SECTION EL

CONTENTS

CONTENTS (Cont'd)

CONTENTS (Cont'd)

Supplemental Restraint System (SRS) "AIR BAG"

NAEL0001

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

WARNING:

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

Wiring Diagrams and Trouble Diagnosis

NAEL0002

When you read wiring diagrams, refer to the followings:

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

When you perform trouble diagnosis, refer to the followings:

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

Check for any Service bulletins before servicing the vehicle.

Description

NAEL0003

HARNESS CONNECTOR

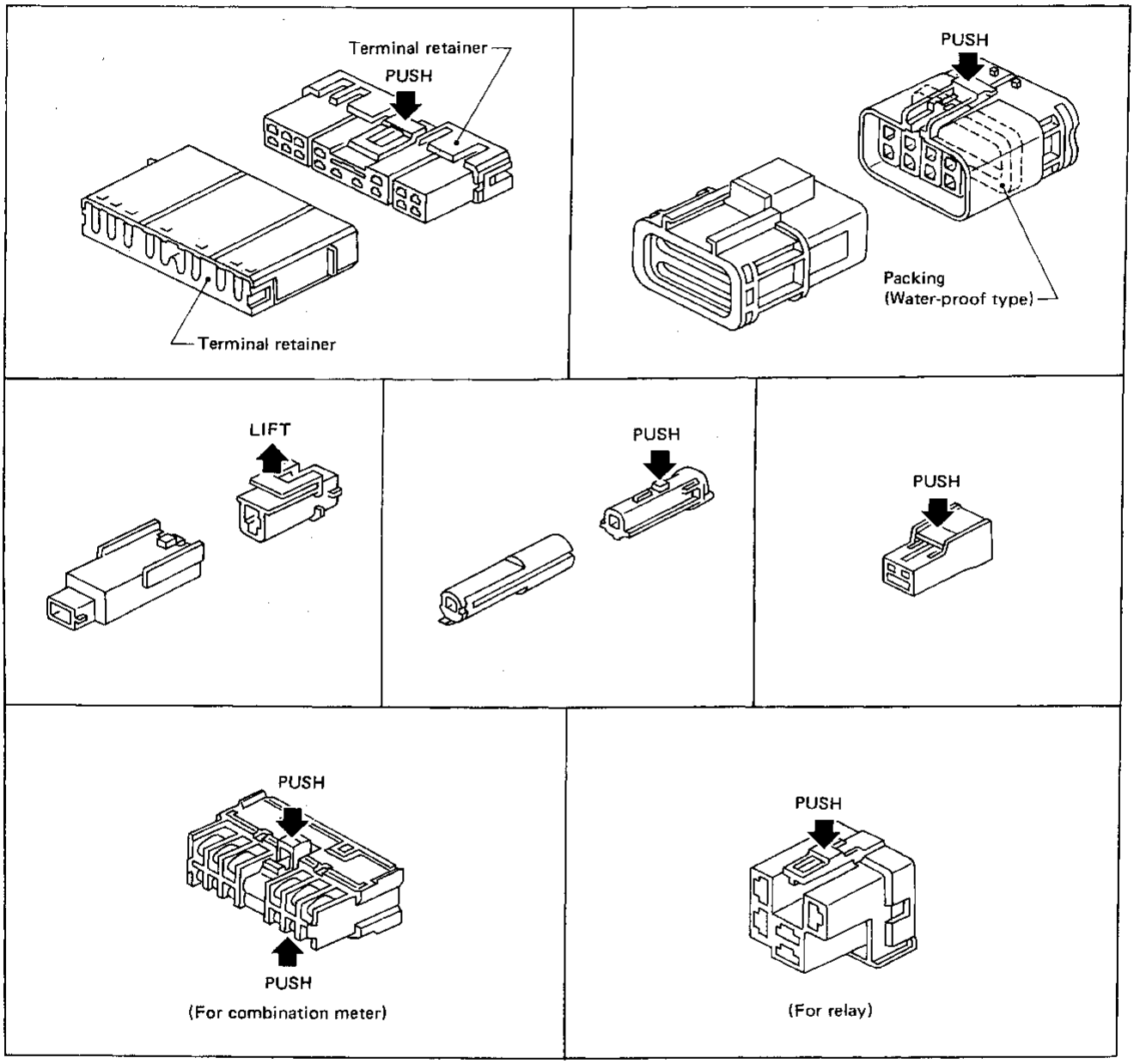
NAEL0003S01

- All harness connectors have been modified 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]



SEL769D

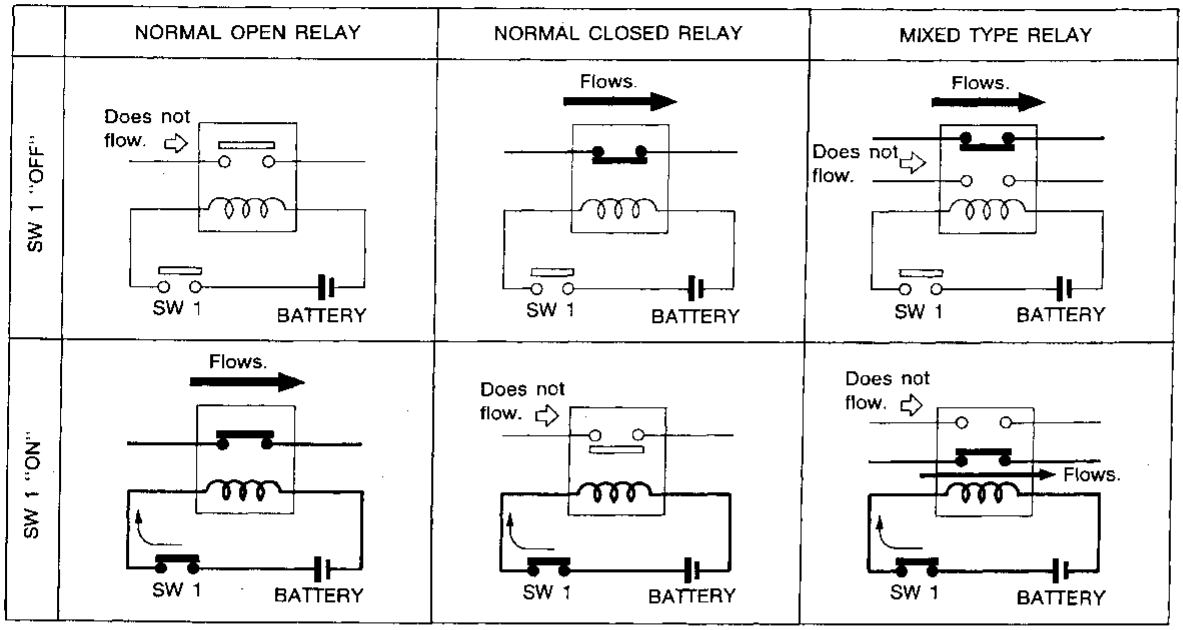
Description

NAEL0004

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

NAEL0004S01

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

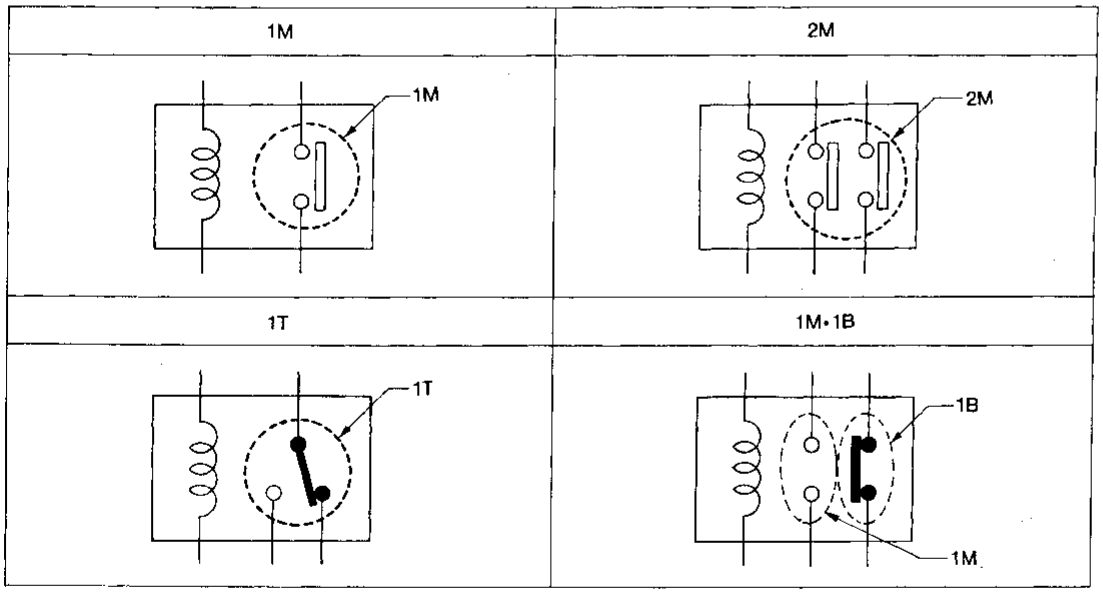


SEL881H

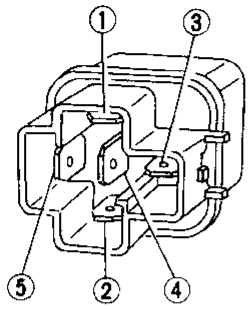
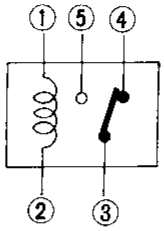
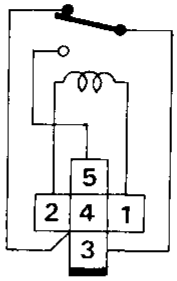
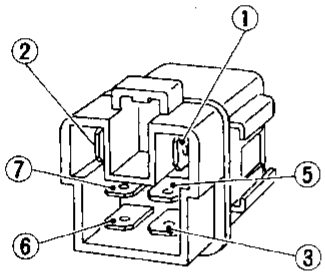
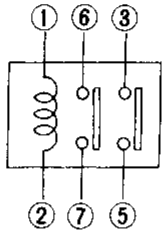
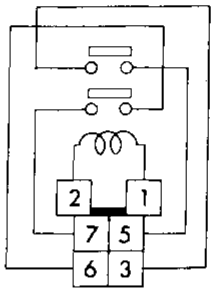
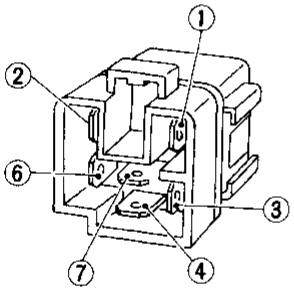
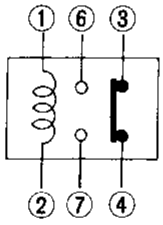
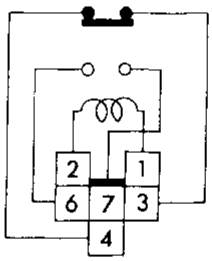
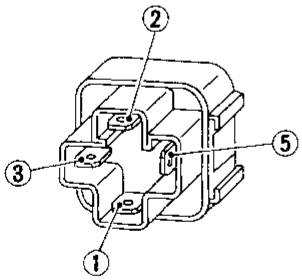
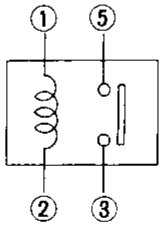
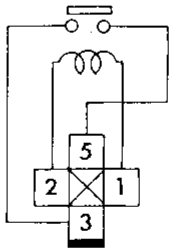
TYPE OF STANDARDIZED RELAYS

NAEL0004S02

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



SEL882H

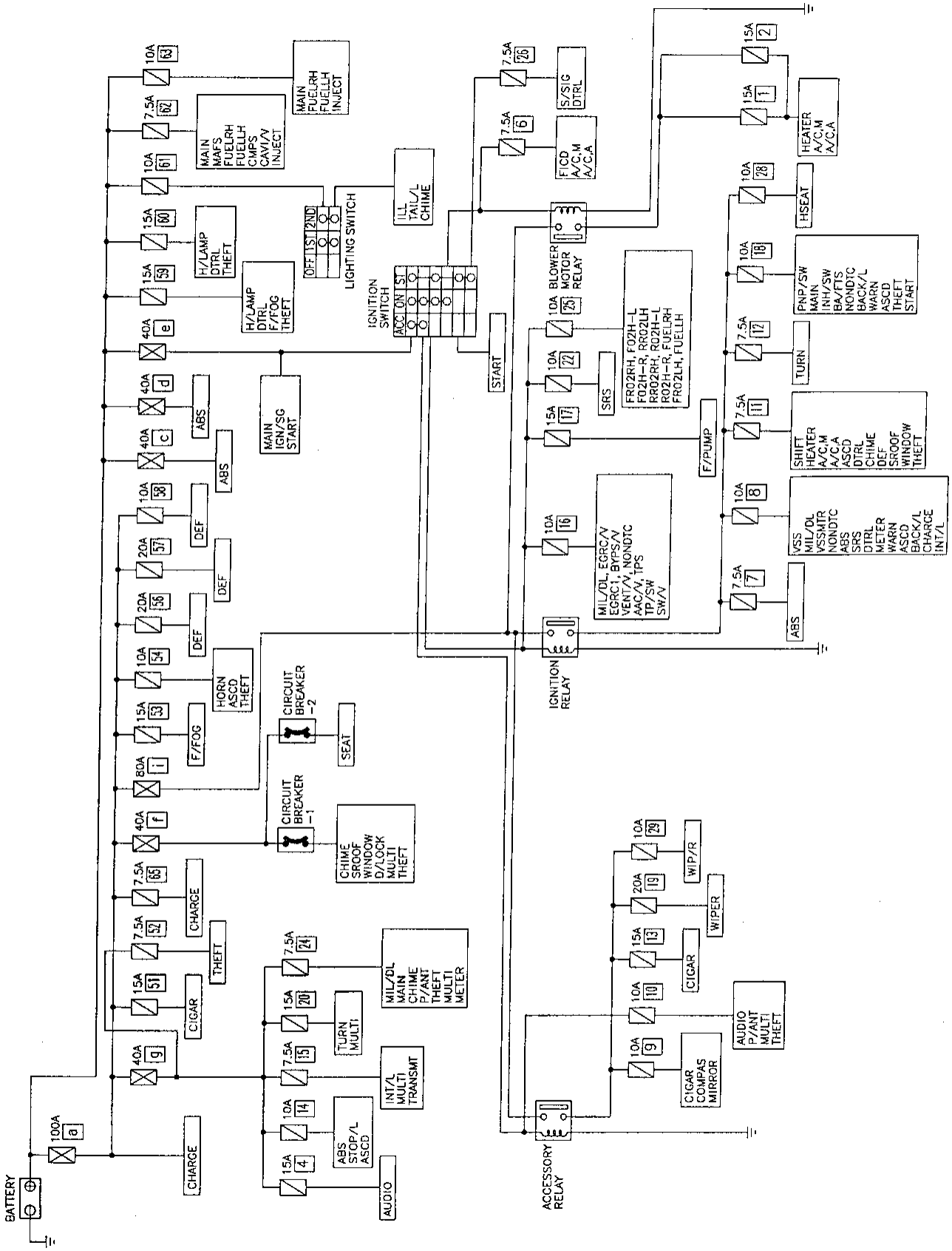
Type	Outer view	Circuit	Connector symbol and connection	Case color
1T				BLACK
2M				BROWN
1M•1B				GRAY
1M				BLUE

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

SEL661TA

Schematic

NAEL0005



MEL547H

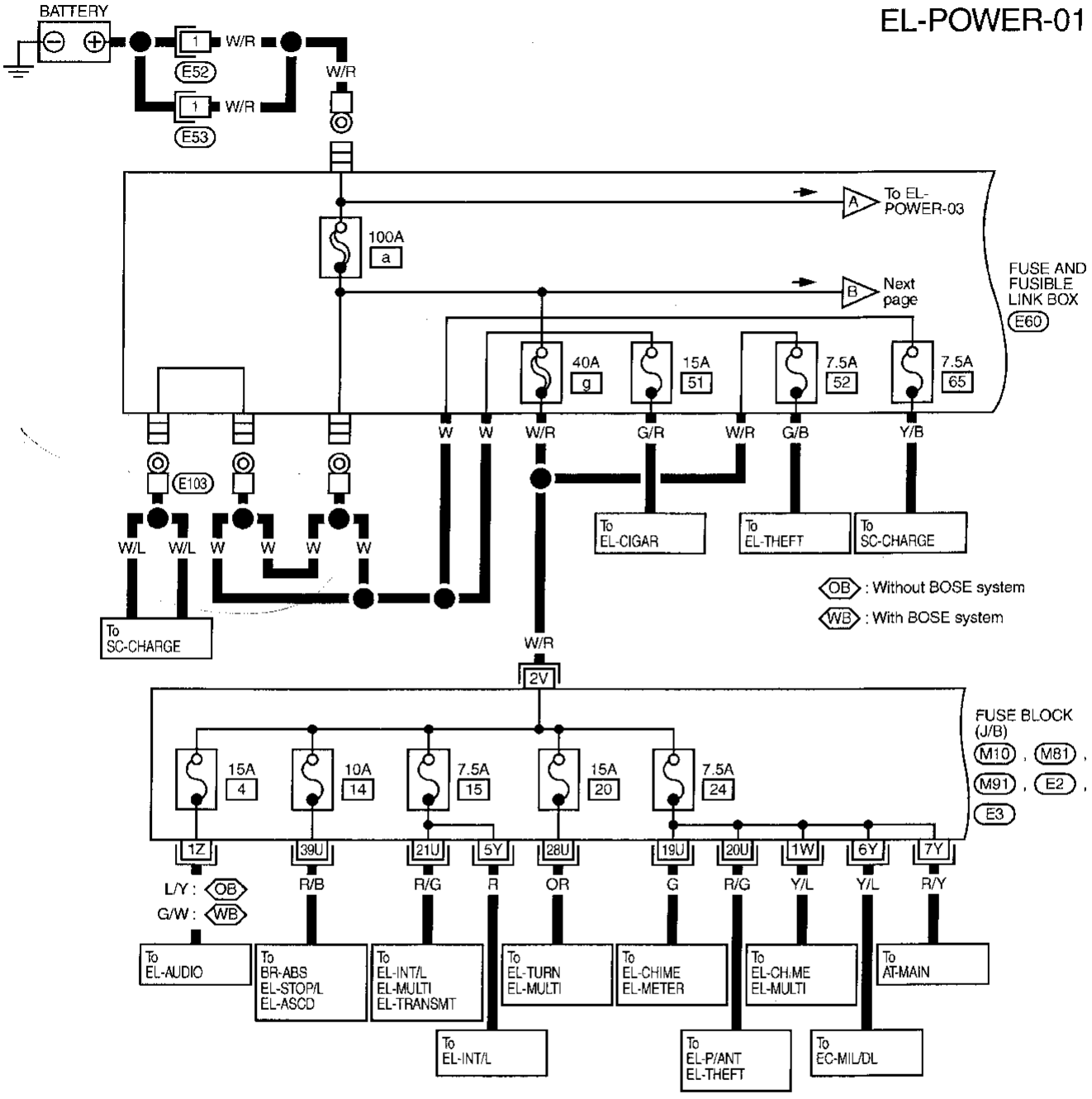
Wiring Diagram — POWER —

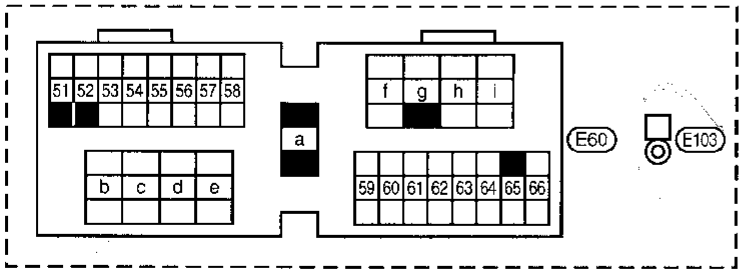
NAEL0006

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

NAEL0006S01

EL-POWER-01





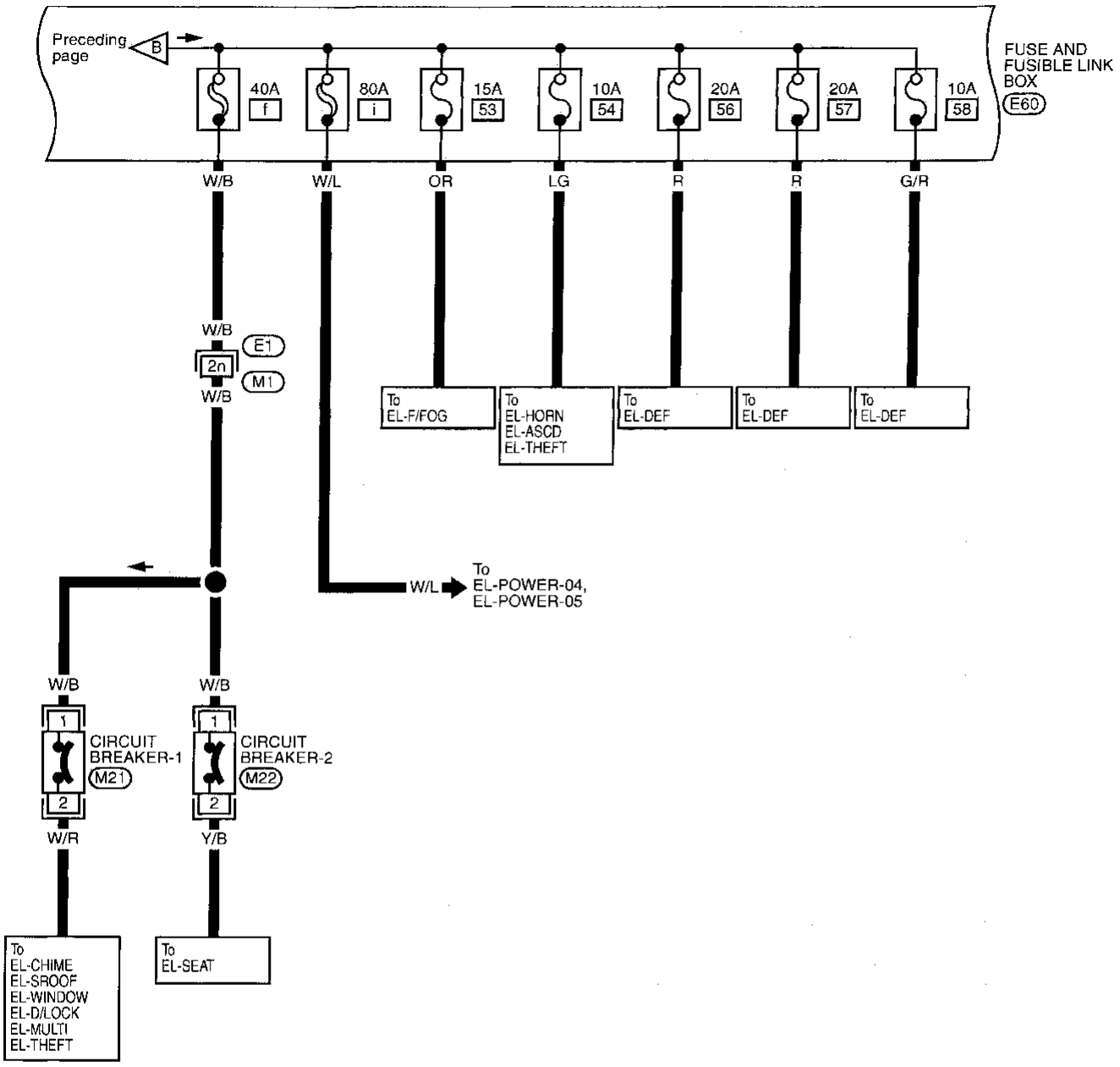
Refer to last page (Foldout page).

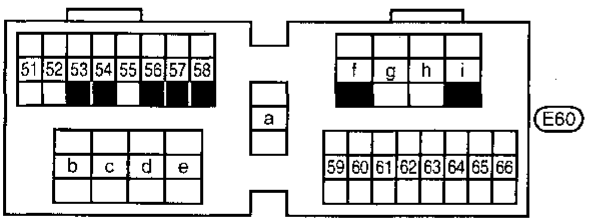
M10 , M81 , M91 , E2 , E3

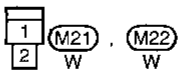
1	2		4	
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
	22			
24	25	26		
	28	29		

MEL548H

EL-POWER-02



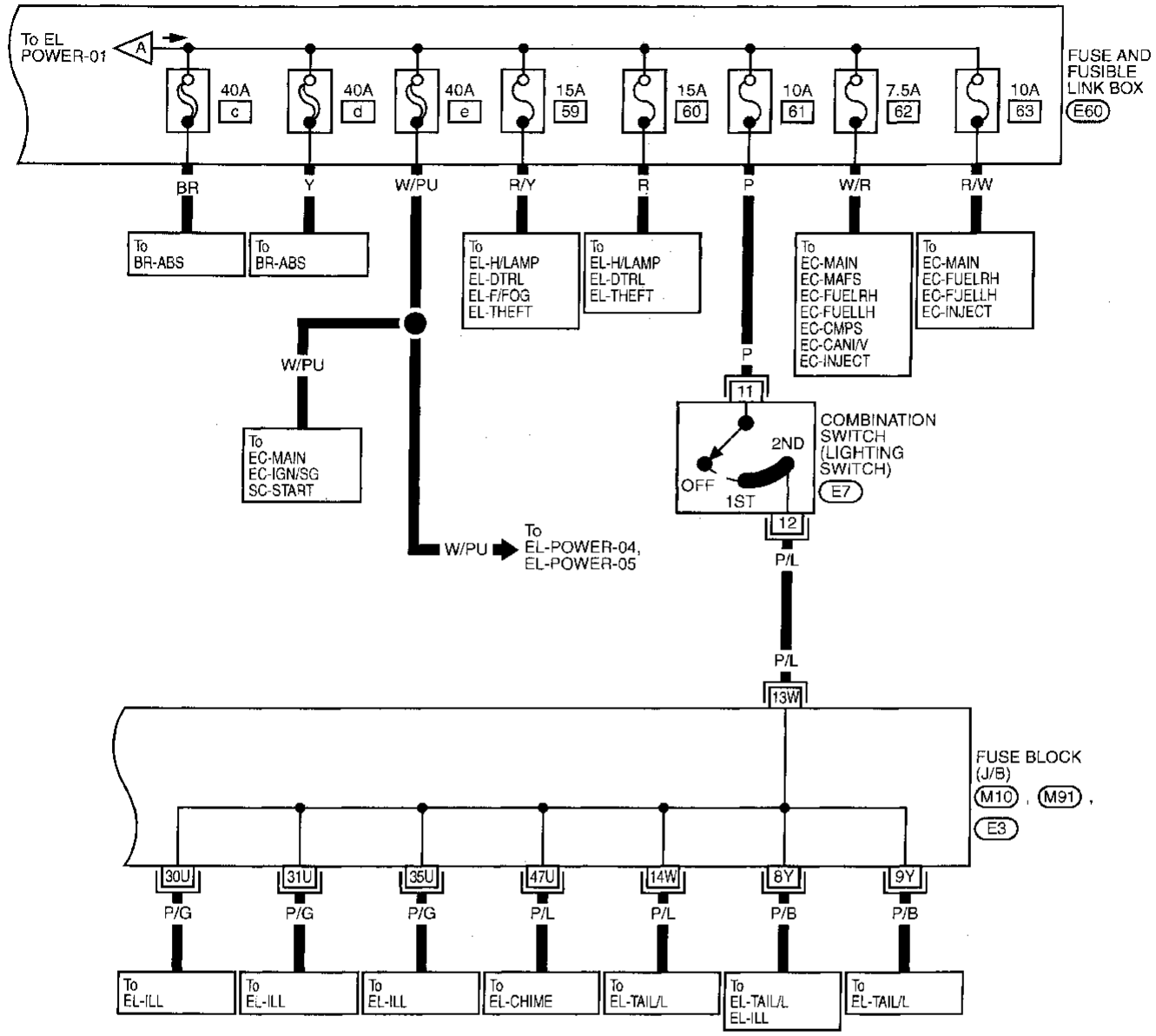


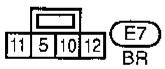


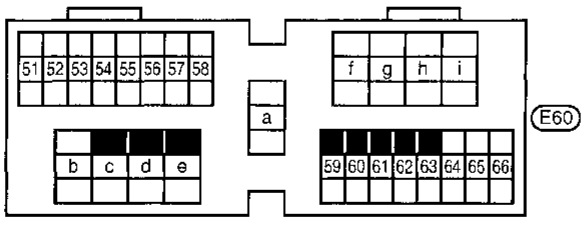
Refer to last page (Foldout page).
M1 , E1

MEL549H

EL-POWER-03







Refer to last page (Foldout page).

M10 , M91 , E3

1	2		4	
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
	22			
24	25	26		
	28	29		

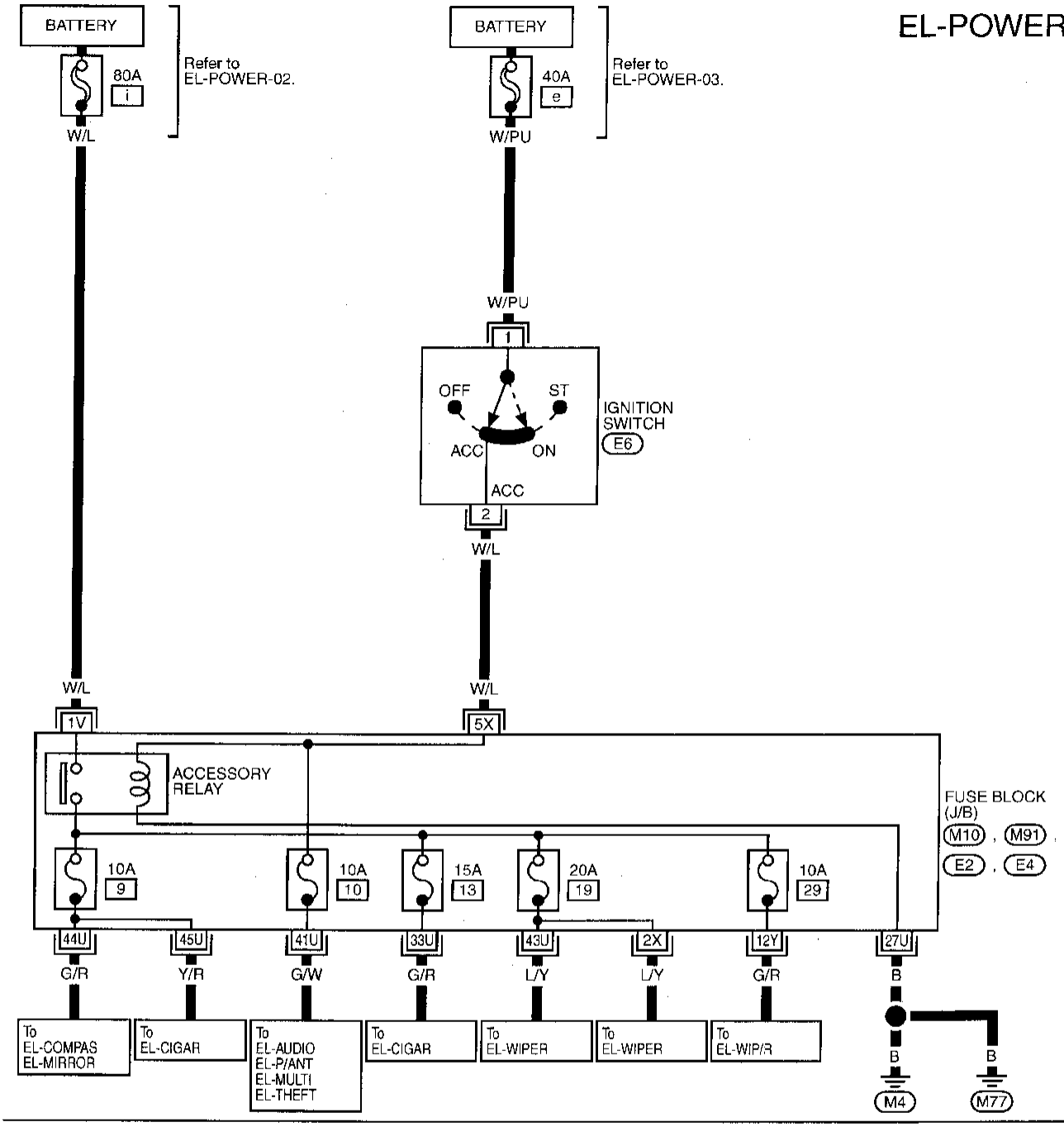
MEL550H

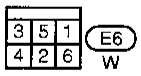
Wiring Diagram — POWER — (Cont'd)

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

NAEL0006S02

EL-POWER-04





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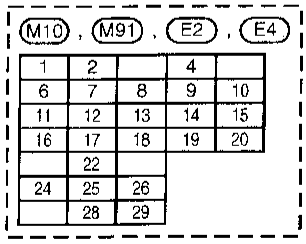
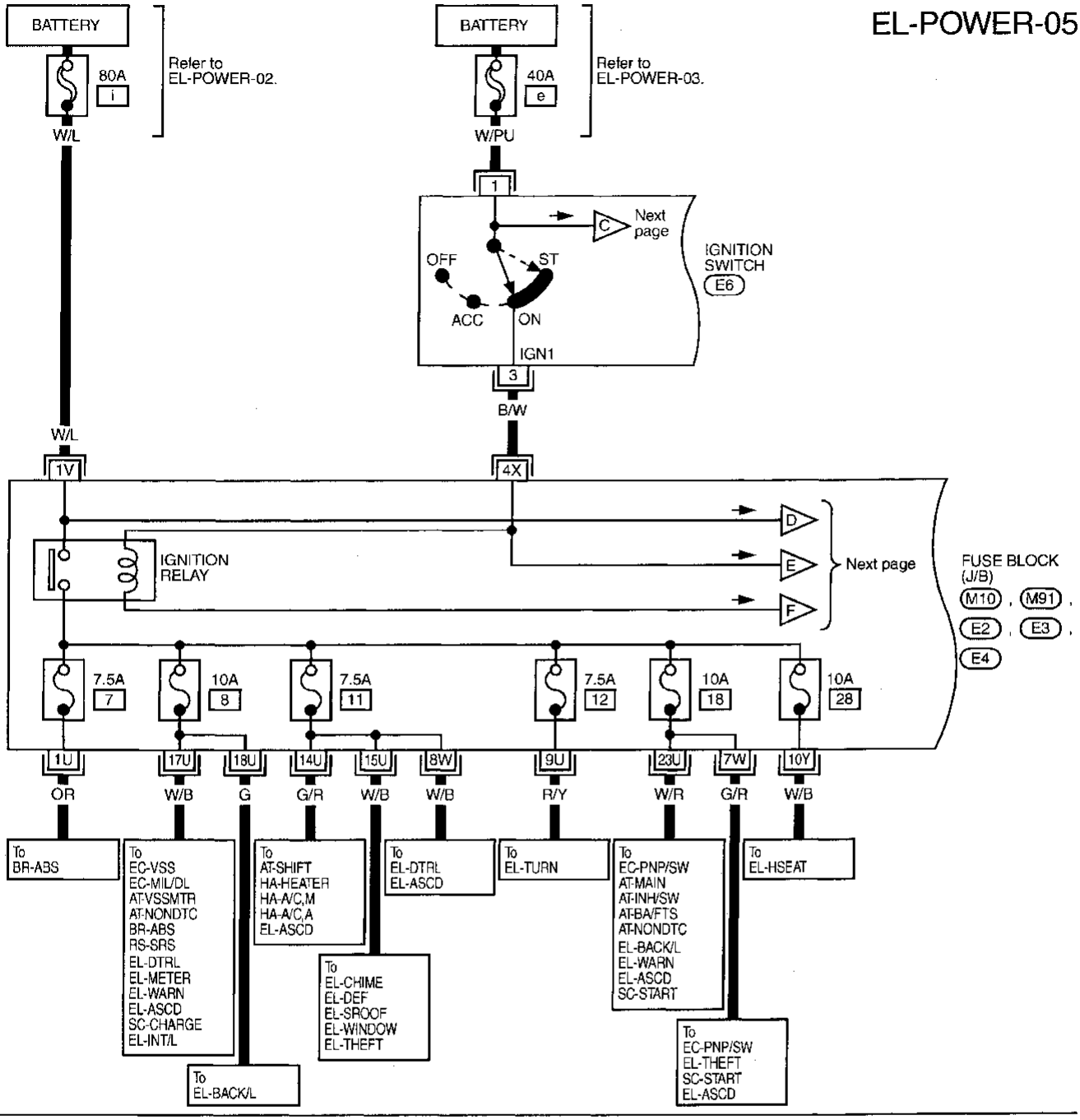


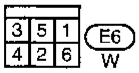
MEL551H

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

NAEL0006S03

EL-POWER-05





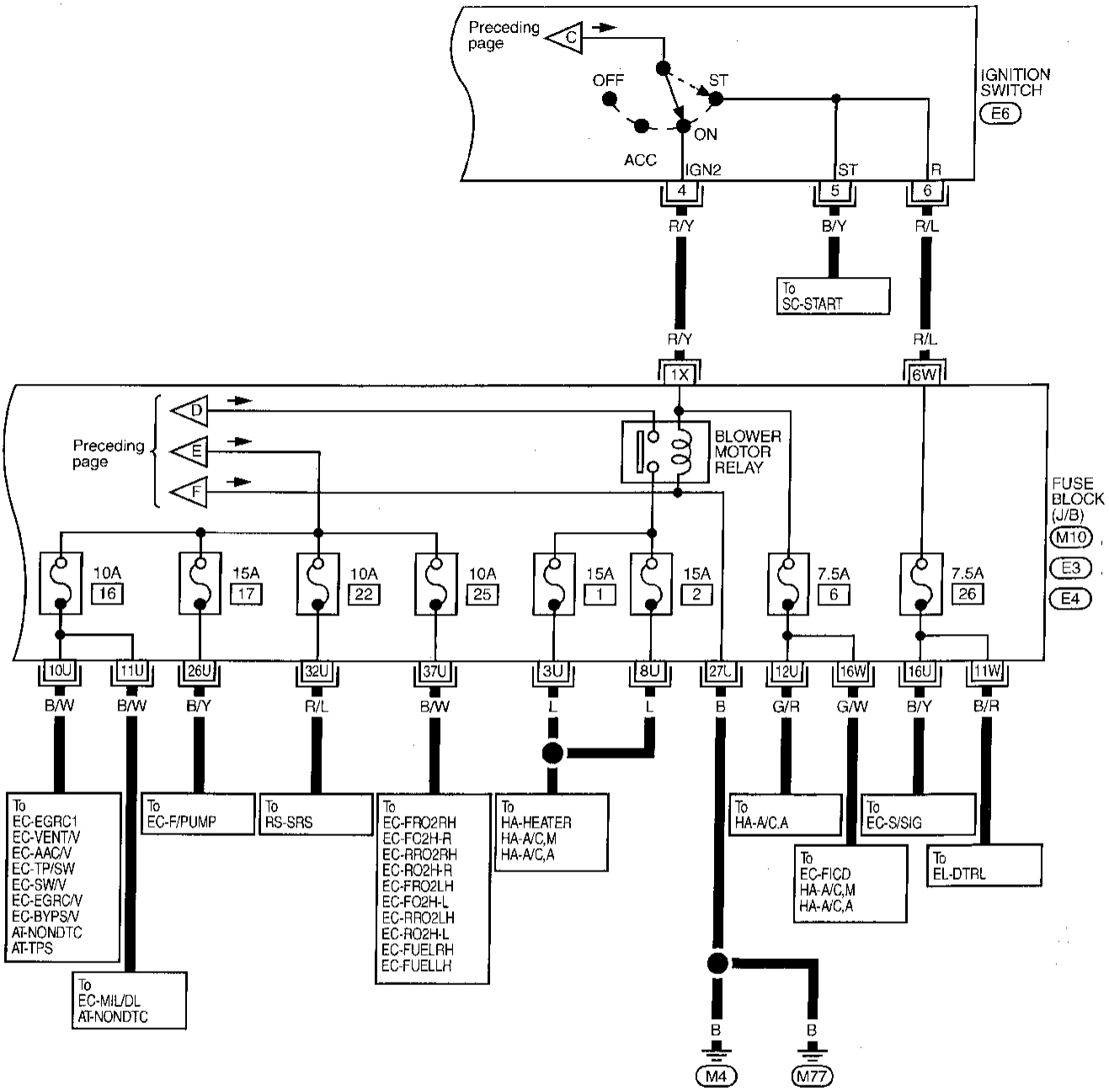
Refer to last page (Foldout page).

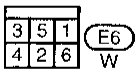
M10, M91, E2, E3, E4

1	2		4	
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
	22			
24	25	26		
	28	29		

MEL552H

EL-POWER-06



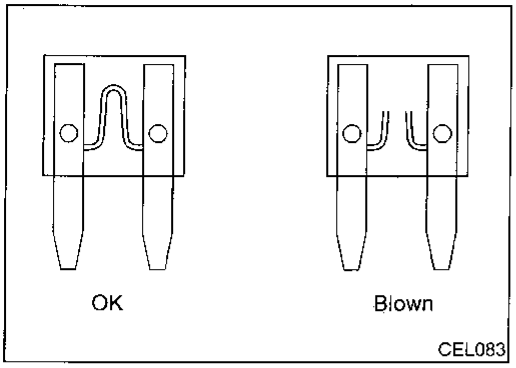


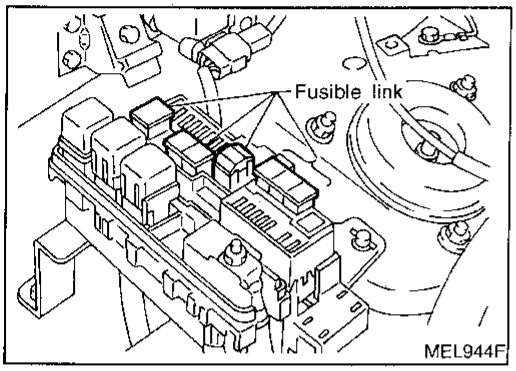
Refer to last page (Foldout page).

M10 , E3 , E4

1	2		4	
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
	22			
24	25	26		
	28	29		

MEL553H





Inspection

NAEL0007

FUSE

NAEL0007S01

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

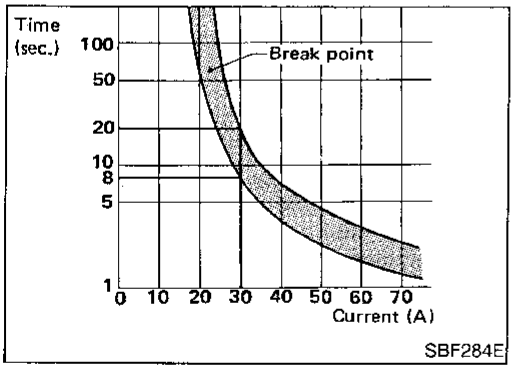
FUSIBLE LINK

NAEL0007S02

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

CAUTION:

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



CIRCUIT BREAKER

NAEL0007S03

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

Circuit breakers are used in the following systems.

- Warning chime
- Power window & power door lock
- Power sunroof
- Power seat
- Multi-remote control system
- Theft warning system

Ground Distribution

NAEL0008

EARTH	CONNECT TO	CONN. NO.	CELL CODE
M4/M66	A/C MODE SWITCH	M39	HA-A/C, A
	ASCD CONTROL UNIT	M3	EL-ASCD
	ASCD MAIN SWITCH	M18	EL-ASCD
	CLUTCH INTERLOCK SWITCH	M28	SC-START
	COMBINATION FLASHER UNIT	M15	EL-TURN
	DOOR MIRROR REMOTE CONTROL SWITCH	M17	EL-MIRROR
	POWER ANTENNA	M69	EL-P/ANT
	POWER WINDOW RELAY	M23	EL-SROOF EL-WINDOW
	REAR WIPER SWITCH	M50	EL-WIP/R
	REAR WINDOW DEFOGGER SWITCH	M36	EL-DEF
	RECIRCULATION SWITCH	M42	HA-A/C, A
	DOOR LOCK AND UNLOCK SWITCH RH	D38	EL-D/LOCK
	DOOR MIRROR DEFOGGER RH	D31	EL-DEF
	FRONT DOOR KEY CYLINDER SWITCH RH	D39	EL-THEFT
	AIR BAG DIAGNOSIS SENSOR UNIT	Z4	RS-SRS
	SHIELD WIRE (FRONT DOOR SPEAKER LH)	D12	EL-AUDIO
	SHIELD WIRE (TWEETER LH)	M8	EL-AUDIO
M4/M77	ABS RELAY UNIT (SOLENOID VALVE RELAY)	M74	BR-ABS
	A/C AUTO AMP.	M40	HA-A/C, A
	COMBINATION METER (AIR BAG)	M24	RS-SRS EL-WARN
	COMBINATION METER (CRUISE INDICATOR)	M25	EL-ASCD
	COMBINATION METER (FUEL GAUGE)	M24	EL-METER
	COMBINATION METER (4WD INDICATOR)	M25	EL-WARN
	COMBINATION METER (HIGH BEAM INDICATOR)	M25	EL-H/LAMP EL-DTRL
	COMBINATION METER (SPEEDOMETER)	M24	EC-VSS AT-A/T EL-METER EL-ASCD
	COMBINATION METER (TACHOMETER)	M26	AT-A/T EL-METER
	COMBINATION METER (TURN SIGNAL)	M25	EL-TURN
	COMBINATION METER (WATER TEMPERATURE GAUGE)	M24	EL-METER
	CIGARETTE LIGHTER SOCKET	M56	EL-CIGAR
	DATA LINK CONNECTOR FOR CONSULT	M11	EC-MIL/DL AT-NONDTC
	DATA LINK CONNECTOR FOR GST	M9	EC-MIL/DL
	FAN CONTROL AMP.	M60	HA-A/C, A
	FAN SWITCH	M43	HA-A/C, M HA-A/C, A
	FRONT WIPER AMP.	M79	EL-WIPER
	FRONT WIPER MOTOR	M78	EL-WIPER
	FUSE BLOCK (ACCESSORY RELAY, IGNITION RELAY AND BLOWER MOTOR RELAY)	M10	EL-POWER

EARTH	CONNECT TO	CONN. NO.	CELL CODE
M4/M77	HEATED SEAT SWITCH LH	M52	EL-HSEAT
	HEATED SEAT SWITCH RH	M53	EL-HSEAT
	ILLUMINATION CONTROL SWITCH	M19	EL-ILL
	SMART ENTRANCE CONTROL UNIT	M16	EL-CHIME EL-D/LOCK EL-MULTI EL-THEFT EL-DEF
	COMPASS AND THERMOMETER	R4	EL-ILL EL-COMPAS
	INTEGRATED HOMELINK® TRANSMITTER	R5	EL-TRNSMT
	SPOT LAMP	R6	EL-INT/L
	VANITY MIRROR LH (ILLUMINATION)	R5	EL-ILL
	VANITY MIRROR RH (ILLUMINATION)	R3	EL-ILL
	DOOR MIRROR DEFOGGER LH	D1	EL-DEF
	FRONT DOOR KEY CYLINDER SWITCH LH	D9	EL-THEFT
	FRONT DOOR LOCK ACTUATOR LH	D7	EL-MULTI EL-THEFT
	FRONT DOOR LOCK ACTUATOR RH	D37	EL-MULTI EL-THEFT
	POWER WINDOW MAIN SWITCH	D6	EL-WINDOW EL-D/LOCK
	ABS CONTROL UNIT	M54	BR-ABS
	SHIELD WIRE (FRONT WHEEL SENSOR LH)	E14	BR-ABS
	SHIELD WIRE (FRONT WHEEL SENSOR RH)	E51	BR-ABS
	SHIELD WIRE (REAR WHEEL SENSOR LH)	B69	BR-ABS
	SHIELD WIRE (REAR WHEEL SENSOR RH)	B8	BR-ABS
	SHIELD WIRE (TWEETER RH)	M64	EL-AUDIO
	FRONT DOOR SPEAKER LH	D12	EL-AUDIO
	SHIELD WIRE (FRONT DOOR SPEAKER LH)	D12	EL-AUDIO
	SHIELD WIRE (FRONT DOOR SPEAKER RH)	D42	EL-AUDIO
	FRONT DOOR SPEAKER RH	D42	EL-AUDIO
	AUDIO AMP. RELAY	B47	EL-AUDIO
E13/E41	AMBIENT AIR TEMPERATURE SWITCH	E34	EC-FICD HA-A/C, A
	ASCD HOLD RELAY	E22	EL-ASCD
	ATP RELAY	E86	EL-WARN
	BRAKE FLUID LEVEL SWITCH	E28	EL-WARN
	DAYTIME LIGHT CONTROL UNIT	E45	EL-DTRL
	FRONT FOG LAMP LH	E61	EL-F/FOG
	FRONT FOG LAMP RH	E62	EL-F/FOG
	FRONT FOG LAMP SWITCH	E63	EL-F/FOG
	FRONT TURN SIGNAL LAMP LH	E30	EL-TURN
	FRONT TURN SIGNAL LAMP RH	E39	EL-TURN
	FRONT WIPER SWITCH	E9	EL-WIPER

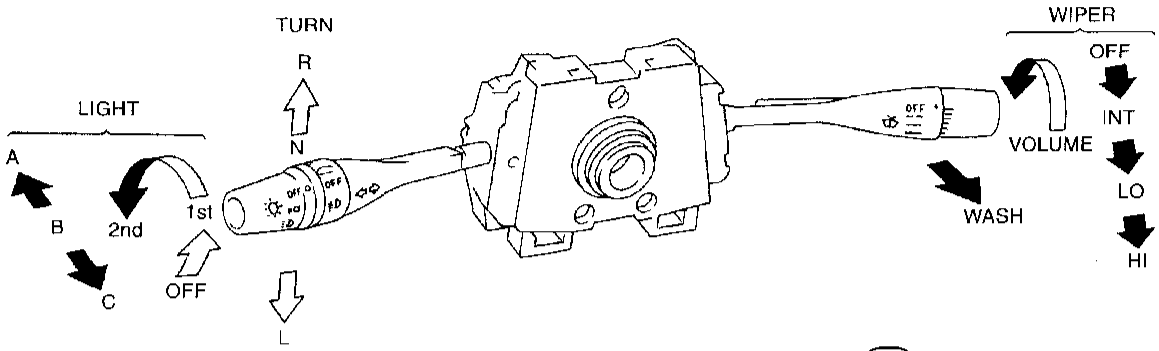
Ground Distribution (Cont'd)

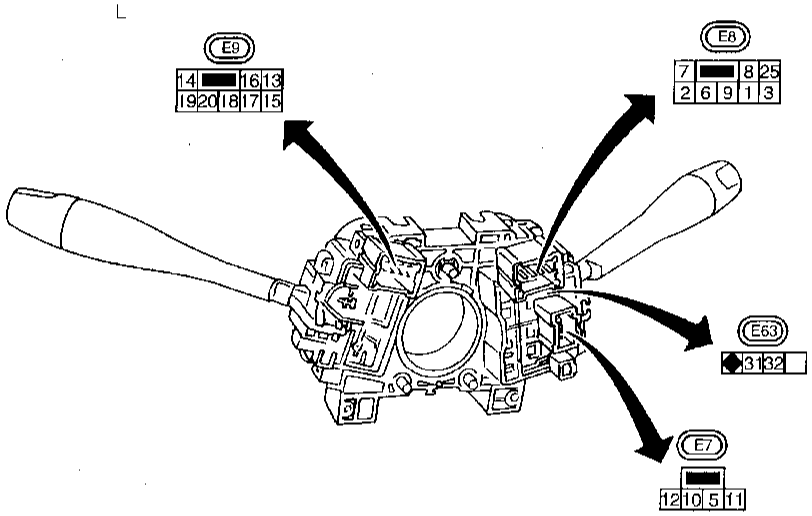
EARTH	CONNECT TO	CONN. NO.	CELL CODE
E13/E41	HEADLAMP LH	E29	EL-H/LAMP EL-THEFT
	HEADLAMP RH	E38	EL-H/LAMP EL-DTRL EL-THEFT
	HOOD SWITCH	E31	EL-THEFT
	INHIBITOR RELAY	E56	EC-PNP/SW SC-START
	PARKING LAMP LH	E12	EL-TAIL/L
	PARKING LAMP RH	E40	EL-TAIL/L
	POWER SOCKET RELAY	E21	EL-CIGAR
	THEFT WARNING HORN RELAY	E23	EL-THEFT
	WASHER LEVEL SWITCH	E42	EL-WARN
E101	ALTERNATOR	E105 E106 E107	SC-CHARGE
	POWER STEERING OIL PRESSURE SWITCH	E110	EC-PST/SW
F20/F25	TCM (TRANSMISSION CONTROL MODULE)	M13	AT-MAIN
	DATA LINK CONNECTOR FOR GST	M9	EC-MIL/DL
	CONDENSER	F19	EC-IGN/SG
	DISTRIBUTOR (CAMSHAFT POSITION SENSOR)	F7	EC-CMPS
	DISTRIBUTOR (IGNITION)	F7	EC-IGN/SG
	ECM (ECCS CONTROL MODULE)	F24	EC-MAIN
	REAR HEATED OXYGEN SENSOR LH	F3	EC-RRO2LH EC-RO2H-L
	REAR HEATED OXYGEN SENSOR RH	F1	EC-RRO2RH EC-RO2H-R
	SHIELD WIRE (ABSOLUTE PRESSURE SENSOR)	E88	EC-AP/SEN
	SHIELD WIRE (CAMSHAFT POSITION SENSOR)	F7	EC-CMPS
	SHIELD WIRE [CRANKSHAFT POSITION SENSOR (OBD)]	F110	EC-CKPS
	SHIELD WIRE (EVAP CONTROL SYSTEM PRESSURE SENSOR)	B102	EC-PRE/SE
	SHIELD WIRE (FRONT HEATED OXYGEN SENSOR LH)	F4	EC-FRO2LH EC-FO2H-L EC-FUELLH
	SHIELD WIRE (FRONT HEATED OXYGEN SENSOR RH)	F2	EC-FRO2RH EC-FO2H-R EC-FUELRH
	SHIELD WIRE (KNOCK SENSOR)	F102	EC-KS
	SHIELD WIRE (MASS AIR FLOW SENSOR)	F10	EC-MAFS
	SHIELD WIRE (REAR HEATED OXYGEN SENSOR LH)	F3	EC-RRO2LH EC-RO2H-L
	SHIELD WIRE (REAR HEATED OXYGEN SENSOR RH)	F1	EC-RRO2RH EC-RO2H-R
	SHIELD WIRE (THROTTLE POSITION SENSOR)	F8	EC-TPS AT-TPS
B11/B22/D210	FUEL PUMP	B13	EC-F/PUMP
	FUEL TANK GAUGE UNIT	B12	EC-TFTS EL-METER EL-WARN
	FRONT DOOR SWITCH LH	B9	RS-SRS EL-CHIME EL-THEFT
	HEATED SEAT LH	B5	EL-HSEAT

EARTH	CONNECT TO	CONN. NO.	CELL CODE
B11/B22/D210	POWER SEAT LH	B7	EL-SEAT
	POWER SOCKET	B41	EL-CIGAR
	REAR COMBINATION LAMP LH (BACK-UP LAMP LH)	B26	EL-BACK/L
	REAR COMBINATION LAMP LH (REAR TURN SIGNAL LAMP LH)	B26	EL-TURN
	REAR COMBINATION LAMP LH (STOP LAMP LH)	B26	EL-STOP/L
	REAR COMBINATION LAMP LH (TAIL LAMP LH)	B26	EL-TAIL/L
	REAR WIPER AMP.	B14	EL-WIP/R
	SEAT BELT BUCKLE SWITCH	B6	EL-WARN EL-CHIME
	SPEAKER AMP.	B20	EL-AUDIO
	REAR SPEAKER AMP.	B46	EL-AUDIO
	BACK DOOR KEY CYLINDER SWITCH	D201	EL-THEFT
	BACK DOOR SWITCH	D208	EL-INT/L EL-MULTI EL-THEFT
	GLASS HATCH SWITCH	D209	EL-WIP/R EL-THEFT
	HIGH-MOUNTED STOP LAMP	D302	EL-STOP/L
	LICENSE PLATE LAMP (With spare tire carrier)	D203	EL-TAIL/L
	LICENSE PLATE LAMP LH (Without spare tire carrier)	D202	EL-TAIL/L
	LICENSE PLATE LAMP RH (Without spare tire carrier)	D211	EL-TAIL/L
	LUGGAGE ROOM LAMP	D103	EL-INT/L
	REAR DOOR LOCK ACTUATOR LH	D54	EL-D/LOCK EL-MULTI EL-THEFT
	REAR WIPER MOTOR	D212	EL-WIP/R
B55/B75	A/T DEVICE (PARK POSITION SWITCH and OVERDRIVE CONTROL SWITCH)	B59	AT-SHIFT AT-NONDTC
	ASHTRAY (ILLUMINATION)	B60 B76	EL-ILL
	HEATED SEAT RH	B56	EL-HSEAT
	NEUTRAL POSITION SWITCH	B203	EC-PNP/SW
	REAR COMBINATION LAMP RH (BACK-UP LAMP RH)	B74	EL-BACK/L
	REAR COMBINATION LAMP RH (REAR TURN SIGNAL LAMP RH)	B74	EL-TURN
	REAR COMBINATION LAMP RH (STOP LAMP RH)	B74	EL-STOP/L
	REAR COMBINATION LAMP RH (TAIL LAMP RH)	B74	EL-TAIL/L
	POWER SEAT RH	B57	EL-SEAT
	TIRE CARRIER SWITCH	B301	EL-WARN
	REAR DOOR LOCK ACTUATOR RH	D74	EL-D/LOCK EL-MULTI EL-THEFT
D305	REAR WINDOW DEFOGGER	D304	EL-DEF

Check

NAEL0009





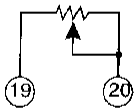
LIGHTING SWITCH

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

WIPER SWITCH

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

VARIABLE INTERMITTENT WIPER VOLUME



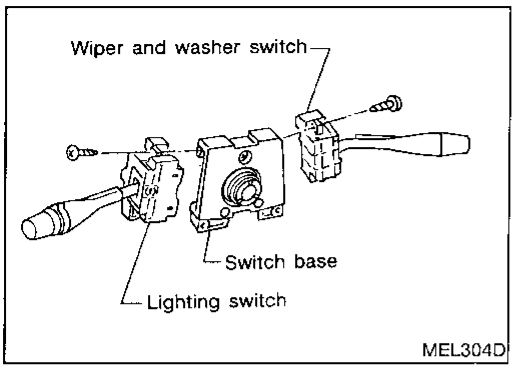
FOG LAMP SWITCH

	OFF	ON
31		○
32		○

	L	N	R
1	○		○
2			○
3	○		

TURN SIGNAL SWITCH

MEL837G

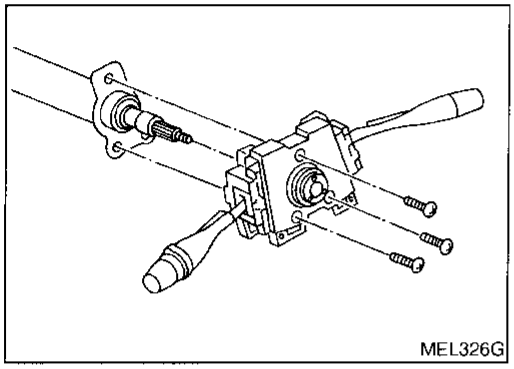


Replacement

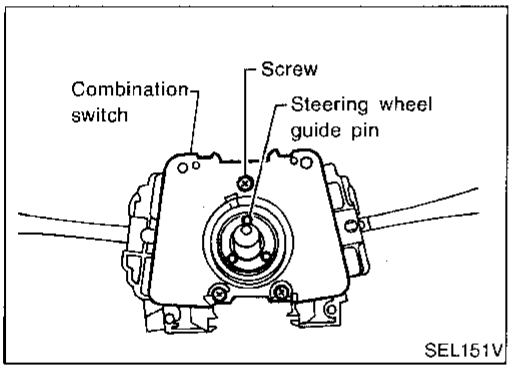
NAEL0010

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

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



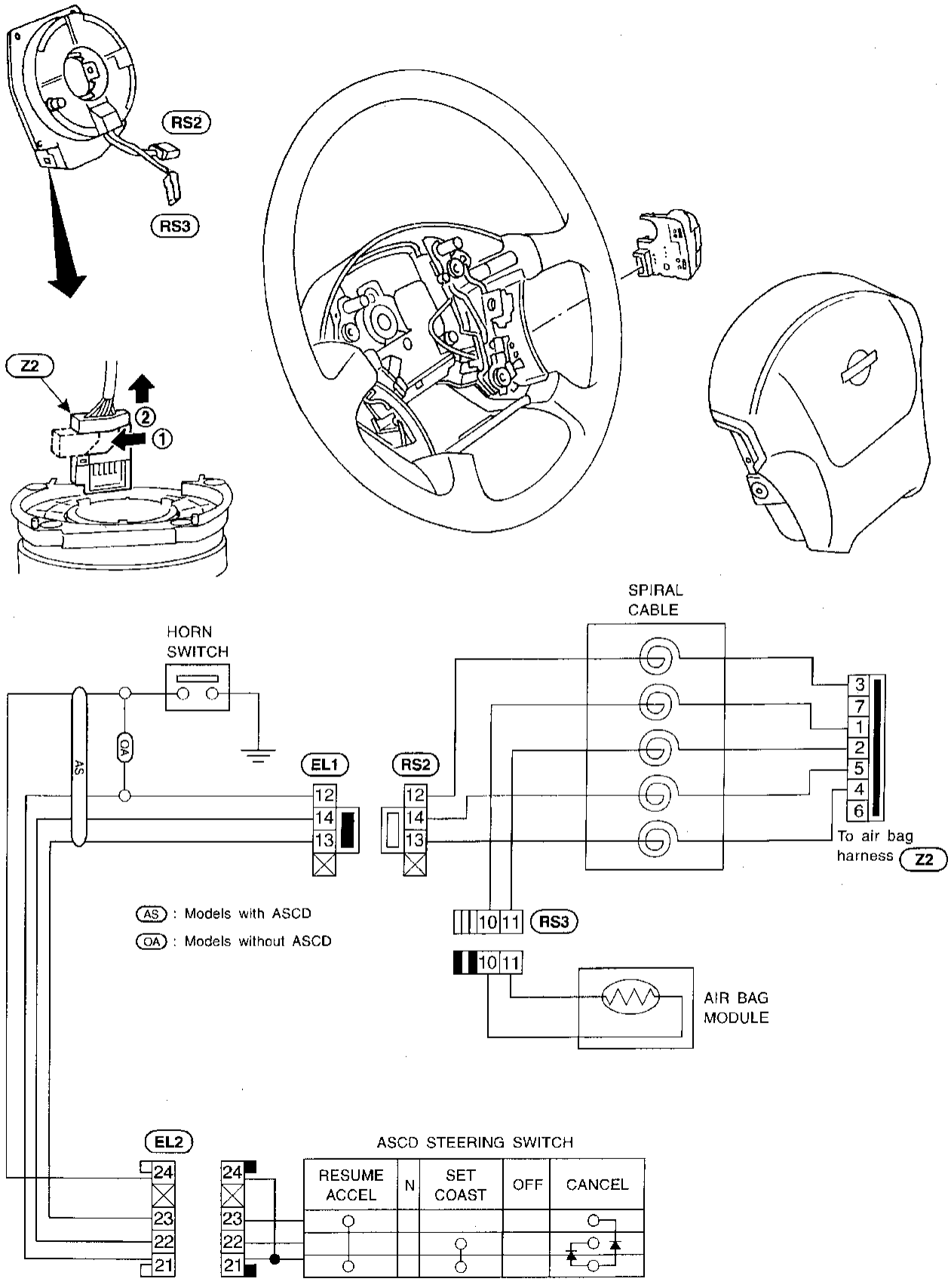
- To remove combination switch base, remove base attaching screw.



- Before installing the steering wheel, align the steering wheel guide pins with the screws which secure the combination switch as shown in the left figure.

Check

NAEL0011



MEL779H

System Description

NAEL0012

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. 59, located in the fuse and fusible link box), and
- to lighting switch terminal 8
- through 15A fuse (No. 60, located in the fuse and fusible link box).

LOW BEAM OPERATION

NAEL0012S01

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

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

Terminal 3 of each headlamp supplies ground through body grounds E13 and E41.
With power and ground supplied, the headlamp(s) will illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

NAEL0012S02

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

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

Ground is supplied to terminal 19 of the combination meter through body grounds M4 and M77.
Terminal 3 of each headlamp supplies ground through body grounds E13 and E41.
With power and ground supplied, the high beams and the high beam indicator illuminate.

THEFT WARNING SYSTEM

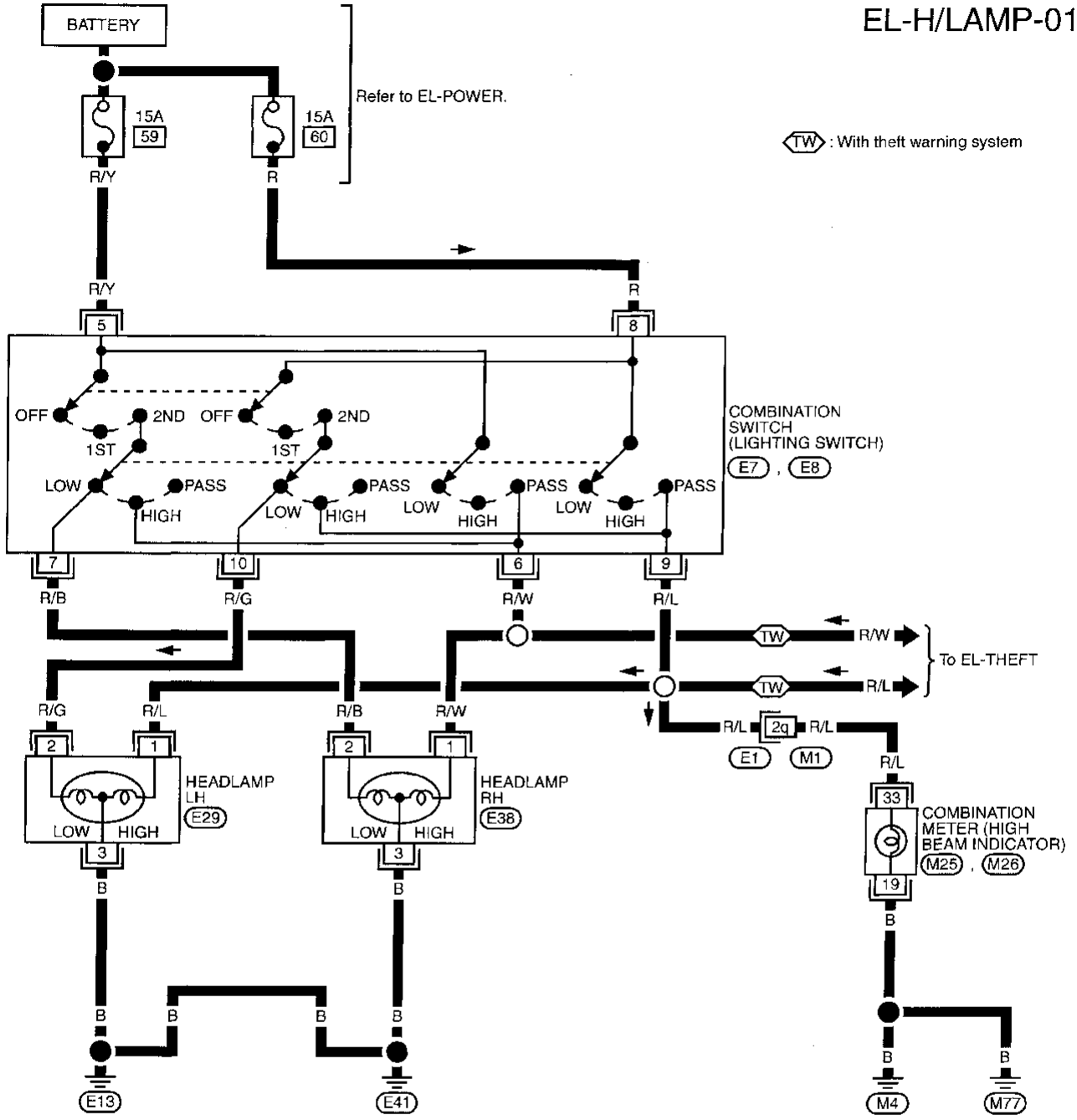
NAEL0012S03

The theft warning system will flash the high beams if the system is triggered. Refer to "THEFT WARNING SYSTEM" (EL-197).

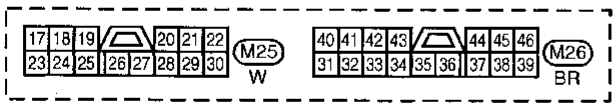
Wiring Diagram — H/LAMP —

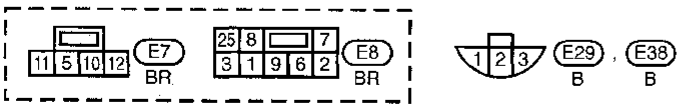
NAEL0013

EL-H/LAMP-01



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



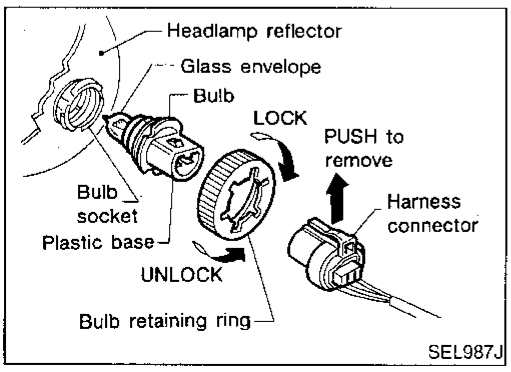


MEL556H

Trouble Diagnoses

NAEL0014

Symptom	Possible cause	Repair order
LH headlamps do not operate.	1. Bulb 2. Grounds E13 and E41 3. 15A fuse 4. Lighting switch	1. Check bulb. 2. Check grounds E13 and E41. 3. Check 15A fuse (No. 60, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 8 of lighting switch. 4. Check lighting switch.
RH headlamps do not operate.	1. Bulb 2. Grounds E13 and E41 3. 15A fuse 4. Lighting switch	1. Check bulb. 2. Check grounds E13 and E41. 3. Check 15A fuse (No. 59, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of lighting switch. 4. Check lighting switch.
LH high beams do not operate, but LH low beam operates.	1. Bulbs 2. Open in LH high beams circuit 3. Lighting switch	1. Check bulbs. 2. Check R/L wire between lighting switch and LH headlamps for an open circuit. 3. Check lighting switch.
LH low beam does not operate, but LH high beam operates.	1. Bulb 2. Open in LH low beam circuit 3. Lighting switch	1. Check bulb. 2. Check R/G wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
RH high beams do not operate, but RH low beam operates.	1. Bulbs 2. Open in RH high beams circuit 3. Lighting switch	1. Check bulbs. 2. Check R/W wire between lighting switch and RH headlamps for an open circuit. 3. Check lighting switch.
RH low beam does not operate, but RH high beam operates.	1. Bulb 2. Open in RH low beam circuit 3. Lighting switch	1. Check bulb. 2. Check R/B wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
High beam indicator does not work.	1. Bulb 2. Grounds M4 and M77 3. Open in high beam circuit	1. Check bulb in combination meter. 2. Check grounds M4 and M77. 3. Check R/L wire between lighting switch and combination meter for an open circuit.



Bulb Replacement

NAEL0015

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

- **Grasp only the plastic base when handling the bulb. Never touch the glass envelope.**

1. Disconnect the battery cable.
2. Turn the bulb retaining ring counterclockwise until it is free from the headlamp reflector, and then remove it.
3. Disconnect the harness connector from the back side of the bulb.

4. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
5. Install in the reverse order of removal.

CAUTION:

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

Aiming Adjustment

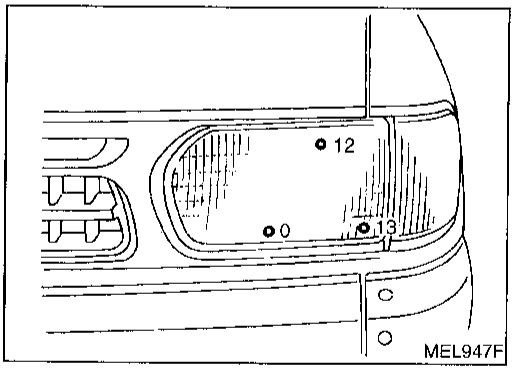
NAEL0016

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

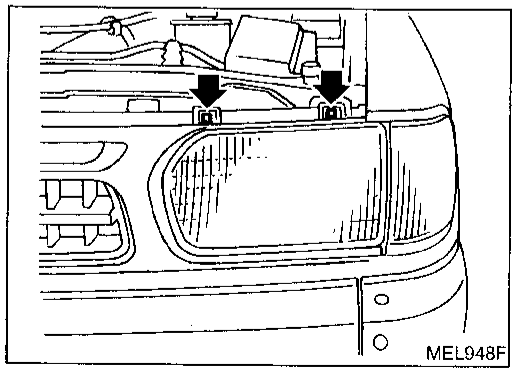
If any aimer is not available, aiming adjustment can be done as follows:

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

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



MEL947F


MEL948F

AIMER ADJUSTMENT MARK

NAEL0016S01

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

Adjustment value for mechanical aimer

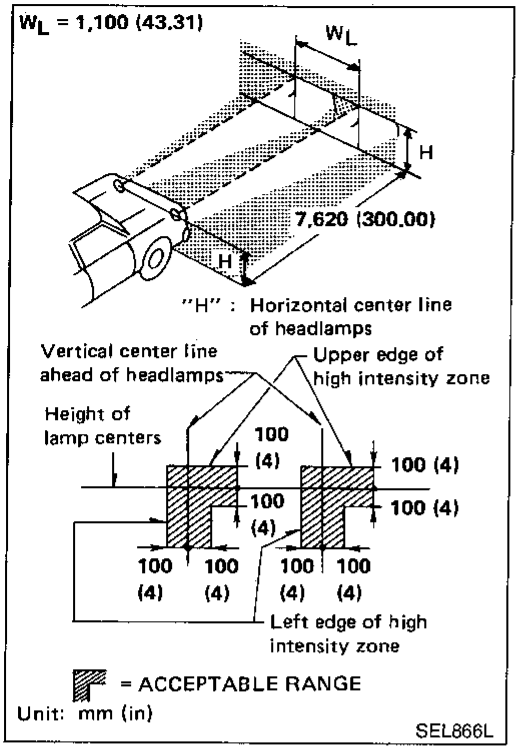
	Mechanical aimer level
Horizontal side	–4 to 4
Vertical side	–4 to 4

LOW BEAM

NAEL0016S02

1. Turn headlamp low beam on.
2. Use adjusting screws to perform aiming adjustment.

- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**



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

"H": Horizontal center line of headlamps
"W_L": Distance between each headlamp center

System Description

NAEL0017

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

Power is supplied at all times

- through 15A fuse (No. 60, located in the fuse and fusible link box)
- to daytime light control unit terminal 3 and
- to lighting switch terminal 8.

Power is also supplied at all times

- through 15A fuse (No. 59, located in the fuse and fusible link box)
- to daytime light control unit terminal 2 and
- to lighting switch terminal 5.

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

- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to 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 E13 and E41.

HEADLAMP OPERATION

NAEL0017S01

Low Beam Operation

NAEL0017S0101

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

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

Ground is supplied to RH headlamp terminal 3 through body grounds E13 and E41.
Also, when the lighting switch is turned to the 2ND position and placed in LOW ("B") position, power is supplied

- 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 E13 and E41.

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

High Beam Operation/Flash-to-pass Operation

NAEL0017S0102

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

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

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

- from lighting switch terminal 9
- to daytime light control terminal 5
- to combination meter terminal 33 for the high beam indicator
- through daytime light control terminal 6
- to terminal 1 of LH headlamp.

Ground is supplied in the same manner as low beam operation.
Ground is supplied to terminal 19 of the combination meter through body grounds M4 and M77.
With power and ground supplied, the high beam headlamps and HI BEAM indicator illuminate.

DAYTIME LIGHT OPERATION

NAEL0017S02

With the engine running, 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 terminal 1 of LH headlamp
- through terminal 3 of LH headlamp
- to daytime light control unit terminal 7
- through daytime light control unit terminal 8
- to terminal 1 of RH headlamp.

Ground is supplied to terminal 3 of RH headlamp through body grounds E13 and E41.
Because the high beam headlamps are now wired in series, they operate at half illumination.

OPERATION

NAEL0017S03

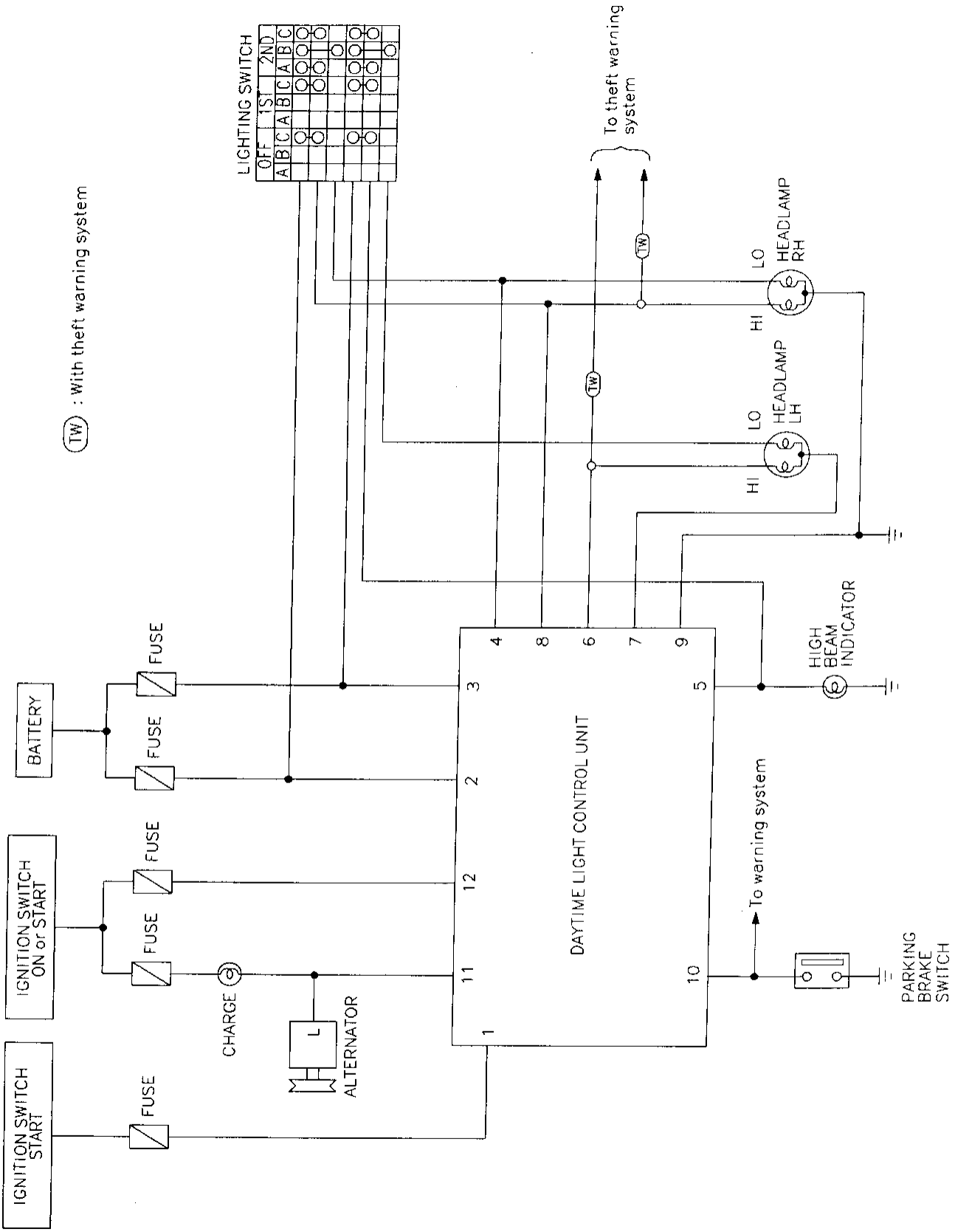
After starting the engine with the lighting switch in the "OFF" or "1ST" position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

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

A: "HIGH BEAM" position
B: "LOW BEAM" position
C: "FLASH TO PASS" position
O : Lamp "ON"
X : Lamp "OFF"
△ : Lamp dims. (Added functions)
*: When starting the engine with the parking brake released, the daytime light will come ON.
When starting the engine with the parking brake pulled, the daytime light won't come ON.

Schematic

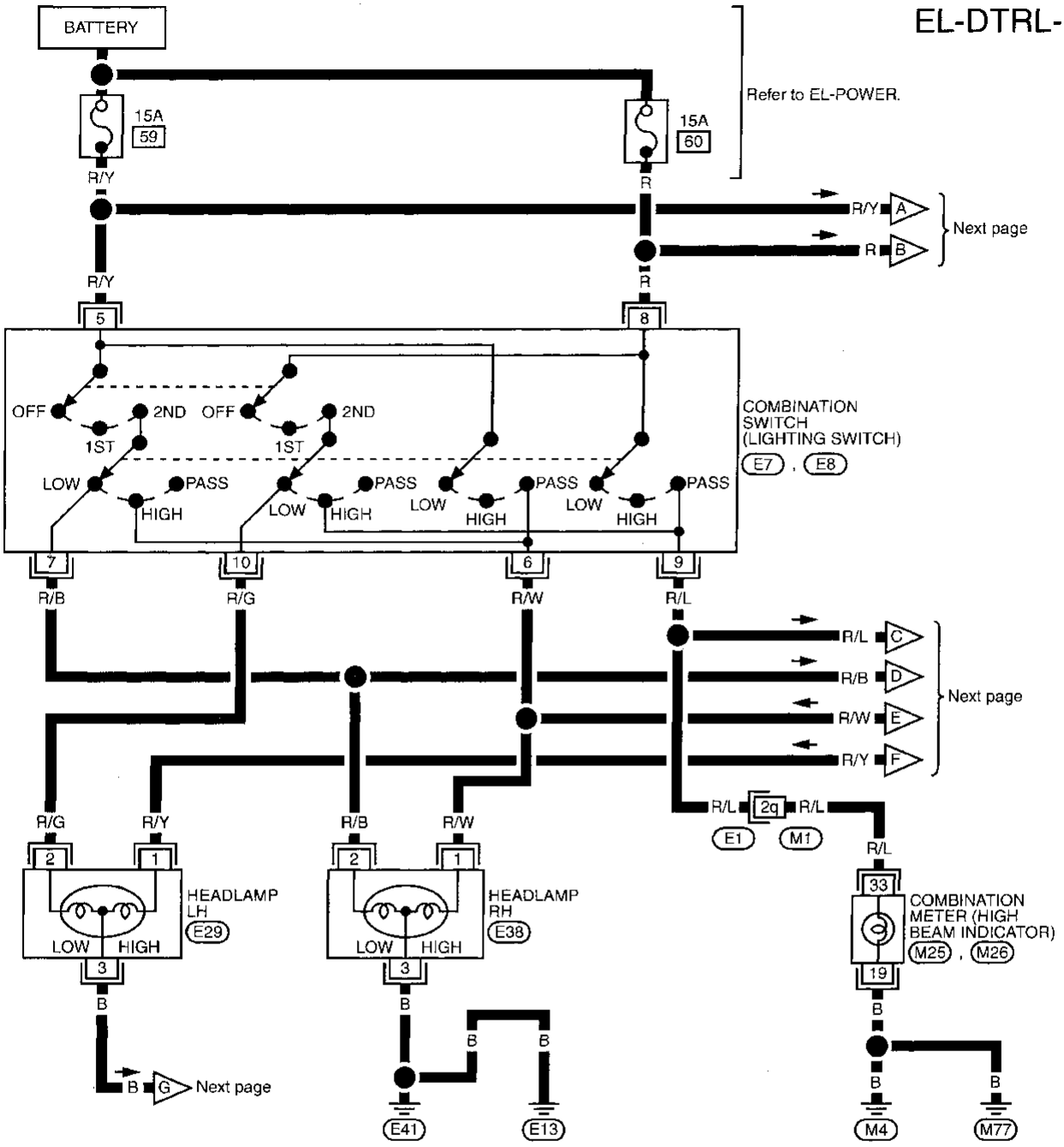
NAEL0019

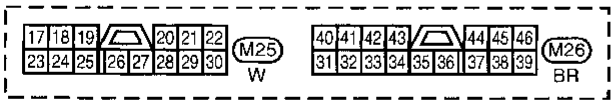


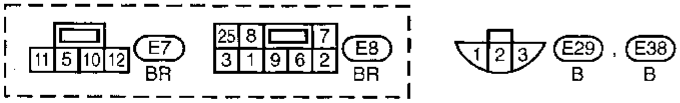
MEL557H

Wiring Diagram — DTRL —

NAEL0020







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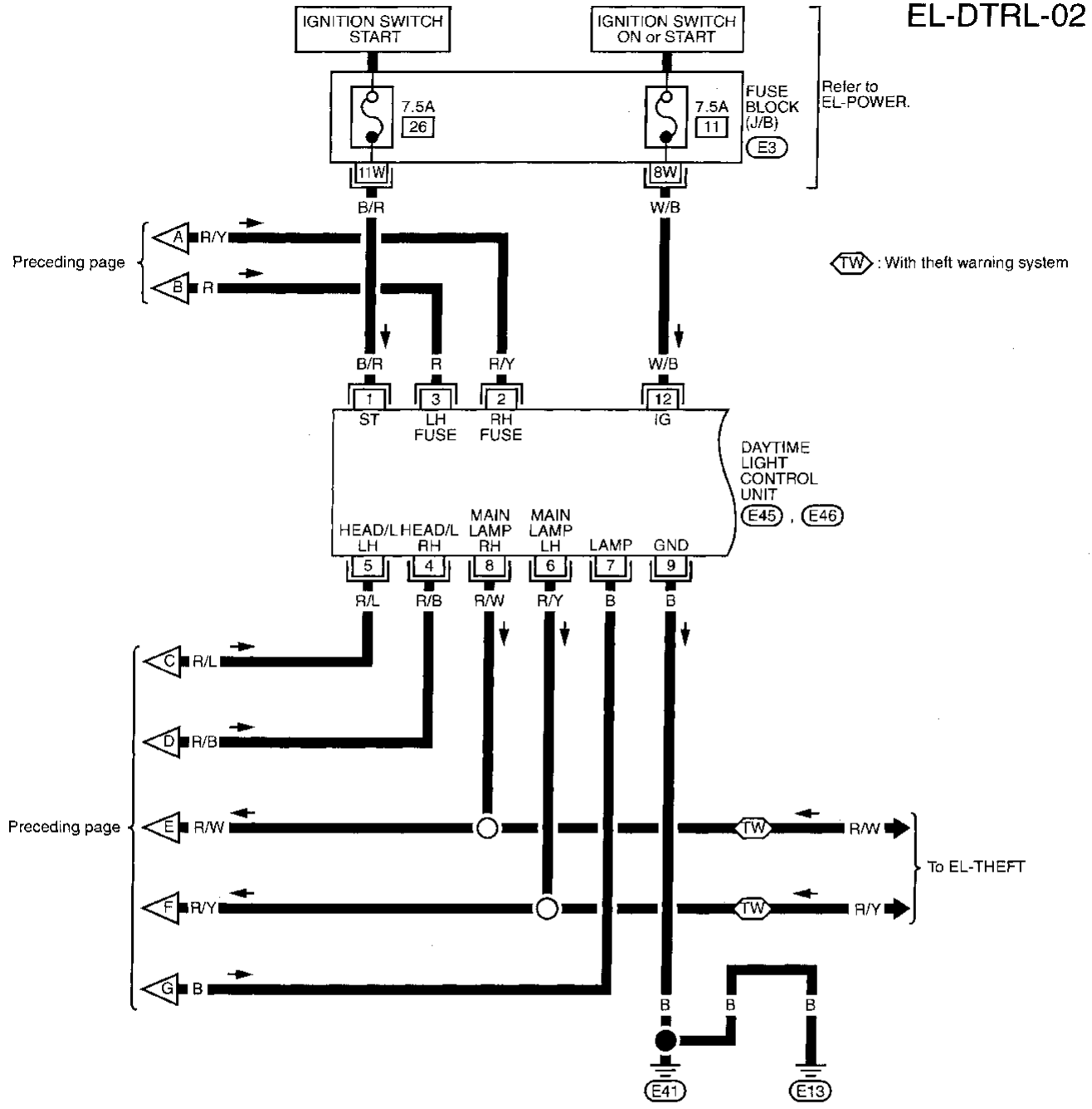
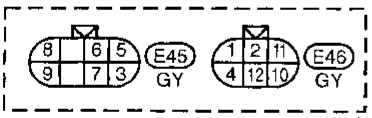
E1 , M1

MEL558H





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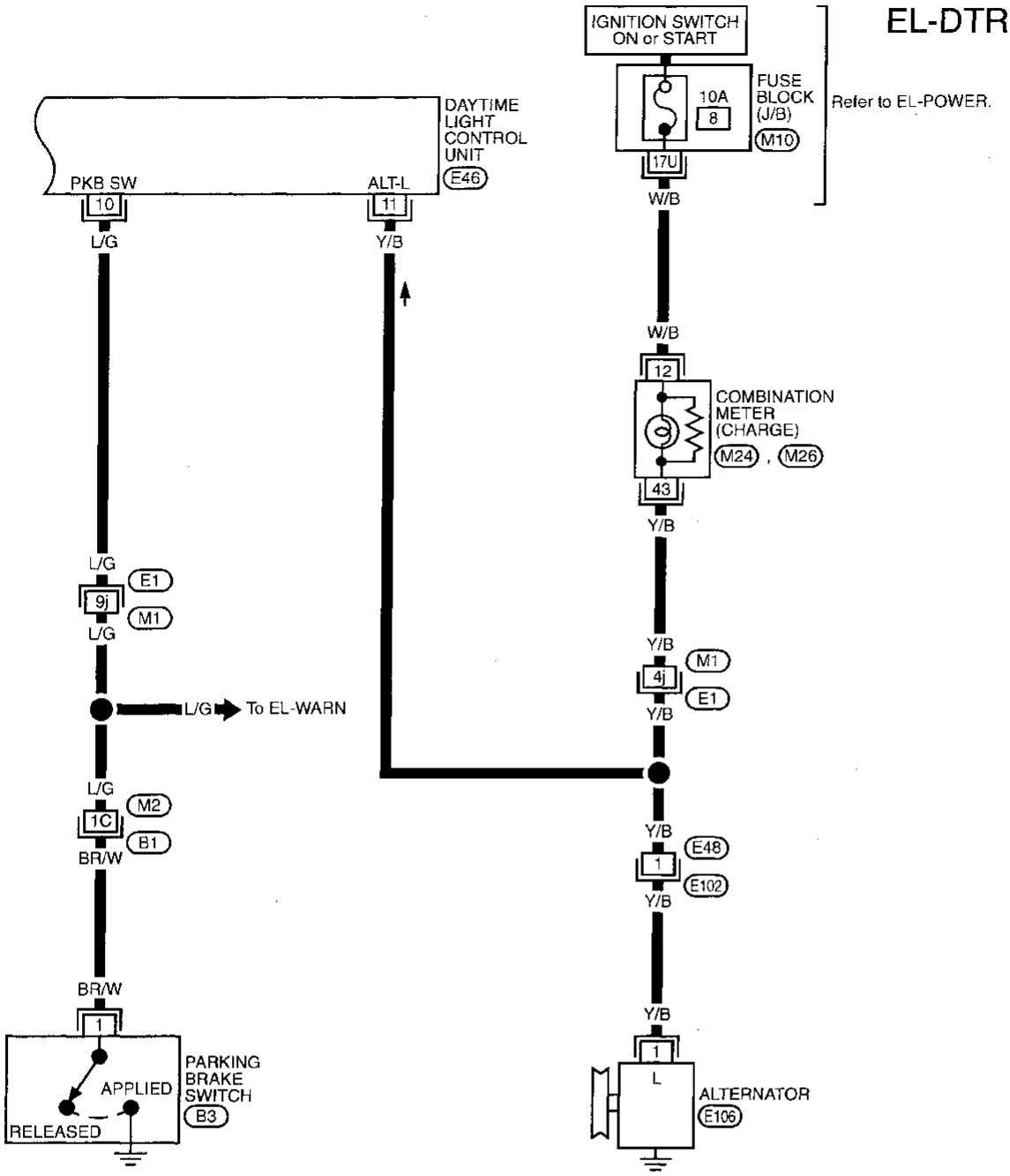
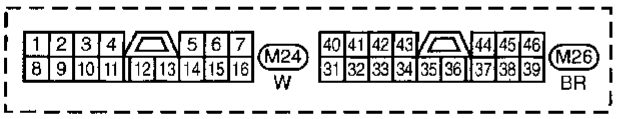
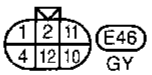
E3

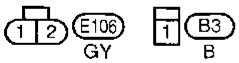
MEL559H

EL-DTRL-03









Refer to last page (Foldout page).
E1 , M1
M2 , B1
M10

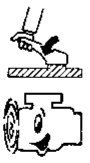
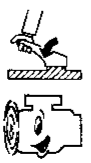
MEL560H

Trouble Diagnoses

NAEL0021

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

NAEL0021S01

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

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

Bulb Replacement

NAEL0022

Refer to "HEADLAMP (FOR USA)" (EL-23).

Aiming Adjustment

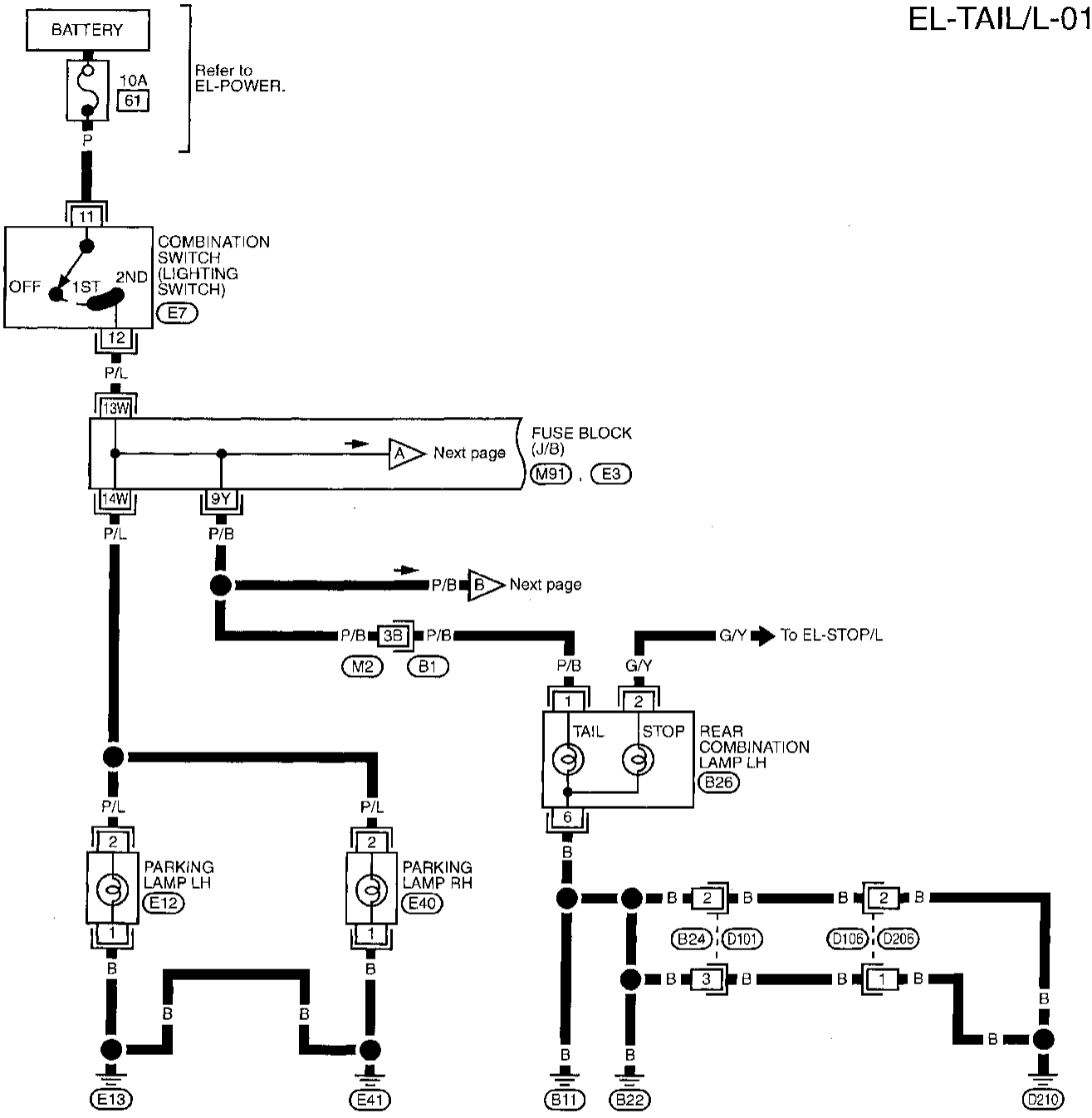
NAEL0023

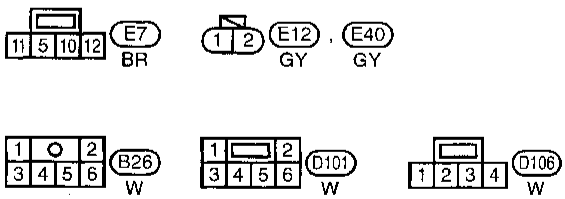
Refer to "HEADLAMP (FOR USA)" (EL-24).

Wiring Diagram — TAIL/L —

NAEL0024

EL-TAIL/L-01





Refer to last page (Foldout page).

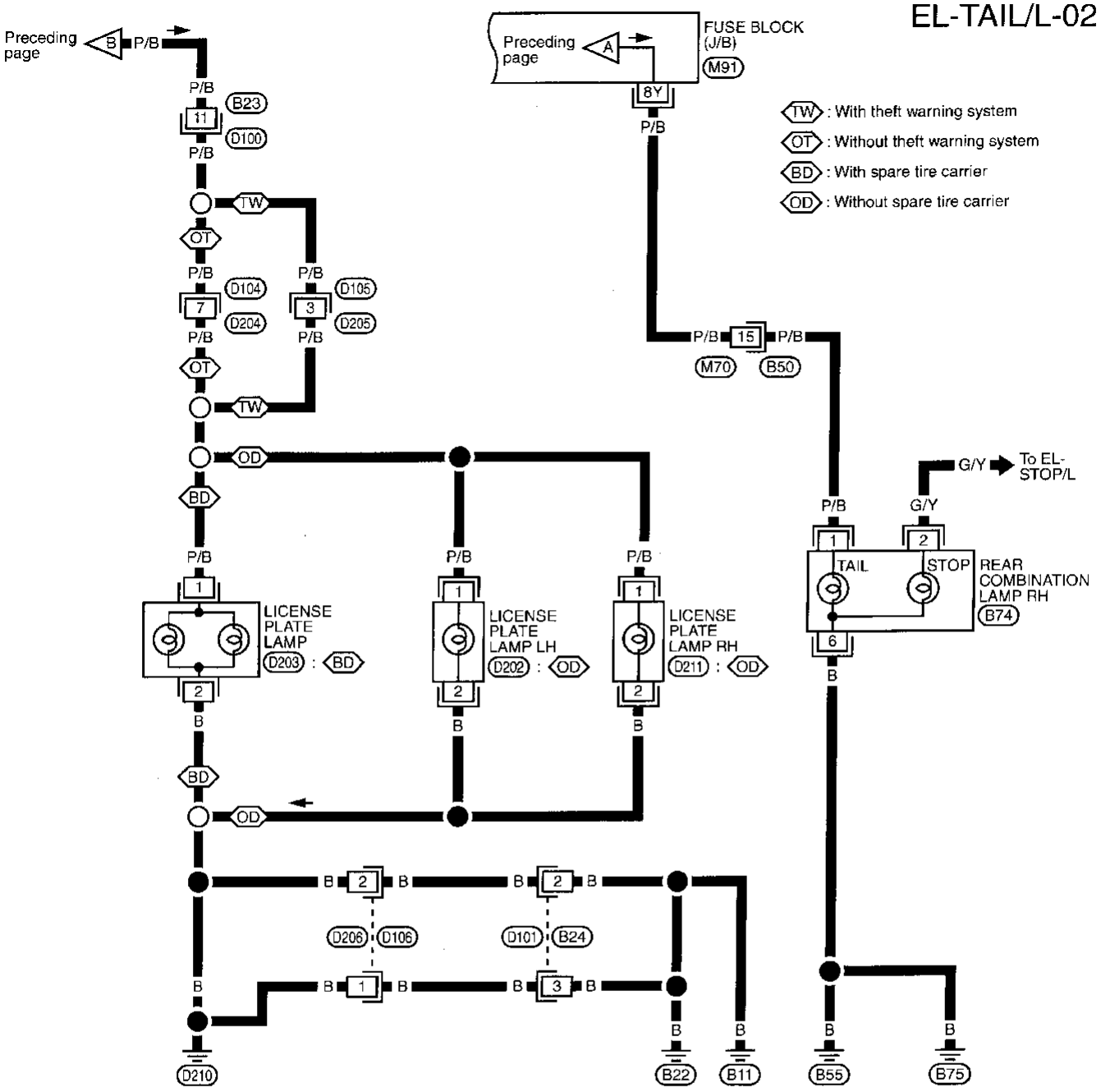
M2 , B1

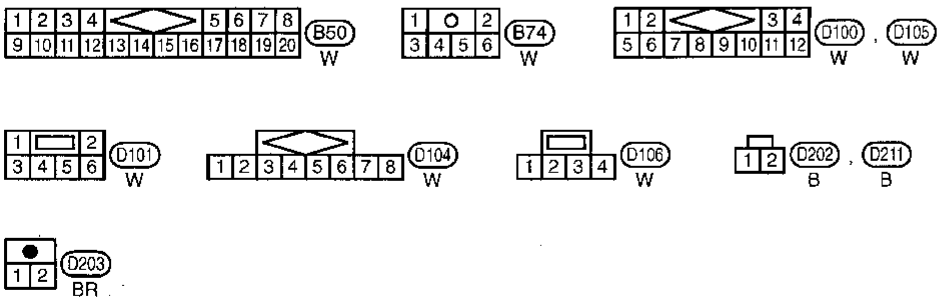
M91

E3

MEL562H

EL-TAIL/L-02





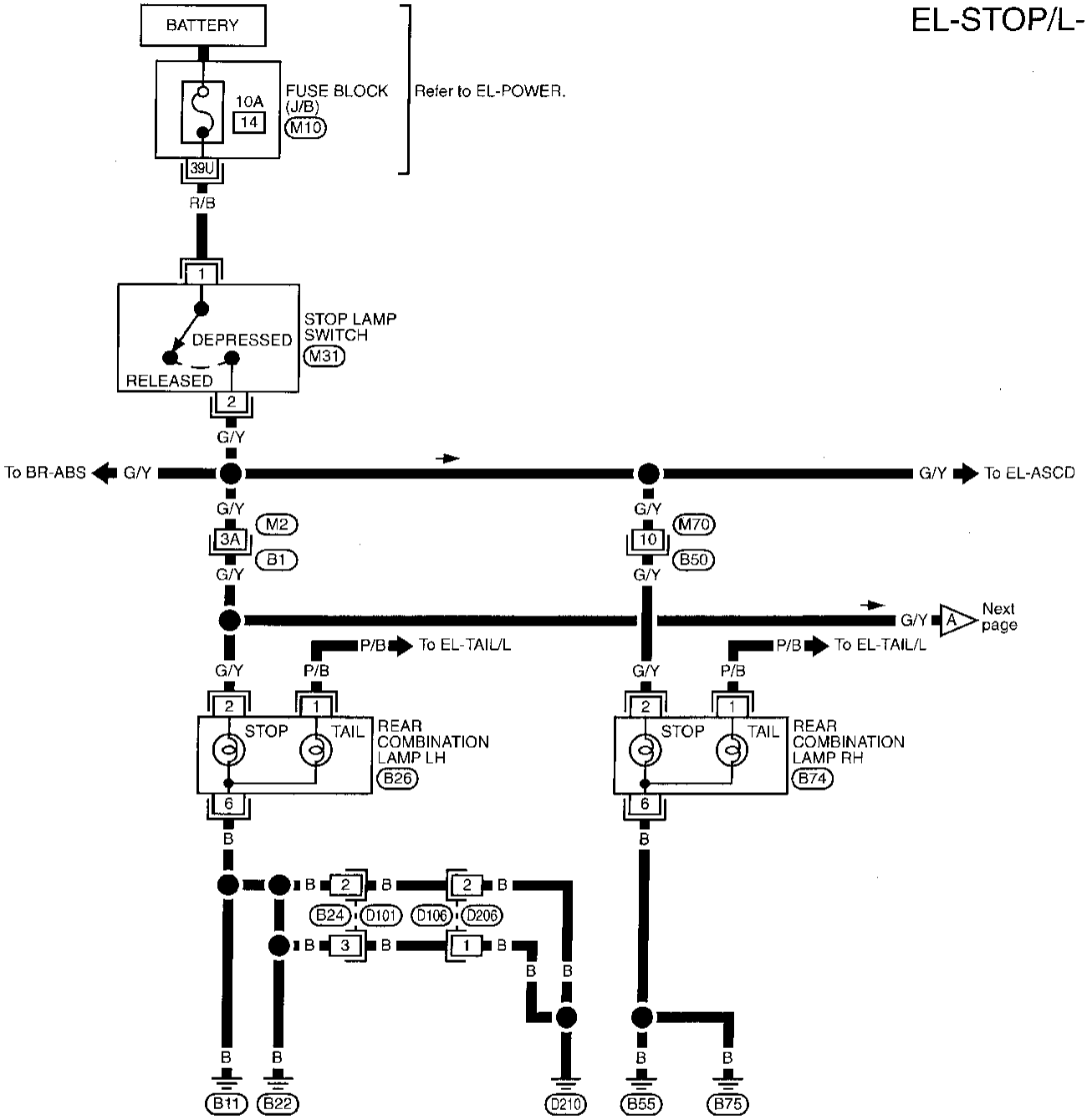
Refer to last page (Foldout page).
M91

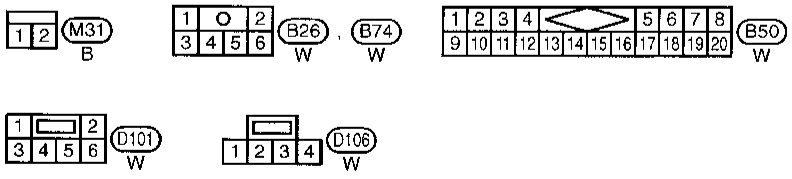
MEL563H

Wiring Diagram — STOP/L —

NAEL0025

EL-STOP/L-01





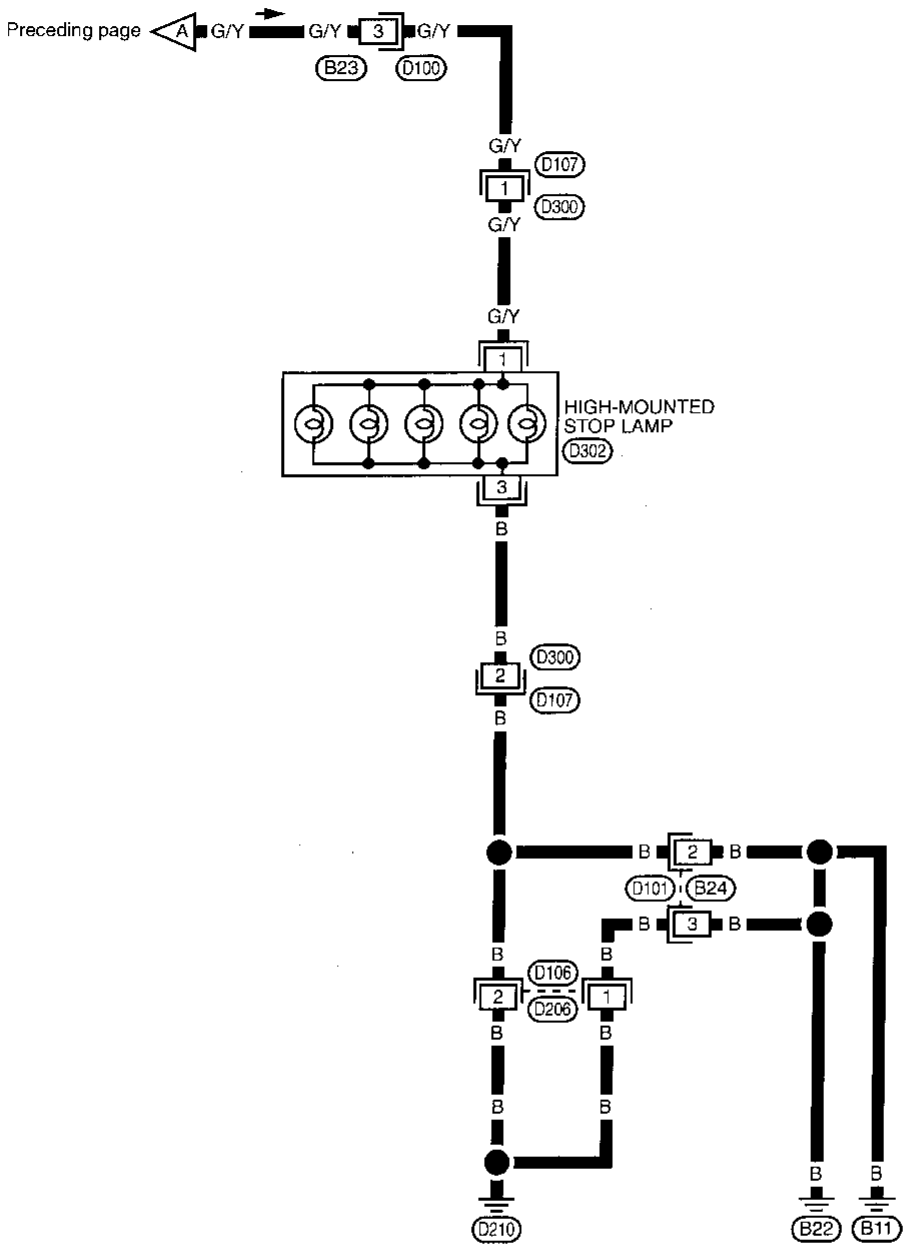
Refer to last page (Foldout page).

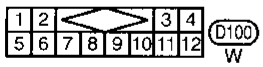
M2 , B1

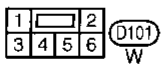
M10

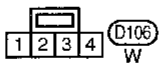
MEL565H

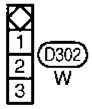
EL-STOP/L-02









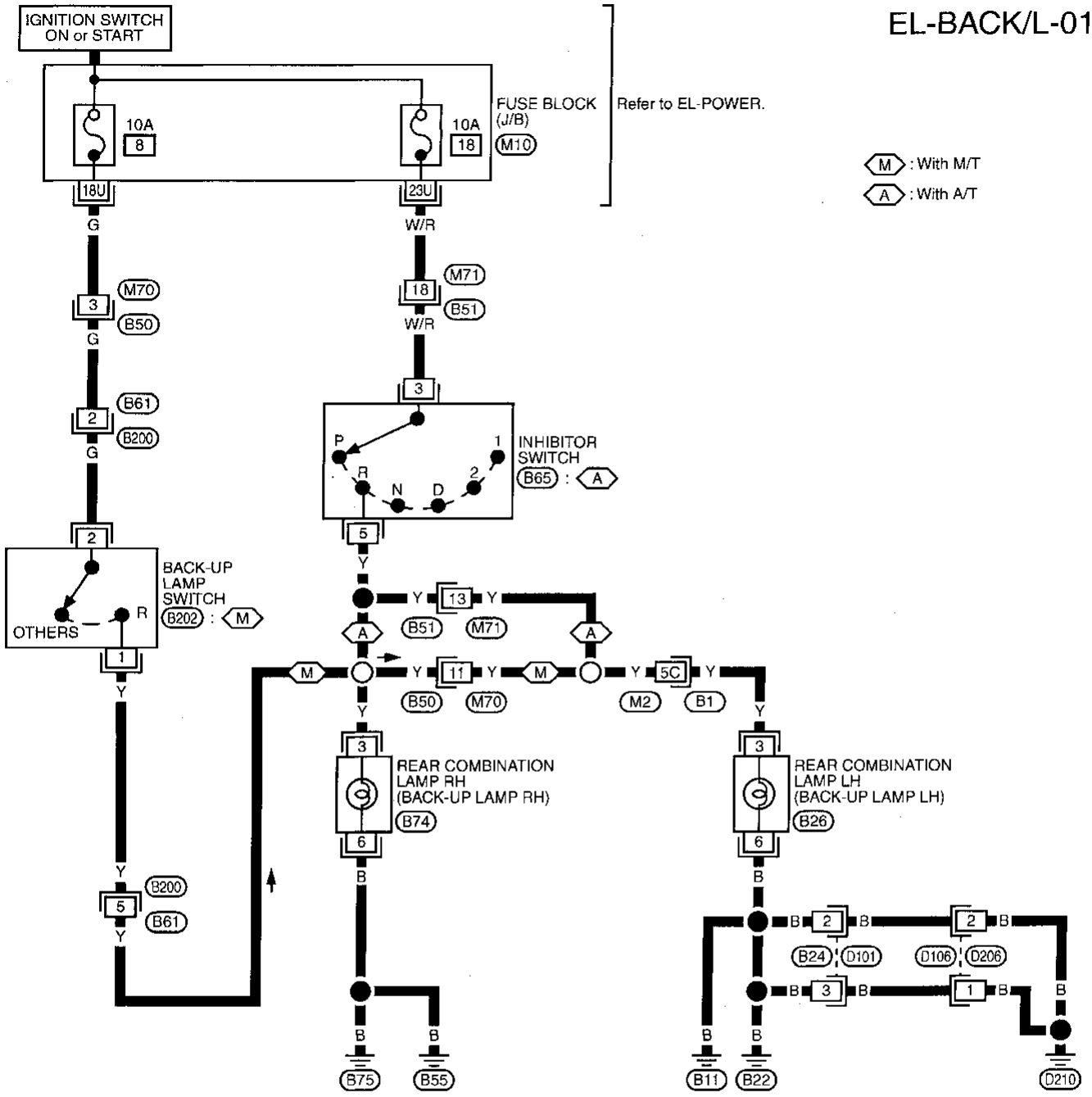


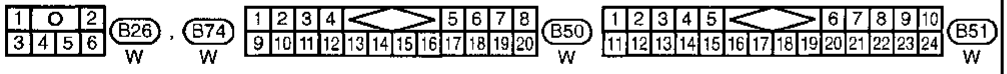
MEL550F

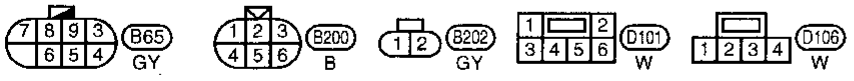
Wiring Diagram — BACK/L —

NAEL0026

EL-BACK/L-01







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

MEL566H

System Description

NAEL0027

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

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

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

- through 15A fuse (No. 59, located in the fuse and fusible link box)
- to lighting switch terminal 5
- through terminal 7 of the lighting switch
- to fog lamp relay terminal 1.

FOG LAMP OPERATION

NAEL0027S01

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

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

The fog lamp relay is energized and power is supplied

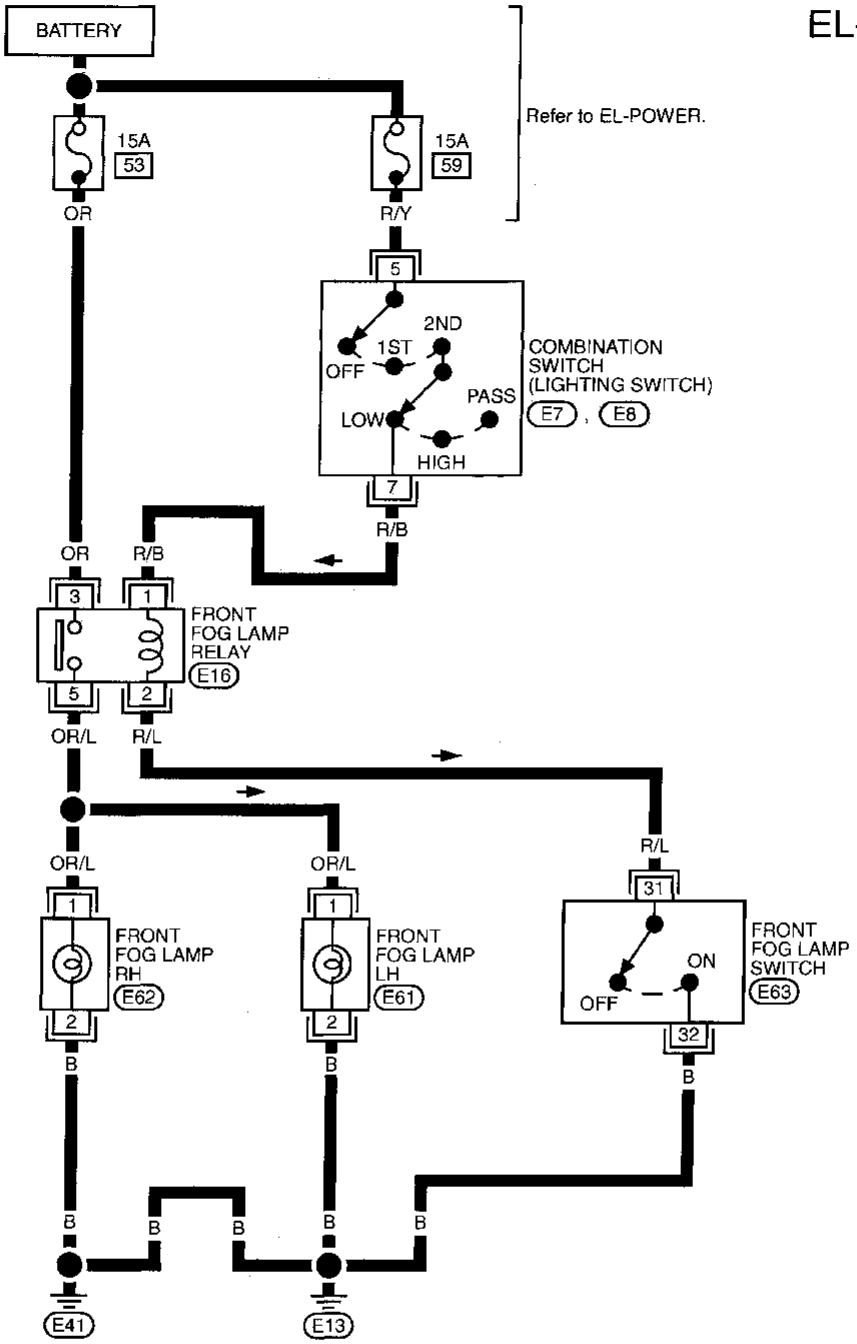
- from fog lamp relay terminal 5
- to terminal 1 of each fog lamp.

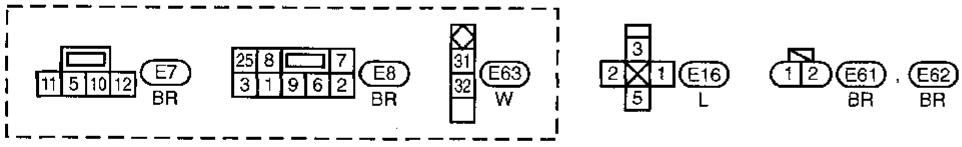
Ground is supplied to terminal 2 of each fog lamp through body grounds E13 and E41.
With power and ground supplied, the fog lamps illuminate.

Wiring Diagram — F/FOG —

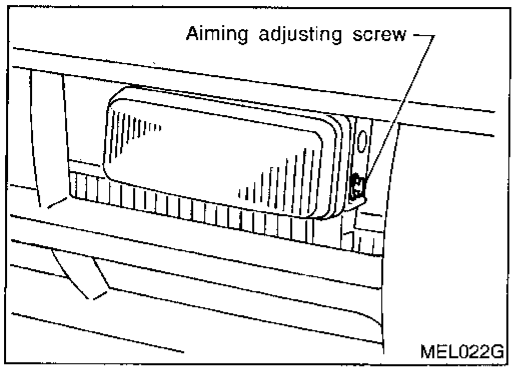
NAEL0028

EL-F/FOG-01





MEL364I



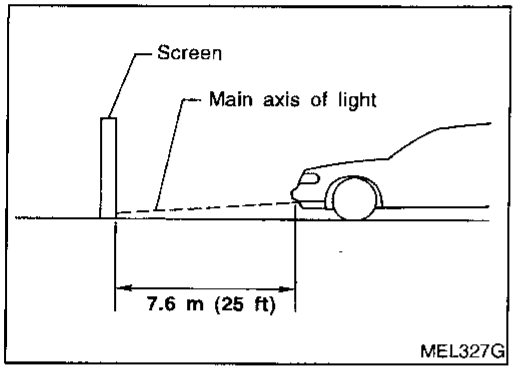
Aiming Adjustment

NAEL0029

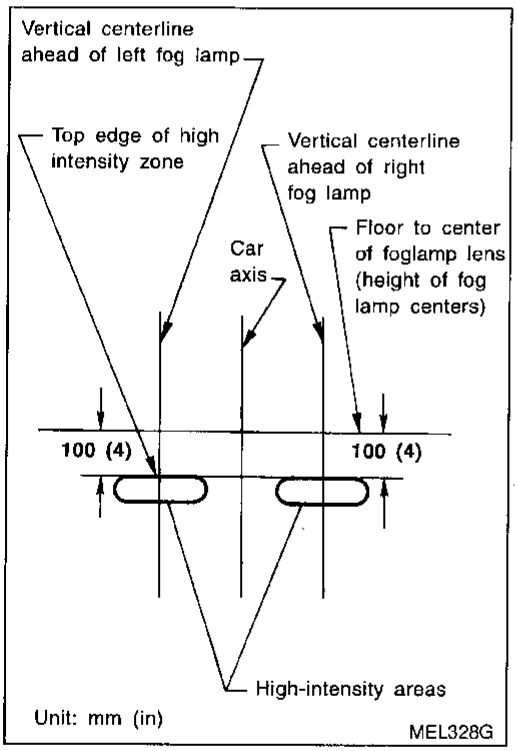
Before performing aiming adjustment, make sure of the following.

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

Loosen the front fog lamp bolts and adjust the vertical aiming by moving the front fog lamp assembly.



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



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

System Description

NAEL0030

TURN SIGNAL OPERATION

NAEL0030S01

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

- through 7.5A fuse [No. 12, located in the fuse block (J/B)]
- to hazard switch terminal 2
- through terminal 1 of the hazard switch
- to combination flasher unit terminal 1
- through terminal 3 of the combination flasher unit
- to turn signal switch terminal 1.

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

LH Turn

NAEL0030S0101

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 2
- combination meter terminal 34
- rear combination lamp LH terminal 5.

Ground is supplied to the front turn signal lamp LH terminal 1 through body grounds E13 and E41.
Ground is supplied to the rear combination lamp LH terminal 6 through body grounds B11, B22 and D210.
Ground is supplied to combination meter terminal 19 through body grounds M4 and M77.
With power and ground supplied, the combination flasher unit controls the flashing of the LH turn signal lamps.

RH Turn

NAEL0030S0102

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 2
- combination meter terminal 32
- rear combination lamp RH terminal 5.

Ground is supplied to the front turn signal lamp RH terminal 1 through body grounds E13 and E41.
Ground is supplied to the rear combination lamp RH terminal 6 through body grounds B55 and B75.
Ground is supplied to combination meter terminal 19 through body grounds M4 and M77.
With power and ground supplied, the combination flasher unit controls the flashing of the RH turn signal lamps.

HAZARD LAMP OPERATION

NAEL0030S02

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

- 15A fuse [No. 20, located in the fuse block (J/B)].

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

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

Ground is supplied to combination flasher unit terminal 2 through body grounds M4 and M66.
Power is supplied through terminal 5 of the hazard switch to

- front turn signal lamp LH terminal 2
- combination meter terminal 34
- rear combination lamp LH terminal 5.

Power is supplied through terminal 6 of the hazard switch to

- front turn signal lamp RH terminal 2
- combination meter terminal 32
- rear combination lamp RH terminal 5.

Ground is supplied to terminal 1 of each front turn signal lamp through body grounds E13 and E41.
Ground is supplied to terminal 6 of the rear combination lamp LH through body grounds B11, B22 and D210.
Ground is supplied to terminal 6 of the rear combination lamp RH through body grounds B55 and B75.
Ground is supplied to combination meter terminal 19 through body grounds M4 and M77.
With power and ground supplied, the combination flasher unit controls the flashing of the hazard warning lamps.

MULTI-REMOTE CONTROL SYSTEM OPERATION

NAEL0030S03

Power is supplied at all times

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

Ground is supplied to multi-remote control relay terminal 2, when the multi-remote control system is triggered through the smart entrance control unit.
Refer to "MULTI-REMOTE CONTROL SYSTEM", EL-179.
The multi-remote control relay is energized.
Power is supplied through terminal 7 of the multi-remote control relay

- to front turn signal lamp LH terminal 2
- to combination meter terminal 34
- to rear combination lamp LH terminal 5.

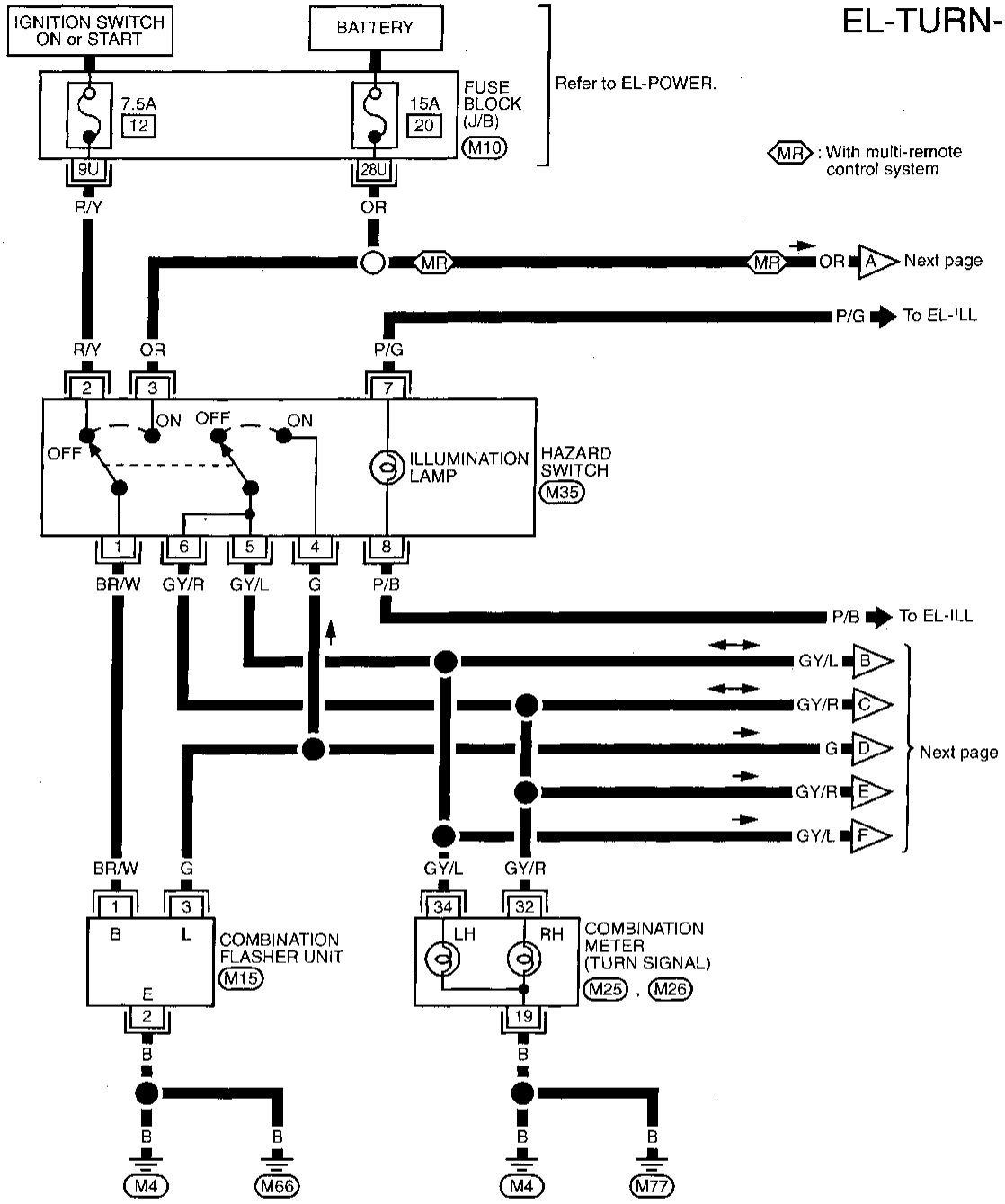
Power is supplied through terminal 5 of the multi-remote control relay

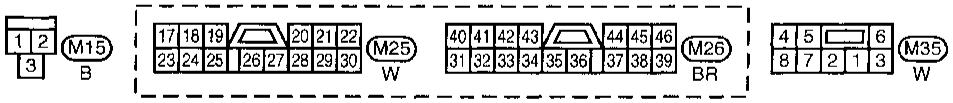
- to front turn signal lamp RH terminal 2
- to combination meter terminal 32
- to rear combination lamp RH terminal 5.

Ground is supplied to terminal 1 of each front turn signal lamp through body grounds E13 and E41.
Ground is supplied to terminal 6 of the rear combination lamp LH through body grounds B11, B22 and D210.
Ground is supplied to terminal 6 of the rear combination lamp RH through body grounds B55 and B75.
Ground is supplied to combination meter terminal 19 through body grounds M4 and M77.
With power and ground supplied, the smart entrance control unit controls the flashing of the hazard warning lamps.

Wiring Diagram — TURN —

NAEL0032

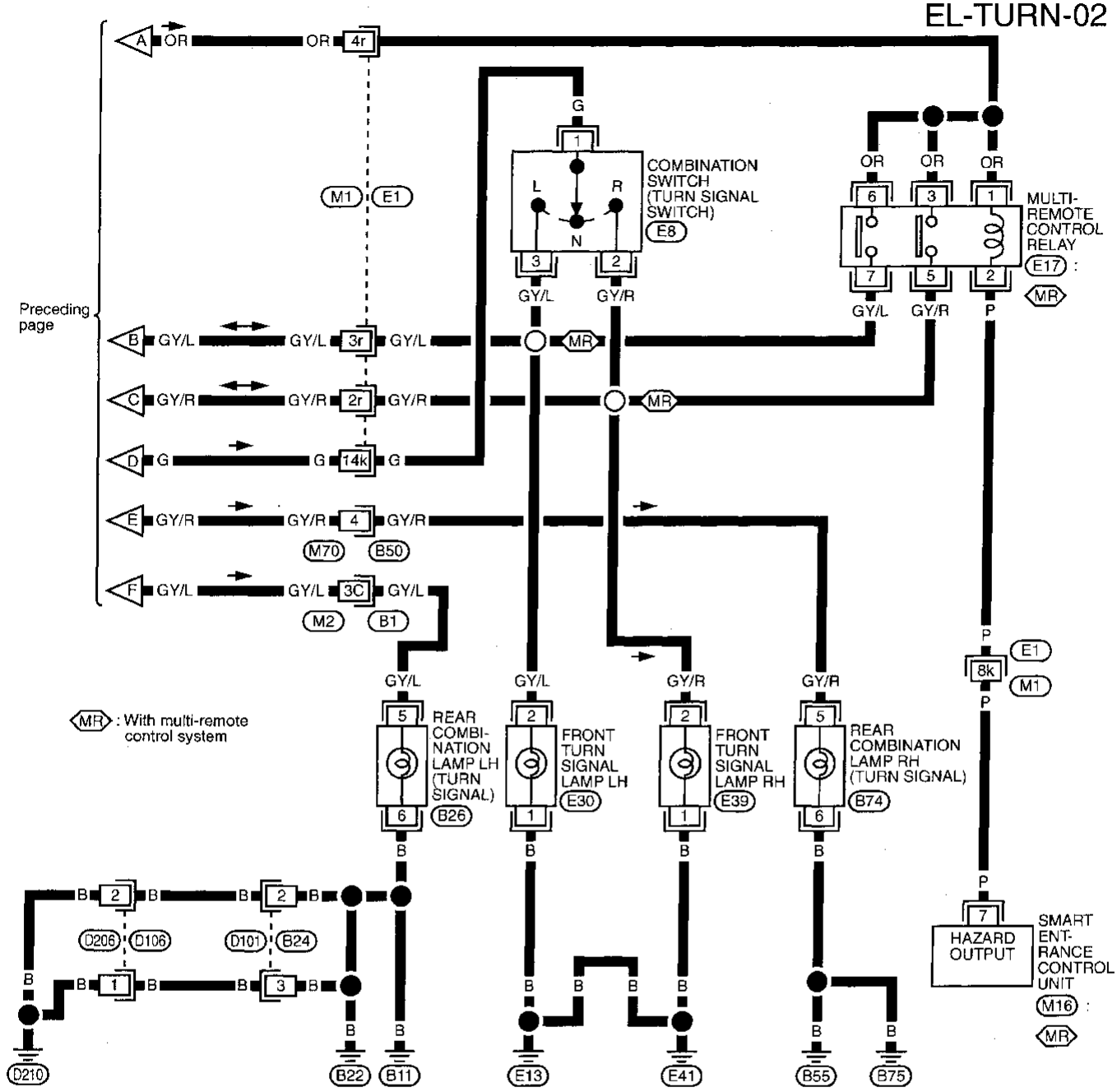


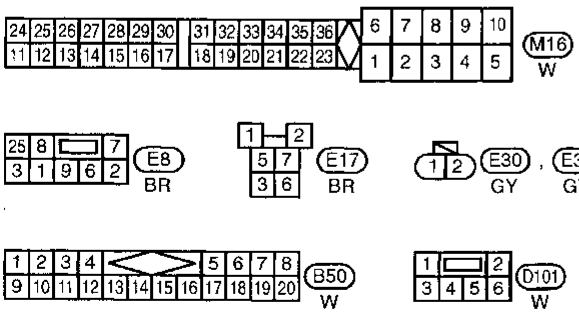


Refer to last page (Foldout page).
M10

MEL570H

EL-TURN-02





Refer to last page (Foldout page).

E1 , M1

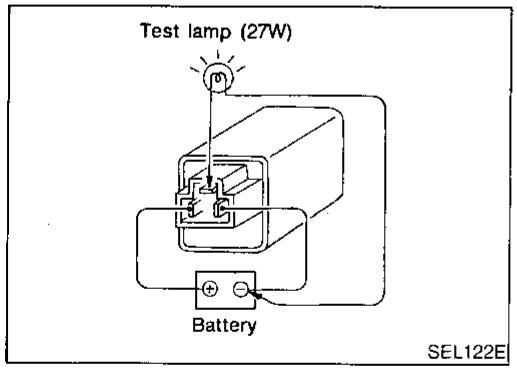
M2 , B1

MEL365I

Trouble Diagnoses

NAEL0033

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	1. Hazard switch 2. Combination flasher unit 3. Open in combination flasher unit circuit	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.	1. 7.5A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit	1. Check 7.5A fuse [No. 12, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check G wire between combination flasher unit and turn signal switch for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	1. 15A fuse 2. Hazard switch 3. Open in hazard switch circuit	1. Check 15A fuse [No. 20, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check G wire between combination flasher unit and hazard switch for open circuit.
Front turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds E13 and E41	1. Check bulb. 2. Check grounds E13 and E41.
Rear turn signal lamp LH does not operate.	1. Bulb 2. Grounds B11, B22 and D210	1. Check bulb. 2. Check grounds B11, B22 and D210.
Rear turn signal lamp RH does not operate.	1. Bulb 2. Grounds B55 and B75	1. Check bulb. 2. Check grounds B55 and B75.
LH and RH turn indicators do not operate.	1. Ground	1. Check grounds M4 and M77.
LH or RH turn indicator does not operate.	1. Bulb	1. Check bulb in combination meter.



Electrical Components Inspection

NAEL0034

COMBINATION FLASHER UNIT CHECK

NAEL0034S01

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

System Description

NAEL0035

Power is supplied at all times

- through 10A fuse [No. 61, located in the fuse block (J/B)]
- to lighting switch terminal 11.

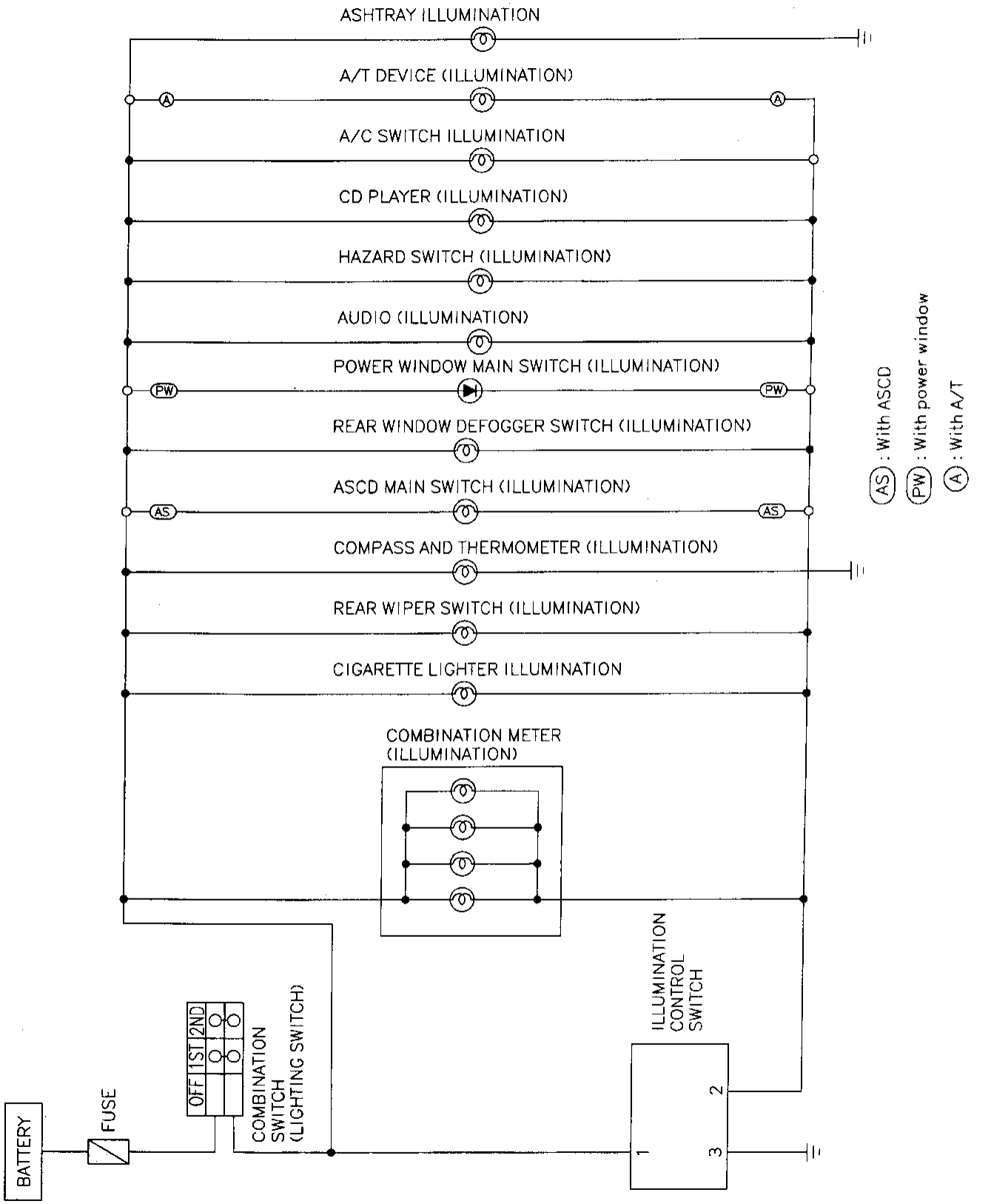
The lighting switch must be in the 1ST or 2ND position for illumination.
The illumination control switch that controls the amount of current to the illumination system. As the amount of current increases, the illumination becomes brighter.
The following chart shows the power and ground connector terminals for the components included in the illumination system.

Component	Connector No.	Power terminal	Ground terminal
Illumination control switch	M19	1	3
Combination meter	M25, M26	37	29
Cigarette lighter	M57	3	4
Rear wiper switch	M50	10	11
Compass and thermometer	R4	5	2
ASCD main switch	M18	5	6
Rear window defogger switch	M36	5	6
Power window main switch	D6	4	13
Audio	M48	8	7
Hazard switch	M35	7	8
CD player	M92, M93	3	5
A/C switch	M45	2	1
A/T indicator	B59	3	4
Ashtray	B60, B76	1	2

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

Schematic

NAEL0036

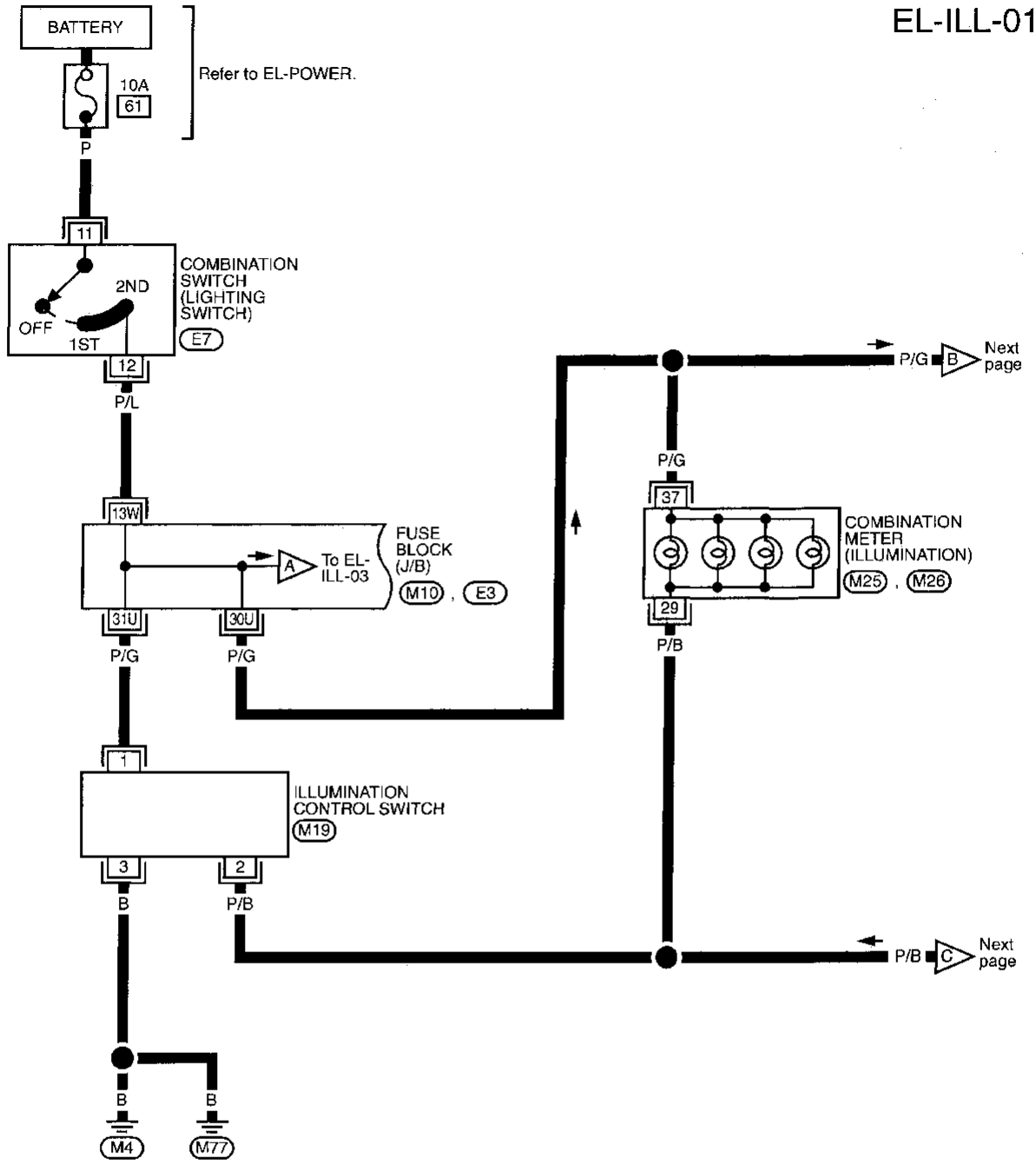


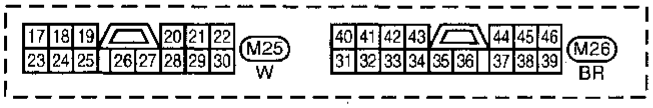
MEL572H

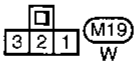
Wiring Diagram — ILL —

NAEL0037

EL-ILL-01



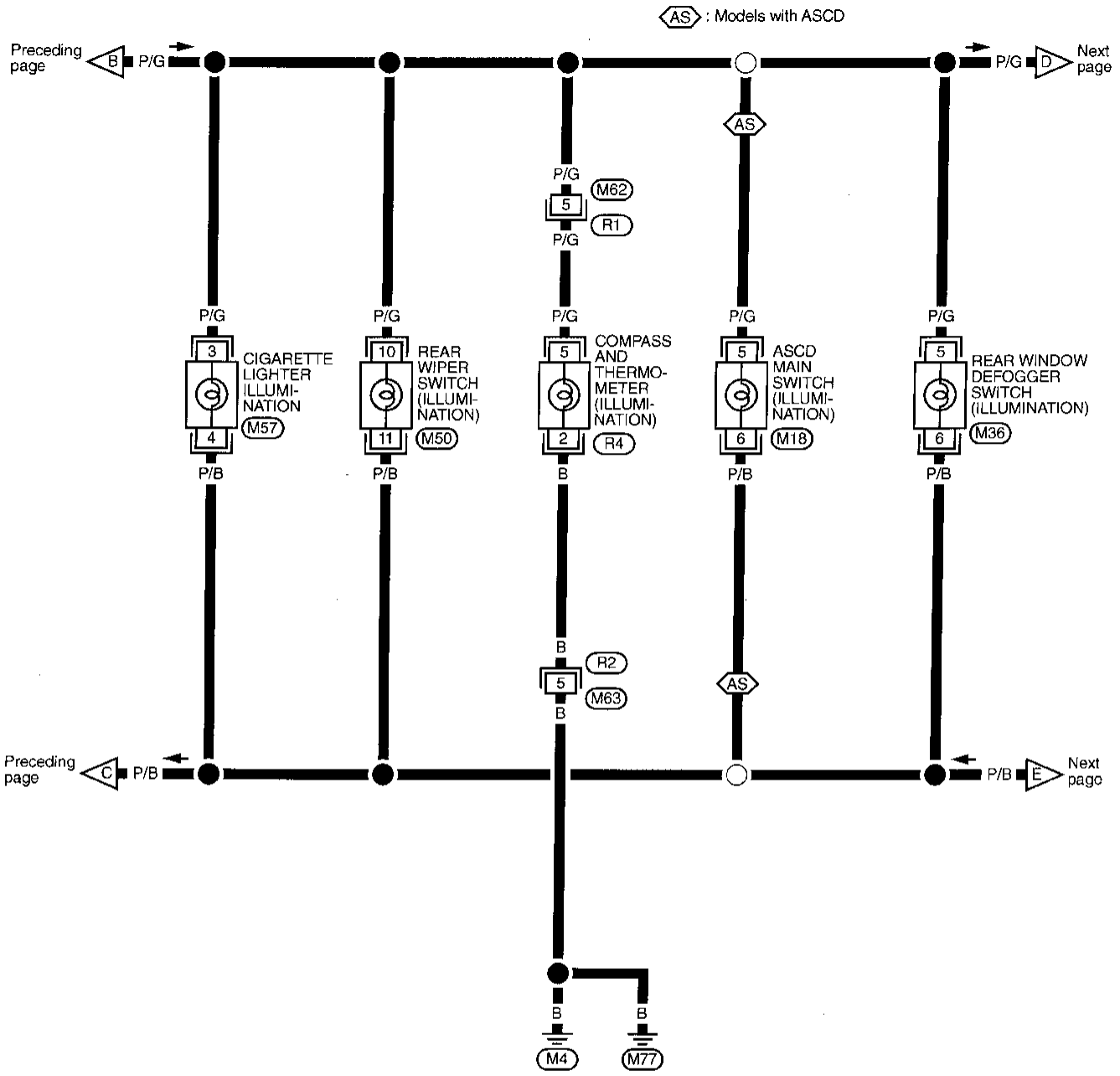


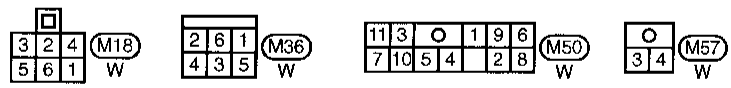


Refer to last page (Foldout page).
M10
E3

MEL573H

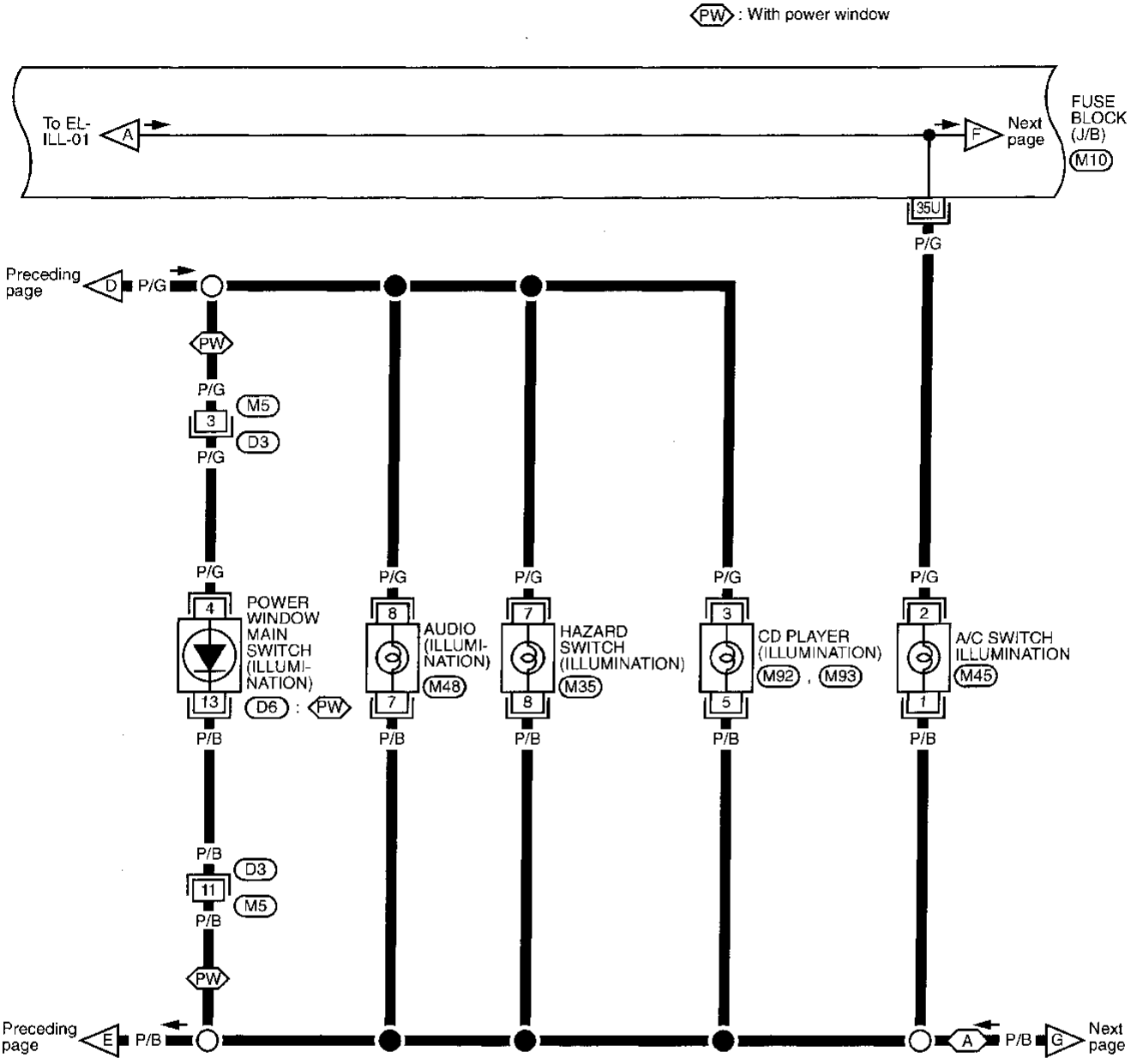
EL-ILL-02

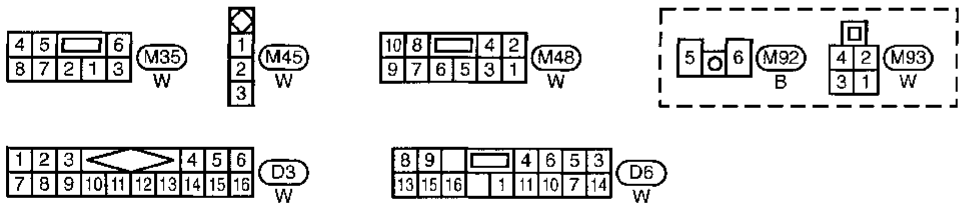




MEL564F

EL-ILL-03

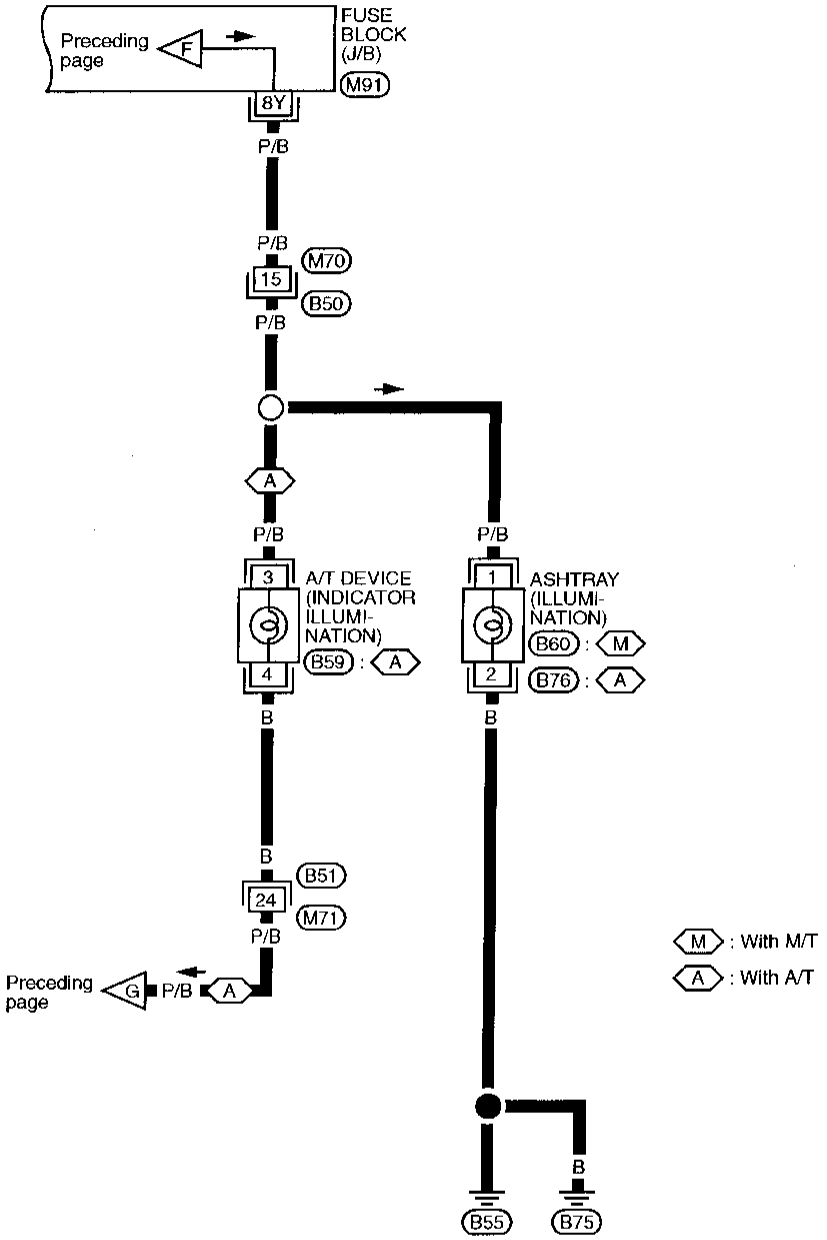


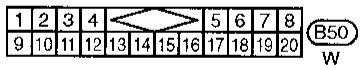


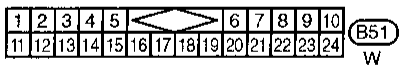
Refer to last page (Foldout page).
M10

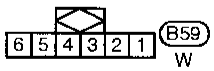
MEL574H

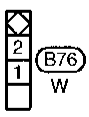
EL-ILL-04











Refer to last page (Foldout page).
M91

MEL575H

System Description

NAEL0038

INTERIOR LAMP

NAEL0038S01

Power is supplied at all times

- through 7.5A fuse [No. 15, located in the fuse block (J/B)]
- to interior lamp terminal 1,

With interior lamp switch ON, ground is supplied to turn interior lamp ON.
When any of following door switches are opened with interior lamp switch in DOOR, ground is supplied to interior lamp terminal 2 through door switch.

- front door switch LH
- front door switch RH
- rear door switch LH
- rear door switch RH
- back door switch

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

LUGGAGE ROOM LAMP

NAEL0038S02

The luggage room lamp will turn on in the same manner as interior lamp.

SPOT LAMP

NAEL0038S03

Power is supplied at all times

- through 7.5A fuse [No. 15, located in the fuse block (J/B)].

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

- to spot lamp terminal 2
- through body grounds M4 and M77.

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

VANITY MIRROR LAMP

NAEL0038S04

Power is supplied at all times

- through 7.5A fuse [No. 15, located in the fuse block (J/B)]
- to vanity mirror lamp terminal 1.

With the vanity mirror lamp switch in the ON position, the vanity mirror lamp turns ON.

DOOR WARNING LAMP

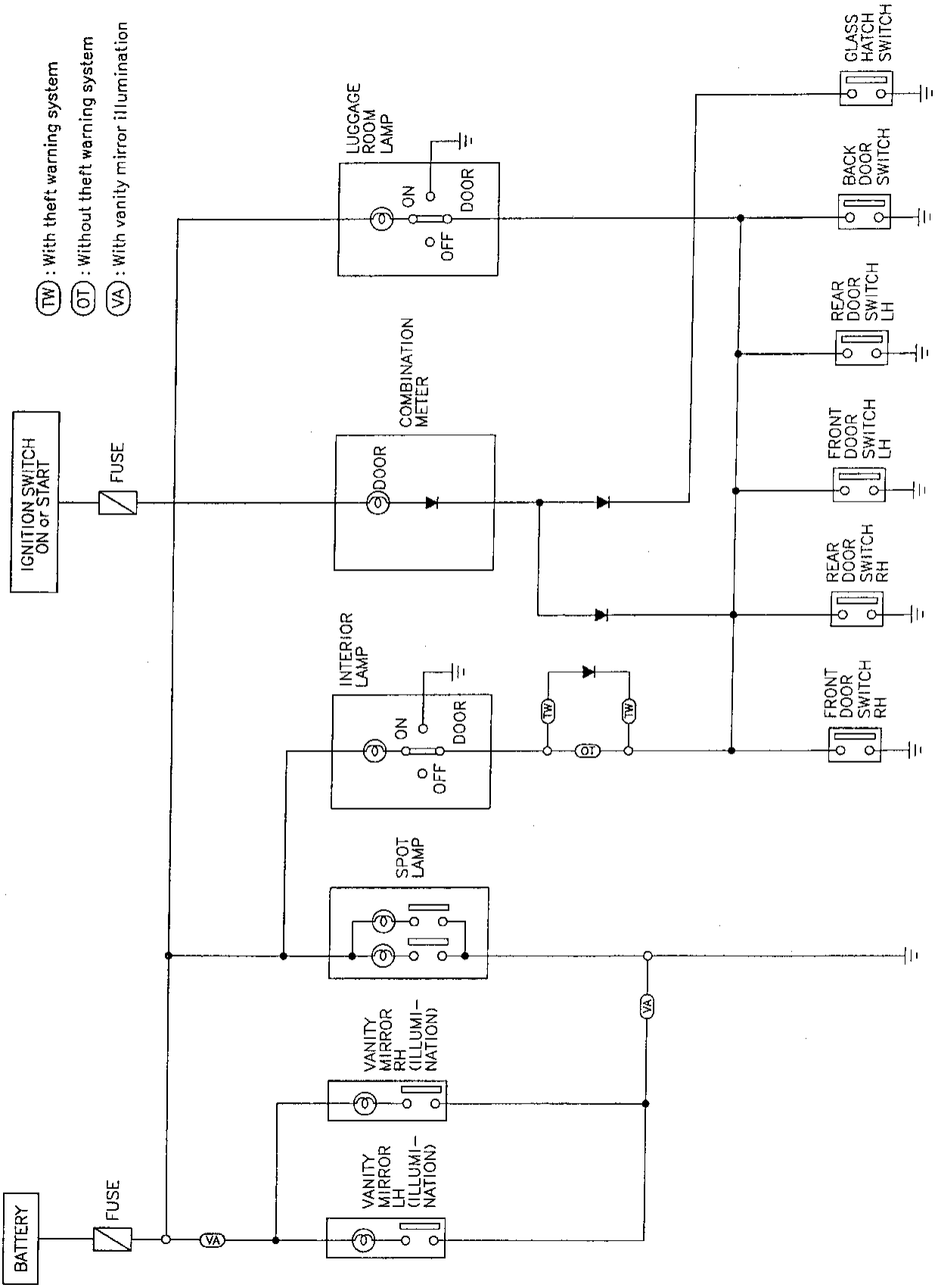
NAEL0038S05

With ignition switch in the ON position and any of following door switches opened, DOOR warning lamp (in combination meter) turns ON.

- front door switch LH
- front door switch RH
- rear door switch LH
- rear door switch RH
- back door switch
- glass hatch switch

Schematic

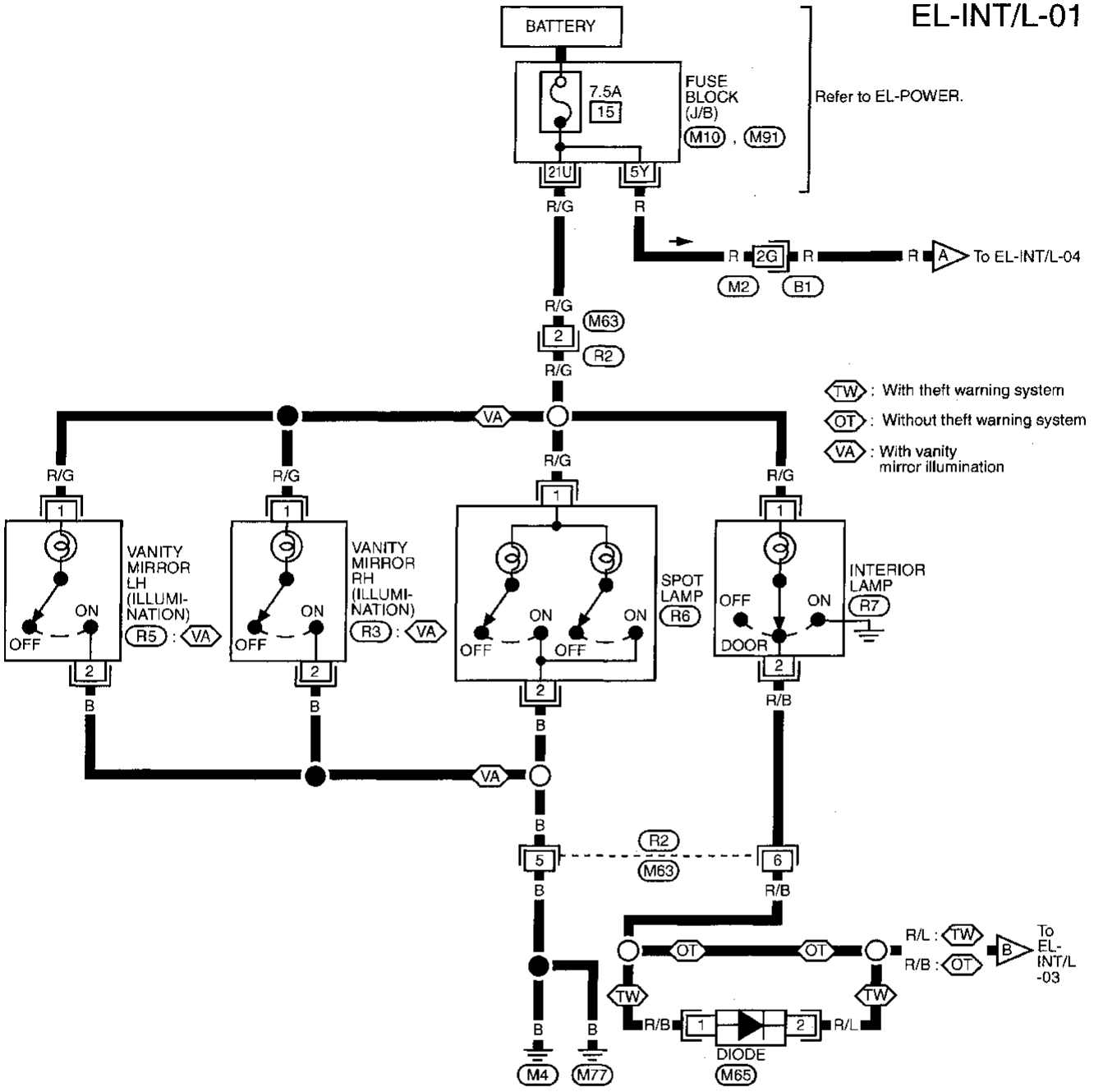
NAEL0039



MEL123I

Wiring Diagram — INT/L —

NAEL0040

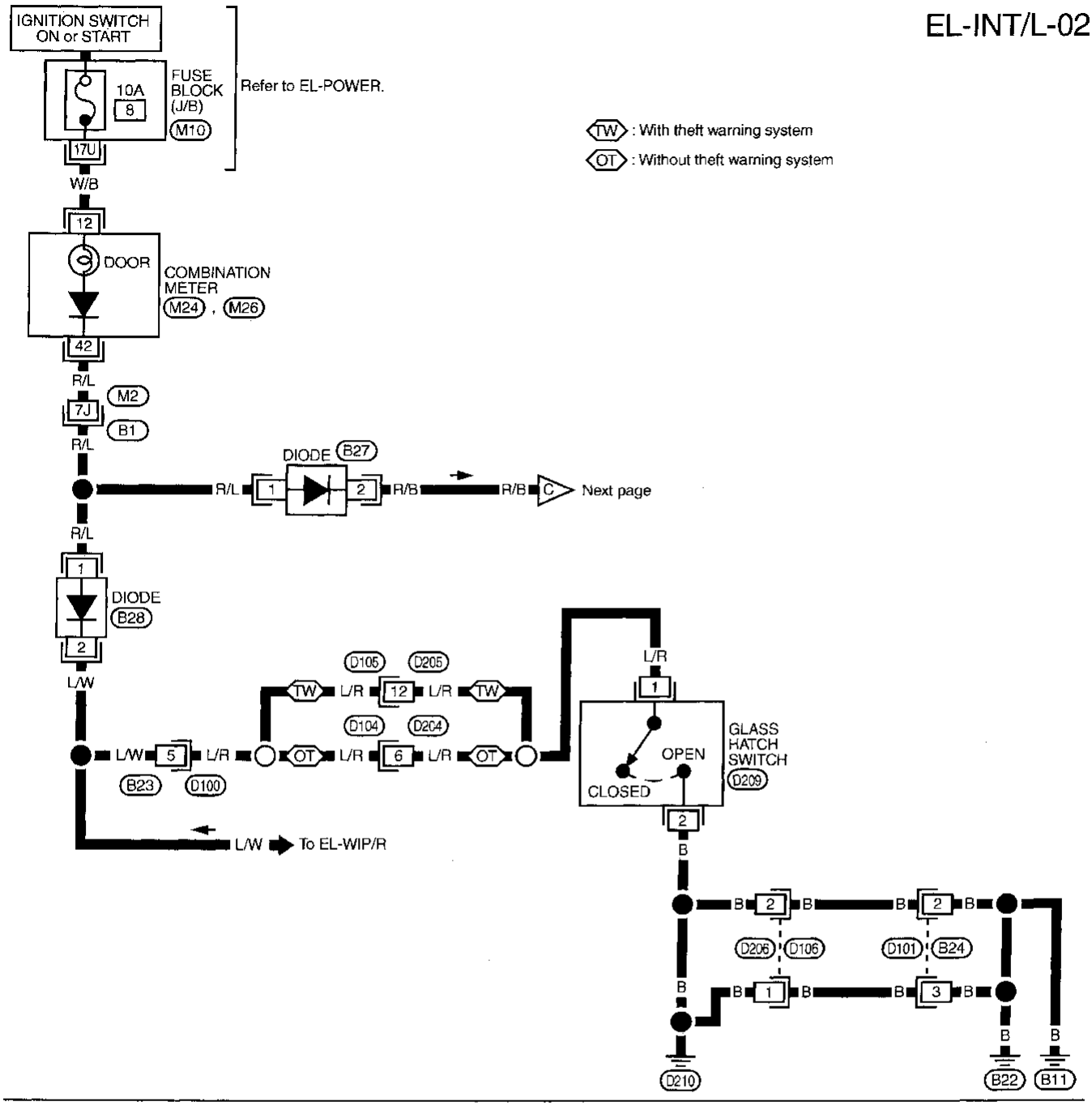


M65 W · R2 W · R3 , R5 R · R6 , R7 W

Refer to last page (Foldout page).
M2 , B1
M10
M91

MEL577H

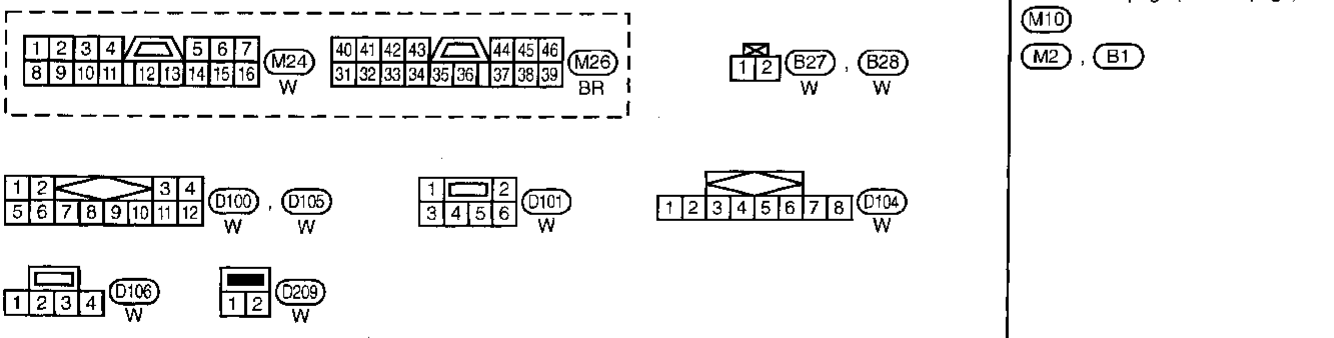
EL-INT/L-02



TW : With theft warning system

OT : Without theft warning system

To EL-WIP/R



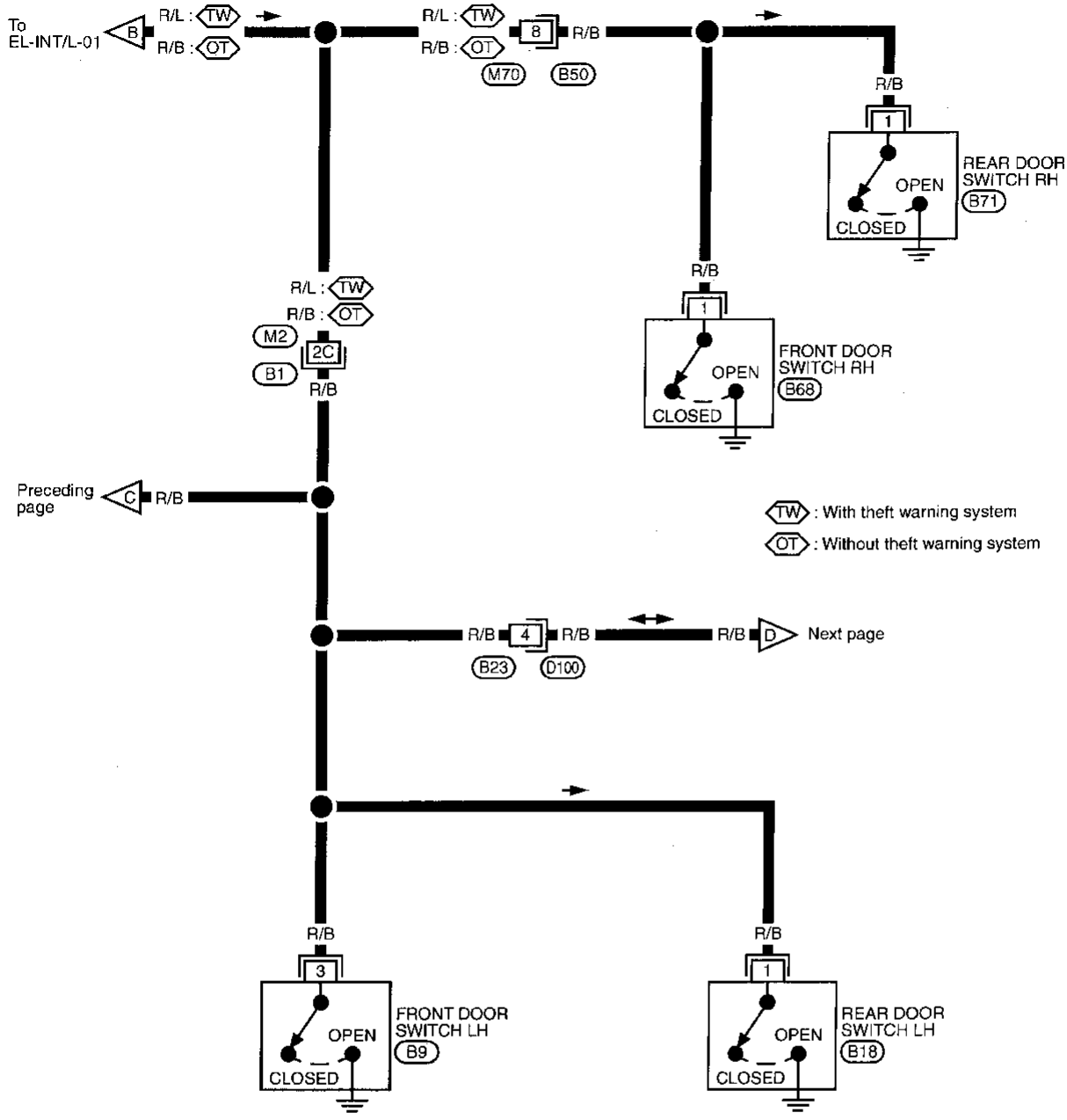
Refer to last page (Foldout page).

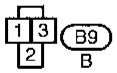
M10

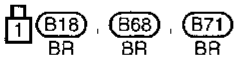
M2 , B1

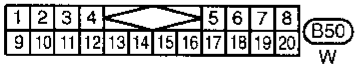
MEL124I

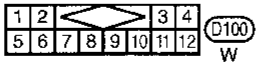
EL-INT/L-03







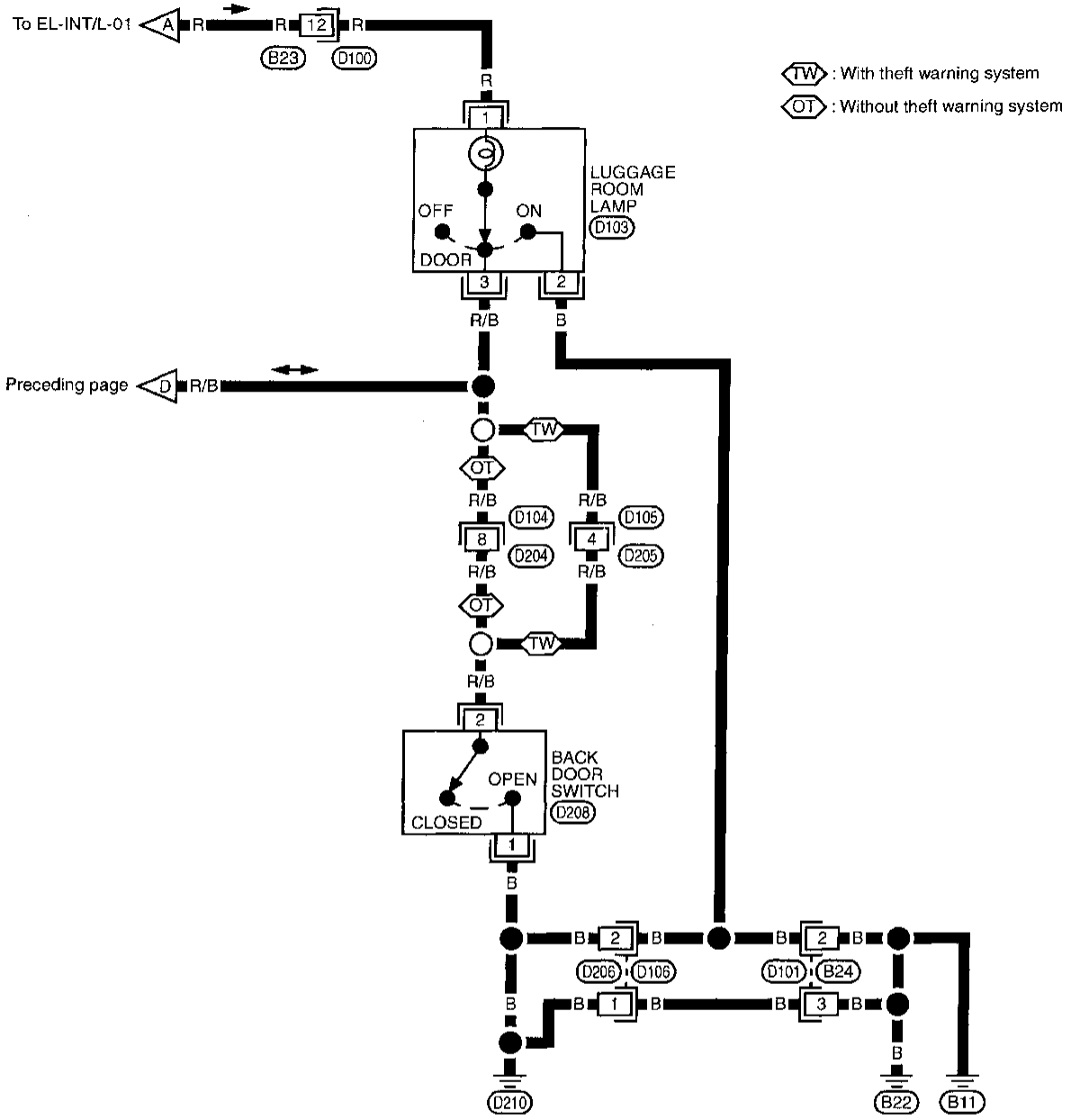


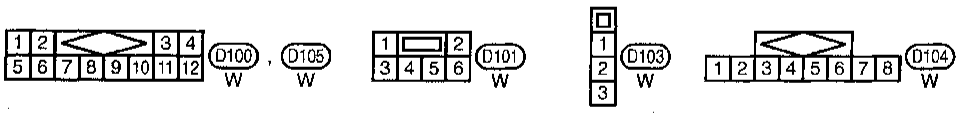


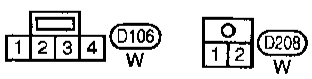
Refer to last page (Foldout page).
M2 , B1

MEL128I

EL-INT/L-04



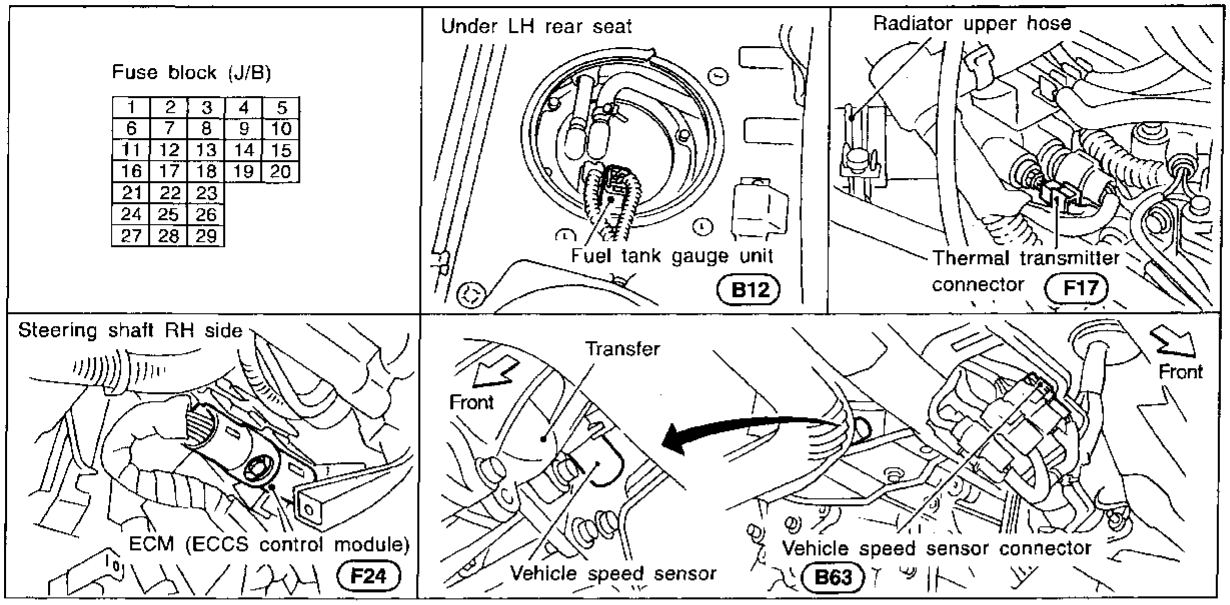




MEL387I

Component Parts and Harness Connector Location

NAEL0041



SEL290V

System Description

NAEL0042

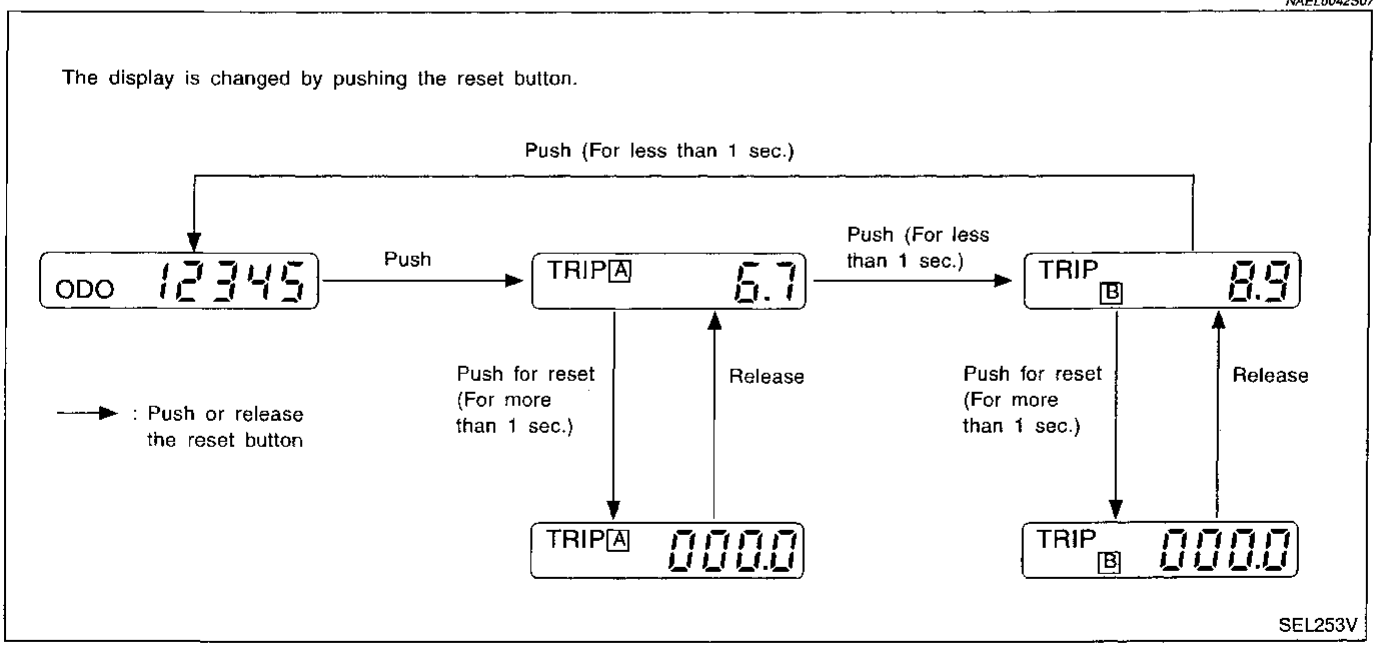
UNIFIED CONTROL METER

NAEL0042S06

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

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

NAEL0042S07



SEL253V

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

POWER SUPPLY AND GROUND CIRCUIT

NAEL0042S08

Power is supplied at all times

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

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

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

Ground is supplied

- to combination meter terminal 2
- through body grounds M4 and M77.

WATER TEMPERATURE GAUGE

NAEL0042S01

The water temperature gauge indicates the engine coolant temperature. The reading on the gauge is based on the resistance of the thermal transmitter.
As the temperature of the coolant increases, the resistance of the thermal transmitter decreases. A variable ground is supplied to terminal 6 of the combination meter for the water temperature gauge. The needle on the gauge moves from "C" to "H".

TACHOMETER

NAEL0042S02

The tachometer indicates engine speed in revolutions per minute (rpm).
The tachometer is regulated by a signal

- from terminal 3 of the ECM (ECCS control module)
- to combination meter terminal 15 for the tachometer.

FUEL GAUGE

NAEL0042S03

The fuel gauge indicates the approximate fuel level in the fuel tank.
The fuel gauge is regulated by a variable ground signal supplied

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

SPEEDOMETER

NAEL0042S04

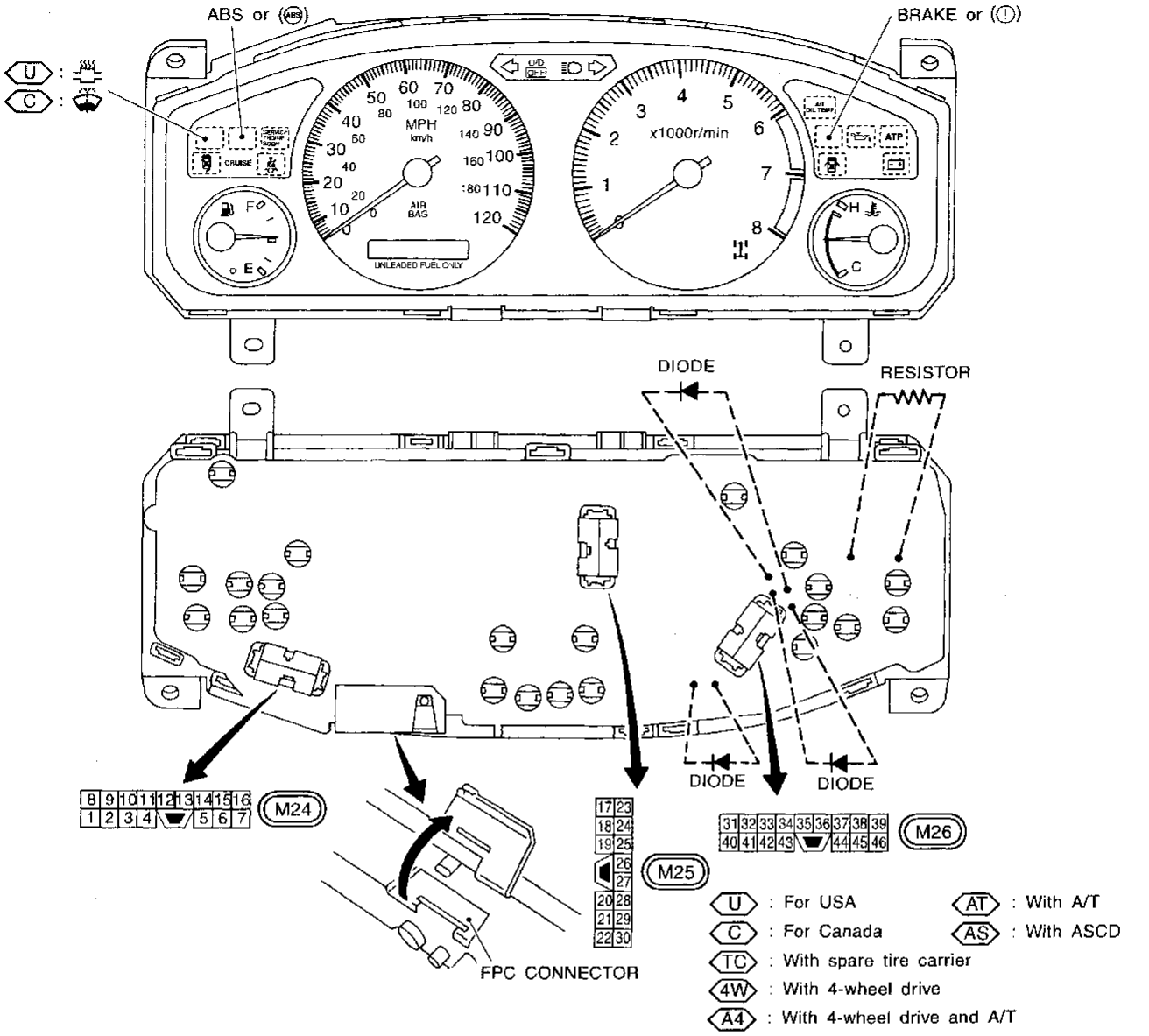
The vehicle speed sensor provides a voltage signal to the combination meter for the speedometer.
The voltage is supplied

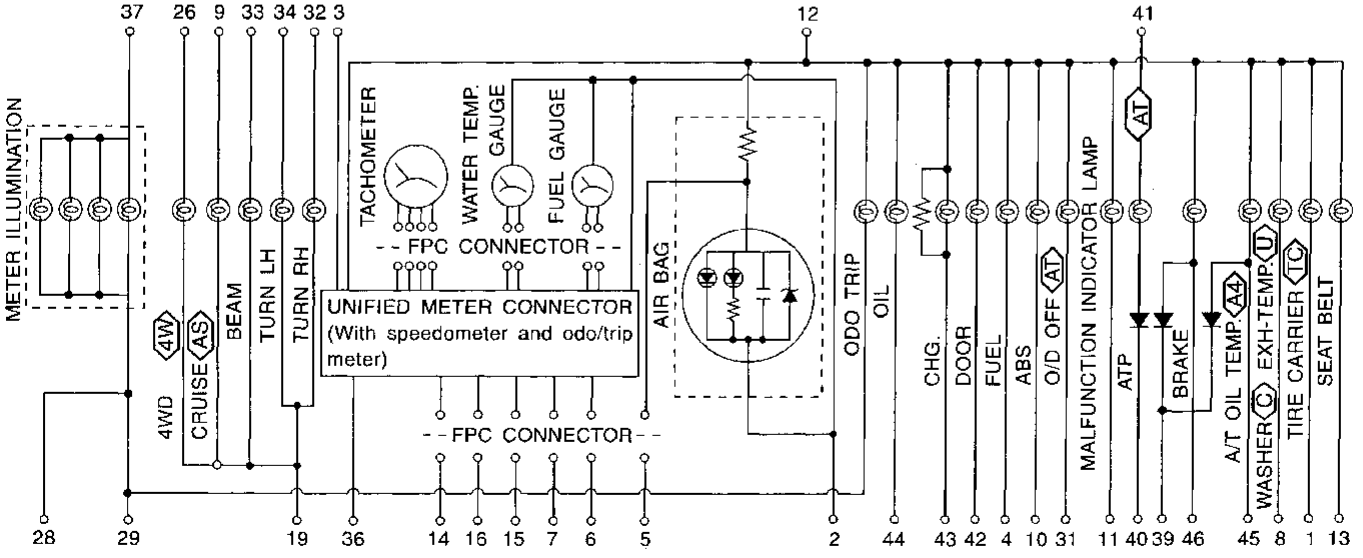
- to combination meter terminals 16 and 14 for the speedometer
- from terminals 2 and 1 of the vehicle speed sensor.

The speedometer converts the voltage into the vehicle speed displayed.

Combination Meter

NAEL0043



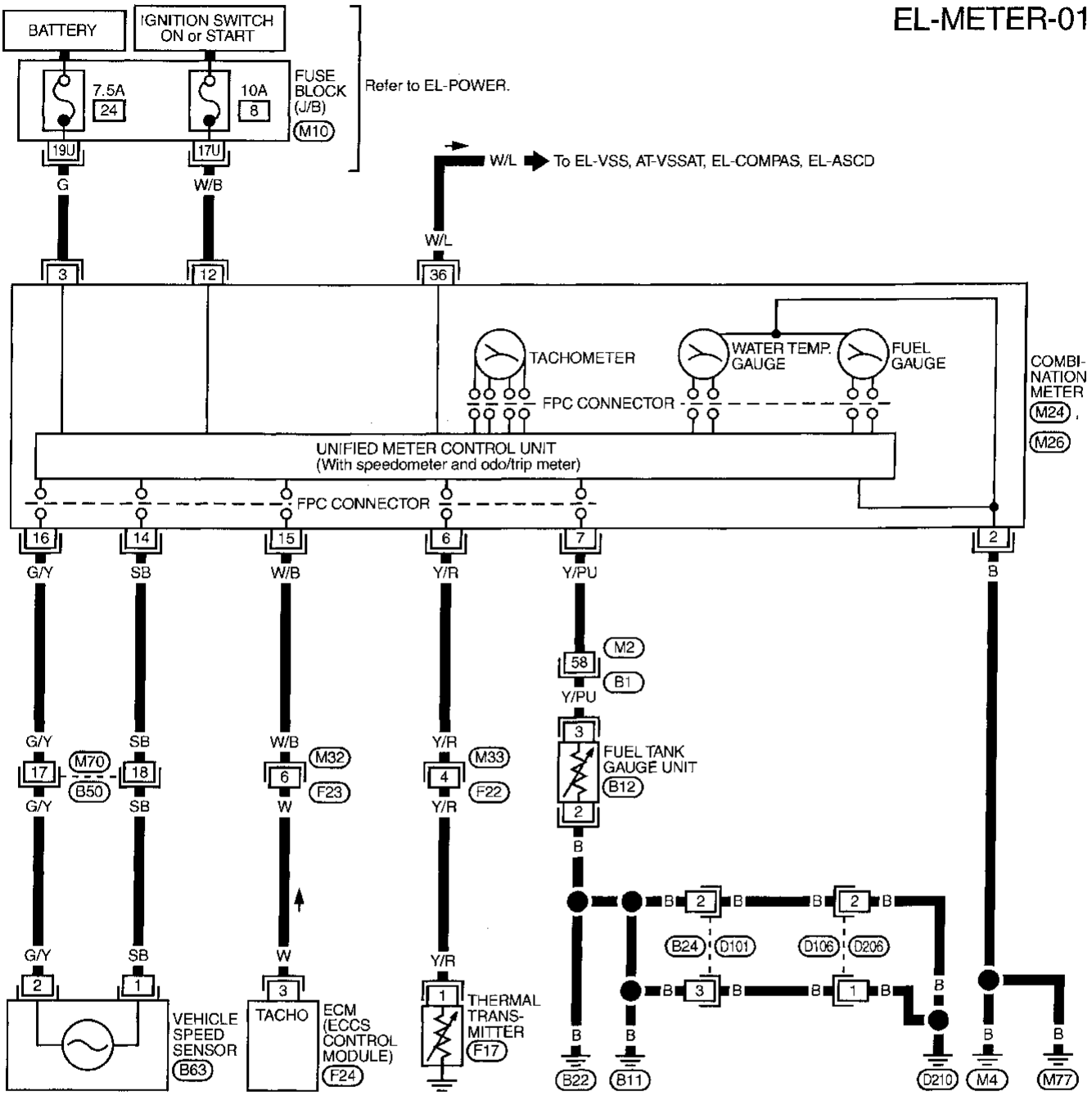


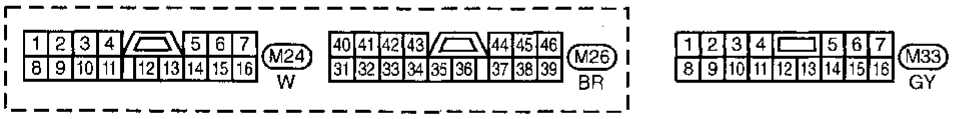
MEL127I

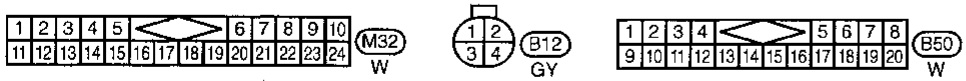
Wiring Diagram — METER —

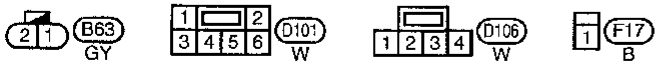
NAEL0045

EL-METER-01









Refer to last page (Foldout page).
M2, B1
M10
F24

MEL579H

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

NAEL0151

DIAGNOSIS FUNCTION

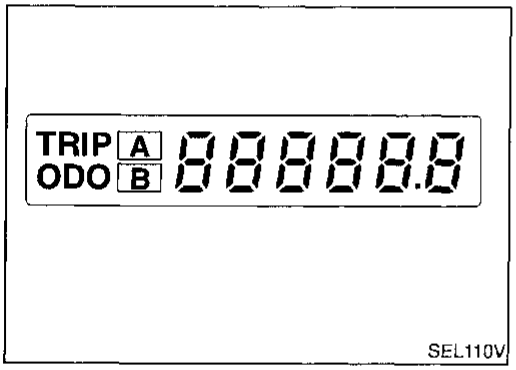
NAEL0151S01

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

HOW TO ALTERNATE DIAGNOSIS MODE

NAEL0151S02

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

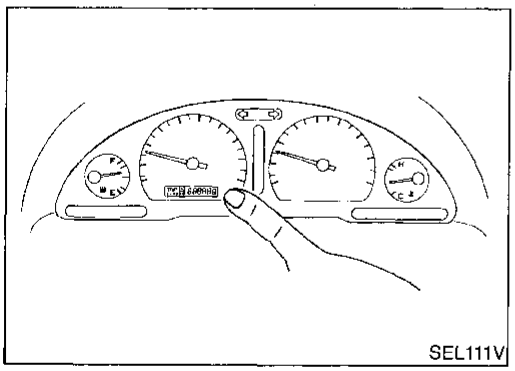


SEL110V

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

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

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


SEL111V

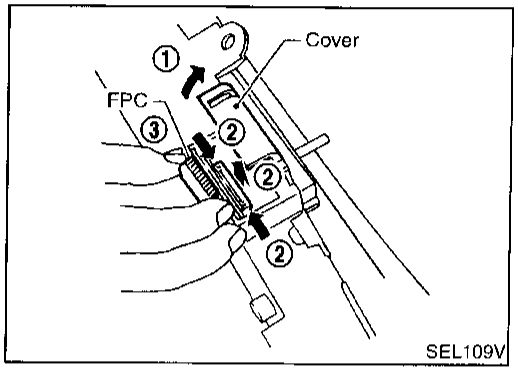
7. Push odo/trip meter switch. Indication of each meter/gauge should be as shown left during pushing odo/trip meter switch if it is no malfunctioning.

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

Flexible Print Circuit (FPC)

=NAEL0152

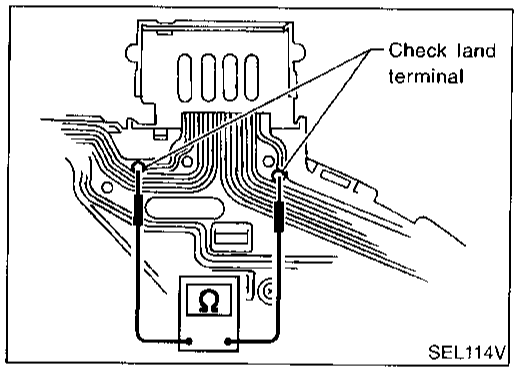
Tachometer, fuel gauge and water temperature gauge are connected with unified meter control unit (speedometer) by Flexible Print Circuit (FPC) connector. When replace or remove and install unified control unit (speedometer), disconnect and connect FPC connector according to the following steps.



DISCONNECT

NAEL0152S01

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



CONNECT

NAEL0152S02

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

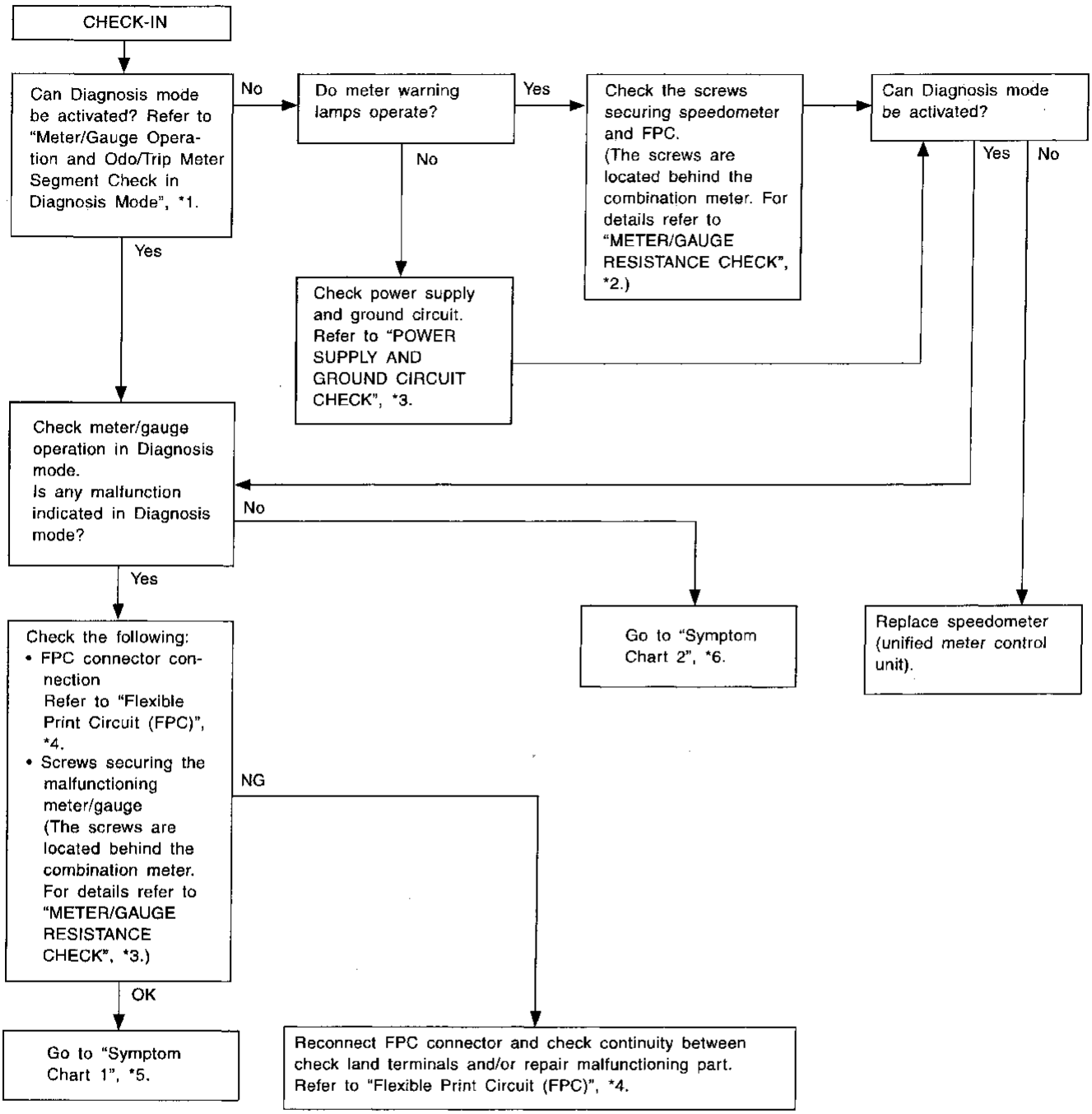
   Resistance: 0Ω
4. Close connector cover.

Trouble Diagnoses

PRELIMINARY CHECK

NAEL0046

NAEL0046S04



MEL474H

*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-63)

*2: METER/GAUGE RESISTANCE CHECK (EL-70)

*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-67)

*4: Flexible Print Circuit (FPC) (EL-64)

*5: Symptom Chart 1 (EL-66)

*6: Symptom Chart 2 (EL-66)

SYMPTOM CHART

NAEL0046S05

Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NAEL0046S0501

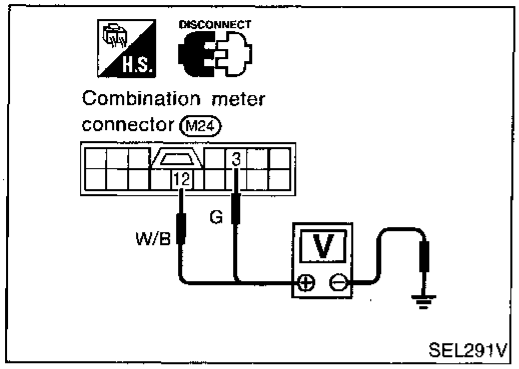
Symptom	Possible causes	Repair order
Speedometer and/or odo/trip meter indicate(s) malfunction in Diagnosis mode.	• Speedometer (Unified meter control unit)	• Replace speedometer (unified meter control unit).
Multiple meter/gauge indicate malfunction in Diagnosis mode.		
One of tachometer/fuel gauge/water temp. gauge indicates malfunction in Diagnosis mode.	• Meter/Gauge • Speedometer (Unified meter control unit)	1. Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-70. 2. If the resistance is OK, replace speedometer (unified meter control unit).

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

NAEL0046S0502

Symptom	Possible causes	Repair order
Speedometer and odo/trip meter are malfunctioning.	1. Sensor - Speedometer, Odo/Trip meter 2. FPC connector 3. Speedometer (Unified meter control unit)	1. Check vehicle speed sensor. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-68.) 2. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-64. 3. Replace speedometer (unified meter control unit).
Multiple meter/gauge are malfunctioning. (except speedometer, odo/trip meter)	1. FPC connector 2. Speedometer (Unified meter control unit)	1. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-64. 2. Replace speedometer (unified meter control unit).
One of tachometer/fuel gauge/water temp. gauge is malfunctioning.	1. Sensor/Engine revolution signal - Tachometer - Fuel gauge - Water temp. gauge 2. FPC connector 3. Speedometer (Unified meter control unit)	1. Check the sensor for malfunctioning meter/gauge. INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-68.) INSPECTION/FUEL TANK GAUGE UNIT (Refer to EL-69.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-69.) 2. Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-64. 3. Replace speedometer (unified meter control unit).

Before starting trouble diagnoses above, perform PRELIMINARY CHECK, EL-65.



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NAEL0046S07

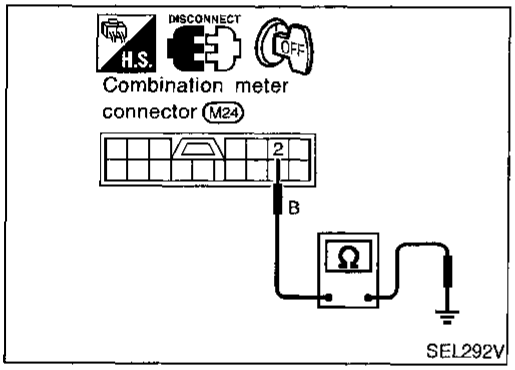
Power Supply Circuit Check

NAEL0046S0701

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

If NG, check the following.

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



Ground Circuit Check

NAEL0046S0702

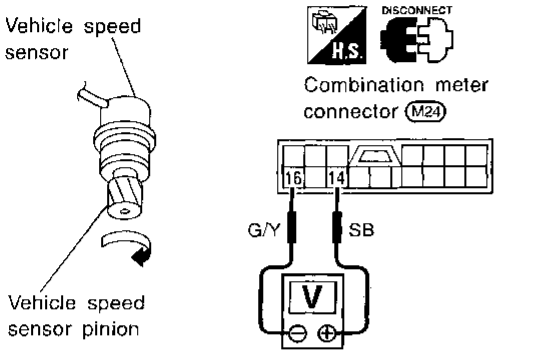
Terminals	Continuity
2 - Ground	Yes

INSPECTION/VEHICLE SPEED SENSOR

=NAEL0046S03

1	CHECK VEHICLE SPEED SENSOR OUTPUT

1. Remove vehicle speed sensor from transmission.
2. Check voltage between combination meter terminals 14 and 16 while quickly turning speed sensor pinion.
   Voltage: Approx. 0.5V



NOTE:
Vehicle speed sensor connector should remain connected.

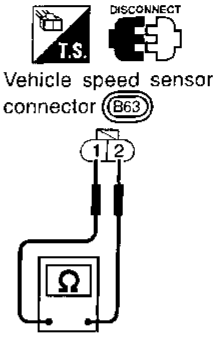
SEL293V

OK or NG

OK	▶	Vehicle speed sensor is OK.
NG	▶	GO TO 2.

2	CHECK VEHICLE SPEED SENSOR

Check resistance between vehicle speed sensor terminals 1 and 2.
Resistance: Approx. 250Ω



SEL344V

OK or NG

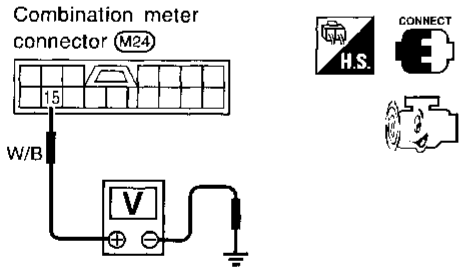
OK	▶	Check harness or connector between speedometer and vehicle speed sensor.
NG	▶	Replace vehicle speed sensor.

INSPECTION/ENGINE REVOLUTION SIGNAL

NAEL0046S02

1	CHECK ECM OUTPUT

1. Start engine.
2. Check voltage between combination meter terminal 15 and ground at idle and 2,000 rpm.
   Higher rpm = Higher voltage
   Lower rpm = Lower voltage
   Voltage should change with rpm.



SEL294V

OK or NG

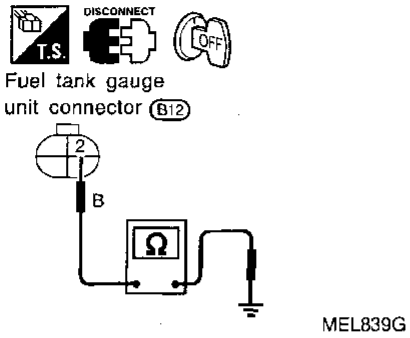
OK	▶	Engine revolution signal is OK.
NG	▶	Harness for open or short between ECM and combination meter

INSPECTION/FUEL TANK GAUGE UNIT

NAEL0046S08

1 CHECK GROUND CIRCUIT FOR FUEL TANK GAUGE UNIT

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



MEL839G

Does continuity exist?

Yes	▶	GO TO 2.
No	▶	Repair harness or connector.

2 CHECK GAUGE UNITS

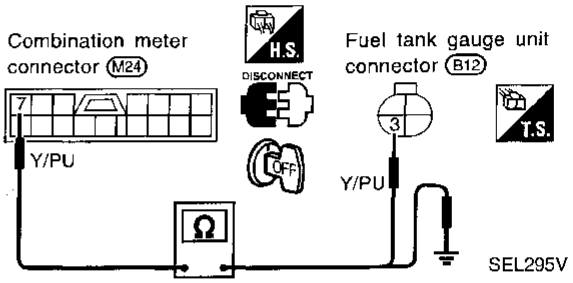
Refer to "FUEL TANK GAUGE UNIT CHECK" (EL-70).

OK or NG

OK	▶	GO TO 3.
NG	▶	Replace fuel tank gauge unit.

3 CHECK HARNESS FOR OPEN OR SHORT

1. Disconnect combination meter connector and fuel tank gauge unit connector.
2. Check continuity between combination meter terminal 7 and fuel tank gauge unit terminal 3.
   Continuity should exist.
3. Check continuity between combination meter terminal 7 and ground.
   Continuity should not exist.



SEL295V

OK or NG

OK	▶	Fuel tank gauge unit is OK.
NG	▶	Repair harness or connector.

INSPECTION/THERMAL TRANSMITTER

NAEL0046S09

1 CHECK THERMAL TRANSMITTER

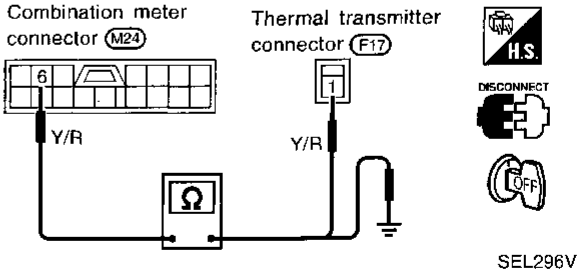
Refer to "THERMAL TRANSMITTER CHECK" (EL-71).

OK or NG

OK	▶	GO TO 2.
NG	▶	Replace.

2 CHECK HARNESS FOR OPEN OR SHORT

1. Disconnect combination meter connector and thermal transmitter connector.
2. Check continuity between combination meter terminal 6 and thermal transmitter terminal 1.
   Continuity should exist.
3. Check continuity between combination meter terminal 6 and ground.
   Continuity should not exist.



SEL296V

OK or NG

OK	▶	Thermal transmitter is OK.
NG	▶	Repair harness or connector.

Electrical Components Inspection

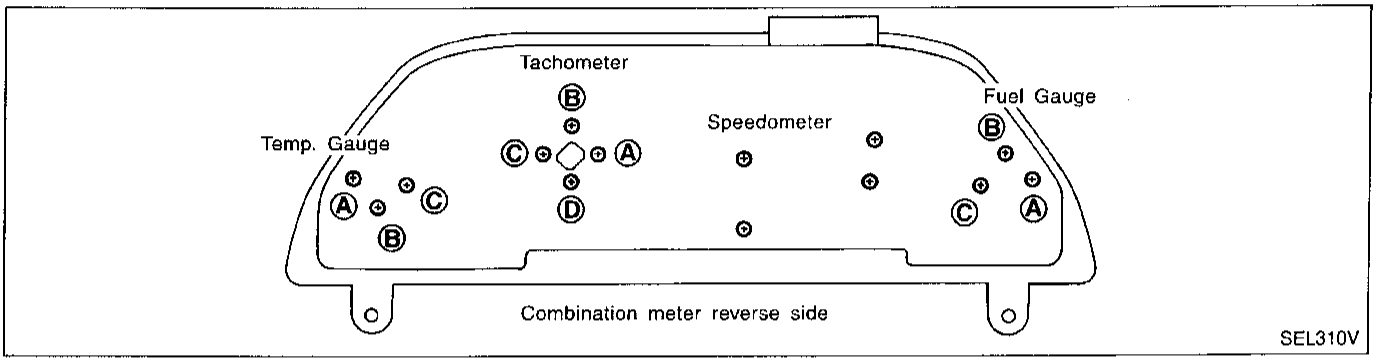
NAEL0047

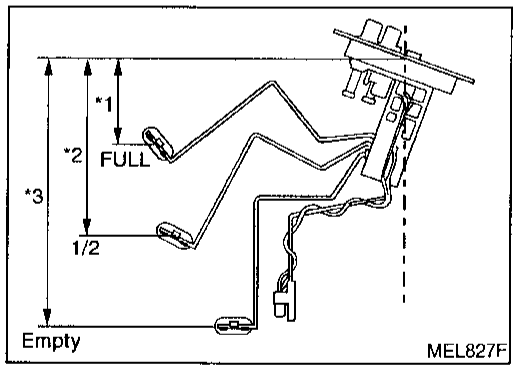
METER/GAUGE RESISTANCE CHECK

NAEL0047S04

1. Disconnect FPC connector. Refer to "Flexible Print Circuit (FPC)" (EL-64).
2. Check resistance between installation screws of meter/gauge.

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





FUEL TANK GAUGE UNIT CHECK

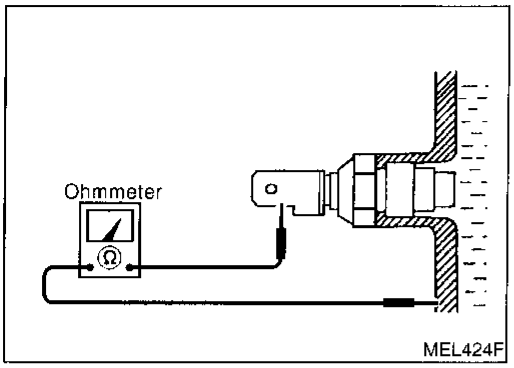
NAEL0047S01

- For removal, refer to FE section.

Check the resistance between terminals 3 and 2.

Ohmmeter		Float position mm (in)			Resistance value (Ω)
(+)	(−)				
3	2	*1	Full	96 (3.78)	Approx. 4 - 6
		*2	1/2	188 (7.40)	30 - 34
		*3	Empty	257 (10.12)	80 - 83

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

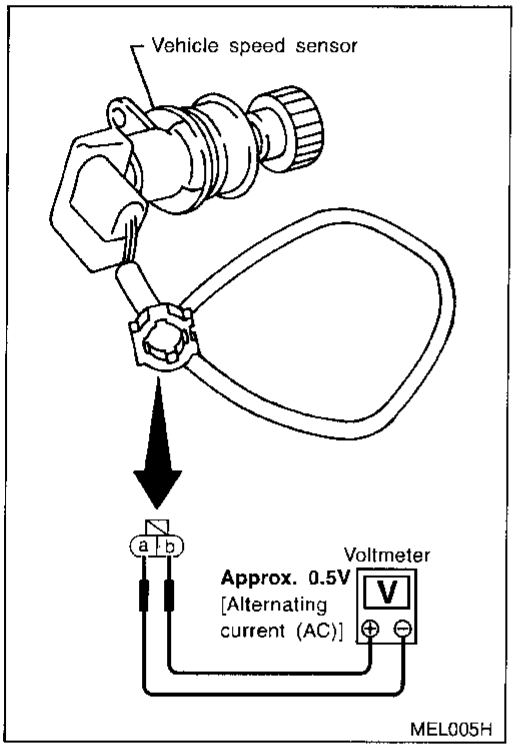


THERMAL TRANSMITTER CHECK

NAEL0047S02

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

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



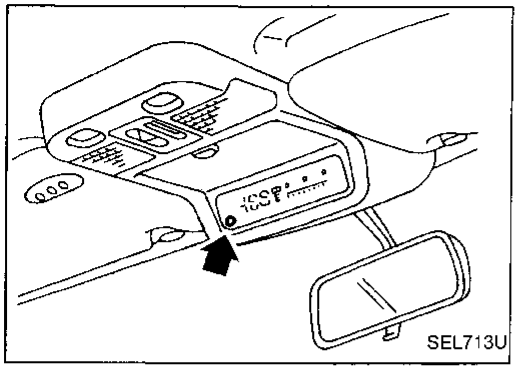
VEHICLE SPEED SENSOR SIGNAL CHECK

NAEL0047S03

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

System Description

NAEL0153



This unit displays the following items:

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

OUTSIDE TEMPERATURE DISPLAY

NAEL0153S01

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

- Selecting the indication range
  Push the switch to change from "°F" to "°C".
- When the outside temperature drops below freezing point, ICE is displayed on the unit.
- When the outside temperature is between 55°C (131°F) and 70°C (158°F), the display shows 55°C (131°F).
- When the outside temperature is lower than −30°C (−22°F) or higher than 70°C (158°F), the display shows only "---" though it is operating. This is not a problem.
- The indicated temperature on the thermometer is not readily affected by engine heat. It changes only when one of the following conditions is present.

a) The temperature detected by the ambient air temperature sensor is lower than the indicated temperature on the thermometer.

b) The difference in temperature detected during a period of 40 seconds is less than 1°C (1.8°F) when vehicle speed has been greater than 24 km/h (15 MPH) for more than 100 seconds.
(This is to prevent the indicated temperature from being affected by engine heat or cooling fan operation during low-speed driving.)

c) The ignition key has been turned to the "OFF" position for more than 4 hours. (The engine is cold.)

DIRECTION DISPLAY

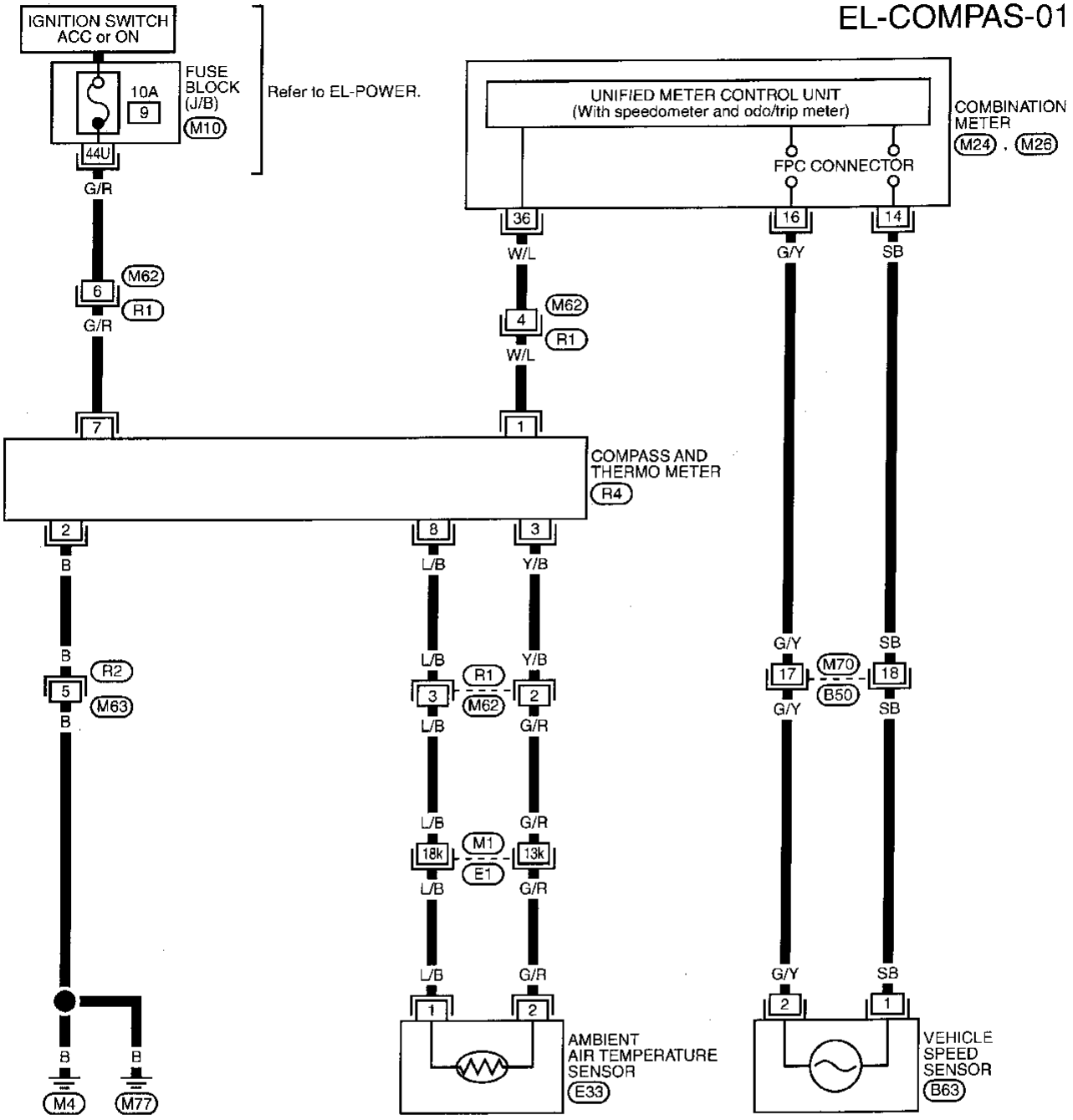
NAEL0153S02

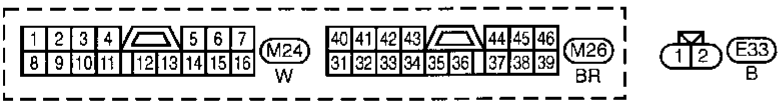
Push the switch when the ignition key is in the "ACC" or "ON" position. The direction will be displayed.

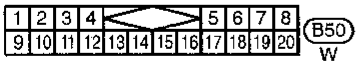
Wiring Diagram — COMPAS —

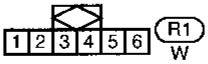
NAEL0154

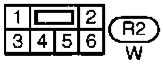
EL-COMPAS-01

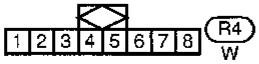












Refer to last page (Foldout page).
E1 , M1
M10

MEL581H

Trouble Diagnoses

PRELIMINARY CHECK FOR THERMOMETER

NAEL0048

NAEL0048S02

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

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

NOTE:

- When the outside temperature is between 55°C (131°F) and 70°C (158°F), the display shows 55°C (131°F). When the outside temperature is lower than –30°C (–22°F) or higher than 70°C (158°F), the display shows only "---".
- The indicated temperature on the thermometer is not readily affected by engine heat. It changes only when one of the following conditions is present.

a) The temperature detected by the ambient air temperature sensor is lower than the indicated temperature on the thermometer.

b) The difference in temperature detected during a period of 40 seconds is less than 1°C (1.8°F) when vehicle speed has been greater than 24 km/h (15 MPH) for more than 100 seconds. (This is to prevent the indicated temperature from being affected by engine heat or cooling fan operation during low-speed driving.)

c) The ignition key has been turned to the "OFF" position for more than 4 hours. (The engine is cold.)

INSPECTION/COMPASS AND THERMOMETER

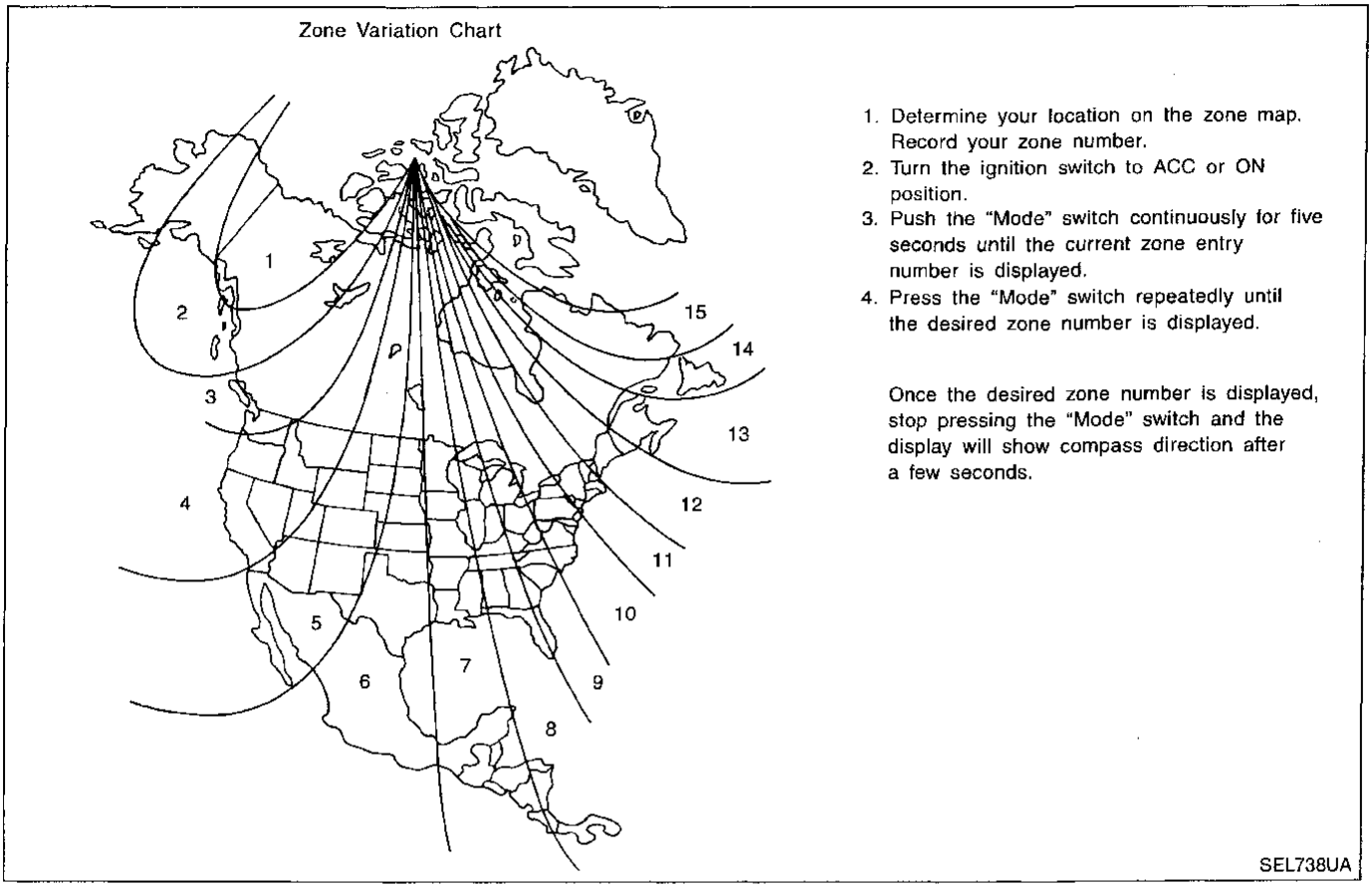
NAEL0048S01

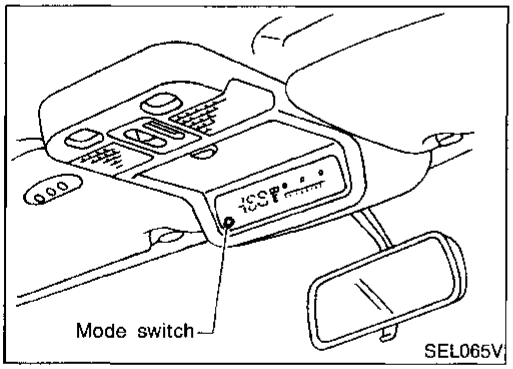
Symptom	Possible causes	Repair order
No display at all	1. 10A fuse 2. Ground circuit 3. Compass and thermometer	1. Check 10A fuse [No. 9, located in fuse block (J/B)]. Turn the ignition switch ON and verify that battery positive voltage is at terminal 7 of compass and thermometer. 2. Check ground circuit for compass and thermometer. 3. Replace compass and thermometer.
Forward direction indication slips off the mark or incorrect.	1. In manual correction mode (Bar and display vanish.) 2. Zone variation change is not done.	1. Drive the vehicle and turn at an angle of 90°. 2. Perform the zone variation change.
Compass reading remains unchanged.	1. Vehicle speed sensor is not entered. 2. Compass and thermometer	1. Check harness for open or short between combination meter terminal 36 and compass and thermometer terminal 1. 2. Replace compass and thermometer.
Displays wrong temperature when ambient temperature is between –30°C (–22°F) and 55°C (131°F). (See NOTE above)	1. Check operation 2. Ambient air temperature sensor circuit 3. Vehicle speed sensor is not entered. 4. Ambient air temperature sensor 5. Compass and thermometer	1. Perform preliminary check shown above. 2. Check harness for open or short between ambient air temperature sensor and compass and thermometer. 3. Check harness for open or short between combination meter terminal 36 and compass and thermometer terminal 1. 4. Replace ambient air temperature sensor. 5. Replace compass and thermometer.

Calibration Procedure for Compass

NAEL0155

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





CORRECTION FUNCTIONS OF COMPASS

NAEL0155S01

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

INITIAL CORRECTION PROCEDURE FOR COMPASS

NAEL0155S02

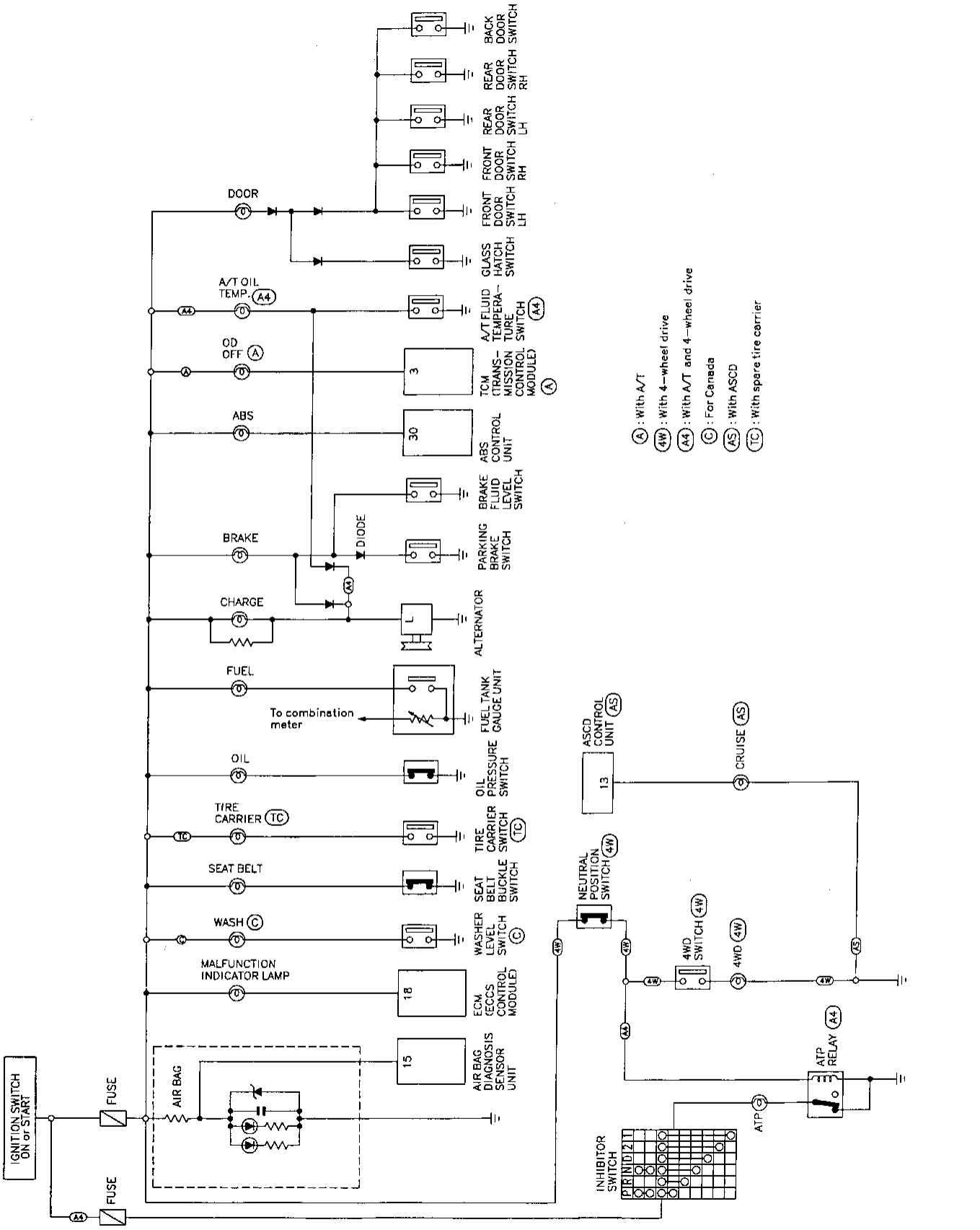
1. Pushing the "Mode" switch for about 10 seconds will enter the initial correction mode. The direction bar starts blinking.
2. Turn the vehicle slowly in an open, safe place. The initial correction is completed in one or two turns.

NOTE:

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

Schematic

NAEL0049

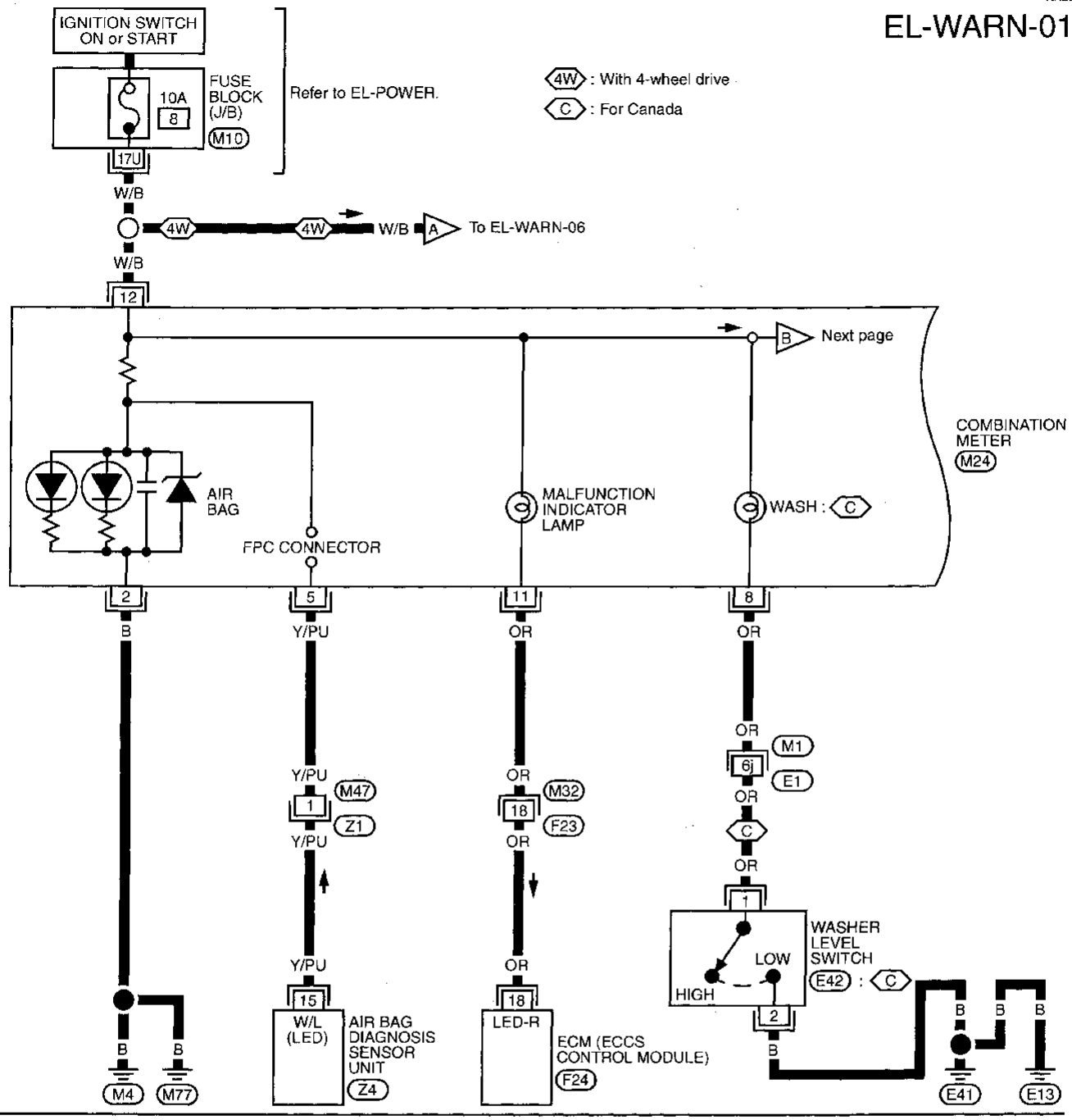


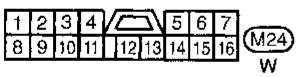
MEL582H

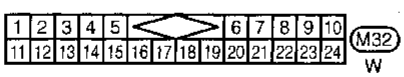
Wiring Diagram — WARN —

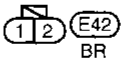
NAEL0050

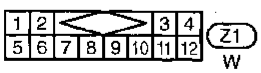
EL-WARN-01

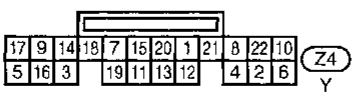








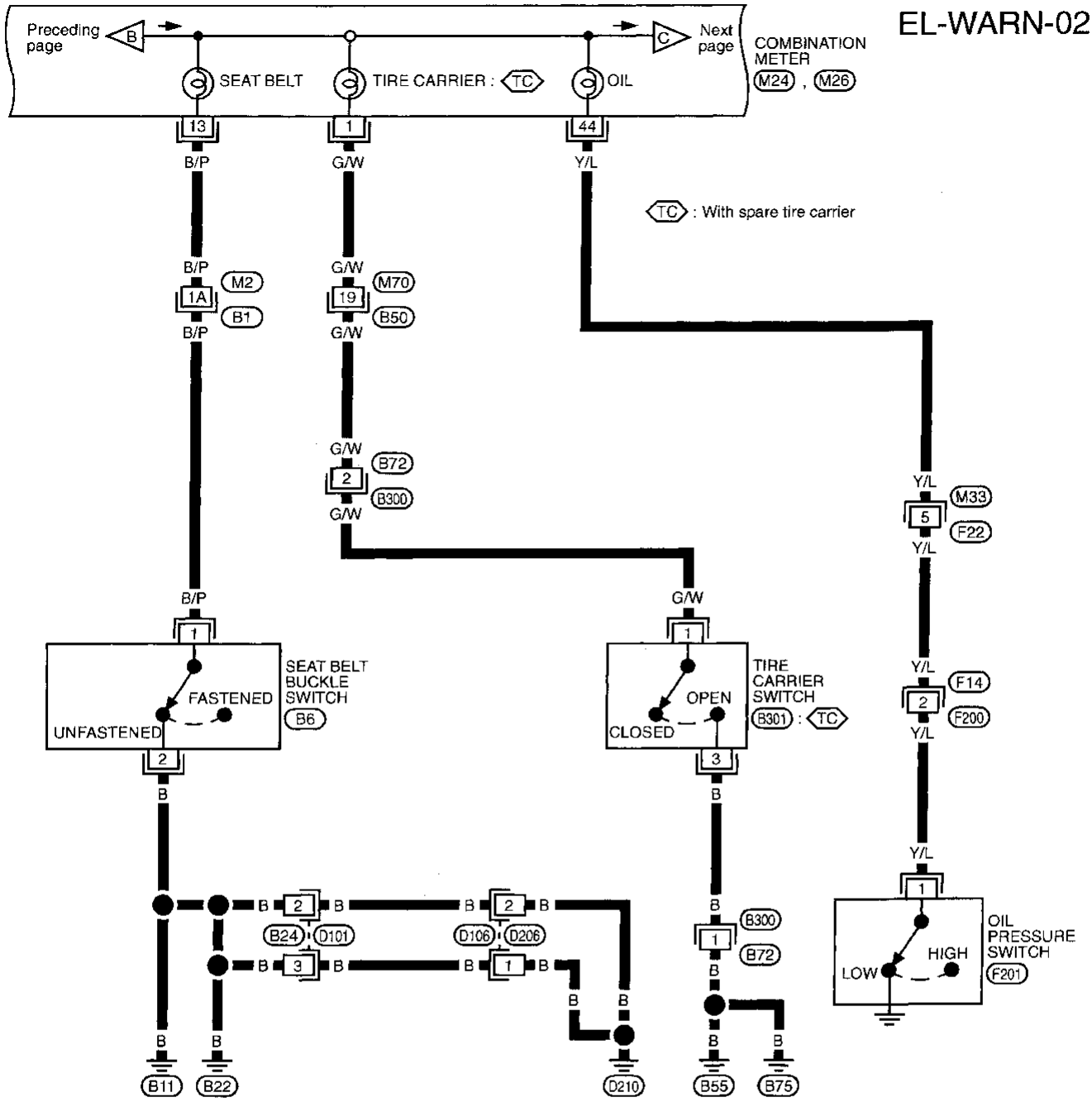




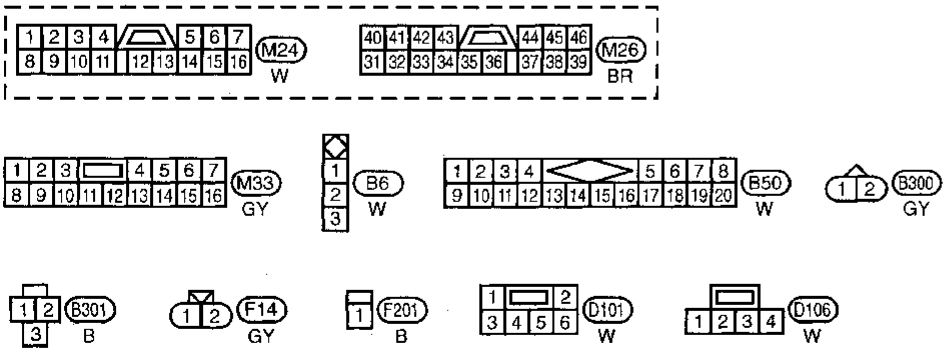
Refer to last page (Foldout page).
E1 , M1
M10
F24

MEL583H

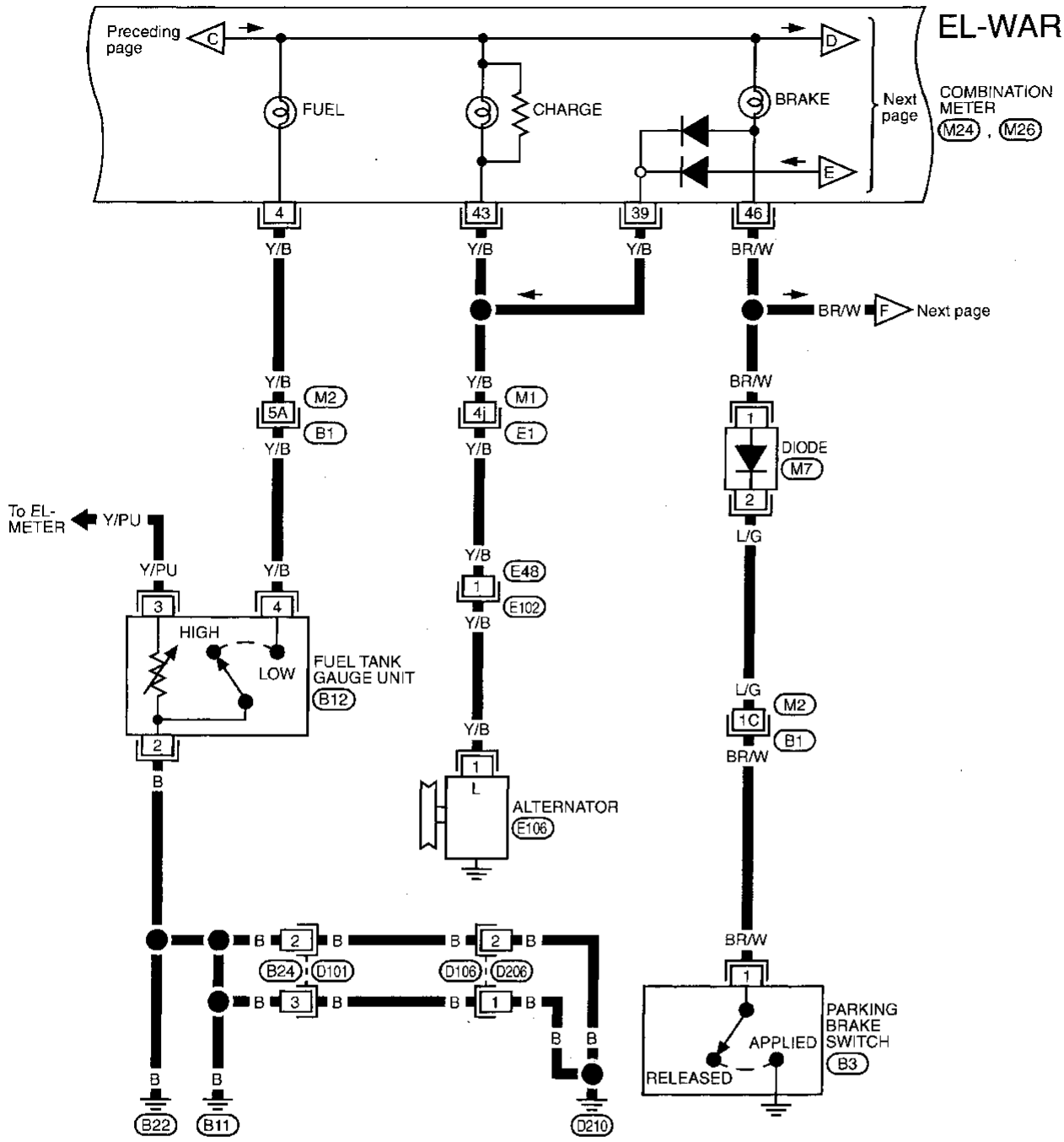
EL-WARN-02

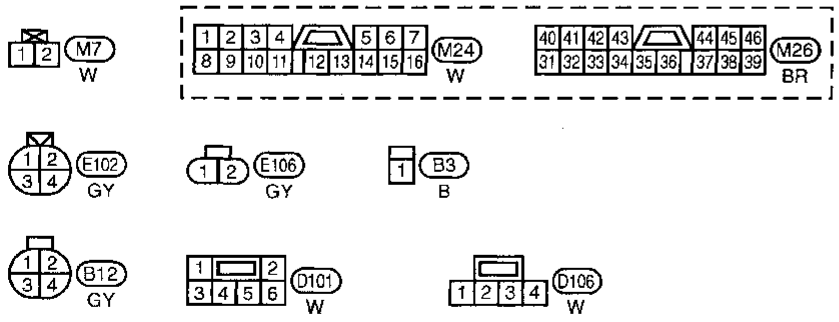


Refer to last page (Foldout page).
M2 , B1



MEL584H





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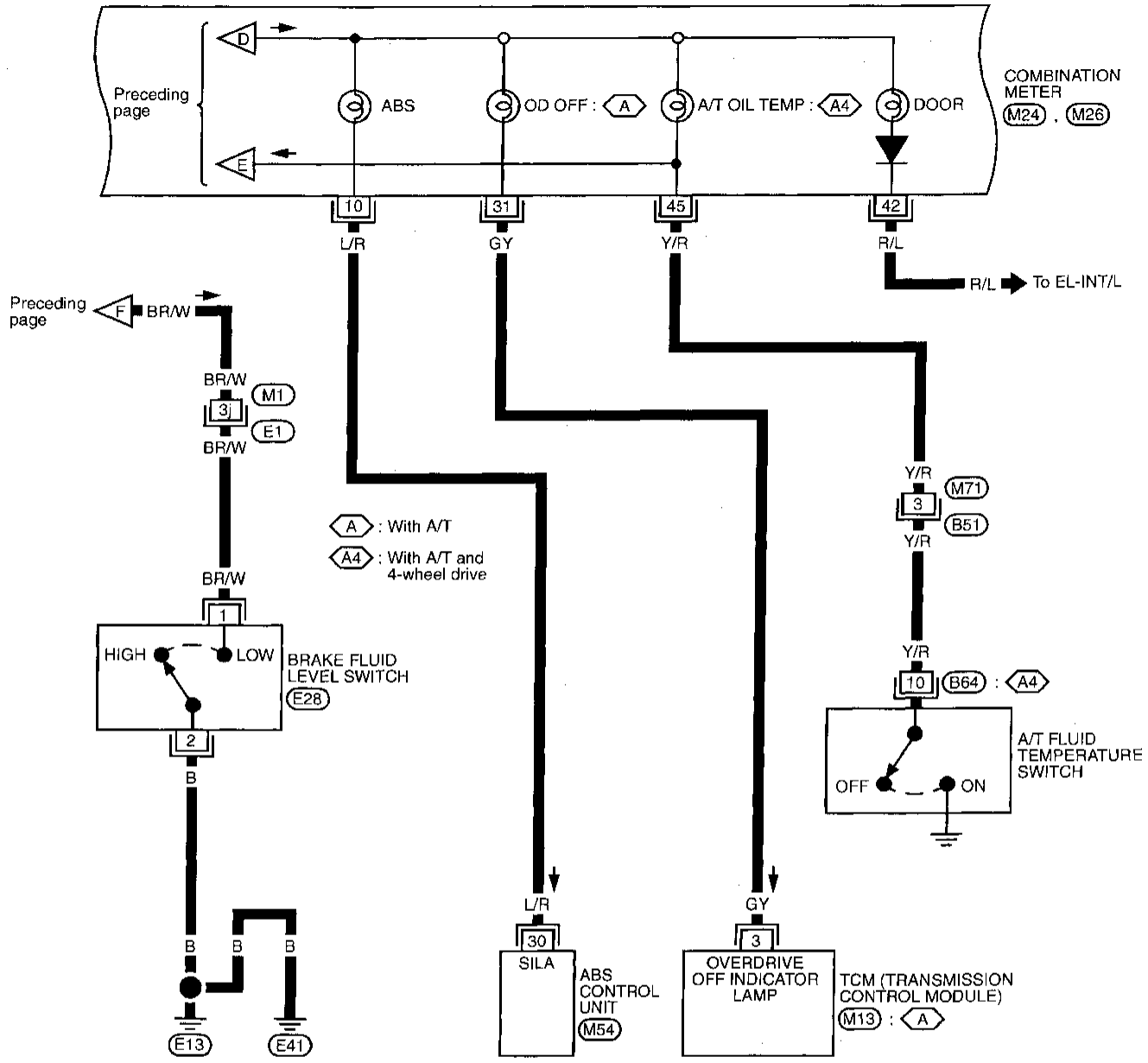
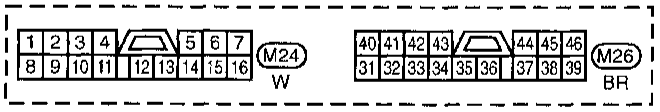
E1 , M1

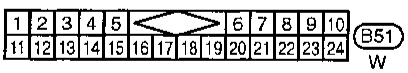
M2 , B1

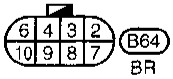
MEL585H

EL-WARN-04









Refer to last page (Foldout page).

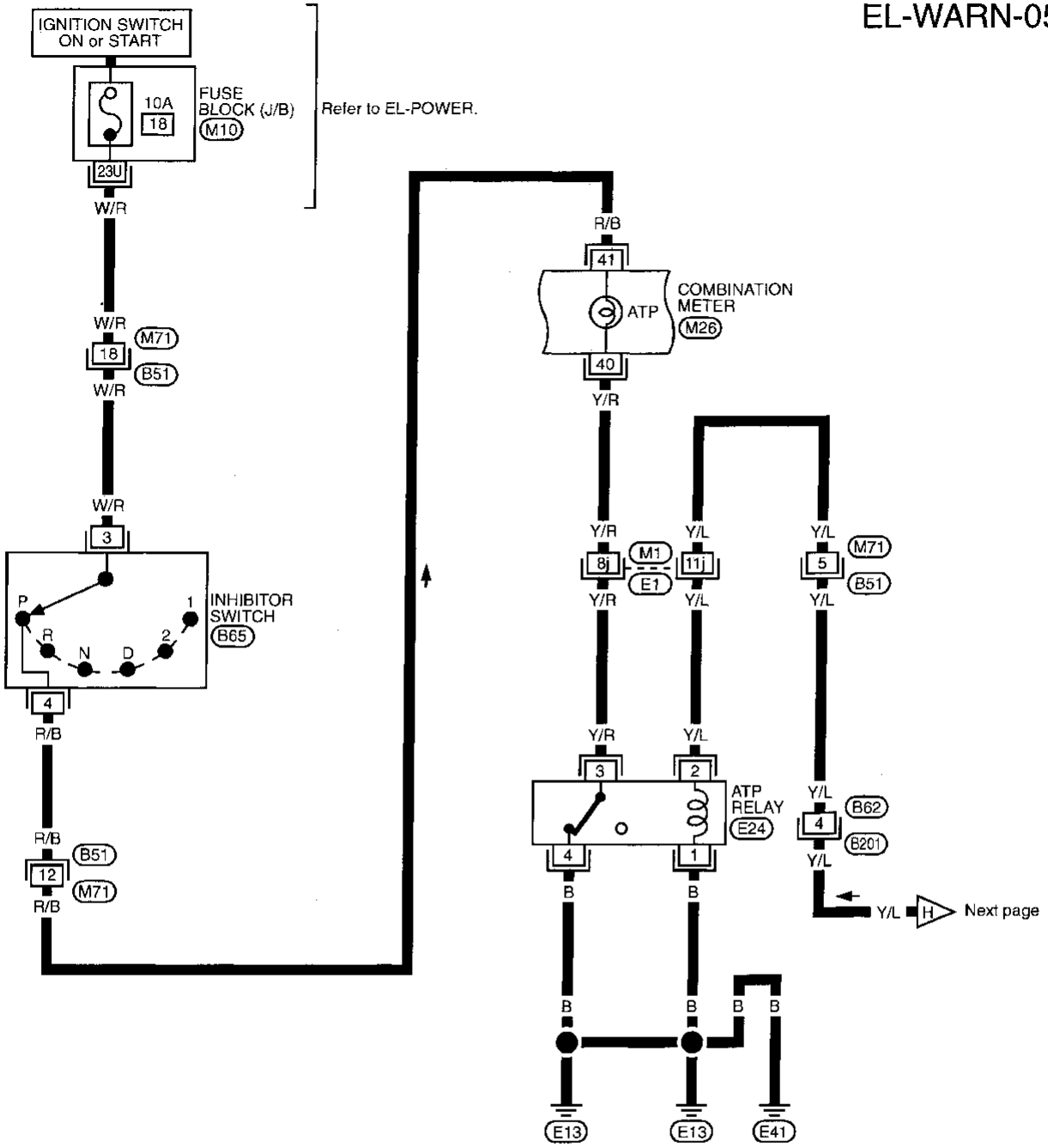
E1 , M1

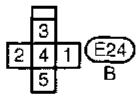
M13

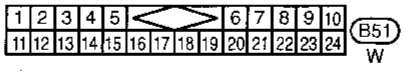
M54

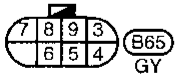
MEL586H

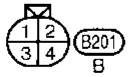
EL-WARN-05







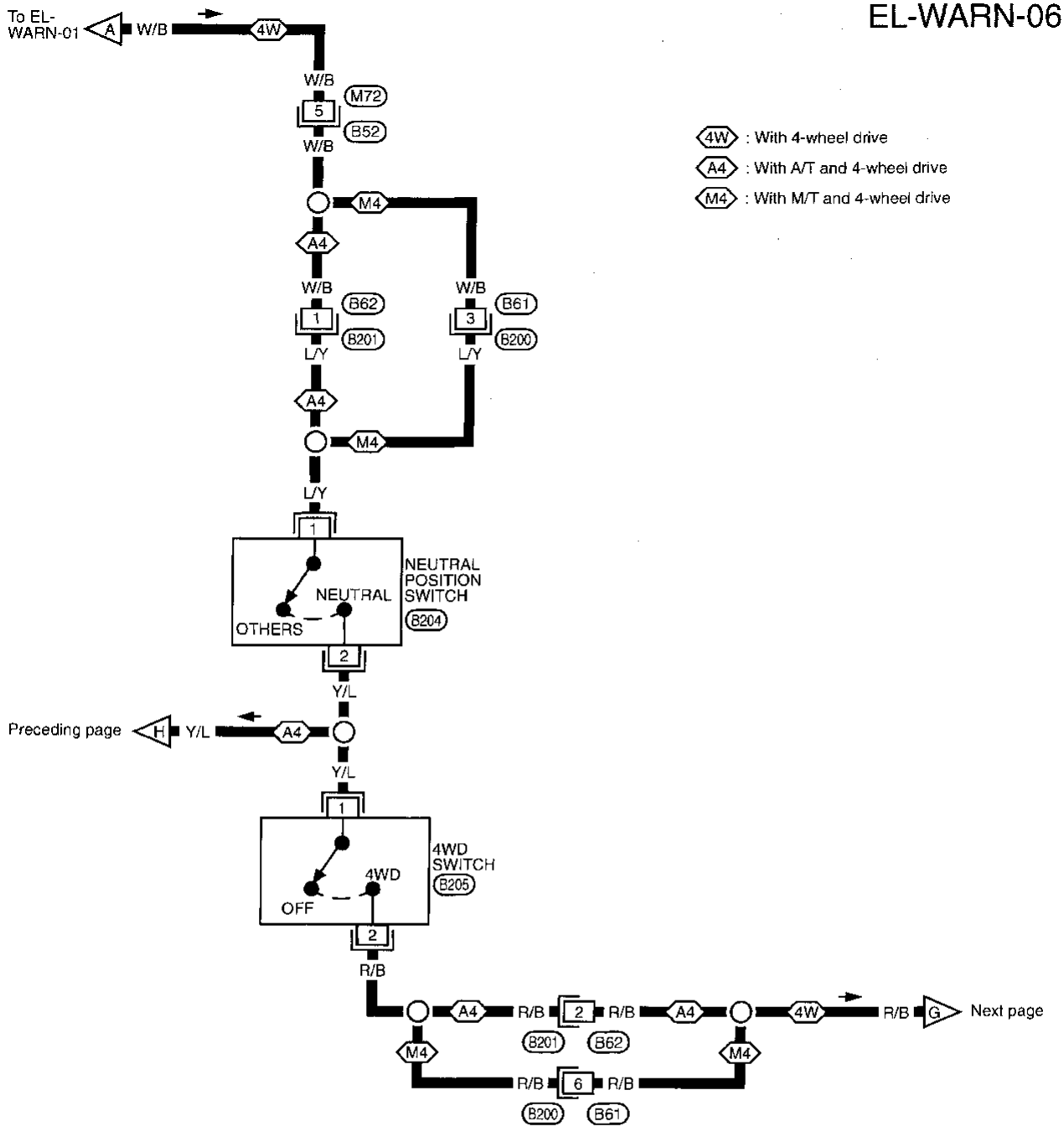


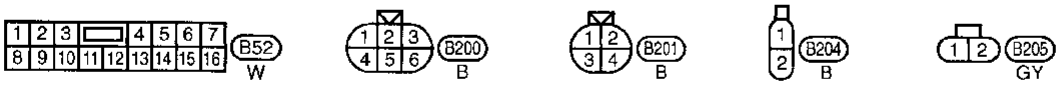


Refer to last page (Foldout page).
M1, E1
M10

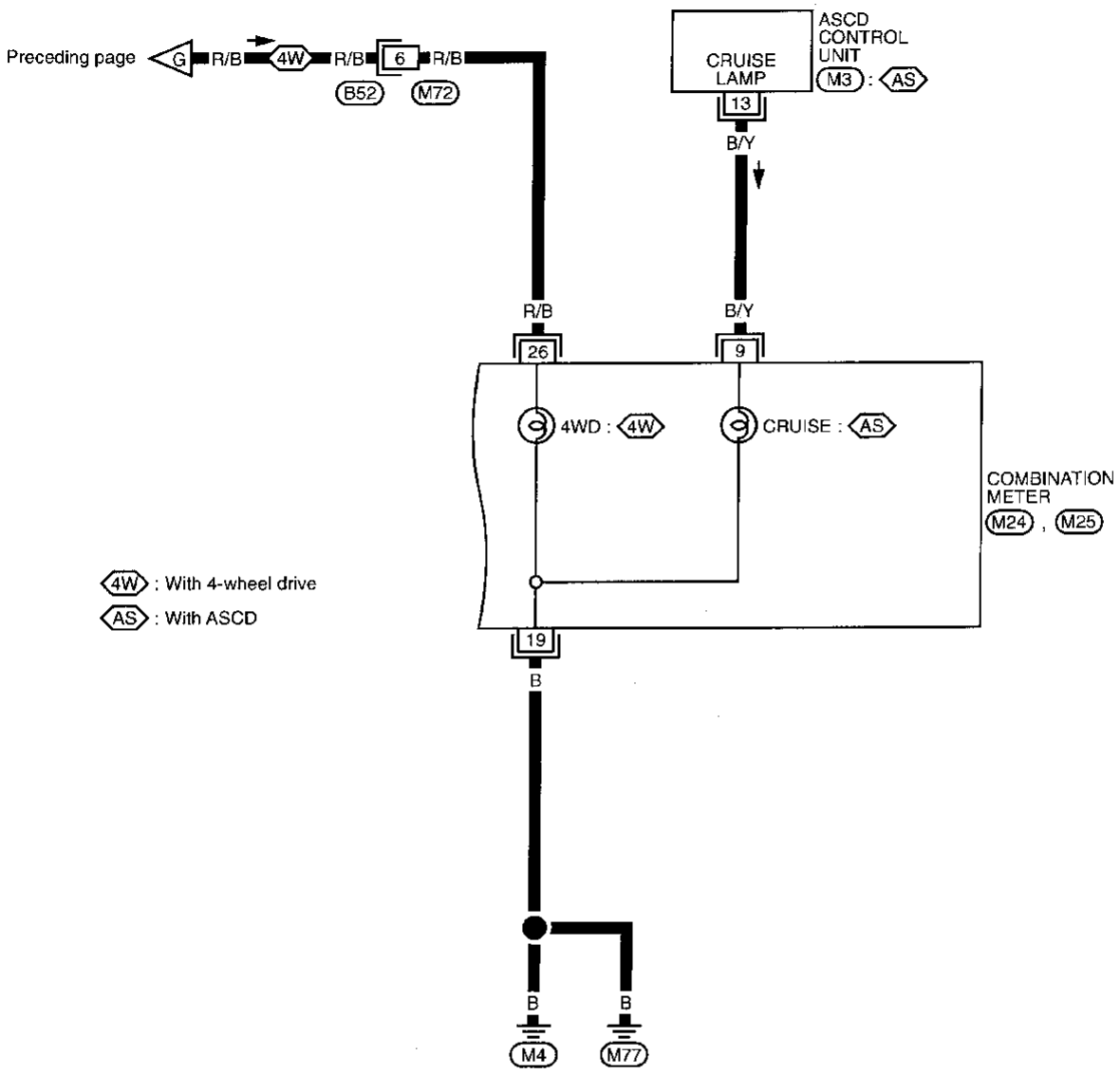
MEL587H

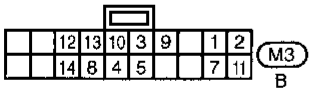
EL-WARN-06

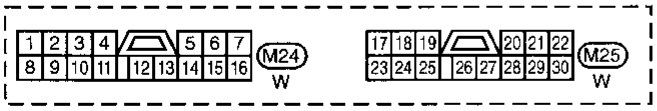


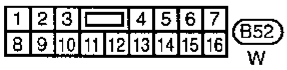


MEL588H

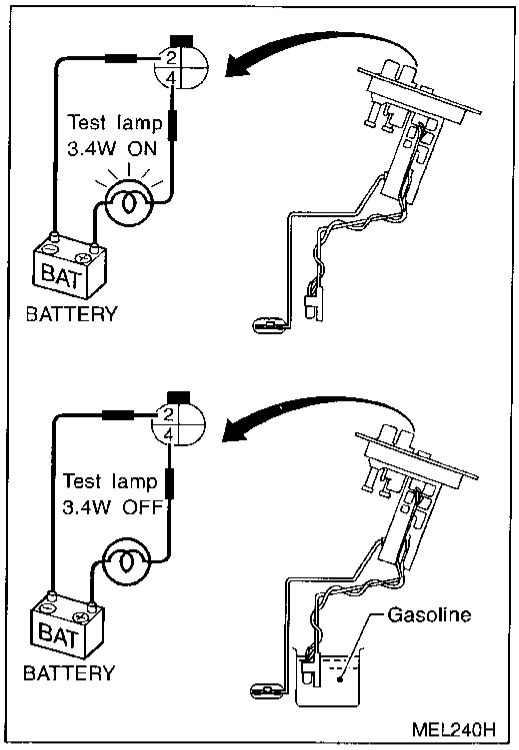

Preceding page
G
R/B
4W
R/B
6
R/B
B52
M72
ASCD CONTROL UNIT
CRUISE LAMP
M3 : AS
13
B/Y
B/Y
R/B
26
9
4WD : 4W
CRUISE : AS
COMBINATION METER
M24 , M25
4W : With 4-wheel drive
AS : With ASCD
19
B
B
B
M4
M77

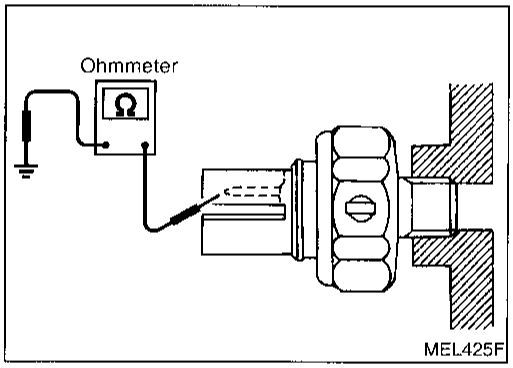

M3
B

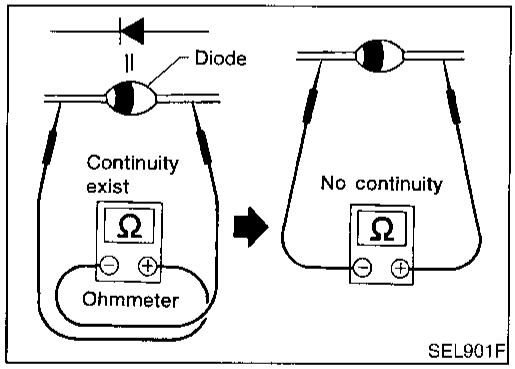

M24
W
M25
W


B52
W

MEL589H







Electrical Components Inspection

NAEL0051

FUEL WARNING LAMP SENSOR CHECK

NAEL0051S01

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

OIL PRESSURE SWITCH CHECK

NAEL0051S02

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

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

DIODE CHECK

NAEL0051S03

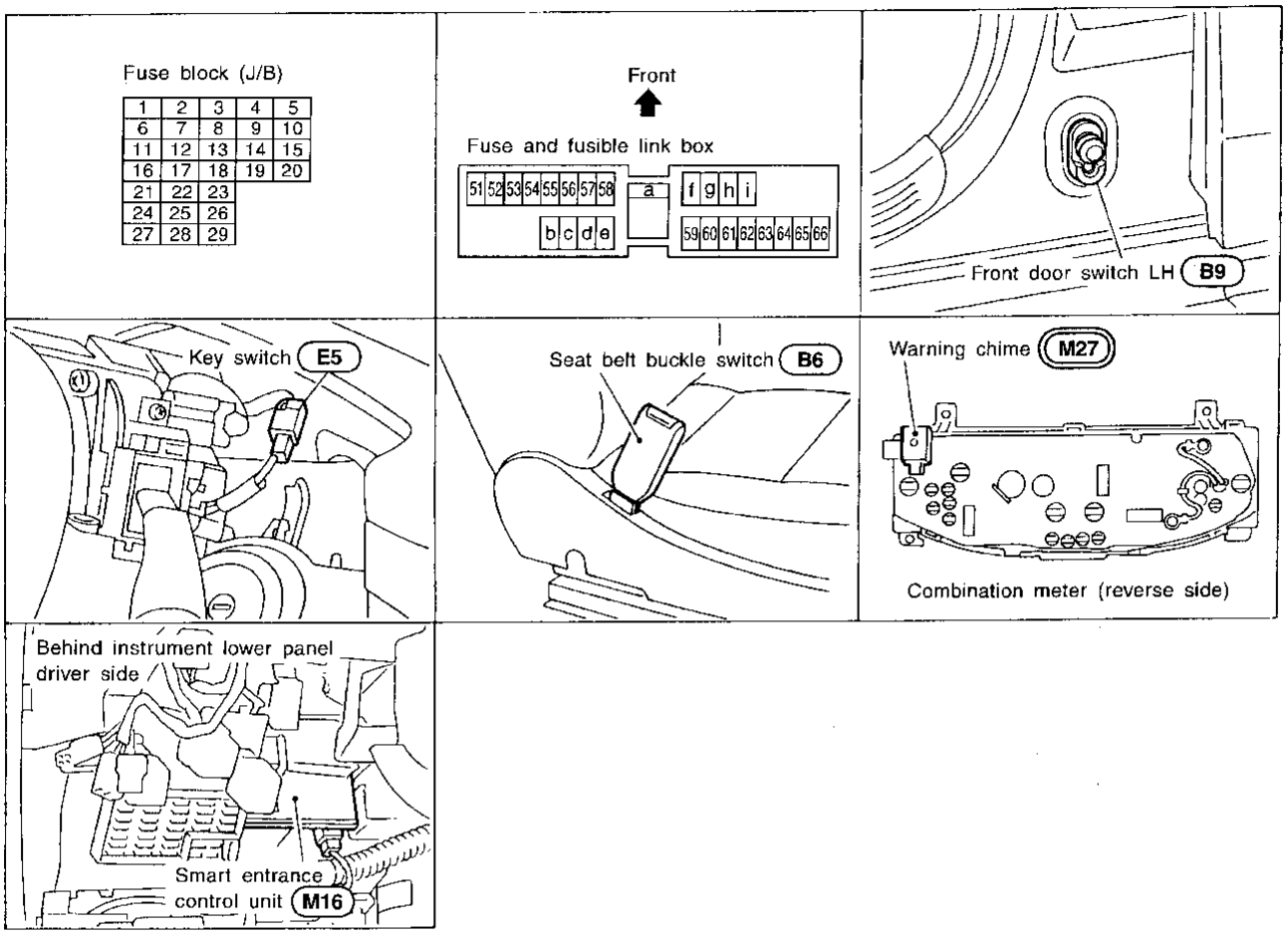
- Check continuity using an ohmmeter.
- Diode is functioning properly if test results are as shown in the figure at left.

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

- Diodes for warning lamps are built into the combination meter printed circuit.
- For diode location, refer to Combination Meter, EL-61.

Component Parts and Harness Connector Location

NAEL0052



SEL297V

System Description

NAEL0053

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 1
- to key switch terminal 1.

Power is supplied at all times

- through 10A fuse [No. 61, located in the fuse block (J/B)]
- to lighting switch terminal 11.

Power is supplied at all times

- through 40A fusible link (letter **f**, located in the fuse and fusible link box).
- to smart entrance control unit terminal 1.

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

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

Ground is supplied to smart entrance control unit terminal 10 through body grounds M4 and M77.
When a signal, or combination of signals, is received by the smart entrance control unit, ground is supplied

- through smart entrance control unit terminal 23
- to warning chime terminal 3.

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

IGNITION KEY WARNING CHIME

NAEL0053S01

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

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

Ground is supplied

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

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

LIGHT WARNING CHIME

NAEL0053S02

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

- from lighting switch terminal 12
- to smart entrance control unit terminal 25.

Ground is supplied

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

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

SEAT BELT WARNING CHIME

NAEL0053S03

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

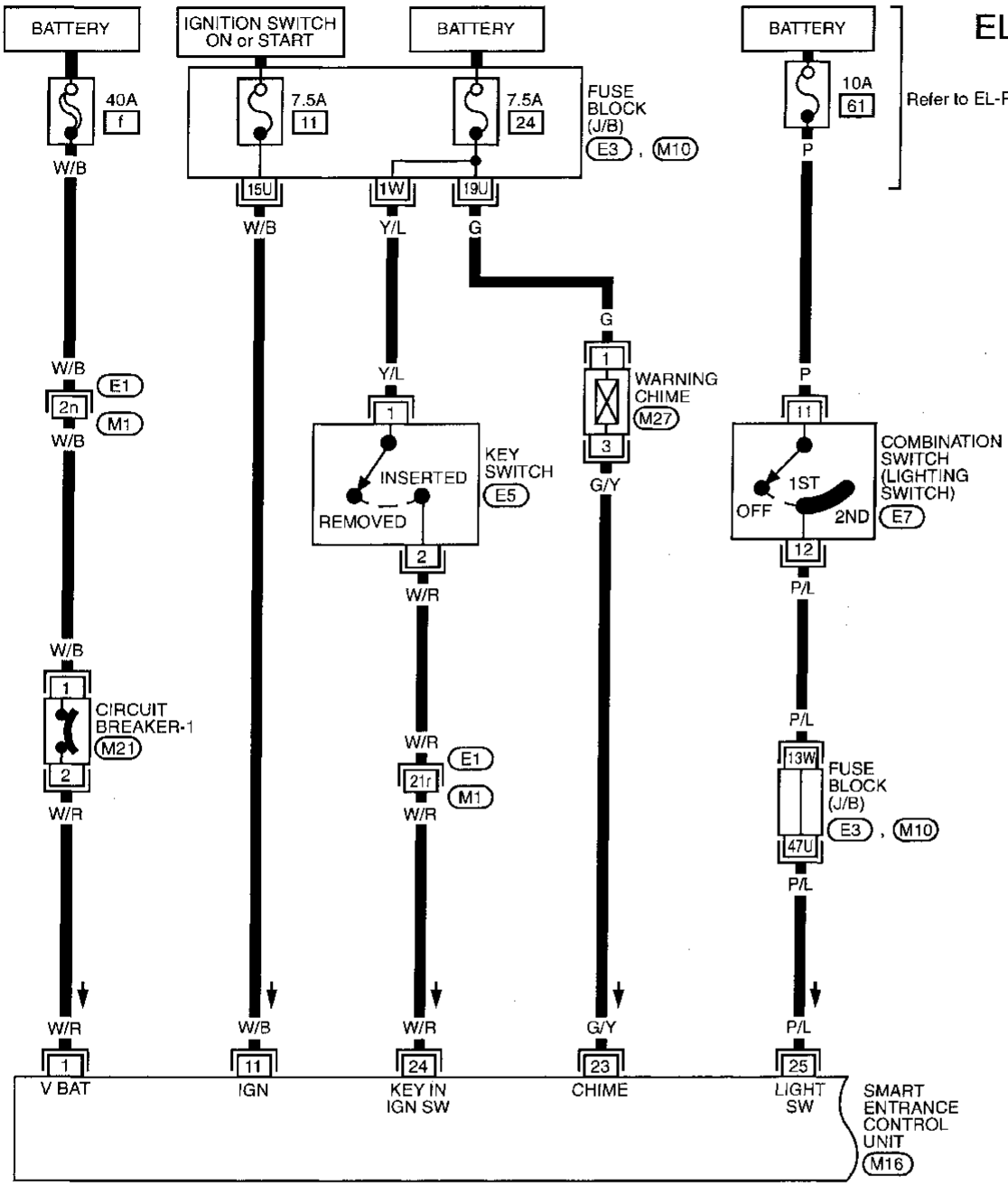
- from seat belt switch terminal 1
- to smart entrance control unit terminal 21.

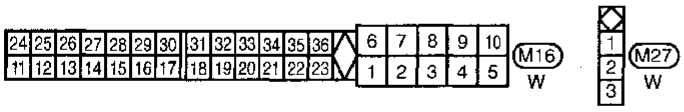
Seat belt switch terminal 2 is grounded through body grounds B11, B22 and D210.

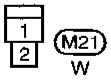
Wiring Diagram — CHIME —

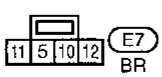
NAEL0054

EL-CHIME-01





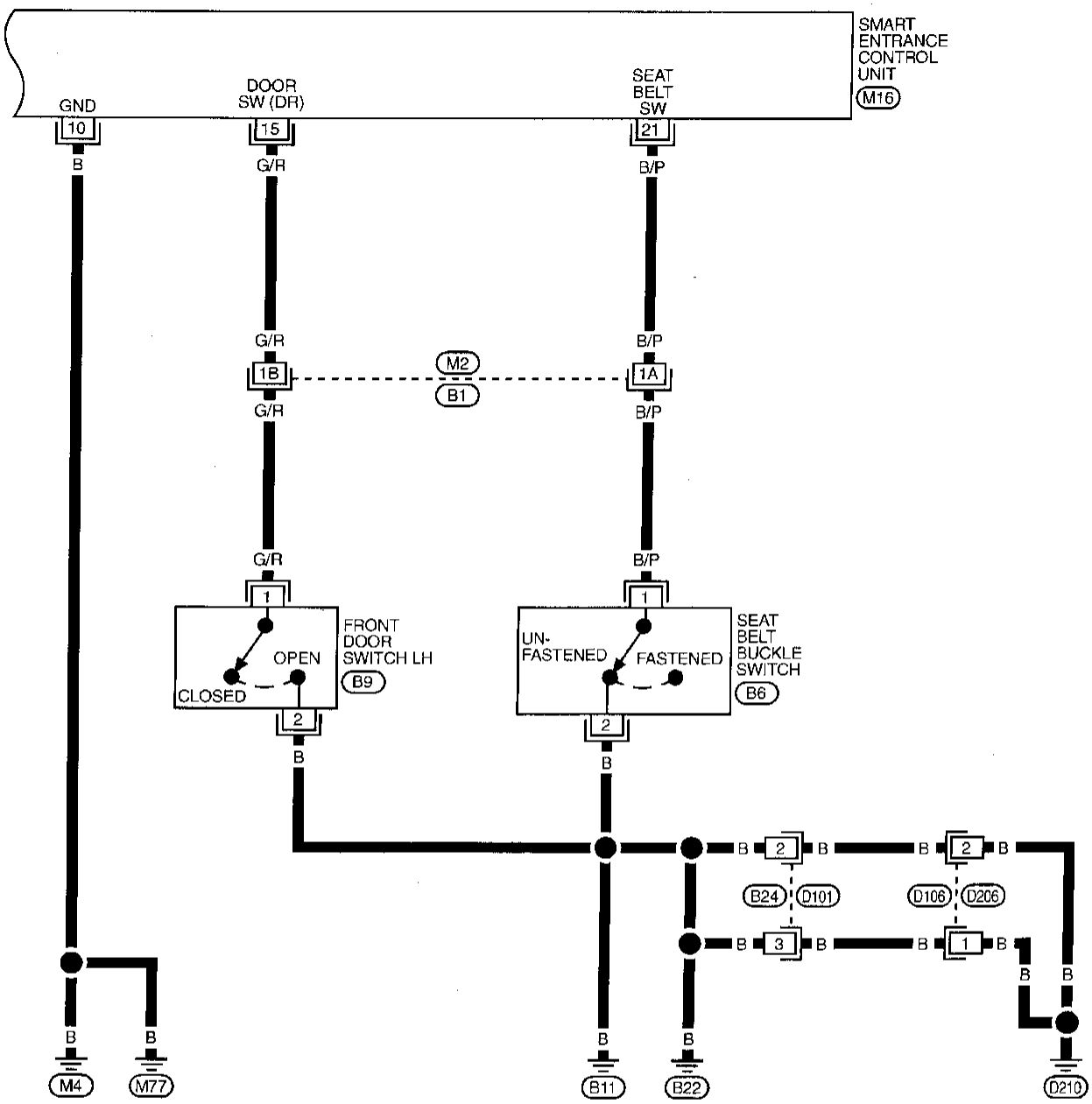


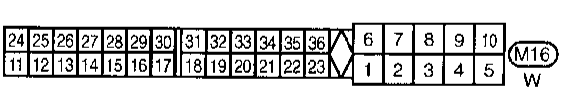


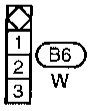
Refer to last page (Foldout page).
E1 , M1
E3
M10

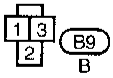
MEL590H

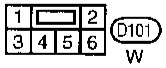
EL-CHIME-02











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

MEL591H

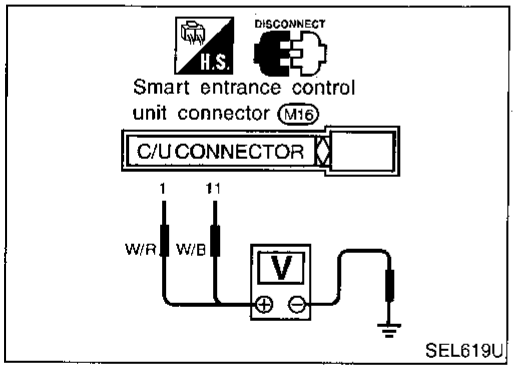
Trouble Diagnoses

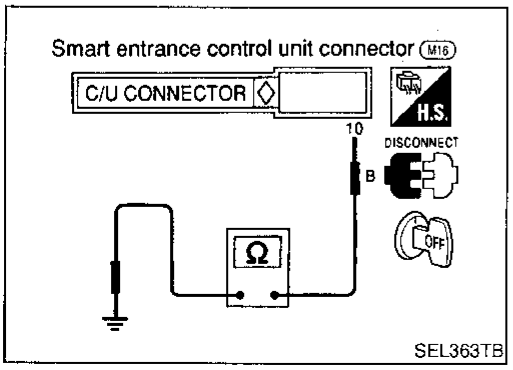
NAEL0055

SYMPTOM CHART

NAEL0055S01

REFERENCE PAGE (EL-)	89	90	90	91	91	92
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	LIGHTING SWITCH CHECK	KEY SWITCH (INSERT) CHECK	SEAT BELT BUCKLE SWITCH CHECK	DRIVER SIDE DOOR SWITCH CHECK	WARNING CHIME CHECK
Light warning chime does not activate.	X	X			X	X
Ignition key warning chime does not activate.	X		X		X	X
Seat belt warning chime does not activate.	X			X		X
All warning chimes do not activate.	X				X	X





POWER SUPPLY AND GROUND CIRCUIT CHECK

NAEL0055S02

Power Supply Circuit Check

NAEL0055S0201

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

Ground Circuit Check

NAEL0055S0202

Terminals	Continuity
10 - Ground	Yes

LIGHTING SWITCH INPUT SIGNAL CHECK

=NAEL0055S03

1	CHECK LIGHTING SWITCH INPUT SIGNAL

Check voltage between control unit terminal 25 and ground.

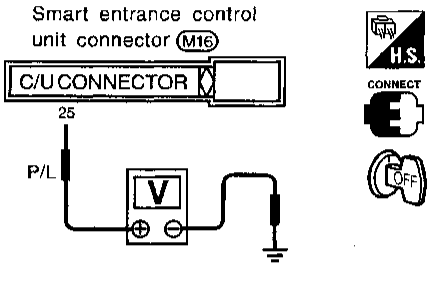
Voltage [V]:

Condition of lighting switch: 1ST or 2ND

Approx. 12

Condition of lighting switch: OFF

0



SEL232V

OK or NG

OK	▶	Lighting switch is OK.
NG	▶	**Check the following.** • 10A fuse (No. 61, located in the fuse and fusible link box) • Harness for open or short between control unit and lighting switch

KEY SWITCH (INSERT) CHECK

NAEL0055S04

1	CHECK KEY SWITCH INPUT SIGNAL

Check voltage between control unit terminal 24 and ground.

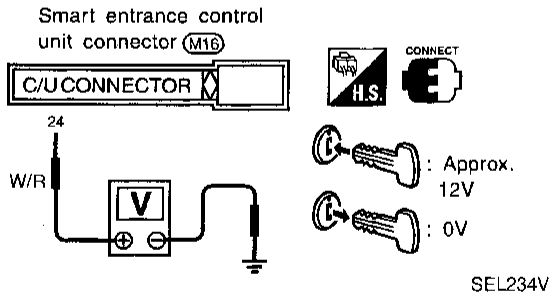
Voltage [V]:

Condition of key switch: Key is inserted.

Approx. 12

Condition of key switch: Key is withdrawn.

0



SEL234V

OK or NG

OK	▶	Key switch is OK.
NG	▶	GO TO 2.

2	CHECK KEY SWITCH (INSERT)

Check continuity between terminals 1 and 2.

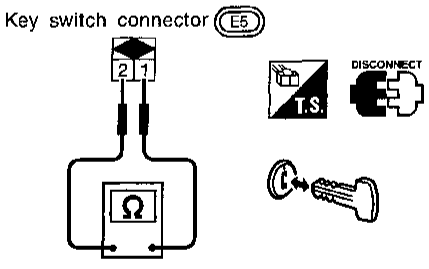
Continuity:

Condition of key switch: Key is inserted.

Yes

Condition of key switch: Key is withdrawn.

No



SEL249V

OK or NG

OK	▶	**Check the following.** • 7.5A fuse [No. 24, located in fuse block (J/B)] • Harness for open or short between key switch and fuse • Harness for open or short between control unit and key switch
NG	▶	Replace key switch.

SEAT BELT BUCKLE SWITCH CHECK

=NAEL0055S05

1	CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL

1. Turn ignition switch "ON".
2. Check voltage between control unit terminal 21 and ground.

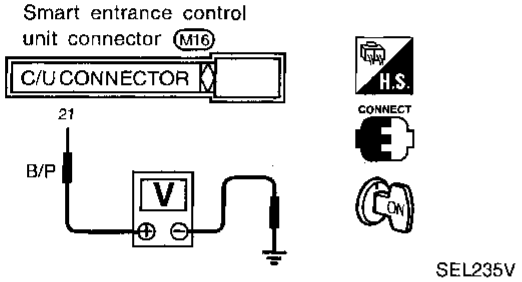
Voltage [V]:

Condition of seat belt buckle switch: Fastened

Approx. 12

Condition of seat belt buckle switch: Unfastened

0



SEL235V

OK or NG

OK	▶	Seat belt buckle switch is OK.
NG	▶	GO TO 2.

2	CHECK SEAT BELT BUCKLE SWITCH

Check continuity between terminals 1 and 2 when seat belt is fastened and unfastened.

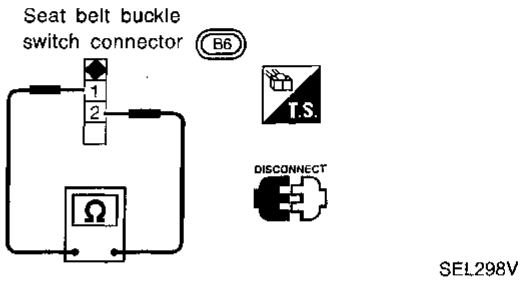
Continuity:

Seat belt is fastened.

No

Seat belt is unfastened.

Yes



SEL298V

OK or NG

OK	▶	**Check the following.** • Seat belt buckle switch ground circuit • Harness for open or short between control unit and seat belt buckle switch
NG	▶	Replace seat belt buckle switch.

DRIVER SIDE DOOR SWITCH CHECK

NAEL0055S06

1	CHECK DOOR SWITCH INPUT SIGNAL

Check voltage between control unit terminal 15 and ground.

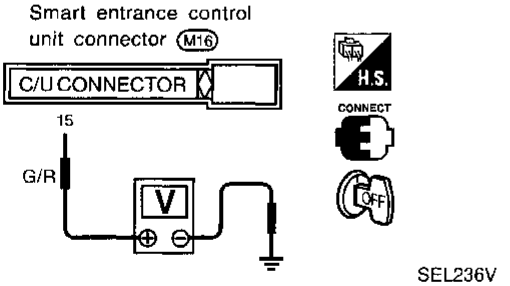
Voltage [V]:

Condition of driver's door: CLOSED

Approx. 12

Condition of driver's door: OPENED

0



SEL236V

OK or NG

OK	▶	Driver side door switch is OK.
NG	▶	GO TO 2.

2	CHECK DRIVER SIDE DOOR SWITCH

Check continuity between terminals 1 and 2, 3 and ground.

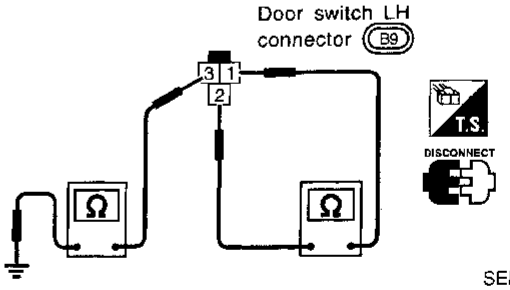
Continuity:

Door switch is pushed.

No

Door switch is released.

Yes



SEL237V

OK or NG

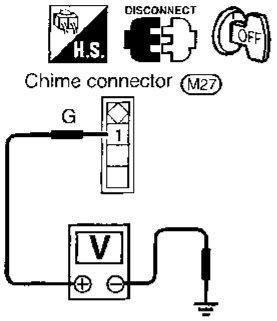
OK	▶	**Check the following.** • Door switch ground circuit • Harness for open or short between control unit and door switch
NG	▶	Replace driver side door switch.

WARNING CHIME CHECK

=NAEL0055S07

1	CHECK CHIME POWER SUPPLY

Check voltage between warning chime terminal 1 and ground.



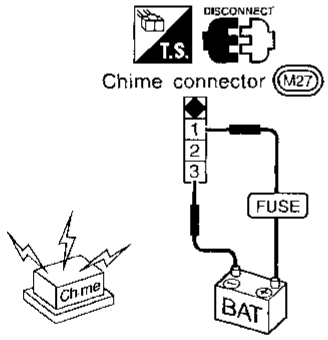
SEL770UA

Does battery voltage exist?

Yes	▶	GO TO 2.
No	▶	**Check the following.** • 7.5A fuse [No. 24, located in fuse block (J/B)] • Harness for open or short between chime and fuse

2	CHECK WARNING CHIME

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



SEL408V

Does warning chime sound?

Yes	▶	Check harness for open or short between control unit and warning chime.
No	▶	Replace warning chime.

System Description

NAEL0057

WIPER OPERATION

NAEL0057S01

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

- LO speed
- HI speed
- INT (Intermittent)

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

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

Low and High Speed Wiper Operation

NAEL0057S0101

Ground is supplied to wiper switch terminal 17 through body grounds E13 and E41.
When the wiper switch is placed in the LO position, ground is supplied

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

With power and ground supplied, the wiper motor operates at low speed.
When the wiper switch is placed in the HI position, ground is supplied

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

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

Auto Stop Operation

NAEL0057S0102

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 M4 and M77.

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

Intermittent Operation

NAEL0057S0103

The wiper motor operates the wiper arms one time at low speed at a set interval of approximately 3 to 13 seconds. This feature is controlled by the wiper amplifier.
When the wiper switch is placed in the INT position, ground is supplied

- to wiper amplifier terminal 1
- from wiper switch terminal 15
- through body grounds E13 and E41.
- to wiper motor terminal 2
- through the wiper switch terminal 14
- to wiper switch terminal 13
- through wiper amplifier terminal 2
- to wiper amplifier terminal 3
- through body grounds M4 and M77.

The desired interval time is input

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

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

System Description (Cont'd)

WASHER OPERATION

NAEL0057S02

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

- through 20A fuse [No. 19, located in the fuse block (J/B)]
- to washer motor terminal 1.

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

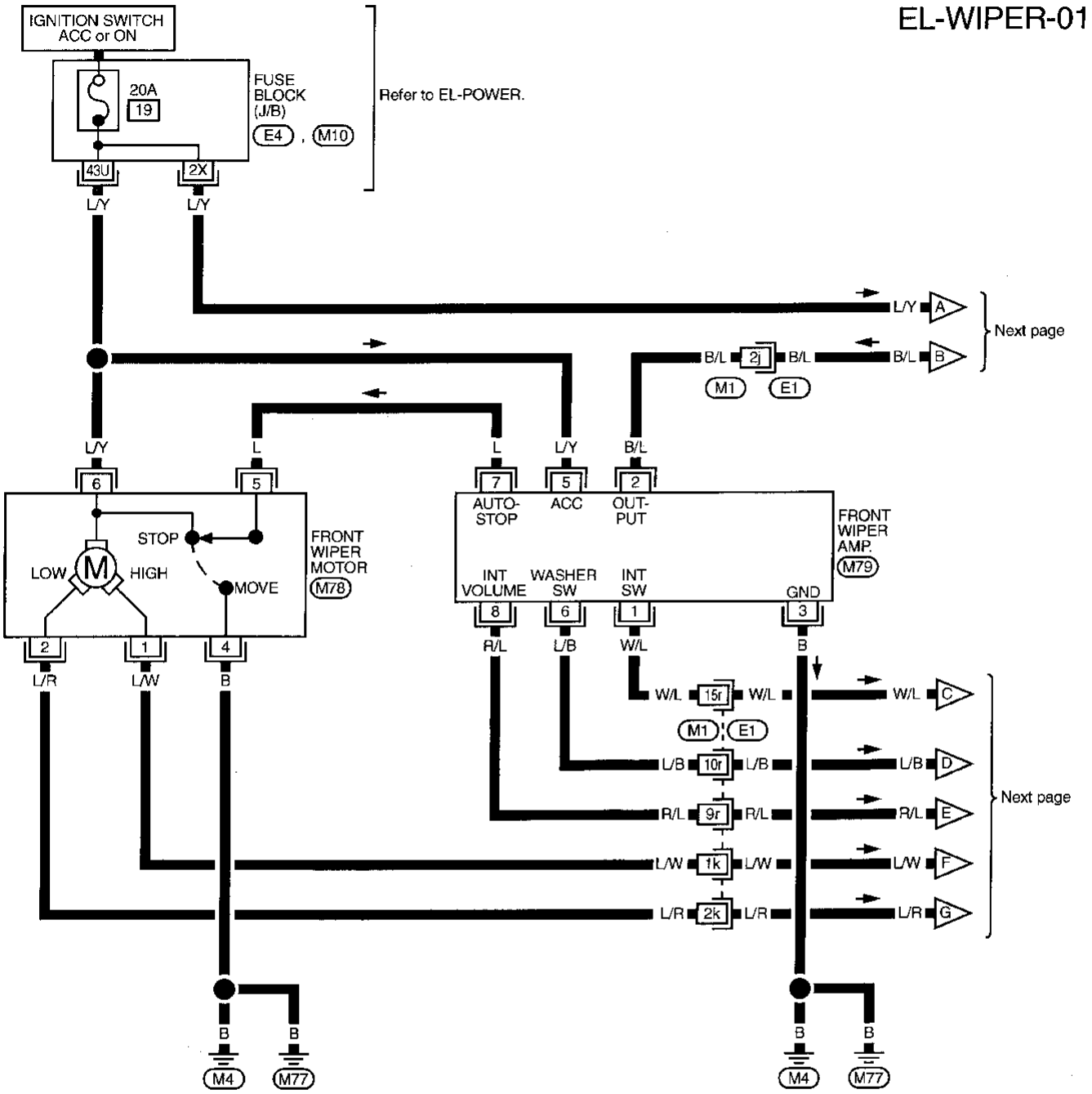
- to washer motor terminal 2, and
- to wiper amplifier terminal 6
- from terminal 18 of the wiper switch
- through terminal 17 of the wiper switch, and
- through body grounds E13 and E41.

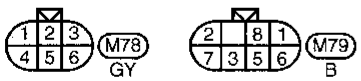
With power and ground supplied, the washer motor operates.
When the lever is pulled to the WASH position for one second or more, the wiper motor operates at low speed for approximately 3 seconds to clean windshield. This feature is controlled by the wiper amplifier in the same manner as the intermittent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

Wiring Diagram — WIPER —

NAEL0058

EL-WIPER-01

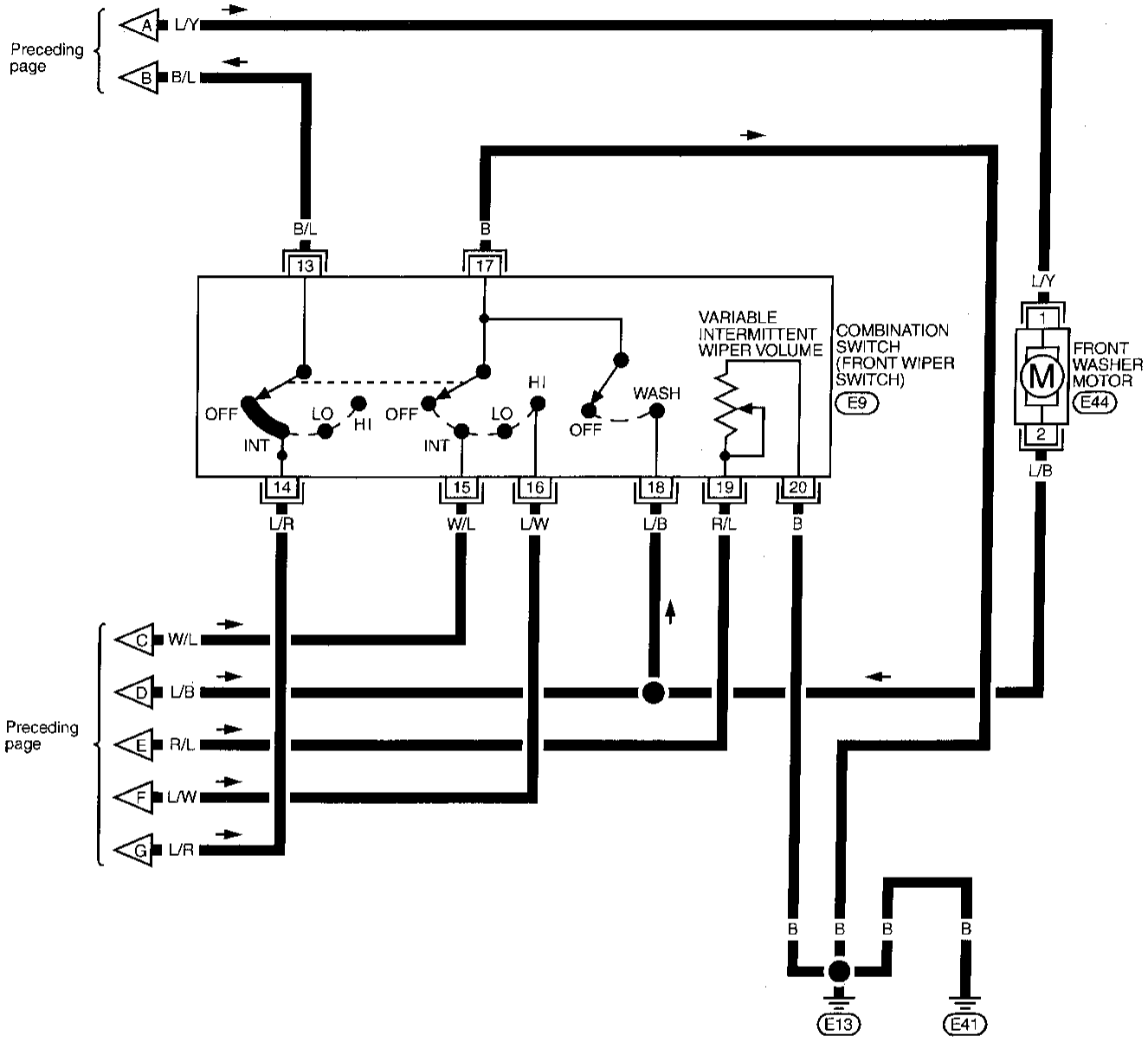


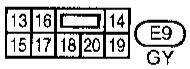


Refer to last page (Foldout page).
E1, M1
E4
M10

MEL592H

EL-WIPER-02





MEL554H

Trouble Diagnoses

NAEL0059

DIAGNOSTIC PROCEDURE 1

NAEL0059S01

SYMPTOM: Intermittent wiper does not operate.

1 CHECK WIPER OPERATION

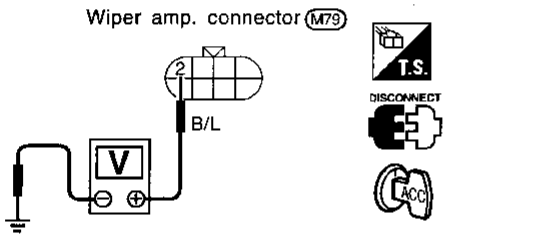
Check whether wiper operates with the wiper switch at Lo position.

Does wiper operate at Lo speed?

Yes ▶	GO TO 2.
No ▶	**Check the following.** • 20A fuse [No. 19, located in fuse block (J/B)] • Wiper motor • Wiper switch • Harness for open or short

2 CHECK WIPER AMP. OUTPUT

1. Turn front wiper switch to OFF.
2. Disconnect wiper amp. connector.
3. Check voltage between wiper amp. terminal 2 and ground.



SEL226V

Does battery voltage exist?

Yes ▶	GO TO 3.
No ▶	**Check the following.** • Wiper switch • Harness for open or short between wiper amp. terminal 2 and wiper switch terminal 13

3 CHECK INTERMITTENT SWITCH INPUT SIGNAL

Check harness continuity between wiper amp. terminal 1 and ground.

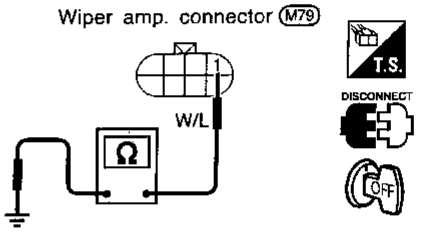
Continuity:

Condition of wiper switch: OFF

No

Condition of wiper switch: INT

Yes



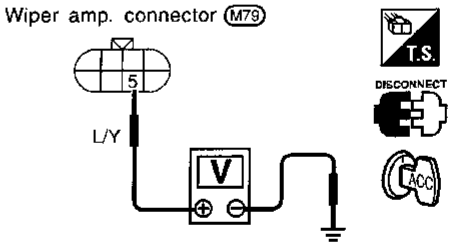
SEL227V

OK or NG

OK ▶	GO TO 4.
NG ▶	**Check the following.** • Wiper switch • Harness for open or short between wiper amp. terminal 1 and wiper switch terminal 15 • Ground circuit for front wiper switch terminal 17

4 CHECK WIPER AMP. POWER SUPPLY CIRCUIT

Check voltage between wiper amp. terminal 5 and ground while ignition switch is "ACC".



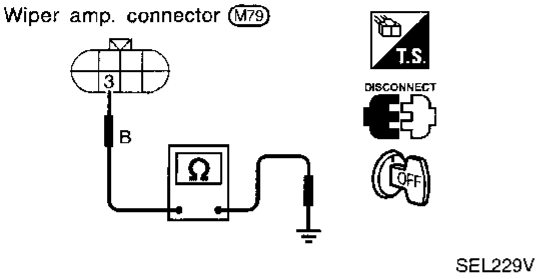
SEL228V

Does battery voltage exist?

Yes ▶	GO TO 5.
No ▶	**Check the following.** • 20A fuse [No. 19, located in fuse block (J/B)] • Harness for open or short between wiper amp. and fuse

5	CHECK WIPER AMP. GROUND CIRCUIT

Check harness continuity between wiper amp. terminal 3 and body ground.



SEL229V

Does continuity exist?

Yes	▶	Replace wiper amp.
No	▶	Repair harness or connector.

DIAGNOSTIC PROCEDURE 2

NAEL0059S02

SYMPTOM: Intermittent time of wiper cannot be adjusted.

1	CHECK INTERMITTENT WIPER VOLUME INPUT SIGNAL

1. Disconnect wiper amp. connector.
2. Measure resistance between wiper amp. terminals 8 and 3 while turning intermittent wiper volume.

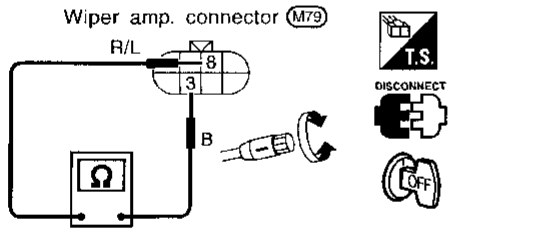
Resistance [Ω]:

Position of wiper knob: S

0

Position of wiper knob: L

Approx. 1 k



SEL230V

OK or NG

OK	▶	Replace wiper amp.
NG	▶	**Check the following.** • Intermittent wiper volume • Harness for open or short between wiper amp. terminal 8 and wiper switch terminal 19 • Ground circuit for front wiper switch terminal 20

DIAGNOSTIC PROCEDURE 3

NAEL0059S03

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

1	CHECK WASHER SWITCH INPUT SIGNAL

1. Turn ignition switch to "OFF".
2. Disconnect wiper amp. connector.
3. Check harness continuity between wiper amp. terminal 6 and ground.

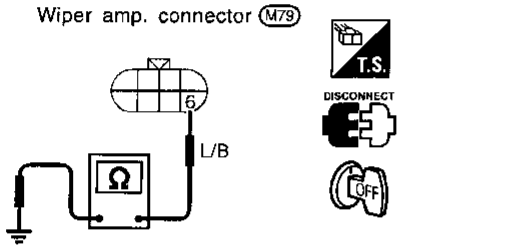
Continuity:

Condition of washer switch: OFF

No

Condition of washer switch: ON

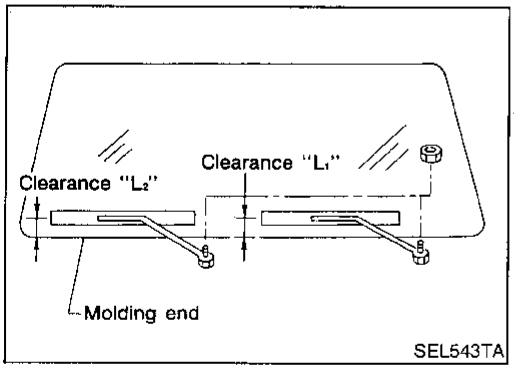
Yes



SEL231V

OK or NG

OK	▶	Go to DIAGNOSTIC PROCEDURE 1.
NG	▶	Check harness for open or short between wiper amp. terminal 6 and wiper switch terminal 18.



SEL543TA

Removal and Installation

NAEL0060

WIPER ARMS

NAEL0060S01

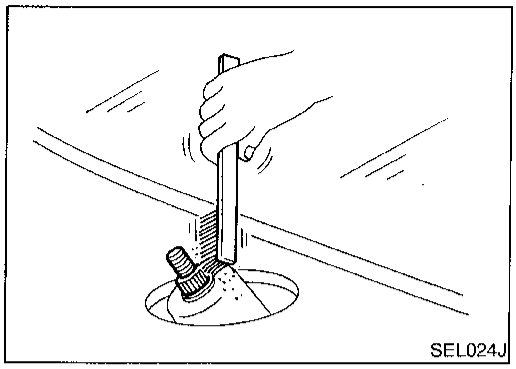
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L_1" & "L_2" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it "OFF".
4. Ensure that wiper blades stop within clearance "L_1" & "L_2".

   Clearance "L_1": 34 mm (1.34 in)

   Clearance "L_2": 37 mm (1.46 in)

- Tighten wiper arm nuts to specified torque.

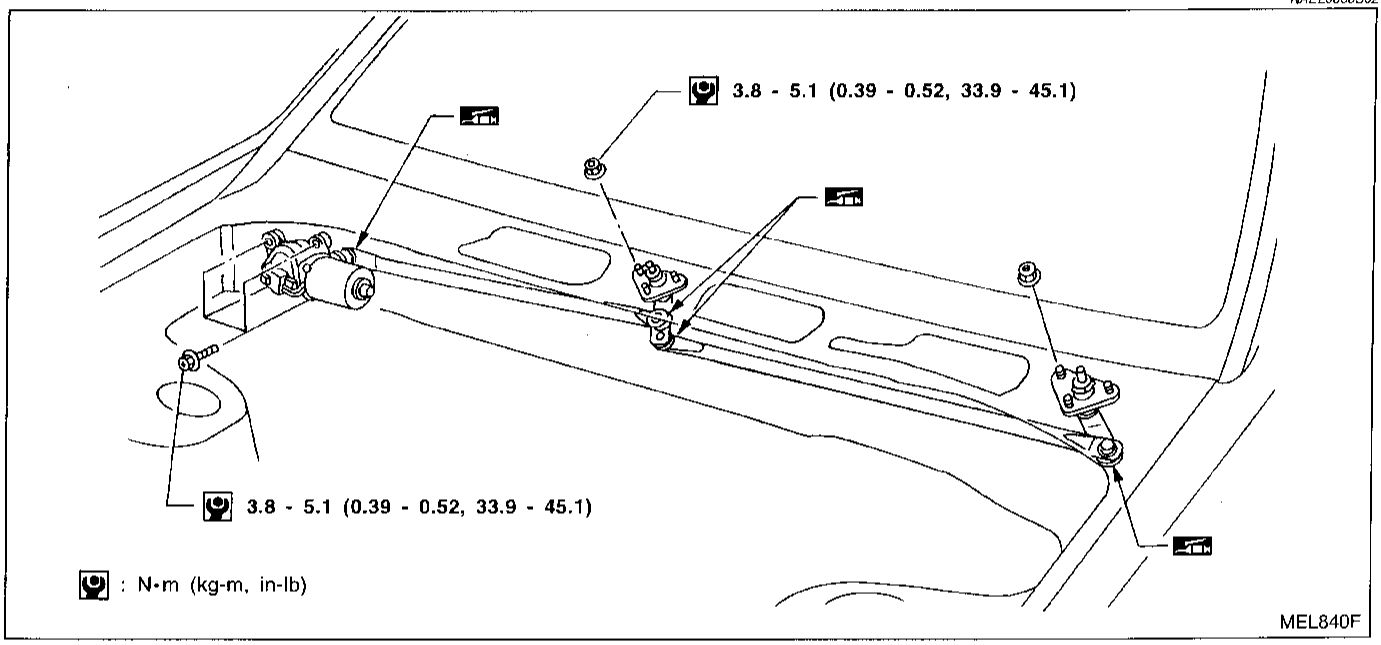
  Front wiper: 17 - 23 N·m (1.7 - 2.3 kg-m, 12 - 17 ft-lb)


SEL024J

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

WIPER LINKAGE

NAEL0060S02



Removal

NAEL0060S0201

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

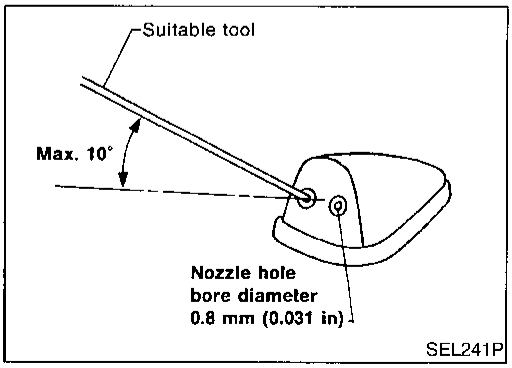
Be careful not to break ball joint rubber boot.

Installation

NAEL0060S0202

- Grease ball joint portion before installation.

1. Installation is the reverse order of removal.

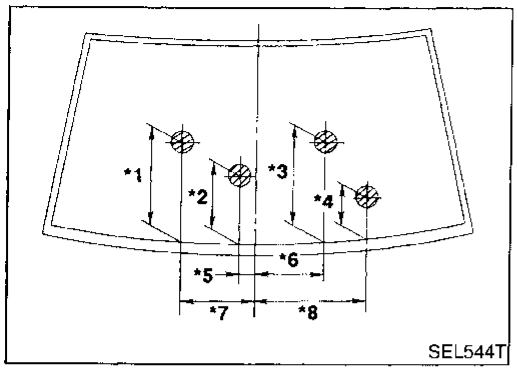


Washer Nozzle Adjustment

NAEL0061

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

  Adjustable range: ±10°



SEL544T

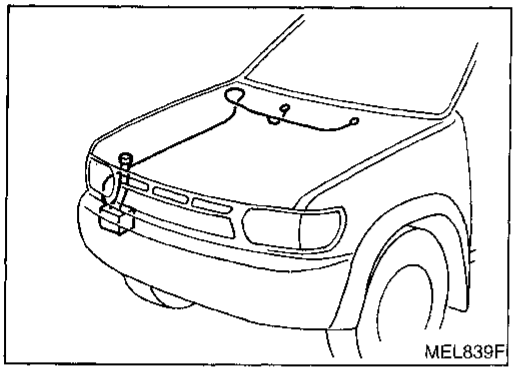
Unit: mm (in)

*1	390 (15.35)	*5	145 (5.71)
*2	160 (6.30)	*6	143 (5.63)
*3	379 (14.92)	*7	225 (8.86)
*4	140 (5.51)	*8	535 (21.06)

*: The diameters of these circles are less than 80 mm (3.15 in).

Washer Tube Layout

NAEL0062


MEL839F

System Description

NAEL0063

WIPER OPERATION

NAEL0063S01

Power Supply and Ground

NAEL0063S0101

With ignition switch in the ACC or ON position, power is supplied
- through 10A fuse [No. 29, located in the fuse block (J/B)]
- to rear wiper relay terminals 4 and 1.

When the glass hatch switch is CLOSED, power is supplied
- from rear wiper relay terminal 3
- to rear wiper amp. terminal 5,
- to rear washer motor terminal 1 and
- to rear wiper motor terminal 6.

If the glass hatch switch is OPEN, ground is supplied
- to rear wiper relay terminal 2
- from glass hatch switch terminal 1.

Then rear wiper relay is energized and power to the rear wiper amp., washer motor and wiper motor is interrupted.
(If the glass hatch is opened, no function of rear wiper motor will operate.)
If the rear wiper switch is turned to the INT or ON position, when glass hatch is opened, rear wiper relay terminal 2 is also grounded
- through rear wiper relay terminals 6 and 7
- from rear wiper switch terminal 8.

(The purpose of this circuit is to prevent an abrupt operation of the rear wiper when the hatch is closed with the ignition switch turned to ON or ACC, and with the rear wiper switch set to INT or ON.)
Ground is supplied
- to rear wiper amplifier terminal 3
- through body grounds B11, B22 and D210.
- to rear wiper switch terminal 3
- through body grounds M4 and M66.

Rising Up Operation

NAEL0063S0102

When the rear wiper switch is turned to the INT or ON position, ground is supplied
- through terminal 1 of rear wiper switch
- to rear wiper amp. terminal 1.

Then wiper amp. is energized and power is supplied
- through rear wiper amp. terminal 4
- to rear wiper motor terminal 4.

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

Low Speed Wiper Operation

NAEL0063S0103

When the rear wiper switch is placed in the ON position, ground is supplied
- through terminal 5 of rear wiper switch
- to rear wiper motor terminal 3.

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

Auto Stop Operation

NAEL0063S0104

With rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arms reach rear wiper stopper.
When wiper arm is not located at rear wiper stopper with wiper switch OFF, ground is provided
- from terminal 5 of the rear wiper switch
- to wiper motor terminal 3, in order to continue wiper motor operation at low speed.

Ground is also supplied
- through terminal 4 of the rear wiper switch

- to rear wiper amplifier terminal 2
- through terminal 7 of the rear wiper amplifier
- to rear wiper motor terminal 7
- through terminal 8 of the wiper motor, and
- through body grounds B11, B22 and D210.

When wiper arms reach rear wiper stopper, rear wiper motor terminals 7 and 6 are connected instead of terminals 7 and 8. Rear wiper motor will then stop wiper arms at the PARK position.

Intermittent Operation

NAEL0063S0105

The rear wiper motor operates the wiper arms at low speed approximately every 7 seconds. This feature is controlled by the wiper amplifier.
When the wiper switch is placed in the INT position, ground is supplied

- to wiper amplifier terminal 1
- from rear wiper switch terminal 1
- through body grounds M4 and M66.
- to wiper motor terminal 3
- through the rear wiper switch terminal 5
- to rear wiper switch terminal 4
- through wiper amplifier terminal 2
- to wiper amplifier terminal 3
- through body grounds B11, B22 and D210.

The rear wiper motor operates at low speed intermittent.

WASHER OPERATION

NAEL0063S02

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

- through 10A fuse (No. 29, located in the fuse block)
- to rear washer motor terminal 1.

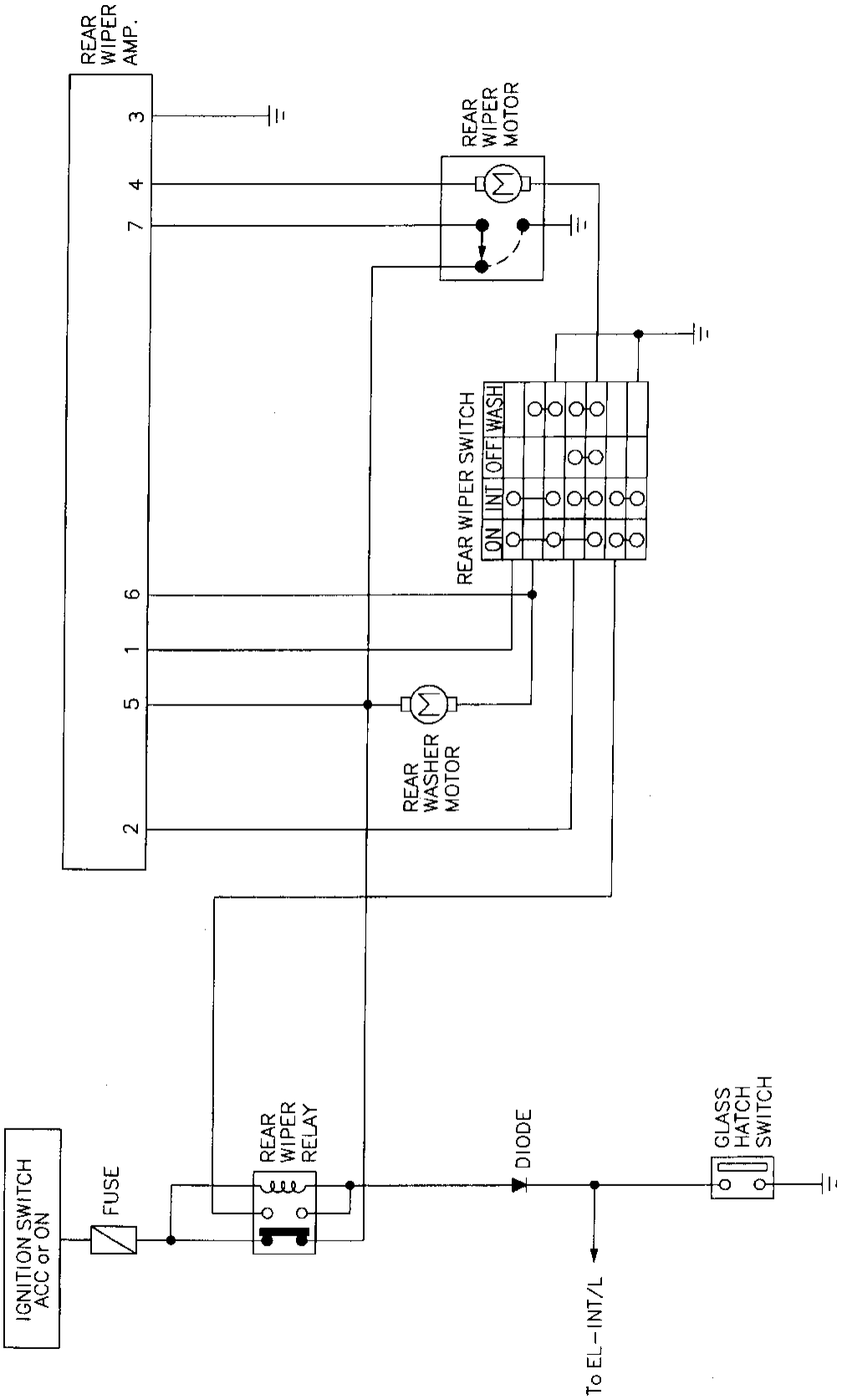
When the rear wiper switch is turned to WASH position, ground is supplied

- to rear washer motor terminal 2, and
- to rear wiper amplifier terminal 6
- from terminal 2 of rear wiper switch
- through terminal 3 of rear wiper switch, and
- through body grounds M4 and M66.

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

Schematic

NAEL0064

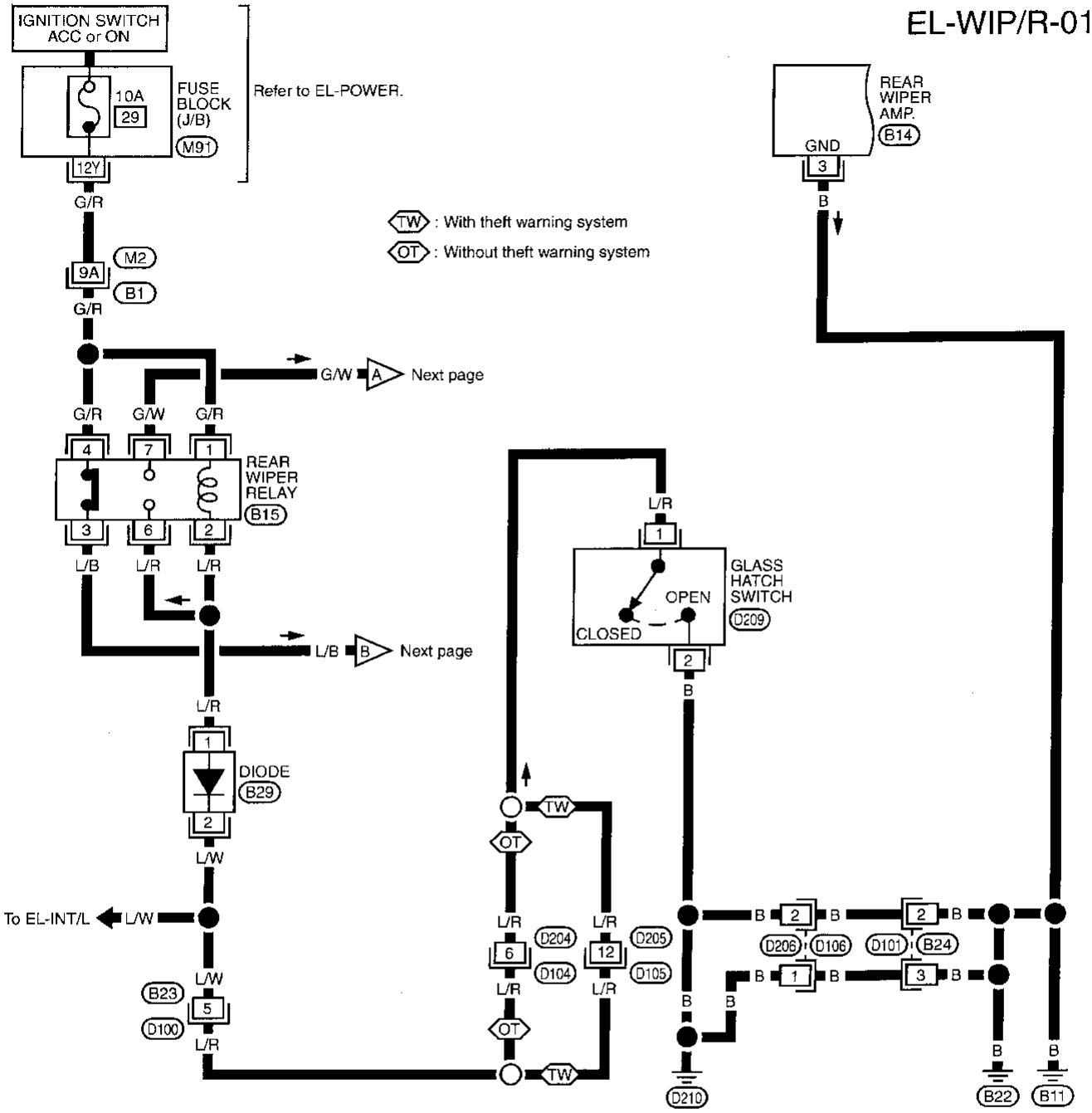


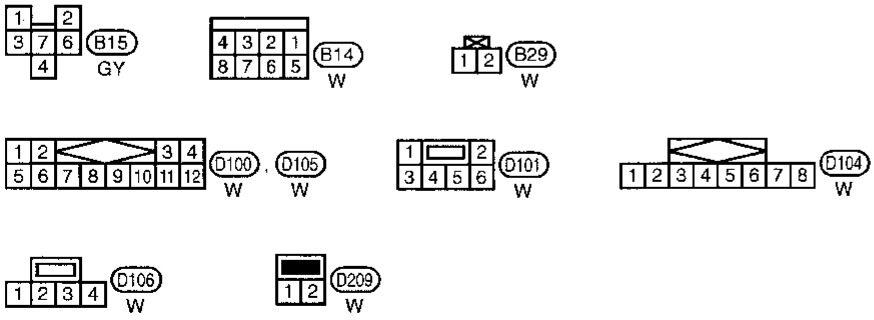
MEL027I

Wiring Diagram — WIP/R —

NAEL0065

EL-WIP/R-01





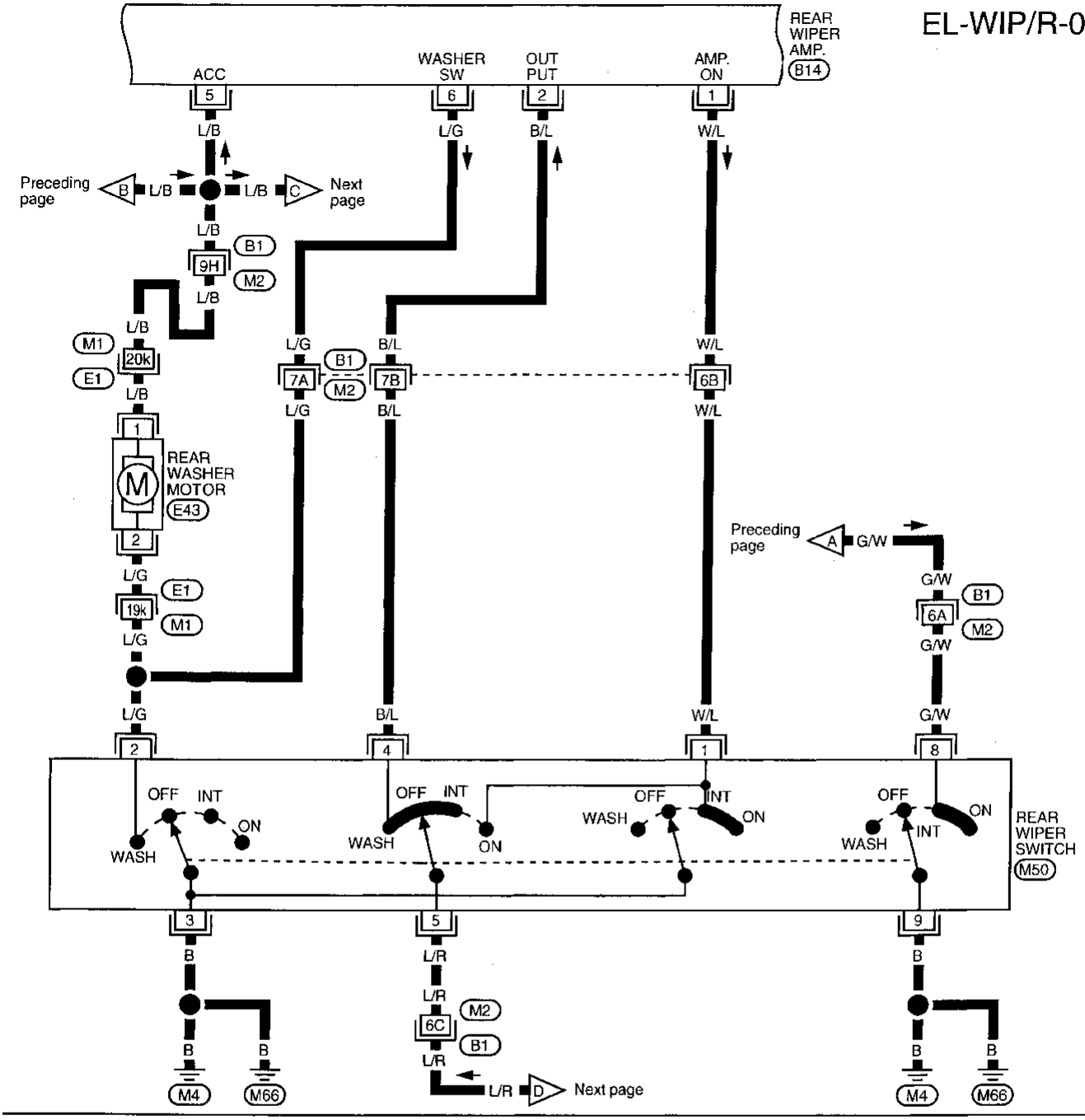
Refer to last page (Foldout page).

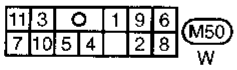
M91

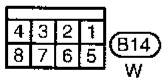
M2 , B1

MEL593H

EL-WIP/R-02



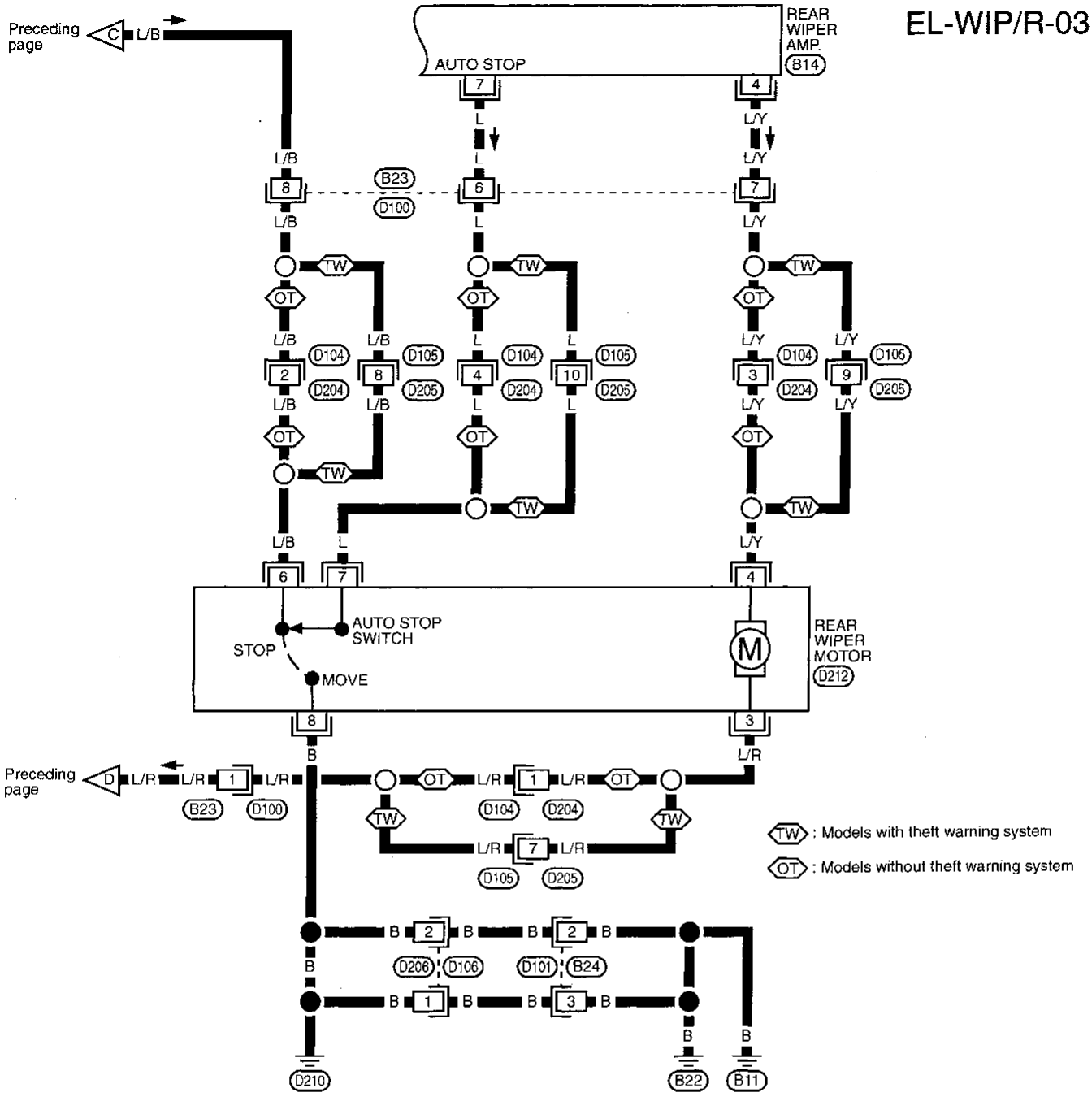


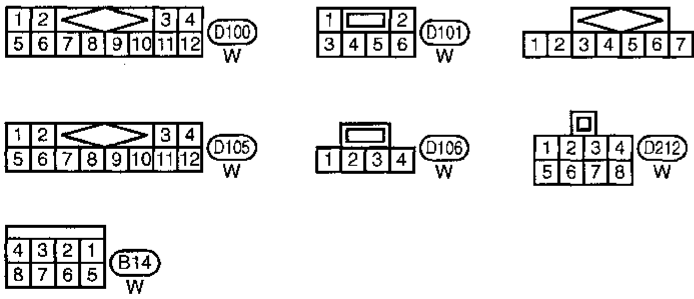


Refer to last page (Foldout page).
E1 , M1
M2 , B1

MEL776G

EL-WIP/R-03





MEL777G

Trouble Diagnoses

NAEL0066

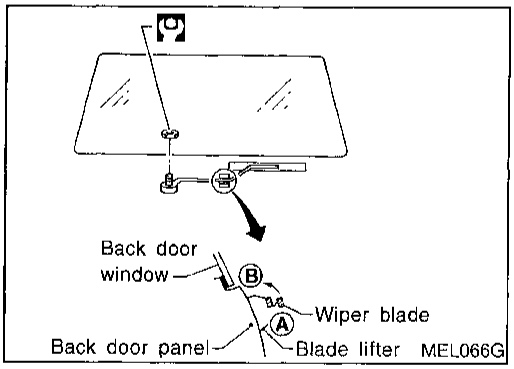
REAR WIPER AMP. INSPECTION TABLE

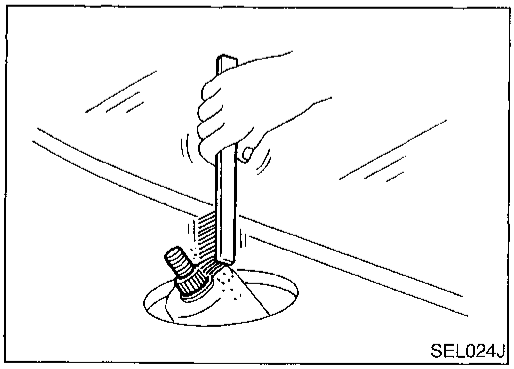
NAEL0066S01

(Data are reference values.)

Terminal No.	Item	Condition			Voltage (Approximate value)
1	Amp. ON signal	ACC	Rear wiper switch	ON or INT	1V or less
				OFF	Approx. 12V
2	Wiper amp. output	ACC	Rear wiper switch "INT"	Wiper is moving	1V or less
				Wiper stop	Approx. 12V
3	Ground	—			—
4	Rear wiper motor	ACC	Rear wiper switch	ON, INT or WASH	Approx. 12V
				OFF	1V or less
5	Power supply (See NOTE)	ACC	Rear glass hatch	OPENED	0V
				CLOSED	Approx. 12V
6	Washer switch	ACC	Rear wiper switch	WASH	1V or less
				OFF	Approx. 12V
7	Auto stop	ACC	Rear wiper switch "ON" or "INT"	Wiper is moving	1V or less
				Wiper stop	Approx. 12V

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





Removal and Installation

NAEL0067

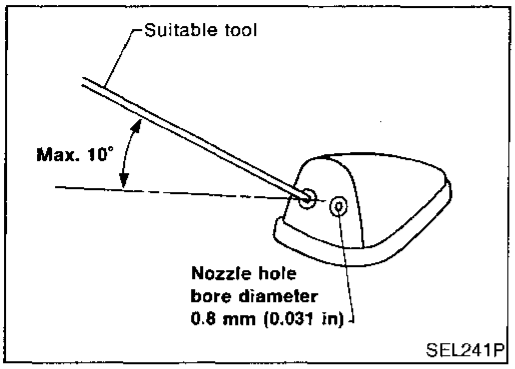
WIPER ARMS

NAEL0067S01

1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Install wiper arm to portion A as in figure below and tighten wiper arm nut to specification.
3. Then, set wiper arm to portion B.

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

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

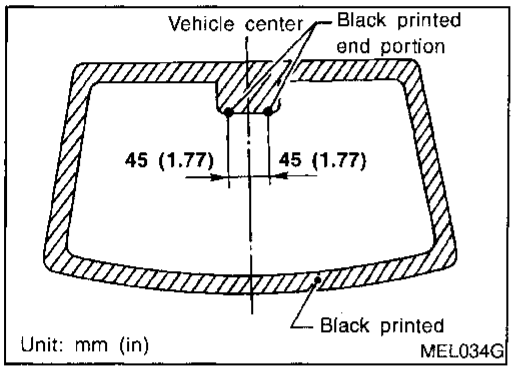


Washer Nozzle Adjustment

NAEL0068

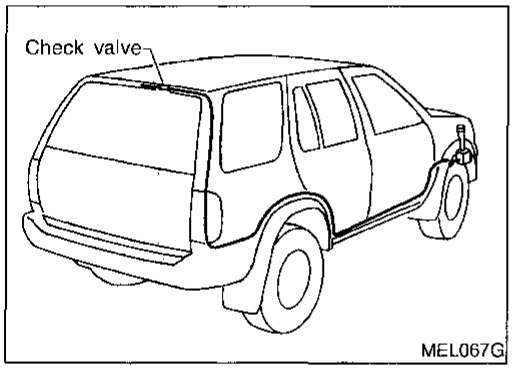
- Adjust washer nozzle with suitable tool as shown in the figure at left.

  Adjustable range: ±10° (In any direction)



Washer Tube Layout

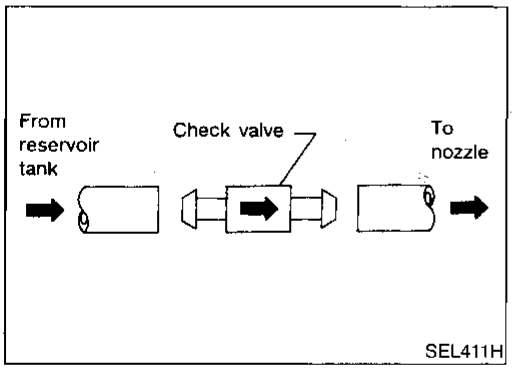
NAEL0069



Check Valve

NAEL0070

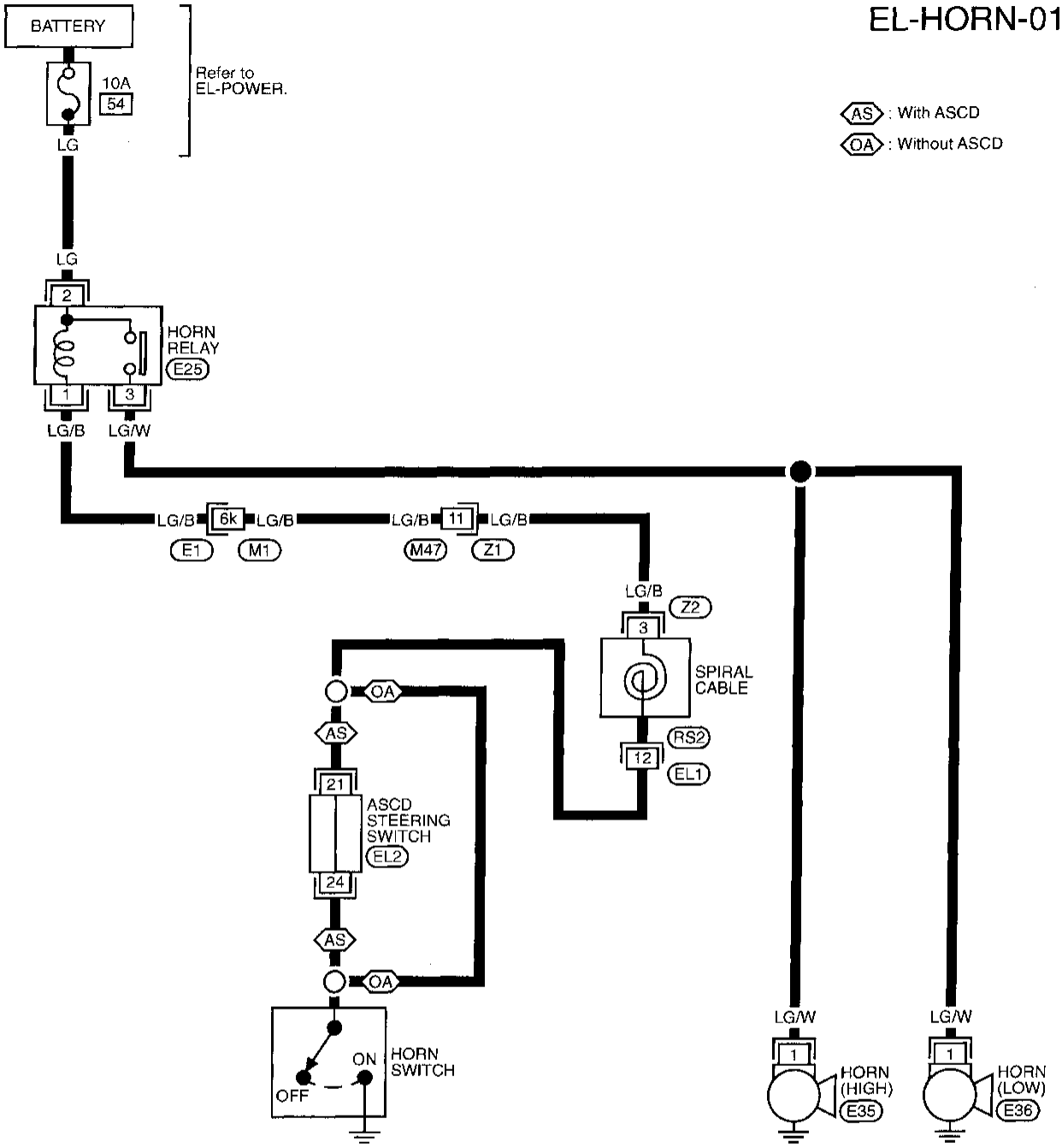
- A check valve is provided in the washer fluid line. Be careful not to connect check valve to washer tube in the wrong direction.

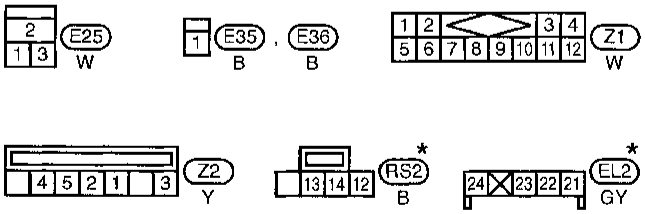


Wiring Diagram — HORN —

NAEL0071

EL-HORN-01





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

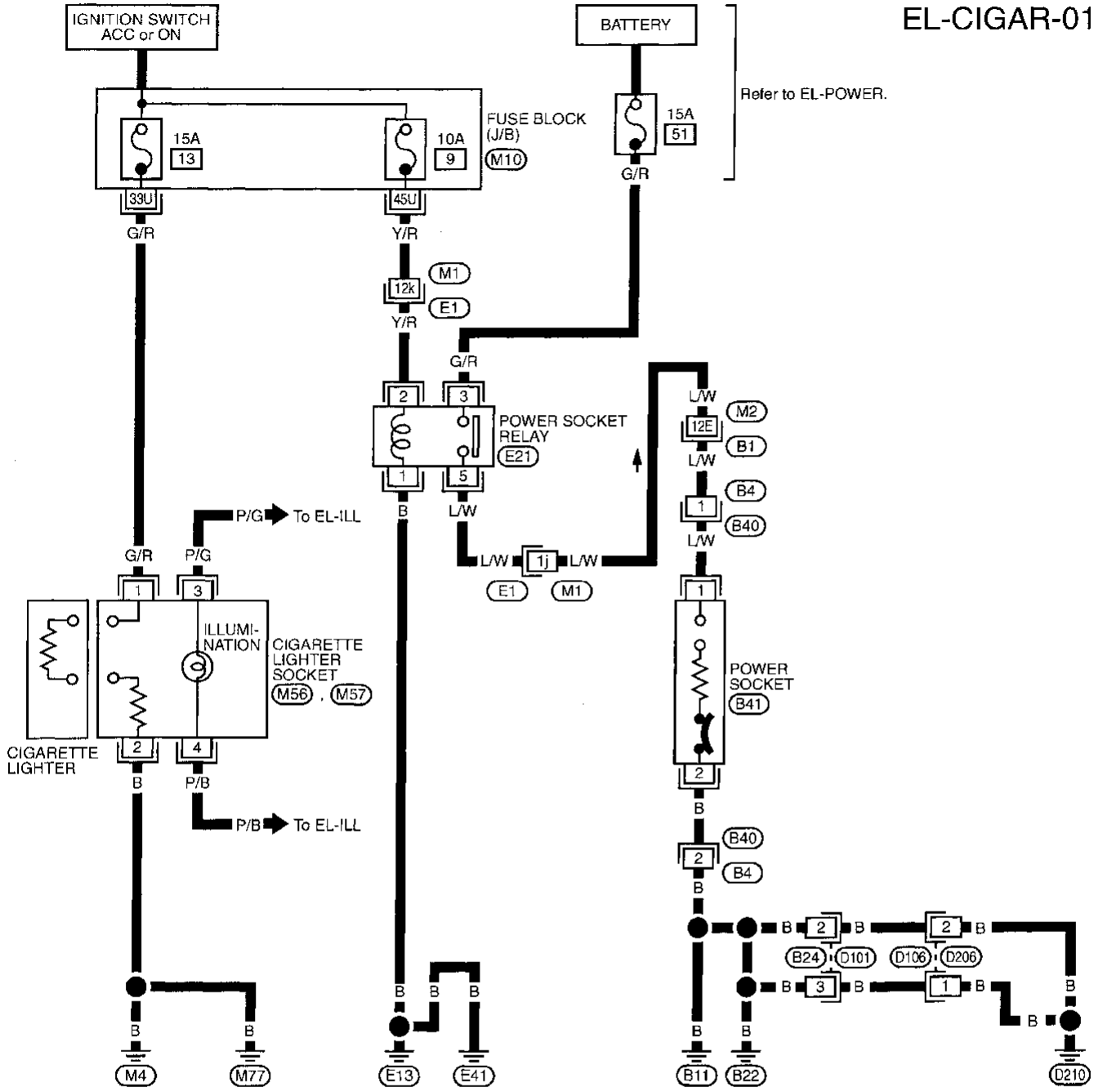
*: This connector is not shown in "HARNESS LAYOUT".

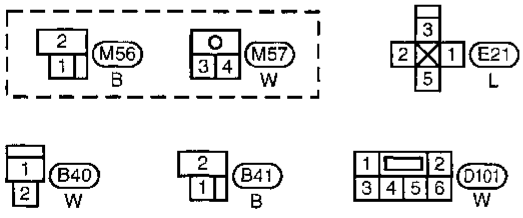
MEL596H

Wiring Diagram — CIGAR —

NAEL0156

EL-CIGAR-01





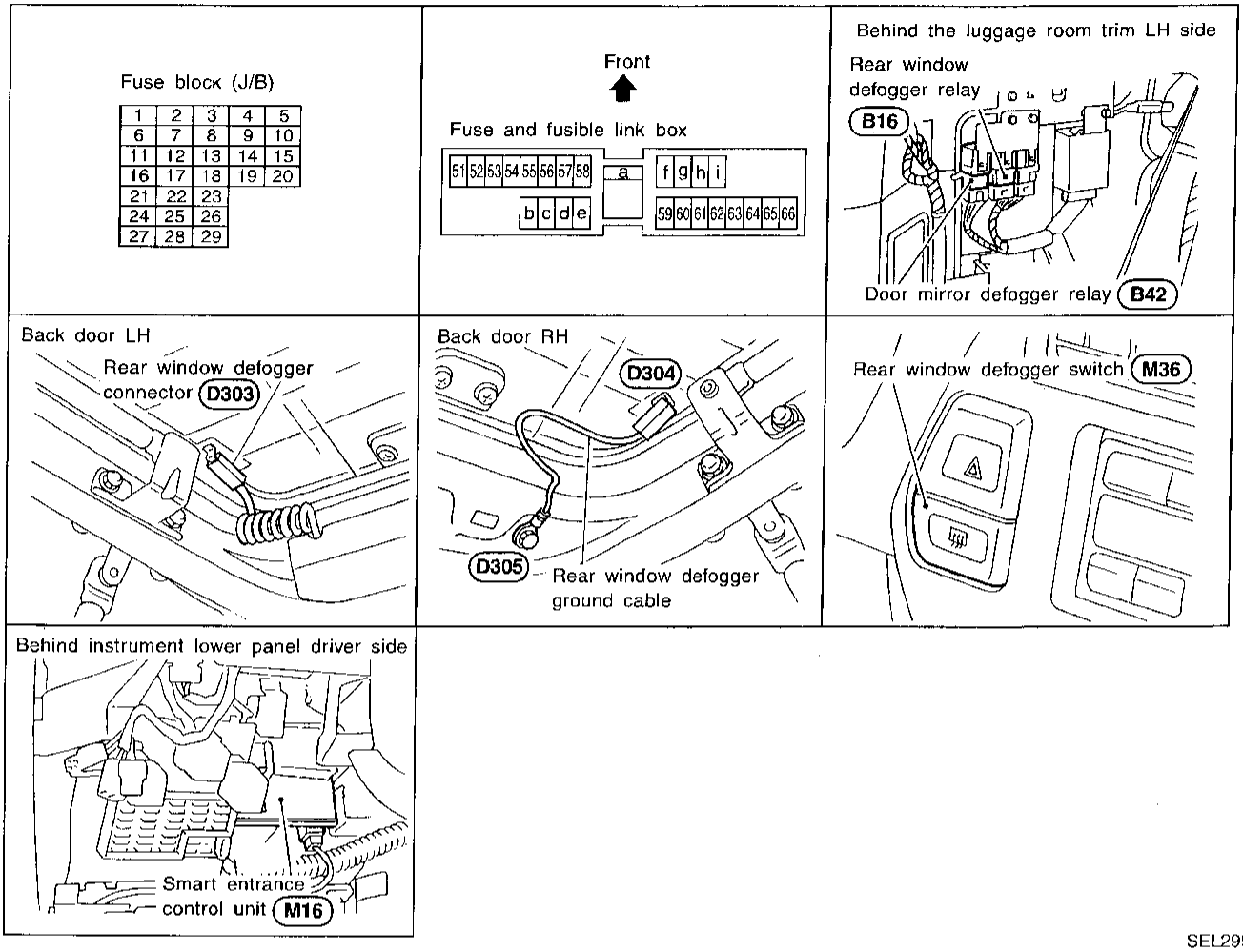
Refer to last page (Foldout page).

M2, B1
E1, M1
M10

MEL597H

Component Parts and Harness Connector Location

NAEL0072



SEL299V

System Description

NAEL0073

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

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

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

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

Ground is supplied to terminal 1 of the rear window defogger switch through body grounds M4 and M66.
When the rear window defogger switch is turned ON, ground is supplied

- through terminal 2 of the rear window defogger switch
- to smart entrance control unit terminal 20.

Terminal 36 of the smart entrance control unit then supplies ground to the rear window defogger relay terminal 2.
With power and ground supplied, the rear window defogger relay is energized.
Power is supplied

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

- to the rear window defogger.

The rear window defogger has an independent ground.
With power and ground supplied, the rear window defogger filaments heat and defog the rear window.
When the system is activated, the rear window defogger indicator illuminates in the rear window defogger switch.
Power is supplied

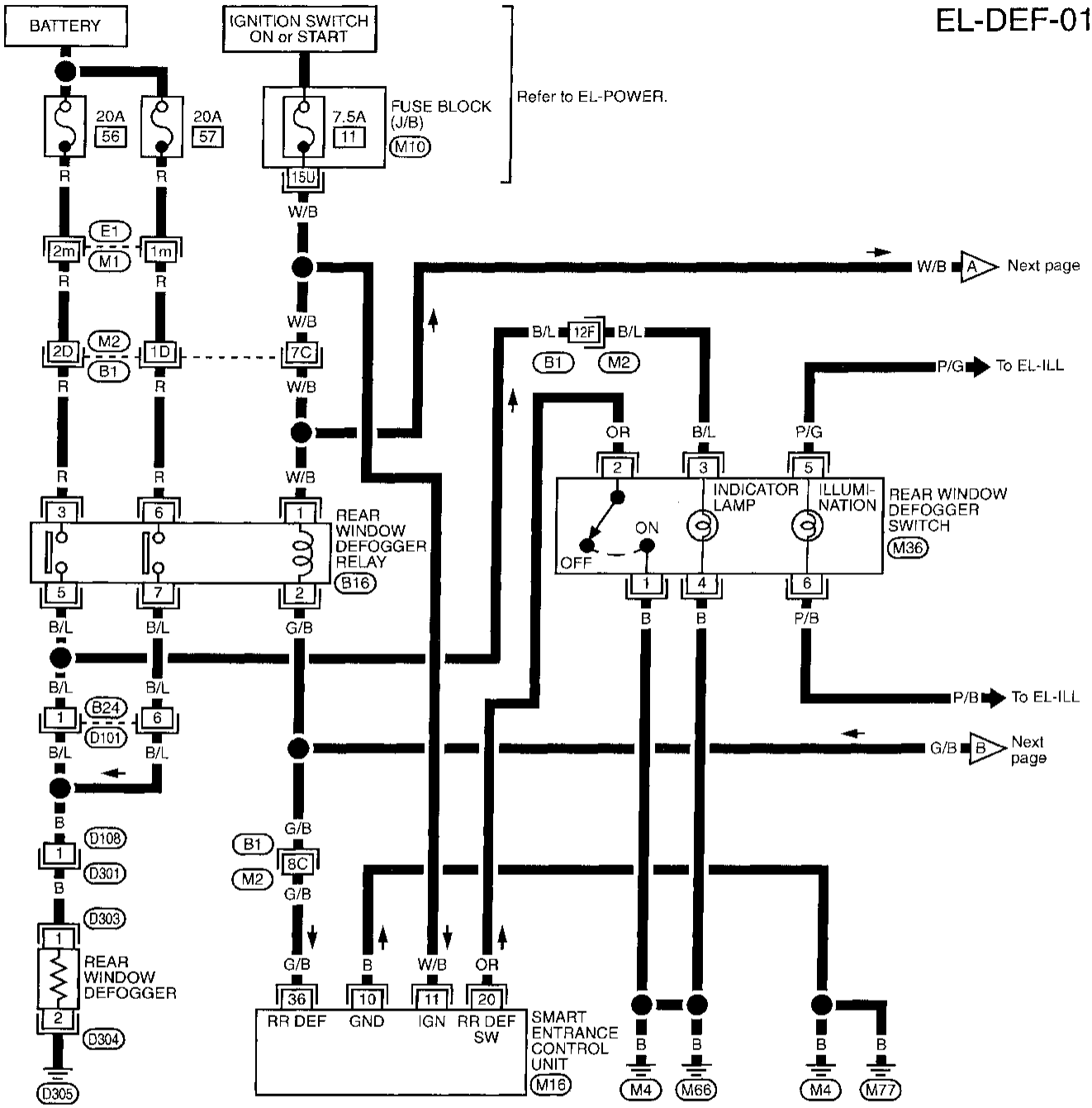
- to terminal 3 of the rear window defogger switch
- from terminal 5 of the rear window defogger relay.

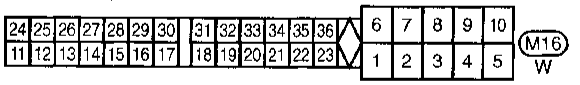
Terminal 4 of the rear window defogger switch is grounded through body grounds M4 and M66.

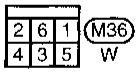
Wiring Diagram — DEF —

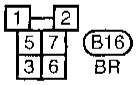
NAEL0074

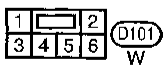
EL-DEF-01

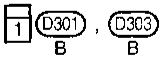










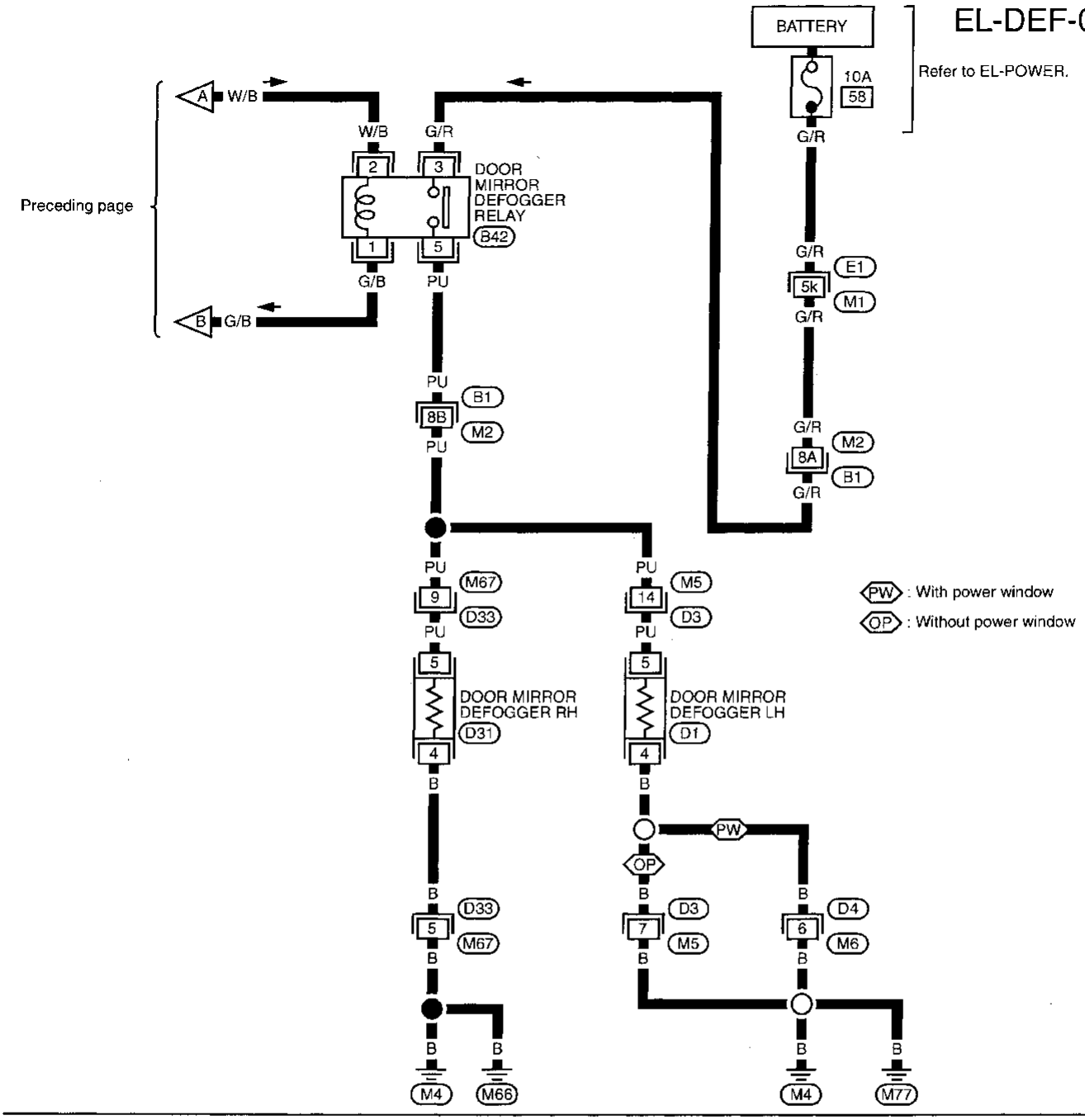


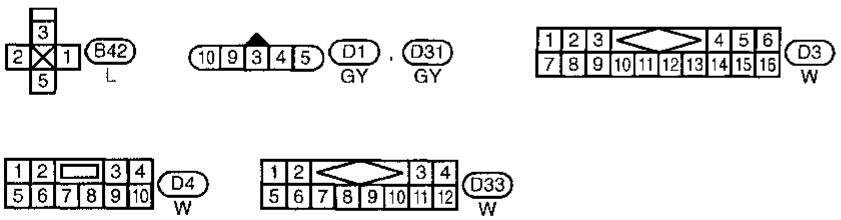
Refer to last page (Foldout page).

E1, M1, M2, B1, M10

MEL599H

EL-DEF-02





Refer to last page (Foldout page).
E1 , M1
M2 , B1

MEL600H

Trouble Diagnoses

NAEL0075

DIAGNOSTIC PROCEDURE

NAEL0075S01

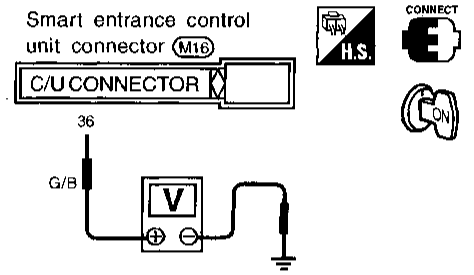
SYMPTOM: Rear window defogger does not activate, or does not go off after activating.

1	CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL

1. Turn ignition switch to ON position.
2. Check voltage between control unit harness terminal 36 and ground.

Voltage [V]:

Rear window defogger switch is "OFF".
Approx. 12
Rear window defogger switch is "ON".
0



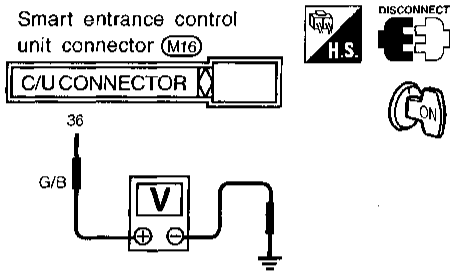
SEL620U

OK or NG

OK	▶	**Check the following.** • Rear window defogger relay (Refer to EL-118.) • Rear window defogger circuit • Rear window defogger filament (Refer to EL-118.)
NG	▶	GO TO 2.

2	CHECK DEFOGGER RELAY COIL SIDE CIRCUIT

1. Disconnect control unit connector.
2. Turn ignition switch to ON position.
3. Check voltage between control unit terminal 36 and ground.



SEL735U

Does battery voltage exist?

Yes	▶	GO TO 3.
No	▶	**Check the following.** • 7.5A fuse [No. 11, located in the fuse block (J/B)] • Rear window defogger relay • Harness for open or short between rear window defogger relay and control unit

3	CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL

Check continuity between control unit terminal 20 and ground.

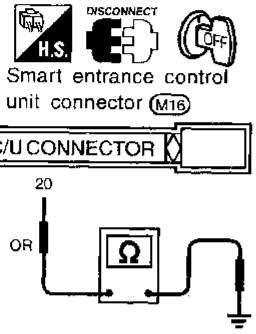
Continuity:

Rear window defogger switch is pushed.

Yes

Rear window defogger switch is released.

No



SEL345V

OK or NG

OK	▶	GO TO 4.
NG	▶	**Check the following.** • Rear window defogger switch (Refer to EL-118.) • Harness for open or short between control unit and rear window defogger switch • Rear window defogger switch ground circuit

4	CHECK IGNITION INPUT SIGNAL

Check voltage between control unit terminal 11 and ground.

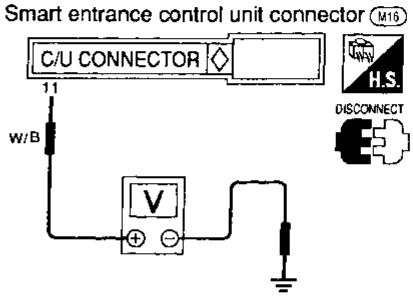
Voltage [V]:

Ignition switch is "ON".

Approx. 12

Ignition switch is "OFF".

0



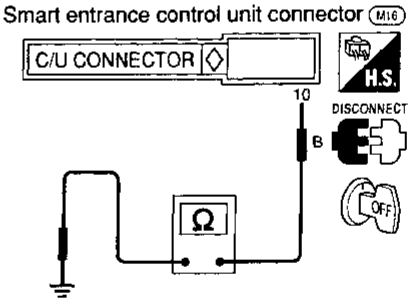
SEL424TB

OK or NG

OK	▶	GO TO 5.
NG	▶	**Check the following.** • 7.5A fuse [No. 11, located in the fuse block (J/B)] • Harness for open or short between control unit and fuse

5	CHECK CONTROL UNIT GROUND CIRCUIT

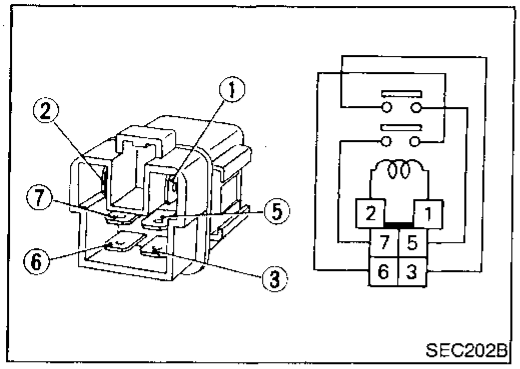
Check continuity between control unit terminal 10 and ground.



SEL363TB

Does continuity exist?

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



SEC202B

Electrical Components Inspection

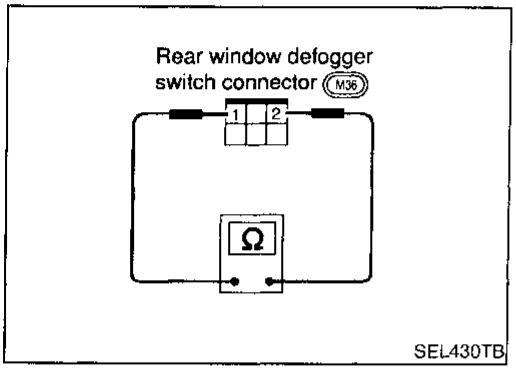
NAEL0076

REAR WINDOW DEFOGGER RELAY

NAEL0076S01

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



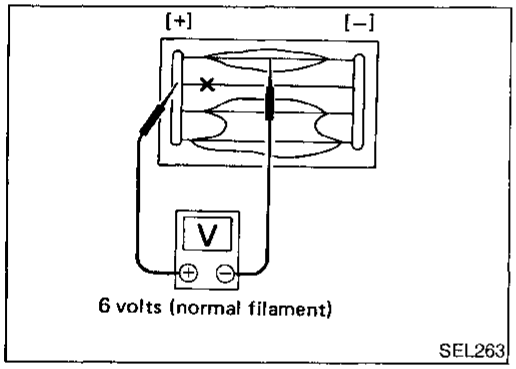
SEL430TB

REAR WINDOW DEFOGGER SWITCH

NAEL0076S02

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

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

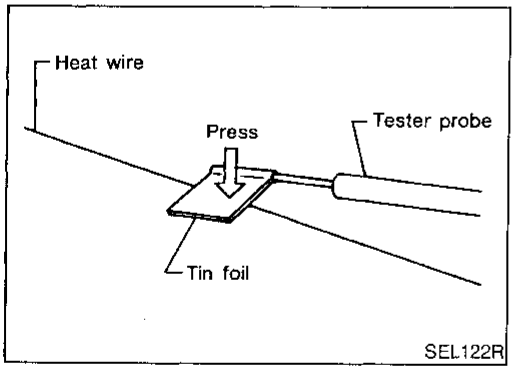


SEL263

Filament Check

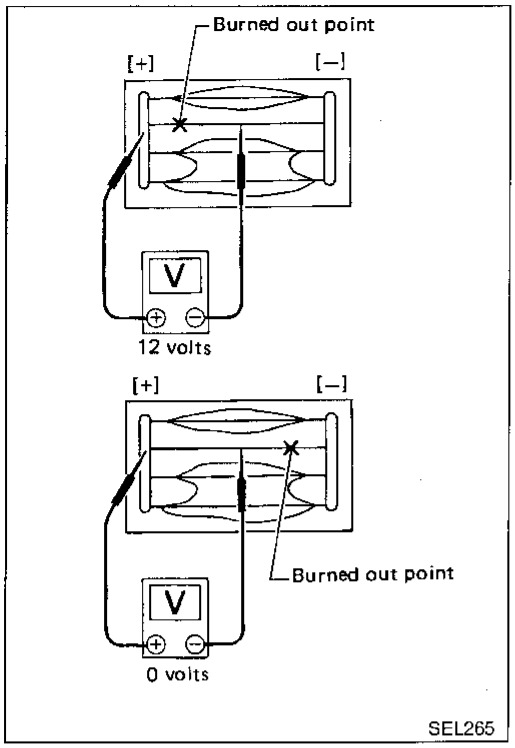
NAEL0077

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

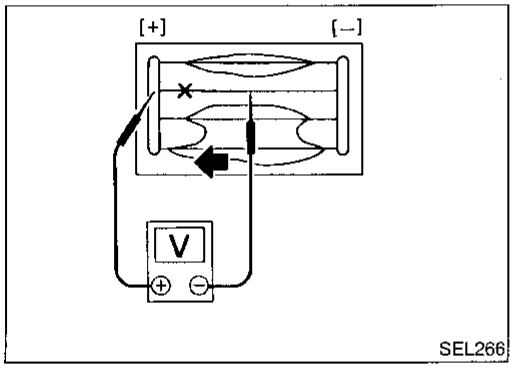


SEL122R

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



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



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

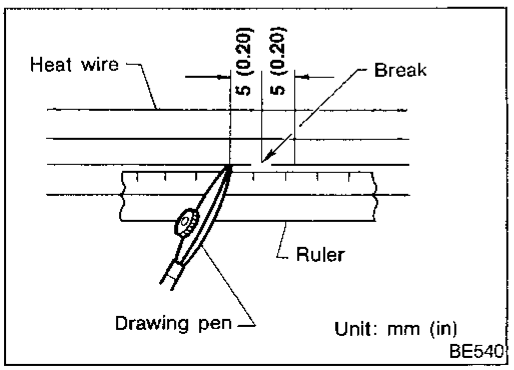
Filament Repair

NAEL0078

REPAIR EQUIPMENT

NAEL0078S01

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



REPAIRING PROCEDURE

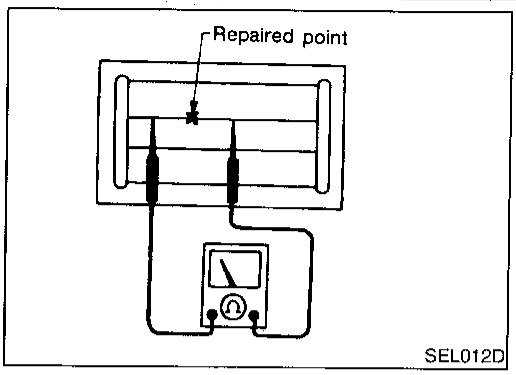
NAEL0078S02

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.

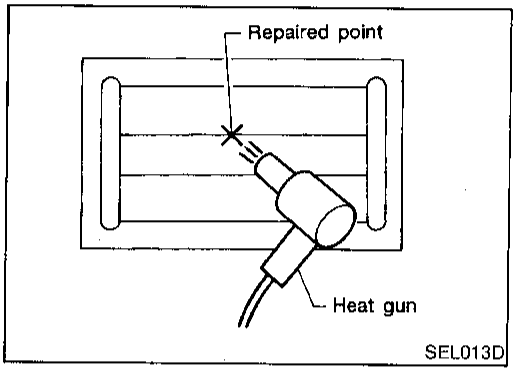
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

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

NAEL0079

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

BASE SYSTEM

NAEL0079S01

Power is supplied at all times

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

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

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

Ground is supplied through the case of the audio.
When the audio power knob is pushed to the ON position, audio signals are supplied

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

BOSE SYSTEM

NAEL0079S02

Power is supplied at all times

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

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

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

Ground is supplied through the case of the audio.
Ground is supplied

- to audio amp. relay terminal 3,
- to front door speaker LH terminal 5 and
- to front door speaker RH terminal 5
- through body grounds M4 and M77
- to rear speaker amp. terminal 24
- through body grounds B11, B22 and D210.

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

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

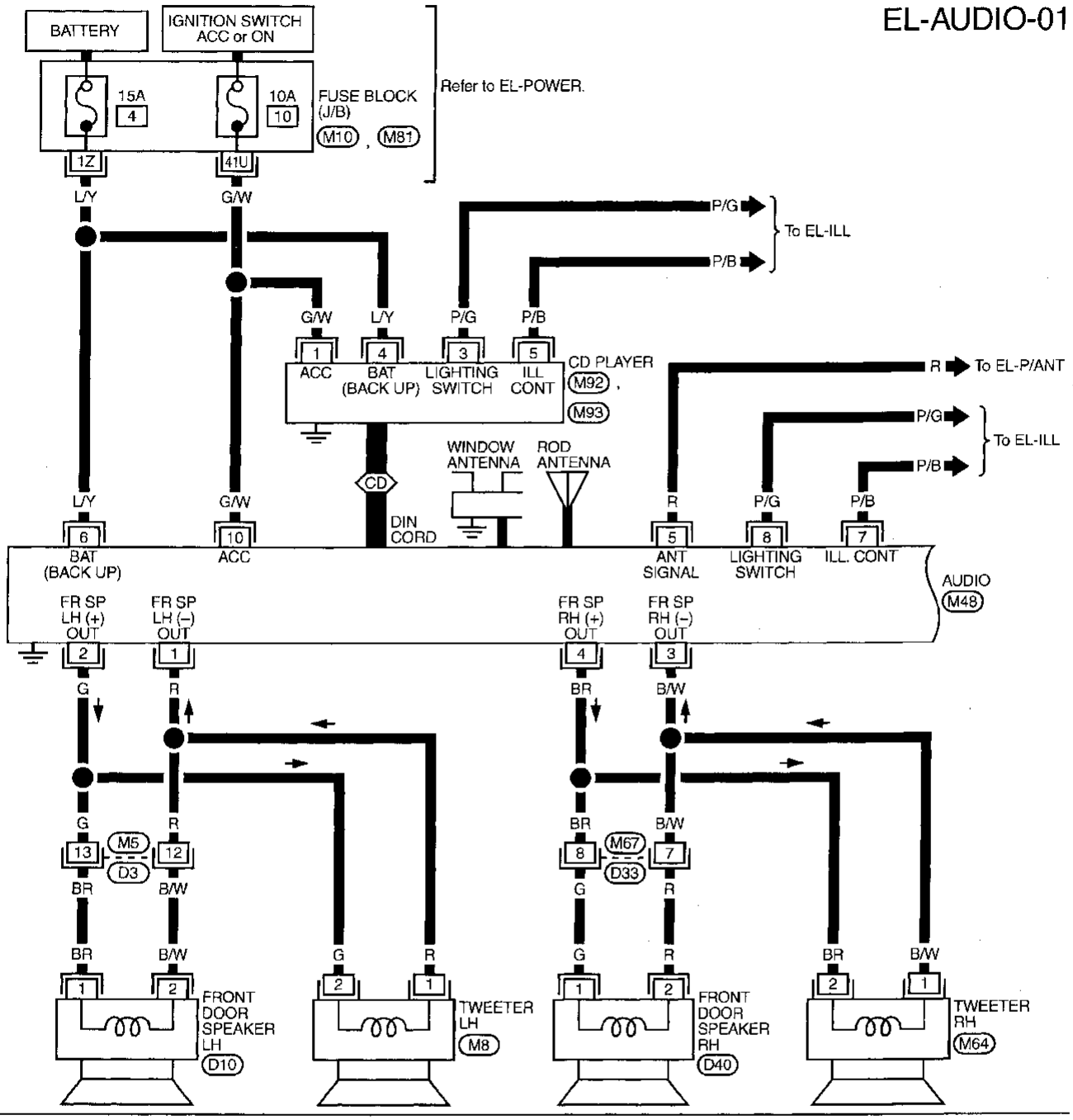
Audio signals are supplied

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

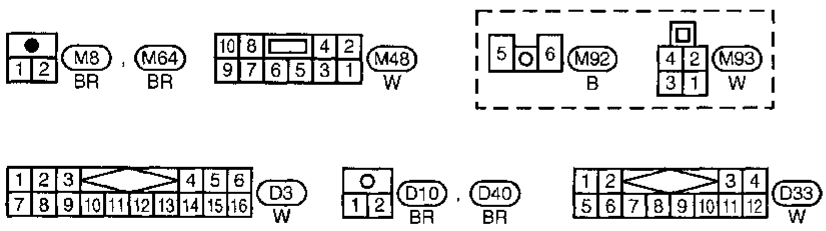
Wiring Diagram — AUDIO —/Base System

NAEL0157

EL-AUDIO-01

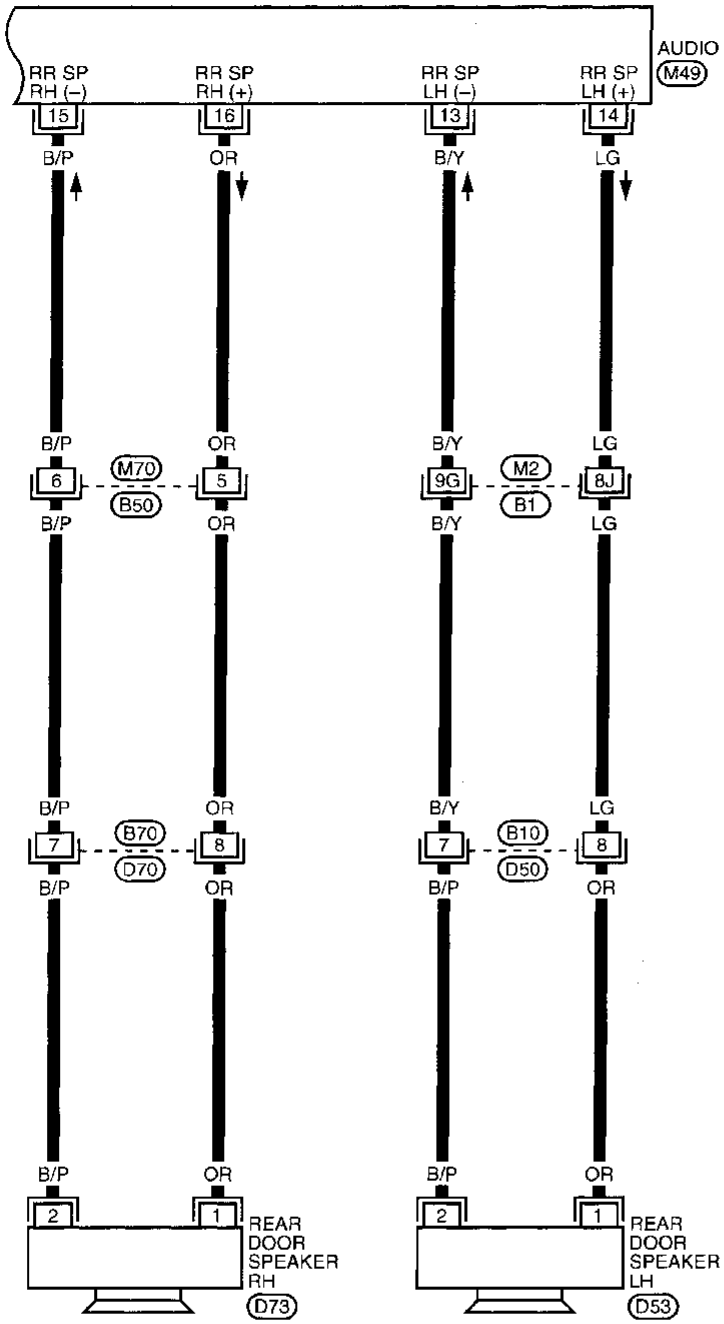


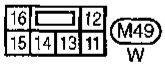
Refer to last page (Foldout page).
M10, M81

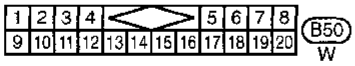


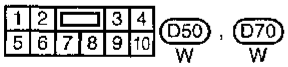
MEL601H

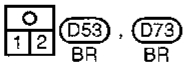
EL-AUDIO-02









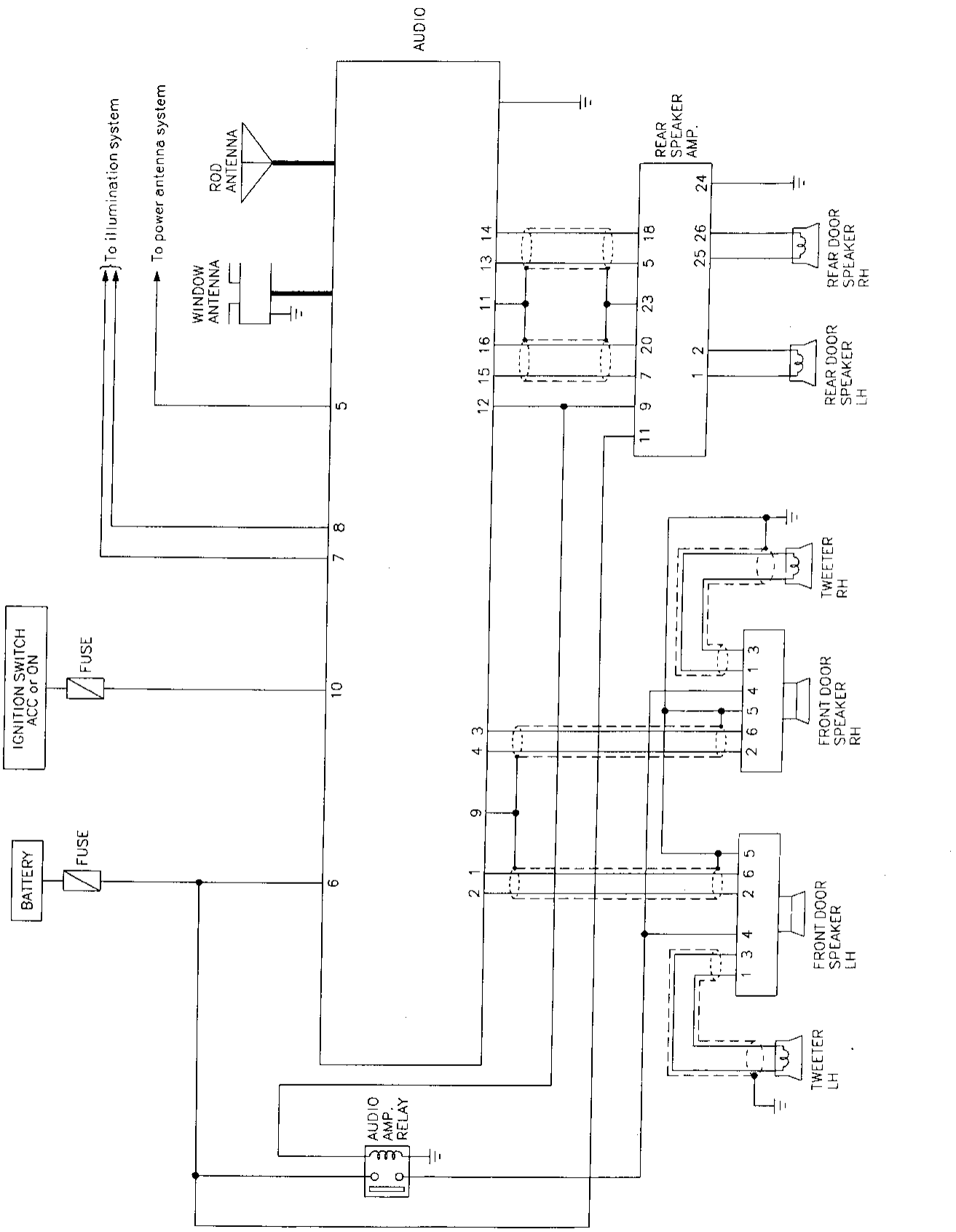


Refer to last page (Foldout page).
M2 , B1

MEL602H

Schematic/BOSE System

NAEL0080

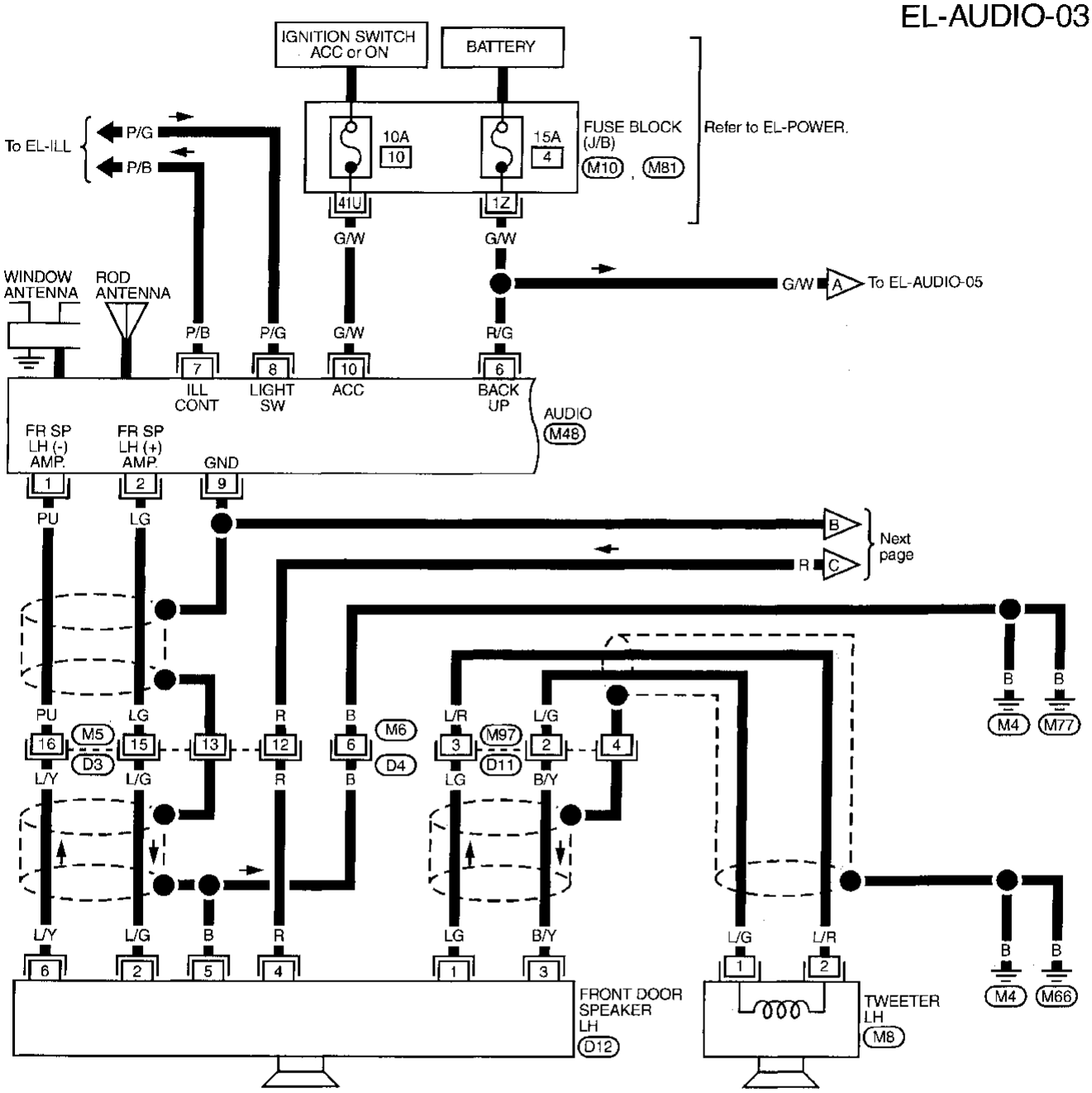


MEL603H

Wiring Diagram — AUDIO —/BOSE System

NAEL0091

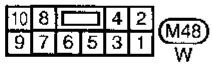
EL-AUDIO-03

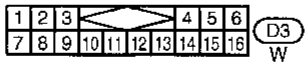


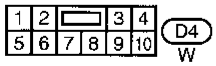
Refer to last page (Foldout page).

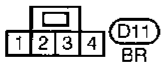
M10

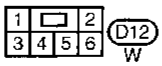
M81





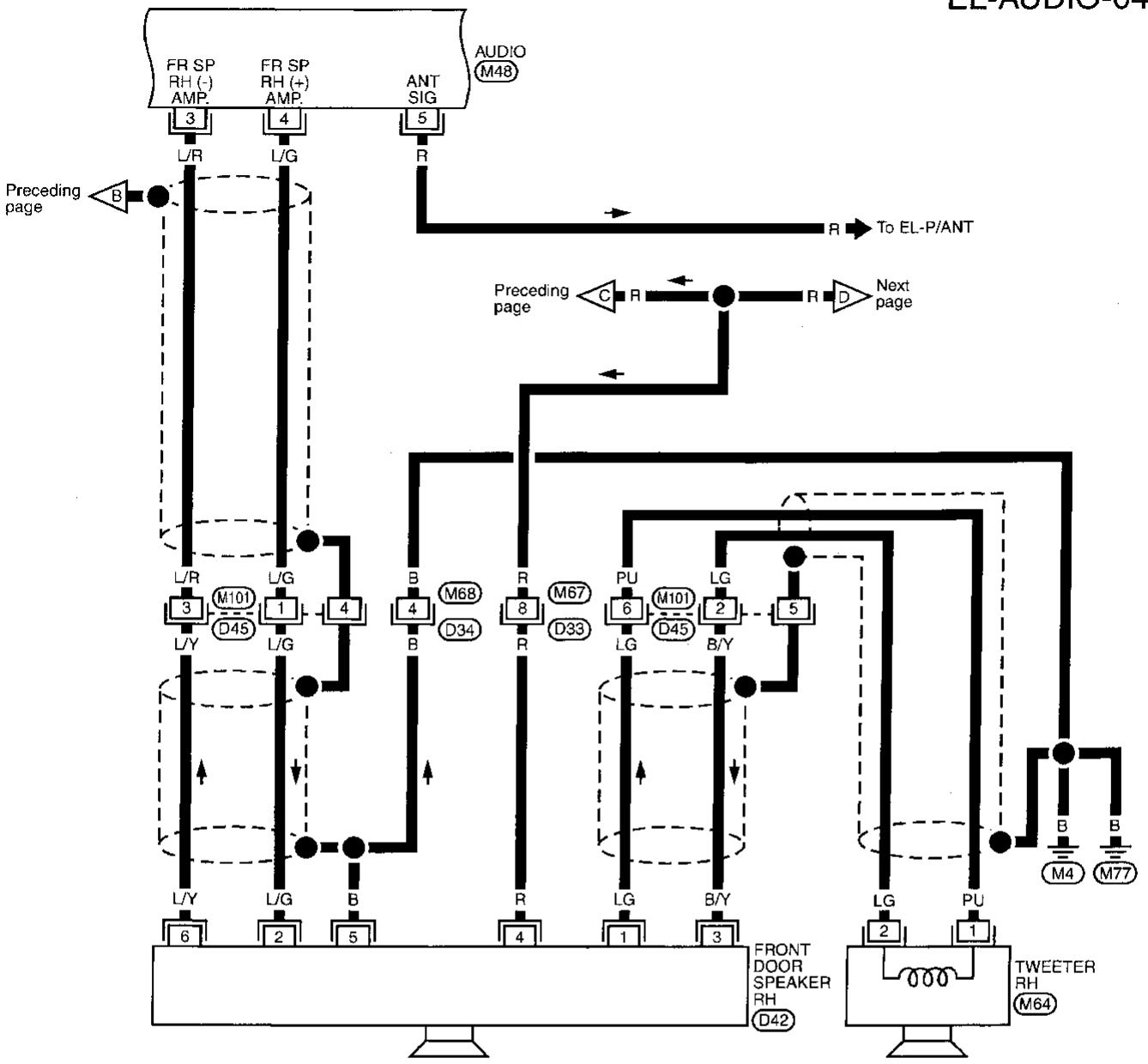


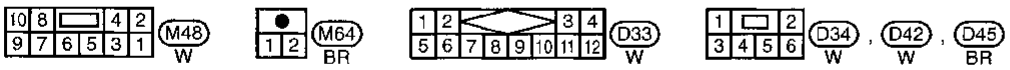




MEL604H

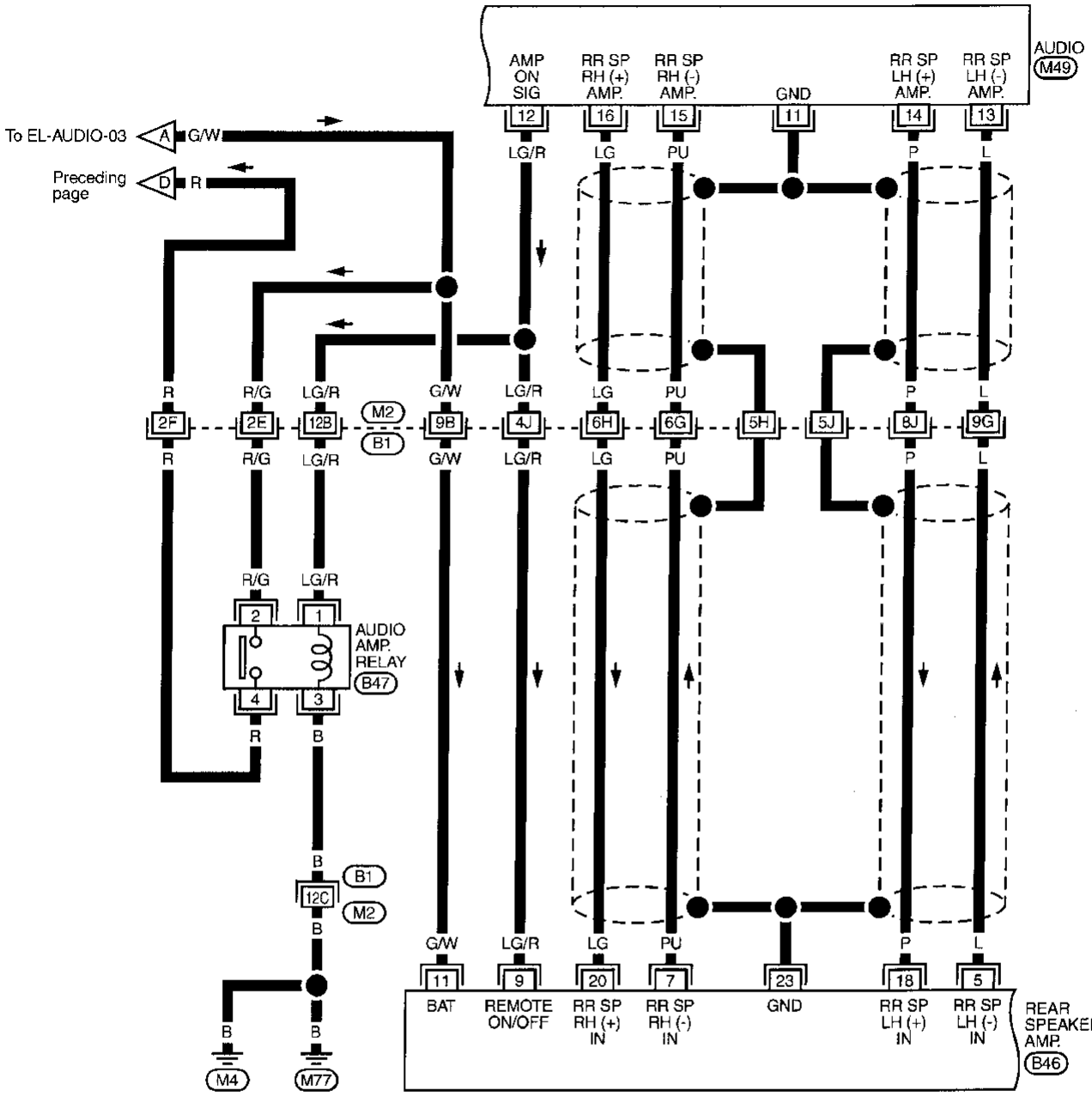
EL-AUDIO-04



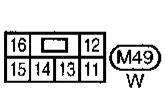


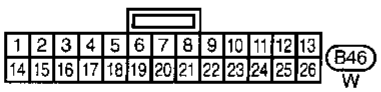
MEL605H

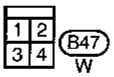
EL-AUDIO-05



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

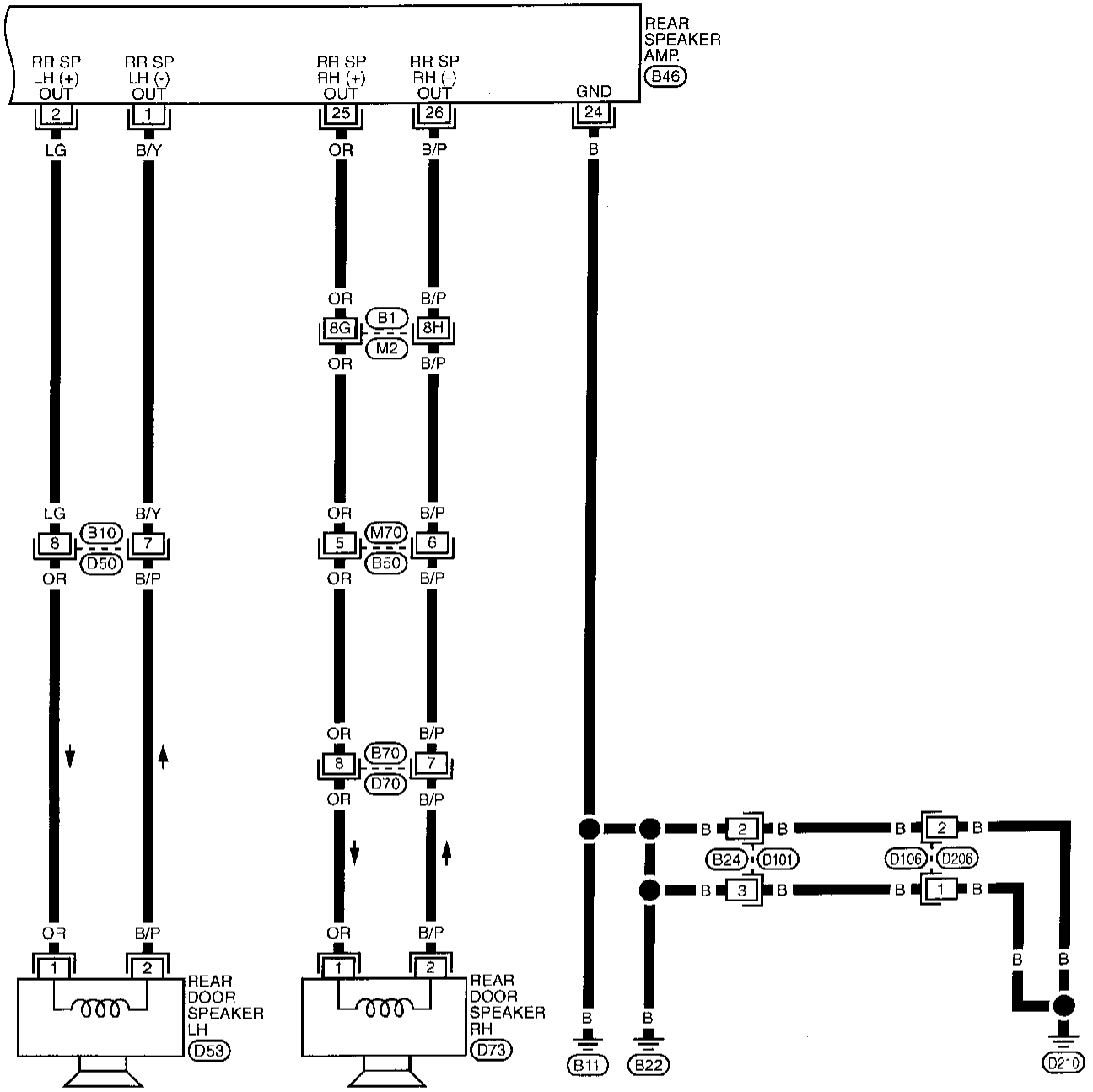






MEL606H

EL-AUDIO-06



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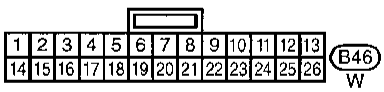
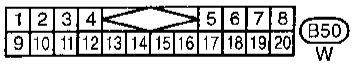
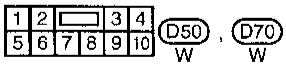
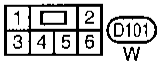
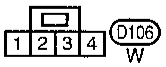
M2 , B1











MEL607H

Trouble Diagnoses

NAEL0082

RADIO

NAEL0082S01

Symptom	Possible causes	Repair order
Radio inoperative (no digital display and no sound from speakers).	1. 10A fuse 2. Poor radio case ground 3. Radio	1. Check 10A fuse [No. 10, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of radio. 2. Check radio case ground. 3. Remove radio for repair.
Radio presets are lost when ignition switch is turned OFF.	1. 15A fuse 2. Radio	1. Check 15A fuse [No. 4, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of radio. 2. Remove radio for repair.
AM stations are weak or noisy (FM stations OK).	1. Antenna 2. Poor radio ground 3. Radio	1. Check antenna. 2. Check radio ground. 3. Remove radio for repair.
FM stations are weak or noisy (AM stations OK).	1. Window antenna 2. Radio	1. Check window antenna. 2. Remove radio for repair.
Radio generates noise in AM and FM modes with engine running.	1. Poor radio ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Alternator 5. Ignition coil or secondary wiring 6. Radio	1. Check radio ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check alternator. 5. Check ignition coil and secondary wiring. 6. Remove radio for repair.
Radio generates noise in AM and FM modes with accessories on (switch pops and motor noise).	1. Poor radio ground 2. Antenna 3. Accessory ground 4. Faulty accessory	1. Check radio ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.

BASE SYSTEM

NAEL0082S02

Symptom	Possible causes	Repair order
Individual speaker is noisy or inoperative.	1. Speaker 2. Radio output 3. Speaker circuit 4. Radio	1. Check speaker. 2. Check radio output voltages. 3. Check wires for open or short between radio and speaker. 4. Remove radio for repair.

BOSE SYSTEM

NAEL0082S03

Symptom	Possible causes	Repair order
Radio controls are operational, but no sound is heard from any speaker.	1. 15A fuse 2. Radio output 3. Radio	1. Check 15A fuse [No. 4, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 2 of audio amp. relay. 2. Check radio output voltage (Terminal 12). 3. Remove radio for repair.
All front speakers are inoperative.	1. Audio amp. relay 2. Audio amp. relay ground 3. Amp. ON signal	1. Check audio amp. relay. 2. Check audio amp. relay ground (Terminal 3). 3. Turn ignition switch ACC and radio ON. Verify battery positive voltage is present at terminal 1 of audio amp. relay.
Individual front speaker is noisy or inoperative.	1. Speaker ground 2. Power supply 3. Radio output 4. Speaker	1. Check speaker ground (Terminal 5). 2. Check power supply for speaker (Terminal 4). 3. Check radio output voltage for speaker. 4. Replace speaker.

Symptom	Possible causes	Repair order
Both rear speakers are inoperative.	1. Poor rear speaker amp. ground 2. Power supply 3. Amp. ON signal 4. Rear speaker amp.	1. Check rear speaker amp. ground circuit. 2. Check power supply for rear speaker amp. (Terminal 11). 3. Turn ignition switch ACC and radio ON. Verify battery positive voltage is present at terminal 9 of rear speaker amp. 4. Remove rear speaker amp. for repair.
Individual rear speaker is noisy or inoperative.	1. Speaker 2. Radio/amp. output 3. Speaker circuit 4. Radio	1. Check speaker. 2. Check radio/amp. output. 3. Check wires for open or short between radio/amp. and speakers. 4. Remove radio for repair.

Inspection

NAEL0083

SPEAKER (FOR BASE SYSTEM)

NAEL0083S03

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

RADIO AND AMP.

NAEL0083S01

All voltage inspections are made with:

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

ANTENNA

NAEL0083S02

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

System Description

NAEL0084

Power is supplied at all times

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

Ground is supplied to the power antenna terminal 2 through body grounds M4 and M66.
When the audio is turned to the ON position, battery positive voltage is supplied

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

The antenna raises and is held in the extended position.
When the audio is turned to the OFF position, battery positive voltage is interrupted

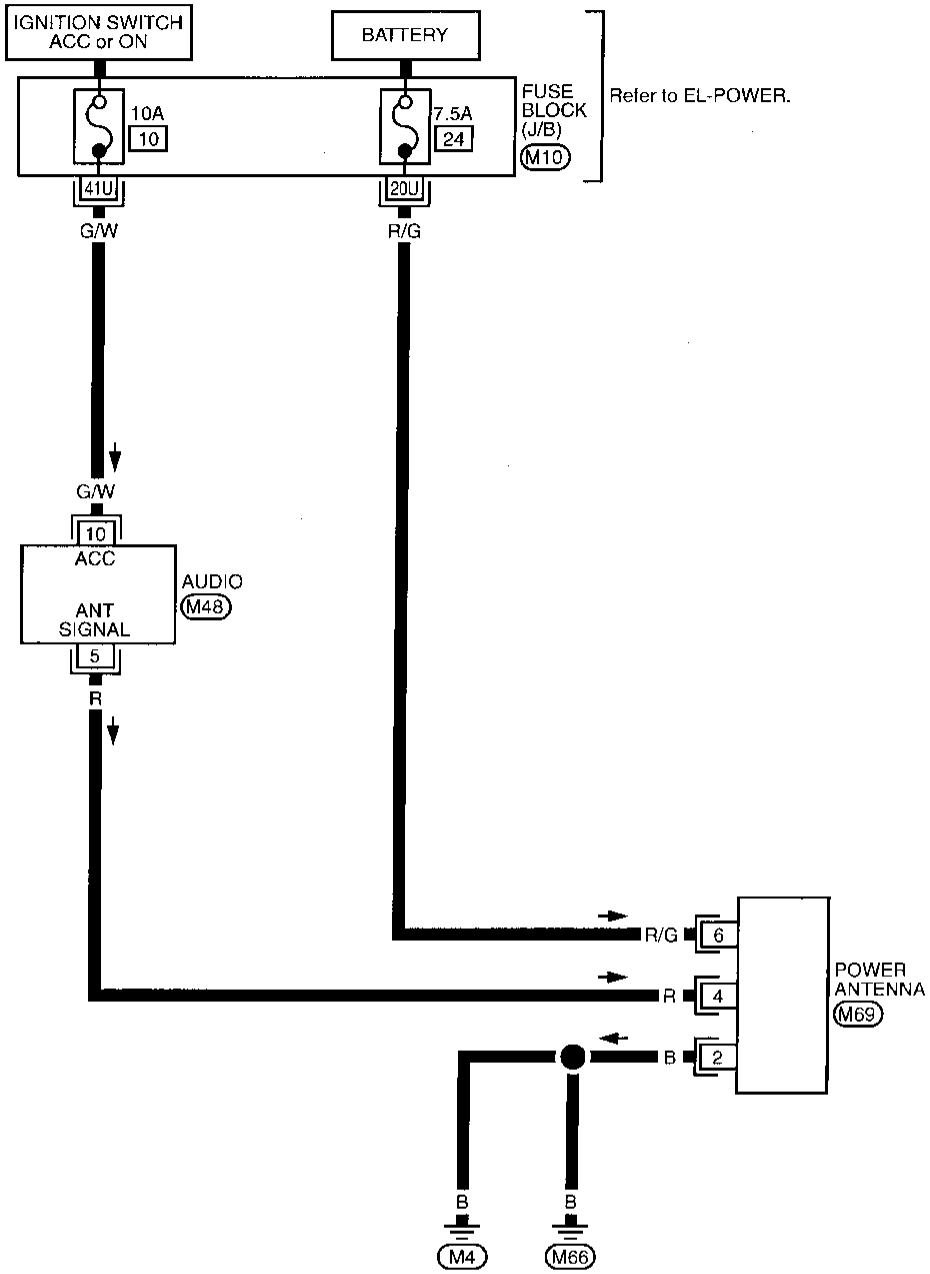
- from audio terminal 5
- to power antenna terminal 4.

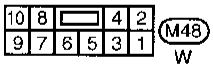
The antenna retracts.

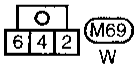
Wiring Diagram — P/ANT —

NAEL0085

EL-P/ANT-01







Refer to last page (Foldout page).
M10

MEL608H

Trouble Diagnoses

NAEL0086

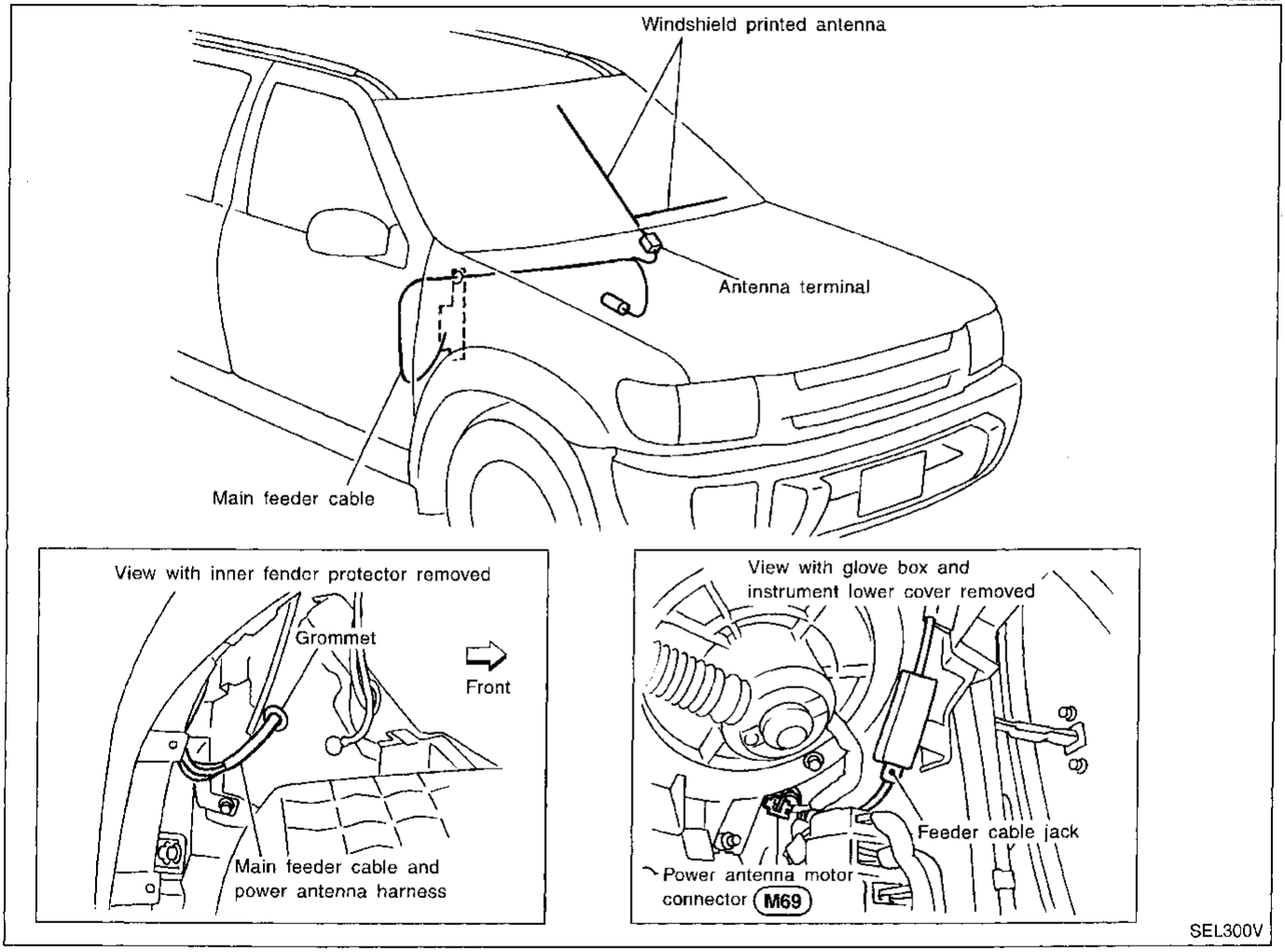
POWER ANTENNA

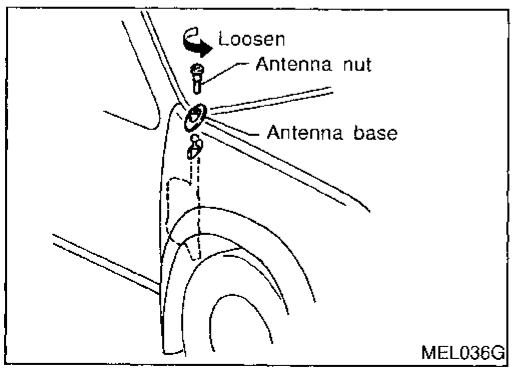
NAEL0086S01

Symptom	Possible causes	Repair order
Power antenna does not operate.	1. 7.5A fuse 2. Radio signal 3. Grounds M4 and M66	1. Check 7.5A fuse [No. 24, located in fuse block (J/B)]. Verify that battery positive voltage is present at terminal 6 of power antenna. 2. Turn ignition switch and radio ON. Verify that battery positive voltage is present at terminal 4 of power antenna. 3. Check grounds M4 and M66.

Location of Antenna

NAEL0087





Antenna Rod Replacement

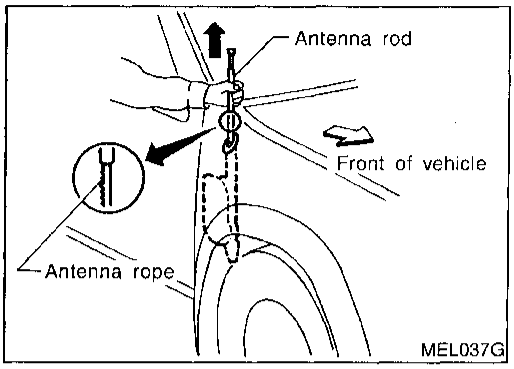
NAEL0088

NAEL0088S01

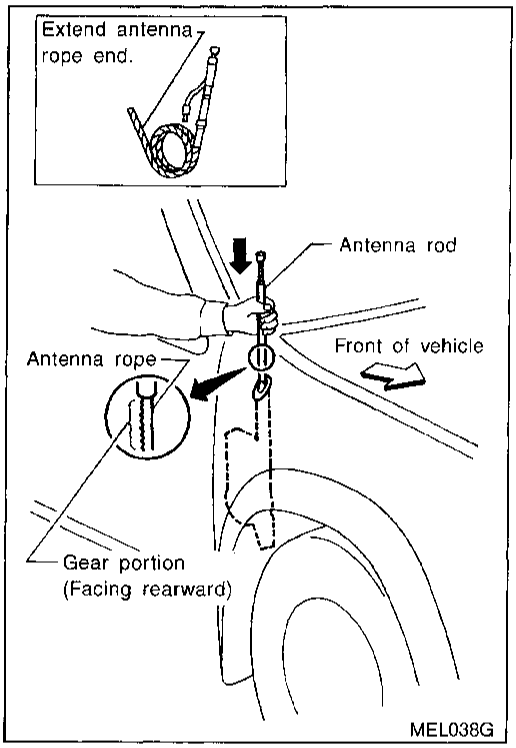
REMOVAL

1. Remove antenna nut and antenna base.

Antenna Rod Replacement (Cont'd)



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



INSTALLATION

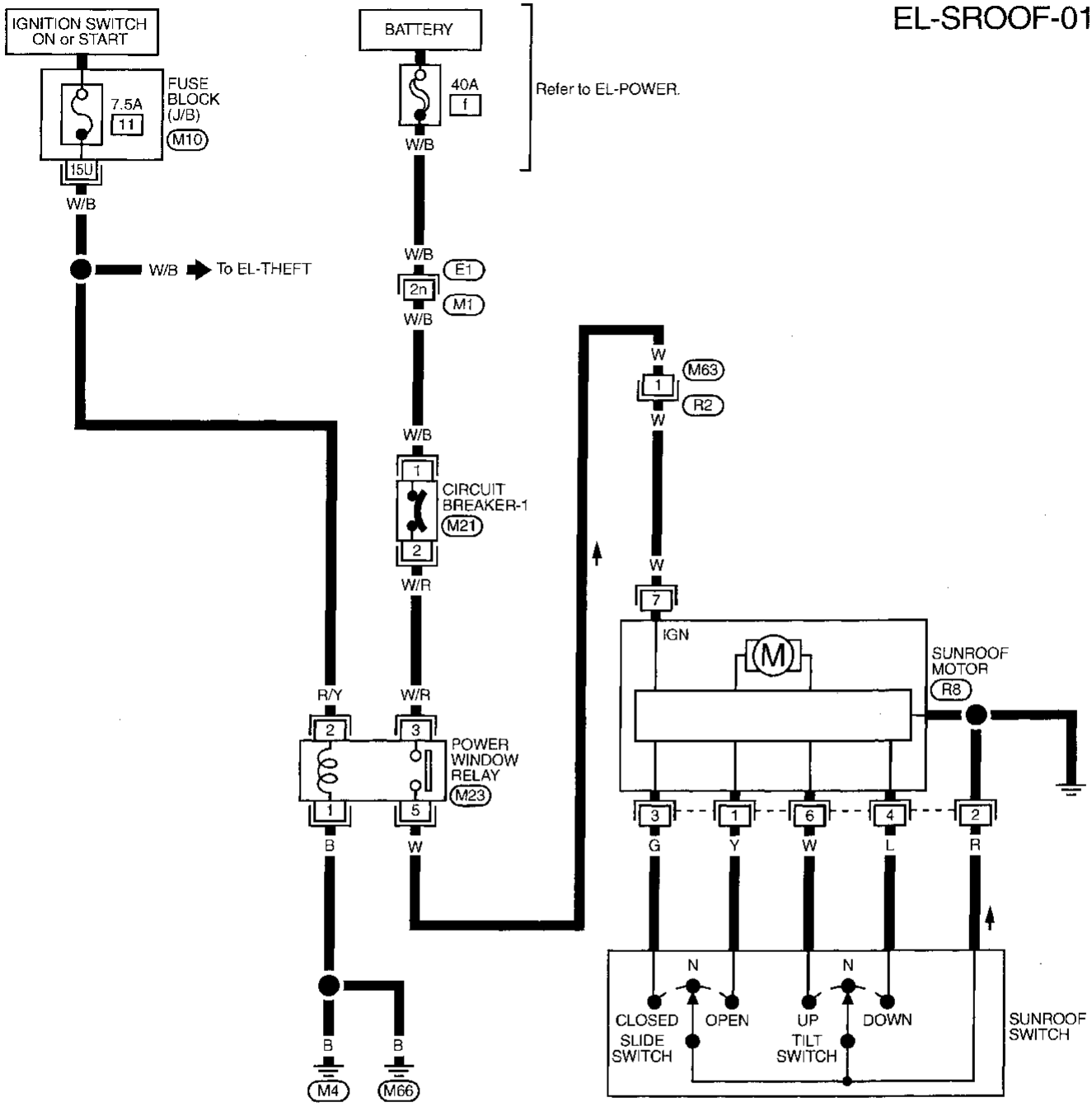
NAEL0088S02

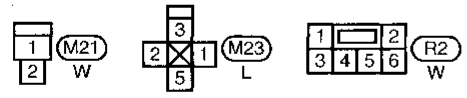
1. Lower antenna rod by operating antenna motor.
2. Insert gear section of antenna rope into place with it facing toward antenna motor.
3. As soon as antenna rope is wound on antenna motor, stop antenna motor. Insert antenna rod lower end into antenna motor pipe.
4. Retract antenna rod completely by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

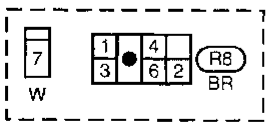
Wiring Diagram — SROOF —

NAEL0089

EL-SROOF-01







Refer to last page (Foldout page).

M1, E1

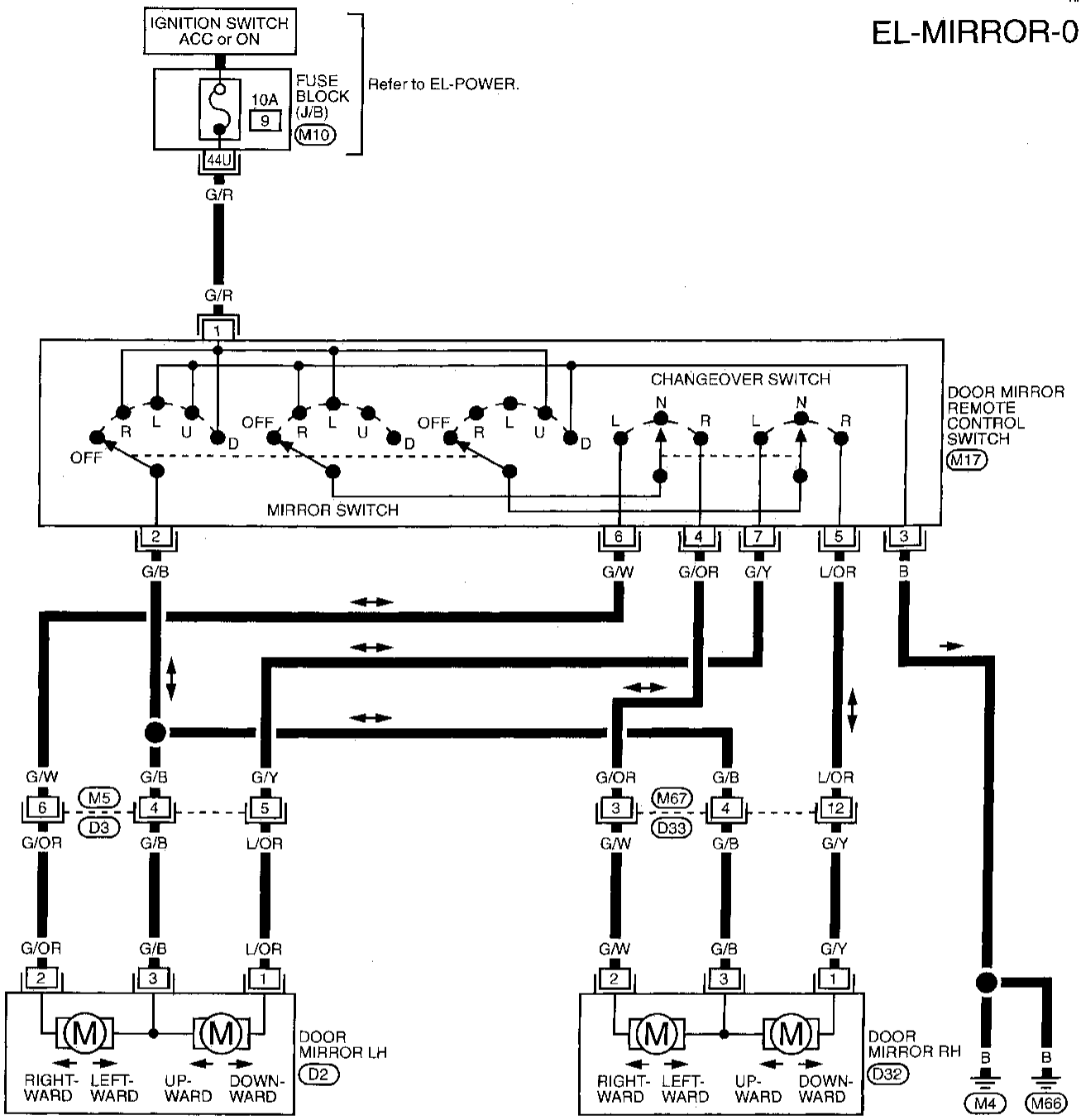
M10

MEL609H

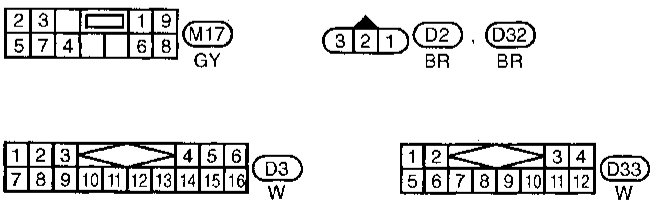
Wiring Diagram — MIRROR —

NAEL0090

EL-MIRROR-01



Refer to last page (Foldout page).
M10

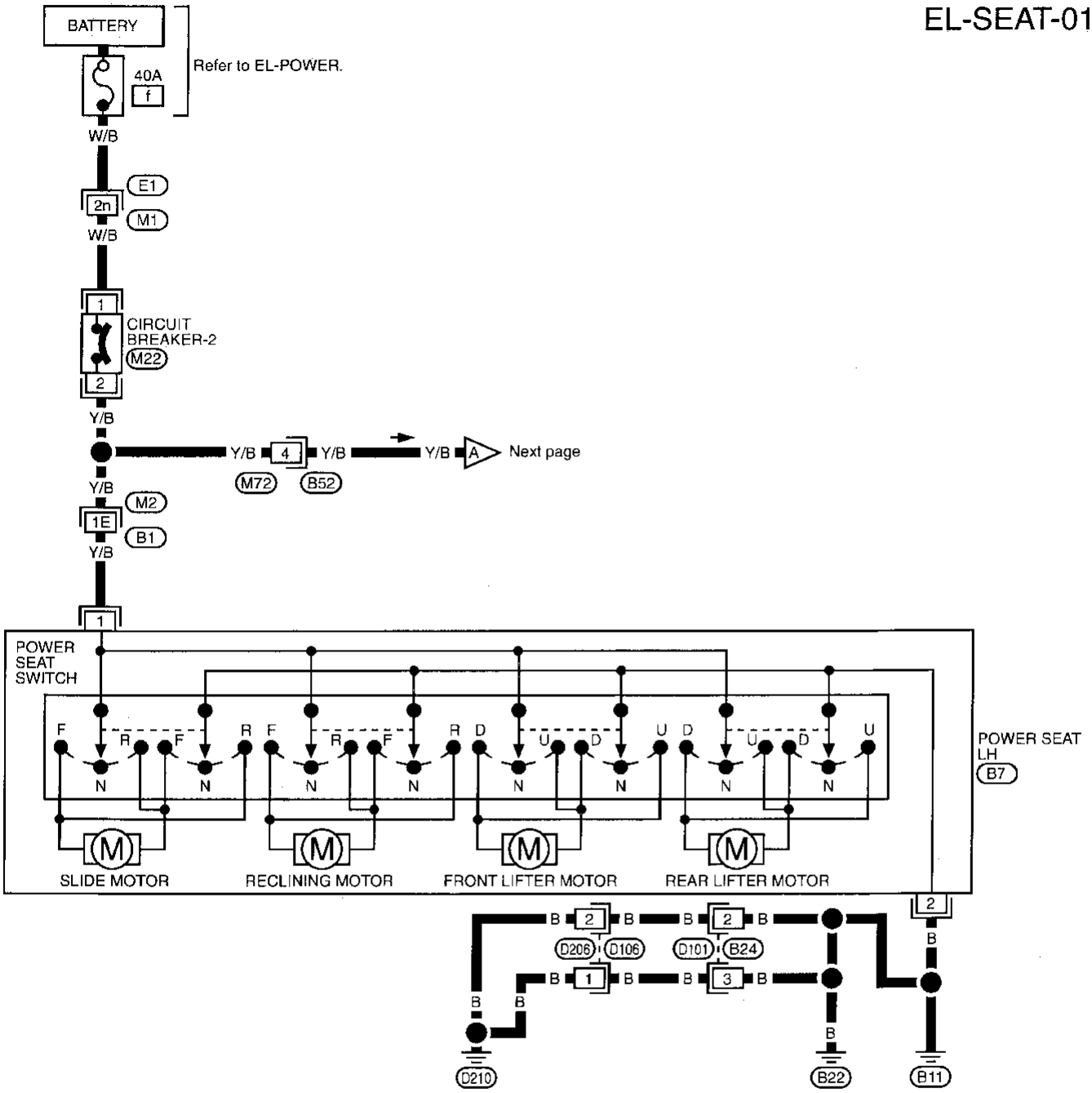


MEL610H

Wiring Diagram — SEAT —

NAEL0092

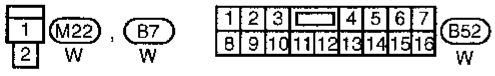
EL-SEAT-01

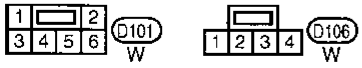


Refer to last page (Foldout page).

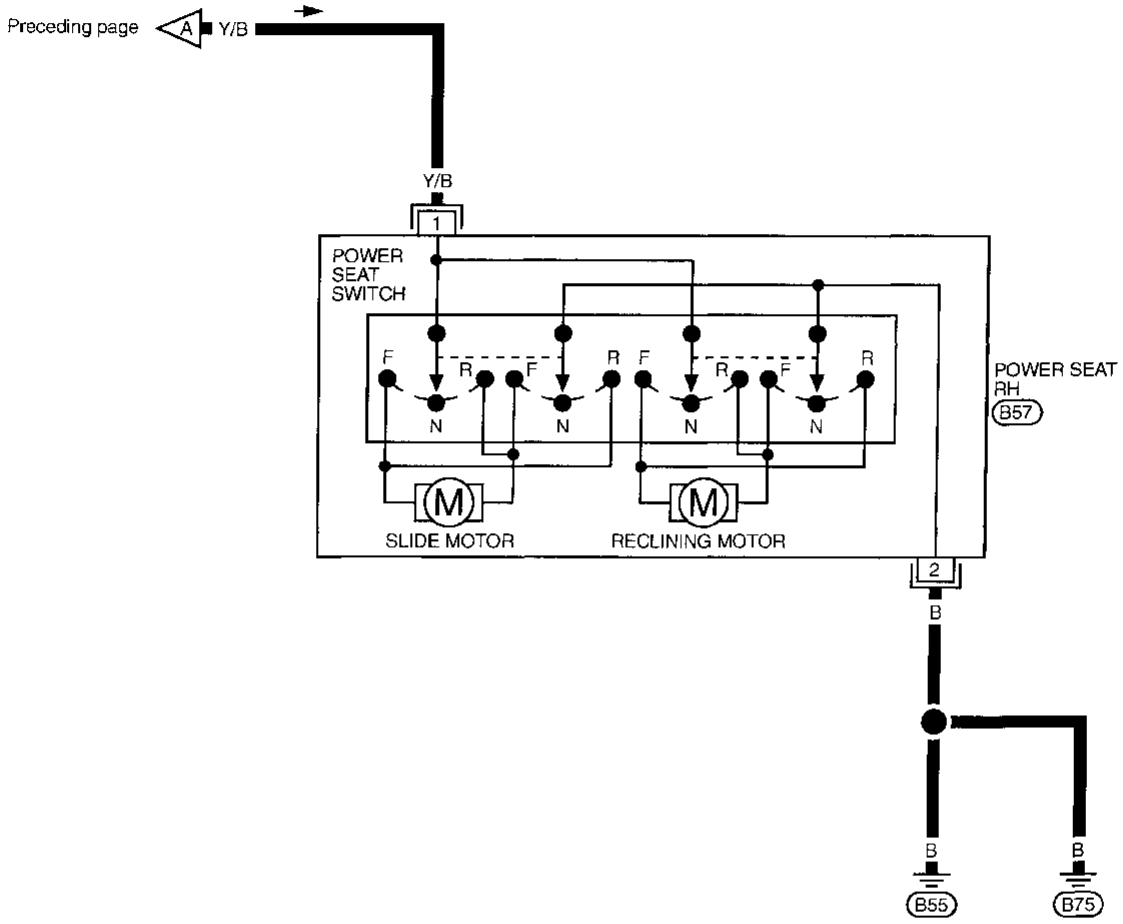
E1 , M1

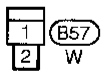
M2 , B1





MEL794G


Preceding page
A
Y/B
Y/B
1
POWER SEAT SWITCH
F
R
N
M
SLIDE MOTOR
RECLINING MOTOR
POWER SEAT RH
B57
2
B
B55
B75

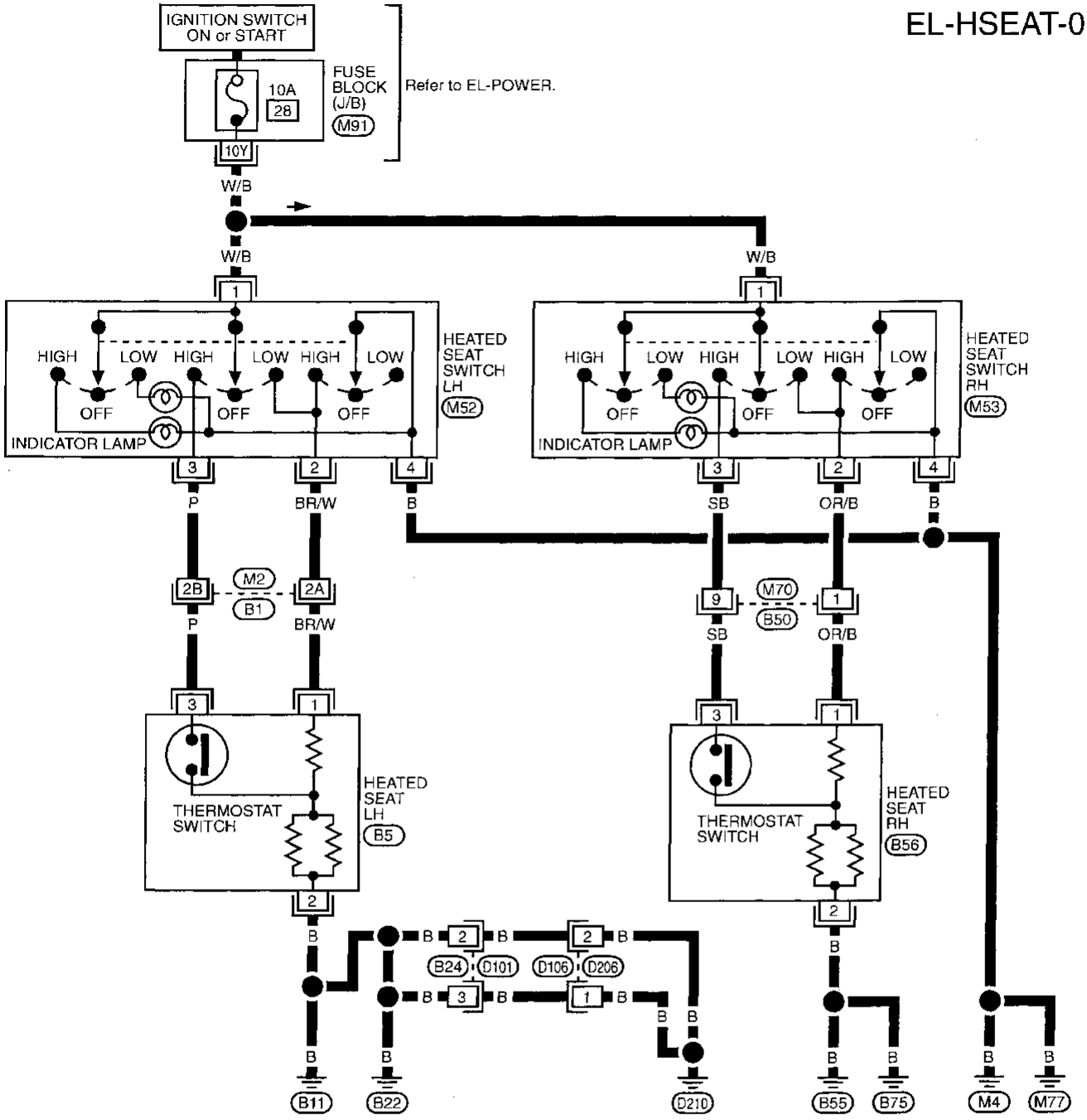

1
2
B57
W

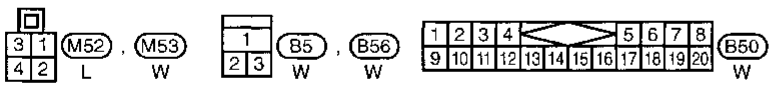
MEL611H

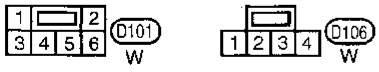
Wiring Diagram — HSEAT —

NAEL0093

EL-HSEAT-01





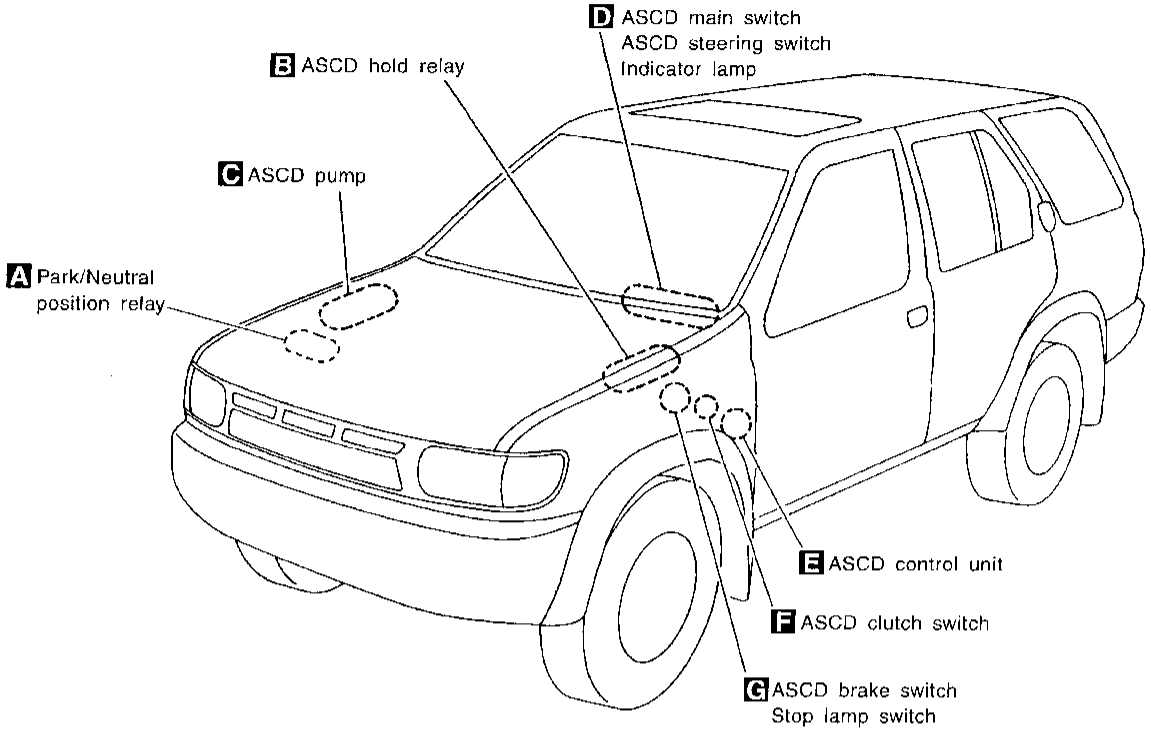


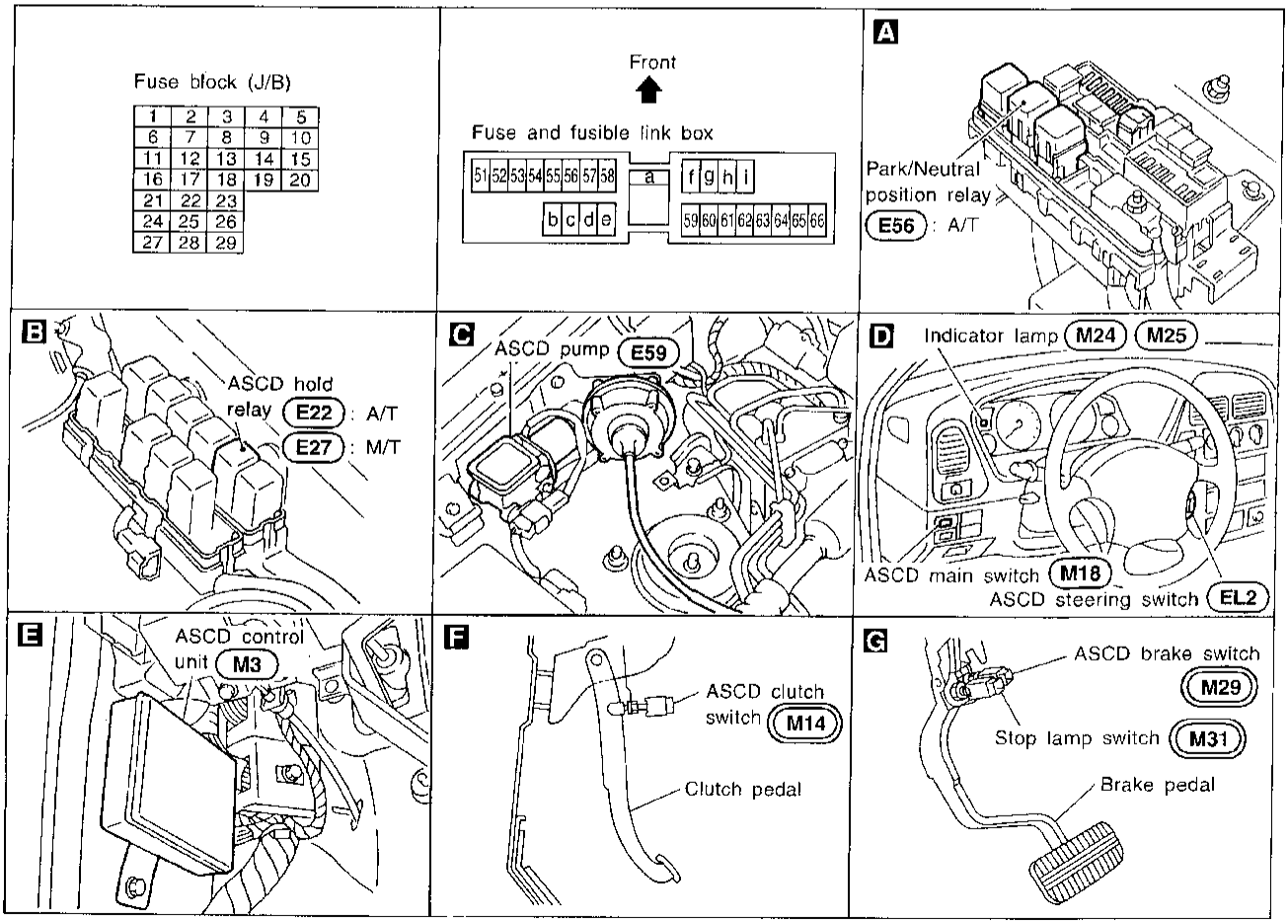
Refer to last page (Foldout page).
M2 , B1
M91

MEL612H

Component Parts and Harness Connector Location

NAEL0094





SEL301V

System Description

NAEL0095

Refer to Owner's Manual for ASCD operating instructions.

POWER SUPPLY AND GROUND

NAEL0095S03

When ignition switch is in the ON or START position, power is supplied
- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to ASCD hold relay terminal 3 (M/T models), 7 (A/T models) and
- to ASCD main switch terminal 1.

When ASCD main switch is in ON position, power is supplied
- from ASCD main switch terminal 3
- from ASCD hold relay terminal 2 (M/T models), 1 (A/T models).

Ground is supplied
- to ASCD hold relay terminal 1 (M/T models), 2 (A/T models).
- through body grounds E5 and E30.

With power and ground is supplied, ASCD hold relay is energized. And then power is supplied
- from ASCD hold relay terminal 5 (M/T models), 6 (A/T models)
- to ASCD control unit terminal 4 and
- to ASCD main switch terminal 2.

After the ASCD main switch is released, power remains supplied
- to the coil circuit of ASCD hold relay
- through ASCD main switch terminals 2 and 3.

This power supply continues until any of following things happen.
- Ignition switch is returned to the ACC or OFF position.
- ASCD main switch is turned to OFF position.

While ASCD hold relay is energized power is also supplied to ASCD control unit terminal 5
- through ASCD brake switch and ASCD clutch switch (M/T models) or
- through ASCD brake switch, ASCD hold relay and park/neutral position relay (A/T models).

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

INPUTS

NAEL0095S01

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
- ASCD clutch switch (M/T models) or
- inhibitor relay (A/T models)
- ASCD brake switch.

A vehicle speed input is supplied
- to ASCD control unit terminal 7
- from terminal 36 of the combination meter.

Power is supplied at all times
- to stop lamp switch terminal 1
- through 10A fuse [No. 14, located in the fuse block (J/B)].

When the brake pedal is depressed, power is supplied
- from terminal 2 of the stop lamp switch
- to ASCD control unit terminal 11.

Power is supplied at all times
- through 10A fuse [No. 54, located in the fuse and fusible link box]
- to horn relay terminal 2
- through terminal 1 of the horn relay

- to ASCD steering switch terminal 21.

When the SET/COAST switch is depressed, power is supplied
- from terminal 22 of the ASCD steering switch
- to ASCD control unit terminal 2.

When the RESUME/ACCEL switch is depressed, power is supplied
- from terminal 23 of the ASCD steering switch
- to ASCD control unit terminal 1.

When the system is activated, power is supplied
- to ASCD control unit terminal 5.

Power is interrupted when
- the clutch switch is depressed (M/T models),
- the selector lever is placed in P or N (A/T models) or
- the ASCD brake switch is depressed.

OUTPUTS

NAEL0095S02

The ASCD actuator controls the throttle drum via the ASCD wire based on inputs from the ASCD control unit.
The ASCD pump 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 2.

Ground is supplied to the air valve
- from terminal 10 of the ASCD control unit
- to ASCD pump terminal 3.

Ground is supplied to the release valve
- from terminal 14 of the ASCD control unit
- to ASCD pump terminal 4.

When the system is activated, power is supplied
- from terminal 13 of the ASCD control unit
- to combination meter terminal 9 and
- to TCM (Transmission Control Module) terminal 37 (A/T models).

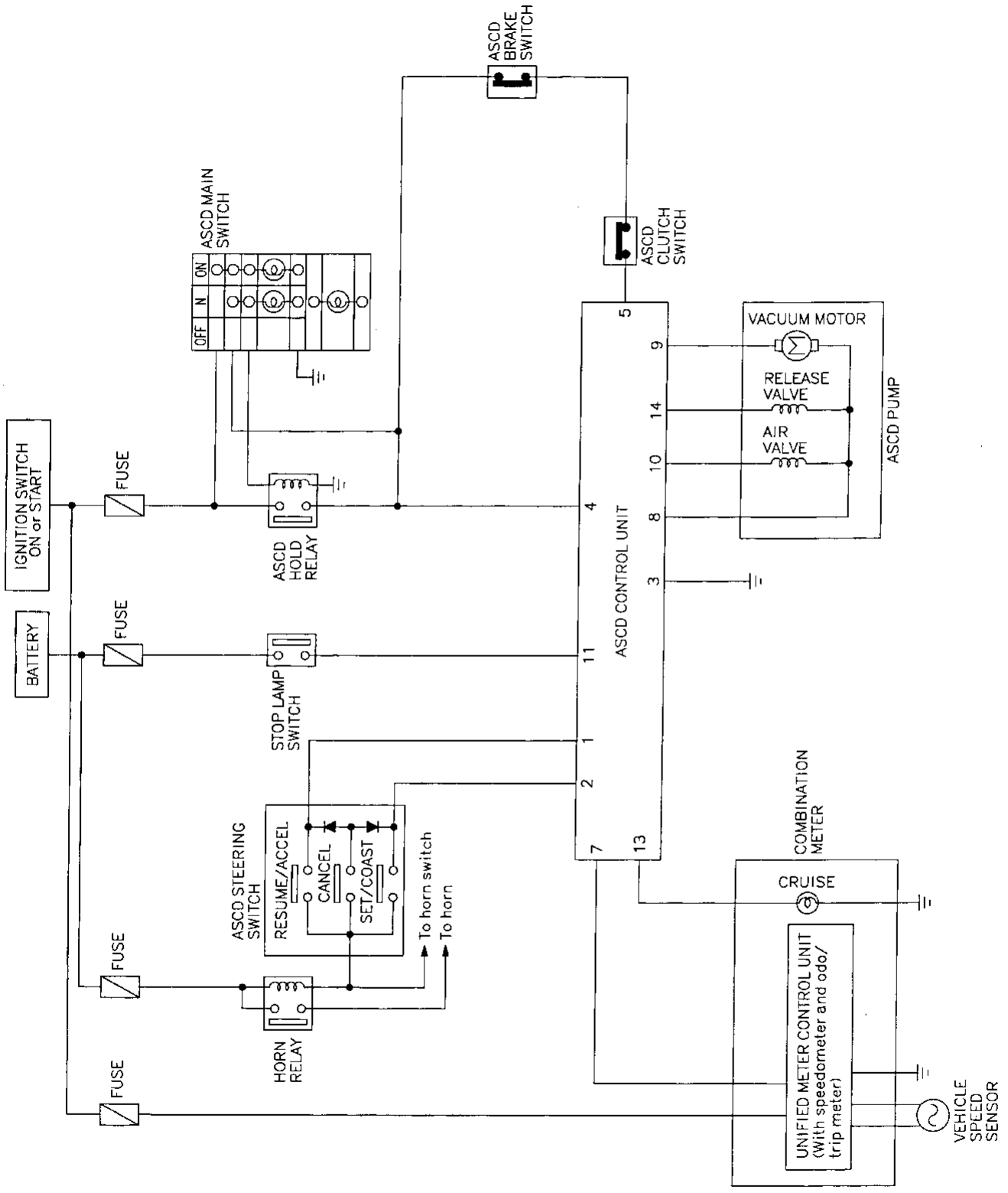
Ground is supplied
- to combination meter terminal 19
- through body grounds M4 and M77.

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 TCM (Transmission Control Module) terminal 40.

When this occurs, the TCM (Transmission Control Module) cancels overdrive.
After vehicle speed is approximately 3 km/h (2 MPH) above set speed, overdrive is reactivated.

Schematic/M/T Models

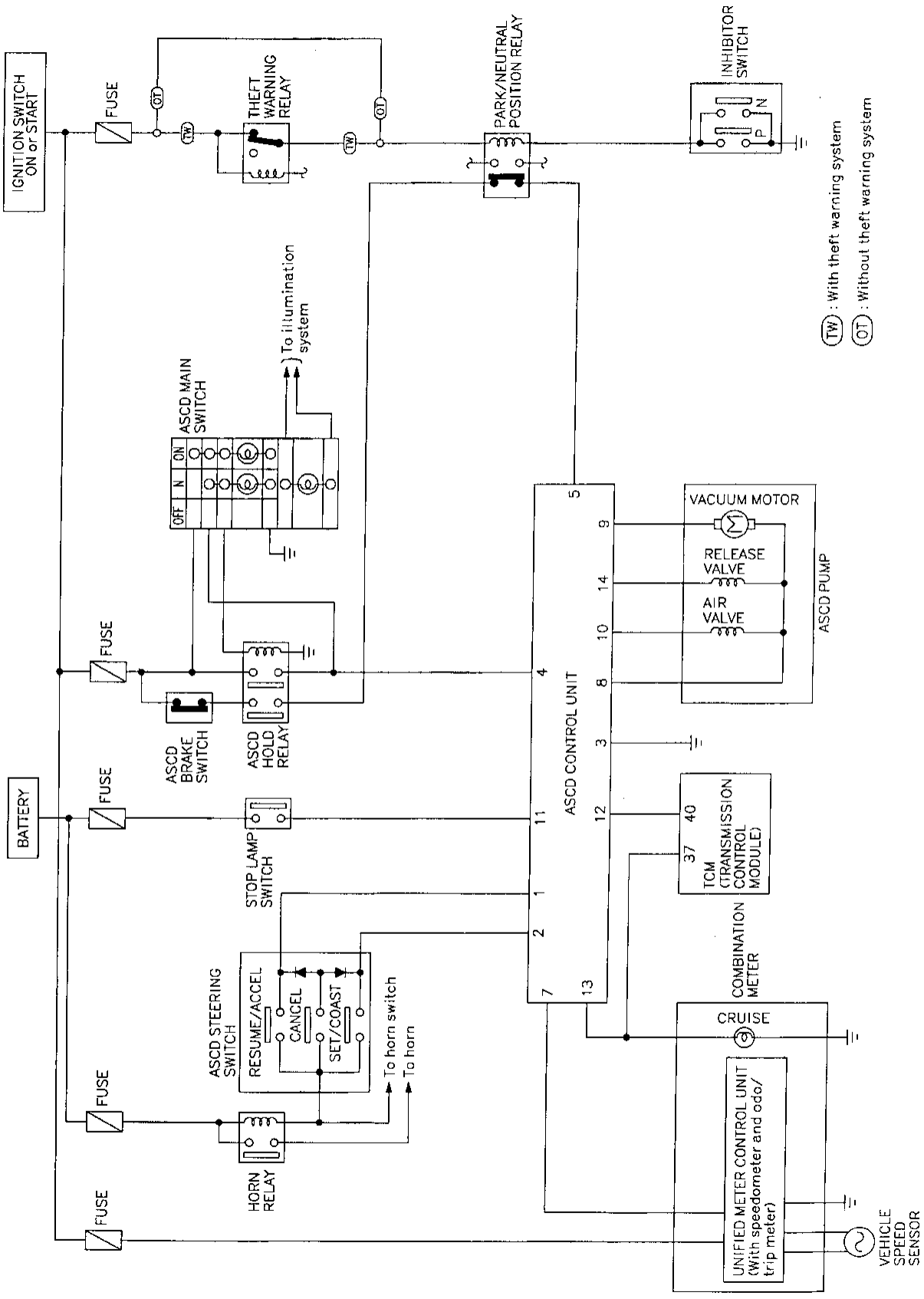
NAEL0096



MEL125I

Schematic/A/T Models

NAEL0158



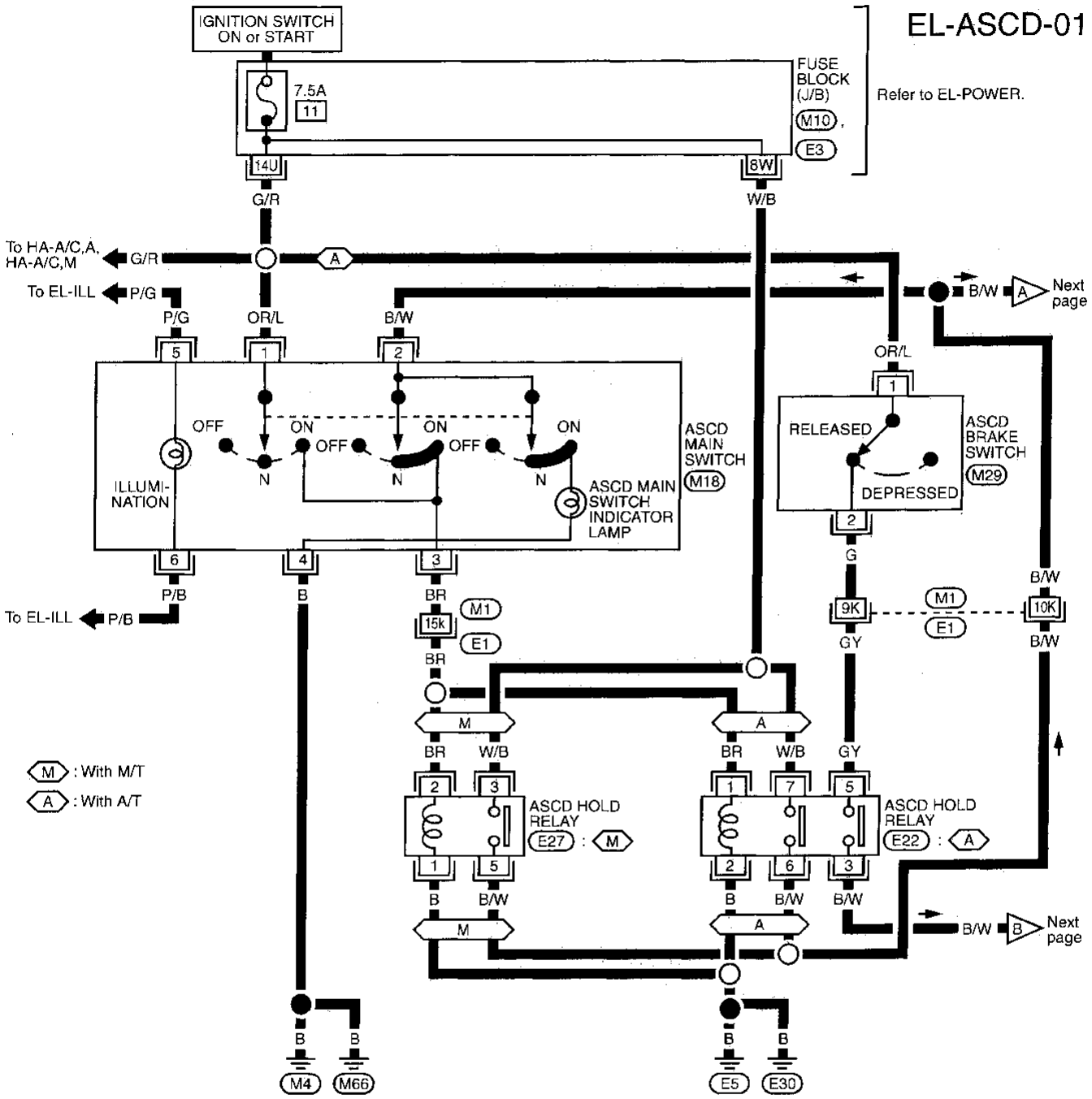
MEL126I

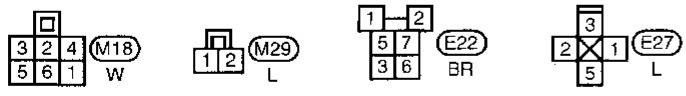
Wiring Diagram — ASCD —

NAEL0097

FIG. 1

NAEL0097S01



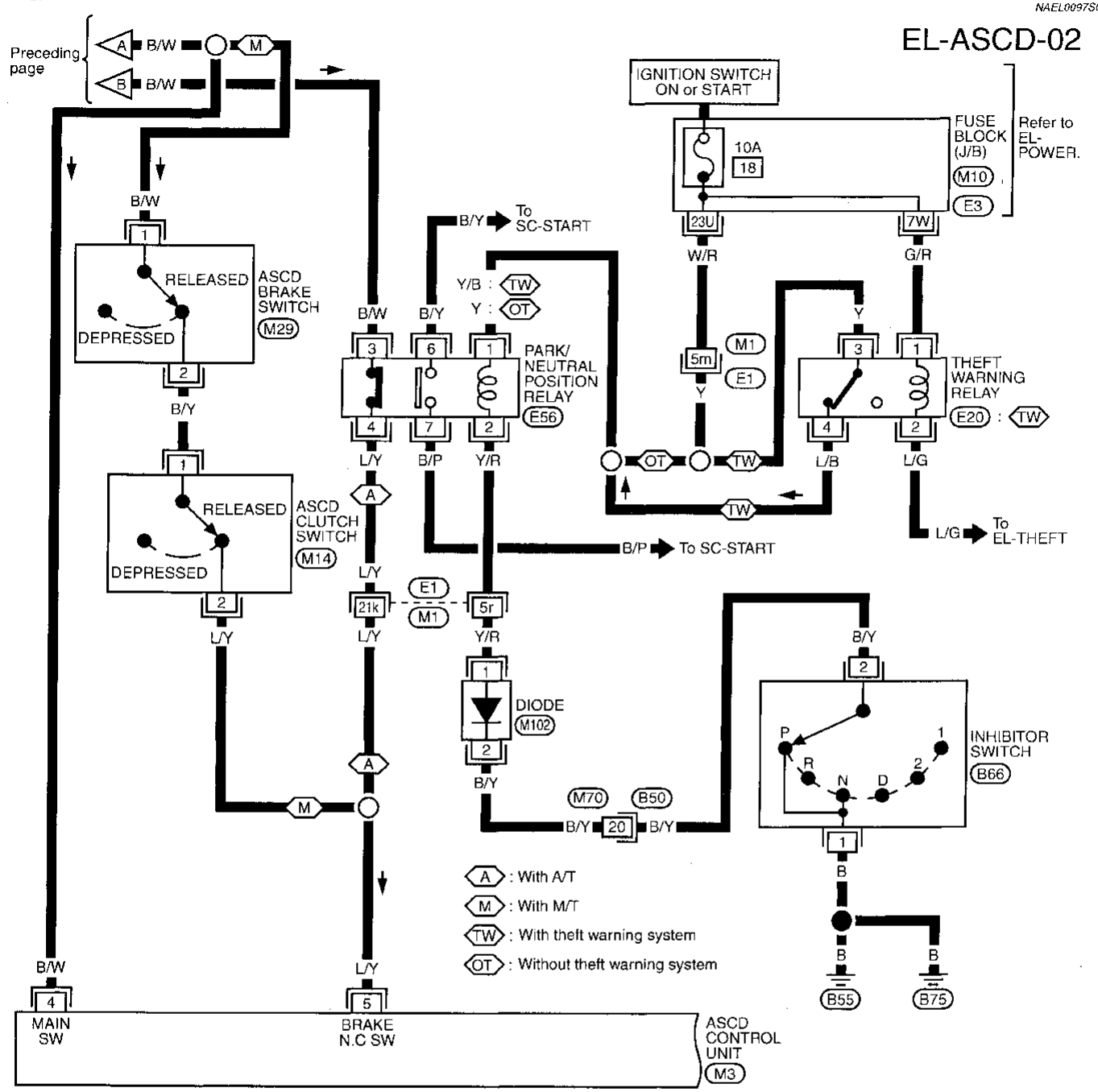


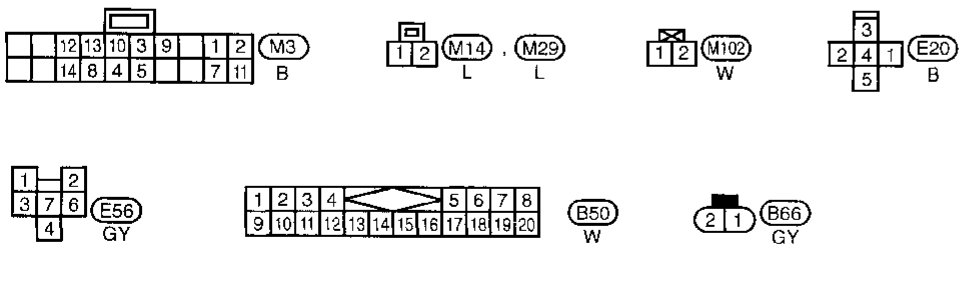
Refer to last page (Foldout page).
M1, E1
M10, E3

MEL614H

FIG. 2

NAEL0097S02





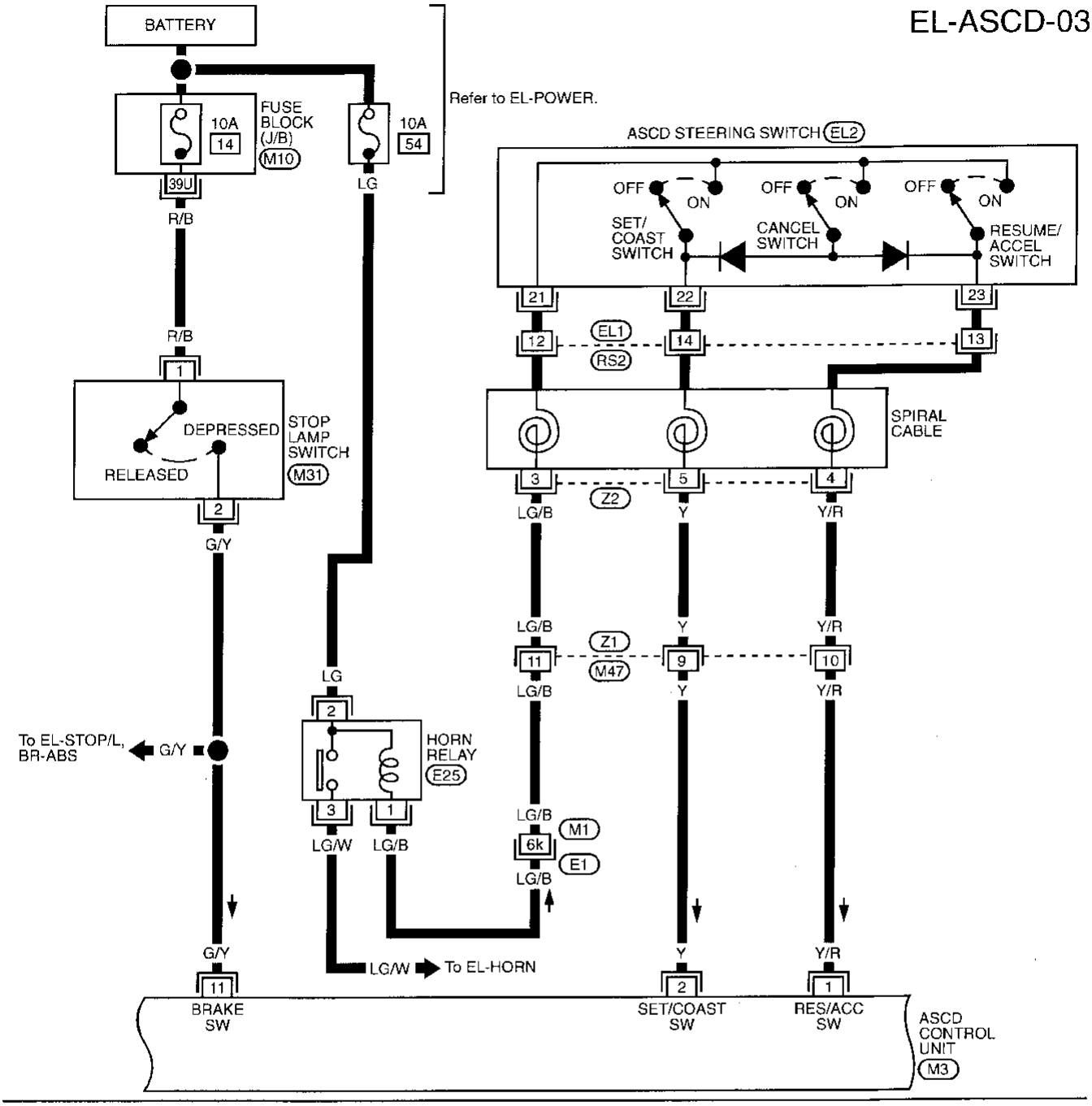
Refer to last page (Foldout page).
M1, E1
M10, E3

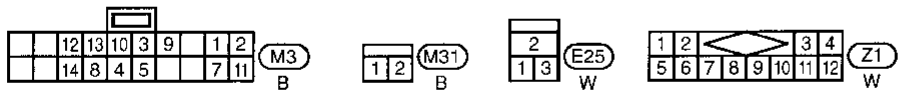
MEL615H

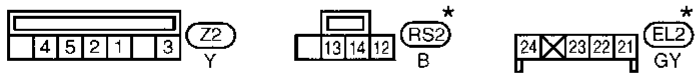
FIG. 3

NAEL0097S03

EL-ASCD-03







★ : This connector is not shown in "HARNESS LAYOUT".

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

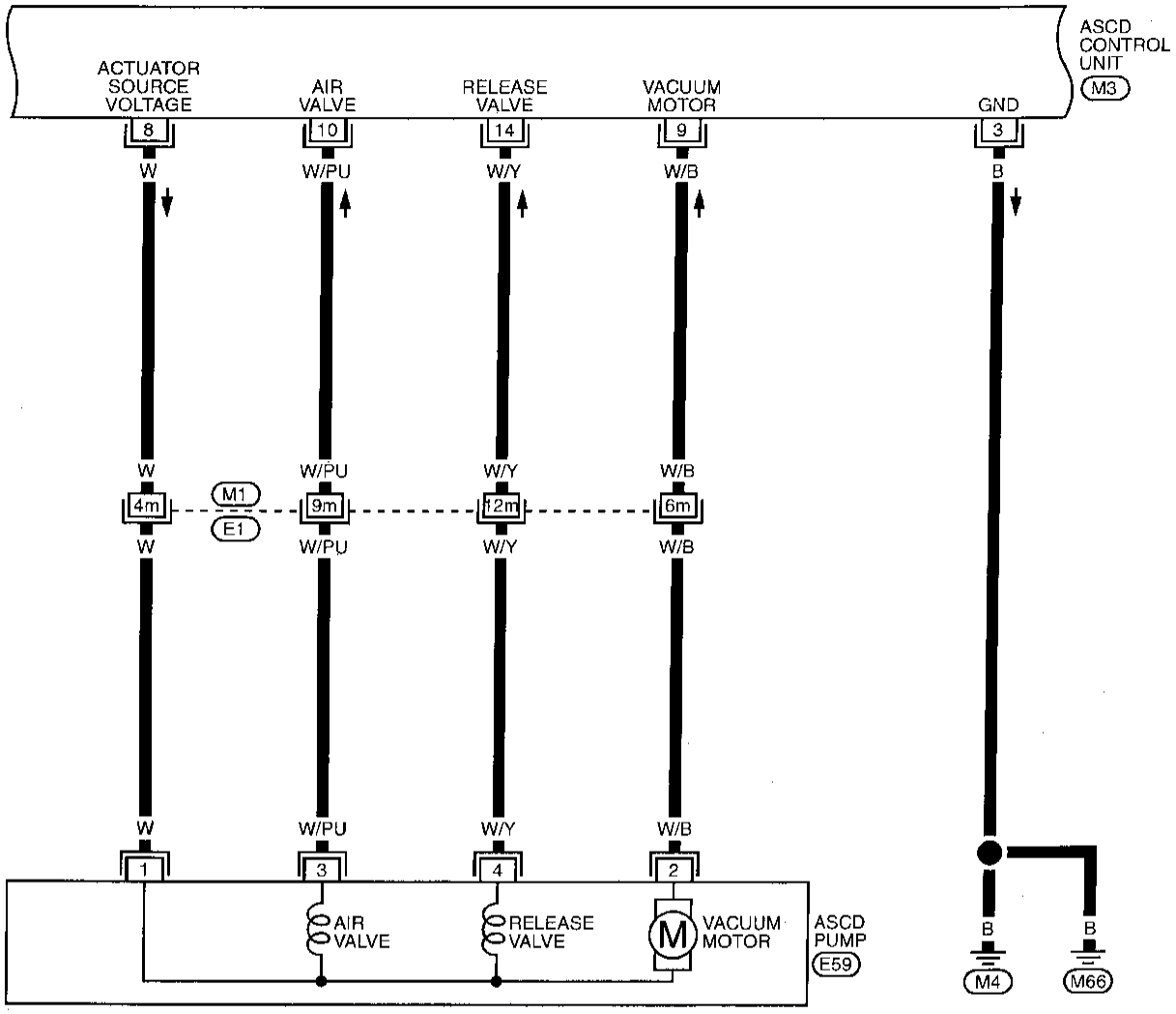
MEL616H

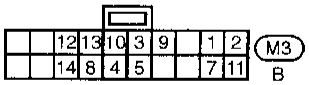
1713

FIG. 4

NAEL0097S04

EL-ASCD-04



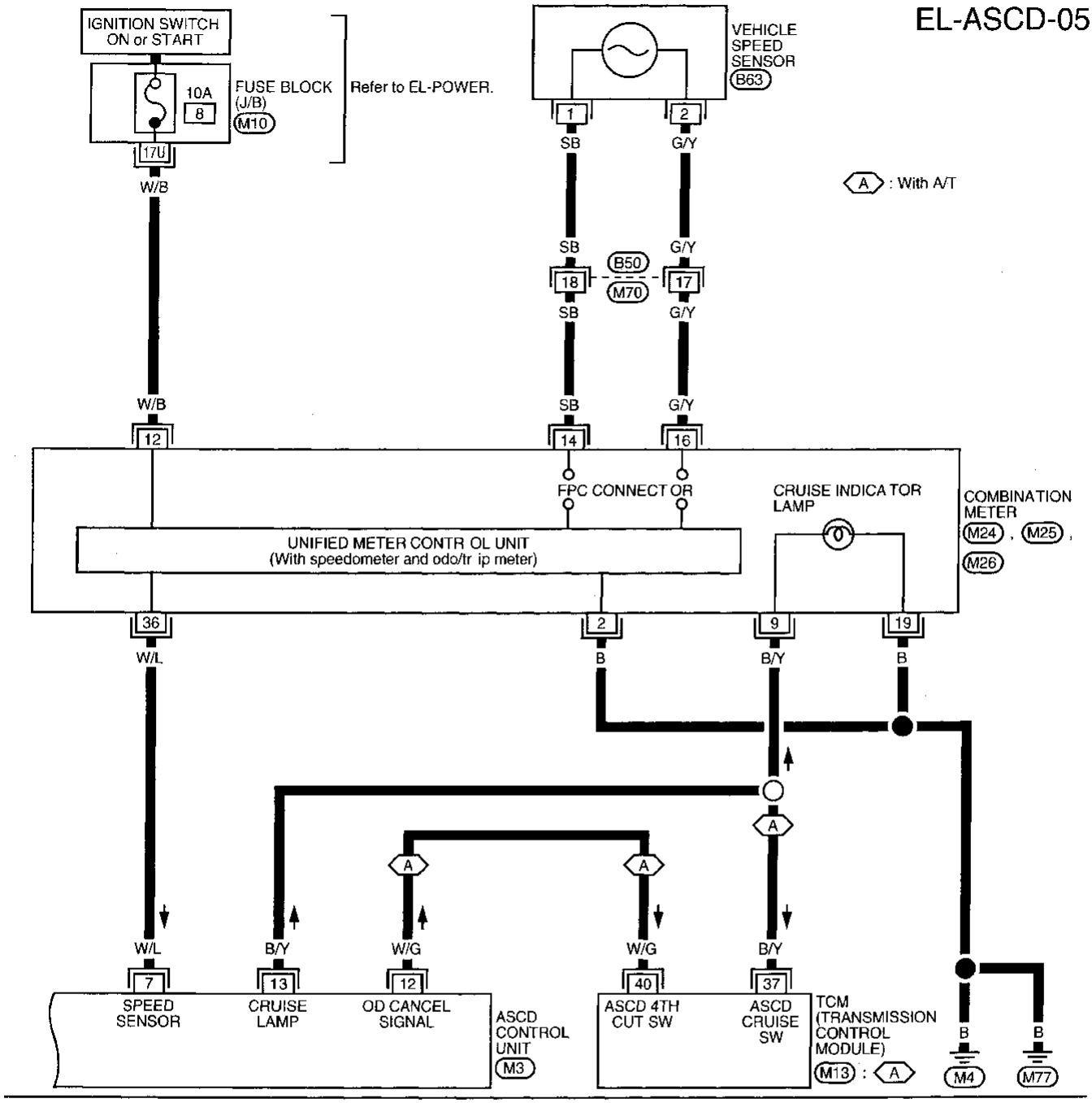


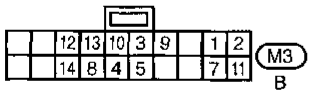
Refer to last page (Foldout page).
E1, M1

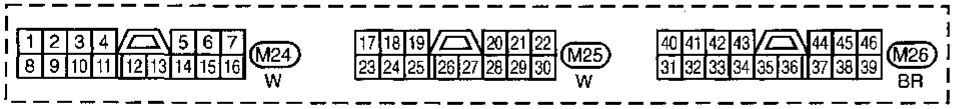
MEL800G

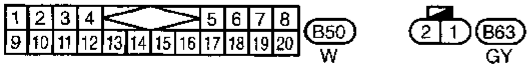
FIG. 5

NAEL0097S05



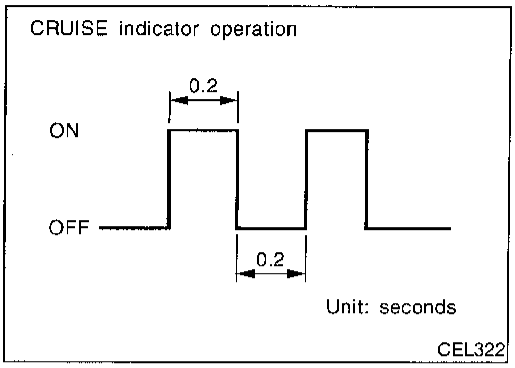






Refer to last page (Foldout page).
M10
M13

MEL618H



Fail-safe System

NAEL0098

DESCRIPTION

NAEL0098S01

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

NAEL0098S02

Detection conditions	ASCD operation during malfunction detection
• 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.	• ASCD is deactivated. • Vehicle speed memory is canceled.
• ASCD brake switch or stop lamp switch is faulty.	• ASCD is deactivated. • Vehicle speed memory is not canceled.

Trouble Diagnoses
SYMPTOM CHART

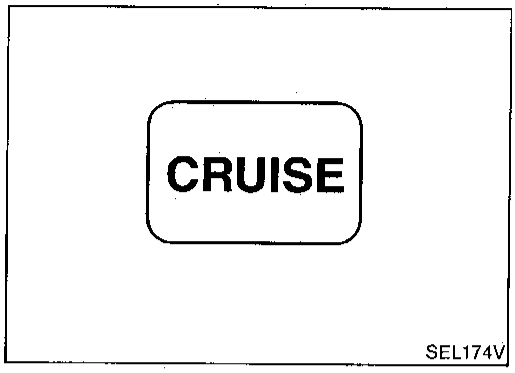
NAEL0099

NAEL0099S01

REFERENCE PAGE (EL-)	152	153	154	155	156	157	158	158	159
SYMPTOM	FAIL-SAFE SYSTEM CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	ASCD MAIN SWITCH CHECK	ASCD HOLD RELAY CHECK	ASCD BRAKE/STOP LAMP SWITCH CHECK	ASCD STEERING SWITCH CHECK	VEHICLE SPEED SENSOR CHECK	ASCD PUMP CIRCUIT CHECK	ASCD ACTUATOR/PUMP CHECK
ASCD cannot be set. ("CRUISE" indicator lamp does not blink.)		X	X	X		X	X		
ASCD cannot be set. ("CRUISE" indicator lamp blinks.★1)	X				X	X	X	X	
Vehicle speed does not decrease after SET/COAST switch has been pressed.						X			X
Vehicle speed does not return to the set speed after RESUME/ ACCEL switch has been pressed.★2						X			X
Vehicle speed does not increase after RESUME/ACCEL switch has been pressed.						X			X
System is not released after CANCEL switch (steering) has been pressed.						X			X
Large difference between set speed and actual vehicle speed.									X
Deceleration is greatest immediately after ASCD has been set.									X

★1: It indicates that system is in fail-safe. After completing diagnostic procedures, perform "FAIL-SAFE SYSTEM CHECK" (EL-152) to verify repairs.

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

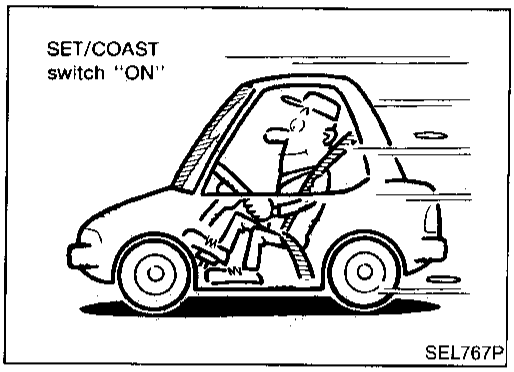


SEL174V

FAIL-SAFE SYSTEM CHECK

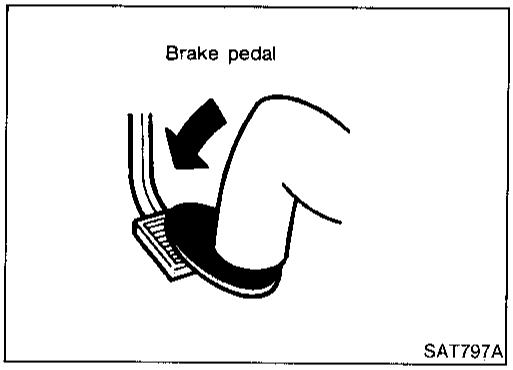
=NAEL0099S02

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the "cruise indicator" blinks.
   If the indicator lamp blinks, check the following.
- ASCD steering switch. Refer to EL-157.



SEL767P

3. Drive the vehicle at more than 48 km/h (30 MPH) and push SET/COAST switch.
   If the indicator lamp blinks, check the following.
- Vehicle speed sensor. Refer to EL-158.
- ASCD pump circuit. Refer to EL-158.
- Replace control unit.



SAT797A

4. Depress brake pedal slowly (brake pedal should be depressed more than 5 seconds).
   If the indicator lamp blinks, check the following.
- ASCD brake/stop lamp switch. Refer to EL-156.

5. END. (System is OK.)

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NAEL0099S03

1	OPERATION CHECK

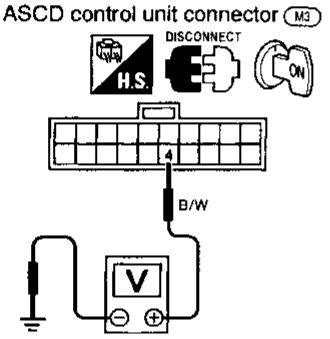
1. Turn ignition switch ON.
2. Turn ASCD main switch "ON".

Does ASCD indicator illuminate?

Yes	▶	GO TO 2.
No	▶	Go to ASCD MAIN SWITCH CHECK. Refer to EL-154.

2	CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT

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



SEL289UD

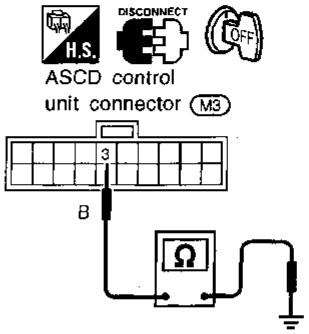
Refer to wiring diagram in EL-146.

Does battery voltage exist?

Yes	▶	GO TO 3.
No	▶	Go to ASCD HOLD RELAY CHECK. Refer to EL-155.

3	CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT

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



SEL764U

Refer to wiring diagram in EL-148.

Does continuity exist?

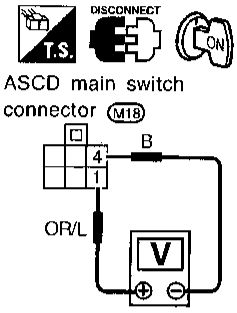
Yes	▶	Power supply and ground circuit is OK.
No	▶	Repair harness.

ASCD MAIN SWITCH CHECK

=NAEL0099S04

1	CHECK POWER SUPPLY FOR ASCD MAIN SWITCH

1. Disconnect main switch connector.
2. Check voltage between main switch terminals 1 and 4.



MEL842F

Refer to wiring diagram in EL-145.

Does battery voltage exist?

Yes	▶	GO TO 2.
No	▶	**Check the following.** • 7.5A fuse (No. 11, located in the fuse block) • Harness for open or short between fuse and ASCD main switch • Ground circuit for ASCD main switch

2	CHECK ASCD MAIN SWITCH

Refer to "Electrical Component Inspection" (EL-160).

OK or NG

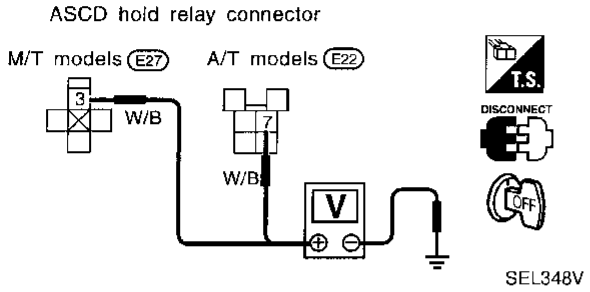
OK	▶	Go to ASCD HOLD RELAY CHECK. Refer to EL-155.
NG	▶	Replace ASCD main switch.

ASCD HOLD RELAY CHECK

=NAEL0099S05

1 CHECK POWER SUPPLY CIRCUIT FOR ASCD HOLD RELAY

1. Disconnect ASCD hold relay
2. Check voltage between ASCD hold relay terminal 3 (M/T), 7 (A/T) and body ground.



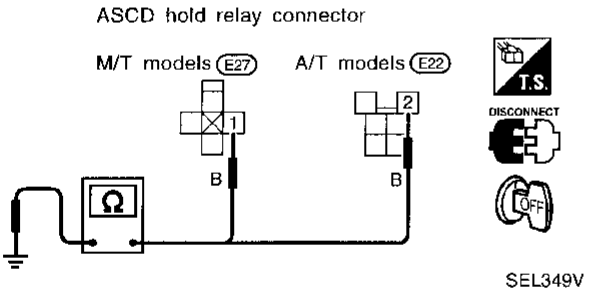
Refer to wiring diagram in EL-145.

Does battery voltage exist?

Yes	▶	GO TO 2.
No	▶	**Check the following.** • 7.5A fuse (No. 11, located in the fuse block) • Harness for open or short between fuse and ASCD hold relay

2 CHECK GROUND CIRCUIT FOR ASCD HOLD RELAY

Check continuity between ASCD hold relay terminal 1 (M/T), 2 (A/T) and ground.



Does continuity exist?

Yes	▶	GO TO 3.
No	▶	Repair harness.

3 CHECK ASCD HOLD RELAY

Check ASCD hold relay.

OK or NG

OK	▶	GO TO 4.
NG	▶	Replace ASCD hold relay.

4 CHECK ASCD MAIN SWITCH

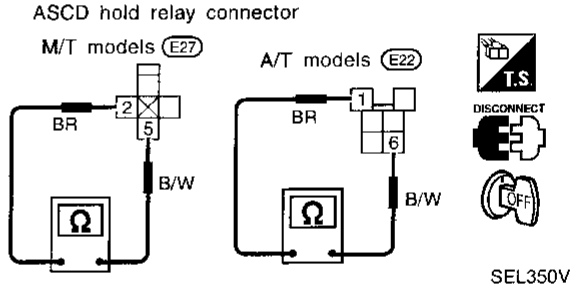
Refer to "Electrical Component Inspection" (EL-160).

OK or NG

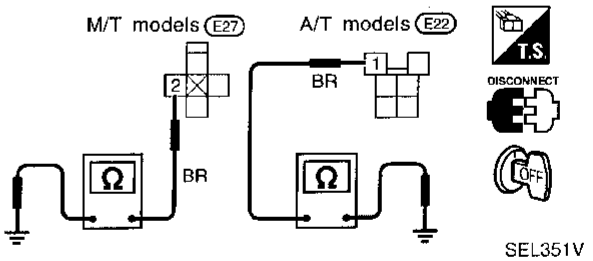
OK	▶	Go to next procedure.
NG	▶	Replace ASCD main switch.

5 CHECK ASCD HOLD RELAY OPEN OR SHORT CIRCUIT

1. Connect ASCD main switch.
2. Check continuity between ASCD hold relay terminals 2 and 5 (M/T), 1 and 6 (A/T).
   Continuity should exist.



3. Check continuity between ASCD hold relay terminal 1 and ground.
   Continuity should not exist.



OK or NG

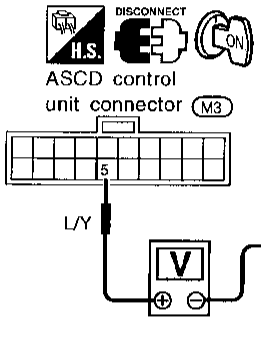
OK	▶	ASCD hold relay is OK.
NG	▶	Repair harness.

ASCD BRAKE/STOP LAMP SWITCH CHECK

=NAEL0099S06

1 CHECK ASCD BRAKE SWITCH CIRCUIT

1. Disconnect control unit connector.
2. Turn ignition switch ON.
3. Turn ASCD main switch "ON".
4. Check voltage between control unit connector terminal 5 and ground.
   When brake pedal is depressed, clutch pedal is depressed (M/T) or A/T selector lever is in "N" or "P" range (A/T):
   Approx. 0V
   When both brake pedal is released and clutch pedal is released (M/T) or A/T selector lever is not in "N" or "P" range (A/T):
   Battery voltage should exist.



SEL765U

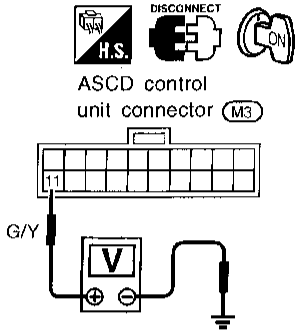
Refer to wiring diagram in EL-146.

OK or NG

OK	▶	GO TO 2.
NG	▶	**Check the following.** • ASCD brake switch, ASCD clutch switch (M/T models), Inhibitor switch (A/T models) Refer to "Electrical Components Inspection" (EL-160). • ASCD hold relay • Harness for open or short

2 CHECK STOP LAMP SWITCH CIRCUIT

1. Disconnect control unit connector.
2. Check voltage between control unit terminal 11 and ground.
   Voltage [V]:
   Stop lamp switch: Depressed
   Approx. 12
   Stop lamp switch: Released
   0



SEL759U

Refer to wiring diagram in EL-147.

OK or NG

OK	▶	ASCD brake/stop lamp switch is OK.
NG	▶	**Check the following.** • 10A fuse [No. 14, located in the fuse block (J/B)] • Harness for open or short between ASCD control unit and stop lamp switch • Stop lamp switch Refer to "Electrical Components Inspection" (EL-160).

ASCD STEERING SWITCH CHECK

=NAEL0099S07

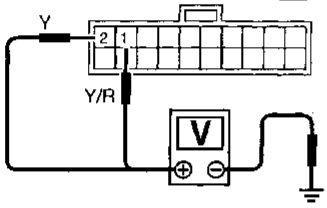
1 CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT

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

	Terminal No.		Switch condition	
	(+)	(-)	Pressed	Released
SET/COAST SW	2	ground	12V	0V
RESUME/ACC SW	1	ground	12V	0V
CANCEL SW	2	ground	12V	0V
	1	ground	12V	0V

MTBL0002

ASCD control unit connector (M3)



SEL760U

Refer to wiring diagram in EL-147.

OK or NG

OK	▶	ASCD steering switch is OK.
NG	▶	GO TO 2.

2 CHECK POWER SUPPLY FOR ASCD STEERING SWITCH

Does horn work?

Yes	▶	GO TO 3.
No	▶	**Check the following.** • 10A fuse (No. 54, located in the relay box) • Horn relay • Harness for open or short between horn and fuse

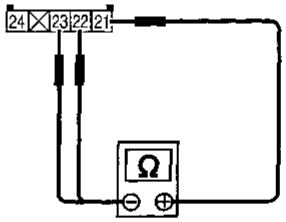
3 CHECK ASCD STEERING SWITCH

1. Disconnect ASCD steering switch.
2. Check continuity between terminals by pushing each switch.

Switch	Terminal		
	21	22	23
RESUME/ACCEL	○		○
SET/COAST	○	○	
CANCEL	○	○	
	○		○

MTBL0003

ASCD steering switch (E12)



SEL409V

OK or NG

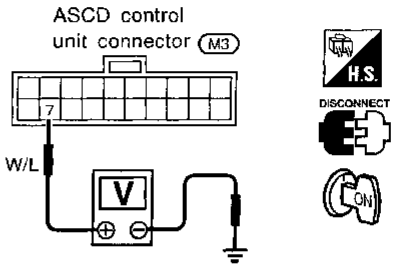
OK	▶	Check harness for open or short between ASCD steering switch and ASCD control unit.
NG	▶	Replace ASCD steering switch.

VEHICLE SPEED SENSOR CHECK

=NAEL0099S08

1	CHECK SPEEDOMETER OPERATION
Refer to wiring diagram in EL-149. **Does speedometer operate normally?**	
Yes ▶	GO TO 2.
No ▶	Check speedometer and vehicle speed sensor circuit. Refer to EL-65.

2	CHECK VEHICLE SPEED INPUT
1. Apply wheel chocks and jack up drive wheels. 2. Disconnect control unit connector. 3. Check voltage between control unit terminal 7 and ground with turning drive wheels slowly.	



SEL347V

Does voltmeter pointer deflect?

Yes ▶	Vehicle speed sensor is OK.
No ▶	Check harness for open or short between ASCD control unit terminal 7 and combination meter terminal 36.

ASCD PUMP CIRCUIT CHECK

NAEL0099S09

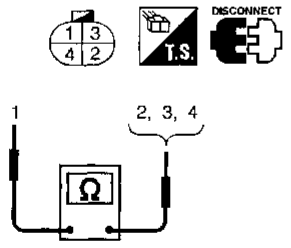
1	CHECK ASCD PUMP

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

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

MTBL0068

ASCD pump connector F59



MEL243H

Refer to wiring diagram in EL-148.

OK or NG

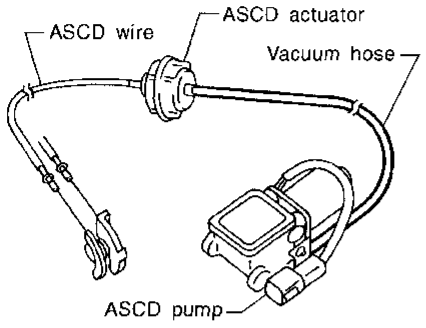
OK ▶	Check harness for open or short between ASCD pump and ASCD control unit.
NG ▶	Replace ASCD pump.

ASCD ACTUATOR/PUMP CHECK

=NAEL0099S10

1 CHECK VACUUM HOSE

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



MEL402G

OK or NG

OK	▶	GO TO 2.
NG	▶	Repair or replace hose.

2 CHECK ASCD WIRE

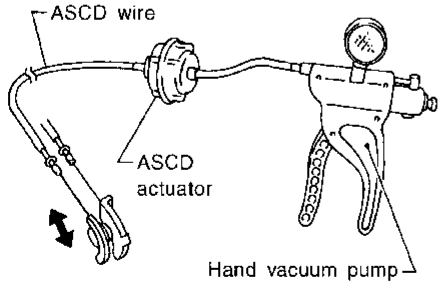
Check wire for improper installation, rust formation and breaks.

OK or NG

OK	▶	GO TO 3.
NG	▶	Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-161).

3 CHECK ASCD ACTUATOR

1. Disconnect vacuum hose from ASCD actuator.
2. Apply –40 kPa (–0.41 kg/cm^2, –5.8 psi) vacuum to ASCD actuator with hand vacuum pump.
   ASCD wire should move to pull throttle drum.
3. Wait 10 seconds and check for decrease in vacuum pressure.
   Vacuum pressure decrease:
   Less than 2.7 kPa (0.028 kg/cm^2, 0.39 psi)



MEL403G

OK or NG

OK	▶	GO TO 4.
NG	▶	Replace ASCD actuator.

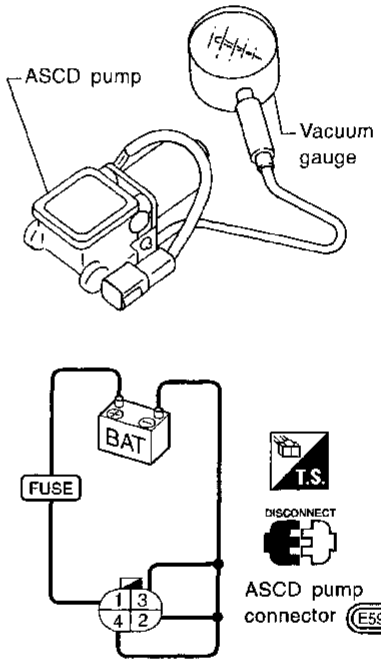
4 CHECK ASCD PUMP

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

	12V direct current suply terminals		Operation
	(+)	(–)	
Air valve	1	3	Close
Release valve		4	Close
Vacuum motor		2	Operate

MTBL0004

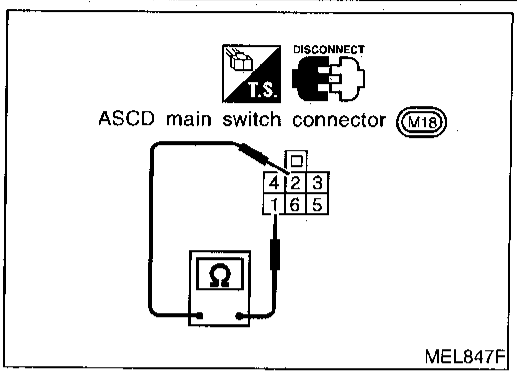
A vacuum pressure of at least –40 kPa (–0.41 kg/cm^2, –5.8 psi) should be generated.

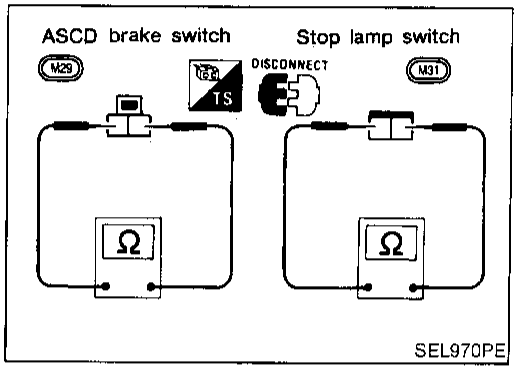


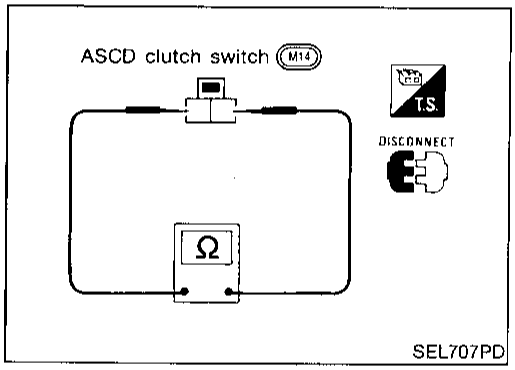
MEL844G

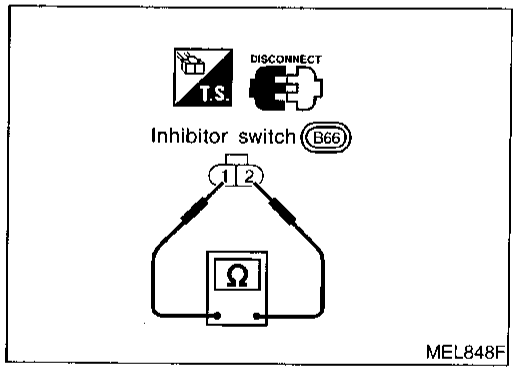
OK or NG

OK	▶	ASCD actuator/pump is OK.
NG	▶	Replace ASCD pump.









Electrical Component Inspection

NAEL0100

ASCD MAIN SWITCH

NAEL0100S01

Check continuity between terminals by pushing switch to each position.

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

ASCD BRAKE SWITCH AND STOP LAMP SWITCH

NAEL0100S02

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

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

ASCD CLUTCH SWITCH (FOR M/T MODELS)

NAEL0100S04

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

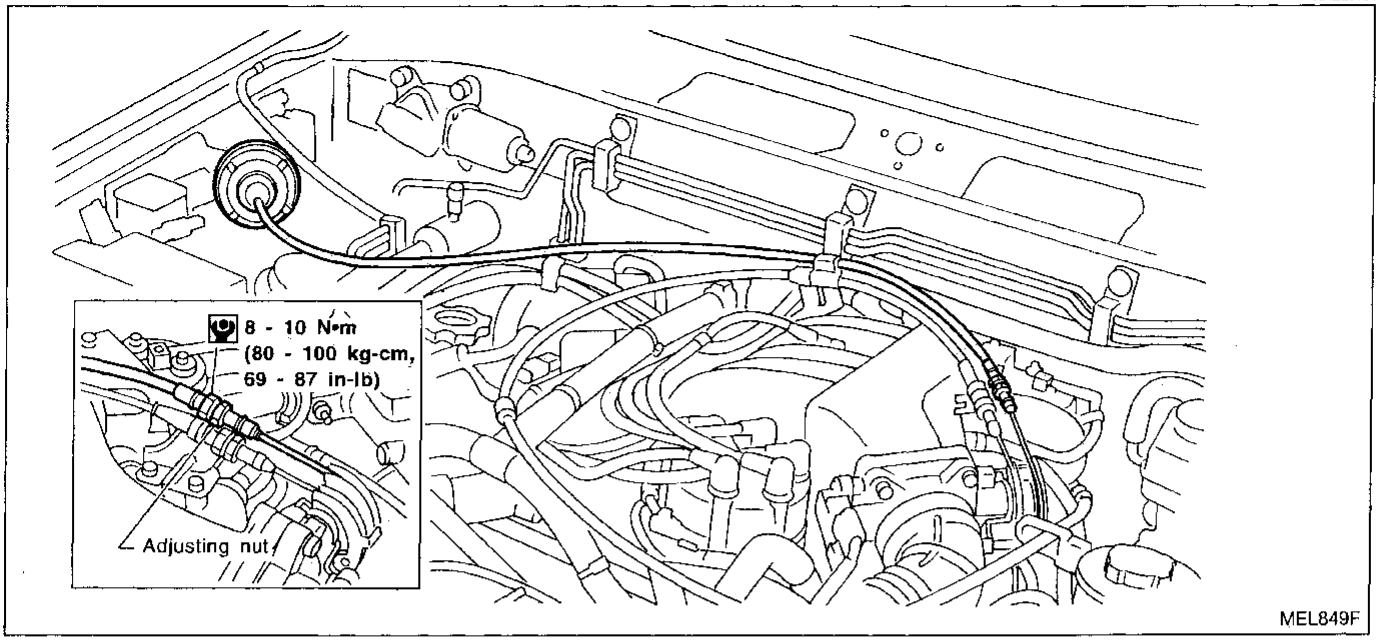
INHIBITOR SWITCH (FOR A/T MODELS)

NAEL0100S03

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

ASCD Wire Adjustment

NAEL0101



CAUTION:

- **Be careful not to twist ASCD wire when removing it.**
- **Do not tense ASCD wire excessively during adjustment.**

Adjust the tension of ASCD wire in the following manner.

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

System Description

NAEL0102

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

With ignition switch in ON or START position, power is supplied
- through 7.5A fuse [No. 11, located in the fuse block (J/B)]
- to power window relay terminal 2.

Ground is supplied to power window relay terminal 1
- through body grounds M4 and M66.

The power window relay is energized and power is supplied
- through power window relay terminal 5
- to power window main switch terminal 1,
- to power window sub switch terminal 5.

MANUAL OPERATION

NAEL0102S01

Front Door LH

NAEL0102S0101

Ground is supplied
- to power window main switch terminal 3
- through body grounds M4 and M77.

WINDOW UP
When the front LH switch in the power window main switch is pressed in the up position, power is supplied
- to front power window regulator LH terminal 2
- through power window main switch terminal 9.

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

Then, the motor raises the window until the switch is released.
WINDOW DOWN
When the LH switch in the power window main switch is pressed in the down position, power is supplied
- to front power window regulator LH terminal 1
- through power window main switch terminal 8.

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

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

Front Door RH

NAEL0102S0102

Ground is supplied
- to power window main switch terminal 3
- through body grounds M4 and M77.

NOTE:
Numbers in parentheses are terminal numbers, when power window switch is pressed in the UP and DOWN positions respectively.
MAIN SWITCH OPERATION
Power is supplied
- through power window main switch (5, 6)
- to front power window sub-switch (4, 3).

The subsequent operation is the same as the sub-switch operation.
SUB-SWITCH OPERATION
Power is supplied
- through front power window sub-switch (2, 1)

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

Ground is supplied

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

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

Rear Door

NAEL0102S0103

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

AUTO OPERATION

NAEL0102S02

The power window AUTO feature enables the driver to lower the driver's window without holding the window switch in the down position.
The AUTO feature only operates on the driver's window downward movement.

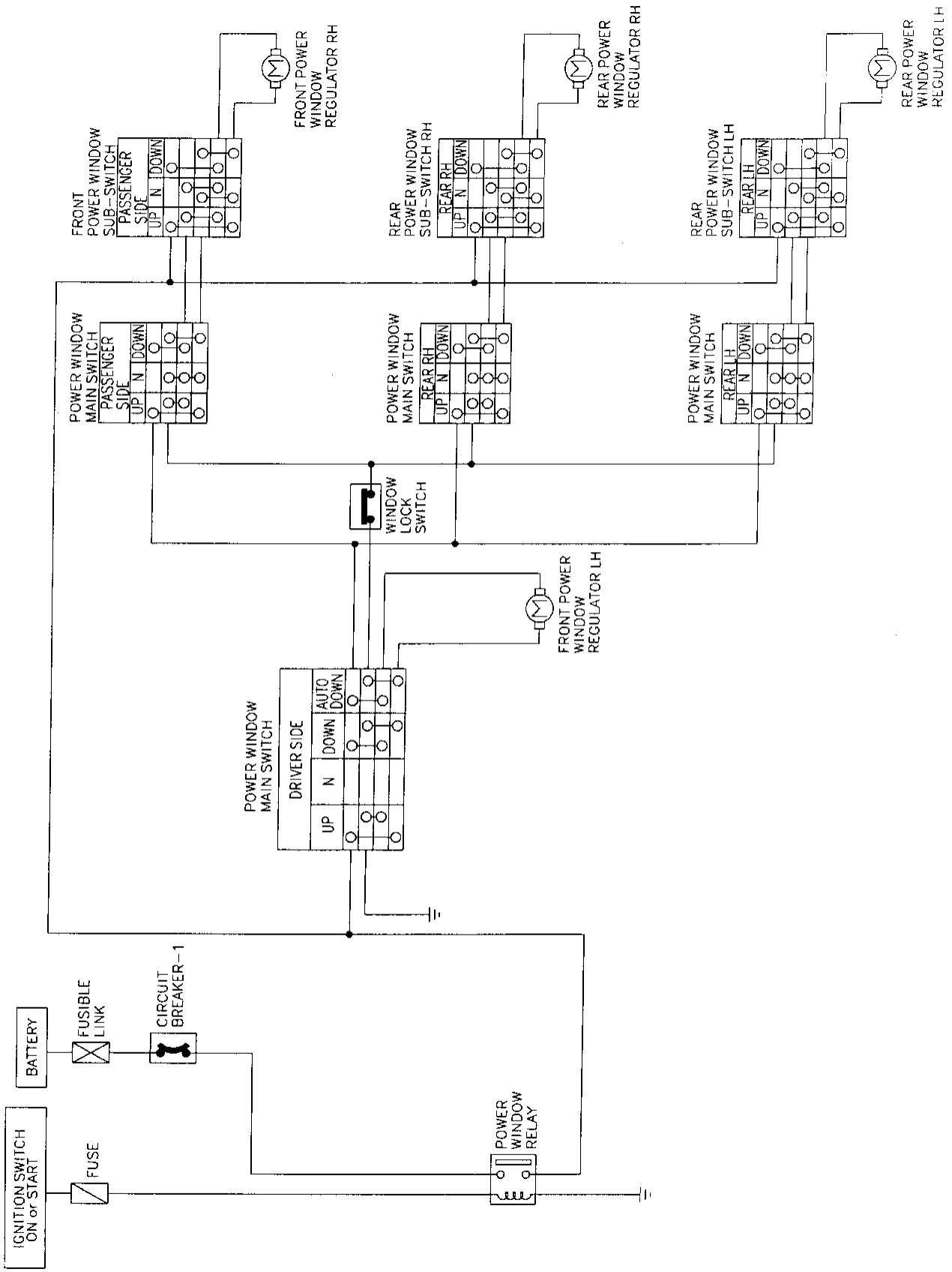
POWER WINDOW LOCK

NAEL0102S03

The power window lock is designed to lock operation of all windows except for driver's door window. When the lock switch is pressed to lock position, ground of the sub-switches in the power window main switch is disconnected. This prevents the power window motors from operating.

Schematic

NAEL0103

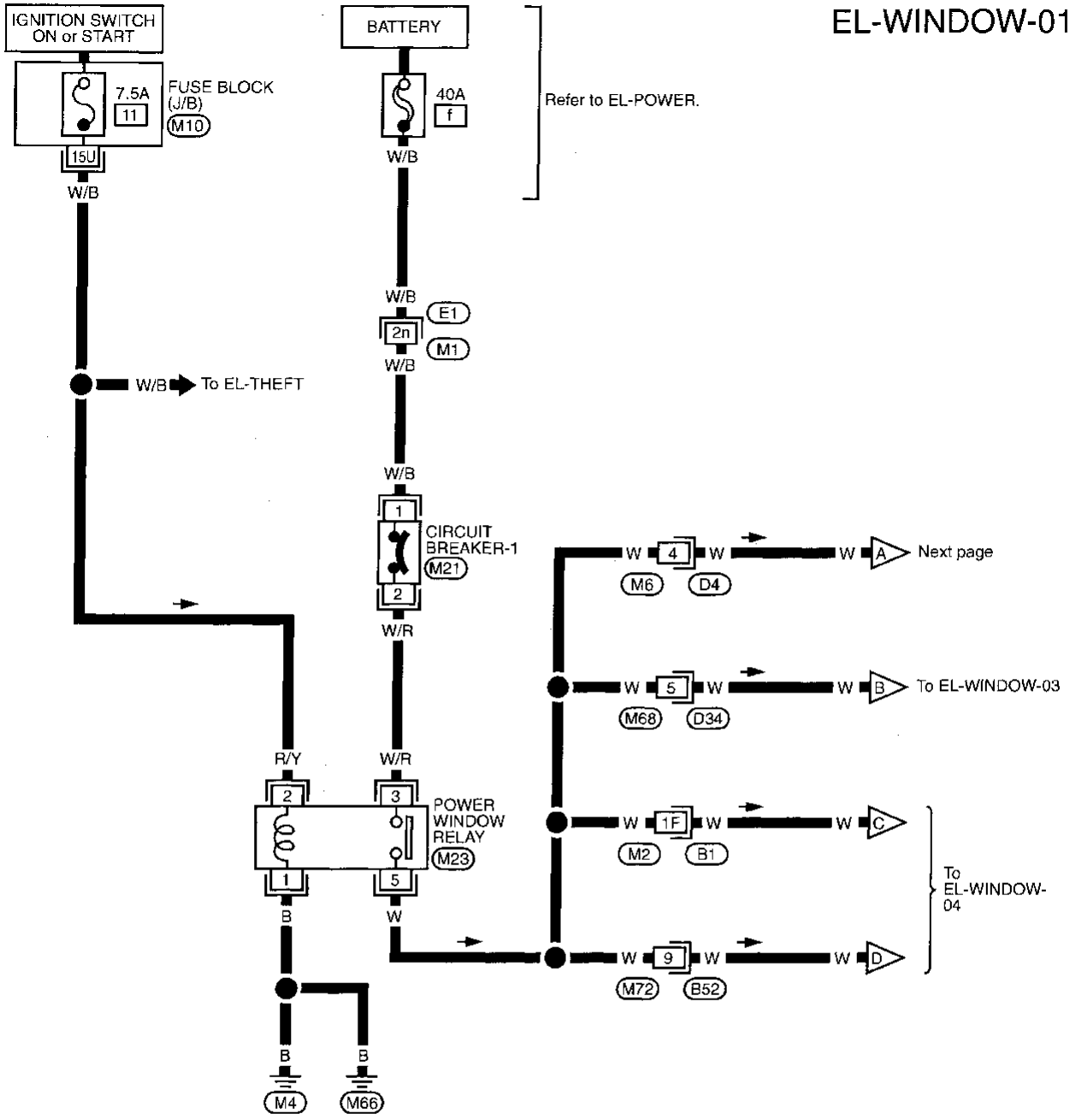


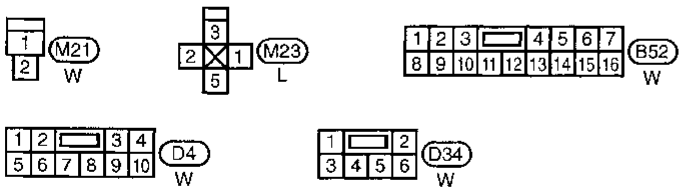
MEL619H

Wiring Diagram — WINDOW —

NAEL0104

EL-WINDOW-01



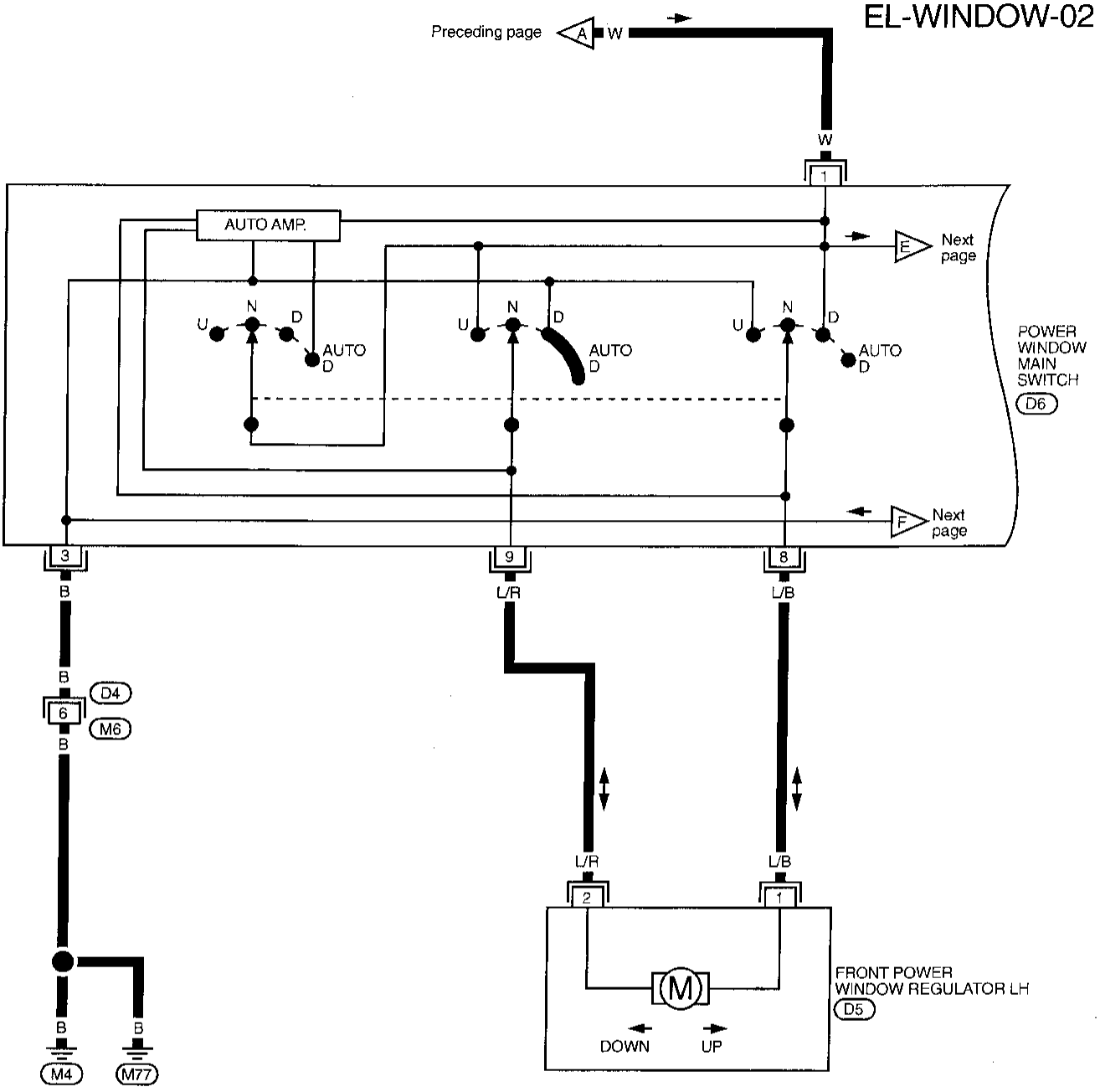


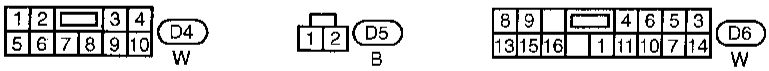
Refer to last page (Foldout page).

M1, E1
M2, B1
M10

MEL620H

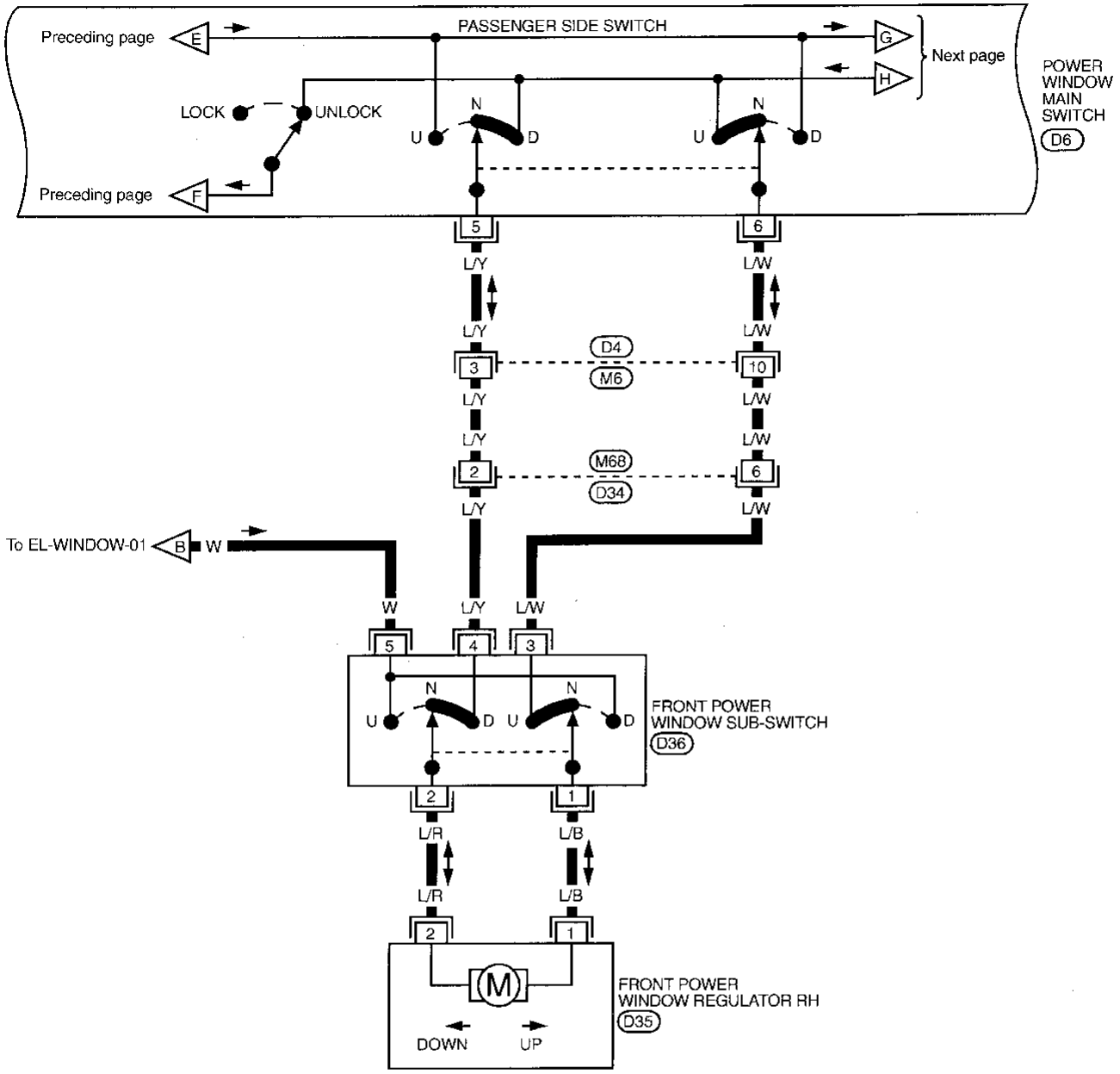
EL-WINDOW-02

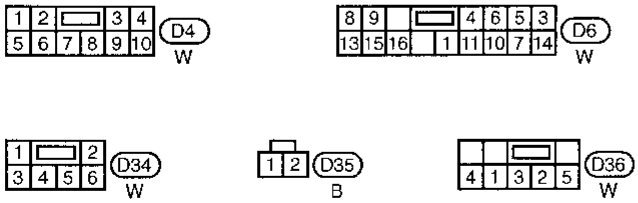




MEL610F

EL-WINDOW-03

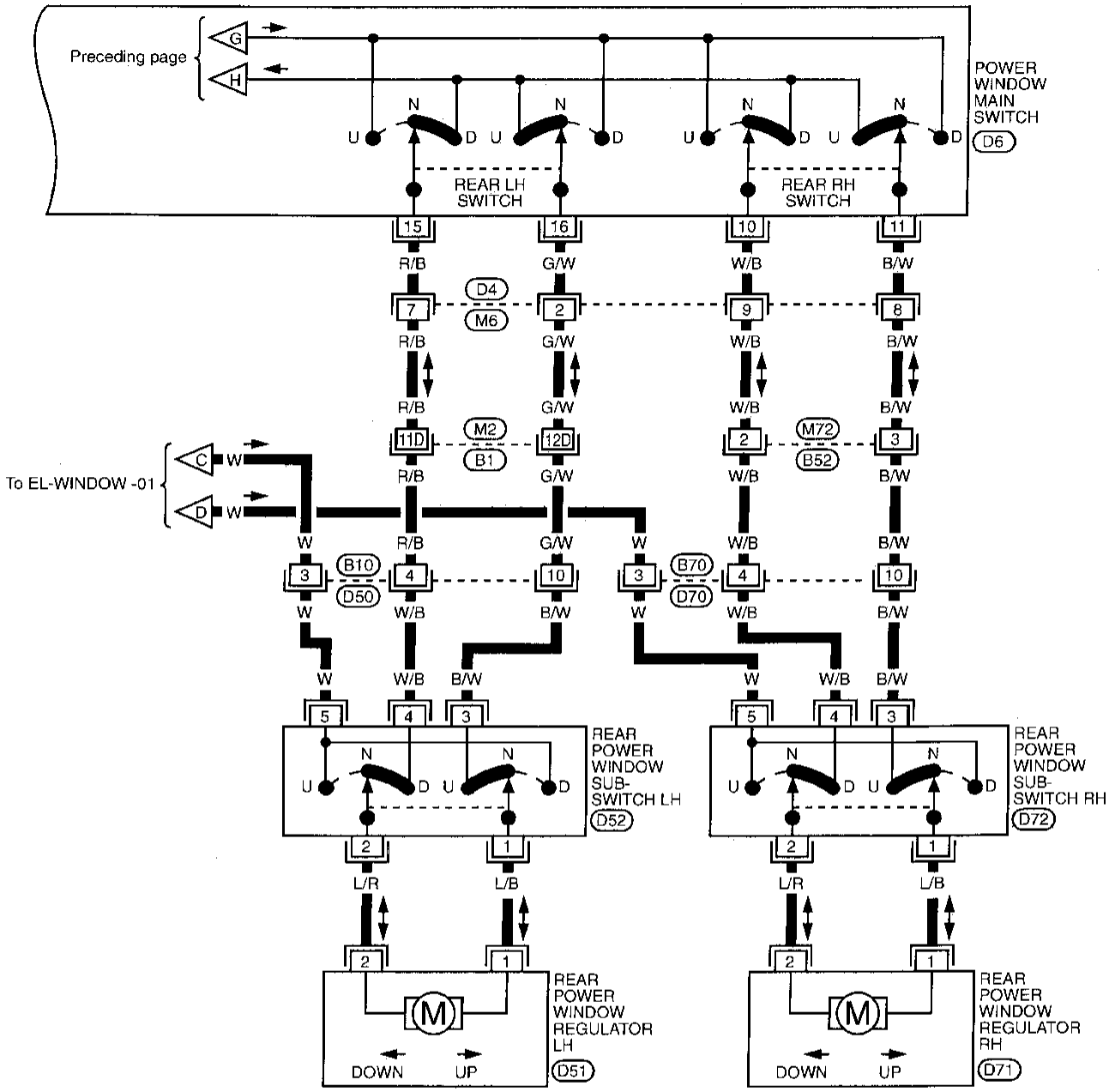


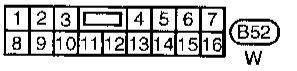


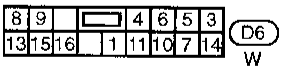
MEL611F

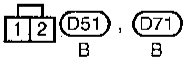
1733

EL-WINDOW-04









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

MEL803G

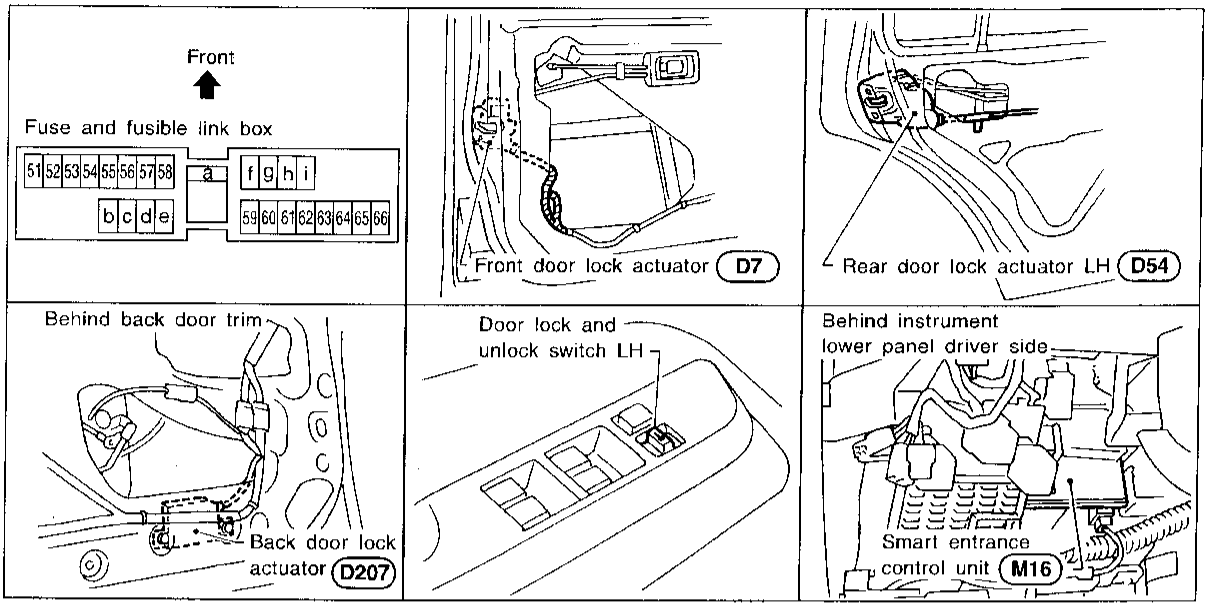
Trouble Diagnoses

NAEL0105

Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	1. 7.5A fuse, 40A fusible link and M21 circuit breaker 2. Grounds M4 and M77 3. Power window relay 4. Open/short in power window main switch circuit	1. Check 7.5A fuse (No. 11, located in fuse block [J/B]), 40A fusible link (letter **f**, located in fuse and fusible link box) and M21 circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminal 1 of power window main switch and terminal 5 of sub-switch. 2. Check grounds M4 and M77. 3. Check power window relay. 4. Check W wire between power window relay and power window main switch for open/short circuit.
Driver side power window cannot be operated but other windows can be operated.	1. Driver side power window regulator circuit 2. Driver side power window regulator	1. Check harness between power window main switch and power window regulator for open or short circuit. 2. Check driver side power window regulator.
Passenger power window cannot be operated.	1. Power window sub-switches 2. Passenger side power window regulators 3. Power window main switch 4. Power window circuit	1. Check power window sub-switch. 2. Check passenger side power window regulator. 3. Check power window main switch. 4. Check the following. a. Check harnesses between power window main switch and power window sub-switch for open/short circuit. b. Check harnesses between power window sub-switch and power window regulator for open/short circuit.
Passenger power window cannot be operated using power window main switch but can be operated by power window sub-switch.	1. Power window main switch	1. Check power window main switch.
Driver side power window auto function cannot be operated using power window main switch.	1. Power window main switch	1. Check power window main switch.

Component Parts and Harness Connector Location

NAEL0106



SEL353V

System Description

NAEL0107

Power is supplied at all times

- through 40A fusible link (letter **f**, located in the fuse and fusible link 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 M4 and M77.

INPUT

NAEL0107S01

When the door lock & unlock switch LH is in LOCKED position, ground signal is supplied

- to smart entrance control unit terminal 18
- through door lock & unlock switch LH terminal 7
- to door lock & unlock switch LH terminal 3
- through body grounds M4 and M77.

When the door lock & unlock switch RH is in LOCKED position, ground signal is supplied

- to smart entrance control unit terminal 18
- through door lock & unlock switch RH terminal 3
- to door lock & unlock switch RH terminal 2
- through body grounds M4 and M66.

When the door lock & unlock switch LH is in UNLOCKED position, ground signal is supplied

- to smart entrance control unit terminal 19
- through door lock & unlock switch LH terminal 14
- to door lock & unlock switch LH terminal 3
- through body grounds M4 and M77.

When the door lock & unlock switch RH is in UNLOCKED position, ground signal is supplied

- to smart entrance control unit terminal 19
- through door lock & unlock switch RH terminal 1
- to door lock & unlock switch RH terminal 2
- through body grounds M4 and M66.

OUTPUT

NAEL0107S02

Unlock

NAEL0107S0201

Ground is supplied
- to front door lock actuator LH terminal 3
- to front door lock actuator RH terminal 3
- to rear door lock actuator LH terminal 3
- to rear door lock actuator RH terminal 3
- to back door lock actuator terminal 2
- through smart entrance control unit terminal 4.

FRONT DOOR LH
Power is supplied
- to front door lock actuator LH terminal 1
- through smart entrance control unit terminal 3.

FRONT DOOR RH
Power is supplied
- to front door lock actuator RH terminal 1,
- through smart entrance control unit terminal 2.

REAR DOOR LH
Power is supplied
- to rear door lock actuator LH terminal 1
- through smart entrance control unit terminal 2.

REAR DOOR RH
Power is supplied
- to rear door lock actuator RH terminal 1
- through smart entrance control unit terminal 2.

BACK DOOR
Power is supplied
- to back door lock actuator terminal 1
- through smart entrance control unit terminal 2.

Then, the doors are unlocked.

Lock

NAEL0107S0202

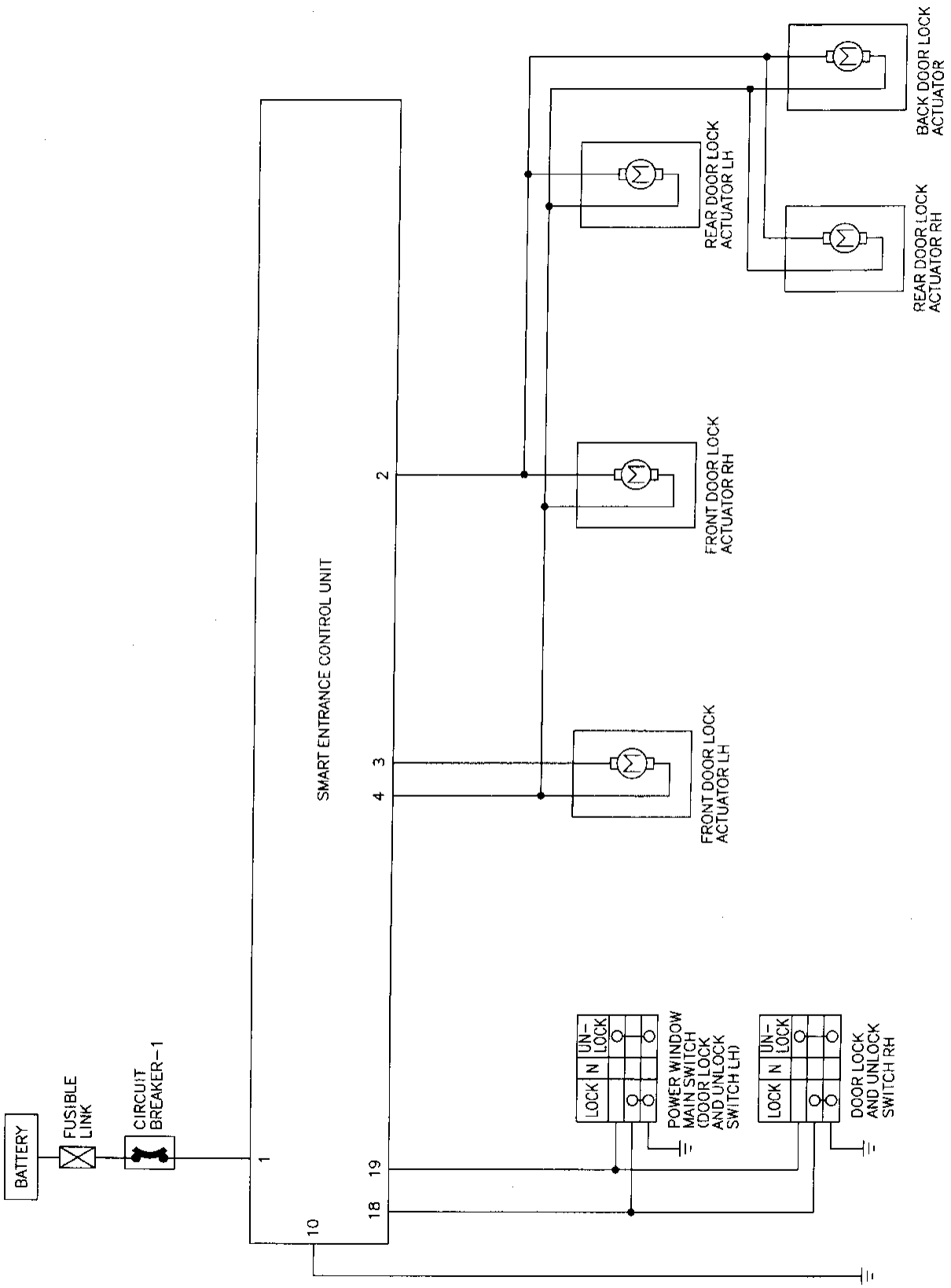
Ground is supplied
- to front door lock actuator LH terminal 1
- through smart entrance control unit terminal 3, and
- to front door lock actuator RH terminal 1
- to rear door lock actuator LH terminal 1
- to rear door lock actuator RH terminal 1
- to back door lock actuator 1
- through smart entrance control unit terminal 2.

Power is supplied
- to front door lock actuator LH terminal 3,
- to front door lock actuator RH terminal 3,
- to rear door lock actuator LH terminal 3
- to rear door lock actuator RH terminal 3
- to back door lock terminal 2
- through smart entrance control unit terminal 4.

Then, the doors are locked.

Schematic

NAEL0108



MEL804G

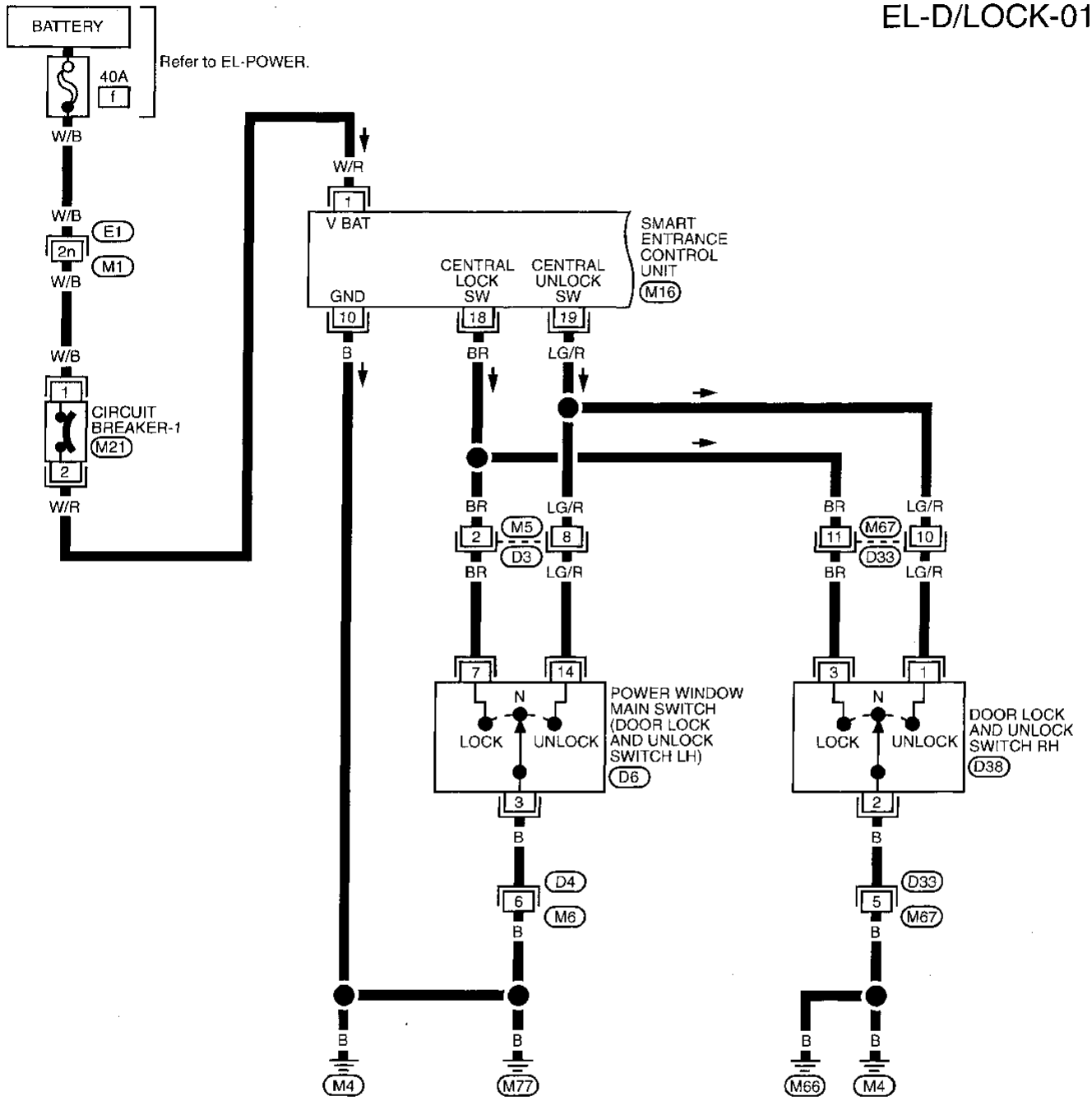
Wiring Diagram — D/LOCK —

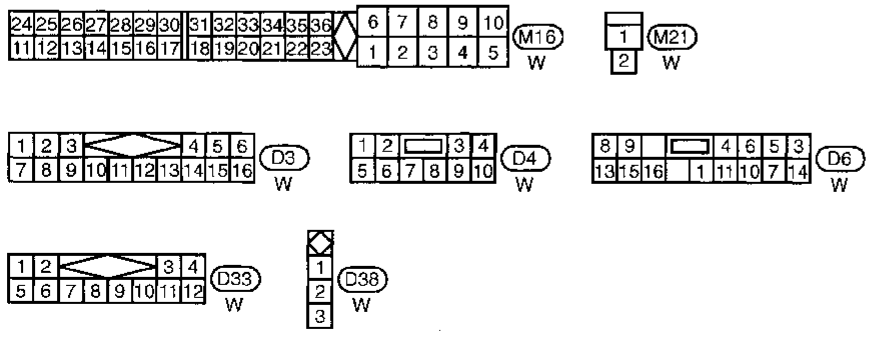
NAEL0109

FIG. 1

NAEL0109S01

EL-D/LOCK-01





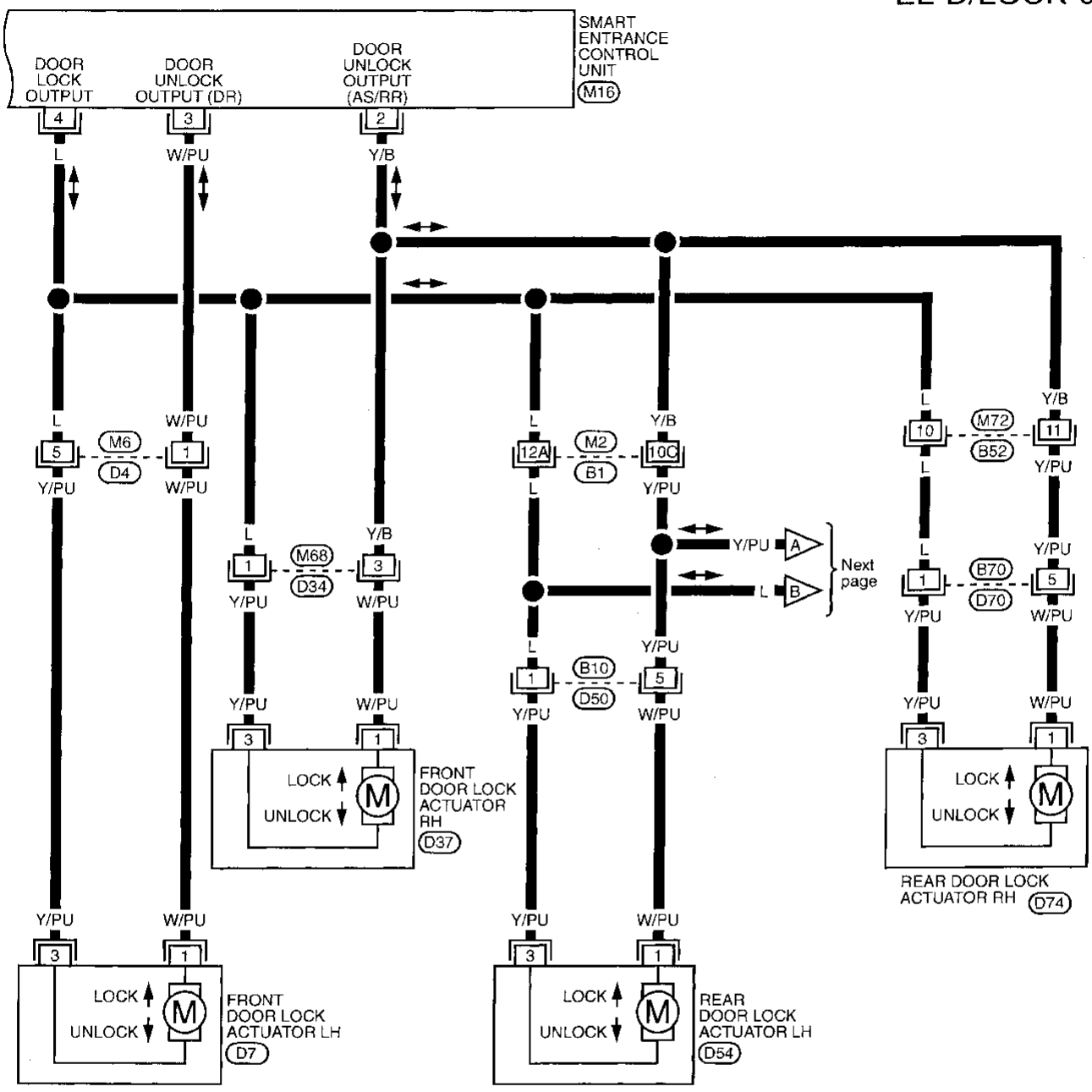
Refer to last page (Foldout page).
E1 , M1

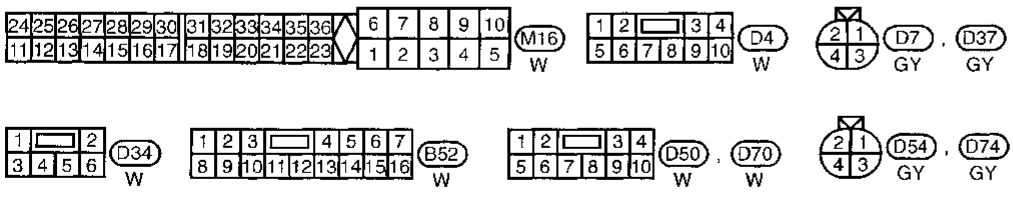
MEL252H

FIG. 2

NACL0109S02

EL-D/LOCK-02





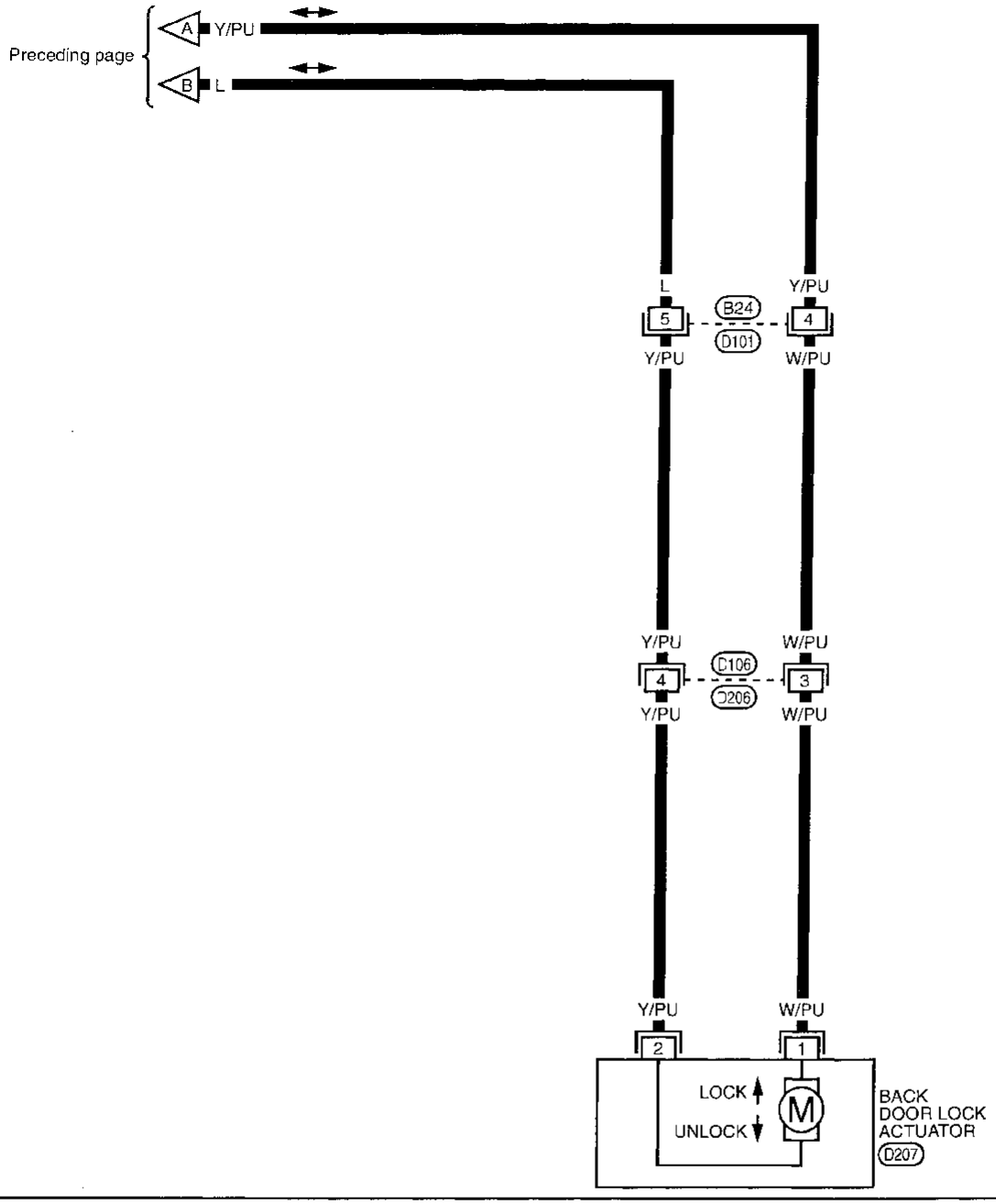
Refer to last page (Foldout page).
M2 , B1

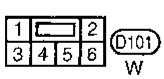
MEL470I

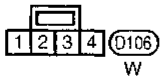
FIG. 3

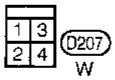
NAEL0109S03

EL-D/LOCK-03









MEL366I

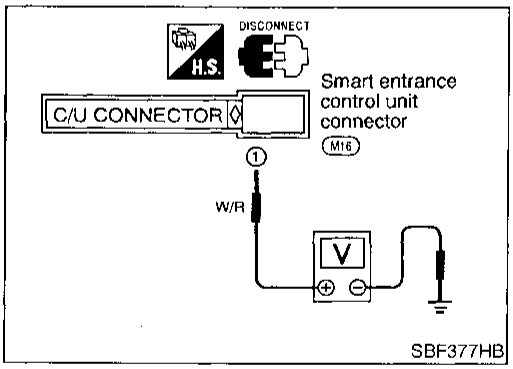
Trouble Diagnoses

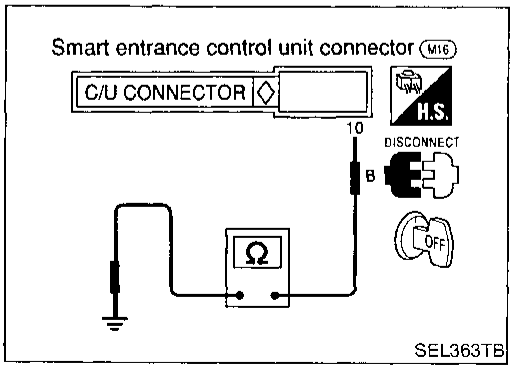
NAEL0110

SYMPTOM CHART

NAEL0110S01

REFERENCE PAGE (EL-)	176	177	178
SYMPTOM	Main power supply and ground circuit check	Door lock/unlock switch check	Door lock actuator check
None of the doors lock/unlock when operating both door lock/unlock switch.	X		X
One or more doors are not locked and/or unlocked.			X
LH or RH lock/unlock switch does not operate.		X	





MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

NAEL0110S02

Main Power Supply Circuit Check

NAEL0110S0201

Terminal		Ignition switch		
(+)	(−)	OFF	ACC	ON
1	Ground	Battery voltage	Battery voltage	Battery voltage

Ground Circuit Check

NAEL0110S0202

Terminals	Continuity
10 - Ground	Yes

DOOR LOCK/UNLOCK SWITCH CHECK

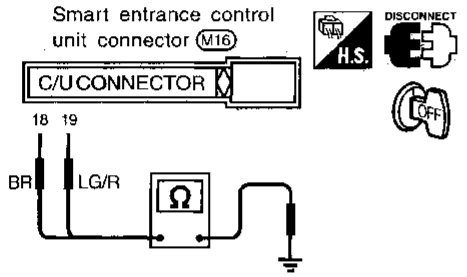
=NAEL0110S03

1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

1. Disconnect control unit connector.
2. Check continuity between control unit terminal 18 or 19 and ground.

Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
18 - ground	Lock	Yes
	N and Unlock	No
19 - ground	Unlock	Yes
	N and Lock	No

MTBL0005



SEL785UB

Refer to wiring diagram in EL-173.

OK or NG

OK	▶	Door lock/unlock switch is OK.
NG	▶	GO TO 2.

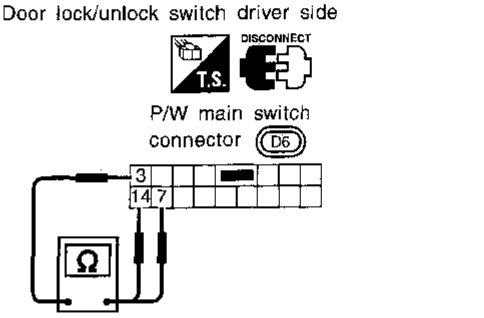
2 CHECK DOOR LOCK/UNLOCK SWITCH

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

- Power window main switch (Door lock/unlock switch driver side)

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

MTBL0045

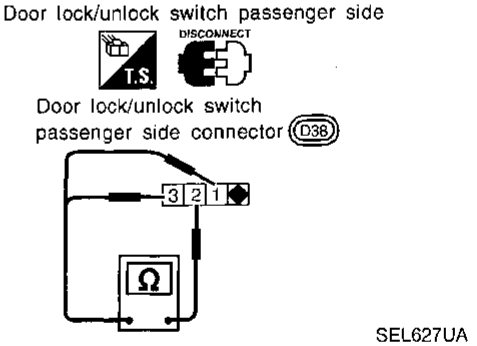


SEL626UA

- Door lock/unlock switch passenger side

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

MTBL0046



SEL627UA

OK or NG

OK	▶	**Check the following.** • Ground circuit for door lock/unlock switch • Harness for open or short between door lock/unlock switch and control unit connector
NG	▶	Replace door lock/unlock switch.

DOOR LOCK ACTUATOR CHECK

=NAEL0110S04

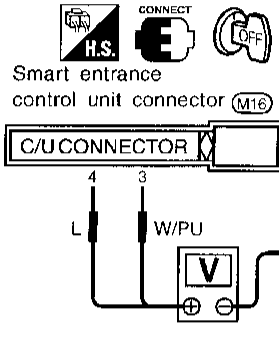
1 CHECK DOOR LOCK ACTUATOR CIRCUIT

Check voltage for door lock actuator.

- Door lock actuator front LH

Door lock/unlock switch condition	Terminal No. (+)	Terminal No. (−)	Voltage (V)
Lock	4	ground	Approx. 12
Unlock	3	ground	

MTBL0006

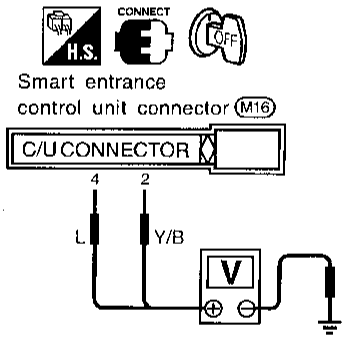


SEL786U

- Door lock actuator front RH, rear and back

Door lock/unlock switch condition	Terminal No. (+)	Terminal No. (−)	Voltage (V)
Lock	4	ground	Approx. 12
Unlock	2	ground	

MTBL0007



SEL787UB

Refer to wiring diagram in EL-174.

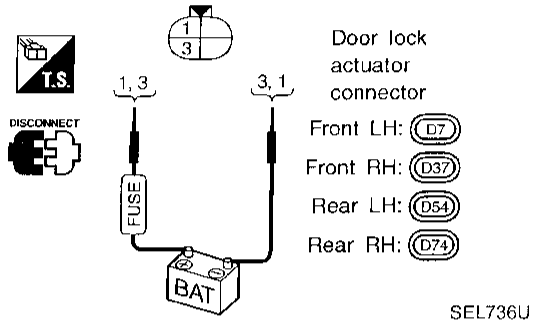
OK or NG

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

2 CHECK DOOR LOCK ACTUATOR

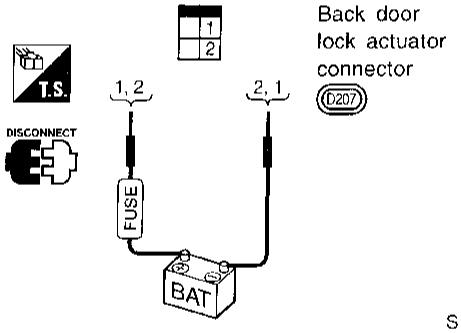
1. Disconnect door lock actuator connector.
2. Apply 12V direct current to door lock actuator and check operation.

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



SEL736U

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



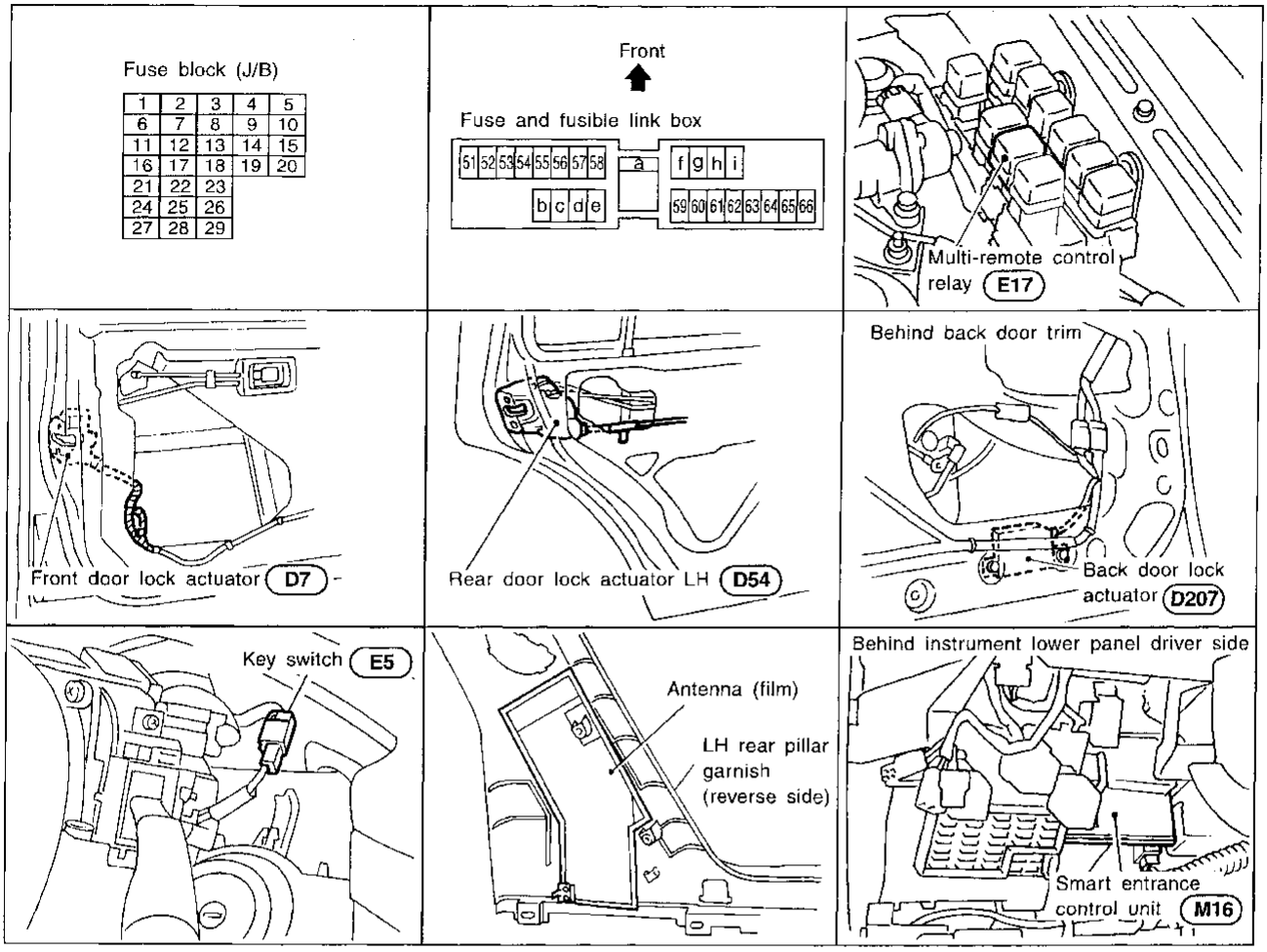
SEL737U

OK or NG

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

Component Parts and Harness Connector Location

NAEL0111



SEL303V

System Description

NAEL0112

NAEL0112S01

INPUTS

Power is supplied at all times

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

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

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

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

- to smart entrance control unit terminal 15
- through front door switch LH terminal 1
- to front door switch LH terminal 2
- through body grounds B11, B22 and D210.

When the each door switch is OPEN, ground is supplied

- to smart entrance control unit terminal 16
- through each door switch body ground or B11, B22 and D210.

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

- to smart entrance control unit terminal 12
- through door lock actuator LH (door unlock sensor) terminal 4
- to door lock actuator LH (door unlock sensor) terminal 2

- through body grounds M4 and M77.

When the front door lock actuator RH (door unlock sensor) is UNLOCKED, ground is supplied to smart entrance control unit terminal 13 in the same manner as front door lock actuator LH.
When the rear or back door lock actuator (door unlock sensor) is UNLOCKED, ground is supplied to smart entrance control unit terminal 14 in the same manner as other door lock actuator.
Remote controller signal input

- through antenna
- to smart entrance control unit terminal 37.

The multi-remote control system controls operation of the

- power door lock
- interior lamp
- panic alarm
- hazard reminder

OPERATED PROCEDURE

NAEL0112S02

Power Door Lock Operation

NAEL0112S0201

When the following input signals are both supplied:

- key switch OFF (when ignition key is not inserted in key cylinder)
- door switch CLOSED (when all the doors are closed)

The two above signals are already input into smart entrance control unit. At this point, smart entrance control unit receives a LOCK signal from remote controller. Smart entrance control unit locks all doors with input of LOCK signal from remote controller.
When an UNLOCK signal is sent from remote controller once, driver's door will be unlocked.
Then, if an UNLOCK signal is sent from remote controller again within 5 seconds, all other door will be unlocked.

Hazard Reminder

NAEL0112S0204

Power is supplied at all times

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

When smart entrance control unit receives a LOCK signal from remote controller, ground is supplied

- to multi-remote control relay terminal 2
- through smart entrance control unit terminal 7.

Multi-remote control relays are now energized, and hazard warning lamp flash twice as a reminder. For detailed description, refer to "TURN SIGNAL AND HAZARD WARNING LAMPS" (EL-42).

Interior Lamp Operation

NAEL0112S0202

When the following input signals are both supplied:

- key switch OFF (when ignition key is not inserted in key cylinder)
- door switch 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, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS" (EL-53).

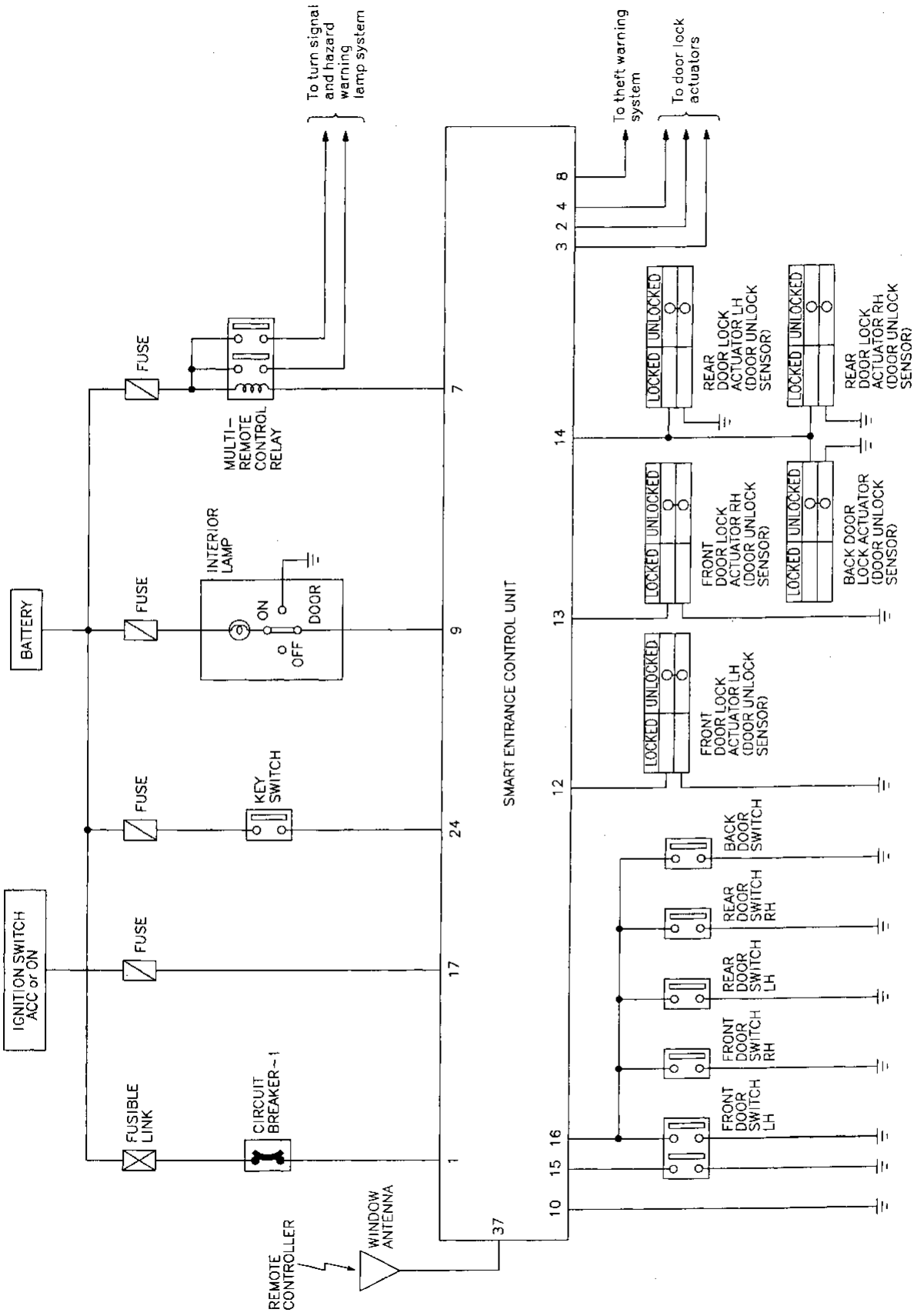
Panic Alarm Operation

NAEL0112S0203

When key switch is OFF (when ignition key is not inserted in key cylinder), multi-remote control system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from remote controller.
For detailed description, refer to "THEFT WARNING SYSTEM" (EL-197).

Schematic

NAEL0113



MEL386I

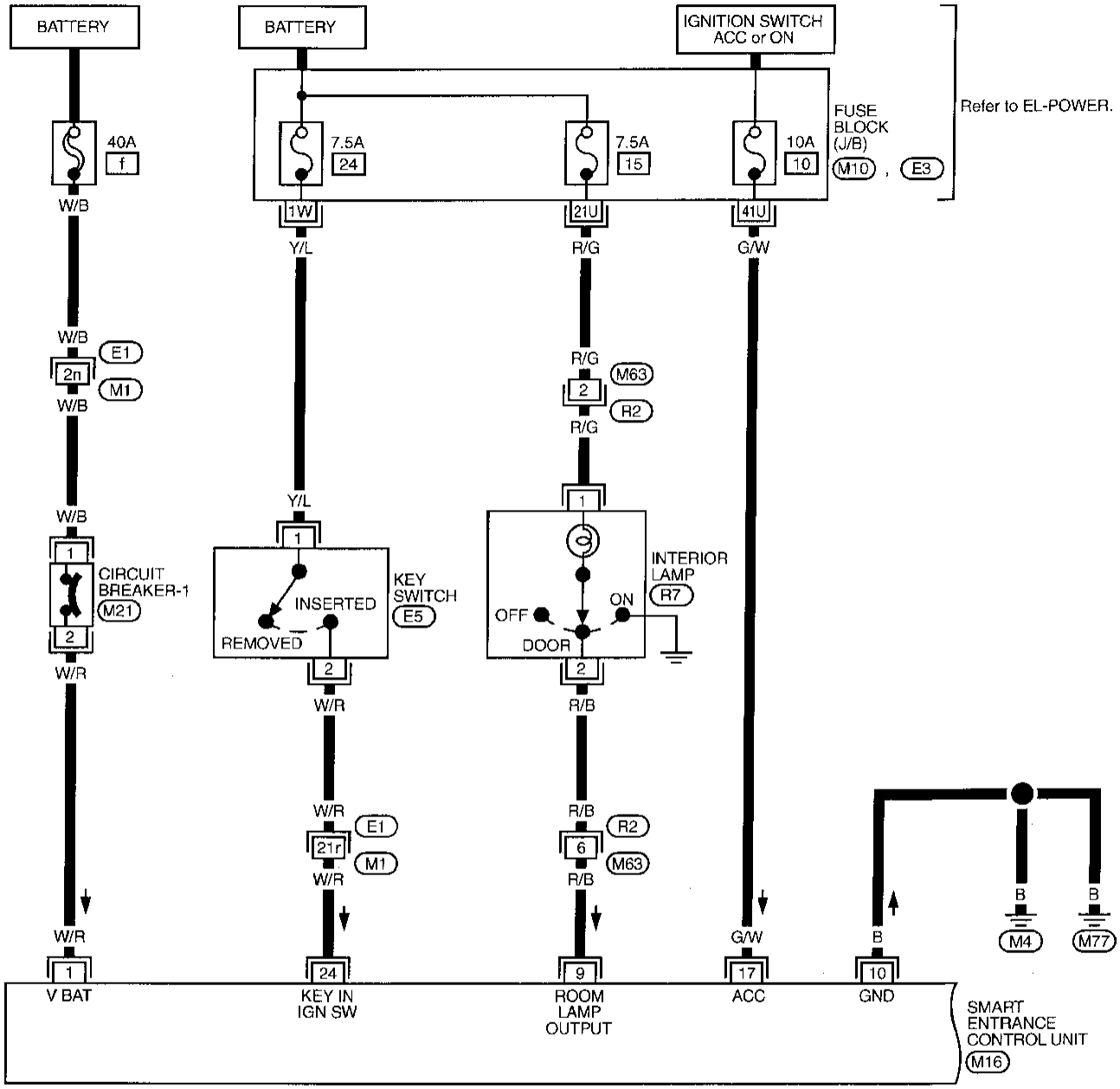
Wiring Diagram — MULTI —

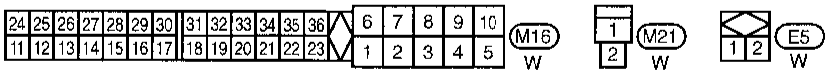
NAEL0114

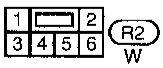
FIG. 1

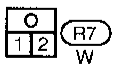
NAEL0114S01

EL-MULTI-01









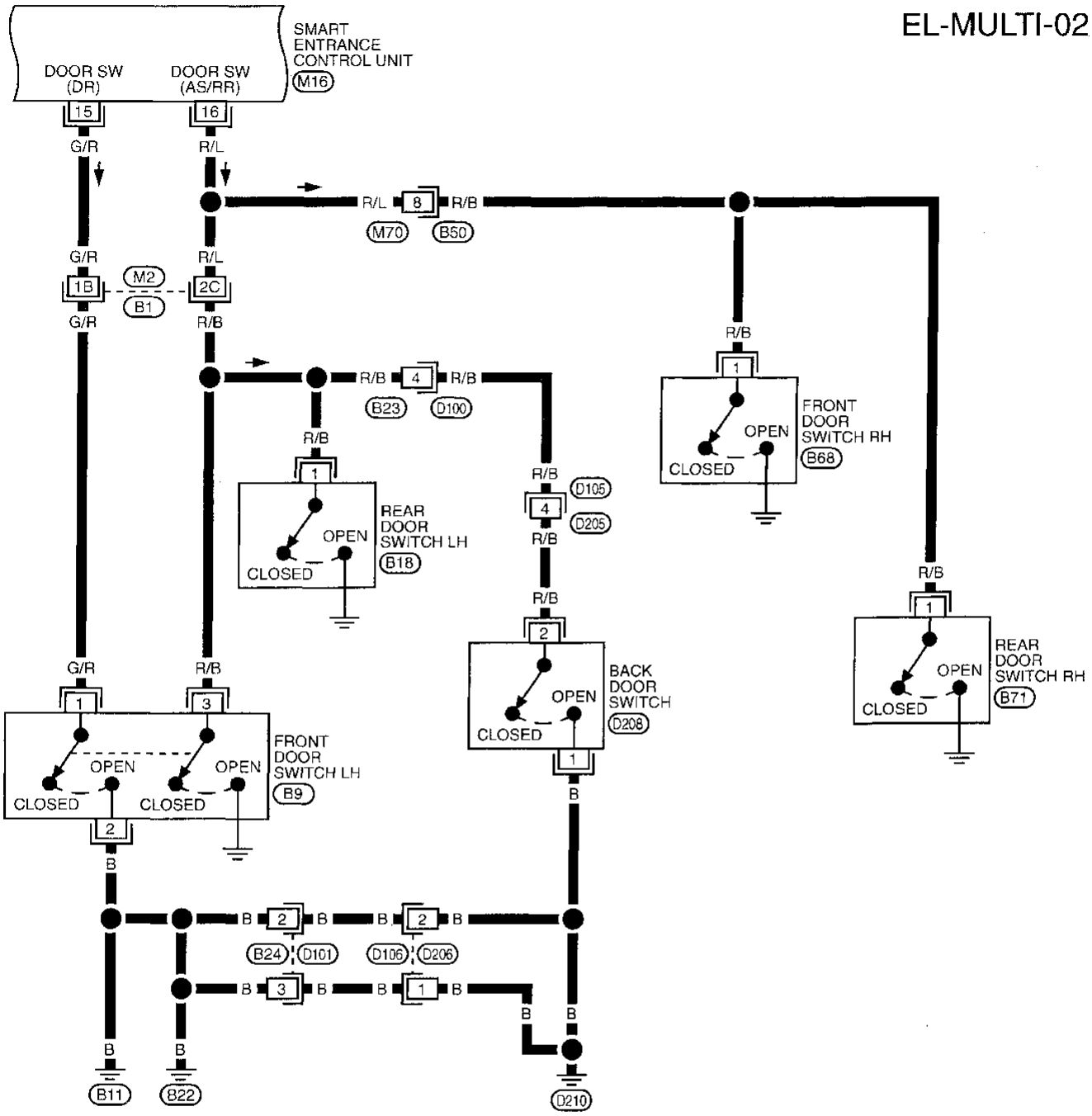
Refer to last page (Foldout page).
M1 , E1
E3
M10

MEL626H

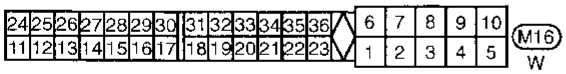
FIG. 2

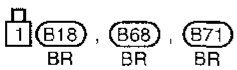
NAEL0114S02

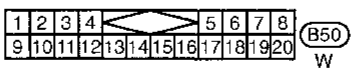
EL-MULTI-02

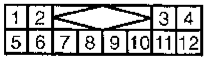


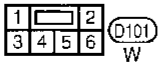
Refer to last page (Foldout page).
M2 , B1

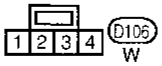










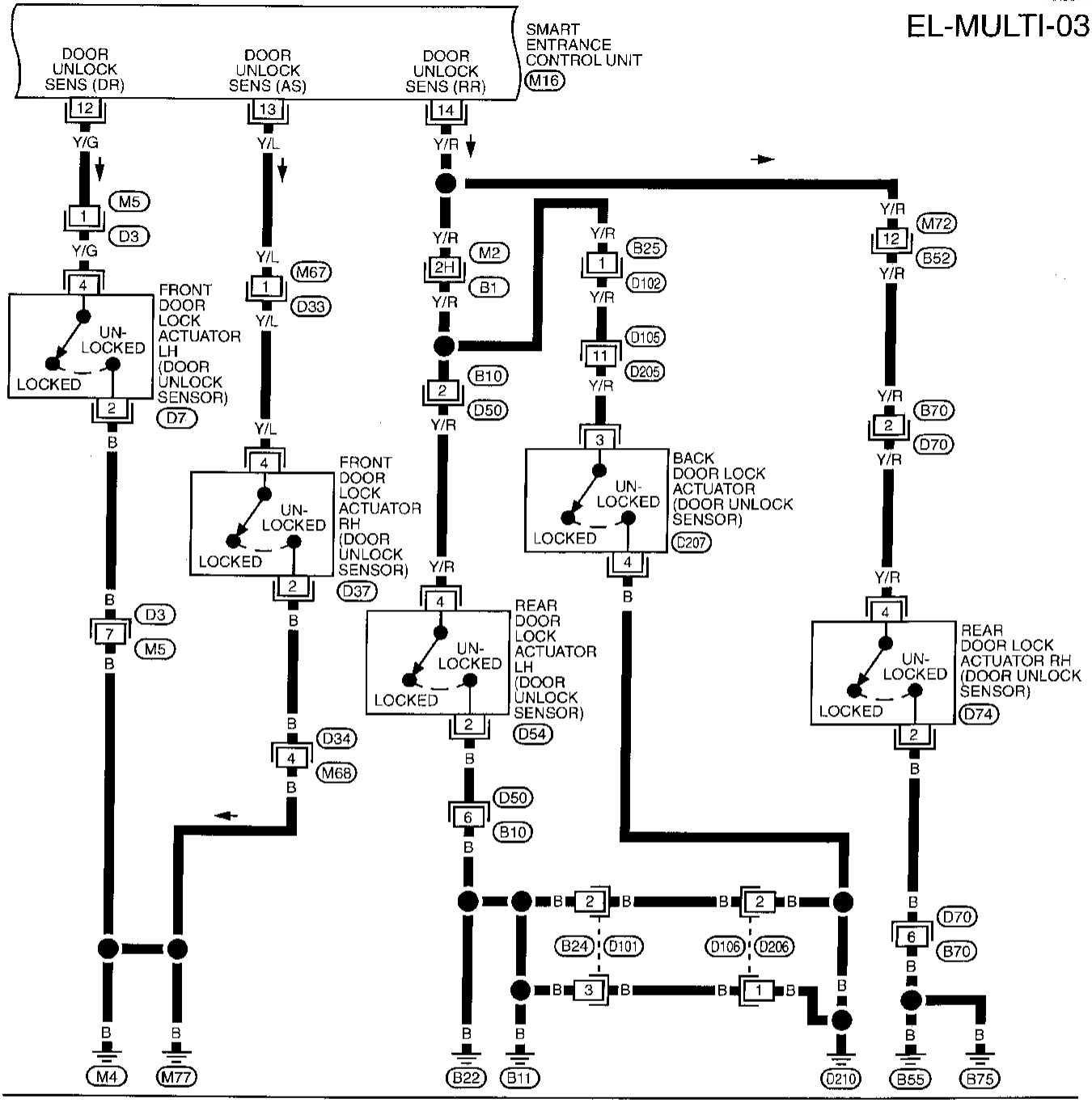


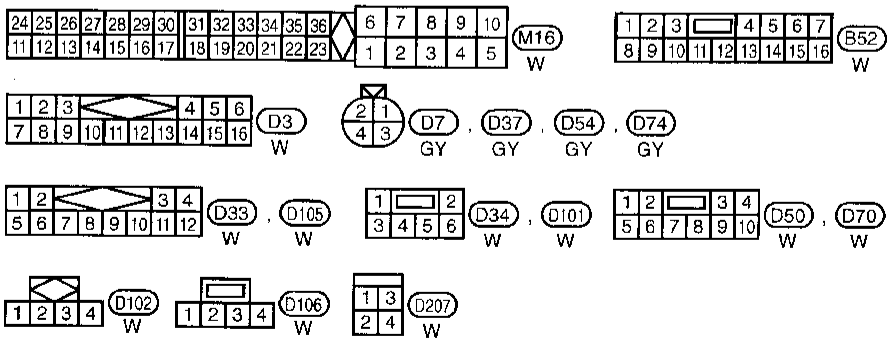
MEL809G

FIG. 3

NAEL0114S03

EL-MULTI-03





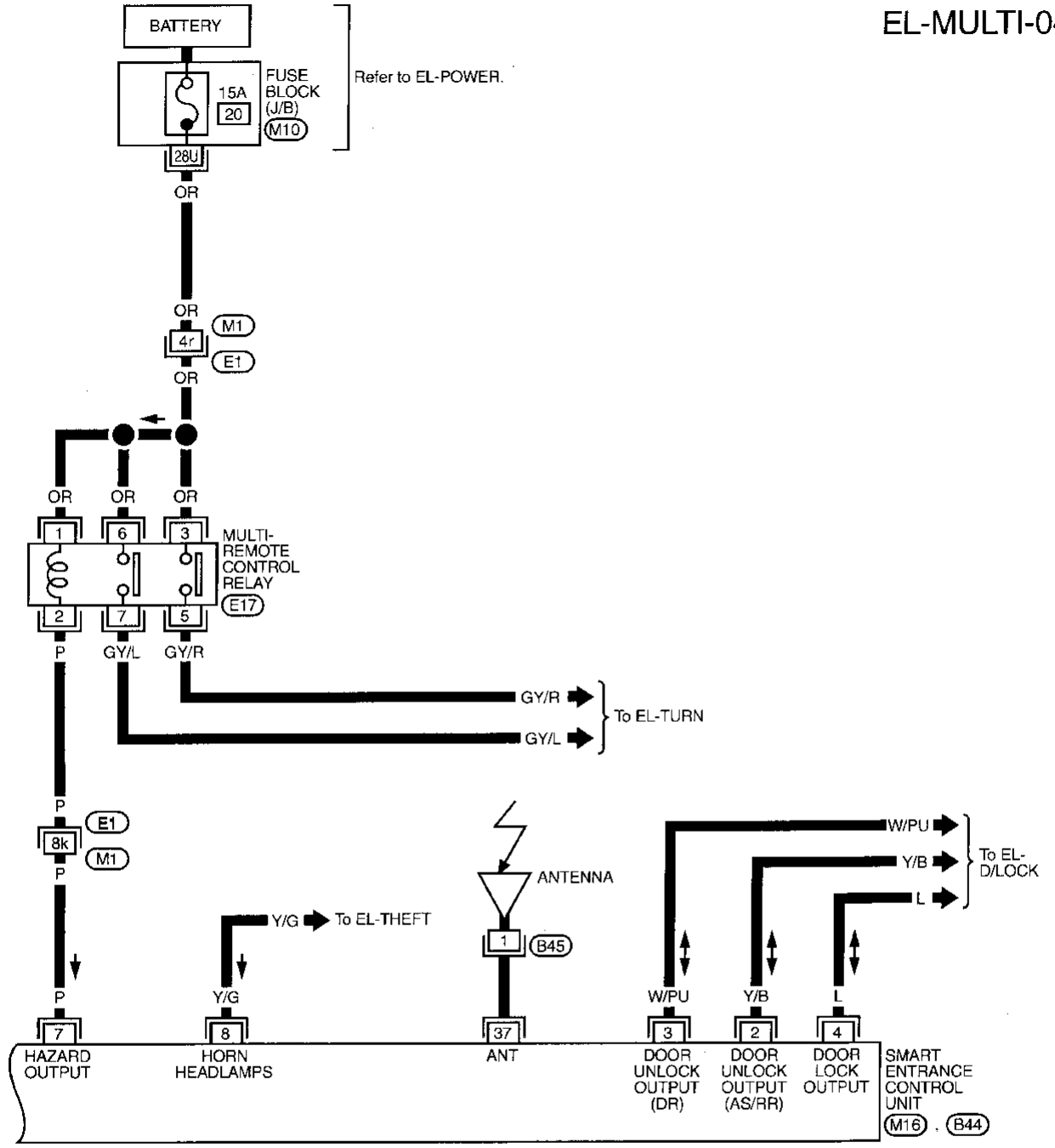
Refer to last page (Foldout page).
M2 , B1

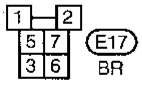
MEL367I

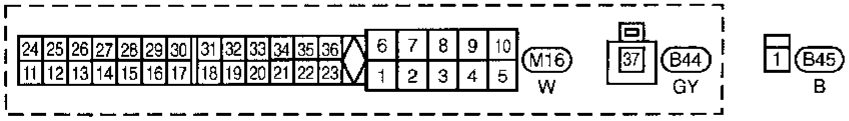
FIG. 4

NAEL0114S04

EL-MULTI-04







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

MEL627H

Trouble Diagnoses

NAEL0115

SYMPTOM CHART

NAEL0115S01

Symptom	Diagnoses/service procedure	Reference page (EL-)
All function of multi-remote control system do not operate.	1. Remote controller battery check	187
	2. Multi-remote control antenna check	187
	3. Key switch (insert) check	190
	4. Door switch check	189
	5. Power supply and ground circuit for control unit check	188
	6. Replace romote controller. Refer to ID Code Entry Procedure.	194
The new ID of remote controller cannot entered.	1. Remote controller battery check	187
	2. Multi-remote control antenna check	187
	3. Key switch (insert) check	190
	4. Door switch check	189
	5. Door unlock sensor check	191
	6. Power supply and ground circuit for control unit check	188
	7. Replace romote controller. Refer to ID Code Entry Procedure.	194
Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system. Refer to EL-176.)	1. Key switch (insert) input signal check	190
	2. Door switch check	189
	3. Door unlock sensor check	191
	4. Replace remote controller. Refer to ID Code Entry Procedure.	194
Hazard indicator does not flash twice when pressing lock button of remote controller.	1. Harzard reminder check	192
	2. Replace remote controller. Refer to ID Code Entry Procedure.	194
Interior lamp does not turn on for 30 seconds when pressing unlock button of remote controller.	1. Interior room lamp operation check	193
	2. Replace remote controller. Refer to ID Code Entry Procedure.	194
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed more than 1.5 seconds.	1. Theft warning operation check. Refer to "PRELIMINALY CHECK" in "THEFT WARNING SYSTEM".	208
	2. Replace remote controller. Refer to ID Code Entry Procedure.	194

NOTE:

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

REMOTE CONTROLLER BATTERY CHECK

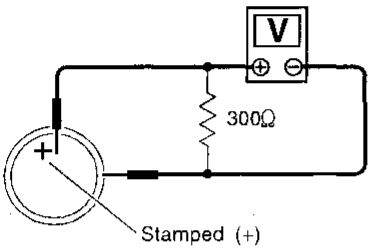
=NAEL0115S02

1	CHECK REMOTE CONTROLLER BATTERY

Remove battery (refer to EL-195) and measure voltage across battery positive and negative terminals, (+) and (–).

Voltage [V]:
2.5 - 3.0

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



SEL277V

OK or NG

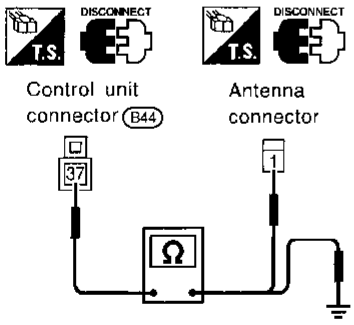
OK	▶	Check remote controller battery terminals for corrosion or damage.
NG	▶	Replace battery.

MULTI-REMOTE CONTROL ANTENNA CHECK

NAEL0115S03

1	CHECK ANTENNA FEEDER CABLE

1. Disconnect feeder cable connector from control unit.
2. Remove LH rear pillar garnish and disconnect feeder cable connector from antenna.
3. Check continuity between the feeder cable connectors.
   Continuity should exist.
4. Check continuity between the feeder cable connector terminal 37 and body ground.
   Continuity should not exist.



MEL040GB

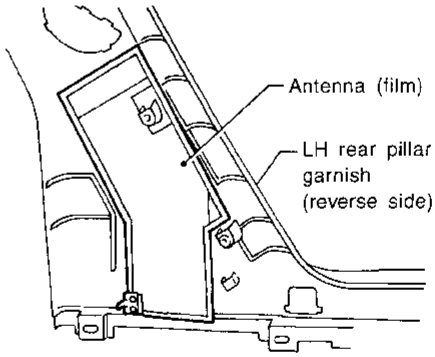
Refer to wiring diagram in EL-185.

OK or NG

OK	▶	GO TO 2.
NG	▶	Replace feeder cable.

2	CHECK ANTENNA

1. Remove rear pillar garnish and disconnect feeder cable connector from antenna.
2. Visually check film antenna.



SEL712U

OK or NG

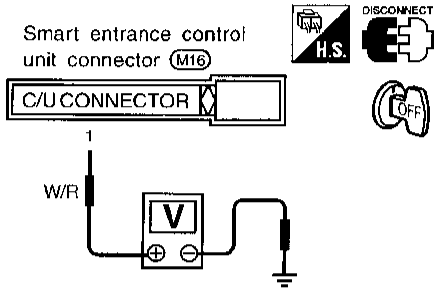
OK	▶	Antenna of multi-remote control is OK.
NG	▶	Replace antenna.

POWER SUPPLY AND GROUND CIRCUIT CHECK

NAEL0115S04

1 CHECK MAIN POWER SUPPLY CIRCUIT FOR CONTROL UNIT

1. Disconnect connector from control unit.
2. Check voltage between control unit terminal 1 and ground.



SEL744U

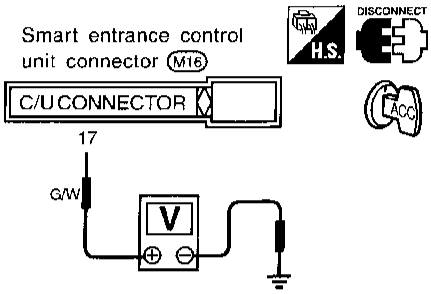
Refer to wiring diagram in EL-182.

Does battery voltage exist?

Yes	▶	GO TO 2.
No	▶	**Check the following.** • 40A fusible link (letter f, located in fuse and fusible link box) • M21 circuit breaker • Harness for open or short between control unit and circuit breaker

2 CHECK IGNITION SWITCH "ACC" CIRCUIT

1. Disconnect control unit connector.
2. Check voltage between control unit terminal 17 and ground while ignition switch is "ACC".



MEL245H

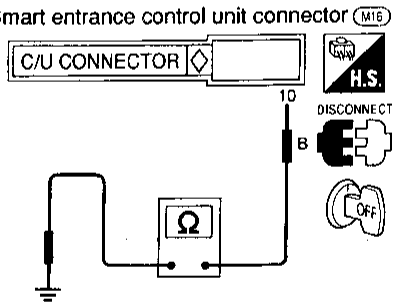
Refer to wiring diagram in EL-182.

Does battery voltage exist?

Yes	▶	GO TO 3.
No	▶	**Check the following.** • 10A fuse [No. 10, located in fuse block (J/B)] • Harness for open or short between control unit and fuse

3 CHECK GROUND CIRCUIT FOR CONTROL UNIT

Check continuity between terminal 10 and ground.



SEL363TB

Refer to wiring diagram in EL-182.

Does continuity exist?

Yes	▶	Power supply and ground circuits are OK.
No	▶	Check ground harness.

DOOR SWITCH CHECK

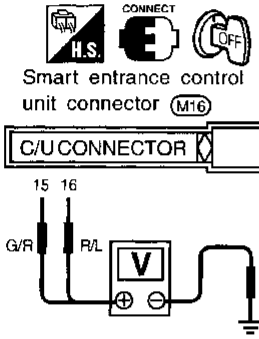
=NAEL0115S05

1 CHECK DOOR SWITCH INPUT SIGNAL

Check voltage between control unit terminals 15 or 16 and ground.

	Terminals (+)	Terminals (−)	Condition	Voltage [V]
Front LH door switch	15	ground	Open	0
			Closed	Approx. 12
All door switches	16	ground	Open	0
			Closed	Approx. 12

MTBL0069



SEL606U

Refer to wiring diagram in EL-183.

OK or NG

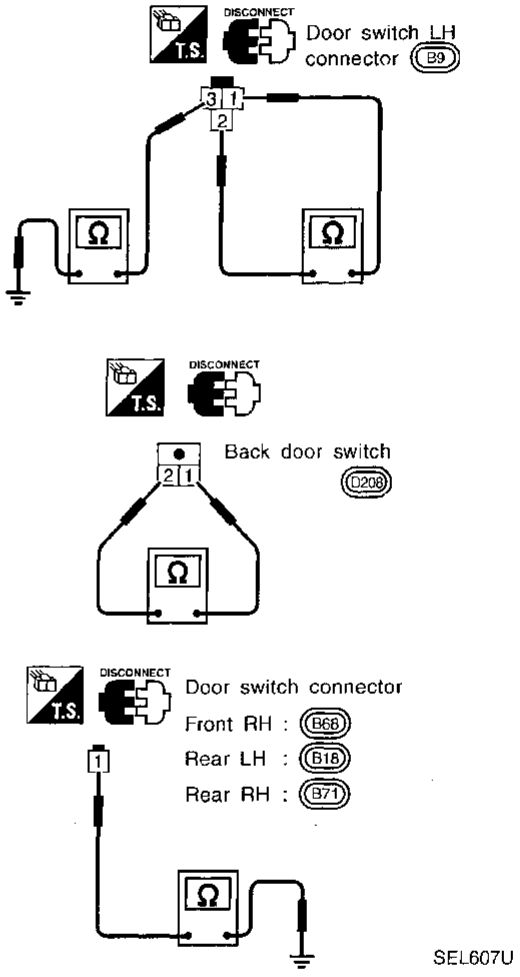
OK	▶	Door switch is OK.
NG	▶	GO TO 2.

2 CHECK DOOR SWITCH

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

	Terminals	Condition	Continuity
Front LH door switch	1 - 2, 3 - ground	Closed	No
		Open	Yes
Back door switch	2 - 1	Closed	No
		Open	Yes
Rear and front RH door switch	1 - ground	Closed	No
		Open	Yes

MTBL0070



SEL607U

OK or NG

OK	▶	**Check the following.** • Door switch ground circuit (Front LH, back door) or door switch ground condition • Harness for open or short between control unit and door switch
NG	▶	Replace door switch.

KEY SWITCH (INSERT) CHECK

=NAEL0115S07

1	CHECK KEY SWITCH INPUT SIGNAL

Check voltage between control unit terminal 24 and ground.

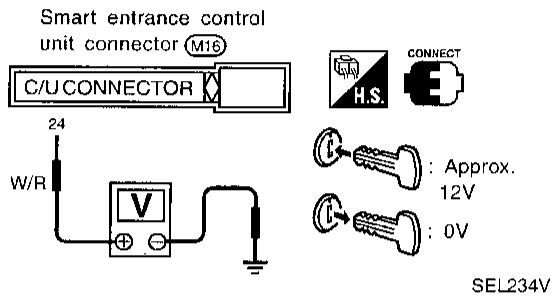
Voltage [V]:

Condition of key switch: Key is inserted.

Approx. 12

Condition of key switch: Key is withdrawn.

0



SEL234V

Refer to wiring diagram in EL-182.

OK or NG

OK	▶	Key switch is OK.
NG	▶	GO TO 2.

2	CHECK KEY SWITCH (INSERT)

Check continuity between terminals 1 and 2.

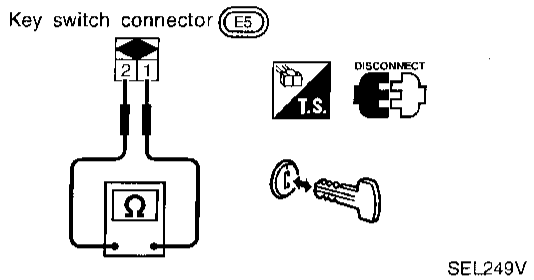
Continuity:

Condition of key switch: Key is inserted.

Yes

Condition of key switch: Key is withdrawn.

No



SEL249V

OK or NG

OK	▶	**Check the following.** • 7.5A fuse [No. 24, located in fuse block (J/B)] • Harness for open or short between key switch and fuse • Harness for open or short between control unit and key switch
NG	▶	Replace key switch.

DOOR UNLOCK SENSOR CHECK

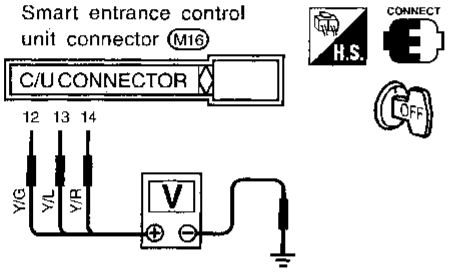
=NAEL0115S06

1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between control unit terminals 12, 13 or 14 and ground.

	Terminals (+)	Terminals (−)	Condition	Voltage [V]
Front LH door	12	Ground	Locked	Approx. 12
			Unlocked	0
Front RH door	13	Ground	Locked	Approx. 12
			Unlocked	0
Rear and back door	14	Ground	Locked	Approx. 12
			Unlocked	0

MTBL0071



SEL246V

Refer to wiring diagram in EL-184.

OK or NG

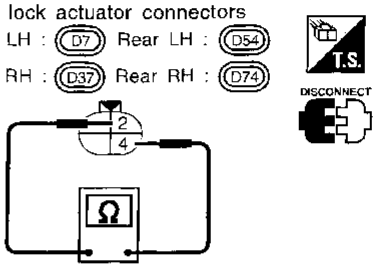
OK ▶	Door unlock sensor is OK.
NG ▶	GO TO 2.

2 CHECK DOOR UNLOCK SENSOR

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

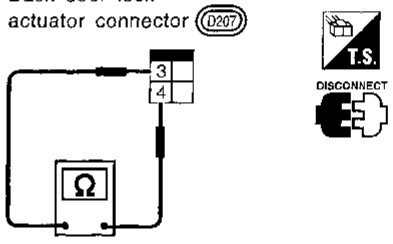
Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

Door lock actuator connectors
Front LH : D7 Rear LH : D54
Front RH : D37 Rear RH : D74



SEL247V

Back door lock actuator connector D207



SEL352V

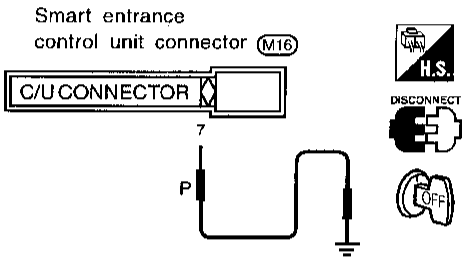
OK or NG

OK ▶	**Check the following.** • Door unlock sensor ground circuit • Harness for open or short between control unit and door unlock sensor
NG ▶	Replace door unlock sensor.

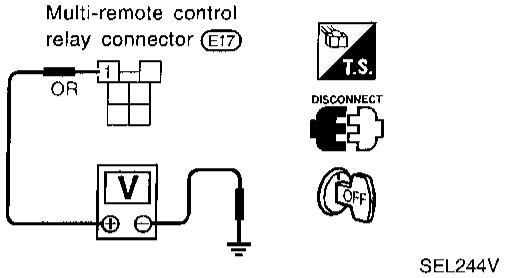
HAZARD REMINDER CHECK

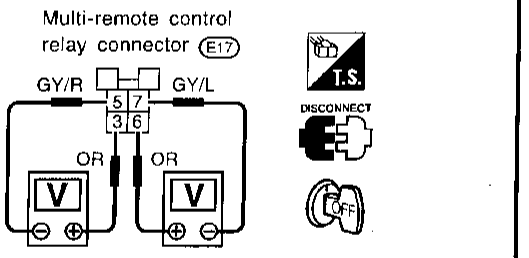
=NACL0115S08

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

2	CHECK HAZARD REMINDER OPERATION
1. Disconnect control unit connector. 2. Apply ground to control unit terminal 7.  SEL243V Refer to wiring diagram in EL-185. **Does hazard indicator illuminate?**	
Yes ▶	Hazard reminder is OK.
No ▶	GO TO 3.

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

4	CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY
1. Disconnect multi-remote control relay connector. 2. Check voltage between terminal 1 and ground.  SEL244V **Does battery voltage exist?**	
Yes ▶	GO TO 5.
No ▶	**Check the following.** • 15A fuse [No. 20, located in fuse block (J/B)] • Harness for open or short between multi-remote control relay and fuse

5	CHECK MULTI-REMOTE CONTROL RELAY CIRCUIT
1. Disconnect multi-remote control relay connector. 2. Check voltage between terminals 3 and 5. **Battery voltage should exist.** 3. Check voltage between terminals 6 and 7. **Battery voltage should exist.**  SEL245V **OK or NG**	
OK ▶	Check harness for open or short between control unit and multi-remote control relay.
NG ▶	**Check the following.** • Harness for open or short between multi-remote control relay and fuse • Harness for open or short between multi-remote control relay and turn signal lamps

INTERIOR ROOM LAMP OPERATION CHECK

NAEL0115S09

1	CHECK INTERIOR ROOM LAMP

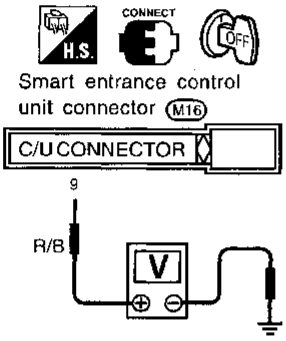
Check if the interior room lamp switch is in the "DOOR" position and the lamp illuminates when a door is open.

Does interior room lamp illuminate?

Yes	▶	GO TO 2.
No	▶	Check "Interior room lamp" circuit.

2	CHECK INTERIOR ROOM LAMP CIRCUIT

When interior room lamp switch is "DOOR" position, check voltage across control unit terminal 9 and ground.



SEL749UB

Refer to wiring diagram in EL-182.

Does battery voltage exist?

Yes	▶	GO TO 3.
No	▶	Repair harness between control unit and interior room lamp.

3	CHECK CONTROL UNIT OUTPUT

Push unlock button of remote controller and check voltage across control unit terminal 9 and ground.

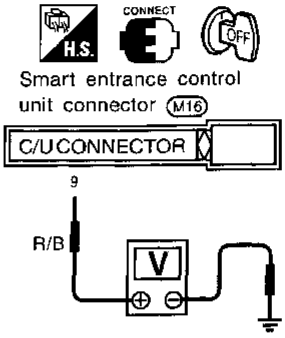
Voltage [V]:

Unlock button is pushed.

0 (For approx. 30 seconds.)

Unlock button is not pushed.

Battery voltage



SEL749UB

OK or NG

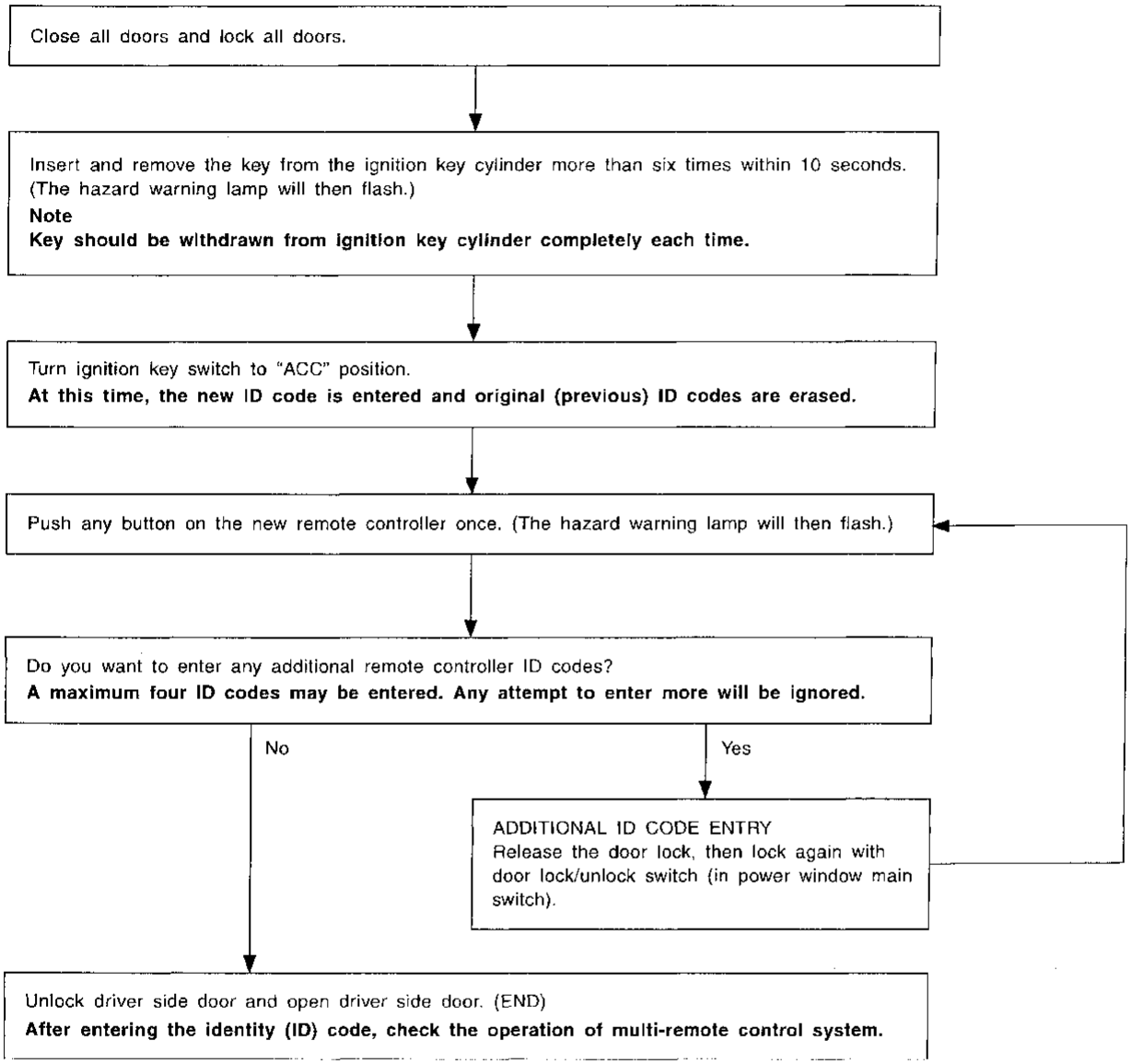
OK	▶	Check system again.
NG	▶	Replace smart entrance control unit.

ID Code Entry Procedure

NAEL0117

Enter the identity (ID) code manually when:
- **remote controller or control unit is replaced.**
- **an additional remote controller is activated.**

To enter the ID code, follow the procedures below.



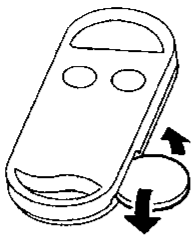
MEL446H

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.

Remote Controller Battery Replacement

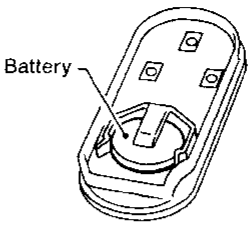
NAEL0118

1.



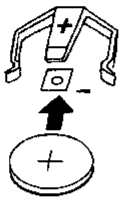
Open the lid using a coin.

2.



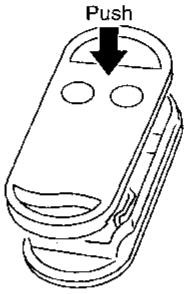
Remove the battery.

3.



Insert the new battery.
Recommended battery: CR2025 or equivalent.

4.

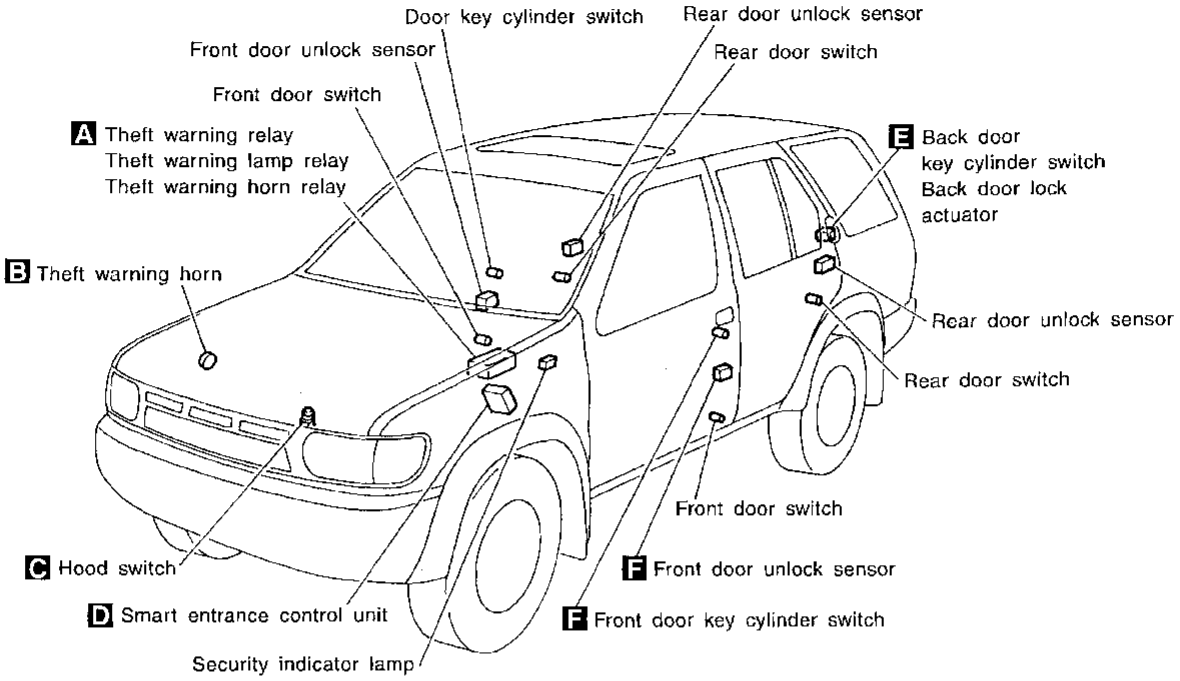


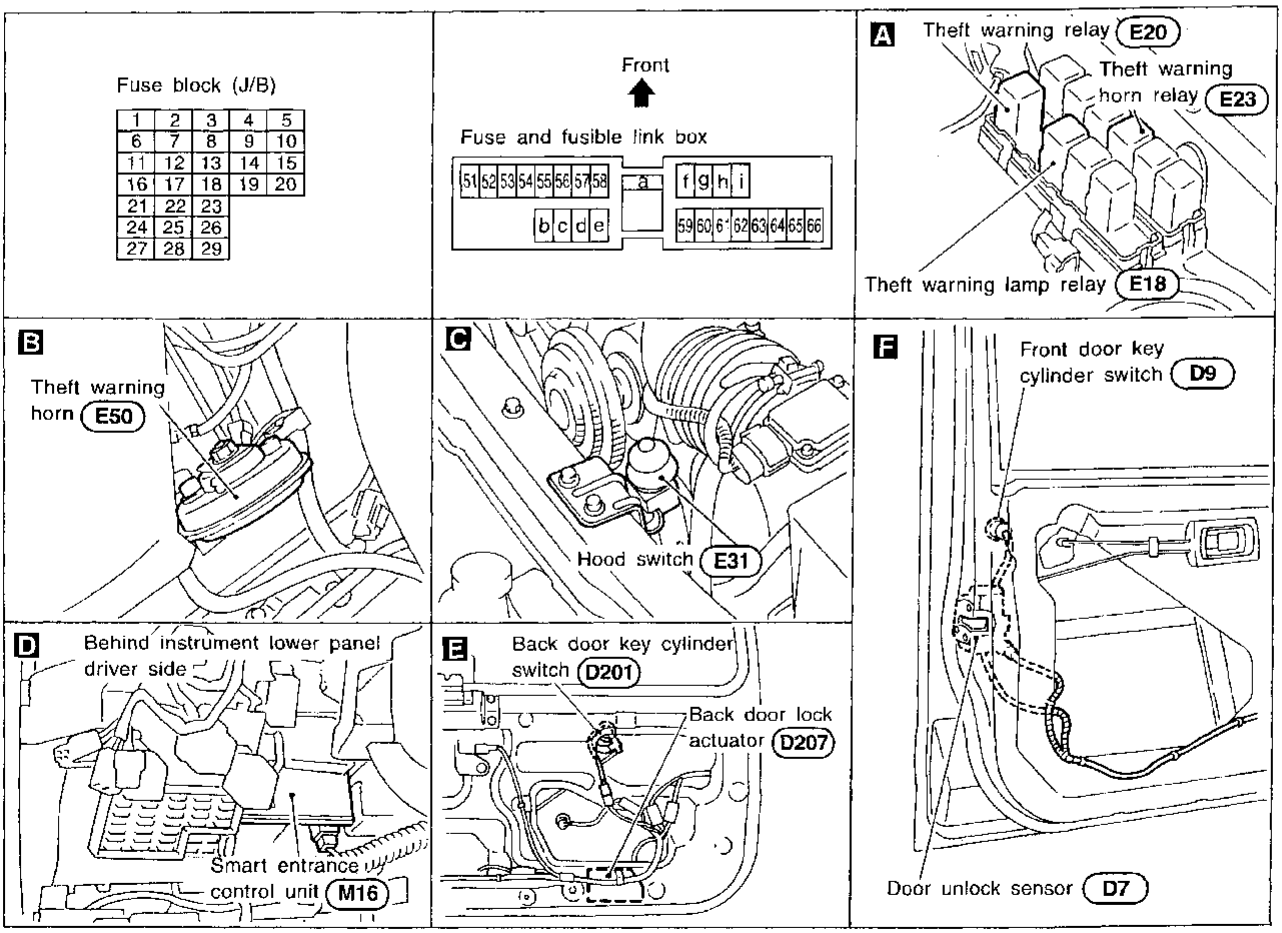
Close the lid securely.

SEL126V

Component Parts and Harness Connector Location

NAEL0119





SEL302V

System Description

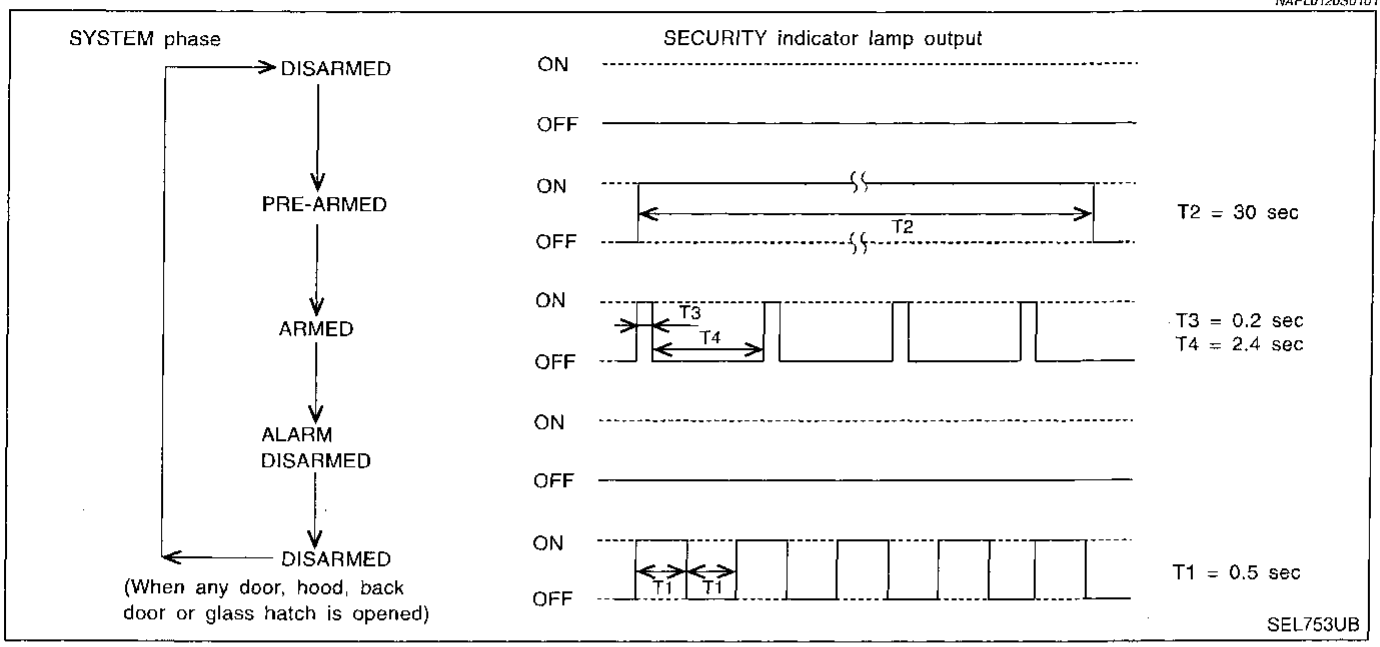
NAEL0120

DESCRIPTION

NAEL0120S01

1. Operation Flow

NAFL0120S0101



2. Setting The Theft Warning System

NAEL0120S0102

Initial condition

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

Disarmed phase

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

Pre-armed phase and armed phase

The theft warning system turns into the "pre-armed" phase when hood, glass hatch and all doors are closed and the doors are locked by key or multi-remote controller. (The security indicator lamp illuminates.)
After about 30 seconds, the system automatically shifts into the "armed" phase (the system is set). (The security indicator lamp blinks every 2.4 seconds.)

3. Canceling The Set Theft Warning System

NAEL0120S0103

When the following 1) or 2) operation is performed, the armed phase is canceled.

1) Unlock the doors with the key or multi-remote controller.
2) Open the glass hatch with the key. When the glass hatch is closed after opening the glass hatch with the key, the system returns to the armed phase.

4. Activating The Alarm Operation of The Theft Warning System

NAEL0120S0104

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.4 seconds.)
When the following operation 1) or 2) is performed, the system sounds the horns and flashes the headlamps for about 2.5 minutes. (At the same time, the system disconnects the starting system circuit.)

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

POWER SUPPLY AND GROUND

NAEL0120S07

Power is supplied at all times

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

Power is supplied at all times

- through 40A fusible link (letter f, located in the fuse and fusible link box)

- to smart entrance control unit terminal 1.

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

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

Ground is supplied

- to smart entrance control unit terminal 10
- through body grounds M4 and M77.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

NAEL0120S02

The operation of the theft warning system is controlled by the doors, hood and glass hatch.
To activate the theft warning system, the smart entrance control unit must receive signals indicating the doors, hood and glass hatch are closed and the doors are locked.
When a door is open, smart entrance control unit terminal 15 or 16 receives a ground signal from each door switch.
When a door is unlocked, smart entrance control unit terminal 12, 13 or 14 receives a ground signal from terminal 4 of each door unlock sensor or terminal 3 of back door unlock sensor.
When the hood is open, smart entrance control unit terminal 29 receives a ground signal

- from terminal 1 of the hood switch
- through body grounds E13 and E41.

When the glass hatch is open, smart entrance control unit terminal 26 receives a ground signal

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

When the doors are locked with key or multi-remote controller and none of the described conditions exist, the theft warning system will automatically shift to armed phase.

THEFT WARNING SYSTEM ACTIVATION (WITH KEY OR REMOTE CONTROLLER USED TO LOCK DOORS)

NAEL0120S03

If the key is used to lock doors, terminal 30 receives a ground signal

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

If this signal or lock signal from remote controller is received by the smart entrance control unit, the theft warning system will activate automatically.
Once the theft warning system has been activated, smart entrance control unit terminal 33 supplies ground to terminal 2 of the security indicator lamp.
The security lamp will illuminate for approximately 30 seconds and then blink.
Now the theft warning system is in armed phase.

THEFT WARNING SYSTEM ALARM OPERATION

NAEL0120S04

The theft warning system is triggered by

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

Once the theft warning system is in armed phase, if the smart entrance control unit receives a ground signal at terminal 12, 13, 14 (door unlock sensor), 15, 16 (door switch), 26 (glass hatch switch) or 29 (hood switch), the theft warning system will be triggered. The headlamps flash and the horn sounds intermittently, and the starting system is interrupted.
Power is supplied at all times

- through 10A fuse [No. 18, located in the fuse block (J/B)].
- to theft warning relay terminal 1.

If the theft warning system is triggered, ground is supplied

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

With power and ground supplied, starter motor circuit is interrupted. The starter motor will not crank and the engine will not start.
Power is supplied at all times

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

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

- from terminal 8 of the smart entrance control unit
- to theft warning lamp relay terminal 2 and
- to theft warning horn relay terminal 2.

The headlamps flash and the horn sounds intermittently.
The alarm automatically turns off after 2 or 3 minutes but will reactivate if the vehicle is tampered with again.

THEFT WARNING SYSTEM DEACTIVATION

NAEL0120S05

To deactivate the theft warning system, a door, the back door or the glass hatch must be unlocked with the key or remote controller.
When the key is used to unlock the door, smart entrance control unit terminal 31 receives a ground signal

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

When the key is used to open the glass hatch, smart entrance control unit terminal 27 receives a ground signal from terminal 3 of the back door key cylinder switch.
When the smart entrance control unit receives either one of these signals or unlock signal from remote controller, the theft warning system is deactivated. (Disarmed phase)

PANIC ALARM OPERATION

NAEL0120S06

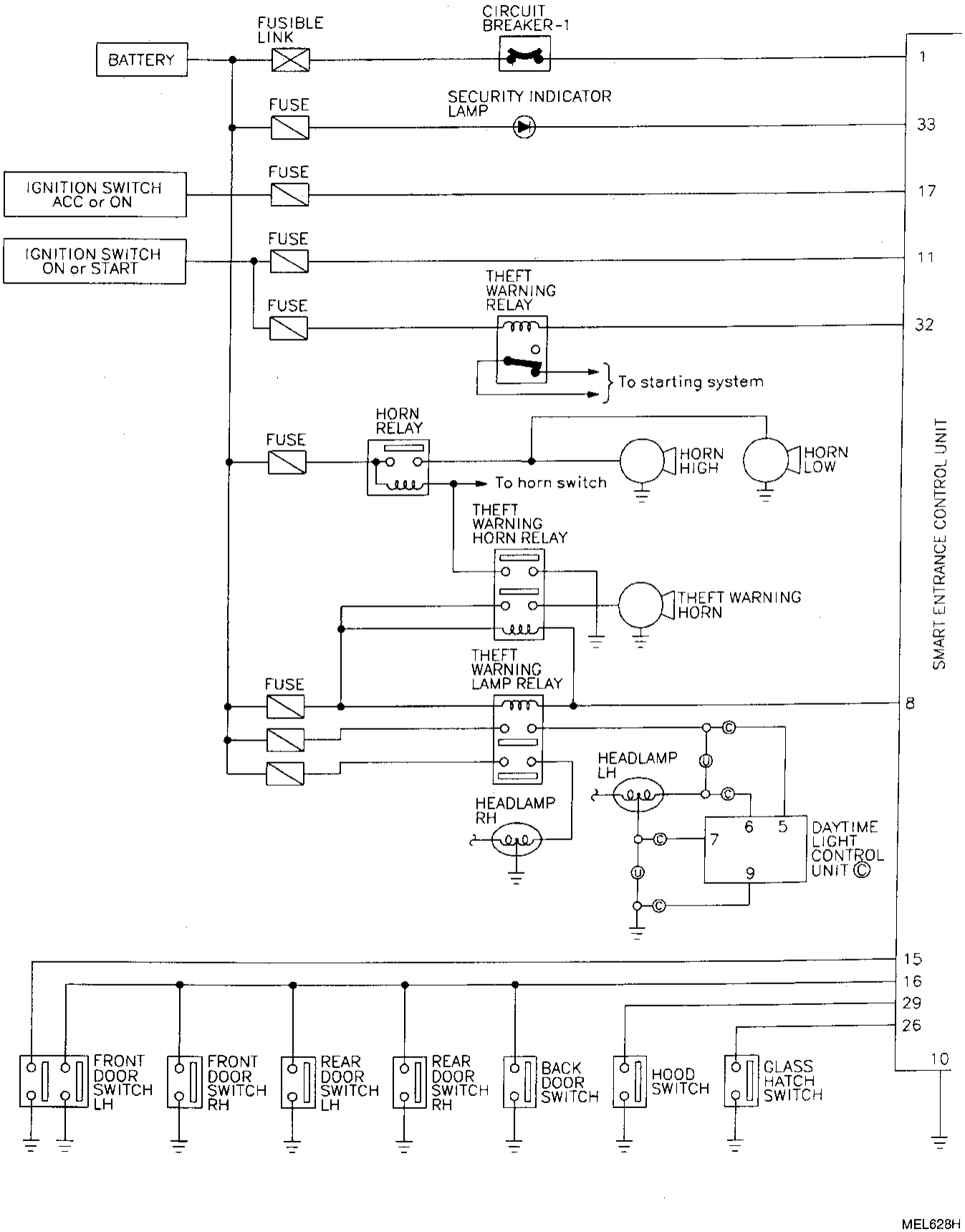
Multi-remote control system may or may not operate theft warning system (horn and headlamps) as required.
When the multi-remote control system is triggered, ground is supplied intermittently.

- from smart entrance control unit terminal 8
- to theft warning lamp relay terminal 2 and
- to theft warning horn relay terminal 2.

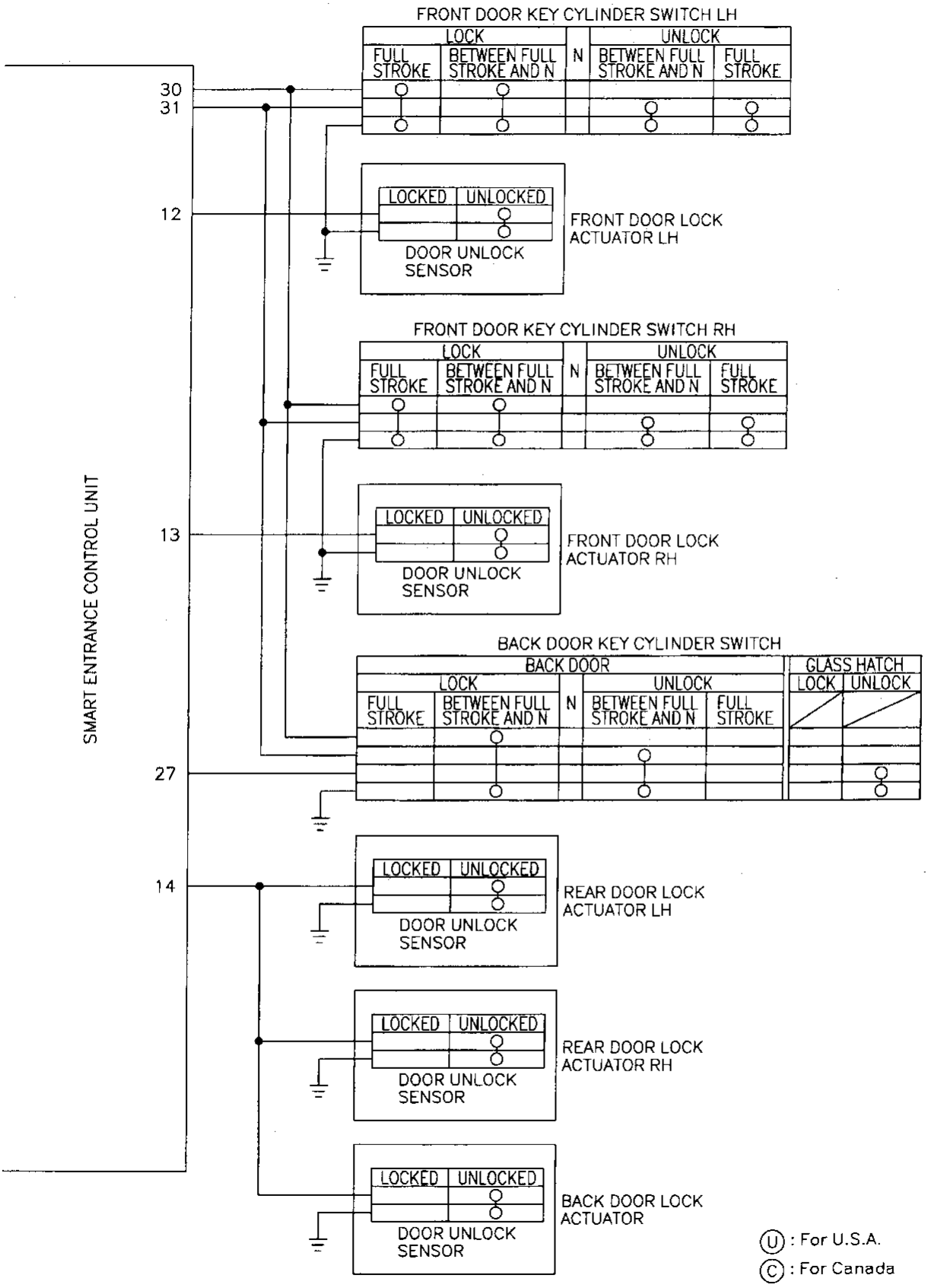
The headlamp flashes and the horn sounds intermittently.
The alarm automatically turns off after 30 seconds or when smart entrance control unit receives any signal from multi-remote controller.

Schematic

NAEL0121



MEL628H


FRONT DOOR KEY CYLINDER SWITCH LH
LOCK
FULL STROKE
BETWEEN FULL STROKE AND N
N
UNLOCK
BETWEEN FULL STROKE AND N
FULL STROKE
30
31
12
LOCKED
UNLOCKED
DOOR UNLOCK SENSOR
FRONT DOOR LOCK ACTUATOR LH
FRONT DOOR KEY CYLINDER SWITCH RH
13
FRONT DOOR LOCK ACTUATOR RH
BACK DOOR KEY CYLINDER SWITCH
BACK DOOR
GLASS HATCH
27
14
REAR DOOR LOCK ACTUATOR LH
REAR DOOR LOCK ACTUATOR RH
BACK DOOR LOCK ACTUATOR
SMART ENTRANCE CONTROL UNIT
Ⓤ : For U.S.A.
Ⓒ : For Canada

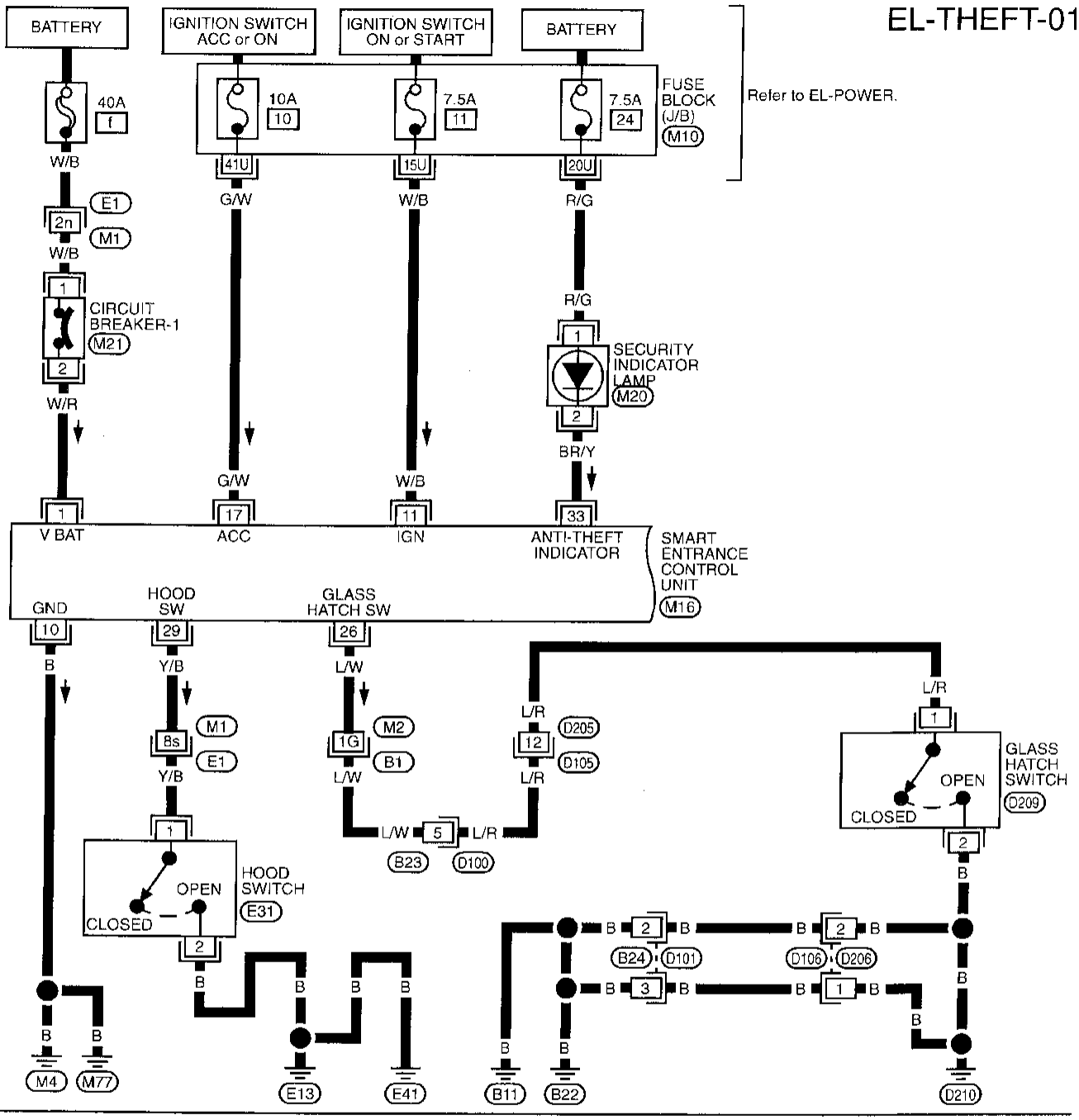
MEL555H

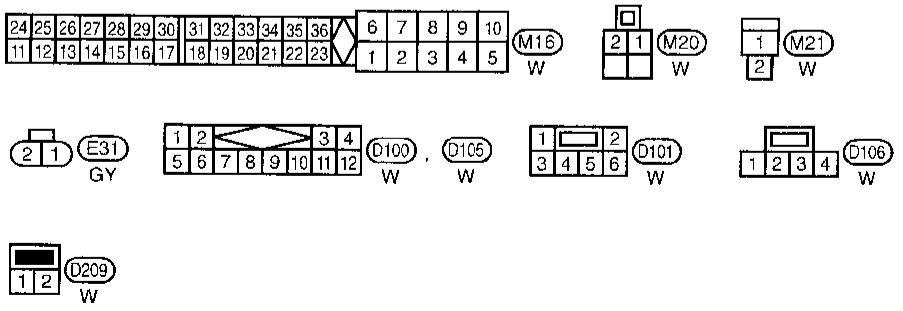
Wiring Diagram — THEFT —

NAEL0122

FIG. 1

NAEL0122S01





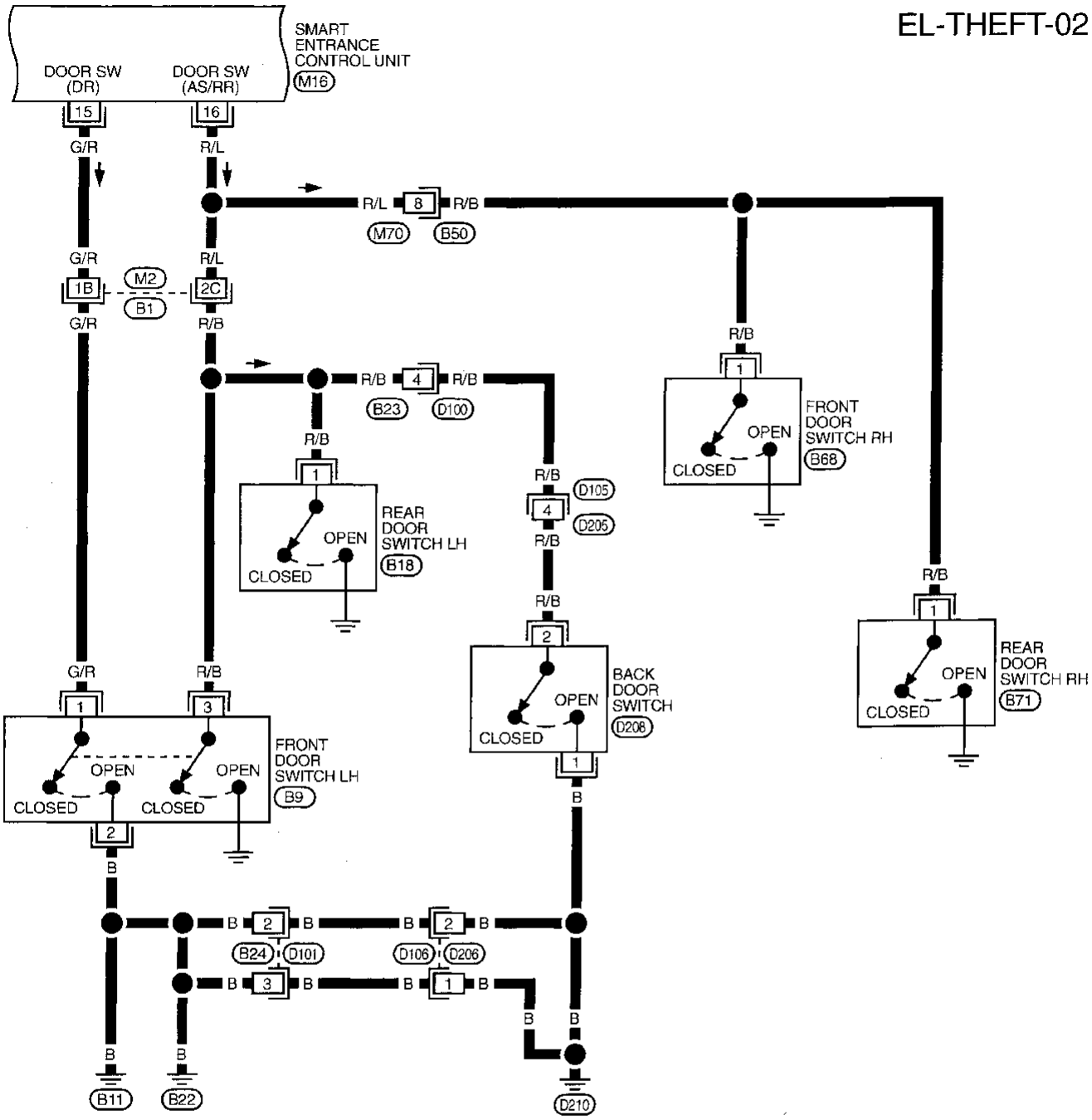
Refer to last page (Foldout page).
M1, E1
M2, B1
M10

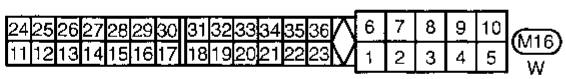
MEL629H

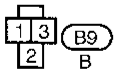
FIG. 2

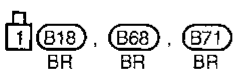
NAEL0122S02

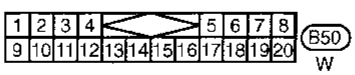
EL-THEFT-02

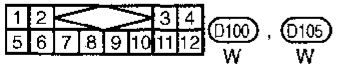


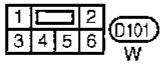


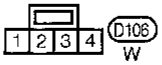


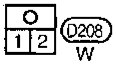












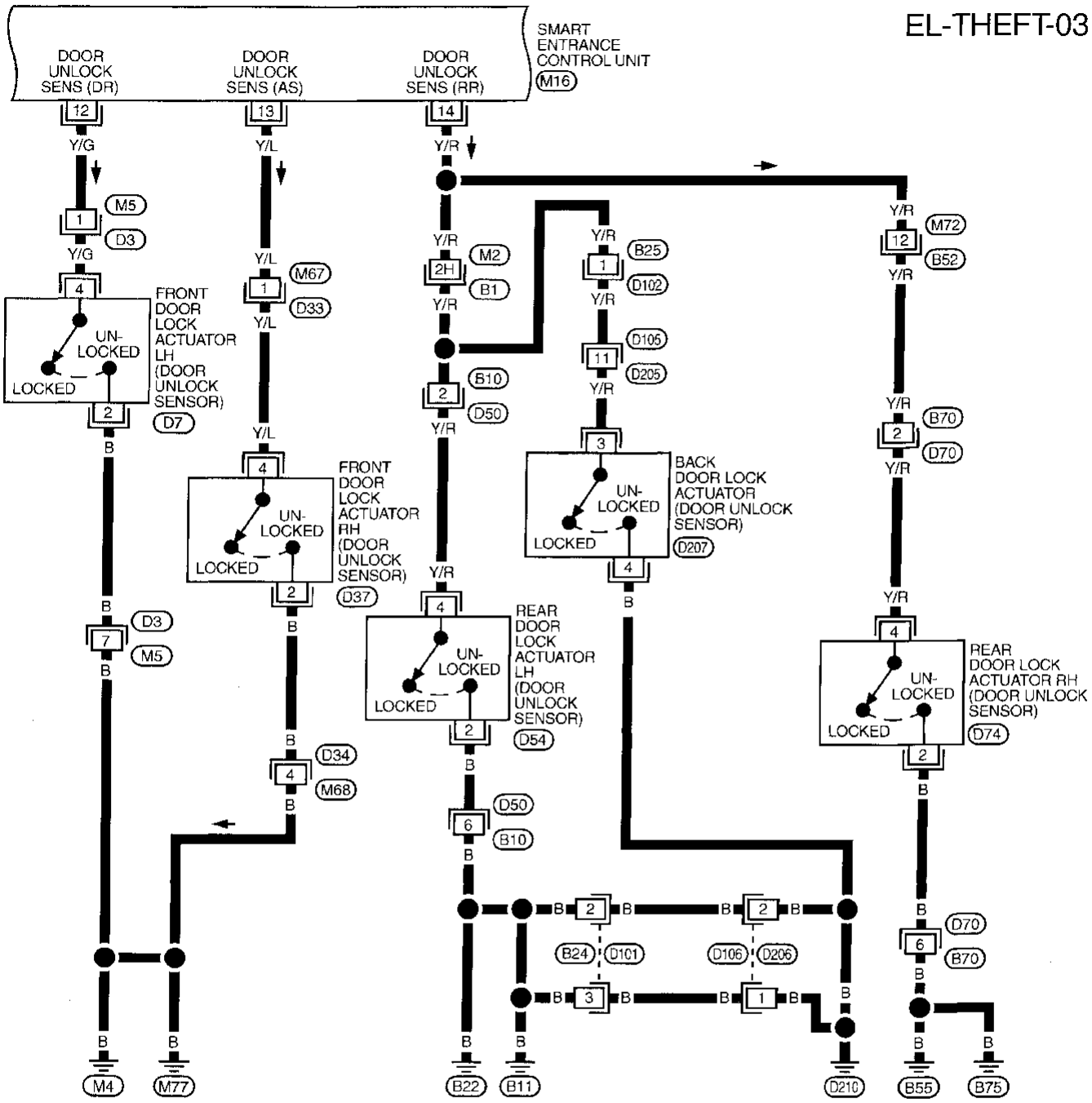
Refer to last page (Foldout page).
M2 , B1

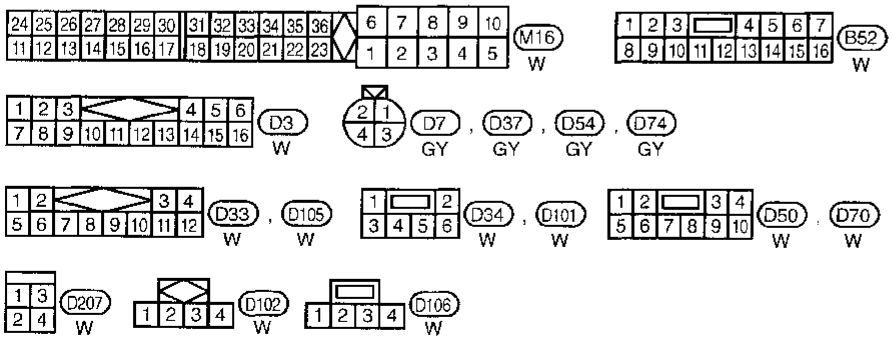
MEL815G

FIG. 3

NAEL0122S03

EL-THEFT-03





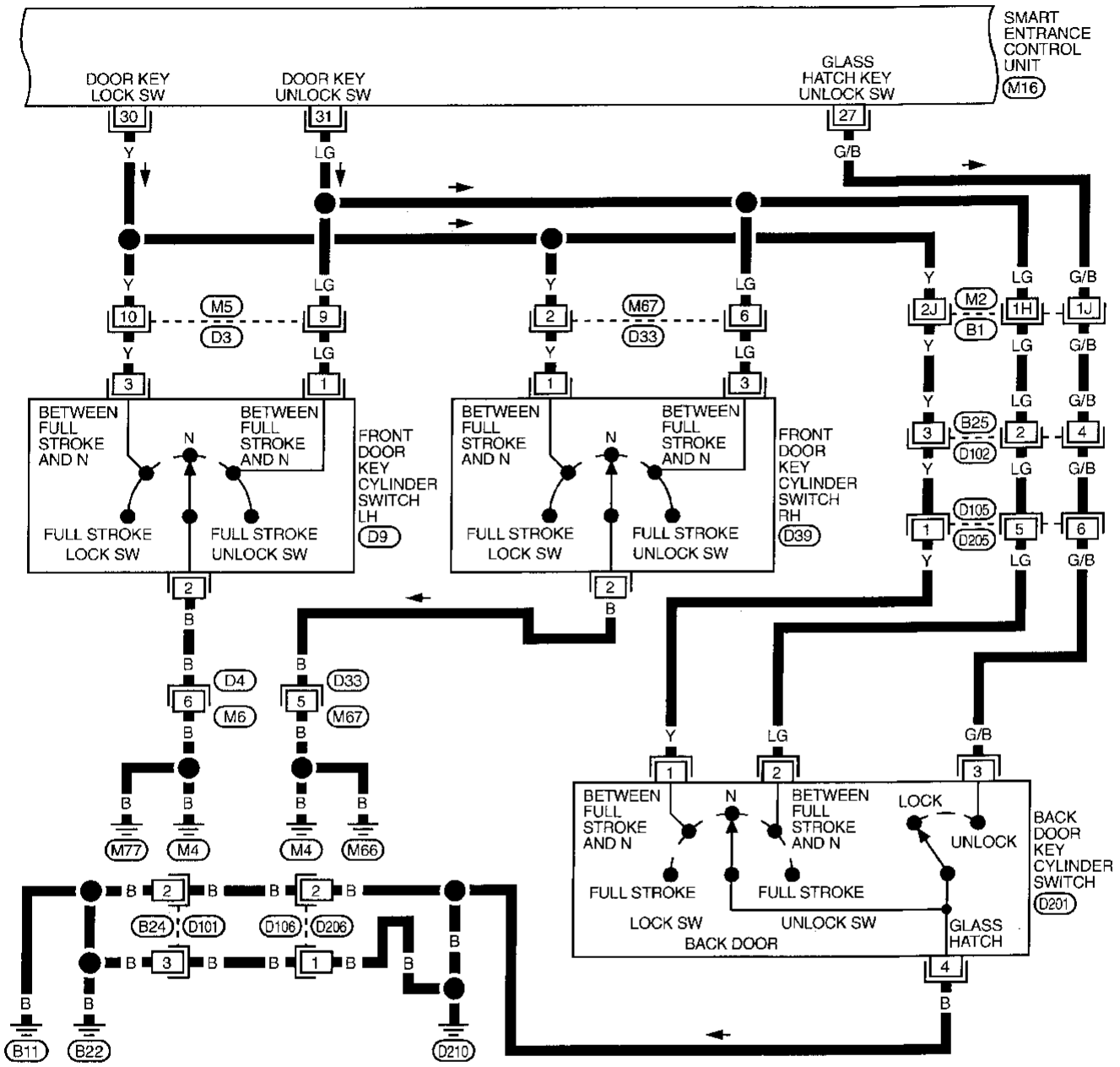
Refer to last page (Foldout page).
M2 , B1

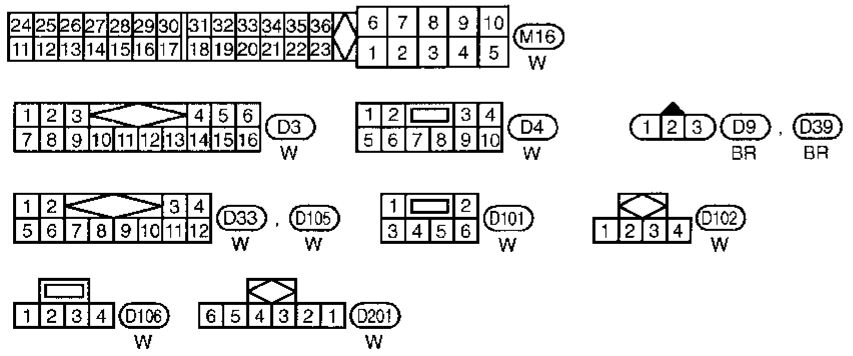
MEL368I

FIG. 4

NAEL0122S04

EL-THEFT-04



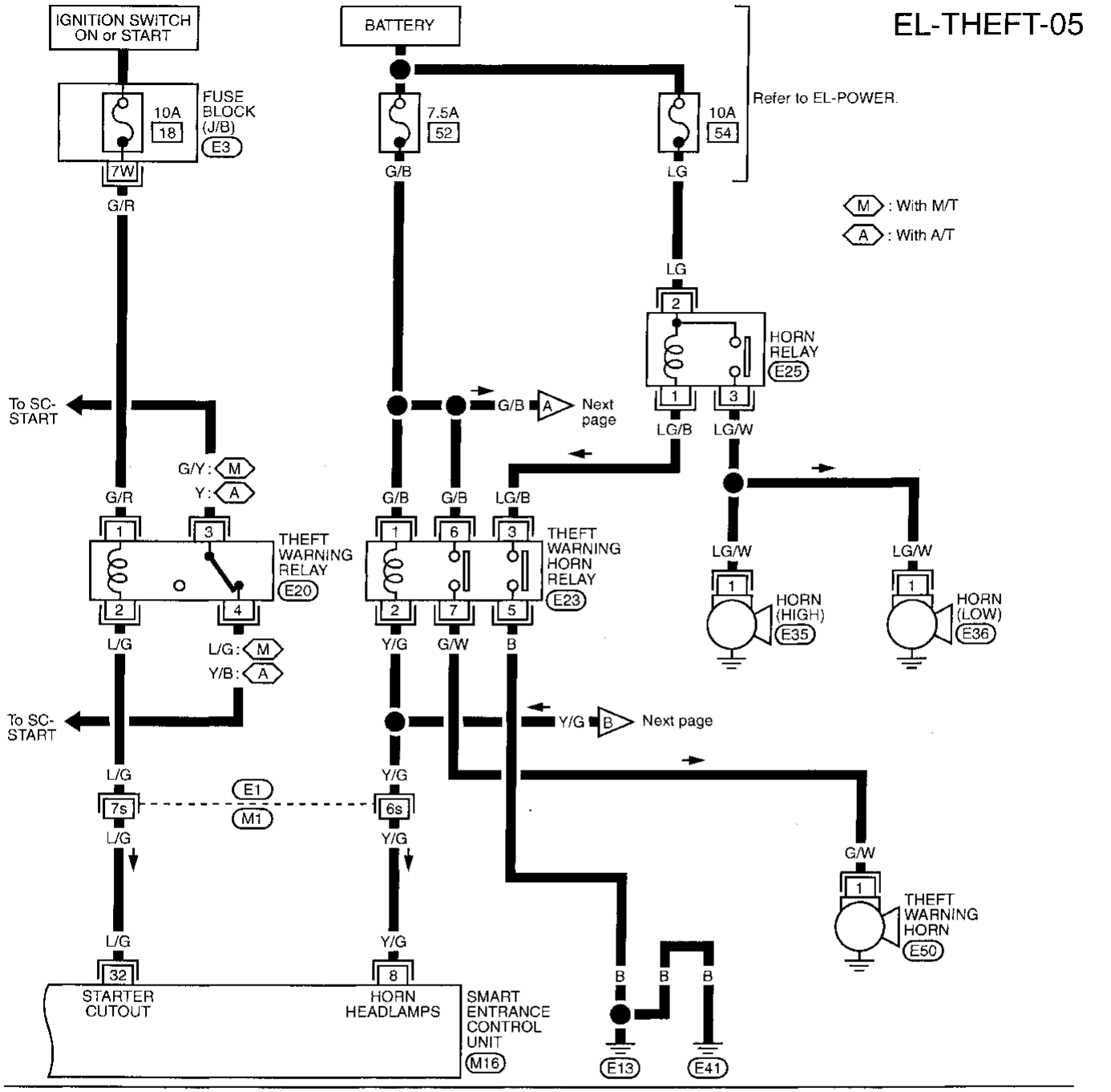


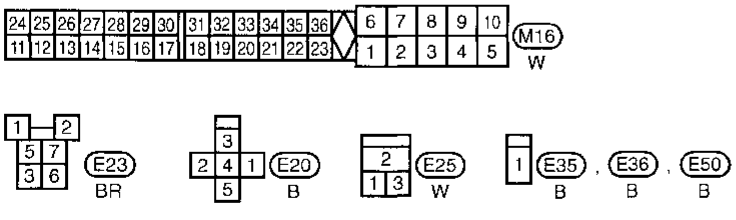
Refer to last page (Foldout page).
M2 , B1

MEL817G

FIG. 5

NAEL0122S05



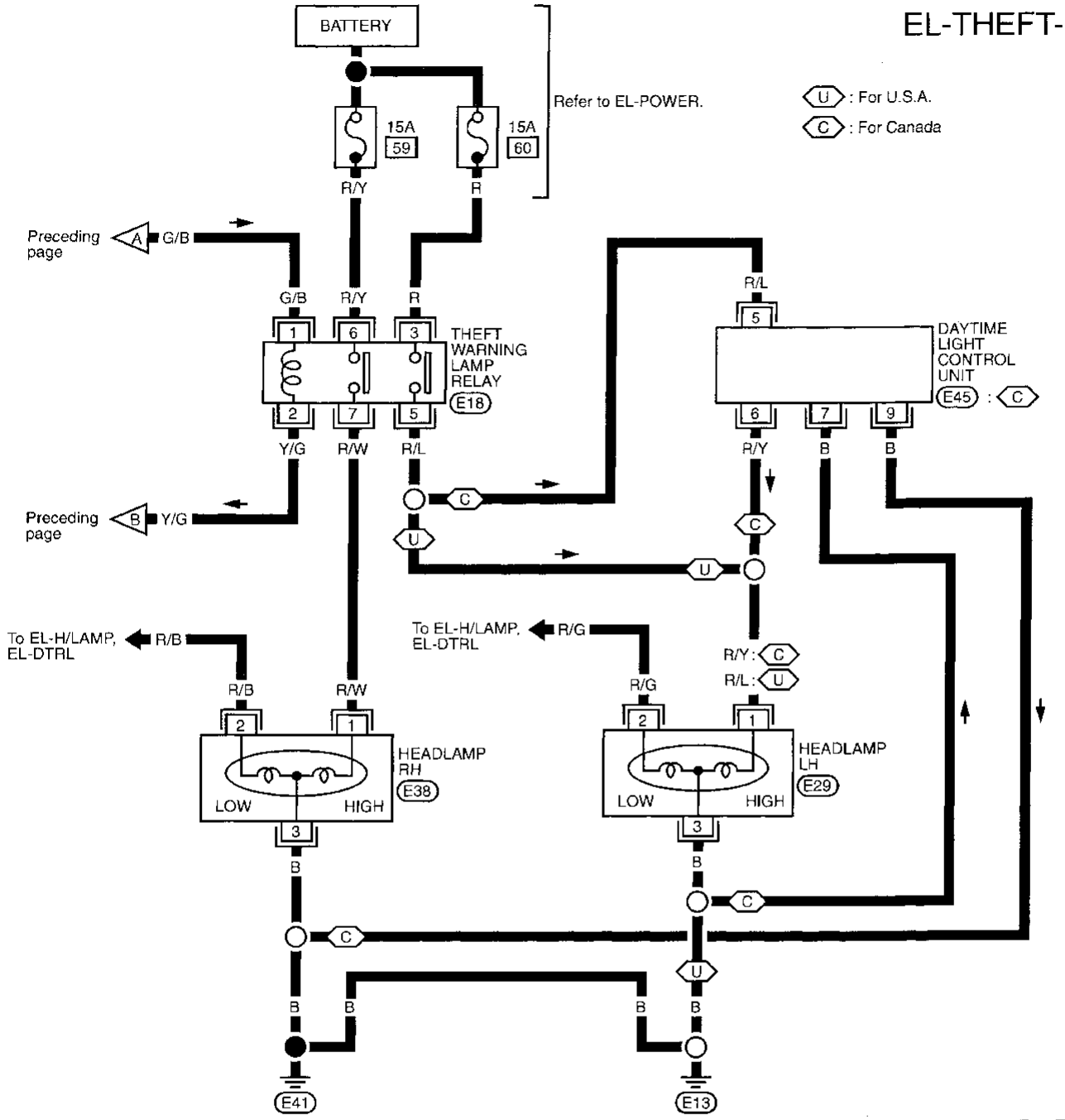


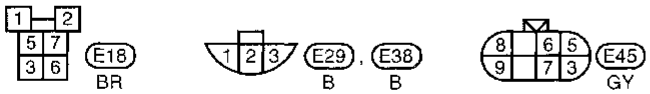
Refer to last page (Foldout page).
M1 , E1
E3

MEL630H

FIG. 6

NAEL0122S06





MEL611I

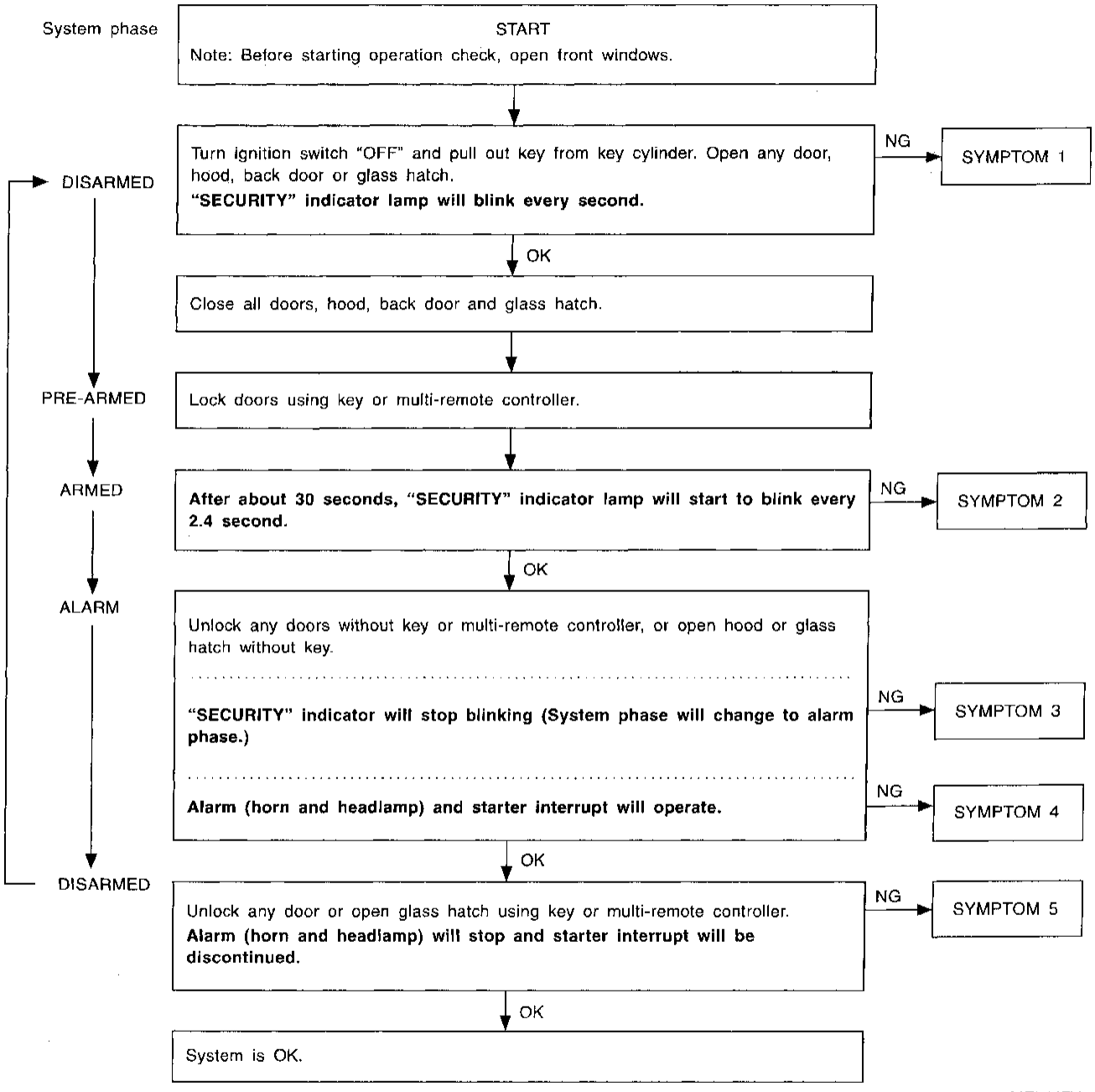
Trouble Diagnoses

NAEL0123

PRELIMINARY CHECK

NAEL0123S01

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



MEL447H

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

SYMPTOM CHART

NAEL0123S02

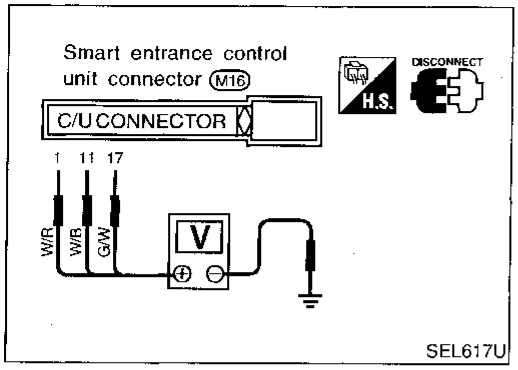
REFERENCE PAGE (EL-)			208	210	211	214	215	216	217	218	219	220	186
SYMPTOM			PRELIMINARY CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR, HOOD AND GLASS HATCH SWITCH CHECK	SECURITY INDICATOR LAMP CHECK	DOOR UNLOCK SENSOR CHECK	DOOR KEY CYLINDER SWITCH CHECK	BACK DOOR KEY CYLINDER SWITCH CHECK	THEFT WARNING HORN ALARM CHECK	THEFT WARNING HEADLAMP ALARM CHECK	STARTER INTERRUPT SYSTEM CHECK	Check "MULTI-REMOTE CONTROL" system.
1	Theft warning indicator does not turn "ON" or blinking.		X	X		X							
2	Theft warning system cannot be set by	All items	X	X	X		X						
		Door outside key	X	X				X					
		Back door key	X	X					X				
		Multi-remote control	X	X									X
3	*1 Theft warning system does not alarm when ...	Any door is opened.	X	X	X								
		Any door is unlocked without using key or multi-remote controller.	X	X			X						
4	Theft warning alarm does not activate.	All function	X	X	X		X						
		Horn alarm	X	X						X			
		Headlamp alarm	X	X							X		
		Starter interrupt	X	X								X	
5	Theft warning system cannot be canceled by	Door outside key	X	X				X					
		Back door key	X	X					X				
		Multi-remote control	X	X									X

X : Applicable

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

Before starting trouble diagnoses above, perform preliminary check, EL-208.

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



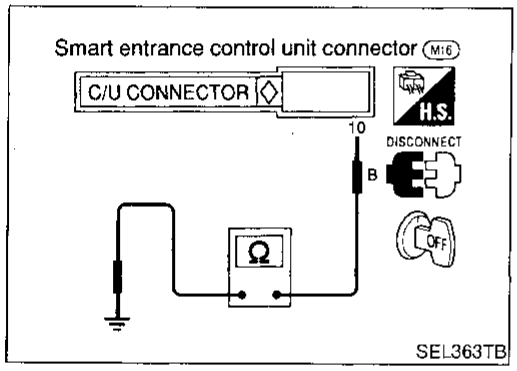
POWER SUPPLY AND GROUND CIRCUIT CHECK

NAEL0123S03

Power Supply Circuit Check

NAEL0123S0301

Terminals		Ignition switch position		
(+)	(−)	OFF	ACC	ON
1	Ground	Battery voltage	Battery voltage	Battery voltage
11	Ground	0V	0V	Battery voltage
17	Ground	0V	Battery voltage	Battery voltage



Ground Circuit Check

NAEL0123S0302

Terminals	Continuity
10 - Ground	Yes

DOOR, HOOD AND GLASS HATCH SWITCH CHECK

=NAEL0123S04

Door Switch Check

NAEL0123S0401

1 PRELIMINARY CHECK

1. Turn ignition switch "OFF" and remove key from key cylinder.
2. Close all doors, hood and glass hatch.
   "SECURITY" indicator lamp should turn off.
3. Open any passenger door or back door.
   "SECURITY" indicator lamp should blink every second.

OK or NG

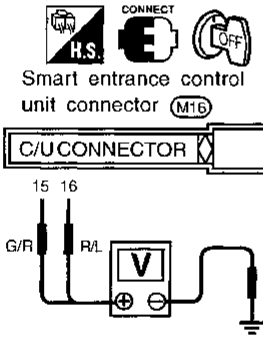
OK	▶	Door switch is OK.
NG	▶	GO TO 2.

2 CHECK DOOR SWITCH INPUT SIGNAL

Check voltage between control unit terminals 15 or 16 and ground.

	Terminals (+)	Terminals (−)	Condition	Voltage [V]
Front LH door switch	15	ground	Open	0
			Closed	Approx. 12
All door switches	16	ground	Open	0
			Closed	Approx. 12

MTBL0069



SEL606U

Refer to wiring diagram in EL-203.

OK or NG

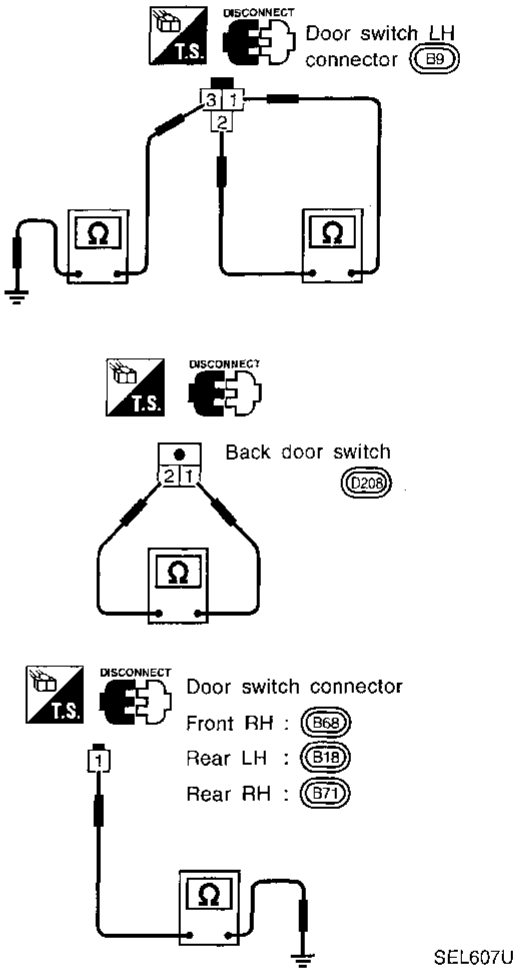
OK	▶	Door switch is OK.
NG	▶	GO TO 3.

3 CHECK DOOR SWITCH

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

	Terminals	Condition	Continuity
Front LH door switch	1 - 2, 3 - ground	Closed	No
		Open	Yes
Back door switch	2 - 1	Closed	No
		Open	Yes
Rear and front RH door switch	1 - ground	Closed	No
		Open	Yes

MTBL0070



SEL607U

OK or NG

OK	▶	**Check the following.** • Door switch ground circuit (Front LH, back door) or door switch ground condition • Harness for open or short between control unit and door switch
NG	▶	Replace door switch.

Hood Switch Check

=NAEL0123S0402

1	PRELIMINARY CHECK

1. Turn ignition switch "OFF" and remove key from key cylinder.
2. Close all doors, hood and glass hatch.
   "SECURITY" indicator lamp should turn off.
3. Open hood.
   "SECURITY" indicator lamp should blink every second.

OK or NG

OK	▶	Hood switch is OK.
NG	▶	GO TO 2.

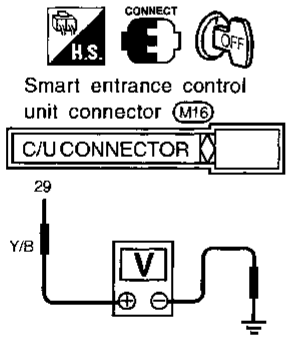
2	CHECK HOOD SWITCH FITTING CONDITION

OK or NG

OK	▶	GO TO 3.
NG	▶	Adjust installation of hood switch or hood.

3	CHECK HOOD SWITCH INPUT SIGNAL

Check voltage between control unit terminal 29 and ground.
Voltage [V]:
Hood is open.
0
Hood is closed.
Approx. 12



SEL608U

Refer to wiring diagram in EL-202.

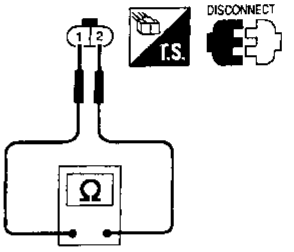
OK or NG

OK	▶	Hood switch is OK.
NG	▶	GO TO 4.

4	CHECK HOOD SWITCH

1. Disconnect hood switch connector.
2. Check continuity between hood switch terminals 1 and 2.
   Continuity:
   Condition: Pushed
   No
   Condition: Released
   Yes

Hood switch connector E31



SEL397TB

OK or NG

OK	▶	**Check the following.** • Hood switch ground circuit • Harness for open or short between control unit and hood switch
NG	▶	Replace hood switch.

Glass Hatch Switch Check

=NAEL0123S0403

1	PRELIMINARY CHECK

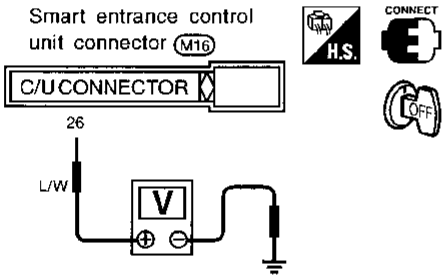
1. Turn ignition switch "OFF" and remove key from key cylinder.
2. Close all doors, hood and glass hatch.
   "SECURITY" indicator lamp should turn off.
3. Open glass hatch.
   "SECURITY" indicator lamp should blink every second.

OK or NG

OK	▶	Glass hatch switch is OK.
NG	▶	GO TO 2.

2	CHECK GLASS HATCH SWITCH INPUT SIGNAL

Check voltage between control unit terminal 26 and ground.
Voltage [V]:
Glass hatch is open.
Approx. 0
Glass hatch is closed.
Approx. 12



SEL622U

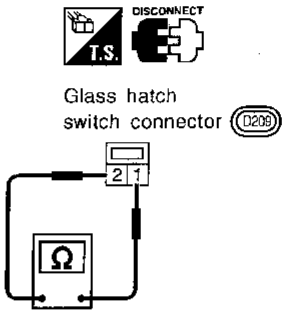
Refer to wiring diagram in EL-202.

OK or NG

OK	▶	Glass hatch switch is OK.
NG	▶	GO TO 3.

3	CHECK GLASS HATCH SWITCH

1. Disconnect glass hatch switch connector.
2. Check continuity between glass hatch switch terminals 1 and 2.
   Continuity:
   Condition: Closed
   No
   Condition: Open
   Yes



SEL609U

OK or NG

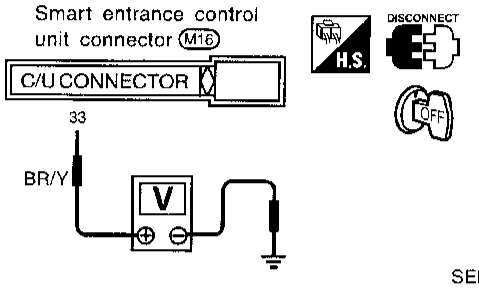
OK	▶	**Check the following.** • Glass hatch switch ground circuit • Harness for open or short between control unit and glass hatch switch
NG	▶	Replace glass hatch switch.

SECURITY INDICATOR LAMP CHECK

=NAEL0123S05

1	CHECK INDICATOR LAMP OUTPUT SIGNAL

1. Disconnect control unit connector.
2. Check voltage between control unit terminal 33 and ground.



SEL250V

Refer to wiring diagram in EL-202.

Does battery voltage exist?

Yes	▶	Security indicator lamp is OK.
No	▶	GO TO 2.

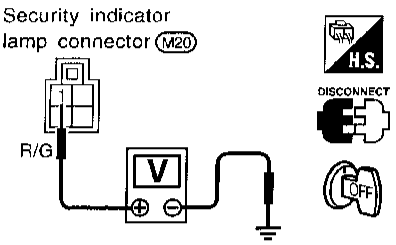
2	CHECK INDICATOR LAMP

OK or NG

OK	▶	GO TO 3.
NG	▶	Replace indicator lamp.

3	CHECK POWER SUPPLY CIRCUIT FOR INDICATOR LAMP

1. Disconnect security lamp connector.
2. Check voltage between indicator lamp terminal 1 and ground.



SEL251V

Does battery voltage exist?

Yes	▶	Check harness for open or short between security indicator lamp and control unit.
No	▶	**Check the following.** • 7.5A fuse [No. 24, located in fuse block (J/B)] • Harness for open or short between security indicator lamp and fuse

DOOR UNLOCK SENSOR CHECK

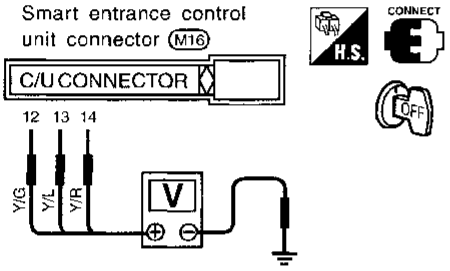
=NAEL0123S06

1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between control unit terminals 12, 13 or 14 and ground.

	Terminals (+)	Terminals (−)	Condition	Voltage [V]
Front LH door	12	Ground	Locked	Approx. 12
			Unlocked	0
Front RH door	13	Ground	Locked	Approx. 12
			Unlocked	0
Rear and back door	14	Ground	Locked	Approx. 12
			Unlocked	0

MTBL0071



SEL246V

Refer to wiring diagram in EL-204.

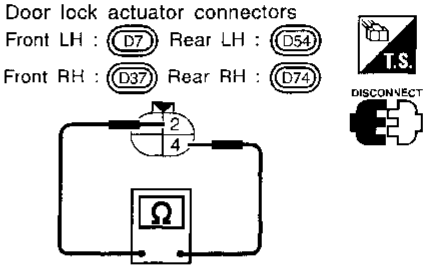
OK or NG

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

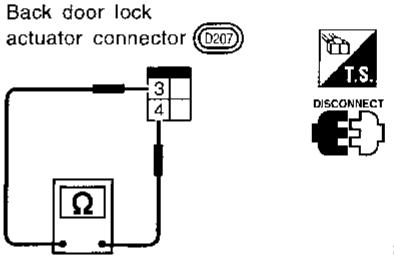
2 CHECK DOOR UNLOCK SENSOR

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

Continuity:
Condition: Locked
No
Condition: Unlocked
Yes



SEL247V



SEL352V

OK or NG

OK	▶	**Check the following.** • Door unlock sensor ground circuit • Harness for open or short between control unit and door unlock sensor
NG	▶	Replace door unlock sensor.

DOOR KEY CYLINDER SWITCH CHECK

=NAEL0123S07

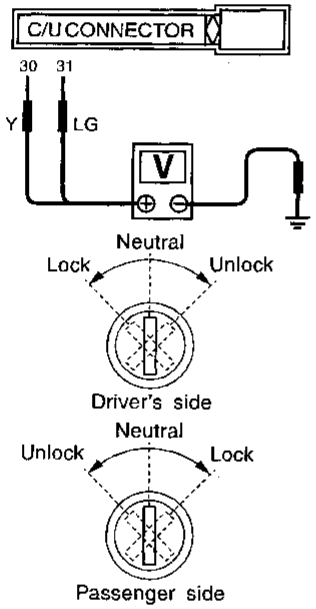
1 CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

Check voltage between control unit terminals 30 or 31 and ground.

Terminals (+)	Terminals (−)	Key position	Voltage [V]
30	Ground	Neutral	Approx. 12
		Lock	0
31	Ground	Neutral	Approx. 12
		Unlock	0

MTBL0041

Smart entrance control unit connector (M16)



SEL614UB

Refer to wiring diagram in EL-205.

OK or NG

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

2 CHECK DOOR KEY CYLINDER SWITCH

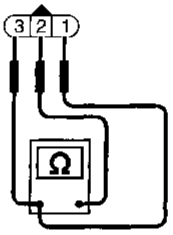
1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder switch terminals.

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

MTBL0042

Door key cylinder switch connector

LH : (D9) RH : (D39)



① : Door unlock switch terminal (LH)
Door lock switch terminal (RH)

② : Ground terminal

③ : Door lock switch terminal (LH)
Door unlock switch terminal (RH)

SEL880U

OK or NG

OK	▶	**Check the following.** • Door key cylinder switch ground circuit • Harness for open or short between control unit and door key cylinder switch
NG	▶	Replace door key cylinder switch.

BACK DOOR KEY CYLINDER SWITCH CHECK

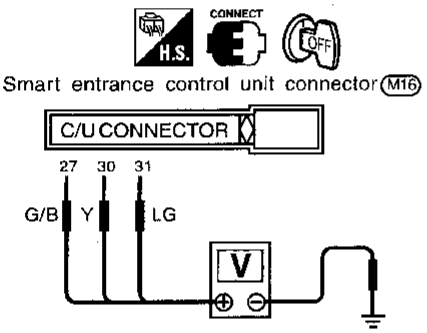
=NAEL0123S08

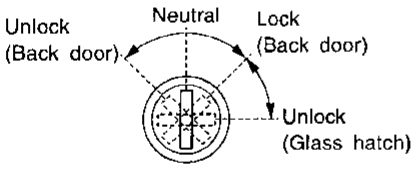
1 CHECK BACK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

Check voltage between control unit terminals 30, 31 or 27 and ground.

	Terminals (+)	Terminals (−)	Key position	Voltage [V]
Back door	30	Ground	Neutral	Approx. 12
			Between neutral and lock	0
	31	Ground	Neutral	Approx. 12
			Between neutral and unlock	0
Glass hatch	27	Ground	Neutral	Approx. 12
			Between lock and unlock	0

MTBL0016





MEL101GA

Refer to wiring diagram in EL-205.

OK or NG

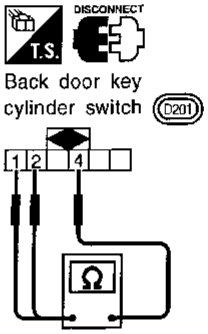
OK	▶	Back door key cylinder switch is OK.
NG	▶	GO TO 2.

2 CHECK BACK DOOR KEY CYLINDER SWITCH

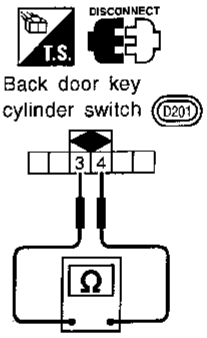
1. Disconnect back door key cylinder switch connector.
2. Check continuity between back door key cylinder switch terminals.

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

MTBL0043



SEL616U



SEL613U

OK or NG

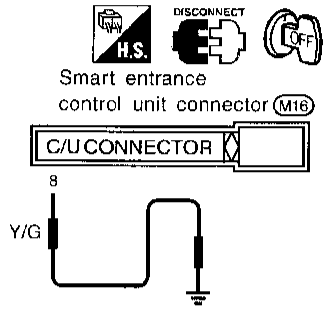
OK	▶	**Check the following.** • Back door key cylinder switch ground circuit • Harness for open or short between control unit and back door key cylinder switch
NG	▶	Replace back door key cylinder switch.

THEFT WARNING HORN ALARM CHECK

=NAEL0123S09

1 CHECK THEFT WARNING HORN ALARM OPERATION

1. Disconnect control unit connector.
2. Apply ground to control unit terminal 8.



SEL529UA

Refer to wiring diagram in EL-206.

Does horn alarm activate?

Yes	▶	Horn alarm is OK.
No	▶	GO TO 2.

2 CHECK THEFT WARNING HORN RELAY

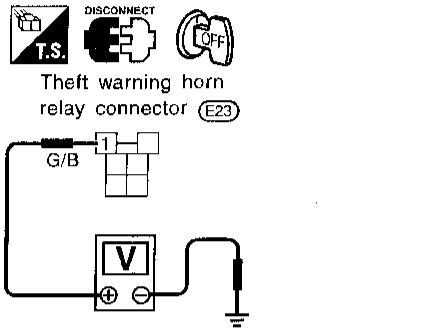
Check theft warning horn relay.

OK or NG

OK	▶	GO TO 3.
NG	▶	Replace.

3 CHECK POWER SUPPLY FOR THEFT WARNING HORN RELAY

1. Disconnect theft warning horn relay connector.
2. Check voltage between terminal 1 and ground.



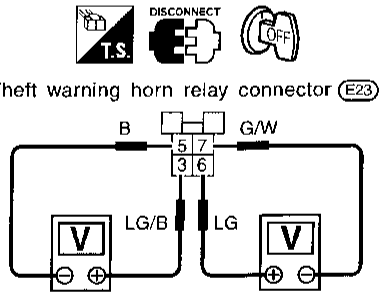
SEL755UB

Does battery voltage exist?

Yes	▶	GO TO 4.
No	▶	**Check the following.** • 7.5A fuse (No. 52, located in the fuse and fusible link box) • Harness for open or short between theft warning horn relay and fuse

4 CHECK THEFT WARNING HORN RELAY CIRCUIT

1. Disconnect theft warning horn relay connector.
2. Check voltage between terminals 3 and 5.
   Battery voltage should exist.
3. Check voltage between terminals 6 and 7.
   Battery voltage should exist.



SEL756UB

OK or NG

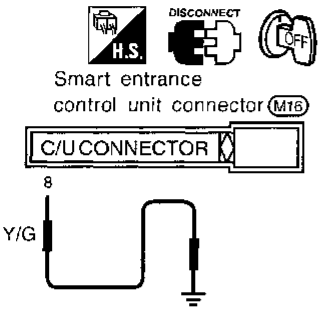
OK	▶	Check harness for open or short between theft warning horn relay and control unit.
NG	▶	Check harness for open or short.

THEFT WARNING HEADLAMP ALARM CHECK

=NAEL0123S10

1 CHECK THEFT WARNING HEADLAMP ALARM OPERATION

1. Disconnect control unit connector.
2. Apply ground to control unit terminal 8.



SEL529UA

Refer to wiring diagram in EL-206.

Does headlamp alarm activate?

Yes	▶	Headlamp alarm is OK.
No	▶	GO TO 2.

2 CHECK HEADLAMP OPERATION

Does headlamp come on when turning lighting switch "ON"?

Yes	▶	GO TO 3.
No	▶	Check headlamp system. Refer to "HEADLAMP".

3 CHECK THEFT WARNING LAMP RELAY

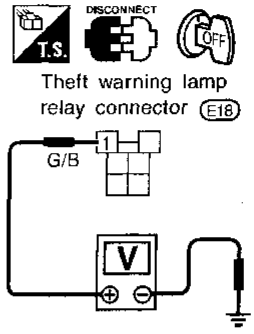
Check theft warning lamp relay.

OK or NG

OK	▶	GO TO 4.
NG	▶	Replace.

4 CHECK POWER SUPPLY FOR THEFT WARNING LAMP RELAY

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



SEL757U

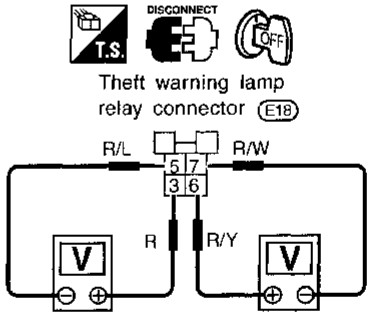
Refer to wiring diagram in EL-207.

Does battery voltage exist?

Yes	▶	GO TO 5.
No	▶	**Check the following.** • 7.5A fuse (No. 52, located in the fuse and fusible link box) • Harness for open or short between theft warning lamp relay and fuse

5 CHECK THEFT WARNING LAMP RELAY CIRCUIT

1. Disconnect theft warning lamp relay connector.
2. Check voltage between terminals 3 and 5.
   Battery voltage should exist.
3. Check voltage between terminals 6 and 7.
   Battery voltage should exist.



SEL758U

OK or NG

OK	▶	Check harness for open or short between theft warning lamp relay and control unit.
NG	▶	**Check the following.** • Harness for open or short between fuse and theft warning lamp relay • Harness for open or short between theft warning lamp relay and headlamps

STARTER INTERRUPT SYSTEM CHECK

NAEL0123S11

1	CHECK STARTER MOTOR INTERRUPT SIGNAL

1. Turn ignition switch "ON".
2. Check voltage between control unit terminal 32 and ground.

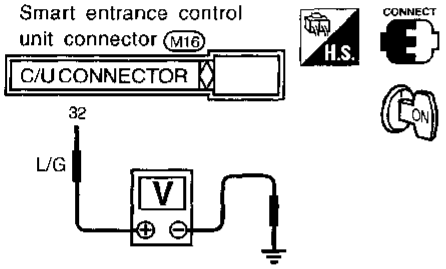
Voltage [V]:

Except starter interrupted phase

Approx. 12

Starter interrupted phase

0



SEL624U

Refer to wiring diagram in EL-206.

OK or NG

OK	▶	GO TO 2.
NG	▶	**Check the following.** • 10A fuse [No. 18, located in fuse block (J/B)] • Harness for open or short between theft warning relay and fuse • Harness for open or short between control unit and theft warning relay

2	CHECK THEFT WARNING RELAY

Check theft warning relay.

OK or NG

OK	▶	Check system again.
NG	▶	Replace relay.

Description

NAEL0124

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

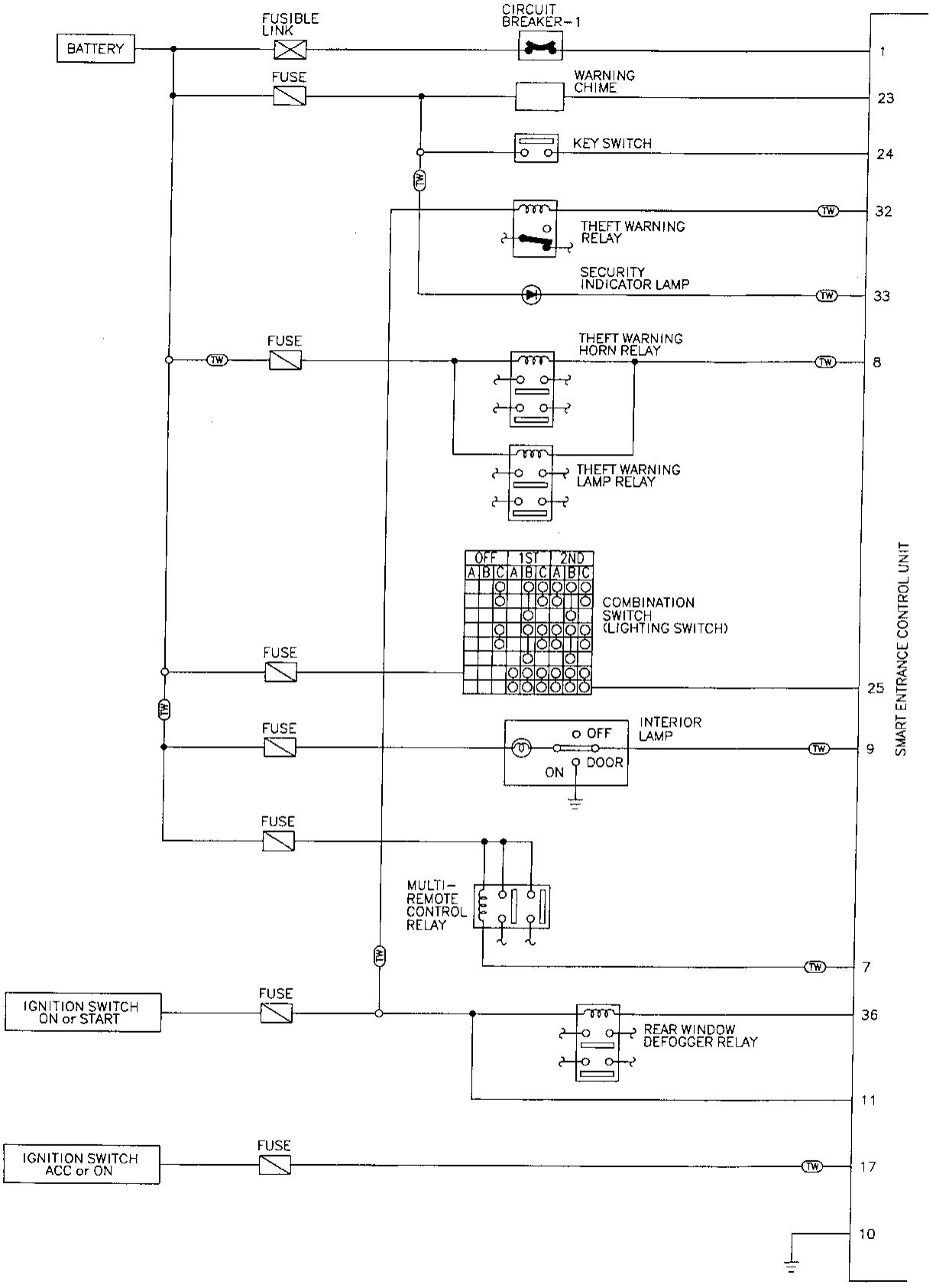
- Warning chime
- Rear window defogger timer
- Power door lock
- Multi-remote control system
- Theft warning system

For detailed description and wiring diagrams, refer to the relevant pages for the each system.
The control unit receives data from the switches and sensors to control their corresponding system relays and actuators.

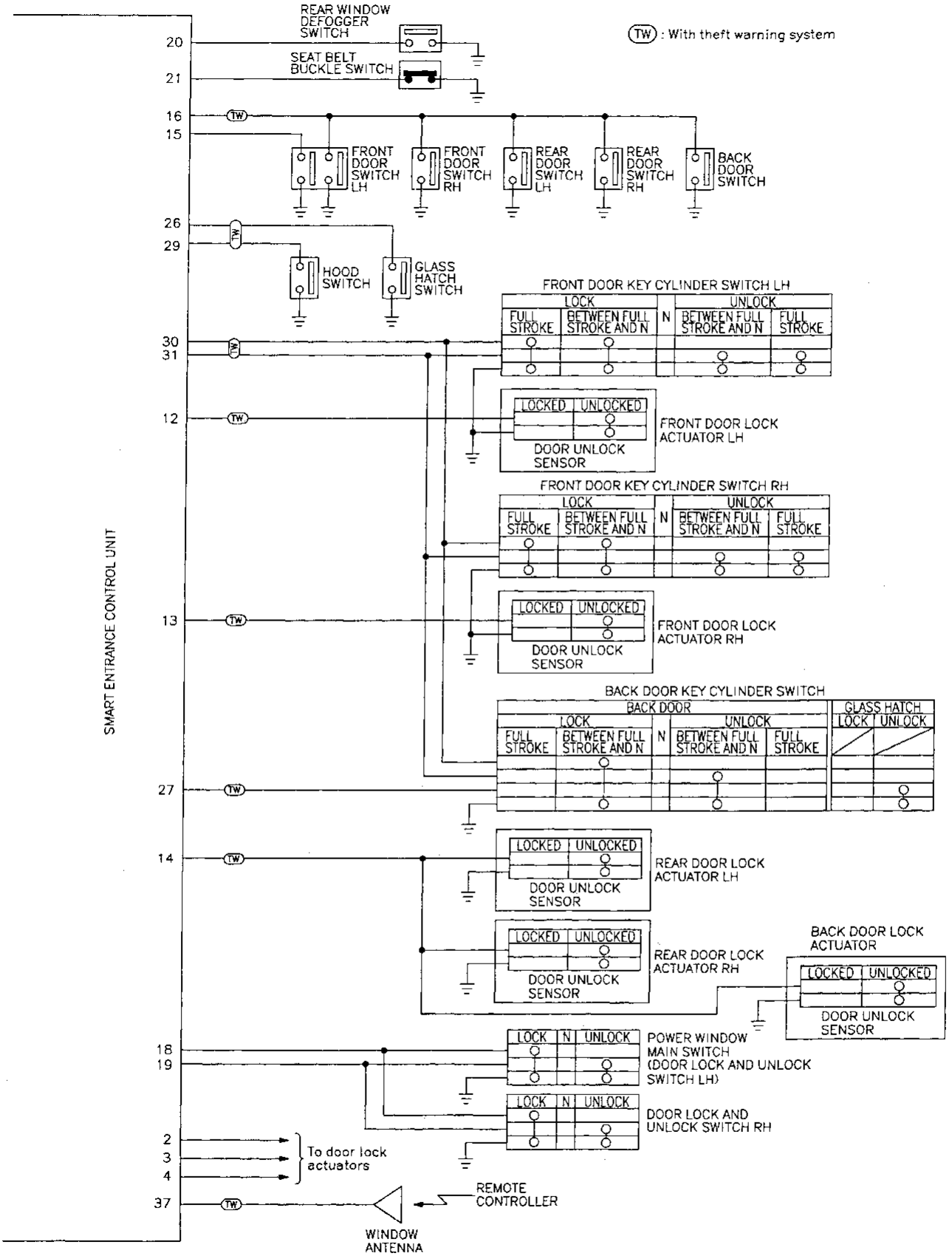
System	Input	Output
Power door lock	Door lock and unlock switch	Door lock actuator
Multi-remote control	Key switch (Insert) Ignition switch (ACC) Door switch Door unlock sensor Antenna (remote controller signal)	Theft warning horn relay Theft warning lamp relay Interior lamp Multi-remote control relay Door lock actuator
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt switch Front door switch LH	Warning chime
Rear window defogger timer	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Theft warning	Ignition switch (ACC, ON) Door switch Hood switch Glass hatch switch Door key cylinder switch (lock/unlock) Back door key cylinder switch (lock/unlock/glass hatch unlock) Door unlock sensor	Theft warning horn relay Theft warning lamp relay Theft warning relay (Starter interrupt) Security indicator

Schematic

NAEL0125



MEL631H


TW : With theft warning system
SMART ENTRANCE CONTROL UNIT
20
21
16
15
26
29
30
31
12
13
27
14
18
19
2
3
4
37
REAR WINDOW DEFOGGER SWITCH
SEAT BELT BUCKLE SWITCH
FRONT DOOR SWITCH LH
FRONT DOOR SWITCH RH
REAR DOOR SWITCH LH
REAR DOOR SWITCH RH
BACK DOOR SWITCH
HOOD SWITCH
GLASS HATCH SWITCH
FRONT DOOR KEY CYLINDER SWITCH LH
LOCK
FULL STROKE
BETWEEN FULL STROKE AND N
N
UNLOCK
BETWEEN FULL STROKE AND N
FULL STROKE
LOCKED
UNLOCKED
DOOR UNLOCK SENSOR
FRONT DOOR LOCK ACTUATOR LH
FRONT DOOR KEY CYLINDER SWITCH RH
FRONT DOOR LOCK ACTUATOR RH
BACK DOOR KEY CYLINDER SWITCH
BACK DOOR
GLASS HATCH
REAR DOOR LOCK ACTUATOR LH
REAR DOOR LOCK ACTUATOR RH
BACK DOOR LOCK ACTUATOR
POWER WINDOW MAIN SWITCH (DOOR LOCK AND UNLOCK SWITCH LH)
DOOR LOCK AND UNLOCK SWITCH RH
To door lock actuators
REMOTE CONTROLLER
WINDOW ANTENNA

MEL632H

Smart Entrance Control Unit Inspection Table

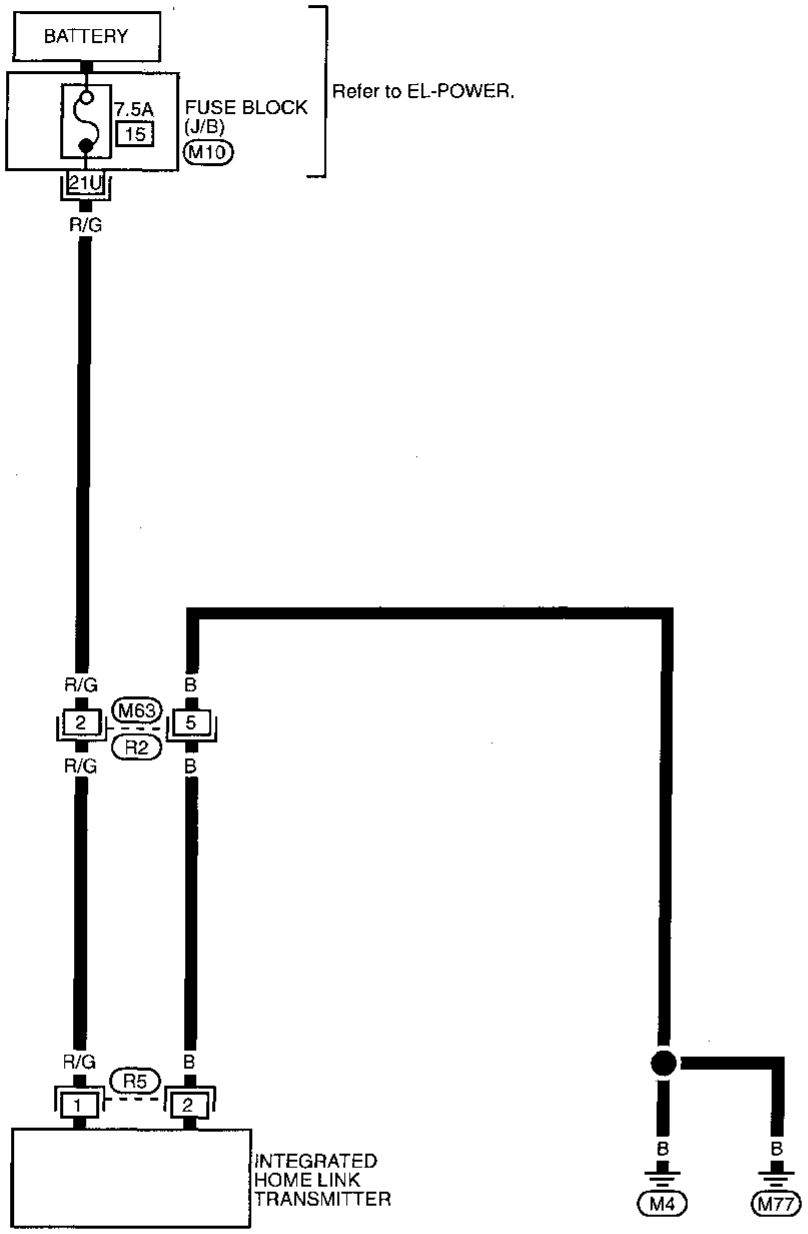
NAEL0126

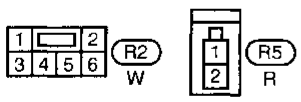
Terminal No.	Connections	Operated condition		Voltage (Approximate values)
1	Power source (C/B)	—		12V
2	Passenger door lock actuator	Door lock & unlock switch	Unlocked	12V
3	Driver door lock actuator		Free	0V
4	Driver and passenger door lock actuators	Door lock & unlock switch	Locked	12V
			Free	0V
7	Multi-remote control relay	When doors are locked using remote controller		12V → 0V
8	Theft warning horn/lamp 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)	Ignition key is in "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 and back door unlock sensors	All doors are locked → One or more doors are unlocked		12V → 0V
15	Driver door switch	OFF (Closed) → ON (Open)		12V → 0V
16	Passenger door switch	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 buckle switch	Unfasten → Fasten (Ignition key is in "ON" position)		0V → 12V
23	Warning chime	OFF → ON		12V → 0V
24	Ignition key switch (Insert)	Key inserted → Key removed from IGN key cylinder		12V → 0V
25	Lighting switch (1ST)	1ST, 2ND positions: ON → OFF		12V → 0V
26	Glass hatch switch	ON (Open) → OFF (Closed)		0V → 12V
27	Back door key unlock switch	OFF (Neutral) → ON (Unlock)		12V → 0V
29	Hood switch	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 (Ignition key is in "ON" position)		12V → 0V
33	Theft warning indicator	Goes off → Illuminates		12V → 0V
36	Rear window defogger relay	OFF → ON (Ignition key is in "ON" position)		12V → 0V
37	Multi-remote control antenna	—		—

Wiring Diagram — TRNSMT —

NAEL0127

EL-TRNSMT-01





Refer to last page (Foldout page).
M10

MEL471I

Trouble Diagnoses

NAFI0128

DIAGNOSTIC PROCEDURE

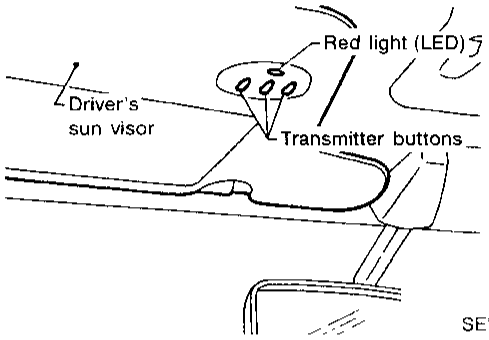
NAFL0128S01

SYMPTOM: Transmitter does not activate receiver.

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

1	PRELIMINARY CHECK

1. Turn ignition switch "OFF".
2. Does red light (LED) of transmitter illuminate when any button is pressed?



Yes or No

Yes	▶	GO TO 2.
No	▶	GO TO 3.

2	CHECK TRANSMITTER FUNCTION

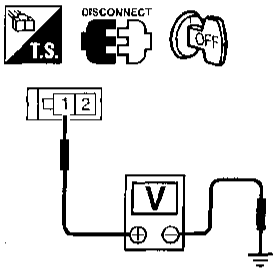
Check transmitter with Tool.
For details, refer to Technical Service Bulletin.

OK or NG

OK	▶	Receiver or handheld transmitter fault, not vehicle related.
NG	▶	Replace transmitter with sun visor assembly.

3	CHECK POWER SUPPLY

1. Disconnect transmitter connector.
2. Turn ignition switch "OFF".
3. Check voltage between terminal 1 and body ground.

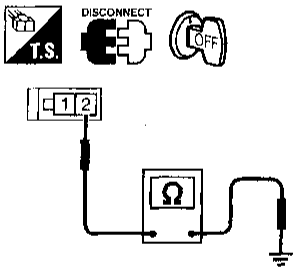


Does battery voltage exist?

Yes	▶	GO TO 4.
No	▶	Check fuse (7.5A) and repair harness.

4	CHECK GROUND CIRCUIT

Check continuity between terminal 2 and ground.

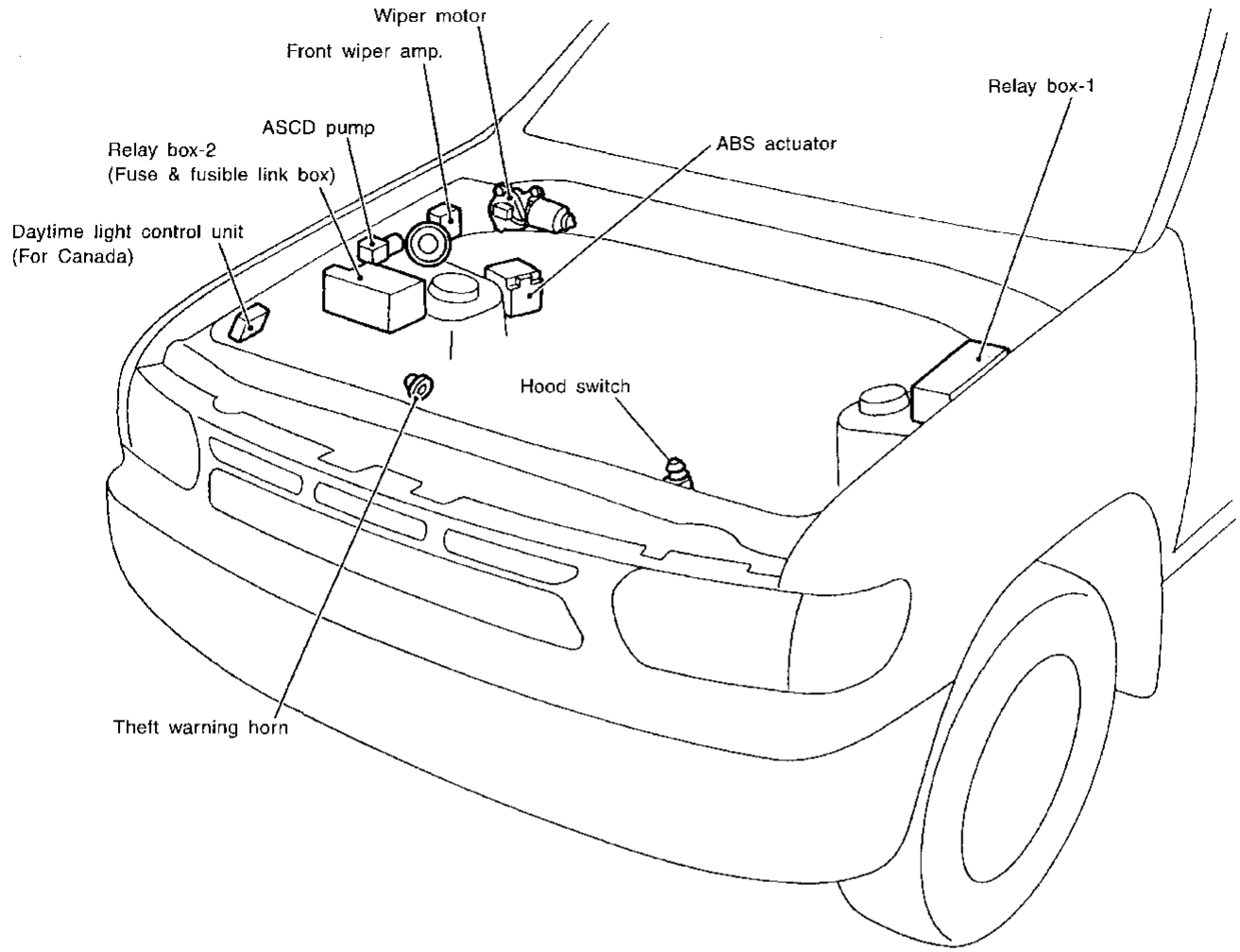


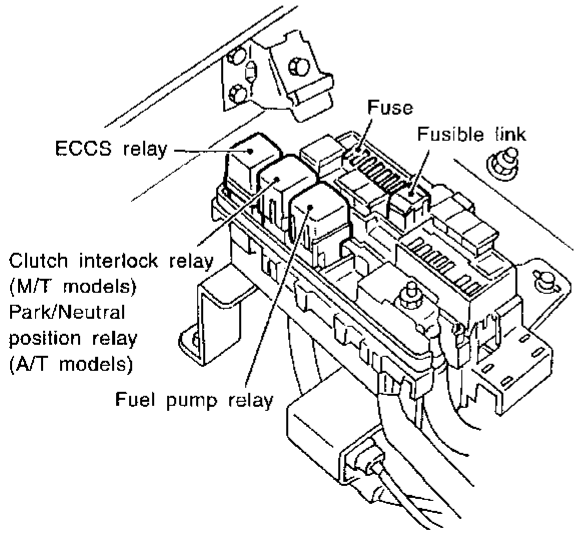
Does continuity exist?

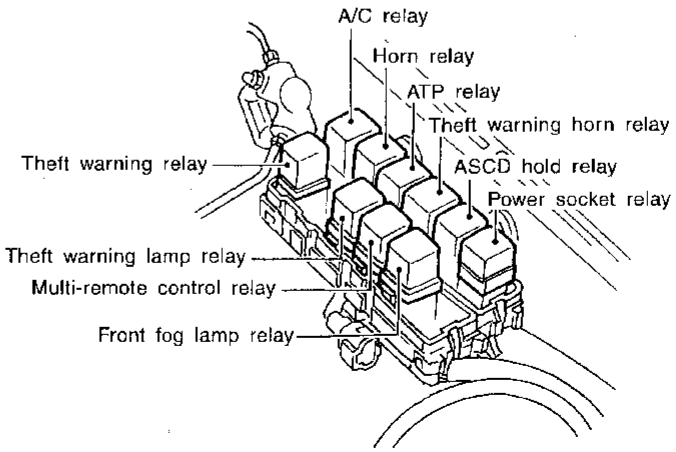
Yes	▶	Replace transmitter with sun visor assembly.
No	▶	Repair harness.

Engine Compartment

NAEL0129



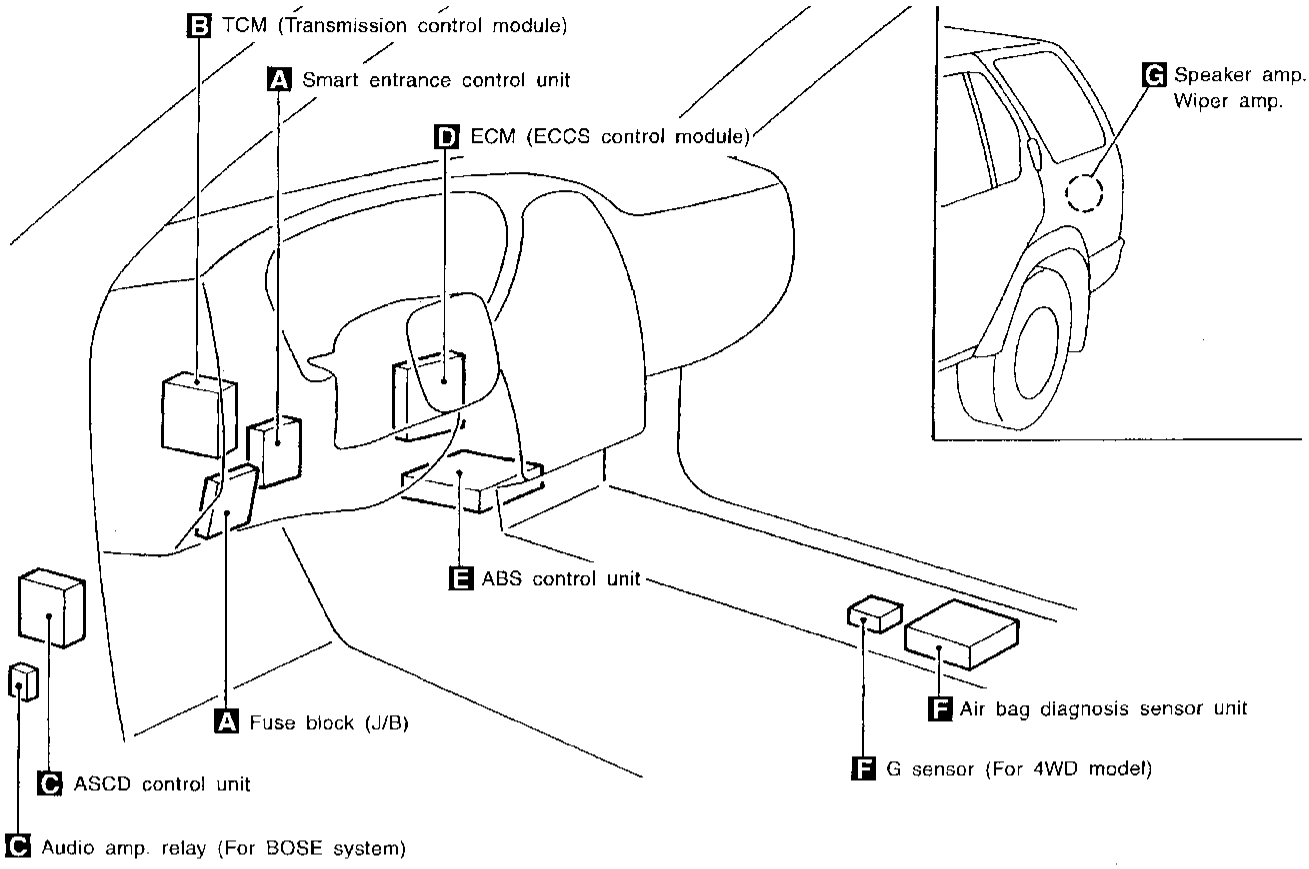


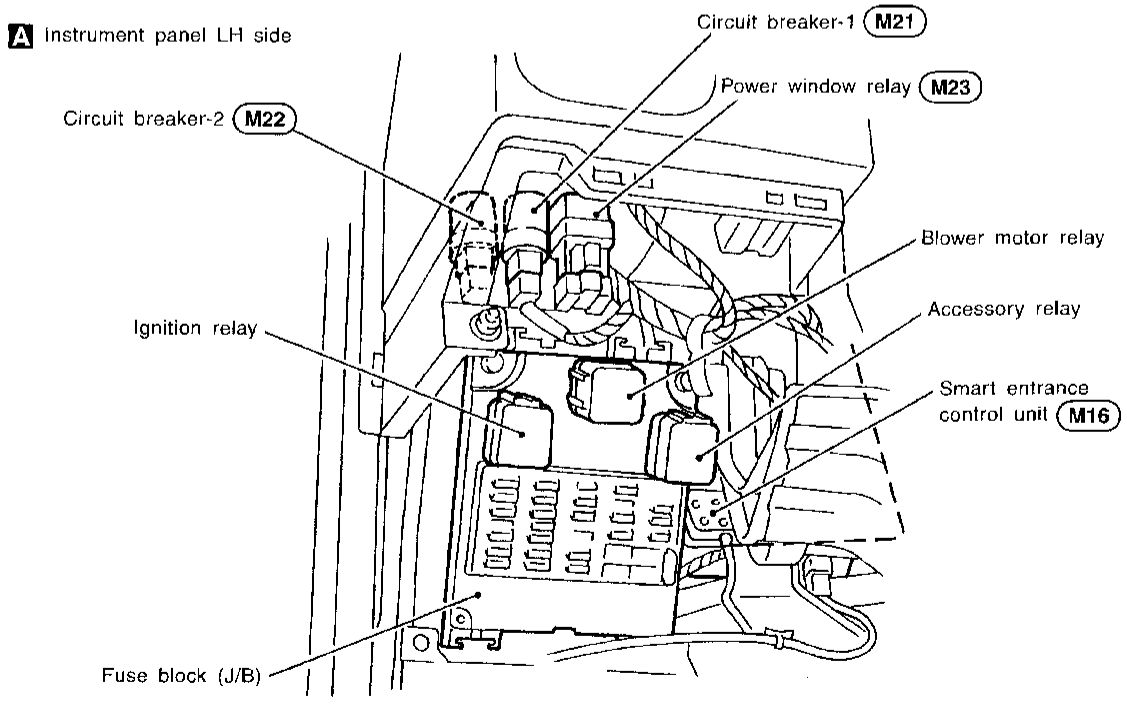


MEL390I

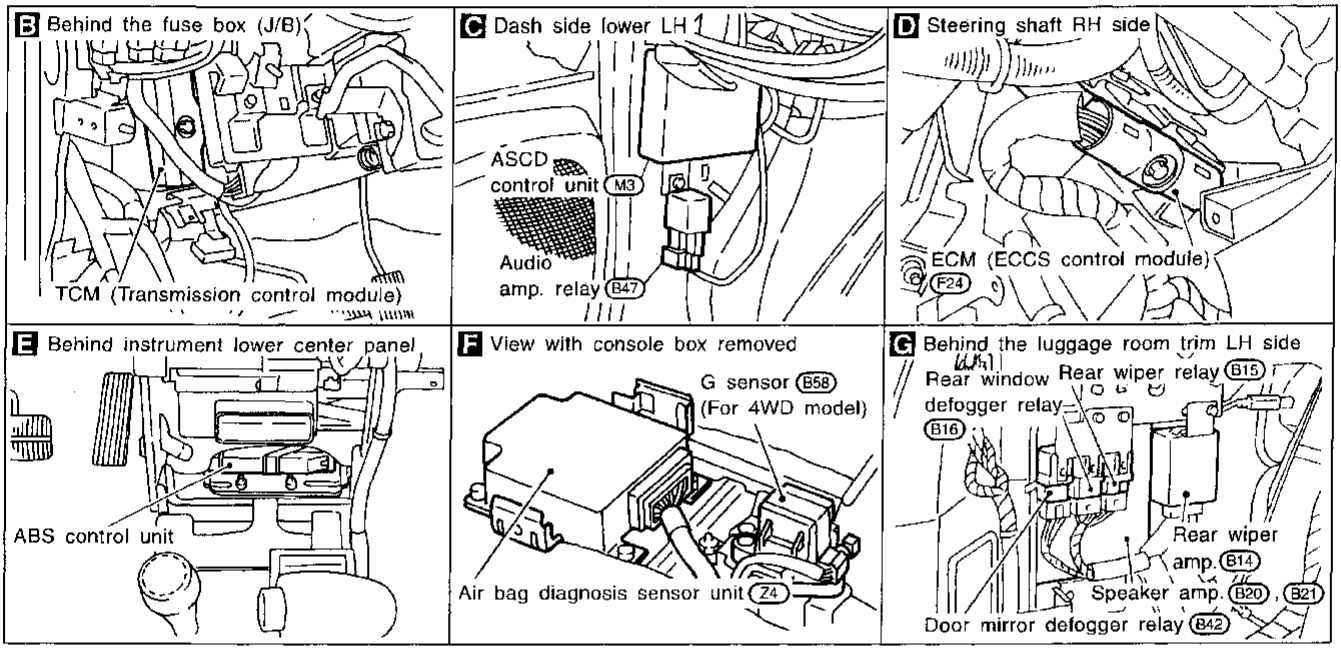
Passenger Compartment

NAEL0130





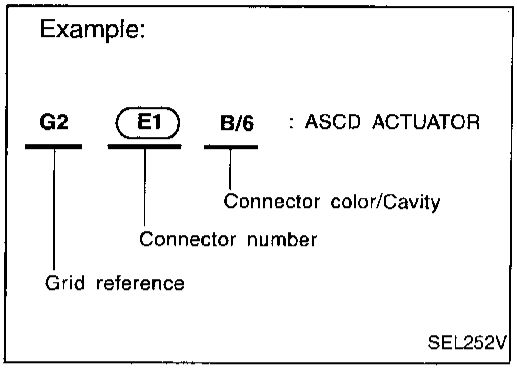
MEL781H


B Behind the fuse box (J/B)
TCM (Transmission control module)
C Dash side lower LH
ASCD control unit M3
Audio amp. relay B47
D Steering shaft RH side
ECM (ECCS control module) F24
E Behind instrument lower center panel
ABS control unit
F View with console box removed
G sensor B58
(For 4WD model)
Air bag diagnosis sensor unit Z4
G Behind the luggage room trim LH side
Rear window defogger relay B16
Rear wiper relay B15
Rear wiper amp. B14
Speaker amp. B20, B21
Door mirror defogger relay B42

MEL782H

How to Read Harness Layout

NAEL0131



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

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

TO USE THE GRID REFERENCE

NAEL0131S01

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

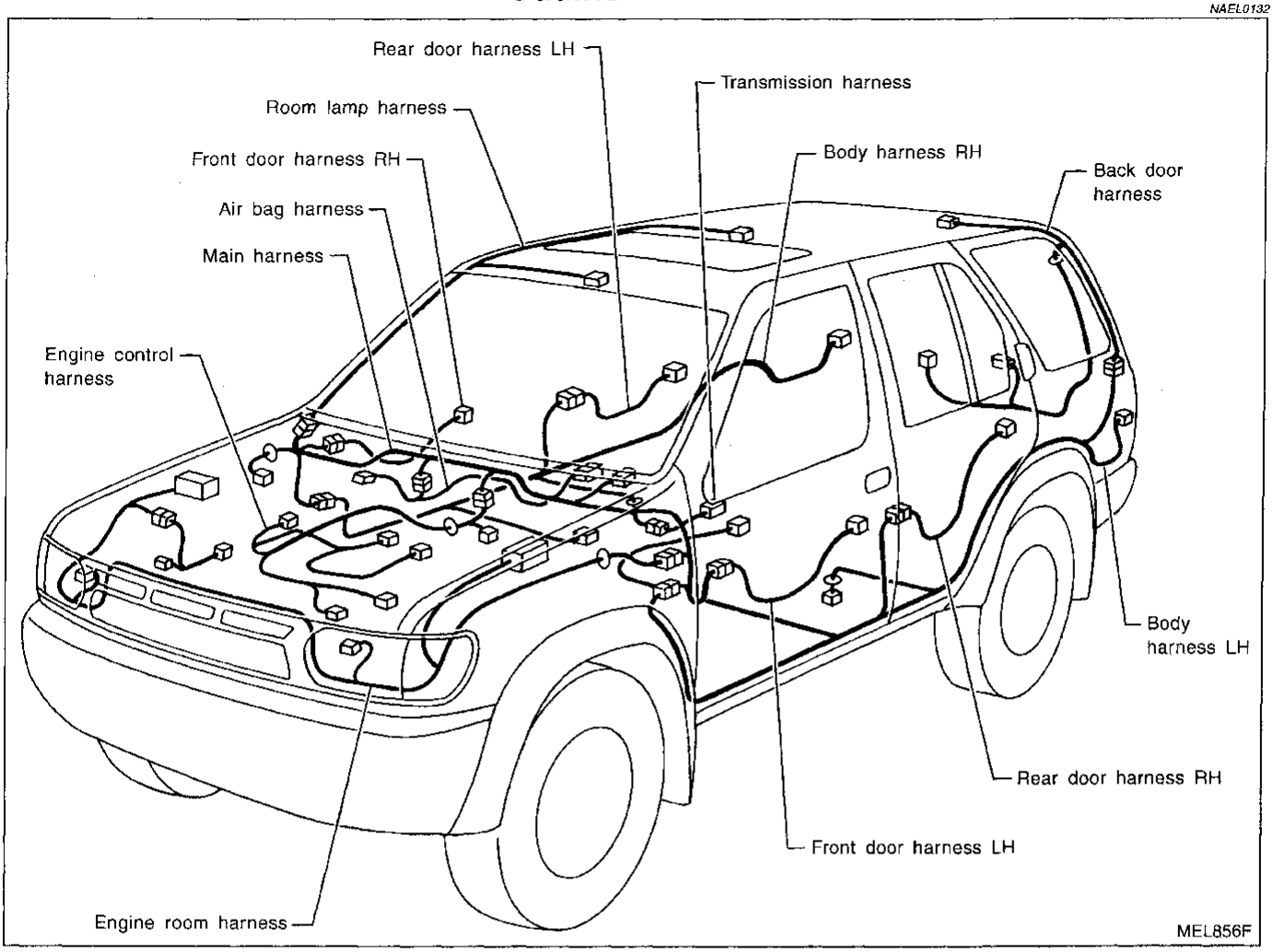
NAEL0131S02

Main symbols of connector (in Harness Layout) are indicated in the below.

Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
• Cavity: Less than 4 • Relay connector				
• Cavity: From 5 to 8				
• Cavity: More than 9	—	—		
• Ground terminal etc.	—			

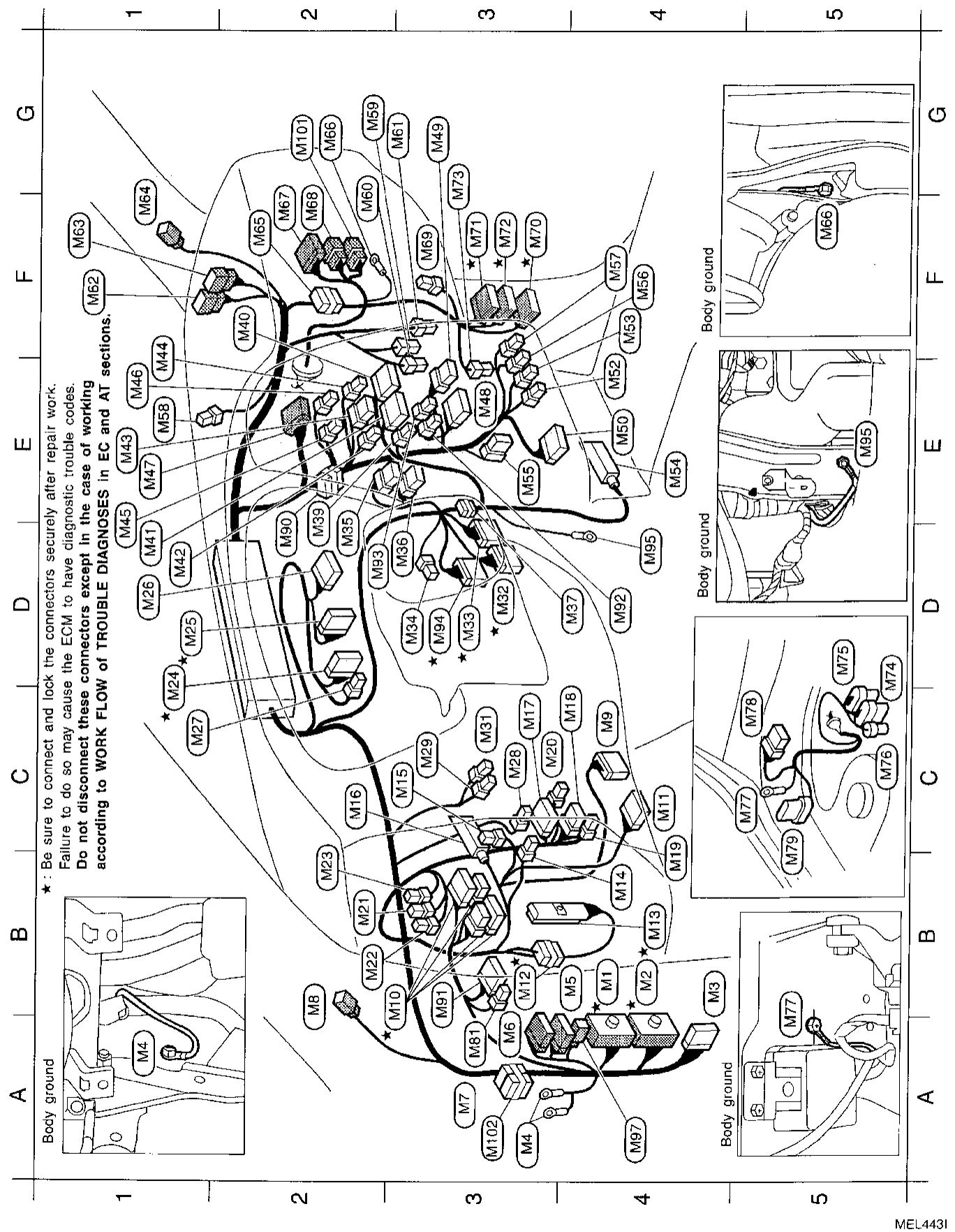
Outline

NAEL0132



Main Harness

NAEL0133



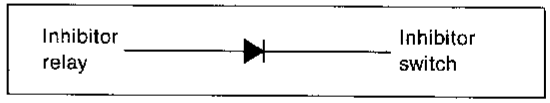
MEL443I

B4★	M1	SMJ	:	To E1
B4★	M2	SMJ	:	To B1
B4	M3	B/20	:	ASCD control unit
A3	M4	—	:	Body ground
B4	M5	W/16	:	To D3
A3	M6	W/10	:	To D4
A3	M7	W/2	:	Diode
B2	M8	BR/2	:	Tweeter LH
C4	M9	GY/16	:	Data link connector for GST
B3★	M10	SMJ	:	Fuse block (J/B)
C4	M11	GY/14	:	Data link connector for CONSULT
B3★	M12	SB/6	:	Diode
B4★	M13	SMJ	:	TCM (Transmission control module)
B4	M14	L/2	:	ASCD clutch switch
C3	M15	B/3	:	Combination flasher unit
C2	M16	W/36	:	Smart entrance control unit
C3	M17	GY/12	:	Door mirror remote control switch
C4	M18	W/6	:	ASCD main switch
C4	M19	W/3	:	Illumination control switch
C3	M20	W/4	:	Security indicator lamp (With theft warning system)
B2	M21	W/2	:	Circuit breaker-1
B2	M22	W/2	:	Circuit breaker-2 (With power seat)
B2	M23	L/4	:	Power window relay
D1★	M24	W/16	:	Combination meter
D1★	M25	W/14	:	Combination meter
D1	M26	BR/16	:	Combination meter
C1	M27	W/3	:	Warning chime
C3	M28	L/2	:	Clutch interlock switch (For M/T model)
C3	M29	L/2	:	ASCD brake switch
C3	M31	B/2	:	Stop lamp switch
D3★	M32	W/24	:	To F23
D3★	M33	GY/16	:	To F22
D3	M34	W/2	:	In-vehicle sensor (With auto A/C)
D2	M35	W/8	:	Hazard switch
D3	M36	W/6	:	Rear window defogger switch
D4	M37	GY/6	:	Joint connector
E2	M39	BR/4	:	A/C mode switch } (For auto A/C)
F2	M40	B/12	:	A/C auto amp. } (For auto A/C)
D1	M41	B/16	:	A/C auto amp. (For auto A/C)
D1	M42	W/4	:	Recirculation switch
E1	M43	W/6	:	Fan switch
E1	M44	W/3	:	A/C switch
E1	M45	W/3	:	A/C switch illumination
E1	M46	BR/4	:	PTC
E1	M47	W/12	:	To Z1
E3	M48	W/10	:	Audio
G3	M49	W/6	:	Audio
E4	M50	W/12	:	Rear wiper switch
E4	M52	L/4	:	Heated seat switch LH
F4	M53	W/4	:	Heated seat switch RH
E4	M54	SMJ	:	ABS control unit
E3	M55	B/6	:	Air mix door motor
F4	M56	B/2	:	Cigarette lighter socket
F4	M57	W/2	:	Cigarette lighter illumination
E1	M58	B/2	:	Sunload sensor
G2	M59	W/4	:	Intake door motor
F2	M60	W/4	:	Fan control amp. (For auto A/C)
G3	M61	BR/4	:	Fan resistor
F1	M62	W/6	:	To R1
F1	M63	W/6	:	To R2
F1	M64	BR/2	:	Tweeter RH
F2	M65	W/2	:	Diode
G2	M66	—	:	Body ground
F2	M67	W/12	:	To D33
F2	M68	W/6	:	To D34
F3	M69	W/3	:	Power antenna
F3★	M70	W/20	:	To B50
F3★	M71	W/24	:	To B51
F3★	M72	W/16	:	To B52
G3	M73	W/2	:	Blower motor
D5	M74	B/8	:	ABS relay unit
D5	M75	GY/8	:	ABS actuator
C5	M76	B/2	:	ABS relay unit
C5	M77	—	:	Body ground
C5	M78	W/6	:	Front wiper motor
C5	M79	B/8	:	Front wiper amp.
A3	M81	B/2	:	Fuse block (J/B)
D2	M90	W/2	:	Diode
B3	M91	W/12	:	Fuse block (J/B)
D4	M92	B/2	:	CD player
D2	M93	W/4	:	CD player
D3★	M94	W/18	:	To F27
D4	M95	—	:	Body ground (For ABS)
A4	M97	BR/4	:	To D11
G2	M101	BR/6	:	To D45
A3	M102	W/2	:	Diode

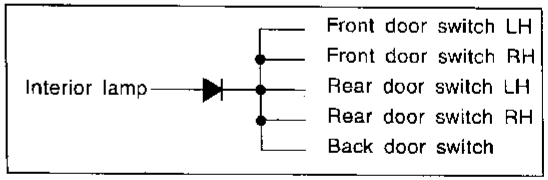
★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.

Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

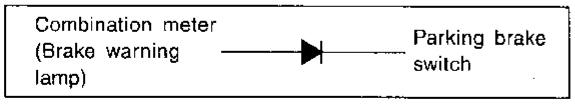
Diode M102



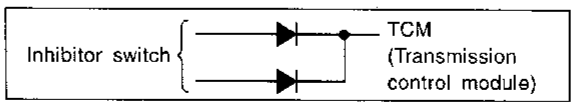
Diode M65



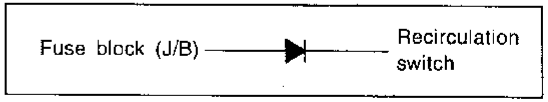
Diode M7



Diode M12



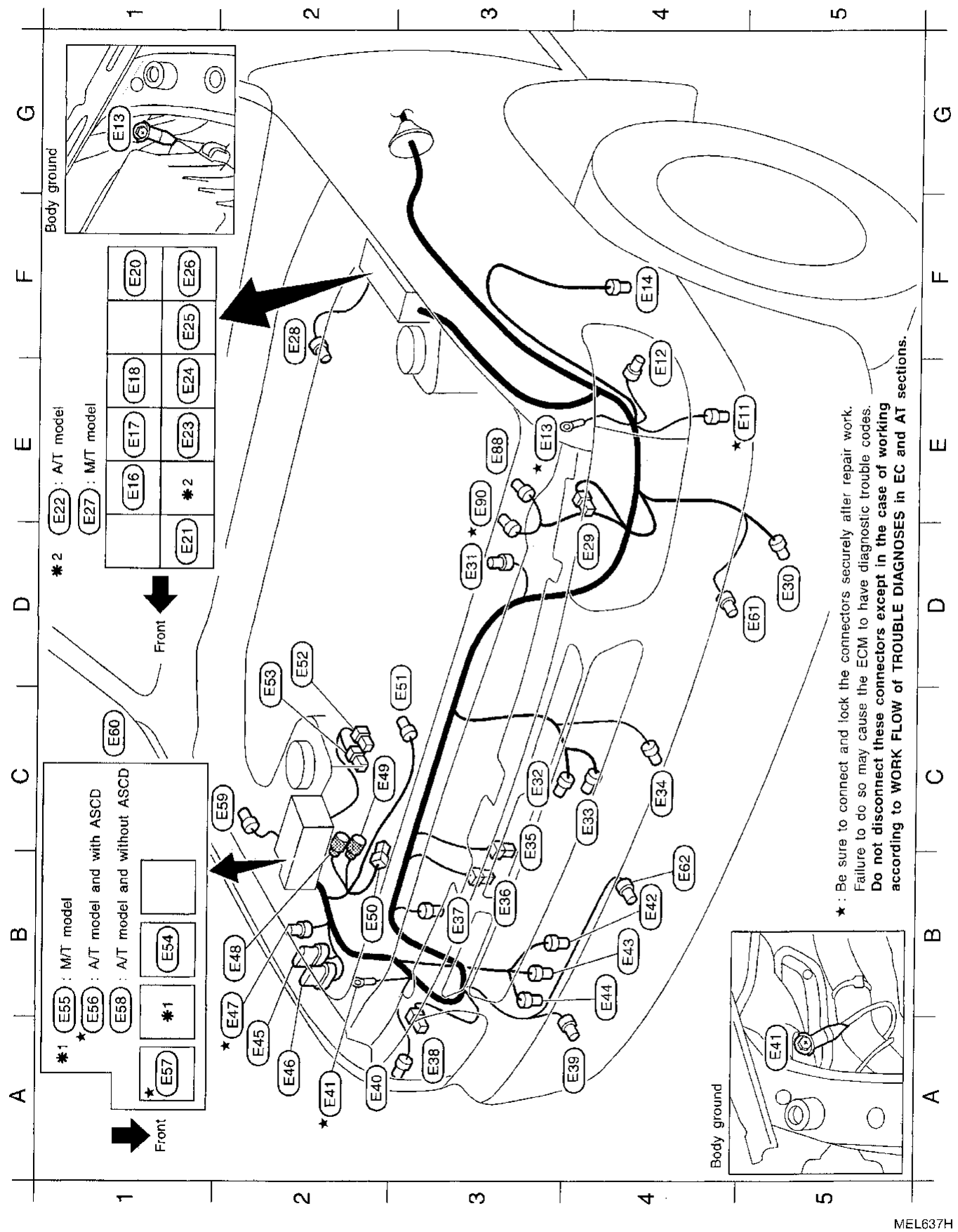
Diode M90



MEL636H

Engine Room Harness

NAEL0134



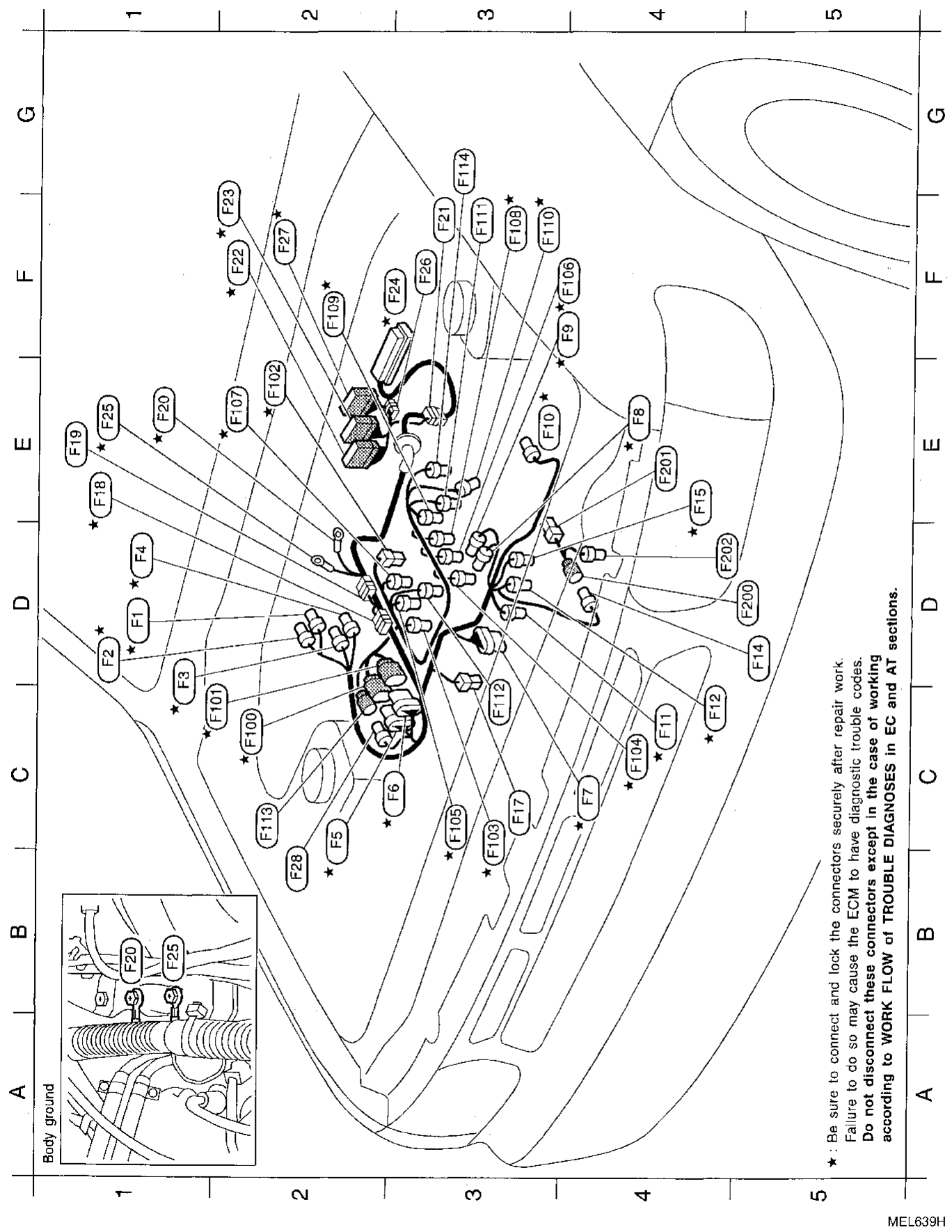
★: Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

★	E1	SMJ	: To M1				
	E2	B/2	: Fuse block (J/B)				
	E3	W/16	: Fuse block (J/B)				
	E4	W/4	: Fuse block (J/B)				
	E5	W/2	: Key switch				
★	E6	W/6	: Ignition switch				
	E7	BR/4	: Combination switch (Lighting switch)				
	E8	BR/8	: Combination switch (Lighting & turn signal switch)				
	E9	GY/8	: Combination switch (Front wiper switch)				
E4 ★	E11	GY/2	: Intake air temperature sensor				
E4	E12	GY/2	: Parking lamp LH				
E3 ★	E13	—	: Body ground				
F4	E14	BR/2	: Front wheel sensor LH				
E1	E16	L/4	: Front fog lamp relay	(Relay box-1)			
E1	E17	BR/6	: Multi-remote control relay				
E1	E18	BR/6	: Theft warning lamp relay				
F1	E20	B/5	: Theft warning relay				
D1	E21	L/4	: Power socket relay				
E1	E22	BR/6	: ASCD hold relay (With A/T)				
E1	E23	BR/6	: Theft warning horn relay				
E1	E24	B/5	: ATP relay				
F1	E25	W/3	: Horn relay				
F1	E26	L/4	: A/C relay				
E1	E27	L/4	: ASCD hold relay (With M/T)				
F2	E28	GY/2	: Brake fluid level switch				
E4	E28	B/3	: Headlamp LH				
D5	E30	GY/2	: Front turn signal lamp LH				
D3	E31	GY/2	: Hood switch				
C3	E32	B/2	: Ambient sensor (With auto A/C)				
C4	E33	B/2	: Ambient air temperature sensor (For thermometer)				
C4	E34	GY/2	: Ambient air temperature switch				
C3	E35	B/1	: Horn (High)				
B3	E36	B/1	: Horn (Low)				
B3	E37	B/2	: Dual-pressure switch				
A3	E38	B/3	: Headlamp RH				
A4	E39	GY/2	: Front turn signal lamp RH				
A2	E40	GY/2	: Parking lamp RH				
A2 ★	E41	—	: Body ground				
B4	E42	BR/2	: Washer level switch				
B4	E43	GY/2	: Rear washer motor				
B4	E44	GY/2	: Front washer motor				
B2	E45	GY/8	: Daytime light control unit				
A2	E46	GY/6	: Daytime light control unit				
B1 ★	E47	GY/2	: Dropping resistor				
B1	E48	GY/4	: To E102				
C2	E49	GY/1	: To E104				
B2	E50	B/1	: Theft warning horn				
C3	E51	GY/2	: Front wheel sensor RH				
D2	E52	B/1	: Battery				
C2	E53	B/1	: Battery				
B1	E54	L/4	: Fuel pump relay				
B1	E55	L/4	: Clutch interlock relay (With M/T)				
B1 ★	E56	GY/6	: Park/Neutral position relay (With A/T and ASCD)	(Relay box-2)			
A1 ★	E57	BR/6	: ECCS relay				
B1 ★	E58	L/4	: Inhibitor relay (With A/T and without ASCD)				
C2	E59	GY/4	: ASCD pump				
C1	E60	—	: Fuse and fusible link box				
D5	E61	BR/2	: Front fog lamp LH				
B4	E62	BR/2	: Front fog lamp RH				
	E63	W/3	: Front fog lamp switch				
E3	E88	GY/3	: Absolute pressure sensor				
E3 ★	E90	B/2	: MAP/BARO switch solenoid valve				

MEL638H

Engine Control Harness

NAEL0135



MEL639H

D1★ (F1) GY/4 : Rear heated oxygen sensor RH
D1★ (F2) GY/3 : Front heated oxygen sensor RH
D1★ (F3) GY/4 : Rear heated oxygen sensor LH
D1★ (F4) GY/3 : Front heated oxygen sensor LH
C2★ (F5) GY/8 : To (F100)
C3★ (F6) B/8 : To (F101)
C4★ (F7) GY/6 : Distributor
E4★ (F8) BR/3 : Throttle position sensor
F4★ (F9) GY/3 : Throttle position switch
E3★ (F10) BR/4 : Mass air flow sensor
C4★ (F11) GY/2 : Distributor
C4★ (F12) GY/2 : EGR temperature sensor
D5 (F14) GY/2 : To (F200)
E4★ (F15) G/2 : EGRC-solenoid valve
C3 (F17) B/1 : Thermal transmitter
E1★ (F18) GY/2 : Resistor
E1★ (F20) — : Engine ground
F3 (F21) L/12 : Joint connector
F2★ (F22) GY/16 : To (M33)
F2★ (F23) W/24 : To (M32)
F2★ (F24) SMJ : ECM (ECCS control module)
E1★ (F25) — : Engine ground
F3 (F26) W/2 : Diode
F2★ (F27) W/18 : To (M94)
C2★ (F28) B/4 : To (F113)
C2★ (F100) GY/8 : To (F5)
C2★ (F101) B/8 : To (F6)
E2★ (F102) B/2 : Knock sensor
C3★ (F103) B/2 : Injector No. 1
C4★ (F104) B/2 : Injector No. 2
C3★ (F105) B/2 : Injector No. 3
F4★ (F106) B/2 : Injector No. 4
E2★ (F107) B/2 : Injector No. 5
F3★ (F108) B/2 : Injector No. 6
F2★ (F109) BR/2 : IACV-AAC valve
F3★ (F110) GY/2 : Crankshaft position sensor (OBD)
F3 (F111) GY/2 : IACV-FICD solenoid valve
D3 (F112) GY/2 : Engine coolant temperature sensor
C2 (F113) B/4 : To (F28)
E3 (F114) L/2 : EVAP canister purge control solenoid valve
D5 (F200) GY/2 : To (F14)
E4 (F201) B/1 : Oil pressure switch
D4 (F202) B/1 : Compressor (Air conditioner)

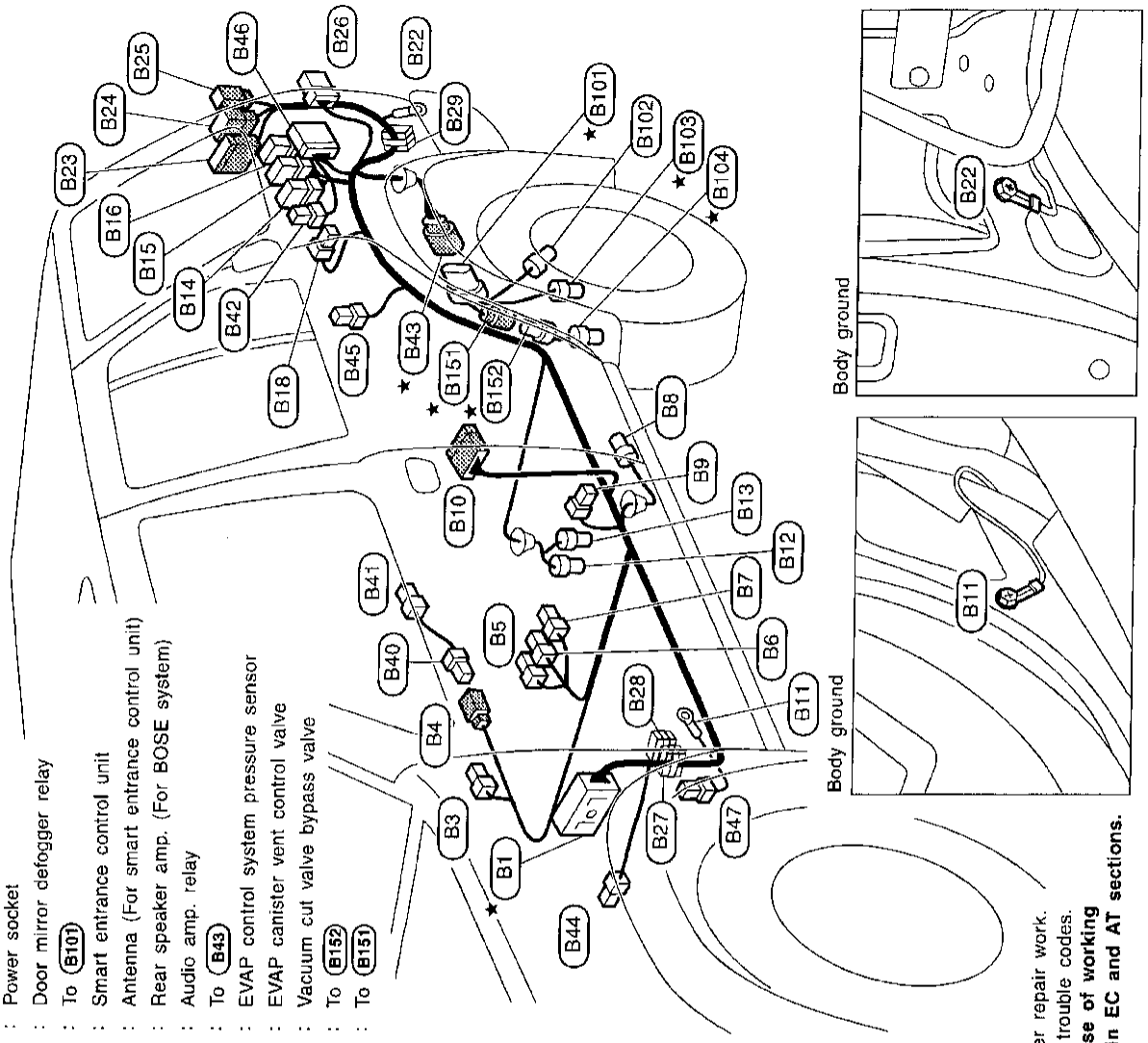
Diode (F26) — IACV-FICD solenoid valve → ECM (ECCS control module)

★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

MEL640H

Body Harness LH

NAEL0136

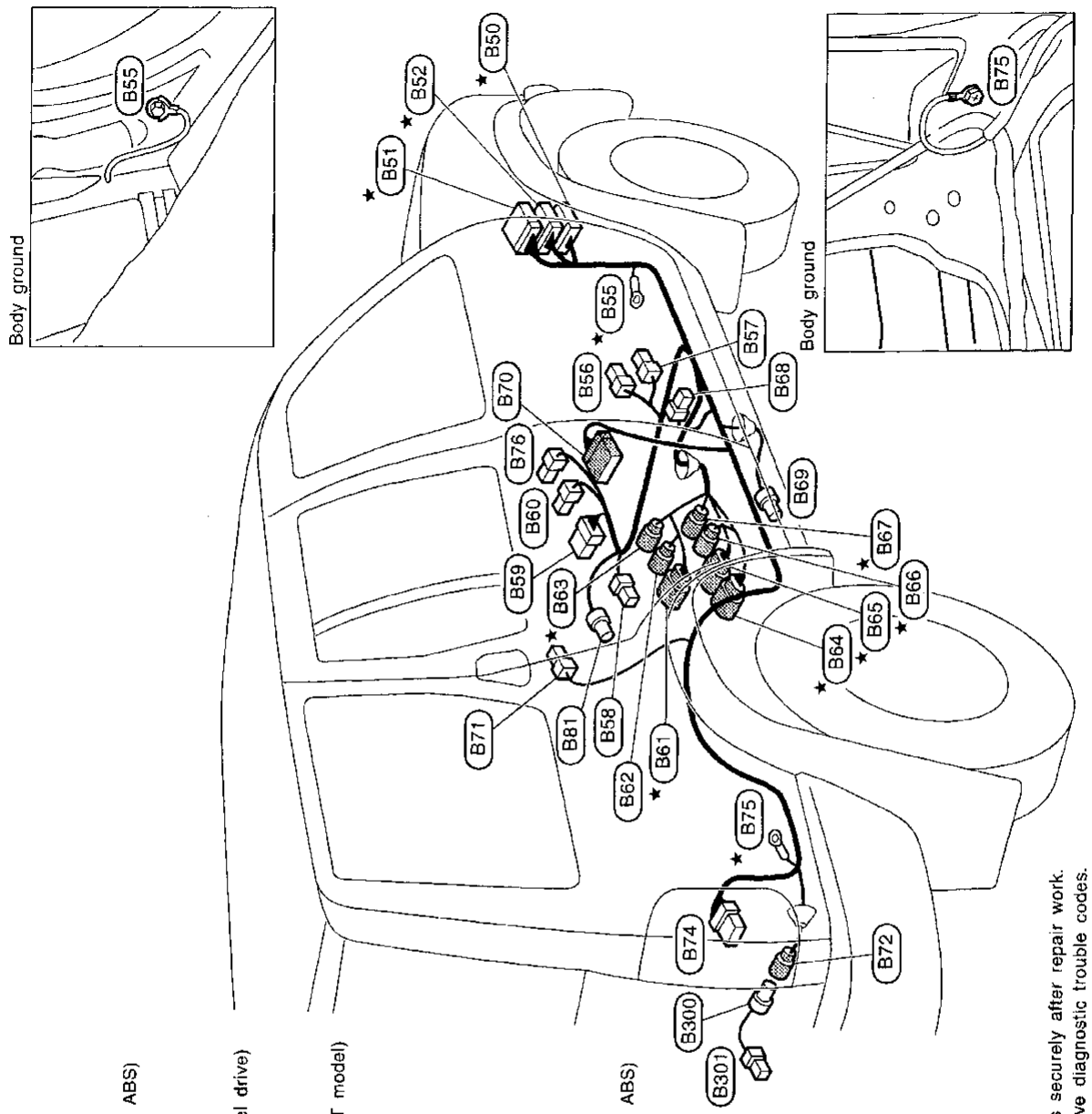


★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

MEL641H

Body Harness RH

NAEI0137



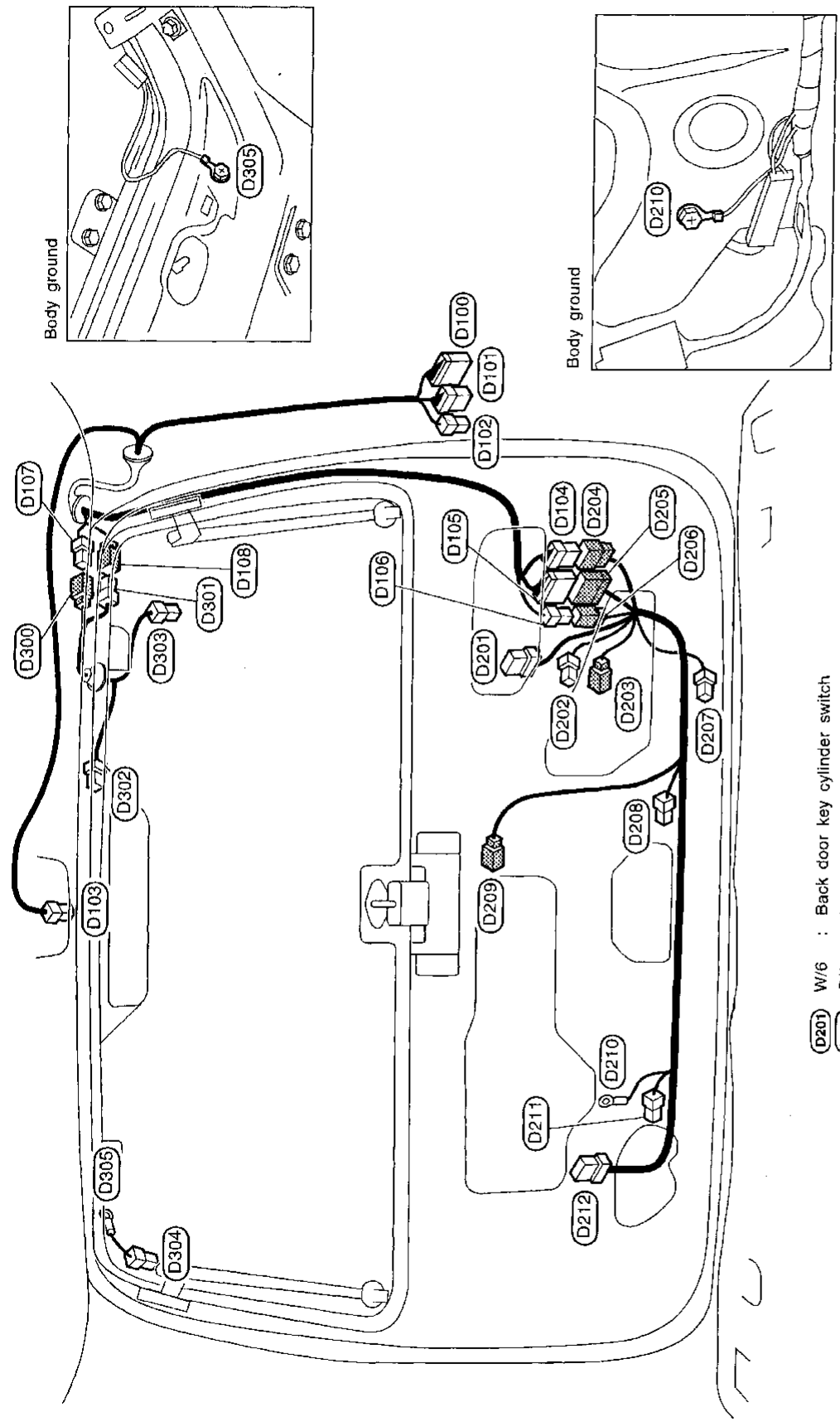
★	B50	W/20	To M70
★	B51	W/24	To M71
★	B52	W/16	To M72
★	B55	—	Body ground
	B56	W/3	Heated seat RH
	B57	W/2	Power seat RH
	B58	GY/2	G sensor (For 4WD model with ABS)
	B59	W/6	A/T device
	B60	W/2	Ashtray (With M/T)
★	B61	B/6	To B200 (With M/T)
	B62	B/4	To B201 (With A/T and 4-wheel drive)
★	B63	GY/2	Vehicle speed sensor
★	B64	BR/8	Terminal cord assembly
★	B65	GY/8	Inhibitor switch (A/T model)
★	B66	GY/2	Inhibitor switch (A/T model)
★	B67	GY/3	Revolution sensor (A/T model)
	B68	BR/1	Front door switch RH
	B69	GY/2	Rear wheel sensor RH
	B70	W/10	To D70
	B71	BR/1	Rear door switch RH
	B72	GY/2	To B300
	B74	W/6	Rear combination lamp RH
★	B75	—	Body ground
	B76	W/3	Ashtray (With A/T)
	B81	GY/2	G sensor (For 4WD model with ABS)
	B300	GY/2	To B72
	B301	B/3	Tire carrier switch

★: Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

MEL642H

Back Door Harness

NAEL0138



D300 W/2 : To D107
D301 W/1 : To D108
D302 W/3 : High-mounted stop lamp
D303 B/1 : Rear window defogger
D304 B/1 : Rear window defogger
D305 — : Body ground

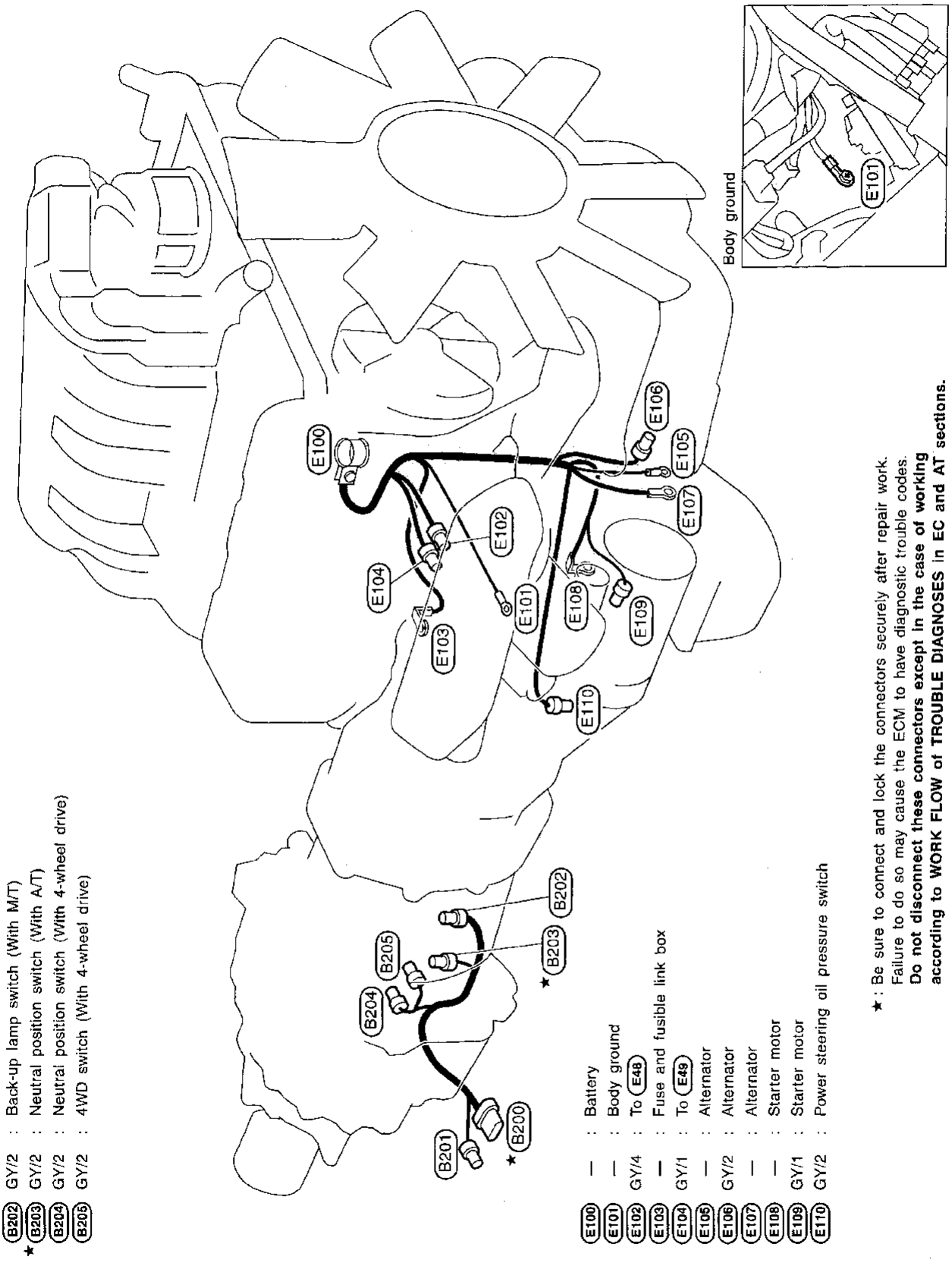
D201 W/6 : Back door key cylinder switch
D202 B/2 : License plate lamp LH (Without spare tire carrier)
D203 BR/2 : License plate lamp (With spare tire carrier)
D204 W/8 : To D104
D205 W/12 : To D105
D206 W/4 : To D106
D207 W/4 : Back door lock actuator
D208 W/2 : Back door switch
D209 W/2 : Glass hatch switch
D210 — : Body ground
D211 B/2 : License plate lamp RH (Without spare tire carrier)
D212 W/8 : Rear wiper motor

D100 W/12 : To B23
D101 W/6 : To B24
D102 W/4 : To B25
D103 W/3 : Luggage room lamp
D104 W/8 : To D204
D105 W/12 : To D205
D106 W/4 : To D206
D107 W/2 : To D300
D108 W/1 : To D301

MEL830G

Engine and Transmission Harness

NAEL0139



★: Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

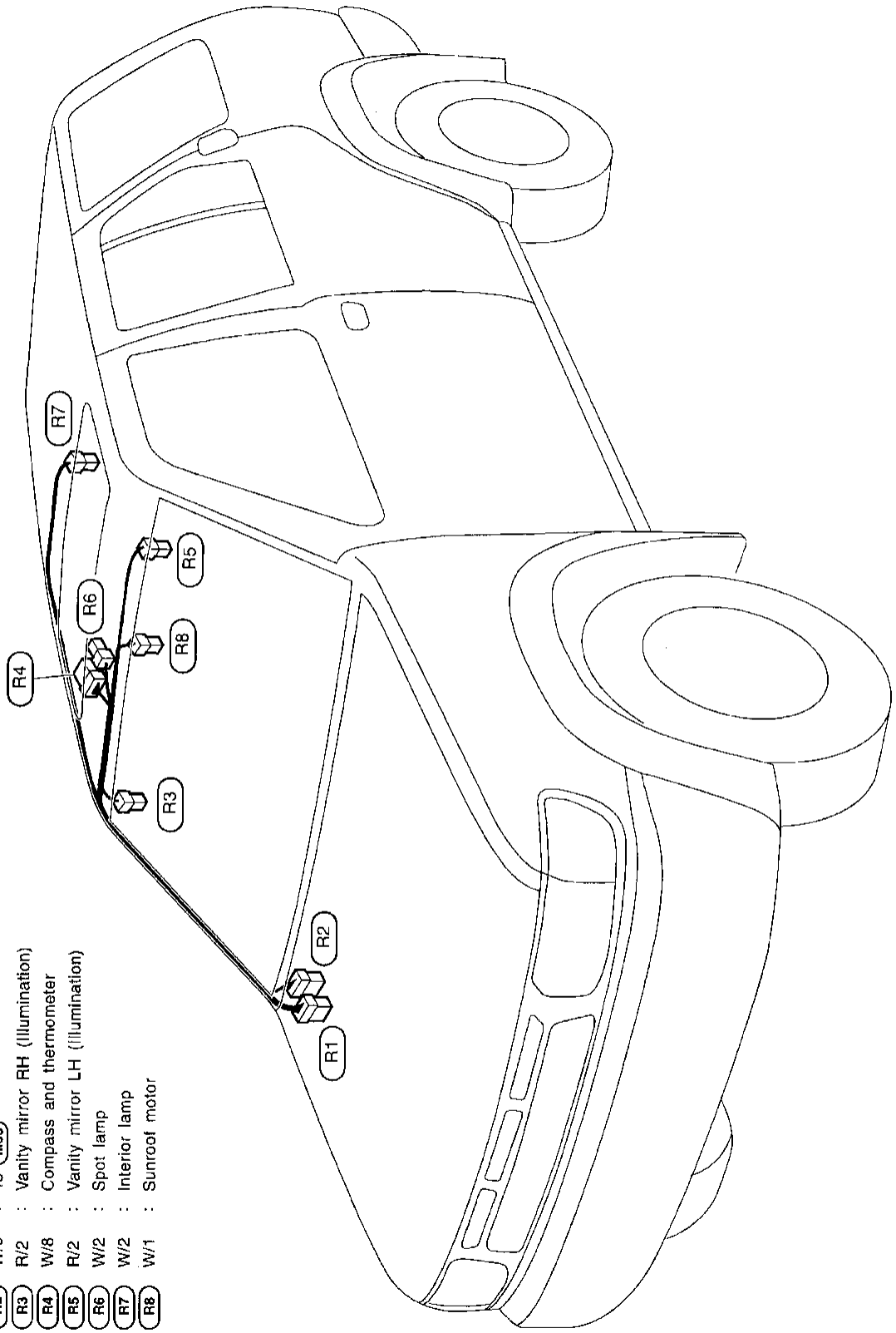
★ B200	B/6	: To B51 (With M/T)	
	B/4	: To B62 (With A/T)	
B201	GY/2	: Back-up lamp switch (With M/T)	
B202	GY/2	: Neutral position switch (With A/T)	
★ B203	GY/2	: Neutral position switch (With 4-wheel drive)	
B204	GY/2	: 4WD switch (With 4-wheel drive)	
B205			

E100	—	: Battery	
E101	—	: Body ground	
E102	GY/4	: To E48	
E103	—	: Fuse and fusible link box	
E104	GY/1	: To E49	
E105	—	: Alternator	
E106	GY/2	: Alternator	
E107	—	: Alternator	
E108	—	: Starter motor	
E109	GY/1	: Starter motor	
E110	GY/2	: Power steering oil pressure switch	

MEL643H

Room Lamp

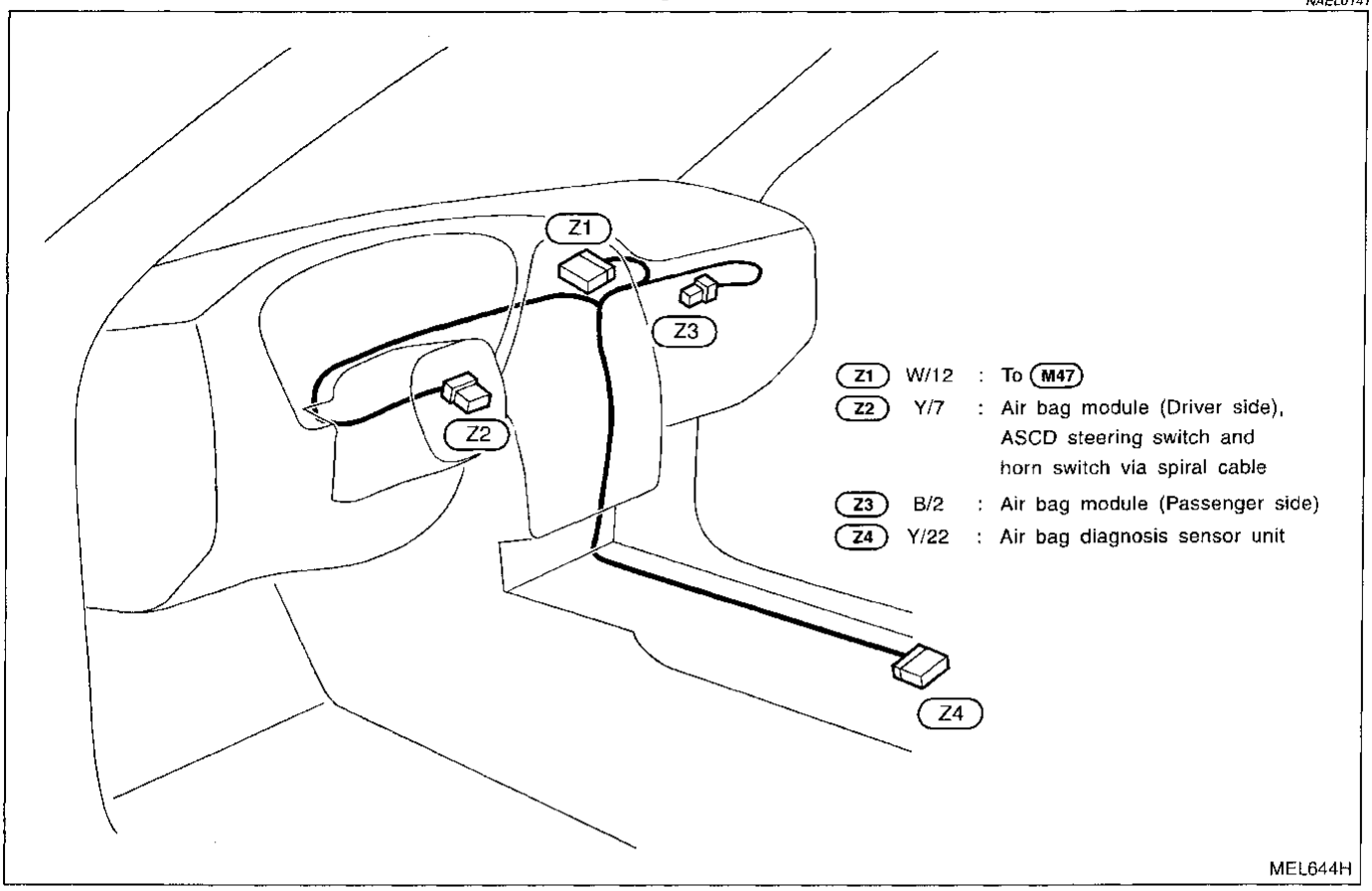
NAEL0140



MEL866FB

Air Bag Harness

NAEL0141

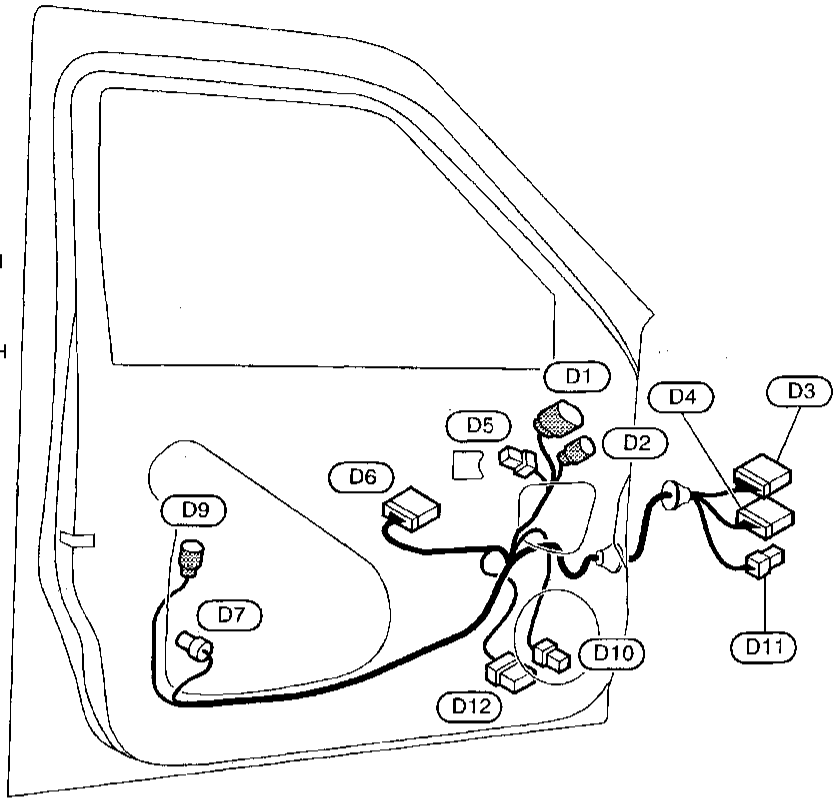


Front Door Harness

NAEL0142

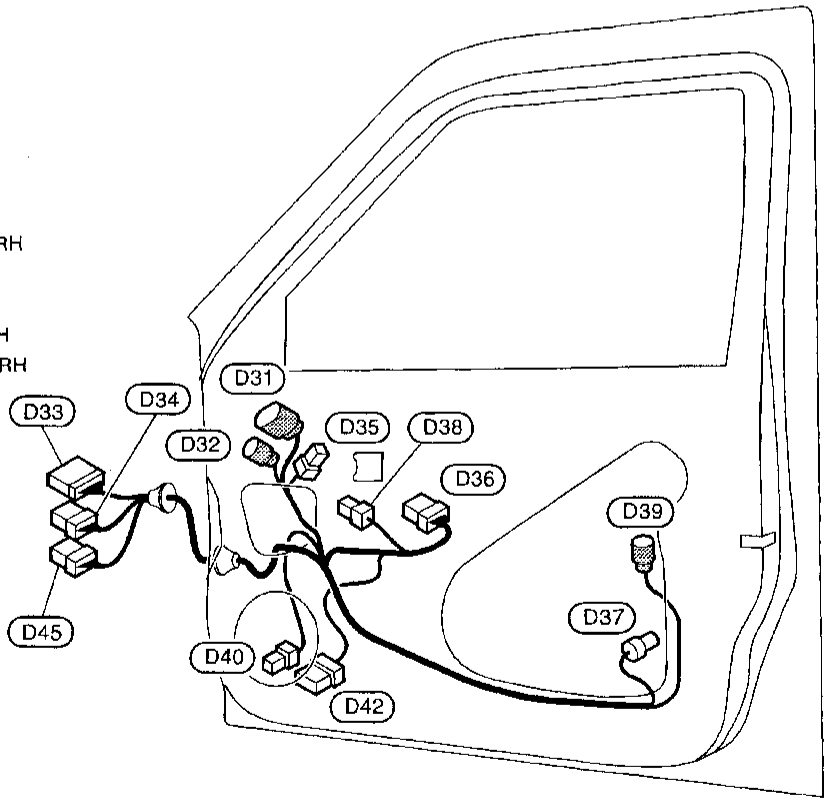
LH side

D1	GY/5	:	Door mirror defogger LH
D2	BR/3	:	Door mirror LH
D3	W/16	:	To M5
D4	W/10	:	To M6
D5	B/2	:	Front power window regulator LH
D6	W/16	:	Power window main switch
D7	GY/4	:	Front door lock actuator LH
D9	BR/3	:	Front door key cylinder switch LH
D10	BR/2	:	Front door speaker LH (Except for BOSE system)
D11	BR/4	:	To M97
D12	W/6	:	Front door speaker LH (For BOSE system)



RH side

D31	GY/5	:	Door mirror defogger RH
D32	BR/3	:	Door mirror RH
D33	W/12	:	To M67
D34	W/6	:	To M68
D35	B/2	:	Front power window regulator RH
D36	W/8	:	Front power window sub-switch
D37	GY/4	:	Front door lock actuator RH
D38	W/3	:	Door lock and unlock switch RH
D39	BR/3	:	Front door key cylinder switch RH
D40	BR/2	:	Front door speaker RH (Except for BOSE system)
D42	W/6	:	Front door speaker RH (For BOSE system)
D45	BR/6	:	To M101

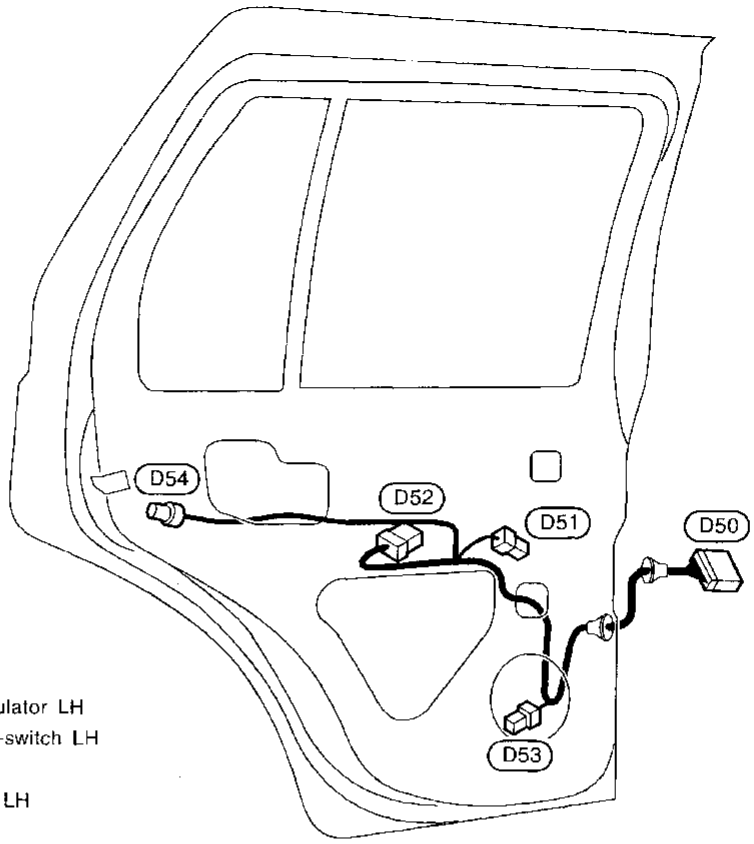


MEL645H

Rear Door Harness

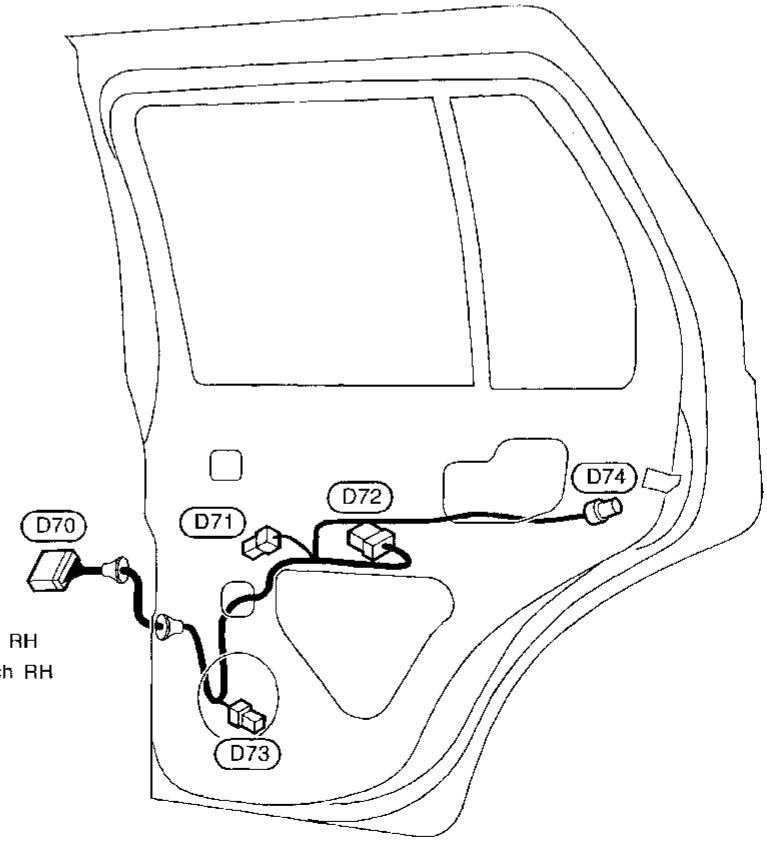
NAEL0143

LH side



D50	W/10	:	To B10
D51	B/2	:	Rear power window regulator LH
D52	W/8	:	Rear power window sub-switch LH
D53	BR/2	:	Rear door speaker LH
D54	GY/4	:	Rear door lock actuator LH

RH side



D70	W/10	:	To B70
D71	B/2	:	Rear power window regulator RH
D72	W/8	:	Rear power window sub-switch RH
D73	BR/2	:	Rear door speaker RH
D74	GY/4	:	Rear door lock actuator RH

MEL646H

BULB SPECIFICATIONS

Headlamp

NAEL0144S03

Item	Wattage (W)
High/Low (Semi-sealed beam)	65/45 (HB1)

Exterior Lamp

NAEL0144S01

Item		Wattage (W)
Front fog lamp		55
Front turn signal lamp		27
Parking lamp		7
Rear combination lamp	Turn signal lamp	27
	Stop/Tail lamp	27/8
Back-up lamp		27
License plate lamp		10, 5 (With spare tire carrier)
High-mounted stop lamp		5

Interior Lamp

NAEL0144S02

Item	Wattage (W)
Interior lamp	10
Spot lamp	8
Luggage room lamp	10

WIRING DIAGRAM CODES (CELL CODES)

Use the chart below to find out what each wiring diagram code stands for.
Refer to the wiring diagram code in the alphabetical index to find the location (page number) of each wiring diagram.

Code	Section	Wiring Diagram Name
1STSIG	AT	A/T 1ST Signal
2NDSIG	AT	A/T 2ND Signal
3RDSIG	AT	A/T 3RD Signal
4THSIG	AT	A/T 4TH Signal
A/C, A	HA	Auto Air Conditioner
A/C, M	HA	Manual Air Conditioner
AAC/V	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
AP/SEN	EC	Absolute Pressure Sensor
ASCD	EL	Automatic Speed Control Device
AT/C	EC	A/T Control
ATDIAG	EC	A/T Diagnosis Communication Line
AUDIO	EL	Audio
BA/FIS	AT	A/T Fluid Temperature Sensor and TCM Power Supply
BACK/L	EL	Back-up Lamp
BYPS/V	EC	Vacuum Cut Valve Bypass Valve
CANI/V	EC	EVAP Canister Purge Control Solenoid Valve
CHARGE	SC	Charging System
CHIME	EL	Warning Chime
CIGAR	EL	Cigarette Lighter
CKPS	EC	Crankshaft Position Sensor (OBD)
CMPS	EC	Camshaft Position Sensor
COMPAS	EL	Compass and Thermometer
D/LOCK	EL	Power Door Lock
DEF	EL	Rear Window Defogger
DTRL	EL	Headlamp — With Daytime Light System —
ECTS	EC	Engine Coolant Temperature Sensor
EGR/TS	EC	EGR Temperature Sensor
EGRC/V	EC	EGRC-solenoid Valve
EGRC1	EC	EGR Function
ENGSS	AT	Engine Speed Signal
F/FOG	EL	Front Fog Lamp
F/PUMP	EC	Fuel Pump Control
FICD	EC	IACV-FICD Solenoid Valve
FO2H-L	EC	Front Heated Oxygen Sensor Heater (Left Bank)
FO2H-R	EC	Front Heated Oxygen Sensor Heater (Right Bank)
FRO2LH	EC	Front Heated Oxygen Sensor (Front HO2S) (Left Bank)
FRO2RH	EC	Front Heated Oxygen Sensor (Front HO2S) (Right Bank)
FTS	AT	A/T Fluid Temperature Sensor
FUELLH	EC	Fuel Injection System Function (Left Bank)
FUELRH	EC	Fuel Injection System Function (Right Bank)
HEATER	HA	Heater System
H/LAMP	EL	Headlamp
HSEAT	EL	Heated Seat
HORN	EL	Horn
IATS	EC	Intake Air Temperature Sensor
IGN/SG	EC	Ignition Signal
ILL	EL	Illumination
INH/SW	AT	Inhibitor Switch
INJECT	EC	Injector
INT/L	EL	Interior, Spot, Vanity Mirror, and Luggage Room Lamps
KS	EC	Knock Sensor
LPSV	AT	Line Pressure Solenoid Valve
MAFS	EC	Mass Air Flow Sensor
MAIN	AT	Main Power Supply and Ground Circuit
MAIN	EC	Main Power Supply and Ground Circuit
METER	EL	Speedometer, Tachometer, Temp., Oil, and Fuel Gauges
MIL/DL	EC	MIL and Data Link Connectors
MIRROR	EL	Door Mirror
MULTI	EL	Multi-remote Control System
NONDTC	AT	Non-detectable Items
OVRCSV	AT	Overrun Clutch Solenoid Valve
P/ANT	EL	Power Antenna

WIRING DIAGRAM CODES (CELL CODES)

Code	Section	Wiring Diagram Name
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PNP/SW	EC	Park/Neutral Position Switch
POWER	EL	Power Supply Routing
PRE/SE	EC	EVAP Control System Pressure Sensor
PST/SW	EC	Power Steering Oil Pressure Switch
RO2H-L	EC	Rear Heated Oxygen Sensor Heater LH
RO2H-R	EC	Rear Heated Oxygen Sensor Heate RH
RRO2LH	EC	Rear Heated Oxygen Sensor LH
RRO2RH	EC	Rear Heated Oxygen Sensor RH
S/SIG	EC	Start Signal
SEAT	EL	Power Seat
SHIFT	AT	A/T Shift Lock System
SROOF	EL	Sunroof
SRS	RS	Supplemental Restraint System
SSV/A	AT	Shift Solenoid Valve A
SSV/B	AT	Shift Solenoid Valve B
START	SC	Starting System
STOP/L	EL	Stop lamp
SW/V	EC	MAP/BARO Switch Solenoid Valve
TAIL/L	EL	Parking, License and Tail Lamps
TCCSIG	AT	A/T TCC Signal (Lock up)
TCV	AT	Torque Converter Clutch Solenoid Valve
TFTS	EC	Tank Fuel Temperature Sensor
THEFT	EL	Theft Warning System
TLID	EL	Glass Hatch Opener
TP/SW	EC	Throttle Position Switch
TPS	AT	Throttle Position Sensor
TPS	EC	Throttle Position Sensor
TRNSMT	EL	Integrated HOMELINK® Transmitter
TURN	EL	Turn Signal and Hazard Warning Lamps
VENT/V	EC	EVAP Canister Vent Control Valve
VSS	EC	Vehicle Speed Sensor
VSSAT	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
VSSMTR	AT	Vehicle Speed Sensor MTR
WARN	EL	Warning Lamps
WINDOW	EL	Power Window
WIP/R	EL	Rear Wiper and Washer
WIPER	EL	Front Wiper and Washer