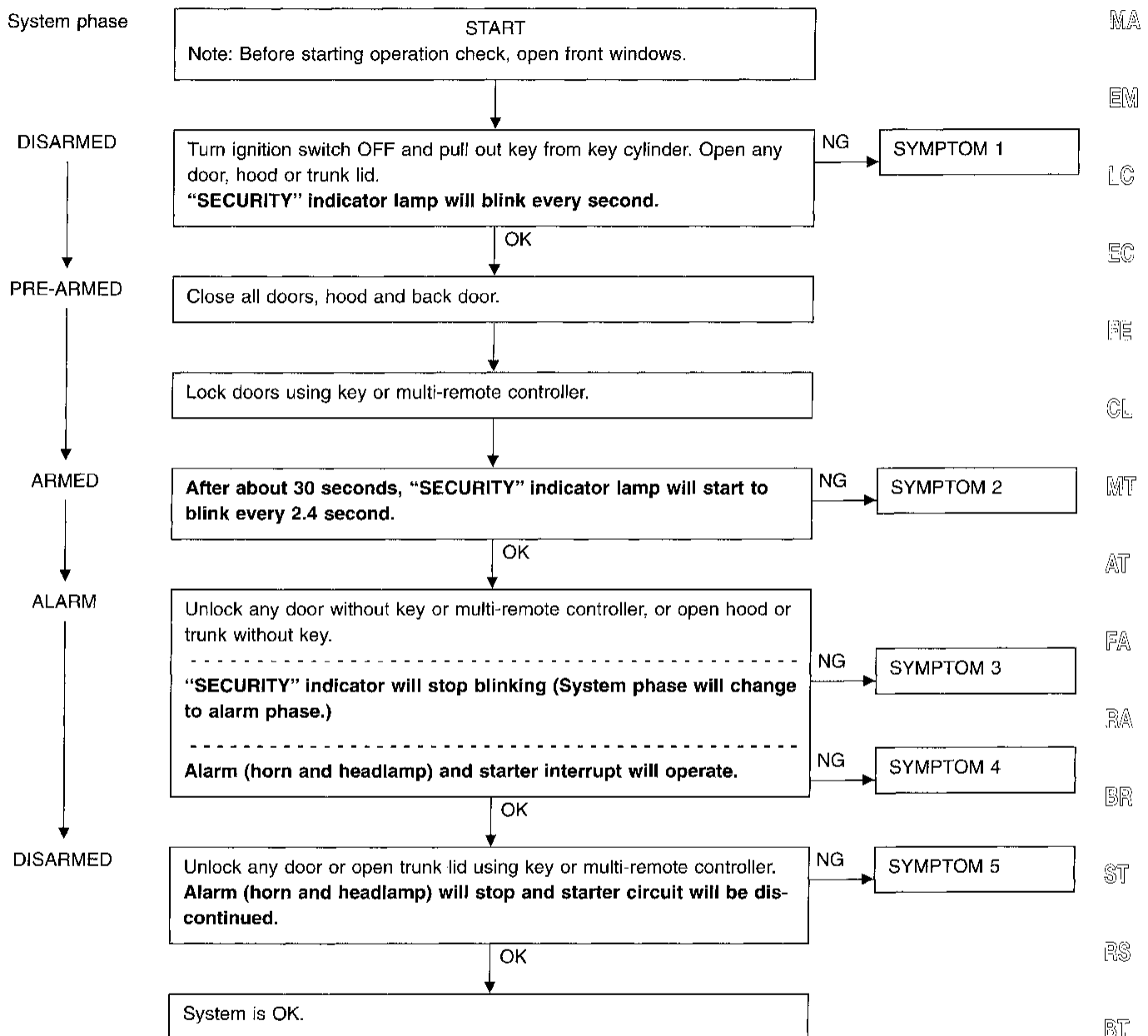


THEFT WARNING SYSTEM

Trouble Diagnosis

PRELIMINARY CHECK

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



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

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THEFT WARNING SYSTEM

Trouble Diagnoses

SYMPTOM CHART

PROCEDURE		Power supply and ground circuit check			Diagnostic procedure							I
		EL-215	EL-217	EL-217	EL-218	EL-221	EL-222	EL-223	EL-226	EL-227	EL-228	
REFERENCE PAGE		EL-215	EL-217	EL-217	EL-218	EL-221	EL-222	EL-223	EL-226	EL-227	EL-228	EL-187
SYMPTOM		Preliminary check	Ground circuit check	Power supply circuit check	Diagnostic Procedure 1 (Door, hood and trunk room lamp switch check)	Diagnostic Procedure 2 (Security indicator lamp check)	Diagnostic Procedure 3 (Door unlock sensor check)	Diagnostic Procedure 4 (Door and trunk lid key cylinder switch check)	Diagnostic Procedure 5 (Theft warning horn alarm check)	Diagnostic Procedure 6 (Headlamp alarm check)	Diagnostic Procedure 7 (Starter interrupt system check)	Check "MULTI-REMOTE CONTROL" system.
1	Theft warning indicator does not turn ON or blinking.	X	X	X		X						
2	Theft warning system cannot be set by ...	All items	X	X	X	X		X				
		Door outside key	X	X	X				X			
		Multi-remote control	X	X	X							X
3	*1 Theft warning system does not alarm when ...	Any door is opened.	X	X	X	X						
		Any door is unlocked without using key or multi-remote controller	X	X	X			X				
4	Theft warning alarm does not activate.	All function	X	X	X	X		X				
		Horn alarm	X	X	X				X			
		Headlamp alarm	X	X	X					X		
		Starter interrupt		X	X						X	
5	Theft warning system cannot be canceled by ...	Door outside key or trunk lid key	X	X	X				X			
		Multi-remote control	X	X	X							X

X : Applicable

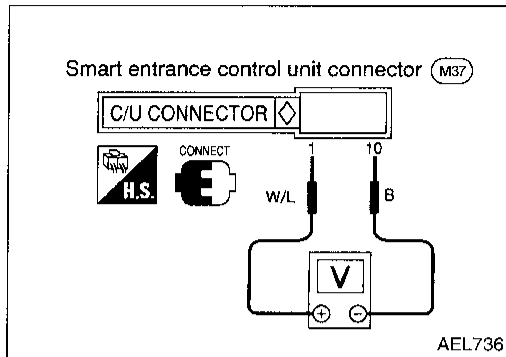
*1: Make sure the system is in the armed phase.

THEFT WARNING SYSTEM

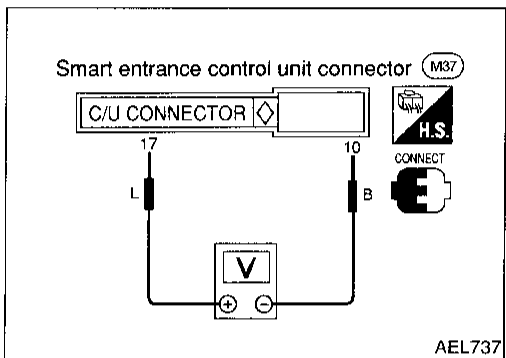
Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

Main power supply circuit check

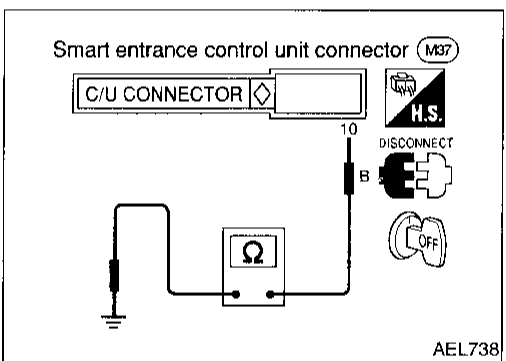


Terminals	Ignition switch position		
	OFF	ACC	ON
① - ⑩	Battery voltage	Battery voltage	Battery voltage



Power supply circuit check for system cancel

Terminals	Ignition switch position		
	OFF	ACC	ON
⑩ - ⑩	0V	Battery voltage	Battery voltage



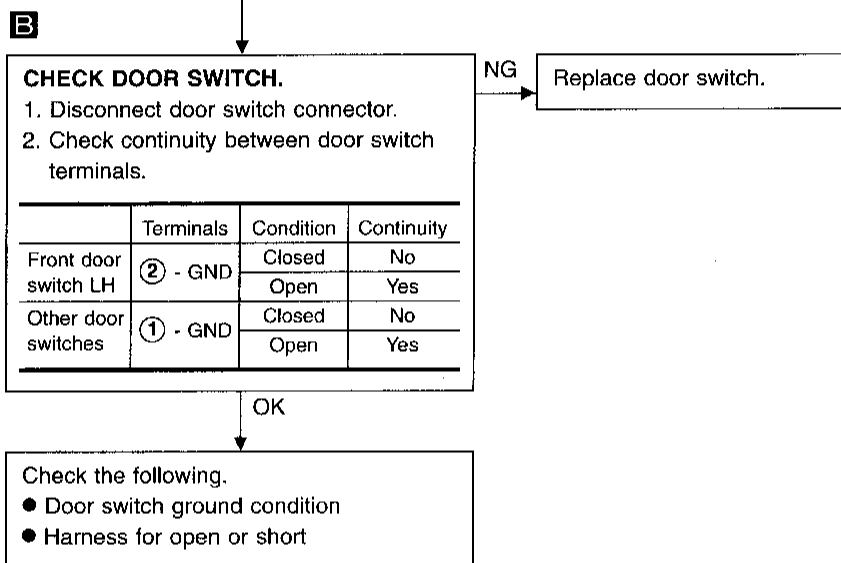
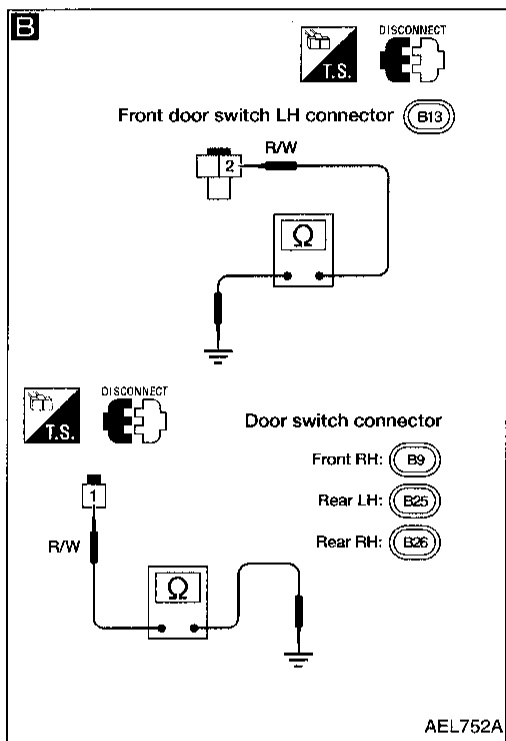
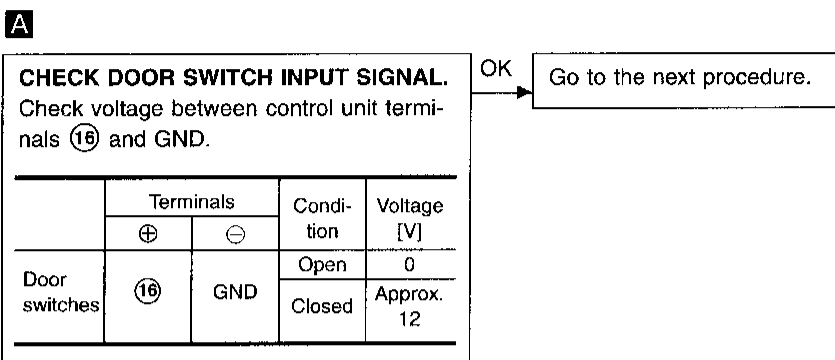
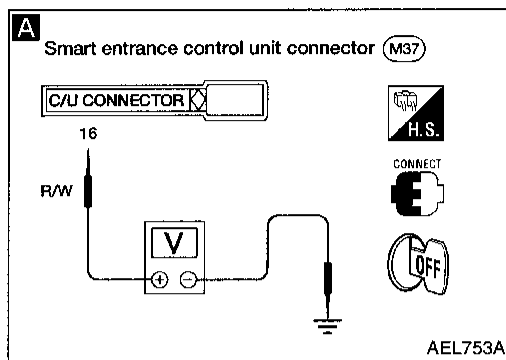
Ground circuit check

Terminals	Continuity
⑩ - Ground	Yes

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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) DOOR SWITCH INPUT SIGNAL CHECK Diagnostic procedure 1-(1)

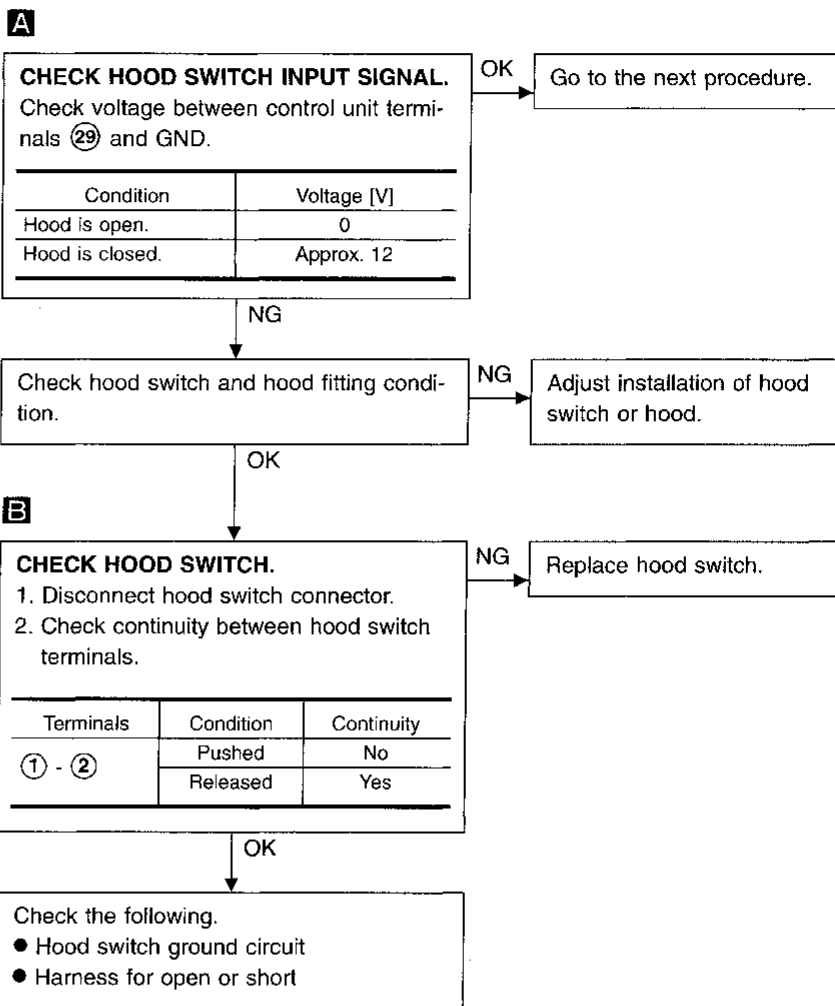
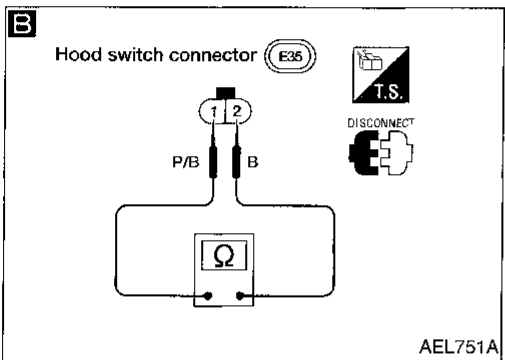
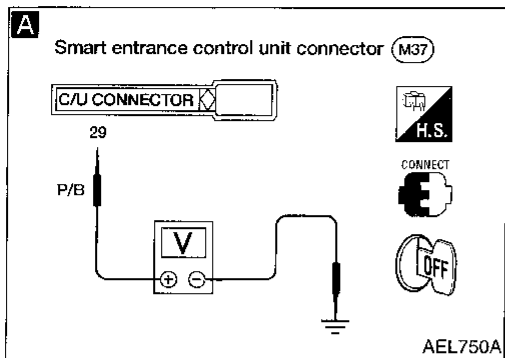


THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

HOOD SWITCH INPUT SIGNAL CHECK

Diagnostic procedure 1-(2)



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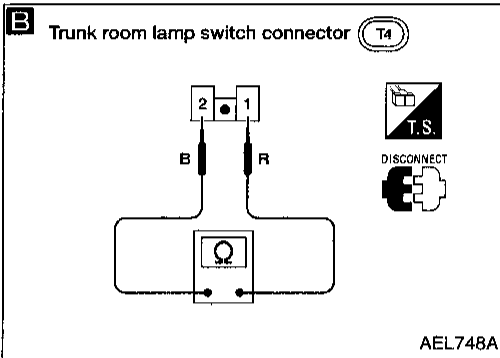
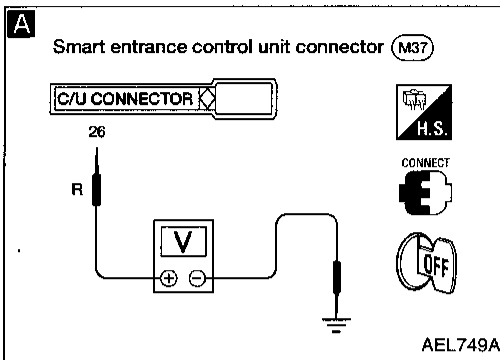
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

TRUNK ROOM LAMP SWITCH INPUT SIGNAL CHECK

Diagnostic procedure 1-(3)



A

CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL.

Check voltage between control unit terminals (26) and GND.

Condition	Voltage [V]
Trunk is open.	0
Trunk is closed.	Approx. 12

OK → Go to the next procedure.

NG

Check trunk room lamp switch and trunk fitting condition.

NG → Adjust installation of trunk room lamp switch or trunk.

OK

B

CHECK TRUNK ROOM LAMP SWITCH.

1. Disconnect trunk room lamp switch connector.
2. Check continuity between trunk room lamp switch terminals.

Terminals	Condition	Continuity
① - ②	Pushed	No
	Released	Yes

NG → Replace trunk room lamp switch.

OK

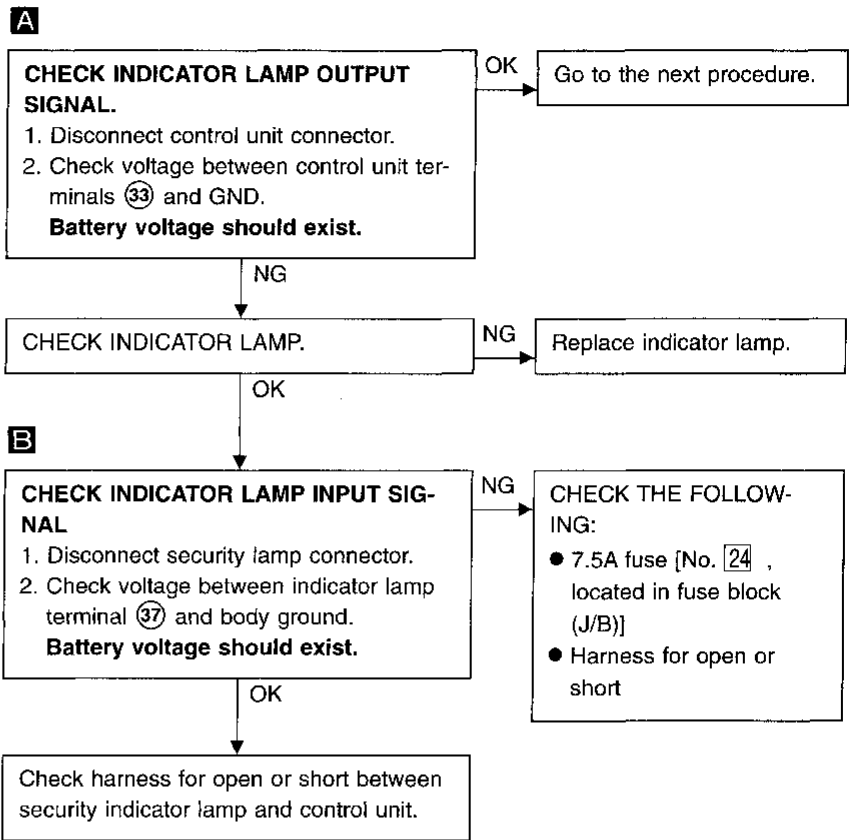
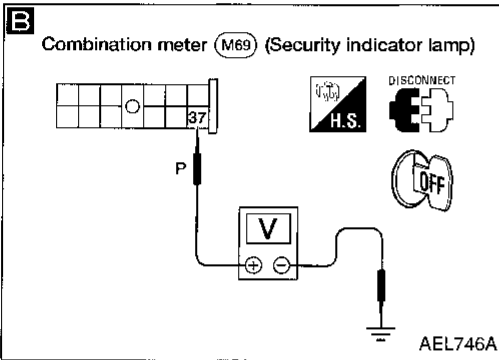
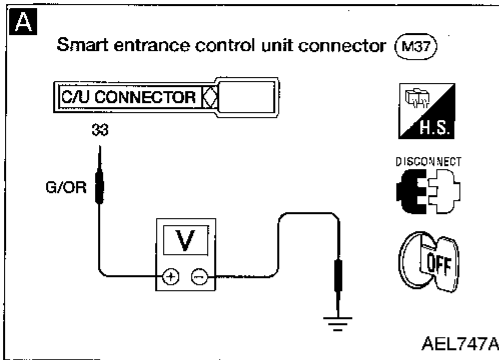
Check the following.

- Trunk room lamp switch ground circuit
- Harness for open or short

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) SECURITY INDICATOR LAMP CHECK

Diagnostic procedure 2



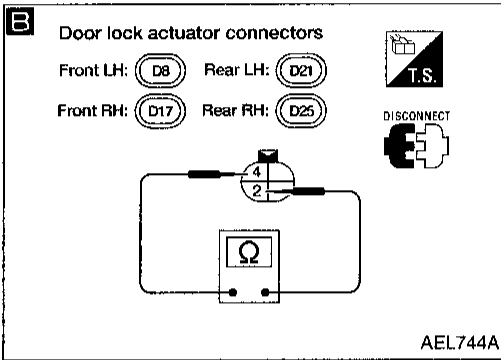
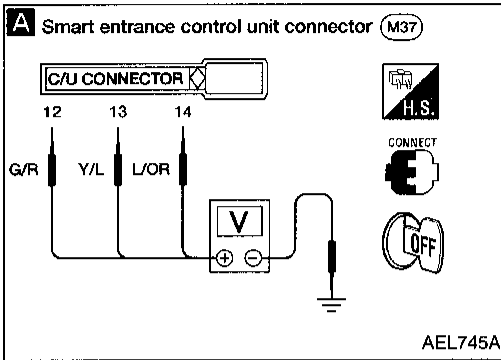
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

DOOR UNLOCK SENSOR CHECK

Diagnostic procedure 3



A

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.

Check voltage between control unit terminals (12), (13), (14) and GND.

OK → Go to the next procedure.

	Terminals		Condition	Voltage [V]
	⊕	⊖		
Front LH door	(12)	GND	Locked	Approx. 12
			Unlocked	0
Front RH door	(13)	GND	Locked	Approx. 12
			Unlocked	0
Rear door	(14)	GND	Locked	Approx. 12
			Unlocked	0

NG

B

CHECK DOOR UNLOCK SENSOR.

1. Disconnect door unlock sensor connector.

2. Check continuity between door unlock sensor terminals.

NG → Replace door unlock sensor.

Terminals	Condition	Continuity
(4) - (2)	Locked	No
	Unlocked	Yes

OK

Check the following.

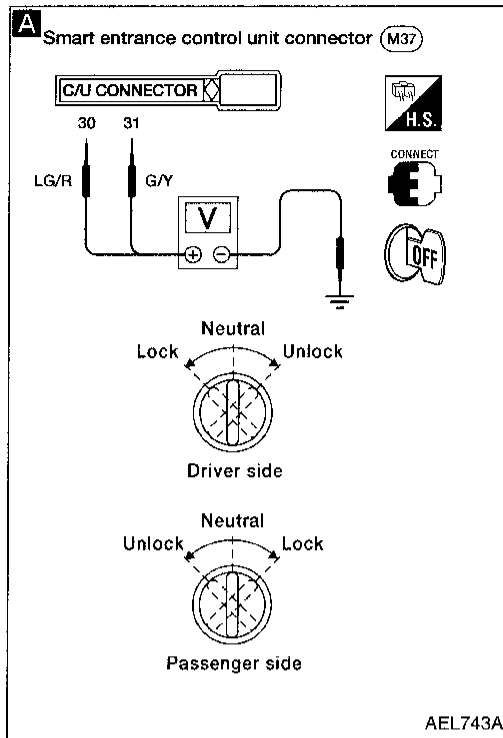
- Door unlock sensor ground circuit
- Harness for open or short

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

DOOR KEY CYLINDER SWITCH CHECK

Diagnostic procedure 4-(1)



A

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

Check voltage between control unit terminals ③⑩ or ③⑪ and GND.

Terminals		Key position	Voltage [V]
⊕	⊖		
③⑩	GND	Neutral	Approx. 12
		Lock	0
③⑪	GND	Neutral	Approx. 12
		Unlock	0

OK

Go to the next procedure.

NG

B

CHECK DOOR KEY CYLINDER SWITCH.

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

Terminals	Key position	Continuity
LH: ① - ④	Neutral	No
	Lock	Yes
RH: ② - ④	Neutral	No
	Unlock	Yes

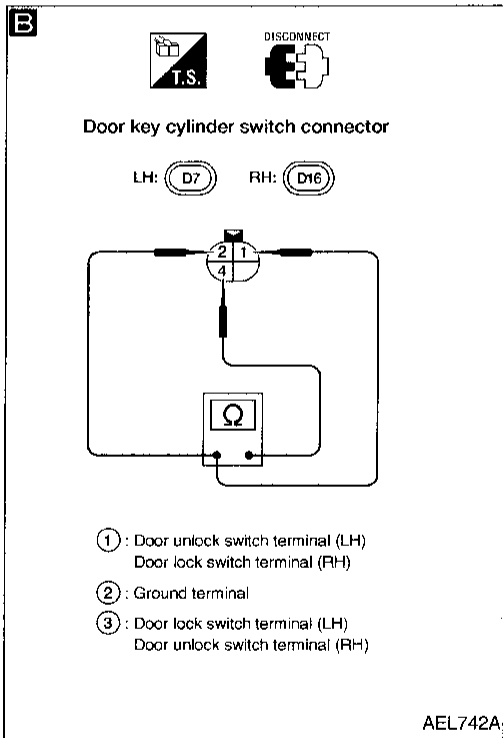
NG

Replace key cylinder switch.

OK

Check the following.

- Door key cylinder switch ground circuit
- Harness for open or short



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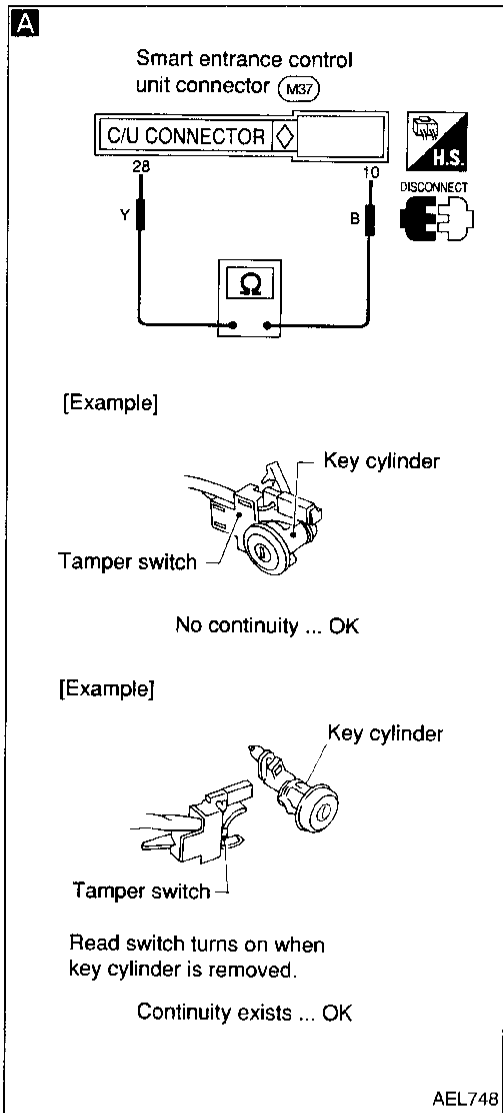
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

DOOR KEY CYLINDER TAMPER SWITCH CHECK

Diagnostic procedure 4-(2)



A

DOOR KEY CYLINDER TAMPER SWITCH INPUT SIGNAL CHECK.

Check continuity between control unit harness terminals (28) and (10).

Condition	Continuity
Tamper switch is Normal	No
Tamper switch is Removed	Yes

OK → Go to the next procedure.

NG

B

CHECK DOOR KEY CYLINDER SWITCH TAMPER SWITCH.

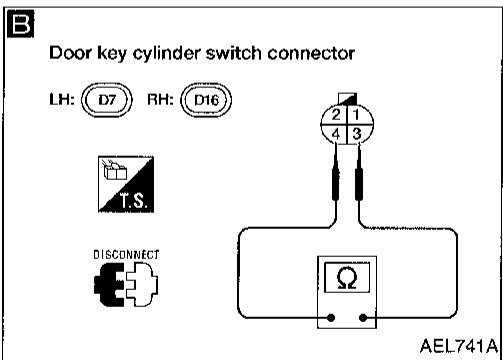
1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder tamper switch terminals.

Terminal No.	Condition	Continuity
(3) - (4)	Key cylinder is installed.	No
	Key cylinder is removed.	Yes

OK

Check the following.

- Door key cylinder switch ground circuit
- Harness for open or short

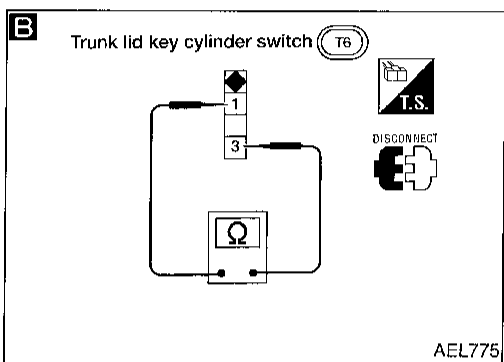
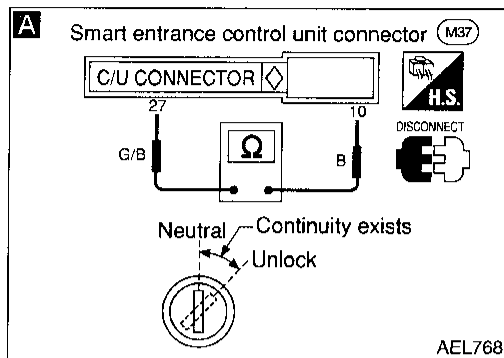


THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

TRUNK LID KEY CYLINDER SWITCH CHECK

Diagnostic procedure 4-(3)



A

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

Check voltage between control unit terminal (27) and GND.

OK → Go to the next procedure.

Terminals		Key position	Voltage [V]
⊕	⊖		
(27)	GND	Neutral	Approx. 12
		Unlock	0

NG

B

CHECK TRUNK LID KEY CYLINDER SWITCH

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

NG → Replace trunk lid key cylinder switch.

Terminals	Key position	Continuity
① - ③	Neutral	No
	Unlock	Yes

OK

Check the following.

- Trunk lid key cylinder switch ground circuit
- Harness for open or short

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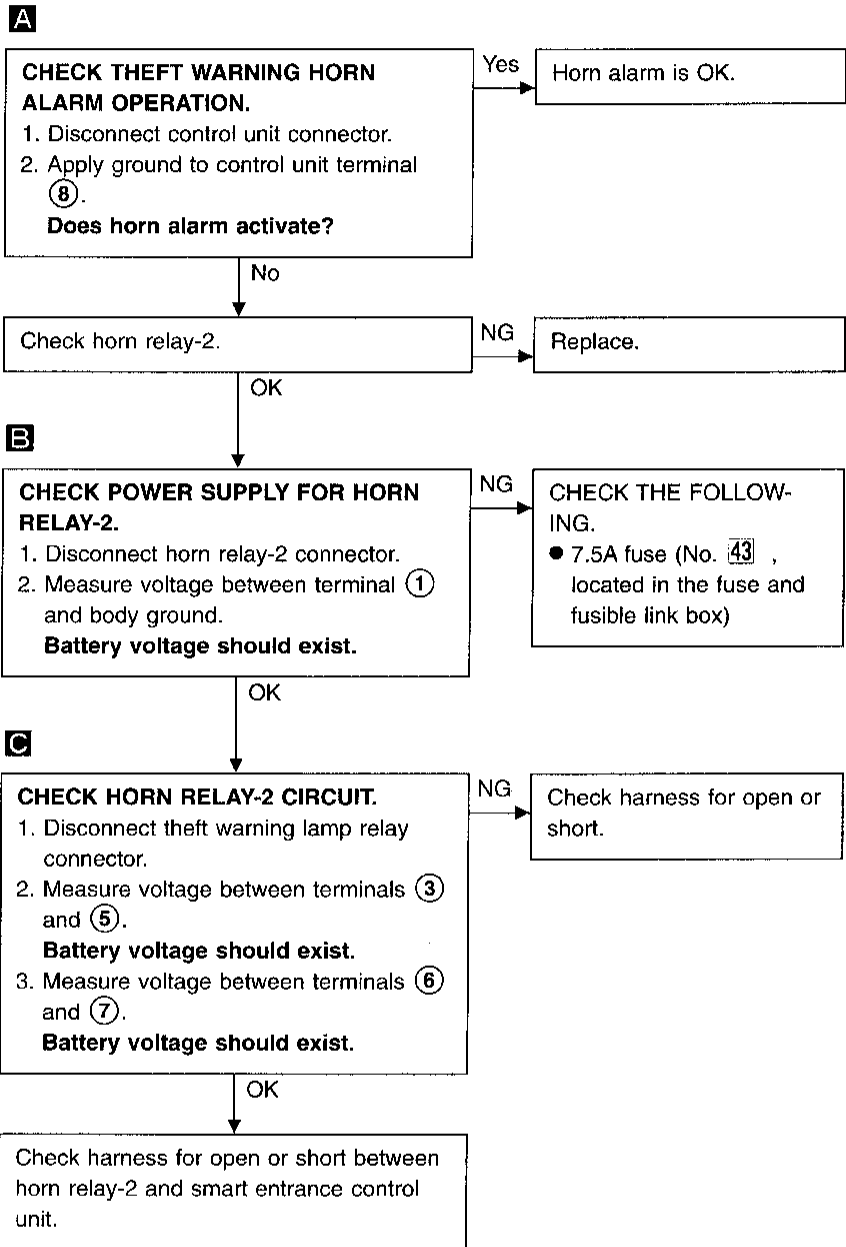
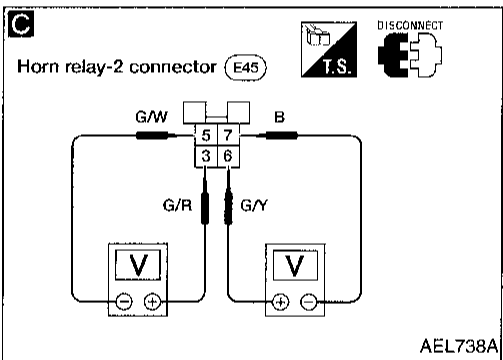
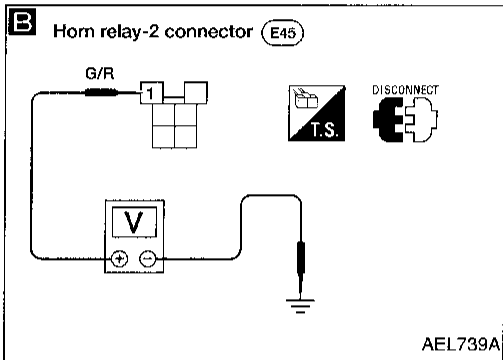
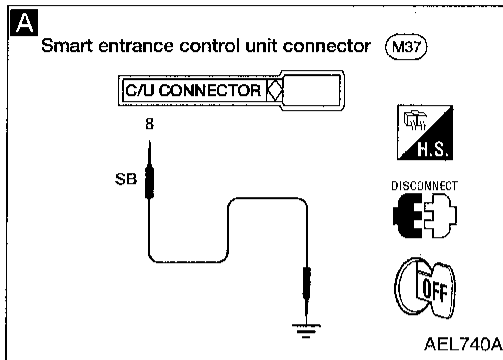
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

THEFT WARNING HORN ALARM CHECK

Diagnostic procedure 5

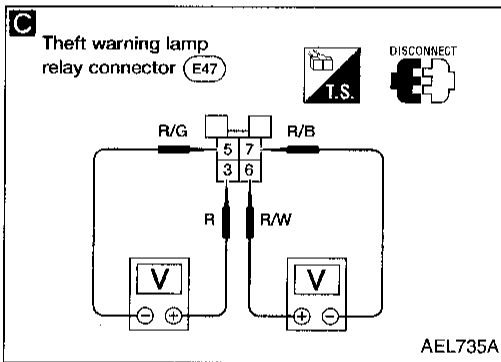
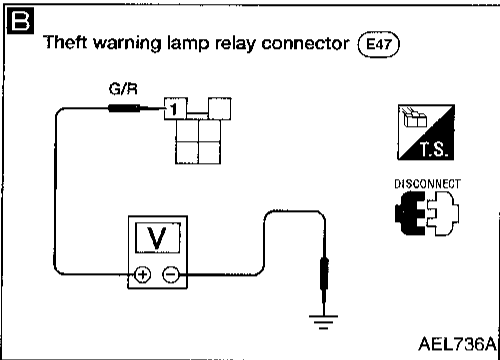
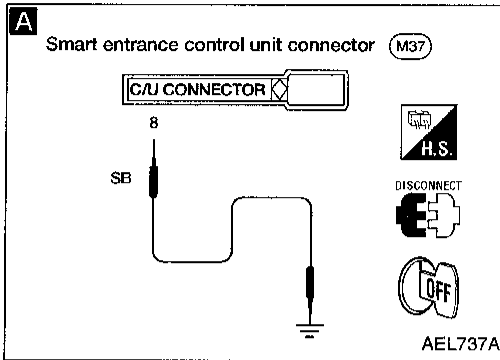


THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

THEFT WARNING HEADLAMP ALARM CHECK

Diagnostic procedure 6



A

CHECK THEFT WARNING HEADLAMP ALARM OPERATION.

1. Disconnect control unit connector.
2. Apply ground to control unit terminal ⑧.

Does headlamp alarm activate?

Yes → Headlamp alarm is OK.

No

Does headlamp come on when turning lighting switch ON?

No → Check headlamp system. Refer to "HEADLAMP" (EL-47).

Yes

Check theft warning lamp relay.

NG → Replace.

OK

B

CHECK POWER SUPPLY FOR THEFT WARNING LAMP RELAY.

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

Battery voltage should exist.

NG → CHECK THE FOLLOWING.
● 7.5A fuse (No. 43, located in the fuse and fusible link box)

OK

C

CHECK THEFT WARNING LAMP RELAY CIRCUIT.

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

NG → Check harness for open or short.

OK

Check harness for open or short between theft warning lamp relay and smart entrance control unit.

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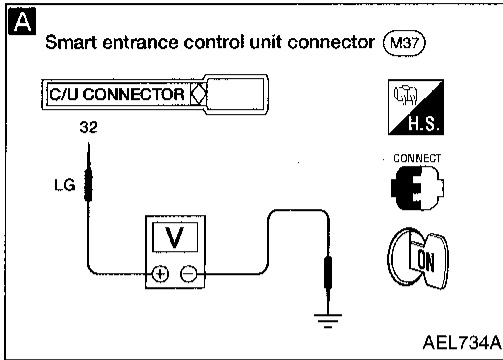
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THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

STARTER INTERRUPT SYSTEM CHECK

Diagnostic procedure 7



A

CHECK STARTER MOTOR CUT OUTPUT SIGNAL.

1. Turn ignition switch ON.
2. Check voltage between control unit terminals (32) and GND.

Condition	Voltage [V]
Except starter killed phase	Approx. 12
Starter killed phase	0

NG

CHECK THE FOLLOWING.

- 10A fuse [No. 21], located in fuse block (J/B)
- Harness continuity between theft warning relay terminal (1) and fuse
- Harness continuity between control unit terminal (32) and theft warning relay terminal (2)

OK

CHECK THEFT WARNING RELAY.

NG

Replace relay.

OK

Check harness for open or short between theft warning relay and smart entrance control unit.

SMART ENTRANCE CONTROL UNIT

Description

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

- Warning chime
- Rear window defogger timer
- Power door lock
- Multi-remote control system
- Theft warning system

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

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SMART ENTRANCE CONTROL UNIT

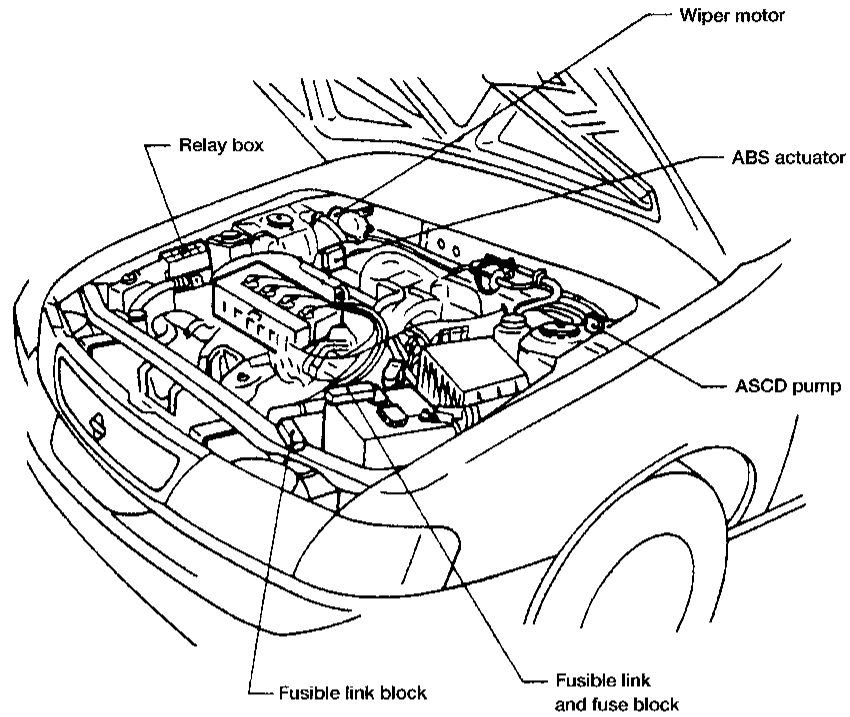
Input/Output Operation Signal

SMART ENTRANCE CONTROL UNIT

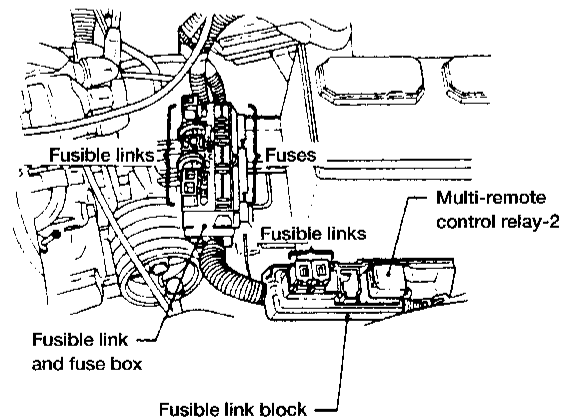
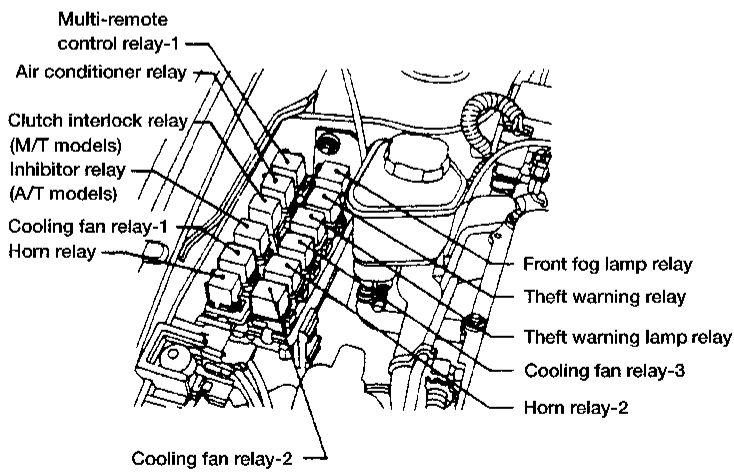
Terminal No.	Connections	Operated condition	Voltage (V) (Approximate values)
1	Power source (C/B)	—	12V
2	Passenger and rear door lock actuators	Door lock & unlock switch	Unlocked
3	Driver door lock actuator		Free
4	All door lock actuators	Door lock & unlock switch	Locked
			Free
7	Multi-remote control relay -1, -2	When doors are locked using remote controller	12V → 0V
8	Theft warning relay	When panic alarm is operated using remote controller	12V → 0V
9	Interior lamp	When interior lamp is operated using remote controller. (Lamp switch in "DOOR" position)	12V → 0V
10	Ground	—	—
11	Ignition switch ON	ON position	12V
12	Driver door unlock sensor	Driver door: Locked → Unlocked	12V → 0V
13	Passenger door unlock sensor	Passenger door: Locked → Unlocked	12V → 0V
14	Rear door unlock sensors	Either rear door: Locked → Unlocked	12V → 0V
15	Driver door switch	OFF (Closed) → ON (Open)	12V → 0V
16	All door switches	OFF (Closed) → ON (Open)	12V → 0V
17	Ignition switch ACC	ACC position	12V
18	Door lock & unlock switches	Neutral → Locks	12V → 0V
19	Door lock & unlock switches	Neutral → Unlocks	12V → 0V
20	Rear window defogger switch	OFF → ON	12V → 0V
21	Seat belt switch	Unfasten → Fasten	0V → 12V
23	Warning chime	OFF → ON	12V → 0V
24	Ignition key switch (Insert)	IGN key inserted → IGN key removed from IGN key cylinder	12V → 0V
25	Headlamp switch (1ST)	1ST, 2ND positions: ON → OFF	12V → 0V
26	Trunk switch	ON (Open) → OFF (Closed)	0V → 12V
27	Trunk key unlock switch	OFF (Neutral) → ON (Unlocked)	12V → 0V
28	Door key cylinders tamper switch	OFF → ON	12V → 0V
29	Hood open signal	ON (Open) → OFF (Closed)	0V → 12V
30	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)	12V → 0V
31	Door key cylinder lock switch	OFF (Neutral) → ON (Unlocked)	12V → 0V
32	Theft warning relay (Starter cut)	OFF → ON	12V → 0V
33	Theft warning indicator	Goes off → Illuminates	12V → 0V
36	Rear defogger relay	OFF → ON	12V → 0V
37	Multi-remote antenna	—	—

LOCATION OF ELECTRICAL UNITS

Engine Compartment

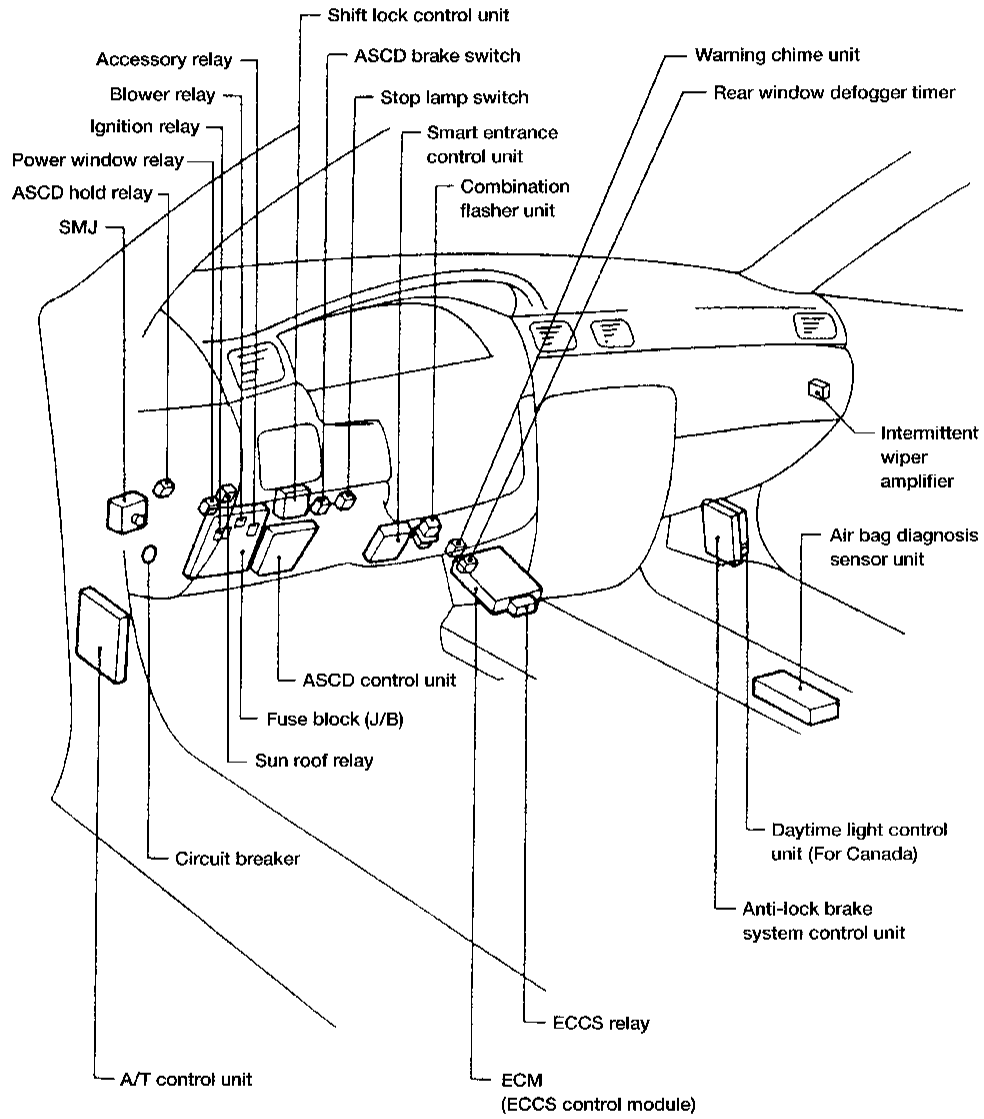


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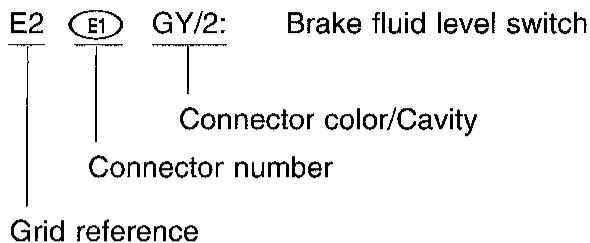
LOCATION OF ELECTRICAL UNITS

Passenger Compartment



How To Read Harness Layout

Example:



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

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

To use the grid reference

- 1) Find the desired connector number on the connector list.
- 2) Find the grid reference.
- 3) On the drawing, find the crossing of the grid reference letter column and number row.
- 4) Find the connector number in the crossing zone.
- 5) Follow the line (if used) to the connector.

CONNECTOR SYMBOL

Main symbol of connector (In Harness Layout) are indicated below.

Connector type	Waterproof type		Standard type	
	Male	Female	Male	Female
<ul style="list-style-type: none"> • Cavity: Less than 4 • Relay connector 				
<ul style="list-style-type: none"> • Cavity: From 5 to 8 				
<ul style="list-style-type: none"> • Cavity: More than 9 				
<ul style="list-style-type: none"> • Ground: terminal etc. 	—			

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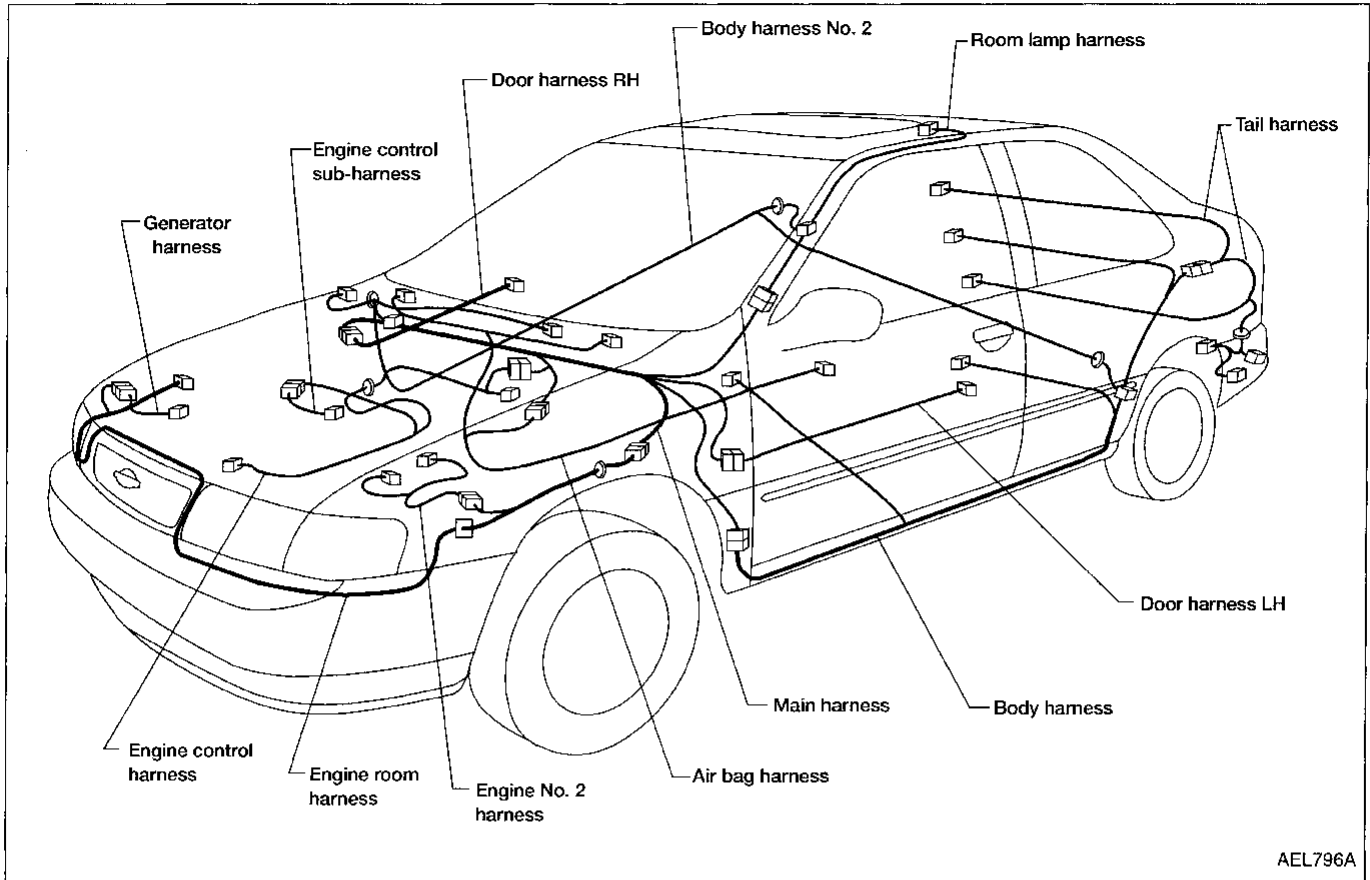
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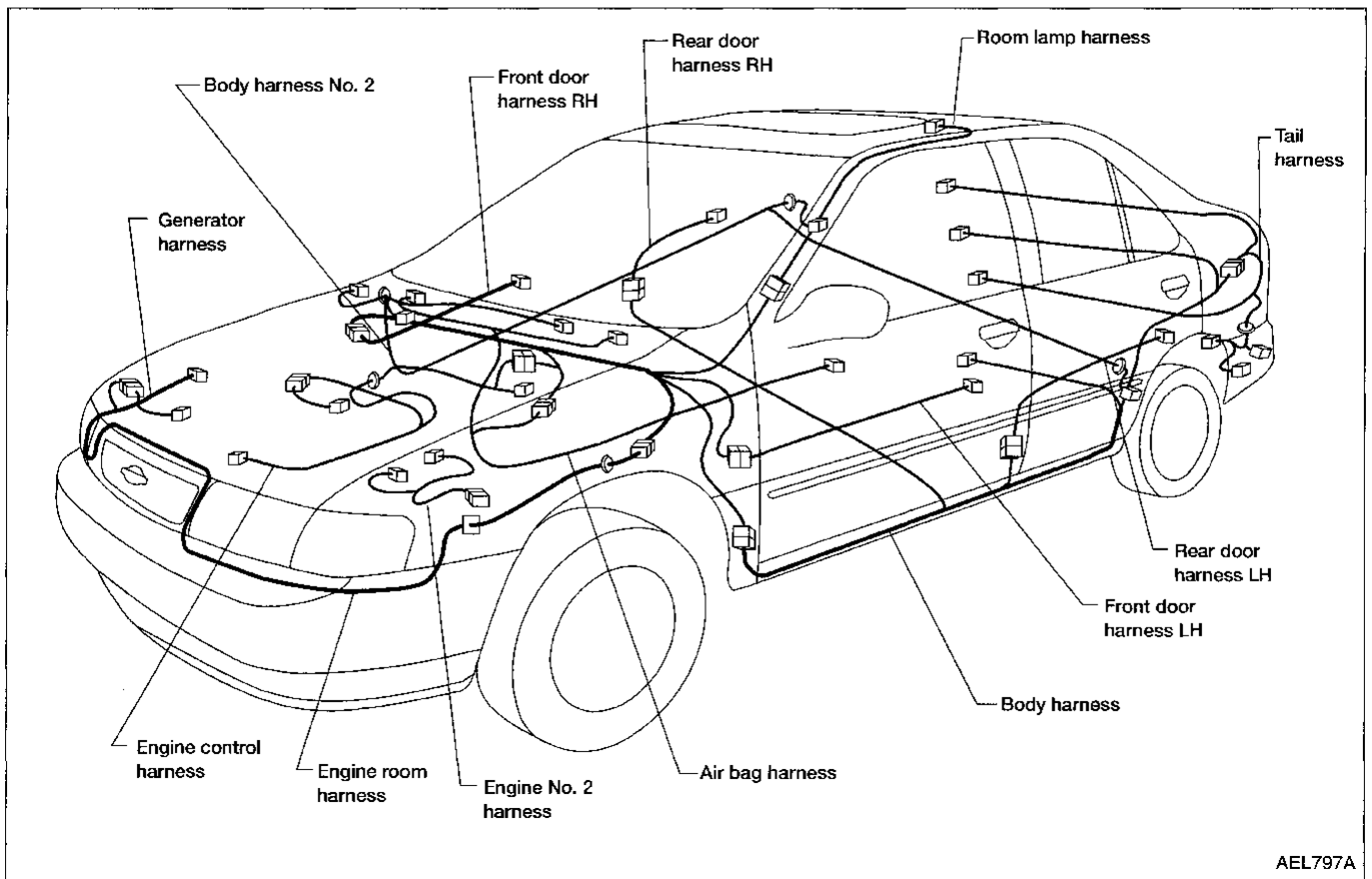
HARNESSES LAYOUT

Outline

2-DOOR



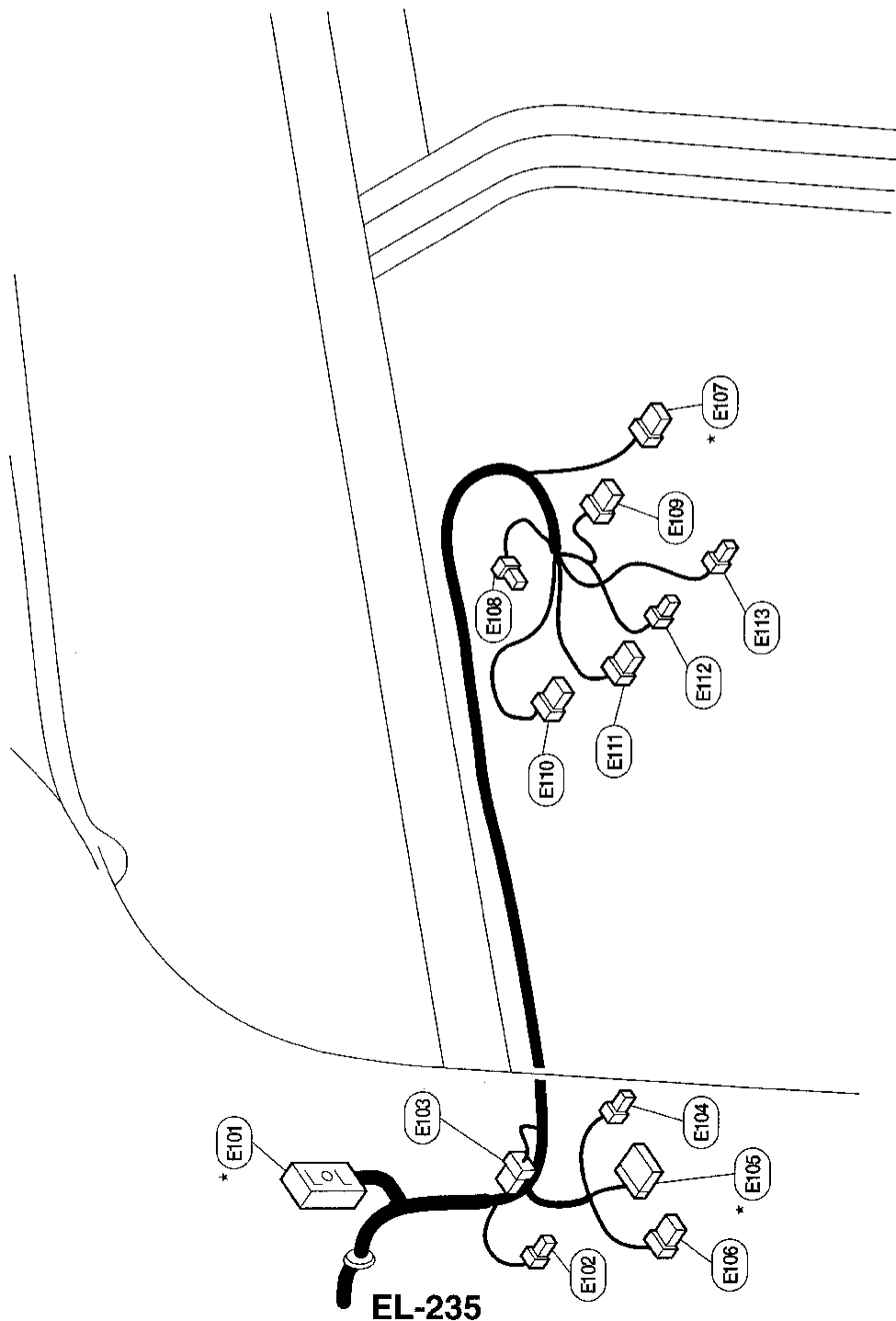
4-DOOR



Engine Room Harness

PASSENGER COMPARTMENT

- * E101 SMJ : To (M16)
- E102 W/2 : Circuit breaker
- E103 W/6 : Joint connector-3
- E104 B/2 : Fuse block (HEC)
- * E105 W/16 : Fuse block (HEC)
- E106 W/6 : Fuse block (HEC)
- * E107 W/6 : Ignition switch
- E108 W/2 : Key switch
- E109 L/8 : Wiper switch
- E110 W/6 : Turn signal switch
- E111 W/8 : Lighting switch
- E112 B/2 : Front fog lamp switch
- E113 B/1 : Slip ring (without SRS air bag)



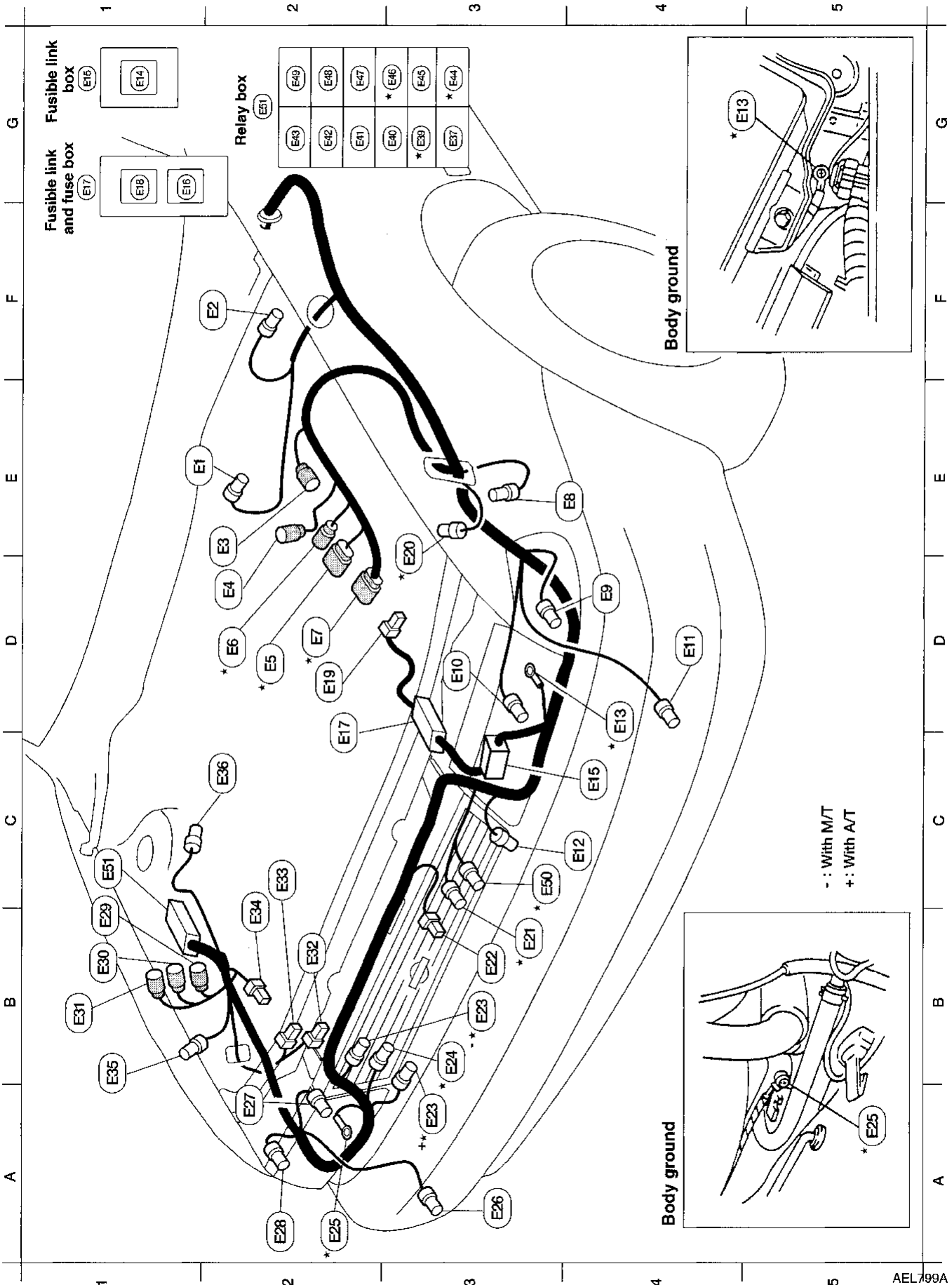
* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection. (Refer to EC section.)

- GI
- MA
- EM
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- EC
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- RS
- BT
- HA
- EL**
- IDX

HARNESS LAYOUT

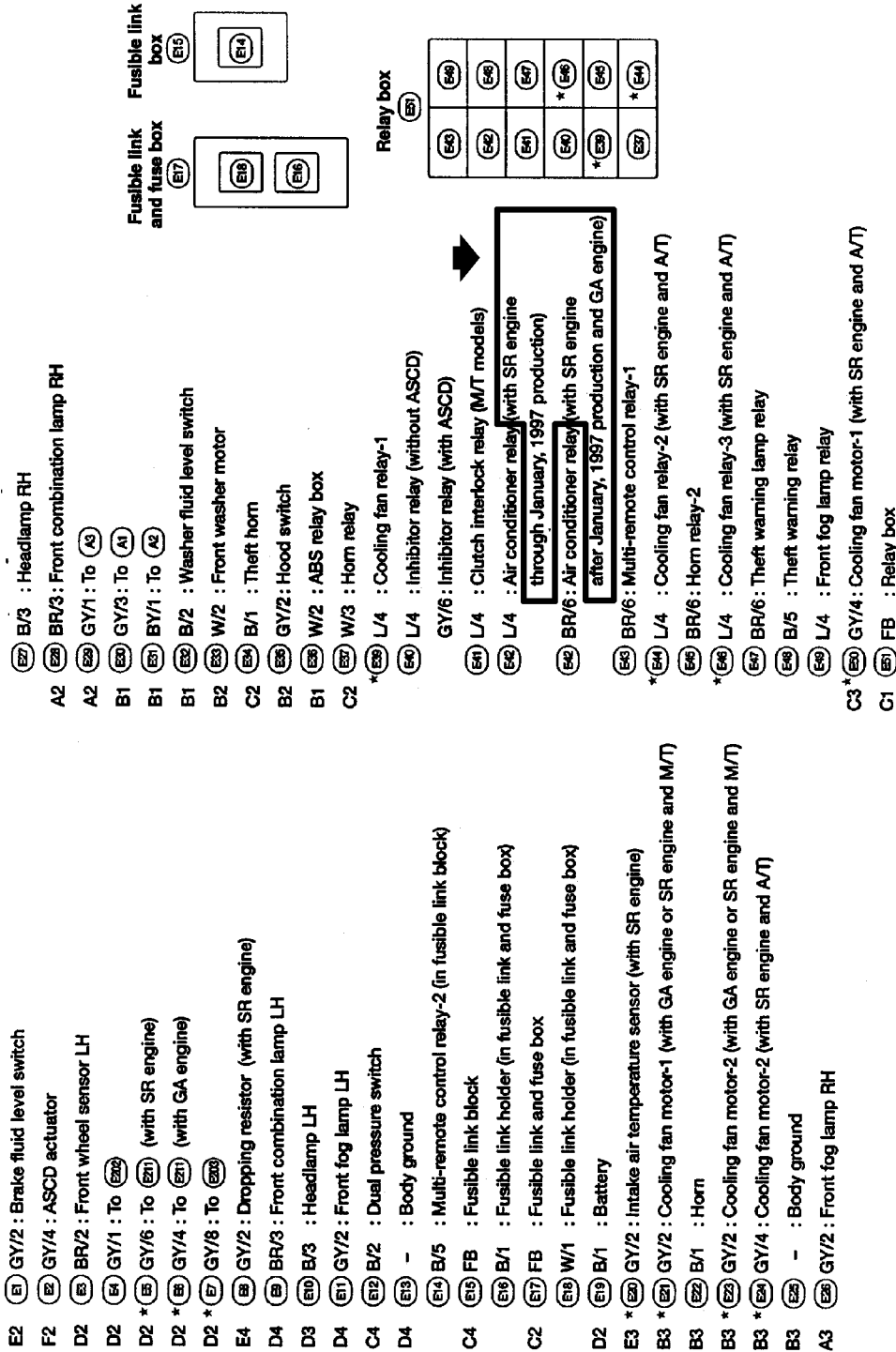
Engine Room Harness (Cont'd)

ENGINE COMPARTMENT



HARNES LAYOUT

Engine Room Harness (Cont'd)

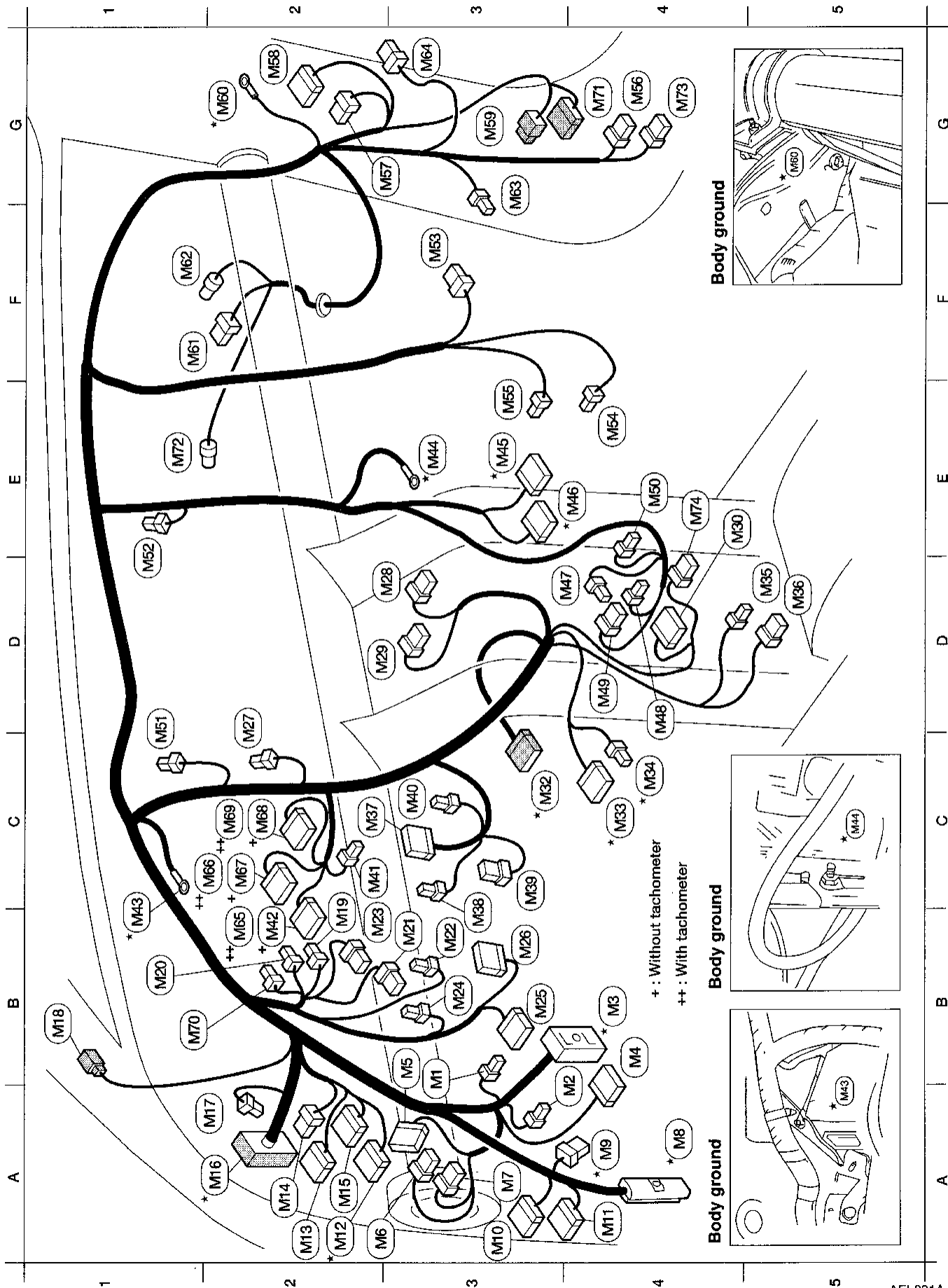


* : Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection. (Refer to EC section.)

SMA98-074 '97 SENTRA/200SX JULY 1996 (04) SM7E-OB14UO
 ARROW INDICATES AMENDED INFORMATION

HARNESS LAYOUT

Main Harness



* : Without tachometer
** : With tachometer

Body ground

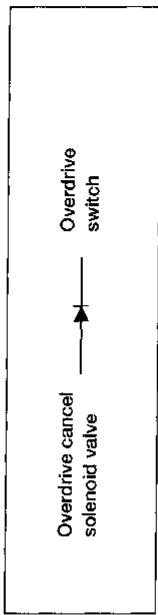
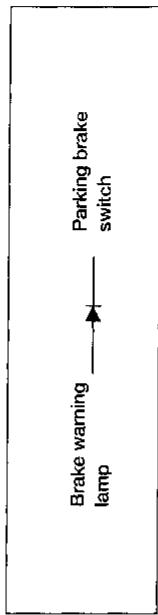
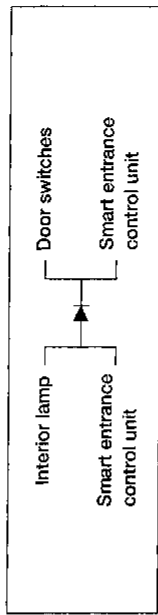
Body ground

Body ground

HARNESS LAYOUT

Main Harness (Cont'd)

B3	(M1) L/4 : Power window relay	C3	(M33) W/16 : To (F27)	G3	(M64) W/8 : Intermittent wiper amplifier
B3	(M2) L/4 : Sun roof relay	C4	(M34) W/4 : To (F26) (with SR engine)	B2+++	(M65) B/10 : Combination meter
B3	(M3) SMJ : Fuse block (J/B)		(M34) W/6 : To (F16) (with GA engine)	C2+++	(M66) W/12 : Combination meter
B4	(M4) GY/14 : Data link connector for consult	D5	(M35) B/2 : Cigarette lighter socket	C2	(M67) W/12 : Combination meter
B3	(M5) GY/12 : Remote control mirror switch	D5	(M36) W/8 : A/T control device	C2	(M68) B/12 : Combination meter
A2	(M6) W/6 : ASCD main switch	C2	(M36) W/6 : A/T device (with GA engine)	C2+++	(M69) B/12 : Combination meter
A3	(M7) W/6 : Illumination control switch	B3	(M37) W/36 : Smart entrance control unit	B2	(M70) L/2 : A/T shift lock switch (with GA engine)
A4	(M8) A/T : A/T control unit (with SR engine)	B3	(M38) W/4 : Rear window defogger timer	G4	(M71) W/16 : To (B11)
A4	(M9) GY/6 : Joint connector -4	B3	(M39) W/8 : Warning chime unit	E1	(M72) GY/3 : Absolute pressure sensor
A3	(M10) W/12 : To (D1)	C3	(M40) B/3 : Combination flasher unit	G4	(M73) GY/8 : Daytime light control unit
A4	(M11) W/16 : To (D2)	C3	(M41) W/3 : Warning chime	E4	(M74) W/6 : Radio/radio and cassette player
A2	(M12) W/20 : To (B4)	B2	(M42) B/10 : Combination meter		
A2	(M13) W/10 : To (B2)	B2	(M43) - : Body ground	Diode (M27)	
A2	(M14) W/6 : To (B1)	E3	(M44) - : Body ground		
A2	(M15) W/16 : To (B3)	E3	(M45) W/16 : To (F26)		
A1	(M16) SMJ : To (E10)	D4	(M46) W/12 : To (F13)		
A1	(M17) L/2 : ASCD clutch switch (with M/T)	D3	(M47) W/3 : Fan switch illumination		
B1	(M18) W/4 : To (D1)	D4	(M48) W/6 : Fan switch		
B2	(M19) B/2 : Stop lamp switch	D4	(M49) W/4 : Recirculation switch	Diode (M61)	
B2	(M20) L/2 : ASCD brake switch	E4	(M50) W/3 : Air conditioner switch		
B3	(M21) L/2 : Clutch interlock switch (with M/T)	D1	(M51) W/2 : Diode		
B3	(M22) L/4 : Fuel pump relay	D1	(M52) W/2 : Diode		
B2	(M23) B/8 : Shift lock control unit	F3	(M53) B/6 : Intake door motor		
B3	(M24) L/4 : ASCD hold relay (without GA engine and A/T)	E4	(M54) BR/4 : Fan resistor	Diode (M52)	
B3	(M24) BR/6 : ASCD hold relay (with GA engine and A/T)	E3	(M55) W/3 : Thermo control amplifier		
B3	(M25) GY/16 : Data link connector for GST	G4	(M56) GY/6 : Daytime light control unit		
B3	(M26) B/20 : ASCD control unit	G2	(M57) W/8 : To (D9)		
D2	(M27) W/4 : Diode	G2	(M58) W/12 : To (D10)		
D2	(M28) W/6 : Rear window defogger switch	G3	(M59) W/18 : To (B105)		
D2	(M29) W/8 : Hazard switch	G1	(M60) - : Body ground		
E4	(M30) W/10 : Radio/radio and cassette player	F1	(M61) W/6 : Wiper motor		
C3	(M32) W/12 : To (Z1)	F1	(M62) GY/2 : Power steering oil pressure switch		
		G3	(M63) W/2 : Blower motor		



+ : Without tachometer

++ : With tachometer

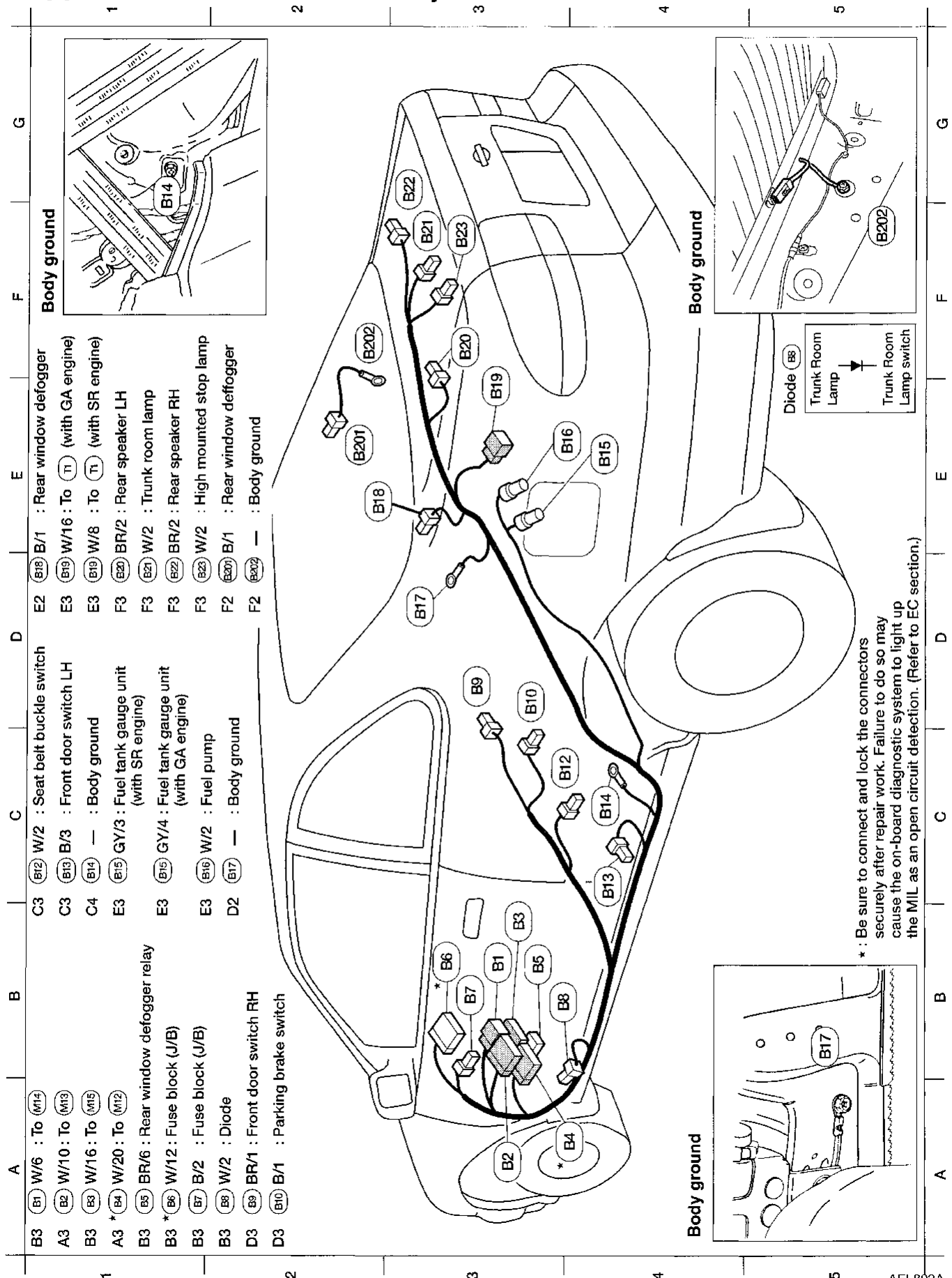
* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection. (Refer to EC section.)

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HARNESS LAYOUT

2-DOOR

Body Harness



- | | | |
|---|---|---|
| A | B3 (B1) W/6 : To (M14) | E2 (E2) B/1 : Rear window defogger |
| B | A3 (B2) W/10 : To (M13) | E3 (E3) W/16 : To (T1) (with GA engine) |
| C | B3 (E3) W/16 : To (M15) | E3 (E3) W/8 : To (T1) (with SR engine) |
| D | A3 (B4) W/20 : To (M12) | F3 (E2) BR/2 : Rear speaker LH |
| E | B3 (E5) BR/6 : Rear window defogger relay | F3 (E2) W/2 : Trunk room lamp |
| F | B3 (B6) W/12 : Fuse block (J/B) | F3 (E2) BR/2 : Rear speaker RH |
| G | B3 (E7) B/2 : Fuse block (J/B) | F3 (E3) W/2 : High mounted stop lamp |
| | B3 (E8) W/2 : Diode | F2 (E20) B/1 : Rear window defogger |
| | D3 (E9) BR/1 : Front door switch RH | F2 (E20) — : Body ground |
| | D3 (B10) B/1 : Parking brake switch | |

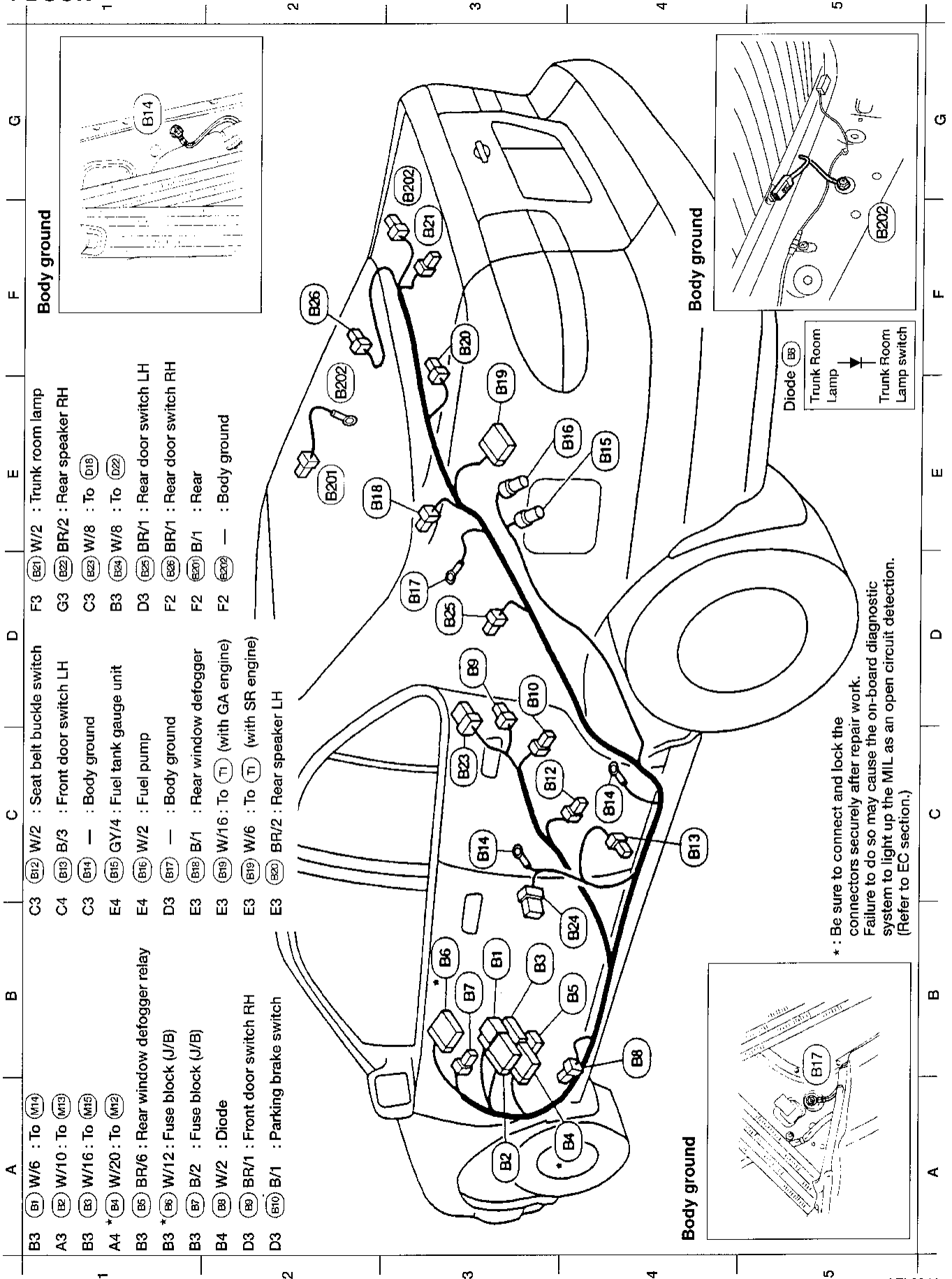
- | | |
|---|---|
| C3 (B2) W/2 : Seat belt buckle switch | E2 (E2) B/1 : Rear window defogger |
| C3 (B3) B/3 : Front door switch LH | E3 (E3) W/16 : To (T1) (with GA engine) |
| C4 (B14) — : Body ground | E3 (E3) W/8 : To (T1) (with SR engine) |
| E3 (E15) GY/3 : Fuel tank gauge unit (with SR engine) | F3 (E2) BR/2 : Rear speaker LH |
| E3 (E15) GY/4 : Fuel tank gauge unit (with GA engine) | F3 (E2) W/2 : Trunk room lamp |
| E3 (E16) W/2 : Fuel pump | F3 (E2) BR/2 : Rear speaker RH |
| D2 (E17) — : Body ground | F3 (E3) W/2 : High mounted stop lamp |

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

HARNESS LAYOUT

Main Harness (Cont'd)

4-DOOR



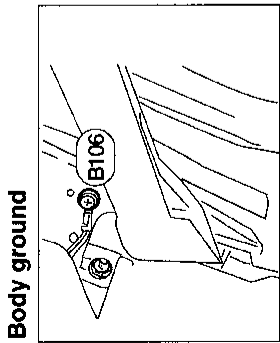
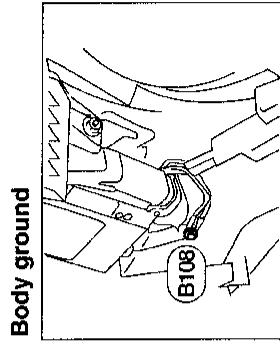
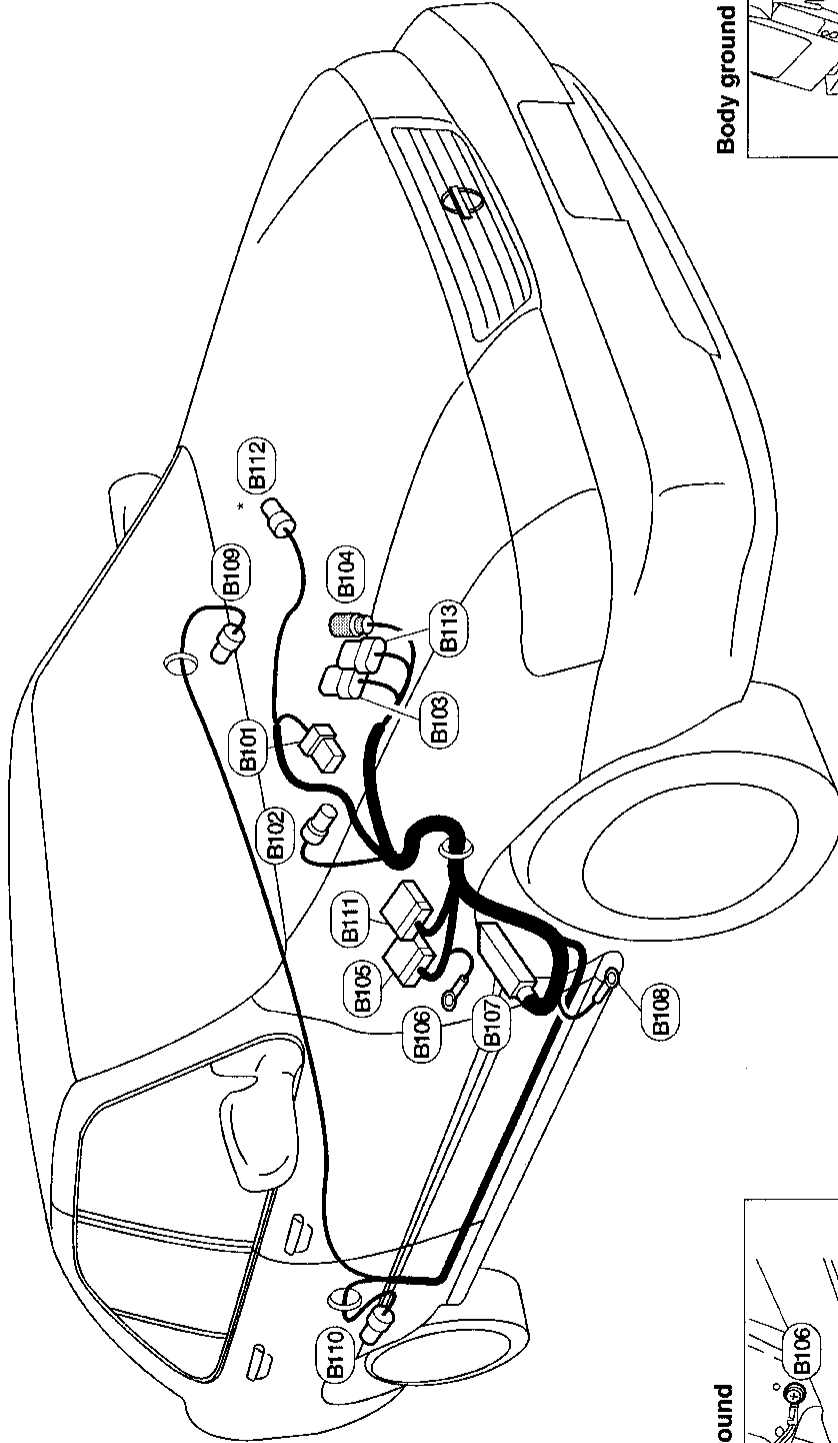
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HARNESS LAYOUT

Body Harness No. 2

- (B101) W/6 : Wiper motor
- (B102) BR/2 : Power steering oil pressure switch (with 4 door)
- (B102) W/2 : Power steering oil pressure switch (with 2 door)
- (B103) GY/8 : ABS control actuator
- (B104) GY/2 : Front wheel sensor RH
- (B105) W/8 : To (M28) (with GA engine)
- (B105) W/10 : To (M29) (with SR engine)
- (B106) — : Body ground
- (B107) SMJ : ABS control unit
- (B108) — : Body ground
- (B109) BR/2 : Rear wheel sensor LH
- (B110) GY/2 : Rear wheel sensor RH
- (B111) W/16 : To (M71) (with GA engine)
- * (B112) GY/3 : Absolute pressure sensor (with GA engine)
- (B113) B/6 : ABS relay unit

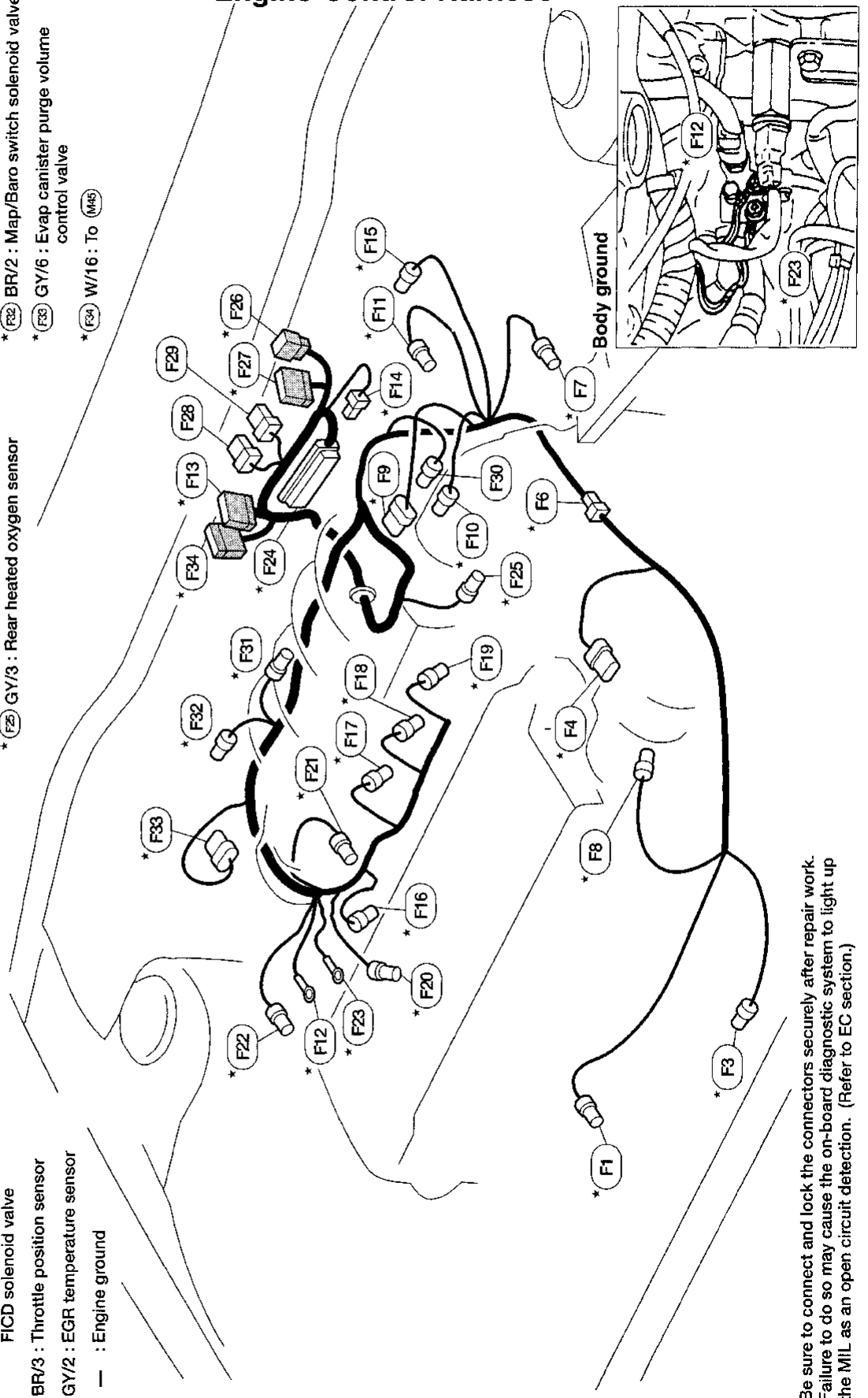


* : Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection. (Refer to EC section.)

GA ENGINE

- * (F1) GY/3 : Front heated oxygen sensor
- * (R) GY/2 : Crankshaft position sensor
- * (F4) GY/6 : Distributor
- * (R) GY/2 : Resistor
- * (F7) BR/4 : Mass air flow sensor
- * (R) GY/2 : Distributor
- * (F9) BR/5 : IACV-AAC and FICD solenoid valve
- * (F10) BR/3 : Throttle position sensor
- * (F11) GY/2 : EGR temperature sensor
- * (F12) — : Engine ground
- * (F13) W/12 : To (M46)
- * (F14) L/4 : ECSS relay
- * (F15) G/2 : EGRC solenoid valve
- * (F16) B/2 : injector No. 1
- * (F17) B/2 : injector No. 2
- * (F18) B/2 : injector No. 3
- * (F19) B/2 : Injector No. 4
- * (F20) GY/2 : Engine coolant temperature sensor
- * (F21) GY/2 : To knock sensor
- * (F22) B/2 : Valve timing control solenoid valve
- * (F23) - : Engine ground
- * (F24) SMJ : ECM (ECSS control module)
- * (F25) GY/3 : Rear heated oxygen sensor
- * (F26) W/6 : To (M34)
- * (F27) W/16 : To (M33)
- * (F28) GY/6 : Joint connector - 1
- * (F29) L/12 : Joint connector - 2
- * (F30) GY/3 : Throttle position switch
- * (F31) B/2 : Evap canister purge control solenoid valve
- * (F32) BR/2 : Map/Baro switch solenoid valve
- * (F33) GY/6 : Evap canister purge volume control valve
- * (F34) W/16 : To (M45)

Engine Control Harness



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

AEL805A

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HARNESS LAYOUT

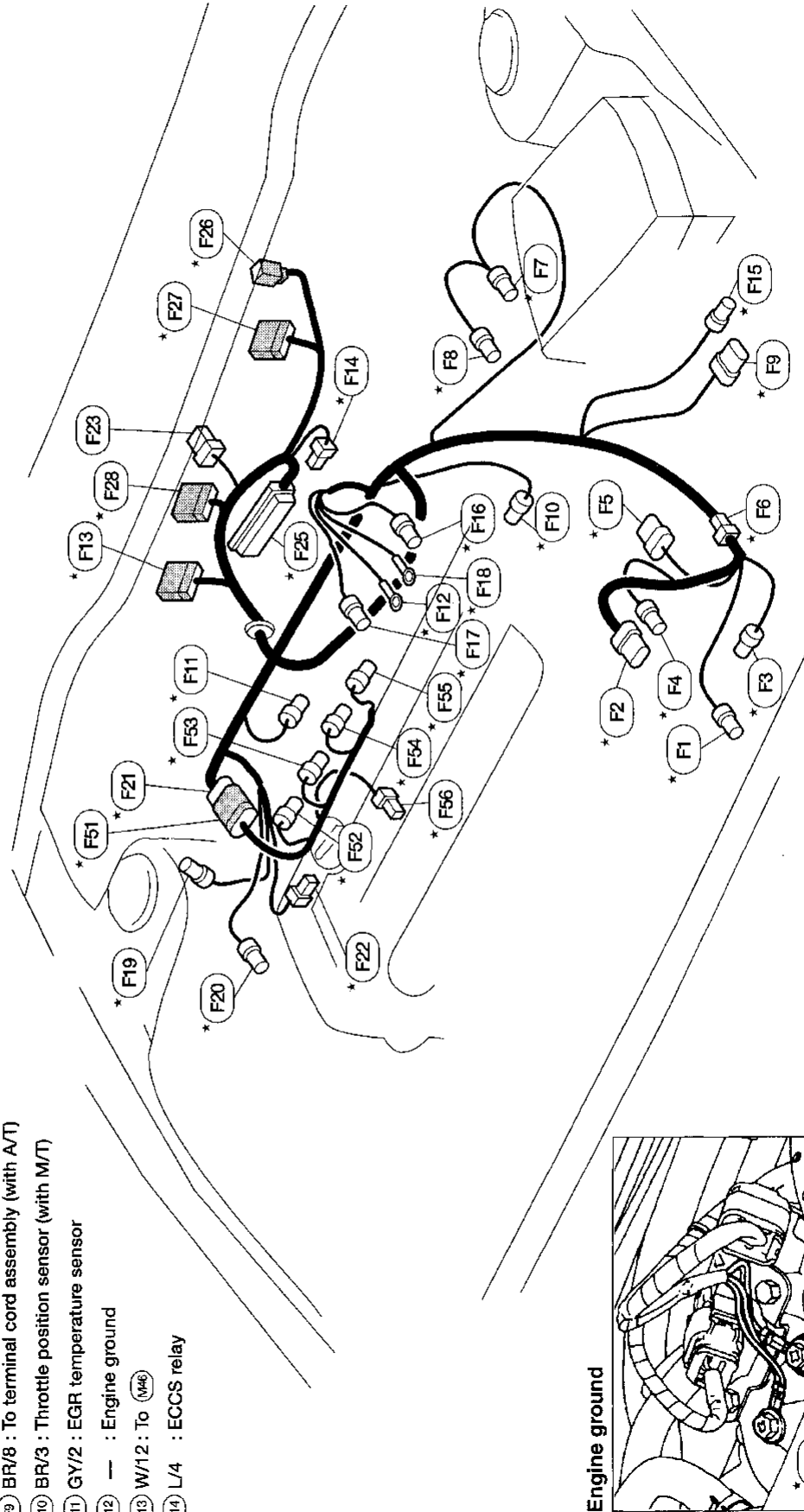
Engine Control Harness (Cont'd)

SR ENGINE

- * (F1) GY/3 : Front heated oxygen sensor
- * (F2) GY/2 : Distributor
- * (F4) GY/2 : Crankshaft position sensor
- * (F4) GY/6 : Distributor
- * (F5) GY/5 : To (E213)
- * (F6) GY/2 : Resistor
- * (F7) BR/4 : Mass air flow sensor
- * (F8) GY/2 : Intake air temperature sensor
- * (F9) BR/8 : To terminal cord assembly (with A/T)
- * (F10) BR/3 : Throttle position sensor (with M/T)
- * (F11) GY/2 : EGR temperature sensor
- * (F12) — : Engine ground
- * (F13) W/12 : To (M46)
- * (F14) L/4 : ECCS relay

- * (F15) GY/3 : Revolution sensor (with A/T)
- * (F16) GY/3 : Throttle position sensor (with A/T)
- * (F17) GY/4 : Throttle position switch (with A/T)
- * (F18) — : Engine ground
- * (F19) BR/2 : IACV-AAC valve
- * (F20) GY/2 : IAC-FICD solenoid valve

- * (F21) GY/8 : To (F51)
 - * (F22) GY/2 : IACV-air regulator
 - * (F23) L/12 : Joint connector-1
 - * (F25) SMJ : ECM (ECCS control module)
 - * (F26) W/4 : To (M34)
 - * (F27) W/16 : To (M33)
 - * (F28) W/16 : To (M36)
- Sub-harness**
- * (F51) GY/8 : To (F21)
 - * (F52) B/2 : Injector No. 1
 - * (F53) B/2 : Injector No. 2
 - * (F54) B/2 : Injector No. 3
 - * (F55) B/2 : Injector No. 4
 - * (F56) B/2 : Knock sensor



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

HARNESS LAYOUT

Engine Harness No. 2 and Generator Harness

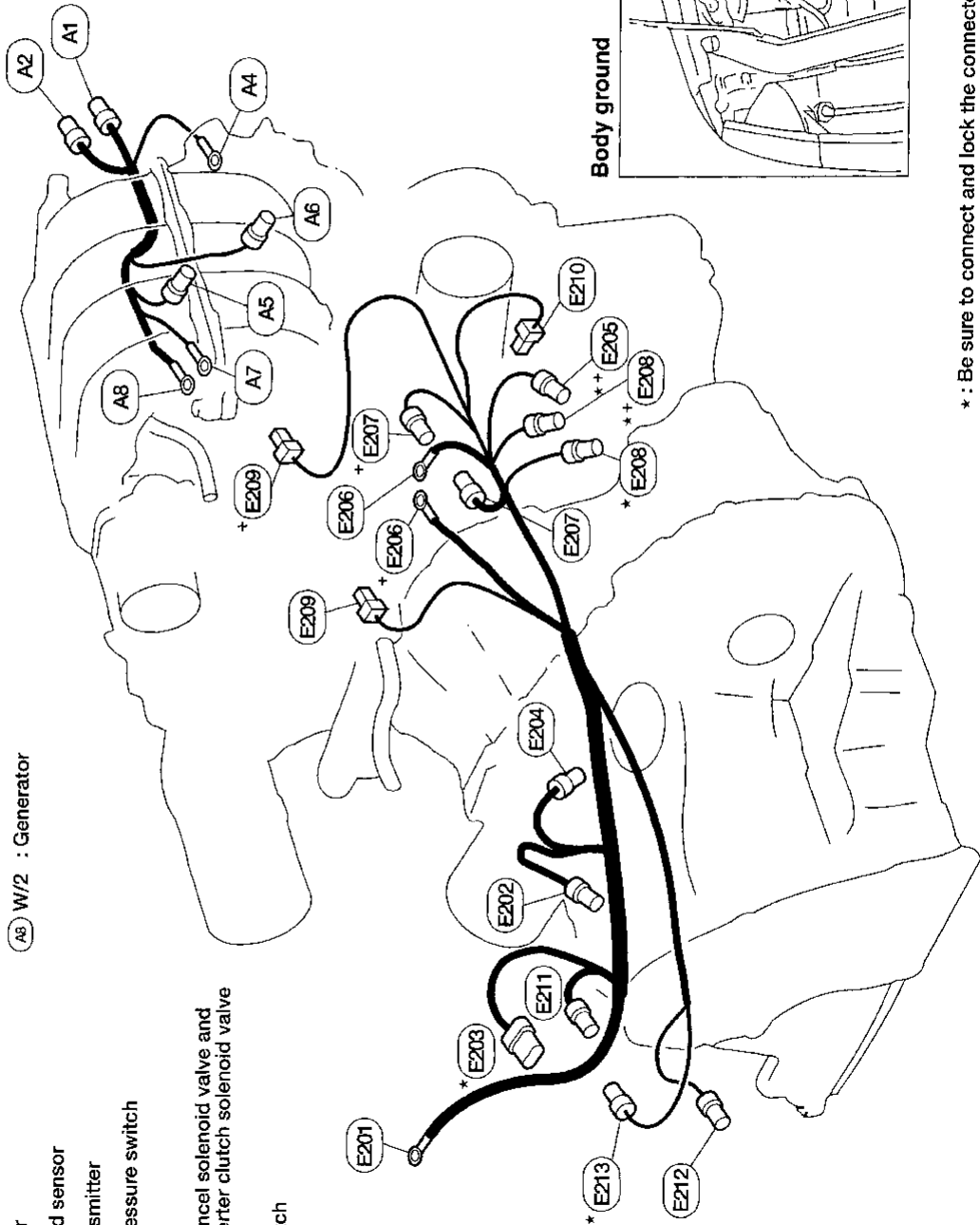
GA ENGINE

Engine No. 2 harness

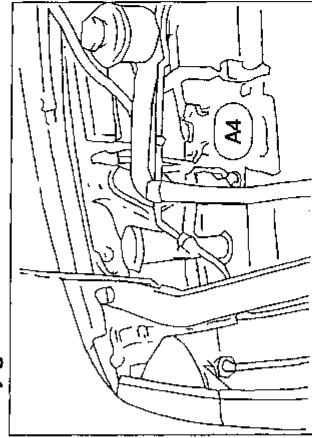
- (E201) — : Battery
- (E202) GY/1 : To (E4)
- * (E203) GY/8 : To (E7)
- (E204) GY/2 : Back-up lamp switch (with M/T)
- * (E205) B/2 : Neutral switch (with M/T)
- (E206) — : Starter motor
- (E207) GY/1 : Starter motor
- * (E208) GY/2 : Vehicle speed sensor
- (E209) B/1 : Thermal transmitter
- (E210) B/1 : Engine oil pressure switch
- (E211) GY/4 : To (E6)
- (E212) B/3 : Override cancel solenoid valve and torque converter clutch solenoid valve (with A/T)
- * (E213) GY/4 : Inhibitor switch

Generator harness

- (A1) GY/3 : To (E3)
- (A2) GY/1 : To (E3)
- (A3) — : Body ground
- (A4) — : Generator
- (A5) B/1 : A/C compressor
- (A6) — : Generator
- (A7) W/2 : Generator
- (A8) — : Generator



Body ground



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

+ Harness routing for models with M/T

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

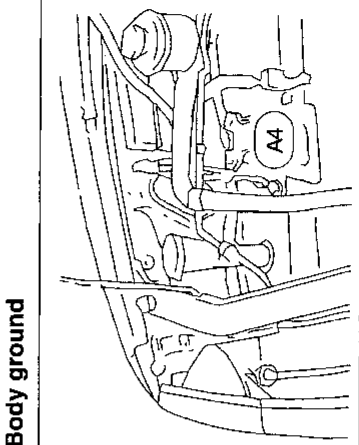
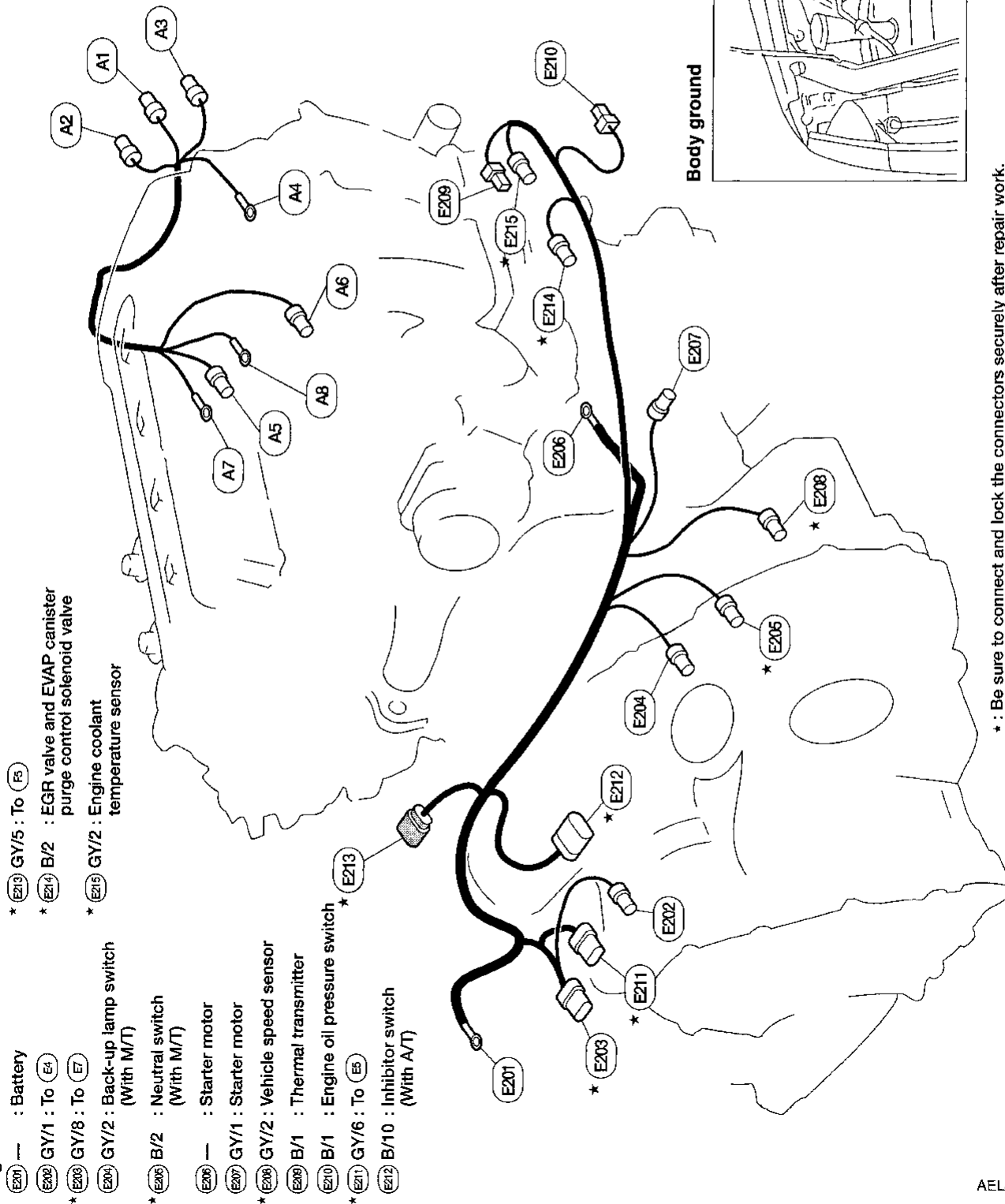
HARNESS LAYOUT

Engine Harness No. 2 and Generator Harness (Cont'd)

SR ENGINE

Generator harness

- A1 GY/3 : To (E30)
- A2 GY/1 : To (E31)
- A3 GY/1 : To (E29)
- A4 — : Body ground
- A5 — : Generator
- A6 B/1 : A/C compressor
- A7 — : Generator
- A8 W/2 : Generator



Body ground

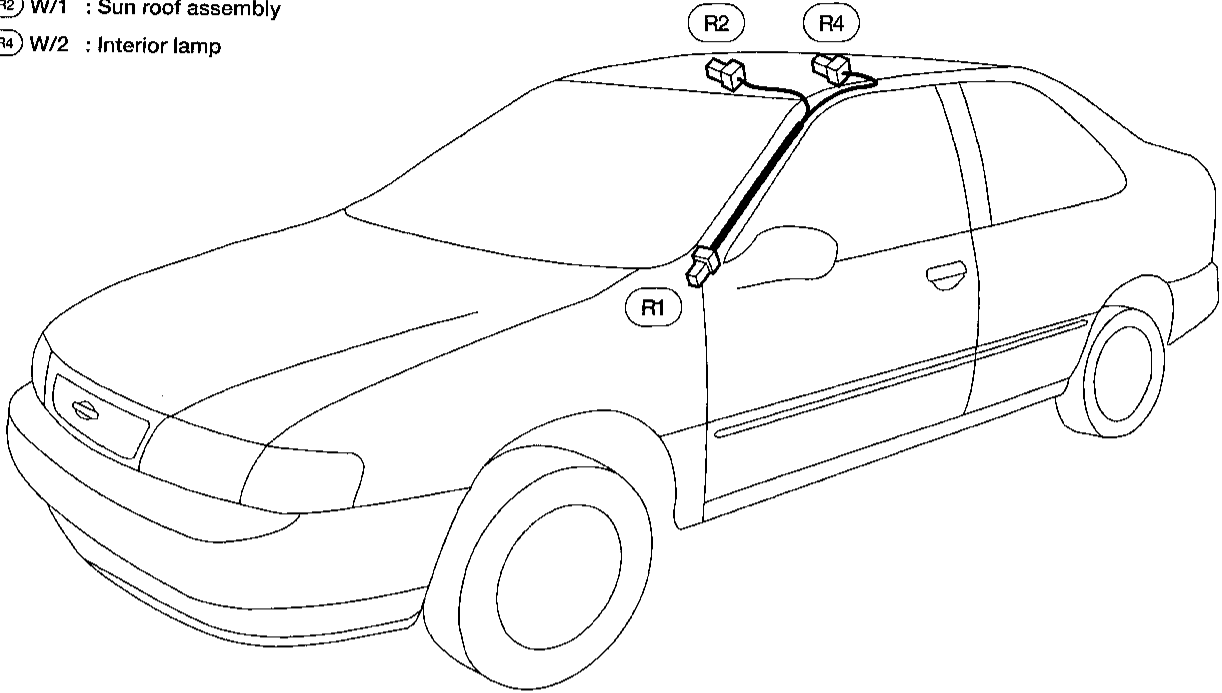
* : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MIL as an open circuit detection. (Refer to EC section.)

HARNES LAYOUT

Room Lamp Harness

2-DOOR

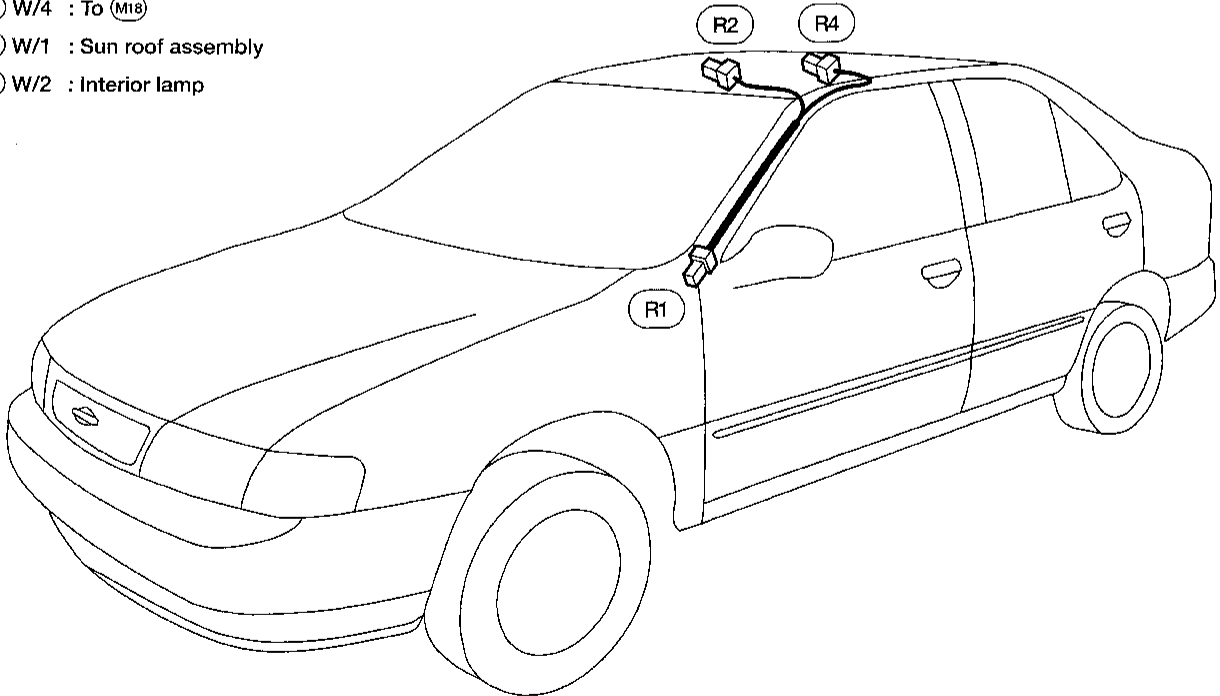
- (R1) W/4 : To (M18)
- (R2) W/1 : Sun roof assembly
- (R4) W/2 : Interior lamp



AEL808

4-DOOR

- (R1) W/4 : To (M18)
- (R2) W/1 : Sun roof assembly
- (R4) W/2 : Interior lamp

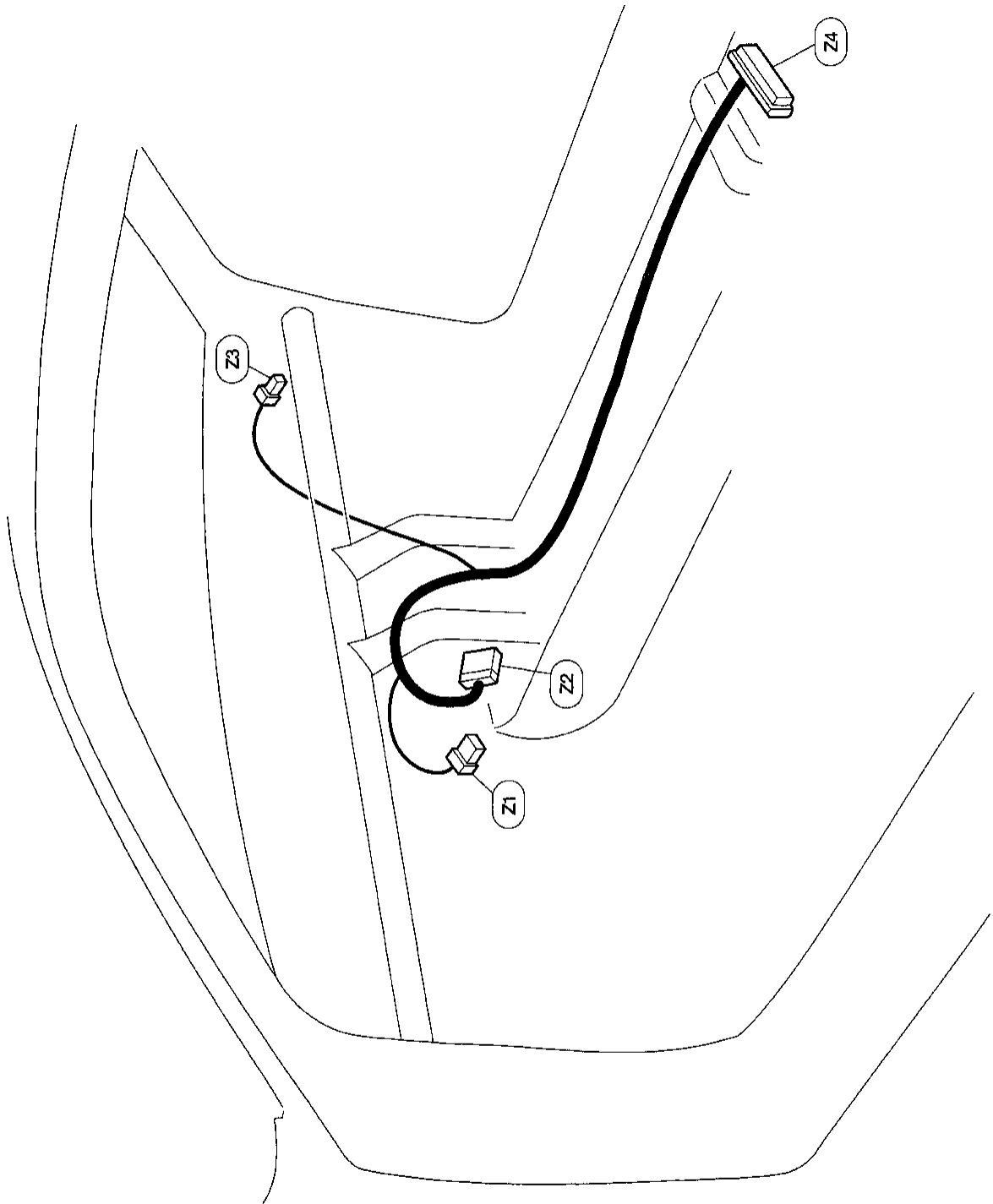


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HARNES LAYOUT

Air Bag Harness



- ① Z1 W/12 : To (MS)
- ② Z2 W/6 : Air bag module LH
- ③ Z3 W/2 : Air bag module RH
- ④ Z4 Y/24 : Air bag diagnosis sensor unit

HARNESS LAYOUT

Tail Harness

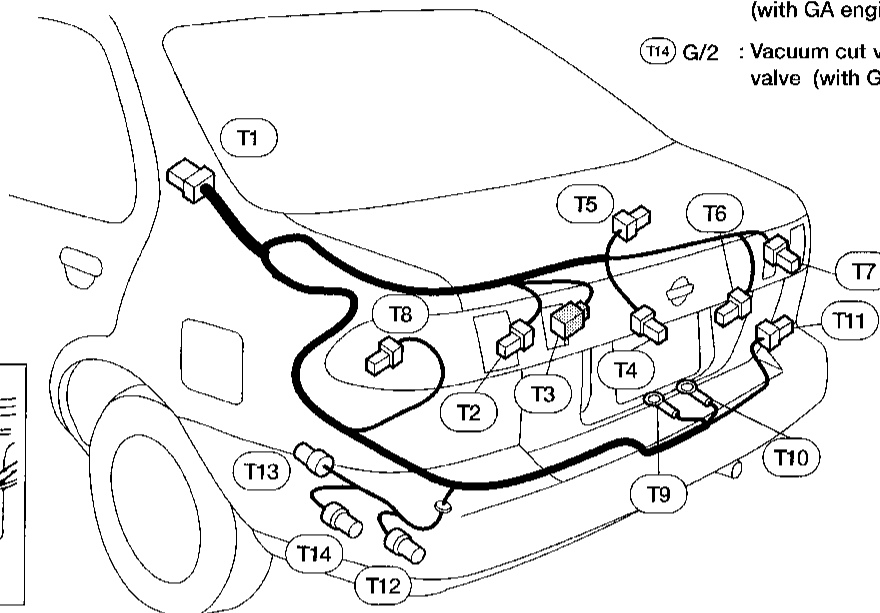
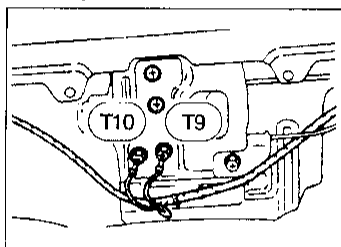
2-DOOR

- (T1) W/16 : To (B19) (with GA engine)
- (T1) W/8 : To (B19) (with SR engine)
- (T2) W/2 : Back-up lamp LH
- (T3) BR/2 : Licence lamp
- (T4) B/2 : Trunk room lamp switch

- (T5) W/2 : High mounted stop lamp
- (T6) W/3 : Trunk lid key cylinder switch
- (T7) W/2 : Back-up lamp RH
- (T8) W/4 : Rear combination lamp LH
- (T9) — : Body ground

- (T10) — : Body ground
- (T11) W/4 : Rear combination lamp RH
- (T12) B/2 : EVAP canister vent control valve (with GA engine)
- (T13) GY/3 : EVAP control system pressure sensor (with GA engine)
- (T14) G/2 : Vacuum cut valve bypass valve (with GA engine)

Body ground



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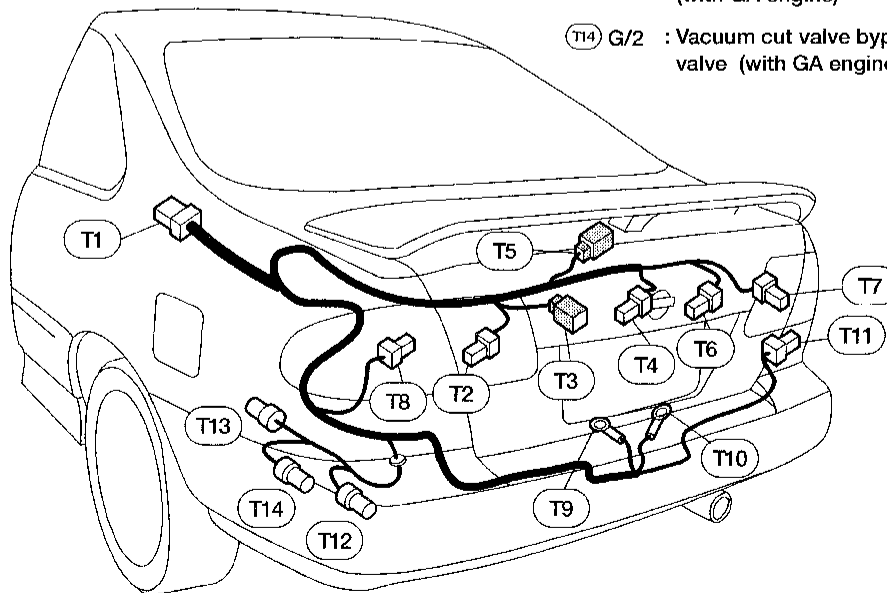
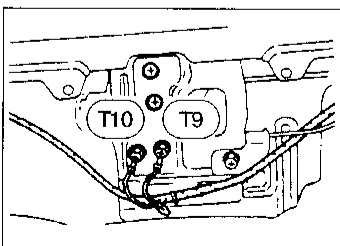
4-DOOR

- (T1) W/16 : To (B19) (with GA engine)
- (T1) W/8 : To (B19) (with SR engine)
- (T2) W/2 : Back-up lamp LH
- (T3) BR/2 : Licence lamp
- (T4) B/2 : Trunk room lamp switch

- (T5) BR/2 : High mounted stop lamp
- (T6) W/3 : Trunk lid key cylinder switch
- (T7) W/2 : Back-up lamp RH
- (T8) W/4 : Rear combination lamp LH
- (T9) — : Body ground

- (T10) — : Body ground
- (T11) W/4 : Rear combination lamp RH
- (T12) B/2 : EVAP canister vent control valve (with GA engine)
- (T13) GY/3 : EVAP control system pressure sensor (with GA engine)
- (T14) G/2 : Vacuum cut valve bypass valve (with GA engine)

Body ground



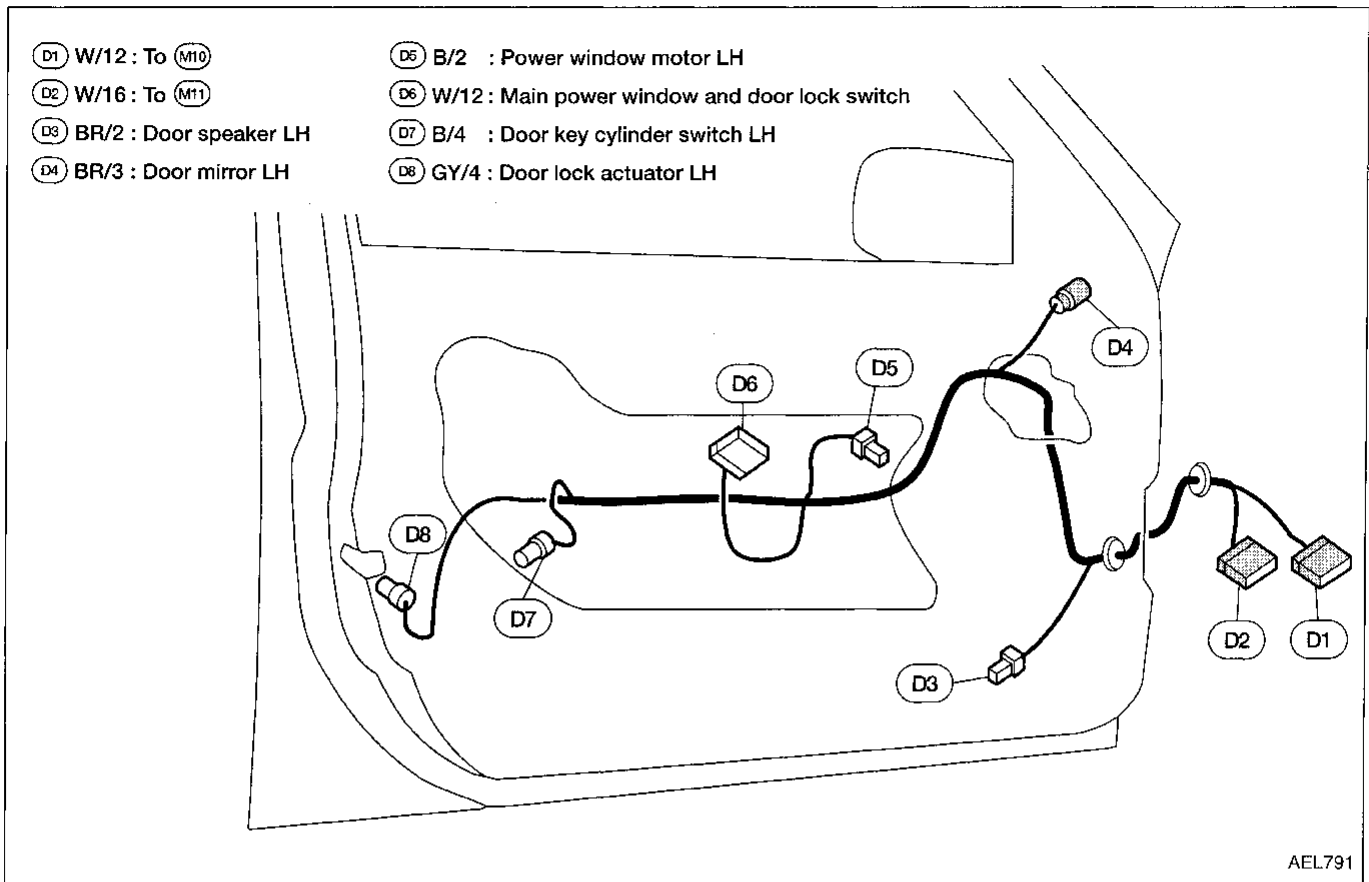
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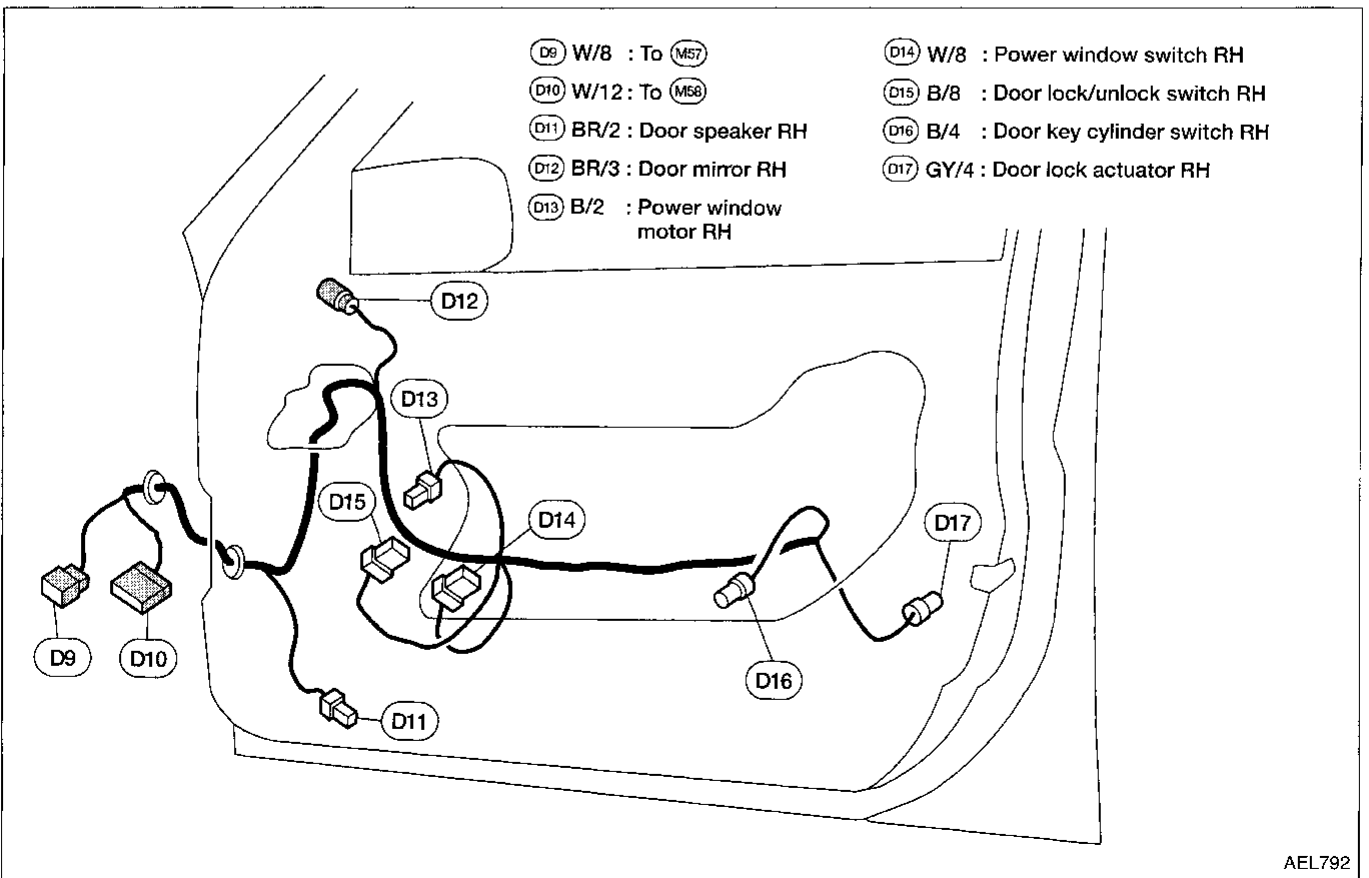
HARNESS LAYOUT

LEFT

Front Door Harness (2-Door)



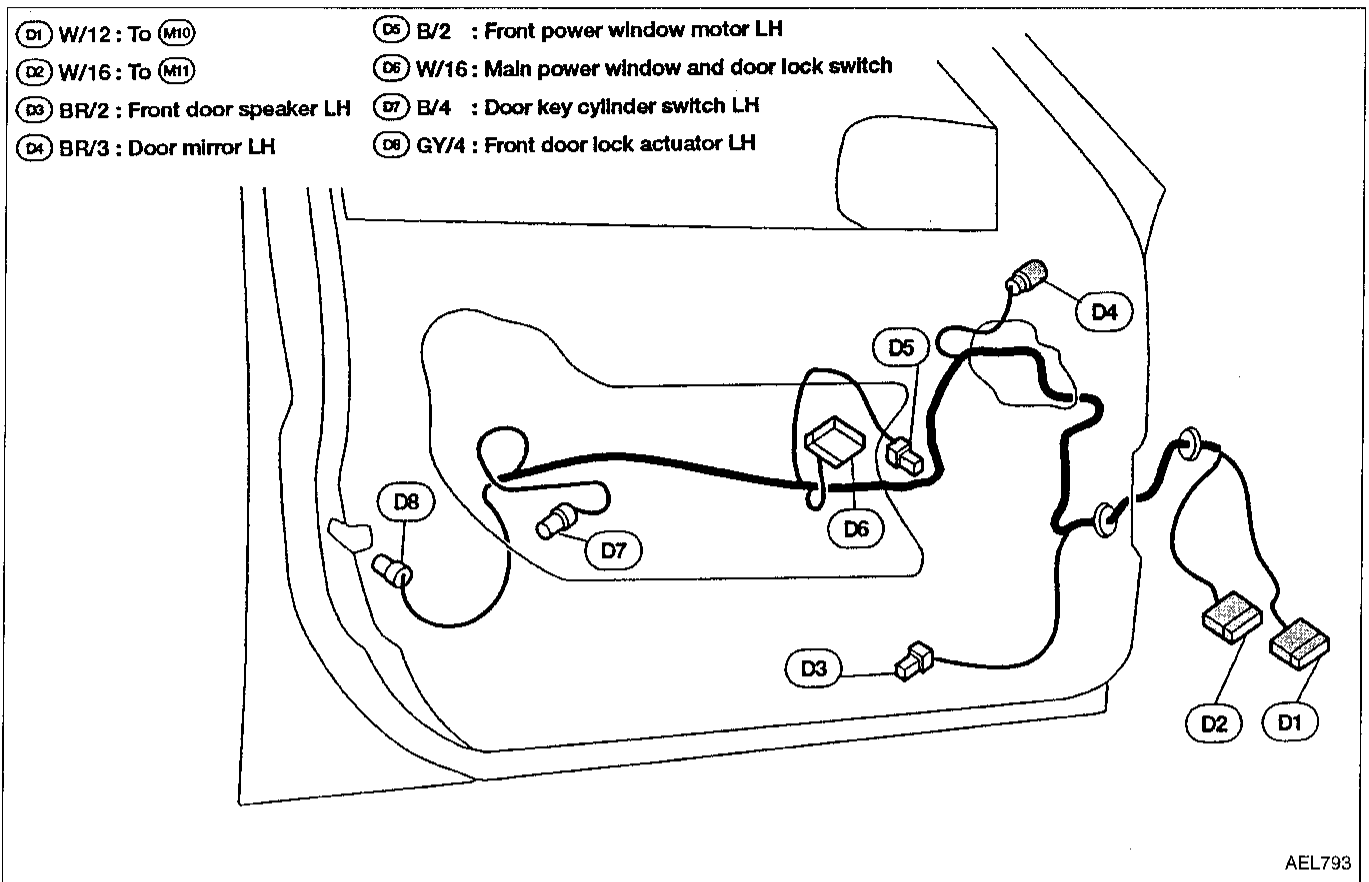
RIGHT



HARNES LAYOUT

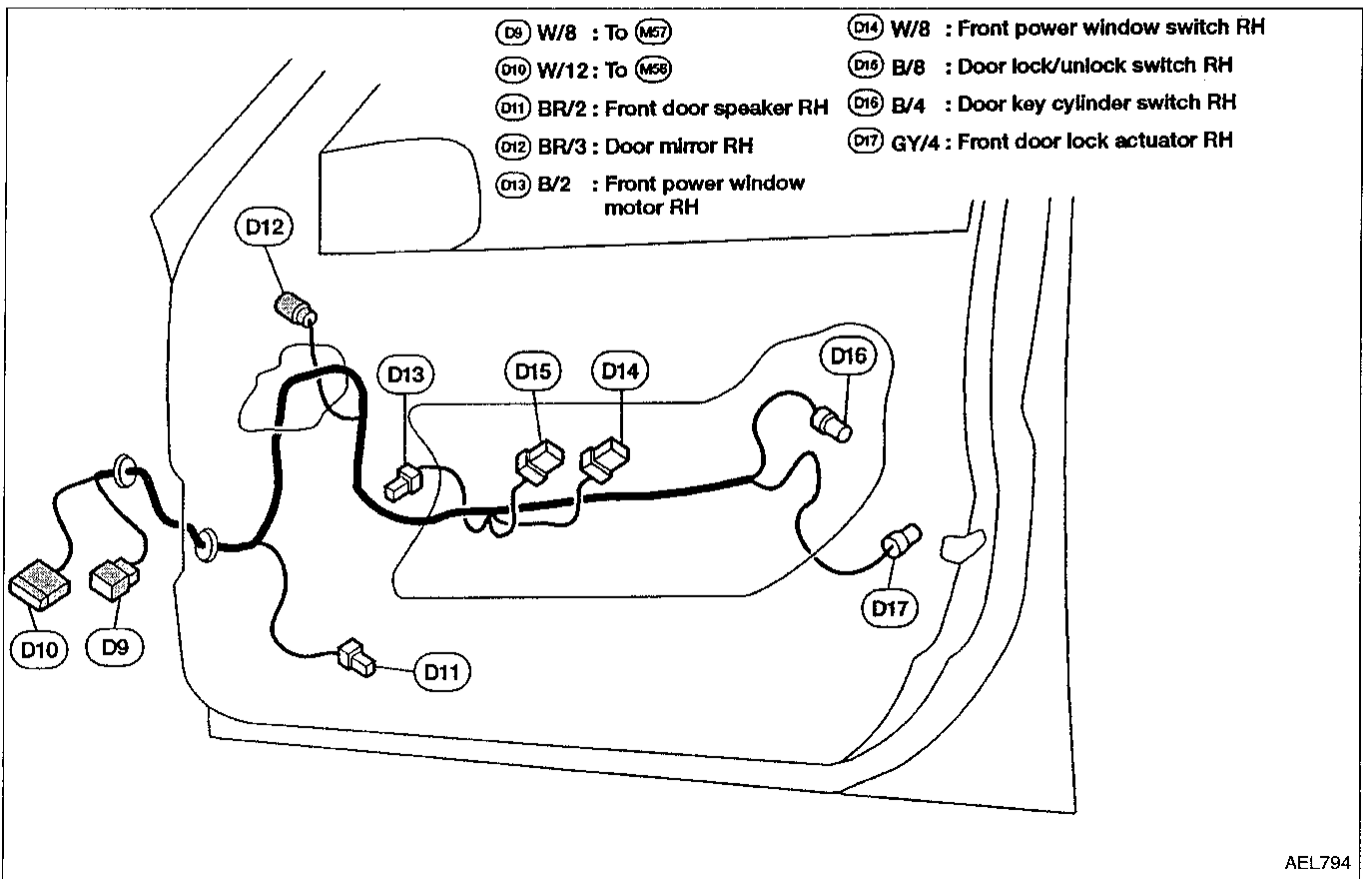
Front Door Harness (4-Door)

LEFT



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RIGHT

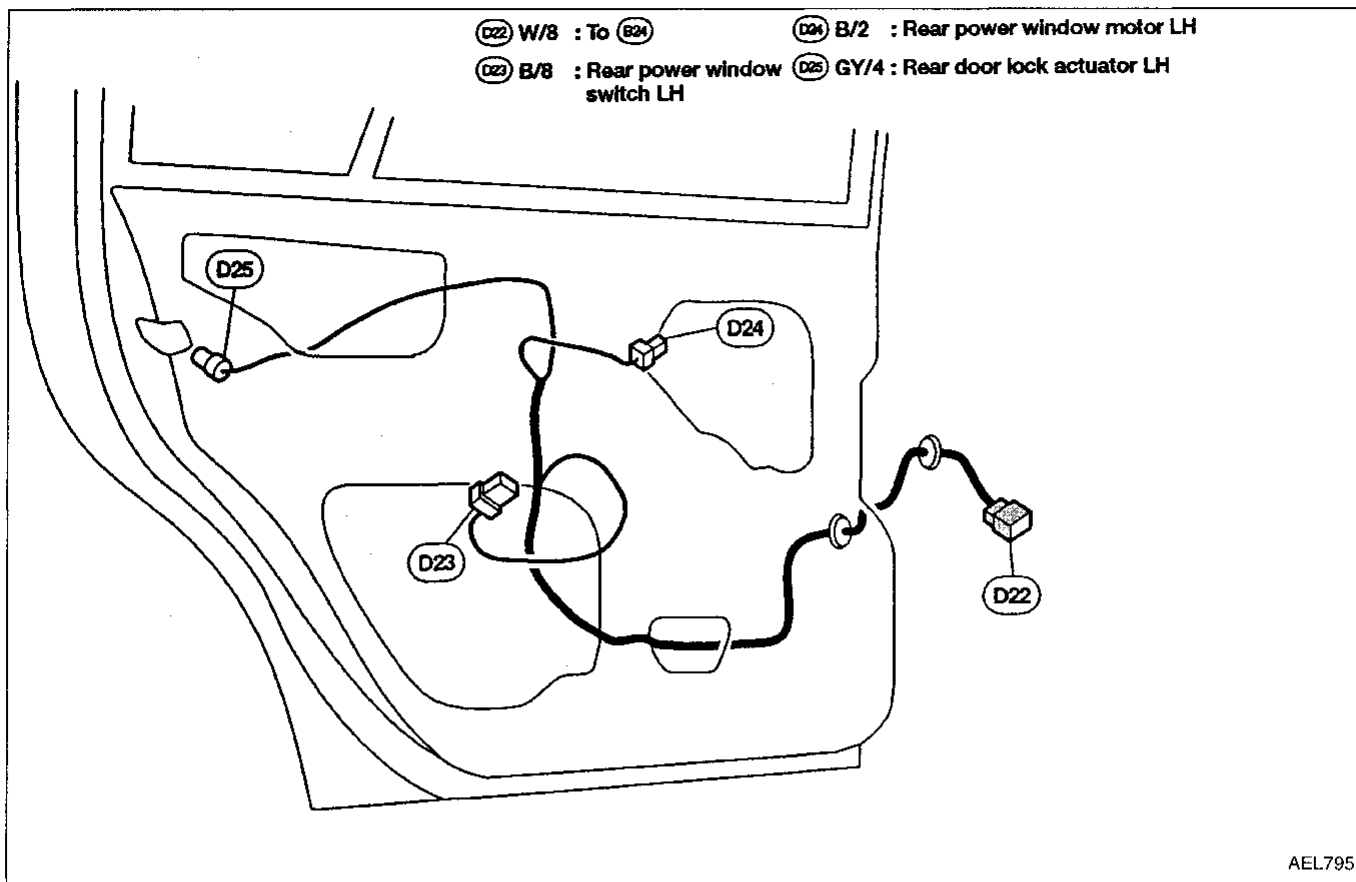


RA
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HARNESS LAYOUT

LEFT

Rear Door Harness (4-Door)



RIGHT

