ELECTRICAL SYSTEM

SECTION EL

CONTENTS

CONTENTS (Cont'd)

CONTENTS (Cont'd)

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

NFEL0001

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER” used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS system composition which is available to NISSAN MODEL A33 is as follows (The composition varies according to optional equipment.):

- For a frontal collision
  The Supplemental Restraint System consists of driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.
- For a side collision
  The Supplemental Restraint System consists of front side air bag module (located in the outer side of front seat), satellite sensor, diagnosis sensor unit (one of components of air bags for a frontal collision), wiring harness, warning lamp (one of components of air bags for a frontal collision).

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 should 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. For removal of Spiral Cable and Air Bag Module, see the RS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses covered by yellow insulation tape either just before the harness connectors or for the complete harness are related to the SRS.**

Wiring Diagrams and Trouble Diagnosis

NFEL0002

When you read wiring diagrams, refer to the following:

- GI-11, “HOW TO READ WIRING DIAGRAMS”
- EL-9, “POWER SUPPLY ROUTING” for power distribution circuit

When you perform trouble diagnosis, refer to the following:

- GI-35, “HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES”
- GI-25, “HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT”

Check for any Service bulletins before servicing the vehicle.

Description

NFEL0003

HARNESS CONNECTOR (TAB-LOCKING TYPE)

NFEL0003S01

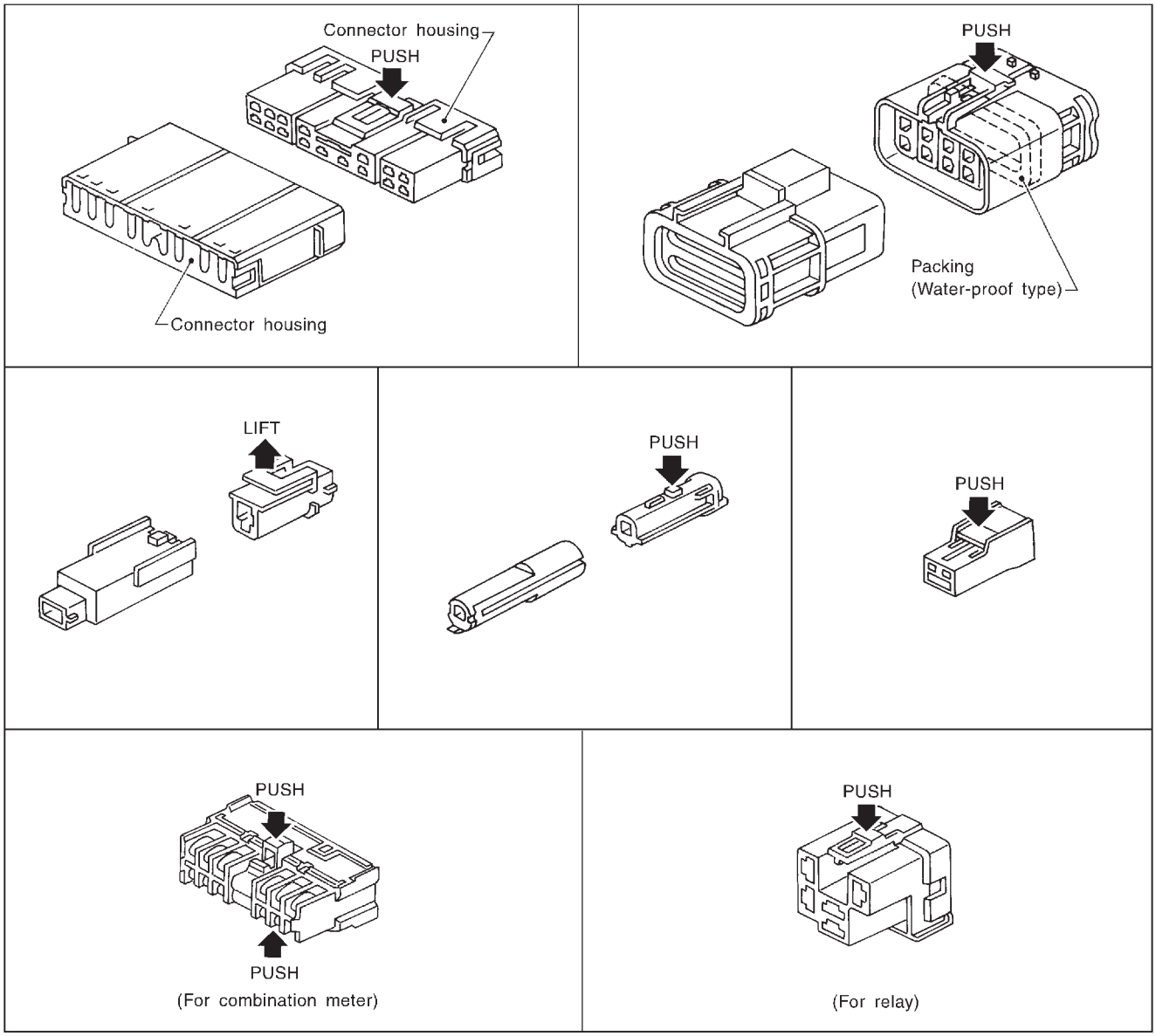
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

Refer to the next page for description of the slide-locking type connector.

CAUTION:

Do not pull the harness or wires when disconnecting the connector.

[Example]



SEL769DA

Description (Cont'd)

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

=NFEL0003S02

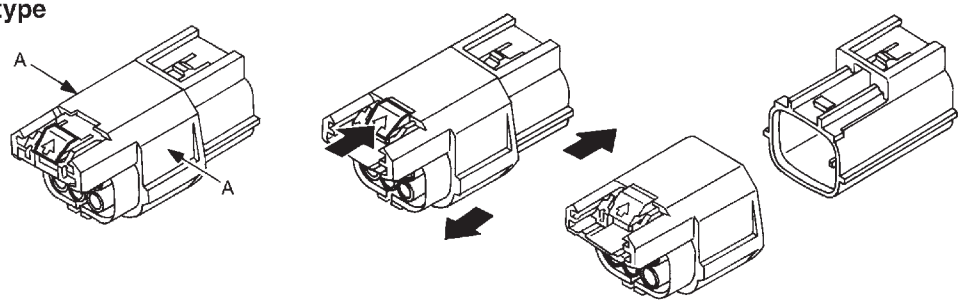
- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.
- The slide-locking type connectors are disconnected by pushing or pulling the slider. Refer to the illustration below.

CAUTION:

- **Do not pull the harness or wires when disconnecting the connector.**
- **Be careful not to damage the connector support bracket when disconnecting the connector.**

[Example]

Waterproof type

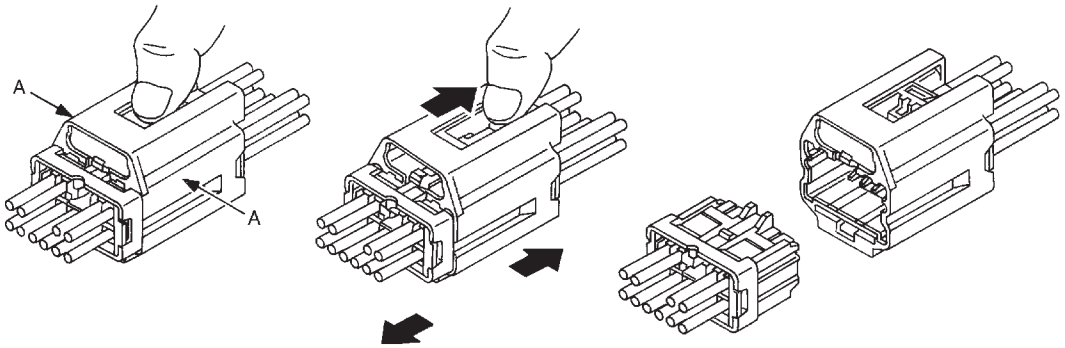


① Firmly grasp shell of connector housing at A.

② Push slider until connector pops or snaps apart.

③ Disconnect harness connector.

Non-waterproof type



① Firmly grasp shell of connector housing at A.

② Pull back on the slider while pulling apart male and famale halves of connector.

③ Disconnect harness connector.

SEL769V

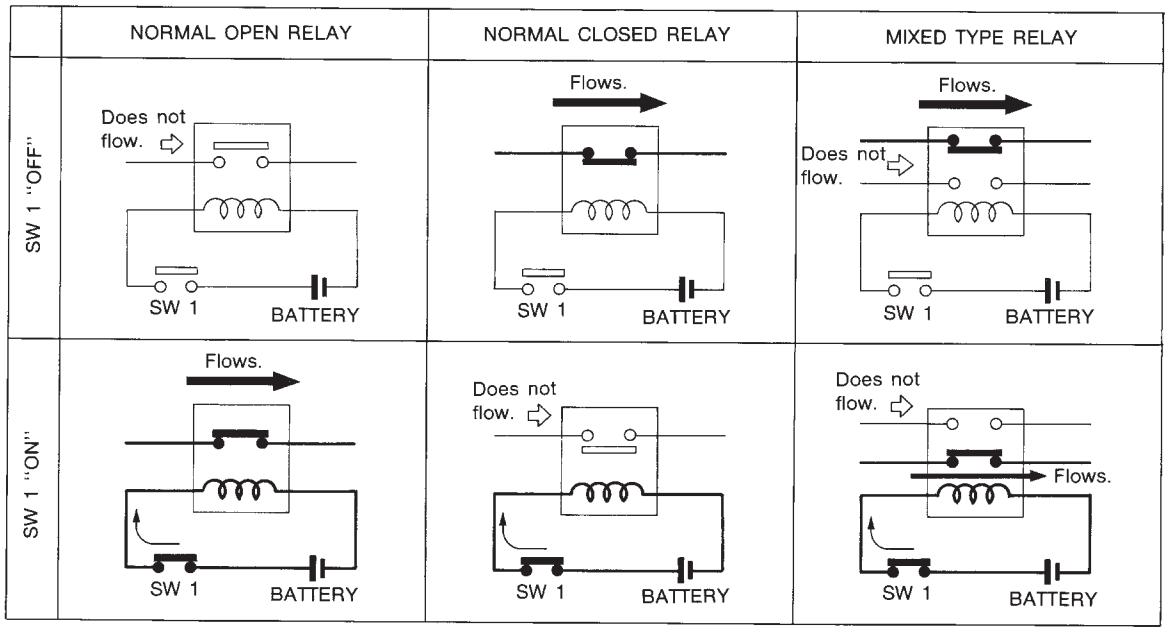
Description

NFEL0004

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

NFEL0004S01

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

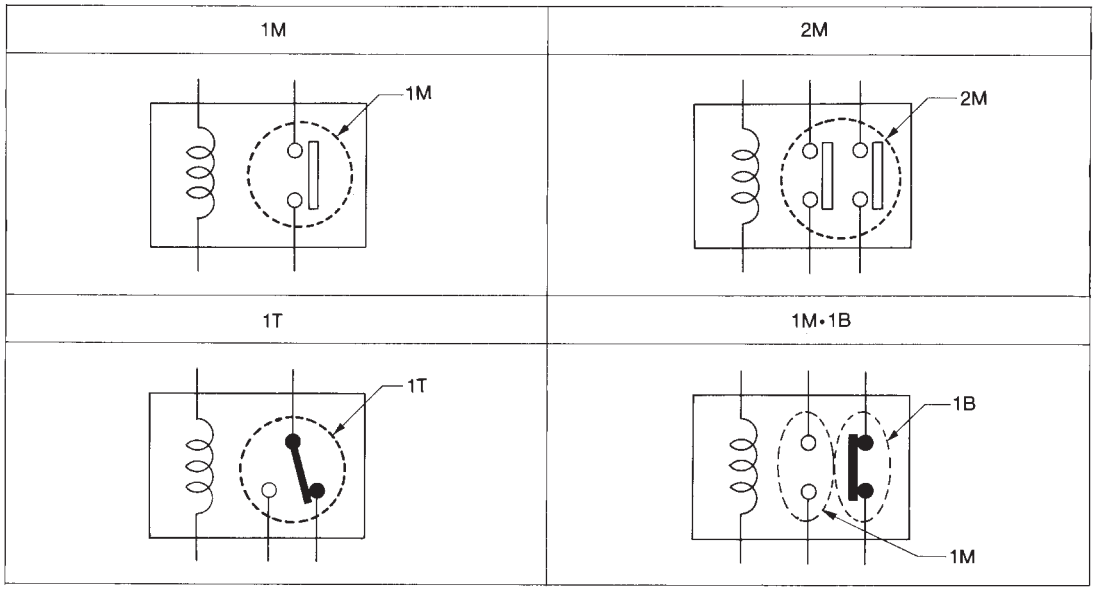


SEL881H

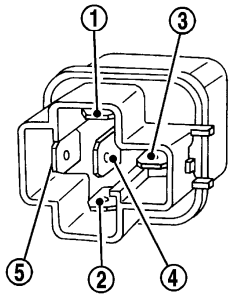
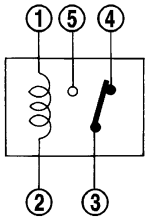
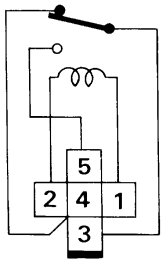
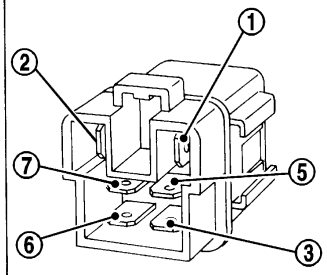
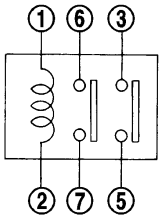
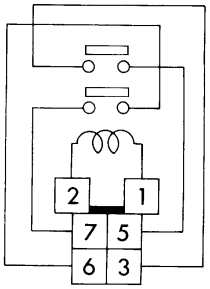
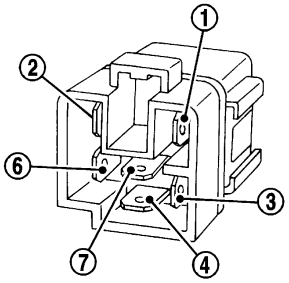
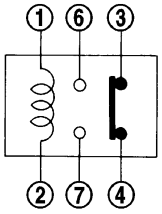
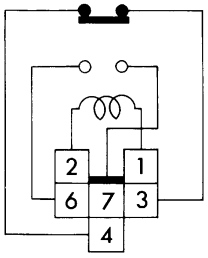
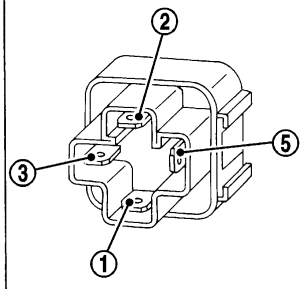
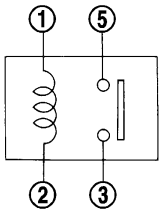
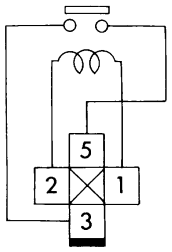
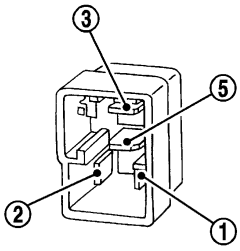
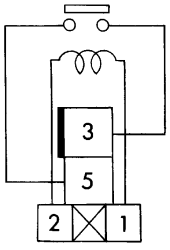
TYPE OF STANDARDIZED RELAYS

NFEL0004S02

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
				

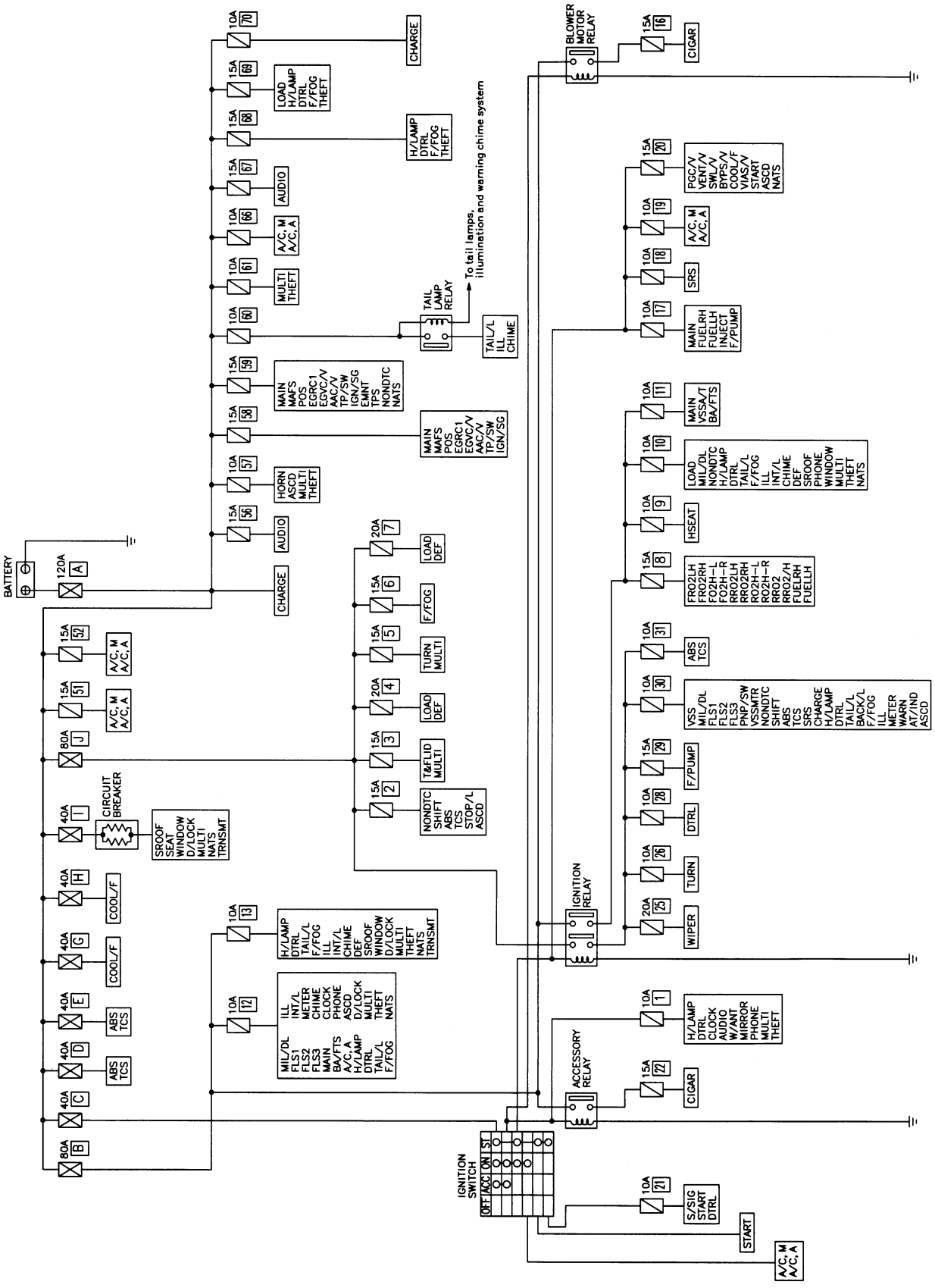
The arrangement of terminal numbers on the actual relays may differ from those shown above.

SEL188W

Schematic

NFEL0005

For detailed ground distribution information, refer to “GROUND DISTRIBUTION”, EL-18.



MEL275L

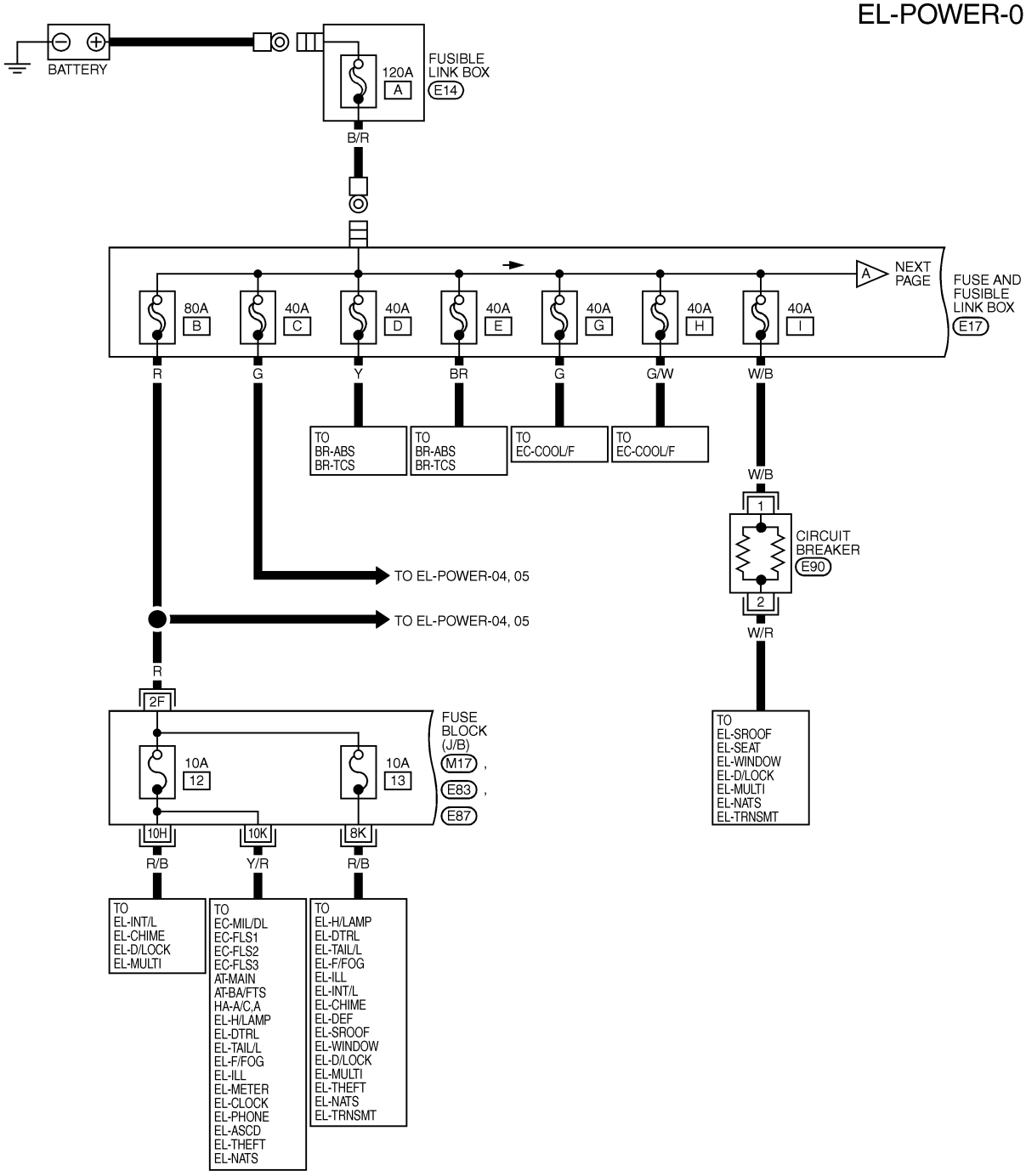
Wiring Diagram — POWER —

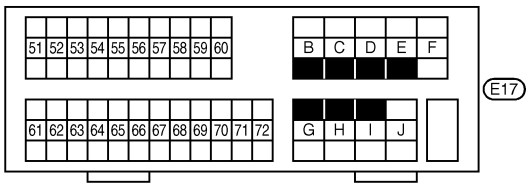
NFEL0006

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

NFEL0006S01

EL-POWER-01





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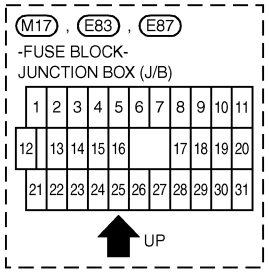
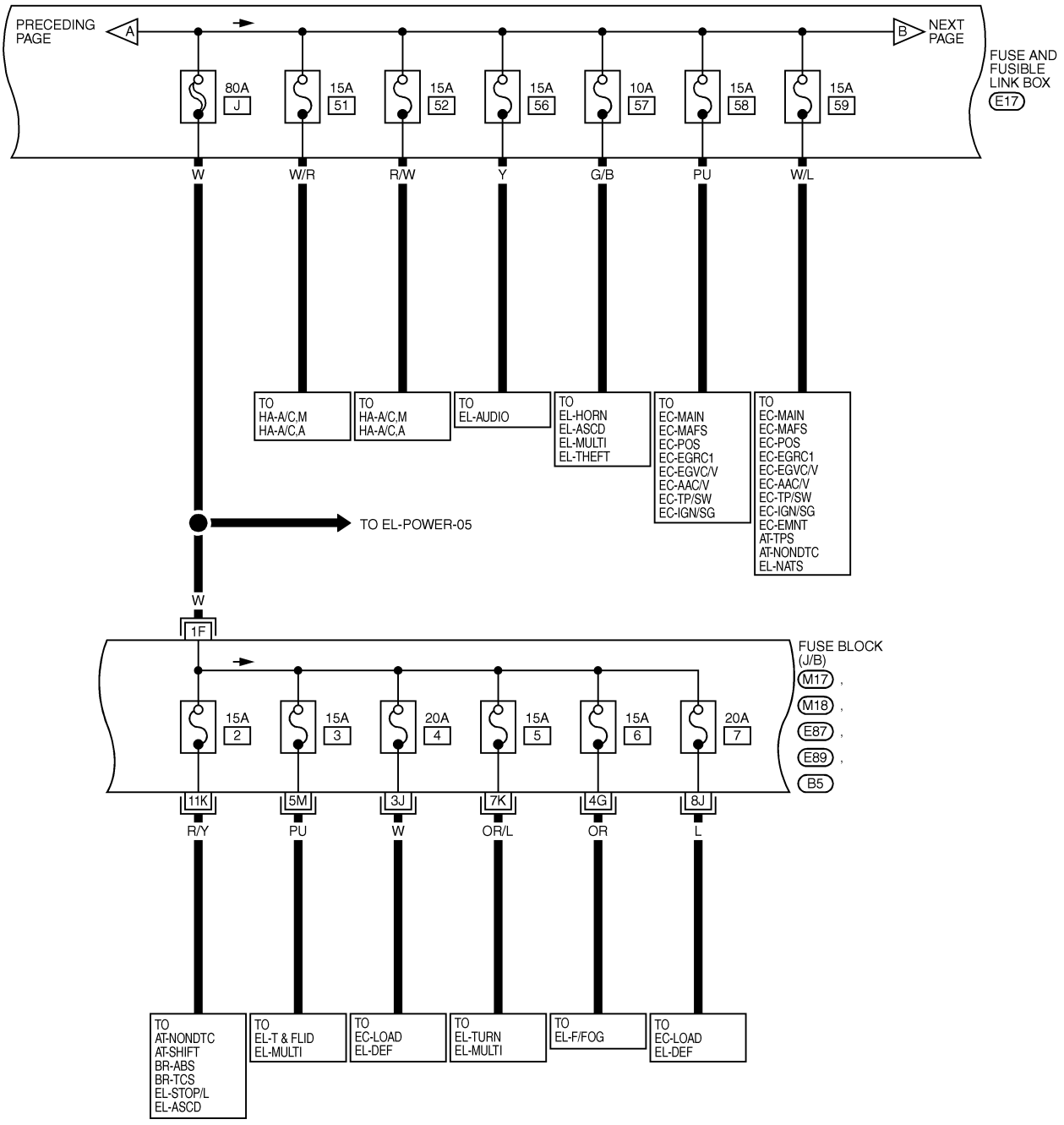
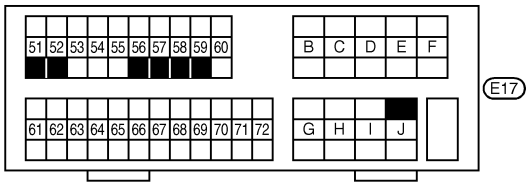
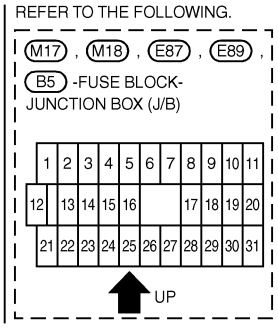


MEL276L

EL-POWER-02

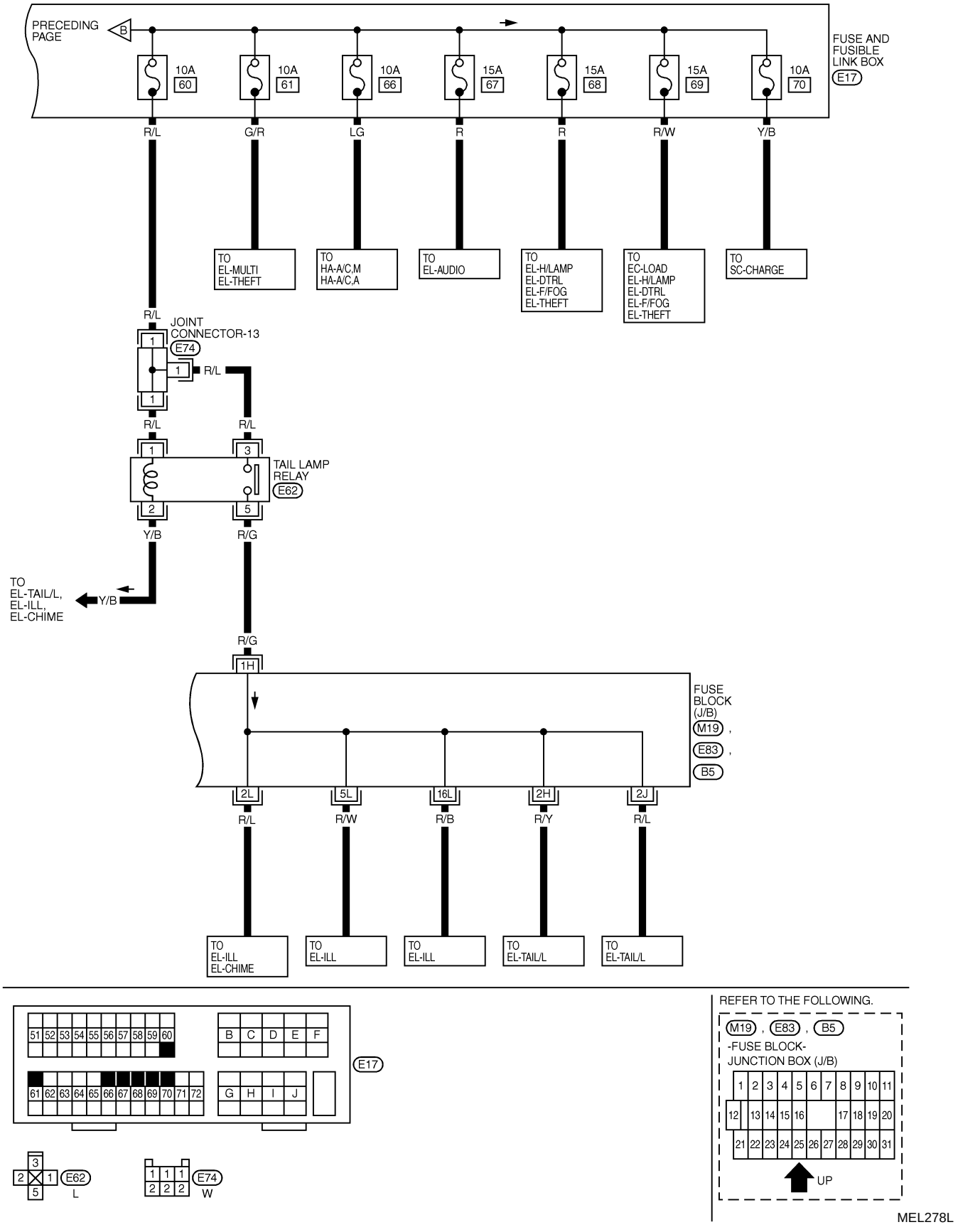






MEL277L

EL-POWER-03

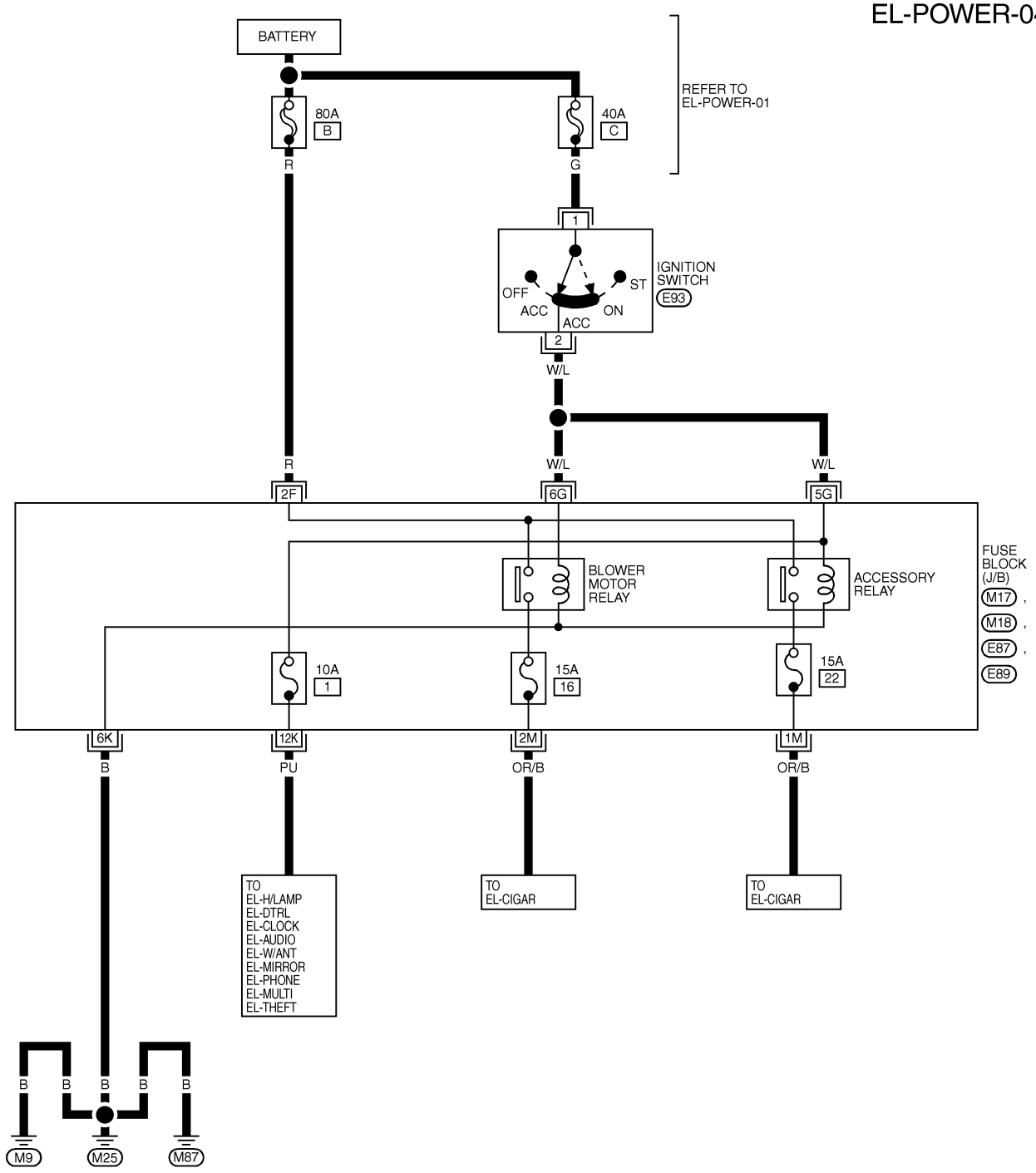


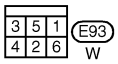
MEL278L

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

NFEL0006S02

EL-POWER-04





REFER TO THE FOLLOWING.

M17 , M18 , E87 , E89

-FUSE BLOCK-
JUNCTION BOX (J/B)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16			17	18	19	20
21	22	23	24	25	26	27	28	29	30	31

UP

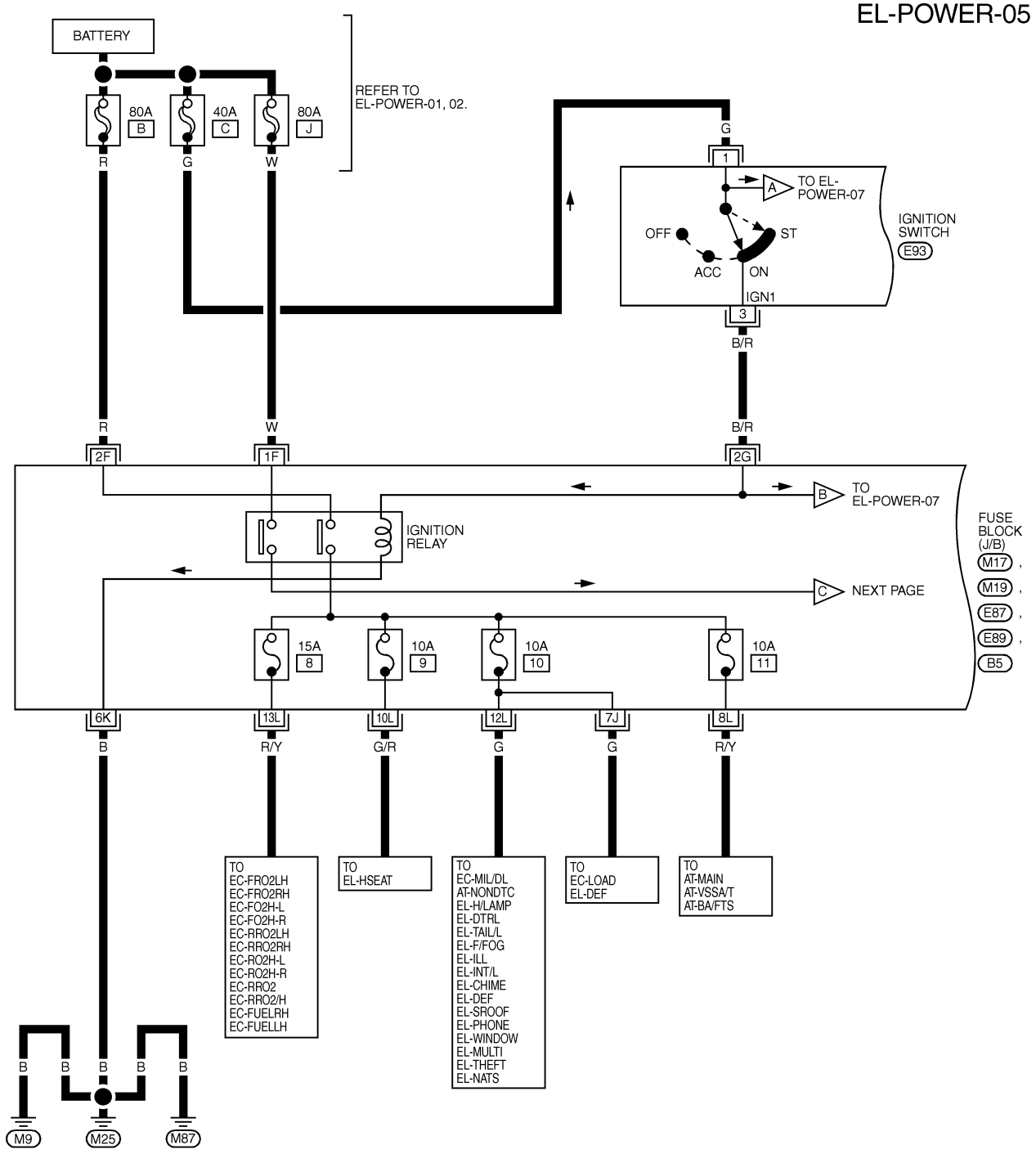
MEL220K

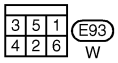
Wiring Diagram — POWER — (Cont'd)

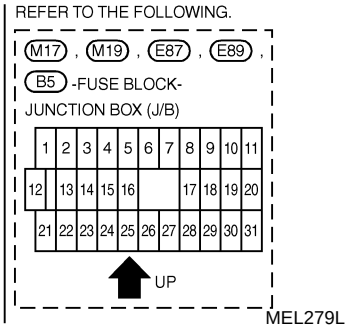
IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START"

NFEL0006S03

EL-POWER-05

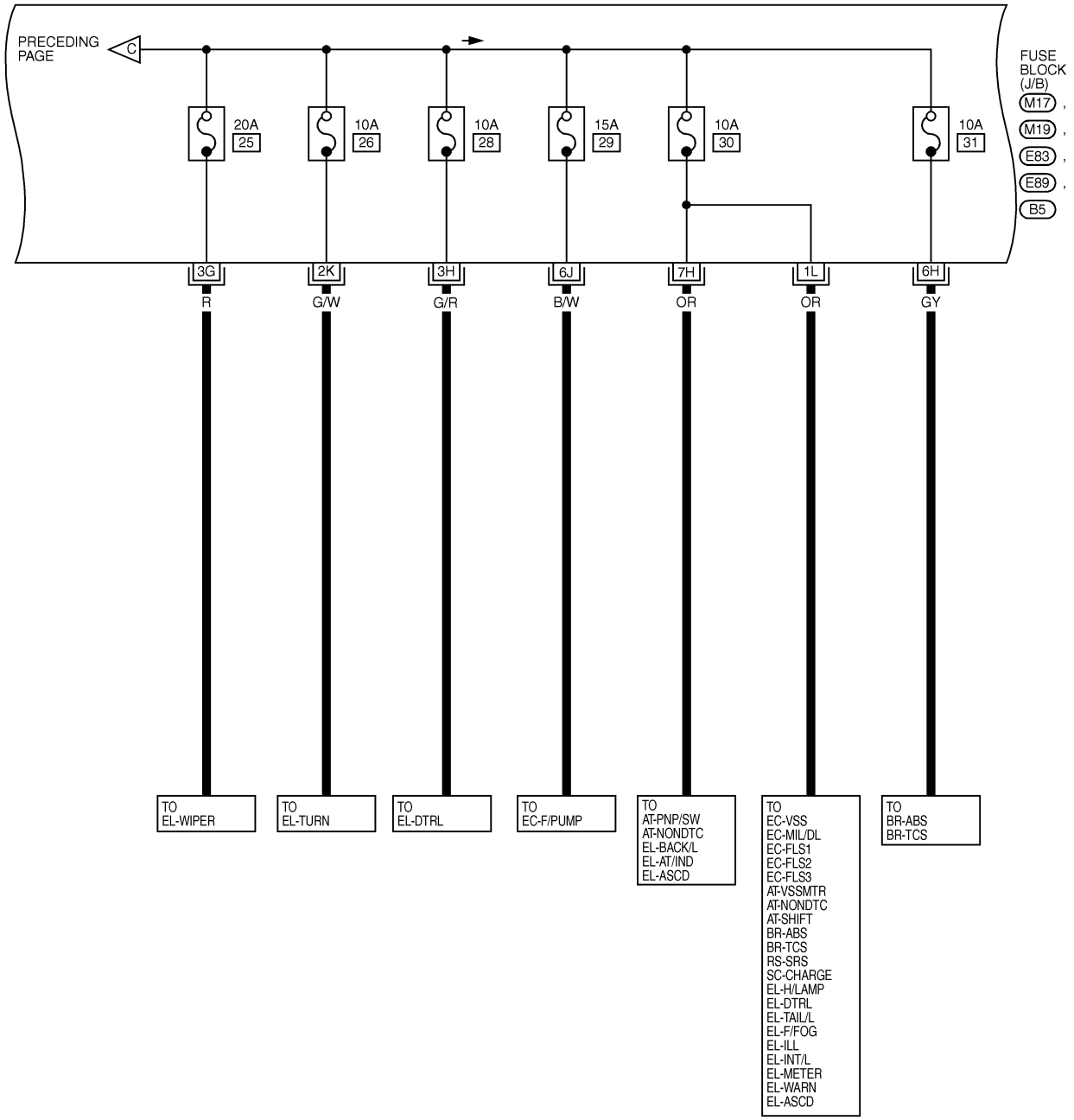


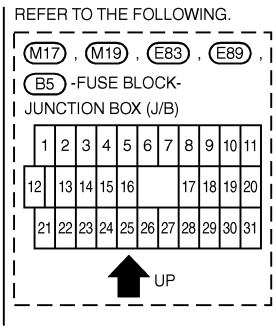




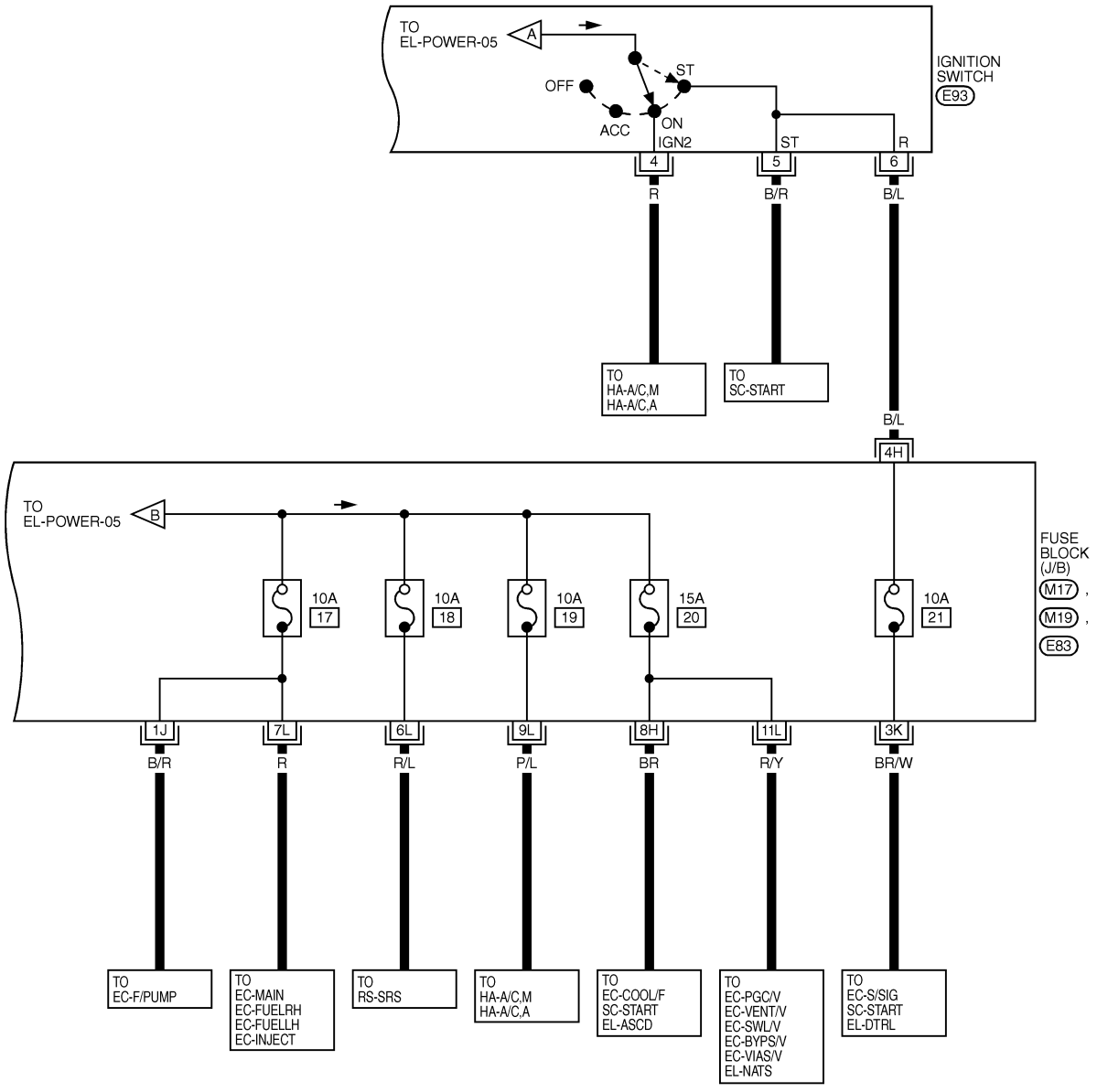
MEL279L

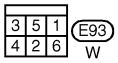
EL-POWER-06





MEL280L





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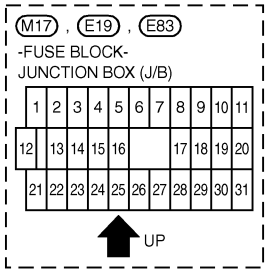
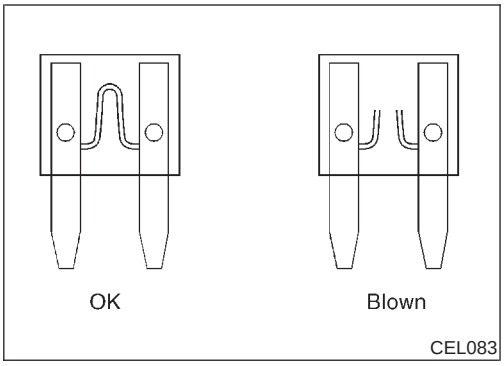


MEL281L



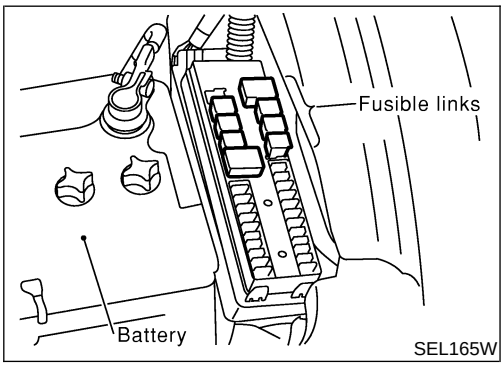
Inspection

NFEL0007

FUSE

NFEL0007S01

- **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.**



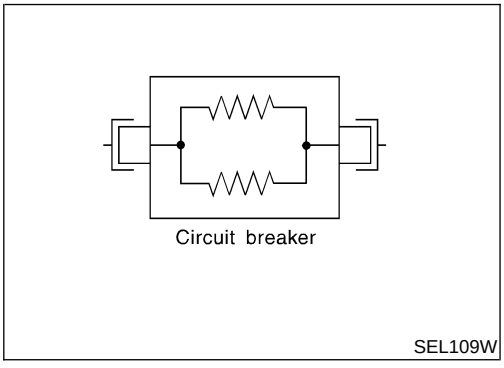
FUSIBLE LINK

NFEL0007S02

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 (PTC THERMISTOR TYPE)

NFEL0007S03

The PTC thermistor generates heat in response to current flow. The temperature (and resistance) of the thermistor element varies with current flow. Excessive current flow will cause the element’s temperature to rise. When the temperature reaches a specified level, the electrical resistance will rise sharply to control the circuit current.

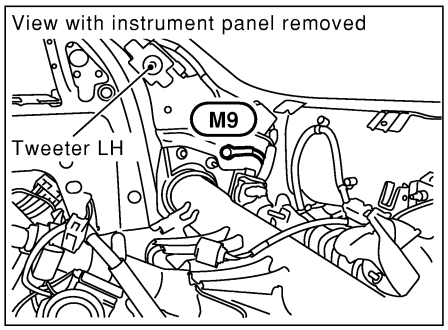
Reduced current flow will cause the element to cool. Resistance falls accordingly and normal circuit current flow is allowed to resume.

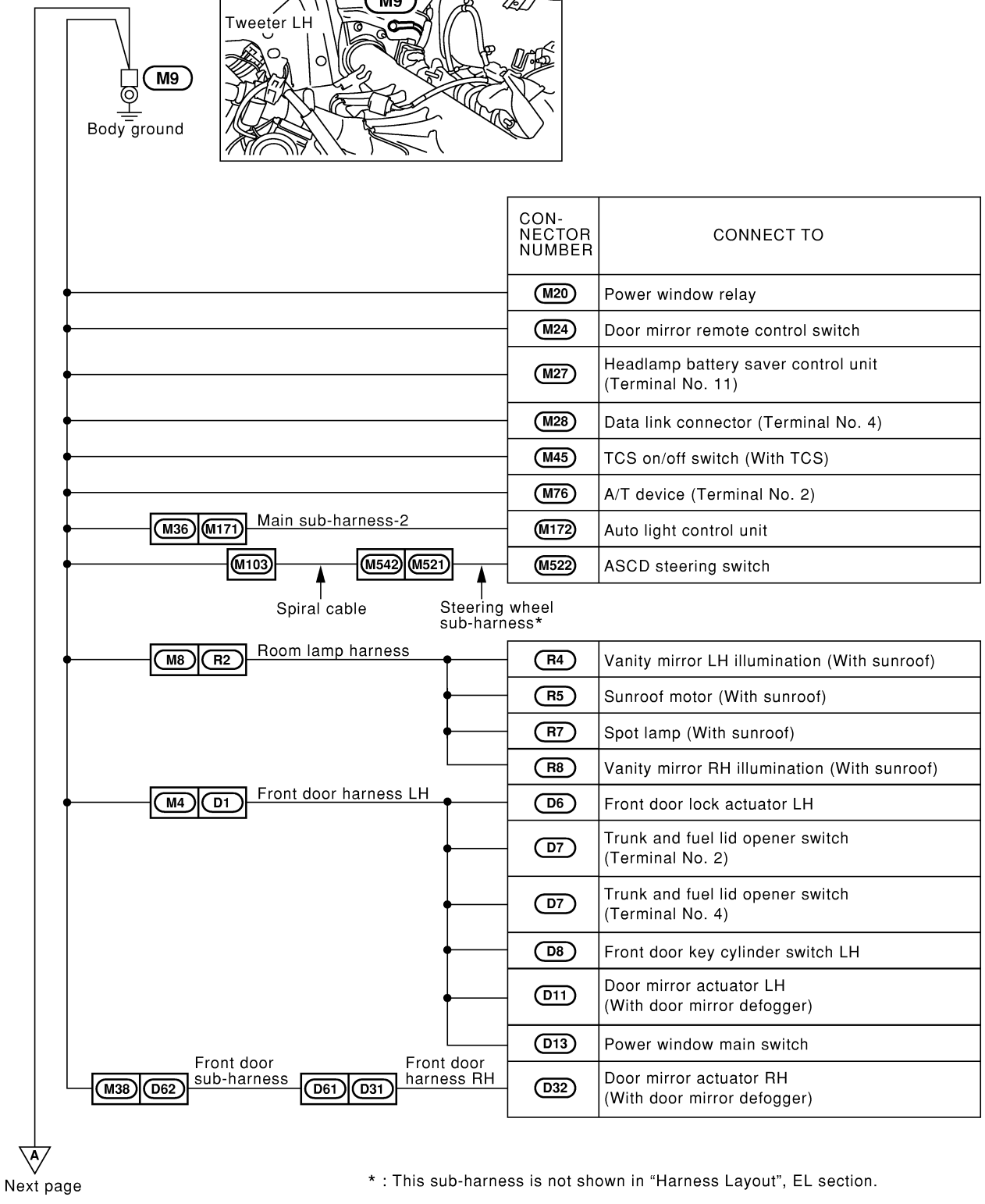
Ground Distribution

NFEL0008

MAIN HARNESS

NFEL0008S01

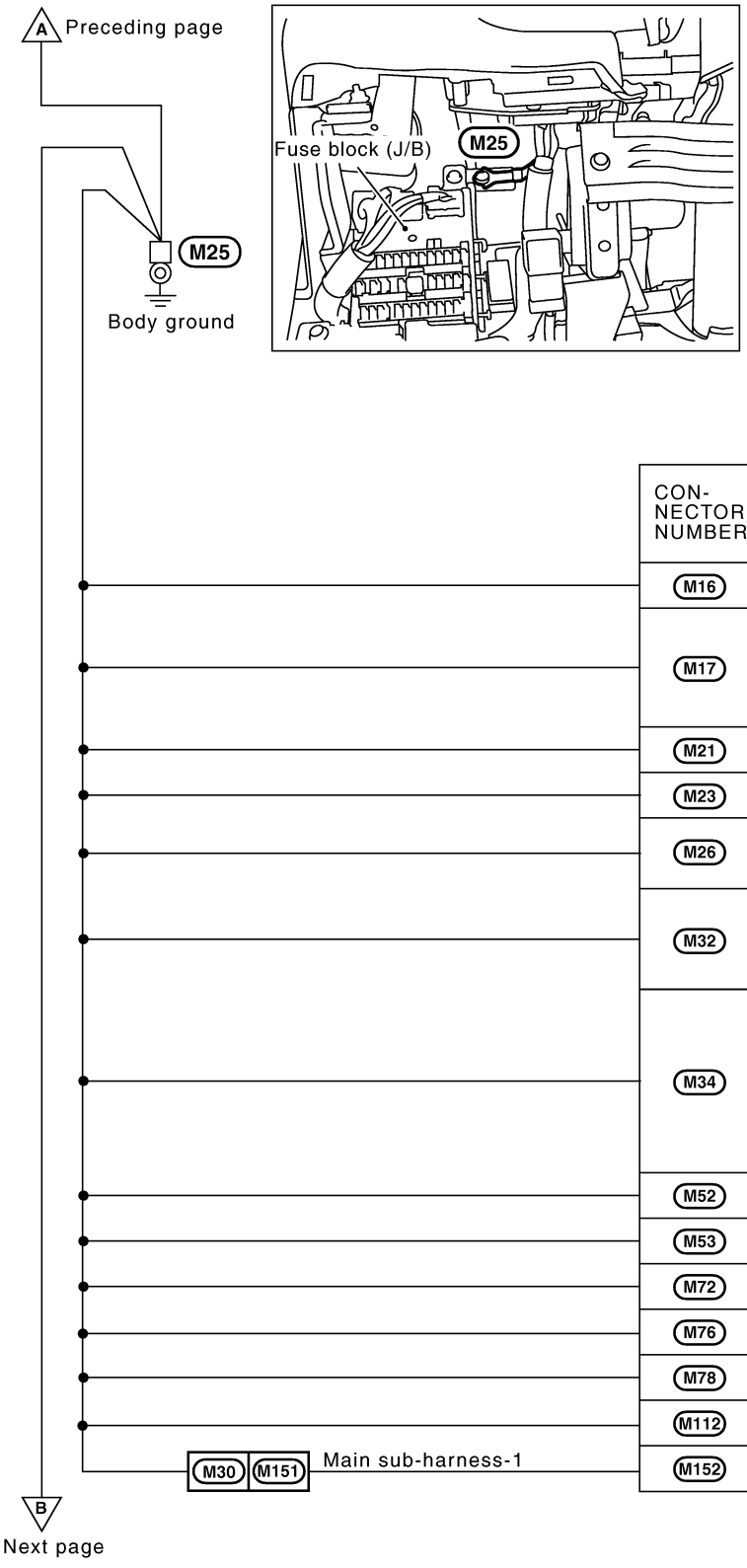




CON-NECTOR NUMBER	CONNECT TO
M20	Power window relay
M24	Door mirror remote control switch
M27	Headlamp battery saver control unit (Terminal No. 11)
M28	Data link connector (Terminal No. 4)
M45	TCS on/off switch (With TCS)
M76	A/T device (Terminal No. 2)
M172	Auto light control unit
M522	ASCD steering switch
R4	Vanity mirror LH illumination (With sunroof)
R5	Sunroof motor (With sunroof)
R7	Spot lamp (With sunroof)
R8	Vanity mirror RH illumination (With sunroof)
D6	Front door lock actuator LH
D7	Trunk and fuel lid opener switch (Terminal No. 2)
D7	Trunk and fuel lid opener switch (Terminal No. 4)
D8	Front door key cylinder switch LH
D11	Door mirror actuator LH (With door mirror defogger)
D13	Power window main switch
D32	Door mirror actuator RH (With door mirror defogger)

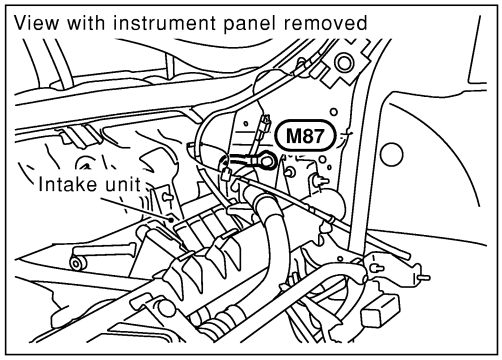
* : This sub-harness is not shown in “Harness Layout”, EL section.

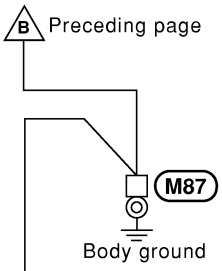
MEL338K

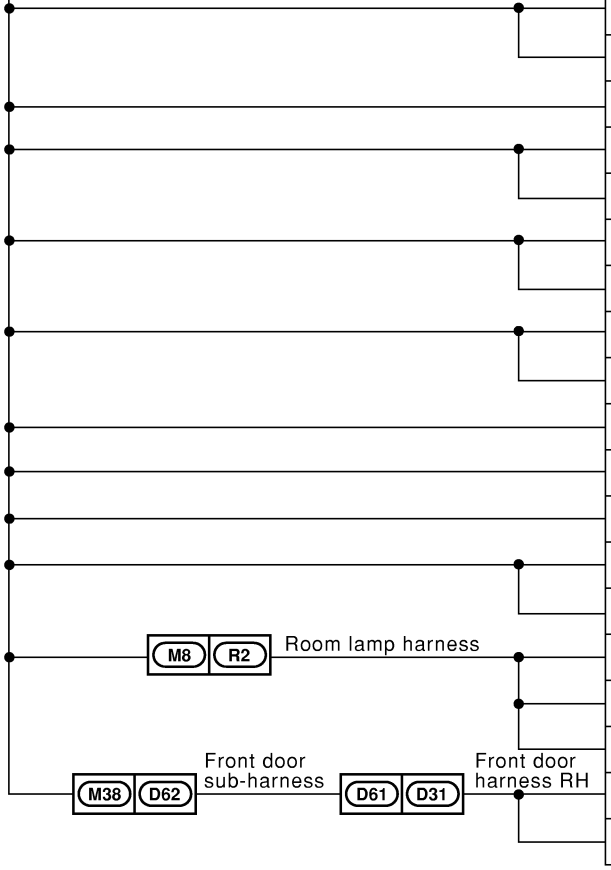


CON-NECTOR NUMBER	CONNECT TO
M16	Telephone
M17	Fuse block (J/B) (Terminal No. 6K) • Accessory relay • Blower motor relay • Ignition relay
M21	Combination flasher unit
M23	Illumination control switch
M26	Headlamp battery saver control unit (Terminal No. 4)
M32	Combination meter (Terminal No. 30) • A/T indicator (With A/T) • Turn signal indicator • ABS indicator (Without TCS)
M34	Combination meter (Terminal No. 59) • Air bag warning lamp • Fuel gauge • Water temp. gauge • Tachometer • Odo/trip meter
M52	ASCD control unit
M53	Cigarette lighter
M72	Ashtray illumination
M76	A/T device (Terminal No. 6)
M78	Power socket
M112	Air bag diagnosis sensor unit
M152	Clock

MEL282L





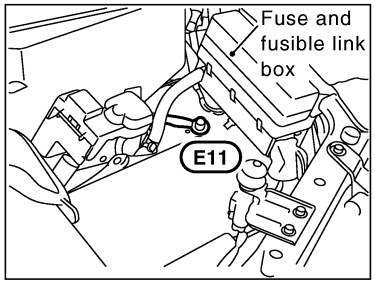


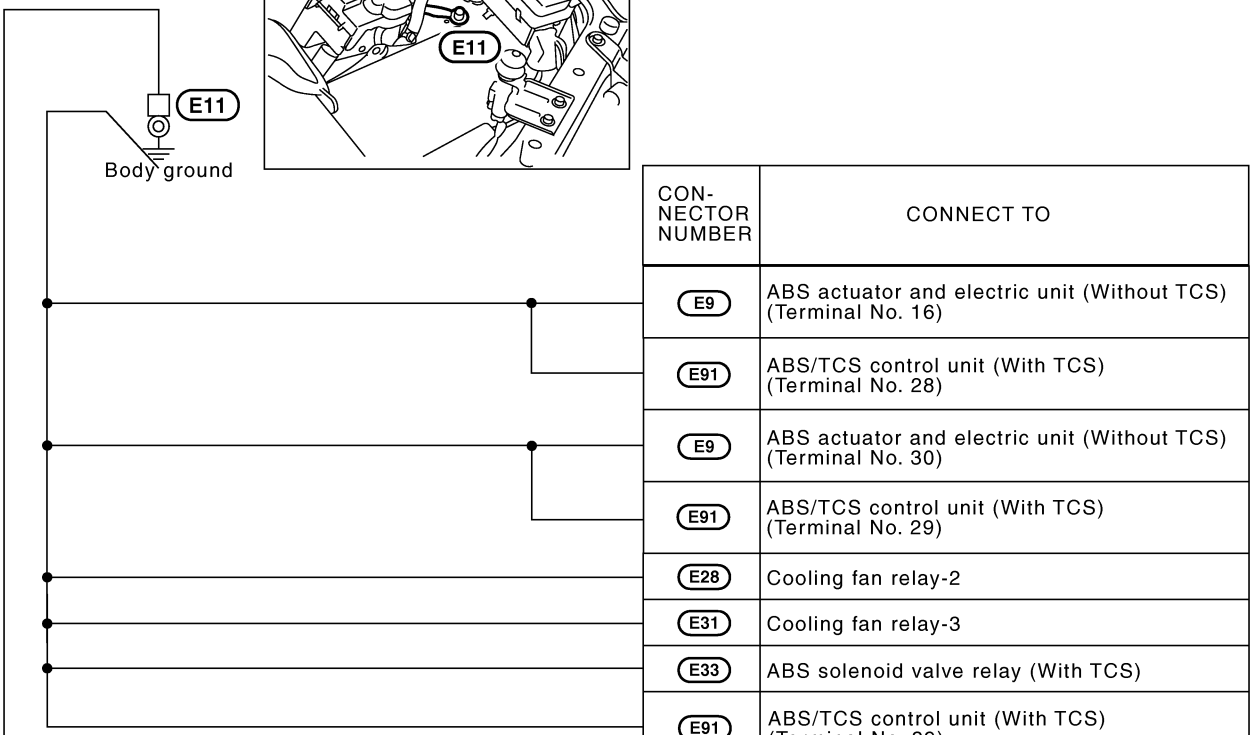
CON-NECTOR NUMBER	CONNECT TO
M31	Fan control amp. (With auto A/C)
M58	Fan switch (With manual A/C)
M40	Smart entrance control unit
M48	Mode door motor (With manual A/C)
M49	Mode door motor (With auto A/C)
M50	Air mix door motor (With manual A/C)
M51	Air mix door motor (With auto A/C)
M56	A/C control unit (With manual A/C)
M60	A/C auto amp. (With auto A/C)
M74	Heated seat switch LH
M75	Heated seat switch RH
M82	Glove box lamp
M83	Intake door motor (With manual A/C)
M84	Intake door motor (With auto A/C)
R4	Vanity mirror LH illumination (Without sunroof)
R7	Spot lamp (Without sunroof)
R8	Vanity mirror RH illumination (Without sunroof)
D34	Door lock and unlock switch RH
D37	Front door lock actuator RH

MEL340K

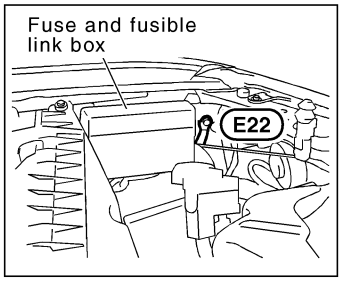
ENGINE ROOM HARNESS

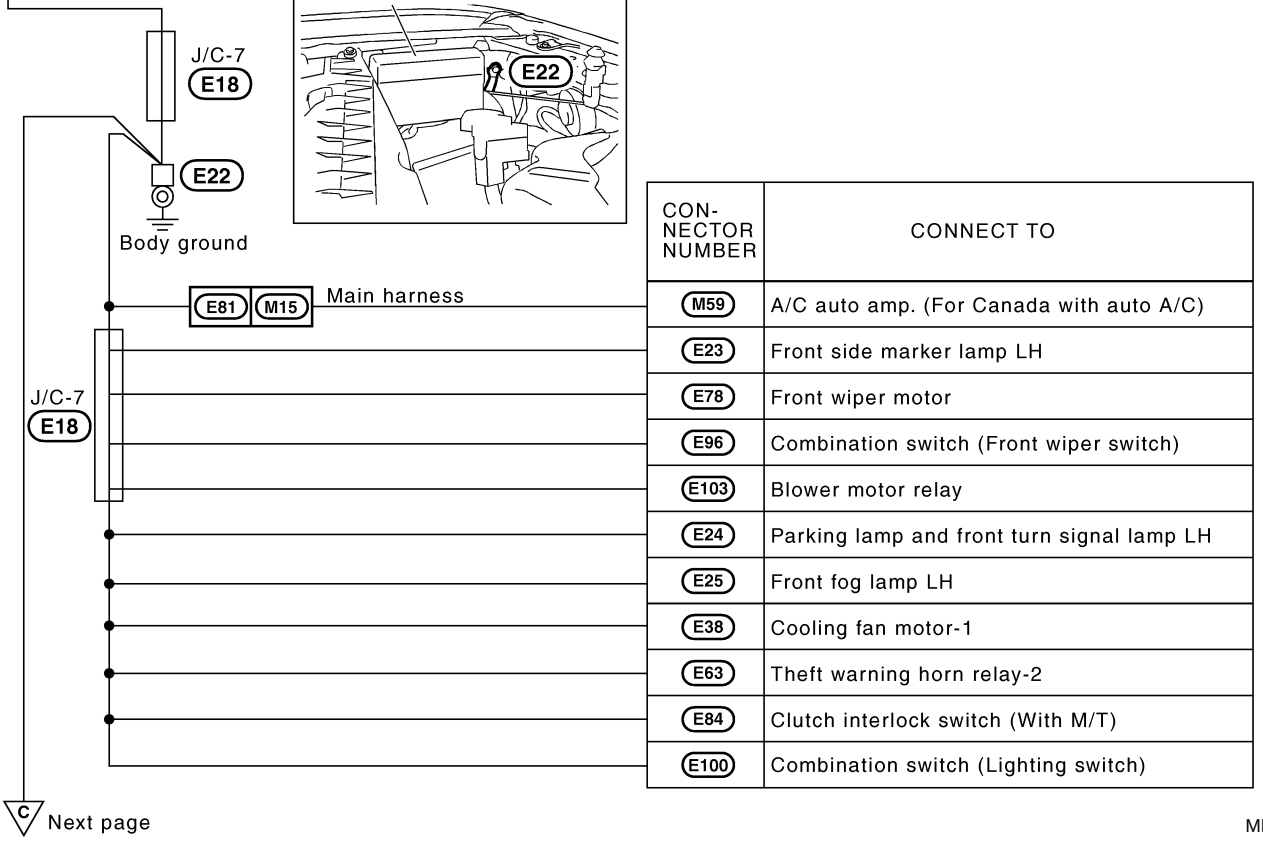
NFEL0008S02





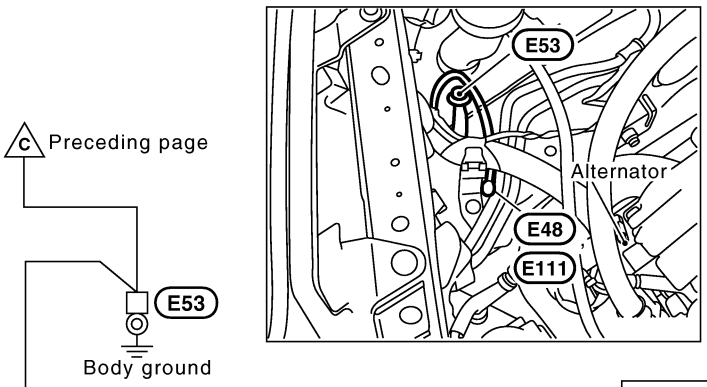
CONNECTOR NUMBER	CONNECT TO
E9	ABS actuator and electric unit (Without TCS) (Terminal No. 16)
E91	ABS/TCS control unit (With TCS) (Terminal No. 28)
E9	ABS actuator and electric unit (Without TCS) (Terminal No. 30)
E91	ABS/TCS control unit (With TCS) (Terminal No. 29)
E28	Cooling fan relay-2
E31	Cooling fan relay-3
E33	ABS solenoid valve relay (With TCS)
E91	ABS/TCS control unit (With TCS) (Terminal No. 39)





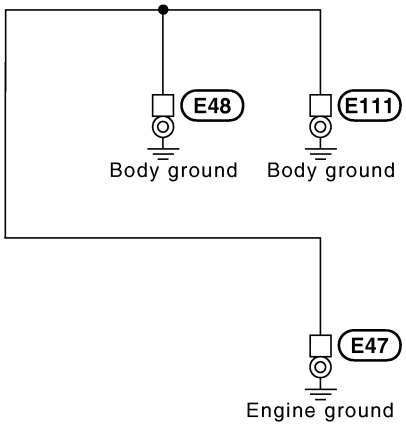
CONNECTOR NUMBER	CONNECT TO
M59	A/C auto amp. (For Canada with auto A/C)
E23	Front side marker lamp LH
E78	Front wiper motor
E96	Combination switch (Front wiper switch)
E103	Blower motor relay
E24	Parking lamp and front turn signal lamp LH
E25	Front fog lamp LH
E38	Cooling fan motor-1
E63	Theft warning horn relay-2
E84	Clutch interlock switch (With M/T)
E100	Combination switch (Lighting switch)

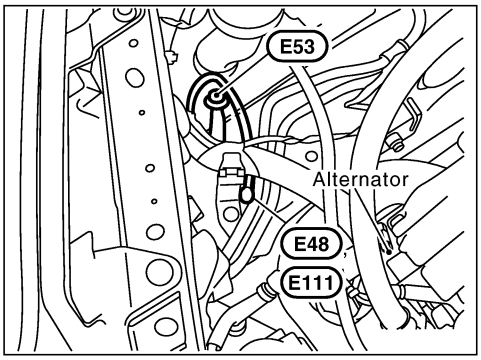
MEL283L

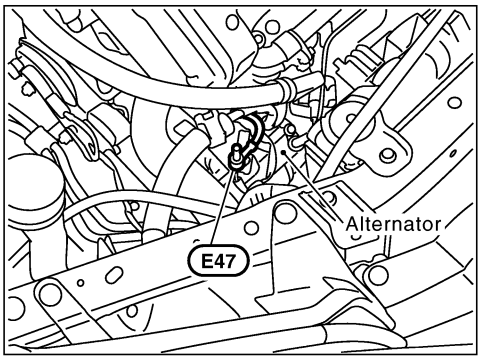


CON-NECTOR NUMBER	CONNECT TO
E1	Brake fluid level switch
E26	Hood switch
E42	Washer level switch
E43	Cooling fan motor-2
E44	Front fog lamp RH
E45	Parking lamp and front turn signal lamp RH
E49	Front side marker lamp RH
E59	Daytime light control unit (For Canada)
E69	Door mirror defogger relay (With door mirror defogger)
E97	Combination switch (Lighting switch)

MEL284L


E48
E111
Body ground
Body ground
E47
Engine ground


E53
Alternator
E48
E111

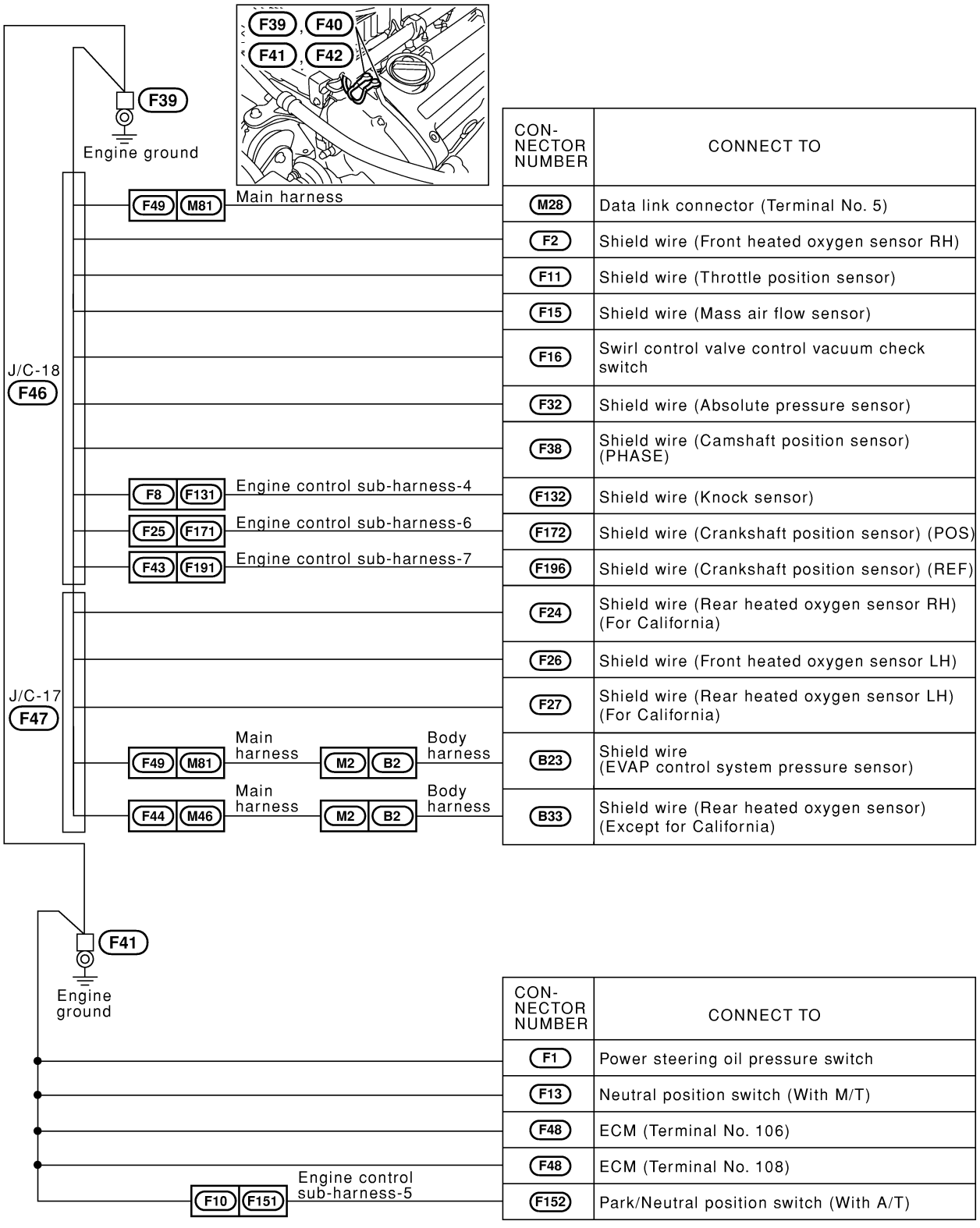

Alternator
E47

MEL343K

Ground Distribution (Cont'd)

ENGINE CONTROL HARNESS

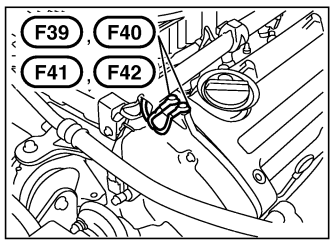
NFEL0008S03

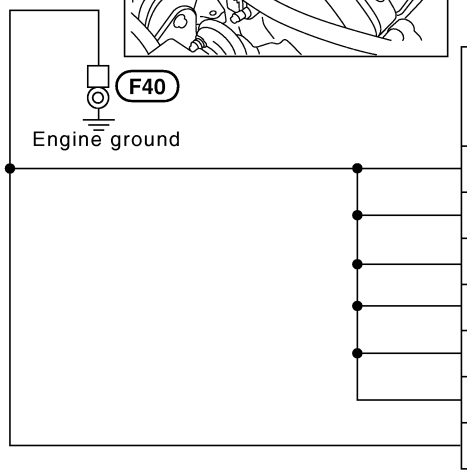


CONNECTOR NUMBER	CONNECT TO
M28	Data link connector (Terminal No. 5)
F2	Shield wire (Front heated oxygen sensor RH)
F11	Shield wire (Throttle position sensor)
F15	Shield wire (Mass air flow sensor)
F16	Swirl control valve control vacuum check switch
F32	Shield wire (Absolute pressure sensor)
F38	Shield wire (Camshaft position sensor) (PHASE)
F132	Shield wire (Knock sensor)
F172	Shield wire (Crankshaft position sensor) (POS)
F196	Shield wire (Crankshaft position sensor) (REF)
F24	Shield wire (Rear heated oxygen sensor RH) (For California)
F26	Shield wire (Front heated oxygen sensor LH)
F27	Shield wire (Rear heated oxygen sensor LH) (For California)
B23	Shield wire (EVAP control system pressure sensor)
B33	Shield wire (Rear heated oxygen sensor) (Except for California)

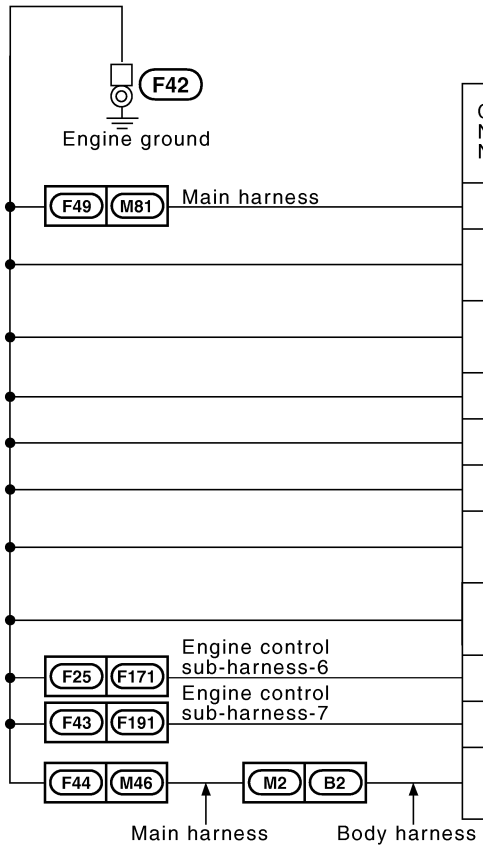
CONNECTOR NUMBER	CONNECT TO
F1	Power steering oil pressure switch
F13	Neutral position switch (With M/T)
F48	ECM (Terminal No. 106)
F48	ECM (Terminal No. 108)
F152	Park/Neutral position switch (With A/T)

MEL344K





CONNECTOR NUMBER	CONNECT TO
F3	Ignition coil No. 1
F5	Ignition coil No. 3
F6	Ignition coil No. 5
F30	Ignition coil No. 6
F31	Ignition coil No. 4
F35	Ignition coil No. 2
F34	Condenser

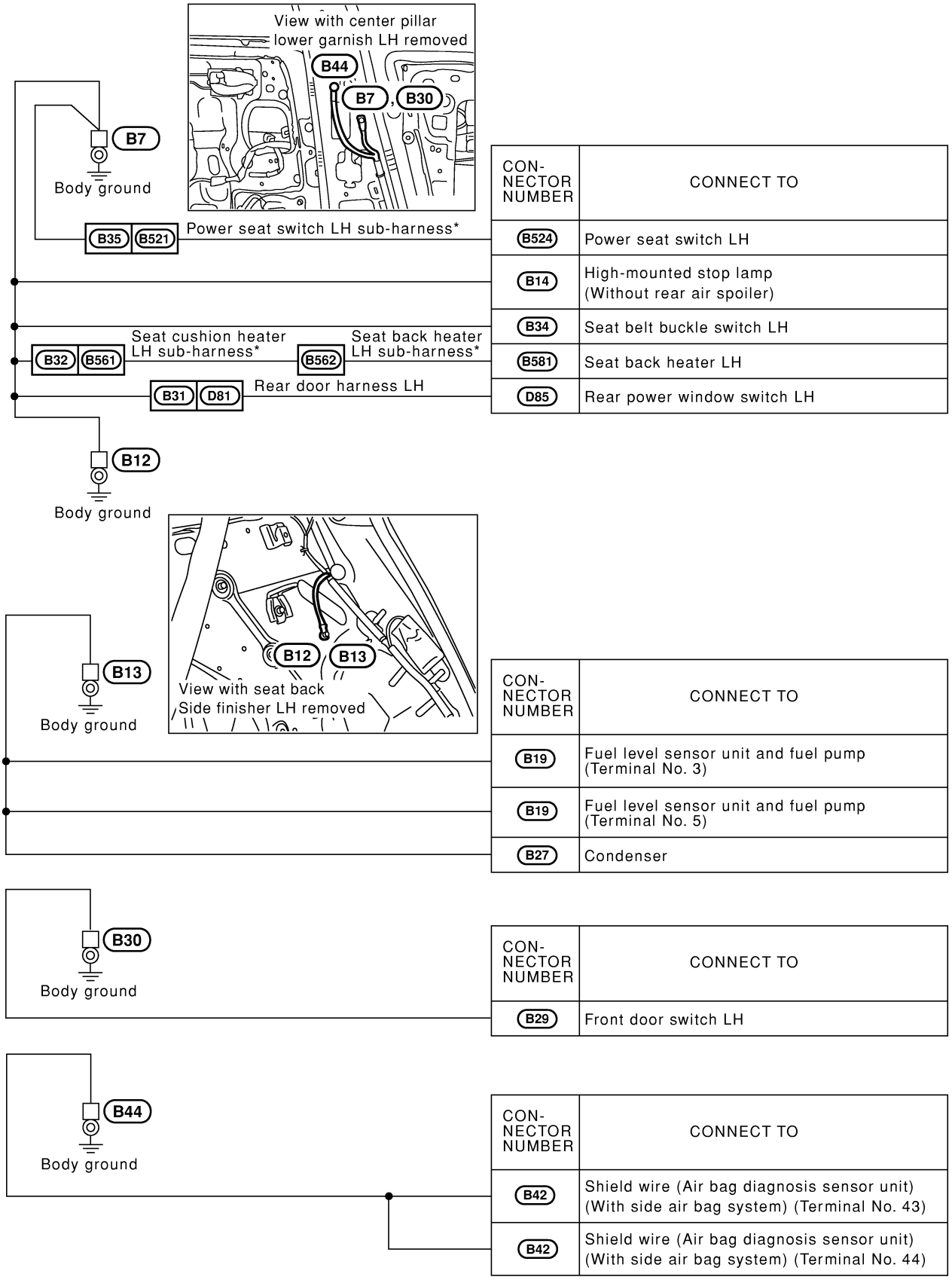


CONNECTOR NUMBER	CONNECT TO
M42	NVIS (NATS) IMMU
F24	Rear heated oxygen sensor RH (For California)
F27	Rear heated oxygen sensor LH (For California)
F38	Camshaft position sensor (PHASE)
F48	ECM (Terminal No. 48)
F48	ECM (Terminal No. 57)
F50	TCM (Transmission control module) (Terminal No. 25)
F50	TCM (Transmission control module) (Terminal No. 48)
F172	Crankshaft position sensor (POS)
F196	Crankshaft position sensor (REF)
B33	Rear heated oxygen sensor (Except for California)

MEL345K

BODY HARNESS

NFEL0008S04



CONNECTOR NUMBER	CONNECT TO
B524	Power seat switch LH
B14	High-mounted stop lamp (Without rear air spoiler)
B34	Seat belt buckle switch LH
B581	Seat back heater LH
D85	Rear power window switch LH

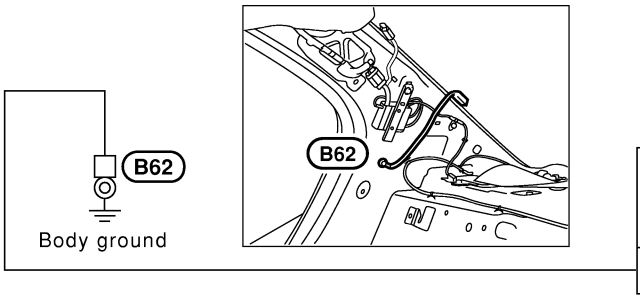
CONNECTOR NUMBER	CONNECT TO
B19	Fuel level sensor unit and fuel pump (Terminal No. 3)
B19	Fuel level sensor unit and fuel pump (Terminal No. 5)
B27	Condenser

CONNECTOR NUMBER	CONNECT TO
B29	Front door switch LH

CONNECTOR NUMBER	CONNECT TO
B42	Shield wire (Air bag diagnosis sensor unit) (With side air bag system) (Terminal No. 43)
B42	Shield wire (Air bag diagnosis sensor unit) (With side air bag system) (Terminal No. 44)

*: This sub-harness is not shown in "Harness layout", EL-section.

MEL665L

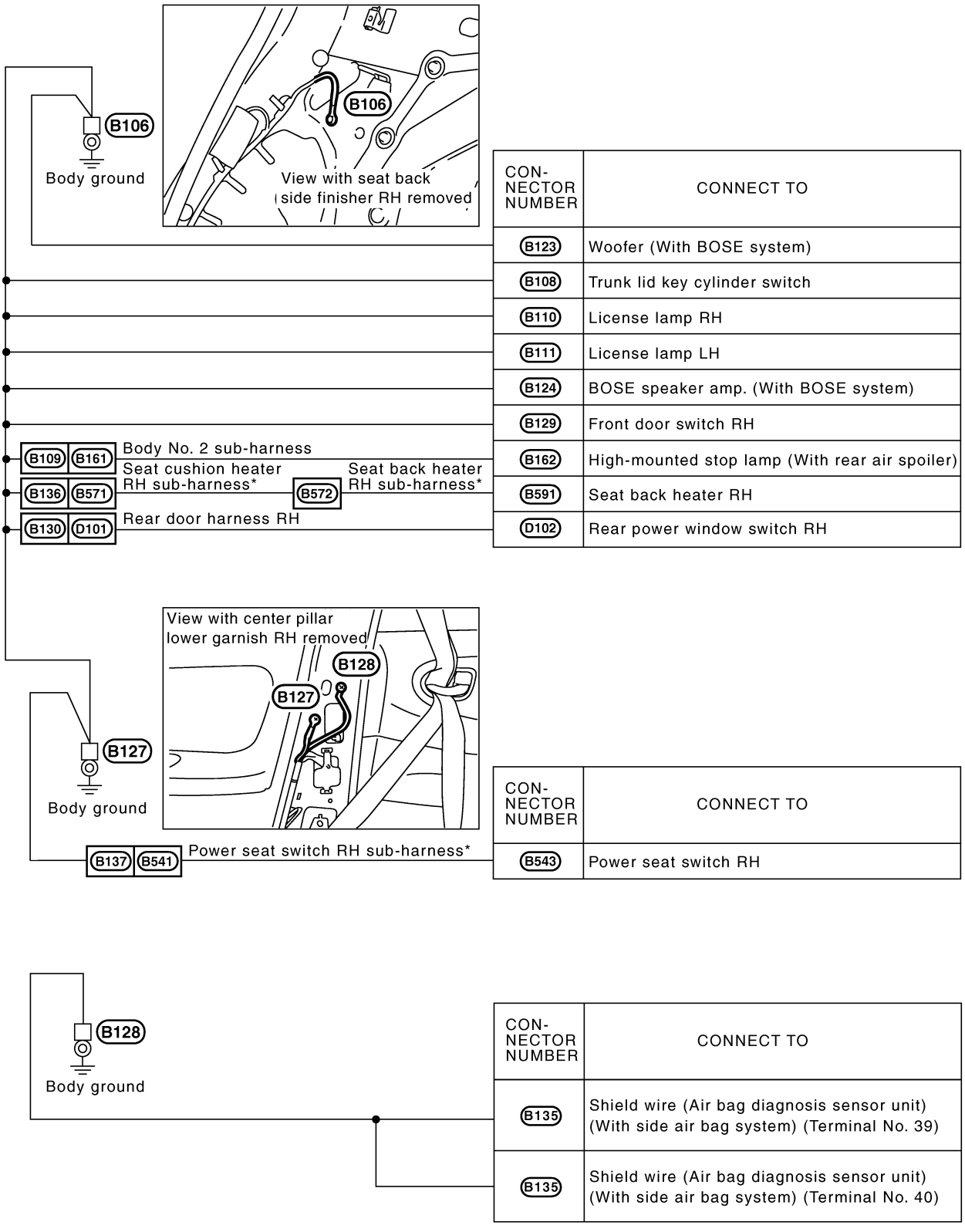


CON-NECTOR NUMBER	CONNECT TO
B61	Rear window defogger (–)

MEL347K

BODY NO. 2 HARNESS

=NFEL0008S05



CONNECTOR NUMBER	CONNECT TO
B123	Woofer (With BOSE system)
B108	Trunk lid key cylinder switch
B110	License lamp RH
B111	License lamp LH
B124	BOSE speaker amp. (With BOSE system)
B129	Front door switch RH
B162	High-mounted stop lamp (With rear air spoiler)
B591	Seat back heater RH
D102	Rear power window switch RH

CONNECTOR NUMBER	CONNECT TO
B543	Power seat switch RH

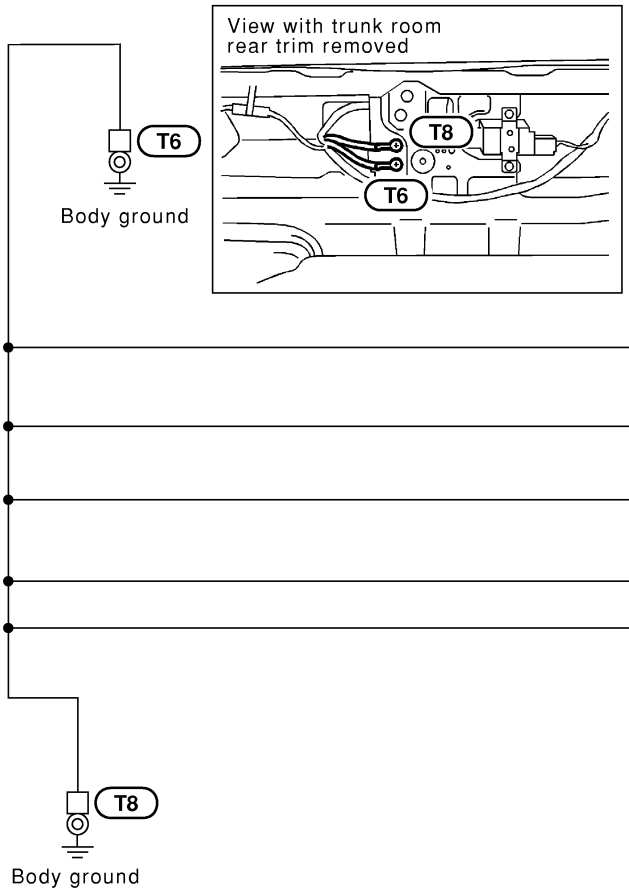
CONNECTOR NUMBER	CONNECT TO
B135	Shield wire (Air bag diagnosis sensor unit) (With side air bag system) (Terminal No. 39)
B135	Shield wire (Air bag diagnosis sensor unit) (With side air bag system) (Terminal No. 40)

*: This sub-harness is not shown in "Harness layout", EL-section.

MEL285L

TAIL HARNESS

NFEL0008S06

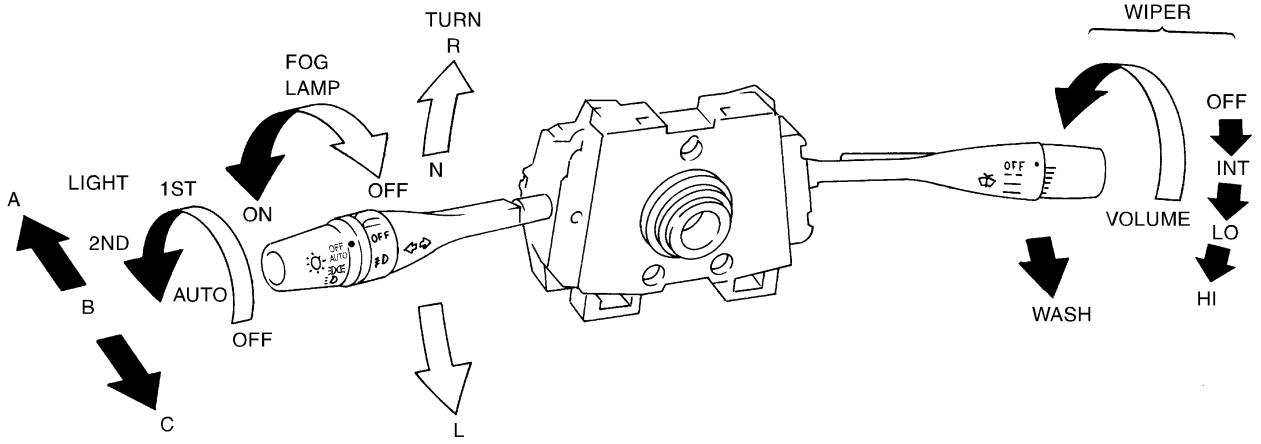


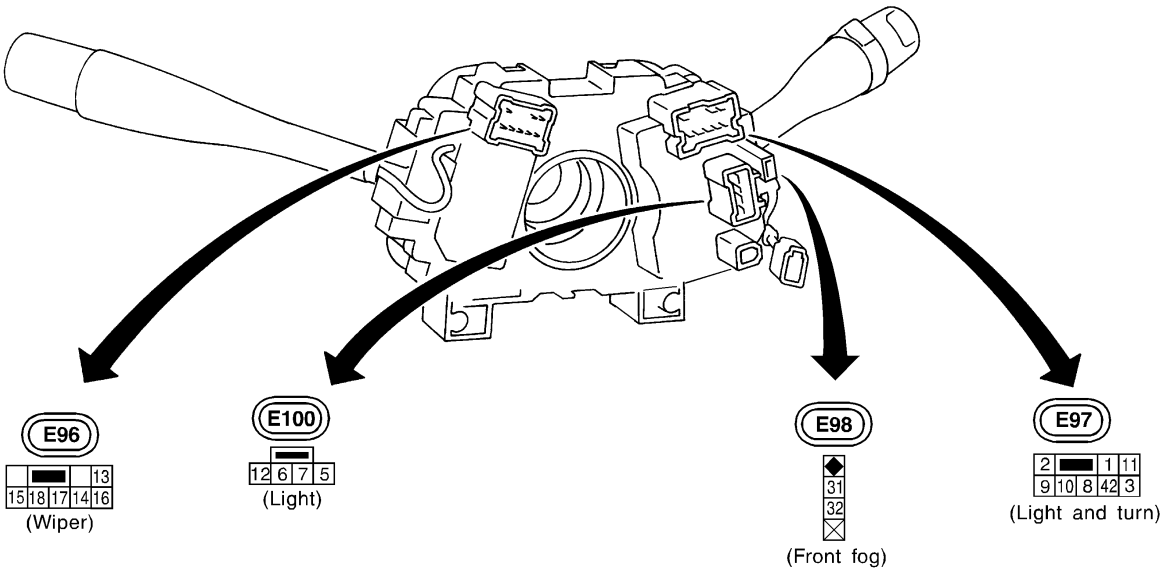
CON-NECTOR NUMBER	CONNECT TO
T1	Rear combination lamp LH • Turn signal lamp • Tail/Stop lamp • Back-up lamp
T2	Rear side marker lamp LH
T5	Rear combination lamp RH • Turn signal lamp • Tail/Stop lamp • Back-up lamp
T7	Rear side marker lamp RH
T9	Trunk room lamp switch

MEL655K

Check

NFEL0009





LIGHTING SWITCH

	OFF	AUTO	1ST	2ND
5			○	○
11			○	○
8				○
12				○
42		○		
(8)		○		

	A	B	C
(5)	○	○	○
7		○	
6	○		○
(8)	○	○	○
10		○	
9	○		○
(12)			○

FRONT WIPER AND WASHER SWITCH

	LO	AUTO STOP	AMP	WASH	HI	EARTH
OFF	○	○				
INT	○	○	○			○
LO	○					○
HI					○	○
WASH				○		○

VARIABLE INTERMITTENT WIPER VOLUME

WIPER AMP.

⑭ ⑮ ⑬ ⑯ ⑰ ⑱

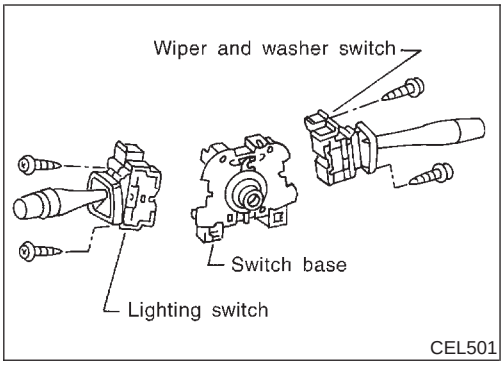
FRONT FOG LAMP SWITCH

	OFF	ON
31		○
32		○

TURN SIGNAL LAMP SWITCH

	L	N	R
1	○		○
2			○
3	○		

MEL335K

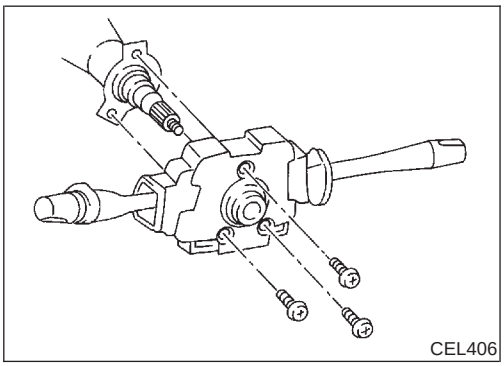


Replacement

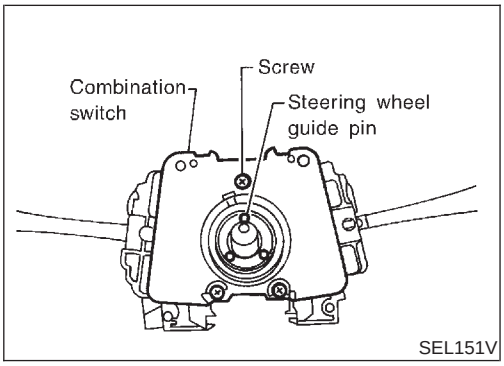
NFEL0010

For removal and installation of spiral cable, refer to RS-22, "Installation — Air Bag Module and Spiral Cable".

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



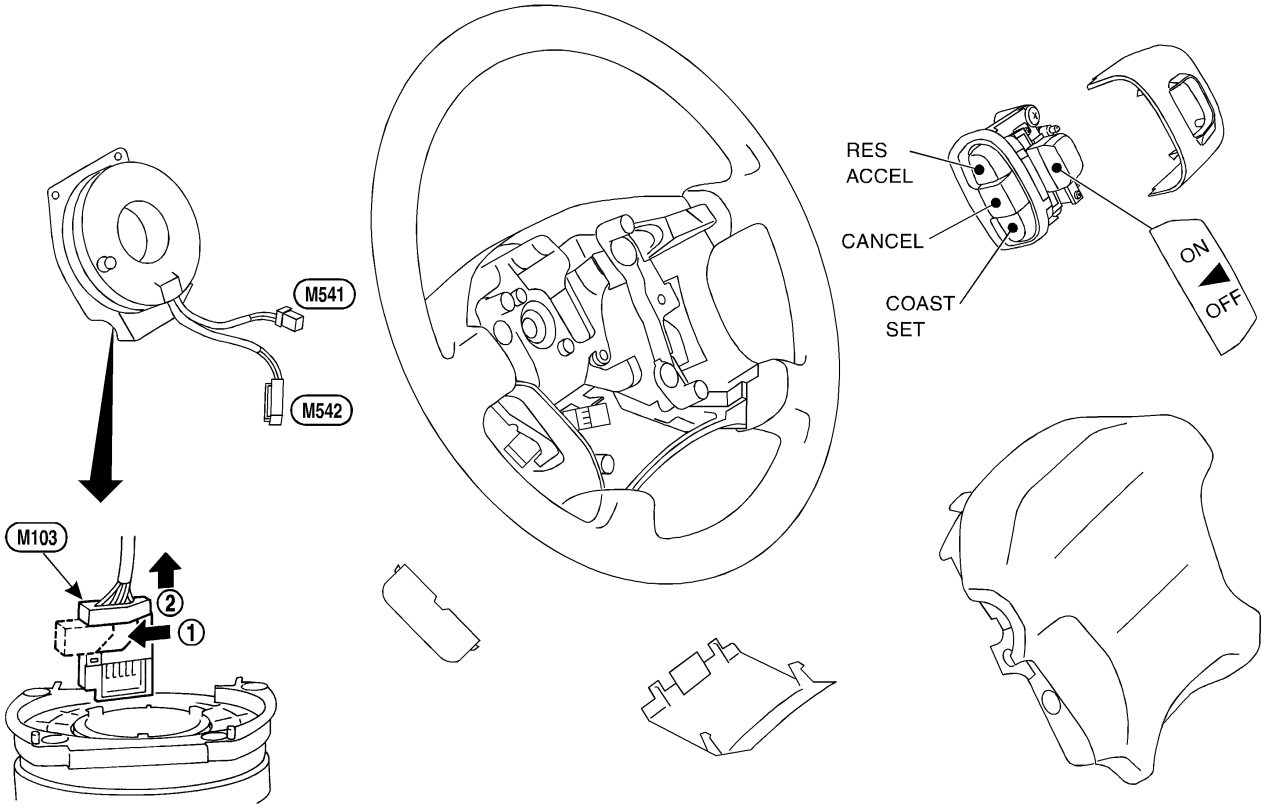
- To remove combination switch base, remove base attaching screw.

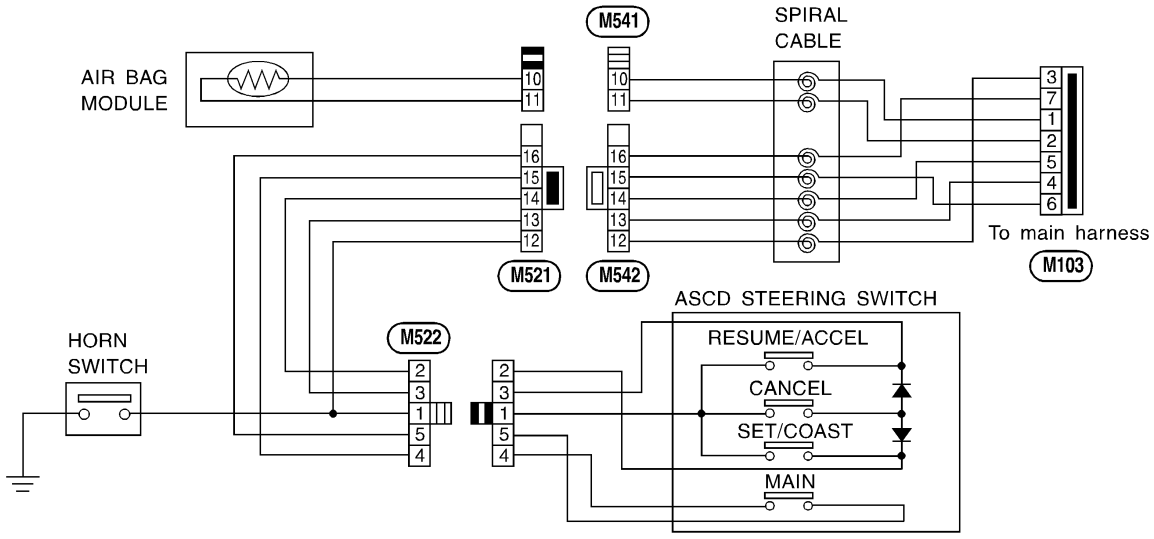


- Before installing the steering wheel, align the steering wheel guide pins with the screws which secure the combination switch as shown in the left figure.

Check

NFEL0011

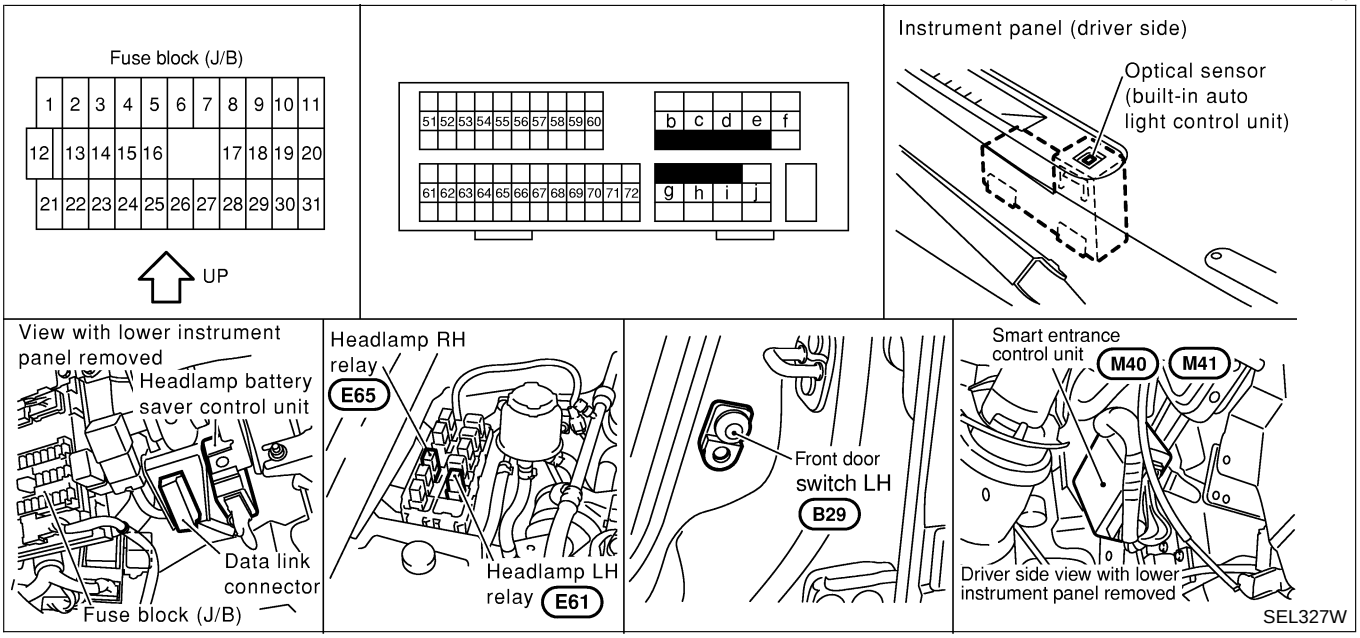




MEL336K

Component Parts and Harness Connector Location

NFEL0197



System Description

NFEL0198

The headlamp operation is controlled by the lighting switch which is built into the combination switch and headlamp battery saver control unit. And the headlamp battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.

OUTLINE

NFEL0198S01

Power is supplied at all times

- to headlamp LH relay terminals 1 and 5
- through 15A fuse (No. 68, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 5
- through 15A fuse (No. 69, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 12, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 30, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 10, located in the fuse block (J/B)].

Ground is supplied

- to headlamp battery saver control unit terminals 4 and 11
- through body grounds M9, M25 and M87.

When lighting switch is in 2ND position, ground is supplied

- to headlamp LH relay terminal 2 from headlamp battery saver control unit terminal 2
- through headlamp battery saver control unit terminal 3,
- to lighting switch terminal 12, and
- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 8
- through headlamp battery saver control unit terminal 9, and
- to lighting switch terminal 12.

Headlamp relays (LH and RH) are then energized.

LOW BEAM OPERATION

NFEL0198S02

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

- from terminal 3 of each headlamp relay
- to terminal 3 of each headlamp

Ground is supplied

- to headlamp LH terminal 2
- through lighting switch terminals 7 and 5
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 2
- through lighting switch terminal 10 and 8
- through body grounds E11, E22 and E53.

With power and ground supplied, the headlamp(s) will illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

NFEL0198S03

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

- from terminal 3 of each headlamp relay
- to terminal 3 of each headlamp, and
- to combination meter terminal 26 for the HIGH BEAM indicator.

Ground is supplied

- to headlamp LH terminal 1
- through lighting switch terminals 6 and 5
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 1
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 9 and 8
- through body grounds E11, E22 and E53.

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

BATTERY SAVER CONTROL

NFEL0198S04

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps illuminate, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.

After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 2 of the headlamp LH and RH relay from headlamp battery saver control unit terminals 2 and 8 is terminated.

Then the headlamps are turned off.

The headlamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supplied

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and then,
- to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit terminals 2 and 8,
- through headlamp battery saver control unit terminals 3 and 9, and
- through lighting switch terminal 12.

Then headlamps illuminate again.

AUTO LIGHT OPERATION

NFEL0198S06

The auto light control unit has an optical sensor inside it that detects outside brightness.

When lighting switch is in "AUTO" position, ground is supplied

- to auto light control unit terminal 10
- from lighting switch terminal 42.

When ignition switch is turn to "ON" or "START" position and outside brightness is darker than prescribed level.

Ground is supplied

- to headlamp relay LH and RH terminals 2
- through battery saver control unit
- from auto light control unit terminal 6, and
- to tail lamp relay terminal 2
- through battery saver control unit
- from auto light control unit terminal 7.

Then both headlamp relays and tail lamp relay are energized, headlamps (low or high) and tail lamps are illuminate according to switch position.
Auto light operation allows headlamps and tail lamps to go off when

- Ignition switch is turned to "OFF" position or
- Outside brightness is brighter than prescribed level.

NOTE:
The delay time changes (maximum of 20 seconds) as the outside brightness changes.

For parking license and tail lamp auto operation, refer to "PARKING, LICENSE AND TAIL LAMPS".

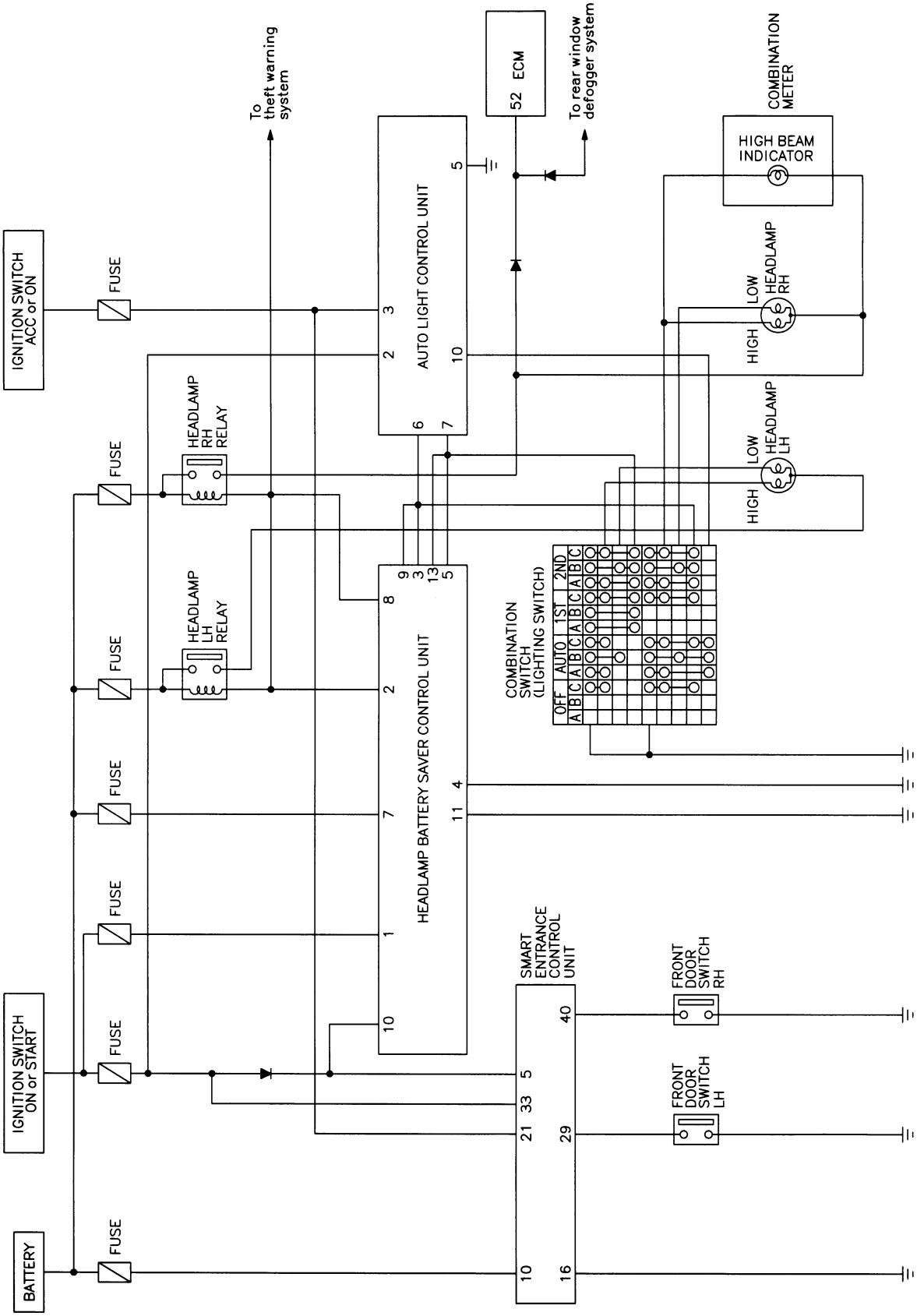
THEFT WARNING SYSTEM

NFEL0198S05

The theft warning system will flash the high beams if the system is triggered. Refer to "THEFT WARNING SYSTEM" (EL-280).

Schematic

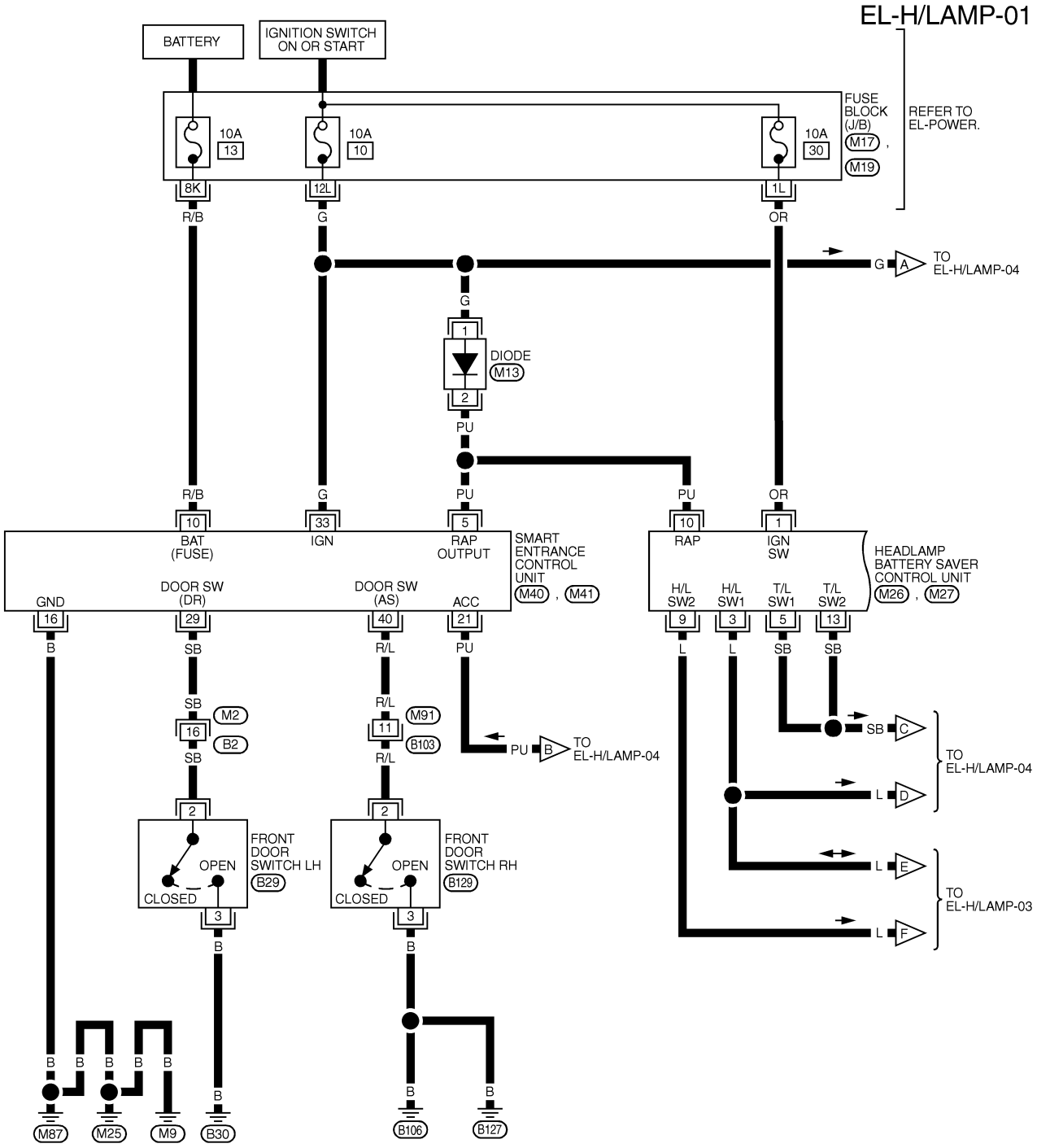
NFEL0199

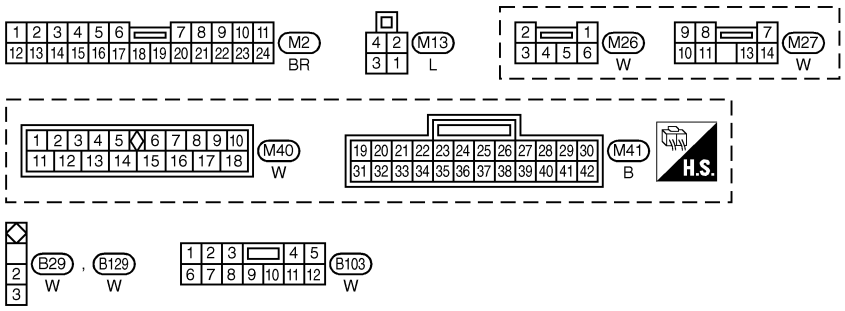


MEL286L

Wiring Diagram — H/LAMP —

NFEL0013

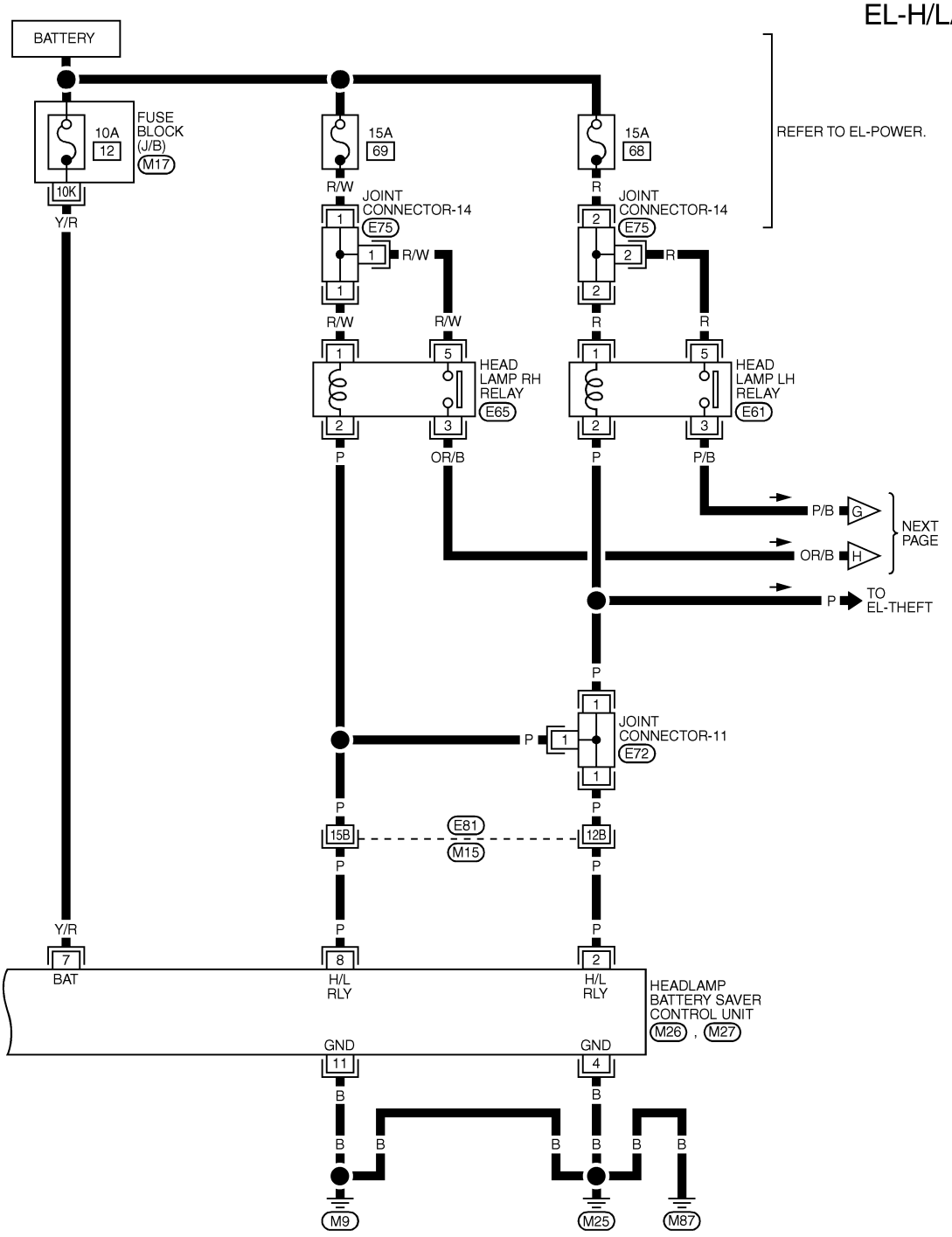


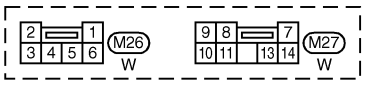


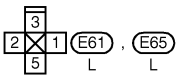
REFER TO THE FOLLOWING.
M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL287L

EL-H/LAMP-02







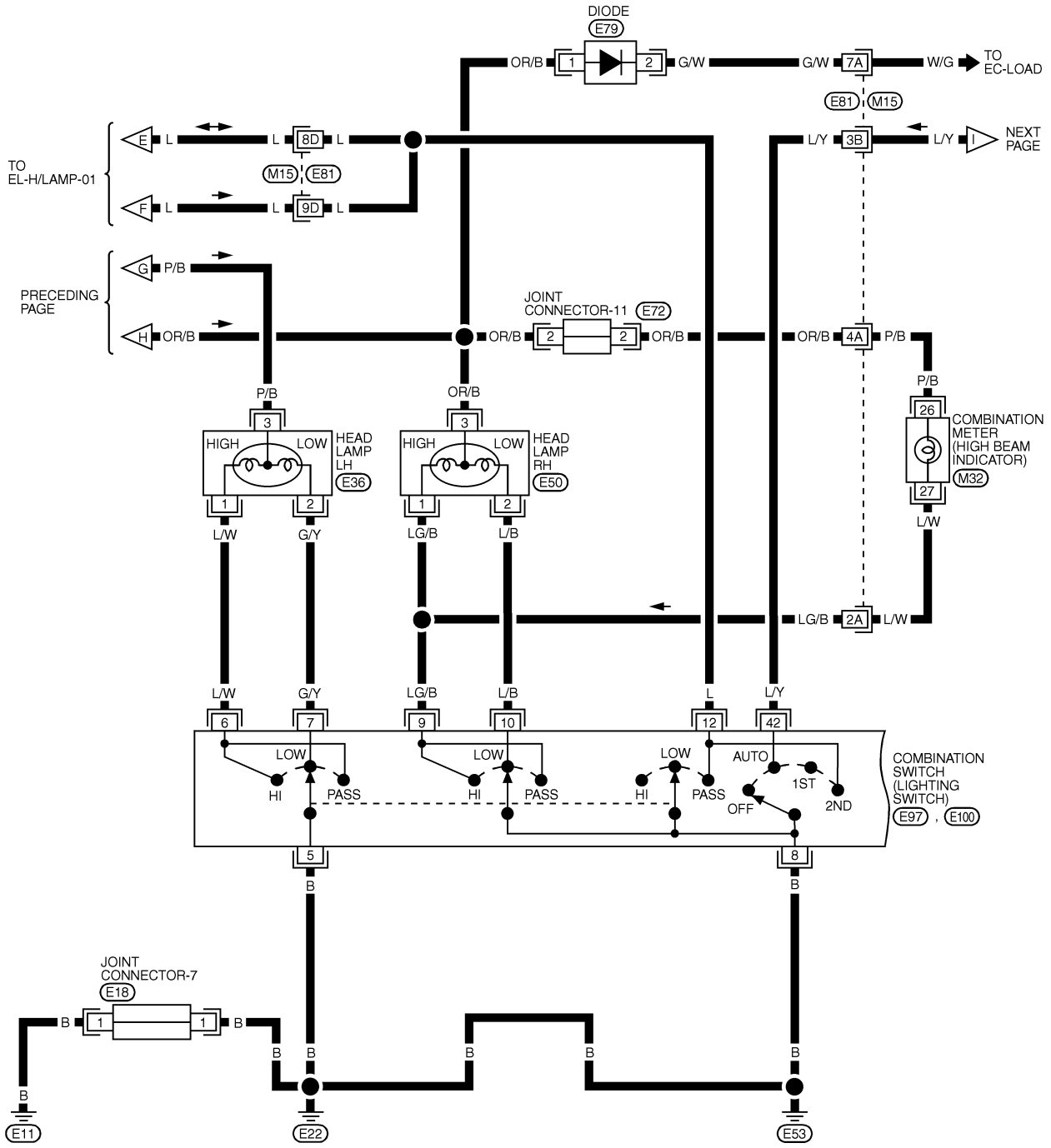
REFER TO THE FOLLOWING.

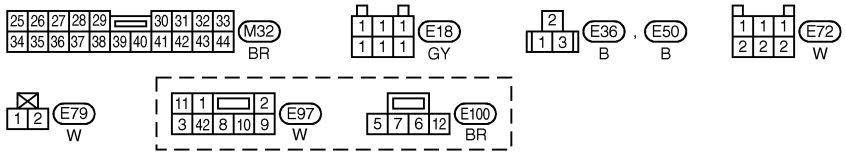
M15 -SUPER MULTIPLE JUNCTION (SMJ)

M17 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL288L

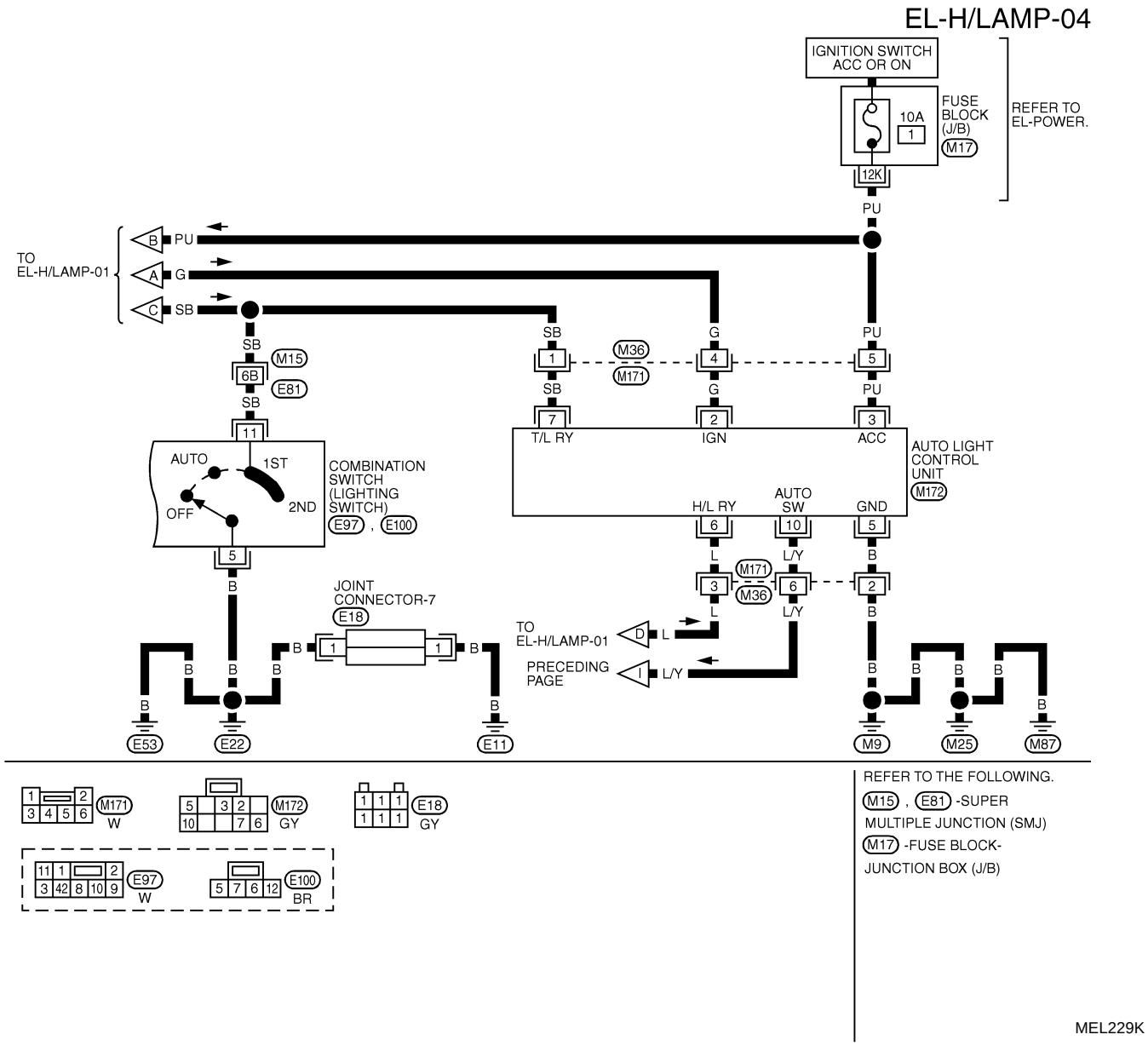
EL-H/LAMP-03





REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)

MEL289L

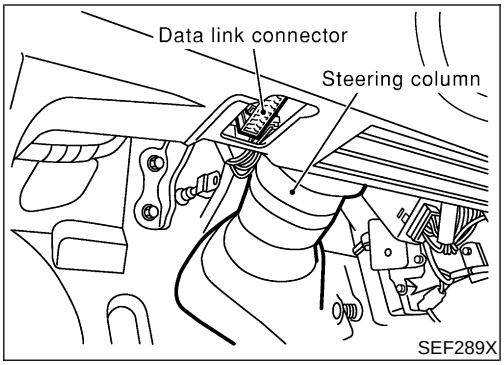


MEL229K

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
5	PU	HEADLAMP BATTERY SAVER CONTROL UNIT	WHEN HEADLAMP BATTERY SAVER TIMER IS OPERATED	12V
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→ ON (OPEN)	5V→0V
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION	12V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→ ON (OPEN)	5V→0V

SEL035X



SEF289X

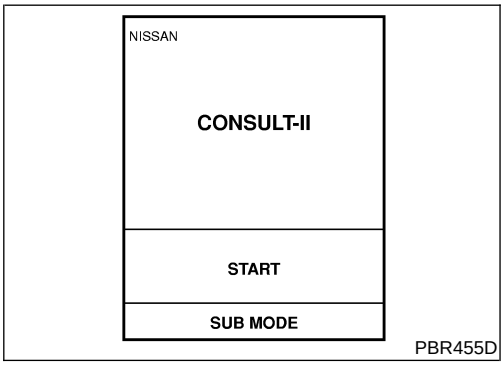
CONSULT-II Inspection Procedure

NFEL0200

“RETAINED PWR”

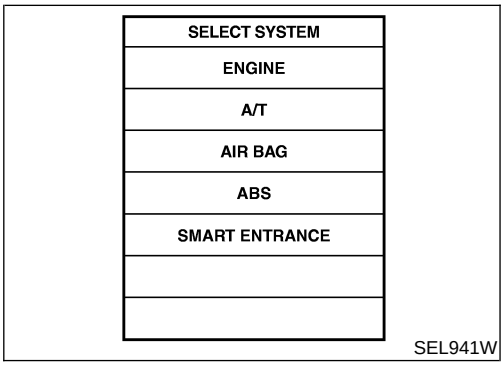
NFEL0200S01

1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



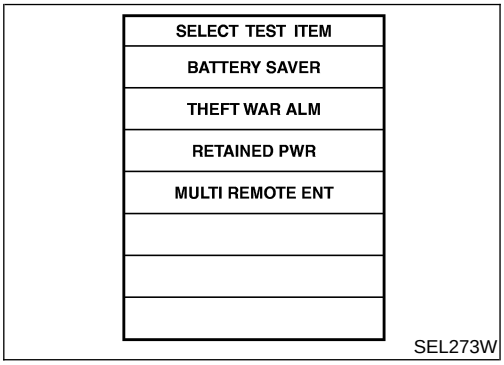
PBR455D

3. Turn ignition switch “ON”.
4. Touch “START”.



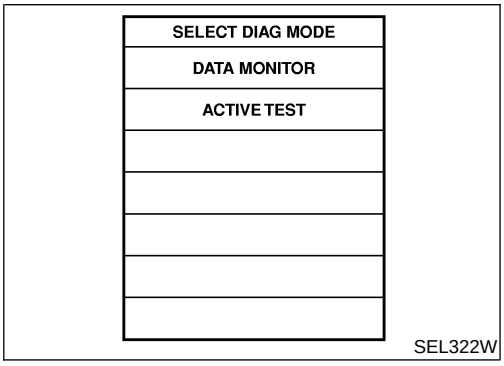
SEL941W

5. Touch “SMART ENTRANCE”.



SEL273W

6. Touch “RETAINED PWR”.



SEL322W

7. Select diagnosis mode.
   “DATA MONITOR” and “ACTIVE TEST” are available.

CONSULT-II Application Items

NFEL0201

NFEL0201S01

"RETAINED PWR" Data Monitor

NFEL0201S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NFEL0201S0102

Test Item	Description
RETAINED PWR	This test is able to supply RAP signal (power) from smart entrance control unit to power window system, power sunroof system and headlamp battery saver control unit. Those systems can be operated when turning on "RETAINED PWR" on CONSULT-II screen even if the ignition switch is tuned OFF. **NOTE:** **During this test, CONSULT-II can be operated with ignition switch "OFF" position. "RETAINED PWR" should be turned "ON" or "OFF" on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF for checking retained power operation. CONSULT-II might be stuck if "RETAINED PWR" is turned "ON" or "OFF" on CONSULT-II screen when ignition switch is OFF.**

Trouble Diagnoses

NFEL0202

Symptom	Possible cause	Repair order
Neither headlamp operates.	1. 10A fuse 2. Lighting switch 3. Headlamp battery saver control unit	1. Check 10A fuse [No. 12, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit. 2. Check Lighting switch. 3. Check headlamp battery saver control unit.
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	1. Bulb 2. 15A fuse 3. Headlamp LH relay 4. Headlamp LH relay circuit 5. Lighting switch 6. Lighting switch ground circuit 7. Headlamp battery saver control unit	1. Check bulb. 2. Check 15A fuse (No. 68, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 5 of headlamp LH relay. 3. Check headlamp LH relay. 4. Check harness between headlamp LH relay and headlamp LH. Check harness between headlamp LH relay and headlamp battery saver control unit. 5. Check lighting switch. 6. Check harness between LH headlamp and ground. 7. Check headlamp battery saver control unit.
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	1. Bulb 2. 15A fuse 3. Headlamp RH relay 4. Headlamp RH relay circuit 5. Lighting switch 6. Lighting switch ground circuit 7. Headlamp battery saver control unit	1. Check bulb. 2. Check 15A fuse (No. 69, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 5 of headlamp RH relay. 3. Check headlamp RH relay. 4. Check harness between headlamp RH relay and headlamp RH. Check harness between headlamp RH relay and headlamp battery saver control unit. 5. Check lighting switch. 6. Check harness between RH headlamp and ground. 7. Check headlamp battery saver control unit.
LH high beam does not operate, but LH low beam does operate.	1. Bulb 2. Open in LH high beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.

Symptom	Possible cause	Repair order
LH low beam does not operate, but LH high beam does operate.	1. Bulb 2. Open in LH low beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
RH high beam does not operate, but RH low beam does operate.	1. Bulb 2. Open in RH high beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
RH low beam does not operate, but RH high beam does operate.	1. Bulb 2. Open in RH low beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
High beam indicator does not work.	1. Bulb 2. Open in high beam circuit	1. Check bulb in combination meter. 2. Check the harness between headlamp RH relay and combination meter for an open circuit. Check the harness between combination meter and combination switch for an open circuit.
Battery saver control does not operate properly.	1. RAP signal circuit 2. Door switch LH or RH circuit 3. Lighting switch circuit 4. Headlamp battery saver control unit 5. Smart entrance control unit	1. Check RAP signal. a. (With CONSULT-II) Check RAP signal with CONSULT-II. Use "ACTIVE TEST" mode, "RETAINED PWR" in "SMART ENTRANCE". (Refer to EL-41.) If NG, go to the step b. below. b. Verify 12 positive voltage from smart entrance control unit is present at terminal 10 of battery saver control unit: ● Within 45 seconds after ignition switch turns off. ● When front door LH and RH is closed. 2. Check harness between smart entrance control unit and LH or RH door switch for open or short circuit. Check LH or RH door switch ground circuit. Check LH or RH door switch. 3. Check harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. Check harness between lighting switch terminal 5 and ground. Check lighting switch. 4. Check headlamp battery saver control unit. 5. Check smart entrance control unit. (EL-316)

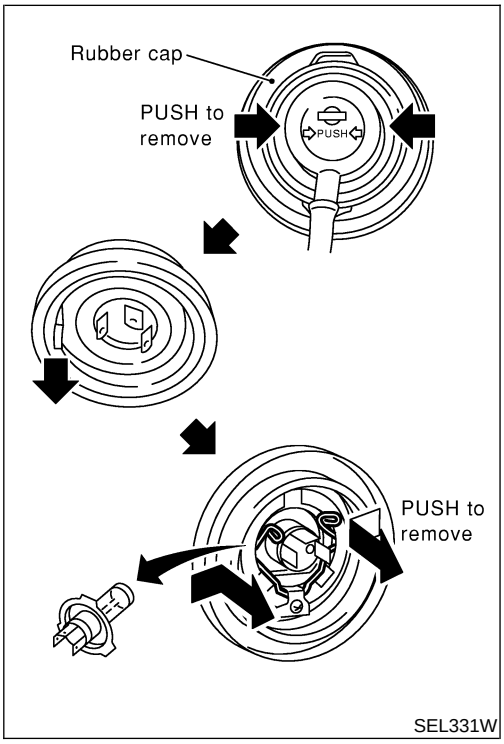
BATTERY SAVER CONTROL UNIT INSPECTION TABLE

NFEL0202S01

Terminal No.	Wire color	Item	Condition			Voltage (Approximate value)
1	OR	Ignition ON power supply	Ignition switch	OFF or ACC		Less than 1V
				ON or START		Battery voltage
2	P	Headlamp LH relay	Ignition switch (with lighting switch except OFF or 1ST)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
					Within 45 seconds after ignition switch is turned OFF or ACC	Less than 1V
				ON or START		Less than 1V
			Headlamps illuminate by auto light control.			Less than 1V

Terminal No.	Wire color	Item	Condition			Voltage (Approximate value)
3	L	Headlamp switch	Lighting switch	Except PASS or 2ND		Battery voltage
				PASS or 2ND		Less than 1V
			Headlamps illuminate by auto light control.			Less than 1V
4	B	Ground	—			—
5	SB	Tail lamp switch	Lighting switch	OFF		Battery voltage
				1ST or 2ND		Less than 1V
6	Y/B	Tail lamp relay	Ignition switch (with lighting switch 1ST or 2ND)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
					Within 45 seconds after ignition switch is turned OFF or ACC	Less than 1V
				ON or START		Less than 1V
			Headlamps illuminate by auto light control.			Less than 1V
7	Y/R	Power supply	—			Battery voltage
8	P	Headlamp RH relay	Ignition switch (with lighting switch except OFF or 1ST)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
					Within 45 seconds after ignition switch is turned OFF or ACC	Less than 1V
				ON or START		Less than 1V
			Headlamps illuminate by auto light control.			Less than 1V
9	L	Headlamp switch	Lighting switch	Except PASS or 2ND		Battery voltage
				PASS or 2ND		Less than 1V
			Headlamps illuminate by auto light control.			Less than 1V
10	PU	RAP signal	Ignition switch	OFF or ACC (After more than 45 seconds with ignition switch turned OFF or ACC)		Less than 1V
				ON or START		Battery voltage
11	B	Ground	—			—
13	SB	Tail lamp switch	Lighting switch	OFF		Battery voltage
				1ST or 2ND		Less than 1V

Terminal No.	Wire color	Item	Condition			Voltage (Approximate value)
14	Y/B	Tail lamp relay	Ignition switch (with lighting switch 1ST or 2ND)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
					Within 45 seconds after ignition switch is turned OFF or ACC	Less than 1V
				ON or START		Less than 1V
			Headlamps illuminate by auto light control.			Less than 1V



SEL331W

Bulb Replacement

NFEL0015

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

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

1. Disconnect the battery cable.
2. Disconnect the harness connector from the back side of the bulb.
3. Pull off the rubber cap.
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.

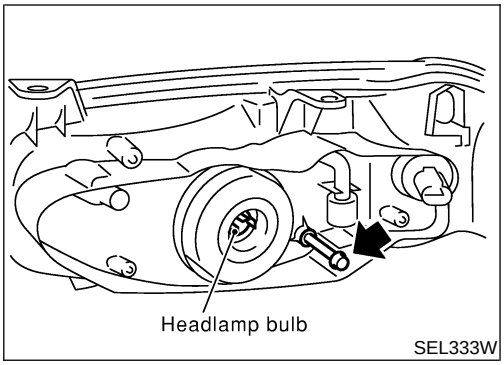
Aiming Adjustment

NFEL0016

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

Before performing aiming adjustment, check the following.

1) Keep all tires inflated to correct pressures.
2) Place vehicle on 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).

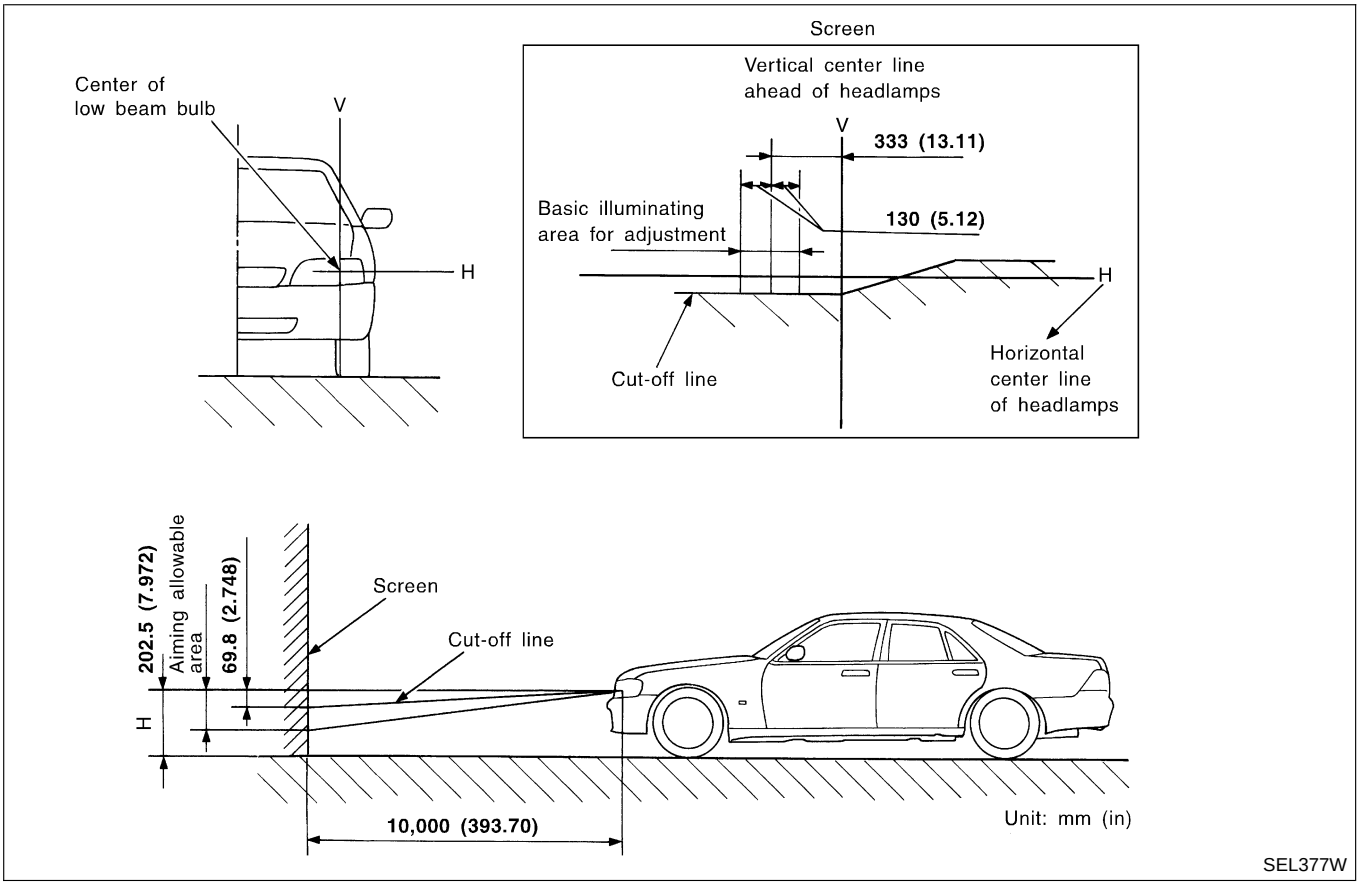


LOW BEAM

NFEL0016S02

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

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

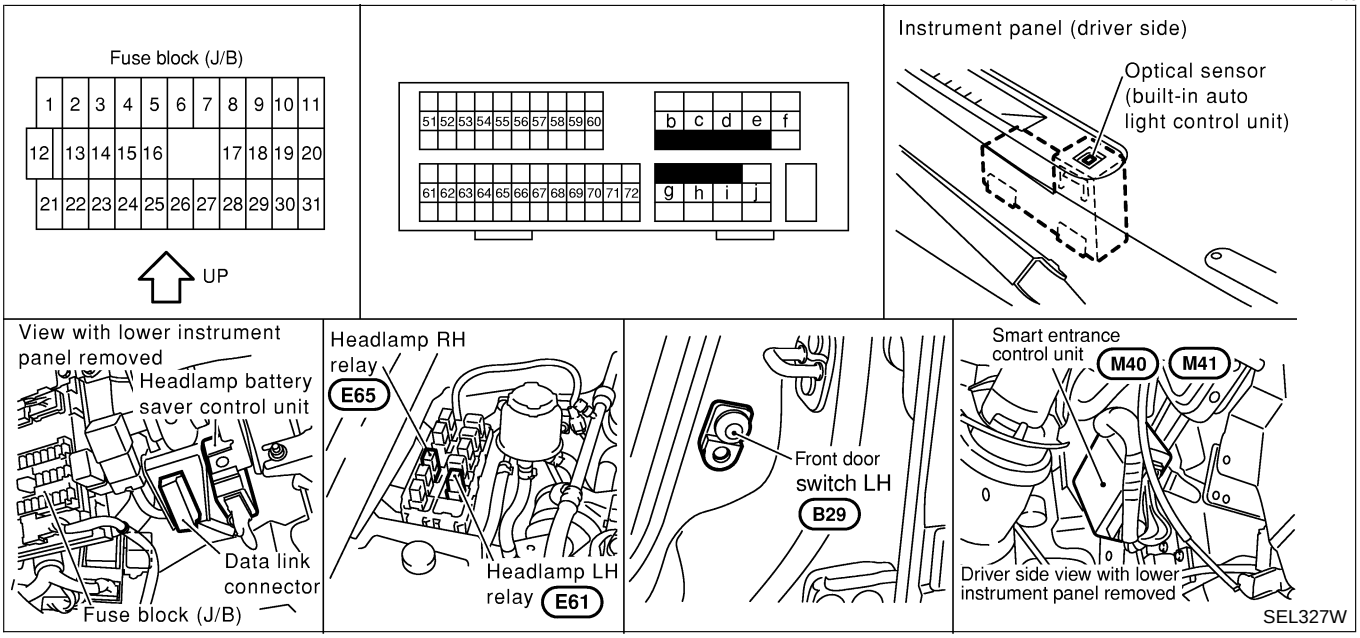


If the vehicle front body has been repaired and/or the headlamp assembly has been replaced, check aiming. Use the aiming chart shown in the figure.

- **Basic illuminating area for adjustment should be within the range shown on the aiming chart. Adjust headlamps accordingly.**

Component Parts and Harness Connector Location

NFEL0203



System Description

NFEL0204

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.

And battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.

Power is supplied at all times

- to headlamp LH relay terminals 1 and 5
- through 15A fuse (No. 68, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 5
- through 15A fuse (No. 69, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 12, located in the fuse block (J/B)].

Ground is supplied

- to daytime light control unit terminal 16 and
- to headlamp battery saver control unit terminals 4 and 11

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

- to daytime light control unit terminal 3,
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 10, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 30, located in the fuse block (J/B)].

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

- to daytime light control unit terminal 2
- through 10A fuse [No. 21, located in the fuse block (J/B)].

HEADLAMP OPERATION

NFEL0204S01

When lighting switch is in 2ND position, ground is supplied

- to headlamp LH relay terminal 2 from headlamp battery saver control unit terminal 2

- through headlamp battery saver control unit terminal 3, and
- to lighting switch terminal 12, and
- to headlamp RH relay terminal 1 from headlamp battery saver control unit terminal 8
- through headlamp battery saver control unit terminal 9, and
- to lighting switch terminal 12.

Headlamp relays (LH and RH) are then energized.

Low Beam Operation

NFEL0204S0103

When the lighting switch is turned to 2ND and LOW ("B") positions, ground is supplied

- to terminal 2 of the headlamp LH
- through daytime light control unit terminals 11 and 15
- through lighting switch terminals 10 and 8
- through body grounds E11, E22 and E53.

Ground is also supplied

- to terminal 2 of the headlamp RH
- through daytime light control unit terminals 8 and 12
- through lighting switch terminals 7 and 5
- through body grounds E11, E22 and E53.

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

High Beam Operation/Flash-to-pass Operation

NFEL0204S0104

When the lighting switch is turned to 2ND and HIGH ("A") or PASS ("C") positions, ground is supplied

- to terminal 1 of LH headlamp
- through daytime light control unit terminals 10 and 14, and
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 9 and 8
- through body grounds E11, E22 and E53.

Ground is also supplied

- to terminal 1 of RH headlamp
- through daytime light control unit terminals 9 and 13
- through lighting switch terminals 6 and 5
- through body grounds E11, E22 and E53.

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

BATTERY SAVER CONTROL

NFEL0204S02

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated, The RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.
After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 2 of headlamp LH and RH relays from headlamp battery saver control unit terminals 2 and 8 is terminated.
Then headlamps are turned off.
The headlamps are turned off when LH or RH door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.
When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supply

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and then
- to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit terminals 2 and 8,
- through headlamp battery saver control unit terminals 3 and 9, and
- through lighting switch terminal 12.

Then headlamps illuminate again.

AUTO LIGHT OPERATION

NFEL0204S05

For auto light operation, refer to "HEADLAMP" (EL-34).

DAYTIME LIGHT OPERATION

NFEL0204S03

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

- through daytime light control unit terminal 7
- to terminal 3 of RH headlamp
- through terminal 1 of RH headlamp
- to daytime light control unit terminal 9
- through daytime light control unit terminal 6
- to terminal 3 of LH headlamp.

Ground is supplied to terminal 1 of LH headlamp.

- through daytime light control unit terminals 10 and 16
- through body grounds E11, E22 and E53.

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

OPERATION

NFEL0204S04

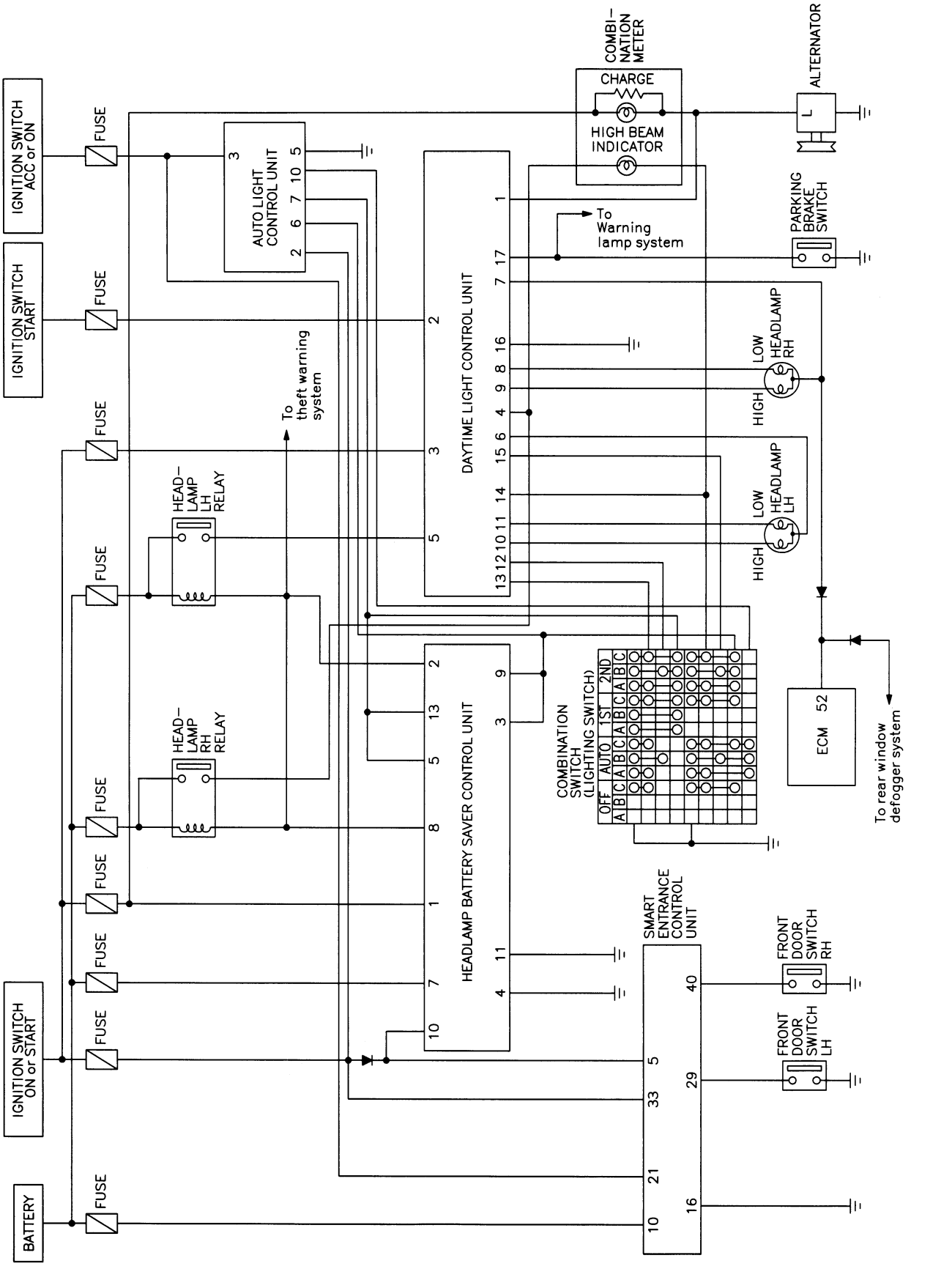
After starting the engine with the lighting switch in the "OFF" or "1ST" position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

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

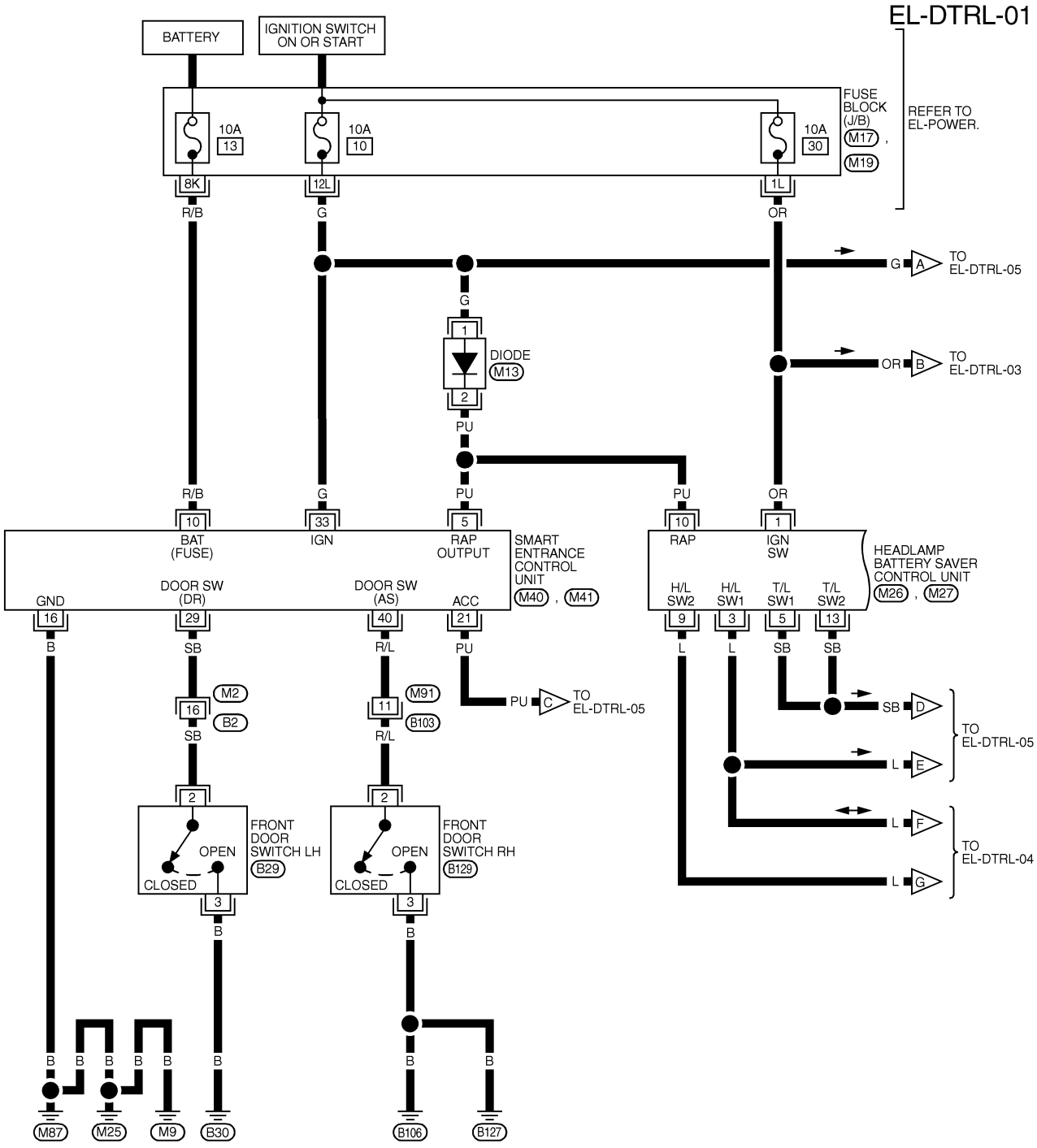
NFEL0205

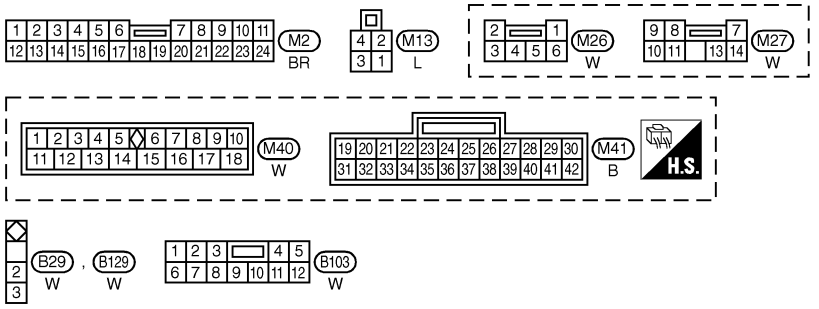


MEL291L

Wiring Diagram — DTRL —

NFEL0020



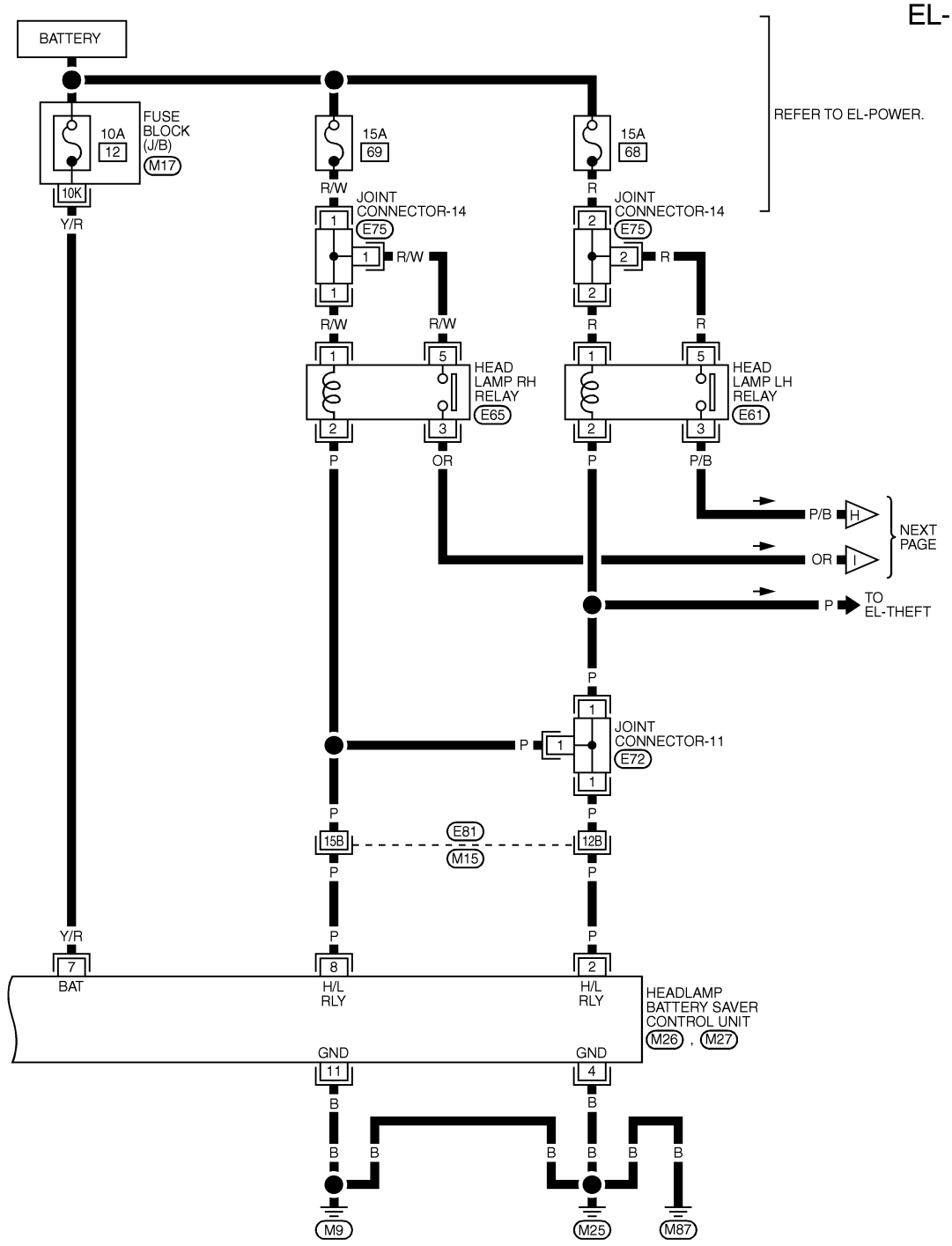


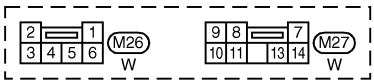
REFER TO THE FOLLOWING.
M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B)

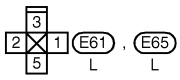
MEL292L

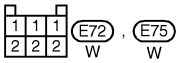
Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02





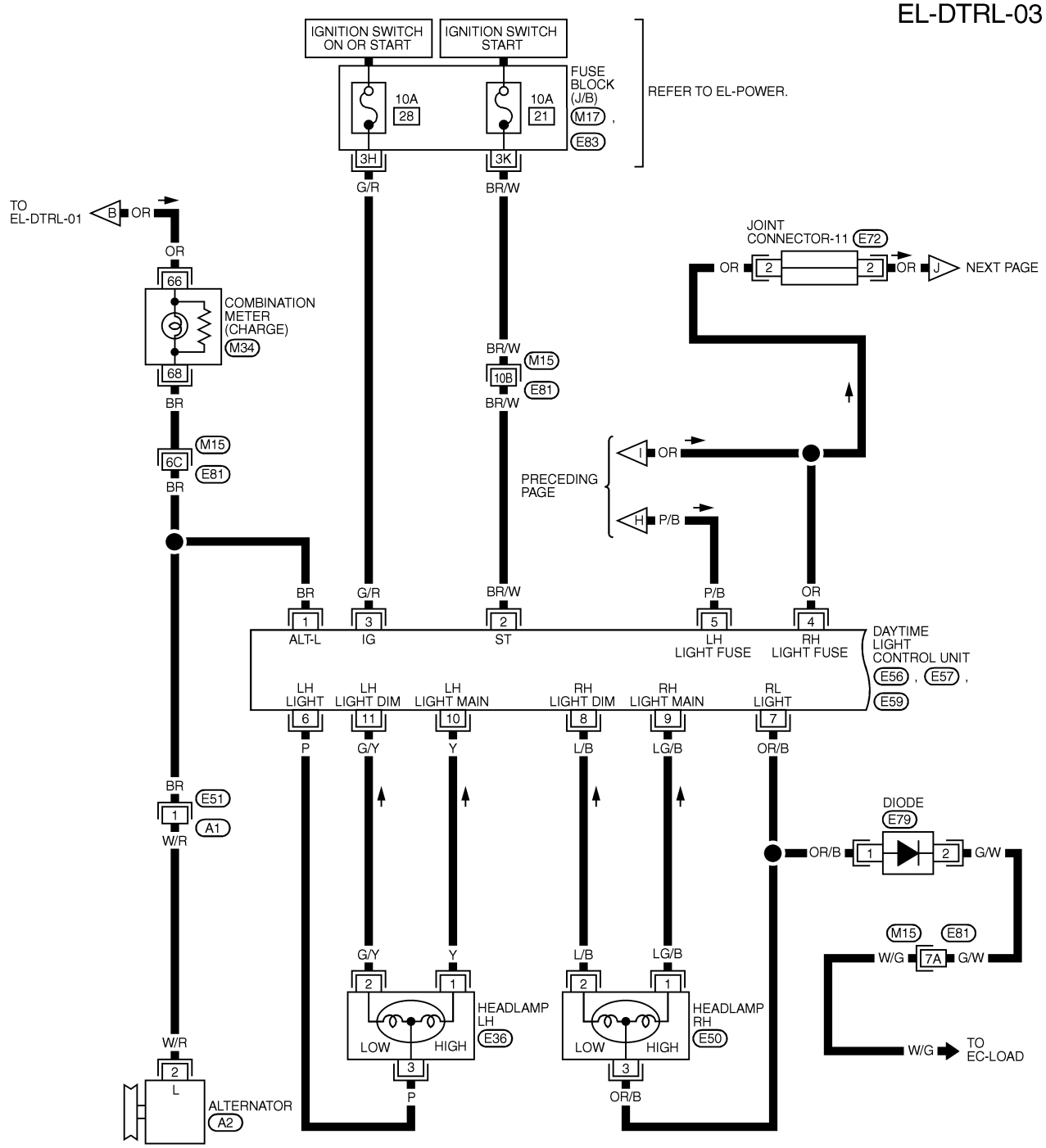


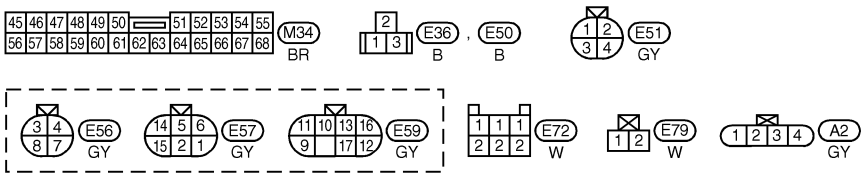


REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL293L

EL-DTRL-03



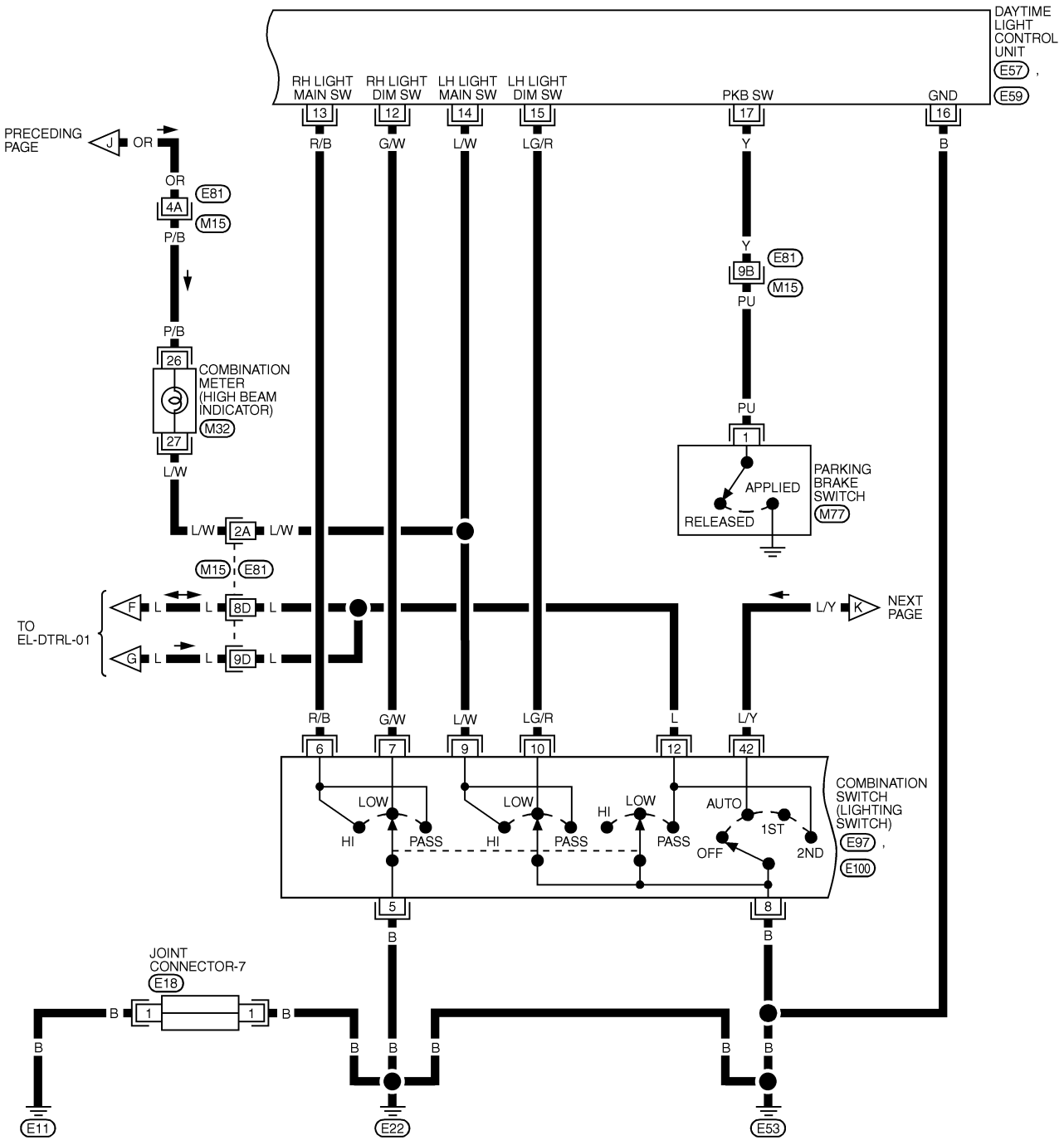


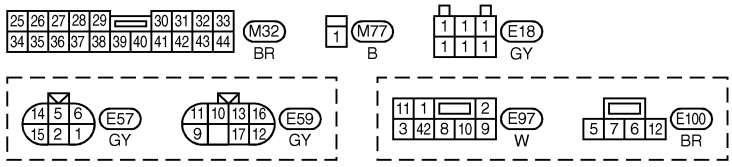
REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 , E83 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL294L

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-04

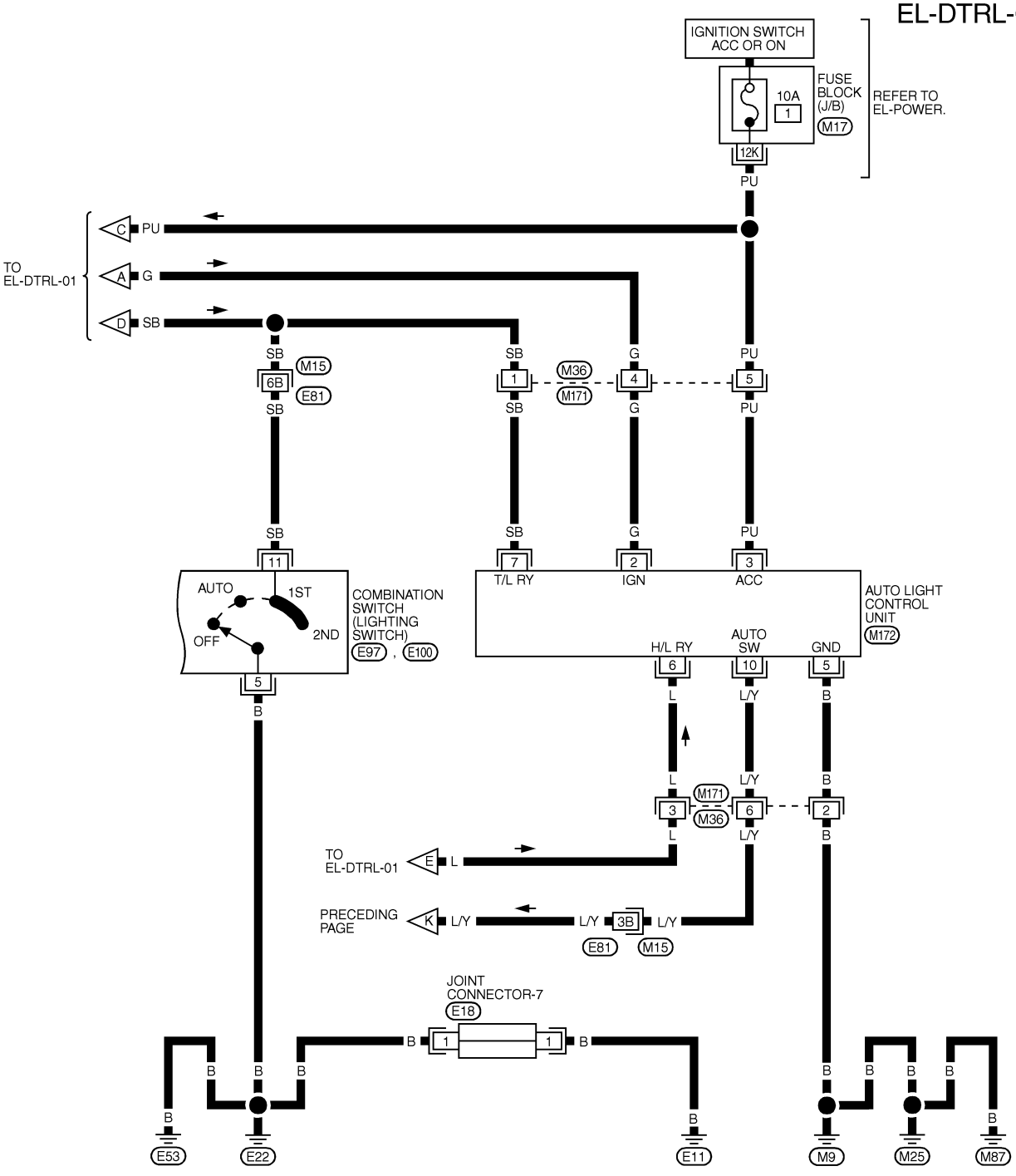


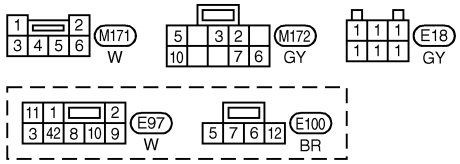


REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)

MEL295L

EL-DTRL-05





REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL239K

Trouble Diagnoses

NFEL0206

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

NFEL0206S01

Terminal No.	Wire color	Item	Condition		Voltage (Approximate values)
1	BR	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
2	BR/W	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
3	G/R	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
4	OR	Power source		When turning ignition switch to “ON”	Battery voltage
				When turning ignition switch to “OFF”	Battery voltage
5	P/B	Power source		When turning ignition switch to “ON”	Battery voltage
				When turning ignition switch to “OFF”	Battery voltage
6	P	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

Terminal No.	Wire color	Item	Condition		Voltage (Approximate values)
9	LG/B	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
10	Y	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
12 15	G/W L/W	Lighting switch (Lo beam)		When turning lighting switch to "LOW BEAM"	Battery voltage
13 14	R/B L/W	Lighting switch (Hi beam)		When turning lighting switch to "HI BEAM"	Battery voltage
				When turning lighting switch to "FLASH TO PASS"	Battery voltage
16	B	Ground		—	—
17	Y	Parking brake switch		When parking brake is released	Battery voltage
				When parking brake is set	Less than 1.5V

BATTERY SAVER CONTROL UNIT INSPECTION TABLE

NFEL0206S02

Refer to "HEADLAMP (FOR USA)" EL-43.

Bulb Replacement

NFEL0022

Refer to "HEADLAMP (FOR USA)" (EL-45).

Aiming Adjustment

NFEL0023

Refer to "HEADLAMP (FOR USA)" (EL-45).

System Description

NFEL0207

The parking, license and tail lamp operation is controlled by the lighting switch which is built into the combination switch and headlamp battery saver control unit. The battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.
Power is supplied at all times

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 12, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 30, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 10, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

LIGHTING OPERATION BY LIGHTING SWITCH

NFEL0207S01

When lighting switch is in 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through lighting switch and body grounds E11, E22 and E53.

Tail lamp relay is then energized and the parking, side marker and tail lamps illuminate.

LIGHTING OPERATION BY AUTO LIGHT CONTROL SYSTEM

NFEL0207S03

When lighting switch is in AUTO position, ground is supplied

- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through auto light control unit terminal 7.

Tail lamp relay is then energized and the parking, license side marker and tail lamps illuminate.

BATTERY SAVER CONTROL

NFEL0207S02

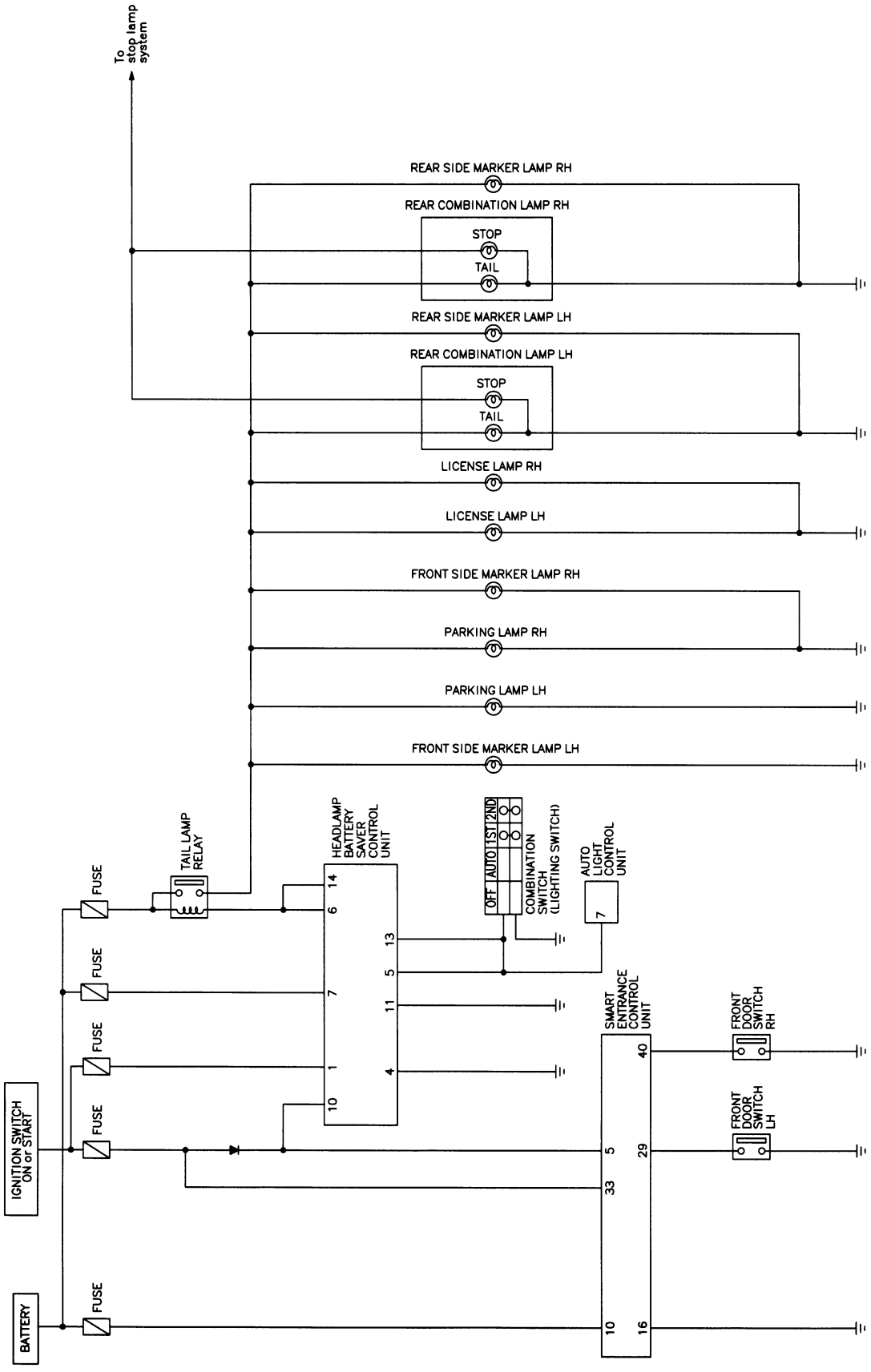
When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while parking, license side marker and tail lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.
After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 2 of the tail lamp relay from headlamp battery saver control unit terminals 6 and 14 is terminated.
Then the parking, license side marker and tail lamps are turned off.
The parking, license side marker and tail lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while parking, license side marker and tail lamps are illuminated.
When the lighting switch is turned from OFF to 1ST (or 2ND) after the parking, license side marker and tail lamps are turned off by the battery saver control, ground is supplied.

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11 or auto light control unit terminal 7, and then
- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14.

Then the parking, license side marker and tail lamps illuminate again.

Schematic

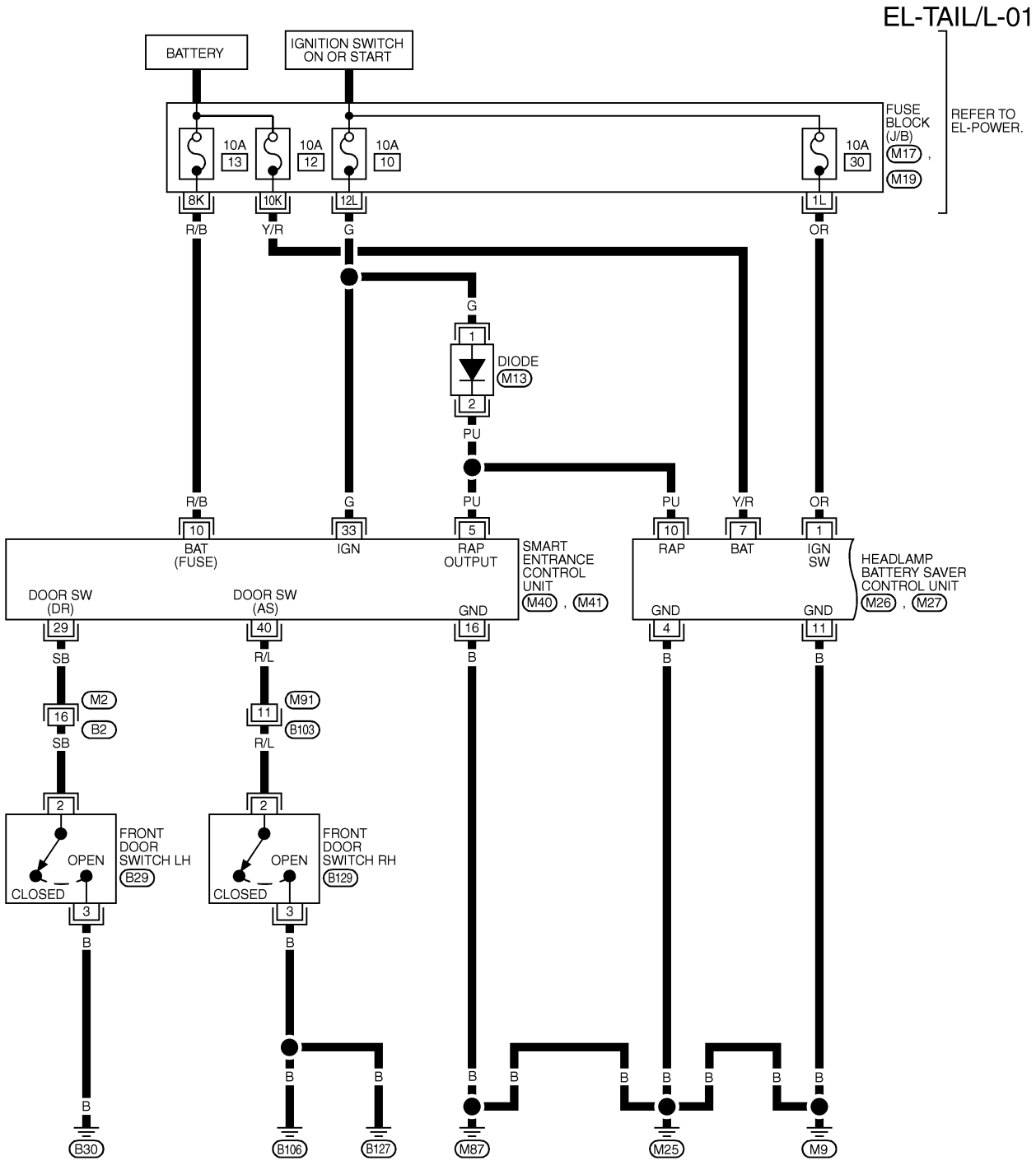
NFEL0208

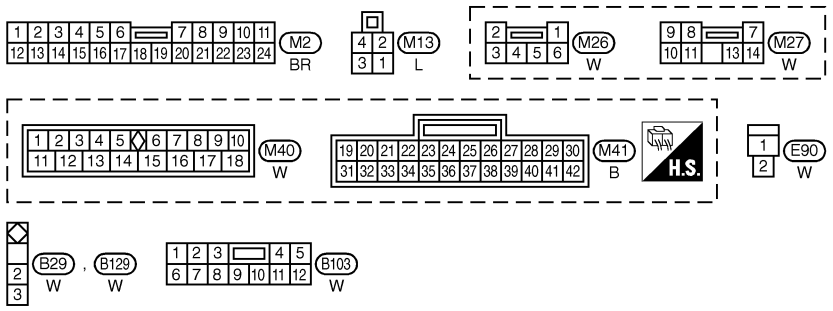


MEL297L

Wiring Diagram — TAIL/L —

NFEL0024



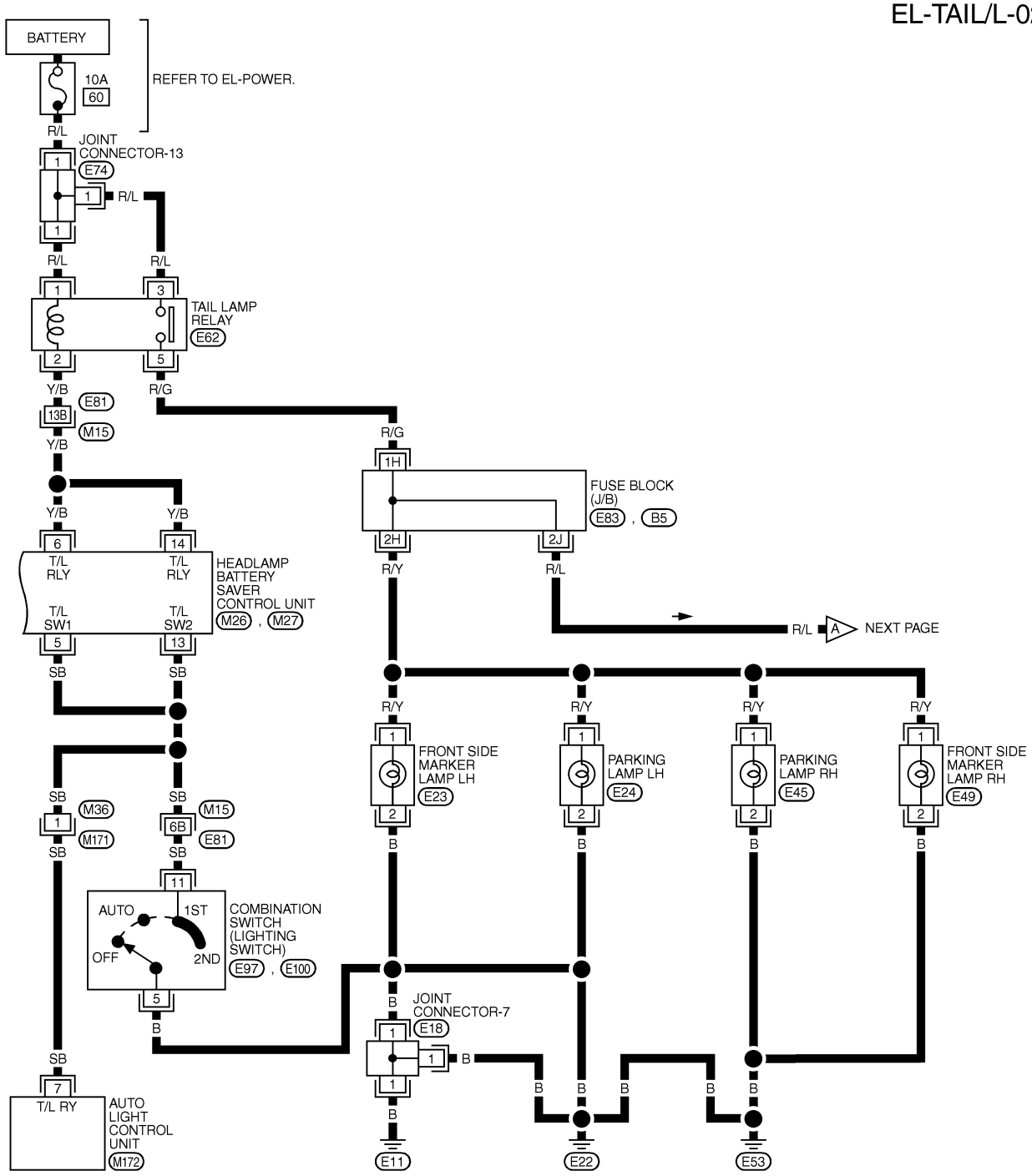


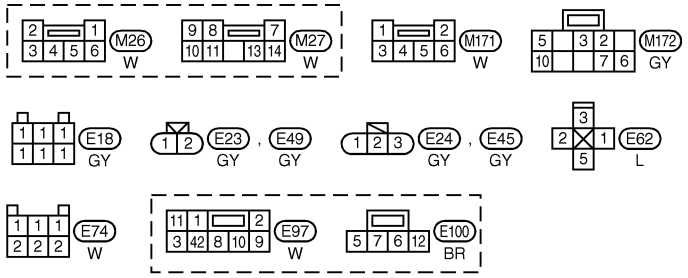
REFER TO THE FOLLOWING.

M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL298L

EL-TAIL/L-02



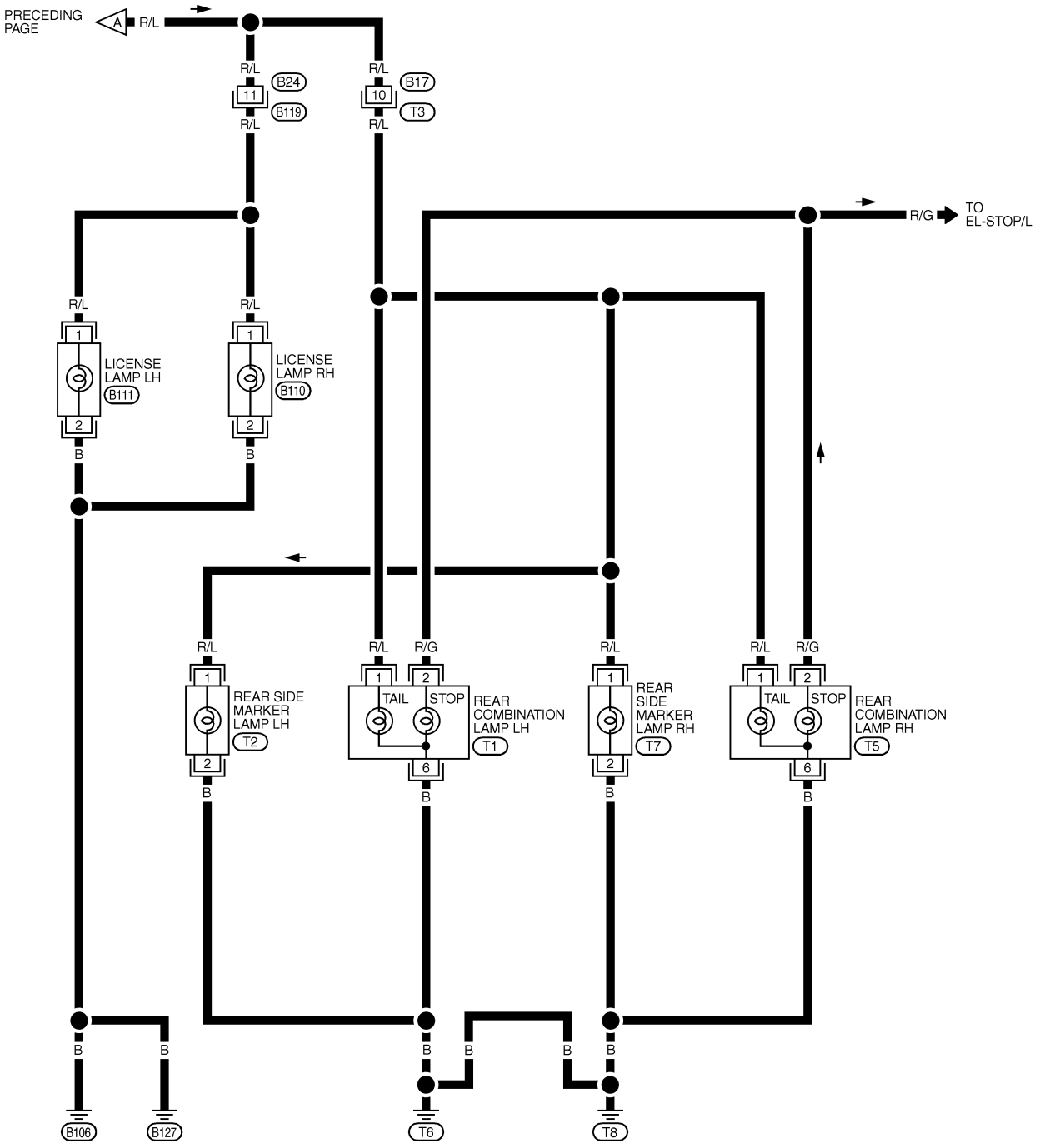


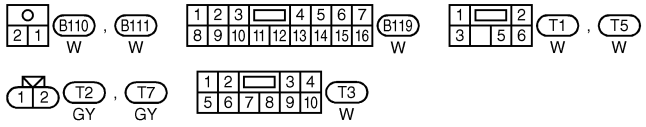
REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)
E83 -FUSE BLOCK-JUNCTION BOX (J/B)
B5 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL246K

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-03



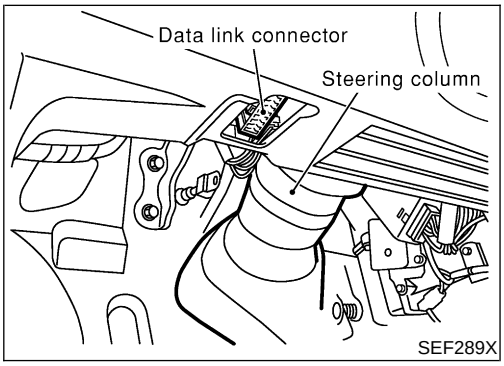


MEL247K

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
5	PU	HEADLAMP BATTERY SAVER CONTROL UNIT	WHEN HEADLAMP BATTERY SAVER TIMER IS OPERATED	12V
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→ ON (OPEN)	5V→0V
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION	12V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→ ON (OPEN)	5V→0V

SEL035X



SEF289X

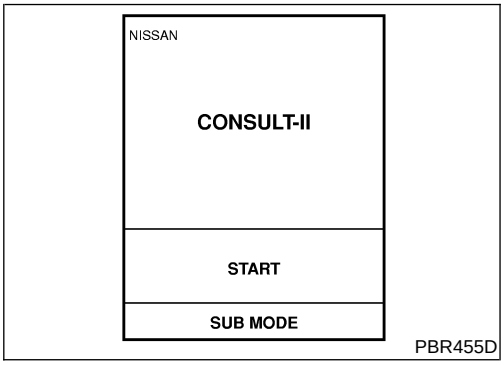
CONSULT-II Inspection Procedure

NFEL0209

"RETAINED PWR"

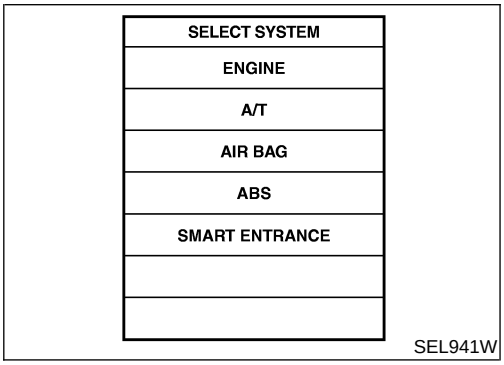
NFEL0209S01

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



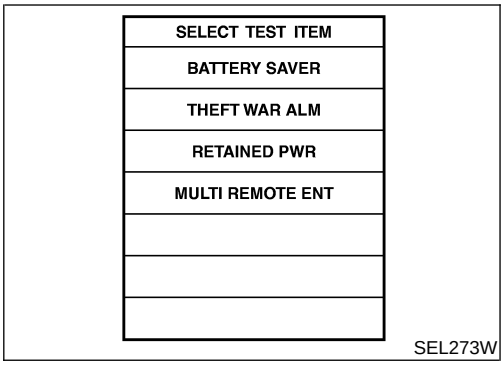
PBR455D

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

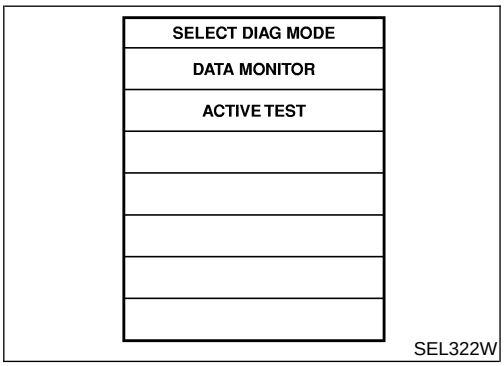


SEL941W

5. Touch "SMART ENTRANCE".



6. Touch "RETAINED PWR".



7. Select diagnosis mode.
"DATA MONITOR" and "ACTIVE TEST" are available.

CONSULT-II Application Items

NFEL0210

NFEL0210S01

"RETAINED PWR"
Data Monitor

NFEL0210S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NFEL0210S0102

Test Item	Description
RETAINED PWR	This test is able to supply RAP signal (power) from smart entrance control unit to power window system, power sunroof system and headlamp battery saver control unit. Those systems can be operated when turning on "RETAINED PWR" on CONSULT-II screen even if the ignition switch is tuned OFF. **NOTE:** **During this test, CONSULT-II can be operated with ignition switch "OFF" position. "RETAINED PWR" should be turned "ON" or "OFF" on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF for checking retained power operation. CONSULT-II might be stuck if "RETAINED PWR" is turned "ON" or "OFF" on CONSULT-II screen when ignition switch is OFF.**

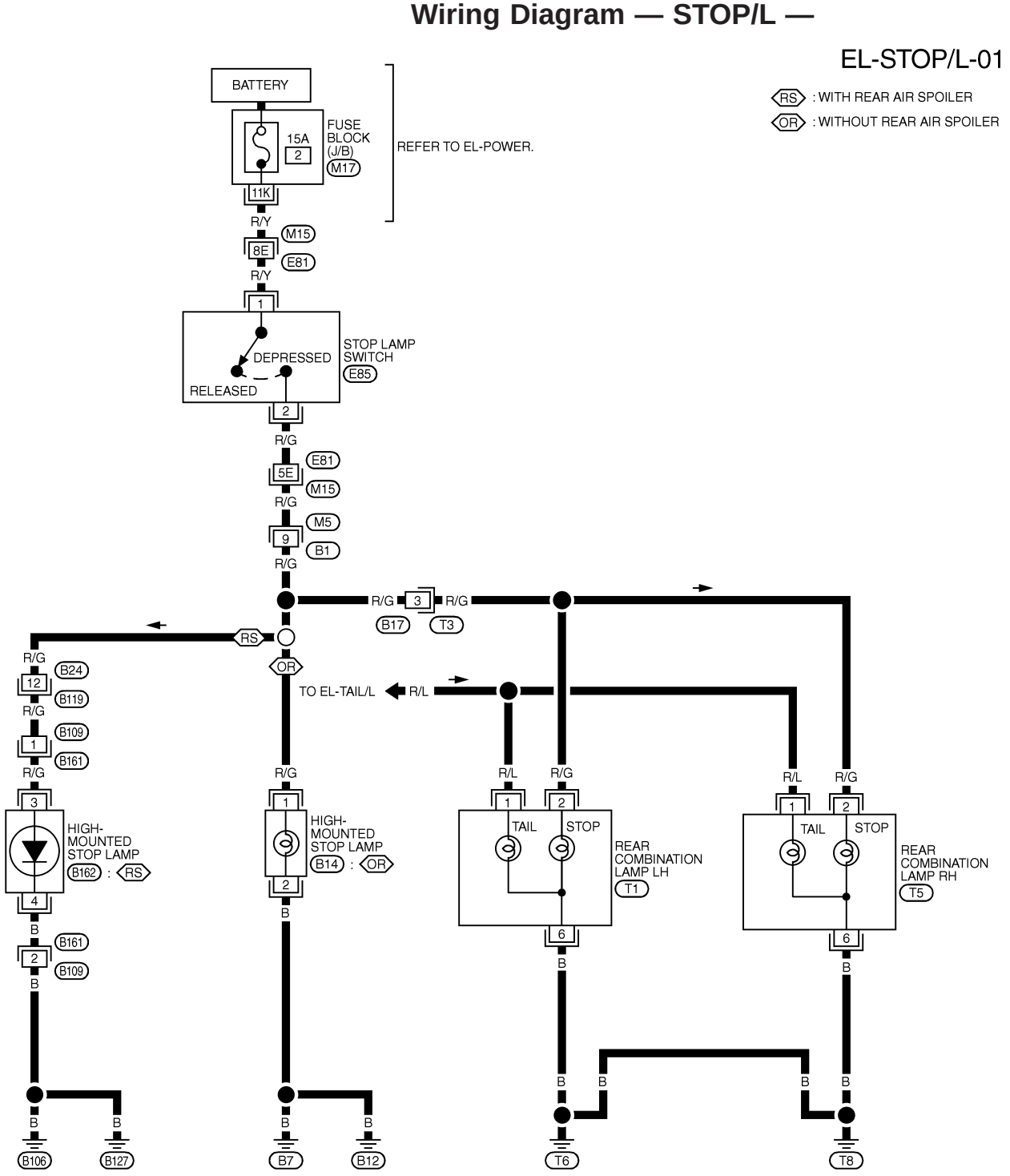
Trouble Diagnoses

=NFEL0211

Symptom	Possible cause	Repair order
No lamps operate (including headlamps).	1. 10A fuse 2. Lighting switch 3. Headlamp battery saver control unit	1. Check 10A fuse [No. 12, lacated in fuse block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit. 2. Check lighting switch. 3. Check headlamp battery saver control unit. (EL-43)
No parking, side marker, license and tail lamps operate, but headlamps do operate.	1. 10A fuse 2. Tail lamp relay 3. Tail lamp relay circuit 4. Lighting switch 5. Lighting switch circuit 6. Headlamp battery saver control unit	1. Check 10A fuse (No. 60, located in fusible and fuse block). Verify battery positive voltage is present at terminals 1 and 3 of tail lamp relay. 2. Check tail lamp relay. 3. Check harness between headlamp battery saver control unit terminals 6 and 14 and tail lamp relay terminal 2. Check harness between tail lamp relay terminal 5 and fuse block. 4. Check lighting switch. 5. Check harness between lighting switch terminal 11 and headlamp battery saver control unit terminals 5 and 13. Check harness between lighting switch terminal 5 and ground. 6. Check headlamp battery saver control unit. (EL-43)
Battery saver control does not operate properly.	1. RAP signal circuit 2. Driver or passenger side door switch circuit 3. Lighting switch circuit 4. Headlamp battery saver control unit 5. Smart entrance control unit	1. Check RAP signal. a. (With CONSULT-II) Check RAP signal with CONSULT-II. Use “ACTIVE TEST” mode, “RETAINED PWR” in “SMART ENTRANCE”. (Refer to EL-63.) If NG, go to the step b. below. b. Verify 12 positive voltage from smart entrance control unit is present at terminal 10 of battery saver control unit: ● Within 45 seconds after ignition switch turns off. ● When front door LH and RH is closed. 2. Check harness between smart entrance control unit and driver or passenger side door switch for open or short circuit. Check driver or passenger side door switch ground circuit. Check driver or passenger side door switch. 3. Check harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. Check harness between lighting switch terminal 5 and ground. Check lighting switch. 4. Check headlamp battery saver control unit. (EL-43) 5. Check smart entrance control unit. (EL-316)

Wiring Diagram — STOP/L —

NFEL0025

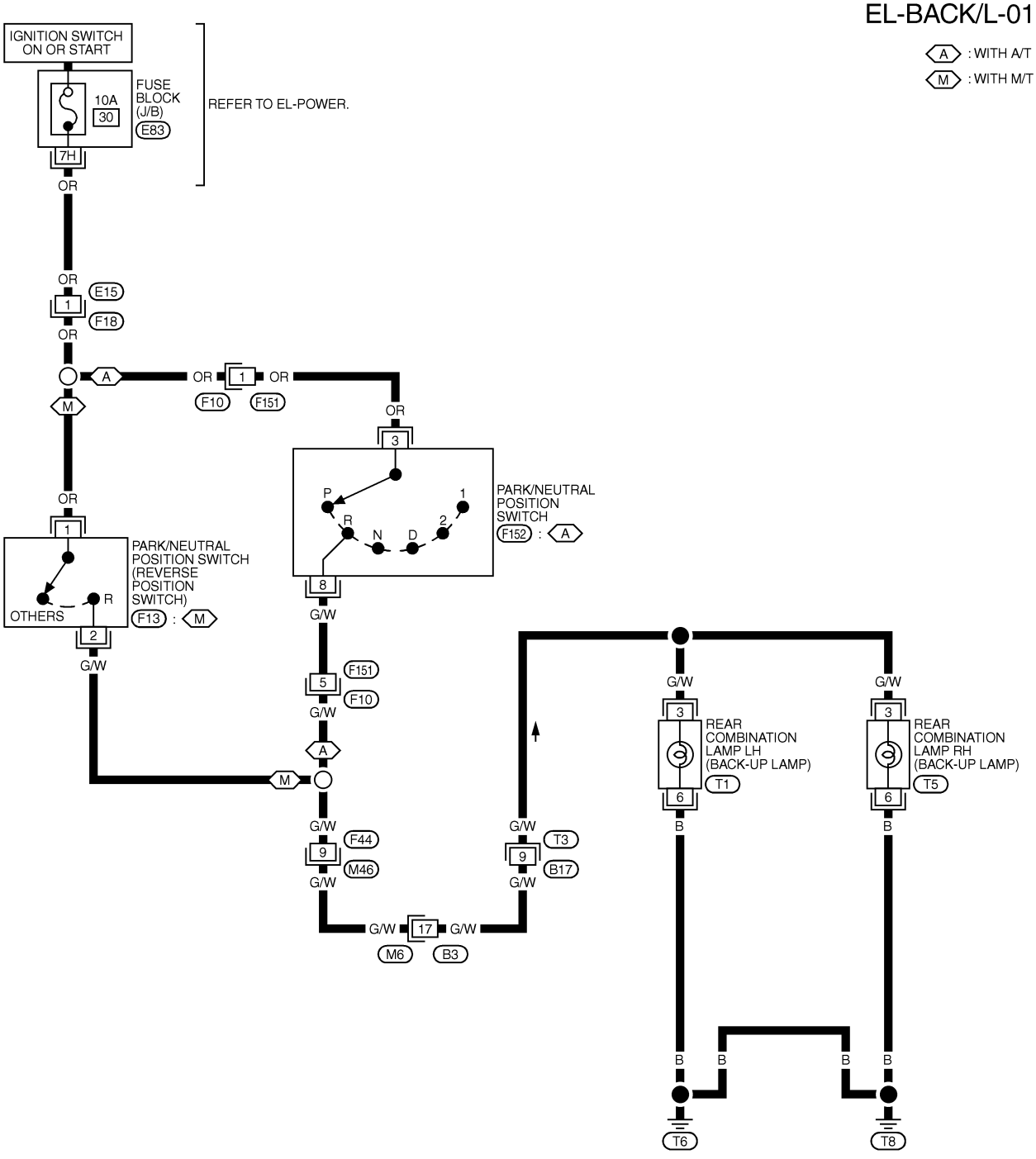


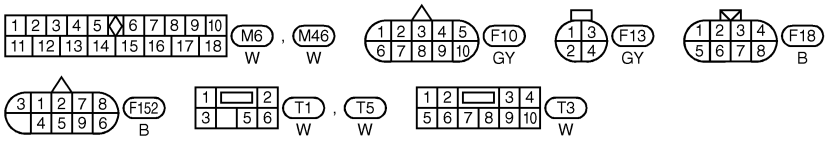
MEL248K

Wiring Diagram — BACK/L —

NFEL0026

EL-BACK/L-01





REFER TO THE FOLLOWING.
E83 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL249K

System Description

NFEL0164

OUTLINE

NFEL0164S01

Power is supplied at all times
- to headlamp RH relay terminals 1 and 5
- through 15A fuse (No. 69, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 12, located in the fuse block (J/B)], and
- to front fog lamp relay terminal 3
- through 15A fuse (No. 6, located in the fuse and fusible link box).

When ignition switch is in ON or START position, power is supplied
- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 30, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 10, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.
When lighting switch is in 2ND position, ground is supplied
- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 8.
- through headlamp battery saver control unit terminal 9, and
- through lighting switch, and body grounds E11, E22 and E53.

Headlamp RH relay is then energized.

FOG LAMP OPERATION

NFEL0164S02

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, lighting switch and body grounds E11, E22 and E53.

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 E11, E22 and E53.
With power and ground supplied, the fog lamps illuminate.

BATTERY SAVER CONTROL

NFEL0164S03

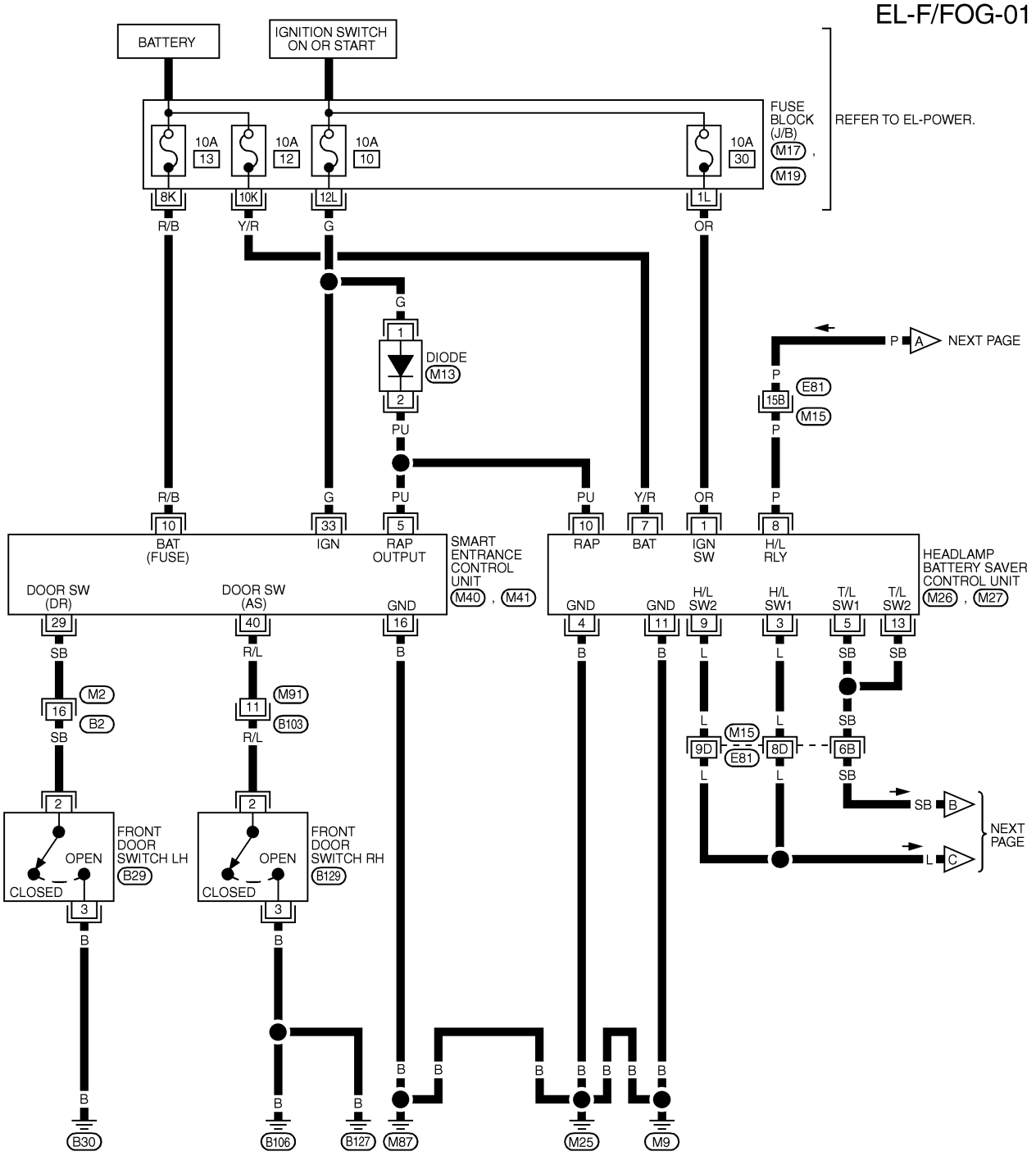
When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while fog lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.
After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 1 of headlamp RH relay from headlamp battery saver control unit teminal 8 is terminated.
Then fog lamps are turned to off.
Fog lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while fog lamps are illuminated.
When the lighting switch is turned from OFF to 1st or 2ND after fog lamps are turned off by the battery saver control, ground is supplied
- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and then
- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 8.
- through headlamp battery saver control unit terminal 9
- through lighting switch, and body grounds E11, E22 and E53.

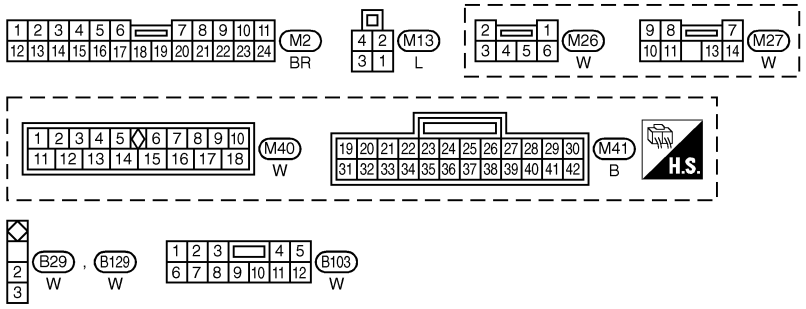
Then the fog lamps illuminate again.

Wiring Diagram — F/FOG —

NFEL0028

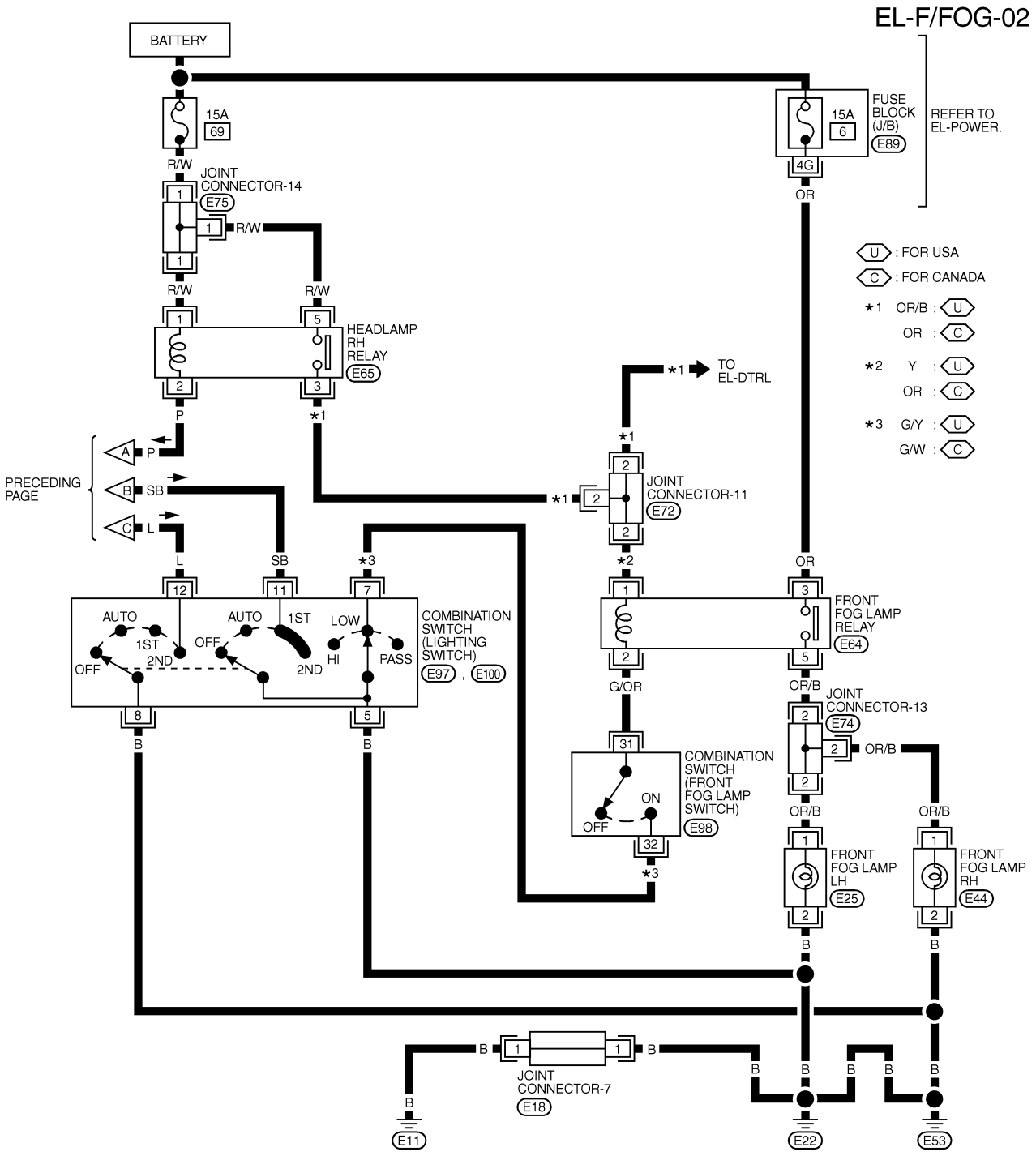
EL-F/FOG-01

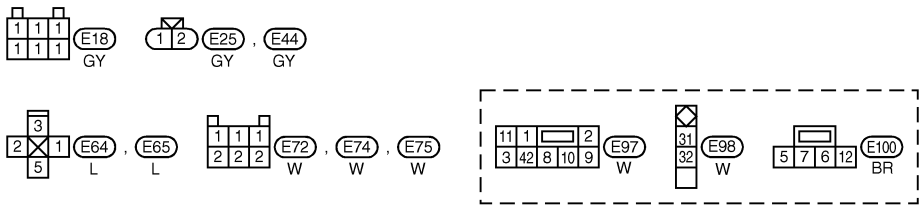




REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL299L





REFER TO THE FOLLOWING.
E89 -FUSE BLOCK-JUNCTION BOX (J/B)

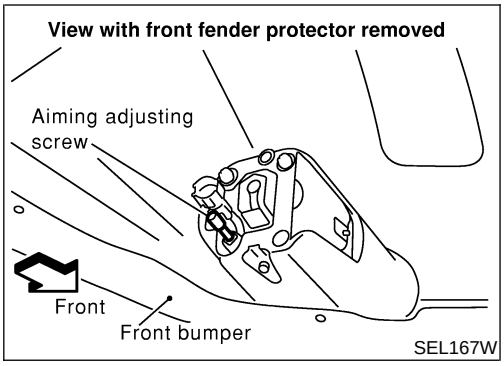
MEL300L

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
5	PU	HEADLAMP BATTERY SAVER CONTROL UNIT	WHEN HEADLAMP BATTERY SAVER TIMER IS OPERATED	12V
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→► ON (OPEN)	5V→►0V
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION	12V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→► ON (OPEN)	5V→►0V

SEL035X

NOTE:
For CONSULT-II Inspection Procedure, refer to "HEADLAMP (FOR USA)" (EL-41).
For CONSULT-II Application Items, refer to "HEADLAMP (FOR USA)" (EL-42).
Trouble Diagnoses for battery saver control, refer to "HEADLAMP (FOR USA)" (EL-42).



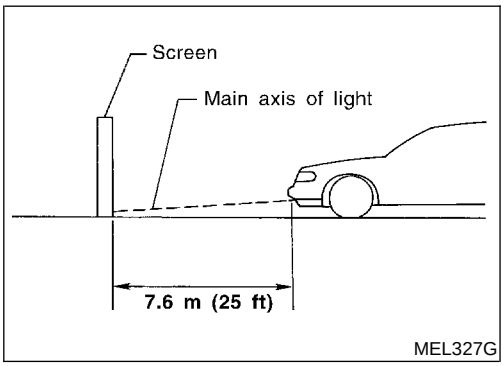
Aiming Adjustment

=NFEL0029

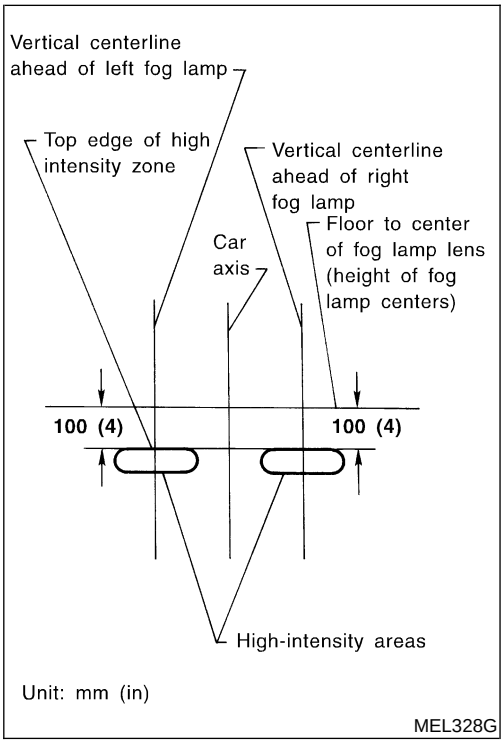
Before performing aiming adjustment, make sure of the following.

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.

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



1. Set the distance between the screen and the center of the fog lamp lens as shown at left.
2. Remove front fog lamp rim. For detail, refer to "BODY END" in BT section.
3. Turn front fog lamps ON.



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

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

System Description

NFEL0030

TURN SIGNAL OPERATION

NFEL0030S01

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

- through 10A fuse [No. 26, 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 M9, M25 and M87.

LH Turn

NFEL0030S0101

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

- front turn signal lamp LH terminal 3
- combination meter terminal 25
- rear combination lamp LH terminal 5.

Ground is supplied to the front turn signal lamp LH terminal 2 through body grounds E11, E22 and E53.
Ground is supplied to the rear combination lamp LH terminal 6 through body grounds T6 and T8.
Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.
With power and ground supplied, the combination flasher unit controls the flashing of the LH turn signal lamps.

RH Turn

NFEL0030S0102

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

- front turn signal lamp RH terminal 3
- combination meter terminal 29
- rear combination lamp RH terminal 5.

Ground is supplied to the front turn signal lamp RH terminal 2 through body grounds E11, E22 and E53.
Ground is supplied to the rear combination lamp RH terminal 6 through body grounds T6 and T8.
Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.
With power and ground supplied, the combination flasher unit controls the flashing of the RH turn signal lamps.

HAZARD LAMP OPERATION

NFEL0030S02

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

- 15A fuse [No. 5, 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 M9, M25 and M87.
Power is supplied through terminal 5 of the hazard switch to

- front turn signal lamp LH terminal 3
- combination meter terminal 25
- rear combination lamp LH terminal 5.

Power is supplied through terminal 6 of the hazard switch to

- front turn signal lamp RH terminal 3
- combination meter terminal 29
- rear combination lamp RH terminal 5.

Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E11, E22 and E53.
Ground is supplied to terminal 6 of each rear combination lamp through body grounds T6 and T8.
Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.
With power and ground supplied, the combination flasher unit controls the flashing of the hazard warning lamps.

MULTI-REMOTE CONTROL SYSTEM OPERATION

NFEL0030S03

Power is supplied at all times

- through 15A fuse [No. 5, located in the fuse block (J/B)]
- to multi-remote control relay terminals 1, 6 and 3.

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-247.
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 3
- to combination meter terminal 25
- to rear combination lamp LH terminal 5.

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

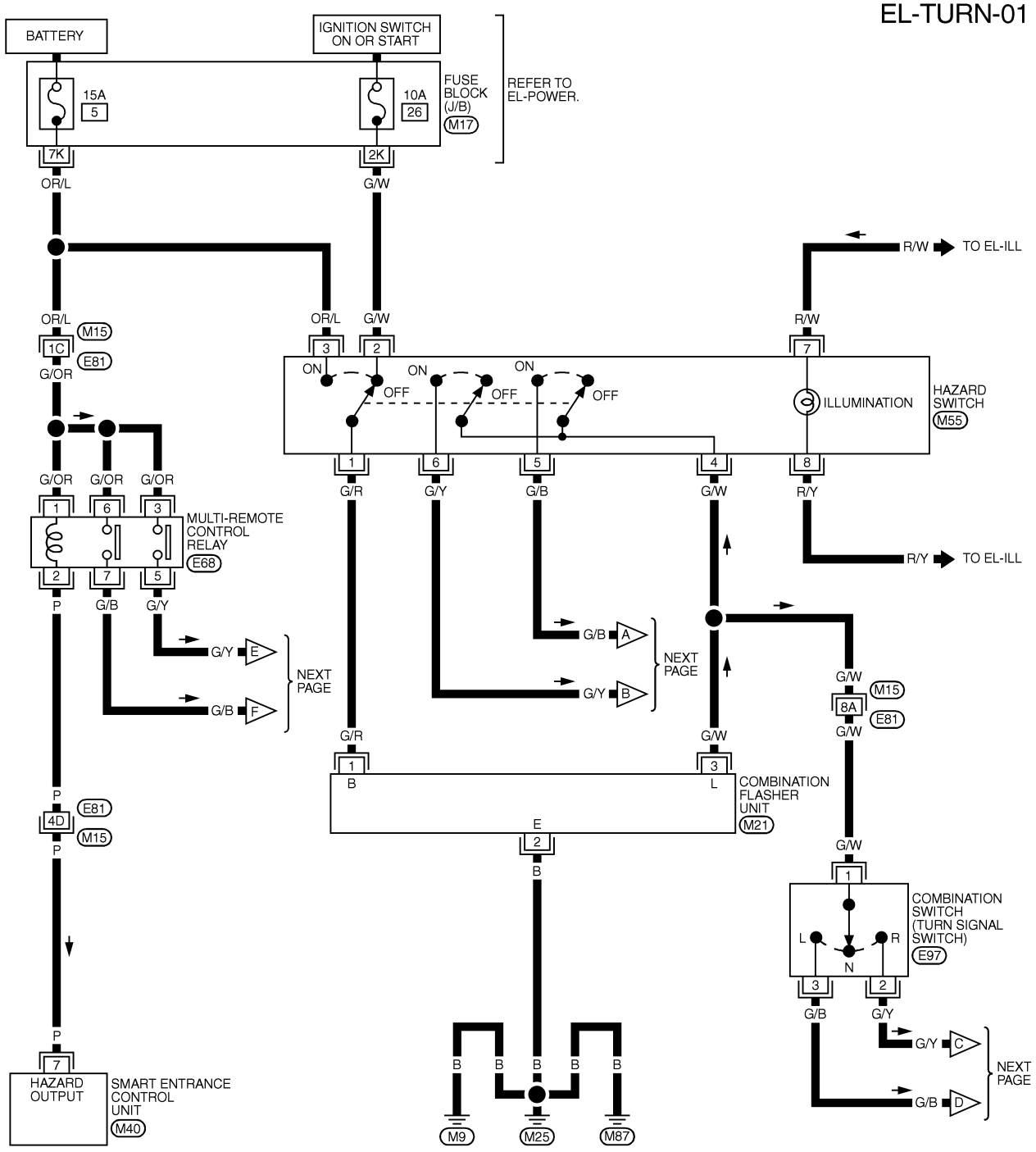
- to front turn signal lamp RH terminal 3
- to combination meter terminal 29
- to rear combination lamp RH terminal 5.

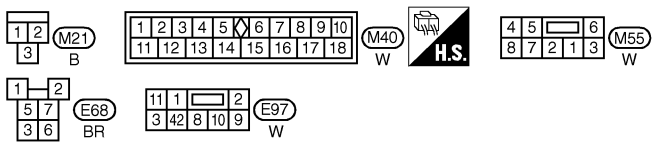
Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E11, E22 and E53.
Ground is supplied to terminal 6 of each rear combination lamp through body grounds T6 and T8.
Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.
With power and ground supplied, the smart entrance control unit controls the flashing of the hazard warning lamps.

Wiring Diagram — TURN —

NFEL0032

EL-TURN-01

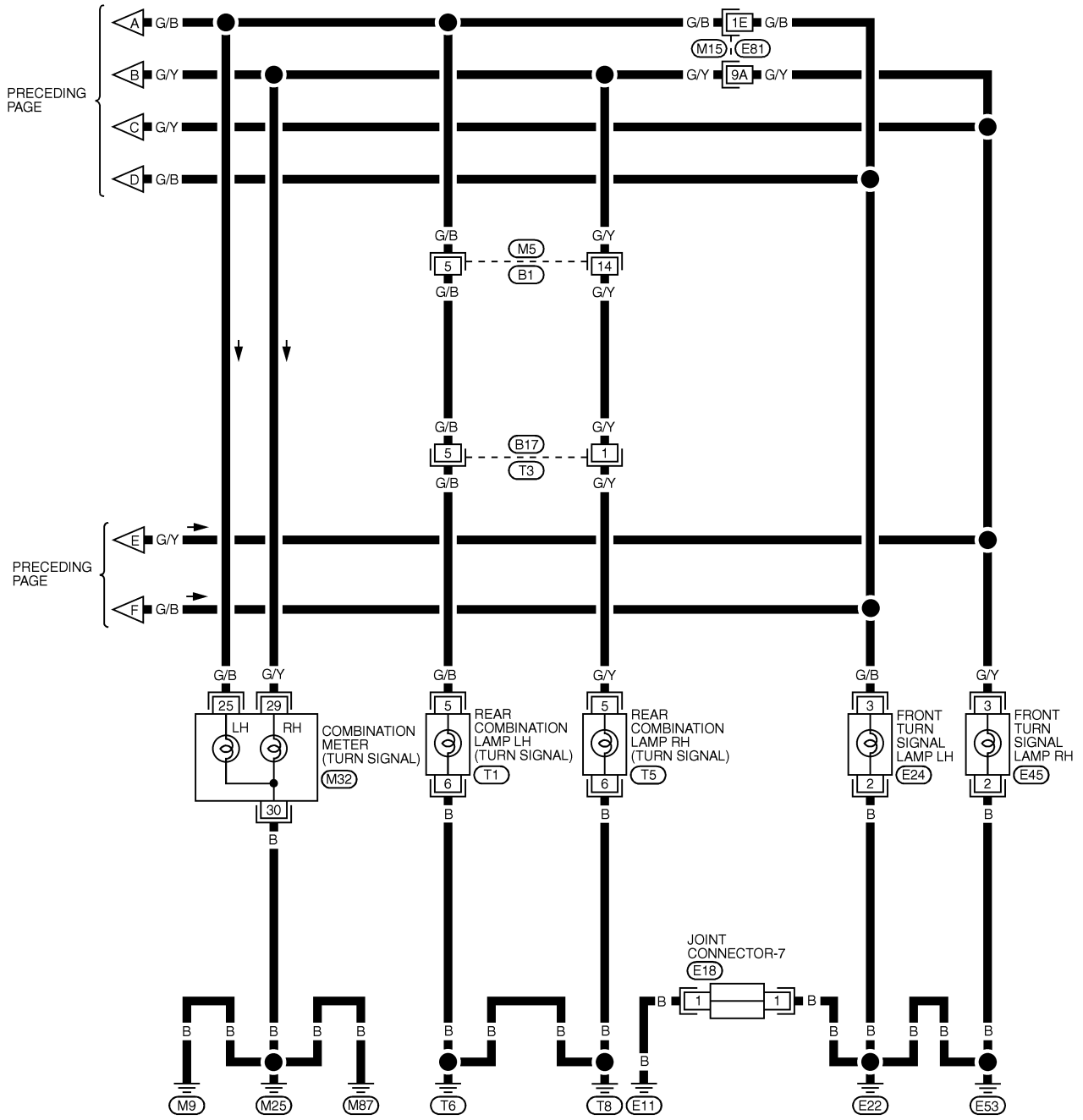


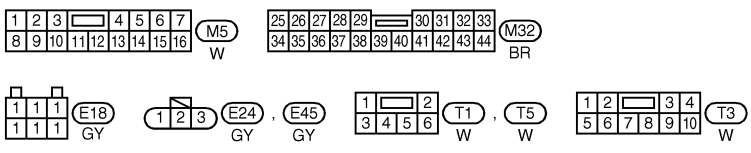


REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL301L

EL-TURN-02





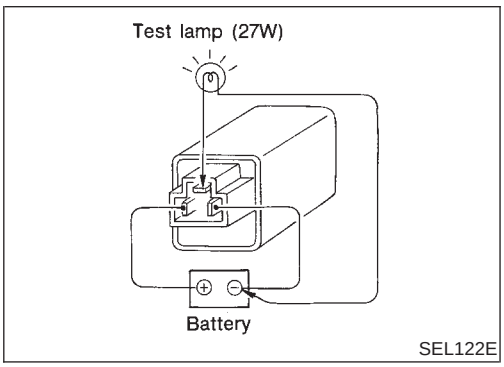
REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)

MEL241K

Trouble Diagnoses

NFEL0033

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. 10A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit	1. Check 10A fuse [No. 26, 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 the wire between combination flasher unit terminal 3 and turn signal switch terminal 1 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. 5, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check the wire between combination flasher unit terminal 3 and hazard switch terminal 4 for open circuit.
Front turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds E11, E22 and E53 3. Front turn signal lamp circuit	1. Check bulb. 2. Check grounds E11, E22 and E53. 3. Check the wire between combination switch and front turn signal lamp.
Rear turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds T6 and T8 3. Rear turn signal lamp circuit	1. Check bulb. 2. Check grounds T6 and T8. 3. Check the wire between combination switch and rear turn signal lamp.
LH and RH turn indicators do not operate.	1. Ground	1. Check grounds M9, M25 and M87.
LH or RH turn indicator does not operate.	1. Bulb 2. Turn indicator circuit	1. Check bulb in combination meter. 2. Check the wire between hazard switch and combination meter.



Electrical Components Inspection

NFEL0034

COMBINATION FLASHER UNIT CHECK

NFEL0034S01

- 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

NFEL0035

The illumination lamp operation is controlled by the lighting switch which is built into the combination switch and headlamp battery saver control unit. The battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.
Power is supplied at all times

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 12, located in the fuse block (J/B)].

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

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 30, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 10, located in the fuse block (J/B)].

Ground is supplied to headlamp battery saver control unit terminals 4 and 11.

LIGHTING OPERATION BY LIGHTING SWITCH

NFEL0035S01

When lighting switch is 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through lighting switch and body grounds E11, E22 and E53.

Tail lamp relay is then energized and illumination lamps illuminate.
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 ground for all of the components except for door mirror remote control switch, clock, grove box lamp, ashtray and rear power window switch are controlled through terminals 2 and 3 of the illumination control switch and body grounds M9, M25 and M87.

BATTERY SAVER CONTROL

NFEL0035S02

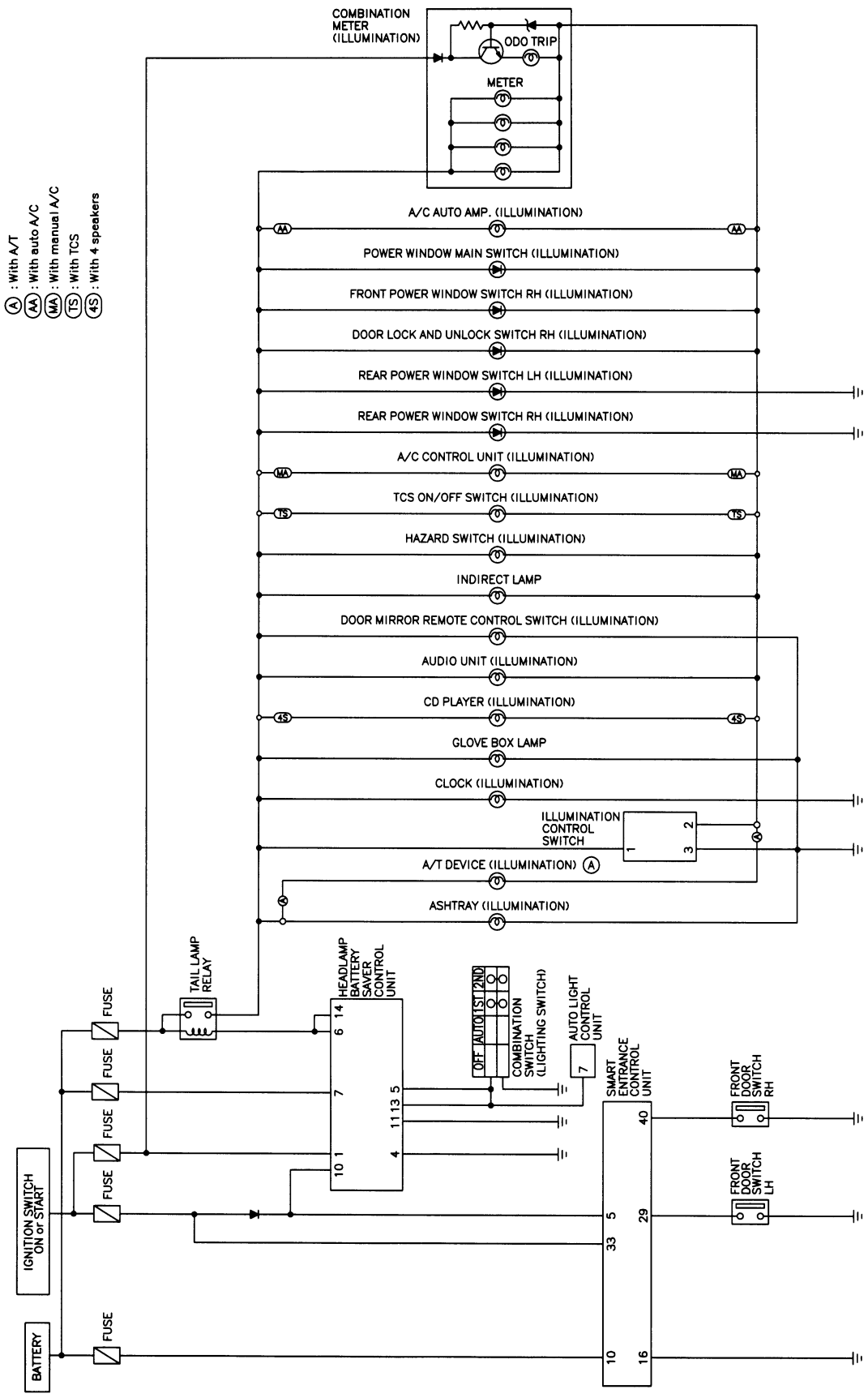
When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from smart entrance control unit terminal 5.
After counting 45 seconds by the RAP signal from the smart entrance control unit to headlamp battery saver control unit, the ground supply to terminal 2 of the tail lamp relay from headlamp battery saver control unit teminals 6 and 14 is terminated.
Then illumination lamps are turned off.
Illumination lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated.
When the lighting switch is turned from OFF to 1ST (or 2ND) after illumination lamps are turned off by the battery saver control, ground is supplied

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14.

Then illumination lamps illuminate again.

Schematic

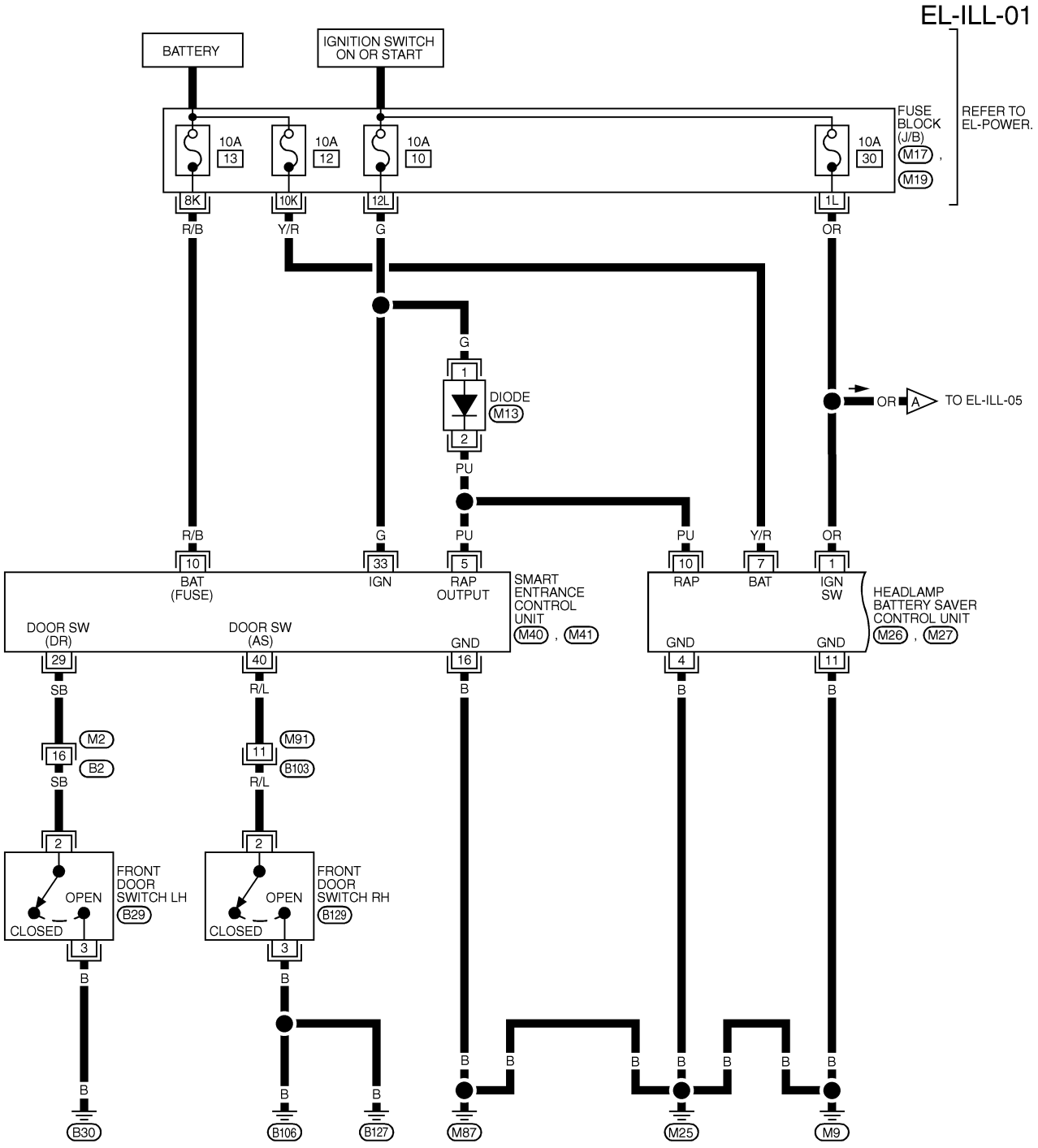
NFEL0036

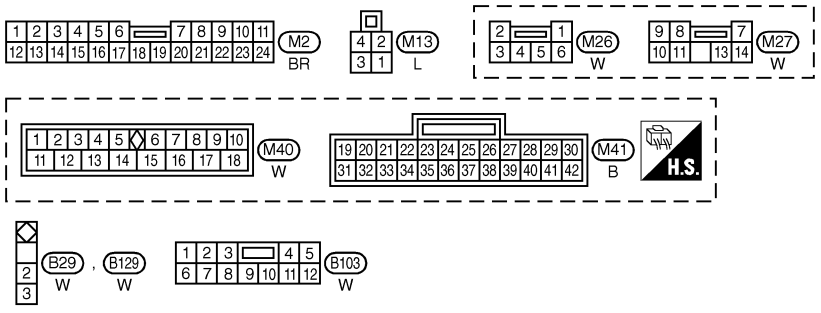


MEL302L

Wiring Diagram — ILL —

NFEL0037

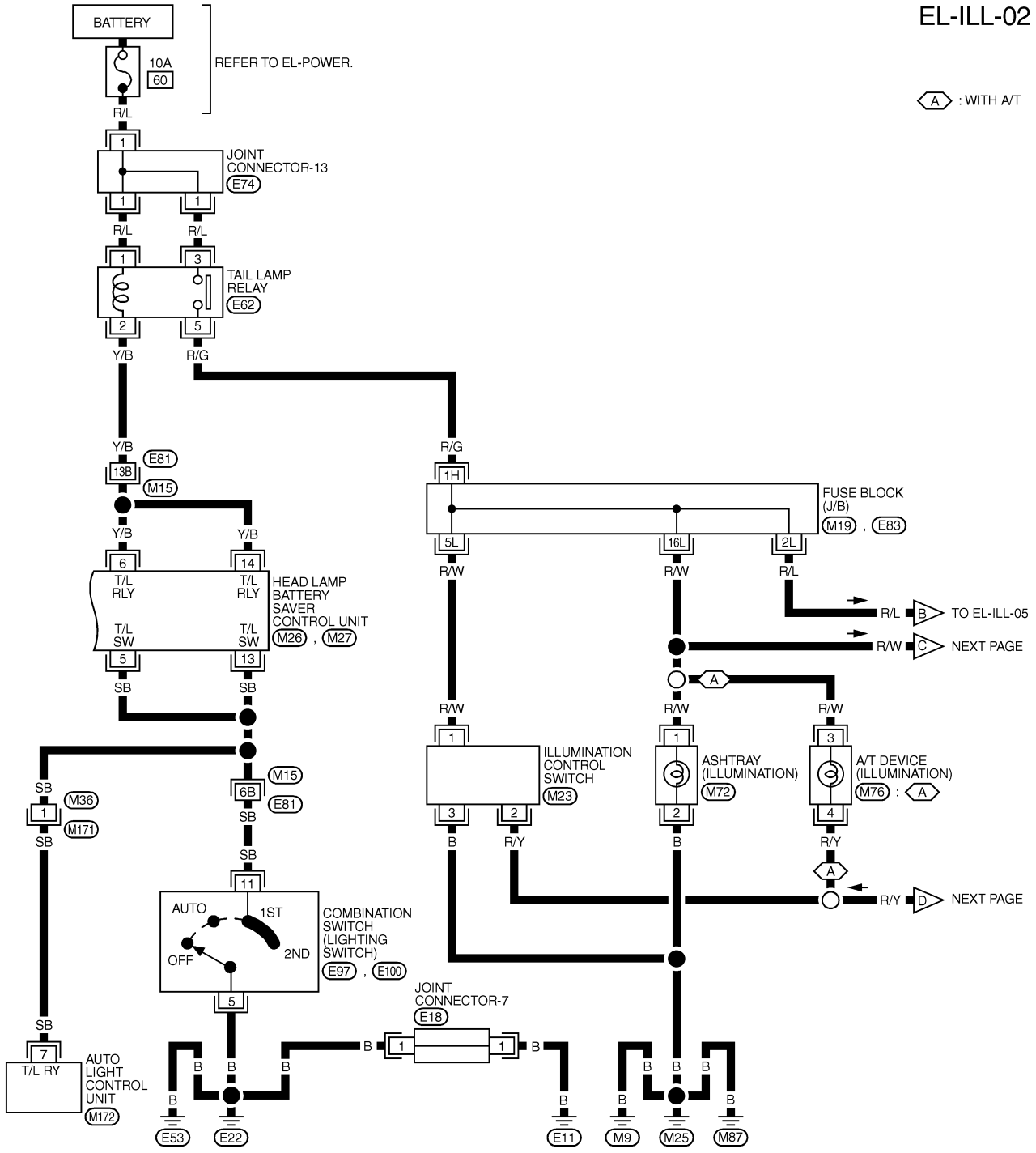


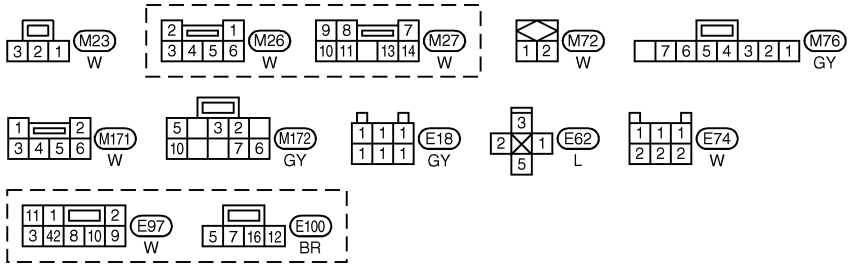


REFER TO THE FOLLOWING.
M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL303L

EL-ILL-02

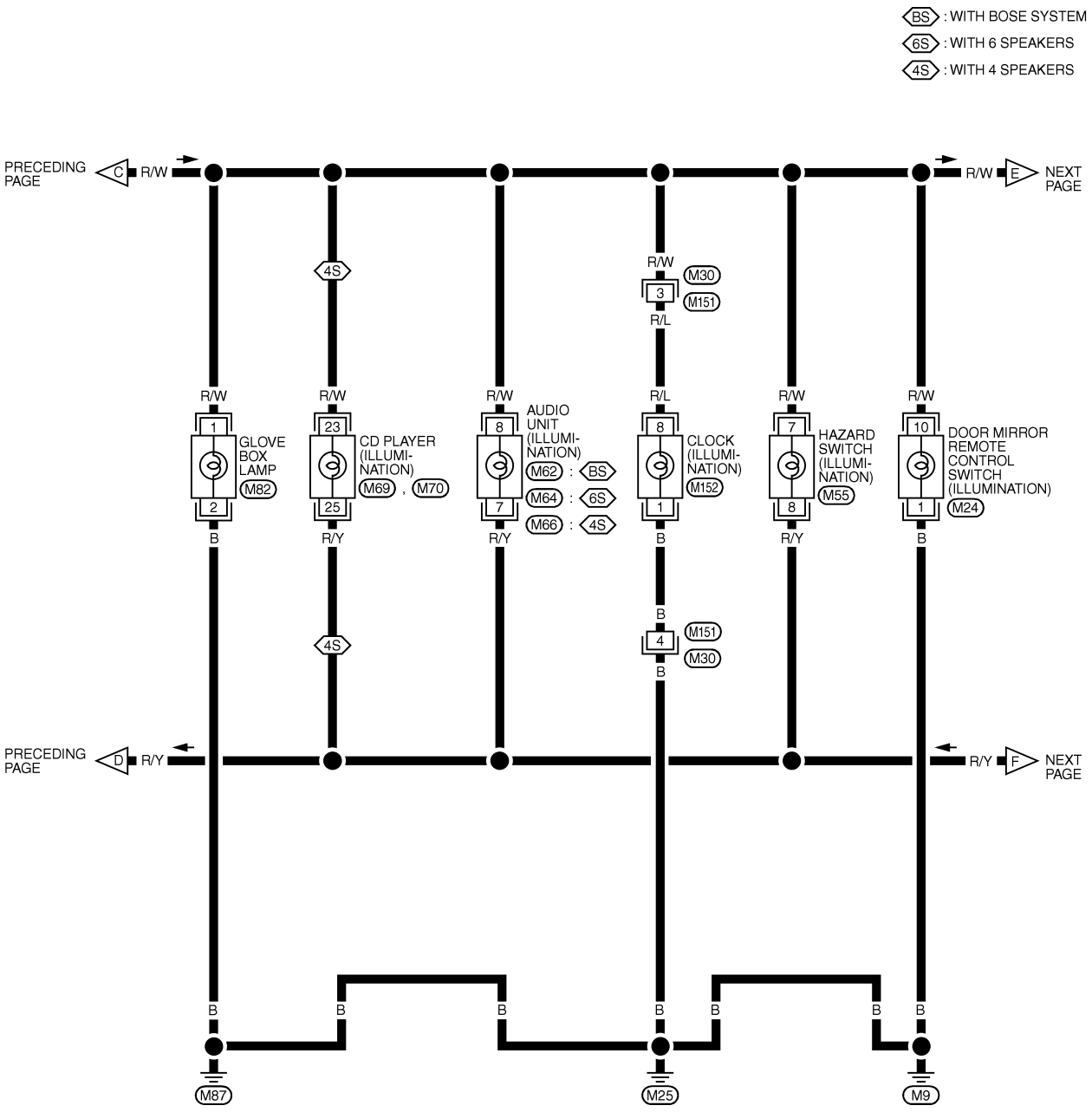


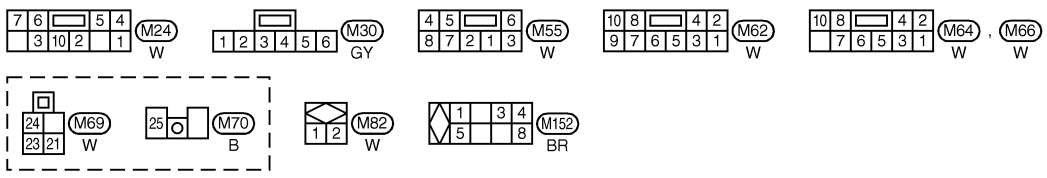


REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M19 , E83 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL304L

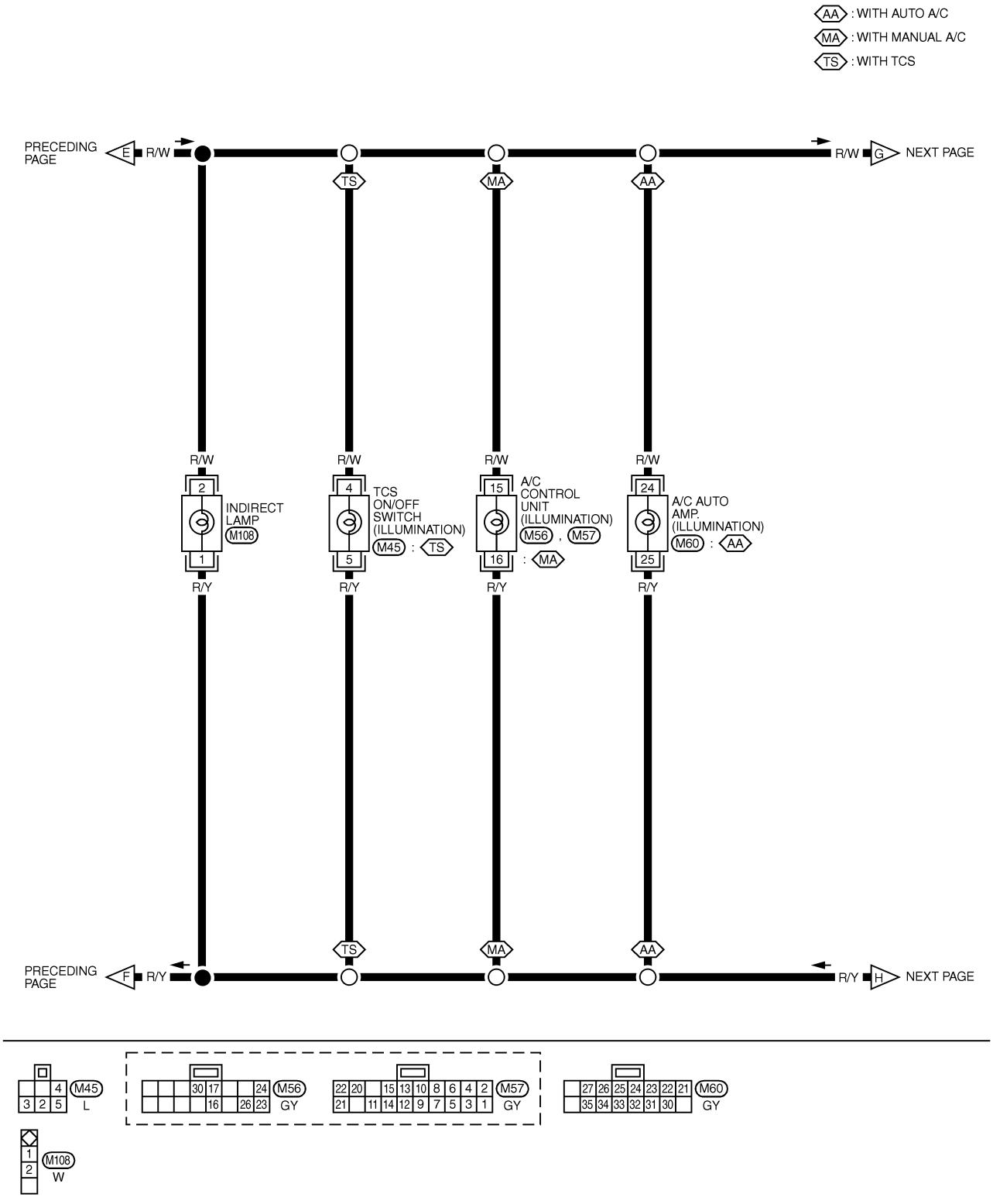
EL-ILL-03





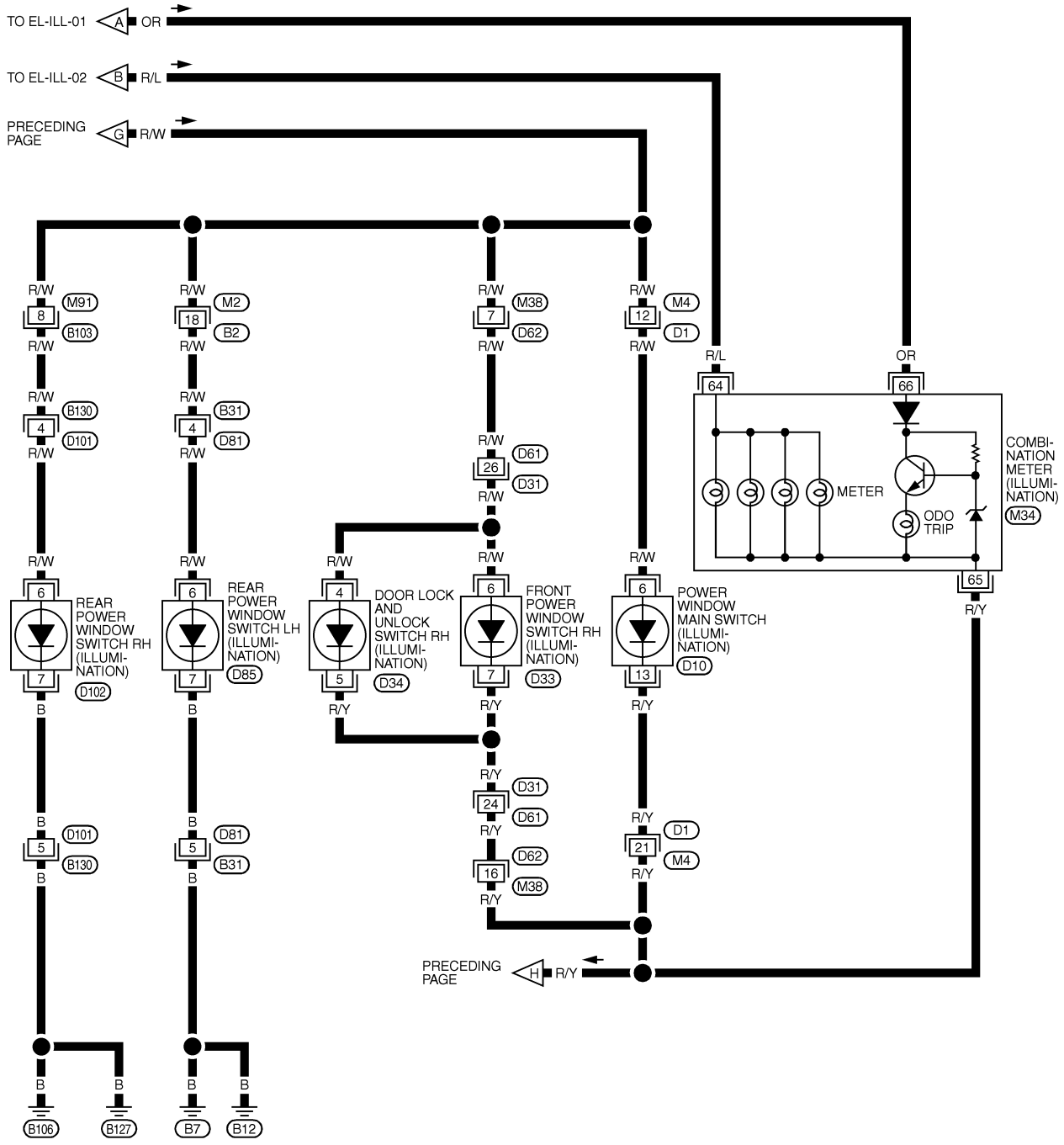
MEL305L

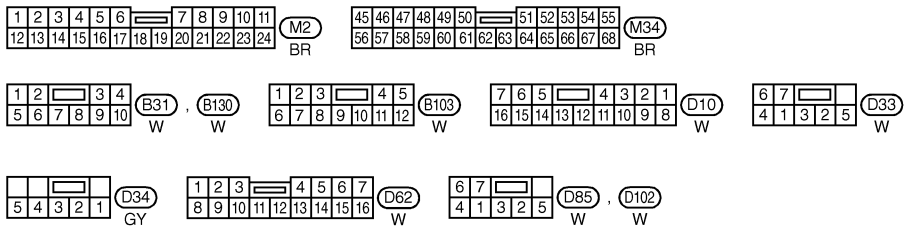
EL-ILL-04



MEL259K

EL-ILL-05





REFER TO THE FOLLOWING.
D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

MEL306L

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
5	PU	HEADLAMP BATTERY SAVER CONTROL UNIT	WHEN HEADLAMP BATTERY SAVER TIMER IS OPERATED	12V
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→ ON (OPEN)	5V→0V
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION	12V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→ ON (OPEN)	5V→0V

SEL035X

NOTE:
For CONSULT-II Inspection Procedure, refer to "PARKING, LICENSE AND TAIL LAMPS" (EL-63).
For CONSULT-II Application Items, refer to "PARKING, LICENSE AND TAIL LAMPS" (EL-64).
Trouble Diagnoses for battery saver control, refer to "PARKING, LICENSE AND TAIL LAMPS" (EL-65).

System Description

NFEL0165

POWER SUPPLY AND GROUND

NFEL0165S01

Power is supplied at all times:
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to key switch terminal 2 and
- through 10A fuse [No. 13, located in the fuse block (J/B)]
- to smart entrance control unit terminal 10.

When the key is removed from ignition key cylinder, power is interrupted:
- through key switch terminal 1
- to smart entrance control unit terminal 32.

With the ignition key switch in the ON or START position, power is supplied:
- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

Ground is supplied:
- to smart entrance control unit terminal 16
- through body grounds terminals M9, M25 and M87.

When the front driver side door is opened, ground is supplied:
- through body ground B30
- to front door switch LH terminal 3
- from front door switch LH terminal 2
- to smart entrance control unit terminal 29.

When the front passenger side door is opened, ground is supplied:
- through body grounds B106 and B127
- to front door switch RH terminal 3
- from front door switch RH terminal 2
- to smart entrance control unit terminal 40.

When any other door (except front door) is opened, ground is supplied to smart entrance control unit terminal 28 in the same manner as the front door switch.
When the front driver side door is unlocked, the smart entrance control unit receives a ground signal:
- through body grounds terminals M9, M25 and M87
- to front door lock actuator LH (door unlock sensor) terminal 4
- from front door lock actuator LH (door unlock sensor) terminal 2
- to smart entrance control unit terminal 36.

When a signal, or combination of signals is received by the smart entrance control unit, ground is supplied:
- through smart entrance control unit terminal 8
- to interior lamp terminal 2.

With power and ground supplied, the interior lamp illuminates.

SWITCH OPERATION

NFEL0165S02

When interior lamp switch is ON, ground is supplied:
- through case grounds of interior lamp
- to interior lamp.

And power is supplied:
- to interior lamp terminal 1
- from smart entrance control unit terminal 17.

When spot lamp (LH and/or RH) is ON, ground is supplied:
- through body grounds M9, M25 and M87
- to spot lamp terminal 2.

And power is supplied:
- to spot lamp terminal 1
- from smart entrance control unit terminal 17.

When vanity mirror illumination (LH and/or RH) is ON, ground is supplied:

- through body grounds M9, M25 and M87
- to vanity mirror illuminations (LH and RH) terminals 2.

And power is supplied:

- to vanity mirror illuminations (LH and RH) terminals 1
- from smart entrance control unit terminal 17.

When rear door switch LH and/or RH is ON (door is opened), ground is supplied:

- through case ground of the rear door switch
- from the rear door switch terminal 1
- to front step lamp LH and RH terminals 2.

And power is supplied:

- to front step lamp LH and RH terminals 1
- from smart entrance control unit terminal 17.

When front door switch LH and/or RH is ON (door is opened), ground is supplied:

- through body grounds B30, and/or B106 and B127
- to the front door switch terminal 3
- from the front door switch terminal 2
- to smart entrance control unit terminal 29 and/or 40
- from smart entrance control unit terminal 28
- to front step lamp LH and RH terminals 2.

And power is supplied:

- to front step lamp LH and RH terminals 1
- from smart entrance control unit terminal 17.

When trunk room lamp switch is ON (trunk lid is opened), ground is supplied:

- through body grounds T6 and T8
- to trunk room lamp switch terminal 2
- from trunk room lamp switch terminal 1
- to trunk room lamp terminal 2

And power is supplied:

- to trunk room lamp terminal 1
- from smart entrance control unit terminal 17.

With power and ground supplied, interior lamps turn ON.

INTERIOR LAMP TIMER OPERATION

NFEL0165S03

When interior lamp switch is in the "DOOR" position, the smart entrance control unit keeps the interior lamp illuminated for about 30 seconds when:

- unlock signal is supplied from driver's door unlock sensor while all doors are closed and key is out of ignition key cylinder
- unlock signal is supplied from multi-remote controller while driver's door is locked and all doors are closed
- key is removed from ignition key cylinder while all doors are closed
- driver's door is opened and then closed while key is out of the iginition key cylinder. (However, if the driver's door is closed with the key inserted in the ignition key cylinder after the driver's door is opened with the key removed, the timer is operated.)

The timer is canceled when:

- driver's door is locked,
- driver's door is opened, or
- ignition switch is turned ON.

When driver's door is locked, interior room lamp timer is canceled as described before.
However, ignition key hole illumination remains on for about 30 seconds after driver's door has been locked.

ON-OFF CONTROL

NFEL0165S04

When the driver side door, front passenger door, rear LH or RH door is opened, the interior room lamp turns on while the interior room lamp switch is in the "DOOR" position.
When any door is opened, step lamps turn ON.

BATTERY SAVER

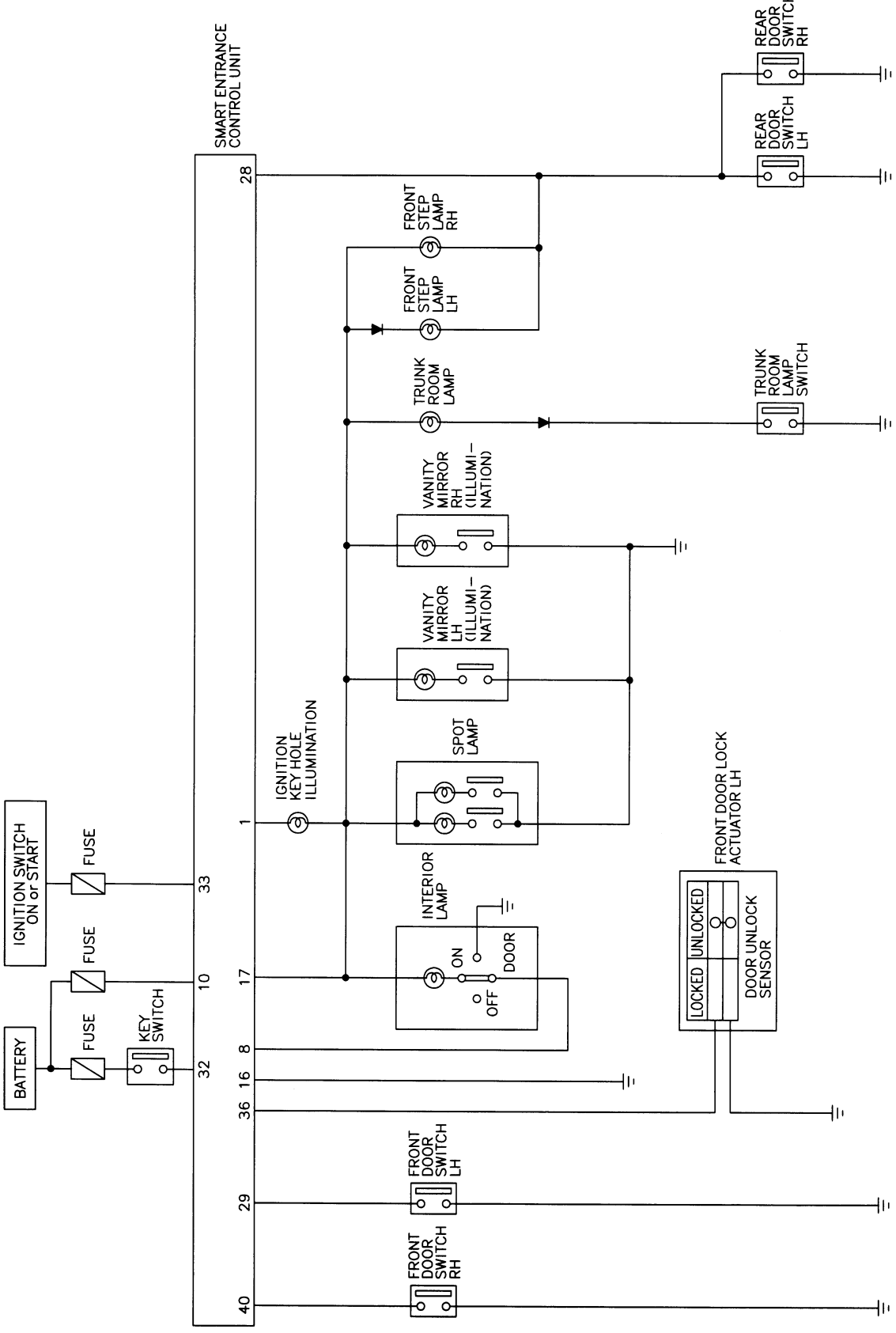
NFEL0165S05

The lamp turns off automatically when interior lamp, step lamp, trunk room lamp, spot lamp and/or vanity mirror illumination is illuminated with the ignition key is in OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in ON position for more than 10 minutes.
After lamps turn OFF by the battery saver system, the lamps illuminate again when:

- driver's door is locked or unlocked,
- door is opened or closed,
- key is removed from ignition key cylinder or inserted in ignition key cylinder,
- trunk lid is opened.

Schematic

NFEL0212

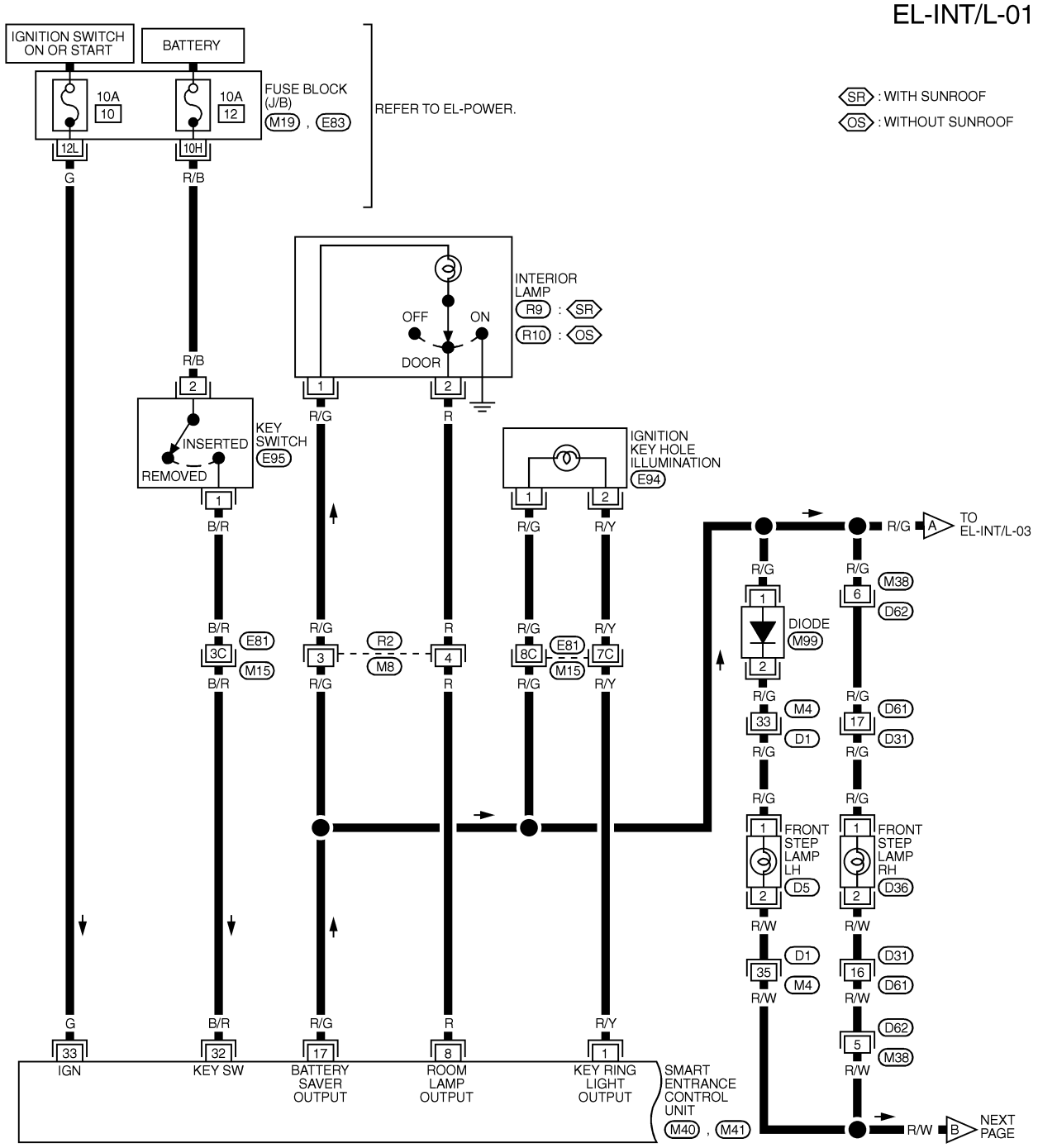


MEL307L

Wiring Diagram — INT/L —

NFEL0163

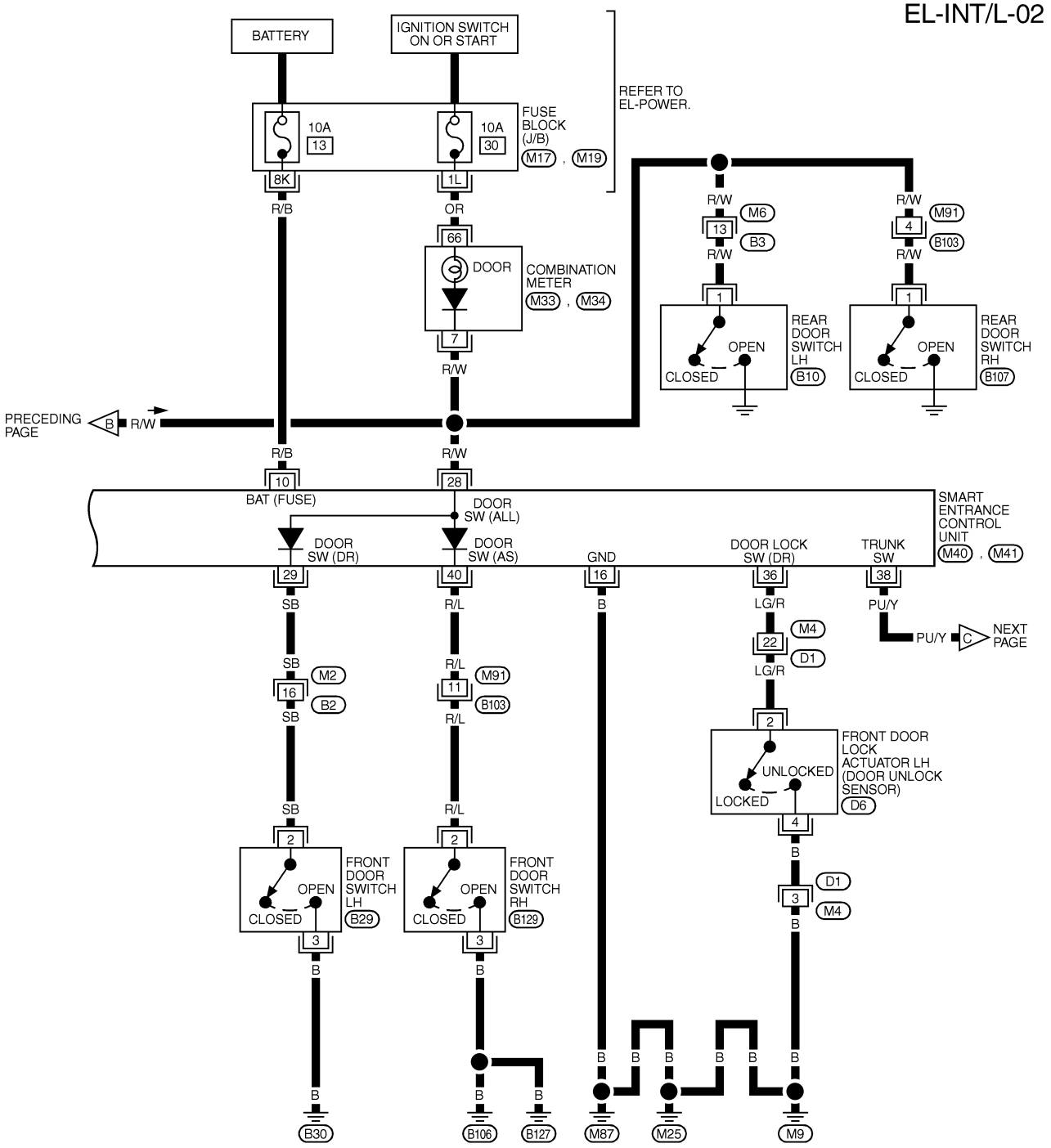
EL-INT/L-01

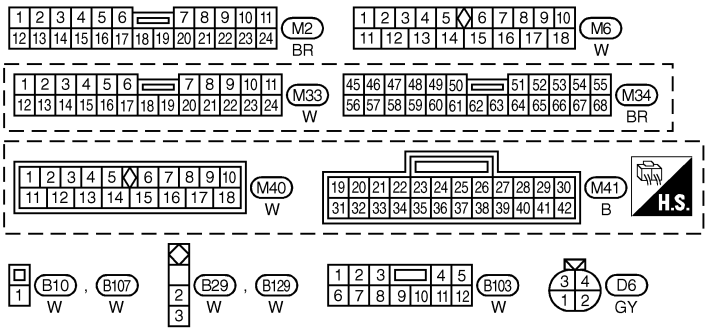


REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)
D31 , D61 -SUPER MULTIPLE JUNCTION (SMJ)
M19 -FUSE BLOCK-JUNCTION BOX (J/B)
E83 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL261K

EL-INT/L-02

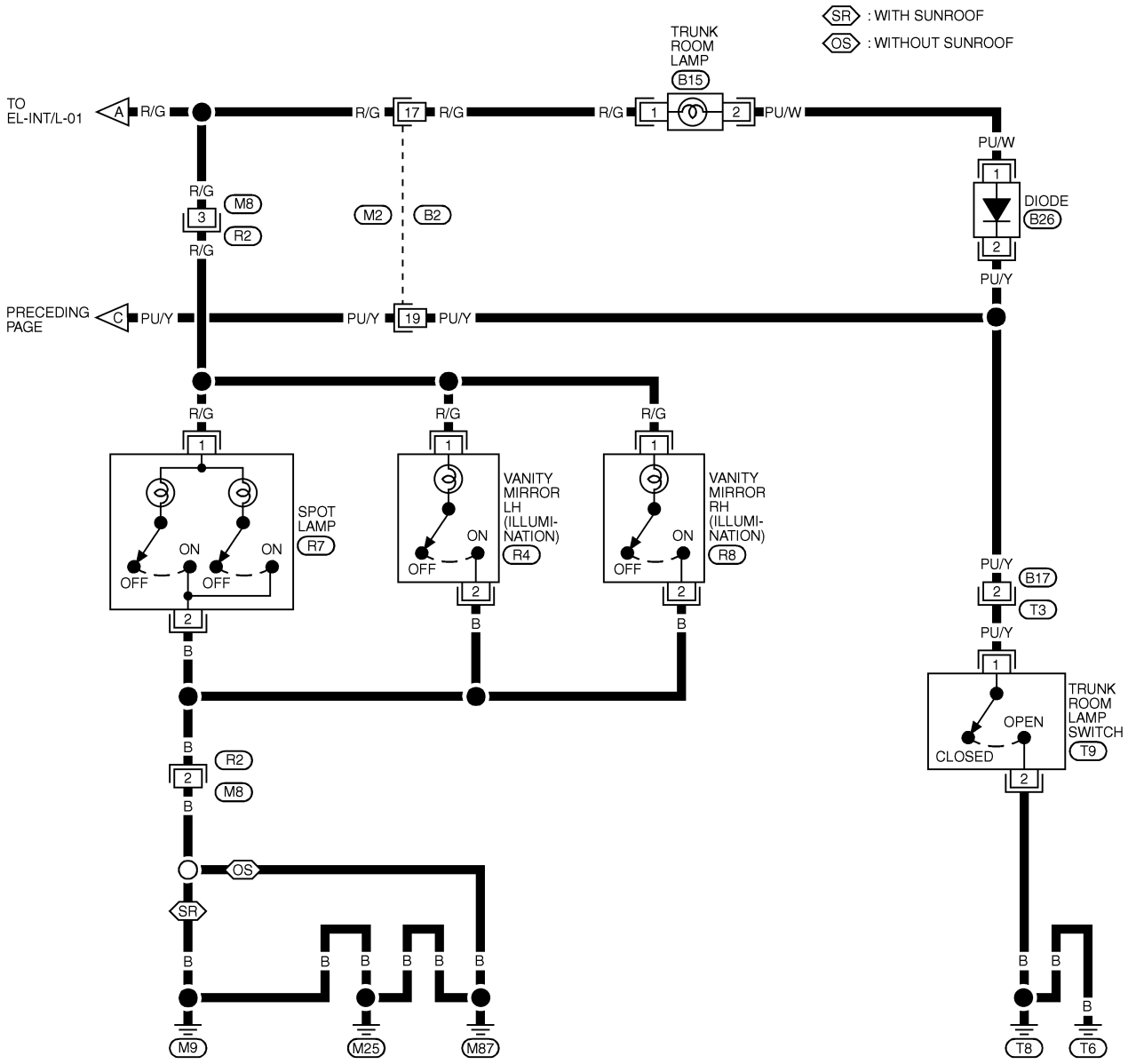


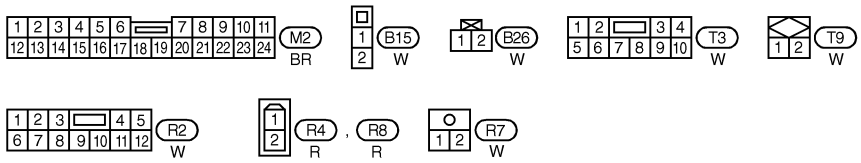


REFER TO THE FOLLOWING.
D1 -SUPER MULTIPLE JUNCTION (SMJ)
M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL308L

EL-INT/L-03



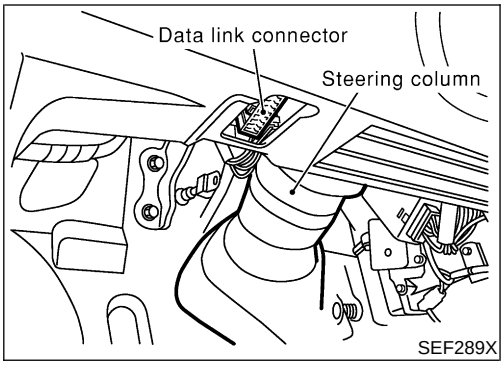


MEL666L

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
1	R/Y	IGNITION KEY HOLE ILLUMINATION	FOR 30 SECONDS AFTER DRIVER DOOR IS LOCKED	0V
			30 SECONDS PASSED AFTER DRIVER DOOR IS LOCKED	12V
8	R	INTERIOR LAMP	WHEN INTERIOR LAMP IS OPERATED USING REMOTE CONTROLLER. (LAMP SWITCH IN "DOOR" POSITION)	0V→12V
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
17	R/G	BATTERY SAVER (INTERIOR LAMP)	BATTERY SAVER DOES NOT OPERATE→OPERATE	12V→0V
28	R/W	REAR DOOR SWITCHES	OFF (CLOSED)→ON (OPEN)	5V→0V
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→ON (OPEN)	5V→0V
32	B/R	IGNITION KEY SWITCH (INSERT)	KEY INSERTED→KEY REMOVED FROM IGN KEY CYLINDER	12V→0V
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION	12V
36	LG/R	DOOR LOCK SWITCH	DRIVER DOOR: LOCKED→UNLOCKED	5V→0V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→ON (OPEN)	5V→0V

SEL036X



SEF289X

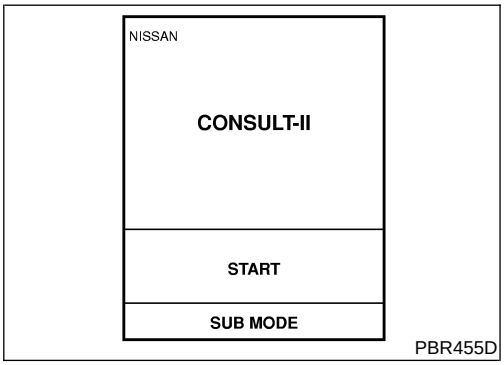
CONSULT-II Inspection Procedure

=NFEL0213

"INT LAMP"/"BATTERY SAVER"

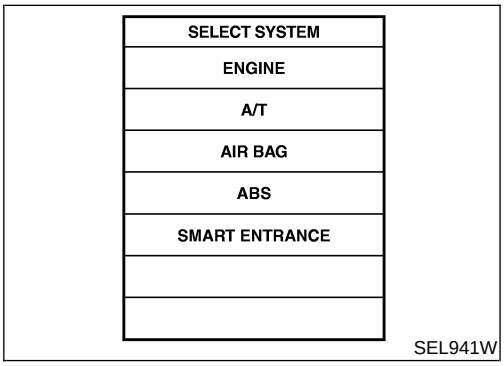
NFEL0213S01

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



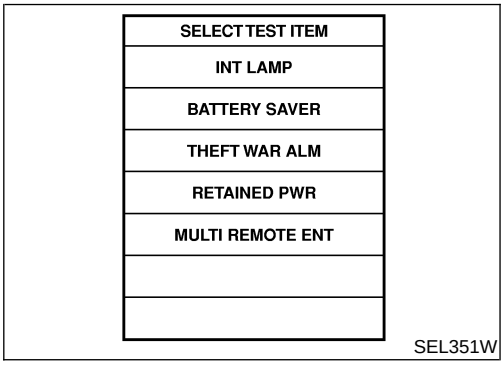
PBR455D

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



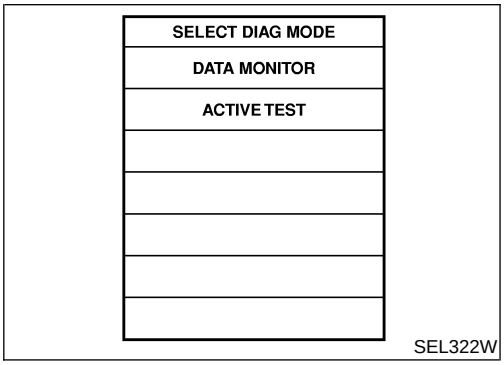
SEL941W

5. Touch "SMART ENTRANCE".



SEL351W

6. Touch "INT LAMP" or "BATTERY SAVER".



SEL322W

7. Select diagnosis mode.
   "DATA MONITOR" and "ACTIVE TEST" are available for "INT LAMP" and "BATTERY SAVER".

CONSULT-II Application Items

NFEL0214

"INT LAMP" Data Monitor

NFEL0214S01

NFEL0214S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LOCK SIG DR	Indicates [ON/OFF] condition of front door unlock sensor LH.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.

Active Test

NFEL0214S0102

Test Item	Description
INT LAMP	This test enables to check interior lamp operation. When touch "ON" on CONSULT-II screen. ● Interior lamp turns on when the switch is in DOOR or ON. (Smart entrance control unit supplies power and ground to interior lamp.)
IGN ILLUM	This test enables to check ignition key hole illumination operation. The illumination turns on when touch "ON" on CONSULT-II screen.

"BATTERY SAVER" Data Monitor

NFEL0214S02

NFEL0214S0201

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (ALL).
LOCK SIG DR	Indicates [ON/OFF] condition of front door unlock sensor LH.
TRUNK SW	Indicates [ON/OFF] condition of trunk switch.

Active Test

NFEL0214S0202

Test Item	Description
BATTERY SAVER	This test enables to check interior lamp, front step lamps, spot lamp, vanity mirror illuminations and trunk room lamp operations. When touch "ON" on CONSULT-II screen. ● Interior lamp turns on when the switch is in ON. (Smart entrance control unit supplies power to interior lamp.) ● Front step lamps turn on when any doors are open. (Smart entrance control unit supplies power to front step lamps.) ● Spot lamp, vanity mirror illuminations, trunk room lamp turn on when the switch is in ON. (Smart entrance control unit supplies power to Spot lamp, vanity mirror illuminations, trunk room lamp.)

Trouble Diagnoses for Interior Lamp Timer

=NFEL0215

DIAGNOSTIC PROCEDURE 1

NFEL0215S01

SYMPTOM: Interior lamp timer does not operate.

1	CHECK IGNITION ON SIGNAL

With CONSULT-II

Check ignition switch ON signal (“IGN ON SW”) in “DATA MONITOR” mode with CONSULT-II.

DATA MONITOR	
MONITOR	
IGN ON SW	ON

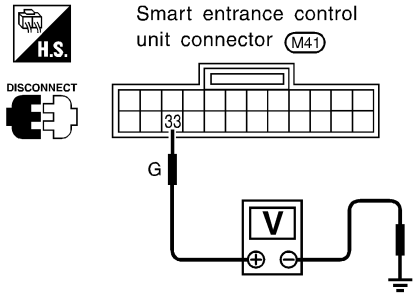
When ignition switch is ON:
IGN ON SW ON

When ignition switch is OFF:
IGN ON SW OFF

SEL318W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 33 and ground.



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

SEL380W

OK or NG

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

2 CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check driver door switch signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF

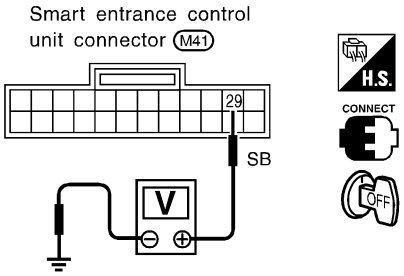
When driver's door is open:
DOOR SW-DR ON

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

SEL319W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 29 and ground.



Voltage [V]:
Condition of driver's door: CLOSED
Approx. 5
Condition of driver's door: OPENED
0

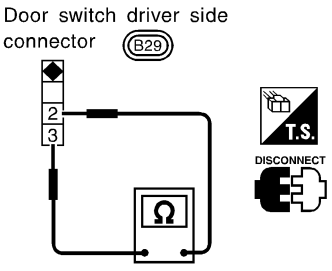
SEL324W

OK or NG

OK	▶	GO TO 4.
NG	▶	GO TO 3.

3 CHECK DRIVER SIDE DOOR SWITCH

Check continuity between door switch terminals 2 and 3.



Continuity:
Door switch is pushed.
No
Door switch is released.
Yes

SEL325W

OK or NG

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

4	CHECK FRONT LH DOOR UNLOCK SENSOR INPUT SIGNAL

With CONSULT-II

Perform "LOCK SIG DR" in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SIG DR	OFF

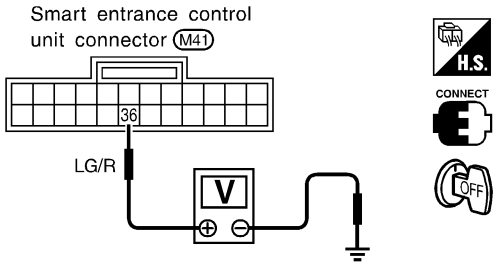
When front LH door is locked:
LOCK SIG DR OFF

When front LH door is unlocked:
LOCK SIG DR ON

SEL344W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 and ground.



	Terminals (+)	Terminals (–)	Condition	Voltage [V]
Front LH door	36	Ground	Locked	Approx. 5
			Unlocked	0

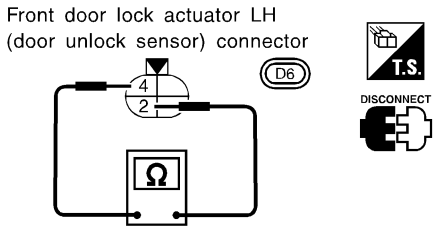
SEL223W

OK or NG

OK	▶	GO TO 6.
NG	▶	GO TO 5.

5	CHECK FRONT LH DOOR UNLOCK SENSOR

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



Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

SEL224W

OK or NG

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

6 CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW ALL") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-ALL	OFF

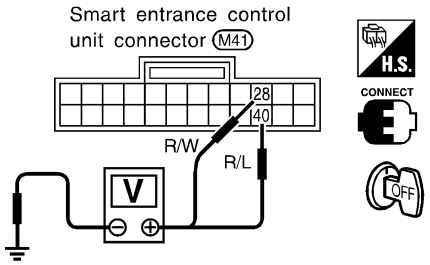
When any doors are open:
DOOR SW-ALL ON

When all doors are closed:
DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 28 or 40 and ground.



	Terminals (+)	Terminals (–)	Condition	Voltage [V]
Front RH door switch	40	Ground	Open	0
			Closed	Approx. 5
Rear door switches	28	Ground	Open	0
			Closed	Approx. 5

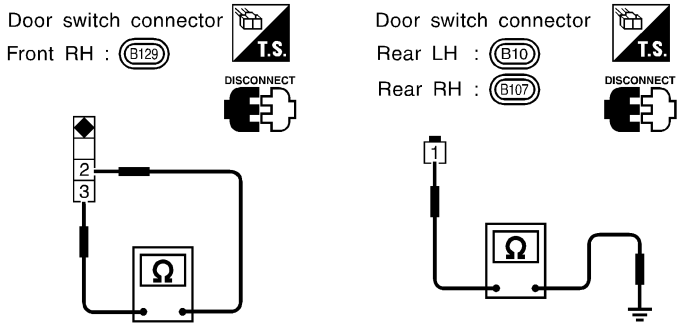
SEL328W

OK or NG

OK	▶	GO TO 8.
NG	▶	GO TO 7.

7 CHECK DOOR SWITCHES

1. Disconnect door switch harness connector.
2. Check continuity between door switch terminals 2 and 3 or 1 and ground.



	Terminals	Condition	Continuity
Front door switch RH	2 - 3	Closed	No
		Open	Yes
Rear door switches	1 - Ground	Closed	No
		Open	Yes

SEL329W

OK or NG

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

8	CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

Check key switch ("KEY ON SWITCH") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
KEY ON SW	ON

When key is inserted to ignition key cylinder:

KEY ON SW ON

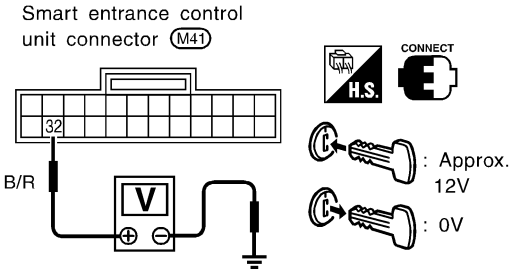
When key is removed from ignition key cylinder:

KEY ON SW OFF

SEL315W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 32 and ground.



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

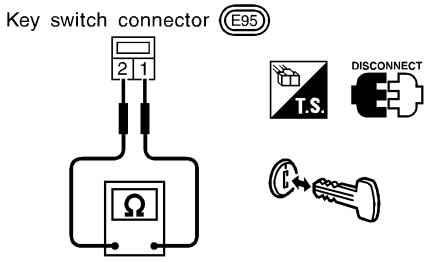
SEL193W

OK or NG

OK	▶	Replace smart entrance control unit.
NG	▶	GO TO 9.

9	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 removed.
No

SEL311W

OK or NG

OK	▶	**Check the following.** • 10A fuse [No. 12, located in fuse block (J/B)] • Harness for open or short between key switch and fuse • Harness for open or short between smart entrance control unit and key switch
NG	▶	Replace key switch.

DIAGNOSTIC PROCEDURE 2

NFEL0215S02

SYMPTOM: Interior lamp timer does not cancel properly.

1 CHECK IGNITION ON SIGNAL

With CONSULT-II

Check ignition switch ON signal ("IGN ON SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
IGN ON SW	ON

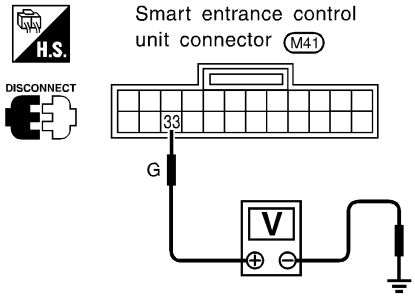
When ignition switch is ON:
IGN ON SW ON

When ignition switch is OFF:
IGN ON SW OFF

SEL318W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 33 and ground.



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

SEL380W

OK or NG

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

2	CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check driver door switch signal ("DOOR SW DR") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF

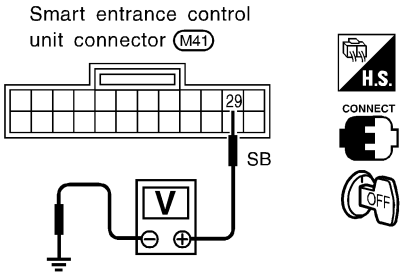
When driver's door is open:
DOOR SW-DR ON

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

SEL319W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 29 and ground.



Voltage [V]:
Condition of driver's door: CLOSED
Approx. 5
Condition of driver's door: OPENED
0

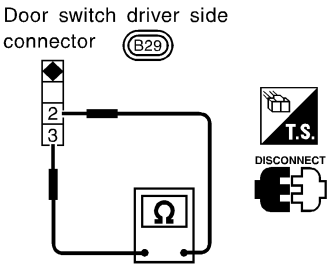
SEL324W

OK or NG

OK	▶	GO TO 4.
NG	▶	GO TO 3.

3	CHECK DRIVER SIDE DOOR SWITCH

Check continuity between terminals 2 and 3.



Continuity:
Door switch is pushed.
No
Door switch is released.
Yes

SEL325W

OK or NG

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

4 CHECK FRONT LH DOOR UNLOCK SENSOR INPUT SIGNAL

With CONSULT-II

Check door unlock sensor LH signal ("LOCK SIG DR") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SIG DR	OFF

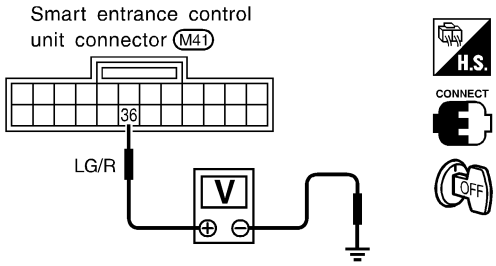
When front LH door is locked:
LOCK SIG DR OFF

When front LH door is unlocked:
LOCK SIG DR ON

SEL344W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 and ground.



	Terminals (+)	Terminals (–)	Condition	Voltage [V]
Front LH door	36	Ground	Locked	Approx. 5
			Unlocked	0

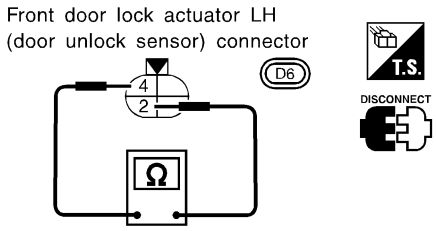
SEL223W

OK or NG

OK	▶	Replace smart entrance control unit.
NG	▶	GO TO 5.

5 CHECK FRONT LH DOOR UNLOCK SENSOR

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



Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

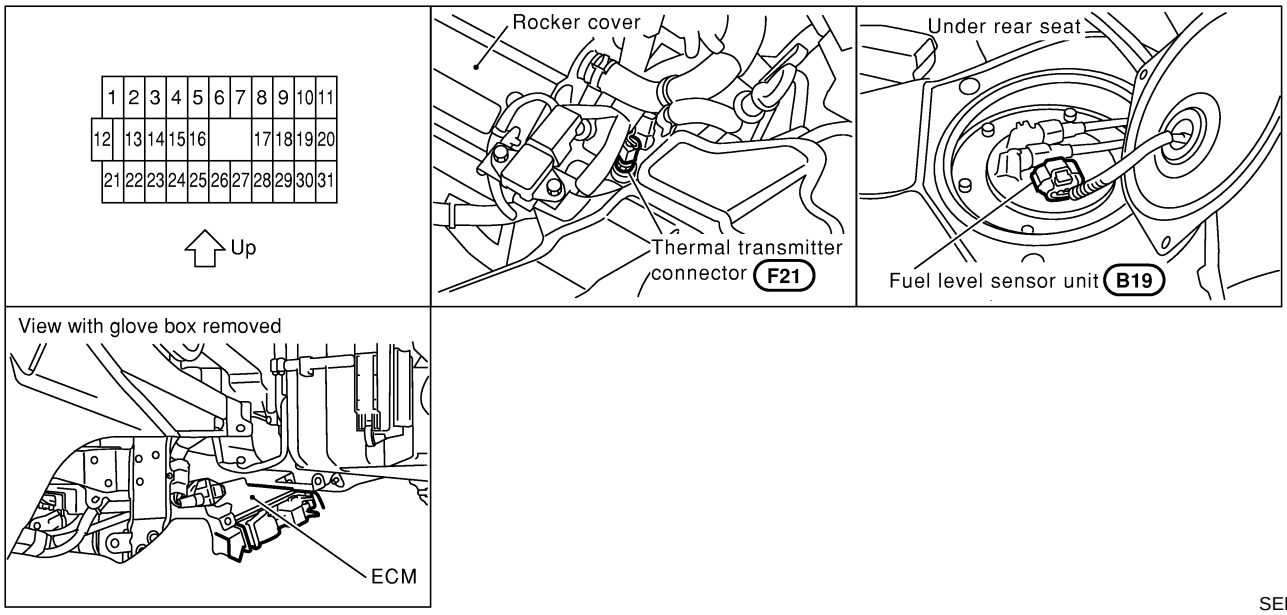
SEL224W

OK or NG

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

Component Parts and Harness Connector Location

NFEL0041



SEL168W

System Description

NFEL0042

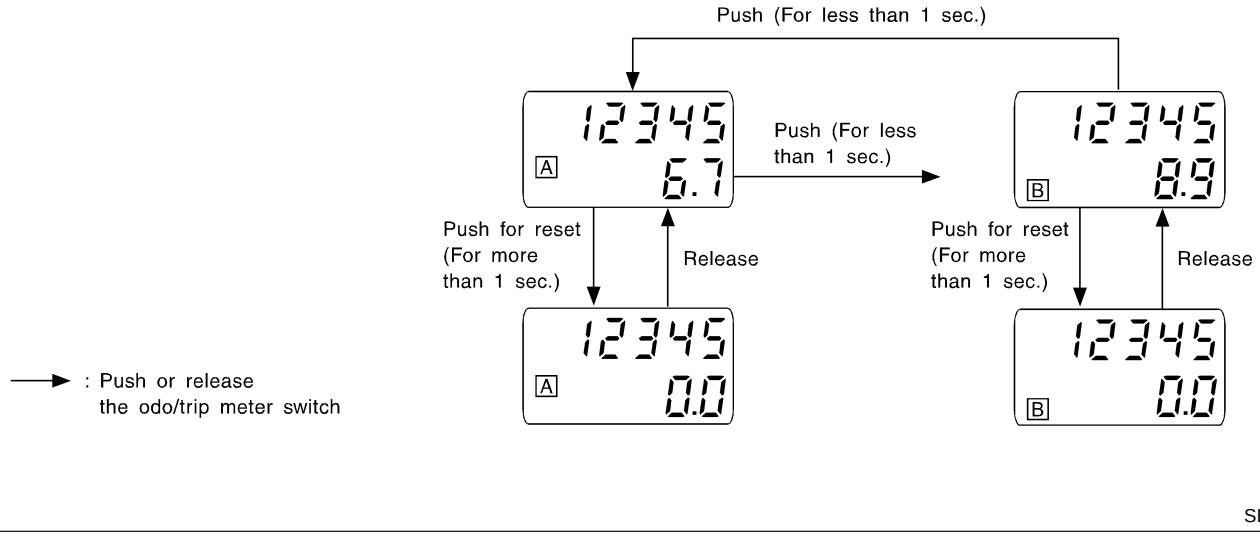
UNIFIED CONTROL METER

NFEL0042S06

- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by control unit built-in combination meter.
- 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 is indicated for about 30 seconds after ignition switch has been turned OFF.
- 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

NFEL0042S07



SEL175W

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

POWER SUPPLY AND GROUND CIRCUIT

NFEL0042S08

Power is supplied at all times

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to combination meter terminal 62.

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

- through 10A fuse [No. 30, located in the fuse block (J/B)]
- to combination meter terminal 66.

Ground is supplied

- to combination meter terminal 59
- through body grounds M9, M25 and M87.

WATER TEMPERATURE GAUGE

NFEL0042S01

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

TACHOMETER

NFEL0042S02

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

The tachometer is regulated by a signal

- from terminal 25 of the ECM
- to combination meter terminal 16 for the tachometer.

FUEL GAUGE

NFEL0042S03

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 17 for the fuel gauge
- from terminal 2 of the fuel level sensor unit
- through terminal 5 of the fuel level sensor unit and
- through body ground B13.

SPEEDOMETER

NFEL0042S04

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

The voltage is supplied

- from combination meter terminal 15 for the speedometer
- to terminal 1 of the vehicle speed sensor (with TCS).
- to terminal 19 of ABS actuator and electric unit (without TCS).

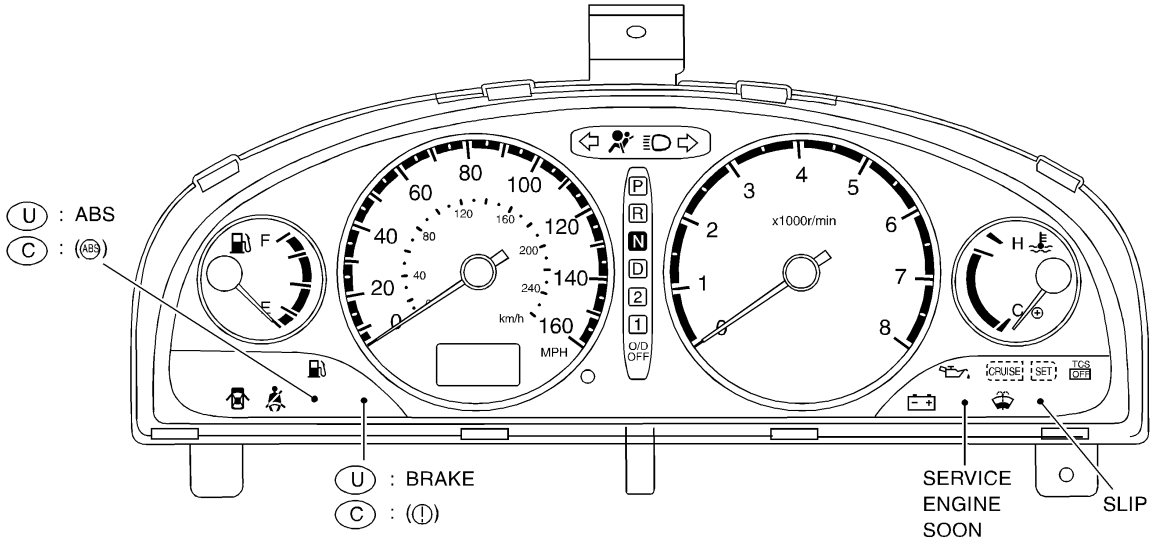
The speedometer converts the voltage into the vehicle speed displayed.

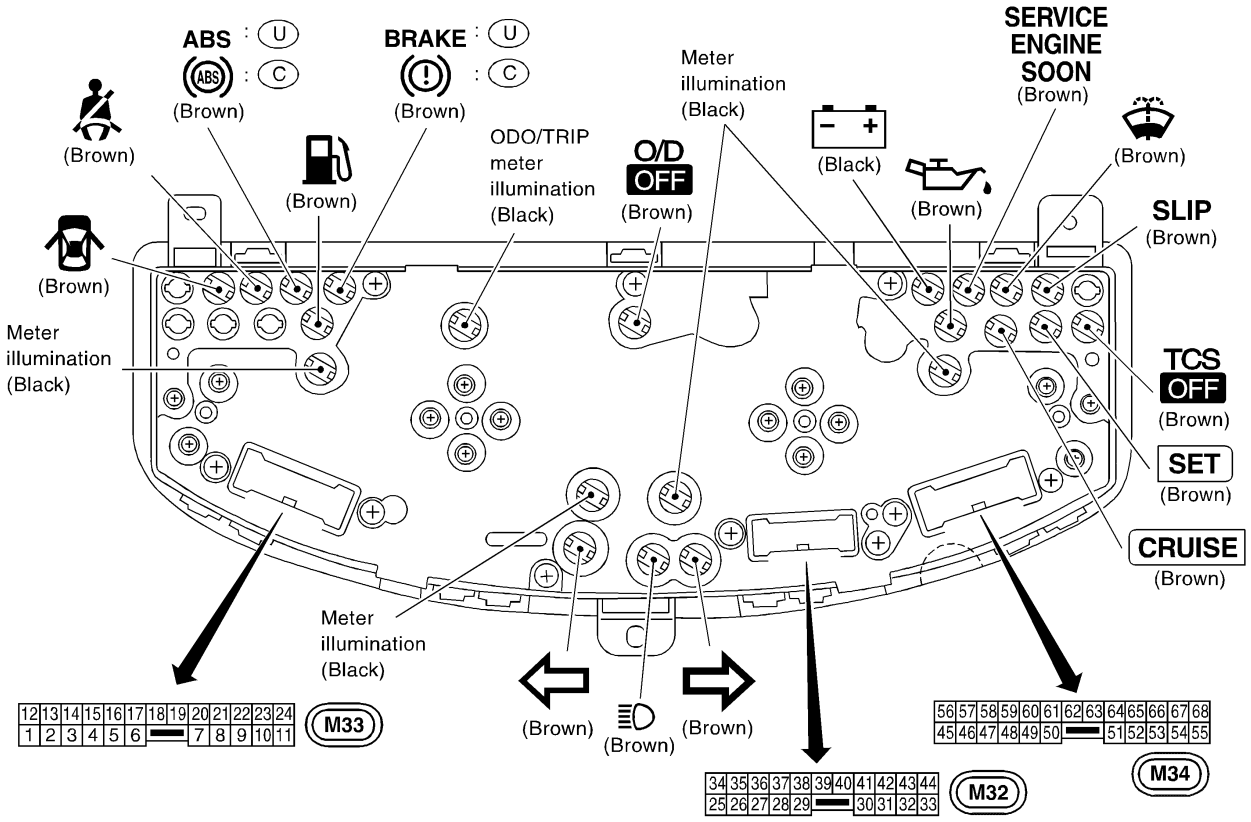
Combination Meter

NFEL0043

CHECK

NFEL0043S01





Bulb socket color	Bulb wattage
Brown	1.4W
Black	3W

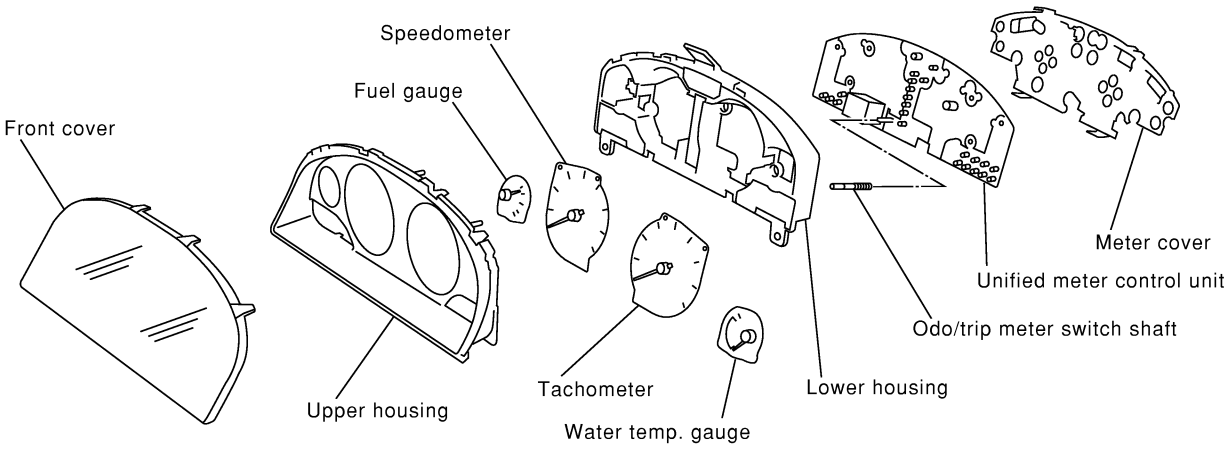
( ): Bulb socket color

U : For USA
C : For Canada

MEL309L

CONSTRUCTION

NFEL0043S04

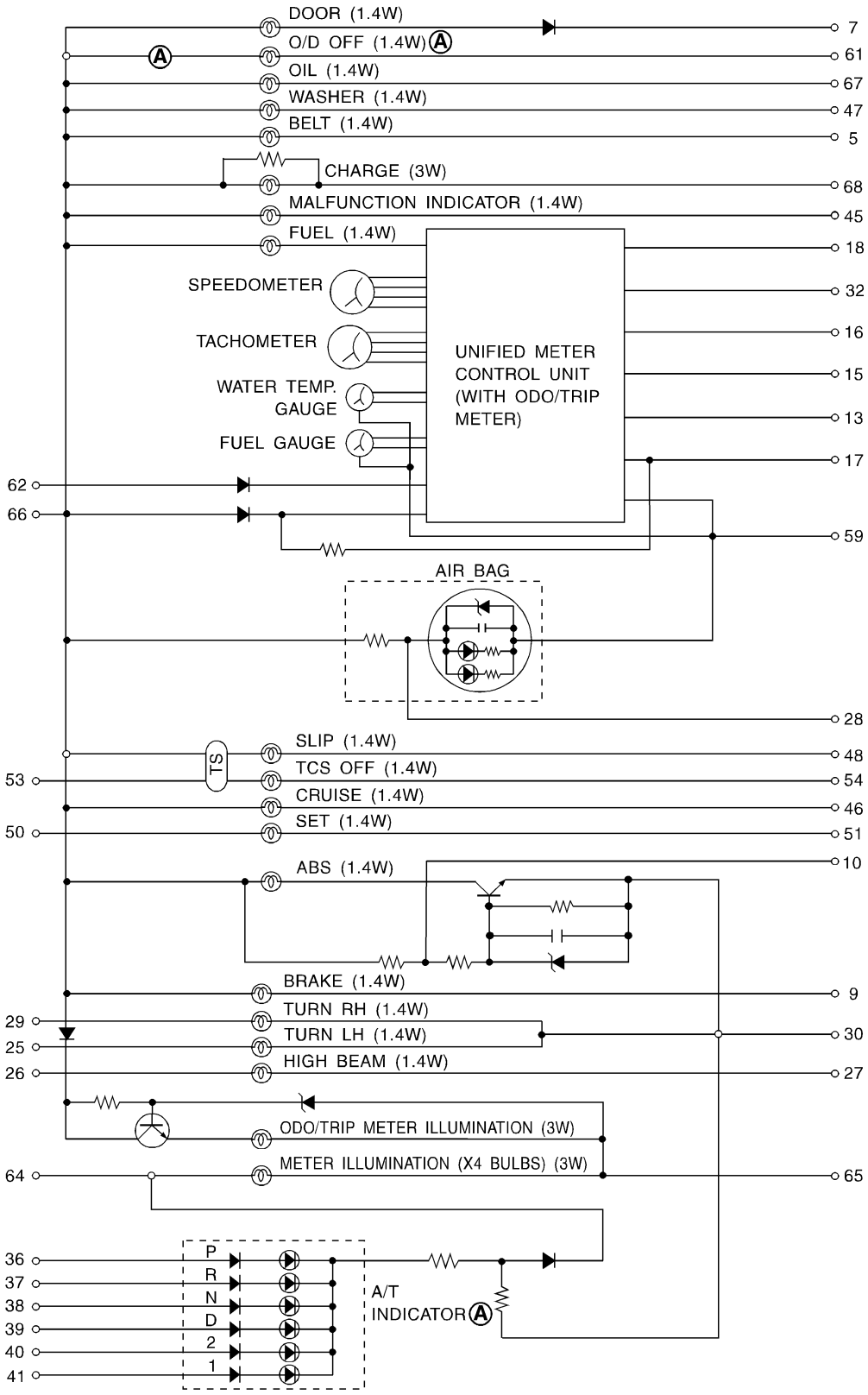


SEL178W

Schematic

NFEL0254

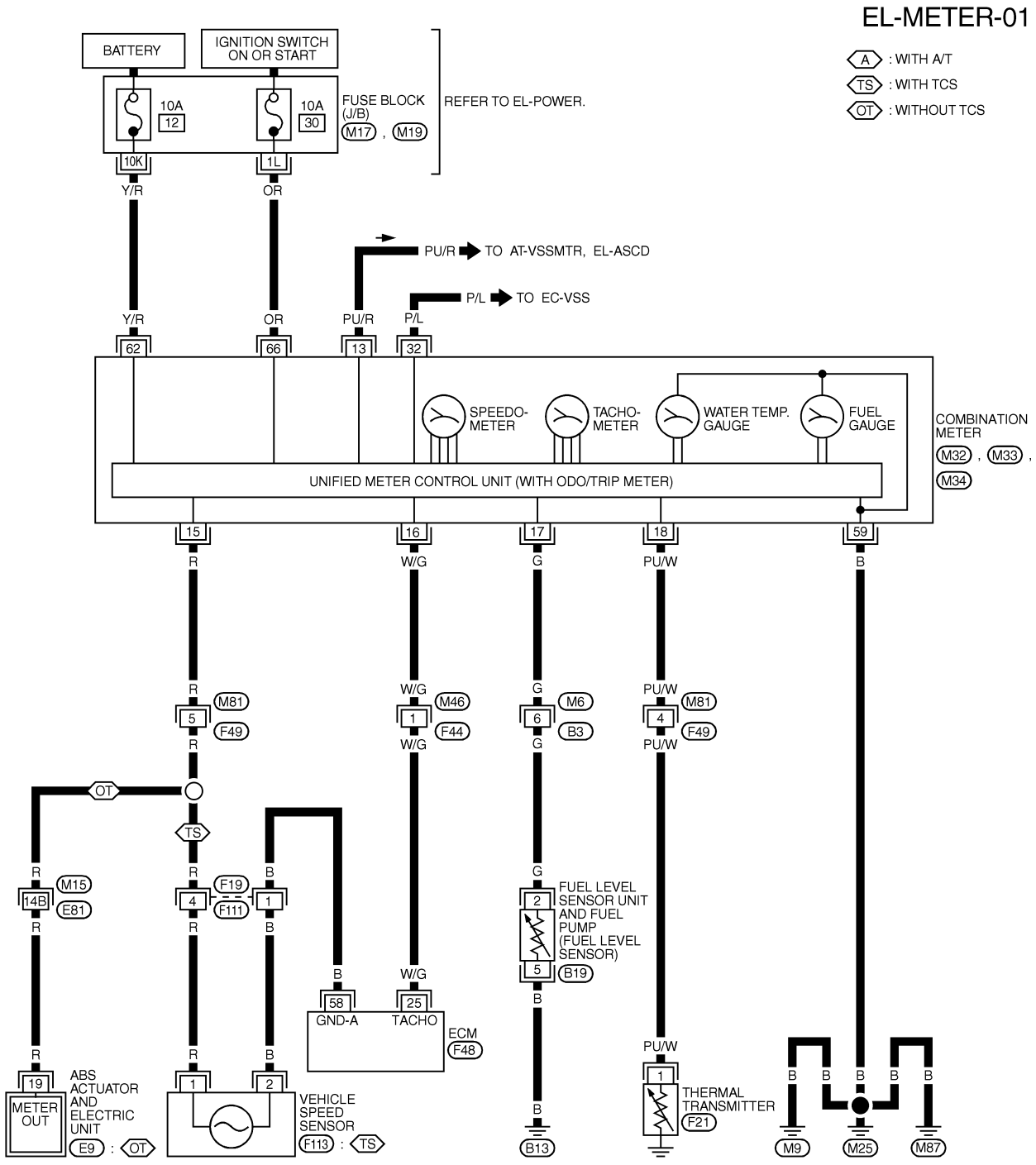
(A) : With A/T
(TS) : With TCS

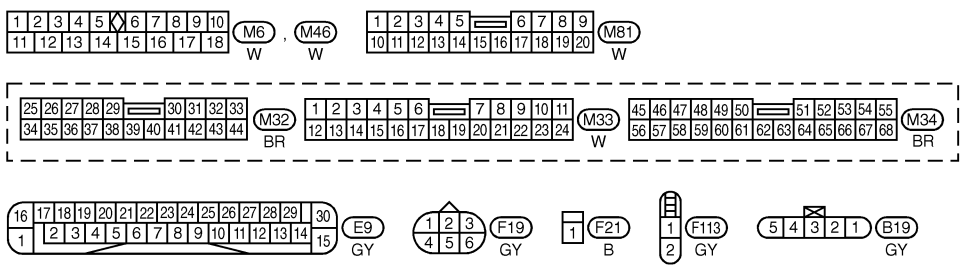


MEL358L

Wiring Diagram — METER —

NFEL0045





REFER TO THE FOLLOWING.
M15 -SUPER-MULTIPLE JUNCTION (SMJ).
M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B).
F48 -ELECTRICAL UNITS

MEL310L

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

NFEL0151

DIAGNOSIS FUNCTION

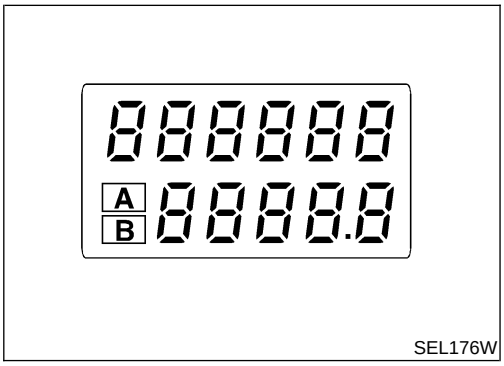
NFEL0151S01

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

HOW TO ALTERNATE DIAGNOSIS MODE

NFEL0151S02

1. Turn ignition switch to ON and change odo/trip meter to “TRIP A”.
2. Turn ignition switch to OFF.
3. Turn ignition switch to ON when pushing odo/trip meter switch.
4. Release odo/trip meter switch 1 second after ignition switch is turned ON.
5. Push odo/trip meter switch more than three times within 5 seconds.

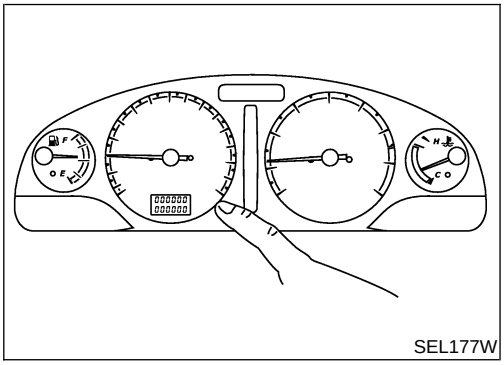


SEL176W

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

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

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


SEL177W

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.

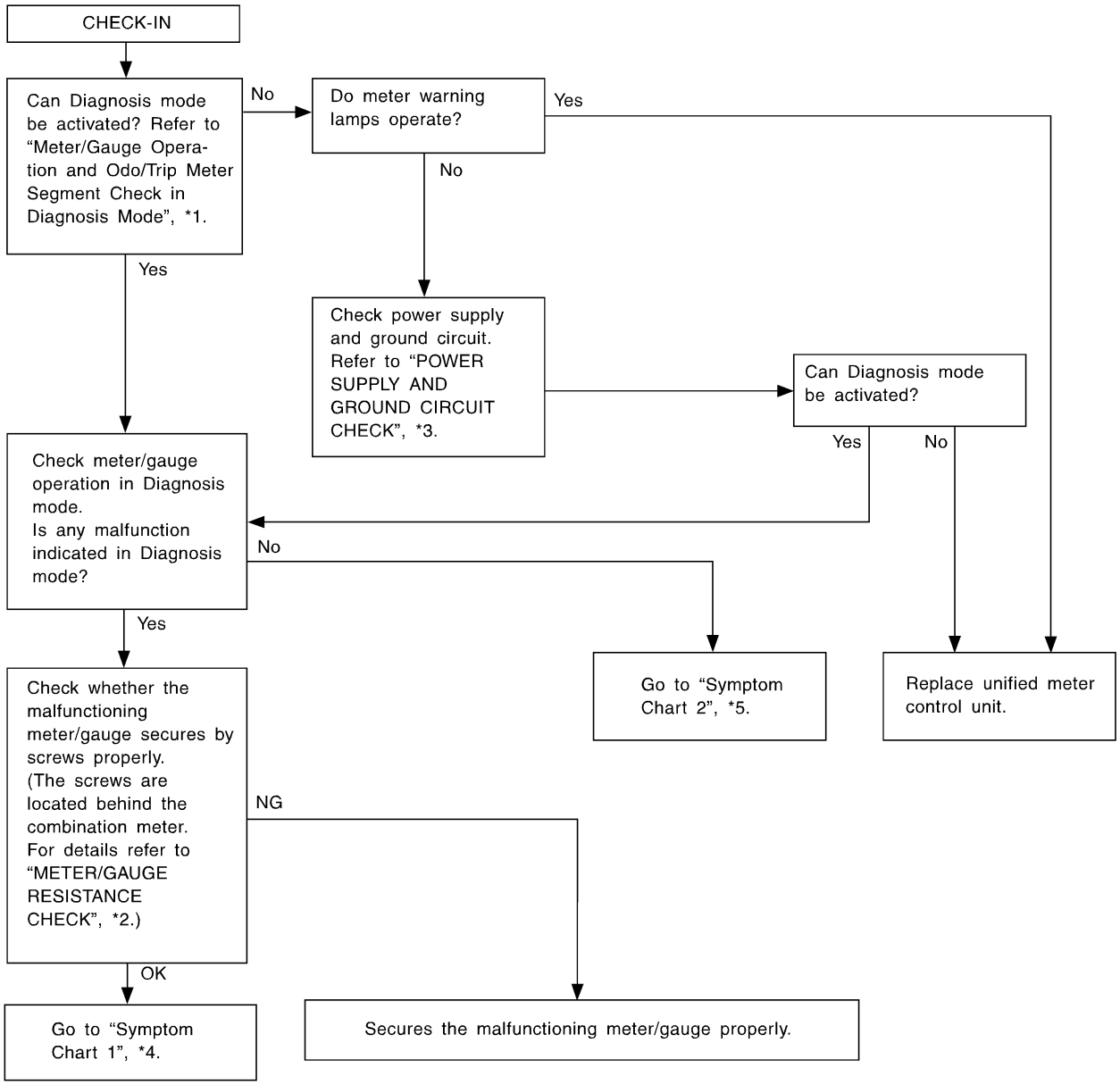
NOTE:
It takes about a few seconds for indication of fuel gauge and water temperature gauge to become stable.

Trouble Diagnoses

PRELIMINARY CHECK

NFEL0046

NFEL0046S04



SEL361W

*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-110)

*2: METER/GAUGE RESISTANCE CHECK (EL-119)

*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-113)

*4: Symptom Chart 1 (EL-112)

*5: Symptom Chart 2 (EL-112)

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

NFEL0046S10

Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NFEL0046S1001

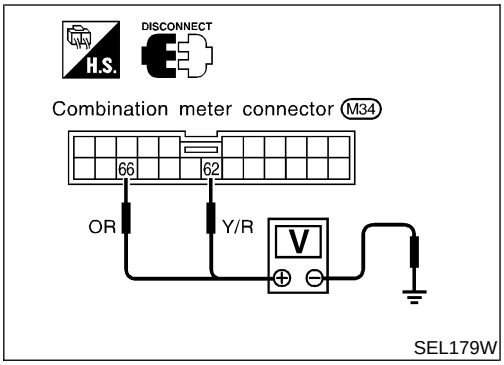
Symptom	Possible causes	Repair order
Odo/trip meter indicate(s) malfunction in Diagnosis mode.	Unified meter control unit	Replace unified meter control unit.
Multiple meter/gauge indicate malfunction in Diagnosis mode.		
One of speedometer/ tachometer/fuel gauge/ water temp. gauge indicates malfunction in Diagnosis mode.	1. Meter/Gauge 2. 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-119. 2. If the resistance of meter/gauge is OK, replace unified meter control unit.

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

NFEL0046S1002

Symptom	Possible causes	Repair order
One of speedometer/ tachometer/fuel gauge/ water temp. gauge is malfunctioning.	1. Sensor signal - Vehicle speed signal - Engine revolution signal - Fuel gauge - Water temp. gauge 2. Unified meter control unit	1. Check the sensor for malfunctioning meter/gauge. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-114.) INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-116.) INSPECTION/FUEL LEVEL SENSOR UNIT (Refer to EL-117.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-118.) 2. Replace unified meter control unit.
Multiple meter/gauge are malfunctioning. (except odo/trip meter)		

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-111.



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NFEL0046S07

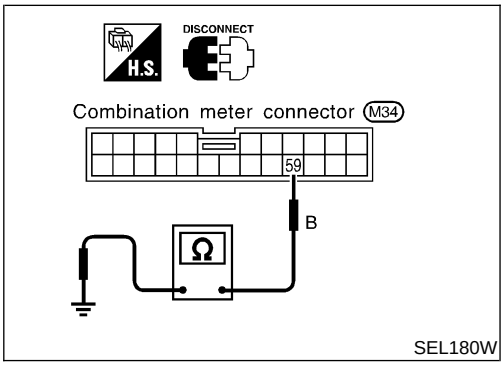
Power Supply Circuit Check

NFEL0046S0701

Terminals		Ignition switch position		
(+)	(−)	OFF	ACC	ON
62	Ground	Battery voltage	Battery voltage	Battery voltage
66	Ground	0V	0V	Battery voltage

If NG, check the following.

- 10A fuse [No. 12, located in fuse block (J/B)]
- 10A fuse [No. 30, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter



Ground Circuit Check

NFEL0046S0702

Terminals	Continuity
59 - Ground	Yes

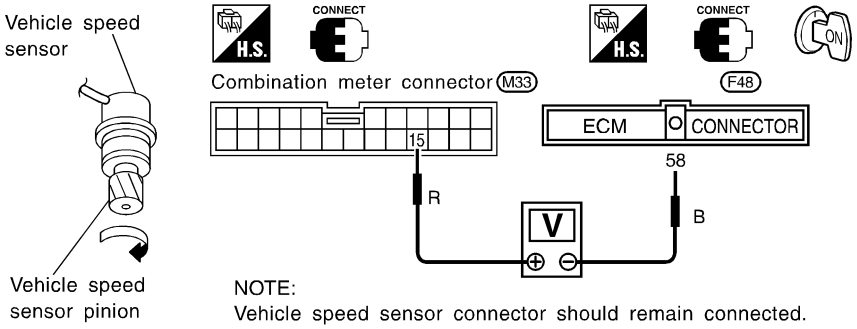
INSPECTION/VEHICLE SPEED SENSOR
With TCS

=NFEL0046S03

NFEL0046S0301

1	CHECK VEHICLE SPEED SENSOR OUTPUT

1. Remove vehicle speed sensor from transmission.
2. Check voltage between combination meter terminal 15 and ECM terminal 58 while quickly turning speed sensor pinion.



Voltage: Approx. 0.5V

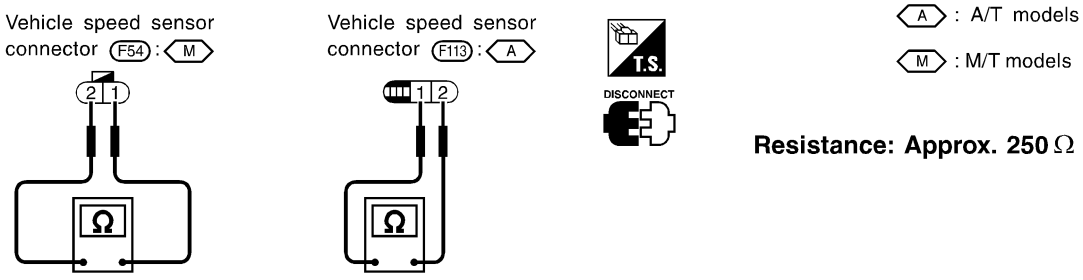
SEL181W

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. 250 Ω

SEL406W

OK or NG

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

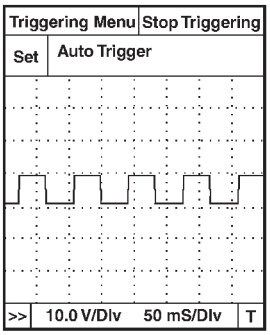
Without TCS

NFEL0046S0302

1	CHECK ABS CONTROL UNIT OUTPUT SIGNAL

With CONSULT-II

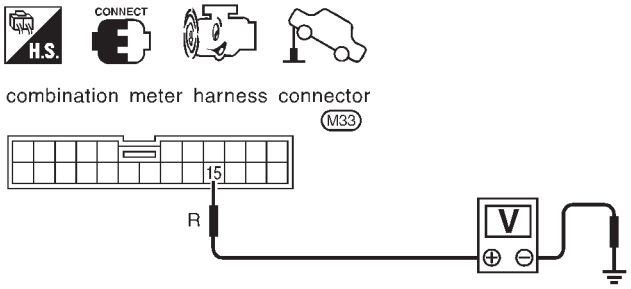
1. Lift up drive wheels.
2. Start engine.
3. Check signal between combination meter terminal 15 and ground when rotating wheels with engine at idle. (Use "SIMPLE OSCILLOSCOPE" in "SUB MODE" with CONSULT-II.)



SEL938W

Without CONSULT-II

1. Lift up drive wheels.
2. Start engine.
3. Check voltage between combination meter terminal 15 and ground when rotating wheels with engine at idle.



Voltage: Approx. 0 - 5V

SEL939W

OK or NG

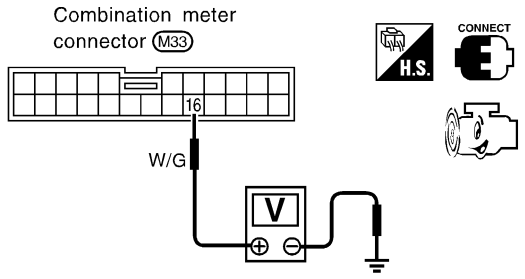
OK	▶	ABS control unit is OK.
NG	▶	**Check the following.** ● Harness for open or short between ABS actuator and electric unit and combination meter. ● ABS actuator and electric unit. Refer to BR-62, "Wheel Sensor or Rotor".

INSPECTION/ENGINE REVOLUTION SIGNAL

NFEL0046S02

1	CHECK ECM OUTPUT

1. Start engine.
2. Check voltage between combination meter terminals 16 and ground at idle and 2,000 rpm.



Higher rpm = Higher voltage
Lower rpm = Lower voltage
Voltage should change with rpm.

SEL364W

OK or NG

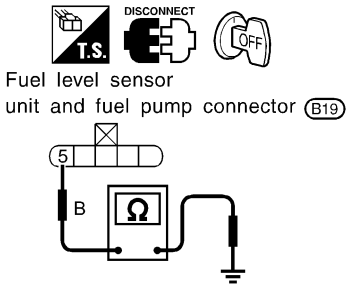
OK	▶	Engine revolution signal is OK.
NG	▶	Harness for open or short between ECM and combination meter

INSPECTION/FUEL LEVEL SENSOR UNIT

=NFEL0046S08

1	CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT

Check harness continuity between fuel level sensor unit and fuel pump connector terminal 5 and ground.



Continuity should exist.

SEL182W

OK or NG

OK	▶	GO TO 2.
NG	▶	Repair harness or connector.

2	CHECK FUEL LEVEL SENSOR UNIT

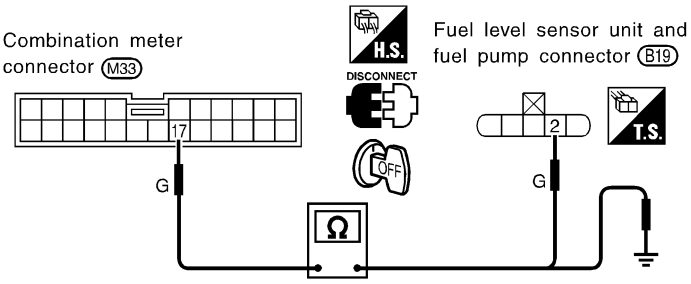
Refer to "FUEL LEVEL SENSOR UNIT CHECK" (EL-119).

OK or NG

OK	▶	GO TO 3.
NG	▶	Replace fuel level sensor unit.

3	CHECK HARNESS FOR OPEN OR SHORT

1. Disconnect combination meter connector and fuel level sensor unit and fuel pump connector.
2. Check continuity between combination meter terminal 17 and fuel level sensor unit and fuel pump connector terminal 2.
   Continuity should exist.
3. Check continuity between combination meter terminal 17 and ground.
   Continuity should not exist.



SEL183W

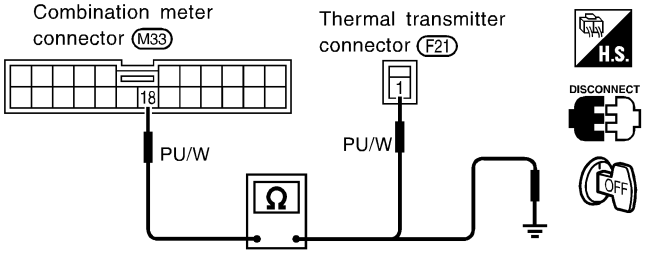
OK or NG

OK	▶	Fuel level sensor unit is OK.
NG	▶	Repair harness or connector.

INSPECTION/THERMAL TRANSMITTER

=NFEL0046S09

1	CHECK THERMAL TRANSMITTER	
Refer to "THERMAL TRANSMITTER CHECK" (EL-119).		
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 18 and thermal transmitter terminal 1. **Continuity should exist.** 3. Check continuity between combination meter terminal 18 and ground. **Continuity should not exist.**		
 SEL184W		
OK or NG		
OK	▶	Thermal transmitter is OK.
NG	▶	Repair harness or connector.

Electrical Components Inspection

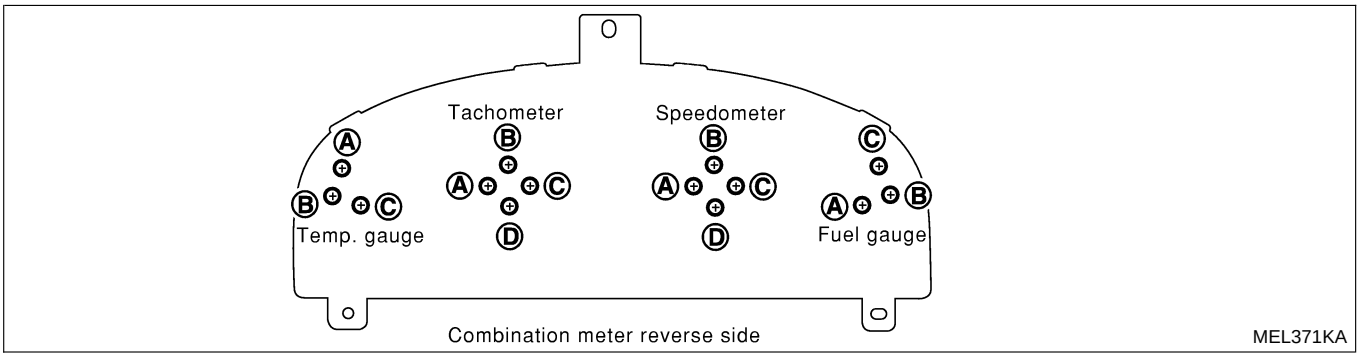
=NFEL0047

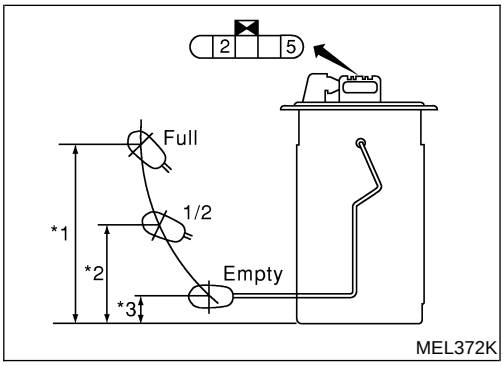
METER/GAUGE RESISTANCE CHECK

NFEL0047S04

Check resistance between installation screws of meter/gauge.

Screws		Resistance Ω
Tacho/Speedometer	Fuel/Temp. gauge	
A - C	A - C	Approx. 190 - Approx. 260
B - D	B - C	Approx. 230 - Approx. 310





FUEL LEVEL SENSOR UNIT CHECK

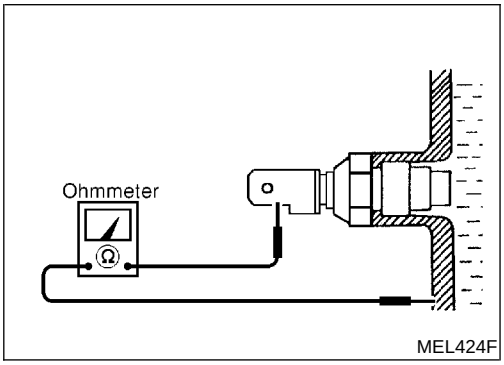
NFEL0047S01

- For removal, refer to FE-7.

Check the resistance between terminals 2 and 5.

Ohmmeter		Float position mm (in)			Resistance value Ω
(+)	(−)				
2	5	*1	Full	152 (5.98)	Approx. 4 - 6
		*2	1/2	87 (3.43)	27 - 35
		*3	Empty	22 (0.87)	78 - 85

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

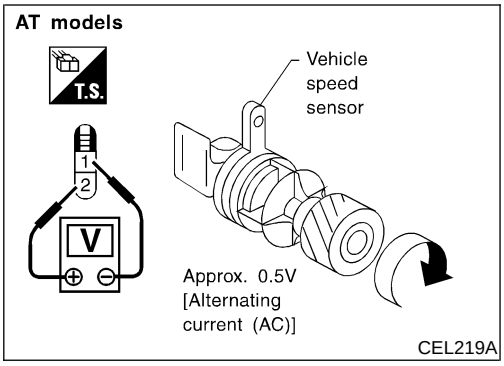


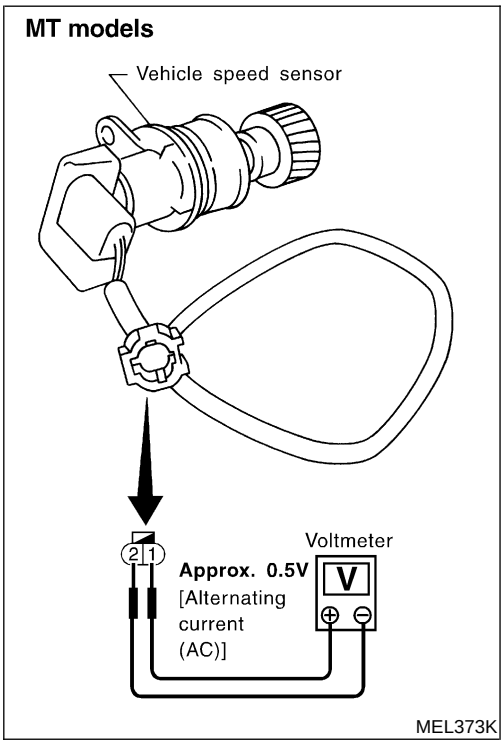
THERMAL TRANSMITTER CHECK

NFEL0047S02

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





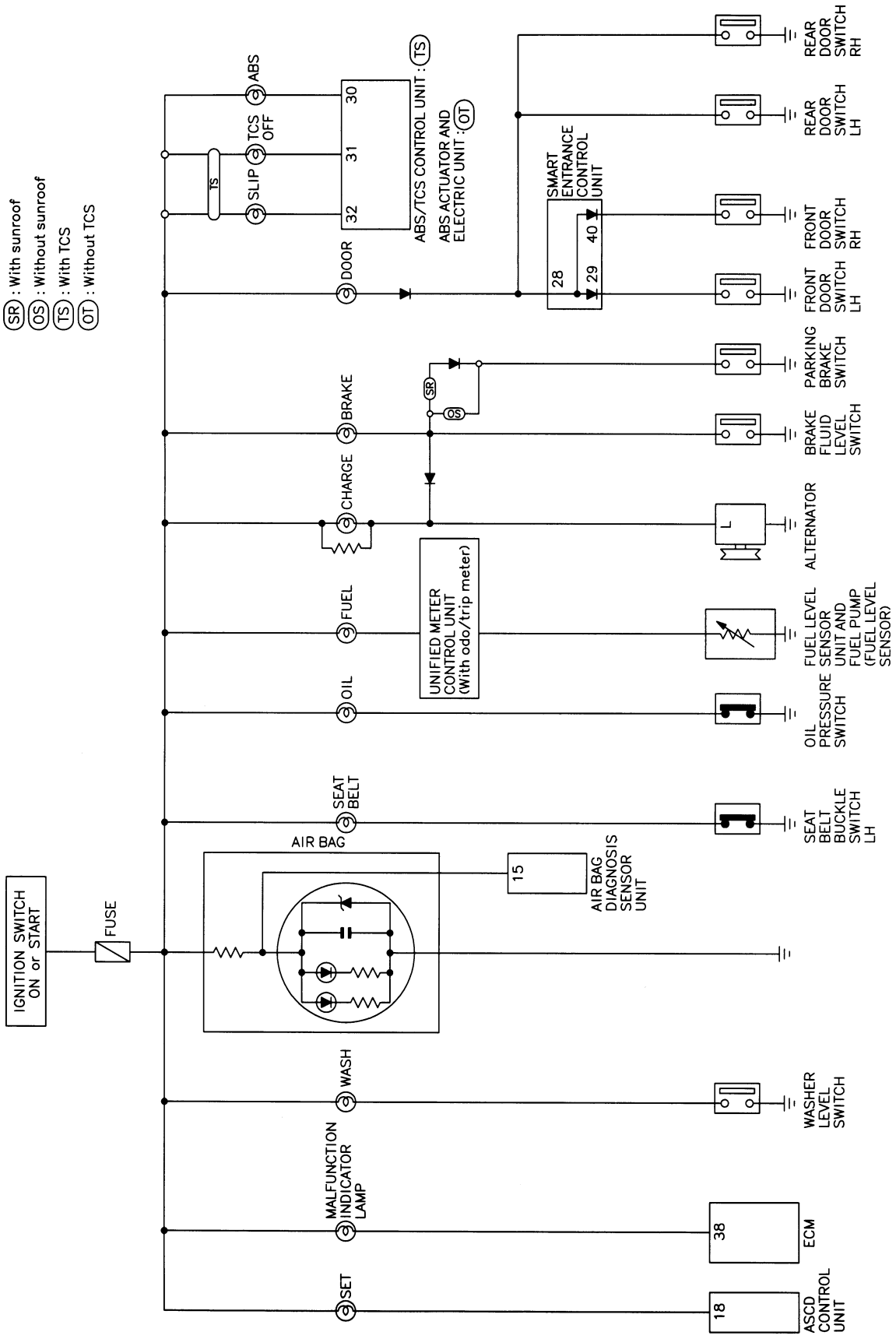
VEHICLE SPEED SENSOR SIGNAL CHECK

NFEL0047S03

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

Schematic

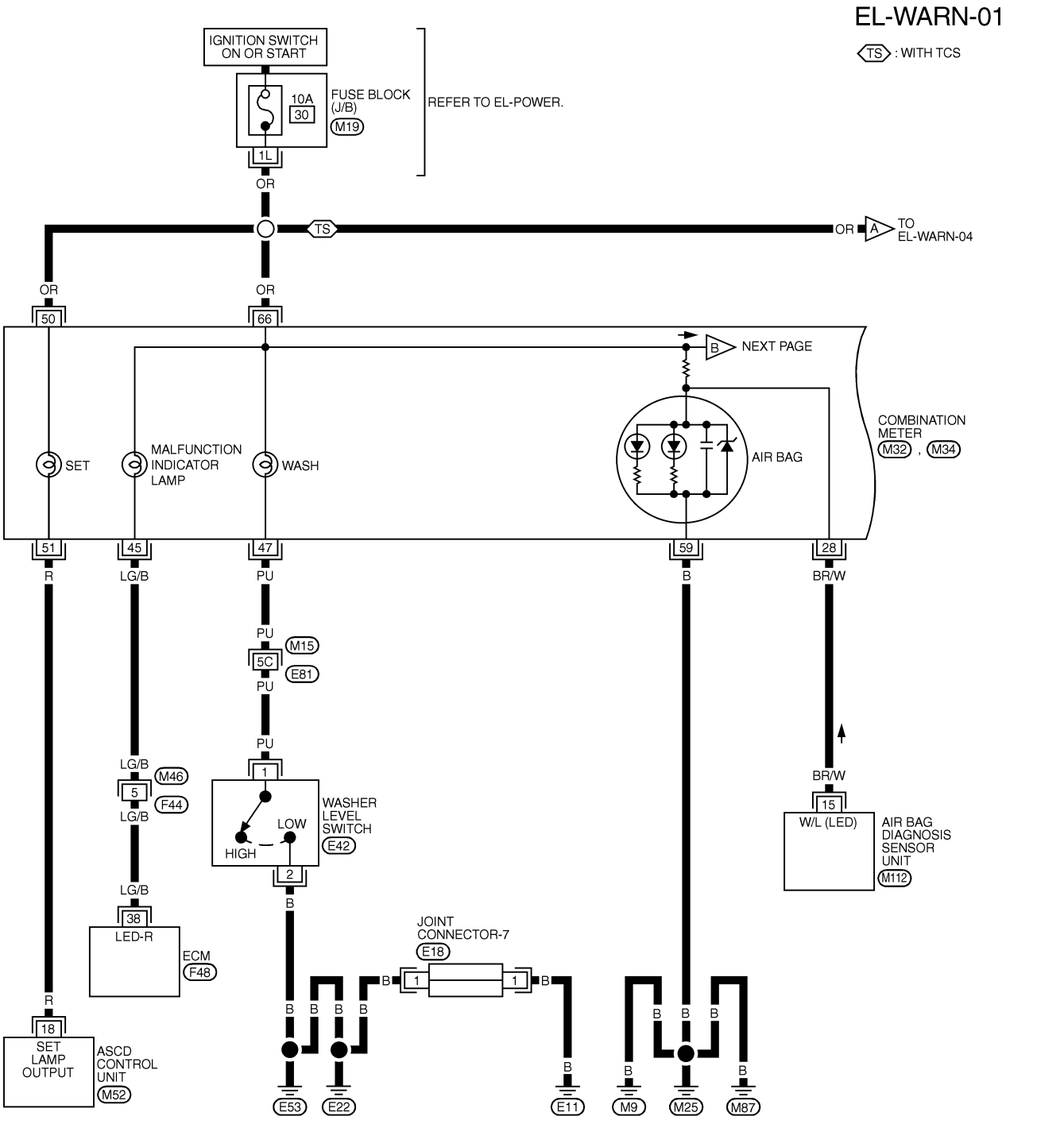
NFEL0049

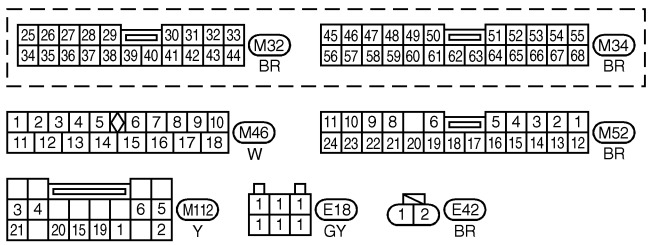


MEL311L

Wiring Diagram — WARN —

NFEL0050

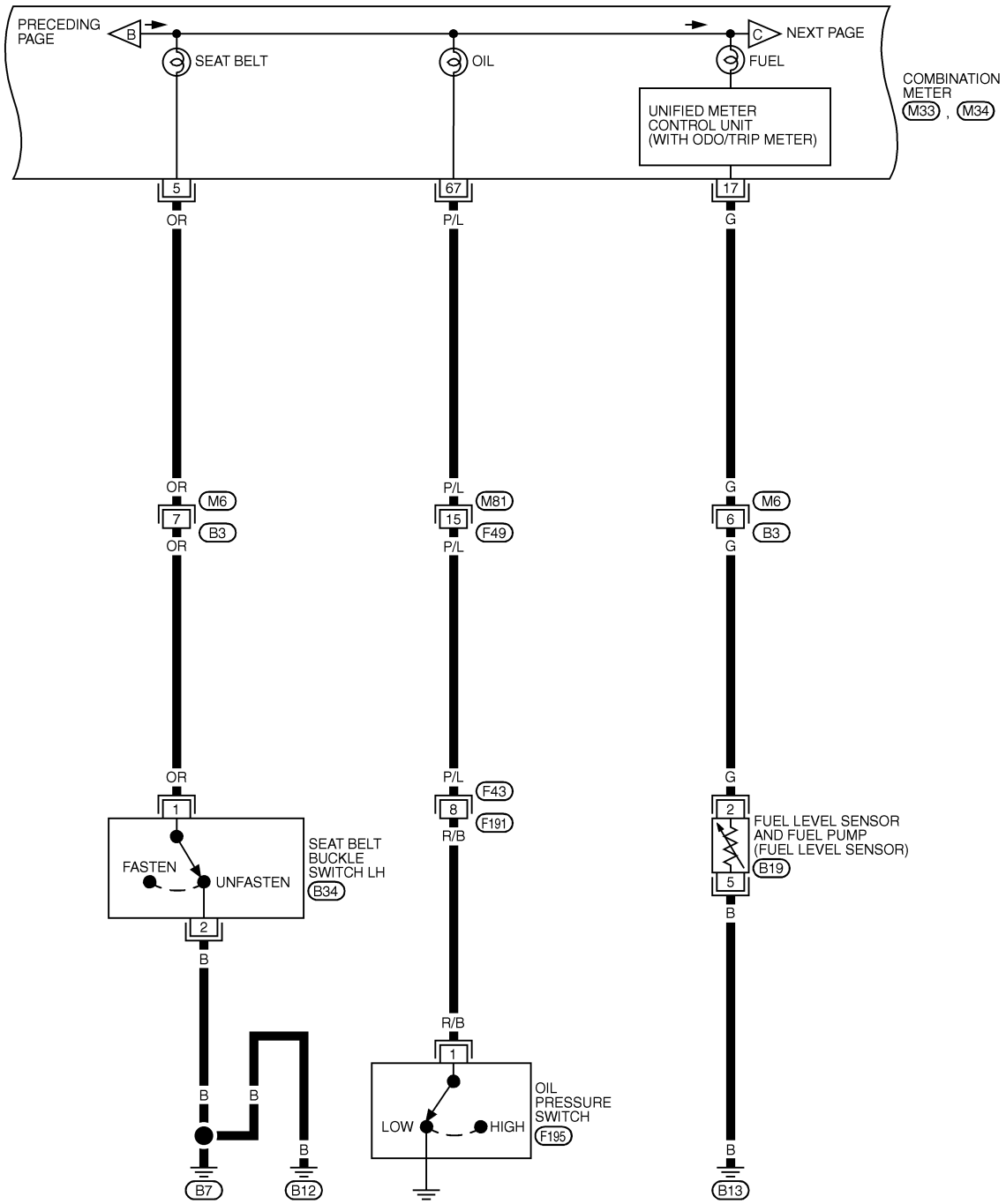


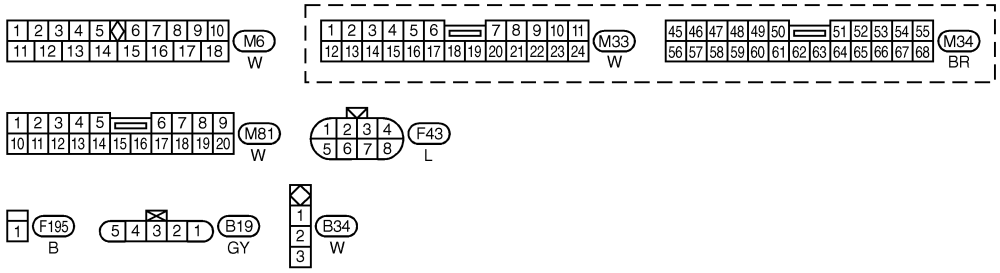


REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M19 -FUSE BLOCK-JUNCTION BOX (J/B)
F48 -ELECTRICAL UNITS

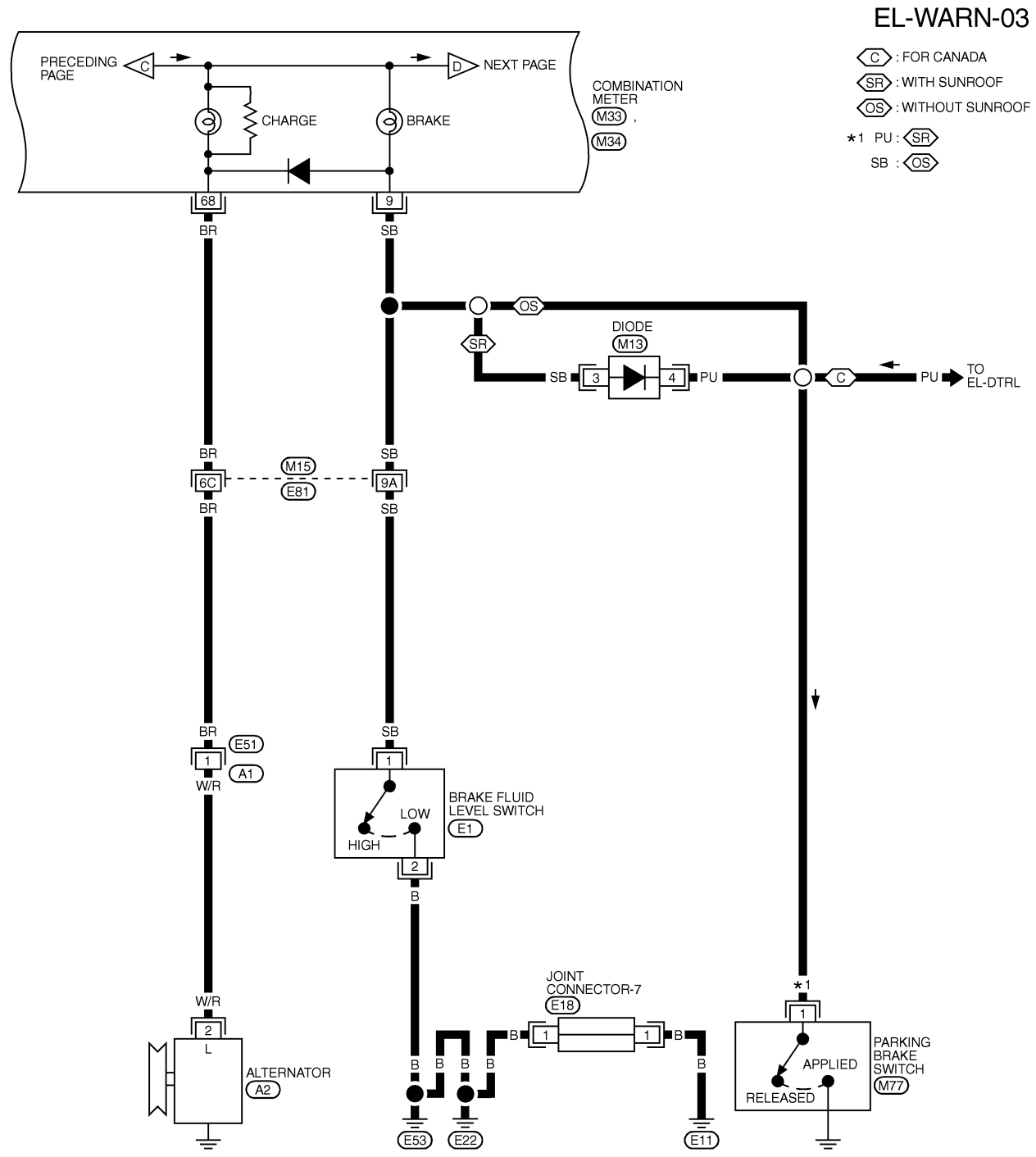
MEL312L

EL-WARN-02

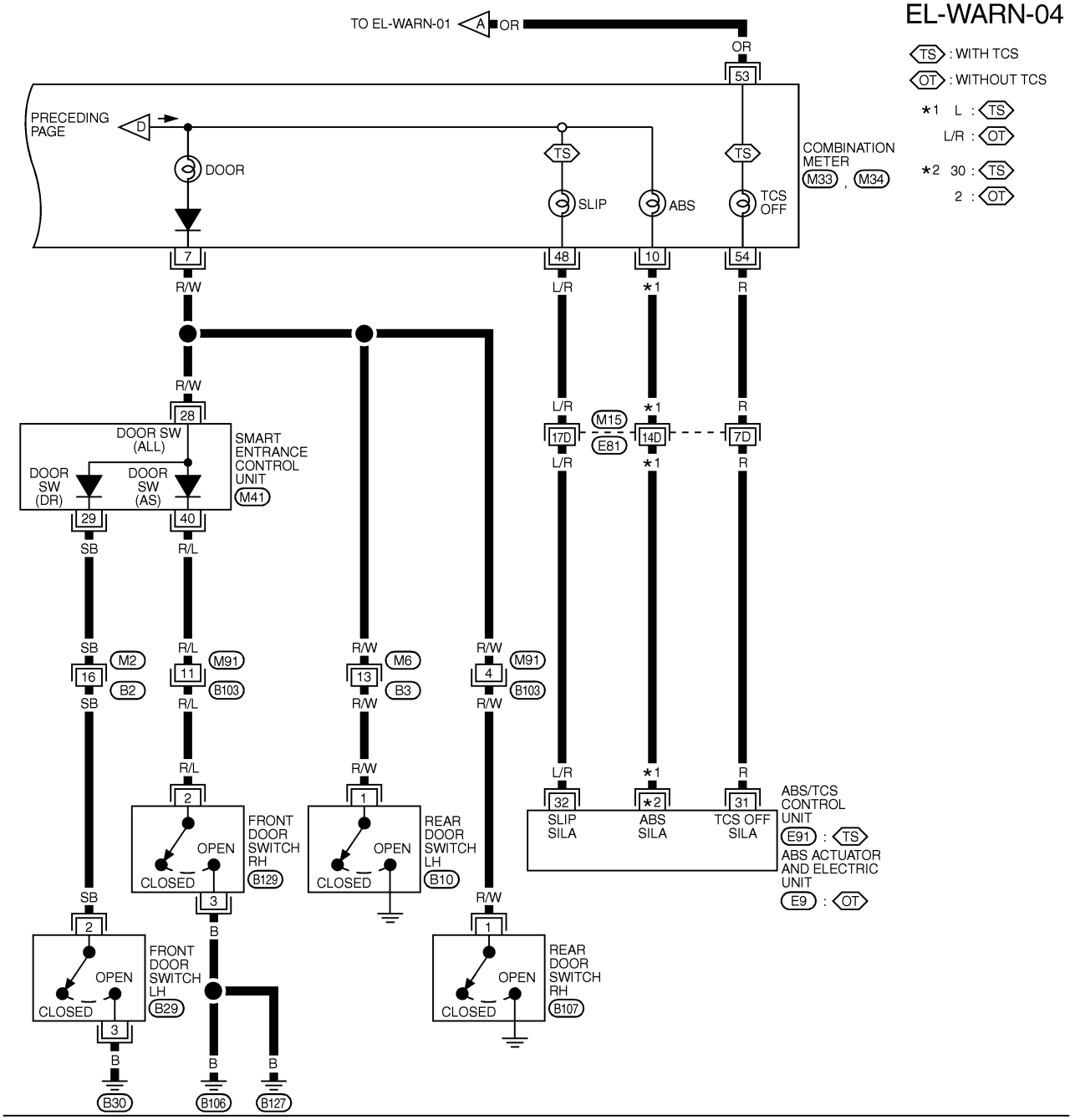


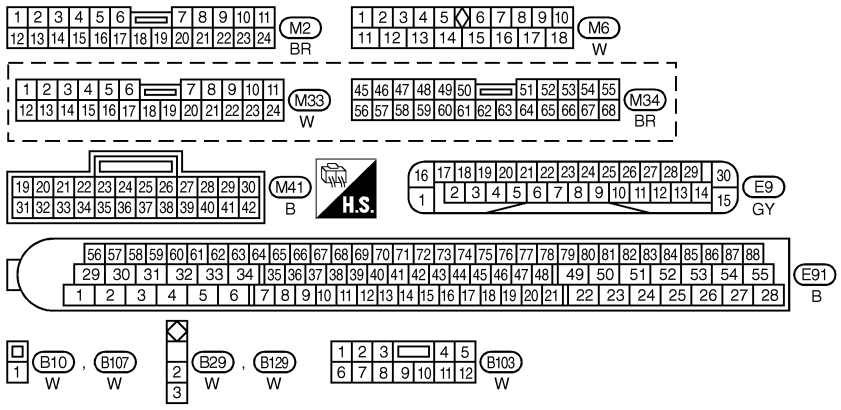


MEL313L


EL-WARN-03
C : FOR CANADA
SR : WITH SUNROOF
OS : WITHOUT SUNROOF
*1 PU : SR
SB : OS
PRECEDING PAGE
C
D
NEXT PAGE
CHARGE
BRAKE
COMBINATION METER
M33
M34
68
9
BR
SB
OS
SR
DIODE
M13
SB
3
4
PU
C
PU
TO EL-DTRL
BR
6C
M15
E81
9A
SB
BR
SB
BR
E51
1
A1
W/R
SB
1
BRAKE FLUID LEVEL SWITCH
LOW
HIGH
E1
2
B
W/R
2
L
ALTERNATOR
A2
JOINT CONNECTOR-7
E18
B
1
1
B
B
B
B
B
B
*1
1
APPLIED
RELEASED
PARKING BRAKE SWITCH
M77
E53
E22
E11
M13
L
M33
W
M34
BR
M77
B
E1
GY
E18
GY
E51
GY
A2
GY
REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
MEL314L

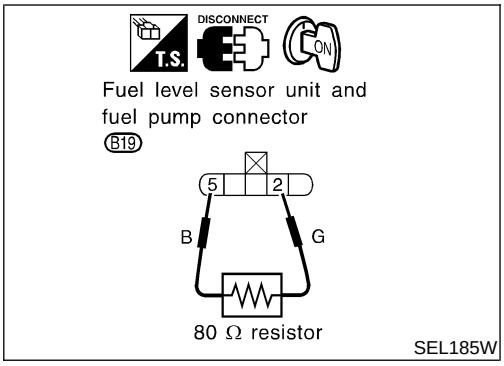
EL-WARN-04





REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)

MEL315L



Electrical Components Inspection

NFEL0051

FUEL WARNING LAMP OPERATION CHECK

NFEL0051S01

1. Turn ignition switch “OFF”.
2. Disconnect fuel level sensor unit and fuel pump harness connector B19.
3. Connect a resistor (80Ω) between fuel level sensor unit and fuel pump harness connector terminals 2 and 5.
4. Turn ignition switch “ON”.

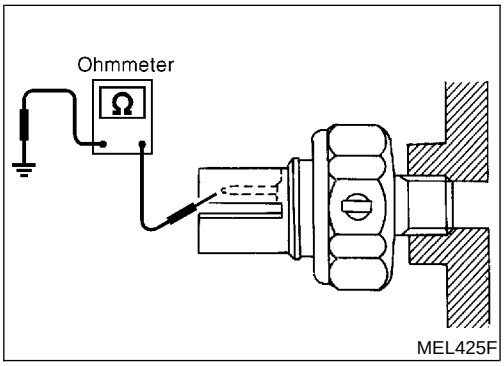
The fuel warning lamp should come on.

NOTE:

ECM might store the 1st trip DTC P0180 and the 1st trip DTC P0464 during this inspection.

If the DTC is stored in ECM memory, erase the DTC after reconnecting fuel level sensor unit and fuel pump harness connector.

Refer to EC-87, “HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION”.

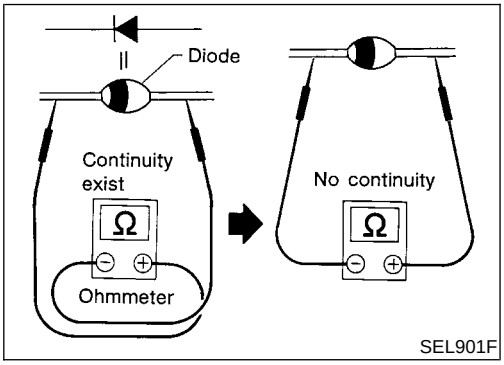


OIL PRESSURE SWITCH CHECK

NFEL0051S02

	Oil pressure kPa (kg/cm^2, psi)	Continuity
Engine running	More than 10 - 20 (0.1 - 0.2, 1 - 3)	No
Engine not running	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

NFEL0051S03

- Check continuity using an ohmmeter.
- Diode is functioning properly if test results are as shown in the figure at left.
- Check diodes at the combination meter harness connector instead of on the combination meter assembly. Refer to EL-122, “WARNING LAMP” wiring diagrams.

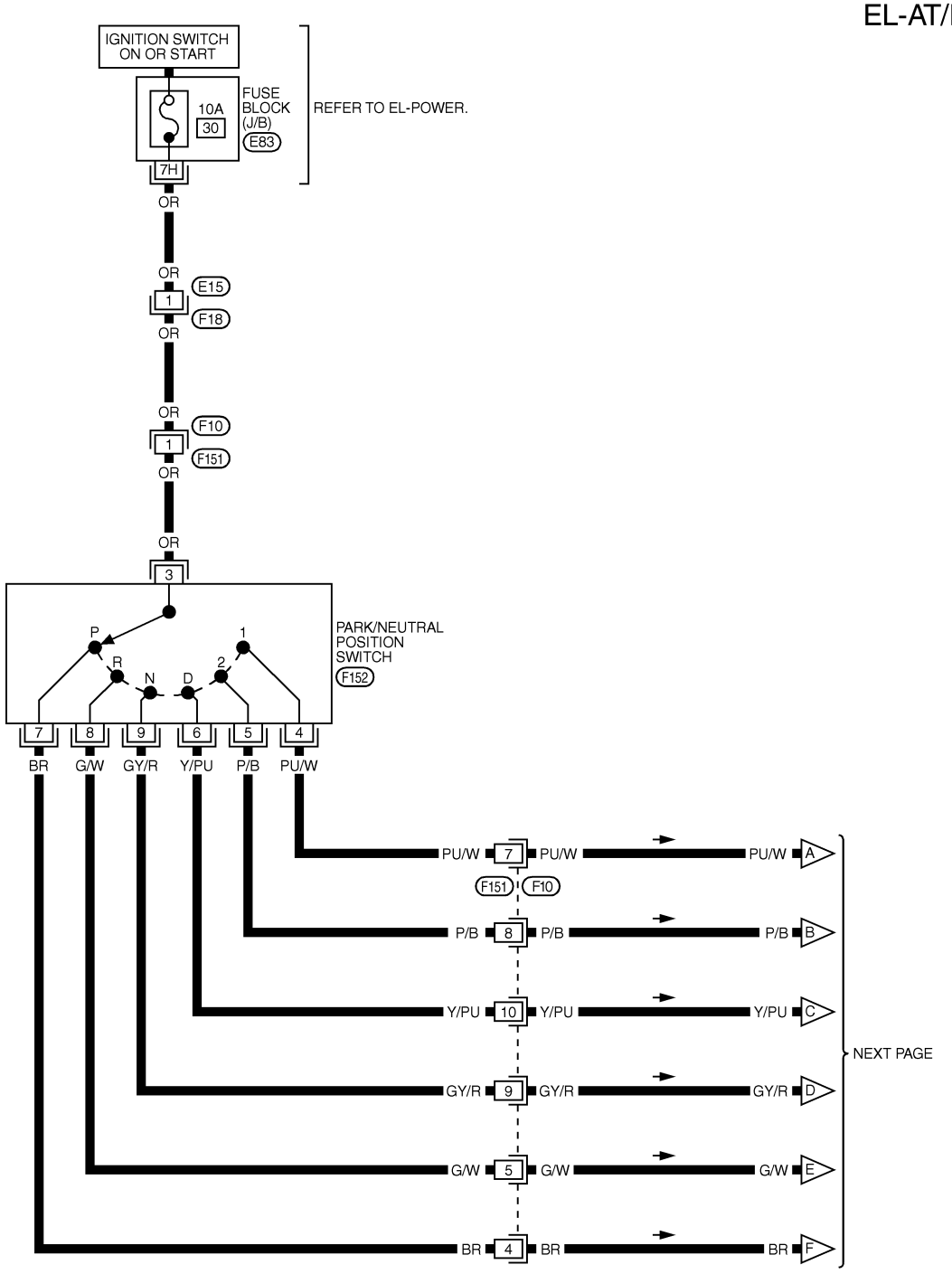
NOTE:

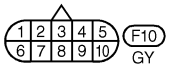
Specification may vary depending on the type of tester. Before performing this inspection, be sure to refer to the instruction manual for the tester to be used.

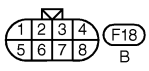
Wiring Diagram — AT/IND —

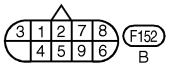
NFEL0159

EL-AT/IND-01



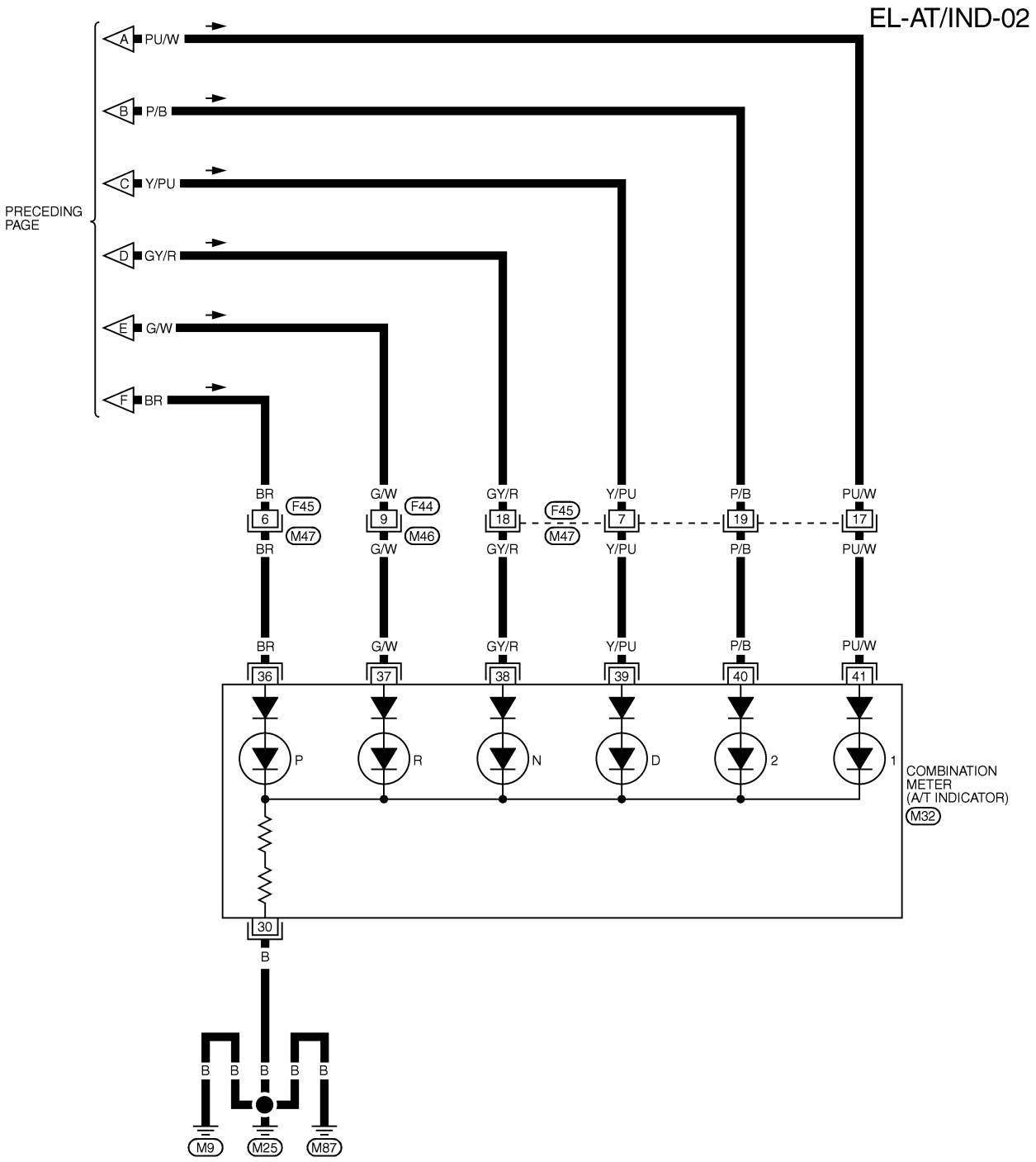


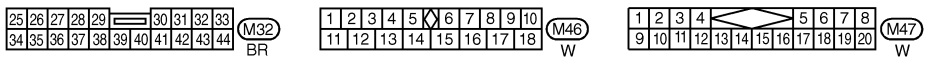




REFER TO THE FOLLOWING.
E83 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL270K

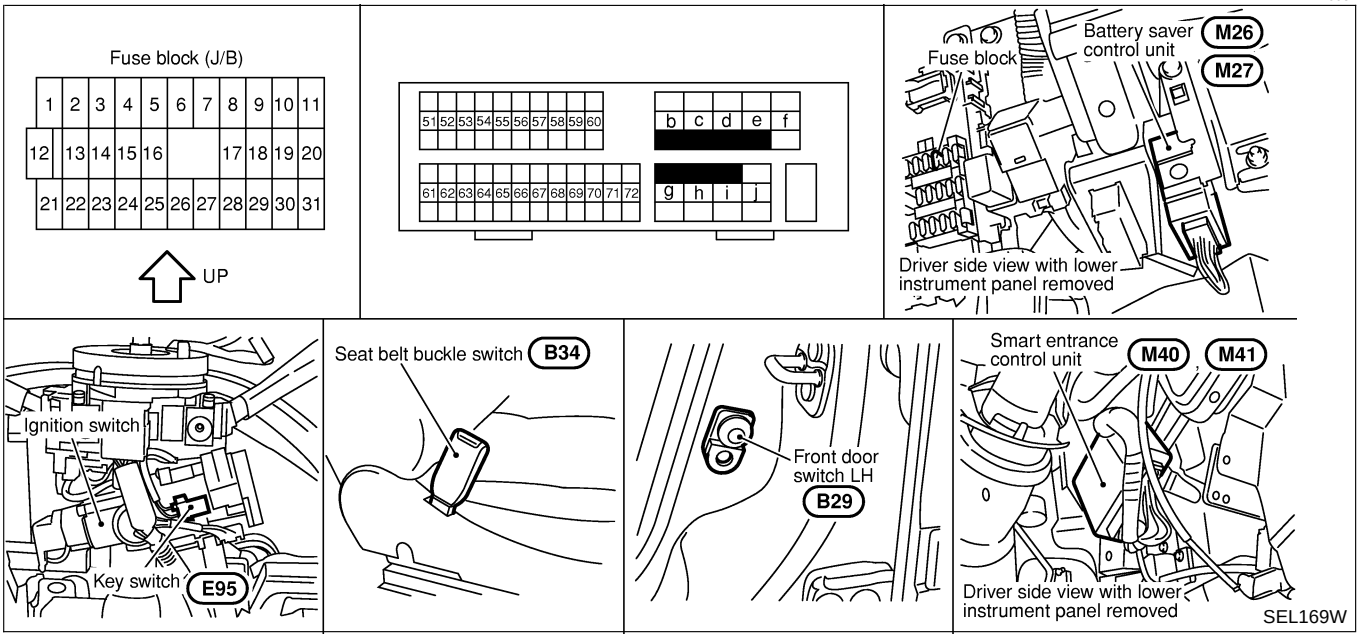

EL-AT/IND-02
PRECEDING PAGE
A PU/W
B P/B
C Y/PU
D GY/R
E G/W
F BR
BR F45 6 M47
G/W F44 9 M46
GY/R F45 18 M47
Y/PU 7
P/B 19
PU/W 17
BR 36
G/W 37
GY/R 38
Y/PU 39
P/B 40
PU/W 41
P
R
N
D
2
1
COMBINATION METER (A/T INDICATOR) M32
30
B
B B B B B
M9 M25 M87


25 26 27 28 29 30 31 32 33
34 35 36 37 38 39 40 41 42 43 44
M32
BR
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18
M46
W
1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16 17 18 19 20
M47
W

MEL271K

Component Parts and Harness Connector Location

NFEL0052



System Description

NFEL0053

The warning chime is controlled by the smart entrance control unit.
The warning chime is located in the smart entrance control unit.
Power is supplied at all times

- through 10A fuse [No. 13, located in fuse block (J/B)]
- to smart entrance control unit terminal 10,
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to key switch terminal 2,
- through 10A fuse (No. 60, located in the fuse and fusible link box
- to tail lamp relay terminals 1 and 3.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

Ground is supplied to smart entrance control unit terminal 16 through body grounds M9, M25 and M87.
When a signal, or combination of signals, is received by the smart entrance control unit, the warning chime will sound.

IGNITION KEY WARNING CHIME

NFEL0053S01

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

- from key switch terminal 1
- to smart entrance control unit terminal 32.

Ground is supplied

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29.

Front door switch (driver side) terminal 3 is grounded through body ground B30.

LIGHT WARNING CHIME

NFEL0053S02

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

- from tail lamp relay terminal 5
- to smart entrance control unit terminal 34.

Ground is supplied

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29.

Front door switch (driver side) terminal 3 is grounded through body ground B30.

SEAT BELT WARNING CHIME

NFEL0053S03

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

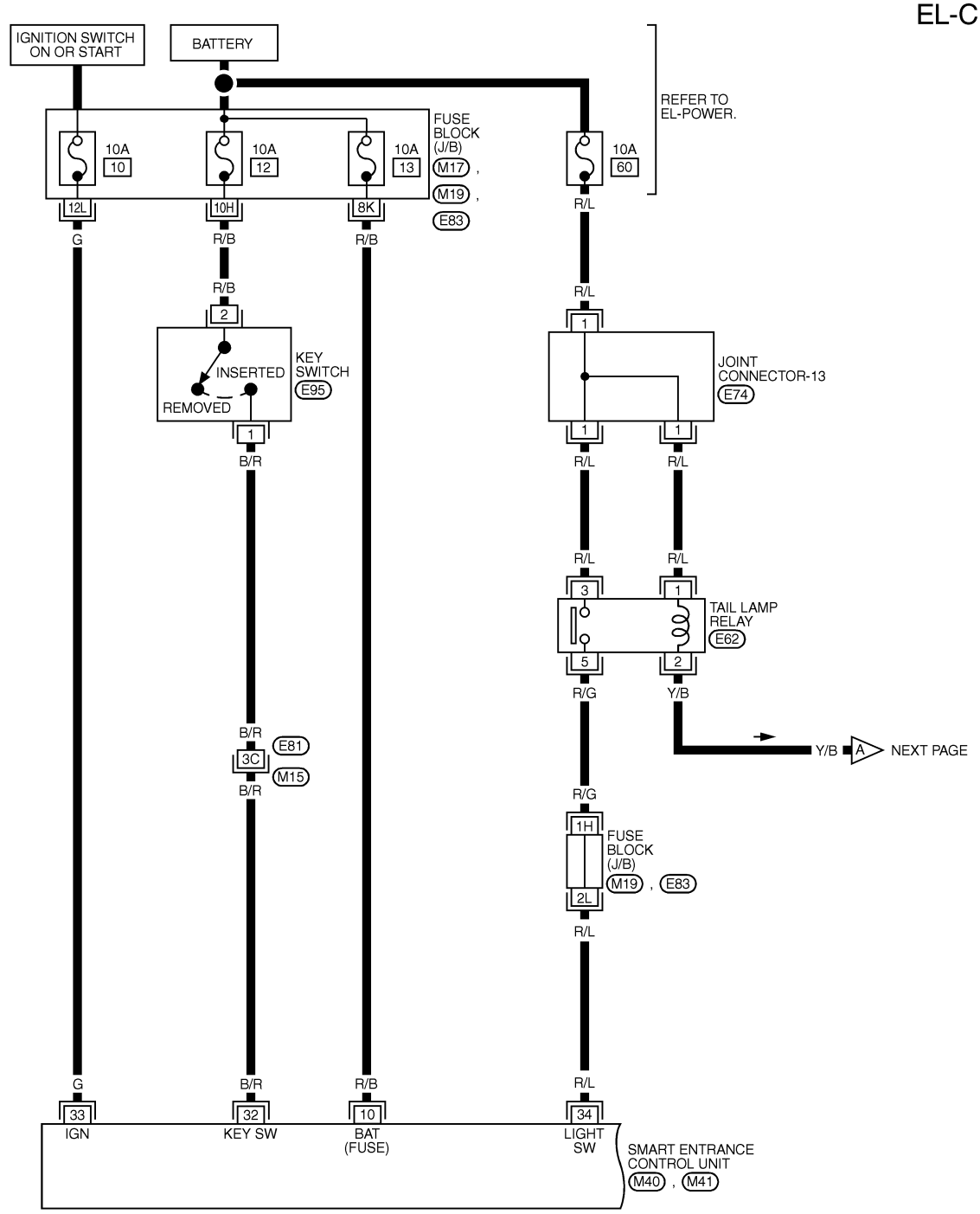
- from seat belt switch terminal 1
- to smart entrance control unit terminal 22.

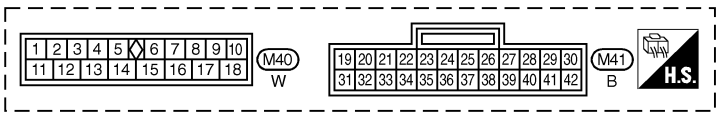
Seat belt switch terminal 2 is grounded through body grounds B7 and B12.

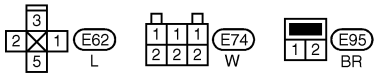
Wiring Diagram — CHIME —

NFEL0054

EL-CHIME-01



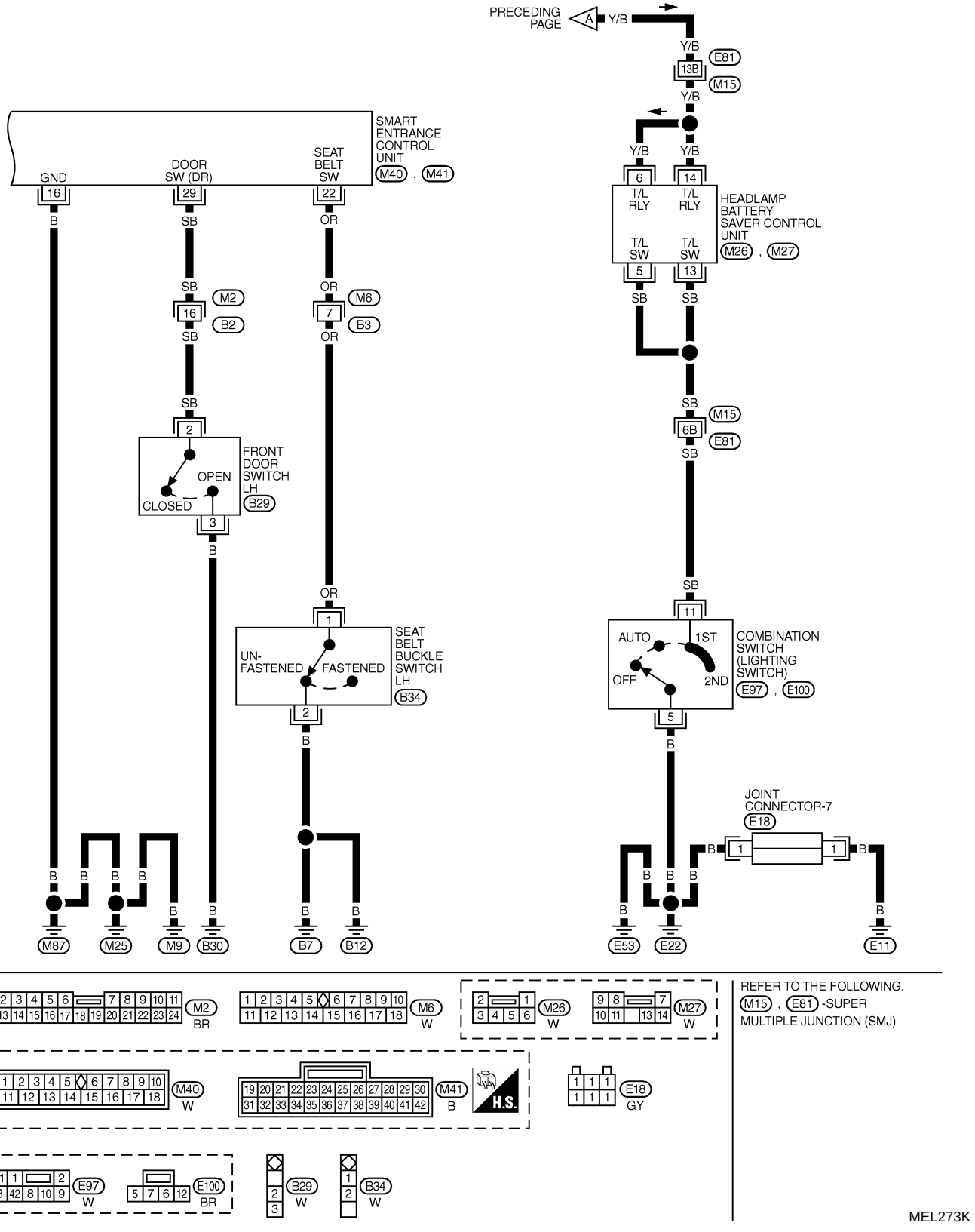




REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-JUNCTION BOX (J/B)
M19 -FUSE BLOCK-JUNCTION BOX (J/B)
E83 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL272K

EL-CHIME-02


PRECEDING PAGE
A
Y/B
Y/B
E81
13B
M15
Y/B
SMART ENTRANCE CONTROL UNIT
M40 , M41
GND
DOOR SW (DR)
SEAT BELT SW
16
29
22
B
SB
OR
SB
M2
16
B2
OR
M6
7
B3
SB
OR
SB
2
FRONT DOOR SWITCH LH
B29
OPEN
CLOSED
3
B
OR
1
SEAT BELT BUCKLE SWITCH LH
B34
UN-FASTENED
FASTENED
2
B
Y/B
Y/B
6
14
T/L RLY
T/L RLY
HEADLAMP BATTERY SAVER CONTROL UNIT
M26 , M27
T/L SW
T/L SW
5
13
SB
SB
SB
M15
6B
E81
SB
SB
11
AUTO
1ST
OFF
2ND
COMBINATION SWITCH (LIGHTING SWITCH)
E97 , E100
5
B
JOINT CONNECTOR-7
E18
1
1
B
B B B B B B B B B B
M87 M25 M9 B30 B7 B12 E53 E22 E11
M2 BR
M6 W
M26 W
M27 W
M40 W
M41 B
H.S.
E18 GY
E97 W
E100 BR
B29 W
B34 W
REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)
MEL273K

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
22	OR	SEAT BELT BUCKLE SWITCH	UNFASTEN → FASTEN (IGNITION KEY IS IN "ON" POSITION)	0V → 5V
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
32	B/R	IGNITION KEY SWITCH (INSERT)	KEY INSERTED → KEY REMOVED FROM IGN KEY CYLINDER	12V → 0V
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION	12V
34	R/L	TAIL LAMP RELAY	1ST, 2ND POSITIONS: ON → OFF	12V → 0V

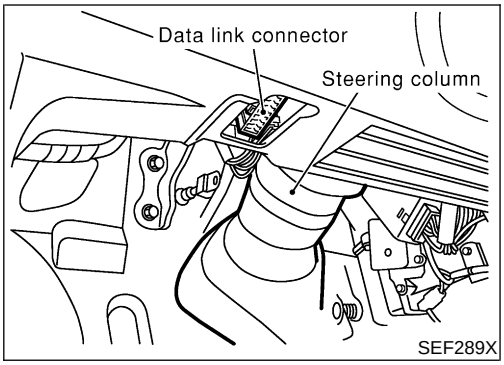
SEL037X

CONSULT-II Inspection Procedure

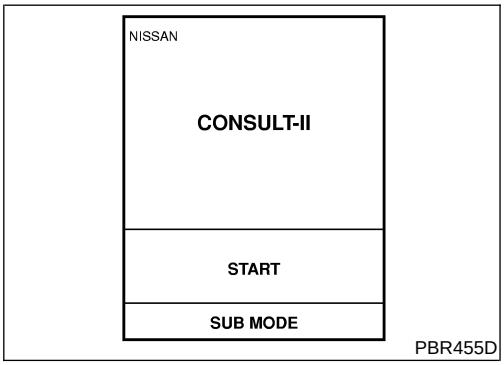
=NFEL0216

“KEY WARN ALM”/“LIGHT WARN ALM”/“SEAT BELT ALM”

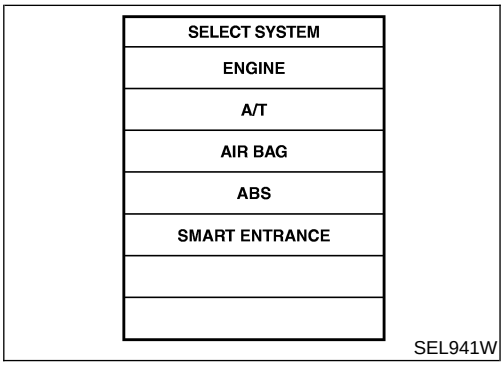
NFEL0216S01



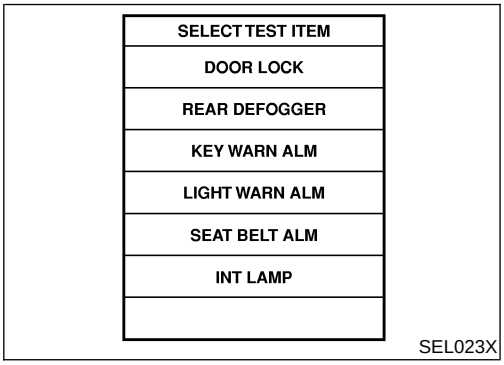
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



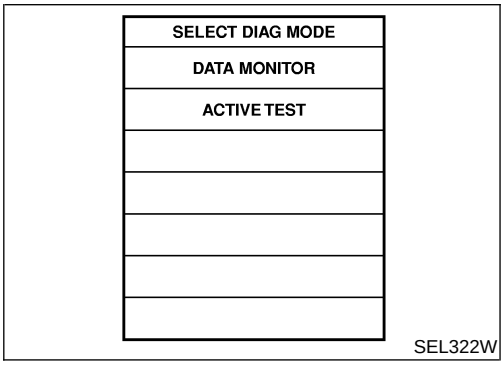
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “KEY WARN ALM”, “LIGHT WARN ALM” or “SEAT BELT ALM”.



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

CONSULT-II Application Items

NFEL0217

"KEY WARNING ALARM"
Data Monitor

NFEL0217S01

NFEL0217S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW DR	Indicates [ON/OFF] condition of front door switch LH.

Active Test

NFEL0217S0102

Test Item	Description
CHIME	This test is able to check key warning chime operation. Key warning chime sounds for 2 seconds after touching "ON" on CONSULT-II screen.

"LIGHT WARN ALM"
Data Monitor

NFEL0217S02

NFEL0217S0201

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
HD/LMP 1ST SW	Indicates [ON/OFF] condition of lighting switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.

Active Test

NFEL0217S0202

Test Item	Description
CHIME	This test is able to check light warning chime operation. Light warning chime sounds for 2 seconds after touching "ON" on CONSULT-II screen.

"SEAT BELT WARM ALM"
Data Monitor

NFEL0217S03

NFEL0217S0301

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
SEAT BELT SW	Indicates [ON/OFF] condition of seat belt switch.

Active Test

NFEL0217S0302

Test Item	Description
CHIME	This test is able to check seat belt warning chime operation. Seat belt warning chime sounds for 2 seconds after touching "ON" on CONSULT-II screen.

Trouble Diagnoses

NFEL0055

SYMPTOM CHART

NFEL0055S01

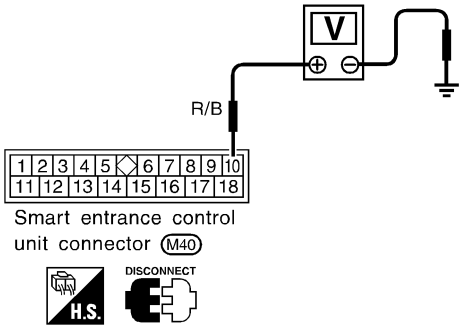
REFERENCE PAGE (EL-)	136	137	138	139	140
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK)	DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK)	DIAGNOSTIC PROCEDURE 3 (SEAT BELT BUCKLE SWITCH CHECK)	DIAGNOSTIC PROCEDURE 4
Light warning chime does not activate.	X	X			X
Ignition key warning chime does not activate.	X		X		X
Seat belt warning chime does not activate.	X			X	X
All warning chimes do not activate.	X				X

POWER SUPPLY AND GROUND CIRCUIT CHECK

NFEL0055S02

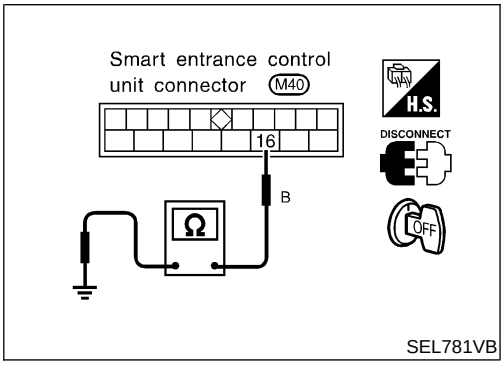
Power Supply Circuit Check

NFEL0055S0201



Terminals		Ignition switch position		
(+)	(−)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage

SEL326WA



SEL781VB

Ground Circuit Check

NFEL0055S0202

Terminals	Continuity
16 - Ground	Yes

DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK)

=NFEL0055S03

1	CHECK LIGHTING SWITCH INPUT SIGNAL

With CONSULT-II

Check lighting switch ("HD/LMP 1ST SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
HD/LMP 1ST SW	OFF

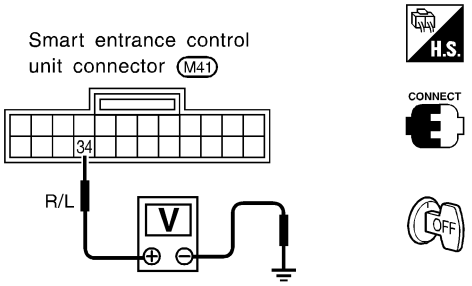
When lighting switch is in 1st or 2nd position:
HD/LMP 1ST SW ON

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

SEL316W

Without CONSULT-II

Check voltage between smart entrance control unit terminal 34 and ground.



Voltage [V]:
Condition of lighting switch: 1ST or 2ND
Approx. 12
Condition of lighting switch: OFF
0

SEL309W

OK or NG

OK	▶	Lighting switch is OK.
NG	▶	**Check the following.** ● 10A fuse (No. 60, located in the fuse and fusible link box) ● Harness for open or short between smart entrance control unit and tail lamp relay

DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK)

=NFEL0055S04

1	CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
KEY ON SW	ON

When key is inserted to ignition key cylinder:

KEY ON SW ON

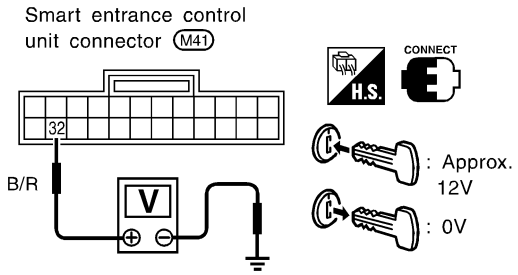
When key is removed from ignition key cylinder:

KEY ON SW OFF

SEL315W

Without CONSULT-II

Check voltage between smart entrance control unit terminal 32 and ground.



Voltage [V]:

Condition of key switch: Key is inserted.

Approx. 12

Condition of key switch: Key is withdrawn.

0

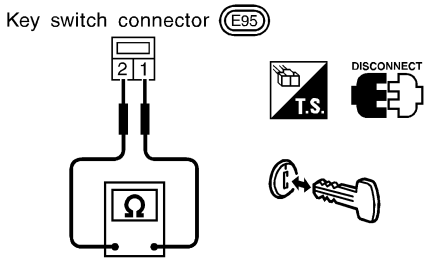
SEL310W

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 removed.

No

SEL311W

OK or NG

OK	▶	**Check the following.** ● 10A fuse [No. 12, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between smart entrance control unit and key switch
NG	▶	Replace key switch.

DIAGNOSTIC PROCEDURE 3 (SEAT BELT BUCKLE SWITCH CHECK)

=NFEL0055S05

1	CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL

With CONSULT-II

Check seat belt buckle switch ("SEAT BELT SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
SEAT BELT SW	ON

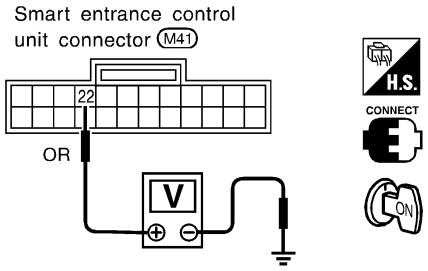
When seat belt is fastened:
SEAT BELT SW ON

When seat belt is released:
SEAT BELT SW OFF

SEL317W

Without CONSULT-II

1. Turn ignition switch "ON".
2. Check voltage between smart entrance control unit terminal 22 and ground.



Voltage [V]:
Condition of seat belt buckle switch: Fastened
Approx. 5
Condition of seat belt buckle switch: Unfastened
0

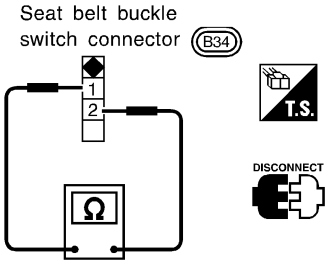
SEL312W

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

SEL313W

OK or NG

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

DIAGNOSTIC PROCEDURE 4

NFEL0055S06

1	CHECK IGNITION ON SIGNAL

With CONSULT-II

Check ignition switch ON signal ("IGN ON SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
IGN ON SW	ON

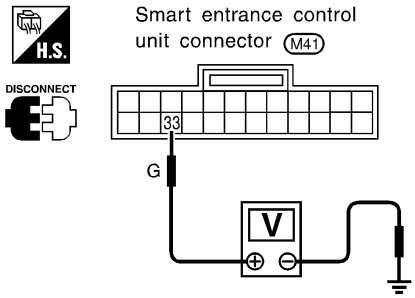
When ignition switch is ON:
IGN ON SW ON

When ignition switch is OFF:
IGN ON SW OFF

SEL318W

Without CONSULT-II

Check voltage between smart entrance control unit terminal 33 and ground.



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

SEL380W

OK or NG

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

2	CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check driver door switch signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF

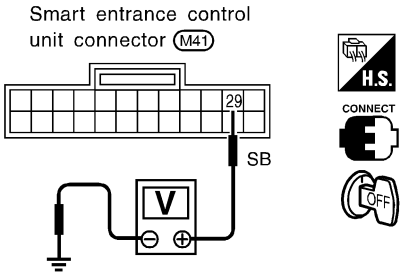
When driver's door is open:
DOOR SW-DR ON

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

SEL319W

Without CONSULT-II

Check voltage between smart entrance control unit terminal 29 and ground.



Voltage [V]:
Condition of driver's door: CLOSED
Approx. 5
Condition of driver's door: OPENED
0

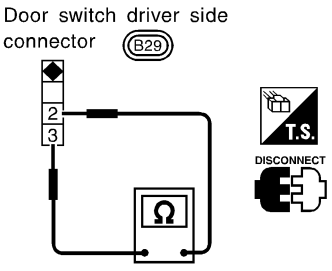
SEL324W

OK or NG

OK	▶	GO TO 4.
NG	▶	GO TO 3.

3	CHECK DRIVER SIDE DOOR SWITCH

Check continuity between terminals 2 and 3.



Continuity:
Door switch is pushed.
No
Door switch is released.
Yes

SEL325W

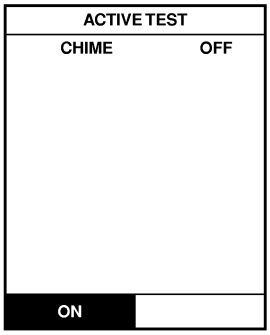
OK or NG

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

4	CHECK WARNING CHIME

With CONSULT-II

Perform "CHIME" in "ACTIVE TEST" mode with CONSULT-II.



Warning chime should operate.

SEL320W

OK or NG

OK	▶	System is OK.
NG	▶	Replace smart entrance control unit.

System Description

NFEL0057

WIPER OPERATION

NFEL0057S01

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 ON or START position, power is supplied

- through 20A fuse [No. 25, located in the fuse block (J/B)]
- to wiper motor terminal 4.

Low and High Speed Wiper Operation

NFEL0057S0101

Ground is supplied to wiper switch terminal 17 through body grounds E11, E22 and E53.
When the wiper switch is placed in the LO position, ground is supplied

- through terminal 14 of the wiper switch
- to wiper motor terminal 3.

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

NFEL0057S0102

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 3, in order to continue wiper motor operation at low speed.

Ground is also supplied

- through terminal 13 of the wiper switch
- to wiper motor terminal 2
- through terminal 6 of the wiper motor, and
- through body grounds E11, E22 and E53.

When wiper arms reach base of windshield, wiper motor terminals 2 and 4 are connected instead of terminals 2 and 6. Wiper motor will then stop wiper arms at the STOP position.

Intermittent Operation

NFEL0057S0103

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 (INT SW) combined with wiper switch.
When the wiper switch is placed in the INT position, ground is supplied to wiper amplifier.
The desired interval time is input to wiper amplifier (INT VR) from wiper volume switch combined with wiper switch.
Then intermittent ground is supplied

- to wiper motor terminal 3
- from terminal 14 of wiper switch
- through wiper amplifier (OUTPUT).

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

WASHER OPERATION

NFEL0057S02

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

- through 20A fuse [No. 25, 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
- from terminal 18 of the wiper switch
- through terminal 17 of the wiper switch, and

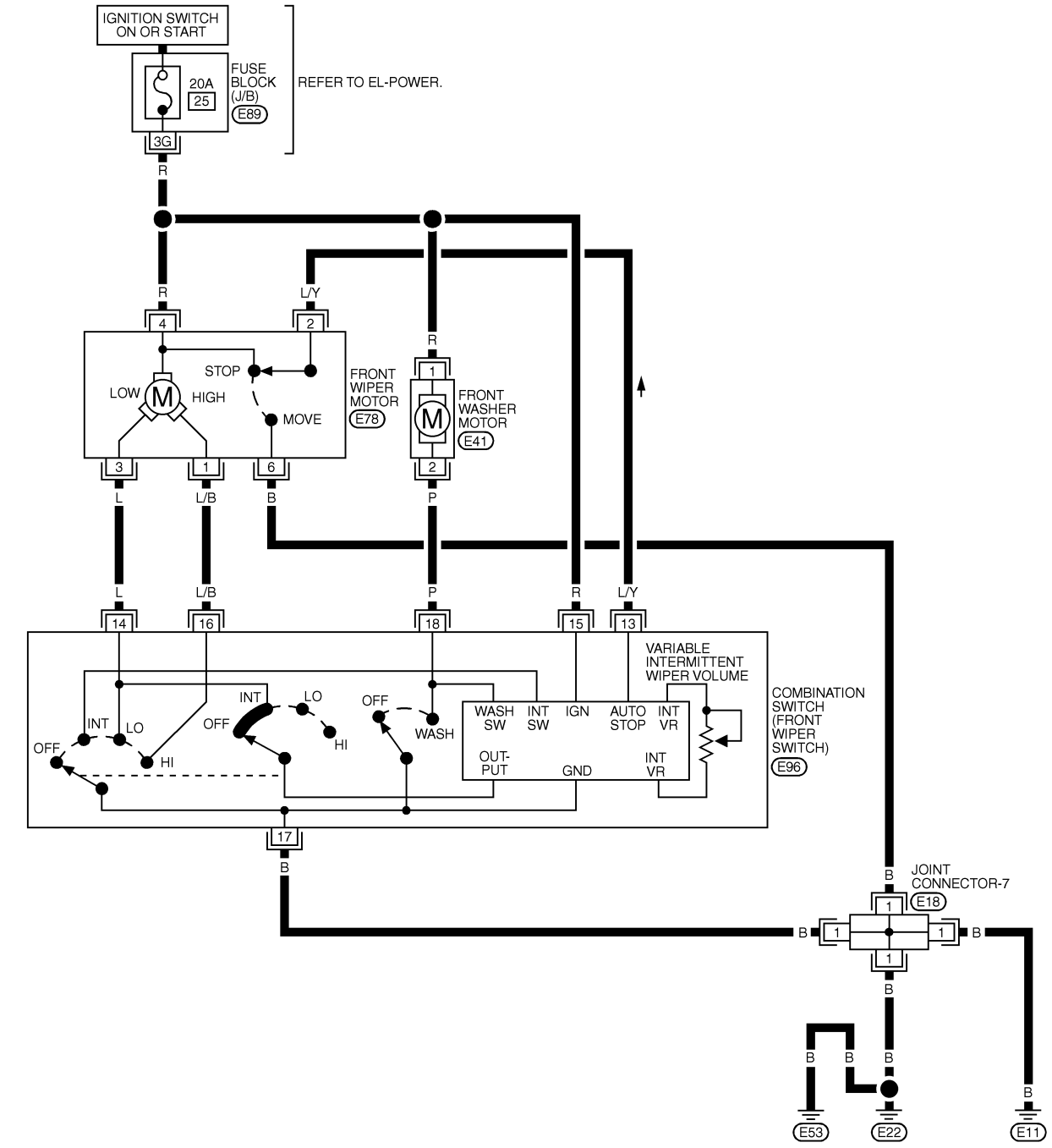
- through body grounds E11, E22 and E53.

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 —

NFEL0058

EL-WIPER-01



E18 GY

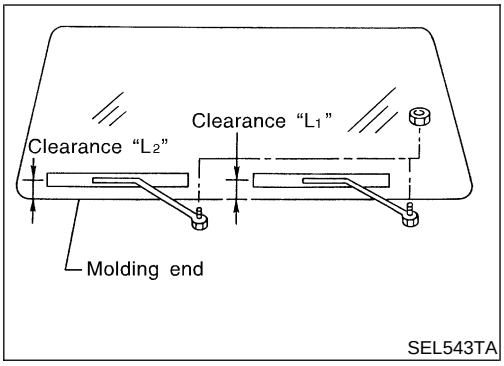
E41 GY

E78 GY

E96 GY

REFER TO THE FOLLOWING.
E89 -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL274K



SEL543TA

Removal and Installation

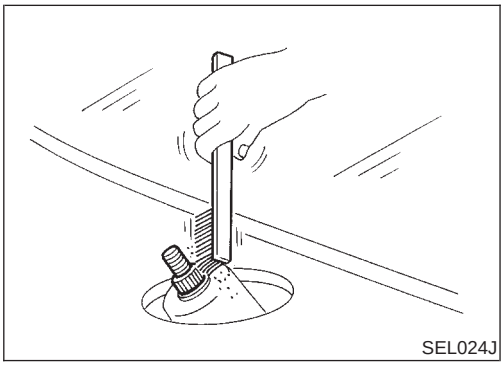
NFEL0060

WIPER ARMS

NFEL0060S01

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": 48 - 64 mm (1.89 - 2.52 in)
   Clearance "L_2": 40 - 56 mm (1.57 - 2.20 in)

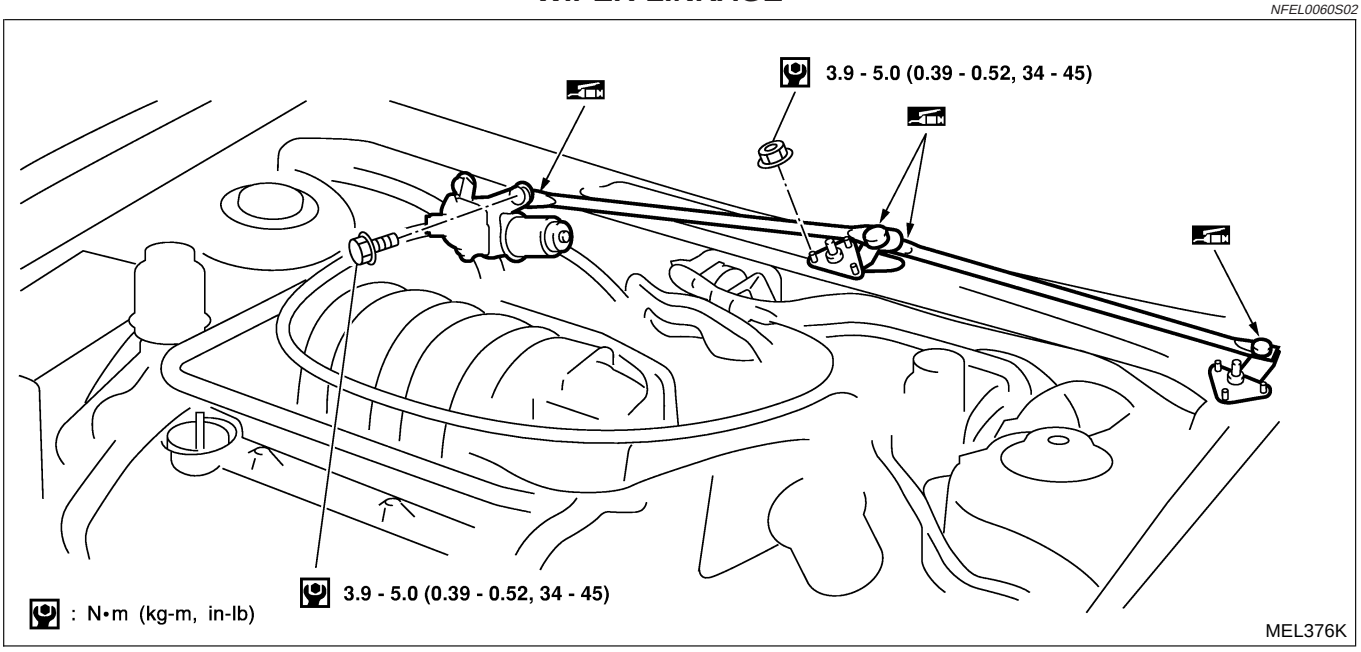
- Tighten wiper arm nuts to specified torque.
  Front wiper: 21 - 26 N·m (2.1 - 2.7 kg-m, 16 - 19 ft-lb)


SEL024J

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

WIPER LINKAGE

NFEL0060S02



MEL376K

Removal

NFEL0060S0201

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

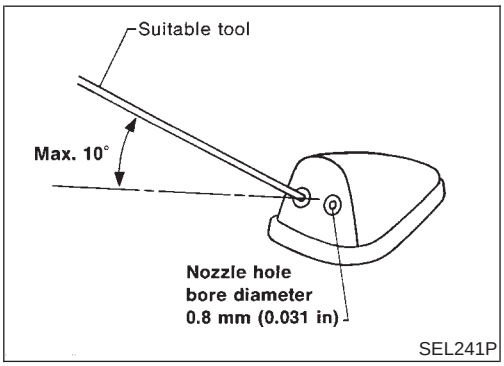
Be careful not to break ball joint rubber boot.

Installation

NFEL0060S0202

- Grease ball joint portion before installation.

1. Installation is the reverse order of removal.



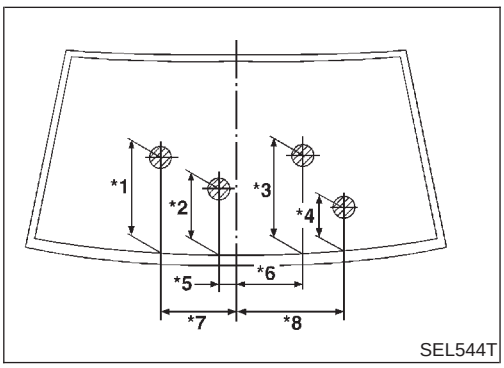
SEL241P

Washer Nozzle Adjustment

NFEL0061

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

Adjustable range: ±10°



SEL544T

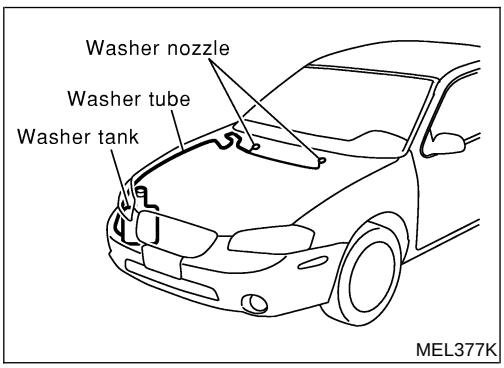
Unit: mm (in)

*1	341 (13.43)	*5	154 (6.06)
*2	286 (11.26)	*6	203 (7.99)
*3	285 (11.22)	*7	382 (15.04)
*4	152 (5.98)	*8	385 (15.16)

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

Washer Tube Layout

NFEL0062

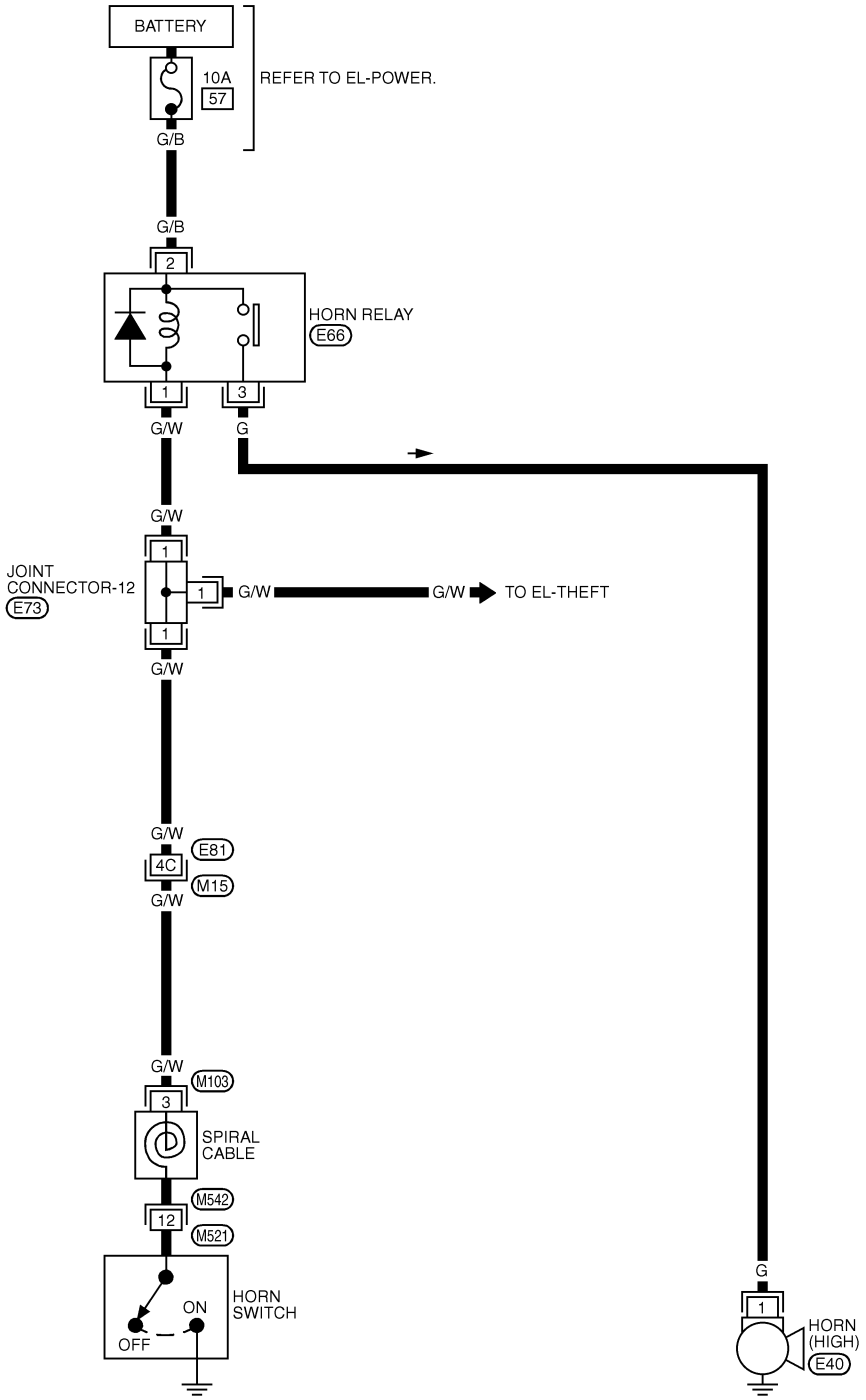


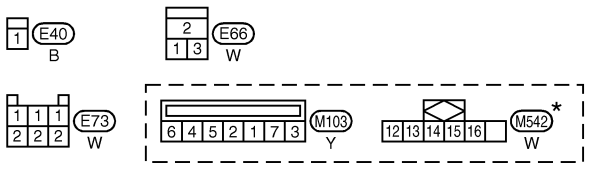
MEL377K

Wiring Diagram — HORN —

NFEL0071

EL-HORN-01





*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL-SECTION.

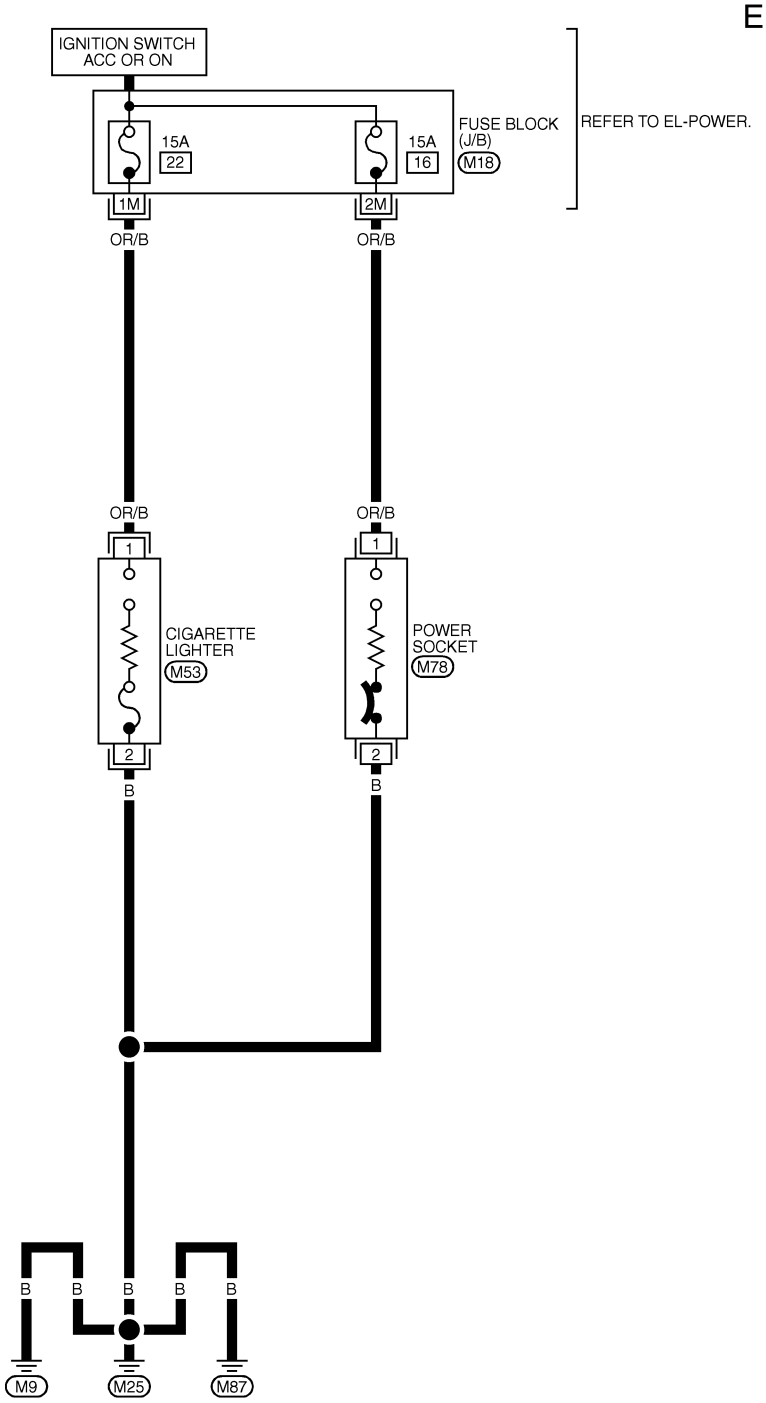
REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)

MEL275K

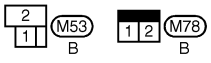
Wiring Diagram — CIGAR —

NFEL0156

EL-CIGAR-01



REFER TO THE FOLLOWING.
M18 -FUSE BLOCK-
JUNCTION BOX (J/B)

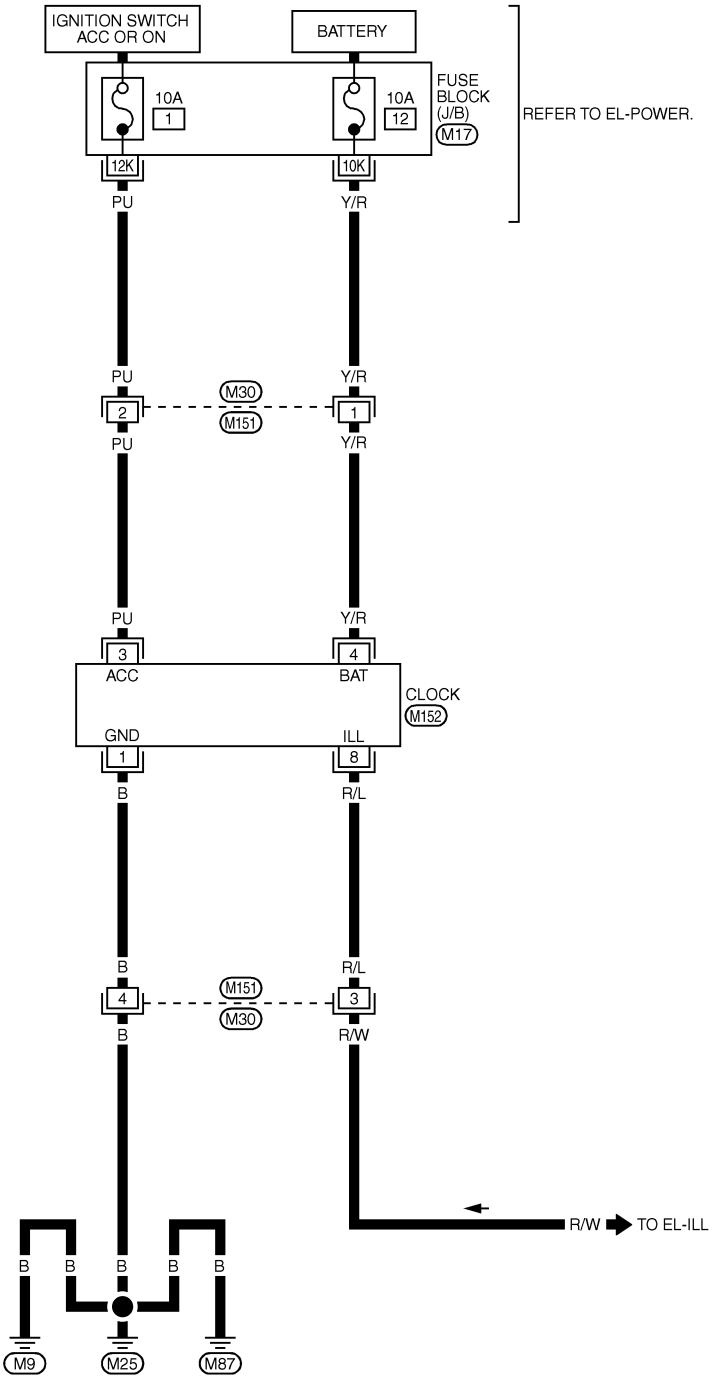


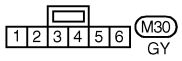
MEL276K

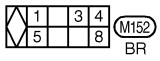
Wiring Diagram — CLOCK —

NFEL0166

EL-CLOCK-01





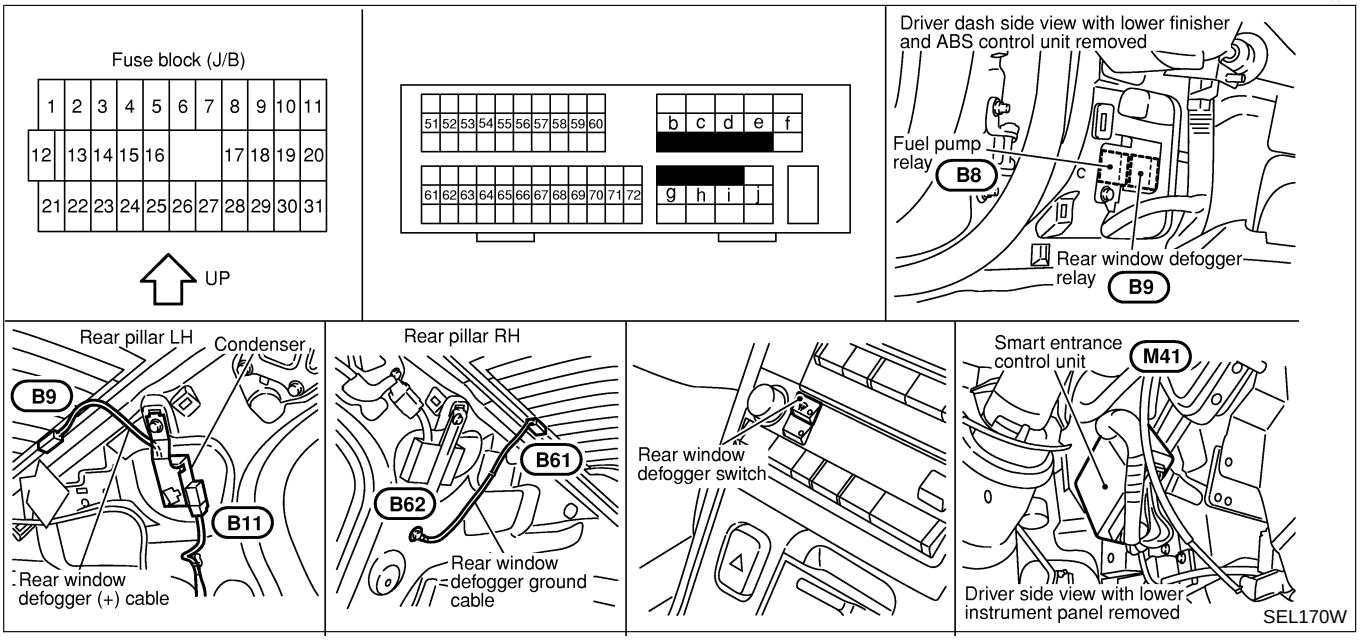


REFER TO THE FOLLOWING.
M17 -FUSE BLOCK-
JUNCTION BOX (J/B)

MEL277K

Component Parts and Harness Connector Location

NFEL0072



System Description

NFEL0073

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. 7, located in the fuse and fusible link box) and
- to rear window defogger relay terminal 6
- through 20A fuse (No. 4, located in the fuse and fusible link box).
- to smart entrance control unit terminal 10
- through 10A fuse (No. 13, located in the fuse and fusible link box).

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to the rear window defogger relay terminal 1 and
- to smart entrance control unit terminal 33.

Ground is supplied to terminal 32 (with auto A/C) or 17 (with manual A/C) of the rear defogger switch (built-in A/C control unit or A/C auto amp.) through body grounds M9, M25 and M87.
When the rear defogger switch is turned ON, ground is supplied

- through terminal 31 (with auto A/C) or 9 (with manual A/C) of the rear defogger switch
- to smart entrance control unit terminal 39.

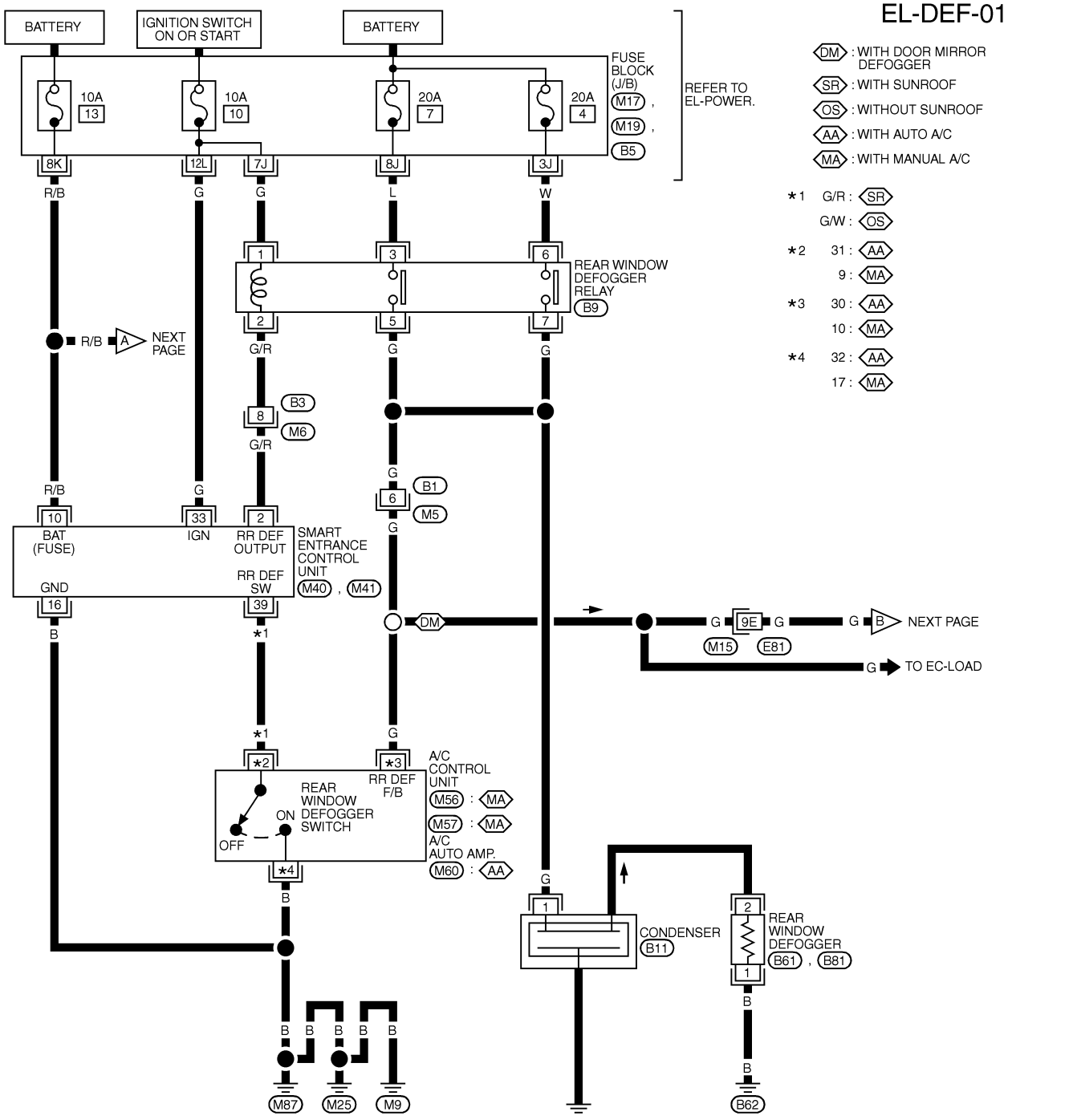
Terminal 2 of the smart entrance control unit then supplies ground to the rear window defogger relay terminal 2.
With power and ground supplied, the rear window defogger relay is energized.
Power is supplied

- 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.

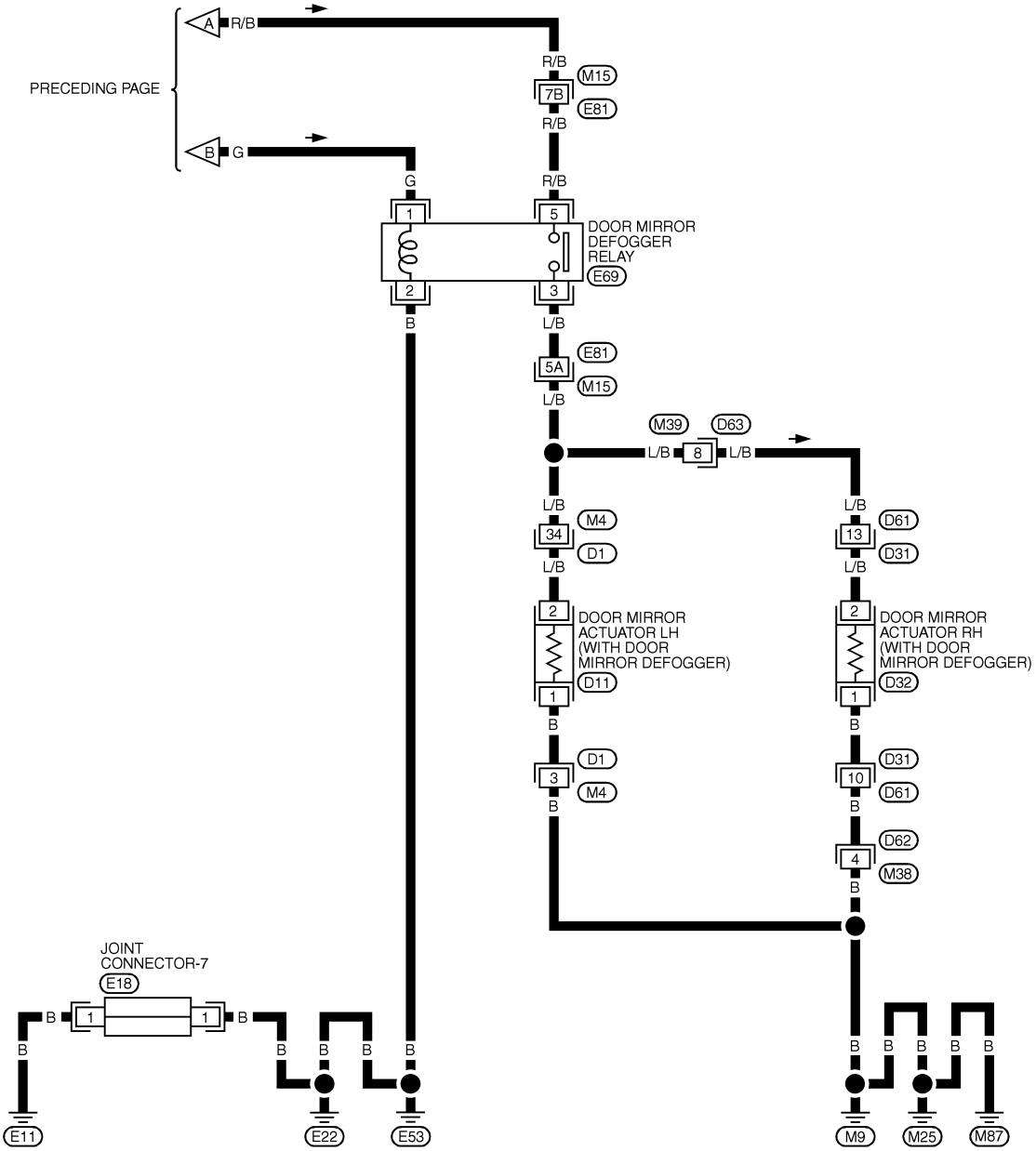
Wiring Diagram — DEF —

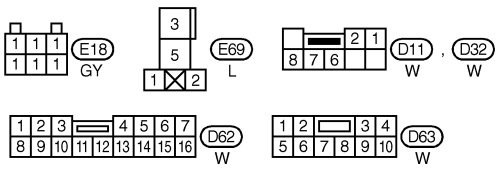
=NFEL0074



*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL-SECTION.

MEL316L





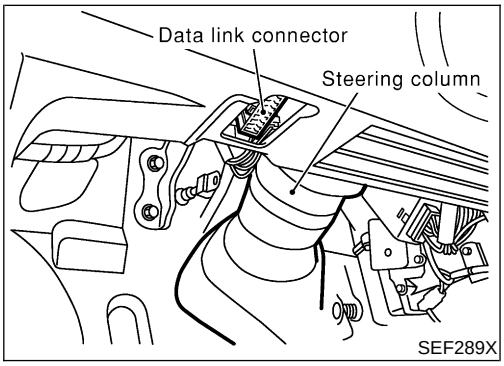
REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)
D31 , D61 -SUPER MULTIPLE JUNCTION (SMJ)

MEL279K

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
2	G/R	REAR WINDOW DEFOGGER RELAY	OFF → ON (IGNITION KEY IS IN "ON" POSITION)	0V → 12V
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION	12V
39	With sunroof: G/R Without sunroof: G/W	REAR WINDOW DEFOGGER SWITCH	OFF → ON	5V → 0V

SEL003X



SEF289X

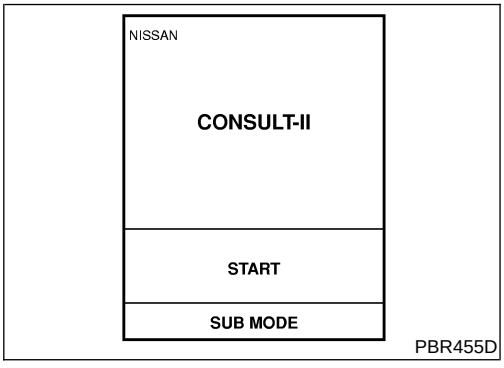
CONSULT-II Inspection Procedure

NFEL0218

NFEL0218S01

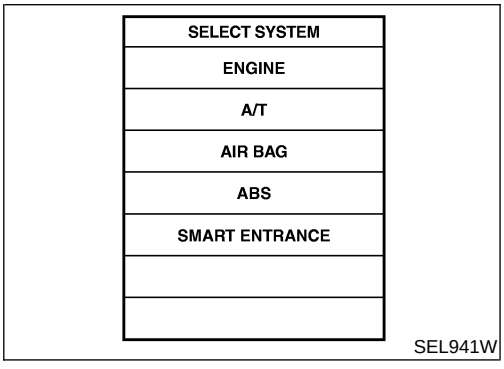
"REAR DEFOGGER"

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



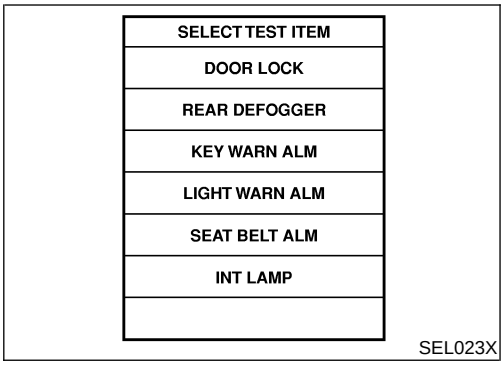
PBR455D

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

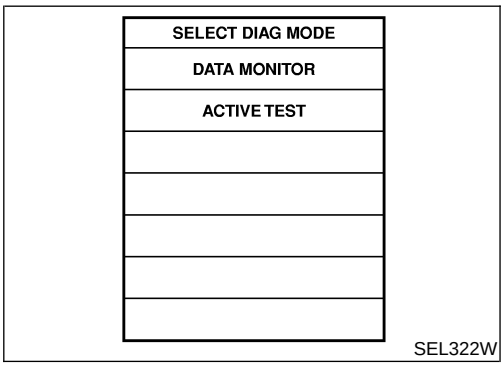


SEL941W

5. Touch "SMART ENTRANCE".



6. Touch "REAR DEFOGGER".



7. Select diagnosis mode.
"DATA MONITOR" and "ACTIVE TEST" are available.

CONSULT-II Application Items

NFEL0219

"REAR DEFOGGER"
Data Monitor

NFEL0219S01

NFEL0219S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
REAR DEF SW	Indicates [ON/OFF] condition of rear window defogger switch.

Active Test

NFEL0219S0102

Test Item	Description
REAR DEFOGGER	This test is able to check rear window defogger operation. Rear window defogger activates when "ON" on CONSULT-II screen is touched.

Trouble Diagnoses

NFEL0075

DIAGNOSTIC PROCEDURE

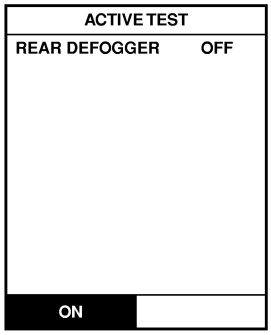
NFEL0075S01

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

1	CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL

With CONSULT-II

Select “ACTIVE TEST” in “REAR DEFOGGER” with CONSULT-II.

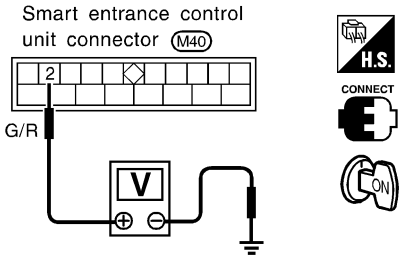


Rear window defogger and rear window defogger switch indicator should operate when the “ON” button on the CONSULT-II screen is touched.

SEL353W

Without CONSULT-II

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



Voltage [V]:

Rear window defogger switch is “OFF”.

Approx. 12

Rear window defogger switch is “ON”.

0

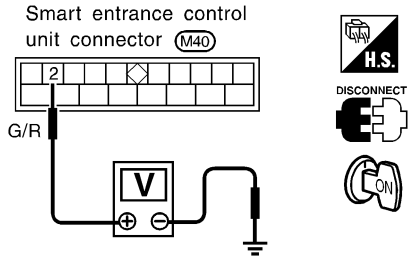
SEL335W

OK or NG

OK	▶	**Check the following.** ● Rear window defogger relay (Refer to EL-159.) ● Rear window defogger circuit ● Rear window defogger filament (Refer to EL-160.)
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 smart entrance control unit terminal 2 and ground.



Battery voltage should exist.

SEL336W

OK or NG

OK	▶	GO TO 3.
NG	▶	**Check the following.** ● 10A fuse [No. 10, located in the fuse block (J/B)] ● Rear window defogger relay ● Harness for open or short between 10A fuse [No. 10, located in the fuse block (J/B)] and rear window defogger relay ● Harness for open or short between rear window defogger relay and smart entrance control unit

3	CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL

With CONSULT-II

Select "REAR DEF SW" in "DATA MONITOR" mode with CONSULT-II.

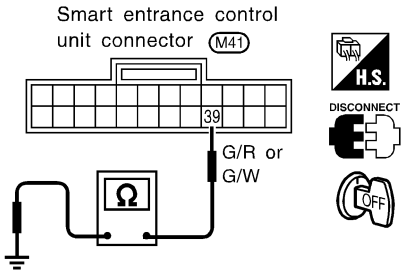
DATA MONITOR	
MONITOR	
REAR DEF SW	ON

When rear window defogger switch is pushed:
REAR DEF SW should be ON.

SEL352W

Without CONSULT-II

Check continuity between smart entrance control unit terminal 39 and ground.



Continuity:
Rear window defogger switch is pushed.
Continuity should exist.
Rear window defogger switch is released.
Continuity should not exist.

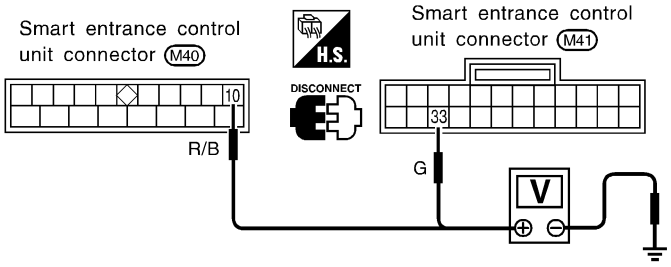
SEL002X

OK or NG

OK	▶	GO TO 4.
NG	▶	**Check the following.** ● Rear window defogger switch (Refer to EL-159.) ● Harness for open or short between smart entrance control unit and rear window defogger switch ● Rear window defogger switch ground circuit

4	CHECK POWER SUPPLY AND IGNITION INPUT SIGNAL

Check voltage between smart entrance control unit terminals 10, 33 and ground.



Terminals		Ignition switch position		
(+)	(−)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage
33	Ground	0V	0V	Battery voltage

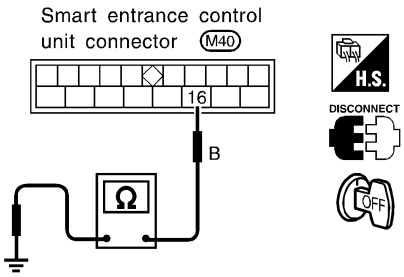
SEL338W

OK or NG

OK	▶	GO TO 5.
NG	▶	**Check the following.** ● 10A fuse [No. 10 or No. 13, located in the fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse

5	CHECK CONTROL UNIT GROUND CIRCUIT

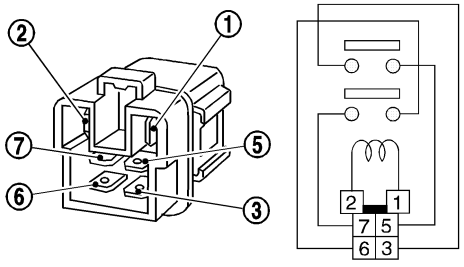
Check continuity between smart entrance control unit terminal 16 and ground.



Continuity should exist.

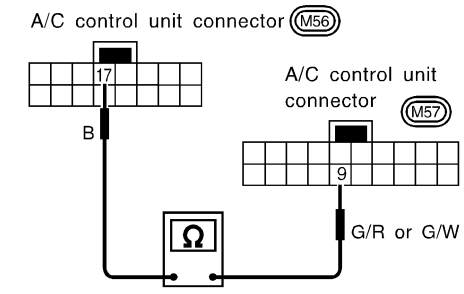
SEL339W

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

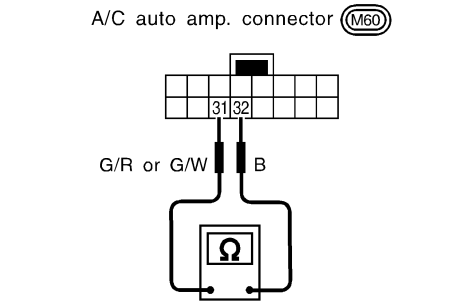


SEC202B

With manual A/C



With auto A/C



SEL187W

Electrical Components Inspection

REAR WINDOW DEFOGGER RELAY

NFEL0076

NFEL0076S01

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

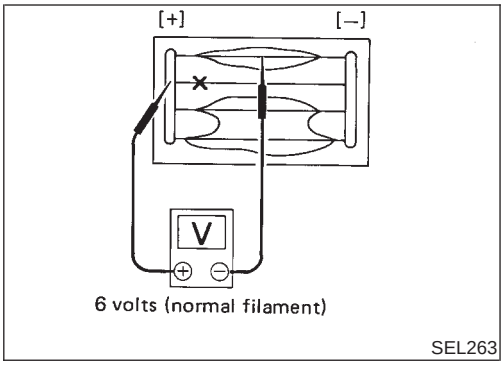
Condition	Continuity
12V direct current supply between terminals 1 and 2	Yes
No current supply	No

REAR WINDOW DEFOGGER SWITCH

NFEL0076S02

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

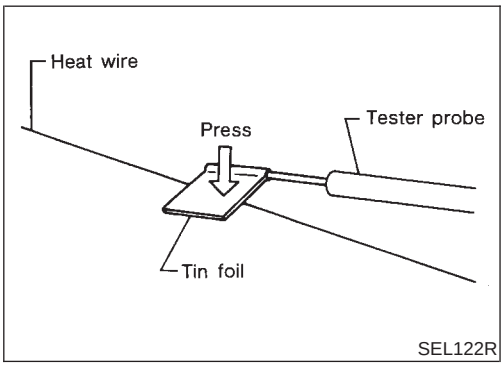
Terminals	Condition	Continuity
9 - 17 (with manual A/C) 31 - 32 (with auto A/C)	Rear window defogger switch is pushed.	Yes
	Rear window defogger switch is released.	No



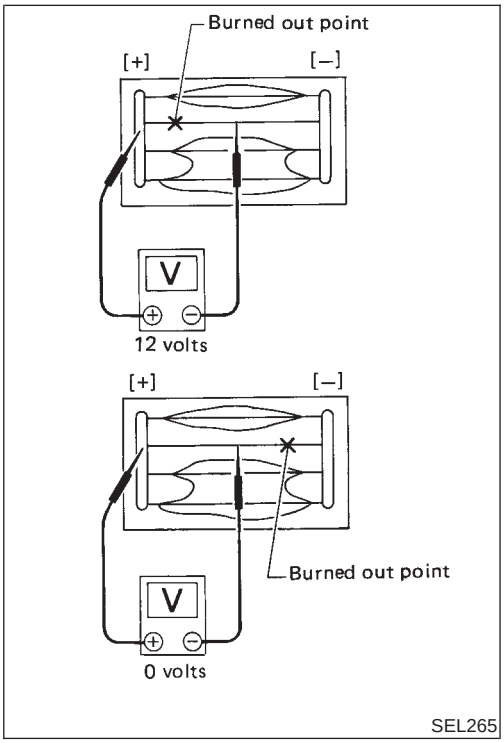
Filament Check

NFEL0077

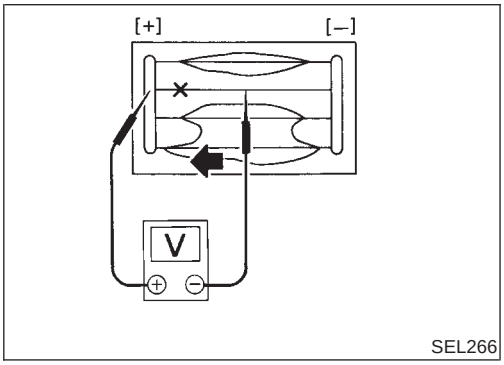
1. Attach probe circuit tester (in volt range) to middle portion of each filament.



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



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



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

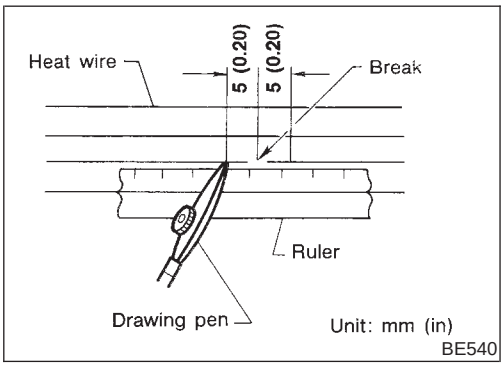
Filament Repair

NFEL0078

REPAIR EQUIPMENT

NFEL0078S01

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



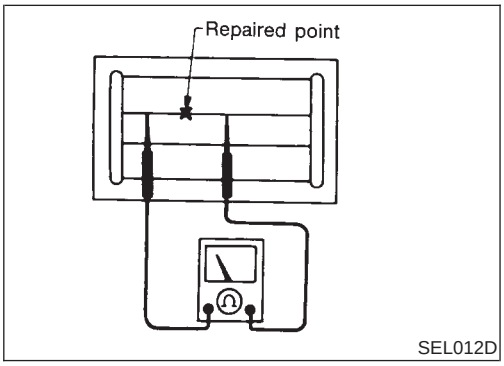
REPAIRING PROCEDURE

NFEL0078S02

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

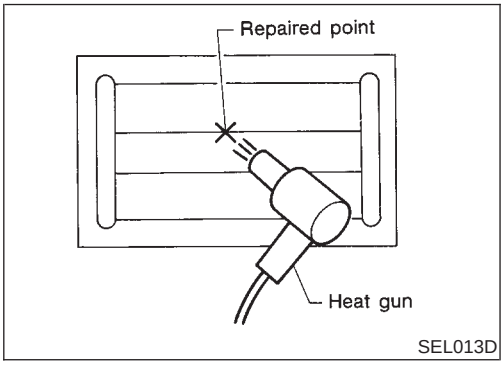
Shake silver composition container before use.

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



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

Do not touch repaired area while test is being conducted.



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

System Description

NFEL0079

BASE SYSTEM

NFEL0079S01

Refer to Owner's Manual for audio system operating instructions.
Power is supplied at all times

- through 15A fuse [No. 56, located in the fuse block (J/B)]
- to audio unit terminal 6, and
- to CD player terminal 24 (with 4 speakers).

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to audio unit terminal 10, and
- CD player terminal 21 (with 4 speakers).

Ground is supplied through the case of the audio unit.
Audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to terminals 1 and 2 of front door speaker LH and RH
- to terminals 1 and 2 of rear door speaker LH and RH
- to terminals 1 and 2 of tweeter LH and RH (with 6 speakers).

BOSE SYSTEM

NFEL0079S02

Refer to Owner's Manual for audio system operating instructions.
Power is supplied at all times

- through 15A fuse [No. 56, located in the fuse block (J/B)]
- to speaker amp. terminal 27, and
- to audio unit terminal 6.

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

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

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

- to speaker amp. terminal 40, and
- to woofer terminal 47
- through body grounds B106 and B127.

Audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to speaker amp. terminals 20, 21, 22, 23, 25, 33, 34, 35 and 36.

Audio signals are amplified by the speaker amp.
The amplified audio signals are supplied

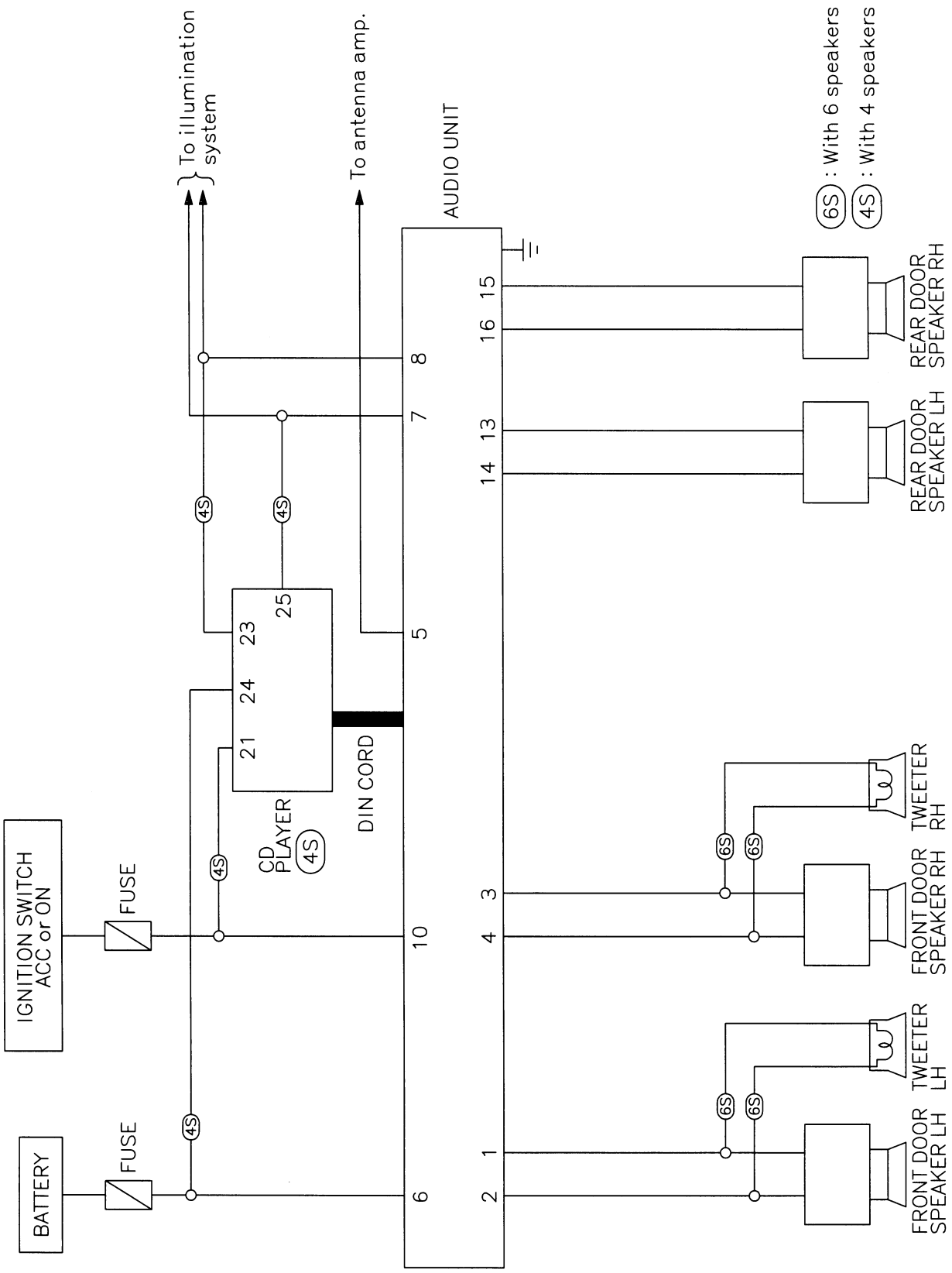
- through speaker amp. terminals 17, 18, 24, 28, 29, 30, 31, 37, 41 and 42
- to terminals 1 and 2 of the front door speaker LH and RH
- to terminals 1 and 2 of the tweeter LH and RH
- to terminals 1 and 2 of the rear speaker LH and RH
- to terminals 43 and 44 of the woofer.

Schematic

NFEL0167

BASE SYSTEM

NFEL0167S01

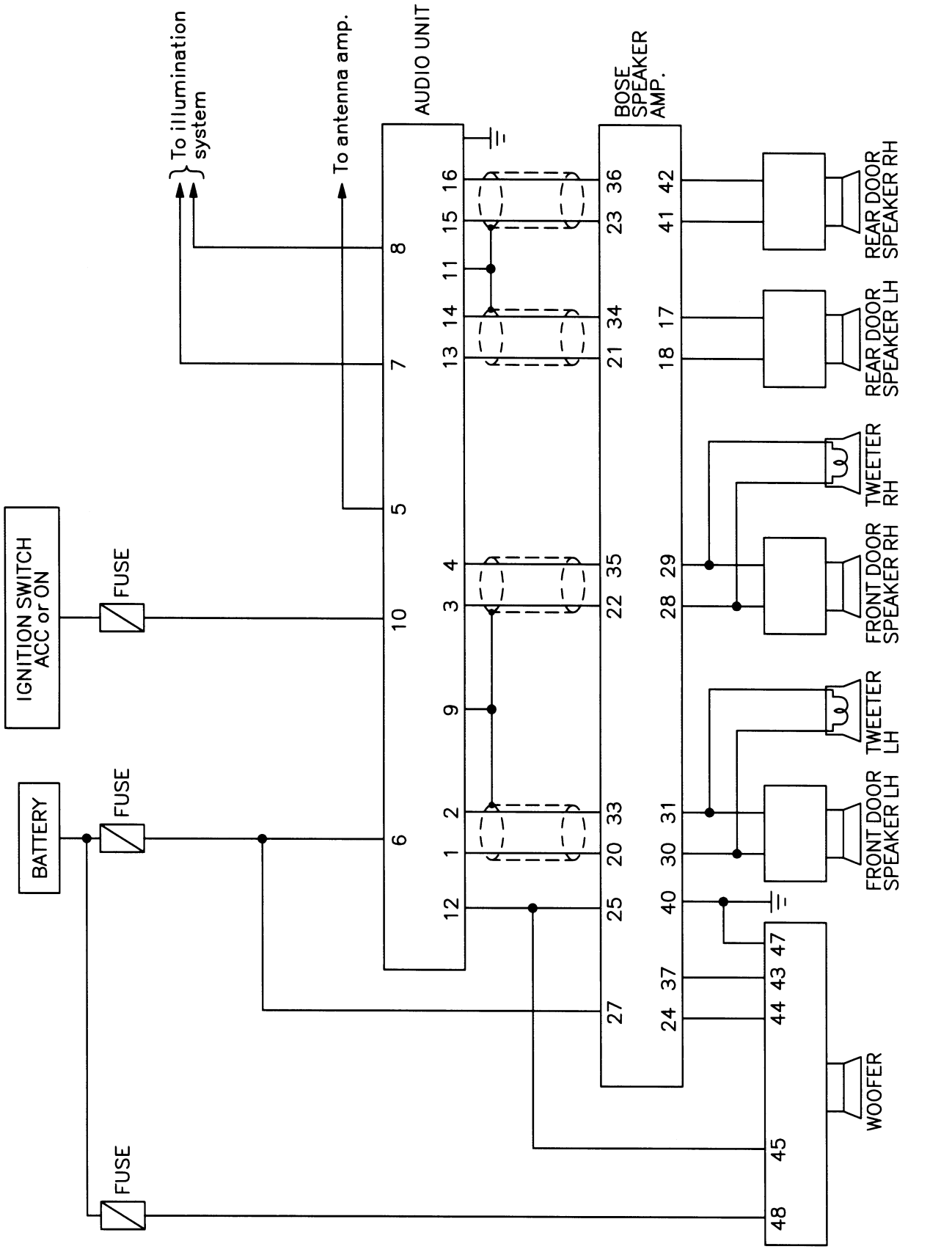


MEL280K

Schematic (Cont'd)

BOSE SYSTEM

NFEL0167S02



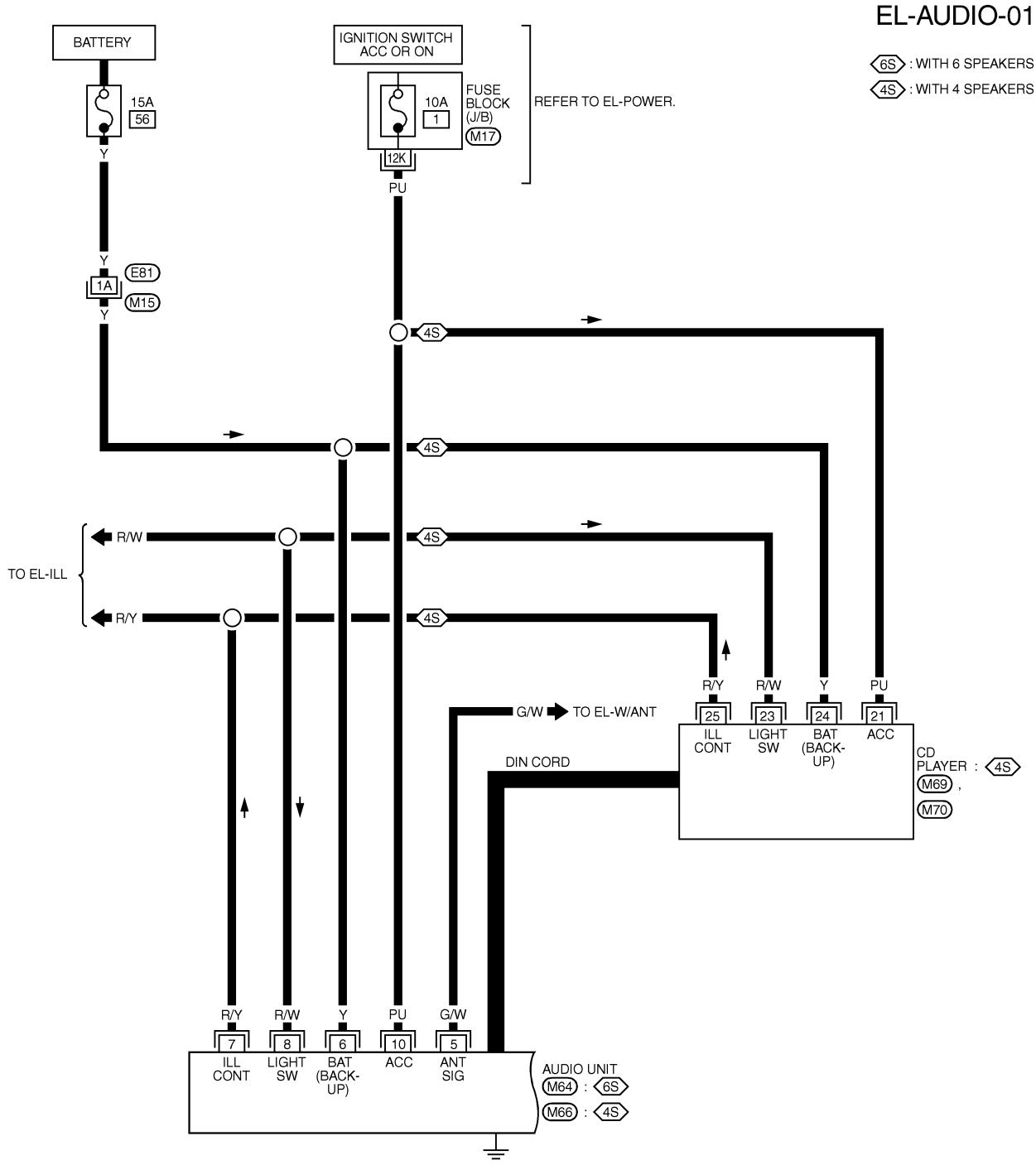
MEL942N

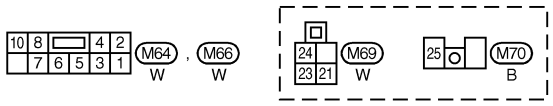
Wiring Diagram — AUDIO —

NFEL0081

BASE SYSTEM

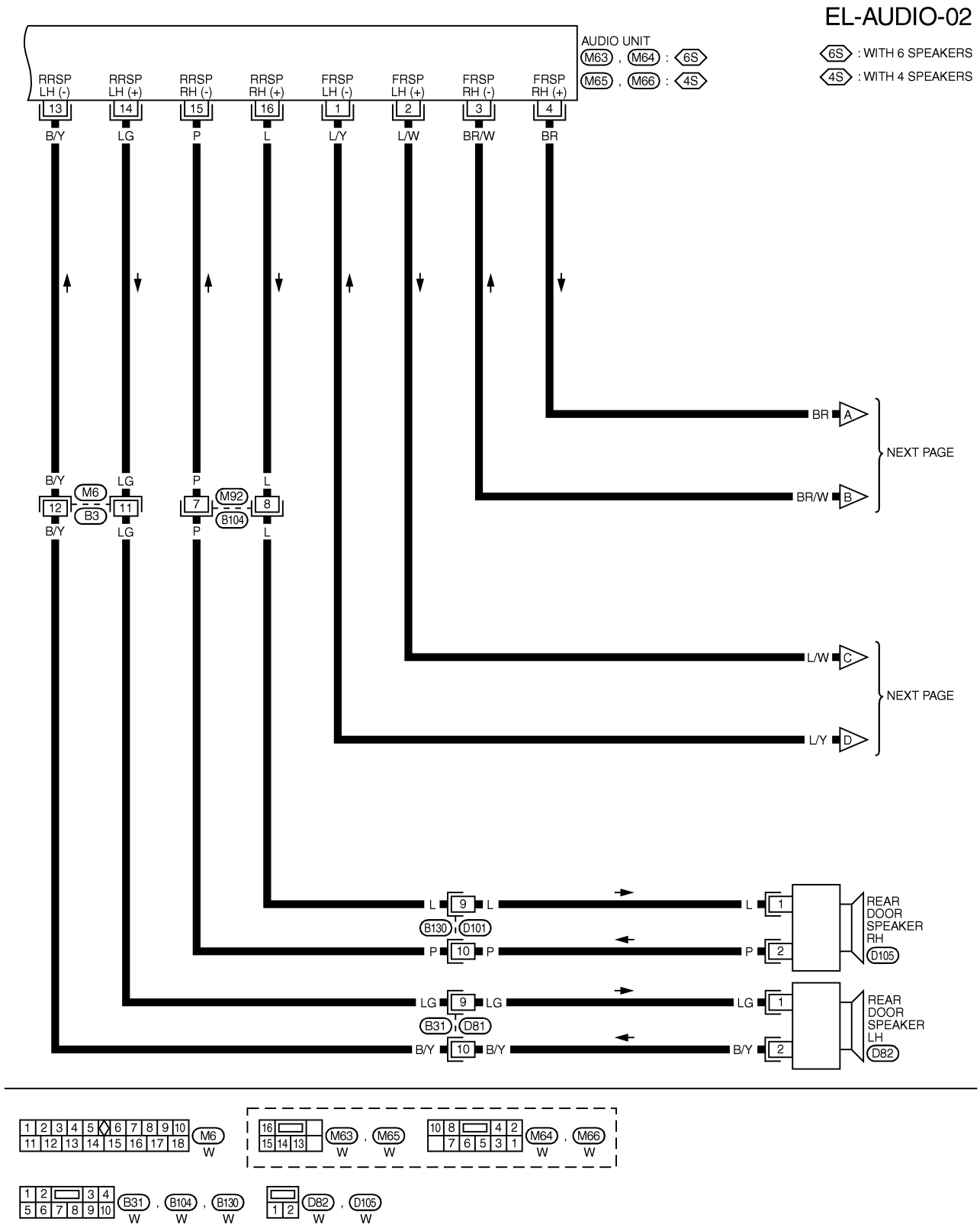
NFEL0081S01





REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-JUNCTION BOX (J/B)

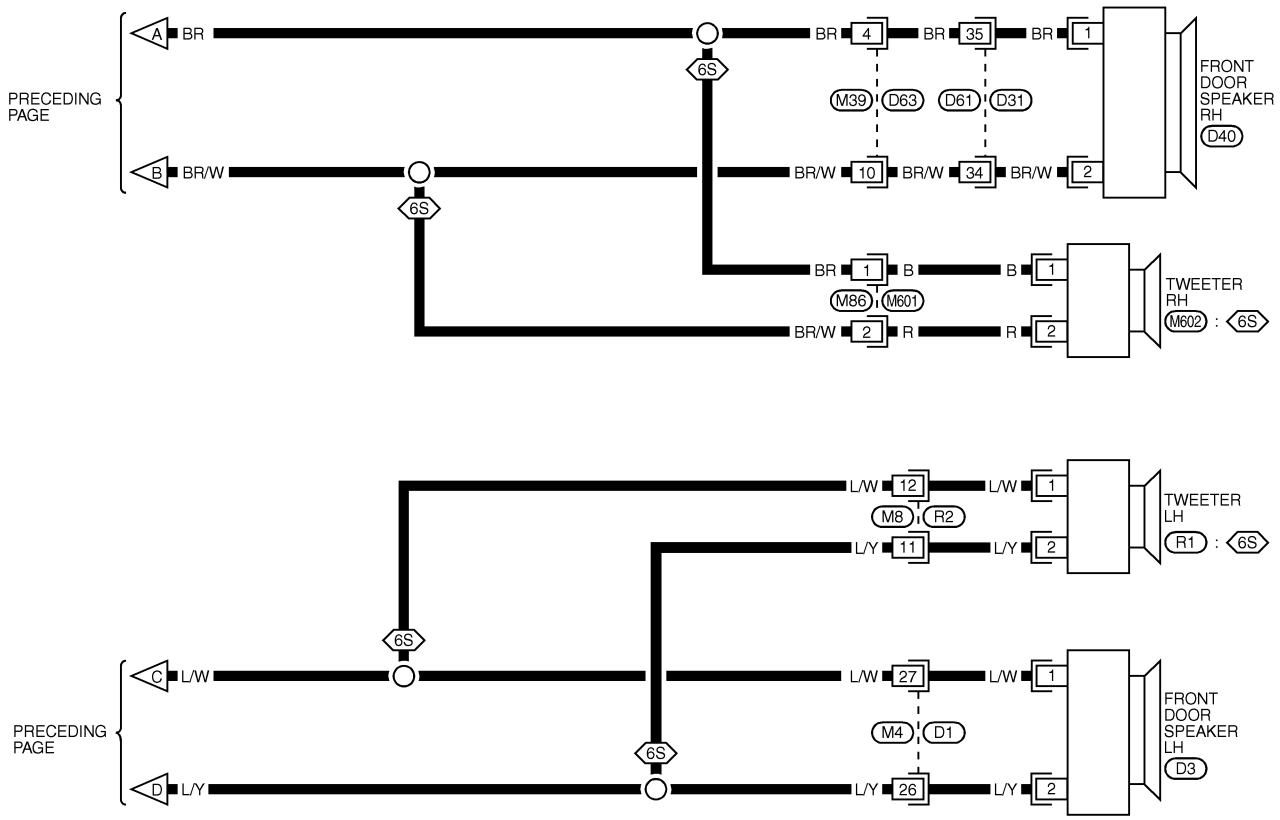
MEL317L


EL-AUDIO-02
6S : WITH 6 SPEAKERS
4S : WITH 4 SPEAKERS
AUDIO UNIT
M63 , M64 : 6S
M65 , M66 : 4S
RRSP LH (-)
RRSP LH (+)
RRSP RH (-)
RRSP RH (+)
FRSP LH (-)
FRSP LH (+)
FRSP RH (-)
FRSP RH (+)
13
14
15
16
1
2
3
4
B/Y
LG
P
L
L/Y
L/W
BR/W
BR
BR A
BR/W B
NEXT PAGE
L/W C
L/Y D
NEXT PAGE
M6
B3
M92
B104
12
11
7
8
B130
D101
B31
D81
9
10
REAR DOOR SPEAKER RH
D105
REAR DOOR SPEAKER LH
D82
M6 W
M63 W
M65 W
M64 W
M66 W
B31 W
B104 W
B130 W
D82 W
D105 W

MEL318L

EL-AUDIO-03

6S : WITH 6 SPEAKERS



M601* BR, M602* BR, R1 BR

R2 W

D3 W, D40 W

D63 W

REFER TO THE FOLLOWING.
D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

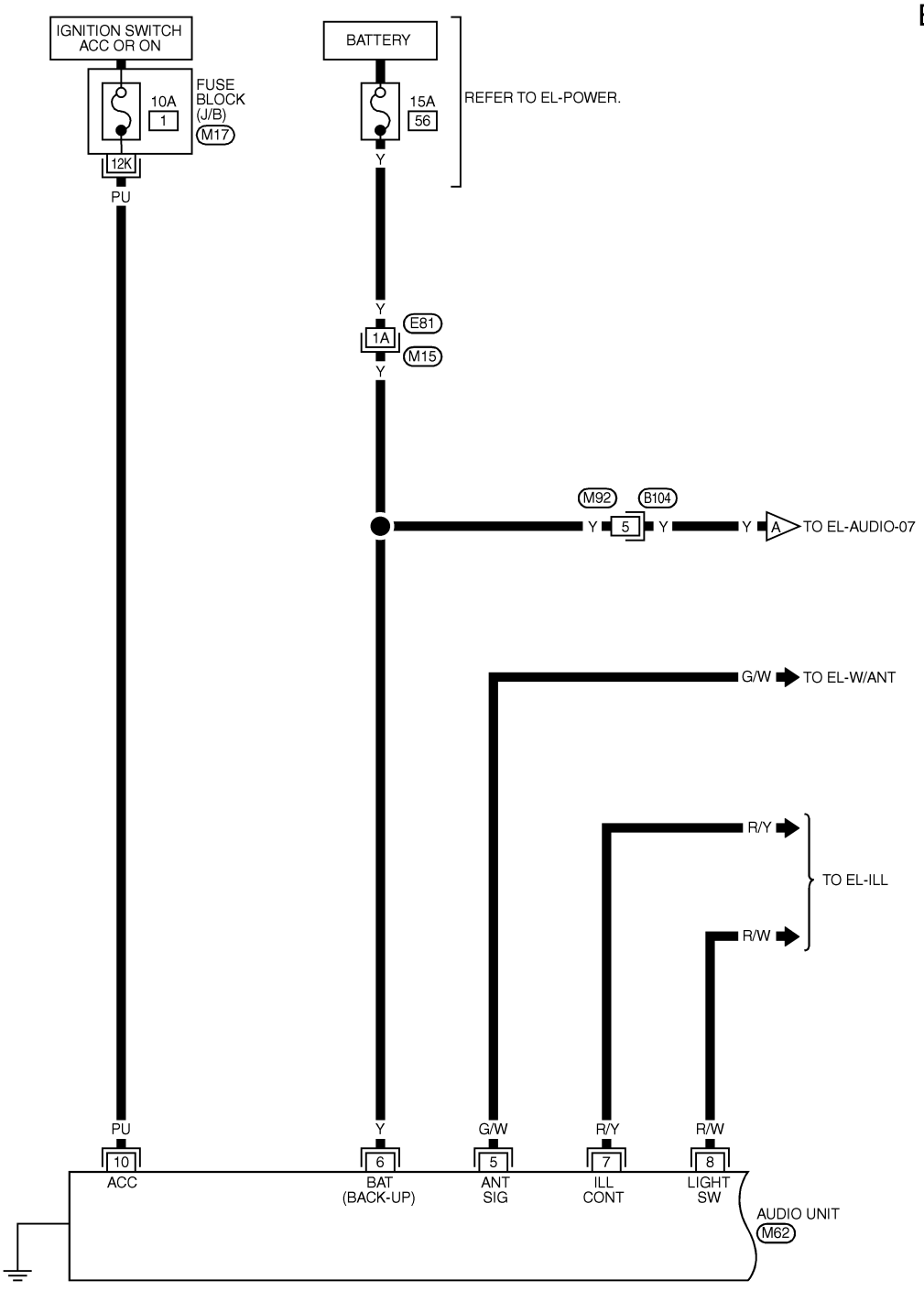
MEL319L

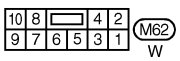
Wiring Diagram — AUDIO — (Cont'd)

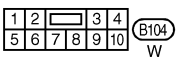
BOSE SYSTEM

NFEL0081S02

EL-AUDIO-04



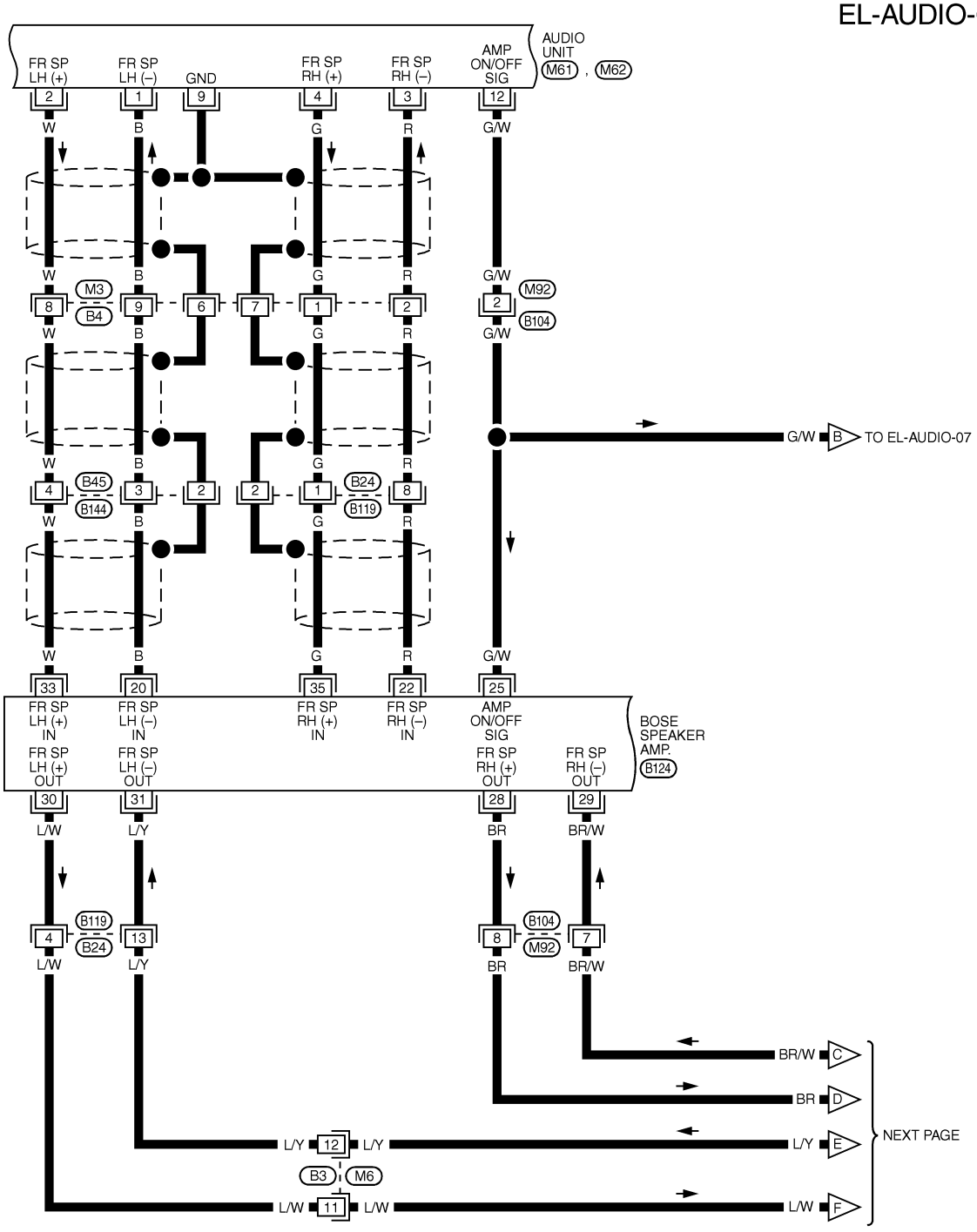


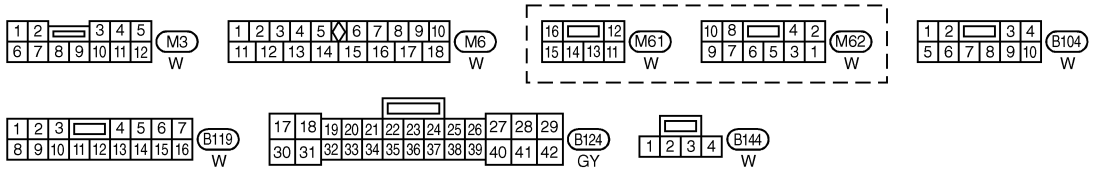


REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL285K

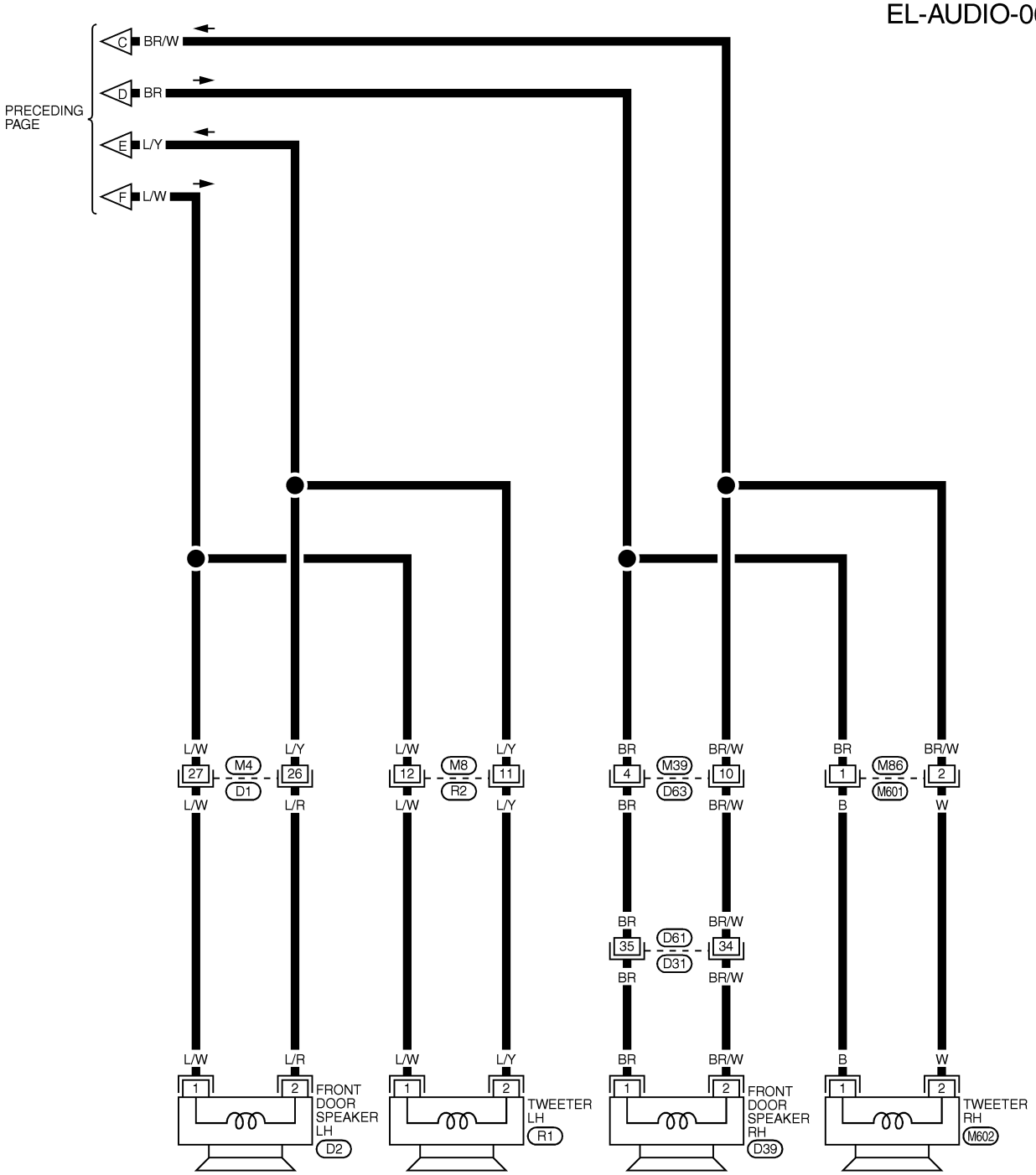
EL-AUDIO-05





MEL320L

EL-AUDIO-06



M601 BR *, M602 BR *, R1 BR

R2 W

D2 BR, D39 BR

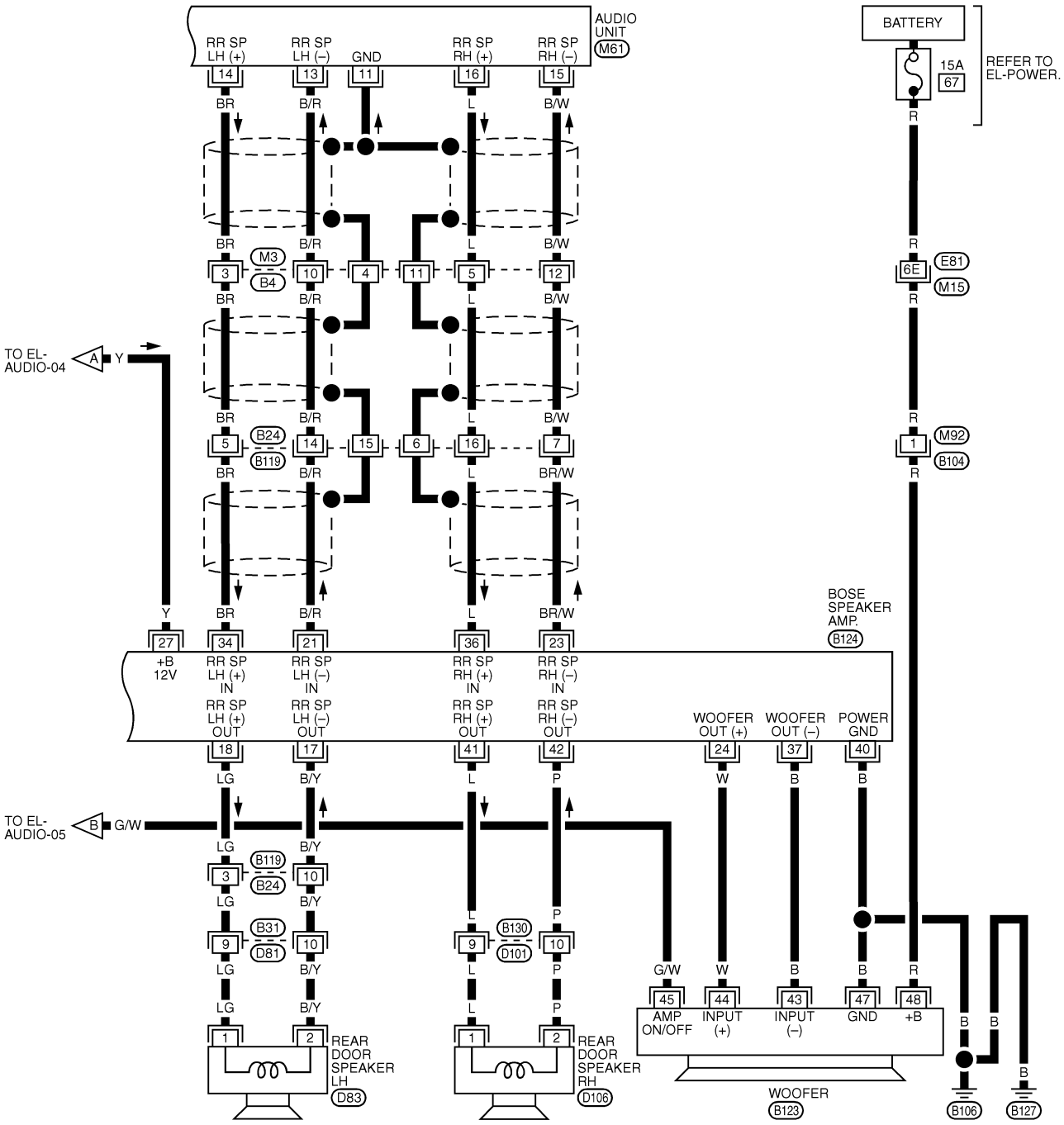
D63 W

REFER TO THE FOLLOWING.
D1, D31 -SUPER MULTIPLE JUNCTION (SMJ)

* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

MEL321L

EL-AUDIO-07



M3 W · M61 W · B31 W, B104 W, B130 W · B119 W

B123 BR · B124 GY · D83 BR, D106 BR

REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)

MEL943N

Trouble Diagnoses

NFEL0220

AUDIO UNIT

NFEL0220S01

Symptom	Possible causes	Repair order
Audio unit inoperative (no digital display and no sound from speakers).	1. 10A fuse 2. Poor audio unit case ground 3. Audio unit	1. Check 10A fuse [No. 1, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of audio unit. 2. Check audio unit case ground. 3. Remove audio unit for repair.
Audio unit presets are lost when ignition switch is turned OFF.	1. 15A fuse 2. Audio unit	1. Check 15A fuse [No. 56, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of audio unit. 2. Remove audio unit for repair.
AM/FM stations are weak or noisy.	1. Window antenna 2. Audio unit ground 3. Audio unit	1. Check window antenna. 2. Check audio unit ground condition. 3. Remove audio unit for repair.
Audio unit generates noise in AM and FM modes with engine running.	1. Poor audio unit ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Ignition coil or secondary wiring 5. Audio unit	1. Check audio unit ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check ignition coil and secondary wiring. 5. Remove audio unit for repair.
Audio unit generates noise in AM and FM modes with accessories on (switch pops and motor noise).	1. Poor audio unit ground 2. Antenna 3. Accessory ground 4. Faulty accessory	1. Check audio unit ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.

BASE SYSTEM

NFEL0220S02

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

BOSE SYSTEM

NFEL0220S03

Symptom	Possible causes	Repair order
Audio unit controls are operational, but no sound is heard from any speaker.	1. 15A fuse 2. Amp. ON/OFF signal circuit 3. Speaker amp. ground	1. Check 15A fuse [No. 56, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 27 of speaker amp. 2. Check harness continuity between audio unit terminal 12 and speaker amp. terminal 25. 3. Check harness continuity between speaker amp. terminal 40 and ground.
Individual rear speaker is noisy or inoperative.	1. Each speaker 2. Output circuit to each speaker	1. Check speaker. 2. Check the output circuits to each speaker ● between audio unit and speaker amp. ● between speaker amp. and each speaker.
Woofer does not operate.	1. Power supply to woofer 2. Amp. ON/OFF signal circuit 3. Speaker amp. ground 4. Output circuit to woofer	1. Check 15A fuse [No. 67, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 48 of woofer. 2. Check harness continuity between audio unit terminal 12 and woofer terminal 45. 3. Check harness continuity between woofer terminal 47 and ground. 4. Check the output circuits to woofer from speaker amp.

Inspection

NFEL0221

AUDIO UNIT AND AMP.

NFEL0221S01

All voltage inspections are made with:

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

ANTENNA

NFEL0221S02

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

NFEL0084

With the ignition switch is turned to ACC or ON, power is supplied

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

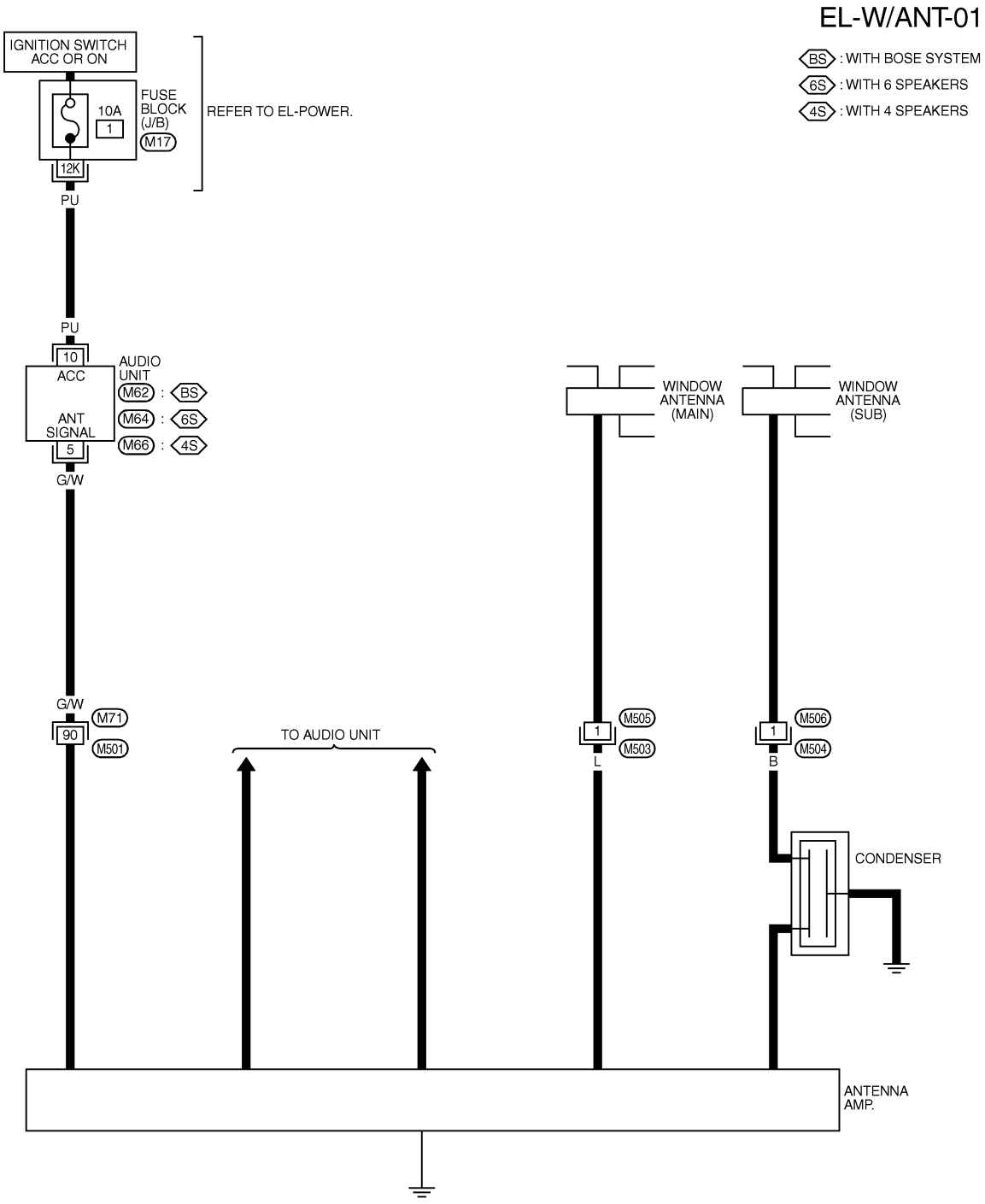
Ground is supplied through the case of antenna amp.
When the radio switch is turned ON, antenna signal is supplied

- through audio unit terminal 5
- to the antenna terminal 1.

Then the antenna amp. is activated.
The amplified radio signals are supplied to the audio unit, through antenna amp. terminals 2 and 3.

Wiring Diagram — W/ANT —

NFEL0085



M62 W · M64 W, M66 W · M71 W · M503* B, M504* B

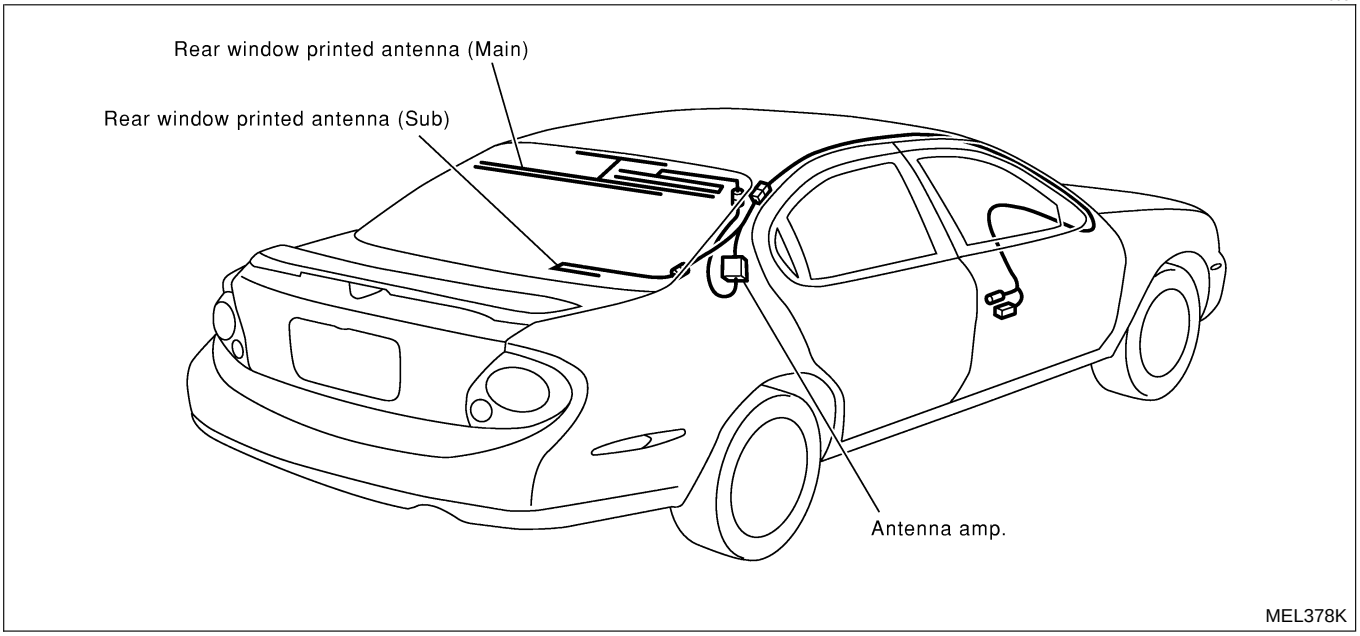
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL-SECTION.

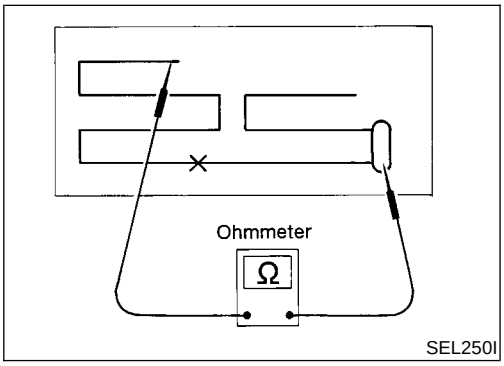
REFER TO THE FOLLOWING.
M17 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL642L

Location of Antenna

NFEL0087





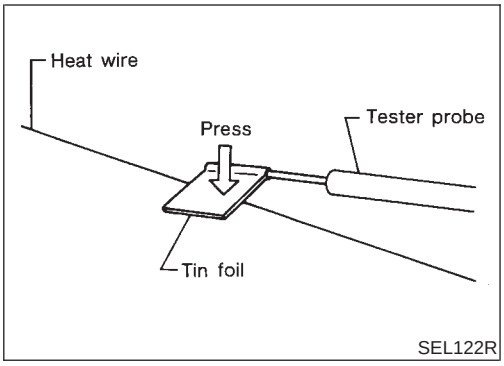
Window Antenna Repair

NFEL0250

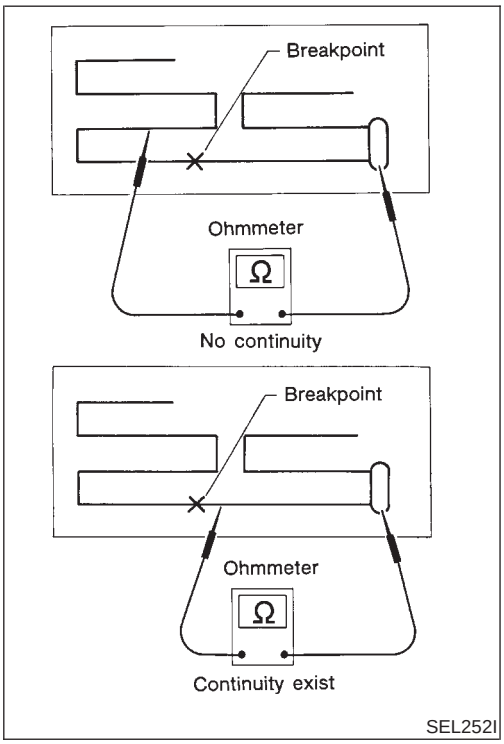
ELEMENT CHECK

NFEL0250S01

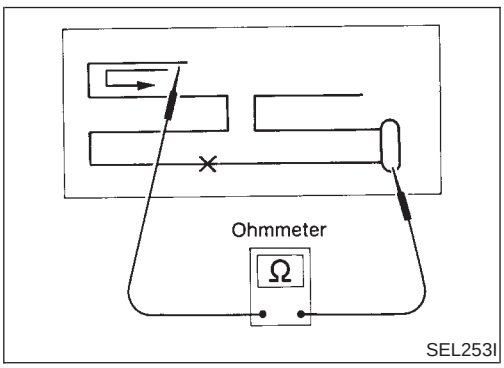
1. Attach probe circuit tester (in ohm range) to antenna terminal on each side.
   If an element is OK, continuity should exist.
   If an element is broken, no continuity should exist. Go to step 2.



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



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



ELEMENT REPAIR

NFEL0250S02

Refer to "Filament Repair", "REAR WINDOW DEFOGGER" (EL-160).

System Description

NFEL0222

OUTLINE

NFEL0222S01

Electric sunroof system consists of

- Sunroof switch
- Sunroof motor
- Smart entrance control unit

Smart entrance control unit controls retained power operation.

OPERATION

NFEL0222S03

The sunroof can be opened or closed and tilted up or down with the sunroof switch.

AUTO OPERATION

NFEL0222S05

The power sunroof AUTO feature makes it possible to open and close the sunroof without holding the sunroof switch in the down or up position.

RETAINED POWER OPERATION

NFEL0222S02

When the ignition switch is turned to OFF position from ON or START position, power is supplied for 45 seconds

- to sunroof motor terminal 6
- from smart entrance control unit terminal 5.

When power is supplied, the electrical sunroof can be operated.
The retained power operation is canceled when the driver or passenger side door is opened.

INTERRUPTION DETECTION FUNCTION

NFEL0222S04

The CPU of sunroof motor monitors the sunroof motor operation and the sunroof position (full closed or other) for sunroof by the signals from encoder and limit switch in sunroof motor.
When sunroof motor detects interruption during the following close operation,

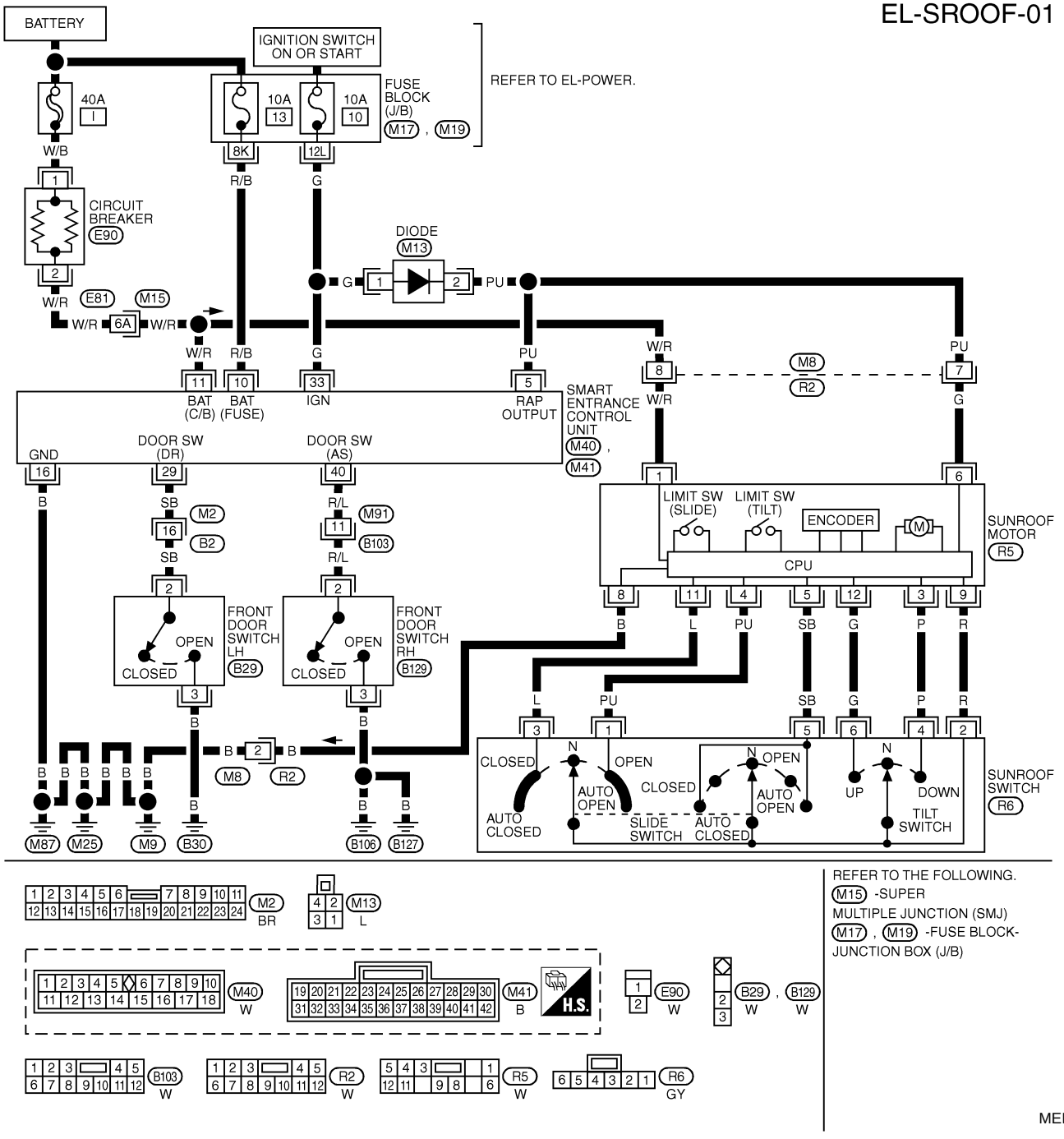
- automatic close operation when ignition switch is in the “ON” position
- automatic close operation during retained power operation

sunroof switch controls the motor for open and the sunroof will operate about 150 mm (5.91 in).

Wiring Diagram — SROOF —

NFEL0089

EL-SROOF-01



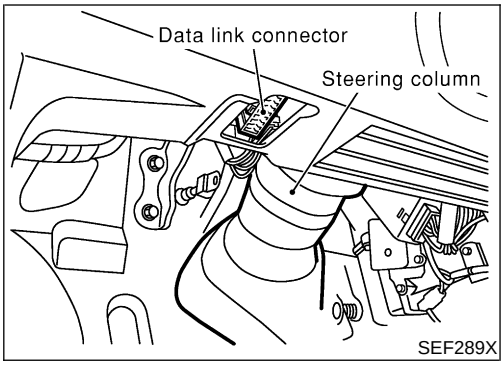
REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL323L

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
5	PU	HEADLAMP BATTERY SAVER CONTROL UNIT	WHEN HEADLAMP BATTERY SAVER TIMER IS OPERATED	12V
10	R/B	POWER SOURCE (FUSE)	–	12V
11	W/R	POWER SOURCE (C/B)	–	12V
16	B	GROUND	–	–
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→ ON (OPEN)	5V→0V
33	G	IGN ON	IGNITION KEY IS IN “ON” POSITION	12V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→ ON (OPEN)	5V→0V

SEL369WA



SEF289X

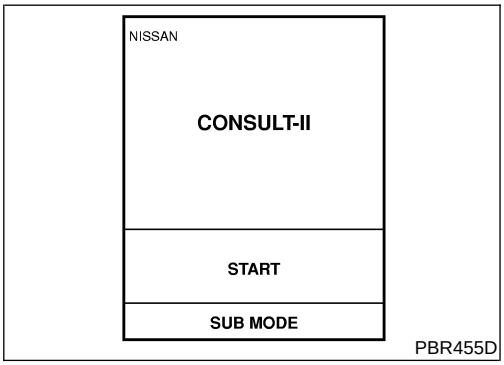
CONSULT-II Inspection Procedure

=NFEL0223

“RETAINED PWR”

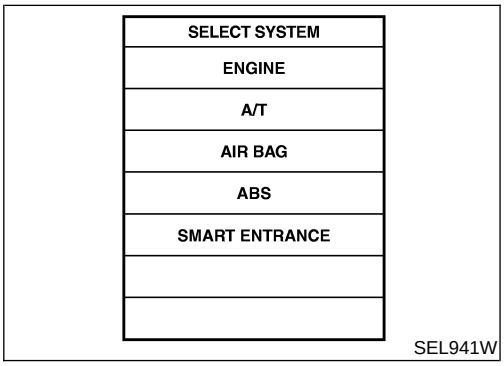
NFEL0223S01

1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



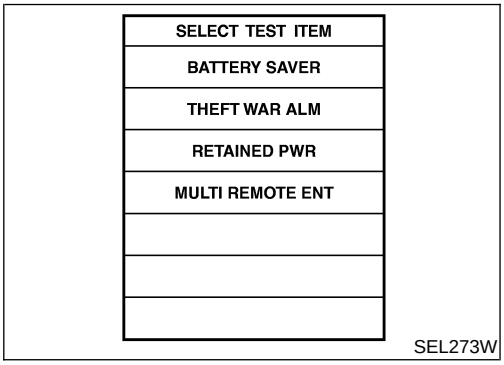
PBR455D

3. Turn ignition switch “ON”.
4. Touch “START”.



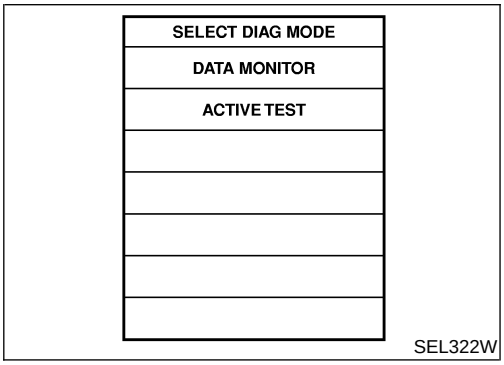
SEL941W

5. Touch “SMART ENTRANCE”.



SEL273W

6. Touch “RETAINED PWR”.



SEL322W

7. Select diagnosis mode.
   “DATA MONITOR” and “ACTIVE TEST” are available.

CONSULT-II Application Items

NFEL0224

"RETAINED PWR" Data Monitor

NFEL0224S01

NFEL0224S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NFEL0224S0102

Test Item	Description
RETAINED PWR	This test is able to supply RAP signal (power) from smart entrance control unit to power window system, power sunroof system and headlamp battery saver control unit. Those systems can be operated when turning on "RETAINED PWR" on CONSULT-II screen even if the ignition switch is tuned OFF. **NOTE:** **During this test, CONSULT-II can be operated with ignition switch "OFF" position. "RETAINED PWR" should be turned "ON" or "OFF" on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF for checking retained power operation. CONSULT-II might be stuck if "RETAINED PWR" is turned "ON" or "OFF" on CONSULT-II screen when ignition switch is OFF.**

Trouble Diagnoses

NFEL0225

Symptom	Possible cause	Repair order
Power sunroof cannot be operated using any switch.	1. 10A fuse, 40A fusible link and E90 circuit breaker 2. Grounds M9, M25 and M87 3. Sunroof switch 4. Sunroof switch circuit 5. Sunroof motor	1. Check 10A fuse [No. 10, located in fuse block (J/B)], 40A fusible link (letter **i**, located in fuse and fusible link box) and E90 circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminals 1 and 6 of sunroof motor. 2. Check grounds M9, M25, M87. 3. Check sunroof switch. 4. Check harness between sunroof switch and sunroof motor. 5. Replace sunroof motor.
Power sunroof cannot be operated using one of the sunroof switches.	1. Sunroof switch 2. Sunroof switch circuit	1. Check sunroof switch. 2. Check the harness between sunroof motor and sunroof switch.
Power sunroof auto function cannot be operated properly.	1. Sunroof slide mechanism 2. Sunroof switch 3. Sunroof switch circuit 4. Sunroof motor	1. Check the following. a. Check obstacles in sunroof, etc. b. Check worn or deformed sunroof. c. Check sunroof sash tilted too far inward or outward. 2. Check sunroof switch. 3. Check harness between sunroof motor and sunroof switch. 4. Replace sunroof motor.

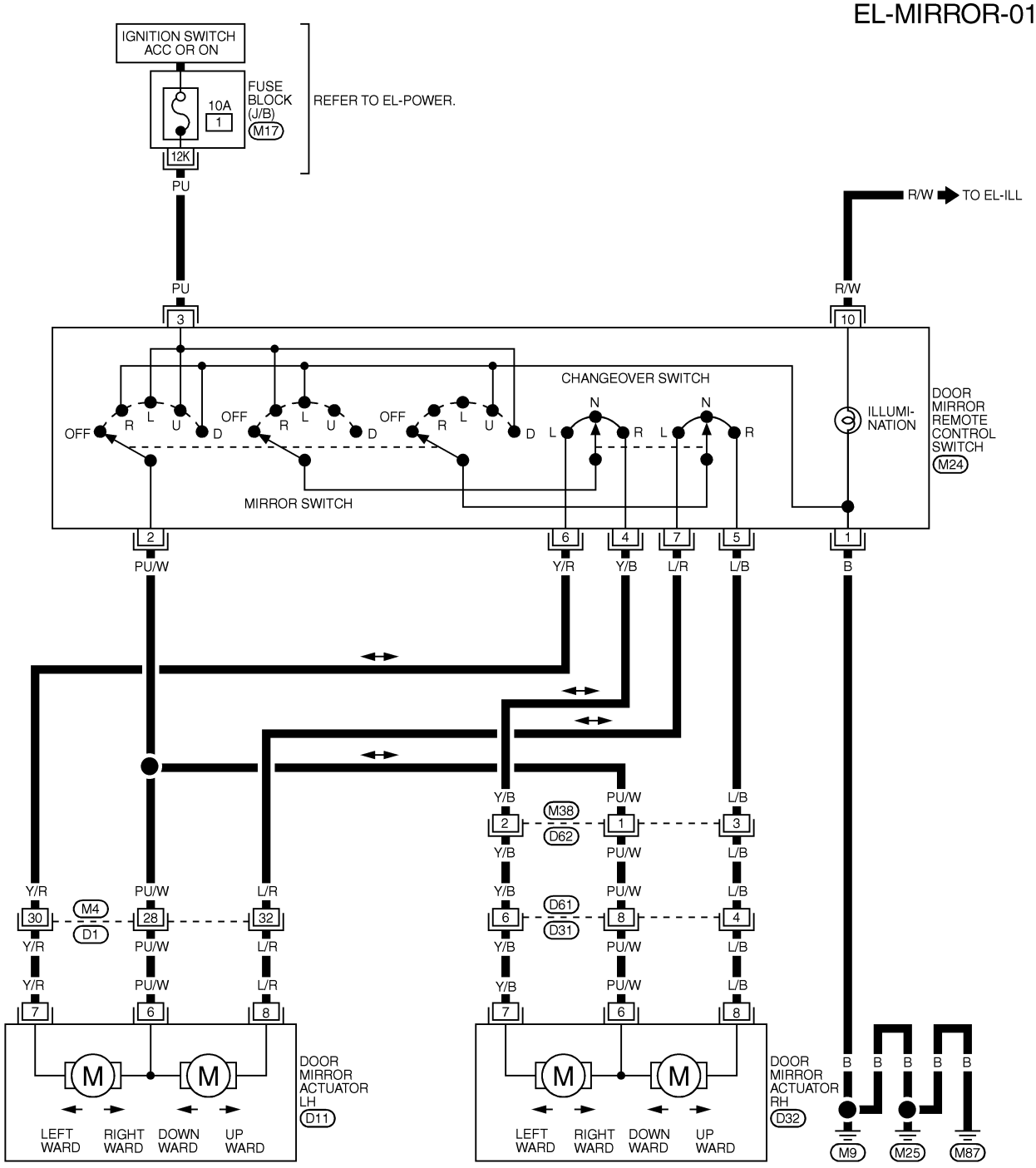
Trouble Diagnoses (Cont'd)

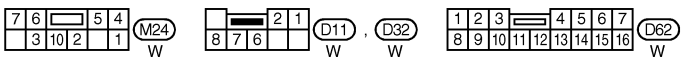
Symptom	Possible cause	Repair order
Retained power operation does not operate properly.	1. RAP signal circuit 2. Driver or passenger side door switch circuit 3. Smart entrance control unit	1. Check RAP signal. a. (With CONSULT-II) Check RAP signal with CONSULT-II. Use "ACTIVE TEST" mode, "RETAINED PWR" in "SMART ENTRANCE". (Refer to EL-180.) If NG, go to the step b. below. b. Verify 12 positive voltage from smart entrance control unit is present at terminal 6 of sunroof motor: ● Within 45 seconds after ignition switch turns off. ● When front door LH and RH is closed. 2. Check harness between smart entrance control unit and driver or passenger side door switch. Check driver or passenger side door switch. Check driver or passenger side door switch. 3. Check smart entrance control unit. (EL-316)

Wiring Diagram — MIRROR —

NFEL0090

EL-MIRROR-01





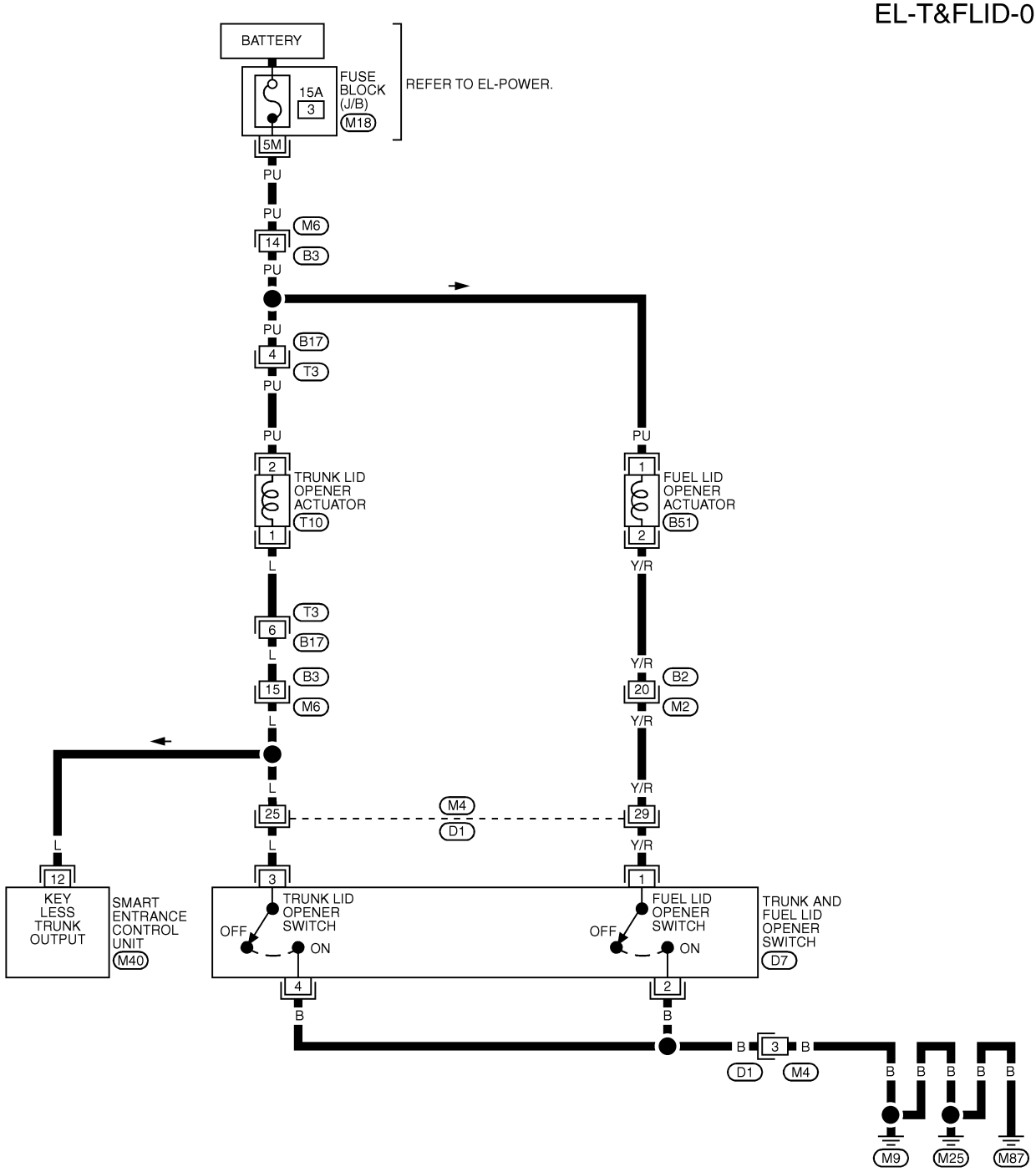
REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)
D31 , D61 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-JUNCTION BOX (J/B)

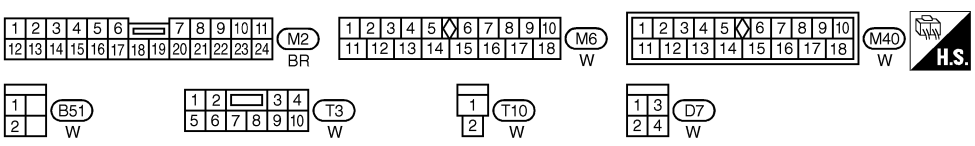
MEL291K

Wiring Diagram — T&FLID —

NFEL0168

EL-T&FLID-01





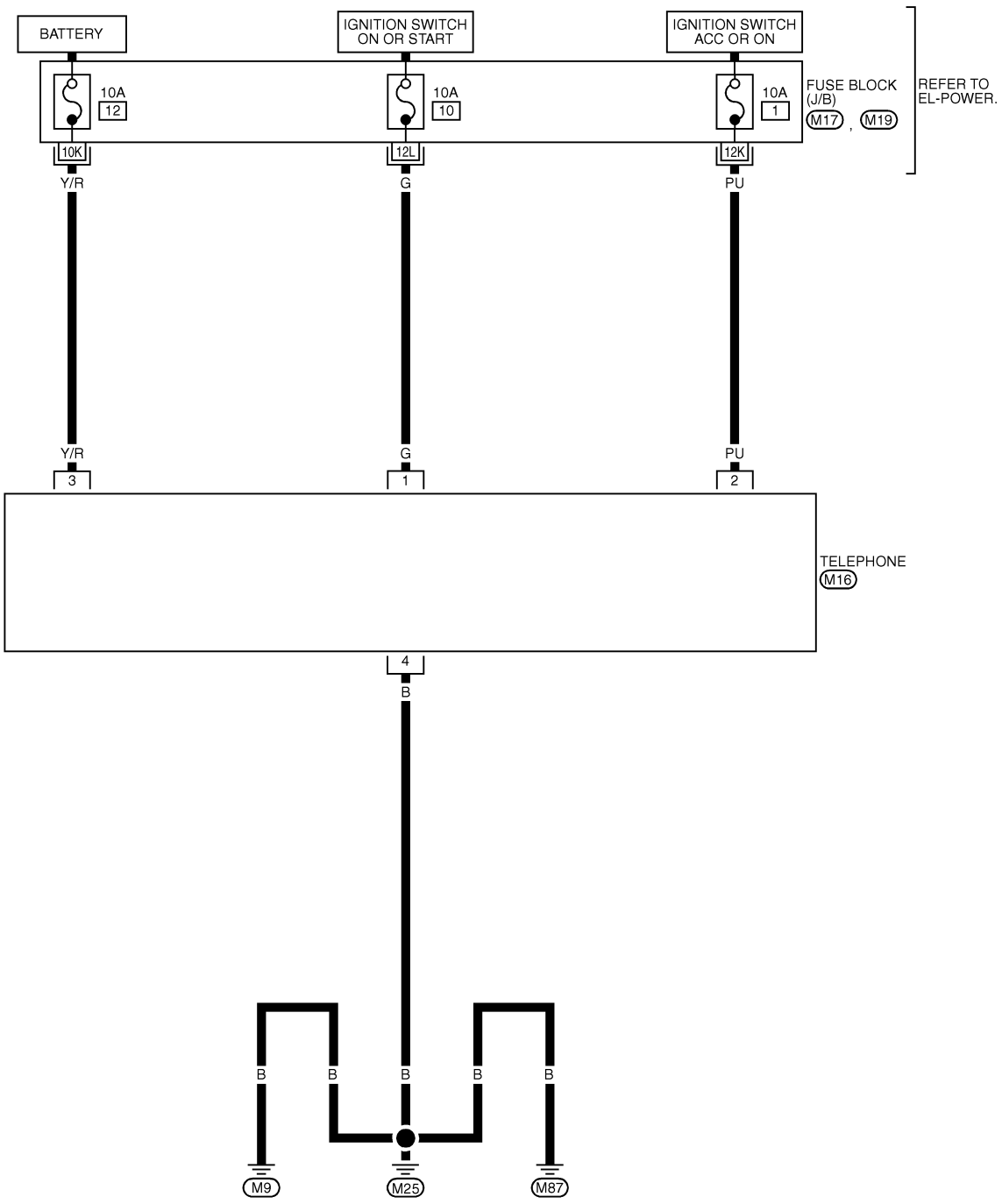
REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)
M18 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL292K

Wiring Diagram — PHONE —

NFEL0170

EL-PHONE-01

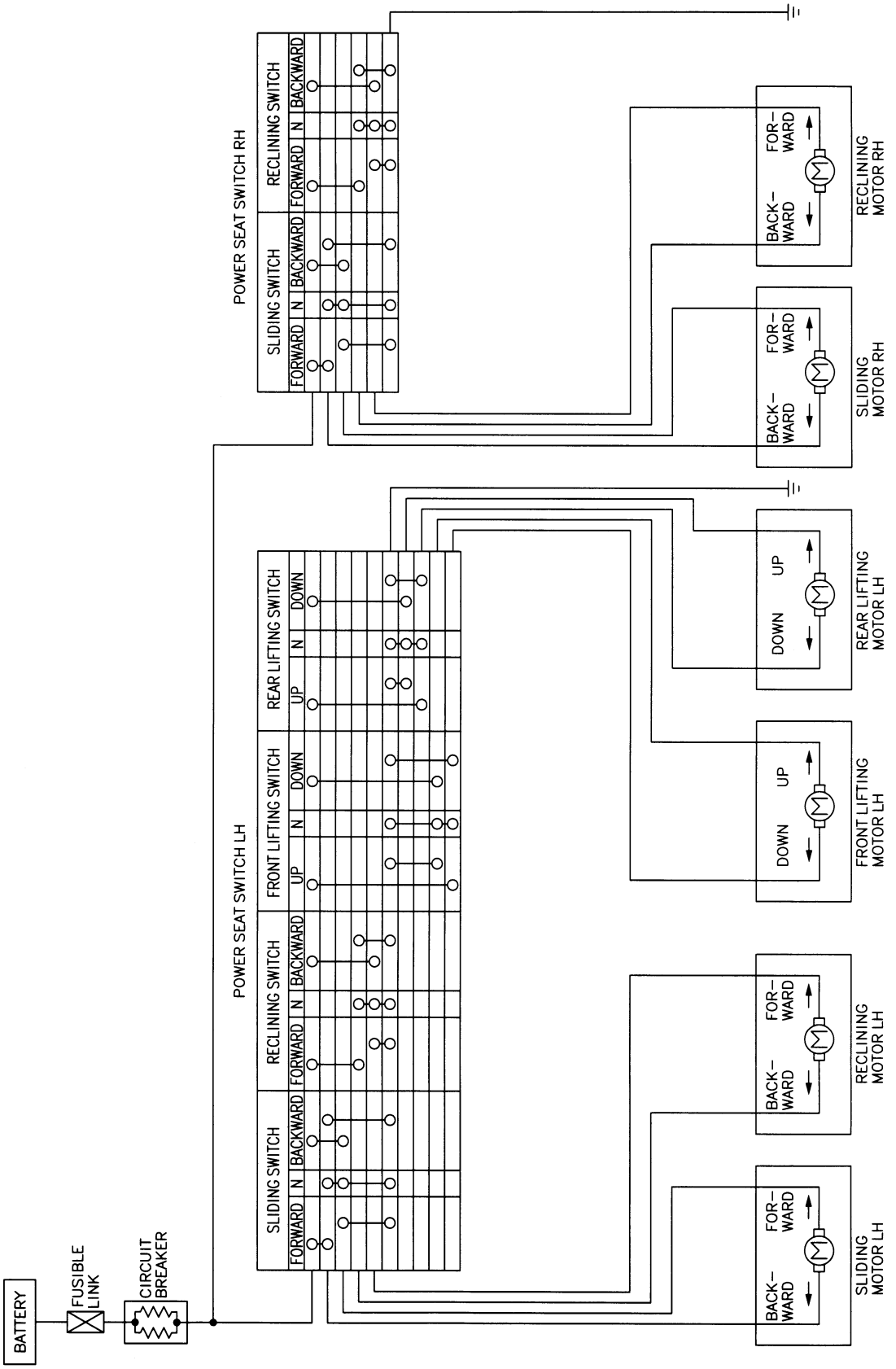


REFER TO THE FOLLOWING.
M17 -FUSE BLOCK-JUNCTION BOX (J/B)
M19 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL295K

Schematic

NFEL0251

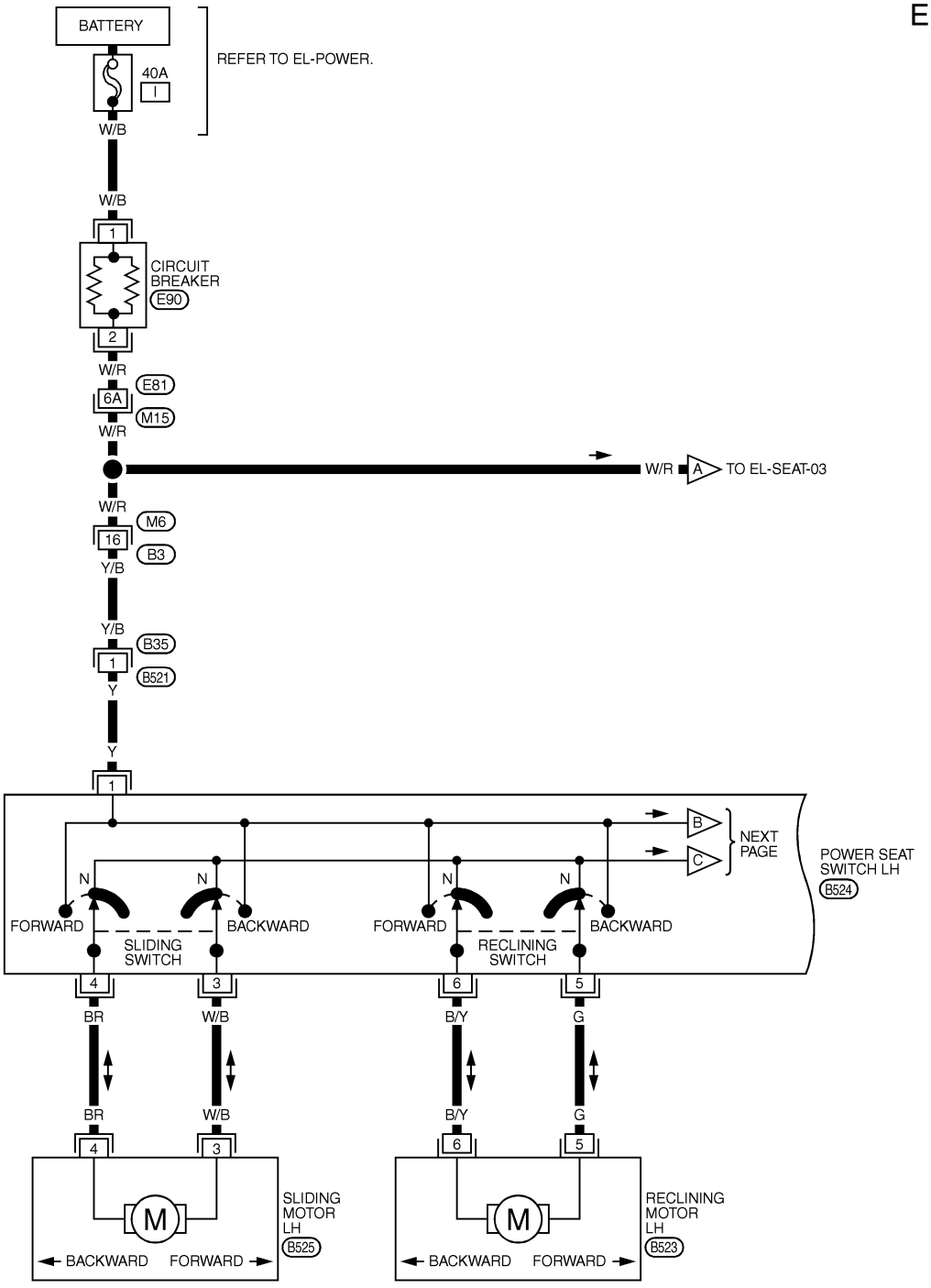


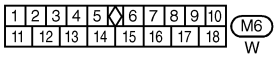
MEL324L

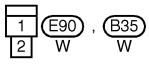
Wiring Diagram — SEAT —

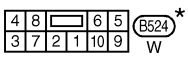
NFEL0092

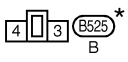
EL-SEAT-01







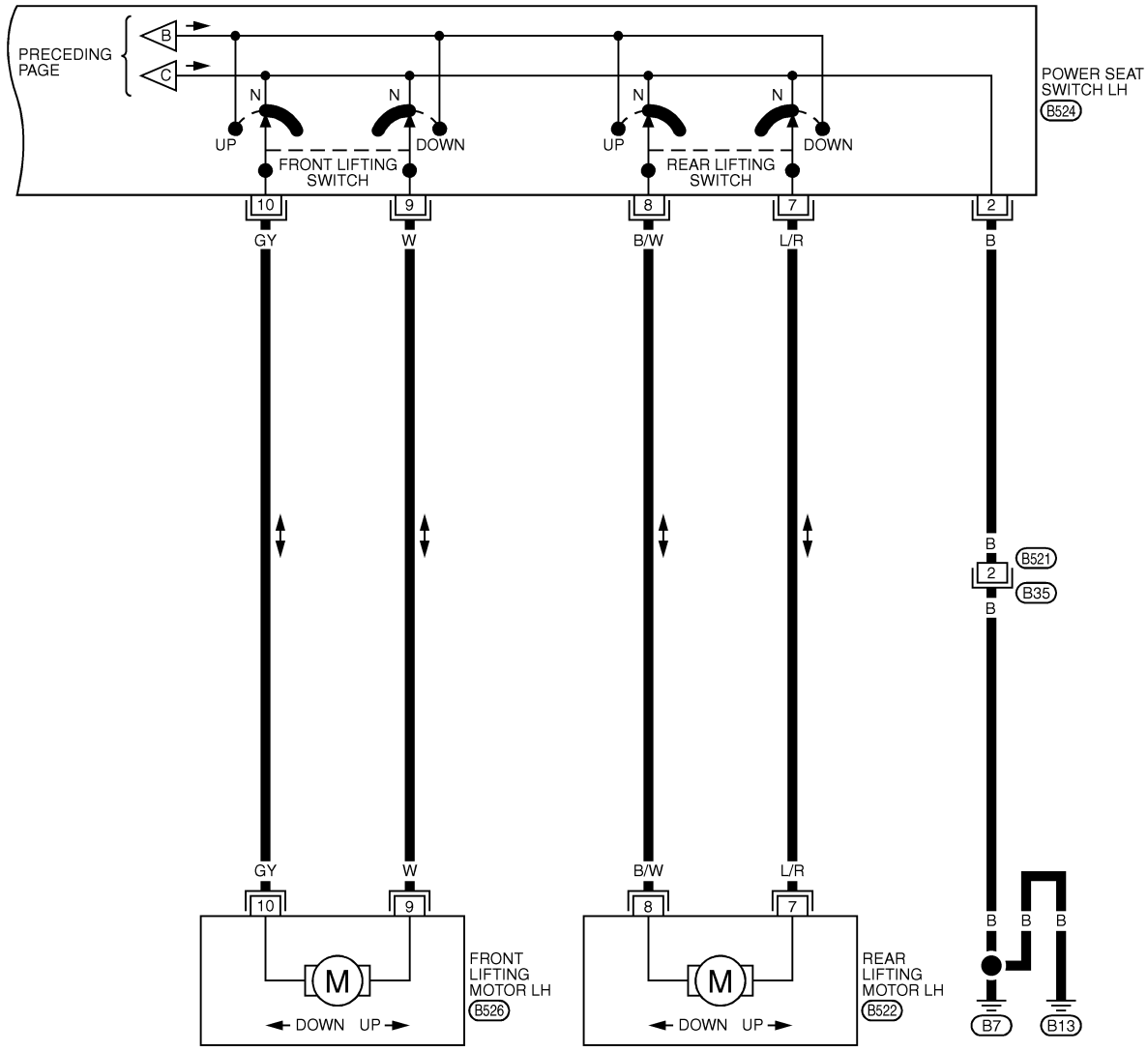


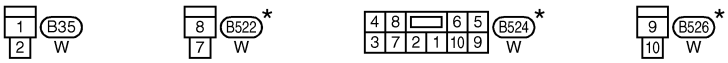


∗ : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL-SECTION.

REFER TO THE FOLLOWING.
M15 - SUPER MULTIPLE JUNCTION (SMJ)

MEL325L

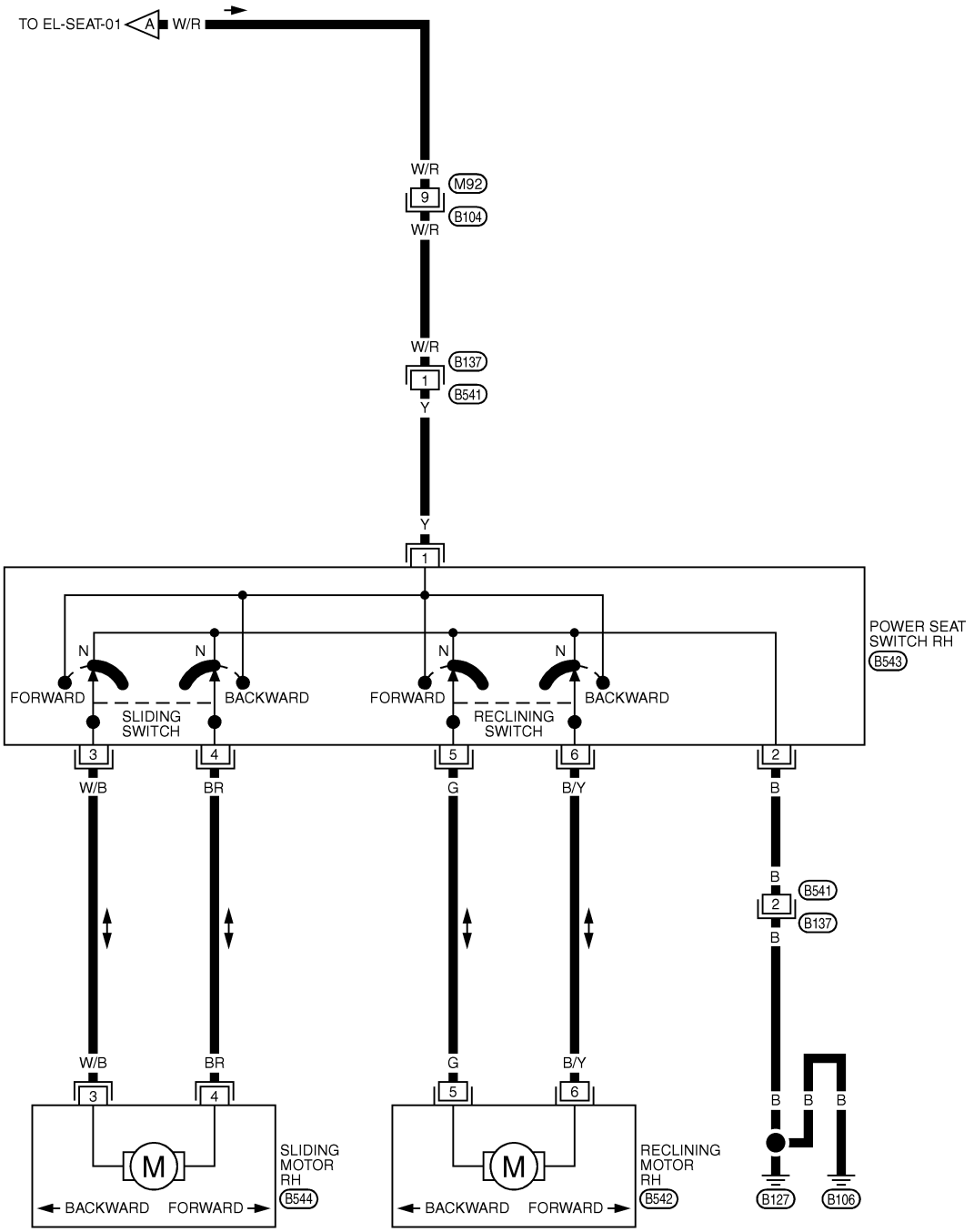


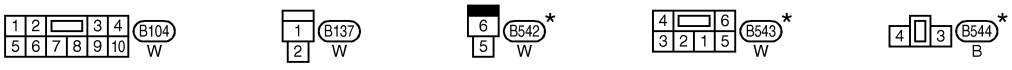


∗ : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

MEL297K

EL-SEAT-03





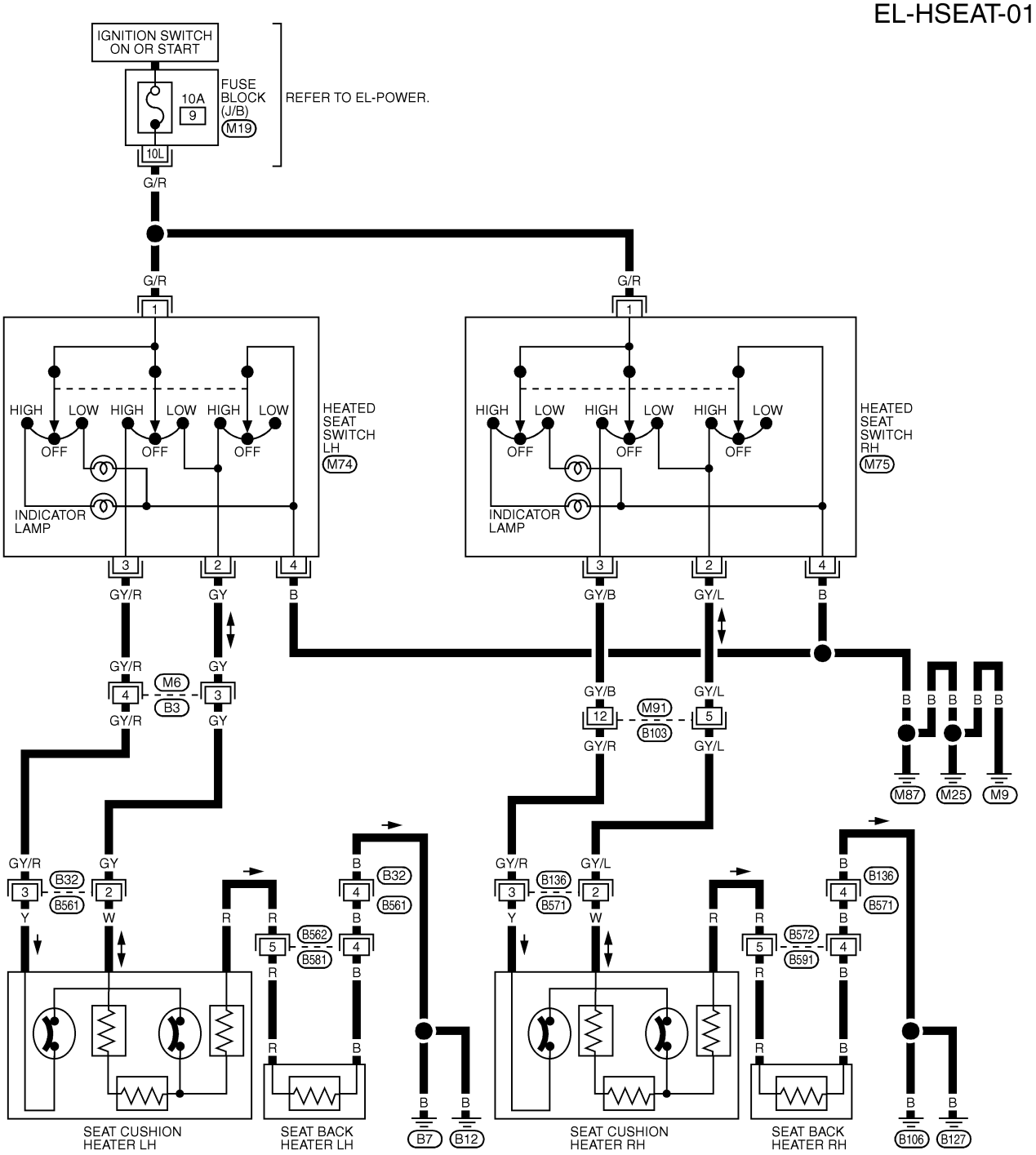
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

MEL648K

Wiring Diagram — HSEAT —

NFEL0093

EL-HSEAT-01



M6 W

M74 L , M75 W

B32 W , B136 W

B103 W

B562 L *, B572 L *

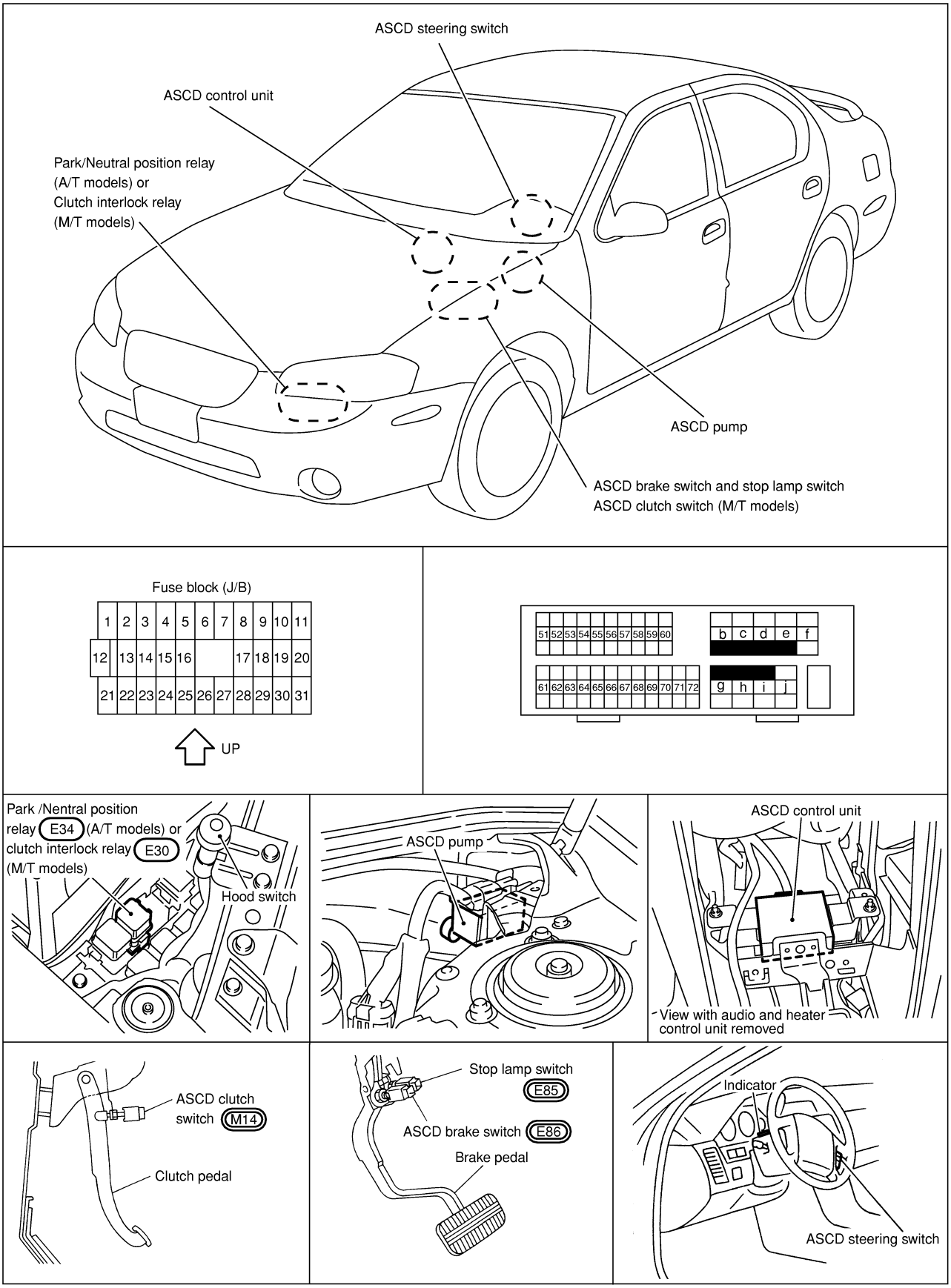
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL-SECTION.

REFER TO THE FOLLOWING.
M19 -FUSE BLOCK- JUNCTION BOX (J/B)

MEL298K

Component Parts and Harness Connector Location

NFEL0094



SEL171W

System Description

NFEL0190

Refer to Owner's Manual for ASCD operating instructions.

POWER SUPPLY AND GROUND

NFEL0190S01

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

- through 10A fuse [No. 30, located in the fuse block (J/B)]
- to ASCD brake switch terminal 1 and
- to combination meter terminals 50 and 66,
- through 15A fuse [No. 20, located in the fuse block (J/B)]
- to park/neutral position relay terminal 1,
- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to ASCD control unit terminal 5, and

Power is supplied at all times:

- through 15A fuse [No. 2, located in the fuse block (J/B)]
- to the stop lamp switch terminal 1, and
- through 10A fuse [No. 57, located in the fuse block (J/B)]
- to the horn relay terminal 2.
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to combination meter terminal 62.

When park/neutral position is in the P or N position, ground is supplied:

- to park/neutral position switch terminal 2
- through body grounds F41 and F39.

When ASCD main switch is depressed (ON), ground is supplied:

- to ASCD control unit terminal 9
- from ASCD steering switch terminal 4
- to ASCD steering switch terminal 5
- through body grounds M9, M25 and M87

then ASCD control unit holds CRUISE condition and illuminates CRUISE indicator.
Ground is supplied:

- from ASCD control unit terminal 15, and
- to combination meter terminal 46.

OPERATION

NFEL0190S02

Set Operation

NFEL0190S0201

To activate the ASCD, all of following conditions must exist.

- Ground supply to ASCD control unit terminal 9
- Power supply to ASCD control unit terminal 8 [Brake and clutch pedal is released (M/T models), and brake pedal is released and A/T selector lever is in other than P and N position. (A/T models)]
- Vehicle speed is between 40 km/h (25 MPH) and 144 km/h (89 MPH). (Signal from combination meter)

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

- from ASCD steering switch terminal 2
- to ASCD control unit terminal 11.

And then ASCD pump is activated to control throttle wire and ASCD control unit supply ground

- to combination meter terminals 51 to illuminate SET indicator.

A/T Overdrive Control during Cruise Control Driving (A/T models)

NFEL0190S0202

When the vehicle speed is approximately 8 km/h (5 MPH) below set speed, a signal is sent

- from ASCD control unit terminal 10
- to TCM (transmission control module) terminal 24.

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.

ASCD Shifting Control

NFEL0190S0207

During ASCD cruise, ASCD control unit controls A/T shifting to avoid uncomfortable shifting.
This is used to control the signals below.

- Throttle position sensor from ECM
- A/T shift solenoid valve A

Coast Operation

NFEL0190S0203

When the SET/COAST switch is depressed during cruise control driving, ASCD actuator returns the throttle cable to decrease vehicle set speed until the switch is released. And then ASCD will keep the new set speed.

Accel Operation

NFEL0190S0204

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

- from ASCD steering switch terminal 3
- to ASCD control unit terminal 24.

If the RESUME/ACCEL switch is depressed during cruise control driving, ASCD actuator pulls the throttle cable to increase the vehicle speed until the switch is released or vehicle speed is reached to maximum controlled speed by the system. And then ASCD will keep the new set speed.

Cancel Operation

NFEL0190S0205

When any of following condition exists, cruise operation will be canceled.

- CANCEL switch is depressed. (Power supply to ASCD control unit terminals 11 and 24)
- Brake pedal is depressed. (Power supply to ASCD control unit terminal 23 from stop lamp switch)
- Brake or clutch pedal is depressed (M/T models), brake pedal is depressed or A/T selector lever is shifted to P or N position (A/T models). (Power supply to ASCD control unit terminal 8 is interrupted.)

If MAIN switch is turned to OFF during ASCD is activated, all of ASCD operation will be canceled and vehicle speed memory will be erased.

Resume Operation

NFEL0190S0206

When the RESUME/ACCEL switch is depressed after cancel operation other than depressing MAIN switch is performed, vehicle speed will return to last set speed. To resume vehicle set speed, vehicle condition must meet following conditions.

- Brake pedal is released.
- Clutch pedal is released (M/T models).
- A/T selector lever is in other than P and N position (A/T models).
- Vehicle speed is greater than 40 km/h (25 MPH) and 144 km/h (89 MPH).

ASCD PUMP OPERATION

NFEL0190S03

The ASCD pump consists of a vacuum motor, an air valve and a release valve. When the ASCD activates, power is supplied

- from terminal 12 of ASCD control unit
- to ASCD pump terminal 1.

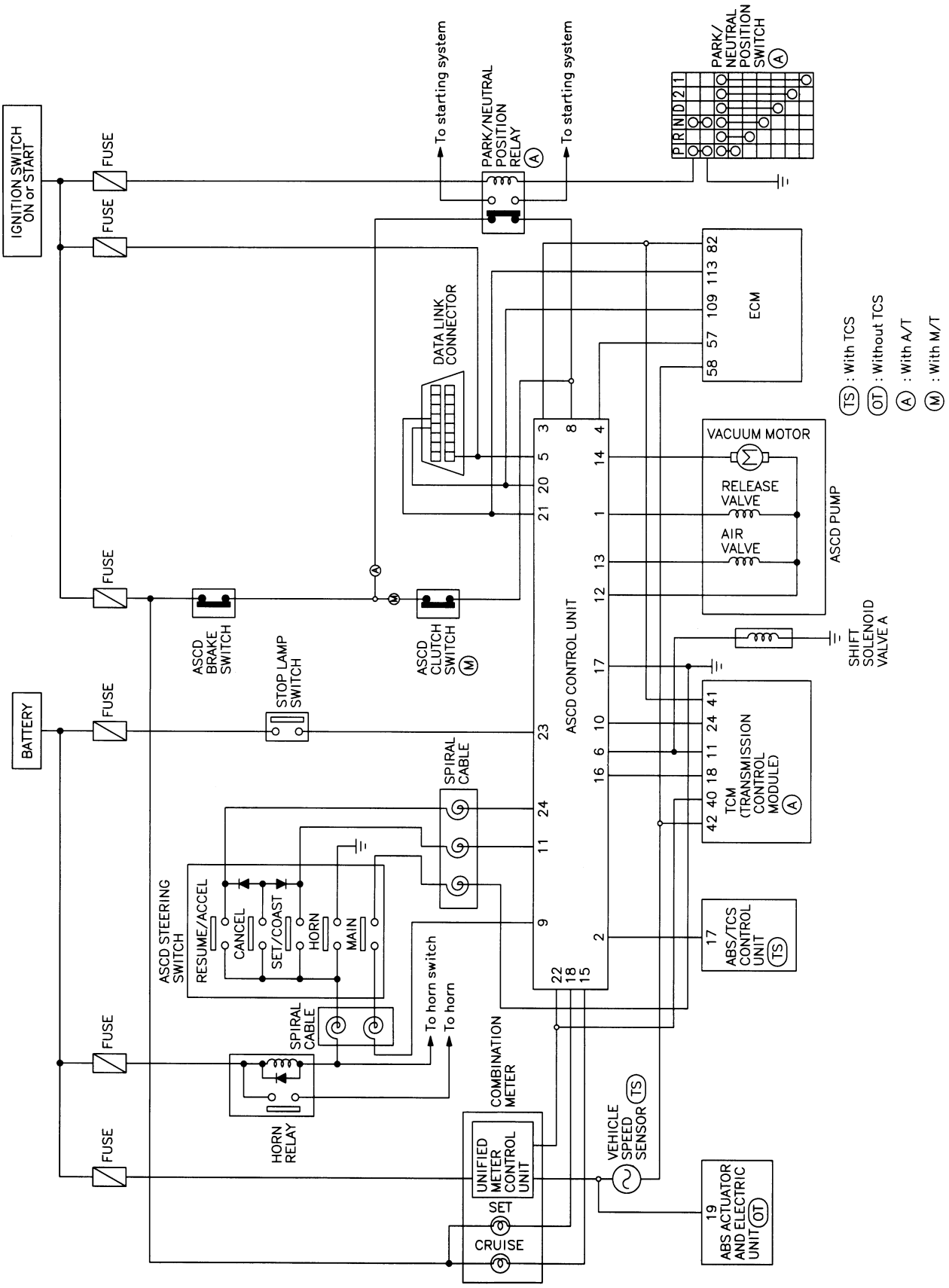
Ground is supplied to vacuum motor, air valve and release valve from ASCD control unit depending on the operated condition as shown in the below table.
The pump is connected to ASCD actuator by vacuum hose. When the ASCD pump is activated, the ASCD pump vacuum the diaphragm of ASCD actuator to control throttle cable.

		Air valve (*1)	Release valve (*1)	Vacuum motor	Actuator inner pressure
ASCD not operating		Open	Open	Stopped	Atmosphere
ASCD operating	Releasing throttle cable	Open	Closed	Stopped	Vacuum
	Holding throttle position	Closed	Closed	Stopped	Vacuum (*2)
	Pulling throttle cable	Closed	Closed	Operated	Vacuum

*1: When power and ground is supplied, valve is closed.
*2: Set position held.

Schematic

NFEL0096



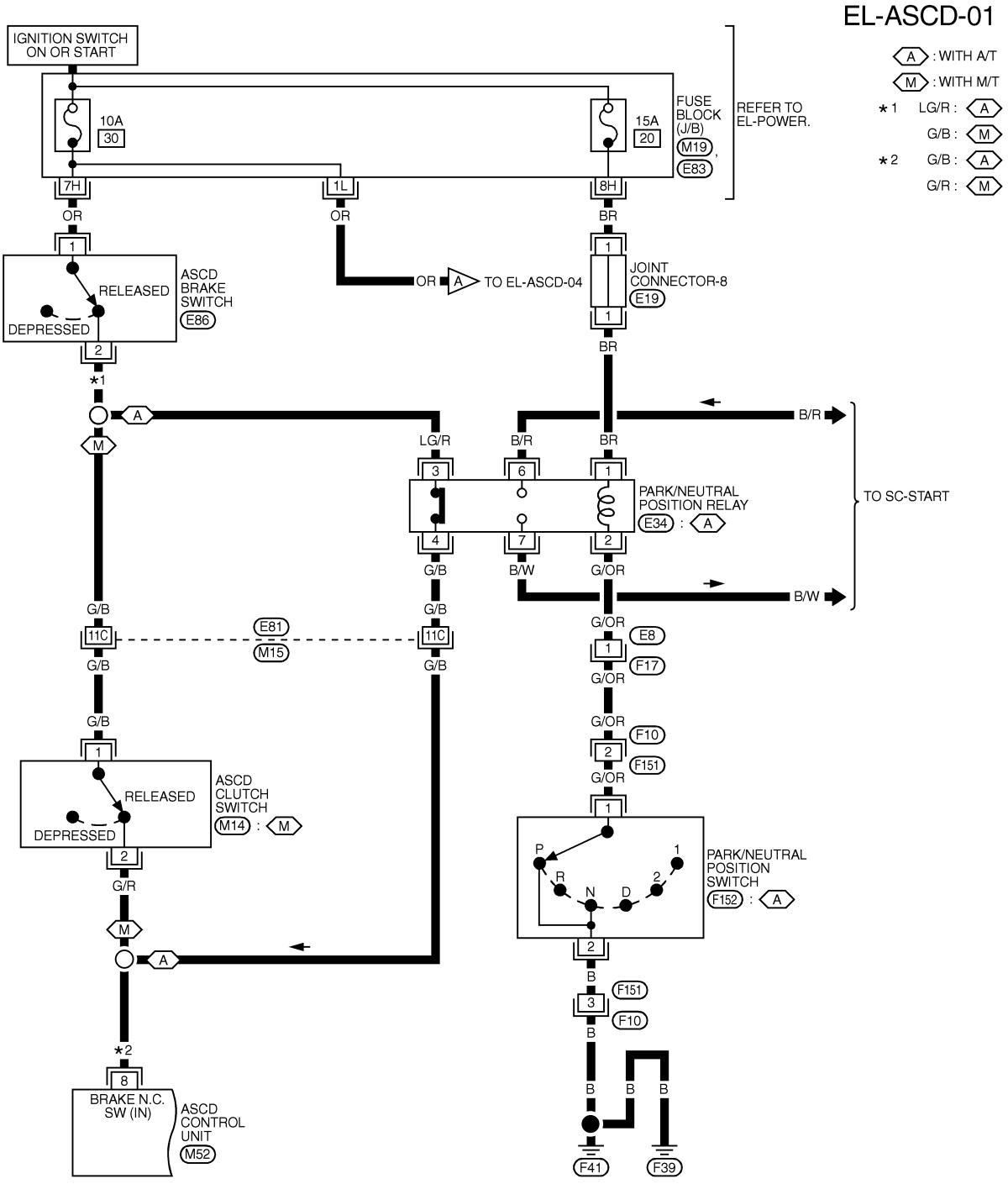
MEL326L

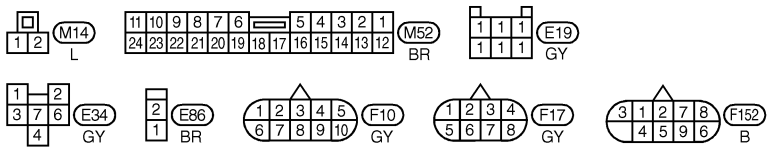
Wiring Diagram — ASCD —

NFEL0097

FIG. 1

NFEL0097S01





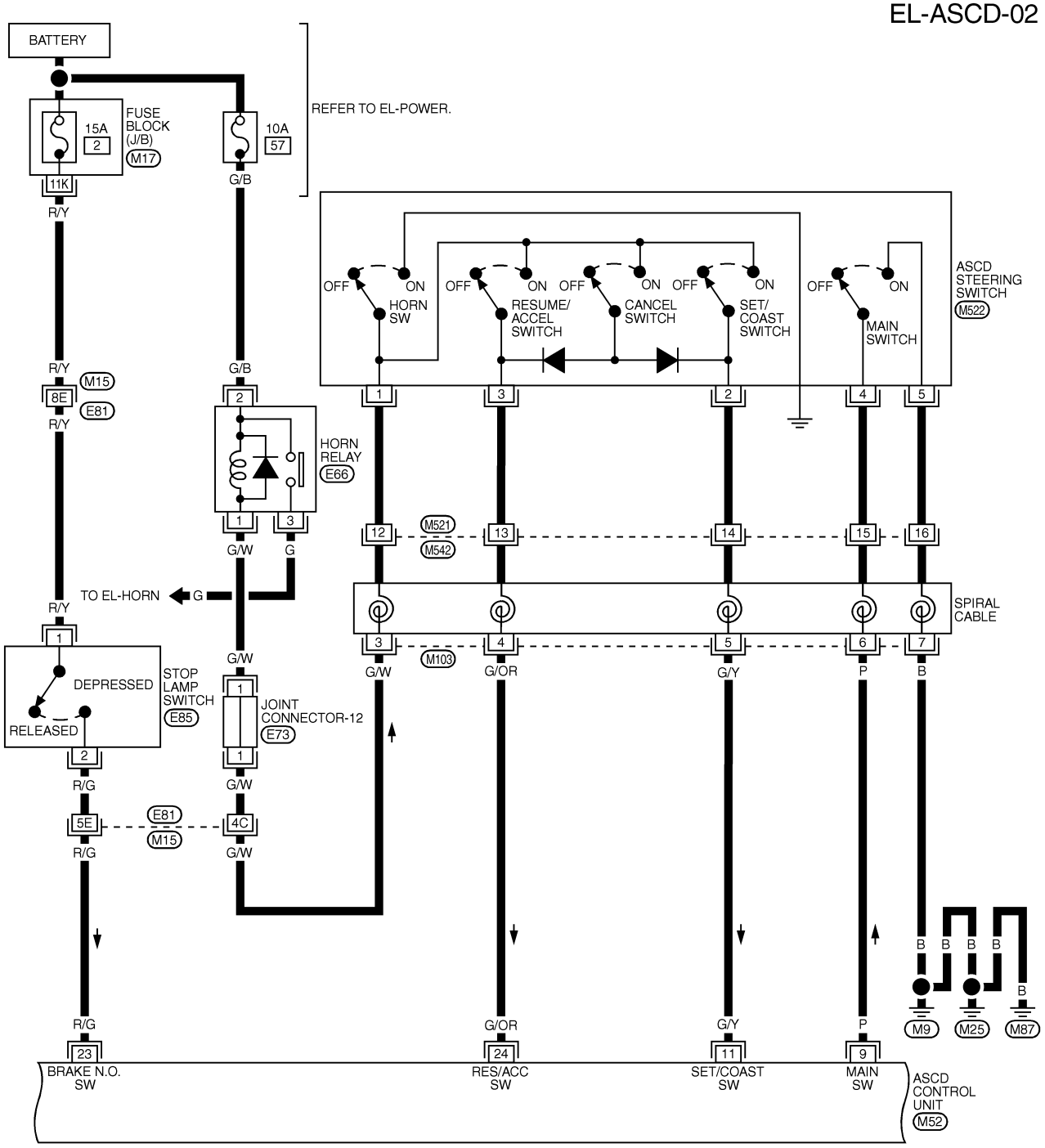
REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)
M19 -FUSE BLOCK-JUNCTION BOX (J/B)
E83 -FUSE BLOCK-JUNCTION BOX (J/B)

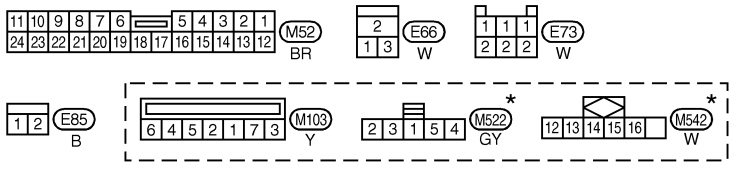
MEL300K

FIG. 2

NFEL0097S02

EL-ASCD-02





* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF EL SECTION.

REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK- JUNCTION BOX (J/B)

MEL327L

FIG. 3

NFEL0097S03

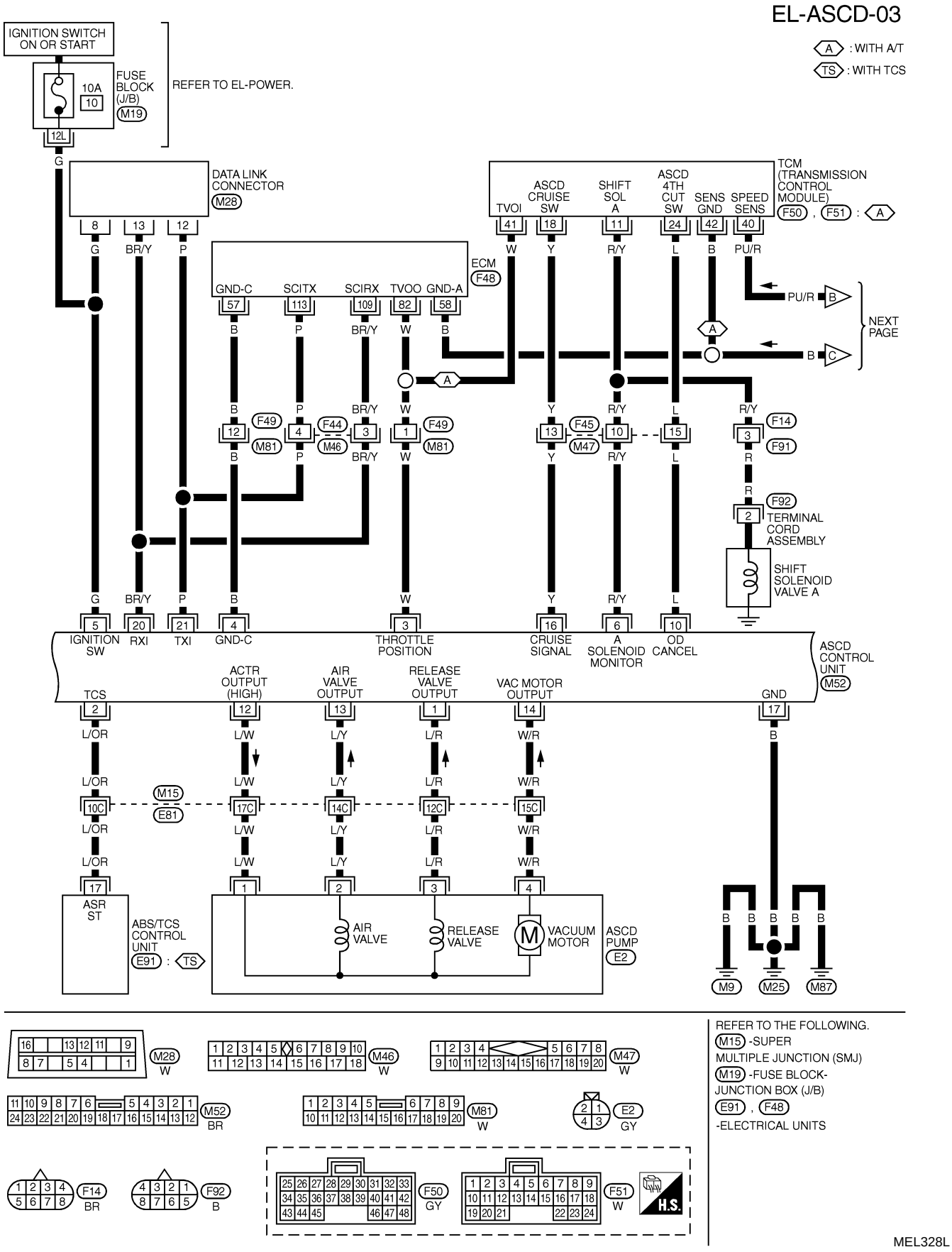
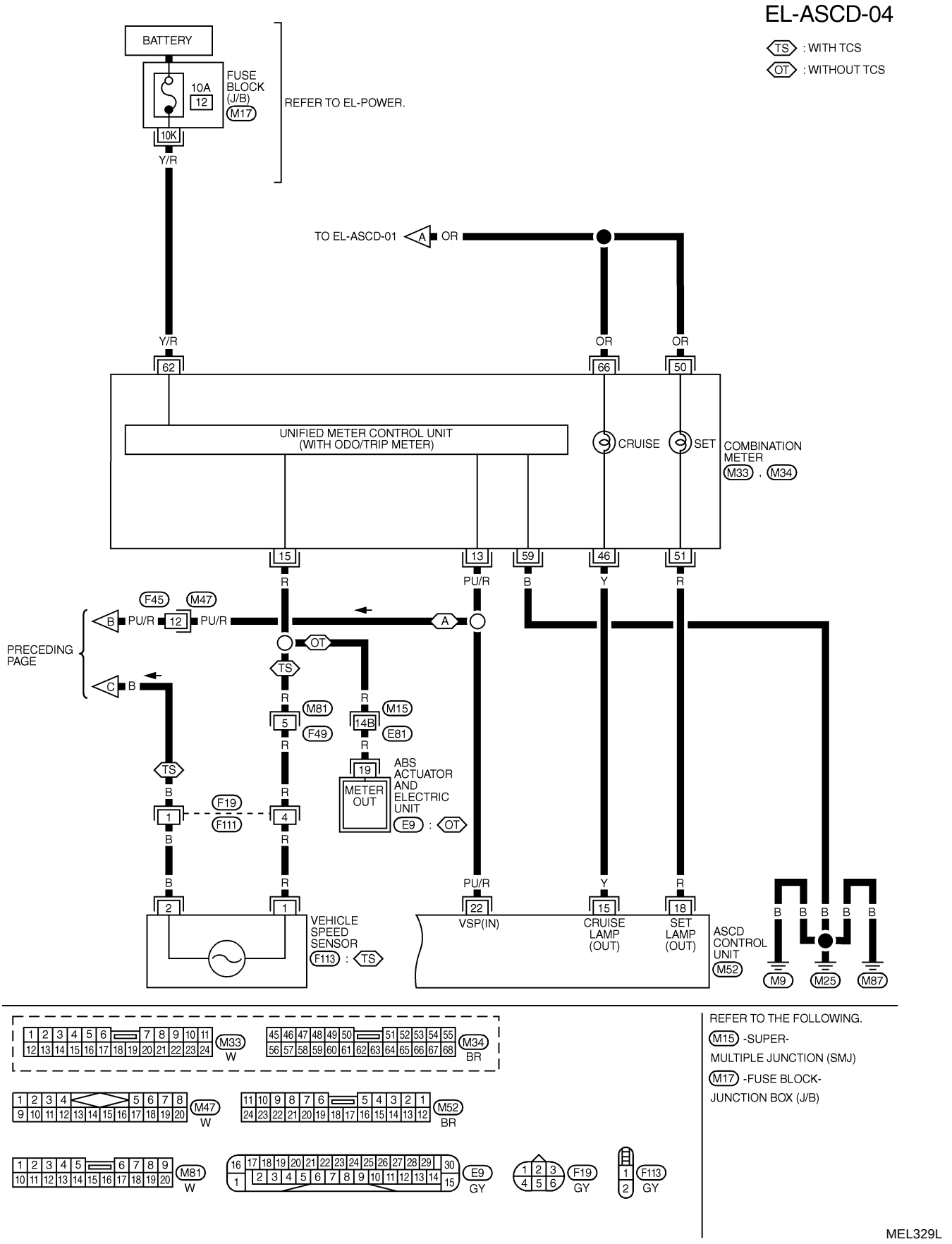
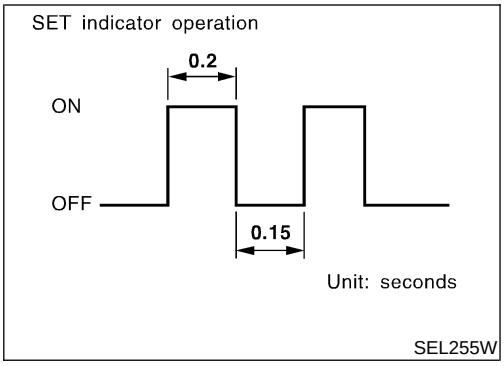


FIG. 4

NFEL0097S04





Fail-safe System

NFEL0228

DESCRIPTION

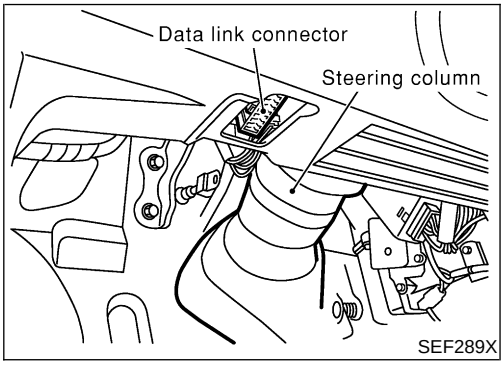
NFEL0228S01

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

MALFUNCTION DETECTION CONDITIONS

NFEL0228S02

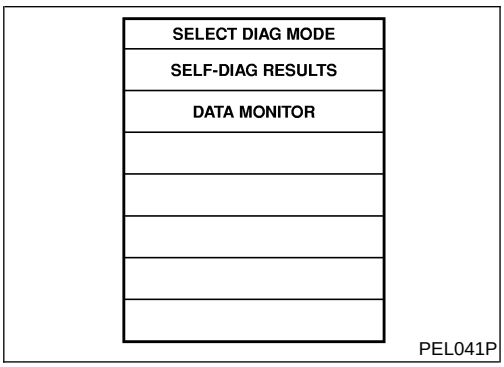
Detection conditions	ASCD operation during malfunction detection
• ASCD steering (RESUME/ACCEL, CANCEL, SET/COAST) switch is stuck. • Vacuum motor ground circuit or power circuit is open or shorted. • Air valve ground circuit or power circuit is open or shorted. • Release valve ground circuit or power 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.



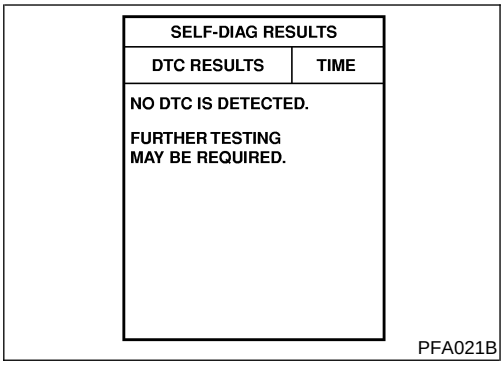
CONSULT-II Inspection Procedure

NFEL0229

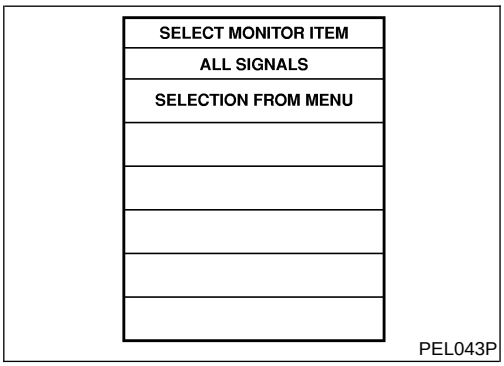
1. Turn ignition switch OFF.
2. Connect “CONSULT-II” to data link connector.



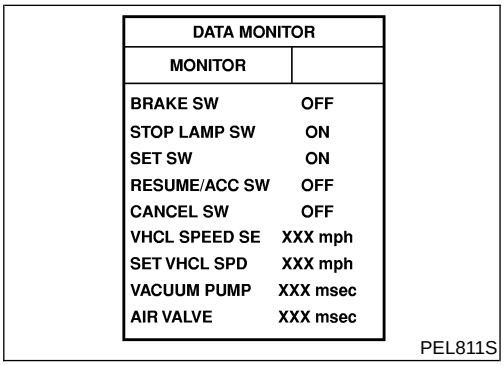
3. Turn ignition switch ON.
4. Turn ASCD main switch ON.
5. Touch START (on CONSULT-II display).
6. Touch ASCD.
7. Touch SELF-DIAG RESULTS.



- Self-diagnostic results are shown on display.
  Refer to "CONSULT-II self-diagnostic Results" table (EL-200).



8. Touch DATA MONITOR.



- Touch START.
- Data monitor results are shown on display.
  Refer to "CONSULT-II Data Monitor" table (EL-201).

For further information, read the CONSULT-II Operation Manual.

CONSULT-II Self-diagnostic Results

NFEL0230

Diagnostic item	Description	Repair/Check order
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	• Even if no malfunction is indicated, further testing may be required as far as the customer complains.	—
POWER SUPPLY-VALVE	• The power supply circuit for the ASCD pump is open. (An abnormally high voltage is entered.)	ASCD PUMP CIRCUIT CHECK (EL-210)
VACUUM PUMP	• The vacuum motor circuit is open or shorted. (An abnormally high or low voltage is entered.)	ASCD PUMP CIRCUIT CHECK (EL-210)
AIR VALVE	• The air valve circuit is open or shorted. (An abnormally high or low voltage is entered.)	ASCD PUMP CIRCUIT CHECK (EL-210)
RELEASE VALVE	• The release valve circuit is open or shorted. (An abnormally high or low voltage is entered.)	ASCD PUMP CIRCUIT CHECK (EL-210)
VHCL SP·S/FAILSAFE	• The vehicle speed sensor is malfunctioning.	VEHICLE SPEED SENSOR CHECK (EL-209)
CONTROL UNIT	• The ASCD control unit is malfunctioning.	Replace ASCD control unit.
BRAKE SW/STOP/L SW	• The brake switch or stop lamp switch circuit is malfunctioning.	ASCD BRAKE/STOP LAMP SWITCH CHECK (EL-205)

CONSULT-II Self-diagnostic Results (Cont'd)

Diagnostic item	Description	Repair/Check order
COMMAND SW	• The steering switch (set/coast switch, resume/accel switch or cancel switch) is malfunctioning.	ASCD STEERING SWITCH CHECK (EL-207)
ECM	• ECM is malfunctioning.	THROTTLE POSITION SENSOR SIGNAL CHECK (EL-213)

CONSULT-II Data Monitor

NFEL0231

Monitored item	Description
BRAKE SW	• Indicates [ON/OFF] condition of the brake switch, and ASCD clutch switch (M/T models) or park/neutral position relay (A/T models).
AT OD MONITOR	• Indicates [ON/OFF] condition of A/T O/D (shift solenoid valve A).
STOP LAMP SW	• Indicates [ON/OFF] condition of the stop lamp switch.
MAIN SW	• Indicates [ON/OFF] condition of main switch.
SET SW	• Indicates [ON/OFF] condition of the set switch.
RESUME/ACC SW	• Indicates [ON/OFF] condition of the resume/accelerate switch.
CANCEL SW	• Indicates [ON/OFF] condition of the cancel.
VHCL SPEED SE	• The present vehicle speed computed from the vehicle speed sensor signal is displayed.
SET VHCL SPD	• The preset vehicle speed is displayed.
VACUUM PUMP	• The operation time of the vacuum pump is displayed.
AIR VALVE	• The operation time of the air valve is displayed.
PW SUP-VALVE	• Indicates [ON/OFF] condition of the circuit for the air valve and the release valve.
CRUISE LAMP	• Indicates [ON/OFF] condition of the set lamp.
MAIN LAMP	• Indicates [ON/OFF] condition of cruise lamp.
A/T·OD CANCEL	• Indicates [ON/OFF] condition of the OD cancel.
FAIL SAFE·LOW	• The fail-safe (LOW) circuit function is displayed.
FAIL SAFE·SPD	• The fail-safe (SPEED) circuit function is displayed.
TCS MONITOR	• Indicates [ON/OFF] condition of TCS.
THRTL POS SEN	• The voltage of throttle position sensor is displayed.
R/LORD ESTMT	• The present road/load computed by ASCD control unit is displayed.

Trouble Diagnoses

NFEL0232

SYMPTOM CHART

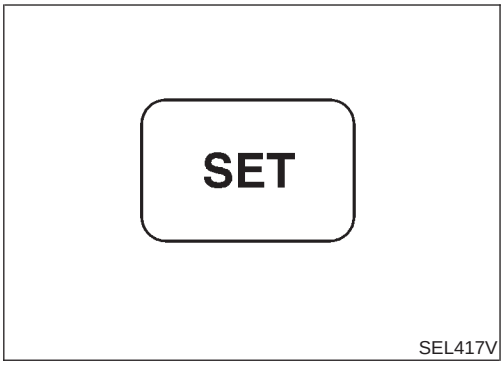
NFEL0232S01

PROCEDURE	Diagnostic procedure						
REFERENCE PAGE (EL-)	203	204	205	207	209	210	212
SYMPTOM	FAIL-SAFE SYSTEM CHECK	POWER SUPPLY AND GROUND CIRCUIT 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 ON.)		X		X★3			
ASCD cannot be set. (“SET” indicator lamp does not blink.)			X	X	X		
ASCD cannot be set. (“SET” 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	X	X
Deceleration is greatest immediately after ASCD has been set.					X	X	X

★1: It indicates that system is in fail-safe. After completing diagnostic procedures, perform “FAIL-SAFE SYSTEM CHECK” (EL-203) to verify repairs.

★2: If vehicle speed is greater than 40 km/h (25 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.

★3: Check only main switch built-in steering switch.

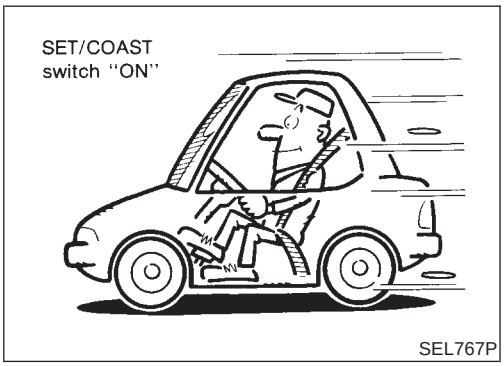


SEL417V

FAIL-SAFE SYSTEM CHECK

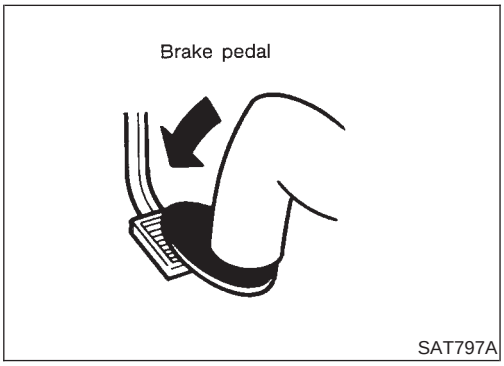
=NFEL0232S02

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the "set indicator" blinks.
   If the indicator lamp blinks, check the following.
- ASCD steering switch. Refer to EL-207.



SEL767P

3. Drive the vehicle at more than 40 km/h (25 MPH) and push SET/COAST switch.
   If the indicator lamp blinks, check the following.
- Vehicle speed sensor. Refer to EL-209.
- ASCD pump circuit. Refer to EL-210.
- 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-205.

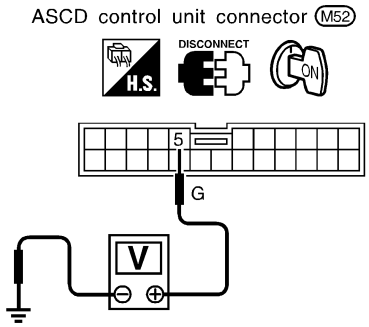
5. END. (System is OK.)

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NFEL0232S03

1	CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT

1. Disconnect ASCD control unit harness connector.
2. Turn ignition switch ON.
3. Check voltage between ASCD control unit harness connector terminal 5 and ground.



Does battery voltage exist?

SEL256W

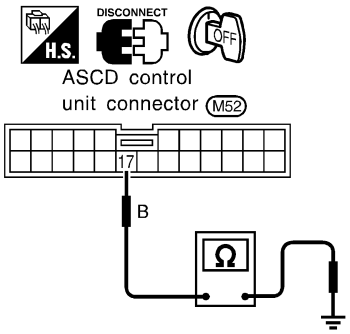
Refer to wiring diagram in EL-197.

Yes or No

Yes	▶	GO TO 2.
No	▶	**Check the following.** ● 10A fuse (No. 10 located in the fuse block) ● Harness for open or short

2	CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT

Check continuity between ASCD control unit harness connector terminal 17 and body ground.



Does continuity exist?

SEL257W

Refer to wiring diagram in EL-197.

Yes or No

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

ASCD BRAKE/STOP LAMP SWITCH CHECK

=NFEL0232S06

1 CHECK ASCD BRAKE SWITCH CIRCUIT

With CONSULT-II

See "BRAKE SW" in "DATA MONITOR" mode.

DATA MONITOR	
MONITOR	
BRAKE SW	OFF

A/T models

When brake pedal is depressed or
A/T selector lever is in "N" or "P" range:
BRAKE SW OFF
When brake pedal is released and
A/T selector lever is not in "N" or "P" range:
BRAKE SW ON

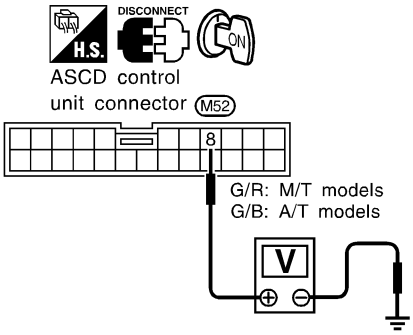
M/T models

When clutch pedal or brake pedal is depressed:
BRAKE SW OFF
When clutch pedal and brake pedal are released:
BRAKE SW ON

SEL286W

Without CONSULT-II

1. Disconnect ASCD control unit harness connector.
2. Turn ignition switch ON.
3. Check voltage between ASCD control unit harness connector terminal 8 and ground.



When brake or clutch pedal is depressed (M/T), or when brake pedal is depressed or A/T selector lever is in "N" or "P" range (A/T):
Apporox. 0V
When brake and clutch pedal are released (M/T), or when both brake pedal is released and A/T selector lever is not in "N" or "P" range (A/T):
Battery voltage should exist.

SEL258W

OK or NG

OK	▶	GO TO 2.
NG	▶	**Check the following.** ● ASCD brake switch Refer to "Electrical Component Inspection" (EL-214). ● Park/neutral position switch (A/T models) Refer to "Electrical Component Inspection" (EL-214). ● Park/neutral position relay (A/T models) ● ASCD clutch switch (M/T models) Refer to "Electrical Component Inspection" (EL-214). ● Harness for open or short

2	CHECK STOP LAMP SWITCH CIRCUIT

With CONSULT-II

See "STOP LAMP" in "DATA MONITOR" mode.

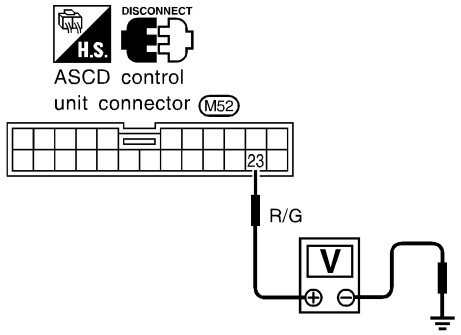
DATA MONITOR	
MONITOR	
STOP LAMP SW	OFF

When brake pedal is released:
STOP LAMP SW OFF
When brake pedal is depressed:
STOP LAMP SW ON

SEL287W

Without CONSULT-II

1. Disconnect ASCD control unit harness connector.
2. Check voltage between ASCD control unit harness connector terminal 23 and ground.



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

SEL259W

Refer to wiring diagram in EL-196.

OK or NG

OK	▶	ASCD brake/stop lamp switch is OK.
NG	▶	**Check the following.** ● 15A fuse [No. 2, located in the fuse block (J/B)] ● Harness for open or short between ASCD control unit and stop lamp switch ● Harness for open or short between fuse and stop lamp switch ● Stop lamp switch Refer to "Electrical Component Inspection" (EL-214).

ASCD STEERING SWITCH CHECK

=NFEL0232S07

1	CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT

With CONSULT-II

See "MAIN SW", "RESUME/ACC SW", "SET SW" and "CANCEL SW" in "DATA MONITOR" mode.

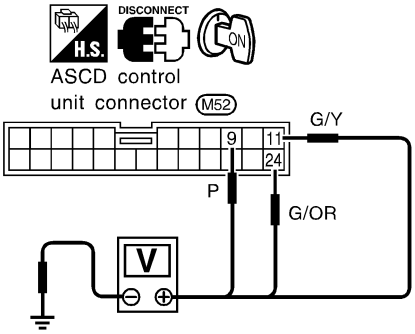
DATA MONITOR	
MONITOR	
MAIN SW	OFF
SET SW	OFF
RESUME/ACC SW	OFF
CANCEL SW	OFF

MAIN SW, RESUME/ACC SW,
SET SW and CANCEL SW
When switch is pressed:
ON
When switch is released:
OFF

SEL288W

Without CONSULT-II

Check voltage between ASCD control unit harness connector terminals and ground.



	Terminal No.		Switch condition	
	(+)	(–)	Pressed	Released
MAIN SW	9	Ground	0V	Approx. 9V
SET/COAST SW	11	Ground	12V	0V
RESUME/ACC SW	24	Ground	12V	0V
CANCEL SW	11	Ground	12V	0V
	24	Ground	12V	0V

SEL260W

Refer to wiring diagram in EL-196.

OK or NG

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

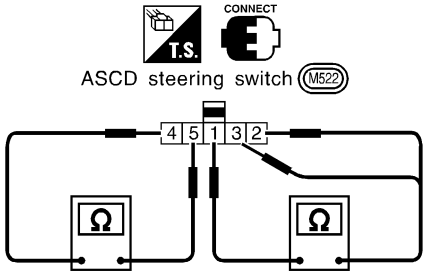
2	CHECK POWER SUPPLY FOR ASCD STEERING SWITCH

Does horn work?

Yes	▶	GO TO 3.
No	▶	**Check the following.** ● 10A fuse (No. 57, located in the relay box) ● Horn relay ● Harness for open or short

3	CHECK ASCD STEERING SWITCH

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



Switch	Terminal				
	1	2	3	4	5
MAIN				○—○	
RESUME/ACCEL	○—	—	—○		
SET/COAST	○—	—○			
CANCEL	○—	▶—○			
	○—	▶	—○		

SEL261W

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 SIGNAL CHECK

=NFEL0232S08

1	CHECK SPEEDOMETER OPERATION	
Does speedometer operate normally?		
Yes	▶	GO TO 2.
No	▶	Check speedometer and vehicle speed sensor circuit. Refer to EL-114.

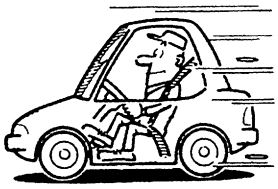
2	CHECK VEHICLE SPEED INPUT	

With CONSULT-II

See "VHCL SPEED SE" in "DATA MONITOR" mode while driving.

NOTE:

- This test may be conducted with the drive wheels lifted in the shop or by driving the vehicle. If a road test is excepted to be easier, it is unnecessary to lift the vehicle.
- Always drive vehicle in safe speed and manner according to traffic conditions and obey all traffic laws.



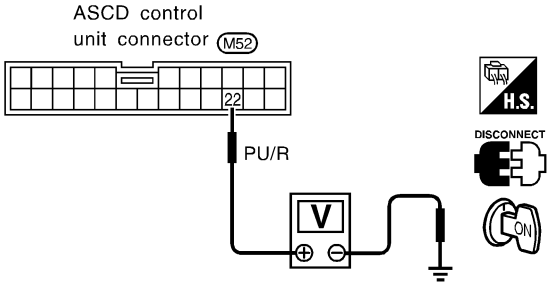
DATA MONITOR	
MONITOR	
VHCL SPEED SE	0 km/h

Is actual vehicle speed indicated?

SEL289W

Without CONSULT-II

1. Apply wheel chocks and jack up drive wheel.
2. Disconnect ASCD control unit harness connector.
3. Check voltage between control unit terminal 22 and ground with turning drive wheel slowly by hand.



Does voltage pointer deflect?

SEL263W

Refer to wiring diagram in EL-195.

Yes or No

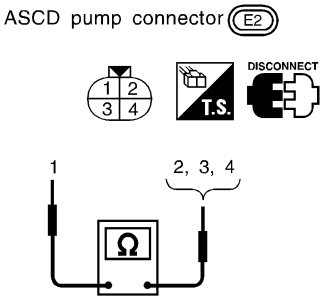
Yes	▶	Vehicle speed sensor is OK.
No	▶	Check harness for open or short between ASCD control unit terminal 22 and combination meter terminal 13.

ASCD PUMP CIRCUIT CHECK

NFEL0232S09

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. 65
	3	Approx. 65
	4	Approx. 3

SEL262W

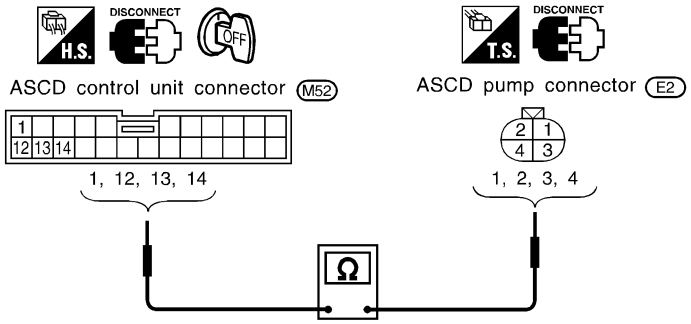
Refer to wiring diagram in EL-197.

OK or NG

OK	▶	GO TO 2.
NG	▶	Replace ASCD pump.

2 CHECK ASCD PUMP CIRCUIT

1. Disconnect ASCD control unit harness connector.
2. Check harness for open or short between ASCD control unit and ASCD pump.



Circuit	Terminal	
	ASCD control unit	ASCD pump
ASCD pump power suply	12	1
Air valve	13	2
Release valve	1	3
Vacuum motor	14	4

Continuity should exist.

SEL269W

OK or NG

OK	▶	GO TO 3.
NG	▶	Repair harness.

3	CHECK ASCD PUMP POWER SUPPLY

With CONSULT-II

1. Jack up the drive wheels.
2. See "PW SUP-VALVE" in "DATA MONITOR" mode.
3. Maintain the conditions below.

- Vehicle speed is more than 40 km/h (25 MPH).
- Main switch (CRUISE lamp) is ON.
- Set/coast switch (SET lamp) is ON.

DATA MONITOR	
MONITOR	
PW SUP-VALVE	OFF

"PW SUP-VALVE" should be ON.

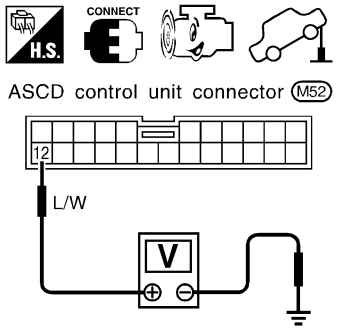
SEL290W

Without CONSULT-II

1. Jack-up the drive wheels.
2. Maintain the conditions below.

- Vehicle speed is more than 40 km/h (25 MPH).
- Main switch (CRUISE lamp) is ON.
- Set/coast switch (SET lamp) is ON.

Check voltage between ASCD control unit harness connector terminal 12 and ground.



Battery voltage should exist.

SEL381W

OK or NG

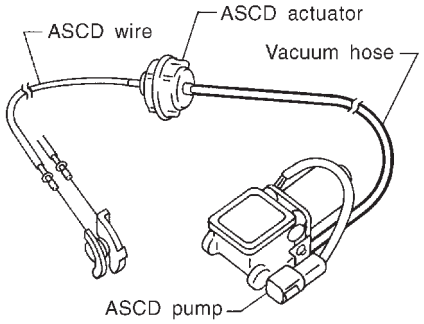
OK	▶	ASCD pump power supply is OK.
NG	▶	Replace ASCD control unit.

ASCD ACTUATOR/PUMP CHECK

=NFEL0232S10

1	CHECK VACUUM HOSE

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



MEL402G

OK or NG

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

2	CHECK ASCD WIRE

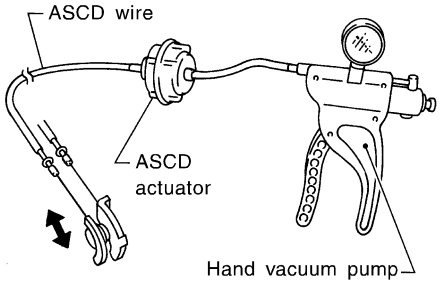
Check wire for improper installation, rust formation or breaks.

OK or NG

OK	▶	GO TO 3.
NG	▶	Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-215).

3	CHECK ASCD ACTUATOR

1. Disconnect vacuum hose from ASCD actuator.
2. Connect the hose of hand vacuum pump to ASCD actuator.



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.
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)

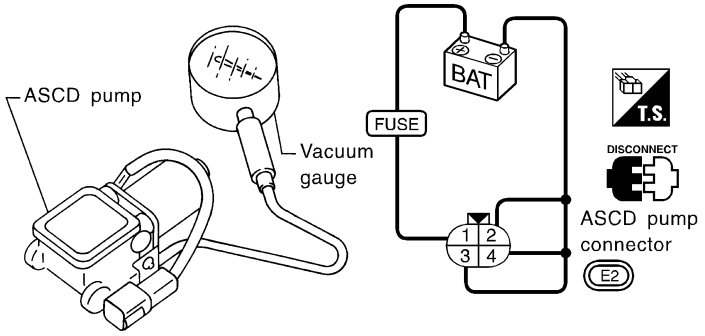
SEL264W

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 supply terminals		Operation
	(+)	(−)	
Air valve	1	2	Close
Release valve		3	Close
Vacuum motor		4	Operate

A vacuum pressure of at least −40 kPa (−0.41 kg/cm², −5.8 psi) should be generated.

SEL265W

OK or NG

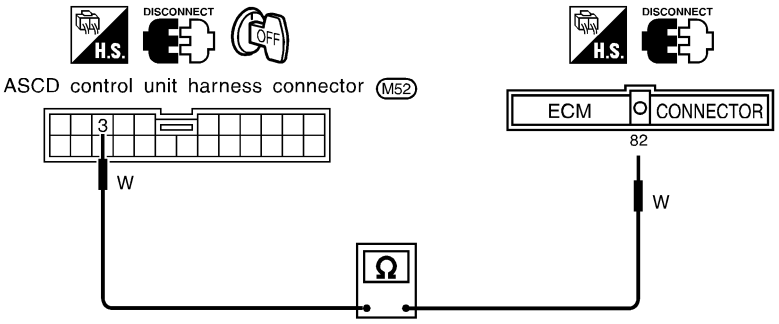
OK	▶	INSPECTION END
NG	▶	Replace ASCD pump.

THROTTLE POSITION SENSOR SIGNAL CHECK

NFEL0232S11

1	CHECK THROTTLE POSITION SENSOR SIGNAL CIRCUIT

1. Disconnect ECM harness connector and ASCD control unit harness connector.
2. Check continuity between ECM terminal 82 and ASCD control unit terminal 3.

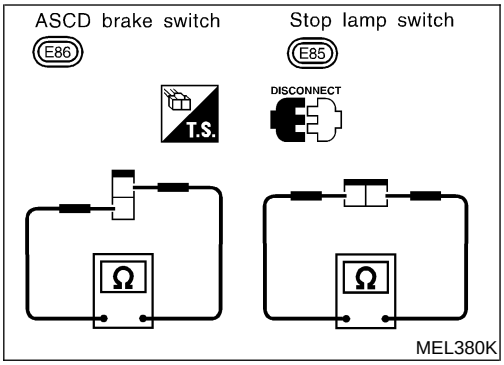


Continuity should exist.

SEL268W

OK or NG

OK	▶	Refer to "TROUBLE DIAGNOSIS FOR INTERMITTENT INCIDENT" in EC section. (EC-161)
NG	▶	Repair harness.



Electrical Component Inspection

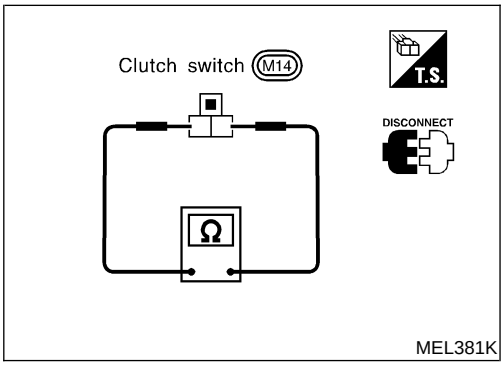
ASCD BRAKE SWITCH AND STOP LAMP SWITCH

=NFEL0100

NFEL0100S02

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

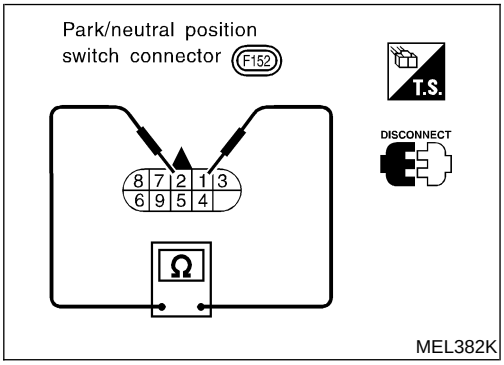
Check each switch after adjusting brake pedal — refer to BR section.



ASCD CLUTCH SWITCH (FOR M/T MODELS)

NFEL0100S04

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



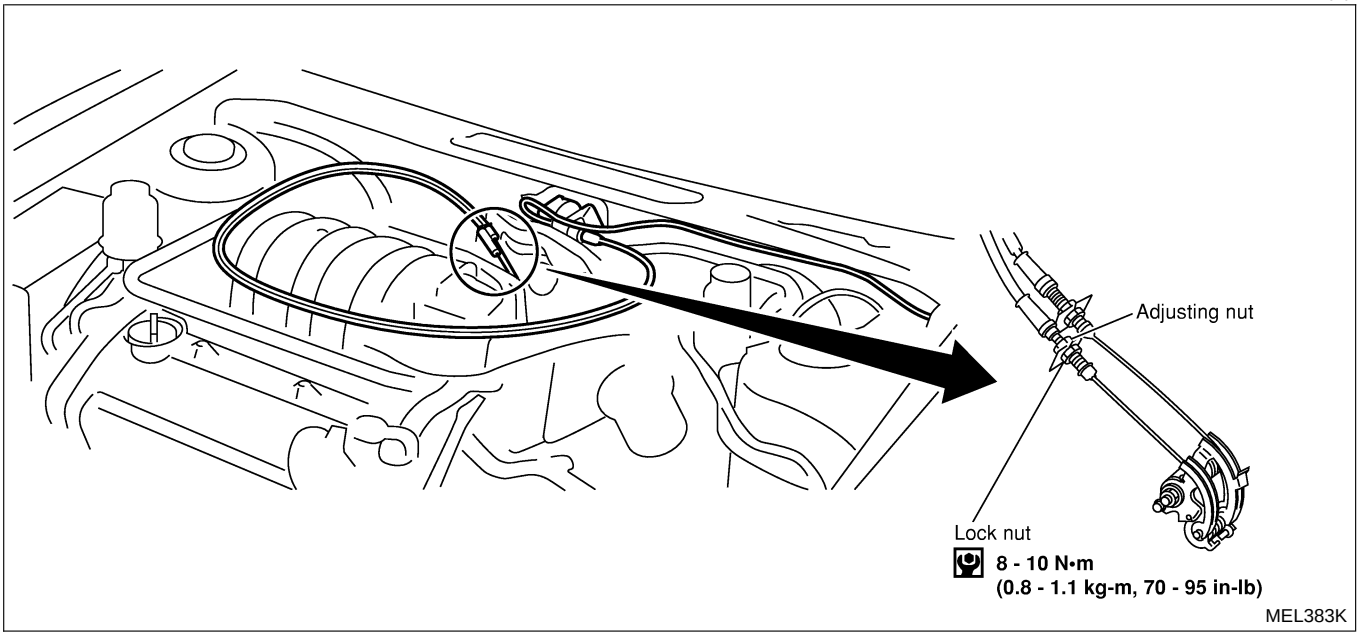
PARK/NEUTRAL POSITION SWITCH (FOR A/T MODELS)

NFEL0100S03

A/T selector lever position	Continuity
	Between terminals 1 and 2
“P”	Yes
“N”	Yes
Except “P” and “N”	No

ASCD Wire Adjustment

NFEL0101



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-3, “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

NFEL0191

Power is supplied at all times
- from 40A fusible link (letter **i**, 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 10A fuse [No. 10, located in the fuse block (J/B)]
- to power window relay terminal 2, and

Ground is supplied to power window relay terminal 1
- through body grounds M9, M25 and M87.

The power window relay is energized and power is supplied
- through power window relay terminal 5
- to power window main switch terminal 12,
- to front power window switch terminal 5,
- to rear power window switch LH and RH terminals 5.

MANUAL OPERATION

NFEL0191S01

Front Door LH

NFEL0191S0101

Ground is supplied
- to power window main switch terminal 19
- through body grounds M9, M25 and M87.

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 1
- through power window main switch terminal 2.

Ground is supplied
- to front power window regulator LH terminal 3
- through power window main switch terminal 1.

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 3
- through power window main switch terminal 1.

Ground is supplied
- to front power window regulator LH terminal 1
- through power window main switch terminal 2.

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

Front Door RH

NFEL0191S0102

Ground is supplied
- to power window main switch terminal 19
- through body grounds M9, M25 and M87.

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 (4, 3)
- to front power window switch RH (3, 4).

The subsequent operation is the same as the front power window switch RH operation.
FRONT POWER WINDOW SWITCH RH OPERATION
Power is supplied

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

Ground is supplied

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

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

Rear Door

NFEL0191S0103

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

AUTO OPERATION

NFEL0191S02

The power window AUTO feature enables the driver to open or close the driver's window without holding the window switch in the down or up position.
The AUTO feature only operates on the driver's window.

POWER WINDOW LOCK

NFEL0191S03

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 front and rear power window switches in the power window main switch is disconnected. This prevents the power window motors from operating.

RETAINED POWER OPERATION

NFEL0191S04

When the ignition switch is turned to OFF position from ON or START position, power is supplied for 45 seconds

- to power window relay terminal 2
- from smart entrance control unit terminal 5.

Ground is always supplied

- to power window relay terminal 1
- through body grounds M9, M25 and M87.

When power and ground are supplied, the power window relay continues to be energized, and the power window can be operated.
The retained power operation is canceled when the driver or passenger side door is opened.

INTERRUPTION DETECTION FUNCTION

NFEL0191S05

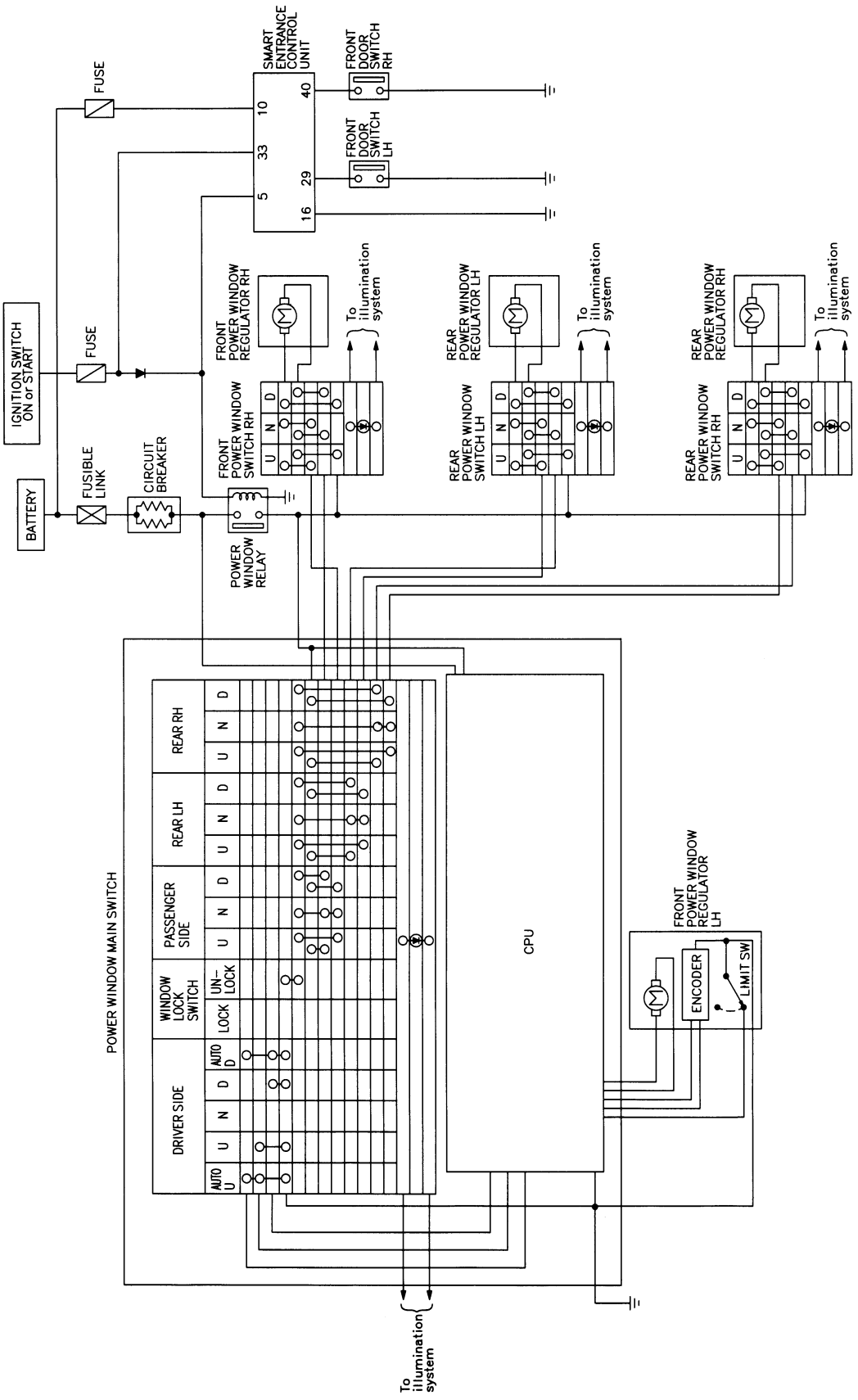
Power window main switch monitors the power window regulator motor operation and the power window position (full closed or other) for driver's power window by the signals from encoder and limit switch in front power window regulator (driver's side).
When power window main switch detects interruption during the following close operation in the driver's side door,

- automatic close operation when ignition switch is in the "ON" position
- automatic close operation during retained power operation
- manual close operation during retained power operation

power window main switch controls driver's power window regulator motor for open and the power window will be lowered about 150 mm (5.91 in).

Schematic

NFEL0103

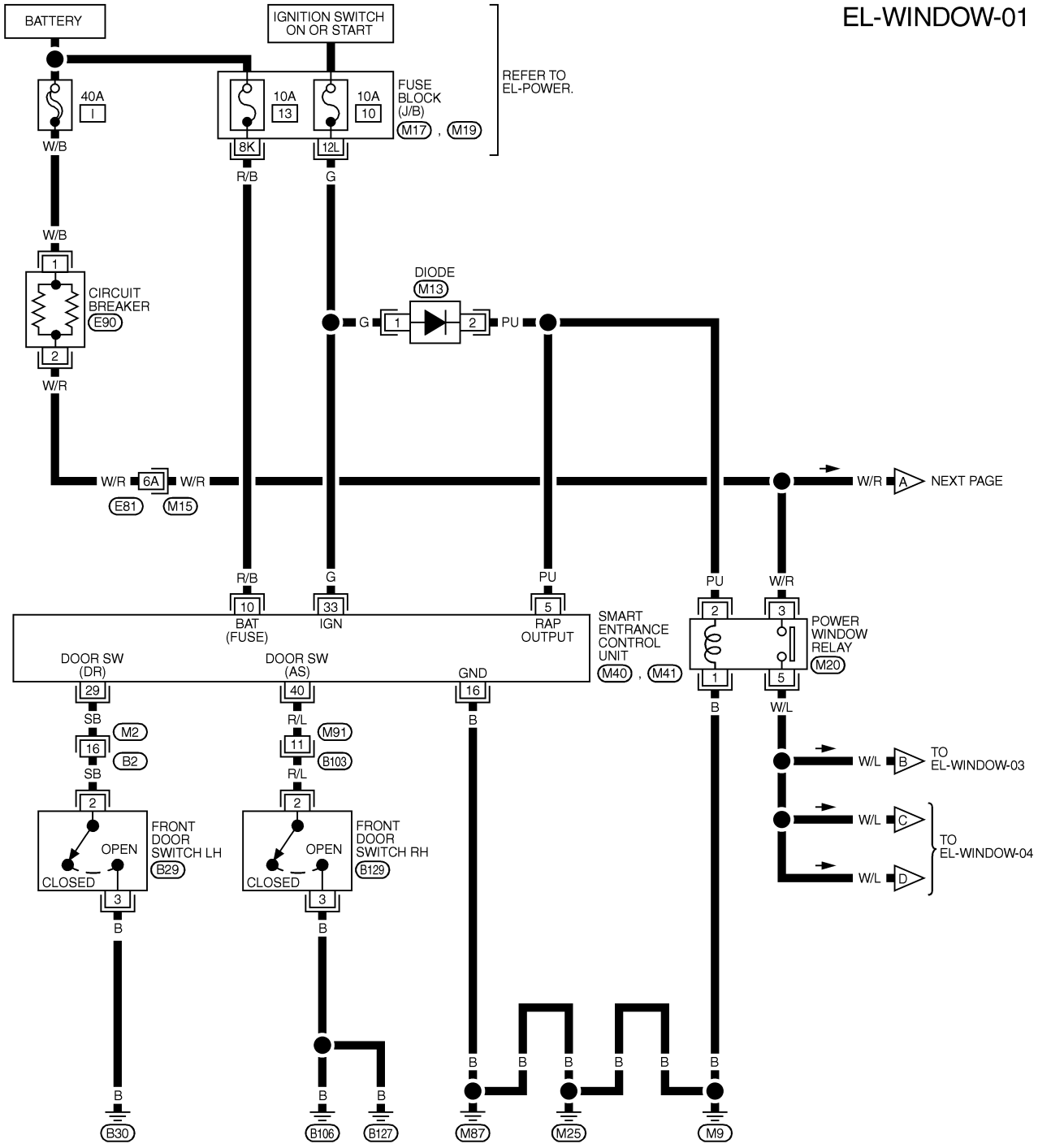


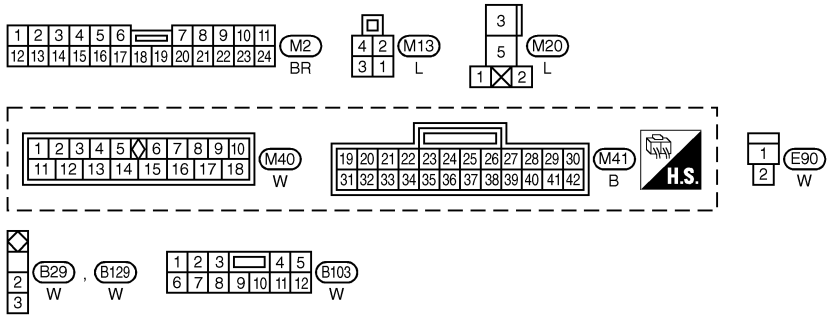
MEL330L

Wiring Diagram — WINDOW —

NFEL0104

EL-WINDOW-01

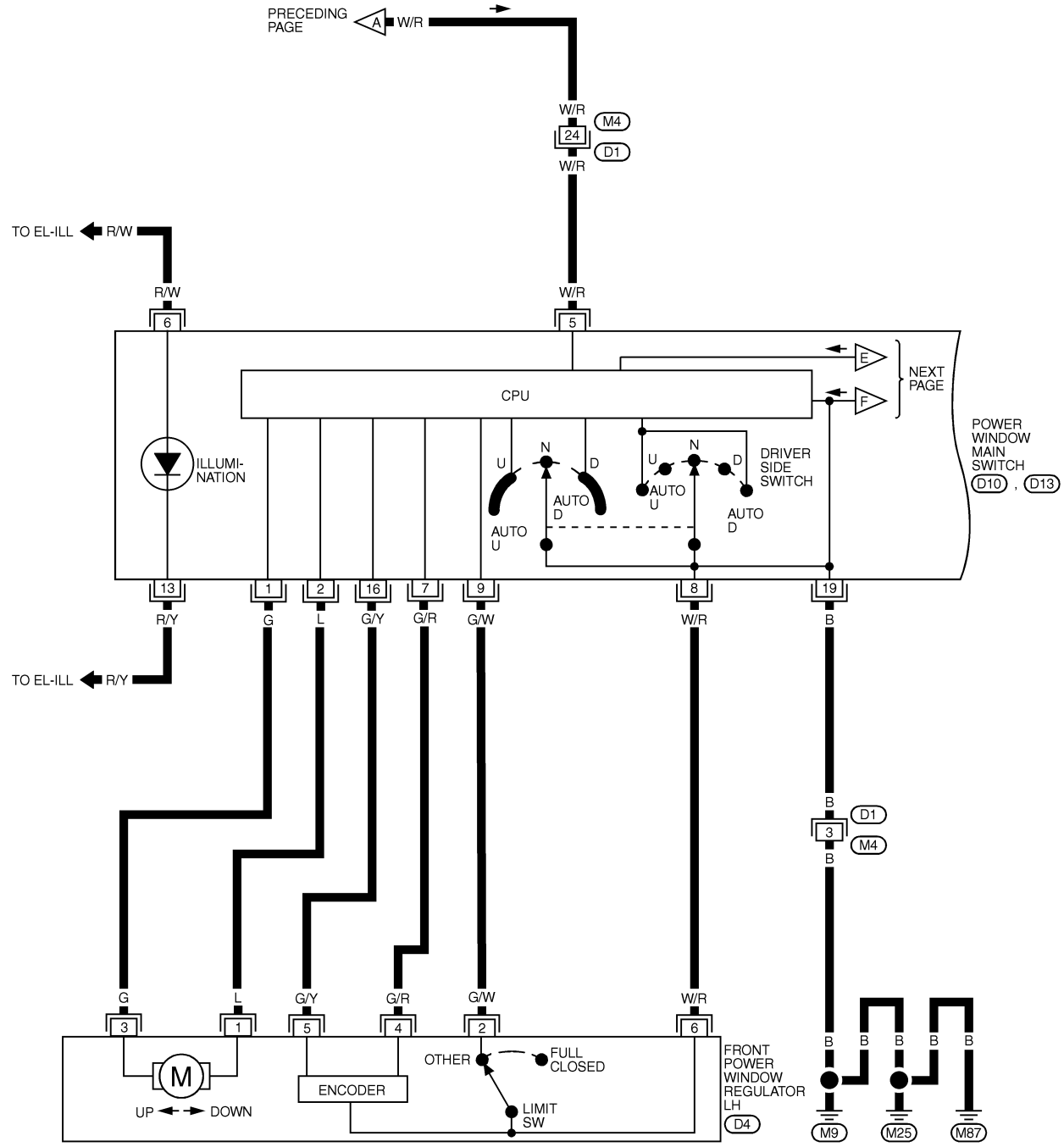


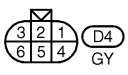


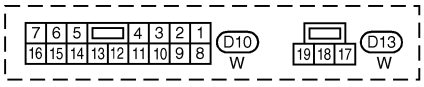
REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 , M19 -FUSE BLOCK-JUNCTION BOX (J/B)

MEL331L

EL-WINDOW-02



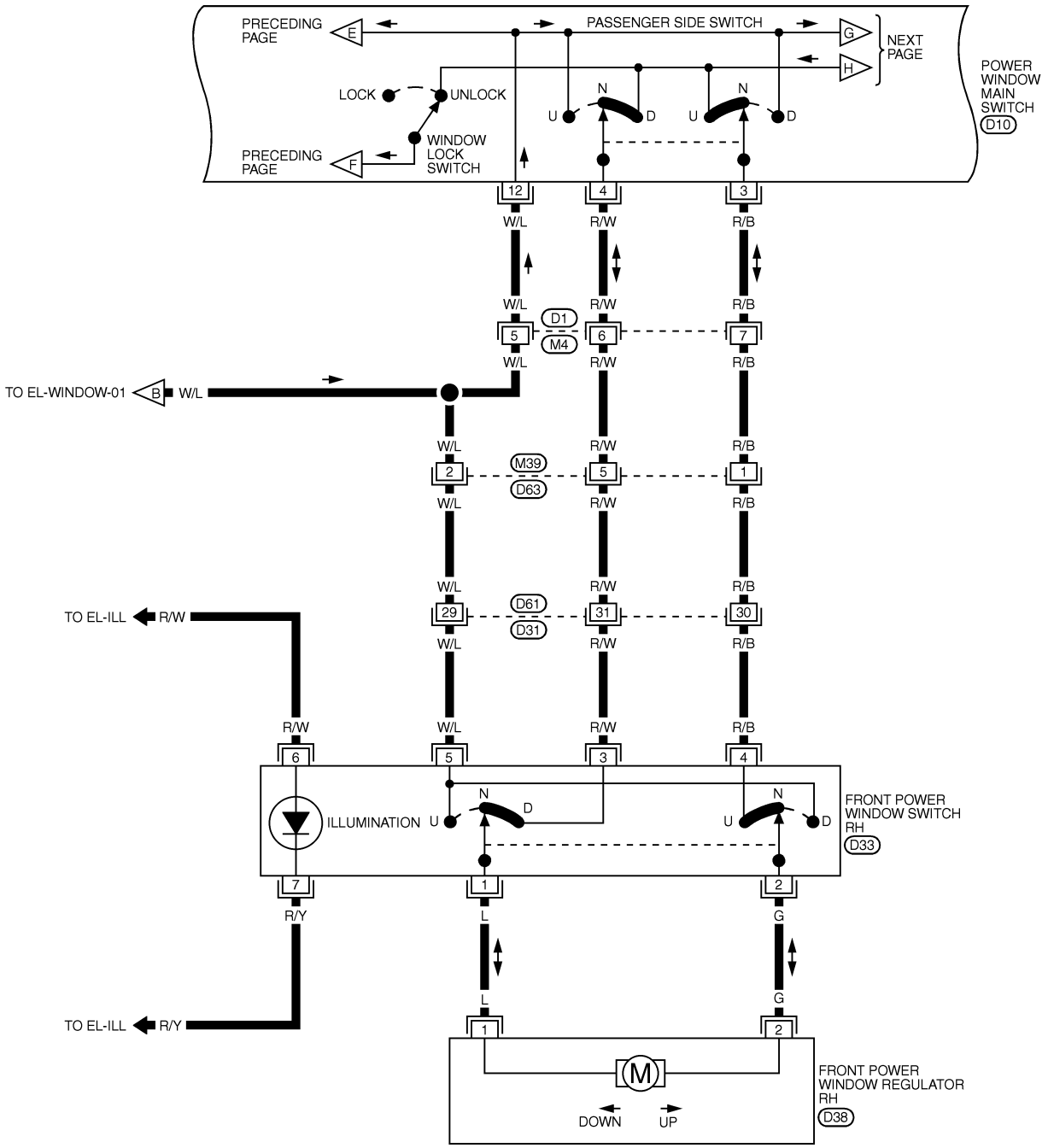




REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)

MEL306K

EL-WINDOW-03



D10 W

D33 W

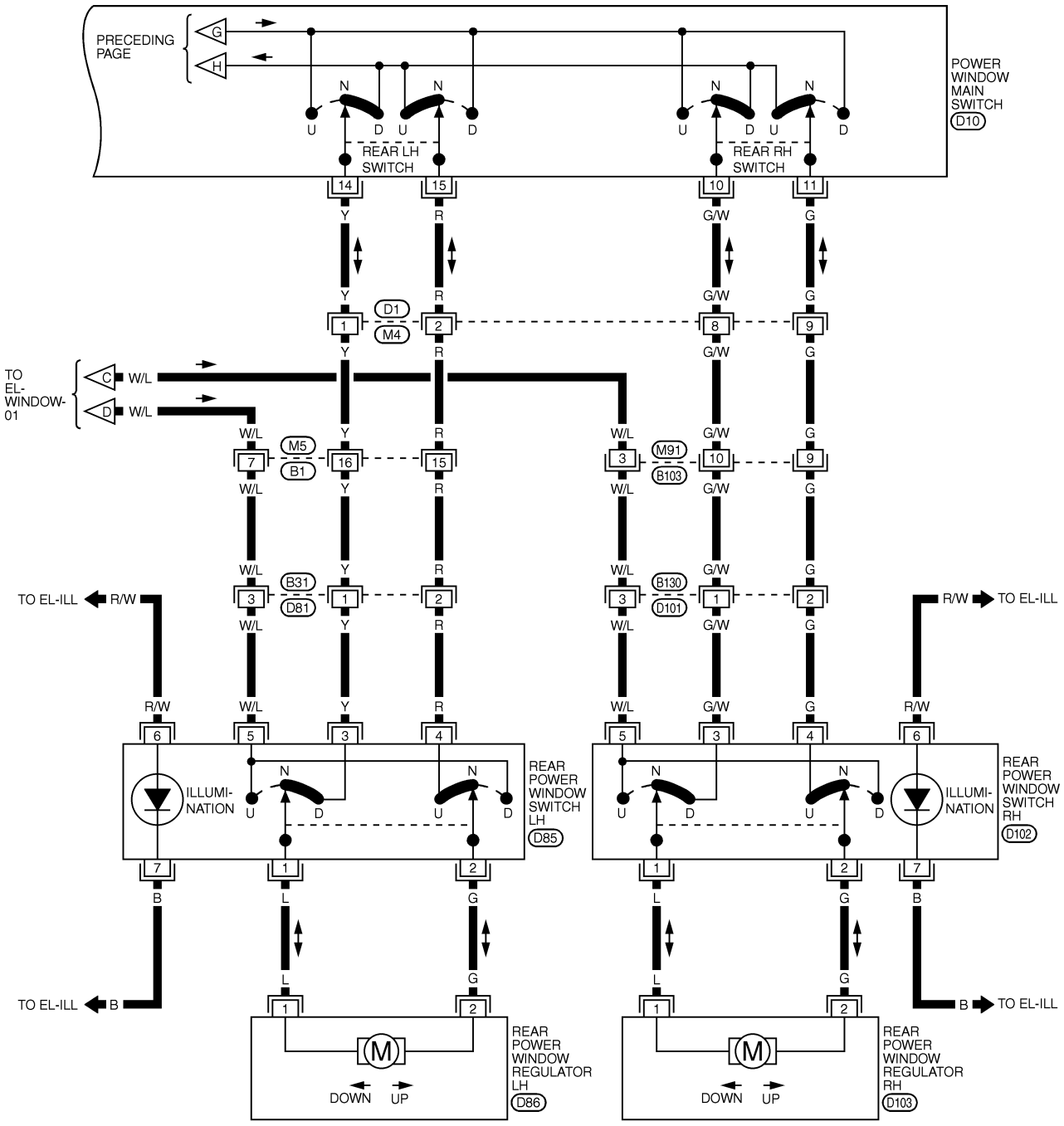
D38 BR

D63 W

REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)
D31 , D61 -SUPER MULTIPLE JUNCTION (SMJ)

MEL307K

EL-WINDOW-04



M5 W

B31 , B130 W W

B103 W

D10 W

D85 , D102 W W

D86 , D103 BR BR

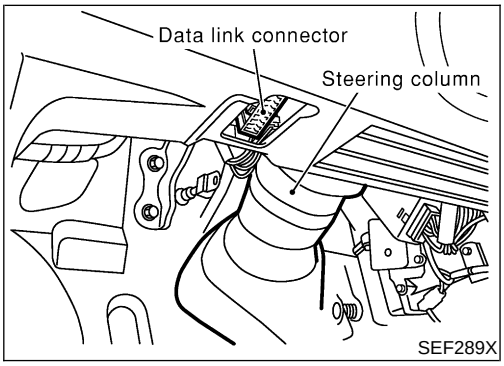
REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)

MEL308K

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
5	PU	HEADLAMP BATTERY SAVER CONTROL UNIT	WHEN HEADLAMP BATTERY SAVER TIMER IS OPERATED	12V
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→► ON (OPEN)	5V→►0V
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION	12V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→► ON (OPEN)	5V→►0V

SEL035X



SEF289X

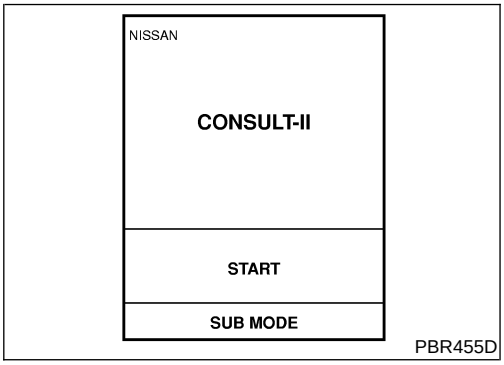
CONSULT-II Inspection Procedure

NFEL0235

"RETAINED PWR"

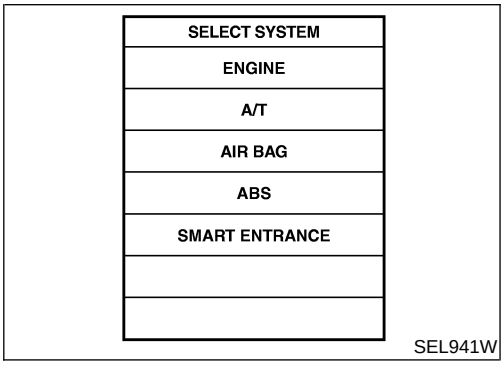
NFEL0235S01

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



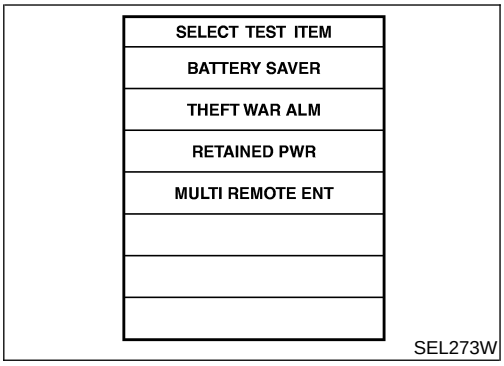
PBR455D

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

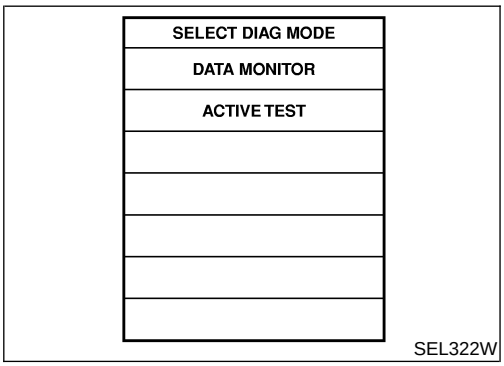


SEL941W

5. Touch "SMART ENTRANCE".



6. Touch "RETAINED PWR".



7. Select diagnosis mode.
"DATA MONITOR" and "ACTIVE TEST" are available.

CONSULT-II Application Items

NFEL0236

NFEL0236S01

NFEL0236S0101

"RETAINED PWR"
Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NFEL0236S0102

Test Item	Description
RETAINED PWR	This test is able to supply RAP signal (power) from smart entrance control unit to power window system, power sunroof system and headlamp battery saver control unit. Those systems can be operated when turning on "RETAINED PWR" on CONSULT-II screen even if the ignition switch is tuned OFF. **NOTE:** **During this test, CONSULT-II can be operated with ignition switch in "OFF" position. "RETAINED PWR" should be turned "ON" or "OFF" on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF to check retained power operation. CONSULT-II might be stuck if "RETAINED PWR" is turned "ON" or "OFF" on CONSULT-II screen when ignition switch is OFF.**

Trouble Diagnoses

NFEL0105

Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	1. 10A fuse, 40A fusible link 2. E90 circuit breaker 3. Power window relay 4. E90 circuit breaker circuit 5. Power window relay circuit 6. Ground circuit 7. Power window main switch	1. Check 10A fuse [No. 10, located in fuse block (J/B)], 40A fusible link (letter **I**, located in fuse and fusible link box). 2. Check E90 circuit breaker. 3. Check power window relay. 4. Check the following. a. Check harness between E90 circuit breaker and 40A fusible link (letter **I**, located in fuse and fusible link box). b. Check harness between E90 circuit breaker and power window main switch. 5. Check the following. a. Check harness between E90 circuit breaker and power window relay. b. Check harness between fuse and power window relay. 6. Check the following. a. Check ground circuit of power window main switch terminal 19. b. Check power window relay ground cirucit. 7. Check power window main switch.
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 3. Power window main switch	1. Check harness between power window main switch and driver side power window regulator for open or short circuit. 2. Check driver side power window regulator. 3. Check power window main switch.
One or more power windows except driver's side window cannot be operated.	1. Power window switches 2. Power window regulators 3. Power window main switch 4. Power window circuit	1. Check power window switch. 2. Check power window regulator. 3. Check power window main switch. 4. Check the following. a. Check harness between the power window switch terminal 5 and power window relay. b. Check harnesses between power window main switch and power window switch for open/short circuit. c. Check harnesses between power window switch and power window regulator for open/short circuit.
Power windows except driver's side window cannot be operated using power window main switch but can be operated by power window switch.	1. Power window main switch	1. Check power window main switch.
Driver side power window automatic operation does not function properly.	1. Power window main switch 2. Encoder and limit switch	1. Check power window main switch. 2. Check encoder and limit switch. (EL-227)

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order
Retained power operation does not operate properly.	1. RAP signal circuit 2. Driver or passenger side door switch circuit 3. Smart entrance control unit	1. Check RAP signal. a. (With CONSULT-II) Check RAP signal with CONSULT-II. Use "ACTIVE TEST" mode, "RETAINED PWR" in "SMART ENTRANCE". (Refer to EL-223.) If NG, go to the step b. below. b. Verify 12 positive voltage from smart entrance control unit is present at terminal 10 of power window relay: ● Within 45 seconds after ignition switch turns off. ● When front door LH and RH is closed. 2. Check harness between smart entrance control unit and driver or passenger side door switch for short circuit. Check driver or passenger side door switch ground circuit. Check driver or passenger side door switch. 3. Check smart entrance control unit. (EL-316)

ENCODER AND LIMIT SWITCH CHECK

=NFEL0105S01

1	CHECK DOOR WINDOW SLIDE MECHANISM

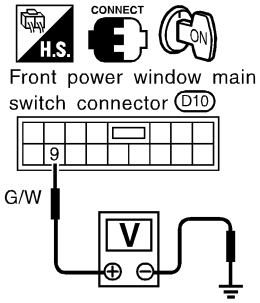
Check the following.
- Obstacles in window, glass molding, etc.
- Worn or deformed glass molding
- Door sash tilted too far inward or outward
- Door window regulator

OK or NG

OK	▶	GO TO 2.
NG	▶	Remove obstacles or repair door window slide mechanism.

2	CHECK POWER SUPPLY TO LIMIT SWITCH

Check voltage between power window main switch terminal 9 and ground.



Voltage: 5V

NOTE: Check voltage when front power window regulator LH harness connector is disconnected.

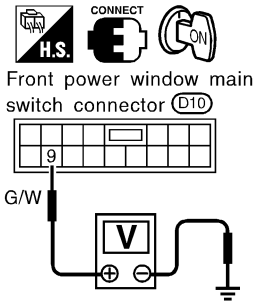
SEL378WA

OK or NG

OK	▶	GO TO 3.
NG	▶	Replace power window main switch.

3	CHECK LIMIT SWITCH OPERATION

Check voltage between power window main switch terminal 9 and ground during power window closing operation.



Terminal No.	Condition	Voltage (DCV)
9	Approx.15 mm (0.59 in) below the full closed position to full closed position	Approx. 5
	Other positions	Approx. 0

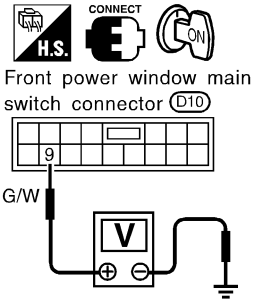
SEL379WA

OK or NG

OK	▶	GO TO 5.
NG	▶	GO TO 4.

4	RESET LIMIT SWITCH

Reset limit switch. Refer to BT-21, "Front Door Glass Limit Switch Reset". Then check voltage between power window main switch terminal 9 and ground during power window closing operation at least ten times.



Terminal No.	Condition	Voltage (DCV)
9	Approx.15 mm (0.59 in) below the full closed position to full closed position	Approx. 5
	Other positions	Approx. 0

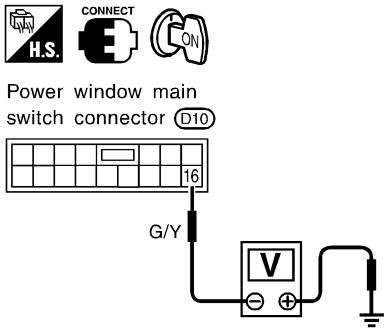
SEL379WA

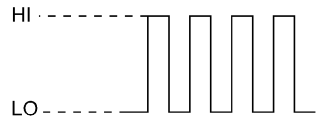
OK or NG

OK	▶	GO TO 5.
NG	▶	Replace power window regulator motor (front driver side).

5	CHECK ENCODER

Measure voltage between power window main switch terminal 16 and ground with oscilloscope when power window is in automatic closing operation.





HI: Approx. 5V
LO: Approx. 0V

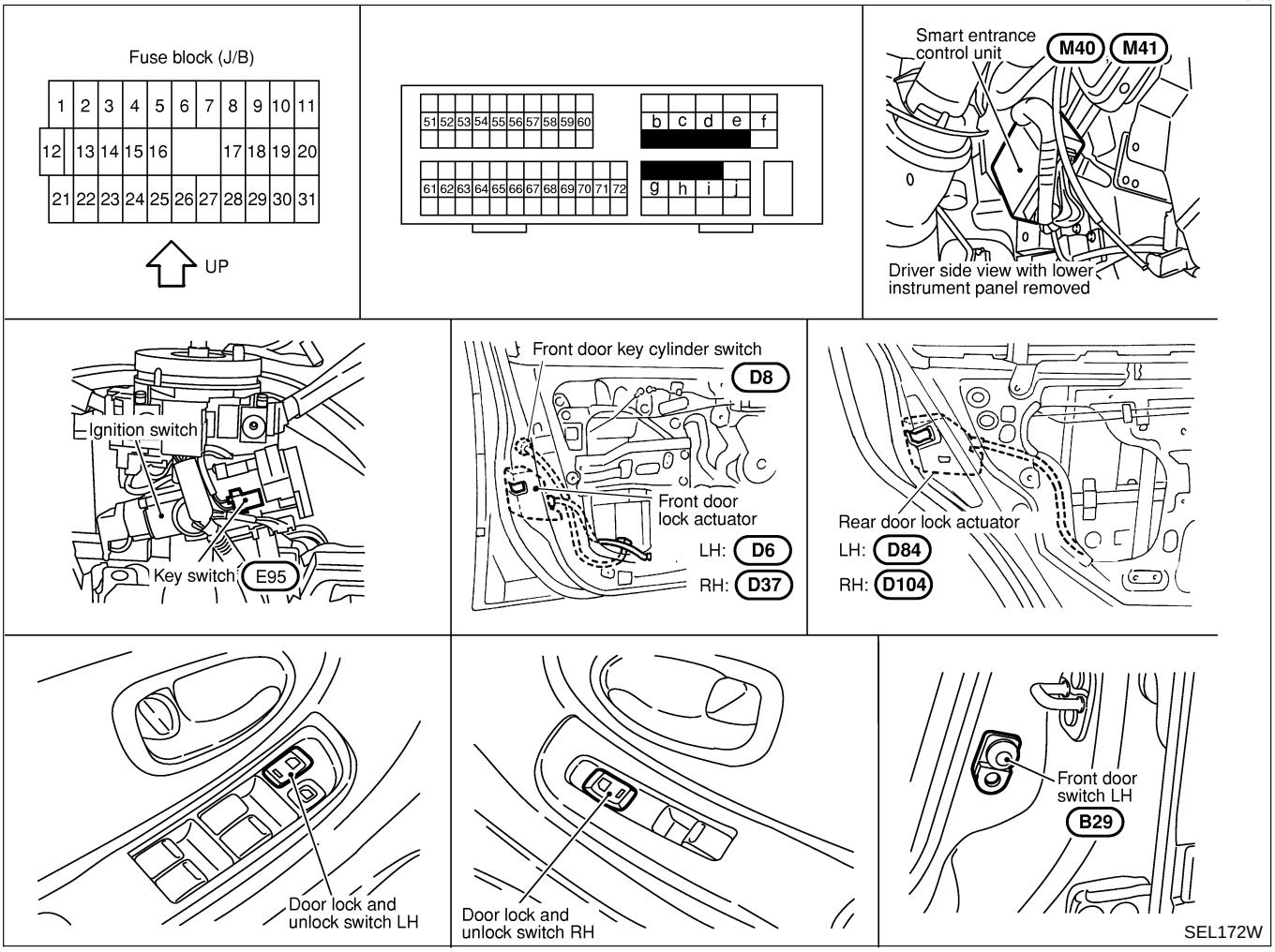
SEL252W

OK or NG

OK	▶	Replace power window main switch.
NG	▶	Replace power window regulator motor (front driver side).

Component Parts and Harness Connector Location

NFEL0106



System Description

NFEL0107

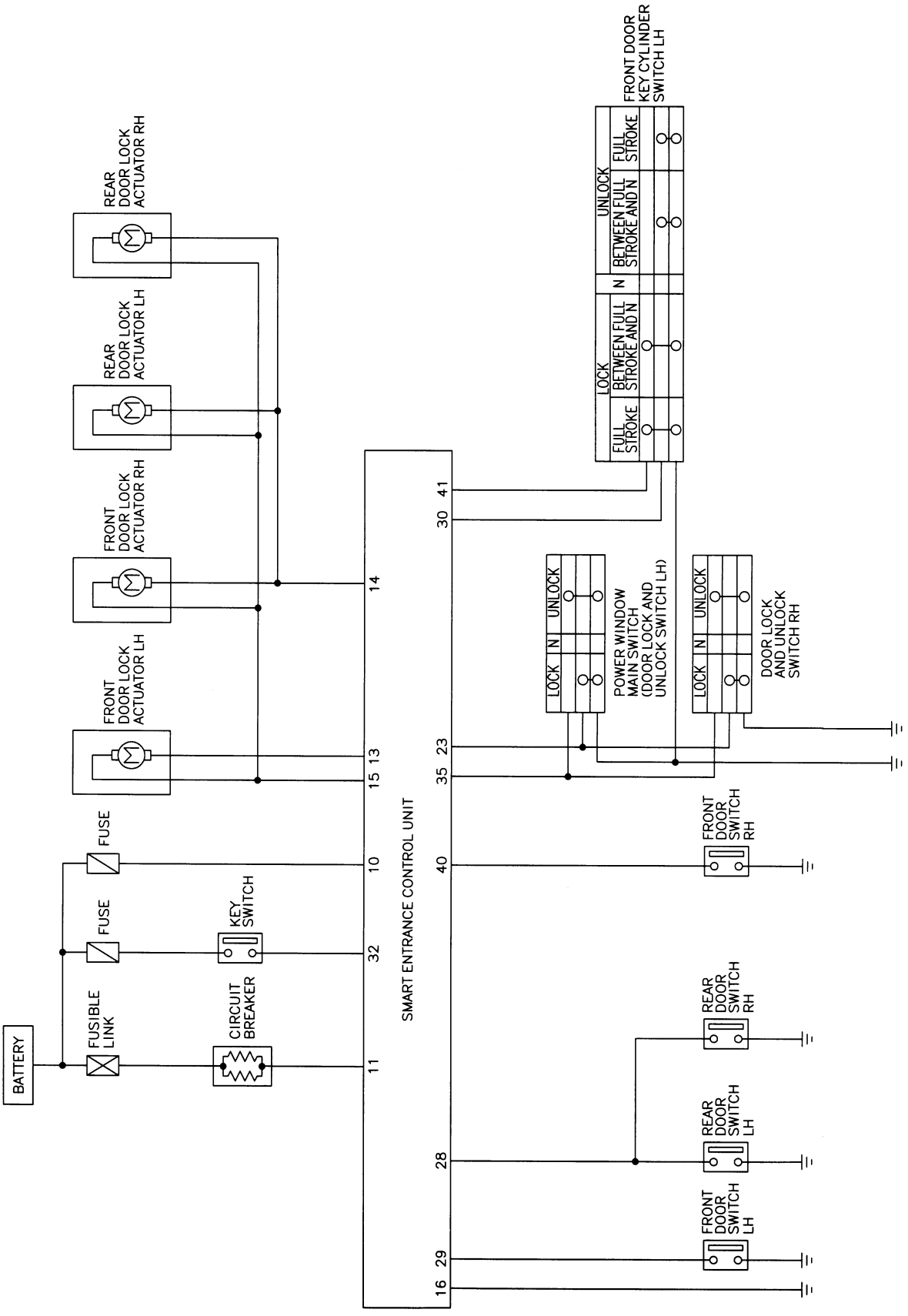
OPERATION

NFEL0107S04

- The lock/unlock switches (LH and RH) on door trim can lock and unlock all doors.
- With the door key inserted in the key cylinder on front LH, turning it to “LOCK”, will lock all doors; turning it to “UNLOCK” once unlocks the corresponding door; turning it to “UNLOCK” again within 5 seconds after the first unlock operation unlocks all of the other doors. (Signals from door key cylinder switch)
- If the ignition key is in the ignition key cylinder and one or more of the doors are open, setting the lock/unlock switch to “LOCK” locks the doors once but then immediately unlocks them. (KEY REMINDER DOOR SYSTEM)

Schematic

NFEL0108



MEL332L

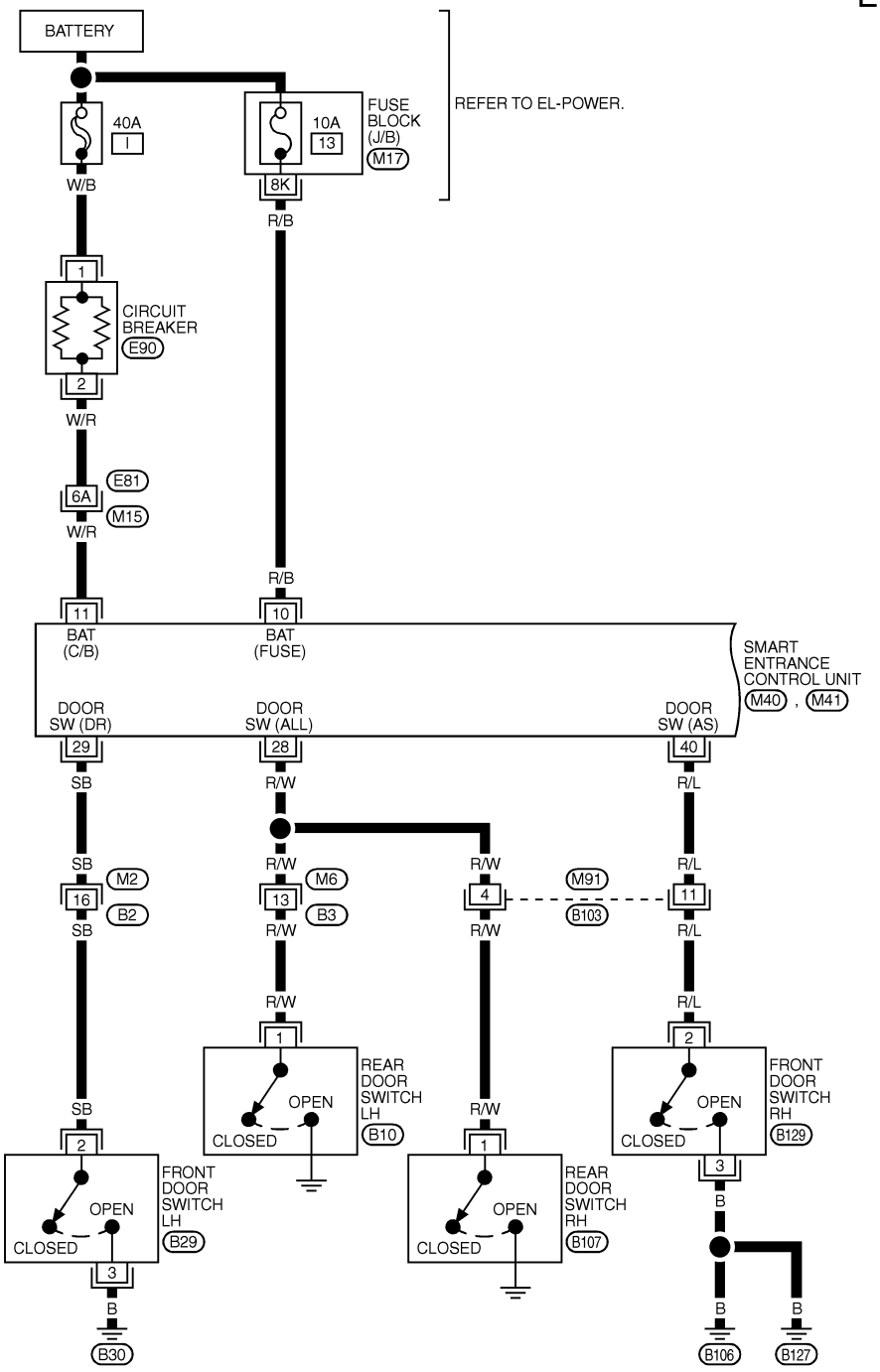
Wiring Diagram — D/LOCK —

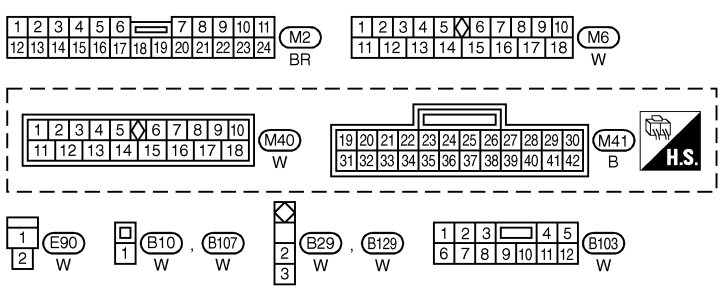
NFEL0109

NFEL0109S01

FIG. 1

EL-D/LOCK-01





REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17 -FUSE BLOCK-JUNCTION BOX (J/B)

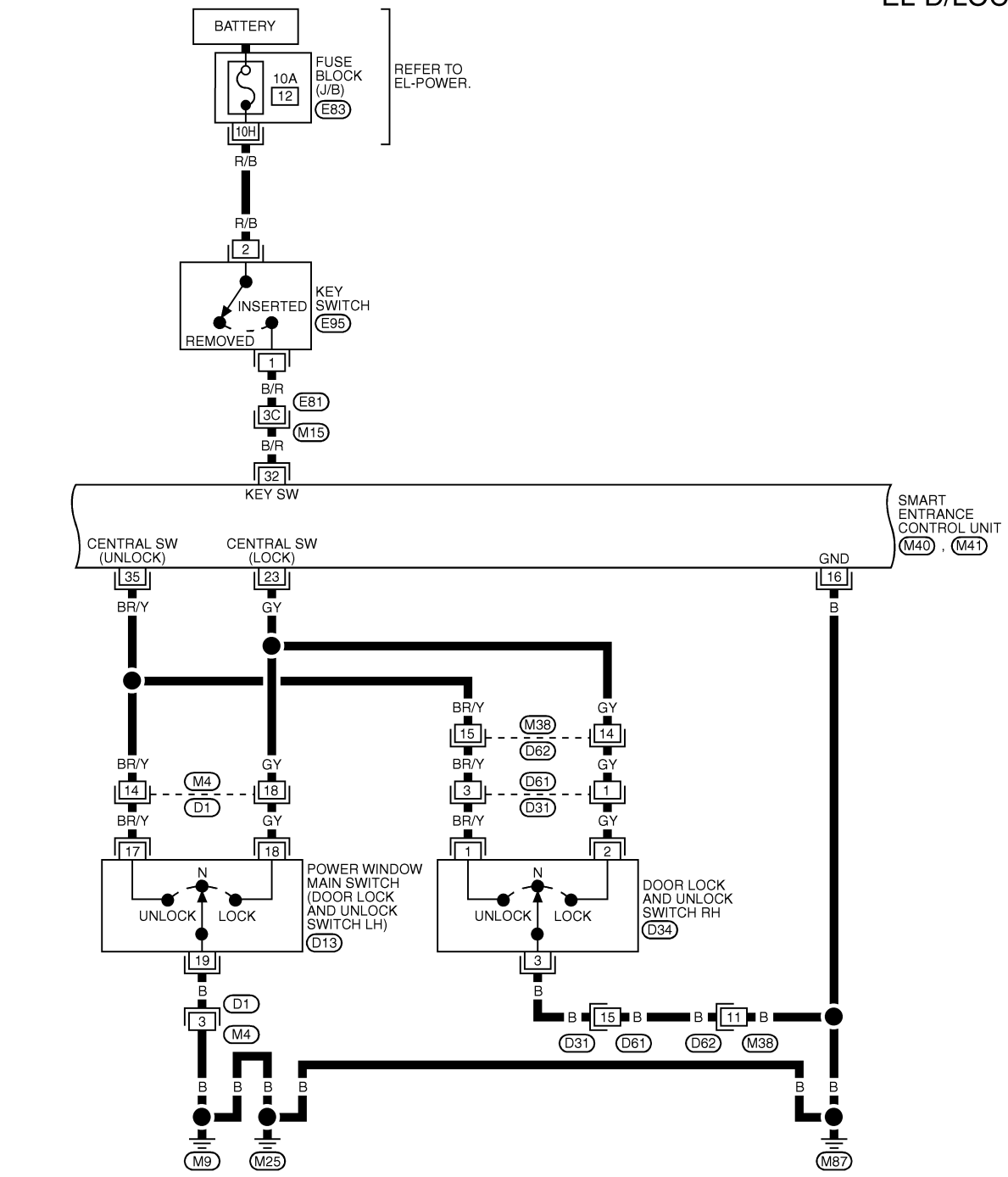
MEL333L

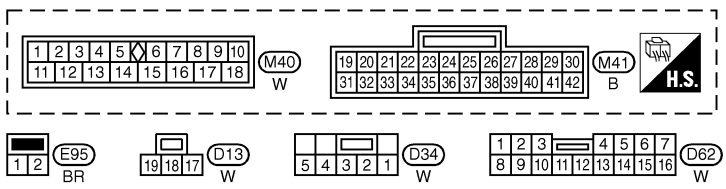
Wiring Diagram — D/LOCK — (Cont'd)

FIG. 2

NFEL0109S02

EL-D/LOCK-02





REFER TO THE FOLLOWING.

M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)

M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)

D31 , D61 -SUPER MULTIPLE JUNCTION (SMJ)

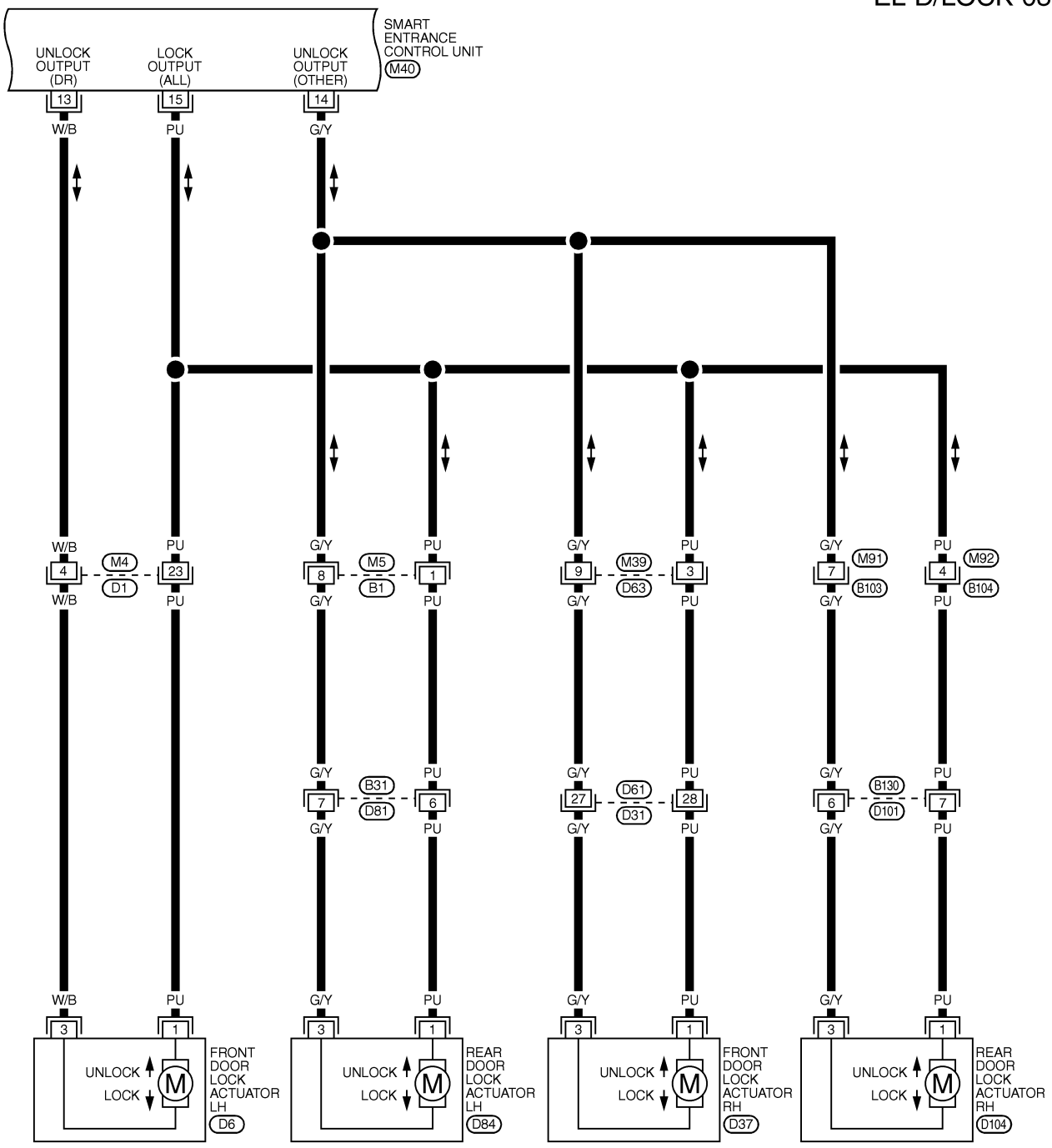
E83 -FUSE BLOCK-JUNCTION BOX (J/B)

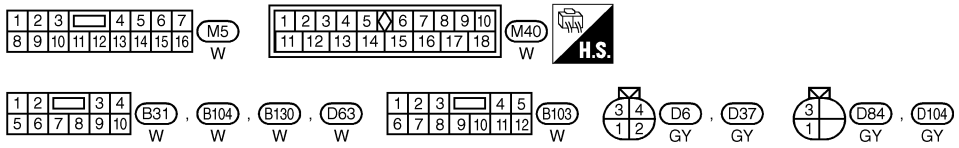
MEL311K

FIG. 3

NFEL0109S03

EL-D/LOCK-03





REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)
D31 , D61 -SUPER MULTIPLE JUNCTION (SMJ)

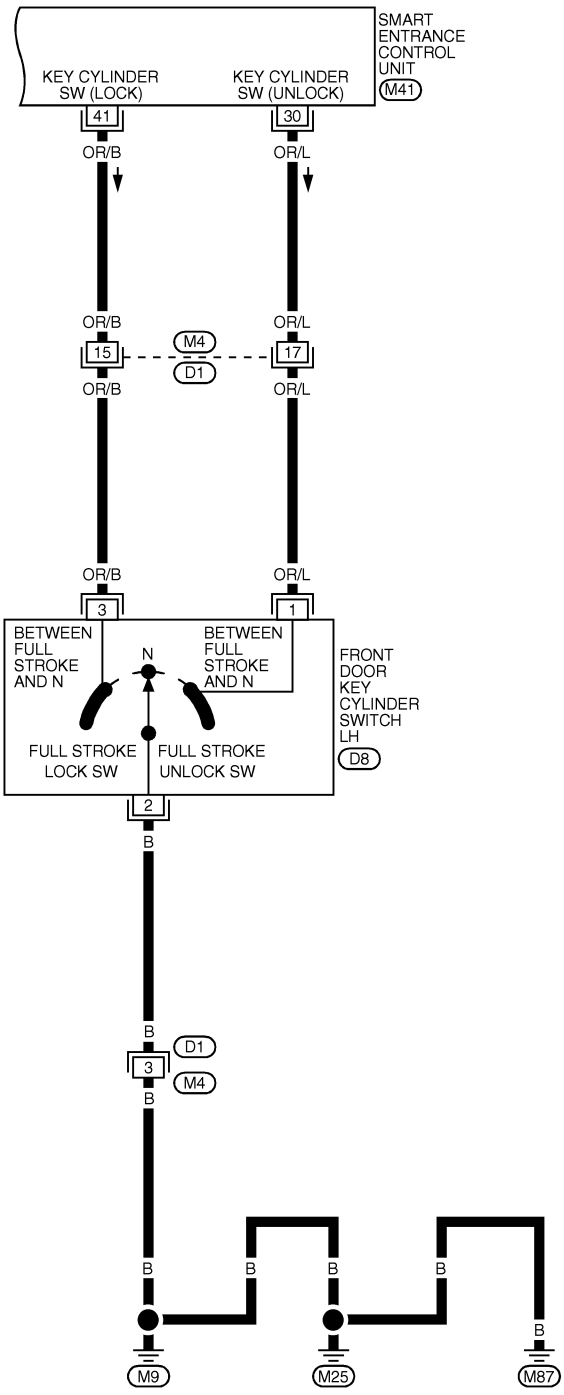
MEL312K

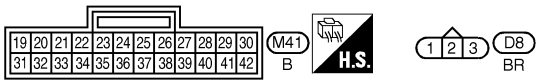
Wiring Diagram — D/LOCK — (Cont'd)

FIG. 4

NFEL0109S05

EL-D/LOCK-04





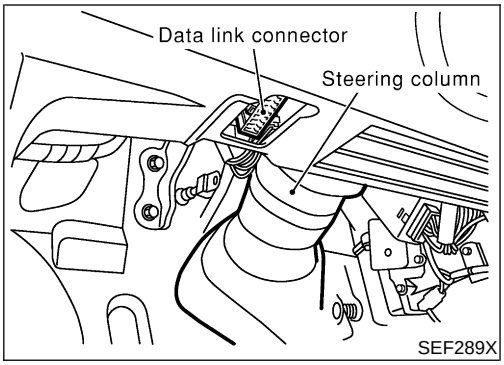
REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)

MEL313K

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)
10	R/B	POWER SOURCE (FUSE)	–		12V
11	W/R	POWER SOURCE (C/B)	–		12V
13	W/B	DRIVER DOOR LOCK ACTUATOR	DOOR LOCK & UNLOCK SWITCH	FREE	0V
14	G/Y	PASSENGER AND REAR DOOR LOCK ACTUATOR		UNLOCKED	12V
15	PU	DOOR LOCK ACTUATORS	DOOR LOCK & UNLOCK SWITCH	FREE	0V
				LOCKED	12V
16	B	GROUND	–		–
23	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL→LOCKS		5V→0V
28	R/W	REAR DOOR SWITCHES	OFF (CLOSED)→ON (OPEN)		5V→0V
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→ON (OPEN)		5V→0V
30	OR/L	DOOR KEY CYLINDER UNLOCK SWITCH	OFF (NEUTRAL)→ON (UNLOCKED)		5V→0V
32	B/R	IGNITION KEY SWITCH (INSERT)	KEY INSERTED→KEY REMOVED FROM IGN KEY CYLINDER		12V→0V
35	BR/Y	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL→UNLOCKS		5V→0V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→ON (OPEN)		5V→0V
41	OR/B	DOOR KEY CYLINDER LOCK SWITCH	OFF (NEUTRAL)→ON (LOCKED)		5V→0V

SEL373WD



SEF289X

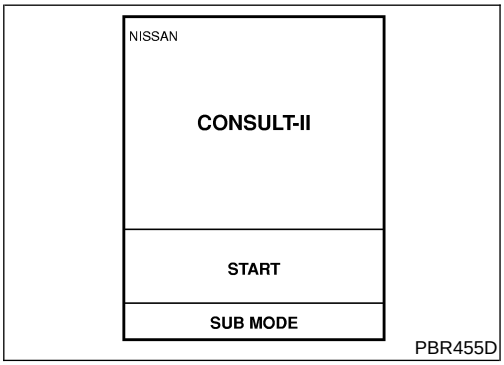
CONSULT-II Inspection Procedure

=NFEL0238

“DOOR LOCK”

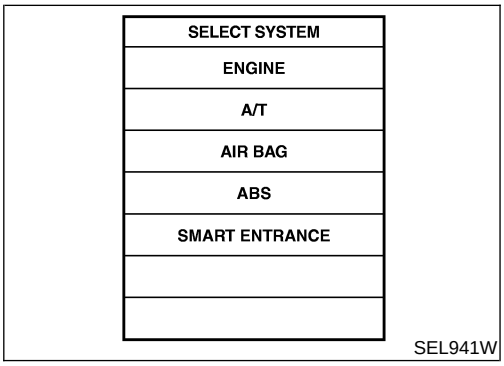
NFEL0238S01

1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



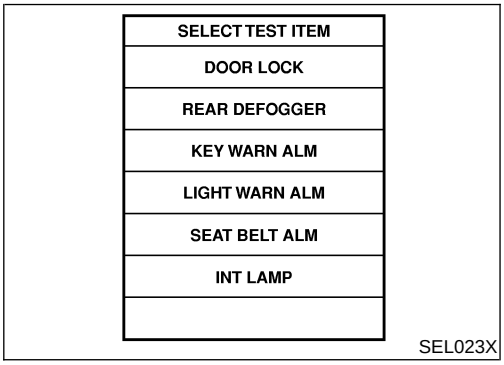
PBR455D

3. Turn ignition switch “ON”.
4. Turn “START”.



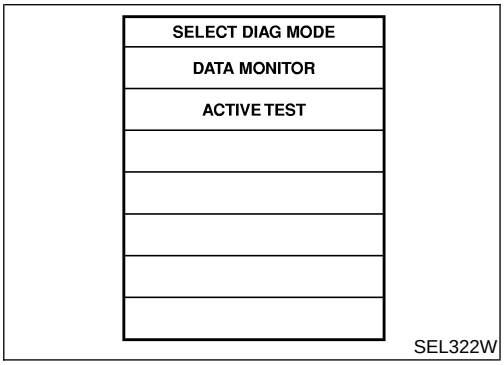
SEL941W

5. Touch “SMART ENTRANCE”.



SEL023X

6. Touch “DOOR LOCK”.



SEL322W

7. Select diagnosis mode.
   “DATA MONITOR” and “ACTIVE TEST” are available.

CONSULT-II Application Items

NFEL0239

"DOOR LOCK" Data Monitor

NFEL0239S01

NFEL0239S0101

Monitored Item	Description
KEY ON SW	Indicates [ON/OFF] condition of key switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from lock/unlock switch LH and RH.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch LH and RH.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
UN BUTTON ON	Indicates [ON/OFF] condition of second unlock signal from remote controller within 5 seconds after first unlock operation.

Active Test

NFEL0239S0102

Test Item	Description
ALL D/LK MTR	This test is able to check all door lock actuators lock operation. These actuators lock when "ON" on CONSULT-II screen is touched.
DR D/UN MTR	This test is able to check front door lock actuator LH unlock operation. The actuator unlocks when "ON" on CONSULT-II screen is touched.
NON DR D/UN	This test is able to check door lock actuators (except front door lock actuator LH) unlock operation. These actuators unlock when "ON" on CONSULT-II screen is touched.

Trouble Diagnoses

=NFEL0193

SYMPTOM CHART

NFEL0193S01

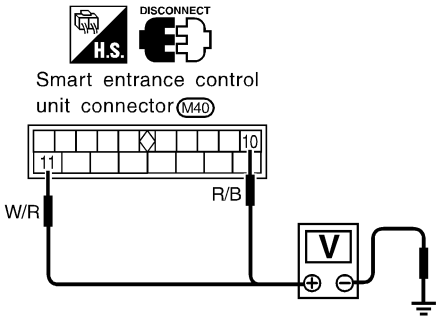
REFERENCE PAGE (EL-)	239	240	241	242	244	245
SYMPTOM	MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR SWITCH CHECK	KEY SWITCH (INSERT) CHECK	DOOR LOCK/UNLOCK SWITCH CHECK	FRONT DOOR KEY CYLINDER SWITCH CHECK	DOOR LOCK ACTUATOR CHECK
Key reminder door system does not operate properly.	X	X	X			X
Specific door lock actuator does not operate.	X					X
Power door lock does not operate with door lock and unlock switch (LH and RH) on door trim.	X			X		
Power door lock does not operate with front door key cylinder operation.	X				X	

MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

=NFEL0193S02

Main Power Supply Circuit Check

NFEL0193S0201

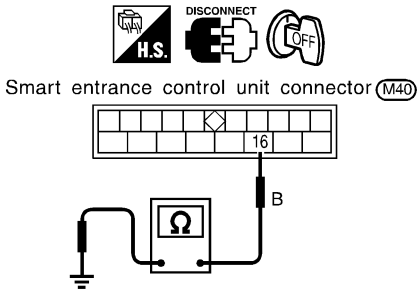


Terminals		Ignition switch		
(+)	(–)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage
11				

SEL190W

Ground Circuit Check

NFEL0193S0202



Terminals	Continuity
16 - Ground	Yes

SEL234W

DOOR SWITCH CHECK

=NFEL0193S03

1 CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-ALL") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-ALL	OFF

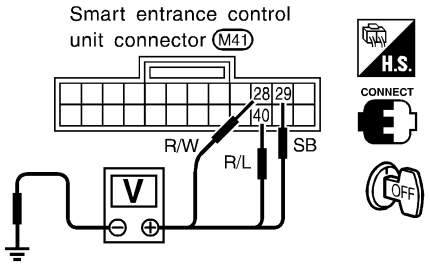
When any doors are open:
DOOR SW-ALL ON

When all doors are closed:
DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 28, 29 or 40 and ground.



	Terminals (+)	Terminals (−)	Condition	Voltage [V]
Front LH door switch	29	Ground	Open	0
			Closed	Approx. 5
Front RH door switch	40	Ground	Open	0
			Closed	Approx. 5
Rear door switches	28	Ground	Open	0
			Closed	Approx. 5

SEL191W

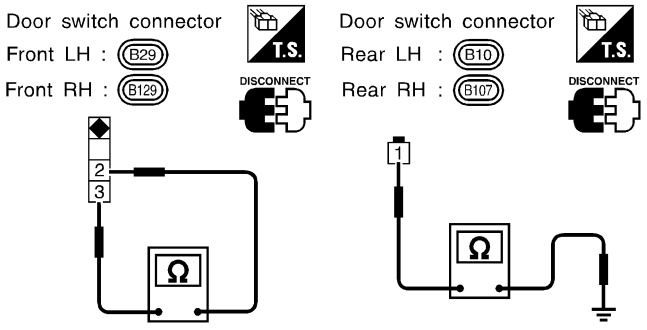
Refer to wiring diagram in EL-231.

OK or NG

OK	▶	Door switch is OK.
NG	▶	GO TO 2.

2 CHECK DOOR SWITCHES

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



	Terminals	Condition	Continuity
Front door switches	2 - 3	Closed	No
		Open	Yes
Rear door switches	1 - Ground	Closed	No
		Open	Yes

SEL192W

OK or NG

OK	▶	**Check the following.** ● Door switch ground circuit or door switch ground condition ● Harness for open or short between smart entrance control unit and door switch
NG	▶	Replace door switch.

KEY SWITCH (INSERT) CHECK

=NFEL0193S04

1	CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
KEY ON SW	ON

When key is inserted to ignition key cylinder:

KEY ON SW ON

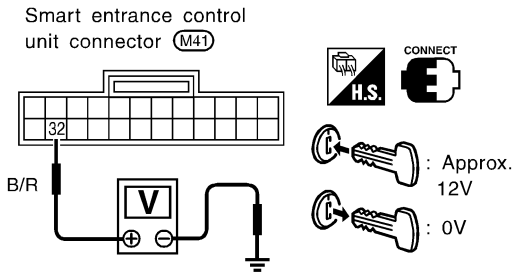
When key is removed from ignition key cylinder:

KEY ON SW OFF

SEL315W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 32 and ground.



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

SEL193W

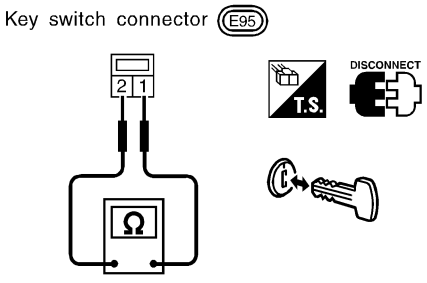
Refer to wiring diagram in EL-232.

OK or NG

OK	▶	Key switch is OK.
NG	▶	GO TO 2.

2	CHECK KEY SWITCH (INSERT)

Check continuity between key switch connector terminals 1 and 2.



Continuity:
Condition of key switch: Key is inserted.
Yes
Condition of key switch: Key is removed.
No

SEL194W

OK or NG

OK	▶	**Check the following.** ● 10A fuse [No. 12, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between smart entrance control unit and key switch
NG	▶	Replace key switch.

DOOR LOCK/UNLOCK SWITCH CHECK

=NFEL0193S05

1 **CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL**

With CONSULT-II

Check door lock/unlock switch ("LOCK SW DR/AS"/"UNLK SW DR/AS") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

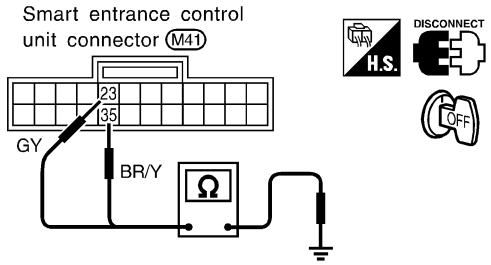
When lock/unlock switch is turned to LOCK:
LOCK SW DR/AS ON

When lock/unlock switch is turned to UNLOCK:
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 23 or 35 and ground.



Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
23 - Ground	Lock	Yes
	N and Unlock	No
35 - Ground	Unlock	Yes
	N and Lock	No

SEL195W

Refer to wiring diagram in EL-232.

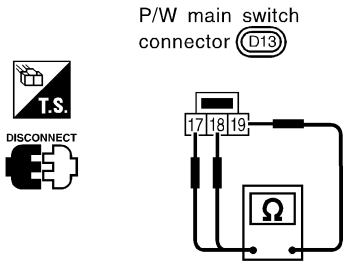
OK or NG

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

2	CHECK DOOR LOCK/UNLOCK SWITCH

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

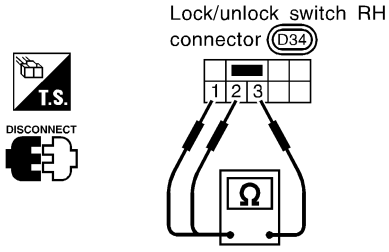
- Power window main switch (Door lock/unlock switch LH)



Condition	Terminals		
	17	18	19
Lock		○	○
N	No continuity		
Unlock	○		○

SEL196W

- Door lock/unlock switch RH



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

SEL197W

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 smart entrance control unit connector
NG	▶	Replace door lock/unlock switch.

FRONT DOOR KEY CYLINDER SWITCH CHECK

=NFEL0193S06

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

With CONSULT-II

Check front door key cylinder switch ("KEY CYL LK-SW"/"KEY CYL UN-SW") in "DATA MONITOR" mode with CONSULT-II.

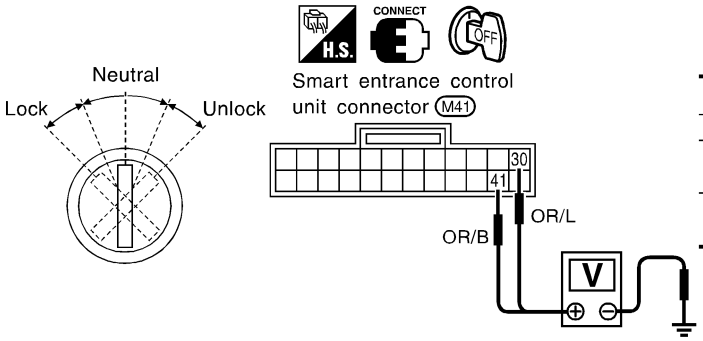
DATA MONITOR	
MONITOR	
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

When key inserted in front key cylinder is turned to LOCK:
KEY CYL LK-SW ON
When key inserted in front key cylinder is turned to UNLOCK:
KEY CYL UN-SW ON

SEL342W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 30 or 41 and ground.



Terminals (+)	Terminals (−)	Key position	Voltage V
41	Ground	Neutral/Unlock	Approx. 5
		Lock	0
30	Ground	Neutral/Lock	Approx. 5
		Unlock	0

SEL198W

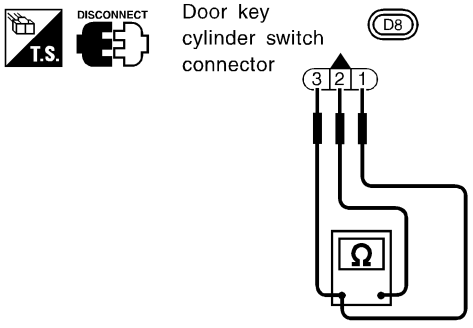
Refer to wiring diagram in EL-234.

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 harness connector.
2. Check continuity between door key cylinder switch terminals.



① : Door unlock switch terminal
② : Ground terminal
③ : Door lock switch terminal

Terminals	Key position	Continuity
③ - ②	Neutral/Unlock	No
	Lock	Yes
① - ②	Neutral/Lock	No
	Unlock	Yes

SEL034X

OK or NG

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

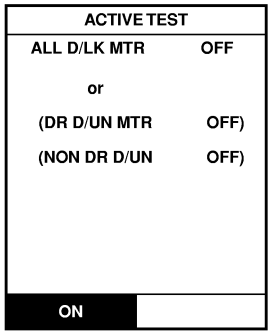
DOOR LOCK ACTUATOR CHECK

=NFEL0193S08

1	CHECK DOOR LOCK ACTUATOR OPERATION

With CONSULT-II

1. Select "ACTIVE TEST" in "DOOR LOCK" with CONSULT-II.
2. Select "ALL D/LK MTR" and touch "ON".
3. Then, select "DR D/UN MTR" and touch "ON".
4. Select "NON DR D/UN" and touch "ON".



Door lock motor should operate.

SEL343W

NOTE:
If CONSULT-II is not available, skip this procedure and go to the next step.

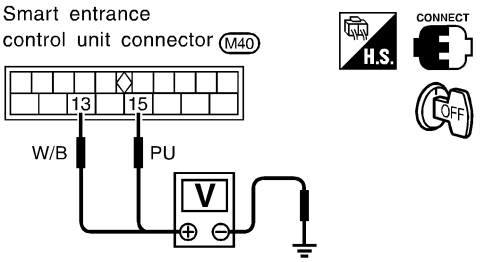
OK or NG

OK	▶	Door lock actuator is OK.
NG	▶	GO TO 2.

2	CHECK DOOR LOCK ACTUATOR CIRCUIT

Check voltage for door lock actuator.

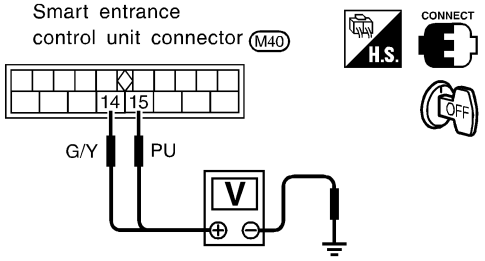
- Door lock actuator front LH



Door lock/unlock switch condition	Terminal No.		Voltage V
	(+)	(–)	
Lock	15	Ground	Approx. 12
Unlock	13	Ground	

SEL200W

- Door lock actuator front RH and rear



Door lock/unlock switch condition	Terminal No.		Voltage V
	(+)	(–)	
Lock	15	Ground	Approx. 12
Unlock	14	Ground	

SEL221W

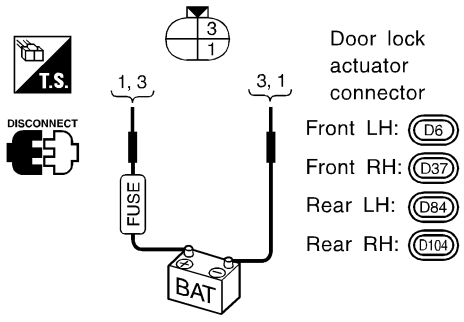
Refer to wiring diagram in EL-233.

OK or NG

OK	▶	GO TO 3.
NG	▶	Replace smart entrance control unit. (Before replacing the control unit, perform "DOOR LOCK/UNLOCK SWITCH CHECK".)

3	CHECK DOOR LOCK ACTUATOR

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



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

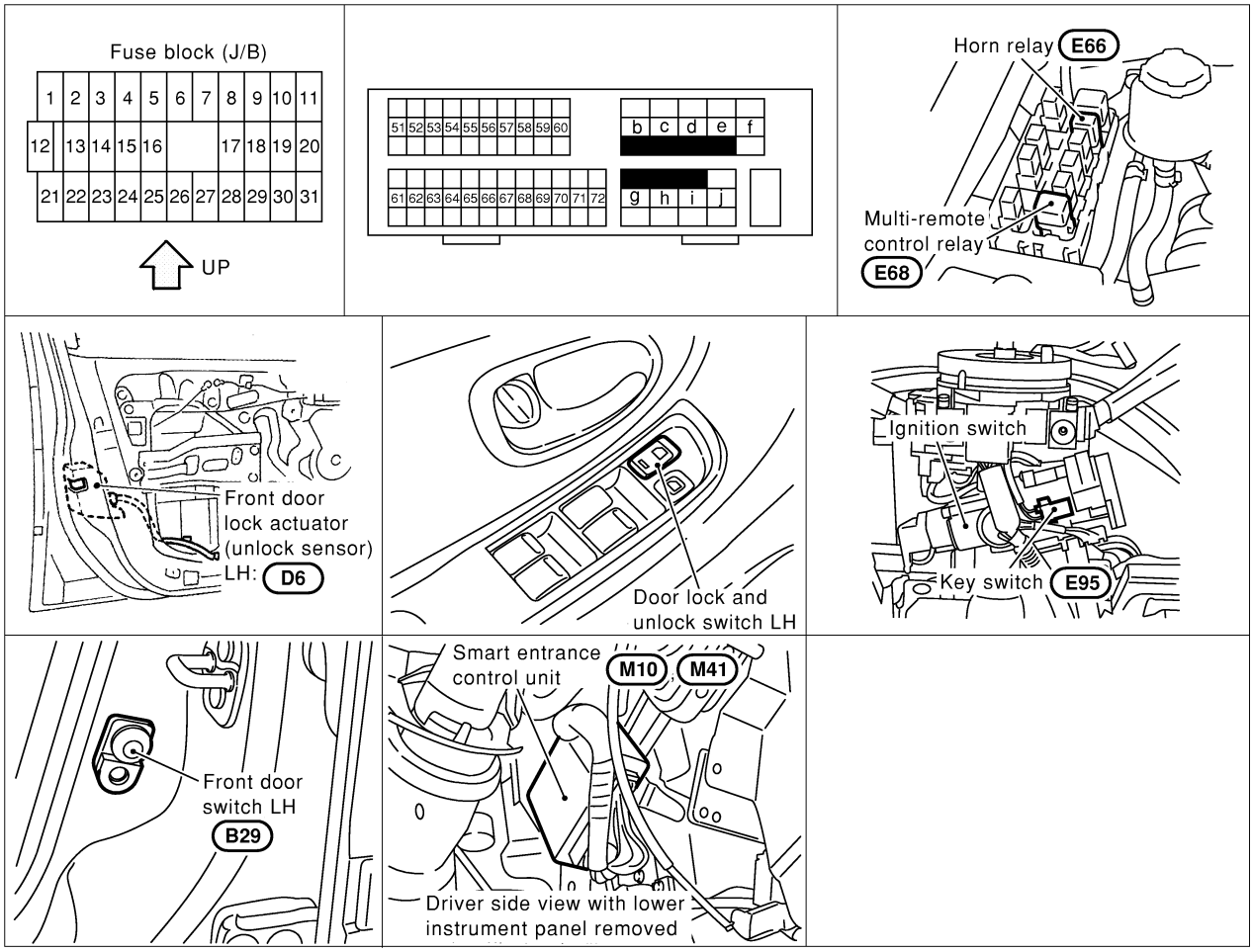
SEL222W

OK or NG

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

Component Parts and Harness Connector Location

NFEL0111



SEL173W

System Description

NFEL0194

NFEL0194S01

INPUTS

Power is supplied at all times

- to key switch terminal 2
- through 10A fuse [No. 12, 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 1
- to smart entrance control unit terminal 32.

When the front door switch LH is ON (door is OPEN), ground is supplied

- to smart entrance control unit terminal 29
- through front door switch LH terminal 2
- to front door switch LH terminal 3
- through body grounds B30.

When the front door switch RH is ON (door is OPEN), ground is supplied

- to smart entrance control unit terminal 40
- through front door switch RH terminal 2, and
- to front door switch RH terminal 3
- through body grounds B127 and B106.

When the rear door switches are ON (door is OPEN), ground is supplied

- to smart entrance control unit terminal 28

- through rear door switches terminal 1
- to rear door switchs case grounds.

When lock/unlock switch LH is LOCK, ground is supplied

- to smart entrance control unit terminal 23
- through lock/unlock switch LH terminal 18, and
- through body grounds M9, M25 and M87.

When lock/unlock switch LH is UNLOCK, ground is supplied

- to smart entrance control unit terminal 35
- through lock/unlock switch LH terminal 17, and
- through body grounds M9, M25 and M87.

When front door unlock sensor LH is UNLOCKED, ground is supplied

- to smart entrance control unit terminal 36,
- through front door unlock sensor LH terminal 2, and
- through body grounds M9, M25 and M87.

Remote controller signal is inputted to smart entrance control unit (The antenna of the system is combined with smart entrance control unit).
The multi-remote control system controls operation of the

- power door lock
- trunk lid opener
- interior lamp
- panic alarm
- hazard and horn reminder

OPERATED PROCEDURE

NFEL0194S02

Power Door Lock Operation

NFEL0194S0201

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 and Horn Reminder

NFEL0194S0202

Power is supplied at all times

- to multi-remote control relay terminals 1, 3 and 6
- through 15A fuse [No. 5, located in the fuse block (J/B)], and
- to horn relay terminal 2
- through 10A fuse (No. 57, located in the fusible link and fuse box)

When smart entrance control unit receives LOCK or UNLOCK signal from remote controller with all doors closed, ground is supplied

- to multi-remote control relay terminal 2
- through smart entrance control unit terminal 7, and
- to horn relay terminal 1
- through smart entrance control unit terminal 19

Multi-remote control relay and horn relay are now energized, and hazard warning lamp flashes and horn sounds as a reminder.
The hazard and horn reminder has C mode (horn chirp mode) and S mode (non-horn chirp mode).

Operating function of hazard and horn reminder

	C mode (Horn chirp mode)		S mode (Non-horn chirp mode)	
	Hazard warning lamp flash	Horn sound	Hazard warning lamp flash	Horn sound
Lock	Twice	Once	Twice	—
Unlock	Once	—	—	—

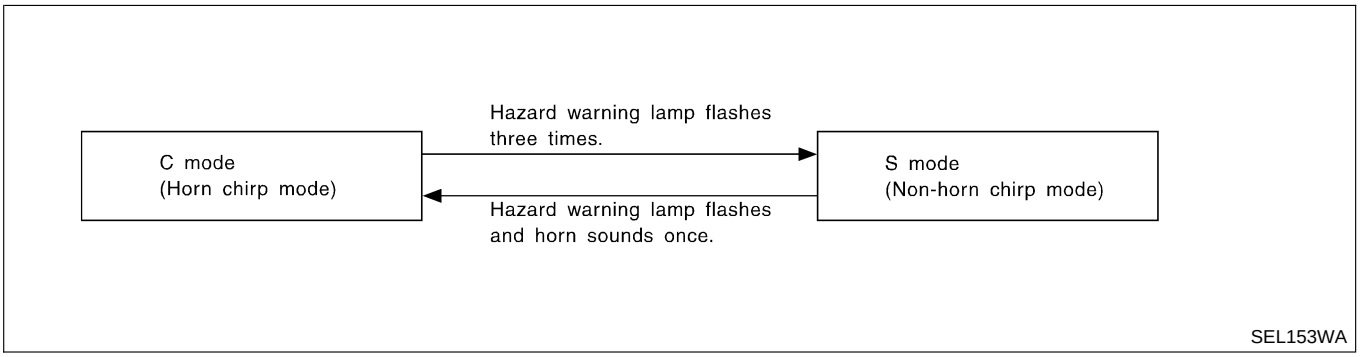
How to change hazard and horn reminder mode

With CONSULT-II

Hazard and horn reminder can be changed using "WORK SUPPORT" mode in "MULTI REMOTE ENT".

Without CONSULT-II

When LOCK and UNLOCK signals are sent from the remote controller for more than 2 seconds at the same time, the hazard and horn reminder mode is changed and hazard warning lamp flashes and horn sounds as follows:



Interior Lamp Operation

NFEL0194S0203

When the following input signals are both supplied:

- door switch CLOSED (when all the doors are closed);
- driver's door LOCKED;

multi-remote control system turns on interior lamp and key hole illumination (for 30 seconds) with input of UNLOCK signal from remote controller.

For detailed description, refer to "INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS" (EL-86).

Panic Alarm Operation

NFEL0194S0204

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.

The alarm automatically turns off after 25 seconds or when smart entrance control unit receives any signal from multi-remote controller.

For detailed description, refer to "THEFT WARNING SYSTEM" (EL-280).

Trunk Lid Opener Operation

NFEL0194S0205

Power is supplied at all times

- through 15A fuse [No. 3, located in the fuse block (J/B)]
- to trunk lid opener actuator terminal 2.

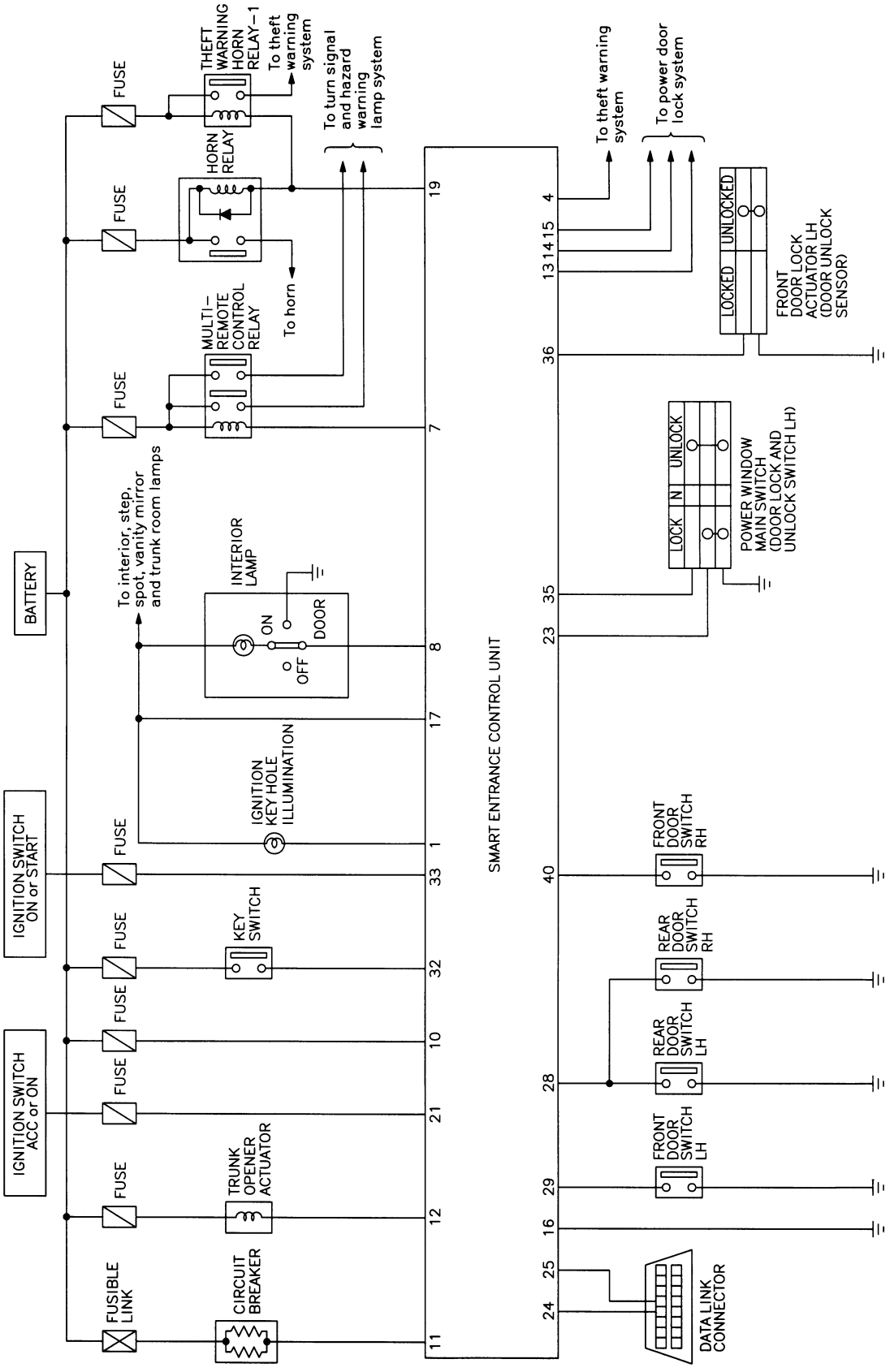
When a TRUNK OPEN signal is sent with key OFF (ignition key removed from key cylinder) from remote controller, ground is supplied

- to trunk lid opener actuator terminal 1
- through smart entrance control unit terminal 12.

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

Schematic

NFEL0171



MEL334L

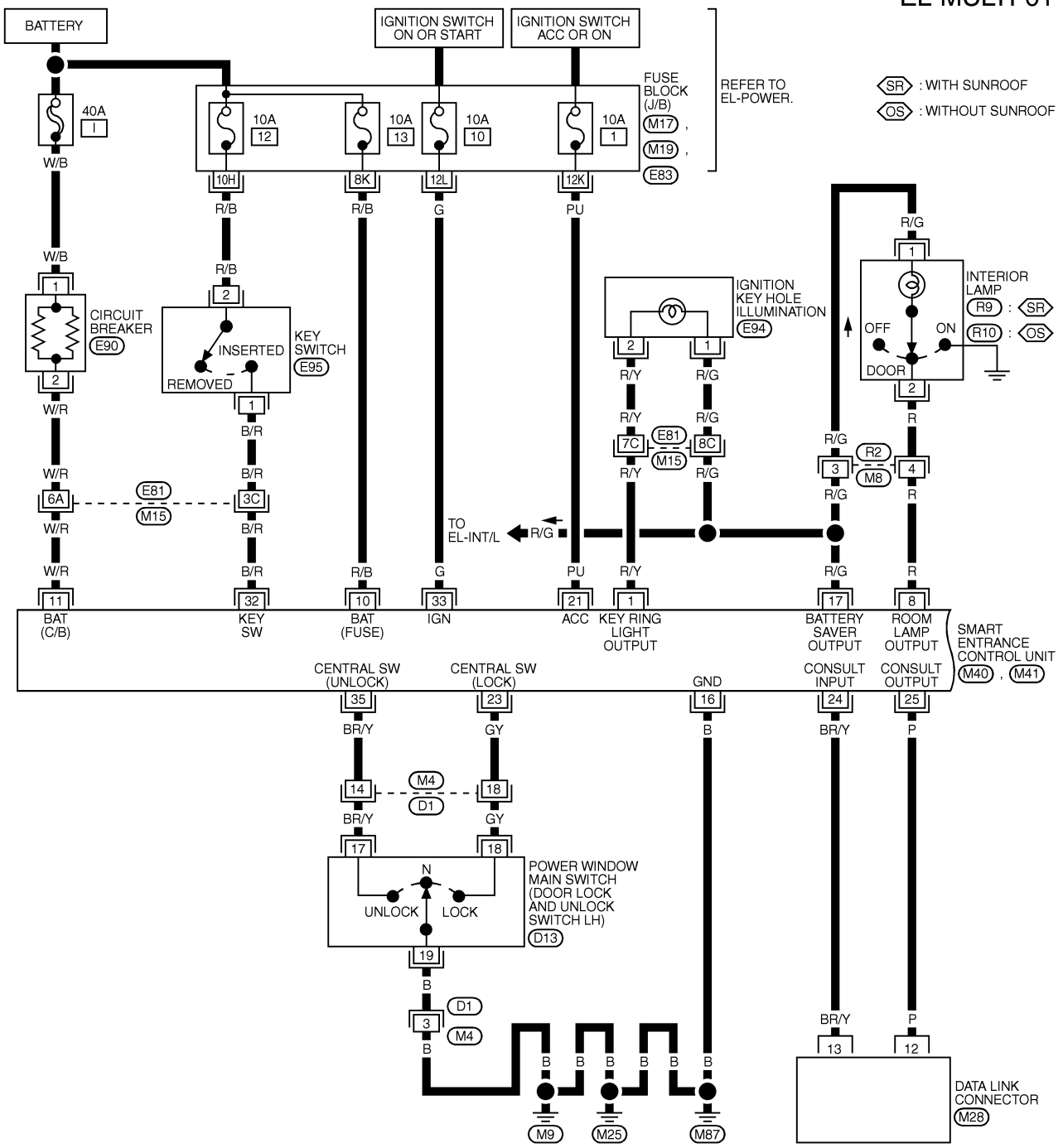
Wiring Diagram — MULTI —

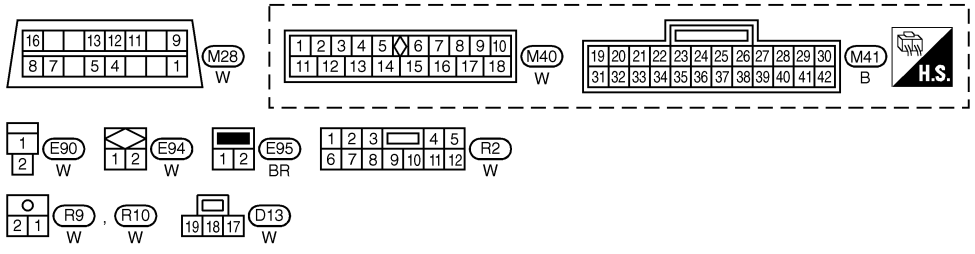
NFEL0114

FIG. 1

NFEL0114S01

EL-MULTI-01





REFER TO THE FOLLOWING.

M15 , D1 -SUPER MULTIPLE JUNCTION (SMJ)

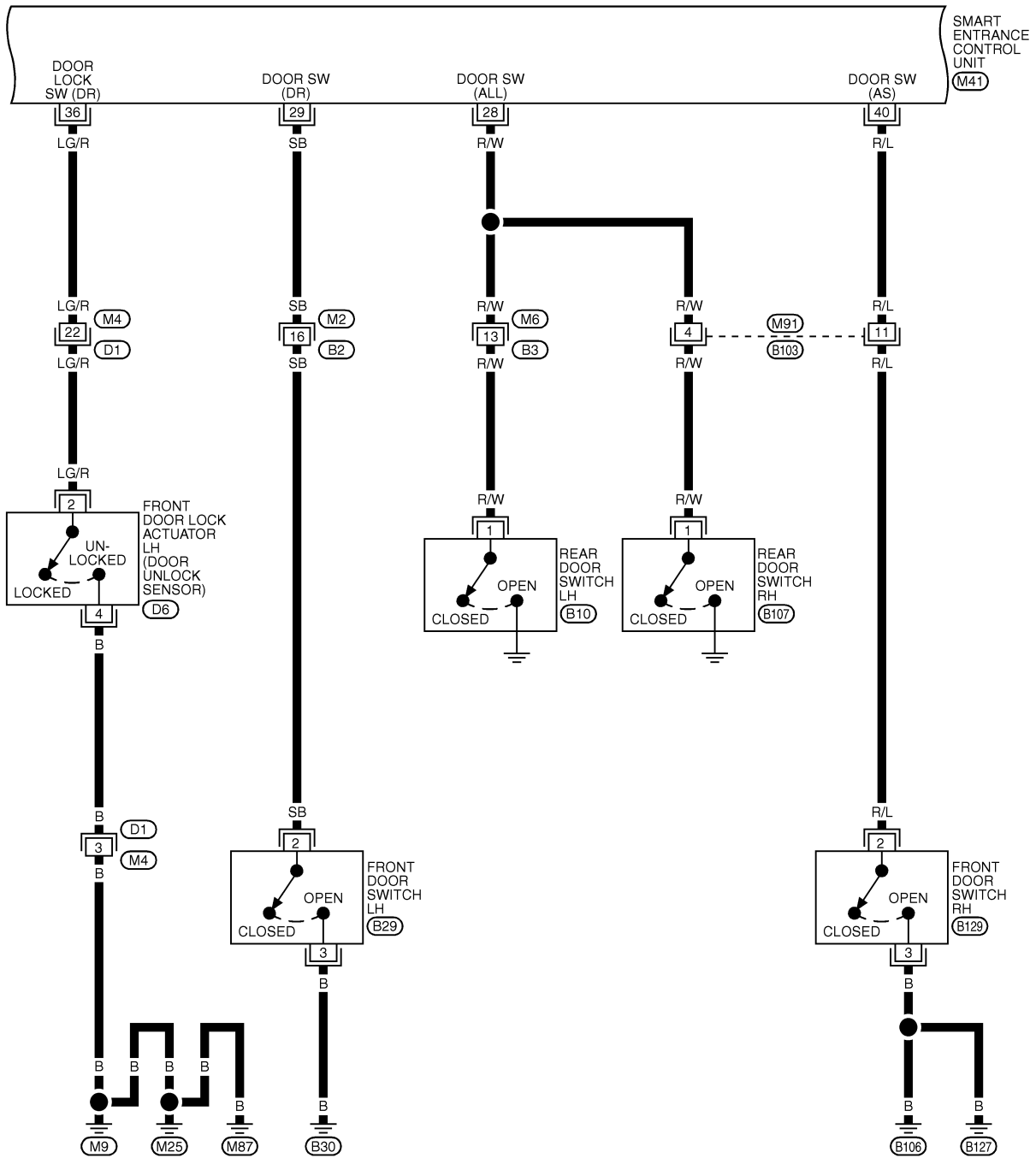
M17 , M19 , E83 -FUSE BLOCK- JUNCTION BOX (J/B)

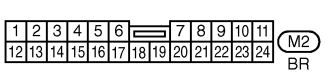
MEL335L

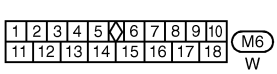
FIG. 2

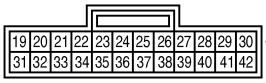
NFEL0114S02

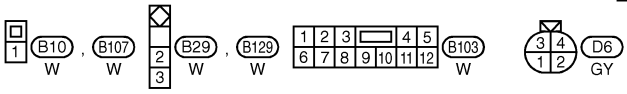
EL-MULTI-02









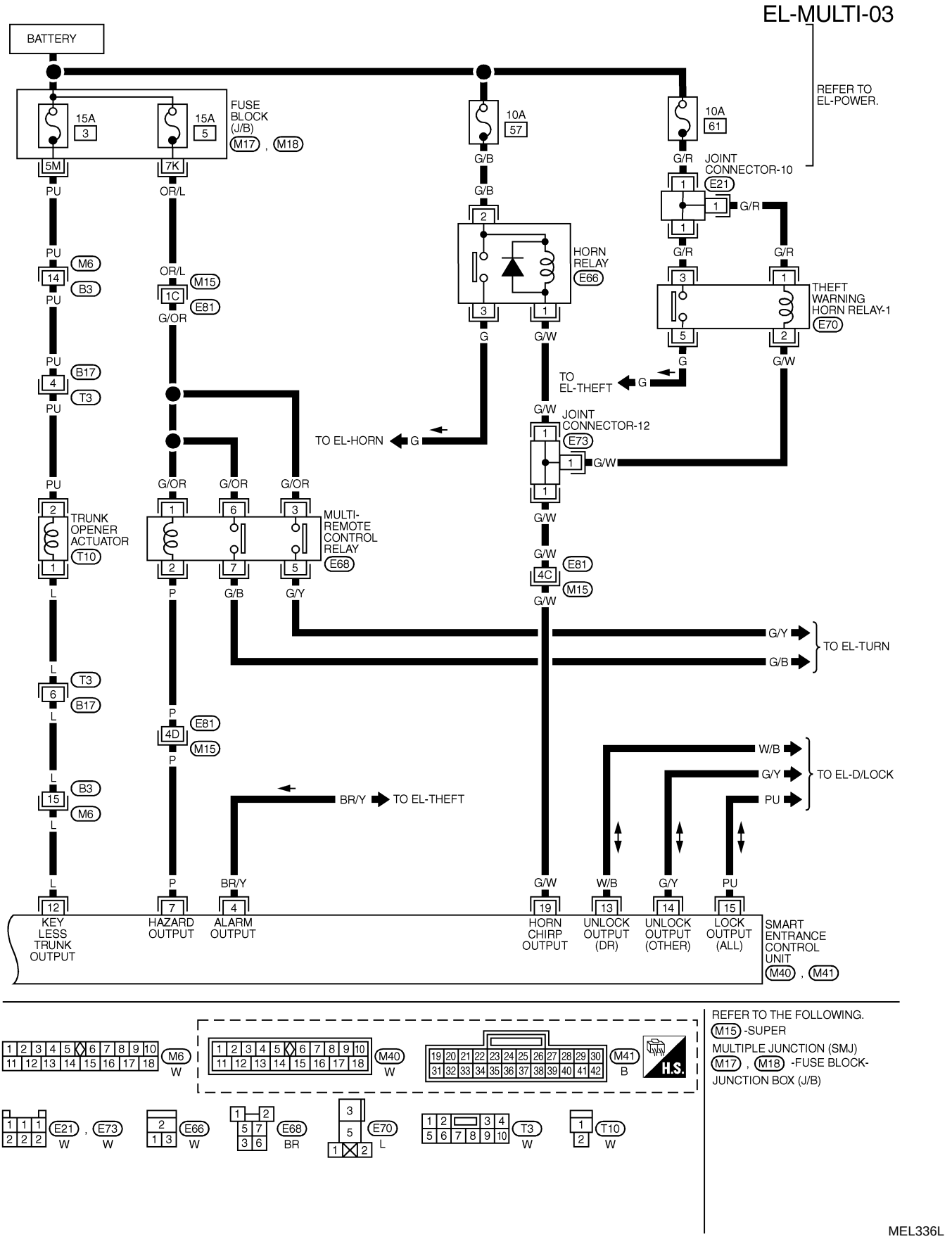


REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)

MEL316K

FIG. 3

NFEL0114S05

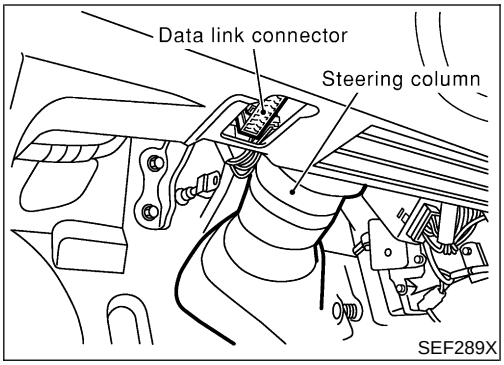


MEL336L

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)
1	R/Y	IGNITION KEY HOLE ILLUMINATION	FOR 30 SECONDS AFTER DRIVER DOOR IS LOCKED		0V
			30 SECONDS PASSED AFTER DRIVER DOOR IS LOCKED		12V
4	BR/Y	THEFT WARNING HORN/LAMP RELAY	WHEN PANIC ALARM IS OPERATED USING REMOTE CONTROLLER		12V→0V
7	P	MULTI-REMOTE CONTROL RELAY	WHEN DOORS ARE LOCKED USING REMOTE CONTROLLER		12V→0V
8	R	INTERIOR LAMP	WHEN INTERIOR LAMP IS OPERATED USING REMOTE CONTROLLER (LAMP SWITCH IN "DOOR" POSITION)		0V→12V
10	R/B	POWER SOURCE (FUSE)	–		12V
11	W/R	POWER SOURCE (C/B)	–		12V
12	L	TRUNK LID OPENER SWITCH	ON (OPEN)→OFF (CLOSED)		0V→12V
13	W/B	DRIVER DOOR LOCK ACTUATOR	DOOR LOCK & UNLOCK SWITCH	FREE	0V
14	G/Y	PASSENGER AND REAR DOOR LOCK ACTUATOR		UNLOCKED	12V
15	PU	DOOR LOCK ACTUATORS	DOOR LOCK & UNLOCK SWITCH	FREE	0V
				LOCKED	12V
16	B	GROUND	–		–
17	R/G	BATTERY SAVER (INTERIOR LAMP)	BATTERY SAVER DOES NOT OPERATE →OPERATE		12V→0V
19	G/W	HORN RELAY	WHEN DOORS ARE LOCKED USING REMOTE CONTROLLER WITH HORN CHIRP MODE		12V→0V
21	PU	IGNITION SWITCH (ACC)	"ACC" POSITION		12V
23	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL →LOCKS		5V→0V
28	R/W	REAR DOOR SWITCHES	OFF (CLOSED) →ON (OPEN)		5V→0V
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED) →ON (OPEN)		5V→0V
32	B/R	IGNITION KEY SWITCH (INSERT)	KEY INSERTED→KEY REMOVED FROM IGN KEY CYLINDER		12V→0V
33	G	IGN ON	IGNITION KEY IS IN "ON" POSITION		12V
35	BR/Y	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL→UNLOCKS		5V→0V
36	LG/R	DOOR LOCK SWITCH	DRIVER DOOR: LOCKED→UNLOCKED		5V→0V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→ON (OPEN)		5V→0V

SEL001XA



SEF289X

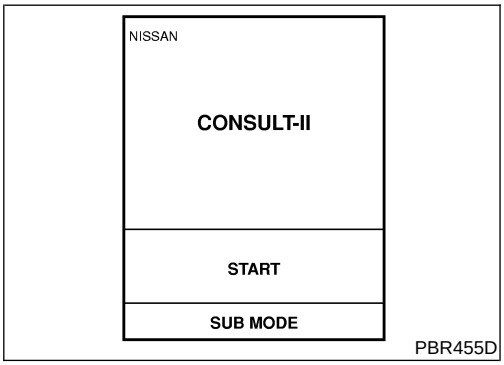
CONSULT-II Inspection Procedure

NFEL0241

“MULTI REMOTE ENT”

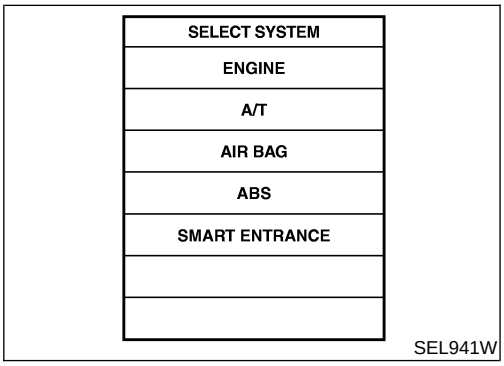
NFEL0241S01

1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



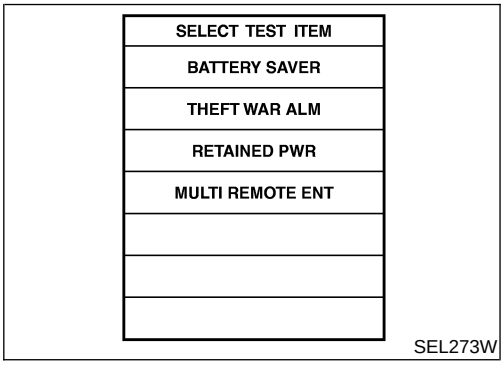
PBR455D

3. Turn ignition switch “ON”.
4. Touch “START”.



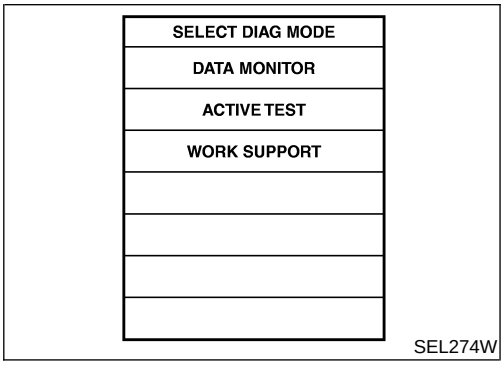
SEL941W

5. Touch “SMART ENTRANCE”.



SEL273W

6. Touch “MULTI REMOTE ENT”.



SEL274W

7. Select diagnosis mode.
   “DATA MONITOR”, “ACTIVE TEST” and “WORK SUPPORT” are available.

CONSULT-II Application Items

NFEL0242

"MULTI REMOTE ENT"

NFEL0242S01

Data Monitor

NFEL0242S0101

Monitored Item	Description
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from lock/unlock switch LH and RH.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch LH and RH.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder switch.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder switch.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from remote controller.
PANIC BTN	Indicates [ON/OFF] condition of panic signal from remote controller.
UN BUTTON ON	Indicates [ON/OFF] condition of second unlock signal from remote controller within 5 seconds after first unlock operation.
LK/UN BTN ON	Indicates [ON/OFF] condition of lock/unlock signal at the same time from remote controller.

Active Test

NFEL0242S0102

Test Item	Description
INT/IGN ILLUM	This test is able to check interior lamp and ignition key hole illumination operation. The interior lamp and ignition key hole illumination are turned on when "ON" on CONSULT-II screen is touched.
HAZARD	This test is able to check hazard reminder operation. The hazard lamp turns on when "ON" on CONSULT-II screen is touched.
ALARM	This test is able to check panic alarm operation. The alarm activate for 0.5 seconds after "ON" on CONSULT-II screen is touched.
MULTI REM HRN	This test is able to check horn reminder operation. The horn sounds for 0.02 seconds after "ON" on CONSULT-II screen is touched.
TRUNK OUTPUT	This test is able to check trunk lid opener actuator operation. The trunk is unlocked when "ON" on CONSULT-II screen is touched.

Work Support

NFEL0242S0103

Test Item	Description
REMO CONT ID CONFIR	It can be checked whether remote controller ID code is registered or not in this mode.
REMO CONT ID REGIST	Remote controller ID code can be registered.
REMO CONT ID ERASUE	Remote controller ID code can be erased.
HZRD REM SET	Hazard and horn reminder mode can be changed in this mode. The reminder mode will be changed when "MODE SET" on CONSULT-II screen is touched.

Trouble Diagnoses

NFEL0195

SYMPTOM CHART

NFEL0195S01

NOTE:

- Always check remote controller battery before replacing remote controller.
- The panic alarm operation and trunk lid opener operation of multi-remote control system do not activate with the ignition key inserted in the ignition key cylinder.

Symptom	Diagnoses/service procedure	Reference page (EL-)
All function of multi-remote control system do not operate.	1. Remote controller battery and function check	259
	2. Power supply and ground circuit for smart entrance control unit check	260
	3. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	272
The new ID of remote controller cannot be entered.	1. Remote controller battery and function check	259
	2. Key switch (insert) check	263
	3. Door switch check	262
	4. Door lock/unlock switch LH check	264
	5. Power supply and ground circuit for smart entrance control unit check	260
	6. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	272
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-238)	1. Remote controller battery and function check	259
	2. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	272
Hazard and horn reminder does not activate properly when pressing lock or unlock button of remote controller.	1. Remote controller battery and function check	259
	2. Hazard reminder check	267
	3. Horn reminder check* *: Horn chirp can be activated or deactivated. First check the horn chirp setting. Refer to “System Description”, EL-247.	269
	4. Door switch check	262
	5. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	272
Interior lamp and key hole illumination operation do not activate properly.	1. Interior lamp operation check	270
	2. Key hole illumination operation check	271
	3. Door switch check	262
	4. Front LH door unlock sensor check	265

Symptom	Diagnoses/service procedure	Reference page (EL-)
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed.	1. Remote controller battery and function check	259
	2. Theft warning operation check. Refer to "PRELIMINARY CHECK" in "THEFT WARNING SYSTEM".	292
	3. Key switch (insert) check	263
	4. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	272
Trunk lid does not open when trunk opener button is continuously pressed.	1. Remote controller battery and function check	259
	2. Trunk lid opener actuator check	266
	3. Key switch (insert) check	263
	4. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	272

REMOTE CONTROLLER BATTERY AND FUNCTION CHECK

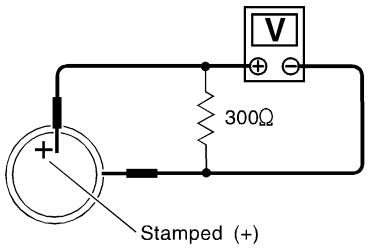
=NFEL0195S02

1	CHECK REMOTE CONTROLLER BATTERY

Remove battery (refer to EL-276) 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.



SEL237W

OK or NG

OK	▶	GO TO 2.
NG	▶	Replace battery.

2	CHECK REMOTE CONTROLLER FUNCTION

With CONSULT-II
Check remote controller function ("LK BUTTON/SIG", "UN BUTTON/SIG", "TRUNK BTN/SIG", "PANIC BTN", "UN BUTTON ON" and "LK/UN BTN ON") in "DATA MONITOR" mode with CONSULT-II.

When pushing each button of remote controller, the corresponding monitor item should be turned as follows.

DATA MONITOR	
MONITOR	
LK BUTTON/SIG	ON
UN BUTTON/SIG	ON
TRUNK BTN/SIG	ON
PANIC BTN	ON
UN BUTTON ON	ON
LK/UN BTN ON	ON

Condition	Monitor item	
Pushing LOCK	LK BUTTON/SIG	ON
Pushing UNLOCK	UN BUTTON/SIG	ON
Pushing TRUNK	TRUNK BTN/SIG	ON
Pushing PANIC	PANIC BTN/SIG	ON
Pushing UNLOCK within 5 seconds after first pushing UNLOCK	UN BUTTON ON	ON
Pushing LOCK and UNLOCK at the same time	LK/UN BTN ON	ON

SEL346W

OK or NG

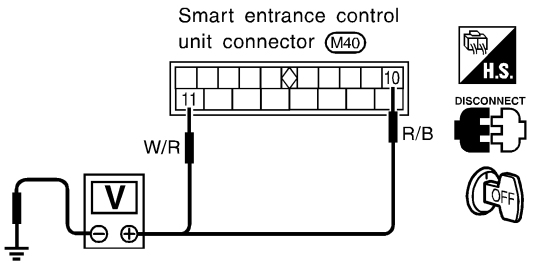
OK	▶	Remote controller is OK. Further inspection is necessary. Refer to "SYMPTOM CHART", EL-257.
NG	▶	Replace remote controller. Refer to ID Code Entry Procedure.

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NFEL0195S03

1	CHECK MAIN POWER SUPPLY CIRCUIT FOR SMART ENTRANCE CONTROL UNIT

1. Disconnect smart entrance control unit harness connector.
2. Check voltage between smart entrance control unit harness connector terminal 10 or 11 and ground.



Battery voltage should exist.

SEL226W

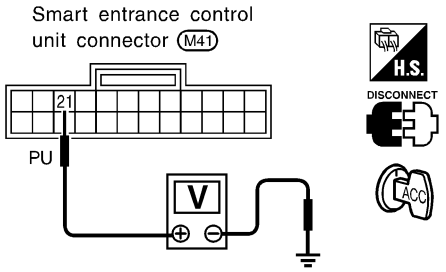
Refer to wiring diagram in EL-251.

OK or NG

OK	▶	GO TO 2.
NG	▶	**Check the following.** ● 40A fusible link (letter **i**, located in fuse and fusible link box) ● 10A fuse [No. 13, located in fuse block (J/B)] ● E90 circuit breaker ● Harness for open or short between smart entrance control unit and fuse

2	CHECK IGNITION SWITCH "ACC" CIRCUIT

1. Disconnect smart entrance control unit harness connector.
2. Check voltage between smart entrance control unit harness connector terminal 21 and ground while ignition switch is "ACC".



Battery voltage should exist.

SEL227W

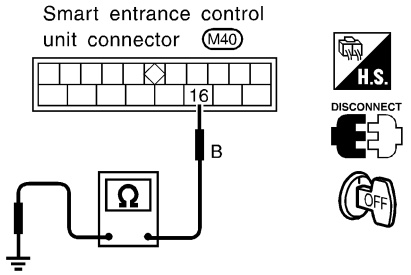
Refer to wiring diagram in EL-251.

OK or NG

OK	▶	GO TO 3.
NG	▶	**Check the following.** ● 10A fuse [No. 1, located in fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse

3	CHECK GROUND CIRCUIT FOR SMART ENTRANCE CONTROL UNIT

Check continuity between smart entrance control unit harness connector terminal 16 and ground.



Continuity should exist.

SEL228W

Refer to wiring diagram in EL-251.

OK or NG

OK	▶	Power supply and ground circuits are OK.
NG	▶	Check ground harness.

DOOR SWITCH CHECK

=NFEL0195S04

1 CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-ALL") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-ALL	OFF

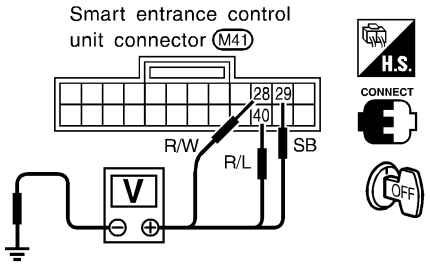
When any doors are open:
DOOR SW-ALL ON

When all doors are closed:
DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 28, 29 or 40 and ground.



	Terminals (+)	Terminals (−)	Condition	Voltage [V]
Front LH door switch	29	Ground	Open	0
			Closed	Approx. 5
Front RH door switch	40	Ground	Open	0
			Closed	Approx. 5
Rear door switches	28	Ground	Open	0
			Closed	Approx. 5

SEL191W

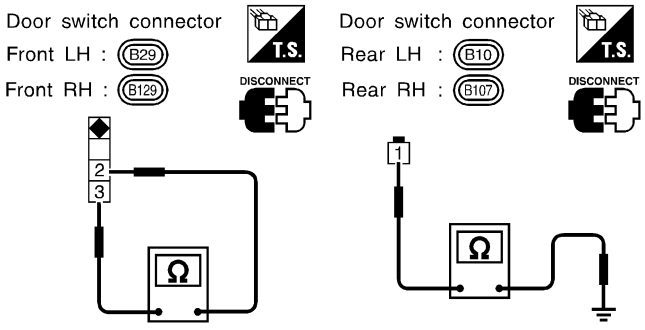
Refer to wiring diagram in EL-252.

OK or NG

OK	▶	Door switch is OK.
NG	▶	GO TO 2.

2 CHECK DOOR SWITCH

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



	Terminals	Condition	Continuity
Front door switches	2 - 3	Closed	No
		Open	Yes
Rear door switches	1 - Ground	Closed	No
		Open	Yes

SEL192W

OK or NG

OK	▶	**Check the following.** ● Door switch ground circuit or door switch ground condition ● Harness for open or short between smart entrance control unit and door switch
NG	▶	Replace door switch.

KEY SWITCH (INSERT) CHECK

=NFEL0195S05

1	CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
KEY ON SW	ON

When key is inserted to ignition key cylinder:

KEY ON SW ON

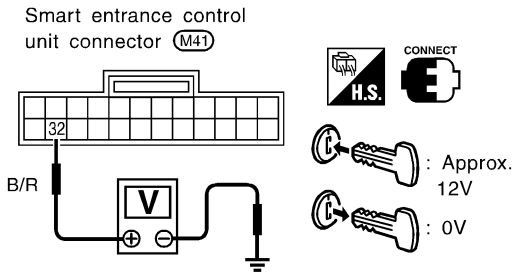
When key is removed from ignition key cylinder:

KEY ON SW OFF

SEL315W

Without CONSULT-II

Check voltage between control unit terminal 32 and ground.



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

SEL193W

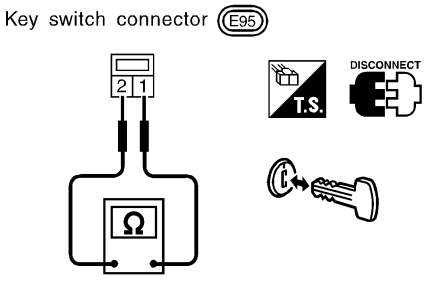
Refer to wiring diagram in EL-251.

OK or NG

OK	▶	Key switch is OK.
NG	▶	GO TO 2.

2	CHECK KEY SWITCH (INSERT)

Check continuity between key switch terminals 1 and 2.



Continuity:
Condition of key switch: Key is inserted.
Yes
Condition of key switch: Key is removed.
No

SEL194W

OK or NG

OK	▶	**Check the following.** ● 10A fuse [No. 12, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between smart entrance control unit and key switch
NG	▶	Replace key switch.

DOOR LOCK/UNLOCK SWITCH LH CHECK

=NFEL0195S06

1 **CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL**

With CONSULT-II

Check door lock/unlock switch ("LOCK SW DR/AS"/"UNLK SW DR/AS") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

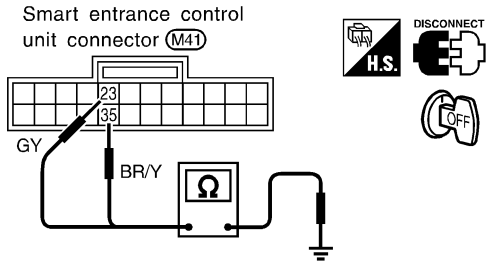
When lock/unlock switch is turned to LOCK:
LOCK SW DR/AS ON

When lock/unlock switch is turned to UNLOCK:
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 23 or 35 and ground.



Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
23 - Ground	Lock	Yes
	N and Unlock	No
35 - Ground	Unlock	Yes
	N and Lock	No

SEL195W

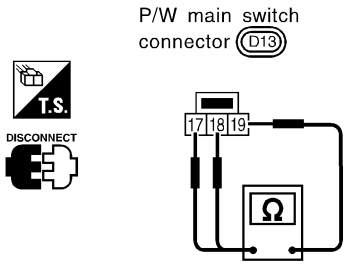
Refer to wiring diagram in EL-251.

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 harness connector.
2. Check continuity between door lock/unlock switch LH terminals.



Condition	Terminals		
	17	18	19
Lock		○	○
N	No continuity		
Unlock	○		○

SEL196W

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 smart entrance control unit connector
NG	▶	Replace door lock/unlock switch.

FRONT LH DOOR UNLOCK SENSOR CHECK

=NFEL0195S07

1 **CHECK FRONT LH DOOR UNLOCK SENSOR INPUT SIGNAL**

With CONSULT-II

1. Select "DATA MONITOR" mode in "INT LAMP" with CONSULT-II.
2. Check front LH door unlock sensor ("LOCK SIG DR") in "DATA MONITOR" mode.

DATA MONITOR	
MONITOR	
LOCK SIG DR	OFF

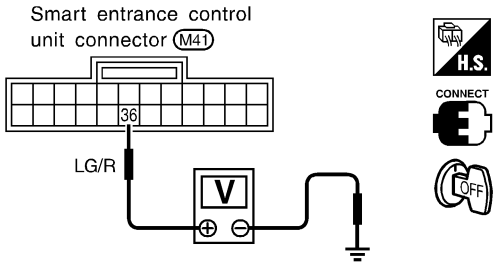
When front LH door is locked:
LOCK SIG DR OFF

When front LH door is unlocked:
LOCK SIG DR ON

SEL344W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 and ground.



	Terminals (+)	Terminals (–)	Condition	Voltage [V]
Front LH door	36	Ground	Locked	Approx. 5
			Unlocked	0

SEL223W

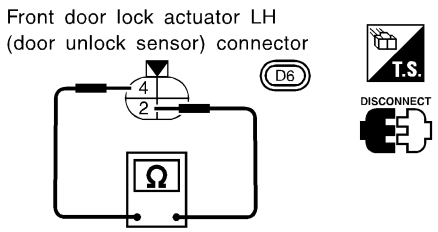
Refer to wiring diagram in EL-252.

OK or NG

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

2 **CHECK FRONT LH DOOR UNLOCK SENSOR**

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



Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

SEL224W

OK or NG

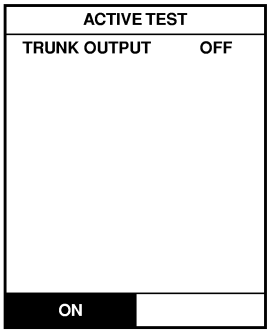
OK	▶	**Check the following.** ● Door unlock sensor ground circuit ● Harness for open or short between smart entrance control unit and door unlock sensor
NG	▶	Replace door unlock sensor.

TRUNK LID OPENER ACTUATOR CHECK

=NFEL0195S12

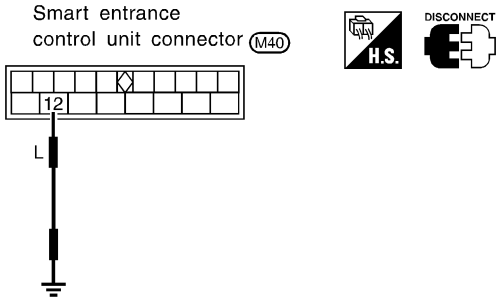
1	CHECK TRUNK LID OPENER	
Check trunk lid opener operation with trunk lid opener switch. NOTE: First check trunk lid opener cancel lever position.		
Does trunk lid open?		
Yes	▶	GO TO 2.
No	▶	Check trunk lid opener actuator and the circuit.

2	CHECK TRUNK LID OPENER ACTUATOR OPERATION	
With CONSULT-II 1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II. 2. Select "TRUNK OUTPUT" and touch "ON".		
Trunk lid opener should operate.		
NOTE: If CONSULT-II is not available, skip this procedure and go to the next step.		
OK or NG		
OK	▶	Trunk lid opener actuator circuit is OK.
NG	▶	Check harness for open or short between smart entrance control unit and trunk lid opener actuator.



SEL345W

3	CHECK TRUNK LID OPENER ACTUATOR CIRCUIT	
Without CONSULT-II 1. Disconnect smart entrance control unit harness connector. 2. Apply ground to smart entrance control unit harness connector terminal 12.		
Refer to wiring diagram in EL-253.		
Does trunk lid open?		
Yes	▶	Replace smart entrance control unit.
No	▶	Check harness for open or short between smart entrance control unit and trunk lid opener actuator.



SEL232W

HAZARD REMINDER CHECK

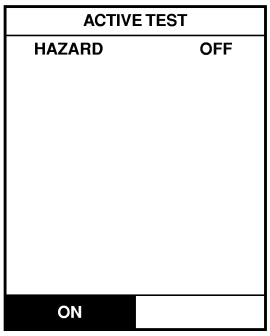
=NFEL0195S08

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 WITH CONSULT-II	

With CONSULT-II

1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II.
2. Select "HAZARD" and touch "ON".



Hazard indicator should illuminate.

SEL347W

NOTE: If CONSULT-II is not available, skip this procedure and go to the next step.

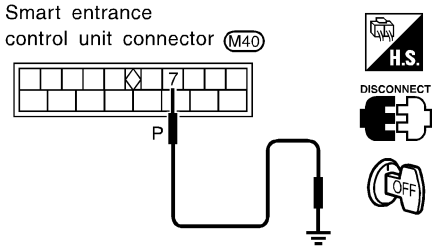
OK or NG

OK	▶	Hazard reminder operation is OK.
NG	▶	GO TO 4.

3	CHECK HAZARD REMINDER OPERATION WITHOUT CONSULT-II	

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector terminal 7.



Hazard indicator should illuminate.

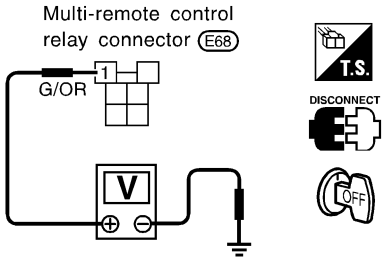
SEL225W

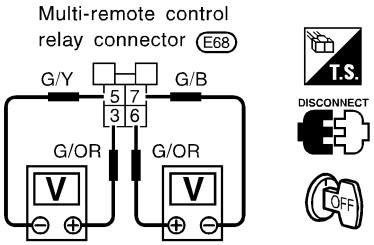
Refer to wiring diagram in EL-253.

OK or NG

OK	▶	Replace smart entrance control unit.
NG	▶	GO TO 4.

4	CHECK MULTI-REMOTE CONTROL RELAY	
Check multi-remote control relay.		
OK or NG		
OK	▶	GO TO 5.
NG	▶	Replace multi-remote control relay.

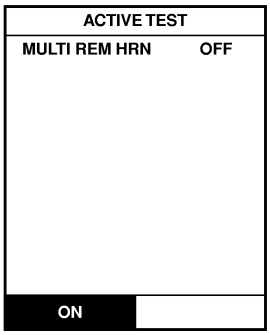
5	CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY	
1. Disconnect multi-remote control relay harness connector. 2. Check voltage between terminal 1 and ground.		
 SEL235W		
Does battery voltage exist?		
Yes	▶	GO TO 6.
No	▶	**Check the following.** ● 15A fuse [No. 5, located in fuse block (J/B)] ● Harness for open or short between multi-remote control relay and fuse

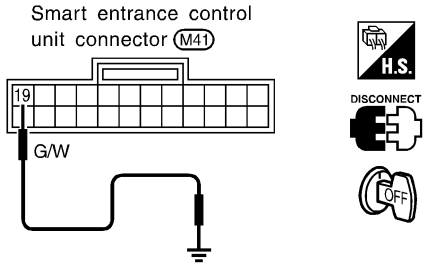
6	CHECK MULTI-REMOTE CONTROL RELAY CIRCUIT	
1. Disconnect multi-remote control relay harness connector. 2. Check voltage between terminals 3 and 5. 3. Check voltage between terminals 6 and 7.		
 **Battery voltage should exist.** SEL236W		
OK or NG		
OK	▶	Check harness for open or short between smart entrance 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

HORN REMINDER CHECK

=NFEL0195S09

1	CHECK HORN	
Check if horn sounds with horn switch. **Does horn operate?**		
Yes	▶	GO TO 2.
No	▶	Check horn circuit.

2	CHECK HORN REMINDER OPERATION WITH CONSULT-II	
With CONSULT-II 1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II. 2. Select "MULTI REM HRN" and touch "ON".  **Horn should sound.** SEL348W **NOTE: If CONSULT-II is not available, skip this procedure and go to the next step.** **OK or NG**		
OK	▶	Horn reminder operation is OK.
NG	▶	Check harness for open or short between smart entrance control unit and horn relay.

3	CHECK HORN REMINDER OPERATION WITHOUT CONSULT-II	
Without CONSULT-II 1. Disconnect smart entrance control unit harness connector. 2. Apply ground to smart entrance control unit harness connector terminal 19.  SEL229W Refer to wiring diagram in EL-253. **Does horn sound?**		
Yes	▶	Replace smart entrance control unit.
No	▶	Check harness for open or short between smart entrance control unit and horn relay.

INTERIOR LAMP OPERATION CHECK

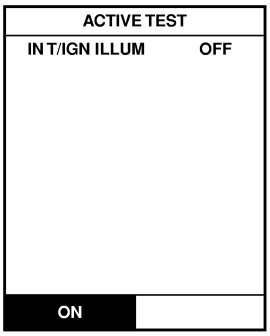
=NFEL0195S10

1	CHECK INTERIOR LAMP	
Check if the interior lamp switch is in the "ON" position and the lamp illuminates. **Does interior lamp illuminate?**		
Yes	▶	GO TO 2.
No	▶	**Check the following.** ● Harness for open or short between smart entrance control unit and interior lamp ● Interior lamp

2	CHECK INTERIOR LAMP OPERATION

With CONSULT-II

1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II.
2. Select "INT/IGN ILLUM" and touch "ON".

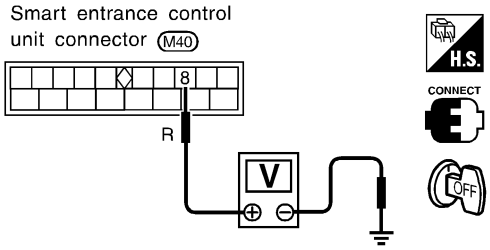


Interior lamp should illuminate.

SEL349W

Without CONSULT-II

Push unlock button of remote controller with all doors closed, and check voltage between smart entrance control unit harness connector terminal 8 and ground.



Voltage [V]:
Unlock button is pushed.
0 (For approx. 30 seconds.)
Unlock button is not pushed.
Battery voltage

SEL231W

Refer to wiring diagram in EL-251.

OK or NG

OK	▶	System is OK.
NG	▶	Check harness open or short between smart entrance control unit and interior lamp.

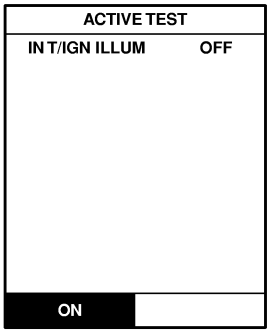
KEY HOLE ILLUMINATION OPERATION CHECK

NFEL0195S13

1	CHECK KEY HOLE ILLUMINATION OPERATION

With CONSULT-II

1. Select "ACTIVE TEST" IN "MULTI REMOTE ENT" with CONSULT-II.
2. Select "INT/IGN ILLUM" and touch "ON".

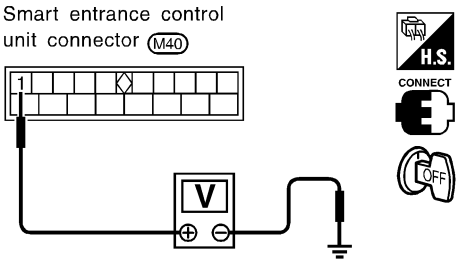


Key hole illuminate should illuminate.

SEL350W

Without CONSULT-II

Push unlock button of remote controller with all doors closed and driver's door locked, and check voltage between smart entrance control unit harness connector terminal 1 and ground.



Voltage [V]:
Unlock button is pushed.
0 (For approx. 30 seconds)
Unlock button is not pushed.
Battery voltage

SEL330W

Refer to wiring diagram in EL-251.

OK or NG

OK	▶	System is OK.
NG	▶	**Check the following.** ● Harness for open or short between smart entrance control unit and key hole illumination. ● Key hole illumination

ID Code Entry Procedure

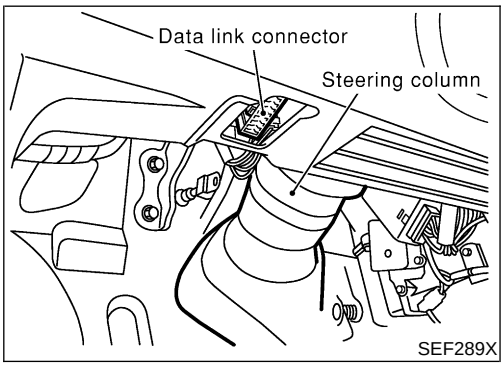
=NFEL0117

REMOTE CONTROLLER ID SET UP WITH CONSULT-II

NFEL0117S01

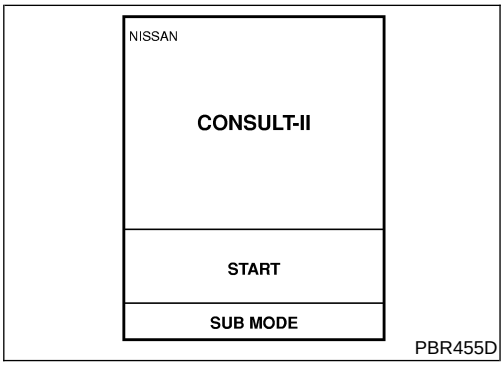
NOTE:

If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. When the ID code of a lost remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.



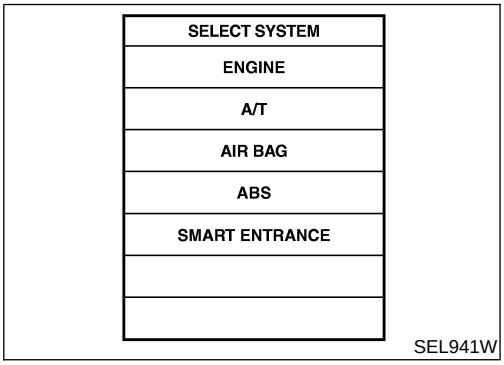
SEF289X

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



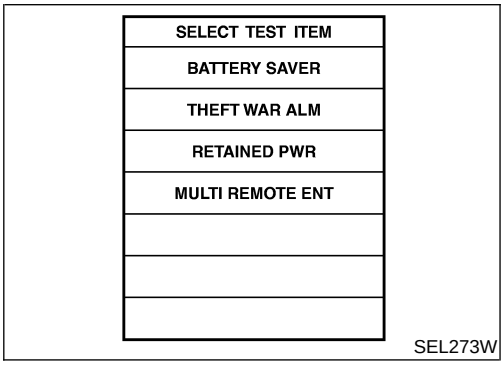
PBR455D

3. Turn ignition switch “ON”.
4. Touch “START”.



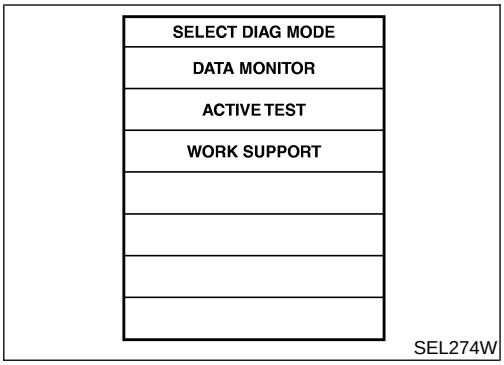
SEL941W

5. Touch “SMART ENTRANCE”.

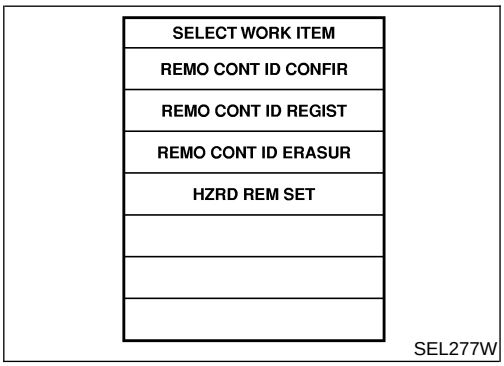


SEL273W

6. Touch “MULTI REMOTE ENT”.



7. Touch "WORK SUPPORT".



8. The items are shown on the figure at left can be set up.

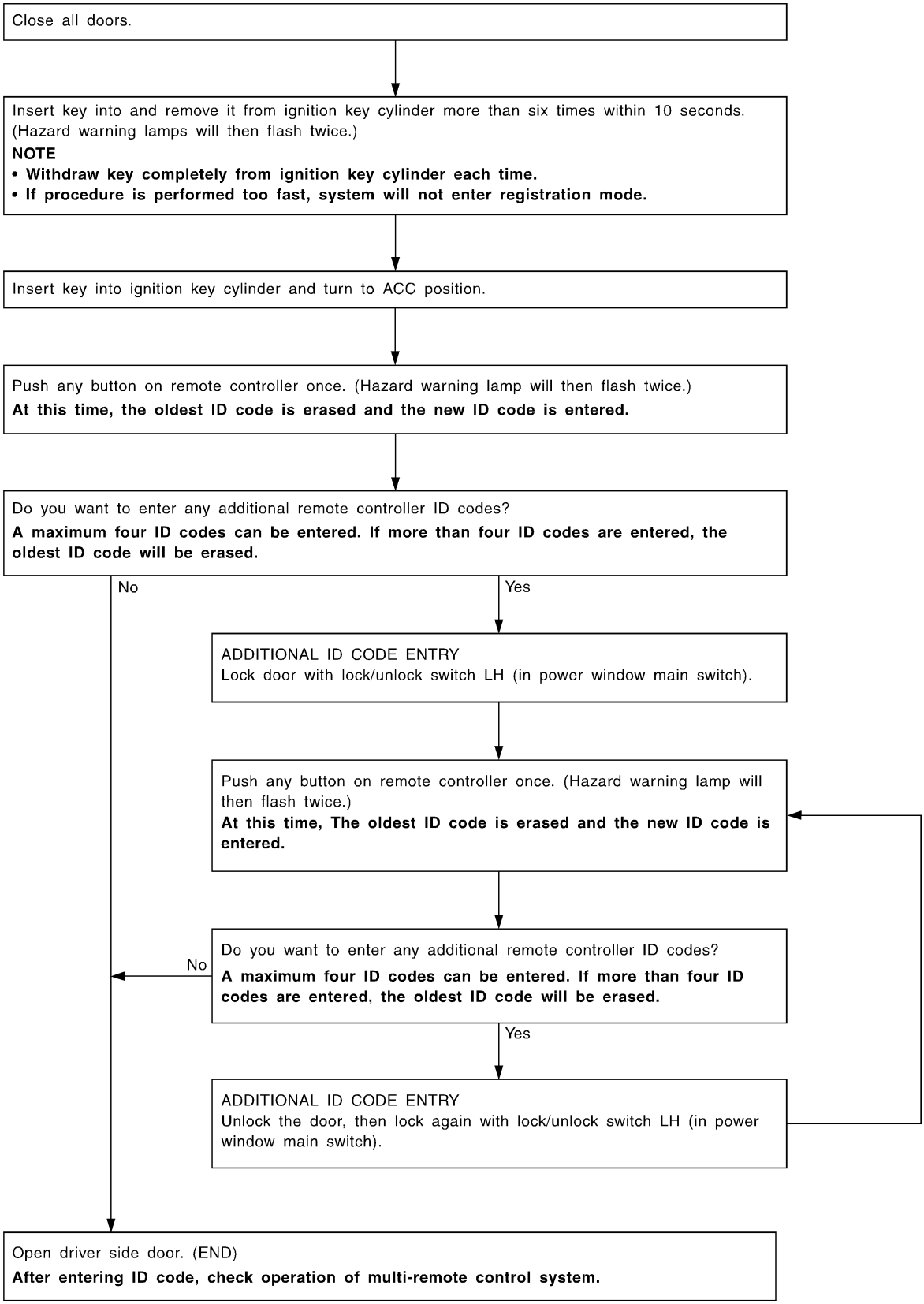
- "REMO CONT ID CONFIR"
  Use this mode to confirm if a remote controller ID code is registered or not.
- "REMO CONT ID REGIST"
  Use this mode to register a remote controller ID code.

NOTE:
Register the ID code when remote controller or smart entrance control unit is replaced, or when additional remote controller is required.

- "REMO CONT ID ERASUR"
  Use this mode to erase a remote controller ID code.
- "HZRD REM SET"
  Use this mode to activate or deactivate the hazard and horn reminder.

REMOTE CONTROLLER ID SET UP WITHOUT CONSULT-II

NFEL0117S02



SEL332WD

NOTE:

- If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT. However, when the ID code of a lost remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
  To erase all ID codes in memory, register one ID code (remote controller) four times. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
- When registering an additional remote controller, the existing ID codes in memory may or may not be erased. If four ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than four ID codes are stored in memory, when an additional ID code is registered, the new ID code is added and no ID codes are erased.
- If you need to activate more than two additional new remote controllers, repeat the procedure "Additional ID code entry" for each new remote controller.
- Entry of maximum four ID codes is allowed. When more than four ID codes are entered, the oldest ID code will be erased.
- Even if same ID code that is already in the memory is input, the same ID code can be entered. The code is counted as an additional code.

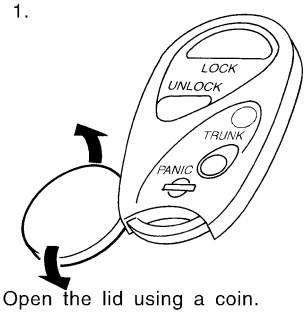
Remote Controller Battery Replacement

NFEL0118

NOTE:

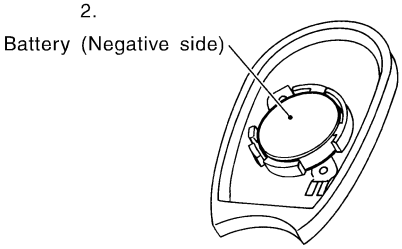
- Be careful not to touch the circuit board or battery terminal.
- The remote controller is water-resistant. However, if it does get wet, immediately wipe it dry.

1.



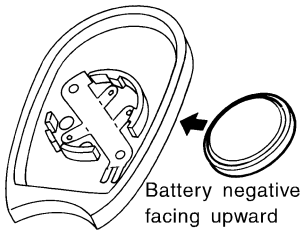
Open the lid using a coin.

2.



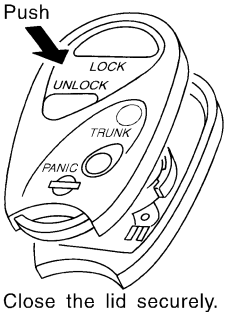
Remove the battery.

3.



Insert the new battery.

4.

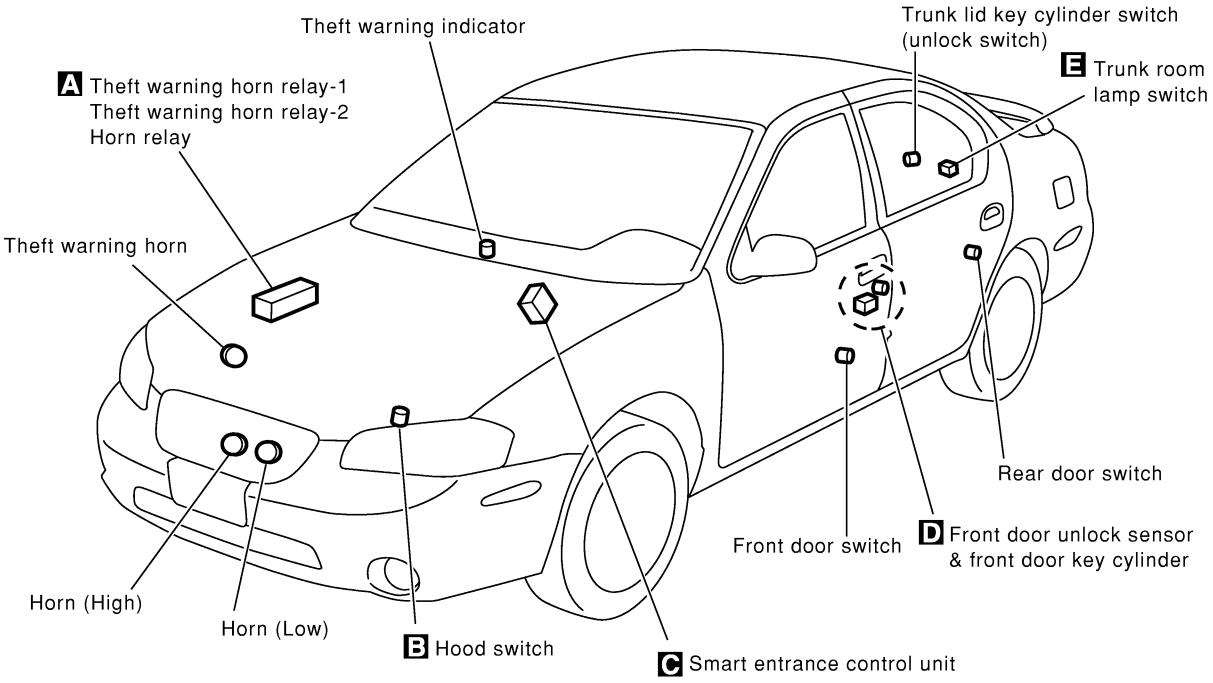


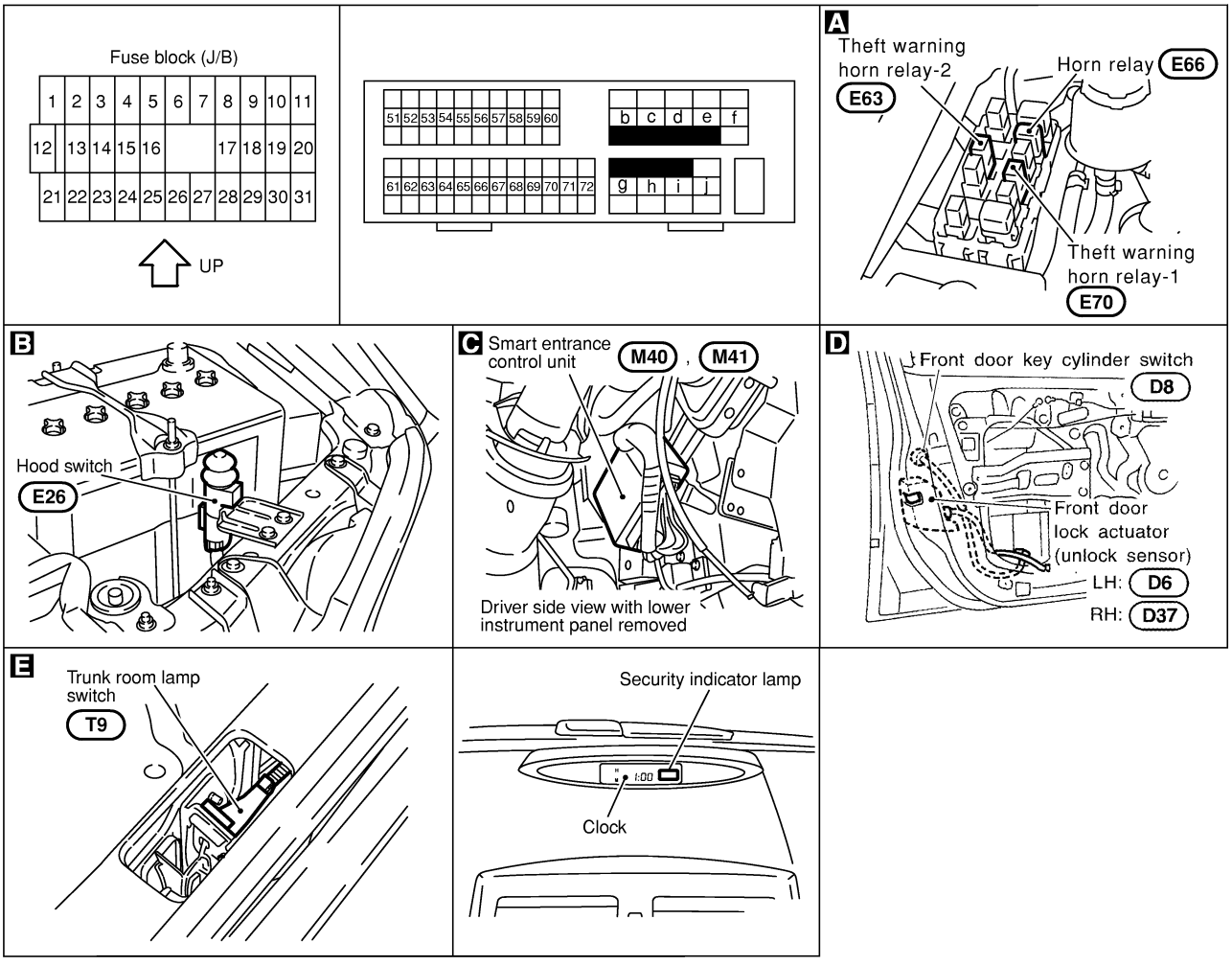
Close the lid securely.
Push the remote controller button two or three times to check its operation.

SEL366W

Component Parts and Harness Connector Location

NFEL0119





SEL038X

System Description

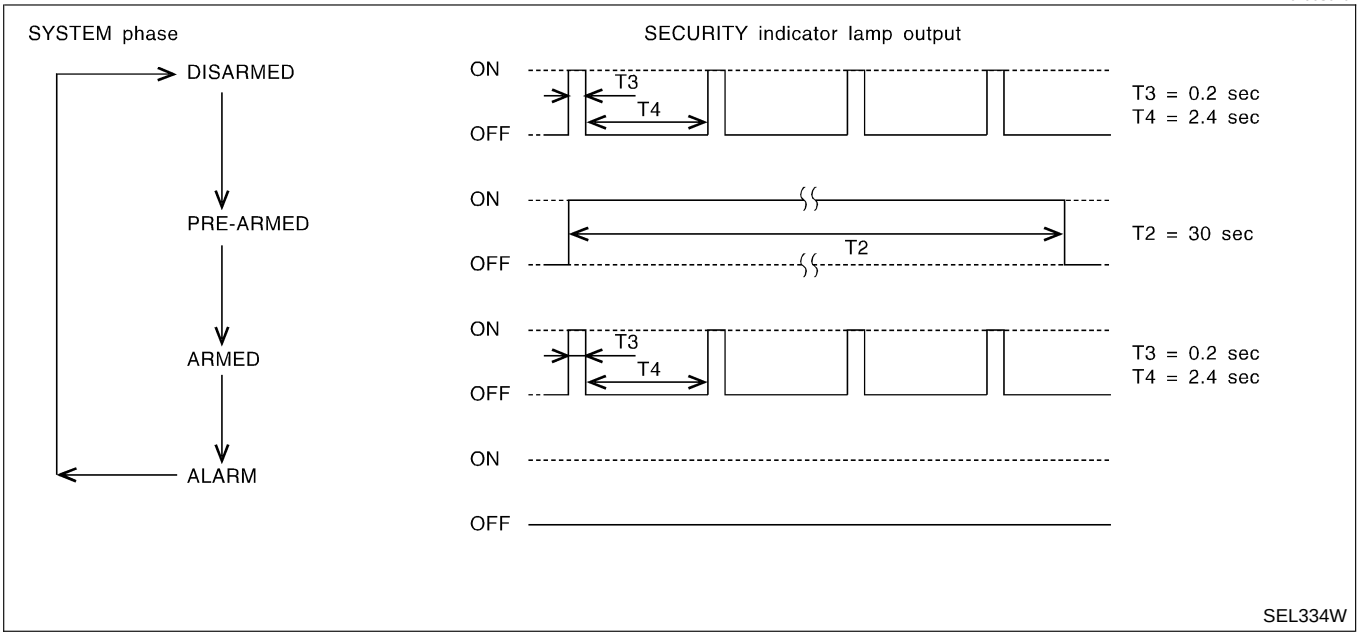
NFEL0196

DESCRIPTION

NFEL0196S01

1. Operation Flow

NFEL0196S0101



2. Setting The Theft Warning System

NFEL0196S0102

Initial condition

1) Ignition switch is in OFF position.

Disarmed phase

When the theft warning system is in the disarmed phase, the security indicator lamp blinks every 2.6 seconds.

Pre-armed phase and armed phase

When the following operation 1) or 2) is performed, the theft warning system turns into the “pre-armed” phase. (The security indicator lamp illuminates.)

1) Smart entrance control unit receives LOCK signal from key cylinder switch or multi-remote controller after hood, trunk lid and all doors are closed.
2) Hood, trunk lid and all doors are closed after front doors are locked by key, lock/unlock switch or multi-remote controller.

After about 30 seconds, the system automatically shifts into the “armed” phase (the system is set). (The security indicator lamp blinks every 2.6 seconds.)

3. Canceling The Set Theft Warning System

NFEL0196S0103

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 trunk lid with the key or multi-remote controller.

4. Activating The Alarm Operation of The Theft Warning System

NFEL0196S0104

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.6 seconds.)
When the following operation 1) or 2) is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

1) Engine hood, trunk lid or any door is opened during armed phase.
2) Disconnecting and connecting the battery connector before canceling armed phase.

POWER SUPPLY AND GROUND

NFEL0196S02

Power is supplied at all times

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to security indicator lamp terminal 4.

Power is supplied at all times

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

- to smart entrance control unit terminal 10.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to smart entrance control unit terminal 21.

Ground is supplied

- to smart entrance control unit terminal 16
- through body grounds M9, M25 and M87.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

NFEL0196S03

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

Pattern A

NFEL0196S0301

To activate the theft warning system, the smart entrance control unit must receive signals indicating the doors, hood and trunk lid are closed.

When a door is open, smart entrance control unit terminal 28, 29 or 40 receives a ground signal from each door switch.

When the hood is open, smart entrance control unit terminal 27 receives a ground signal

- from terminal 1 of the hood switch
- through body grounds E11, E22 and E53.

When the trunk lid is open, smart entrance control unit terminal 38 receives a ground signal

- from terminal 1 of the trunk room lamp switch
- through body grounds T6 and T8.

When smart entrance control unit receives LOCK signal from key cylinder switch or multi-remote controller and none of the described conditions exist, the theft warning system will automatically shift to armed mode.

Pattern B

NFEL0196S0302

To activate the theft warning system, the smart entrance control unit must receive signal indicating any door (including hood and trunk lid) is opened.

When the front doors are locked with key, lock/unlock switch or multi-remote controller and then all doors are closed, the theft warning system will automatically shift to armed mode.

THEFT WARNING SYSTEM ACTIVATION

NFEL0196S04

Pattern A

NFEL0196S0401

With all doors (including hood and trunk lid) close if the key is used to lock doors, terminal 41 receives a ground signal

- from terminal 3 of the key cylinder switch LH
- through body grounds M9, M25 and M87.

If this signal, or lock signal from remote controller is received by the smart entrance control unit, the theft warning system will activate automatically.

NOTE:
Theft warning system can be set even though all doors are not locked.

Pattern B

NFEL0196S0402

With any door (including hood and trunk lid) open if lock/unlock switch is used to lock doors, terminal 23 receives a ground signal

- from terminal 18 of lock/unlock switch LH, or
- from terminal 2 of lock/unlock switch RH
- through body grounds M9, M25 and M87, or

With any door (including hood and trunk lid) open if the key is used to lock doors, terminal 41 receives a ground signal

- from terminal 3 of the key cylinder switch LH
- through body grounds M9, M25 and M87.

If these signals and lock signal from remote controller are received by the smart entrance control unit and ground signals of terminals 36 and 37 are interrupted and all doors are closed, the theft warning system will activate automatically.

NOTE:
Theft warning system can be set even though the rear door is not locked.

Once the theft warning system has been activated, smart entrance control unit terminal 31 supplies ground to terminal 5 of the security indicator lamp.
The security lamp will illuminate for approximately 30 seconds and then blinks every 2.6 seconds.
Now the theft warning system is in armed phase.

THEFT WARNING SYSTEM ALARM OPERATION

NFEL0196S05

The theft warning system is triggered by

- opening a door
- opening the hood or the trunk lid
- detection of battery disconnect and connect.

Once the theft warning system is in armed phase, if the smart entrance control unit receives a ground signal at terminal 28, 29, 40 (door switch), 38 (trunk room lamp switch) or 27 (hood switch), the theft warning system will be triggered. The headlamps flash and the horn sounds intermittently.
Power is supplied at all times

- through 15A fuse (No. 68, located in fuse and fusible link box)
- to headlamp relay LH terminals 1 and 5,
- through 15A fuse (No. 69, located in fuse and fusible link box)
- to headlamp relay RH terminals 1 and 5,
- through 10A fuse (No, 61 located in fuse and fusible link box)
- to theft warning horn relay-1 terminals 1 and 3, and
- to theft warning horn relay-2 terminal 1
- through 10A fuse (No. 57, located in fuse and fusible link box)
- to horn relay terminal 2.

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

- from smart entrance control unit terminal 4
- to theft warning horn relay-2 terminal 2.

When theft warning horn relay-2 is energized, ground is supplied intermittently

- to theft warning horn relay-1 terminal 2,
- to horn relay terminal 1,
- to headlamp relay LH terminal 2 and
- to headlamp relay RH terminal 2.
- through body grounds E11, E22 and E53.

The headlamps flash and the horn sounds intermittently.
The alarm automatically turns off after 50 seconds but will reactivate if the vehicle is tampered with again.

THEFT WARNING SYSTEM DEACTIVATION

NFEL0196S06

To deactivate the theft warning system, a door or trunk lid must be unlocked with the key or remote controller.
When the key is used to unlock the door, smart entrance control unit terminal 30 receives a ground signal

- from terminal 1 of the LH key cylinder switch.

When the key is used to open the trunk lid, smart entrance control unit terminal 42 receives a ground signal from terminal 1 of the trunk lid 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

NFEL0196S07

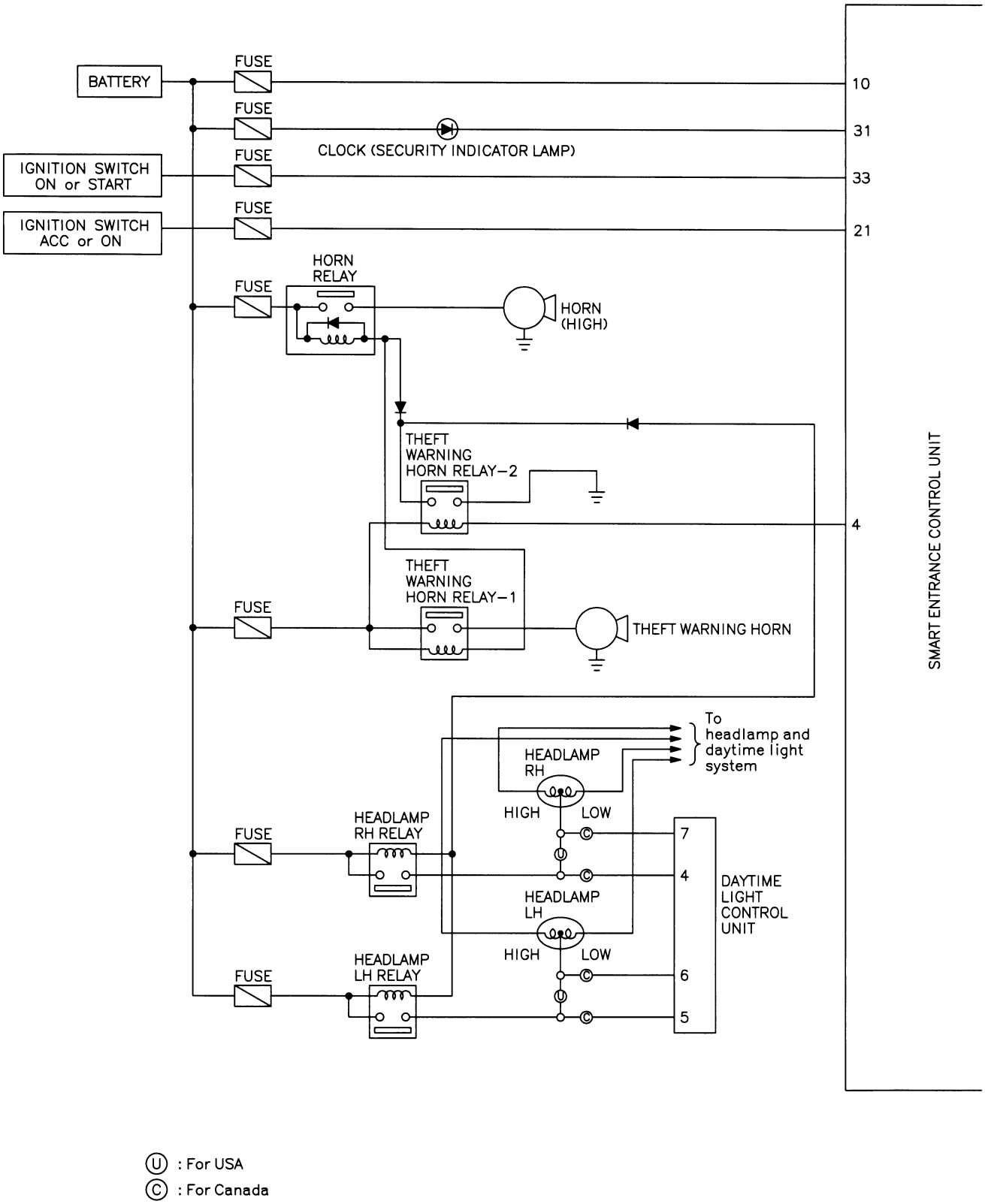
Multi-remote control system may or may not operate theft warning system (horn and headlamps) as required.
When the multi-remote control system (panic alarm) is triggered, ground is supplied intermittently

- from smart entrance control unit terminal 4
- to theft warning horn relay-2 terminal 2.

The headlamp flashes and the horn sounds intermittently.
The alarm automatically turns off after 25 seconds or when smart entrance control unit receives any signal from multi-remote controller.

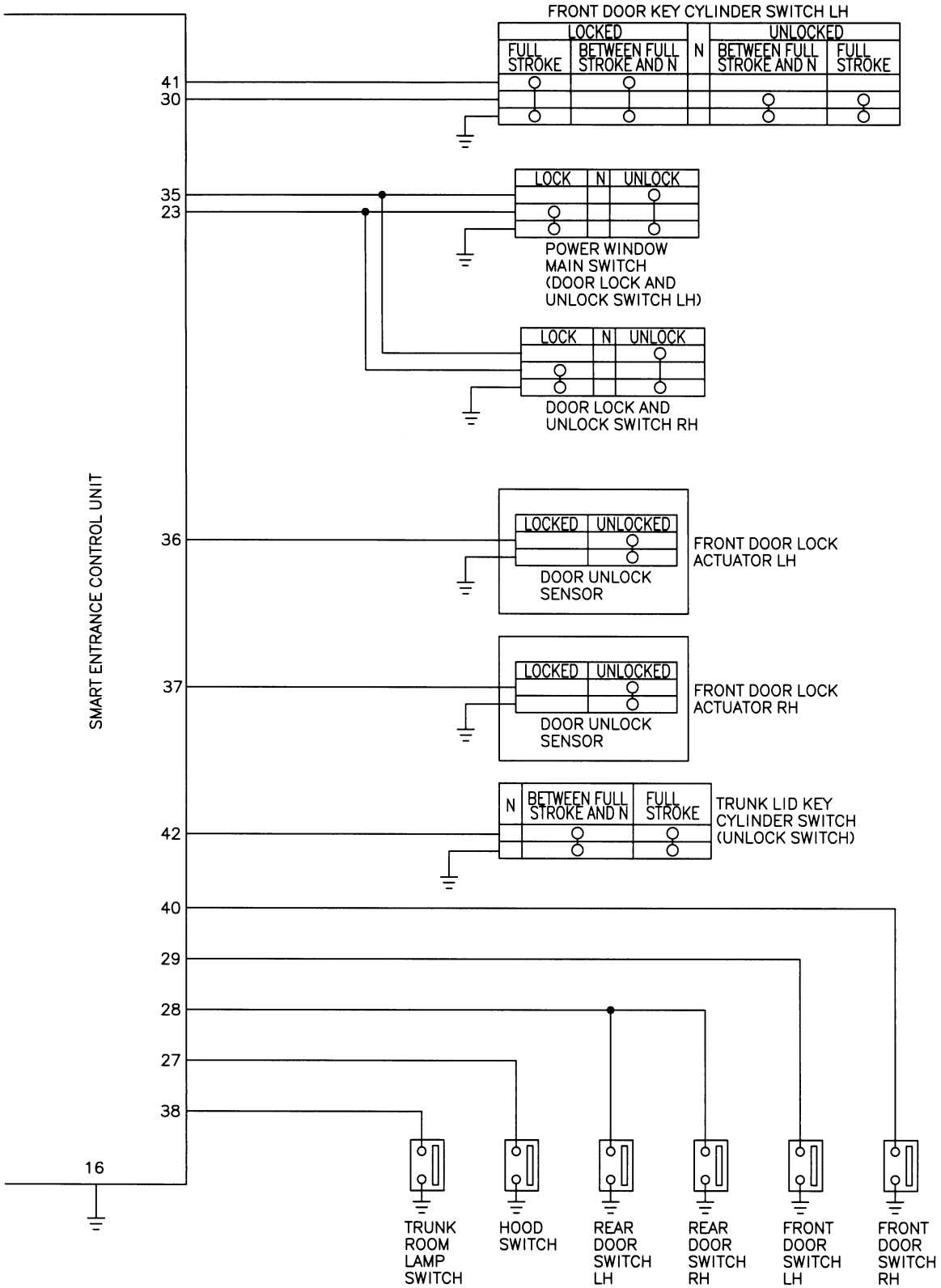
Schematic

NFEL0121



Ⓤ : For USA
Ⓒ : For Canada

MEL318K


FRONT DOOR KEY CYLINDER SWITCH LH
LOCKED
UNLOCKED
FULL STROKE
BETWEEN FULL STROKE AND N
N
BETWEEN FULL STROKE AND N
FULL STROKE
41
30
35
23
LOCK
N
UNLOCK
POWER WINDOW MAIN SWITCH (DOOR LOCK AND UNLOCK SWITCH LH)
DOOR LOCK AND UNLOCK SWITCH RH
SMART ENTRANCE CONTROL UNIT
36
LOCKED
UNLOCKED
DOOR UNLOCK SENSOR
FRONT DOOR LOCK ACTUATOR LH
37
FRONT DOOR LOCK ACTUATOR RH
42
TRUNK LID KEY CYLINDER SWITCH (UNLOCK SWITCH)
40
29
28
27
38
16
TRUNK ROOM LAMP SWITCH
HOOD SWITCH
REAR DOOR SWITCH LH
REAR DOOR SWITCH RH
FRONT DOOR SWITCH LH
FRONT DOOR SWITCH RH

MEL319K

Wiring Diagram — THEFT —

NFEL0122

FIG. 1

NFEL0122S01

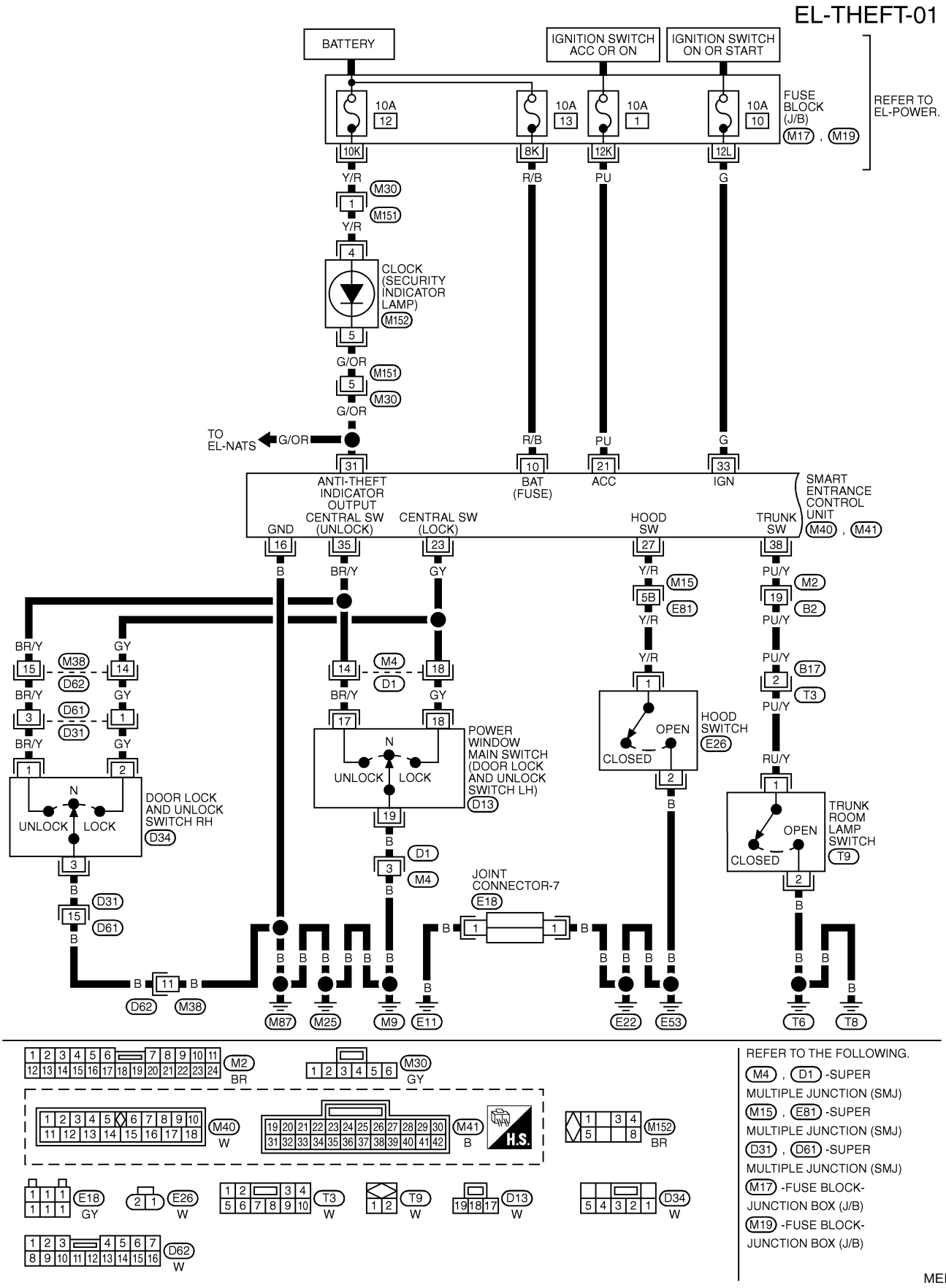
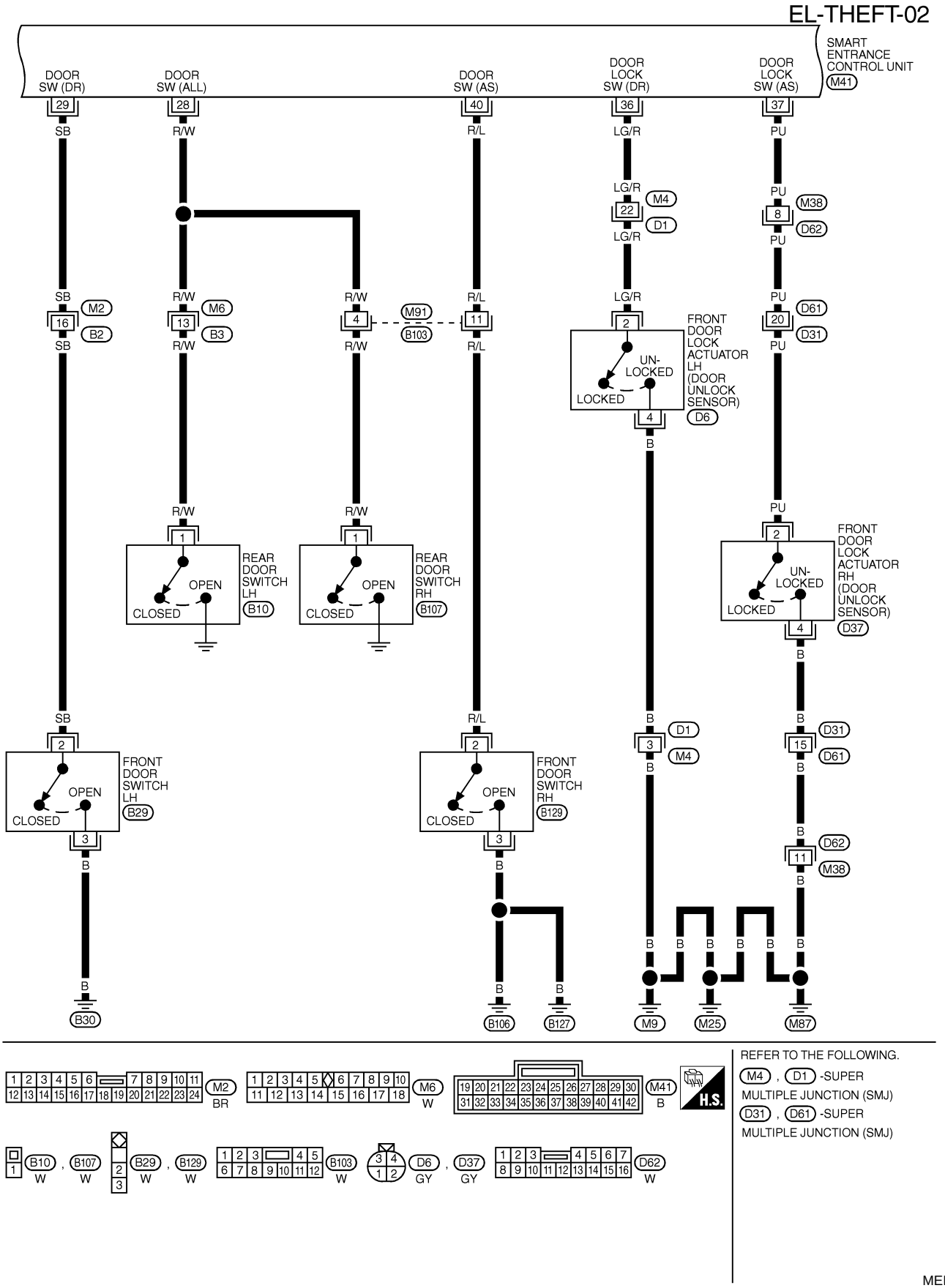


FIG. 2

NFEL0122S02

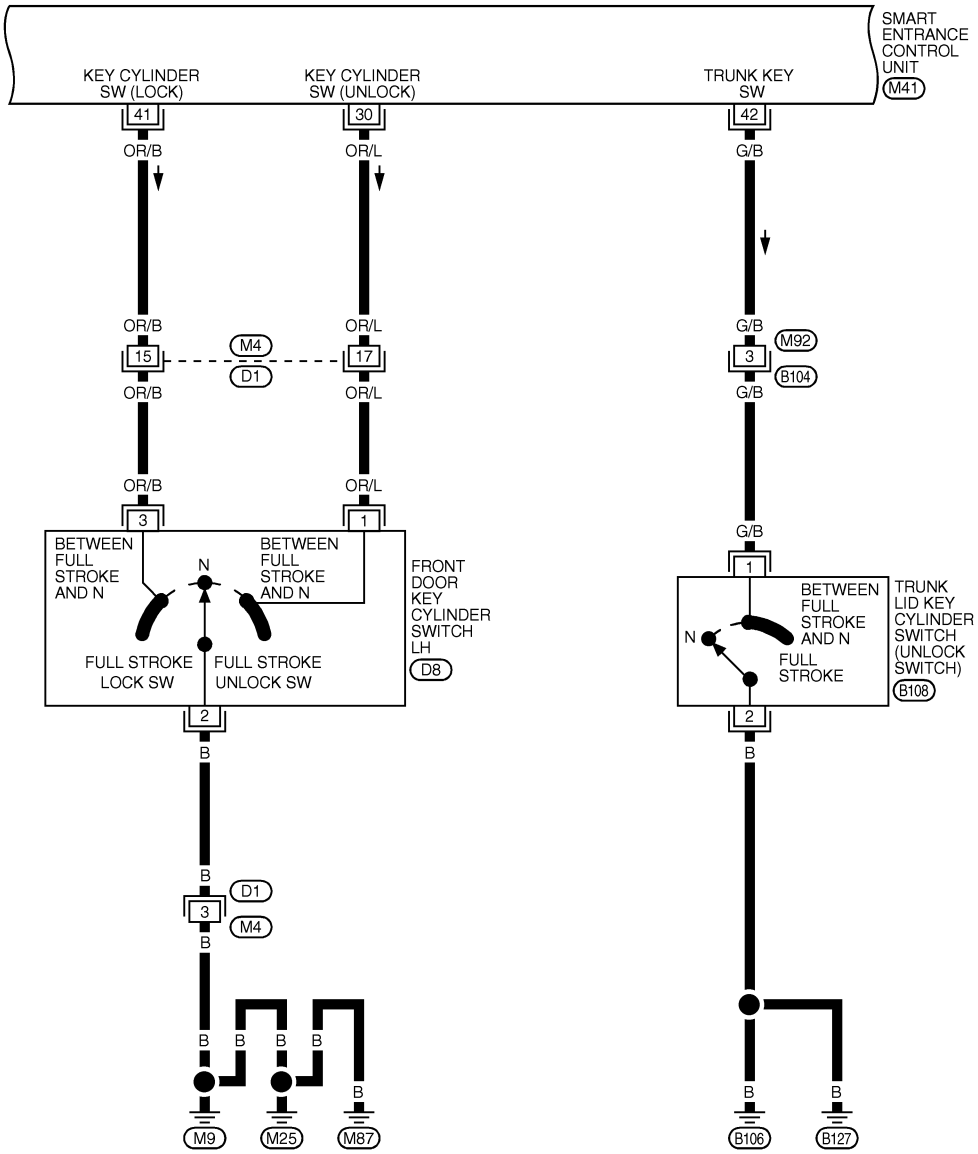


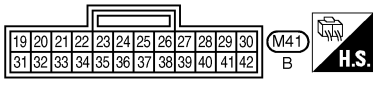
MEL321K

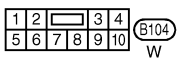
FIG. 3

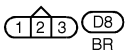
NFEL0122S03

EL-THEFT-03









REFER TO THE FOLLOWING.
M4 , D1 -SUPER MULTIPLE JUNCTION (SMJ)

MEL322K

FIG. 4

NFEL0122S04

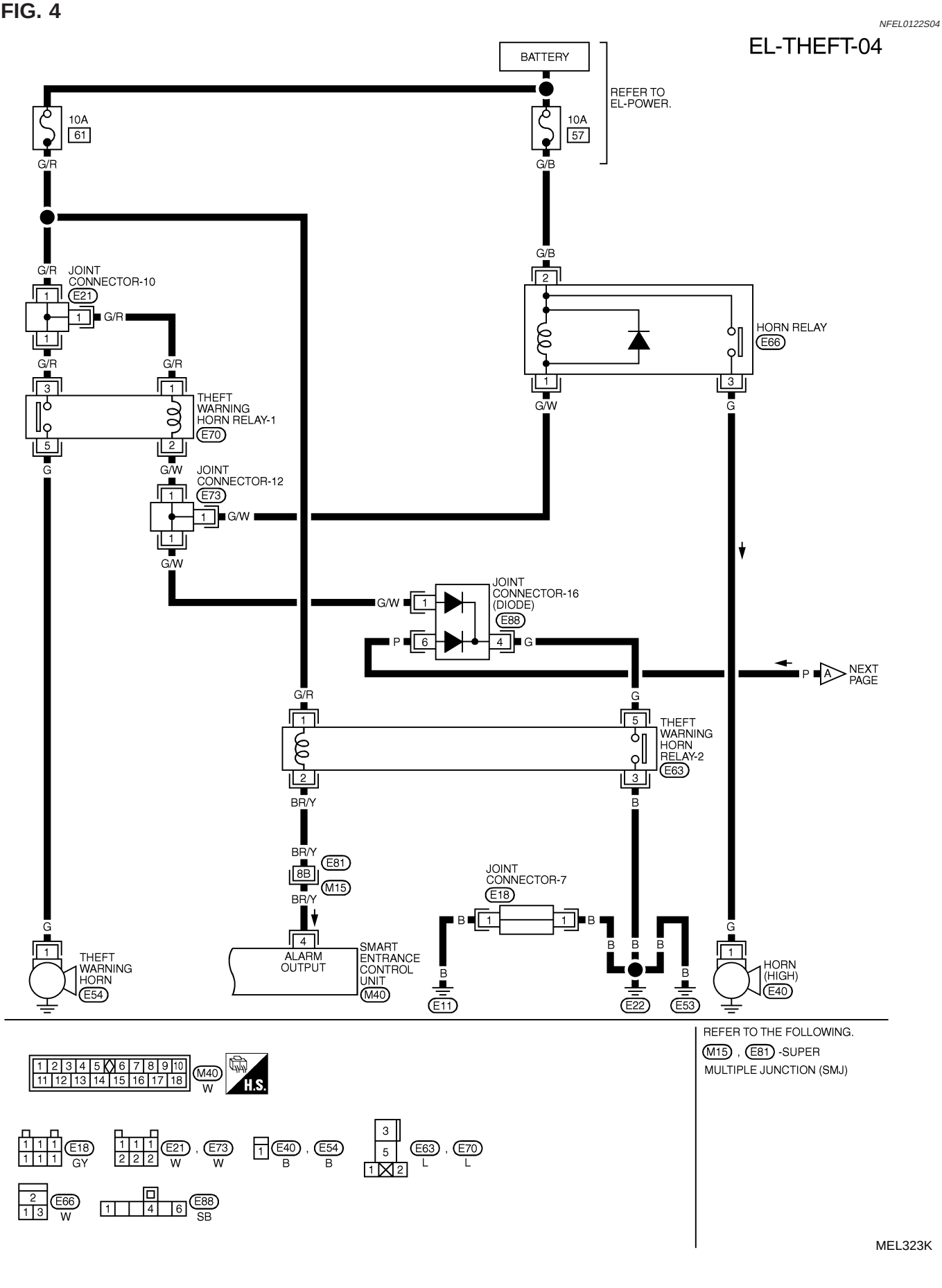
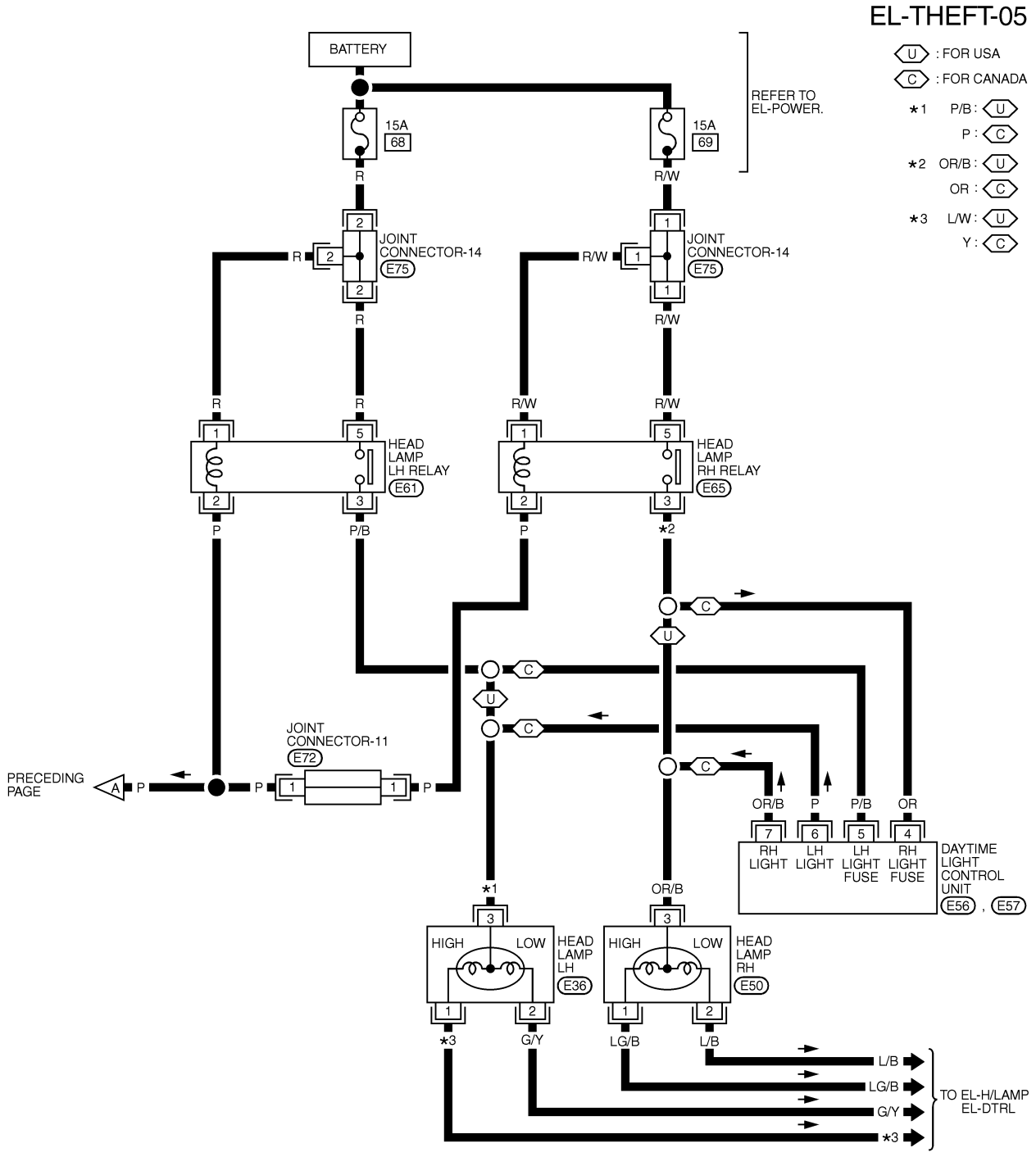
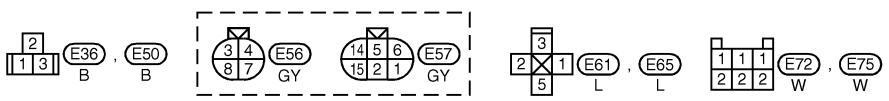


FIG. 5

NFEL0122S07





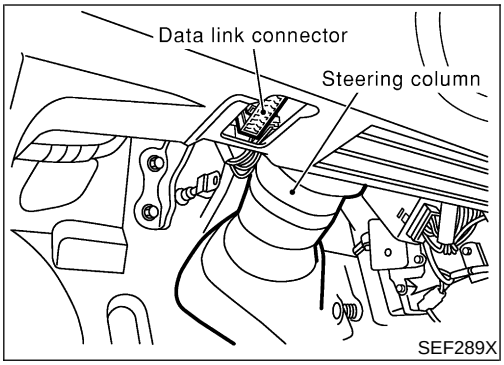
REFER TO THE FOLLOWING.
M15 , E81 -SUPER MULTIPLE JUNCTION (SMJ)

MEL325K

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
4	BR/Y	THEFT WARNING HORN RELAY-2	WHEN PANIC ALARM IS OPERATED USING REMORT CONTROLLER	12V→0V
10	R/B	POWER SOURCE (FUSE)	–	12V
16	B	GROUND	–	–
21	PU	IGNITION SWITCH (ACC)	"ACC" POSITION	12V
23	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL→LOCKS	5V→0V
27	Y/R	HOOD OPEN SIGNAL	→	0V→5V
28	R/W	REAR DOOR SWITCHES	OFF (CLOSED)→ON (OPEN)	5V→0V
29	SB	DRIVER DOOR SWITCH	OFF (CLOSED)→ON (OPEN)	5V→0V
30	OR/L	DOOR KEY CYLINDER UNLOCK SWITCH	OFF (NEUTRAL)→ON (UNLOCKED)	5V→0V
31	G/OR	THEFT WARNING INDICATOR	GOES OFF→ILLUMINATES	12V→0V
33	G	IGN ON	INGITION KEY IS IN "ON" POSITION	12V
35	BR/Y	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL→UNLOCKS	5V→0V
36	LG/R	DRIVER DOOR UNLOCK SENSOR	DRIVER DOOR: LOCKED→UNLOCKED	5V→0V
37	PU	PASSENGER DOOR UNLOCK SENSOR	PASSENGER DOOR: LOCKED→UNLOCKED	5V→0V
38	PU/Y	TRUNK ROOM LAMP SWITCH	ON (OPEN)→OFF (CLOSED)	0V→12V
40	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED)→ON (OPEN)	5V→0V
41	OR/B	DOOR KEY CYLINDER LOCK SWITCH	OFF (NEUTRAL)→ON (LOCKED)	5V→0V
42	G/B	TRUNK LID KEY CYLINDER SWITCH	OFF (NEUTRAL)→ON (UNLOCK)	5V→0V

SEL375WD



SEF289X

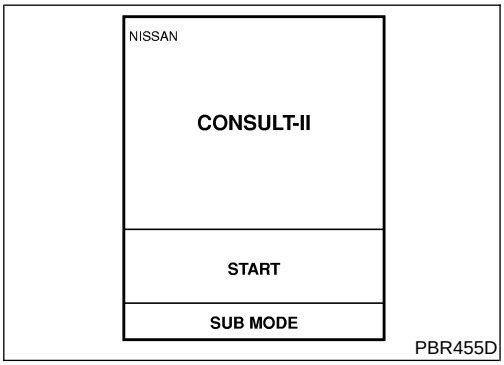
CONSULT-II Inspection Procedure

=NFEL0244

“THEFT WAR ALM”

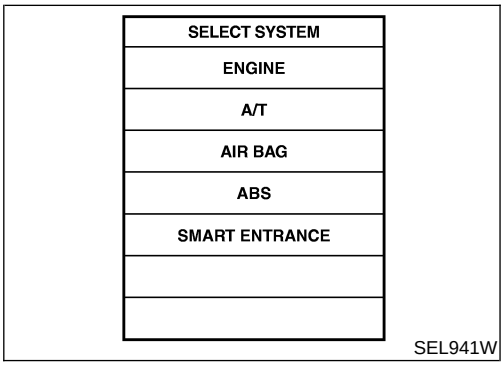
NFEL0244S01

1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



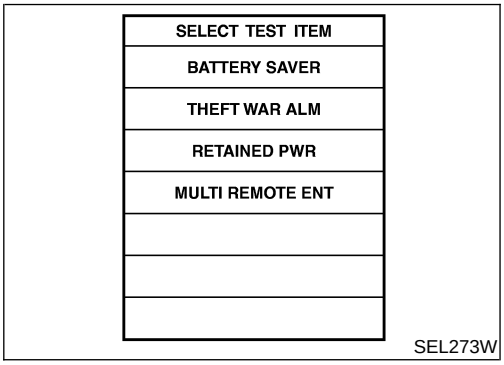
PBR455D

3. Turn ignition switch “ON”.
4. Touch “START”.



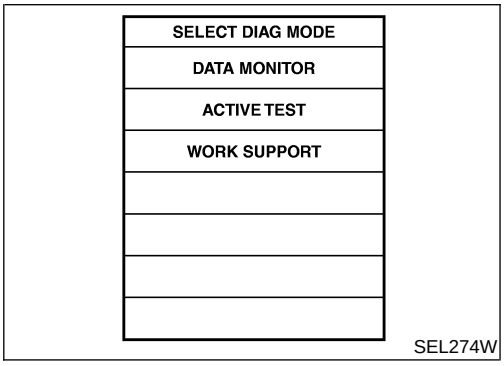
SEL941W

5. Touch “SMART ENTRANCE”.



SEL273W

6. Touch “THEFT WAR ALM”.



SEL274W

7. Select diagnosis mode.
   “DATA MONITOR”, “ACTIVE TEST” and “WORK SUPPORT” are available.

CONSULT-II Application Item

NFEL0245

"THEFT WAR ALM"

NFEL0245S01

Data Monitor

NFEL0245S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder switch.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder switch.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LOCK SIG DR	Indicates [ON/OFF] condition of front door unlock sensor LH.
LOCK SIG AS	Indicates [ON/OFF] condition of front door unlock sensor RH.
TRUNK SW	Indicates [ON/OFF] condition of trunk switch.
TRUNK KEY SW	Indicates [ON/OFF] condition of trunk key cylinder switch.
HOOD SWITCH	Indicates [ON/OFF] condition of hood switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from door lock/unlock LH and RH.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from remote controller.

Active Test

NFEL0245S0102

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when "ON" on CONSULT-II screen is touched.
THEFT WAR ALM	This test is able to check theft waning alarm operation. The alarm will be activated for 0.5 seconds after "ON" on CONSULT-II screen is touched.

Work Support

NFEL0245S0103

Test Item	Description
THEFT ALM TRG	The switch which triggered theft warning alarm is recorded. This mode is able to confirm and erase the record of theft waning alarm. The trigger data can be erased by touching "CLEAR" on CONSULT-II screen.

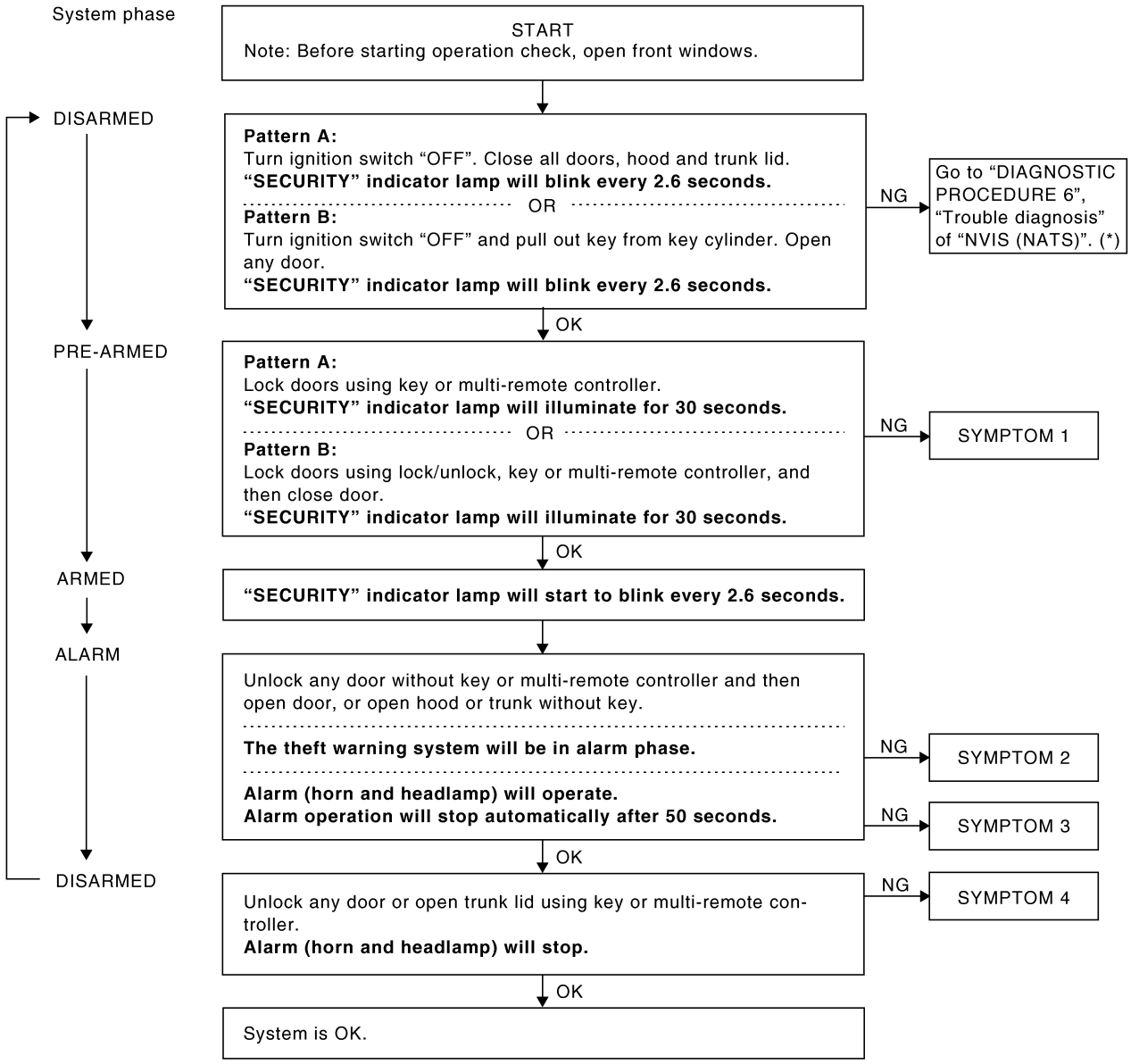
Trouble Diagnoses

=NFEL0123

PRELIMINARY CHECK

NFEL0123S01

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



SEL254W

For details of “Pattern A” and “Pattern B” about theft warning system setting, refer to EL-279.
*: Refer to EL-336.
After performing preliminary check, go to symptom chart on next page.

SYMPTOM CHART

NFEL0123S02

REFERENCE PAGE (EL-)			292	294	295	301	303	304	305	306	308	257
SYMPTOM			PRELIMINARY CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK	SECURITY INDICATOR LAMP CHECK	FRONT DOOR UNLOCK SENSOR CHECK	DOOR KEY CYLINDER SWITCH CHECK	TRUNK LID KEY CYLINDER SWITCH CHECK	DOOR LOCK/UNLOCK SWITCH CHECK	THEFT WARNING HORN AND HEADLAMP ALARM CHECK	Check "MULTI-REMOTE CONTROL" system.
	Theft warning indicator does not illuminate for 30 seconds.		X	X		X						
1	Theft warning system cannot be set by	All items	X	X	X		X					
		Door outside key	X					X				
		Lock/unlock switch	X							X		
		Multi-remote control	X									X
2	*1 Theft warning system does not alarm when ...	One of the door is opened	X		X							
3	Theft warning alarm does not activate.	Horn or headlamp alarm	X		X						X	
4	Theft warning system cannot be canceled by	Door outside key	X					X				
		Trunk lid key	X						X			
		Multi-remote control	X									X

X : Applicable

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

Before starting trouble diagnoses above, perform preliminary check, EL-292.

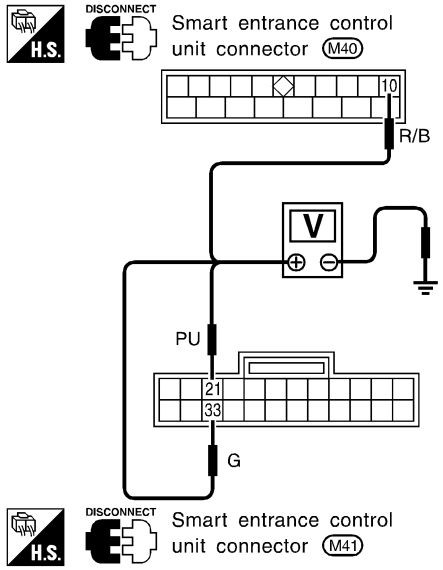
Symptom numbers in the symptom chart correspond with those of preliminary check.

POWER SUPPLY AND GROUND CIRCUIT CHECK

NFEL0123S03

Power Supply Circuit Check

NFEL0123S0301

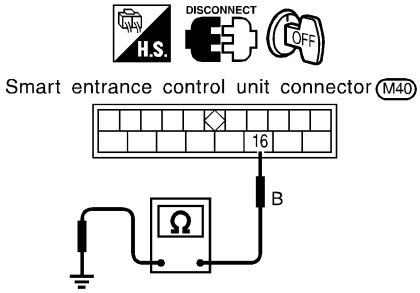


Terminals		Ignition switch position		
(+)	(−)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage
33	Ground	0V	0V	Battery voltage
21	Ground	0V	Battery voltage	Battery voltage

SEL238W

Ground Circuit Check

NFEL0123S0302



Terminals	Continuity
16 - Ground	Yes

SEL234W

DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK

=NFEL0123S04

Door Switch Check

NFEL0123S0401

1	PRELIMINARY CHECK

1. Turn ignition switch OFF and remove key from ignition key cylinder.
   "SECURITY" indicator lamp should blink every 2.6 seconds.
2. Close all doors, hood and trunk lid.
3. Lock doors with multi-remote controller from inside the vehicle.
   "SECURITY" indicator lamp should turn on for 30 seconds.
4. Unlock any door with the door lock knob and open the door within 30 seconds after door is locked.
   "SECURITY" indicator lamp should turn off.

OK or NG

OK	▶	Door switch is OK, and go to hood switch check.
NG	▶	GO TO 2.

2	CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-ALL") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-ALL	OFF

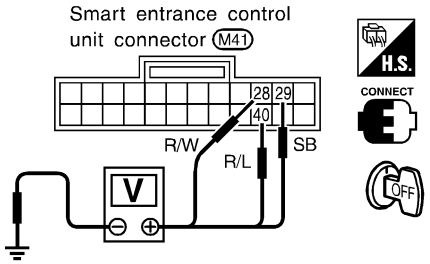
When any doors are open:
DOOR SW-ALL ON

When all doors are closed:
DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 28, 29 or 40 and ground.



	Terminals (+)	Terminals (−)	Condition	Voltage [V]
Front LH door switch	29	Ground	Open	0
			Closed	Approx. 5
Front RH door switch	40	Ground	Open	0
			Closed	Approx. 5
Rear door switches	28	Ground	Open	0
			Closed	Approx. 5

SEL191W

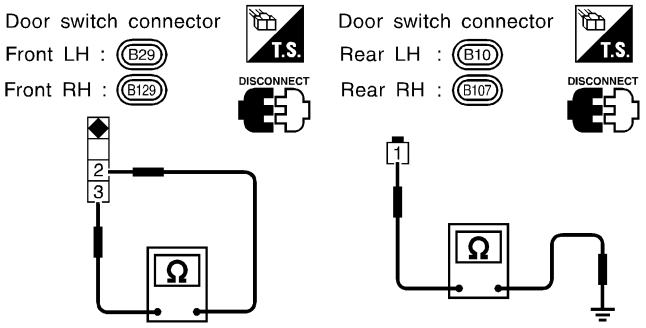
Refer to wiring diagram in EL-285.

OK or NG

OK	▶	Door switch is OK, and go to hood switch check.
NG	▶	GO TO 3.

3	CHECK DOOR SWITCH

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



	Terminals	Condition	Continuity
Front door switches	2 - 3	Closed	No
		Open	Yes
Rear door switches	1 - Ground	Closed	No
		Open	Yes

SEL192W

OK or NG

OK	▶	**Check the following.** ● Door switch ground circuit or door switch ground condition ● Harness for open or short between smart entrance control unit and door switch
NG	▶	Replace door switch.

Hood Switch Check

=NFEL0123S0402

1	PRELIMINARY CHECK

1. Turn ignition switch OFF and remove key from ignition key cylinder.
   "SECURITY" indicator lamp should blink every 2.6 seconds.
2. Close all doors, hood and trunk lid.
3. Lock doors with multi-remote controller from inside the vehicle.
   "SECURITY" indicator lamp should turn on for 30 seconds.
4. Unlock hood with hood opener within 30 seconds after door is locked.
   "SECURITY" indicator lamp should turn off.

OK or NG

OK	▶	Hood switch is OK, and go to trunk room lamp switch check.
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

With CONSULT-II

Check hood switch ("HOOD SWITCH") in "DATA MONITOR" mode with CONSULT-II.

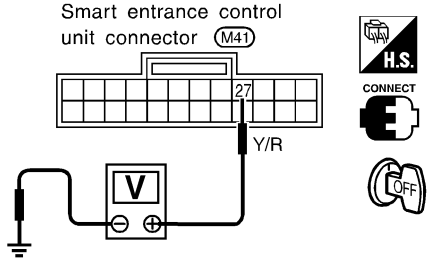
DATA MONITOR	
MONITOR	
HOOD SWITCH	OFF

When hood is open:
HOOD SWITCH ON
When hood is closed:
HOOD SWITCH OFF

SEL354W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 27 and ground.



Voltage [V]:
Engine hood is open.
0
Engine hood is closed.
Approx. 5

SEL239W

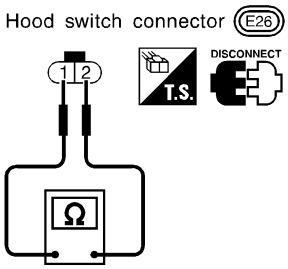
Refer to wiring diagram in EL-284.

OK or NG

OK	▶	Hood switch is OK, and go to trunk room lamp switch check.
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

SEL240W

OK or NG

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

Trunk Room Lamp Switch Check

=NFEL0123S0403

1	PRELIMINARY CHECK

1. Turn ignition switch OFF and remove key from ignition key cylinder.
   "SECURITY" indicator lamp should blink every 2.6 seconds.
2. Close all doors, hood and trunk lid.
3. Lock doors with multi-remote controller from inside the vehicle.
   "SECURITY" indicator lamp should turn on for 30 seconds.
4. Open trunk lid with trunk lid opener switch (on driver side door trim) within 30 seconds after door is locked.
   "SECURITY" indicator lamp should turn off.

OK or NG

OK	▶	Trunk room lamp switch is OK.
NG	▶	GO TO 2.

2	CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL

With CONSULT-II

Check trunk room lamp switch ("TRUNK SW"), in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
TRUNK SW	OFF

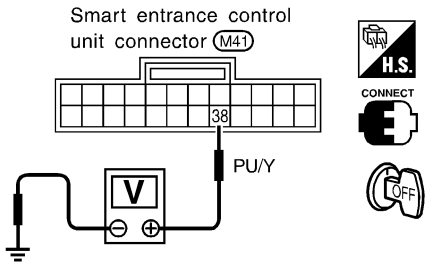
When trunk lid is open:
TRUNK SW ON

When trunk lid is closed:
TRUNK SW OFF

SEL355W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 38 and ground.



Voltage [V]:
Trunk lid is open.
Approx. 0
Trunk lid is closed.
Approx. 12

SEL241W

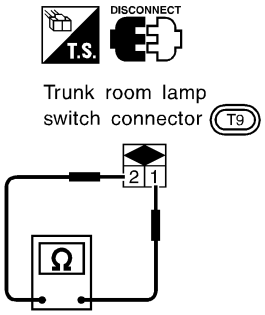
Refer to wiring diagram in EL-284.

OK or NG

OK	▶	Trunk room lamp switch is OK.
NG	▶	GO TO 3.

3	CHECK TRUNK ROOM LAMP SWITCH

1. Disconnect trunk room lamp switch connector.
2. Check continuity between trunk room lamp switch terminals 1 and 2.



Continuity:
Condition: Closed
No
Condition: Open
Yes

SEL242W

OK or NG

OK	▶	**Check the following.** ● Trunk room lamp switch ground circuit ● Harness for open or short between smart entrance control unit and trunk room lamp switch
NG	▶	Replace trunk room lamp switch.

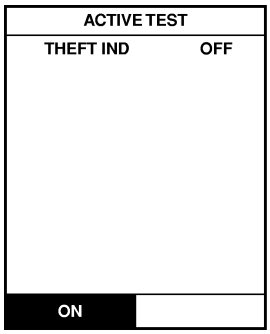
SECURITY INDICATOR LAMP CHECK

=NFEL0123S05

1	CHECK INDICATOR LAMP OPERATION

With CONSULT-II

1. Select "ACTIVE TEST" in "THEFT WAR ALM" with CONSULT-II.
2. Select "THEFT IND" and touch "ON".

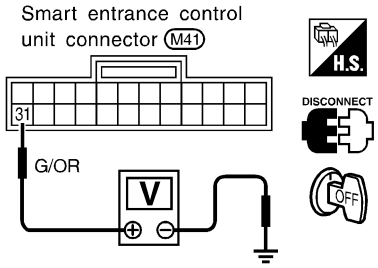


Security indicator lamp should illuminate.

SEL356W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check voltage between smart entrance control unit harness connector terminal 31 and ground.



Battery voltage should exist.

SEL243W

Refer to wiring diagram in EL-284.

OK or NG

OK	▶	Security indicator lamp is OK.
NG	▶	GO TO 2.

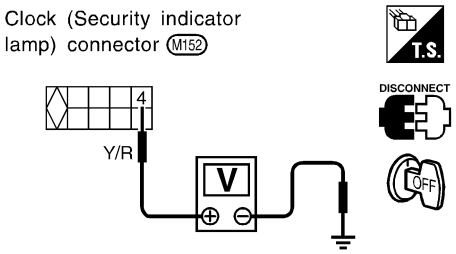
2	CHECK INDICATOR LAMP

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 4 and ground.



SEL244W

Does battery voltage exist?

Yes	▶	Check harness for open or short between security indicator lamp and smart entrance control unit.
No	▶	**Check the following.** ● 10A fuse [No. 12, located in fuse block (J/B)] ● Harness for open or short between security indicator lamp and fuse

FRONT DOOR UNLOCK SENSOR CHECK

=NFEL0123S06

1 CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL

With CONSULT-II

Check front unlock sensor ("LOCK SIG DR", "LOCK SIG AS") in "DATA MONITOR" with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SIG DR	OFF
LOCK SIG AS	OFF

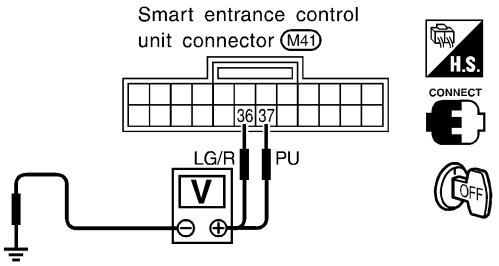
When door is locked:
LOCK SIG DR OFF
LOCK SIG AS OFF

When door is unlocked:
LOCK SIG DR ON
LOCK SIG AS ON

SEL357W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 or 37 and ground.



	Terminals (+)	Terminals (–)	Condition	Voltage [V]
Front LH door	36	Ground	Locked	Approx. 5
			Unlocked	0
Front RH door	37	Ground	Locked	Approx. 5
			Unlocked	0

SEL245W

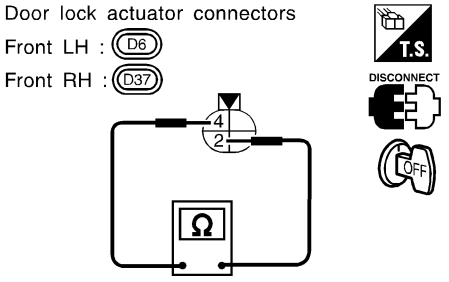
Refer to wiring diagram in EL-285.

OK or NG

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

2 CHECK FRONT DOOR UNLOCK SENSOR

1. Disconnect door lock actuator connector.
2. Check continuity between door lock actuator terminals.



Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

SEL246W

OK or NG

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

DOOR KEY CYLINDER SWITCH CHECK

=NFEL0123S07

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

With CONSULT-II

Check front door key cylinder switch ("KEY CYL LK-SW"/"KEY CYL UN-SW") in "DATA MONITOR" mode with CONSULT-II.

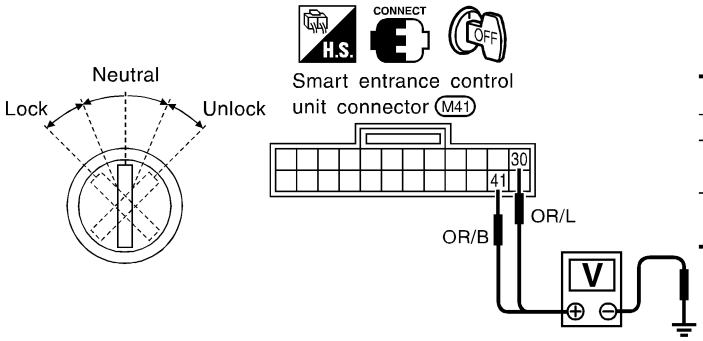
DATA MONITOR	
MONITOR	
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

When key inserted in front key cylinder is turned to LOCK:
KEY CYL LK-SW ON
When key inserted in front key cylinder is turned to UNLOCK:
KEY CYL UN-SW ON

SEL342W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 30 or 41 and ground.



Terminals (+)	Terminals (−)	Key position	Voltage V
41	Ground	Neutral/Unlock	Approx. 5
		Lock	0
30	Ground	Neutral/Lock	Approx. 5
		Unlock	0

SEL198W

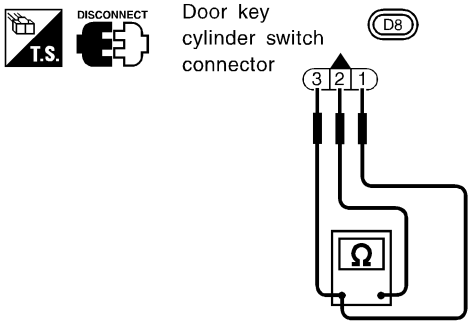
Refer to wiring diagram in EL-286.

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 connector terminals.



① : Door unlock switch terminal
② : Ground terminal
③ : Door lock switch terminal

Terminals	Key position	Continuity
③ - ②	Neutral/Unlock	No
	Lock	Yes
① - ②	Neutral/Lock	No
	Unlock	Yes

SEL034X

OK or NG

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

TRUNK LID KEY CYLINDER SWITCH CHECK

=NFEL0123S08

1 **CHECK TRUNK LID KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK SIGNAL)**

With CONSULT-II

Check trunk lid key cylinder switch ("TRUNK KEY SW") in "DATA MONITOR" mode with CONSULT-II.

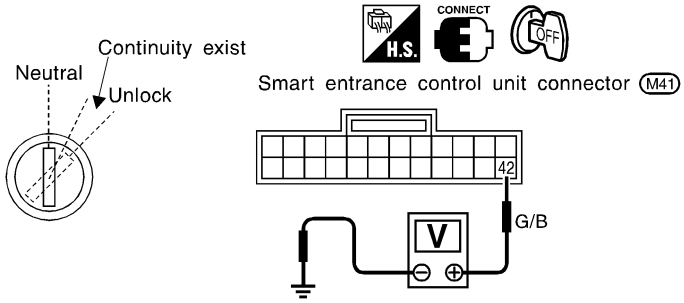
DATA MONITOR	
MONITOR	
TRUNK KEY SW	OFF

When key in key cylinder is at Neutral position:
TRUNK KEY SW OFF
When key in key cylinder is at Unlock position:
TRUNK KEY SW ON

SEL358W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 42 and ground.



Terminal (+)	Terminal (−)	Key position	Voltage [V]
42	Ground	Neutral	Approx. 5
		Unlock	0

SEL247W

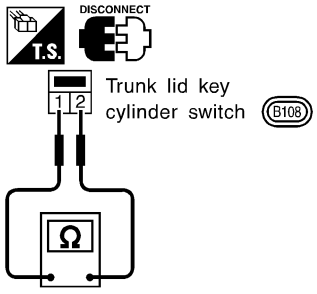
Refer to wiring diagram in EL-286.

OK or NG

OK	▶	Trunk lid key cylinder switch is OK.
NG	▶	GO TO 2.

2 **CHECK TRUNK LID KEY CYLINDER SWITCH**

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



Key position	Continuity
Neutral	No
Unlock	Yes

SEL248W

OK or NG

OK	▶	**Check the following.** ● Trunk lid key cylinder switch ground circuit ● Harness for open or short between smart entrance control unit and trunk lid key cylinder switch
NG	▶	Replace trunk lid key cylinder switch.

DOOR LOCK/UNLOCK SWITCH CHECK

NFEL0123S13

1 **CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL**

With CONSULT-II

Check door lock/unlock switch ("LOCK SW DR/AS"/"UNLK SW DR/AS") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

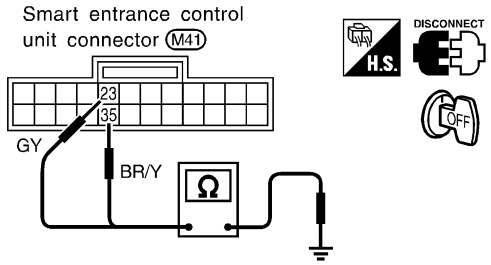
When lock/unlock switch is turned to LOCK:
LOCK SW DR/AS ON

When lock/unlock switch is turned to UNLOCK:
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 23 or 35 and ground.



Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
23 - Ground	Lock	Yes
	N and Unlock	No
35 - Ground	Unlock	Yes
	N and Lock	No

SEL195W

Refer to wiring diagram in EL-284.

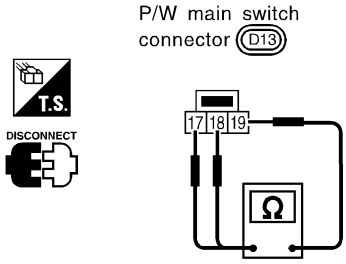
OK or NG

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

2	CHECK DOOR LOCK/UNLOCK SWITCH

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

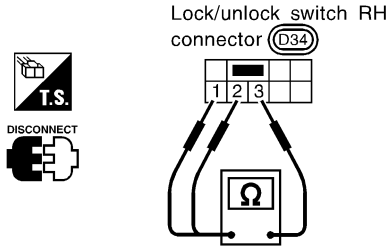
- Power window main switch (Door lock/unlock switch LH)



Condition	Terminals		
	17	18	19
Lock		○	○
N	No continuity		
Unlock	○		○

SEL196W

- Door lock/unlock switch RH



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

SEL197W

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 smart entrance control unit
NG	▶	Replace door lock/unlock switch.

THEFT WARNING HORN AND HEADLAMP ALARM CHECK

=NFEL0123S09

1	CHECK THEFT WARNING HORN AND HEADLAMP ALARM OPERATION

With CONSULT-II

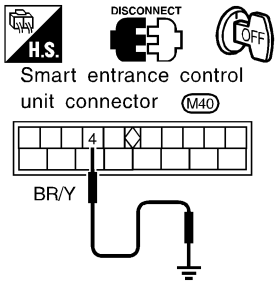
1. Select "ACTIVE TEST" in "THEFT WAR ALM" with CONSULT-II.
2. Select "THEFT WAR ALM" and touch "ON".

Theft warning horn and headlamp alarm should operate.

SEL359W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector terminal 4.



Theft warning horn and headlamp alarm should operate.

SEL249W

Refer to wiring diagram in EL-287.

OK or NG

OK	▶	Horn and headlamp alarm is OK.
NG	▶	GO TO 2.

2	CHECK THEFT WARNING HORN RELAYS

Check theft warning horn relay-1 and relay-2.

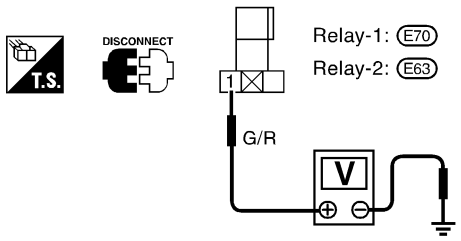
OK or NG

OK	▶	GO TO 3.
NG	▶	Replace.

3	CHECK POWER SUPPLY FOR THEFT WARNING HORN RELAYS

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

Theft warning horn relay connectors



SEL362W

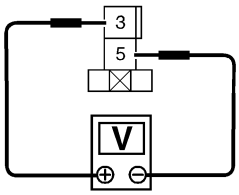
Does battery voltage exist?

Yes	▶	GO TO 4.
No	▶	**Check the following.** ● 10A fuse (No. 57 located in the fuse and fusible link box) ● Harness for open or short between theft warning horn relays and fuse

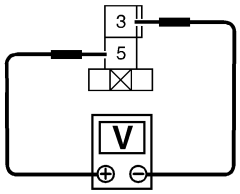
4	CHECK THEFT WARNING HORN RELAYS CIRCUIT

1. Disconnect theft warning horn relay-1 and relay-2 connectors.
2. Check voltage between terminals of each relay.
   Battery voltage should exist.

Theft warning horn relay-1 connector E70



Theft warning horn relay-2 connector E63



SEL363W

OK or NG

OK	▶	Check harness for open or short between theft warning horn relay-2 and headlamp relays.
NG	▶	**Check the following.** ● Harness for open or short between theft warning horn relay-1 and fuse ● Harness for open or short between theft warning horn relay-1 and relay-2 ● Harness for open or short between theft warning horn relay-1 and theft warning horn

Description

NFEL0124

OUTLINE

NFEL0124S01

The smart entrance control unit totally controls the following body electrical system operations.

- Warning chime
- Rear defogger and door mirror defogger
- Power door lock
- Multi-remote control system
- Theft warning system
- Interior lamp

In addition, the following timer operations are controlled by the smart entrance control unit.

- Battery saver control
- Retained power control

BATTERY SAVER CONTROL

NFEL0124S02

Headlamps/Parking Lamps/License Lamps/Tail Lamps/Fog Lamps/Illumination Lamps

NFEL0124S0201

When the ignition switch is turned OFF (or ACC) from ON (or START) while headlamps illuminate, the headlamps (including parking, license, tail, fog and illumination lamps) are turned off after 45 seconds which are counted by the RAP (Retained Accessary Power) signal from the smart entrance control unit terminal 5 to the headlamp battery saver control unit.
The headlamps (including parking, license, tail, fog and illumination lamps) are turned off when the driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned OFF (or ACC) from ON (or START).

Interior Lamp/Trunk Room Lamp/Spot Lamp/Vanity Mirror Illumination

NFEL0124S0202

The lamps turn off automatically when the interior lamp, trunk room lamp, spot lamp or/and vanity mirror illumination are illuminated with the ignition key in the OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in the ON position for more than 10 minutes.
After lamps are turned off by the battery saver system, the lamps illuminate again when:

- Driver's door is locked or unlocked,
- Door is opened or closed,
- Key is inserted into ignition key cylinder.
- Trunk lid is opened

Rear Window Defogger/Door Mirror Defogger

NFEL0124S0203

Rear window defogger and door mirror defogger are turned off in approximately 15 minutes after the rear window defogger switch is turned on.

RETAINED POWER CONTROL

NFEL0124S03

When the ignition switch is turned to OFF position from ON or START position, the following systems can be operated for 45 seconds by the RAP signal from the smart entrance control unit terminal 5.

- Electric sunroof
- Power window

The retained power operation is canceled when the driver or passenger side door is opened.

INPUT/OUTPUT

NFEL0124S04

System	Input	Output
Power door lock	Door lock and unlock switch LH and RH Key switch (Insert) Door switches Door key cylinder switches	Door lock actuator

Description (Cont'd)

System	Input	Output
Multi-remote control	Key switch (Insert) Ignition switch (ACC) Door switches Front door unlock sensor LH Remote controller signal	Horn relay Theft warning horn relay-1 Theft warning horn relay-2 Multi-remote control relay Interior lamp Ignition key hole illumination Door lock actuator Trunk lid opener actuator
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt switch Front door switch LH	Warning chime (located in smart entrance control unit)
Rear window defogger and door mirror defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Theft warning	Ignition switch (ACC, ON) Door switches Hood switch Trunk room lamp switch Door lock/unlock switches Door key cylinder switches (lock/unlock) Trunk lid key cylinder switch (unlock) Door unlock sensores	Theft warning horn relay-2 Security indicator
Interior lamp	Door switches Front door unlock sensor LH Ignition switch (ON) Key switch (Insert)	Interior lamp Key hole illumination
Battery saver control for headlamps/parking lamps/ licence lamps/tail lamps/fog lamps/illumination lamps	Ignition switch (ON) Front door switches	Headlamp battery saver control unit
Battery saver control for interior lamp/trunk room lamp/spot lamp/vanity mirror illumination	Ignition switch (ON) Front door switches Lamp switches	Interior lamp Trunk room lamp Spot lamp Vanity mirror illumination
Battery saver control for rear window defogger and door mirror defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Retained power control for electric sunroof	Ignition switch (ON) Front door switches	Sunroof motor
Retained power control for power window	Ignition switch (ON) Front door switches	Power window relay

CONSULT-II

=NFEL0247

DIAGNOSTIC ITEMS APPLICATION

NFEL0247S01

Item (CONSULT-II screen terms)	Diagnosed system	DATA MONITOR	ACTIVE TEST	WORK SUPPORT
DOOR LOCK	Power door lock	X	X	
REAR DEFOGGER	Rear window defogger	X	X	
KEY WARN ALM	Warning chime	X	X	
LIGHT WARN ALM	Warning chime	X	X	
SEAT BELT ALM	Warning chime	X	X	
INT LAMP	Interior lamps	X	X	
BATTERY SAVER	Battery saver control for interior lamp	X	X	
THEFT WAR ALM	Theft warning system	X	X	X
RETAINED PWR	Retained power control	X	X	
MULTI REMOTE ENT	Multi-remote control system	X	X	X

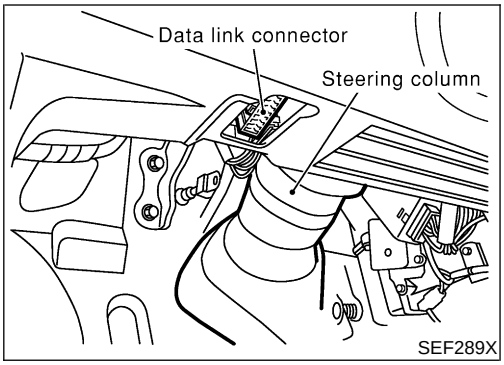
X: Applicable

For diagnostic item in each control system, refer to the relevant pages for each system.

DIAGNOSTIC ITEM DESCRIPTION

NFEL0247S02

MODE	Description
DATA MONITOR	Input/output data in the smart entrance control unit can be read.
ACTIVE TEST	Diagnostic Test Mode in which CONSULT-II drives some systems apart from the smart entrance control unit.
WORK SUPPORT for THEFT WAR ALM	The recorded trigger signal when theft warning system was activated can be checked.
WORK SUPPORT for MULTI REMOTE ENT	ID code of multi-remote controller can be registered and erased.

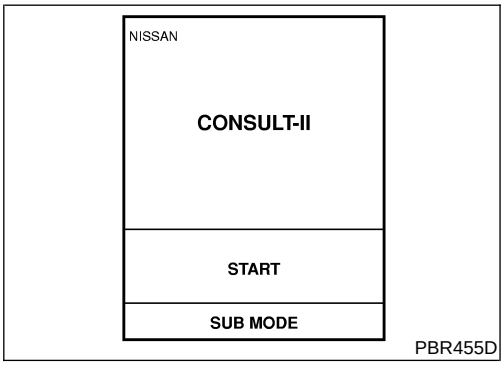


SEF289X

CONSULT-II INSPECTION PROCEDURE

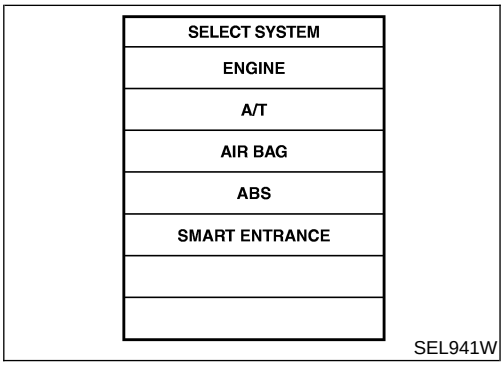
=NFEL0247S03

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



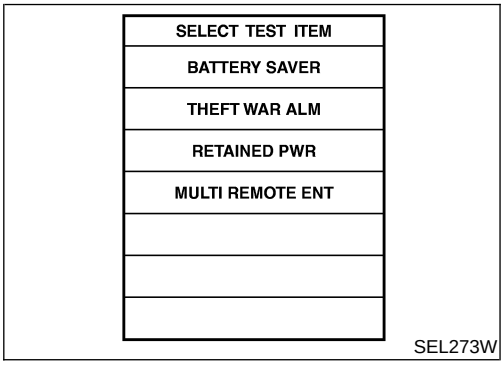
PBR455D

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



SEL941W

5. Touch "SMART ENTRANCE".

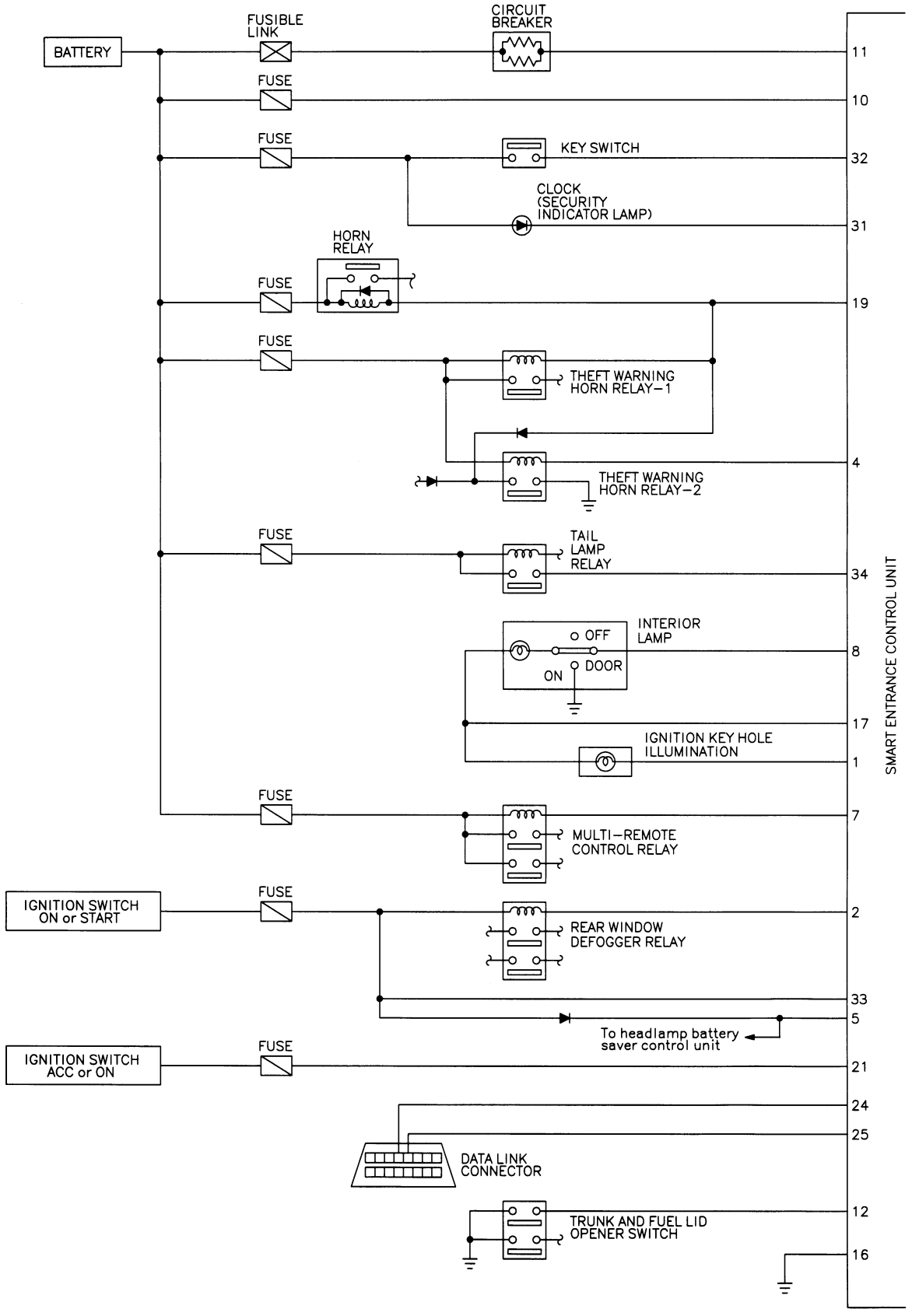


SEL273W

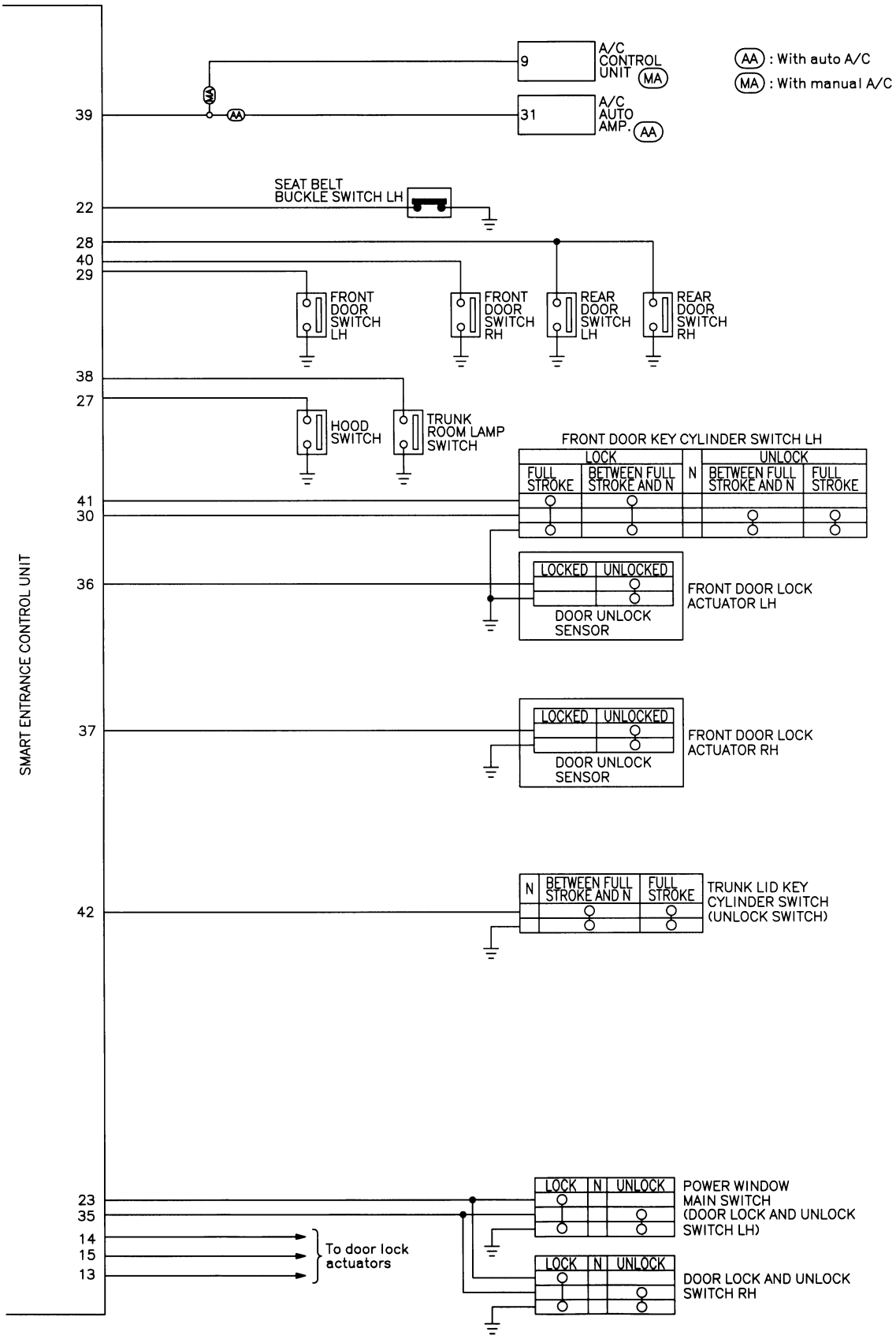
6. Perform each diagnostic item according to "DIAGNOSTIC ITEMS APPLICATION". Refer to EL-312.

Schematic

NFEL0125



MEL337L


SMART ENTRANCE CONTROL UNIT
39
22
28
40
29
38
27
41
30
36
37
42
23
35
14
15
13
9
A/C CONTROL UNIT
MA
31
A/C AUTO AMP.
AA
AA : With auto A/C
MA : With manual A/C
SEAT BELT BUCKLE SWITCH LH
FRONT DOOR SWITCH LH
FRONT DOOR SWITCH RH
REAR DOOR SWITCH LH
REAR DOOR SWITCH RH
HOOD SWITCH
TRUNK ROOM LAMP SWITCH
FRONT DOOR KEY CYLINDER SWITCH LH
LOCK
UNLOCK
FULL STROKE
BETWEEN FULL STROKE AND N
N
BETWEEN FULL STROKE AND N
FULL STROKE
LOCKED
UNLOCKED
DOOR UNLOCK SENSOR
FRONT DOOR LOCK ACTUATOR LH
FRONT DOOR LOCK ACTUATOR RH
TRUNK LID KEY CYLINDER SWITCH (UNLOCK SWITCH)
To door lock actuators
LOCK
N
UNLOCK
POWER WINDOW MAIN SWITCH (DOOR LOCK AND UNLOCK SWITCH LH)
DOOR LOCK AND UNLOCK SWITCH RH

MEL327K

Smart Entrance Control Unit Inspection Table

NFEL0126

Terminal No.	Wire color	Connections	Operated condition		Voltage (Approximate values)
1	R/Y	Ignition key hole illumination	For 30 seconds after driver door is locked		0V
			30 seconds passed after driver door is locked		12V
2	G/R	Rear window defogger relay	OFF → ON (Ignition key is in “ON” position)		0V → 12V
4	BR/Y	Theft warning horn relay-2	When panic alarm is operated using remote controller		12V → 0V
5	PU	Headlamp battery saver control unit	When headlamp battery saver timer is operated		12V
7	P	Multi-remote control relay	When doors are locked using remote controller		12V → 0V
8	R	Interior lamp	When interior lamp is operated using remote controller. (Lamp switch in “DOOR” position)		0V → 12V
10	R/B	Power source (Fuse)	—		12V
11	W/R	Power source (C/B)	—		12V
12	L	Trunk lid opener switch	ON (Open) → OFF (Closed)		0V → 12V
13	W/B	Driver door lock actuator	Door lock & unlock switch	Free	0V
14	G/Y	Passenger and rear doors lock actuator		Unlocked	12V
15	PU	Door lock actuators	Door lock & unlock switch	Free	0V
				Locked	12V
16	B	Ground	—		—
17	R/G	Battery saver (Interior lamp)	Battery saver does not operate → Operate		12V → 0V
19	G/W	Horn relay	When doors are locked using remote controller with horn chirp mode.		12V → 0V
21	PU	Ignition switch (ACC)	“ACC” position		12V
22	OR	Seat belt buckle switch	Unfasten → Fasten (Ignition key is in “ON” position)		0V → 5V
23	GY	Door lock & unlock switches	Neutral → Locks		5V → 0V
27	Y/R	Hood switch	ON (Open) → OFF (Closed)		0V → 5V
28	R/W	Rear door switches	OFF (Closed) → ON (Open)		5V → 0V
29	SB	Driver door switch	OFF (Closed) → ON (Open)		5V → 0V
30	OR/L	Door key cylinder unlock switch	OFF (Neutral) → ON (Unlocked)		5V → 0V
31	G/OR	Theft warning indicator	Goes off → Illuminates		12V → 0V
32	B/R	Ignition key switch (Insert)	key inserted → key removed from IGN key cylinder		12V → 0V
33	G	Ignition switch (ON)	Ignition key is in “ON” position		12V
34	R/L	Tail lamp relay	1ST, 2ND positions: ON → OFF		12V → 0V
35	BR/Y	Door lock & unlock switches	Neutral → Unlocks		5V → 0V
36	LG/R	Driver door unlock sensor	Driver door: Locked → Unlocked		5V → 0V
37	PU	Passenger door unlock sensor	Passenger door: Locked → Unlocked		5V → 0V
38	PU/Y	Trunk room lamp switch	ON (Open) → OFF (Closed)		0V → 12V
39	G/R	Rear window defogger switch	OFF → ON		5V → 0V

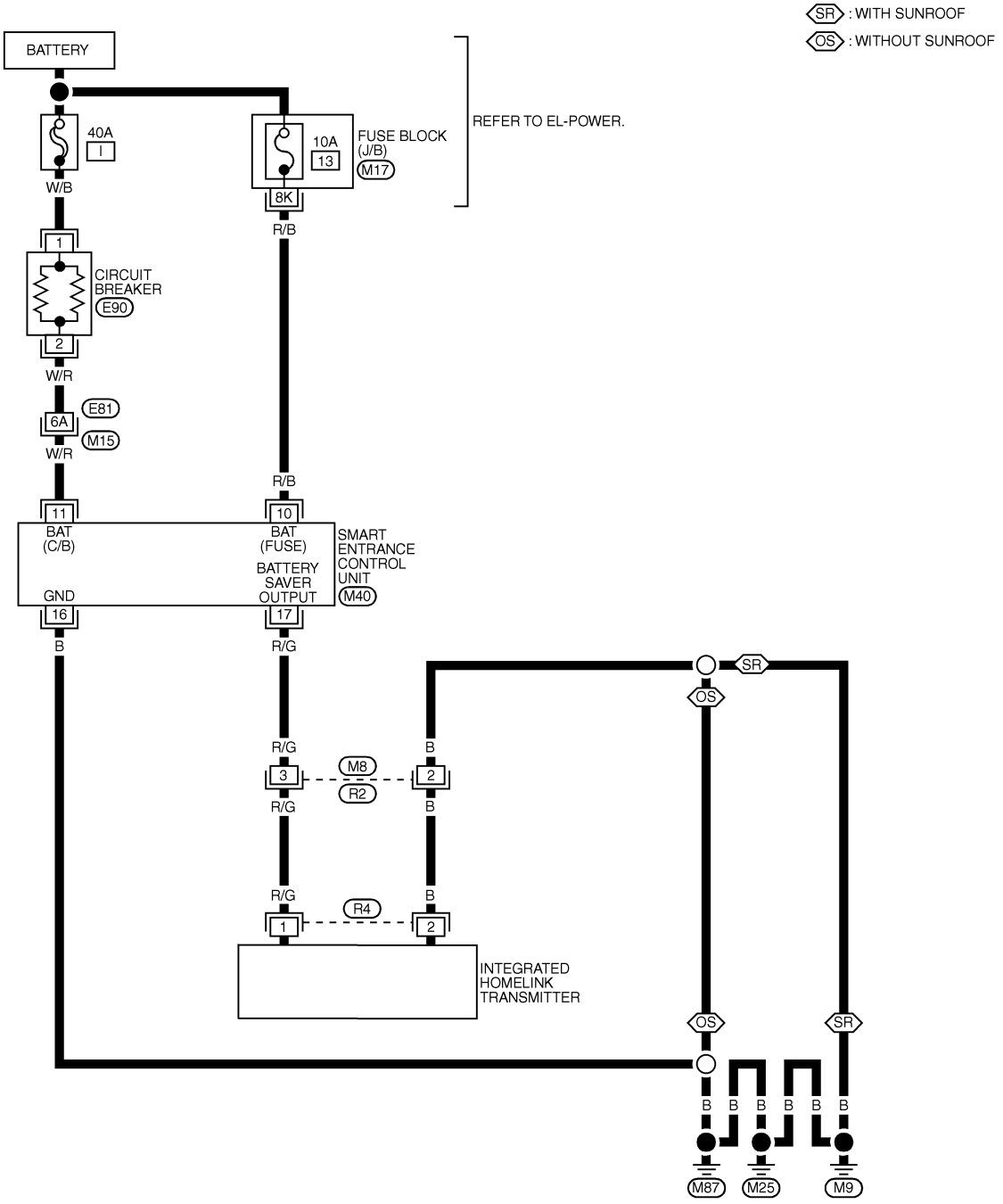
Smart Entrance Control Unit Inspection Table (Cont'd)

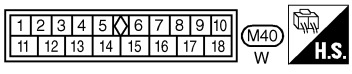
Terminal No.	Wire color	Connections	Operated condition	Voltage (Approximate values)
40	R/L	Passenger door switch	OFF (Closed) → ON (Open)	5V → 0V
41	OR/B	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)	5V → 0V
42	G/B	Trunk lid key cylinder switch	OFF (Neutral) → ON (Unlock)	5V → 0V

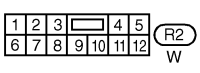
Wiring Diagram — TRNSMT —

NFEL0127

EL-TRNSMT-01







REFER TO THE FOLLOWING.
M15 - SUPER MULTIPLE JUNCTION (SMJ)
M17 - FUSE BLOCK - JUNCTION BOX (J/B)

MEL338L

Trouble Diagnoses

NFEL0128

DIAGNOSTIC PROCEDURE

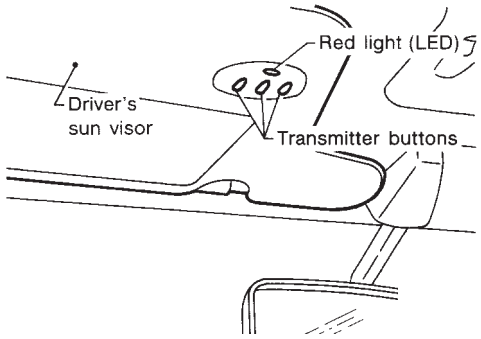
NFEL0128S01

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?



SEL442U

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.

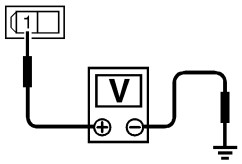
OK or NG

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. (Within 10 minutes after turn ignition switch “OFF”.)

Integrated homelink transmitter connector

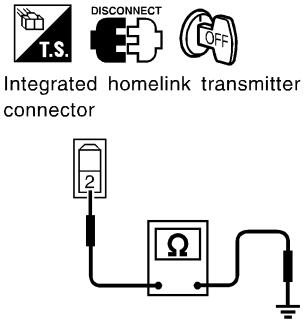


Battery voltage should exist.

SEL367W

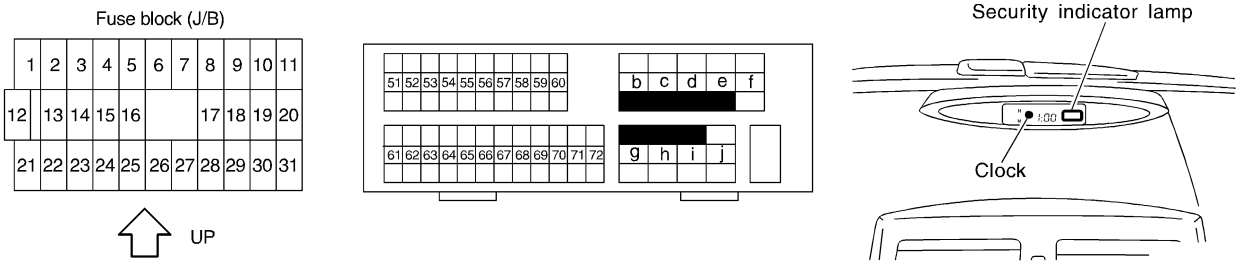
OK or NG

OK	▶	GO TO 4.
NG	▶	Check fuse (10A) and repair harness.

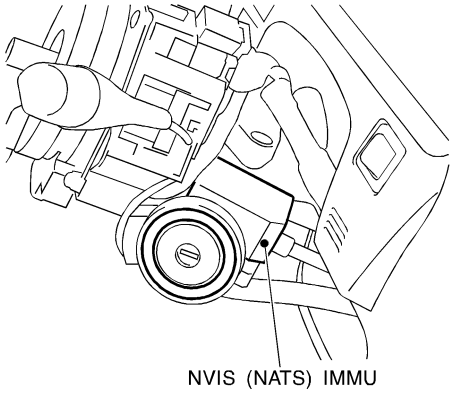
4	CHECK GROUND CIRCUIT	
Check continuity between terminal 2 and ground.  Integrated homelink transmitter connector **Continuity should exist.** SEL368W		
OK or NG		
OK	▶	Replace transmitter with sun visor assembly.
NG	▶	Repair harness.

Component Parts and Harness Connetor Location

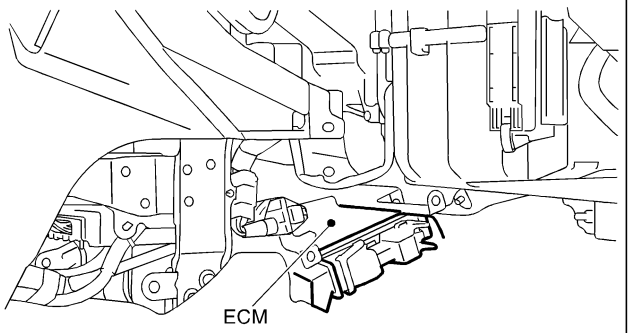
NFEL0172



View with steering wheel and steering column removed



View with glove box removed



SEL301W

NOTE:
If customer reports a “No Start” condition, request ALL KEYS be brought to the Dealer in case of a NATS malfunction.

System Description

=NFEL0173

NVIS (Nissan Vehicle Immobilizer System-NATS) has the following immobilizer functions:

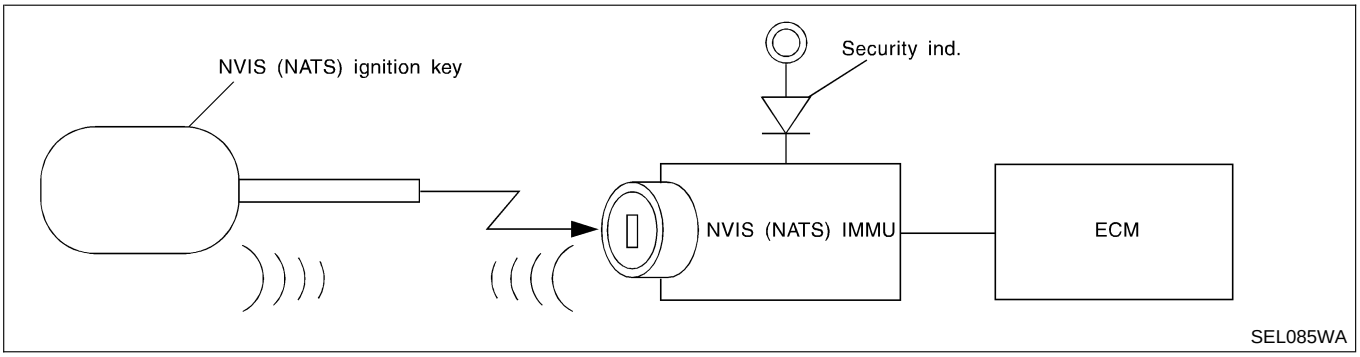
- Since only NVIS (NATS) ignition keys, whose ID nos. have been registered into the ECM and IMMU of NVIS (NATS), allow the engine to run, operation of a stolen vehicle without an NVIS (NATS) registered key is prevented by NVIS (NATS).
  That is to say, NVIS (NATS) will immobilize the engine if someone tries to start it without the registered key of NVIS (NATS).
- All of the originally supplied ignition key IDs have been NVIS (NATS) registered.
  If requested by the vehicle owner, a maximum of five key IDs can be registered into the NVIS (NATS) components.
- The security indicator blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, NVIS (NATS) warns outsiders that the vehicle is equipped with the anti-theft system.
- When NVIS (NATS) detects trouble, the security indicator lamp lights up while ignition key is in the “ON” position.
- NVIS (NATS) trouble diagnoses, system initialization and additional registration of other NVIS (NATS) ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NVIS (NATS) software. Regarding the procedures of NVIS (NATS) initialization and NVIS (NATS) ignition key ID registration, refer to CONSULT-II operation manual, IVIS/NVIS.
- **When servicing a malfunction of the NVIS (indicated by lighting up of Security Indicator Lamp) or registering another NVIS ignition key ID no., it is necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**

System Composition

NFEL0174

The immobilizer function of the NVIS (NATS) consists of the following:

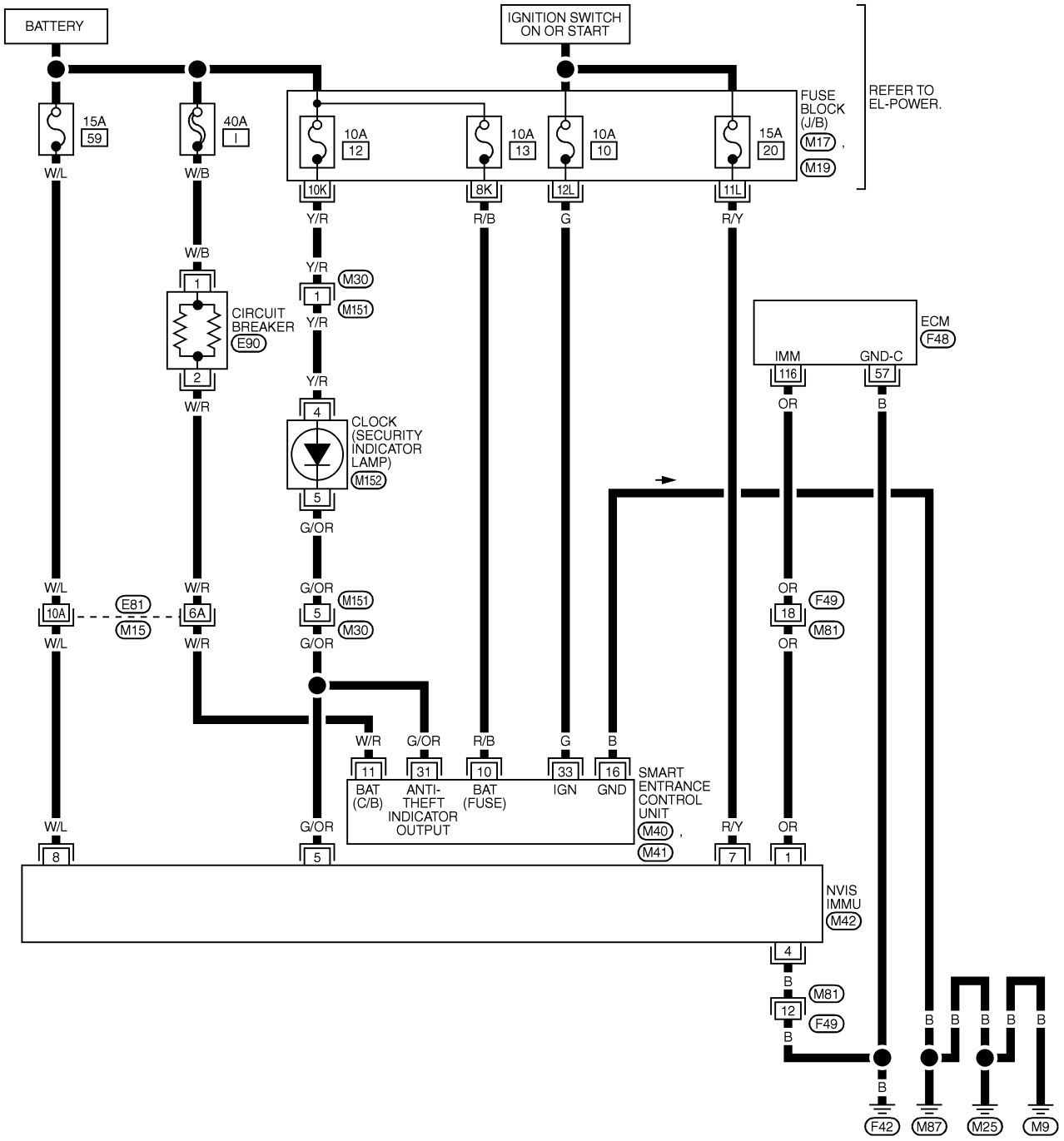
- NVIS (NATS) ignition key
- NVIS (NATS) immobilizer control unit (IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- Security indicator

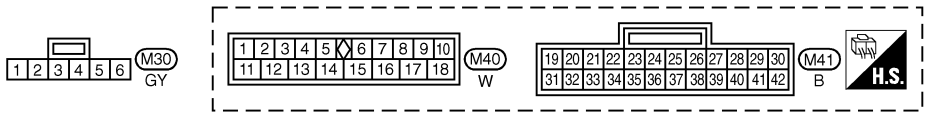


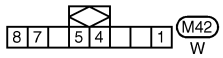
Wiring Diagram — NATS —

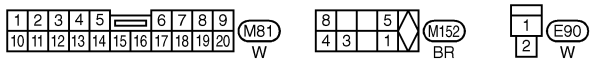
NFEL0175

EL-NATS-01



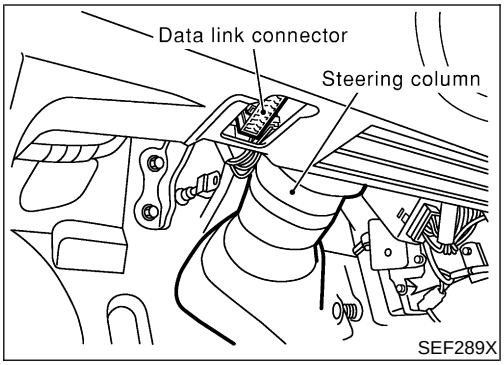






REFER TO THE FOLLOWING.
M15 -SUPER MULTIPLE JUNCTION (SMJ)
M17, M19 -FUSE BLOCK-JUNCTION BOX (J/B)
F48 -ELECTRICAL UNITS

MEL339L



SEF289X

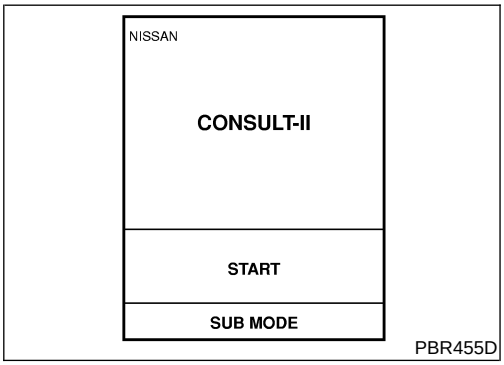
CONSULT-II

NFEL0176

CONSULT-II INSPECTION PROCEDURE

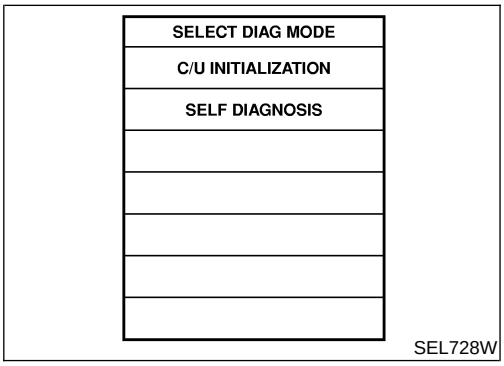
NFEL0176S01

1. Turn ignition switch OFF.
2. Connect “CONSULT-II” to Data link connector.



PBR455D

3. Insert NVIS (NATS) program card into CONSULT-II.
   ⬅ : Program card
   NATS
4. Turn ignition switch ON.
5. Touch “START”.



SEL728W

6. Perform each diagnostic test mode according to each service procedure.

For further information, see the CONSULT-II Operation Manual, NVIS (NATS).

CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

NFEL0176S02

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following three components, C/U initialization is necessary. [NVIS (NATS) ignition key/IMMU/ECM]
SELF DIAGNOSIS	Detected items (screen terms) are as shown in the chart below.

NOTE:
When any initialization is performed, all ID previously registered will be erased and all NVIS (NATS) ignition keys must be registered again.
The engine cannot be started with an unregistered key. In this case, the system will show “DIFFERENCE OF KEY” or “LOCK MODE” as a self-diagnostic result on the CONSULT-II screen.

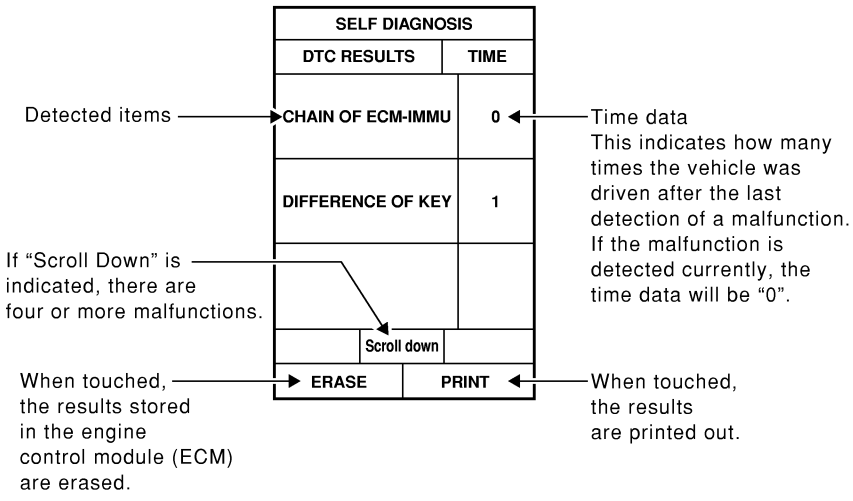
HOW TO READ SELF-DIAGNOSTIC RESULTS

NFEL0176S03

Result display screen (When no malfunction is detected)

SELF DIAGNOSIS	
DTC RESULTS	TIME
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	
PRINT	

Result display screen (When malfunction is detected)



SEL308W

NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART

NFEL0176S04

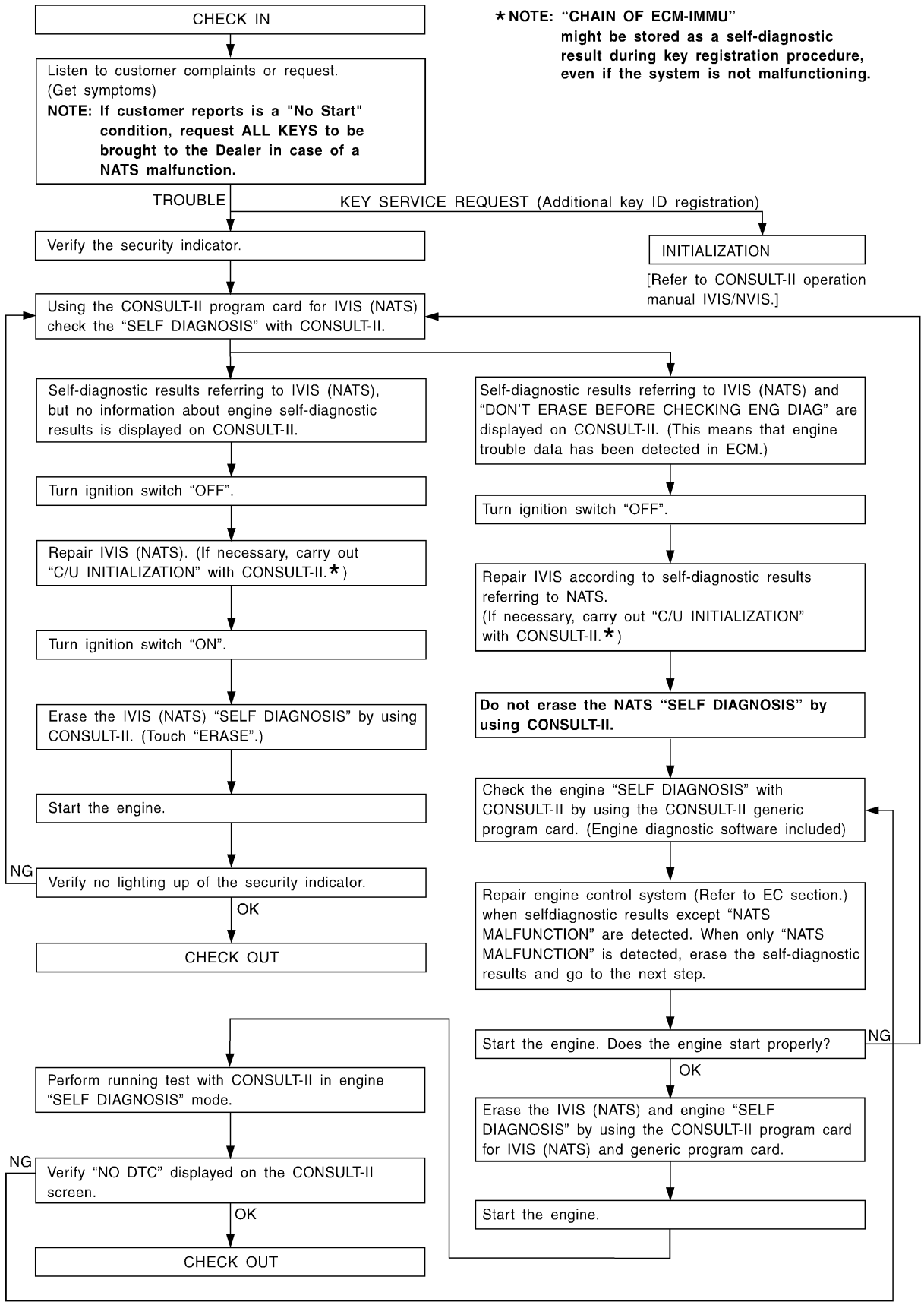
Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of "ENGINE"	Malfunction is detected when	Reference page
ECM INT CIRC-IMMU	NATS MALFUNCTION P1613	The malfunction of ECM internal circuit of IMMU communication line is detected.	EL-328
CHAIN OF ECM-IMMU	NATS MALFUNCTION P1612	Communication impossible between ECM and IMMU	EL-329
DIFFERENCE OF KEY	NATS MALFUNCTION P1615	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-333
CHAIN OF IMMU-KEY	NATS MALFUNCTION P1614	IMMU cannot receive the key ID signal.	EL-334
ID DISCORD, IMM-ECM	NATS MALFUNCTION P1611	The result of ID verification between IMMU and ECM is NG. System initialization is required.	EL-335
LOCK MODE	NATS MALFUNCTION P1610	When the starting operation is carried out five or more times consecutively under the following conditions, NVIS (NATS) will shift the mode to one which prevents the engine from being started. ● Unregistered ignition key is used. ● IMMU or ECM's malfunctioning.	EL-338
DON'T ERASE BEFORE CHECKING ENG DIAG	—	All engine trouble codes except NVIS (NATS) trouble code has been detected in ECM.	EL-326

Trouble Diagnoses

NFEL0177

WORK FLOW

NFEL0177S01



SEL004X

SYMPTOM MATRIX CHART 1
(Self-diagnosis related item)

NFEL0177S02

SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT-II screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON NEXT PAGE
• Security indicator lighting up* • Engine hard to start	ECM INT CIRC-IMMU	PROCEDURE 1 (EL-328)	ECM	B
	CHAIN OF ECM-IMMU	PROCEDURE 2 (EL-329)	In rare cases, "CHAIN OF ECM-IMMU" might be stored during the key registration procedure, even if the system is not malfunctioning.	—
			Open circuit in battery voltage line of IMMU circuit	C1
			Open circuit in ignition line of IMMU circuit	C2
			Open circuit in ground line of IMMU circuit	C3
			Open circuit in communication line between IMMU and ECM	C4
			Short circuit between IMMU and ECM communication line and battery voltage line	C4
			Short circuit between IMMU and ECM communication line and ground line	C4
			ECM	B
			IMMU	A
	DIFFERENCE OF KEY	PROCEDURE 3 (EL-333)	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 4 (EL-334)	Malfunction of key ID chip	E
			IMMU	A
	ID DISCORD, IMM-ECM	PROCEDURE 5 (EL-335)	System initialisation has not yet been completed.	F
			ECM	F
	LOCK MODE	PROCEDURE 7 (EL-338)	LOCK MODE	D
• MIL staying ON • Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-326)	Engine trouble data and NVIS (NATS) trouble data have been detected in ECM	—

*: When NVIS (NATS) detects trouble, the security indicator lights up while ignition key is in the "ON" position.

SYMPTOM MATRIX CHART 2

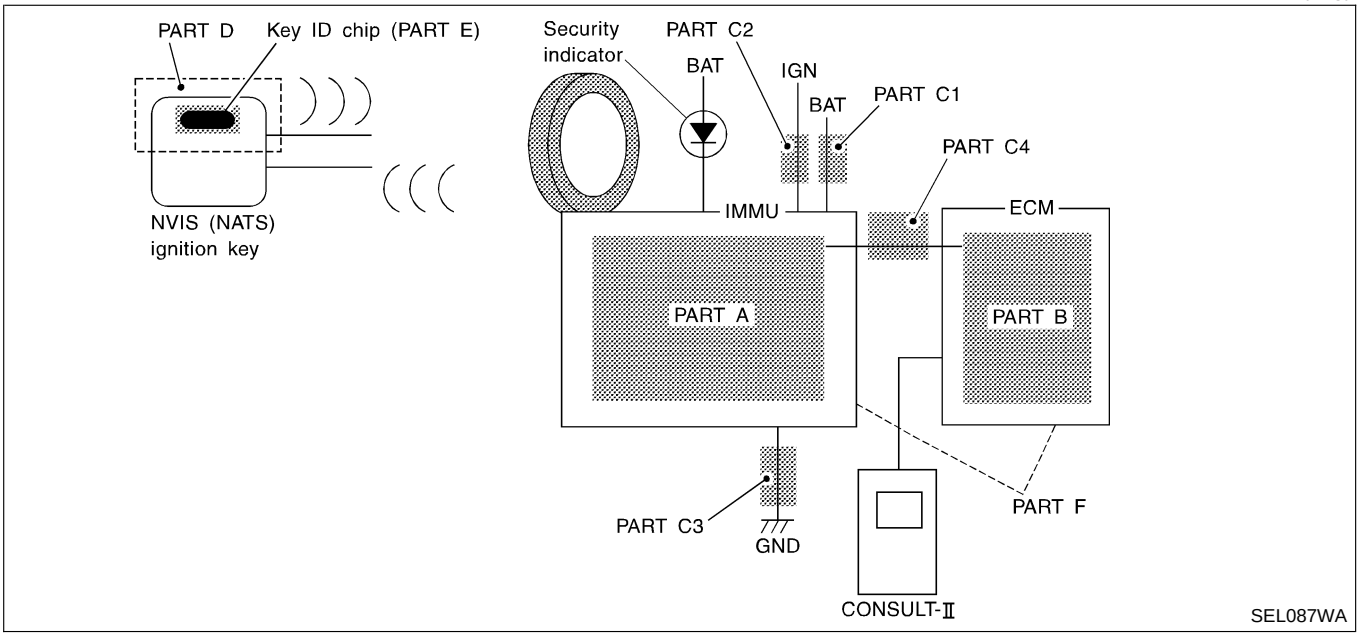
NFEL0177S03

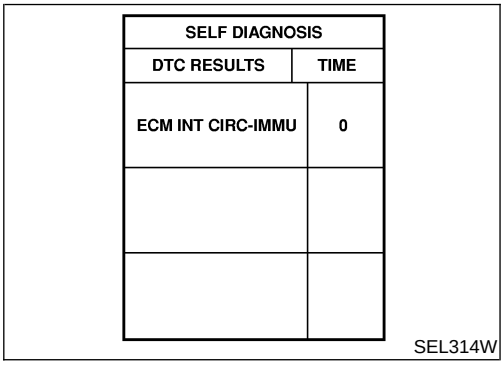
(Non self-diagnosis related item)

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
Security ind. does not light up.	PROCEDURE 6 (EL-336)	Security ind.
		Open circuit between Fuse and IMMU
		Continuation of initialization mode
		IMMU

DIAGNOSTIC SYSTEM DIAGRAM

NFEL0177S04





DIAGNOSTIC PROCEDURE 1

NFEL0177S06

Self-diagnostic results:
"ECM INT CIRC-IMMU" displayed on CONSULT-II screen

1. Confirm SELF-DIAGNOSTIC RESULTS "ECM INT CIRC-IMMU" displayed on CONSULT-II screen. Ref. part No. B.
2. Replace ECM.
3. Perform initialization with CONSULT-II.
   For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".

DIAGNOSTIC PROCEDURE 2

=NFEL0177S07

Self-diagnostic results:
"CHAIN OF ECM-IMMU" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF ECM-IMMU" displayed on CONSULT-II screen.
NOTE:
In rare cases "CHAIN OF ECM-IMMU" might be stored during the key registration procedure, even if the system is not malfunctioning.

SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF ECM-IMMU	0

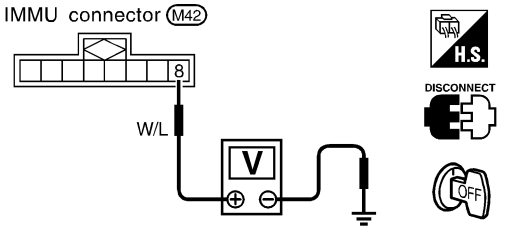
SEL292W

Is CONSULT-II screen displayed as above?

Yes	▶	GO TO 2.
No	▶	GO TO SYMPTOM MATRIX CHART 1.

2	CHECK POWER SUPPLY CIRCUIT FOR IMMU

1. Disconnect IMMU connector.
2. Check voltage between terminal 8 of IMMU and ground with CONSULT-II or tester.



Battery voltage should exist.

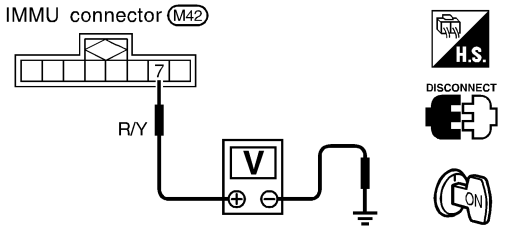
SEL302W

OK or NG

OK	▶	GO TO 3.
NG	▶	**Check the following** • 15A fuse (No. 59, located in the fuse and fusible link box) • Harness for open or short between fuse and IMMU connector **Ref. Part No. C1**

3	CHECK IGN SW. ON SIGNAL

1. Turn ignition switch ON.
2. Check voltage between terminal 7 of IMMU and ground with CONSULT-II or tester.



Battery voltage should exist.

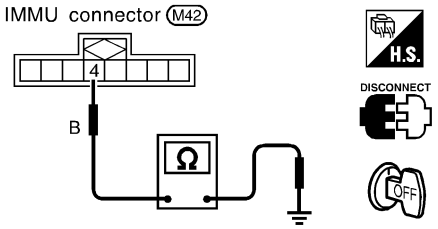
SEL303W

OK or NG

OK	▶	GO TO 4.
NG	▶	**Check the following** ● 15A fuse [No. 20, located in the fuse block (J/B)] ● Harness for open or short between fuse and IMMU connector **Ref. part No. C2**

4	CHECK GROUND CIRCUIT FOR IMMU

1. Turn ignition OFF.
2. Check harness continuity between IMMU terminal 4 and ground.



Continuity should exist.

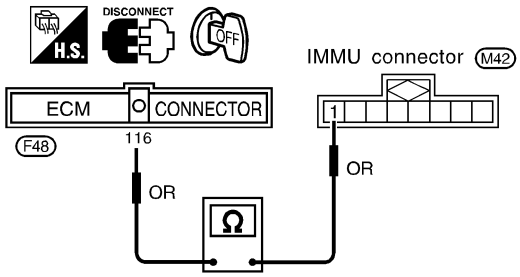
SEL304W

OK or NG

OK	▶	GO TO 5.
NG	▶	Repair harness. **Ref. part No. C3**

5	CHECK COMMUNICATION LINE OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check harness continuity between ECM terminal 116 and IMMU terminal 1.



Continuity should exist.

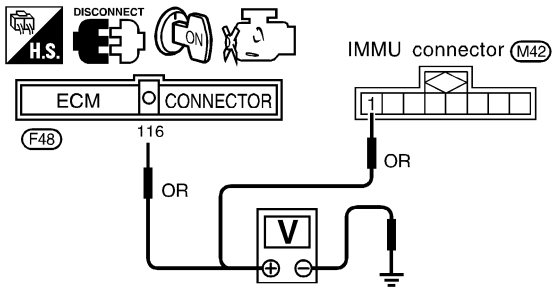
SEL305W

OK or NG

OK	▶	GO TO 6.
NG	▶	Repair harness or connector. **Ref. part No. C4**

6	CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT

1. Turn ignition ON.
2. Check voltage between ECM terminal 116 or IMMU terminal 1 and ground.



Voltage: 0V

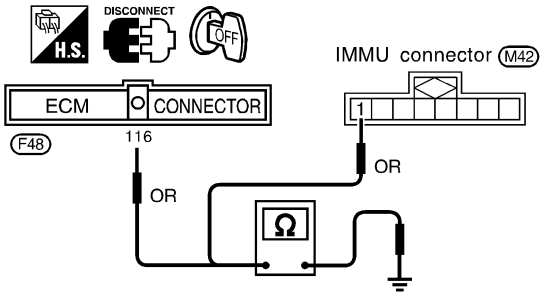
SEL306W

OK or NG

OK	▶	GO TO 7.
NG	▶	Communication line is short-circuited with battery voltage line or ignition switch ON line. Repair harness or connectors. **Ref. part No. C4**

7	CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between ECM terminal 116 or IMMU terminal 1 and ground.



Continuity should not exist.

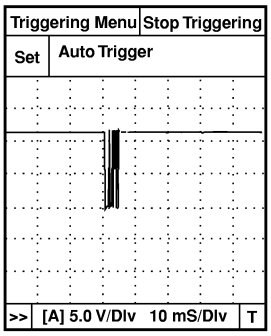
SEL307W

OK or NG

OK	▶	GO TO 8.
NG	▶	Communication line is short-circuited with ground line. Repair harness or connectors. **Ref. part No. C4**

8	SIGNAL FROM ECM TO IMMU CHECK

1. Check the signal between ECM terminal 116 and ground with CONSULT-II or oscilloscope when ignition switch is turned "ON".
2. Make sure signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned "ON".



SEL730W

OK or NG

OK	▶	IMMU is malfunctioning. Replace IMMU. **Ref. part No. A** Perform initialization with CONSULT-II. For the operation of initialization, refer to "CONSULT-II Operation Manual IVIS/NVIS".
NG	▶	ECM is malfunctioning. Replace ECM. **Ref. part No. B** Perform initialization with CONSULT-II. For the operation of initialization, refer to "CONSULT-II Operation Manual IVIS/NVIS".

DIAGNOSTIC PROCEDURE 3

=NFEL0177S08

Self-diagnostic results:
"DIFFERENCE OF KEY" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS "DIFFERENCE OF KEY" displayed on CONSULT-II screen.

SELF DIAGNOSIS	
DTC RESULTS	TIME
DIFFERENCE OF KEY	0

SEL293W

Is CONSULT-II screen displayed as above?

Yes	▶	GO TO 2.
No	▶	GO TO SYMPTOM MATRIX CHART 1.

2	PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NVIS (NATS) ignition key IDs.
For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".

IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

SEL297W

NOTE:
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

Can the system be initialized?

Yes	▶	Start engine. (END) (Ignition key ID was unregistered. **Ref. part No. D**)
No	▶	IMMU is malfunctioning. Replace IMMU. **Ref. part No. A** Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".

DIAGNOSTIC PROCEDURE 4

=NFEL0177S09

Self-diagnostic results:
"CHAIN OF IMMU-KEY" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT-II screen.

SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF IMMU-KEY	0

SEL294W

Is CONSULT-II screen displayed as above?

Yes	▶	GO TO 2.
No	▶	GO TO SYMPTOM MATRIX CHART 1.

2	CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NVIS (NATS) ignition key.

Does the engine start?

Yes	▶	Ignition key ID chip is malfunctioning. Replace the ignition key. **Ref. part No. E** Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".
No	▶	GO TO 3.

3	CHECK IMMU INSTALLATION

Check IMMU installation.
Refer to "How to Replace IMMU" in EL-339.

OK or NG

OK	▶	IMMU is malfunctioning. Replace IMMU. **Ref. part No. A** Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".
NG	▶	Reinstall IMMU correctly.

DIAGNOSTIC PROCEDURE 5

=NFEL0177S10

Self-diagnostic results:
"ID DISCORD, IMM-ECM" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM" displayed on CONSULT-II screen.

SELF DIAGNOSIS	
DTC RESULTS	TIME
ID DISCORD, IMM-ECM	0

SEL298W

NOTE:
"ID DISCORD IMMU-ECM":
Registered ID of IMMU is in discord with that of ECM.

Is CONSULT-II screen displayed as above?

Yes	▶	GO TO 2.
No	▶	GO TO SYMPTOM MATRIX CHART 1.

2	PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NVIS (NATS) ignition key IDs.
For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".

IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

SEL297W

NOTE:
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

Can the system be initialized?

Yes	▶	Start engine. (END) (System initialization had not been completed. **Ref. part No. F**)
No	▶	ECM is malfunctioning. Replace ECM. **Ref. part No. F** Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".

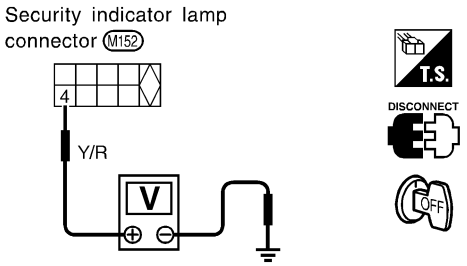
DIAGNOSTIC PROCEDURE 6

=NFEL0177S12

"SECURITY INDICATOR LAMP DOES NOT LIGHT UP"

1	CHECK FUSE	
Check 10A fuse [No. 12, located in the fuse block (J/B)]. **Is 10A fuse OK?**		
Yes	▶	GO TO 2.
No	▶	Replace fuse.

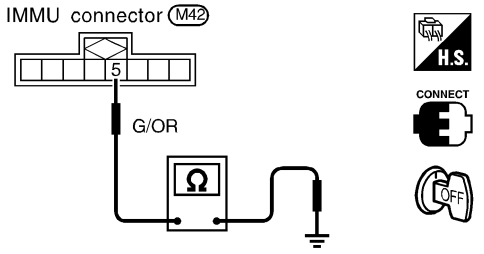
2	CHECK SECURITY INDICATOR LAMP	
1. Install 10A fuse. 2. Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS". 3. Turn ignition switch OFF. 4. Start engine and turn ignition switch OFF. 5. Check the security indicator lamp lighting. **Security indicator lamp should be blinking.** **OK or NG**		
OK	▶	INSPECTION END
NG	▶	GO TO 3.

3	CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT	
1. Disconnect security indicator lamp connector. 2. Check voltage between security indicator lamp connector terminal 4 and ground.  **Battery voltage should exist.** SEL299W **OK or NG**		
OK	▶	GO TO 4.
NG	▶	Check harness for open or short between fuse and security indicator lamp.

4	CHECK SECURITY INDICATOR LAMP	
Check security Indicator Lamp. **Is security indicator lamp OK?**		
Yes	▶	GO TO 5.
No	▶	Replace security indicator lamp.

5	CHECK IMMU FUNCTION

1. Connect IMMU connector.
2. Disconnect security indicator lamp connector.
3. Check continuity between IMMU terminal 5 and ground.



Cotinuity should exist intermittently.

SEL300W

OK or NG

OK	▶	Check harness for open or short between security indicator lamp and IMMU.
NG	▶	IMMU is malfunctioning. Replace IMMU. Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".

DIAGNOSTIC PROCEDURE 7

=NFEL0177S13

Self-diagnostic results:
"LOCK MODE" displayed on CONSULT-II screen

1	CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT-II screen.

SELF DIAGNOSIS	
DTC RESULTS	TIME
LOCK MODE	0

SEL295W

Is CONSULT-II screen displayed as above?

Yes	▶	GO TO 2.
No	▶	GO TO SYMPTOM MATRIX CHART 1.

2	ESCAPE FROM LOCK MODE

1. Turn ignition switch OFF.
2. Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds.
3. Return the key to OFF position.
4. Repeat steps 2 and 3 twice (total of three cycles).
5. Start the engine.

Does engine start?

Yes	▶	System is OK. (Now system is escaped from "LOCK MODE".)
No	▶	GO TO 3.

3	CHECK IMMU ILLUSTRATION

Check IMMU installation. Refer to "How to Replace IMMU" in EL-339.

OK or NG

OK	▶	GO TO 4.
NG	▶	Reinstall IMMU correctly.

4	PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II.
For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".

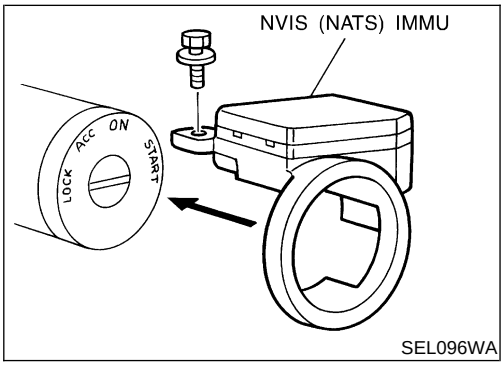
IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

SEL297W

NOTE:
If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.

Can the system be initialized?

Yes	▶	System is OK.
No	▶	GO TO DIAGNOSTIC PROCEDURE 5 to check "CHAIN OF IMMU-KEY", refer to EL-334.



SEL096WA

How to Replace NVIS (NATS) IMMU

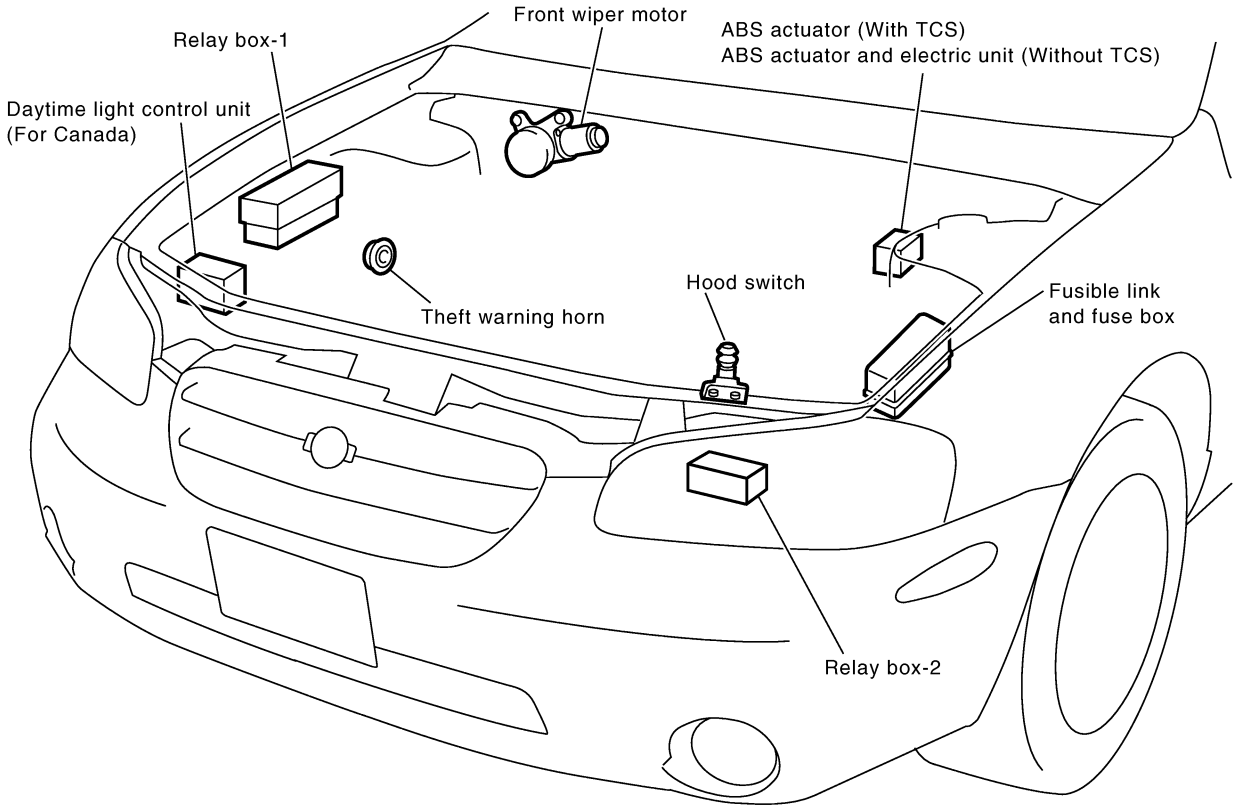
NFEL0178

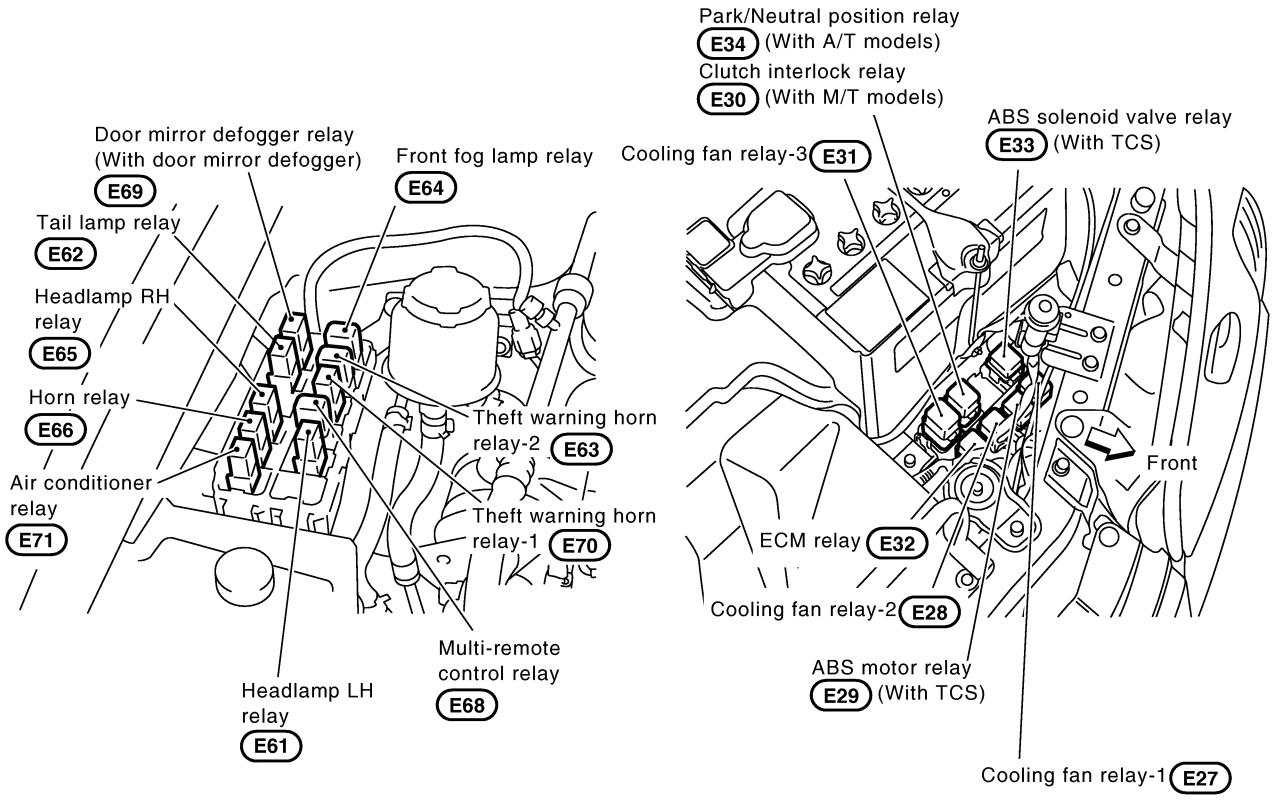
NOTE:

- **If NVIS (NATS) IMMU is not installed correctly, NVIS (NATS) system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show "LOCK MODE" or "CHAIN OF IMMU-KEY".**

Engine Compartment

NFEL0129



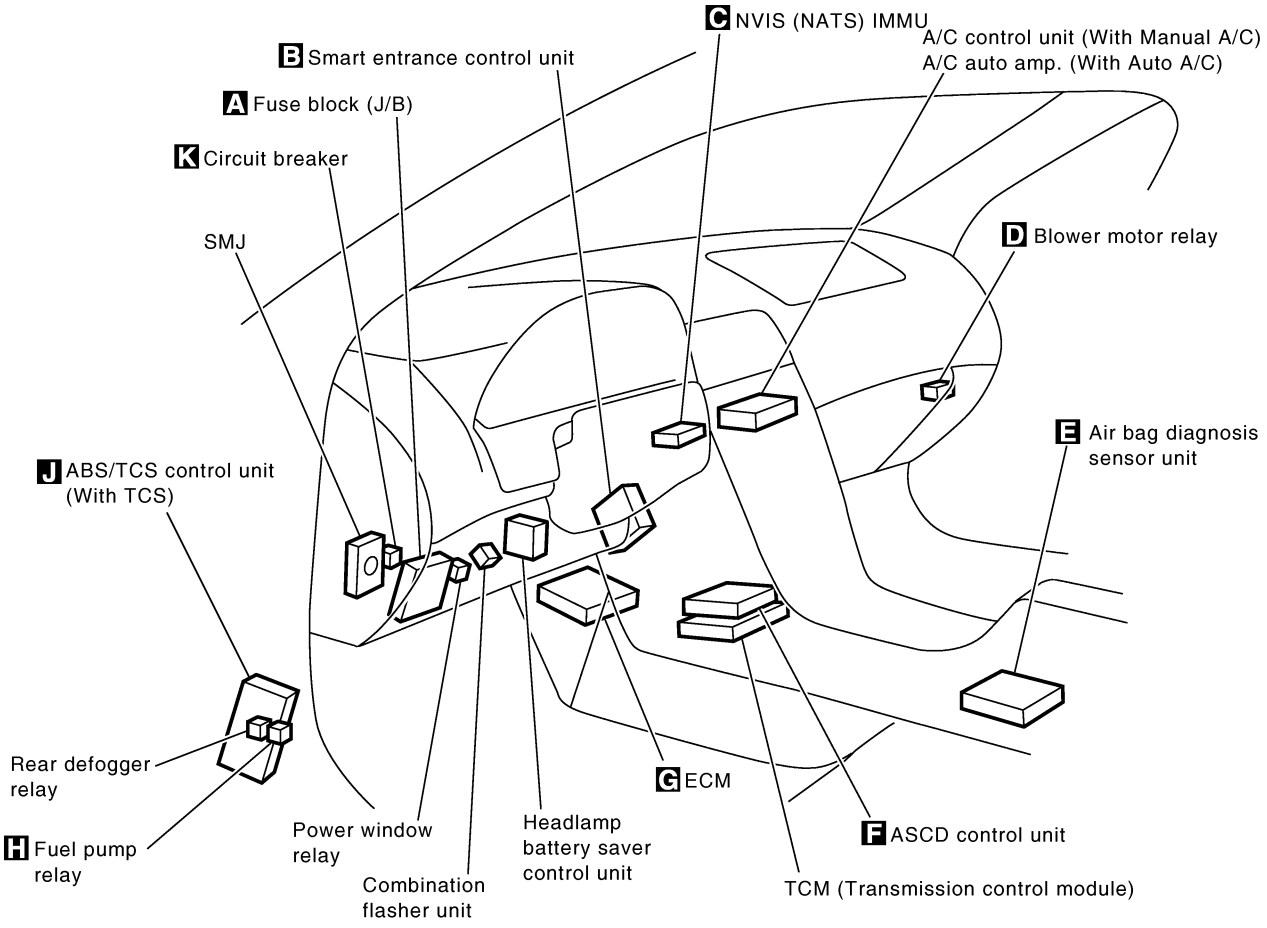


MEL340L

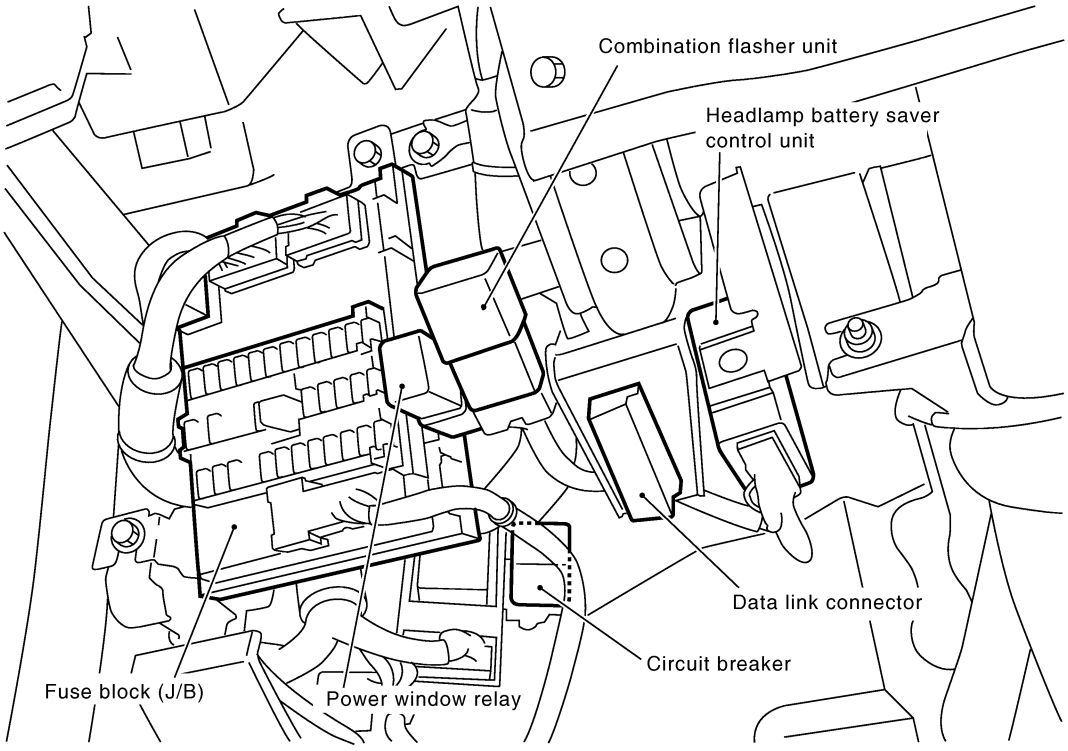
NOTE:

Passenger Compartment

NFEL0130

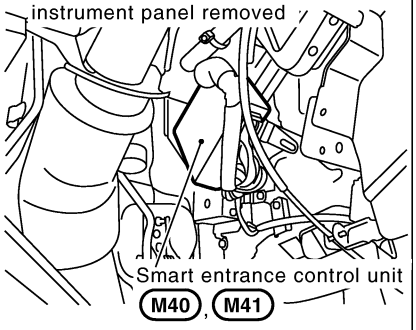


A Instrument panel LH side

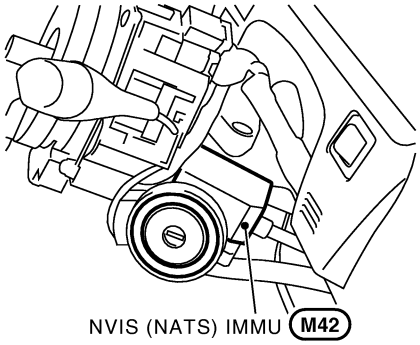


MEL341L

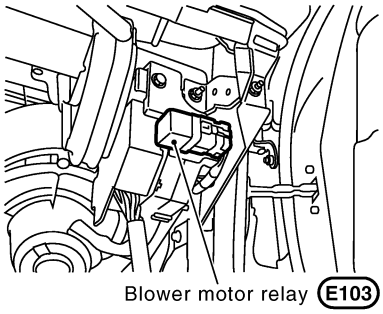
B Driver side view with lower instrument panel removed



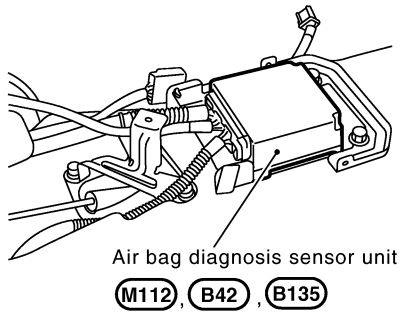
C View with steering wheel and steering column removed



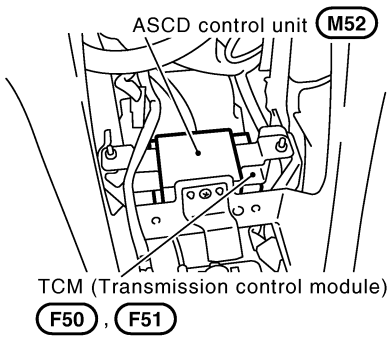
D Passenger side view with dash side lower finisher removed



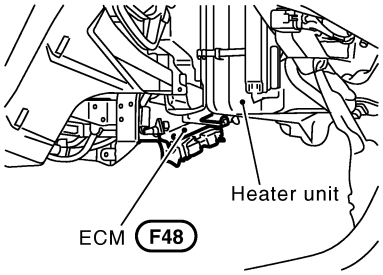
E Rear of parking brake



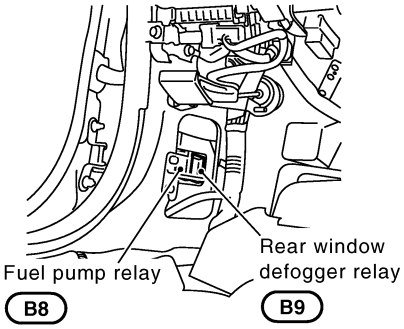
F View with lower instrument center panel removed



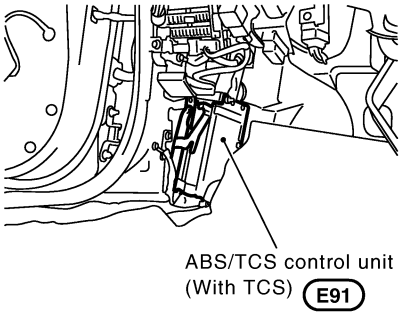
G Passenger side view with lower instrument panel removed



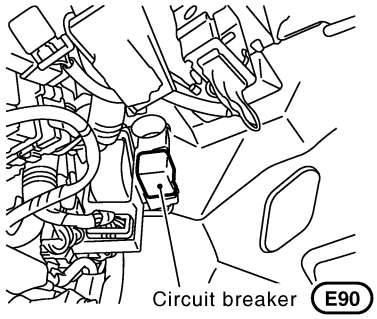
H Driver side view with dash side lower finisher removed



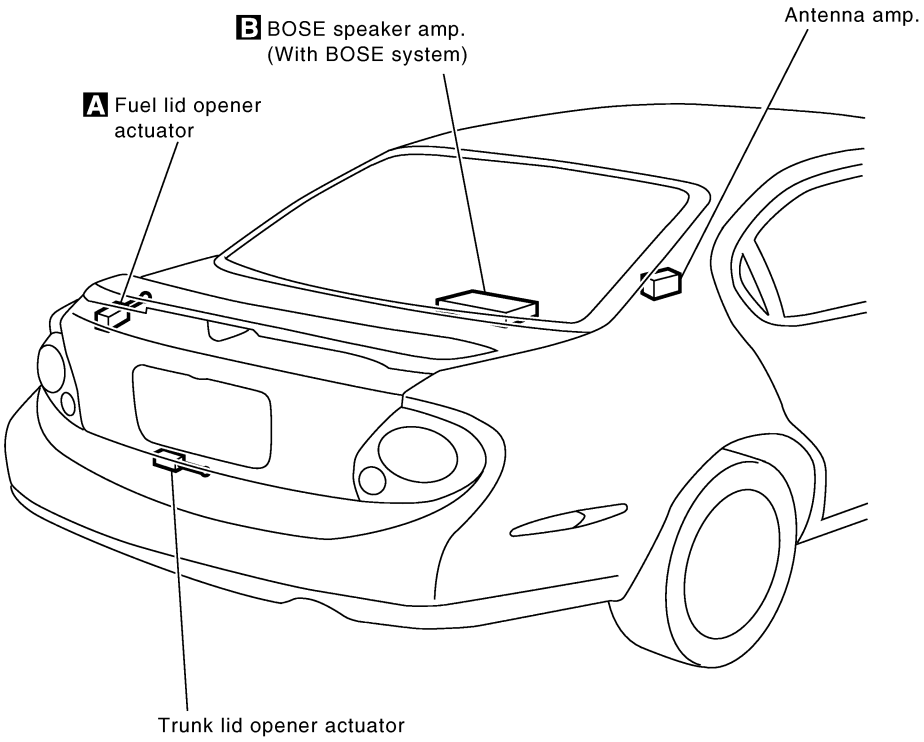
J Driver side view with dash side lower finisher removed

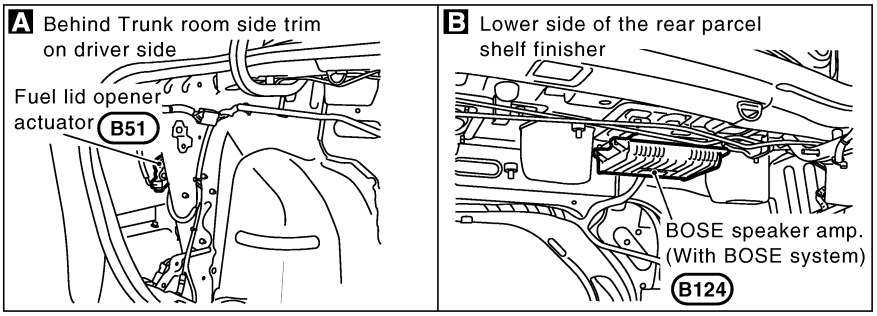


K Driver side view with lower instrument panel removed



MEL342L

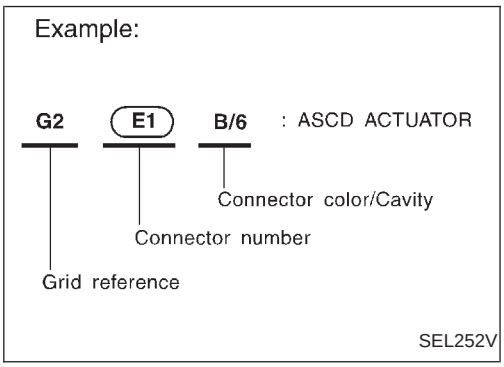

B BOSE speaker amp.
(With BOSE system)
Antenna amp.
A Fuel lid opener
actuator
Trunk lid opener actuator


A Behind Trunk room side trim
on driver side
Fuel lid opener
actuator
B51
B Lower side of the rear parcel
shelf finisher
BOSE speaker amp.
(With BOSE system)
B124

MEL343L

How to Read Harness Layout

NFEL0131



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

- Main Harness
- Engine Room Harness (Engine Compartment)

TO USE THE GRID REFERENCE

NFEL0131S01

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

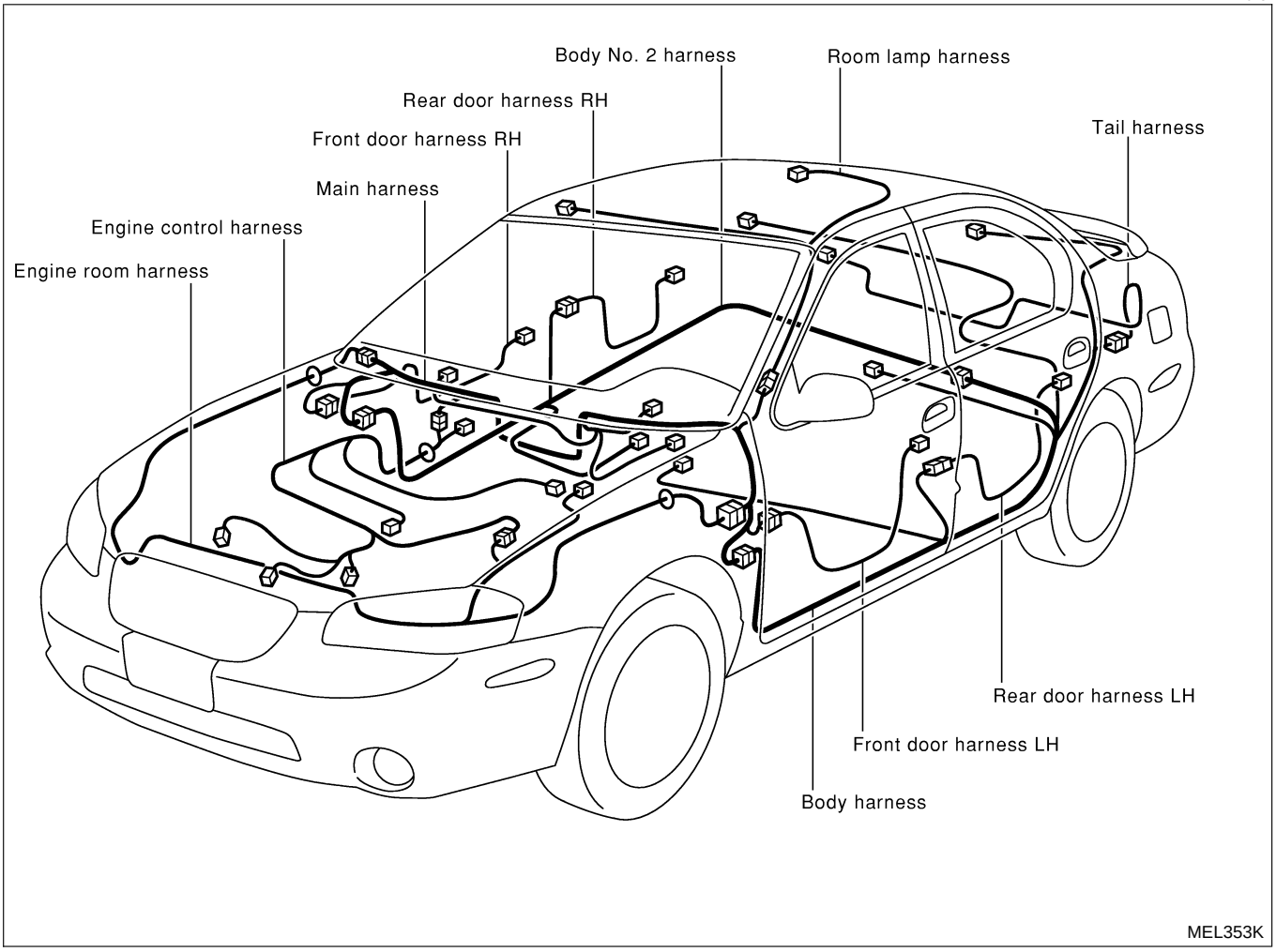
NFEL0131S02

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

NFEL0132

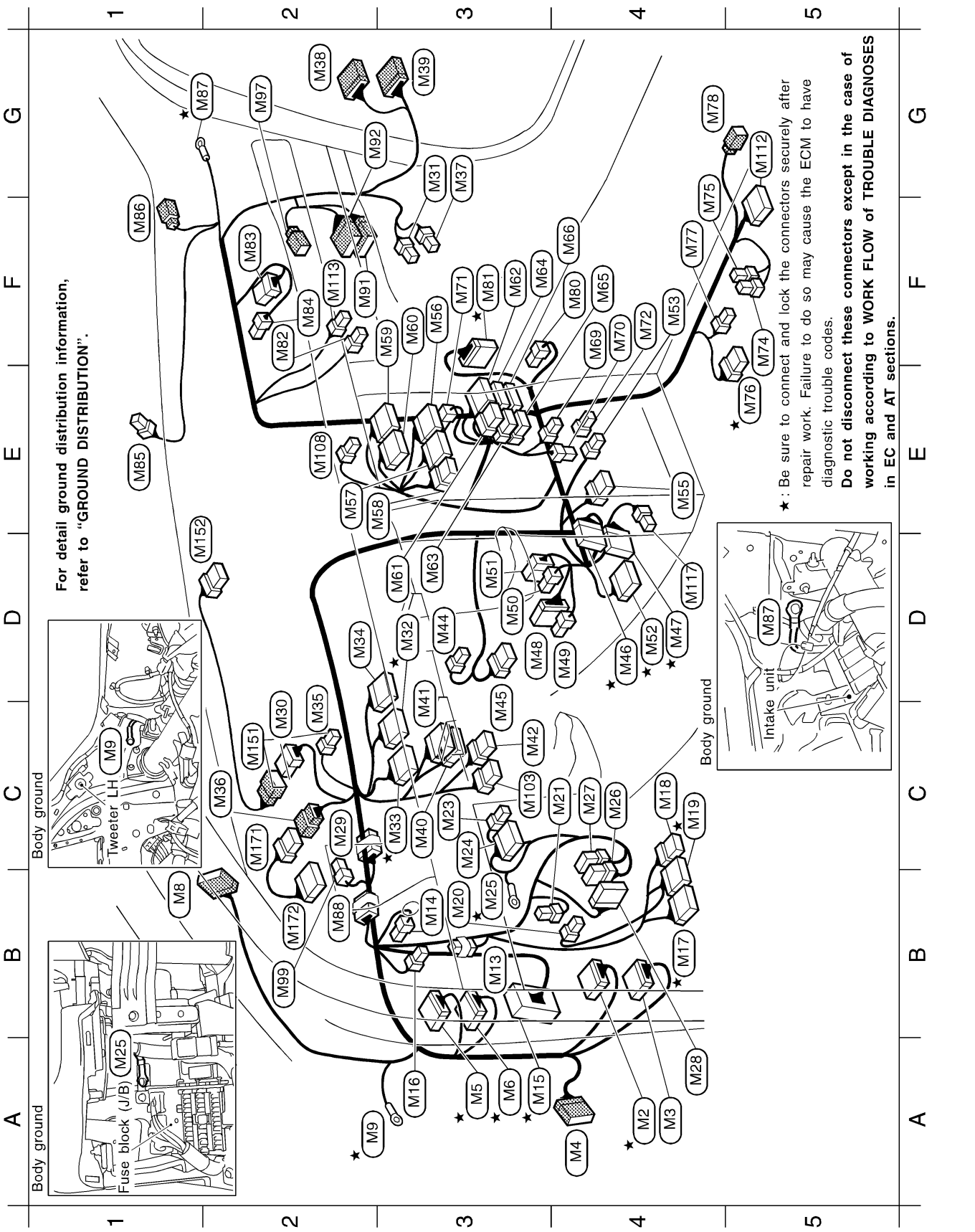


NOTE:
For detailed ground distribution information, refer to “Ground Distribution”, “GROUND” EL-18.

NOTE:

Main Harness

NFEL0133



MEL344L

Main harness

A4★ M2 BR/24 : To B2
A4 M3 W/12 : To B4 (With BOSE system)
A4 M4 SMJ : To D1
A3★ M5 W/16 : To B1
A3★ M6 W/18 : To B3
C2 M8 W/12 : To R2
A3★ M9 – : Body ground
B3 M13 L/4 : Diode
B3 M14 L/2 : ASCD clutch switch (With M/T)
A3★ M15 SMJ : To E81
A3 M16 W/4 : Telephone
B4★ M17 W/12 : Fuse block (J/B)
C4 M18 W/6 : Fuse block (J/B)
C4★ M19 W/16 : Fuse block (J/B)
B3 M20 L/4 : Power window relay
C4 M21 B/3 : Combination flasher unit
C3 M23 W/3 : Illumination control switch
C3 M24 W/10 : Door mirror remote control switch
B3★ M25 – : Body ground
C4 M26 W/6 : Headlamp battery saver control unit
C4 M27 W/8 : Headlamp battery saver control unit
A4 M28 W/16 : Data link connector
C2 M29 SB/6 : Joint connector-3 (Diode) (With A/T)
C2 M30 GY/6 : To M151
G3 M31 W/4 : Fan control amp. (With auto A/C)
D3★ M32 BR/20 : Combination meter
C3★ M33 W/24 : Combination meter
D2★ M34 BR/24 : Combination meter
C2 M35 W/2 : Diode
C2 M36 W/6 : To M171
G3 M37 BR/4 : Fan resistor (With manual A/C)
G2 M38 W/16 : To D62
G3 M39 W/10 : To D63
C3 M40 W/18 : Smart entrance control unit
C3 M41 B/24 : Smart entrance control unit
C3 M42 W/8 : NVIS (NATS) IMMU
D3 M44 W/2 : In-vehicle sensor (With auto A/C)
C3 M45 L/6 : TCS on/off switch (With TCS)
D4★ M46 W/18 : To F44
D4★ M47 W/20 : To F45
D3 M48 BR/10 : Mode door motor (With manual A/C)
D4 M49 W/3 : Mode door motor (With auto A/C)
D3 M50 B/6 : Air mix door motor (With manual A/C)
D3 M51 W/3 : Air mix door motor (With auto A/C)
D4★ M52 BR/24 : ASCD control unit
F4 M53 B/2 : Cigarette lighter
E4 M55 W/8 : Hazard switch
F3 M56 GY/16 : A/C control unit (With manual A/C)
E2 M57 GY/20 : A/C control unit (With manual A/C)
E3 M58 W/6 : Fan switch (With manual A/C)
F3 M59 GY/20 : A/C auto amp. (With auto A/C)
F3 M60 GY/16 : A/C auto amp. (With auto A/C)

★: 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.

MEL345L

Main harness

D3	M61	W/6	:	Audio unit (With BOSE system)
F3	M62	W/10	:	Audio unit (With BOSE system)
D3	M63	W/6	:	Audio unit (With 6 speakers)
F4	M64	W/10	:	Audio unit (With 6 speakers)
F4	M65	W/6	:	Audio unit (With 4 speakers)
F4	M66	W/10	:	Audio unit (With 4 speakers)
F4	M69	W/4	:	CD player (With 4 speakers)
F4	M70	B/2	:	CD player (With 4 speakers)
F3	M71	W/2	:	To M501
F4	M72	W/2	:	Ashtray illumination
F5	M74	L/4	:	Heated seat switch LH
G5	M75	W/4	:	Heated seat switch RH
E5★	M76	GY/8	:	A/T device (With A/T)
F4	M77	B/1	:	Parking brake switch
G5	M78	B/2	:	Power socket
F4	M80	W/3	:	Intake sensor (With auto A/C)
F3★	M81	W/20	:	To F49
F2	M82	W/2	:	Glove box lamp
F2	M83	W/8	:	Intake door motor (With manual A/C)
F2	M84	W/3	:	Intake door motor (With auto A/C)
E1	M85	B/2	:	Sunload sensor (With auto A/C)
F1	M86	BR/2	:	Tweeter RH
G1★	M87	–	:	Body ground
B2	M88	SB/6	:	Joint connector-4 (Diode) (With TCS)
F3	M91	W/12	:	To B103
G3	M92	W/10	:	To B104
G2	M97	G/2	:	To E105
B2	M99	W/2	:	Diode
C3	M103	Y/7	:	Spiral cable (Via sub-harness)
E2	M108	W/3	:	Indirect lamp
G5	M112	Y/20	:	Air bag diagnosis sensor unit
F2	M113	Y/2	:	Passenger air bag module
D4	M117	BR/2	:	To F53 (With M/T)

Main sub-harness-1

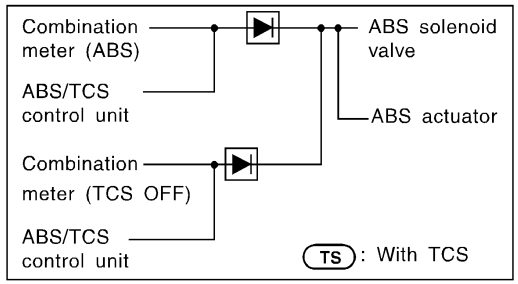
C2	M151	GY/6	:	To M30
D2	M152	BR/8	:	Clock

Main sub-harness-2

C2	M171	W/6	:	To M36
B2	M172	GY/10	:	Auto light control unit

★: 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.**

M88 : TS : (Diode)

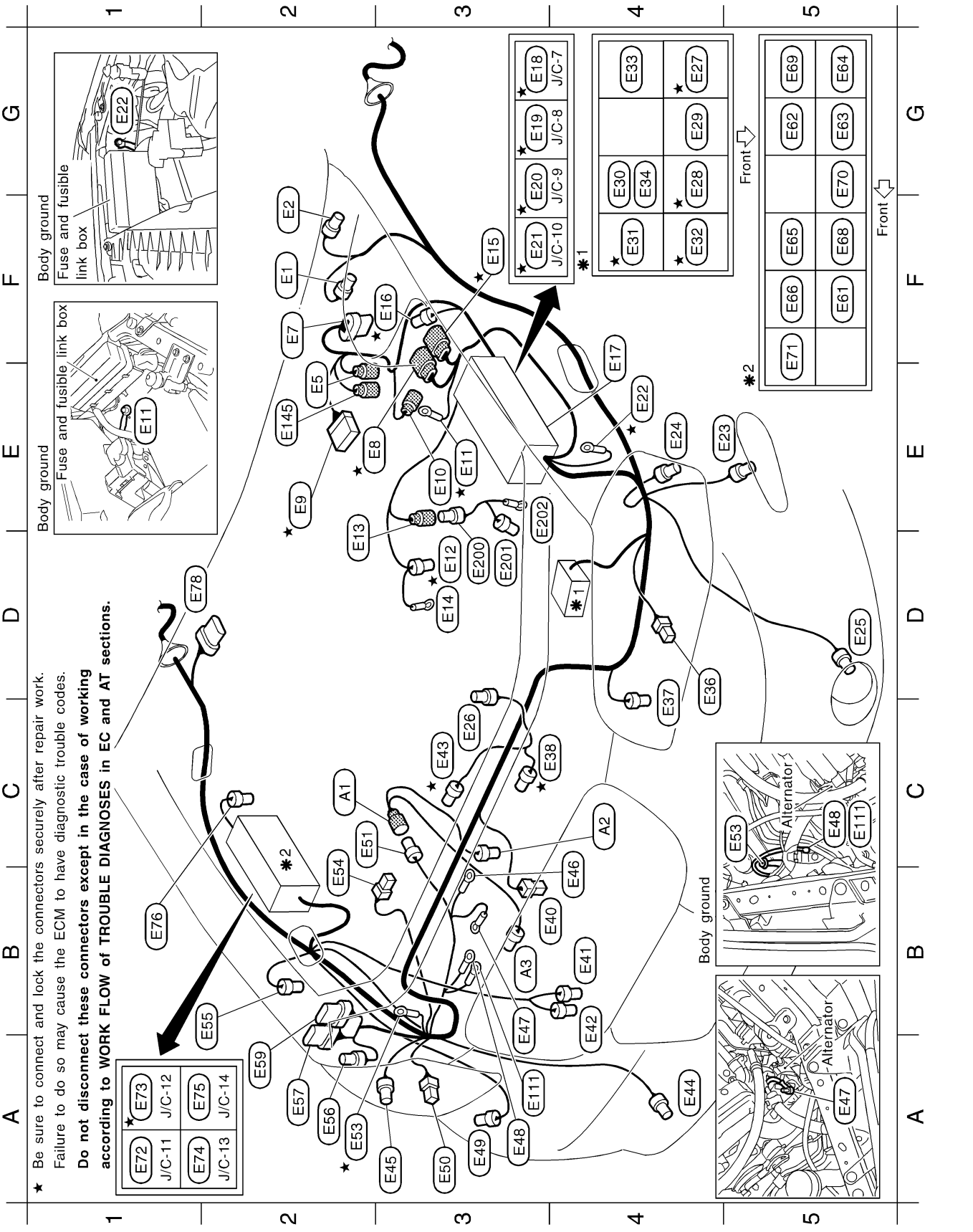


MEL346L

NOTE:

Engine Room Harness

NFEL0134



MEL347L

Engine room harness

F2 (E1) GY/2 : Brake fluid level switch
F2 (E2) GY/4 : ASCD pump
E2 (E5) W/2 : ABS actuator (With TCS)
F2 (E7) GY/8 : ABS actuator (With TCS)
E3★ (E8) GY/8 : To (F17)
E2★ (E9) SMJ : ABS actuator and electric unit (Without TCS)
E3 (E10) BR/2 : Front wheel sensor LH (With TCS)
E3★ (E11) – : Body ground
D3★ (E12) GY/2 : Intake air temperature sensor
D3 (E13) GY/1 : To (E200)
D3 (E14) – : Battery (Fusible link 120A)
F3★ (E15) B/8 : To (F18)
F3★ (E16) GY/2 : Dropping resistor (With A/T)
F4 (E17) – : Fuse and fusible link box
G4★ (E18) GY/6 : Joint connector-7
G4★ (E19) GY/6 : Joint connector-8
G4★ (E20) W/6 : Joint connector-9
F4★ (E21) W/6 : Joint connector-10
E4★ (E22) – : Body ground
E5 (E23) GY/2 : Front side marker lamp LH
E4 (E24) GY/3 : Parking lamp and front turn signal lamp LH
D5 (E25) GY/2 : Front fog lamp LH
C3 (E26) W/2 : Hood switch
G4★ (E27) BR/6 : Cooling fan relay-1
G4★ (E28) BR/6 : Cooling fan relay-2
G4 (E29) B/5 : ABS motor relay (With TCS)
G4 (E30) L/4 : Clutch interlock relay (With M/T)
F4★ (E31) BR/6 : Cooling fan relay-3
F4★ (E32) BR/6 : ECM relay
G4 (E33) B/5 : ABS solenoid valve relay (With TCS)
G4 (E34) GY/6 : Park/Neutral position relay (With A/T)
D4 (E36) B/3 : Headlamp LH
C4 (E37) B/3 : Refrigerant pressure sensor
C4★ (E38) GY/4 : Cooling fan moter-1
B4 (E40) B/1 : Horn (High)
B4 (E41) GY/2 : Front washer motor
B4 (E42) BR/2 : Washer level switch
C3★ (E43) GY/4 : Cooling fan moter-2
A4 (E44) GY/2 : Front fog lamp RH
A3 (E45) GY/3 : Parking lamp and front turn signal lamp RH
C4 (E46) – : Alternator
B3 (E47) – : Alternator
A3 (E48) – : Body ground
A3 (E49) GY/2 : Front side marker lamp RH
A3 (E50) B/3 : Headlamp RH
C3 (E51) GY/4 : To (A1)
A2★ (E53) – : Body ground
B2 (E54) B/1 : Theft warning horn
B2 (E55) B/2 : Ambient sensor (With auto A/C)
A2 (E56) GY/4 : Daytime light control unit (For Canada)
A2 (E57) GY/6 : Daytime light control unit (For Canada)
A2 (E59) GY/8 : Daytime light control unit (For Canada)
F5 (E61) L/4 : Headlamp LH relay
G5 (E62) L/4 : Tail lamp relay
G5 (E63) L/4 : Theft warning horn relay-2
G5 (E64) L/4 : Front fog lamp relay
F5 (E65) L/4 : Headlamp RH relay
F5 (E66) W/3 : Horn relay
F5 (E68) BR/6 : Multi-remote control relay
G5 (E69) L/4 : Door mirror defogger relay
G5 (E70) L/4 : Theft warning horn relay-1
F5 (E71) L/4 : Air conditioner relay
A1 (E72) W/6 : Joint connector-11
A1★ (E73) W/6 : Joint connector-12
A2 (E74) W/6 : Joint connector-13
A2 (E75) W/6 : Joint connector-14
B1 (E76) GY/2 : Front wheel sensor RH
D2 (E78) GY/6 : Front wiper moter
A3 (E111) – : Body ground
E2 (E145) BR/2 : Front wheel sensor LH (Without TCS)

Engine room sub-harness

D3 (E200) GY/1 : To (E13)
D3 (E201) GY/1 : Starter motor
E4 (E202) – : Starter motor

Alternator harness

C2 (A1) GY/4 : To (E51)
C4 (A2) GY/4 : Alternator
B3 (A3) B/1 : Compressor

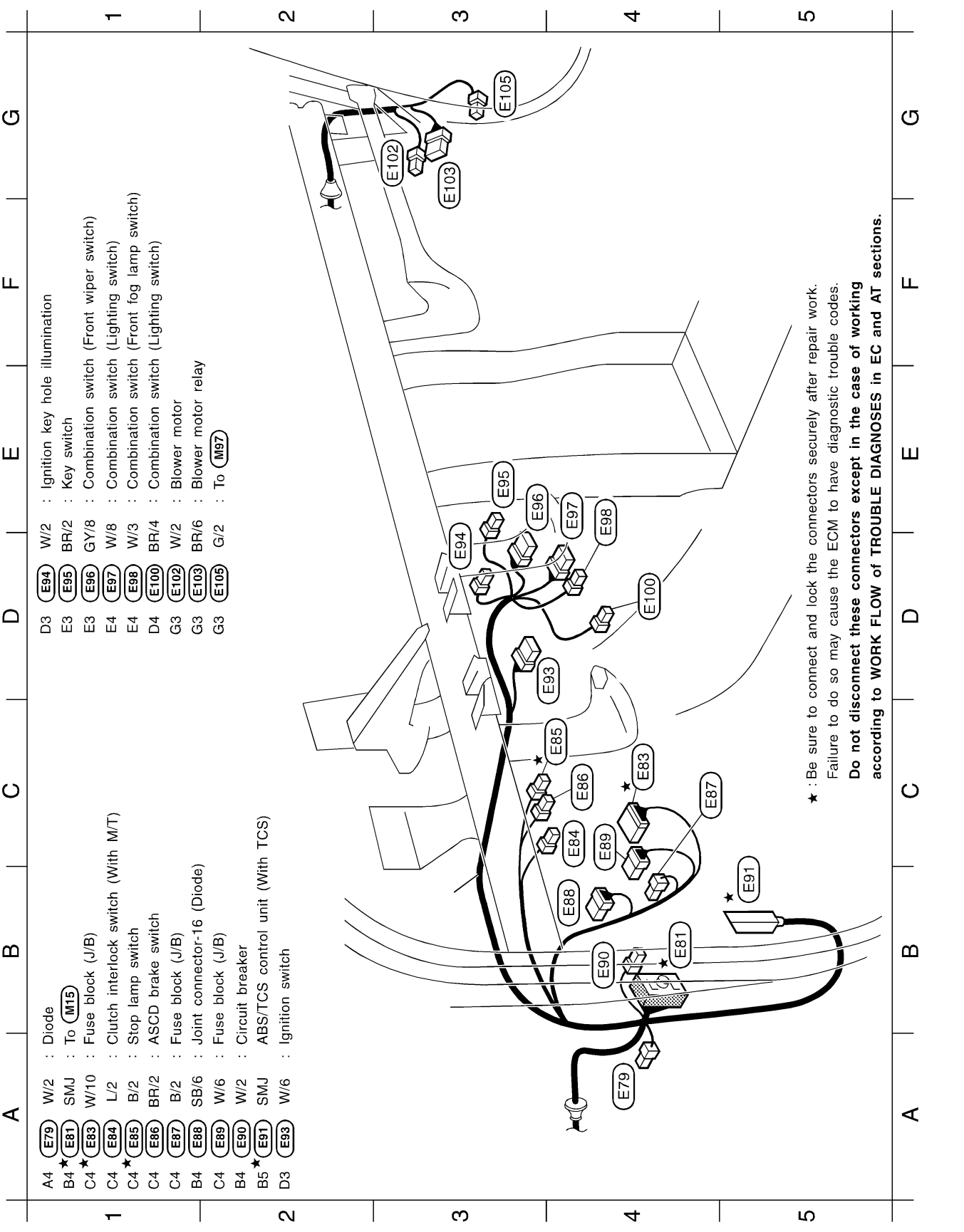
(E79) : Diode

(E88) : Joint connector-16 (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.

MEL348L

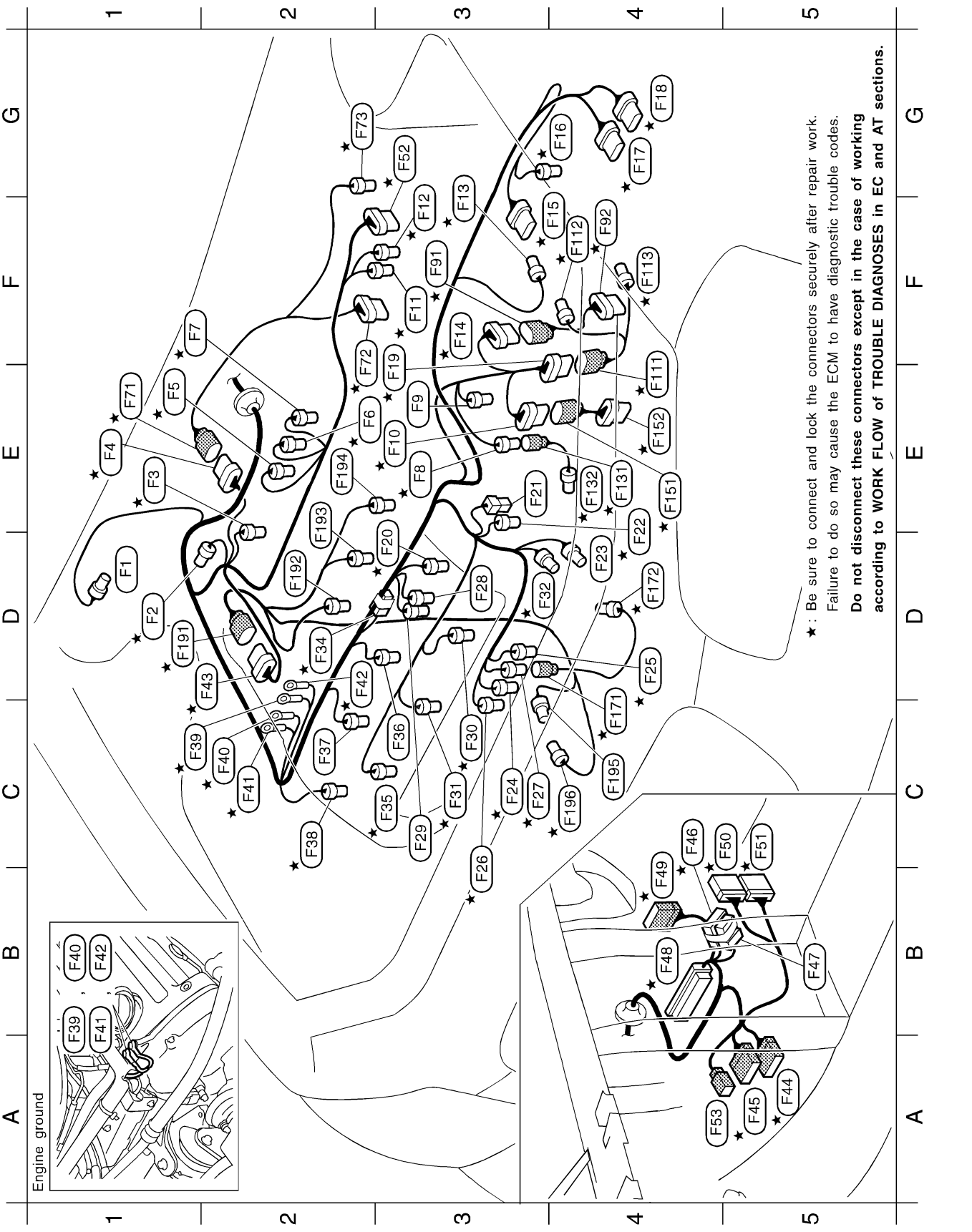

A4 E79 W/2 : Diode
B4 ★ E81 SMJ : To M15
C4 ★ E83 W/10 : Fuse block (J/B)
C4 E84 L/2 : Clutch interlock switch (With M/T)
C4 ★ E85 B/2 : Stop lamp switch
C4 E86 BR/2 : ASCD brake switch
C4 E87 B/2 : Fuse block (J/B)
B4 E88 SB/6 : Joint connector-16 (Diode)
C4 E89 W/6 : Fuse block (J/B)
B4 E90 W/2 : Circuit breaker
B5 ★ E91 SMJ : ABS/TCS control unit (With TCS)
D3 E93 W/6 : Ignition switch
D3 E94 W/2 : Ignition key hole illumination
E3 E95 BR/2 : Key switch
E3 E96 GY/8 : Combination switch (Front wiper switch)
E4 E97 W/8 : Combination switch (Lighting switch)
E4 E98 W/3 : Combination switch (Front fog lamp switch)
D4 E100 BR/4 : Combination switch (Lighting switch)
G3 E102 W/2 : Blower motor
G3 E103 BR/6 : Blower motor relay
G3 E105 G/2 : To M97
★ : 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.
E79
E81
E83
E84
E85
E86
E87
E88
E89
E90
E91
E93
E94
E95
E96
E97
E98
E100
E102
E103
E105
A
B
C
D
E
F
G
1
2
3
4
5

MEL349L

NOTE:

Engine Control Harness

NFEL0135



MEL350L

Engine control harness

D1 (F1) B/2 : Power steering oil pressure switch
D1★(F2) GY/3 : Front heated oxygen sensor RH
E1★(F3) GY/3 : Ignition coil No. 1
E1★(F4) G/8 : To (F71)
E1★(F5) GY/3 : Ignition coil No. 3
E3★(F6) GY/3 : Ignition coil No. 5
F2★(F7) L/2 : EVAP canister purge volume control solenoid valve
E3★(F8) B/2 : To (F131)
E3 (F9) BR/3 : Rear electronic controlled engine mount (With A/T)
E3★(F10) GY/10 : To (F151) (With A/T)
F3★(F11) BR/3 : Throttle position sensor
F3★(F12) GY/3 : Throttle position switch
G3★(F13) W/4 : Park/Neutral position switch (Reverse position switch) (With M/T)
F3★(F14) BR/8 : To (F91) (With A/T)
F4★(F15) GY/5 : Mass air flow sensor
G4★(F16) SB/2 : Swirl control valve control vacuum check switch
G4★(F17) GY/8 : To (E8)
G4★(F18) B/8 : To (E15)
F3★(F19) GY/6 : To (F111) (With A/T)
D3★(F20) BR/2 : Swirl control valve control solenoid valve
E3 (F21) B/1 : Thermal transmitter
E4★(F22) GY/2 : Engine coolant temperature sensor
D4 (F23) BR/3 : Front electronic controlled engine mount (With A/T)
C3★(F24) B/4 : Rear heated oxygen sensor RH (For California)
D4★(F25) G/4 : To (F171)
C3★(F26) GY/3 : Front heated oxygen sensor LH
C3★(F27) GY/4 : Rear heated oxygen sensor LH (For California)
D3 (F28) GY/2 : Injector No. 6
C3 (F29) B/2 : VIAS control solenoid valve
C3★(F30) GY/3 : Ignition coil No. 6
C3★(F31) GY/3 : Ignition coil No. 4
D3★(F32) GY/3 : Absolute pressure sensor
D2★(F34) W/2 : Condenser
C3★(F35) GY/3 : Ignition coil No. 2
C3 (F36) GY/2 : Injector No. 4
C2 (F37) GY/2 : Injector No. 2
C2★(F38) GY/2 : Camshaft position sensor (PHASE)
C2★(F39) – : Engine ground
C2★(F40) – : Engine ground
C2★(F41) – : Engine ground
D3★(F42) – : Engine ground
D2★(F43) L/8 : To (F191)
A5★(F44) W/18 : To (M46)
A5★(F45) W/20 : To (M47)
C4★(F46) L/12 : Joint connector-18
B5 (F47) GY/6 : Joint connector-17
B4★(F48) SMJ : ECM
B4★(F49) W/20 : To (M81)
C5★(F50) GY/24 : TCM (Transmission control module)
C5★(F51) W/24 : TCM (Transmission control module)
G3★(F52) GY/6 : IACV-AAC valve
A5 (F53) BR/2 : To (M117) (With M/T)

Engine control sub-harness-1

E1★(F71) G/8 : To (F4)
F3★(F72) GY/6 : EGR volume control valve
G3★(F73) SB/2 : EGR temperature sensor

Engine control sub-harness-2

F3★(F91) BR/8 : To (F14) (With A/T)
F4★(F92) B/8 : Terminal cord assembly (With A/T)

Engine control sub-harness-3

F4★(F111) GY/6 : To (F19) (With A/T)
F4★(F112) B/3 : Revolution sensor (With A/T)
F4★(F113) GY/2 : Vehicle speed sensor (With A/T)

Engine control sub-harness-4

E4★(F131) B/2 : To (F8)
E4★(F132) GY/2 : Knock sensor

Engine control sub-harness-5

E4★(F151) GY/10 : To (F10) (With A/T)
E4★(F152) B/10 : Park/Neutral position switch (With A/T)

Engine control sub-harness-6

C4★(F171) G/4 : To (F25)
D4★(F172) GY/3 : Crankshaft position sensor (POS)

Engine control sub-harness-7

D2★(F191) L/8 : To (F43)
D2 (F192) GY/2 : Injector No. 1
E2 (F193) GY/2 : Injector No. 3
E2 (F194) GY/2 : Injector No. 5
C4 (F195) B/1 : Oil pressure switch
C4★(F196) GY/2 : Crankshaft position sensor (REF)

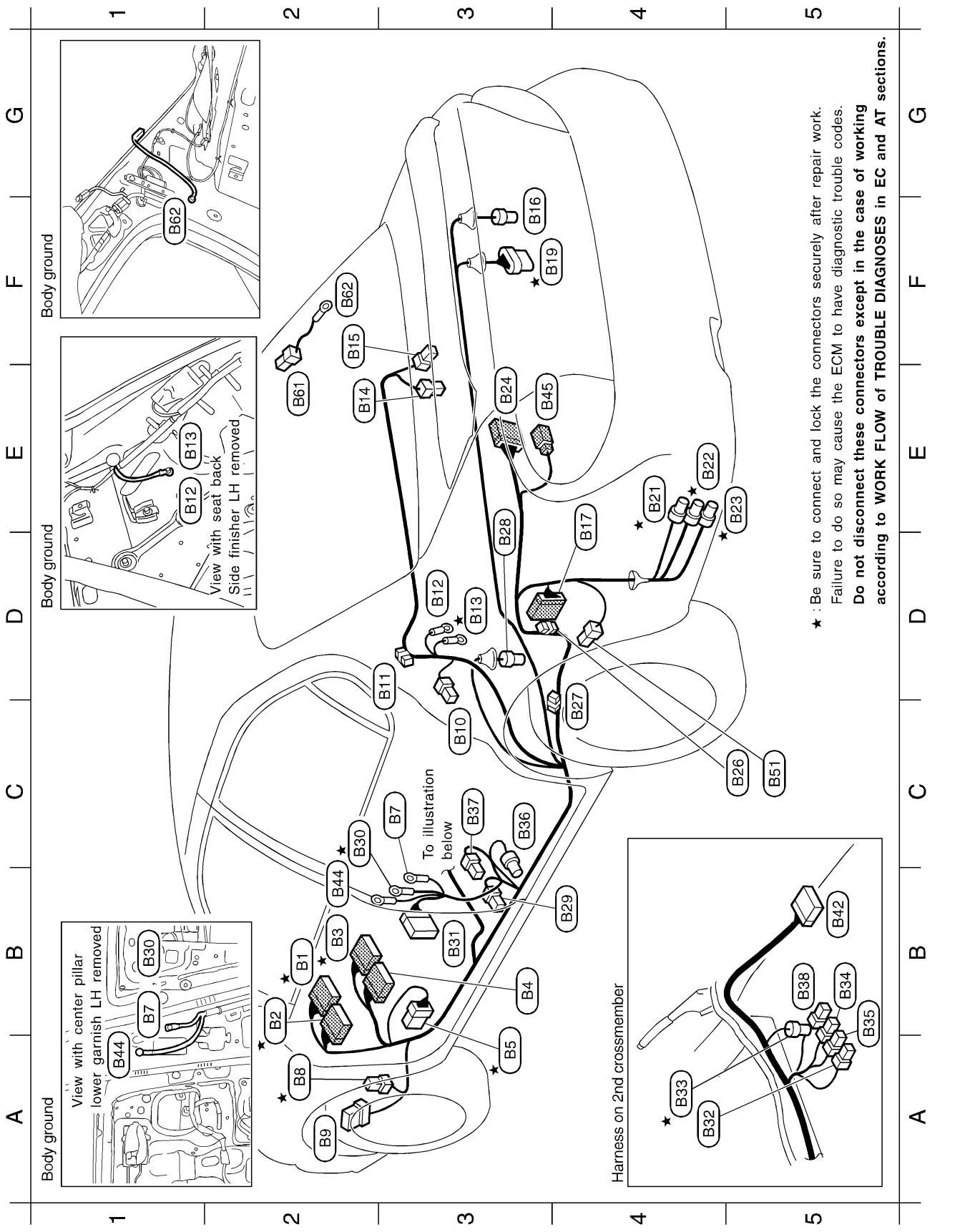
★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.

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

MEL351L

Body Harness

NFEL0136



MEL352L

Body harness

B2 ★ (B1) W/16 : To (M5)
B2 ★ (B2) BR/24 : To (M2)
B2 ★ (B3) W/18 : To (M6)
B3 (B4) W/12 : To (M3) (With BOSE system)
B3 ★ (B5) W/8 : Fuse block (J/B)
C3 (B7) – : Body ground
A2 ★ (B8) L/4 : Fuel pump relay
A2 (B9) BR/6 : Rear window defogger relay
C3 (B10) W/1 : Rear door switch LH
D3 (B11) W/1 : Condenser (Rear window defogger)
D3 (B12) – : Body ground
D3 ★ (B13) – : Body ground
E2 (B14) BR/2 : High-mounted stop lamp (Without rear air spoiler)
F2 (B15) W/2 : Trunk room lamp
G3 (B16) GY/2 : Rear wheel sensor RH
E4 (B17) W/10 : To (T3)
F3 ★ (B19) GY/5 : Fuel level sensor unit and fuel pump
E4 ★ (B21) G/2 : Vacuum cut valve bypass valve
E4 ★ (B22) B/2 : EVAP canister vent control valve
E4 ★ (B23) GY/3 : EVAP control system pressure sensor
E3 (B24) W/16 : To (B119)
C4 (B26) W/2 : Diode
C4 (B27) W/2 : Condenser
E3 (B28) BR/2 : Rear wheel sensor LH
B4 (B29) W/3 : Front door switch LH
C2 ★ (B30) – : Body ground
B3 (B31) W/10 : To (D81)
A4 (B32) W/3 : Heated seat LH (Via sub-harness)
A4 ★ (B33) G/4 : Rear heated oxygen sensor (Except for California)
B5 (B34) W/3 : Seat belt buckle switch LH
B5 (B35) W/2 : Power seat LH (Via sub-harness)
C3 (B36) OR/2 : Satellite sensor LH (With side air bag system)
C3 (B37) W/4 : Seat belt pre-tensioner LH
B5 (B38) Y/2 : Side air bag module LH (With side air bag system)
B5 (B42) Y/12 : Side air bag diagnosis sensor unit LH (With side air bag system)
B2 (B44) – : Body ground (With side air bag system)
E3 (B45) W/4 : To (B144)
C5 (B51) W/4 : Fuel lid opener actuator

Defogger harness

E2 (B61) B/1 : Rear window defogger
F2 (B62) – : Body ground

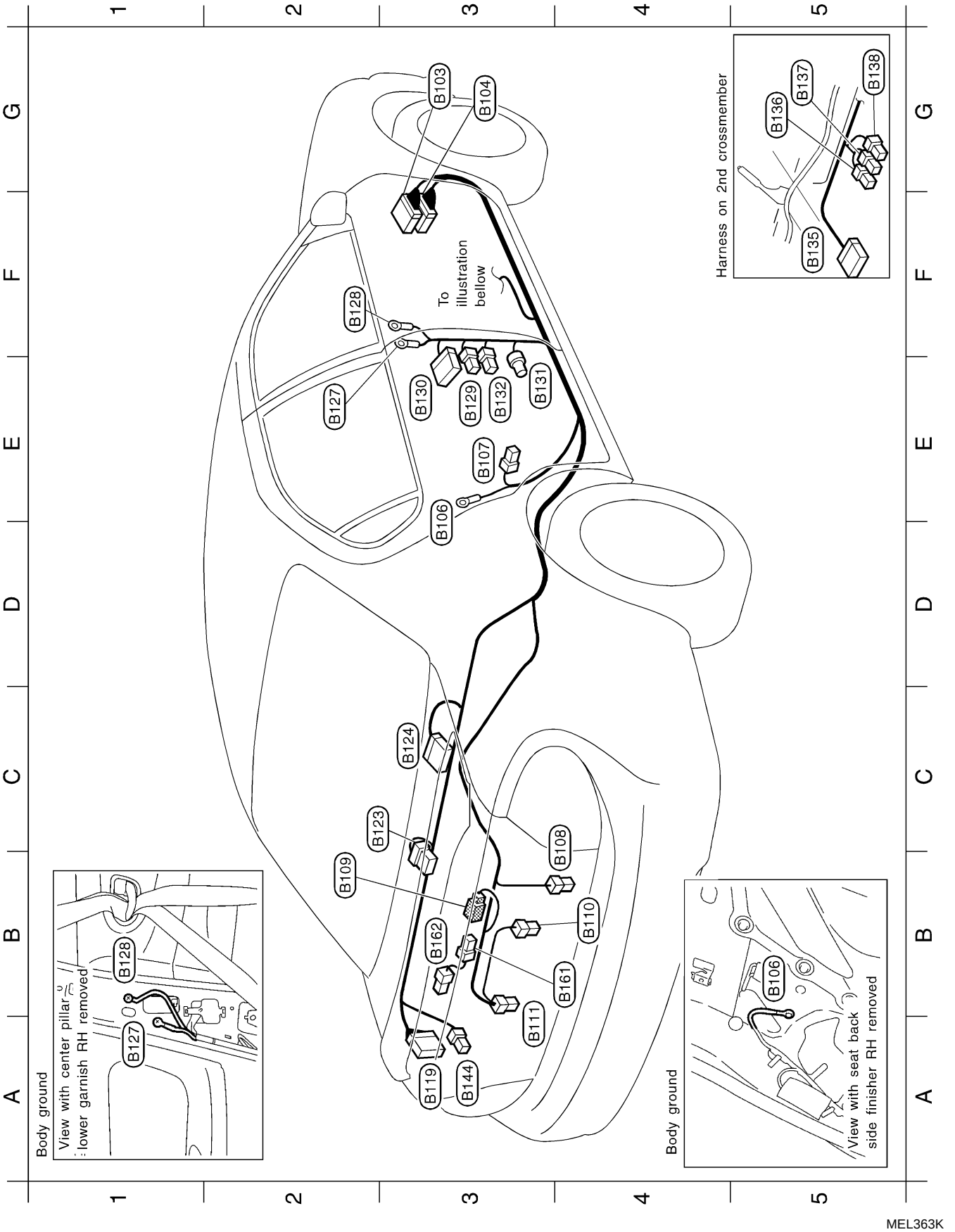
★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

(B26) : Diode

MEL353L

Body No. 2 Harness

NFEL0137



MEL363K

Body No. 2 harness

G3	B103	W/12	: To M91
G3	B104	W/10	: To M92
E3	B106	–	: Body ground
E3	B107	W/1	: Rear door switch RH
C4	B108	W/2	: Trunk lid key cylinder switch
B2	B109	BR/2	: To B161
B4	B110	W/2	: License lamp RH
B3	B111	W/2	: License lamp LH
A3	B119	W/16	: To B24
C2	B123	BR/6	: Woofer (With BOSE system)
C3	B124	GY/26	: BOSE speaker amp. (With BOSE system)
E2	B127	–	: Body ground
F2	B128	–	: Body ground (With side air bag system)
E3	B129	W/3	: Front door switch RH
E3	B130	W/10	: To D101
E3	B131	Y/2	: Satellite sensor RH (With side air bag system)
E3	B132	W/4	: Seat belt pre-tensioner RH
F5	B135	Y/12	: Side air bag diagnosis sensor unit RH (With side air bag system)
G5	B136	W/3	: Heated seat RH (Via sub-harness)
G5	B137	W/2	: Power seat RH (Via sub-harness)
G5	B138	Y/2	: Side air bag module RH (With side air bag system)
A3	B144	W/4	: To B45

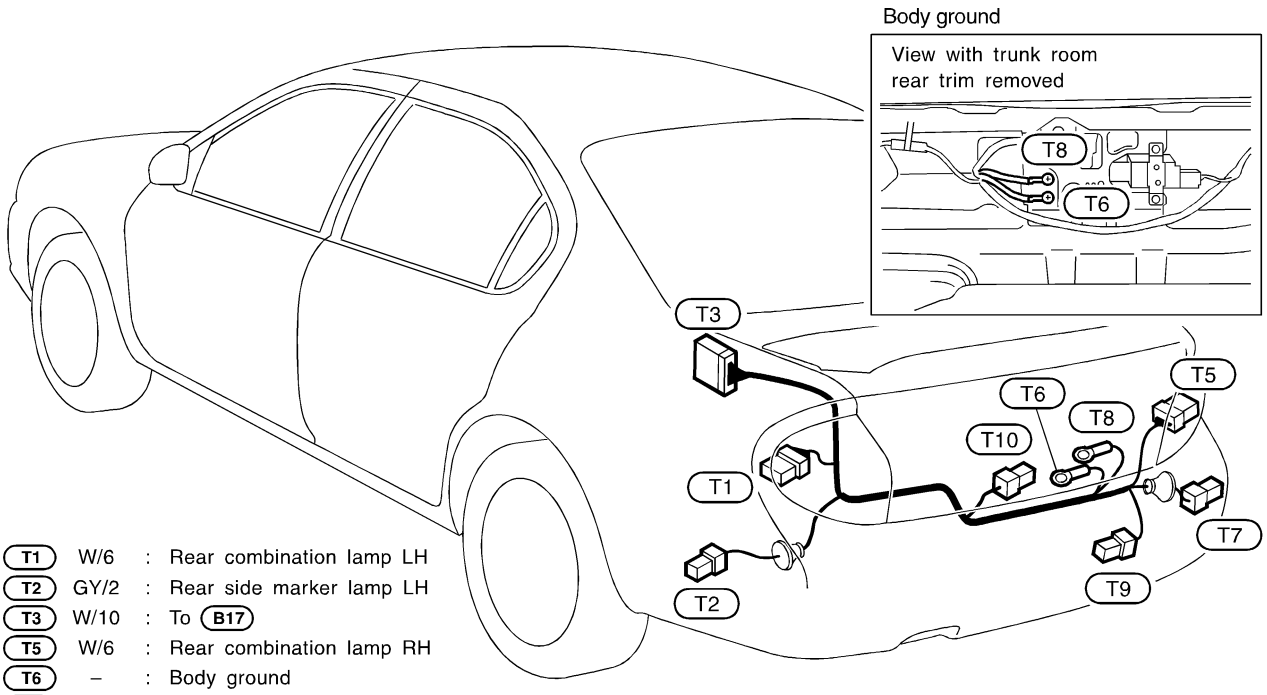
Body No. 2 sub-harness

B4	B161	BR/2	: To B109
B3	B162	B/2	: High-mounted stop lamp (With rear air spoiler)

MEL354L

Tail Harness

NFEL0138



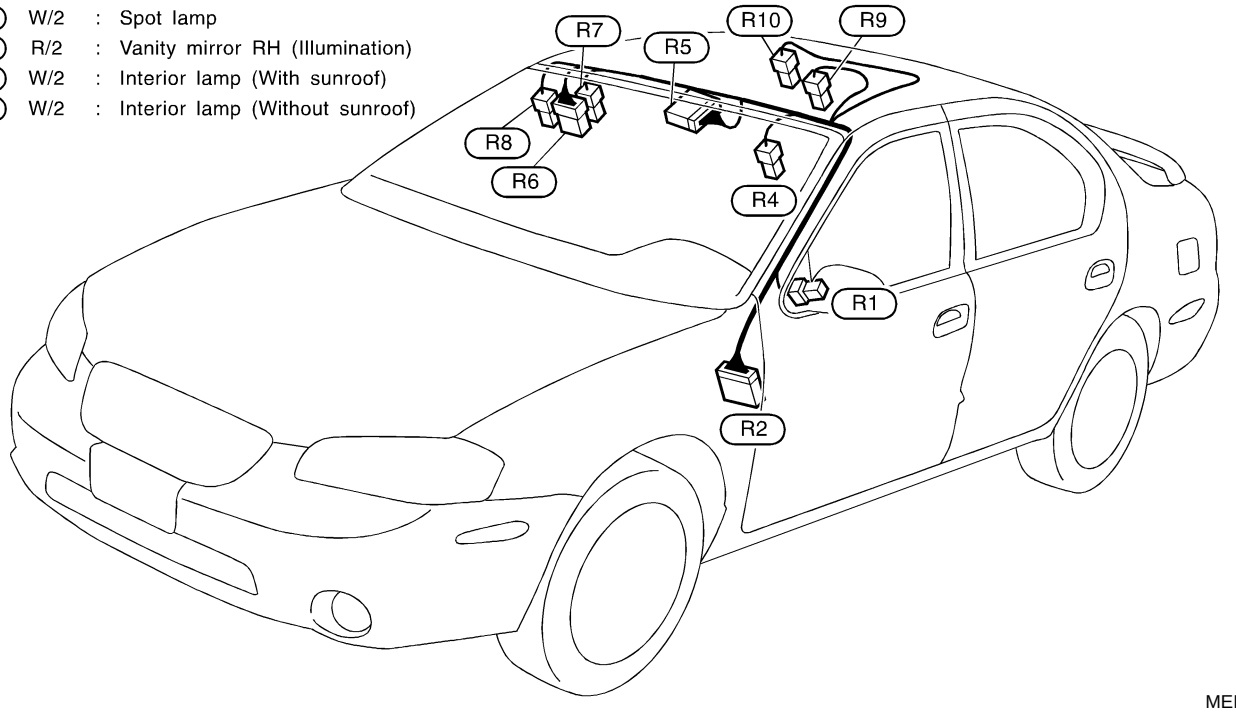
T1	W/6	:	Rear combination lamp LH
T2	GY/2	:	Rear side marker lamp LH
T3	W/10	:	To B17
T5	W/6	:	Rear combination lamp RH
T6	–	:	Body ground
T7	GY/2	:	Rear side marker lamp RH
T8	–	:	Body ground
T9	W/2	:	Trunk room lamp switch
T10	W/2	:	Trunk lid opener actuator

MEL365K

Room Lamp Harness

NFEL0140

(R1) BR/2 : Tweeter LH
(R2) W/12 : To (M8)
(R4) R/2 : Vanity mirror LH (Illumination)
(R5) W/12 : Sunroof motor (With sunroof)
(R6) GY/6 : Sunroof switch (With sunroof)
(R7) W/2 : Spot lamp
(R8) R/2 : Vanity mirror RH (Illumination)
(R9) W/2 : Interior lamp (With sunroof)
(R10) W/2 : Interior lamp (Without sunroof)



MEL366K

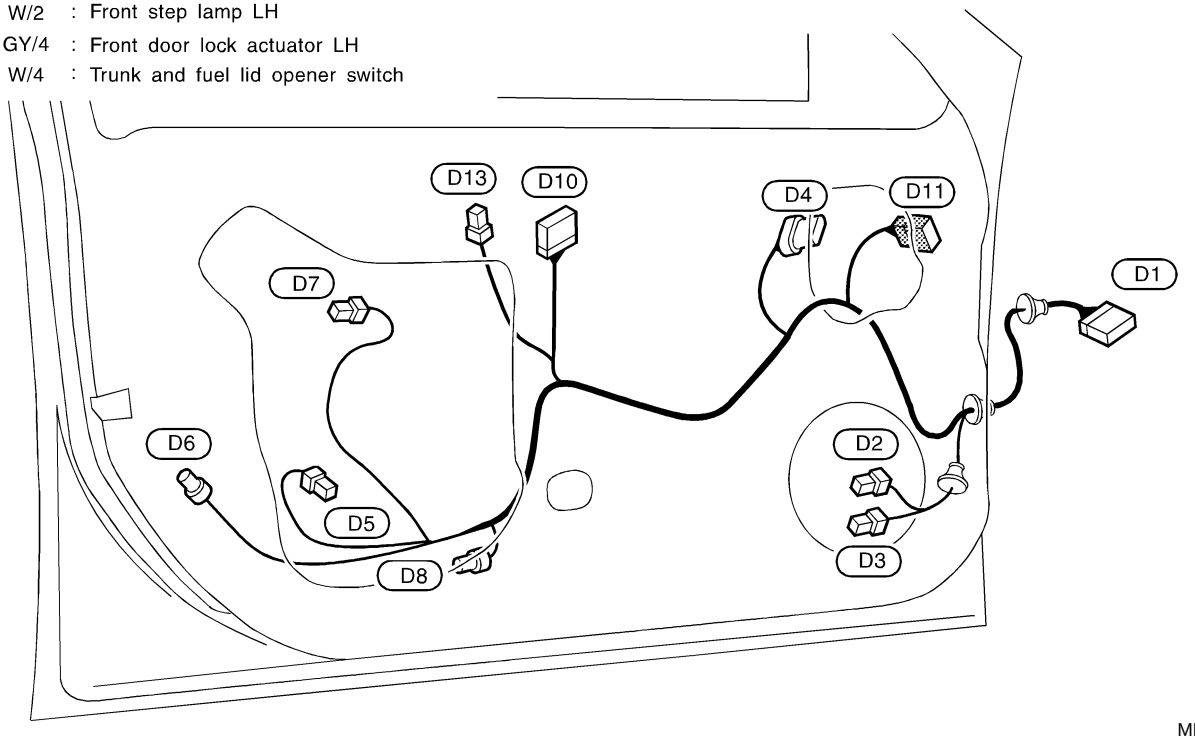
Front Door Harness

NFEL0142

LH SIDE

NFEL0142S03

D1	SMJ	: To M4		D8	BR/3	:	Front door key cylinder switch LH
D2	BR/2	:	Front door speaker LH (With BOSE system)	D10	W/16	:	Power window main switch
D3	W/2	:	Front door speaker LH (Without BOSE system)	D11	W/8	:	Door mirror actuator LH
D4	GY/6	:	Front power window regulator LH	D13	W/3	:	Power window main switch
D5	W/2	:	Front step lamp LH				
D6	GY/4	:	Front door lock actuator LH				
D7	W/4	:	Trunk and fuel lid opener switch				



MEL355L

RH SIDE

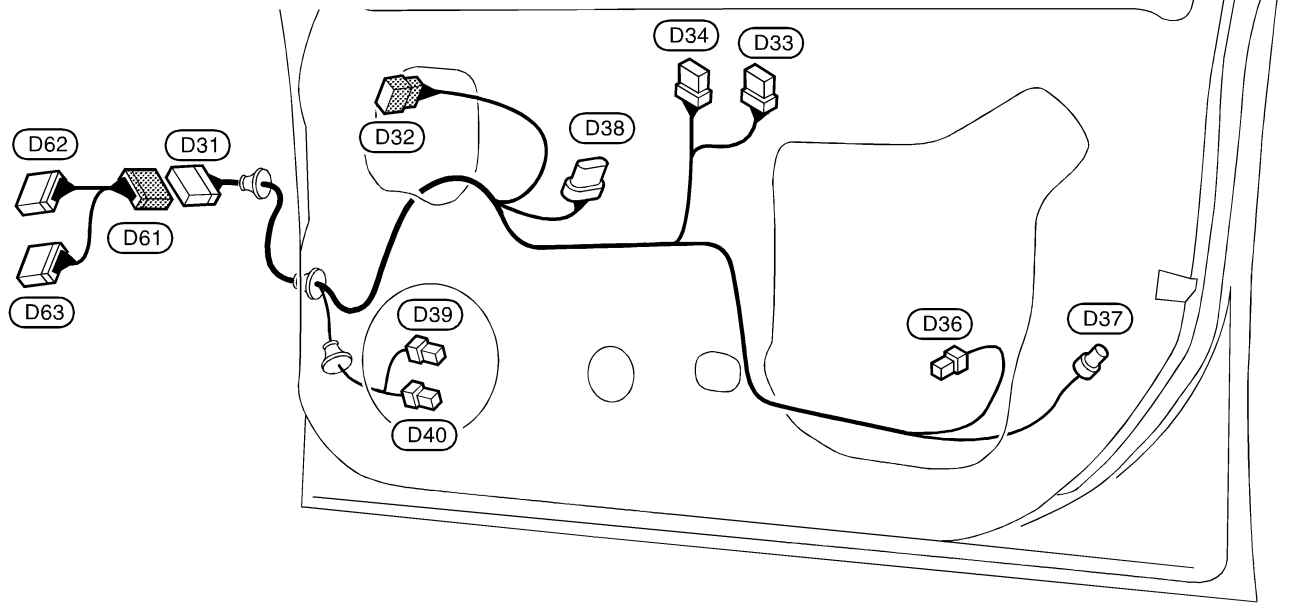
NFEL0142S04

Door harness front RH

- D31 SMJ : To D61
- D32 W/8 : Door mirror actuator RH
- D33 W/8 : Front power window switch RH
- D34 GY/8 : Door lock and unlock switch RH
- D36 W/2 : Front step lamp RH
- D37 GY/4 : Front door lock actuator RH
- D38 BR/2 : Front power window regulator RH
- D39 BR/2 : Front door speaker RH (With BOSE system)
- D40 W/2 : Front door speaker RH (Without BOSE system)

Door sub-harness

- D61 SMJ : To D31
- D62 W/16 : To M38
- D63 W/10 : To M39



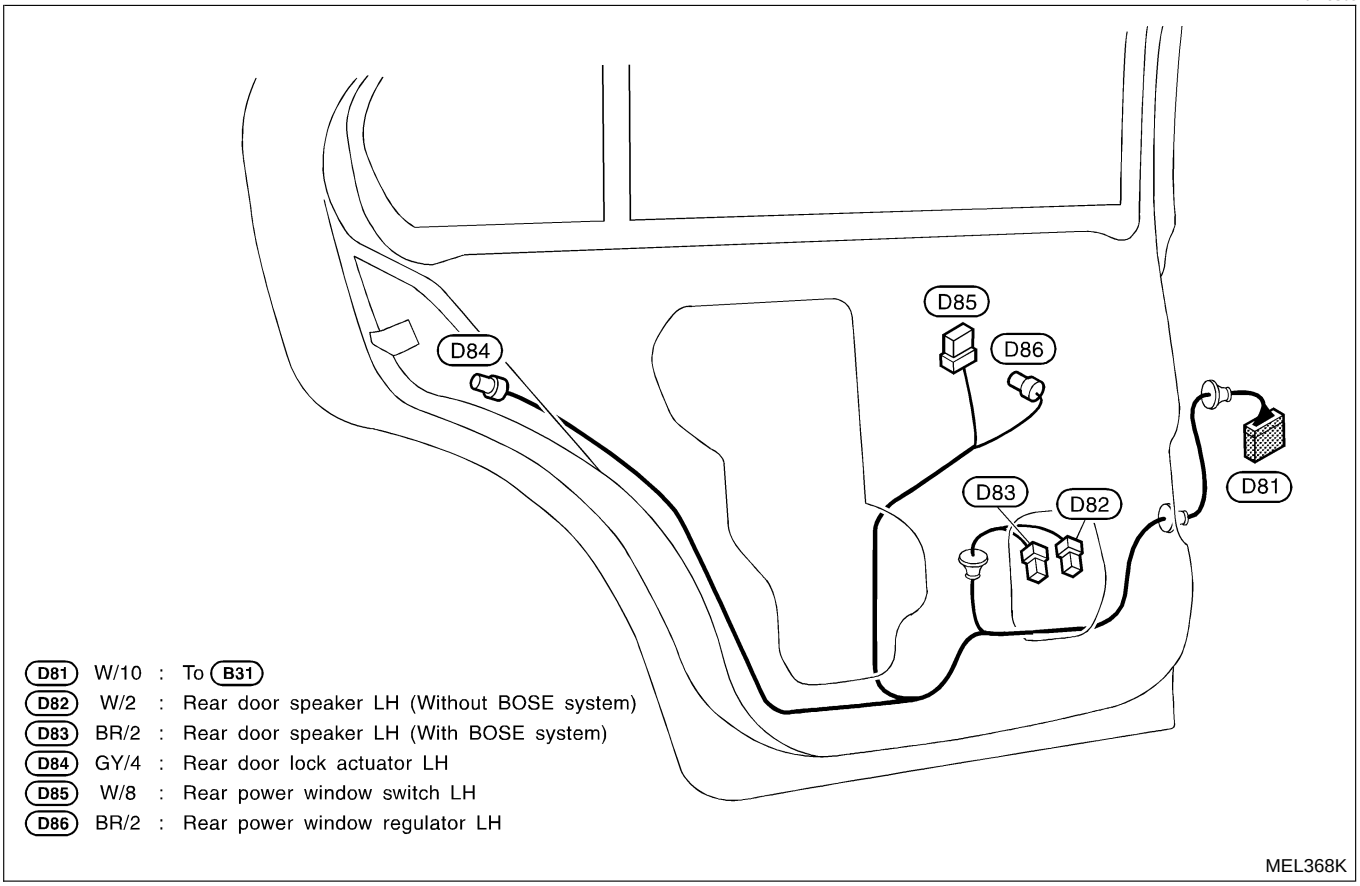
MEL369K

Rear Door Harness

NFEL0143

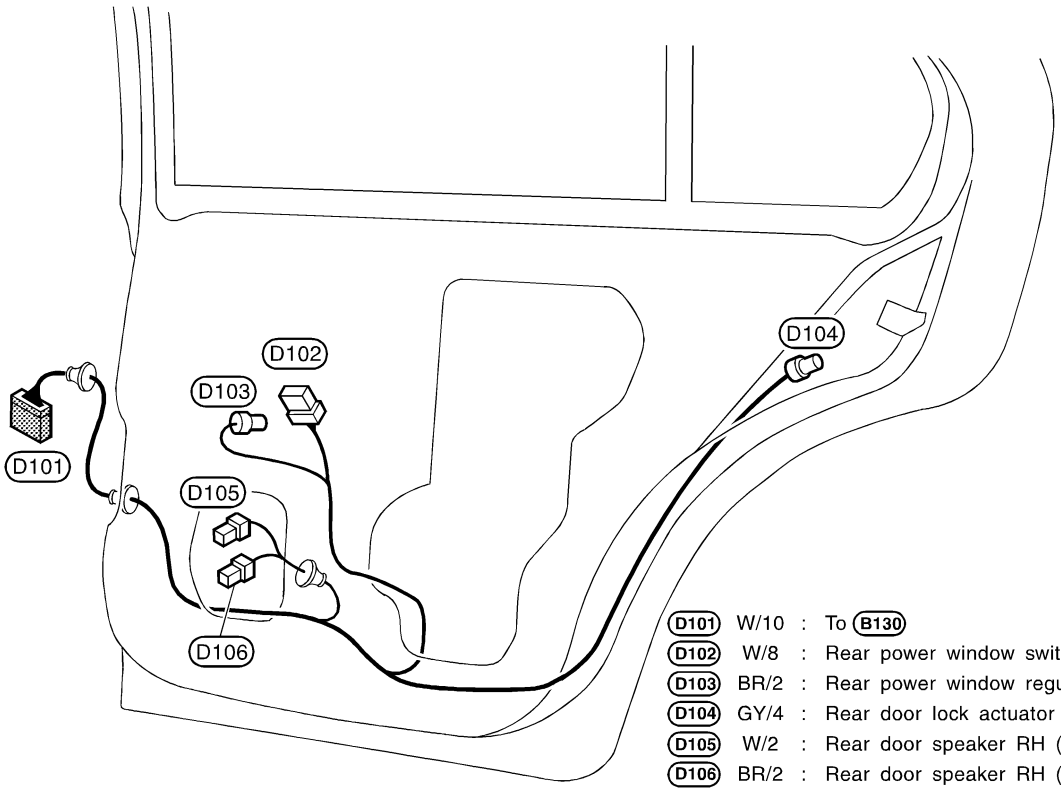
LH SIDE

NFEL0143S03



RH SIDE

NFEL0143S04



D101	W/10	:	To B130
D102	W/8	:	Rear power window switch RH
D103	BR/2	:	Rear power window regulator RH
D104	GY/4	:	Rear door lock actuator RH
D105	W/2	:	Rear door speaker RH (Without BOSE system)
D106	BR/2	:	Rear door speaker RH (With BOSE system)

MEL370K

BULB SPECIFICATIONS

Headlamp

Headlamp

NFEL0144S03

Item	Wattage (W)
High/Low	60/55 (HB2)

Exterior Lamp

NFEL0144S01

Item		Wattage (W)
Front fog lamp		35 (H3)
Front turn signal lamp		21
Side turn signal lamp		5
Parking lamp		5
Front side marker lamp		3.8
Rear combination lamp	Turn signal	21
	Stop/Tail	21/5
	Back-up	13
Rear side marker lamp		3.8
License lamp		5
High-mounted stop lamp (without rear spoiler)		21

Interior Lamp

NFEL0144S02

Item		Wattage (W)
Interior room lamp		8
Map lamp	With sunroof	5
	Without sunroof	8
Vanity mirror lamp		8
Trunk room lamp		3.4

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
AAC/V	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
A/C, A	HA	Auto Air Conditioner
A/C, M	HA	Manual Air Conditioner
AP/SEN	EC	Absolute Pressure Sensor
ASCD	EL	Automatic Speed Control Device (ASCD)
AT/C	EC	A/T Communication Line
ATDIAG	EC	A/T Diagnosis Communication Line
AT/IND	EL	A/T Indicator Lamp
AUDIO	EL	Audio
BACK/L	EL	Back-up Lamp
BA/FTS	AT	A/T Fluid Temperature Sensor and TCM Power Supply
BYPS/V	EC	Vacuum Cut Valve Bypass Valve
CHARGE	SC	Charging System
CHIME	EL	Warning Chime
CIGAR	EL	Cigarette Lighter
CLOCK	EL	Clock
COOL/F	EC	Cooling Fan Control
DEF	EL	Rear Window Defogger
D/LOCK	EL	Power Door Lock
DTRL	EL	Headlamp - With Daytime Light System
ECTS	EC	Engine Coolant Temperature Sensor
EGRCI	EC	EGR Function
EGVC/V	EC	EGR Volume Control Valve
EGR/TS	EC	EGR Temperature Sensor
EMNT	EC	Engine Mount
ENGSS	AT	Engine Speed Signal
F/FOG	EL	Front Fog Lamp
FLS1	EC	Fuel Gauge
FLS2	EC	Fuel Gauge
FLS3	EC	Fuel Gauge
FO2H-L	EC	Front Heated Oxygen Sensor Heater (Left Bank)
FO2H-R	EC	Front Heated Oxygen Sensor Heater (Right Bank)
F/PUMP	EC	Fuel Pump Control
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)
H/LAMP	EL	Headlamp
HORN	EL	Horn
HSEAT	EL	Heated Seat
IATS	EC	Intake Air Temperature Sensor
IGN/SG	EC	Ignition Signal
ILL	EL	Illumination
INJECT	EC	Injector
INT/L	EL	Interior, Step, Spot, Vanity Mirror and Trunk Room Lamps
KS	EC	Knock Sensor
LAN	AT	A/T Communication Line
LOAD	EC	Electrical Load Signal
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 & Data Link Connector
MIRROR	EL	Power Door Mirror
MULTI	EL	Multi-remote Control System
NATS	EL	NVIS (Nissan Vehicle Immobilizer System — NATS)

Code	Section	Wiring Diagram Name
NONDTC	AT	Non-detectable Items
OVRCSV	AT	Overrun Clutch Solenoid Valve
PHONE	EL	Telephone (Pre-wire)
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PHASE	EC	Camshaft Position Sensor (PHASE)
PNP/SW	AT	Park/Neutral Position Switch
PNP/SW	EC	Park/Neutral Position Switch
POS	EC	Crankshaft Position Sensor (CKPS) (POS)
POWER	EL	Power Supply Routing
PRE/SE	EC	EVAP Control System Pressure Sensor
PST/SW	EC	Power Steering Oil Pressure Switch
REF	EC	Crankshaft Position Sensor (CKPS) (REF)
RO2H-L	EC	Rear Heated Oxygen Sensor Heater (Left Bank)
RO2H-R	EC	Rear Heated Oxygen Sensor Heater (Right Bank)
RP/SEN	EC	Refrigerant Pressure Sensor
RRO2	EC	Rear Heated Oxygen Sensor (Rear HO2S)
RRO2LH	EC	Rear Heated Oxygen Sensor (Rear HO2S) (Left Bank)
RRO2RH	EC	Rear heated Oxygen Sensor (Rear HO2S) (Right Bank)
RRO2/H	EC	Rear Heated Oxygen Sensor Heater
SEAT	EL	Power Seat
SHIFT	AT	A/T Shift Lock System
SROOF	EL	Sunroof
SRS	RS	Supplemental Restraint System
S/SIG	EC	Start Signal
SSV/A	AT	Shift Solenoid Valve A
SSV/B	AT	Shift Solenoid Valve B
START	SC	Starting System
STOP/L	EL	Stop Lamp
S/VCSW	EC	Swirl Control Valve Control Vacuum Check Switch
SWL/V	EC	Swirl Control Valve Control Solenoid Valve

Code	Section	Wiring Diagram Name
TAIL/L	EL	Parking, License and Tail Lamps
TCCSIG	AT	A/T TCC Signal (Lock Up)
TCS	EC	ABS/TCS Communication Line
TCS	BR	Traction Control System
TCV	AT	Torque Converter Clutch Solenoid Valve
TFTS	EC	Tank Fuel Temperature Sensor
T&FLID	EL	Trunk Lid and Fuel Filler Lid Opener
THEFT	EL	Theft Warning System
TPS	AT	Throttle Position Sensor
TPS	EC	Throttle Position Sensor
TP/SW	EC	Closed Throttle Position Switch
TRNSMT	EL	Integrated HOMELINK (TM) Transmitter
TURN	EL	Turn Signal and Hazard Warning Lamps
VENT/V	EC	EVAP Canister Vent Control Valve
VIAS/V	EC	Variable Induction Air Control System
VSS	EC	Vehicle Speed Sensor
VSSA/T	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
VSSMTR	AT	Vehicle Speed Sensor MTR
W/ANT	EL	Audio Antenna
WARN	EL	Warning Lamps
WINDOW	EL	Power Window
WIPER	EL	Front Wiper and Washer