

ELECTRICAL SYSTEM

SECTION **EL**

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AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

PRECAUTIONS

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

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

NCEL0001

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 INFINITI G20 is as follows:

- 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 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 must be performed by an authorized INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. 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 (except "SEAT BELT PRE-TENSIONER") covered with yellow insulation tape either just before the harness connectors or for the complete harness are related to the SRS.**

Wiring Diagrams and Trouble Diagnosis

NCEL0002

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-24, "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT"

Check for any Service bulletins before servicing the vehicle.

Description

NCEL0003

NCEL0003S01

HARNESS CONNECTOR (TAB-LOCKING TYPE)

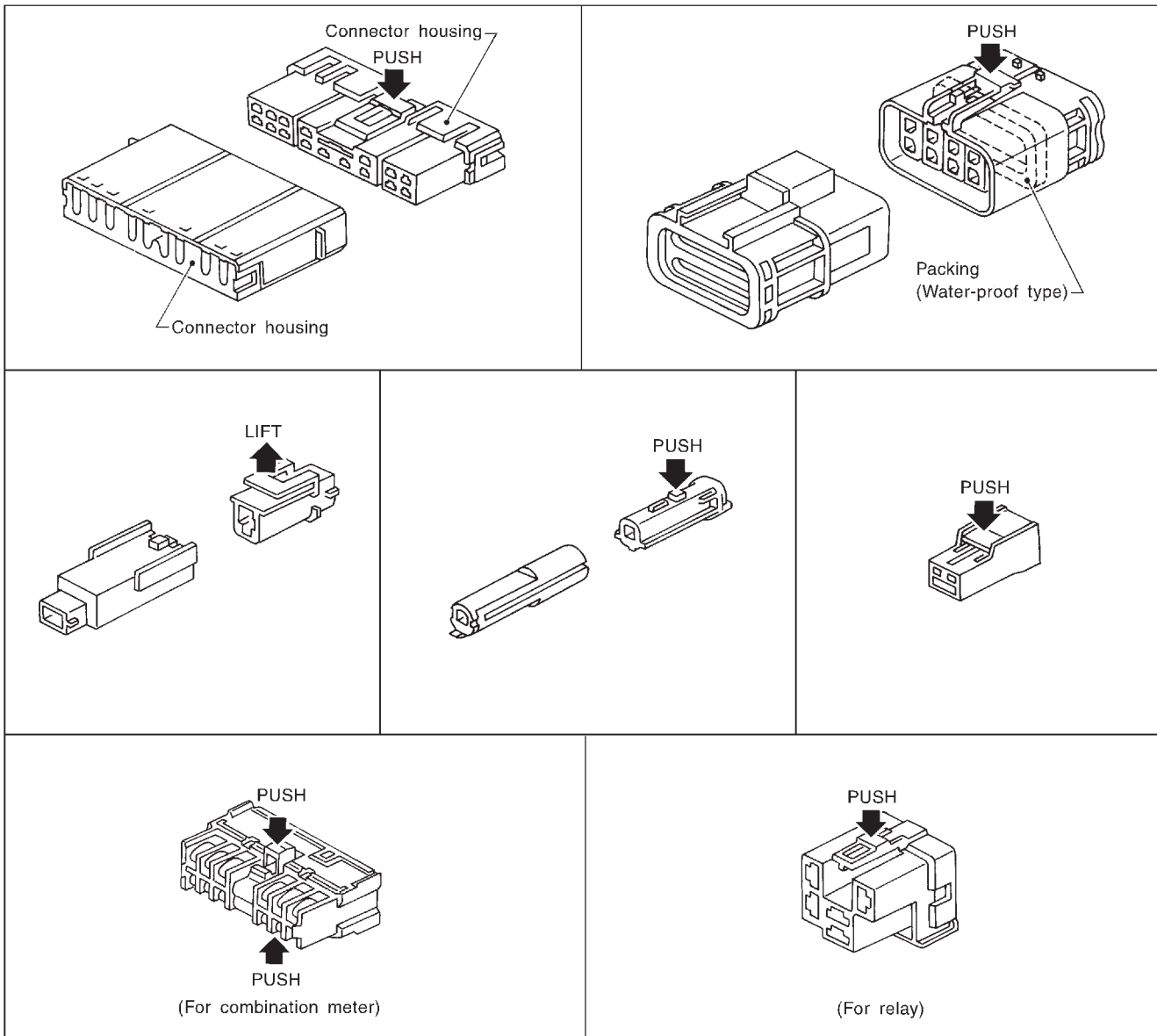
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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]



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HARNESS CONNECTOR

Description (Cont'd)

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

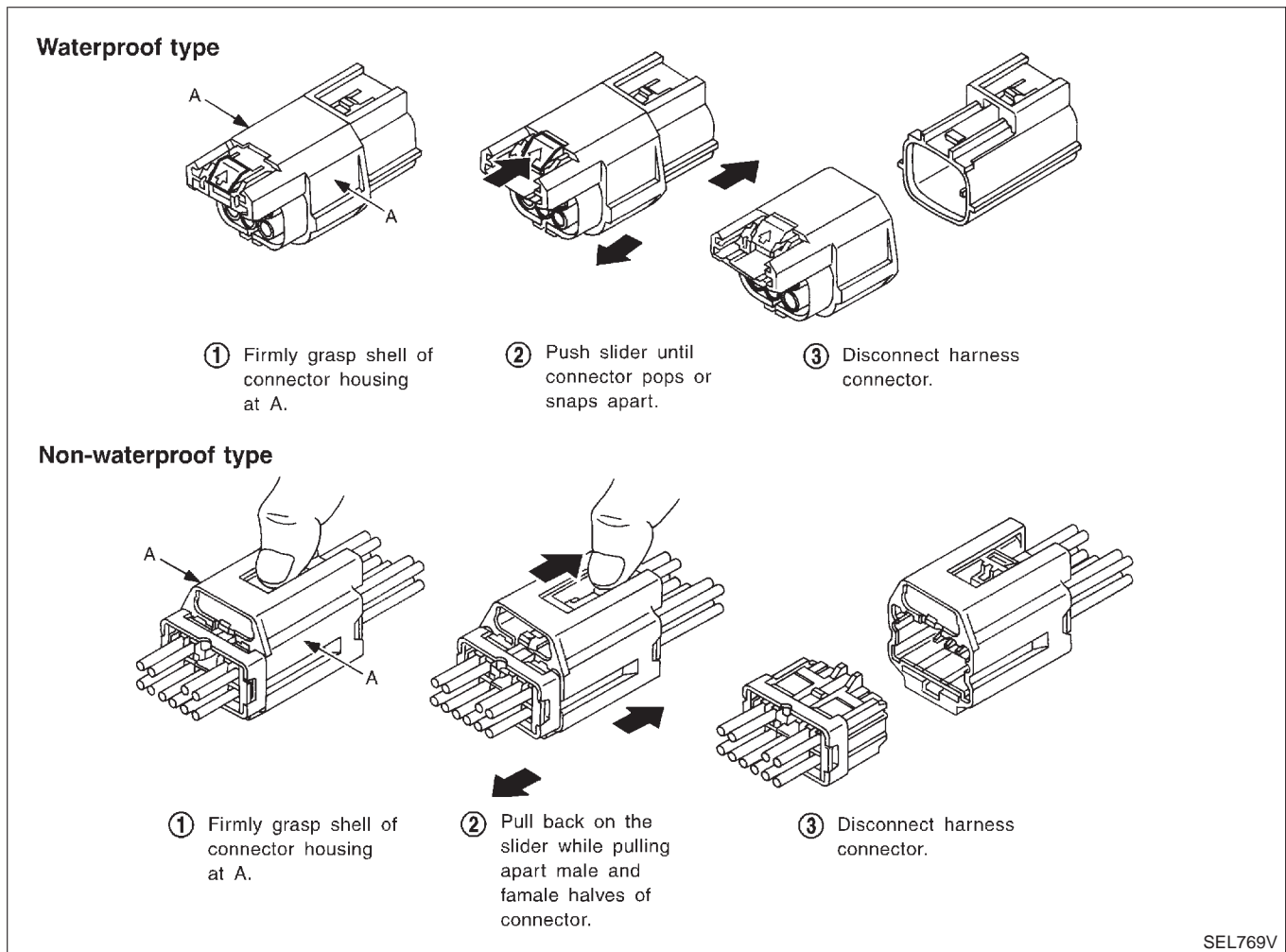
=NCEL0003S02

- 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]



SEL769V

STANDARDIZED RELAY

Description

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

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

NCEL0004

NCEL0004S01

GI

MA

EM

LC

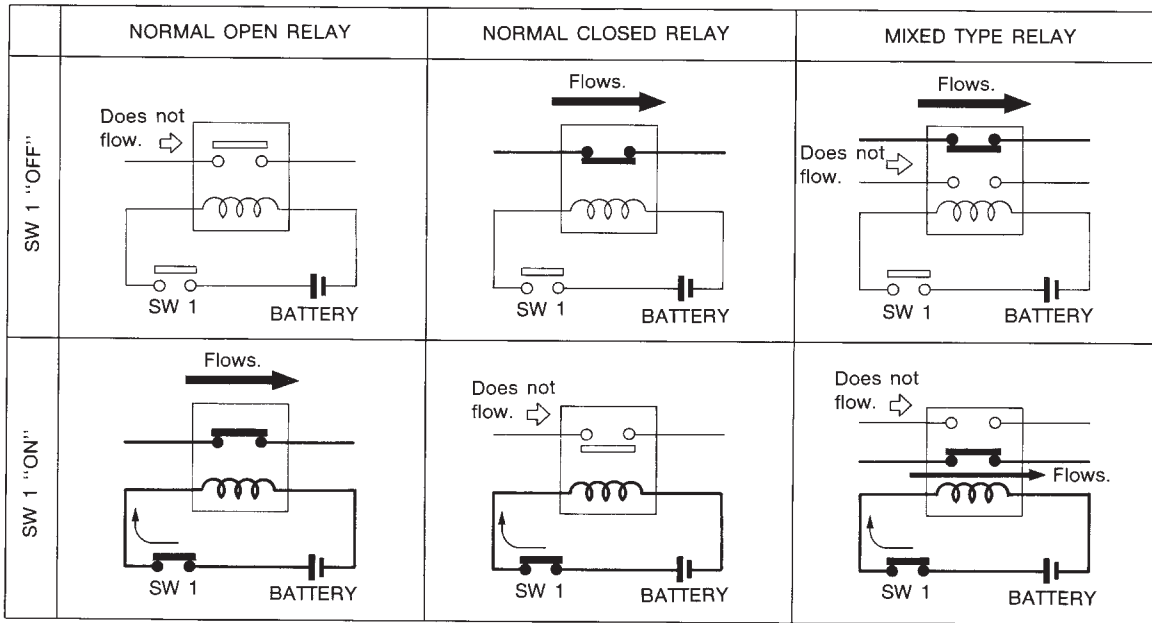
EC

FE

CL

MT

SEL881H



TYPE OF STANDARDIZED RELAYS

NCEL0004S02

AT

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

AX

SU

BR

ST

RS

BT

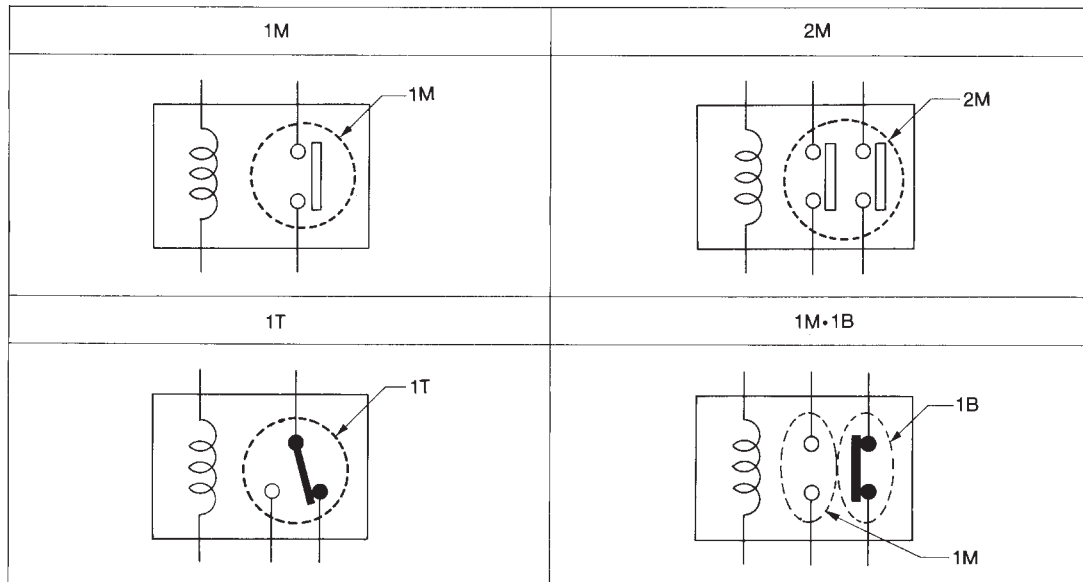
HA

SC

SEL882H

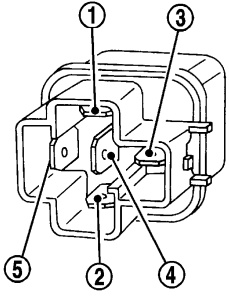
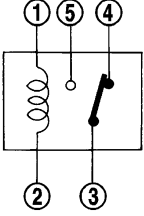
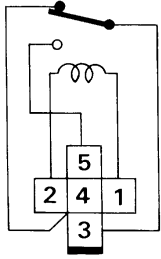
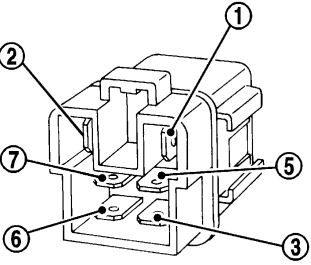
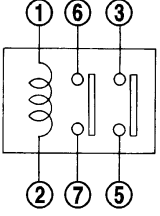
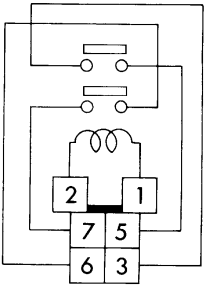
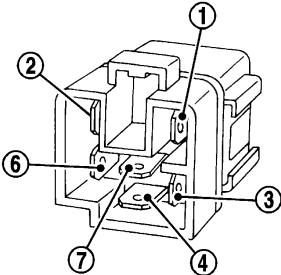
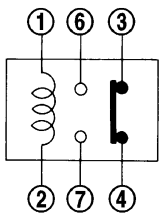
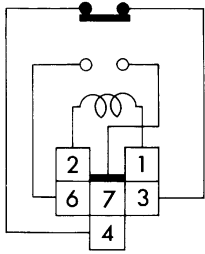
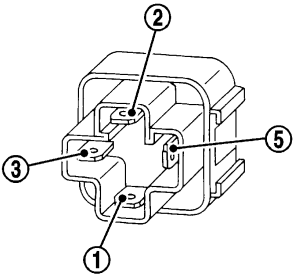
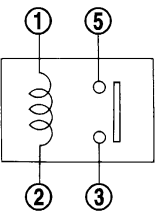
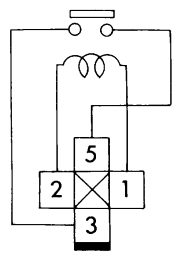
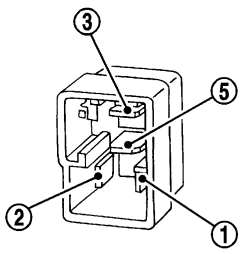
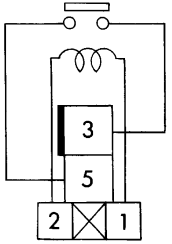
EL

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STANDARDIZED RELAY

Description (Cont'd)

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

POWER SUPPLY ROUTING

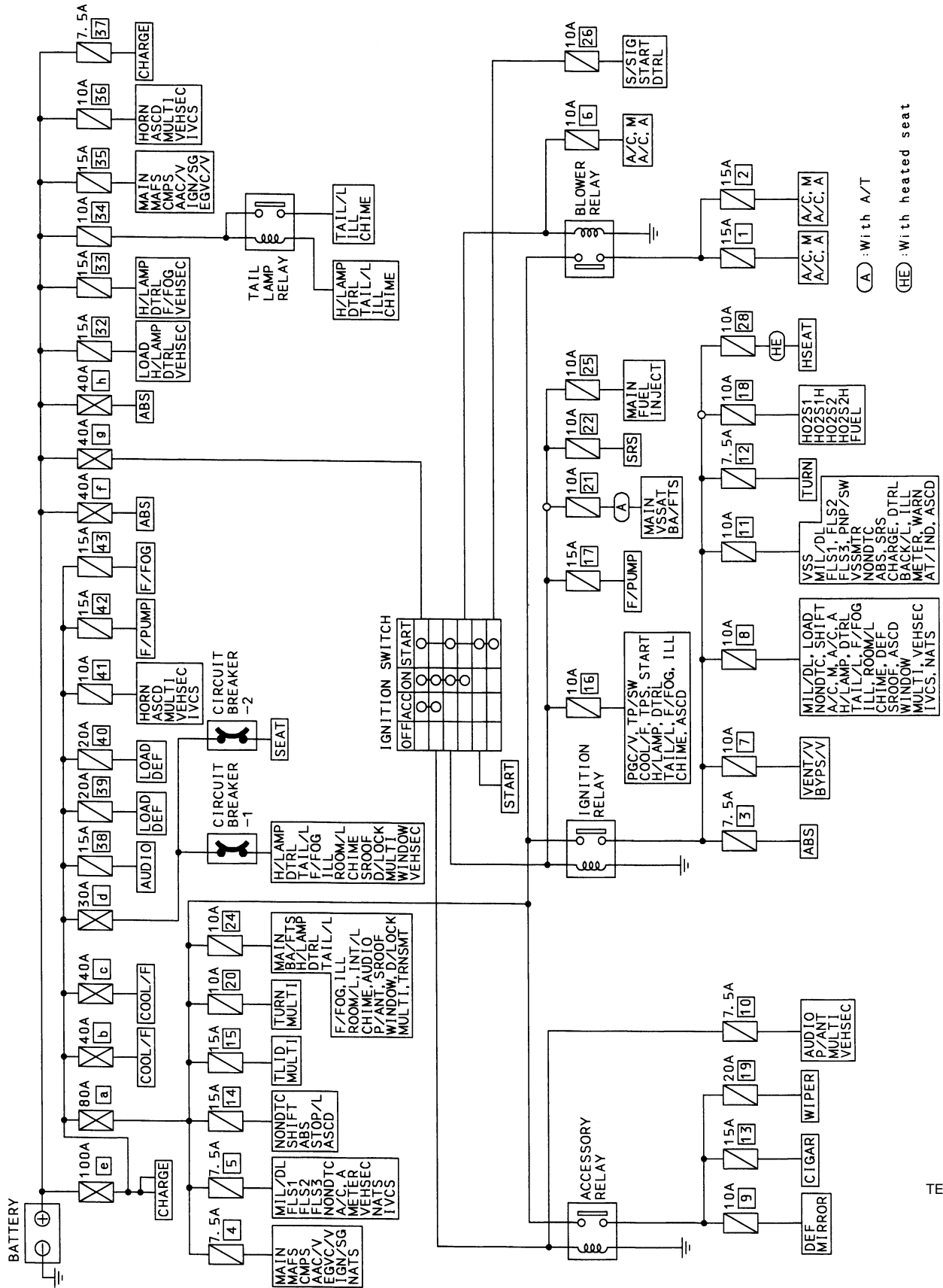
Schematic

Schematic

NCEL0005

NOTE:

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



GI
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TEL764B

POWER SUPPLY ROUTING

Wiring Diagram — POWER —

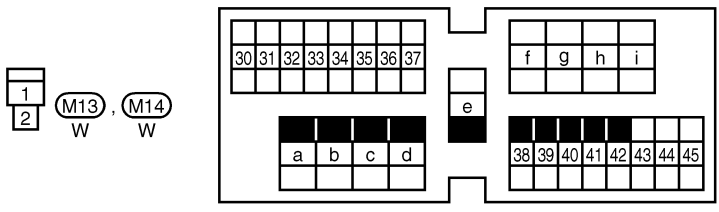
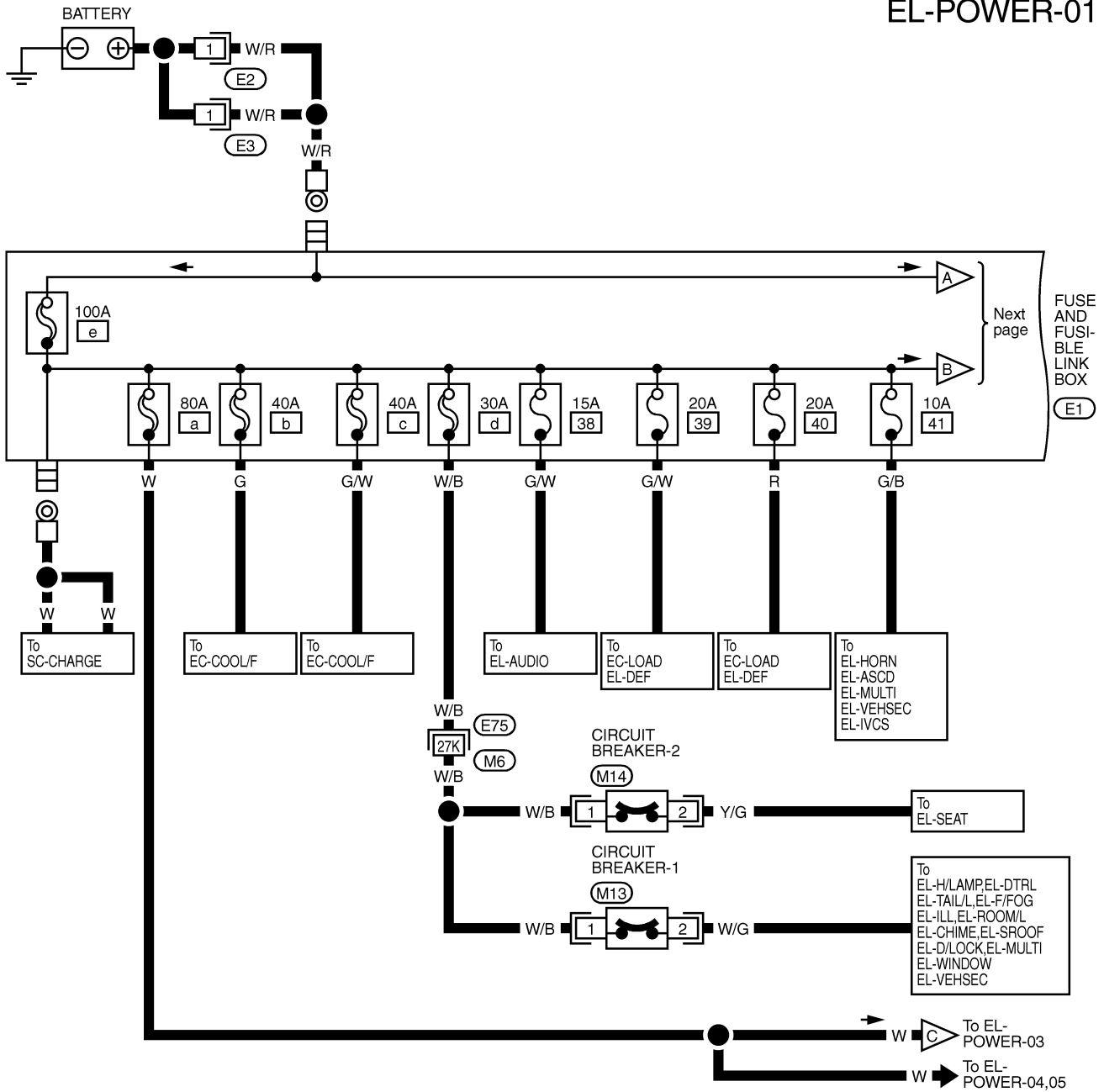
Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

NCEL0006

NCEL0006S01

EL-POWER-01



REFER TO THE FOLLOWING.

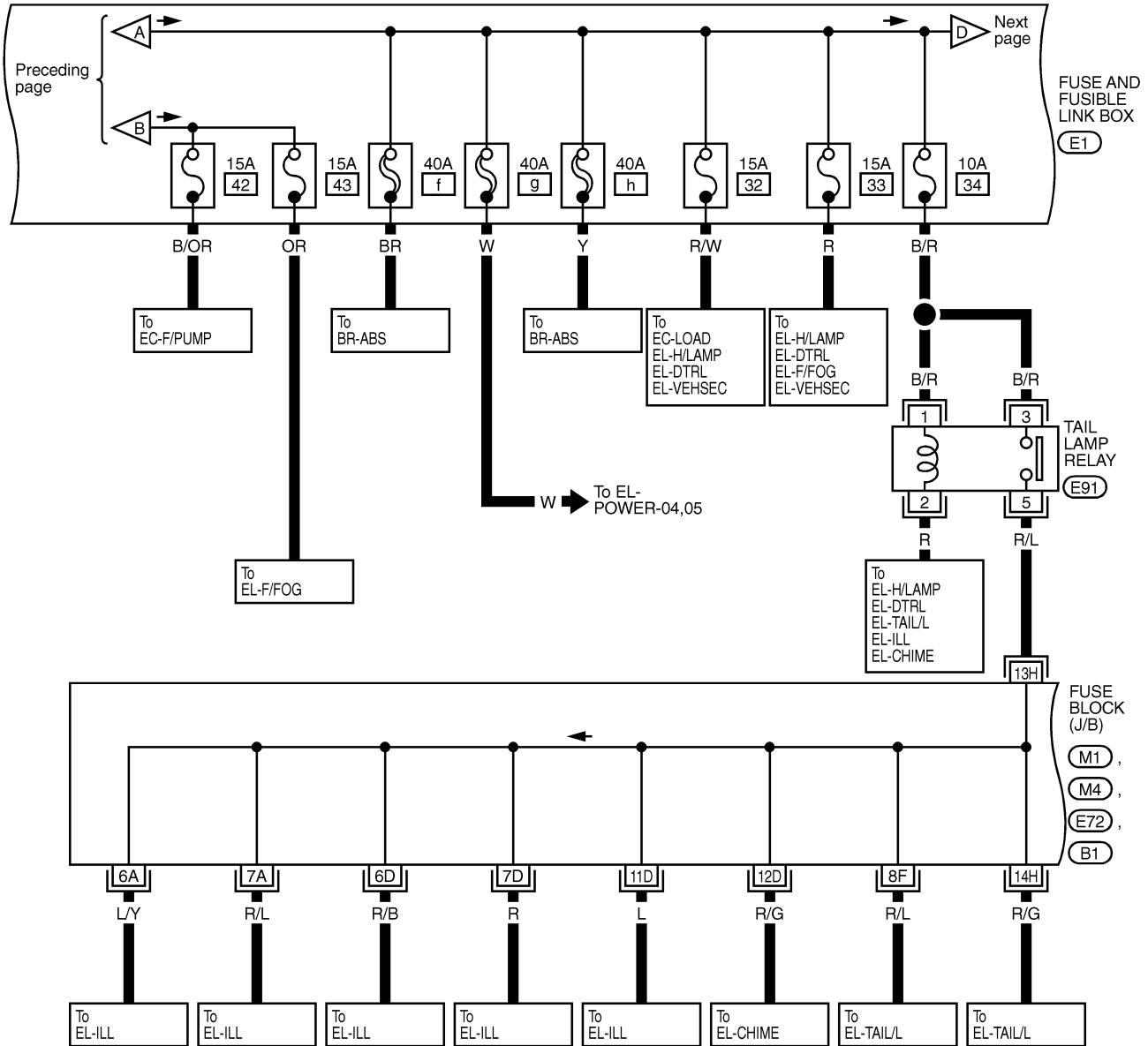
(E75) -SUPER MULTIPLE JUNCTION (SMJ)

TEL765B

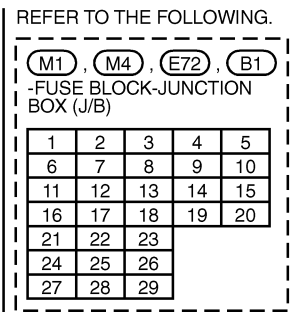
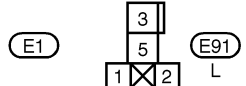
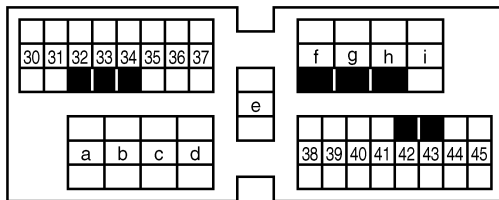
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-02



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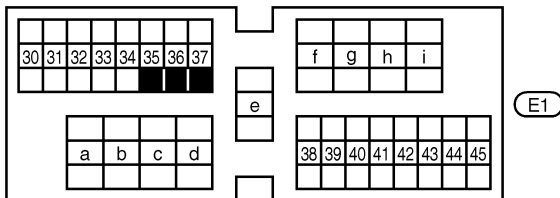
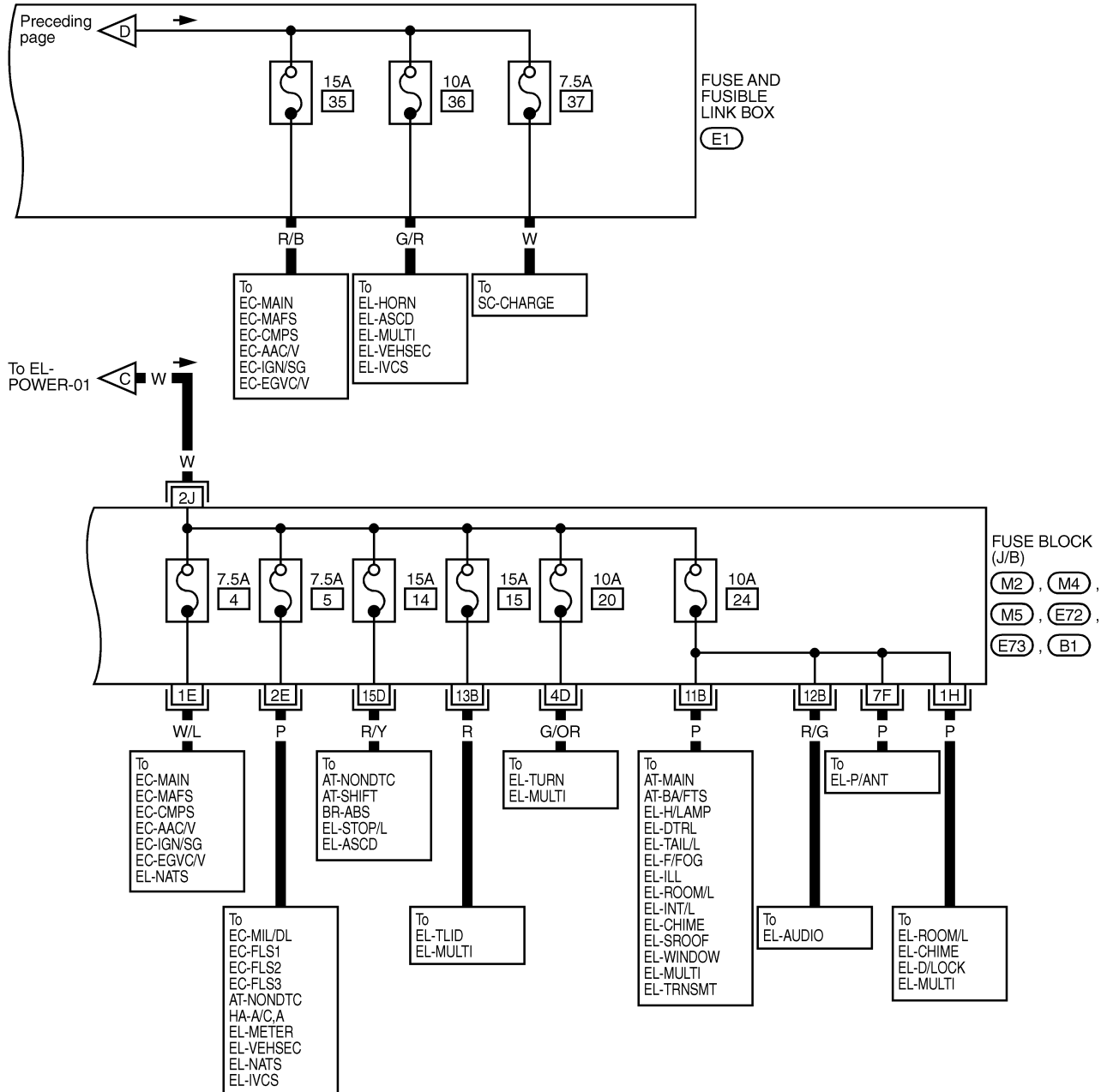


TEL766B

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03



REFER TO THE FOLLOWING.

- (M2), (M4), (M5), (E72)
- (E73), (B1)

- 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		

TEL767B

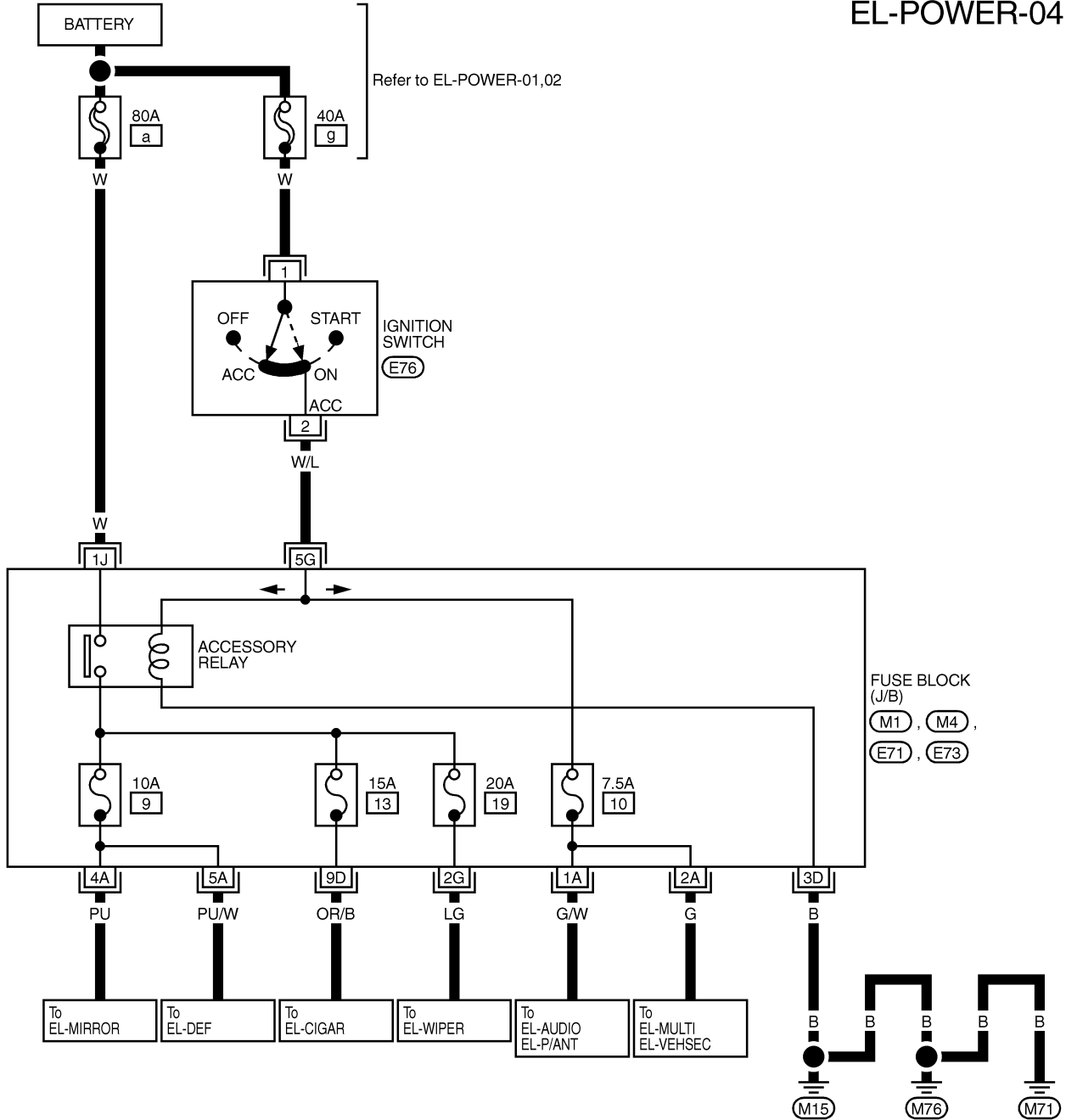
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

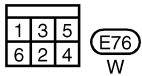
ACCESSORY POWER SUPPLY — IGNITION SW. IN “ACC” OR “ON”

NCEL0006S02

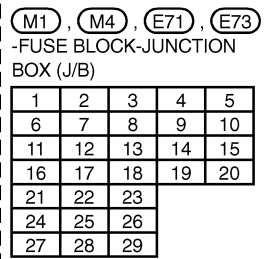
EL-POWER-04



GI
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IDX



REFER TO THE FOLLOWING.



TEL768B

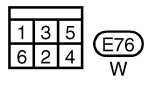
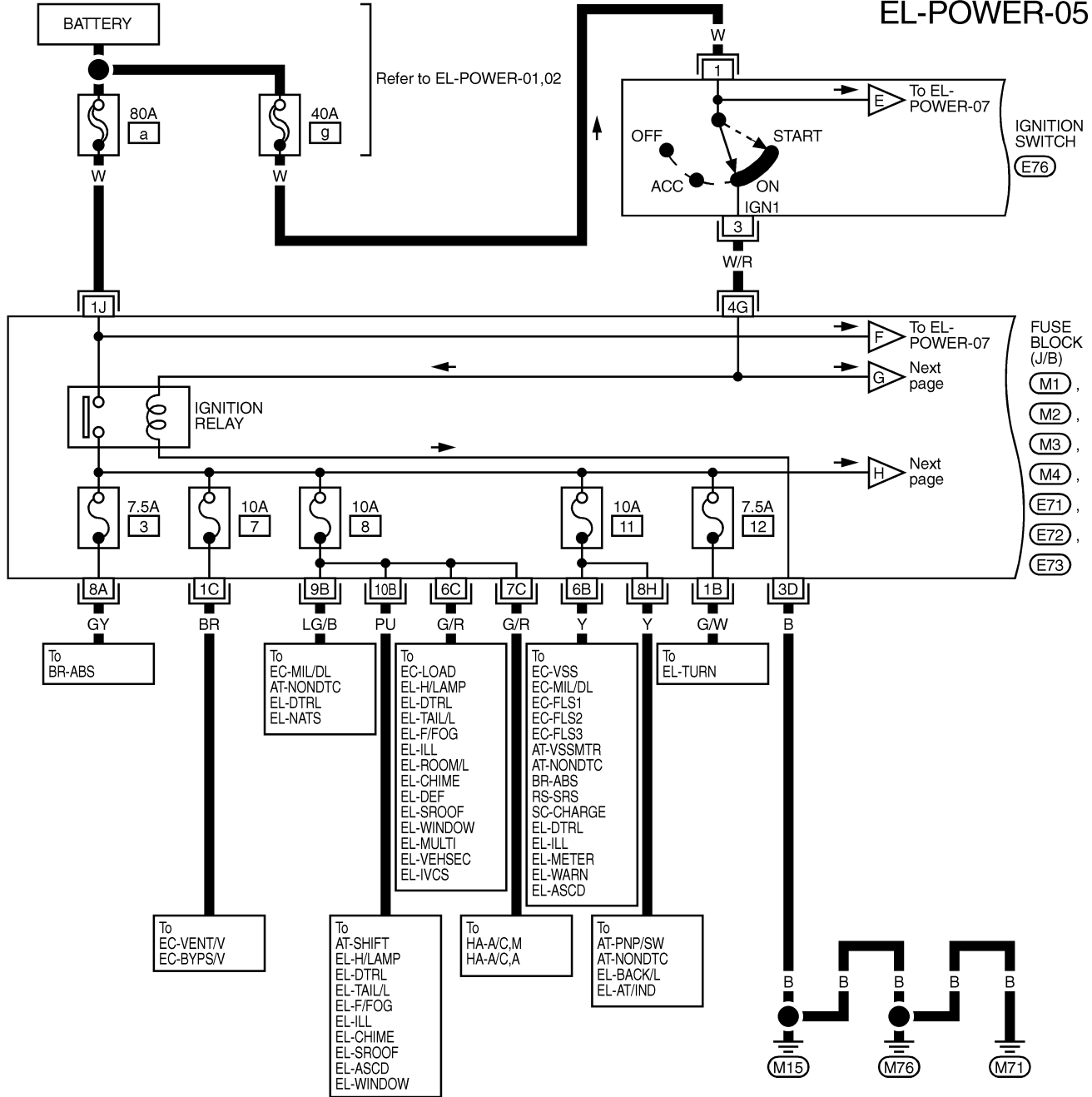
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

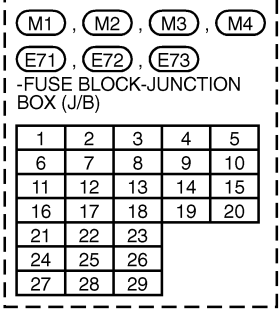
IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START"

NCEL0006S03

EL-POWER-05



REFER TO THE FOLLOWING.



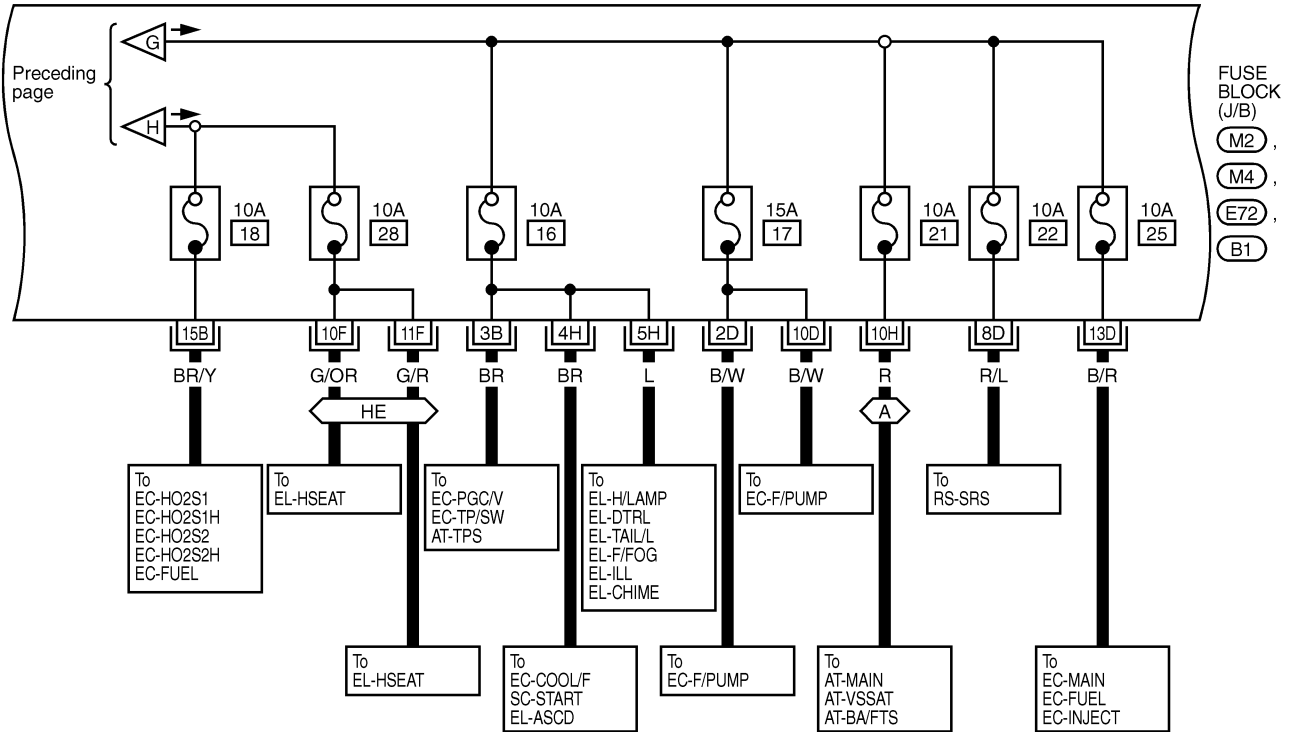
TEL769B

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-06

⬡A : With A/T
 ⬡HE : With heated seat



REFER TO THE FOLLOWING.

M2, M4, E72, B1
 - 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		

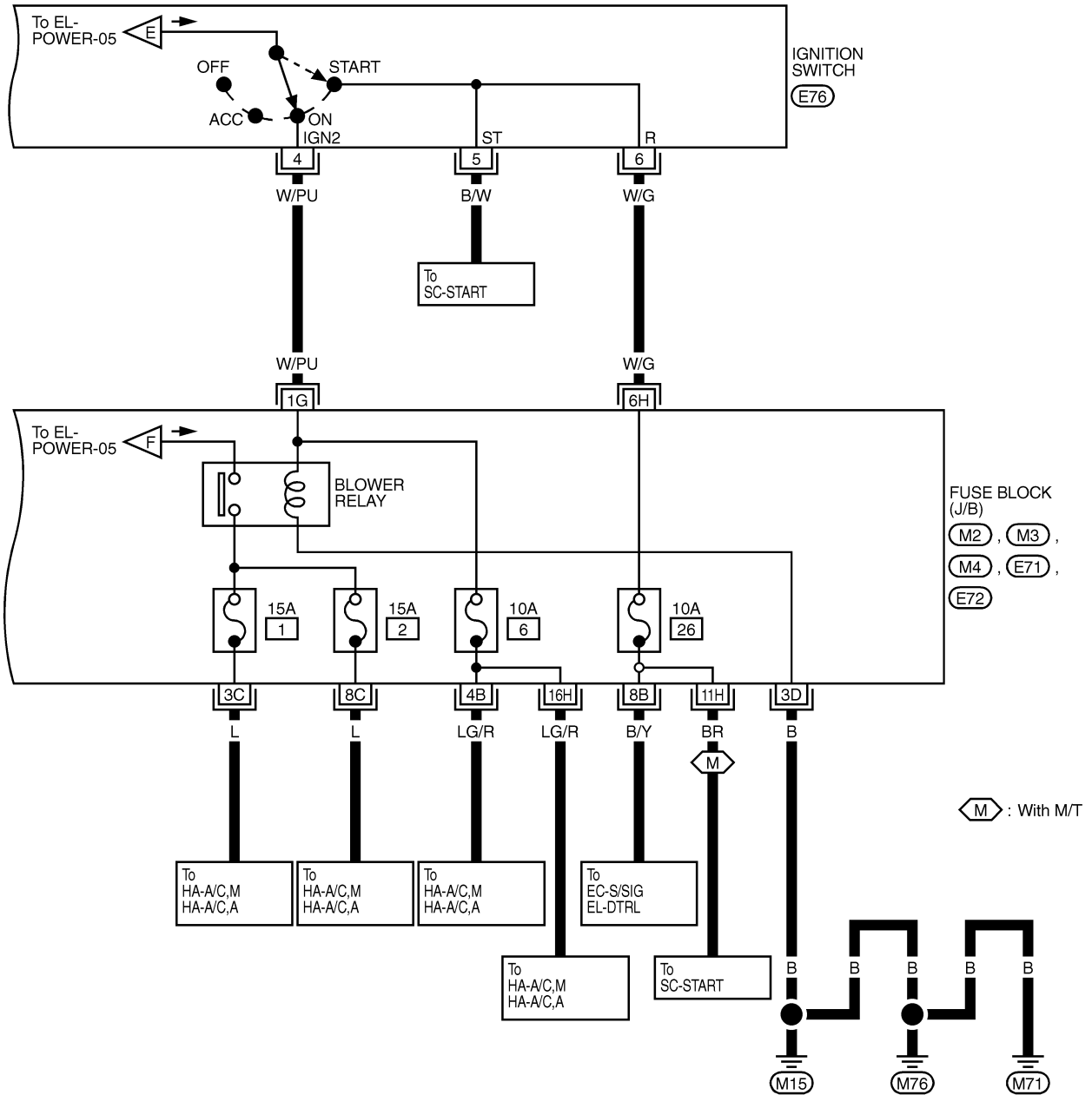
TEL770B

GI
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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-07



1	3	5
6	2	4

(E76)
W

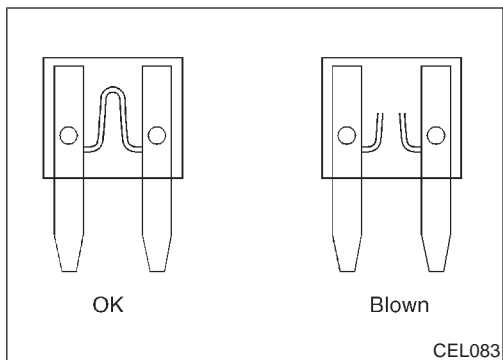
REFER TO THE FOLLOWING.

(M2), (M3), (M4), (E71)

(E72) - 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		

TEL473B



Inspection

NCEL0007

FUSE

NCEL0007S01

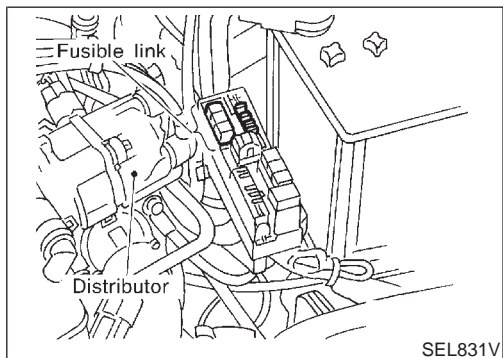
- If fuse is blown, be sure to eliminate cause of problem before installing new fuse.
- Use fuse of specified rating. Never use fuse of more than specified rating.
- Do not partially install fuse; always insert it into fuse holder properly.
- Remove fuse for "ELECTRICAL PARTS (BAT)" if vehicle is not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

GI

MA

EM

LC



FUSIBLE LINK

NCEL0007S02

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.

EC

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.

FE

CL

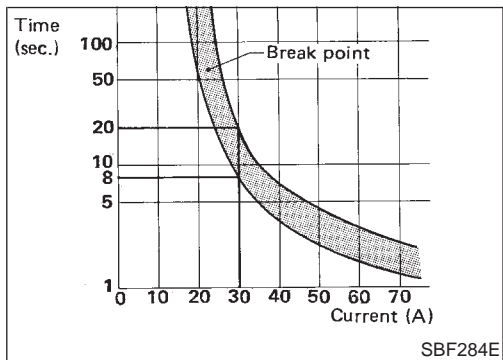
MT

AT

AX

SU

BR



CIRCUIT BREAKER

NCEL0007S03

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

ST

RS

BT

HA

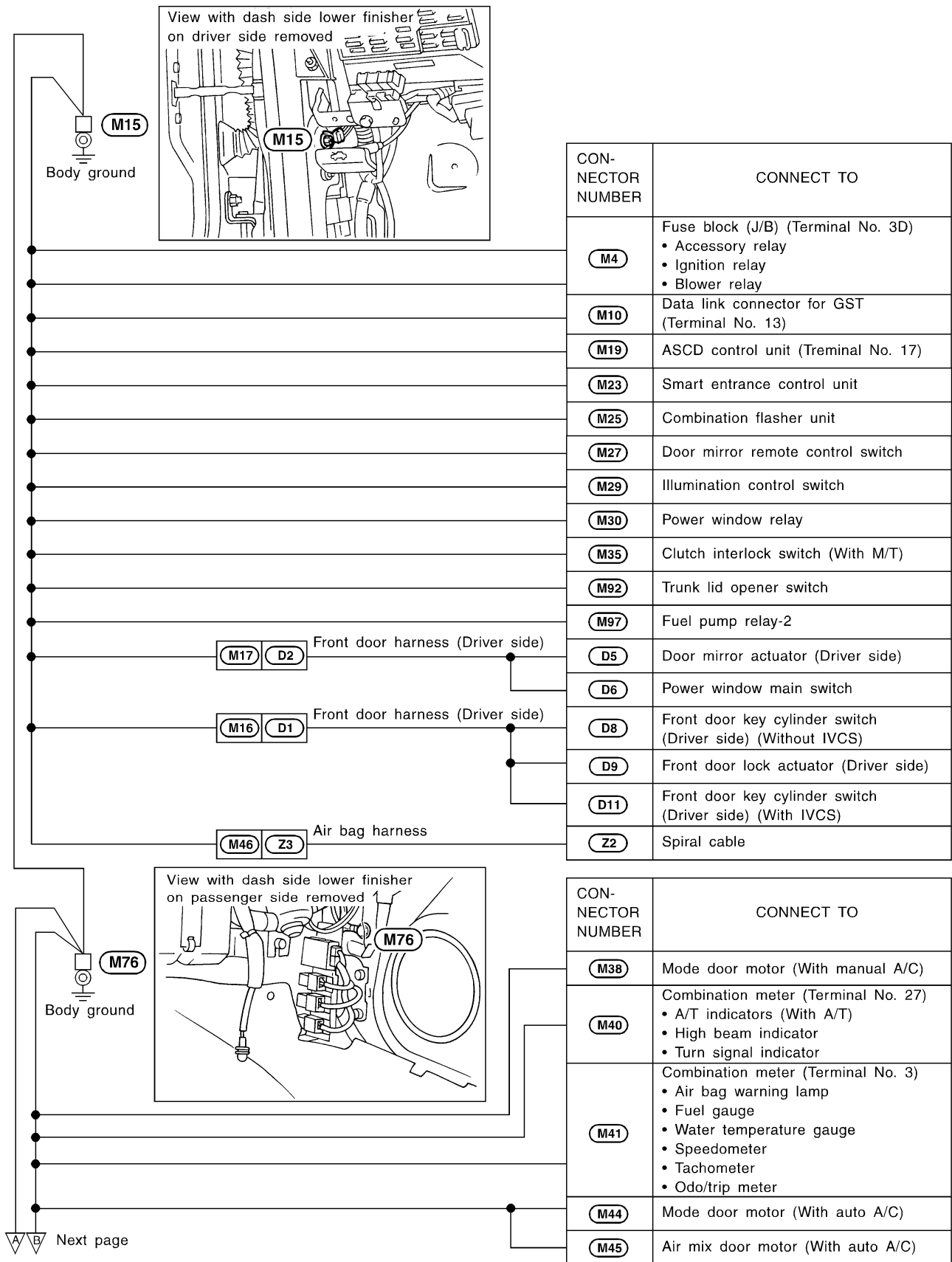
SC

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IDX

Ground Distribution

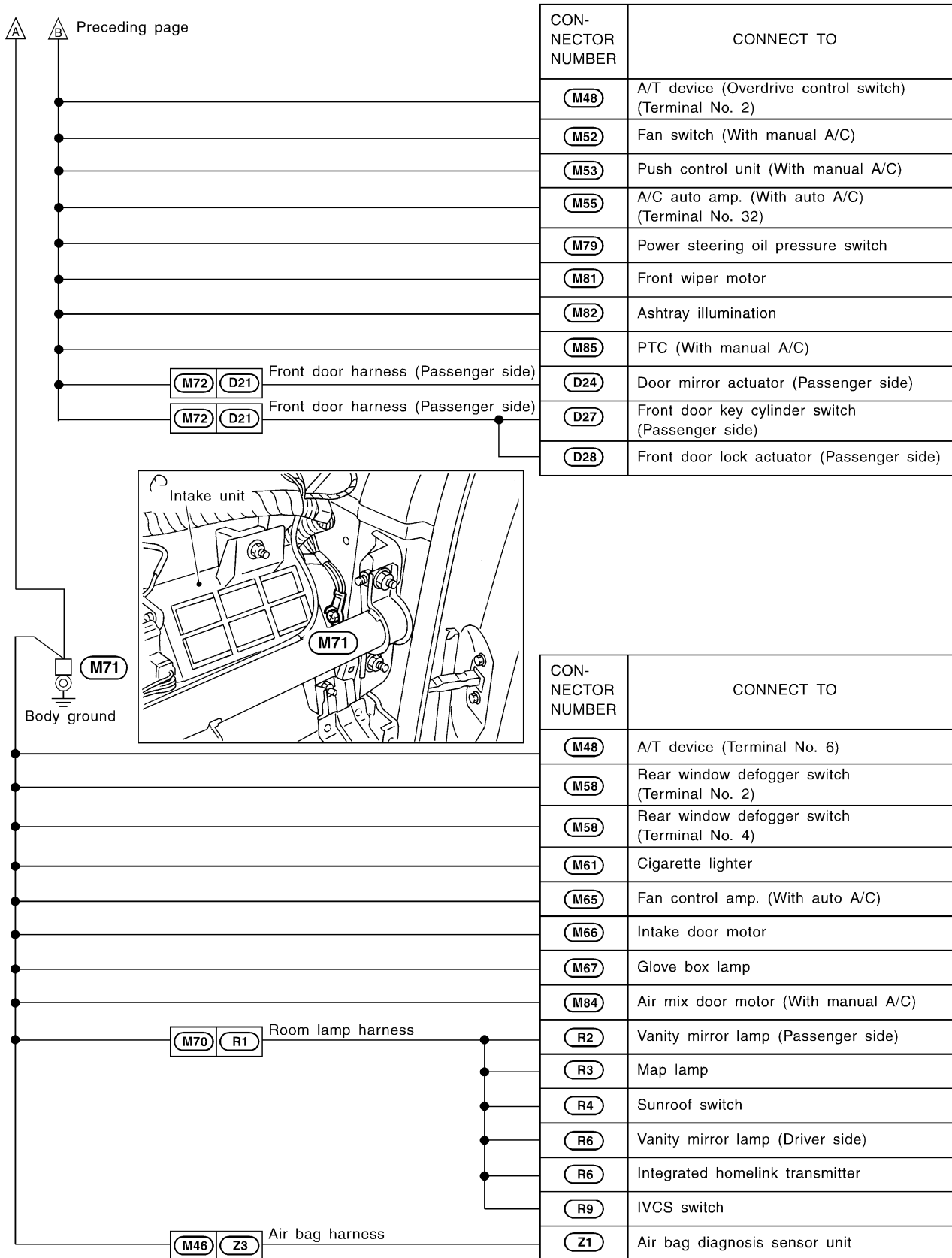
MAIN HARNESS



Next page

GROUND

Ground Distribution (Cont'd)



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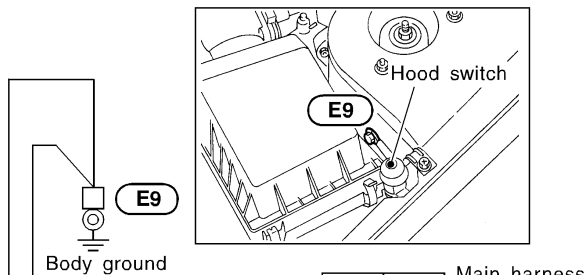
CEL161A

GROUND

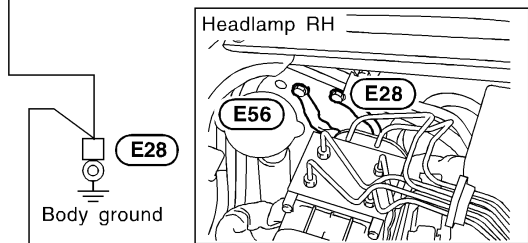
Ground Distribution (Cont'd)

ENGINE ROOM HARNESS

NCEL0008S02



CON-NECTOR NUMBER	CONNECT TO
M56	A/C auto amp. (For Canada) (Terminal No. 14)
E7	Hood switch
E13	Front side marker lamp LH
E14	Front fog lamp LH
E19	Cooling fan motor-1
E20	Cooling fan motor-2
E24	Headlamp RH
E31	Washer level switch
E43	Cooling fan relay-2
E79	Combination switch (Lighting switch) (Terminal No. 12)
E80	Combination switch (Front fog lamp switch) (Terminal No. 32)
E81	Combination switch (Front wiper switch) (Terminal No. 17)
E89	Headlamp battery saver control unit (Terminal No. 9)
E89	Headlamp battery saver control unit (Terminal No. 11)



CON-NECTOR NUMBER	CONNECT TO
E4	Brake fluid lever switch
E10	Side turn signal lamp LH
E11	Front turn signal lamp LH
E16	Parking lamp LH
E17	Headlamp LH (For U.S.A.)
E25	Parking lamp RH
E26	Front fog lamp RH
E27	Front turn signal lamp RH
E29	Front side marker lamp RH
E32	Side turn signal lamp RH
E46	Cooling fan relay-3
E83	Daytime light control unit (For Canada)
E88	Headlamp battery saver control unit (Terminal No. 3)
E88	Headlamp battery saver control unit (Terminal No. 4)
E119	Vehicle speed sensor
E120	Park/Neutral position switch (With M/T)
E125	Park/Neutral position switch (With A/T)

CEL162A

GROUND

Ground Distribution (Cont'd)

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CEL265A

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NCEL0008S03

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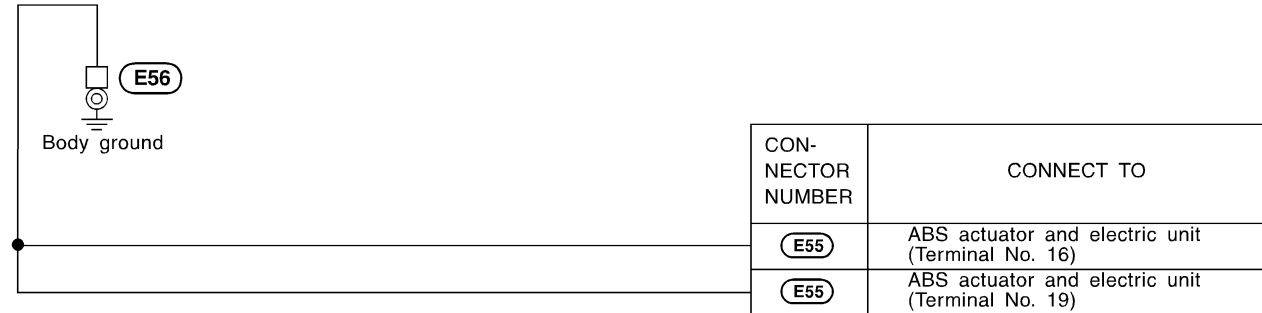
BT

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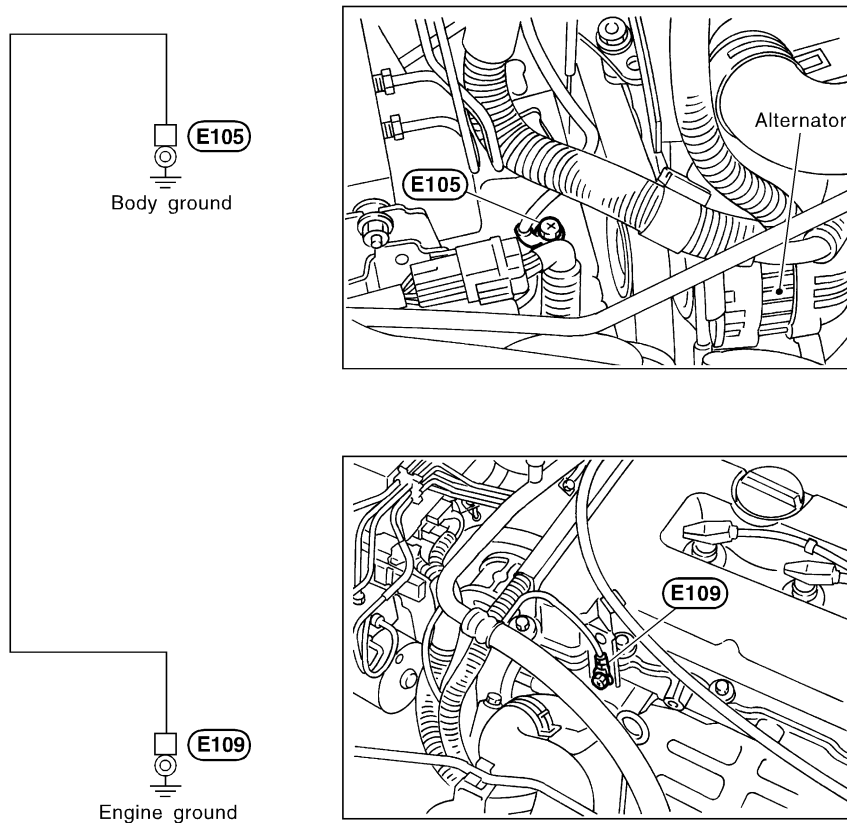
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ENGINE HARNESS



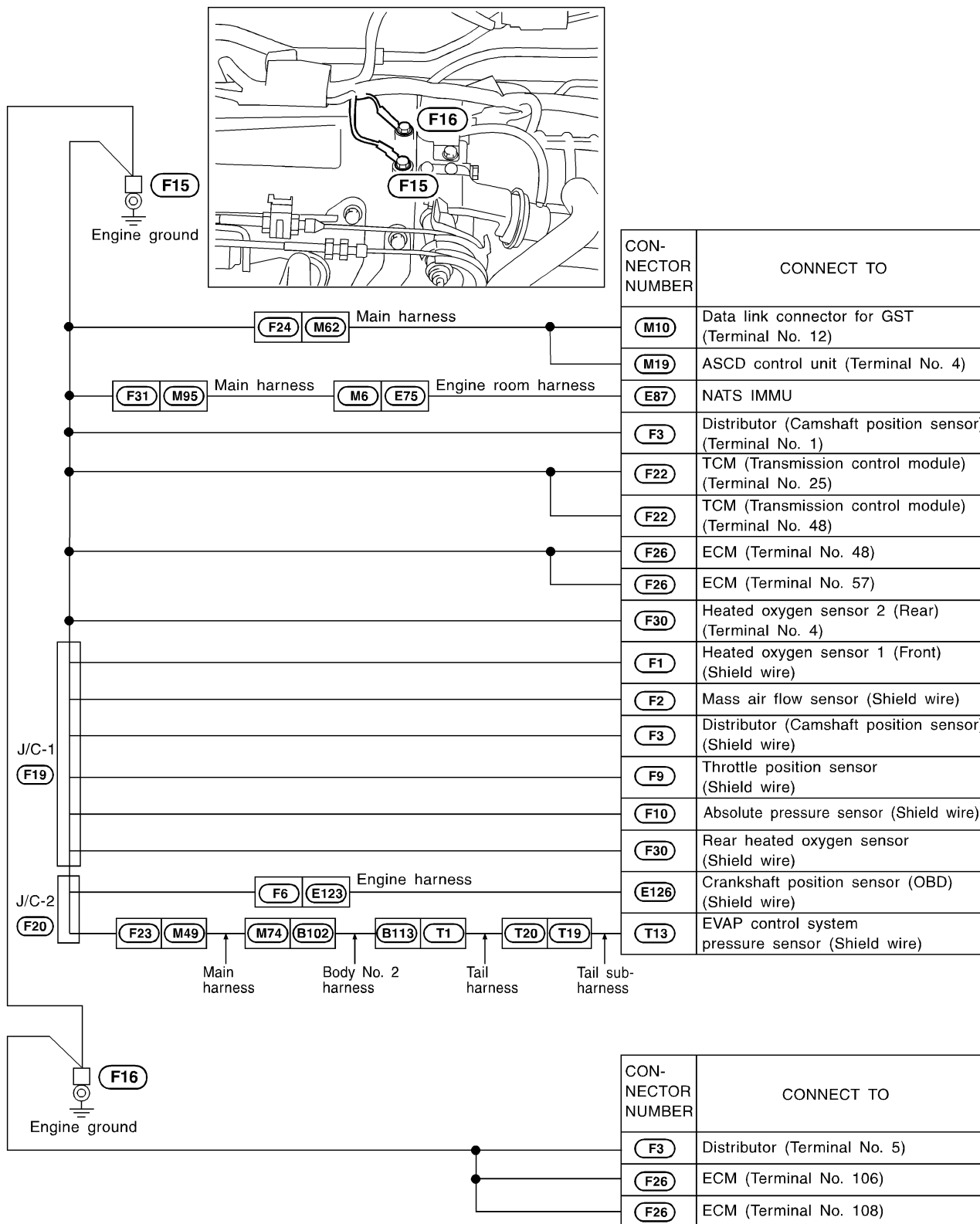
CEL164A

GROUND

Ground Distribution (Cont'd)

ENGINE CONTROL HARNESS

NCEL0008S04



CEL268A

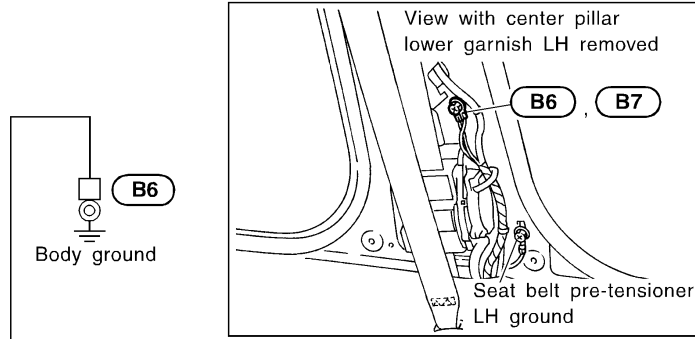
GROUND

Ground Distribution (Cont'd)

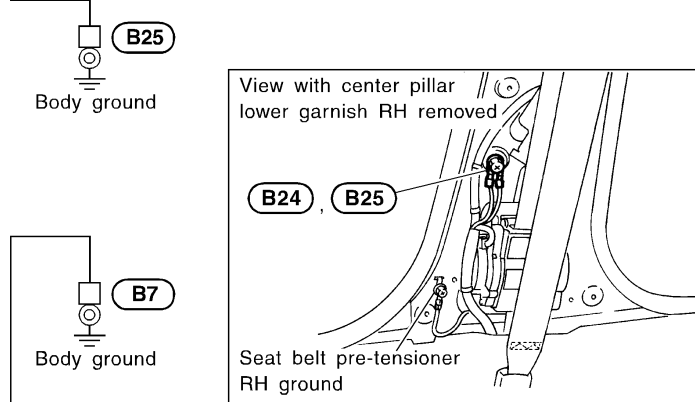
BODY HARNESS

NCEL0008S05

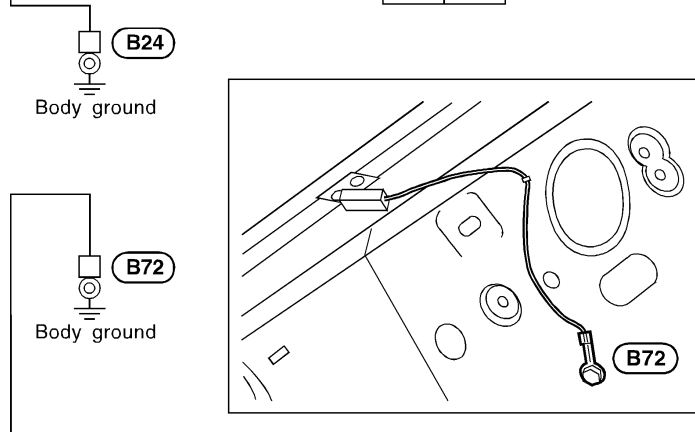
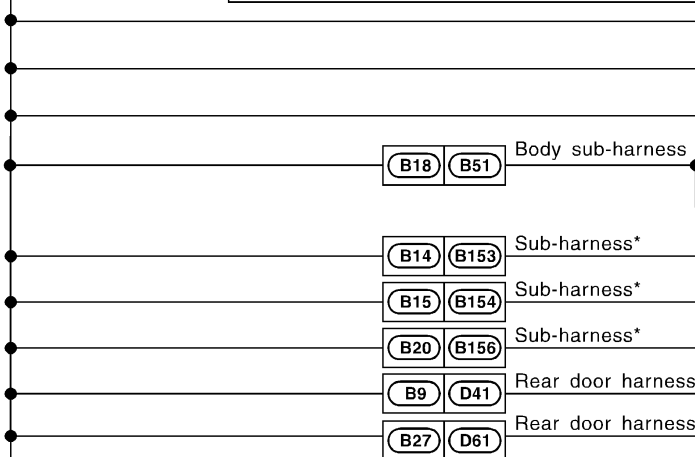
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CON-NECTOR NUMBER	CONNECT TO
B19	Air bag diagnosis sensor unit (Terminal No. 40) (Shield wire)



CON-NECTOR NUMBER	CONNECT TO
B4	Front door switch (Driver side)
B13	Seat belt buckle switch (Driver side)
B30	IVCS unit
B52	Heated seat switch LH
B53	Heated seat switch RH
B150	Power seat (Driver side)
B155	Heated seat LH
B157	Heated seat RH
D44	Rear door lock actuator LH
D64	Rear door lock actuator RH



CON-NECTOR NUMBER	CONNECT TO
B71	Rear window defogger (-)

* : This sub-harness is not shown in "HARNESS LAYOUT", EL section.

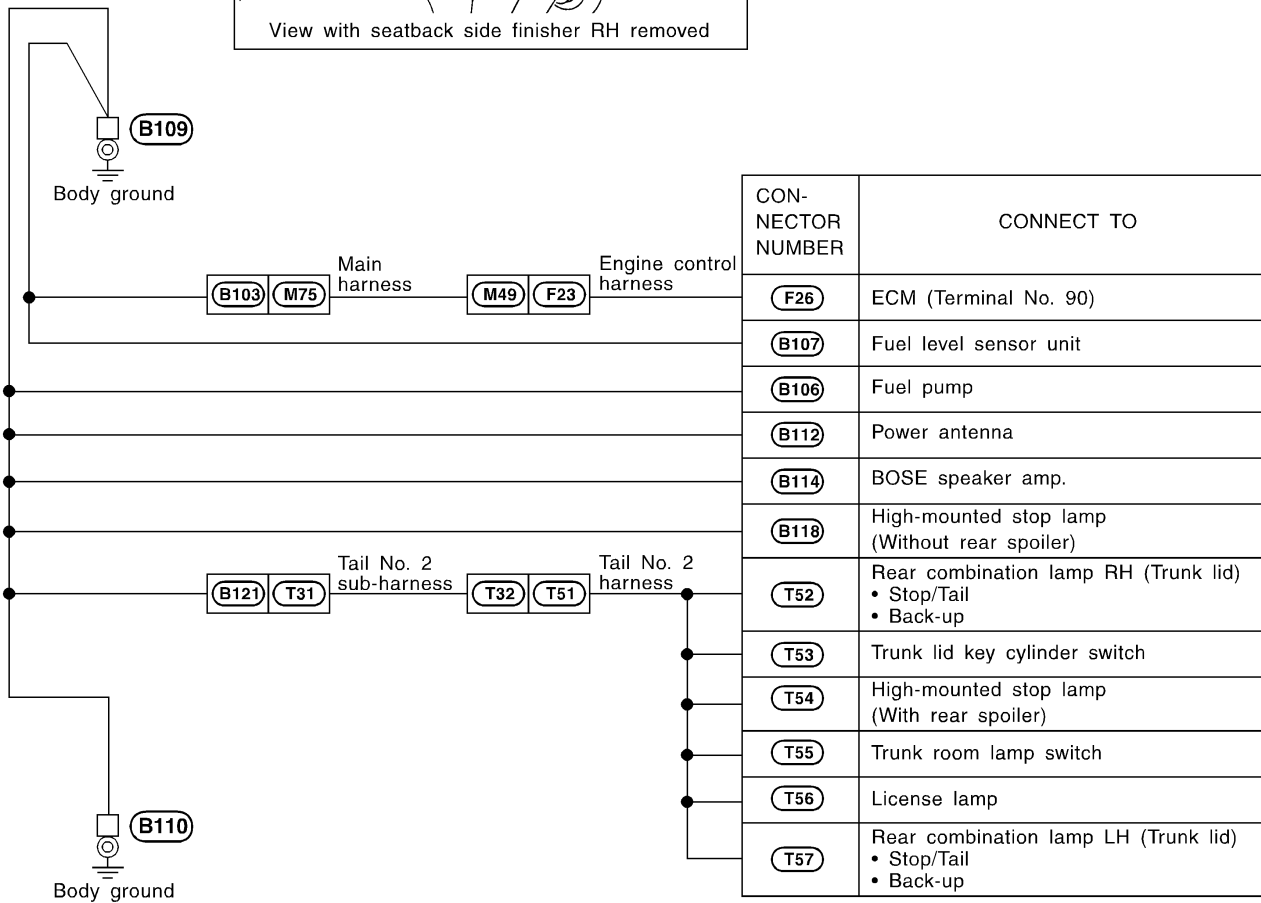
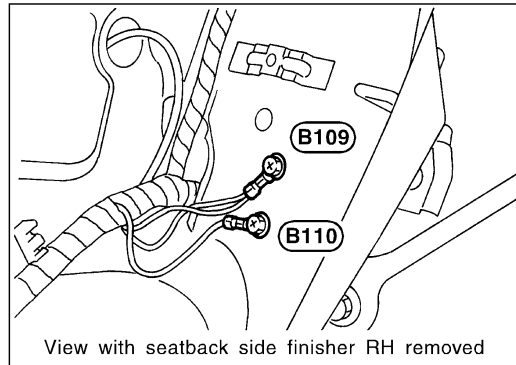
CEL166A

GROUND

Ground Distribution (Cont'd)

BODY NO. 2 HARNESS

NCEL0008S06

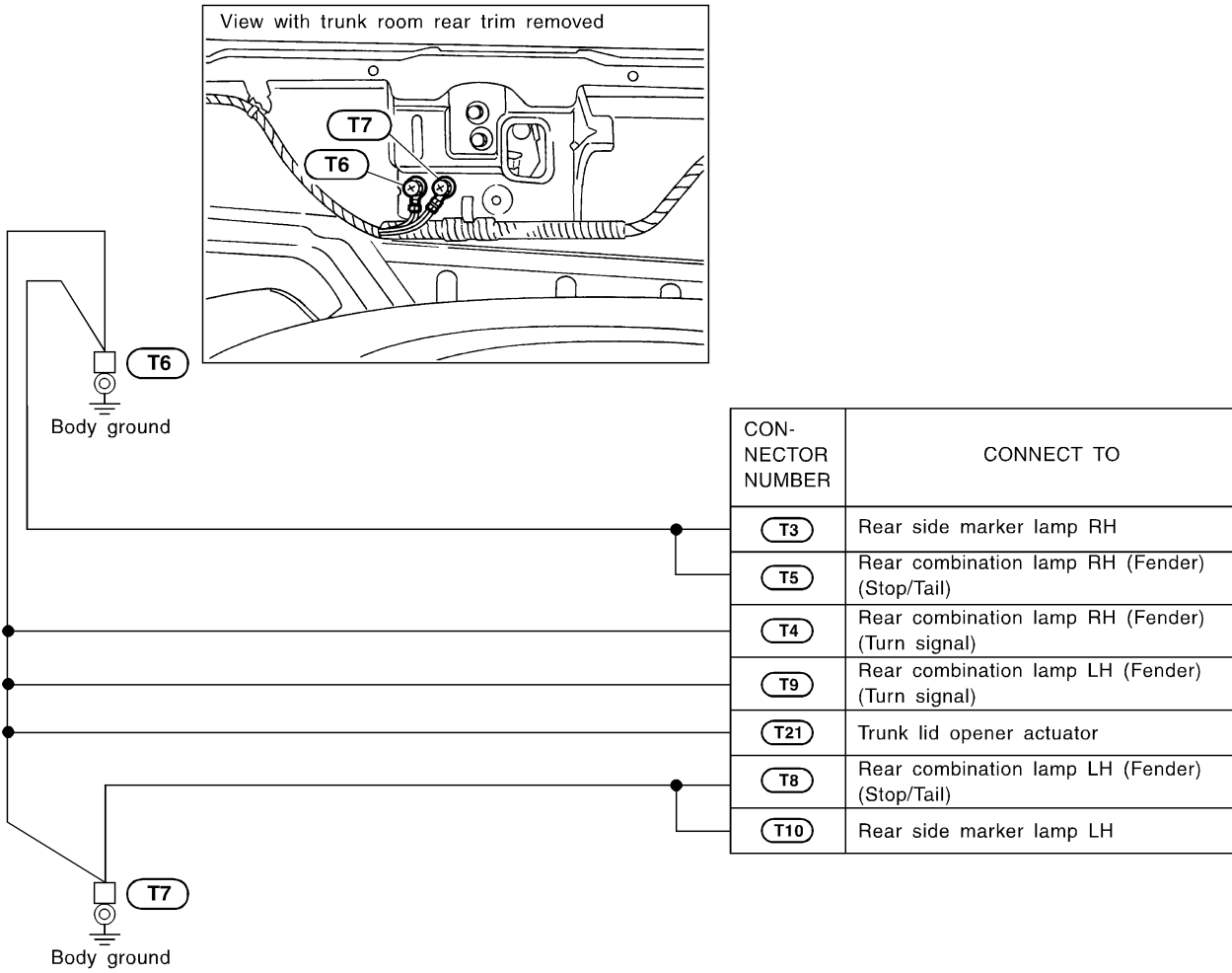


CEL167A

TAIL HARNESS

NCEL0008S07

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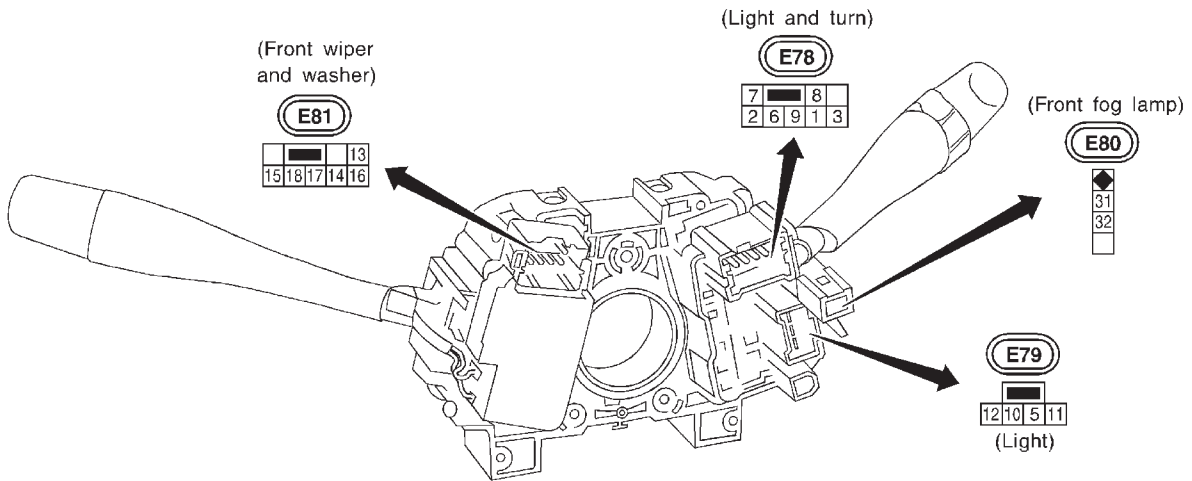
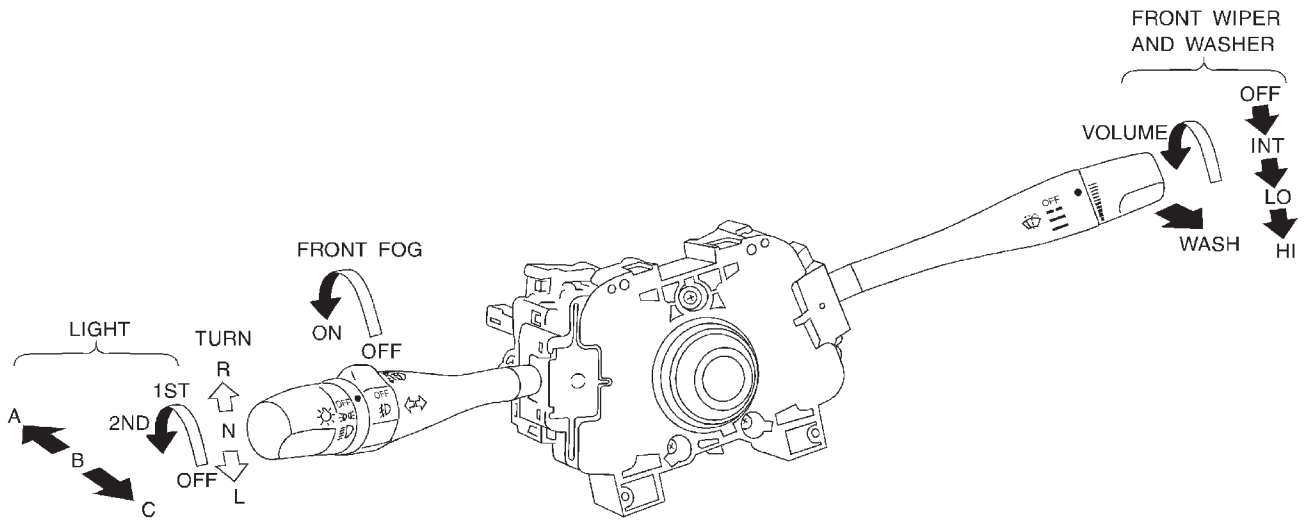


COMBINATION SWITCH

Check

Check

NCEL0009



FRONT WIPER AND WASHER SWITCH

	LO	AUTO STOP	AMP	WASH	HI	EARTH
OFF	<input type="checkbox"/>	<input type="checkbox"/>				
INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
LO	<input type="checkbox"/>					<input type="checkbox"/>
HI					<input type="checkbox"/>	<input type="checkbox"/>
WASH				<input type="checkbox"/>		<input type="checkbox"/>

WIPER AMP.

14 15 13 16 17 18

VARIABLE INTERMITTENT WIPER VOLUME



LIGHTING SWITCH

	OFF			1ST			2ND		
	A	B	C	A	B	C	A	B	C
5			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7									<input type="checkbox"/>
8			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10									<input type="checkbox"/>
11			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

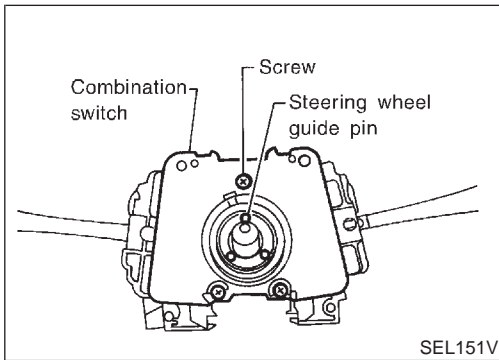
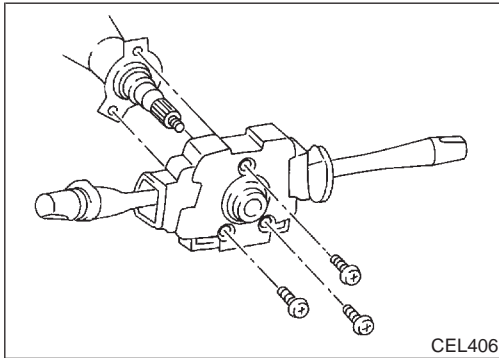
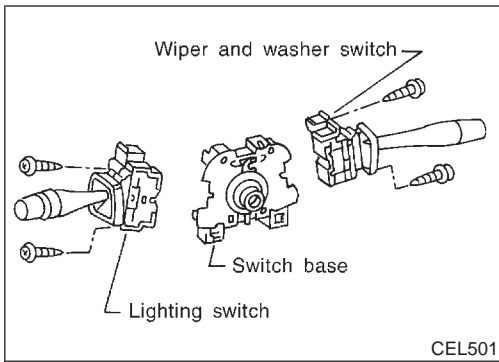
FRONT FOG LAMP SWITCH

	OFF	ON
31	<input type="checkbox"/>	<input type="checkbox"/>
32	<input type="checkbox"/>	<input type="checkbox"/>

TURN SIGNAL SWITCH

	L	N	R
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CEL940



Replacement

For removal and installation of spiral cable, refer to ^{NCEL0010}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.

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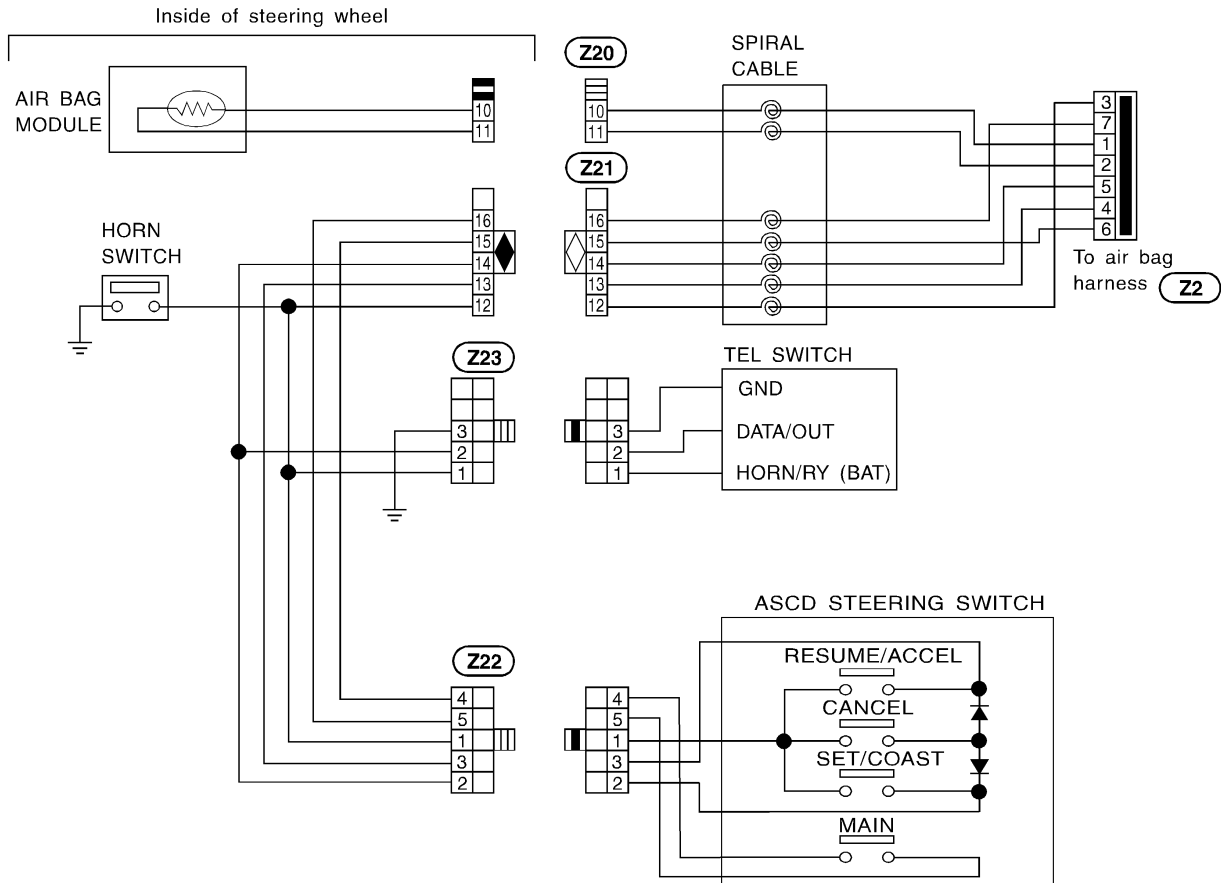
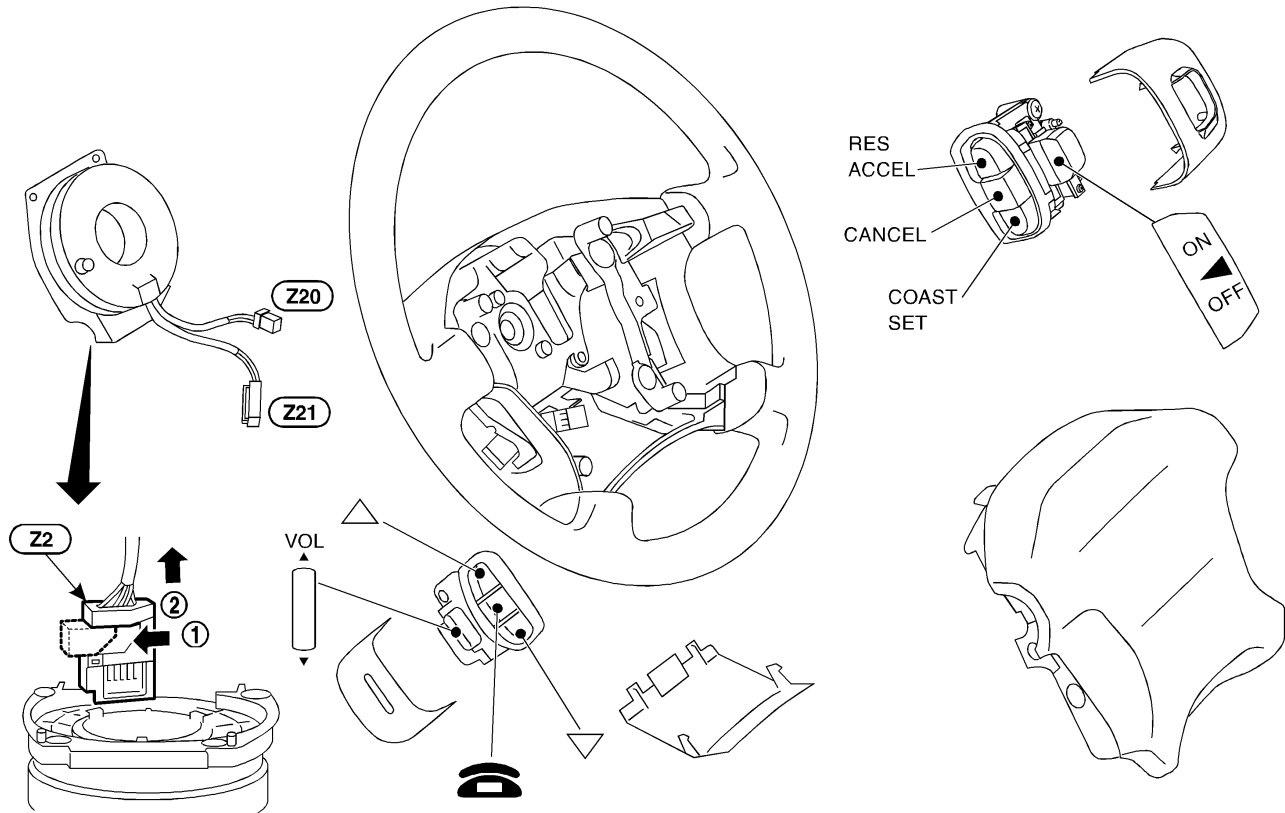
STEERING SWITCH

Check

Check WITH INFINITI COMMUNICATOR (IVCS)

NCEL0011

NCEL0011S01



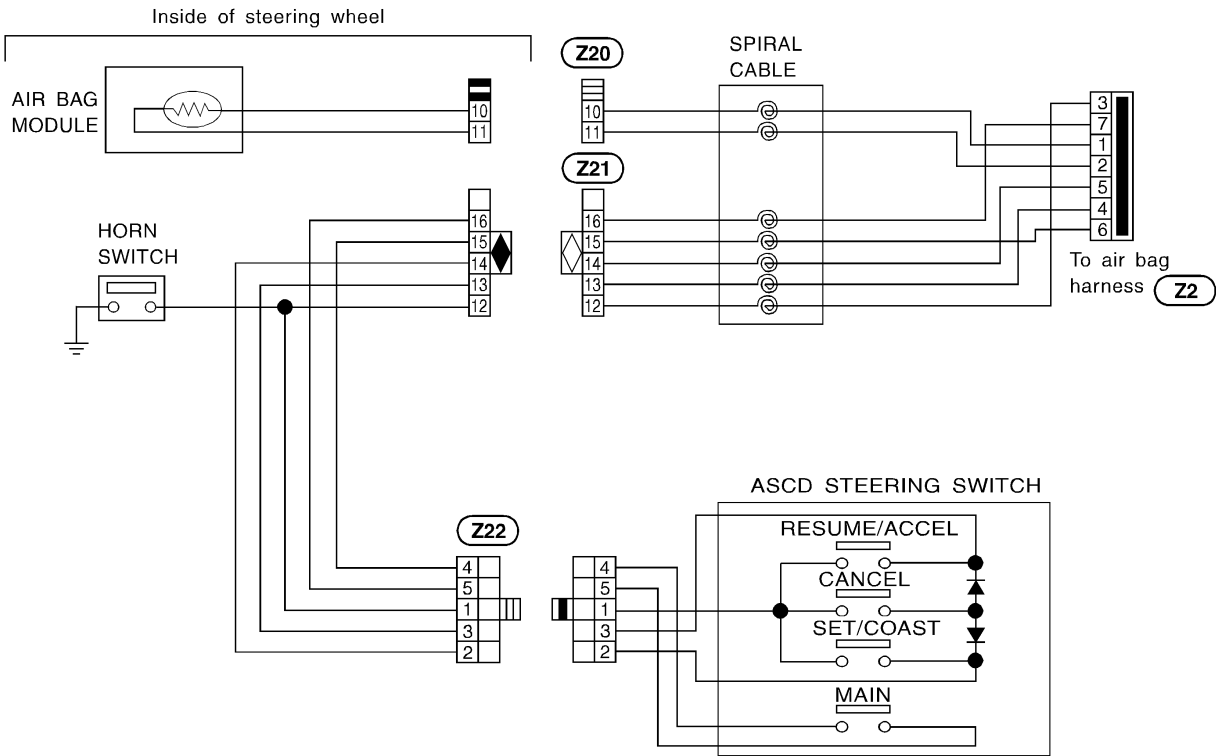
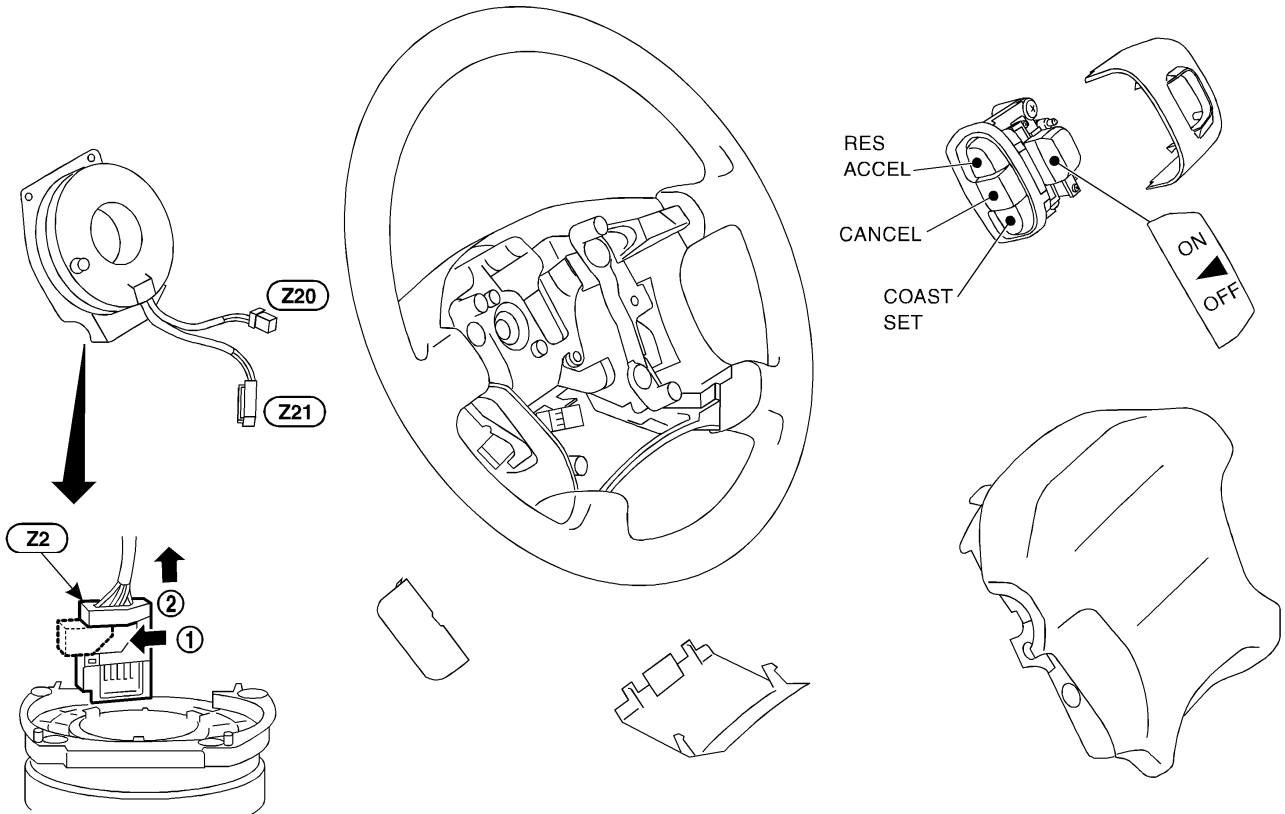
CEL169A

STEERING SWITCH

Check (Cont'd)

WITHOUT INFINITI COMMUNICATOR (IVCS)

NCEL0011S02



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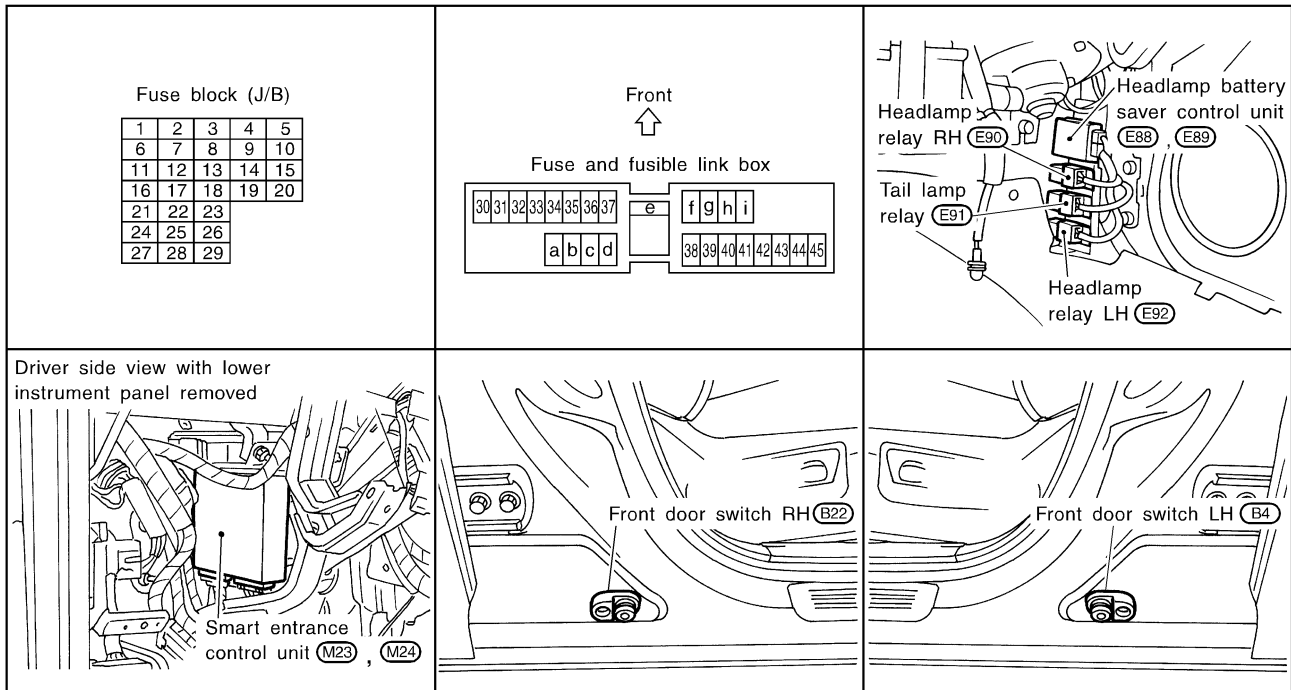
CEL170A

HEADLAMP (FOR USA)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0164



SEL665W

System Description

NCEL0012

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

NCEL0012S04

Power is supplied at all times

- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 32, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 33, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, 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. 16, 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. 8, located in the fuse block (J/B)]

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

When Ignition Switch is in ON or START Position

NCEL0012S0401

Ground is supplied

- to headlamp LH relay terminal 2 from headlamp battery saver control unit terminal 8
- through headlamp battery saver control unit terminal 9, and
- through body grounds E9 and E28, and
- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 2
- through headlamp battery saver control unit terminal 3, and
- through body grounds E9 and E28.

Headlamp relays (LH and RH) are then energized.

When Ignition Switch is in OFF or ACC Position

NCEL0012S0402

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

And then, ground is also supplied to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit. Headlamp relays (LH and RH) are then energized.

LOW BEAM OPERATION

NCEL0012S01

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

- from lighting switch terminal 10
- to terminal 3 of the LH headlamp, and
- from lighting switch terminal 7
- to terminal 3 of the RH headlamp.

Terminal 2 of each headlamp supplies ground through body grounds E9 and E28.

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

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

NCEL0012S02

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

- from lighting switch terminal 6
- to terminal 1 of the RH headlamp, and
- from lighting switch terminal 9
- to terminal 1 of the LH headlamp, and
- to combination meter terminal 29 for the high beam indicator.

Ground is supplied to terminal 27 of the combination meter through body grounds M15, M71 and M76.

Terminal 2 of each headlamp supplies ground through body grounds E9 and E28.

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

BATTERY SAVER CONTROL

NCEL0012S05

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
- 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 body grounds E9 and E28.

Then headlamps illuminate again.

GI

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HEADLAMP (FOR USA)

System Description (Cont'd)

VEHICLE SECURITY SYSTEM

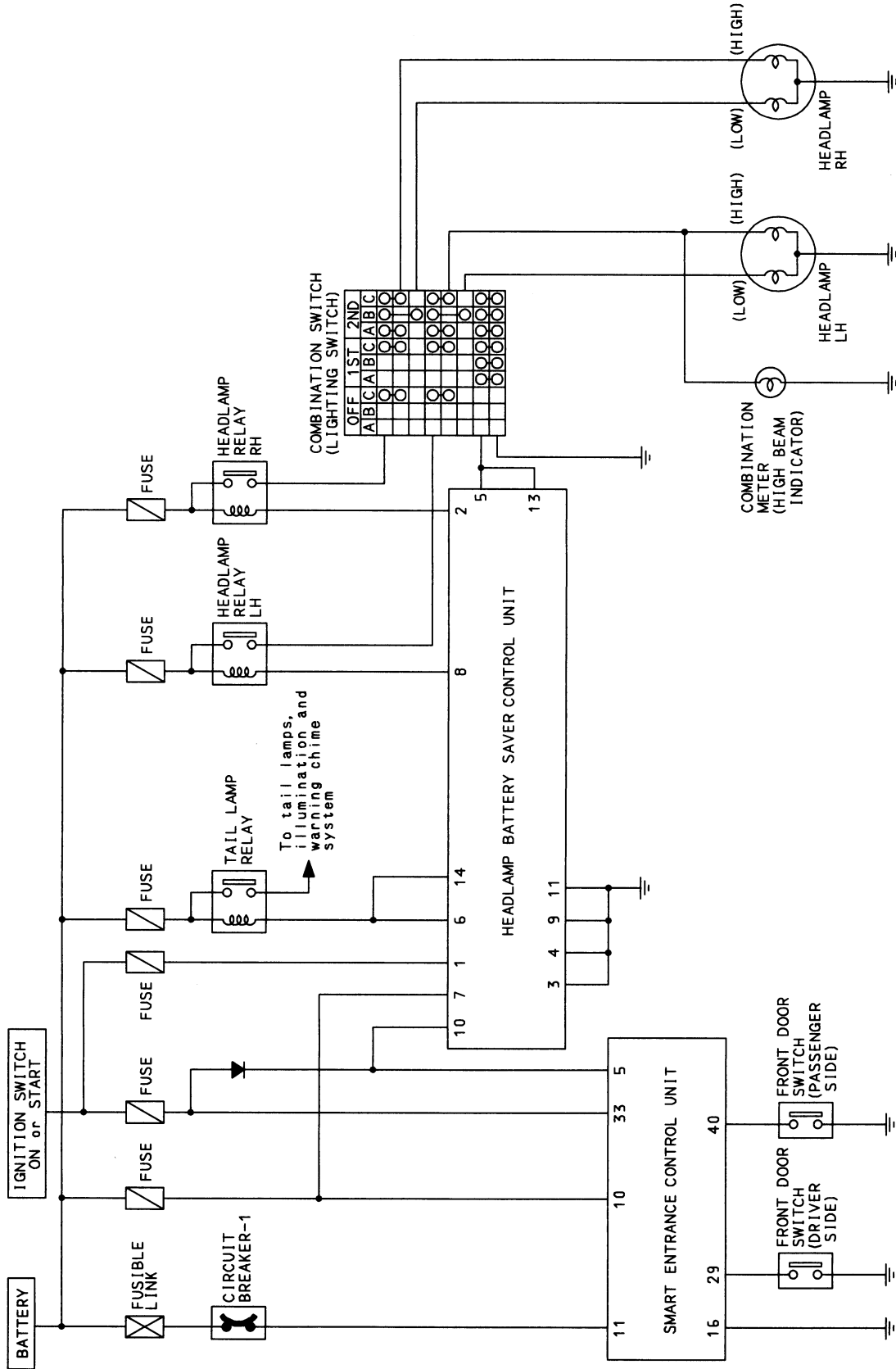
The vehicle security system will flash the high beams if the system is triggered. Refer to “VEHICLE SECURITY (THEFT WARNING) SYSTEM” (EL-217). NCEL0012S03

HEADLAMP (FOR USA)

Schematic

Schematic

NCEL0165



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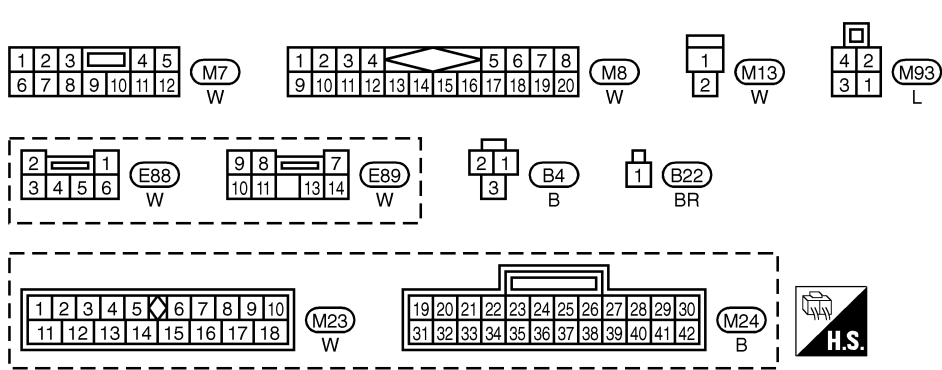
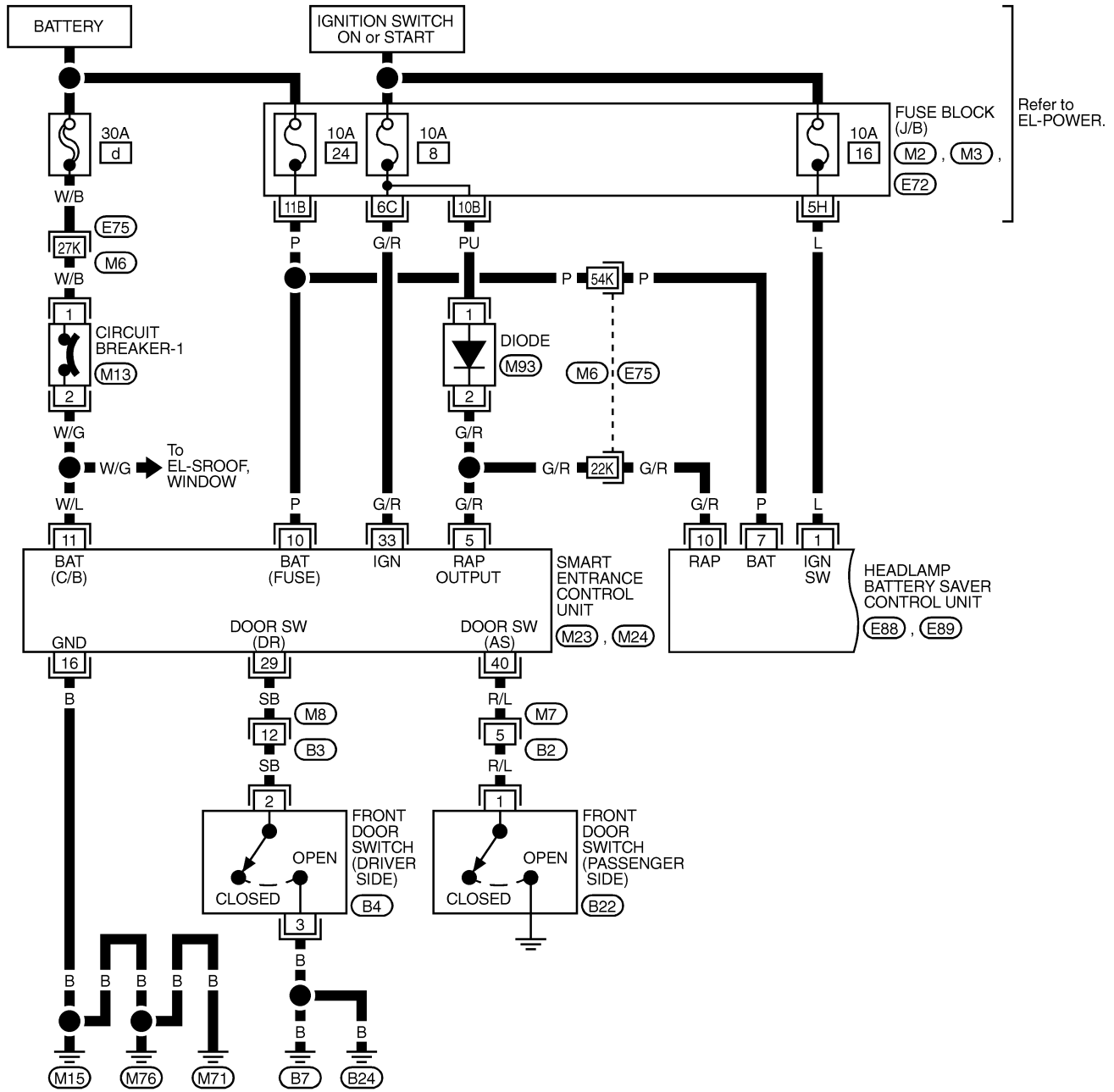
HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP —

Wiring Diagram — H/LAMP —

NCEL0013

EL-H/LAMP-01



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

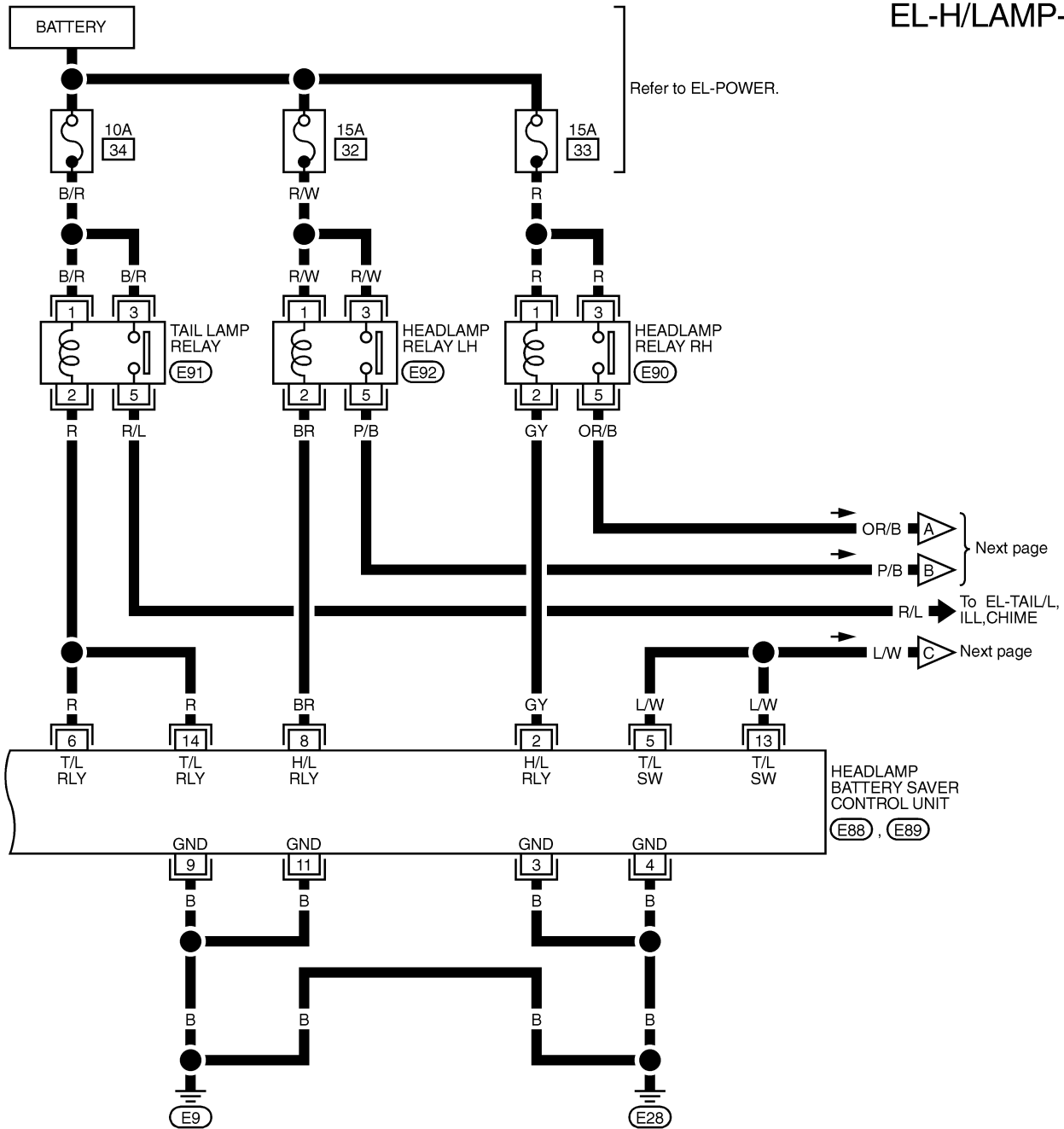


TEL475B

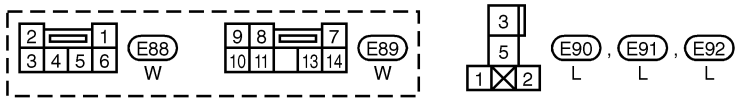
HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-02



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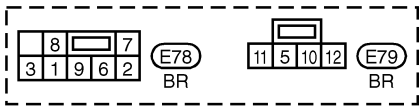
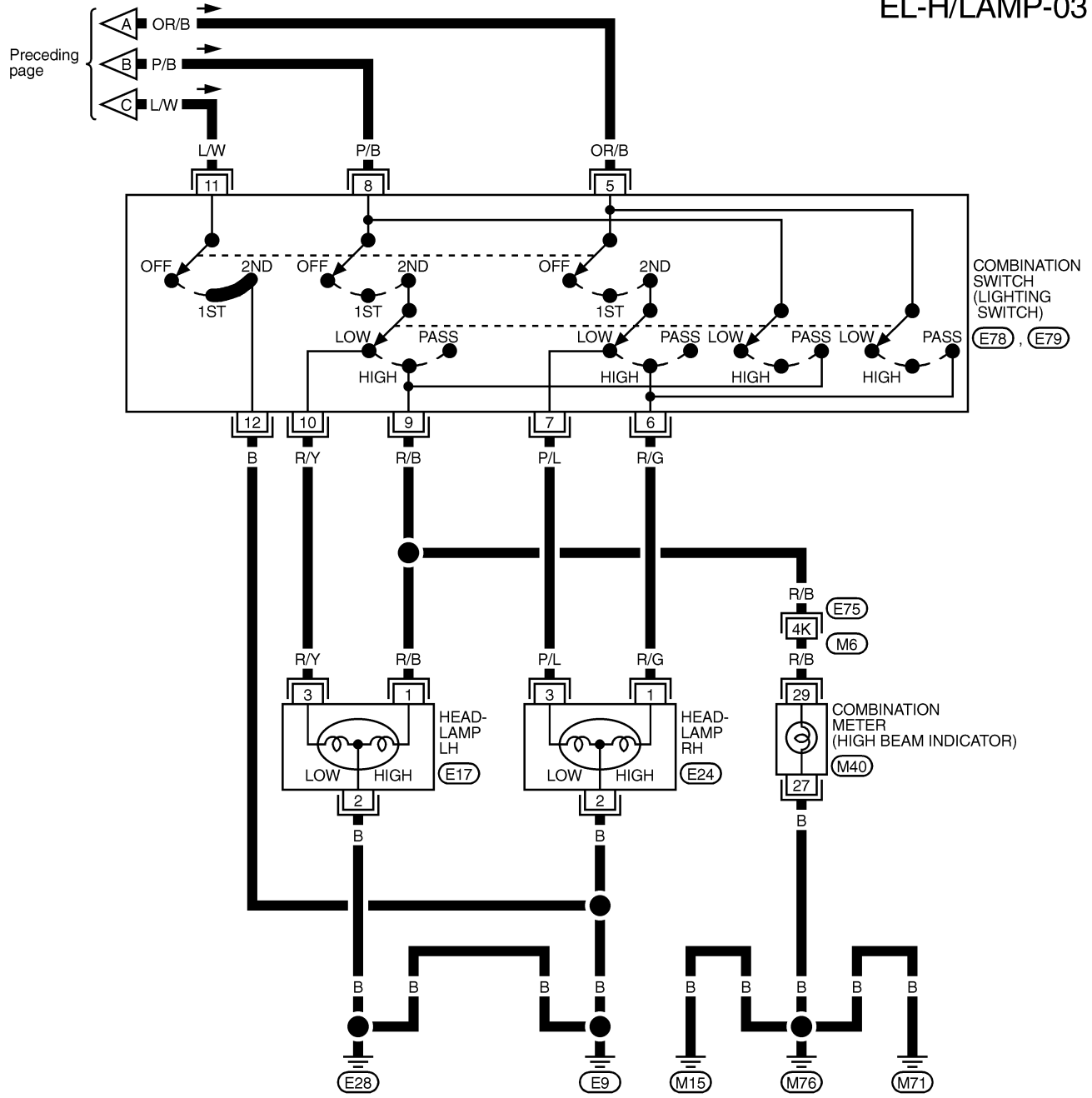


TEL476B

HEADLAMP (FOR USA)

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-03



REFER TO THE FOLLOWING.

(E75) - SUPER MULTIPLE JUNCTION (SMJ)

TEL477B

HEADLAMP (FOR USA)

Trouble Diagnoses

Trouble Diagnoses

NCEL0014

Symptom	Possible cause	Repair order	
Neither headlamp operates.	<ol style="list-style-type: none"> 10A fuse Lighting switch Headlamp battery saver control unit 	<ol style="list-style-type: none"> Check 10A fuse [No. 24, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit. Check Lighting switch. Check headlamp battery saver control unit. 	GI MA EM
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> Bulb LH headlamp ground circuit 15A fuse Headlamp LH relay Headlamp LH relay circuit Lighting switch Headlamp battery saver control unit 	<ol style="list-style-type: none"> Check bulb. Check harness between LH headlamp and ground. Check 15A fuse (No. 32, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp LH relay. Check headlamp LH relay. Check harness between headlamp LH relay and lighting switch. Check harness between headlamp LH relay and headlamp battery saver control unit. Check lighting switch. Check headlamp battery saver control unit. 	LC EC FE
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> Bulb RH headlamp ground circuit 15A fuse Headlamp RH relay Headlamp RH relay circuit Lighting switch Headlamp battery saver control unit 	<ol style="list-style-type: none"> Check bulb. Check harness between RH headlamp and ground. Check 15A fuse (No. 33, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp RH relay. Check headlamp RH relay. Check harness between headlamp RH relay and lighting switch. Check harness between headlamp RH relay and headlamp battery saver control unit. Check lighting switch. Check headlamp battery saver control unit. 	CL MT AT AX
LH high beam does not operate, but LH low beam does operate.	<ol style="list-style-type: none"> Bulb Open in LH high beams circuit Lighting switch 	<ol style="list-style-type: none"> Check bulb. Check R/B wire between lighting switch and LH headlamp for an open circuit. Check lighting switch. 	SU BR
LH low beam does not operate, but LH high beam does operate.	<ol style="list-style-type: none"> Bulb Open in LH low beams circuit Lighting switch 	<ol style="list-style-type: none"> Check bulb. Check R/Y wire between lighting switch and LH headlamp for an open circuit. Check lighting switch. 	ST
RH high beam does not operate, but RH low beam does operate.	<ol style="list-style-type: none"> Bulb Open in RH high beams circuit Lighting switch 	<ol style="list-style-type: none"> Check bulb. Check R/G wire between lighting switch and RH headlamp for an open circuit. Check lighting switch. 	RS BT
RH low beam does not operate, but RH high beam does operate.	<ol style="list-style-type: none"> Bulb Open in RH low beams circuit Lighting switch 	<ol style="list-style-type: none"> Check bulb. Check P/L wire between lighting switch and RH headlamp for an open circuit. Check lighting switch. 	HA
High beam indicator does not work.	<ol style="list-style-type: none"> Bulb Ground circuit Open in high beam circuit 	<ol style="list-style-type: none"> Check bulb in combination meter. Check harness between high beam indicator and ground. Check R/B wire between lighting switch and combination meter for an open circuit. 	SC EL

IDX

HEADLAMP (FOR USA)

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order
Battery saver control does not operate properly.	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 1. Check harness between headlamp battery saver control unit terminal 10 and smart entrance control unit terminal 5 for open or short circuit. 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 12 and ground. Check lighting switch. 4. Check headlamp battery saver control unit. 5. Check smart entrance control unit. (EL-248)

BATTERY SAVER CONTROL UNIT INSPECTION TABLE

NCEL0014S01

Terminal No.	Item	Condition		Voltage (Approximate value)
1	Ignition ON power supply	Ignition switch	OFF or ACC	Less than 1V
			ON or START	Battery voltage
2	Headlamp RH relay	Ignition switch (with lighting switch 1ST or 2ND)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC
			ON or START	Less than 1V
			OFF	Within 45 seconds after ignition switch is turned OFF or ACC
		1ST or 2ND	Less than 1V	
3	Ground	—	—	—
4	Ground	—	—	—
5	Tail lamp switch	Lighting switch	OFF	Battery voltage
			1ST or 2ND	Less than 1V
6	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
			ON or START	Less than 1V
			OFF	Within 45 seconds after ignition switch is turned OFF or ACC
		1ST or 2ND	Less than 1V	

HEADLAMP (FOR USA)

Trouble Diagnoses (Cont'd)

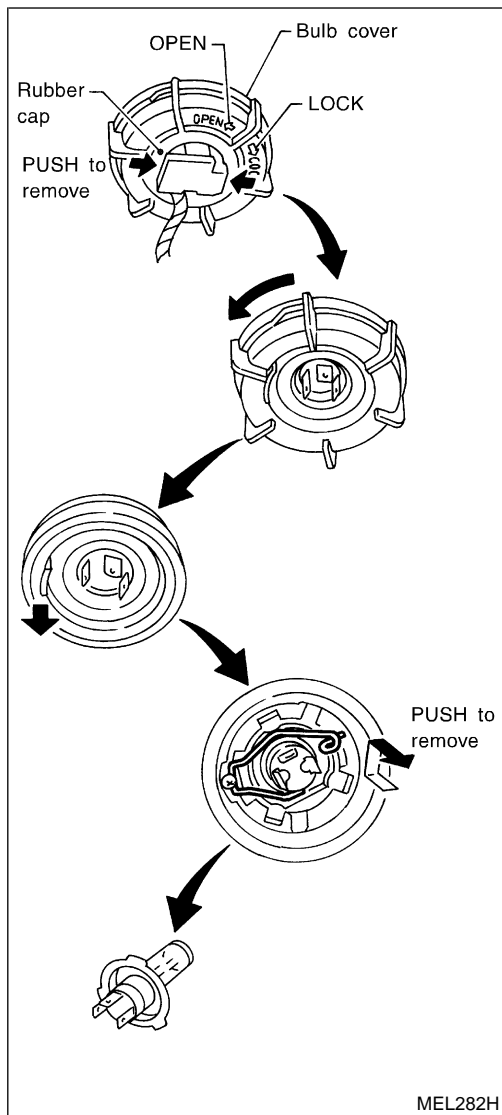
Terminal No.	Item	Condition		Voltage (Approximate value)		
7	Power supply	—		Battery voltage	GI	
8	Headlamp LH relay	Ignition switch (with lighting switch 1ST or 2ND)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage	MA
				Within 45 seconds after ignition switch is turned OFF or ACC	Less than 1V	EM
			ON or START	Less than 1V	LC	
		Lighting switch (with ignition switch OFF)	OFF	Battery voltage	EC	
			1ST or 2ND	Less than 1V	FE	
9	Ground	—		—	CL	
10	RAP signal	Ignition switch	OFF or ACC (After more than 45 seconds with ignition switch turned OFF or ACC)	Less than 1V	MT	
			ON or START	Battery voltage	AT	
11	Ground	—		—	AX	
13	Tail lamp switch	Lighting switch	OFF	Battery voltage	AX	
			1ST or 2ND	Less than 1V	BT	
14	Tail lamp relay	Ignition switch (with lighting switch OFF)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage	SU
				Within 45 seconds after ignition switch is turned OFF or ACC	Less than 1V	BR
			ON or START	Less than 1V	ST	
		Lighting switch (with ignition switch OFF)	OFF	Battery voltage	RS	
			1ST or 2ND	Less than 1V	BT	

EL

IDX

HEADLAMP (FOR USA)

Bulb Replacement



Bulb Replacement

NCEL0015

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

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

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

CAUTION:

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

Aiming Adjustment

NCEL0016

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

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

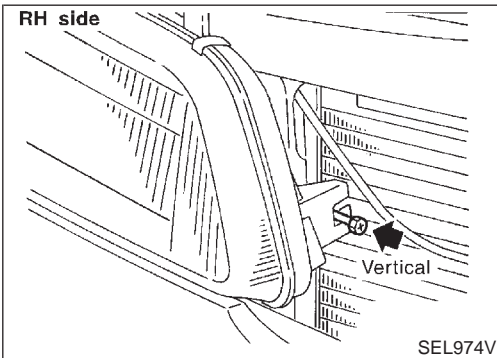
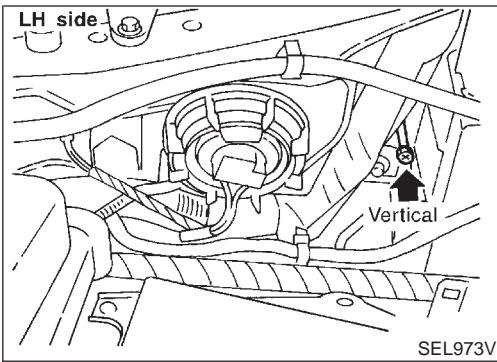
For details, refer to the regulations in your own country.

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

HEADLAMP (FOR USA)

Aiming Adjustment (Cont'd)

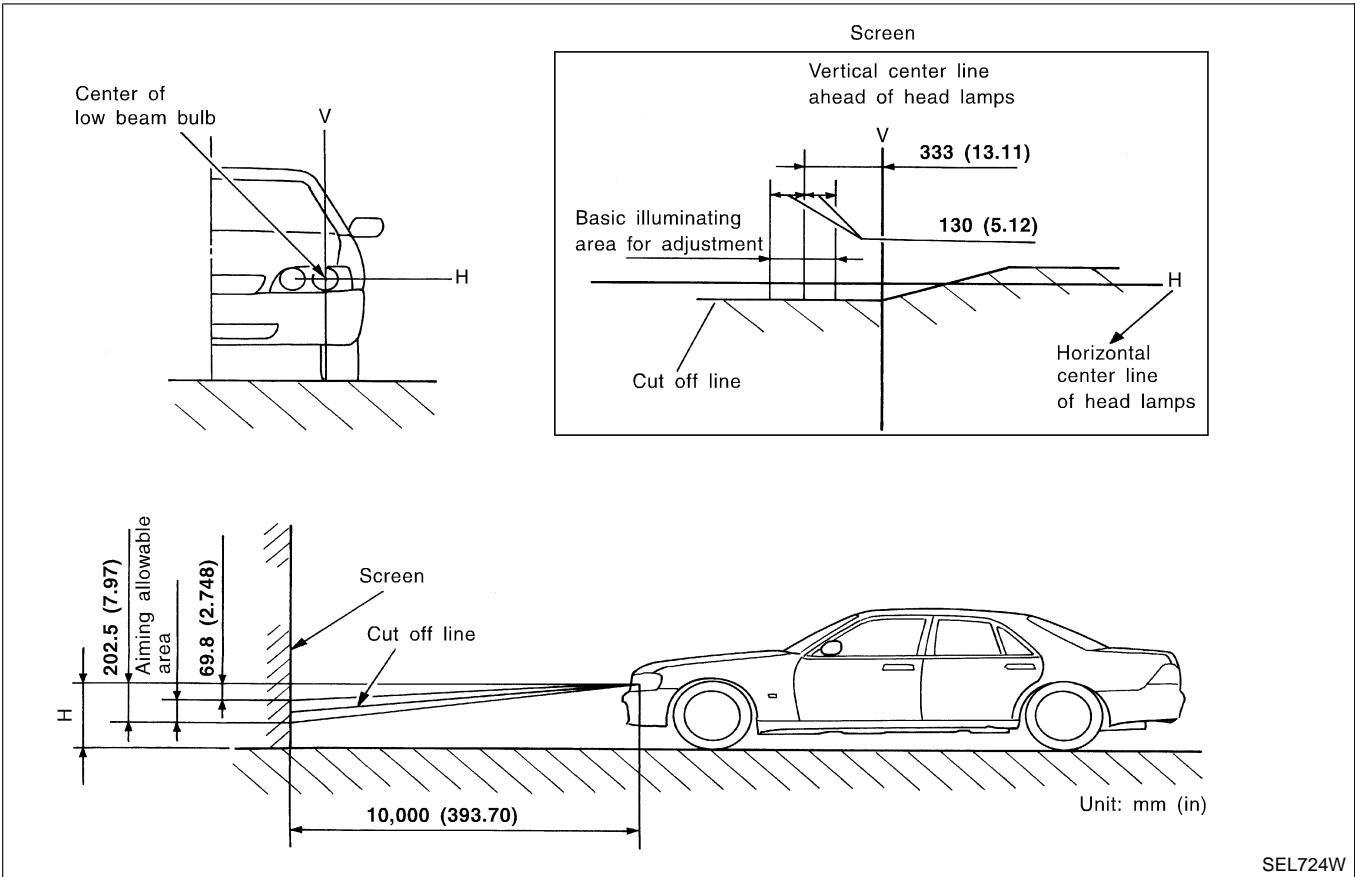
NCEL0016S02



LOW BEAM

1. Turn headlamp low beam on.
 2. Use adjusting screws to perform aiming adjustment.
- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**

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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 at left. Adjust headlamps accordingly.**

EL

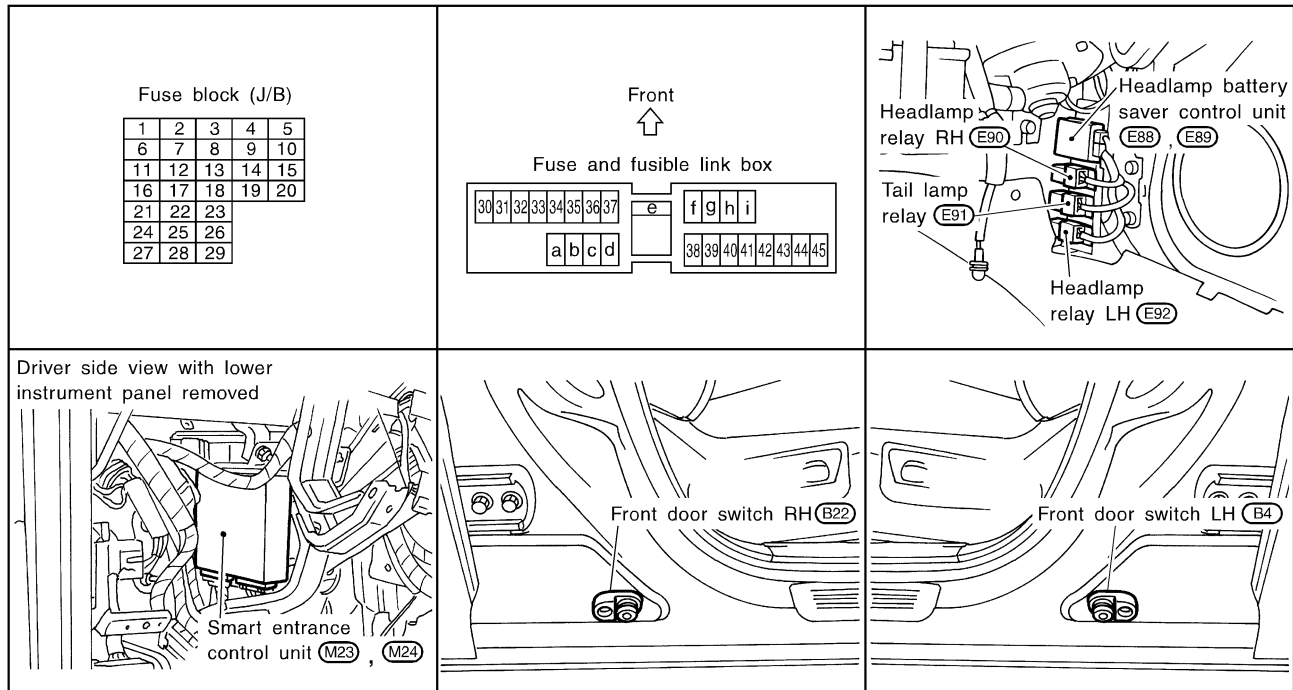
IDX

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0166



SEL665W

System Description

NCEL0017

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 daytime light control unit terminal 3, and
- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 32, located in the fuse and fusible link box), and
- to daytime light control unit terminal 2 and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 33, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, located in the fuse block (J/B)].

Ground is supplied

- to daytime light control unit terminal 9 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 12,
- to headlamp battery saver control unit terminal 10, and
- to smart entrance control unit terminal 33
- through 10A fuse [No. 8, located in the fuse block (J/B)], and
- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 16, located in the fuse block (J/B)].

GI

MA

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

- to daytime light control unit terminal 1
- through 10A fuse [No. 26, located in the fuse block (J/B)].

EM

HEADLAMP OPERATION

LC

When Ignition Switch is in ON or START Position

NCEL0017S01

Ground is supplied

NCEL0017S0103

- to headlamp LH relay terminal 2 from headlamp battery saver control unit terminal 8
- through headlamp battery saver control unit terminal 9, and
- through body grounds E9 and E28, and
- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 2
- through headlamp battery saver control unit terminal 3, and
- through body grounds E9 and E28.

EC

FE

CL

Headlamp relays (LH and RH) are then energized.

MT

When Ignition Switch is in OFF or ACC Position

NCEL0017S0104

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

AT

And then, ground is also supplied to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit. Headlamp relays (LH and RH) are then energized.

AX

Low Beam Operation

NCEL0017S0101

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

- from lighting switch terminal 7
- to RH headlamp terminal 3
- to daytime light control unit terminal 4.

SU

BR

Ground is supplied to RH headlamp terminal 2 through body grounds E9 and E28.

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

ST

- from lighting switch terminal 10
- to LH headlamp terminal 3.

RS

Ground is supplied

- to LH headlamp terminal 2
- from daytime light control unit terminal 7
- through daytime light control unit terminal 9
- through body grounds E9 and E28.

BT

HA

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

SC

High Beam Operation/Flash-to-pass Operation

NCEL0017S0102

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

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

EL

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

- from lighting switch terminal 9
- to daytime light control terminal 5
- to combination meter terminal 29 for the high beam indicator, and
- through daytime light control terminal 6

IDX

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

System Description (Cont'd)

- to terminal 1 of LH headlamp.

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

Ground is supplied to terminal 27 of the combination meter through body grounds M15, M71 and M76. With power and ground supplied, the high beam headlamps and HI BEAM indicator illuminate.

BATTERY SAVER CONTROL

NCEL0017S04

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 1 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 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 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
- to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit terminals 2 and 8.

Then headlamps illuminate again.

DAYTIME LIGHT OPERATION

NCEL0017S02

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 6
- to terminal 1 of LH headlamp, and
- through terminal 2 of LH headlamp
- to daytime light control unit terminal 7, and
- through daytime light control unit terminal 8
- to terminal 1 of RH headlamp.

Ground is supplied to terminal 2 of RH headlamp through body grounds E9 and E28.

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

OPERATION

NCEL0017S03

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								
		OFF			1ST			2ND			OFF			1ST			2ND		
Lighting switch		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
		Headlamp	High beam	X	X	O	X	X	O	O	X	O	△*	△*	O	△*	△*	O	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.

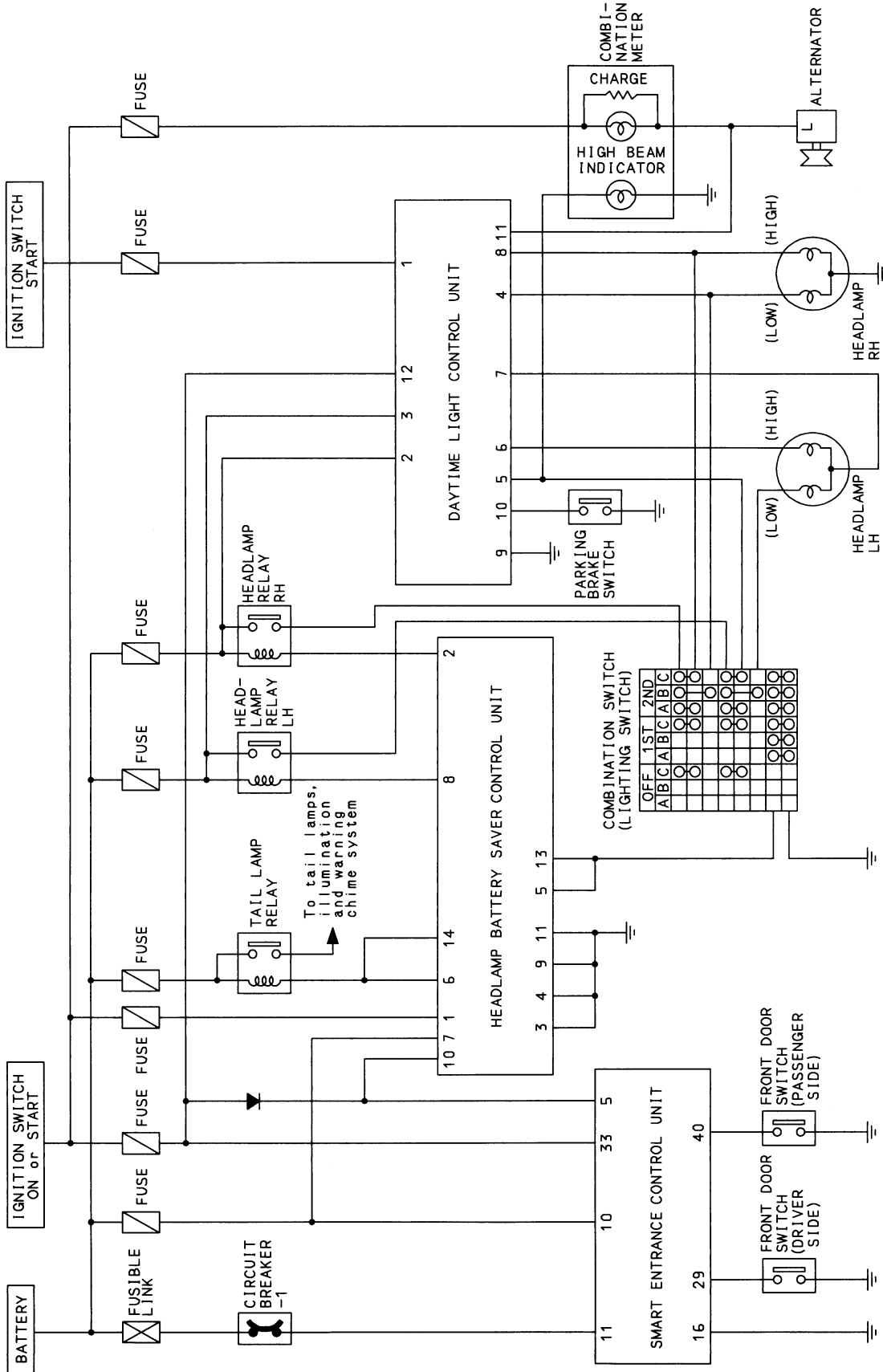
When starting the engine with the parking brake pulled, the daytime light won't come ON.

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Schematic

Schematic

NCEL0167



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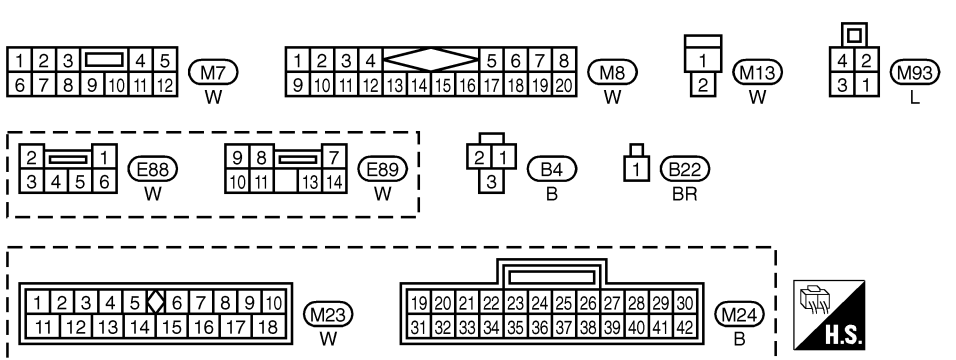
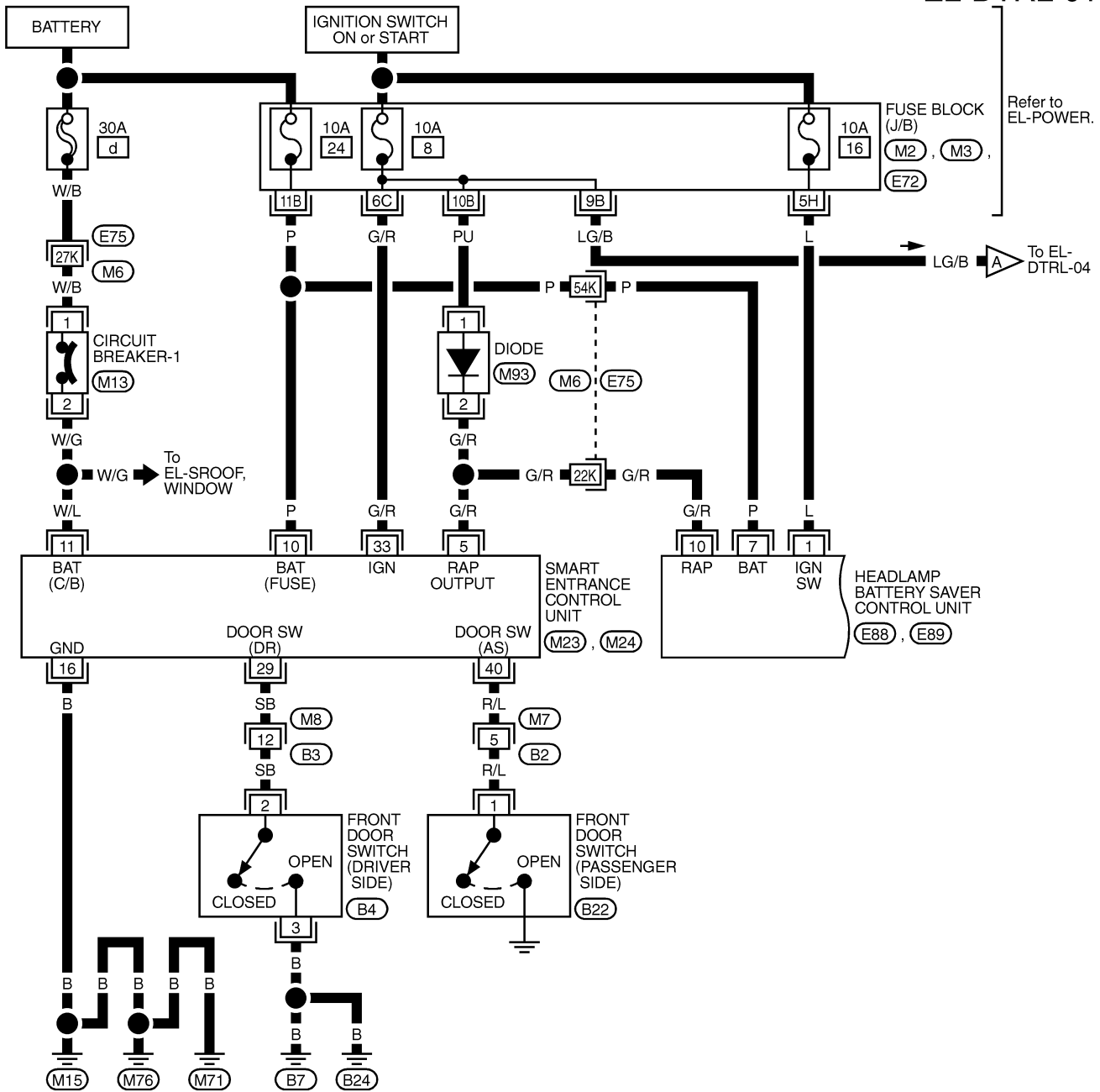
HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL —

Wiring Diagram — DTRL —

NCEL0020

EL-DTRL-01



REFER TO THE FOLLOWING.

- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

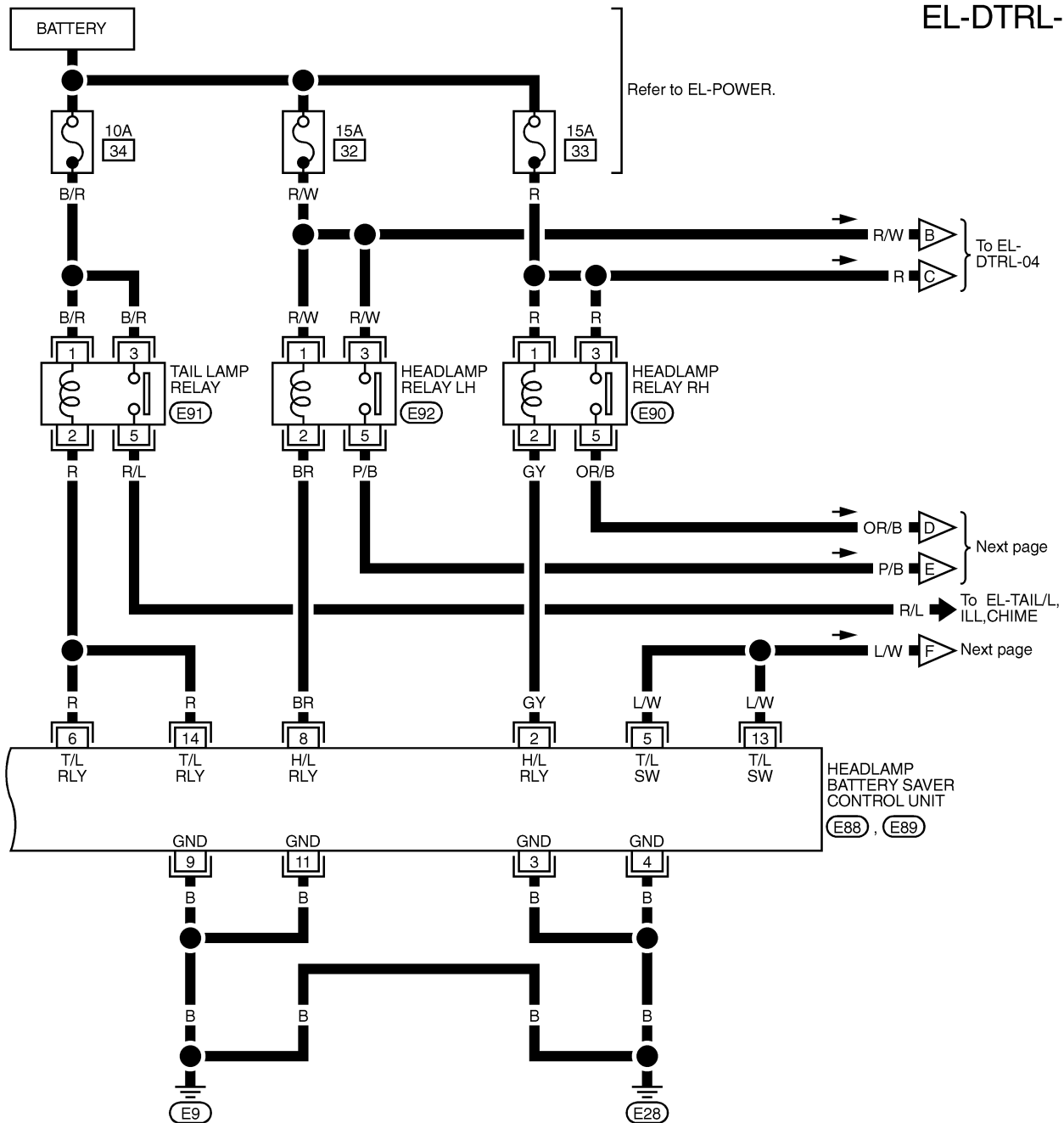


TEL479B

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-02



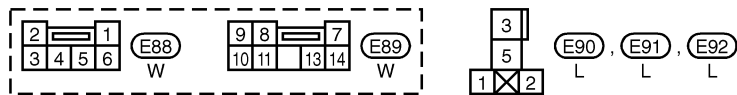
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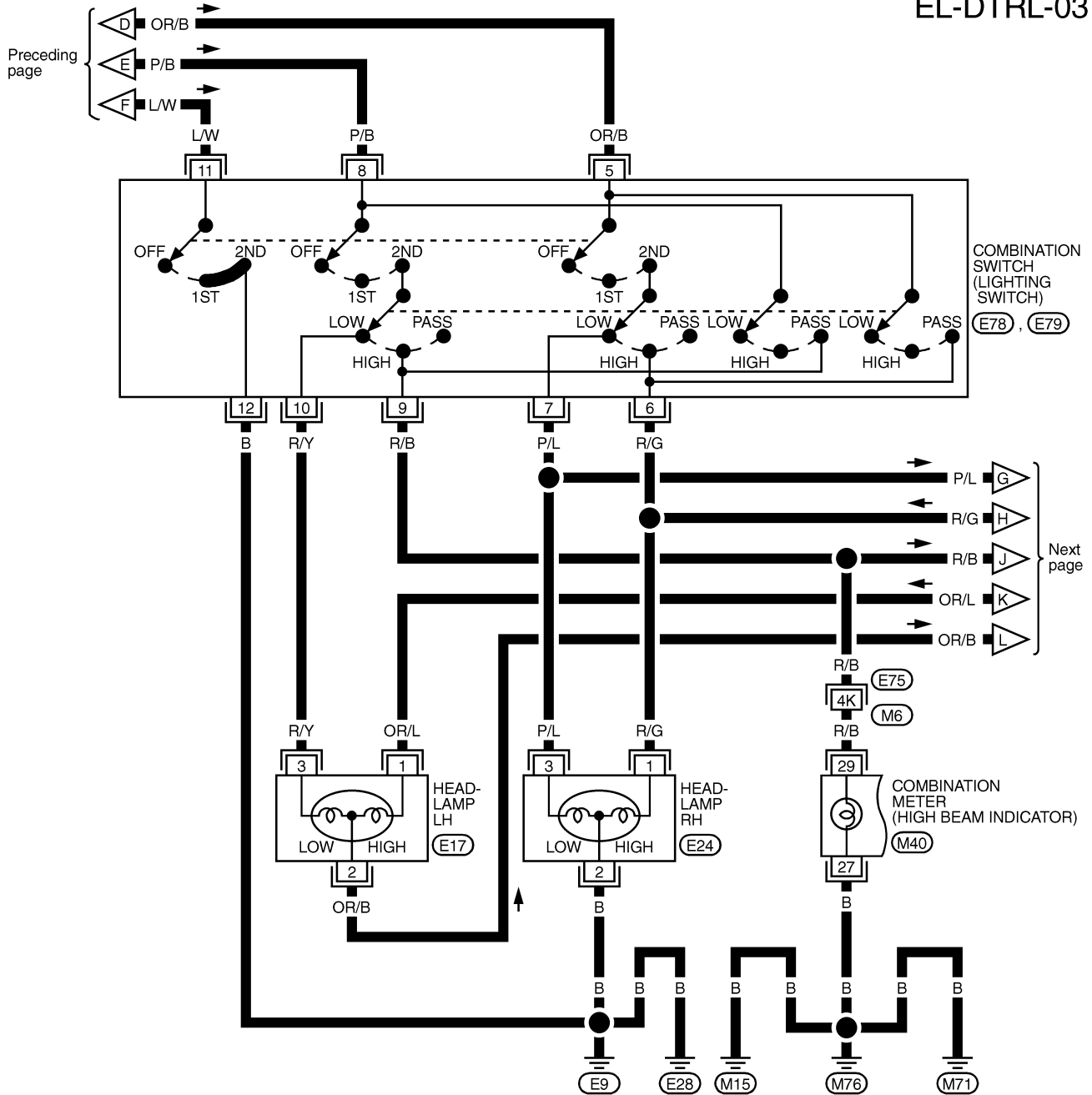
TEL480B



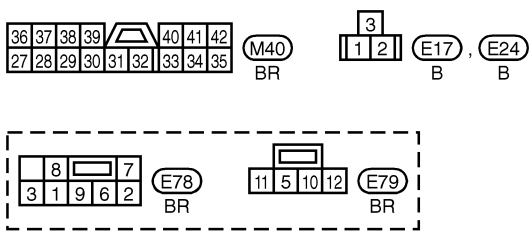
HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-03



Next page



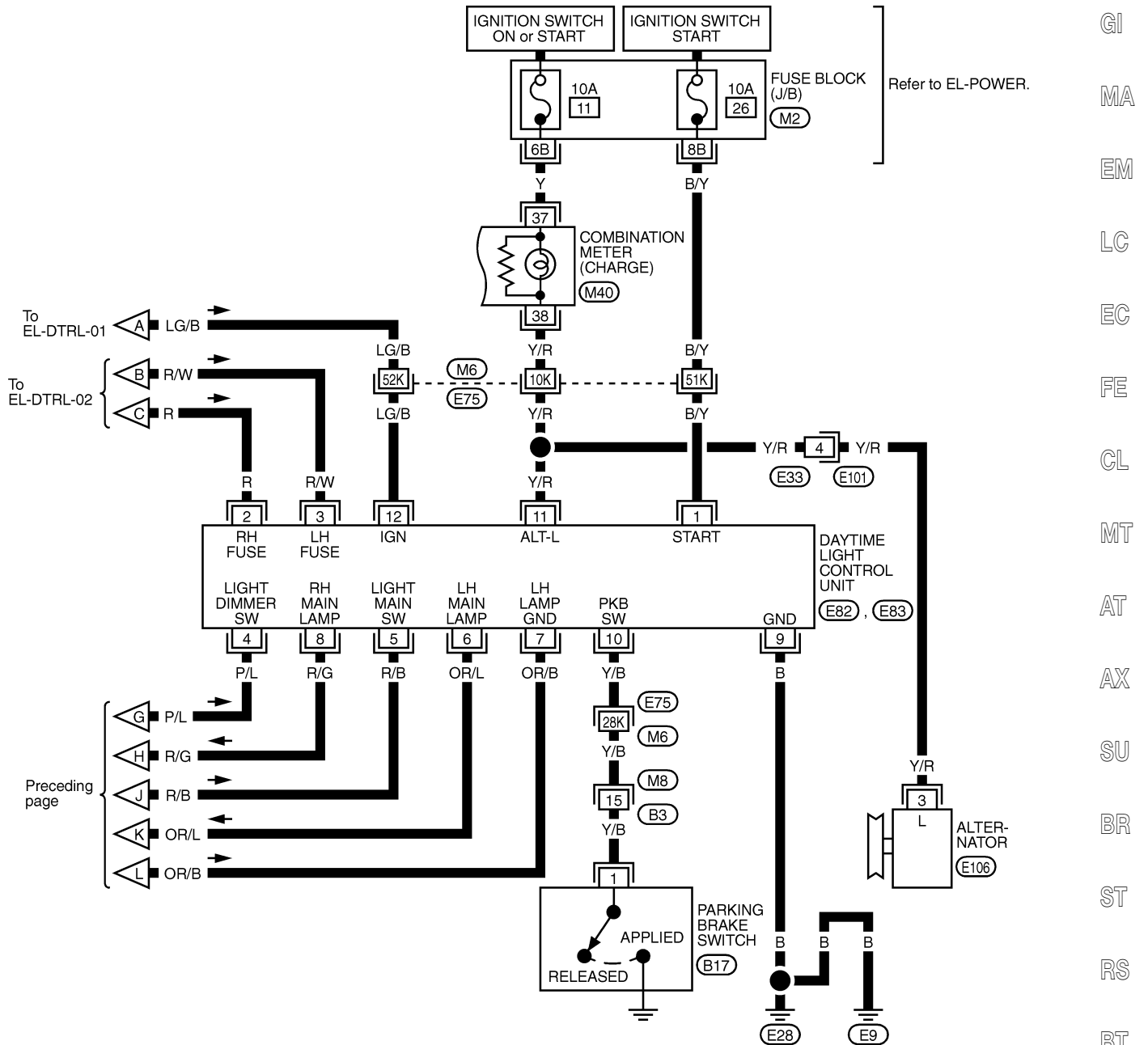
REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)

TEL481B

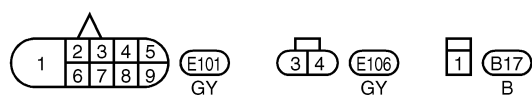
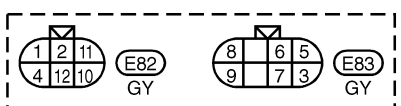
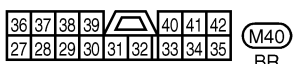
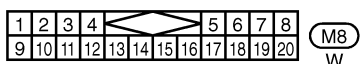
HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-04



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REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2) -FUSE BLOCK-JUNCTION BOX (J/B)

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —











Trouble Diagnoses

Trouble Diagnoses

NCEL0021








DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

NCEL0021S01

Terminal No.	Wire color	Item	Condition		Voltage (Approximate values)
1	B/Y	Start signal		When turning ignition switch to "ST"	Battery voltage
				When turning ignition switch to "ON" from "ST"	Less than 1V
				When turning ignition switch to "OFF"	Less than 1V
2	R	Power source		When turning ignition switch to "ON"	Battery voltage
				When turning ignition switch to "OFF"	Battery voltage
3	R/W	Power source		When turning ignition switch to "ON"	Battery voltage
				When turning ignition switch to "OFF"	Battery voltage
4	P/L	Lighting switch (Low beam)		When lighting switch is turned to the 2ND position with "LOW BEAM" position	Battery voltage
5	R/B	Lighting switch (High beam)		When turning lighting switch to "HIGH BEAM"	Battery voltage
				When turning lighting switch to "FLASH TO PASS"	Battery voltage
6	OR/L	High beam LH		When turning lighting switch to "HIGH 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.	Approx. half battery voltage
7	OR/B	Headlamp LH control (ground)		When lighting switch is turned to the 2ND position with "LOW BEAM" position	Less than 1V
				When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage
8	R/G	High beam RH		When lighting switch is turned to the 2ND position with "HIGH 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

HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Trouble Diagnoses (Cont'd)

Terminal No.	Wire color	Item	Condition		Voltage (Approximate values)	
9	B	Ground		—	—	GI
10	Y/B	Parking brake switch		When parking brake is released	Battery voltage	MA
				When parking brake is set	Less than 1.5V	
11	Y/R	Alternator		When turning ignition switch to "ON"	Less than 1V	EM
				When engine is running	Battery voltage	LC
				When turning ignition switch to "OFF"	Less than 1V	EC
12	LG/B	Power source		When turning ignition switch to "ON"	Battery voltage	FE
				When turning ignition switch to "ST"	Battery voltage	CL
				When turning ignition switch to "OFF"	Less than 1V	MT
						AT

BATTERY SAVER CONTROL UNIT INSPECTION TABLE

Refer to "HEADLAMP (FOR USA)" (EL-38).

NCEL0021S02

AX

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BR

Bulb Replacement

Refer to "HEADLAMP (FOR USA)" (EL-40).

NCEL0022

ST

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HA

Aiming Adjustment

Refer to "HEADLAMP (FOR USA)" (EL-40).

NCEL0023

SC

EL

IDX

PARKING, LICENSE AND TAIL LAMPS

System Description

System Description

NCEL0168

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. 34, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, 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. 16, 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. 8, 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

NCEL0168S01

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 body grounds E9 and E28.

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

BATTERY SAVER CONTROL

NCEL0168S02

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while parking, license 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 and tail lamps are turned off.

The parking, license 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 and tail lamps are illuminated.

When the lighting switch is turned from OFF to 1ST (or 2ND) after the parking, license 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, and
- to tail lamp relay terminal 2 from headlamp battery saver control unit terminals 6 and 14.

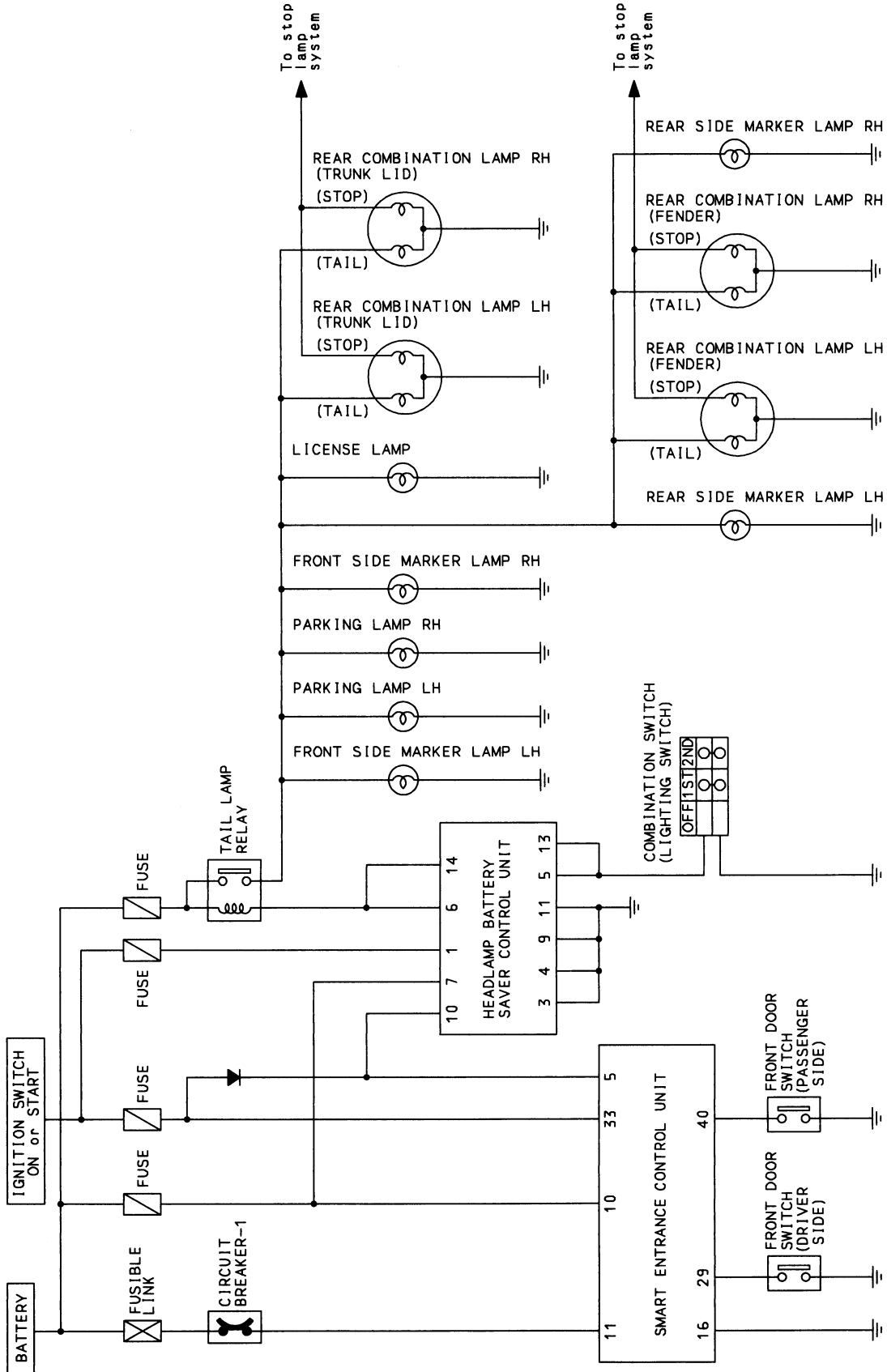
Then the parking, license and tail lamps illuminate again.

PARKING, LICENSE AND TAIL LAMPS

Schematic

Schematic

NCEL0169

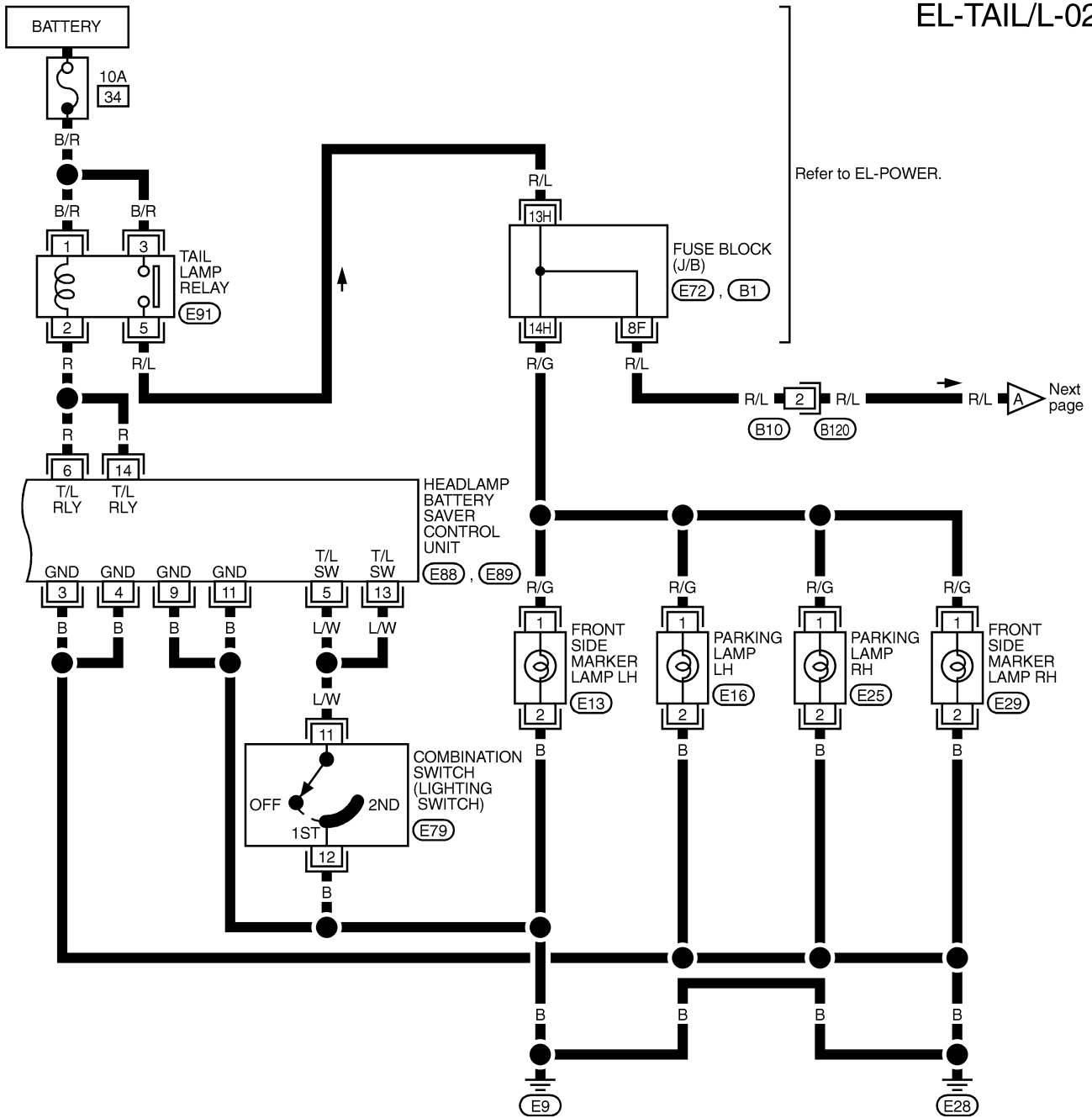


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PARKING, LICENSE AND TAIL LAMPS

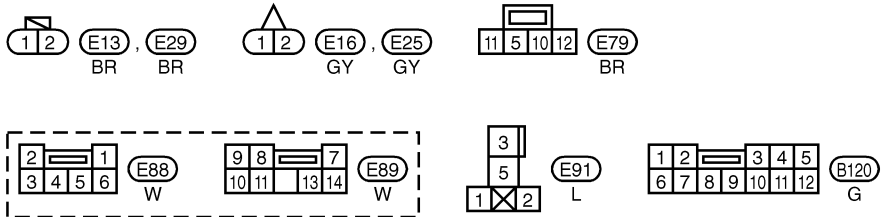
Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-02



Refer to EL-POWER.

Next page



REFER TO THE FOLLOWING.
 (E72), (B1) - FUSE BLOCK-
 JUNCTION BOX (J/B)

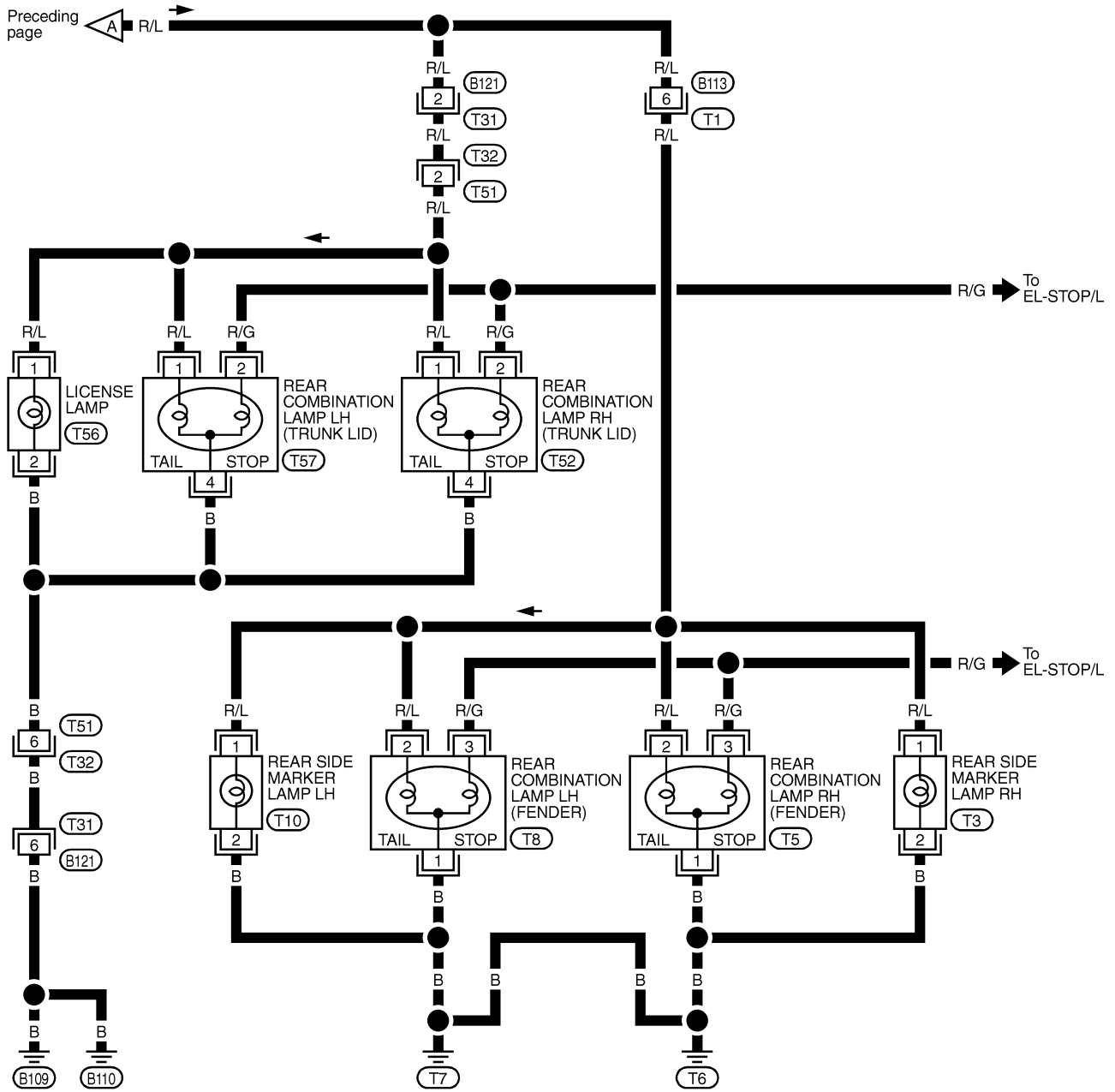
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TEL485B

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-03



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

(T1)
W

(1 2)
BR

(T3) (T10)
BR BR

(1 2 3)
W

(T5) (T8)
W W

(1 2 3 4 5 6) (T31) (T32)
W W

(1 2 3 4)
W

(T52) (T57)
W W

(2 1)
BR

TEL486B

PARKING, LICENSE AND TAIL LAMPS

Trouble Diagnoses

Trouble Diagnoses

NCEL0170

Symptom	Possible cause	Repair order	
No lamps operate (including headlamps).	<ol style="list-style-type: none"> 10A fuse Lighting switch Headlamp battery saver control unit 	<ol style="list-style-type: none"> Check 10A fuse [No. 24, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit. Check lighting switch. Check headlamp battery saver control unit. (EL-38) 	GI MA EM
No parking, license and tail lamps operate, but headlamps do operate.	<ol style="list-style-type: none"> 10A fuse Tail lamp relay Tail lamp relay circuit Lighting switch Lighting switch circuit Headlamp battery saver control unit 	<ol style="list-style-type: none"> Check 10A fuse (No. 34, located in fusible and fuse block). Verify battery positive voltage is present at terminals 1 and 3 of tail lamp relay. Check tail lamp relay. 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. Check lighting switch. Check harness between lighting switch terminal 11 and headlamp battery saver control unit terminals 5 and 13. Check harness between lighting switch terminal 12 and ground. Check headlamp battery saver control unit. (EL-38) 	LC EC FE CL MT
Battery saver control does not operate properly.	<ol style="list-style-type: none"> RAP signal circuit Driver or passenger side door switch circuit Lighting switch circuit Headlamp battery saver control unit Smart entrance control unit 	<ol style="list-style-type: none"> Check harness between headlamp battery saver control unit terminal 10 and smart entrance control unit terminal 5 for open or short circuit. 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. 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 12 and ground. Check lighting switch. Check headlamp battery saver control unit. (EL-38) Check smart entrance control unit. (EL-248) 	AT AX SU BR ST

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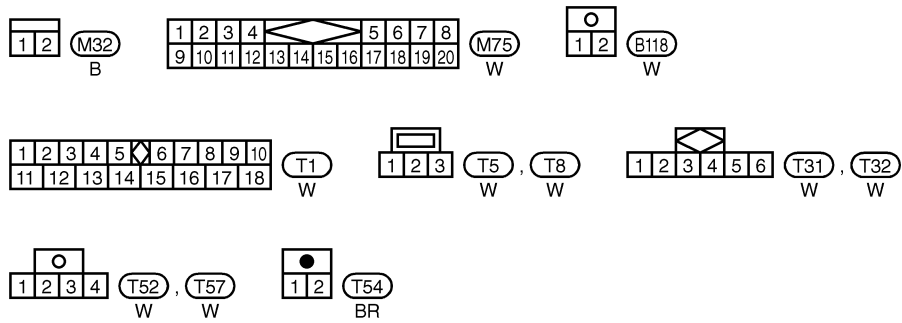
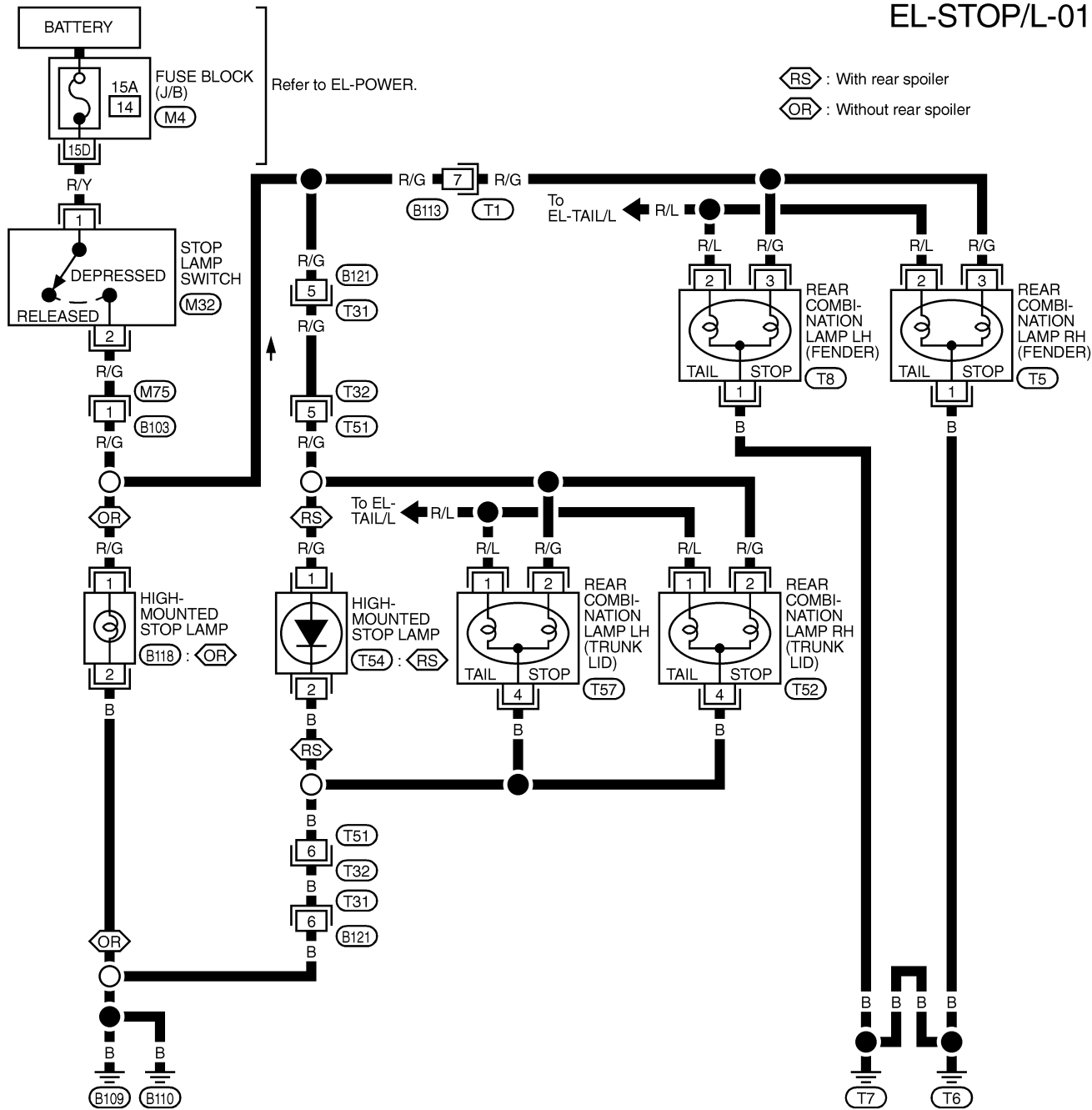
STOP LAMP

Wiring Diagram — STOP/L —

Wiring Diagram — STOP/L —

NCEL0025

EL-STOP/L-01



REFER TO THE FOLLOWING.
 (M4) - FUSE BLOCK-JUNCTION BOX (J/B)

TEL487B

BACK-UP LAMP

Wiring Diagram — BACK/L —

Wiring Diagram — BACK/L —

NCEL0026

EL-BACK/L-01

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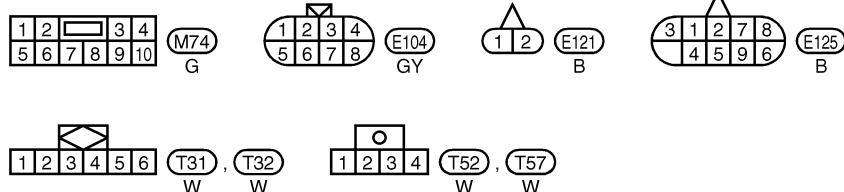
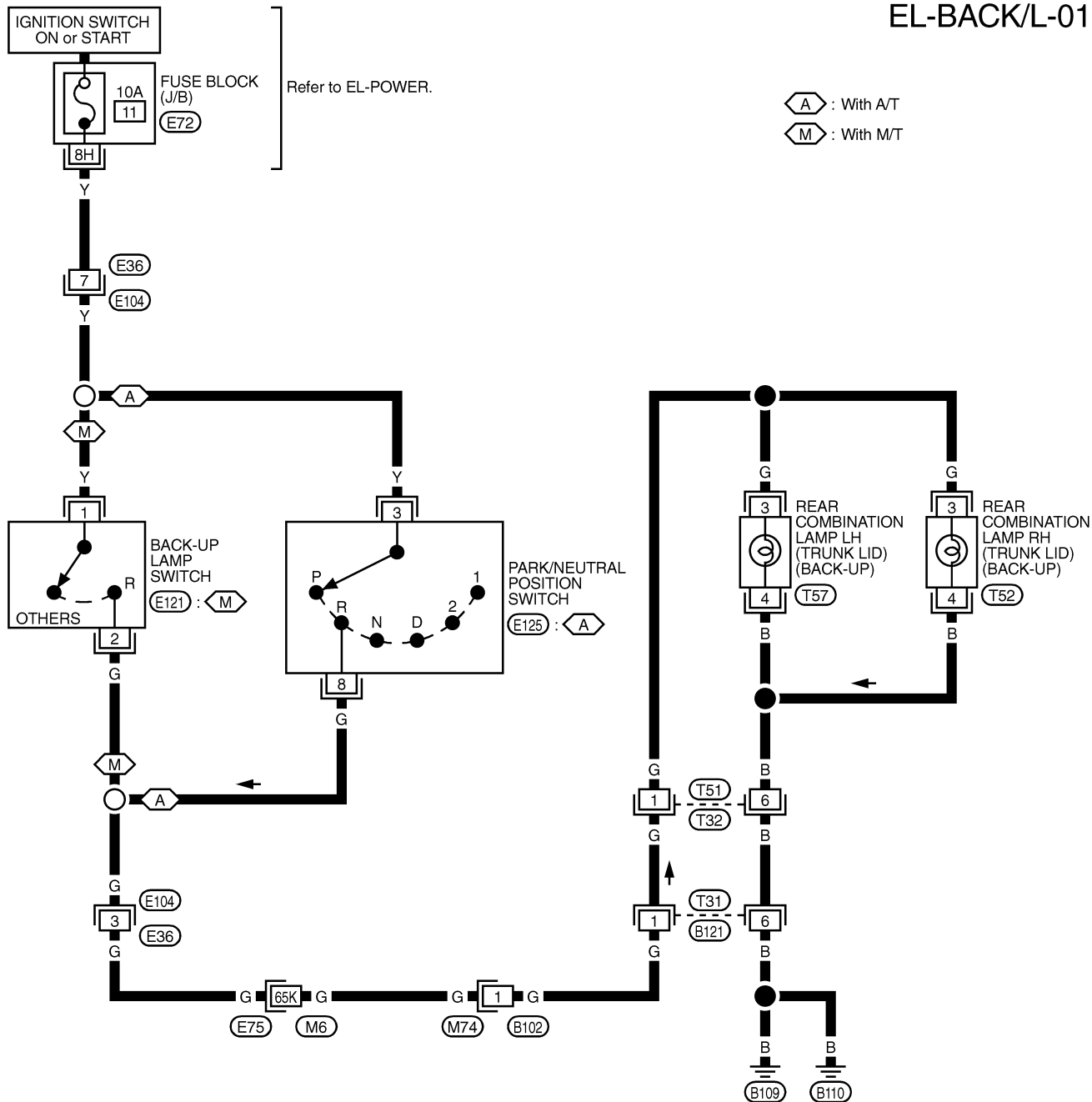
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REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

(E72) -FUSE BLOCK-JUNCTION BOX (J/B)

FRONT FOG LAMP

System Description

System Description

NCEL0027

NCEL0027S02

OUTLINE

Power is supplied at all times

- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 33, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, located in the fuse block (J/B)], and
- to front fog lamp relay terminal 3
- through 15A fuse (No. 43, 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. 16, 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. 8, located in the fuse block (J/B)].

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

When Ignition Switch is in ON or START Position

NCEL0027S0201

Ground is supplied

- to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 2.
- through headlamp battery saver control unit terminal 9, and
- through body grounds E9 and E28.

Headlamp RH relay is then energized.

When Ignition Switch is in OFF or ACC Position

NCEL0027S0202

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

- to headlamp battery saver control unit terminals 5 and 13
- from lighting switch terminal 11.

And then, ground is also supplied to headlamp RH relay terminal 2 from the headlamp battery saver control unit. The headlamp RH relay is then energized.

FOG LAMP OPERATION

NCEL0027S01

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

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

- to fog lamp relay terminal 2
- through the fog lamp switch and body grounds E9 and E28.

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 E9 and E28.

With power and ground supplied, the fog lamps illuminate.

BATTERY SAVER CONTROL

NCEL0027S03

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 2 of headlamp RH relay from headlamp battery saver control unit terminal 2 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 2ND after fog lamps are turned off by the battery saver control, ground is supplied

FRONT FOG LAMP

System Description (Cont'd)

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
 - to headlamp RH relay terminal 2 from headlamp battery saver control unit terminal 2.
- Then the fog lamps illuminate again.

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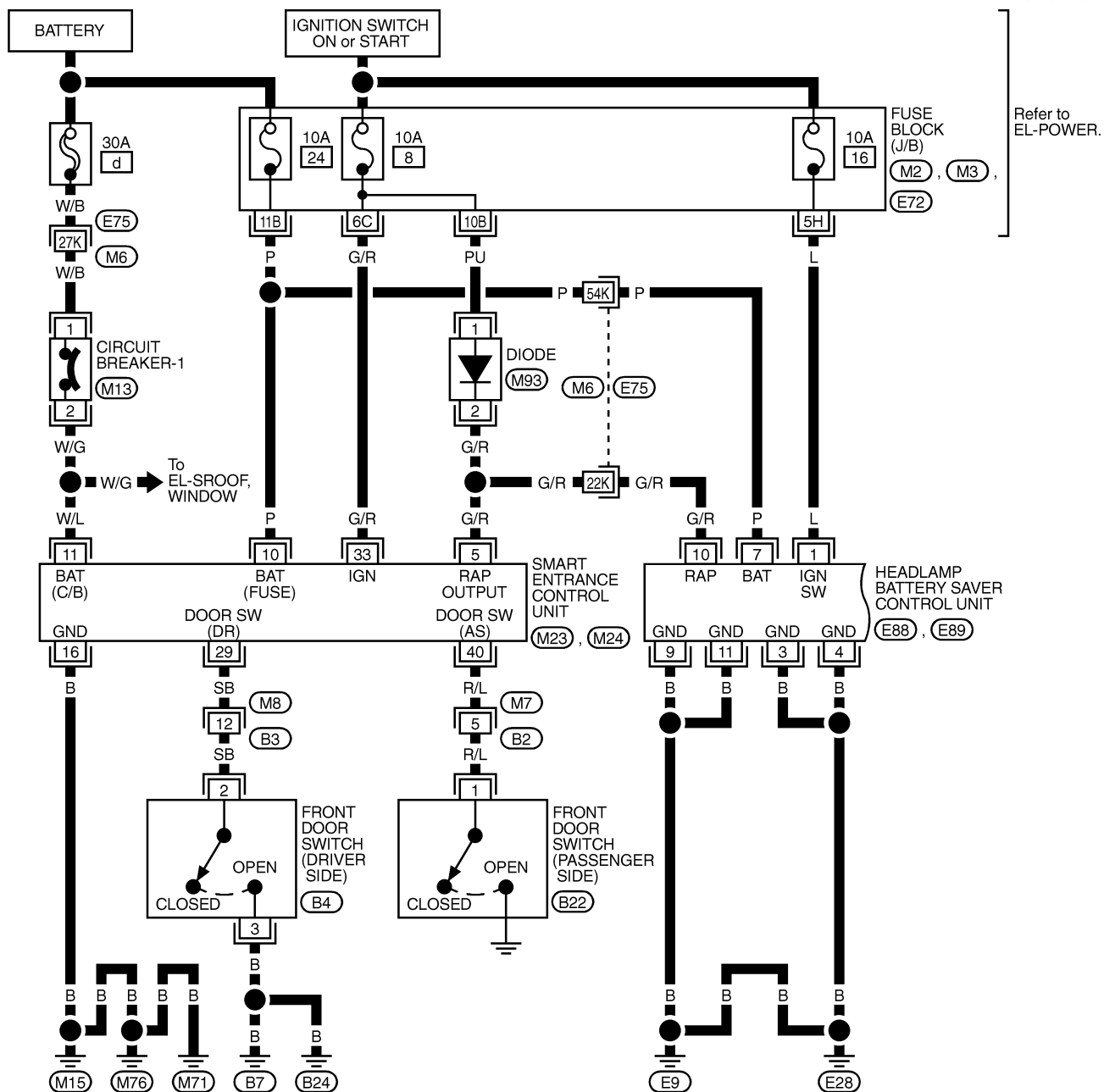
FRONT FOG LAMP

Wiring Diagram — F/FOG —

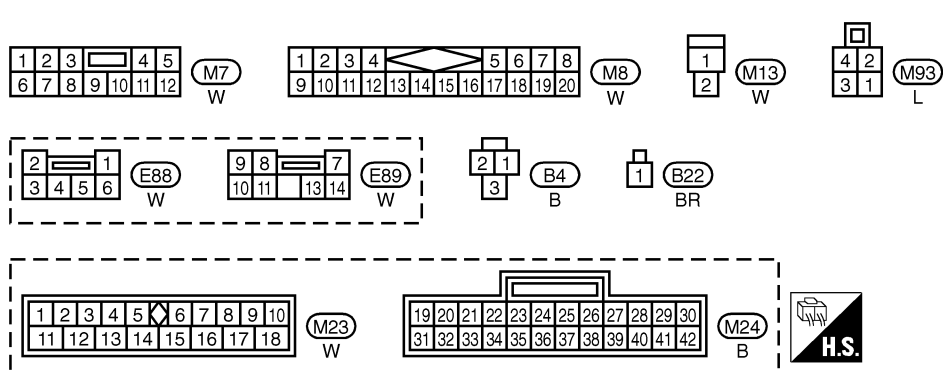
Wiring Diagram — F/FOG —

NCEL0028

EL-F/FOG-01



Refer to EL-POWER.



REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL489B

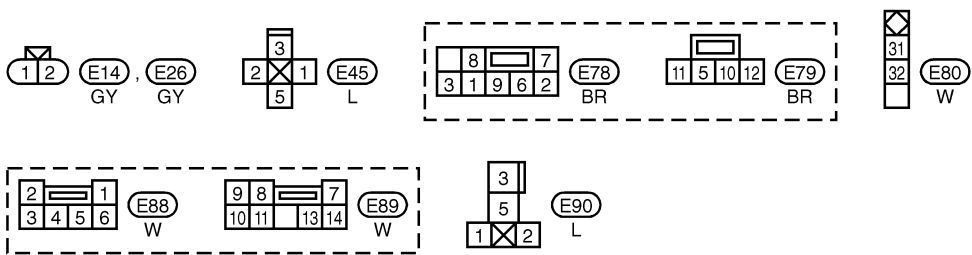
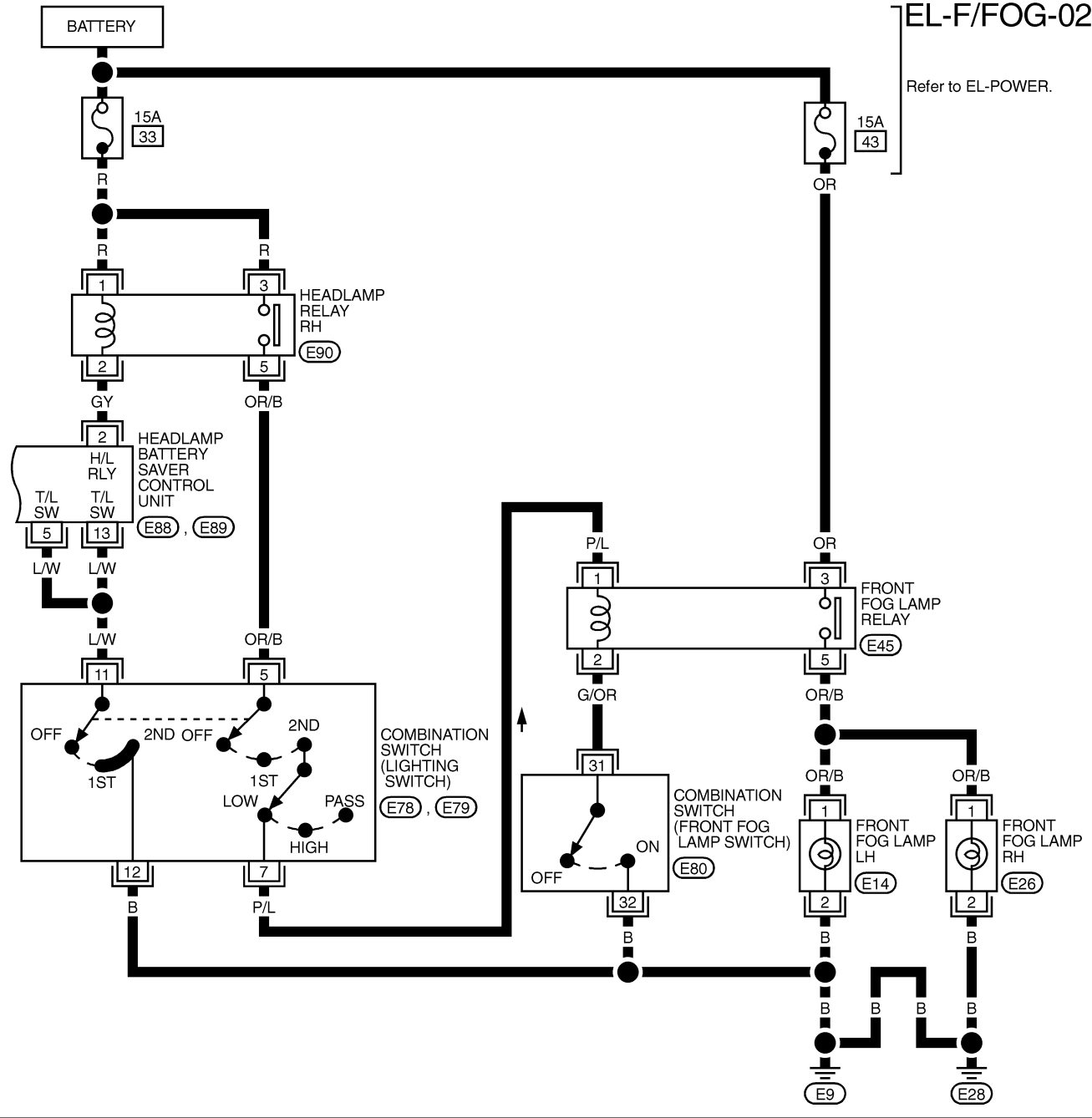
FRONT FOG LAMP

Wiring Diagram — F/FOG — (Cont'd)

EL-F/FOG-02

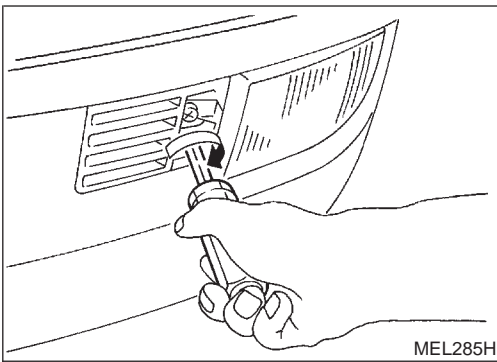
Refer to EL-POWER.

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FRONT FOG LAMP

Aiming Adjustment



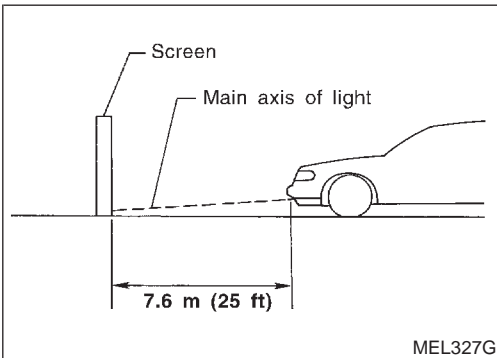
Aiming Adjustment

NCEL0029

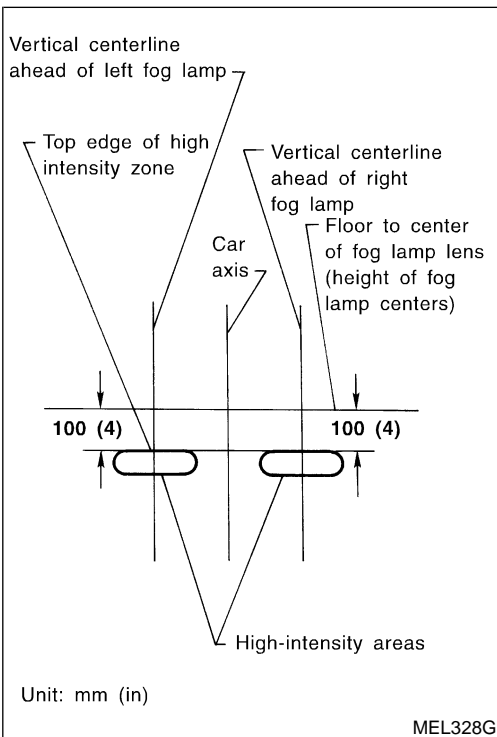
Before performing aiming adjustment, make sure of the following.

- 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

NCEL0030

TURN SIGNAL OPERATION

NCEL0030S01

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

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

Ground is supplied to combination flasher unit terminal 2 through body grounds M15, M71 and M76.

LH Turn

NCEL0030S0101

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

- front turn signal lamp LH terminal 1
- side turn signal lamp LH terminal 1
- combination meter terminal 30
- rear combination lamp LH terminal 1.

Ground is supplied to the front turn signal lamp LH terminal 2 and the side turn signal lamp LH terminal 2 through body grounds E9 and E28.

Ground is supplied to the rear combination lamp LH terminal 2 through body grounds T6 and T7.

Ground is supplied to combination meter terminal 27 through body grounds M15, M71 and M76.

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

RH Turn

NCEL0030S0102

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

- front turn signal lamp RH terminal 1
- side turn signal lamp RH terminal 1
- combination meter terminal 28
- rear combination lamp RH terminal 1.

Ground is supplied to the front turn signal lamp RH terminal 2 and the side turn signal lamp terminal 2 through body grounds E9 and E28.

Ground is supplied to the rear combination lamp RH terminal 2 through body grounds T6 and T7.

Ground is supplied to combination meter terminal 27 through body grounds M15, M71 and M76.

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

HAZARD LAMP OPERATION

NCEL0030S02

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

- 10A fuse [No. 20, located in the fuse block (J/B)].

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

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

Ground is supplied to combination flasher unit terminal 2 through body grounds M15, M71 and M76.

Power is supplied through terminal 5 of the hazard switch to

- front turn signal lamp LH terminal 1
- side turn signal lamp LH terminal 1
- combination meter terminal 30
- rear combination lamp LH terminal 1.

Power is supplied through terminal 6 of the hazard switch to

- front turn signal lamp RH terminal 1
- side turn signal lamp RH terminal 1

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TURN SIGNAL AND HAZARD WARNING LAMPS

System Description (Cont'd)

- combination meter terminal 28
- rear combination lamp RH terminal 1.

Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E9 and E28.

Ground is supplied to terminal 2 of each side turn signal lamp through body grounds E9 and E28.

Ground is supplied to terminal 2 of each rear combination lamp through body grounds T6 and T7.

Ground is supplied to combination meter terminal 27 through body grounds M15, M71 and M76.

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

MULTI-REMOTE CONTROL SYSTEM OPERATION

NCEL0030S03

Power is supplied at all times

- through 10A fuse [No. 20, located in the fuse block (J/B)]
- to multi-remote control relay terminals 1, 3 and 6.

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

Refer to "MULTI-REMOTE CONTROL SYSTEM", EL-190.

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 1
- side turn signal lamp LH terminal 1
- to combination meter terminal 30
- to rear combination lamp LH terminal 1.

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

- to front turn signal lamp RH terminal 1
- side turn signal lamp RH terminal 1
- to combination meter terminal 28
- to rear combination lamp RH terminal 1.

Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E9 and E28.

Ground is supplied to terminal 2 of each side turn signal lamp through body grounds E9 and E28.

Ground is supplied to terminal 2 of each rear combination lamp through body grounds T6 and T7.

Ground is supplied to combination meter terminal 27 through body grounds M15, M71 and M76.

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

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —

Wiring Diagram — TURN —

NCEL0032

EL-TURN-01

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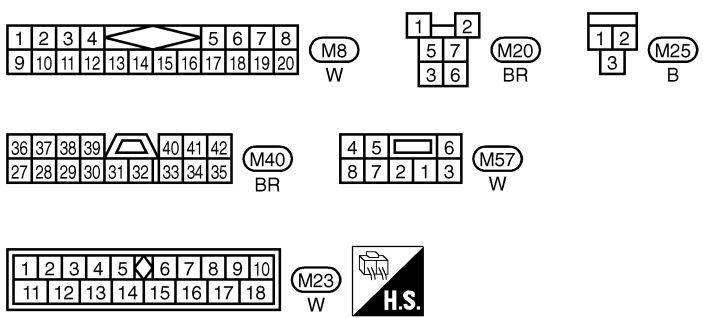
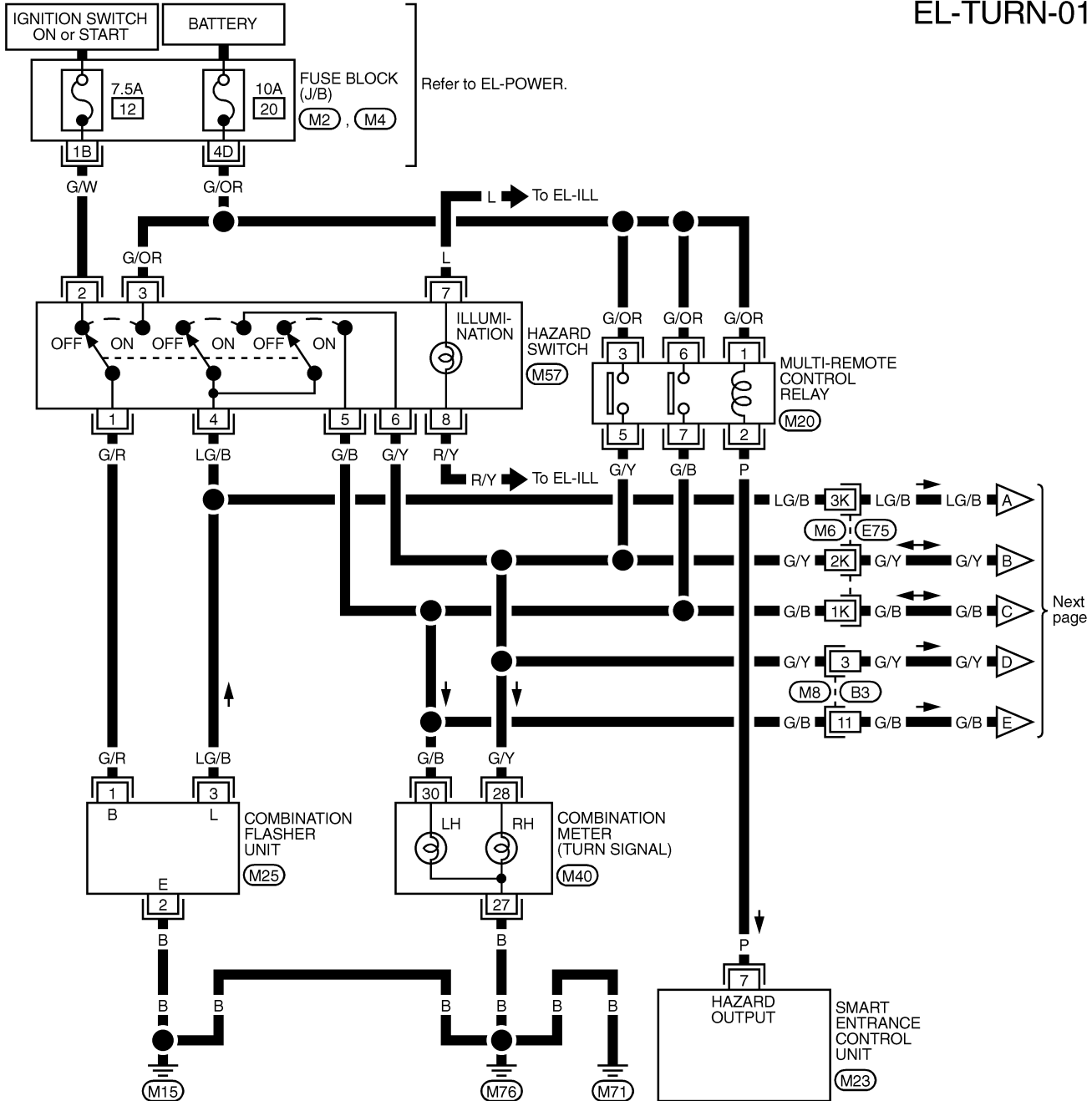
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REFER TO THE FOLLOWING.

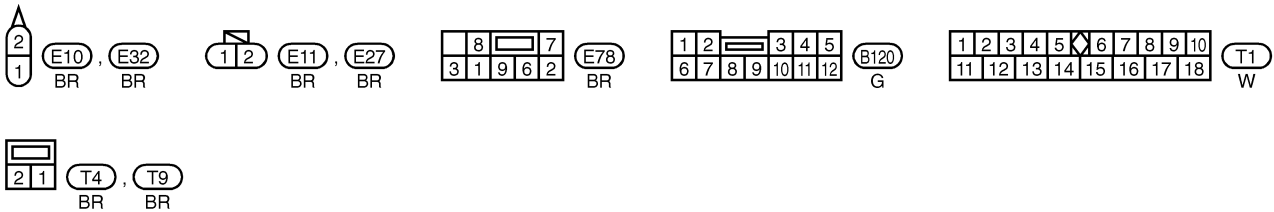
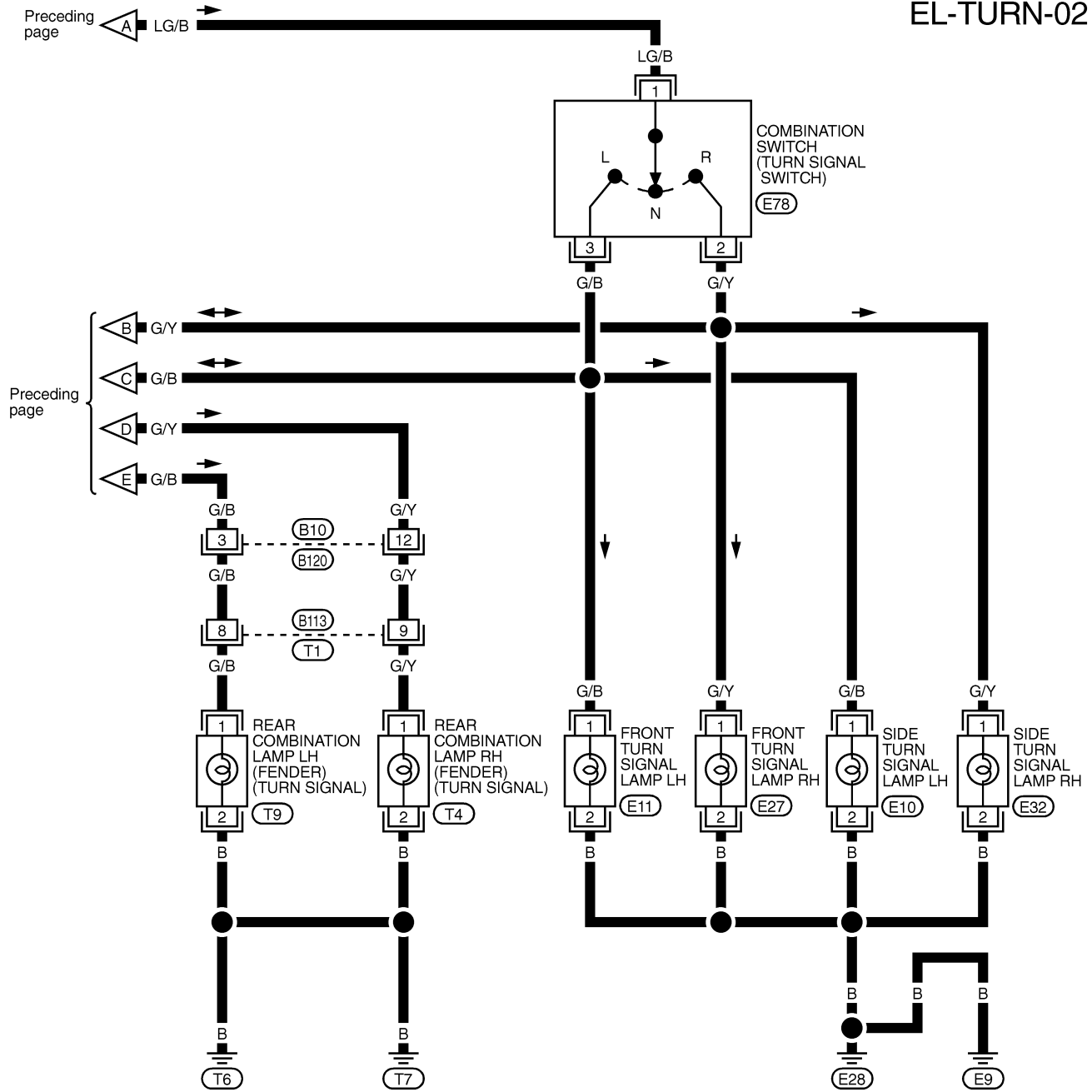
(E75) -SUPER MULTIPLE JUNCTION (SMJ)

(M2, M4) -FUSE BLOCK-JUNCTION BOX (J/B)

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

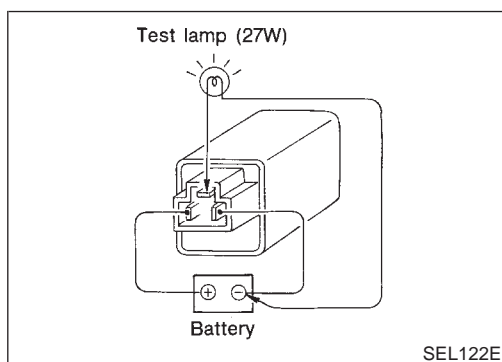
EL-TURN-02



Trouble Diagnoses

NCEL0033

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> 1. Hazard switch 2. Combination flasher unit 3. Open in combination flasher unit circuit 	<ol style="list-style-type: none"> 1. Check hazard switch. 2. Refer to combination flasher unit check. 3. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> 1. 7.5A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit 	<ol style="list-style-type: none"> 1. Check 7.5A fuse [No. 12, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check 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.	<ol style="list-style-type: none"> 1. 10A fuse 2. Hazard switch 3. Open in hazard switch circuit 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 20, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check 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.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds E9 and E28 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds E9 and E28.
Rear turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds T6 and T7 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds T6 and T7.
Side turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds E9 and E28 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds E9 and E28.
LH and RH turn indicators do not operate.	<ol style="list-style-type: none"> 1. Ground 	<ol style="list-style-type: none"> 1. Check grounds M15, M71 and M76.
LH or RH turn indicator does not operate.	<ol style="list-style-type: none"> 1. Bulb 	<ol style="list-style-type: none"> 1. Check bulb in combination meter.



Electrical Components Inspection COMBINATION FLASHER UNIT CHECK

NCEL0034

NCEL0034S01

- 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.

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ILLUMINATION

System Description

System Description

NCEL0035

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. 34, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 24, 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. 16, 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. 8, 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

NCEL0035S01

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 body grounds E9 and E28.

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

Component	Connector No.	Power terminal	Ground terminal
Illumination control switch	M29	1	3
Combination meter	M40	33, 37	34
A/T indicator	M48	3	4
Ashtray	M82	1	2
Grove box lamp	M67	1	2
IVCS switch	R9	2	12
Rear window defogger switch	M58	5	6
Power window main switch	D6, D10	17	12
Audio	M50	8	7
Hazard switch	M57	7	8
Push control unit	M53, M54	15	16
A/C auto amp.	M55	24	25

The ground for all of the components except for grove box lamp and ashtray are controlled through terminals 2 and 3 of the illumination control switch and body grounds M15, M71 and M76.

BATTERY SAVER CONTROL

NCEL0035S02

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

ILLUMINATION

System Description (Cont'd)

terminals 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.

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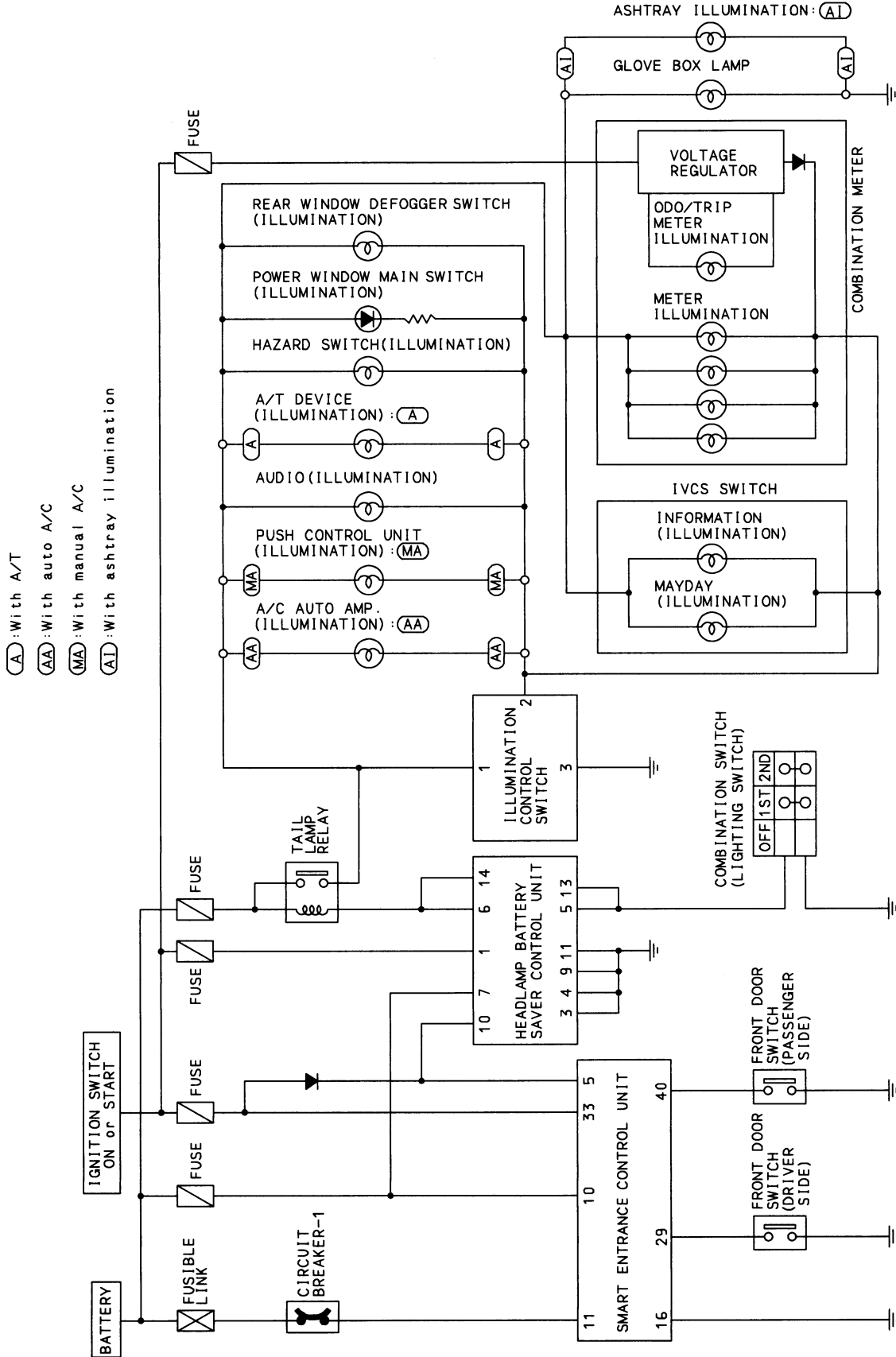
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ILLUMINATION

Schematic

NCEL0036

Schematic



TEL493B

ILLUMINATION

Wiring Diagram — ILL —

Wiring Diagram — ILL —

NCEL0037

EL-ILL-01

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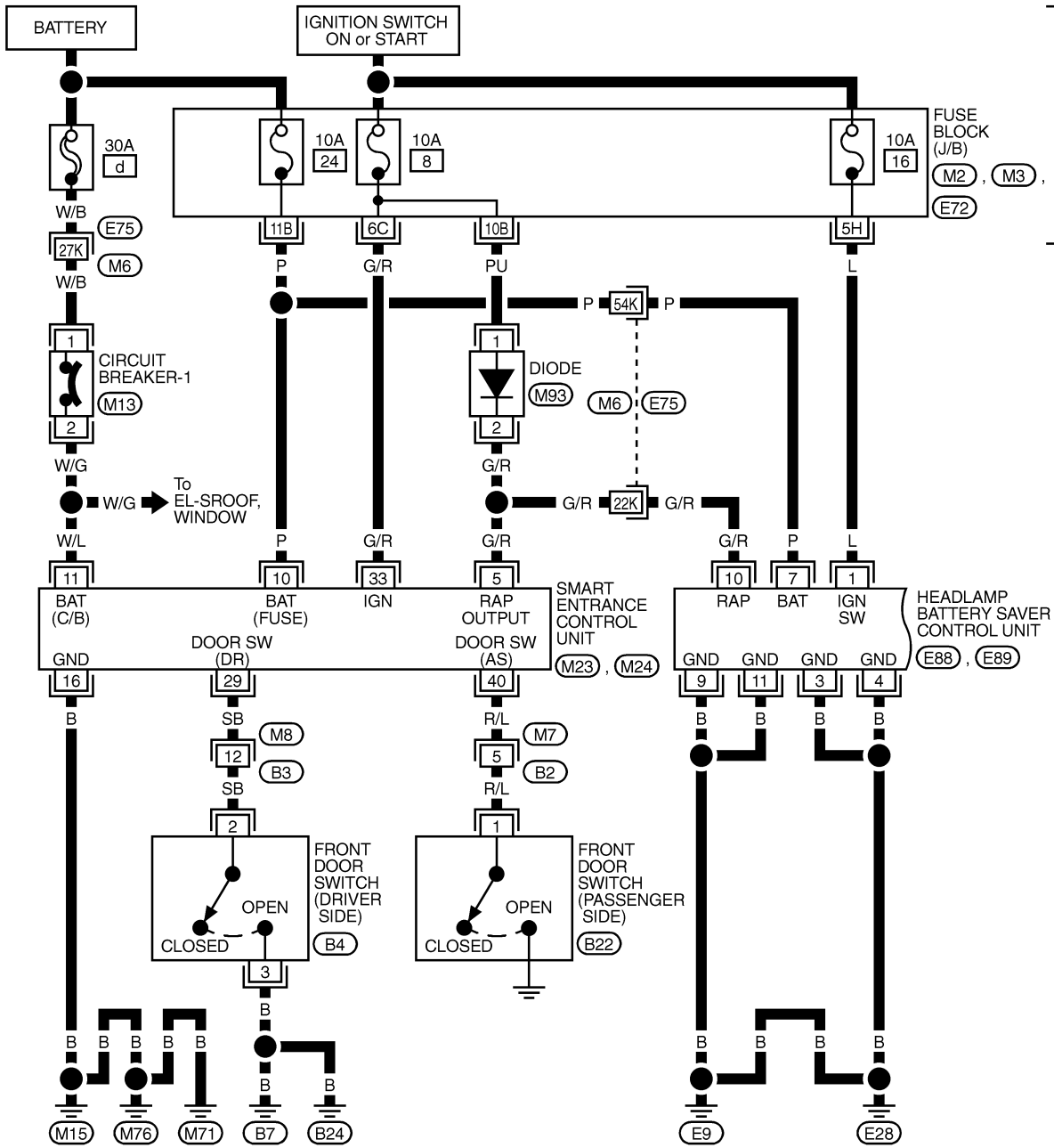
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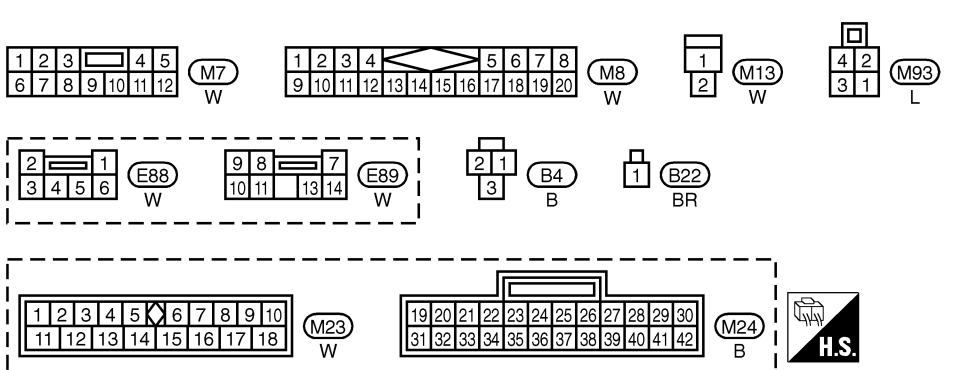
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Refer to EL-POWER.



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

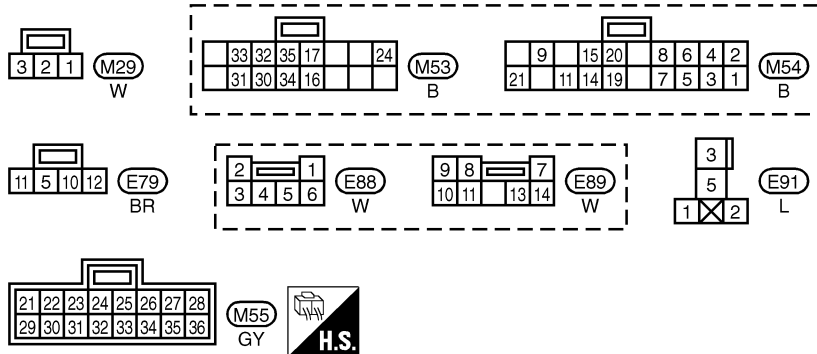
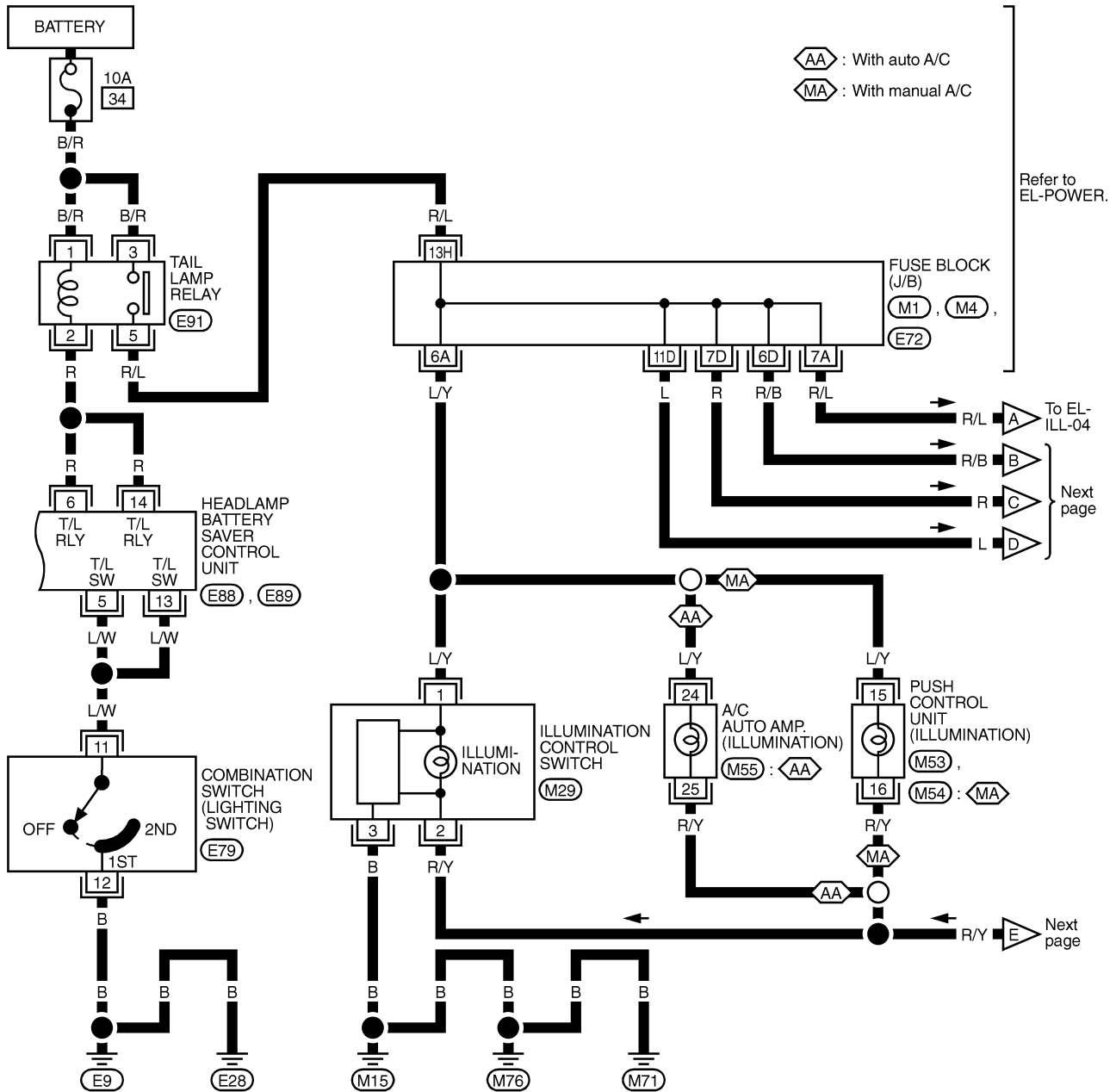


TEL494B

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02



REFER TO THE FOLLOWING.
M1, M4, E72 - FUSE BLOCK-JUNCTION BOX (J/B)

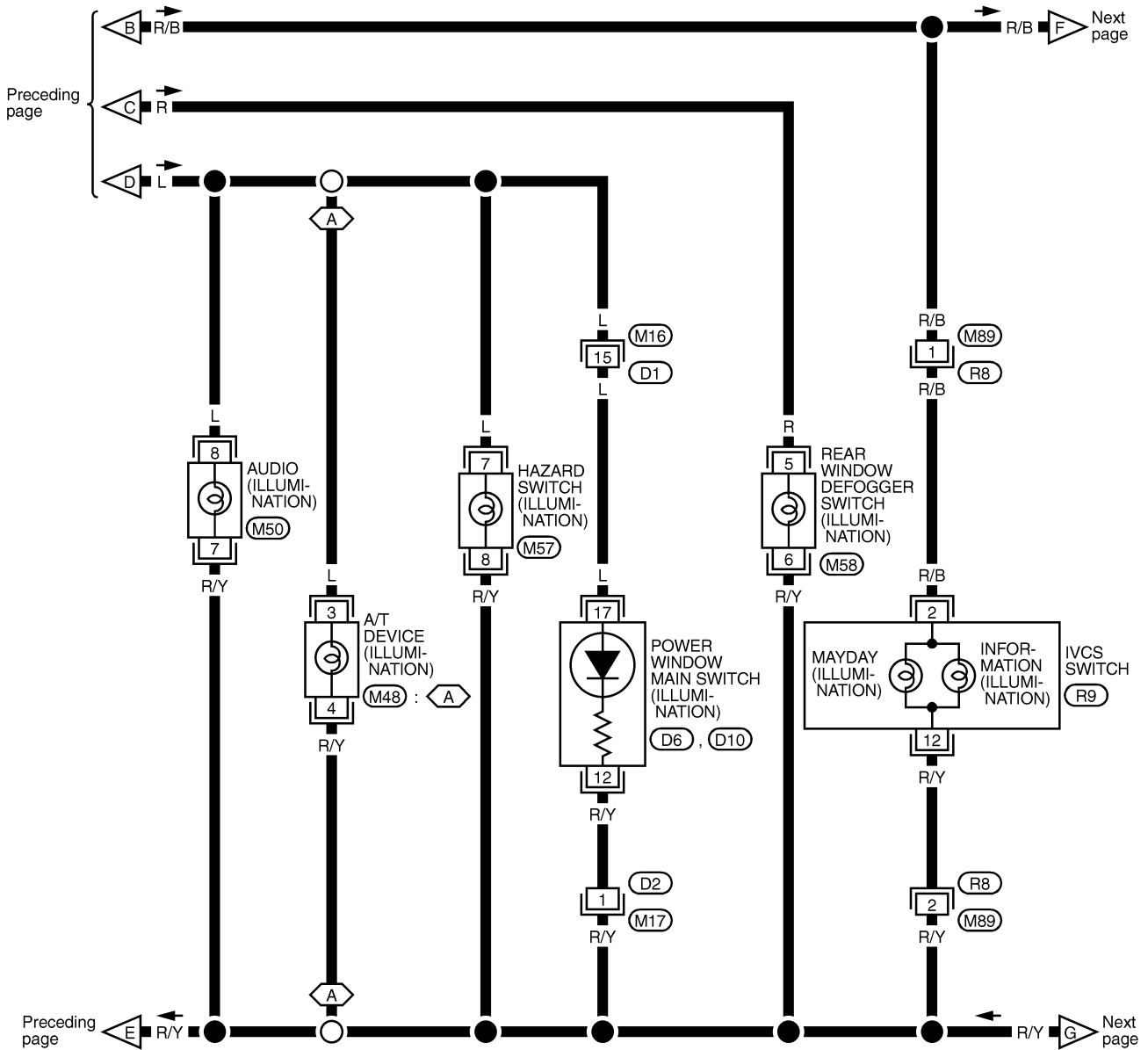
TEL495B

ILLUMINATION

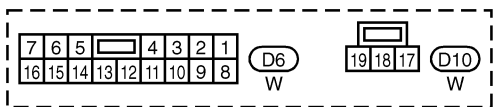
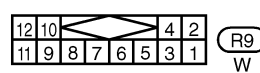
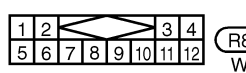
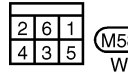
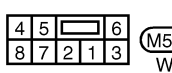
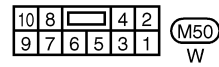
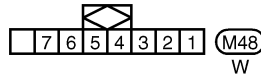
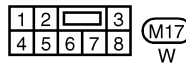
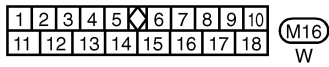
Wiring Diagram — ILL — (Cont'd)

EL-ILL-03

⬡ : With A/T



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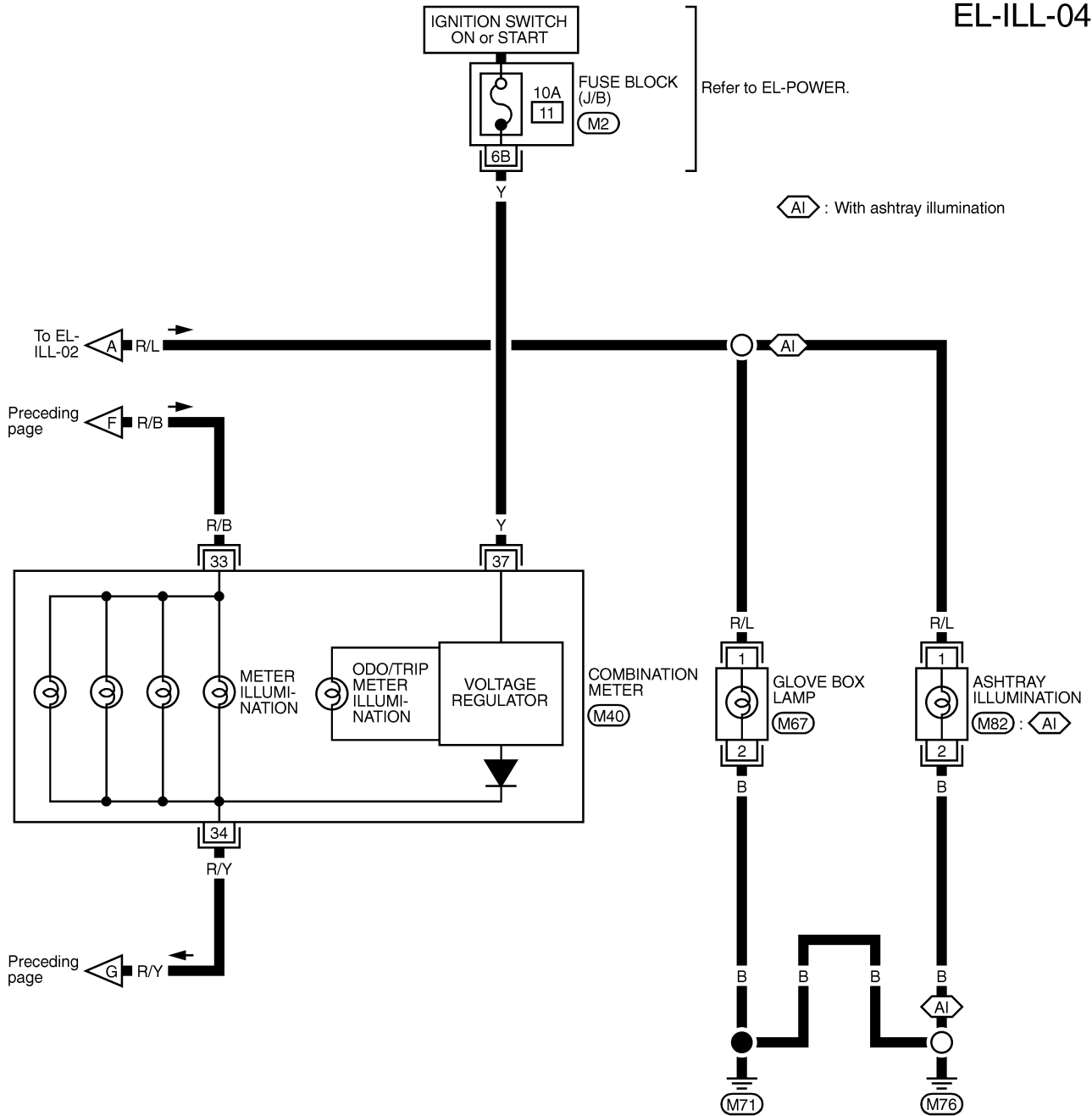


TEL496B

ILLUMINATION

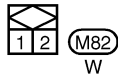
Wiring Diagram — ILL — (Cont'd)

EL-ILL-04



36	37	38	39	40	41	42		
27	28	29	30	31	32	33	34	35

M40
BR



REFER TO THE FOLLOWING.
M2 - FUSE BLOCK-JUNCTION BOX (J/B)

TEL497B

System Description

POWER SUPPLY AND GROUND

NCEL0162

NCEL0162S01

Power is supplied at all times:

- through 30A fusible link (Letter **d**, located in the fuse and fusible link box)
- to circuit breaker-1 terminal 1
- through circuit breaker-1 terminal 2
- to smart entrance control unit terminal 11.

GI

Power is supplied at all times:

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to key switch terminal 1 and
- to smart entrance control unit terminal 10.

MA

EM

LC

When the key is removed from ignition key cylinder, power is interrupted:

- through terminal key switch 2
- to smart entrance control unit terminal 32.

EC

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

FE

CL

Ground is supplied:

- to smart entrance control unit terminal 16
- through body grounds terminal M15, M71 and M76.

MT

When the front driver side door is opened, ground is supplied:

- through body grounds B7 and B24
- to front door switch (driver side) terminal 3
- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 29.

AT

AX

When the front passenger side door is opened, ground is supplied:

- through case ground of front door switch (passenger side)
- from front door switch (passenger side) terminal 1
- to smart entrance control unit terminal 40.

SU

When any other door (except front passenger side) is opened ground is supplied to smart entrance control unit terminal 28 in the same manner as the front door switch (front passenger side).

BR

When the driver side door is unlocked, the smart entrance control unit receives a ground signal:

- through body grounds terminal M15, M71 and M76
- to front door lock actuator (driver side) (unlock sensor) terminal 2
- from front door lock actuator (driver side) (unlock sensor) terminal 4
- to smart entrance control unit terminal 36.

ST

RS

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 room lamp terminal 2.

BT

HA

With power and ground supplied, the interior room lamp illuminates.

SWITCH OPERATION

NCEL0162S03

When the room lamp switch is ON, ground is supplied:

- through case grounds of interior room lamp
- from interior room lamp terminal 1
- to smart entrance control unit terminal 17.

SC

EL

When the map lamp (LH and/or RH) is ON, ground is supplied:

- through body grounds M15, M71 and M76
- to map lamp terminal 2
- from map lamp terminal 1
- to smart entrance control unit terminal 17.

IDX

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

INTERIOR ROOM LAMP

System Description (Cont'd)

INTERIOR ROOM LAMP TIMER OPERATION

NCEL0162S04

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 removed from ignition key cylinder
- key is removed from ignition key cylinder while all doors are closed
- driver's door is opened and then closed while key is removed from the ignition 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.)

When the interior lamp switch is in the "DOOR" position and the unlock signal is supplied from the multi-remote controller while the driver's door is locked and all doors are closed (even if key is inserted), the smart entrance control unit keeps the interior lamp illuminated for about 30 seconds.

The timer is canceled when:

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

ON-OFF CONTROL

NCEL0162S05

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.

BATTERY SAVER

NCEL0162S06

The lamp turns off automatically when interior lamp, and/or map lamp 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 inserted in ignition key cylinder.

INTERIOR ROOM LAMP

Wiring Diagram — ROOM/L —

Wiring Diagram — ROOM/L —

NCEL0163

EL-ROOM/L-01

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

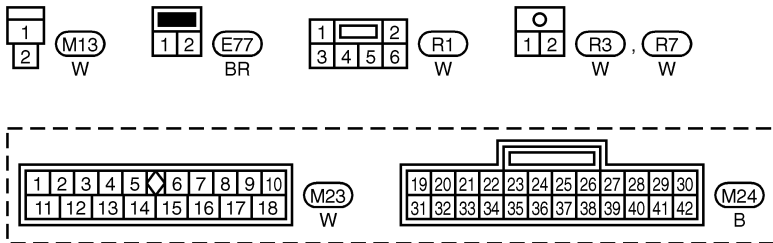
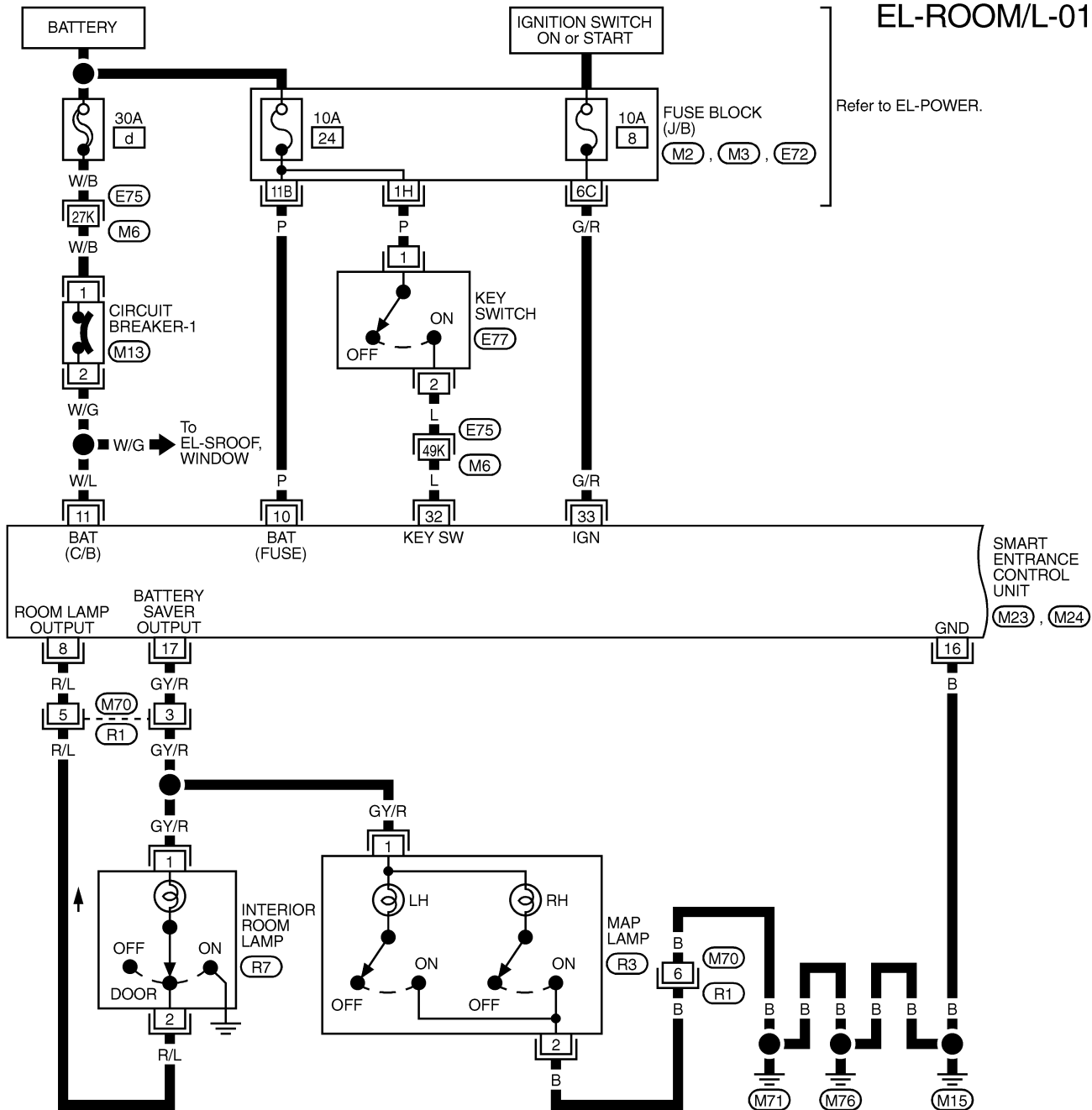
BT

HA

SC

EL

IDX

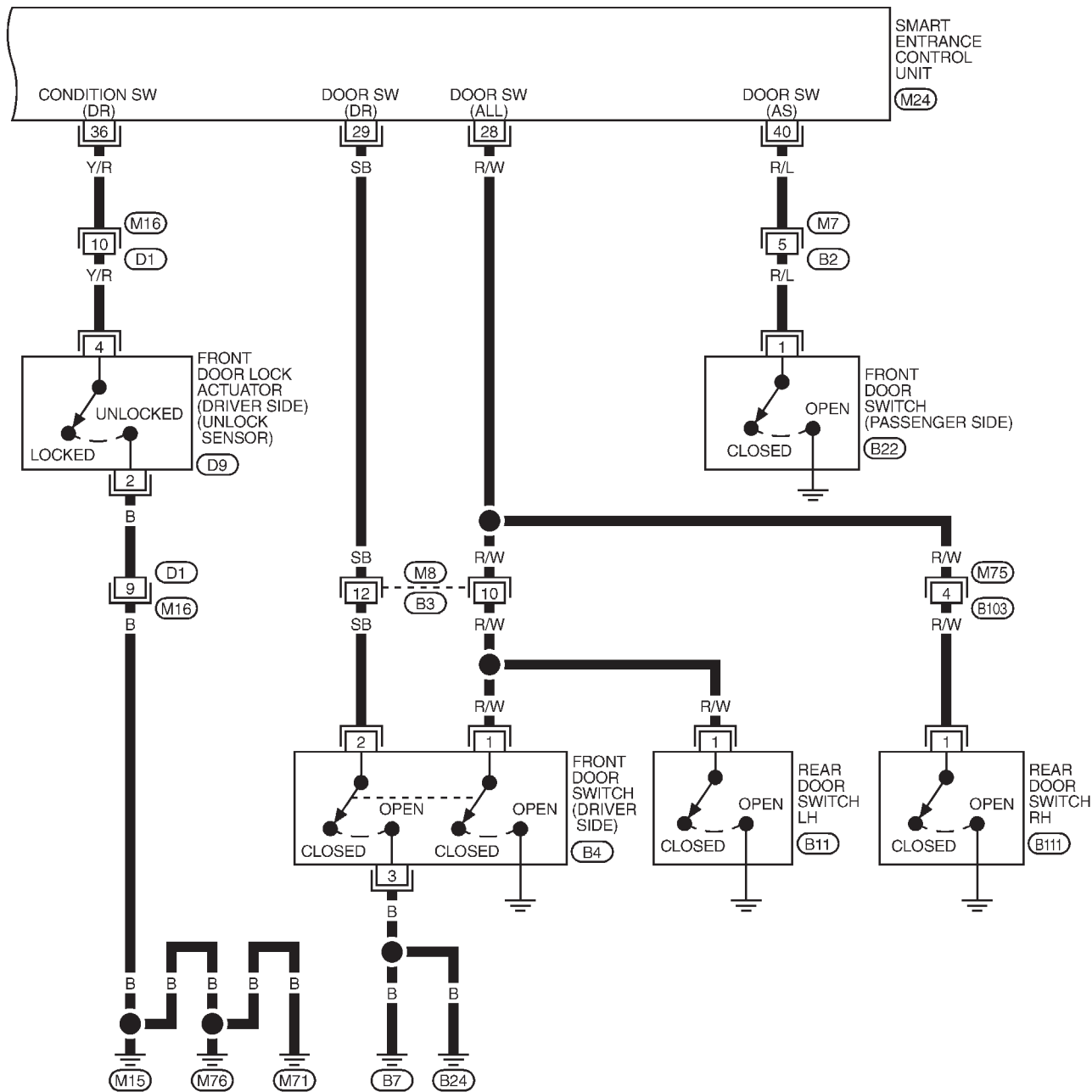


REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

INTERIOR ROOM LAMP

Wiring Diagram — ROOM/L — (Cont'd)

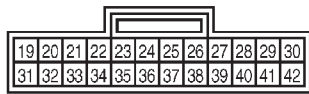
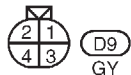
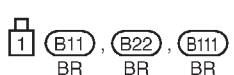
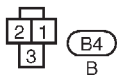
EL-ROOM/L-02



1	2	3	4	5
6	7	8	9	10

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

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



TEL898A

System Description

TRUNK ROOM LAMP

NCEL0038

NCEL0038S01

Power is supplied at all times

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to trunk room lamp terminal 1,

With trunk room lamp switch ON, ground is supplied to turn trunk room lamp ON.

When trunk room lamp switch is opened, ground is supplied to trunk room lamp terminal 2 through body grounds B109 and B110.

VANITY MIRROR LAMP

NCEL0038S04

Power is supplied at all times

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to each vanity mirror lamp terminal 1.

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

GI

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EM

LC

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AT

AX

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BR

ST

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BT

HA

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EL

IDX

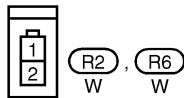
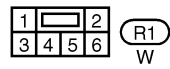
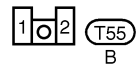
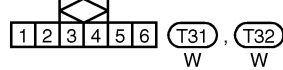
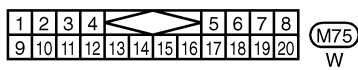
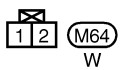
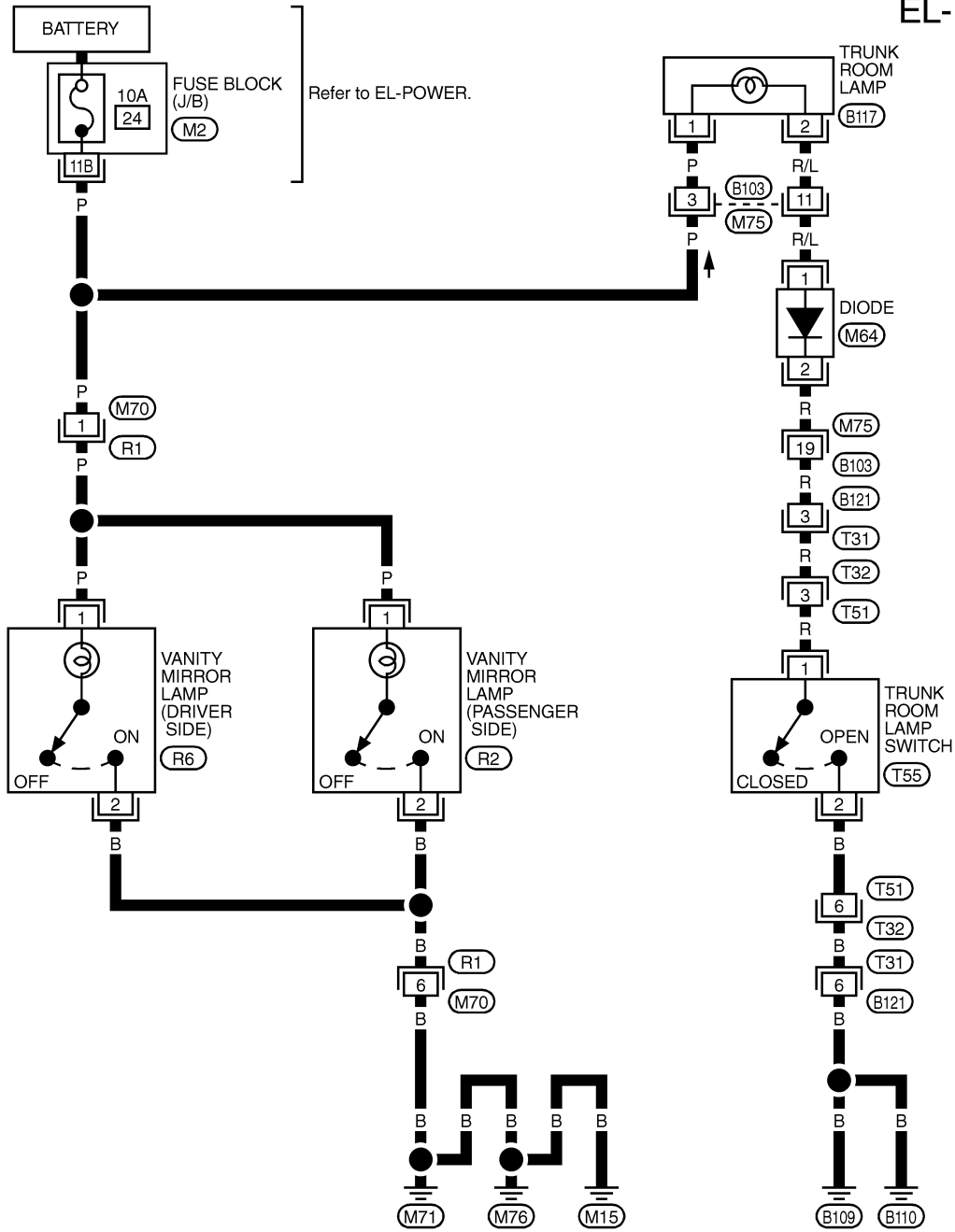
VANITY MIRROR AND TRUNK ROOM LAMPS

Wiring Diagram — INT/L —

Wiring Diagram — INT/L —

NCEL0040

EL-INT/L-01



REFER TO THE FOLLOWING.
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

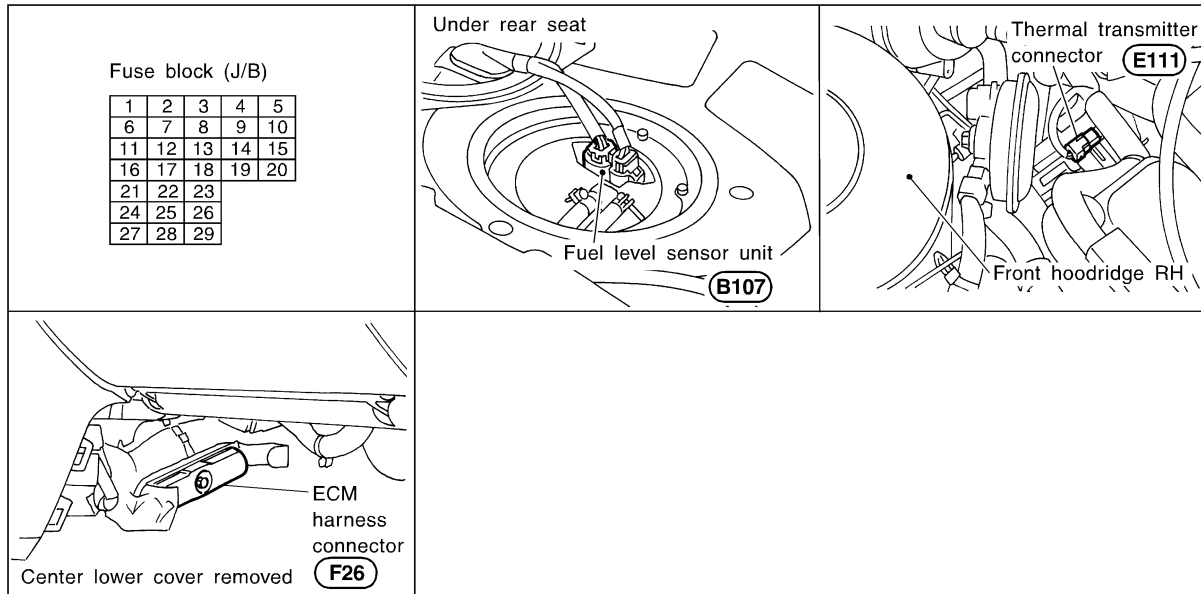
TEL499B

METERS AND GAUGES

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0041



SEL832VA

System Description

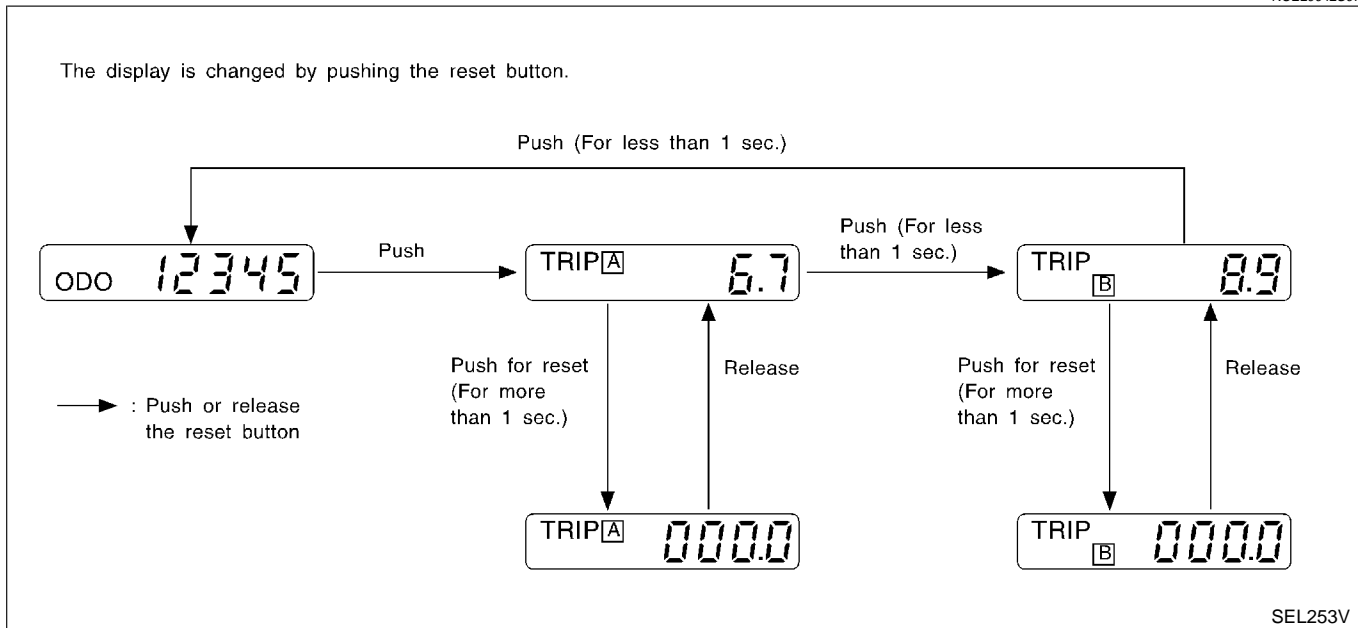
NCEL0042

UNIFIED CONTROL METER

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

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

NCEL0042S07



NOTE:

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

METERS AND GAUGES

System Description (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT

NCEL0042S08

Power is supplied at all times

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to combination meter terminal 1.

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

- through 10A fuse [No. 11, located in the fuse block (J/B)]
- to combination meter terminal 37.

Ground is supplied

- to combination meter terminal 3
- through body grounds M15, M71 and M76.

WATER TEMPERATURE GAUGE

NCEL0042S01

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

TACHOMETER

NCEL0042S02

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

The tachometer is regulated by a signal

- from terminal 32 of the ECM
- to combination meter terminal 16 for the tachometer.

FUEL GAUGE

NCEL0042S03

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 6 for the fuel gauge
- from terminal 4 of the fuel level sensor unit
- through terminal 1 of the fuel level sensor unit and
- through body grounds B109 and B110.

SPEEDOMETER

NCEL0042S04

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.

The speedometer converts the voltage into the vehicle speed displayed.

METERS AND GAUGES

Combination Meter

Combination Meter

NCEL0043

U : ABS U : BRAKE
C : (ABS) C : (BRAKE)

U : For U.S.A.
C : For Canada

GI

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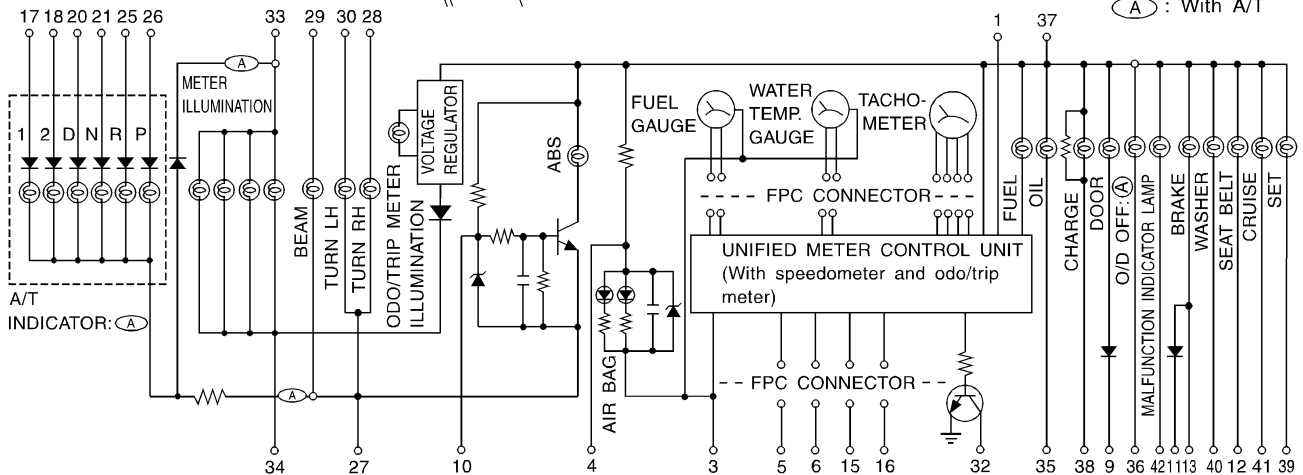
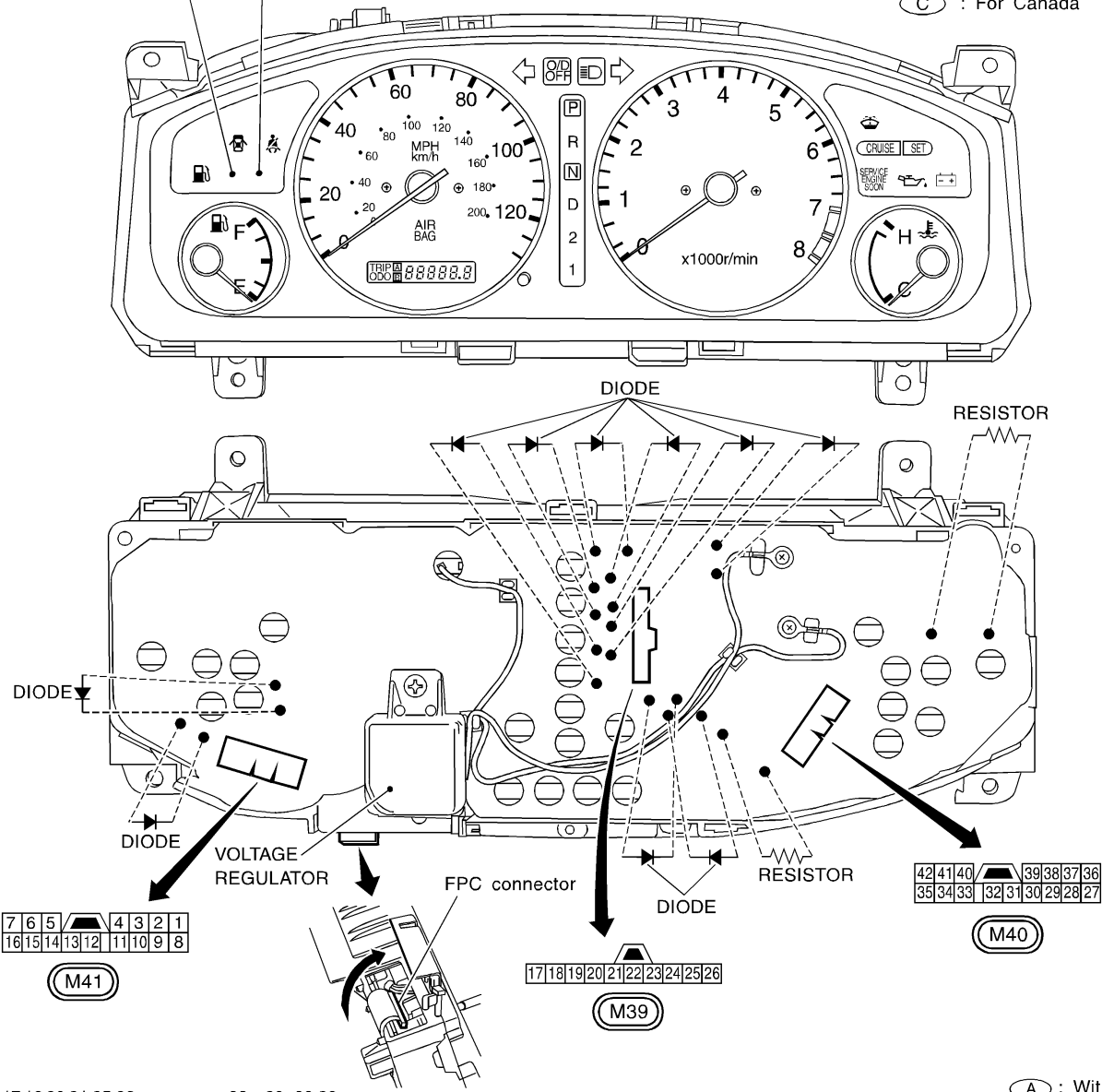
BT

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IDX



CEL266A

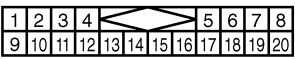
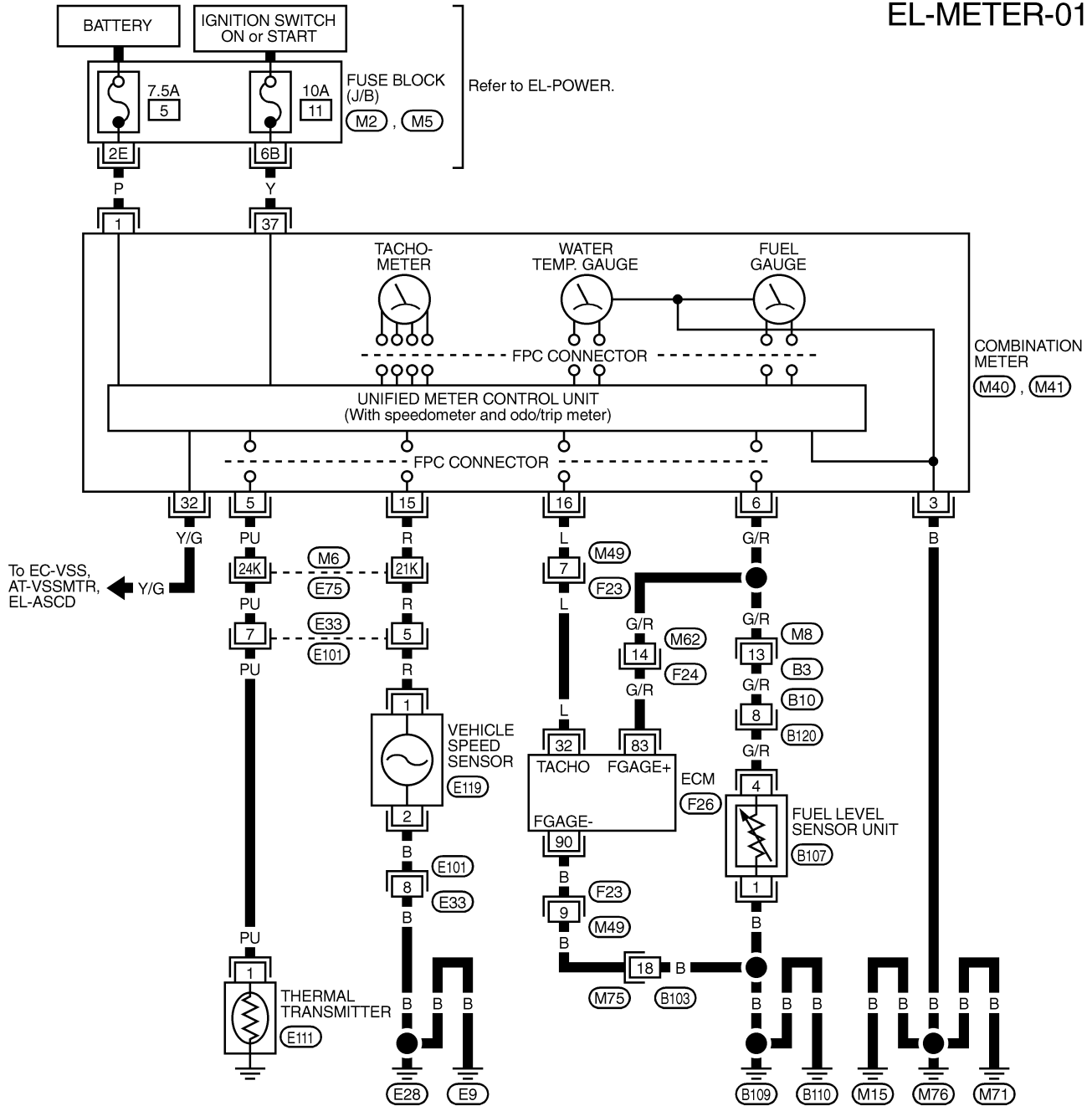
METERS AND GAUGES

Wiring Diagram — METER —

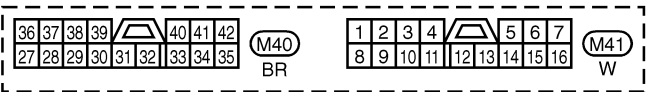
Wiring Diagram — METER —

NCEL0045

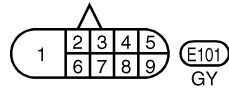
EL-METER-01



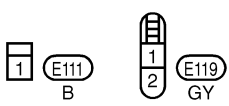
(M8), (M75), (F24)
W W W



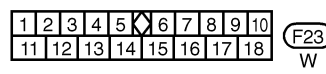
(M40) BR W (M41) W



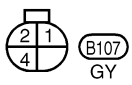
(E101)
GY



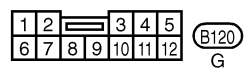
(E111) B (E119) GY



(F23) W



(B107) GY



(B120) G

REFER TO THE FOLLOWING.

- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M2), (M5) -FUSE BLOCK-JUNCTION BOX (J/B)
- (F26) -ELECTRICAL UNITS

TEL500B

METERS AND GAUGES

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

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

NCEL0151

GI

DIAGNOSIS FUNCTION

NCEL0151S01

MA

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

HOW TO ALTERNATE DIAGNOSIS MODE

NCEL0151S02

EM

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

LC

EC

FE

CL

MT

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

NOTE:

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

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

AT

AX

SU

BR

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.

ST

NOTE:

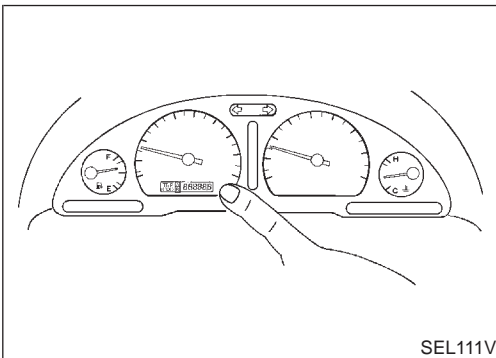
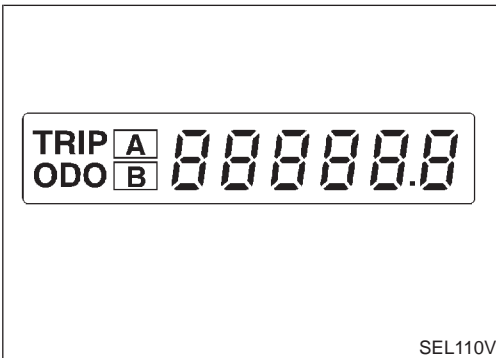
It takes about 1 minute for indication of fuel gauge to become stable.

RS

BT

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IDX

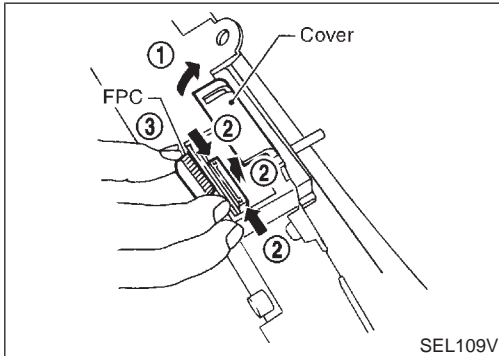
METERS AND GAUGES

Flexible Print Circuit (FPC)

Flexible Print Circuit (FPC)

=NCEL0152

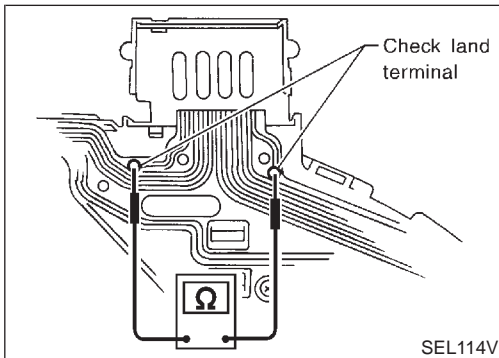
Tachometer, fuel gauge and water temperature gauge are connected with unified meter control unit (speedometer) by Flexible Print Circuit (FPC) connector. When replace or remove and install unified control unit (speedometer), disconnect and connect FPC connector according to the following steps.



DISCONNECT

NCEL0152S01

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



CONNECT

NCEL0152S02

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

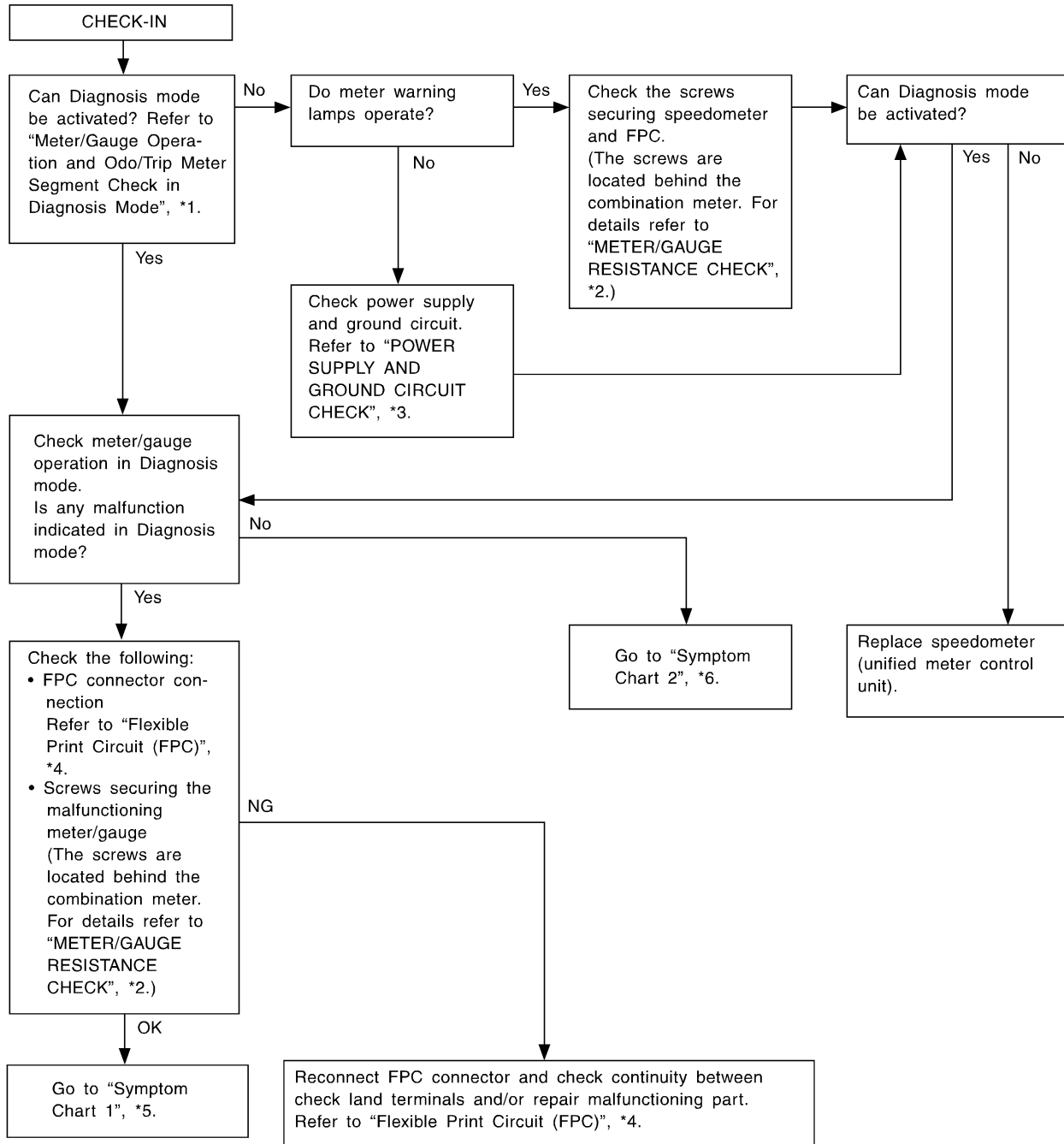
Resistance: 0Ω

4. Close connector cover.

Trouble Diagnoses PRELIMINARY CHECK

NCEL0046

NCEL0046S04



MEL474HB

*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-87)
*2: METER/GAUGE RESISTANCE CHECK (EL-96)

*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-91)
*4: Flexible Print Circuit (FPC) (EL-88)

*5: Symptom Chart 1 (EL-90)
*6: Symptom Chart 2 (EL-90)

GI
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IDX

METERS AND GAUGES

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NCEL0046S10

NCEL0046S1001

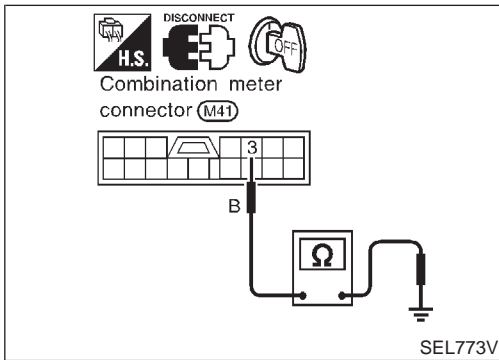
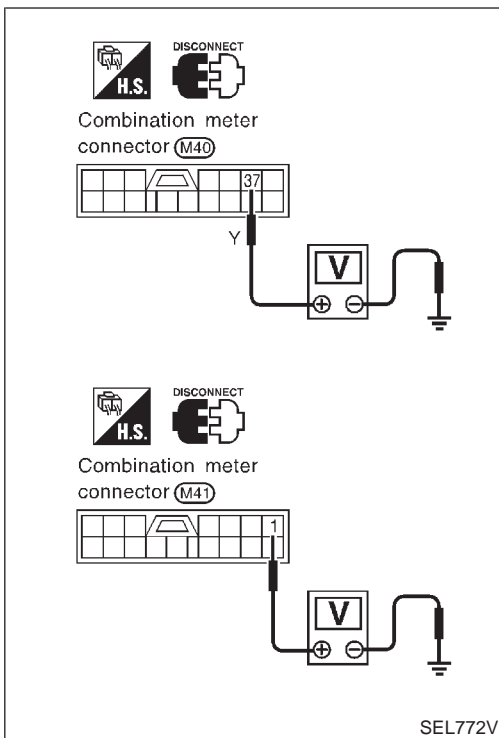
Symptom	Possible causes	Repair order
Speedometer and/or odo/trip meter indicate(s) malfunction in Diagnosis mode.	<ul style="list-style-type: none"> Speedometer (Unified meter control unit) 	<ul style="list-style-type: none"> Replace speedometer (unified meter control unit).
Multiple meter/gauge indicate malfunction in Diagnosis mode.		
One of tachometer/fuel gauge/water temp. gauge indicates malfunction in Diagnosis mode.	<ul style="list-style-type: none"> Meter/Gauge Speedometer (Unified meter control unit) 	<ol style="list-style-type: none"> Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-96. If the resistance is OK, replace speedometer (unified meter control unit).

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

NCEL0046S1002

Symptom	Possible causes	Repair order
Speedometer and odo/trip meter are malfunctioning.	<ol style="list-style-type: none"> Sensor <ul style="list-style-type: none"> Speedometer, Odo/Trip meter FPC connector Speedometer (Unified meter control unit) 	<ol style="list-style-type: none"> Check vehicle speed sensor. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-92.) Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-88. Replace speedometer (unified meter control unit).
Multiple meter/gauge are malfunctioning. (except speedometer, odo/trip meter)	<ol style="list-style-type: none"> FPC connector Speedometer (Unified meter control unit) 	<ol style="list-style-type: none"> Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-88. Replace speedometer (unified meter control unit).
One of tachometer/fuel gauge/water temp. gauge is malfunctioning.	<ol style="list-style-type: none"> Sensor/Engine revolution signal <ul style="list-style-type: none"> Tachometer Fuel gauge Water temp. gauge FPC connector Speedometer (Unified meter control unit) 	<ol style="list-style-type: none"> Check the sensor for malfunctioning meter/gauge. INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-93.) INSPECTION/FUEL LEVEL SENSOR UNIT (Refer to EL-94.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-95.) Check FPC connector. Refer to "Flexible Print Circuit (FPC)", EL-88. Replace speedometer (unified meter control unit).

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-89.



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NCEL0046S07

Power Supply Circuit Check

NCEL0046S0701

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

If NG, check the following.

- 7.5A fuse [No. 5, located in fuse block (J/B)]
- 10A fuse [No. 11, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter

Ground Circuit Check

NCEL0046S0702

Terminals	Continuity
3 - Ground	Yes

GI
MA
EM
LC
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MT
AT
AX
SU
BR
ST
RS
BT
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SC
EL
IDX

METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/VEHICLE SPEED SENSOR

=NCEL0046S03

1	CHECK VEHICLE SPEED SENSOR OUTPUT		
<p>1. Remove vehicle speed sensor from transmission. 2. Check voltage between combination meter terminal 15 and ground while quickly turning speed sensor pinion.</p>			
SEL176X			
OK or NG			
OK	▶	Vehicle speed sensor is OK.	
NG	▶	GO TO 2.	

2	CHECK VEHICLE SPEED SENSOR		
<p>Check resistance between vehicle speed sensor terminals 1 and 2.</p>			
SEL776V			
Resistance: Approx. 250Ω			
OK or NG			
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Harness or connector between speedometer and vehicle speed sensor ● Harness between vehicle speed sensor and ground 	
NG	▶	Replace vehicle speed sensor.	

METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/ENGINE REVOLUTION SIGNAL

NCEL0046S02

1	CHECK ECM OUTPUT	<p>1. Start engine. 2. Check voltage between combination meter terminals 16 and ground at idle and 2,000 rpm.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL775VA</p> <p>Higher rpm = Higher voltage Lower rpm = Lower voltage Voltage should change with rpm.</p> <p style="text-align: center;">OK or NG</p>	GI MA EM LC EC FE CL MT AT AX SU BR ST RS BT HA SC
OK	▶	Engine revolution signal is OK.	
NG	▶	Harness for open or short between ECM and combination meter	

EL

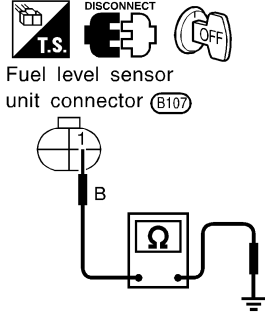
IDX

METERS AND GAUGES

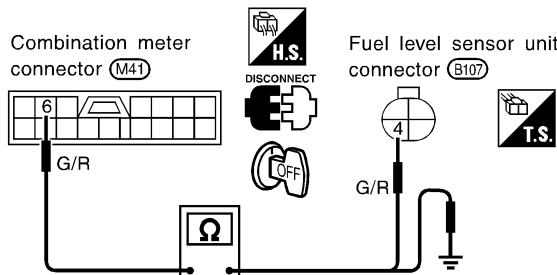
Trouble Diagnoses (Cont'd)

INSPECTION/FUEL LEVEL SENSOR UNIT

=NCEL0046S08

1	CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT	
Check harness continuity between fuel level sensor unit terminal 1 and ground.		
 <p>Fuel level sensor unit connector (B107)</p>		
SEL777VA		
Yes or No		
Yes	▶	GO TO 2.
No	▶	Repair harness or connector.

2	CHECK SENSOR UNITS	
Refer to "FUEL LEVEL SENSOR UNIT CHECK" (EL-96).		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Replace fuel level sensor unit.

3	CHECK HARNESS FOR OPEN OR SHORT	
<ol style="list-style-type: none"> 1. Disconnect combination meter connector and fuel level sensor unit connector. 2. Check continuity between combination meter terminal 6 and fuel level sensor unit terminal 4. Continuity should exist. 3. Check continuity between combination meter terminal 6 and ground. Continuity should not exist. 		
 <p>Combination meter connector (M41)</p> <p>Fuel level sensor unit connector (B107)</p>		
SEL778VA		
OK or NG		
OK	▶	Fuel level sensor unit is OK.
NG	▶	Repair harness or connector.

METERS AND GAUGES

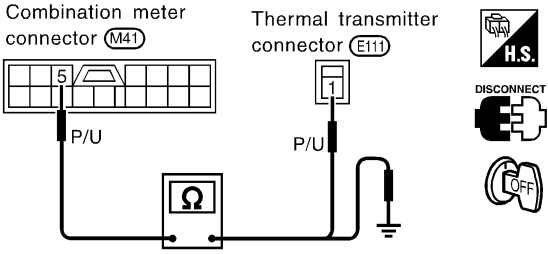
Trouble Diagnoses (Cont'd)

INSPECTION/THERMAL TRANSMITTER

=NCEL0046S09

1	CHECK THERMAL TRANSMITTER	
Refer to "THERMAL TRANSMITTER CHECK" (EL-97).		
OK or NG		
OK	▶	GO TO 2.
NG	▶	Replace.

GI
MA
EM

2	CHECK HARNESS FOR OPEN OR SHORT	
<p>1. Disconnect combination meter connector and thermal transmitter connector.</p> <p>2. Check continuity between combination meter terminal 5 and thermal transmitter terminal 1. Continuity should exist.</p> <p>3. Check continuity between combination meter terminal 5 and ground. Continuity should not exist.</p>		
		
SEL779VA		
OK or NG		
OK	▶	Thermal transmitter is OK.
NG	▶	Repair harness or connector.

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METERS AND GAUGES

Electrical Components Inspection

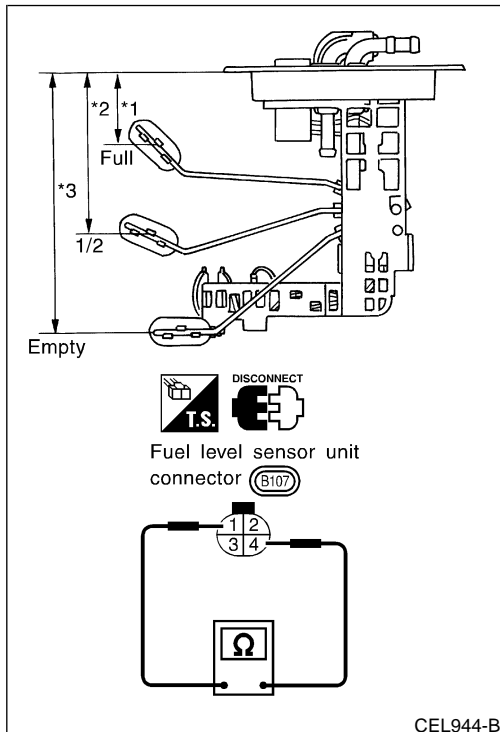
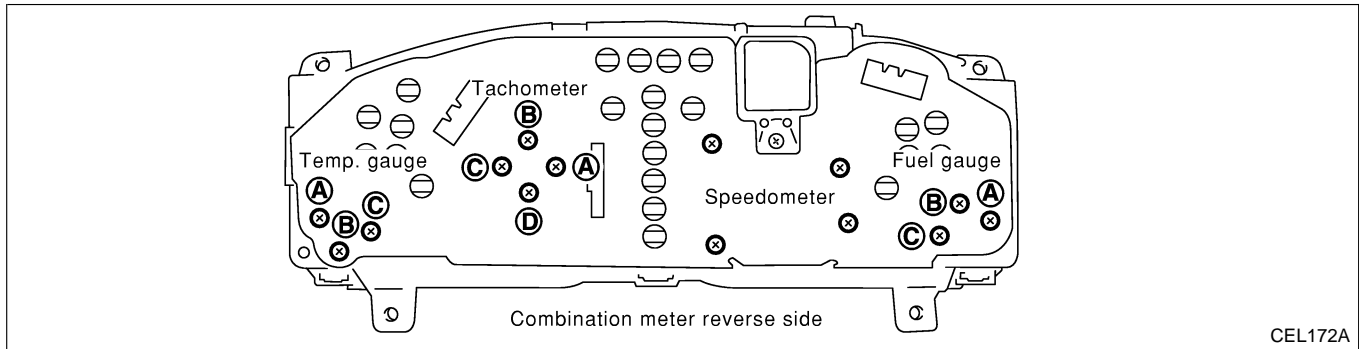
=NCEL0047

METER/GAUGE RESISTANCE CHECK

NCEL0047S04

1. Disconnect FPC connector. Refer to "Flexible Print Circuit (FPC)" (EL-88).
2. Check resistance between installation screws of meter/gauge after removing meter/gauge.

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



FUEL LEVEL SENSOR UNIT CHECK

NCEL0047S01

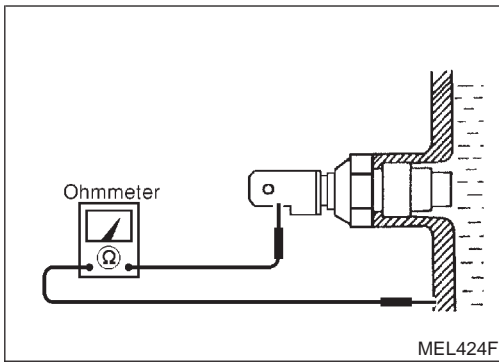
- For removal, refer to FE section.
- Check the resistance between terminals 4 and 1.

Ohmmeter		Float position		mm (in)	Resistance value Ω
(+)	(-)				
4	1	*1	Full	45 (1.77)	Approx. 4 - 6
		*2	1/2	101 (3.98)	30 - 34
		*3	Empty	160 (6.30)	80 - 83

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

METERS AND GAUGES

Electrical Components Inspection (Cont'd)

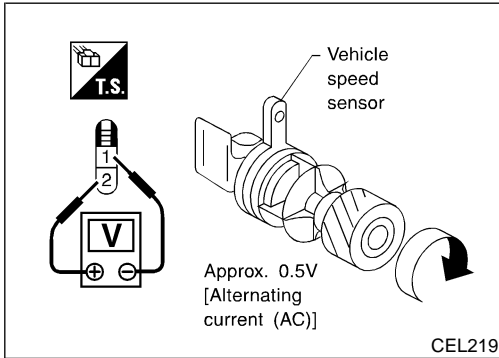


THERMAL TRANSMITTER CHECK

NCEL0047S02

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

NCEL0047S03

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

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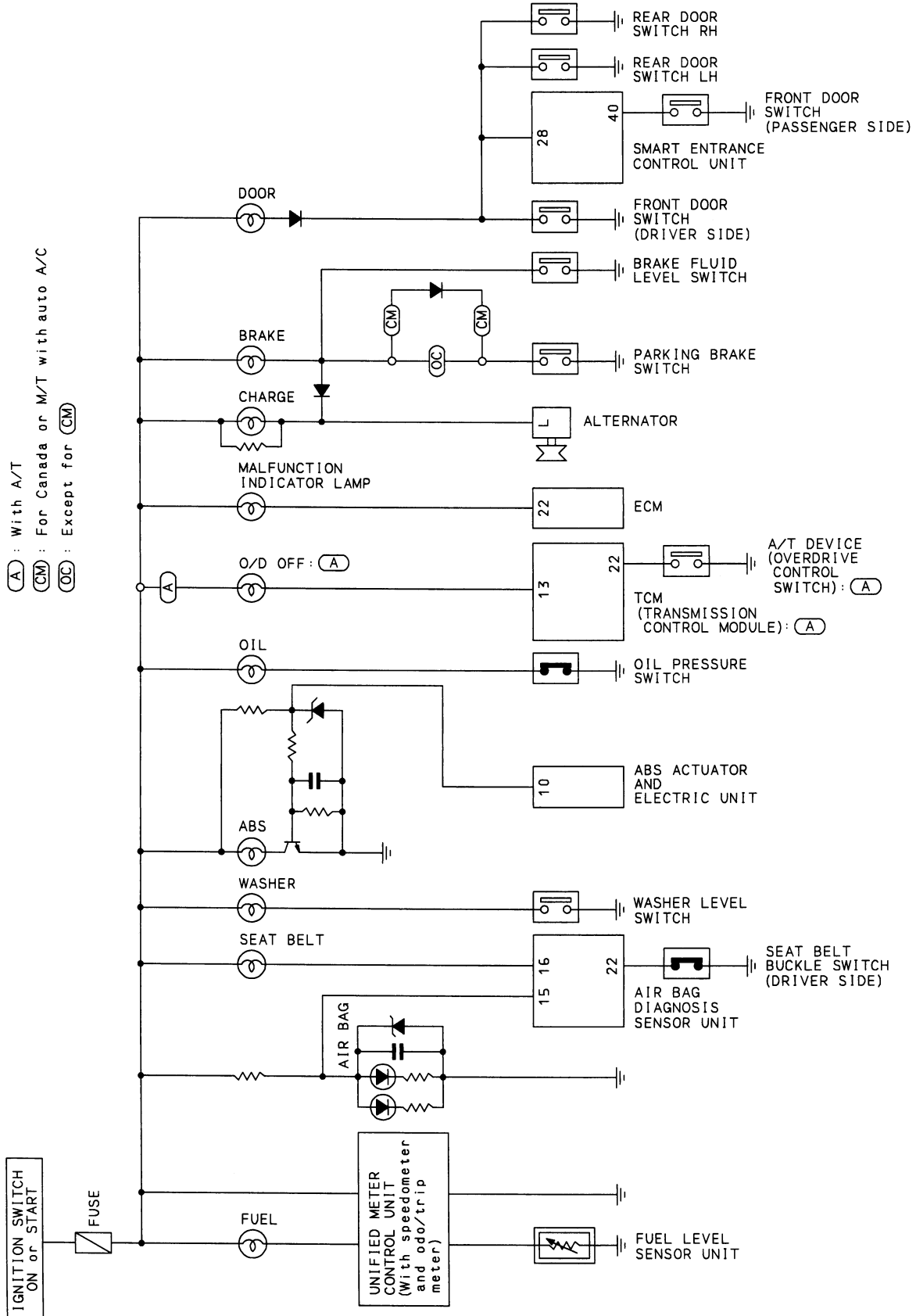
IDX

WARNING LAMPS

Schematic

NCEL0049

Schematic



TEL691B

WARNING LAMPS

Wiring Diagram — WARN —

Wiring Diagram — WARN —

NCEL0050

EL-WARN-01

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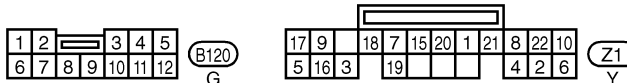
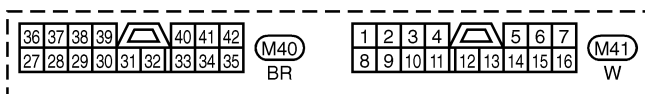
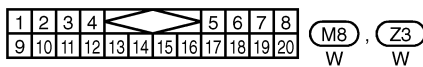
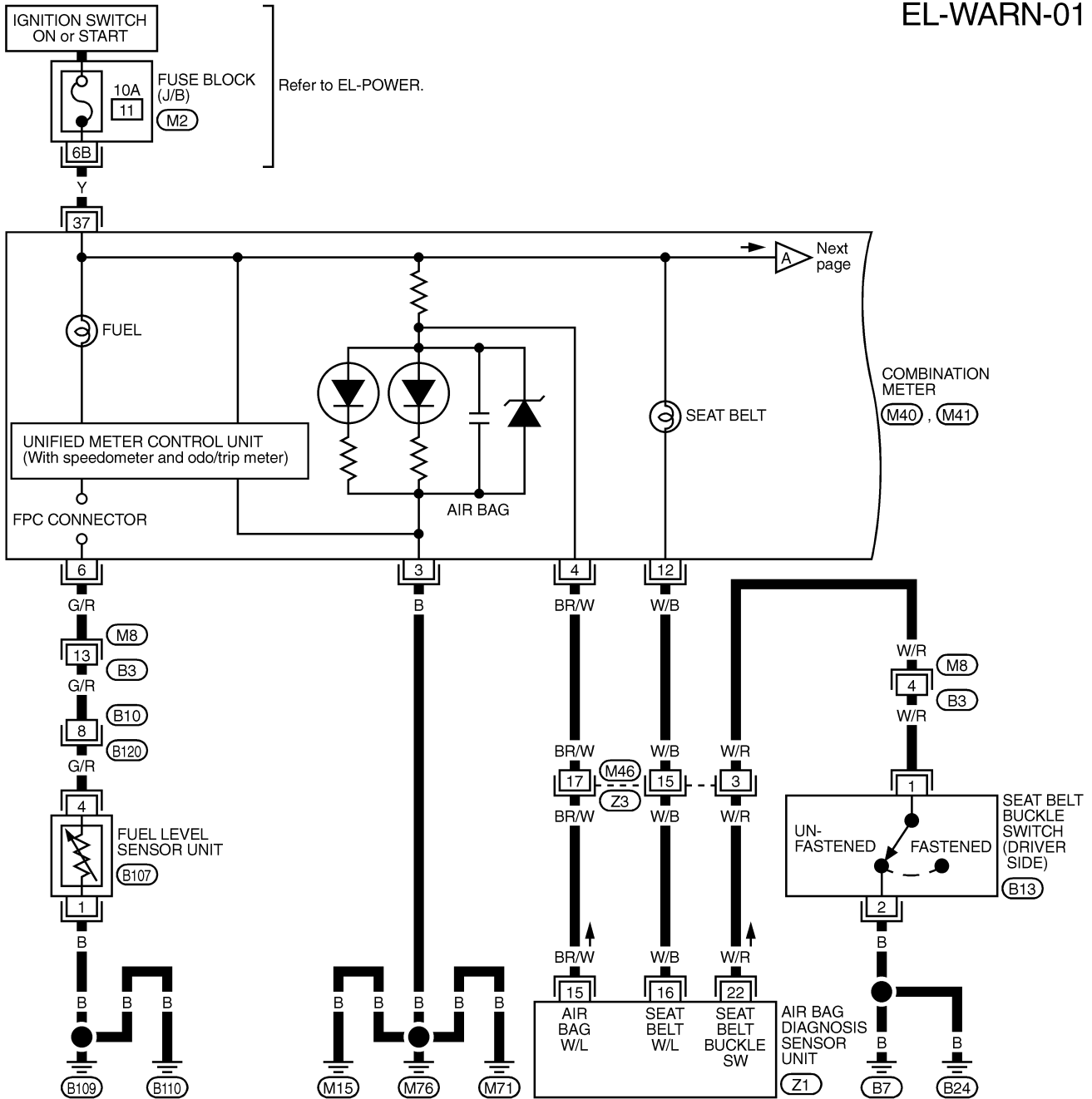
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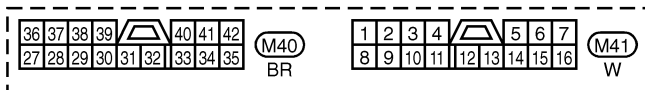
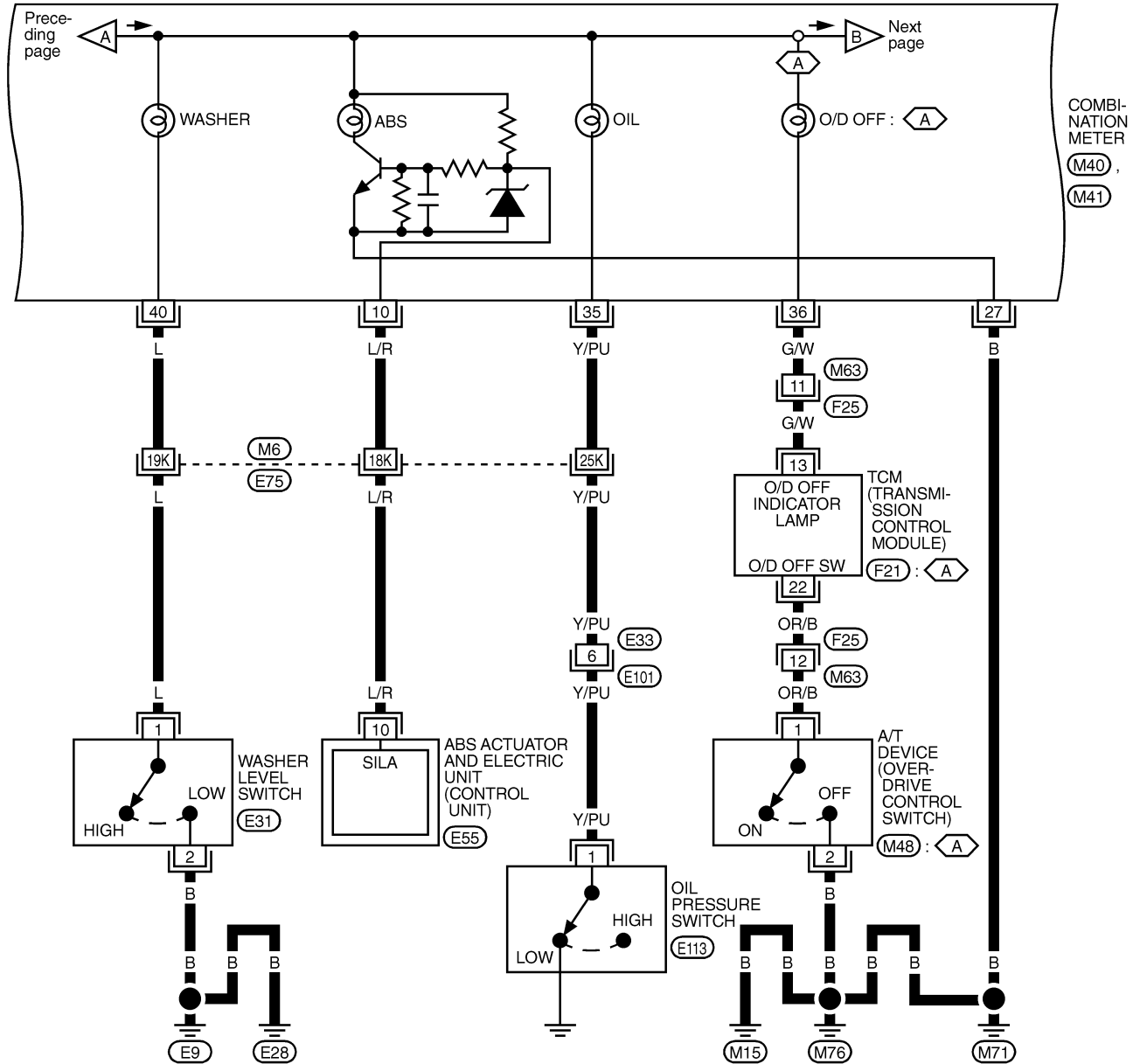
REFER TO THE FOLLOWING.
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

WARNING LAMPS

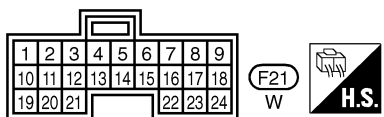
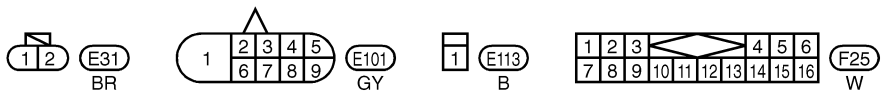
Wiring Diagram — WARN — (Cont'd)

EL-WARN-02

(A) : With A/T



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (E55) -ELECTRICAL UNITS

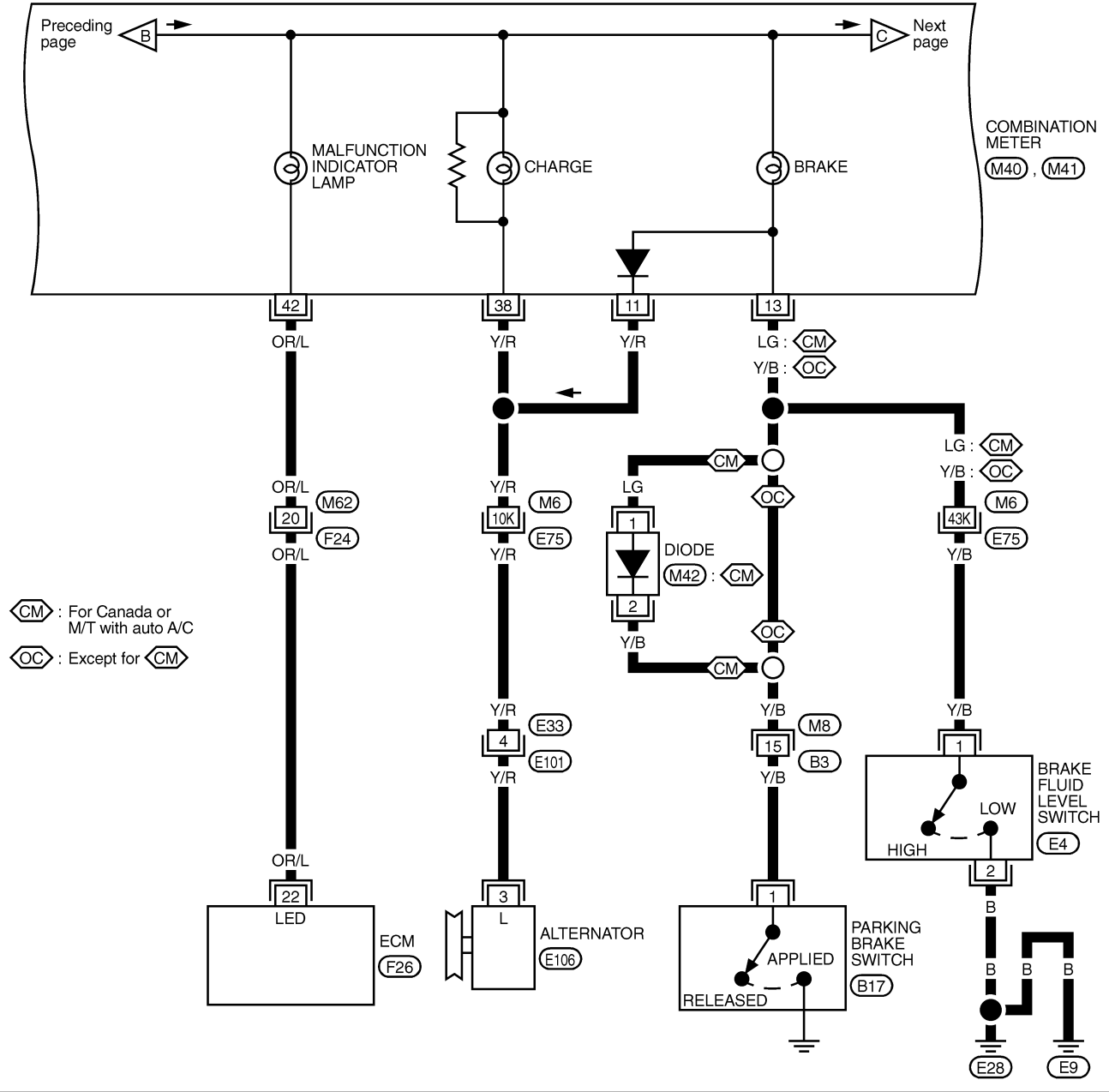


TEL692B

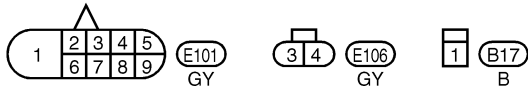
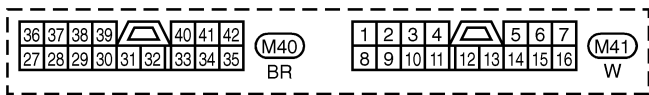
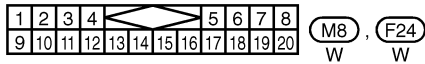
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



: For Canada or M/T with auto A/C
 : Except for



REFER TO THE FOLLOWING.

-SUPER MULTIPLE JUNCTION (SMJ)

-ELECTRICAL UNITS

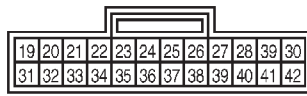
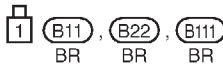
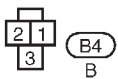
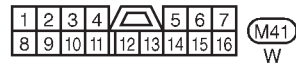
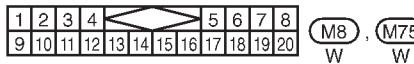
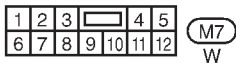
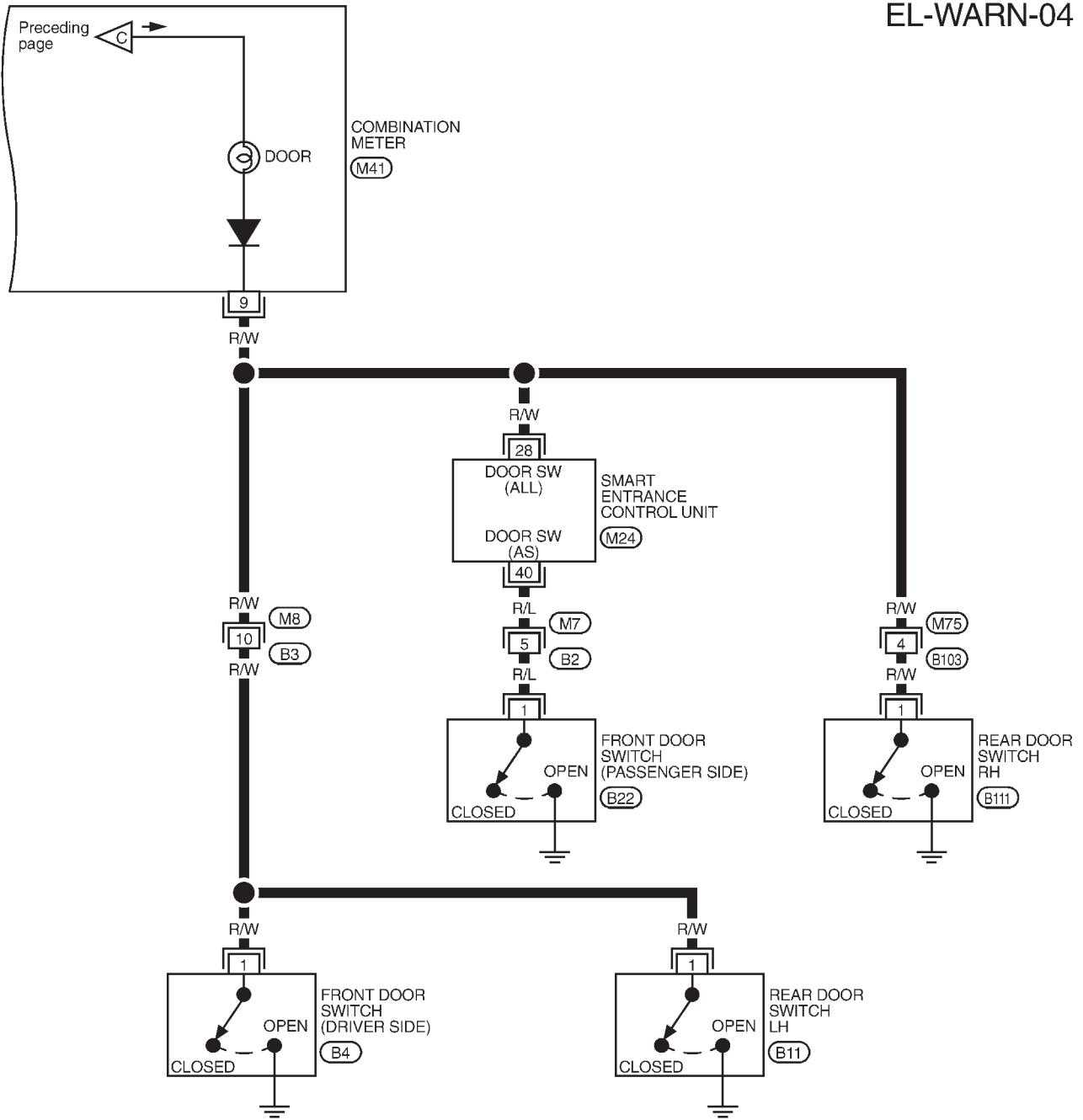
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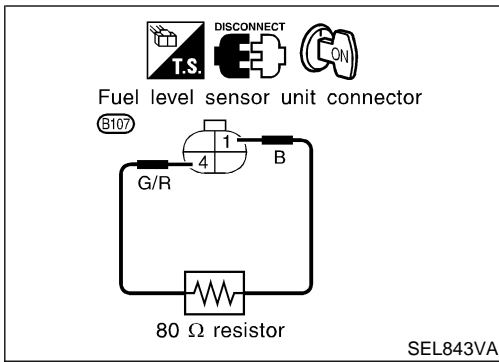
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-04



TEL906A



Electrical Components Inspection

FUEL WARNING LAMP OPERATION CHECK

NCEL0051

NCEL0051S01

1. Turn ignition switch "OFF".
2. Disconnect fuel level sensor unit harness connector B107.
3. Connect a resistor (80Ω) between fuel level sensor unit harness connector terminals 1 and 4.
4. Turn ignition switch "ON".

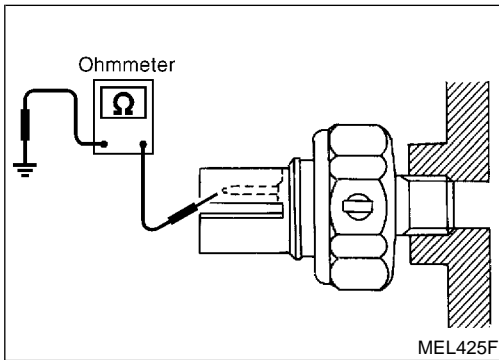
The fuel warning lamp should come on.

NOTE:

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

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

Refer to EC-79, "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION", "Emission-related Diagnostic Information" "ON BOARD DIAGNOSTIC SYSTEM DESCRIPTION".

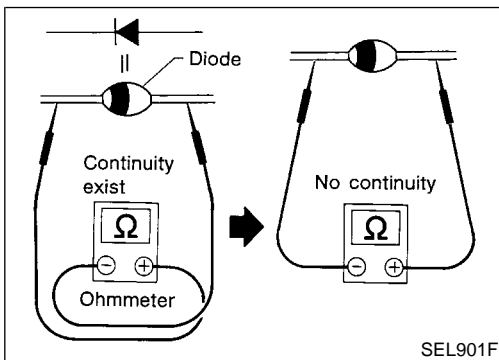


OIL PRESSURE SWITCH CHECK

NCEL0051S02

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

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



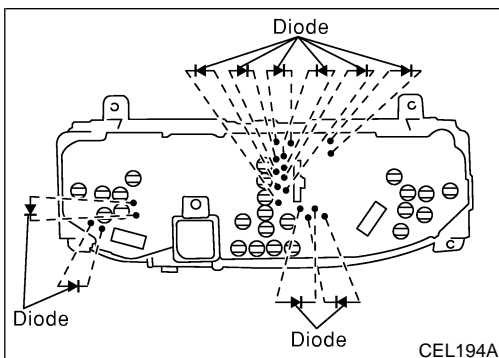
DIODE CHECK

NCEL0051S03

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

NOTE:

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



- Diodes for warning lamps are built into the combination meter printed circuit.
- For location of diodes, refer to Combination Meter, EL-85.

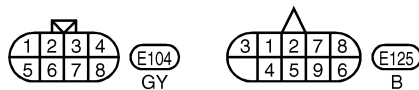
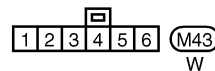
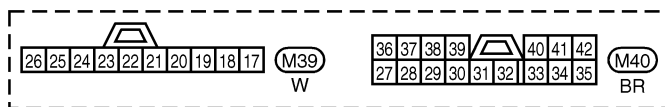
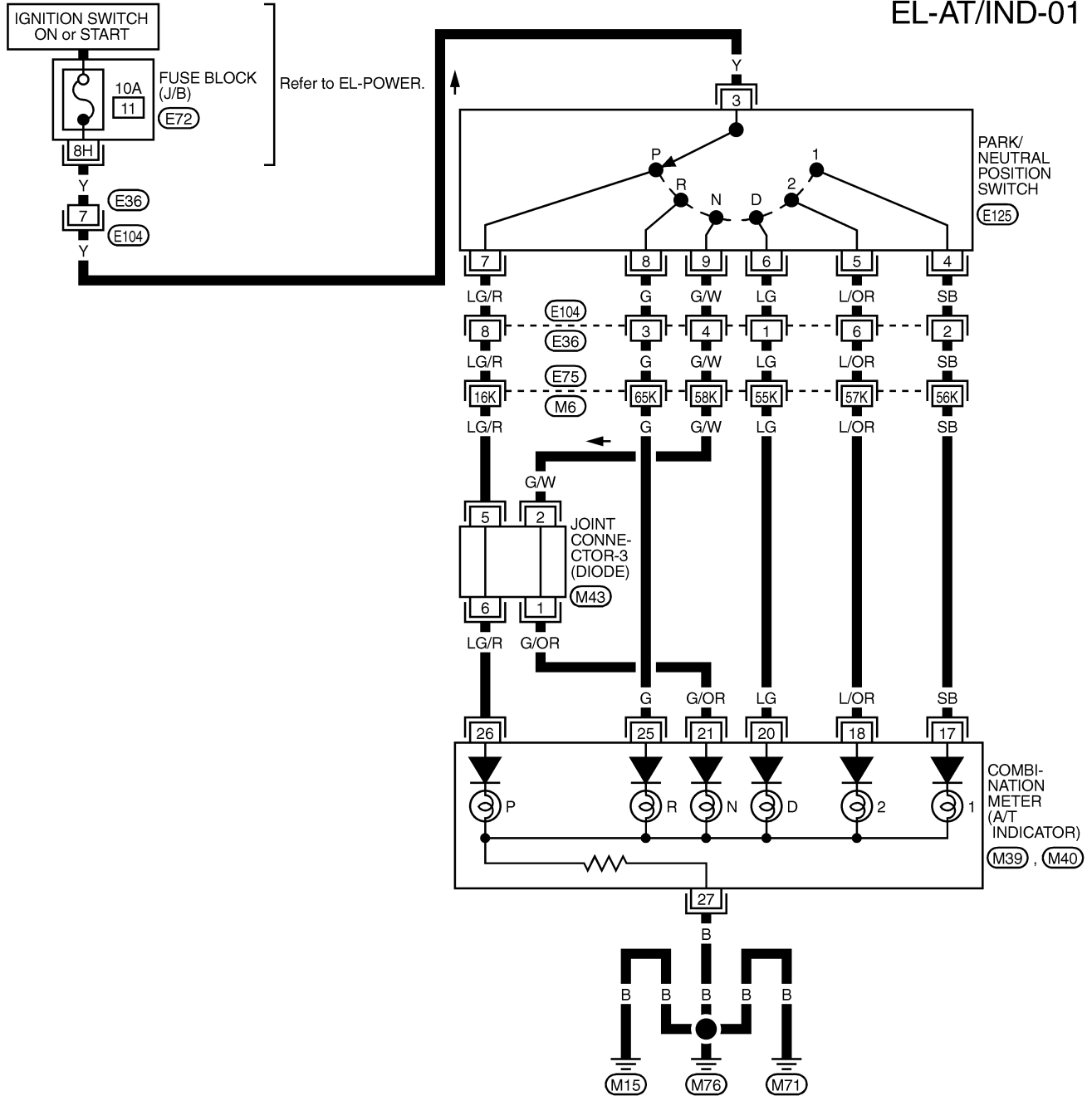
A/T INDICATOR

Wiring Diagram — AT/IND —

Wiring Diagram — AT/IND —

NCEL0159

EL-AT/IND-01



REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

(E72) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL505B

WARNING CHIME

System Description (Cont'd)

- to smart entrance control unit terminal 34.

Ground is supplied

- from front door switch LH terminal 2
- to smart entrance control unit terminal 29.

Front door switch LH terminal 3 is grounded through body grounds B7 and B24.

SEAT BELT WARNING CHIME

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

NCEL0053S03

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 B24.

WARNING CHIME

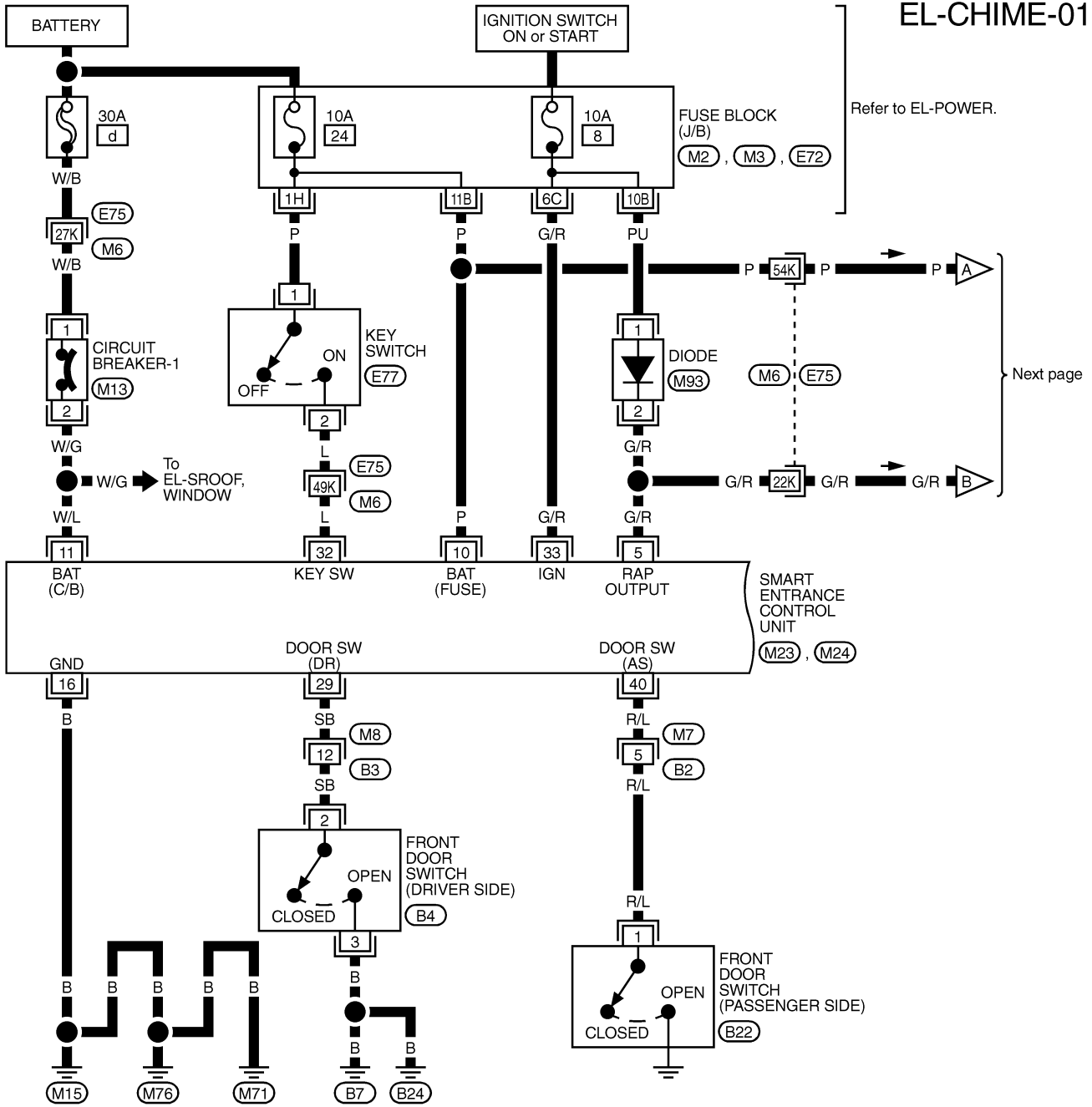
Wiring Diagram — CHIME —

Wiring Diagram — CHIME —

NCEL0054

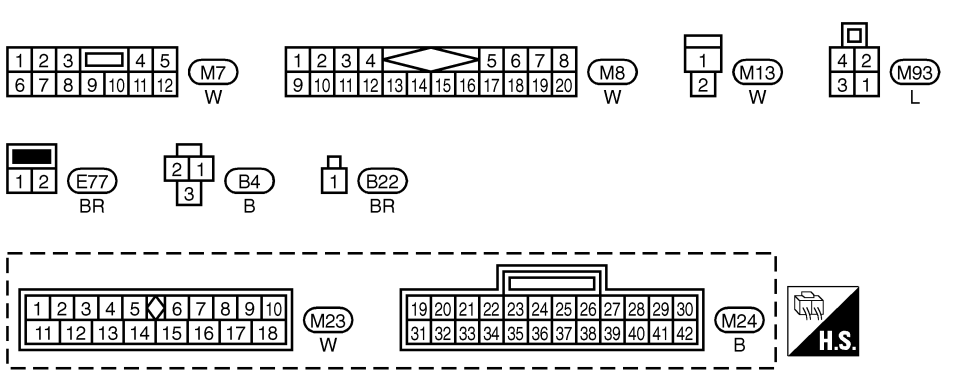
EL-CHIME-01

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Refer to EL-POWER.

Next page



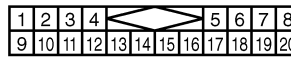
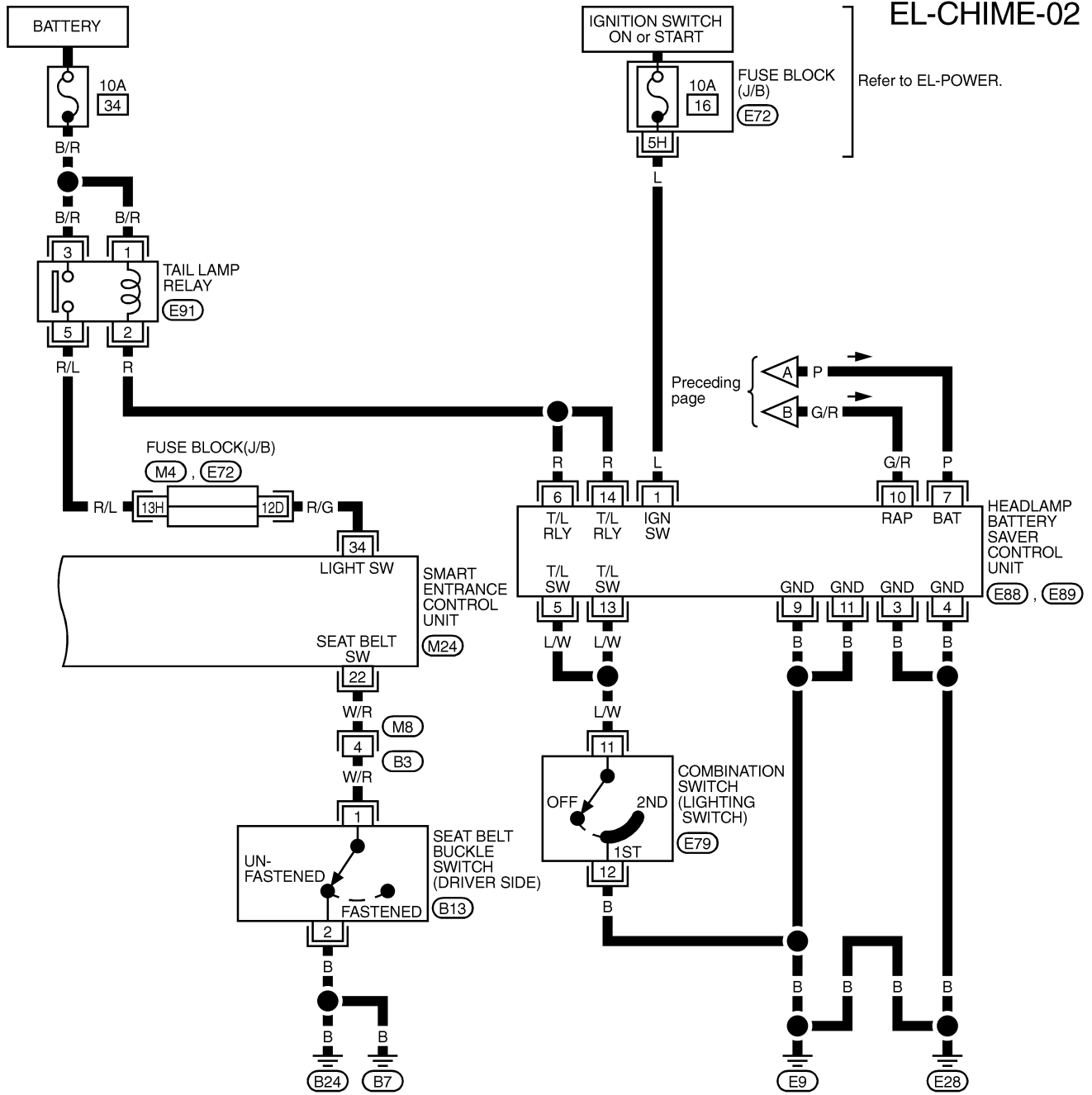
REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2 , M3 , E72) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL506B

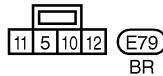
WARNING CHIME

Wiring Diagram — CHIME — (Cont'd)

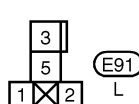
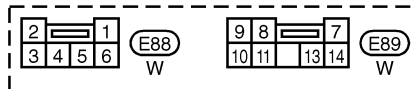
EL-CHIME-02



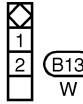
M8
W



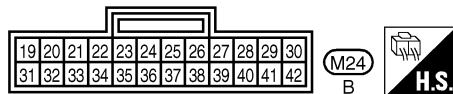
E79
BR



E91
L



B13
W



M24
B



REFER TO THE FOLLOWING.
M4, E72 - FUSE BLOCK-JUNCTION BOX (J/B)

TEL507B

WARNING CHIME

Trouble Diagnoses

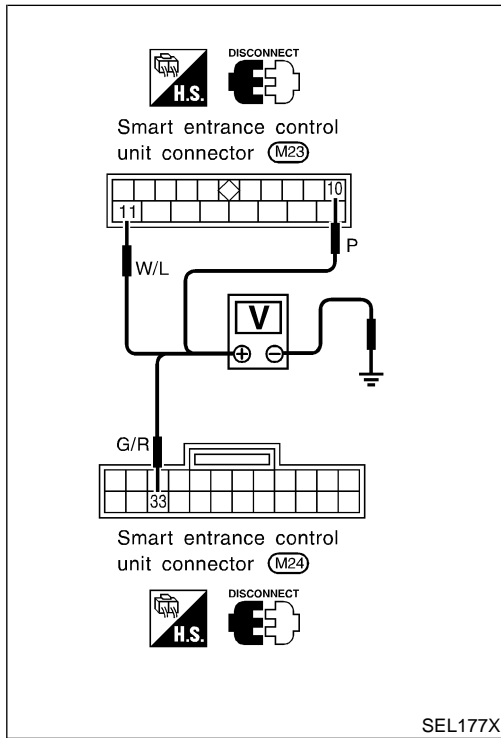
Trouble Diagnoses SYMPTOM CHART

NCEL0055

NCEL0055S01

REFERENCE PAGE (EL-)	109	110	111	112	113
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	LIGHTING SWITCH INPUT SIGNAL CHECK	KEY SWITCH (INSERT) CHECK	SEAT BELT BUCKLE SWITCH CHECK	DRIVER SIDE DOOR SWITCH CHECK
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	
All warning chimes do not activate.	X				X

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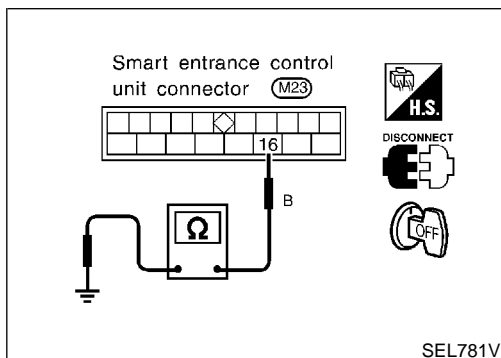


POWER SUPPLY AND GROUND CIRCUIT CHECK Power Supply Circuit Check

NCEL0055S02

NCEL0055S0201

Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage
11				
33	Ground	0V	0V	Battery voltage



Ground Circuit Check

NCEL0055S0202

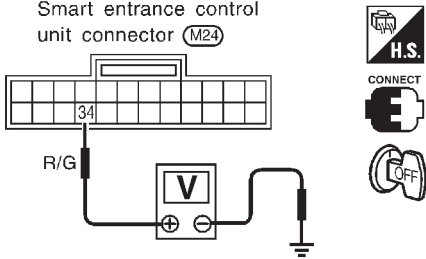
Terminals	Continuity
16 - Ground	Yes

WARNING CHIME

Trouble Diagnoses (Cont'd)

LIGHTING SWITCH INPUT SIGNAL CHECK

=NCEL0055S03

1	CHECK LIGHTING SWITCH INPUT SIGNAL	
<p>Check voltage between control unit terminal 34 and ground.</p> <div style="text-align: center;">  </div> <p>Voltage [V]: Condition of lighting switch: 1ST or 2ND Approx. 12 Condition of lighting switch: OFF 0</p> <p style="text-align: right;">SEL782V</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	Lighting switch is OK.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 34, located in the fuse and fusible link box) ● Harness for open or short between control unit and lighting switch

WARNING CHIME

Trouble Diagnoses (Cont'd)

KEY SWITCH (INSERT) CHECK

=NCEL0055S04

1	CHECK KEY SWITCH INPUT SIGNAL	<p>Check voltage between control unit terminal 32 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL783V</p> <p>Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is withdrawn. 0</p> <p style="text-align: center;">OK or NG</p>	GI MA EM LC EC FE CL MT
OK	▶	Key switch is OK.	
NG	▶	GO TO 2.	

2	CHECK KEY SWITCH (INSERT)	<p>Check continuity between terminals 1 and 2.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL784V</p> <p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p> <p style="text-align: center;">OK or NG</p>	AT AX SU BR ST RS BT HA SC
OK	▶	Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 24, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between control unit and key switch 	
NG	▶	Replace key switch.	

EL

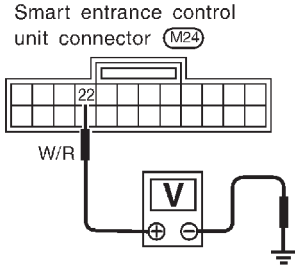


IDX

WARNING CHIME

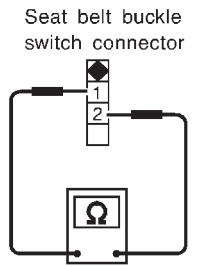

Trouble Diagnoses (Cont'd)

SEAT BELT BUCKLE SWITCH CHECK

=NCEL0055S05

1	CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL	
<p>1. Turn ignition switch "ON". 2. Check voltage between control unit terminal 22 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Smart entrance control unit connector (M24)</p>  </div> <div style="text-align: center;">   </div> </div> <p>Voltage [V]: Condition of seat belt buckle switch: Fastened Approx. 12 Condition of seat belt buckle switch: Unfastened 0</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	Seat belt buckle switch is OK.
NG	▶	GO TO 2.

SEL785V

2	CHECK SEAT BELT BUCKLE SWITCH	
<p>Check continuity between terminals 1 and 2 when seat belt is fastened and unfastened.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Seat belt buckle switch connector (B13)</p>  </div> <div style="text-align: center;">  </div> </div> <p>Continuity: Seat belt is fastened. No Seat belt is unfastened. Yes</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Seat belt buckle switch ground circuit ● Harness for open or short between control unit and seat belt buckle switch
NG	▶	Replace seat belt buckle switch.

SEL298VB

WARNING CHIME

Trouble Diagnoses (Cont'd)

DRIVER SIDE DOOR SWITCH CHECK

NCEL0055S06

1	CHECK DOOR SWITCH INPUT SIGNAL	<p>Check voltage between control unit terminal 29 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL786V</p> <p>Voltage [V]: Condition of driver's door: CLOSED Approx. 12 Condition of driver's door: OPENED 0</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>Driver side door switch is OK.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>GO TO 2.</td> </tr> </table>	OK	▶	Driver side door switch is OK.	NG	▶	GO TO 2.	GI MA EM LC EC FE CL MT
OK	▶	Driver side door switch is OK.							
NG	▶	GO TO 2.							

2	CHECK DRIVER SIDE DOOR SWITCH	<p>Check continuity between terminals 2 and 3, 3 and ground.</p> <div style="text-align: center;"> </div> <p style="text-align: right;">SEL844V</p> <p>Continuity: Door switch is pushed. No Door switch is released. Yes</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td> Check the following. <ul style="list-style-type: none"> ● Door switch ground circuit ● Harness for open or short between control unit and door switch </td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>Replace driver side door switch.</td> </tr> </table>	OK	▶	Check the following. <ul style="list-style-type: none"> ● Door switch ground circuit ● Harness for open or short between control unit and door switch 	NG	▶	Replace driver side door switch.	AT AX SU BR ST RS BT HA SC
OK	▶	Check the following. <ul style="list-style-type: none"> ● Door switch ground circuit ● Harness for open or short between control unit and door switch 							
NG	▶	Replace driver side door switch.							

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FRONT WIPER AND WASHER

System Description

System Description

NCEL0057

NCEL0057S01

WIPER OPERATION

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

- LO speed
- HI speed
- INT (Intermittent)

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

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

Low and High Speed Wiper Operation

NCEL0057S0101

Ground is supplied to wiper switch terminal 17 through body grounds E9 and E28.

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

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

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

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

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

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

Auto Stop Operation

NCEL0057S0102

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

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

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

Ground is also supplied

- through terminal 13 of the wiper switch
- to wiper motor terminal 5
- through terminal 4 of the wiper motor, and
- through body grounds M15, M71 and M76.

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

Intermittent Operation

NCEL0057S0103

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 2
- from terminal 14 of wiper switch
- through wiper amplifier (OUTPUT).

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

WASHER OPERATION

NCEL0057S02

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

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

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

- to washer motor terminal 2, and
- from terminal 18 of the wiper switch
- through terminal 17 of the wiper switch, and

FRONT WIPER AND WASHER

System Description (Cont'd)

- through body grounds E9 and E28.

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.

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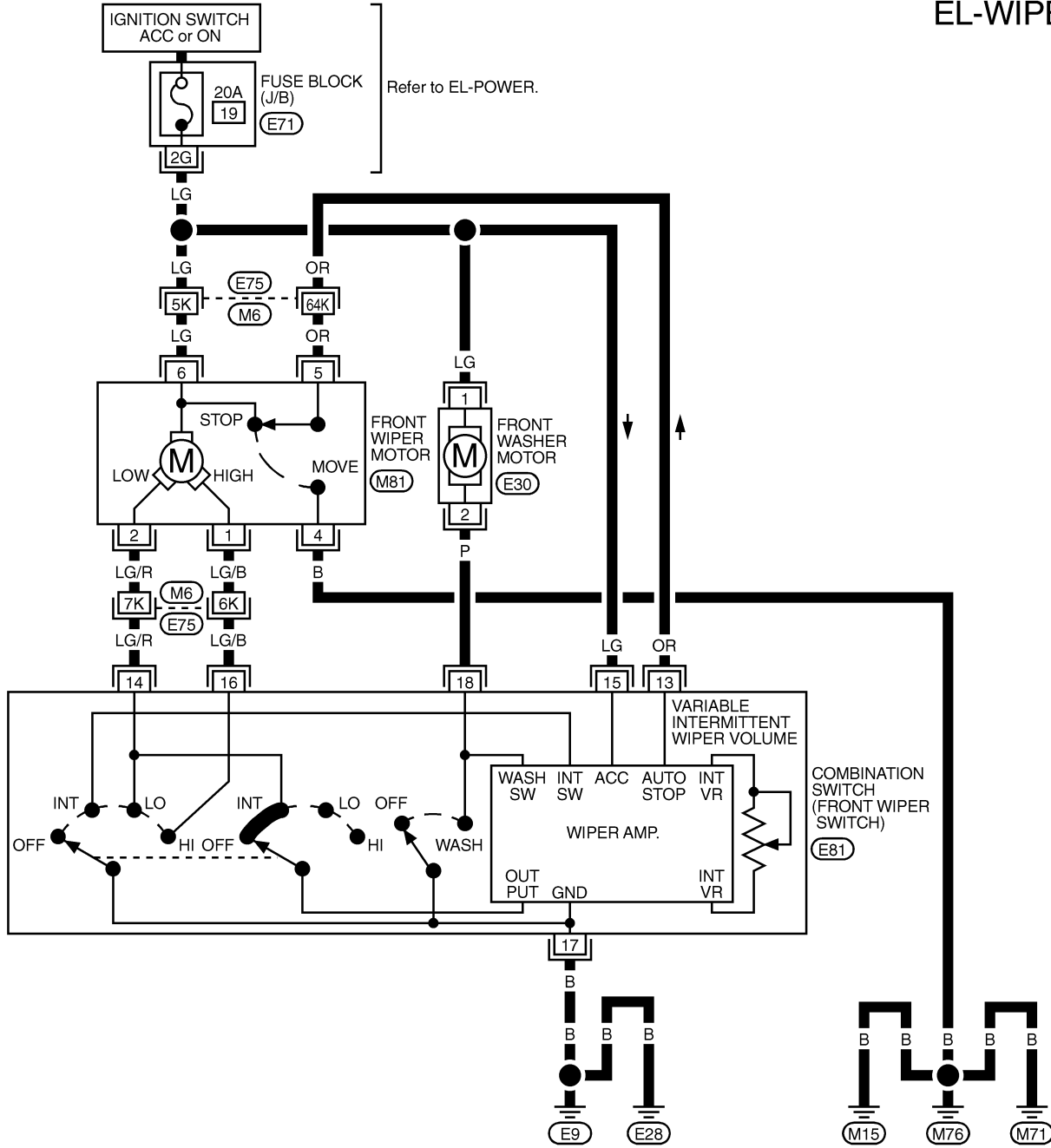
FRONT WIPER AND WASHER

Wiring Diagram — WIPER —

Wiring Diagram — WIPER —

NCEL0058

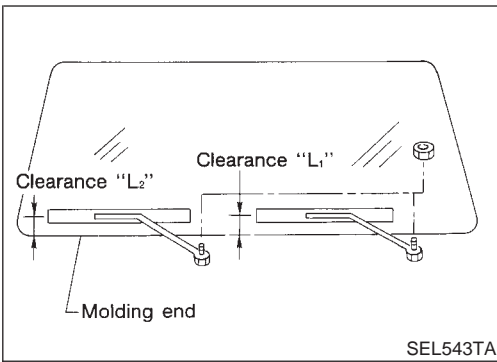
EL-WIPER-01



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (E71) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL508B

NCEL0060



Removal and Installation

WIPER ARMS

NCEL0060S01

1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
 2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L₁" & "L₂" immediately before tightening nut.
 3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it "OFF".
 4. Ensure that wiper blades stop within clearance "L₁" & "L₂".
 - Clearance "L₁": 18.5 - 33.5 mm (0.728 - 1.319 in)**
 - Clearance "L₂": 19.5 - 34.5 mm (0.768 - 1.358 in)**
- Tighten wiper arm nuts to specified torque.
 - Front wiper: 17 - 23 N·m (1.7 - 2.3 kg·m, 12 - 17 ft·lb)**

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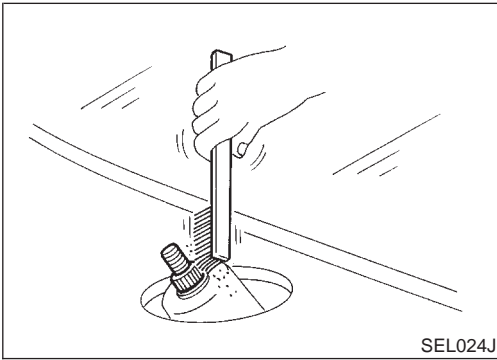
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- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.

AT

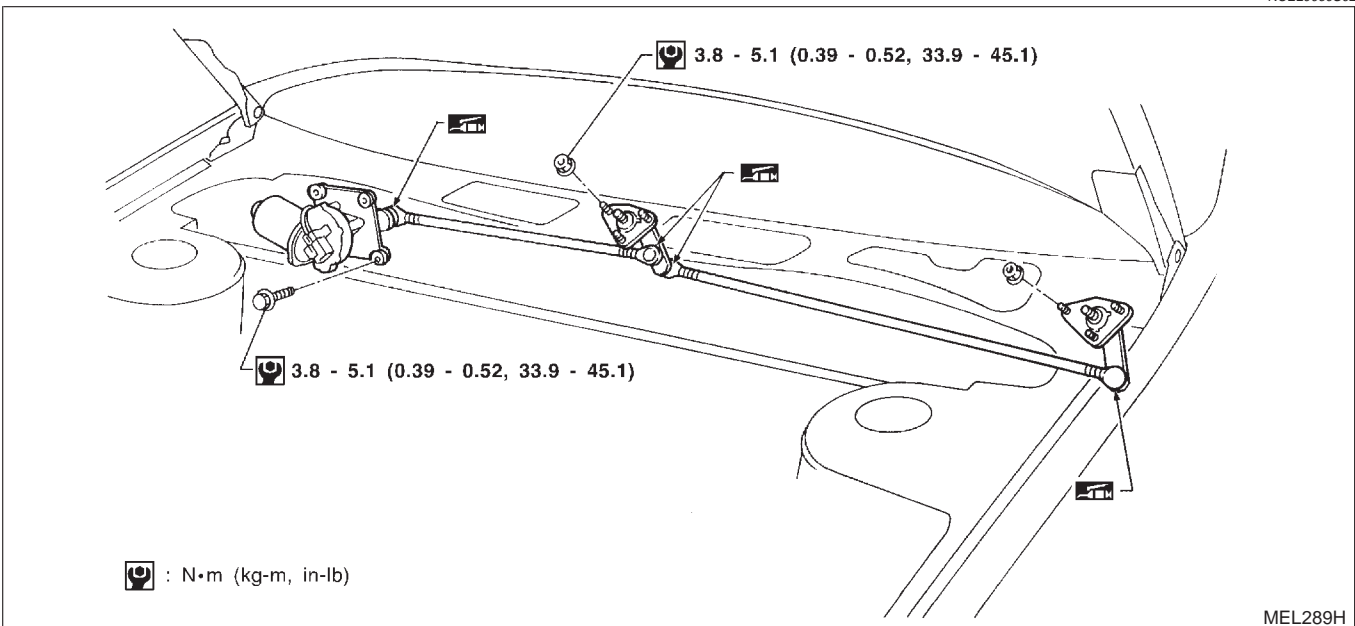
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WIPER LINKAGE

NCEL0060S02



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FRONT WIPER AND WASHER

Removal and Installation (Cont'd)

Removal

NCEL0060S0201

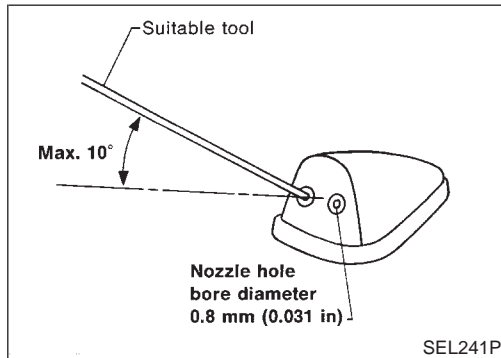
1. Remove 4 bolts that secure wiper motor.
2. Detach wiper motor from wiper linkage at ball joint.
3. Remove wiper linkage.

Be careful not to break ball joint rubber boot.

Installation

NCEL0060S0202

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

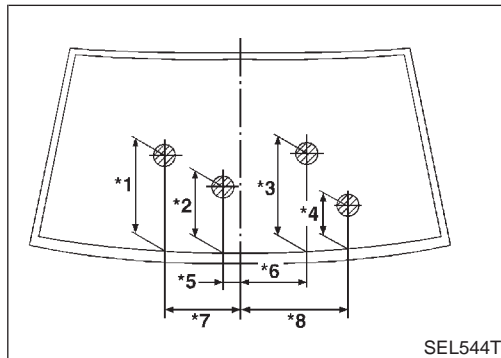


Washer Nozzle Adjustment

NCEL0061

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

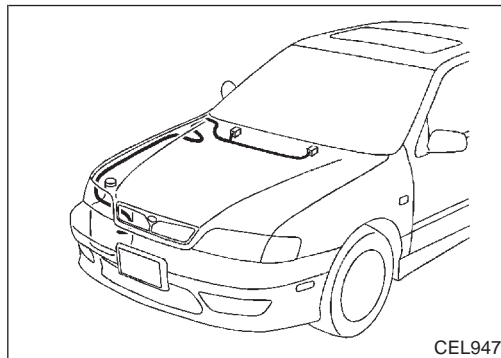
Adjustable range: ±10°



Unit: mm (in)

*1	330 (12.99)	*5	115 (4.53)
*2	185 (7.28)	*6	175 (6.89)
*3	320 (12.60)	*7	370 (14.57)
*4	175 (6.89)	*8	440 (17.32)

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



Washer Tube Layout

NCEL0062

HORN

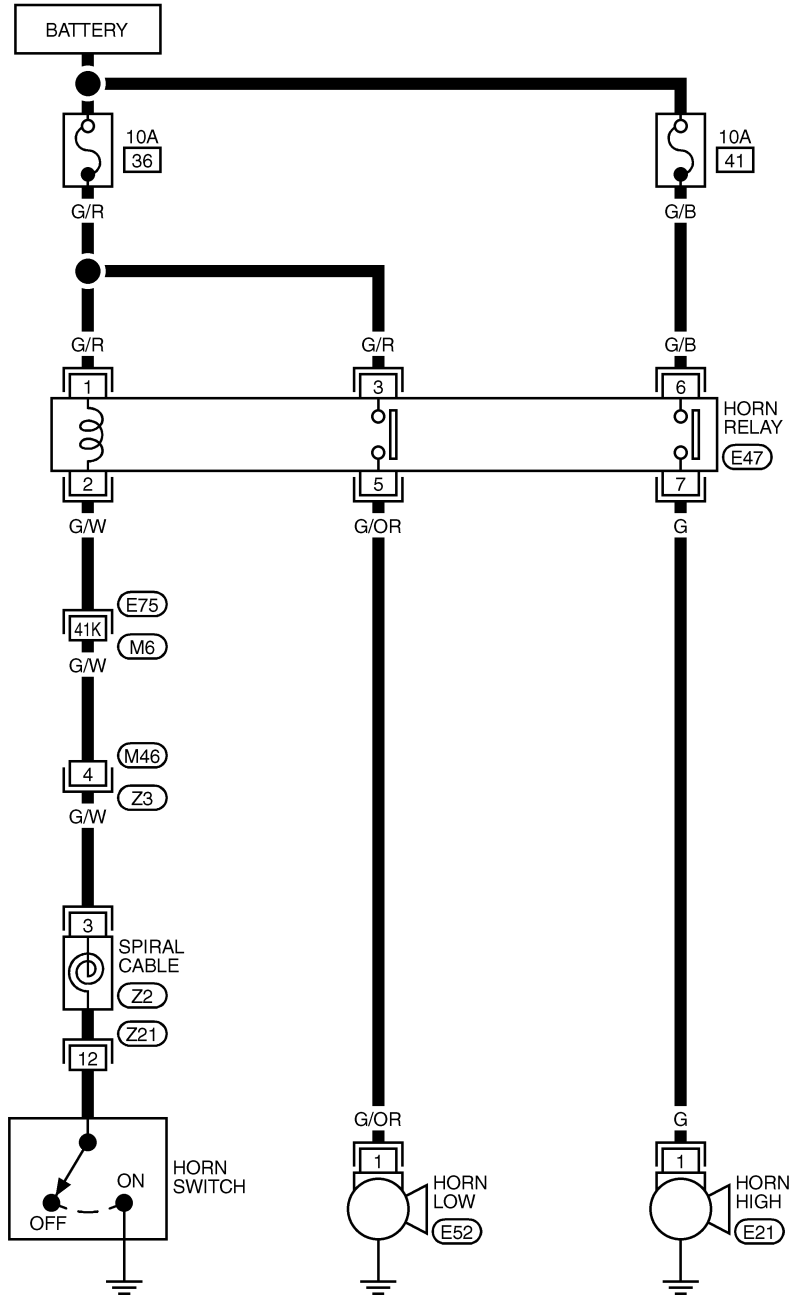
Wiring Diagram — HORN —

Wiring Diagram — HORN —

NCEL0071

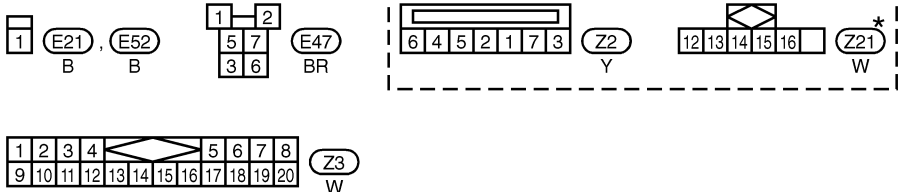
EL-HORN-01

Refer to EL-POWER.



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REFER TO THE FOLLOWING.
(E75) -SUPER MULTIPLE JUNCTION (SMJ)

*: This connector is not shown in "HARNES LAYOUT", EL section.

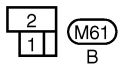
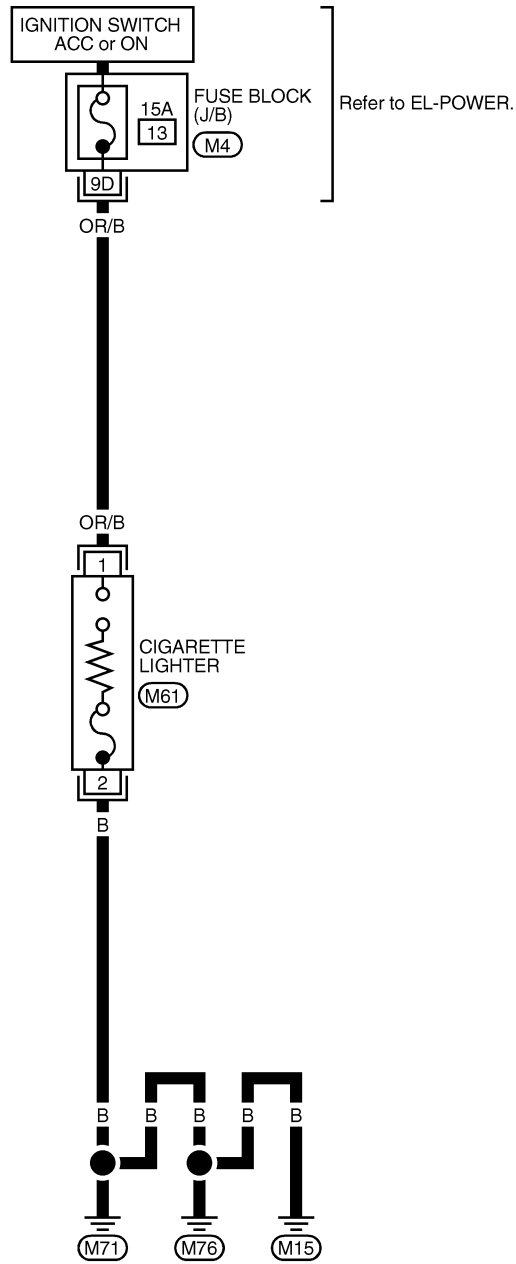
CIGARETTE LIGHTER

Wiring Diagram — CIGAR —

Wiring Diagram — CIGAR —

NCEL0156

EL-CIGAR-01



REFER TO THE FOLLOWING.
M4 - FUSE BLOCK-JUNCTION BOX (J/B)

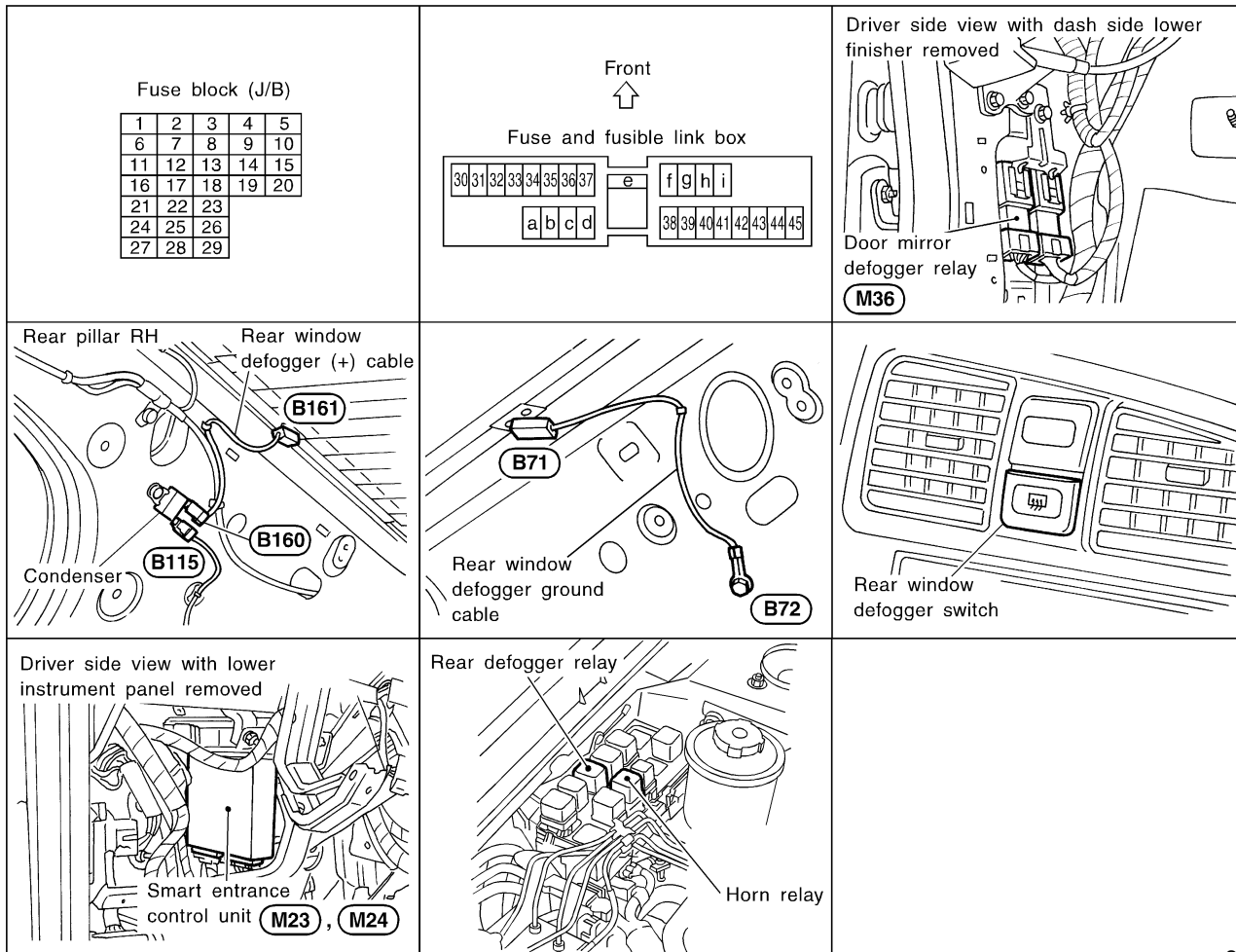
TEL510B

REAR WINDOW DEFOGGER

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0072



SEL667W

System Description

NCEL0073

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. 39, located in the fuse and fusible link box) and
- to rear window defogger relay terminal 6
- through 20A fuse (No. 40, 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. 8, 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 2 of the rear window defogger switch through body grounds M15, M71 and M76. When the rear window defogger switch is turned ON, ground is supplied

- through terminal 1 of the rear window defogger switch
- to smart entrance control unit terminal 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

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REAR WINDOW DEFOGGER

System Description (Cont'd)

- to the rear window defogger.

The rear window defogger has an independent ground.

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

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

Power is supplied

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

Terminal 4 of the rear window defogger switch is grounded through body grounds M15, M71 and M76.

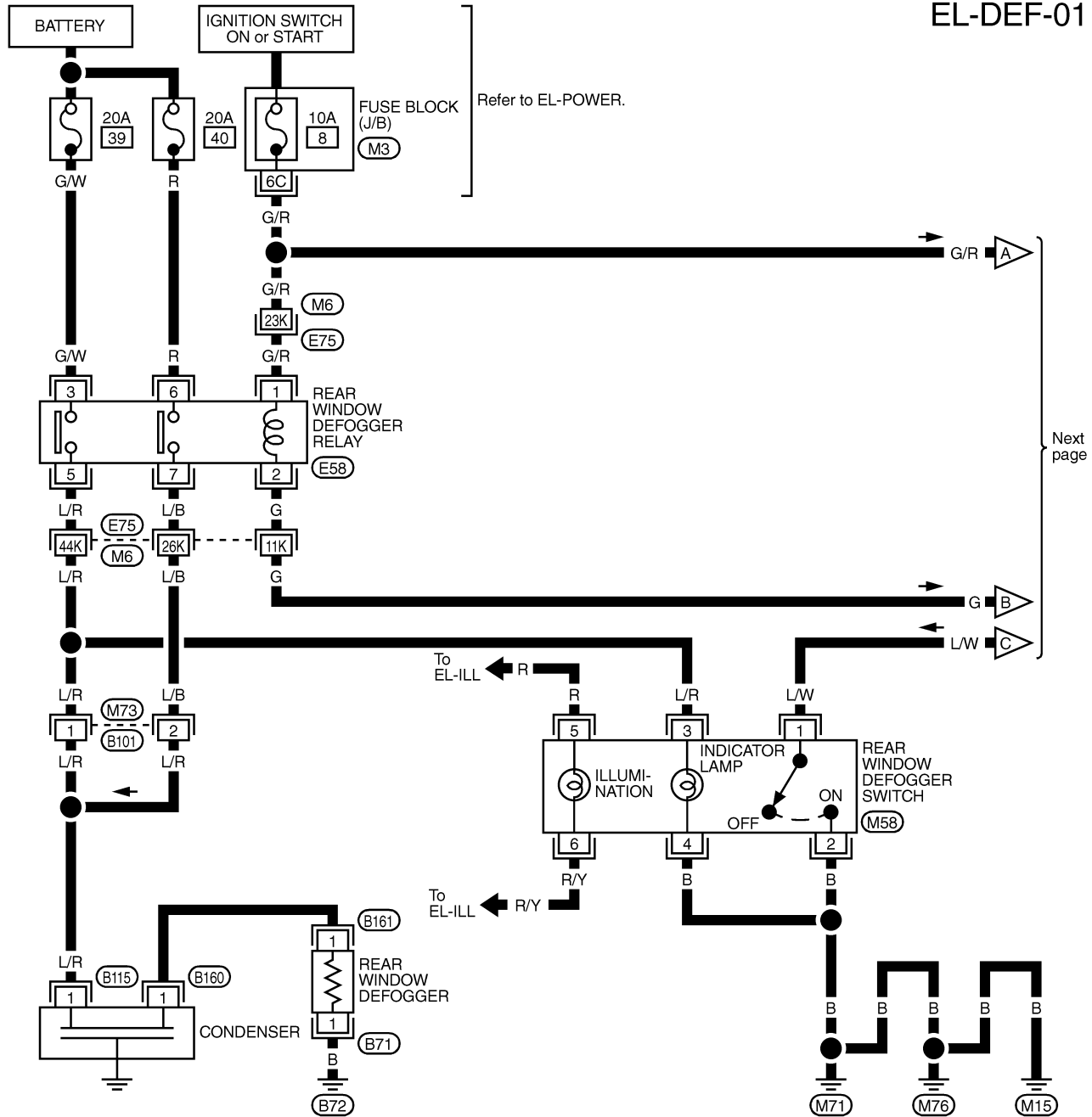
REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

Wiring Diagram — DEF —

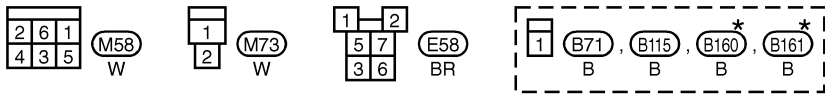
NCEL0074

EL-DEF-01



Next page

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* : This connector is not shown in "HARNES LAYOUT", EL section.

REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M3) -FUSE BLOCK-JUNCTION BOX (J/B)

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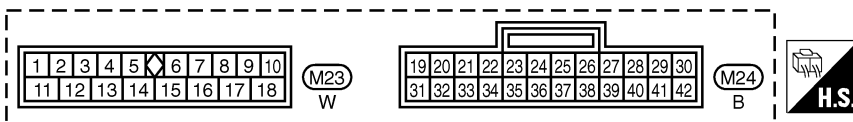
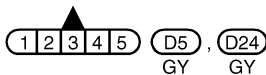
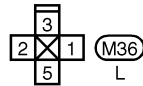
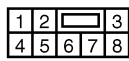
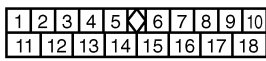
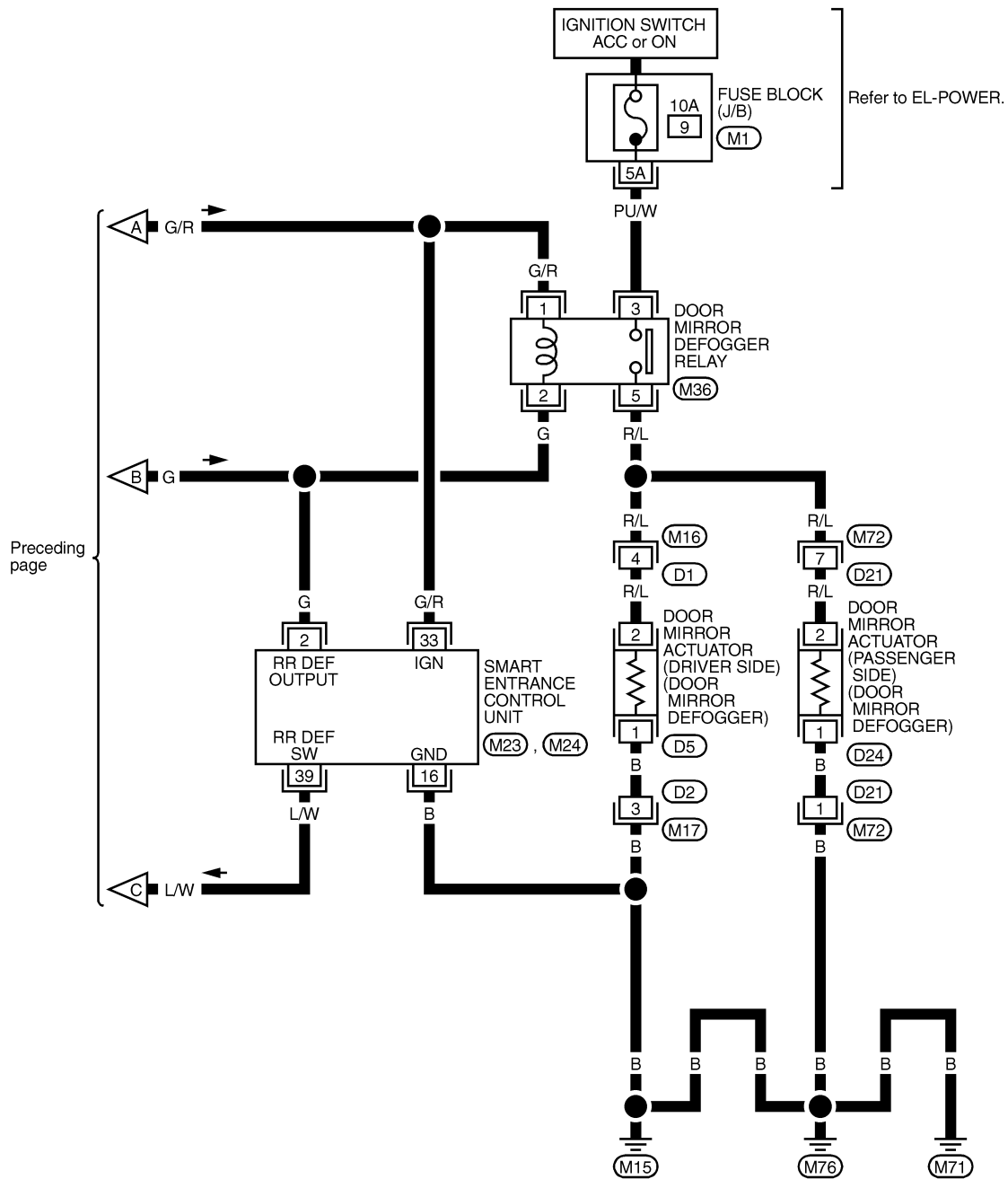
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REAR WINDOW DEFOGGER

Wiring Diagram — DEF — (Cont'd)

EL-DEF-02



REFER TO THE FOLLOWING.
(M1) - FUSE BLOCK-JUNCTION BOX (J/B)

TEL512B

REAR WINDOW DEFOGGER

Trouble Diagnoses

Trouble Diagnoses DIAGNOSTIC PROCEDURE

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

NCEL0075

NCEL0075S01

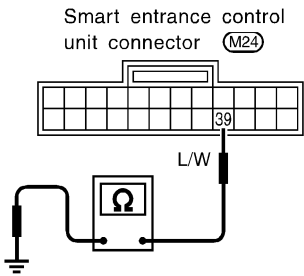



1	CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL
<p>1. Turn ignition switch to ON position. 2. Check voltage between smart entrance control unit harness terminal 2 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Smart entrance control unit connector (M23)</p> </div> <div style="text-align: center;"> </div> </div> <p style="text-align: right;">SEL787V</p> <p>Voltage [V]: Rear window defogger switch is "OFF". Approx. 12 Rear window defogger switch is "ON". 0</p> <p style="text-align: center;">OK or NG</p>	
OK	<p>▶ Check the following.</p> <ul style="list-style-type: none"> ● Rear window defogger relay (Refer to EL-127.) ● Rear window defogger circuit ● Rear window defogger filament (Refer to EL-127.)
NG	▶ GO TO 2.

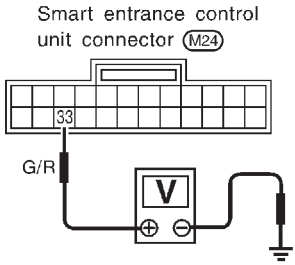


2	CHECK DEFOGGER RELAY COIL SIDE CIRCUIT
<p>1. Disconnect control unit connector. 2. Turn ignition switch to ON position. 3. Check voltage between smart entrance control unit terminal 2 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Smart entrance control unit connector (M23)</p> </div> <div style="text-align: center;"> </div> </div> <p style="text-align: right;">SEL788V</p> <p style="text-align: center;">Does battery voltage exist?</p>	
Yes	▶ GO TO 3.
No	<p>▶ Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 8, located in the fuse block (J/B)] ● Rear window defogger relay ● Harness for open or short between rear window defogger relay and control unit

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REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

3	CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL
<p>Check continuity between smart entrance control unit terminal 39 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <div style="text-align: center;">    </div> </div>	
SEL737W	
<p>Continuity: Rear window defogger switch is pushed. Yes Rear window defogger switch is released. No</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ GO TO 4.
NG	▶ Check the following. <ul style="list-style-type: none"> ● Rear window defogger switch (Refer to EL-127.) ● Harness for open or short between control unit and rear window defogger switch ● Rear window defogger switch ground circuit

4	CHECK IGNITION INPUT SIGNAL
<p>Check voltage between smart entrance control unit terminal 33 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <div style="text-align: center;">   </div> </div>	
SEL790V	
<p>Voltage [V]: Ignition switch is "ON". Approx. 12 Ignition switch is "OFF". 0</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ GO TO 5.
NG	▶ Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 8, located in the fuse block (J/B)] ● Harness for open or short between control unit and fuse

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

5 CHECK CONTROL UNIT GROUND CIRCUIT

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

Smart entrance control unit connector (M23)

16

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DISCONNECT

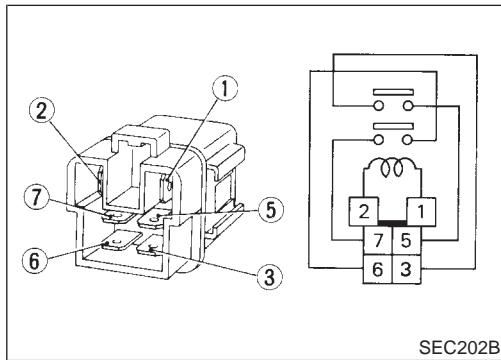
OFF

SEL791V

Does continuity exist?

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

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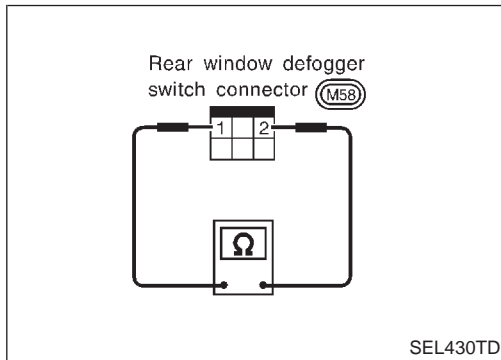
Electrical Components Inspection REAR WINDOW DEFOGGER RELAY

NCEL0076
NCEL0076S01

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

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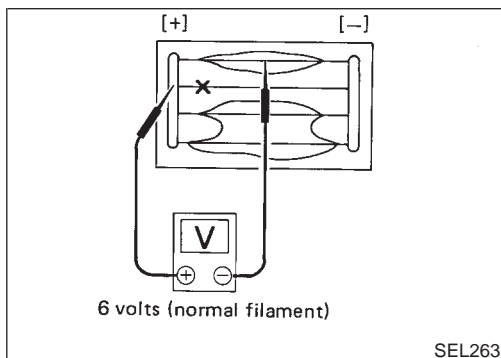
REAR WINDOW DEFOGGER SWITCH

NCEL0076S02

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

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

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Filament Check

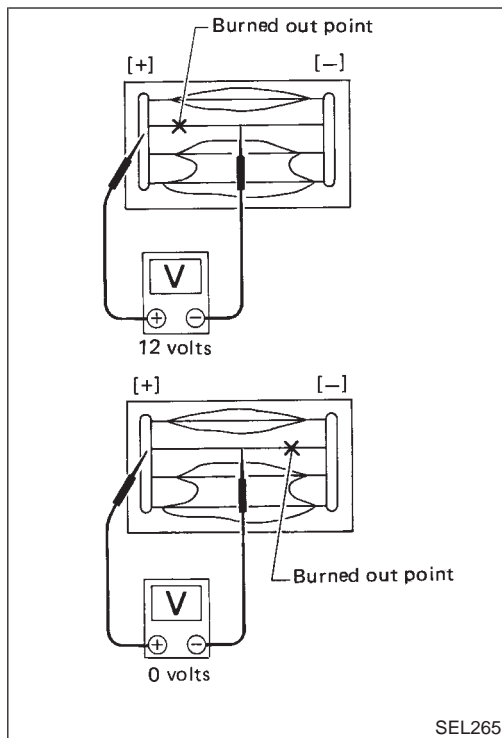
NCEL0077

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

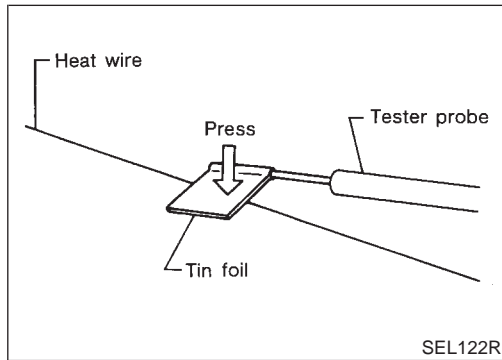
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REAR WINDOW DEFOGGER

Filament Check (Cont'd)



2. If a filament is burned out, circuit tester registers 0 or 12 volts.
3. To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.



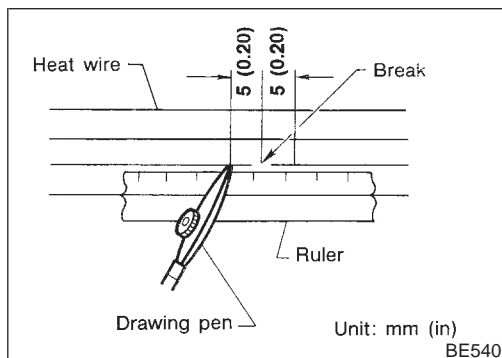
- When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.

Filament Repair REPAIR EQUIPMENT

NCEL0078

NCEL0078S01

- 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

NCEL0078S02

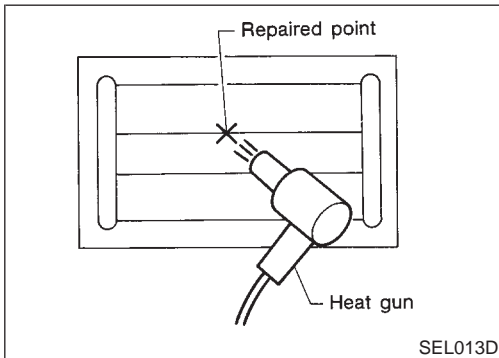
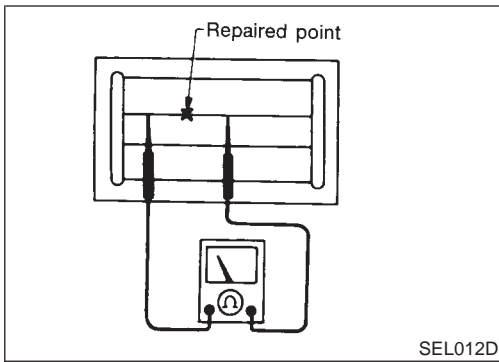
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

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.

REAR WINDOW DEFOGGER

Filament Repair (Cont'd)



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

Do not touch repaired area while test is being conducted.

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

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System Description

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

Power is supplied at all times

- through 15A fuse (No. 38, located in the fuse and fusible link box)
- to speaker amp. terminal 11, and
- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to audio terminal 6.

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

- through 7.5A fuse [No. 10, located in the fuse block (J/B)]
- to audio terminal 10.

Ground is supplied through the case of the audio.

Ground is supplied

- to speaker amp. terminal 23,
- through body grounds B109 and B110.

Audio signals are supplied

- through audio terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to speaker amp. terminals 4, 5, 6, 7, 17, 18, 19 and 20.

Audio signals are amplified by the speaker amp.

The amplified audio signals are supplied

- through speaker amp. terminals 1, 2, 12, 13, 14, 15, 25 and 26
- 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.

AUDIO

Wiring Diagram — AUDIO —

Wiring Diagram — AUDIO —

NCEL0081

EL-AUDIO-01

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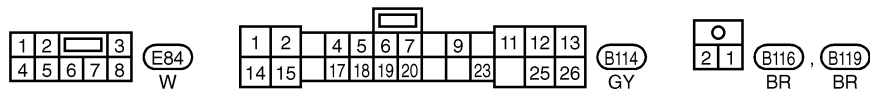
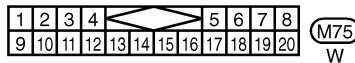
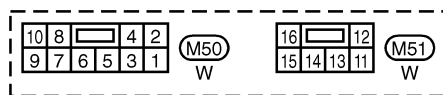
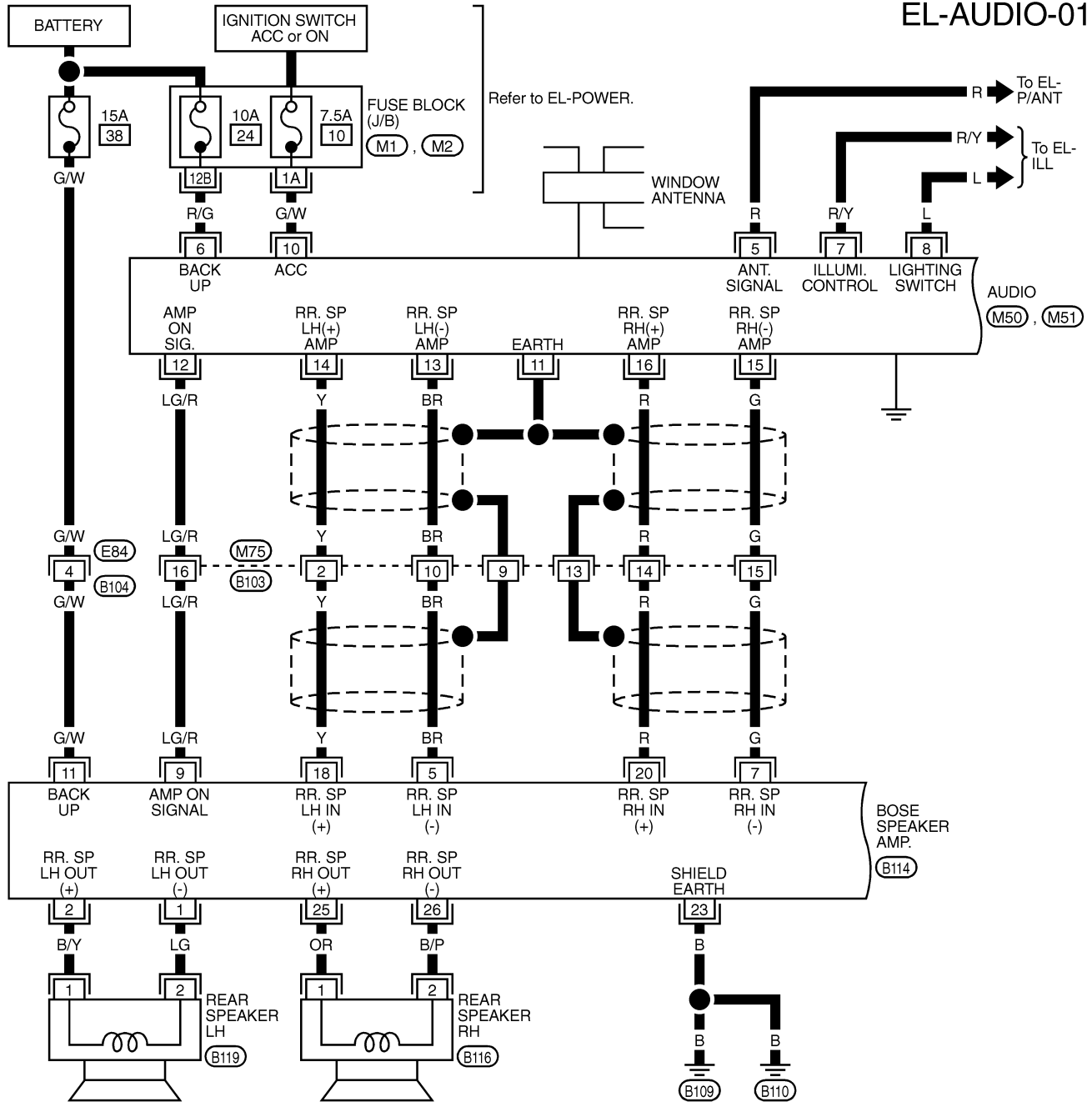
BT

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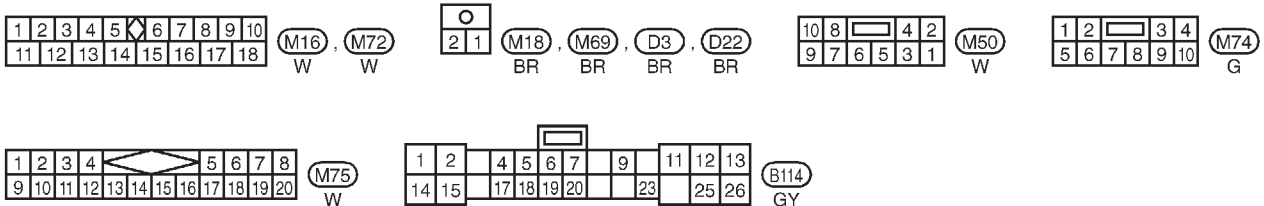
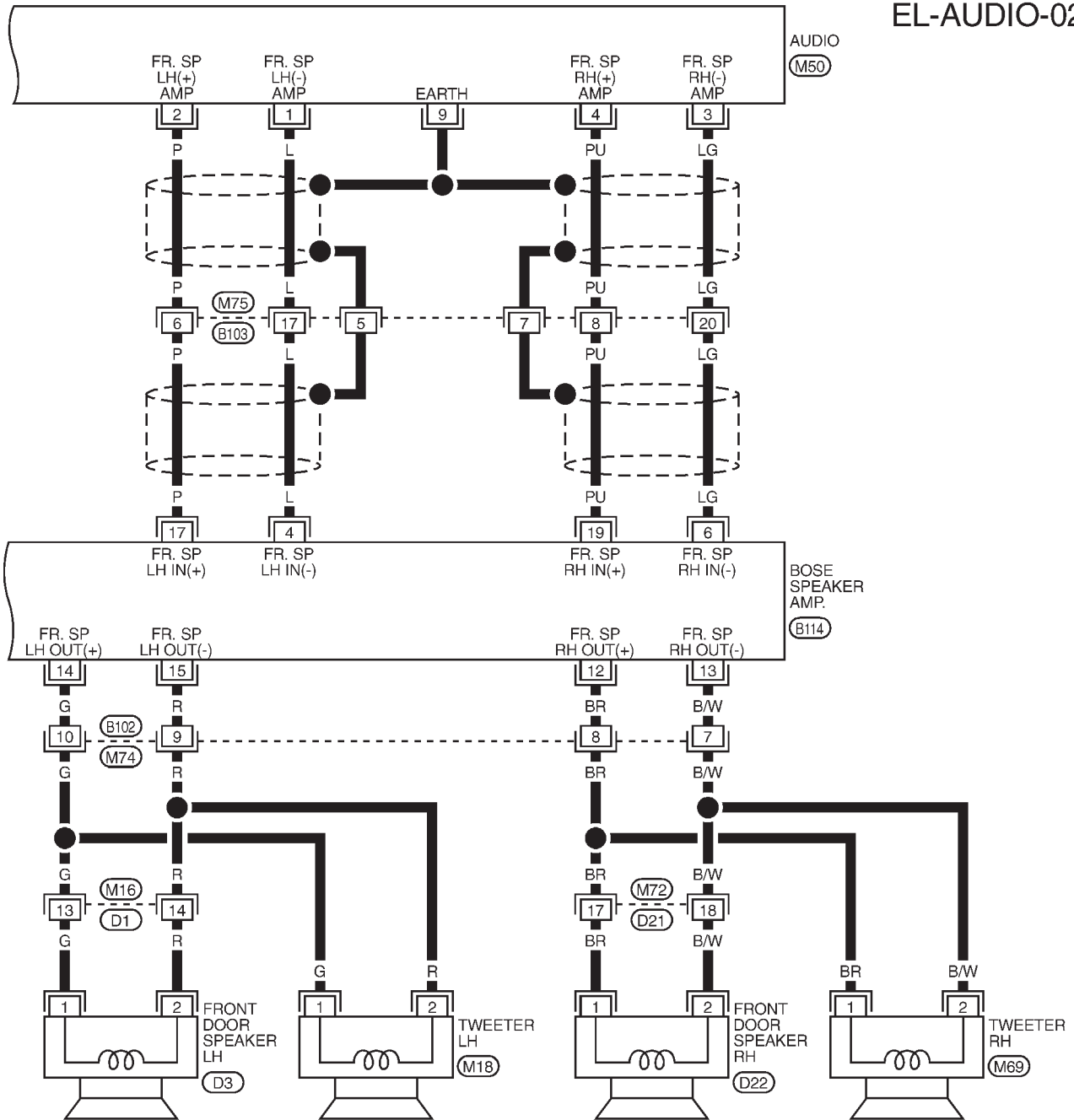
REFER TO THE FOLLOWING.
 (M1), (M2) - FUSE BLOCK-
 JUNCTION BOX (J/B)

TEL513B

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-02



TEL913A

Trouble Diagnoses

NCEL0082

NCEL0082S01

RADIO

Symptom	Possible causes	Repair order
Radio inoperative (no digital display and no sound from speakers).	<ol style="list-style-type: none"> 1. 7.5A fuse 2. Poor radio case ground 3. Radio 	<ol style="list-style-type: none"> 1. Check 7.5A fuse [No. 10, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of radio. 2. Check radio case ground. 3. Remove radio for repair.
Radio presets are lost when ignition switch is turned OFF.	<ol style="list-style-type: none"> 1. 10A fuse 2. Radio 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 24, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of radio. 2. Remove radio for repair.
AM stations are weak or noisy (FM stations OK).	<ol style="list-style-type: none"> 1. Antenna 2. Poor radio ground 3. Radio 	<ol style="list-style-type: none"> 1. Check antenna. 2. Check radio ground. 3. Remove radio for repair.
FM stations are weak or noisy (AM stations OK).	<ol style="list-style-type: none"> 1. Window antenna 2. Radio 	<ol style="list-style-type: none"> 1. Check window antenna. 2. Remove radio for repair.
Radio generates noise in AM and FM modes with engine running.	<ol style="list-style-type: none"> 1. Poor radio ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Alternator 5. Ignition coil or secondary wiring 6. Radio 	<ol style="list-style-type: none"> 1. Check radio ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check alternator. 5. Check ignition coil and secondary wiring. 6. Remove radio for repair.
Radio generates noise in AM and FM modes with accessories on (switch pops and motor noise).	<ol style="list-style-type: none"> 1. Poor radio ground 2. Antenna 3. Accessory ground 4. Faulty accessory 	<ol style="list-style-type: none"> 1. Check radio ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.
Radio controls are operational, but no sound is heard from any speaker.	<ol style="list-style-type: none"> 1. 15A fuse 2. Radio output 3. Radio 	<ol style="list-style-type: none"> 1. Check 15A fuse (No. 38, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 11 of speaker amp. 2. Check radio output voltage (Terminal 12). 3. Remove radio for repair.
All speakers are inoperative.	<ol style="list-style-type: none"> 1. Speaker amp. ground 2. Amp. ON signal 	<ol style="list-style-type: none"> 1. Check speaker amp. 2. Check speaker amp. ground (Terminal 23). 3. Turn ignition switch ACC and radio ON. Verify battery positive voltage is present at terminal 9 of speaker amp.
Individual rear speaker is noisy or inoperative.	<ol style="list-style-type: none"> 1. Speaker 2. Speaker amp. output 3. Speaker circuit 4. Radio 	<ol style="list-style-type: none"> 1. Check speaker. 2. Check speaker amp. output. 3. Check wires for open or short between radio/amp. and speakers. 4. Remove radio for repair.

GI

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BT

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EL

IDX

AUDIO

Inspection

Inspection

=NCEL0083

RADIO AND AMP.

NCEL0083S01

All voltage inspections are made with:

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

ANTENNA

NCEL0083S02

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

System Description

NCEL0084

Power is supplied at all times

- through 10A fuse [No. 24, located in the fuse block (J/B)]
- to power antenna terminal 6.

Ground is supplied to the power antenna terminal 2 through body grounds B109 and B110.

When the audio is turned to the ON position, battery positive voltage is supplied

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

The antenna raises and is held in the extended position.

When the audio is turned to the OFF position, battery positive voltage is interrupted

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

The antenna retracts.

GI

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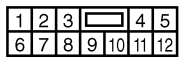
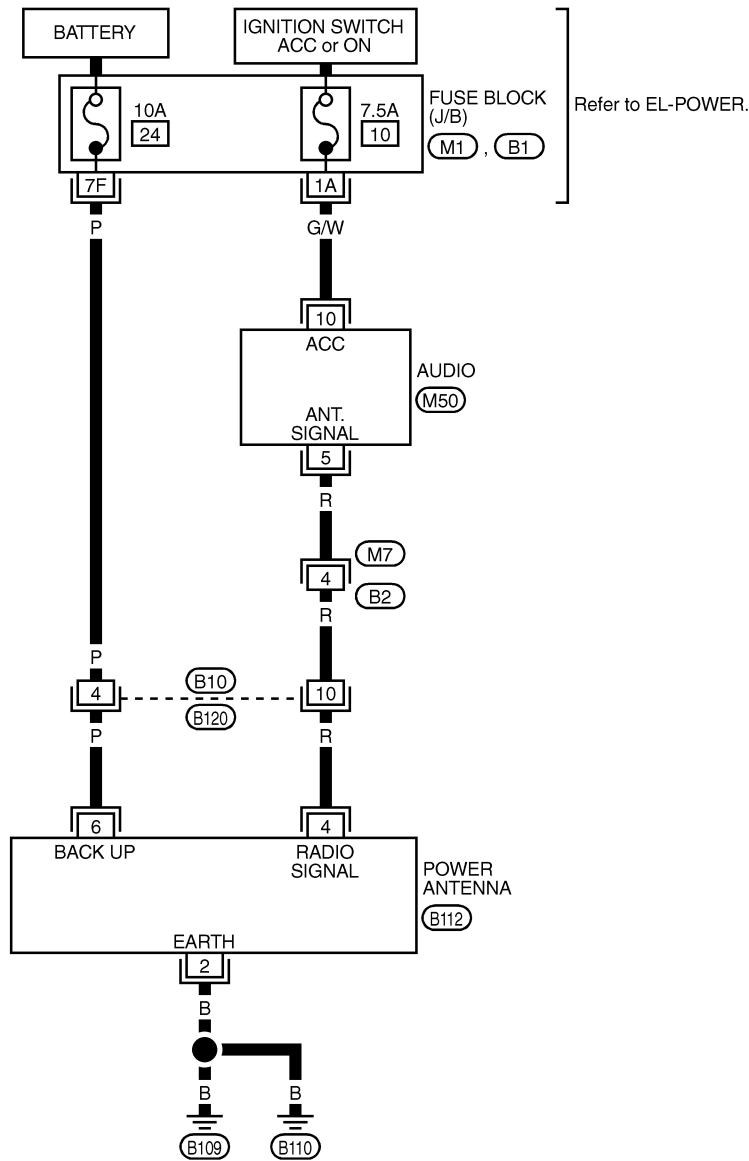
AUDIO ANTENNA

Wiring Diagram — P/ANT —

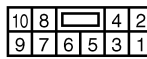
Wiring Diagram — P/ANT —

NCEL0085

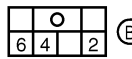
EL-P/ANT-01



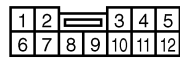
(M7)
W



(M50)
W



(B112)
W



(B120)
G

REFER TO THE FOLLOWING.
(M1), (B1) - FUSE BLOCK-
JUNCTION BOX (J/B)

Trouble Diagnoses

NCEL0086

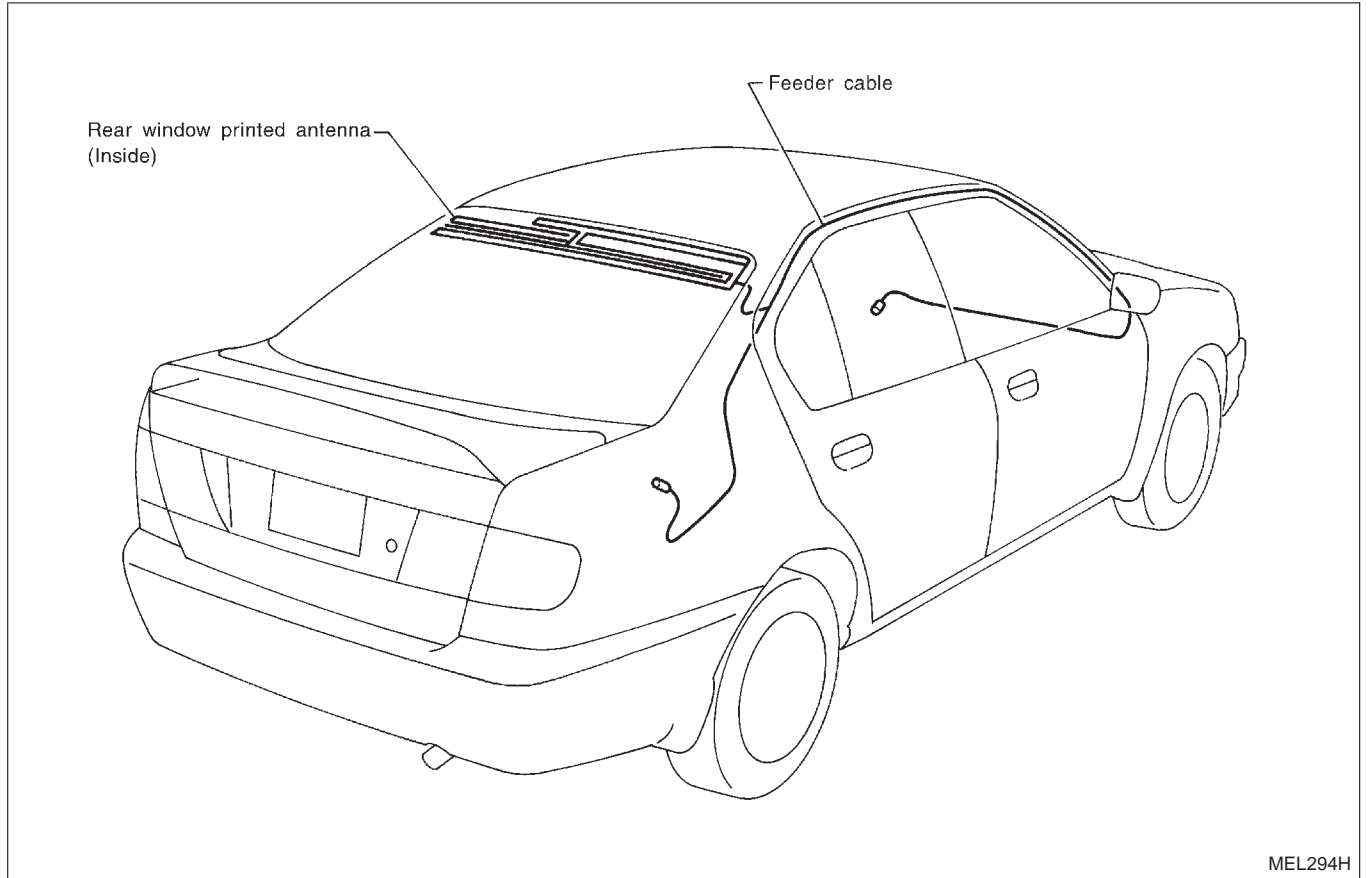
NCEL0086S01

POWER ANTENNA

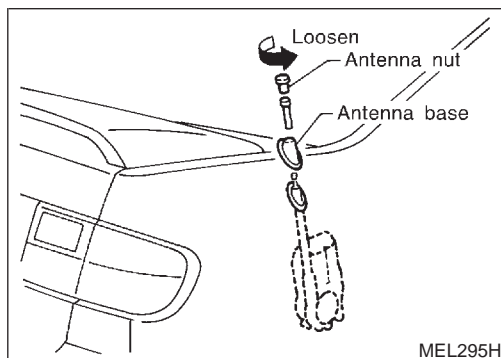
Symptom	Possible causes	Repair order
Power antenna does not operate.	<ol style="list-style-type: none"> 10A fuse Radio signal Grounds B109 and B110 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 24, located in fuse block (J/B)]. Verify that battery positive voltage is present at terminal 6 of power antenna. 2. Turn ignition switch and radio ON. Verify that battery positive voltage is present at terminal 4 of power antenna. 3. Check grounds B109 and B110.

Location of Antenna

NCEL0087



MEL294H



MEL295H

Antenna Rod Replacement REMOVAL

NCEL0088

NCEL0088S01

1. Remove antenna nut and antenna base.

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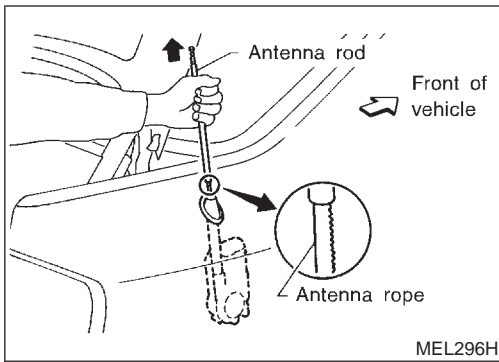
SC

EL

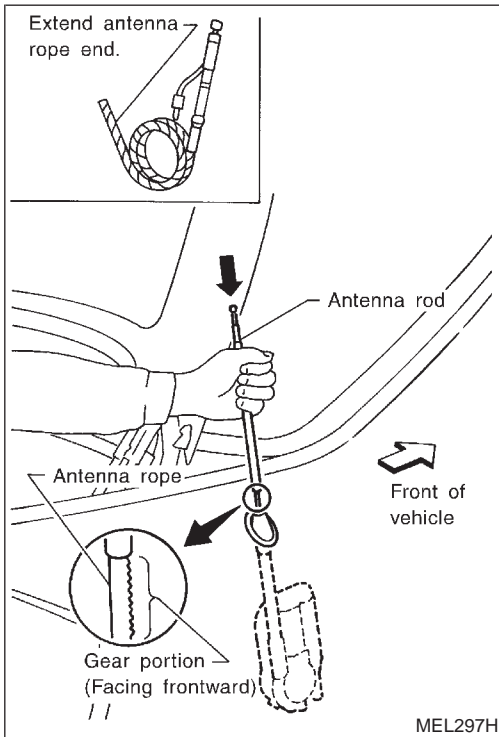
IDX

AUDIO ANTENNA

Antenna Rod Replacement (Cont'd)



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



INSTALLATION

NCEL0088S02

1. Lower antenna rod by operating antenna motor.
2. Insert gear section of antenna rope into place with it facing toward antenna motor.
3. As soon as antenna rope is wound on antenna motor, stop antenna motor. Insert antenna rod lower end into antenna motor pipe.
4. Retract antenna rod completely by operating antenna motor.
5. Install antenna nut [Tightening torque: 2.0 - 3.9 N·m (0.2 - 0.4 kg·m, 17.4 - 34.7 in·lb)] and base.

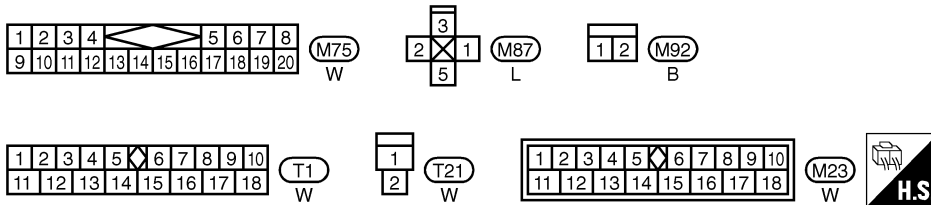
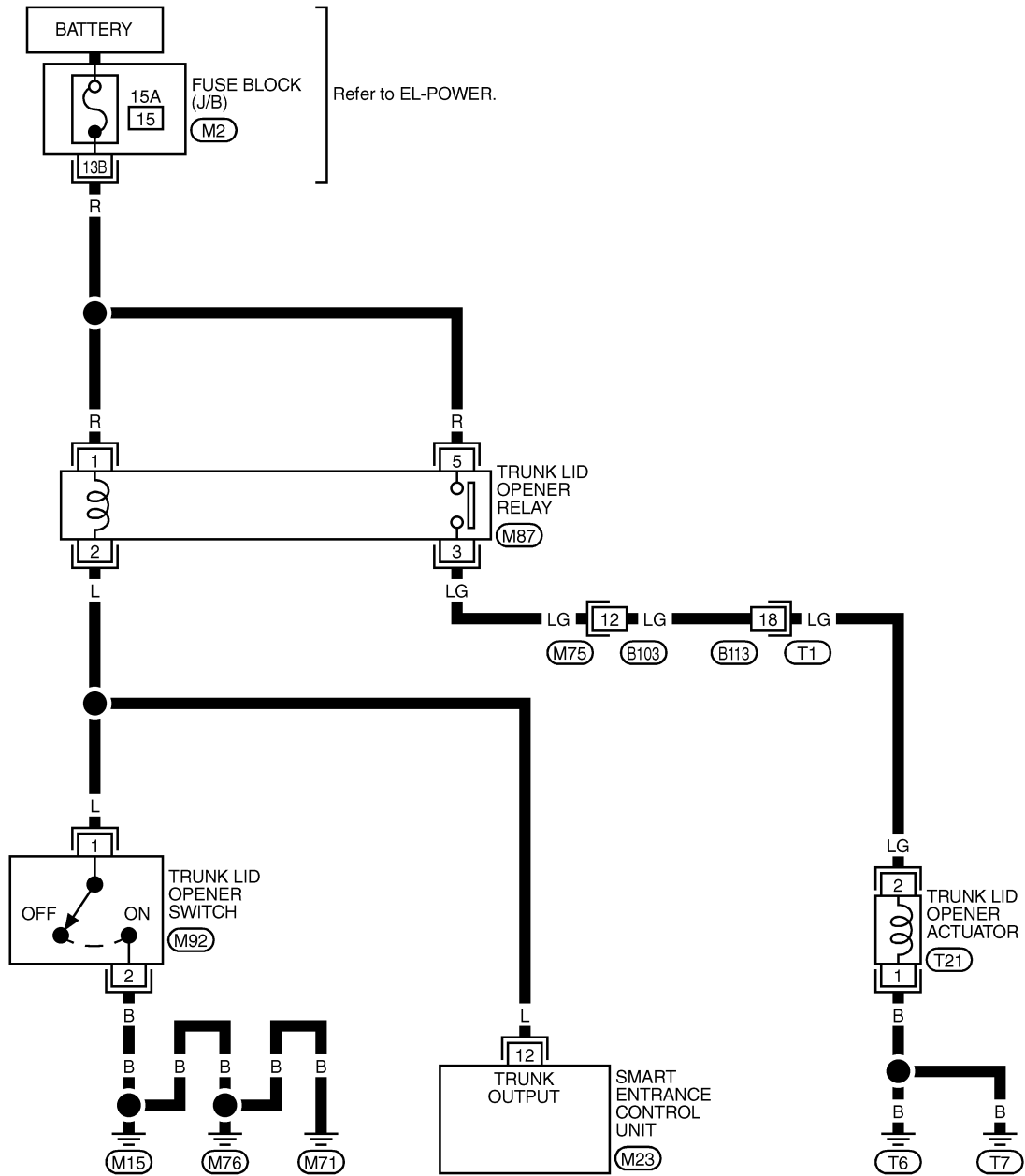
TRUNK LID AND FUEL FILLER LID OPENER

Wiring Diagram — TLID —

Wiring Diagram — TLID —

NCEL0171

EL-TLID-01



REFER TO THE FOLLOWING.
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

GI

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TEL649B

POWER SUNROOF

System Description

System Description

NCEL0172

NCEL0172S01

OUTLINE

Electric sunroof system consists of

- Sunroof switch
- Sunroof motor
- Power window relay
- Smart entrance control unit

Smart entrance control unit controls retained power operation.

RETAINED POWER OPERATION

NCEL0172S02

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 1
- from smart entrance control unit terminal 5.

Ground is always supplied

- to power window relay terminal 2
- through body grounds.

When power and ground is supplied, the power window relay continues to be energized, and the electrical sunroof can be operated.

The retained power operation is canceled when the driver or passenger side door is opened.

POWER SUNROOF

Wiring Diagram — SROOF —

Wiring Diagram — SROOF —

NCEL0089

EL-SROOF-01

GI

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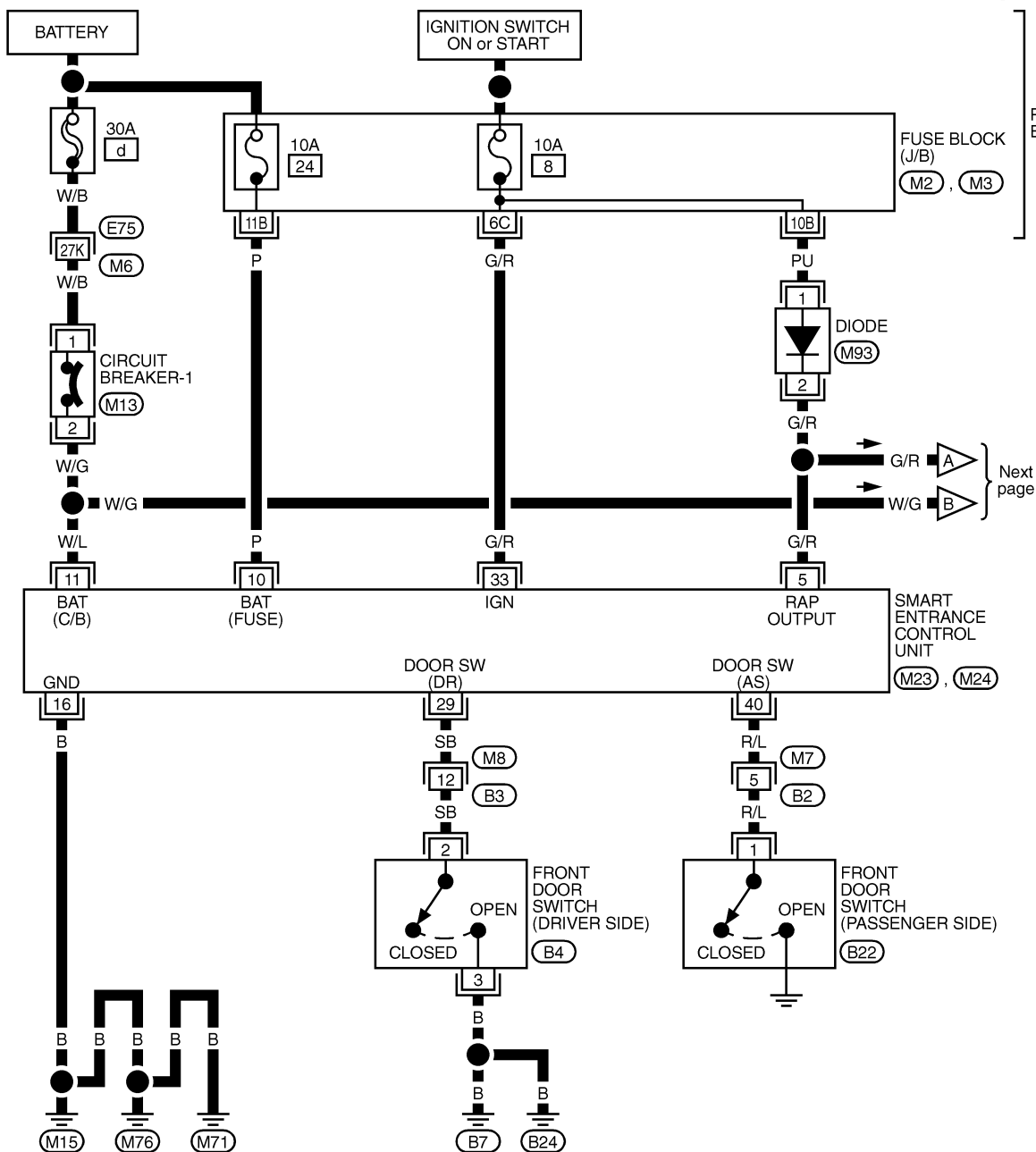
BT

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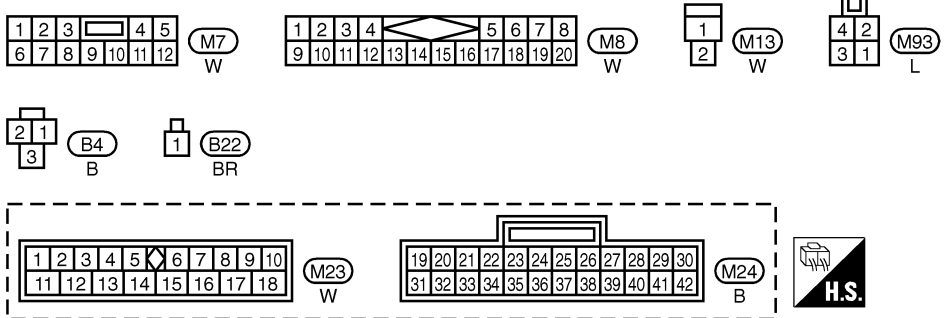
EL

IDX



Refer to EL-POWER.

Next page



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2) , (M3) -FUSE BLOCK-JUNCTION BOX (J/B)

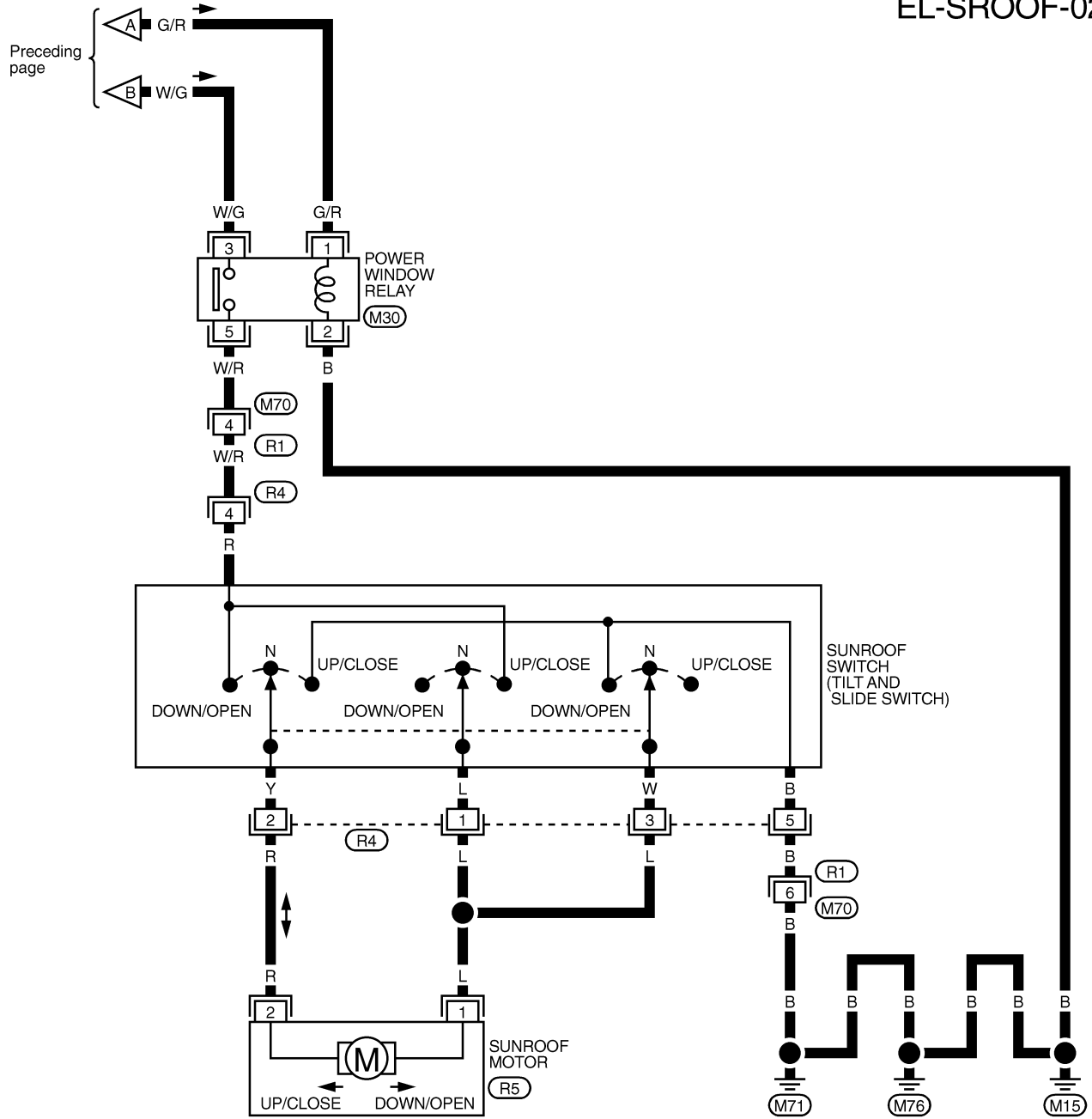


TEL598B

POWER SUNROOF

Wiring Diagram — SROOF — (Cont'd)

EL-SROOF-02



TEL516B

DOOR MIRROR

Wiring Diagram — MIRROR —

Wiring Diagram — MIRROR —

NCEL0090

EL-MIRROR-01

GI

MA

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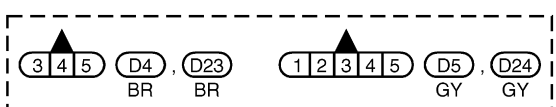
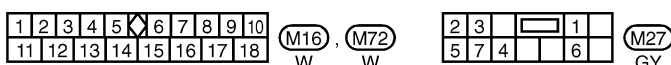
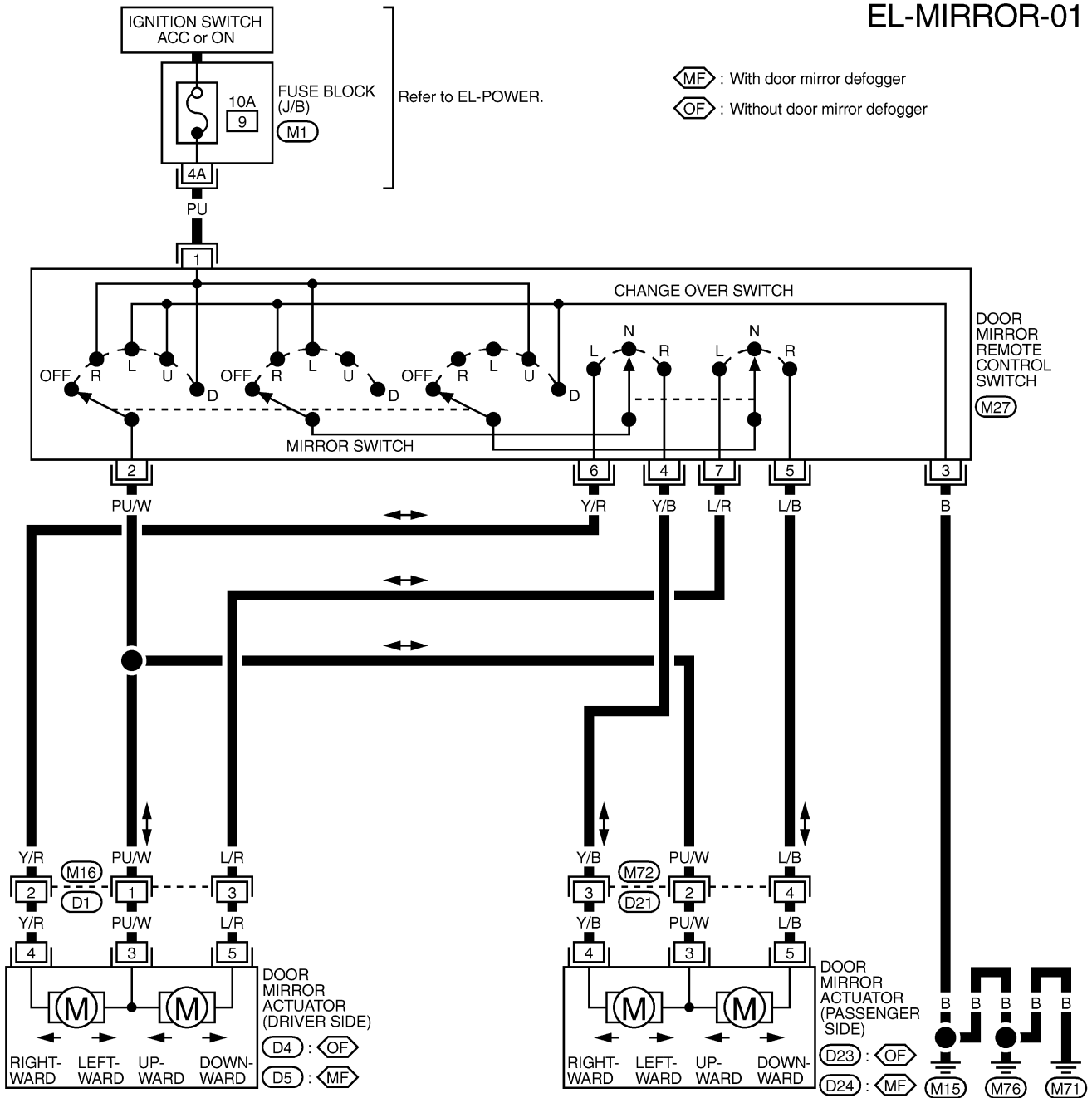
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REFER TO THE FOLLOWING.
M1 - FUSE BLOCK-JUNCTION BOX (J/B)

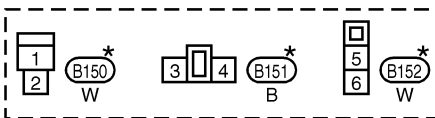
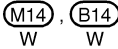
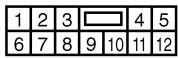
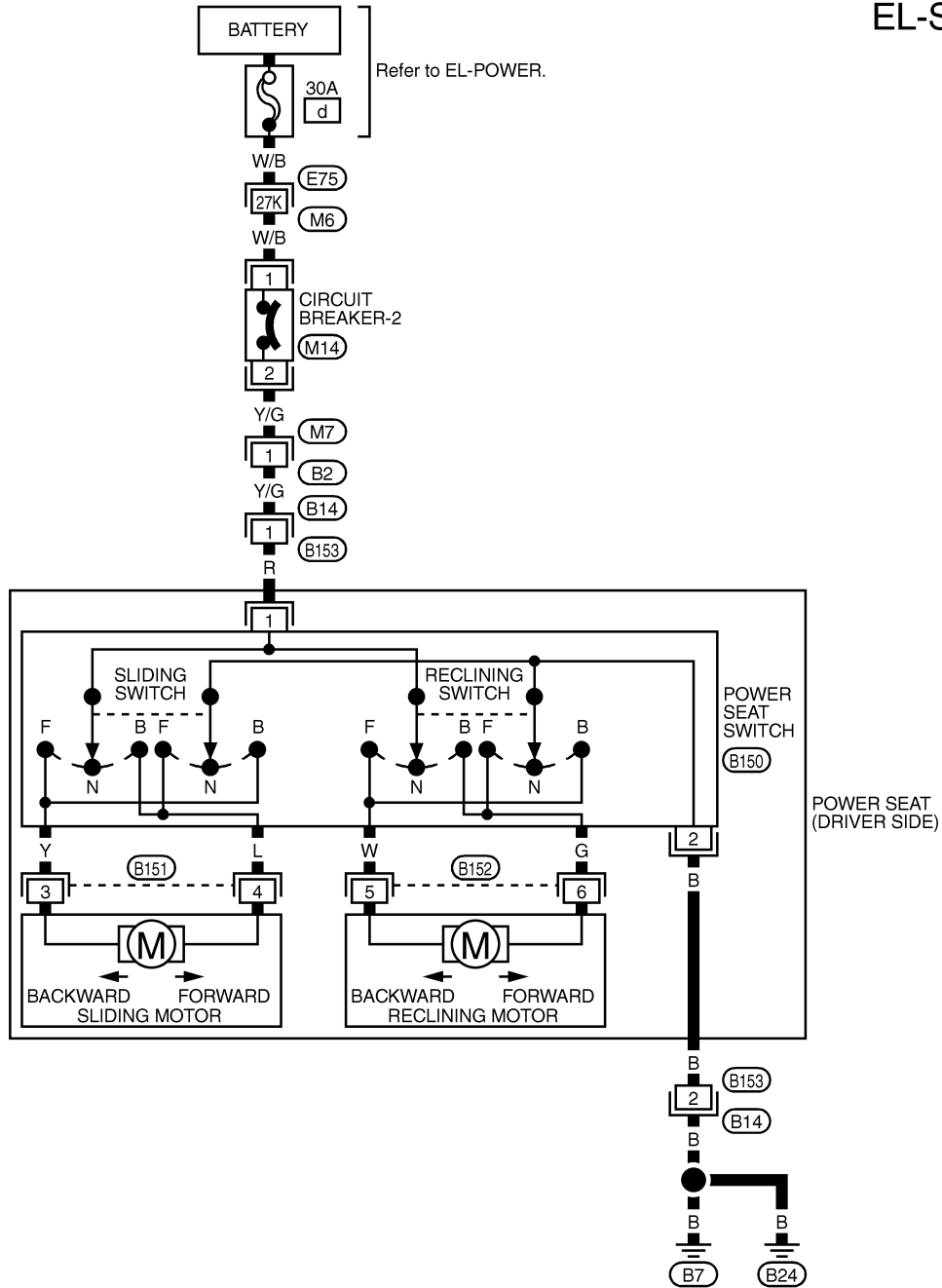
POWER SEAT

Wiring Diagram — SEAT —

Wiring Diagram — SEAT —

NCEL0092

EL-SEAT-01



REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

*: This connector is not shown in "HARNES LAYOUT", EL section.

TEL518B

HEATED SEAT

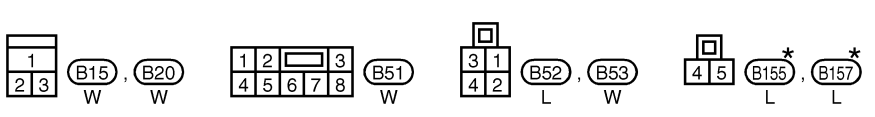
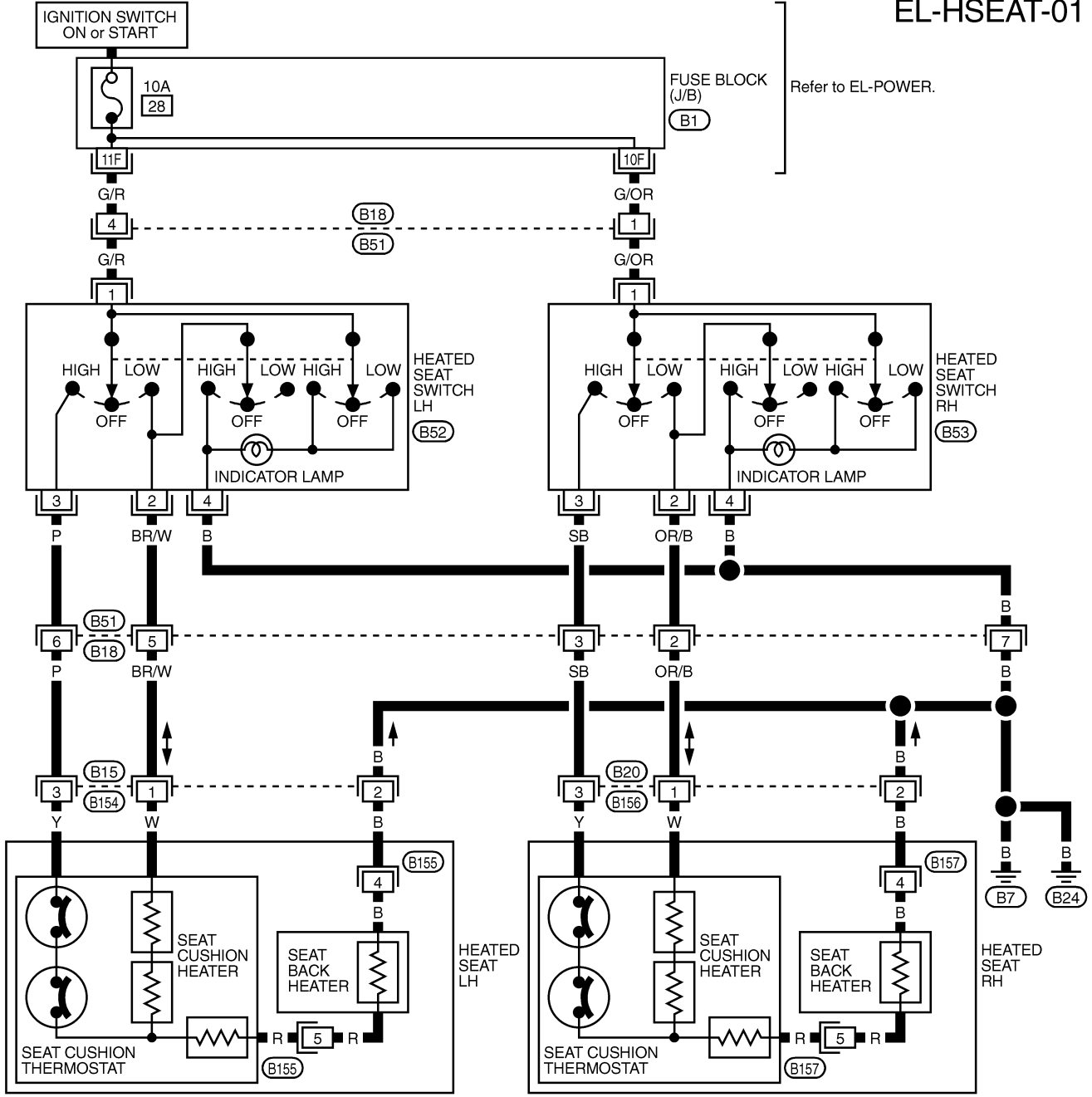
Wiring Diagram — HSEAT —

Wiring Diagram — HSEAT —

NCEL0093

EL-HSEAT-01

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REFER TO THE FOLLOWING.
(B1) - FUSE BLOCK-JUNCTION BOX (J/B)

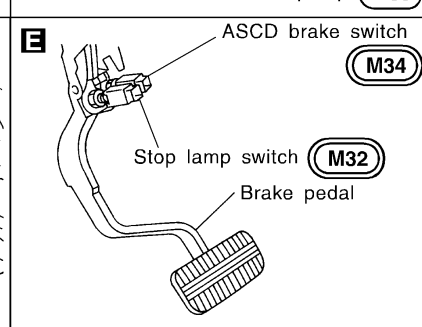
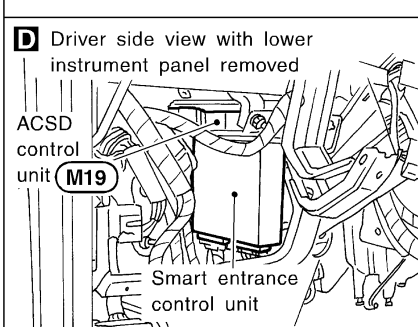
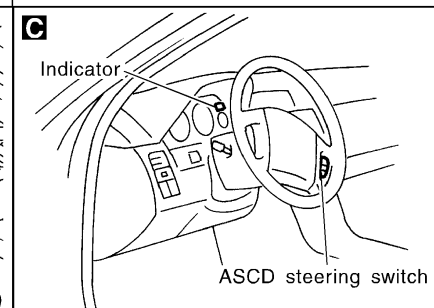
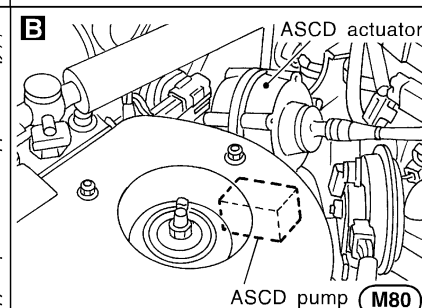
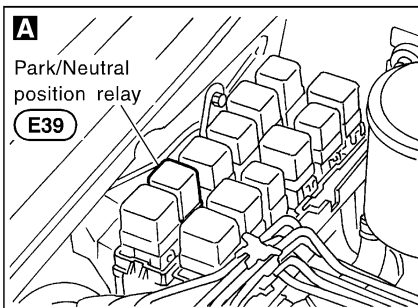
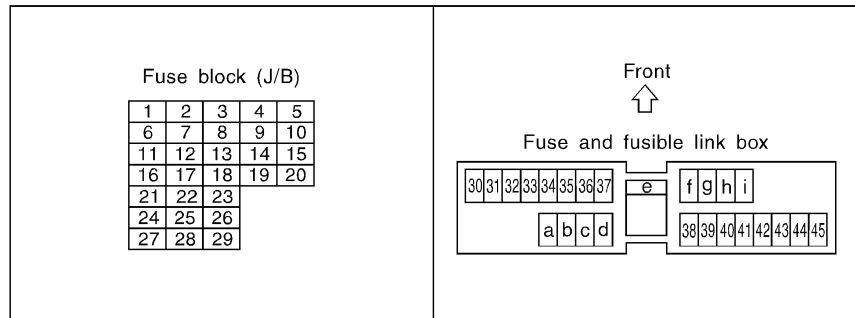
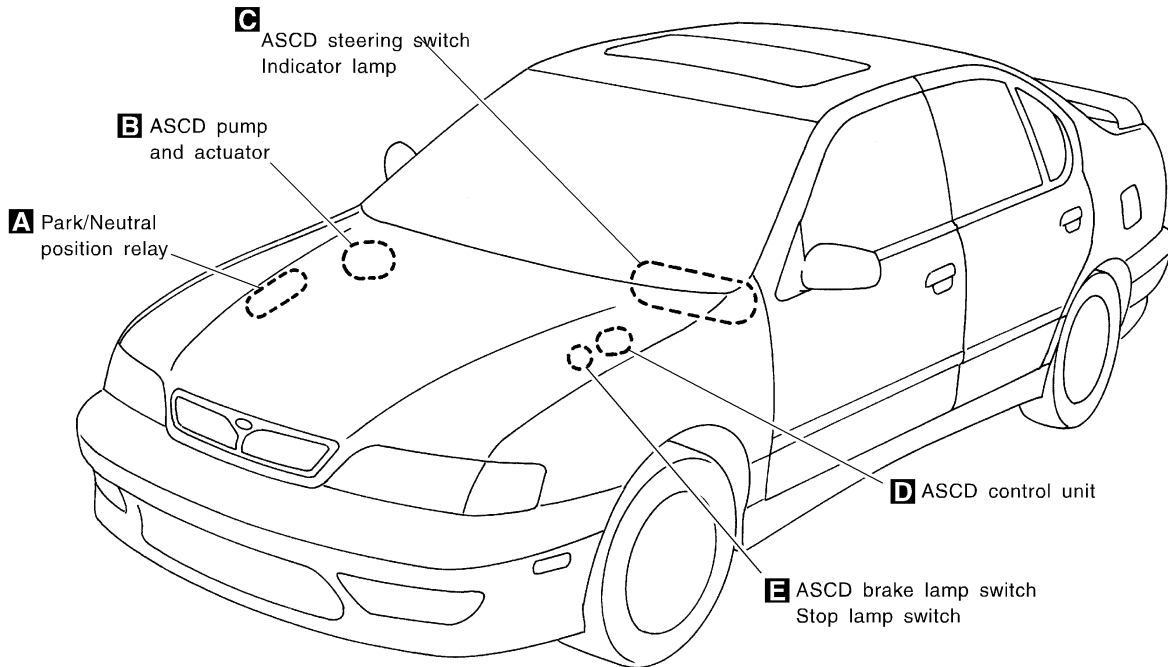
*: This connector is not shown in "HARNES LAYOUT", EL section.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0094



SEL668W

System Description

Refer to Owner's Manual for ASCD operating instructions.

NCEL0095

POWER SUPPLY AND GROUND

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to ASCD clutch switch terminal 1 (M/T models),
- to ASCD brake switch terminal 1 (A/T models) and
- to ASCD control unit terminal 5
- through 10A fuse [No. 11, located in the fuse block (J/B)]
- to combination meter terminal 37,
- through 10A fuse [No. 16, located in the fuse block (J/B)]
- to park/neutral position relay terminal 1 (A/T models),

Power is supplied at all times:

- through 15A fuse [No. 14, located in the fuse block (J/B)]
- to the stop lamp switch terminal 1, and
- through 10A fuse [No. 36, located in the fuse block (J/B)]
- to the horn relay terminal 1.

When park/neutral position is in the P or N position, ground is supplied (A/T models):

- to park/neutral position switch terminal 2
- through body grounds E9 and E28.

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 M15, M71 and M76

then ASCD control unit holds CRUISE condition and illuminates CRUISE indicator.

Ground is supplied:

- to ASCD control unit terminal 15, and
- from combination meter terminal 41.

OPERATION

Set Operation

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

- Ground supplies to ASCD control unit terminal 9 (Main switch is ON position).
- 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 terminal 18 to illuminate SET indicator.

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

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

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

NCEL0095S03

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NCEL0095S04

NCEL0095S0401

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SC

NCEL0095S0402

EL

IDX

NCEL0095S0407

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description (Cont'd)

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

Coast Operation

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. NCEL0095S0403

Accel Operation

When the RESUME/ACCEL switch is depressed, power is supplied NCEL0095S0404

- 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

When any of following condition exists, cruise operation will be canceled. NCEL0095S0405

- 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

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. NCEL0095S0406

- 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

The ASCD pump consists of a vacuum motor, an air valve and a release valve. When the ASCD activates, power is supplied NCEL0095S05

- 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.

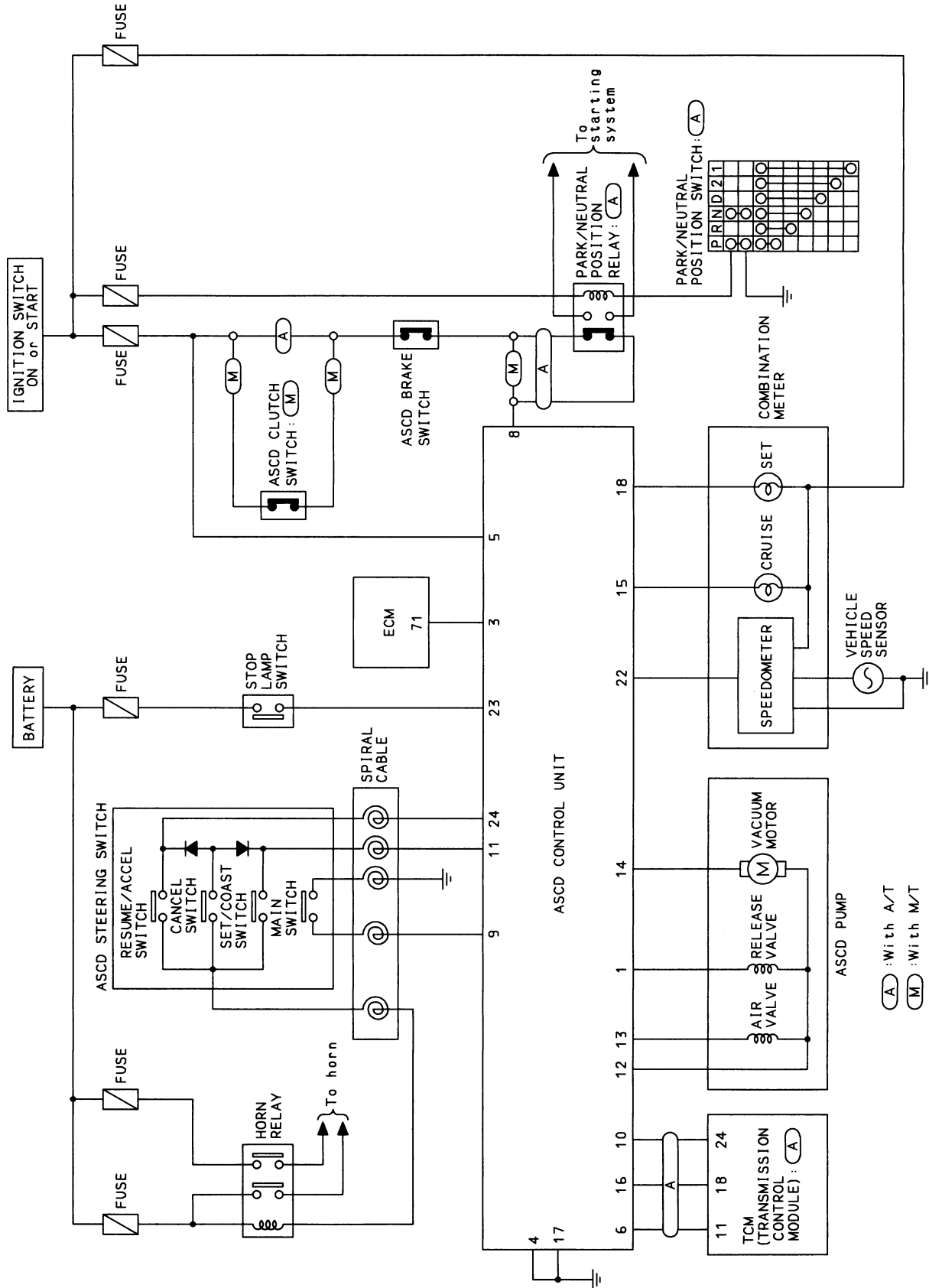
*2: Set position held.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic

Schematic

NCEL0096



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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD —

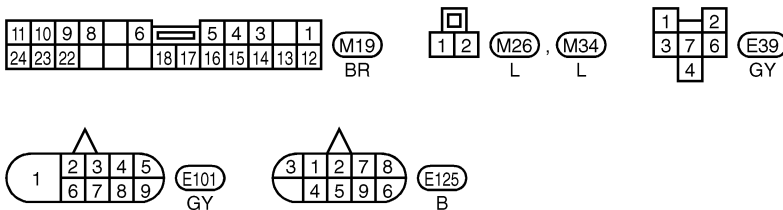
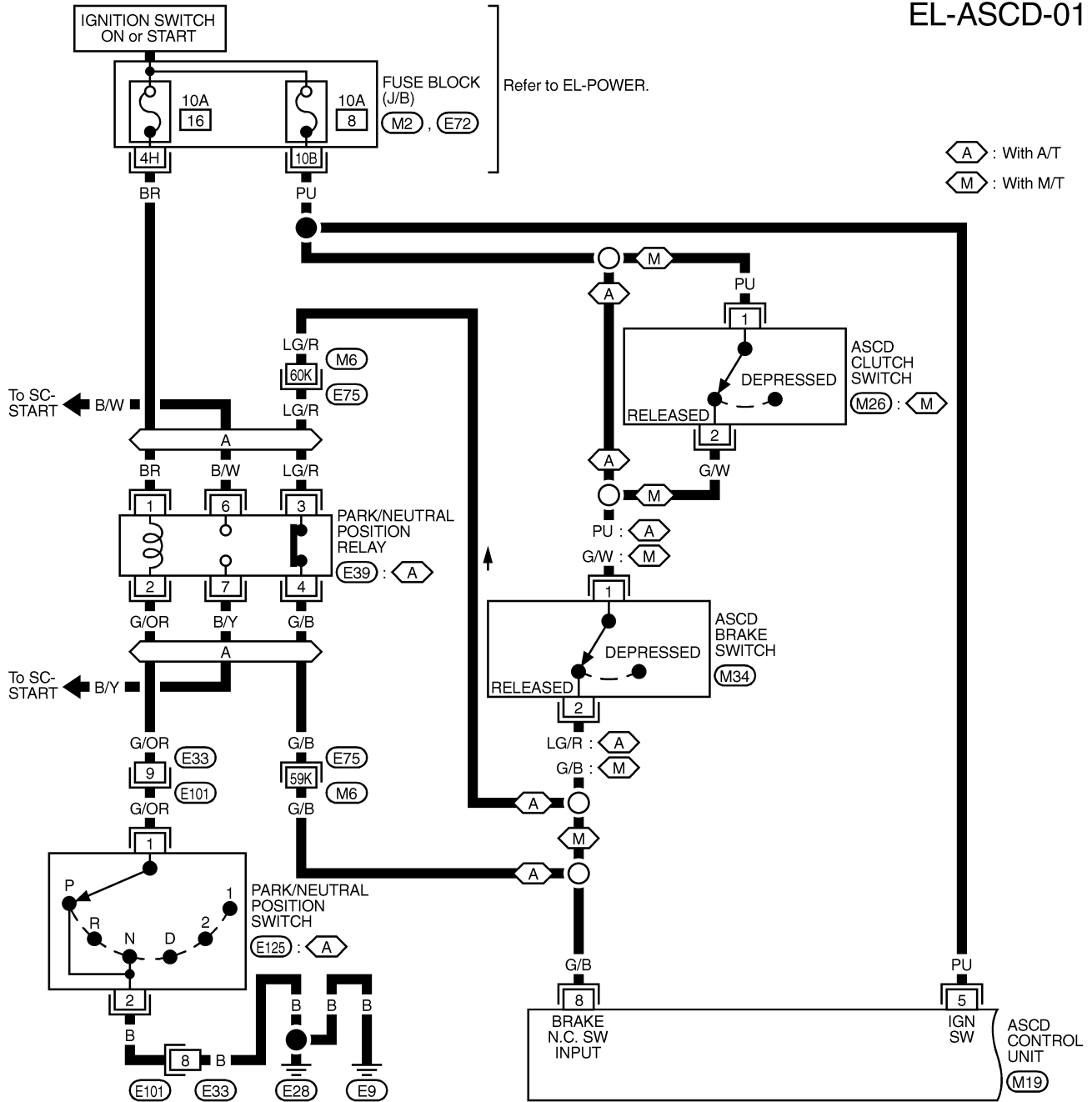
Wiring Diagram — ASCD —

NCEL0097

NCEL0097S01

FIG. 1

EL-ASCD-01



REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

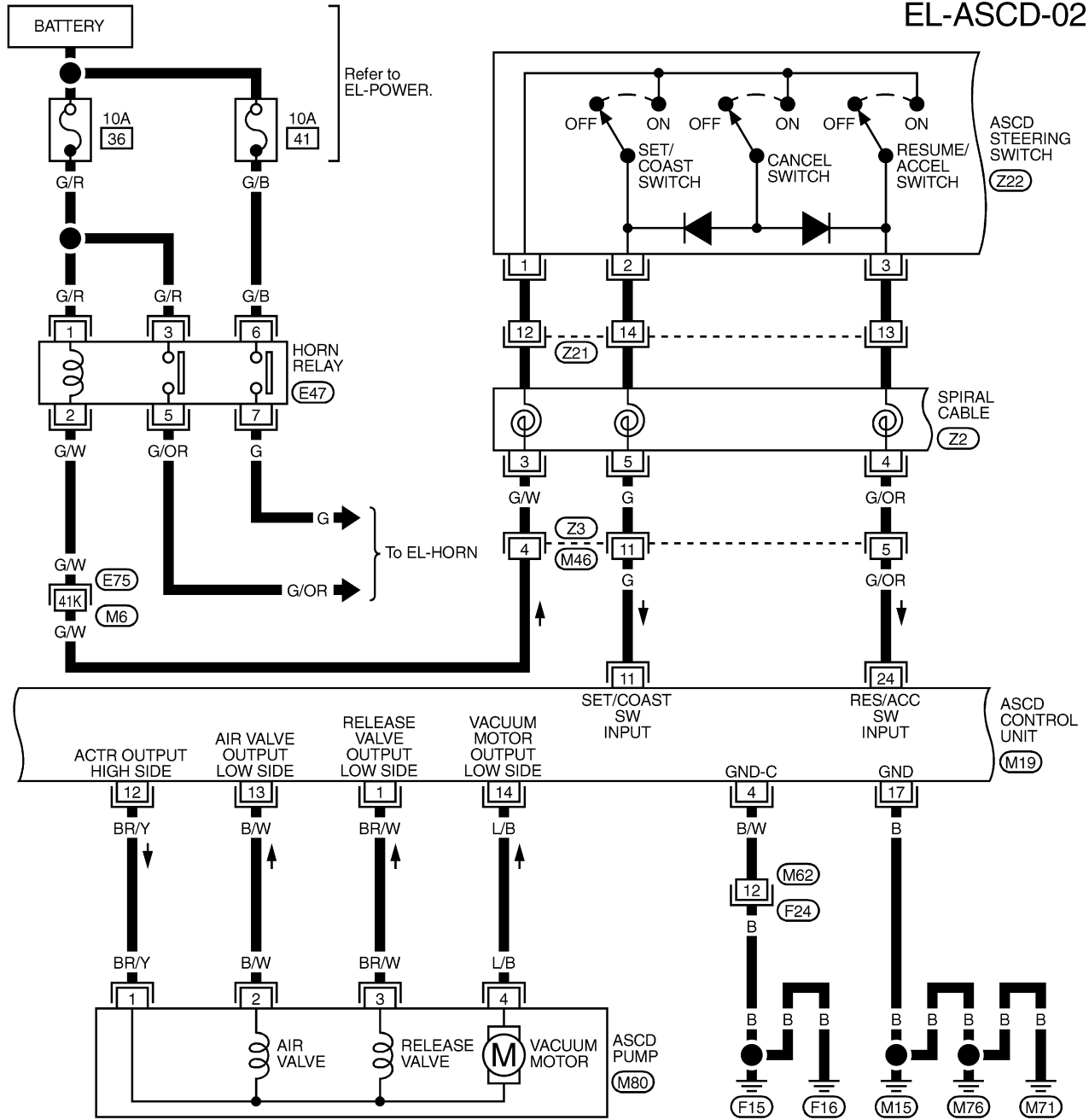
(M2), (E72) -FUSE BLOCK-JUNCTION BOX (J/B)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

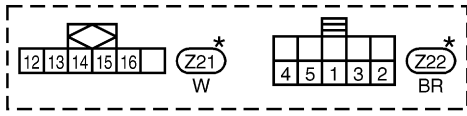
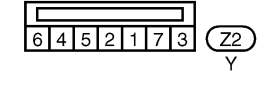
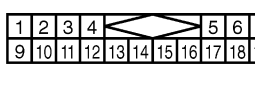
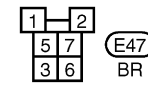
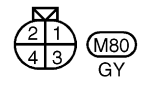
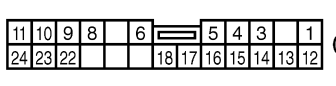
Wiring Diagram — ASCD — (Cont'd)

FIG. 2

NCEL0097S02



GI
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ST
RS
BT
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IDX



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

REFER TO THE FOLLOWING.
(E75) -SUPER MULTIPLE JUNCTION (SMJ)

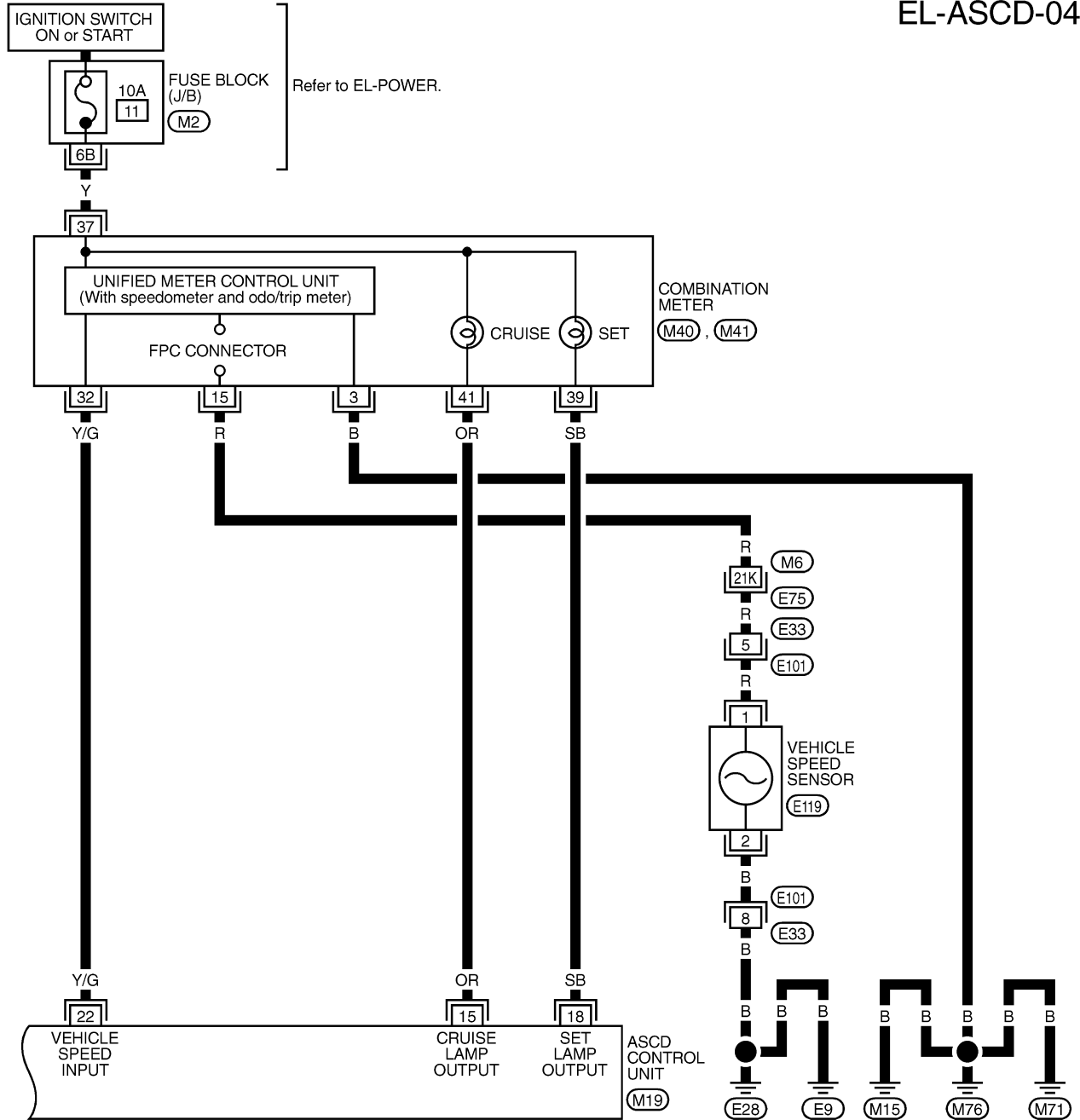
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

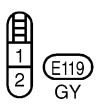
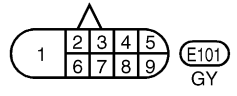
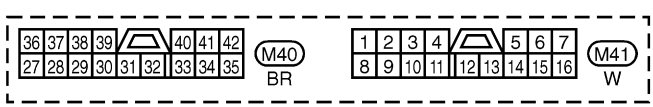
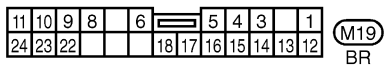
FIG. 4

NCEL0097S04

EL-ASCD-04



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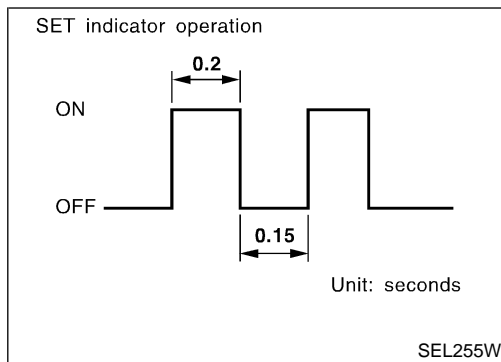


REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL524B

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Fail-safe System



Fail-safe System

NCEL0098

DESCRIPTION

NCEL0098S01

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

NCEL0098S02

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

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

NCEL0099

NCEL0099S01

PROCEDURE	Diagnostic procedure						
REFERENCE PAGE (EL-)	156	157	158	159	160	160	162
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-156) 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.

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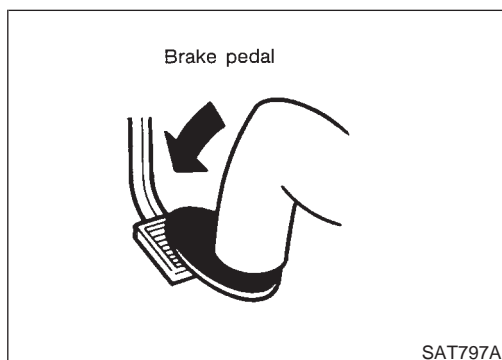
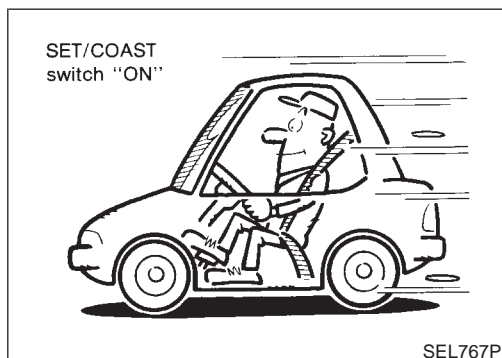
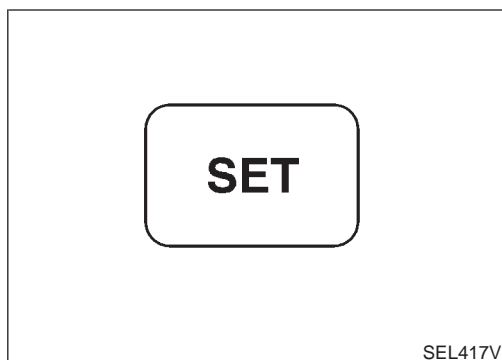
SC

EL

IDX

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)



FAIL-SAFE SYSTEM CHECK

=NCEL0099S02

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-159.

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-160.
- ASCD pump circuit. Refer to EL-160.
- Replace control unit.

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-158.

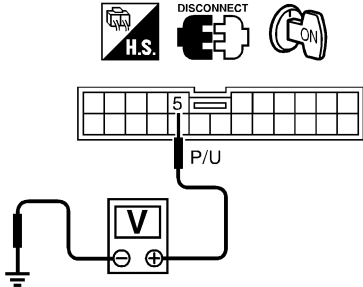
5. END. (System is OK.)

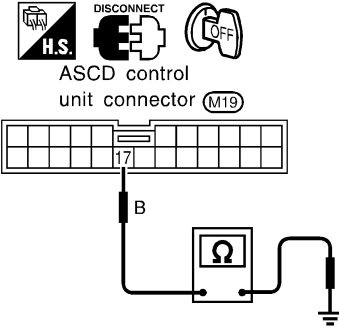
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NCEL0099S03

1	CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT	
<p>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.</p> <p style="text-align: center;">ASCD control unit connector (M19)</p>  <p style="text-align: right;">Does battery voltage exist?</p> <p style="text-align: right;">SEL256WA</p>		
Refer to wiring diagram in EL-150.		
Yes	▶	GO TO 2.
No	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 8 located in the fuse block) ● Harness for open or short

2	CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT	
<p>Check continuity between ASCD control unit harness connector terminal 17 and body ground.</p> <p style="text-align: center;">ASCD control unit connector (M19)</p>  <p style="text-align: right;">Does continuity exist?</p> <p style="text-align: right;">SEL257WA</p>		
Refer to wiring diagram in EL-151.		
Yes	▶	Power supply and ground circuit is OK.
No	▶	Repair harness.

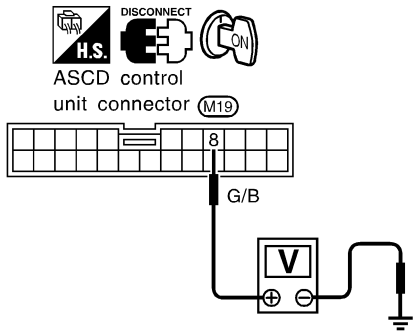
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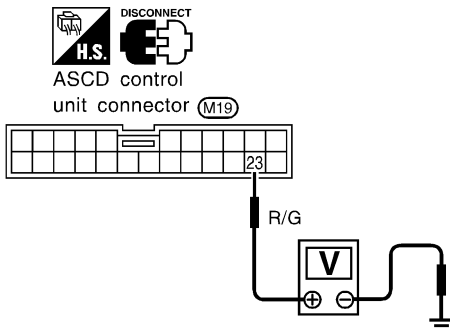
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD BRAKE/STOP LAMP SWITCH CHECK

=NCEL0099S06

1	CHECK ASCD BRAKE SWITCH CIRCUIT
<p>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.</p>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">  </div> <div style="width: 65%;"> <p>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</p> <p>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.</p> </div> </div>	
SEL258WB	
OK or NG	
OK	▶ GO TO 2.
NG	▶ Check the following.
	<ul style="list-style-type: none"> ● ASCD brake switch Refer to "Electrical Component Inspection" (EL-164). ● Park/neutral position switch Refer to "Electrical Component Inspection" (EL-164). ● Park/neutral position relay ● ASCD clutch switch Refer to "Electrical Component Inspection" (EL-164). ● Harness for open or short

2	CHECK STOP LAMP SWITCH CIRCUIT
<p>1. Disconnect ASCD control unit harness connector. 2. Check voltage between ASCD control unit harness connector terminal 23 and ground.</p>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">  </div> <div style="width: 65%;"> <p>Voltage [V]: Stop lamp switch: Depressed Apporox. 12 Stop lamp switch: Released 0</p> </div> </div>	
Refer to wiring diagram in EL-152.	
SEL259WA	
OK or NG	
OK	▶ ASCD brake/stop lamp switch is OK.
NG	▶ Check the following.
	<ul style="list-style-type: none"> ● 15A fuse [No. 14, 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-164).

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD STEERING SWITCH CHECK

=NCEL0099S07

1	CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT																																			
<p>Check voltage between ASCD control unit harness connector terminals and ground.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>DISCONNECT H.S. ASCD control unit connector (M19)</p> </div> <div style="width: 45%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminal No.</th> <th colspan="2">Switch condition</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>Pressed</th> <th>Released</th> </tr> </thead> <tbody> <tr> <td>MAIN SW</td> <td>9</td> <td>Ground</td> <td>0V</td> <td>Approx. 9V</td> </tr> <tr> <td>SET/COAST SW</td> <td>11</td> <td>Ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td>RESUME/ACC SW</td> <td>24</td> <td>Ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td rowspan="2">CANCEL SW</td> <td>11</td> <td>Ground</td> <td>12V</td> <td>0V</td> </tr> <tr> <td>24</td> <td>Ground</td> <td>12V</td> <td>0V</td> </tr> </tbody> </table> </div> </div> <p>Refer to wiring diagram in EL-151 and EL-152.</p> <p style="text-align: right;">SEL260WA</p>					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
	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																																
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	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 36, located in the relay box) ● Horn relay ● Harness for open or short 	

3	CHECK ASCD STEERING SWITCH																																										
<p>1. Disconnect ASCD steering switch. 2. Check continuity between terminals by pushing each switch.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>DISCONNECT T.S. ASCD steering switch (Z22)</p> </div> <div style="width: 45%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Switch</th> <th colspan="5">Terminal</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>MAIN</td> <td></td> <td></td> <td></td> <td>○</td> <td>○</td> </tr> <tr> <td>RESUME/ACCEL</td> <td>○</td> <td></td> <td>○</td> <td></td> <td></td> </tr> <tr> <td>SET/COAST</td> <td>○</td> <td>○</td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="2">CANCEL</td> <td>○</td> <td>▶</td> <td>○</td> <td></td> <td></td> </tr> <tr> <td>○</td> <td>▶</td> <td>○</td> <td></td> <td></td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL178X</p>				Switch	Terminal					1	2	3	4	5	MAIN				○	○	RESUME/ACCEL	○		○			SET/COAST	○	○				CANCEL	○	▶	○			○	▶	○		
Switch	Terminal																																										
	1	2	3	4	5																																						
MAIN				○	○																																						
RESUME/ACCEL	○		○																																								
SET/COAST	○	○																																									
CANCEL	○	▶	○																																								
	○	▶	○																																								
OK or NG																																											
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Harness for open or short between ASCD steering switch and ASCD control unit ● Main switch ground circuit 																																									
NG	▶	Replace ASCD steering switch.																																									

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

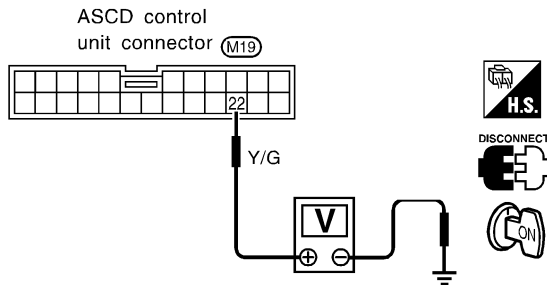
VEHICLE SPEED SENSOR CHECK

=NCEL0099S08

1	CHECK SPEEDOMETER OPERATION	
Does speedometer operate normally?		
Yes	▶	GO TO 2.
No	▶	Check speedometer and vehicle speed sensor circuit. Refer to EL-92.

2 CHECK VEHICLE SPEED INPUT

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?

SEL263WA

Refer to wiring diagram in EL-153.

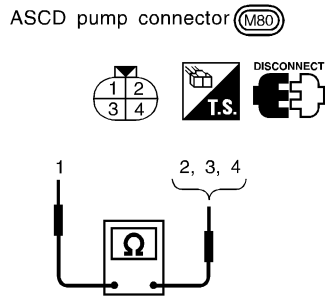
Yes	▶	Vehicle speed sensor is OK.
No	▶	Check harness for open or short between ASCD control unit terminal 22 and combination meter terminal 32.

ASCD PUMP CIRCUIT CHECK

NCEL0099S09

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

Refer to wiring diagram in EL-151.

SEL262WA

OK or NG


OK	▶	GO TO 2.
NG	▶	Replace ASCD pump.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)


Trouble Diagnoses (Cont'd)

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.

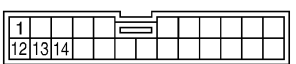


DISCONNECT
H.S.




DISCONNECT
T.S.

ASCD control unit connector (M19)




1, 12, 13, 14

ASCD pump connector (M80)



1, 2, 3, 4



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

Continuity should exist.

SEL269WA

OK or NG


OK	▶	GO TO 3.
NG	▶	Repair harness.

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3 CHECK ASCD PUMP POWER SUPPLY

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.

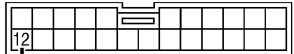


CONNECT
H.S.

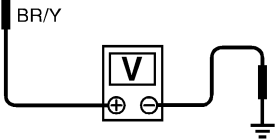


CONNECT
T.S.

ASCD control unit connector (M19)



12



BR/Y

Battery voltage should exist.

SEL381WA

OK or NG

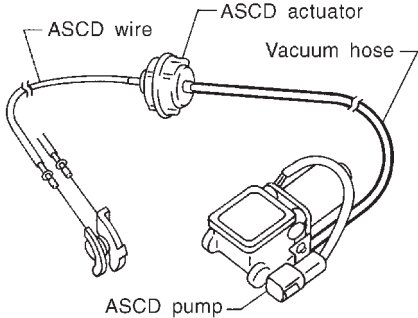
OK	▶	ASCD pump power supply is OK.
NG	▶	Replace ASCD control unit.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

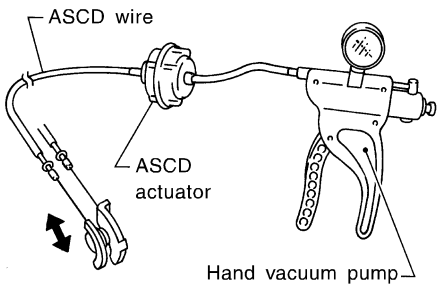
Trouble Diagnoses (Cont'd)

ASCD ACTUATOR/PUMP CHECK

=NCEL0099S10

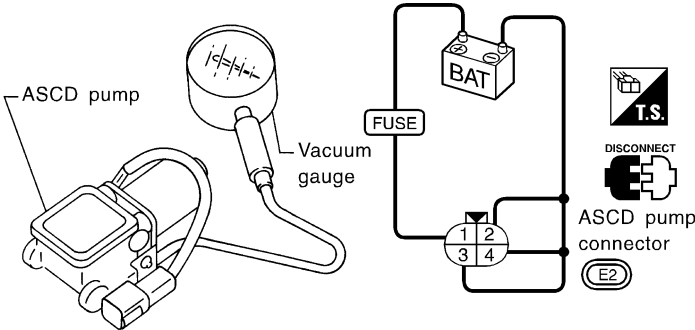
1	CHECK VACUUM HOSE	
<p>Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks or fracture.</p> <div style="text-align: center;">  <p>Labels in diagram: ASCD wire, ASCD actuator, Vacuum hose, ASCD pump.</p> </div> <p style="text-align: right;">MEL402G</p>		
OK or NG		
OK	▶	GO TO 2.
NG	▶	Repair or replace hose.

2	CHECK ASCD WIRE	
<p>Check wire for improper installation, rust formation or breaks.</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	GO TO 3.
NG	▶	Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-165).

3	CHECK ASCD ACTUATOR	
<p>1. Disconnect vacuum hose from ASCD actuator. 2. Connect the hose of hand vacuum pump to ASCD actuator.</p> <div style="display: flex; align-items: center;"> <div style="flex: 1;">  <p>Labels in diagram: ASCD wire, ASCD actuator, Hand vacuum pump.</p> </div> <div style="flex: 2; padding-left: 20px;"> <p>Apply -40 kPa (-0.41 kg/cm², -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.</p> <p>Vacuum pressure decrease: Less than 2.7 kPa (0.028 kg/cm², 0.39 psi)</p> </div> </div> <p style="text-align: right;">SEL264W</p>		
OK or NG		
OK	▶	GO TO 4.
NG	▶	Replace ASCD actuator.

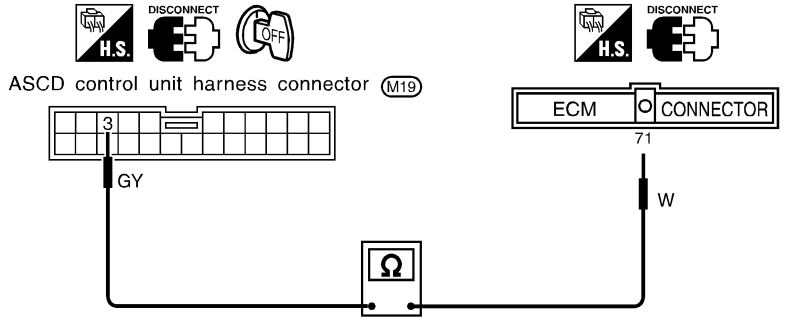
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

4	CHECK ASCD PUMP	<ol style="list-style-type: none"> 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. 																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">12V direct current supply terminals</th> <th rowspan="2">Operation</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td>Air valve</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Close</td> </tr> <tr> <td>Release valve</td> <td style="text-align: center;">3</td> <td style="text-align: center;">Close</td> </tr> <tr> <td>Vacuum motor</td> <td style="text-align: center;">4</td> <td style="text-align: center;">Operate</td> </tr> </tbody> </table> <p>A vacuum pressure of at least -40 kPa (-0.41 kg/cm², -5.8 psi) should be generated.</p> <p style="text-align: right;">SEL265W</p>		12V direct current supply terminals		Operation	(+)	(-)	Air valve	1	2	Close	Release valve	3	Close	Vacuum motor	4	Operate
	12V direct current supply terminals			Operation														
	(+)	(-)																
Air valve	1	2	Close															
Release valve		3	Close															
Vacuum motor		4	Operate															
OK or NG																		
OK	▶	INSPECTION END																
NG	▶	Replace ASCD pump.																

THROTTLE POSITION SENSOR SIGNAL CHECK

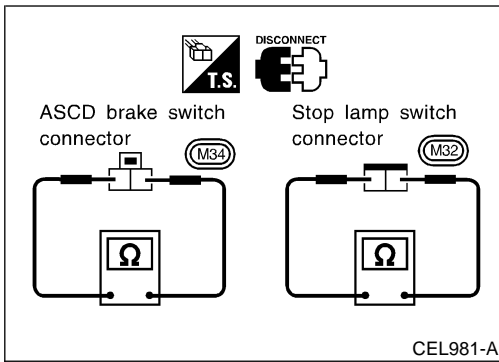
NCEL0099S11

1	CHECK THROTTLE POSITION SENSOR SIGNAL CIRCUIT	<ol style="list-style-type: none"> 1. Disconnect ECM harness connector and ASCD control unit harness connector. 2. Check continuity between ECM terminal 71 and ASCD control unit terminal 3.
		<p style="text-align: center;">Continuity should exist.</p> <p style="text-align: right;">SEL268WA</p>
OK or NG		
OK	▶	Refer to "TROUBLE DIAGNOSIS FOR INTERMITTENT INCIDENT" in EC section. (EC-146)
NG	▶	Repair harness.

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Electrical Component Inspection



Electrical Component Inspection

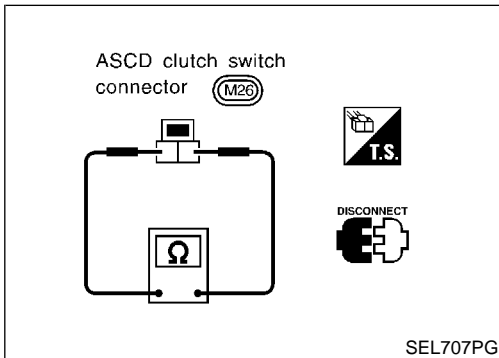
ASCD BRAKE SWITCH AND STOP LAMP SWITCH

=NCEL0100

NCEL0100S02

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

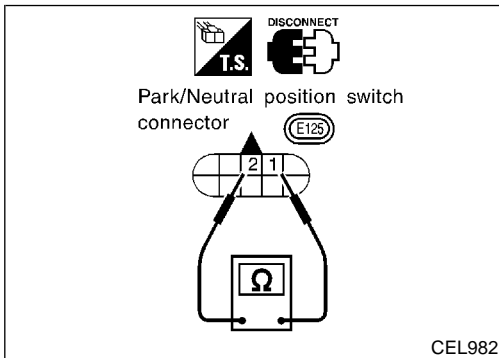
Check each switch after adjusting brake pedal — refer to BR-12, “BRAKE PEDAL AND BRACKET”.



ASCD CLUTCH SWITCH (FOR M/T MODELS)

NCEL0100S04

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



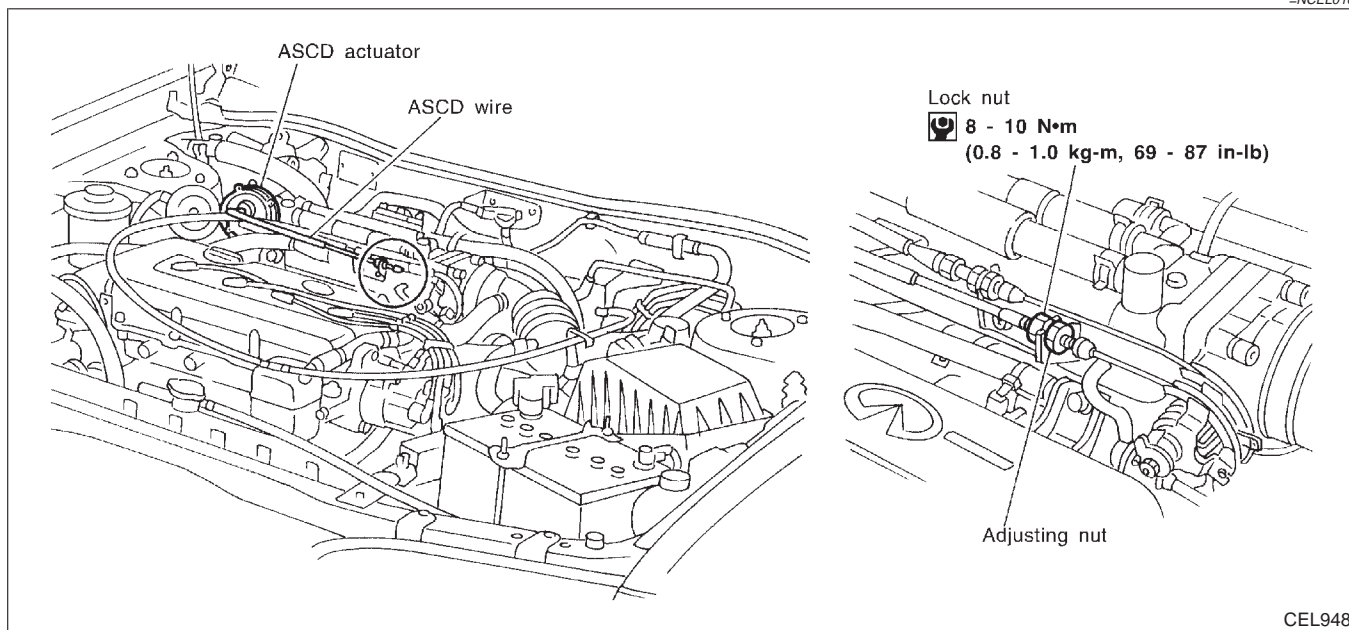
PARK/NEUTRAL POSITION SWITCH (FOR A/T MODELS)

NCEL0100S03

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

ASCD Wire Adjustment

=NCEL0101



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.

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POWER WINDOW

System Description

System Description

NCEL0102

Power is supplied at all times

- from 30A fusible link (letter **d**, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to power window relay terminal 3 and
- to power window main switch terminal 7.

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

- through 10A fuse [No. 8, located in the fuse block (J/B)]
- to power window relay terminal 1.

Ground is supplied to power window relay terminal 2

- through body grounds M15, M71 and M76.

Then power window relay is energized and power is supplied

- through power window relay terminal 5
- to power window main switch terminal 11,
- to front power window sub-switch terminal 5 and
- to rear power window switch LH and RH terminal 5.

MANUAL OPERATION

Front Door LH

Ground is supplied

- to power window main switch terminal 6
- through body grounds M15, M71 and M76.

WINDOW UP

When the front LH switch in the power window main switch is pulled in the up position, power is supplied

- to front power window regulator LH terminal 3
- through power window main switch terminal 2.

Ground is supplied

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

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

WINDOW DOWN

When the LH switch in the power window main switch is pressed in the down position, power is supplied

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

Ground is supplied

- to front power window regulator LH terminal 3
- through power window main switch terminal 2.

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

Front Door RH

Ground is supplied

- to power window main switch terminal 6
- through body grounds M15, M71 and M76.

NOTE:

Numbers in parentheses are terminal numbers, when power window switch is pressed in the UP and DOWN positions respectively.

POWER WINDOW MAIN SWITCH OPERATION

Power is supplied

- through power window main switch 4 or 5
- to front power window switch (passenger side) 4 or 3.

NCEL0102S01

NCEL0102S0101

NCEL0102S0102

The subsequent operation is the same as the power window switch operation.

POWER WINDOW SWITCH OPERATION

Power is supplied

- through front power window switch (passenger side) 2 or 1
- to front power window regulator (passenger side) 2 or 1.

Ground is supplied

- to front power window regulator (passenger side) 1 or 2
- through front power window switch (passenger side) 1 or 2
- to front power window switch (passenger side) 3 or 4
- through power window main switch 5 or 4.

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

Rear Door

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

AUTO OPERATION

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

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

RETAINED POWER OPERATION

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 1
- from smart entrance control unit terminal 5.

Ground is always supplied

- to power window relay terminal 2
- through body grounds.

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

CPU (combined with 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 CPU (combined with 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

CPU (combined with 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).

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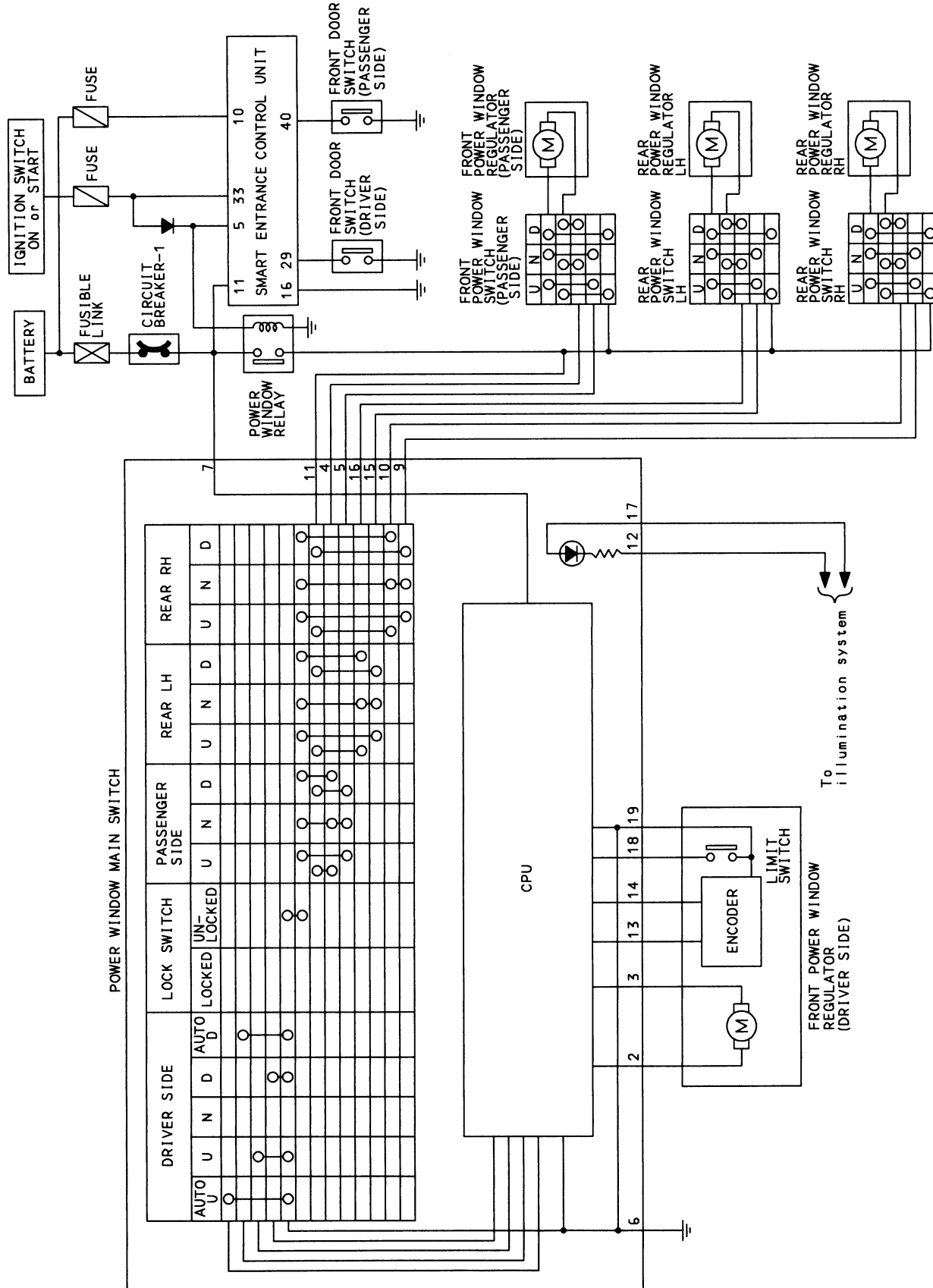
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POWER WINDOW

Schematic

NCEL0103

Schematic



TEL525B

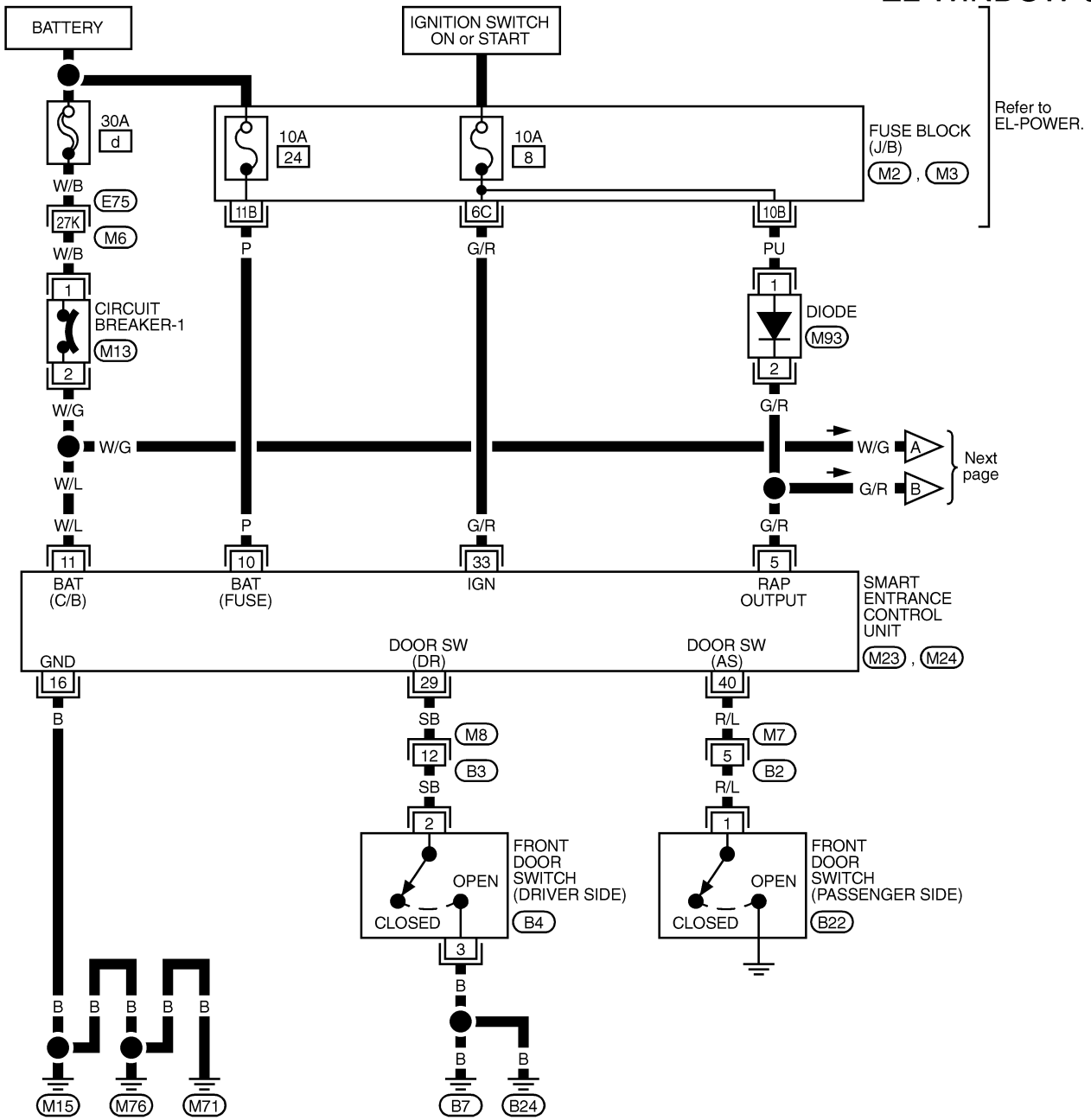
POWER WINDOW

Wiring Diagram — WINDOW —

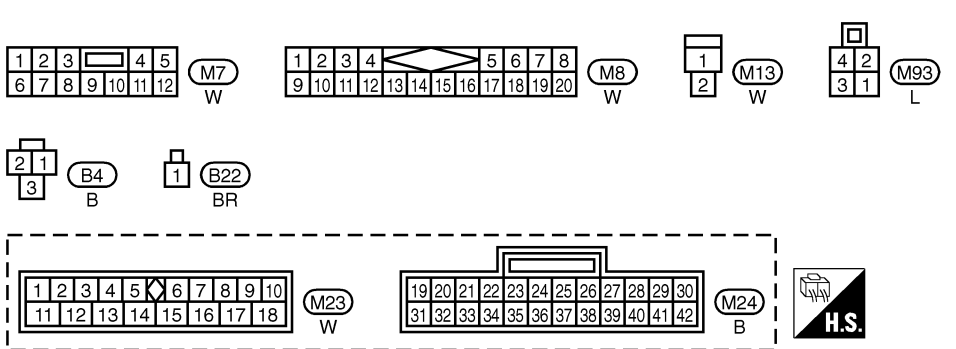
Wiring Diagram — WINDOW —

NCEL0104

EL-WINDOW-01



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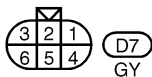
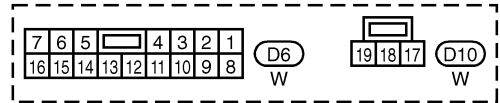
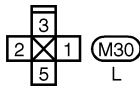
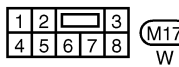
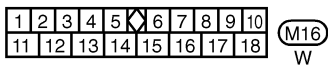
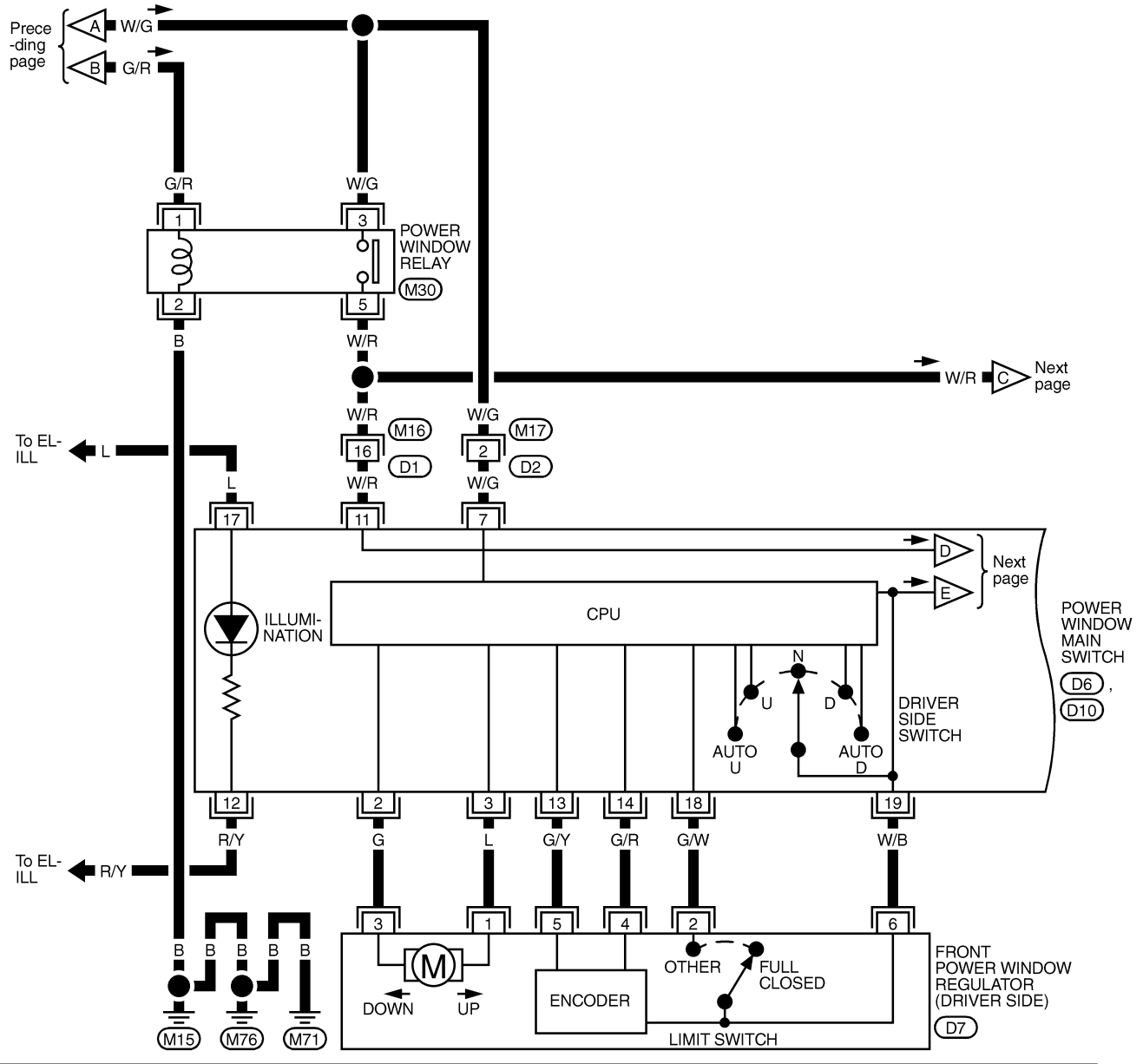


TEL599B

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02

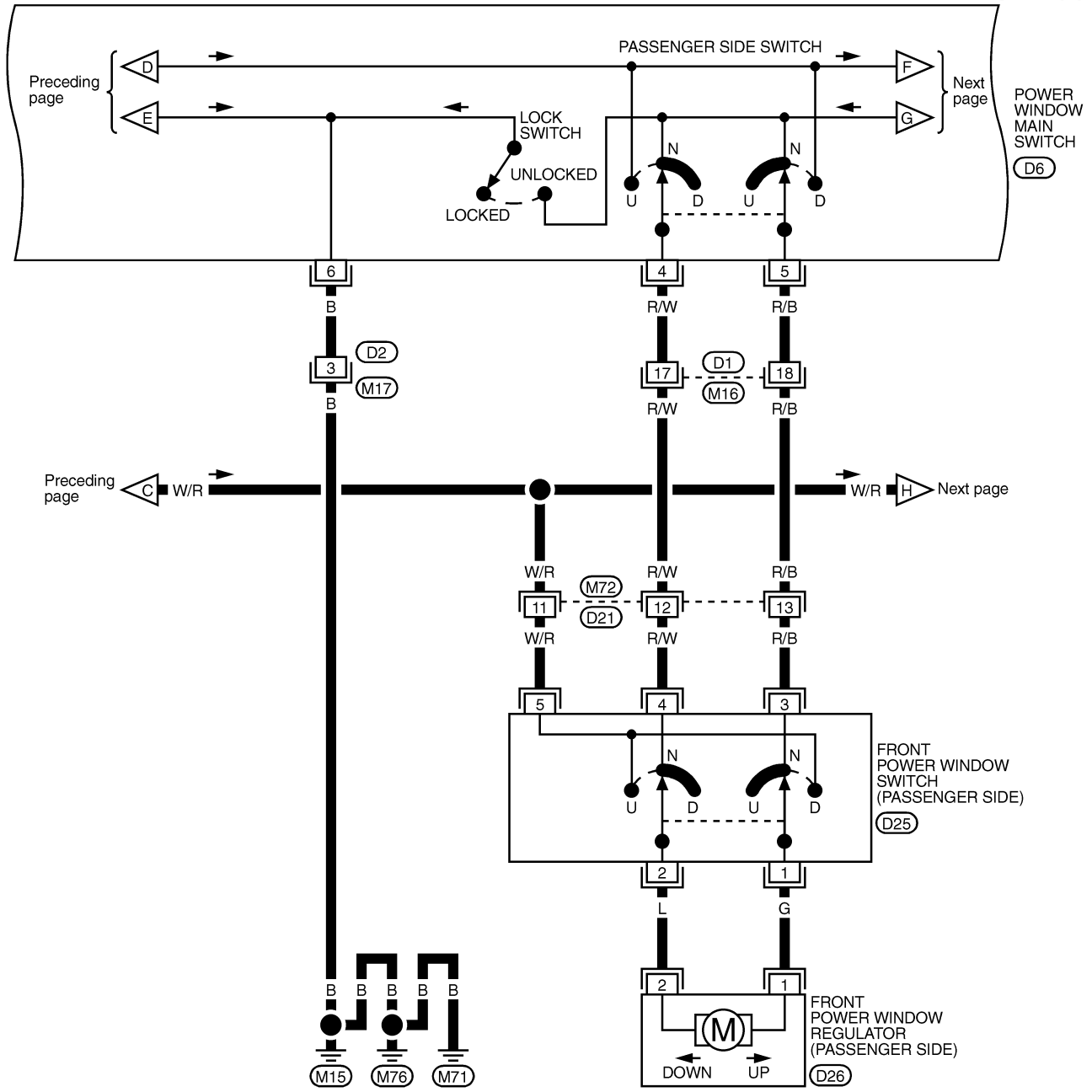


TEL526B

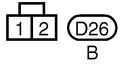
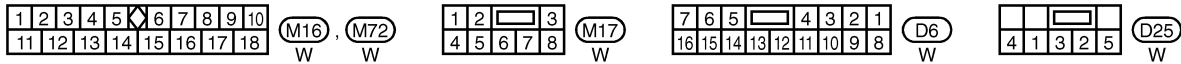
POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03



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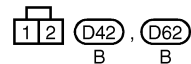
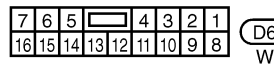
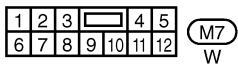
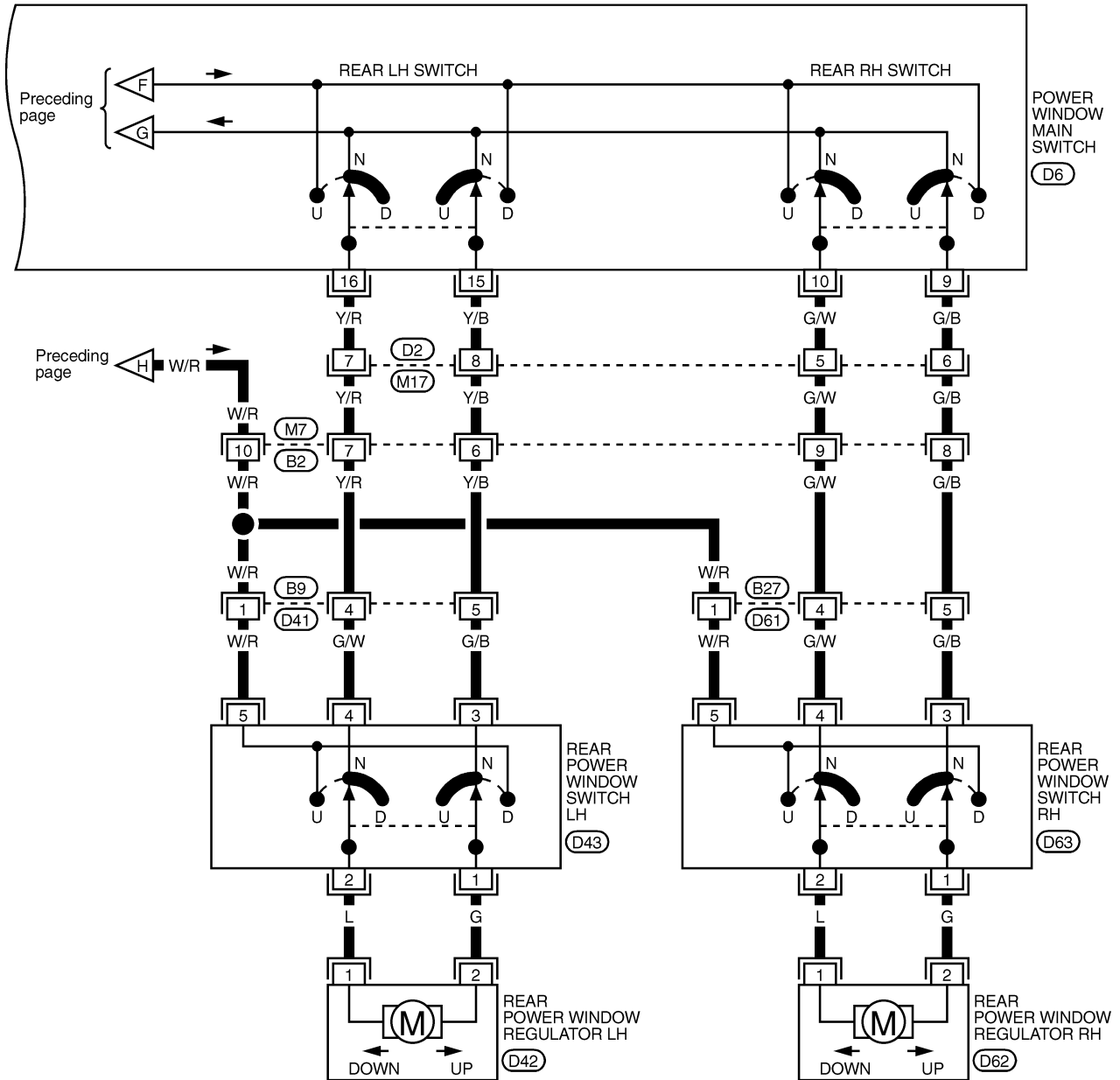
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TEL527B

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-04



TEL528B

POWER WINDOW

Trouble Diagnoses

Trouble Diagnoses

NCEL0105

Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	<ol style="list-style-type: none"> 10A fuse, 30A fusible link and M13 circuit breaker Power window main switch ground circuit Power window relay ground circuit Power window relay Open/short in power window main switch circuit Power window main switch 	<ol style="list-style-type: none"> Check 10A fuse [No. 8, located in fuse block (J/B)], 30A fusible link (letter d, located in fuse and fusible link box) and M13 circuit breaker. Turn ignition switch "ON" and verify battery positive voltage is present at terminals 1 and 3 of power window relay and terminal 7 of power window main switch. Check power window main switch ground circuit. Check power window relay ground circuit. Check power window relay. Check the wire between power window relay terminal 5 and power window main switch terminal 11 for open/short circuit. Check power window main switch.
Driver side power window cannot be operated but other windows can be operated.	<ol style="list-style-type: none"> Driver side power window regulator circuit Driver side power window regulator Power window main switch 	<ol style="list-style-type: none"> Check harness between power window main switch and power window regulator for open or short circuit. Check driver side power window regulator. Check power window main switch.
Passenger power window cannot be operated.	<ol style="list-style-type: none"> Power window switches Passenger side power window regulators Power window main switch Power window circuit 	<ol style="list-style-type: none"> Check power window switch. Check passenger side power window regulator. Check power window main switch. Check the following. <ol style="list-style-type: none"> Check harnesses between power window main switch and power window switch for open/short circuit. Check harnesses between power window switch and power window regulator for open/short circuit.
Passenger power window cannot be operated using power window main switch but can be operated by power window switch.	<ol style="list-style-type: none"> Power window main switch 	<ol style="list-style-type: none"> Check power window main switch.
Driver side power window automatic operation does not function properly.	<ol style="list-style-type: none"> Power window main switch Encoder and limit switch 	<ol style="list-style-type: none"> Check power window main switch. Check encoder and limit switch. (EL-174)
Retained power operation does not operate properly.	<ol style="list-style-type: none"> RAP signal circuit Driver or passenger side door switch circuit Smart entrance control unit 	<ol style="list-style-type: none"> Check harness between power window relay terminal 1 and smart entrance control unit terminal 5 for open or short circuit. Check the following: <ol style="list-style-type: none"> Harness between smart entrance control unit and driver or passenger side door switch for open or short circuit Driver or passenger side door switch ground circuit Driver or passenger side door switch. Check smart entrance control unit. (EL-248)

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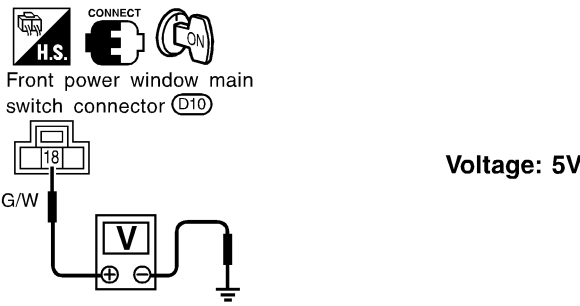
POWER WINDOW

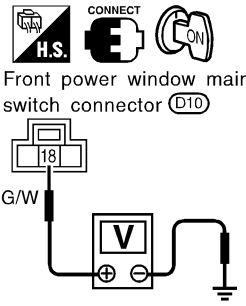
Trouble Diagnoses (Cont'd)

ENCODER AND LIMIT SWITCH CHECK

=NCEL0105S01

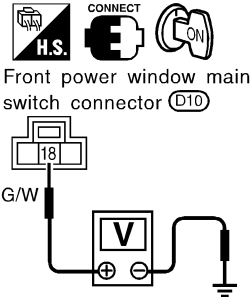
1	CHECK DOOR WINDOW SLIDE MECHANISM	
<p>Check the following.</p> <ul style="list-style-type: none"> ● Obstacles in window, glass molding, etc. ● Worn or deformed glass molding ● Door sash tilted too far inward or outward ● Door window regulator <p style="text-align: center;">OK or NG</p>		
OK	▶	GO TO 2.
NG	▶	Remove obstacles or repair door window slide mechanism.

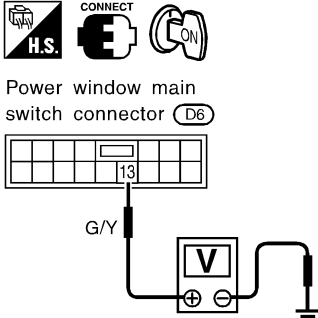
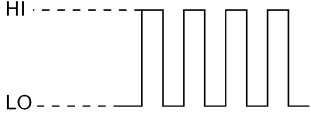
2	CHECK POWER SUPPLY TO LIMIT SWITCH	
<p>1. Disconnect front power window regulator (driver side) connector. 2. Check voltage between power window main switch terminal 18 and ground.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Voltage: 5V</p> </div> </div> <p style="text-align: right;">SEL179X</p> <p>NOTE: Check voltage when front power window regulator (driver side) harness connector is disconnected.</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	GO TO 3.
NG	▶	Replace power window main switch.

3	CHECK LIMIT SWITCH OPERATION									
<p>1. Connect front power window regulator (driver side) connector. 2. Check voltage between power window main switch terminal 18 and ground during power window closing operation.</p> <div style="display: flex; align-items: center;">  <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Terminal No.</th> <th>Condition</th> <th>Voltage (DCV)</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="text-align: center;">18</td> <td>Approx. 15 mm (0.59 in) below the full closed position to full closed position</td> <td style="text-align: center;">Approx. 5</td> </tr> <tr> <td>Other positions</td> <td style="text-align: center;">Approx. 0</td> </tr> </tbody> </table> </div> <p style="text-align: right;">SEL181X</p> <p style="text-align: center;">OK or NG</p>			Terminal No.	Condition	Voltage (DCV)	18	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5	Other positions	Approx. 0
Terminal No.	Condition	Voltage (DCV)								
18	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5								
	Other positions	Approx. 0								
OK	▶	GO TO 5.								
NG	▶	GO TO 4.								

POWER WINDOW

Trouble Diagnoses (Cont'd)

4	RESET LIMIT SWITCH									
<p>Reset limit switch. Refer to BT-19, "Front Door Glass Limit Switch Reset". Then check voltage between power window main switch terminal 18 and ground during power window closing operation at least ten times.</p>										
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;">  <p>Front power window main switch connector (D10)</p> </div> <div style="width: 50%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Terminal No.</th> <th style="width: 55%;">Condition</th> <th style="width: 30%;">Voltage (DCV)</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="text-align: center;">18</td> <td>Approx. 15 mm (0.59 in) below the full closed position to full closed position</td> <td style="text-align: center;">Approx. 5</td> </tr> <tr> <td>Other positions</td> <td style="text-align: center;">Approx. 0</td> </tr> </tbody> </table> </div> </div>			Terminal No.	Condition	Voltage (DCV)	18	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5	Other positions	Approx. 0
Terminal No.	Condition	Voltage (DCV)								
18	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5								
	Other positions	Approx. 0								
SEL181X										
OK or NG										
OK	▶	GO TO 5.								
NG	▶	Replace power window regulator motor (front driver side).								

5	CHECK ENCODER	
<p>Measure voltage between power window main switch terminal 13 and ground with oscilloscope when power window is in automatic closing operation.</p>		
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;">  <p>Power window main switch connector (D6)</p> </div> <div style="width: 50%;">  <p>HI: Approx. 5V LO: Approx. 0V</p> </div> </div>		
SEL182X		
OK or NG		
OK	▶	Replace power window main switch.
NG	▶	Replace power window regulator motor (front driver side).

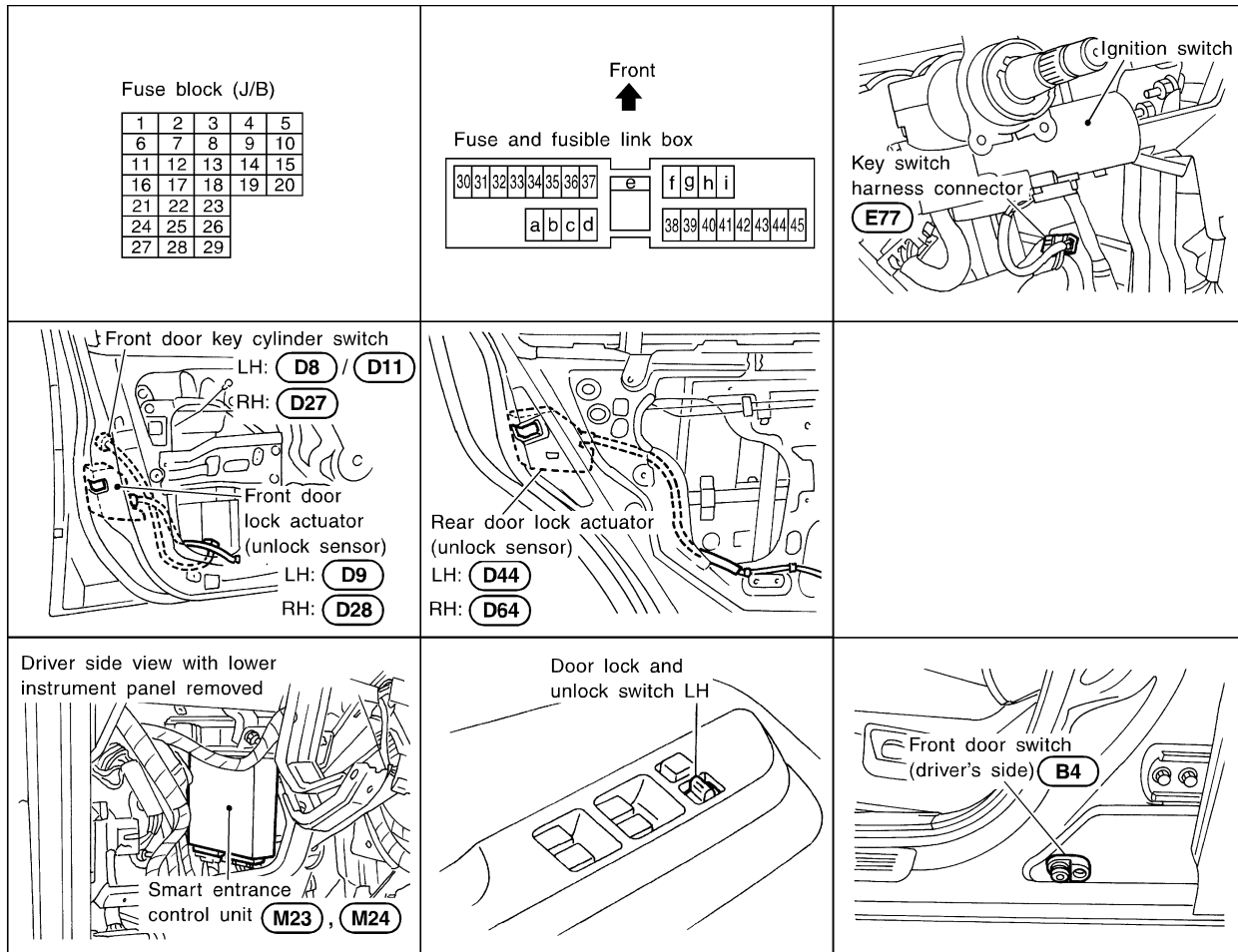
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POWER DOOR LOCK

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0106



SEL837VA

System Description

NCEL0107

NCEL0107S04

OPERATION

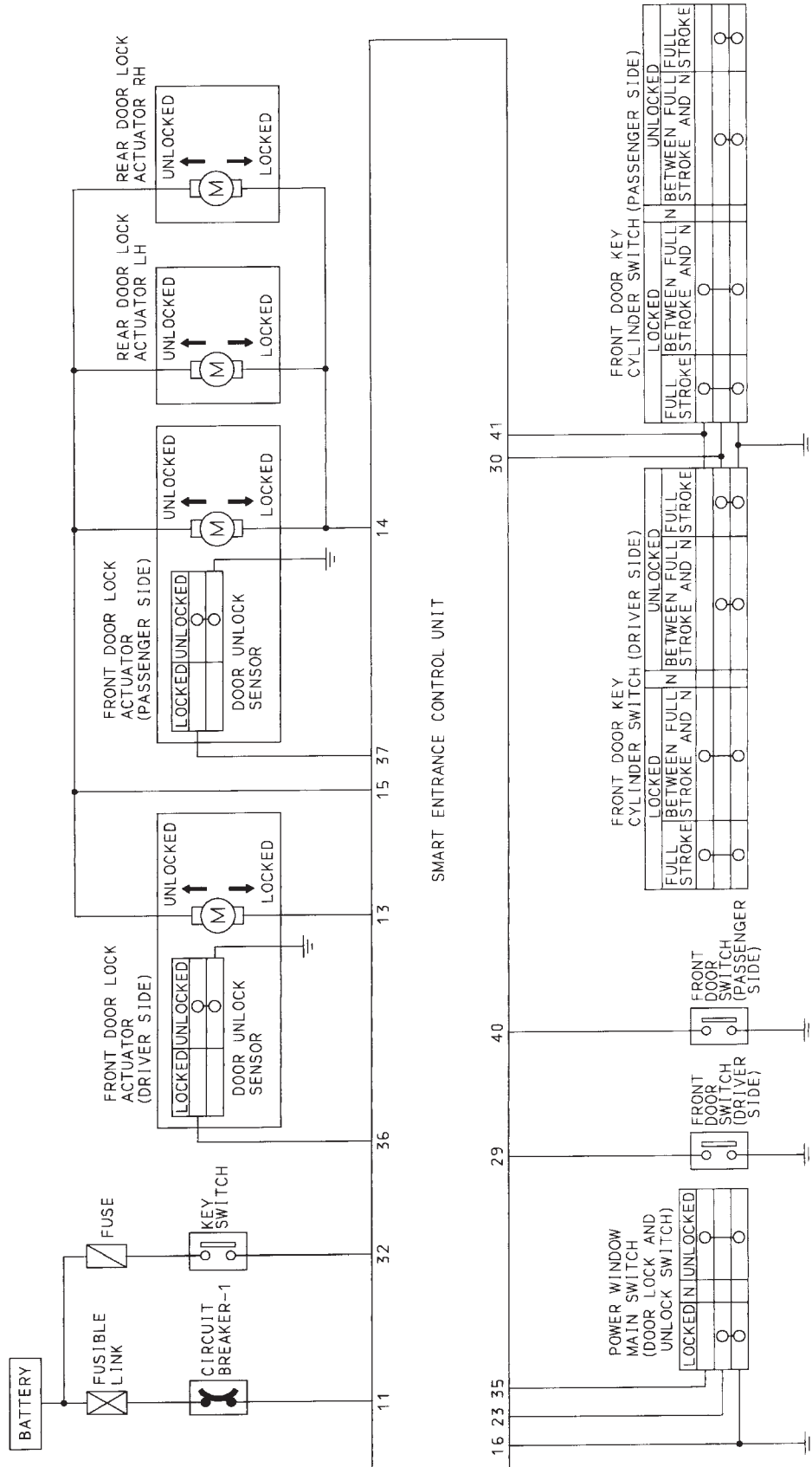
- The lock/unlock switch on driver's door trim can lock and unlock all doors.
- With the lock knob on front LH or RH door set to "LOCK", all doors are locked. (Signals from front door unlock sensor)
- With the door key inserted in the key cylinder on front LH or RH, turning it to "LOCK", will lock all 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 front doors are open, setting the lock/unlock switch, lock knob, or the door key to "LOCK" locks the doors once but then immediately unlock them. (Combination signals from key switch, front LH or RH door switch and LH or RH door unlock sensor) - (KEY REMINDER DOOR SYSTEM)

POWER DOOR LOCK

Schematic

Schematic

NCEL0108



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TEL930A

POWER DOOR LOCK

Wiring Diagram — D/LOCK —

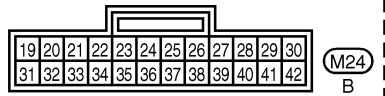
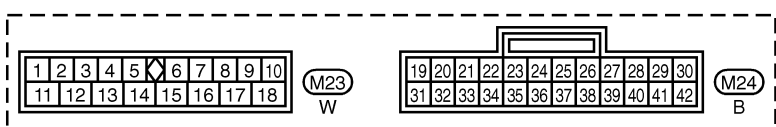
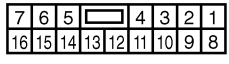
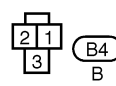
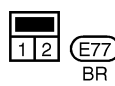
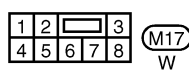
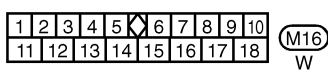
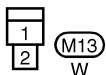
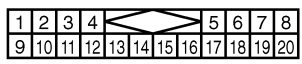
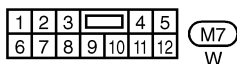
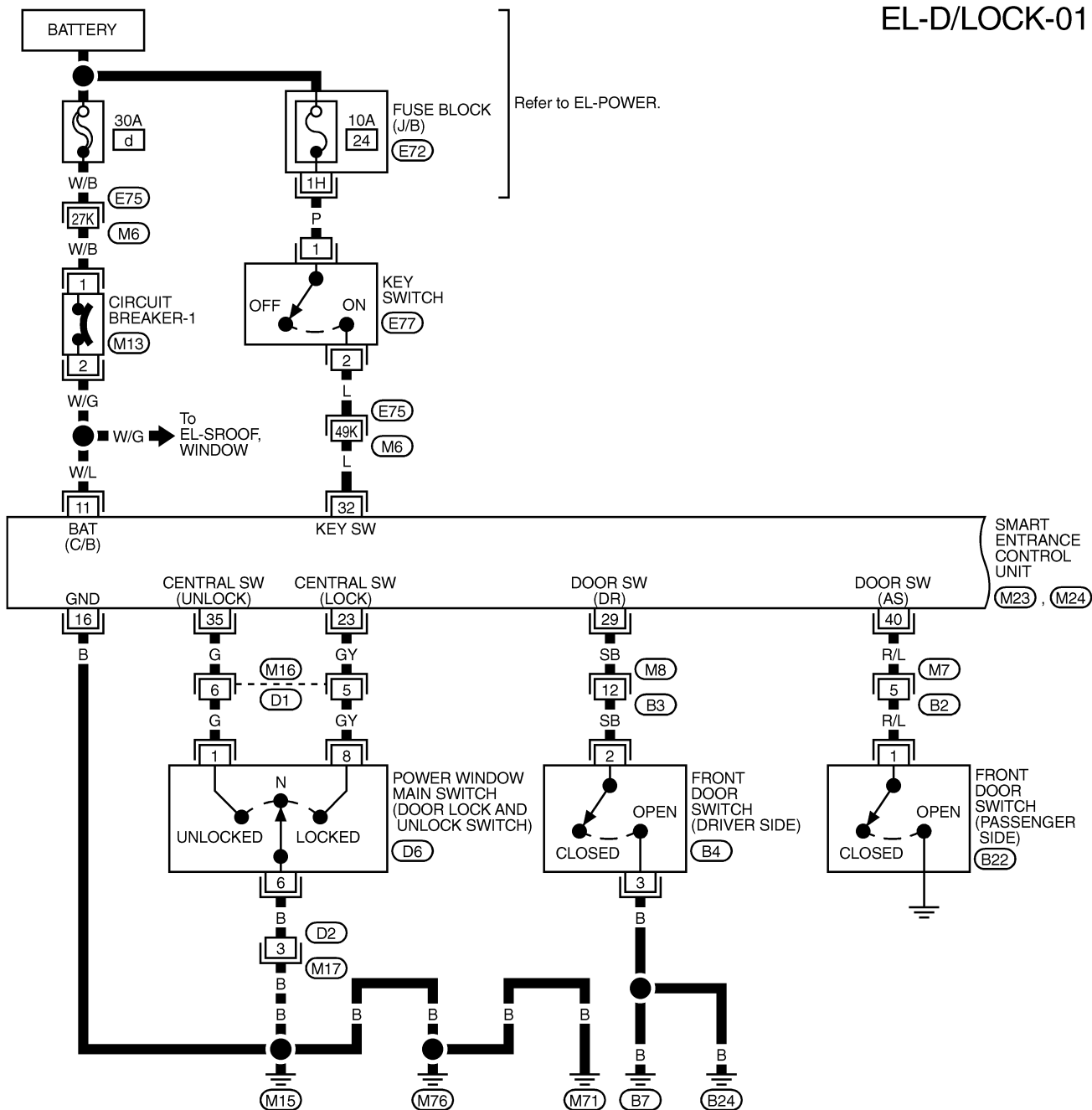
Wiring Diagram — D/LOCK —

NCEL0109

NCEL0109S01

FIG. 1

EL-D/LOCK-01



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (E72) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL529B

POWER DOOR LOCK

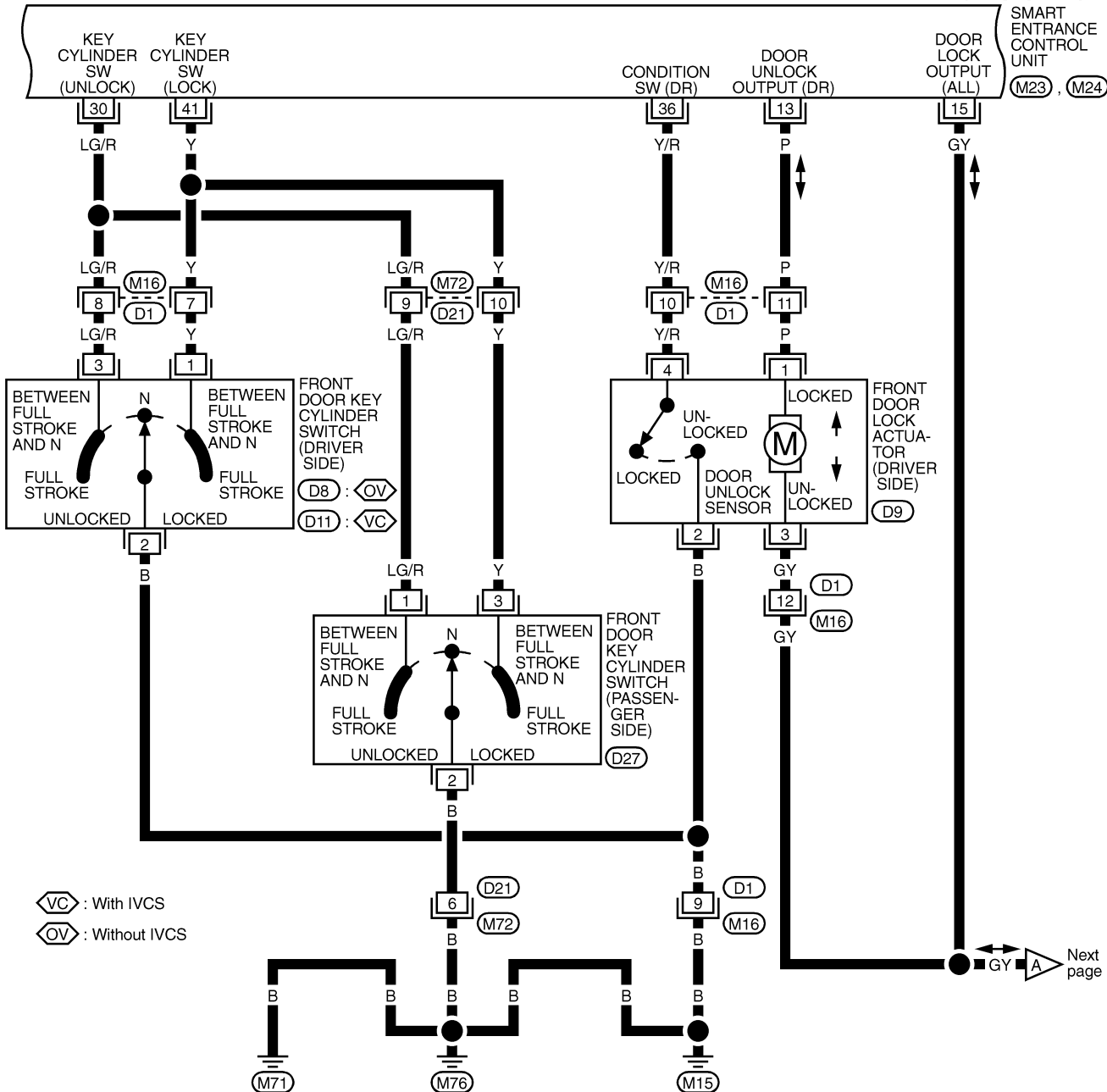
Wiring Diagram — D/LOCK — (Cont'd)

FIG. 2

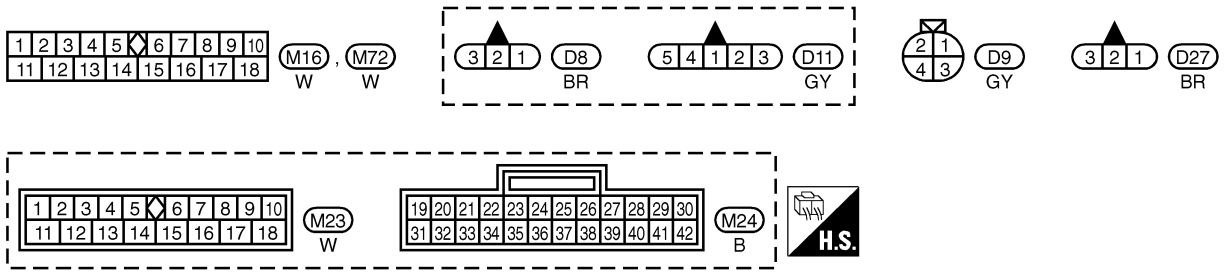
NCEL0109S02

EL-D/LOCK-02

GI
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HA
SC
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IDX



Next page



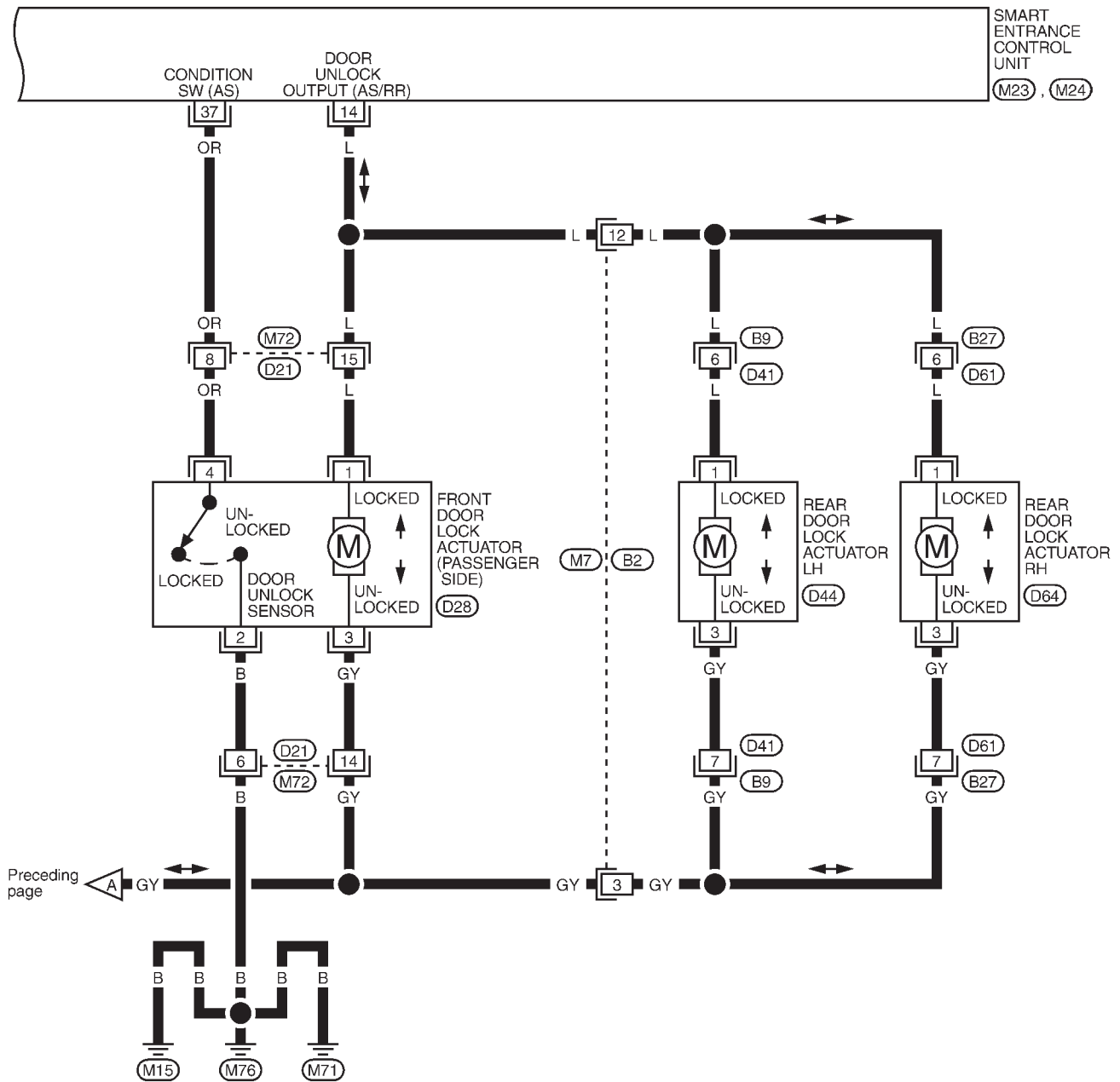
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 3

NCEL0109S03

EL-D/LOCK-03



1	2	3	4	5
6	7	8	9	10

(M7)
W

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

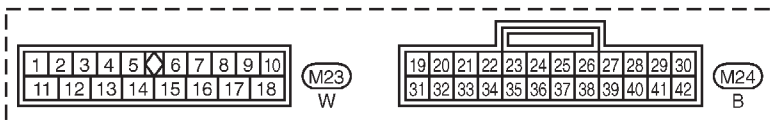
(M72)
W

1	2	3
4	5	6

(B9), (B27)
W

2	1
4	3

(D28), (D44), (D64)
GY



TEL933A

POWER DOOR LOCK

Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

NCEL0110

NCEL0110S01

REFERENCE PAGE (EL-)	181	182	183	184	185	187	188
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	FRONT DOOR UNLOCK SENSOR CHECK	DOOR LOCK ACTUATOR CHECK
Key reminder door system does not operate properly.	X	X	X			X	X
Specific door lock actuator does not operate.							X
Power door lock does not operate with door lock and unlock switch on power window main switch.	X			X			
Power door lock does not operate with front door key cylinder operation.	X				X		
Power door lock does not operate with front door lock knob switch.	X					X	

GI

MA

EM

LC

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CL

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SU

BR

ST

RS

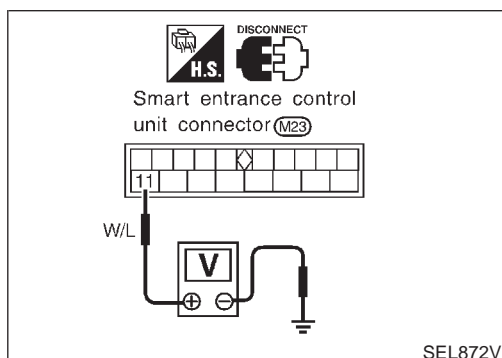
BT

HA

SC

EL

IDX



MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK Main Power Supply Circuit Check

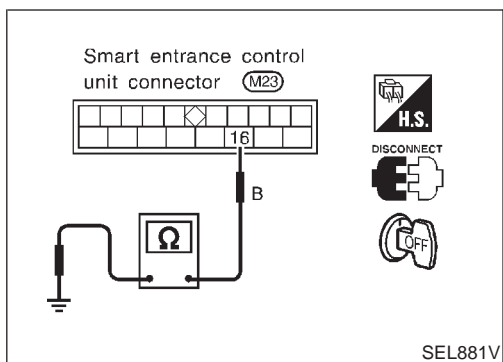
NCEL0110S02

NCEL0110S0201

Terminal		Ignition switch		
(+)	(-)	OFF	ACC	ON
11	Ground	Battery voltage	Battery voltage	Battery voltage

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)



Ground Circuit Check

NCEL0110S0202

Terminals	Continuity
16 - Ground	Yes

DOOR SWITCH CHECK

NCEL0110S05

1 CHECK DOOR SWITCHES INPUT SIGNAL

Check voltage between control unit terminals 29 or 40 and ground.

	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door switch	29	Ground	Open	0
			Closed	Approx. 12
Front RH door switch	40	Ground	Open	0
			Closed	Approx. 12

Refer to wiring diagram in EL-178.

OK or NG

OK	▶	Door switch is OK.
NG	▶	GO TO 2.

2 CHECK DOOR SWITCHES

Check continuity between door switch terminals.

	Terminals	Condition	Continuity
Front LH door switch	2 - 3	Closed	No
		Open	Yes
Front RH door switch	1 - ground	Closed	No
		Open	Yes

OK or NG

OK	▶	Check the following. <ul style="list-style-type: none"> • Door switch ground circuit • Harness for open or short between control unit and door switch
NG	▶	Replace door switch.

KEY SWITCH (INSERT) CHECK

=NCEL0110S06

1	CHECK KEY SWITCH INPUT SIGNAL	<p>Check voltage between control unit terminal 32 and ground.</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram in EL-178.</p> <p>Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is withdrawn. 0</p> <p style="text-align: right;">SEL873V</p> <p style="text-align: center;">OK or NG</p>	GI MA EM LC EC FE CL MT
OK	▶	Key switch is OK.	
NG	▶	GO TO 2.	

2	CHECK KEY SWITCH (INSERT)	<p>Check continuity between terminals 1 and 2.</p> <div style="text-align: center;"> </div> <p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p> <p style="text-align: right;">SEL784V</p> <p style="text-align: center;">OK or NG</p>	AT AX SU BR ST RS BT HA SC
OK	▶	Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 24, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between control unit and key switch 	
NG	▶	Replace key switch.	

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

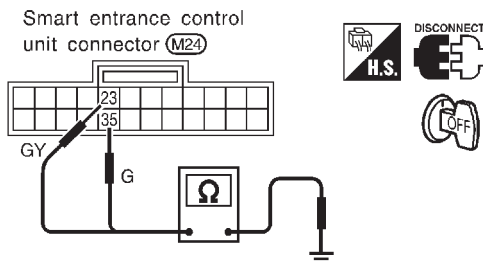
=NCEL0110S03

1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

1. Disconnect control unit connector.
2. Check continuity between control unit 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

MTBL0153



SEL875V

Refer to wiring diagram in EL-178.

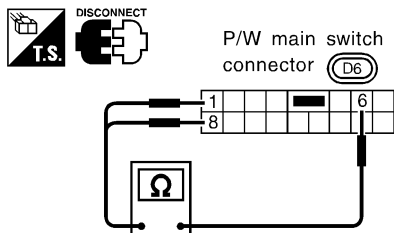
OK or NG

OK ► Door lock/unlock switch is OK.

NG ► GO TO 2.

2 CHECK DOOR LOCK/UNLOCK SWITCH

1. Disconnect door lock/unlock switch connector.
2. Check continuity between each door lock/unlock switch terminals.
 - Power window main switch (Door lock/unlock switch LH)



Condition	Terminals		
	6	8	1
Unlock	○	○	○
N	No continuity		
Lock	○	○	○

SEL670W

OK or NG

OK ► **Check the following.**

- Ground circuit for door lock/unlock switch
- Harness for open or short between door lock/unlock switch and control unit connector

NG ► Replace door lock/unlock switch.

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

FRONT DOOR KEY CYLINDER SWITCH CHECK

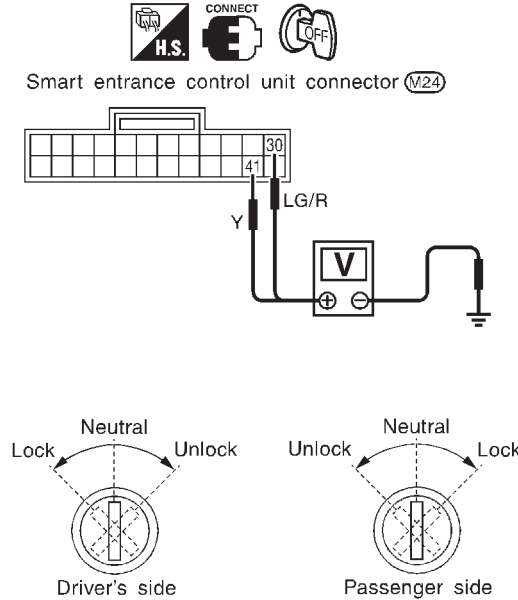
=NCEL0110S07

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

Check voltage between control unit terminals 30 or 41 and ground.

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

MTBL0155



Refer to wiring diagram in EL-179.

SEL878V

OK or NG

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

GI

MA

EM

LC

EC

FE

CL

MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

2 CHECK DOOR KEY CYLINDER SWITCH

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

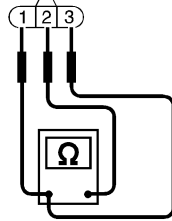
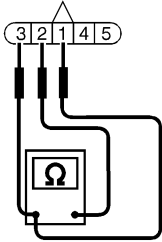


Door key cylinder switch connector

LH (With IVCS) : (D1)

LH (Without IVCS) : (D8)

RH : (D27)



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

- ① : Door lock switch terminal (LH)
Door unlock switch terminal (RH)
- ② : Ground terminal
- ③ : Door unlock switch terminal (LH)
Door lock switch terminal (RH)

SEL671W

OK or NG

OK



Check the following.

- Door key cylinder switch ground circuit
- Harness for open or short between control unit and door key cylinder switch

NG



Replace door key cylinder switch.

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

FRONT DOOR UNLOCK SENSOR CHECK

=NCEL0110S09

1	CHECK DOOR UNLOCK SENSOR INPUT SIGNAL																						
Check voltage between control unit terminals 36 or 37 and ground.																							
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminals</th> <th rowspan="2">Condition</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front LH door</td> <td rowspan="2">36</td> <td rowspan="2">Ground</td> <td>Locked</td> <td>Approx. 12</td> </tr> <tr> <td>Unlocked</td> <td>0</td> </tr> <tr> <td rowspan="2">Front RH door</td> <td rowspan="2">37</td> <td rowspan="2">Ground</td> <td>Locked</td> <td>Approx. 12</td> </tr> <tr> <td>Unlocked</td> <td>0</td> </tr> </tbody> </table>				Terminals		Condition	Voltage [V]	(+)	(-)	Front LH door	36	Ground	Locked	Approx. 12	Unlocked	0	Front RH door	37	Ground	Locked	Approx. 12	Unlocked	0
	Terminals			Condition	Voltage [V]																		
	(+)	(-)																					
Front LH door	36	Ground	Locked	Approx. 12																			
			Unlocked	0																			
Front RH door	37	Ground	Locked	Approx. 12																			
			Unlocked	0																			
Refer to wiring diagram in EL-179, 180.																							
OK or NG																							
OK	▶	Door unlock sensor is OK.																					
NG	▶	GO TO 2.																					

MTBL0157

SEL877V

2	CHECK DOOR UNLOCK SENSOR	
<ol style="list-style-type: none"> 1. Disconnect door unlock sensor connector. 2. Check continuity between door unlock sensor terminals 4 and 2. 		
<p>Door lock actuator connectors</p> <p>Front LH : (D9)</p> <p>Front RH : (D28)</p>		
<p>Continuity:</p> <p>Condition: Locked No</p> <p>Condition: Unlocked Yes</p>		
OK or NG		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Door unlock sensor ground circuit ● Harness for open or short between control unit and door unlock sensor
NG	▶	Replace door unlock sensor.

SEL247VB

GI

MA

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

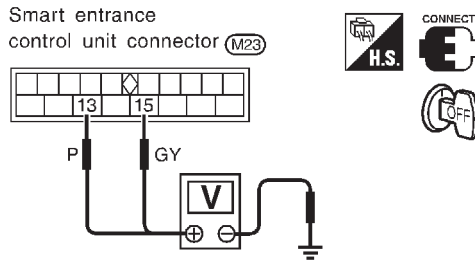
DOOR LOCK ACTUATOR CHECK

=NCEL0110S04

1 CHECK DOOR LOCK ACTUATOR CIRCUIT

Check voltage for door lock actuator.

- Door lock actuator front LH

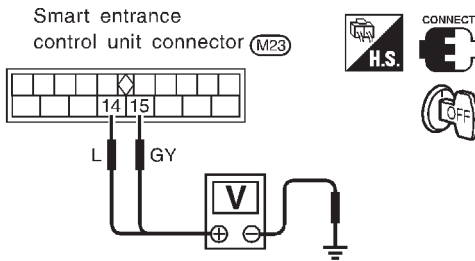


SEL879V

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

MTBL0192

- Door lock actuator front RH and rear



SEL880V

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

MTBL0193

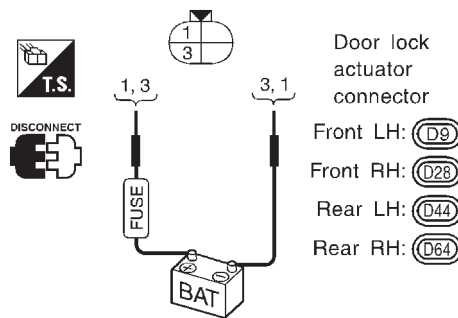
Refer to wiring diagram in EL-179, 180.

OK or NG

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

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

2	CHECK DOOR LOCK ACTUATOR
	<p>1. Disconnect door lock actuator connector. 2. Apply 12V direct current to door lock actuator and check operation.</p> <p>● Door lock actuator operation:</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <p>Door lock actuator connector</p> <p>Front LH: (D9)</p> <p>Front RH: (D28)</p> <p>Rear LH: (D44)</p> <p>Rear RH: (D64)</p> </div> </div> <p>Terminals between (+): 3 and (-): 1 Unlocked → Locked</p> <p>Terminals between (+): 1 and (-): 3 Locked → Unlocked</p> <p style="text-align: center;">OK or NG</p> <p style="text-align: right;">SEL736UC</p>
OK	▶ Check harness for open or short between control unit connector and door lock actuator.
NG	▶ Replace door lock actuator.

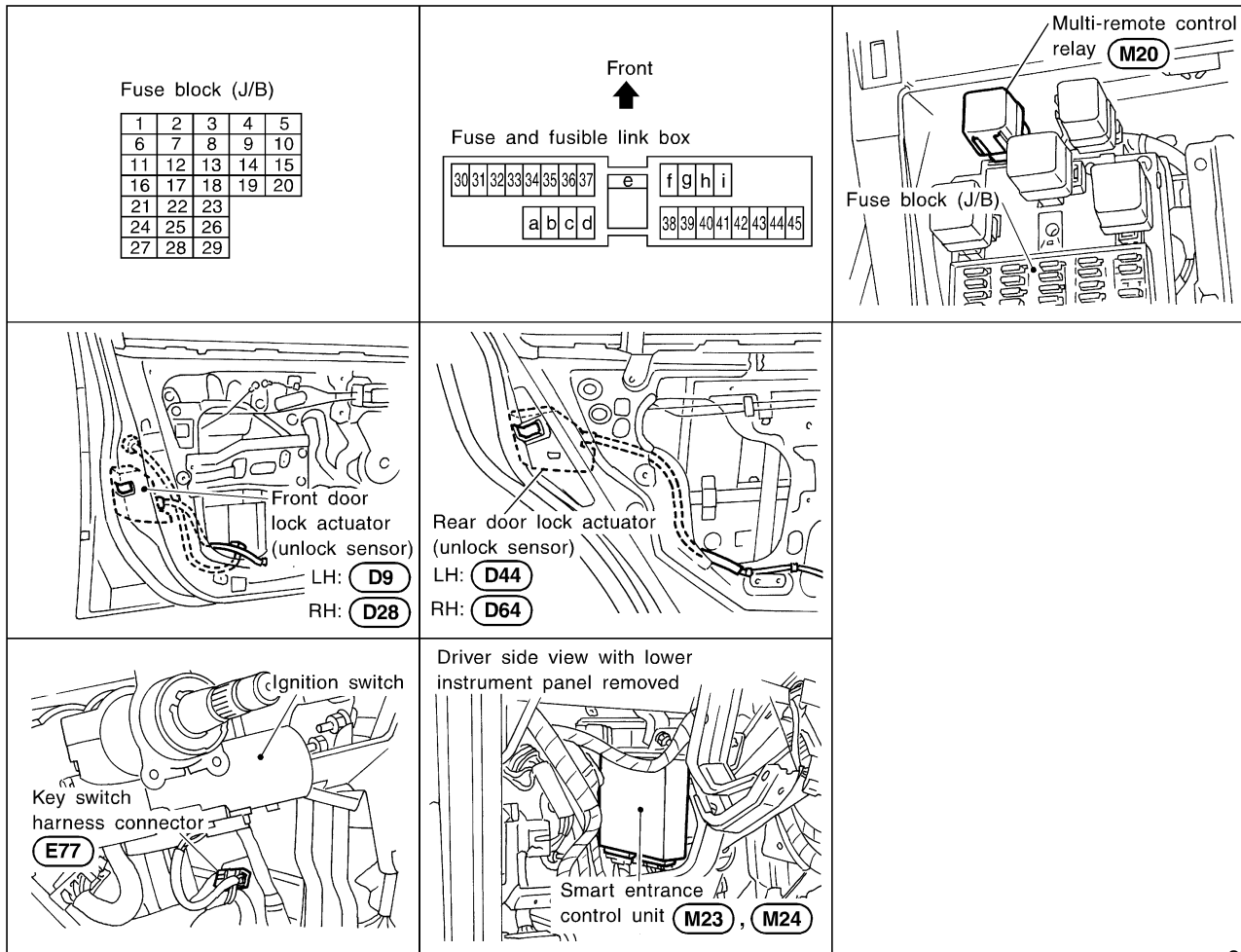
GI
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 IDX

MULTI-REMOTE CONTROL SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0111



SEL188X

System Description

INPUTS

Power is supplied at all times

- to key switch terminal 1
- through 10A fuse [No. 24, located in the fuse block (J/B)].

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

- through key switch terminal 2
- to smart entrance control unit terminal 32.

When the front door switch (driver side) is OPEN, ground is supplied

- to smart entrance control unit terminal 29
- through front door switch (driver side) terminal 2
- to front door switch (driver side) terminal 3
- through body grounds B7 and B24.

When the front door switch (passenger side) is OPEN, ground is supplied

- to smart entrance control unit terminal 40
- through front door switch (passenger side) terminal 1
- through the front door switch RH case ground.

When the rear door switch is OPEN, ground is supplied

- to smart entrance control unit terminal 28
- through each door switch case ground.

NCEL0112

NCEL0112S01

MULTI-REMOTE CONTROL SYSTEM

System Description (Cont'd)

When door lock and unlock switch is LOCKED, ground is supplied

- to smart entrance control unit terminal 23
- through door lock and unlock switch terminals 8 and 6
- through body grounds M15, M71 and M76.

GI

When door lock and unlock switch is UNLOCKED, ground is supplied

- to smart entrance control unit terminal 35
- through door lock and unlock switch terminals 1 and 6
- through body grounds M15, M71 and M76.

MA

EM

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

- to smart entrance control unit terminal 36
- through door lock actuator (driver side) (door unlock sensor) terminal 4
- to door lock actuator (driver side) (door unlock sensor) terminal 2
- through body grounds M15, M71 and M76.

LC

EC

Remote controller signal is inputted to smart entrance control unit (the antenna of the system is combined with smart entrance control unit).

FE

Then smart entrance control unit supplies power and ground to each door lock actuator.

The multi-remote control system controls operation of the

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

CL

MT

OPERATED PROCEDURE

Power Door Lock Operation

NCEL0112S02

AT

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.

NCEL0112S0201

When an UNLOCK signal is sent from remote controller once, driver's door will be unlocked.

AX

Then, if an UNLOCK signal is sent from remote controller again within 5 seconds, all other door will be unlocked.

SU

Hazard and Horn Reminder

NCEL0112S0204

Power is supplied at all times

- to multi-remote control relay terminals 1, 3 and 6
- through 15A fuse [No. 20, located in the fuse block (J/B)],
- to horn relay terminals 1 and 3
- through 10A fuse (No. 36, located in the fusible link and fuse box) and
- to horn relay terminal 6
- through 10A fuse (No. 41, located in the fusible link and fuse box).

BR

ST

RS

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 2
- through smart entrance control unit terminal 19

BT

HA

Multi-remote control relay and horn relay are now energized, and hazard warning lamp flashes and horn sounds as a reminder.

SC

The hazard and horn reminder has a horn chirp mode and a non-horn chirp mode.

Operating function of hazard and horn reminder

EL

	Horn chirp mode		Non-horn chirp mode	
	Hazard warning lamp flash	Horn sound	Hazard warning lamp flash	Horn sound
Lock	Twice	Once	Twice	—

IDX

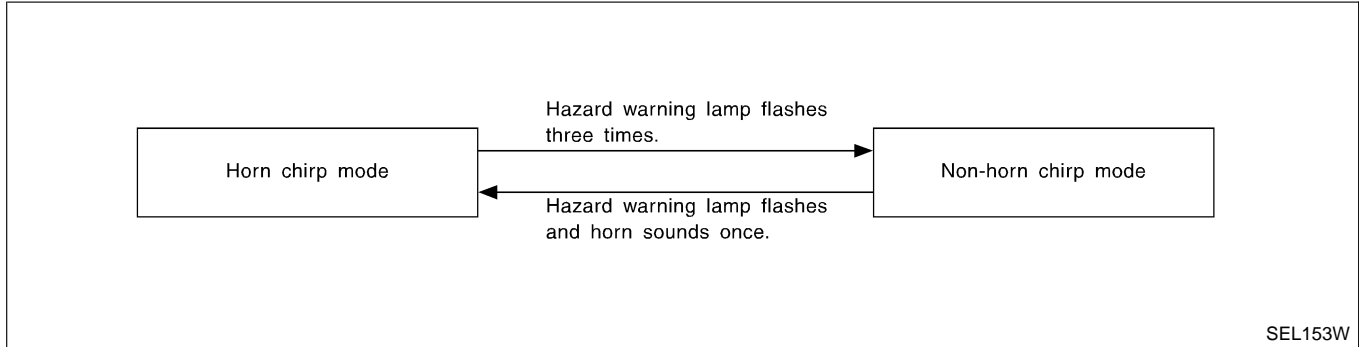
MULTI-REMOTE CONTROL SYSTEM

System Description (Cont'd)

	Horn chirp mode		Non-horn chirp mode	
	Hazard warning lamp flash	Horn sound	Hazard warning lamp flash	Horn sound
Unlock	Once	—	—	—

How to change hazard and horn reminder mode

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:



Trunk Lid Opener Operation

NCEL0112S0205

Power is supplied at all times

- through 15A fuse [No. 15, located in the fuse block (J/B)]
- to trunk lid opener relay terminals 1 and 5.

When a TRUNK OPEN signal is sent from multi-remote controller with key switch OFF, ground is supplied

- to trunk lid opener relay terminal 2
- through smart entrance control unit terminal 12.

Trunk opener relay is now energized and trunk lid opener actuator opens trunk lid.

Interior Lamp Operation

NCEL0112S0202

When the following input signals are both supplied:

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

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

For detailed description, refer to "SMART ENTRANCE CONTROL UNIT" (EL-243).

Panic Alarm Operation

NCEL0112S0203

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

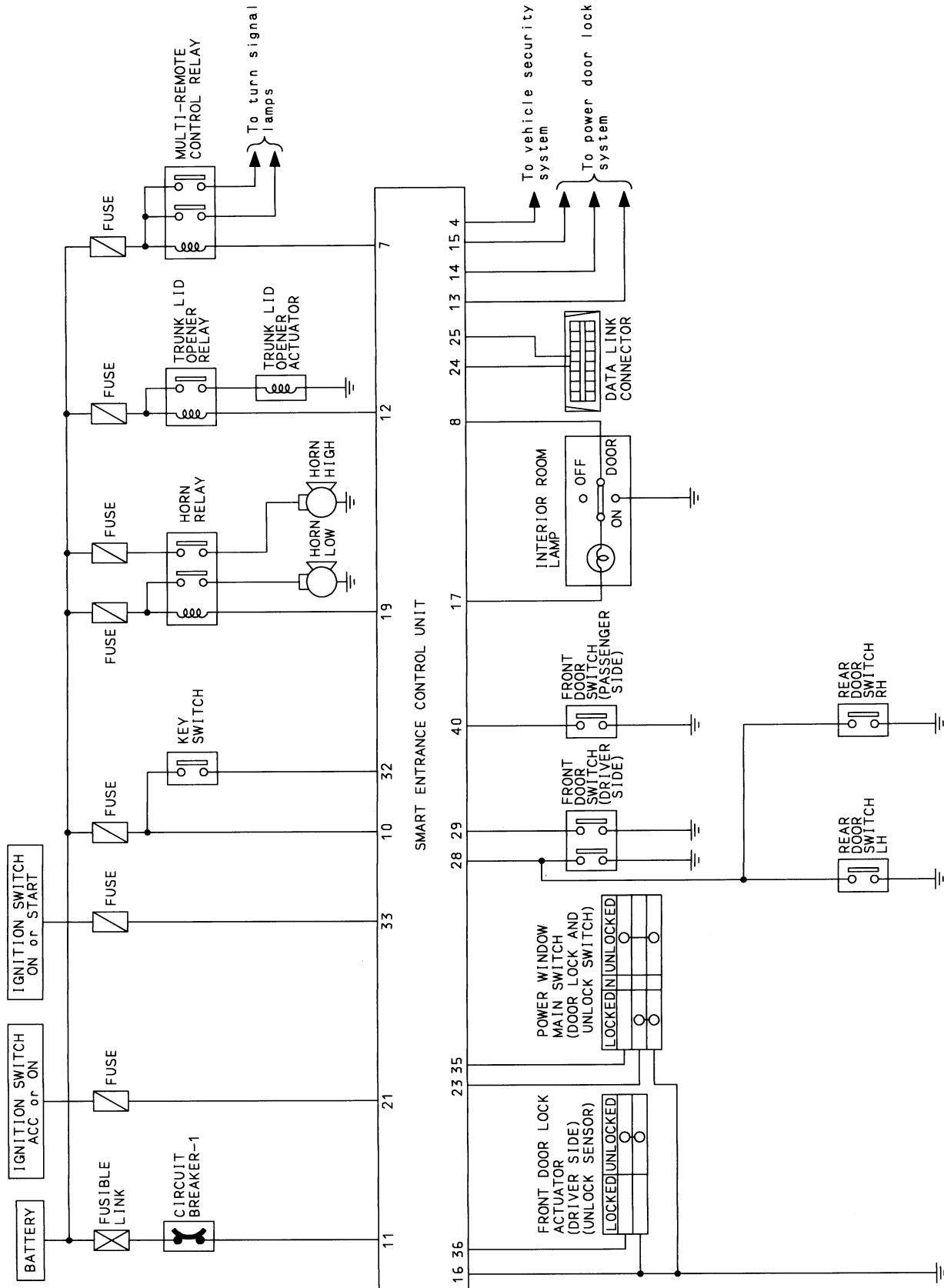
For detailed description, refer to "VEHICLE SECURITY (THEFT WARNING) SYSTEM" (EL-216).

MULTI-REMOTE CONTROL SYSTEM

Schematic

Schematic

NCEL0173



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TEL771B

MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI —

Wiring Diagram — MULTI —

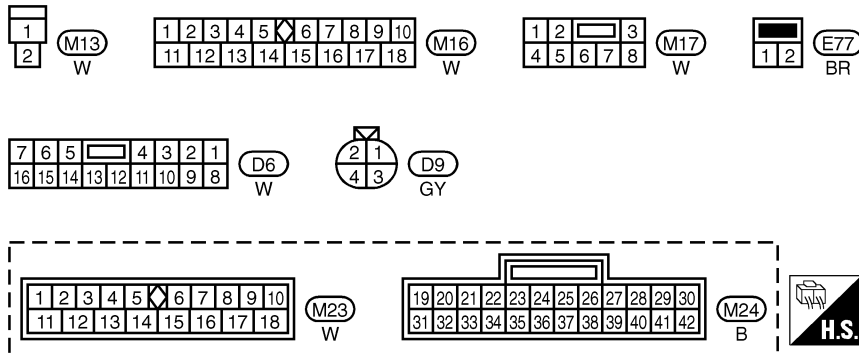
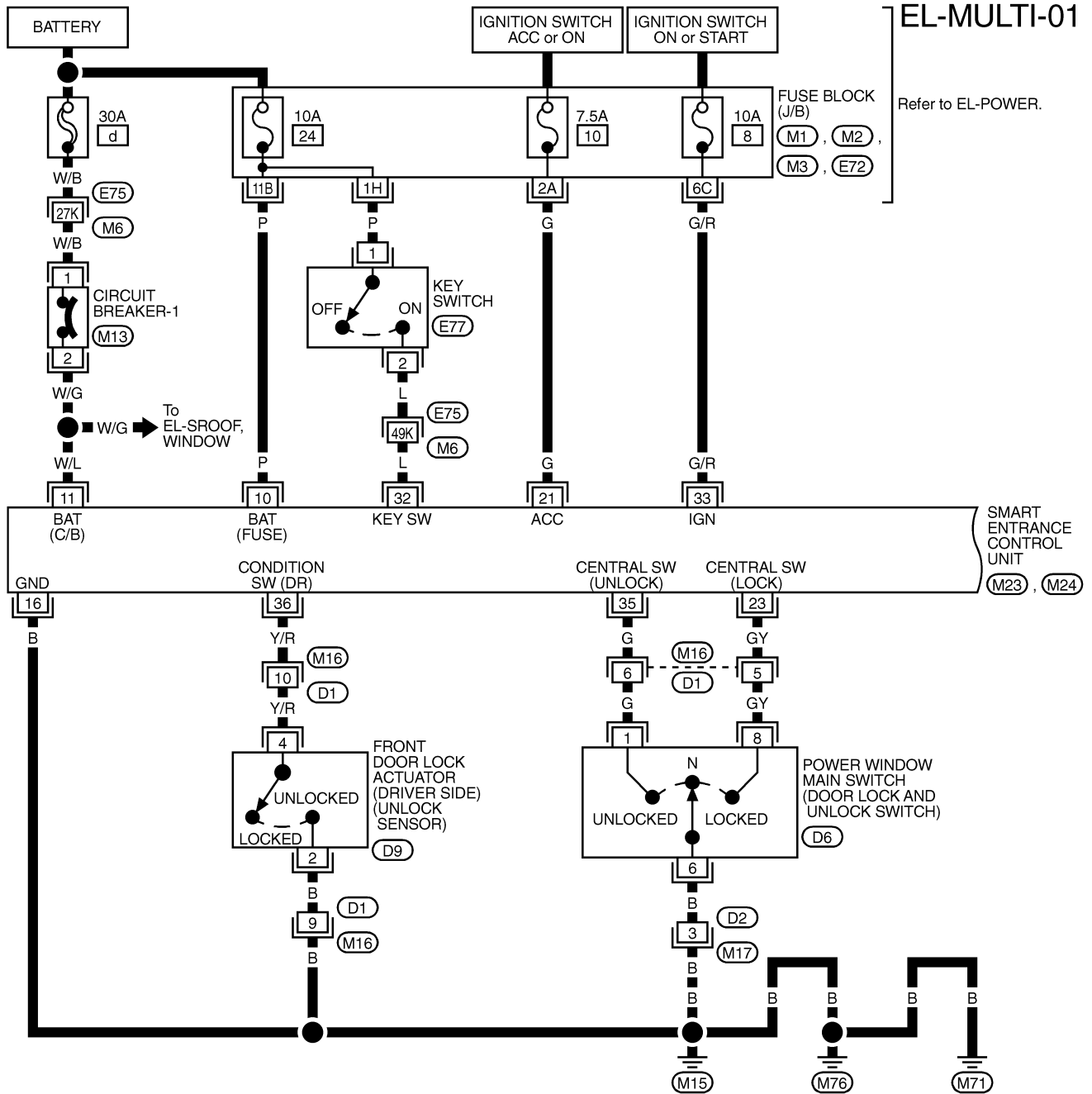
NCEL0114

NCEL0114S01

FIG. 1

EL-MULTI-01

Refer to EL-POWER.



REFER TO THE FOLLOWING.

- (E75) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1, M2, M3, E72) -FUSE BLOCK-JUNCTION BOX (J/B)

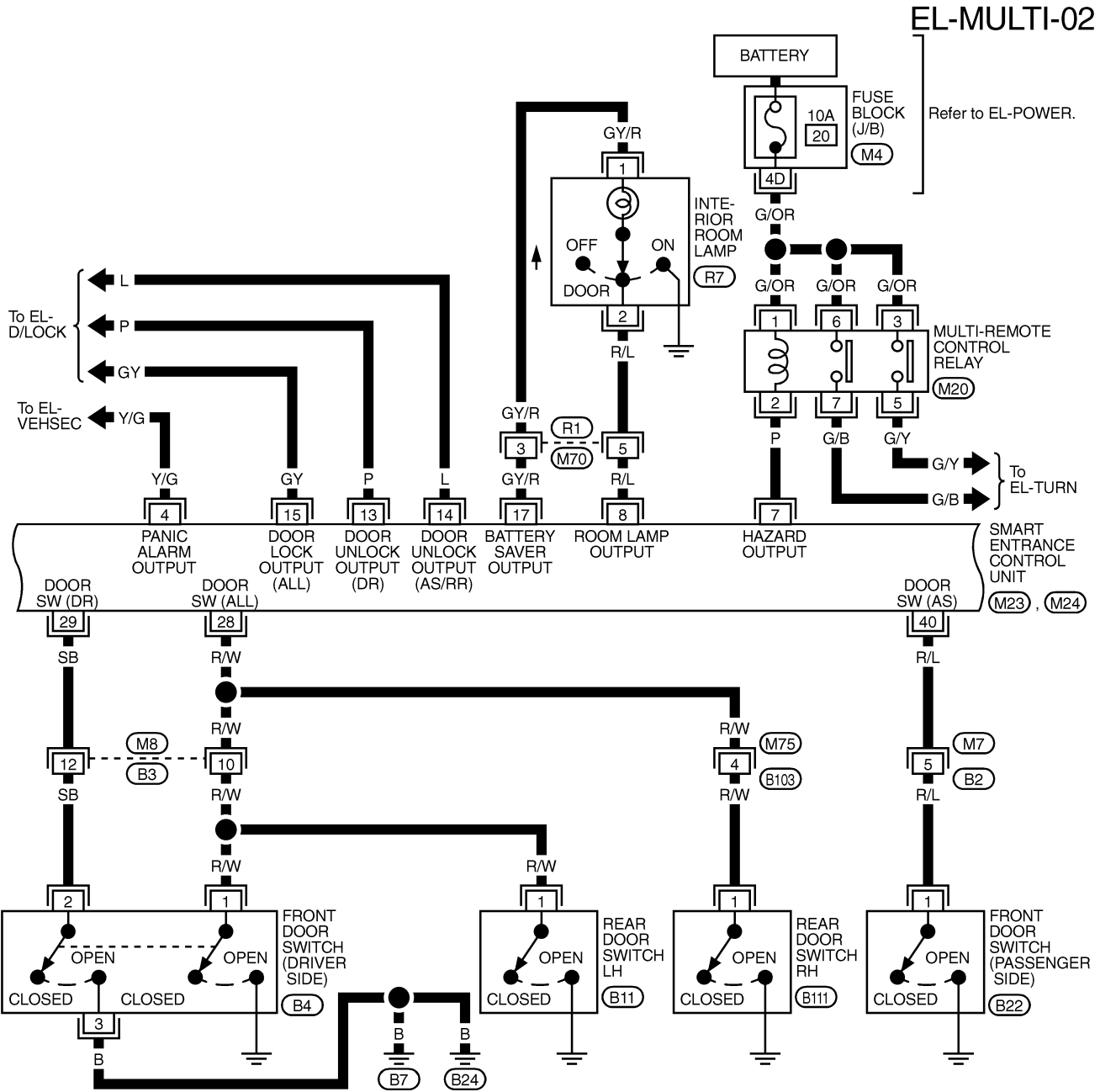
TEL680B

MULTI-REMOTE CONTROL SYSTEM

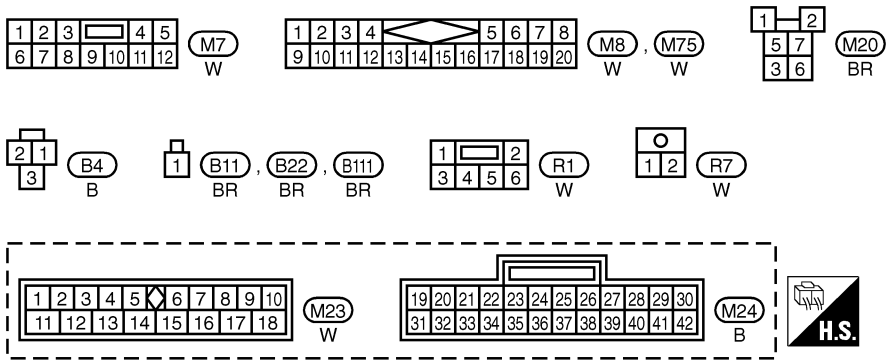
Wiring Diagram — MULTI — (Cont'd)

FIG. 2

NCEL0114S02



GI
MA
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LC
EC
FE
CL
MT
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SU
BR
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RS
BT
HA
SC
EL
IDX



REFER TO THE FOLLOWING.
(M4) - FUSE BLOCK-JUNCTION BOX (J/B)



TEL772B

Trouble Diagnoses

SYMPTOM CHART

NCEL0115

NCEL0115S01

NOTE:

- Always check remote controller battery before replacing remote controller.
- Trunk lid opener operation and panic alarm operation of multi-remote control system does not activate with the ignition key inserted in the ignition key cylinder.

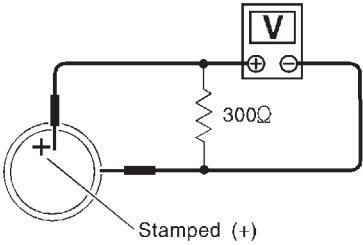
Symptom	Diagnoses/service procedure	Reference page (EL-)
All function of multi-remote control system do not operate.	1. Remote controller battery check	198
	2. Power supply and ground circuit for control unit check	198
	3. Replace remote controller. Refer to ID Code Entry Procedure.	210
The new ID of remote controller cannot entered.	1. Remote controller battery check	198
	2. Key switch (insert) check	203
	3. Door switch check	201
	4. Door lock/unlock switch check	205
	5. Power supply and ground circuit for control unit check	198
	6. Replace remote controller. Refer to ID Code Entry Procedure.	210
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-181.)	1. Replace remote controller. Refer to ID Code Entry Procedure.	210
Hazard and horn reminder do not activate properly when pressing lock or unlock button of remote controller.	1. Hazard reminder check	206
	2. Horn reminder check* *: Horn chirp can be activated or deactivated. First check the horn chirp setting. Refer to EL-191.	207
	3. Door switch check	201
	4. Replace remote controller. Refer to ID Code Entry Procedure.	210
Trunk lid does not open when trunk opener button is pressed.	1. Trunk lid opener operation check	208
	2. Key switch (insert) check	203
	3. Replace remote controller. Refer to ID Code Entry Procedure.	210
Interior lamp does not turn on for 30 seconds when pressing unlock button of remote controller.	1. Interior room lamp operation check	209
	2. Door switch check	201
	3. Door unlock sensor check	205
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed more than 1.5 seconds.	1. Vehicle security operation check. Refer to "PRELIMINARY CHECK" in "VEHICLE SECURITY (THEFT WARNING) SYSTEM".	224
	2. Key switch (insert) check	203
	3. Replace remote controller. Refer to ID Code Entry Procedure.	210

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

REMOTE CONTROLLER BATTERY CHECK

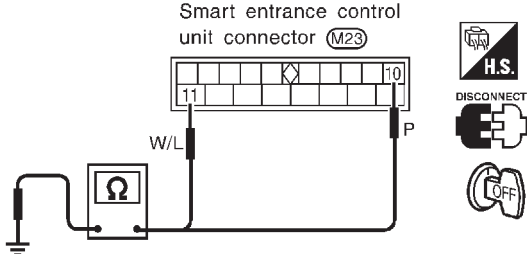
=NCEL0115S02

1	CHECK REMOTE CONTROLLER BATTERY	
<p>Remove battery (refer to EL-214) and measure voltage across battery positive and negative terminals, (+) and (-). NOTE: Remote controller does not function if battery is not set correctly.</p>		
		
<p>Voltage [V]: 2.5 - 3.0</p>		
OK or NG		
OK	▶	Check remote controller battery terminals for corrosion or damage.
NG	▶	Replace battery.

SEL277V

POWER SUPPLY AND GROUND CIRCUIT CHECK

NCEL0115S04

1	CHECK MAIN POWER SUPPLY CIRCUIT FOR CONTROL UNIT	
<p>1. Disconnect connector from control unit. 2. Check voltage between control unit terminals 10 or 11 and ground.</p>		
		
<p>Refer to wiring diagram in EL-194. Battery voltage should exist.</p>		
OK or NG		
OK	▶	GO TO 2.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 30A fusible link (letter d, located in fuse and fusible link box) ● 10A fuse [No. 24, located in fuse block (J/B)] ● M13 circuit breaker ● Harness for open or short between control unit and circuit breaker

SEL884V

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

2	CHECK IGNITION SWITCH "ACC" CIRCUIT	<p>1. Disconnect control unit connector. 2. Check voltage between control unit terminal 21 and ground while ignition switch is "ACC".</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram in EL-194. Battery voltage should exist.</p> <p style="text-align: right;">SEL885V</p> <p style="text-align: center;">OK or NG</p>	<p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p> <p>EC</p> <p>FE</p>
OK	▶	GO TO 3.	
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 10, located in fuse block (J/B)] ● Harness for open or short between control unit and fuse 	CL

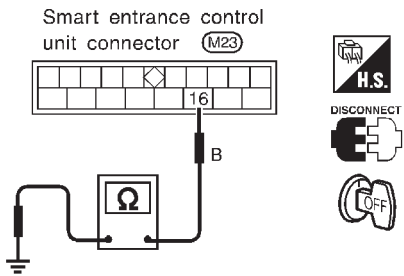
3	CHECK IGNITION SWITCH "ON" CIRCUIT	<p>1. Disconnect control unit connector. 2. Check voltage between control unit terminal 33 and ground with ignition switch "ON".</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram in EL-194. Battery voltage should exist.</p> <p style="text-align: right;">SEL790V</p> <p style="text-align: center;">OK or NG</p>	<p>MT</p> <p>AT</p> <p>AX</p> <p>SU</p> <p>BR</p> <p>ST</p> <p>RS</p>
OK	▶	GO TO 4.	
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 8, located in fuse block (J/B)] ● Harness for open or short between control unit and fuse 	BT

EL

IDX

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

4	CHECK GROUND CIRCUIT FOR CONTROL UNIT	
	<p>1. Disconnect control unit connector.</p> <p>2. Check continuity between control unit terminal 16 and ground.</p> <div style="text-align: center;">  </div> <p>Refer to wiring diagram in EL-194.</p> <p>Continuity should exist.</p> <p style="text-align: center;">OK or NG</p>	
OK	▶	Power supply and ground circuits are OK.
NG	▶	Check ground harness.

SEL791V

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DOOR SWITCH CHECK

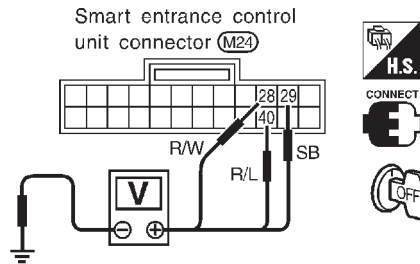
=NCEL0115S05

1 CHECK DOOR SWITCH INPUT SIGNAL

Check voltage between control unit terminals 28, 29 or 40 and ground.

	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door switch	29	ground	Open	0
			Closed	Approx. 12
Front RH door switch	40	ground	Open	0
			Closed	Approx. 12
All door switches	28	ground	Open	0
			Closed	Approx. 12

MTBL0158



SEL886V

Refer to wiring diagram in EL-195.

OK or NG

OK	▶	Door switch is OK.
NG	▶	GO TO 2.

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MULTI-REMOTE CONTROL SYSTEM

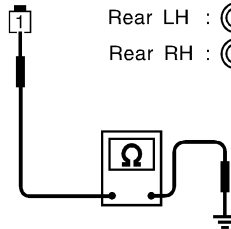
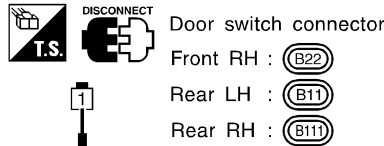
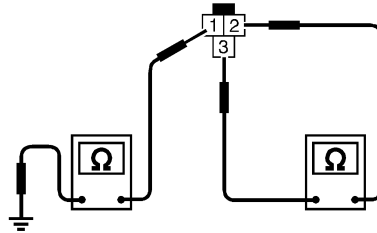
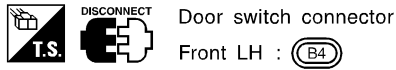
Trouble Diagnoses (Cont'd)

2 CHECK DOOR SWITCH

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

	Terminals	Condition	Continuity
Front LH door switch	2 - 3, 1 - ground	Closed	No
		Open	Yes
Front RH and rear door switches	1 - ground	Closed	No
		Open	Yes

MTBL0384



SEL887VA

OK or NG

OK



Check the following.

- Door switch ground circuit (Front, back door) or door switch ground condition
- Harness for open or short between control unit and door switch

NG



Replace door switch.

KEY SWITCH (INSERT) CHECK

=NCEL0115S07

1	CHECK KEY SWITCH INPUT SIGNAL	<p>Check voltage between control unit terminal 32 and ground.</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram in EL-194.</p> <p>Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is withdrawn. 0</p> <p style="text-align: right;">SEL888V</p> <p style="text-align: center;">OK or NG</p>	<p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p> <p>EC</p> <p>FE</p> <p>CL</p>
OK	▶	Key switch is OK.	
NG	▶	GO TO 2.	

2	CHECK KEY SWITCH (INSERT)	<p>Check continuity between terminals 1 and 2.</p> <div style="text-align: center;"> </div> <p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is withdrawn. No</p> <p style="text-align: right;">SEL784V</p> <p style="text-align: center;">OK or NG</p>	<p>AT</p> <p>AX</p> <p>SU</p> <p>BR</p> <p>ST</p> <p>RS</p> <p>BT</p>
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 24, located in fuse block (J/B)] ● Harness for open or short between key switch and fuse ● Harness for open or short between control unit and key switch 	
NG	▶	Replace key switch.	

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

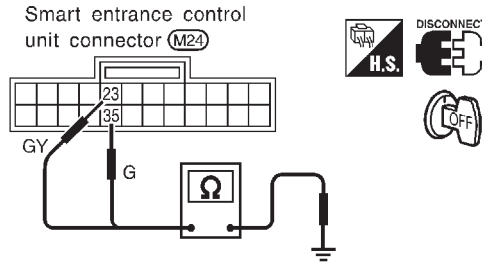
=NCEL0115S12

1 CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

1. Disconnect control unit connector.
2. Check continuity between control unit 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

MTBL0153



SEL875V

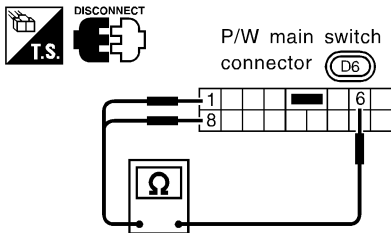
Refer to wiring diagram in EL-194.

OK or NG

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

2 CHECK DOOR LOCK/UNLOCK SWITCH

1. Disconnect door lock/unlock switch connector.
2. Check continuity between each door lock/unlock switch terminals.
 - Power window main switch (Door lock/unlock switch LH)



Condition	Terminals		
	6	8	1
Unlock	○	○	○
N	No continuity		
Lock	○	○	○

SEL670W

OK or NG

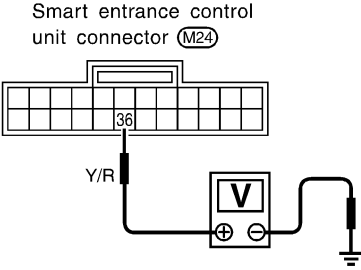


- | | | |
|----|---|---|
| OK | ▶ | <p>Check the following.</p> <ul style="list-style-type: none"> ● Ground circuit for door lock/unlock switch ● Harness for open or short between door lock/unlock switch and control unit connector |
| NG | ▶ | Replace door lock/unlock switch. |

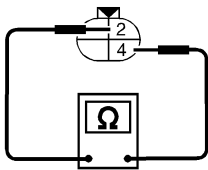


MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DOOR UNLOCK SENSOR CHECK

=NCEL0115S06

1	CHECK DOOR UNLOCK SENSOR INPUT SIGNAL															
<p>Check voltage between control unit terminal 36 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Smart entrance control unit connector (M24)</p> </div> <div style="text-align: center;">  <p>H.S.</p> <p>CONNECT</p>  <p>OFF</p> </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminals</th> <th rowspan="2">Condition</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front LH door</td> <td rowspan="2">36</td> <td rowspan="2">Ground</td> <td>Locked</td> <td>Approx. 12</td> </tr> <tr> <td>Unlocked</td> <td>0</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL189X</p>				Terminals		Condition	Voltage [V]	(+)	(-)	Front LH door	36	Ground	Locked	Approx. 12	Unlocked	0
	Terminals			Condition	Voltage [V]											
	(+)	(-)														
Front LH door	36	Ground	Locked	Approx. 12												
			Unlocked	0												
OK or NG																
OK	▶	Door unlock sensor (driver side) is OK.														
NG	▶	GO TO 2.														

2	CHECK DOOR UNLOCK SENSOR	
<p>1. Disconnect door unlock sensor connector. 2. Check continuity between door unlock sensor (driver side) terminals.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Door lock actuator connector Front LH: (D9)</p>  </div> <div style="text-align: center;">  <p>T.S.</p> <p>DISCONNECT</p>  </div> </div> <p style="text-align: right;">SEL247VE</p>		
<p>Continuity: Condition: Locked No Condition: Unlocked Yes</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Door unlock sensor ground circuit ● Harness for open or short between control unit and door unlock sensor (driver side)
NG	▶	Replace door unlock sensor (driver side).

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

HAZARD REMINDER CHECK

=NCEL0115S08

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

2	CHECK HAZARD REMINDER OPERATION
1. Disconnect control unit connector. 2. Apply ground to control unit terminal 7.	
<p>Smart entrance control unit connector (M23)</p>	
Refer to wiring diagram in EL-195.	
SEL890V	
Does hazard indicator illuminate?	
Yes	▶ Replace smart entrance control unit.
No	▶ GO TO 3.

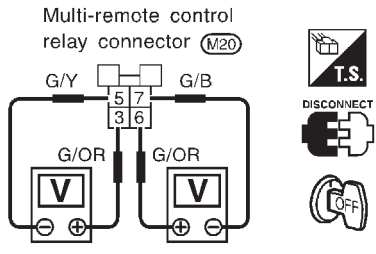
3	CHECK MULTI-REMOTE CONTROL RELAY
Check multi-remote control relay.	
OK or NG	
OK	▶ GO TO 4.
NG	▶ Replace.

4	CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY
1. Disconnect multi-remote control relay connector. 2. Check voltage between terminal 1 and ground.	
<p>Multi-remote control relay connector (M20)</p>	
Battery voltage should exist.	
OK or NG	
OK	▶ GO TO 5.
NG	▶ Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 20, located in fuse block (J/B)] ● Harness for open or short between multi-remote control relay and fuse

SEL244VB

MULTI-REMOTE CONTROL SYSTEM

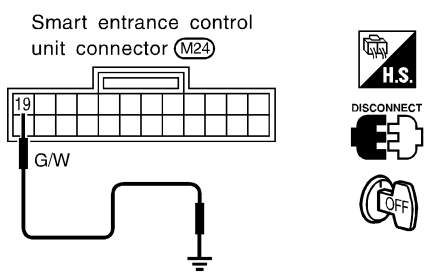
Trouble Diagnoses (Cont'd)

5	CHECK MULTI-REMOTE CONTROL RELAY CIRCUIT		
		<p>1. Disconnect multi-remote control relay connector.</p> <p>2. Check voltage between terminals 3 and 5. Battery voltage should exist.</p> <p>3. Check voltage between terminals 6 and 7. Battery voltage should exist.</p>	<p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p> <p>EC</p> <p>FE</p> <p>CL</p> <p>MT</p>
			<p>SEL245VB</p>
		OK or NG	
OK	▶	Check harness for open or short between control unit and multi-remote control relay.	
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 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

NCEL0115S11

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		
		<p>1. Disconnect control unit connector.</p> <p>2. Apply ground to control unit terminal 19.</p>	
			<p>SEL075WA</p>
		Refer to wiring diagram in EL-196.	
		Does horn sound?	
Yes	▶	Replace smart entrance control unit.	
No	▶	Check harness for open or short between control unit and horn relay.	

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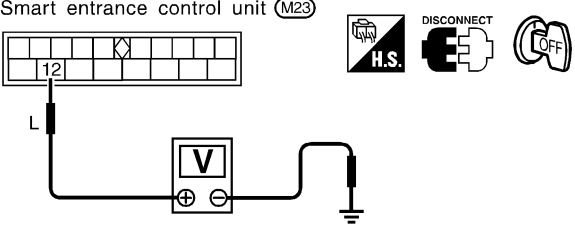
MULTI-REMOTE CONTROL SYSTEM

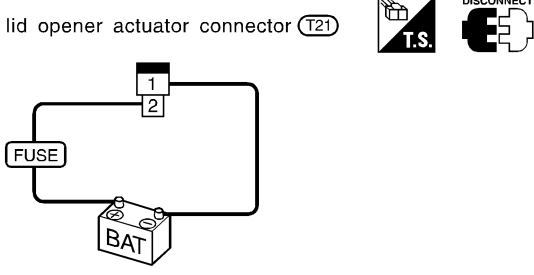
Trouble Diagnoses (Cont'd)

TRUNK LID OPENER CHECK

=NCEL0115S10

1	CHECK TRUNK LID OPENER OPERATION	
Does trunk lid opener operate with trunk lid opener switch?		
Yes or No		
Yes	▶	GO TO 2.
No	▶	GO TO 3.

2	CHECK TRUNK LID OPENER CIRCUIT	
<p>1. Disconnect smart entrance control unit connector. 2. Check voltage between smart entrance control unit connector terminal 12 and ground.</p>		
		
Battery voltage should exist.		
SEL675W		
OK or NG		
OK	▶	Replace smart entrance control unit.
NG	▶	Check harness or open or short between trunk lid opener relay and smart entrance control unit.

3	CHECK TRUNK LID OPENER ACTUATOR	
<p>1. Disconnect trunk lid opener actuator connector. 2. Check to see if trunk lid opens when 12V is applied between trunk lid opener actuator terminals 1 and 2.</p>		
		
SEL676W		
OK or NG		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 15A fuse [No. 15, located in the fuse block (J/B)] ● Trunk lid opener relay ● Harness for open or short between trunk lid opener relay and fuse ● Harness for open or short between trunk lid opener relay and trunk lid opener actuator ● Trunk lid opener actuator ground circuit
NG	▶	Replace trunk lid opener actuator.

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

INTERIOR ROOM LAMP OPERATION CHECK

=NCEL0115S09

1	CHECK INTERIOR ROOM LAMP	
Check if the interior room lamp switch is in the "DOOR" position and the lamp illuminates when a door is open.		
Does interior room lamp illuminate?		
Yes	▶	GO TO 2.
No	▶	Check "Interior room lamp" circuit.

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2	CHECK INTERIOR ROOM LAMP CIRCUIT	
When interior room lamp switch is "DOOR" position, check voltage across control unit terminal 8 and ground.		
Refer to wiring diagram in EL-195. Battery voltage should exist.		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Repair harness between control unit and interior room lamp.

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3	CHECK CONTROL UNIT OUTPUT	
Push unlock button of remote controller and check voltage across control unit terminal 8 and ground.		
Voltage (V): Unlock button is pushed. 0 (For approx. 30 seconds.) Unlock button is not pushed. Battery voltage		
OK or NG		
OK	▶	Check system again.
NG	▶	Replace smart entrance control unit.

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MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure

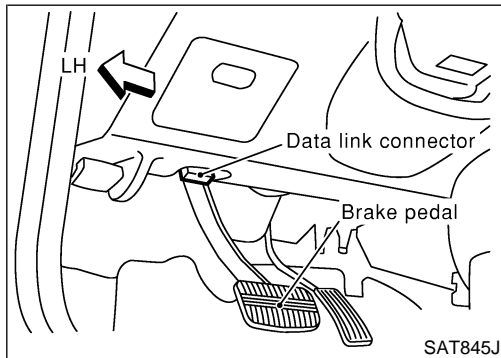
ID Code Entry Procedure

REMOTE CONTROLLER ID SET UP WITH CONSULT-II

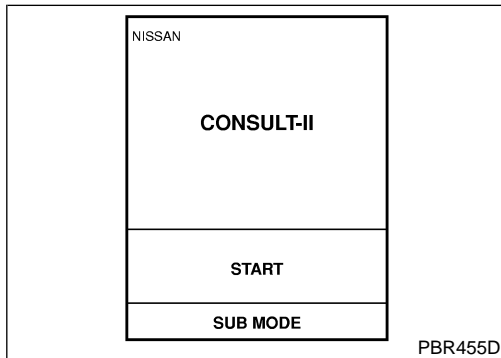
NCEL0117
NCEL0117S01

NOTE:

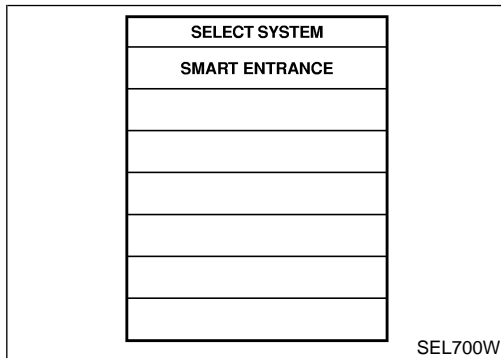
If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. When the ID code of a lost remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.



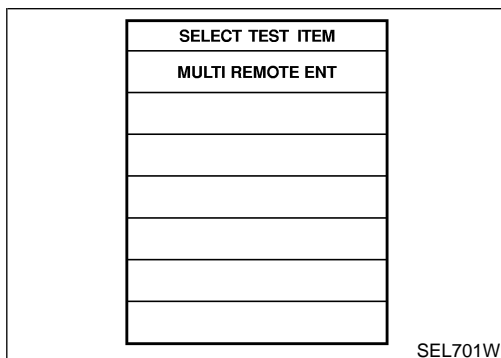
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



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



5. Touch "SMART ENTRANCE".



6. Touch "MULTI REMOTE ENT".

MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Cont'd)

SELECT DIAG MODE
WORK SUPPORT

SEL702W

SELECT WORK ITEM
REMO CONT ID CONFIR
REMO CONT ID REGIST
REMO CONT ID ERASUR

SEL703W

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.

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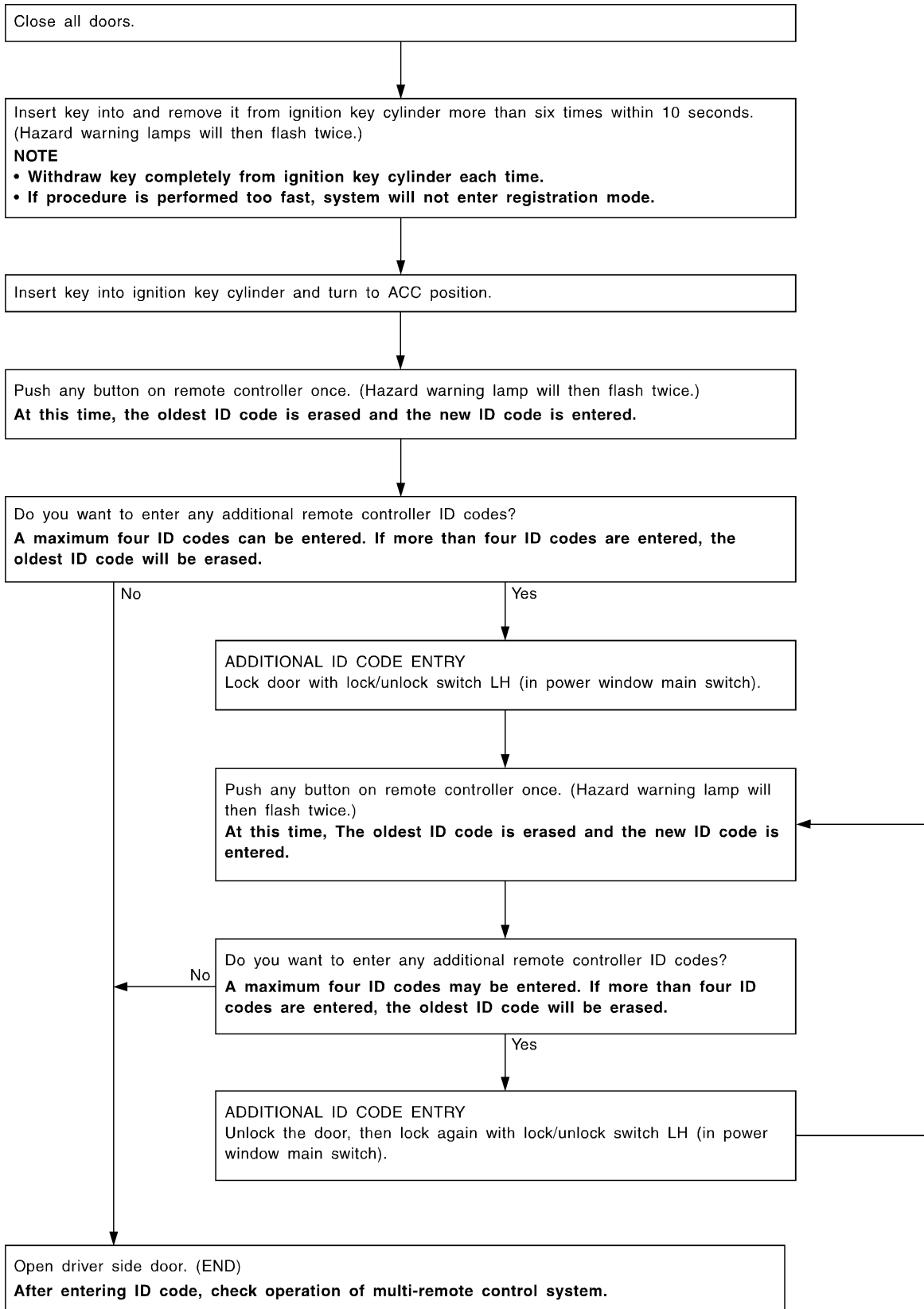
IDX

MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Cont'd)

REMOTE CONTROLLER ID SET UP WITHOUT CONSULT-II

NCEL0117S02



SEL332W

MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Cont'd)

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-II. 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.

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MULTI-REMOTE CONTROL SYSTEM

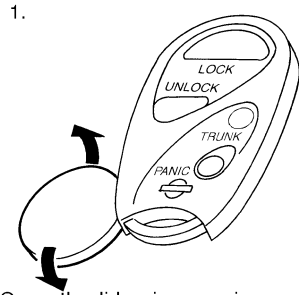
Remote Controller Battery Replacement

NCEL0118

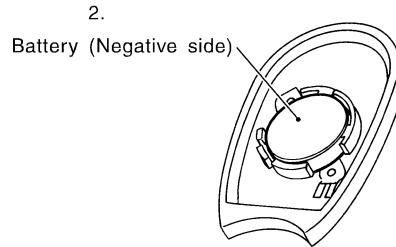
Remote Controller Battery Replacement

NOTE:

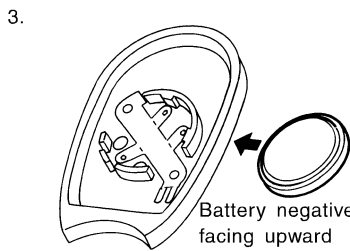
- Be careful not to touch the circuit board or battery terminal.
- The remote controller is water-resistant. However, if it does get wet, immediately wipe it dry.



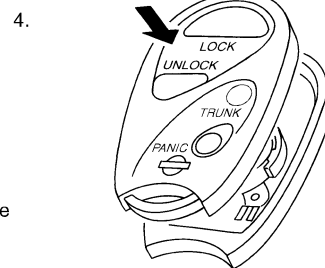
Open the lid using a coin.



Remove the battery.



Insert the new battery.



Close the lid securely.
Push the remote controller button two or three times to check its operation.

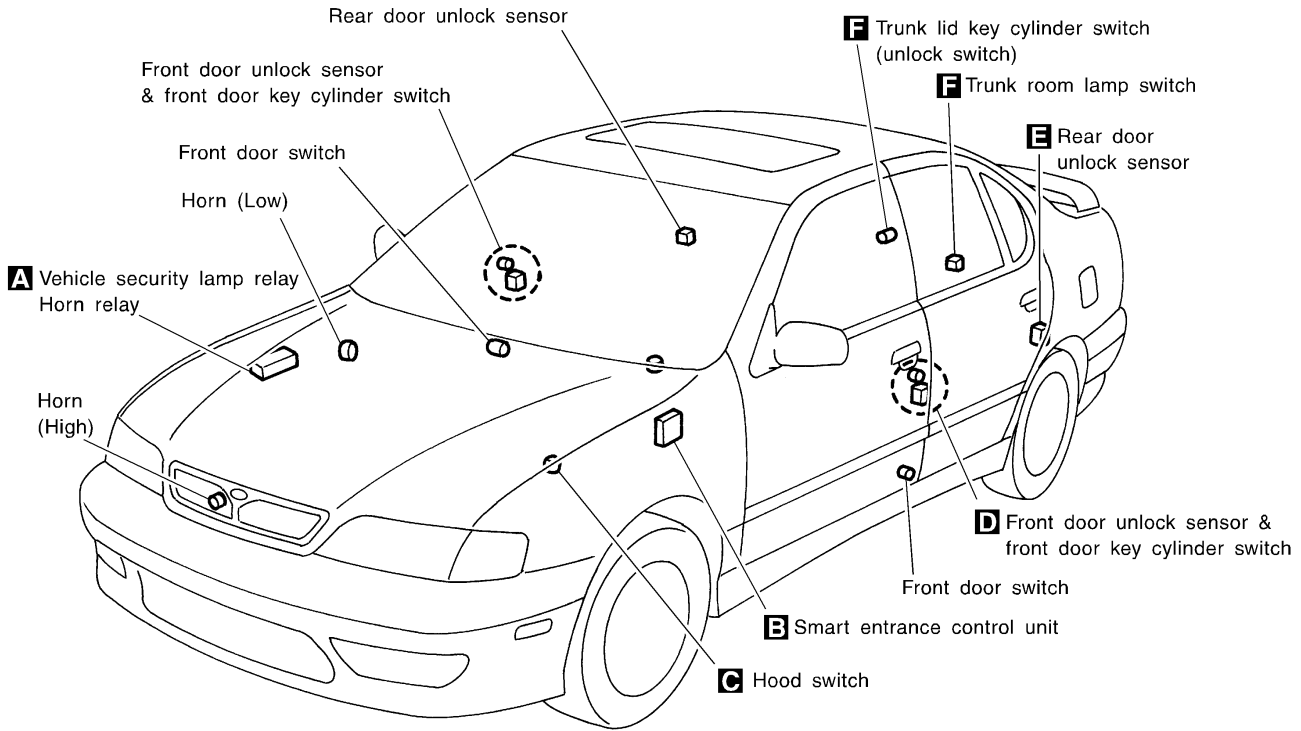
SEL366W

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0119



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<p>Fuse block (J/B)</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td></td><td></td></tr> <tr><td>24</td><td>25</td><td>26</td><td></td><td></td></tr> <tr><td>27</td><td>28</td><td>29</td><td></td><td></td></tr> </table>	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			<p>Front</p> <p>Fuse and fusible link box</p>	<p>A Vehicle security lamp relay</p> <p>Horn relay</p>
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																																			
<p>B Driver side view with lower instrument panel removed</p> <p>Smart entrance control unit M23, M24</p>	<p>C Hood switch E7</p>																																				
<p>D Front door key cylinder switch</p> <p>LH: D8 RH: D27</p> <p>Front door lock actuator (unlock sensor)</p> <p>LH: D9 RH: D28</p>	<p>E Rear door lock actuator (unlock sensor)</p> <p>LH: D44 RH: D64</p>	<p>F Trunk room lamp switch T55</p> <p>Trunk lid key cylinder switch (unlock switch) T53</p>																																			

SEL955X

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description

System Description

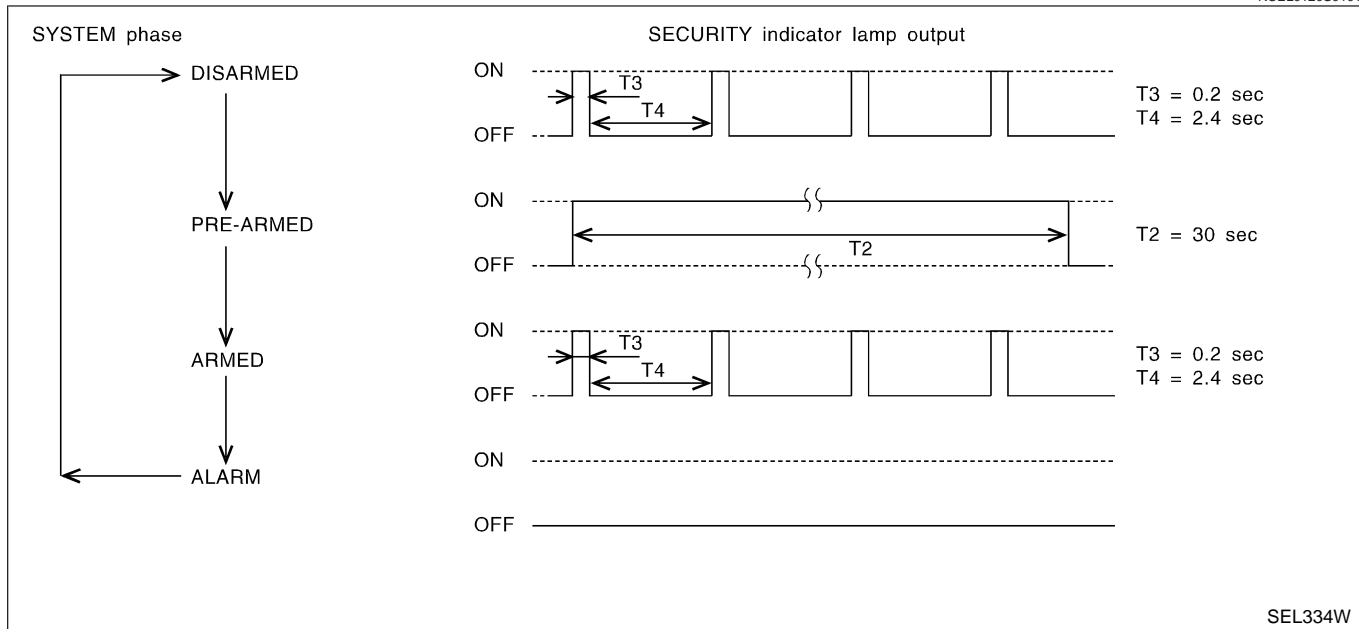
NCEL0120

DESCRIPTION

NCEL0120S01

1. Operation Flow

NCEL0120S0101



2. Setting The Vehicle Security System

NCEL0120S0102

Initial condition

- 1) Close all doors.
- 2) Close engine hood and trunk lid.

Disarmed phase

When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.6 seconds.

Pre-armed phase and armed phase

The vehicle security system turns into the “pre-armed” phase when engine hood, trunk lid and all doors are closed and the doors are locked by key or multi-remote controller. (The security indicator lamp illuminates.) After about 30 seconds, the system automatically shifts into the “armed” phase (the system is set). (The security indicator lamp blinks every 2.6 seconds.)

3. Canceling The Set Vehicle Security System

NCEL0120S0103

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. When the trunk lid is closed after opening the trunk lid with the key, the system returns to the armed phase.

4. Activating The Alarm Operation of The Vehicle Security System

NCEL0120S0104

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 before unlocking door with key or multi-remote controller.
- 2) Door is unlocked without using key or multi-remote controller.

POWER SUPPLY AND GROUND

NCEL0120S07

Power is supplied at all times

- through 7.5A fuse [No. 5, located in the fuse block (J/B)]
- to security indicator lamp terminal 1.

Power is supplied at all times

- through 30A fusible link (letter **d**, located in the fuse and fusible link box)
- to smart entrance control unit terminal 11.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

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

- through 7.5A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 21.

GI

Ground is supplied

- to smart entrance control unit terminal 16
- through body grounds M15, M71 and M76.

MA

INITIAL CONDITION TO ACTIVATE THE SYSTEM

NCEL0120S02

EM

The operation of the vehicle security system is controlled by the doors, engine hood and trunk lid.

To activate the vehicle security system, the smart entrance control unit must receive signals indicating the doors, engine hood and trunk lid are closed and the doors are locked.

LC

When a door is open, smart entrance control unit terminal 28, 29 or 40 receives a ground signal from each door switch.

When a door is unlocked, smart entrance control unit terminal 26, 36 or 37 receives a ground signal from terminal 4 of each door unlock sensor.

EC

When the engine hood is open, smart entrance control unit terminal 27 receives a ground signal

- from terminal 1 of the hood switch
- through body grounds E9 and E28.

FE

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 B109 and B110.

CL

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

MT

VEHICLE SECURITY SYSTEM ACTIVATION (WITH KEY OR REMOTE CONTROLLER USED TO LOCK DOORS)

AT

NCEL0120S03

If the key is used to lock doors, terminal 41 receives a ground signal

- from terminal 1 of the key cylinder switch (driver side)
- from terminal 3 of the front door key cylinder switch (passenger side)
- through body grounds M15, M71 and M76

AX

SU

If this signal or lock signal from remote controller is received by the smart entrance control unit, the vehicle security system will activate automatically.

Once the vehicle security system has been activated, smart entrance control unit terminal 31 supplies ground to terminal 2 of the security indicator lamp.

BR

The security lamp will illuminate for approximately 30 seconds and then blink.

Now the vehicle security system is in armed phase.

ST

VEHICLE SECURITY SYSTEM ALARM OPERATION

NCEL0120S04

RS

The vehicle security system is triggered by

- opening the door without using the key
- opening the engine hood or the trunk lid
- unlocking the door without using the key.

BT

Once the vehicle security system is in armed phase, if the smart entrance control unit receives a ground signal at terminal 26, 36, 37 (door unlock sensor), 28, 29, 40 (door switch), 38 (trunk room lamp switch) or 27 (hood switch), the vehicle security system will be triggered. The headlamps flash and the horn sounds intermittently.

HA

Power is supplied at all times

- through 10A fuse (No. 36, located in fuse and fusible link box)
- to vehicle security lamp relay terminal 1 and
- to horn relay terminals 1 and 3
- through 10A fuse (No. 41, located in fuse and fusible link box)
- to horn relay terminal 6.

SC

When the vehicle security system is triggered, ground is supplied intermittently

- from terminal 4 of the smart entrance control unit
- to vehicle security lamp relay terminal 2 and
- from terminal 19 of smart entrance control unit

EL

IDX

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

- to horn relay terminal 2.

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.

VEHICLE SECURITY SYSTEM DEACTIVATION

NCELO120S05

To deactivate the vehicle security system, the door or the 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 3 of the front door key cylinder switch (driver side)
- from terminal 1 of the front door key cylinder switch (passenger side)

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 vehicle security system is deactivated. (Disarmed phase)

PANIC ALARM OPERATION

NCELO120S06

Multi-remote control system may or may not operate vehicle security system (horn and headlamps) as required.

When the multi-remote control system is triggered, ground is supplied intermittently.

- from smart entrance control unit terminal 4
- to vehicle security lamp relay terminal 2 and
- from smart entrance control unit terminal 19
- to terminal 2 of horn relay.

The headlamp flashes and the horn sounds intermittently.

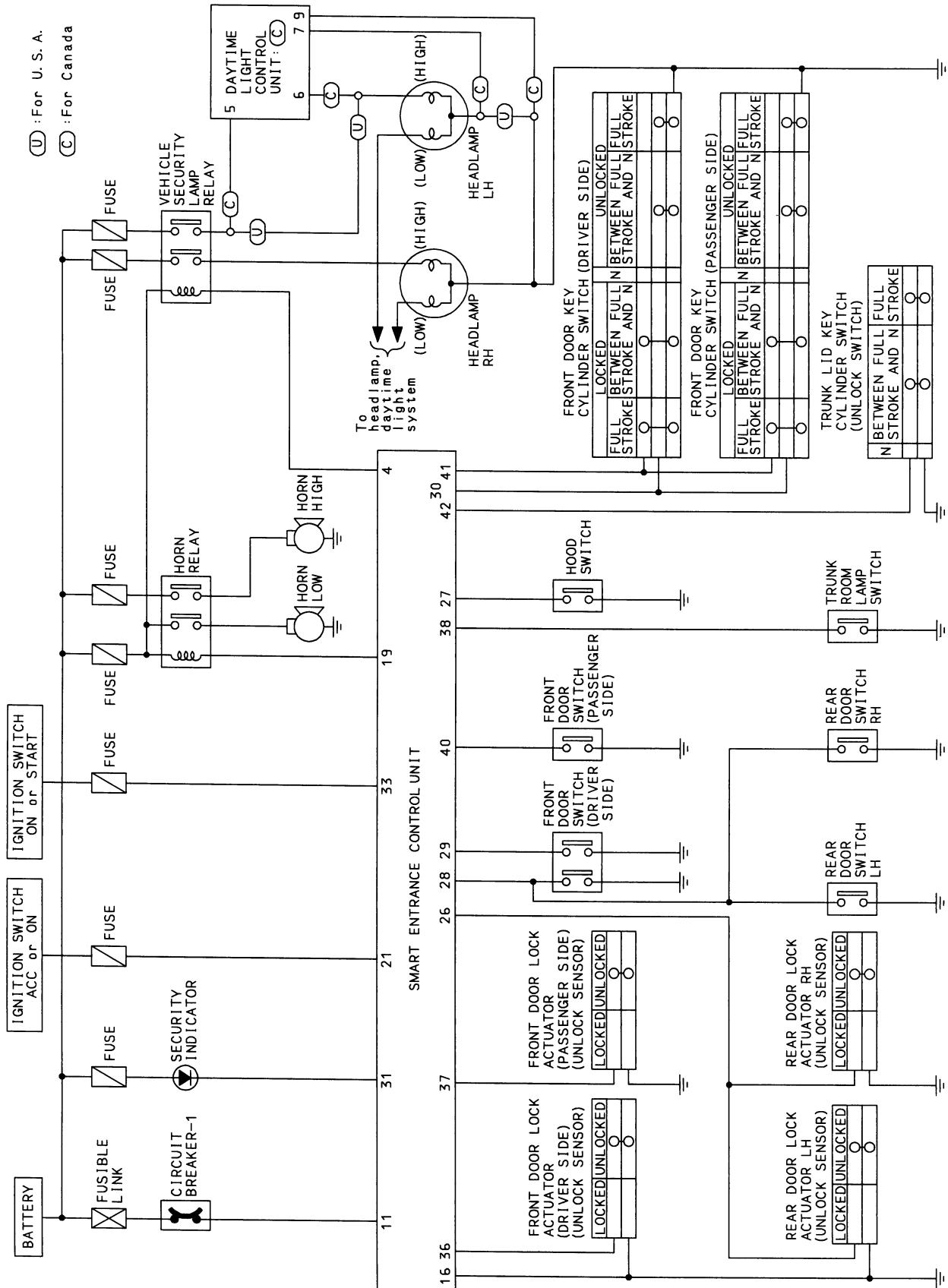
The alarm automatically turns off after 30 seconds or when smart entrance control unit receives any signal from multi-remote controller.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Schematic

NCEL0121

Schematic



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TEL773B

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC —

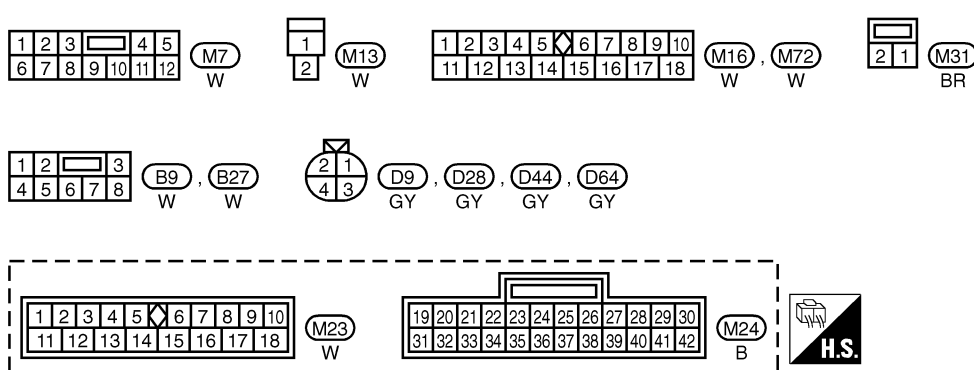
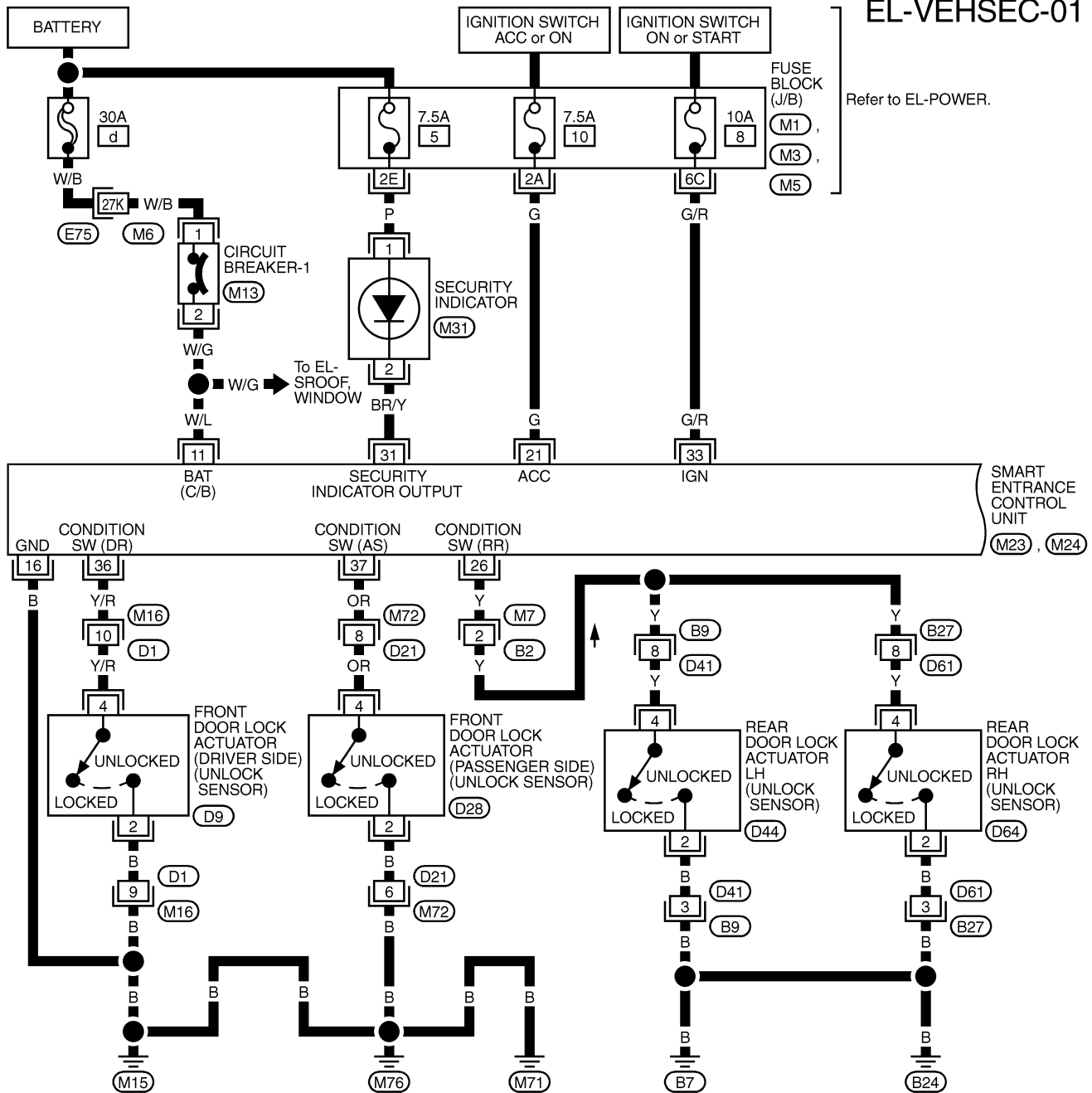
Wiring Diagram — VEHSEC —

NCEL0122

NCEL0122S01

FIG. 1

EL-VEHSEC-01



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1), (M3), (M5) -FUSE BLOCK-JUNCTION BOX (J/B)

TEL774B

VEHICLE SECURITY (THEFT WARNING) SYSTEM

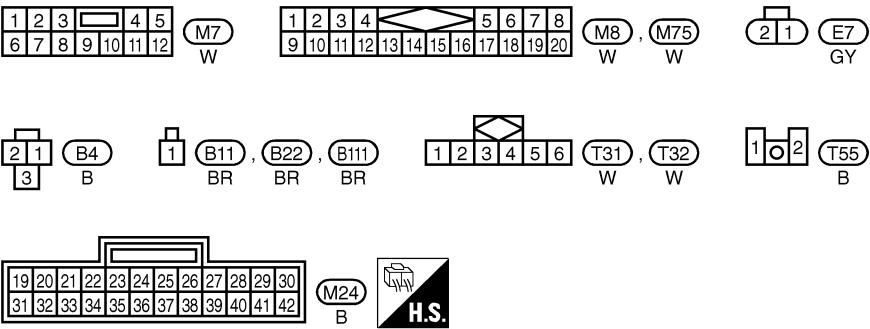
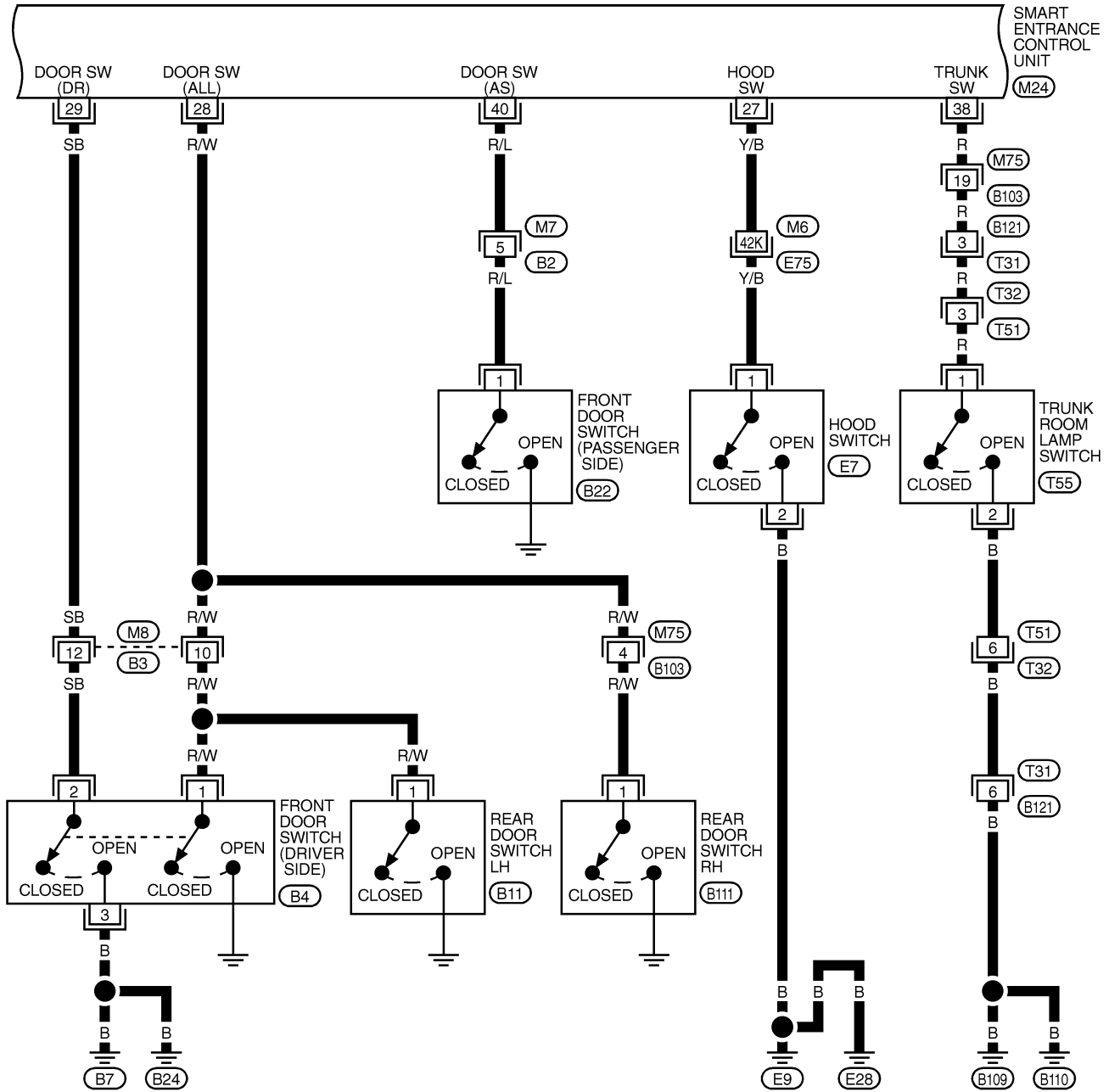
Wiring Diagram — VEHSEC — (Cont'd)

FIG. 2

NCEL0122S02

EL-VEHSEC-02

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REFER TO THE FOLLOWING.
(E75) -SUPER MULTIPLE JUNCTION (SMJ)

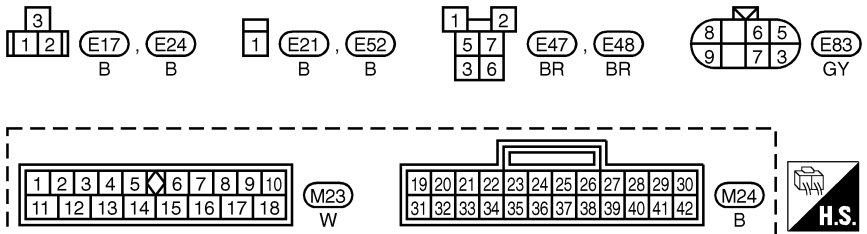
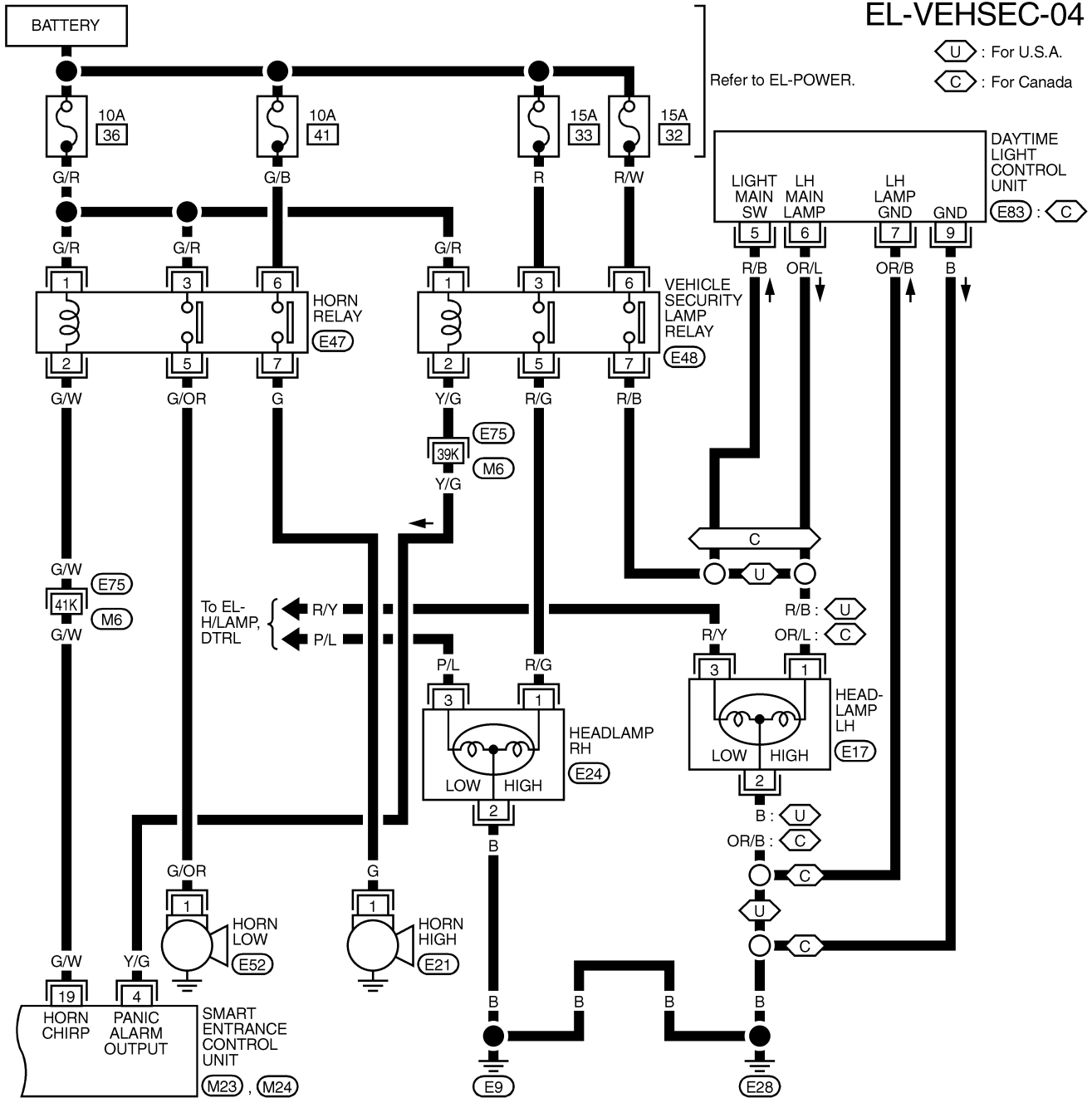
TEL775B

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

FIG. 4

NCEL0122S04



REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE
 JUNCTION (SMJ)

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses

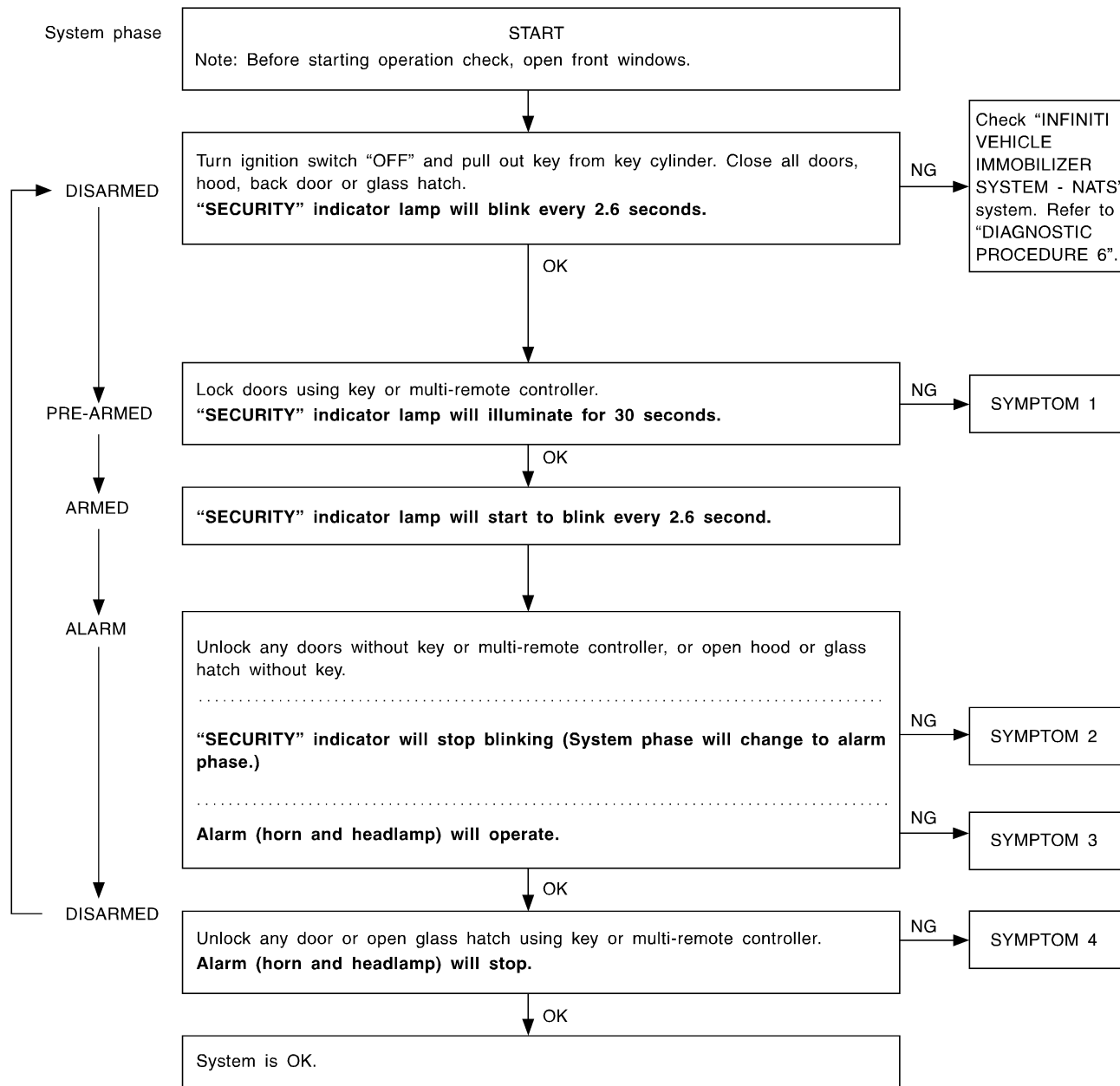
Trouble Diagnoses

PRELIMINARY CHECK

NCEL0123

NCEL0123S01

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



SEL733WB

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

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

NCEL0123S02

REFERENCE PAGE (EL-)	224	226	227	233	234	235	237	239	241	197	
SYMPTOM	PRELIMINARY CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK	SECURITY INDICATOR LAMP CHECK	DOOR UNLOCK SENSOR CHECK	DOOR KEY CYLINDER SWITCH CHECK	TRUNK LID KEY CYLINDER SWITCH CHECK	VEHICLE SECURITY HORN ALARM CHECK	VEHICLE SECURITY HEADLAMP ALARM CHECK	Check "MULTI-REMOTE CONTROL" system.	
1	Vehicle security indicator does not illuminate for 30 seconds.	X	X	X	X						
	Vehicle security system cannot be set by ...	All items	X	X	X		X				
		Door outside key	X					X			
	Multi-remote control	X								X	
2	*1 Vehicle security system does not alarm when ...	Any door is opened.	X		X						
		Any door is unlocked without using key or multi-remote controller	X				X				
3	Vehicle security alarm does not activate.	All function	X		X		X				
		Horn alarm	X						X		
		Headlamp alarm	X							X	
4	Vehicle security system cannot be canceled by ...	Door outside key	X				X				
		Trunk lid key	X						X		
		Multi-remote control	X								X

X : Applicable

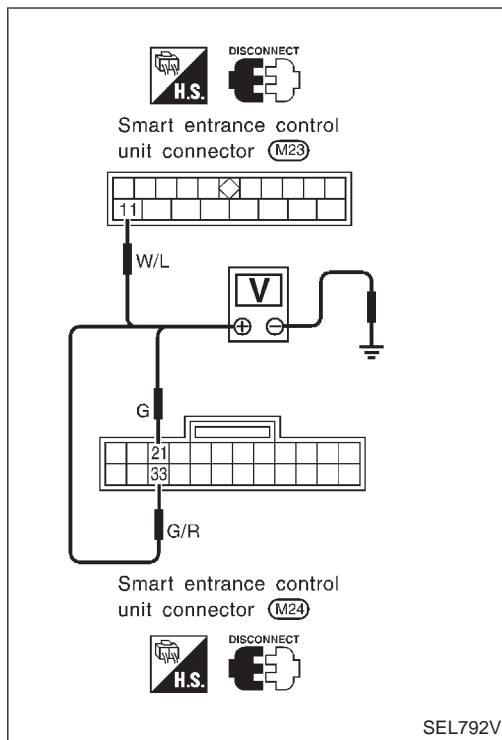
*1: Make sure the system is in the armed phase.

Before starting trouble diagnoses above, perform preliminary check, EL-224.

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

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)



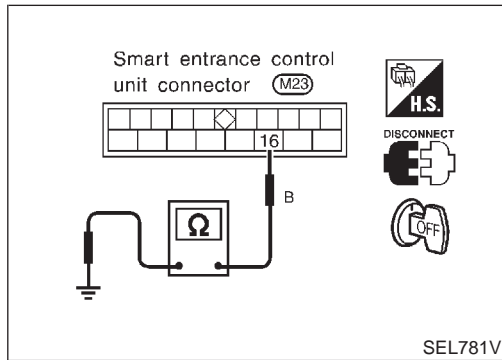
POWER SUPPLY AND GROUND CIRCUIT CHECK

NCEL0123S03

Power Supply Circuit Check

NCEL0123S0301

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



Ground Circuit Check

NCEL0123S0302

Terminals	Continuity
16 - Ground	Yes

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK

Door Switch Check

-NCEL0123S04

NCEL0123S0401

1 PRELIMINARY CHECK	
1. Turn ignition switch "OFF" and remove key from key cylinder. 2. Close all doors, engine hood and trunk lid. "SECURITY" indicator lamp should turn off. 3. Open any passenger door or back door. "SECURITY" indicator lamp should blink every second. <p style="text-align: center;">OK or NG</p>	
OK	▶ Door switch is OK. Next, go to "Hood Switch Check".
NG	▶ GO TO 2.

2 CHECK DOOR SWITCH INPUT SIGNAL																													
Check voltage between control unit terminals 28, 29 or 40 and ground.																													
<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminals</th> <th rowspan="2">Condition</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front LH door switch</td> <td rowspan="2">29</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 12</td> </tr> <tr> <td rowspan="2">Front RH door switch</td> <td rowspan="2">40</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 12</td> </tr> <tr> <td rowspan="2">Front LH and rear door switches</td> <td rowspan="2">28</td> <td rowspan="2">ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 12</td> </tr> </tbody> </table>			Terminals		Condition	Voltage [V]	(+)	(-)	Front LH door switch	29	ground	Open	0	Closed	Approx. 12	Front RH door switch	40	ground	Open	0	Closed	Approx. 12	Front LH and rear door switches	28	ground	Open	0	Closed	Approx. 12
	Terminals		Condition	Voltage [V]																									
	(+)	(-)																											
Front LH door switch	29	ground	Open	0																									
			Closed	Approx. 12																									
Front RH door switch	40	ground	Open	0																									
			Closed	Approx. 12																									
Front LH and rear door switches	28	ground	Open	0																									
			Closed	Approx. 12																									
Refer to wiring diagram in EL-221.																													
OK or NG																													
OK	▶ Door switch is OK. Next, go to "Hood Switch Check".																												
NG	▶ GO TO 3.																												

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

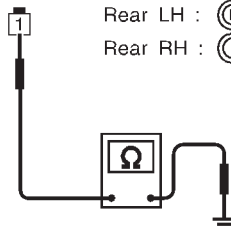
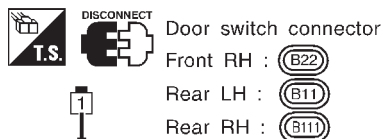
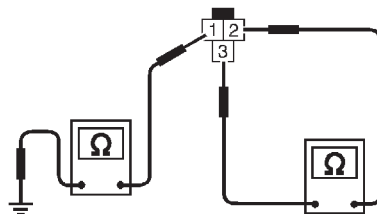
Trouble Diagnoses (Cont'd)

3 CHECK DOOR SWITCH

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

	Terminals	Condition	Continuity
Front LH door switch	2 - 3, 1 - ground	Closed	No
		Open	Yes
Front RH and rear door switches	1 - ground	Closed	No
		Open	Yes

MTBL0195



SEL931V

OK or NG

OK



Check the following.

- Door switch ground circuit (Front, rear door) or door switch ground condition
- Harness for open or short between control unit and door switch

NG



Replace door switch.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

Hood Switch Check

=NCEL0123S0402

1	PRELIMINARY CHECK
<p>1. Turn ignition switch "OFF" and remove key from key cylinder. 2. Close all doors, engine hood and trunk lid. "SECURITY" indicator lamp should turn off. 3. Open hood. "SECURITY" indicator lamp should blink every second.</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ Hood switch is OK. Next, 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.

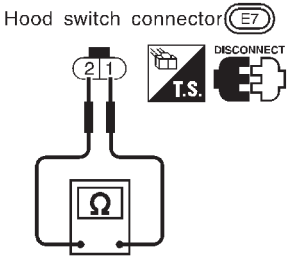
3	CHECK HOOD SWITCH INPUT SIGNAL
<p>Check voltage between control unit terminal 27 and ground.</p> <div style="text-align: center;"> </div> <p>Refer to wiring diagram in EL-221.</p> <p>Voltage [V]: Engine hood is open. 0 Engine hood is closed. Approx. 12</p> <p style="text-align: center;">OK or NG</p>	
OK	▶ Hood switch is OK. Next, go to "Trunk Room Lamp Switch Check".
NG	▶ GO TO 4.

SEL932V

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

4	CHECK HOOD SWITCH
<p>1. Disconnect hood switch connector.</p> <p>2. Check continuity between hood switch terminals 1 and 2.</p> <div style="text-align: center;"><p>Hood switch connector (E7)</p></div> <p>SEL397TC</p> <p>Continuity: Condition: Pushed No Condition: Released Yes</p> <p style="text-align: center;">OK or NG</p>	
OK	<p>▶ Check the following.</p> <ul style="list-style-type: none">● Hood switch ground circuit● Harness for open or short between control unit and hood switch
NG	<p>▶ Replace hood switch.</p>

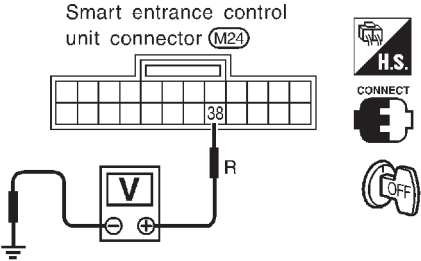
VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

Trunk Room Lamp Switch Check

=NCEL0123S0403

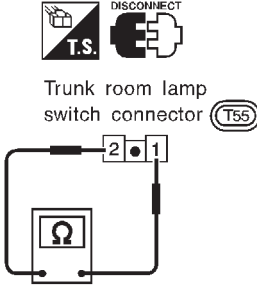
1	PRELIMINARY CHECK	
	1. Turn ignition switch "OFF" and remove key from key cylinder. 2. Close all doors, engine hood and trunk lid. "SECURITY" indicator lamp should turn off. 3. Open trunk lid. "SECURITY" indicator lamp should blink every second. <p style="text-align: center;">OK or NG</p>	
OK	▶	Trunk room lamp switch is OK.
NG	▶	GO TO 2.

2	CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL	
	Check voltage between control unit terminal 38 and ground. <div style="text-align: center;">  </div> <p style="text-align: right;">SEL933V</p> <p>Refer to wiring diagram in EL-221.</p> <p>Voltage [V]: Trunk lid is open. Approx. 0 Trunk lid is closed. Approx. 12</p> <p style="text-align: center;">OK or NG</p>	
OK	▶	Trunk room lamp switch is OK.
NG	▶	GO TO 3.

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

3	CHECK TRUNK ROOM LAMP SWITCH	
<p>1. Disconnect trunk room lamp switch connector. 2. Check continuity between trunk room lamp switch terminals 1 and 2.</p> <div style="text-align: center;">  <p>Trunk room lamp switch connector (T55)</p> </div> <p>Continuity: Condition: Closed No Condition: Open Yes</p> <p style="text-align: right;">SEL934V</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Trunk room lamp switch ground circuit ● Harness for open or short between control unit and trunk room lamp switch
NG	▶	Replace trunk room lamp switch.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

SECURITY INDICATOR LAMP CHECK

=NCEL0123S05

1	CHECK INDICATOR LAMP OUTPUT SIGNAL		
		<p>1. Disconnect control unit connector. 2. Check voltage between control unit terminal 31 and ground.</p> <div style="text-align: center;"> <p>Smart entrance control unit connector (M24)</p> <p>31</p> <p>BR/Y</p> <p>V</p> <p>H.S.</p> <p>DISCONNECT</p> <p>OFF</p> </div> <p>Refer to wiring diagram in EL-220. Battery voltage should exist.</p> <p style="text-align: center;">OK or NG</p>	SEL935V
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		
		<p>1. Disconnect security lamp connector. 2. Check voltage between indicator lamp terminal 1 and ground.</p> <div style="text-align: center;"> <p>Security indicator lamp connector (M31)</p> <p>1</p> <p>P</p> <p>V</p> <p>I.S.</p> <p>DISCONNECT</p> <p>OFF</p> </div> <p style="text-align: center;">Battery voltage should exist.</p> <p style="text-align: center;">OK or NG</p>	SEL192X
OK		▶ Check harness for open or short between security indicator lamp and control unit.	
NG		▶ Check the following. <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in fuse block (J/B)] ● Harness for open or short between security indicator lamp and fuse 	

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

DOOR UNLOCK SENSOR CHECK

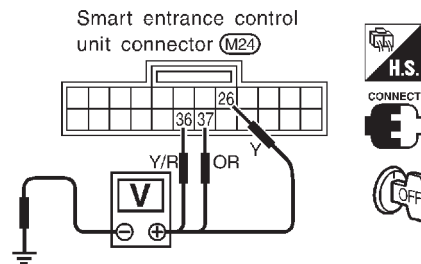
=NCEL0123S06

1 CHECK DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between control unit terminals 26, 36 or 37 and ground.

	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door	36	Ground	Locked	Approx. 12
			Unlocked	0
Front RH door	37	Ground	Locked	Approx. 12
			Unlocked	0
Rear door	26	Ground	Locked	Approx. 12
			Unlocked	0

MTBL0163



SEL937V

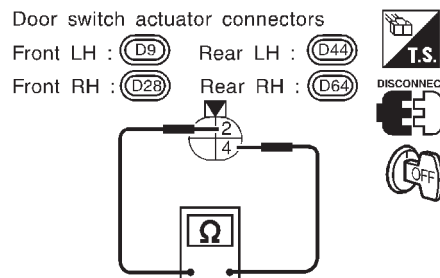
Refer to wiring diagram in EL-220.

OK or NG

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

2 CHECK DOOR UNLOCK SENSOR

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



SEL938V

Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

OK or NG

OK	▶	Check the following. <ul style="list-style-type: none"> ● Door unlock sensor ground circuit ● Harness for open or short between control unit and door unlock sensor
NG	▶	Replace door unlock sensor.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

DOOR KEY CYLINDER SWITCH CHECK

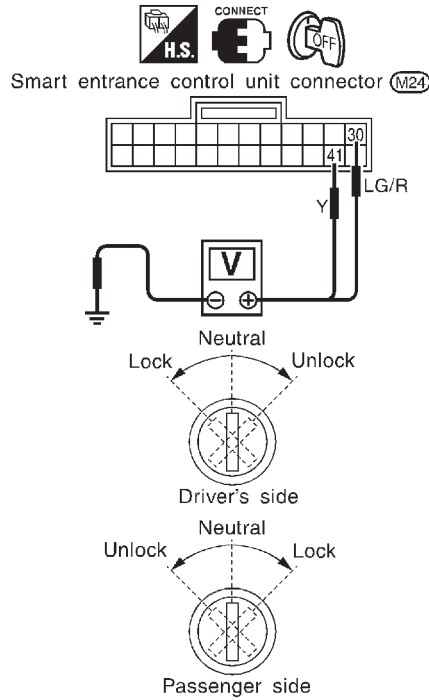
=NCEL0123S07

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

Check voltage between control unit terminals 30 or 41 and ground.

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

MTBL0164



Refer to wiring diagram in EL-222.

SEL939V

OK or NG

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

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

2 CHECK DOOR KEY CYLINDER SWITCH

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

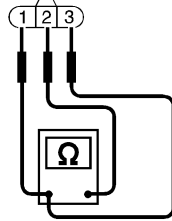
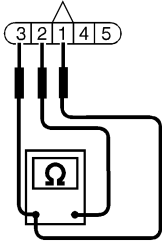


Door key cylinder switch connector

LH (With IVCS) : (D17)

LH (Without IVCS) : (D8)

RH : (D27)



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

- ① : Door lock switch terminal (LH)
Door unlock switch terminal (RH)
- ② : Ground terminal
- ③ : Door unlock switch terminal (LH)
Door lock switch terminal (RH)

SEL671W

OK or NG

OK



Check the following.

- Door key cylinder switch ground circuit
- Harness for open or short between control unit and door key cylinder switch

NG



Replace door key cylinder switch.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

TRUNK LID KEY CYLINDER SWITCH CHECK

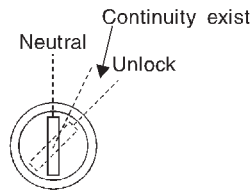
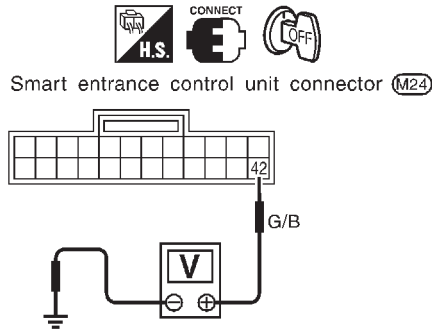
=NCEL0123S08

1 CHECK TRUNK LID KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK SIGNAL)

Check voltage between control unit terminal 42 and ground.

Terminal		Key position	Voltage [V]
(+)	(-)		
42	Ground	Neutral	Approx. 12
		Unlock	0

MTBL0166



Refer to wiring diagram in EL-222.

SEL941V

OK or NG

OK	▶	Trunk lid key cylinder switch is OK.
NG	▶	GO TO 2.

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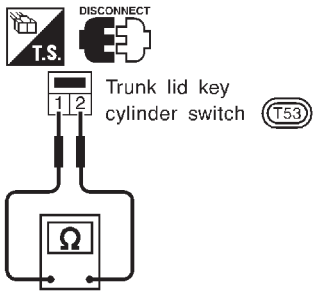
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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)




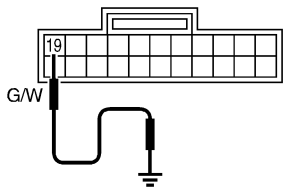
2	CHECK TRUNK LID KEY CYLINDER SWITCH							
	<p>1. Disconnect trunk lid key cylinder switch connector.</p> <p>2. Check continuity between trunk lid key cylinder switch terminals.</p> <table border="1"> <thead> <tr> <th>Key position</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td>Neutral</td> <td>No</td> </tr> <tr> <td>Unlock</td> <td>Yes</td> </tr> </tbody> </table> <div style="text-align: right; margin-top: 10px;">MTBL0167</div>  <div style="text-align: center; margin-top: 10px;">OK or NG</div> <div style="text-align: right; margin-top: 10px;">SEL942V</div>		Key position	Continuity	Neutral	No	Unlock	Yes
Key position	Continuity							
Neutral	No							
Unlock	Yes							
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Trunk lid key cylinder switch ground circuit ● Harness for open or short between control unit and trunk lid key cylinder switch 						
NG	▶	<p>Replace trunk lid key cylinder switch.</p>						

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

VEHICLE SECURITY HORN ALARM CHECK




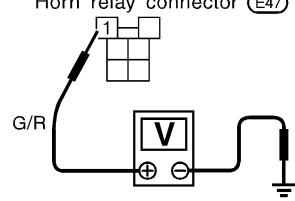
=NCEL0123S09

1	CHECK VEHICLE SECURITY HORN ALARM OPERATION							
<p>1. Disconnect control unit connector. 2. Apply ground to control unit terminal 19.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Smart entrance control unit connector (M24) </div> <div style="text-align: center;">  DISCONNECT </div> <div style="text-align: center;">  OFF </div> </div> <div style="text-align: center; margin-top: 20px;">  <p>Does horn alarm activate?</p> </div> <div style="text-align: right; margin-top: 20px;"> <p>SEL734W</p> </div> <p>Refer to wiring diagram in EL-223.</p>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Yes</td> <td style="width: 5%; text-align: center;">▶</td> <td>Horn alarm is OK.</td> </tr> <tr> <td>No</td> <td style="text-align: center;">▶</td> <td>GO TO 2.</td> </tr> </table>			Yes	▶	Horn alarm is OK.	No	▶	GO TO 2.
Yes	▶	Horn alarm is OK.						
No	▶	GO TO 2.						

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2	CHECK HORN RELAY							
<p>Check horn relay.</p> <p style="text-align: center;">OK or NG</p>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>GO TO 3.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>Replace.</td> </tr> </table>			OK	▶	GO TO 3.	NG	▶	Replace.
OK	▶	GO TO 3.						
NG	▶	Replace.						

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3	CHECK POWER SUPPLY FOR HORN RELAY							
<p>1. Disconnect horn relay connector. 2. Check voltage between terminal 1 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Horn relay connector (E47) </div> <div style="text-align: center;">  DISCONNECT </div> <div style="text-align: center;">  OFF </div> </div> <div style="text-align: center; margin-top: 20px;">  <p>Battery voltage should exist.</p> </div> <div style="text-align: right; margin-top: 20px;"> <p>SEL673W</p> </div> <p style="text-align: center;">OK or NG</p>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>GO TO 4.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td> Check the following. <ul style="list-style-type: none"> ● 10A fuse (No. 36, located in the fuse and fusible link box) ● Harness for open or short between vehicle security horn relay and fuse </td> </tr> </table>			OK	▶	GO TO 4.	NG	▶	Check the following. <ul style="list-style-type: none"> ● 10A fuse (No. 36, located in the fuse and fusible link box) ● Harness for open or short between vehicle security horn relay and fuse
OK	▶	GO TO 4.						
NG	▶	Check the following. <ul style="list-style-type: none"> ● 10A fuse (No. 36, located in the fuse and fusible link box) ● Harness for open or short between vehicle security horn relay and fuse 						

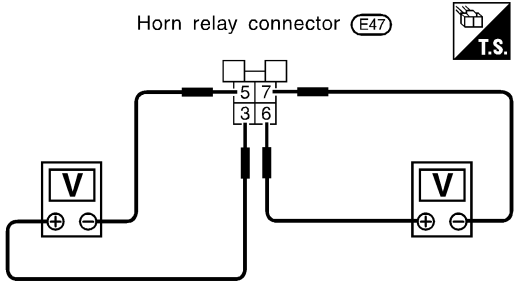
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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

4	CHECK HORN RELAY CIRCUIT	
	<p>1. Disconnect horn relay connector.</p> <p>2. Check voltage between terminals 3 and 5.</p> <p>3. Check voltage between terminals 6 and 7.</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center;"> <p>Horn relay connector (E47)</p>  </div> <div style="margin-left: 20px;"> <p>Battery voltage should exist.</p> </div> </div> <div style="text-align: right; margin-top: 10px;">SEL674W</div>	
OK	▶	Check harness for open or short between vehicle security horn relay and control unit.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 41, located in the fuse and fusible link box) ● Harness for open or short between fuse and horn relay ● Harness for open or short between horn relay and horns

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

VEHICLE SECURITY HEADLAMP ALARM CHECK

=NCEL0123S10

1	CHECK VEHICLE SECURITY HEADLAMP ALARM OPERATION	
<p>1. Disconnect control unit connector. 2. Apply ground to control unit terminal 4.</p> <div style="text-align: center;"> <p>Smart entrance control unit connector (M23)</p> </div> <p>Refer to wiring diagram in EL-223.</p> <p style="text-align: right;">SEL943V</p>		
Does headlamp alarm activate?		
Yes	▶	Headlamp alarm is OK.
No	▶	GO TO 2.

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2	CHECK HEADLAMP OPERATION	
Does headlamp come on when turning lighting switch "ON"?		
Yes	▶	GO TO 3.
No	▶	Check headlamp system. Refer to "HEADLAMP".

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3	CHECK VEHICLE SECURITY LAMP RELAY	
Check vehicle security lamp relay.		
OK or NG		
OK	▶	GO TO 4.
NG	▶	Replace.


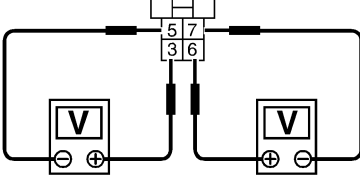
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4	CHECK POWER SUPPLY FOR VEHICLE SECURITY LAMP RELAY	
<p>1. Disconnect vehicle security lamp relay connector. 2. Check voltage between vehicle security lamp relay connector E48 terminal 1 (G/R) and ground.</p> <div style="text-align: center;"> <p>Vehicle security lamp relay connector</p> </div> <p>Refer to wiring diagram in EL-223. Battery voltage should exist.</p> <p style="text-align: right;">SEL956X</p>		
OK or NG		
OK	▶	GO TO 5.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 36, located in the fuse and fusible link box) ● Harness for open or short between vehicle security lamp relay and fuse

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

5	CHECK VEHICLE SECURITY LAMP RELAY CIRCUIT	
	<ol style="list-style-type: none"> 1. Disconnect vehicle security lamp relay connector. 2. Check voltage between vehicle security lamp relay connector E48 terminals 3 (R) and 5 (R/G). Battery voltage should exist. 3. Check voltage between vehicle security lamp relay connector E48 terminals 6 (R/W) and 7 (R/B). Battery voltage should exist. 	<div style="text-align: center;">  <p>Vehicle security lamp relay connector</p>  </div> <p style="text-align: right;">SEL957X</p>
	OK or NG	
OK	▶	Check harness for open or short between vehicle security lamp relay and control unit.
NG	▶	Check the following. <ul style="list-style-type: none"> ● 15A fuse (No. 32 and 33, located in the fuse and fusible link box) ● Harness for open or short between fuse and vehicle security lamp relay ● Harness for open or short between vehicle security lamp relay and headlamps

SMART ENTRANCE CONTROL UNIT

Description

Description

NCEL0124

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

- Warning chime
- Rear window defogger timer and door mirror defogger timer
- Power door lock
- Multi-remote control system
- Vehicle security system
- Interior room lamp timer
- Electric sunroof and power window timer
- Battery saver

For detailed description and wiring diagrams, refer to the relevant pages for the each system.

The control unit receives data from the switches and sensors to control their corresponding system relays and actuators.

INPUT/OUTPUT

NCEL0124S01

System	Input	Output
Power door lock	Door lock and unlock switch Key switch (Insert) Front door switch LH Front door switch RH Front door unlock sensor LH Front door unlock sensor RH Door key cylinder switches	Door lock actuator
Multi-remote control	Key switch (Insert) Ignition switch (ACC) Door switches Door lock and unlock switch Door unlock sensor (driver side) Antenna (remote controller signal)	Horn relay Vehicle security lamp relay Interior room lamp Multi-remote control relay Door lock actuator Trunk lid opener relay
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt switch Front door switch LH	Warning chime
Rear window defogger timer and door mirror defogger timer	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Vehicle security	Ignition switch (ACC, ON) Door switches Hood switch Trunk room lamp switch Door key cylinder switches (lock/unlock) Trunk lid key cylinder switch (unlock) Door unlock sensors	Horn relay Vehicle security lamp relay Security indicator
Interior room lamp timer	Door switches Door lock and unlock switch Ignition switch (ON) Key switch (Insert)	Interior room lamp
Electric sunroof and power window timer	Ignition switch (ON) Front door switches	Power window relay
Headlamp battery saver timer	Ignition switch (ON) Front door switches	Headlamp battery saver control unit
Battery saver	Key switch (Insert) Door switches Door lock and unlock switch	Interior room lamp Map lamp

SMART ENTRANCE CONTROL UNIT

Description (Cont'd)

BATTERY SAVER

NCEL0124S02

The lamp turns off automatically when the interior room lamp or/and map lamp is 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 the battery saver system turns off the lamps, the lamps illuminate again when:

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

SMART ENTRANCE CONTROL UNIT

Description (Cont'd)

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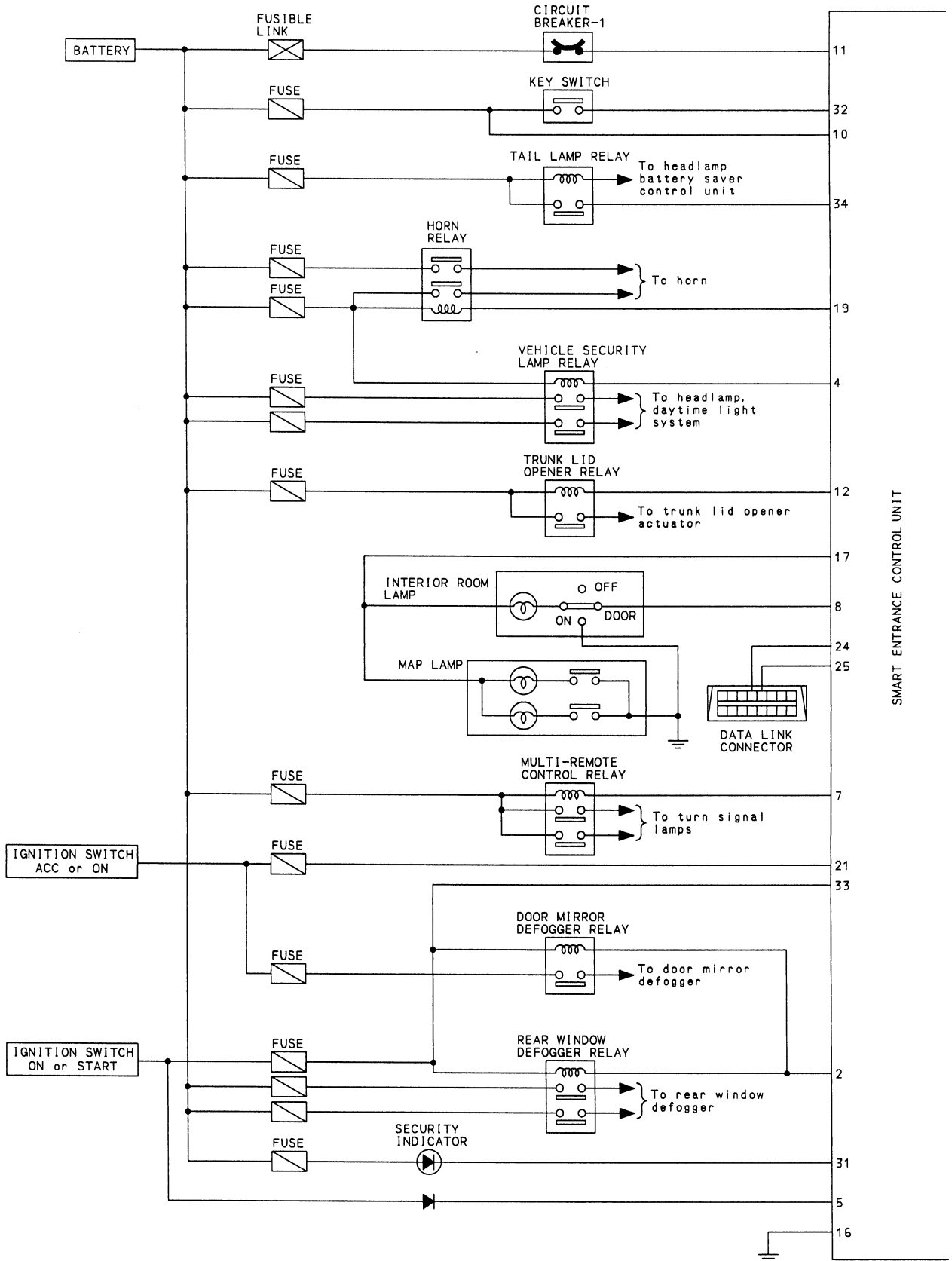
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SMART ENTRANCE CONTROL UNIT

Schematic

Schematic

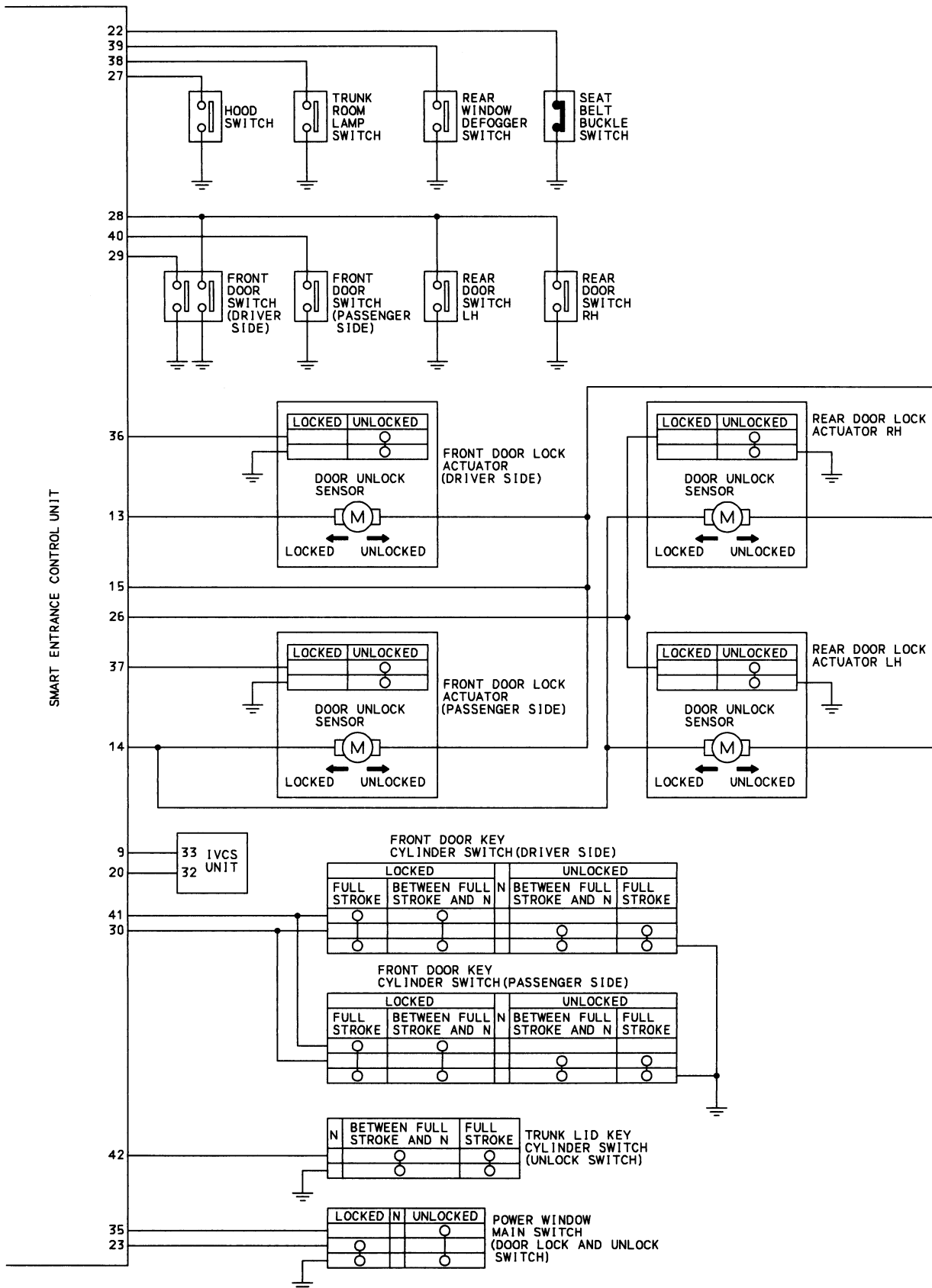
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SMART ENTRANCE CONTROL UNIT

Schematic (Cont'd)



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SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table

Smart Entrance Control Unit Inspection Table

NCEL0126

Terminal No.	Wire color	Connections	Operated condition	Voltage (Approximate values)	
2	G	Rear window defogger relay	OFF → ON (Ignition key is in "ON" position)	12V → 0V	
4	Y/G	Vehicle security 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/L	Interior room lamp	When interior lamp is operated using remote controller (Lamp switch in "DOOR" position)	12V → 0V	
10	P	Power source (Fuse)	—	12V	
11	W/L	Power source (C/B)	—	12V	
12	L	Trunk lid opener relay	When trunk lid is unlocked using remote controller	12V → 0V	
13	P	Driver door lock actuator	Door lock & unlock switch	Free	0V
14	L	Passenger door lock actuator		Unlocked	12V
15	GY	Door lock actuators	Door lock & unlock switch	Free	0V
				Locked	12V
16	B	Ground	—	—	
17	GY/R	Battery saver	Battery saver is not operate → Operate	12V → 0V	
19	G/W	Horn relay	When doors are locked using remote controller with horn chirp mode	12V → 0V	
21	G	Ignition switch (ACC)	"ACC" position	12V	
22	W/R	Seat belt buckle switch	Unfasten → Fasten (Ignition key is in "ON" position)	0V → 12V	
23	GY	Door lock & unlock switches	Neutral → Locks	12V → 0V	
26	Y	Rear door unlock sensors	All doors are locked → One or more doors are unlocked	12V → 0V	
27	Y/B	Hood open signal	ON (Open) → OFF (Closed)	0V → 12V	
28	R/W	All door switches	OFF (Closed) → ON (Open)	12V → 0V	
29	SB	Driver door switch	OFF (Closed) → ON (Open)	12V → 0V	
30	LG/R	Door key cylinder unlock switch	OFF (Neutral) → ON (Unlocked)	12V → 0V	
31	BR/Y	Security indicator	Goes off → Illuminates	12V → 0V	
32	L	Ignition key switch (Insert)	key inserted → key removed from IGN key cylinder	12V → 0V	
33	G/R	Ignition switch (ON)	Ignition key is in "ON" position	12V	
34	R/G	Tail lamp relay	1ST, 2ND positions: ON → OFF	12V → 0V	
35	G	Door lock & unlock switches	Neutral → Unlocks	12V → 0V	
36	Y/R	Driver door unlock sensor	Driver door: Locked → Unlocked	12V → 0V	
37	OR	Passenger door unlock sensor	Passenger door: Locked → Unlocked	12V → 0V	
38	R	Trunk room lamp switch	ON (Open) → OFF (Closed)	0V → 12V	
39	L/W	Rear window defogger switch	OFF → ON	12V → 0V	
40	R/L	Passenger door switch	OFF (Closed) → ON (Open)	12V → 0V	
41	Y	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)	12V → 0V	
42	G/B	Trunk lid key unlock switch	OFF (Neutral) → ON (Unlock)	12V → 0V	

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

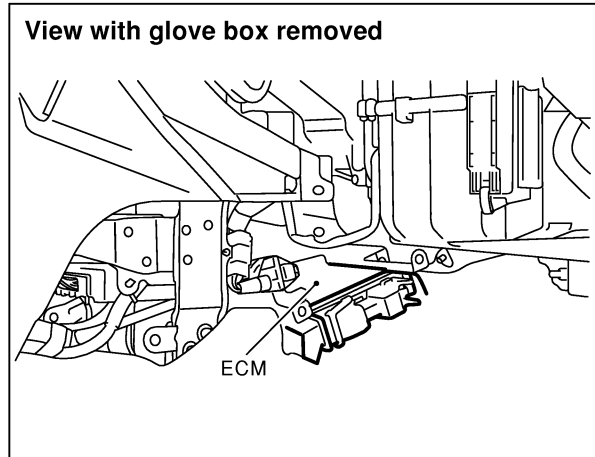
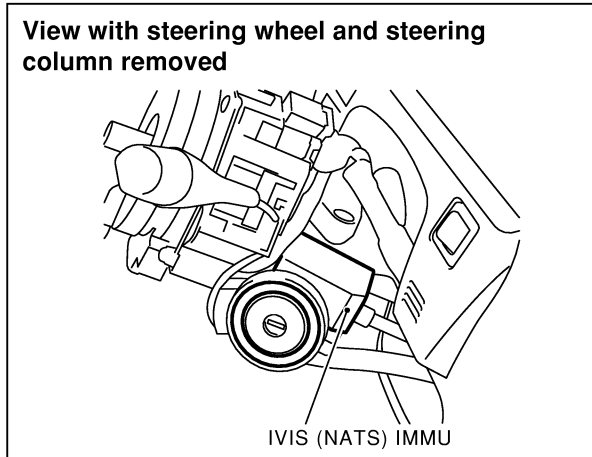
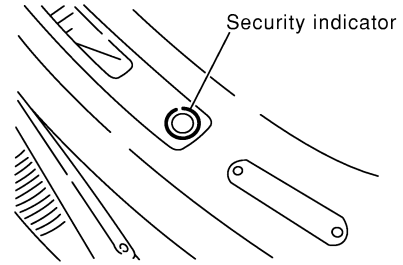
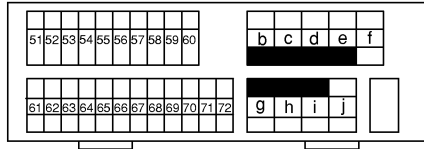
Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0174

Fuse block (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	



SEL663W

NOTE:

If customer reports a “No Start” condition, request ALL KEYS to be brought to an INFINITI dealer in case of an IVIS (NATS) malfunction.

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

System Description

System Description

=NCEL0175

IVIS (INFINITI Vehicle Immobilizer System—NATS) has the following immobilizer functions:

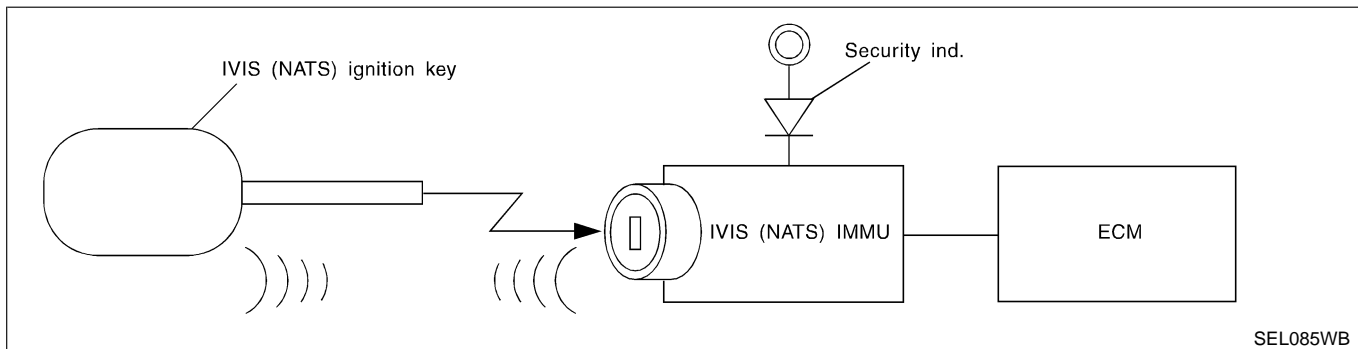
- Since only IVIS (NATS) ignition keys, whose ID nos. have been registered into the ECM and IMMU of IVIS (NATS), allow the engine to run, operation of a stolen vehicle without a IVIS (NATS) registered key is prevented by IVIS (NATS).
That is to say, IVIS (NATS) will immobilize the engine if someone tries to start it without the registered key of IVIS (NATS).
- All of the originally supplied ignition key IDs (except for card plate key) have been IVIS (NATS) registered. If requested by the vehicle owner, a maximum of five key IDs can be registered into the IVIS (NATS) components.
- The security indicator blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, IVIS (NATS) warns outsiders that the vehicle is equipped with the anti-theft system.
- When IVIS (NATS) detects trouble, the security indicator lamp lights up while ignition key is in the “ON” position.
- IVIS (NATS) trouble diagnoses, system initialization and additional registration of other IVIS (NATS) ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II IVIS (NATS) software. Regarding the procedures of IVIS (NATS) initialization and IVIS (NATS) ignition key ID registration, refer to CONSULT-II operation manual, IVIS/NVIS.
- **When servicing a malfunction of the IVIS (indicated by lighting up of Security Indicator Lamp) or registering another IVIS 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

NCEL0176

The immobilizer function of the IVIS (NATS) consists of the following:

- IVIS (NATS) ignition key
- IVIS (NATS) immobilizer control unit (IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- Security indicator



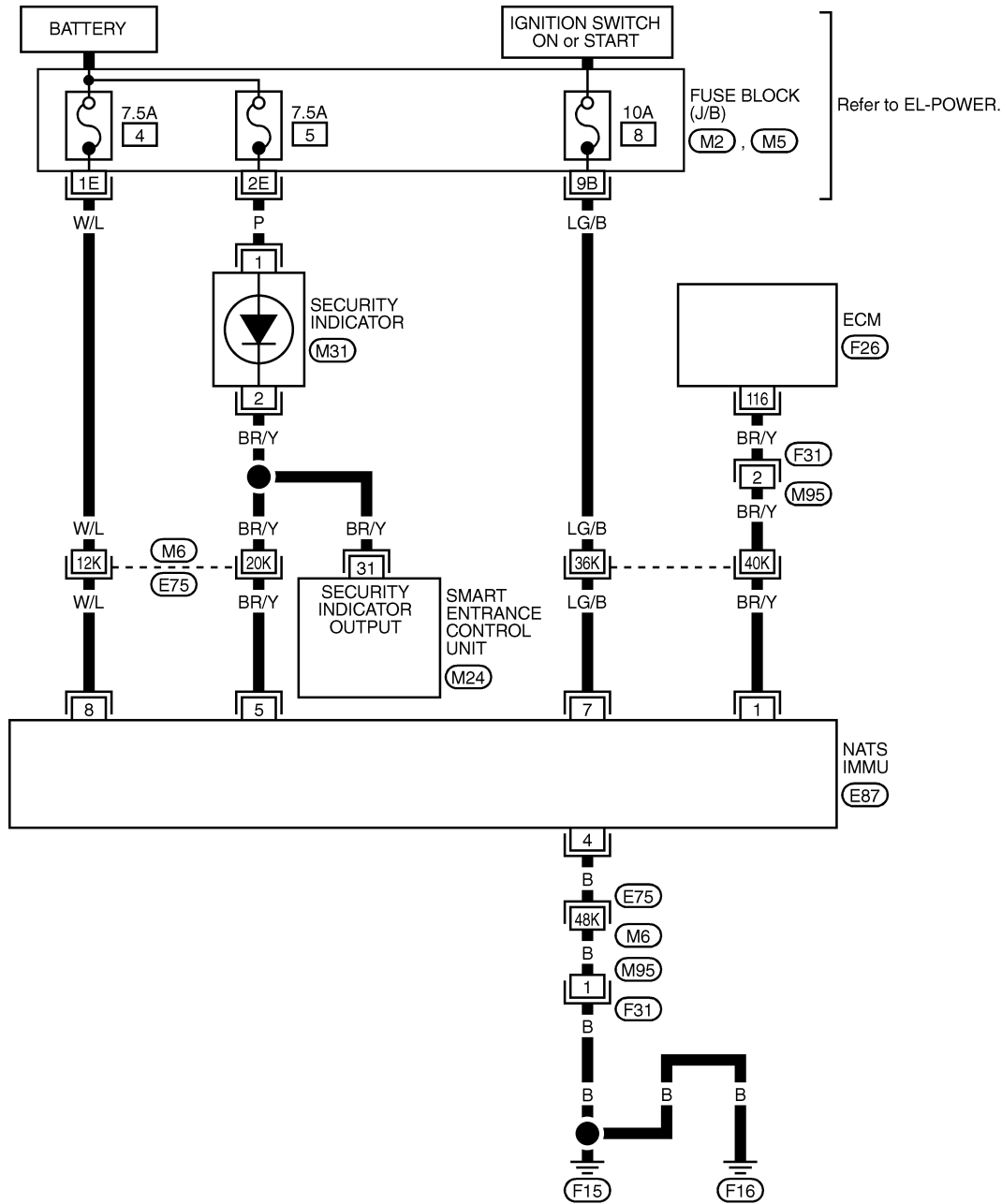
IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Wiring Diagram — NATS —

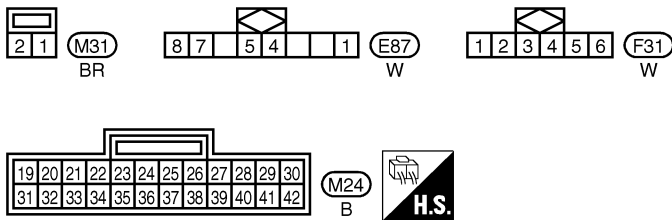
Wiring Diagram — NATS —

NCEL0177

EL-NATS-01



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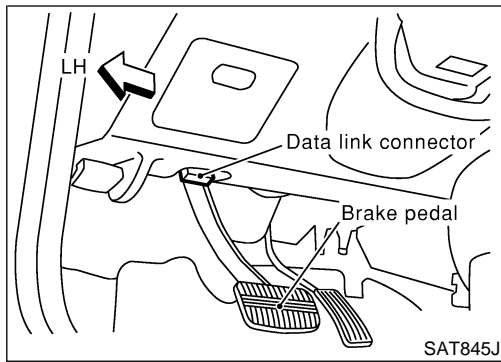


REFER TO THE FOLLOWING.
 (E75) -SUPER MULTIPLE JUNCTION (SMJ)
 (M2 , M5) -FUSE BLOCK-JUNCTION BOX (J/B)
 (F26) -ELECTRICAL UNITS

TEL693B

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

CONSULT-II



CONSULT-II

CONSULT-II INSPECTION PROCEDURE

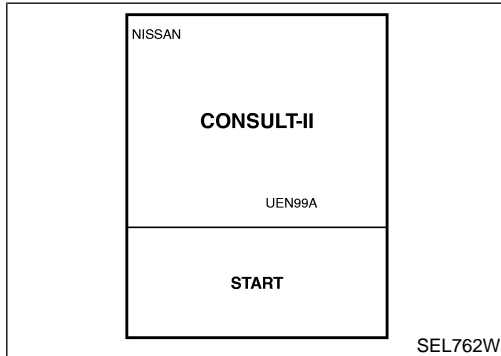
NCEL0178

NCEL0178S01

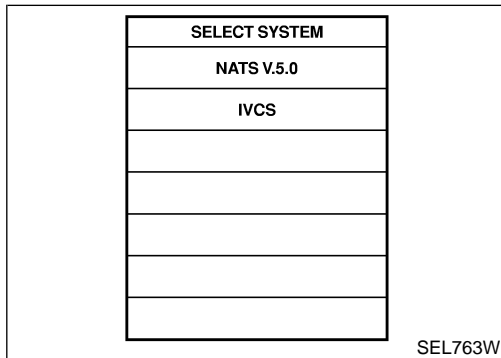
1. Turn ignition switch OFF.
2. Insert IVIS (NATS) program card into CONSULT-II.

Program card NATS (UEN99A)

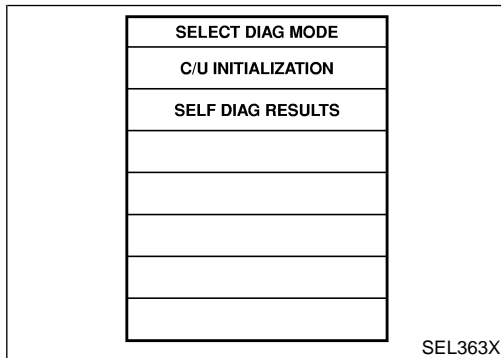
3. Connect CONSULT-II to the data link connector.



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



6. Select "NATS V.5.0".



7. Perform each diagnostic test mode according to each service procedure.

For further information, see the CONSULT-II Operation Manual, IVIS/NVIS.

CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

NCEL0178S02

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following three components, C/U initialization and re-registration of all IVIS (NATS) ignition keys are necessary. [IVIS (NATS) ignition key/IMMU/ECM]
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart below.

NOTE:

- When any initialization is performed, all IDs previously

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

CONSULT-II (Cont'd)

Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of "ENGINE")	Malfunction is detected when	Reference page
LOCK MODE	NATS MAL-FUNCTION P1610	When the starting operation is carried out five or more times consecutively under the following conditions, IVIS (NATS) will shift the mode to one which prevents the engine from being started. <ul style="list-style-type: none">● Unregistered ignition key is used.● IMMU or ECM's malfunctioning.	EL-267
DON'T ERASE BEFORE CHECKING ENG DIAG	—	All engine trouble codes except IVIS (NATS) trouble code has been detected in ECM.	EL-255

Trouble Diagnoses WORK FLOW

NCEL0179

NCEL0179S01

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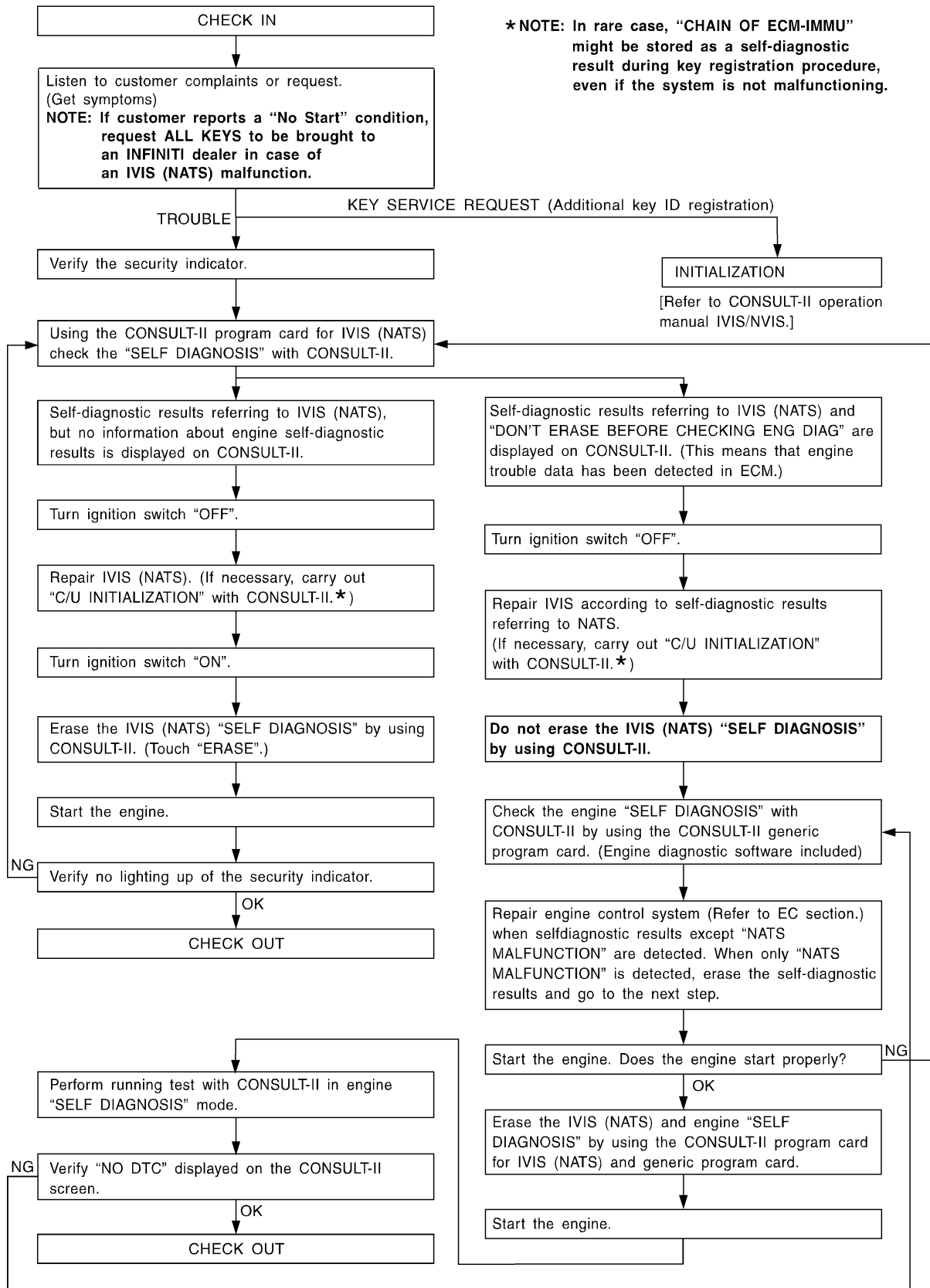
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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

SYMPTOM MATRIX CHART 1 (Self-diagnosis related item)

NCEL0179S02

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
<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine cannot be started. 	ECM INT CIRC-IMMU	PROCEDURE 1 (EL-257)	ECM	B
	CHAIN OF ECM-IMMU	PROCEDURE 2 (EL-258)	"CHAIN OF ECM-IMMU" might be stored as a self-diagnostic result 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-262)	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 4 (EL-263)	Malfunction of key ID chip	E
			IMMU	A
	ID DISCORD, IMM-ECM	PROCEDURE 5 (EL-264)	System initialization has not yet been completed.	F
ECM			F	
LOCK MODE	PROCEDURE 7 (EL-267)	LOCK MODE	D	
<ul style="list-style-type: none"> ● MIL staying ON ● Security indicator lighting up* 	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-255)	Engine trouble data and IVIS (NATS) trouble data have been detected in ECM	—

*: When IVIS (NATS) detects trouble, the security indicator lights up while ignition key is in the "ON" position.

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

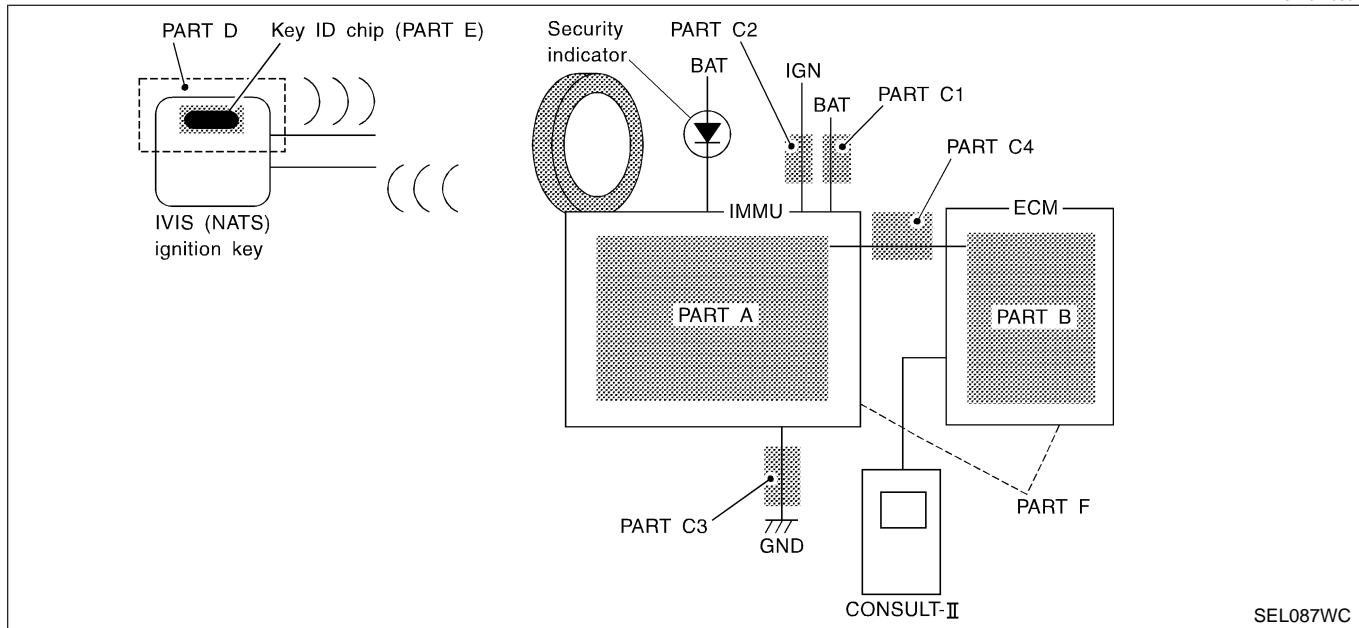
SYMPTOM MATRIX CHART 2 (Non self-diagnosis related item)

NCEL0179S03

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
Security ind. does not light up.	PROCEDURE 6 (EL-265)	Security ind.
		Open circuit between Fuse and IMMU
		Continuation of initialization mode
		IMMU

DIAGNOSTIC SYSTEM DIAGRAM

NCEL0179S04



SEL087WC

SELF DIAG RESULTS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

SEL365X

DIAGNOSTIC PROCEDURE 1

NCEL0179S05

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”.

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

=NCEL0179S06

Self-diagnostic results:

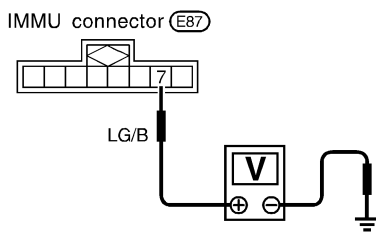

“CHAIN OF ECM-IMMU” displayed on CONSULT-II screen

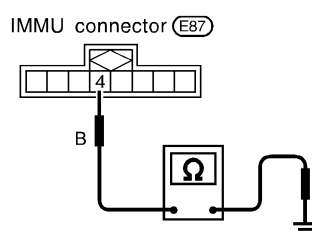

1	CONFIRM SELF-DIAGNOSTIC RESULTS											
<p>Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF ECM-IMMU” displayed on CONSULT-II screen.</p> <p>NOTE: “CHAIN OF ECM-IMMU” might be stored as a self-diagnostic result during the key registration procedure, even if the system is not malfunctioning.</p>												
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>CHAIN OF ECM-IMMU</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAG RESULTS		DTC RESULTS	TIME	CHAIN OF ECM-IMMU	0				
SELF DIAG RESULTS												
DTC RESULTS	TIME											
CHAIN OF ECM-IMMU	0											
SEL366X												
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	
<p>1. Disconnect IMMU connector.</p> <p>2. Check voltage between terminal 8 of IMMU and ground with CONSULT-II or tester.</p>		
SEL302WA		
OK or NG		
OK	▶	GO TO 3.
NG	▶	<p>Check the following</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 4, located in the fuse block (J/B)] ● Harness for open or short between fuse and IMMU connector <p>Ref. Part No. C1</p>

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

3	CHECK IGN SW. ON SIGNAL	<p>1. Turn ignition switch ON. 2. Check voltage between terminal 7 of IMMU and ground with CONSULT-II or tester.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>IMMU connector (E87)</p> <p>LG/B</p> </div> <div style="text-align: center;">  <p>H.S.</p> <p>DISCONNECT</p> <p>ON</p> </div> <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL303WB</p> <p style="text-align: center;">OK or NG</p>	GI MA EM LC EC
OK	▶	GO TO 4.	FE
NG	▶	<p>Check the following</p> <ul style="list-style-type: none"> ● 10A fuse [No. 8, located in the fuse block (J/B)] ● Harness for open or short between fuse and IMMU connector <p>Ref. part No. C2</p>	CL MT

4	CHECK GROUND CIRCUIT FOR IMMU	<p>1. Turn ignition OFF. 2. Check harness continuity between IMMU terminal 4 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>IMMU connector (E87)</p> <p>B</p> </div> <div style="text-align: center;">  <p>H.S.</p> <p>DISCONNECT</p> <p>OFF</p> </div> <div style="text-align: center;"> <p>Continuity should exist.</p> </div> </div> <p style="text-align: right;">SEL304WA</p> <p style="text-align: center;">OK or NG</p>	AT AX SU BR ST
OK	▶	GO TO 5.	RS
NG	▶	Repair harness. Ref. part No. C3	BT HA SC

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

5	CHECK COMMUNICATION LINE OPEN CIRCUIT	
<p>1. Disconnect ECM connector. 2. Check harness continuity between ECM terminal 116 and IMMU terminal 1.</p>		
Continuity should exist.		
SEL305WA		
OK or NG		
OK	▶	GO TO 6.
NG	▶	Repair harness or connector. Ref. part No. C4

6	CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT	
<p>1. Turn ignition ON. 2. Check voltage between ECM terminal 116 or IMMU terminal 1 and ground.</p>		
Voltage: 0V		
SEL306WA		
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

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

7	CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT	
<p>1. Turn ignition switch OFF. 2. Check continuity between ECM terminal 116 or IMMU terminal 1 and ground.</p>		
<p>Continuity should not exist.</p>		
SEL307WA		
OK or NG		
OK	▶	GO TO 8.
NG	▶	Communication line is short-circuited with ground line. Repair harness or connectors. Ref. part No. C4

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8	CHECK SIGNAL FROM ECM TO IMMU	
<p>1. Check the signal between ECM terminal 116 and ground with CONSULT-II or oscilloscope when ignition switch is turned "ON". 2. Make sure the signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned "ON".</p>		
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".

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

=NCEL0179S07

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.												
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>DIFFERENCE OF KEY</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAG RESULTS		DTC RESULTS	TIME	DIFFERENCE OF KEY	0				
SELF DIAG RESULTS												
DTC RESULTS	TIME											
DIFFERENCE OF KEY	0											
SEL367X												
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 IVIS (NATS) ignition key IDs. For initialization and registration of IVIS (NATS) ignition key IDs, refer to “CONSULT-II operation manual IVIS/NVIS”.					
<table border="1"> <thead> <tr> <th>IMMU INITIALIZATION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">INITIALIZATION FAIL</td> </tr> <tr> <td>THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td> </tr> </tbody> </table>			IMMU INITIALIZATION	INITIALIZATION FAIL	THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.
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 and can the engine be started with the re-registered IVIS (NATS) ignition key?					
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”.			

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

=NCEL0179S08

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.												
<table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>CHAIN OF IMMU-KEY</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAG RESULTS		DTC RESULTS	TIME	CHAIN OF IMMU-KEY	0				
SELF DIAG RESULTS												
DTC RESULTS	TIME											
CHAIN OF IMMU-KEY	0											
SEL368X												
Is CONSULT-II screen displayed as above?												
Yes	▶	GO TO 2.										
No	▶	GO TO SYMPTOM MATRIX CHART 1.										

2	CHECK IVIS (NATS) IGNITION KEY ID CHIP	
Start engine with another registered IVIS (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	▶	IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”.

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

=NCEL0179S09

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.												
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>ID DISCORD, IMM-ECM</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAG RESULTS		DTC RESULTS	TIME	ID DISCORD, IMM-ECM	0				
SELF DIAG RESULTS												
DTC RESULTS	TIME											
ID DISCORD, IMM-ECM	0											
SEL369X												
<p>NOTE: “ID DISCORD IMM-ECM”: Registered ID of IMMU is in discord with that of ECM.</p>												
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 IVIS (NATS) ignition key IDs. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”.					
<table border="1"> <thead> <tr> <th>IMMU INITIALIZATION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">INITIALIZATION FAIL</td> </tr> <tr> <td>THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td> </tr> </tbody> </table>			IMMU INITIALIZATION	INITIALIZATION FAIL	THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.
IMMU INITIALIZATION					
INITIALIZATION FAIL					
THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.					
SEL297W					
<p>NOTE: If the initialization is not completed or fails, CONSULT-II shows above message on the screen.</p>					
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”.			

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

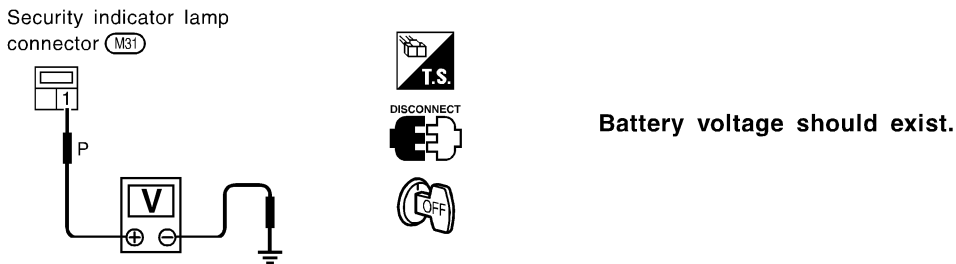
DIAGNOSTIC PROCEDURE 6

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

=NCEL0179S10

1	CHECK FUSE	
Check 7.5A fuse [No. 5, located in the fuse block (J/B)].		
Is fuse OK?		
Yes	▶	GO TO 2.
No	▶	Replace fuse.

2	CHECK SECURITY INDICATOR LAMP	
<ol style="list-style-type: none"> 1. Install 7.5A 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. <p>Security indicator lamp should be light up.</p>		
OK or NG		
OK	▶	INSPECTION END
NG	▶	GO TO 3.

3	CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT	
<ol style="list-style-type: none"> 1. Disconnect security indicator lamp connector. 2. Check voltage between security indicator lamp connector terminal 1 and ground. 		
		
SEL664W		
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.

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

5	CHECK IMMU FUNCTION	
<ol style="list-style-type: none"> 1. Connect IMMU connector. 2. Disconnect security indicator lamp connector. 3. Check continuity between IMMU terminal 5 and ground. 		
<div style="display: flex; justify-content: space-between; align-items: center;"> <div> <p>IMMU connector (E87)</p> <p>BR/Y</p> </div> <div> <p>H.S.</p> <p>CONNECT</p> <p>OFF</p> </div> <div> <p>Continuity should exist intermittently.</p> </div> </div> <p style="text-align: right; margin-top: 20px;">SEL300WA</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p>		
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".

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

Self-diagnostic results:
"LOCK MODE" displayed on CONSULT-II screen

=NCEL0179S11

1	CONFIRM SELF-DIAGNOSTIC RESULTS											
Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT-II screen.												
<table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">SELF DIAG RESULTS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">LOCK MODE</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAG RESULTS		DTC RESULTS	TIME	LOCK MODE	0				
SELF DIAG RESULTS												
DTC RESULTS	TIME											
LOCK MODE	0											
SEL371X												
Is CONSULT-II screen displayed as above?												
Yes	▶	GO TO 2.										
No	▶	GO TO SYMPTOM MATRIX CHART 1.										

2	ESCAPE FROM LOCK MODE	
<ol style="list-style-type: none"> 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.

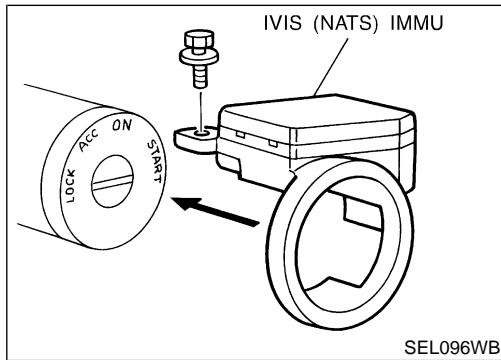
3	CHECK IMMU ILLUSTRATION	
Check IMMU installation. Refer to "How to Replace IMMU" in EL-268.		
OK or NG		
OK	▶	GO TO 4.
NG	▶	Reinstall IMMU correctly.

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

4	PERFORM INITIALIZATION WITH CONSULT-II	
<p>Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; margin: 0;">IMMU INITIALIZATION</p> <hr/> <p style="text-align: center; margin: 0;">INITIALIZATION FAIL</p> <hr/> <p style="text-align: center; margin: 0; font-size: small;">THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</p> </div> <p style="text-align: right; margin-top: 20px;">SEL297W</p>		
<p>NOTE: If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.</p> <p style="text-align: center;">Can the system be initialized?</p>		
Yes	▶	System is OK.
No	▶	GO TO DIAGNOSTIC PROCEDURE 5 to check "CHAIN OF IMMU-KEY", refer to EL-263.



How to Replace IVIS (NATS) IMMU

NCEL0180

NOTE:

- If IVIS (NATS) IMMU is not installed correctly, IVIS (NATS) system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show "LOCK MODE".

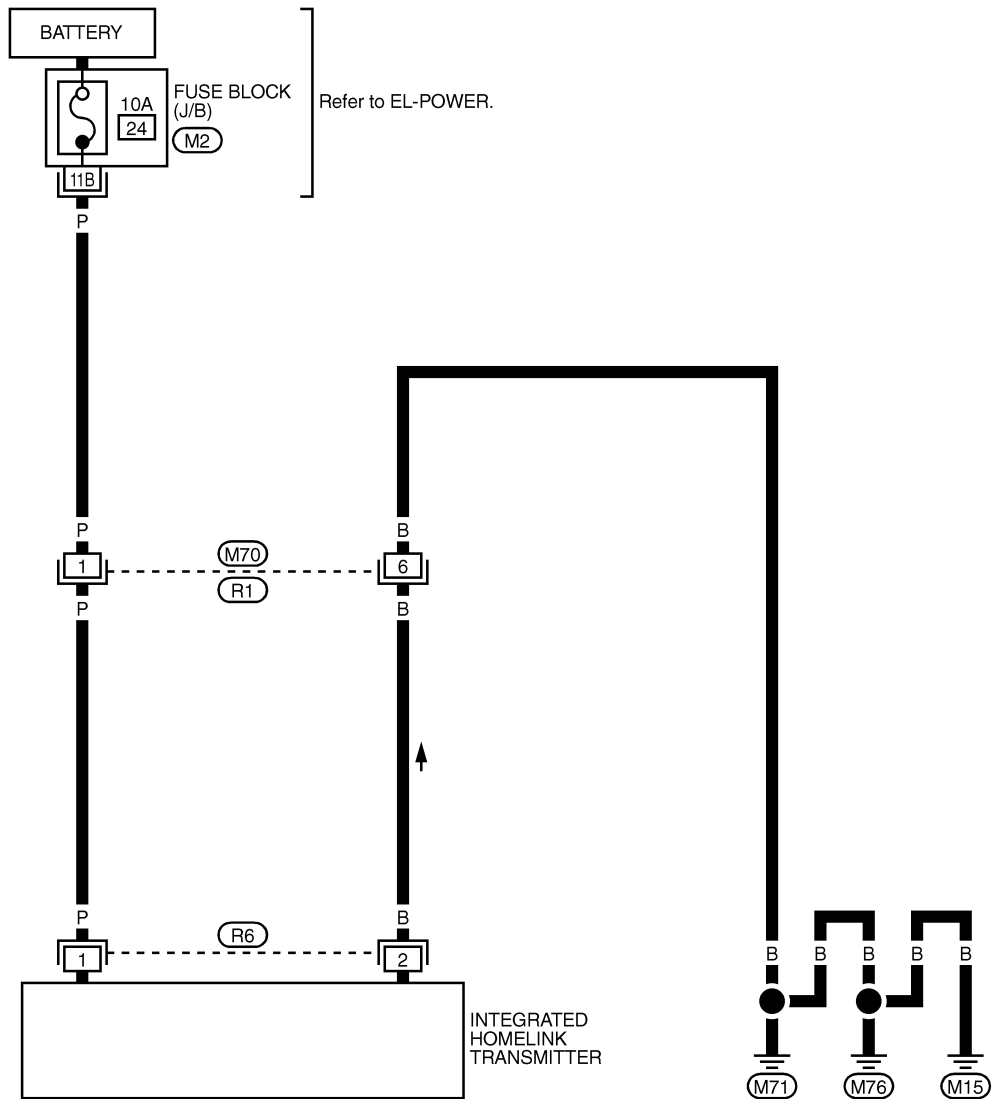
INTEGRATED HOMELINK TRANSMITTER

Wiring Diagram — TRNSMT —

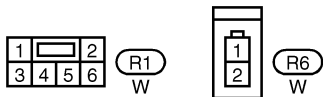
Wiring Diagram — TRNSMT —

NCEL0127

EL-TRNSMT-01



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REFER TO THE FOLLOWING.
 (M2) - FUSE BLOCK-JUNCTION BOX (J/B)

TEL543B

INTEGRATED HOMELINK TRANSMITTER

Trouble Diagnoses

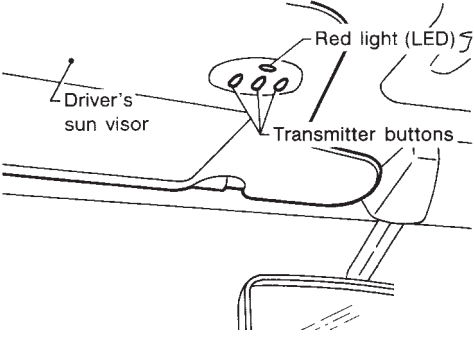
Trouble Diagnoses DIAGNOSTIC PROCEDURE

NCEL0128

NCEL0128S01

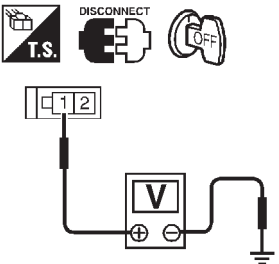
SYMPTOM: Transmitter does not activate receiver.

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
<p>1. Turn ignition switch "OFF". 2. Does red light (LED) of transmitter illuminate when any button is pressed?</p>	
 <p>The diagram shows a side view of a car's interior sun visor. A hand is shown pressing one of the buttons on the visor. A red light (LED) is located near the buttons. Labels include 'Driver's sun visor', 'Transmitter buttons', and 'Red light (LED)'.</p>	
Yes or No	
Yes	▶ GO TO 2.
No	▶ GO TO 3.

SEL442U

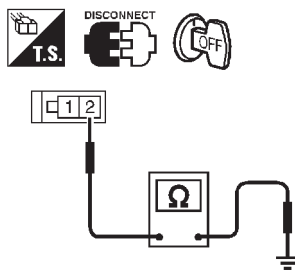
2	CHECK TRANSMITTER FUNCTION
<p>Check transmitter with Tool. For details, refer to Technical Service Bulletin.</p>	
OK or NG	
OK	▶ Receiver or handheld transmitter fault, not vehicle related.
NG	▶ Replace transmitter with sun visor assembly.

3	CHECK POWER SUPPLY
<p>1. Disconnect transmitter connector. 2. Turn ignition switch "OFF". 3. Check voltage between terminal 1 and body ground.</p>	
 <p>The diagram shows a voltmeter connected to a two-terminal connector. Terminal 1 is connected to the positive terminal of the voltmeter, and terminal 2 is connected to ground. Above the diagram are icons for 'T.S.' (Technical Service Bulletin), 'DISCONNECT' (with a plug icon), and 'OFF' (with a key icon).</p>	
Battery voltage should exist.	
OK or NG	
OK	▶ GO TO 4.
NG	▶ Check fuse (10A) and repair harness.

SEL635U

INTEGRATED HOMELINK TRANSMITTER

Trouble Diagnoses (Cont'd)

4	CHECK GROUND CIRCUIT	
<p>Check continuity between terminal 2 and ground.</p> <div style="text-align: center; margin: 10px 0;">  </div> <p style="color: blue; margin: 10px 0;">Continuity should exist.</p> <p style="text-align: center; margin: 10px 0;">OK or NG</p>		
OK	▶	Replace transmitter with sun visor assembly.
NG	▶	Repair harness.

SEL636U

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INFINITI COMMUNICATOR (IVCS)

Precaution

Precaution

NCEL0182

CAUTION:

- Use CONSULT-II to set the system “Demonstration mode” if INFINITI Communicator needs to be activated during service procedures. (For details of the demonstration mode, refer to EL-304.)
- Make sure to turn the demonstration mode OFF before returning the vehicle to the owner.
- In the demonstration mode, no service from the Communicator Response Center is available. Therefore, even if the customer encounters an emergency, no service will be dispatched.
- If the vehicle security system is activated for more than 7 seconds, INFINITI Communicator will dial to the Communicator Response Center automatically. The operator will contact the customer to confirm whether the vehicle has been stolen or not.
- When “Mayday” emergency dialing is activated (if the system is not in the demonstration mode), the Communicator Response Center operator will come online. If there is no emergency, the operator will ask the occupant for the user password (option). Failure to provide the correct password results in a police response.
- IVCS unit memory includes VIN (Vehicle Identification Number) and other such vehicle specific data. Therefore, the IVCS unit cannot be transferred to another vehicle. When the IVCS unit is replaced, the new unit must be set up and programmed. The INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started after a phone number has been changed or a module (IVCS unit) is replaced. The VIN will be written in the memory of the new unit by transmitting data from the Communicator Response Center. For details, refer to “System Setting”, EL-306.
- Before servicing the vehicle, confirm that the VIN memorized by the IVCS unit is the same as the VIN on the vehicle’s identification plate.

Communicator Response Center Telephone Number for Technicians

NCEL0183

The Communicator Response Center telephone number for technicians is **1-888-427-4812**.

Whenever an INFINITI dealer technician dials the above number, the following information will be required by the Communicator Response Center operator.

- Customer name
- Unit ID number of old IVCS unit (For details, refer to EL-291.)
- Unit ID number of new IVCS unit
- VIN
- Dealer name and code (For security purposes)
- Dealer contact person (technician)
- Dealer phone and fax numbers

INFINITI COMMUNICATOR (IVCS)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NCEL0184

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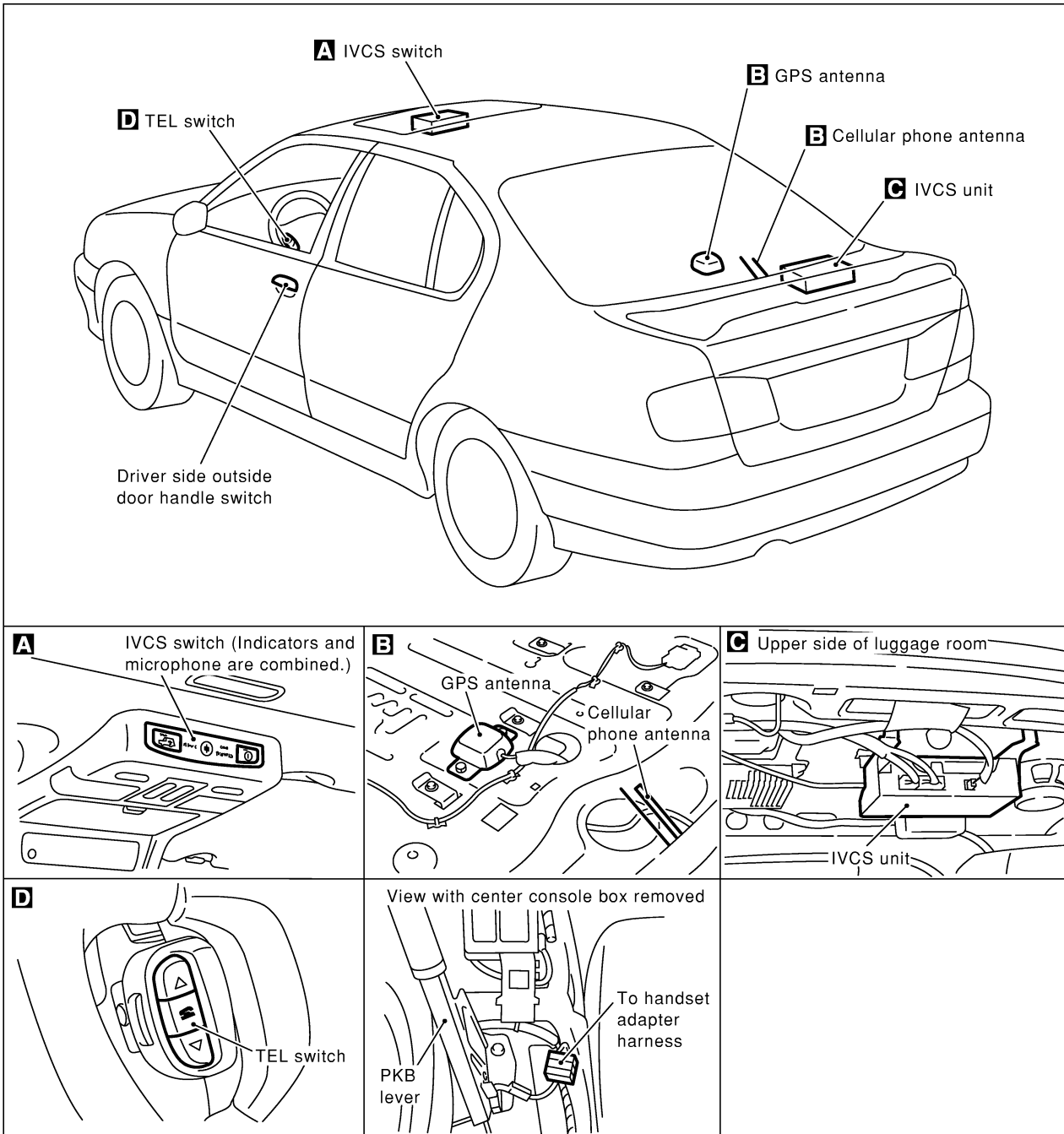
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INFINITI COMMUNICATOR (IVCS)

System Description

NCEL0185

OUTLINE

NCEL0185S01

INFINITI Communicator system uses the Global Positioning System (GPS), cellular phone technology and the Communicator Response Center to provide the following functions.

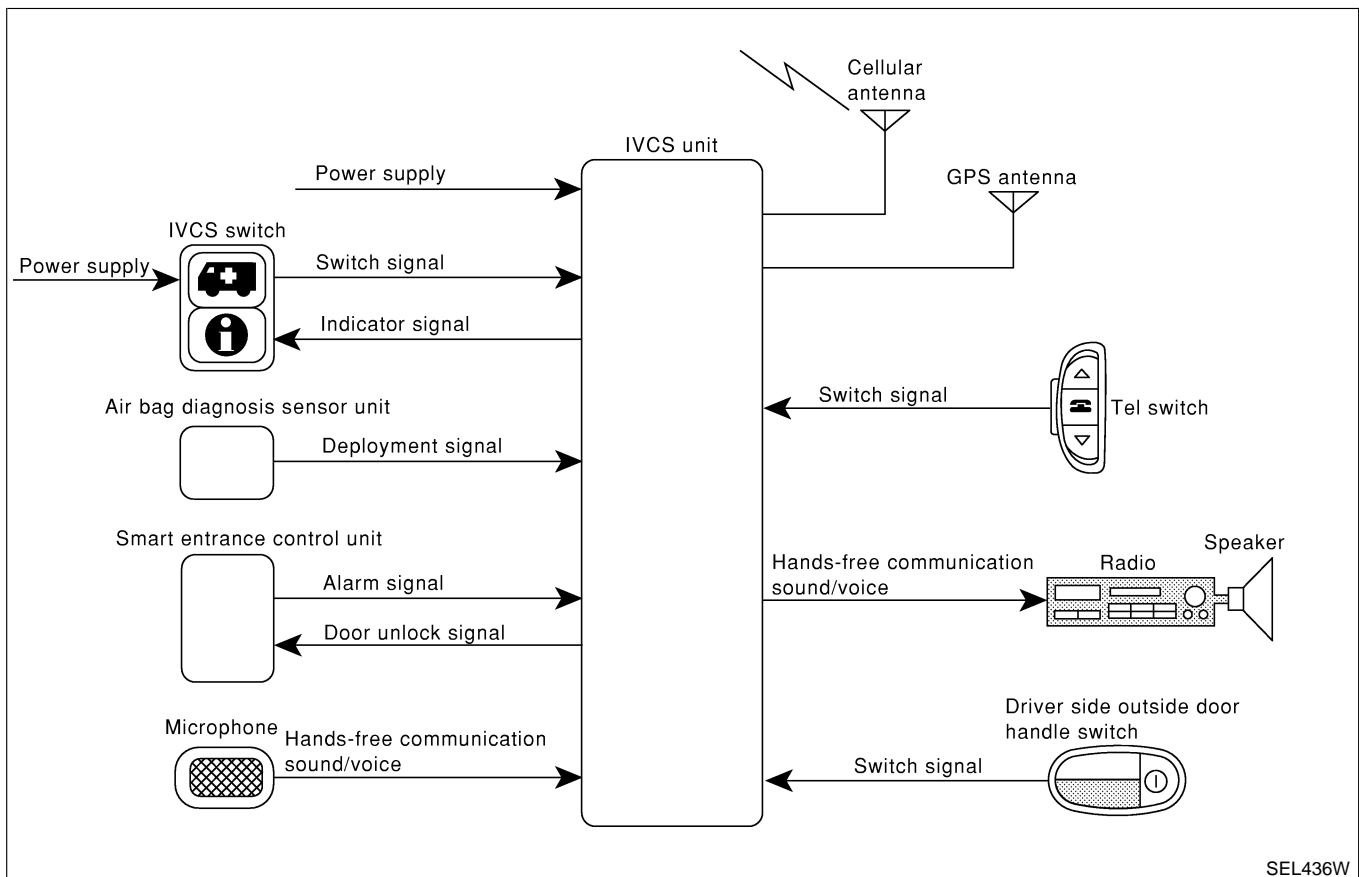
- One touch "Information" dialing
- One touch "Mayday" emergency dialing
- Automatic air bag inflation notification
- Stolen vehicle tracking
- Alarm notification
- Remote door unlock

There are limitations to the INFINITI Communicator system. To understand the system, read SYSTEM LIMITATIONS (EL-275) thoroughly.

SYSTEM COMPOSITION

NCEL0185S02

- The INFINITI Communicator system is controlled by the IVCS (In Vehicle Communication System) unit. System status ("Mayday"-emergency dialing, or re-dialing, etc.) is displayed by the indicators in the IVCS switch.
- The INFINITI Communicator system can only make calls to the Communicator Response Center and receive calls from the center, unless the customer chooses to have the optional handset install.



SYSTEM LIMITATIONS

Service Area

NCEL0185S03

Depending on the cellular provider chosen, service is provided in the 48 contiguous states. Service is not available in Alaska, Hawaii, Canada, or Mexico. The Communicator Response Center will not be able to locate the customer's vehicle outside of the continental United States.

GI

MA

Inoperative if Cellular Phone is Inactive or Inoperative

NCEL0185S0302

INFINITI Communicator will be inoperative if the customer does not have an active account with cellular provider, since INFINITI Communicator relies on the cellular network. When the INFINITI Communicator system is outside of cellular service, the "NO SERVICE" indicator will illuminate. If you try to activate INFINITI Communicator, the REQUEST will be cancelled. Cellular phone transmission may become temporarily disabled, or interrupted by environmental factors like tunnels, bridges, or tall buildings. In such cases, INFINITI Communicator will re-dial up to four times. After several failed attempts, the system will quit dialing and return to normal mode.

EM

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Inoperative if The System is in The Demonstration Mode

NCEL0185S0303

The INFINITI Communicator system remains in the demonstration mode until the setup procedures are completed. If the system is activated in this mode, the Communicator Response Center will recognize this operation as a demonstration and will not provide any service. The system can be changed to the demonstration mode by using CONSULT-II to check the system operation. Do not forget to turn off the demonstration mode after confirmation.

MT

AT

AX

Battery

NCEL0185S0304

Since INFINITI Communicator is powered by the vehicle's battery, if the battery is removed, damaged or discharged, the system will not work.

SU

BR

Inoperative if Cellular System is Busy

NCEL0185S0305

When INFINITI Communicator tries to contact the Communicator Response Center, but the cellular network is busy, the system attempts to re-dial for up to two hours. This time varies greatly depending on the cellular network and cellular signal strength. The system resets to ready when the system completes the re-dialing attempts.

ST

RS

Roaming

NCEL0185S0306

If the customer's cellular provider does not have a roaming agreement with the provider where the vehicle locates, it may not be possible to use the lines of a different cellular provider. Therefore, it is impossible that INFINITI Communicator will contact the Communicator Response Center.

BT

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Special Cellular Features

NCEL0185S0307

Some cellular carriers offer custom phone numbers that are assigned a Personal Identification Number (PIN). The cellular phone user is required to enter the PIN anytime a phone call is made. The INFINITI Communicator system is not compatible with the PIN feature. A PIN requirement on the cellular phone will cause the INFINITI Communicator system to be inoperative.

EL

IDX

Other special features such as call waiting, voice mail, call forwarding, etc. can interfere with INFINITI Communicator system operation.

Cellular Airwave Interference

NCEL0185S0308

At times someone other than the Communicator Response Center operator may be heard. This is caused by Cellular Airwave Interference and is not caused by an INFINITI Communicator system malfunction.

Possibility of Positioning Capability Degraded

NCEL0185S0309

Vehicle positioning is accomplished using the GPS (Global Positioning System). If the signal from the GPS satellite is obstructed by a tunnel or building, positioning capability may be degraded or lost. In this case, the last valid position obtained before the obstruction is transmitted to the Communicator Response Center. The precision is also influenced by the location of GPS satellites.

Once the battery cable is disconnected, it will take about 5 minutes to determine the vehicle location. This is because the memory related to GPS is lost when the battery cable is disconnected.

OPERATION

One Touch “Information” Dialing

NCEL0185S04

NCEL0185S0401

- If the vehicle becomes disabled due to problems such as engine trouble, press the “Information” switch to connect to the Communicator Response Center and receive the desired service.
- When the indicator lamp on the switch lights up, it means that the system has started to contact the Communicator Response Center. (Voice communication with Communicator Response Center operator is not available while DATA is being transmitted even if the indicator lamp is lit.)
- When the indicator lamp blinks, it means that the system is preparing for cellular connection or attempting to re-dial.

One Touch “Mayday” Emergency Dialing

NCEL0185S0402

- When an emergency occurs, press the “Mayday” emergency switch to connect to the Communicator Response Center. With this report, the Communicator Response Center recognizes that an emergency has occurred and provides necessary service.
- The operator will request a password (if the customer chooses to establish a password). If the wrong password or if no password is provided, the Communicator Response Center will assume the customer is in a duress situation and dispatch police.
- When no voice reply is heard from the vehicle or the sound heard indicates an emergency situation, the Communicator Response Center will have the police rush to the scene.
- Other operations are the same as service dialing.

Automatic Air Bag Inflation Notification

NCEL0185S0403

- When an air bag inflates, the air bag diagnosis sensor unit sends the air bag inflation signal to the IVCS unit, and the system automatically dials the Communicator Response Center to report the occurrence of an accident.

Stolen Vehicle Tracking

NCEL0185S0404

- When a vehicle is stolen, the owner can contact the Communicator Response Center to attempt to locate the stolen vehicle. The Communicator Response Center will activate the stolen vehicle tracking to locate the vehicle. If the Communicator Response Center successfully locates the vehicle, they will contact the police to provide the location.

- The vehicle location data is calculated using GPS.
- The vehicle ignition switch must be turned to the ON position to obtain the vehicle location. (This is because the system is in the sleep mode when the ignition switch is OFF.)
- Once this function starts up, regardless of the ignition switch position, the system keeps transmitting the vehicle location until the cancel signal is transmitted from the Communicator Response Center.
- While this function is operating, the operator can covertly monitor what is happening inside the vehicle through the hands-free microphone.

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Alarm Notification

- When vehicle security system sounds an alarm for more than 7 seconds because of improper access, the alarm signal is transmitted from the smart entrance control unit to the IVCS unit, and the system executes automatic dialing to the Communicator Response Center.
If the alarm is reset before 7 seconds has elapsed, the INFINITI Communicator will not place a call to the Communicator Response Center.
- This function operates regardless of ignition switch position.
- While this function is operating, the operator can covertly monitor what is happening inside the vehicle through the hands-free microphone.

EC
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Remote Door Unlock

- When the door is locked with the key inside the vehicle, the door can be unlocked by contacting the Communicator Response Center (Proof that the person calling is the owner must be received by the Communicator Response Center.)
- When the ignition key is in the "OFF" position, the system is in the sleep mode. Therefore, back door outside handle must be pulled to wake up the system.
- To perform remote door unlock, call the Communicator Response Center and follow the operator's instructions.

AX
SU
BR

NOTE:

- When the system contacts the Communicator Response Center, data including the vehicle location is transmitted to the Communicator Response Center.
- Communication with the Communicator Response Center is not completed until the completion signal is transmitted from the Communicator Response Center. (Any calls to the Communicator Response Center can only be terminated by Communicator Response Center.)
- Functions other than alarm notification and remote door unlock operate while the ignition switch is ON and only for three minutes after the switch is turned OFF.
- Once a call to the Communicator Response Center is made, the communication continues regardless of the ignition key switch position.
- All the voice communication with the Communicator Response Center is made through the hands-free telephone.
- When the INFINITI Communicator system is activated, the handset does not function.

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INFINITI COMMUNICATOR (IVCS)

System Description (Cont'd)

DATA TRANSMITTING

NCEL0185S05

When contact to the Communicator Response Center is made, vehicle sends electrical data including type of activation (i.e., emergency call or alarm notification), vehicle location, time, etc.

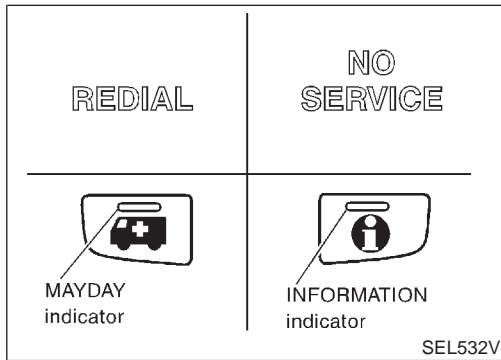
SLEEP/WAKE UP CONTROL

NCEL0185S06

3 minutes after the ignition switch is turned OFF, the system goes into the SLEEP MODE to save battery power supply. Communication with Communicator Response Center is not available in the SLEEP MODE.

To wake up the system, perform either of the following operations.

- Turn Ignition switch ON.
- Pull driver side outside door handle for more than 10 seconds. (Operation for door unlock function)



INDICATOR LAMPS OPERATION

NCEL0185S07

The system status is displayed as below by the indicator lamps.

Indicator	Condition	Description
MAYDAY	Blinks.	System is trying to acquire an available cellular channel by "Mayday" switch operation.
	Lights up. (See NOTE.)	System is connected to a cellular channel and is communicating information to the Communicator Response Center.
INFORMATION	Blinks.	System is trying to acquire an available cellular channel by "Information" switch operation.
	Lights up. (See NOTE.)	System is connected to a cellular channel and is communicating information to the Communicator Response Center.
REDIAL	Lights up.	Re-dialing
	Blinks.	Waiting for re-dial
NO SERVICE	Lights up.	Out of CELLULAR PHONE service area or signal is too weak.

NOTE:

- When connection to Communicator Response Center by re-dial ends in failure, all the indicators are turned off.
- All indicators illuminate for up to 30 seconds or more when ignition switch is turned from OFF to ON and the system performs a self check.
- If both of MAYDAY and INFORMATION indicators do not turn off 30 seconds or more after the ignition switch is turned to ON, the system is malfunctioning.

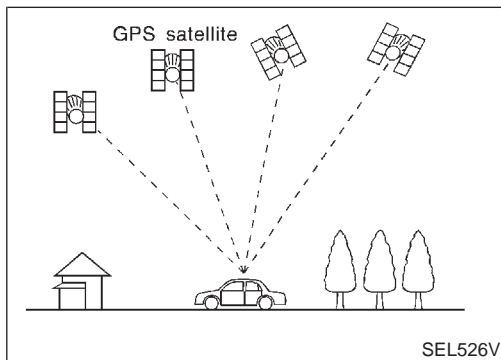
AUTOMATIC RE-DIAL/AUTO RESET TO READY

NCEL0185S08

- When INFINITI Communicator tries to contact the Communicator Response Center, but the cellular network is busy, the system attempts to dial for up to 2 hours. This time varies

greatly depending on the cellular network and cellular signal strength. The system resets to ready when the system completes the dialing attempts. The vehicle owner can press the button again if he or she still needs to contact the Communicator Response Center.

- INFINITI Communicator automatically redials if communication between the vehicle owner and Communicator Response Center is lost for some reason.
- The only way for a transmission to be officially terminated is for the Communicator Response Center to send an end transmission signal, which turns off the indicator in the switch. (Communication with Communicator Response Center can not be terminated by the occupant.)
- If the vehicle owner start the engine during a call, the conversation may be interrupted. When this happens the system may try to resume transmission once after the engine has been started.



GPS (GLOBAL POSITIONING SYSTEM)

NCEL0185S09

GPS is the global positioning system developed and operated by the US Department of Defense. GPS satellites (NAVSTAR) transmit radio waves and orbit around the earth at an altitude of approximately 21,000 km (13,000 miles).

GPS receiver calculates the three-dimensional position of the vehicle (latitude, longitude, and altitude from the sea level) by the time difference of the radio wave arriving from more than four GPS satellites (three-dimensional positioning).

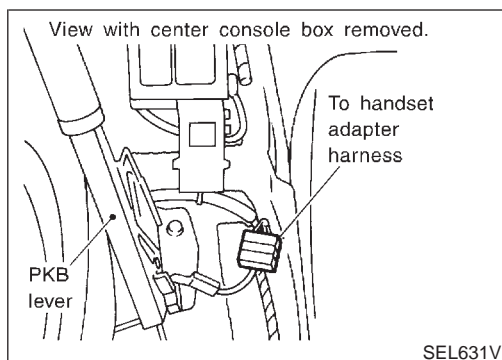
When the radio wave is received from only three GPS satellites, the two-dimensional position (latitude and longitude) is calculated, using the altitude from the sea level data calculated by using four GPS satellites (two-dimensional positioning).

Positioning capability is degraded in the following cases.

- In two-dimensional positioning, when the vehicle's altitude from the sea level changes, the precision becomes lower.
- The location detection performance can have an error of about 100 m (300 ft) even in three-dimensional positioning with high precision. Because the precision is influenced by the location of GPS satellites used for positioning, the location detection performance may drop depending on the location of GPS satellites.
- When the radio wave from GPS satellites cannot be received, for example, when the vehicle is in a tunnel, in a parking lot inside building, under an elevated superhighway or near strong power lines, the location may not be detected. Turbulent/electric weather conditions may also affect positioning performance. If something is placed on the antenna, the radio wave from GPS satellites may not be received.

INFINITI COMMUNICATOR (IVCS)

System Description (Cont'd)

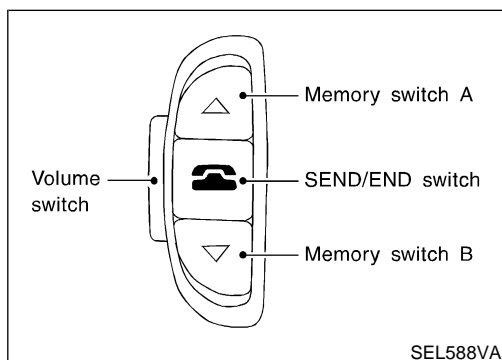


HANDSET

NCEL0185S10

NOTE:

- If an optional handset is installed, INFINITI Communicator can be used as a normal cellular phone.
- If INFINITI Communicator is activated when INFINITI Communicator system's cellular phone is in use, the current phone transmission will be cut and INFINITI Communicator will dial the Communicator Response Center. The cellular handset will be disabled, and communication with the Communicator Response Center operator will be carried out through the hands-free microphone.
- After communication with Communicator Response Center is finished, the handset last number memory will be erased.
- While INFINITI Communicator is activated, the handset becomes inoperative and all communication with the operator is accomplished via the hands-free phone. When an activation is terminated, the handset will be unlocked.



TEL SWITCH

NCEL0185S11

When any of the TEL switches is pressed, the TEL switch which is combined with the multiplex transmitting unit sends operational commands to the IVCS unit. TEL switch has following three functions.

- Volume adjust
- Placing re-dial call
- Placing memorized call (The telephone numbers are stored in the handset. A maximum of 6 memories are operative.)

VOLUME Switch

NCEL0185S1101

Voice volume from the front RH speaker can be adjusted by using the VOLUME switch.

SEND/END Switch Operation

NCEL0185S1102

- When a call is received, press SEND/END switch to permit conversation.
- At the completion of the conversation, press the SEND/END switch to terminate the call.
- To re-dial the last phone number, press SEND/END switch.

MEMORY Switch Operation

NCEL0185S1103

- A maximum of 6 telephone numbers which stored in the memory of the handset can be dialed by MEMORY switch operation.
- The last phone number is erased if the ignition switch is turned off or if the INFINITI Communicator system has been activated.
- For the procedure to input telephone numbers, refer to the handset operation manual.
- To select memory 1 to 6, push MEMORY switch A or B. Every push on the switch changes the memory as follows.
SWITCH A: Memory 1 → 2 → 3 → OFF
SWITCH B: Memory 4 → 5 → 6 → OFF
After selecting memory, push SEND/END switch to make a call.

NOTE:

Memory switches are not functional unless handset is installed.

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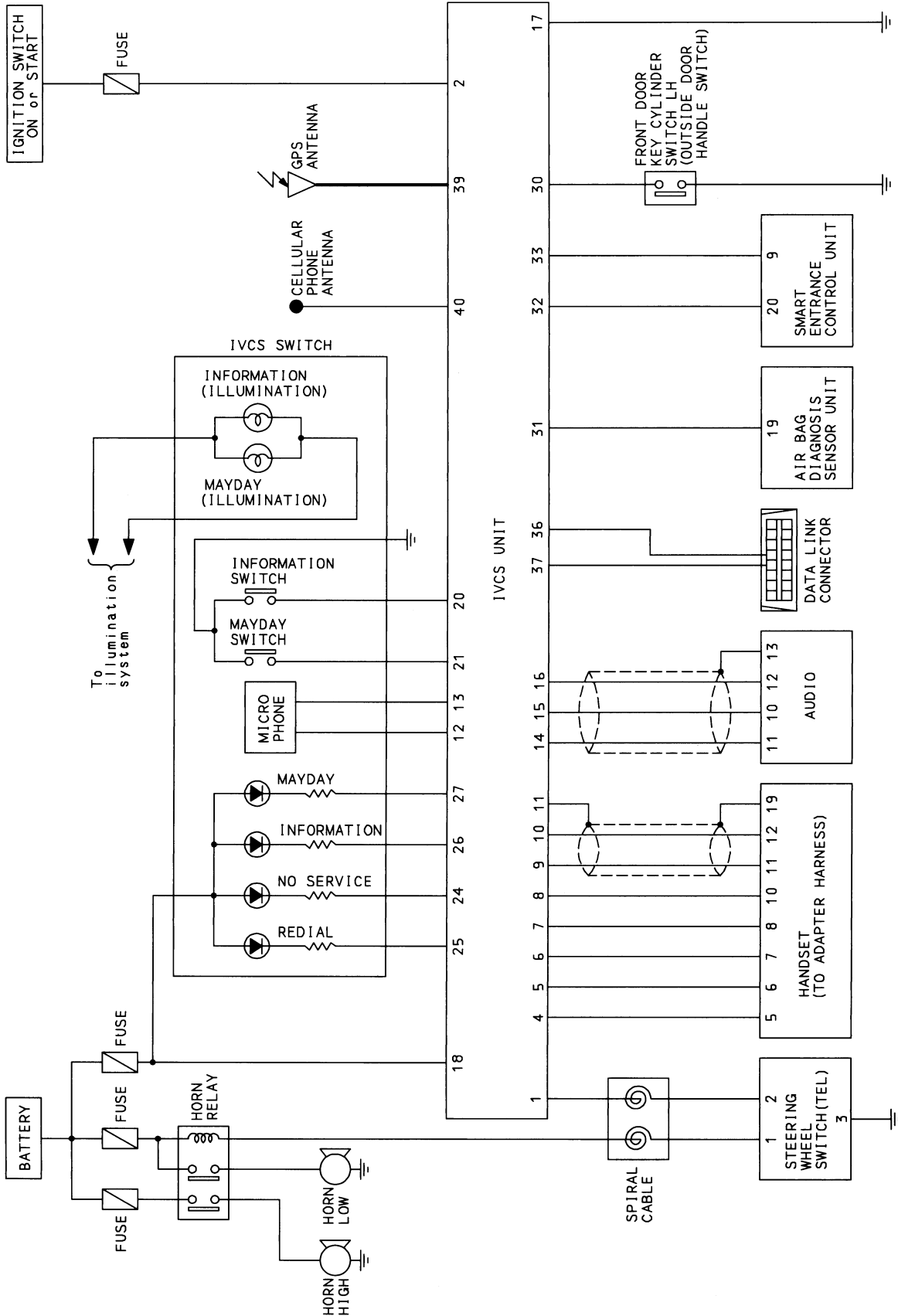
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INFINITI COMMUNICATOR (IVCS)

Schematic

NCEL0186

Schematic



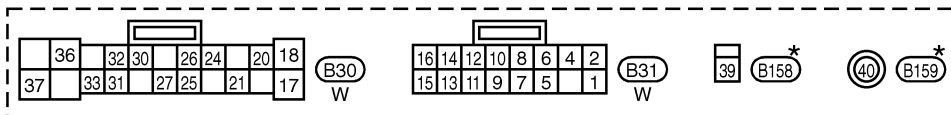
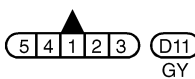
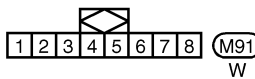
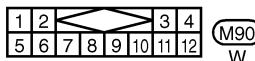
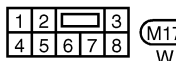
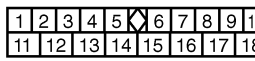
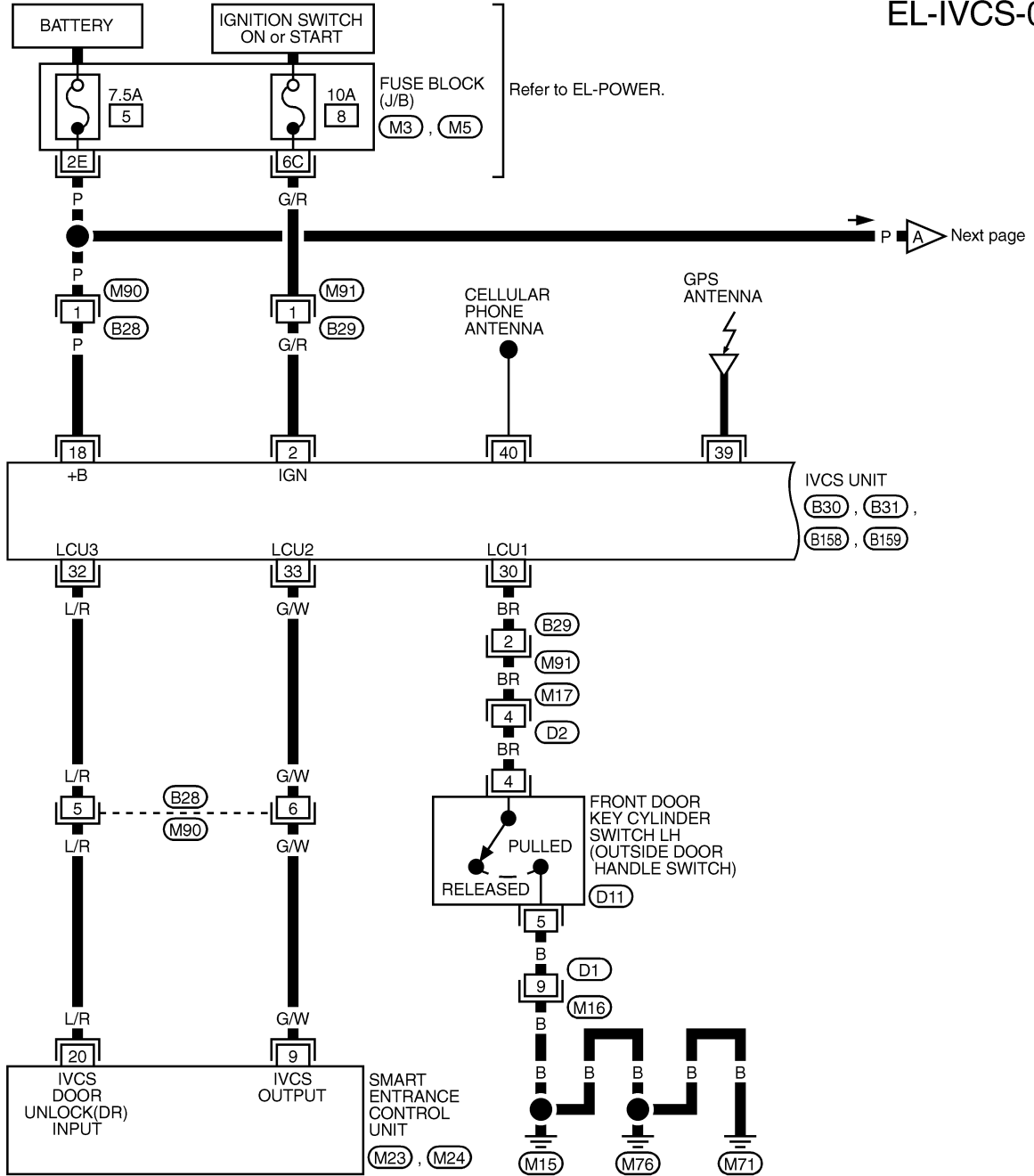
INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS —

Wiring Diagram — IVCS —

NCEL0187

EL-IVCS-01



REFER TO THE FOLLOWING.
 (M3), (M5) - FUSE BLOCK-JUNCTION BOX (J/B)
 (M23), (M24) - ELECTRICAL UNITS

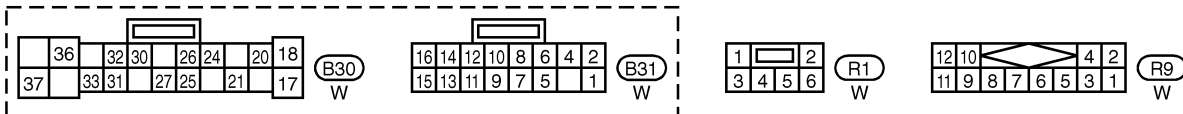
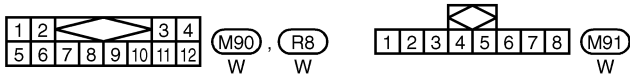
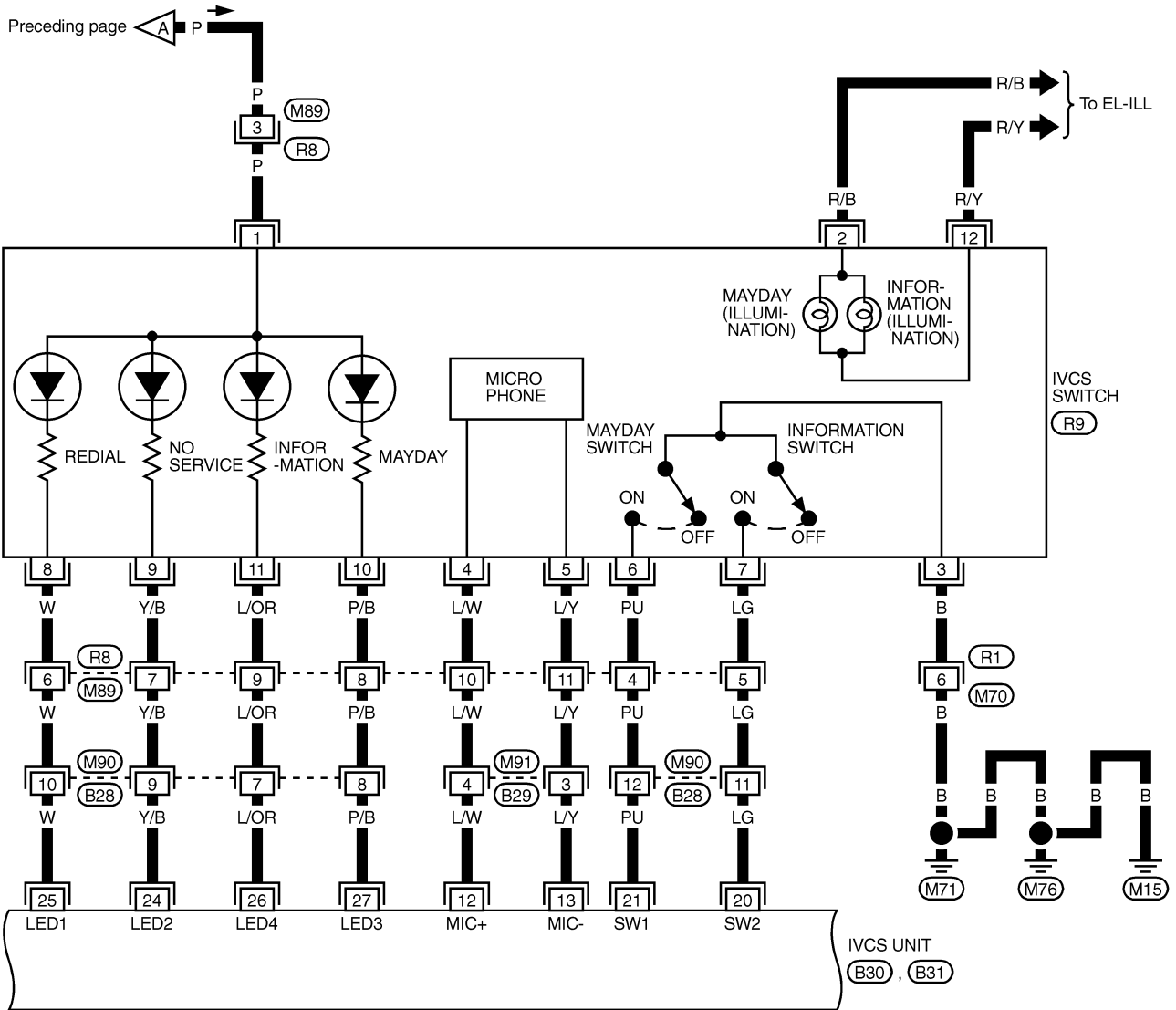
*: This connector is not shown in "HARNESS LAYOUT", EL section.

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INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

EL-IVCS-02

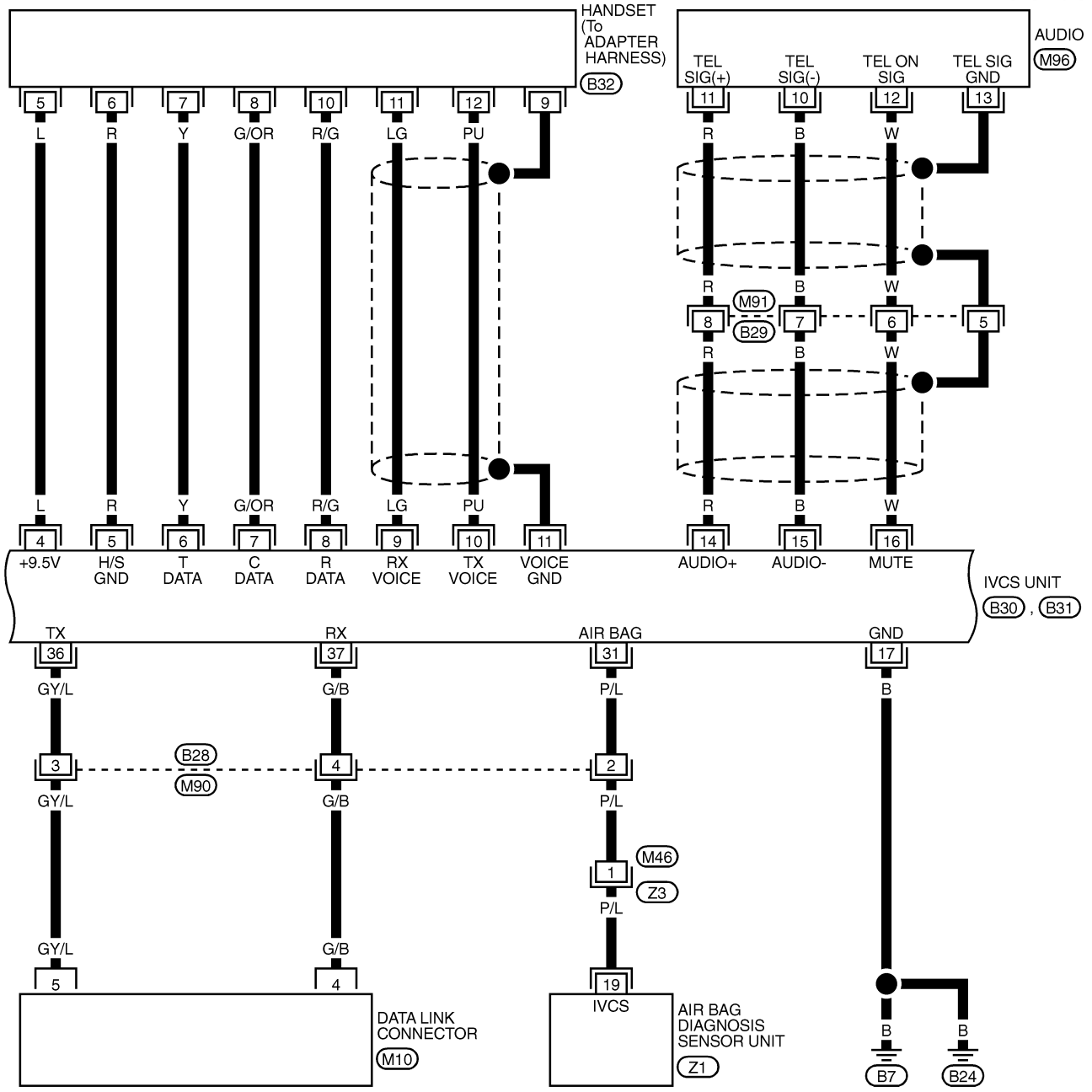


TEL546B

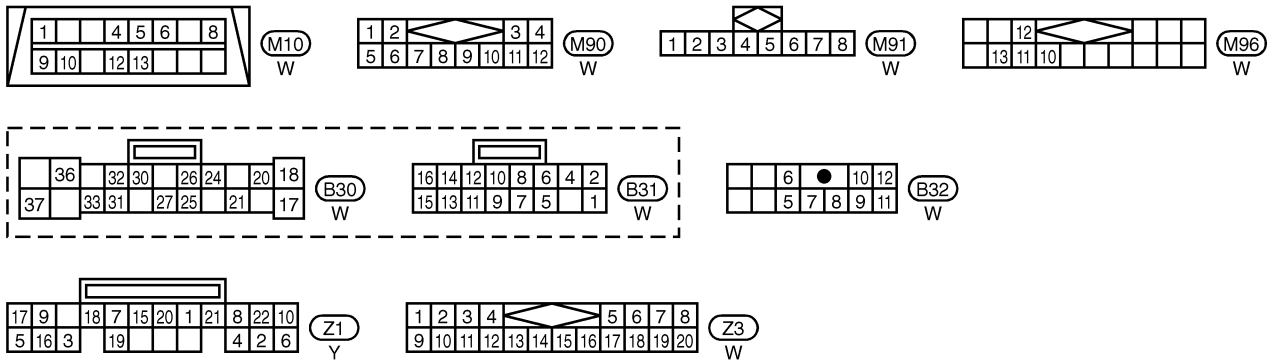
INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

EL-IVCS-03



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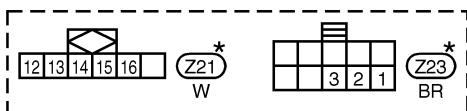
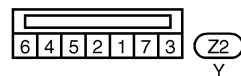
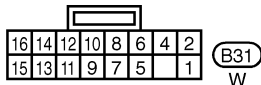
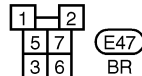
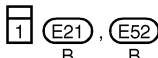
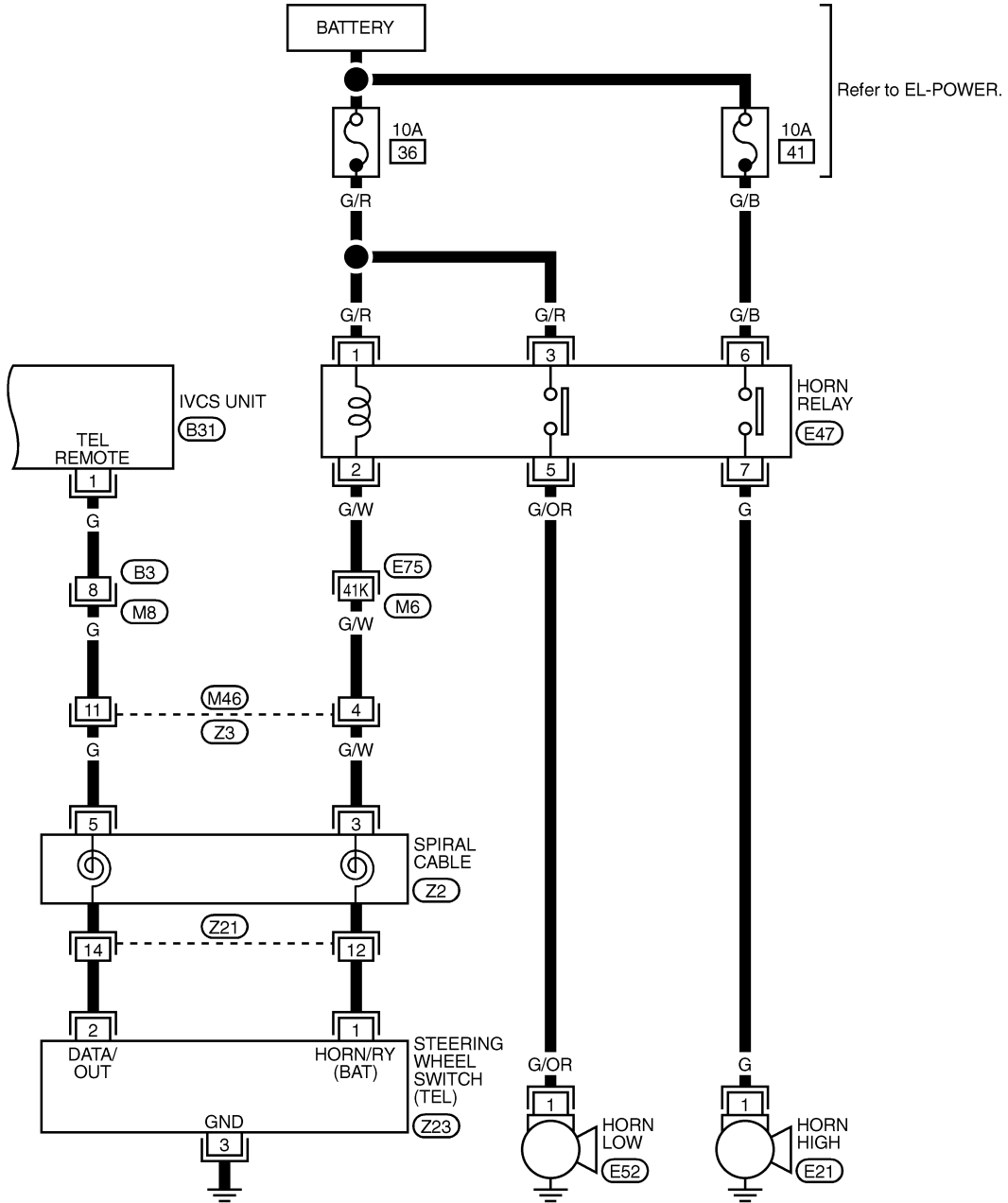


TEL547B

INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

EL-IVCS-04

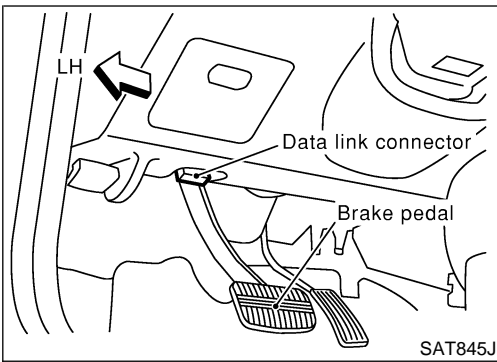


*: This connector is not shown in "HARNES LAYOUT", EL section.

REFER TO THE FOLLOWING.

(E75) -SUPER MULTIPLE JUNCTION (SMJ)

TEL548B



CONSULT-II

CONSULT-II INSPECTION PROCEDURE

NCEL0188

NCEL0188S01

1. Turn ignition switch "OFF".
2. Insert UEN99A program card in to CONSULT-II.
3. Connect CONSULT-II to the data link connector.
4. Turn ignition switch "ON".
5. Touch "START".

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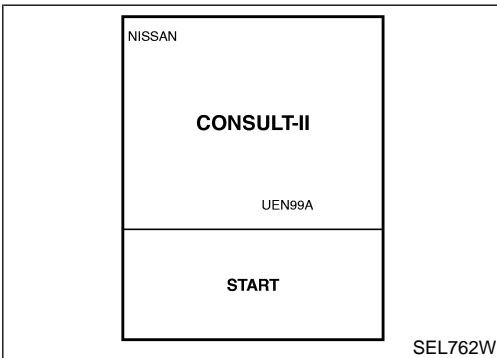
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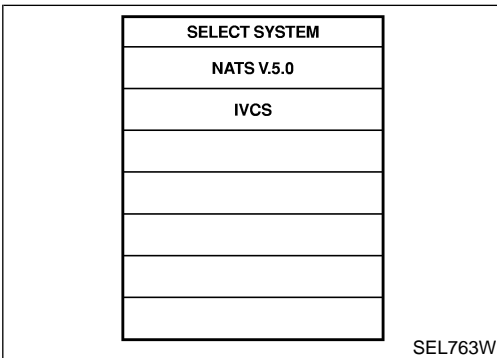
6. Touch "IVCS".

AT

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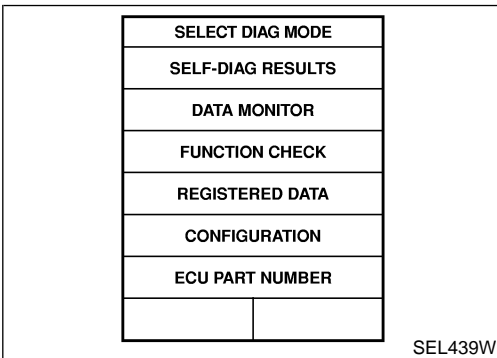
7. Perform each diagnostic item according to the item application chart as follows:

ST

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8. When CONSULT-II inspection is terminated, follow the procedure shown below.

SC

- a. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears, then turn off CONSULT-II.
- b. Turn ignition switch to OFF position.
- c. Disconnect CONSULT-II DDL connector.

EL

IDX

NOTE:

If the DDL connector is disconnected before turning ignition switch to "OFF" position, INFINITI communicator may not operate properly.

INFINITI COMMUNICATOR (IVCS)

CONSULT-II (Cont'd)

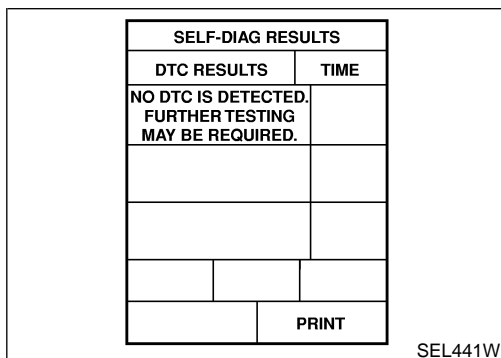
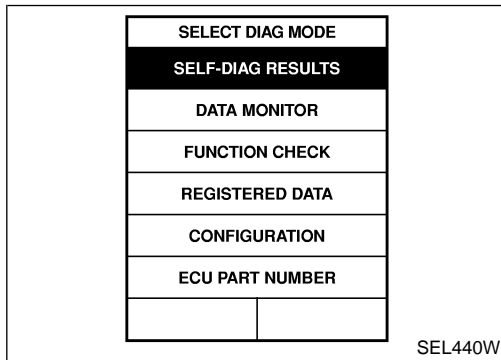
APPLICATION ITEMS

NCEL0188S02

Mode	Description	Reference page
SELF DIAG RESULTS	Displays the result of self-diagnosis.	EL-288
DATA MONITOR	Two modes, "GPS MONITOR" and "SWITCH MONITOR" can be selected in this mode. <ul style="list-style-type: none"> ● Displays current data related to GPS in "GPS MONITOR" mode. ● Displays IVCS switch and outside door handle switch condition in "SWITCH MONITOR" mode. 	EL-290
FUNCTION CHECK	In this mode, "Remote door unlock function" can be checked using CONSULT-II. Door can be unlocked according to the commands to the smart entrance control unit by the IVCS unit. This check verifies communication circuit between smart entrance control unit and IVCS unit.	EL-299
REGISTERED DATA	Displays the following data registered in the IVCS unit. In this mode the data cannot be re-written. <ul style="list-style-type: none"> ● Unit ID ● Cellular phone number ● VIN (Vehicle Identification Number) 	EL-291
CONFIGURATION (See Note.)	In this mode, the system can be set up in the demonstration mode to confirm system operation.	EL-304
	Various data related to both the Communicator Response Center contract and cellular provider can be written/updated in this mode. <ul style="list-style-type: none"> ● Phone number ● NAM (Number Assignment Module) ● Stolen vehicle tracking setting (Default should always be on.) ● Alarm notification setting (Default should always be on.) 	EL-306
ECU PART NUMBER	Displays the part number of the IVCS unit.	—

NOTE:

Data must not be rewritten without prior approval from the customer.



“SELF-DIAG RESULTS” MODE How to Perform Self-diagnosis

NCEL0188S03

NCEL0188S0301

1. Touch “SELF-DIAG RESULTS”.
2. Touch “START”.

3. If no malfunction is detected, CONSULT-II will show “NO DTC IS DETECTED”.

INFINITI COMMUNICATOR (IVCS)

CONSULT-II (Cont'd)

SELF-DIAG RESULTS	
DTC RESULTS	TIME
CONNECTION ERROR [GPS ANTENNA]	0
CONNECTION ERROR [AIR BAG]	0
	PRINT

SEL442W

SELF-DIAG RESULTS	
DTC RESULTS	TIME
CONNECTION ERROR [GPS ANTENNA]	1
CONNECTION ERROR [AIR BAG]	1
	PRINT

SEL443W

- If trouble codes are displayed with “TIME = 0”, repair/replace the system according to “SYMPTOM CHART 1 (SELF-DIAGNOSIS ITEM)”, EL-293.
- In this case, both “MAYDAY” and “INFORMATION” indicator lamps illuminate for more than 30 seconds while the ignition switch is in the ON position.

NOTE:

The time data in CONSULT-II “SELF-DIAG RESULTS” mode displays the number of ignition switch cycles without the same malfunctioning occurring.

- If trouble codes are displayed with “TIME = 1 or greater”, it means that the trouble code is historical data. So no further diagnosis is required.

NOTE:

If trouble codes are displayed with “TIME = 1 or greater” even though the INFINITI Communicator has never been serviced. Intermittent incidents may occur. Check the system, refer to “Trouble Diagnoses for Intermittent Incident”, EL-302.

- If the system does not detect any trouble, the IVCS indicators will turn off after bulb check (self-diagnosis) is completed while the ignition switch is in the ON position.

NOTE:

- The trouble codes cannot be erased by CONSULT-II.
- After 50 ignition cycles, the trouble codes are no longer displayed in the CONSULT-II “SELF-DIAG RESULTS” mode.
- The IVCS unit does not count the ignition switch cycles unless the ignition switch is OFF for more than 3 minutes between each ignition switch cycle.

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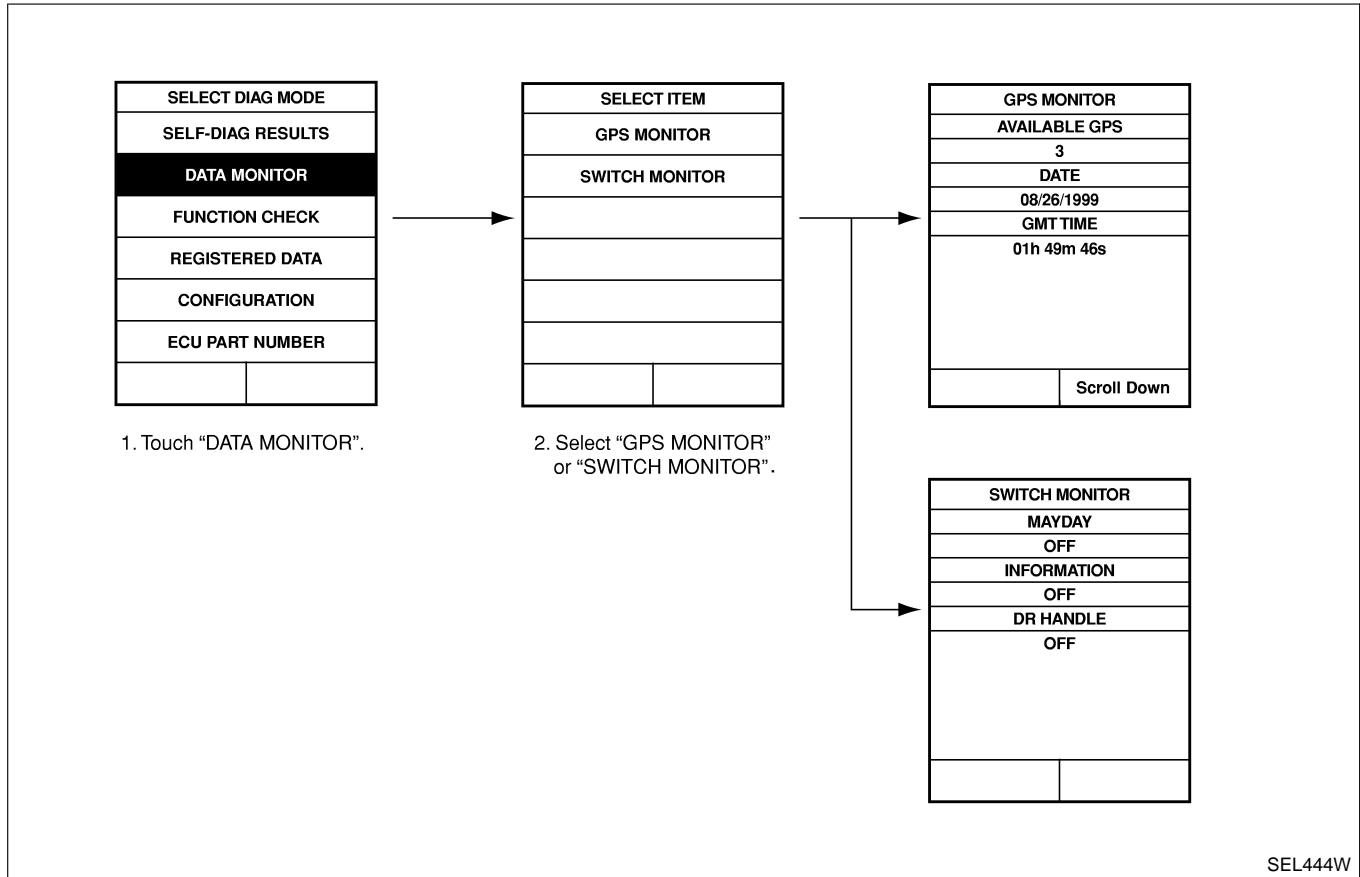
INFINITI COMMUNICATOR (IVCS)

CONSULT-II (Cont'd)

“DATA MONITOR” MODE How to Perform Data Monitor

NCEL0188S04

NCEL0188S0401



Data Monitor Item Chart

NCEL0188S0402

Mode	Monitor item	Description
GPS MONITOR	AVAILABLE GPS	The number of GPS satellites captured by GPS antenna
	DATE	Date of Greenwich mean time
	GMT TIME	Greenwich mean time (Different from local time)
	LAT.	Latitude
	LONG.	Longitude
	DOP	Index of precision (an index of location status of GPS satellites. The smaller the value is, the higher the positioning precision is.)
SWITCH MONITOR	MAYDAY	"MAYDAY" emergency switch condition
	INFORMATION	"INFORMATION" switch condition
	DR HANDLE	Driver side outside door handle switch condition

INFINITI COMMUNICATOR (IVCS)

CONSULT-II (Cont'd)

REGISTERED DATA	
UNIT ID	
SSNSXXXXXX	
CELLULAR PHONE#	
XXX-XXX-XXXX	
VIN#	
XXXXXXXXXXXXXXXXXX	
PRINT	

SEL445W

“REGISTERED DATA” MODE

NCEL0188S05

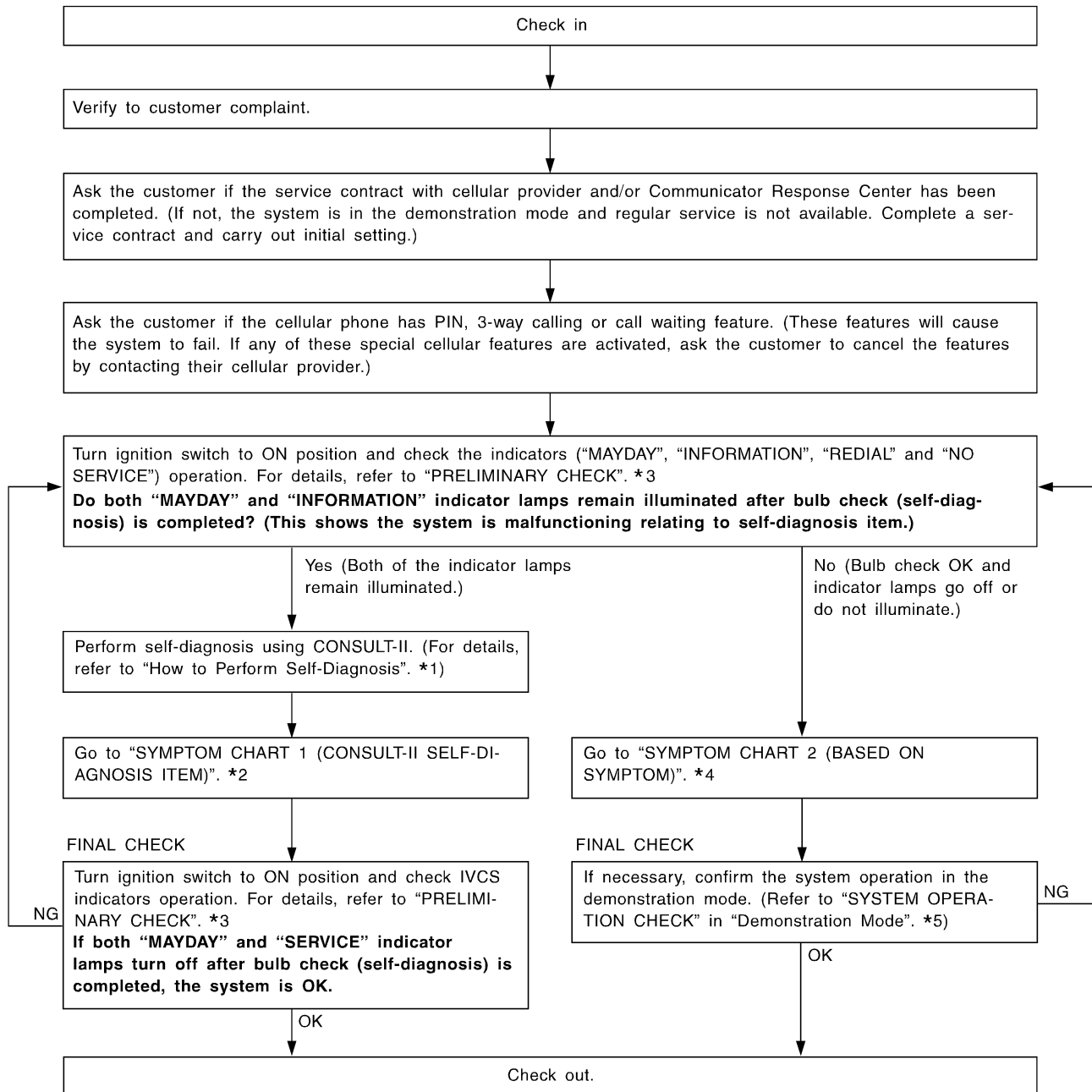
Item	Description
UNIT ID	ID number of the IVCS unit. ID number is unique to each unit and differs for each unit.
CELLULAR PHONE #	—
VIN #	Vehicle Identification Number. When the IVCS unit is replaced, VIN # is written in the memory of the replaced unit by transmitting data from the Communicator Response Center.

NOTE:
No data can be changed in this CONSULT-II mode.

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INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses WORK FLOW



*1 EL-288

*2 EL-293

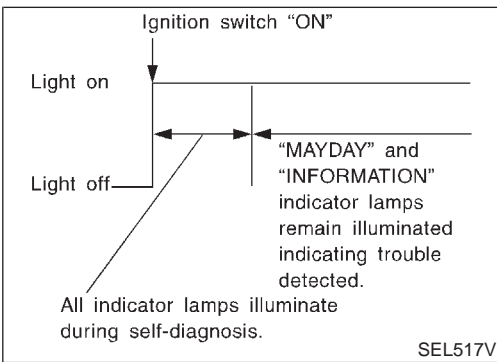
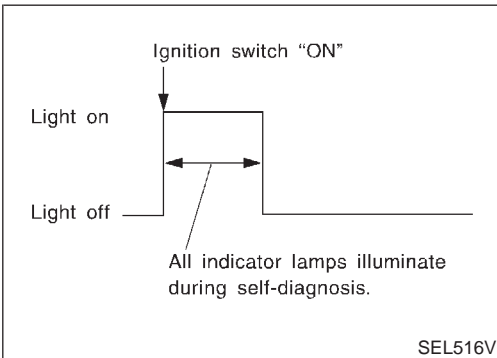
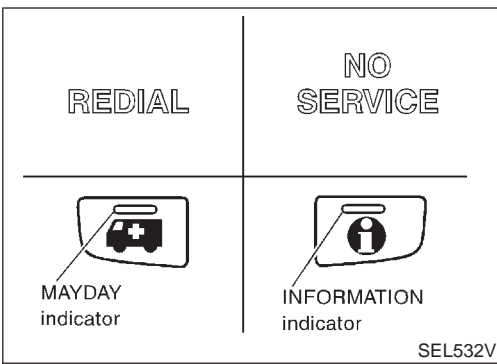
*3 EL-293

*4 EL-294

*5 EL-304

WARNING:

- Whenever possible, set the system to "Demonstration mode" if INFINITI Communicator system needs to be activated during service procedures. (For details of the demonstration mode, refer to EL-304.)
- If you activate the INFINITI Communicator system (when the system is not in the demonstration mode), the Communicator Response Center operator may dispatch police.



PRELIMINARY CHECK

NCEL0189S02

1. Turn ignition switch ON.
2. Check "MAYDAY", "INFORMATION", "REDIAL" and "NO SERVICE" indicator lamps operation.

- If no malfunction is detected, indicator lamps will turn off after the bulb check (self-diagnosis) is terminated for about 30 seconds or more.

NOTE:

- Bulb check (self-diagnosis) is not performed unless the ignition switch has been turned off for at least 3 minutes.
- Bulb check is not performed during contact with Communicator Response Center.

- If the system detects malfunctions, both "MAYDAY" and "INFORMATION" indicator lamps remain illuminated. Perform self-diagnosis using CONSULT-II and repair or replace the system. Refer to "How to Perform Self-diagnosis", EL-288.

NOTE:

For details of indicator lamps operation, refer to "INDICATOR LAMPS OPERATION", EL-278.

SYMPTOM CHART 1 (CONSULT-II SELF-DIAGNOSIS ITEM)

NCEL0189S03

Detected items (Screen items)	Description	Service procedure
CONNECTION ERROR [GPS ANTENNA]	Connection error between GPS antenna and IVCS unit.	Go to GPS ANTENNA CHECK, EL-301.
CELLULAR PHONE [TWB ERROR]	Communication error between CPU in the IVCS unit and transceiver	Replace IVCS unit.
MEMORY ERROR	Inner memory error of the IVCS unit	Replace IVCS unit.
CONNECTION ERROR [AIR BAG]	Connection error between air bag diagnosis sensor unit and IVCS unit.	Go to AIR BAG DIAGNOSIS SENSOR COMMUNICATION CHECK, EL-301.
CONNECTION ERROR [IVMS or S/ENT]	Connection error between smart entrance control unit and IVCS unit. If this error occurs, alarm notification and auto door unlock may not operate.	Go to SMART ENTRANCE CONTROL UNIT COMMUNICATION CHECK, EL-301.

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

NOTE:

After replacing IVCS unit, set up the replaced IVCS unit. Refer to "System Setting (When IVCS Unit is Replaced.)" in EL-306.

SYMPTOM CHART 2 (BASED ON SYMPTOM)

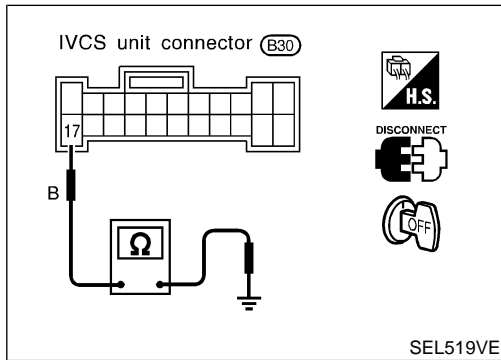
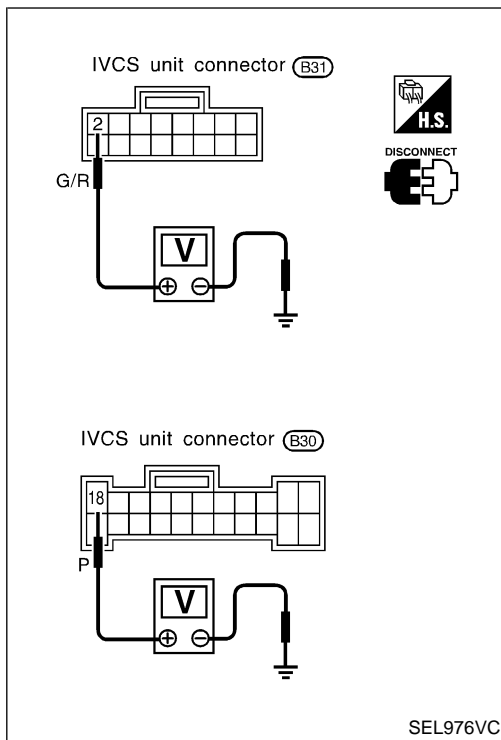
NCLE0189S04

Before referencing this chart, confirm the operation of the indicator lamps. Refer to "PRELIMINARY CHECK" in EL-293. If the indicators show the system is malfunctioning, perform the self-diagnosis using CONSULT-II.

Symptom	Diagnoses/service procedure	Reference page
"MAYDAY", "INFORMATION", "RE-DIAL", "NO SERVICE" indicator lamps do not illuminate when ignition switch is turned to ON position. (Bulb check is NG.)	1. Power supply and ground circuit for IVCS unit check	EL-295
	2. Indicator lamps check	EL-296
Mayday/Information call does not operate.	1. IVCS switch check	EL-297
	2. INFINITI Communicator operation check in demonstration mode	EL-304
Remote door unlocking function does not operate.	1. Driver side outside door handle switch check	EL-298
	2. Remote door unlock function check	EL-299
	3. INFINITI Communicator operation check in demonstration mode	EL-304
Stolen vehicle tracking function does not operate.	1. Stolen vehicle tracking setting check (Check whether the function is disabled or not.)	EL-300
	2. INFINITI Communicator operation check in demonstration mode	EL-304
Alarm notification function does not operate.	1. Alarm notification setting check (Check whether the function is disabled or not.)	EL-300
	2. INFINITI Communicator operation check in demonstration mode	EL-304
Hands free telephone cannot be operated by using steering switch. (Cellular phone operates properly by using handset.)	1. Telephone steering switch check	EL-302
No sounds related to the telephone are heard from Front RH speaker. (If the audio does not operate properly, check the audio system.)	1. Check harness for open or short between IVCS unit and audio unit.	—
The "NO SERVICE" indicator lamp is not turned off. (Even if a contract with telephone carrier has not been made, the indicator lamp remains illuminated.)	1. Make sure the vehicle is in an area with cellular service.	—
	2. Check cellular phone antenna feeder cable connection.	—
Cellular phone does not operate properly.	1. Check hand set connector connection.	—
	2. Check hand set.	—
No sound is transmitted to the other party by hands free telephone.	1. Check harness for open or short between IVCS unit and microphone.	—
	2. Replace microphone. (IVCS switch assembly)	—

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)



POWER SUPPLY AND GROUND CIRCUIT FOR IVCS UNIT CHECK

NCEL0189S05

Main Power Supply Circuit Check

NCEL0189S0501

Terminal		Ignition switch		
(+)	(-)	OFF	ACC	ON
18	Ground	Battery voltage	Battery voltage	Battery voltage
2	Ground	0V	0V	Battery voltage

If NG, check the following:

- 10A fuse [No. 8, located in fuse block (J/B)]
- 7.5A fuse [No. 5, located in fuse block (J/B)]
- Harness for open or short between fuse and IVCS unit

Ground Circuit Check

NCEL0189S0502

Terminals	Continuity
17 - Ground	Yes

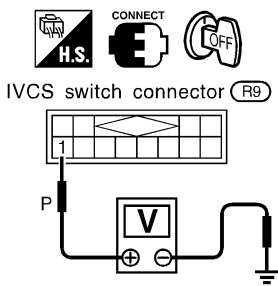
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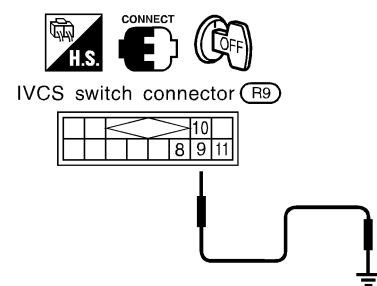
INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

INDICATOR LAMPS CHECK

=NCEL0189S06

1	CHECK POWER SUPPLY FOR INDICATOR LAMPS	
<p>Check voltage between IVCS switch terminal 1 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>IVCS switch connector (R9)</p> </div> <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL659W</p>		
OK or NG		
OK	▶	GO TO 2.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 7.5A fuse [No. 5, located in fuse block (J/B)] ● Harness for open or short between fuse and IVCS switch

2	CHECK INDICATOR LAMPS											
<p>1. Disconnect IVCS unit connector (Control unit connector). 2. Apply ground to IVCS switch each terminal and check illumination.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>IVCS switch connector (R9)</p> </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="border: none;">Indicator</th> <th style="border: none;">Terminal</th> </tr> </thead> <tbody> <tr> <td style="border: none;">REDIAL</td> <td style="border: none;">8</td> </tr> <tr> <td style="border: none;">NO SERVICE</td> <td style="border: none;">9</td> </tr> <tr> <td style="border: none;">MAYDAY</td> <td style="border: none;">10</td> </tr> <tr> <td style="border: none;">INFORMATION</td> <td style="border: none;">11</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL660W</p>			Indicator	Terminal	REDIAL	8	NO SERVICE	9	MAYDAY	10	INFORMATION	11
Indicator	Terminal											
REDIAL	8											
NO SERVICE	9											
MAYDAY	10											
INFORMATION	11											
OK or NG												
OK	▶	Check harness for open or short between indicators and IVCS unit.										
NG	▶	Replace IVCS switch assembly.										

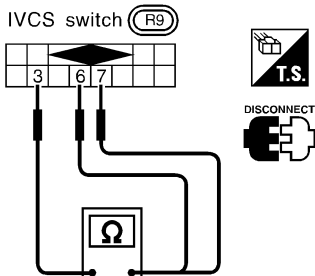
INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

IVCS SWITCH CHECK

=NCEL0189S07

1	CHECK IVCS SWITCH INPUT SIGNAL	
<p>1. Turn ignition switch "ON". 2. Select "SWITCH MONITOR" in "DATA MONITOR" mode. 3. Check each switch signal.</p> <p>Condition: When MAYDAY/INFORMATION switch is pushed: MAYDAY/INFORMATION ON When MAYDAY/INFORMATION switch is released: MAYDAY/INFORMATION OFF</p> <p>NOTE: When CONSULT-II "DATA MONITOR" mode is operating, INFINITI Communicator does not dial to Communicator Response Center when the switches are operated.</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	IVCS switch is OK.
NG	▶	GO TO 2.

2	CHECK IVCS SWITCH.	
<p>1. Disconnect IVCS switch. 2. Check continuity between IVCS switch terminals.</p>		
		
SEL661W		
OK or NG		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● IVCS switch ground circuit ● Harness for open or short between IVCS switch and IVCS unit
NG	▶	Replace IVCS switch assembly.

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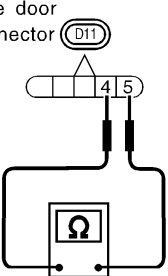

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH CHECK

-NCEL0189S08

1	CHECK DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH INPUT SIGNAL											
<p>1. Turn ignition switch ON. 2. Select "SWITCH MONITOR" in "DATA MONITOR" mode. 3. Check the switch operation.</p>												
<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">SWITCH MONITOR</td></tr> <tr><td style="text-align: center;">MAYDAY</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;">INFORMATION</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;">DR HANDLE</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> </table>		SWITCH MONITOR	MAYDAY	OFF	INFORMATION	OFF	DR HANDLE	OFF				
SWITCH MONITOR												
MAYDAY												
OFF												
INFORMATION												
OFF												
DR HANDLE												
OFF												
SEL468W												
<p>Condition: When driver side outside door handle switch is pushed: DR HANDLE ON When driver side outside door handle switch is released: DR HANDLE OFF</p>												
<p>NOTE: When CONSULT-II "DATA MONITOR" mode is operating, INFINITI Communicator does not dial to Communicator Response Center when the switches are operated.</p>												
OK or NG												
OK	▶ Driver side outside door handle switch is OK.											
NG	▶ GO TO 2.											

2	CHECK DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH						
<p>1. Disconnect driver side outside door handle switch connector. 2. Check continuity between driver side outside door handle switch terminals 4 and 5.</p>							
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>Driver side outside door handle switch connector</p>  </div> <div style="margin-right: 20px;">  </div> <table border="1" style="margin-left: auto;"> <thead> <tr> <th style="text-align: left;">Back door handle switch condition</th> <th style="text-align: center;">Continuity</th> </tr> </thead> <tbody> <tr> <td>Pulled</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Released</td> <td style="text-align: center;">No</td> </tr> </tbody> </table> </div>		Back door handle switch condition	Continuity	Pulled	Yes	Released	No
Back door handle switch condition	Continuity						
Pulled	Yes						
Released	No						
SEL662W							
OK or NG							
OK	▶ Check the following.						
<ul style="list-style-type: none"> ● Driver side outside door handle switch ground circuit ● Harness for open or short between driver side outside door handle switch and IVCS unit 							
NG	▶ Replace driver side outside door handle switch.						

REMOTE DOOR UNLOCK FUNCTION CHECK (CONSULT-II "FUNCTION CHECK" MODE)

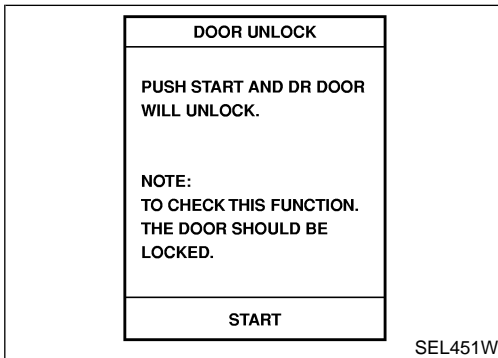
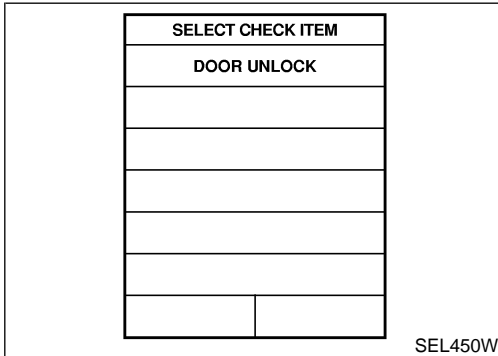
-NCEL0189S09

Description

"Remote door unlock function" can be checked using CONSULT-II. Driver side door can be unlocked according to the commands to the smart entrance control unit by the IVCS unit.

NOTE:

Before performing the function check, confirm that power door lock system operates properly.



How to perform function check.

1. Lock the doors with door lock/unlock switch on driver's door trim.
2. Touch "FUNCTION CHECK".
3. Touch "DOOR UNLOCK".
4. Touch "START". Then driver side door will be unlocked.
 - If the door cannot be unlocked using CONSULT-II, check harness for open or short between smart entrance control unit terminal 20 and IVCS unit terminal 32.

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INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

STOLEN VEHICLE TRACKING/ALARM NOTIFICATION SETTING CHECK (CONSULT-II "CONFIGURATION" MODE)

NCEL0189S10

1	CHECK SYSTEM SETTING																
<p>1. Turn ignition switch ON. 2. Select "VHCL TRACKING" or "ALARM NOTIFICATION" in "CONFIGURATION" mode. 3. Check the function setting.</p>																	
<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td colspan="3" style="text-align: center; padding: 2px;">VEHICLE TRACKING</td> </tr> <tr> <td colspan="3" style="text-align: center; padding: 2px;">CURRENT SETTING IS</td> </tr> <tr> <td colspan="3" style="text-align: center; padding: 2px;">ON</td> </tr> <tr> <td colspan="3" style="text-align: center; padding: 2px;">VEHICLE TRACKING FUNCTION IS ACTIVE.</td> </tr> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center; padding: 2px;">OFF</td> <td style="width: 33%; text-align: center; padding: 2px;">PRINT</td> </tr> </table>			VEHICLE TRACKING			CURRENT SETTING IS			ON			VEHICLE TRACKING FUNCTION IS ACTIVE.				OFF	PRINT
VEHICLE TRACKING																	
CURRENT SETTING IS																	
ON																	
VEHICLE TRACKING FUNCTION IS ACTIVE.																	
	OFF	PRINT															
<p>● ON shows the function is activated. ● OFF shows the function is deactivated.</p> <p>Does the system setting comply with the customer's contract? NOTE: Setting of "VEHICLE TRACKING" must be ON at all times.</p> <p style="text-align: center;">OK or NG</p>																	
OK	▶	System setting is OK.															
NG	▶	If either setting is OFF, contact the Communicator Response Center at 1-888-427-4812 to verify the system setting. NOTE: Whenever dialing the above number, some information about the vehicle will be required by the operator. For details, refer to EL-272.															

SEL452W

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

GPS ANTENNA CHECK

=NCEL0189S11

1	CHECK VOLTAGE FOR GPS ANTENNA	
<p>1. Disconnect GPS feeder cable connector from IVCS unit. 2. Turn ignition switch ON. 3. Check voltage at IVCS unit GPS feeder cable terminal.</p>		
<p>The diagram illustrates the setup for checking the voltage at the IVCS unit's GPS feeder cable terminal. It shows the IVCS unit with a voltmeter connected to the terminal. Above the unit, there are three icons: a square with 'T.S.' (Turn Switch), a plug with 'DISCONNECT' (GPS connector), and a circle with 'ON' (Ignition switch).</p>		
Does approx. 5V exist?		
Yes	▶	Replace GPS antenna.
No	▶	Replace IVCS unit.

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AIR BAG DIAGNOSES SENSOR UNIT COMMUNICATION CHECK

NCEL0189S12

1	AIR BAG OPERATION CHECK	
Turn ignition switch ON and check air bag warning lamp operation. (For details, refer to RS-41.)		
Does air bag warning lamp operate properly?		
Yes	▶	Check harness connector connection between air bag diagnosis sensor unit and IVCS unit.
No	▶	Check supplemental restraint system. Refer to RS-32, "Trouble Diagnoses Introduction".

MT
AT
AX
SU

SMART ENTRANCE CONTROL UNIT COMMUNICATION CHECK

NCEL0189S13

1	CHECK SMART ENTRANCE CONTROL UNIT OPERATION	
Check the system related smart entrance control unit operation. (e.g.: power door lock, power window)		
Does the system operate properly?		
Yes	▶	Check harness for open or short between smart entrance control unit and IVCS unit.
No	▶	Check smart entrance control unit. Refer to EL-243, "SMART ENTRANCE CONTROL UNIT".

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INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

TELEPHONE STEERING SWITCH CHECK

=NCEL0189S14

1	CHECK POWER SUPPLY FOR STEERING SWITCH	
Check power supply for steering switch.		
Does horn work?		
Yes	▶	Check the following. <ul style="list-style-type: none"> ● 10A fuse (No. 36, located in fuse and fusible link box) ● Horn relay ● Harness for open or short
No	▶	GO TO 2.

2	CHECK STEERING SWITCH SUB-HARNESS	
1. Remove driver's air bag module. For removal procedure, refer to RS section. 2. Check steering switch sub-harness for open or short and ground screw. For details of the harness circuit, refer to "STEERING SWITCH", EL-28.		
OK or NG		
OK	▶	Check harness for open or short between telephone steering switch and IVCS unit. If the circuit is OK, replace telephone steering switch.
NG	▶	Replace or repair the harness.

Trouble Diagnoses for Intermittent Incident

NCEL0190

DESCRIPTION

NCEL0190S01

An intermittent incident may be occurring if all of the following conditions exist.

- Both "MAYDAY" emergency and "INFORMATION" indicators have shown that the system is malfunctioning.
- CONSULT-II self-diagnosis result screen indicates a trouble code with "TIME = 1 or greater".
- The INFINITI Communicator system has not been previously serviced.

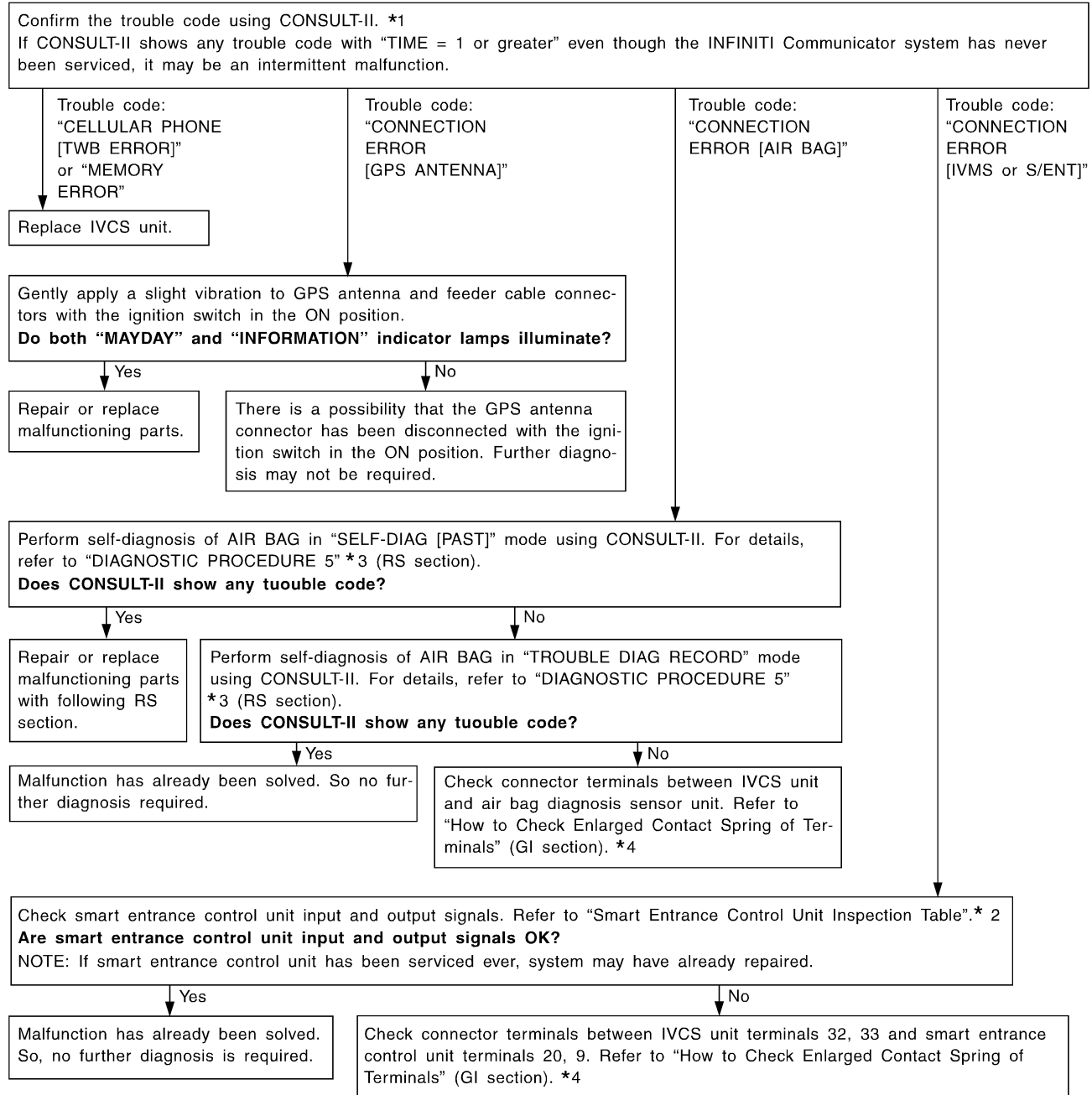
To find out the cause of a malfunction, follow the procedures shown below.

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses for Intermittent Incident (Cont'd)

NCEL0190S02

DIAGNOSTIC PROCEDURE



SEL107WG

*1 EL-288

*3 RS-48

*4 GI-22

*2 EL-248

NOTE:

Enlarged spring contact of terminals may be cause of intermittent malfunction for "CONNECTION ERROR [AIR BAG]/[IVMS]". When you inspect terminals for enlarged contact, refer to GI-22, "How to Check Enlarged Contact Spring of Terminals".

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INFINITI COMMUNICATOR (IVCS)

Demonstration Mode

Demonstration Mode

DESCRIPTION

NCEL0191

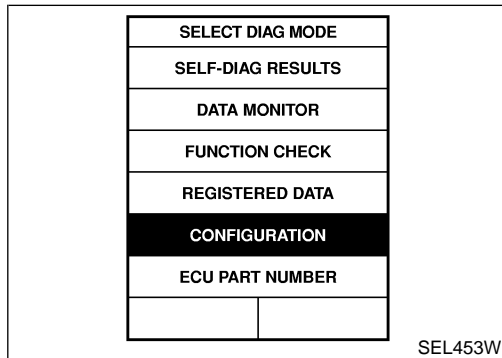
NCEL0191S01

By setting up the system in the demonstration mode, automatic dialing operation can be confirmed by “MAYDAY” emergency and “INFORMATION” switch operation.

Automatic dialing in this mode is connected to the demonstration center of Communicator Response Center, and is different from the normal service.

When the contract with Communicator Response Center is not concluded, all the INFINITI Communicator operations are connected to the demonstration center.

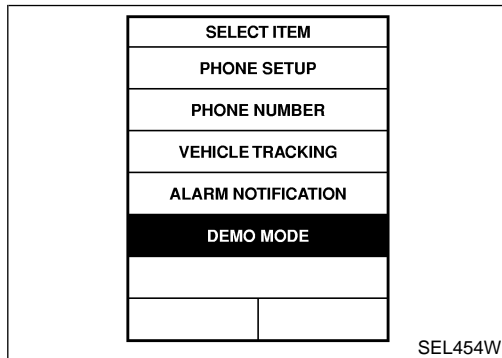
Connection to Communicator Response Center in this mode will not be charged by Communicator Response Center nor will the call be handled as an emergency.



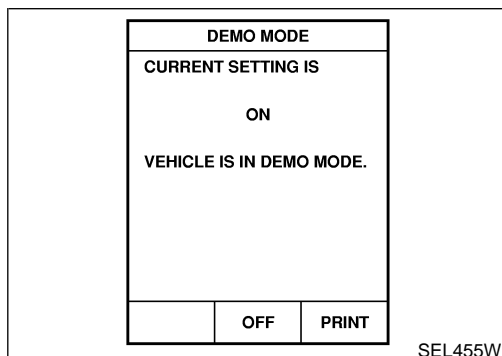
SYSTEM OPERATION CHECK

NCEL0191S02

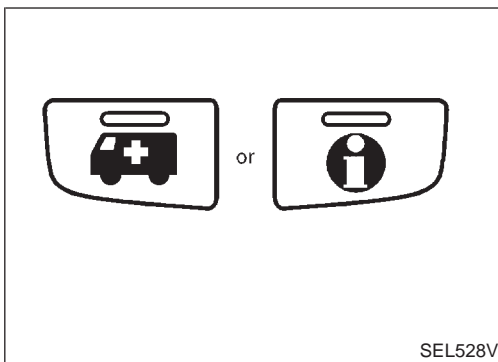
1. Touch “CONFIGURATION”.



2. Touch “DEMO MODE”.



3. Touch “ON”. Now, the system is in demonstration mode. (To return to normal mode, touch “OFF”.)



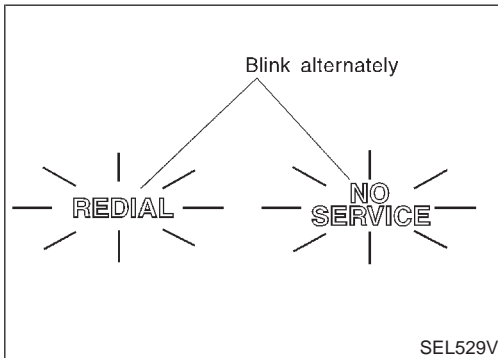
4. Touch “BACK” key of CONSULT-II until “SELECT SYSTEM” appears, then turn off CONSULT-II.
5. Turn ignition switch to the OFF position.
6. Disconnect CONSULT-II DDL connector.
7. Start the engine.
8. Touch the “MAYDAY” or “INFORMATION” switches. Then the system will call the demonstration center.

GI

MA

EM

LC



9. Check INFINITI Communicator operation.
 - If contact with Communicator Response Center is successful, system is OK.

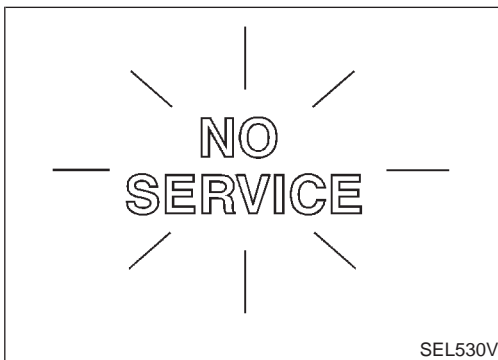
EC

NOTE:

During the system contact to Communicator Response Center in demonstration mode, “REDIAL” and “NO SERVICE” indicators blink alternately.

FE

CL



- If “NO SERVICE” indicator illuminates and the contact to Communicator Response Center is unsuccessful, retry from other location where the cellular connection seems good. (e.g.; move the vehicle outside of the workshop and retry.)

MT

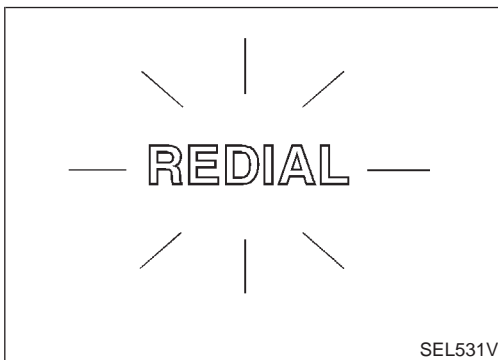
AT

NOTE:

If “NO SERVICE” indicator frequently illuminates from a location where the cellular connection seems good, check the connection of the feeder cable for the cellular phone antenna.

AX

SU



- If “REDIAL” indicator lamp illuminates and the contact to Communicator Response Center is unsuccessful, the cellular network is busy or there are no open cellular channels. The system will redial automatically.

BR

ST

NOTE:

If redial fails several times, confirm whether the roaming agreement of customer’s cellular provider at the vehicle location is available or not.

RS

BT

HA

WARNING:

- Make sure to turn the demonstration mode OFF before returning the vehicle to the owner.
- In the demonstration mode, any service from Communicator Response Center is not available. Therefore, even if the customer encounters an emergency, no service will be dispatched.

SC

EL

IDX

INFINITI COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced)

System Setting (When IVCS Unit is Replaced)

NCEL0192

DESCRIPTION

NCEL0192S01

When the IVCS unit is replaced, carry out the following data settings.

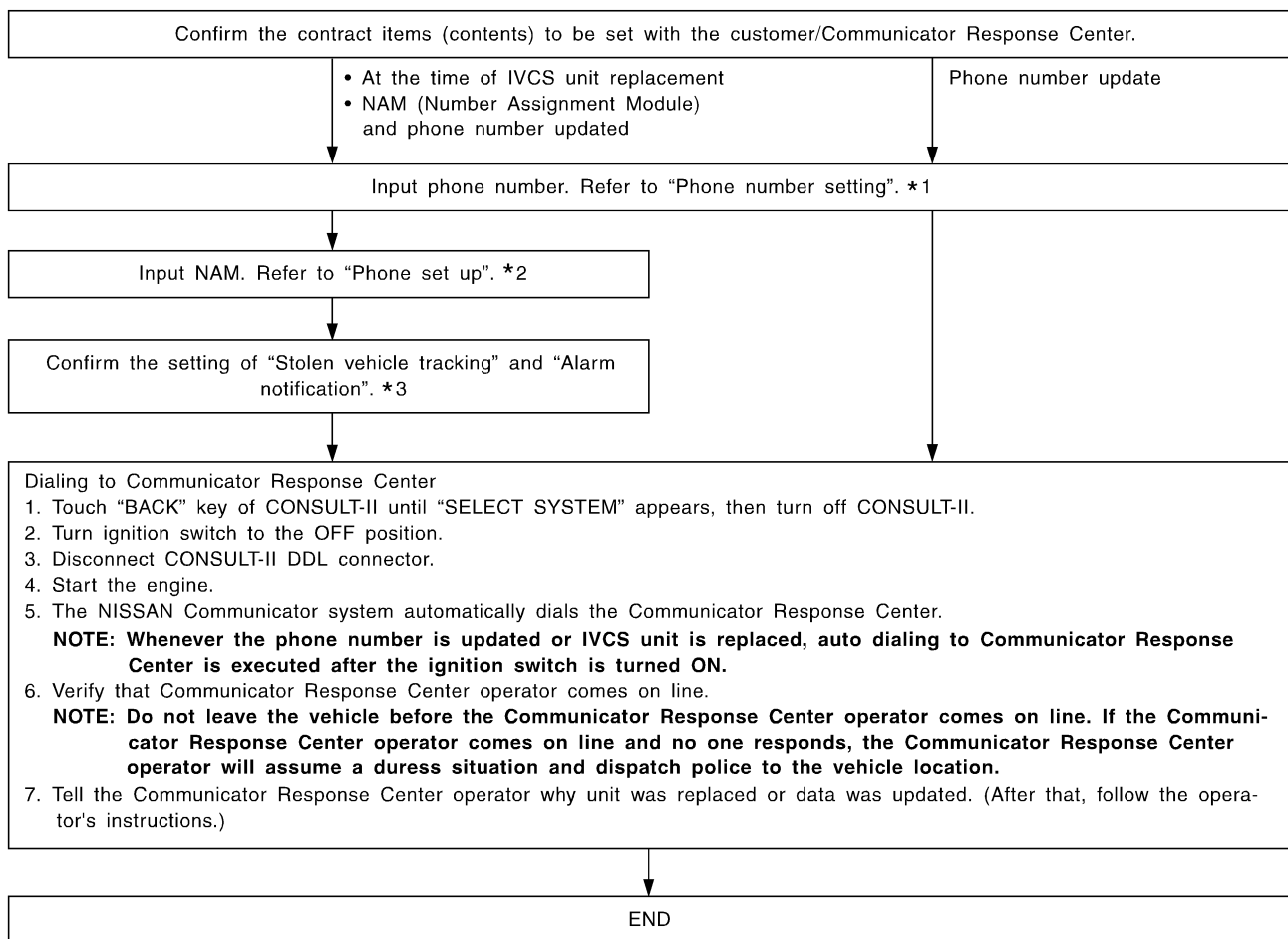
- Phone setup — Data setting regarding NAM (Number Assignment Module)
- Phone number — Phone number setting

NOTE:

- Data must not be updated without prior approval from the customer.
- NAM and phone number can be programmed by using handset. For details, refer to the handset operation manual.
- The IVCS unit does not permit updating of NAM more than 15 times.

WORK FLOW

NCEL0192S02



SEL108WA

*1 EL-307

*2 EL-308

*3 EL-309

NOTE:

- If a Communicator Response Center operator does not come on line even though the system activates, the system may not be properly configured. Call the Communicator Response Center at 1-888-427-4812 to verify the configuration information.

INFINITI COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

PHONE NUMBER	
NEW PHONE#	
XXX - XXX - XXXX	
THE ABOVE CELLULAR PHONE NUMBER WILL BE PROGRAMMED. OK?	
CANCEL	OK

SEL460W

6. Touch "OK".
7. Carry out the next system setting or contact Communicator Response Center and inform them that data has been updated or the IVCS unit has been replaced. For details, refer to EL-306.

NOTE:

Whenever the phone number is updated or the IVCS unit is replaced, the INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started.

SELECT ITEM	
PHONE SETUP	
PHONE NUMBER	
VEHICLE TRACKING	
ALARM NOTIFICATION	
DEMO MODE	

SEL461W

PHONE SET UP

NCEL0192S04

1. Touch "CONFIGURATION".
2. Touch "PHONE SET UP".

PHONE SETUP		
THIS UNIT HAS NO REQUIRED DATA PROGRAMMED.		
ERASE	REWRITE	PRINT
Scroll Down		

SEL716W

3. Touch "WRITE" or "REWRITE".
 - If no data is previously memorized, the display shows "This unit has no required data programmed".

PHONE SETUP		
SYS.ID:		
11111		
GR.ID:		
11		
OVERLOAD CLASS:		
11		
THIS UNIT HAS THE ABOVE DATA PROGRAMMED.		
ERASE	REWRITE	PRINT
Scroll Down		

SEL463W

- If NAM (Number Assignment Module) data is previously memorized, the display shows the current NAM data.
- To erase the NAM, touch "ERASE".

PHONE SETUP					
SYS.ID:					
GR.ID:					
OVERLOAD CLASS:					
1	2	3	4	5	6
7	8	9	0	BS	
CANCEL				ENTER	
Scroll Down					

SEL464W

4. Input new NAM data.
 - SYS ID (Carrier system ID number) — Available number: 0 to 32765
 - GR ID (Group ID mark) — Available number: 0 to 15
 - OVERLOAD CLASS (Access overload class) — Available number: 0 to 15
 - SECURITY CODE (User security code)
 - UNLOCK CODE
 - INIT PAGE CH (Initial paging channel)

INFINITI COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

NOTE:

If an unavailable number is input as "SYS ID", "GR ID" or "OVERLOAD CLASS", CONSULT-II may be locked. In such cases, disconnect the vehicle battery cable once and then setup the system again.

5. Touch "ENTER".

PHONE SETUP	
SYS.ID:	
11111	
GR.ID:	
11	
OVERLOAD CLASS:	
11	
THE ABOVE DATA WILL BE PROGRAMMED. OK?	
CANCEL	OK
Scroll Down	

SEL465W

6. Touch "OK".

7. Carry out the next system setting or contact Communicator Response Center and inform them that data has been updated or IVCS unit has been replaced. For details, refer to EL-306.

NOTE:

Whenever the phone number is updated or the IVCS unit is replaced, the INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started.

SELECT ITEM
PHONE SETUP
PHONE NUMBER
VEHICLE TRACKING
ALARM NOTIFICATION
DEMO MODE

SEL466W

STOLEN VEHICLE TRACKING/ALARM NOTIFICATION SETTING CHECK

NCEL0192S05

1. Touch "CONFIGURATION".

2. Touch "VEHICLE TRACKING" or "ALARM NOTIFICATION".

ALARM NOTIFICATION	
CURRENT SETTING IS	
ON	
ALARM NOTIFICATION FUNCTION IS ACTIVE.	
OFF	PRINT

SEL467W

3. This function should always be "ON" (function activate.)

NOTE:

- If either setting is "OFF", contact the Communicator Response Center at 1-888-427-4812 to verify the system setting.

- Whenever dialing the above number, information about the vehicle is required by the operator. For details, refer to EL-272.

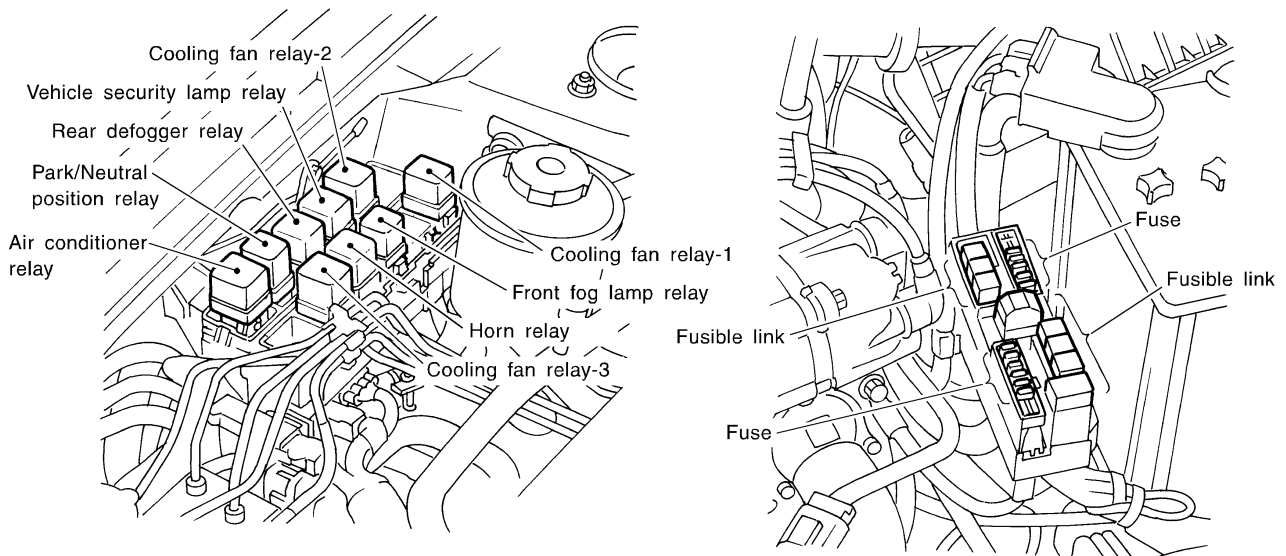
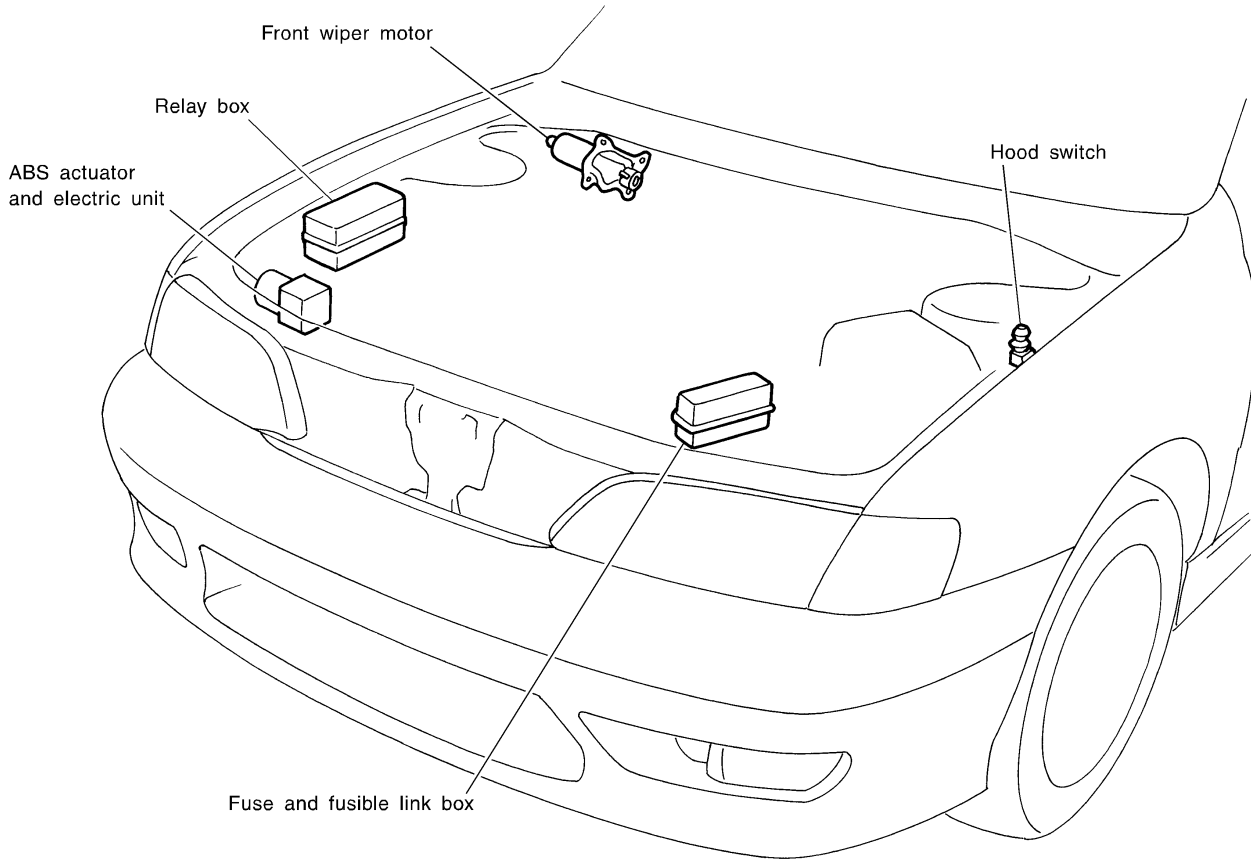
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ELECTRICAL UNITS LOCATION

Engine Compartment

Engine Compartment

NCEL0129



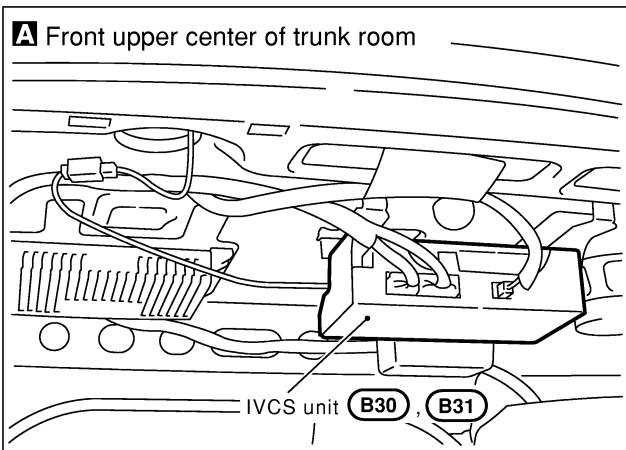
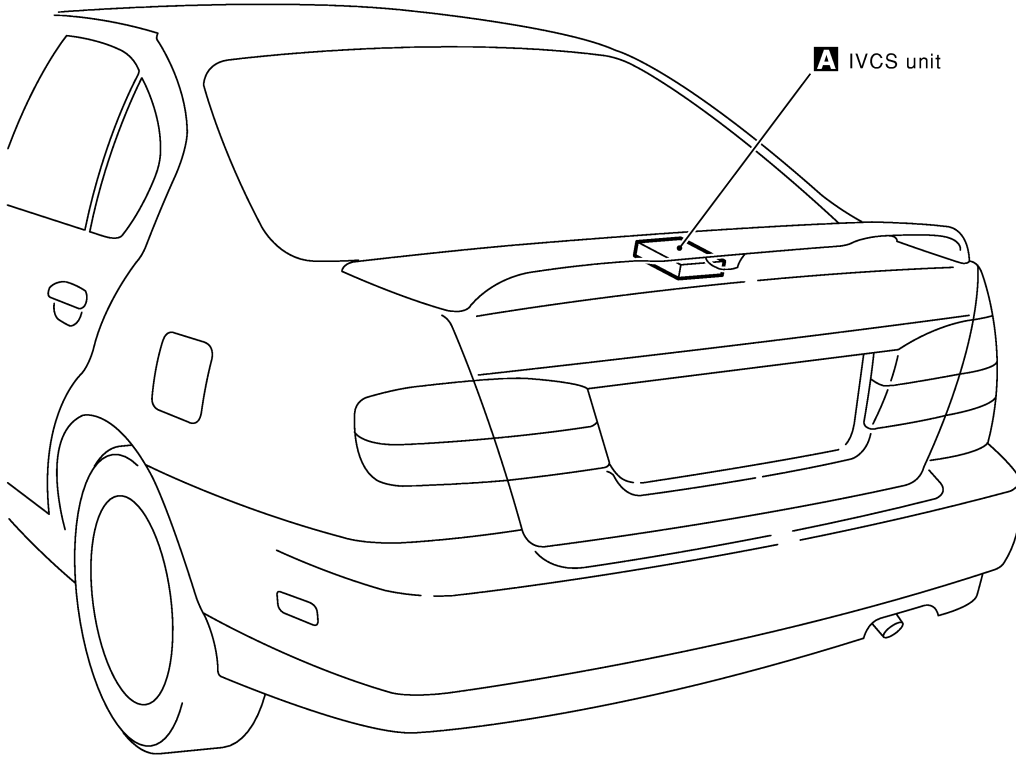
CEL299A

ELECTRICAL UNITS LOCATION

Luggage Compartment

Luggage Compartment

NCEL0193



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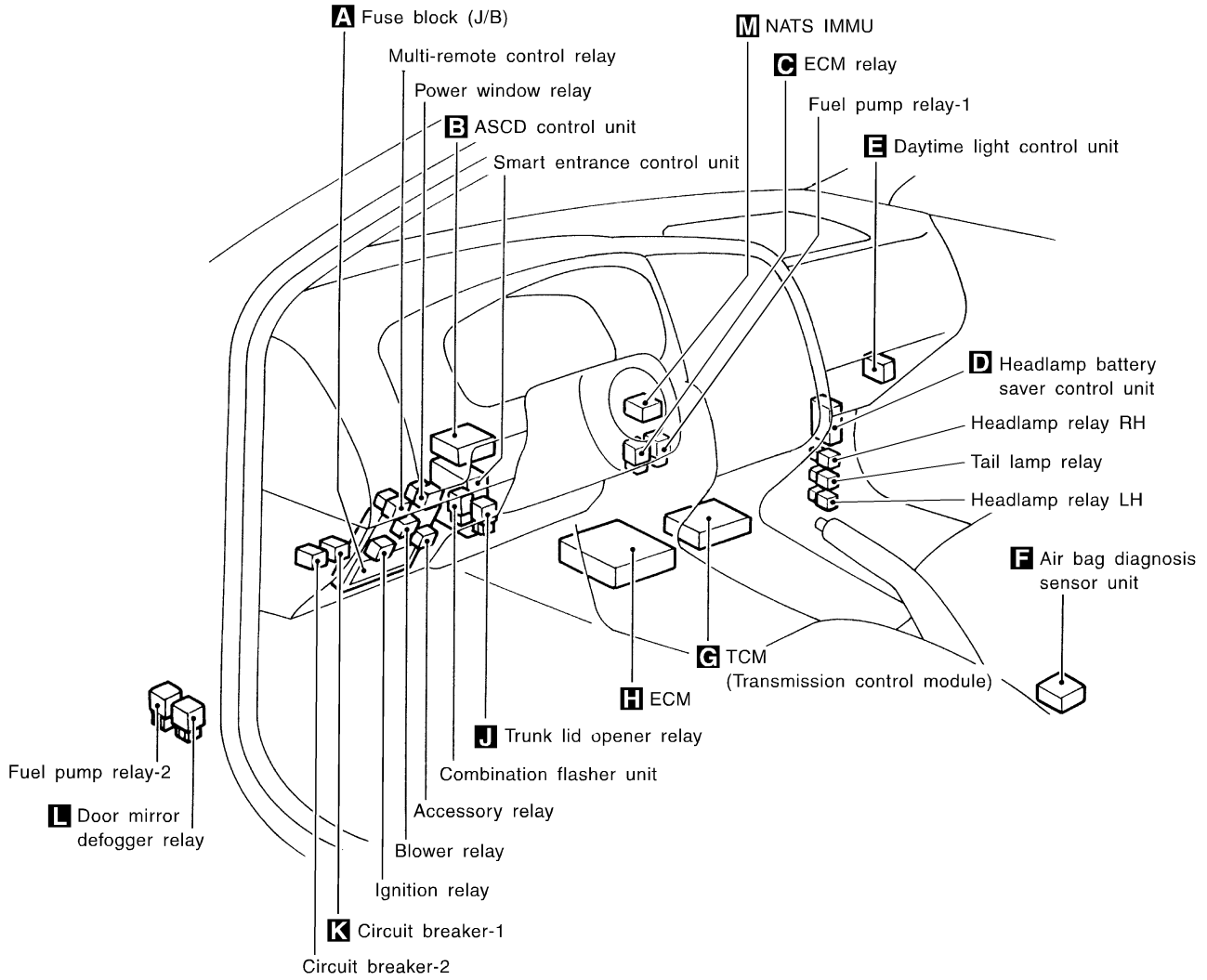
CEL174A

ELECTRICAL UNITS LOCATION

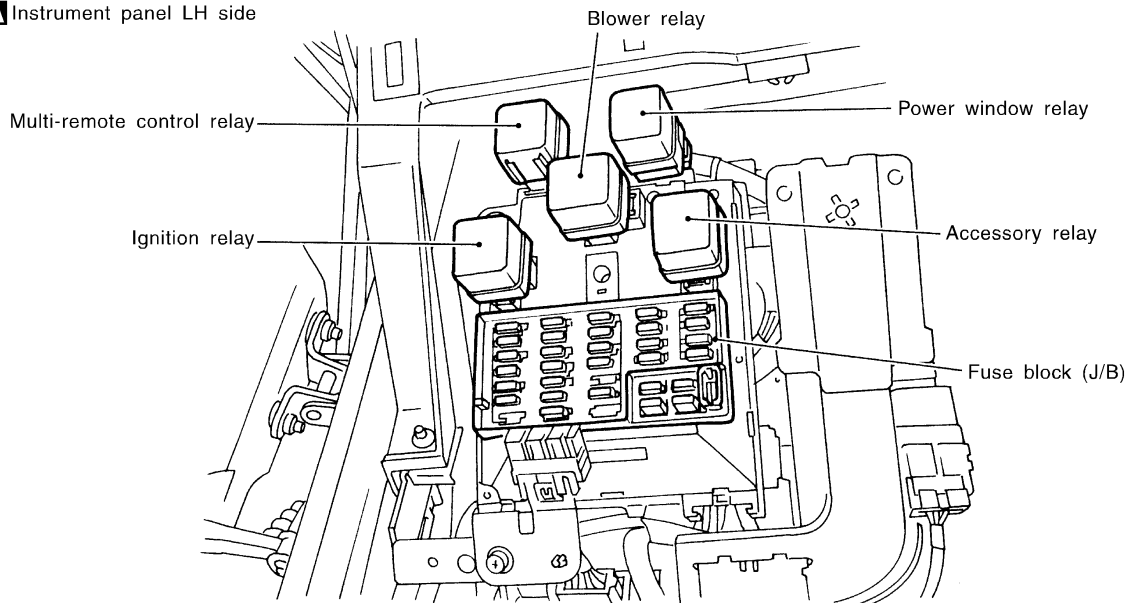
Passenger Compartment

Passenger Compartment

NCEL0130



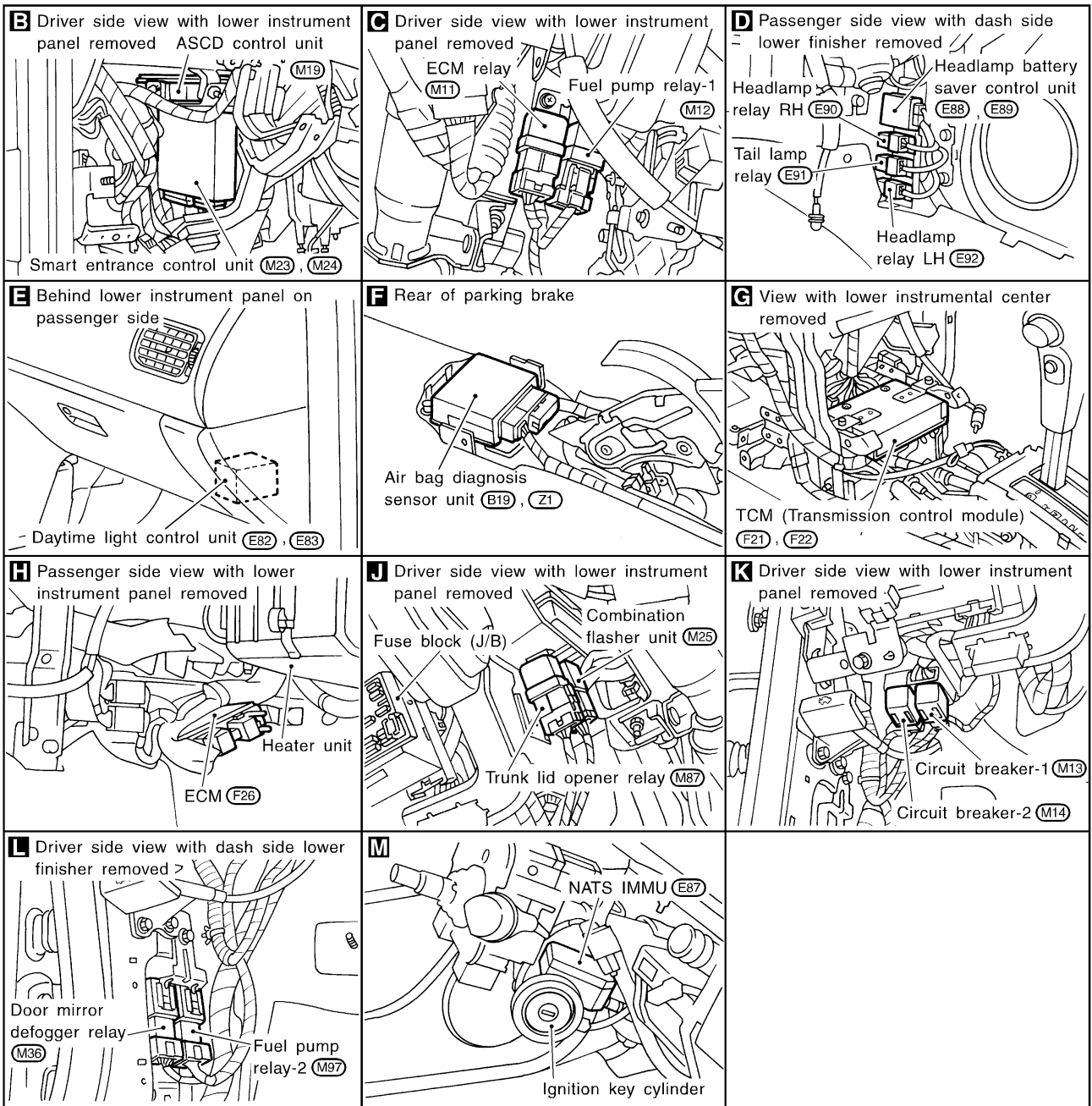
A Instrument panel LH side



CEL175A

ELECTRICAL UNITS LOCATION

Passenger Compartment (Cont'd)



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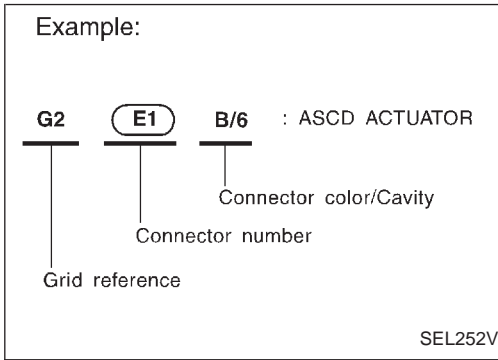
EL

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CEL176A

HARNESS LAYOUT

How to Read Harness Layout



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

1. Find the desired connector number on the connector list.
2. Find the grid reference.
3. On the drawing, find the crossing of the grid reference letter column and number row.
4. Find the connector number in the crossing zone.
5. Follow the line (if used) to the connector.

CONNECTOR SYMBOL

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

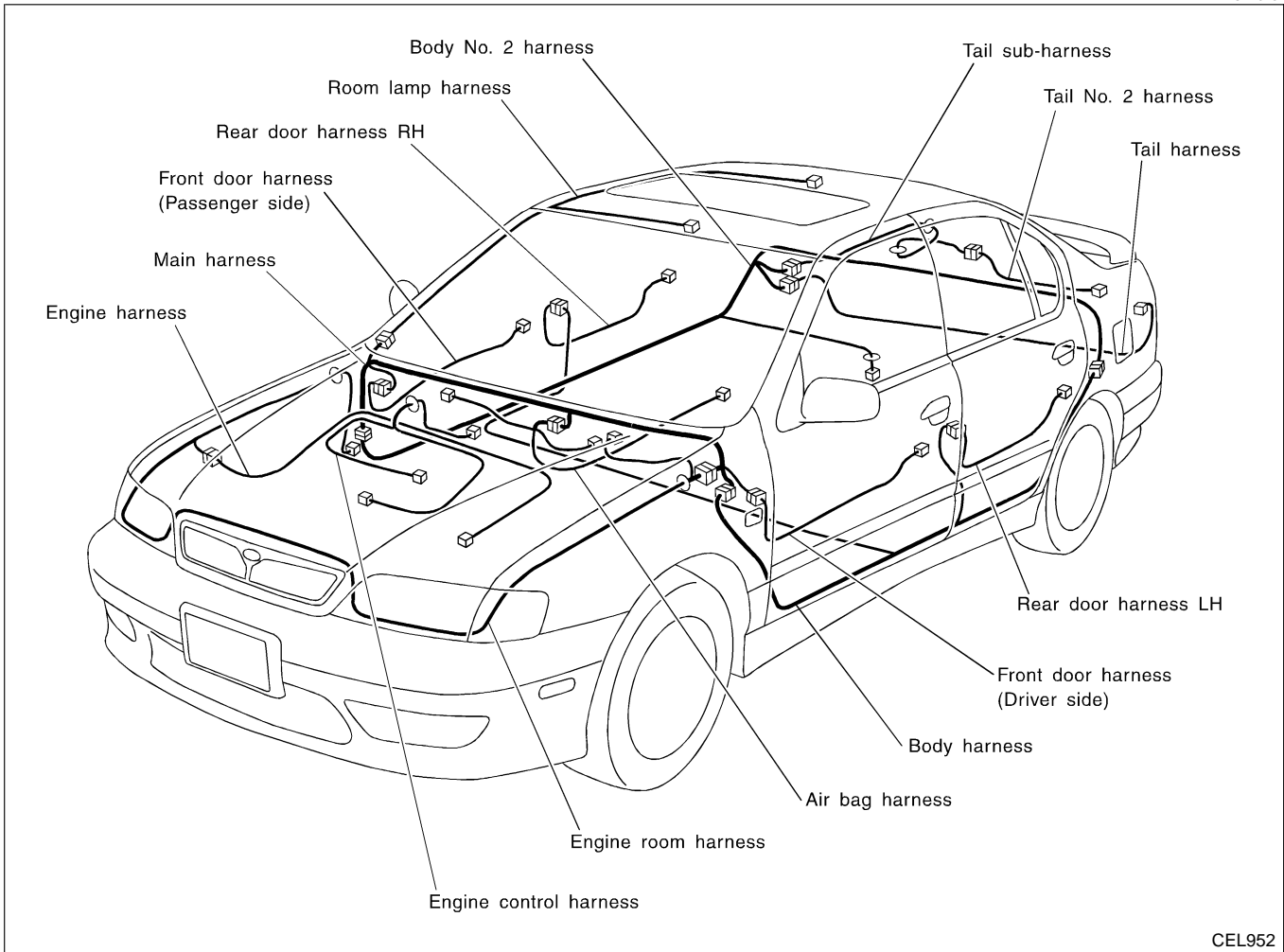
Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
<ul style="list-style-type: none"> ● Cavity: Less than 4 ● Relay connector 				
<ul style="list-style-type: none"> ● Cavity: From 5 to 8 				
<ul style="list-style-type: none"> ● Cavity: More than 9 	—	—		
<ul style="list-style-type: none"> ● Ground terminal etc. 	—			

HARNESS LAYOUT

Outline

Outline

NCEL0132



CEL952

NOTE:

For detailed ground distribution information, refer to "Ground Distribution", "GROUND", EL-18.

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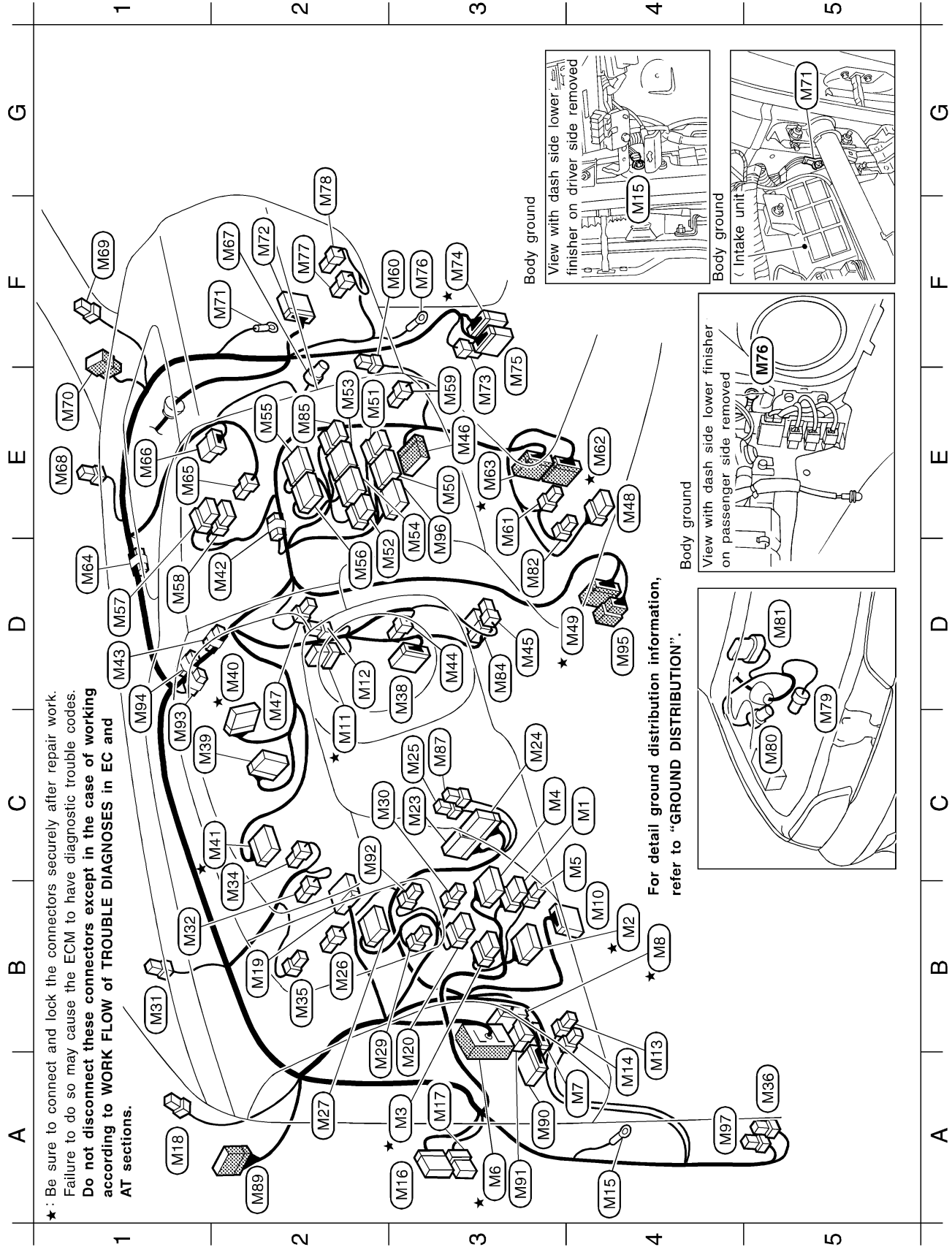
IDX

HARNESS LAYOUT

Main Harness

Main Harness

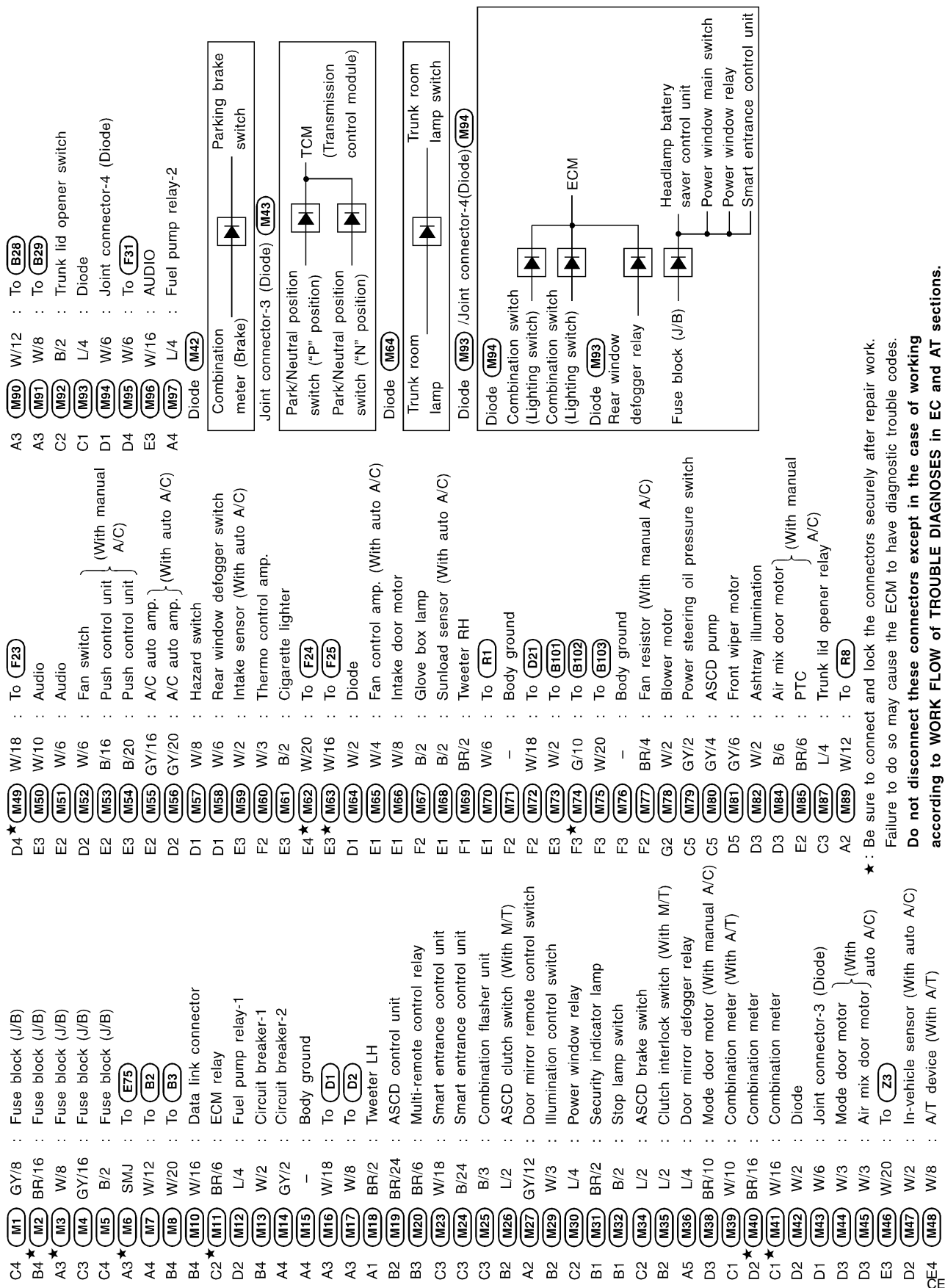
NCEL0133



CEL177A

HARNESS LAYOUT

Main Harness (Cont'd)



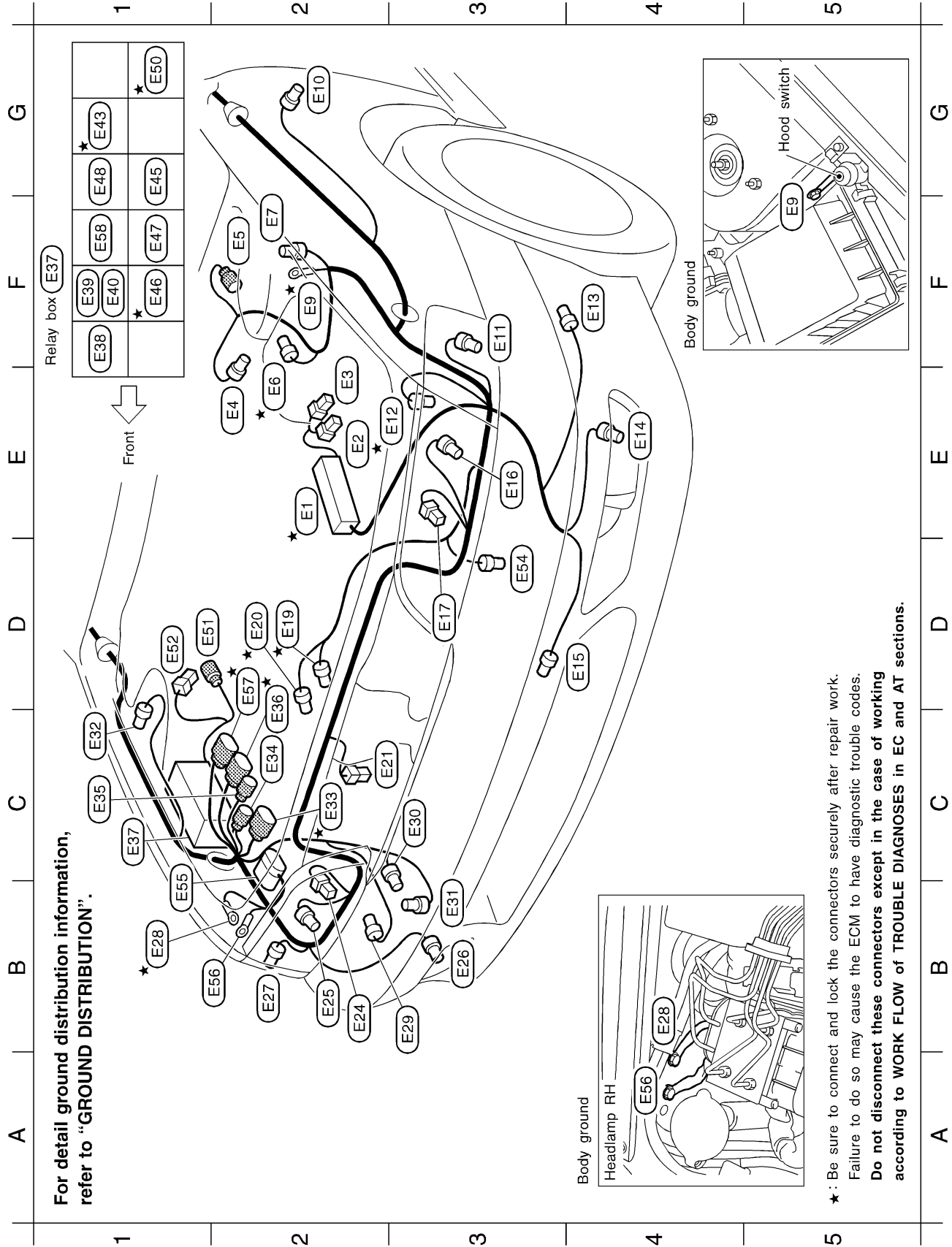
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HARNESS LAYOUT

Engine Room Harness

Engine Room Harness

NCEL0134



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

★: 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.

CEL179A

HARNES LAYOUT

Engine Room Harness (Cont'd)

E1	–	Fuse and Fusible link box
E2	B/1	Battery (+)
E3	B/1	Battery (+)
E4	GY/2	Brake fluid level switch
E5	BR/2	Front wheel sensor LH
E6	GY/2	Dropping resistor (With A/T)
E7	GY/2	Hood switch
E9	–	Body ground
E10	BR/2	Side turn signal lamp LH
E11	BR/2	Front turn signal lamp LH
E12	GY/2	Intake air temperature sensor
E13	BR/2	Front side marker lamp LH
E14	GY/2	Front fog lamp LH
E15	B/2	Ambient sensor (With auto A/C)
E16	GY/2	Parking lamp LH
E17	B/3	Headlamp LH
E19	GY/4	Cooling fan motor-1
E20	GY/4	Cooling fan motor-2
E21	B/1	Horn high
E24	B/3	Headlamp RH
E25	GY/2	Parking lamp RH
E26	GY/2	Front fog lamp RH

B2	BR/2	Front turn signal lamp RH
B1	–	Body ground
B3	BR/2	Front side marker lamp RH
C3	GY/2	Front washer motor
B3	BR/2	Washer level switch
C1	BR/2	Side turn signal lamp RH
C2	GY/9	To E101
C2	GY/1	To E102
C1	GY/1	To E103
C2	GY/8	To E104
F1	–	Relay box
F1	L/4	Air conditioner relay
F1	GY/6	Park/Neutral position relay (With A/T)
F1	L/4	Park/Neutral position relay (With M/T)
G1	BR/6	Cooling fan relay-2
G1	L/4	Front fog lamp relay
F1	BR/6	Cooling fan relay-3
F1	BR/6	Horn relay
G1	BR/6	Vehicle security lamp relay
G1	BR/6	Cooling fan relay-1
D1	GY/2	Front wheel sensor RH
D1	B/1	Horn low
D3	B/3	Refrigerant pressure sensor
B1	SMJ	ABS actuator and electric unit
B2	–	Body ground
D2	GY/6	To E130
F1	BR/6	Rear defogger relay

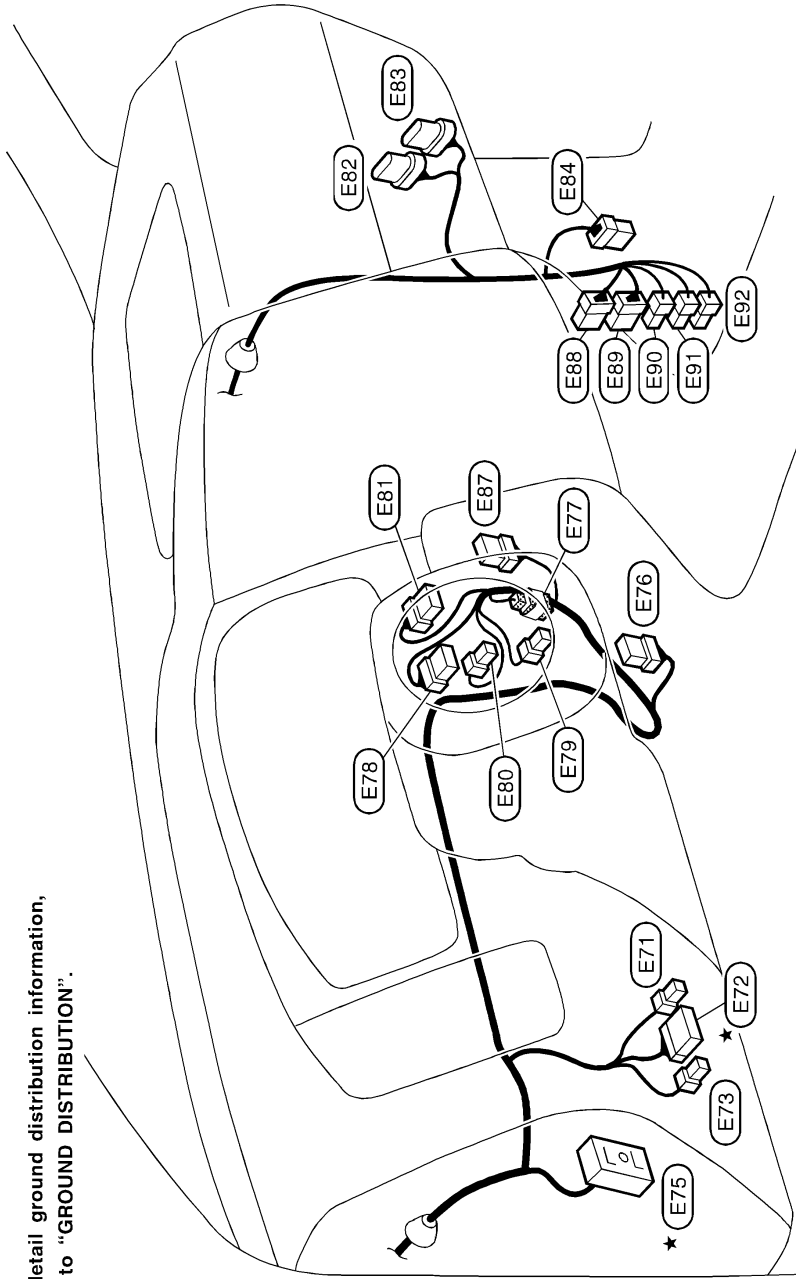
★ : Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

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CEL267A

HARNESS LAYOUT

Engine Room Harness (Cont'd)



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

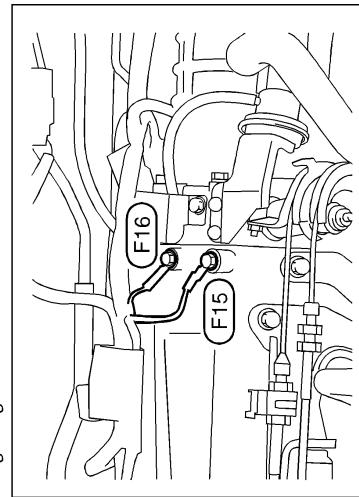
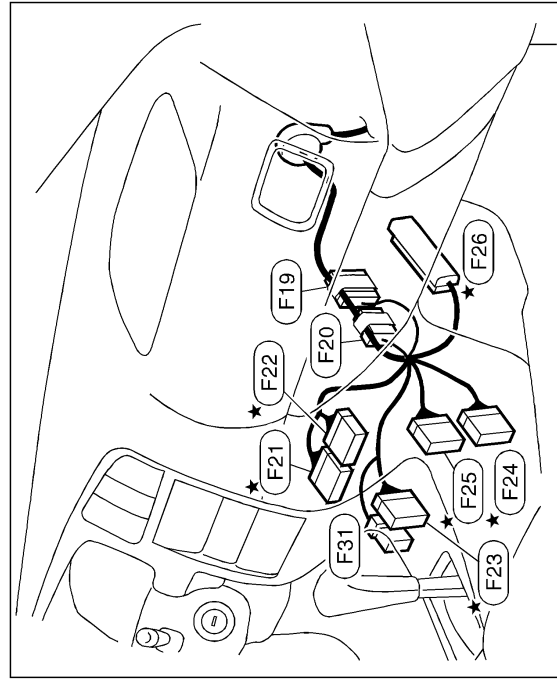
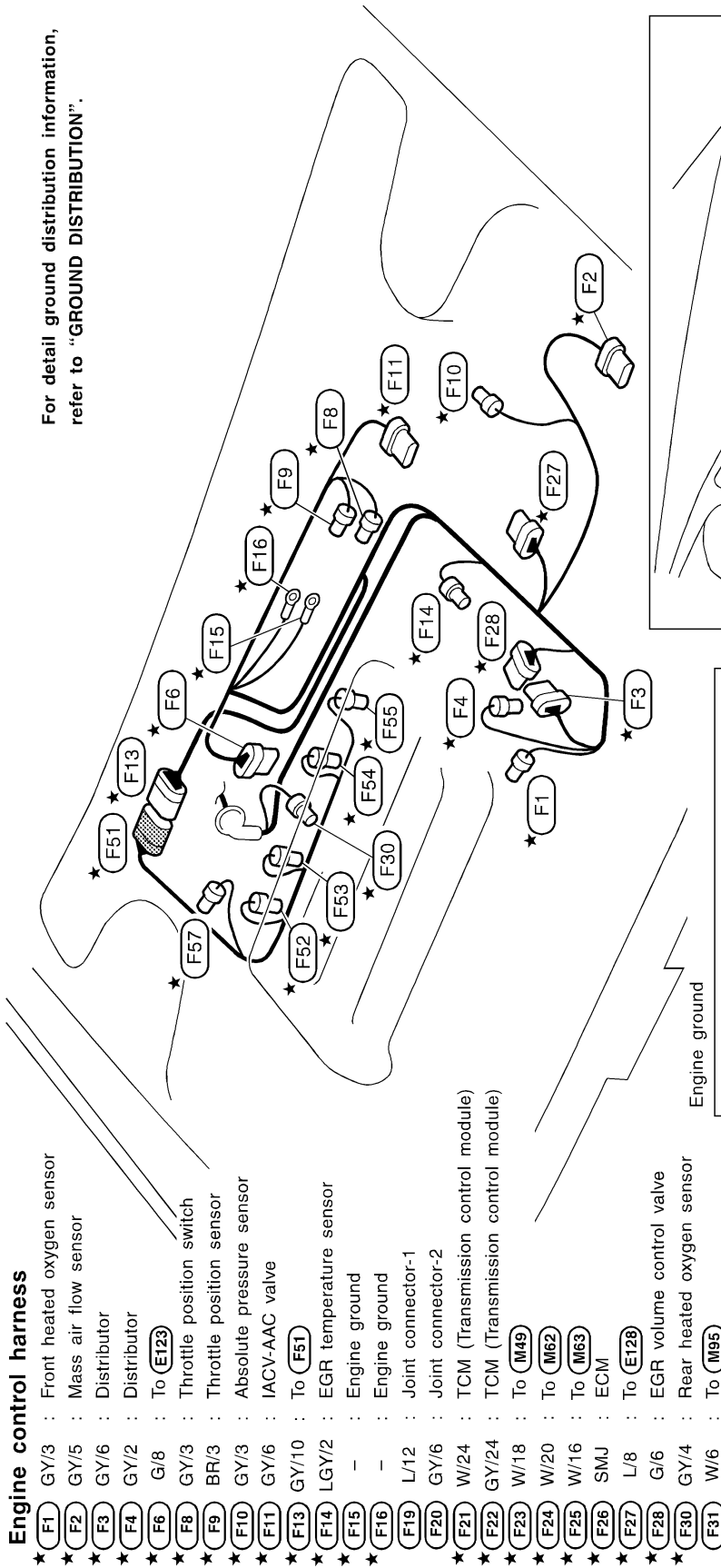
- ★ E71 : Fuse block (J/B)
- E72 : Fuse block (J/B)
- E73 : Fuse block (J/B)
- ★ E75 : To M6
- E76 : Ignition switch
- E77 : Key switch
- E78 : Combination switch (Lighting switch)
- E79 : Combination switch (Lighting switch)
- E80 : Combination switch (Front fog lamp switch)
- E81 : Combination switch (Front wiper switch)
- E82 : Daytime light control unit (For Canada)
- E83 : Daytime light control unit (For Canada)
- E84 : To (B104)
- E87 : NATS IMMU
- E88 : Headlamp battery saver control unit
- W/4 : Fuse block (J/B)
- W/16 : Fuse block (J/B)
- B/2 : Fuse block (J/B)
- SMJ : To M6
- W/6 : Ignition switch
- BR/2 : Key switch
- BR/8 : Combination switch (Lighting switch)
- BR/4 : Combination switch (Lighting switch)
- W/3 : Combination switch (Front fog lamp switch)
- GY/8 : Combination switch (Front wiper switch)
- GY/6 : Daytime light control unit (For Canada)
- GY/8 : Daytime light control unit (For Canada)
- W/8 : To (B104)
- W/8 : NATS IMMU
- W/6 : Headlamp battery saver control unit

- E89 : Headlamp battery saver control unit
- E90 : Headlamp relay RH
- E91 : Tail lamp relay
- E92 : Headlamp relay LH
- W/8 : Headlamp battery saver control unit
- L/4 : Headlamp relay RH
- L/4 : Tail lamp relay
- L/4 : Headlamp relay LH

★ : 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.

Engine Control Harness

For detail ground distribution information, refer to "GROUND DISTRIBUTION".



Engine control sub-harness

- ★ F51 GY/10 : To (F13)
- ★ F52 GY/2 : Injector No. 1
- ★ F53 GY/2 : Injector No. 2
- ★ F54 GY/2 : Injector No. 3
- ★ F55 GY/2 : Injector No. 4
- ★ F57 L/2 : EVAP canister purge volume control solenoid valve

★ : 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.

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HARNESS LAYOUT

Body Harness

Body harness

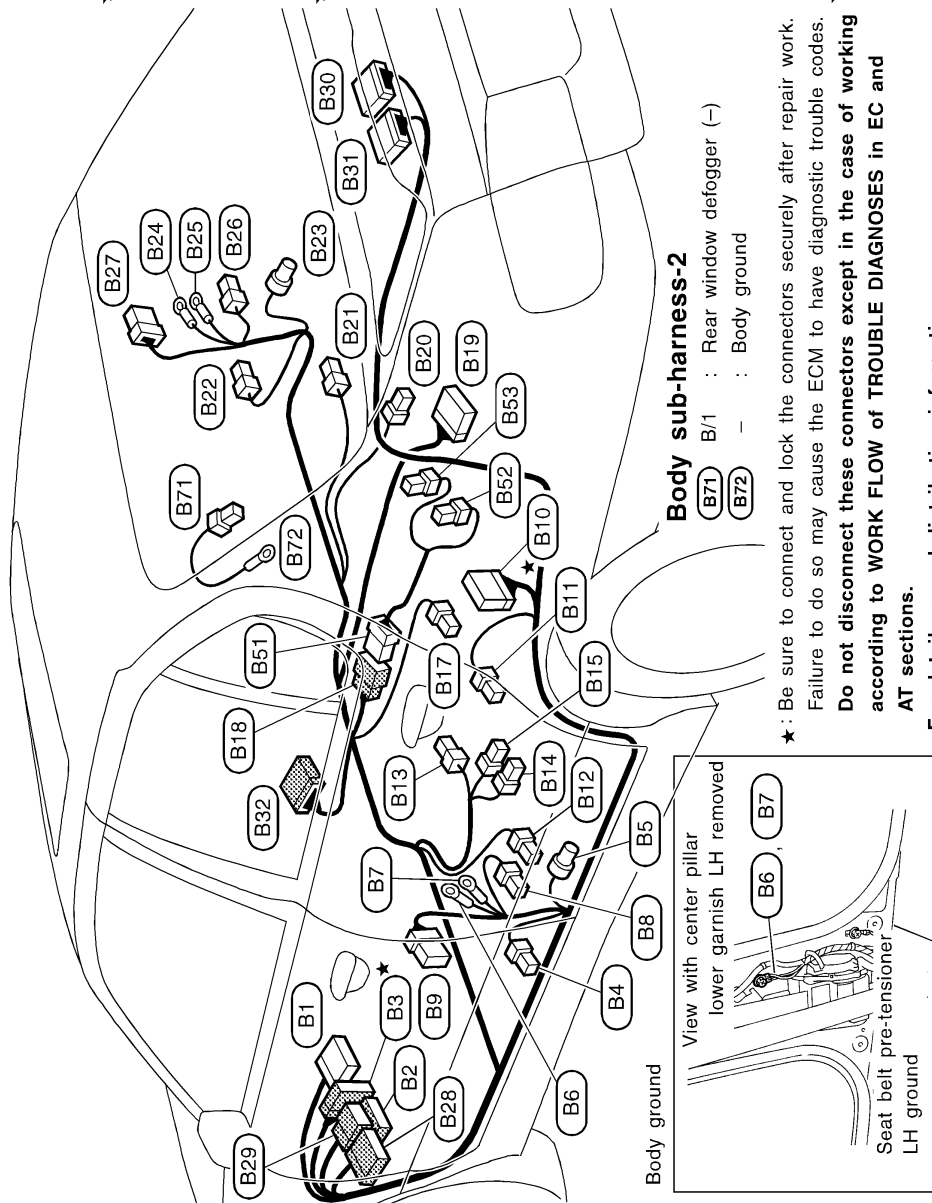
- B1 W/12 : Fuse block (J/B)
- B2 W/12 : To M7
- B3 W/20 : To M8
- B4 B/3 : Front door switch (Driver side)
- B5 OR/2 : Satellite sensor LH
- B6 - : Body ground
- B7 - : Body ground
- B8 W/4 : Seat belt pre-tensioner LH
- B9 W/8 : To D41
- B10 G/12 : To B120
- B11 BR/1 : Rear door switch LH
- B12 Y/2 : Side air bag module LH
- B13 W/3 : Seat belt buckle switch (Driver side)
- B14 W/2 : Power seat switch (Driver side)
- B15 GY/3 : Via sub-harness
- B17 B/1 : Parking brake switch
- B18 W/8 : To B51
- B19 Y/10 : Air bag diagnosis sensor unit
- B20 GY/3 : Heated seat (Passenger side)
- B21 Y/2 : Via sub-harness
- B22 Y/2 : Side air bag module RH
- B23 BR/1 : Front door switch (Passenger side)
- B24 Y/2 : Satellite sensor RH
- B25 - : Body ground
- B26 - : Body ground
- B27 W/4 : Seat belt pre-tensioner RH
- B28 W/8 : To D61
- B29 W/12 : To M90
- B30 W/8 : To M91
- B31 W/22 : IVCS unit
- B32 W/16 : IVCS unit
- B33 W/12 : Handset

Body sub-harness-1

- B51 W/8 : To B18
- B52 L/4 : Heated seat switch LH
- B53 W/4 : Heated seat switch RH

Body sub-harness-2

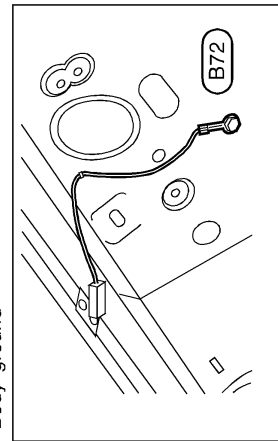
- B71 B/1 : Rear window defogger (-)
- B72 - : Body ground



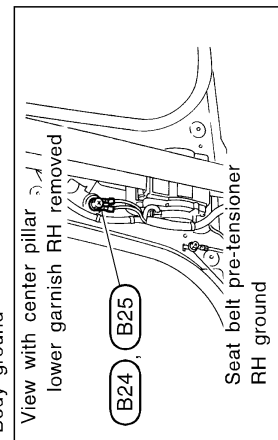
★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

For detail ground distribution information, refer to "GROUND DISTRIBUTION".

Body ground



Body ground



HARNES LAYOUT

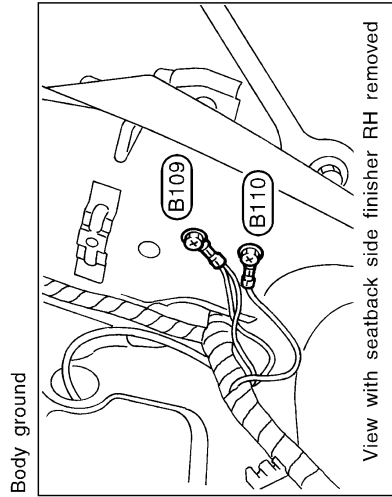
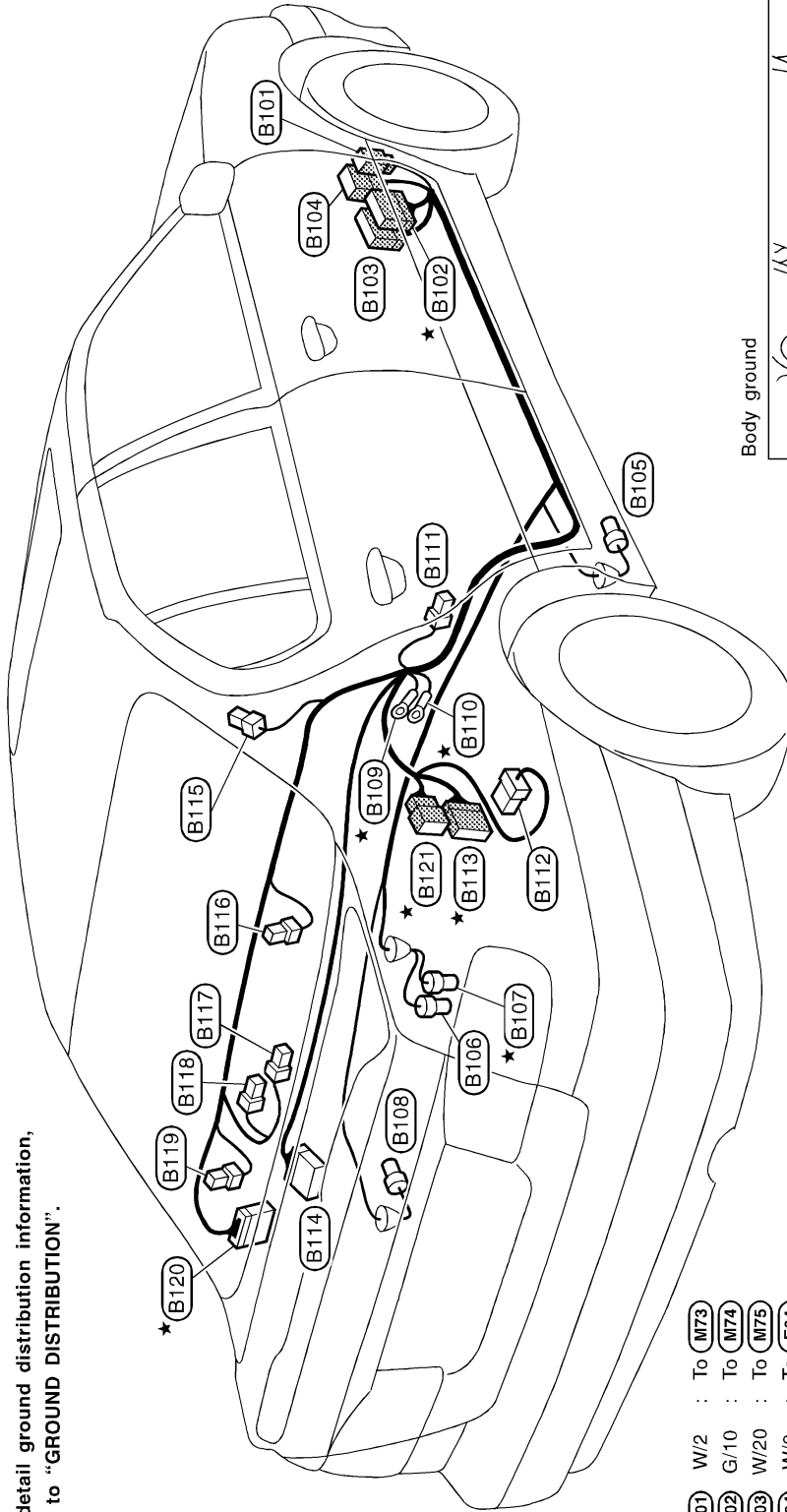
Body No. 2 Harness

Body No. 2 Harness

NCEL0137

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For detail ground distribution information, refer to "GROUND DISTRIBUTION".



- ★ B101 W/2 : To M73
- B102 G/10 : To M74
- B103 W/20 : To M75
- B104 W/8 : To E84
- B105 GY/2 : Rear wheel sensor RH
- B106 GY/2 : Fuel pump
- ★ B107 GY/4 : Fuel level sensor unit
- B108 BR/2 : Rear wheel sensor LH
- ★ B109 - : Body ground
- ★ B110 - : Body ground
- B111 BR/1 : Rear door switch RH
- B112 W/6 : Power antenna
- ★ B113 W/18 : To T1
- B114 GY/26 : BOSE speaker amp.
- B115 B/1 : Rear window defogger (+)
- B116 BR/2 : Rear speaker RH
- B117 W/2 : Trunk room lamp
- B118 W/2 : High-mounted stop lamp (Without rear spoiler)

- B119 BR/2 : Rear speaker LH
- ★ B120 G/12 : To B10
- B121 W/6 : To T31

★ : 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.

CEL184A

HARNESS LAYOUT

Tail & Tail No. 2 Harness

Tail & Tail No. 2 Harness

NCEL0138

Tail harness

- ★ T1 W/18 : To (BT13)
- T3 BR/2 : Rear side marker lamp RH
- T4 BR/2 : Rear combination lamp RH (Fender)
- T5 W/3 : Rear combination lamp RH (Fender)
- T6 - : Body ground
- T7 - : Body ground
- T8 W/3 : Rear combination lamp LH (Fender)
- T9 BR/2 : Rear combination lamp LH (Fender)
- T10 BR/2 : Rear side marker lamp LH
- ★ T20 GY/8 : To (T19)
- T21 W/2 : Trunk lid opener actuator

Tail sub-harness

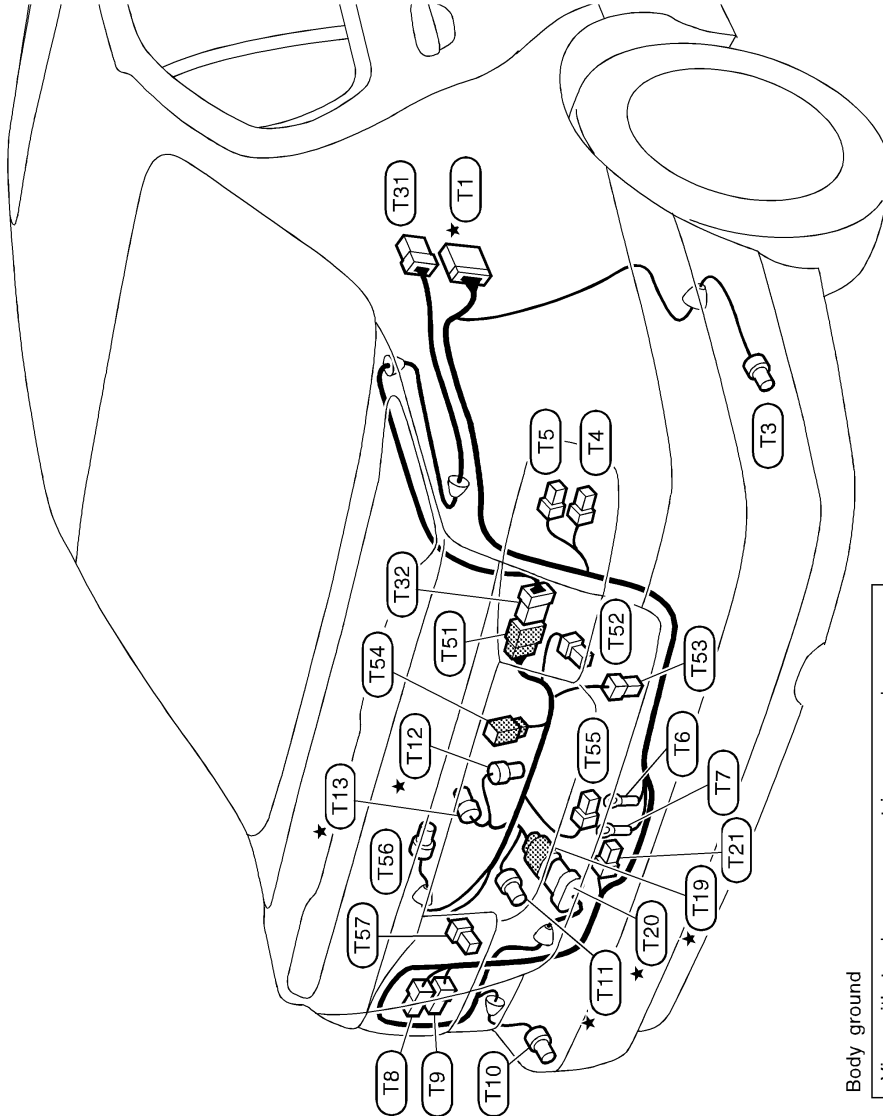
- ★ T11 B/2 : EVAP canister vent control valve
- ★ T12 G/2 : Vacuum cut valve bypass valve
- ★ T13 GY/3 : EVAP control system pressure sensor
- ★ T19 GY/8 : To (T20)

Tail No. 2 sub-harness

- T31 W/6 : To (BT12)
- T32 W/6 : To (T51)

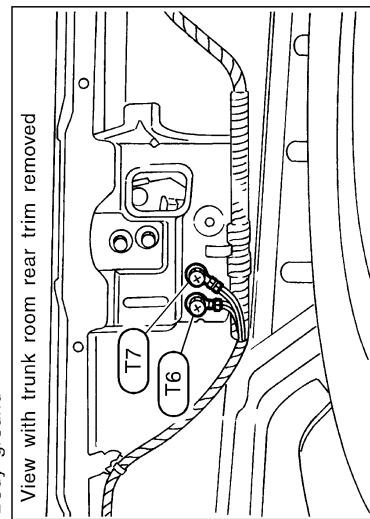
Tail No. 2 harness

- T51 W/6 : To (T32)
- T52 W/4 : Rear combination lamp RH (Trunk lid)
- T53 W/2 : Trunk lid key cylinder switch (Unlock switch)
- T54 BR/2 : High-mounted stop lamp (With rear spoiler)
- T55 B/2 : Trunk room lamp switch
- T56 BR/2 : License lamp
- T57 W/4 : Rear combination lamp LH (Trunk lid)



Body ground

View with trunk room rear trim removed

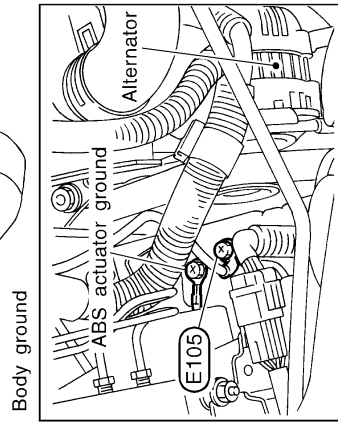
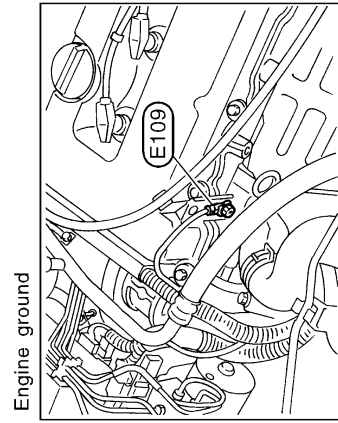
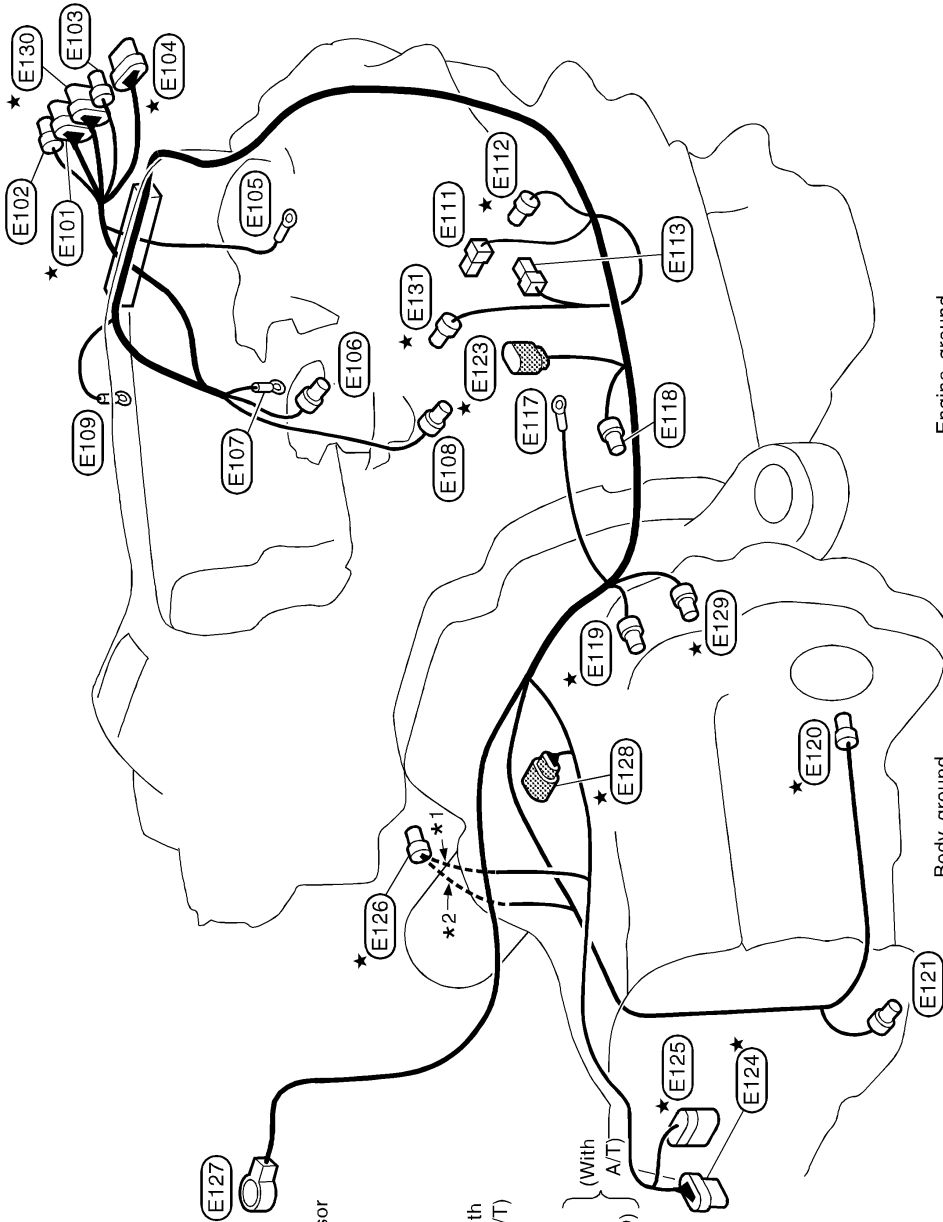


For detail ground distribution information, refer to "GROUND DISTRIBUTION".

- ★ : 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.

Engine Harness

NCEL0139



- ★ E101 GY/9 : To E33
- E102 GY/1 : To E34
- E103 GY/1 : To E35
- ★ E104 GY/8 : To E36
- E105 - : Body ground
- E106 GY/2 : Alternator
- E107 - : Alternator
- E108 B/1 : Compressor
- E109 - : Engine ground
- E111 B/1 : Thermal transmitter
- ★ E112 GY/2 : Engine coolant temperature sensor
- E113 B/1 : Oil pressure switch
- E117 - : Starter motor
- E118 GY/1 : Starter motor
- ★ E119 GY/2 : Vehicle speed sensor
- ★ E120 B/2 : Park/Neutral position switch } (With M/T)
- E121 B/2 : Back-up lamp switch
- ★ E123 G/8 : To F6
- ★ E124 B/8 : A/T solenoid valve
- ★ E125 B/10 : Park/Neutral position switch
- ★ E126 GY/2 : Crankshaft position sensor (OBD)
- E127 - : Battery (+)
- ★ E128 L/8 : To F27
- ★ E129 BR/3 : Revolution sensor (With A/T)
- ★ E130 GY/6 : To E57
- ★ E131 B/2 : Knock sensor

- ★1: With A/T
- ★2: With M/T

For detail ground distribution information, refer to "GROUND DISTRIBUTION".

★: 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.

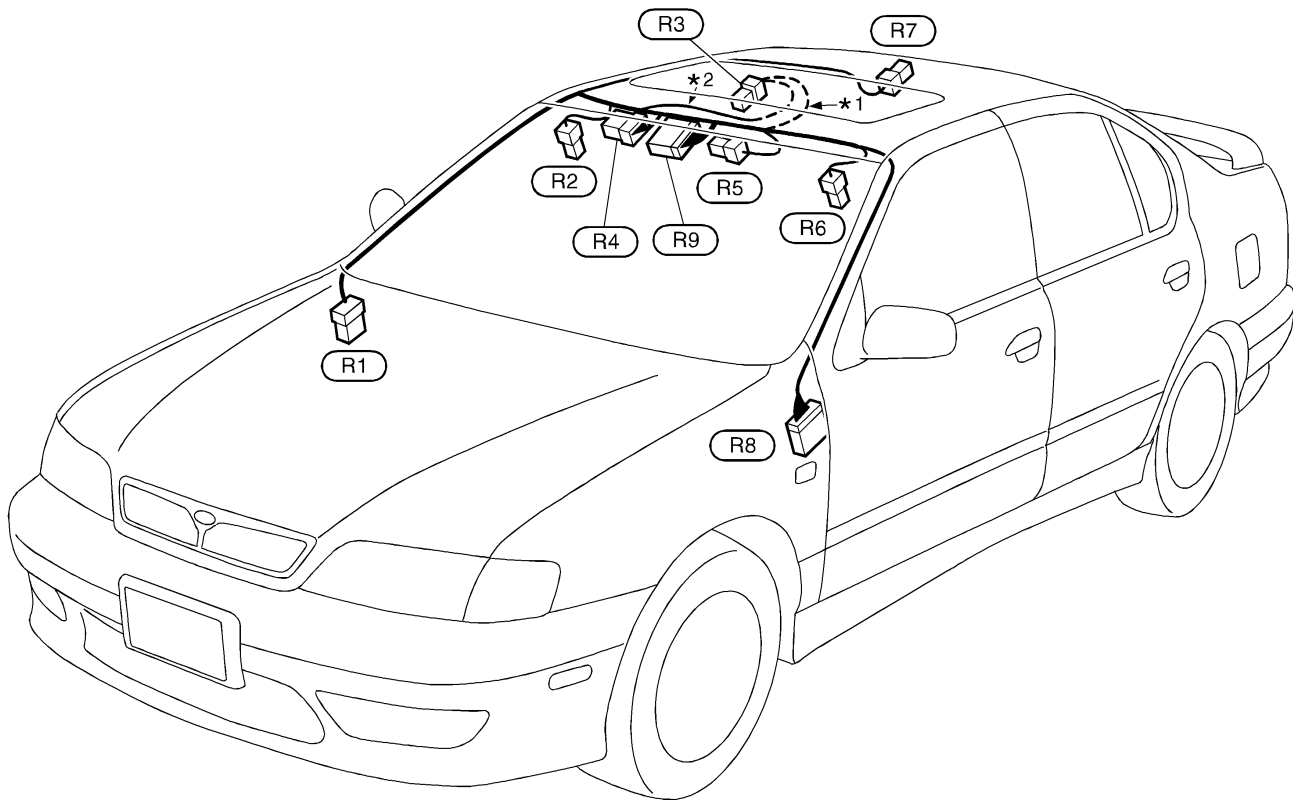
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HARNESS LAYOUT

Room Lamp Harness

Room Lamp Harness

NCEL0140



- R1** W/6 : To **M70**
 - R2** W/2 : Vanity mirror lamp (Passenger side)
 - R3** W/2 : Map lamp
 - R4** L/6 : Sunroof switch (With sunroof)
 - R5** W/2 : Sunroof motor (With sunroof)
 - R6** W/2 : Vanity mirror lamp (Driver side)
 - R7** W/2 : Interior room lamp
 - R8** W/12 : To **M89**
 - R9** W/12 : IVCS switch
- *1 : With sunroof
*2 : Without sunroof

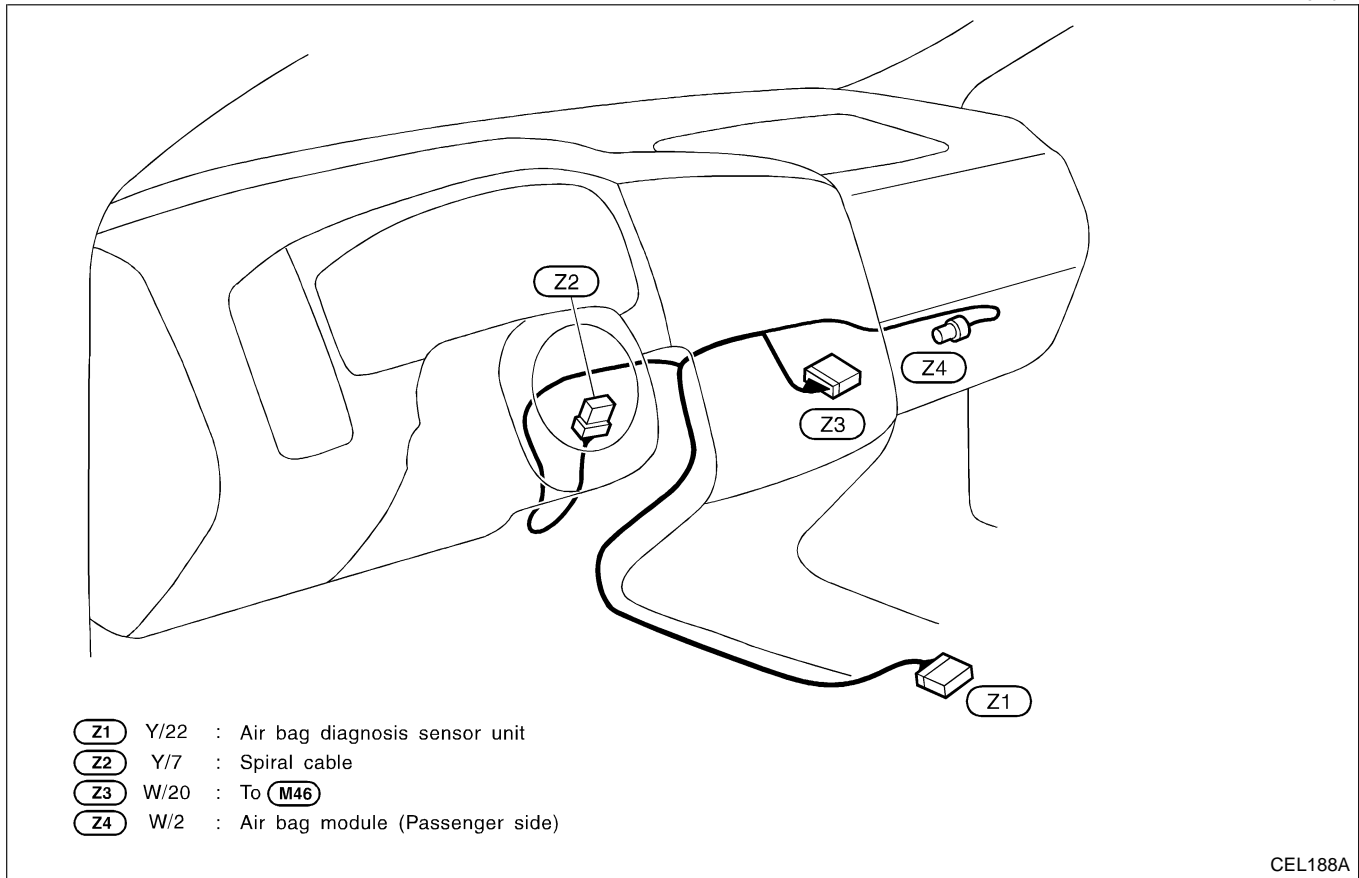
CEL187A

HARNESS LAYOUT

Air Bag Harness

Air Bag Harness

NCEL0141



- Z1** Y/22 : Air bag diagnosis sensor unit
- Z2** Y/7 : Spiral cable
- Z3** W/20 : To **M46**
- Z4** W/2 : Air bag module (Passenger side)

CEL188A

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HARNESS LAYOUT

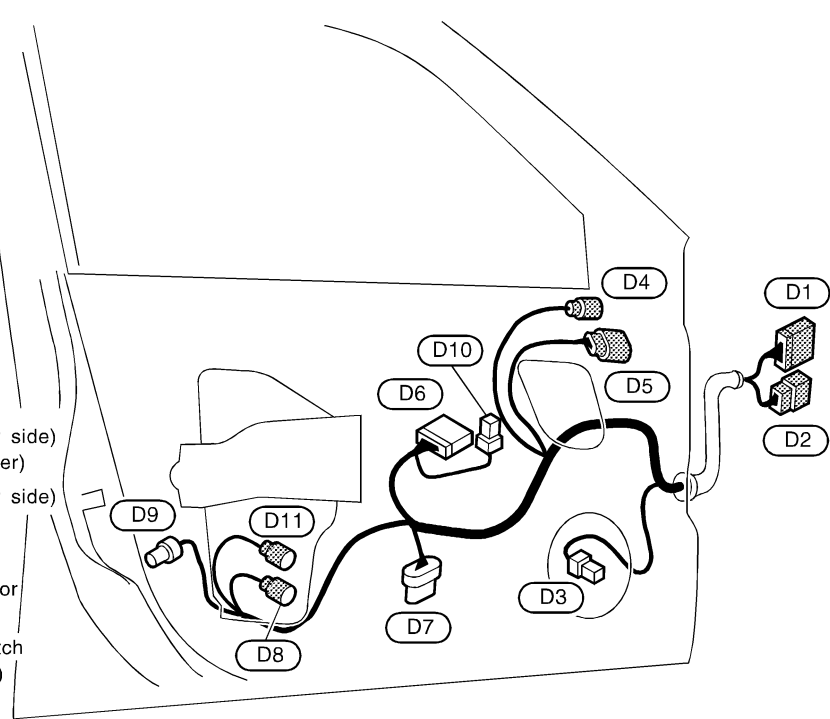
Front Door Harness

Front Door Harness

NCEL0142

LH SIDE

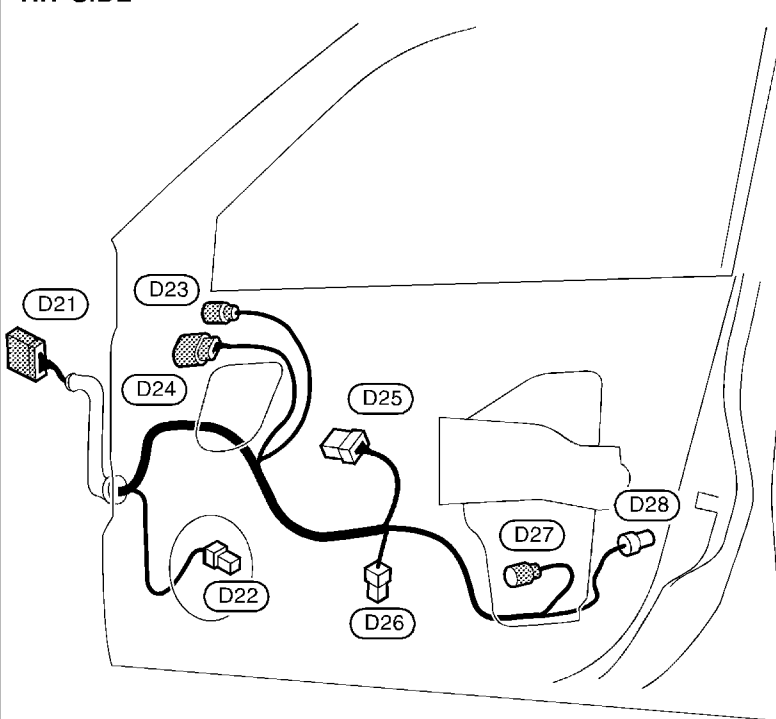
- (D1) W/18 : To (M16)
- (D2) W/8 : To (M17)
- (D3) BR/2 : Front door speaker LH
- (D4) BR/3 : Door mirror actuator (Driver side)
(Without door mirror defogger)
- (D5) GY/5 : Door mirror actuator (Driver side)
(With door mirror defogger)
- (D6) W/16 : Power window main switch
- (D7) GY/6 : Front power window regulator
(Driver side)
- (D8) BR/3 : Front door key cylinder switch
(Driver side) (Without IVCS)
- (D9) GY/4 : Front door lock actuator
(Driver side)
- (D10) W/3 : Power window main switch
- (D11) GY/5 : Front door key cylinder switch
(Driver side) (With IVCS)



CEL189A

RH SIDE

- (D21) W/18 : To (M72)
- (D22) BR/2 : Front door speaker RH
- (D23) BR/3 : Door mirror actuator (Passenger side)
(Without door mirror defogger)
- (D24) GY/5 : Door mirror actuator (Passenger side)
(With door mirror defogger)
- (D25) W/8 : Front power window switch
(Passenger side)
- (D26) B/2 : Front power window regulator
(Passenger side)
- (D27) BR/3 : Front door key cylinder switch
(Passenger side)
- (D28) GY/4 : Front door lock actuator
(Passenger side)



CEL966

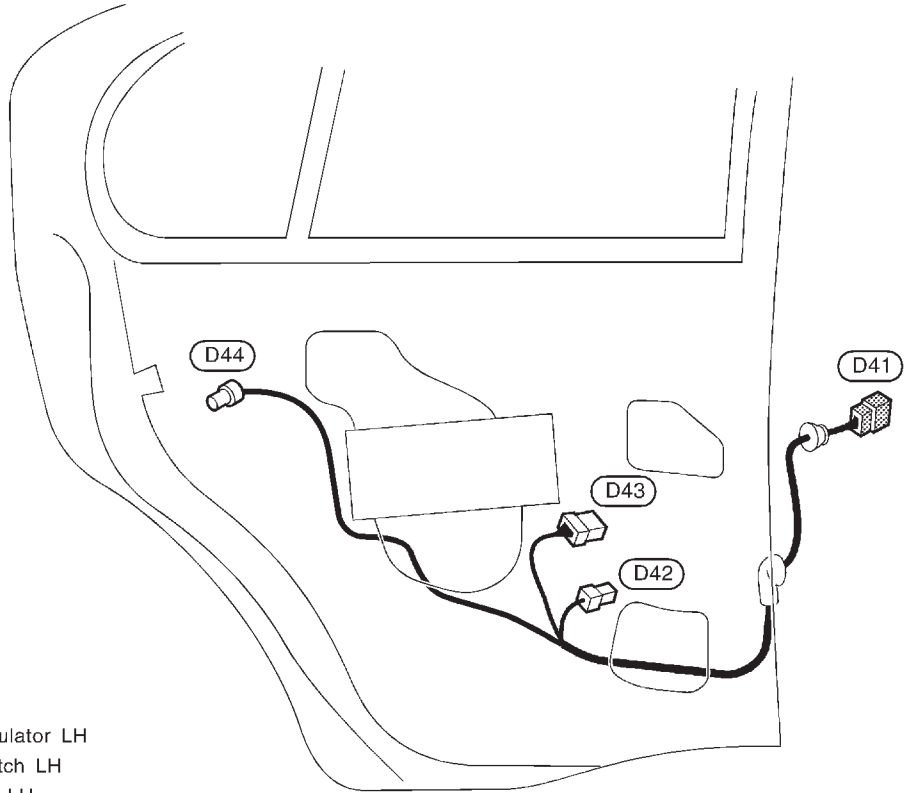
HARNESS LAYOUT

Rear Door Harness

Rear Door Harness

NCEL0143

LH SIDE

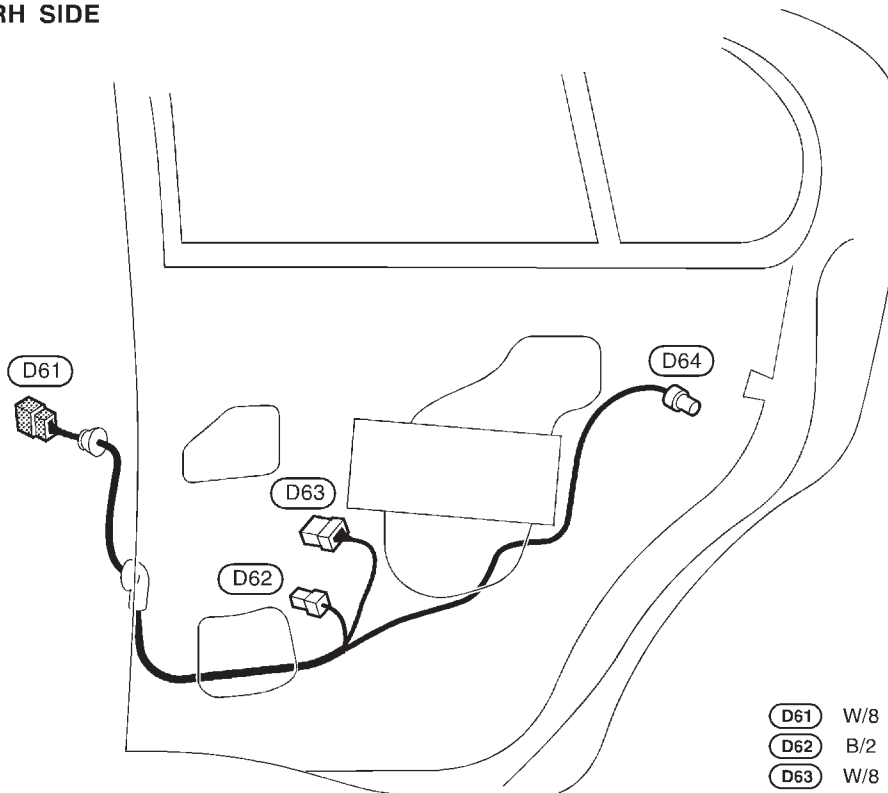


- (D41) W/8 : To (B9)
- (D42) B/2 : Rear power window regulator LH
- (D43) W/8 : Rear power window switch LH
- (D44) GY/4 : Rear door lock actuator LH

CEL967

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RH SIDE



- (D61) W/8 : To (B27)
- (D62) B/2 : Rear power window regulator RH
- (D63) W/8 : Rear power window switch RH
- (D64) GY/4 : Rear door lock actuator RH

CEL968

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BULB SPECIFICATIONS*Headlamp***Headlamp**

NCEL0144S03

Item	Wattage (W)
High/Low	60/55 (HB2)

Exterior Lamp

NCEL0144S01

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

NCEL0144S02

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
A/C, A	HA	Auto Air Conditioner
A/C, M	HA	Manual Air Conditioner
AAC/V	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
AP/SEN	EC	Absolute Pressure Sensor
ASCD	EL	Automatic Speed Control Device
AT/C	EC	A/T Control
AT/IND	EL	A/T Indicator Lamp
ATDIAG	EC	A/T Diagnosis Communication Line
AUDIO	EL	Audio
BA/FTS	AT	A/T Fluid Temperature Sensor and TCM Power Supply
BACK/L	EL	Back-up Lamp
BYPS/V	EC	Vacuum Cut Valve Bypass Valve
CHARGE	SC	Charging System
CHIME	EL	Warning Chime
CIGAR	EL	Cigarette Lighter
CKPS	EC	Crankshaft Position Sensor (OBD)
CMPS	EC	Camshaft Position Sensor
COOL/F	EC	Cooling Fan Control
D/LOCK	EL	Power Door Lock
DEF	EL	Rear Window Defogger
DTRL	EL	Headlamp — With Daytime Light System —
ECTS	EC	Engine Coolant Temperature Sensor
EGR/TS	EC	EGR Temperature Sensor
EGRC1	EC	EGR Function
EGVC/V	EC	EGR Volume Control Valve
ENGSS	AT	Engine Speed Signal
F/FOG	EL	Front Fog Lamp

Code	Section	Wiring Diagram Name	
F/PUMP	EC	Fuel Pump	GI
FLS1	EC	Fuel Level Sensor Function	
FLS2	EC	Fuel Level Sensor Circuit	MA
FLS3	EC	Fuel Level Sensor Circuit (Ground Signal)	EM
HO2S1H	EC	Heated Oxygen Sensor 1 Heater	
HO2S1	EC	Heated Oxygen Sensor 1	LC
FTS	AT	A/T Fluid Temperature Sensor	
FUEL	EC	Fuel Injection System Function	EC
H/LAMP	EL	Headlamp	
HORN	EL	Horn	FE
HSEAT	EL	Heated Seat	
IATS	EC	Intake Air Temperature Sensor	CL
IGN/SG	EC	Ignition Signal	
ILL	EL	Illumination	MT
INJECT	EC	Injector	AT
INT/L	EL	Vanity Mirror and Trunk Room Lamps	
IVCS	EL	Infiniti Communicator (IVCS)	AX
KS	EC	Knock Sensor	
LOAD	EC	Load Signal	SU
LPSV	AT	Line Pressure Solenoid Valve	
MAFS	EC	Mass Air Flow Sensor	BR
MAIN	AT	Main Power Supply and Ground Circuit	ST
MAIN	EC	Main Power Supply and Ground Circuit	RS
METER	EL	Speedometer, Tachometer, Temp., Oil, and Fuel Gauges	BT
MIL/DL	EC	MIL and Data Link Connectors	
MIRROR	EL	Door Mirror	HA
MULTI	EL	Multi-remote Control System	
NATS	EL	Nissan Anti-Theft System	SC
NONDTC	AT	Non-detectable Items	
OVRCSV	AT	Overrun Clutch Solenoid Valve	
P/ANT	EL	Power Antenna	EL
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve	IDX
PNP/SW	AT	Park/Neutral Position Switch	
PNP/SW	EC	Park/Neutral Position Switch	

WIRING DIAGRAM CODES (CELL CODES)

Code	Section	Wiring Diagram Name
POWER	EL	Power Supply Routing
PRE/SE	EC	EVAP Control System Pressure Sensor
PST/SW	EC	Power Steering Oil Pressure Switch
ROOM/L	EL	Interior Room Lamp
RP/SEN	EC	Refrigerant Pressure Sensor
HO2S2H	EC	Heated Oxygen Sensor 2 Heater
HO2S2	EC	Heated Oxygen Sensor 2
S/SIG	EC	Start Signal
SEAT	EL	Power Seat
SHIFT	AT	A/T Shift Lock System
SROOF	EL	Sunroof
SRS	RS	Supplemental Restraint System
SSV/A	AT	Shift Solenoid Valve A
SSV/B	AT	Shift Solenoid Valve B
START	SC	Starting System
STOP/L	EL	Stop lamp
TAIL/L	EL	Parking, License and Tail Lamps
TCCSIG	AT	A/T TCC Signal (Lock up)
TCV	AT	Torque Converter Clutch Solenoid Valve
TFTS	EC	Tank Fuel Temperature Sensor
VEHSEC	EL	Vehicle security System
TLID	EL	Trunk Lid Opener
TP/SW	EC	Throttle Position Switch
TPS	AT	Throttle Position Sensor
TPS	EC	Throttle Position Sensor
TRNSMT	EL	Integrated HOMELINK [™] Transmitter
TURN	EL	Turn Signal and Hazard Warning Lamps
VENT/V	EC	EVAP Canister Vent Control Valve
VSS	EC	Vehicle Speed Sensor
VSSAT	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
VSSMTR	AT	Vehicle Speed Sensor MTR
WARN	EL	Warning Lamps
WINDOW	EL	Power Window
WIPER	EL	Front Wiper and Washer