# ELECTRICAL SYSTEM

# SECTION EL



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

NJEL0001

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER” used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS system composition which is available to NISSAN MODEL N16 is as follows (The composition varies according to the destination and optional equipment.):

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

Information necessary to service the system safely is included in the **RS section** of this Service Manual.

**WARNING:**

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance should be performed by an authorized NISSAN dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the RS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harness connector.**

## Precautions for Trouble Diagnosis

NJEL0635

### CAN SYSTEM

NJEL0635S01

- Do not apply voltage of 7.0V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0V or less.

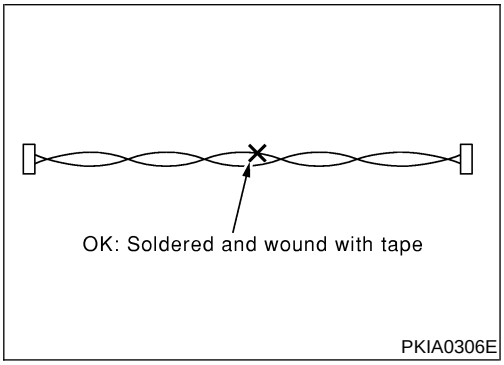
## Precautions for Harness Repair

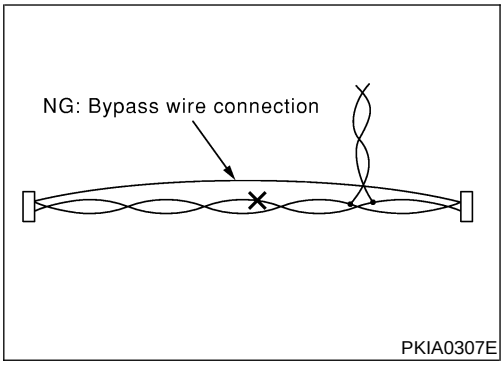
NJEL0636

### CAN SYSTEM

NJEL0636S01

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in)]






- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

## Wiring Diagrams and Trouble Diagnosis

NJEL0002

When you read wiring diagrams, refer to the following:

- Refer to GI-12, "HOW TO READ WIRING DIAGRAMS"
- Refer to EL-12, "POWER SUPPLY ROUTING" for power distribution circuit

When you perform trouble diagnosis, refer to the following:

- Refer to GI-33, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"
- Refer to GI-22, "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT"

Check for any Service bulletins before servicing the vehicle.

# Description

NJEL0003

## HARNESS CONNECTOR (TAB-LOCKING TYPE)

NJEL0003S01

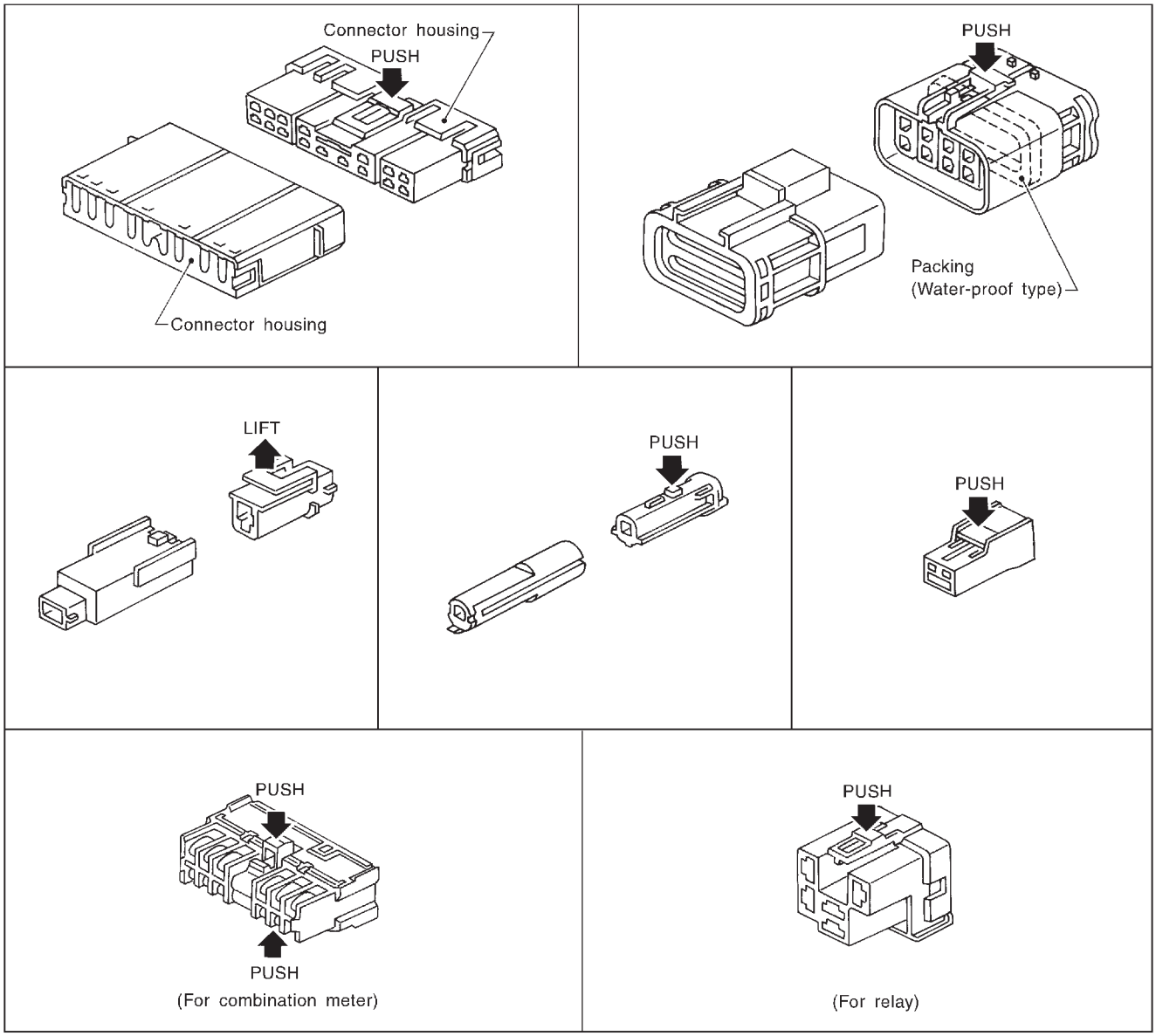
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

**CAUTION:**

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

[Example]




SEL769DA

*Description (Cont'd)*

## HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

=NJEL0003S02

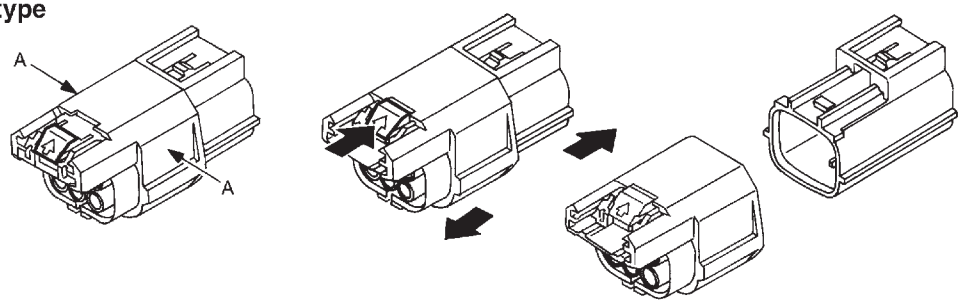
- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.
- The slide-locking type connectors are disconnected by pushing or pulling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

**CAUTION:**

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

[Example]

**Waterproof type**

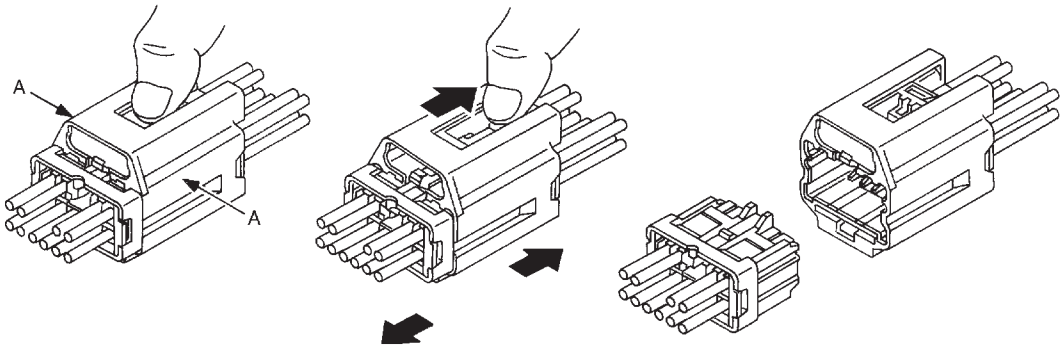



① Firmly grasp shell of connector housing at A.

② Push slider until connector pops or snaps apart.

③ Disconnect harness connector.

**Non-waterproof type**




① Firmly grasp shell of connector housing at A.

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

③ Disconnect harness connector.

SEL769V

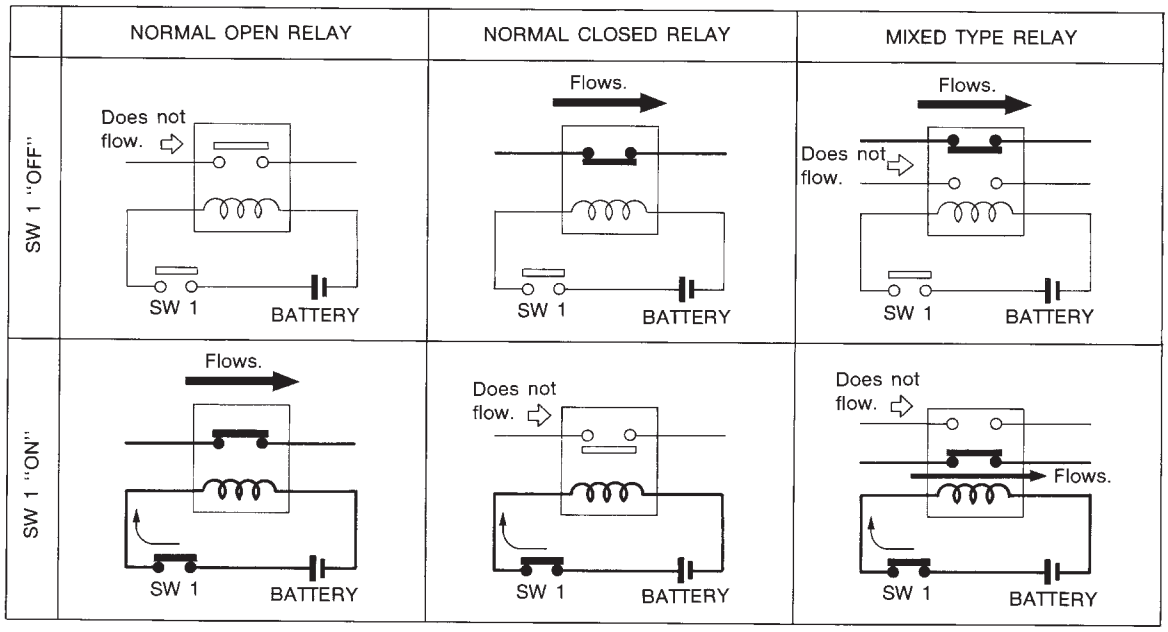
# Description

NJEL0004

## NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

NJEL0004S01

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

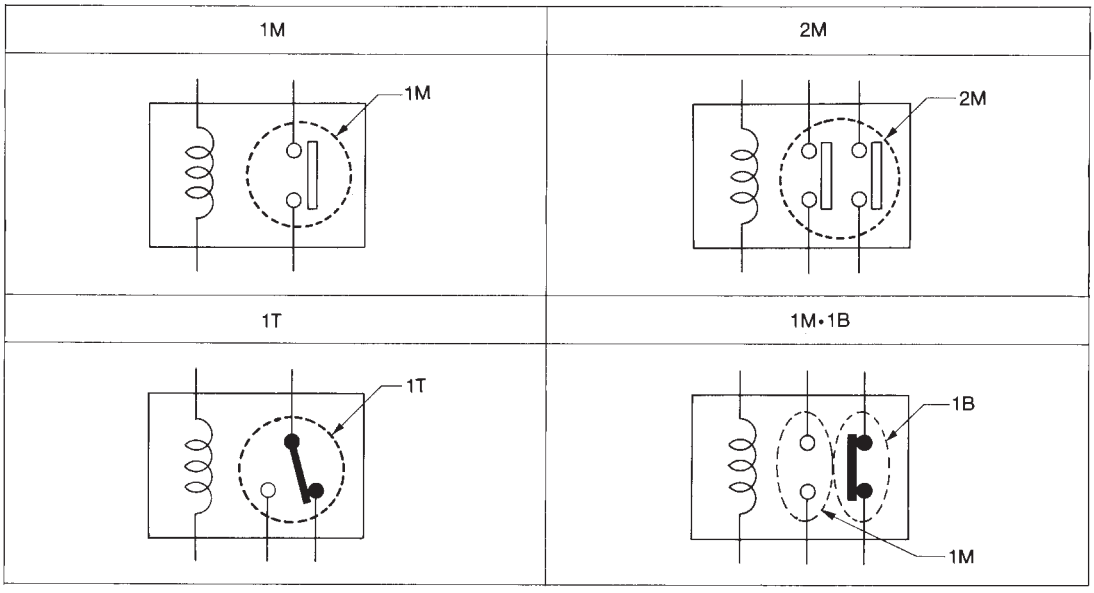



SEL881H

## TYPE OF STANDARDIZED RELAYS

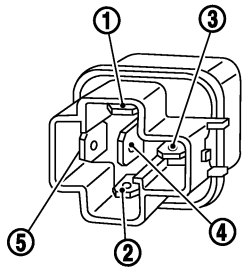
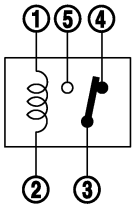
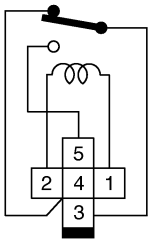
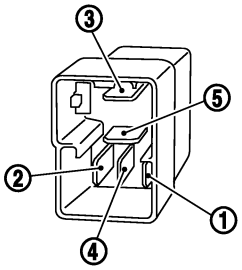
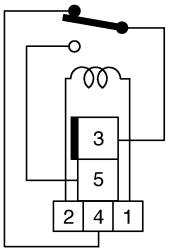
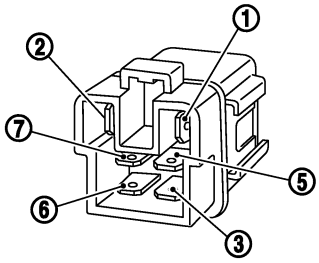
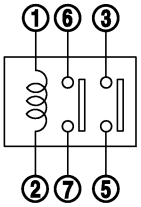
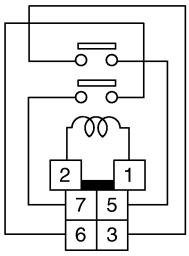
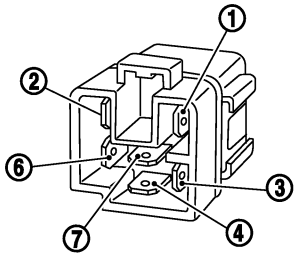
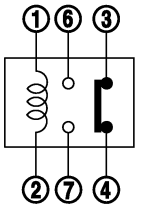
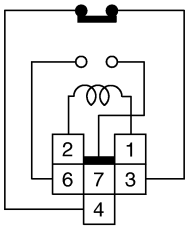
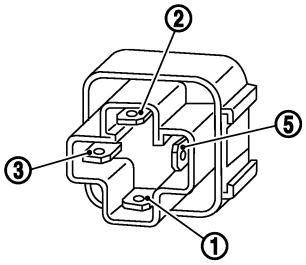
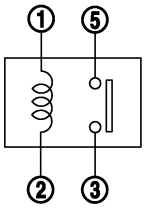
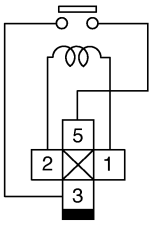
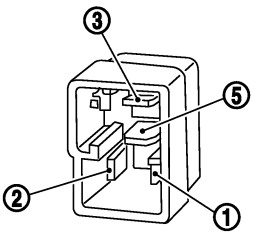
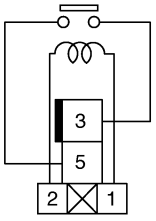
NJEL0004S02

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




SEL882H

*Description (Cont'd)*

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

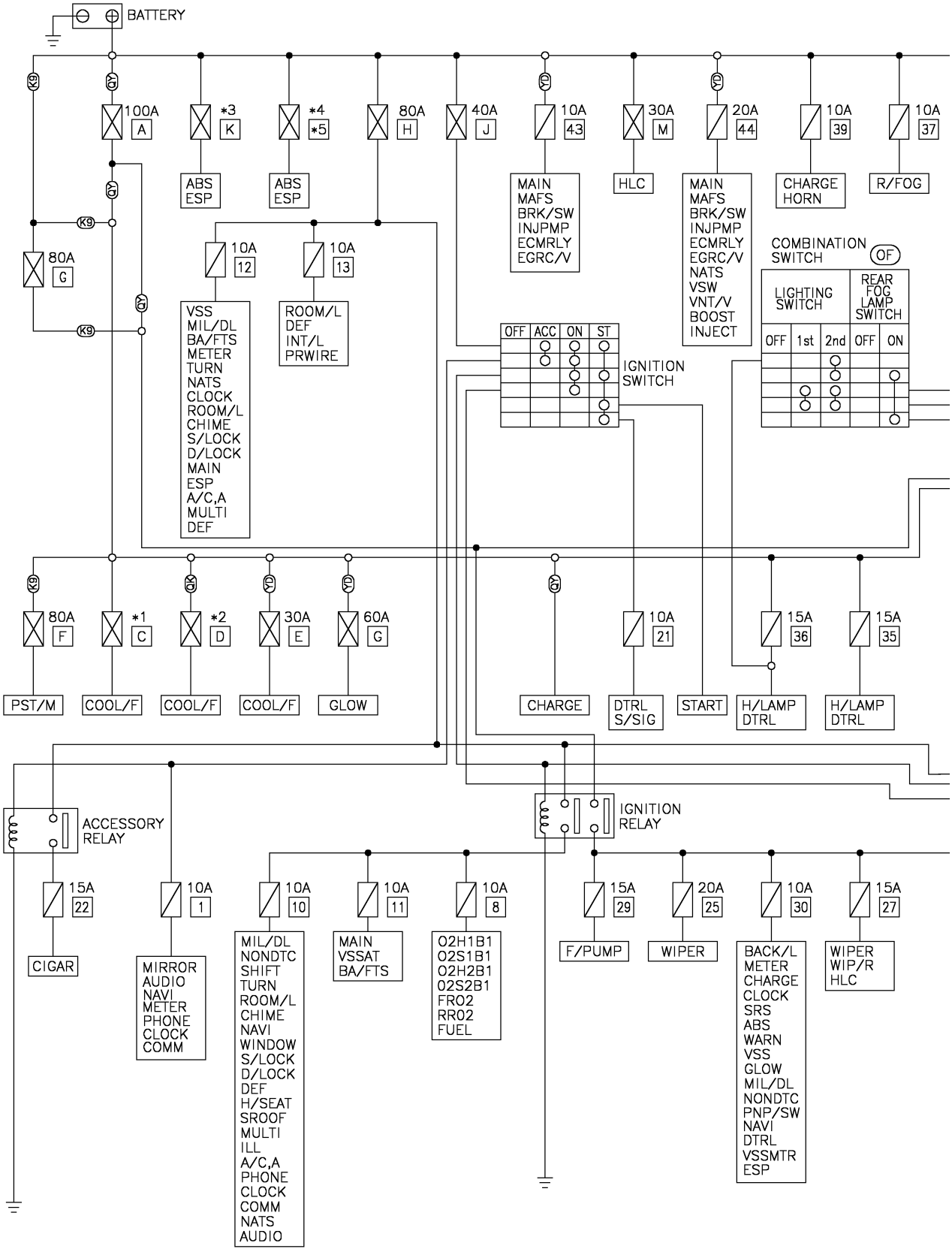
The arrangement of terminal numbers on the actual relays may differ from those shown above.

GEL264

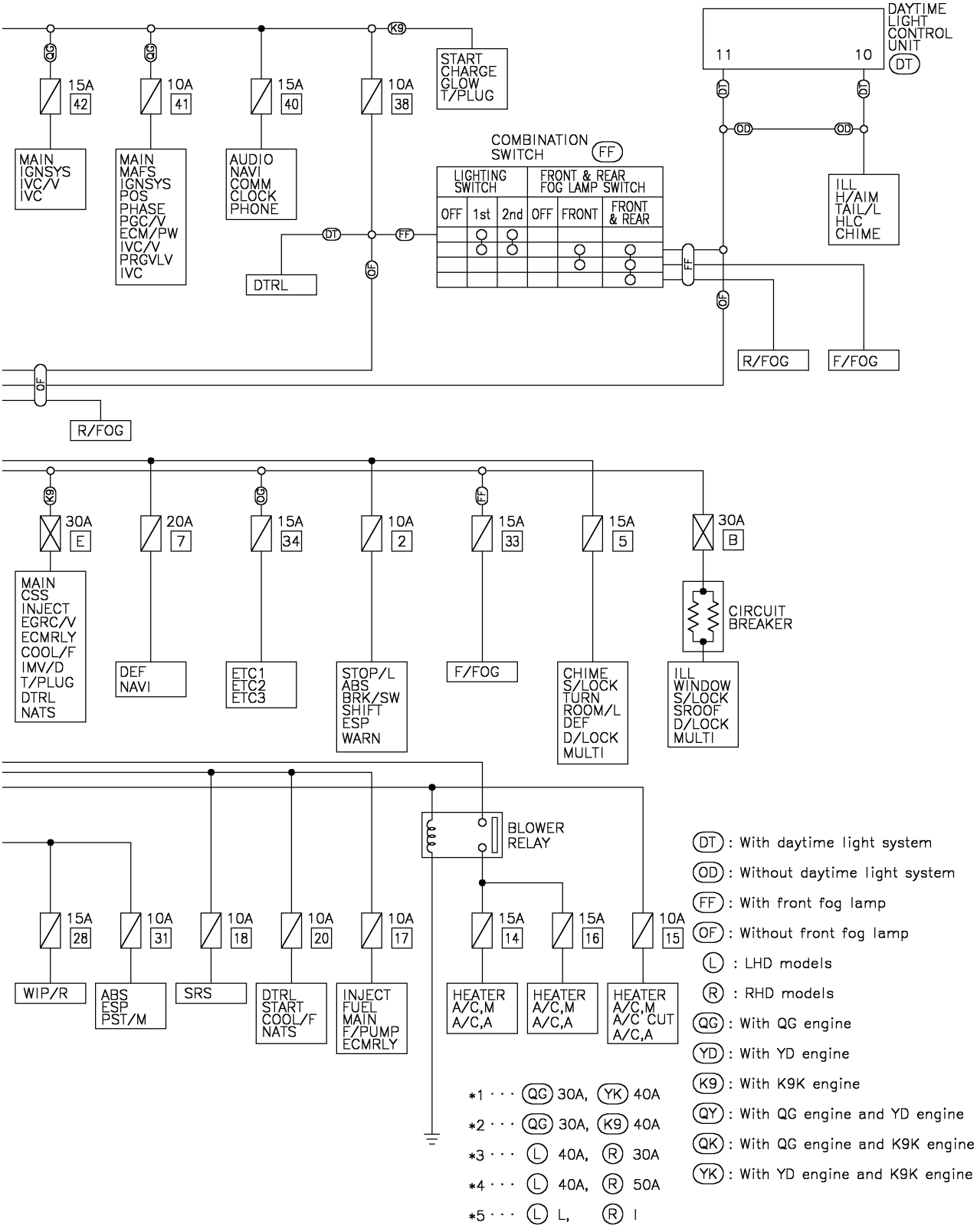
**NOTE:**

## Schematic

NJEL0418




YEL657D


DAYTIME LIGHT CONTROL UNIT
11
10
DT
15A 42
10A 41
15A 40
10A 38
START CHARGE GLOW T/PLUG
MAIN IGNSYS IVC/V IVC
MAIN MAFS IGNSYS POS PHASE PGC/V ECM/PW IVC/V PRGVLV IVC
AUDIO NAVI COMM CLOCK PHONE
DTRL
COMBINATION SWITCH FF
LIGHTING SWITCH
FRONT & REAR FOG LAMP SWITCH
OFF 1st 2nd OFF FRONT FRONT & REAR
ILL H/AIM TAIL/L HLC CHIME
R/FOG
F/FOG
30A E
20A 7
15A 34
10A 2
15A 33
15A 5
30A B
MAIN CSS INJECT EGRC/V ECMRLY COOL/F IMV/D T/PLUG DTRL NATS
DEF NAVI
ETC1 ETC2 ETC3
STOP/L ABS BRK/SW SHIFT ESP WARN
F/FOG
CHIME S/LOCK TURN ROOM/L DEF D/LOCK MULTI
CIRCUIT BREAKER
ILL WINDOW S/LOCK SROOF D/LOCK MULTI
BLOWER RELAY
15A 28
10A 31
10A 18
10A 20
10A 17
15A 14
15A 16
10A 15
WIP/R
ABS ESP PST/M
SRS
DTRL START COOL/F NATS
INJECT FUEL MAIN F/PUMP ECMRLY
HEATER A/C,M A/C,A
HEATER A/C,M A/C,A
HEATER A/C,M A/C CUT A/C,A
*1 · · · QG 30A, YK 40A
*2 · · · QG 30A, K9 40A
*3 · · · L 40A, R 30A
*4 · · · L 40A, R 50A
*5 · · · L L, R I
DT : With daytime light system
OD : Without daytime light system
FF : With front fog lamp
OF : Without front fog lamp
L : LHD models
R : RHD models
QG : With QG engine
YD : With YD engine
K9 : With K9K engine
QY : With QG engine and YD engine
QK : With QG engine and K9K engine
YK : With YD engine and K9K engine

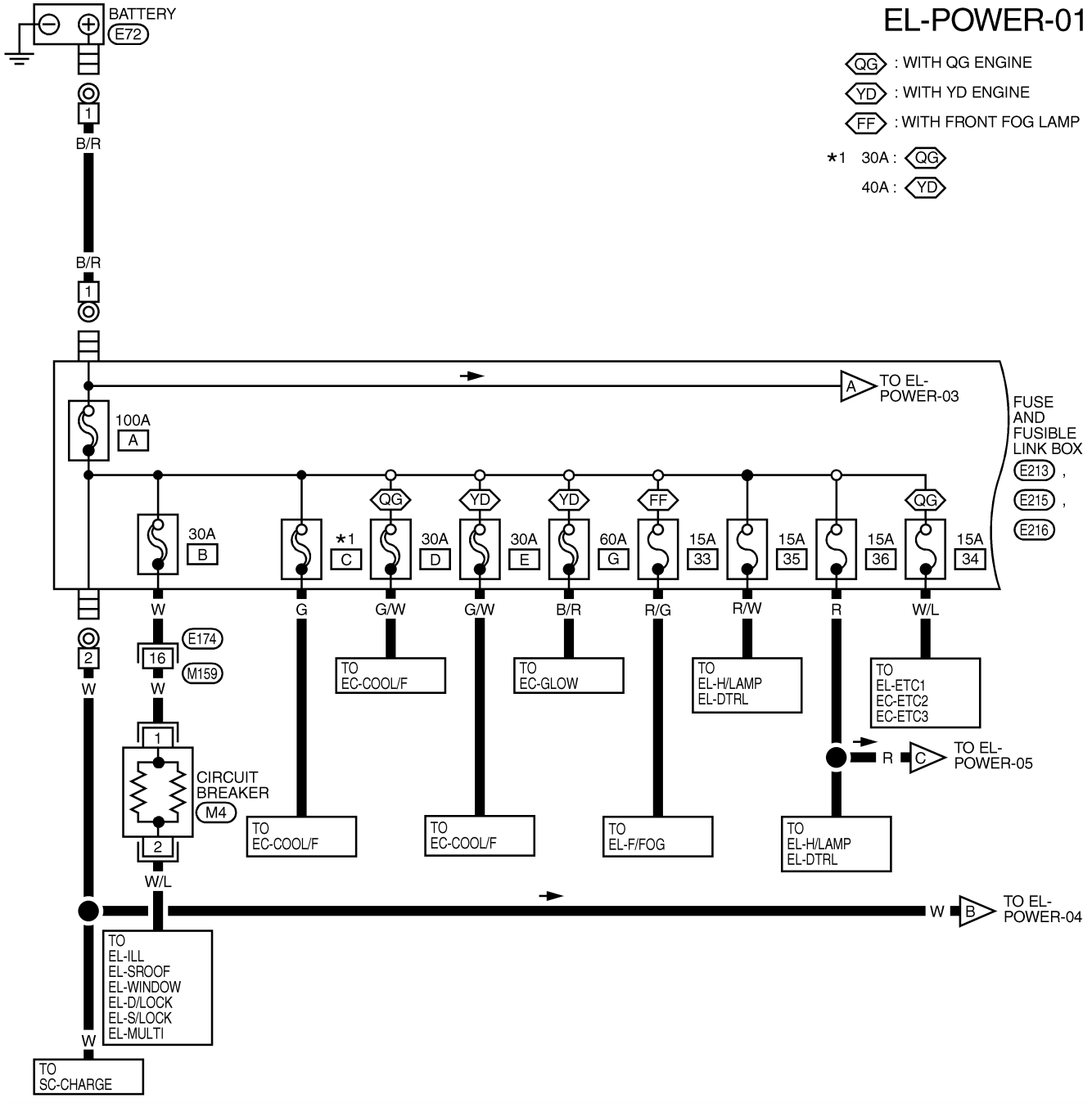
YEL658D

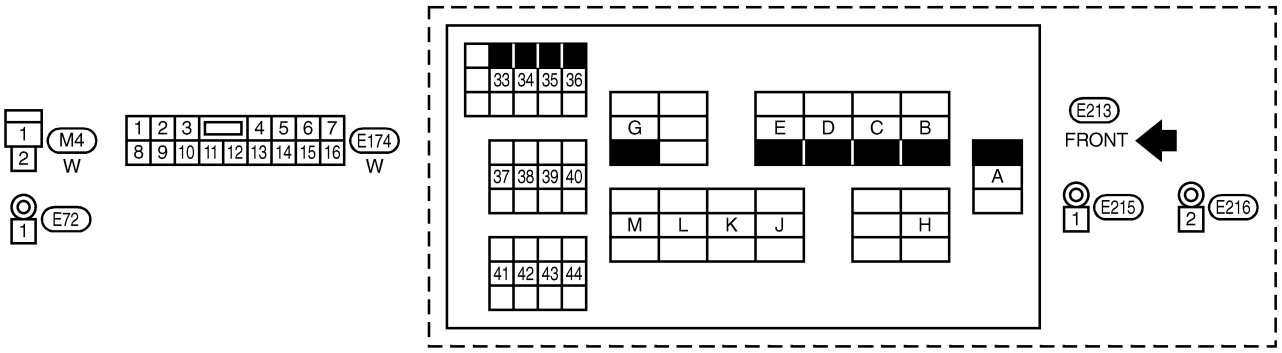
# Wiring Diagram — POWER —

NJEL0419

## BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

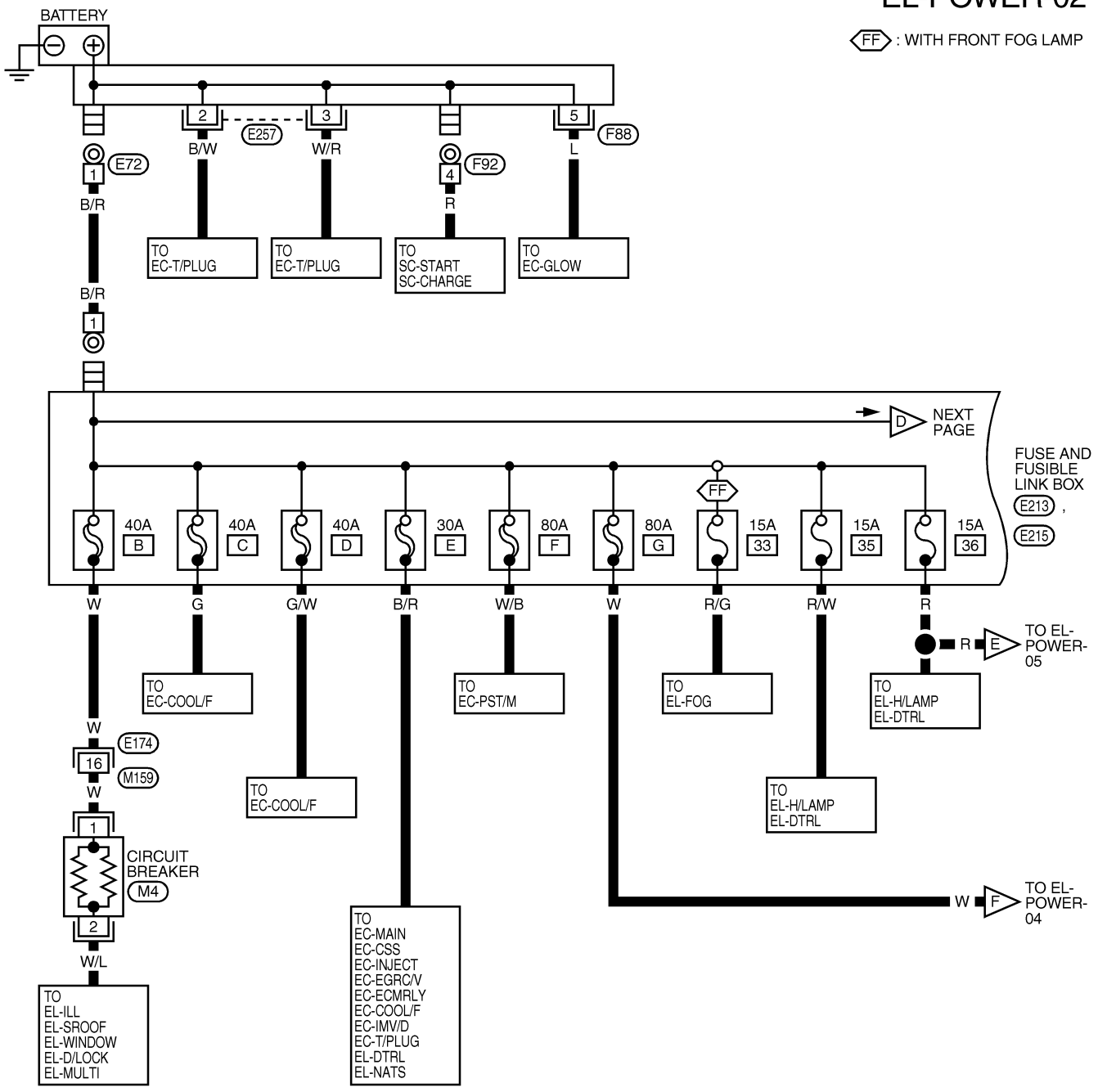
NJEL0419S01

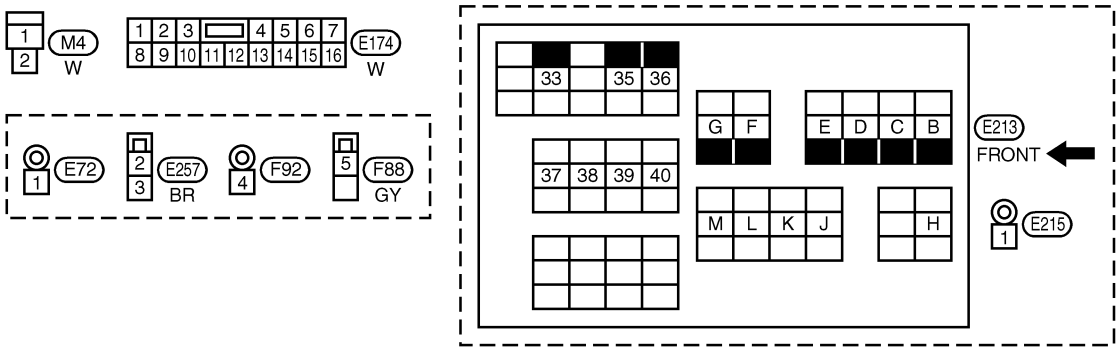



YEL659D

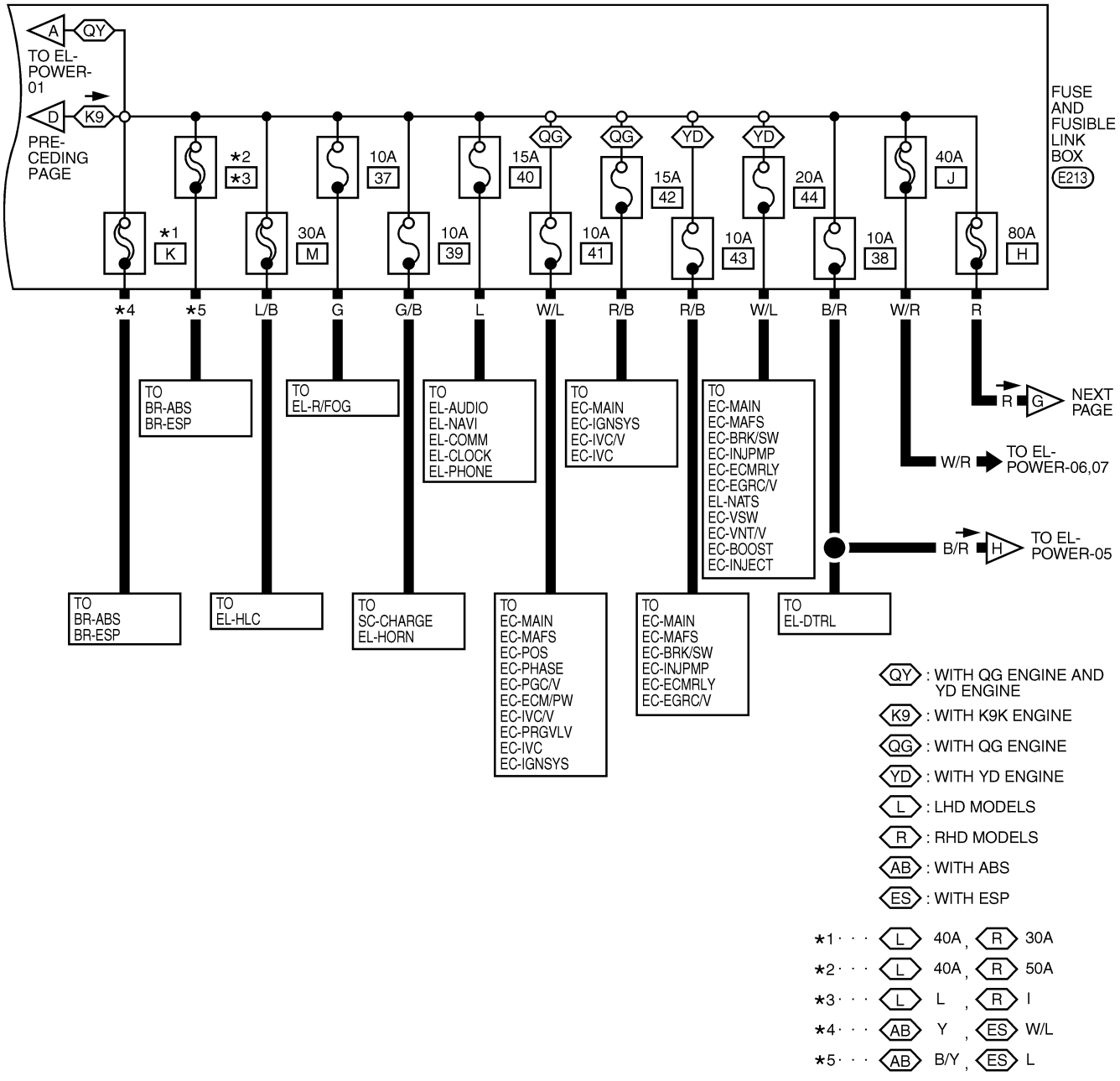
EL-POWER-02

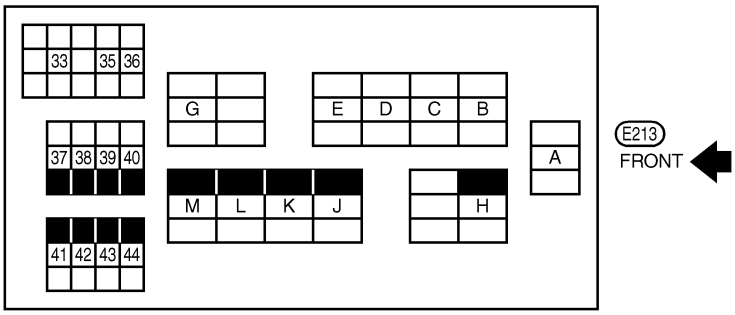



YEL660D

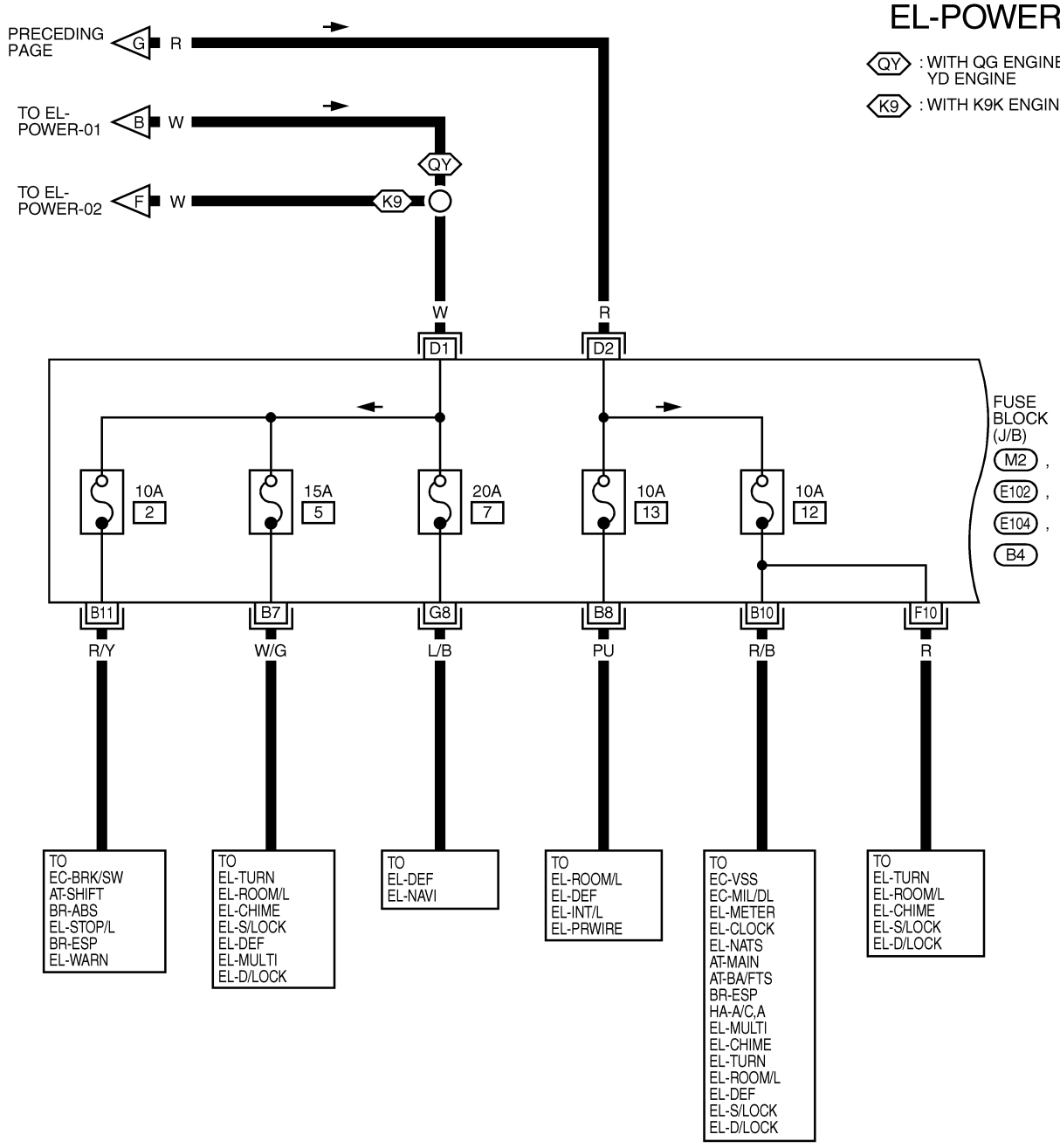
EL-POWER-03




YEL661D

## EL-POWER-04




REFER TO THE FOLLOWING.

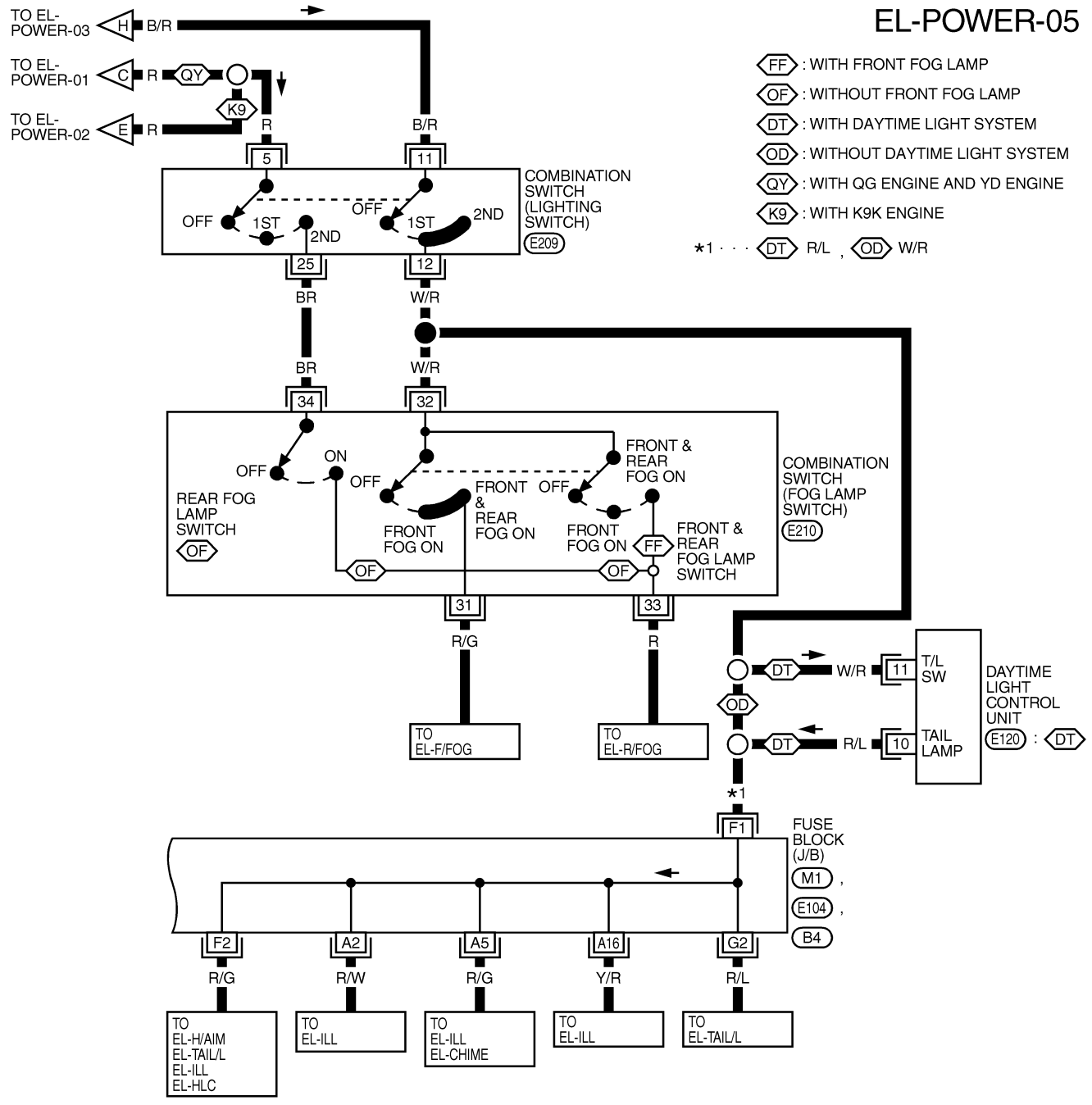
M2 , E102 , E104 , B4

-FUSE BLOCK-
JUNCTION BOX (J/B)

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

YEL662D

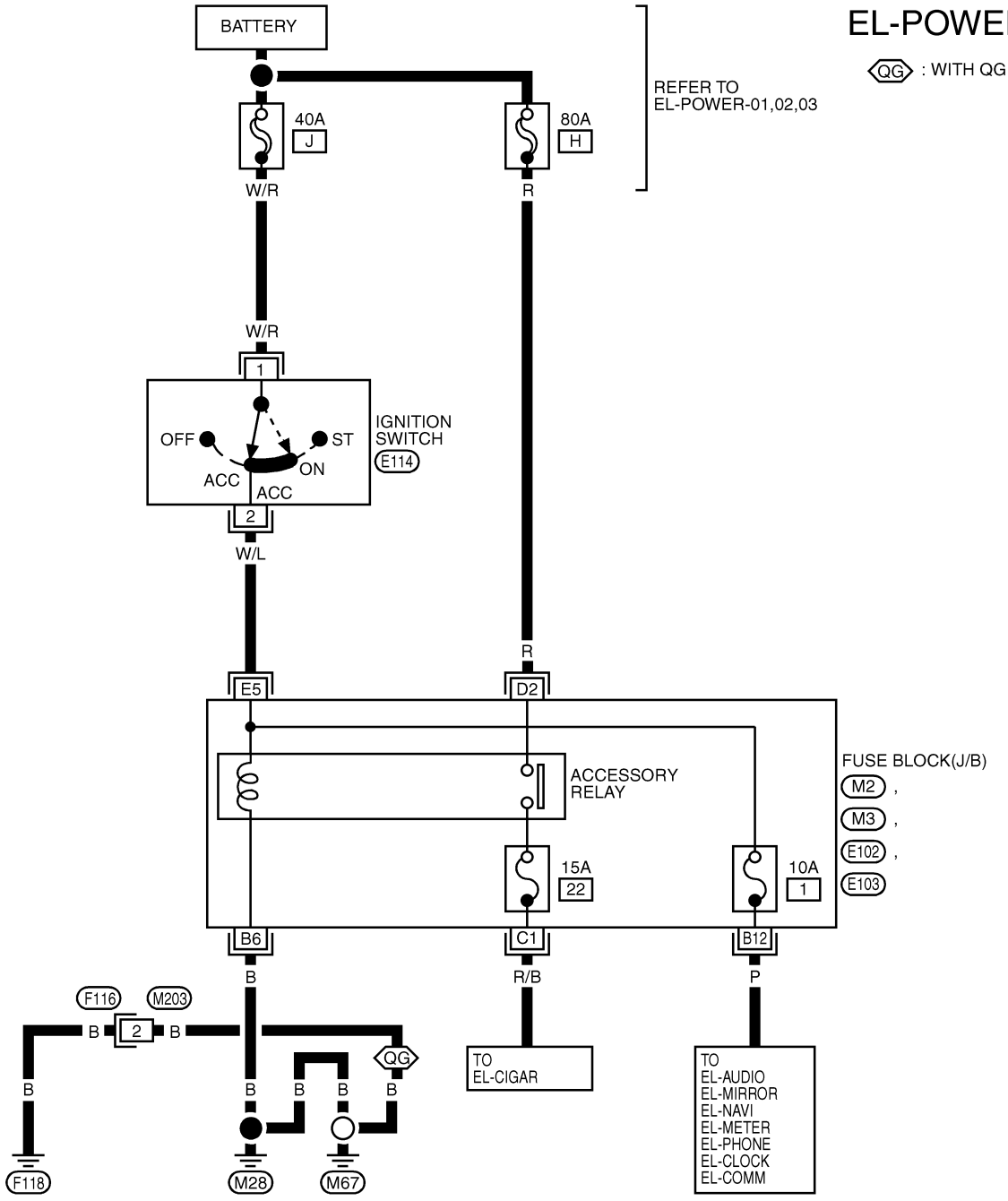
*Wiring Diagram — POWER — (Cont'd)*

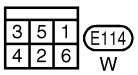


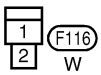

YEL663D

EL-POWER-06

QG : WITH QG ENGINE



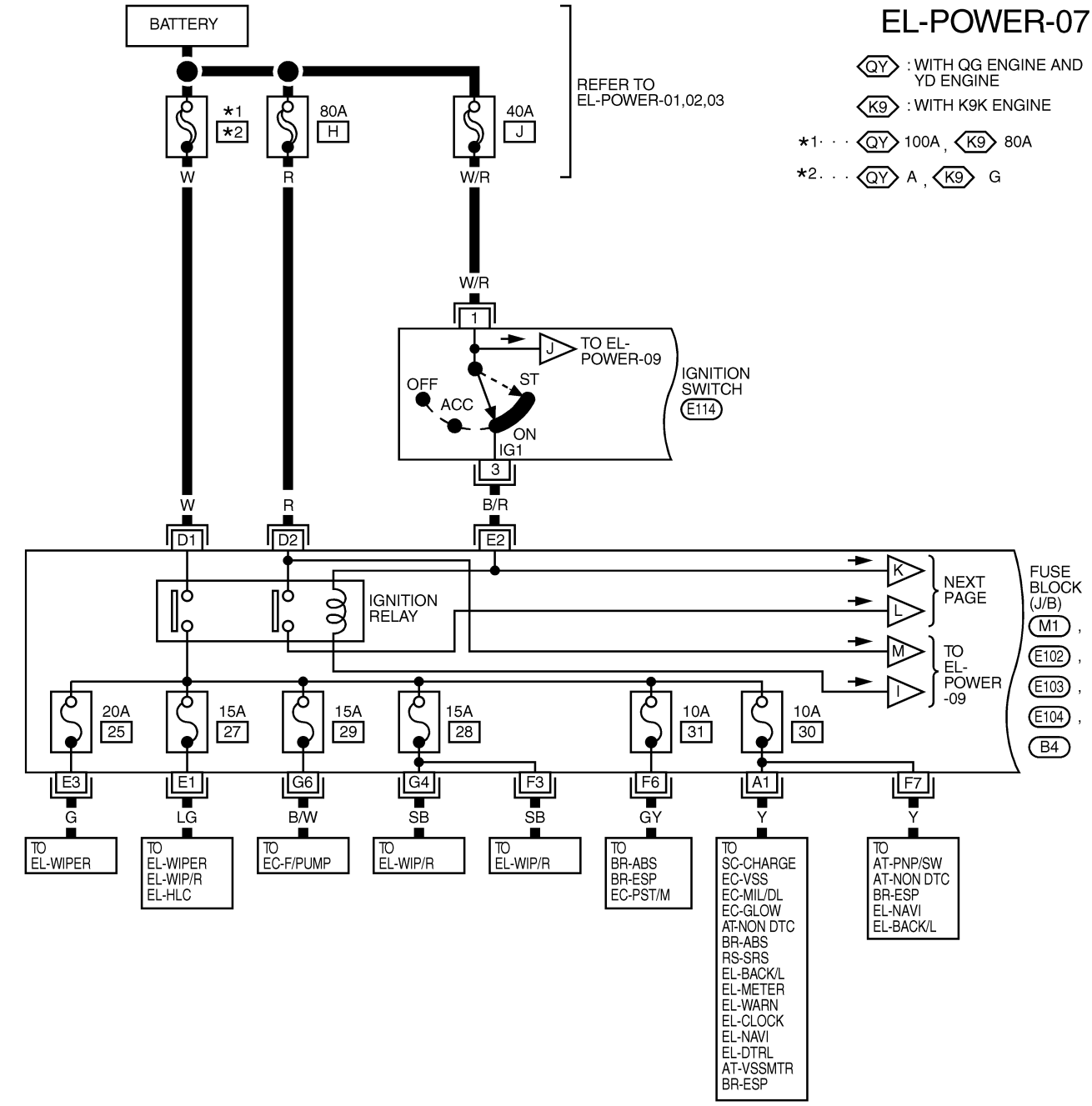

REFER TO THE FOLLOWING.

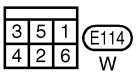
M2 , M3 , E102 , E103

-FUSE BLOCK-
JUNCTION BOX (J/B)

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

YEL664D




REFER TO THE FOLLOWING.

M1 , E102 , E103 , E104 , B4 -FUSE BLOCK- JUNCTION BOX (J/B)

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

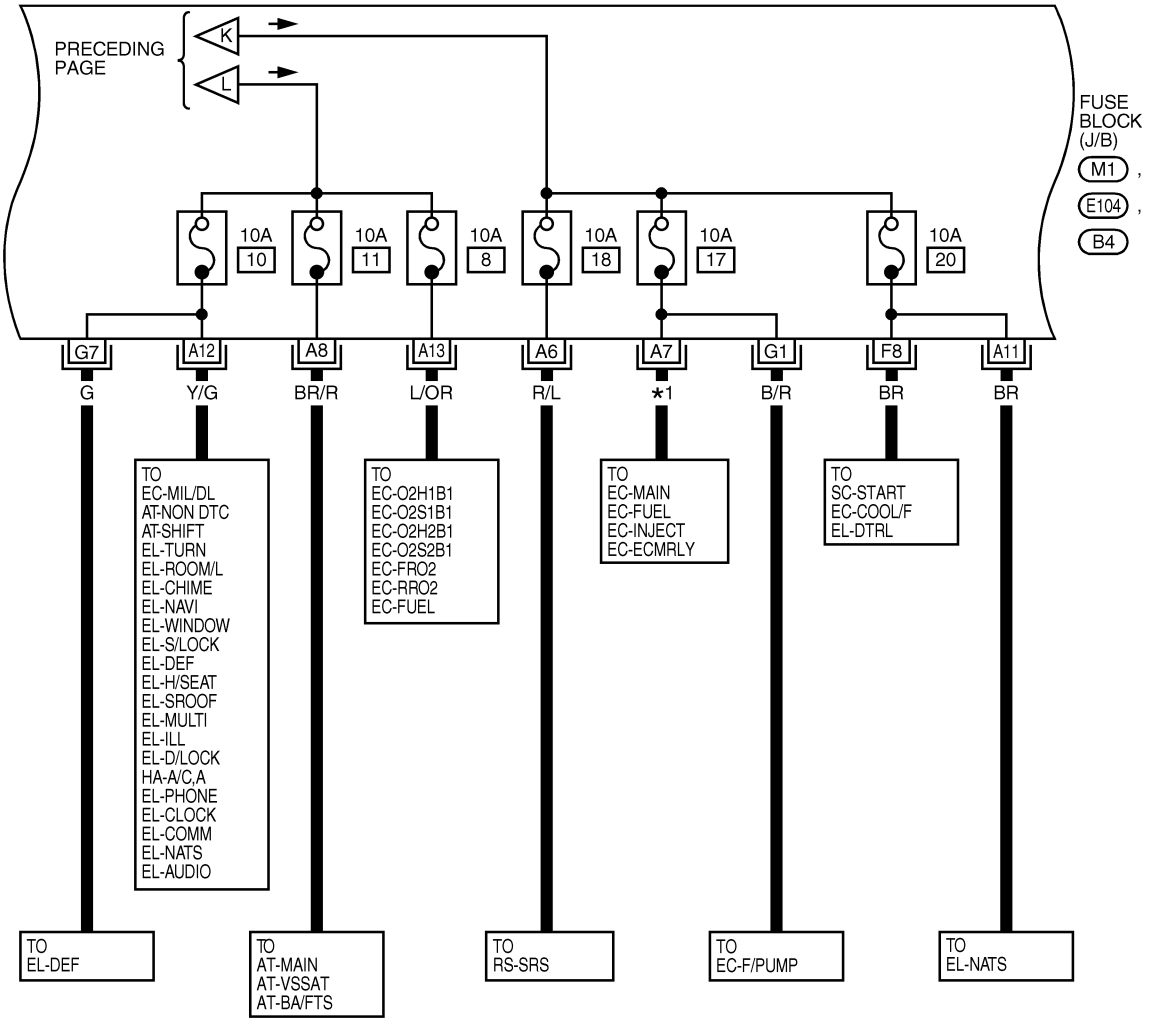
YEL665D

## ACCESSORY POWER SUPPLY — IGNITION SWITCH IN "ACC" OR "ON"

NJEL0419S04

EL-POWER-08

QG : WITH QG ENGINE
YD : WITH YD ENGINE
K9 : WITH K9K ENGINE
*1 · · · QG B/R , YD W/R , K9 W/L




REFER TO THE FOLLOWING.
M1 , E104 , B4
-FUSE BLOCK-
JUNCTION BOX (J/B)

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

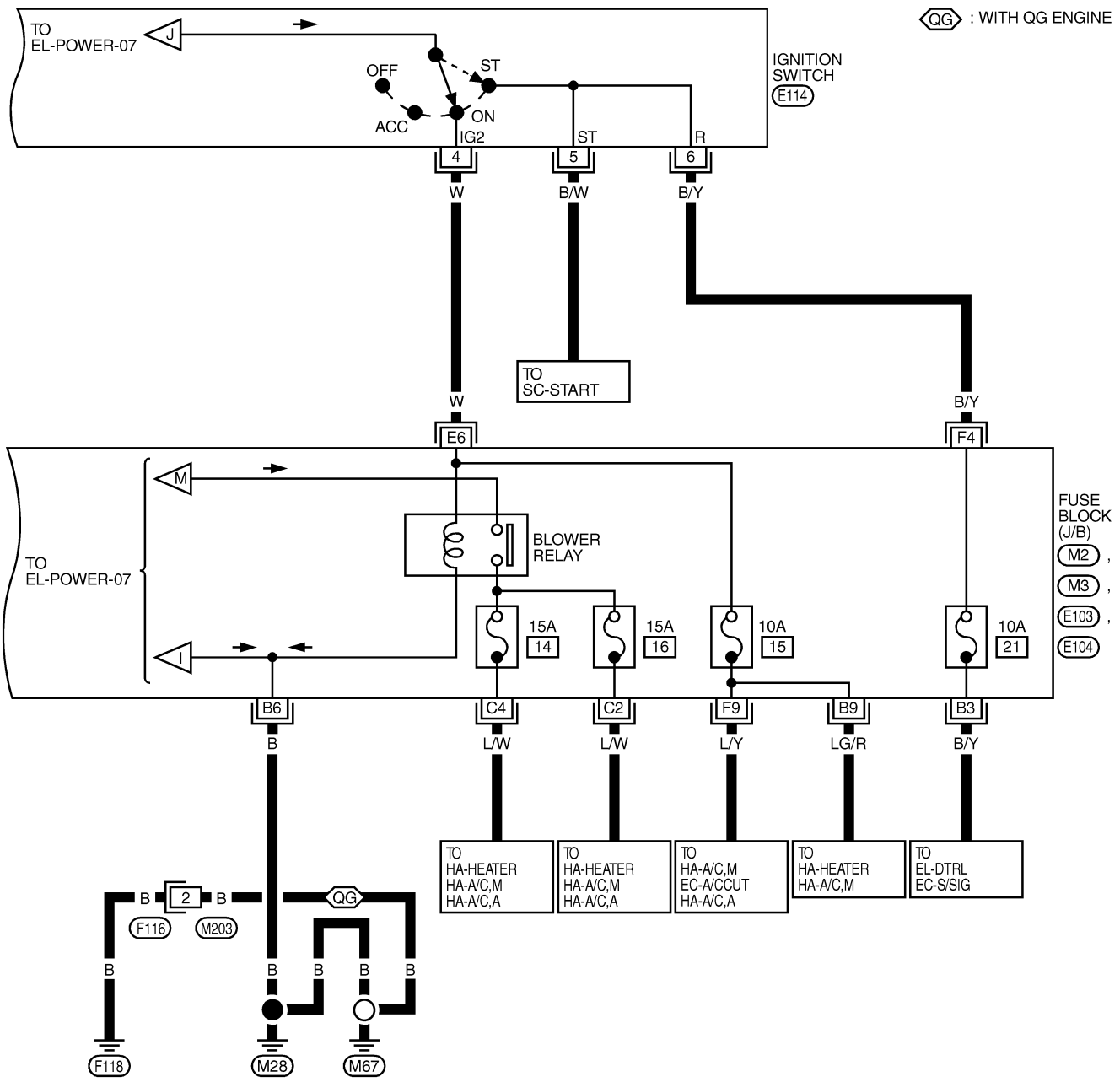
YEL666D

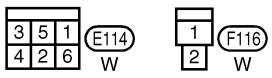
*Wiring Diagram — POWER — (Cont'd)*

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

NJEL0419S05

EL-POWER-09







REFER TO THE FOLLOWING.

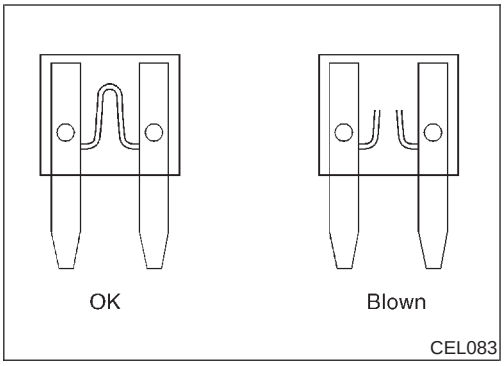
M2 , M3 , E103 , E104

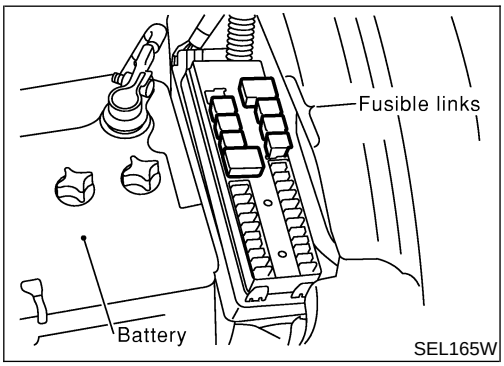
-FUSE BLOCK-

JUNCTION BOX (J/B)

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

YEL667D




## Inspection

NJEL0007

### FUSE

NJEL0007S01

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

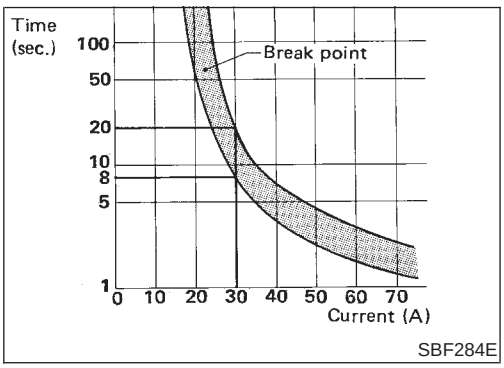
### FUSIBLE LINK

NJEL0007S02

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

**CAUTION:**

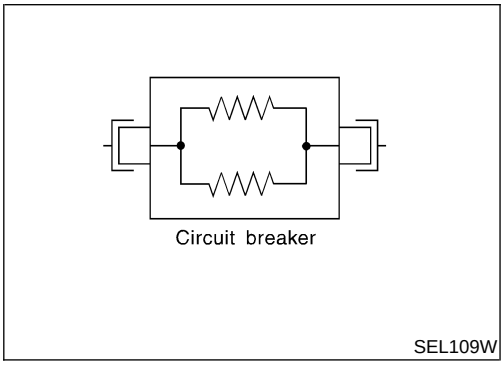
- **If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of problem.**
- **Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other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




### CIRCUIT BREAKER

NJEL0007S03

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




### CIRCUIT BREAKER (PTC THERMISTOR TYPE)

NJEL0007S04

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

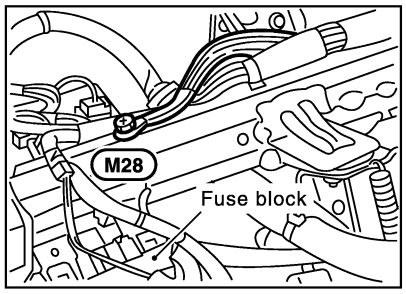
Reduced current flow will cause the element to cool. Resistance falls accordingly and normal circuit current flow is allowed to resume.

# Ground Distribution

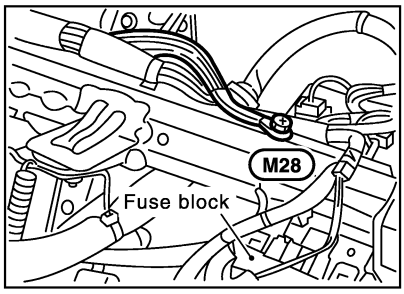
NJEL0008

## MAIN HARNESS

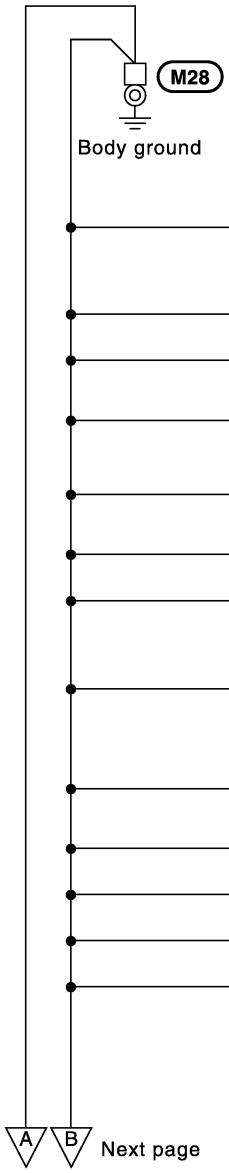
NJEL0008S01




(LHD models)

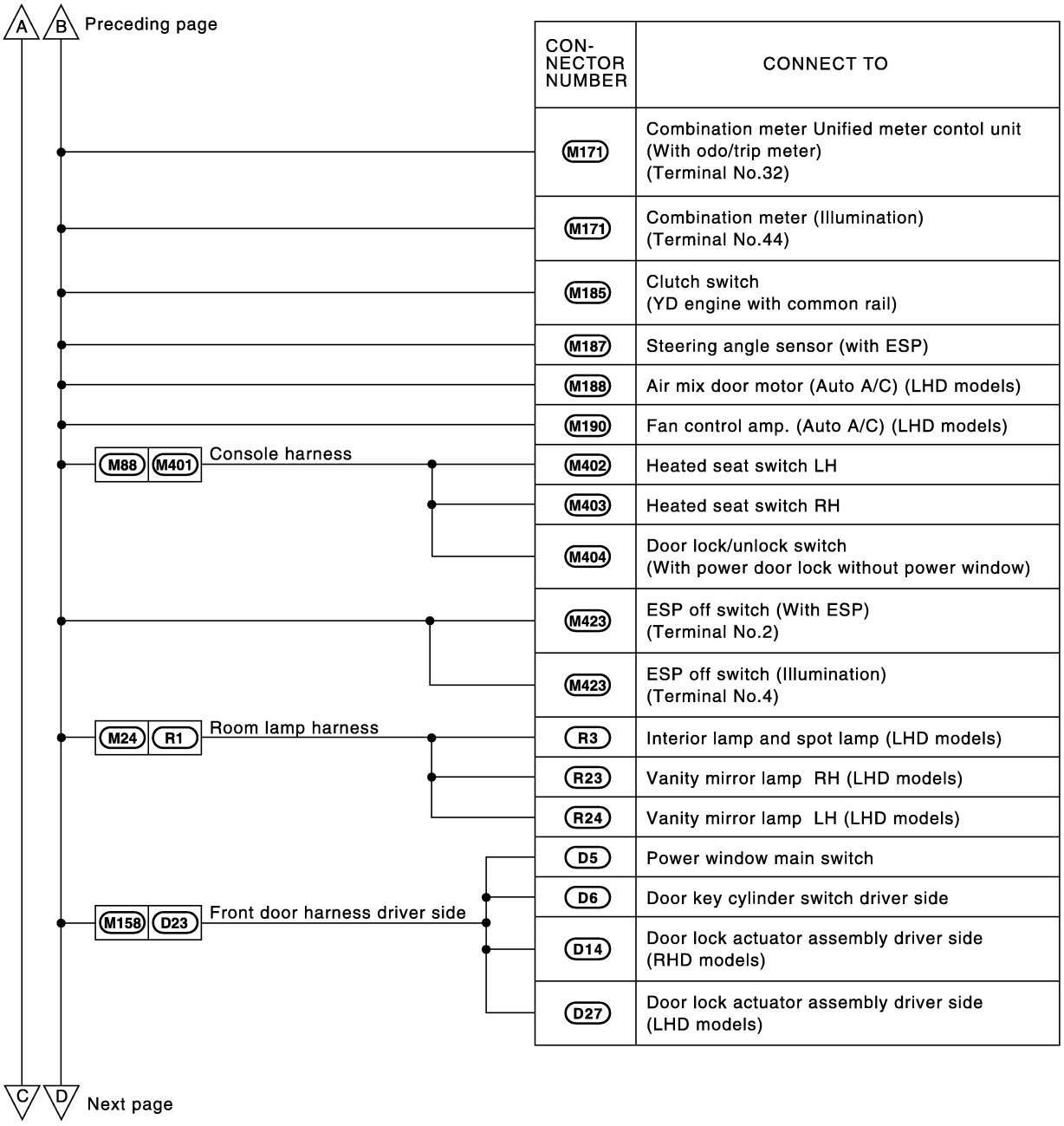



(RHD models)



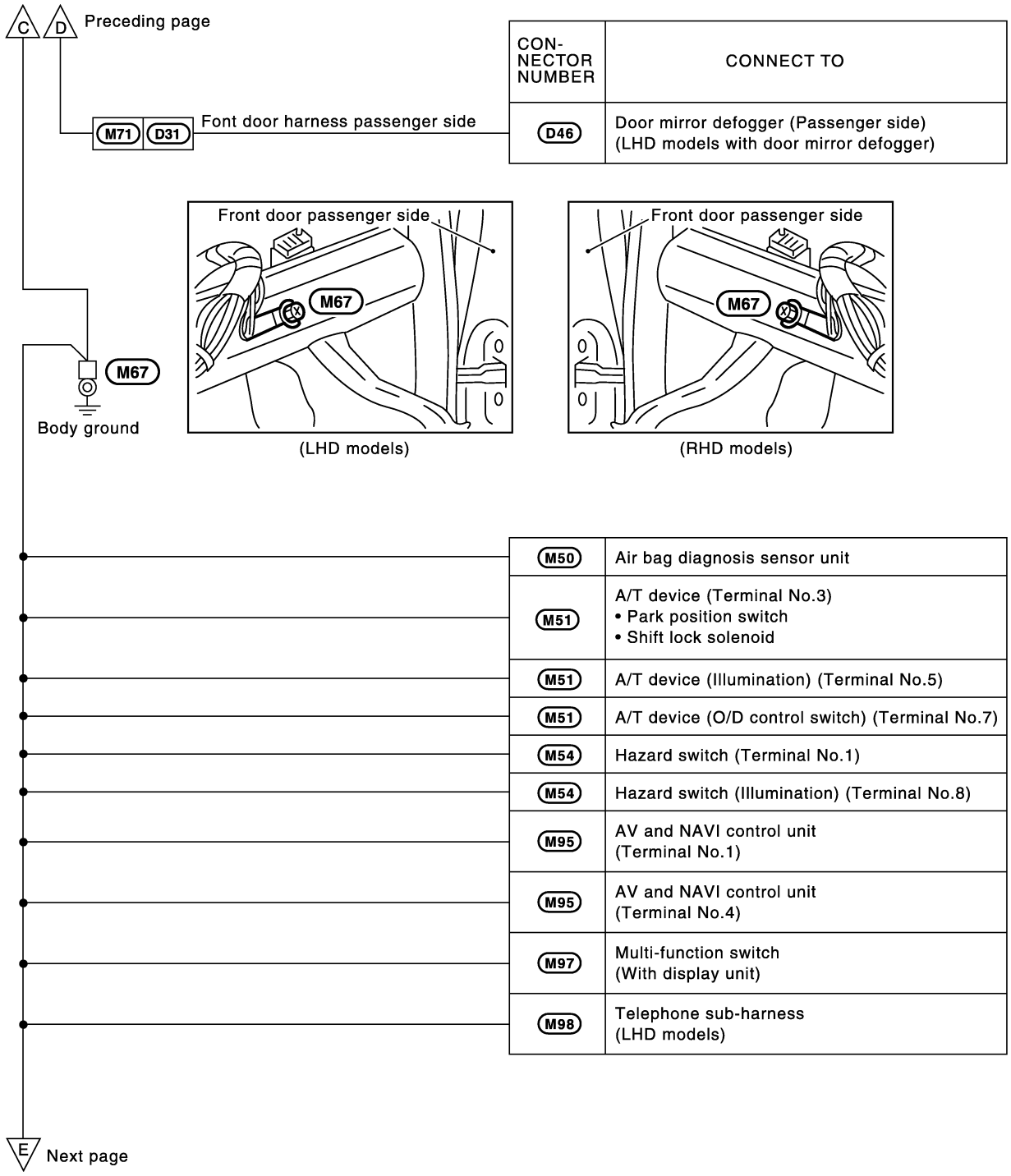

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| M2 | Fuse block (J/B)<br>• Accessory relay<br>• Ignition relay<br>• Blower relay |
| M7 | Power window relay |
| M15 | Door mirror remote control switch |
| M29 | Data link connector<br>(Terminal No.4) |
| M29 | Data link connector (QG engine and YD engine with common rail) (Terminal No.5) |
| M46 | Heater control panel (Fan switch) (Manual A/C) |
| M48 | Cigarette lighter socket |
| M87 | Heater control panel (Manual A/C)<br>(Terminal No.5)<br>• Rear window defogger switch<br>• Recirculation switch |
| M87 | Heater control panel (Illumination) (Manual A/C)<br>(Terminal No.6) |
| M98 | Telephone sub-harness (RHD models) |
| M99 | Display unit (Without navigation system) |
| M100 | Display unit (With navigation system) |
| M102 | Dongle unit (RHD models) |

YEL789D



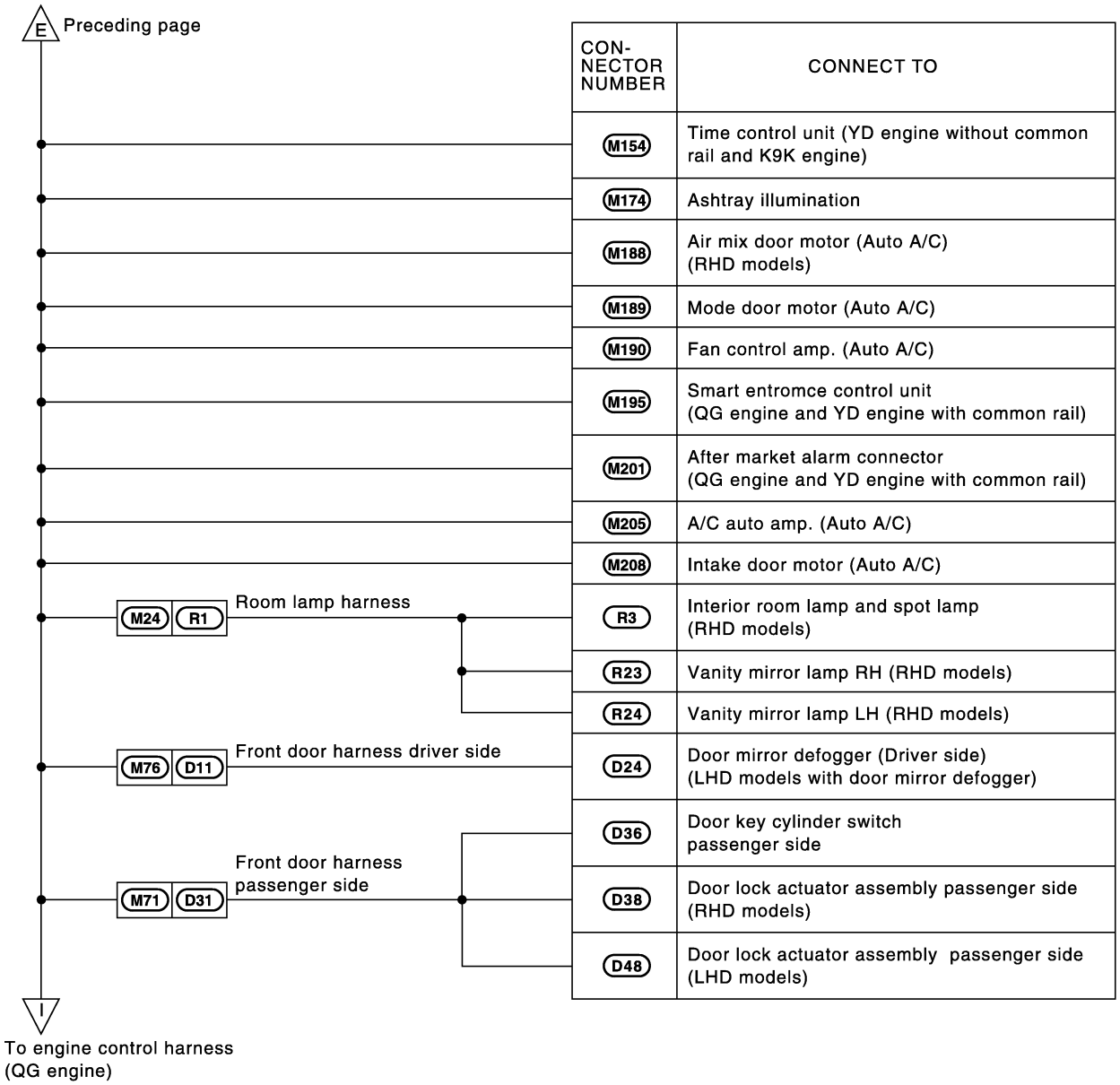

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| M171 | Combination meter Unified meter contol unit (With odo/trip meter) (Terminal No.32) |
| M171 | Combination meter (Illumination) (Terminal No.44) |
| M185 | Clutch switch (YD engine with common rail) |
| M187 | Steering angle sensor (with ESP) |
| M188 | Air mix door motor (Auto A/C) (LHD models) |
| M190 | Fan control amp. (Auto A/C) (LHD models) |
| M402 | Heated seat switch LH |
| M403 | Heated seat switch RH |
| M404 | Door lock/unlock switch (With power door lock without power window) |
| M423 | ESP off switch (With ESP) (Terminal No.2) |
| M423 | ESP off switch (Illumination) (Terminal No.4) |
| R3 | Interior lamp and spot lamp (LHD models) |
| R23 | Vanity mirror lamp RH (LHD models) |
| R24 | Vanity mirror lamp LH (LHD models) |
| D5 | Power window main switch |
| D6 | Door key cylinder switch driver side |
| D14 | Door lock actuator assembly driver side (RHD models) |
| D27 | Door lock actuator assembly driver side (LHD models) |

YEL790D




| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| D46 | Door mirror defogger (Passenger side)<br>(LHD models with door mirror defogger) |
| M50 | Air bag diagnosis sensor unit |
| M51 | A/T device (Terminal No.3)<br>• Park position switch<br>• Shift lock solenoid |
| M51 | A/T device (Illumination) (Terminal No.5) |
| M51 | A/T device (O/D control switch) (Terminal No.7) |
| M54 | Hazard switch (Terminal No.1) |
| M54 | Hazard switch (Illumination) (Terminal No.8) |
| M95 | AV and NAVI control unit<br>(Terminal No.1) |
| M95 | AV and NAVI control unit<br>(Terminal No.4) |
| M97 | Multi-function switch<br>(With display unit) |
| M98 | Telephone sub-harness<br>(LHD models) |

YEL791D



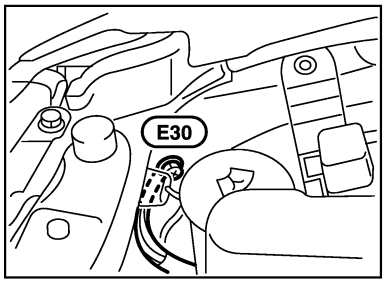

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| M154 | Time control unit (YD engine without common rail and K9K engine) |
| M174 | Ashtray illumination |
| M188 | Air mix door motor (Auto A/C) (RHD models) |
| M189 | Mode door motor (Auto A/C) |
| M190 | Fan control amp. (Auto A/C) |
| M195 | Smart entromce control unit (QG engine and YD engine with common rail) |
| M201 | After market alarm connector (QG engine and YD engine with common rail) |
| M205 | A/C auto amp. (Auto A/C) |
| M208 | Intake door motor (Auto A/C) |
| R3 | Interior room lamp and spot lamp (RHD models) |
| R23 | Vanity mirror lamp RH (RHD models) |
| R24 | Vanity mirror lamp LH (RHD models) |
| D24 | Door mirror defogger (Driver side) (LHD models with door mirror defogger) |
| D36 | Door key cylinder switch passenger side |
| D38 | Door lock actuator assembly passenger side (RHD models) |
| D48 | Door lock actuator assembly passenger side (LHD models) |



YEL792D

## ENGINE ROOM HARNESS

NJEL0008S02



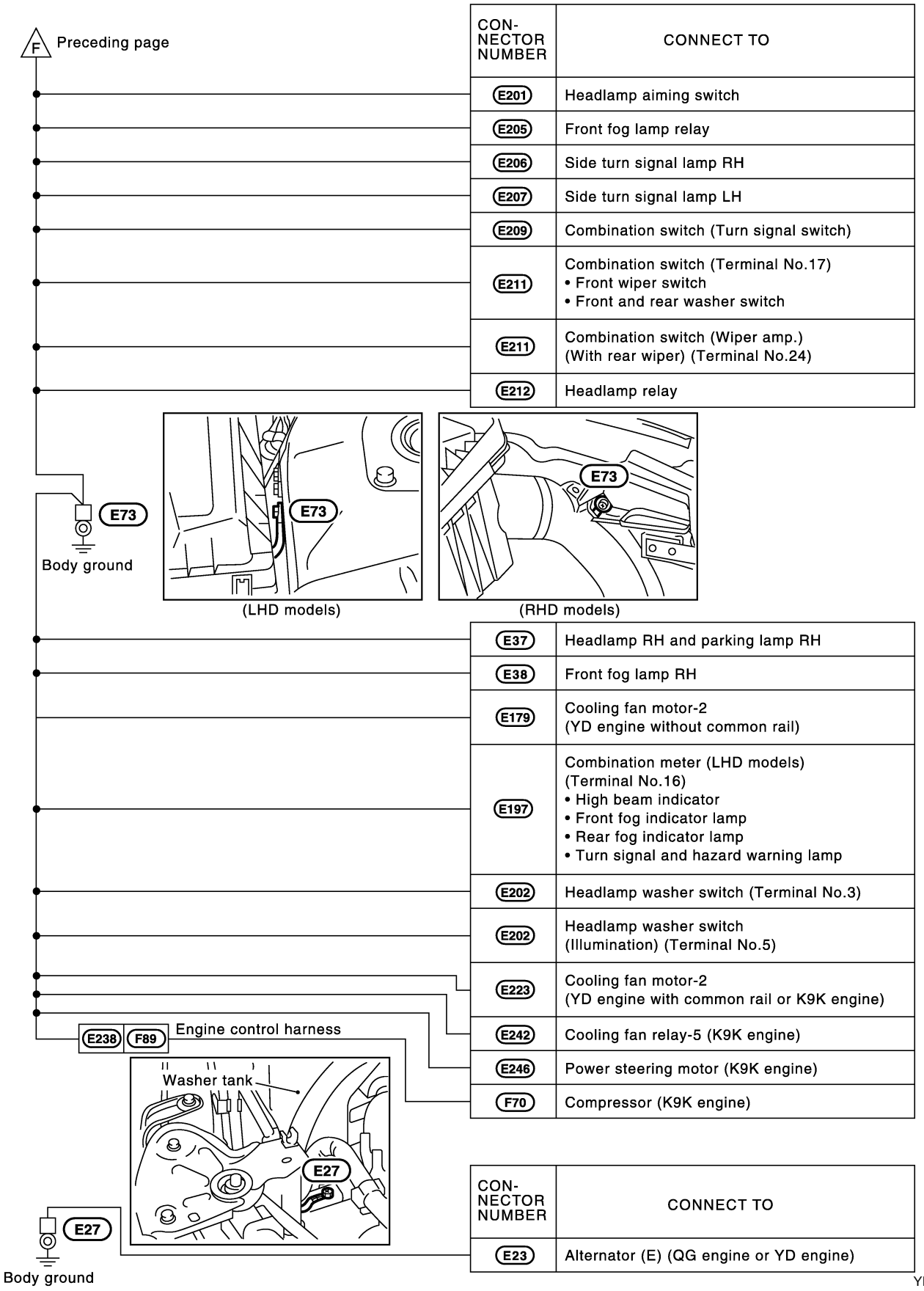

E30

Body ground

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| E45 | Headlamp LH and parking lamp LH |
| E49 | Front fog lamp LH |
| E185 | Cooling fan relay-2 (Diesel engine) |
| E187 | Cooling fan relay-4 (Diesel engine) |
| E197 | Combination meter (RHD models)<br>(Terminal No.16)<br>• High beam indicator<br>• Front fog indicator lamp<br>• Rear fog indicator lamp<br>• Turn signal and hazard warning lamp |
| E214 | Rear fog lamp relay |
| E12 | Headlamp washer timer |
| E32 | Front turn signal lamp RH |
| E33 | Headlamp aiming motor RH |
| E48 | Headlamp aiming motor LH |
| E52 | Hood switch (Not used) |
| E54 | Front turn signal lamp LH |
| E78 | Brake fluid level switch<br>(With EPS or without ABS) |
| E120 | Daytime light control unit |
| E178 | Cooling fan motor-1 (Gasoline engine) |
| E179 | Cooling fan motor-2 (Gasoline engine) |
| E188 | Brake fluid level switch (With ABS) |
| E191 | Front wiper motor |

F Next page

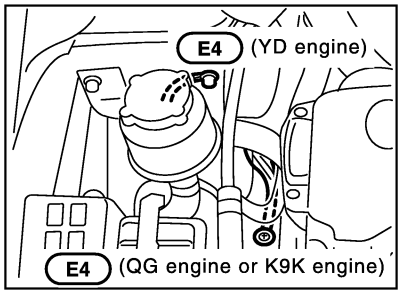
YEL793D



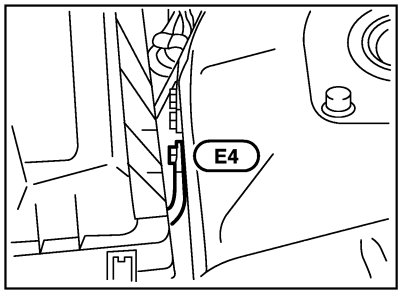

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| E201 | Headlamp aiming switch |
| E205 | Front fog lamp relay |
| E206 | Side turn signal lamp RH |
| E207 | Side turn signal lamp LH |
| E209 | Combination switch (Turn signal switch) |
| E211 | Combination switch (Terminal No.17)<br>• Front wiper switch<br>• Front and rear washer switch |
| E211 | Combination switch (Wiper amp.)<br>(With rear wiper) (Terminal No.24) |
| E212 | Headlamp relay |
| E37 | Headlamp RH and parking lamp RH |
| E38 | Front fog lamp RH |
| E179 | Cooling fan motor-2<br>(YD engine without common rail) |
| E197 | Combination meter (LHD models)<br>(Terminal No.16)<br>• High beam indicator<br>• Front fog indicator lamp<br>• Rear fog indicator lamp<br>• Turn signal and hazard warning lamp |
| E202 | Headlamp washer switch (Terminal No.3) |
| E202 | Headlamp washer switch<br>(Illumination) (Terminal No.5) |
| E223 | Cooling fan motor-2<br>(YD engine with common rail or K9K engine) |
| E242 | Cooling fan relay-5 (K9K engine) |
| E246 | Power steering motor (K9K engine) |
| F70 | Compressor (K9K engine) |

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| E23 | Alternator (E) (QG engine or YD engine) |

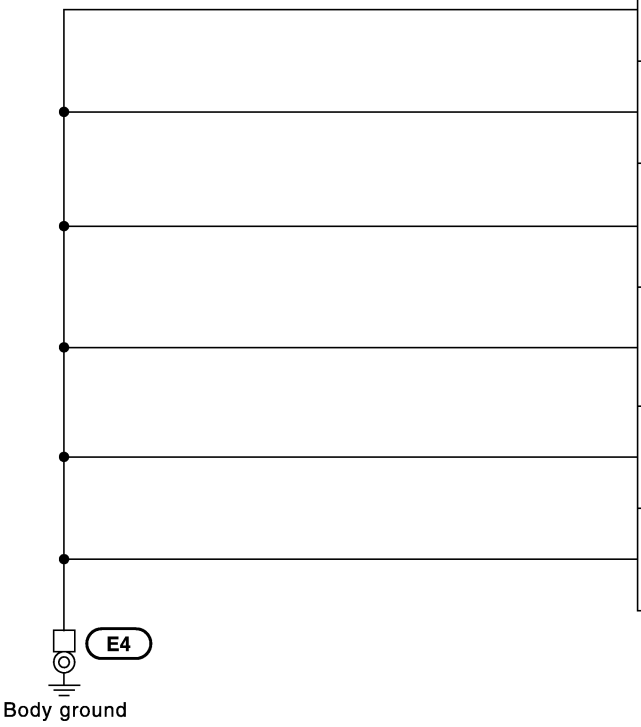
YEL794D




(LHD models)




(RHD models)

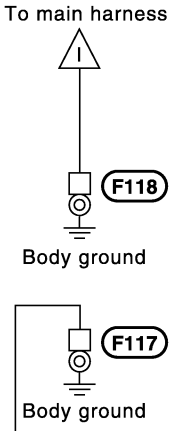


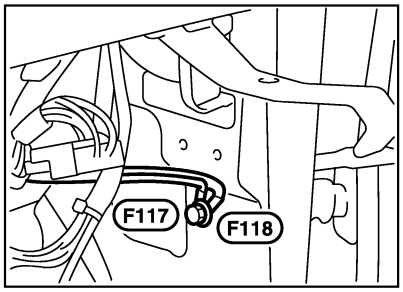

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| E1 | ABS actuator and electric unit (Actuator)<br>(YD engine without common rail and K9K engine)<br>(Terminal No. 16) |
| E1 | ABS actuator and electric unit (Control unit)<br>(YD engine without common rail and K9K engine)<br>(Terminal No. 19) |
| E217 | ABS actuator and electric unit<br>(Actuator)<br>(QG engine and YD engine with common rail)<br>(Terminal No. 1) |
| E217 | ABS actuator and electric unit<br>(Control unit)<br>(QG engine and YD engine with common rail)<br>(Terminal No. 4) |
| E218 | ESP actuator and electric unit<br>(With ESP)<br>(Terminal No. 3) |
| E218 | ESP actuator and electric unit<br>(With ESP)<br>(Terminal No. 4) |

YEL795D

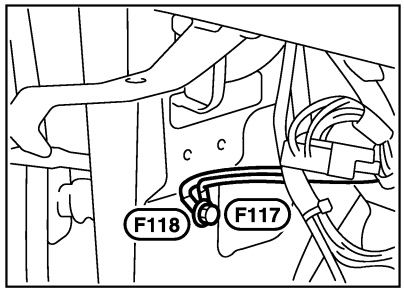
## ENGINE CONTROL HARNESS/QG ENGINE MODELS

NJEL0008S03



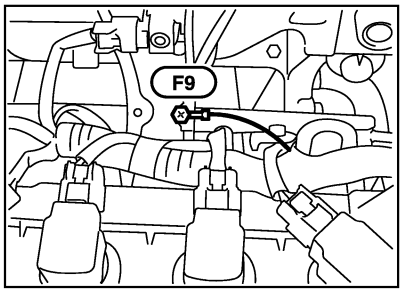



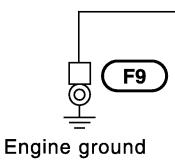

(LHD models)




(RHD models)

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| F24 | Shield wire (Electric throttle control actuator) |
| F31 | Park/neutral position switch (M/T models) |
| F110 | TCM (Transmission control module) (Terminal No.25) |
| F110 | TCM (Transmission control module) (Terminal No.48) |
| F114 | ECM (Terminal No.1) |
| F114 | ECM (Terminal No.115) |
| F114 | ECM (Terminal No.116) |



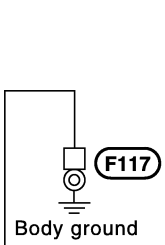



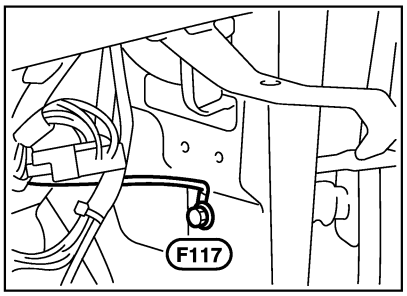

| | |
|---|---|
| F4 | Condenser |
| F11 | Ignition coil No.1 (With power transistor) |
| F12 | Ignition coil No.2 (With power transistor) |
| F14 | Ignition coil No.3 (With power transistor) |
| F15 | Ignition coil No.4 (With power transistor) |
| F32 | Park/neutral position switch (A/T models) |

YEL796D

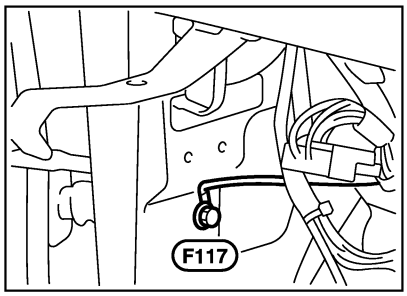
## ENGINE CONTROL HARNESS/YD ENGINE MODELS WITH COMMON RAIL

NJEL0008S12




(LHD models)



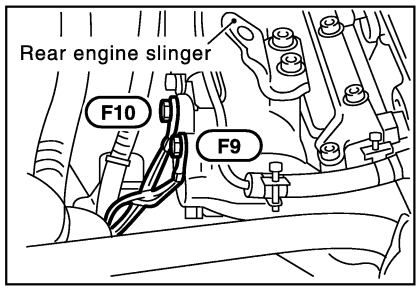

(RHD models)

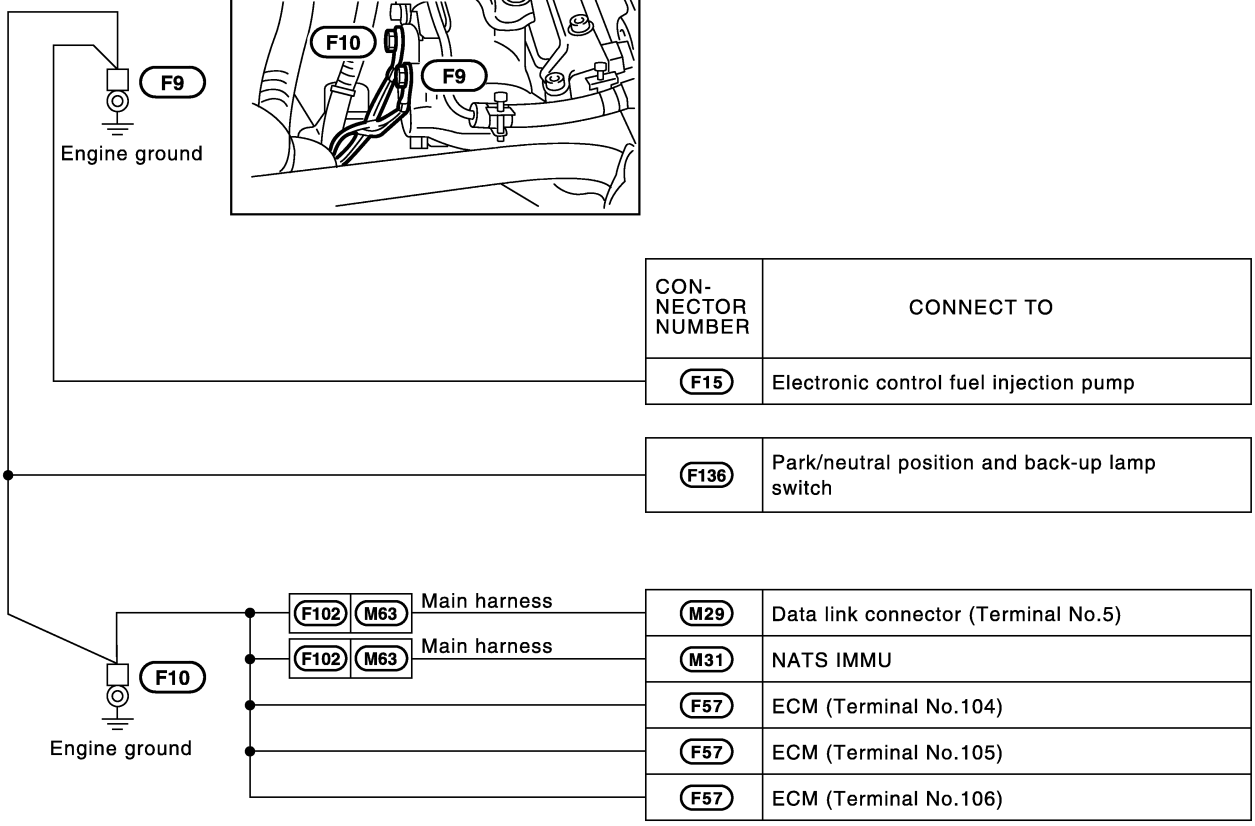
| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| F31 | Park/neutral position switch (With charge air pressure sensor) |
| F49 | Power steering oil pressure switch |
| F113 | ECM (Terminal No.1) |
| F113 | ECM (Terminal No.2) |
| F113 | ECM (Terminal No.3) |
| F114 | ECM (Terminal No.114) |
| F136 | Park/neutral position switch (Without charge air pressure sensor) |

YEL797D

## ENGINE CONTROL HARNESS/YD ENGINE MODELS WITHOUT COMMON RAIL

NJEL0008S09



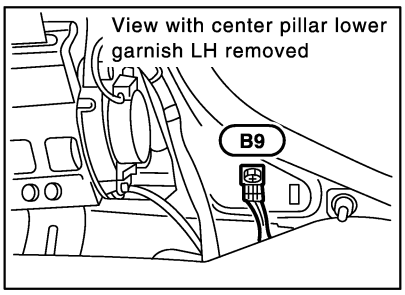




| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| F15 | Electronic control fuel injection pump |
| F136 | Park/neutral position and back-up lamp switch |
| M29 | Data link connector (Terminal No.5) |
| M31 | NATS IMMU |
| F57 | ECM (Terminal No.104) |
| F57 | ECM (Terminal No.105) |
| F57 | ECM (Terminal No.106) |

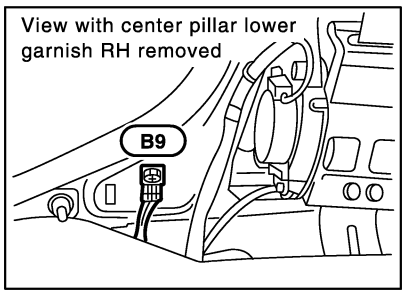
YEL798D

## BODY HARNESS/SEDAN

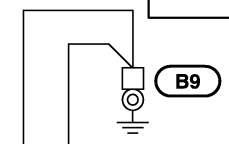
NJEL0008S04



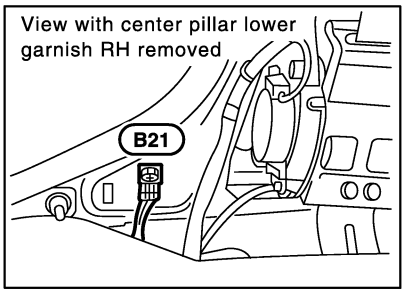

(LHD models)



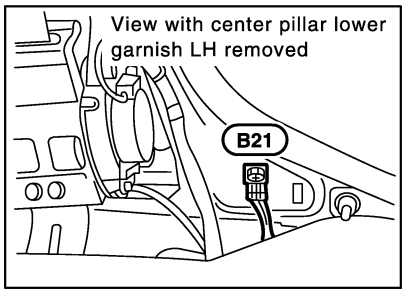

(RHD models)



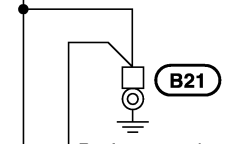

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| B11 | Shield wire [LH side air bag (satellite) sensor] (LHD models) |
| B22 | Shield wire [RH side air bag (satellite) sensor] (RHD models) |
| B8 | Door switch driver side |
| B29 | Fuel level sensor unit and fuel pump (Fuel pump) (QG engine) (Terminal No.3) |
| B32 | High-mounted stop lamp (On the rear percel shelf) |
| B41 | Front seat LH (With heated seat) |
| B42 | Front seat RH (With heated seat) |
| B85 | Front LH side air bag module (With side air bag) |
| B87 | Front RH side air bag module (With side air bag) |




(LHD models)



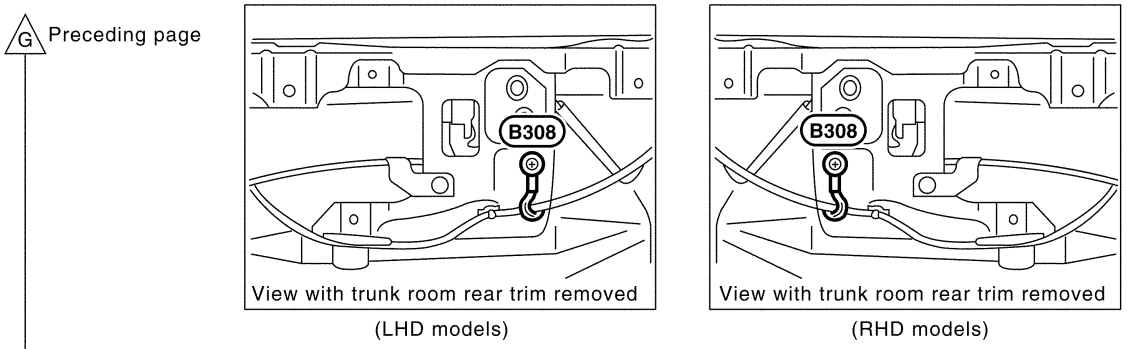

(RHD models)




| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| B11 | Shield wire [LH side air bag (satellite) sensor] (RHD models) |
| B22 | Shield wire [RH side air bag (satellite) sensor] (LHD models) |

G Next page

YEL800D



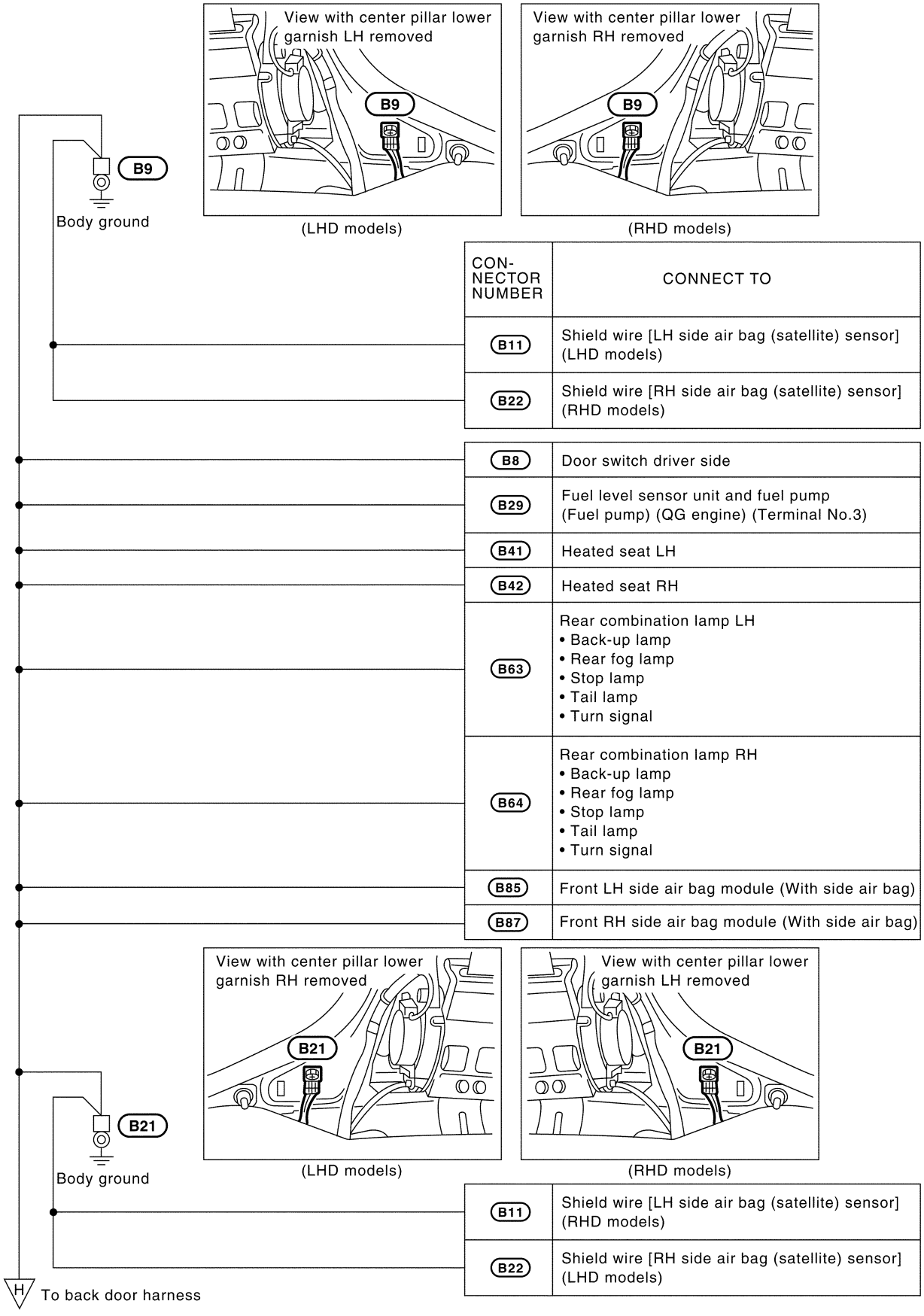

| CONNECTOR NUMBER | CONNECT TO |
|---|---|
| B301 | High-mounted stop lamp (In the rear spoiler) |
| B302 | Rear combination lamp LH (Outer) (Turn signal) |
| B303 | Rear combination lamp LH (Outer) (Tail and stop) |
| B304 | Rear combination lamp LH (Inner)<br>• Back-up (RHD models)<br>• Rear fog (LHD models) |
| B307 | License plate lamp LH |
| B309 | Trunk room lamp switch |
| B310 | License plate lamp RH |
| B311 | Rear combination lamp RH (Inner)<br>• Back-up (LHD models)<br>• Rear fog (RHD models) |
| B312 | Rear combination lamp RH (Outer) (Tail and stop) |
| B313 | Rear combination lamp RH (Outer) (Turn signal) |



YEL612C

## BODY HARNESS/HATCHBACK

NJEL0008S10

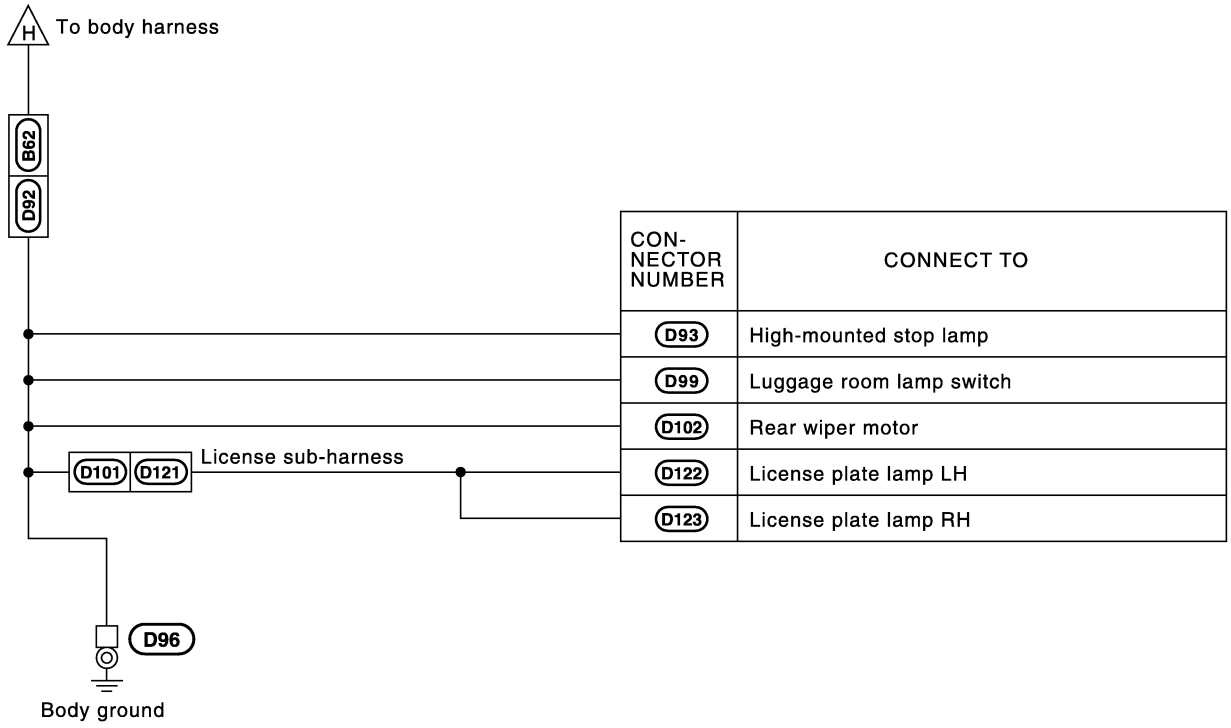



| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| B11 | Shield wire [LH side air bag (satellite) sensor] (LHD models) |
| B22 | Shield wire [RH side air bag (satellite) sensor] (RHD models) |
| B8 | Door switch driver side |
| B29 | Fuel level sensor unit and fuel pump (Fuel pump) (QG engine) (Terminal No.3) |
| B41 | Heated seat LH |
| B42 | Heated seat RH |
| B63 | Rear combination lamp LH<br>• Back-up lamp<br>• Rear fog lamp<br>• Stop lamp<br>• Tail lamp<br>• Turn signal |
| B64 | Rear combination lamp RH<br>• Back-up lamp<br>• Rear fog lamp<br>• Stop lamp<br>• Tail lamp<br>• Turn signal |
| B85 | Front LH side air bag module (With side air bag) |
| B87 | Front RH side air bag module (With side air bag) |
| B11 | Shield wire [LH side air bag (satellite) sensor] (RHD models) |
| B22 | Shield wire [RH side air bag (satellite) sensor] (LHD models) |

YEL613C

## BACK DOOR HARNESS

NJEL0008S11



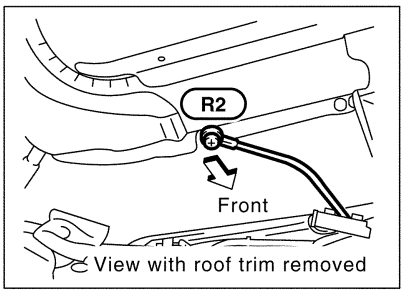

| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| D93 | High-mounted stop lamp |
| D99 | Luggage room lamp switch |
| D102 | Rear wiper motor |
| D122 | License plate lamp LH |
| D123 | License plate lamp RH |

YEL801D

## ROOM LAMP AND REAR WINDOW DEFOGGER HARNESS

NJEL0008S08

### ROOM LAMP HARNESS

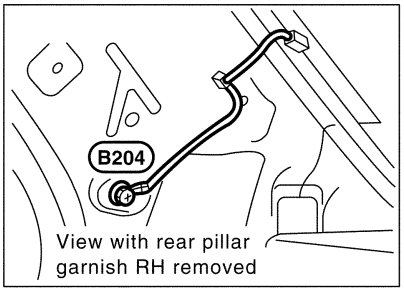



| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| R5 | Sunroof moter assembly |

R2

Body ground

### REAR WINDOW DEFOGGER HARNESS (SEDAN)

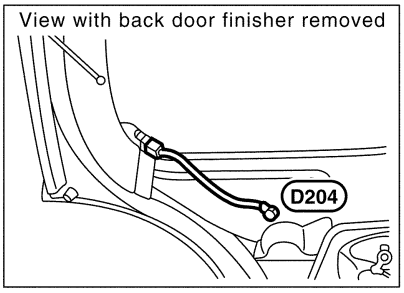



| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| B203 | Rear window defogger (–) |

B204

Body ground

### REAR WINDOW DEFOGGER HARNESS (HATCHBACK)




| CON-NECTOR NUMBER | CONNECT TO |
|---|---|
| D203 | Rear window defogger (–) |

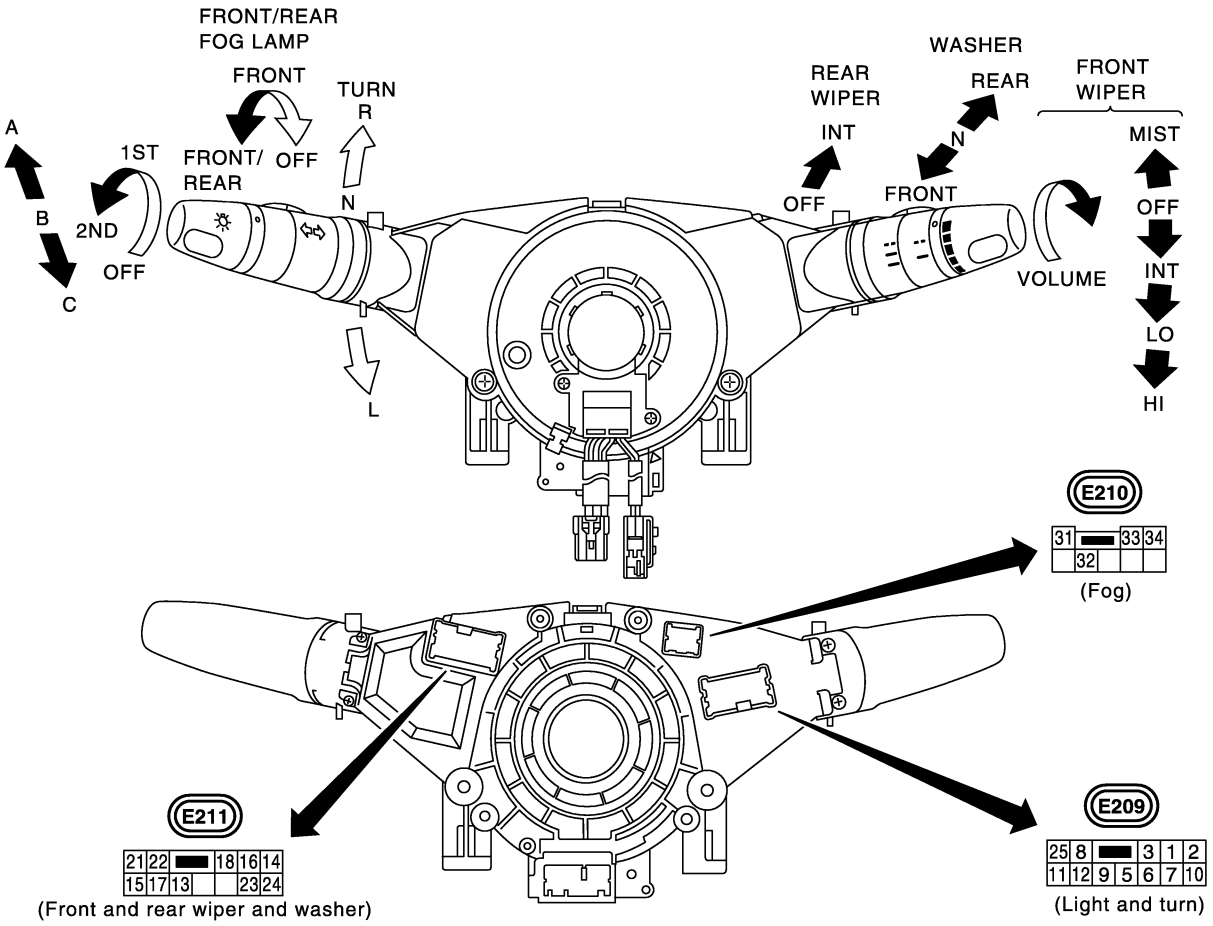
D204

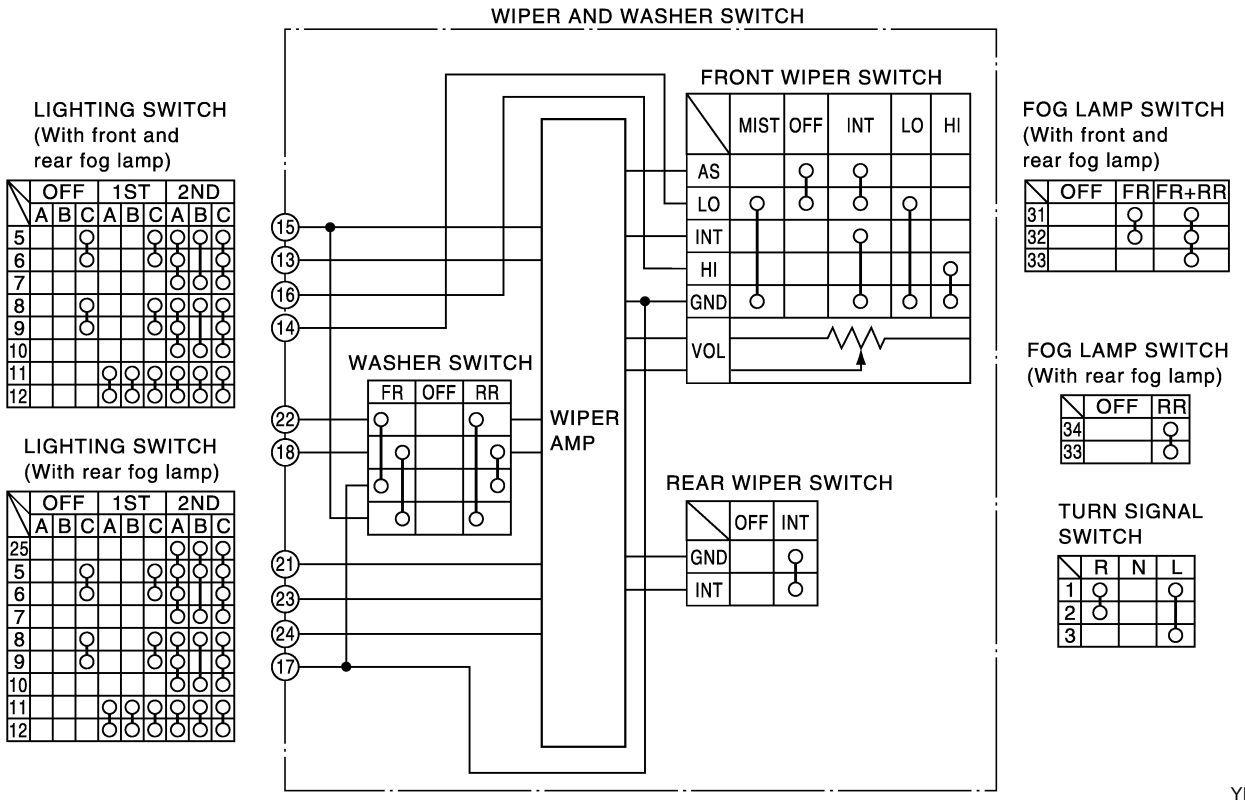
Body ground

YEL615C

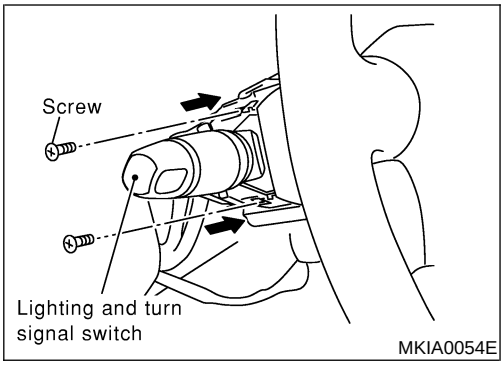
## Check

NJEL0423




YEL802D

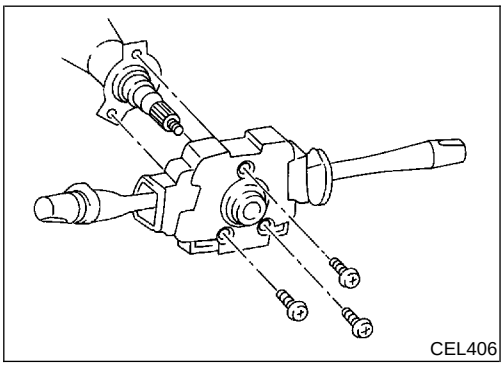



## Replacement

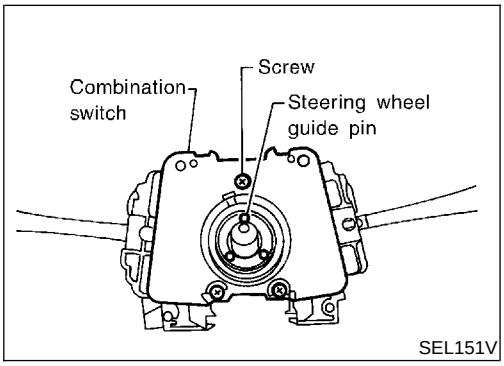
NJEL0010

**For removal and installation of spiral cable, refer to RS-29, “Installation — Air Bag Module and Spiral Cable”.**

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



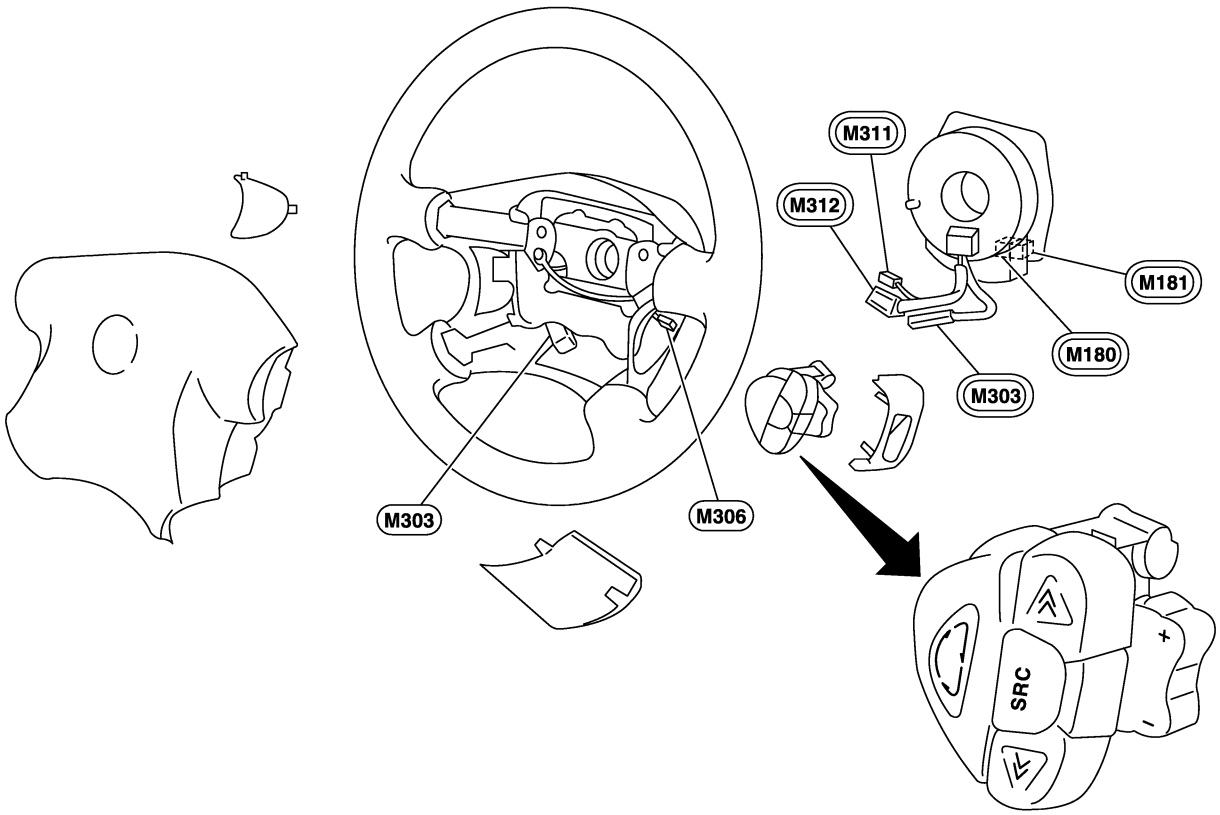

- To remove combination switch base, remove base attaching screw.

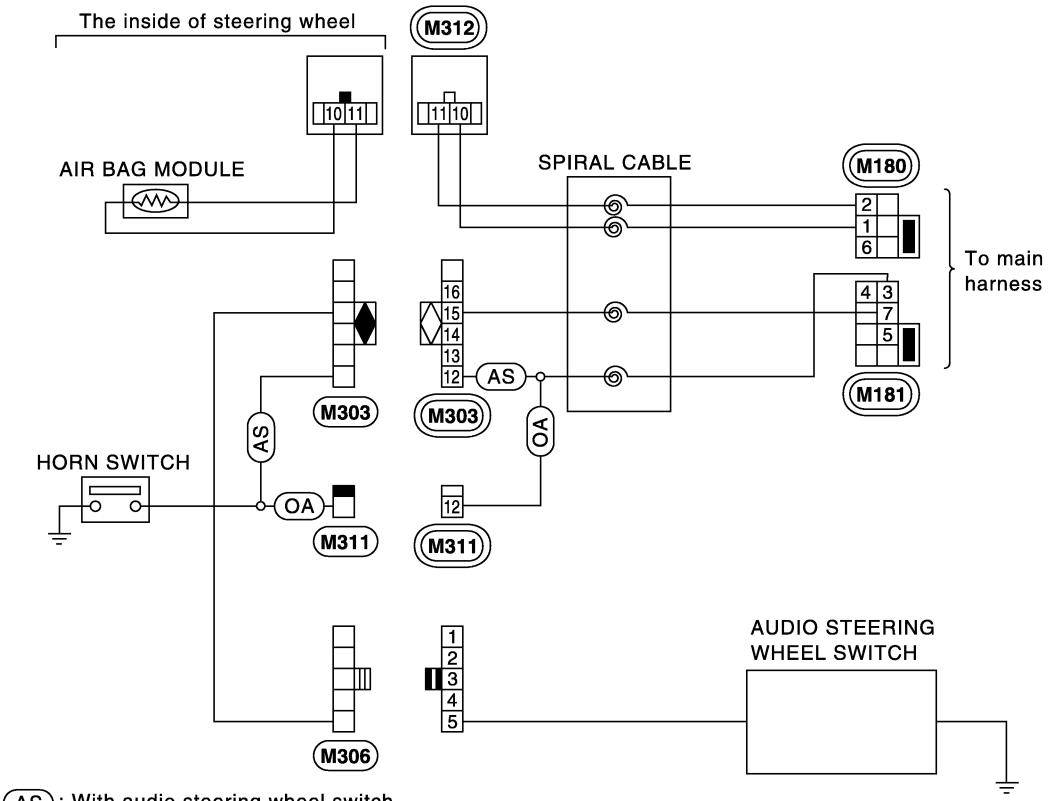



- Before installing the steering wheel, align the steering wheel guide pins with the screws which secure the combination switch as shown in the left figure.

## Check

NJEL0350



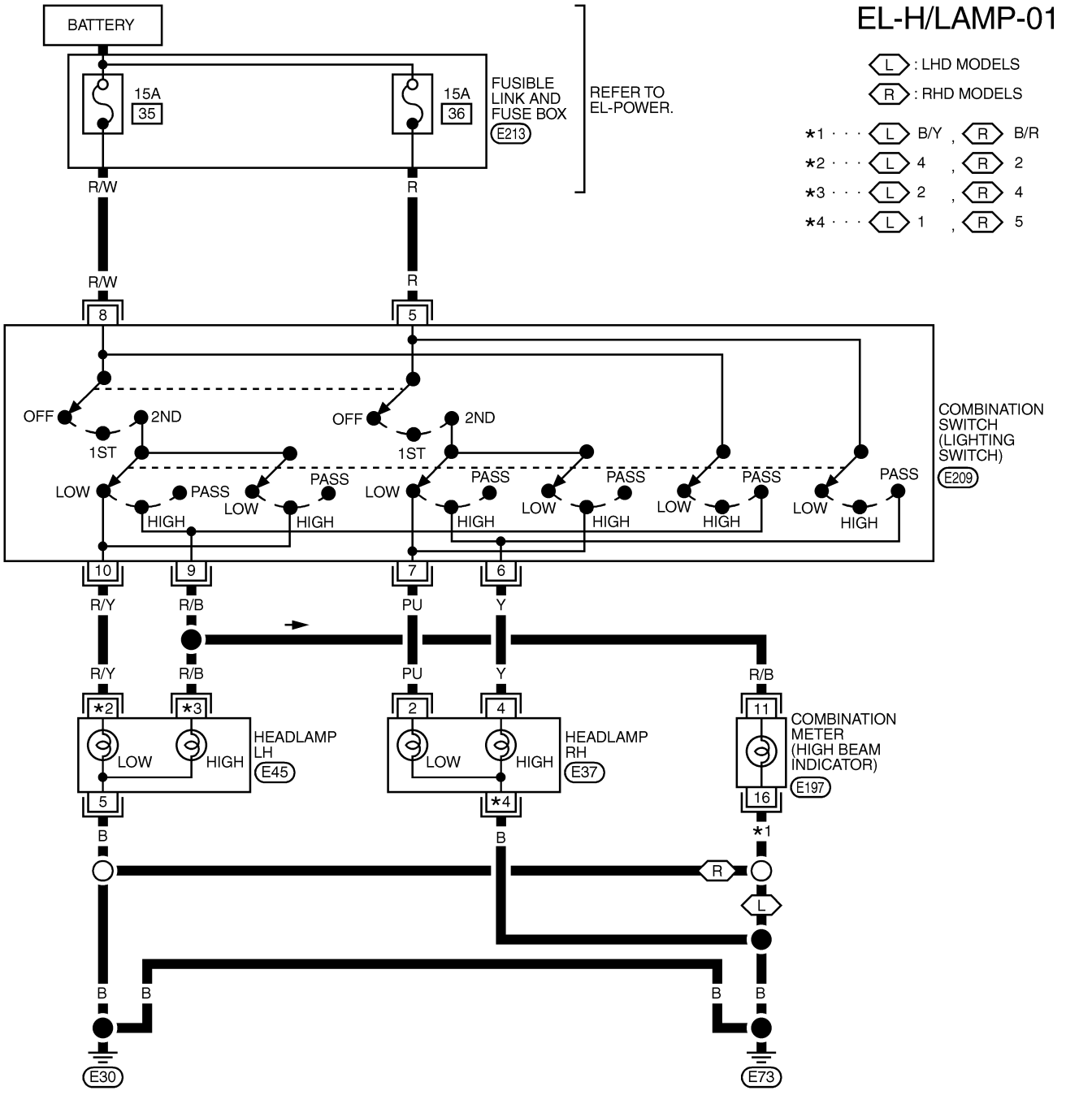

AS : With audio steering wheel switch

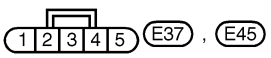
OA : Without audio steering wheel switch

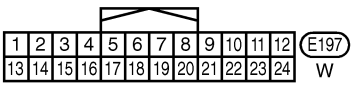
YEL803D

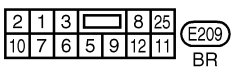
## Wiring Diagram — H/LAMP —

NJEL0420



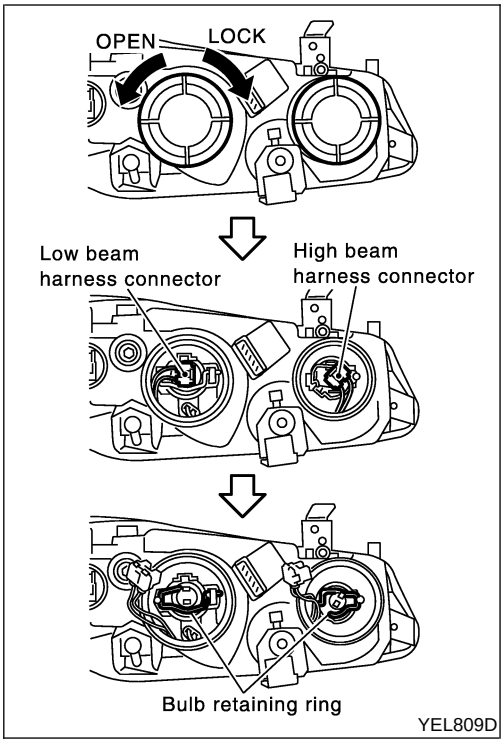

REFER TO THE FOLLOWING.
E213 -FUSE AND FUSIBLE LINK BOX

YEL668D

## Trouble Diagnoses

NJEL0202

| Symptom | Possible cause | Repair order |
|---|---|---|
| Neither headlamp operates. | 1. Lighting switch | 1. Check Lighting switch. |
| LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate. | 1. 15A fuse<br>2. Headlamp LH ground circuit<br>3. Lighting switch | 1. Check 15A fuse (No. 35, located in fusible link and fuse box). Verify battery positive voltage is present at lighting switch terminal 8.<br>2. Check headlamp LH ground circuit.<br>3. Check lighting switch. |
| RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate. | 1. 15A fuse<br>2. Headlamp RH ground circuit<br>3. Lighting switch | 1. Check 15A fuse (No. 36, located in fusible link and fuse box). Verify battery positive voltage is present at lighting switch terminal 5.<br>2. Check headlamp RH ground circuit.<br>3. Check lighting switch. |
| LH high beam does not operate, but LH low beam does operate. | 1. Bulb<br>2. Open in LH high beam circuit<br>3. Lighting switch | 1. Check bulb.<br>2. Check the harness between lighting switch and LH high beam for an open circuit.<br>3. Check lighting switch. |
| LH low beam does not operate, but LH high beam does operate. | 1. Bulb<br>2. Open in LH low beam circuit<br>3. Lighting switch | 1. Check bulb.<br>2. Check the harness between lighting switch and LH low beam for an open circuit.<br>3. Check lighting switch. |
| RH high beam does not operate, but RH low beam does operate. | 1. Bulb<br>2. Open in RH high beam circuit<br>3. Lighting switch | 1. Check bulb.<br>2. Check the harness between lighting switch and RH high beam for an open circuit.<br>3. Check lighting switch. |
| RH low beam does not operate, but RH high beam does operate. | 1. Bulb<br>2. Open in RH low beam circuit<br>3. Lighting switch | 1. Check bulb.<br>2. Check the harness between lighting switch and RH low beam for an open circuit.<br>3. Check lighting switch. |
| High beam indicator does not work. | 1. Bulb<br>2. Ground circuit<br>3. Open in high beam circuit | 1. Check bulb in combination meter.<br>2. Check harness between high beam indicator and ground.<br>3. Check the harness between lighting switch and combination meter for an open circuit. |




## Bulb Replacement

NJEL0015

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. Pull off the rubber cap.
3. Disconnect the harness connector from the back side of the bulb.
4. Remove the bulb retaining ring.
5. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
6. Install in the reverse order of removal.

**CAUTION:**

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

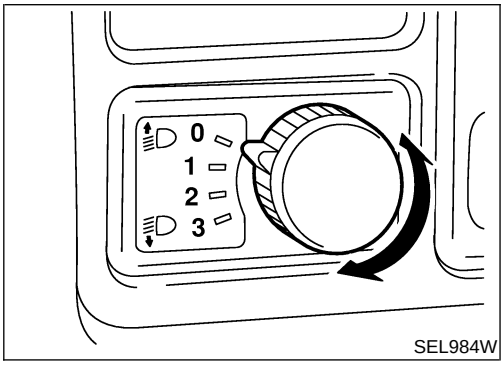
## Aiming Adjustment

NJEL0016

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

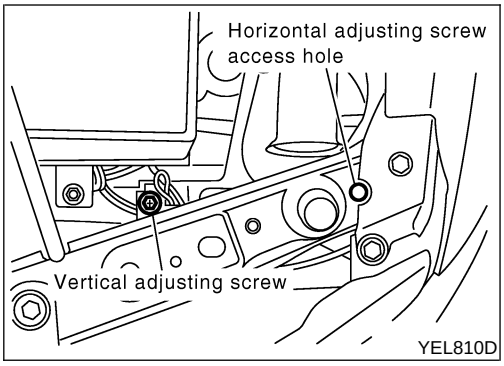
Before performing aiming adjustment, check the following.

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




**CAUTION:**

**Be sure aiming switch is set to "0" when performing aiming adjustment on vehicles equipped with headlamp aiming control.**

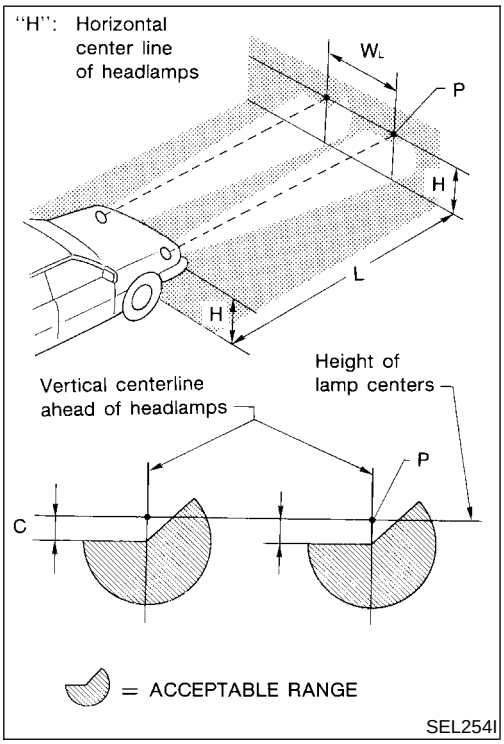



## LOW BEAM

=NJEL0016S02

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.**




- **Adjust headlamps so that main axis of light is parallel to center line of body and is aligned with point P shown in illustration.**
- **Figure to the left shows headlamp aiming pattern for driving on right side of road; for driving on left side of road, aiming pattern is reversed.**
- **Dotted lines to point P in illustration show center of headlamp.**

**"H": Horizontal center line of headlamps**
**"$W_L$": Distance between each headlamp center**
**"L": 5,000 mm (196.85 in)**
**"C": 65 mm (2.56 in)**

## System Description

NJEL0351

The headlamp system on vehicles for cold spec. option contains a daytime light unit. The unit activates the following whenever the engine is running with the lighting switch in the OFF position:

- Low beam headlamps
- Parking, license, tail and illumination lamps

Power is supplied at all times

- through 10A fuse (No. 38, located in the fusible link and fuse box)
- to daytime light unit terminal 1 and
- to lighting switch terminal 11.

Power is also supplied at all times

- through 15A fuse (No. 36, located in the fusible link and fuse box)
- to daytime light unit terminal 3 and
- to lighting switch terminal 5.

Power is also supplied at all times

- through 15A fuse (No. 35, located in the fusible link and fuse box)
- to daytime light unit terminal 2 and
- to lighting switch terminal 8.

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

- through 10A fuse [No. 20, located in the fuse block (J/B)]
- to daytime light unit terminal 7.

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

- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to daytime light unit terminal 6.

Ground is supplied to daytime light unit terminal 9 through body grounds E30 and E73.

### HEADLAMP OPERATION (DAYTIME LIGHT CANCEL OPERATION)

NJEL0351S01

When the lighting switch is turned to the 1st or 2nd position, power is supplied

- through lighting switch terminal 12,
- to daytime light unit terminal 11.

Then daytime light will be canceled. And the lighting system operation will be the same as no daytime light system.

### DAYTIME LIGHT OPERATION

NJEL0351S02

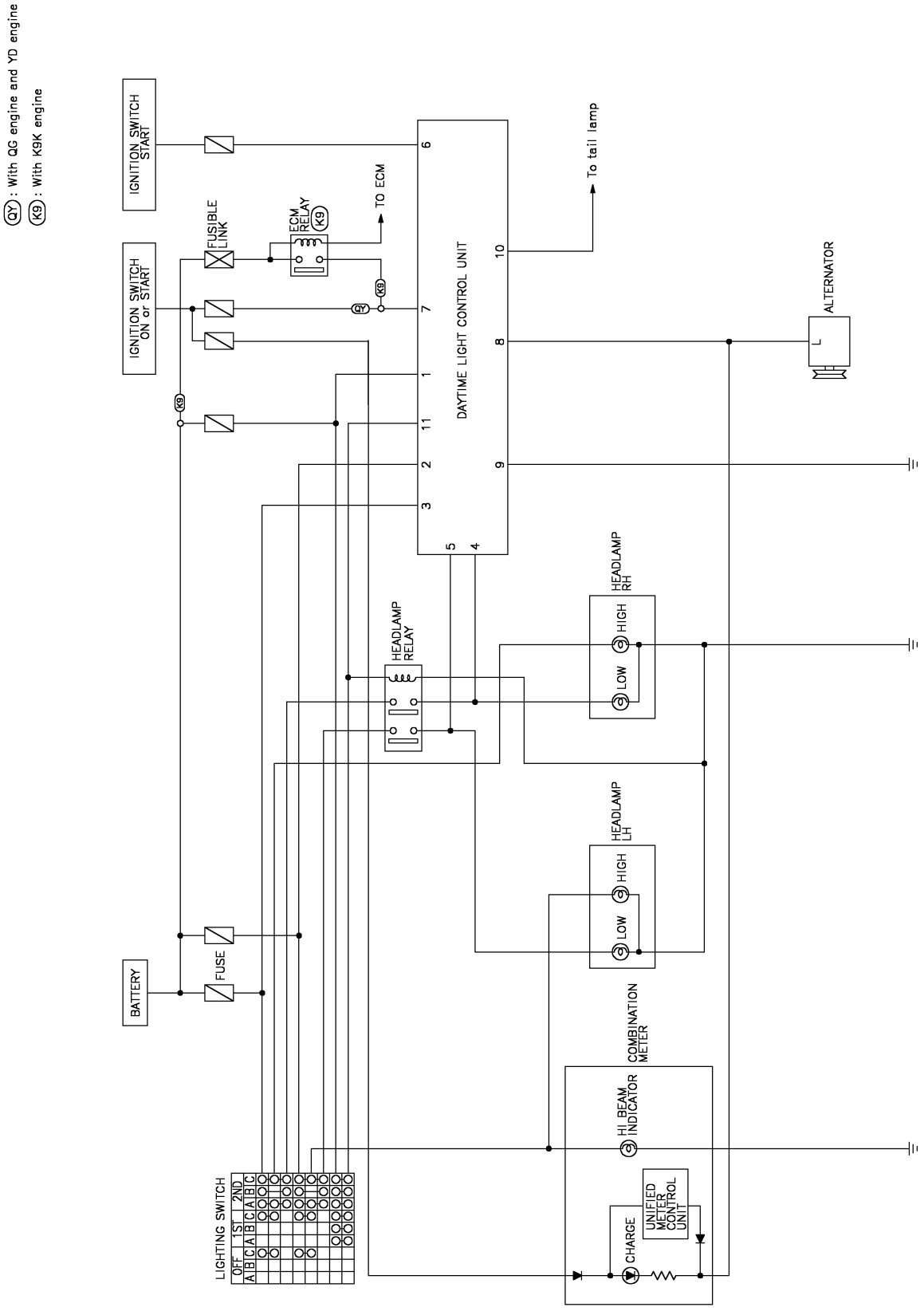
With the engine running and the lighting switch in the OFF position, power is supplied

- from alternator terminal 3
- to daytime light unit terminal 8,
- through daytime light unit terminal 5
- to terminal 4 of headlamp LH,
- through daytime light unit terminal 4
- to terminal 2 of headlamp RH and
- through daytime light unit terminal 10
- to tail lamp and illumination.

Ground is supplied to terminal 5 of headlamp LH and terminal 1 of headlamp RH through body grounds E30 and E73.

## Schematic

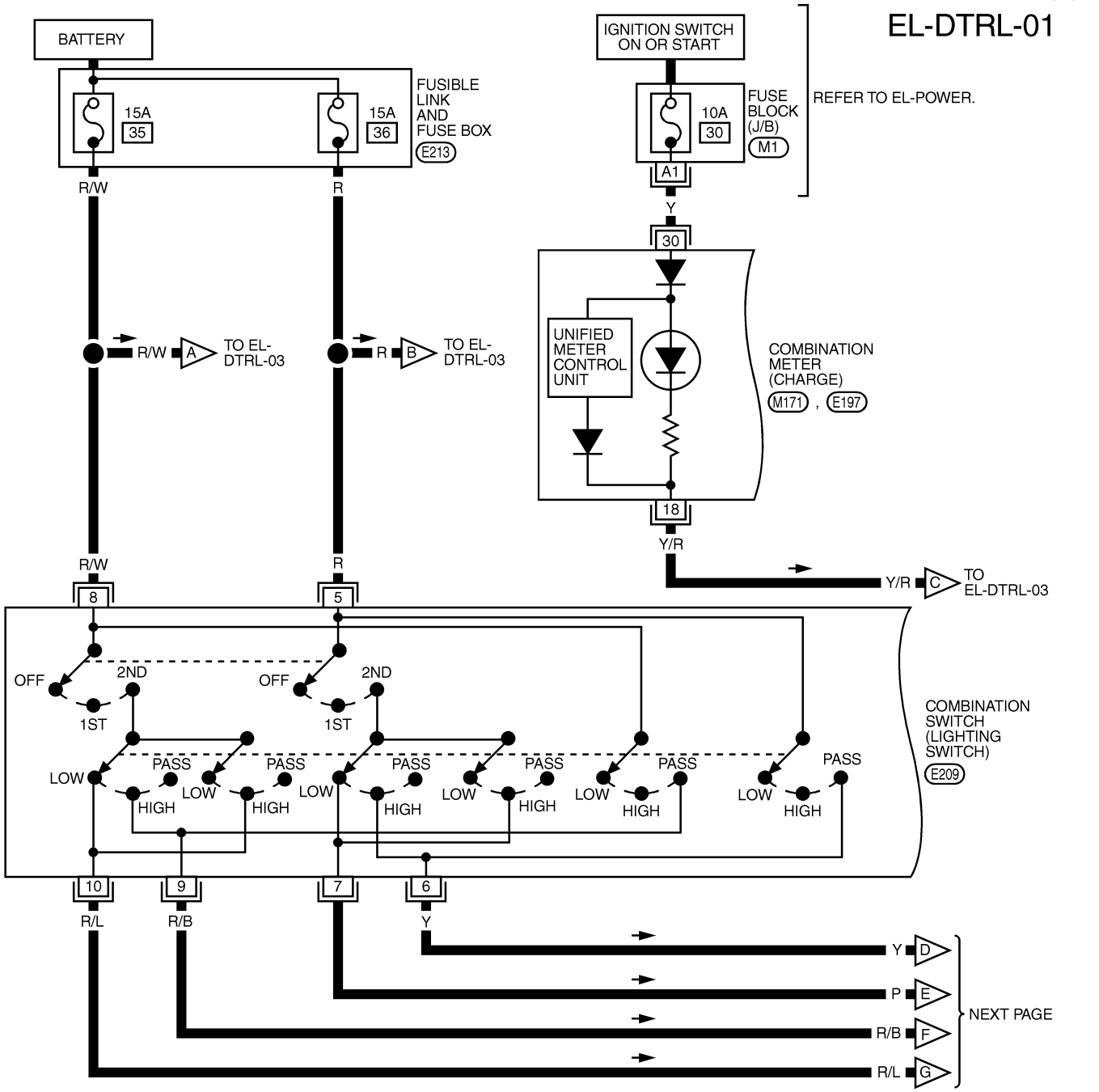
NJEL0421

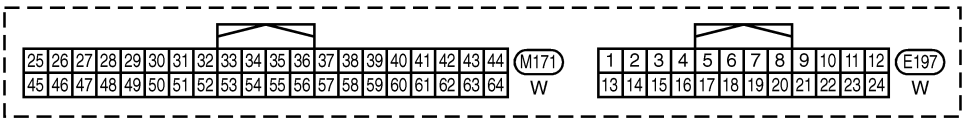


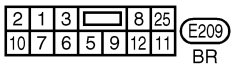

YEL669D

## Wiring Diagram — DTRL —

NJEL0422



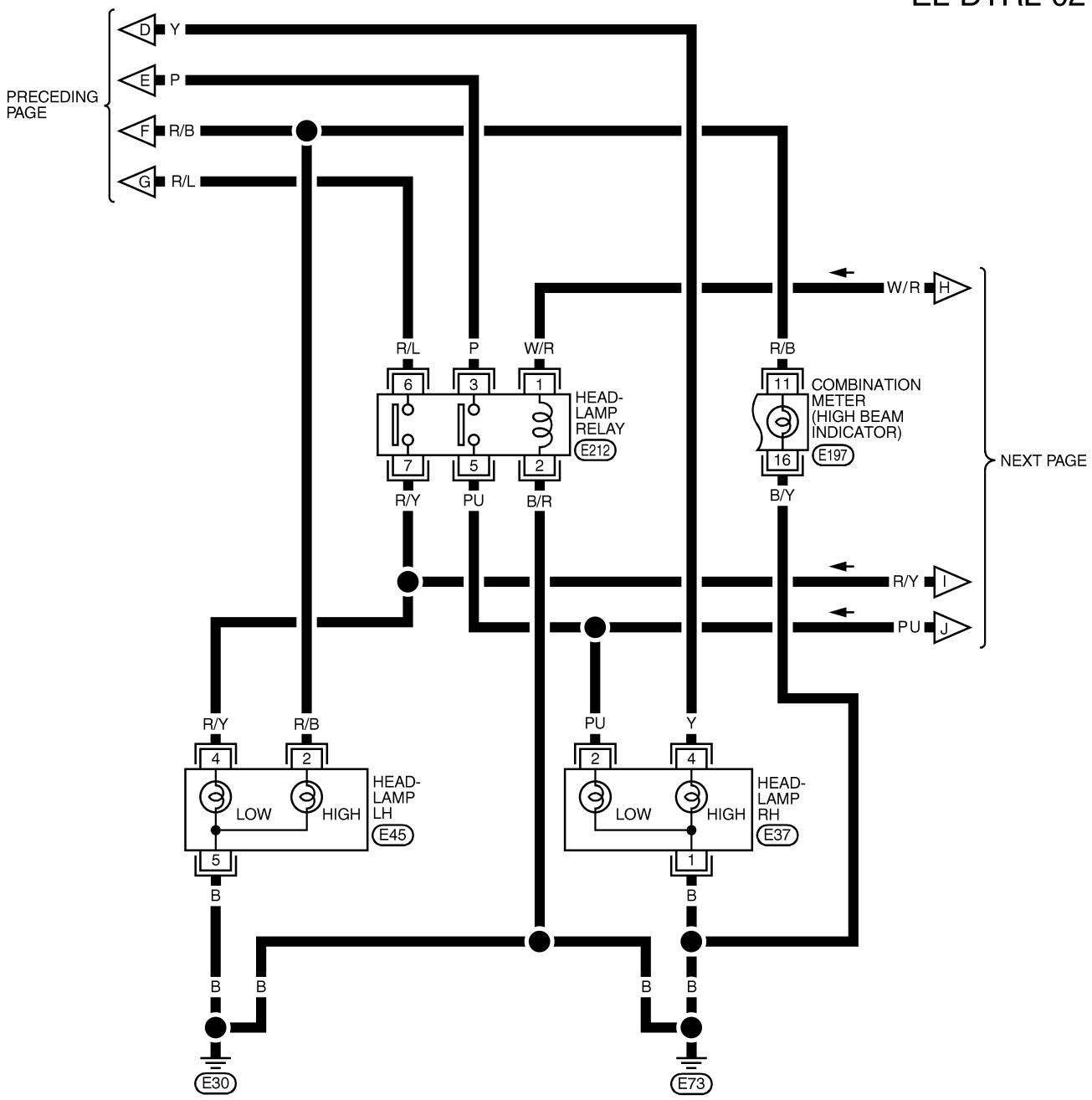



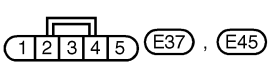



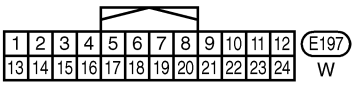

REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-
JUNCTION BOX (J/B)
E213 -FUSE
AND FUSIBLE LINK BOX

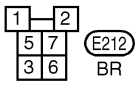
YEL670D

EL-DTRL-02



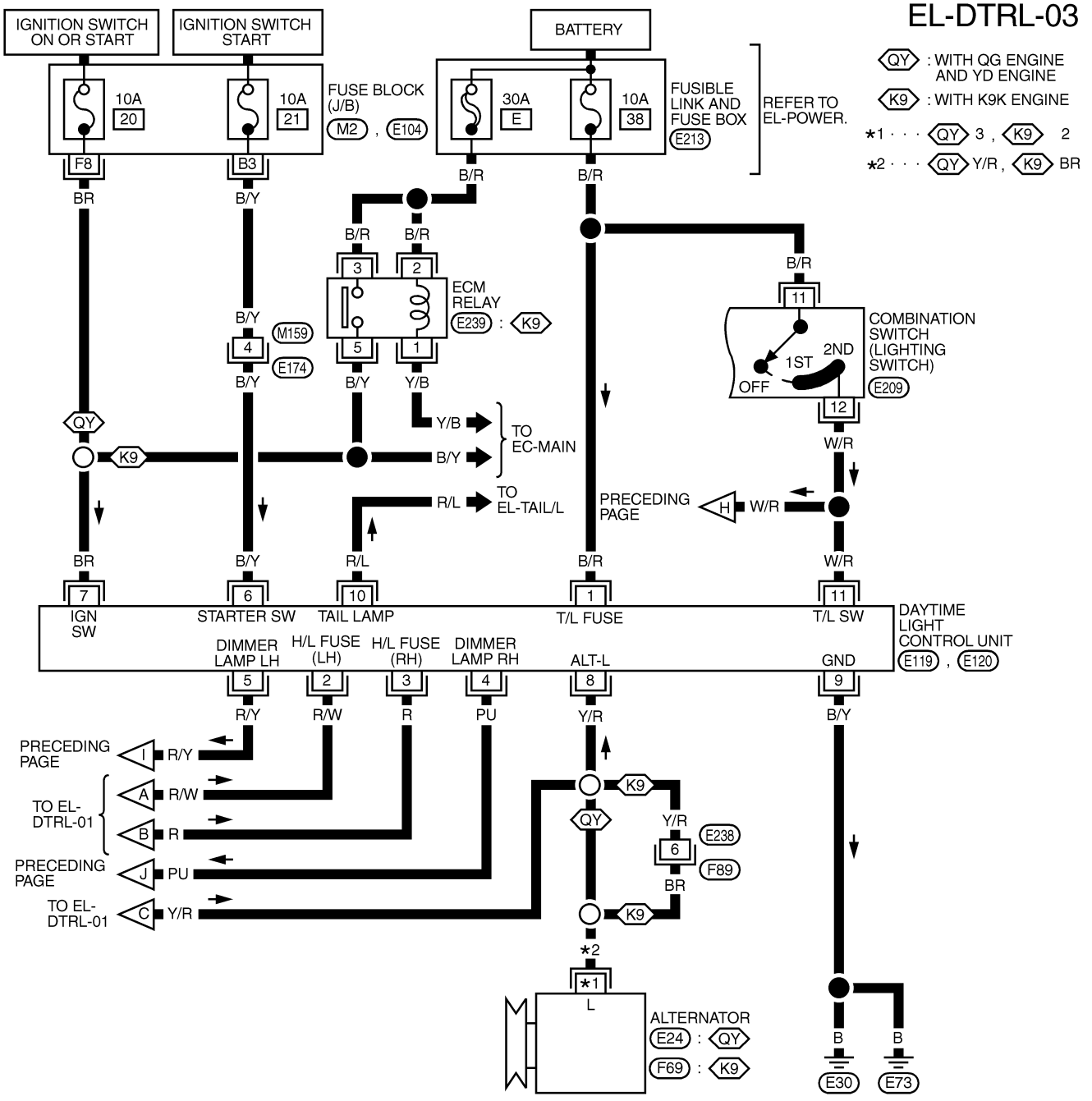



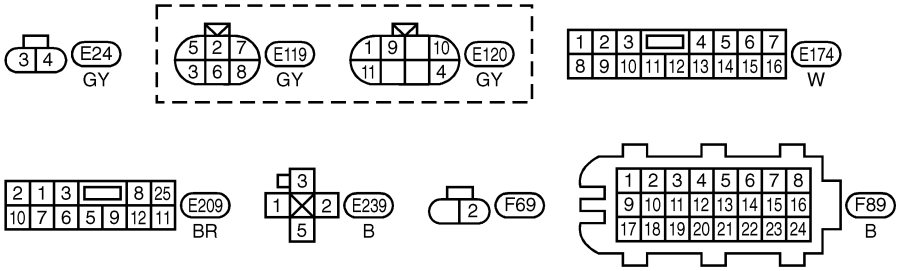




YEL671D

*Wiring Diagram — DTRL — (Cont'd)*




REFER TO THE FOLLOWING.
M2 , E104 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL672D

## Trouble Diagnoses

NJEL0354

### DAYTIME LIGHT UNIT INSPECTION TABLE

NJEL0354S01

| Terminal No. | Connections | INPUT (I)/ OUTPUT (O) | Operated condition | | Voltage (V) (Approximate values) |
|---|---|---|---|---|---|
| 1 | Power source for illumination & tail lamp | — | — | | 12 |
| 2 | Power source for headlamp LH | — | — | | 12 |
| 3 | Power source for headlamp RH | — | — | | 12 |
| 4 | Headlamp RH | O | ON (daytime light operating*) | | 12 |
| | | | OFF | | 0 |
| 5 | Headlamp LH | O | ON (daytime light operating*) | | 12 |
| | | | OFF | | 0 |
| 6 | Start signal | I | Ignition switch | START | 12 |
| | | | | ON, ACC or OFF | 0 |
| 7 | Power source | — | Ignition switch | ON or START | 12 |
| | | | | ACC or OFF | 0 |
| 8 | Alternator “L” terminal | I | Engine | Running | 12 |
| | | | | Stopped | 0 |
| 9 | Ground | — | — | | — |
| 10 | Illumination & tail lamp | O | ON (daytime light operating*) | | 12 |
| | | | OFF | | 0 |
| 11 | Lighting switch | I | 1ST·2ND position | | 12 |
| | | | OFF | | 0 |

*: Daytime light operating: Lighting switch in “OFF” position with engine running.

## Bulb Replacement

NJEL0355

Refer to “HEADLAMP” (EL-44).

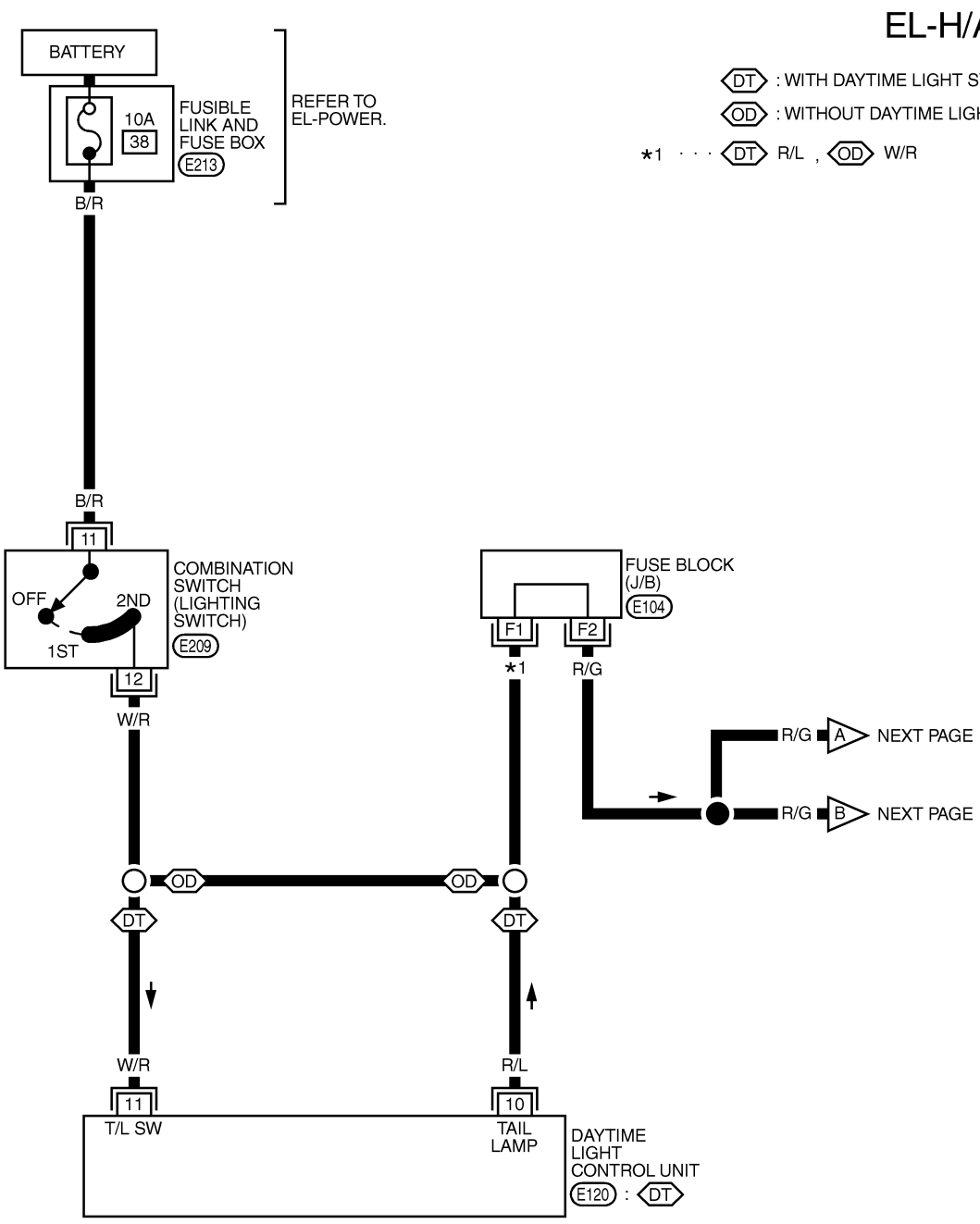
## Aiming Adjustment

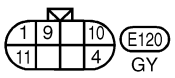
NJEL0356

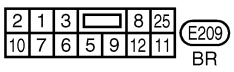
Refer to “HEADLAMP” (EL-44).

## Wiring Diagram — H/AIM —

NJEL0424



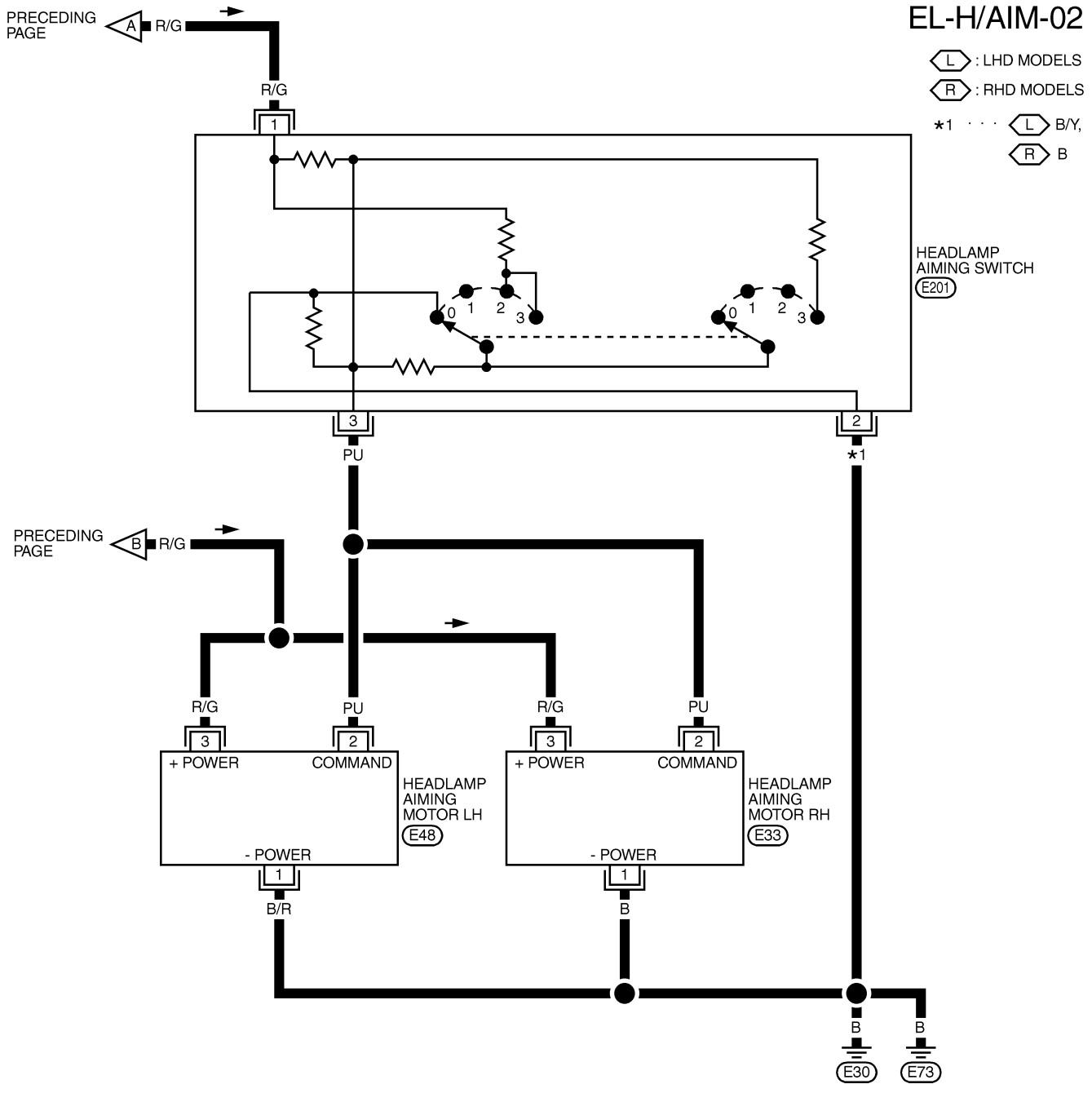




REFER TO THE FOLLOWING.
E104 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL673D

*Wiring Diagram — H/AIM — (Cont'd)*



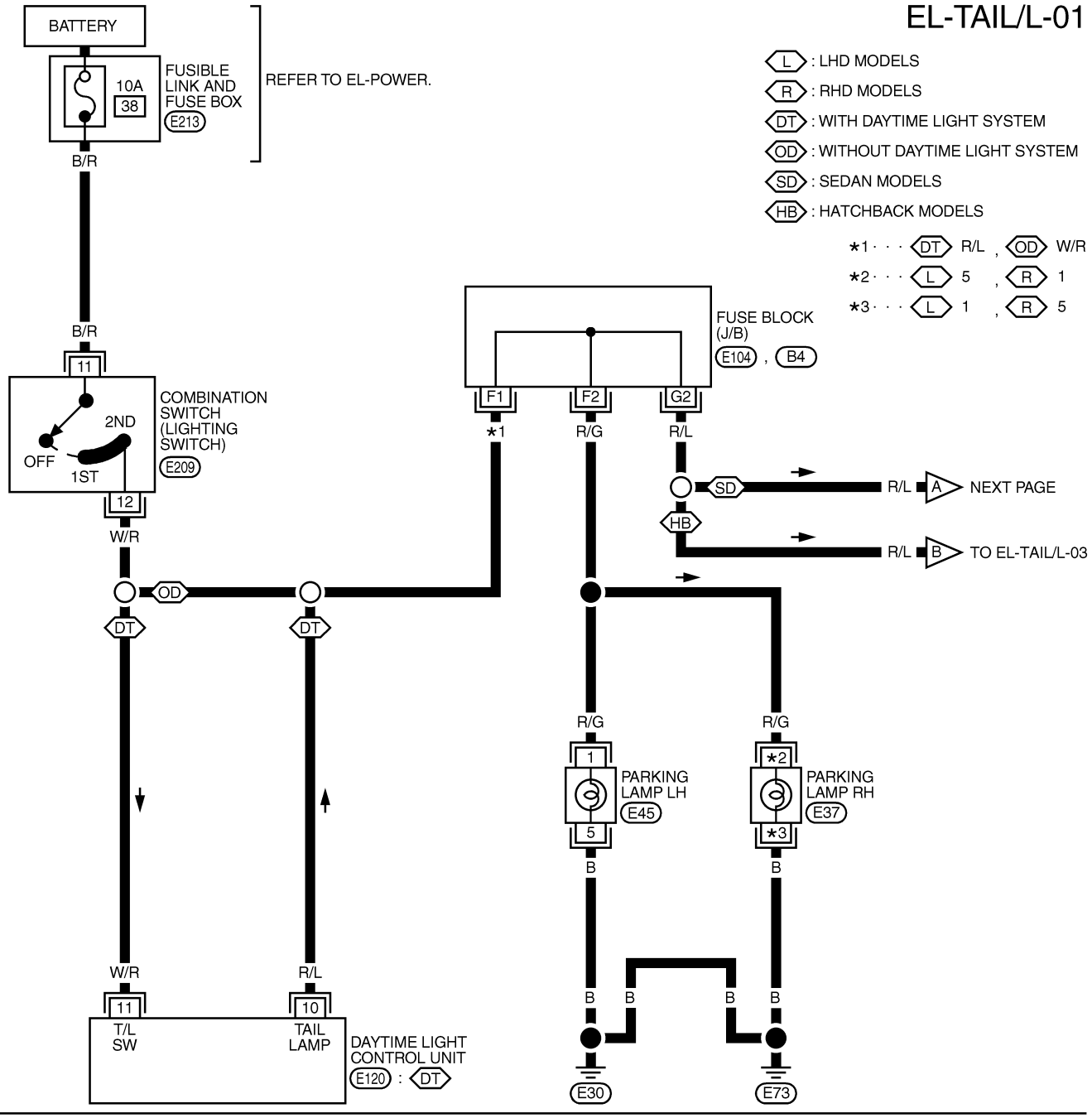


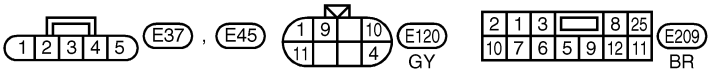


YEL674D

## Wiring Diagram — TAIL/L —

NJEL0425

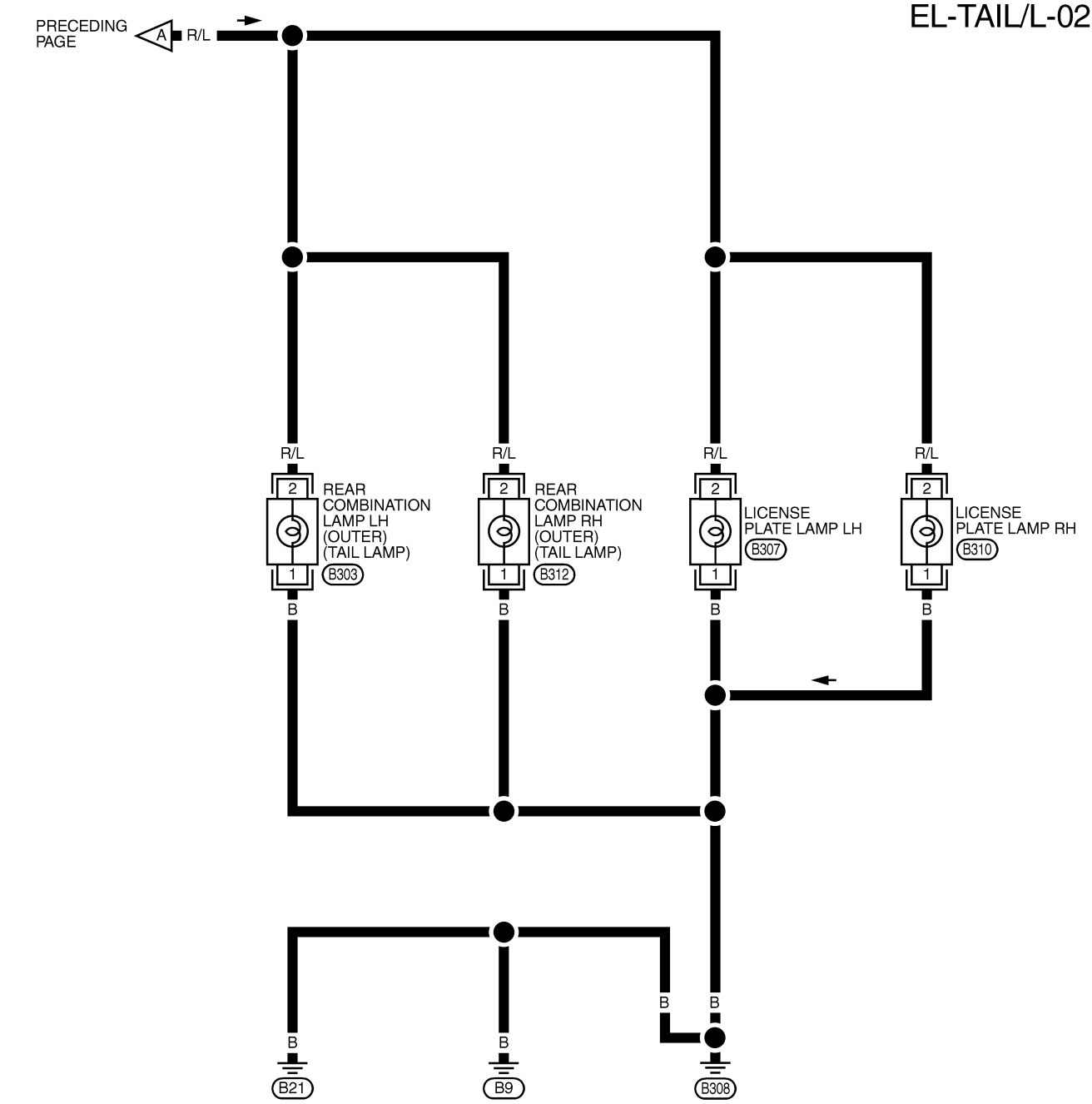


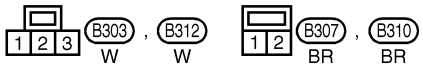




REFER TO THE FOLLOWING.
E104 , B4 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL675D

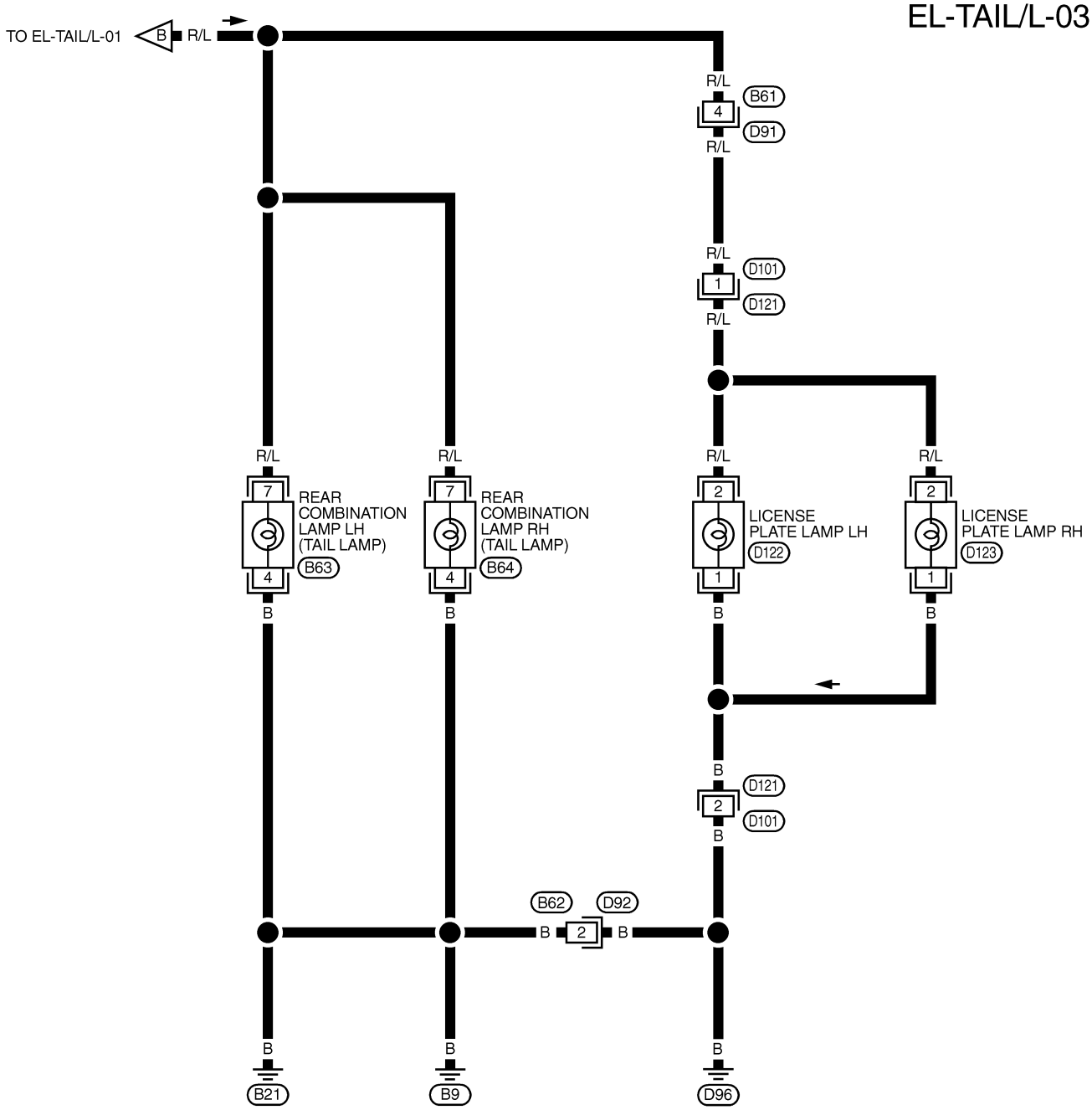
EL-TAIL/L-02

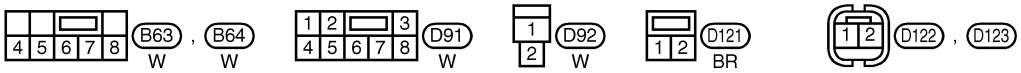



YEL676D

EL-TAIL/L-03

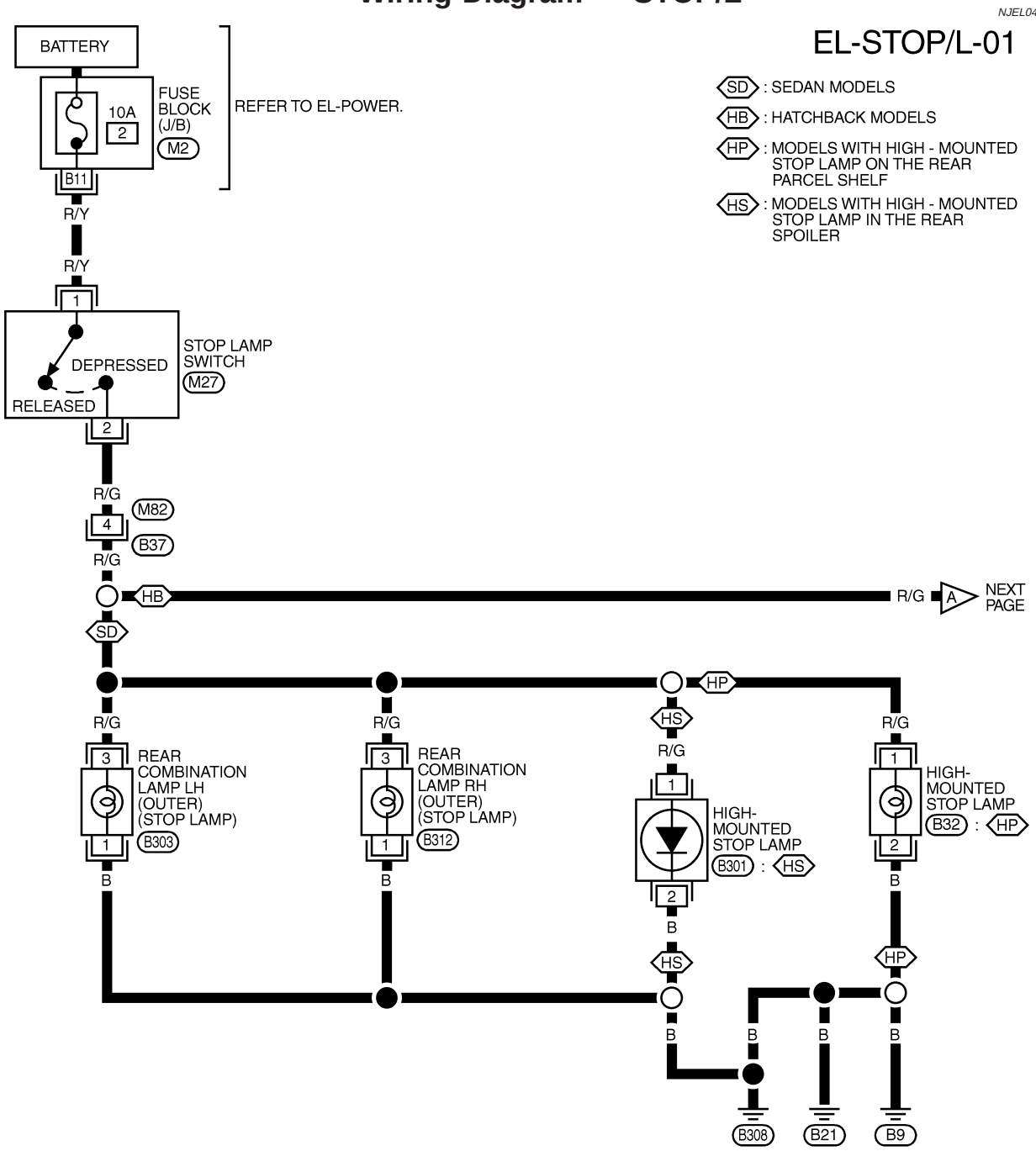


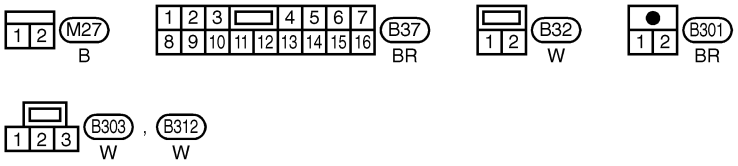




YEL677D

## Wiring Diagram — STOP/L —

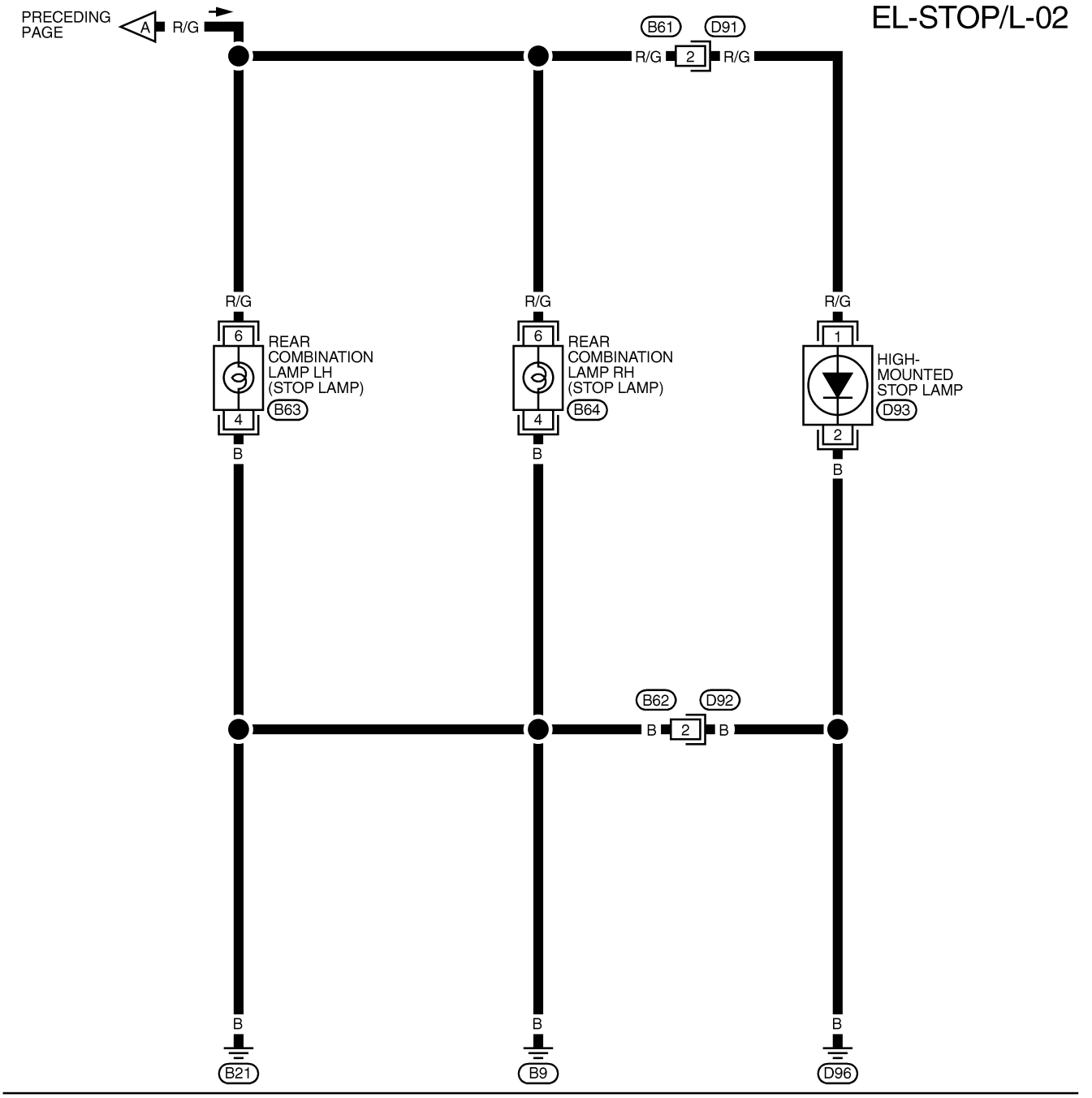
NJEL0426

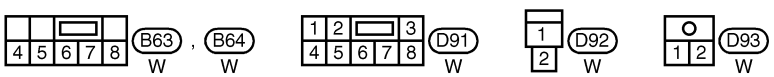



REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-
JUNCTION BOX (J/B)

YEL678D

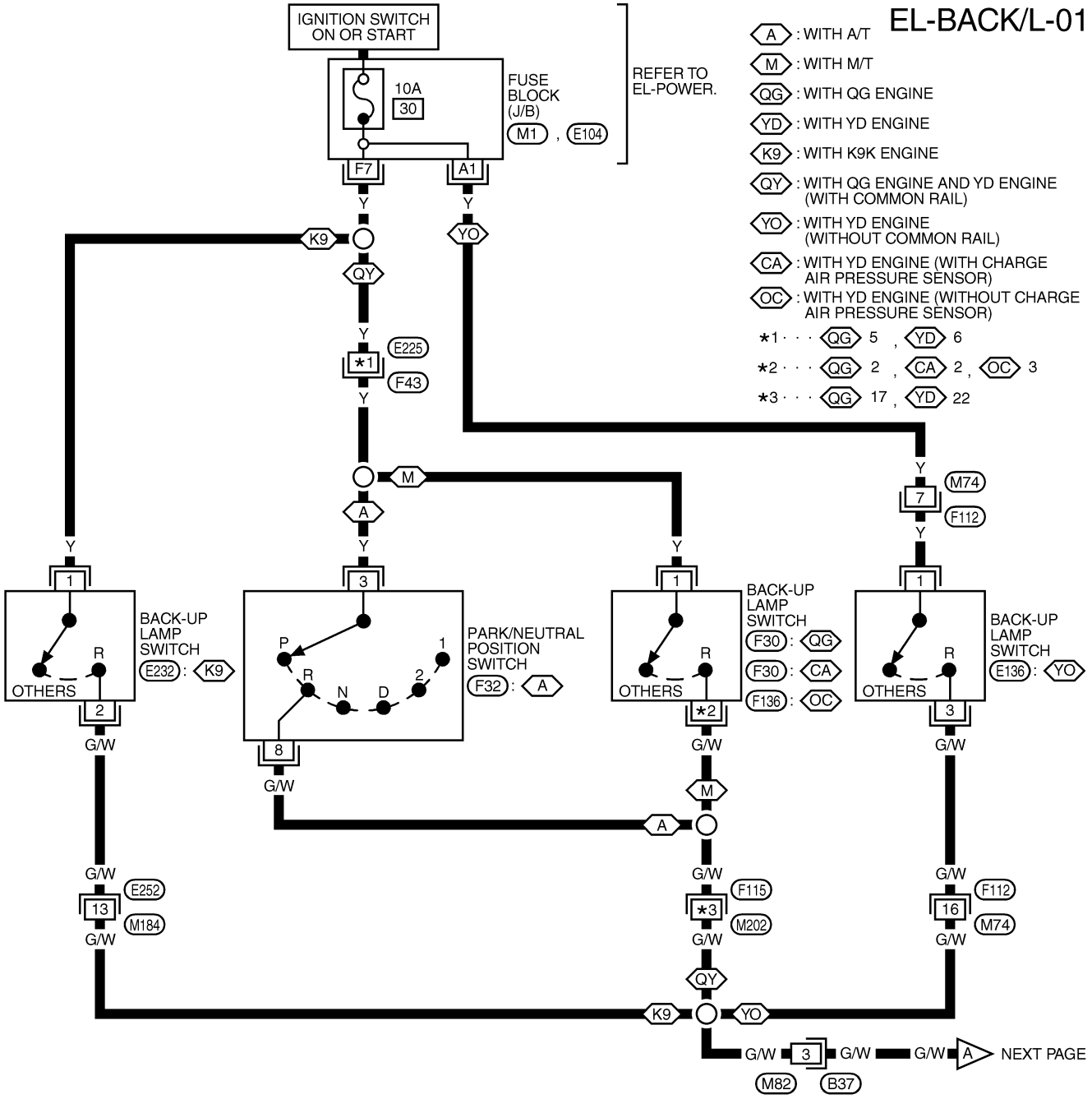

EL-STOP/L-02
PRECEDING PAGE
A
R/G
B61
D91
R/G
2
R/G
R/G
6
REAR COMBINATION LAMP LH (STOP LAMP)
B63
4
B
R/G
6
REAR COMBINATION LAMP RH (STOP LAMP)
B64
4
B
R/G
1
HIGH-MOUNTED STOP LAMP
D93
2
B
B62
D92
B
2
B
B
B21
B
B9
B
D96

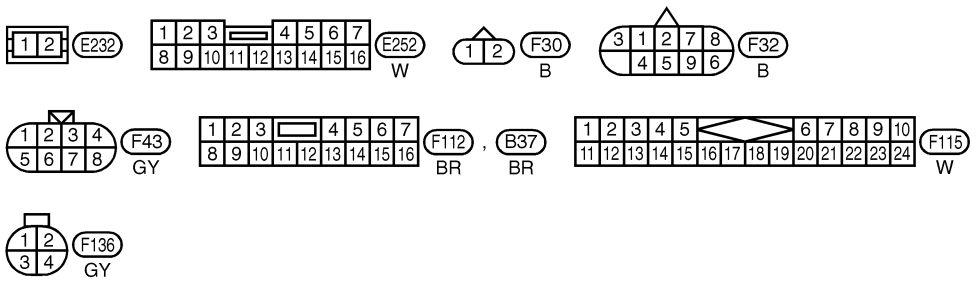

B63
W
B64
W
D91
W
D92
W
D93
W

YEL679D

## Wiring Diagram — BACK/L —

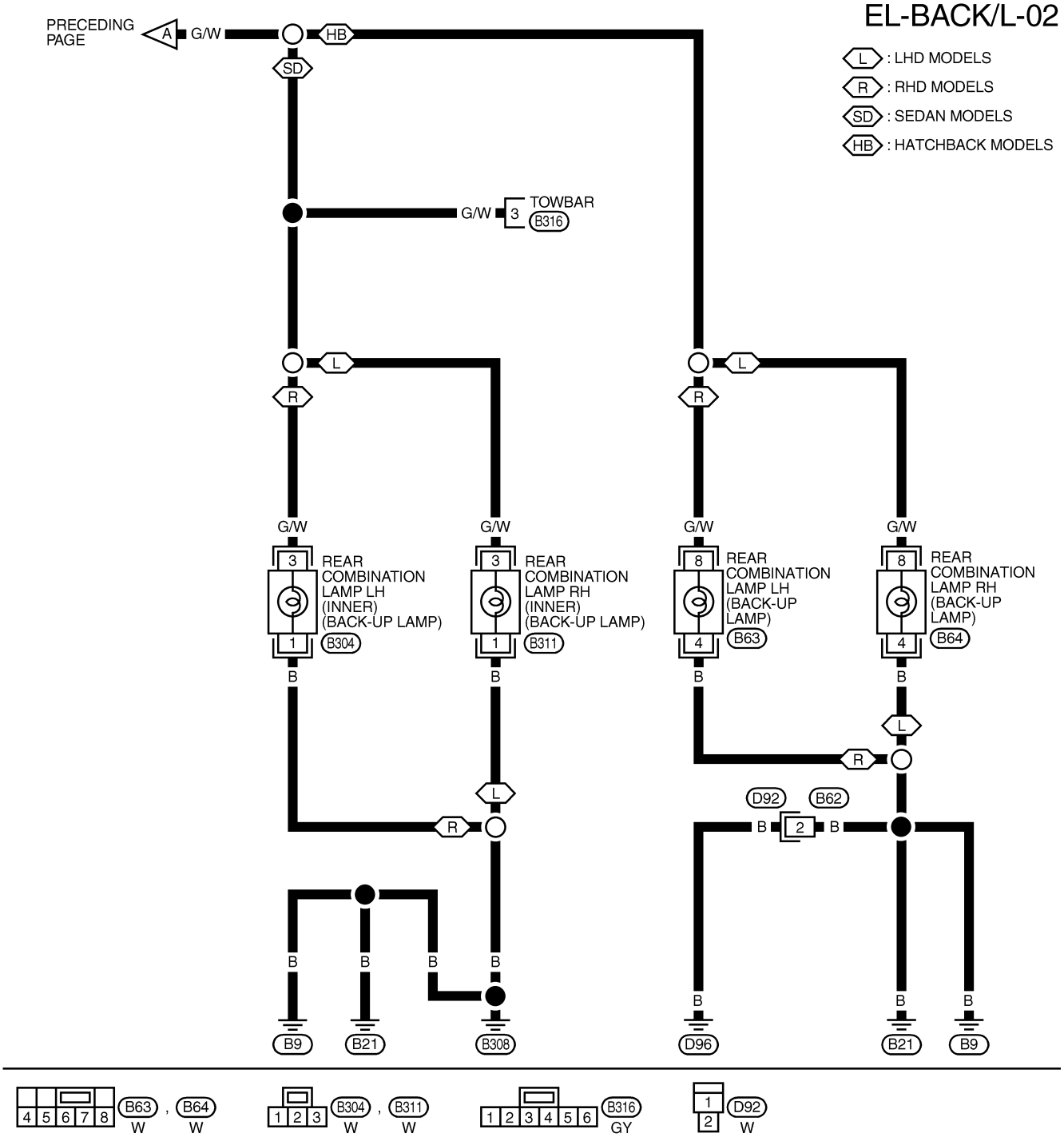
NJEL0427




REFER TO THE FOLLOWING.
M1 , E104 -FUSE BLOCK-JUNCTION BOX (J/B)

YEL680D


EL-BACK/L-02
L : LHD MODELS
R : RHD MODELS
SD : SEDAN MODELS
HB : HATCHBACK MODELS
PRECEDING PAGE
A
G/W
HB
SD
G/W
3
TOWBAR
B316
L
R
G/W
REAR COMBINATION LAMP LH (INNER) (BACK-UP LAMP)
3
1
B304
REAR COMBINATION LAMP RH (INNER) (BACK-UP LAMP)
B311
REAR COMBINATION LAMP LH (BACK-UP LAMP)
8
4
B63
REAR COMBINATION LAMP RH (BACK-UP LAMP)
B64
B
D92
B62
2
B9
B21
B308
D96

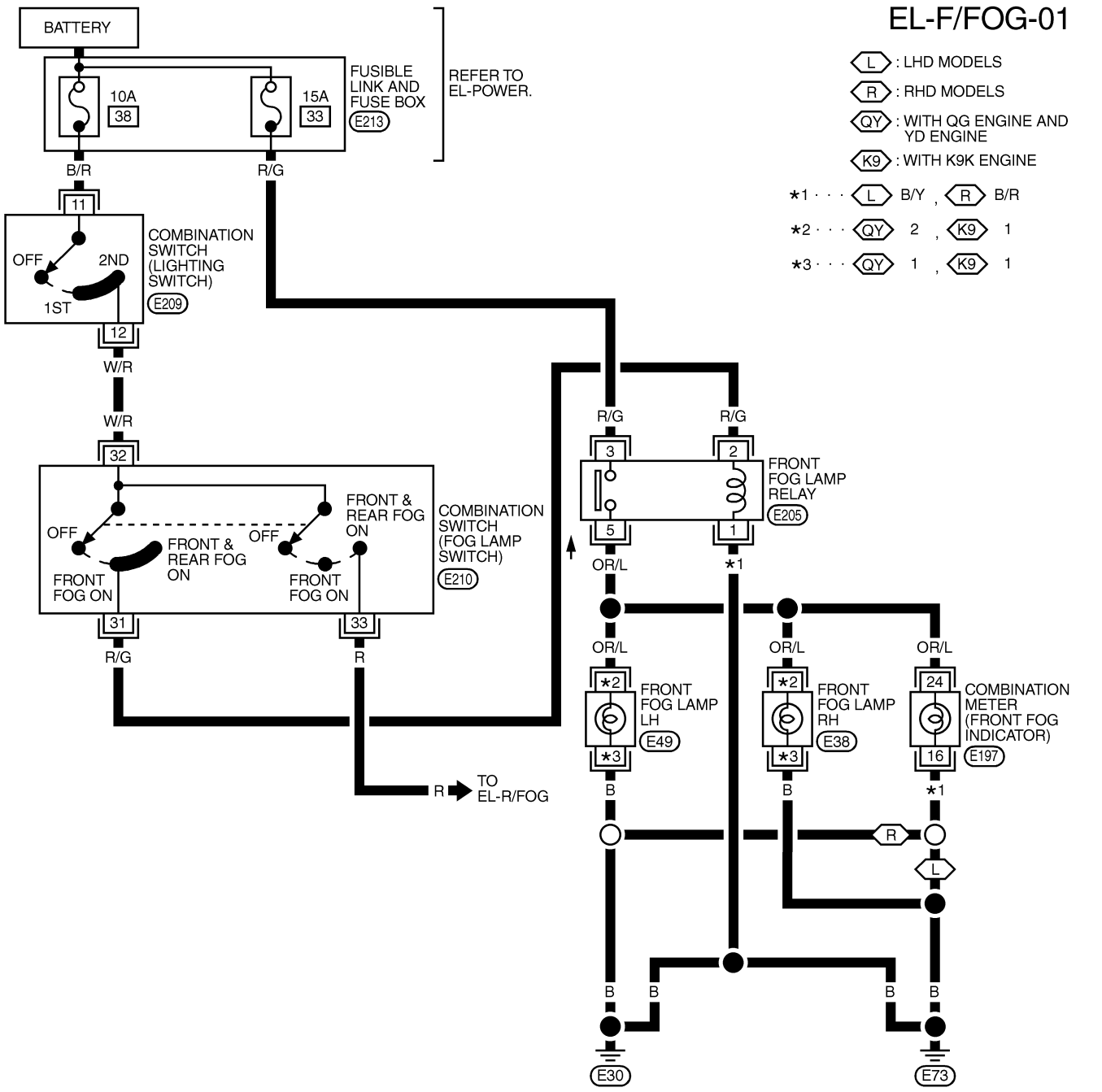

B63 W
B64 W
B304 W
B311 W
B316 GY
D92 W

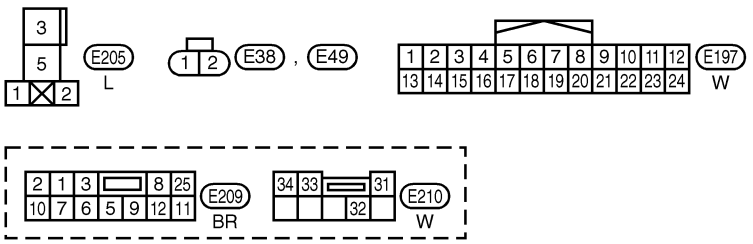


YEL681D

## Wiring Diagram — F/FOG —

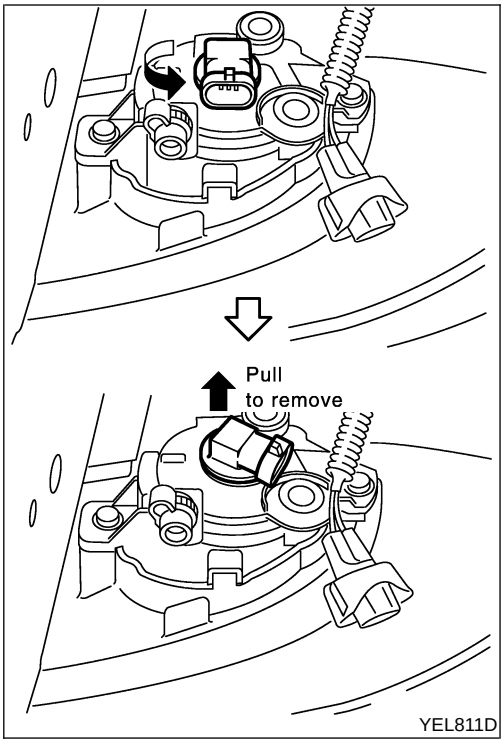
NJEL0428




REFER TO THE FOLLOWING.
E213 -FUSE AND-
FUSIBLE LINK BOX

YEL682D




## Bulb Replacement

NJEL0314

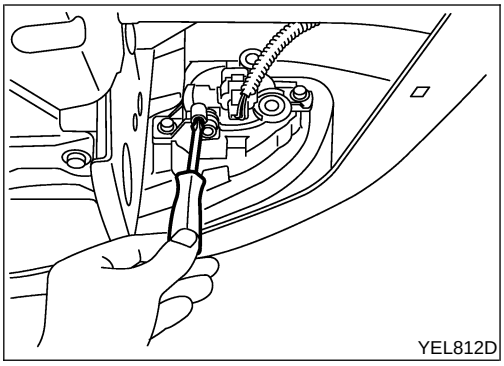
The front fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb.

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

1. Disconnect the battery cable.
2. Disconnect the harness connector from the back side of the bulb.
3. Pull off the bulb holder.
4. Remove the front fog lamp bulb carefully. Do not shake or rotate the bulb when removing it.
5. Install in the reverse order of removal.

**CAUTION:**

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


YEL812D

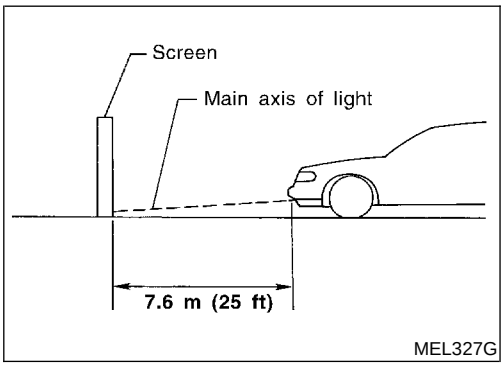
## Aiming Adjustment

=NJEL0029

Before performing aiming adjustment, make sure of the following.

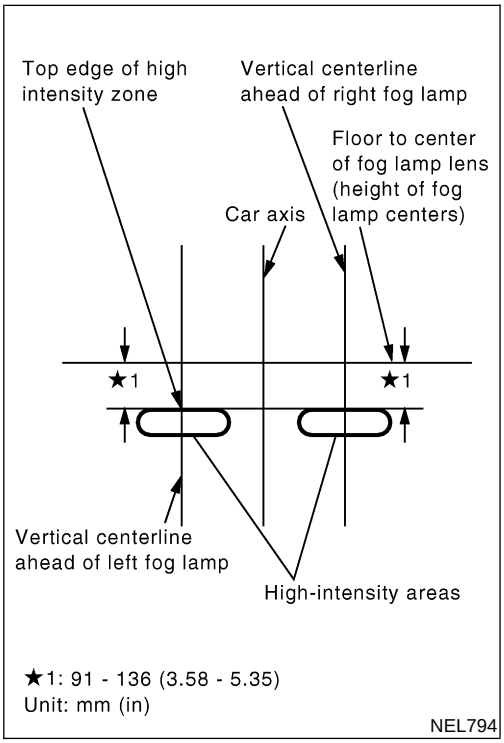
1) Keep all tires inflated to correct pressure.
2) Place vehicle on level ground.
3) See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver's seat.

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



MEL327G

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.



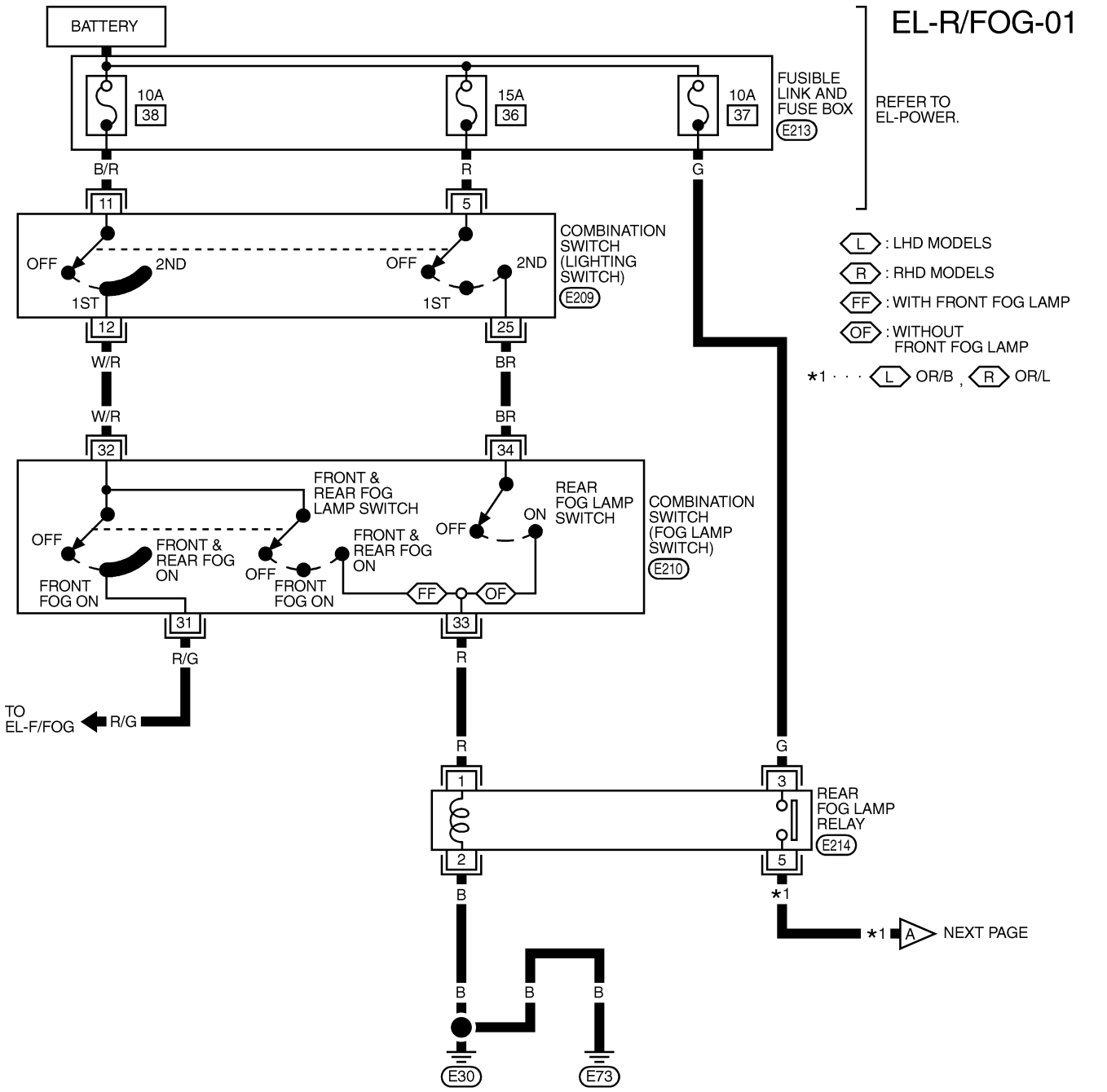
NEL794

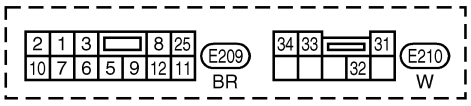
4. Adjust front fog lamps so that the top edge of the high intensity zone is 152 mm (6.0 in) (Sedan) or 91 to 136 mm (3.58 to 5.35 in) (Hatchback) below the height of the fog lamp centers as shown at left.

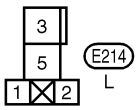
- When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.

## Wiring Diagram — R/FOG —

NJEL0429

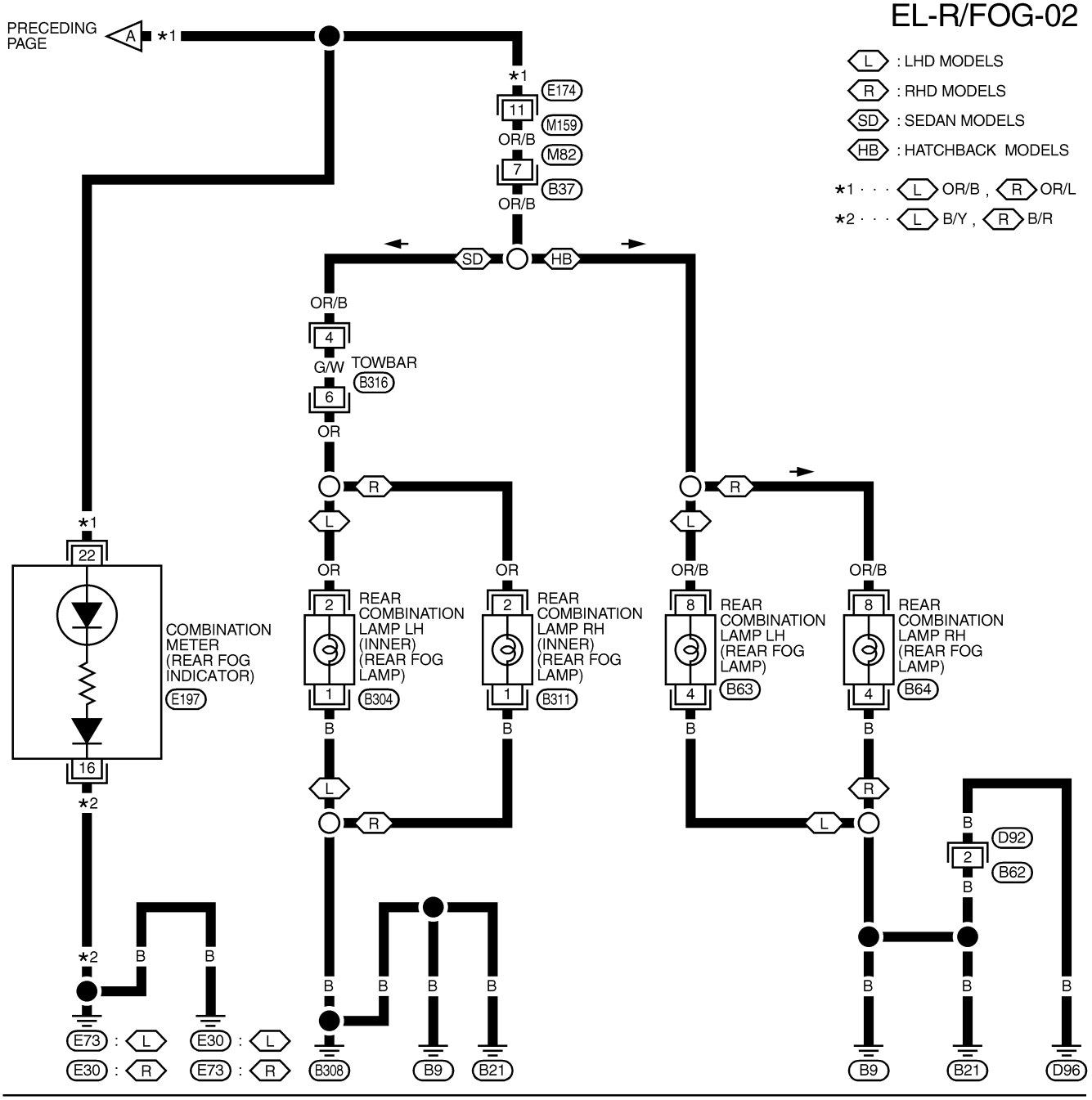


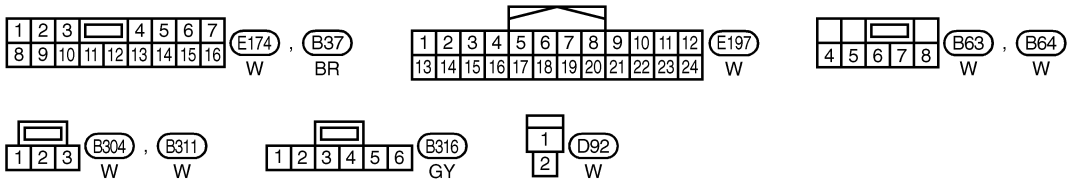




REFER TO THE FOLLOWING.
E213 -FUSE AND FUSIBLE LINK BOX

YEL683D


EL-R/FOG-02
L : LHD MODELS
R : RHD MODELS
SD : SEDAN MODELS
HB : HATCHBACK MODELS
*1 · · · L OR/B , R OR/L
*2 · · · L B/Y , R B/R
PRECEDING PAGE
A
*1
E174
11
M159
OR/B
M82
7
B37
OR/B
SD
HB
OR/B
4
G/W
TOWBAR
B316
6
OR
R
L
OR
OR
2
REAR COMBINATION LAMP LH (INNER) (REAR FOG LAMP)
1
B304
REAR COMBINATION LAMP RH (INNER) (REAR FOG LAMP)
B311
B
B
L
R
OR/B
OR/B
8
REAR COMBINATION LAMP LH (REAR FOG LAMP)
4
B63
REAR COMBINATION LAMP RH (REAR FOG LAMP)
B64
B
B
L
R
*1
22
COMBINATION METER (REAR FOG INDICATOR)
E197
16
*2
B
D92
2
B62
B
*2
B
B
B
B
B
B
B
B
B
E73 : L
E30 : R
E30 : L
E73 : R
B308
B9
B21
B9
B21
D96


E174 , B37
W BR
E197
W
B63 , B64
W W
B304 , B311
W W
B316
GY
D92
W

YEL684D

# System Description/QG Engine Models and YD Engine Models with Common Rail

NJEL0430

## TURN SIGNAL OPERATION

NJEL0430S01

The turn signal lamps operation is controlled by the lighting switch which is built into the combination switch and smart entrance control unit.
Power is supplied at all times

- through 15A fuse [No. 5, located in fuse block (J/B)]
- to smart entrance control unit terminal 56

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

- through 10A fuse [No. 10, located in fuse block (J/B)]
- to smart entrance control unit terminal 29

Ground is supplied to smart entrance control unit terminal 53 through body grounds F118 (QG engine models), M28 and M67.

### LH Turn

NJEL0430S0101

When the turn signal switch is moved to the L position, ground is supplied from body grounds E30 and E73 to

- smart entrance control unit terminal 25
- through turn signal switch terminal 3

With ground is supplied, smart entrance control unit controls the flashing of the LH turn signal lamps.
Power is supplied from smart entrance control unit terminal 64

- to front turn signal lamp LH terminal 1,
- to side turn signal lamp LH terminal 2,
- to rear combination lamp LH terminal 2 (for sedan models) or
- to rear combination lamp LH terminal 5 (for hatchback models).

Ground is supplied to the front turn signal lamp LH terminal 2 through body grounds E30 and E73.
Ground is supplied to the side turn signal lamp LH terminal 1 through body grounds E30 and E73.
Ground is supplied to the rear combination lamp LH terminal 1 through body grounds B9, B21 and B308 (for sedan models).
Ground is supplied to the rear combination lamp LH terminal 4 through body grounds B9, B21 and D96 (for hatchback models).
With power and ground supplied, the smart entrance control unit controls the flashing of the LH turn signal lamps, and smart entrance control unit sent flashing indicator signal (LH turn signal) to combination meter with CAN communication line.

- to combination meter terminal 26 and 27
- from smart entrance control unit terminal 8 and 11.

Turn signal LH is flushing of combination meter.

### RH Turn

NJEL0430S0102

When the turn signal switch is moved to the R position, ground is supplied from body grounds E30 and E73 to

- smart entrance control unit terminal 26
- through turn signal switch terminal 2

With ground is supplied, smart entrance control unit controls the flashing of the RH turn signal lamps.
Power is supplied from smart entrance control unit terminal 63

- to front turn signal lamp RH terminal 1,
- to side turn signal lamp RH terminal 2,
- to rear combination lamp RH terminal 2 (for sedan models) or
- to rear combination lamp RH terminal 5 (for hatchback models).

Ground is supplied to the front turn signal lamp RH terminal 2 through body grounds E30 and E73.
Ground is supplied to the side turn signal lamp RH terminal 1 through body grounds E30 and E73.
Ground is supplied to the rear combination lamp RH terminal 1 through body grounds B9, B21 and B21 (for sedan models).
Ground is supplied to the rear combination lamp RH terminal 4 through body grounds B9, B21 and D96 (for

hatchback models).
With power and ground supplied, the smart entrance control unit controls the flashing of the RH turn signal lamps, and smart entrance control unit sent RH turn signal to combination meter with CAN communication line.

- to combination meter terminal 26 and 27
- from smart entrance control unit terminal 8 and 11.

## HAZARD LAMP OPERATION

NJEL0430S02

Power is supplied at all times

- through 15A fuse [No. 5, located in fuse block (J/B)]
- to smart entrance control unit terminal 56

With the hazard switch in the ON position, ground is supplied from body grounds F118 (QG engine models), M28 and M67 to

- smart entrance control unit terminal 30
- through hazard switch terminals 1 and 3

With ground is supplied, smart entrance control unit controls the flashing of the hazard warning lamps.
Power is supplied from smart entrance control unit terminal 64

- to front turn signal lamp LH terminal 1,
- to side turn signal lamp LH terminal 2,
- to rear combination lamp LH terminal 2 (for sedan models) or
- to rear combination lamp LH terminal 5 (for hatchback models).

Power is supplied from smart entrance control unit terminal 63

- to front turn signal lamp RH terminal 1,
- to side turn signal lamp RH terminal 2,
- to rear combination lamp RH terminal 2 (for sedan models) or
- to rear combination lamp RH terminal 5 (for hatchback models).

Ground is supplied to terminal 2 each front turn signal lamp through body grounds E30 and E73.
Ground is supplied to terminal 1 each side turn signal lamp through body grounds E30 and E73.
Ground is supplied to terminal 1 of rear combination lamp through body grounds B9 and B21 and B308 (for sedan models).
Ground is supplied to terminal 4 of rear combination lamp through body grounds B9, B21 and D96 (for hatchback models).
With power and ground supplied, the smart entrance control unit controls the flashing of the hazard warning lamps, and smart entrance control unit sent flashing indicator signal (hazard warning signal) to combination meter with CAN communication line.

- to combination meter terminal 26 and 27
- from smart entrance control unit terminals 8 and 11.

## HAZARD REMINDER OPERATION FOR MULTI-REMOTE CONTROL SYSTEM

NJEL0430S04

When the doors are locked or unlocked by multi-remote controller, smart entrance control unit controls turn lamps hazard reminder flashes as follows.

- Locked operation: Flash once
- Unlock operation: Flash twice

# System Description/YD Engine Models with Common Rail and K9K Engine Models

=NJEL0547

## TURN SIGNAL OPERATION

NJEL0547S01

Power is supplied at all times

- through 15A fuse [No. 5, located in fuse block (J/B)]
- to time control unit terminal 9

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

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

Ground is supplied to time control unit terminal 16 through body grounds M28 and M67.

### LH Turn

NJEL0547S0101

When the turn signal switch is moved to the L position, ground is supplied from body grounds E30 and E73 to

- time control unit terminal 2
- through turn signal switch terminal 3

With ground is supplied, time control unit controls the flashing of the LH turn signal lamps.

### RH Turn

NJEL0547S0102

When the turn signal switch is moved to the R position, ground is supplied from body grounds E30 and E73 to

- time control unit terminal 4
- through turn signal switch terminal 2

With ground is supplied, time control unit controls the flashing of the RH turn signal lamps.

## HAZARD LAMP OPERATION

NJEL0547S02

Power is supplied at all times

- through 15A fuse [No. 5, located in fuse block (J/B)]
- to time control unit terminal 9

Ground is supplied to time control unit terminal 16 through body grounds M28 and M67.
With the hazard switch in the ON position, ground is supplied from body grounds M28 and M67 to

- time control unit terminals 1 and 5
- through hazard switch terminal 3

With ground is supplied, time control unit controls the flashing of the hazard warning lamps.

## HAZARD REMINDER OPERATION FOR MULTI-REMOTE CONTROL SYSTEM

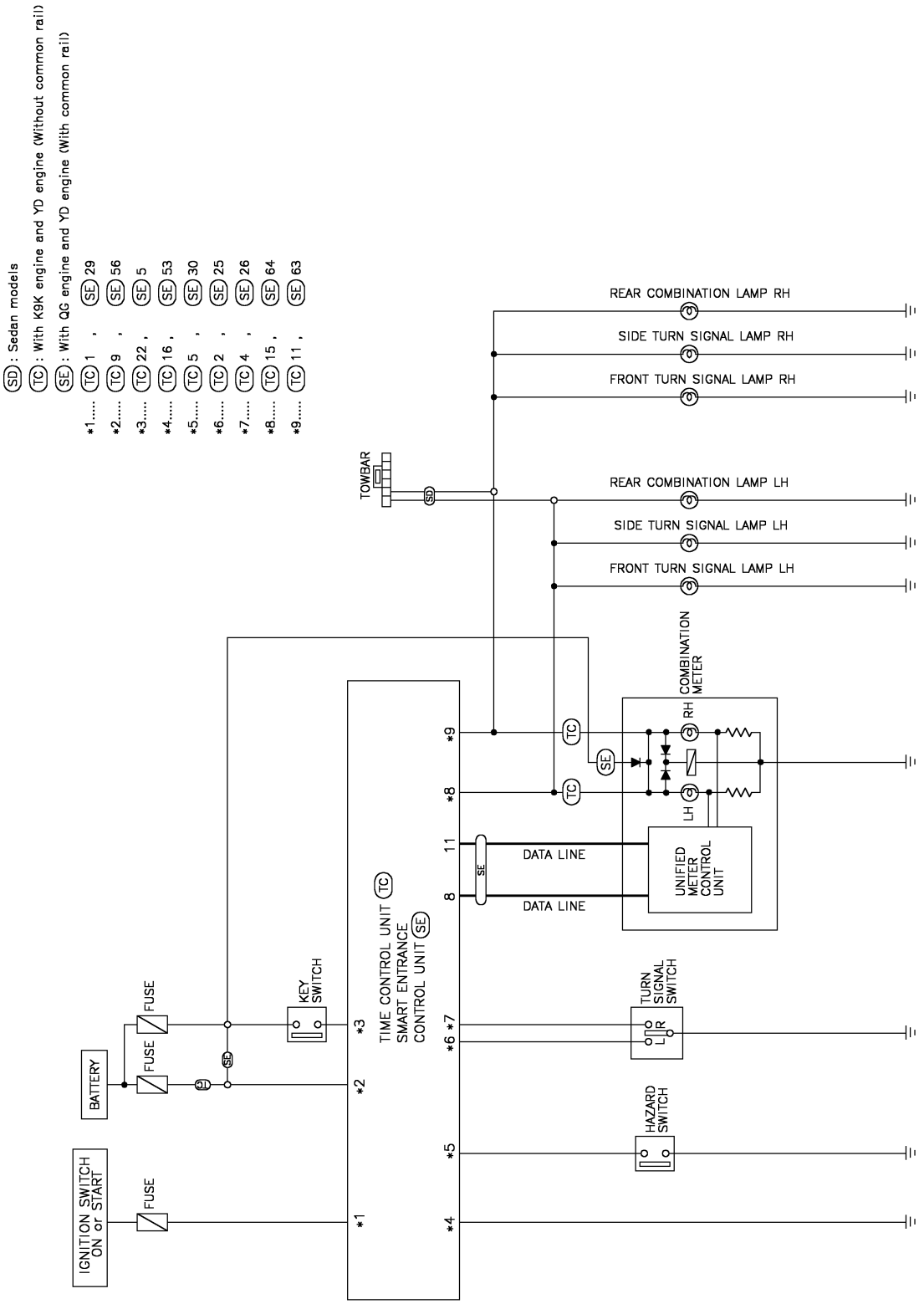
NJEL0547S03

When the doors are locked or unlocked by multi-remote controller, time control unit controls turn lamps hazard reminder flashes as follows.

- Locked operation: Flash once
- Unlock operation: Flash twice

## Schematic

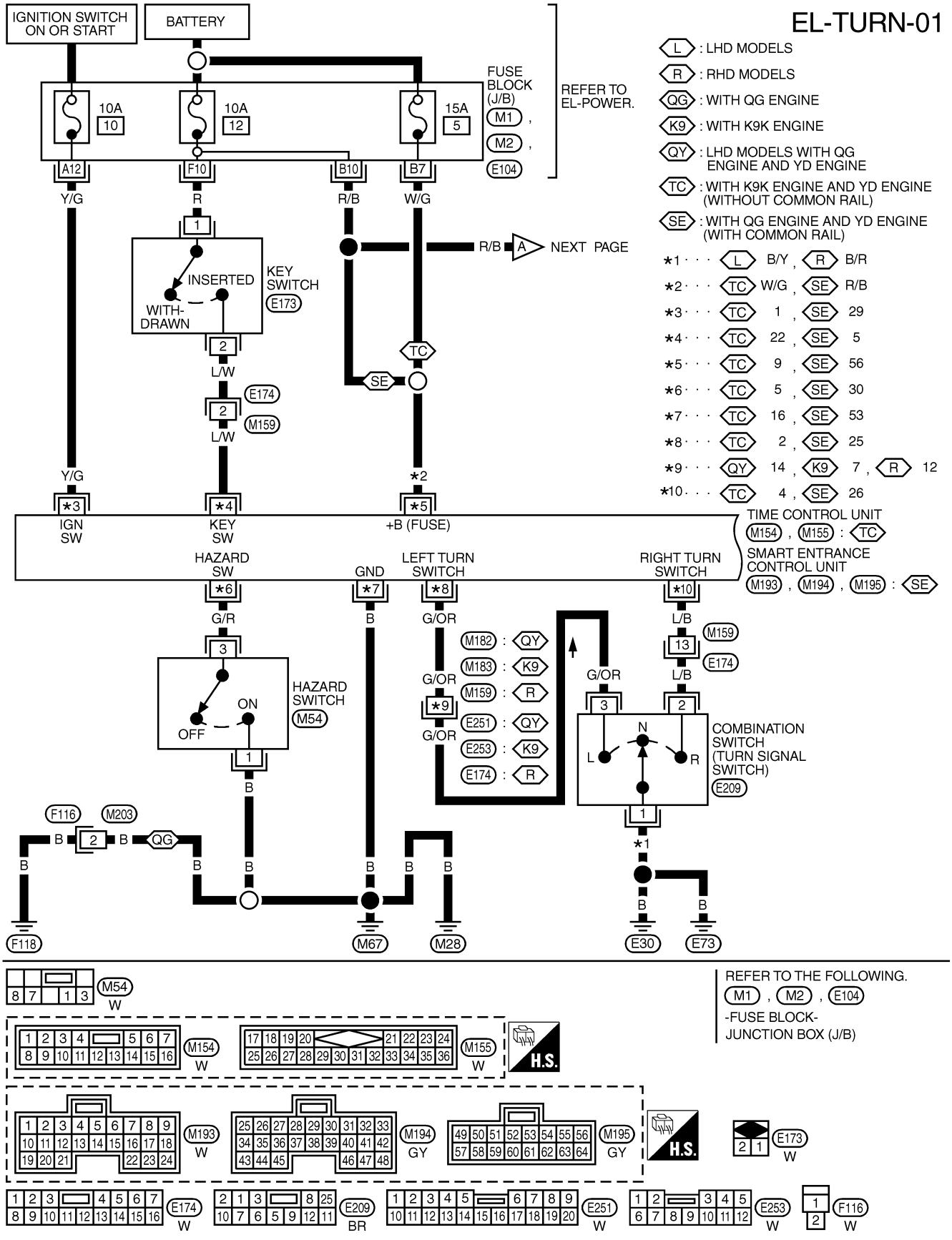
NJEL0534




YEL685D

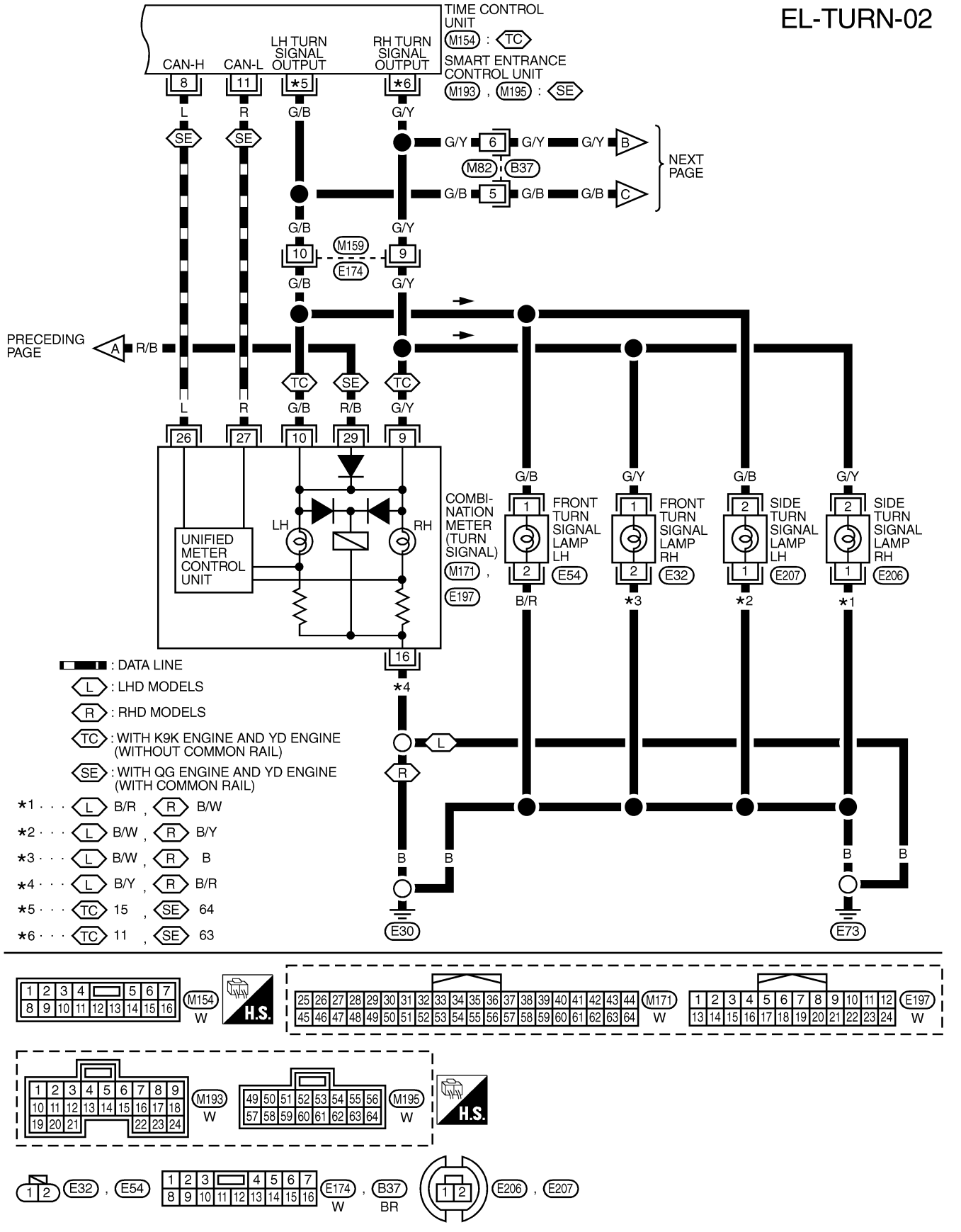
## Wiring Diagram — TURN —

NJEL0431



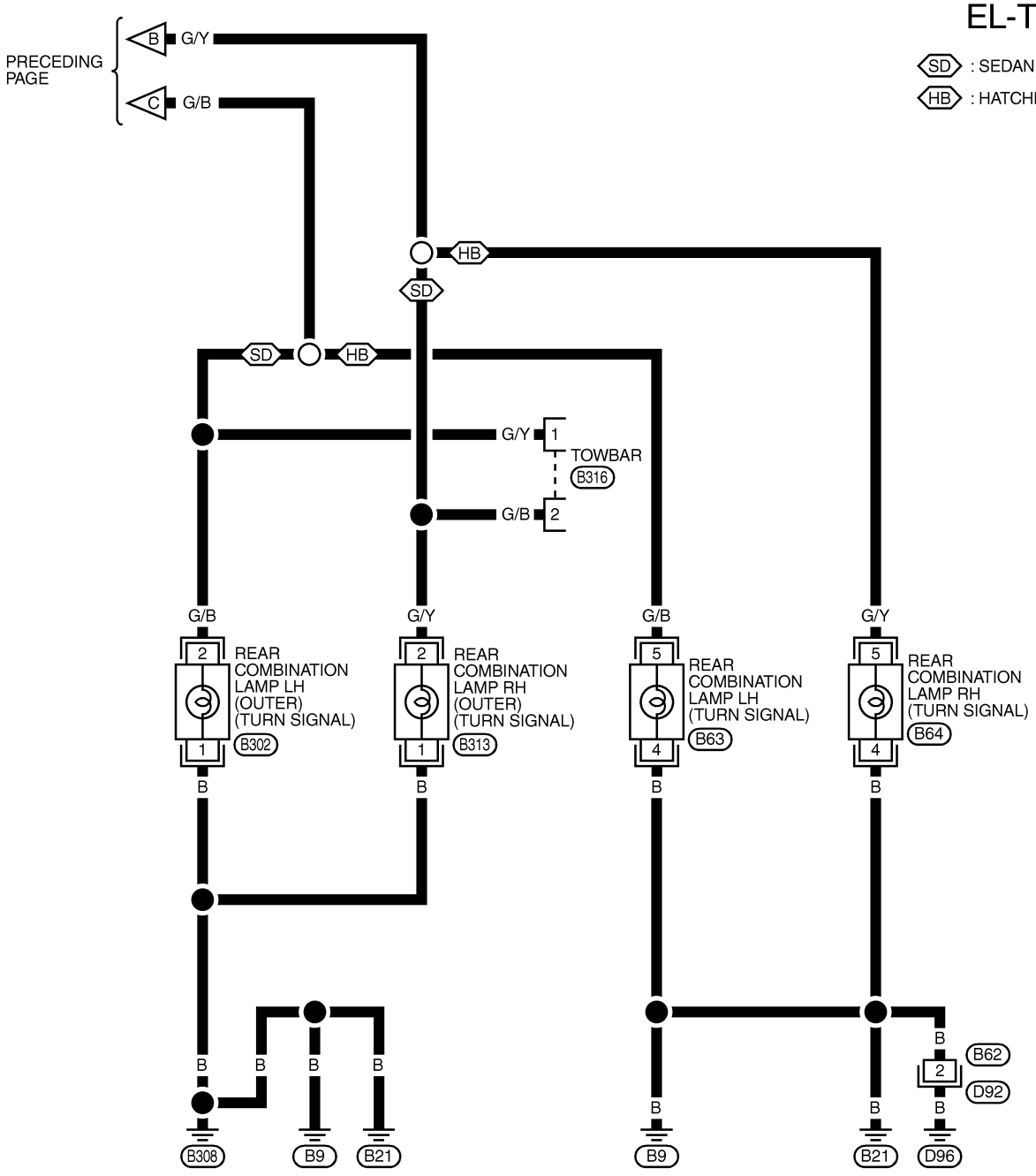

YEL686D

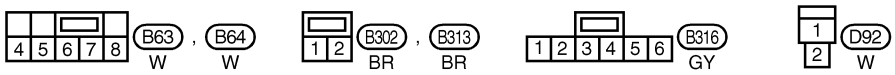
*Wiring Diagram — TURN — (Cont'd)*




YEL687D

EL-TURN-03




YEL688D

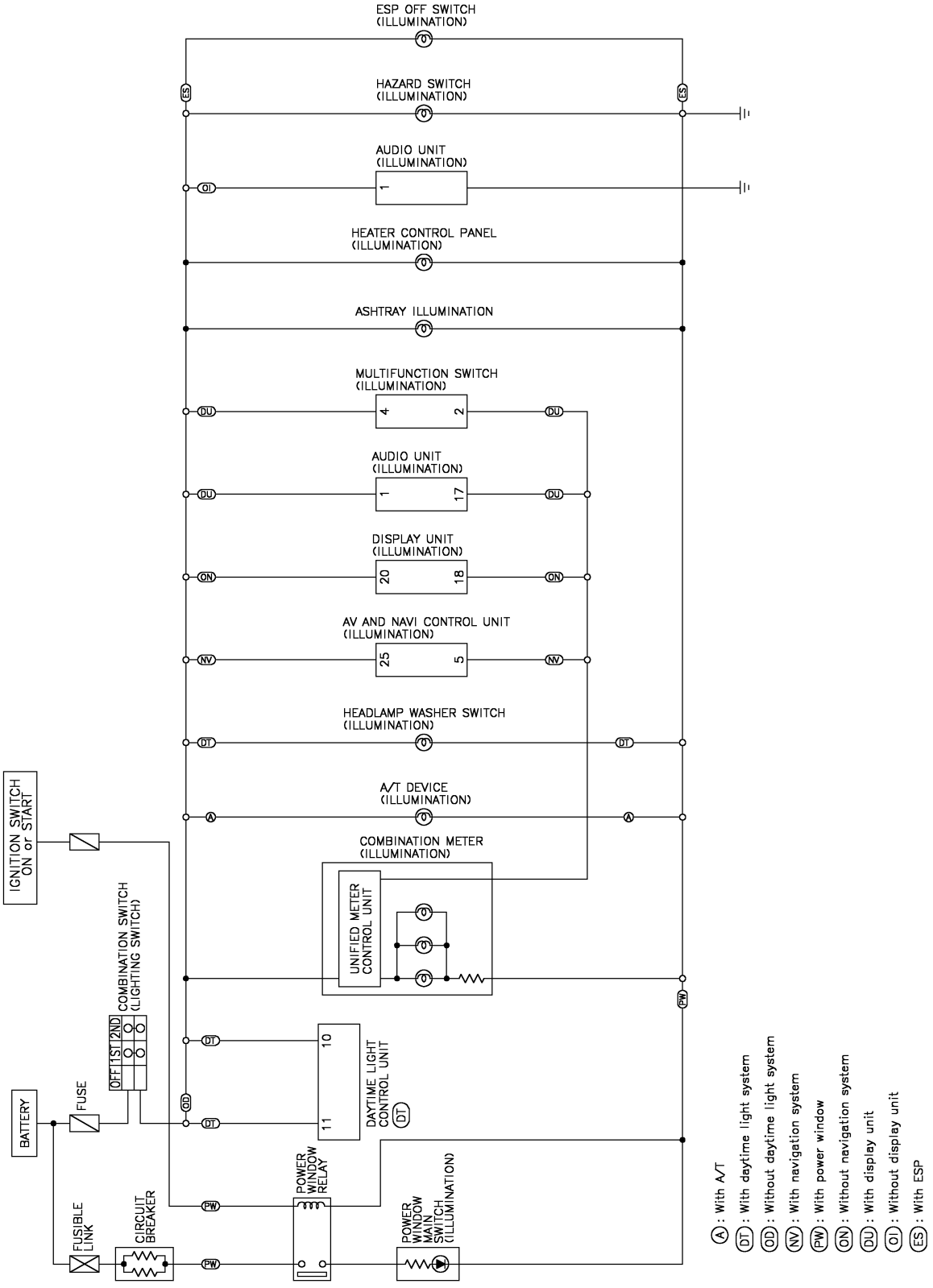
## Trouble Diagnoses

NJEL0432

| Symptom | Possible cause | Repair order |
|---|---|---|
| Turn signal and hazard warning lamps do not operate. | 1. Smart entrance control unit<br>2. Smart entrance control unit circuit | 1. Check power door lock operation.<br>2. Check power supply and ground circuit for time control unit. |
| Turn signal lamps do not operate but hazard warning lamps operate. | 1. Turn signal switch<br>2. Open in turn signal switch circuit | 1. Check turn signal switch.<br>2. Check turn signal switch ground for open circuit. |
| Hazard warning lamps do not operate but turn signal lamps operate. | 1. Hazard switch<br>2. Open in hazard switch circuit | 1. Check hazard switch.<br>2. Check hazard switch ground for open circuit. |
| Front turn signal lamp LH or RH does not operate. | 1. Bulb<br>2. Open in front turn signal lamp circuit | 1. Check bulb.<br>2. Check power supply and ground circuit for front turn signal lamp. |
| Side turn signal lamp LH or RH does not operate. | 1. Bulb<br>2. Open in rear combination lamp circuit | 1. Check bulb.<br>2. Check power supply and ground circuit for rear combination lamp. |
| Rear combination lamp LH or RH does not operate. | 1. Bulb<br>2. Open in side turn signal lamp circuit | 1. Check bulb.<br>2. Check grounds check power supply and ground circuit for rear combination lamp. |
| LH and RH turn indicators do not operate. | 1. Ground<br>2. CAN communication line | 1. Check grounds E30 and E73<br>2. Perform self-diagnosis for smart entrance control unit<br>● If self-diagnosis result is OK, replace combination meter<br>● If self-diagnosis result is NG, refer to EL-380, “CAN Communication Line Check”. |
| LH or RH turn indicator does not operate. | 1. Bulb | 1. Check bulb in combination meter. |

## Schematic

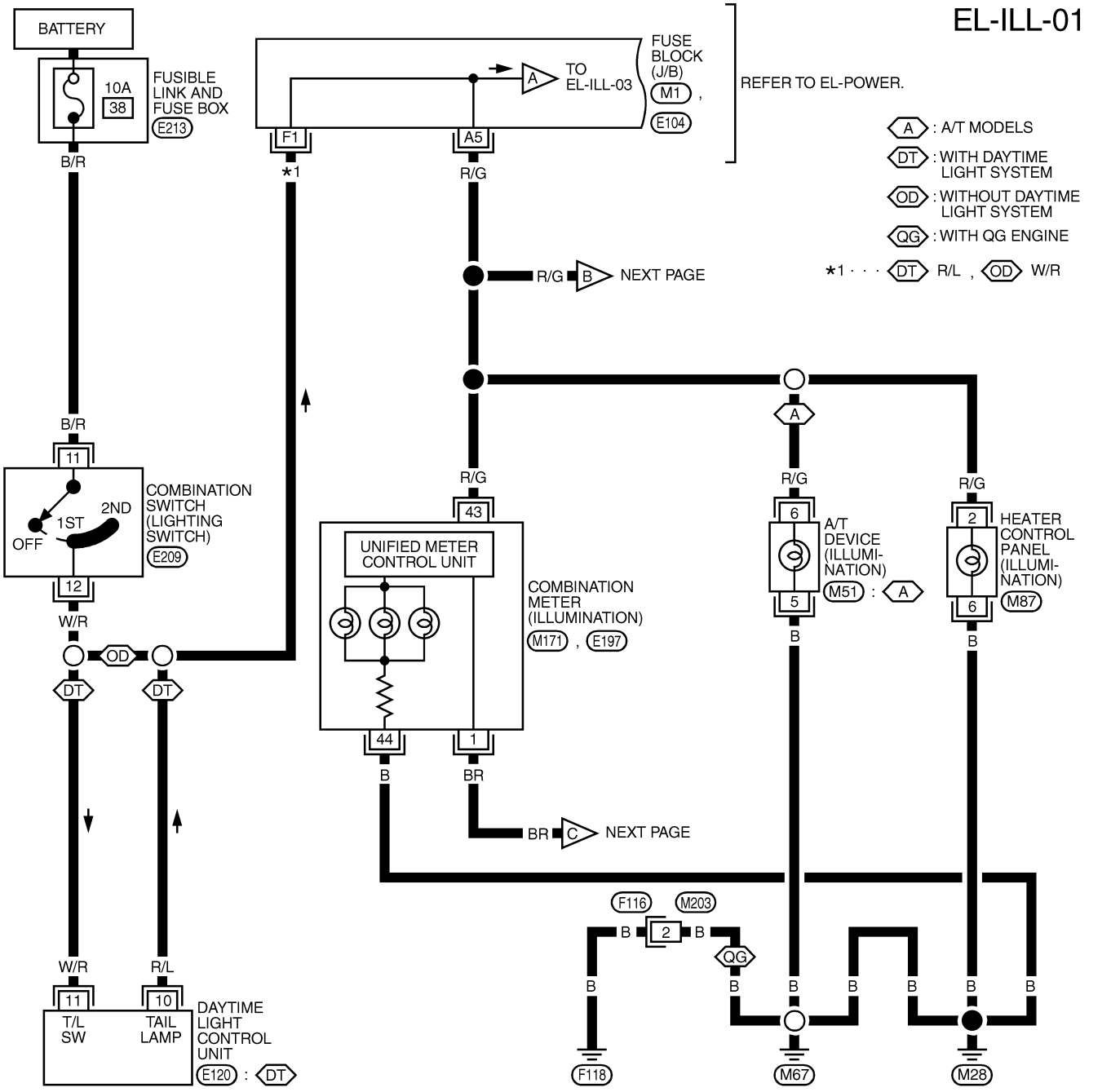
NJEL0433

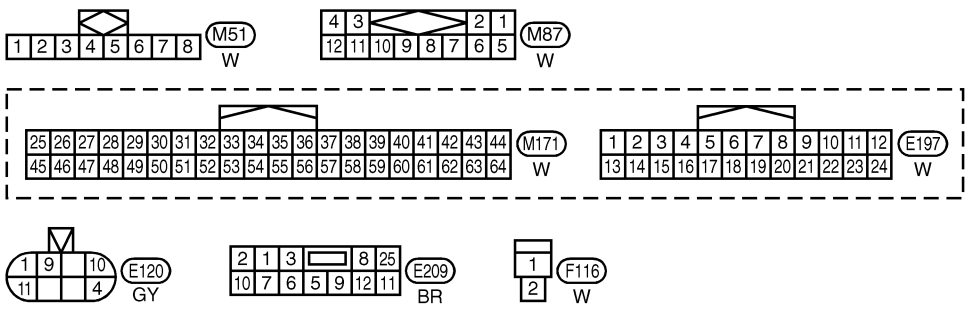



YEL689D

## Wiring Diagram — ILL —

NJEL0434

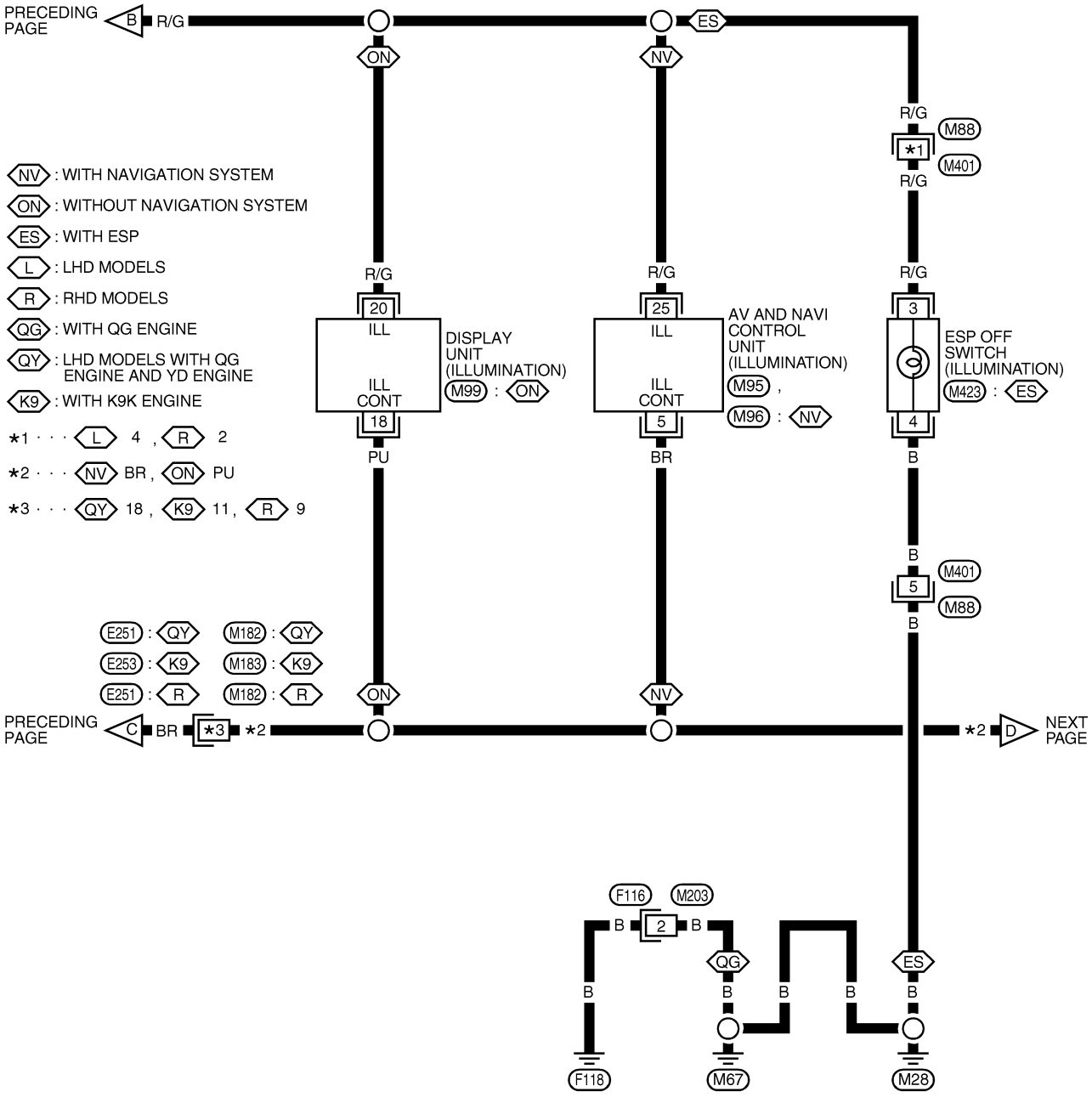


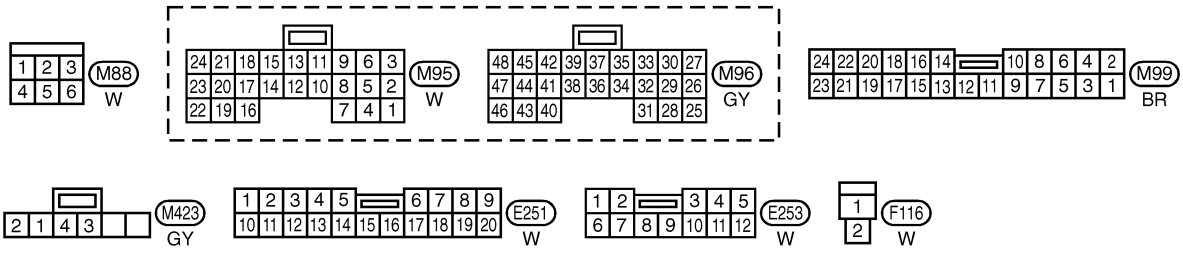




REFER TO THE FOLLOWING.
M1 , E104 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

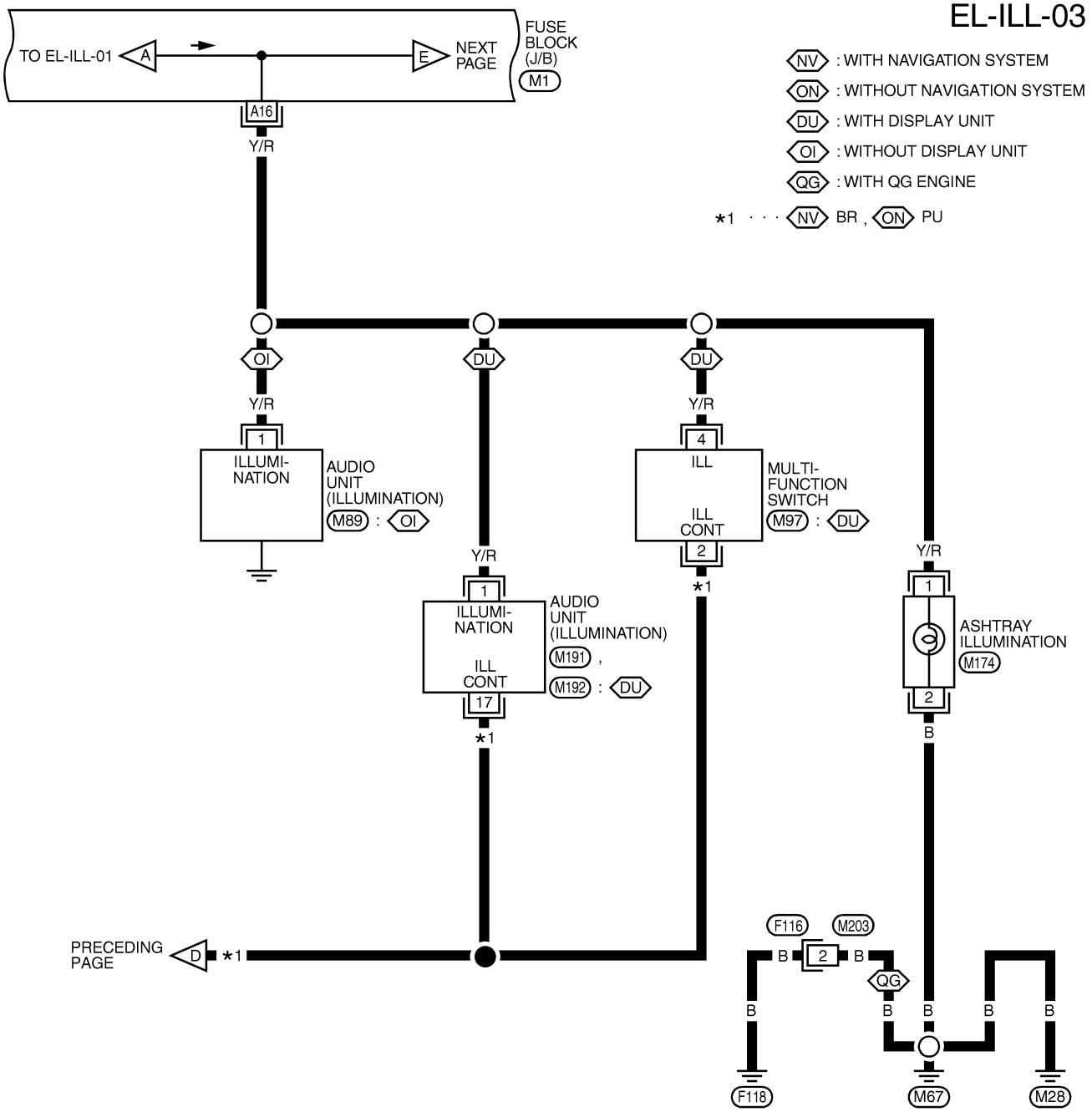
YEL690D

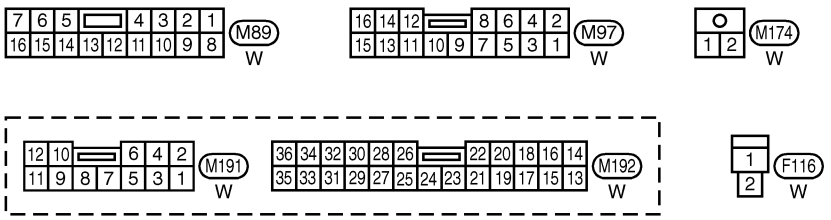
EL-ILL-02




YEL691D

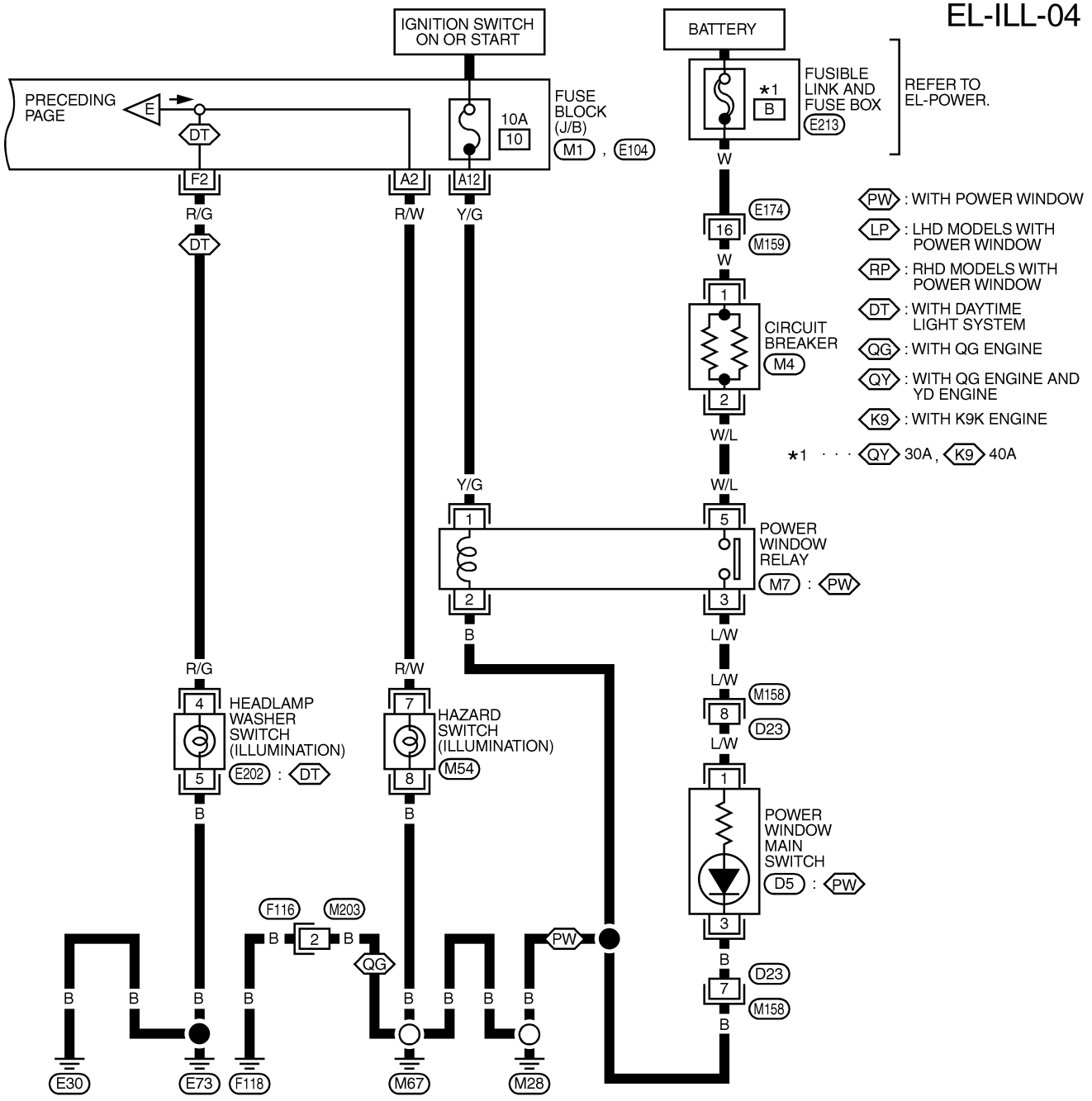


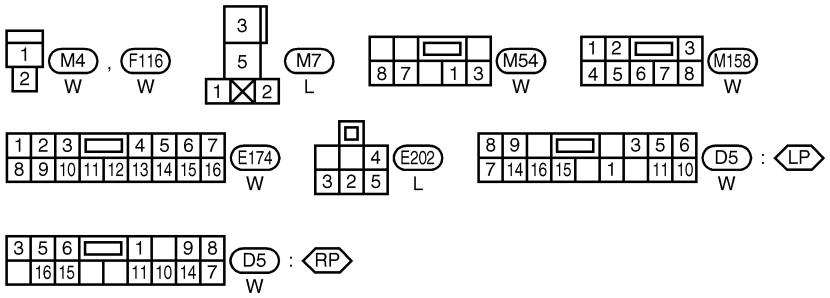




REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

YEL692D

EL-ILL-04




REFER TO THE FOLLOWING.
M1 , E104 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL693D

# System Description/QG and YD Engine Models with Common Rail

=NJEL0435

## POWER SUPPLY AND GROUND

NJEL0435S01

Power is supplied at all times:

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to smart entrance control unit terminal 56
- to key switch terminal 1 and
- through 10A fuse [No. 13, located in the fuse block (J/B)]
- to interior room lamp terminal 1.

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

- through key switch terminal 2
- to smart entrance control unit terminal 5.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 29.

Ground is supplied:

- through body grounds terminals F118 (QG engine models), M28 and M67
- to smart entrance control unit terminal 53

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

- through body grounds B9, B21 and D96 (Hatchback) or B308 (Sedan)
- to door switch driver side terminal 3
- from door switch driver side terminal 2
- to smart entrance control unit terminal 43.

When any door is opened, ground is supplied:

- through case ground of each door switch
- to each door switch terminal 1
- to smart entrance control unit terminal 44.

When the driver side door is unlocked by the door lock/unlock switch, the smart entrance control unit receives a ground signal:

- through body grounds M28, M67 and F118 (QG engine models)
- to door lock/unlock switch terminal 3
- from door lock/unlock switch terminal 7 (with power window system) or
- from door lock/unlock switch terminal 2 (without power window system)
- to smart entrance control unit terminal 14.

When the driver side door is locked by the door lock/unlock switch, the smart entrance control unit receives a ground signal:

- through body grounds M28, M67 and F118 (QG engine models)
- to door lock/unlock switch terminal 3
- from door lock/unlock switch terminal 14 (with power window system) or
- from door lock/unlock switch terminal 1 (without power window system)
- to smart entrance control unit terminal 13.

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

- through smart entrance control unit terminal 28
- to interior room lamp terminal 5.

With power and ground supplied, the interior room lamp illuminates when interior room lamp switch is in “DOOR” position.

## SWITCH OPERATION

NJEL0435S02

When interior room lamp switch is in “ON” position, ground is supplied:

- through case grounds of interior room lamp
- to interior room lamp.

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

## INTERIOR ROOM LAMP TIMER OPERATION

NJEL0435S03

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

- unlock signal is supplied from driver's door lock/unlock switch while all doors are closed
- unlock signal is supplied from remote controller while all doors are closed and key is out of the 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 out of 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

The timer is canceled when:

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

## ON-OFF CONTROL

NJEL0435S04

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

NJEL0435S11

The interior room lamp is turned OFF automatically with the lamp switch in the "DOOR" position after about 30 minutes, if the lamp remains lit by the door switch open signal.

# System Description/YD Engine Models without Common Rail and K9K Engine Models

=NJEL0548

## POWER SUPPLY AND GROUND

NJEL0548S01

Power is supplied at all times:

- through 15A fuse [No. 5, located in the fuse block (J/B)]
- to time control unit terminal 9,
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to key switch terminal 1 and
- through 10A fuse [No. 13, located in the fuse block (J/B)]
- to interior room lamp terminal 1.

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

- through key switch terminal 2
- to time control unit terminal 22.

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

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

Ground is supplied:

- through body grounds terminals M28 and M67
- to time control unit terminal 16

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

- through body grounds B9, B21 and D96 (Hatchback) or B308 (Sedan)
- to door switch driver side terminal 3
- from door switch driver side terminal 2
- to time control unit terminal 6.

When any door is opened, ground is supplied:

- through case ground of each door switch
- to each door switch terminal 1
- to time control unit terminal 7.

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

- through body grounds terminals M28 and M67
- to door unlock sensor terminal 2 (RHD models) or 4 (LHD models)
- from door unlock sensor terminal 5 (RHD models) or 2 (LHD models)
- to time control unit terminal 35.

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

- through time control unit terminal 12
- to interior room lamp terminal 2.

With power and ground supplied, the interior room lamp illuminates when interior room lamp switch is in “DOOR” position.

## SWITCH OPERATION

NJEL0548S02

When interior room lamp switch is in “ON” position, ground is supplied:

- through case grounds of interior room lamp
- to interior room lamp.

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

## INTERIOR ROOM LAMP TIMER OPERATION

NJEL0548S03

When interior room lamp switch is in the “DOOR” position, the time control unit keeps the interior room lamp illuminated for about 30 seconds when:

- unlock signal is supplied from driver’s door unlock sensor while all doors are closed
- key is removed from ignition key cylinder while all doors are closed
- driver’s door is opened and then closed

The timer is canceled when:

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

### ON-OFF CONTROL

NJEL0548S04

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.

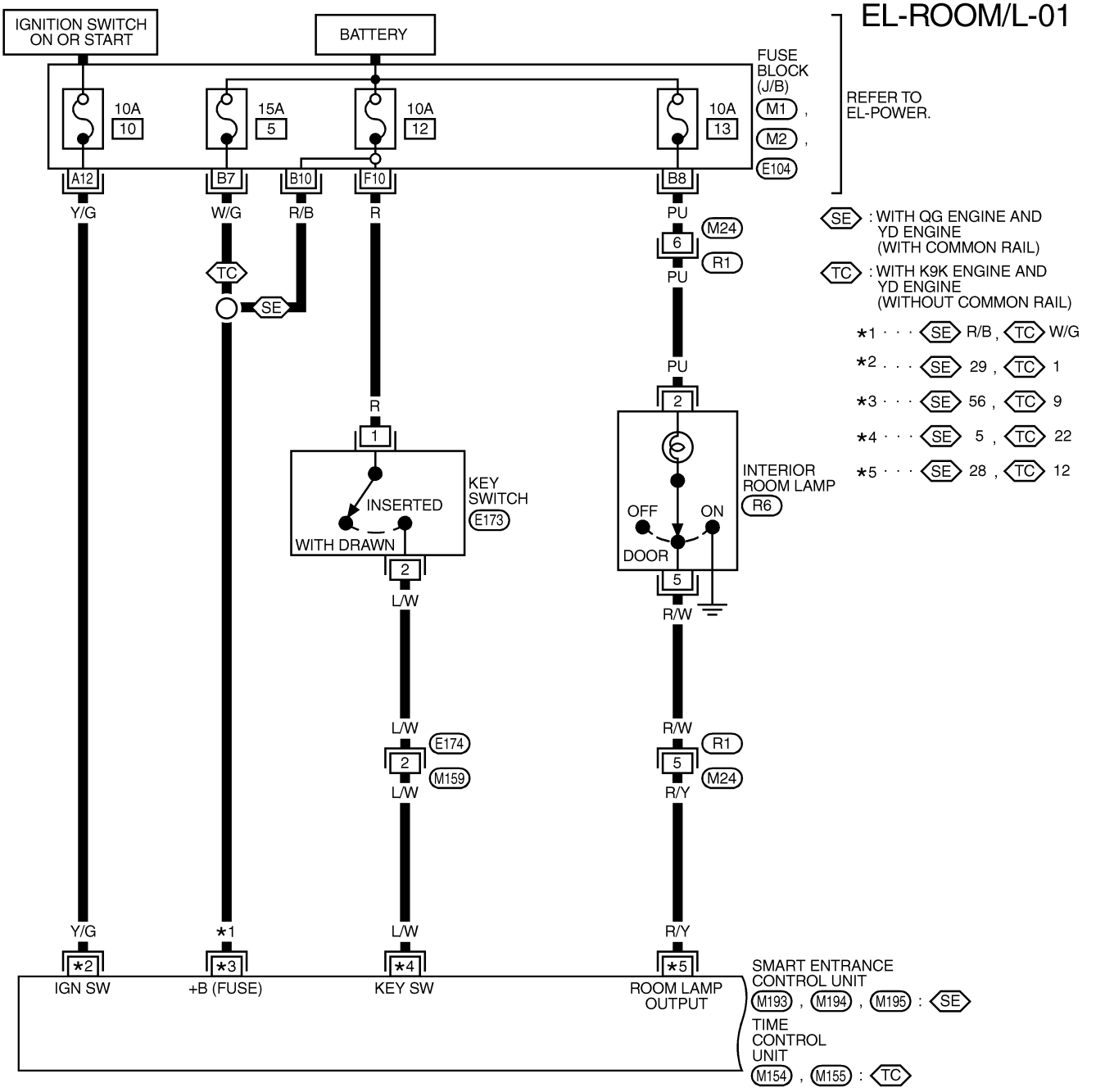
### BATTERY SAVER

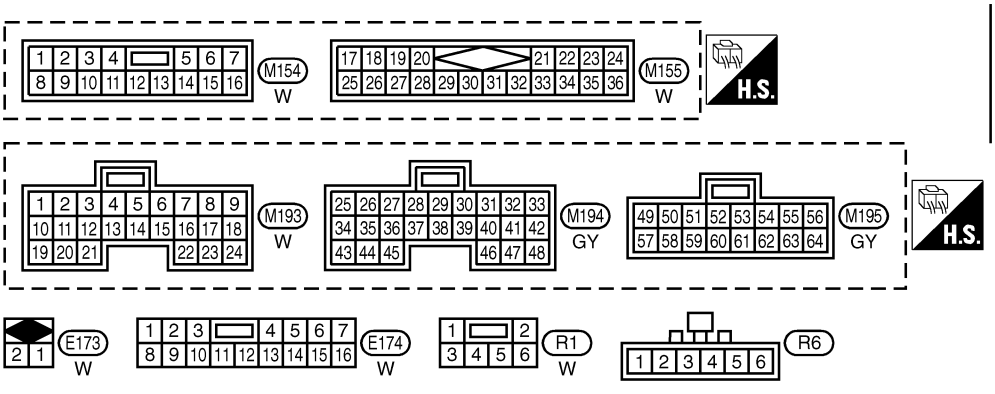
NJEL0548S05

The interior room lamp is turned OFF automatically with the lamp switch in the "DOOR" position after about 30 minutes, if the lamp remains lit by the door switch open signal.

## Wiring Diagram — ROOM/L —

NJEL0436

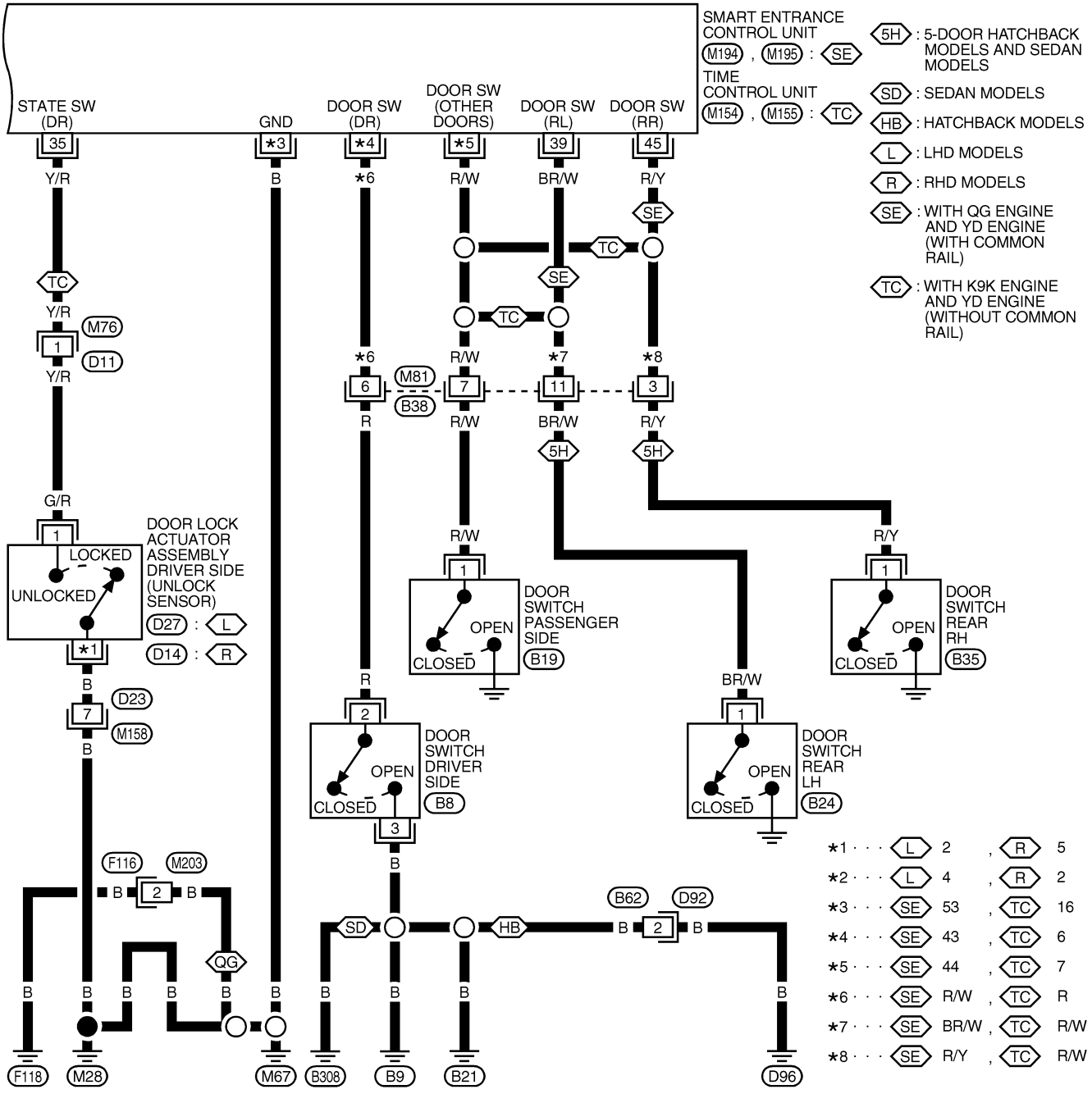


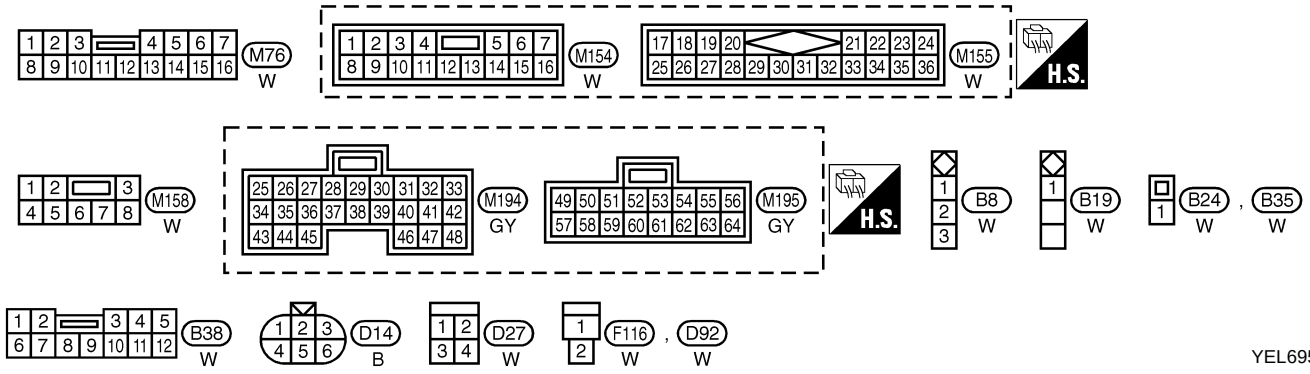




REFER TO THE FOLLOWING.
M1 , M2 , E104
-FUSE BLOCK-
JUNCTION BOX (J/B)

YEL694D

EL-ROOM/L-02




YEL695D

# Trouble Diagnoses/QG and YD Engine Models with Common Rail

NJEL0549

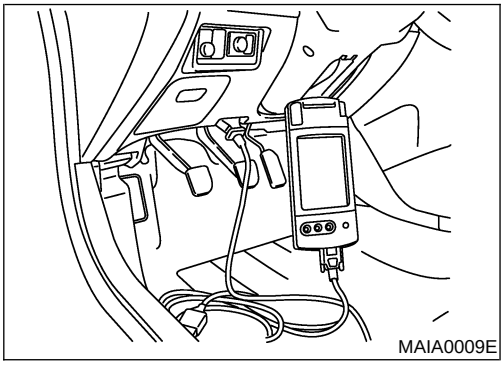
## TERMINAL AND REFERENCE VALVE FOR SMART ENTRANCE CONTROL UNIT

NJEL0549S01

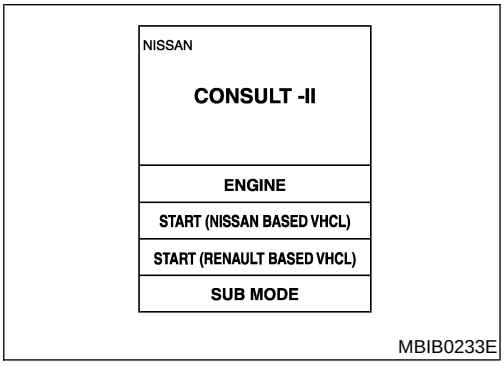
| Terminal No. | Wire color | Connections | Operated condition | Voltage (Approximate values) |
|---|---|---|---|---|
| 5 | L/W | Key switch | Ignition key Removed → Inserted | 0V → 12V |
| 13 | P | Door lock/unlock switches | Neutral → Locks | 12V → 0V |
| 14 | L | Door lock/unlock switches | Neutral → Unlocks | 12V → 0V |
| 28 | R/Y | Interior room lamp | When interior lamp is operated using remote controller (Lamp switch in “DOOR” position) | 12V → 0V |
| 29 | Y/G | Ignition key switch | Ignition key is in “ON” position | 12V |
| 39 | BR/W | Rear door switch (LH or RH) | Rear door LH or RH: Open → Closed | 0V → 12V |
| 43 | R/W | Front door switch | Front door (Driver side): Open → Closed | 12V → 0V |
| 44 | R/W | Front door switch (Passenger side) | Front door (Passenger side): Open → Closed | 0V → 12V |
| 45 | R/Y | Rear door switch (LH or RH) | Rear door LH or RH: Open → Closed | 0V → 12V |
| 53 | B | Ground | — | 0V |
| 56 | R/B | Power source | — | 12V |

## CONSULT-II INSPECTION PROCEDURE “ROOM LAMP”

NJEL0549S02

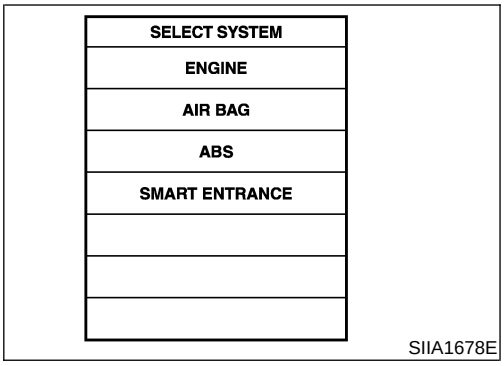

MAIA0009E

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

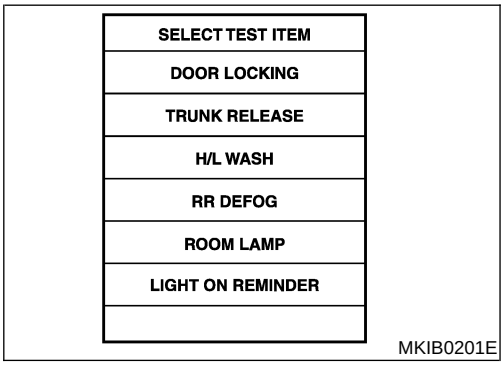


MBIB0233E

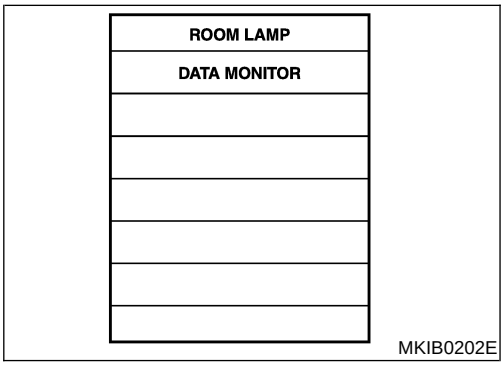
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.




5. Touch "SMART ENTRANCE".




6. Touch "ROOM LAMP".




7. Select diagnosis mode.
"DATA MONITOR" are available for "ROOM LAMP".

## CONSULT-II APPLICATION ITEMS

NJEL0549S03

### ROOM LAMP
### Data Monitor Mode

| Item (CONSULT-II screen terms) | Diagnosed system |
|---|---|
| IGNITION SW | Indicates [ON/OFF] condition of ignition switch. |
| KEY IN DETECT | Indicates [ON/OFF] condition of electronic key switch. |
| DOOR SW DR RR | Indicates [ON/OFF] condition of rear door switch (driver side). |
| DOOR SW AS RR | Indicates [ON/OFF] condition of rear door switch (passenger side). |
| AS DOOR SW | Indicates [ON/OFF] condition of front door switch (passenger side). |
| DR DOOR SW | Indicates [ON/OFF] condition of front door switch (driver side). |
| CDL LOCK SW | Indicates [ON/OFF] condition of door lock/unlock switch (lock signal). |
| CDL UNLOCK SW | Indicates [ON/OFF] condition of door lock/unlock switch (unlock signal). |
| RKE LOCK | Indicates [ON/OFF] condition of lock signal from remote controller. |
| RKE UNLOCK | Indicates [ON/OFF] condition of unlock signal from remote controller. |
| RKE SEL UNLOCK | Indicates [ON/OFF] condition of select unlock signal from remote controller. |

## DIAGNOSTIC PROCEDURE 1
## Interior Room Lamp Timer Does Not Operate

NJEL0549S04

NJEL0549S0401

| 1 | CHECK IGNITION ON SIGNAL |
|---|---|

**WITH CONSULT-II**

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

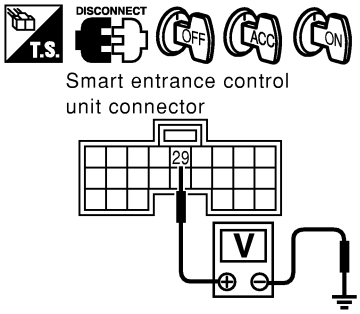
| DATA MONITOR | |
|---|---|
| MONITOR | |
| IGNITION SW | ON |

MKIB0196E

**When ignition switch is ON: IGNITION SW ON**
**When ignition switch is OFF: IGNITION SW OFF**

**WITHOUT CONSULT-II**

1. Disconnect smart entrance control unit.
2. Check voltage between smart entrance control unit harness connector M194 terminal 29 (Y/G) and ground.




MKIB0072E

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (—) | | | |
| Connector | Terminal (wire color) | | OFF | ACC | ON |
| M194 | 29 (Y/G) | Ground | 0V | 0V | Battery voltage |

MTBL1422

**OK or NG**

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

| 2 | CHECK DOOR SWITCH INPUT SIGNAL |
|---|---|

**WITH CONSULT-II**

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

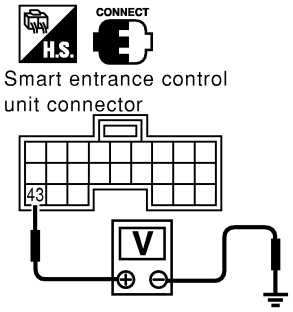
| DATA MONITOR | |
|---|---|
| MONITOR | |
| DR DOOR SW | ON |

MKIB0197E

**When driver's door switch is open: DR DOOR SW ON**
**When driver's door switch is closed: DR DOOR SW OFF**

**WITHOUT CONSULT-II**

1. Connect smart entrance control unit connector.
2. Check voltage between smart entrance control unit harness connector M194 terminal 43 (R/W) and ground.




MKIB0073E

| Condition | Voltage [V] |
|---|---|
| Driver's door is open. | 0 |
| Driver's door is closed. | Approx. 12 |

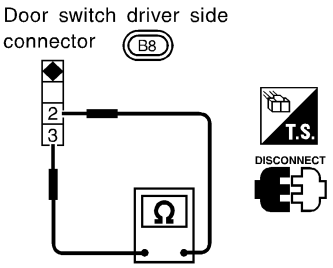
MTBL1423

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | GO TO 3. |

| 3 | CHECK DRIVER SIDE DOOR SWITCH |
|---|---|

1. Disconnect front door switch (driver side) connector.
2. Check continuity between front door switch (driver side) harness connector B8 terminals 2 and 3.




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

SEL325WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and front door switch (driver side). |
| NG | ▶ | Replace front door switch (driver side). |

| 4 | CHECK DOOR LOCK/UNLOCK SWITCH |
|---|---|

**WITH CONSULT-II**

Check door lock/unlock switch signal ("CDL LOCK SW" or "CDL UNLOCK SW") in "DATA MONITOR" mode with CONSULT-II.

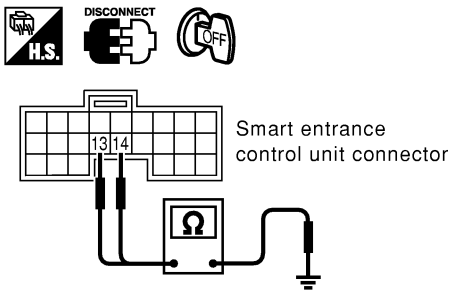
| DATA MONITOR | |
|---|---|
| MONITOR | |
| CDL LOCK SW | OFF |
| CDL UNLOCK SW | ON |

MKIB0198E

**When door lock/unlock is locked:**
**CDL LOCK SW ON**
**CDL UNLOCK SW OFF**
**When door lock/unlock is unlocked:**
**CDL LOCK SW OFF**
**CDL UNLOCK SW ON**

**WITHOUT CONSULT-II**

Check voltage between smart entrance control unit harness connector M193 terminals 13 (P), 14 (L) and ground.




SIIA1567E

| Terminals (+) Connector | Terminals (+) Terminal (wire color) | Terminals (—) | Condition (Door lock/unlock switch) | Voltage [V] |
|---|---|---|---|---|
| M193 | 13 (P) | Ground | Locked | 0 |
| | | | Unlocked | Approx. 12 |
| | 14 (L) | | Locked | Approx. 12 |
| | | | Unlocked | 0 |

MTBL1425

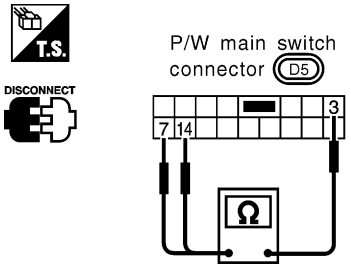
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 6. |
| NG | ▶ | GO TO 5. |

| 5 | CHECK DOOR LOCK/UNLOCK SWITCH |
|---|---|

1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between door lock/unlock switch harness connector terminals 2 and 3.

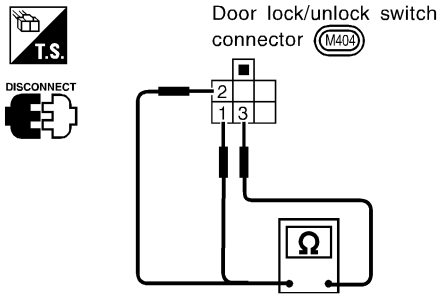
- Power window main switch (door lock/unlock switch) (with power window system)




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

YEL803C

- Door lock/unlock switch (without power window system)




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

SEL469X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and door lock/unlock switch. |
| NG | ▶ | Replace lock/unlock switch. |

**6** **CHECK OTHER DOORS SWITCHES INPUT SIGNAL**

**WITH CONSULT-II**

Check other doors switch signal ("AS DOOR SW", "RR DOOR SW" or "RR RH DOOR SW") in "DATA MONITOR" mode with CONSULT-II.

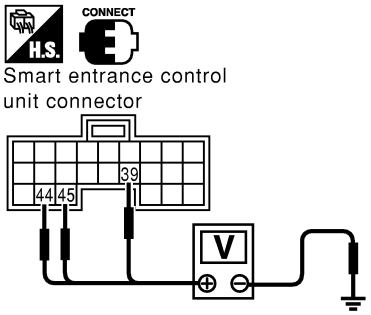
| DATA MONITOR | |
|---|---|
| MONITOR | |
| AS DOOR SW | ON |
| RR LH DOOR SW | ON |
| RR RH DOOR SW | ON |

MKIB0199E

**When each doors is open: EACH DOOR SW ON**
**When each doors is closed: EACH DOOR SW OFF**

**WITHOUT CONSULT-II**

Check voltage between smart entrance control unit and ground.




MKIB0077E

| Terminals (+) Connector | Terminal (wire color) | Terminals (—) | Condition (Driver's side) | Voltage [V] |
|---|---|---|---|---|
| M194 | 39 (BR/W) | Ground | Open | 0 |
| | | | Closed | Approx. 12 |
| | 44 (R/W) | Ground | Open | 0 |
| | | | Closed | Approx. 12 |
| | 45 (R/Y) | Ground | Open | 0 |
| | | | Closed | Approx. 12 |

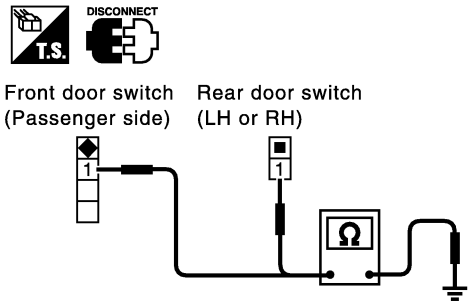
MTBL1428

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 8. |
| NG | ▶ | GO TO 7. |

**7 CHECK DOOR SWITCHES**

1. Disconnect door switch harness connector.
2. Check continuity between door switch terminal 1 and ground.




MKIB0234E

| Door switch | Connector | Condition (Passenger or rear door) | Continuity |
|---|---|---|---|
| Passenger side | B19 | Open | Yes |
| | | Closed | No |
| Rear RH side | B35 | Open | Yes |
| | | Closed | No |
| Rear LH side | B24 | Open | Yes |
| | | Closed | No |

MTBL1429

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and door switch. |
| NG | ▶ | Replace door switch. |

| 8 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

**WITH CONSULT-II**

Check key switch signal ("KEY IN DETECT") in "DATA MONITOR" mode with CONSULT-II.

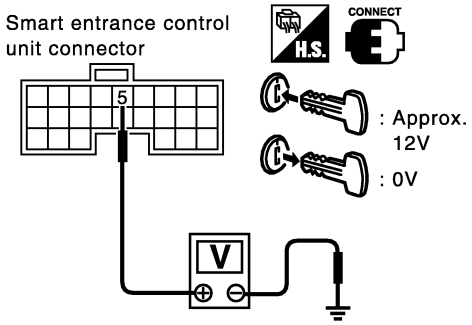
| DATA MONITOR | |
|---|---|
| MONITOR | |
| KEY IN DETECT | ON |

MKIB0200E

**When key is inserted: KEY IN DETECT ON**
**When key is removed: KEY IN DETECT OFF**

**WITHOUT CONSULT-II**

Check voltage between smart entrance control unit harness connector M193 terminal 5 (L/W) and ground.




MKIB0079E

| Condition | Voltage [V] |
|---|---|
| Key is inserted from ignition key cylinder. | Approx. 12 |
| Key is removed from ignition key cylinder. | 0 |

MTBL1430

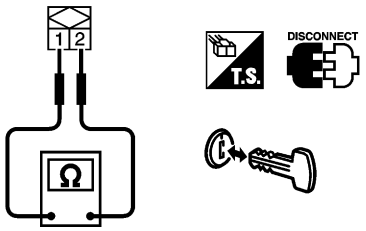
**OK or NG**

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

| 9 | CHECK KEY SWITCH (INSERT) |
|---|---|

1. Disconnect key switch connector.
2. Check continuity between 1 and 2.

Key switch connector E173




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

YEL791C

**OK or NG**

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

## DIAGNOSTIC PROCEDURE 2
## Interior Room Lamp Timer Does Not Cancel

=NJEL0549S05

NJEL0549S0501

**1** **CHECK IGNITION ON SIGNAL**

**WITH CONSULT-II**

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

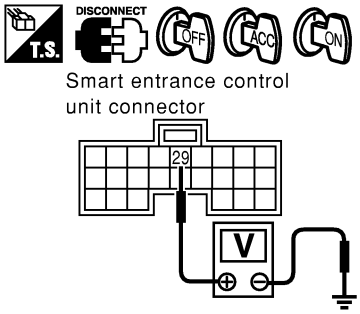
| DATA MONITOR | |
|---|---|
| MONITOR | |
| IGNITION SW | ON |

MKIB0196E

**When ignition switch is ON: IGNITION SW ON**
**When ignition switch is OFF: IGNITION SW OFF**

**WITHOUT CONSULT-II**

1. Disconnect smart entrance control unit connector.
2. Check voltage between smart entrance control unit and ground.




MKIB0072E

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (—) | OFF | ACC | ON |
| Connector | Terminal (wire color) | | | | |
| M194 | 29 (Y/G) | Ground | 0V | 0V | Battery voltage |

MTBL1432

**OK or NG**

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

| 2 | CHECK DOOR SWITCH INPUT SIGNAL |
|---|---|

**WITH CONSULT-II**

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

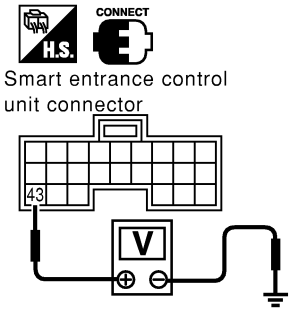
| DATA MONITOR | |
|---|---|
| MONITOR | |
| DR DOOR SW | ON |

MKIB0197E

**When driver's door switch is open: DR DOOR SW ON**
**When driver's door switch is closed: DR DOOR SW OFF**

**WITHOUT CONSULT-II**

1. Connect smart entrance control unit connector.
2. Check voltage between smart entrance control unit harness connector M194 terminal 43 (R/W) and ground.




MKIB0073E

| Condition | Voltage [V] |
|---|---|
| Driver's door is open. | 0 |
| Driver's door is closed. | Approx. 12 |

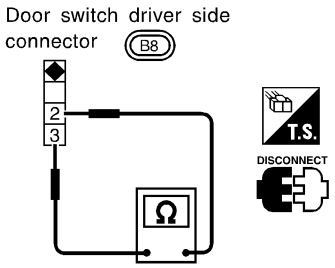
MTBL1433

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | GO TO 3. |

| 3 | CHECK DRIVER SIDE DOOR SWITCH |
|---|---|

1. Disconnect smart entrance control unit connector.
2. Check continuity between front door switch (driver side) harness connector B8 terminals 2 and 3.




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

SEL325WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and driver side door switch. |
| NG | ▶ | Replace driver side door switch. |

| 4 | CHECK DOOR LOCK/UNLOCK SWITCH |
|---|---|

**WITH CONSULT-II**

Check door lock/unlock switch signal ("CDL LOCK SW" or "CDL UNLOCK SW") in "DATA MONITOR" mode with CONSULT-II.

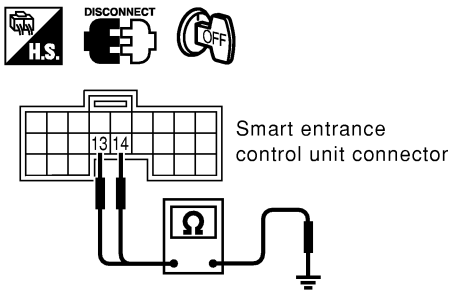
| DATA MONITOR | |
|---|---|
| MONITOR | |
| CDL LOCK SW | OFF |
| CDL UNLOCK SW | ON |

MKIB0198E

**When door lock/unlock is locked:**
**CDL LOCK SW ON**
**CDL UNLOCK SW OFF**
**When door lock/unlock is unlocked:**
**CDL LOCK SW OFF**
**CDL UNLOCK SW ON**

**WITHOUT CONSULT-II**

Check voltage between smart entrance control unit harness connector M193 terminals 13 (P), 14 (L) and ground.




SIIA1567E

| Terminals | | | Condition (Door lock/ unlock switch) | Voltage [V] |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | | | |
| M193 | 13 (P) | Ground | Locked | 0 |
| | | | Unlocked | Approx. 12 |
| | 14 (L) | | Locked | Approx. 12 |
| | | | Unlocked | 0 |

MTBL1435

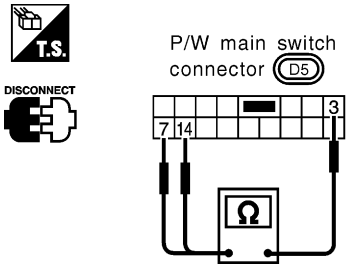
**OK or NG**

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

**5 CHECK DOOR LOCK/UNLOCK SWITCH**

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

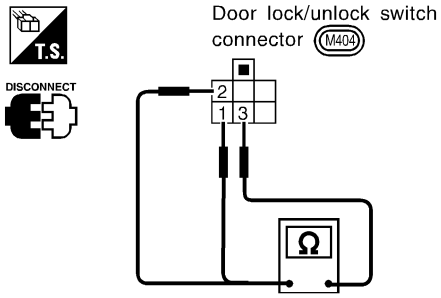
- Power window main switch (door lock/unlock switch) (with power window system)




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

YEL803C

- Door lock/unlock switch (without power window system)




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

SEL469X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and door lock/unlock switch. |
| NG | ▶ | Replace lock/unlock switch. |

# Trouble Diagnoses/YD Engine Models without Common Rail and K9K Engine Models

=NJEL0437

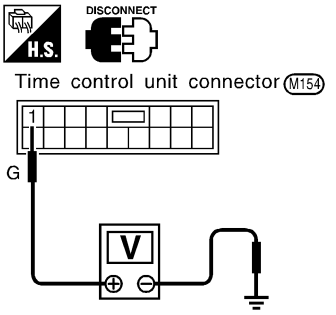
## DIAGNOSTIC PROCEDURE 1

NJEL0437S01

**SYMPTOM: Interior room lamp timer does not operate.**

| 1 | CHECK IGNITION ON SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 1 and ground.




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

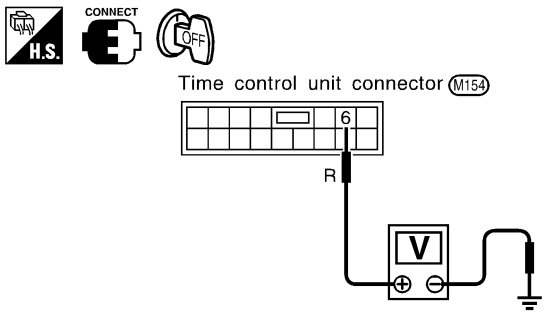
SEL429X

**OK or NG**

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

| 2 | CHECK DOOR SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 6 and ground.




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

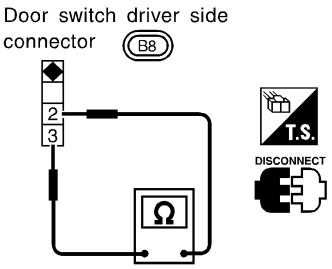
SEL430X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | GO TO 3. |

| 3 | CHECK DRIVER SIDE DOOR SWITCH |
|---|---|

Check continuity between door switch terminals 2 and 3.




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

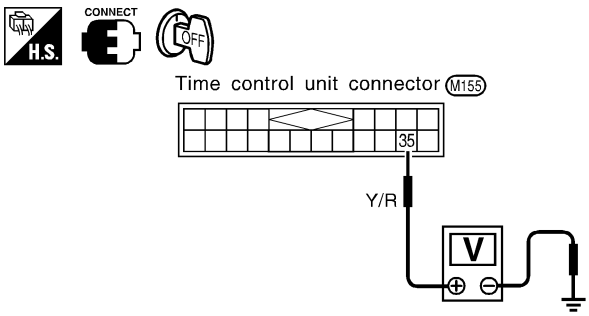
SEL325WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Driver side door switch ground circuit and condition<br>● Harness for open or short between time control unit and driver side door switch |
| NG | ▶ | Replace driver side door switch. |

| 4 | CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 35 and ground.




| Terminals | | Condition (Driver's door) | Voltage [V] |
|---|---|---|---|
| (+) | (–) | | |
| 35 | Ground | Locked | Approx. 5 |
| | | Unlocked | 0 |

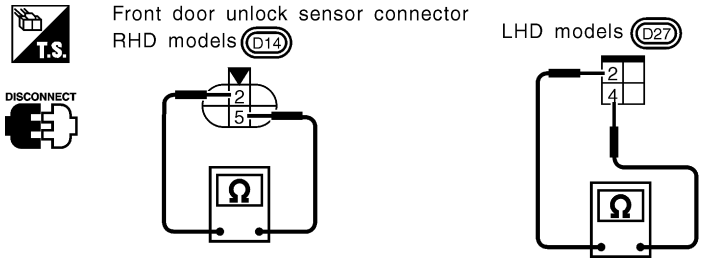
SEL431X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 6. |
| NG | ▶ | GO TO 5. |

| 5 | CHECK FRONT DOOR UNLOCK SENSOR |
|---|---|

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




**Continuity:**
**Condition: Locked**
**No**
**Condition: Unlocked**
**Yes**

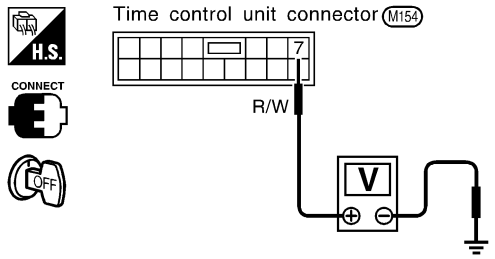
YEL790C

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door unlock sensor ground circuit<br>● Harness for open or short between time control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

| 6 | CHECK DOOR SWITCHES INPUT SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 7 and ground.




| Terminals (+) | Terminals (–) | Condition (All doors) | Voltage [V] |
|---|---|---|---|
| 7 | Ground | Open | 0 |
| | | Closed | Approx. 5 |

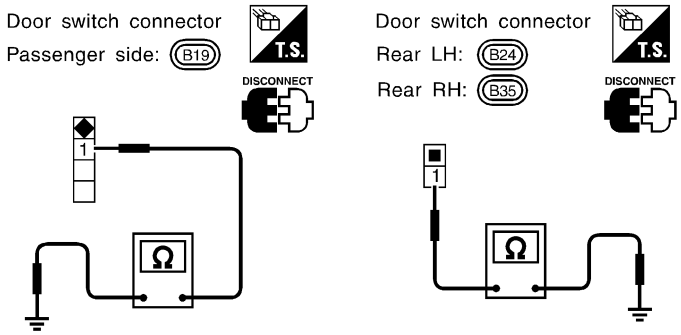
SEL432X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 8. |
| NG | ▶ | GO TO 7. |

| 7 | CHECK DOOR SWITCHES |
|---|---|

1. Disconnect door switch harness connector.
2. Check continuity between door switch terminal 1 and ground.




| | Terminals | Condition | Continuity |
|---|---|---|---|
| Door switches | 1 - Ground | Closed | No |
| | | Open | Yes |

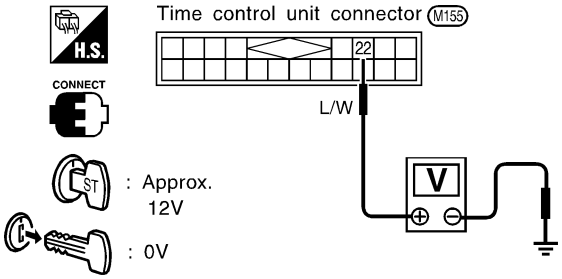
SEL794WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door switch ground condition<br>● Harness for open or short between time control unit and door switch |
| NG | ▶ | Replace door switch. |

| 8 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 22 and ground.




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

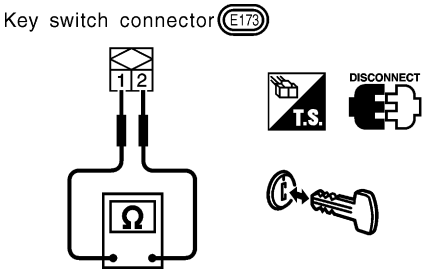
SEL433X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace time control unit. |
| NG | ▶ | GO TO 9. |

| 9 | CHECK KEY SWITCH (INSERT) |
|---|---|

Check continuity between terminals 1 and 2.




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

YEL791C

**OK or NG**

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

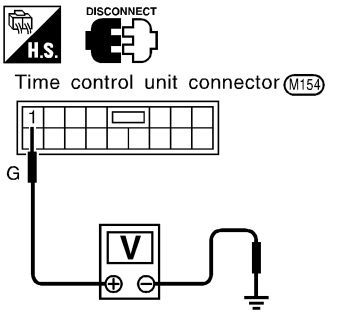
## DIAGNOSTIC PROCEDURE 2

=NJEL0437S02

**SYMPTOM: Interior lamp timer does not cancel properly.**

| 1 | CHECK IGNITION ON SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 1 and ground.




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

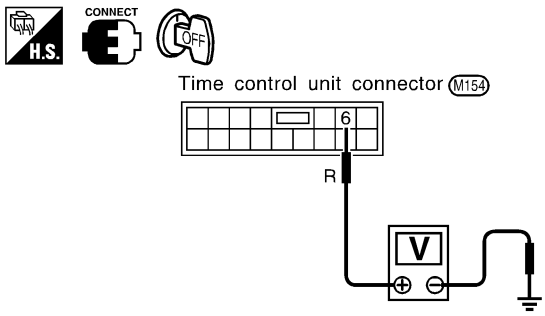
SEL429X

**OK or NG**

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

| 2 | CHECK DOOR SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 6 and ground.




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

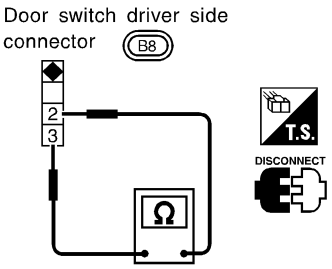
SEL430X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | GO TO 3. |

| 3 | CHECK DRIVER SIDE DOOR SWITCH |
|---|---|

Check continuity between terminals 2 and 3.




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

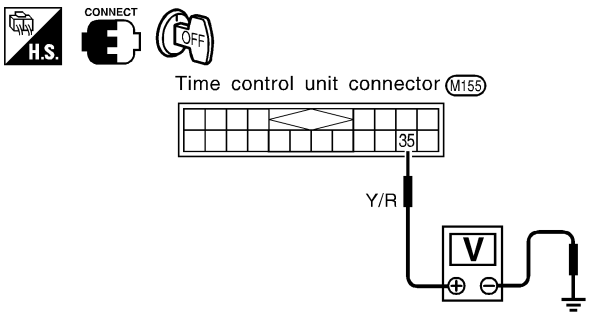
SEL325WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Driver side door switch ground circuit and condition<br>● Harness for open or short between time control unit and driver side door switch |
| NG | ▶ | Replace driver side door switch. |

| 4 | CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 35 and ground.




| Terminals | | Condition (Driver's door) | Voltage [V] |
|---|---|---|---|
| (+) | (–) | | |
| 35 | Ground | Locked | Approx. 5 |
| | | Unlocked | 0 |

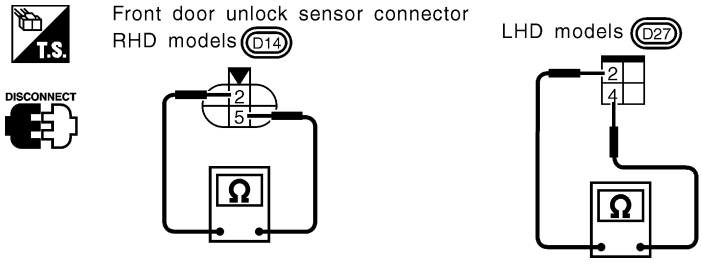
SEL431X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace time control unit. |
| NG | ▶ | GO TO 5. |

| 5 | CHECK FRONT DOOR UNLOCK SENSOR |
|---|---|

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




**Continuity:**
**Condition: Locked**
**No**
**Condition: Unlocked**
**Yes**

YEL792C

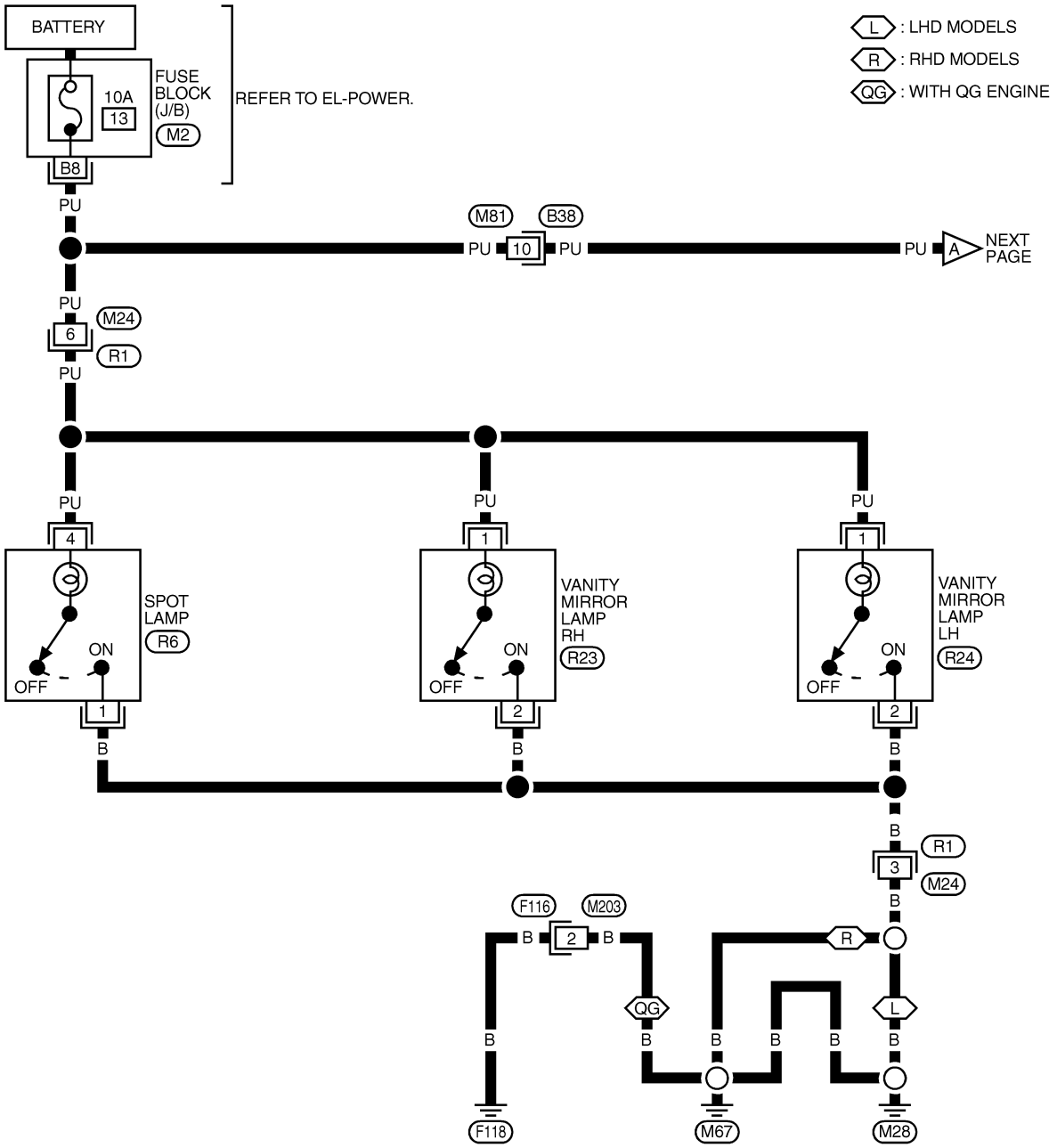
**OK or NG**

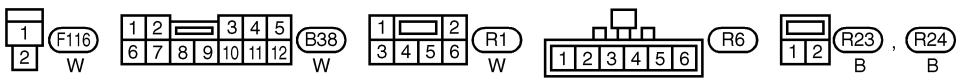
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door unlock sensor ground circuit<br>● Harness for open or short between time control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

## Wiring Diagram — INT/L —

NJEL0439

EL-INT/L-01

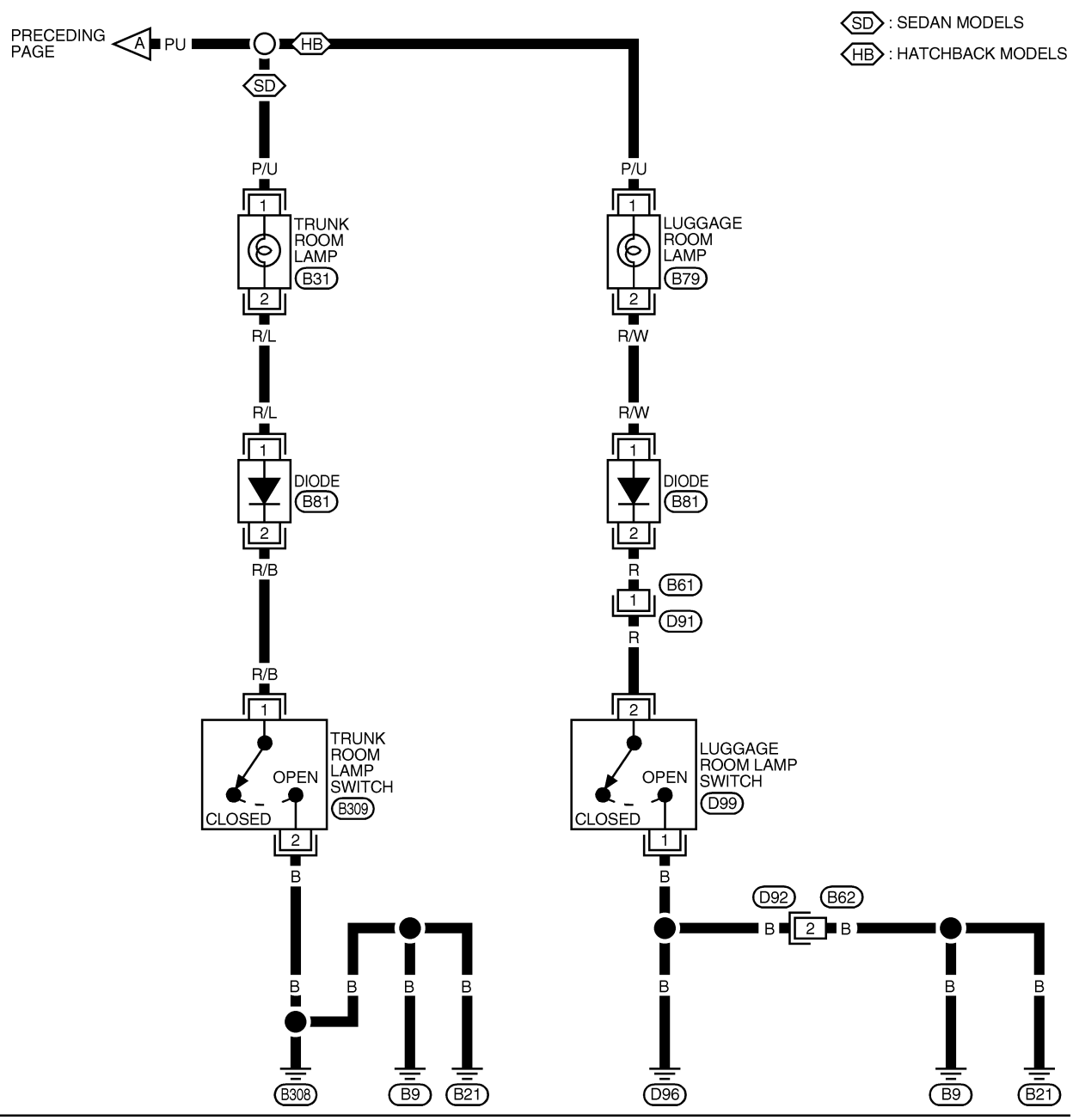


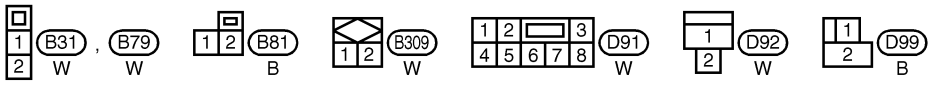




REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-
JUNCTION BOX (J/B)

YEL696D

EL-INT/L-02




YEL697D

## Component Parts and Harness Connector Location

NJEL0441

For details, refer to “ELECTRICAL UNIT LOCATION” (EL-543) and “HARNESS LAYOUT” (EL-550).

## System Description

NJEL0442

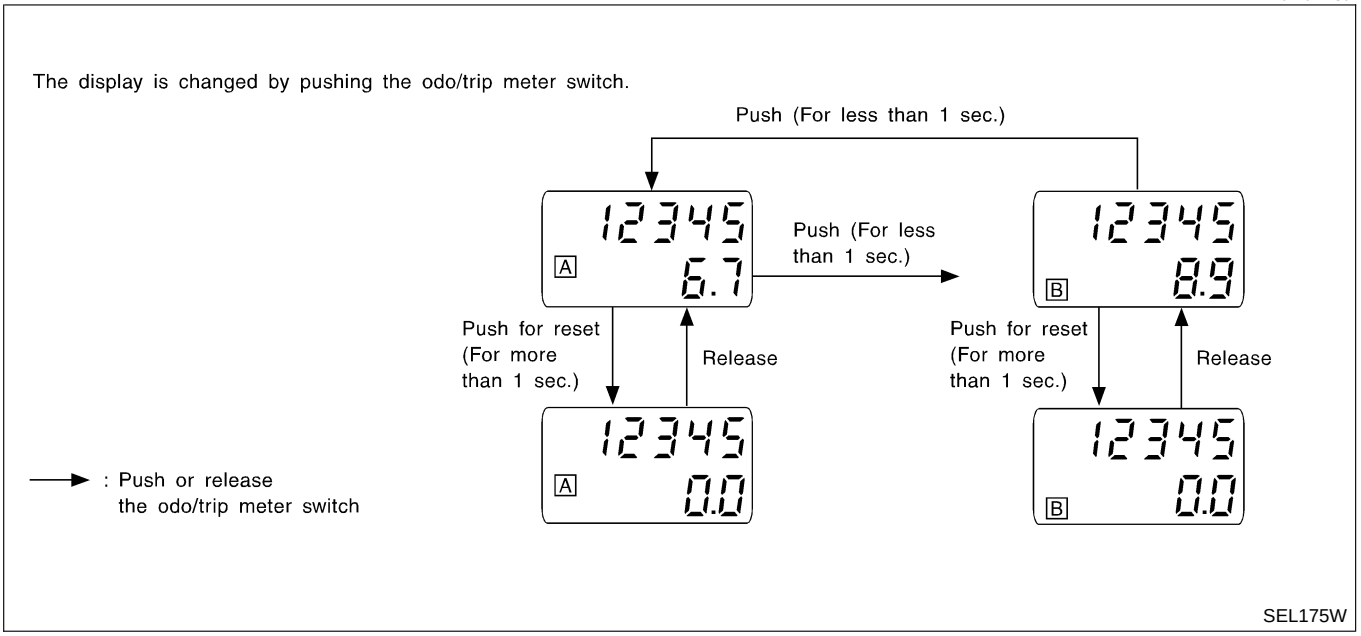
### UNIFIED CONTROL METER

NJEL0442S01

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

### HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

NJEL0442S02




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

### POWER SUPPLY AND GROUND CIRCUIT

NJEL0442S03

Power is supplied at all times

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to combination meter terminal 29

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

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

Ground is supplied

- through body grounds F118 (QG engine models), M28 and M67
- to combination meter terminal 32

## WATER TEMPERATURE GAUGE (QG AND YD ENGINE MODELS WITH COMMON RAIL)

NJEL0442S09

The water temperature gauge indicates the engine coolant temperature.
ECM provides a engine coolant temperature signal to combination meter for water temperature gauge with CAN communication line.

## WATER TEMPERATURE GAUGE (YD ENGINE MODELS WITHOUT COMMON RAIL)

NJEL0442S04

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

## TACHOMETER (QG AND YD ENGINE MODELS WITH COMMON RAIL)

NJEL0442S10

The tachometer indicates engine speed in revolution per minutes (rpm). ECM provides an engine speed signal to combination meter for tachometer with CAN communication line.

## TACHOMETER (YD ENGINE MODELS WITHOUT COMMON RAIL)

NJEL0442S05

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

- from terminal 32 (Gasoline engine models) or 439 (Diesel engine models) of the ECM
- to combination meter terminal 53 for the tachometer.

## FUEL GAUGE

NJEL0442S06

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

- from body grounds F118 (QG engine models), M28 and M67
- through terminals 33 and 32 of combination meter,
- through terminal 1 of the fuel level sensor unit and
- through terminal 4 of the fuel level sensor unit
- to combination meter terminal 34 for the fuel gauge.

## SPEEDOMETER (MODELS WITH ABS)

NJEL0442S11

The combination meter receives a signal from the ABS actuator and electric unit. The speedometer converts the signal into the vehicle speed displayed.

## SPEEDOMETER (MODELS WITHOUT ABS)

NJEL0442S07

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

- from combination meter terminal 13 for the speedometer
- to terminal 1 of the vehicle speed sensor.

Ground is supplied

- from body grounds F118 (QG engine models), M28 and M67
- through terminals 32 and 14 of combination meter
- to teminal 2 of the vehicle speed sensor.

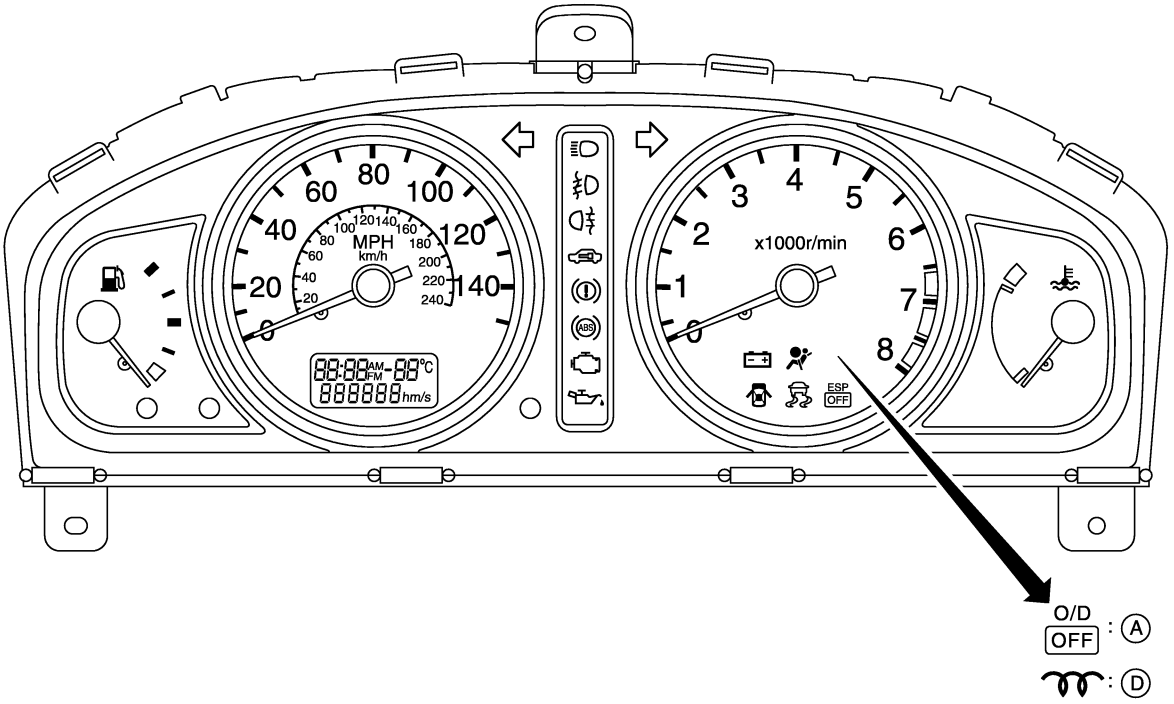
The speedometer converts the voltage into the vehicle speed displayed.

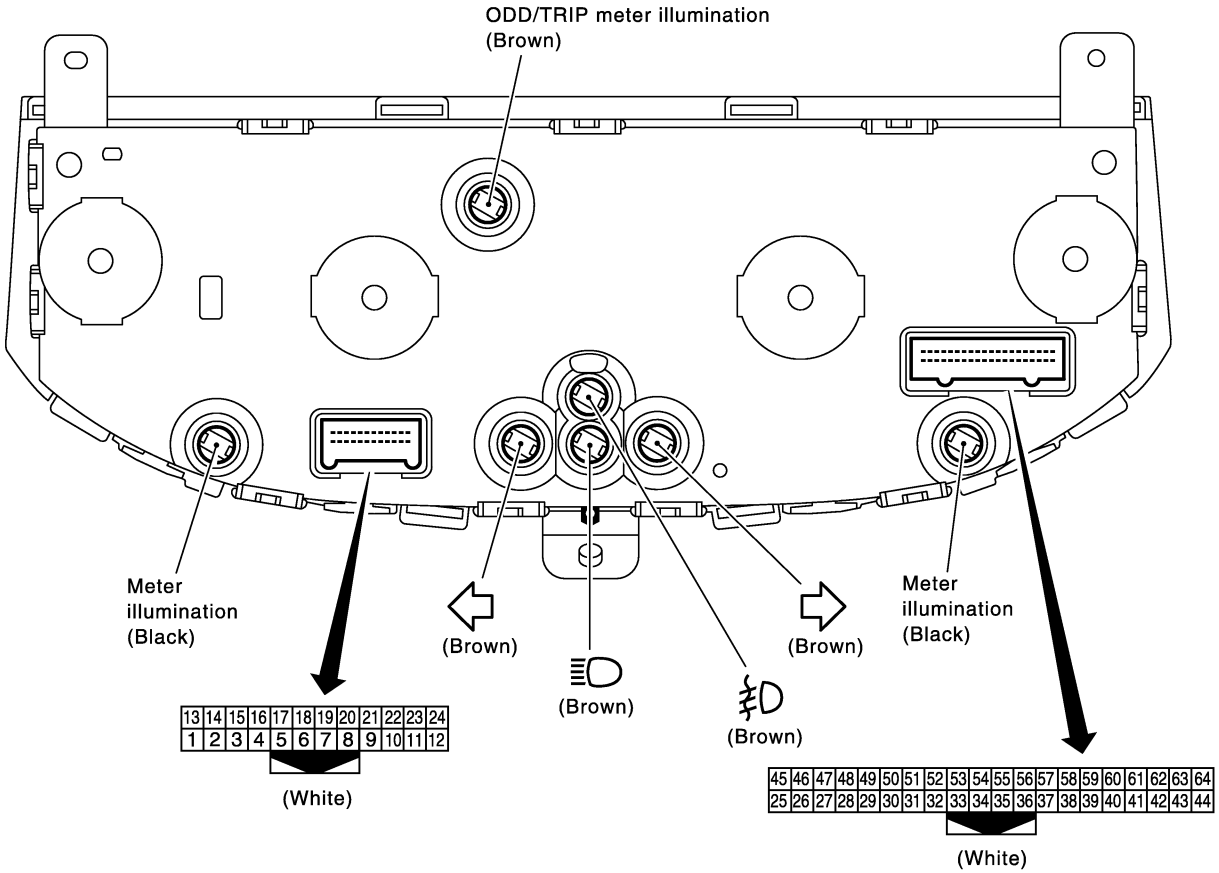
# Combination Meter

NJEL0443

## CHECK

NJEL0443S01




| Bulb socket color | Bulb wattage |
|---|---|
| Brown | 1.4W |
| Black | 3.0W |

( ): Warning bulb socket color

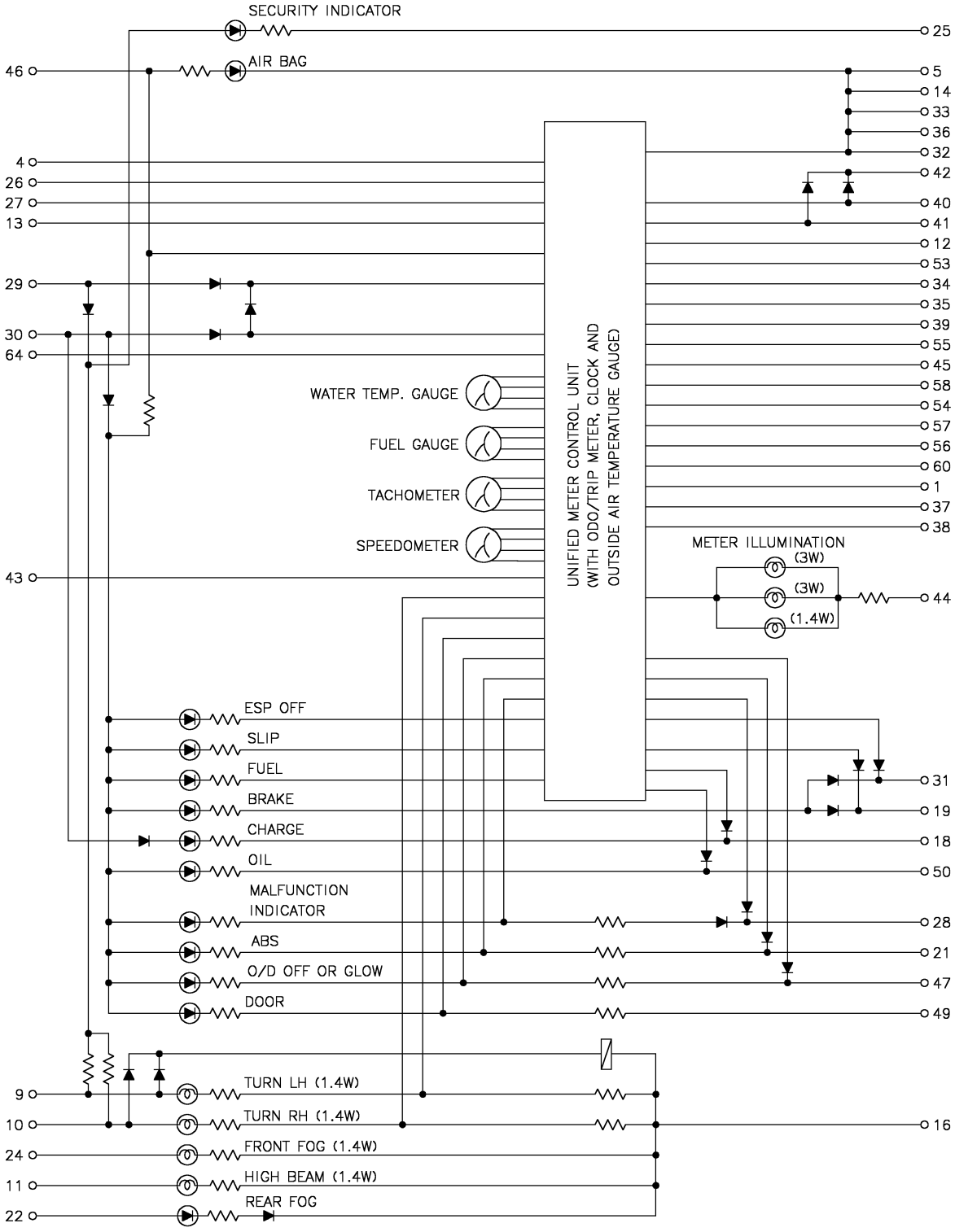
Ⓐ: With A/T

Ⓓ: With diesel engine

YEL804D

## Schematic

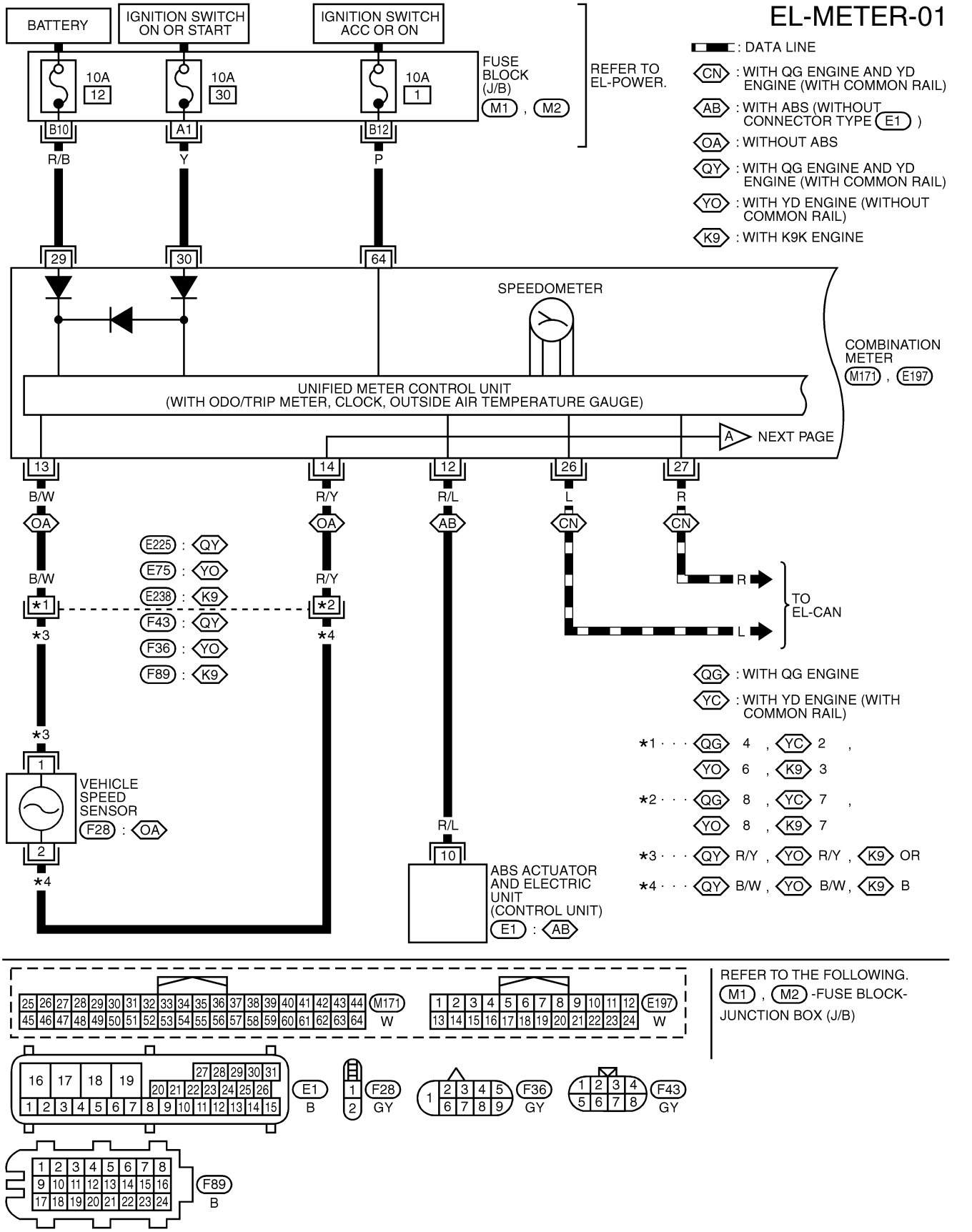
NJEL0444



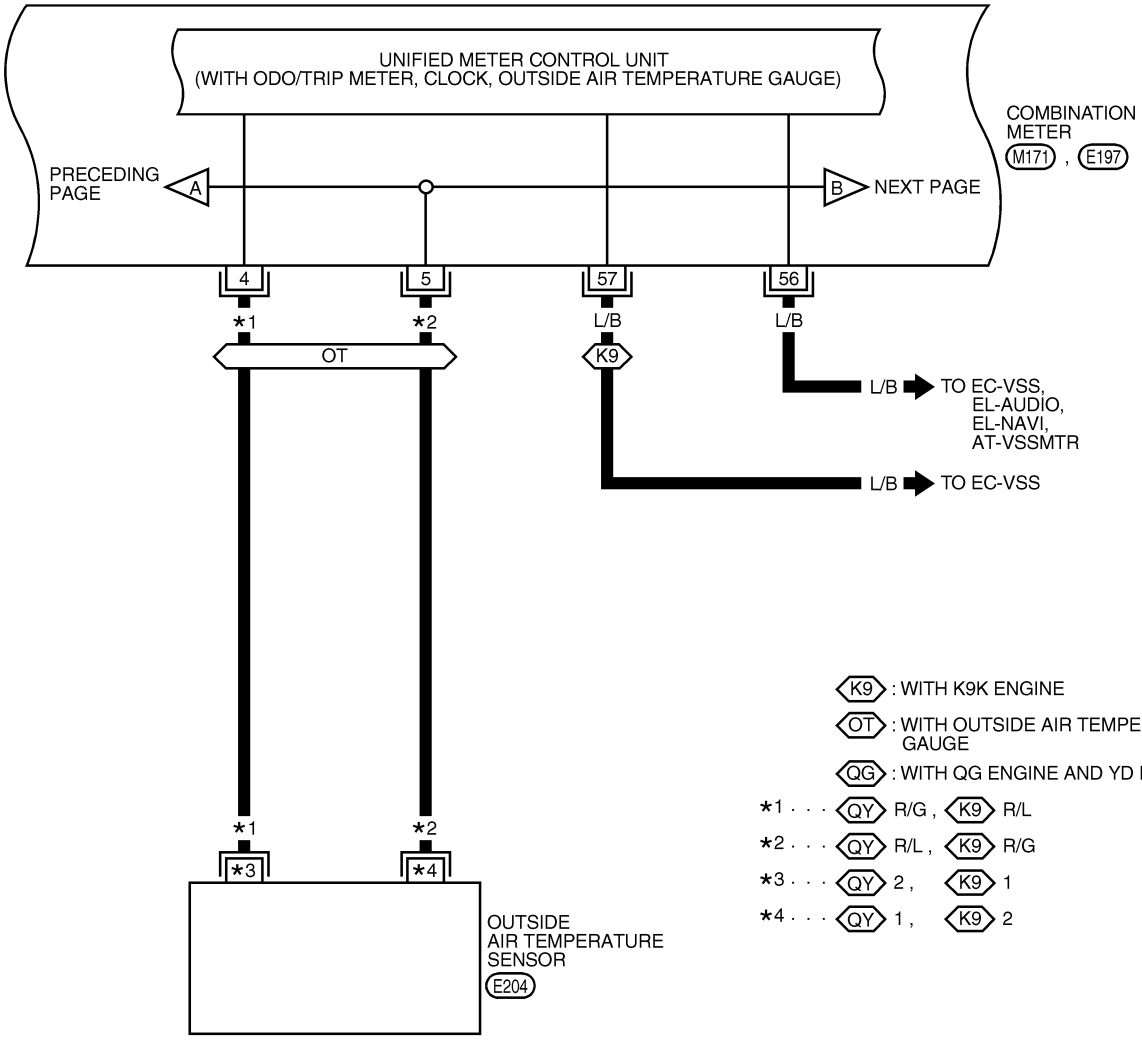

YEL786D

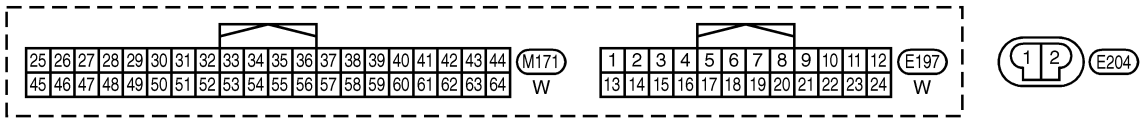
## Wiring Diagram — METER —

NJEL0446



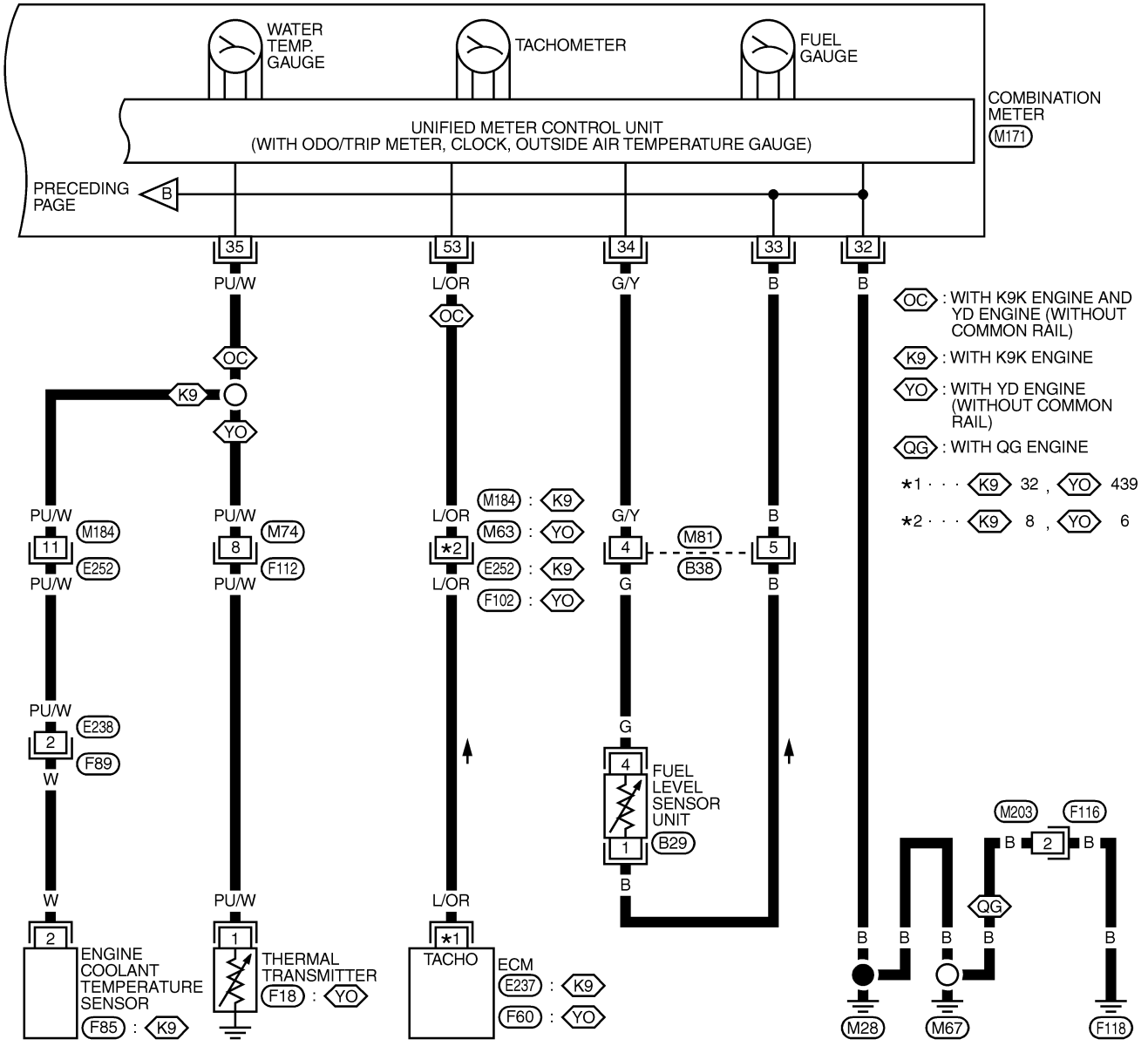

YEL698D

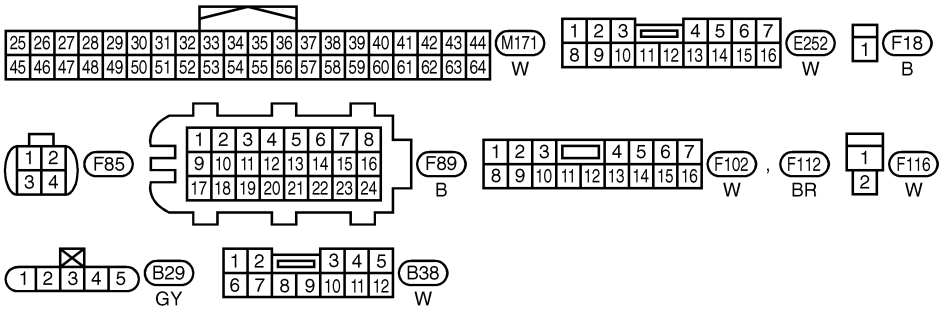

UNIFIED METER CONTROL UNIT
(WITH ODO/TRIP METER, CLOCK, OUTSIDE AIR TEMPERATURE GAUGE)
COMBINATION METER
M171 , E197
PRECEDING PAGE
A
B
NEXT PAGE
4
5
57
56
*1
*2
L/B
L/B
OT
K9
L/B
TO EC-VSS, EL-AUDIO, EL-NAVI, AT-VSSMTR
L/B
TO EC-VSS
*1
*2
*3
*4
OUTSIDE AIR TEMPERATURE SENSOR
E204
K9 : WITH K9K ENGINE
OT : WITH OUTSIDE AIR TEMPERATURE GAUGE
QG : WITH QG ENGINE AND YD ENGINE
*1 . . . QY R/G , K9 R/L
*2 . . . QY R/L , K9 R/G
*3 . . . QY 2 , K9 1
*4 . . . QY 1 , K9 2


25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64
M171
W
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
E197
W
1 2
E204

YEL699D

EL-METER-03




REFER TO THE FOLLOWING.
E237 , F60 -ELECTRICAL UNITS

YEL700D

## Combination Meter Self-Diagnosis

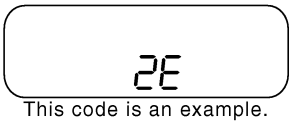
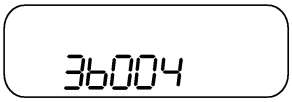
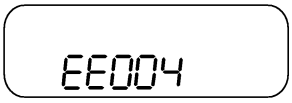
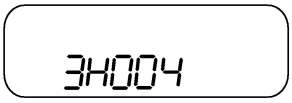
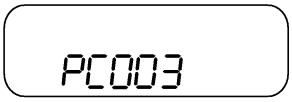
NJEL0447

### PERFORMING SELF-DIAGNOSIS MODE

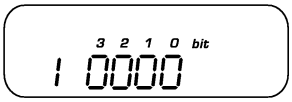
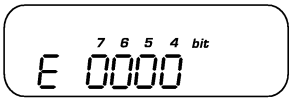
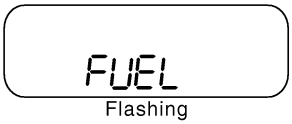
NJEL0447S01

1. Turn the ignition switch to the “LOCK” position.
2. Press both reset buttons on the combination meter and keep them depressed.
3. Turn the ignition switch to the “ON” position, while keeping the reset buttons pressed.
4. Release both reset buttons then self-diagnosis will start. The sequence (A to J) is activated by press the either reset buttons.

**NOTE:**
If either reset button is not pressed for 20 seconds at each step or if the ignition switch is turned OFF, the self-diagnosis mode is exited.

| | Check items | Display | Remarks |
|---|---|---|---|
| A) | Odometer segment test |  SEL434X | All odo trip meter segments are ON. |
| B) | Work instruction code |  This code is an example. SEL435X | This information is not used for service. Please skip this step. |
| C) | Software code |  SEL436X | This information is not used for service. Please skip this step. |
| D) | EEPROM code |  SEL437X | This information is not used for service. Please skip this step. |
| E) | Hardware code |  SEL438X | This information is not used for service. Please skip this step. |
| F) | PCB code |  SEL439X | This information is not used for service. Please skip this step. |
| G) | Meter/gauge test (Sweeping movement) |  Flashing SEL440X | Tachometer, speedometer, fuel level gauge and water temperature gauge have sweeping movement test. (The meter/gauges operate MIN. → MAX., MAX. → MIN.) The odo trip meter segment flushes during the sweep movement. |

*Combination Meter Self-Diagnosis (Cont'd)*

| | Check items | Display | Remarks |
|---|---|---|---|
| H) | Error 1<br>(Bit 0 - Bit 3) |  <br>SEL441X | The segment of each bit displays "0", meaning no failure. If the bit(s) displays figures other than "0", the item of the bit has failed.<br>For details, refer to "Failure chart for Error 1 and Error E" below. |
| I) | Error E<br>(Bit 4 - Bit 7) |  <br>SEL442X | |
| J) | Fuel warning lamp test |  <br>SEL443X | Fuel warning lamp is on and odo trip meter segment "FUEL" flashes. |

## Failure Chart for "Error 1" and "Error E"

NJEL0447S0101

| Bit | Detectable items | Description of the failure | Displayed figure on the bit | |
|---|---|---|---|---|
| | | | Failure | No failure |
| 0 | Speedometer input signal | No input signal<br>When no signal is detected for a few seconds continuously with the ignition ON, it should be judged as signal failure. (If input signal is detected later, then the judgement will be canceled immediately.) | 1 | 0 |
| | | Abnormal input signal<br>When any signal of frequency which would not exist in normal conditions is detected, it should be judged as signal failure. | 2 | |
| 1 | Tachometer input signal | No input signal<br>When no signal is detected for a few seconds continuously with the ignition ON, it should be judged as signal failure. (If input signal is detected later, then the judgement will be canceled immediately.) | 1 | 0 |
| | | Abnormal input signal<br>When any signal of frequency which would not exist in normal conditions is detected, it should be judged as signal failure. | 2 | |
| 2 | Fuel level input signal | Short circuit<br>When short circuit of the signal line is detected for 5 seconds or more, it should be judged as short-circuit failure. | 1 | 0 |
| | | Open circuit<br>When open circuit of the signal line is detected for 5 seconds or more, it should be judged as open-circuit failure. | 2 | |
| 3 | Water temperature input signal | Short circuit<br>When short circuit of the signal line is detected for a few minutes or more, it should be judged as short-circuit failure. | 1 | 0 |
| | | Open circuit<br>When open circuit of the signal line is detected for a few minutes or more, it should be judged as open-circuit failure. | 2 | |

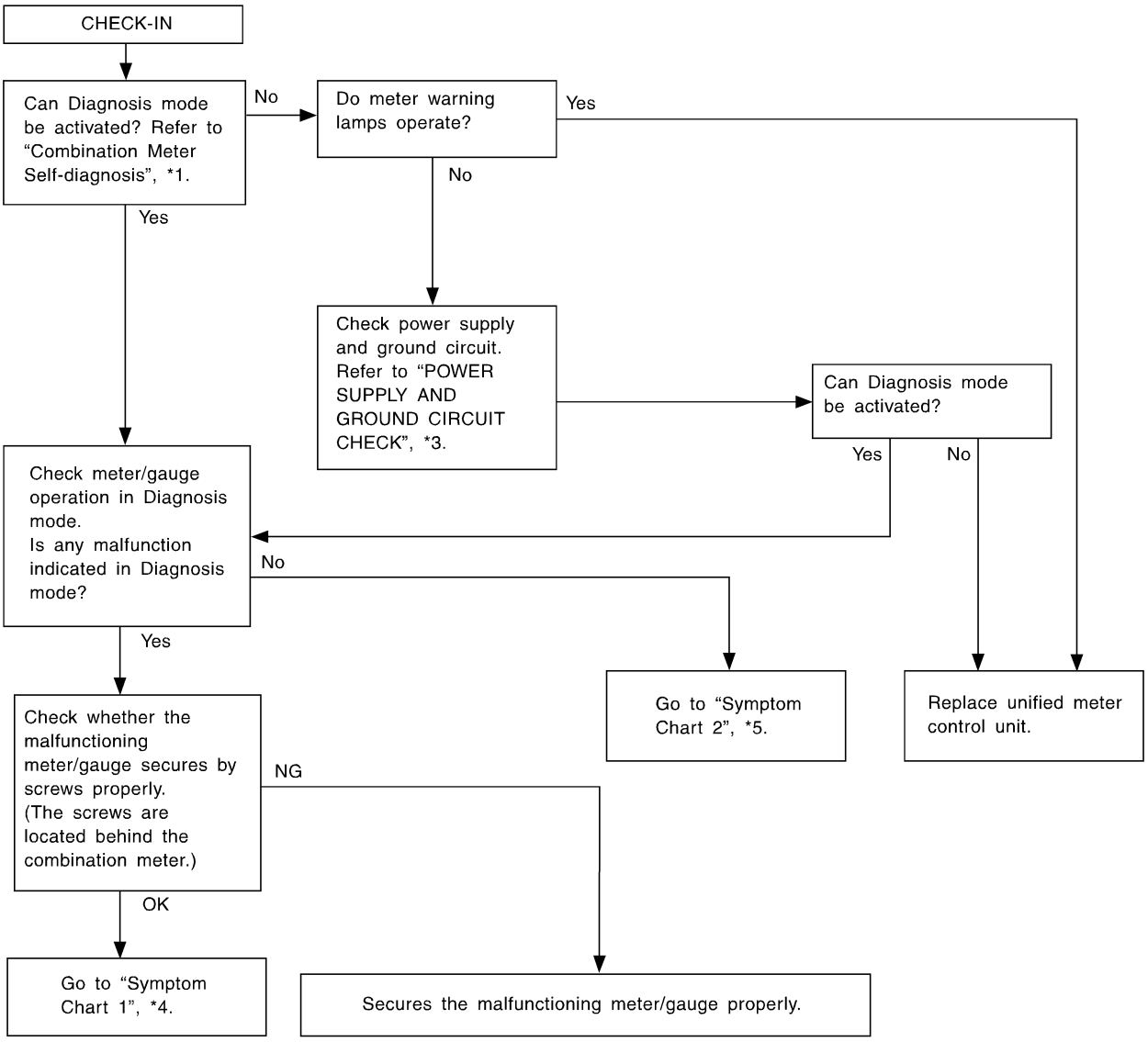
| Bit | Detectable items | Description of the failure | | Displayed figure on the bit | |
|---|---|---|---|---|---|
| | | | | Failure | No failure |
| 4 | Outside air temperature input signal | Short circuit<br>When short circuit of the signal line is detected for a few minutes or more, it should be judged as short-circuit failure. | | 1 | 0 |
| | | Open circuit<br>When open circuit of the signal line is detected for a few minutes or more, it should be judged as open-circuit failure. | | 2 | |
| 5 | Reset buttons | Short circuit for reset buttons<br>When the short circuit is continuously detected for 5 minutes or more, it should be judged as short-circuit failure. | Right side reset button has failed. | 1 | 0 |
| | | | Left side reset button has failed. | 2 | |
| | | | Both reset buttons have failed. | 3 | |
| 6 | — | "0" displays all the time. | | 0 | 0 |
| 7 | — | "0" displays all the time. | | 1 | 0 |

# Trouble Diagnoses

NJEL0448

## PRELIMINARY CHECK

NJEL0448S01




SEL361WA

*1: Combination Meter Self-Diagnosis (EL-117)

*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-122)

*4: Symptom Chart 1 (EL-121)

*5: Symptom Chart 2 (EL-121)

## SYMPTOM CHART

NJEL0448S02

### Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NJEL0448S0201

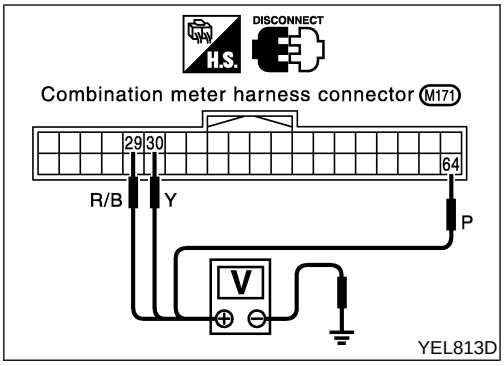
| Symptom | Possible causes | Repair order |
|---|---|---|
| Odo/trip meter indicates malfunction in Diagnosis mode. | Unified meter control unit | Replace unified meter control unit. |
| Multiple meter/gauge indicate malfunction in Diagnosis mode. | | |
| One of speedometer/ tachometer/fuel gauge/ water temp. gauge indicates malfunction in Diagnosis mode. | 1. Meter/Gauge<br>2. Unified meter control unit | 1. Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/ gauge.<br>2. If the resistance of meter/gauge is OK, replace unified meter control unit. |

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

NJEL0448S0202

| Symptom | Possible causes | Repair order |
|---|---|---|
| One of speedometer/ tachometer/fuel gauge/ water temp. gauge is malfunctioning. | 1. Sensor signal<br>- Vehicle speed signal<br>- Engine revolution signal<br>- Fuel gauge<br>- Water temp. gauge<br>2. Unified meter control unit | 1. Check the sensor for malfunctioning meter/gauge.<br>INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-123.)<br>INSPECTION/ENGINE REVOLUTION SIGNAL (YD ENGINE MODELS WITHOUT COMMON RAIL) (Refer to EL-125.)<br>INSPECTION/ENGINE REVOLUTION SIGNAL (QG AND YD ENGINE MODELS WITH COMMON RAIL) (Refer to EL-124.)<br>INSPECTION/FUEL LEVEL SENSOR UNIT (Refer to EL-126.)<br>INSPECTION/THERMAL TRANSMITTER (YD ENGINE MODELS WITHOUT COMMON RAIL) (Refer to EL-127.)<br>INSPECTION/WATER TEMPERATURE SIGNAL (QG AND YD ENGINE MODELS WITH COMMON RAIL) (Refer to EL-127.)<br>2. Replace unified meter control unit. |
| Multiple meter/gauge are malfunctioning. (except odo/trip meter) | | |

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-120.




## POWER SUPPLY AND GROUND CIRCUIT CHECK

=NJEL0448S03

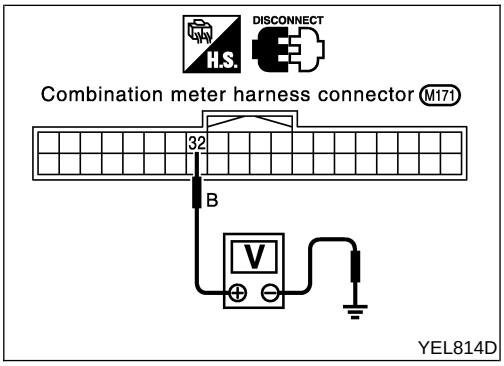
### Power Supply Circuit Check

NJEL0448S0301

| Terminals | | Ignition switch position | | |
|---|---|---|---|---|
| (+) | (−) | OFF | ACC | ON |
| 29 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 30 | Ground | 0V | 0V | Battery voltage |
| 64 | Ground | 0V | Battery voltage | Battery voltage |

If NG, check the following.

- 10A fuse [No. 12, located in fuse block (J/B)]
- 10A fuse [No. 30, located in fuse block (J/B)]
- 10A fuse [No. 1, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter




### Ground Circuit Check

NJEL0448S0302

| Terminals | Continuity |
|---|---|
| 32 - Ground | Yes |

## INSPECTION/VEHICLE SPEED SIGNAL

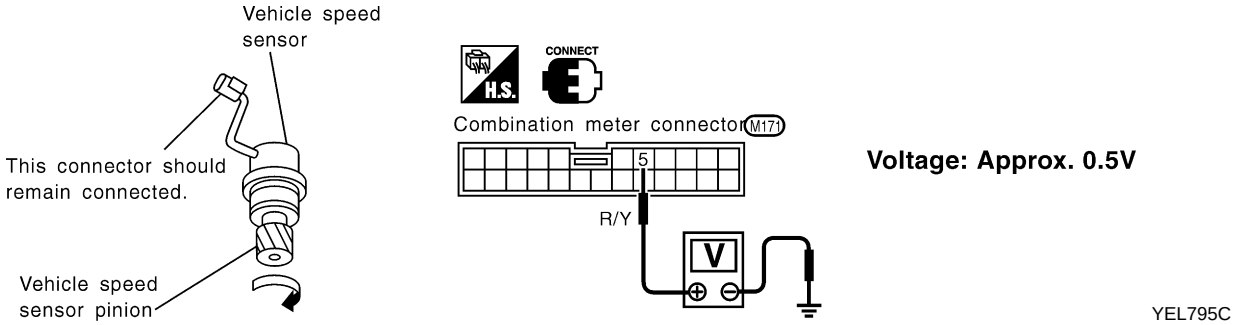
=NJEL0448S04

### Models without ABS

NJEL0448S0401

| 1 | CHECK VEHICLE SPEED SENSOR OUTPUT |
|---|---|

1. Remove vehicle speed sensor from transmission.
2. Check voltage between combination meter terminal 13 and ground while quickly turning speed sensor pinion.




**Voltage: Approx. 0.5V**

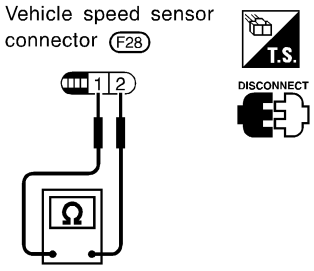
YEL795C

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Vehicle speed sensor signal is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK VEHICLE SPEED SENSOR |
|---|---|

Check resistance between vehicle speed sensor terminals 1 and 2.




**Resistance: Approx. 300 Ω**

SEL645WA

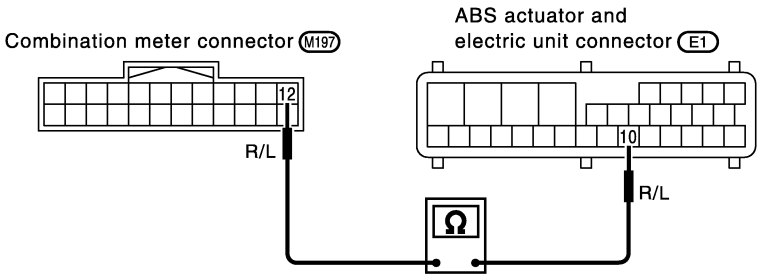
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Harness between combination meter and vehicle speed sensor<br>● Vehicle speed sensor ground circuit |
| NG | ▶ | Replace vehicle speed sensor. |

## Models with ABS

=NJEL0448S0402

| 1 | ABS ACTUATOR AND ELECTRIC UNIT SYSTEM INSPECTION | |
|---|---|---|
| Perform ABS actuator and electric unit self-diagnosis.<br>Refer to BR-55, "CONSULT-II Functions". | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Check ABS control system. Refer to BR-62, "TROUBLE DIAGNOSIS — BASIC INSPECTION". |

| 2 | CHECK VEHICLE SPEED SIGNAL CIRCUIT | |
|---|---|---|
| 1. Disconnect combination meter connector and "ABS actuator and electric unit" connector.<br>2. Check continuity between combination meter connector terminal 12 and "ABS actuator and electric unit" connector terminal 10. | | |
|  <br>YEL815D | | |
| **OK or NG** | | |
| OK | ▶ | Recheck "PRELIMINARY CHECK". |
| NG | ▶ | Check harness for open or short between combination meter and "ABS actuator and electric unit". If NG, repair harness or connector. |

## INSPECTION/ENGINE REVOLUTION SIGNAL (QG AND YD ENGINE MODELS WITH COMMON RAIL)

NJEL0448S11

| 1 | ECM SYSTEM INSPECTION | |
|---|---|---|
| Perform ECM self-diagnosis. Refer to "Emission-related Diagnostic Information" (QG engine with EURO-OBD) (EC-37), "Emission-related Diagnostic Information" (QG engine without EURO-OBD) (EC-429), "Diagnostic Trouble Code (DTC)" (YD engine) (EC-34). | | |
| **OK or NG** | | |
| OK | ▶ | Recheck "PRELIMINARY CHECK". |
| NG | ▶ | Perform "Diagnostic Procedure" for displayed DTC. |

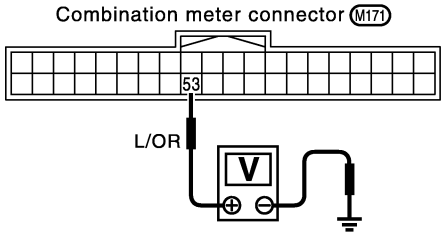
## INSPECTION/ENGINE REVOLUTION SIGNAL (YD ENGINE MODELS WITHOUT COMMON RAIL)

=NJEL0448S05

| 1 | CHECK ECM OUTPUT |
|---|---|

1. Start engine.
2. Check voltage between combination meter terminals 53 and ground at idle and 2,000 rpm.




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

YEL816D

**OK or NG**

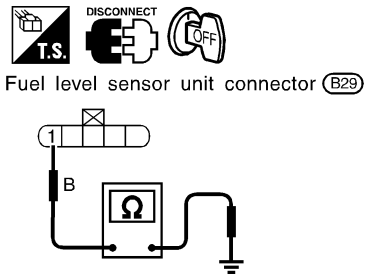
| | | |
|---|---|---|
| OK | ▶ | Engine revolution signal is OK. |
| NG | ▶ | Harness for open or short between ECM and combination meter |

## INSPECTION/FUEL LEVEL SENSOR UNIT

=NJEL0448S06

| 1 | CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT |
|---|---|

Check harness continuity between fuel level sensor unit connector terminal 1 and ground.




**Continuity should exist.**

SEL400X

**OK or NG**

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

| 2 | CHECK FUEL LEVEL SENSOR UNIT |
|---|---|

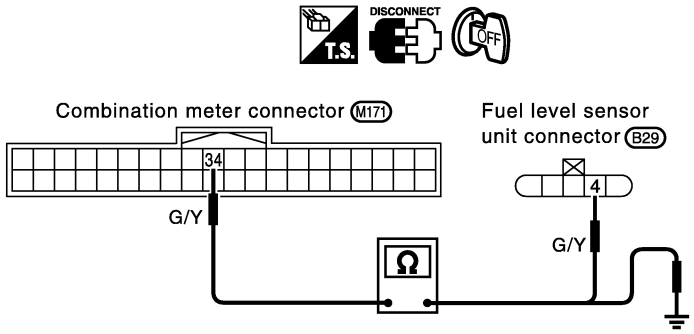
Refer to "FUEL LEVEL SENSOR UNIT CHECK" (EL-128).

**OK or NG**

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

| 3 | CHECK HARNESS FOR OPEN OR SHORT |
|---|---|

1. Disconnect combination meter connector and fuel level sensor unit connector.
2. Check continuity between combination meter terminal 34 and fuel level sensor unit connector terminal 4.
   **Continuity should exist.**
3. Check continuity between combination meter terminal 34 and ground.
   **Continuity should not exist.**




YEL817D

**OK or NG**

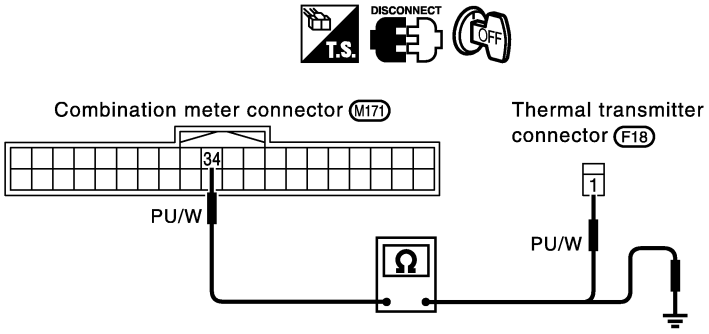
| | | |
|---|---|---|
| OK | ▶ | Fuel level sensor unit is OK. |
| NG | ▶ | Repair harness or connector. |

## INSPECTION/THERMAL TRANSMITTER (YD ENGINE MODELS WITHOUT COMMON RAIL)

=NJEL0448S07

| 1 | CHECK THERMAL TRANSMITTER | |
|---|---|---|
| Refer to "THERMAL TRANSMITTER CHECK" (EL-128). | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace. |

| 2 | CHECK HARNESS FOR OPEN OR SHORT | |
|---|---|---|
| 1. Disconnect combination meter connector and thermal transmitter connector.<br>2. Check continuity between combination meter terminal 35 and thermal transmitter terminal 1.<br>**Continuity should exist.**<br>3. Check continuity between combination meter terminal 35 and ground.<br>**Continuity should not exist.** | | |
| **OK or NG** | | |
| OK | ▶ | Thermal transmitter is OK. |
| NG | ▶ | Repair harness or connector. |

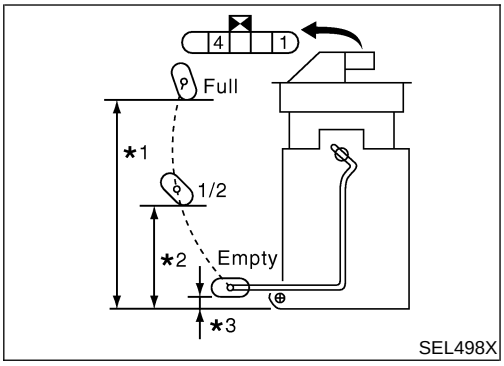



YEL818D

## INSPECTION/WATER TEMPERATURE SIGNAL (QG AND YD ENGINE MODELS WITH COMMON RAIL)

NJEL0448S12

| 1 | ECM SYSTEM INSPECTION | |
|---|---|---|
| Perform ECM self-diagnosis. Refer to "Emission-related Diagnostic Information" (QG engine with EURO-OBD) (EC-37), "Emission-related Diagnostic Information" (QG engine without EURO-OBD) (EC-429), "Diagnostic Trouble Code (DTC)" (YD engine) (EC-34). | | |
| **OK or NG** | | |
| OK | ▶ | Recheck "PRELIMINARY CHECK". |
| NG | ▶ | Perform "Diagnostic Procedure" for displayed DTC. |



SEL498X

# Electrical Components Inspection

=NJEL0449

## FUEL LEVEL SENSOR UNIT CHECK

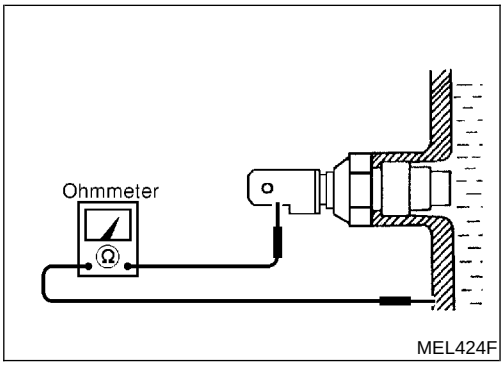
NJEL0449S02

- For removal, refer to FE-5, FE-17, “FUEL SYSTEM”.

Check the resistance between terminals 4 and 1.

| Ohmmeter | | Float position mm (in) | | | Resistance value Ω |
|---|---|---|---|---|---|
| (+) | (−) | | | | |
| 4 | 1 | *1 | Full | 142.4 (5.606) | Approx. 4 - 6 |
| | | *2 | 1/2 | 88.6 (3.488) | 32 - 33 |
| | | *3 | Empty | 11.0 (0.433) | 80 - 83 |

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



MEL424F

## THERMAL TRANSMITTER CHECK

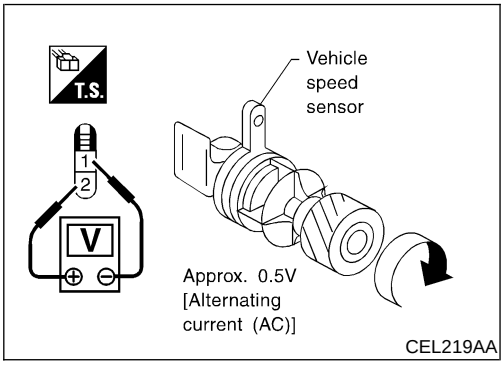
NJEL0449S03

### YD Engine Models without Common Rail Only

NJEL0449S0301

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

| Water temperature | Resistance |
|---|---|
| 65°C (149°F) | Approx. 1,179 - 1,417Ω |
| 91°C (196°F) | Approx. 474 - 568Ω |



CEL219AA

## VEHICLE SPEED SENSOR SIGNAL CHECK

NJEL0449S04

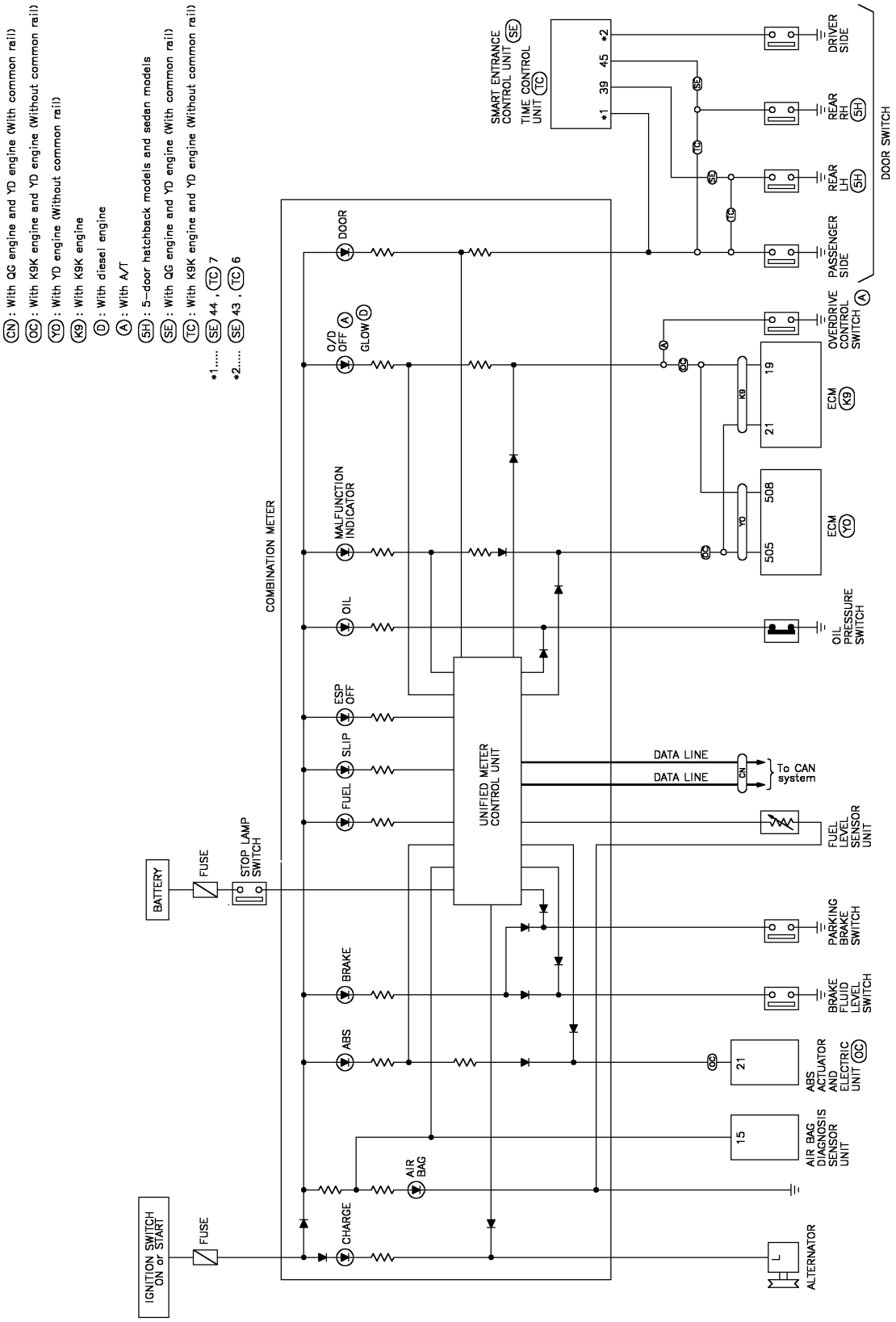
### Models without ABS Only

NJEL0449S0401

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

## Schematic

NJEL0450

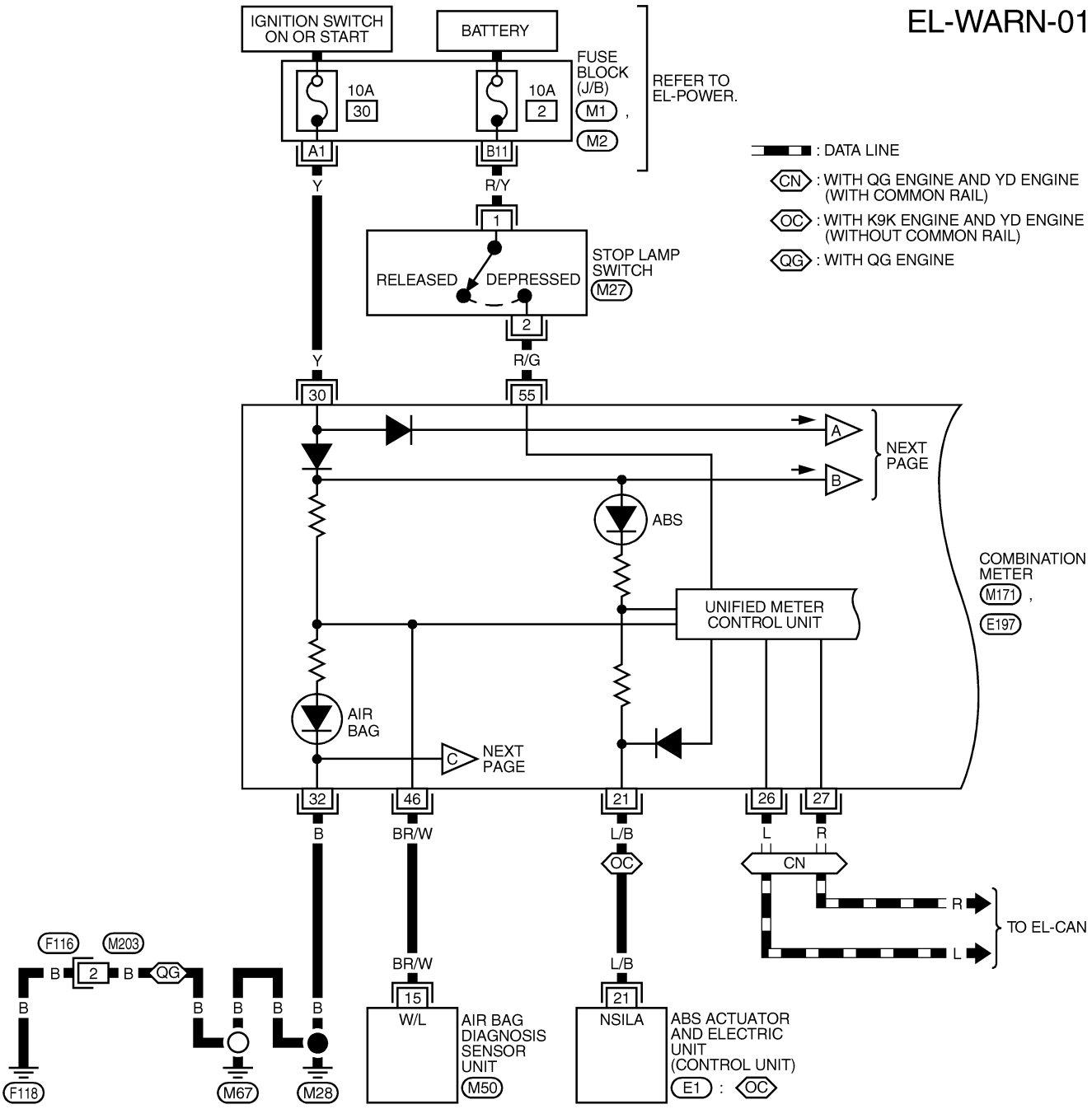



YEL701D

## Wiring Diagram — WARN —

NJEL0451

EL-WARN-01

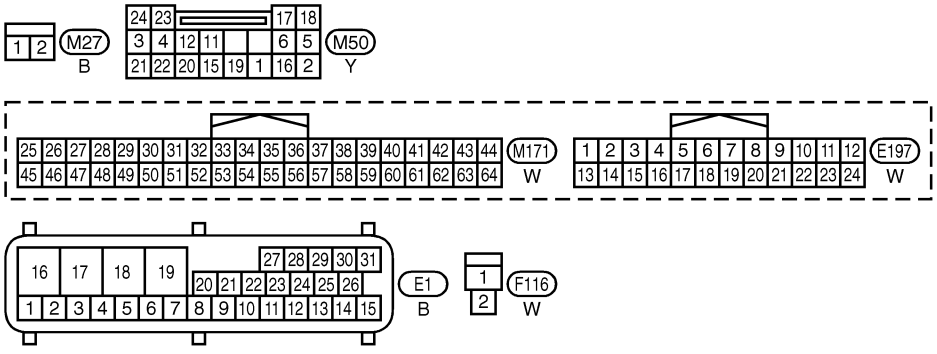



: DATA LINE

CN : WITH QG ENGINE AND YD ENGINE (WITH COMMON RAIL)

OC : WITH K9K ENGINE AND YD ENGINE (WITHOUT COMMON RAIL)

QG : WITH QG ENGINE

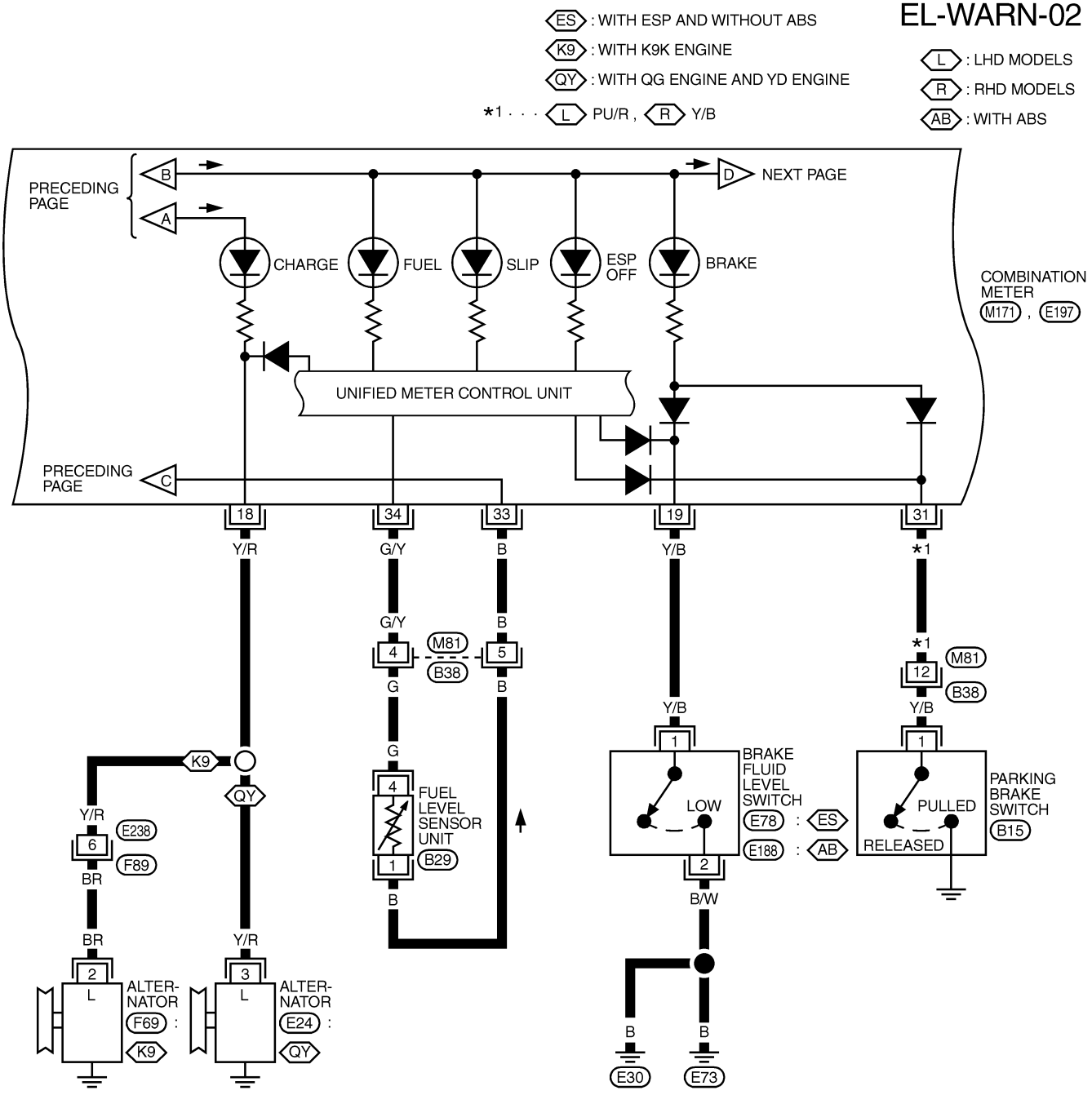


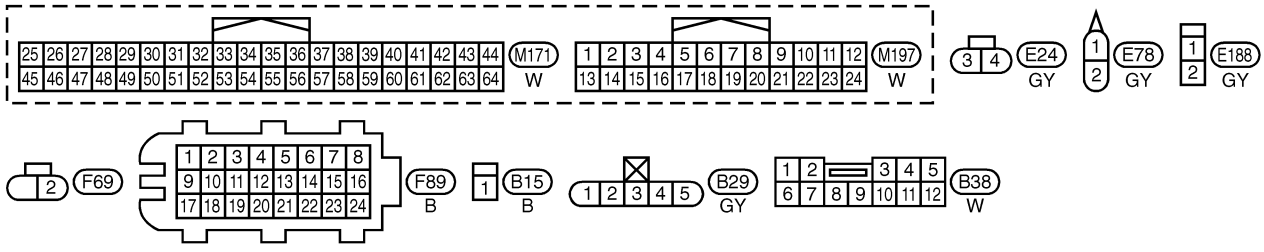

REFER TO THE FOLLOWING.

M1, M2 -FUSE BLOCK-JUNCTION BOX (J/B)

YEL702D

EL-WARN-02

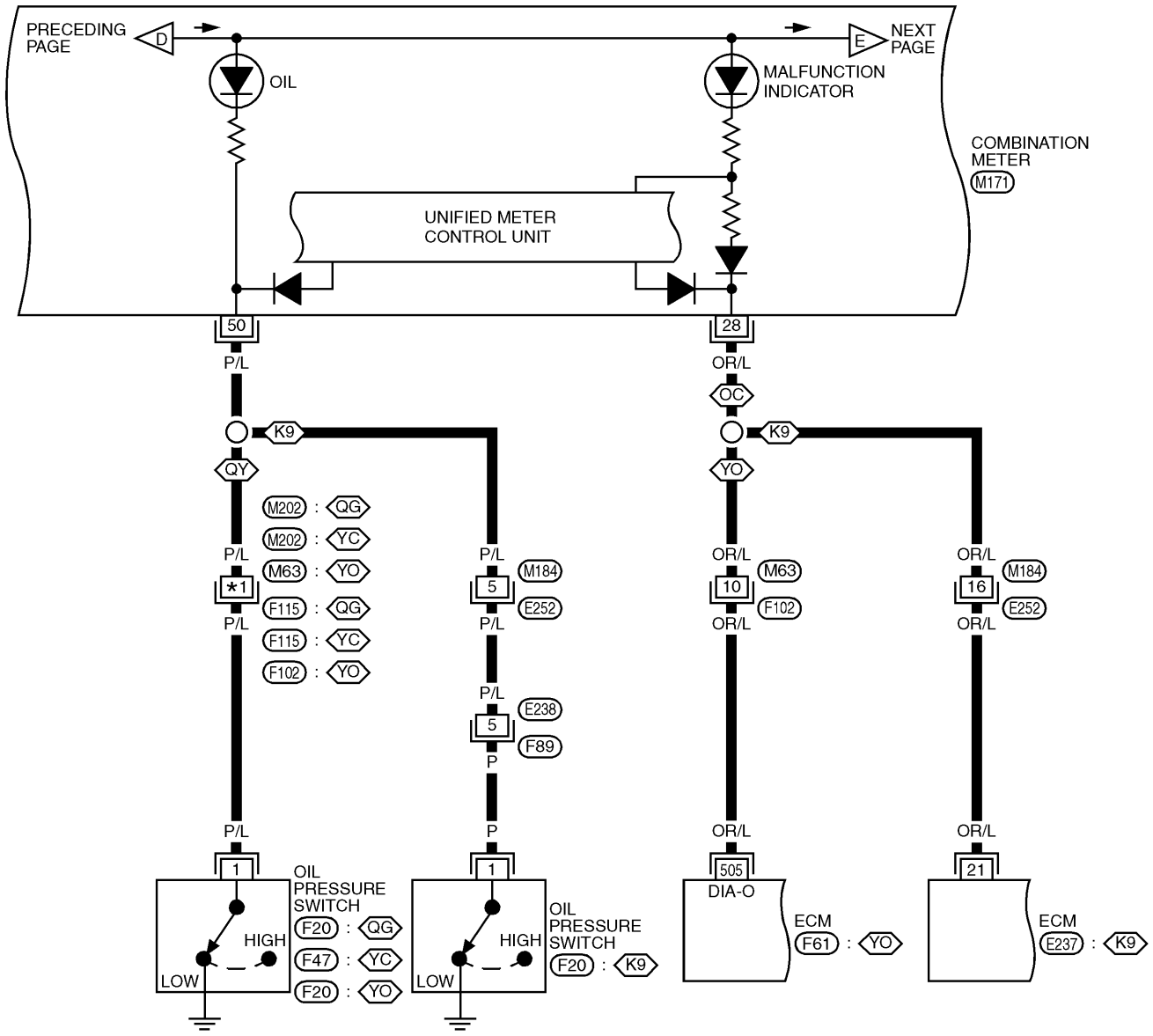


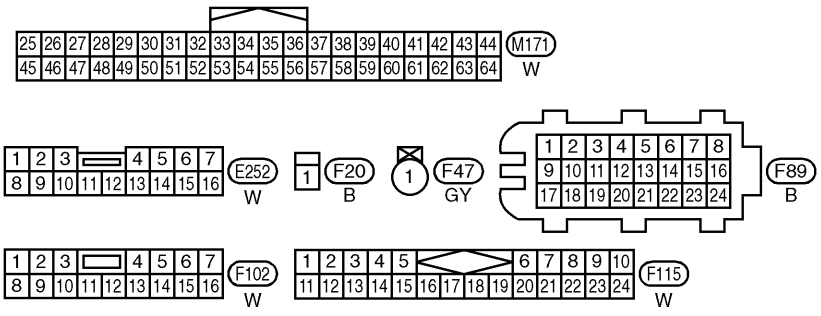




YEL703D

EL-WARN-03

QY : WITH QG ENGINE AND YD ENGINE
QG : WITH QG ENGINE
YC : WITH YD ENGINE (WITH COMMON RAIL)
YO : WITH YD ENGINE (WITHOUT COMMON RAIL)
K9 : WITH K9K ENGINE
OC : WITH K9K ENGINE AND YD ENGINE (WITHOUT COMMON RAIL)
*1 · · · QG 1 , YC 17 , YO 5

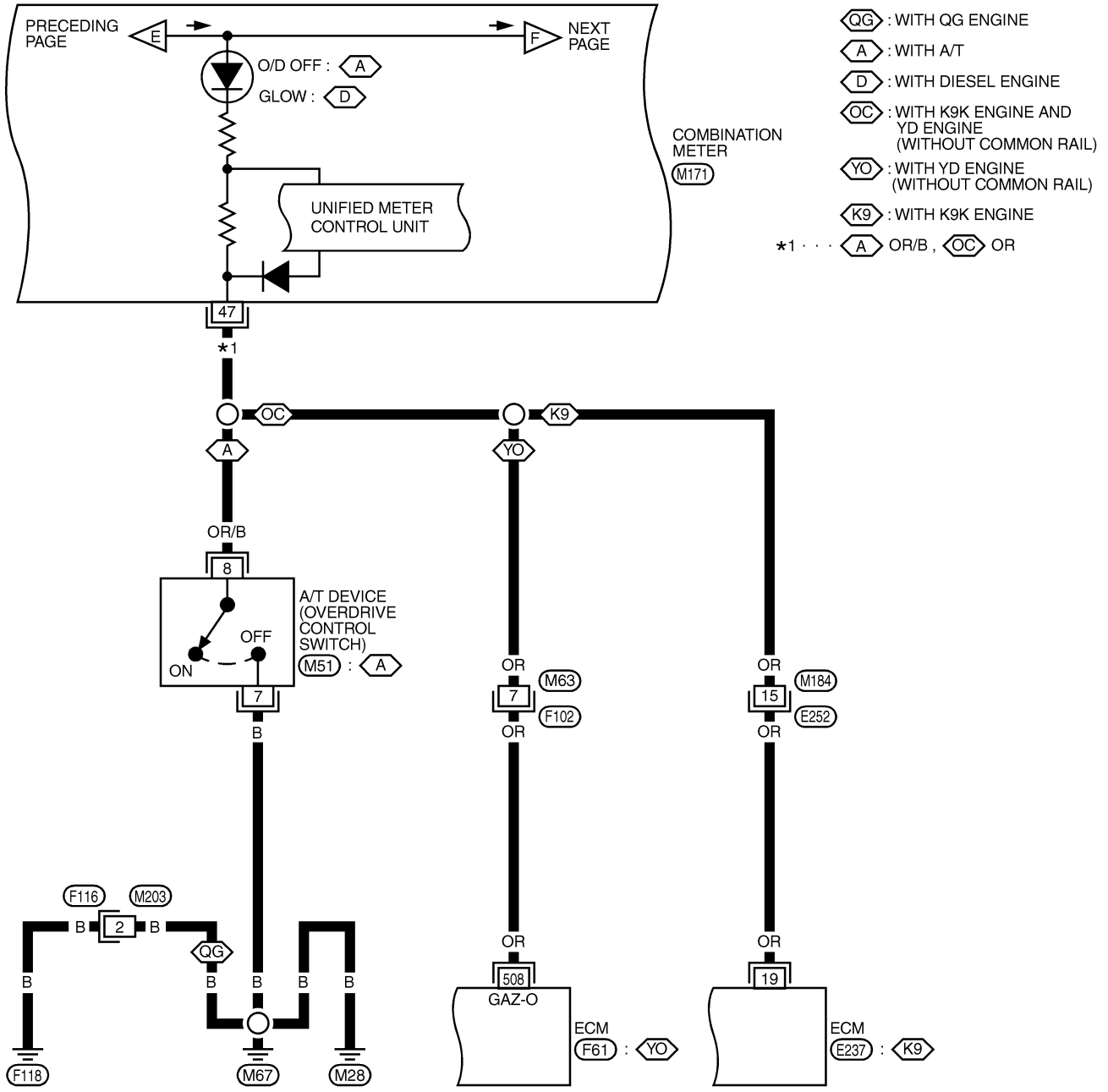


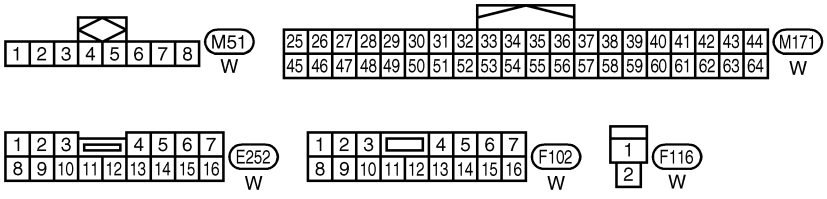




REFER TO THE FOLLOWING.
E237 , F61 -ELECTRICAL UNITS

YEL704D

EL-WARN-04

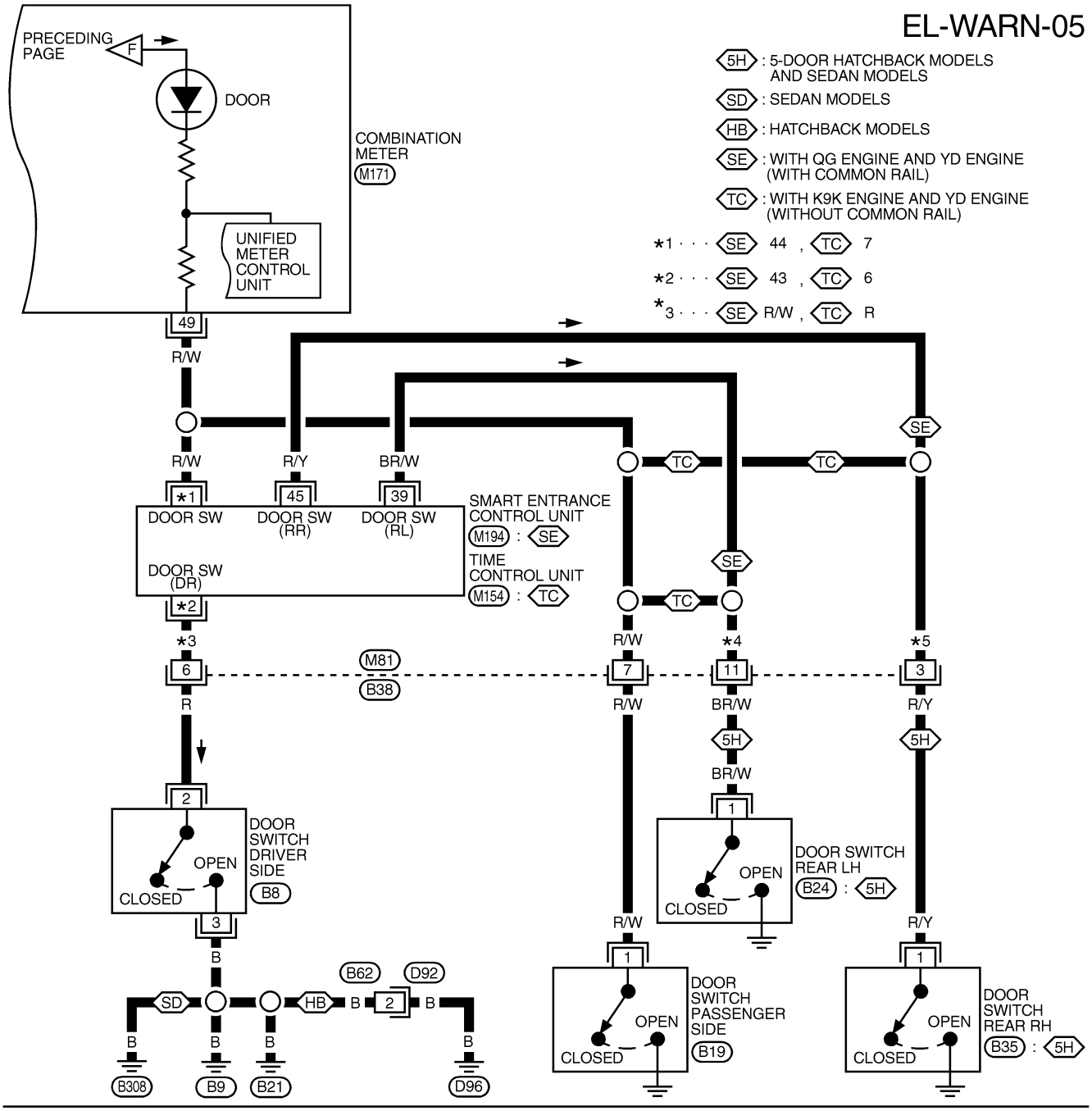


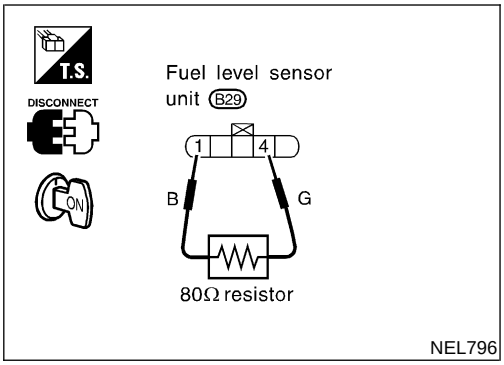

REFER TO THE FOLLOWING.
E237 , F61 -ELECTRICAL UNITS

YEL705D

*Wiring Diagram — WARN — (Cont'd)*




YEL706D



NEL796

# Electrical Components Inspection

NJEL0051

## FUEL WARNING LAMP OPERATION CHECK

NJEL0051S01

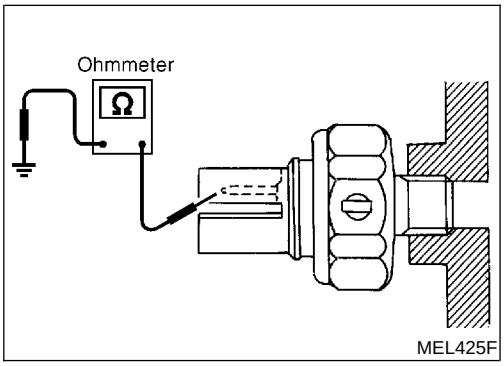
1. Turn ignition switch “OFF”.
2. Disconnect fuel level sensor unit harness connector B29.
3. Connect a resistor (80Ω) between fuel level sensor unit harness connector terminals 4 and 1.
4. Turn ignition switch “ON”.

**The fuel warning lamp should come on.**

**NOTE:**

**For QG Engine Only**

ECM might store the DTC P0180 during this inspection. If the DTC is stored in ECM memory, erase the DTC after reconnecting the fuel level sensor unit and fuel pump harness connector. Refer to EC-48 (With EURO-OBD), 430 (Without EURO-OBD), “HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION”, “Emission-related Diagnostic Information”, “ON BOARD DIAGNOSTIC SYSTEM DESCRIPTION”.



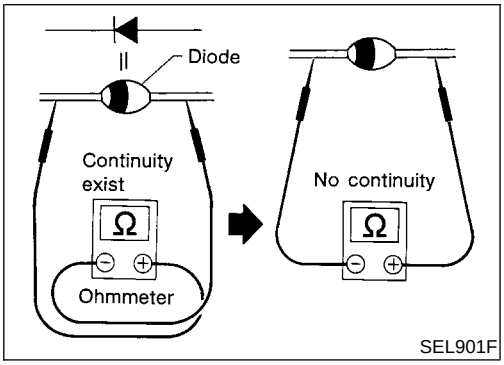
MEL425F

## OIL PRESSURE SWITCH CHECK

NJEL0051S02

| | Oil pressure kPa (bar, kg/cm$^2$, psi) | Continuity |
|---|---|---|
| Engine running | More than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1 - 3) | No |
| Engine not running | Less than 10 - 20 (0.10 - 0.20, 0.1 - 0.2, 1 - 3) | Yes |

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



SEL901F

## DIODE CHECK

NJEL0051S03

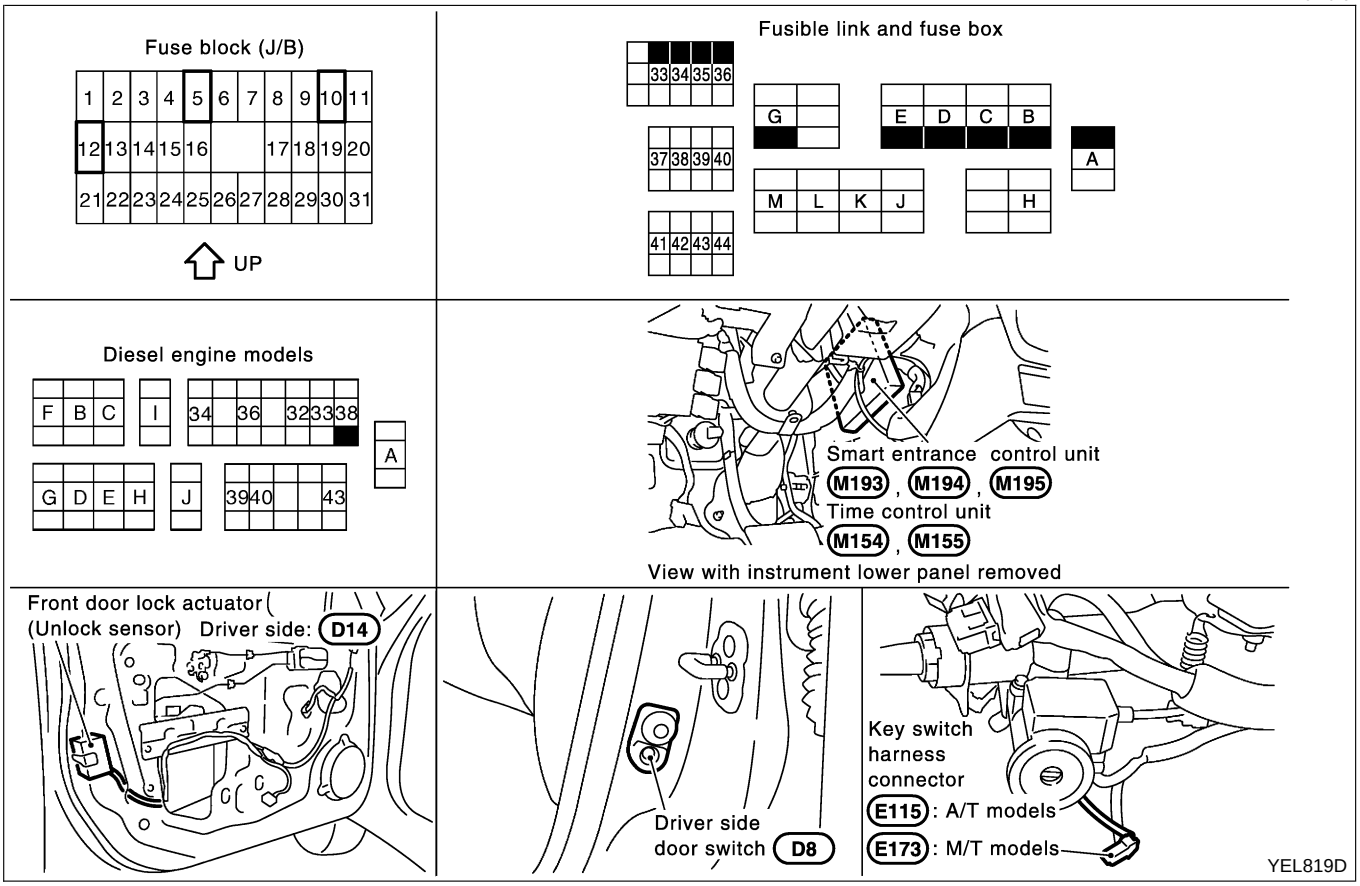
- Check continuity using an ohmmeter.
- Diode is functioning properly if test results are as shown in the figure at left.
- Check diodes at the combination meter harness connector instead of on the combination meter assembly. Refer to EL-130, “WARNING LAMP” wiring diagrams.

**NOTE:**

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

## Component Parts and Harness Connector Location

NJEL0452




## System Description/QG Engine Models and YD Engine Models with Common Rail

NJEL0453

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

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to key switch terminal 1, and
- to smart entrance control unit terminal 56.
- through 10A fuse (No. 38, located in the fusible link and fuse box)
- to lighting switch terminal 11.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 29.

Ground is supplied to smart entrance control unit terminal 53 through body grounds F118 (QG engine models), M28 and M67.
When a signal or combined signals is/are received by the smart entrance control unit, the warning chime will sound.

### IGNITION KEY WARNING CHIME

NJEL0453S01

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

- from key switch terminal 2
- to smart entrance control unit terminal 5.

Ground is supplied

- from body grounds B9, B21 and D96 (Hatchback) or B308 (Sedan)
- through front door switch (driver side) terminal 3 and 2
- to smart entrance control unit terminal 43.

And, then smart entrance control unit receives any door lock signal.

### LIGHT WARNING CHIME

NJEL0453S02

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

- from lighting switch terminal 12
- through daytime light control unit terminals 11 and 10 (with daytime light system)
- to smart entrance control unit terminal 17

Ground is supplied

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 43.

Front door switch (driver side) terminal 3 is grounded through body grounds B9, B21 and D96 (Hatchback) or B308 (Sedan).

## System Description/YD Engine Models without Common Rail and K9K Engine Models

NJEL0550

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

- through 15A fuse [No. 5, located in fuse block (J/B)]
- to time control unit terminal 9.
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to key switch terminal 1.
- through 10A fuse (No. 38, located in the fuse and fusible link box)
- to lighting switch terminal 11.

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

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

Ground is supplied to time control unit terminal 16 through body grounds M28 and M67.
When a signal, or combination of signals, is received by the time control unit, the warning chime will sound.

### IGNITION KEY WARNING CHIME

NJEL0550S01

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

- from key switch terminal 2
- to time control unit terminal 22.

Ground is supplied

- from body grounds B9, B21 and D96 (Hatchback) or B308 (Sedan)
- through front door switch (driver side) terminal 3 and 2
- to time control unit terminal 6, and

Ground is interrupted,

- from body grounds M28 and M67
- to time control unit terminal 35

### LIGHT WARNING CHIME

NJEL0550S02

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

- from lighting switch terminal 12
- to time control unit terminal 10

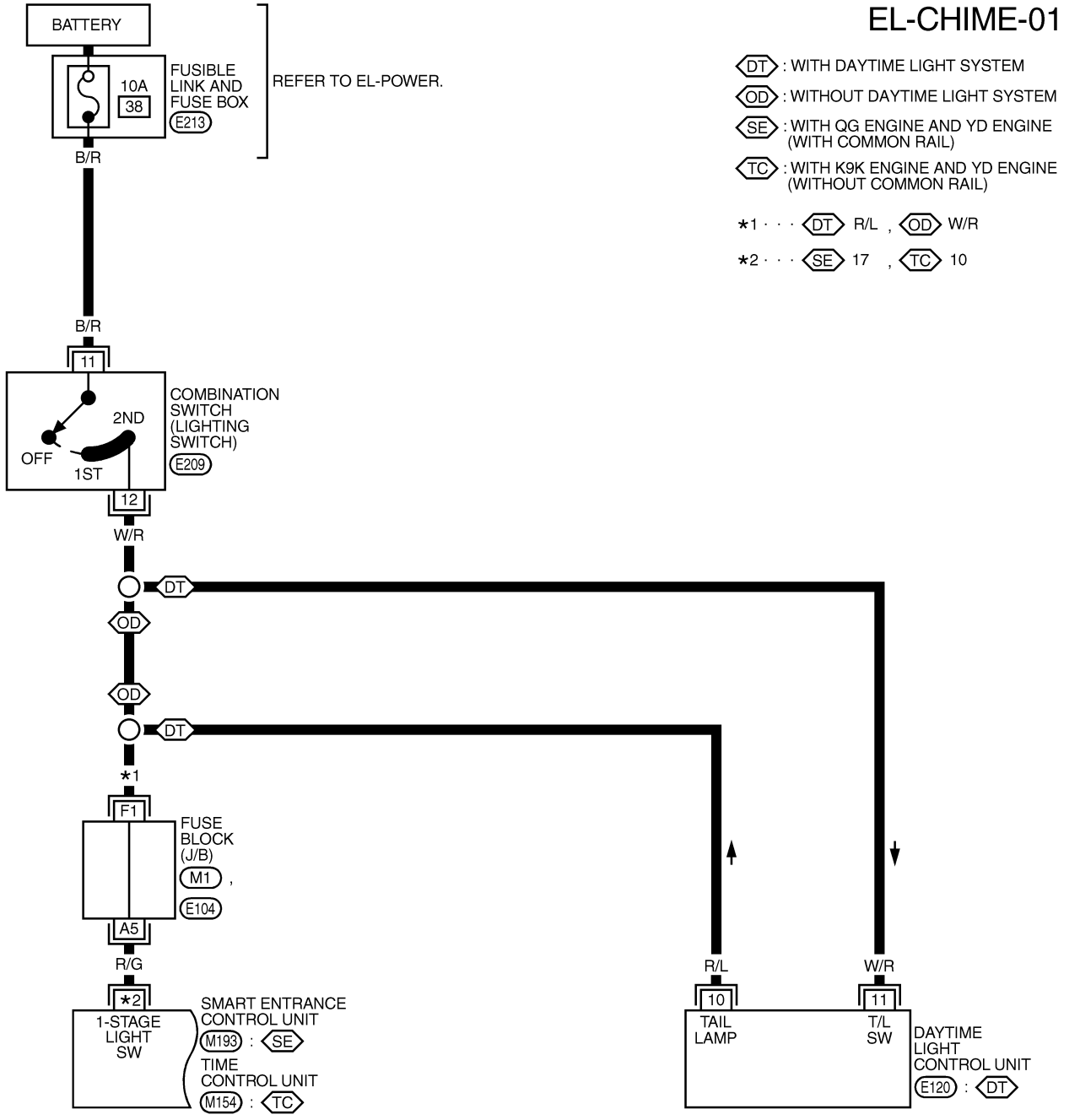
Ground is supplied

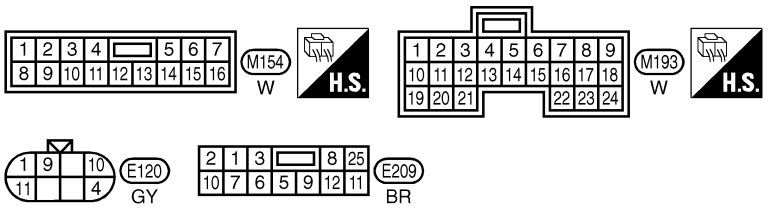
- from front door switch (driver side) terminal 2
- to time control unit terminal 6.

Front door switch (driver side) terminal 3 is grounded through body grounds B9, B21 and D96 (Hatchback) or B308 (Sedan).

## Wiring Diagram — CHIME —

NJEL0454



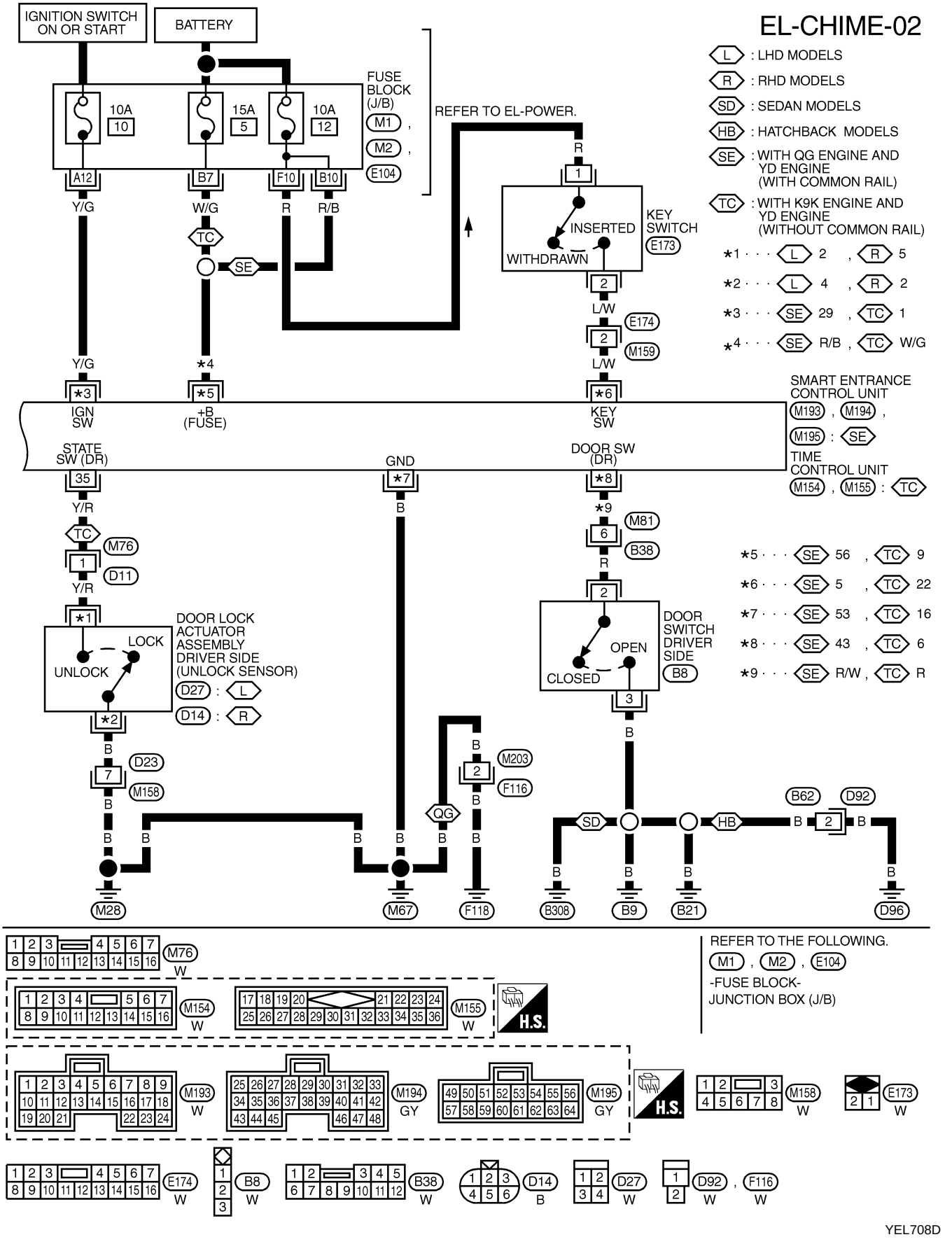




REFER TO THE FOLLOWING.
M1 , E104 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL707D

*Wiring Diagram — CHIME — (Cont'd)*



# Trouble Diagnoses/QG and YD Engine Models with Common Rail

NJEL0551

## CONSULT-II INSPECTION PROCEDURE

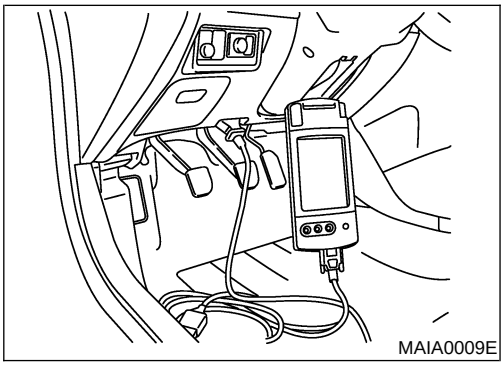
NJEL0551S01

CONSULT-II executes the following functions by combining data reception and command transmission via the communication line from smart entrance control unit. CAN communication inspection and data monitor display.

### Diagnostic Items Description

NJEL0551S0101

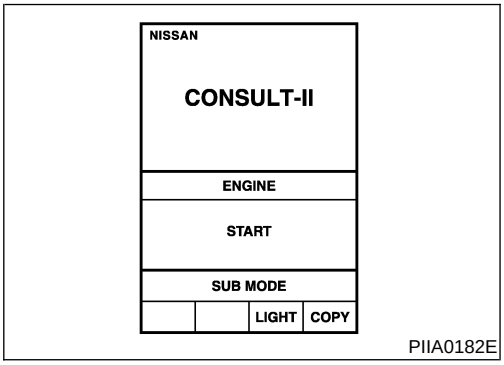
| SMART ENTRANCE diagnosis position | Diagnosis mode | Description |
|---|---|---|
| KEY REMINDER | Data monitor | The input data to the SMART ENTRANCE control units is displayed in real time. |
| LIGHT ON REMINDER | Data monitor | The input data to the SMART ENTRANCE control units is displayed in real time. |
| SMART ENTRANCE PART NUMBER | | Displays SMART ENTRANCE part No. |


MAIA0009E

### CONSULT-II Basic Operation Procedure

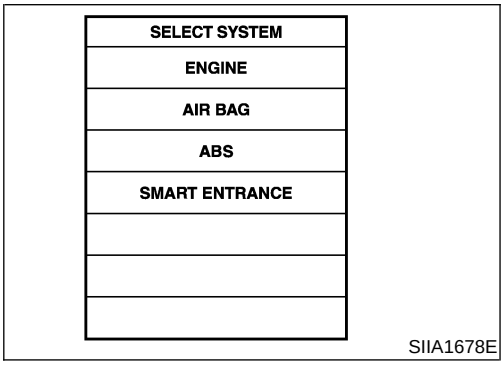
NJEL0551S0102

1. With the ignition switch OFF, connect CONSULT-II to the data link connector, and turn the ignition switch ON.



PIIA0182E

2. Touch “START”.



SIIA1678E

3. Touch “SMART ENTRANCE”.

4. Select the desired part to be diagnosed on the "SELECT TEST ITEM" screen.

**Data monitor item (KEY REMINDER)**

| Monitored item | Description |
|---|---|
| IGNITION SW | Indicates [ON/OFF] condition of ignition switch. |
| KEY IN DETECT | Indicates [ON/OFF] condition of electronic key switch. |
| DR DOOR SW | Indicates [ON/OFF] condition of front door switch (driver side). |
| CDL LOCK SW | Indicates [ON/OFF] condition of door lock/unlock switch. |
| RKE LOCK | Indicates [ON/OFF] condition of lock signal from remote controller. |

**Data monitor item (Light warning chime)**

| Monitored item | Description |
|---|---|
| IGN ON SW | Indicates [ON/OFF] condition of ignition switch. |
| DR DOOR SW | Indicates [ON/OFF] condition of front door switch (driver side). |
| TAIL LAMP ON | Indicates [ON/OFF] condition of lighting switch. |

## SYMPTOM CHART

NJEL0551S02

First perform the "SELF-DIAG RESULTS" in "SMART ENTRANCE" with CONSULT-II, when perform the each trouble diagnosis.

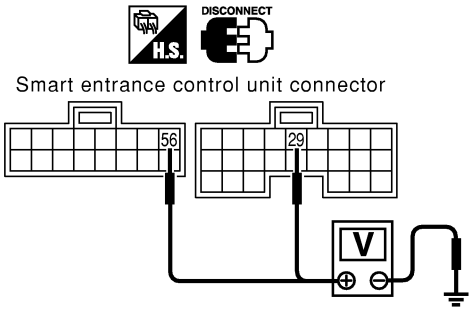
| Symptom | Diagnoses/Service procedure | Reference page |
|---|---|---|
| Light warning chime does not activate. | • Power supply and ground circuit check | EL-143, "Power Supply and Ground Circuit Check" |
| | • Lighting switch check | EL-144, "Lighting Switch Input Signal Check" |
| | • Front door switch (driver side) check | EL-150, "Front Door Switch (Driver side) Check" |
| Key warning chime does not activate. | • Power supply and ground circuit check | EL-143, "Power Supply and Ground Circuit Check" |
| | • Key switch insert signal check | EL-147, "Key Switch Insert Signal Check" |
| | • Front door switch (driver side) check | EL-150, "Front Door Switch (Driver side) Check" |
| All warning chimes do not activate. | • Power supply and ground circuit check | EL-143, "Power Supply and Ground Circuit Check" |
| With the ignition switch turned OFF and the door closed (driver side) turning the lighting switch ON (1st) activates the chime. | • Front door switch (driver side) check | EL-150, "Front Door Switch (Driver side) Check" |

## POWER SUPPLY AND GROUND CIRCUIT CHECK

NJEL0551S03

### 1 POWER SUPPLY CIRCUIT CHECK

1. Disconnect smart entrance control unit connector.
2. Check the following.




MKIB0013E

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (—) | OFF | ACC | ON |
| Connector | Terminal (wire color) | | | | |
| M194 | 29 (Y/G) | Ground | 0 V | 0 V | Battery voltage |
| M195 | 56 (R/B) | Ground | Battery voltage | Battery voltage | Battery voltage |

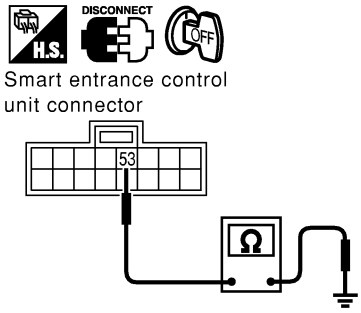
MTBL1438

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | **Check the following.**<br>● 10A fuse [NO. 10, located in fuse block (J/B)].<br>● 10A fuse [NO. 12, located in fuse block (J/B)].<br>● Check harness for open or short between smart entrance control unit and fuse. |

### 2 GROUND CIRCUIT CHECK

Check continuity between smart entrance control unit harness connector M195 terminal 53 (B) and ground.




MKIB0014E

**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | INSPECTION END. |
| NG | ▶ | Check ground circuit for open or short. |

## LIGHTING SWITCH INPUT SIGNAL CHECK

=NJEL0551S04

| 1 | CHECK LIGHTING SWITCH INPUT SIGNAL |
|---|---|

**With CONSULT-II**

Check lighting switch ("TAIL LAMP ON") in "DATA MONITOR" mode with CONSULT-II.

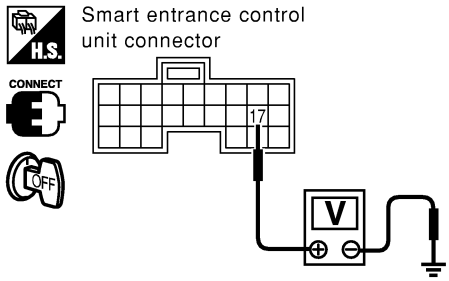
| DATA MONITOR | |
|---|---|
| MONITOR | NO DTC |
| IGNITION SW | ON |
| DR DOOR SW | OFF |
| TAIL LAMP ON | OFF |

MKIB0192E

**When lighting switch is in 1st or 2nd position:**
**TAIL LAMP ON ON**
**When lighting switch is in OFF position:**
**TAIL LAMP ON OFF**

**Without CONSULT-II**

Check voltage between smart entrance control unit harness connector M193 terminal 17 (R/G) and ground.




MKIB0015E

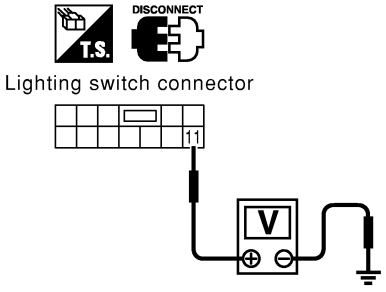
**Condition of switch**
**Voltage [V]**
**Lighting switch: 1st or 2nd**
**Approx. 12V**
**Lighting switch: OFF**
**0V**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Lighting switch is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK LIGHTING SWITCH POWER SUPPLY CIRCUIT FOR OPEN OR SHORT |
|---|---|

1. Disconnect lighting switch harness connector.
2. Check voltage between lighting switch harness connector E209 terminal 11 (B/R) and ground.




MKIB0029E

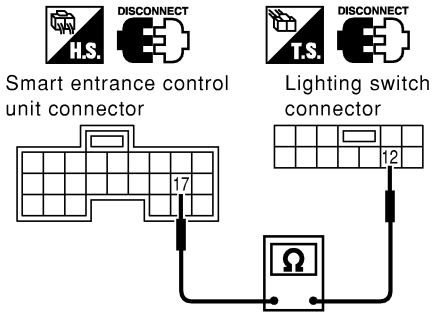
**Battery voltage should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | **Check the following.**<br>● 10A fuse (No. 38 located in the fuse and fusible link box)<br>● Harness for open or short between lighting switch and fuse |

| 3 | CHECK LIGHTING SWITCH INPUT SIGNAL CIRCUIT FOR OPEN OR SHORT |
|---|---|

Check harness continuity between lighting switch harness connector E209 terminal 12 (W/R) and smart entrance control unit harness connector M193 terminal 17 (R/G).




MKIB0030E

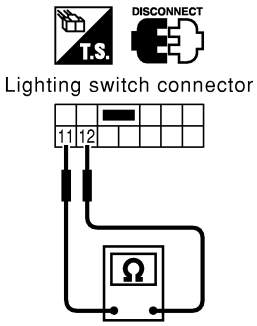
**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | **Check the following.**<br>● Harness for open or short between smart entrance control unit and lighting switch.<br>● Harness for open or short between smart entrance control unit and lighting switch/ daytime light control unit (with daytime light control unit). |

| 4 | CHECK LIGHTING SWITCH (DRIVER SIDE) |
|---|---|

Check continuity between lighting switch harness connector E209 terminals 11 and 12.




MKIB0031E

| Terminals | | | Condition | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal | Terminal | | |
| E209 | 11 | 12 | OFF position | No |
| | | | 1st or 2nd position | Yes |

MTBL1439

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Lighting switch is OK. |
| NG | ▶ | Replace lighting switch. |

## KEY SWITCH INSERT SIGNAL CHECK

NJEL0551S05

| 1 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

**With CONSULT-II**

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

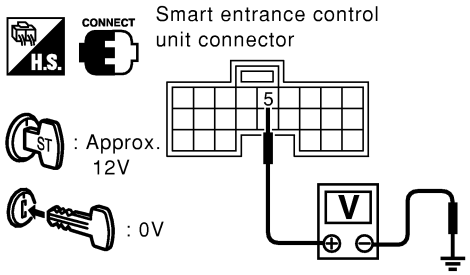
| DATA MONITOR | |
|---|---|
| MONITOR | NO DTC |
| IGNITION SW | ON |
| KEY IN DETECT | ON |
| DR DOOR SW | ON |
| CDL LOCK SW | OFF |
| RKE LOCK | OFF |

MKIB0193E

**When key is inserted to ignition key cylinder:**
**KEY IN DETECT ON**
**When key is removed from ignition key cylinder:**
**KEY IN DETECT OFF**

**Without CONSULT-II**

Check voltage between smart entrance control unit harness connector M193 terminal 5 (B/L) and ground.




MKIB0016E

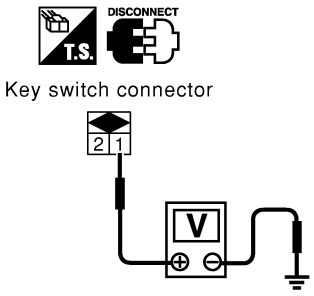
**Condition of key switch**
**Voltage [V]**
**When key is inserted to ignition key cylinder:**
**Approx. 12V**
**When key is removed from ignition key cylinder:**
**0V**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Key switch is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK KEY SWITCH POWER SUPPLY CIRCUIT FOR OPEN OR SHORT |
|---|---|

1. Disconnect key switch harness connector.
2. Check voltage between key switch harness connector E173 terminal 1 (R) and ground.




MKIB0032E

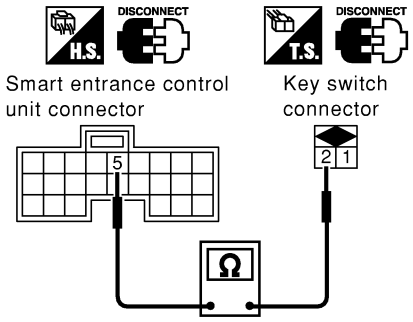
**Battery voltage should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | **Check the following.**<br>● 10A fuse [No. 12 located in fuse block (J/B)]<br>● Harness for open or short between key switch and fuse |

| 3 | CHECK KEY SWITCH INPUT SIGNAL CIRCUIT FOR OPEN OR SHORT |
|---|---|

Check harness continuity between key switch harness connector E173 terminal 2 (L/W) and smart entrance control unit harness connector M193 terminal 5 (L/W).




MKIB0033E

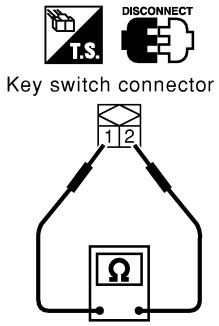
**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Repair or replace harness. |

| 4 | CHECK KEY SWITCH |
|---|---|

Check continuity between key switch harness connector M30 terminals 1 and 2.




MKIB0034E

| Terminals | | | Condition | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal | Terminal | | |
| E173 | 1 | 2 | Inserted | Yes |
| | | | Removed | No |

MTBL1440

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Key switch is OK. |
| NG | ▶ | Replace key switch. |

## FRONT DOOR SWITCH (DRIVER SIDE) CHECK

=NJEL0551S06

**1 CHECK FRONT DOOR SWITCH (DRIVER SIDE) INPUT SIGNAL**

**With CONSULT-II**

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

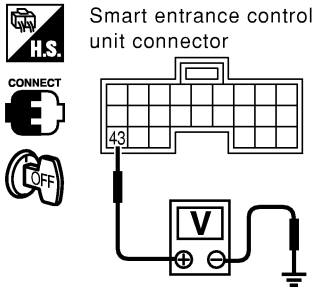
| DATA MONITOR | |
|---|---|
| MONITOR | NO DTC |
| IGNITION SW | ON |
| KEY IN DETECT | ON |
| DR DOOR SW | ON |
| CDL LOCK SW | OFF |
| RKE LOCK | OFF |

MKIB0193E

**When driver's door is open:**
**DR DOOR SW ON**
**When driver's door is closed:**
**DR DOOR SW OFF**

**Without CONSULT-II**

- Check voltage between smart entrance control unit harness connector M194 terminal 43 (R/W) and ground.




MKIB0018E

| Terminal (+) | Terminal (—) | Condition (Driver's door) | Voltage [V] |
|---|---|---|---|
| 43 (R/W) | Ground | Open | Approx. 5 |
| | | Closed | 0 |

MTBL1441

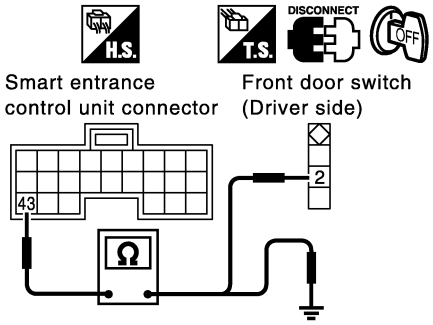
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | INSPECTION END |
| NG | ▶ | GO TO 2. |

| 2 | CHECK DOOR SWITCH OPEN OR SHORT CIRCUIT |
|---|---|

1. Disconnect smart entrance control unit harness connector and front door switch (driver side) connector.
2. Check the following.

– Harness continuity between smart entrance control unit harness connector M194 terminal 43 (R/W) and door switch (driver side) connector B8 terminal 2 (R).
– Harness continuity between smart entrance control unit harness connector M194 terminal 43 (R/W) and body ground.




YEL820D

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M194 | 43 (R/W) | B8 | 2 (R) | Yes |
| M194 | 43 (R/W) | Ground | | No |

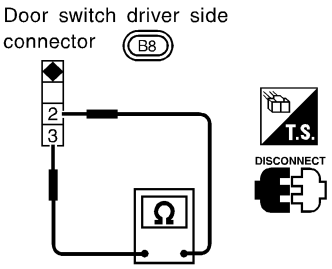
MTBL1442

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair or replace harness. |

| 3 | CHECK DRIVER SIDE DOOR SWITCH |
|---|---|

Check continuity between terminals 2 and 3.




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

SEL325WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Driver side door switch is OK. |
| NG | ▶ | Replace driver side door switch. |

# Trouble Diagnoses/YD Engine Models without Common Rail and K9K Engine Models

=NJEL0455

## SYMPTOM CHART

NJEL0455S01

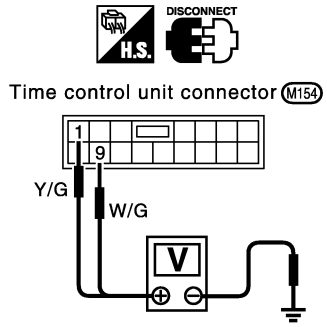
| REFERENCE PAGE (EL- ) | 152 | 153 | 154 | 155 | 156 |
|---|---|---|---|---|---|
| SYMPTOM | POWER SUPPLY AND GROUND CIRCUIT CHECK | DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK) | DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK) | DIAGNOSTIC PROCEDURE 3 (DOOR UNLOCK SENSOR CHECK) | DIAGNOSTIC PROCEDURE 4 |
| Light warning chime does not activate. | X | X | | | X |
| Ignition key warning chime does not activate. | X | | X | X | X |
| All warning chimes do not activate. | X | | | | X |

## POWER SUPPLY AND GROUND CIRCUIT CHECK

NJEL0455S02

### Power Supply Circuit Check

NJEL0455S0201

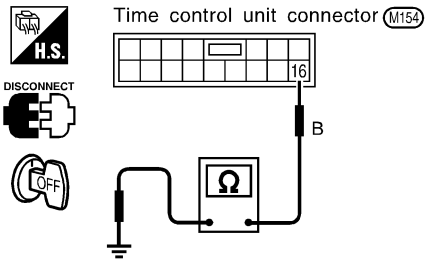



| Terminals | | Ignition switch position | | |
|---|---|---|---|---|
| (+) | (–) | OFF | ACC | ON |
| 9 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 1 | Ground | 0V | 0V | Battery voltage |

YEL821D

### Ground Circuit Check

NJEL0455S0202

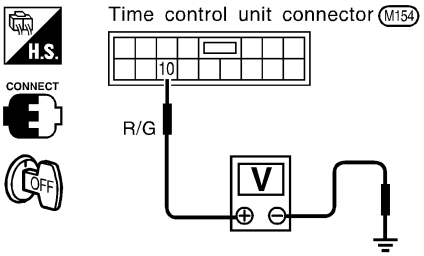



**Continuity should exist.**

SEL448X

## DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK)

=NJEL0455S03

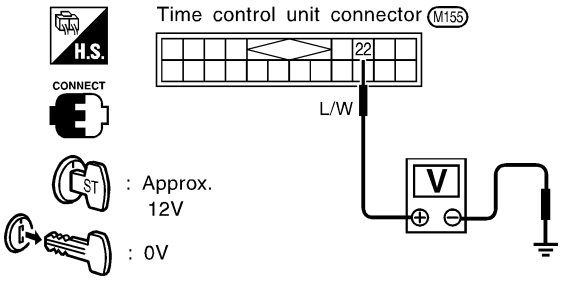
| 1 | CHECK LIGHTING SWITCH INPUT SIGNAL | |
|---|---|---|
| Check voltage between time control unit terminal 10 and ground.<br>  <br><br>**Voltage [V]:**<br>**Condition of lighting switch: 1st or 2nd**<br>**Approx. 12**<br>**Condition of lighting switch: OFF**<br>SEL449X | | |
| **OK or NG** | | |
| OK | ▶ | Lighting switch is OK. |
| NG | ▶ | **Check the following.**<br>● 10A fuse (No. 38, located in the fuse and fusible link box)<br>● Harness for open or short between time control unit and lighting switch/daytime light control unit<br>● Lighting switch |

## DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK)

=NJEL0455S04

| 1 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit terminal 22 and ground.




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

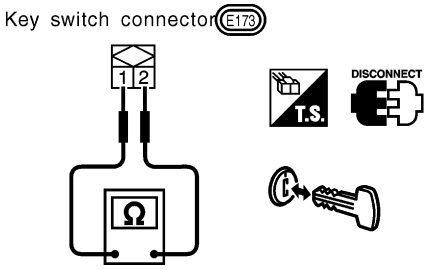
SEL433X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Key switch is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK KEY SWITCH (INSERT) |
|---|---|

Check continuity between terminals 1 and 2.




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

YEL799C

**OK or NG**

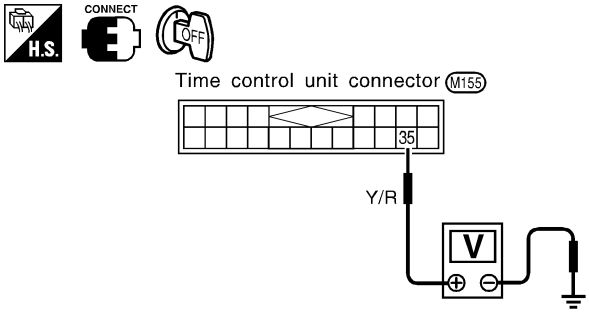
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● 10A fuse [No. 12, located in fuse block (J/B)]<br>● Harness for open or short between key switch and fuse<br>● Harness for open or short between time control unit and key switch |
| NG | ▶ | Replace key switch. |

## DIAGNOSTIC PROCEDURE 3 (DOOR UNLOCK SENSOR CHECK)

NJEL0455S05

| 1 | CHECK DOOR UNLOCK SENSOR INPUT SIGNAL |
|---|---|

Check voltage between time control unit terminal 35 and ground.




| Terminals | | Condition (Driver's door) | Voltage [V] |
|---|---|---|---|
| (+) | (−) | | |
| 35 | Ground | Locked | Approx. 5 |
| | | Unlocked | 0 |

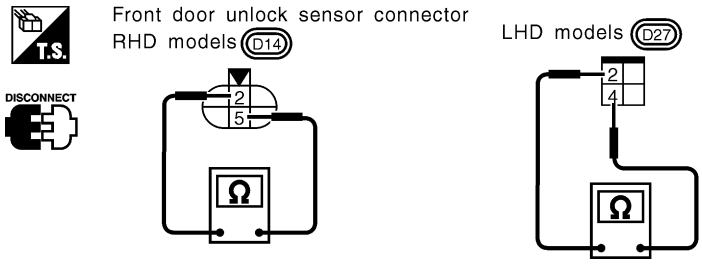
SEL431X

**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 2 and 5 (RHD models) or 2 and 4 (LHD models).




**Continuity:**
**Condition: Locked**
**No**
**Condition: Unlocked**
**Yes**

YEL800C

**OK or NG**

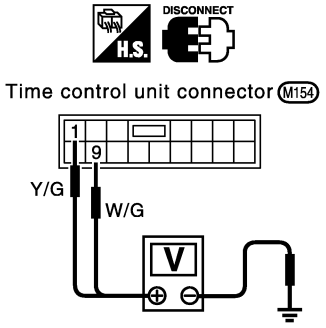
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door unlock sensor ground circuit<br>● Harness for open or short between time control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

## DIAGNOSTIC PROCEDURE 4

=NJEL0455S06

| 1 | CHECK IGNITION ON SIGNAL |
|---|---|

Check voltage between time control unit terminal 1 and ground.




| Terminals | | Ignition switch position | | |
|---|---|---|---|---|
| (+) | (–) | OFF | ACC | ON |
| 9 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 1 | Ground | 0V | 0V | Battery voltage |

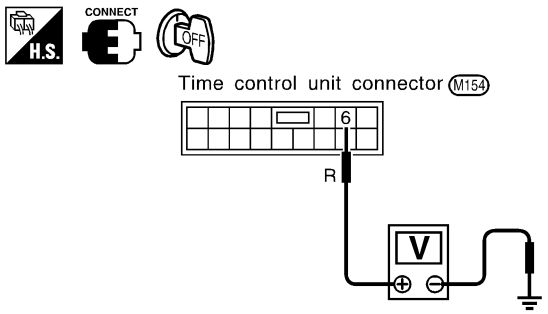
YEL821D

**OK or NG**

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

| 2 | CHECK DOOR SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit terminal 6 and ground.




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

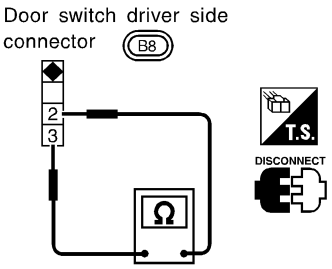
SEL430X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | System is OK. |
| NG | ▶ | Check voltage between time control unit terminal 6 and body ground with disconnecting front door switch (driver side).<br>If approx. 5V is supplied, GO TO 3.<br>If approx. 5V is not supplied, replace time control unit. |

| 3 | CHECK DRIVER SIDE DOOR SWITCH |
|---|---|

Check continuity between terminals 2 and 3.




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

SEL325WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Driver side door switch ground circuit and condition<br>● Harness for open or short between time control unit and driver side door switch |
| NG | ▶ | Replace driver side door switch. |

# System Description

NJEL0456

## WIPER OPERATION

NJEL0456S01

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

- LO speed
- HI speed
- INT (Intermittent)

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

- through 20A fuse [No. 25, located in the fuse block (J/B)]
- to front wiper motor terminal 5.

### Low and High Speed Wiper Operation

NJEL0456S0101

Ground is supplied to wiper and washer switch terminal 17 through body grounds E30 and E73.
When the wiper switch is placed in the LO position, ground is supplied

- through terminal 14 of the front wiper and washer switch
- to front 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 front wiper and washer switch
- to wiper motor terminal 1.

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

### Auto Stop Operation

NJEL0456S0102

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 front wiper and washer switch
- to front wiper motor terminal 2, in order to continue wiper motor operation at low speed.

Ground is also supplied

- through terminal 13 of the front wiper and washer switch
- to front wiper motor terminal 4
- through terminal 3 of front wiper motor
- through body grounds E30 and E73.

When wiper arms reach base of windshield, front wiper motor terminals 4 and 5 are connected instead of terminals 4 and 3. Wiper motor will then stop wiper arms at the STOP position.

### Intermittent Operation

NJEL0456S0103

The front wiper motor operates the wiper arms one time at low speed at a set interval of approximately 1 to 13 seconds. This feature is controlled by the wiper amplifier (INT SW) combined with front wiper switch.
When the wiper switch is placed in the INT position, ground is supplied to wiper amplifier (WIPER SW INT) and (ACC).
The desired interval time is input to wiper amplifier (INT VR) from wiper volume switch combined with front wiper and washer switch.
When the wiper switch is placed in the INT position, intermittent ground is supplied

- through wiper amplifier (OUTPUT) and
- through terminal 14 of front wiper and washer switch
- to front wiper motor terminal 5.

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

## WASHER OPERATION

NJEL0456S02

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

- through 10A fuse [No. 27, located in the fuse block (J/B)]
- through front wiper switch terminals 15 and 18.
- to front washer motor terminal 1.

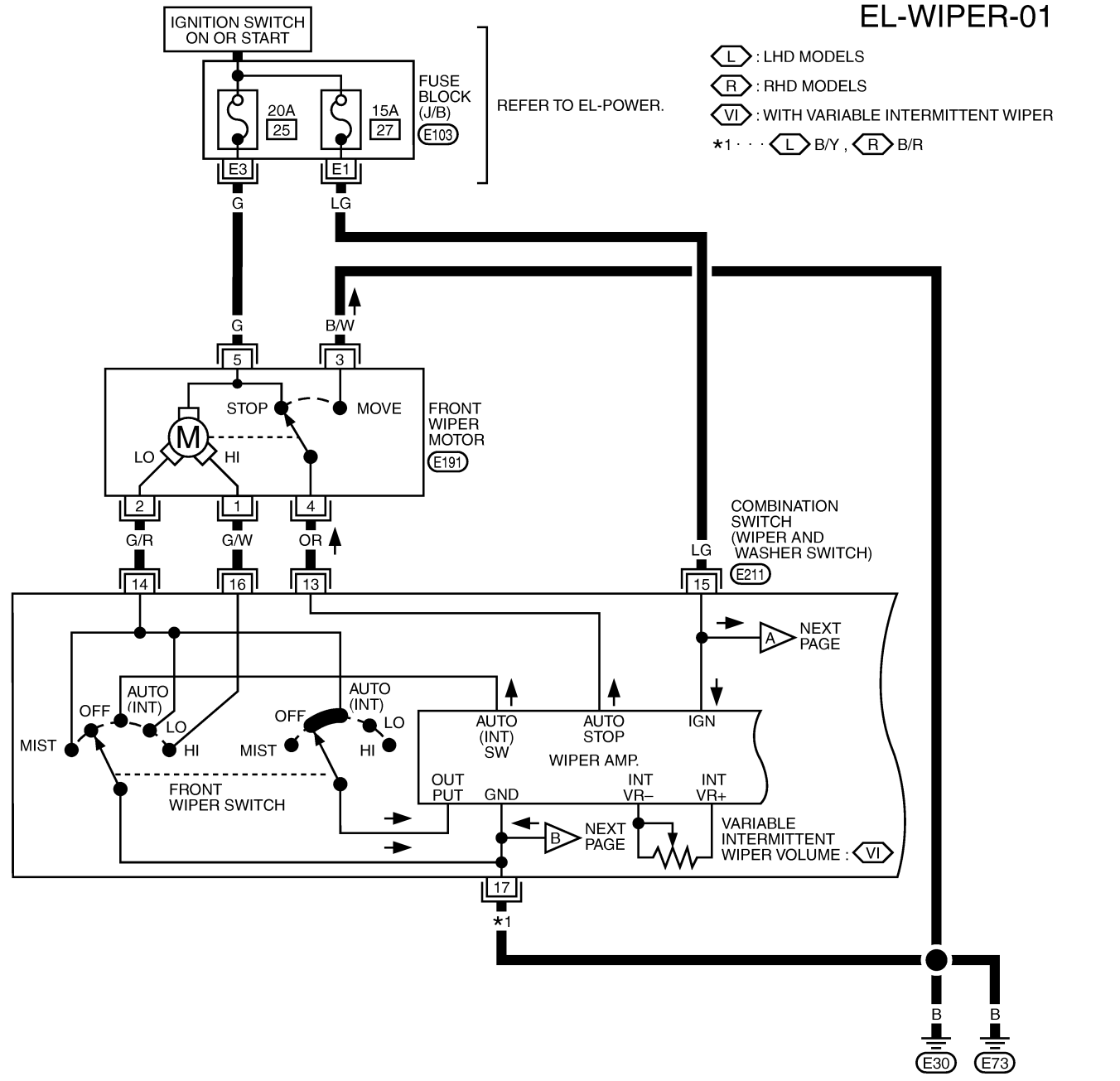
When the lever is pulled to the WASHER/FRONT position, ground is supplied

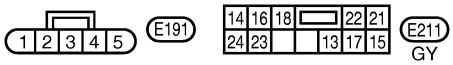
- from body grounds E30 and E73,
- through terminal 17 of the front wiper switch, and
- through terminal 22 of the front wiper switch
- to front washer motor terminal 2.

With power and ground supplied, the washer motor operates.

## Wiring Diagram — WIPER —

NJEL0457



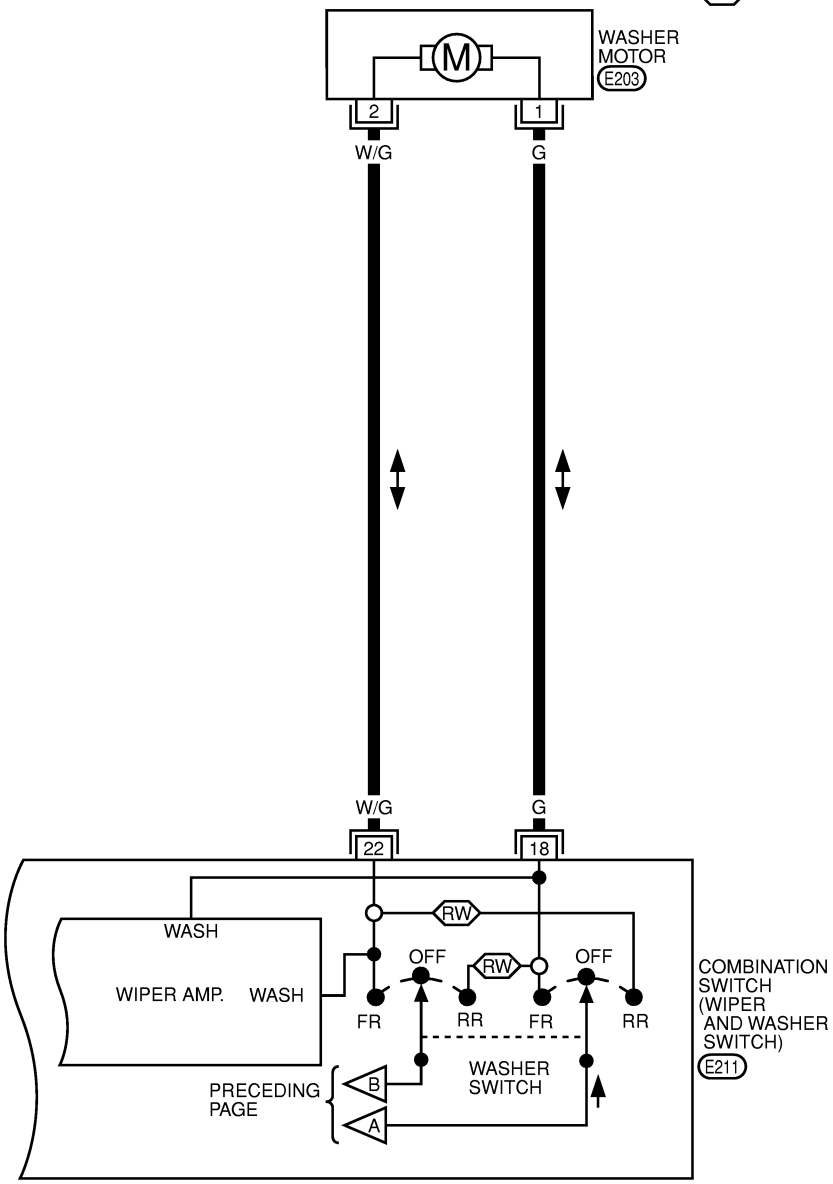



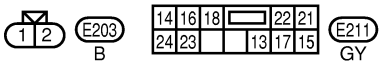

REFER TO THE FOLLOWING.
E103 -FUSE BLOCK-JUNCTION BOX (J/B)

YEL709D

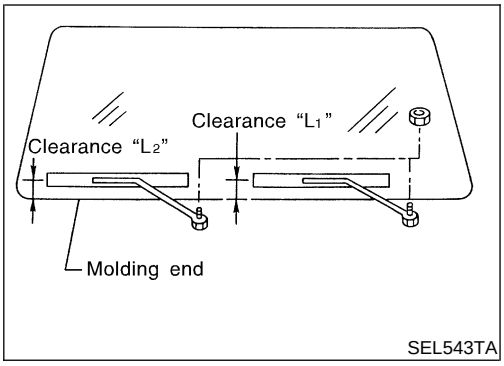
EL-WIPER-02

RW : WITH REAR WIPER AND WASHER




YEL452D



SEL543TA

## Removal and Installation

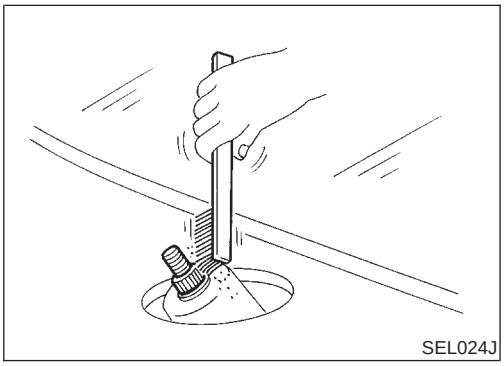
NJEL0060

### WIPER ARMS

NJEL0060S01

1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it “OFF” (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance “$L_1$” & “$L_2$” immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it “OFF”.
4. Ensure that wiper blades stop within clearance “$L_1$” & “$L_2$”.
   **Clearance “$L_1$”: 23 - 37 mm (0.91 - 1.46 in)**
   **Clearance “$L_2$”: 24 - 38 mm (0.94 - 1.50 in)**

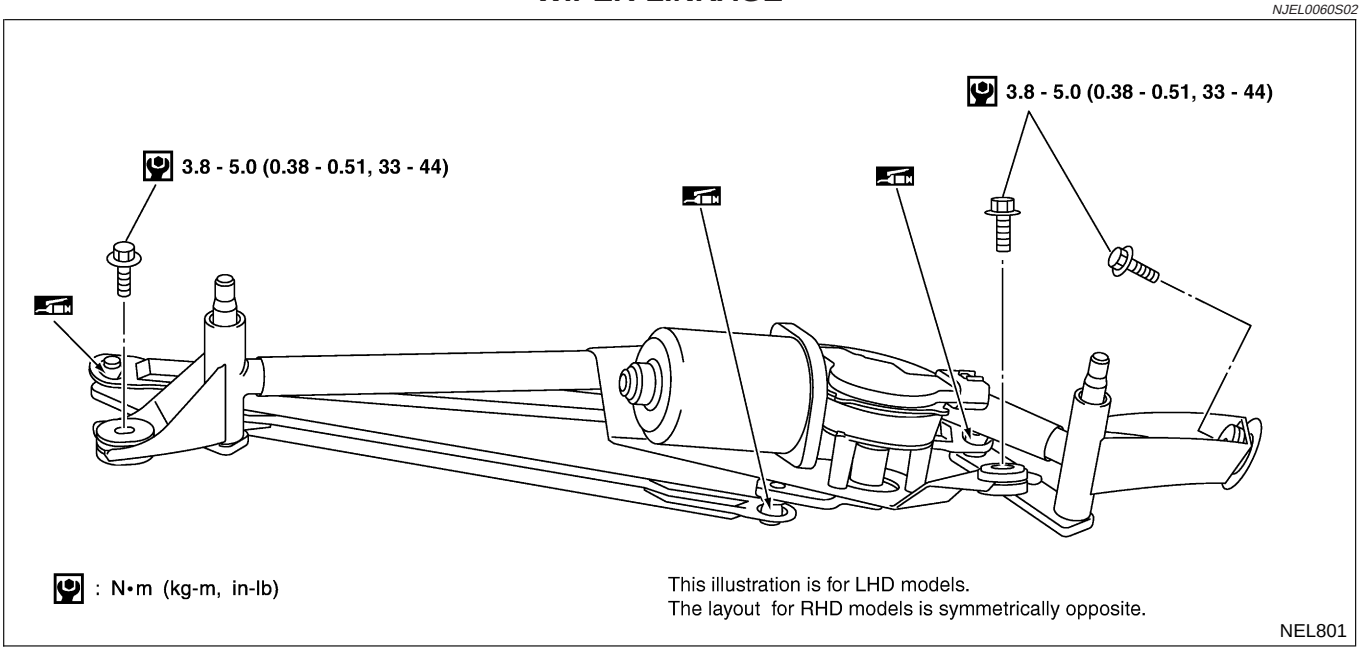
- Tighten wiper arm nuts to specified torque.
  **Front wiper: 21 - 26 N·m (2.1 - 2.7 kg-m, 16 - 19 ft-lb)**


SEL024J

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

### WIPER LINKAGE

NJEL0060S02



NEL801

## Removal

NJEL0060S0201

1. Remove cowl top seal rubber and cowl top cover.
2. Remove wiper motor connector.
3. Remove 3 screws that secure wiper motor and wiper frame.
4. Detach wiper motor from wiper linkage at ball joint.
5. Remove wiper linkage.

**Be careful not to break ball joint rubber boot.**

## Installation

NJEL0060S0202

- Grease ball joint portion before installation.

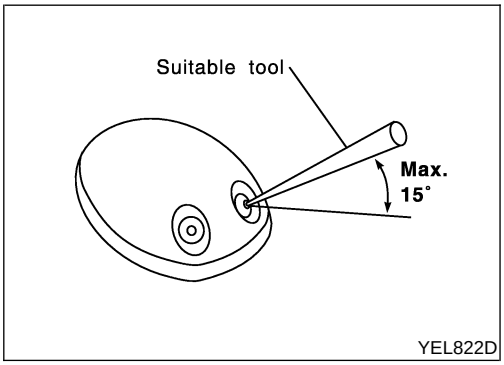
1. Installation is the reverse order of removal.

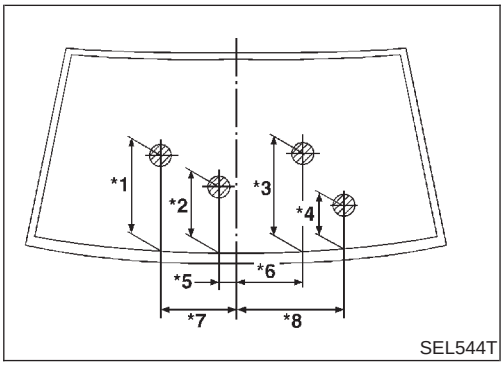
## Washer Nozzle Adjustment

NJEL0061

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

**Adjustable range: ±15° (In any direction)**




Unit: mm (in)

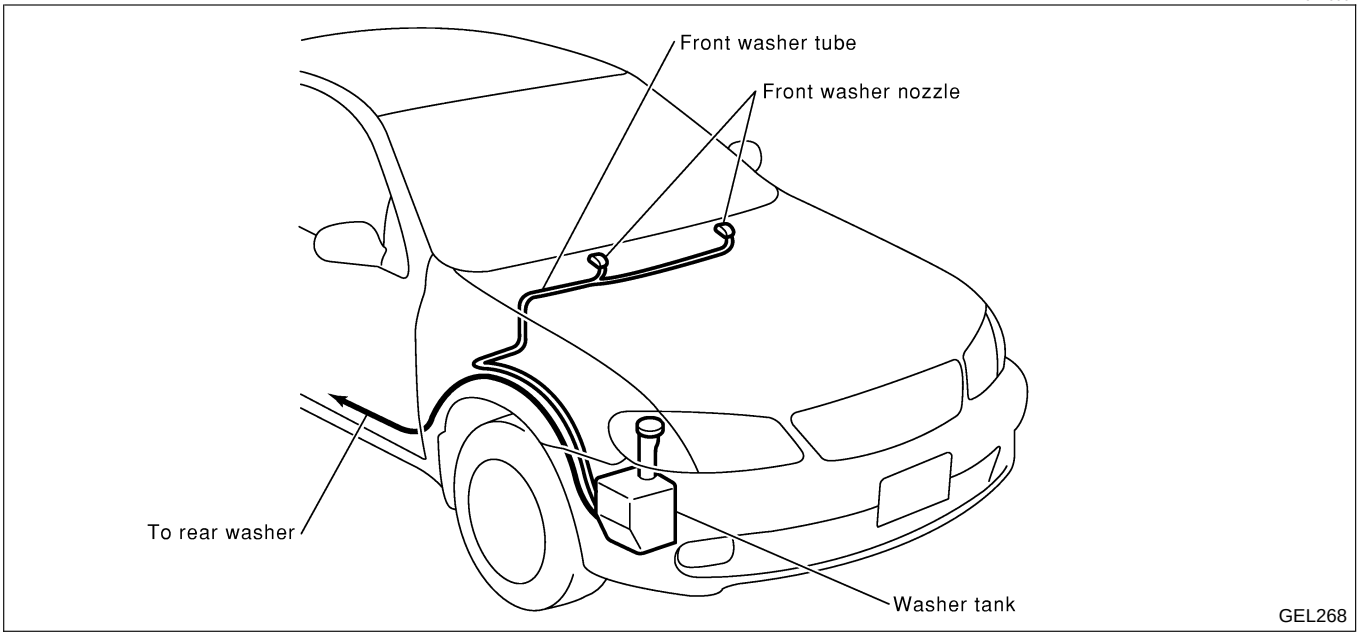
| | | | |
|---|---|---|---|
| *1 | 450 (17.72) | *5 | 150 (5.91) |
| *2 | 225 (8.86) | *6 | 130 (5.12) |
| *3 | 380 (14.96) | *7 | 285 (11.22) |
| *4 | 165 (6.50) | *8 | 320 (12.60) |

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

**The figure shown is for LHD models.**
**The layout for RHD models is symmetrically opposite.**

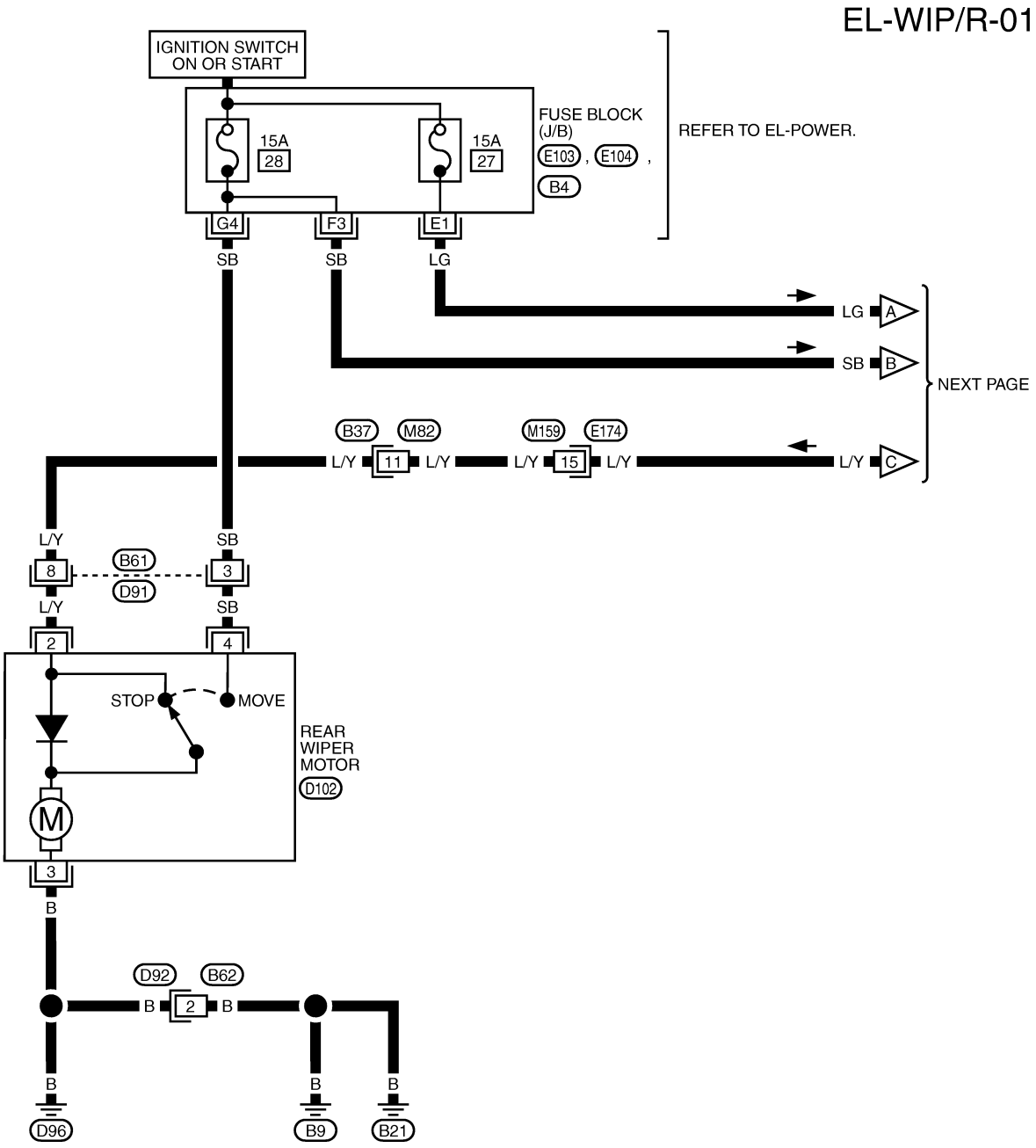
## Washer Tube Layout

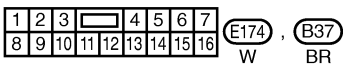
NJEL0062

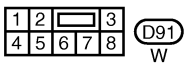


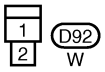
## Wiring Diagram — WIP/R —

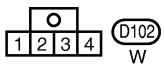
NJEL0458



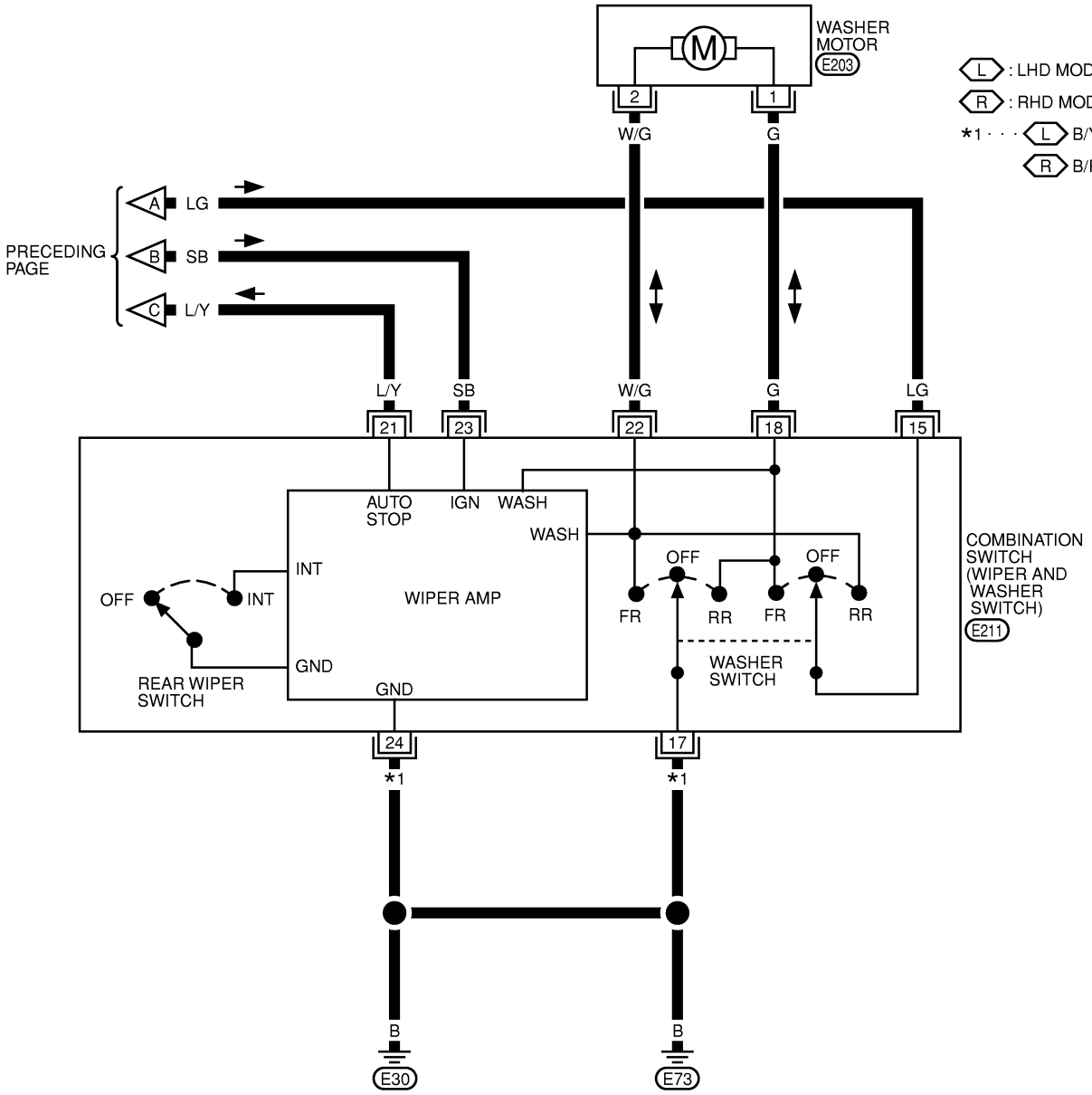



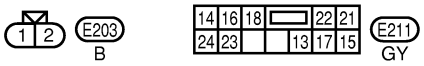




REFER TO THE FOLLOWING.
E103 , E104 , B4 -FUSE BLOCK-JUNCTION BOX (J/B)

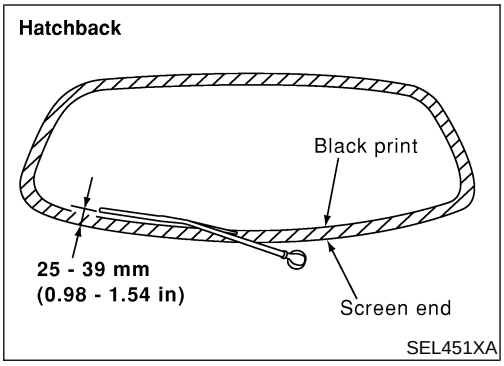
YEL710D

EL-WIP/R-02




YEL454D




## Removal and Installation

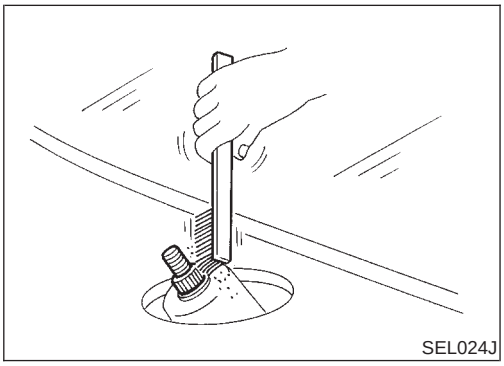
NJEL0301

### WIPER ARMS

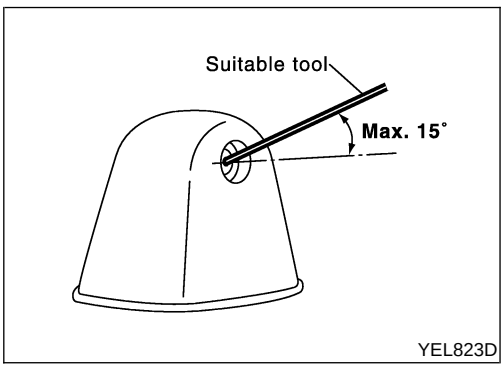
NJEL0301S01

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. Set the black center to clearance “E” immediately before tightening the nut.
3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it “OFF”.
4. Ensure that wiper blades stop on the lowest heat wire.

- **Tighten windshield wiper arm nuts to specified torque.**
  **: 13 - 18 N·m (1.3 - 1.8 kg-m, 10 - 13 ft-lb)**
- **Rear wiper motor assembly mounting bolts**
  **: 4 - 5 N·m (0.4 - 0.5 kg-m, 36 - 44 in-lb)**



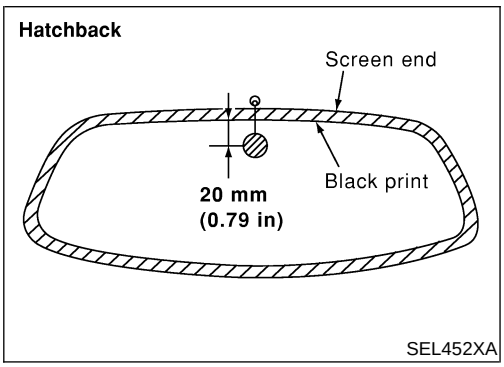

- **Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.**




## Washer Nozzle Adjustment

NJEL0302

- Adjust washer nozzle with suitable tool as shown in the figure at left.
  **Adjustable range: ±15° (In any direction)**

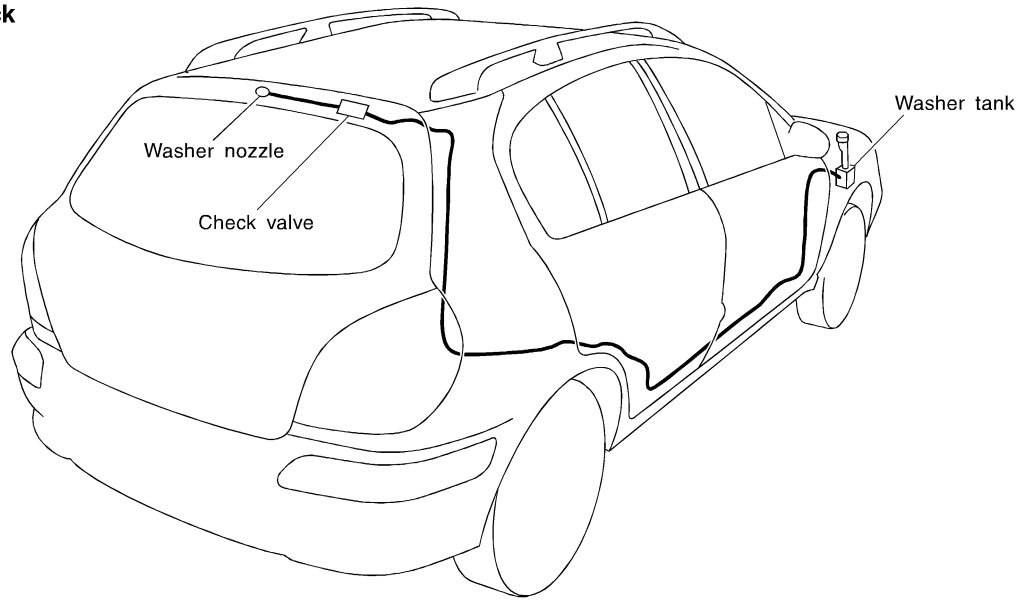



The diameter of the washer spit circle is less than 30 mm (1.18 in).

## Washer Tube Layout

NJEL0303

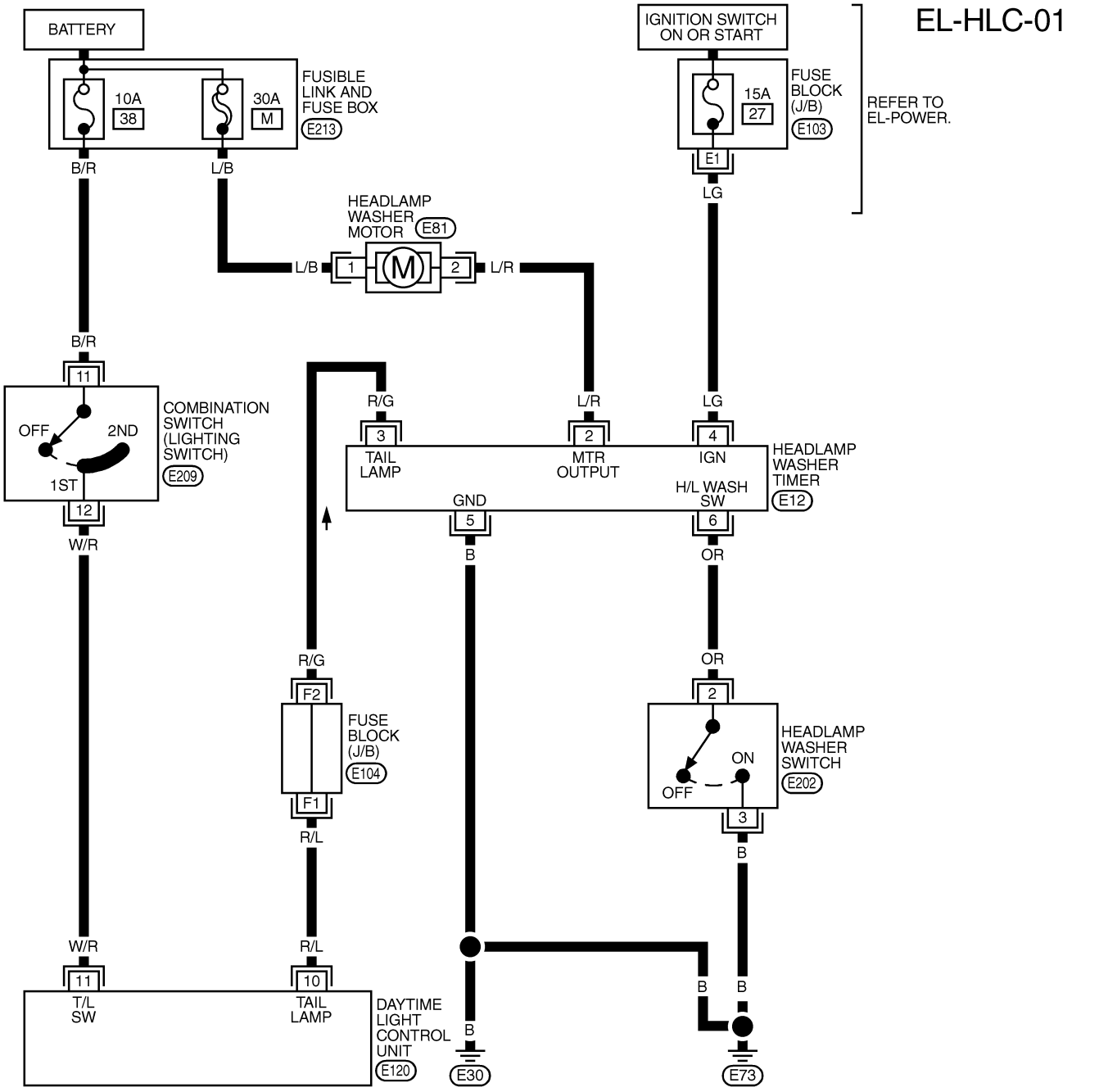
**Hatchback**

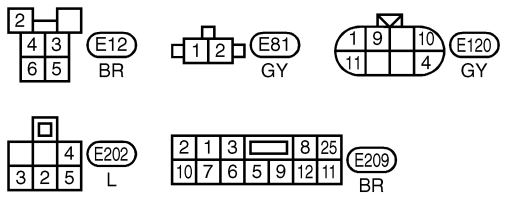



SEL453X

## Wiring Diagram — HLC —

NJEL0459



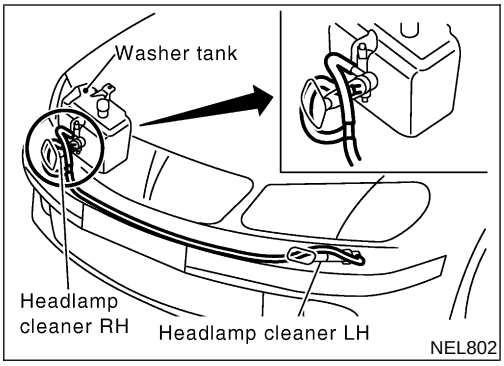




REFER TO THE FOLLOWING.
E103 , E104
-FUSE BLOCK-
JUNCTION BOX (J/B)
E213 -FUSE AND
FUSIBLE LINK BOX

YEL455D

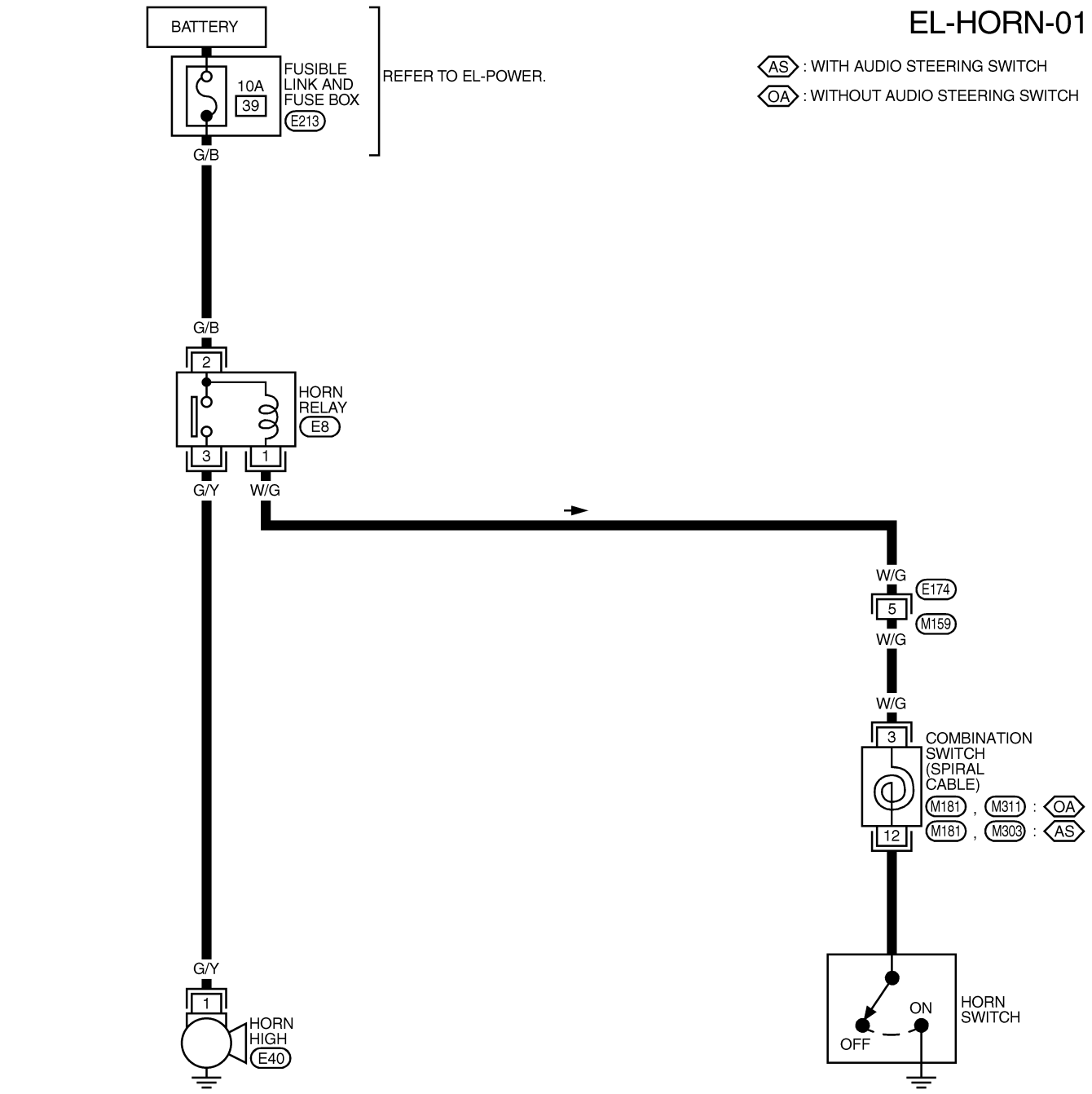
## Washer Tube Layout

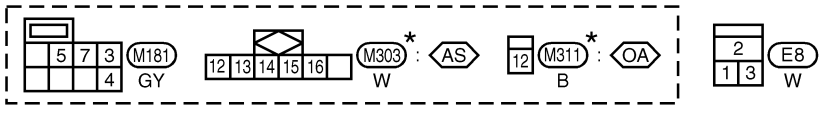
NJEL0376

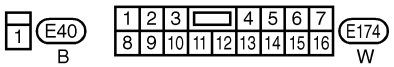


## Wiring Diagram — HORN —

NJEL0460




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

REFER TO THE FOLLOWING.
E213 - FUSE AND FUSIBLE LINK BOX

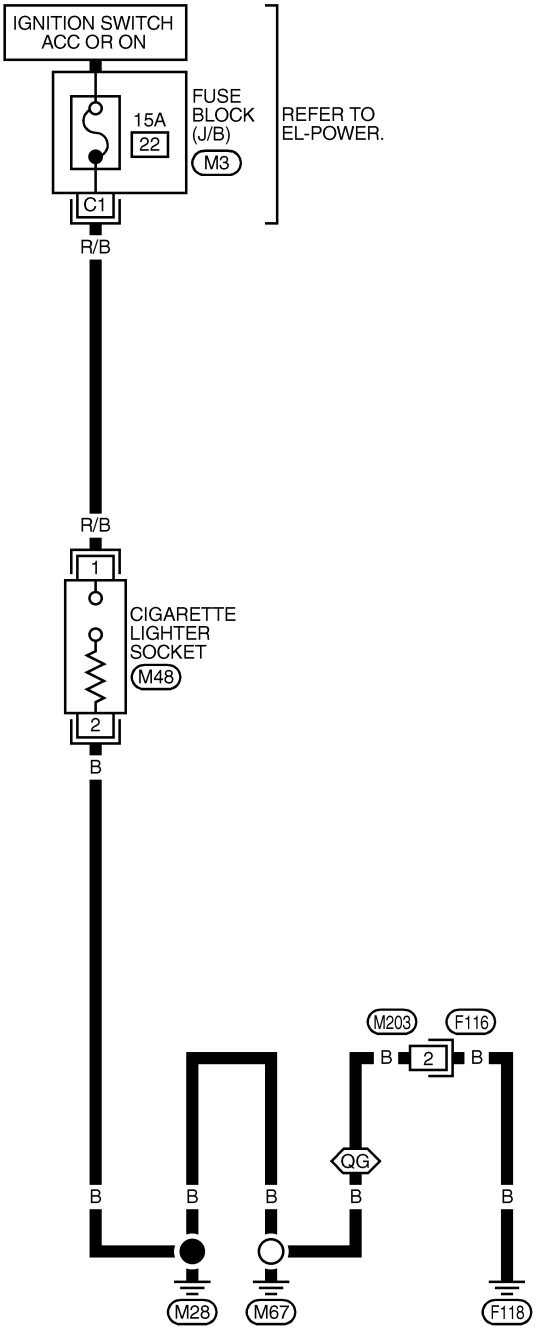
YEL711D

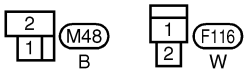
## Wiring Diagram — CIGAR —

NJEL0461

EL-CIGAR-01

QG : WITH QG ENGINE



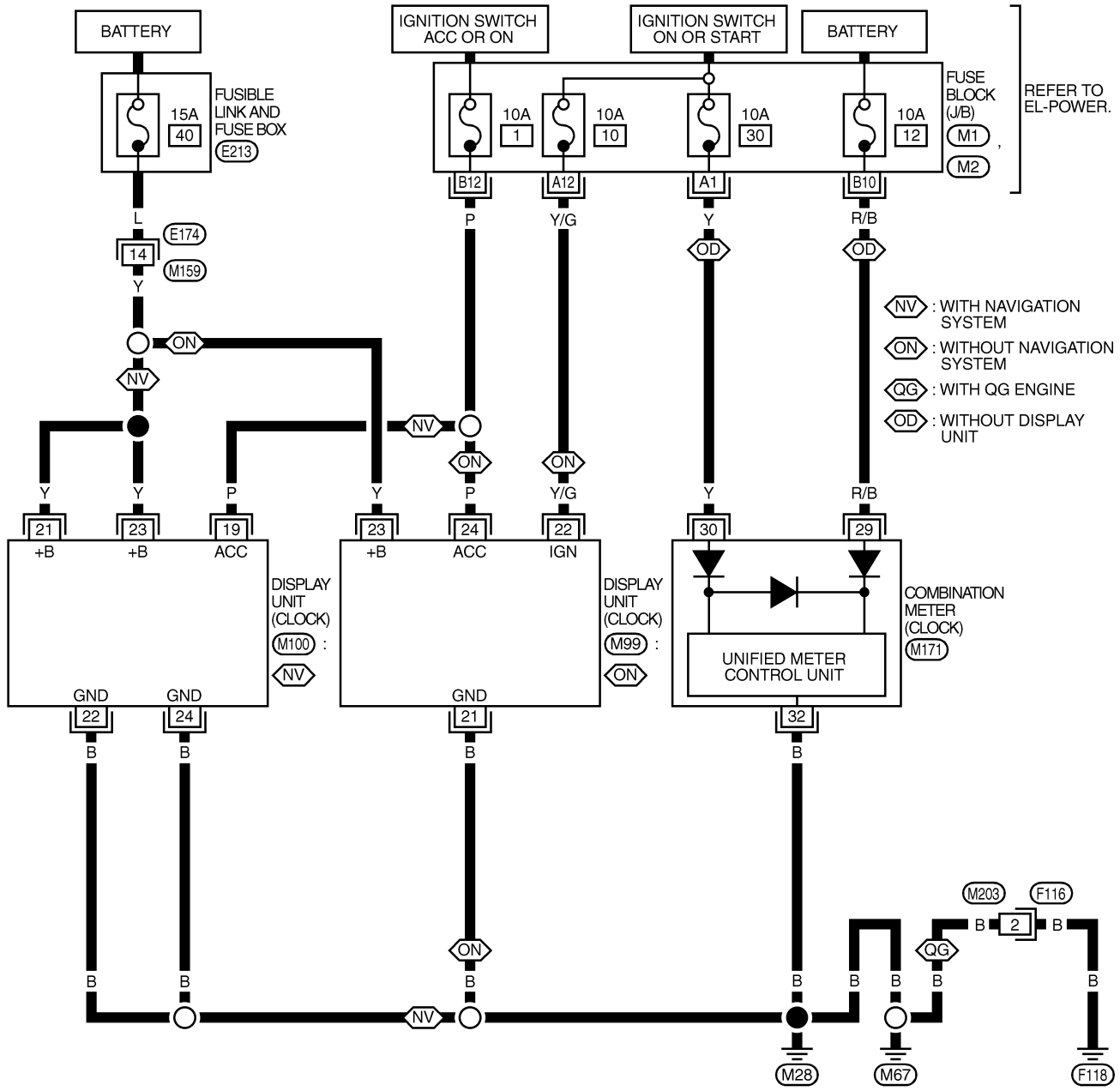

REFER TO THE FOLLOWING.
M3 -FUSE BLOCK-
JUNCTION BOX (J/B)

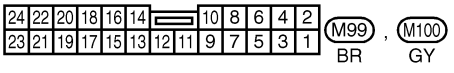
YEL712D

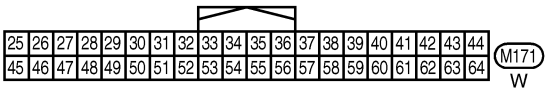
## Wiring Diagram — CLOCK —

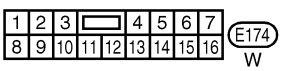
NJEL0462

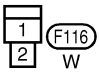
EL-CLOCK-01




REFER TO THE FOLLOWING.
M1 , M2 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL713D

## System Description/QG and YD Engine Models with Common Rail

=NJEL0552

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

- through 20A fuse [No. 7, located in the fuse block (J/B)]
- to rear window defogger relay terminal 5 (B7 relay models) or 3 (B6 relay models)
- through 10A fuse [No. 13, located in the fuse block (J/B)]
- to rear window defogger relay terminal 6 (B6 relay models).
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to smart entrance control unit terminal 56.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to the rear window defogger relay terminal 1 and
- to smart entrance control unit terminal 29.

Ground is supplied to terminal 5 (with manual A/C) or 1 (with auto A/C) of the rear window defogger switch through body grounds F118 (QG engine models), M28 and M67.

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

- through terminal 3 (with manual A/C) or 9 (with auto A/C) of the rear defogger switch
- to smart entrance control unit terminal 22.

Terminal 31 of 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 (B6 relay models) or
- through terminal 3 of the rear window defogger relay (B7 relay models)
- to the rear window defogger and door mirror 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.

## System Description/YD Engine Models without Common Rail and K9K Engine Models

=NJEL0463

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

- through 20A fuse [No. 7, located in the fuse block (J/B)]
- to rear window defogger relay terminal 5 (B7 relay models) or 3 (B6 relay models)
- through 10A fuse [No. 13, located in the fuse block (J/B)]
- to rear window defogger relay terminal 6 (B6 relay models).
- through 15A fuse [No. 5, located in the fuse block (J/B)]
- to time control unit terminal 9.

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

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

Ground is supplied to terminal 5 of the rear window defogger switch through body grounds M28 and M67.
When the rear defogger switch is turned ON, ground is supplied

- through terminal 3 of the rear defogger switch
- to time control unit terminal 3.

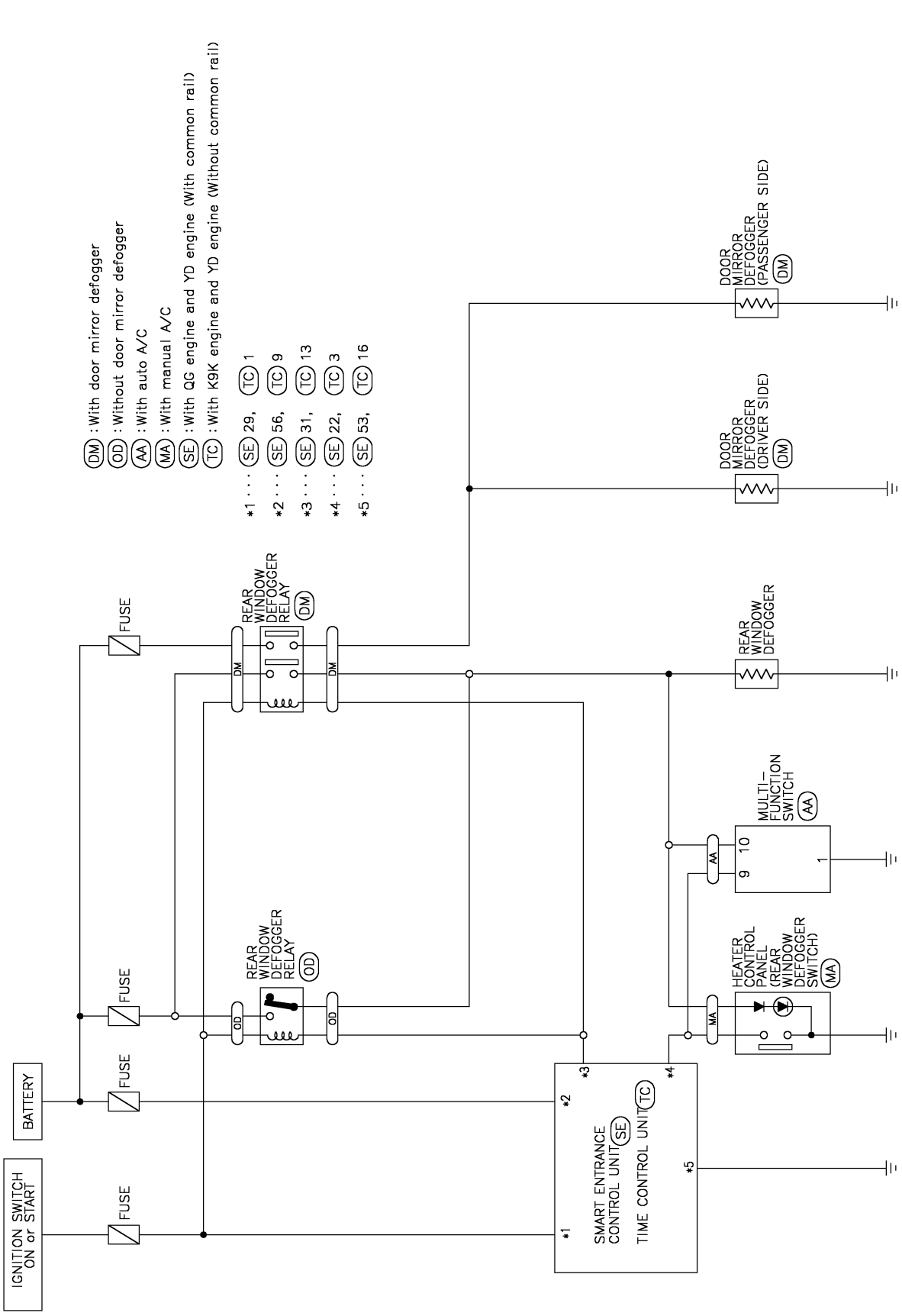
Terminal 13 of time control unit then supplies ground to the rear window defogger relay terminal 2.
With power and ground supplied, the rear window defogger relay is energized.
Power is supplied

- through terminals 5 and 7 of the rear window defogger relay (B6 relay models) or
- through terminal 3 of the rear window defogger relay (B7 relay models)
- to the rear window defogger and door mirror 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.

## Schematic

NJEL0533

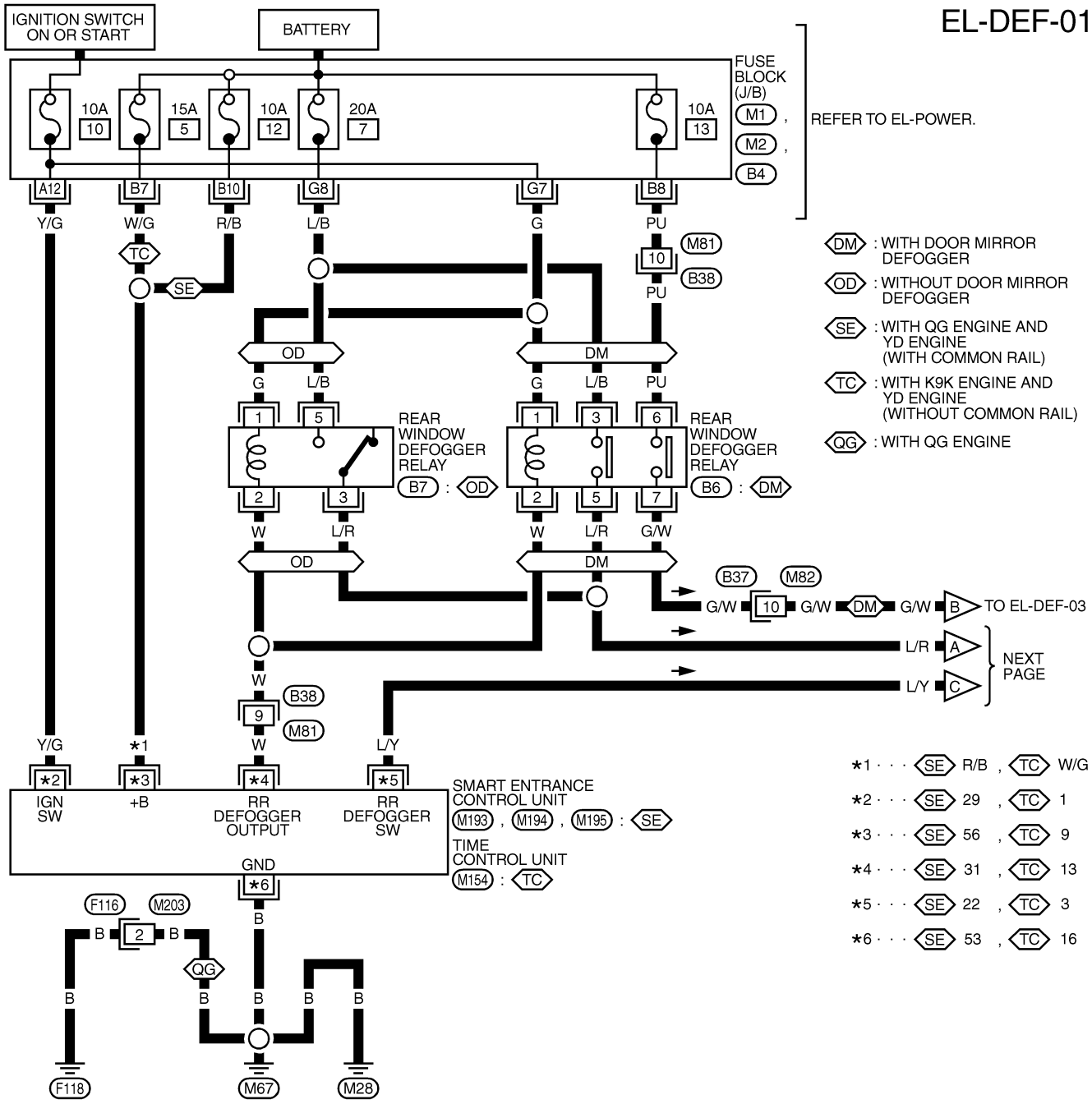


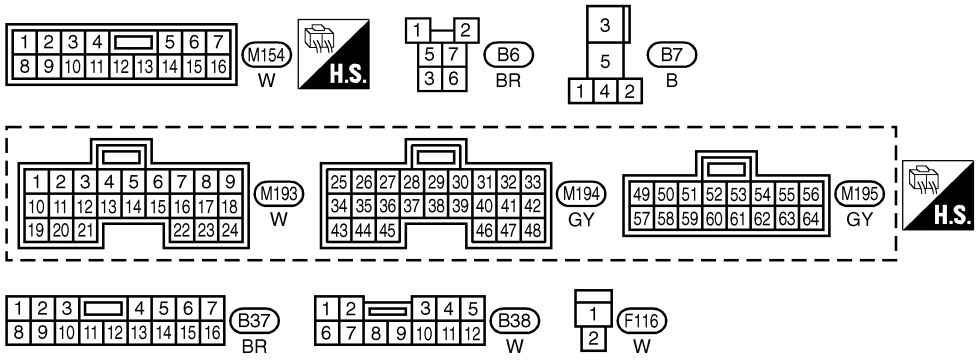

YEL714D

## Wiring Diagram — DEF —

=NJEL0464

EL-DEF-01

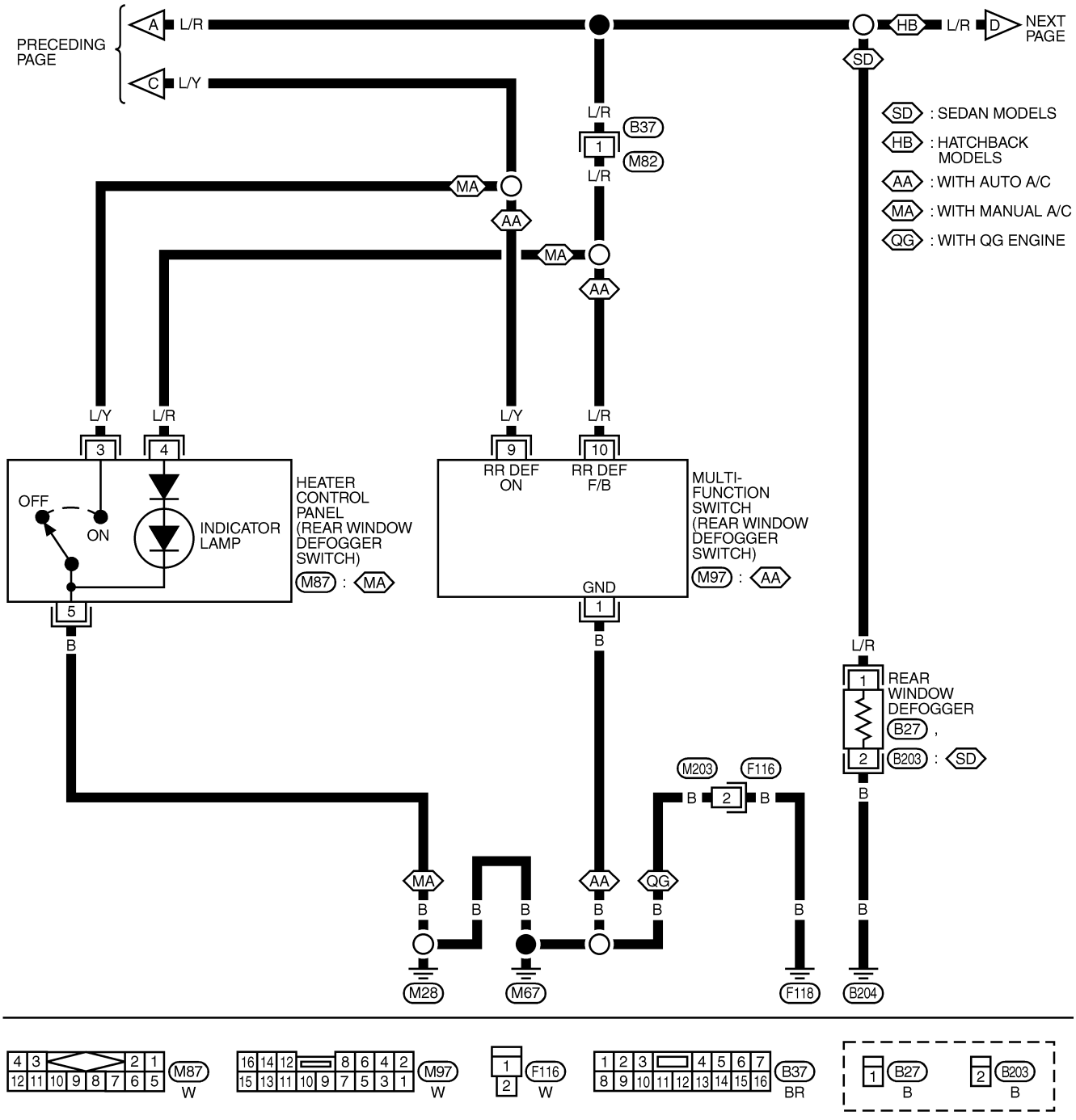



REFER TO THE FOLLOWING.
M1 , M2 , B4
-FUSE BLOCK-
JUNCTION BOX (J/B)

YEL715D

EL-DEF-02

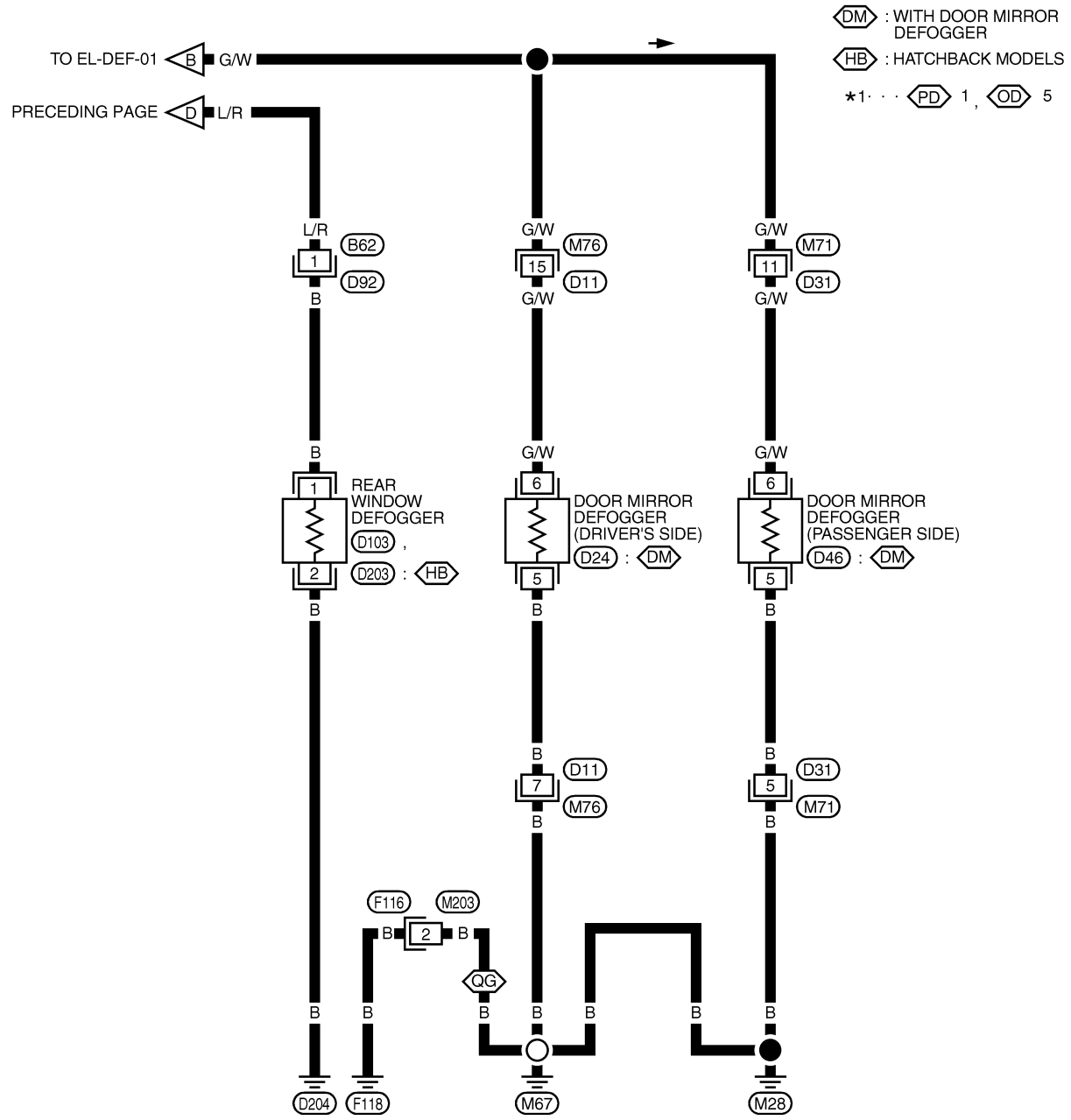






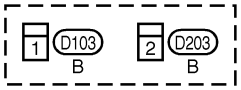
YEL716D

EL-DEF-03










YEL717D

# Trouble Diagnoses/QG and YD Engine Models with Common Rail

NJEL0553

## TERMINALS AND REFERENCE VALUE FOR SMART ENTRANCE CONTROL UNIT

NJEL0553S01

| TERMINAL | WIRE COLOR | ITEM | CONDITION | DATA (DC) |
|---|---|---|---|---|
| 22 | L/Y | Multifunction switch (Rear window defogger switch) signal | Multifunction switch (Rear window defogger switch) ON | 0V |
| | | | Multifunction switch (Rear window defogger switch) OFF | Battery voltage |
| 29 | Y/G | IGN power supply | — | Battery voltage |
| 31 | W | Rear window defogger relay control signal | Multifunction switch (Rear window defogger switch) ON | Battery voltage |
| | | | Multifunction switch (Rear window defogger switch) OFF | 0V |
| 53 | B | Ground | — | 0V |
| 56 | R/B | BAT power supply | — | Battery voltage |

## TERMINALS AND REFERENCE VALUE FOR MULTIFUNCTION SWITCH (REAR WINDOW DEFOGGER SWITCH)

NJEL0553S02

| TERMINAL | WIRE COLOR | ITEM | CONDITION | DATA (DC) |
|---|---|---|---|---|
| 1 | B | Ground | — | 0V |
| 9 | L/Y | Rear window defogger switch signal | Rear window defogger switch ON | Battery voltage |
| 10 | L/R | Rear window defogger indicator signal | Rear window defogger switch ON | Battery voltage |

## PRELIMINARY CHECK

NJEL0553S03

First perform the “SELF-DIAG RESULTS” in “SMART ENTRANCE” with CONSULT-II, when perform the each trouble diagnosis.

## POWER SUPPLY AND GROUND CIRCUIT INSPECTION

=NJEL0553S04

**1 CHECK FUSE INSPECTION**

Check the following.

| Part | Terminal No. | Ampere | Power source | Fuse No. |
|---|---|---|---|---|
| Smart entrance control unit | 29 | 10 A | IGN power supply | #10 |
| | 56 | 10 A | BAT power supply | #12 |
| Rear window defogger relay | 1 | 10 A | IGN power supply | #10 |
| | 3: B6 or 5: B7 | 20 A | BAT power supply | #7 |

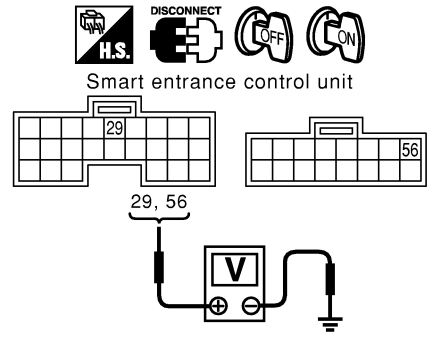
MTBL1443

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace fuse. |

**2 CHECK POWER SUPPLY AND IGNITION INPUT SIGNAL**

Check voltage between smart entrance control unit connector M194, M195 terminals 29 and 56 and ground.




MIIA0083E

| Terminals (+) Connector | Terminals (+) Terminal | Terminals (—) | Condition | Voltage [V] |
|---|---|---|---|---|
| M194, M195 | 29 (Y/G) | Ground | Ignition switch ON or START | Battery voltage |
| | 56 (R/B) | | Ignition switch OFF | Battery voltage |

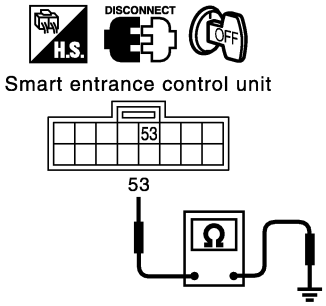
MTBL1444

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | **Check the following.**<br>● Harness for open or short between smart entrance control unit and fuse |

| 3 | CHECK CONTROL UNIT GROUND CIRCUIT |
|---|---|

Check continuity between smart entrance control unit connector M195 terminal 53 and ground.




MIIA0084E

| Terminals | | | Condition | Continuity |
|---|---|---|---|---|
| Connector | Terminal | | | |
| M195 | 53 (B) | Ground | Ignition switch OFF | Should exist |

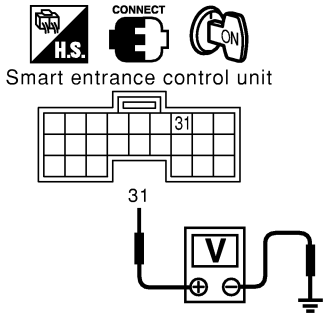
MTBL1445

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Repair or replace harness. |

**4** **CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL**

1. Turn ignition switch to ON position.
2. Check voltage between smart entrance control unit harness connector M194 terminal 31 and ground.




MIIA0085E

| Terminals | | | Condition | Voltage [V] |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal | | | |
| M194 | 31 (W) | Ground | Rear defogger switch OFF | Approx. 0 |
| | | | Rear defogger switch ON | Battery voltage |

MTBL1446

**OK or NG**

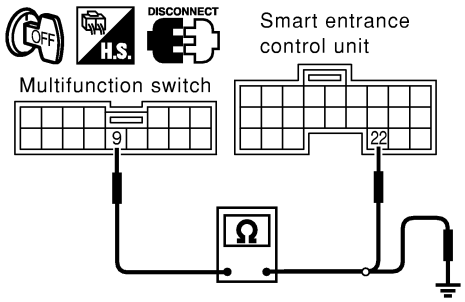
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Harness for open or short between 10A fuse [No. 10, located in the fuse block (J/B)] and rear window defogger relay.<br>● Harness for open or short between rear window defogger relay and smart entrance control unit.<br>● Rear window defogger relay. Refer to EL-189, "REAR WINDOW DEFOGGER RELAY".<br>● Rear window defogger filament. Refer to EL-190, "FILAMENT CHECK" and EL-191, "FILAMENT REPAIR". |
| NG | ▶ | GO TO 2. |

## REAR WINDOW DEFOGGER DOES NOT OPERATE

=NJEL0553S05

**1 HARNESS INSPECTION**

1. Turn the ignition switch OFF.
2. Disconnect Multifunction switch connector and smart entrance control unit connector.
3. Check continuity between Multifunction switch and smart entrance control unit.




SKIA1434E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Multifunction switch | | Smart entrance control unit | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M97 | 9 (L/Y) | M193 | 22 (L/Y) | YES |

MTBL1447

4. Check continuity between Multifunction switch and body ground.

| Terminals | | | Continuity |
|---|---|---|---|
| Multifunction switch | | (—) | |
| Connector | Terminal (wire color) | | |
| M97 | 9 (L/Y) | Ground | NO |

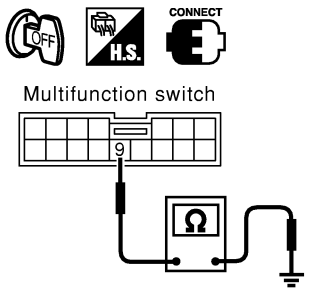
MTBL1448

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace harness or connector. |

**2** **CHECK REAR WINDOW DEFOGGER ON SIGNAL**

1. Connect Multifunction switch connector and smart entrance control unit connector.
2. Turn the ignition switch ON.
3. Check continuity between Multifunction switch and body ground when rear window defogger switch is operated.




SKIA1435E

| Terminals | | | Continuity | |
|---|---|---|---|---|
| Multifunction switch | | (—) | | |
| Connector | Terminal (wire color) | | Press switch | Release switch |
| M97 | 9 (L/Y) | Ground | YES | NO |

MTBL1449

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Replace Multifunction switch. |

## REAR WINDOW DEFOGGER INDICATOR LAMP DOES NOT ILLUMINATE

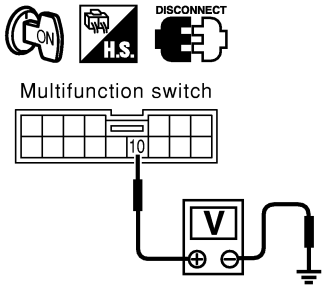
=NJEL0553S06

| 1 | CHECK POSITION OF IGNITION SWITCH | |
|---|---|---|
| Is ignition switch ON? | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Rear window defogger does not operate if ignition switch is not ON. |

| 2 | CHECK OPERATION OF REAR WINDOW DEFOGGER | |
|---|---|---|
| Does rear window defogger operate when rear window defogger switch is turned ON? (Does fogging disappear?) | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | EL-183, "Rear Window Defogger Does Not Operate" item. |

**3** **CHECK REAR WINDOW DEFOGGER INDICATOR LAMP SIGNALS**

Disconnect Multifunction switch connector. Check voltage between Multifunction switch terminal 10 (L/R) and body ground.




SKIA1433E

| Terminals | | | Voltage [V] |
|---|---|---|---|
| Multifunction switch | | (—) | |
| Connector | Terminal (wire color) | | |
| M97 | 10 (L/R) | Ground | Battery voltage |

MTBL1450

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace Multifunction switch. |
| NG | ▶ | Malfunction in harness between Multifunction switch and rear window defogger relay. |

# Trouble Diagnoses/YD Engine Models without Common Rail and K9K Engine Models

=NJEL0465

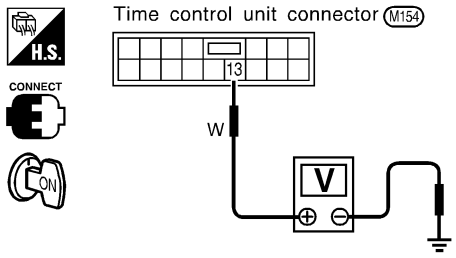
## DIAGNOSTIC PROCEDURE

NJEL0465S01

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

| 1 | CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL |
|---|---|

1. Turn ignition switch to ON position.
2. Check voltage between time control unit harness terminal 13 and ground.




**Voltage [V]:**
**Rear window defogger switch is "OFF".**
**Approx. 12**
**Rear window defogger switch is "ON".**
**0**

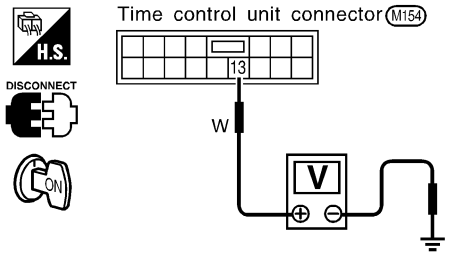
SEL455X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Rear window defogger relay (Refer to EL-189.)<br>● Rear window defogger circuit<br>● Rear window defogger filament (Refer to EL-190.) |
| NG | ▶ | GO TO 2. |

| 2 | CHECK DEFOGGER RELAY COIL SIDE CIRCUIT |
|---|---|

1. Disconnect control unit connector.
2. Turn ignition switch to ON position.
3. Check voltage between time control unit terminal 13 and ground.




**Battery voltage should exist.**

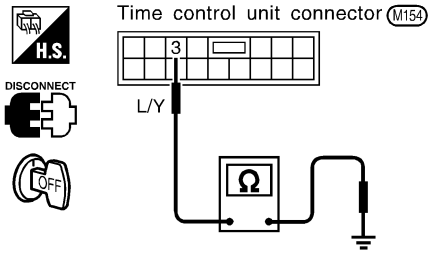
SEL456X

**OK or NG**

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

| 3 | CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL |
|---|---|

Check continuity between time control unit terminal 3 and ground.




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

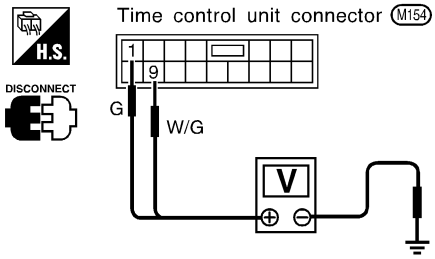
SEL457X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | **Check the following.**<br>● Rear window defogger switch (Refer to EL-189.)<br>● Harness for open or short between time control unit and rear window defogger switch<br>● Rear window defogger switch ground circuit |

| 4 | CHECK POWER SUPPLY AND IGNITION INPUT SIGNAL |
|---|---|

Check voltage between time control unit terminals 1 or 9 and ground.

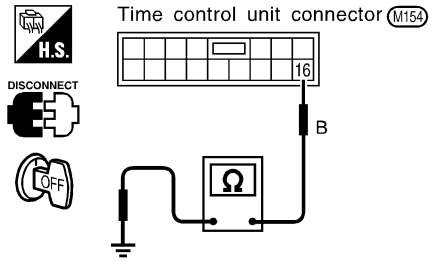


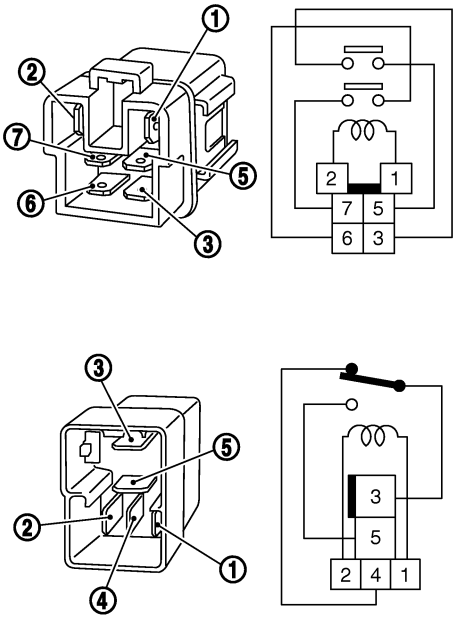

| Terminals | | Ignition switch position | | |
|---|---|---|---|---|
| (+) | (−) | OFF | ACC | ON |
| 9 | Ground | Battery voltage | Battery voltage | Battery voltage |
| 1 | Ground | 0V | 0V | Battery voltage |

SEL447X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 5. |
| NG | ▶ | **Check the following.**<br>● 10A fuse or 15A fuse [No. 10 or No. 5, located in the fuse block (J/B)]<br>● Harness for open or short between time control unit and fuse |

| 5 | CHECK CONTROL UNIT GROUND CIRCUIT | |
|---|---|---|
| Check continuity between time control unit terminal 16 and ground.<br>  <br><br>**Continuity should exist.**<br>SEL448X | | |
| Yes | ▶ | Replace time control unit. |
| No | ▶ | Repair harness or connectors. |



SEL970W

# Electrical Components Inspection

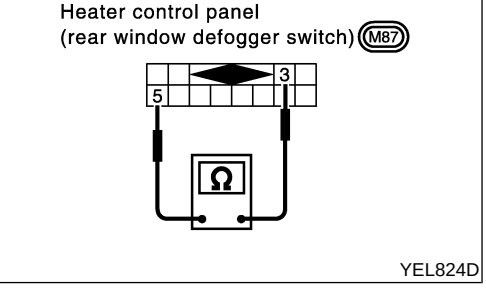
=NJEL0076

## REAR WINDOW DEFOGGER RELAY

NJEL0076S01

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 |



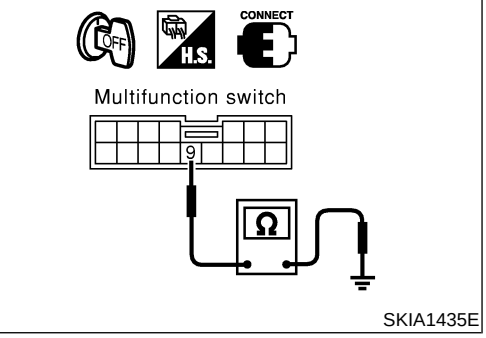
YEL824D

## REAR WINDOW DEFOGGER SWITCH (MANUAL A/C MODELS)

NJEL0076S02

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

| Terminals | Condition | Continuity |
|---|---|---|
| 3 - 5 | Rear window defogger switch is pushed. | Yes |
| | Rear window defogger switch is released. | No |



SKIA1435E

## REAR WINDOW DEFOGGER SWITCH (AUTO A/C MODELS)

NJEL0076S03

Check continuity between Multifunction switch and body ground when rear window defogger switch is operated.

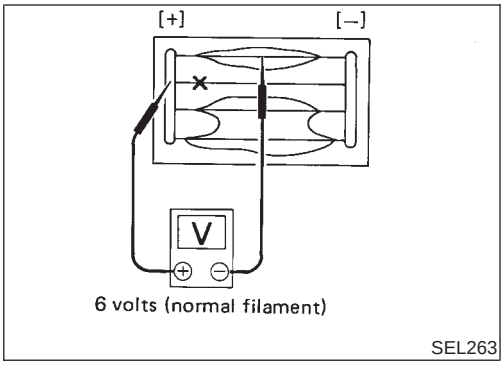
| Terminals | | | Continuity | |
|---|---|---|---|---|
| Multifunction switch | | (−) | | |
| Connector | Terminal (wire color) | | Press switch | Release switch |
| M97 | 9 (L/Y) | Ground | YES | NO |

GI MA EM LC EC FE CL MT AT AX SU BR ST RS BT HA SC EL IDX

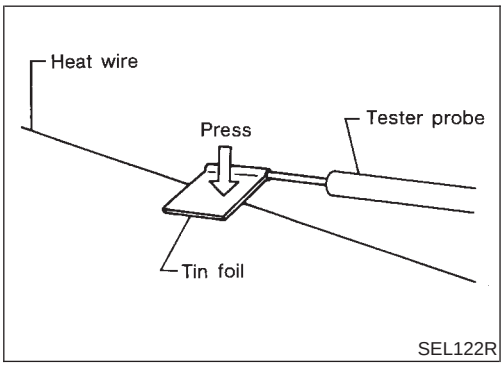
## Filament Check

=NJEL0077

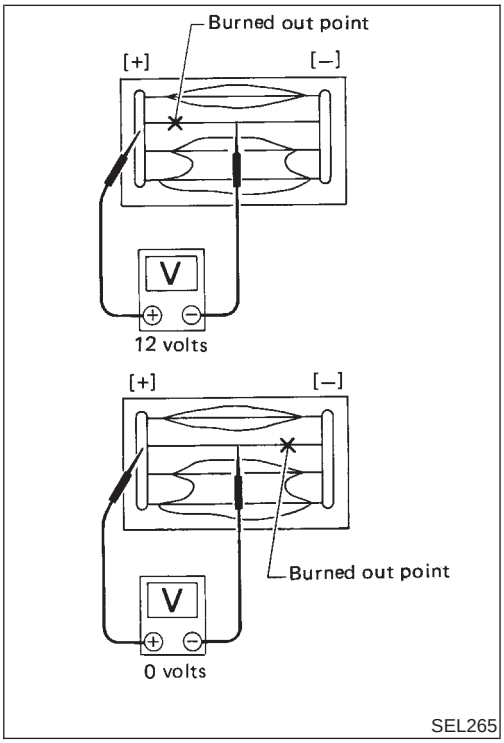
1. Attach probe circuit tester (in volt range) to middle portion of each filament.



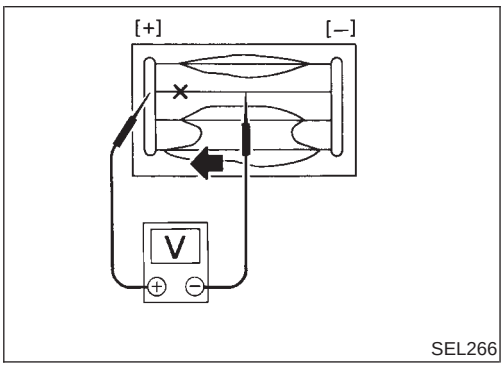

- **When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.**




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




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



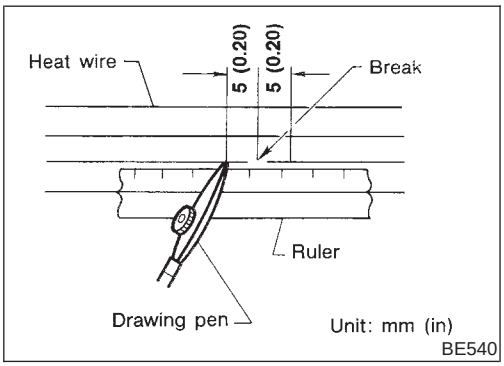
# Filament Repair

NJEL0078

## REPAIR EQUIPMENT

NJEL0078S01

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



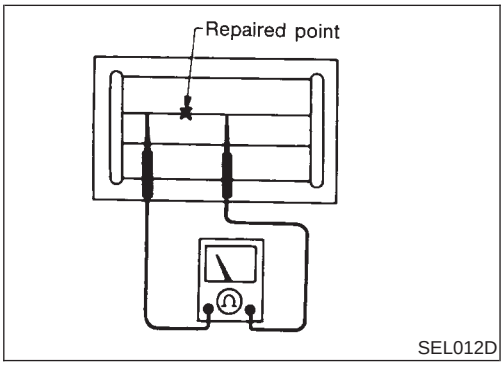

## REPAIRING PROCEDURE

NJEL0078S02

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

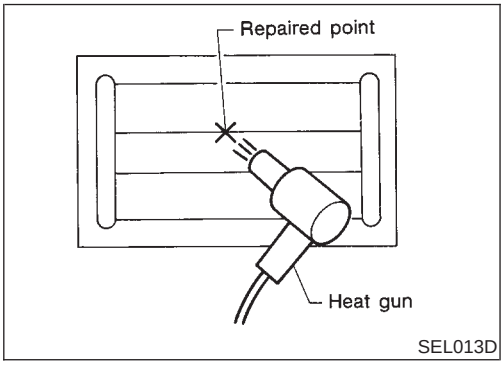
**Shake silver composition container before use.**

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




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

**Do not touch repaired area while test is being conducted.**




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

# System Description

=NJEL0497

## AUDIO SYSTEM WITHOUT DISPLAY

NJEL0497S08

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

- through 15A fuse (No. 40, located in the fusible link and fuse block)
- to audio unit terminal 9.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to audio unit terminal 3.

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

- through audio unit terminals 7, 10, 11, 12, 13, 14, 15, 16
- to terminals 1 and 2 of front door speaker LH and RH,
- to terminals 1 and 2 of rear door speaker LH and RH and
- to terminals 1 and 2 of pillar tweeter LH and RH (with 6 speakers)

## AUDIO SYSTEM WITH DISPLAY

NJEL0497S09

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

- through 15A fuse (No. 40, located in the fuse and fusible link box)
- to audio unit terminals 3 and 4, and
- to display terminals 21 and 23.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to audio unit terminal 2,
- to multifunction switch terminal 6 and
- to display terminal 19.

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

- through body grounds M28, M67 and F118 (QG engine models)
- to multifunction switch terminal 1 and
- to display terminals 22 and 24.

Audio signals are supplied

- through audio unit terminals 5, 6, 7, 8, 9, 10, 11, 12
- to terminals 1 and 2 of front door speaker LH and RH
- to terminals 1 and 2 of rear door speaker LH and RH
- to terminals 1 and 2 of tweeter LH and RH

## AV COMMUNICATION LINE

NJEL0497S10

Audio system is contained and the AV communication line is connected as followings.

- Display unit terminals 12 and 13, and
- Multifunction switch terminals 12 and 14.
- Multifunction switch terminals 11 and 13, and
- Audio unit terminals 31 and 32.
- Audio unit terminals 35 and 36, and
- AV and NAVI control unit terminals 47 and 48 (with navigation system).

The operation is controlled by operation signals from multifunction switch, then audio screen is displayed.

## NAVIGATION SYSTEM OF GUIDANCE VOICE OPERATION

NJEL0497S11

When navigation system is used, guidance voice signal is supplied

- from AV and NAVI control unit terminals 7 and 8
- to audio unit terminals 35 and 36.

Navigation system of guidance voice will be sounded.

## NATS AUDIO LINK

NJEL0497S12

### Description

NJEL0497S1201

The link with the NATS IMMU implies that the audio unit can basically only be operated if connected to the matching NATS IMMU to which the audio unit was initially fitted on the production line.
Since radio operation is impossible after the link with the NATS is disrupted theft of the audio unit is basically useless since special equipment is required to reset the audio unit.

**Initialization process for audio units that are linked to the NATS IMMU**

- Perform initialization with CONSULT-II
- For initialization, refer to "CONSULT-II operation manual NATS".

**Normal operation**

Each time the audio unit is switched on afterwards, the audio unit code will be verified between the audio unit and the NATS before the audio unit becomes operational.

**When the radio is locked**

When NATS link problems occur "SECURE" message will be displayed in three ways indicating three different NATS link problems.
"Secure" on a red background indicates that there is a problem in the link between Navi control unit and Audio, suggesting that there is either a Navigation system fault or the Navi control unit has previously been fitted in another vehicle.
"Secure" on a green background indicates that there is a problem in the link between NATS IMMU and Audio, suggesting that there is an audio fault or the audio unit has previously been fitted in another vehicle.
"Secure" on a yellow background indicates that the transponder (NATS key) is not working correctly or it has previously been fitted in another vehicle.
When a "Secure" message (of any type) is displayed, it can be cleared by re-initializing the NATS system using CONSULT-II and the associated Immobilizer PIN code (there is no need to return the audio to a Clarion service centre). If re-initializing fails to clear a "Secure" message then the component (identified by background color) is faulty and should be replaced.

**NOTE:**

When the "Secure" is displayed on VFD display or audio unit, the communication of IMMU and radio, radio unit or transponder has problem.

### Service Procedure

NJEL0497S1202

| Item | Service procedure | Description |
|---|---|---|
| Battery disconnection | No additional action required. | — |
| Radio needs repair | Repair needs to be done by authorized representative of radio manufacturer since radio cannot be operated unless it is reset to NEW state, using special decoding equipment. | — |
| Replacement of radio by new part | No additional action required. | Radio is delivered in NEW state. |
| Transferring radio to another vehicle/ replacement of radio by an "old" part | Radio needs to be reset by using CONSULT-II and the associated Immobi PIN code (there is no need to return the audio or Navi units to a Clarion service centre). | — |
| Replacement of IMMU | The communication between IMMU and radio need to be reset by using CONSULT-II and the associated Immobi PIN code. | After switching on the radio, it will display "SECURE" on a green background. |
| No communication from IMMU to radio | 1. If NATS is malfunctioning, check NATS system.<br>2. After NATS is repaired, reset radio to "Secure" on a green background state by using CONSULT-II and the associated Immobilizer PIN code (there is no need to return the audio to a Clarion service centre). | After switching on the radio, the display unit will display "SECURE" on a green background. Further use of radio is impossible until communication is established again, or after radio is reset by using CONSULT-II and the associated Immobilizer PIN code (there is no need to return the audio to a Clarion service centre). |

*System Description (Cont'd)*

## SPEED DEPENDENT VOLUME CONTROL

NJEL0497S13

### Description

NJEL0497S1301

If activated, the radio output volume will be automatically adjusted to compensate for increased driving noises at higher driving speeds.
The radio receives a speed signal from the combination meter and selects the output volume.

## PERSONAL AUDIO SETTINGS

NJEL0497S14

### Description

NJEL0497S1401

The radio is designed to store several settings (volume, bass, treble, preset stations and level of speed dependent volume control) with every NATS ignition key used. Up to a maximum of 4 NATS keys can be registered. During the communication mentioned under "Anti-Theft System", the radio will recognize the used ignition key and select the accompanying settings.

## Component Parts Location

NJEL0554

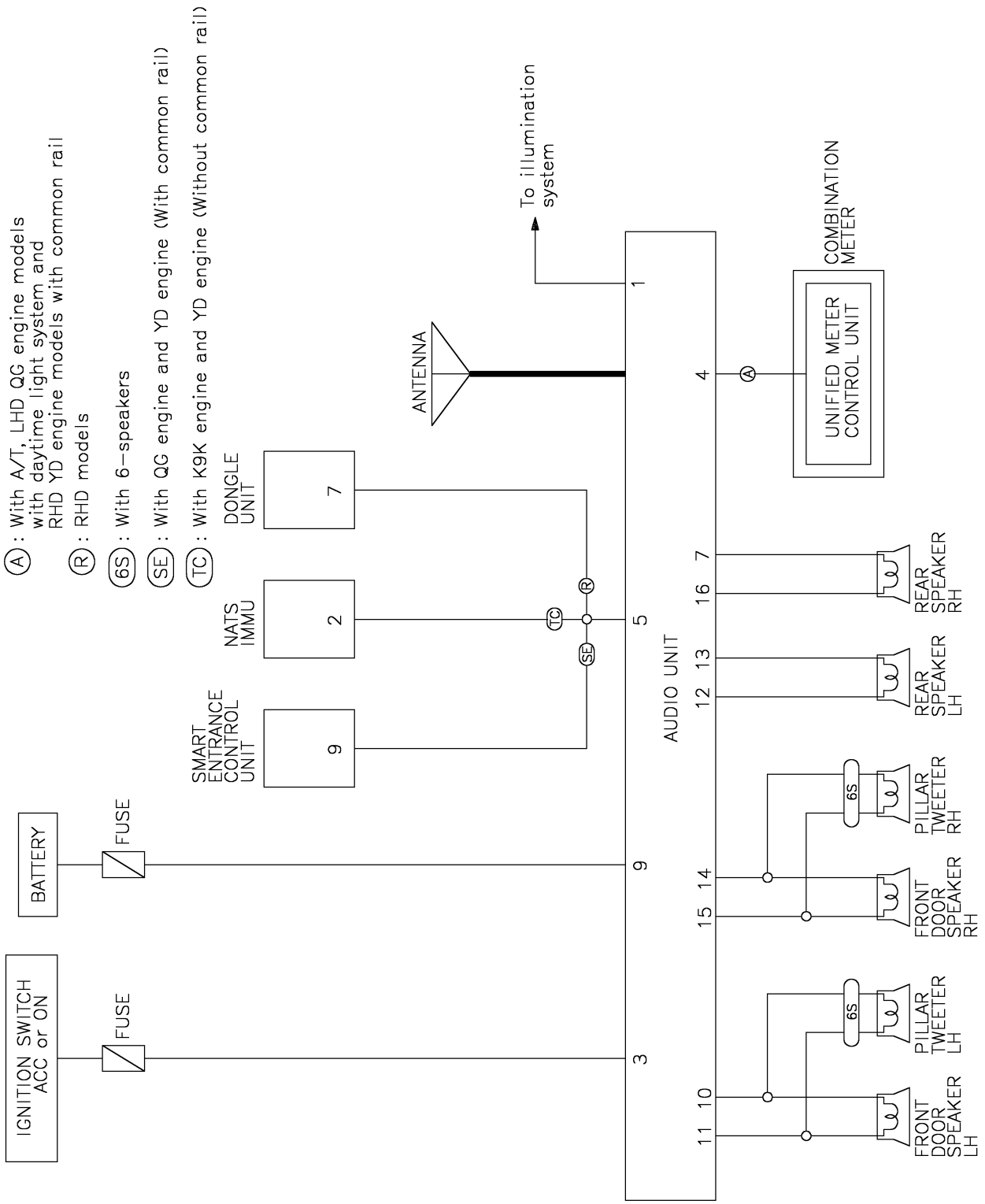
EL-543, "ELECTRIC UNIT LOCATION".

# Schematic

NJEL0466

## MODELS WITHOUT VDF/LCD MONITOR

NJEL0466S01

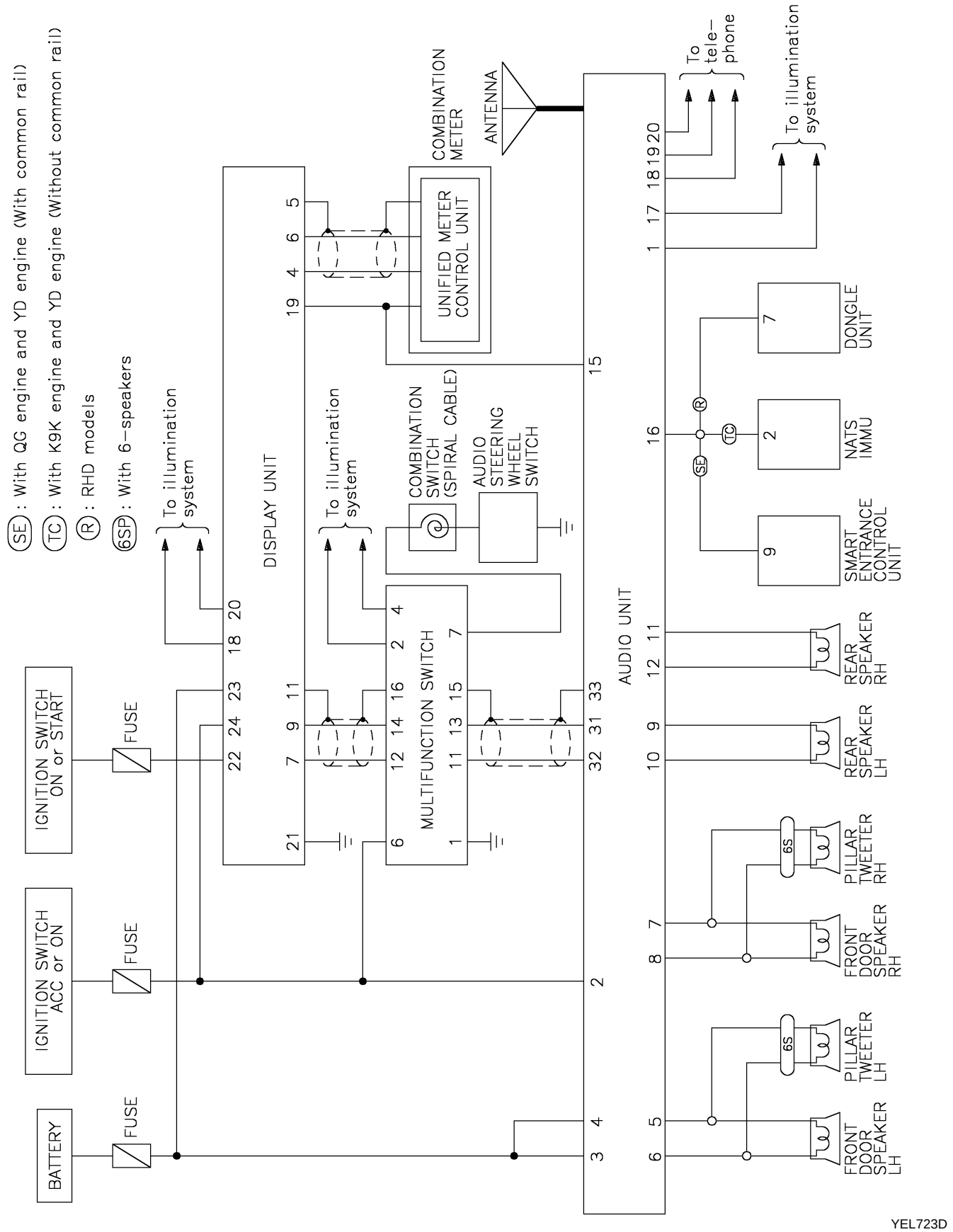



YEL718D

*Schematic (Cont'd)*

## MODELS WITH VDF MONITOR

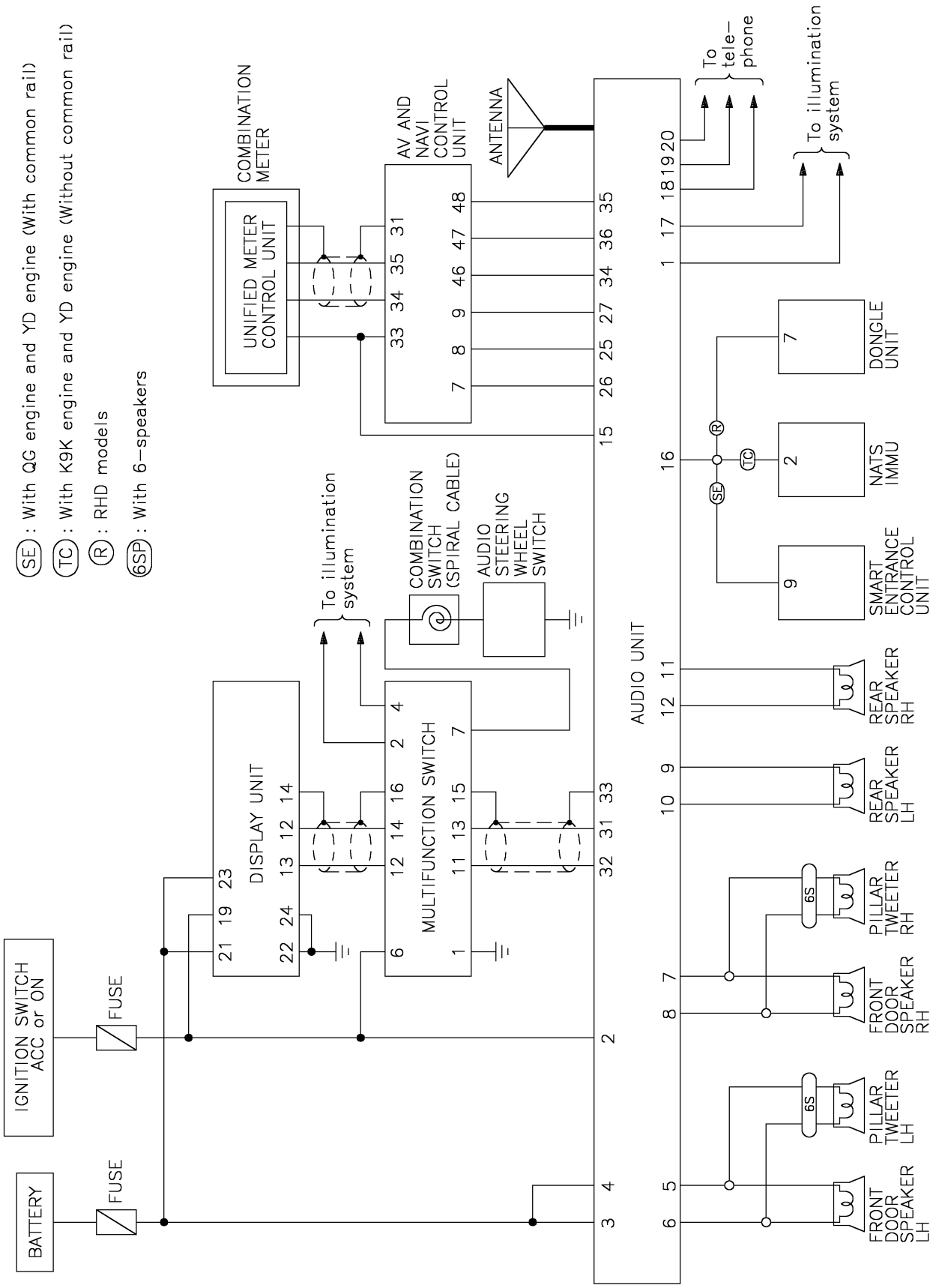
NJEL0466S02




YEL723D

## MODELS WITH LCD DISPLAY

NJEL0466S03



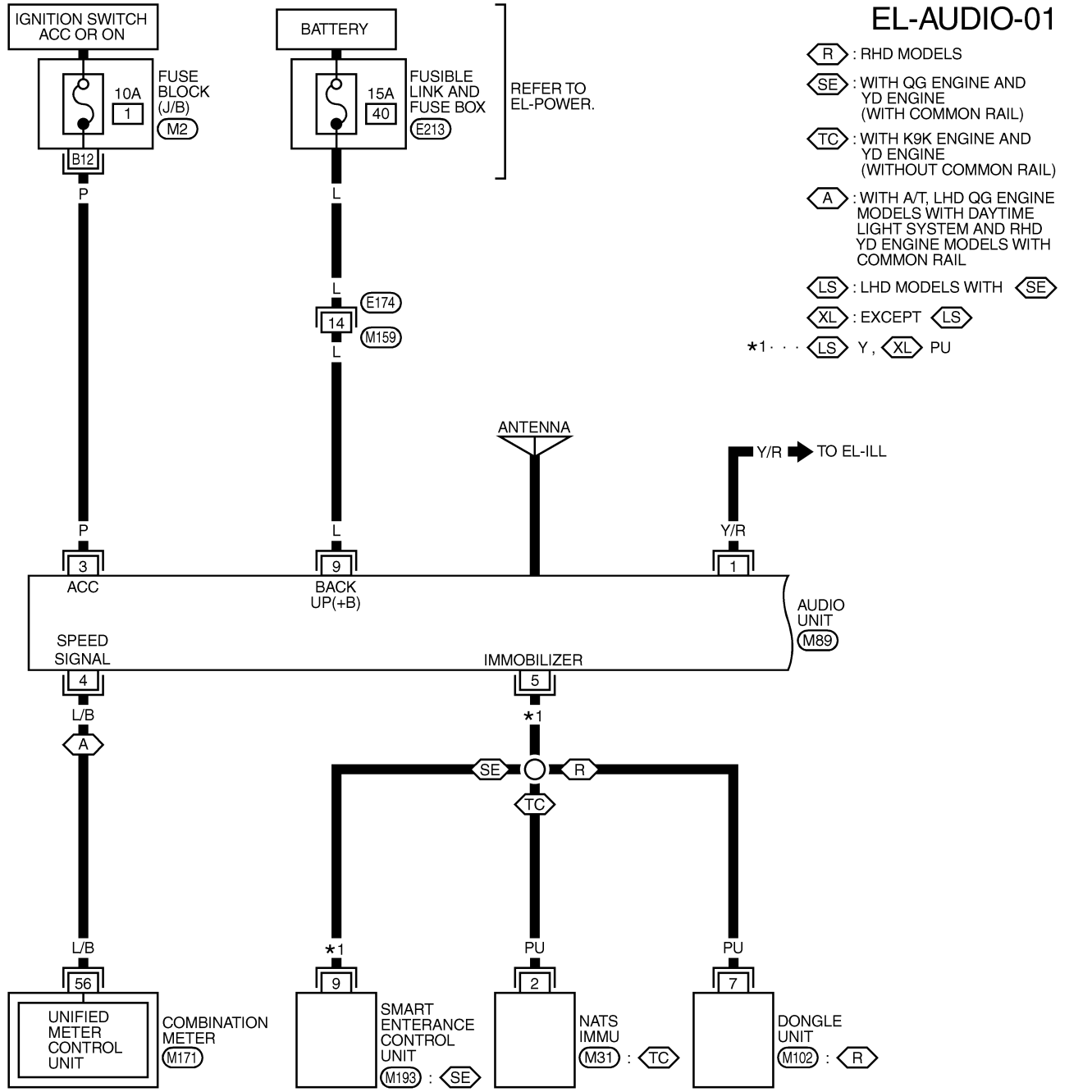

YEL729D

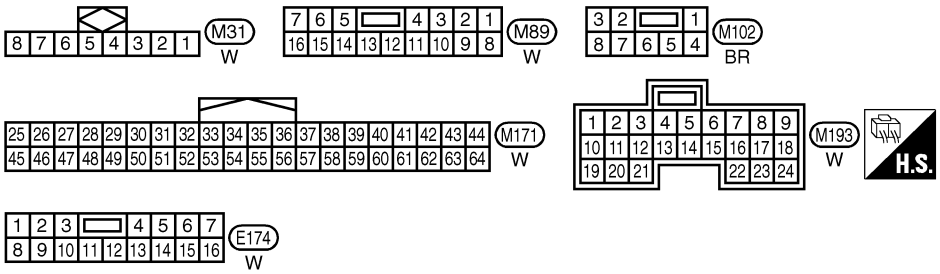
# Wiring Diagram — AUDIO —

NJEL0467

## MODELS WITHOUT VDF/LCD DISPLAY

NJEL0467S03

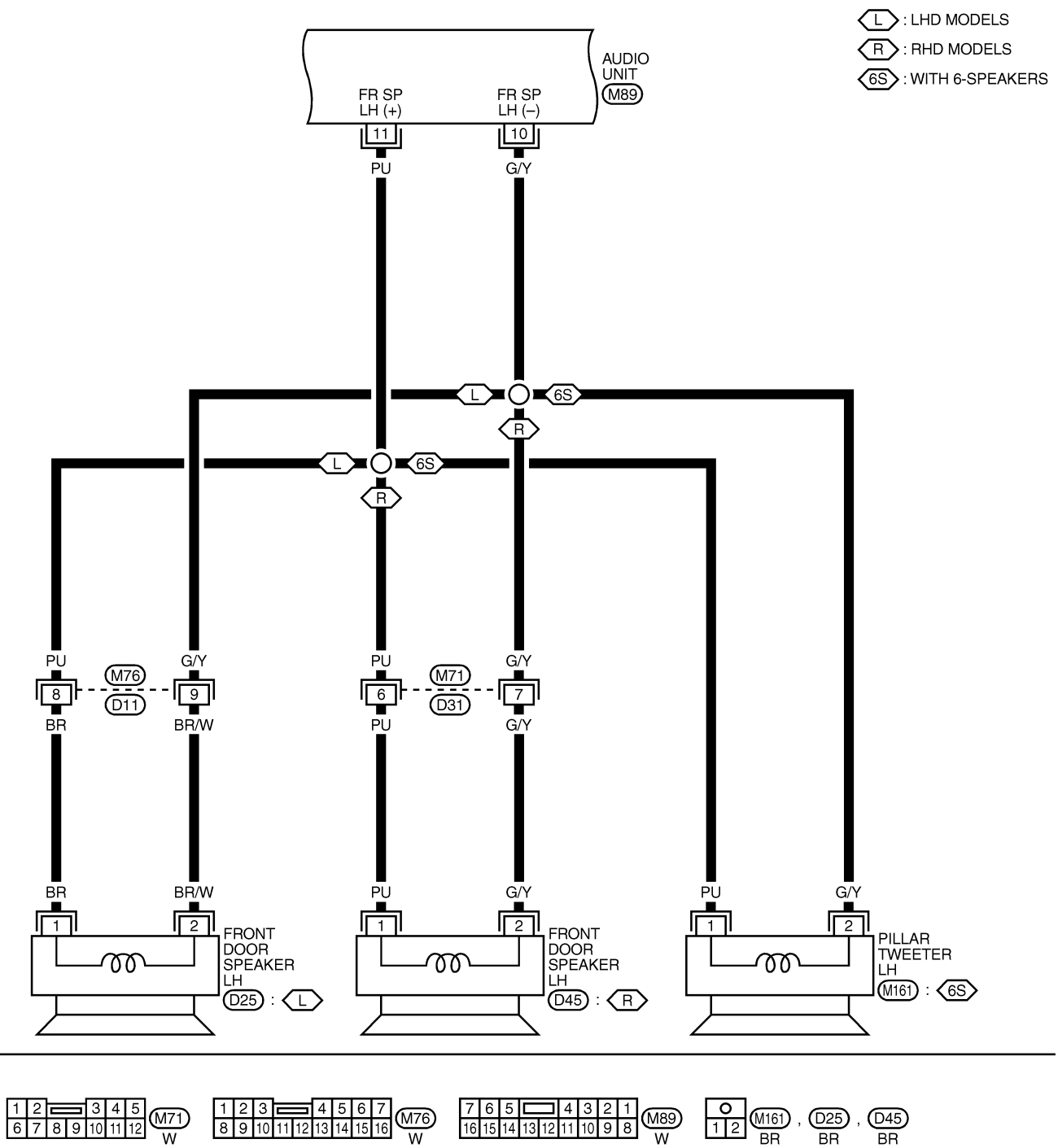



REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

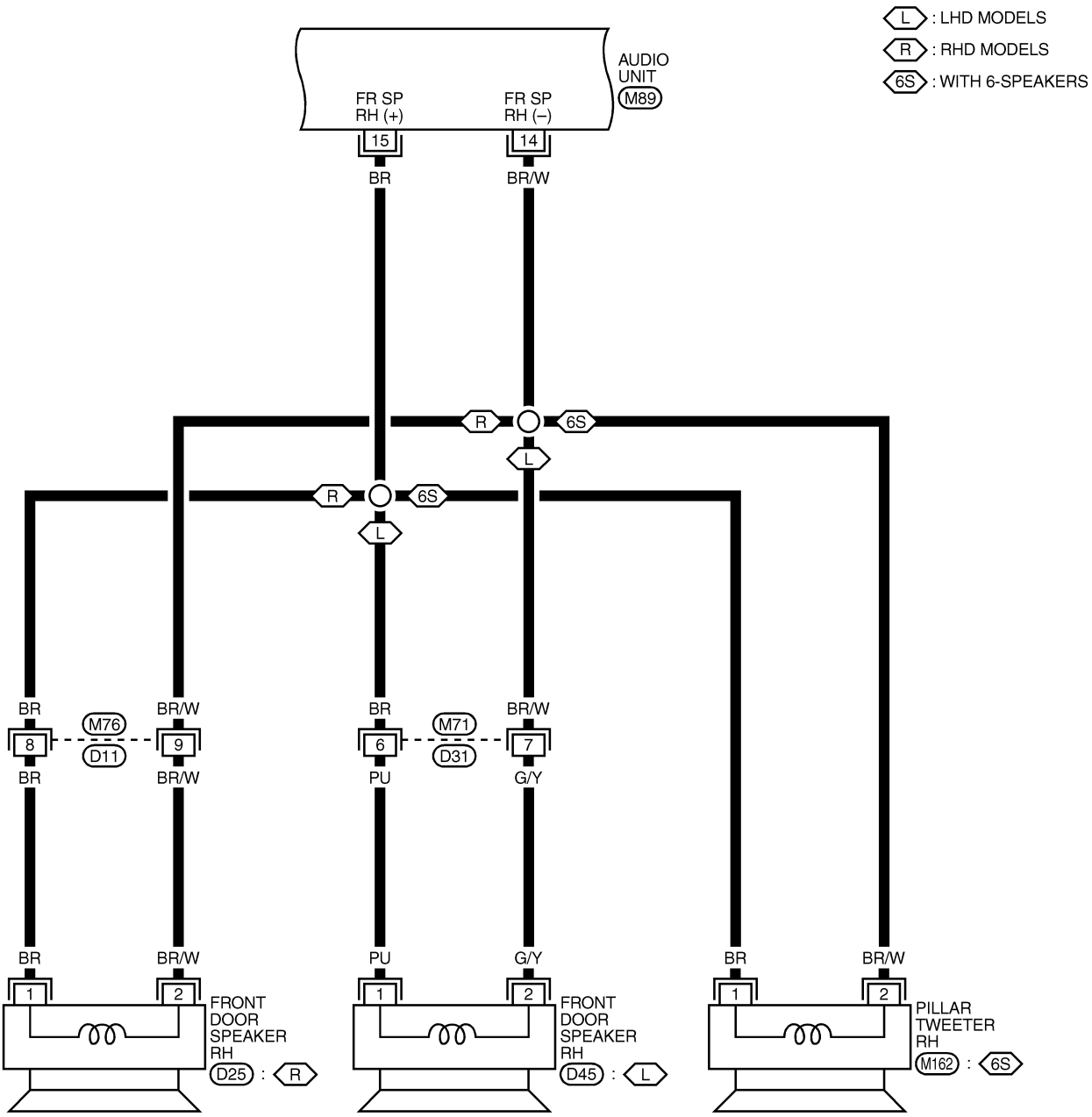
YEL719D

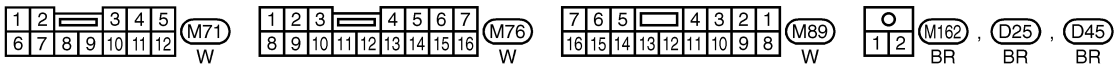
## EL-AUDIO-02




YEL720D

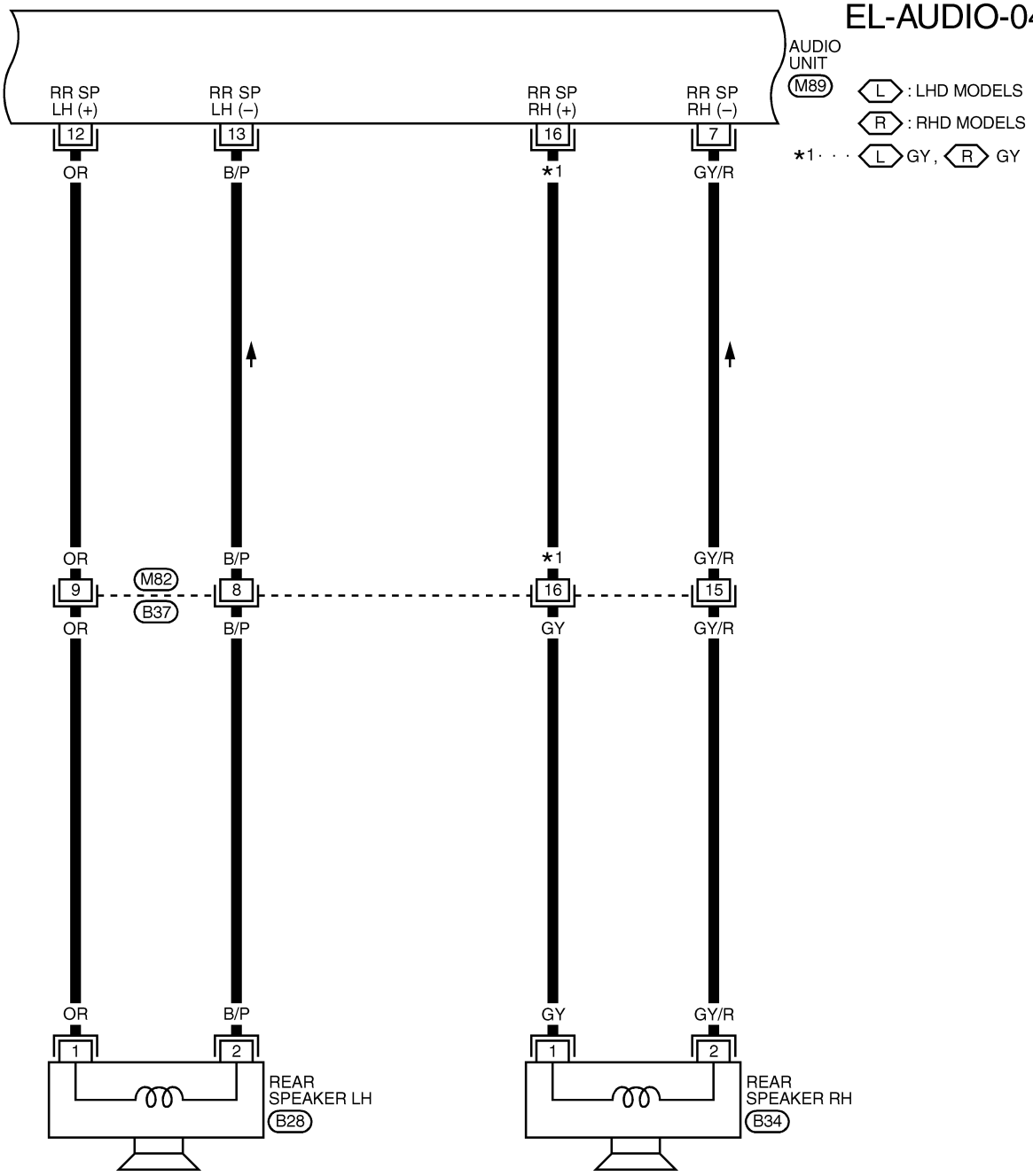
EL-AUDIO-03

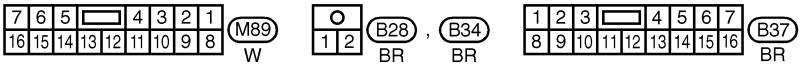



YEL721D

EL-AUDIO-04



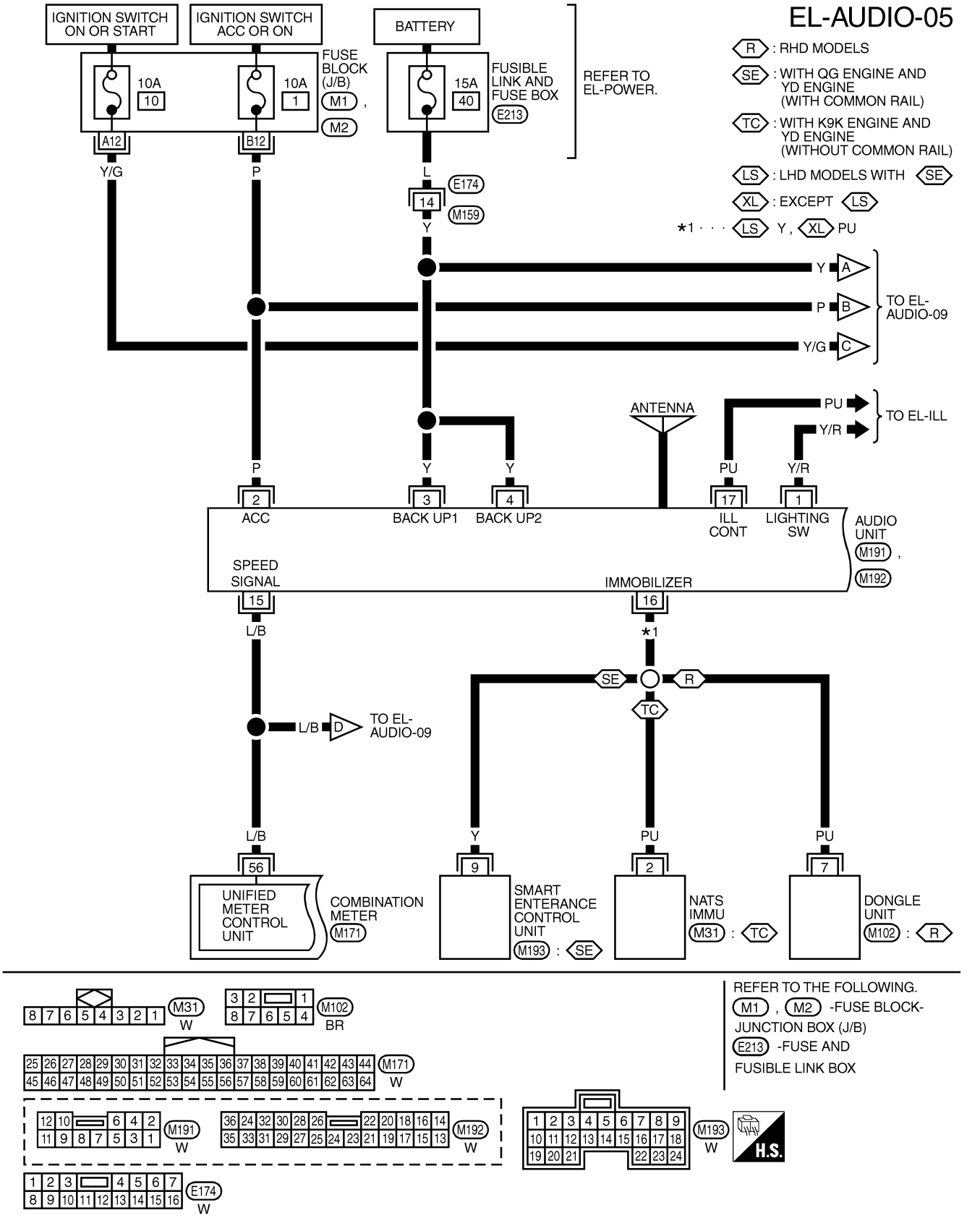




YEL722D

*Wiring Diagram — AUDIO — (Cont'd)*

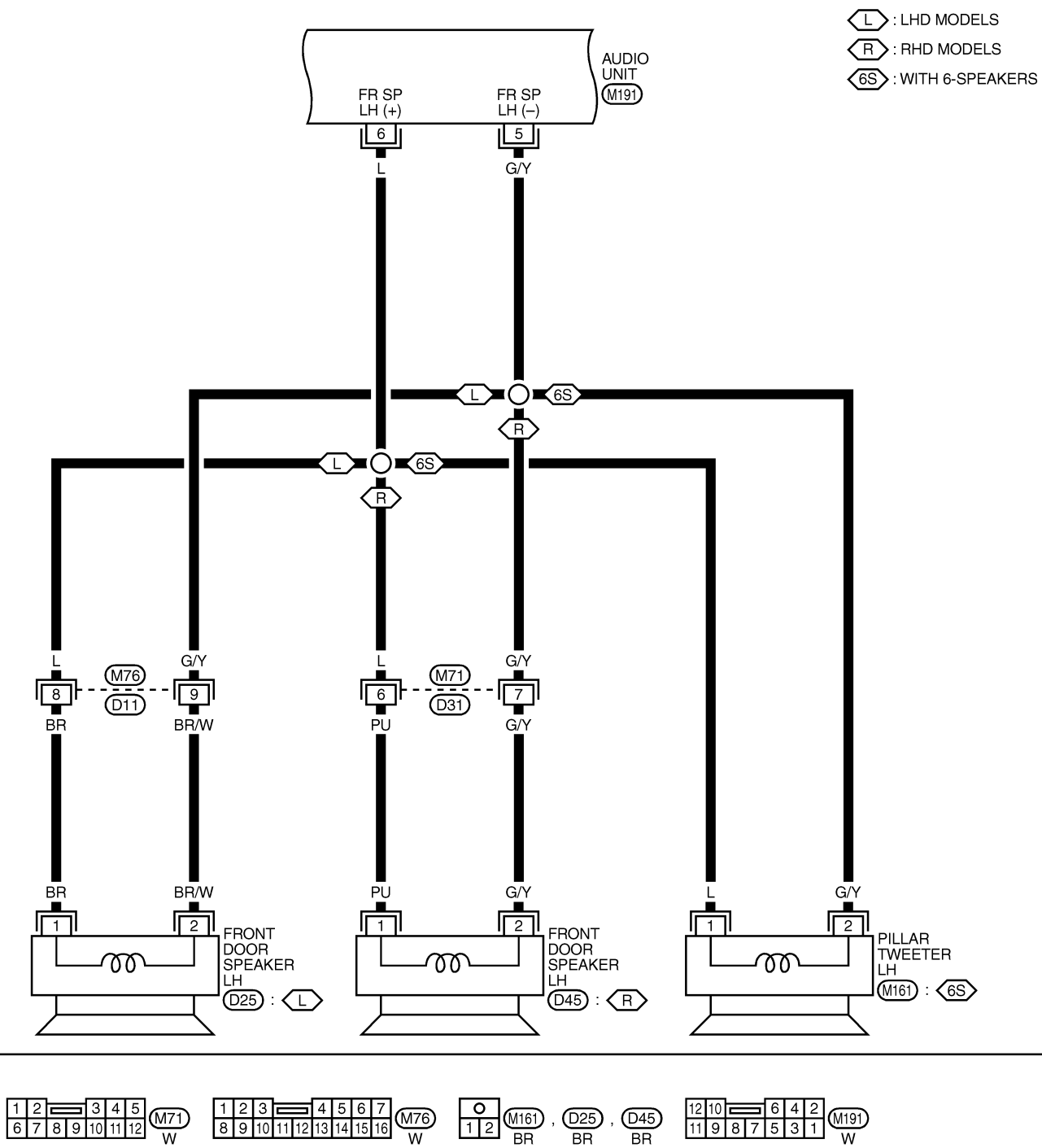
## MODELS WITH VDF DISPLAY

NJEL0467S04




YEL724D

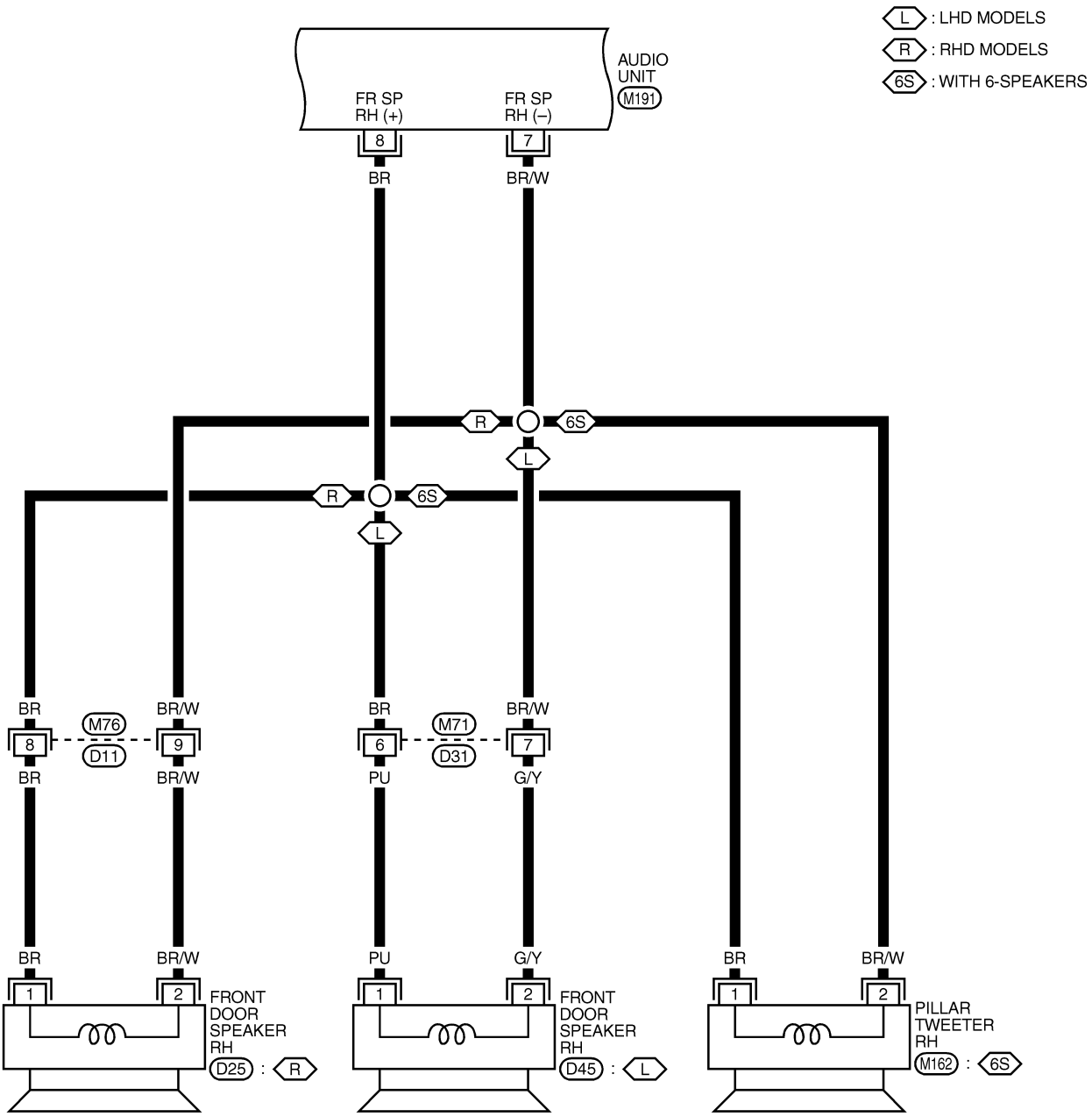
## EL-AUDIO-06





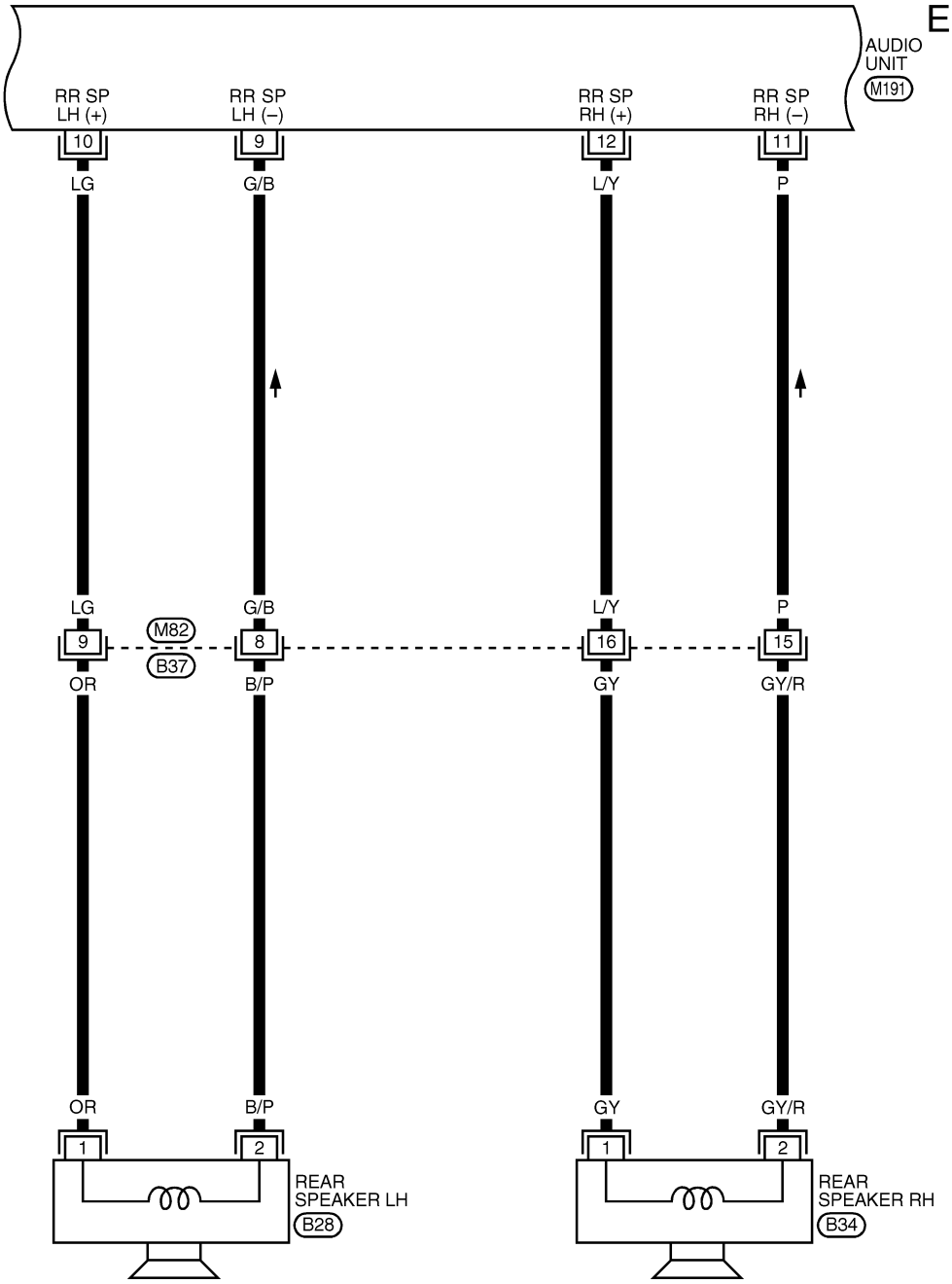

YEL725D

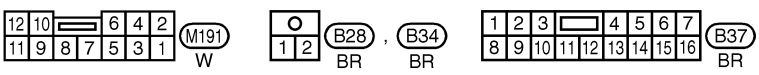
EL-AUDIO-07




YEL726D

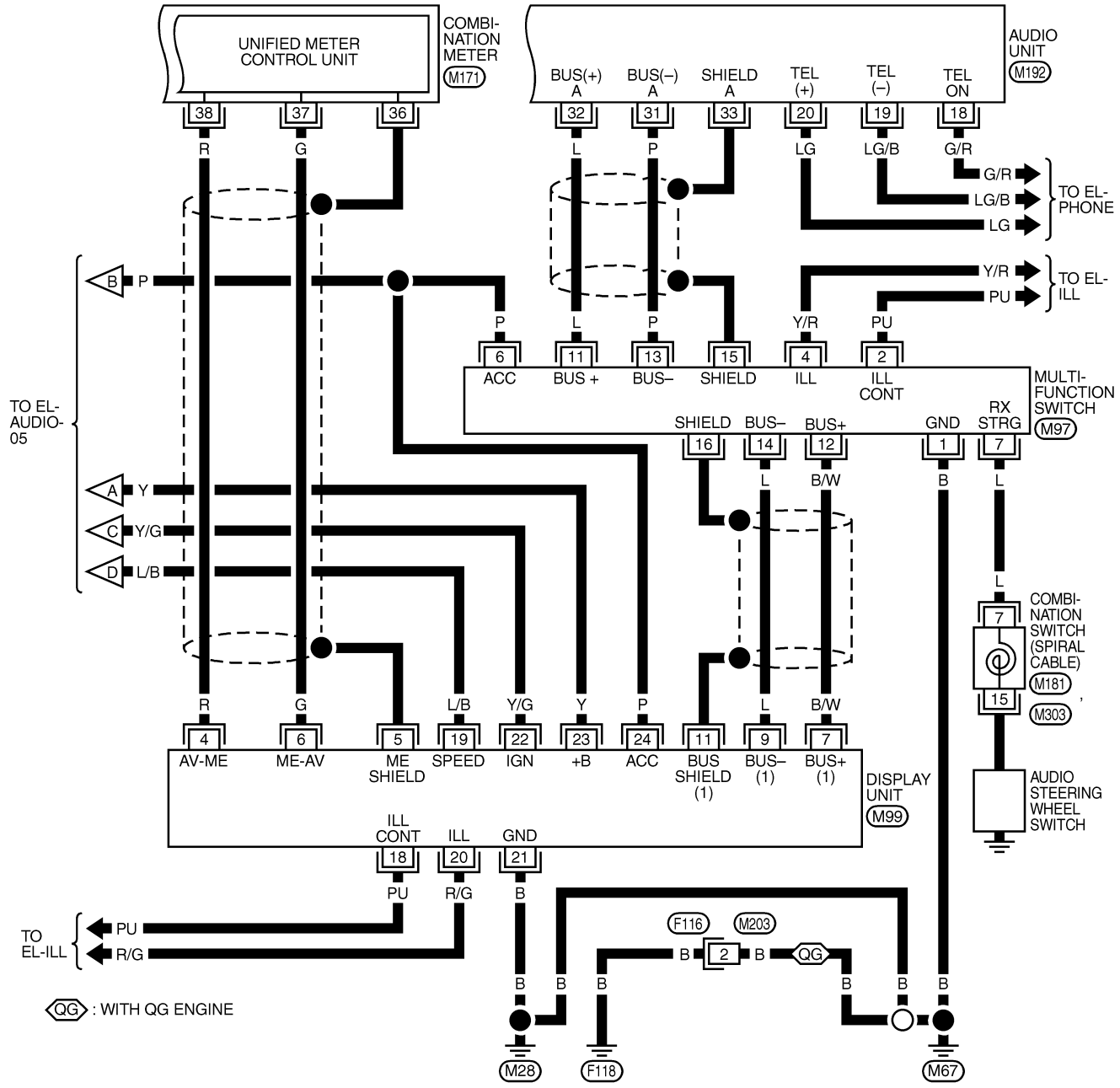
EL-AUDIO-08

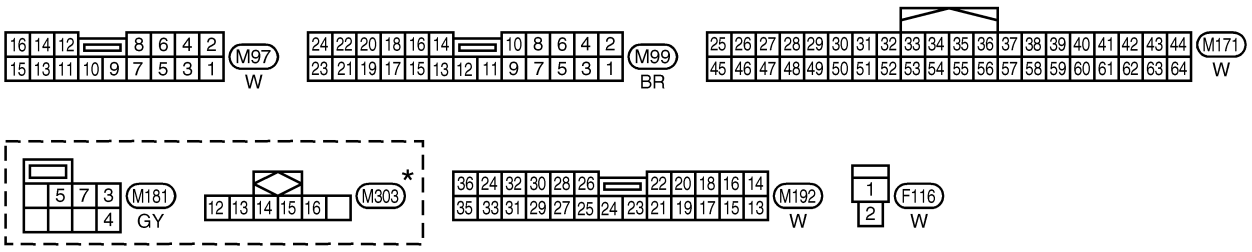



YEL727D

EL-AUDIO-09



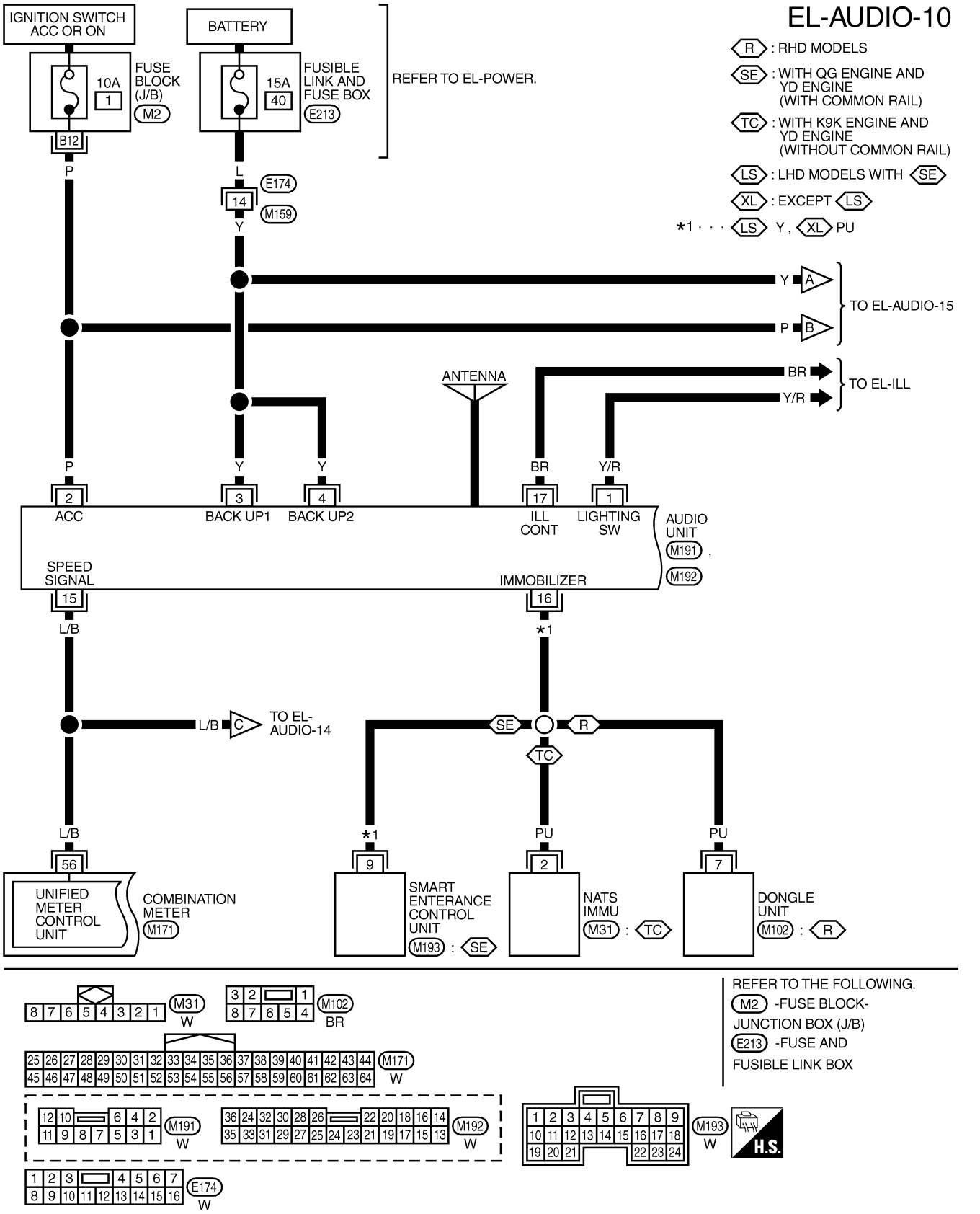




* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

YEL728D

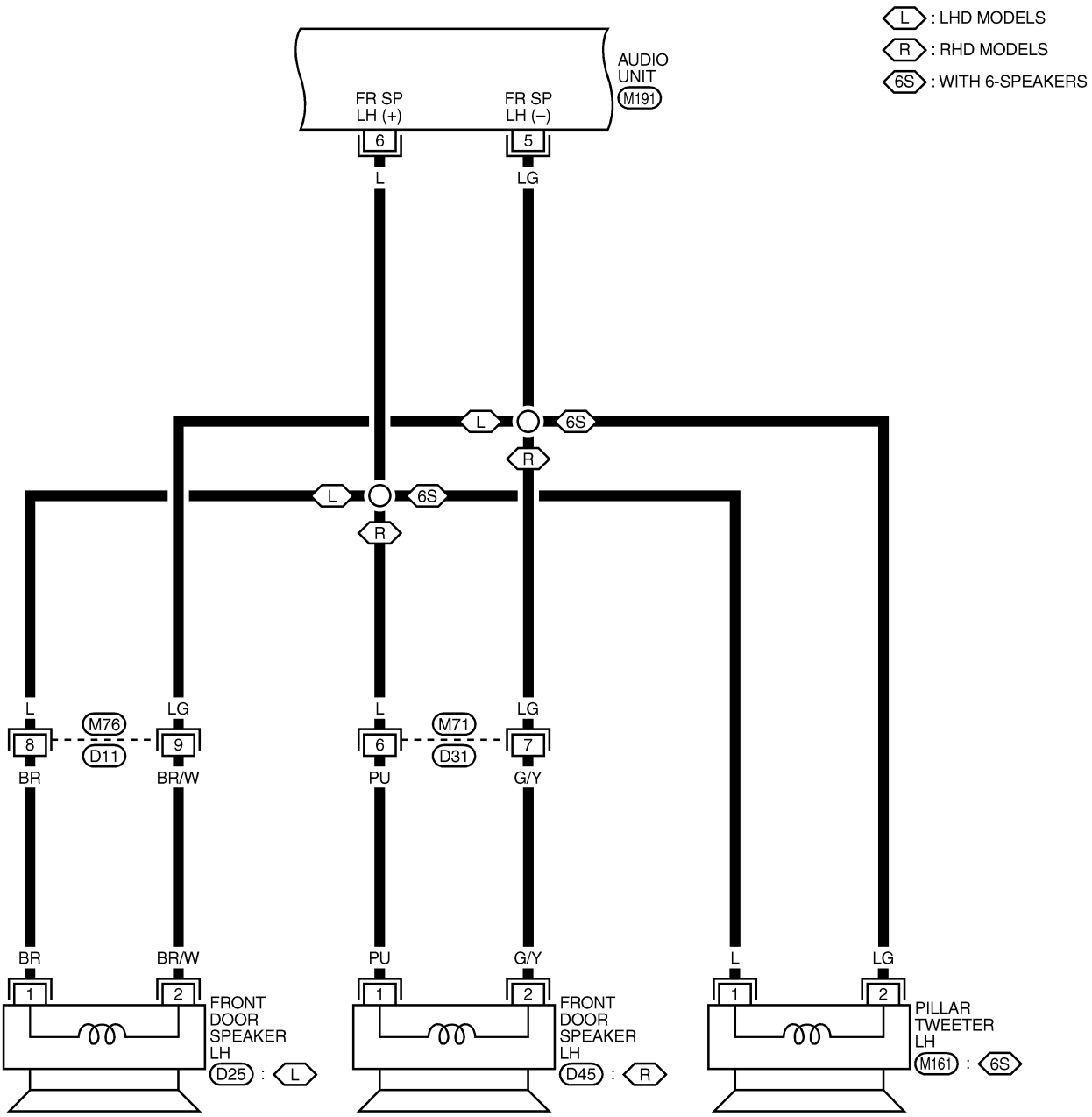
## MODELS WITH LCD DISPLAY

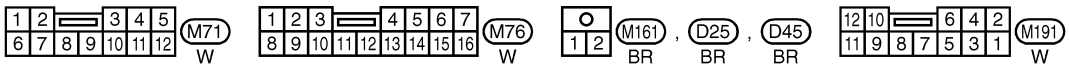
NJEL0467S05




YEL730D

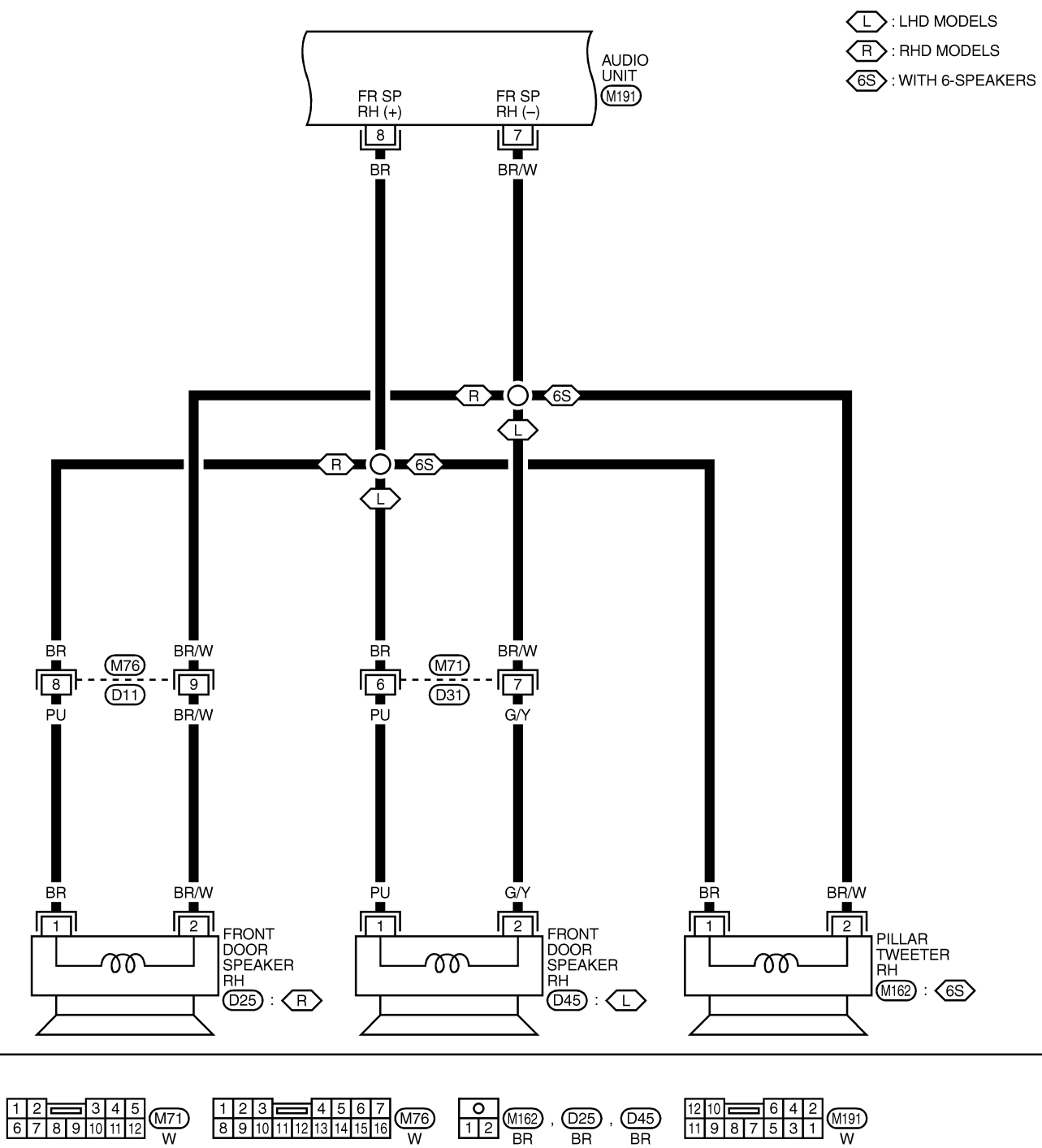
EL-AUDIO-11



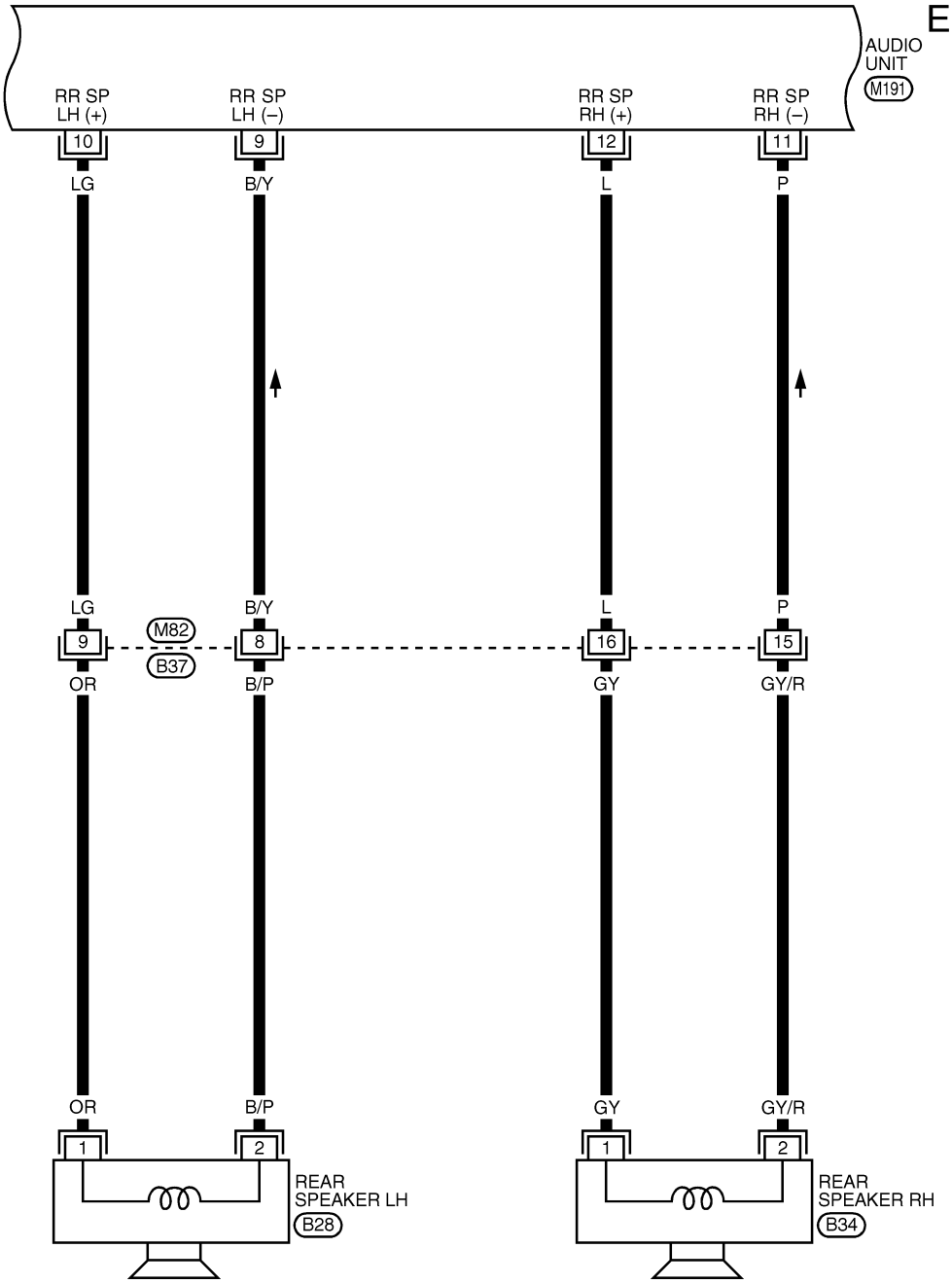



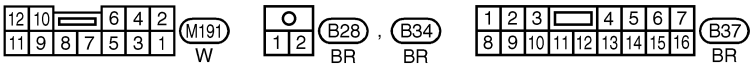

YEL731D

EL-AUDIO-12

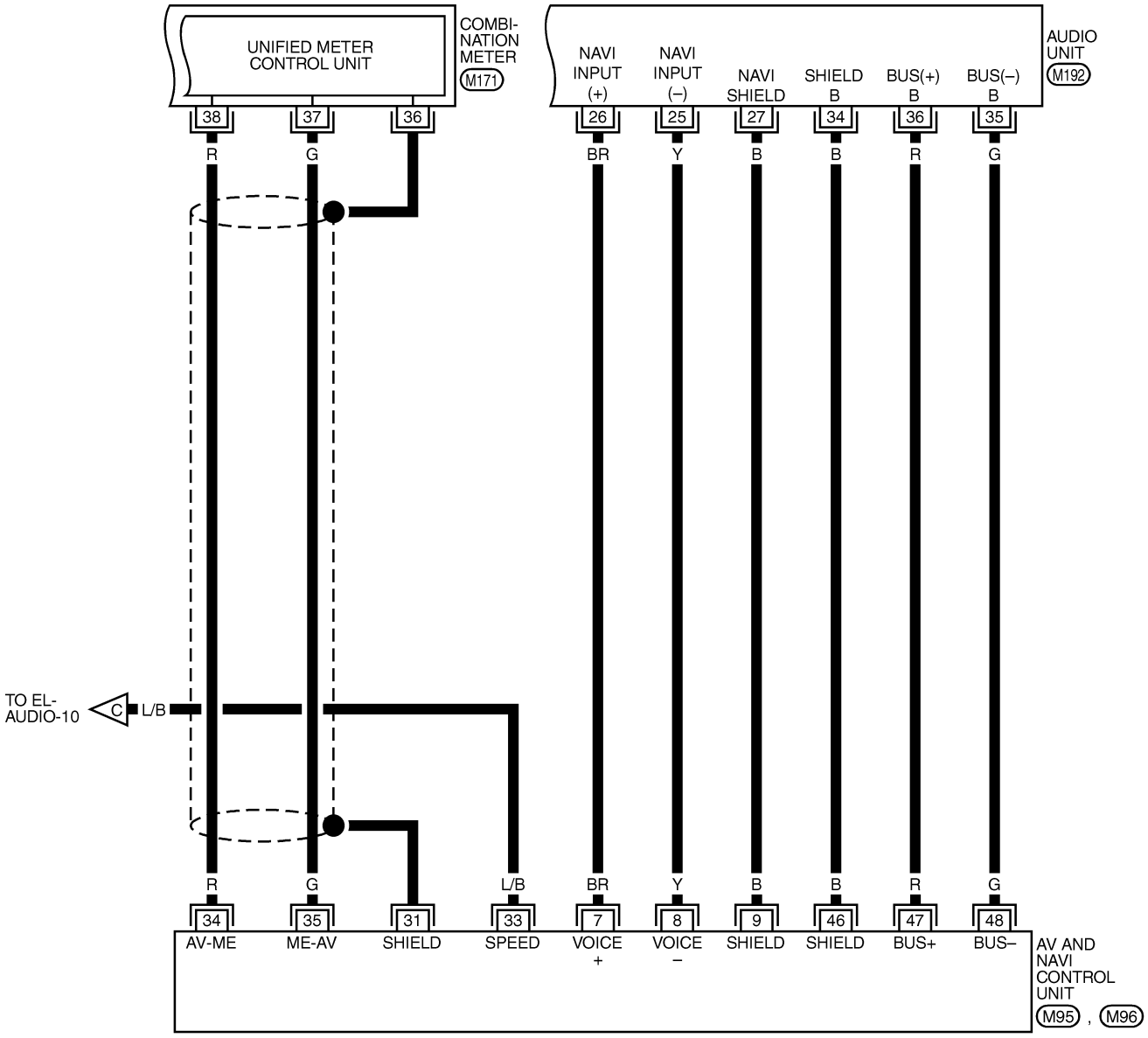



YEL732D

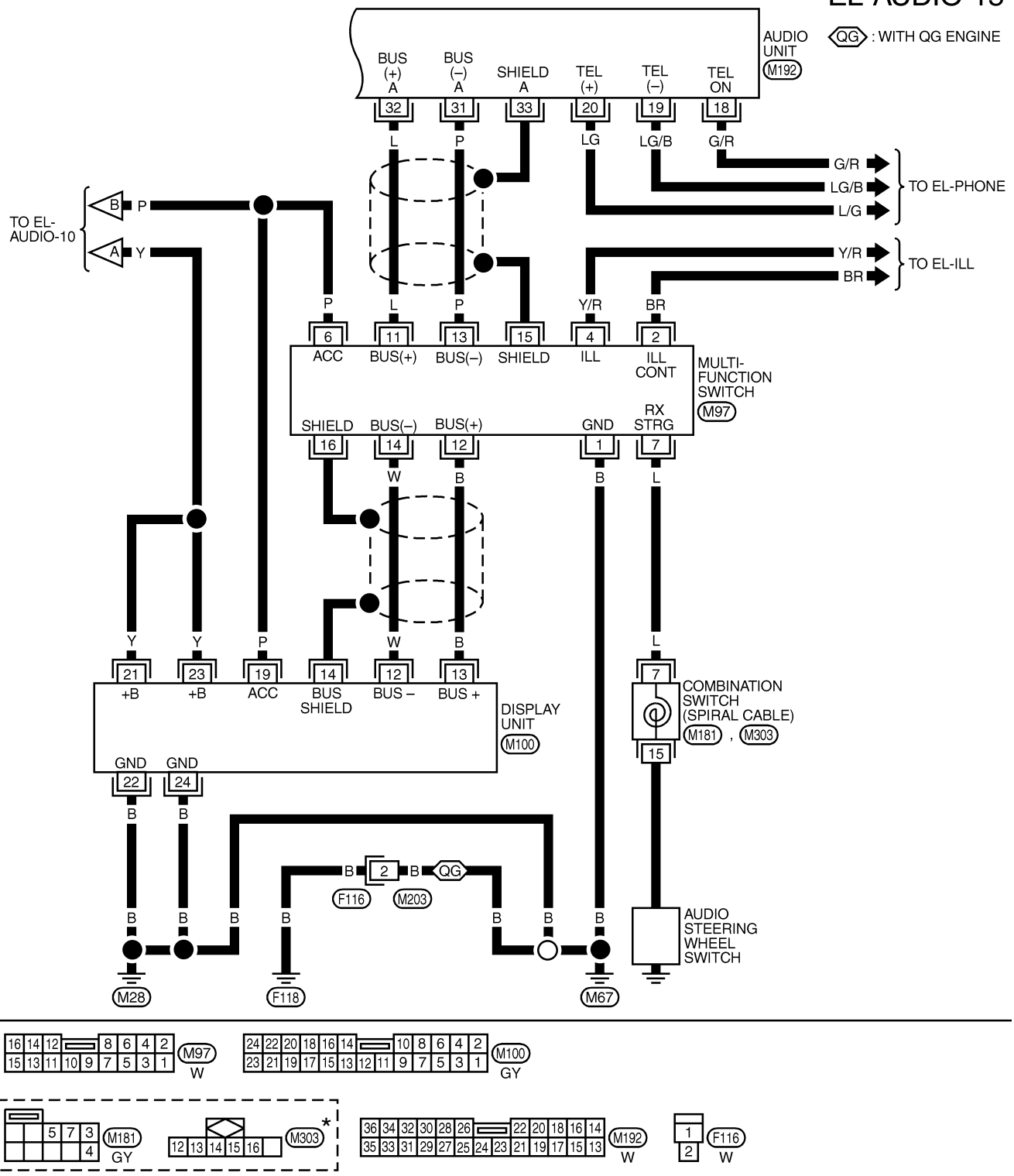

EL-AUDIO-13
AUDIO UNIT
M191
RR SP LH (+)
RR SP LH (–)
RR SP RH (+)
RR SP RH (–)
10
9
12
11
LG
B/Y
L
P
M82
B37
OR
B/P
GY
GY/R
1
2
REAR SPEAKER LH
B28
REAR SPEAKER RH
B34


M191
W
B28
BR
B34
BR
B37
BR

YEL733D


UNIFIED METER CONTROL UNIT
COMBI-NATION METER
M171
38
37
36
R
G
NAVI INPUT (+)
NAVI INPUT (–)
NAVI SHIELD
SHIELD B
BUS(+) B
BUS(–) B
AUDIO UNIT
M192
26
25
27
34
36
35
BR
Y
B
B
R
G
TO EL-AUDIO-10
C
L/B
34
35
31
33
7
8
9
46
47
48
AV-ME
ME-AV
SHIELD
SPEED
VOICE +
VOICE –
SHIELD
SHIELD
BUS+
BUS–
AV AND NAVI CONTROL UNIT
M95
M96
M95
W
M96
GY
M171
W
M192
W

EL-AUDIO-15







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

YEL735D

# Trouble Diagnoses

NJEL0385

## AUDIO UNIT

NJEL0385S05

| Symptom | Possible causes | Repair order |
|---|---|---|
| Audio unit inoperative (no digital display and no sound from speakers). | 1. 10A fuse<br>2. Poor audio unit case ground<br>3. Audio unit | 1. Check 10A fuse. Turn ignition switch ON and verify that battery positive voltage is present at the terminal of audio unit.<br>2. Check audio unit case ground.<br>3. Remove audio unit for repair. |
| Audio unit presets are lost when ignition switch is turned OFF. | 1. 15A fuse<br>2. Audio unit | 1. Check 15A fuse and verify that battery positive voltage is present at the terminal of audio unit.<br>2. Remove audio unit for repair. |
| Individual rear speaker is noisy or inoperative. | 1. Each speaker<br>2. Output circuit to each speaker | 1. Check speaker.<br>2. Check the output circuits to each speaker<br>● between audio unit and speaker amp.<br>● between speaker amp. and each speaker. |
| AM/FM stations are weak or noisy. | 1. Roof antenna<br>2. Audio unit ground<br>3. Audio unit | 1. Check roof antenna.<br>2. Check audio unit ground condition.<br>3. Remove audio unit for repair. |
| Audio unit generates noise in AM and FM modes with engine running. | 1. Poor audio unit ground<br>2. Loose or missing ground bonding straps<br>3. Ignition condenser or rear window defogger noise suppressor condenser<br>4. Ignition coil or secondary wiring<br>5. Audio unit | 1. Check audio unit ground.<br>2. Check ground bonding straps.<br>3. Replace ignition condenser or rear window defogger noise suppressor condenser.<br>4. Check ignition coil and secondary wiring.<br>5. Remove audio unit for repair. |
| Audio unit generates noise in AM and FM modes with accessories on (switch pops and motor noise). | 1. Poor audio unit ground<br>2. Antenna<br>3. Accessory ground<br>4. Faulty accessory | 1. Check audio unit ground.<br>2. Check antenna.<br>3. Check accessory ground.<br>4. Replace accessory. |

# Inspection

NJEL0221

## AUDIO UNIT

NJEL0221S01

All voltage inspections are made with:

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

## ANTENNA

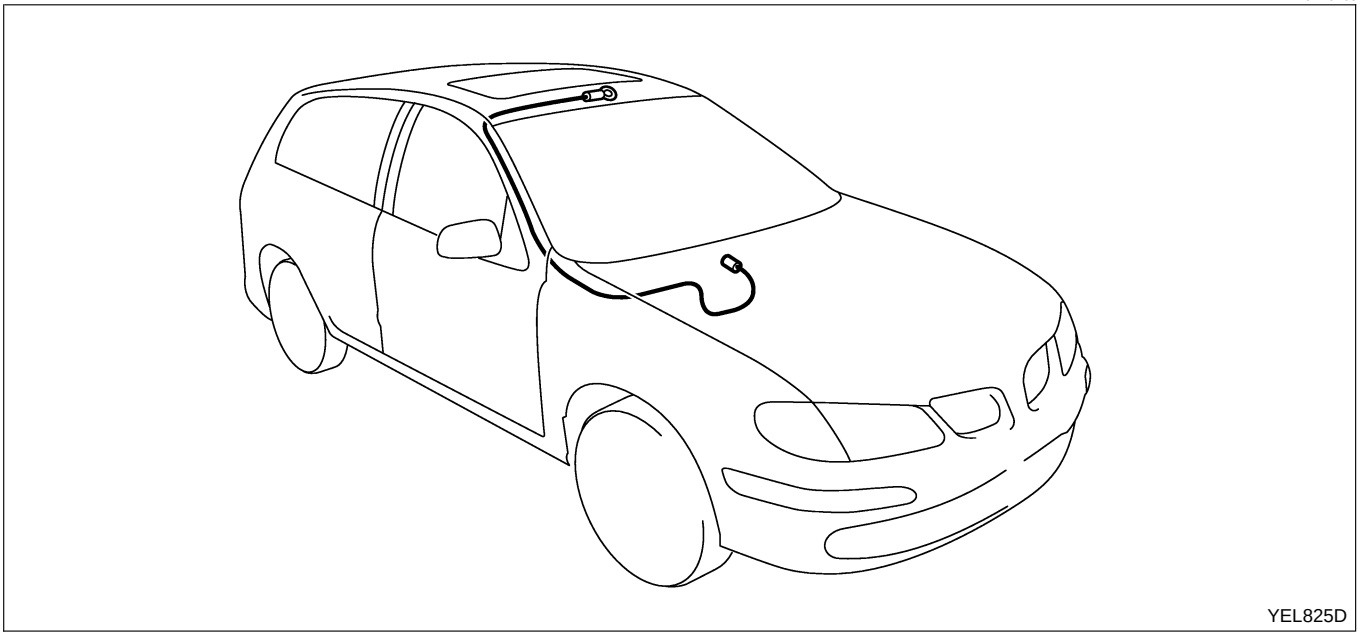
NJEL0221S02

Using a jumper wire, clip an auxiliary ground between antenna and body.

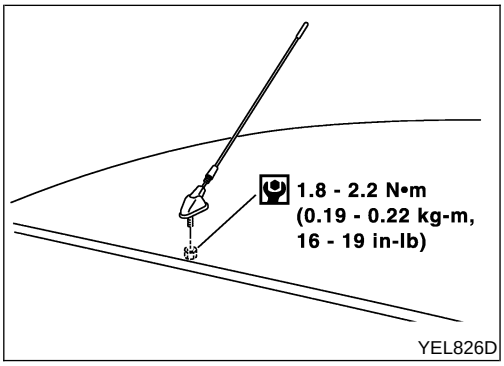
- If reception improves, check antenna ground (at body surface).
- If reception does not improve, check main feeder cable for short circuit or open circuit.

## Location of Antenna

NJEL0468



YEL825D




YEL826D

## Antenna Rod Replacement

NJEL0469

### REMOVAL

NJEL0469S01

1. Remove front portion of headliner.
2. Remove antenna base cover.
3. Remove antenna base fixing nut and antenna base.

# System Description

NJEL0555

## MULTIFUNCTION SWITCH SYSTEM

NJEL0555S01

Refer to Owner's Manual for multifunction switch operating instructions.

Using the multifunction switch at the center of the instrument panel, it can be operating the following systems:

- Auto A/C system
- Board computer
- Audio system

## POWER SUPPLY AND GROUND

NJEL0555S02

### Power is Supplied at All Times

NJEL0555S0201

- through 15A fuse (No. 40, located in fuse and fusible link box)
- to display unit terminal 23
- to audio unit terminals 3 and 4.

### When Ignition Switch is in ACC or ON Position, Power is Supplied

NJEL0555S0202

- through 10A fuse [No. 1, located in fuse block (J/B)]
- to display unit terminal 24,
- to multifunction switch terminal 6 and
- to audio unit terminal 2.

### When Ignition Switch is in ON or START Position, Power is Supplied

NJEL0555S0203

- through 10A fuse [No. 1, located in fuse block (J/B)]
- to display unit terminal 22.

### Ground is Supplied

NJEL0555S0204

- to multifunction switch terminal 1 and
- to display unit terminal 21
- through body grounds M28, M67 and F118 (Gasoline engine models).

## AV COMMUNICATION LINE

NJEL0555S03

Display unit is communicated by the following unit with communication line.

- Multifunction switch
- Audio unit
- Auto A/C unit
- Combination meter

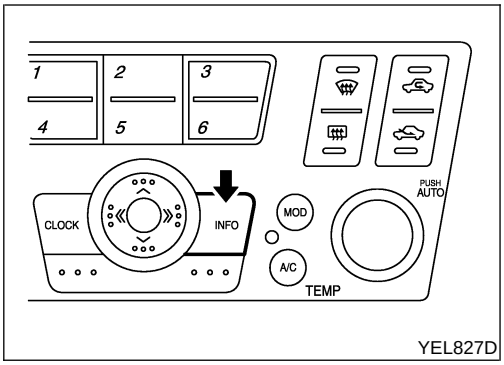
Display unit received operation signal from multifunction switch, and it send operation signal to audio unit, auto A/C unit or combination meter.

## BOARD COMPUTER

NJEL0555S04

Refer to Owner's Manual for board computer operating instructions.

Board computer is monitoring to the following five type information.




1. Press "INFO" switch to display vehicle information display.
2. Indication can be changed by in the following order by pushing multifunction switch.

- Range
- Journey distance
- Journey time
- Average fuel economy
- Average vehicle speed

| Board computer | Display |
|---|---|
| Range (km or MILES) | Displays range to empty with a range of 000.0 to 999.9. |
| Journey distance (km or MILES) | Displays journey distance with a range of 000.0 to 9999 |
| Journey time | Displays journey time with a range of 0000:00:00 to 9999:59:59. |
| Average fuel consumption (ℓ/100 km or MPG) | Displays fuel consumption with a range of 00.0 to 999. |
| Average vehicle speed (km/h or MPH) | Displays average vehicle speed with a range of 000 to 999. |

### Range

NJEL0555S0401

- The elapsed time indication provides driver with an estimation of the distance that can be driven before refuelling.The range is conducted by fuel tank level sensor unit (fuel remaining), ECM pulse signal (fuel consumption) and vehicle speed signal.
- Indication will be renewed every 30 seconds.
- When fuel remaining is less than approx. 7.8 ℓ (6-7/8 Imp qt), indication will blink as a warning. If the fuel remaining less than approx. 6.8 ℓ (6 Imp qt), "– –.–" will be indicated. In this case, the mode will change to the RANGE mode automatically even though the display is showing a different item. (See NOTE.)
- The range mode includes a low range warning feature: when the fuel level is low, the range mode is automatically selected and the digits blink in order to draw the driver's attention. Press the "INFO" switch if you wish to return to the mode that was selected before the warning occurred. The range mark will remain blinking until next refuelling. When the fuel level drops even lower, the range display will change to "– – – –".

### Journey Distance

NJEL0555S0402

- Journey distance indication is conducted by vehicle speed signal.
- If journey distance is reset, journey time will be reset at the same time.
- When pushing "INFO" switch more than approximately 1 second, driving distance will be reset.

### Journey Time

NJEL0555S0403

- Journey time indication is conducted by integration of ignition ON time.
- If journey time is reset, journey distance will be reset at the same time.

### Average Fuel Consumption

NJEL0555S0404

- Average fuel consumption indication is conducted by ECM pulse signal and vehicle speed signal after system is reset.
- Indication will be renewed every 30 seconds.

- When pushing "INFO" switch more than approximately 1 second, average fuel economy will be reset.
- If average fuel consumption is reset, average vehicle speed will be reset at the same time.
- After reset operation, the display shows "– –. –" until the vehicle is driven 500 m (1,600 ft) or 30 seconds has passed.

### Average Vehicle Speed

NJEL0555S0405

- Average vehicle speed indication is conducted by running distance and running time.
- Indication will be renewed every 30 seconds.
- When pushing "INFO" switch more than approximately 1 second, average speed will be reset.
- If average vehicle speed is reset, average fuel consumption will be reset at the same time.
- After reset operation, the displays shows "– –.–" for 30 seconds.

### HOW TO CHANGE/RESET INDICATION

NJEL0555S05

Indication can be changed by in following order by pushing "INFO" switch less than approximately 1 second.
RANGE → JOURNEY DISTANCE → JOURNEY TIME → AVERAGE FUEL CONSUMPTION → AVERAGE VEHICLE SPEED

- Continuous pushing the "INFO" switch (more than 3 second) can reset the indication of journey distance (trip), journey time (hour meter), average fuel consumption and average vehicle speed.

**NOTE:**
After the display changes automatically, the indication can be changed to the last mode by pushing the switch. In this case, the cursor will blink as a warning.

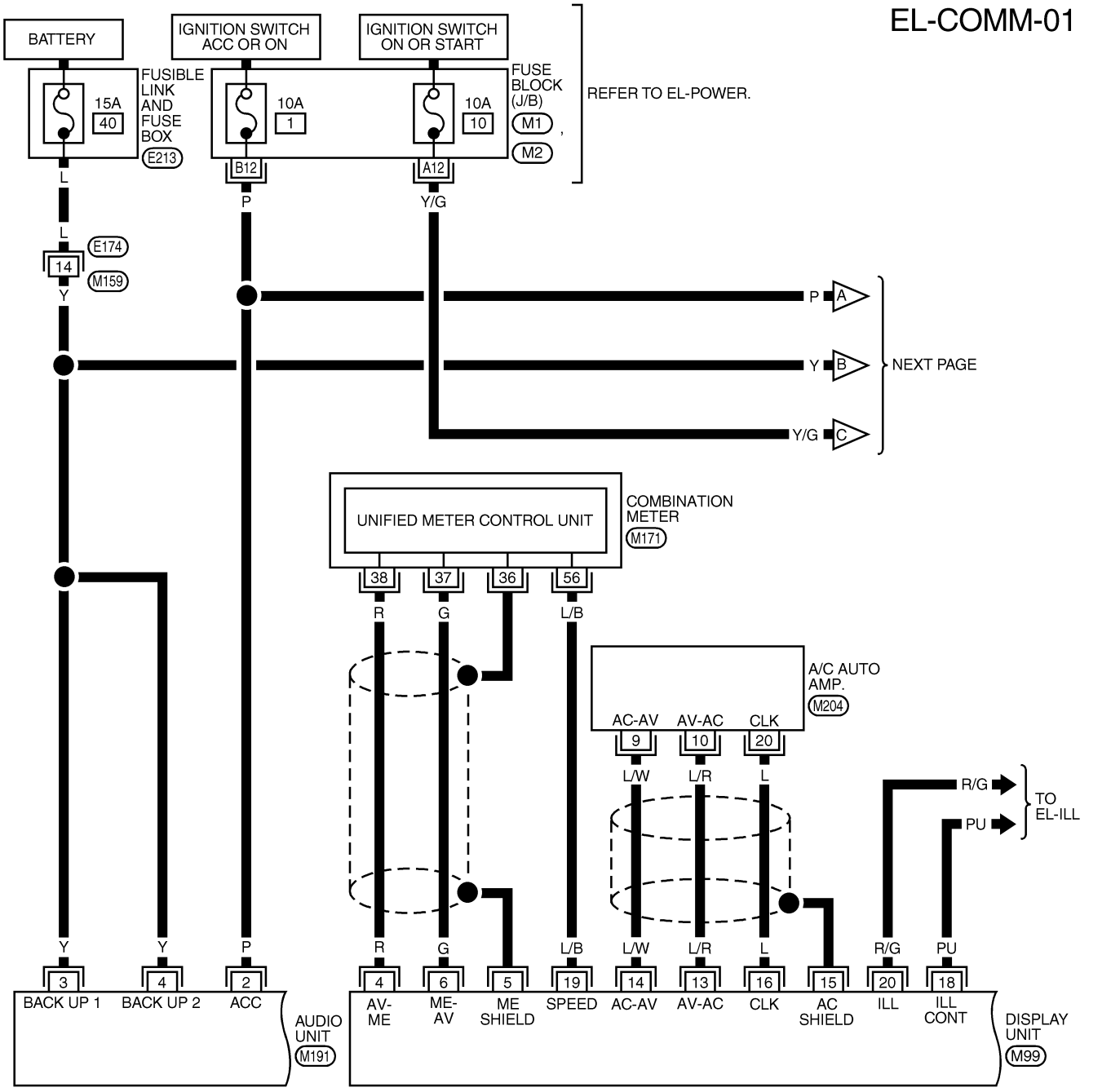
## Component Parts and Harness Connector and Harness Connector Location

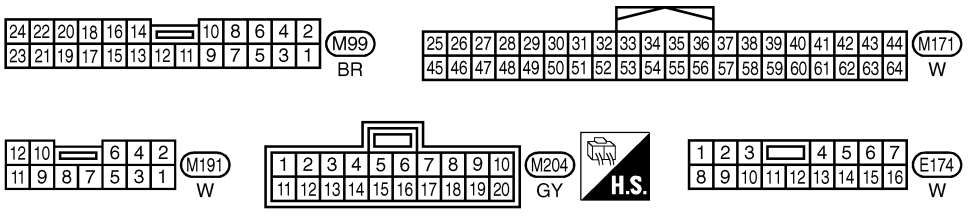
NJEL0556

For details, refer to "ELECTRICAL UNIT LOCATION" (EL-543) and "HARNESS LAYOUT" (EL-550).

## Wiring Diagram — COMM —

NJEL0557



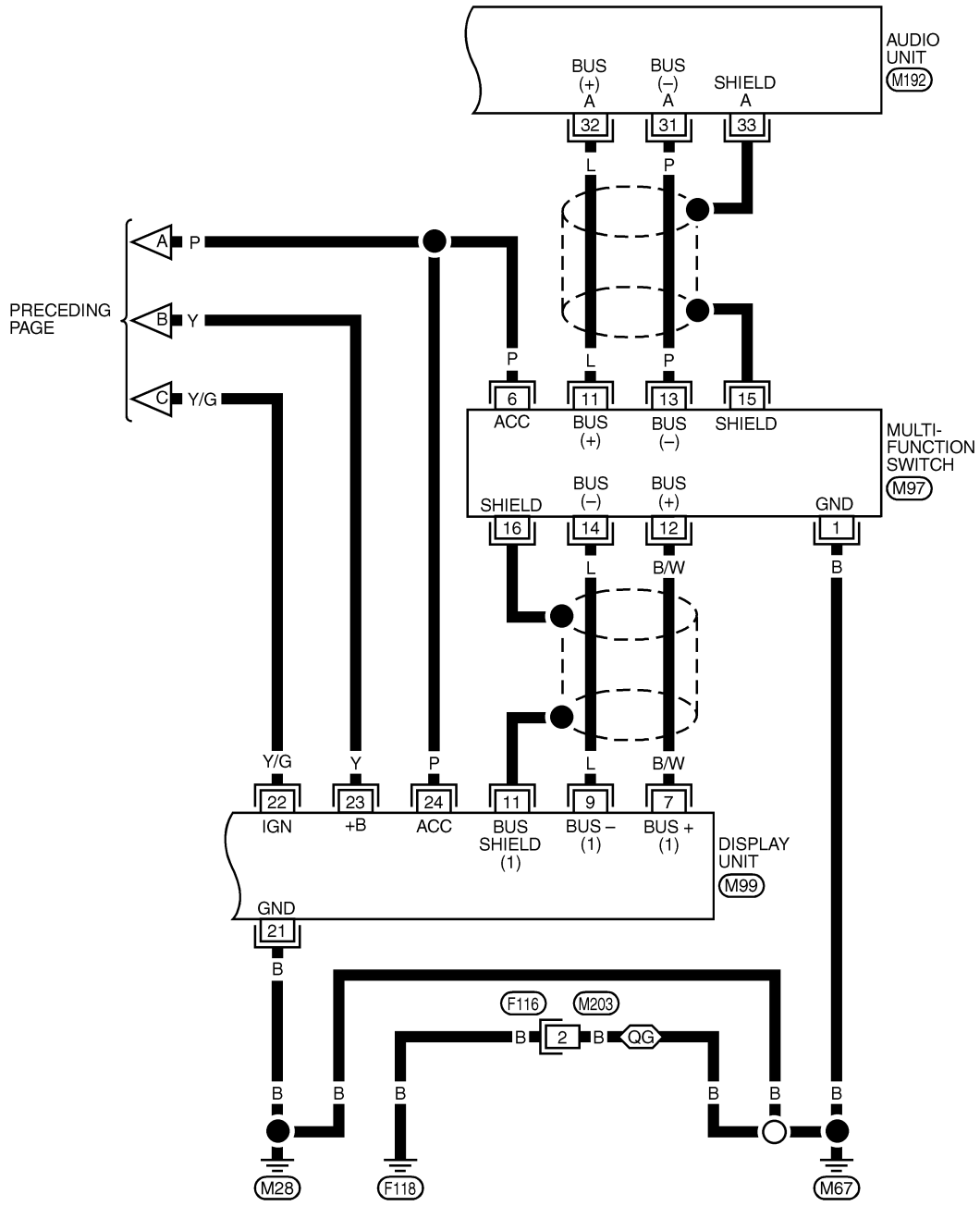



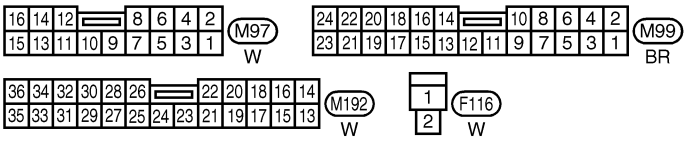

REFER TO THE FOLLOWING.
M1 , M2 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL736D

EL-COMM-02

QG : WITH QG ENGINE



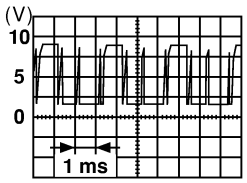
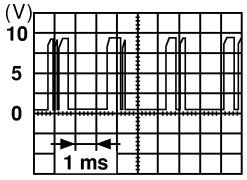
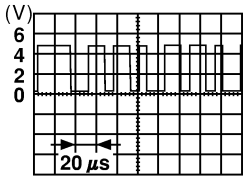
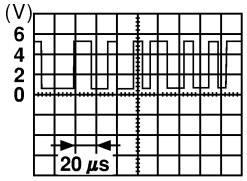
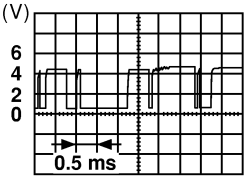
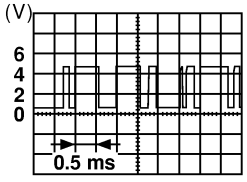



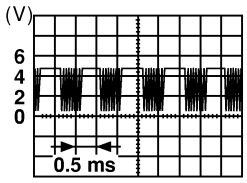
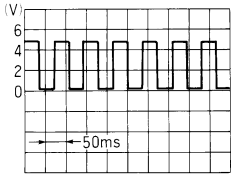

GI MA EM LC EC FE CL MT AT AX SU BR ST RS BT HA SC EL IDX

YEL737D

## Terminals and Reference Value for Display Unit

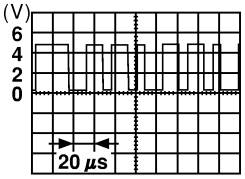
NJEL0558

| TERMINALS (+) TERMINAL | TERMINALS (+) WIRE COLOR | TERMINALS (–) | SIGNAL | CONDITION IGNITION SWITCH | CONDITION OPERATION | VOLTAGE |
|---|---|---|---|---|---|---|
| 4 | R | Ground | Communication signal (AV-ME) | ON | Display the vehicle information screen. |  SKIA0169E |
| 5 | — | — | Shield ground | — | — | — |
| 6 | G | Ground | Communication signal (ME-AV) | ON | Perform various settings on the vehicle information screen. |  SKIA0170E |
| 7 | B/W | Ground | Communication signal (+) | ON | — |  SKIA0175E |
| 9 | L | Ground | Communication signal (−) | ON | — |  SKIA0176E |
| 11 | – | Ground | Shield ground | — | — | — |
| 13 | L/R | Ground | A/C communication signal (AV-AC) | ON | — |  SKIA0172E |
| 14 | L/W | Ground | A/C communication signal (AC-AV) | ON | — |  SKIA0173E |

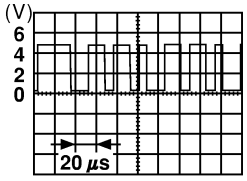
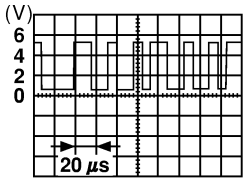
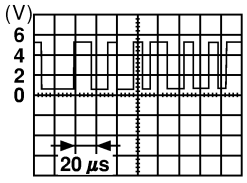
| TERMINALS (+) TERMINAL | TERMINALS (+) WIRE COLOR | TERMINALS (–) | SIGNAL | CONDITION IGNITION SWITCH | CONDITION OPERATION | VOLTAGE |
|---|---|---|---|---|---|---|
| 15 | — | — | Shield ground | — | — | — |
| 16 | L | Ground | A/C clock signal | ON | — |  SKIA0174E |
| 19 | L/B | Ground | Vehicle speed signal (2-pulse) | ON | When vehicle speed is approx. 20 km/h (12 MPH) |  ELF1080D |
| 21 | B | Ground | — | — | — | — |
| 22 | Y/G | Ground | Ignition signal | ON | — | — |
| 23 | Y | Ground | Battery power | OFF | — | Battery voltage |
| 24 | P | Ground | ACC signal | ACC | — | — |

## Terminals and Reference Value for Multifunction Switch

NJEL0559

| TERMINALS (+) TERMINAL | TERMINALS (+) WIRE COLOR | TERMINALS (–) | SIGNAL | CONDITION IGNITION SWITCH | CONDITION OPERATION | DATA |
|---|---|---|---|---|---|---|
| 1 | B | Ground | Ground | ON | — | Apporox. 0V |
| 6 | P | Ground | ACC | ACC | — | Battery voltage |
| 11 | L | Ground | Communication signal (+) | ON | — |  SKIA0175E |

*Terminals and Reference Value for Multifunction Switch (Cont'd)*

| TERMINALS | | | SIGNAL | CONDITION | | DATA |
|---|---|---|---|---|---|---|
| (+) | | (–) | | | | |
| TERMINAL | WIRE COLOR | | | IGNITION SWITCH | OPERATION | |
| 12 | B/W | Ground | Communication signal (+) | ON | — |  SKIA0175E |
| 13 | P | Ground | Communication signal (−) | ON | — |  SKIA0176E |
| 14 | L | Ground | Communication signal (−) | ON | — |  SKIA0176E |
| 15 | — | Ground | Shield ground | ON | — | — |
| 16 | — | Ground | Shield ground | ON | — | — |

# Trouble Diagnosis

NJEL0637

## SELF-DIAGNOSIS FUNCTION

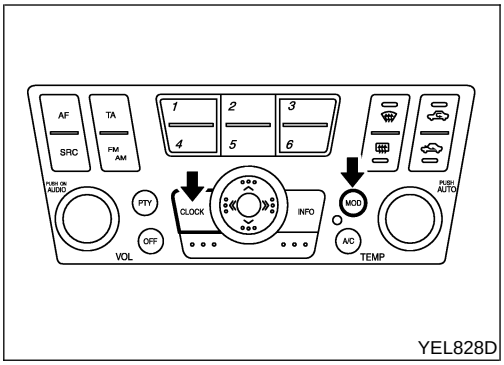
NJEL0637S01

### Description

NJEL0637S0101

Self-diagnosis items are as follows.

- Screen of all segments check
- Software version and hardware version of display unit are displayed on the upper zone of the screen. (This information is not used for service. Skip this step.)
- Dimming steps and levels check
- Can be checked communication line between A/C auto amp., audio unit, multifunction switch, combination meter and display unit, and displays the results on the upper zone of the screen.




YEL828D

## PERFORMING SELF-DIAGNOSIS MODE

NJEL0637S02

### Operation Procedures

NJEL0637S0201

1. Start the engine.
2. Turn the audio system off.
3. Pressing the "MOD" switch and "CLOCK" switch together for 2 second.
4. When self-diagnosis activated, then all segment will be indicated. For display unit self-diagnosis result items, refer to "SELF-DIAGNOSIS RESULT ITEM" below.

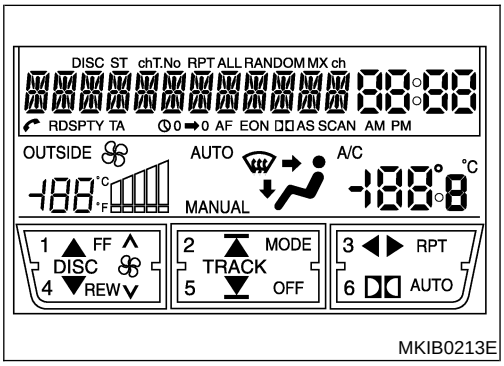
**NOTE:**
If any button is not pressed for 20 seconds at each step or if the ignition switch is turned OFF, the self-diagnosis mode is exited.

**CAUTION:**
**If self-diagnosis cannot activate, refer to EL-231, "Self-Diagnosis Does Not Perform".**

### Self-Diagnosis Result Item

NJEL0637S0202

**Display of All Segments Indicate**




MKIB0213E

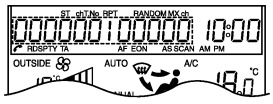
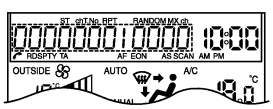
This mode is checking the display of all segments.
If any of the segment is not displayed, replace the display unit.

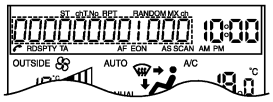
**Backlight Dimming Check**

- When lighting switch is first or second position, display is dimming. This mode is checking the dimmer position.
- The backlight check where there is an automatic change of brightness level (4 steps) every 2 seconds. At the end of the backlight check, it is necessary to press any button to advance to the next check.

**Communication Line Circuit Check**

- Displays the self-diagnosis results on the upper zone of the screen. If NG, error code "1" is displayed on upper zone of screen digits 7, 8 and 9.
- Display unit can check communication line open circuit between display unit and communication control units.

| Screen of upper zone | Possible case | Trouble diagnosis |
|---|---|---|
| Error code "1" is displayed on digit 7  MKIB0214E | The circuit between display unit and combination meter is open. | Refer to EL-228, "Combination meter Circuit Check. |
| Error code "1" is displayed on digit 8  MKIB0223E | The circuit between display unit, multifunction switch and audio unit is/are open. | Refer to EL-229, "AV Communication Line Check". |

| Screen of upper zone | Possible case | Trouble diagnosis |
|---|---|---|
| Error code "1" is displayed on digit 9<br>  <br><br>MKIB0224E | The circuit between display unit and A/C auto amp. is open. | Refer to EL-231, "A/C Auto Amp. Circuit Check" . |

## POWER SUPPLY AND GROUND CIRCUIT CHECK FOR DISPLAY UNIT

*NJEL0637S03*

**1 CHECK FUSE**

Check that the following fuses in display are blown.

| Unit | Power source | Fuse No. |
|---|---|---|
| Display | Battery power | 33 |
| | Ignition switch ACC or ON | 1 |

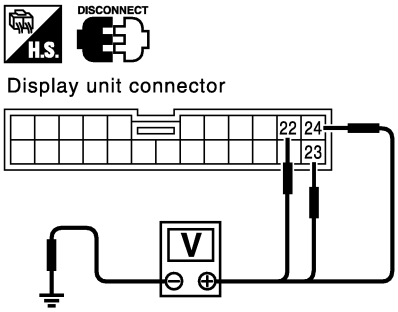
MTBL1461

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | If fuse is blown, be sure to eliminate cause of problem before installing new fuse. Refer to EL-12, "POWER SUPPLY ROUTING". |

| 2 | POWER SUPPLY CIRCUIT CHECK |
|---|---|

1. Disconnect display connector.




MKIB0215E

2. Check voltage between display unit connector and ground.

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (—) | | | |
| Connector | Terminal (wire color) | | OFF | ACC | ON |
| M99 | 23 (Y) | Ground | Battery voltage | Battery voltage | Battery voltage |
| | 24 (P) | Ground | 0 V | Battery voltage | Battery voltage |
| | 22 (Y/G) | Ground | 0 V | 0 V | Battery voltage |

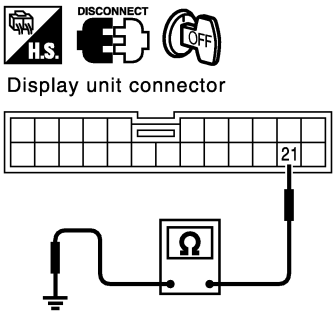
MTBL1462

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Check harness for open or short between display and fuse. |

| 3 | GROUND CIRCUIT CHECK |
|---|---|

Check continuity between display unit harness connector M99 terminal 21 (B) and ground.




MKIB0216E

**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | INSPECTION END. |
| NG | ▶ | Check ground harness. |

## POWER SUPPLY AND GROUND CIRCUIT CHECK FOR MULTIFUNCTION SWITCH

NJEL0637S04

**1 CHECK FUSES**

Check the fuse below.

| Unit | Power source | Fuse No. |
|---|---|---|
| Multifunction switch | Ignition switch ACC or ON | 1 |

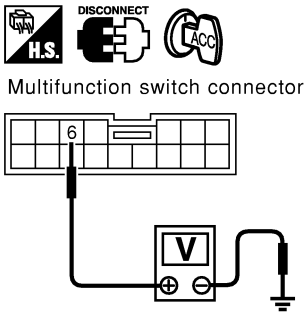
MTBL1463

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | If fuse is blown, be sure to eliminate cause of problem before installing new fuse. Refer to EL-12, "POWER SUPPLY ROUTING". |

**2 POWER SUPPLY CIRCUIT CHECK**

1. Disconnect multifunction switch connector.




MKIB0103E

2. Check voltage between multifunction switch and ground.

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (—) | OFF | ACC | ON |
| Connector | Terminal (wire color) | | | | |
| M97 | 6 (P) | Ground | 0 V | Battery voltage | Battery voltage |

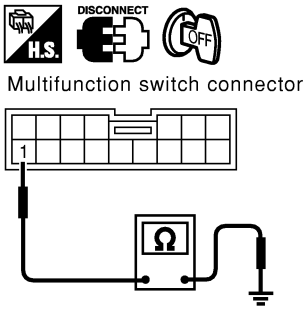
MTBL1464

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Check harness for open or short between multifunction switch and fuse. |

| 3 | GROUND CIRCUIT CHECK |
|---|---|

Check continuity between multifunction switch harness connector M97 terminal 1 (B) and ground.




MKIB0104E

**Continuity should exist.**

**OK or NG**

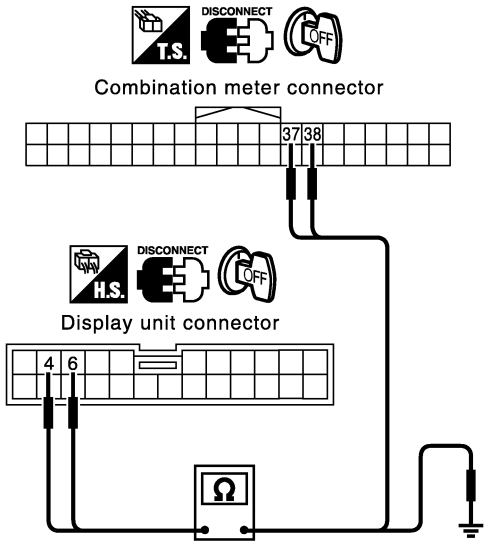
| | | |
|---|---|---|
| OK | ▶ | INSPECTION END. |
| NG | ▶ | Check ground harness. |

## COMBINATION METER CIRCUIT CHECK

NJEL0637S05

**1 COMMUNICATION LINE (MA-AV, AV-ME) CIRCUIT CHECK**

1. Disconnect the display unit connector and combination meter connector.




YEL829D

2. Check continuity between display unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| Connector | Terminal (wire color) | Terminal | |
| M99 | 4 (R) | Ground | No |
| | 6 (G) | | |

MTBL1465

3. Check continuity between display unit and combination meter.

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Display unit | | Combination meter | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M99 | 4 (R) | M171 | 38 (R) | Yes |
| | 6 (G) | | 37 (G) | |

MTBL1466

**OK or NG**

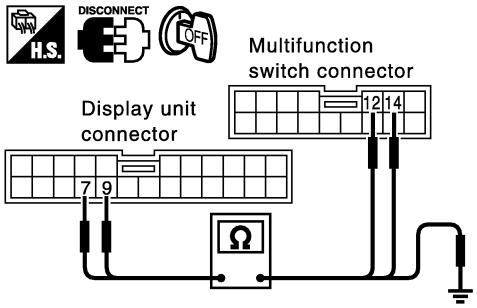
| | | |
|---|---|---|
| OK | ▶ | Check combination meter. |
| NG | ▶ | Replace harness or connector. |

## AV COMMUNICATION LINE CHECK

NJEL0637S06

**1 MULTIFUNCTION SWITCH CIRCUIT CHECK**

1. Turn ignition switch OFF.




MKIB0219E

2. Disconnect display unit connector and multifunction switch connector.
3. Check continuity between display unit and multifunction switch.

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M99 | 7 (B/W) | M97 | 12 (B/W) | Yes |
| | 9 (L) | | 14 (L) | |

MTBL1467

4. Check continuity between display unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| Connector | Terminal (wire color) | Terminal | |
| M99 | 7 (B/W) | Ground | No |
| | 9 (L) | | |

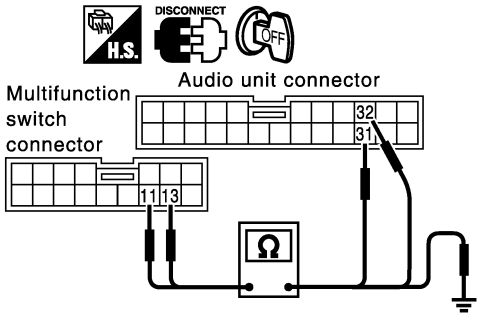
MTBL1468

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace harness or connector. |

**2 AUDIO UNIT CIRCUIT CHECK**

1. Turn ignition switch OFF.




YEL830D

2. Disconnect audio unit connector.
3. Check continuity between multifunction switch and audio unit.

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Multifunction switch | | Audio unit | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M99 | 11 (L) | M192 | 32 (L) | Yes |
| | 13 (P) | | 31 (P) | |

MTBL1469

4. Check continuity between multifunction switch and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| Connector | Terminal (wire color) | Terminal | |
| M49 | 11 (L) | Ground | No |
| | 13 (P) | | |

MTBL1470

**OK or NG**

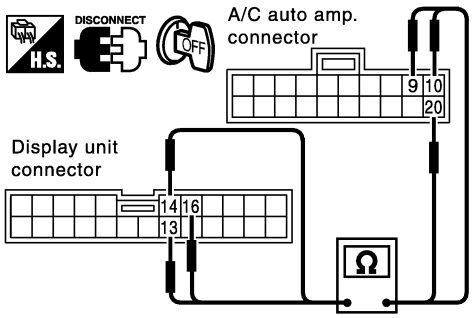
| | | |
|---|---|---|
| OK | ▶ | Replace display unit. |
| NG | ▶ | Replace harness or connector. |

## A/C AUTO AMP. CIRCUIT CHECK

NJEL0637S07

| 1 | A/C AUTO AMP. AND DISPLAY UNIT CIRCUIT CHECK |
|---|---|

1. Turn ignition switch OFF.
2. Disconnect A/C auto amp. connector and display unit connector.
3. Check continuity between display unit and A/C auto amp.




MKIB0220E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Display unit (+) | | A/C auto amp. (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M99 | 13 (L/R) | M205 | 10 (L/R) | Yes |
| | 14 (L/W) | | 9 (L/W) | |
| | 16 (L) | | 20 (L) | |

MTBL1471

4. Check continuity between display unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| Connector | Terminal (wire color) | (—) | |
| M99 | 13 (L/R) | Ground | No |
| | 14 (L/W) | | |
| | 16 (L) | | |

MTBL1472

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check A/C auto amp. Refer to ATC-29, "TROUBLE DIAGNOSIS". |
| NG | ▶ | Replace harness or connector. |

## SELF-DIAGNOSIS DOES NOT PERFORM

NJEL0637S08

| 1 | MULTIFUNCTION SWITCH CHECK |
|---|---|
| Check multifunction switch power and ground circuit. Refer to EL-226, "Power Supply and Ground Circuit Check for Multi-function Switch". | |
| ▶ | GO TO 2. |

| 2 | DISPLAY UNIT CHECK |
|---|---|
| Check display unit power and ground circuit. Refer to EL-224, "Power Supply and Ground Circuit Check for Display Unit". | |
| ▶ | GO TO 3. |

| 3 | SELF-DIAGNOSIS CHECK |
|---|---|

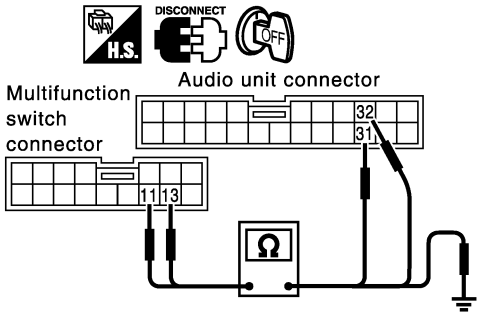
1. Disconnect audio unit connector M53.
2. Perform self-diagnosis mode. Refer to EL-223, "Performing Self-Diagnosis Mode".

**Does Self-diagnosis activated?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 4. |
| No | ▶ | AV communication line check. Refer to EL-229, "AV Communication Line Check". |

| 4 | MULTIFUNCTION SWITCH CIRCUIT CHECK |
|---|---|

1. Disconnect multifunction switch connector.




YEL830D

2. Check continuity between multifunction switch and audio unit.

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Multifunction switch | | Audio unit | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M97 | 11 (L) | M192 | 32 (L) | Yes |
| | 13 (P) | | 31 (P) | |

MTBL1473

3. Check continuity between multifunction switch and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| Connector | Terminal (wire color) | Terminal | |
| M97 | 11 (L) | Ground | No |
| | 13 (P) | | |

MTBL1474

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace display unit. |
| NG | ▶ | Replace harness or connector. |

## AIR CONDITIONING CONTROLS (ONLY) ARE INEFFECTIVE (REAR DEFOGGER CONTROL EXCLUDED)

=NJEL0637S09

| 1 | DISPLAY SELF-DIAGNOSIS |
|---|---|

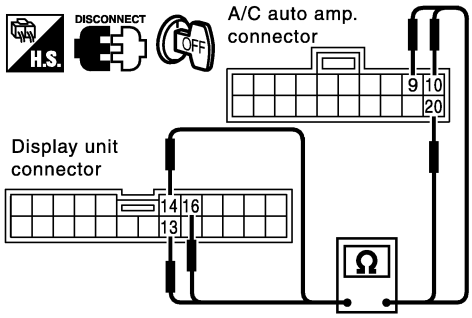
1. Perform self-diagnosis display unit. Refer to EL-223, "Performing Self-Diagnosis Mode".
2. All VFD display segments are ON.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace display unit. |

| 2 | A/C AUTO AMP. AND DISPLAY UNIT CIRCUIT CHECK |
|---|---|

1. Turn the ignition switch OFF.
2. Disconnect A/C auto amp. connector and display unit connector.
3. Check continuity between display unit and A/C auto amp.




MKIB0220E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Display unit (+) | | A/C auto amp. (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M99 | 13 (L/R) | M204 | 10 (L/R) | Yes |
| | 14 (L/W) | | 9 (L/W) | |
| | 16 (L) | | 20 (L) | |

MTBL1475

4. Check continuity between display unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| Connector | Terminal (wire color) | (—) | |
| M99 | 13 (L/R) | Ground | No |
| | 14 (L/W) | | |
| | 16 (L) | | |

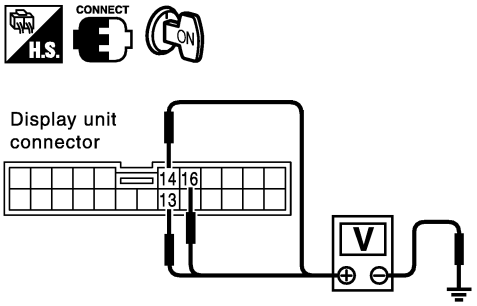
MTBL1476

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace harness or connector. |

| 3 | A/C–AV, AV–AC, AC–CLK COMMUNICATION SIGNAL CHECK |
|---|---|

1. Connect A/C auto amp. connector.
2. Turn the ignition switch ON.
3. Check voltage between display unit and ground.




MKIB0222E

| Terminals | | | Voltage [V] |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M99 | 13 (L/R) | Ground | Approx. 3.5 or more |
| | 14 (L/W) | | |
| | 16 (L) | | |

MTBL1477

**OK or NG**

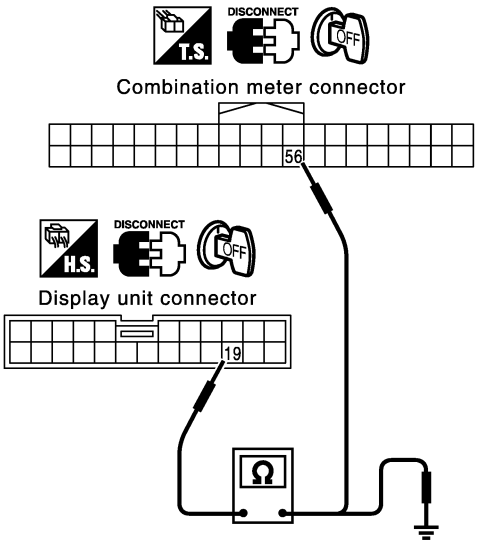
| | | |
|---|---|---|
| OK | ▶ | Replace display unit. |
| NG | ▶ | Replace A/C auto amp. |

## NO AVERAGE SPEED DISPLAYED/LHD MODELS

=NJEL0637S10

| 1 | DISPLAY SELF-DIAGNOSIS | |
|---|---|---|
| 1. Perform self-diagnosis display unit. Refer to EL-223, "Performing Self-Diagnosis Mode".<br>2. All VFD display segments are ON. | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace display unit. |

| 2 | HARNESS CHECK | |
|---|---|---|
| 1. Disconnect display unit connector and combination meter.<br>2. Check the following. | | |




YEL831D

– Continuity between display unit connector M99 terminal 19 (L/B) and combination meter connector M171 terminal 56 (L/B).
  **Continuity should exist.**
– Continuity between display unit connector M99 terminal 19 (L/B) and ground.
  **Continuity should not exist.**

**OK or NG**

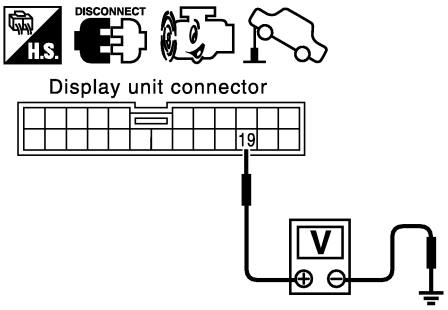
| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace harness or connector. |

| 3 | VEHICLE SPEED SIGNAL CHECK |
|---|---|

Connect combination meter connector and display unit connector.

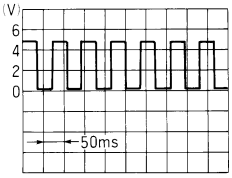
**With CONSULT-II**

1. Lift up drive wheels.




MKIB0058E

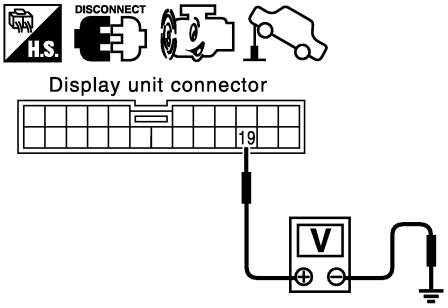
2. Start engine and drive vehicle at more than 20 km/h (12 MPH).
3. Check signal between display unit connector M99 terminal 19 (L/B) and ground when rotating wheels with engine at idle. (Use "SIMPLE OSCILLOSCOPE" in "SUB MODE" with CONSULT-II.)




ELF1080D

**Without CONSULT-II**

1. Lift up drive wheels.




MKIB0058E

2. Start engine and drive vehicle at more than 20 km/h (12 MPH).
3. Check voltage between display unit connector M99 terminal 19 (L/B) and ground when rotating wheels with engine at idle.

**Voltage: Approximately 0 - 5V**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace display unit. |
| NG | ▶ | Check combination meter system. Refer to EL-117, "Combination Meter Self-Diagnosis". |

## NO FUEL INFORMATION IS DISPLAYED

NJEL0637S11

| 1 | DISPLAY SELF-DIAGNOSIS |
|---|---|

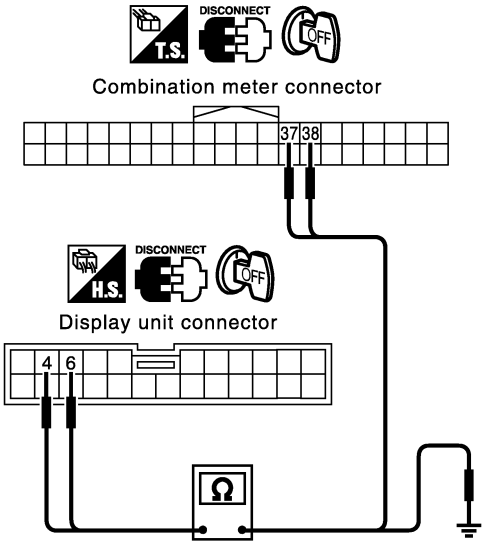
1. Perform self-diagnosis display unit. Refer to EL-223, "Performing Self-Diagnosis Mode".
2. All VFD display segments are ON.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace display unit. |

**2** **COMMUNICATION LINE (MA-AV, AV-ME) CIRCUIT CHECK**

1. Disconnect the display unit connector and combination meter connector.




YEL829D

2. Check continuity between display unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| Connector | Terminal (wire color) | Terminal | |
| M99 | 4 (R) | Ground | No |
| | 6 (G) | | |

MTBL1478

3. Check continuity between display unit and combination meter.

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Display unit | | Combination meter | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M99 | 4 (R) | M171 | 38 (R) | Yes |
| | 6 (G) | | 37 (G) | |

MTBL1479

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check combination meter. |
| NG | ▶ | Replace harness or connector. |

# System Description

NJEL0571

## MULTIFUNCTION SWITCH SYSTEM

NJEL0571S01

Refer to Owner's Manual for multifunction switch operating instructions.

Using the multifunction switch at the center of the instrument panel, the controls of the following systems are centralized:

- Auto A/C system
- Vehicle information system
- Audio system
- Navigation system

## PRECAUTION OF LCD MONITOR

NJEL0571S02

- When passenger compartment temperature is low, the LCD monitor sometimes dims because of the brightness of the back light (small fluorescent light) integrated into the LCD monitor decrease. In this case, the refreshing rate of the picture also becomes low because of the low response of the LCD monitor. When passenger compartment becomes warm, however, the LCD recovers the normal display.
- Sometimes, black or bright dots peculiar to LCD monitor can be seen on the display.
- Back light sometimes flickers or darkens according to the total consumption hours and the number of ON and OFF switching. In this case, the back light should be replaced (display unit assembly).

## POWER SUPPLY AND GROUND

NJEL0571S03

### Power is Supplied at All Times

NJEL0571S0301

- through 15A fuse (No. 40, located in fuse and fusible link box)
- to display unit terminals 21 and 23
- to audio unit terminals 3 and 4.

### When Ignition Switch is in ACC or ON Position, Power is Supplied

NJEL0571S0302

- through 10A fuse [No. 1, located in fuse block (J/B)]
- to display unit terminal 19,
- to multifunction switch terminal 6 and
- to audio unit terminal 2.

### When Ignition Switch is in ON or START Position, Power is Supplied

NJEL0571S0303

- through 10A fuse [No. 10, located in fuse block (J/B)]
- to display unit terminal 27.

### Ground is Supplied

NJEL0571S0304

- to multifunction switch terminal 1 and
- to display unit terminals 22 and 24
- through body grounds M28, M67 and F118 (QG engine models).

## AV COMMUNICATION LINE

NJEL0571S04

Display unit is controlled by the following unit with AV communication line.

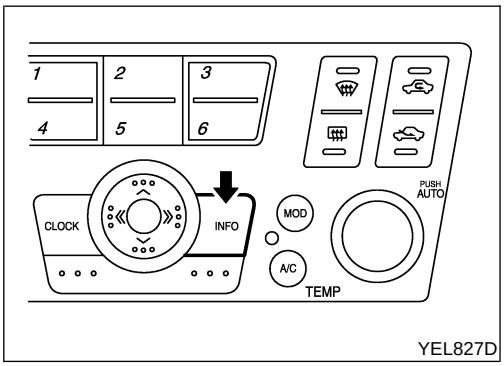
- Multifunction switch
- Audio unit
- AV and NAVI control unit

## VEHICLE INFORMATION SYSTEM

NJEL0571S05

Refer to Owner's Manual for vehicle information system operating instructions.

Vehicle information system is monitoring to drive information, fuel economy information and maintenance information.

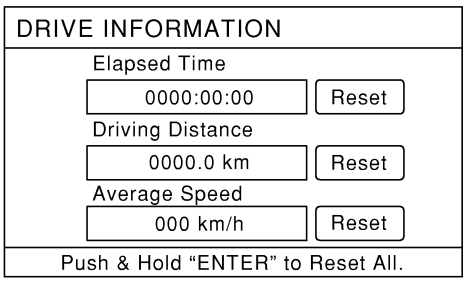



YEL827D

1. Press "INFO" switch to display vehicle information display.
2. Select "Drive", "Fuel Economy" or "Maintenance".

| Display items | | Display/Setting contents |
|---|---|---|
| Drive | Elapsed Time | Displays driving time with a range of 0000:00:00 to 9999:59:59. |
| | Driving Distance (km) | Displays driving distance with a range of 00000.0 to 99999.9. |
| | Average speed (km/h) | Displays average speed with a range of 000.0 to 999.9. |
| Fuel Economy | Average Fuel Economy (ℓ/100 km) | Displays fuel economy with ignition switch ON, average fuel economy each 30 minutes. |
| | Distance to Empty (km) | Displays possible driving distance with remaining fuel. |
| | Fuel Economy (ℓ/100 km) | Displays fuel economy each approx. 100 ms. |
| | Fuel Economy Record (ℓ/100 km) | Displays Average Fuel Consumption History. |
| Maintenance (with Maintenance information*) | Engine oil | Maintenance intervals of engine oil and setting of oil change cycle |
| | Oil Filter | Maintenance intervals of oil filter and setting of filter replacement cycle |
| | Custom 1 | Determines when maintenance intervals are needed. |
| | Custom 2 | Determines when maintenance intervals are needed. |

*: Maintenance information displays the change cycle of engine oil, oil filter, custom 1 and custom 2 on LCD monitor depending on the driving distance specified by a driver or a technician.

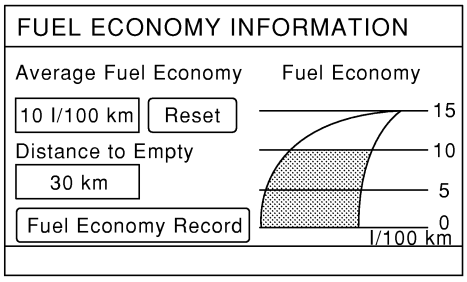



MKIB0144E

## Drive Information

NJEL0571S0501

1. Select "Drive".
2. Elapsed time, driving distance and average speed are displayed as drive information. When pushing "ENTER", elapsed time, driving distance and average speed are all reset.

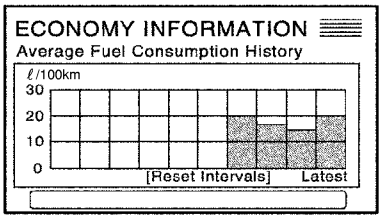



MKIB0145E

## Fuel Economy Information

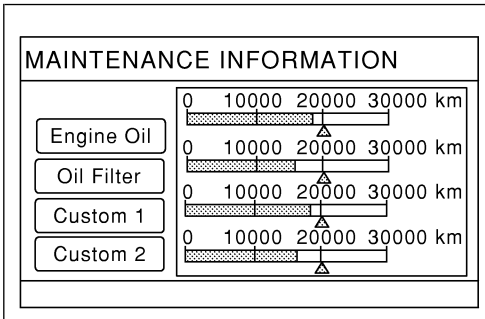
NJEL0571S0502

1. Select "Fuel Economy".
2. Average Fuel Economy, Distance to Empty, Fuel Economy are displayed as Fuel Economy information.




SKIA0772E

3. Select "Fuel Economy Record". The average fuel consumption history will be displayed in graph along with the average for the previous Reset – to – Reset period.




MKIB0146E

## Maintenance Information

NJEL0571S0503

1. Select "Maintenance".
2. Engine Oil, Oil Filter, Custom 1 and Custom 2 are displayed as maintenance information.

## WARNING INDICATIONS

NJEL0571S06

When combination meter receives warning signal from some control units or sensors, then combination meter warning lamp is illuminated.
Then combination meter sends warning signal to display unit warning indications on the screen.

| Warning indicators | Warning lamps in instrument panel | Warning detection and cancel conditions | | Cases of malfunction |
|---|---|---|---|---|
| ENGINE | ENGINE | Detection condition | Warning lamp ON signal is detected while engine is running. | ECM malfunction |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| ENGINE OIL PRESSURE | Engine oil pressure | Detection condition | Warning lamp ON signal is detected for at least approx. 5 seconds while engine is running. | Engine oil pressure decreases. |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| AIR BAG | Air bag | Detection condition | Warning lamp ON signal is detected for at least approx. 10 seconds after ignition switch is turned ON. | SRS air bag system malfunction |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| LOW BRAKE FLUID | Brake | Detection condition | Warning lamp ON signal (fluid level) is detected. | Low brake fluid level |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| OVERHEATING | – | Detection condition | Engine coolant temperature as being approx. 119°C (246°F) min. | Engine cooling system malfunction |
| | | Cancel condition | Engine coolant temperature as being approx. 105°C (221°F) max. | |
| CHARGE | Charge | Detection condition | Warning lamp ON signal is detected while engine is running. Charging system malfunction | Charging system malfunction |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| LOW WASHER FLUID | – | Detection condition | Washer liquid level falls below approx. 0.8 ℓ (1-3/8 Imp pt) | Low washer liquid level |
| | | Cancel condition | Except above condition. | |
| LOW FUEL | Fuel level | Detection condition | After warning lamp ON signal is detected, vehicle is driven for over specified distance. [Fuel level: Approx. 9.6 ℓ (8-1/2 Imp pt)] | Low fuel level |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| PARKING BRAKE | Brake | Detection condition | Parking brake ON signal is detected while vehicle is running [approx. 5 km/h (3 MPH) or faster]. | Parking brake remains engaged. |
| | | Cancel condition | Vehicle is stopped, or parking brake OFF signal is detected. | |

| Warning indicators | Warning lamps in instrument panel | Warning detection and cancel conditions | | Cases of malfunction |
|---|---|---|---|---|
| DOOR OPEN | Door | Detection condition | Vehicle is running [approx. 5 km/h (3 MPH) or faster] and door ajar of any of the doors is detected. | Door is open |
| | | Cancel condition | Vehicle is stopped and all the doors lock. | |
| ABS | ABS | Detection condition | Warning lamp ON signal is detected when engine is running. | ABS control system malfunction |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| ESP ELECTRONIC CONTROL SYSTEM | ESP | Detection condition | Warning lamp ON signal is detected when engine is running. | ESP system malfunction |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| CVT ELECTRONIC CONTROL SYSTEM | CVT | Detection condition | Warning lamp ON signal is detected after ignition switch is turned ON. | TCM system malfunction |
| | | Cancel condition | Warning lamp OFF signal is detected. | |
| CRUISE CONTROL SYSTEM | CRUISE | Detection condition | Warning lamp ON signal is detected after ignition switch is turned ON. | ICC system malfunction |
| | | Cancel condition | Warning lamp OFF signal is detected. | |

## Precautions for Display Unit Replacement

NJEL0572

- Record the following memorized contents before replacing the control unit.

**<FM·AM>**

- **Preset frequency**
- **Area for indicating station, selection of overlapped stations**

**<CD>**

- **Program status**

**<Sound quality>**

- **Volume balance memory set values**
- **Equalizer memory set values**

**<Image quality>**

- **Brightness of light when ON/OFF**
- **Dimming switching**
- **Display color switching**
- Replace the display unit after disconnecting both battery cables.

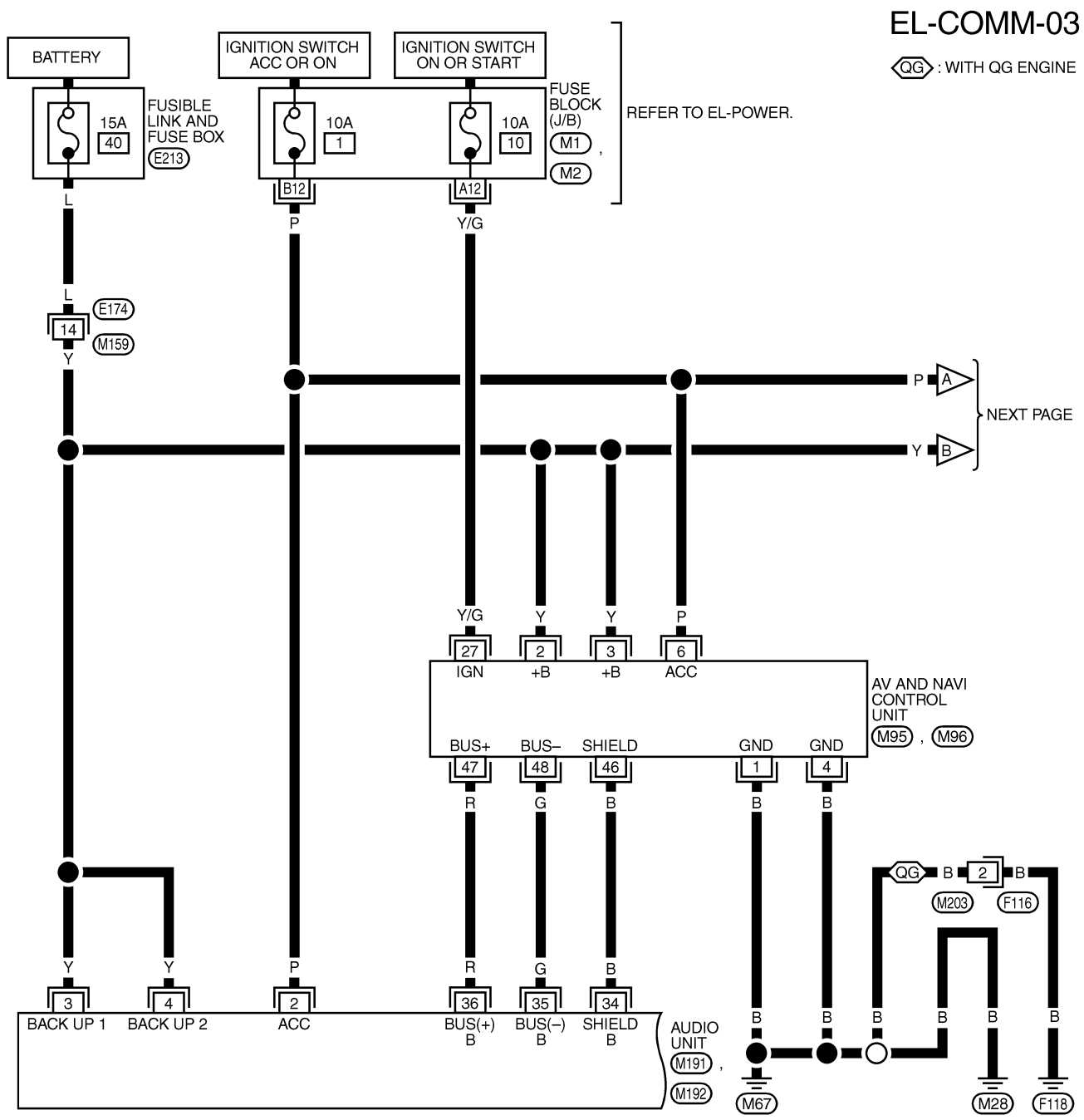
## Component Parts and Harness Connector and Harness Connector Location

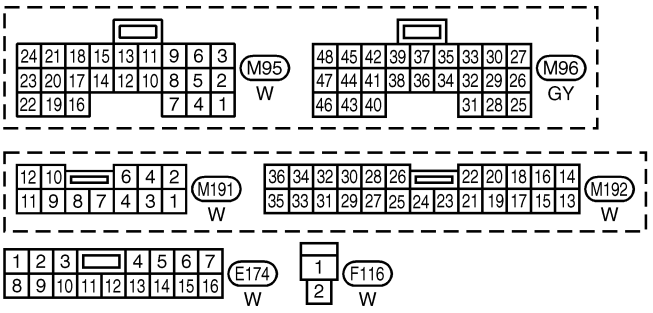
NJEL0573

For details, refer to "ELECTRICAL UNIT LOCATION" (EL-543) and "HARNESS LAYOUT" (EL-550).

## Wiring Diagram — COMM —

NJEL0574

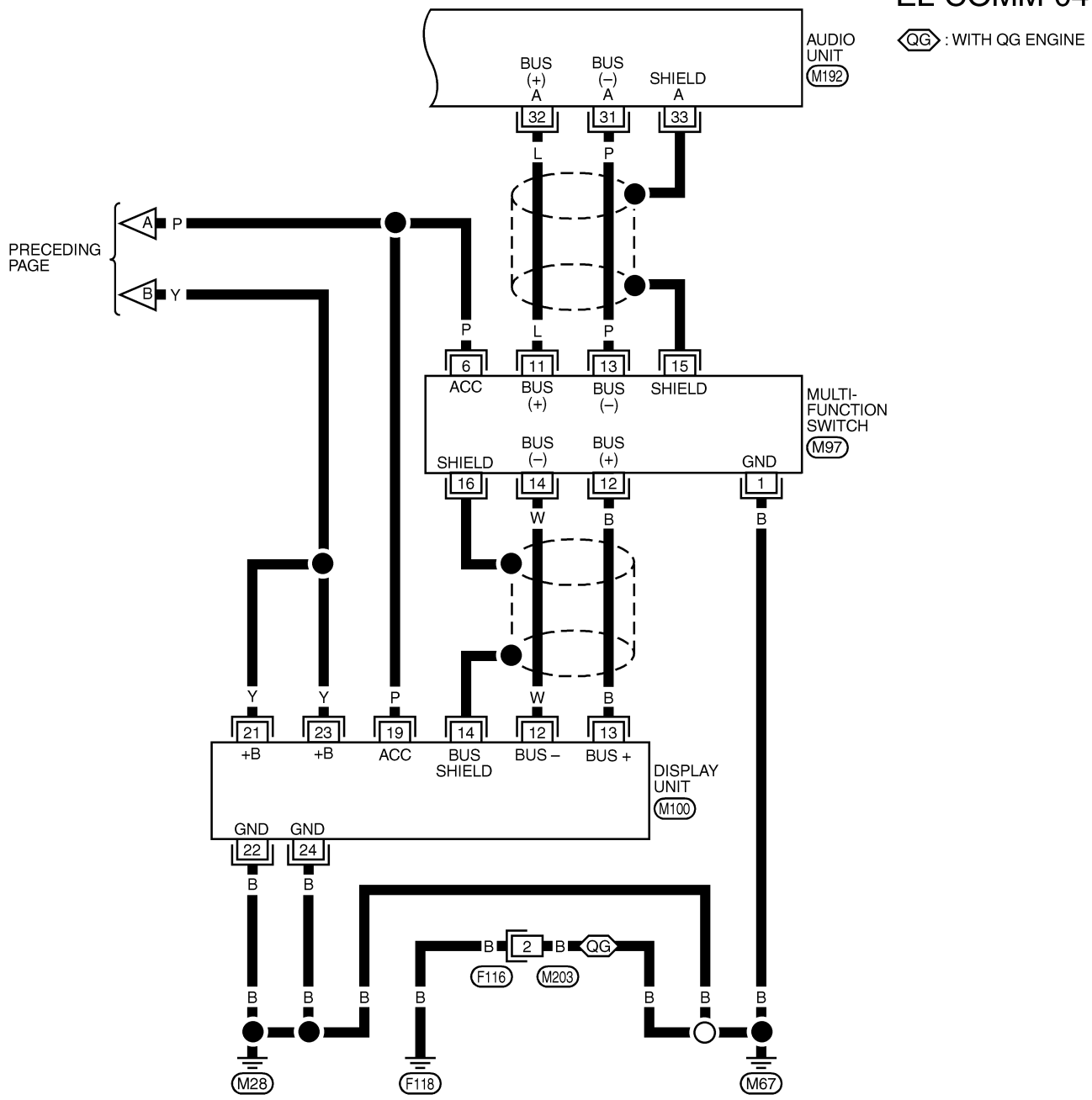


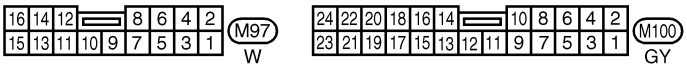



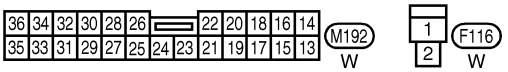

REFER TO THE FOLLOWING.
M1 , M2 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL738D

EL-COMM-04




YEL739D

## Terminals and Reference Value for Display Unit

NJEL0575

Refer to EL-162.

## Terminals and Reference Value for AV and NAVI Control Unit

NJEL0576

Refer to EL-450.

## Terminals and Reference Value for Multifunction Switch

NJEL0577

Refer to EL-456.

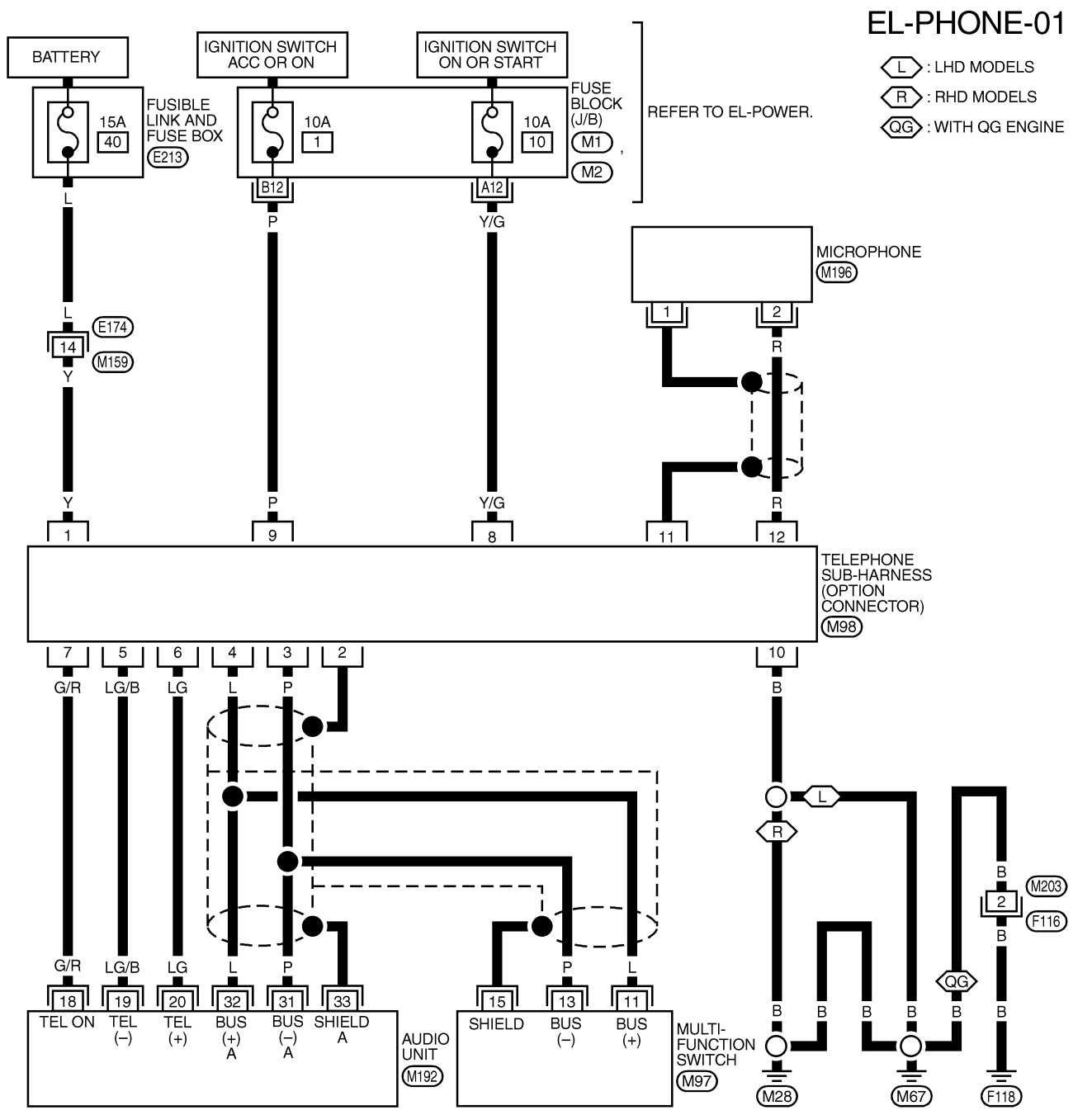
## Trouble Diagnoses

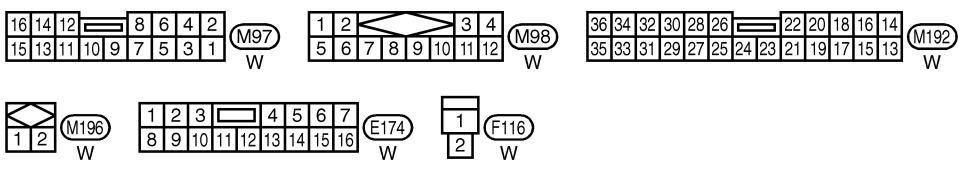
NJEL0578

Refer to EL-457, “Self-Diagnosis Function”.

## Wiring Diagram — PHONE —

NJEL0579



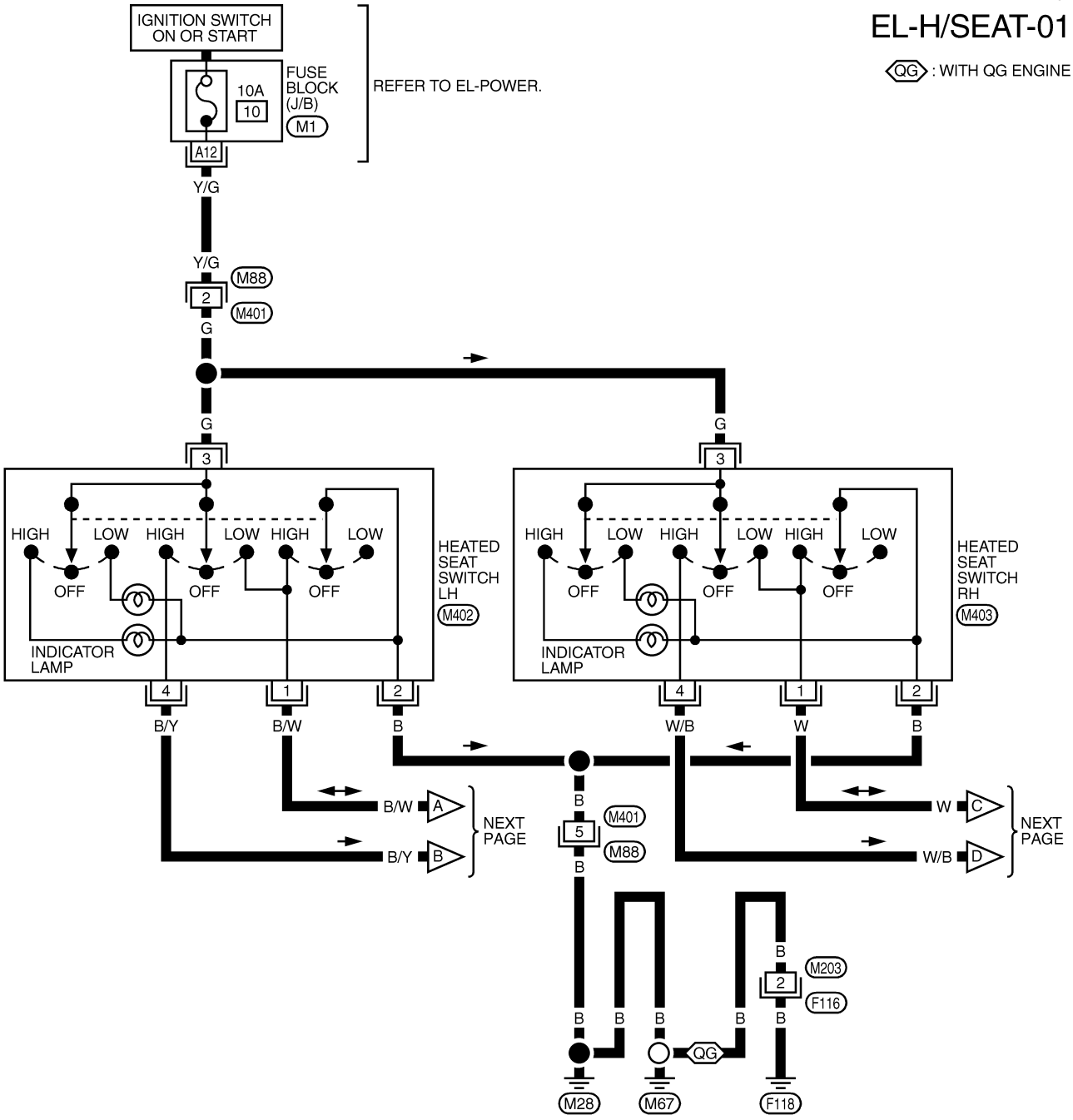




REFER TO THE FOLLOWING.
M1 , M2 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL740D

## Wiring Diagram — H/SEAT —

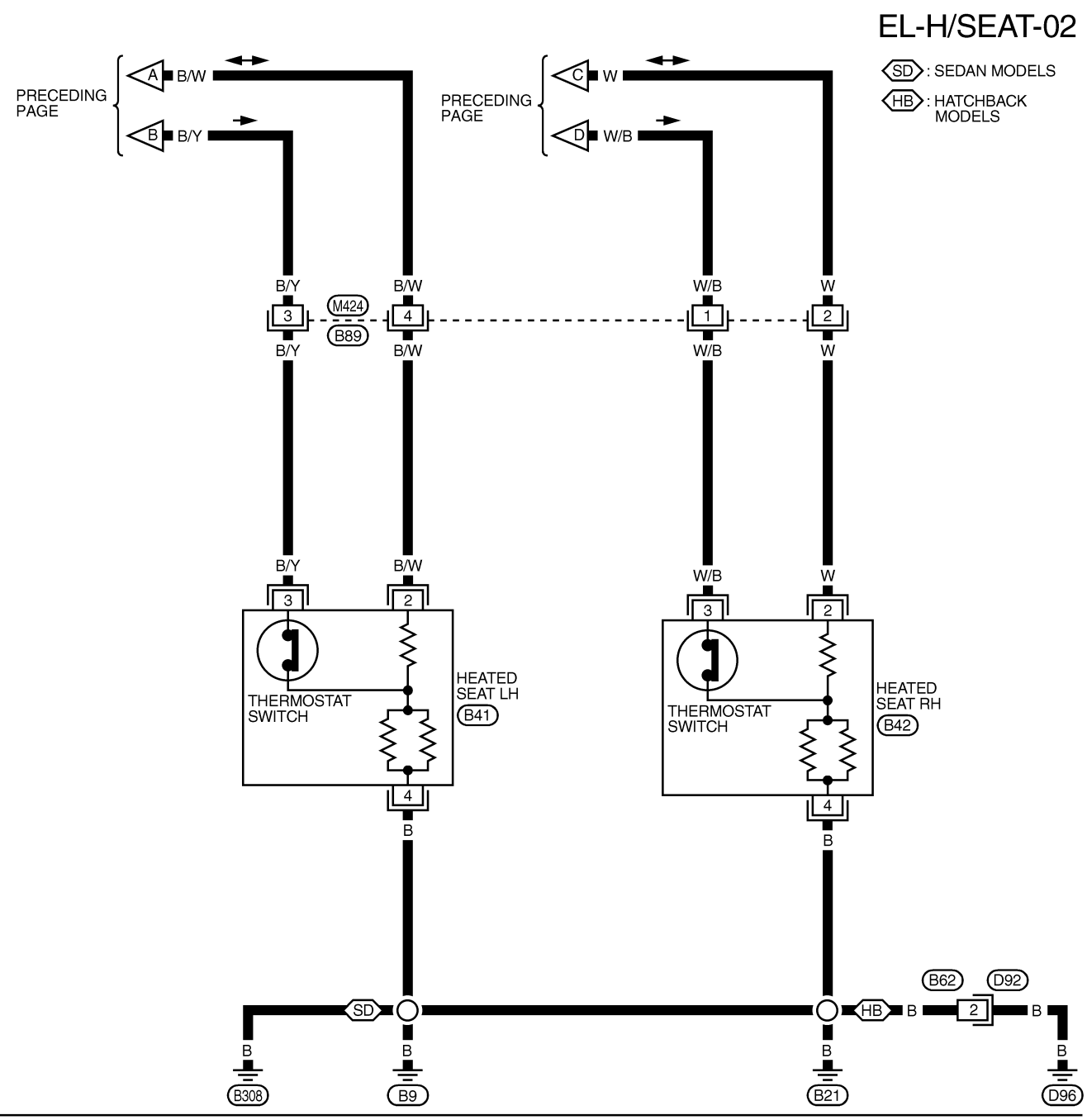
NJEL0471

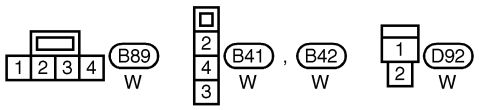



M88 W | M402 L, M403 W | F116 W

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

YEL741D

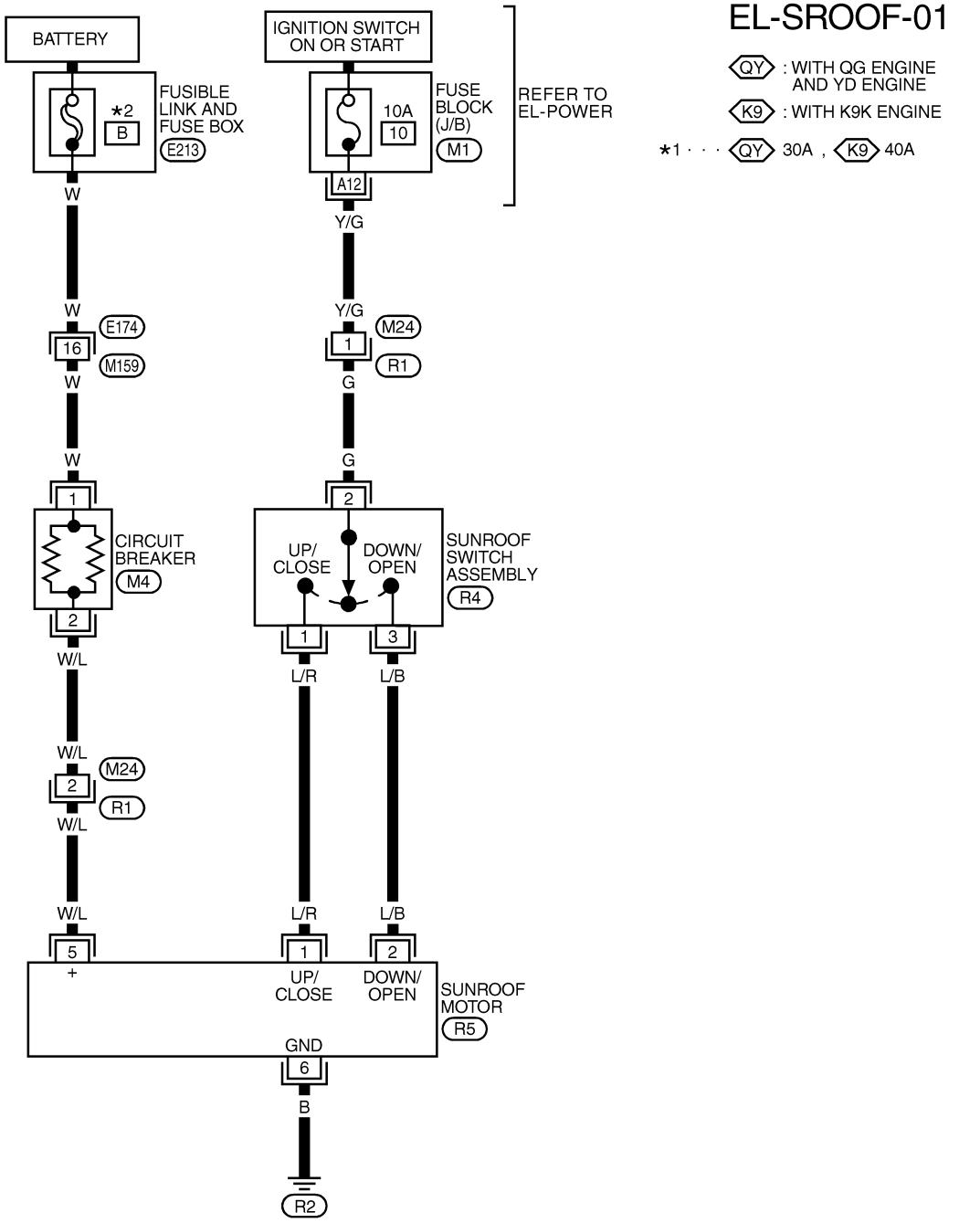

EL-H/SEAT-02
SD : SEDAN MODELS
HB : HATCHBACK MODELS
PRECEDING PAGE
A B/W
B B/Y
PRECEDING PAGE
C W
D W/B
M424
B89
HEATED SEAT LH
B41
HEATED SEAT RH
B42
THERMOSTAT SWITCH
THERMOSTAT SWITCH
B62
D92
SD
HB
B308
B9
B21
D96

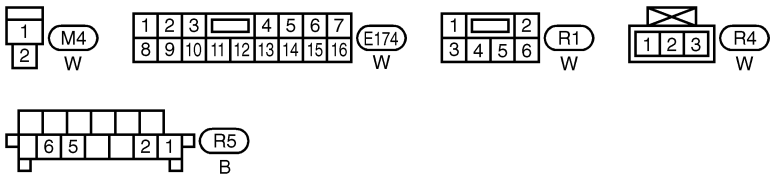

B89
W
B41
W
B42
W
D92
W

YEL742D

## Wiring Diagram — SROOF —

NJEL0089




REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL787D

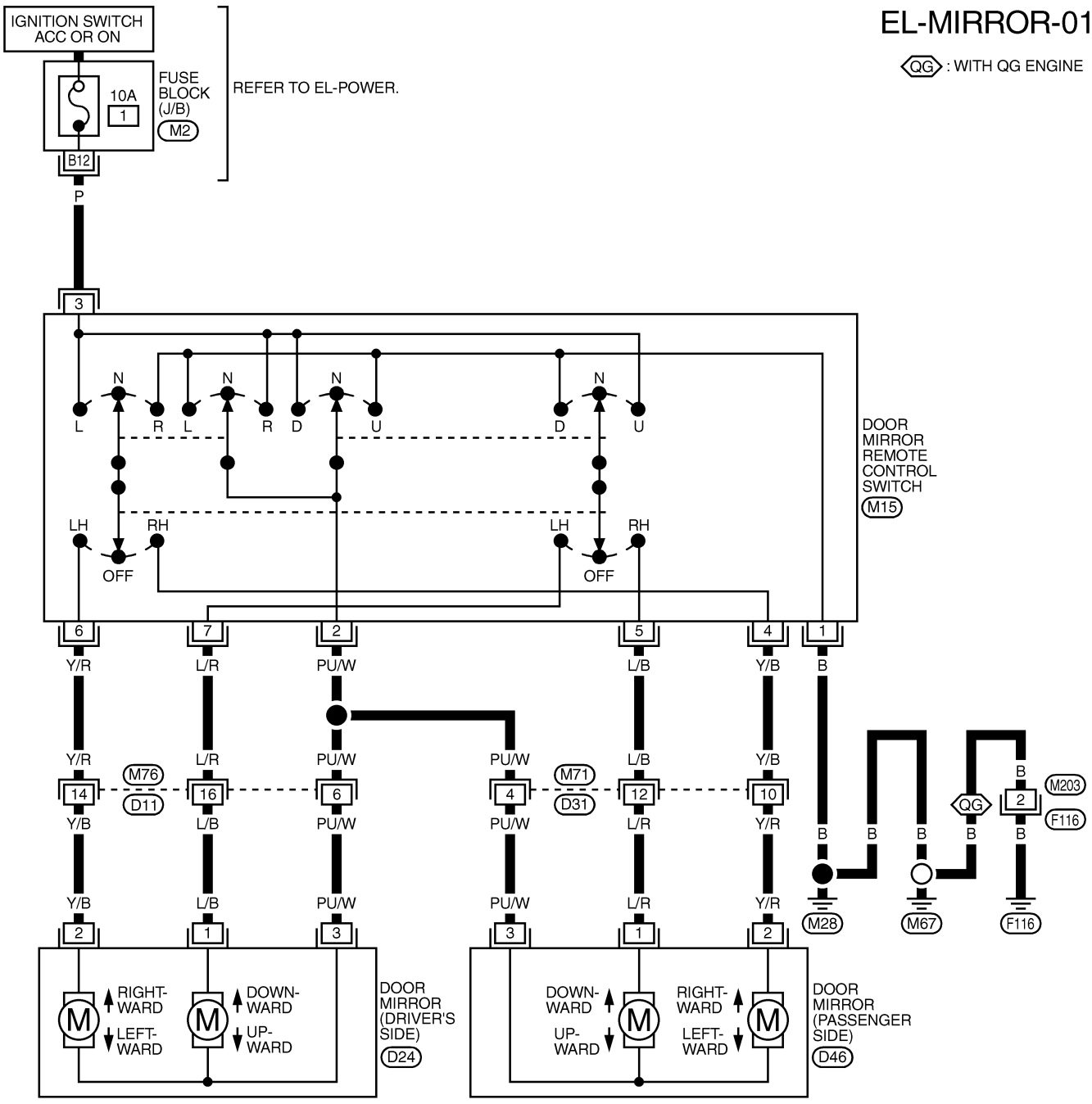
## Trouble Diagnoses

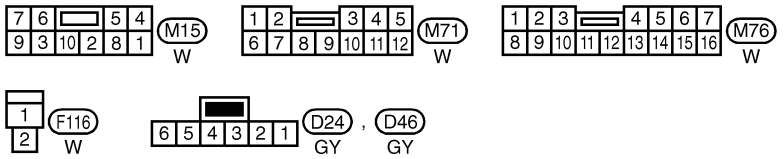
NJEL0225

| Symptom | Possible cause | Repair order |
|---|---|---|
| Power sunroof cannot be operated using any switch. | 1. 10A fuse, 30A fusible link and M4 circuit breaker<br>2. Sunroof motor ground circuit<br>3. Sunroof switch<br>4. Sunroof switch circuit<br>5. Sunroof motor | 1. Check 10A fuse [No. 10, located in fuse block (J/B)], 30A fusible link (letter **B**, located in fuse and fusible link box) and M4 circuit breaker. Verify battery positive voltage is present at terminal 5 of sunroof motor. And then turn ignition switch “ON” and verify battery positive voltage is present at terminal 2 of sunroof switch.<br>2. Check sunroof motor ground circuit.<br>3. Check sunroof switch.<br>4. Check harness between sunroof switch and sunroof motor.<br>5. Check sunroof motor. |
| Power sunroof cannot be operated using one of the sunroof switches. | 1. Sunroof switch<br>2. Sunroof switch circuit | 1. Check sunroof switch.<br>2. Check the harness between sunroof motor and sunroof switch. |

## Wiring Diagram — MIRROR —

NJEL0472

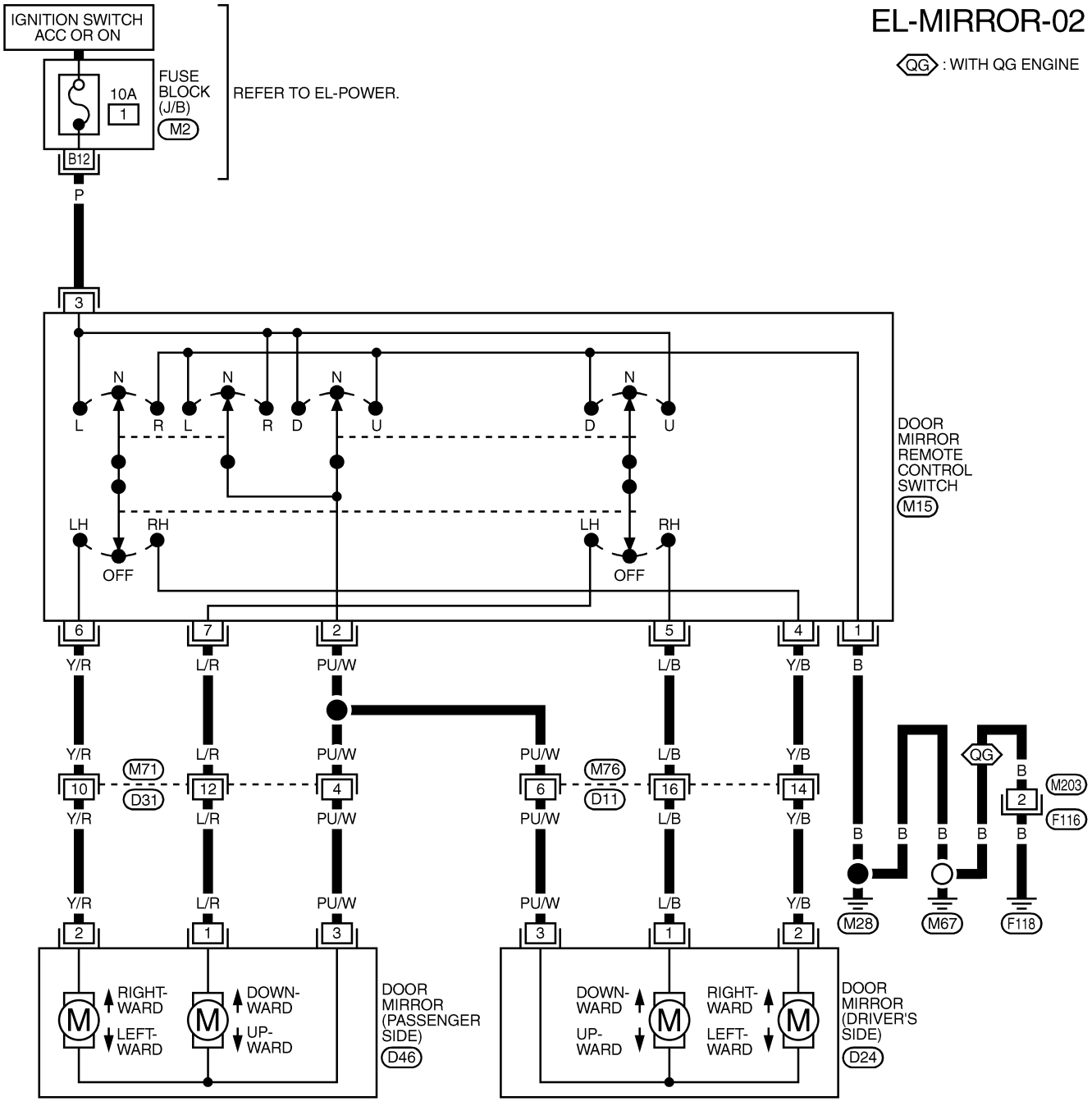



REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-
JUNCTION BOX (J/B)

YEL788D

*Wiring Diagram — MIRROR — (Cont'd)*



## System Description

=NJEL0498

Power is supplied at all times
- from 30A fusible link (letter **B**, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to power window relay terminal 5

With ignition switch in ON or START position, power is supplied
- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to power window relay terminal 1

Ground is supplied to power window relay terminal 2
- through body grounds F118 (QG engine models), M28 and M67.

The power window relay is energized and power is supplied
- through power window relay terminal 3
- to power window main switch terminal 1,
- to front power window sub-switch terminal 5,
- to rear power window sub-switch LH and RH terminals 5 (models with rear power window).

### MANUAL OPERATION

NJEL0498S01

#### Front Door (Driver Side)

NJEL0498S0101

Ground is supplied
- to power window main switch terminal 3
- through body grounds F118 (QG engine models), M28 and M67.

WINDOW UP
When the driver's window switch in the power window main switch is pressed in the up position, power is supplied
- through power window main switch terminal 9
- to driver side power window regulator terminal 2.

Ground is supplied
- through power window main switch terminal 1
- to driver side power window regulator terminal 8.

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

WINDOW DOWN
When the driver's window switch in the power window main switch is pressed in the down position, power is supplied
- through power window main switch terminal 8
- to driver side power window regulator terminal 1.

Ground is supplied
- to driver side power window regulator terminal 2
- through power window main switch terminal 9.

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

#### Front Door (Passenger Side)

NJEL0498S0102

Ground is supplied
- to power window main switch terminal 3
- through body grounds F118 (QG engine models), M28 and M67.

**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 (5, 6)
- to front power window sub-switch (3, 4).

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

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

Ground is supplied

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

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

### Rear Door

*NJEL0498S0103*

Rear door windows will raise and lower in the same manner as passenger's door window.

### POWER WINDOW LOCK

*NJEL0498S02*

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

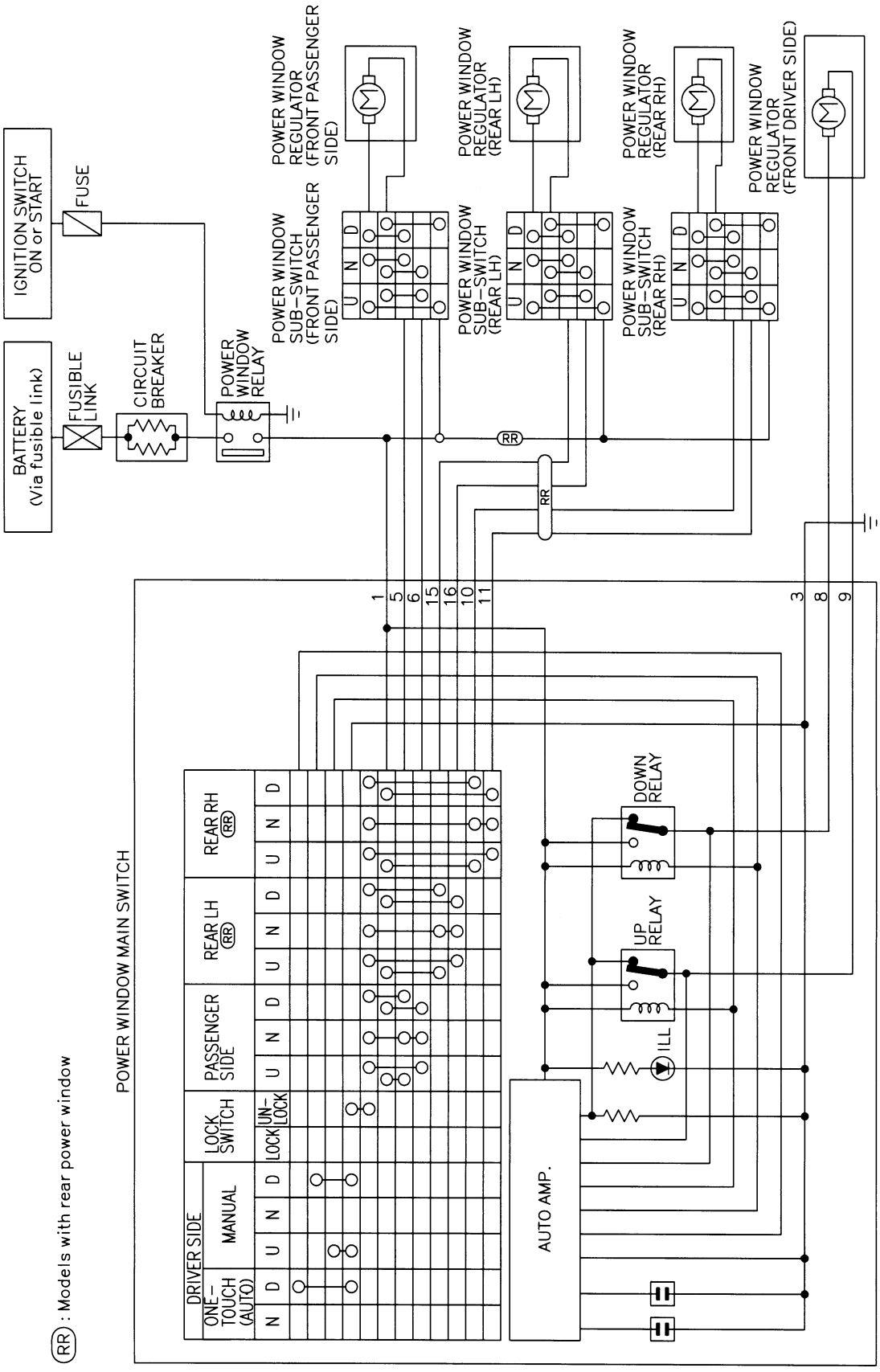
### AUTO OPERATION

*NJEL0498S03*

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

## Schematic

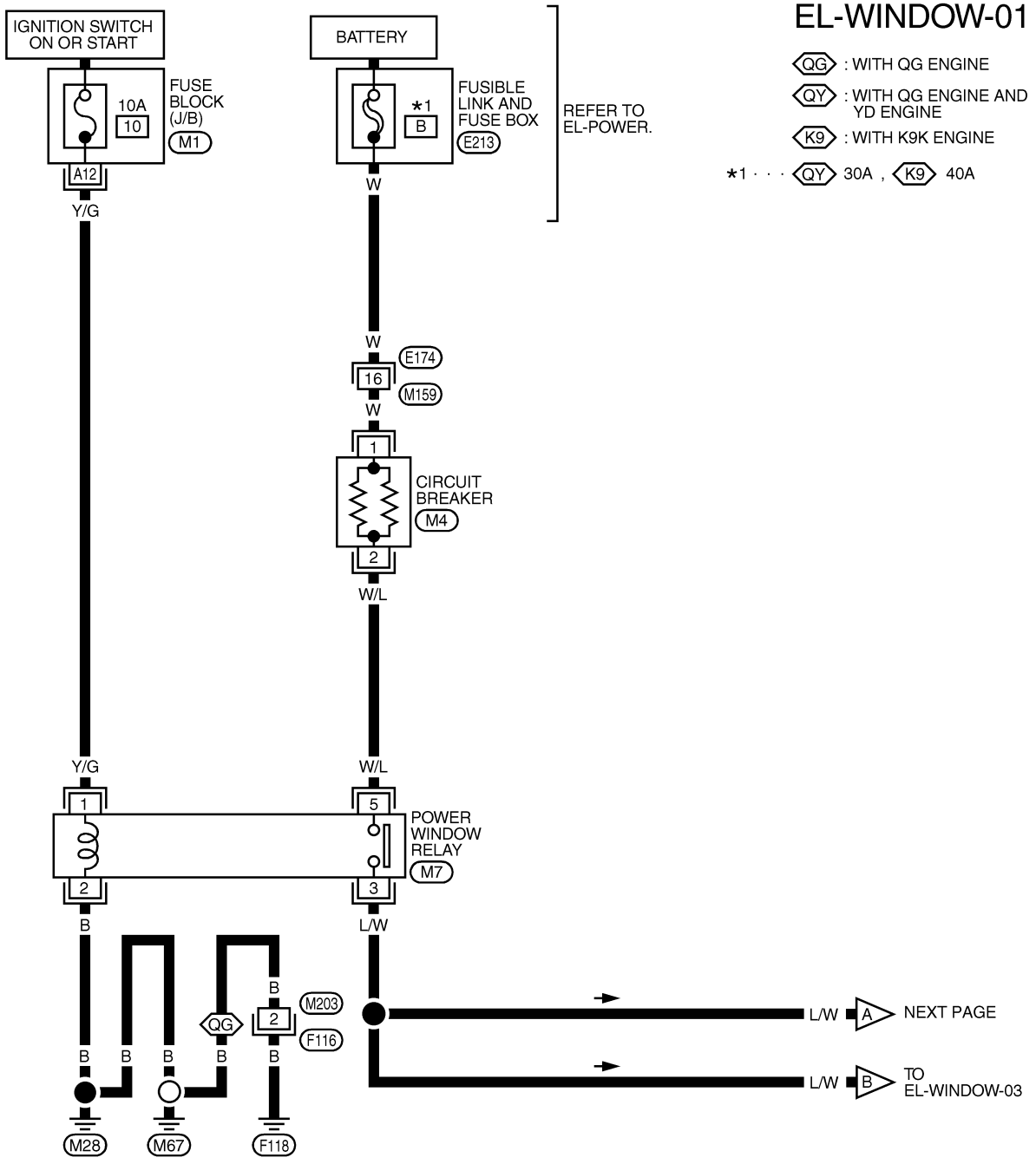
NJEL0499

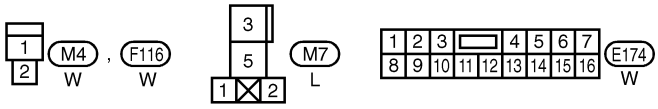



MEL916L

## Wiring Diagram — WINDOW —

NJEL0500



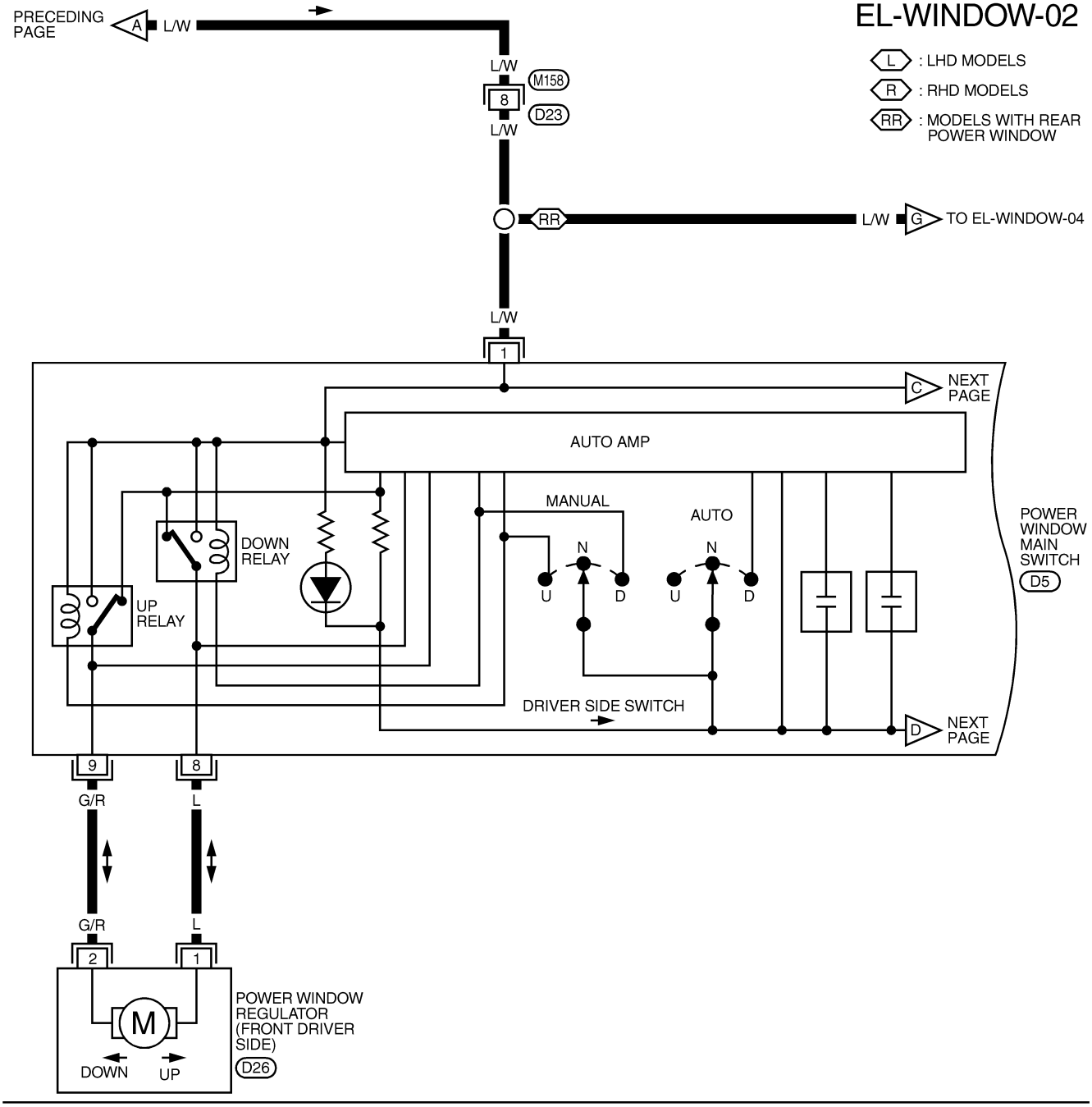




REFER TO THE FOLLOWING.

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

E213 -FUSE AND FUSIBLE LINK BOX

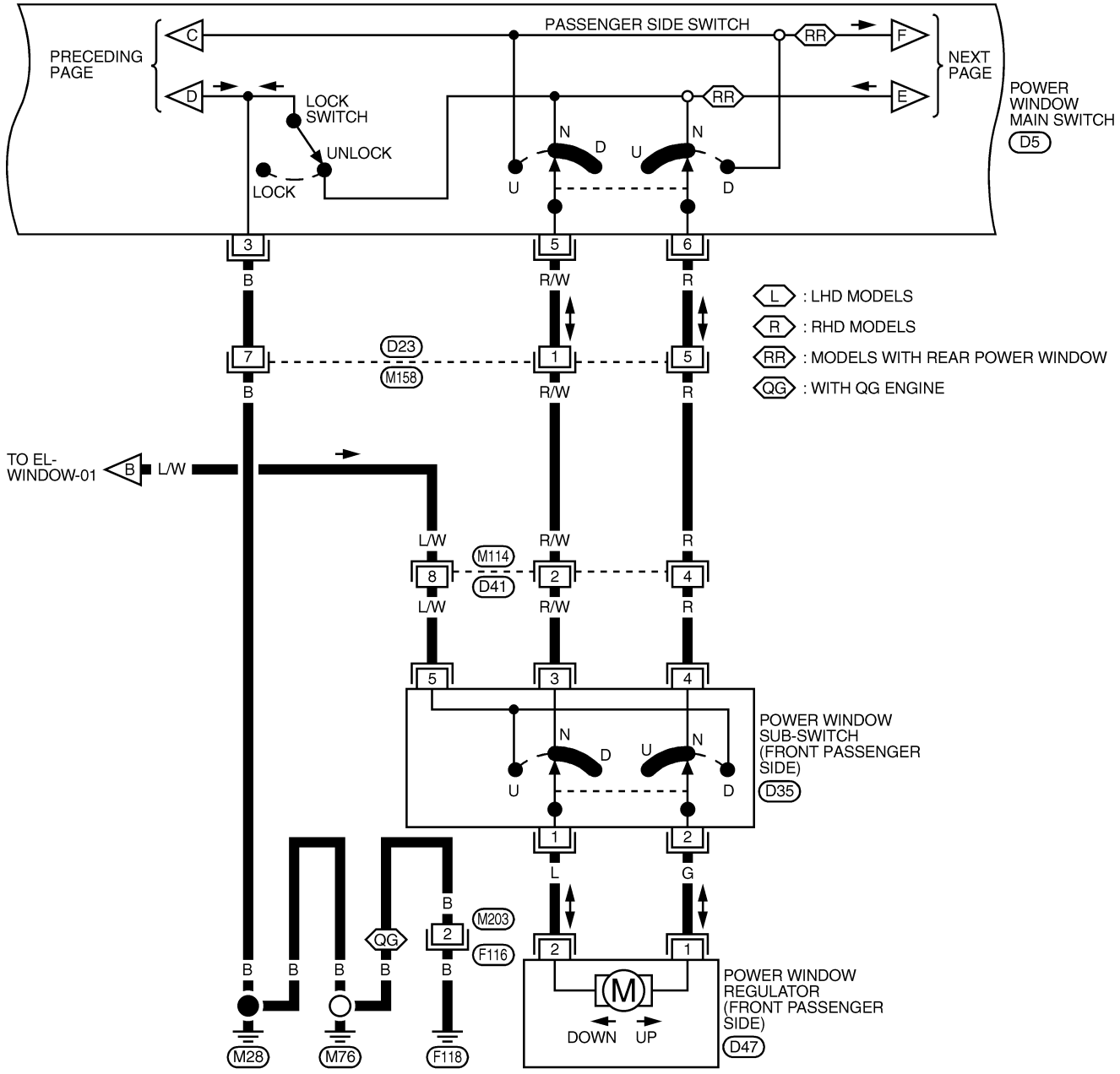
YEL744D

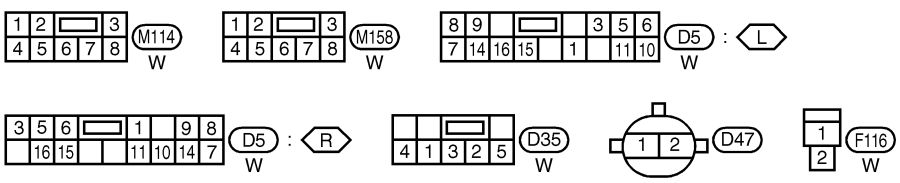

EL-WINDOW-02
L : LHD MODELS
R : RHD MODELS
RR : MODELS WITH REAR POWER WINDOW
PRECEDING PAGE
A
L/W
M158
8
D23
RR
G
TO EL-WINDOW-04
1
C
NEXT PAGE
AUTO AMP
MANUAL
AUTO
DOWN RELAY
UP RELAY
U
N
D
POWER WINDOW MAIN SWITCH
D5
DRIVER SIDE SWITCH
D
9
G/R
L
2
POWER WINDOW REGULATOR (FRONT DRIVER SIDE)
D26
DOWN
UP
M158
W
D5
R



YEL745D

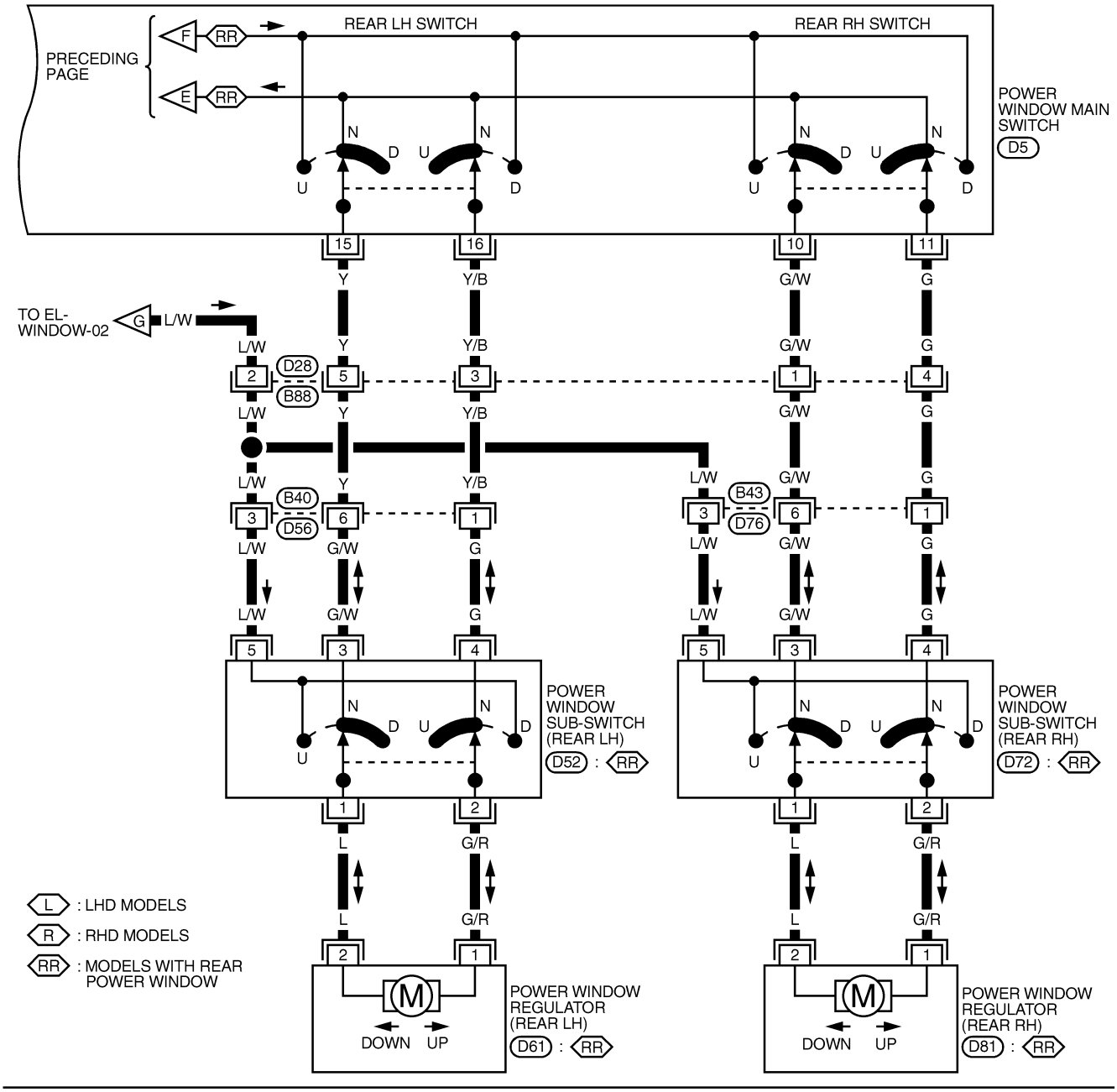
EL-WINDOW-03

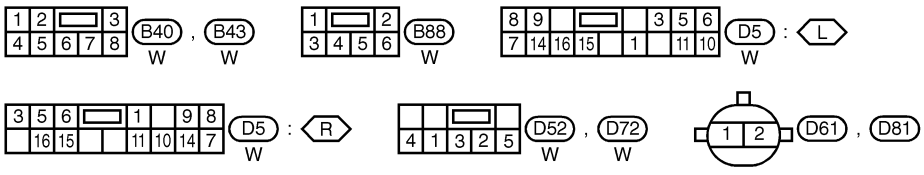



YEL746D

EL-WINDOW-04






YEL747D

## Trouble Diagnoses

NJEL0501

| Symptom | Possible cause | Repair order |
|---|---|---|
| None of the power windows can be operated using any switch. | 1. 10A fuse<br>2. 30A fusible link, M4 circuit breaker<br>3. Power window relay<br>4. Ground circuit<br>5. Power window main switch | 1. Check 10A fuse [No. 10, located in fuse block (J/B)] Turn ignition switch “ON” and verify positive battery voltage is present at terminal 1 of power window relay.<br>2. Check 30A fusible link (letter **B**, located in fuse and fusible link box) and M4 circuit breaker. Verify positive battery voltage is present at terminal 5 of power window relay.<br>3. Check power window relay.<br>4. Check the following:<br>a. Check ground circuit of power window main switch.<br>b. Check power window relay ground circuit.<br>5. Check power window main switch. |
| Driver side power window cannot be operated but other windows can be operated. | 1. Driver side power window regulator circuit<br>2. Driver side power window regulator<br>3. Power window main switch | 1. Check harness between power window main switch and driver side power window regulator for open or short circuit.<br>2. Check driver side power window regulator.<br>3. Check power window main switch. |
| One or more power windows except driver’s side window cannot be operated. | 1. Power window sub-switches<br>2. Power window regulators<br>3. Power window main switch<br>4. Power window circuit | 1. Check power window sub-switch.<br>2. Check power window regulator.<br>3. Check power window main switch.<br>4. Check the following.<br>a. Check harness between the power window relay terminal 3 and power window sub-switch terminal 5.<br>b. Check harnesses between power window main switch and power window sub-switch for open/short circuit.<br>c. Check harnesses between power window sub-switch and power window regulator for open/short circuit. |
| Power windows except driver’s side window cannot be operated using power window main switch but can be operated by power window sub-switch. | 1. Power window main switch | 1. Check power window main switch. |
| Driver side power window automatic operation does not function properly. | 1. Power window main switch | 1. Check power window main switch. |

# System Description

=NJEL0502

## OPERATION

NJEL0502S02

**Power door lock/unlock operation by door key cylinder**

- With the key inserted into front door key cylinder, turning it to LOCK will lock all doors.
- With the key inserted into front door key cylinder, turning it to UNLOCK will unlock all doors.

**Power door lock/unlock operation by multi-remote controller (If equipped)**

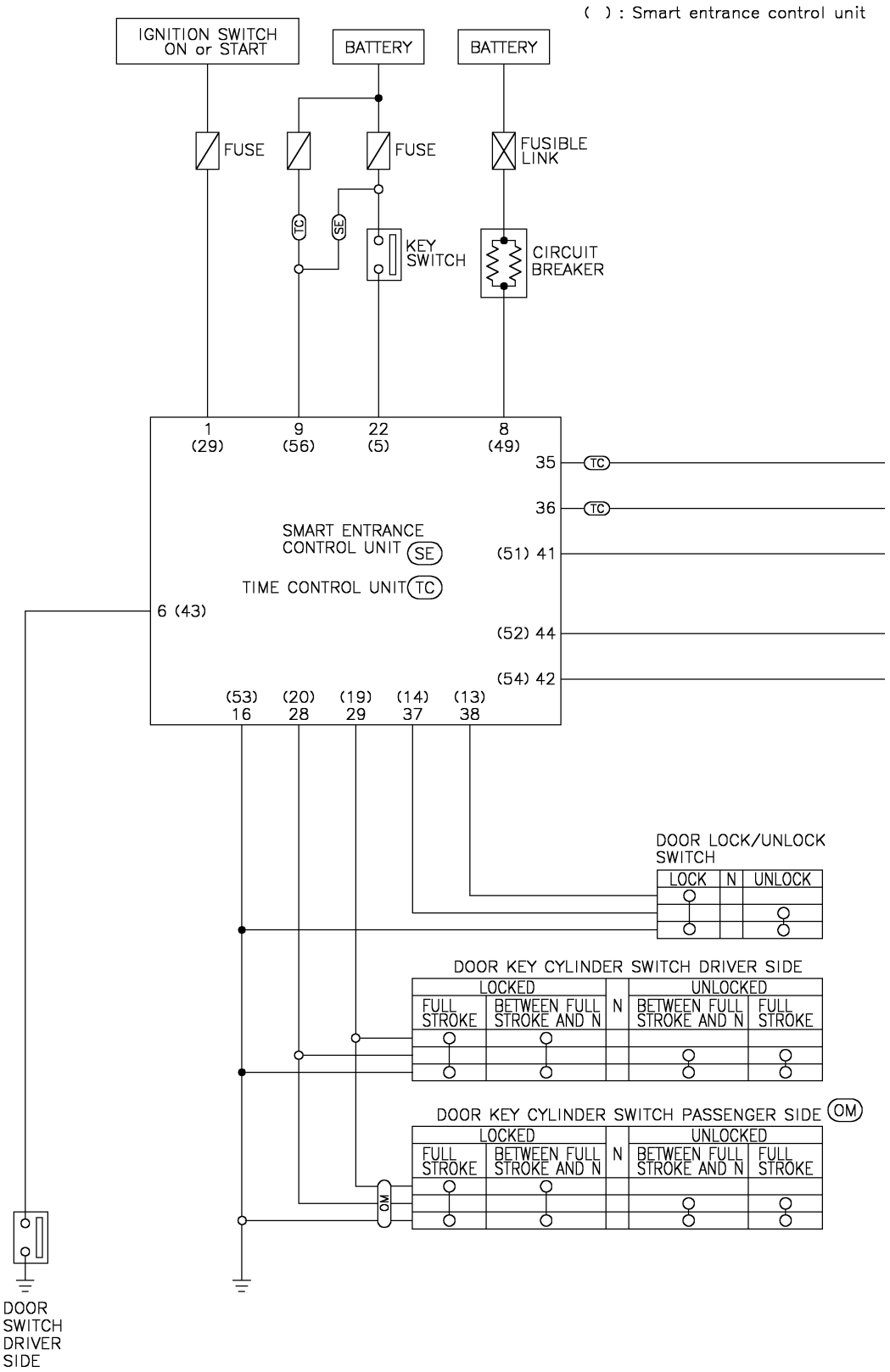
- Pressing multi-remote controller LOCK button will lock all doors.
- Pressing multi-remote controller UNLOCK button once will unlock driver door. Then, if an unlock signal is sent from the remote controller again within 5 seconds, all other doors will be unlocked.

**Power door lock/unlock operation by lock/unlock switch**

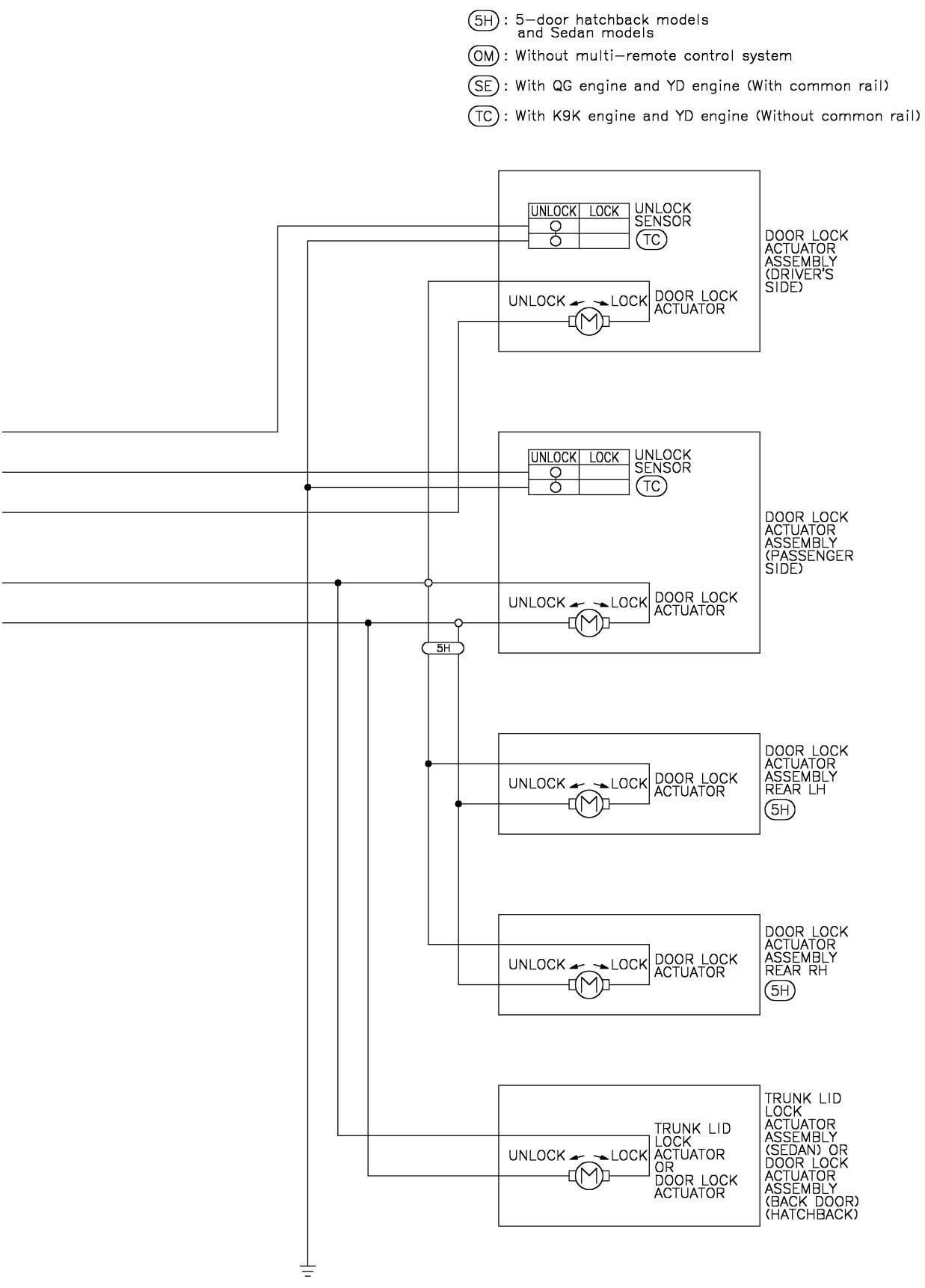
- With lock/unlock switch on driver door trim setting to LOCK will lock all doors.
- With lock/unlock switch on driver door trim setting to UNLOCK will unlock all doors.

## Schematic

NJEL0503




YEL748D


5H : 5—door hatchback models and Sedan models
OM : Without multi—remote control system
SE : With QG engine and YD engine (With common rail)
TC : With K9K engine and YD engine (Without common rail)
UNLOCK
LOCK
UNLOCK SENSOR
TC
DOOR LOCK ACTUATOR ASSEMBLY (DRIVER'S SIDE)
DOOR LOCK ACTUATOR
DOOR LOCK ACTUATOR ASSEMBLY (PASSENGER SIDE)
5H
DOOR LOCK ACTUATOR ASSEMBLY REAR LH
DOOR LOCK ACTUATOR ASSEMBLY REAR RH
TRUNK LID LOCK ACTUATOR ASSEMBLY (SEDAN) OR DOOR LOCK ACTUATOR ASSEMBLY (BACK DOOR) (HATCHBACK)
TRUNK LID LOCK ACTUATOR OR DOOR LOCK ACTUATOR

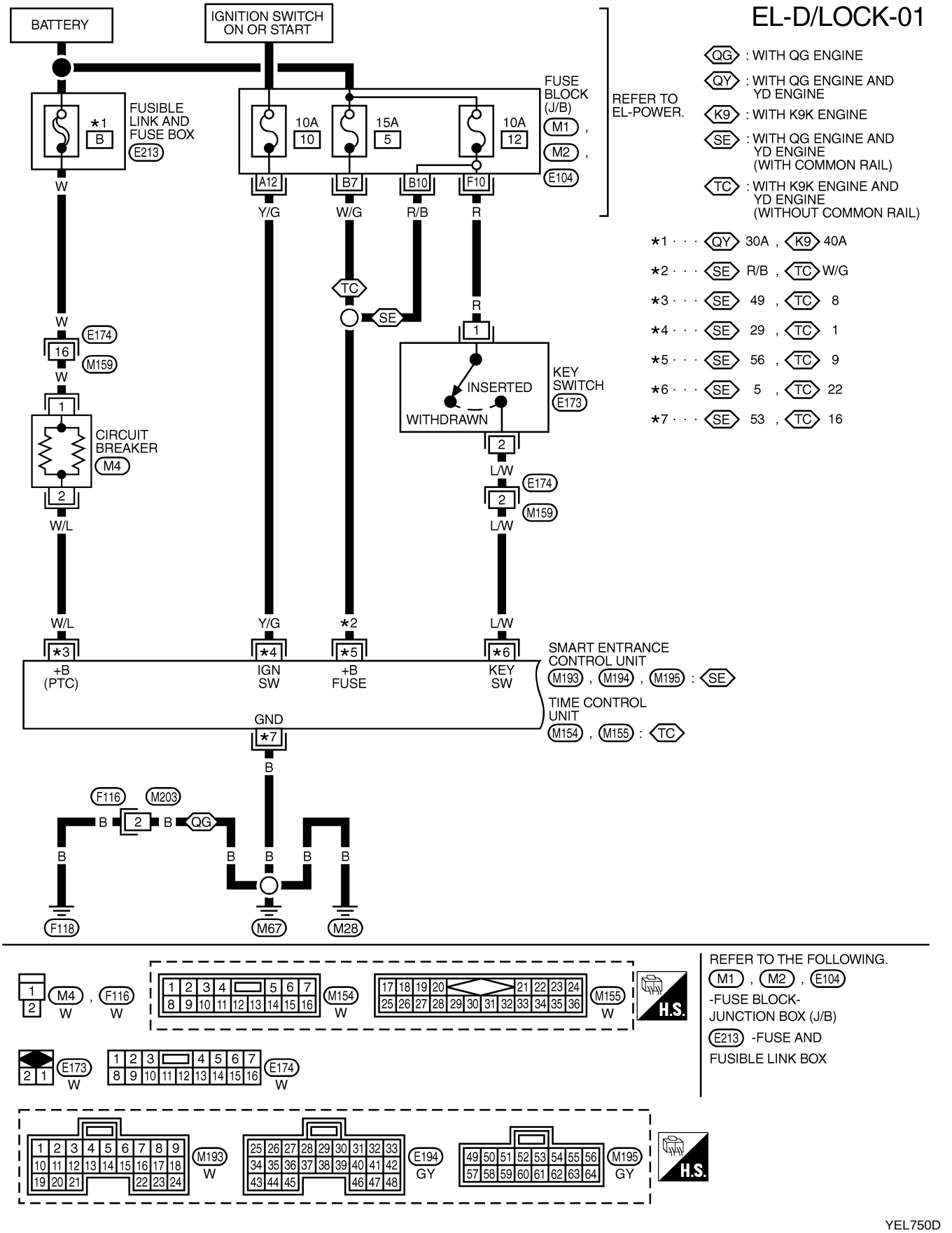
YEL749D

# Wiring Diagram — D/LOCK —

NJEL0504

**FIG. 1**

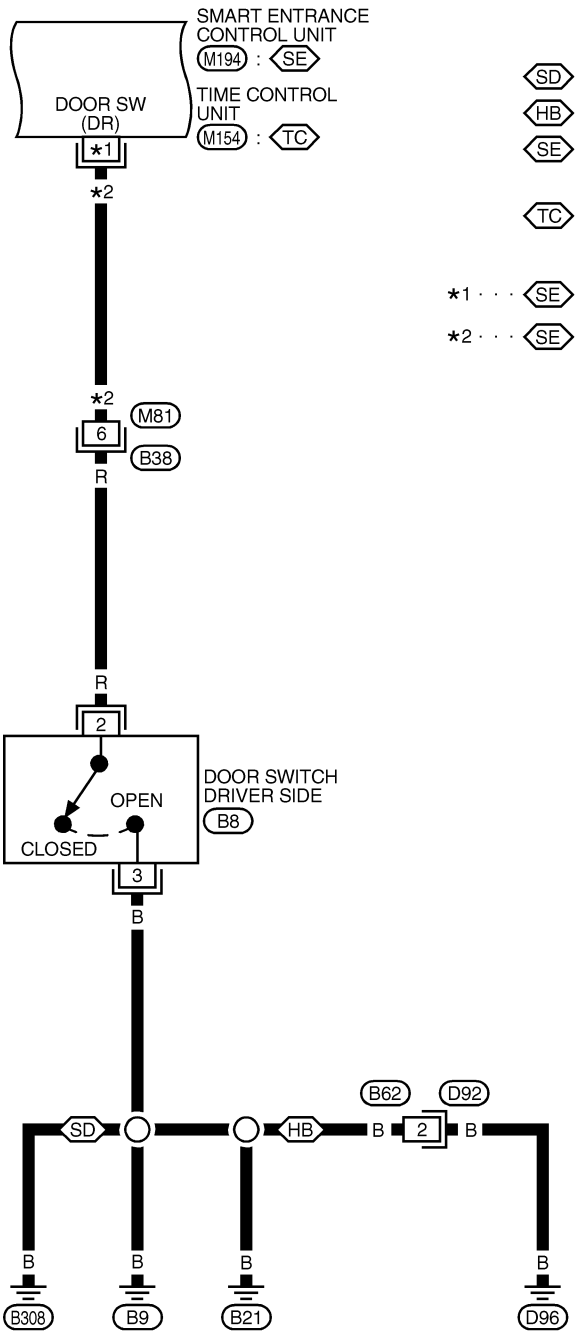
NJEL0504S01

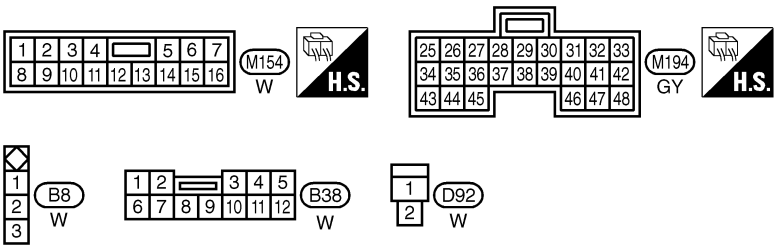



YEL750D

**FIG. 2**

NJEL0504S02



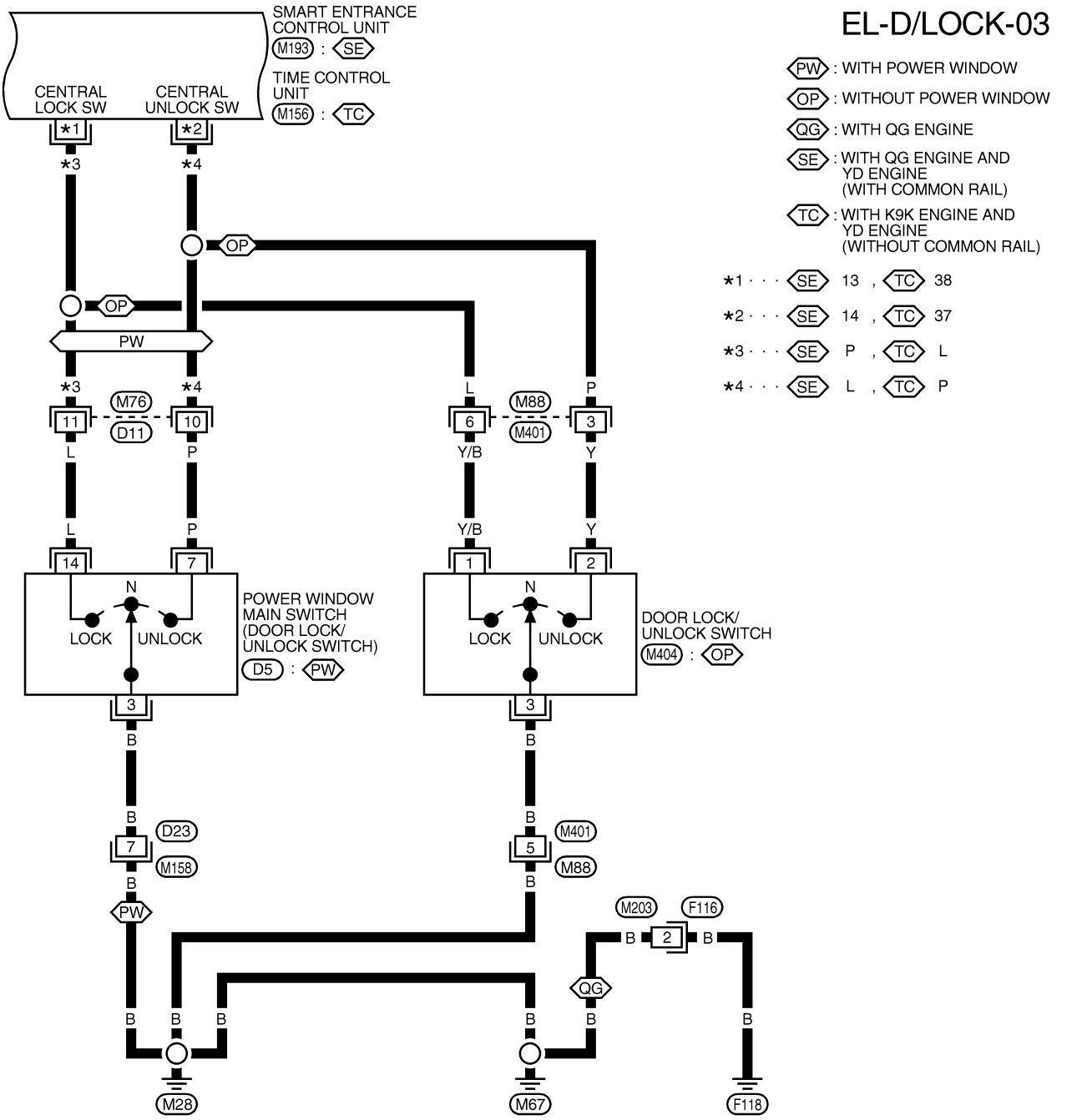



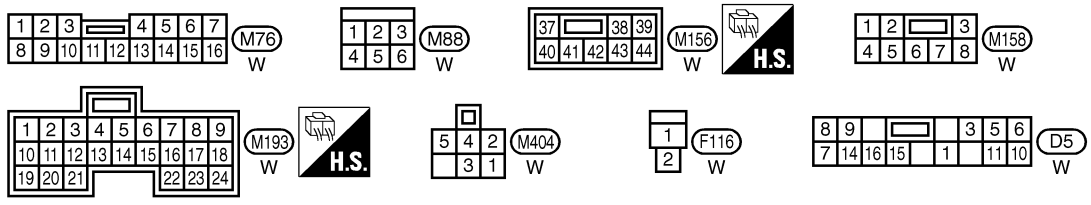

YEL751D

*Wiring Diagram — D/LOCK — (Cont'd)*

**FIG. 3**

NJEL0504S03

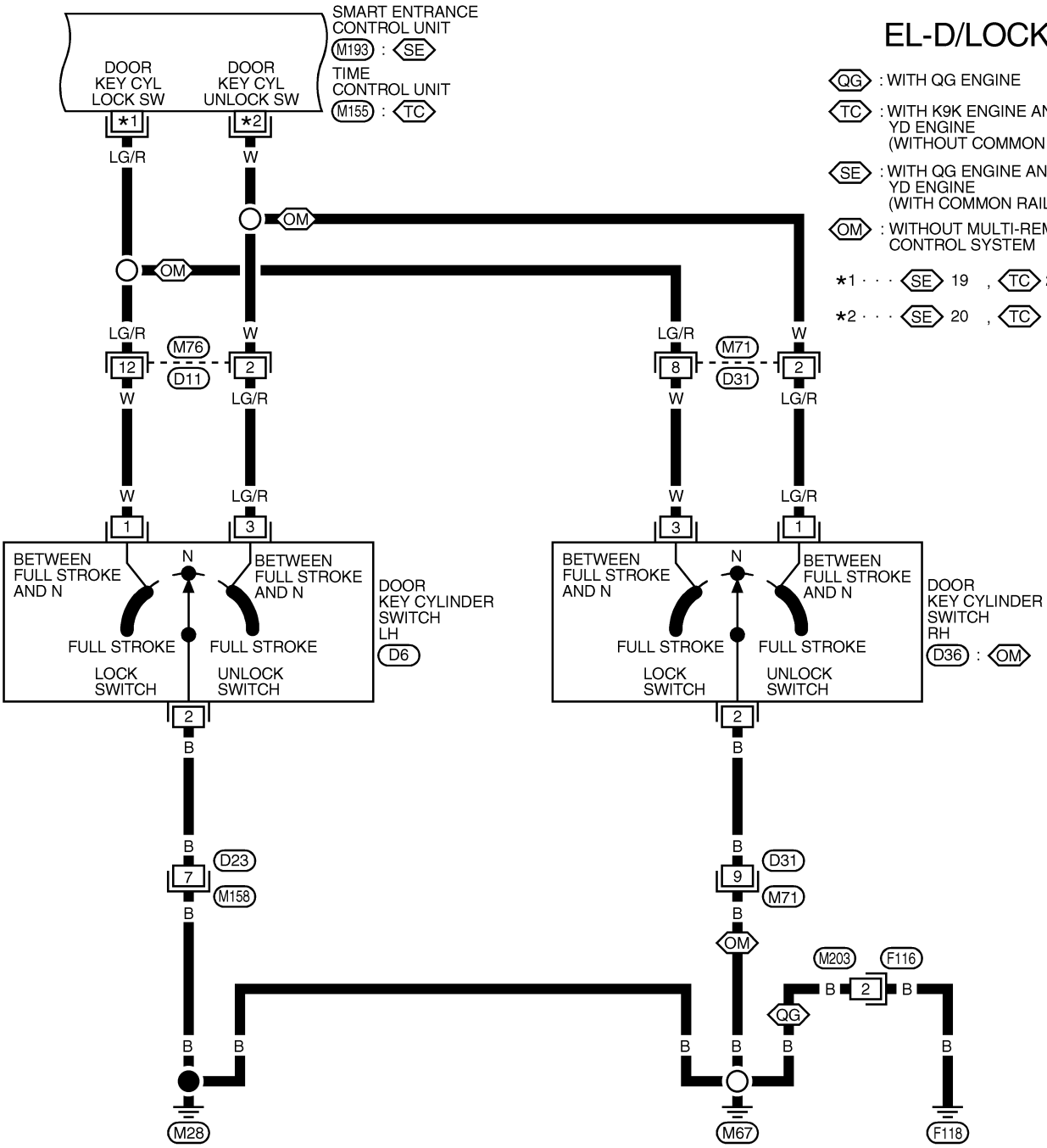


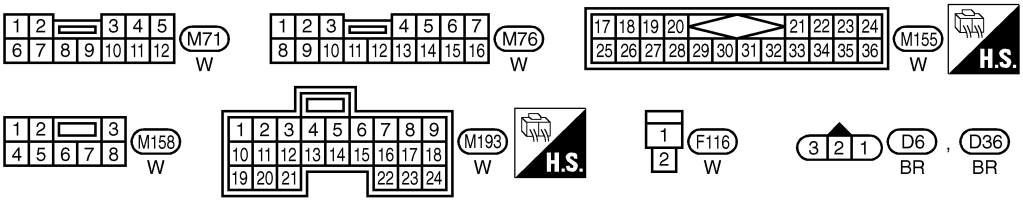




YEL752D

**FIG. 4**

NJEL0504S04



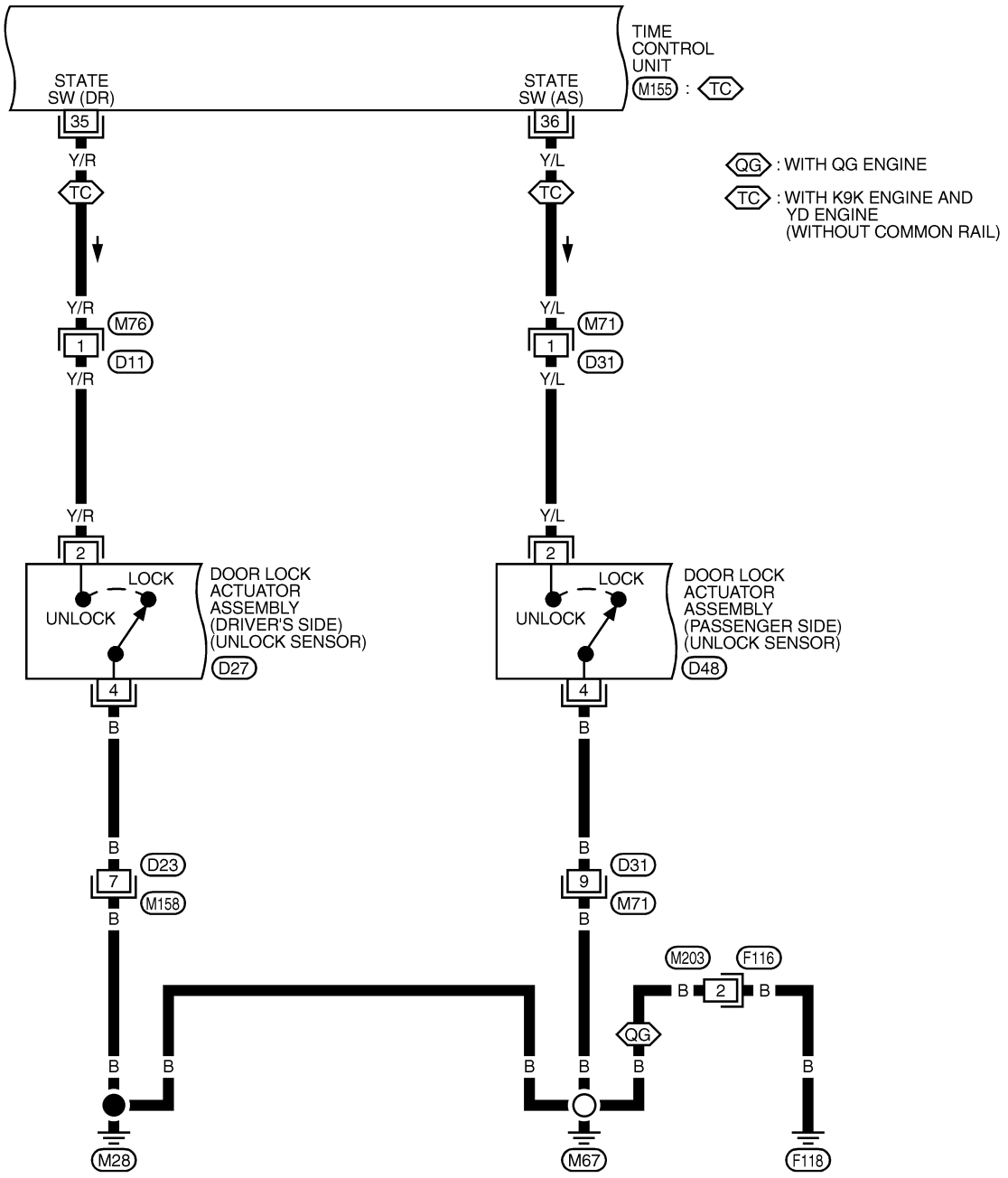



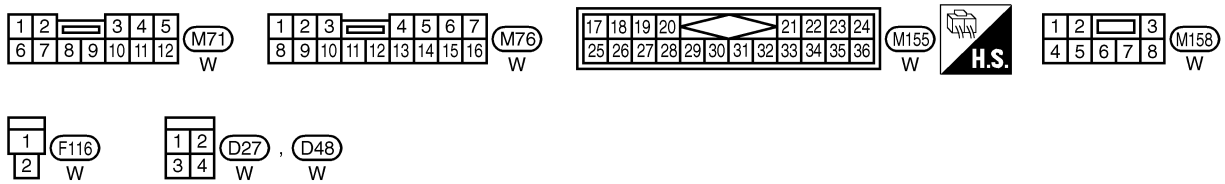

YEL753D

**FIG. 5**

NJEL0504S05

EL-D/LOCK-05

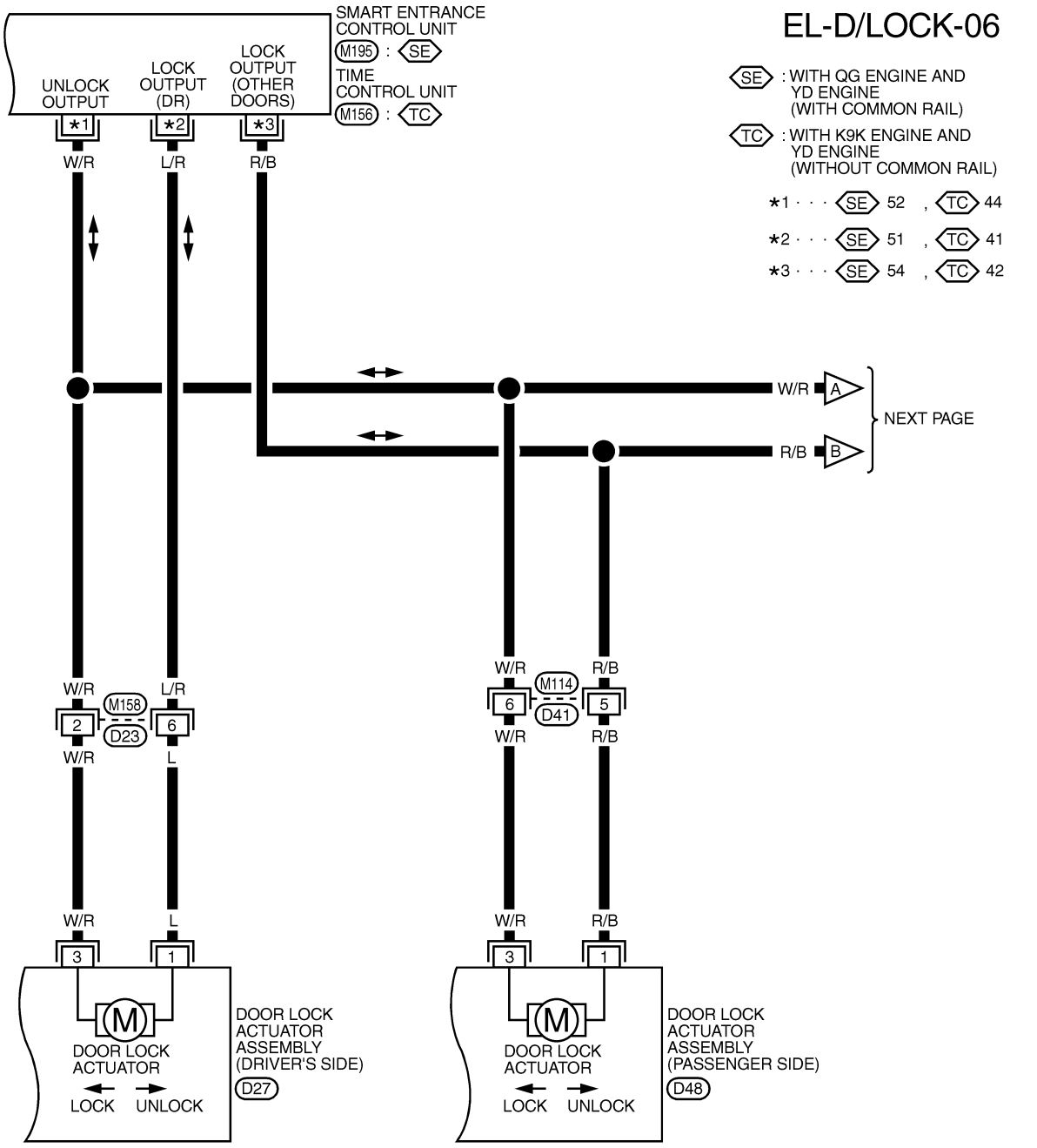


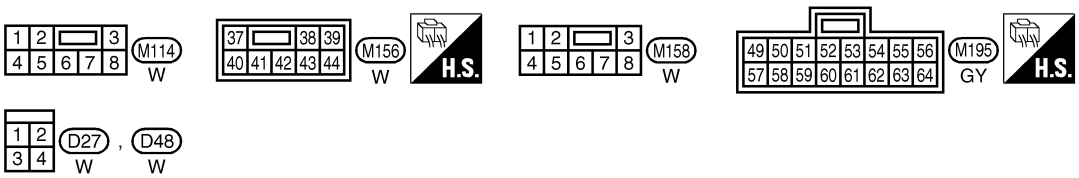




YEL754D

**FIG. 6**

NJEL0504S06



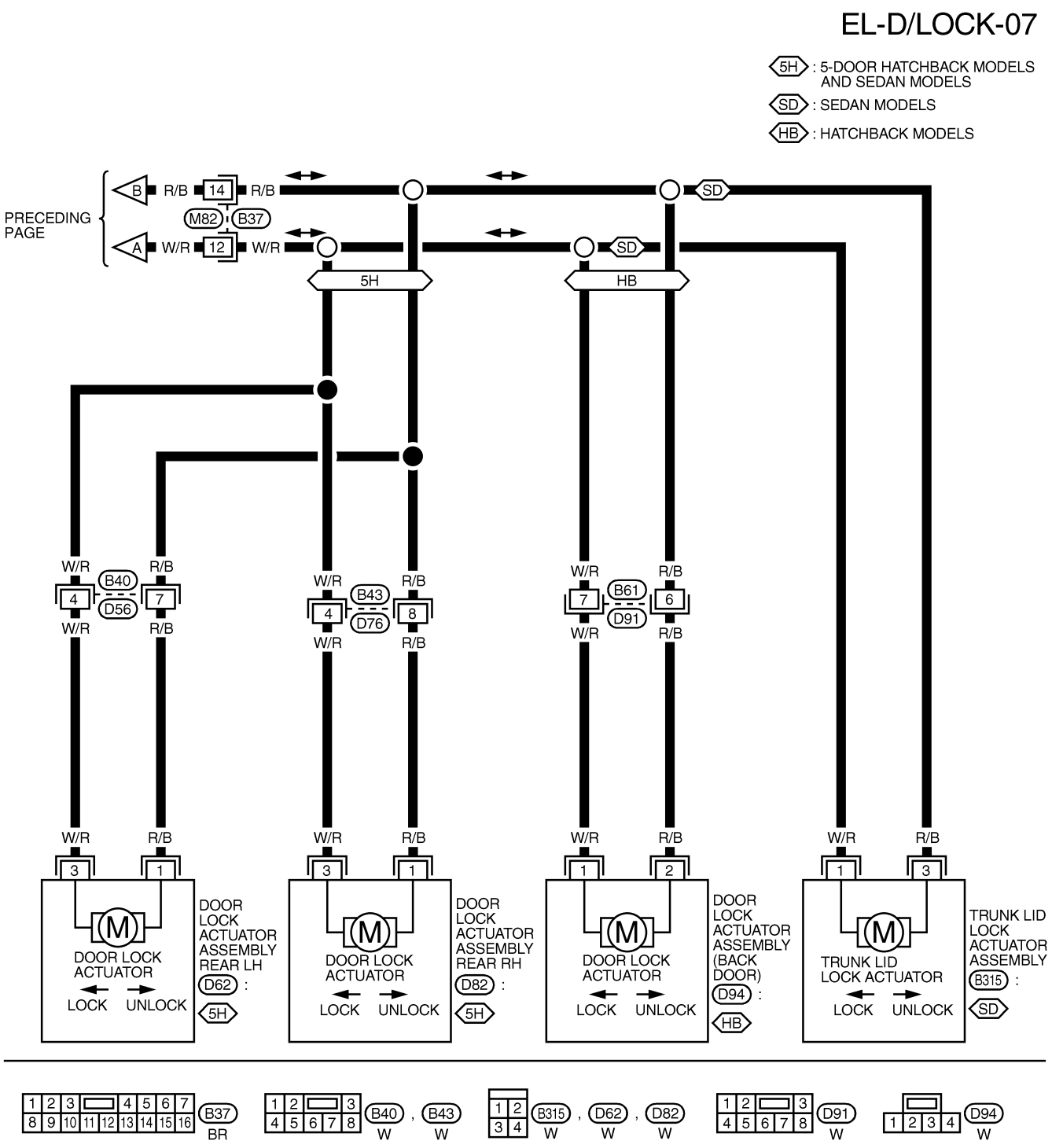



YEL755D

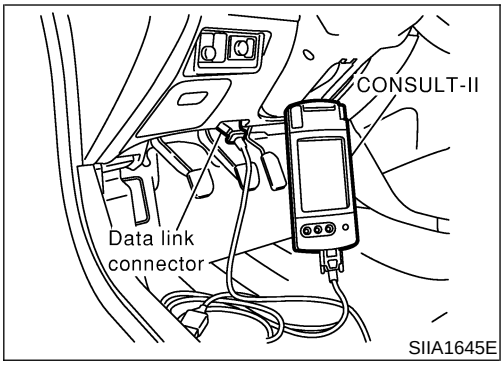
*Wiring Diagram — D/LOCK — (Cont'd)*

**FIG. 7**

NJEL0504S07




YEL756D



SIIA1645E

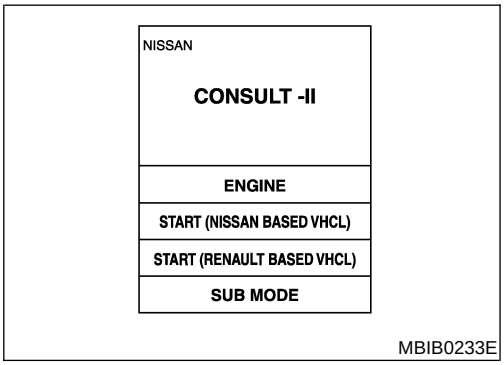
# Trouble Diagnosis/QG and YD Engine Models with Common Rail

NJEL0580

## CONSULT-II INSPECTION PROCEDURE

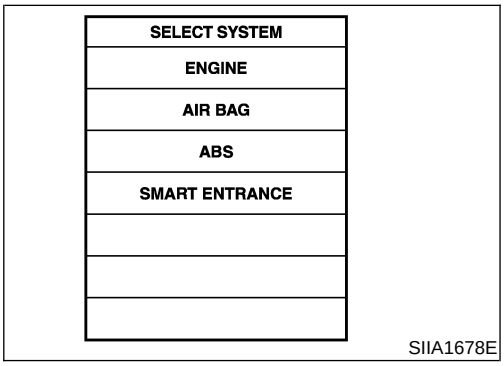
NJEL0580S01

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



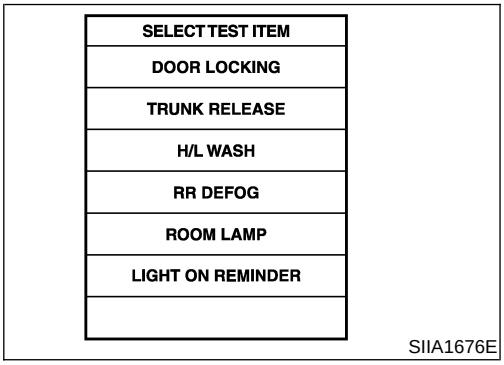
MBIB0233E

3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



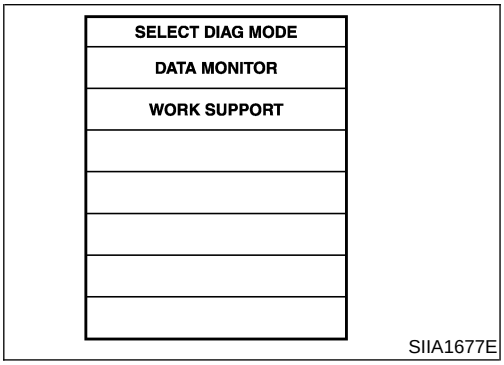
SIIA1678E

5. Touch “SMART ENTRANCE”.



SIIA1676E

6. Touch “DOOR LOCKING” or “TRUNK RELEASE”.



SIIA1677E

7. Select diagnosis mode.
   “DATA MONITOR” and “WORK SUPPORT” are available.

## CONSULT-II APPLICATION ITEMS

NJEL0580S02

### Door Locking

NJEL0580S0201

#### DATA MONITOR

| Monitored Item | Description |
|---|---|
| IGNITION SW | Indicates [ON/OFF] condition of ignition switch. |
| KEY IN DETECT | Indicates [ON/OFF] condition of key switch. |
| DOOR SW DR RR | Indicates [ON/OFF] condition of rear door switch (driver side). |
| DOOR SW AS RR | Indicates [ON/OFF] condition of rear door switch (passenger side). |
| AS DOOR SW | Indicates [ON/OFF] condition of front door switch (passenger side). |
| DR DOOR SW | Indicates [ON\OFF] condition of front door switch (driver side). |
| CDL LOCK SW | Indicates [ON/OFF] condition of lock signal from door lock/ unlock switch. |
| CDL UNLOCK SW | Indicates [ON/OFF] condition of unlock signal from door lock/ unlock switch. |
| RKE LOCK | Indicates [ON/OFF] condition of lock signal from remote controller. |
| RKE UNLOCK | Indicates [ON/OFF] condition of unlock signal from remote controller. |
| RKE SEL UNLOCK | Indicates [ON/OFF] condition of select unlock signal from remote controller. |

#### WORK SUPPORT

| Monitored Item | Description |
|---|---|
| AUTO RE-LOCK | Auto re-lock function can be changed in this mode. The re-lock mode will be changed when "CHANGE MODE" on CONSULT-II screen is touched. |
| SELECTIVE UNLOCK | Selective unlock function can be changed in this mode. The unlock mode will be changed when "CHANGE SET" on CONSULT-II screen is touched. |

### Trunk Release

NJEL0580S0202

#### DATA MONITOR

| Monitored Item | Description |
|---|---|
| IGNITION SW | Indicates [ON/OFF] condition of ignition switch. |
| TRUNK OPEN SW | Indicates [ON/OFF] condition of trunk room lamp switch (sedan) or back door switch (wagon). |
| INT TRUNK REL | Indicates [ON/OFF] condition of internal trunk release switch (sedan) or internal back door release switch (wagon). |
| EXT TRUNK REL | Indicates [ON/OFF] condition of external trunk release switch (sedan) or external back door release switch (wagon). |
| RKE TRUNK REL | Indicates [ON/OFF] condition of trunk (sedan) or back door (back door) open signal from trunk or back door release switch. |

#### WORK SUPPORT

| Monitored Item | Description |
|---|---|
| TRUNK OPEN DELAY | This mode can be changed trunk release switch (sedan) or back door (wagon) release switch operation time. |

## SYMPTOM CHART

=NJEL0580S03

First perform the "SELF-DIAG RESULTS" in "SMART ENTRANCE" with CONSULT-II, when perform the each trouble diagnosis. Refer to EL-271, "CONSULT-II INSPECTION PROCEDURE".

| Symptom | Malfunctioning system | Reference page |
|---|---|---|
| Power door lock does not operate using any switch | Power supply and ground circuit check | EL-274 |
| | Door lock actuator check | EL-277 |
| | If above systems are OK, replace smart entrance control unit. | — |
| Power door lock does not operate with lock/unlock switch. | Door lock/unlock switch check | EL-275 |
| | If above system is OK, replace smart entrance control unit. | — |
| Specific door lock actuator does not operate. | Door lock actuator check | EL-277 |
| *Key reminder system does not operate. | Door switch check | EL-283 |
| | Key switch check | EL-291 |
| | If above system is OK, replace smart entrance control unit. | — |
| Trunk or back door release actuator does not operate. | Trunk room lamp switch or back door switch check | — |
| | Trunk release actuator check (sedan) | — |
| | Back door release actuator check (hatchback) | — |
| | If above system is OK, replace smart entrance control unit. | — |

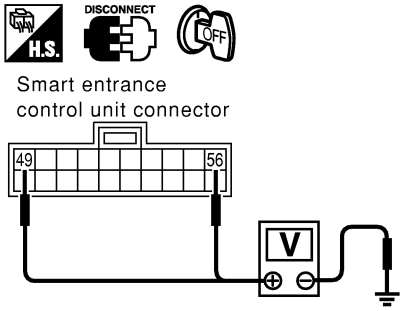
*: Make sure the power door lock system operates properly.

## POWER SUPPLY AND GROUND CIRCUIT CHECK

NJEL0580S04

### 1 CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect smart entrance control unit connector.
3. Check voltage between smart entrance control unit harness connector M195 terminal 49 (W/L), 56 (R/B) and ground.




SIIA1564E

| Terminal | | Voltage |
|---|---|---|
| + | — | |
| 49 (W/L) | Ground | Battery voltage |
| 56 (R/B) | | |

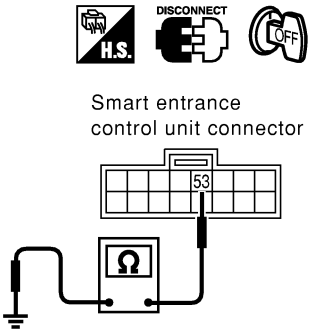
MTBL1480

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Check smart entrance control unit power supply circuit for open or short. |

### 2 CHECK GROUND CIRCUIT

Check continuity between smart entrance control unit harness connector M195 terminal 53 (B) and ground.




SIIA1565E

| Terminal | | Continuity |
|---|---|---|
| + | — | |
| 53 (B) | Ground | Yes |

MTBL1481

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Power supply and ground circuit is OK. |
| NG | ▶ | Check smart entrance control unit ground circuit for open or short. |

## DOOR LOCK/UNLOCK SWITCH CHECK

NJEL0580S05

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

**With CONSULT-II**

- Check door lock/unlock switch input signal ("CDL LOCK SW" "CDL UNLOCK SW") in "DATA MONITOR" mode with CONSULT-II.

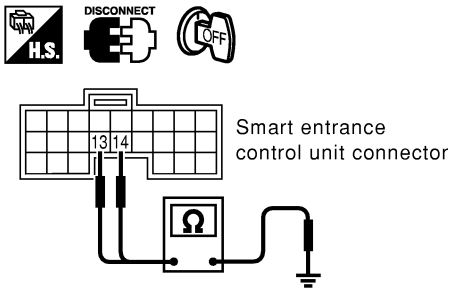
| DATA MONITOR | |
|---|---|
| MONITOR | |
| CDL LOCK SW | ON |
| CDL UNLOCK SW | ON |

SIIA1566E

**When door lock/unlock switch is turned to LOCK:**
**CDL LOCK SW ⇒ ON**
**When door lock/unlock switch is turned to UNLOCK:**
**CDL UNLOCK SW ⇒ ON**

**Without CONSULT-II**

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector M193 terminal 13 (P), 14 (L) and ground.




SIIA1567E

| Terminals | Door lock/unlock switch operation | Continuity |
|---|---|---|
| 13 — Ground | Lock position | Yes |
| | Neutral or Unlock position | No |
| 14 — Ground | Unlock position | Yes |
| | Neutral or Lock position | No |

MTBL1482

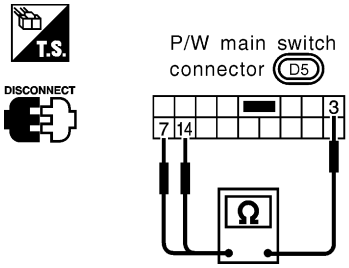
**OK or NG**

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

**2 CHECK DOOR LOCK/UNLOCK SWITCH**

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

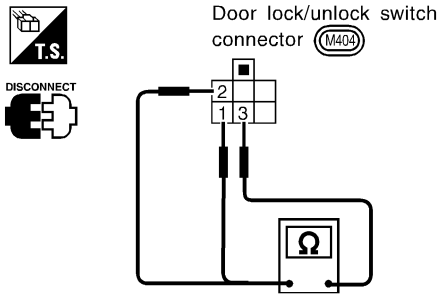
- Power window main switch (Door lock/unlock switch) (With power window system)




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

YEL803C

- Door lock/unlock switch (Without power window system)




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

SEL469X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Ground circuit for door lock/unlock switch<br>• Harness for open or short between door lock/unlock switch and smart entrance control unit connector |
| NG | ▶ | Replace power window main switch (door lock/unlock switch). |

## DOOR LOCK ACTUATOR CHECK

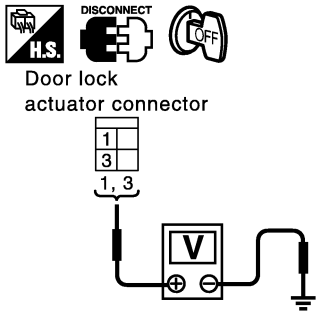
NJEL0580S06

### Driver Side

NJEL0580S0601

**1 CHECK DOOR LOCK SIGNAL**

1. Disconnect door lock actuator (driver side) harness connector.
2. Check voltage between door lock actuator harness connector D27 terminal 1 (L), 3 (W/R) and ground.




YEL834D

| Door lock/unlock switch | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock position | 1 (L) | Ground | Approx. 12 |
| Unlock position | 3 (W/R) | Ground | |

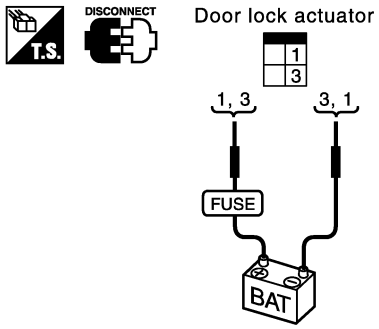
MTBL1484

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | GO TO 3. |

**2 CHECK DOOR LOCK ACTUATOR**

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




YEL835D

| Terminal | | Door lock actuator operation |
|---|---|---|
| + | — | |
| 1 | 3 | Unlock → Lock |
| 3 | 1 | Lock → Unlock |

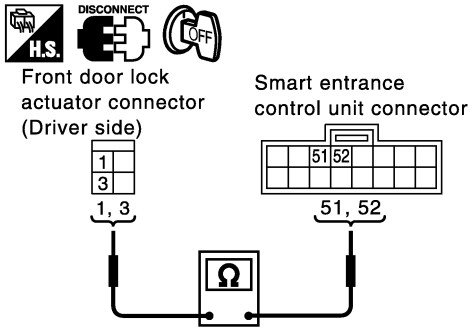
MTBL1485

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace door lock actuator (driver side). |

| 3 | CHECK DOOR LOCK ACTUATOR CIRCUIT |
|---|---|

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between door lock actuator (driver side) harness connector D27 terminal 1 (L), 3 (W/R) and smart entrance control unit harness connector M195 terminal 51 (L/R), 52 (W/R).




YEL836D

| Terminal | | Continuity |
|---|---|---|
| Door lock actuator | Smart entrrance control unit | |
| 1 (L) | 51 (L/R) | Yes |
| 3 (W/R) | 52 (W/R) | Yes |

MTBL1486

**OK or NG**

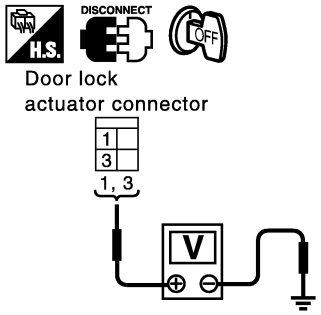
| | | |
|---|---|---|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Check harness for open or short between smart entrance control unit and door lock actuator (driver side). |

## Passenger Side

*NJEL0580S0602*

| 1 | CHECK DOOR LOCK SIGNAL |
|---|---|

1. Disconnect door lock actuator (passenger side) harness connector.
2. Check voltage between door lock actuator harness connector D48 terminal 1 (R/B), 3 (W/R) and ground.




YEL834D

| Door lock/unlock switch | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock position | 1 (R/B) | Ground | Approx. 12 |
| Unlock position | 3 (W/R) | Ground | |

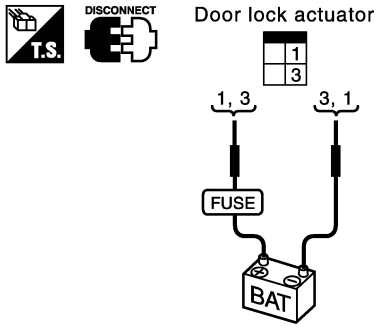
MTBL1487

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | GO TO 3. |

**2 CHECK DOOR LOCK ACTUATOR**

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




YEL835D

| Terminal | | Door lock actuator operation |
|---|---|---|
| + | — | |
| 1 | 3 | Unlock → Lock |
| 3 | 1 | Lock → Unlock |

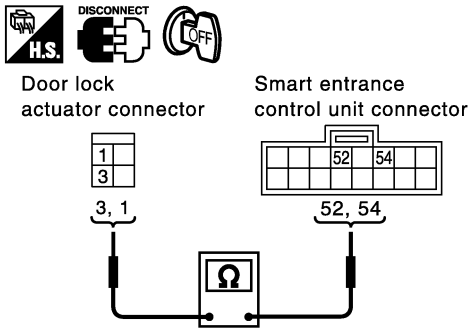
MTBL1488

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace door lock actuator (passenger side). |

**3 CHECK DOOR LOCK ACTUATOR CIRCUIT**

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between door lock actuator (passenger side) harness connector D48 terminal 1 (R/B), 3 (W/R) and smart entrance control unit harness connector M195 terminal 52 (W/R), 54 (R/B).




YEL837D

| Terminal | | Continuity |
|---|---|---|
| Door lock actuator | Smart entrrance control unit | |
| 3 (W/R) | 52 (W/R) | Yes |
| 1 (R/B) | 54 (R/B) | Yes |

MTBL1489

**OK or NG**

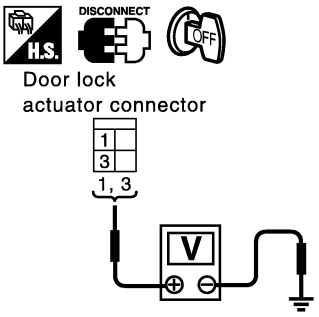
| | | |
|---|---|---|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Check harness for open or short between smart entrance control unit and door lock actuator (passenger side). |

## Rear LH Side

NJEL0580S0603

**1 CHECK DOOR LOCK SIGNAL**

1. Disconnect rear door lock actuator LH harness connector.
2. Check voltage between door lock actuator harness connector D62 terminal 1 (R/B), 3 (W/R) and ground.




YEL834D

| Door lock/unlock switch | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock position | 1 (R/B) | Ground | Approx. 12 |
| Unlock position | 3 (W/R) | Ground | |

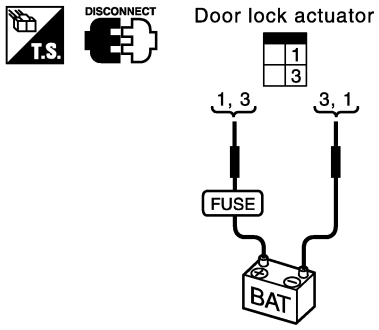
MTBL1490

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | GO TO 3. |

**2 CHECK DOOR LOCK ACTUATOR**

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




YEL835D

| Terminal | | Door lock actuator operation |
|---|---|---|
| + | — | |
| 1 | 3 | Unlock → Lock |
| 3 | 1 | Lock → Unlock |

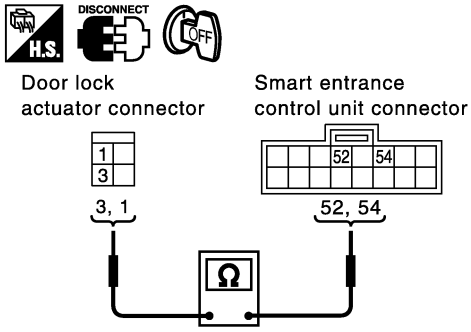
MTBL1491

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace rear door lock actuator LH. |

**3 CHECK DOOR LOCK ACTUATOR CIRCUIT**

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between rear door lock actuator LH harness connector D62 terminal 1 (R/B), 3 (W/R) and smart entrance control unit harness connector M195 terminal 52 (W/R), 54 (R/B).




YEL837D

| Terminal | | Continuity |
|---|---|---|
| Door lock actuator | Smart entrrance control unit | |
| 1 (R/B) | 54 (R/B) | Yes |
| 3 (W/R) | 52 (W/R) | Yes |

MTBL1492

**OK or NG**

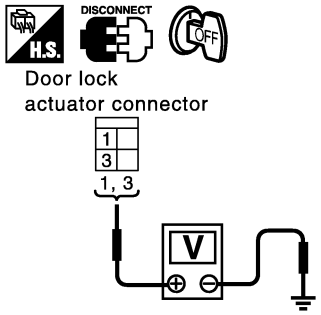
| | | |
|---|---|---|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Check harness for open or short between smart entrance control unit and rear door lock actuator LH. |

## Rear RH Side

NJEL0580S0604

**1 CHECK DOOR LOCK SIGNAL**

1. Disconnect rear door lock actuator RH harness connector.
2. Check voltage between rear door lock actuator RH harness connector D82 terminal 1 (R/B), 3 (W/R) and ground.




YEL834D

| Door lock/unlock switch | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock position | 1 (R/B) | Ground | Approx. 12 |
| Unlock position | 3 (W/R) | Ground | |

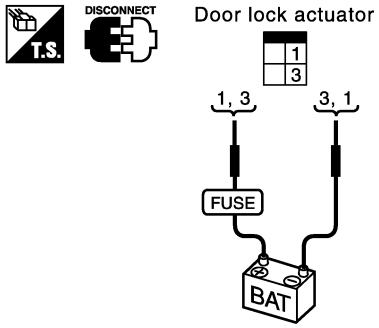
MTBL1493

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | GO TO 3. |

**2 CHECK DOOR LOCK ACTUATOR**

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




YEL835D

| Terminal | | Door lock actuator operation |
|---|---|---|
| + | — | |
| 1 | 3 | Unlock → Lock |
| 3 | 1 | Lock → Unlock |

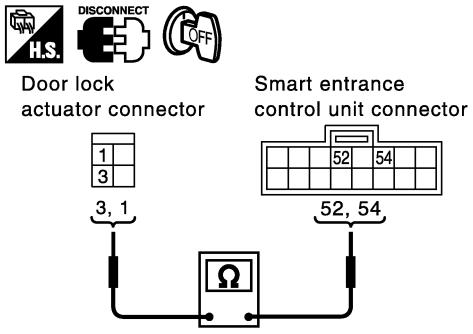
MTBL1494

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace rear door lock actuator RH. |

**3 CHECK DOOR LOCK ACTUATOR CIRCUIT**

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between rear door lock actuator RH harness connector D82 terminal 1 (R/B), 3 (W/R) and smart entrance control unit harness connector M195 terminal 52 (W/R), 54 (R/B).




YEL837D

| Terminal | | Continuity |
|---|---|---|
| Door lock actuator | Smart entrrance control unit | |
| 3 (W/R) | 52 (W/R) | Yes |
| 1 (R/B) | 54 (R/B) | Yes |

MTBL1495

**OK or NG**

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

## DOOR SWITCH CHECK

NJEL0580S07

### Driver Side

NJEL0580S0701

**1** **CHECK DOOR SWITCH INPUT SIGNAL**

**With CONSULT-II**

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

| DATA MONITOR | |
|---|---|
| MONITOR | |
| DR DOOR SW | ON |

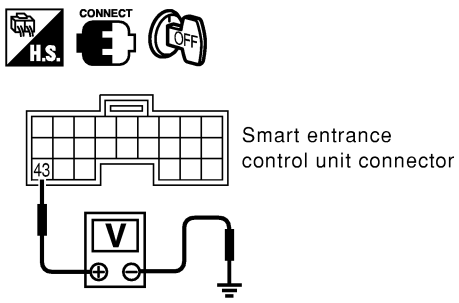
SIIA1590E

| | Monitor item | Condition |
|---|---|---|
| DR DOOR SW | Front door switch LH | Open: ON |
| | | Close: OFF |

MTBL1496

**Without CONSULT-II**

1. Turn ignition switch OFF.
2. Check voltage between smart entrance control unit harness connector M194 terminal 43 (R/W) and ground.




SIIA1588E

| Terminal | | Front door LH | Voltage |
|---|---|---|---|
| (+) | (—) | | |
| 43 (R/W) | Ground | Closed | Approx. 5 |
| | | Open | 0 |

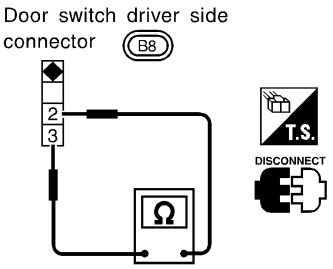
MTBL1497

**OK or NG**

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

| 2 | CHECK DOOR SWITCH |
|---|---|

Check continuity between front door switch LH harness connector B8 terminals 2 and 3.




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

SEL325WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Front door switch LH ground condition<br>● Harness for open or short between smart entrance control unit and front door switch LH |
| NG | ▶ | Replace front door switch LH. |

## Passenger Side

NJEL0580S0702

**1 CHECK DOOR SWITCH INPUT SIGNAL**

**With CONSULT-II**

- Check door switch "AS DOOR SW" in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|---|---|
| MONITOR | |
| AS DOOR SW | ON |

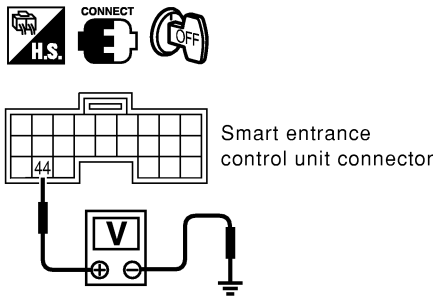
SIIA1591E

| | Monitor item | Condition |
|---|---|---|
| AS DOOR SW | Front door switch RH | Open: ON |
| | | Close: OFF |

MTBL1499

**Without CONSULT-II**

1. Turn ignition switch OFF.
2. Check voltage between smart entrance control unit harness connector M194 terminal 44 (R/W) and ground.




SIIA1592E

| Terminal (+) | Terminal (—) | Front door RH | Voltage |
|---|---|---|---|
| 44 (R/W) | Ground | Closed | Approx. 5 |
| | | Open | 0 |

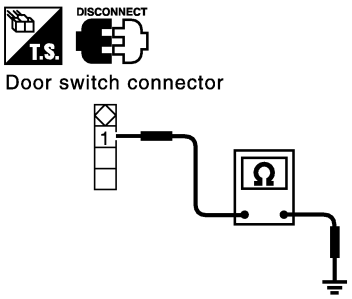
MTBL1500

**OK or NG**

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

**2 CHECK DOOR SWITCH**

Check continuity between front door switch RH harness connector B19 terminal 1 (R/W) and ground.




SIIA1589E

| Terminal | | Front door RH switch | Continuity |
|---|---|---|---|
| (+) | (—) | | |
| 1 (R/W) | Ground | Pushed | No |
| | | Released | Yes |

MTBL1501

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Front door switch RH ground condition<br>● Harness for open or short between smart entrance control unit and front door switch RH |
| NG | ▶ | Replace front door switch RH. |

## Rear LH Side

NJEL0580S0703

**1 CHECK DOOR SWITCH INPUT SIGNAL**

**With CONSULT-II**

- Check door switch "RR LH DOOR SW" in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|---|---|
| MONITOR | |
| RR LH DOOR SW | ON |

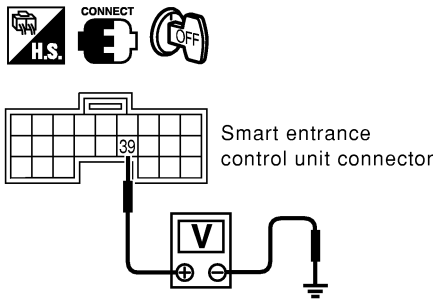
SIIA1593E

| | Monitor item | Condition |
|---|---|---|
| RR LH DOOR SW | Rear door switch LH | Open: ON |
| | | Close: OFF |

MTBL1502

**Without CONSULT-II**

1. Turn ignition switch OFF.
2. Check voltage between smart entrance control unit harness connector M194 terminal 39 (BR/W) and ground.




SIIA1597E

| Terminal (+) | Terminal (—) | Rear door LH | Voltage |
|---|---|---|---|
| 39 (BR/W) | Ground | Closed | Approx. 5 |
| | | Open | 0 |

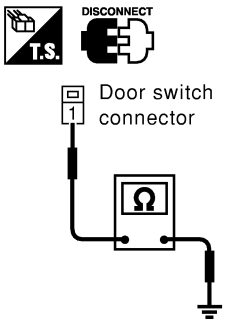
MTBL1503

**OK or NG**

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

**2 CHECK DOOR SWITCH**

Check continuity between rear door switch LH harness connector B24 terminal 1 (BR/W) and ground.




SIIA1595E

| Terminal | | Rear door LH switch | Continuity |
|---|---|---|---|
| (+) | (—) | | |
| 1 (BR/W) | Ground | Pushed | No |
| | | Released | Yes |

MTBL1504

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Rear door switch LH ground condition<br>● Harness for open or short between smart entrance control unit and rear door switch LH |
| NG | ▶ | Replace rear door switch LH. |

## Rear RH Side

NJEL0580S0704

**1 CHECK DOOR SWITCH INPUT SIGNAL**

**With CONSULT-II**

- Check door switch "RR RH DOOR SW" in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|---|---|
| MONITOR | |
| RR RH DOOR SW | ON |

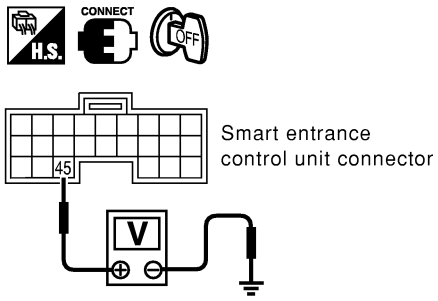
SIIA1596E

| | Monitor item | Condition |
|---|---|---|
| RR RH DOOR SW | Rear door switch RH | Open: ON |
| | | Close: OFF |

MTBL1505

**Without CONSULT-II**

1. Turn ignition switch OFF.
2. Check voltage between smart entrance control unit harness connector M194 terminal 45 (R/Y) and ground.




SIIA1594E

| Terminal (+) | Terminal (—) | Rear door RH | Voltage |
|---|---|---|---|
| 45 (R/Y) | Ground | Closed | Approx. 5 |
| | | Open | 0 |

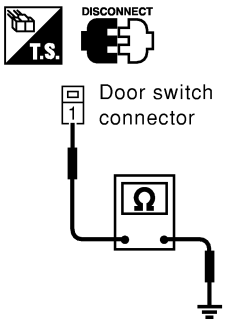
MTBL1506

**OK or NG**

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

**2 CHECK DOOR SWITCH**

Check continuity between rear door switch RH harness connector B35 terminal 1 (R/Y) and ground.




SIIA1595E

| Terminal | | Rear door RH switch | Continuity |
|---|---|---|---|
| (+) | (—) | | |
| 1 (R/Y) | Ground | Pushed | No |
| | | Released | Yes |

MTBL1507

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Rear door switch RH ground condition<br>● Harness for open or short between smart entrance control unit and rear door switch RH |
| NG | ▶ | Replace rear door switch RH. |

## KEY SWITCH CHECK

NJEL0580S08

**1 CHECK KEY SWITCH INPUT SIGNAL**

**With CONSULT-II**

- Check key switch input signal "KEY IN DETECT" in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|---|---|
| MONITOR | |
| KEY IN DETECT | ON |

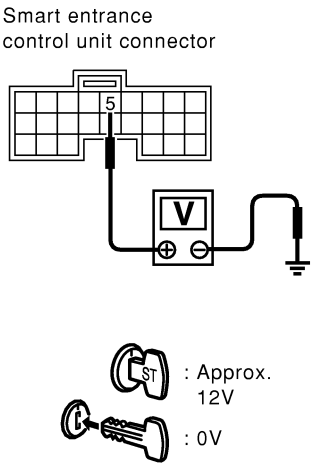
SIIA1598E

**When key is inserted in ignition key cylinder:**
**KEY IN DETECT ⇒ ON**
**When key is removed from ignition key cylinder:**
**KEY IN DETECT ⇒ OFF**

**Without CONSULT-II**

- Check voltage between smart entrance control unit harness connector M193 terminal 5 (L/W) and ground.




SIIA1599E

| Terminals | | Key switch | Voltage |
|---|---|---|---|
| + | — | | |
| 5 (L/W) | Ground | Key is inserted | Approx. 12 |
| | | Key is removed | 0 |

MTBL1508

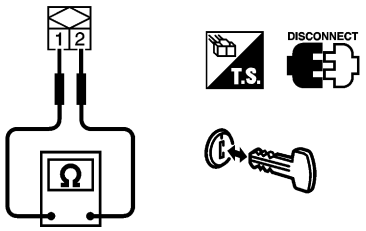
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Key switch is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK KEY SWITCH (INSERT) |
|---|---|

1. Disconnect key switch connector.
2. Check continuity between key switch terminals 1 and 2.

Key switch connector E173




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

YEL791C

**OK or NG**

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

## Trouble Diagnoses/YD Engine Models with Common Rail and K9K Engine Models

NJEL0505

### SYMPTOM CHART

NJEL0505S02

| REFERENCE PAGE (EL- ) | | 293 | 294 | 295 | 296 | 298 | 299 | 300 |
|---|---|---|---|---|---|---|---|---|
| SYMPTOM | | Main power supply and ground circuit check | Door lock/unlock switch check | Door key cylinder switch check | Door lock actuator check | Door switch check | Door unlock sensor check | Key switch check |
| 1 | Power door lock does not operate using any switch. | X | | | X | | | |
| 2 | Power door lock does not operate with lock/ unlock switch. | | X | | | | | |
| 3 | Power door lock does not operate with door key cylinder switch. | | | X | | | | |
| 4 | Specific door lock actuator does not operate. | | | | X | | | |
| 5 | *Key reminder system does not operate. | | | | | X | X | X |

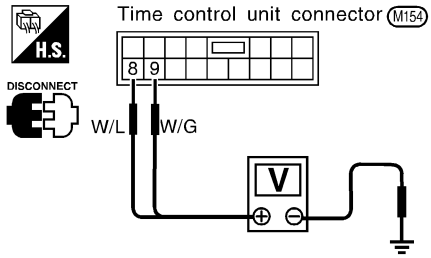
X: Applicable
*: Make sure the power door lock system operates properly.

## MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

=NJEL0505S03

### Main Power Supply Circuit Check

NJEL0505S0301

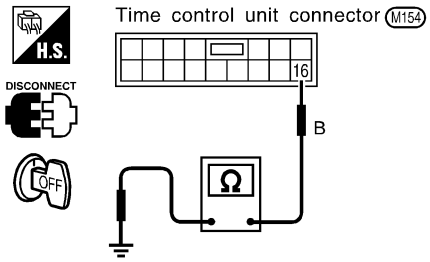



| Terminals | | Ignition switch position | | |
|---|---|---|---|---|
| (+) | (−) | OFF | ACC | ON |
| 8 | Ground | Battery voltage | | |
| 9 | | | | |

SEL467X

### Ground Circuit Check

NJEL0505S0302




**Continuity should exist.**

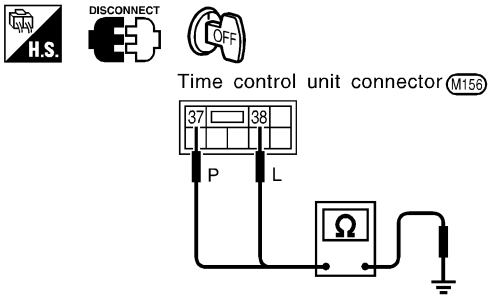
SEL448X

## DOOR LOCK/UNLOCK SWITCH CHECK

=NJEL0505S04

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

1. Disconnect time control unit harness connector.
2. Check continuity between time control unit harness connector terminal 37 or 38 and ground.




| Terminals | Door lock/unlock switch condition | Continuity |
|---|---|---|
| 38 – Ground | Lock | Yes |
| | N and Unlock | No |
| 37 – Ground | Unlock | Yes |
| | N and Lock | No |

SEL468X

Refer to wiring diagram in EL-266.

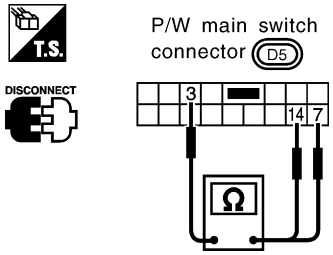
**OK or NG**

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

**2 CHECK DOOR LOCK/UNLOCK SWITCH**

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

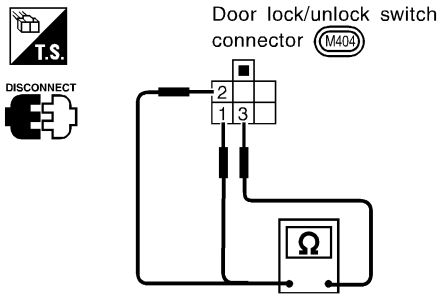
- Power window main switch (Door lock/unlock switch) (With power window)




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

YEL801C

- Door lock/unlock switch (Without power window)




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

SEL469X

**OK or NG**

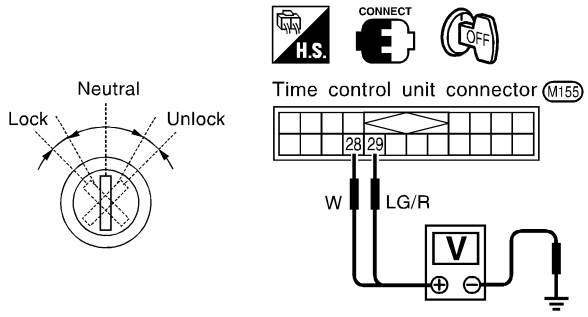
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Ground circuit for door lock/unlock switch<br>• Harness for open or short between door lock/unlock switch and time control unit connector |
| NG | ▶ | Replace door lock/unlock switch. |

## DOOR KEY CYLINDER SWITCH CHECK

NJEL0505S05

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

Check voltage between time control unit harness connector terminals 28 or 29 and ground.




| Terminals (+) | Terminals (−) | Key position | Voltage [V] |
|---|---|---|---|
| 29 | Ground | Neutral/Unlock | Approx. 5 |
| | | Lock | 0 |
| 28 | Ground | Neutral/Lock | Approx. 5 |
| | | Unlock | 0 |

SEL470X

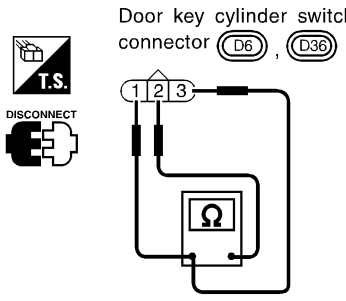
Refer to wiring diagram in EL-267.

**OK or NG**

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

**2 CHECK DOOR KEY CYLINDER SWITCH**

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




| Terminals | Key position | Continuity |
|---|---|---|
| ① - ② (LH side) | Neutral/Unlock | No |
| ② - ③ (RH side) | Lock | Yes |
| ① - ② (RH side) | Neutral/Lock | No |
| ② - ③ (LH side) | Unlock | Yes |

SEL471X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door key cylinder switch ground circuit<br>● Harness for open or short between time control unit and door key cylinder switch |
| NG | ▶ | Replace door key cylinder switch. |

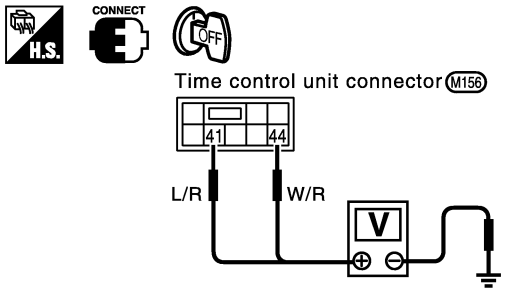
## DOOR LOCK ACTUATOR CHECK

NJEL0505S06

**1 CHECK DOOR LOCK ACTUATOR OUTPUT SIGNAL**

Check voltage for door lock actuator.

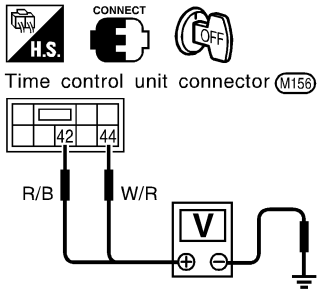
- Door lock actuator driver's side




| Door lock/unlock switch condition | Terminals (+) | Terminals (–) | Voltage [V] |
|---|---|---|---|
| Lock | 41 | Ground | Approx. 12 |
| Unlock | 44 | Ground | |

YEL839D

- Door lock actuator passenger side and rear




| Door lock/unlock switch condition | Terminals (+) | Terminals (–) | Voltage [V] |
|---|---|---|---|
| Lock | 42 | Ground | Approx. 12 |
| Unlock | 44 | Ground | |

SEL473X

Refer to wiring diagram in EL-269.

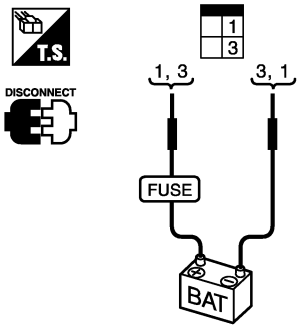
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace time control unit. (Before replacing the control unit, perform "DOOR LOCK/ UNLOCK SWITCH CHECK".) |

**2 CHECK DOOR LOCK ACTUATOR**

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

- Front and rear door

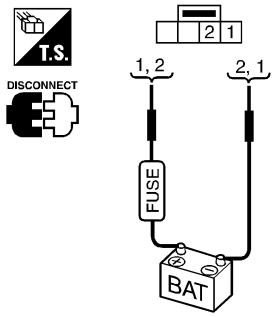



Door lock actuator connector
Driver side: D27
Passenger side: D48
Rear LH: D62
Rear RH: D82

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

YEL840D

- Back door




Door lock actuator connector D94

**Door lock actuator operation:**
**Terminals 2 (+) and 1 (–)**
**Unlocked → Locked**
**Terminals 1 (+) and 2 (–)**
**Locked → Unlocked**

SEL491X

**OK or NG**

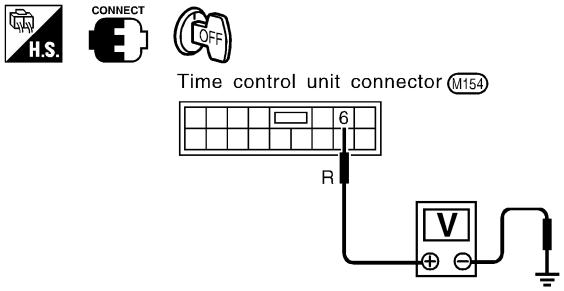
| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between time control unit connector and door lock actuator. |
| NG | ▶ | Replace door lock actuator. |

## DOOR SWITCH CHECK

=NJEL0505S08

| 1 | CHECK DOOR SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminal 6 and ground.




| | Terminals (+) | Terminals (−) | Condition | Voltage [V] |
|---|---|---|---|---|
| Driver's door switch | 6 | Ground | Open | 0 |
| | | | Closed | Approx. 5 |

SEL475X

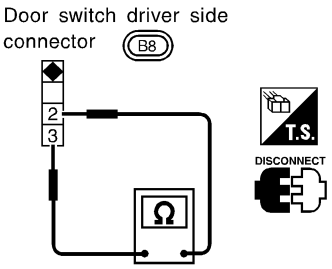
Refer to wiring diagram in EL-265.

**OK or NG**

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

| 2 | CHECK DOOR SWITCH |
|---|---|

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




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

SEL325WA

**OK or NG**

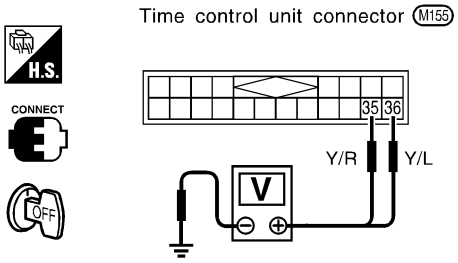
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door switch ground circuit or door switch ground condition<br>● Harness for open or short between smart entrance control unit and door switch |
| NG | ▶ | Replace door switch. |

## DOOR UNLOCK SENSOR CHECK

=NJEL0505S09

| 1 | CHECK DOOR UNLOCK SENSOR INPUT SIGNAL |
|---|---|

Check voltage between time control unit terminal 35 or 36 and ground.




| Terminals (+) | Terminals (−) | Condition (Driver's or passenger door) | Voltage [V] |
|---|---|---|---|
| 35 | Ground | Locked | Approx. 5 |
| | | Unlocked | 0 |
| 36 | Ground | Locked | Approx. 5 |
| | | Unlocked | 0 |

SEL476X

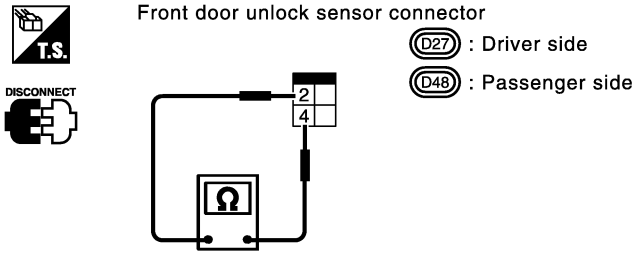
Refer to wiring diagram in EL-268.

**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 2 and 4.




**Continuity:**
**Condition: Locked**
**No**
**Condition: Unlocked**
**Yes**

YEL847D

**OK or NG**

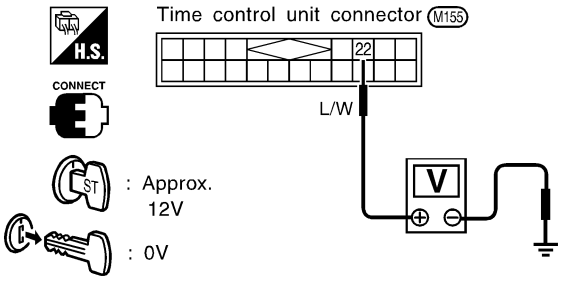
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door unlock sensor ground circuit<br>● Harness for open or short between time control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

## KEY SWITCH (INSERT) CHECK

=NJEL0505S11

| 1 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit terminal 22 and ground.




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

SEL433X

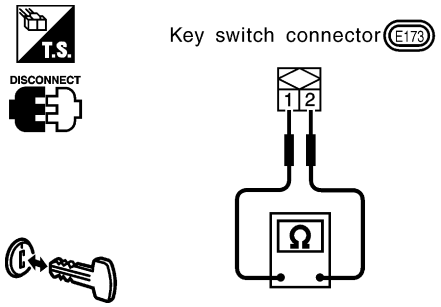
Refer to wiring diagram in EL-306.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Key switch is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK KEY SWITCH (INSERT) |
|---|---|

Check continuity between key switch terminals 1 and 2.




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

YEL802C

**OK or NG**

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

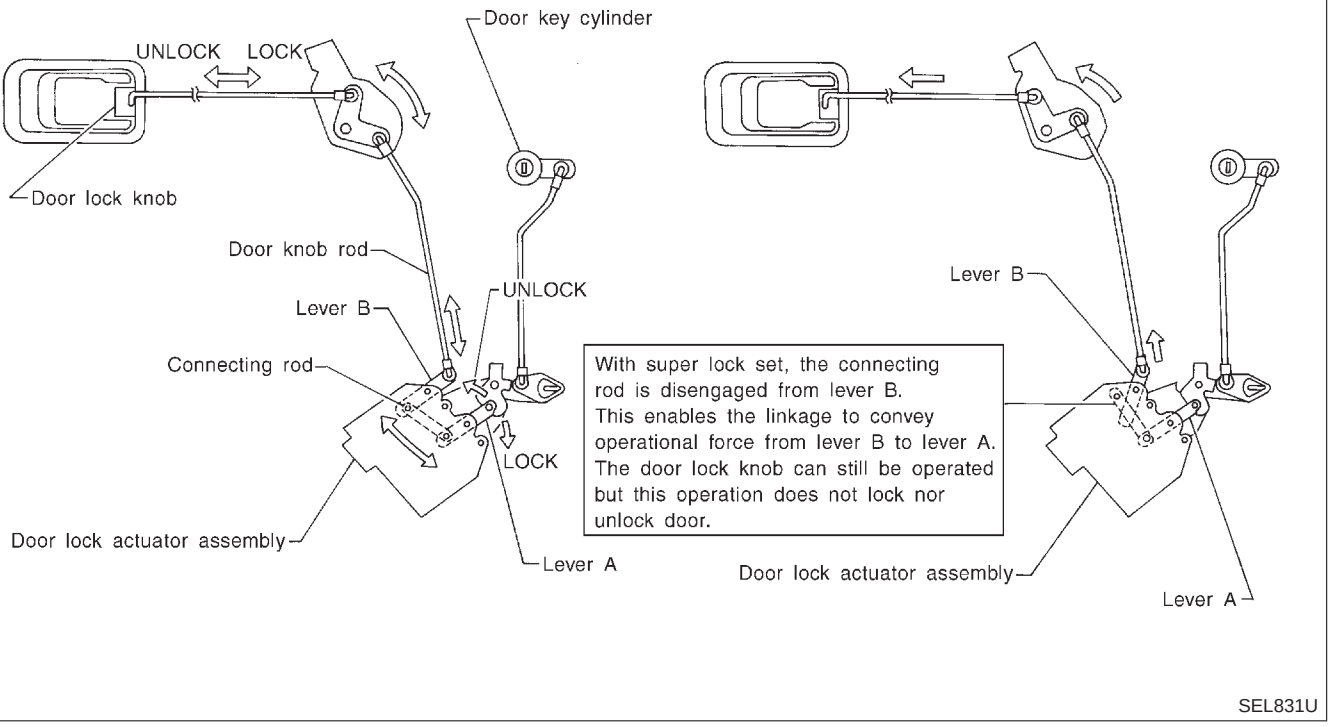
# System Description

NJEL0395

## OUTLINE

NJEL0395S01

Power door lock system with super lock and key reminder is controlled by time control unit. Super lock has a higher anti-theft performance than conventional power door lock systems.
When super lock is in released condition, lock knob operation locks or unlocks door.
When super lock is in set condition, lock knob operation cannot lock nor unlock door.




## OPERATION

NJEL0395S02

**Power door lock/unlock and super lock set/release operation by door key cylinder**

- With the key inserted into front door key cylinder, turning it to LOCK will lock all doors and set super lock. (Super lock will not be set while key is inserted in the ignition key cylinder.)
- With the key inserted into front door key cylinder, turning it to UNLOCK will unlock all doors and release super lock.

**Power door lock/unlock and super lock set/release operation by multi-remote controller (If equipped)**

- Pressing multi-remote controller LOCK button will lock all doors and set super lock. (Super lock will not be set while key is inserted in the ignition key cylinder.)
- Pressing multi-remote controller UNLOCK button once will unlock driver door and release super lock. Then, if an unlock signal is sent from the remote controller again within 5 seconds, all other doors will be unlocked.

**Power door lock and super lock release operation (by NATS IMMU signal)**

- When the super lock is set, turning the ignition key switch to ON will release the super lock. All doors will unlock once, but then immediately lock again.

**Power door lock/unlock operation by lock/unlock switch**

- With lock/unlock switch on driver door trim setting to LOCK will lock all doors.
- With lock/unlock switch on driver door trim setting to UNLOCK will unlock all doors.

**Lock/unlock switch operation cannot control super lock.**

**Key reminder system**

- If the ignition key is in the ignition key cylinder and driver door is open, setting lock/unlock switch, lock

knob, key or multi-remote controller to "LOCK" locks the door once but then immediately unlocks all doors. (signal from door unlock sensor driver side)

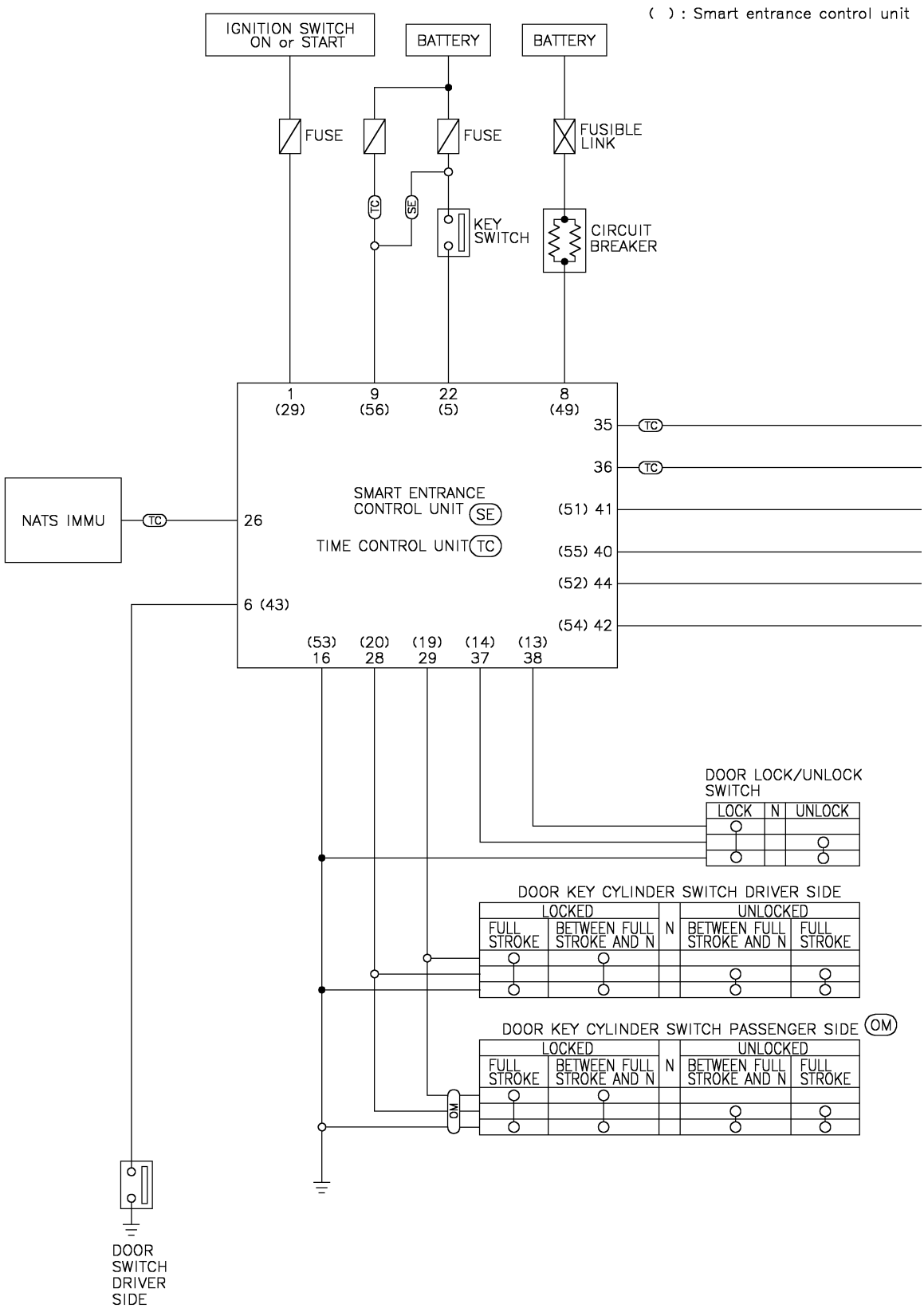
**System initialization**

- System initialization is required when battery cables are reconnected. Conduct the following to release super lock once;
  — insert the key into the ignition key cylinder and turn it to ON.
  — LOCK/UNLOCK operation using door key cylinder or multi-remote controller.

**NOTE:**

## Schematic

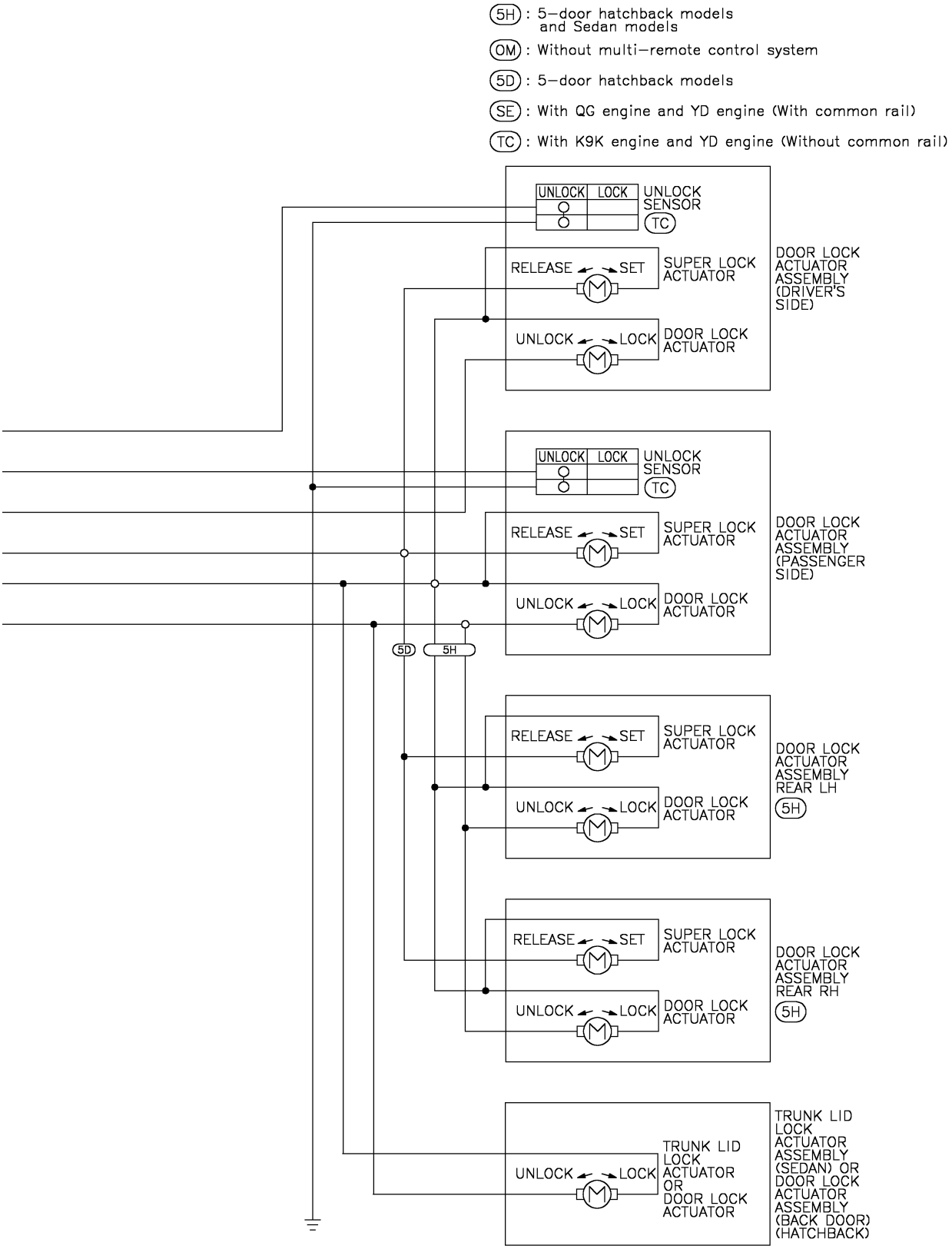
NJEL0475




YEL757D

*Schematic (Cont'd)*





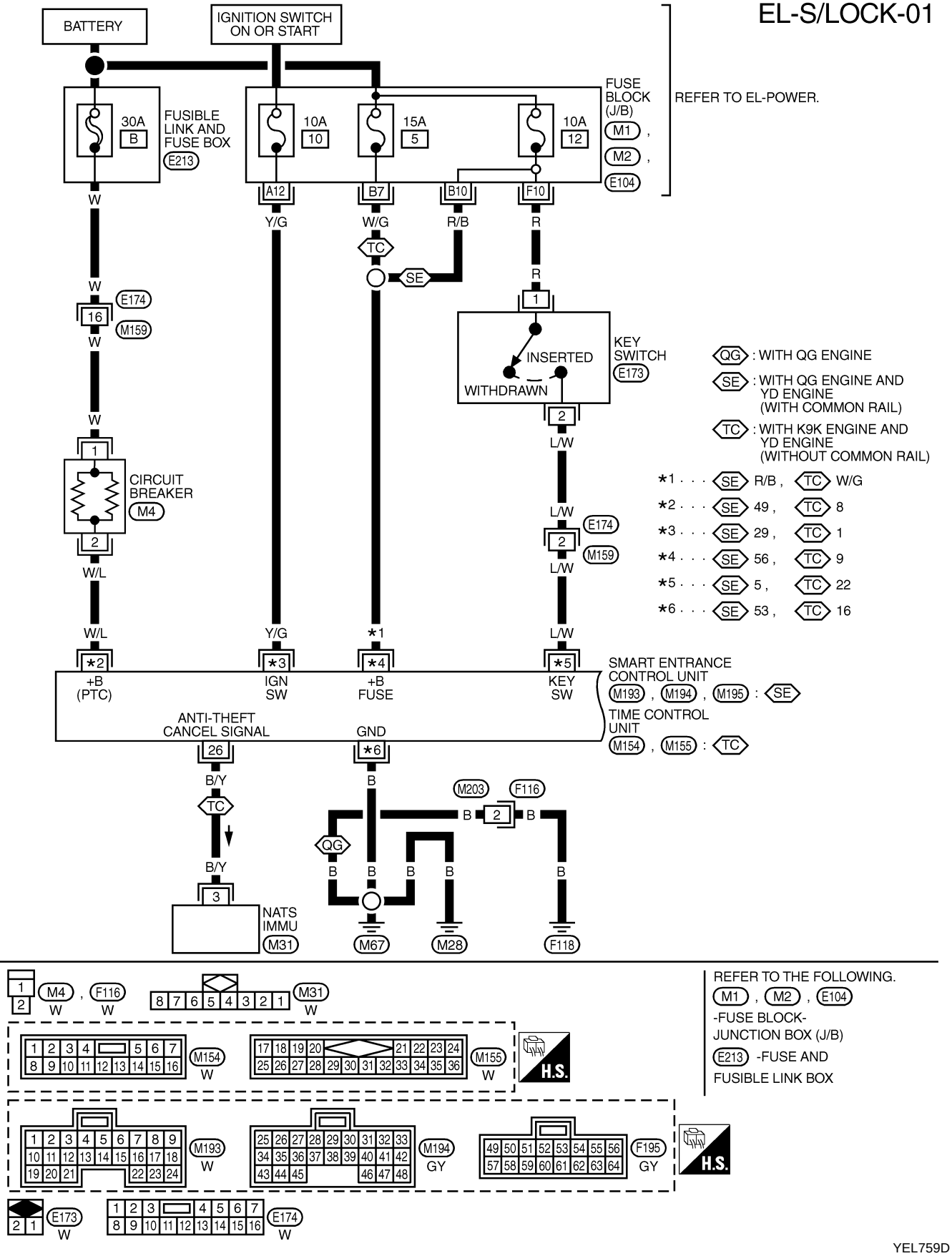

YEL758D

## Wiring Diagram — S/LOCK —

NJEL0476

**FIG. 1**

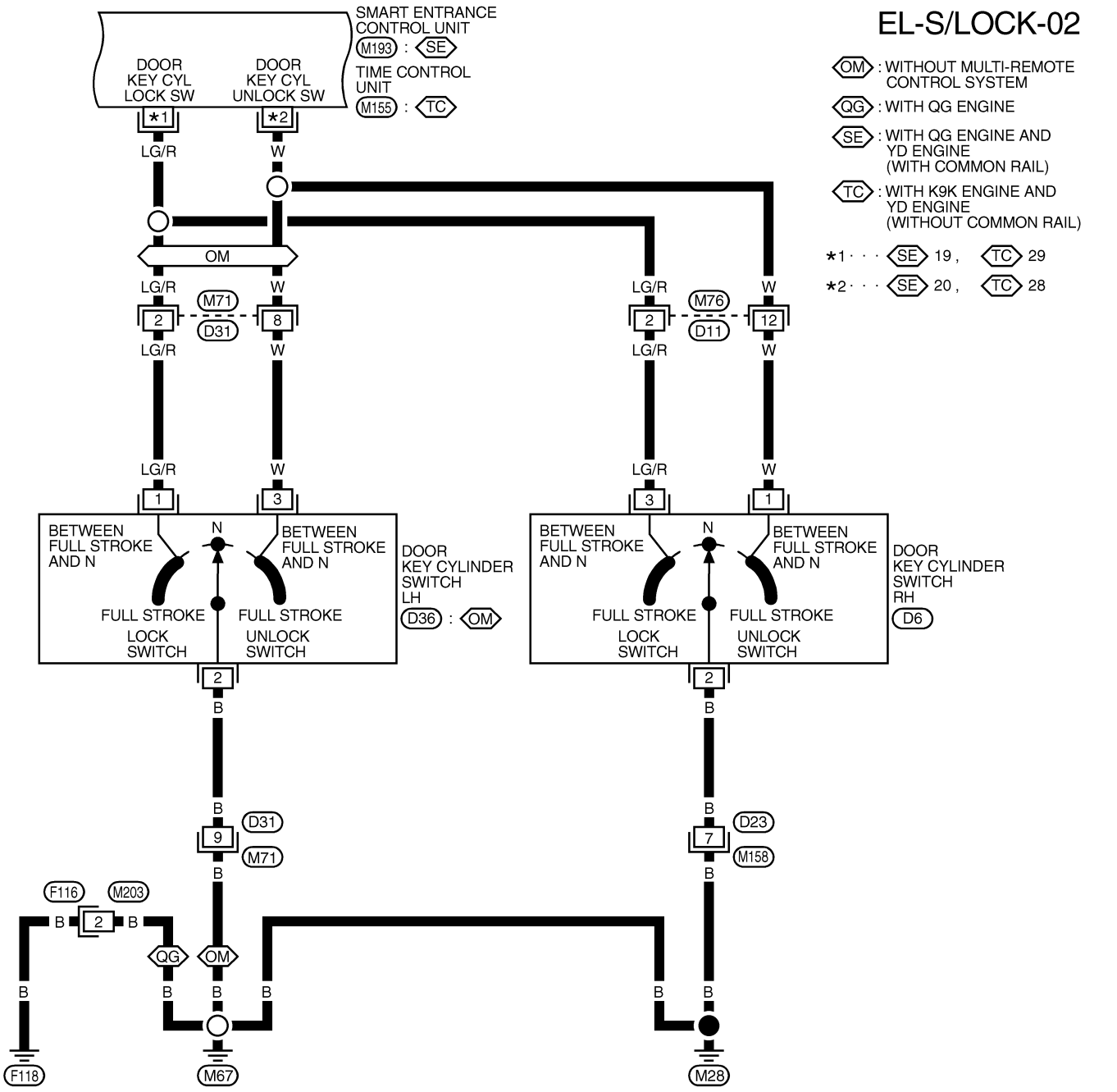
NJEL0476S01

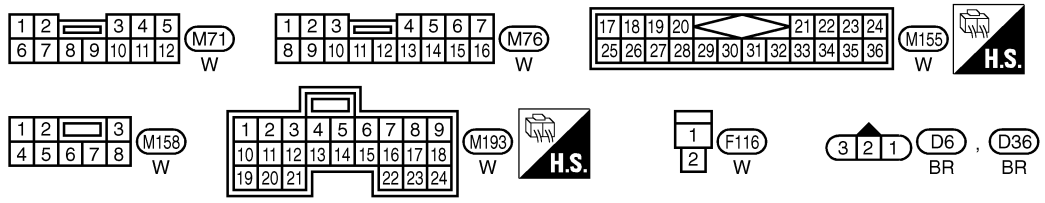



YEL759D

**FIG. 3**

NJEL0476S03



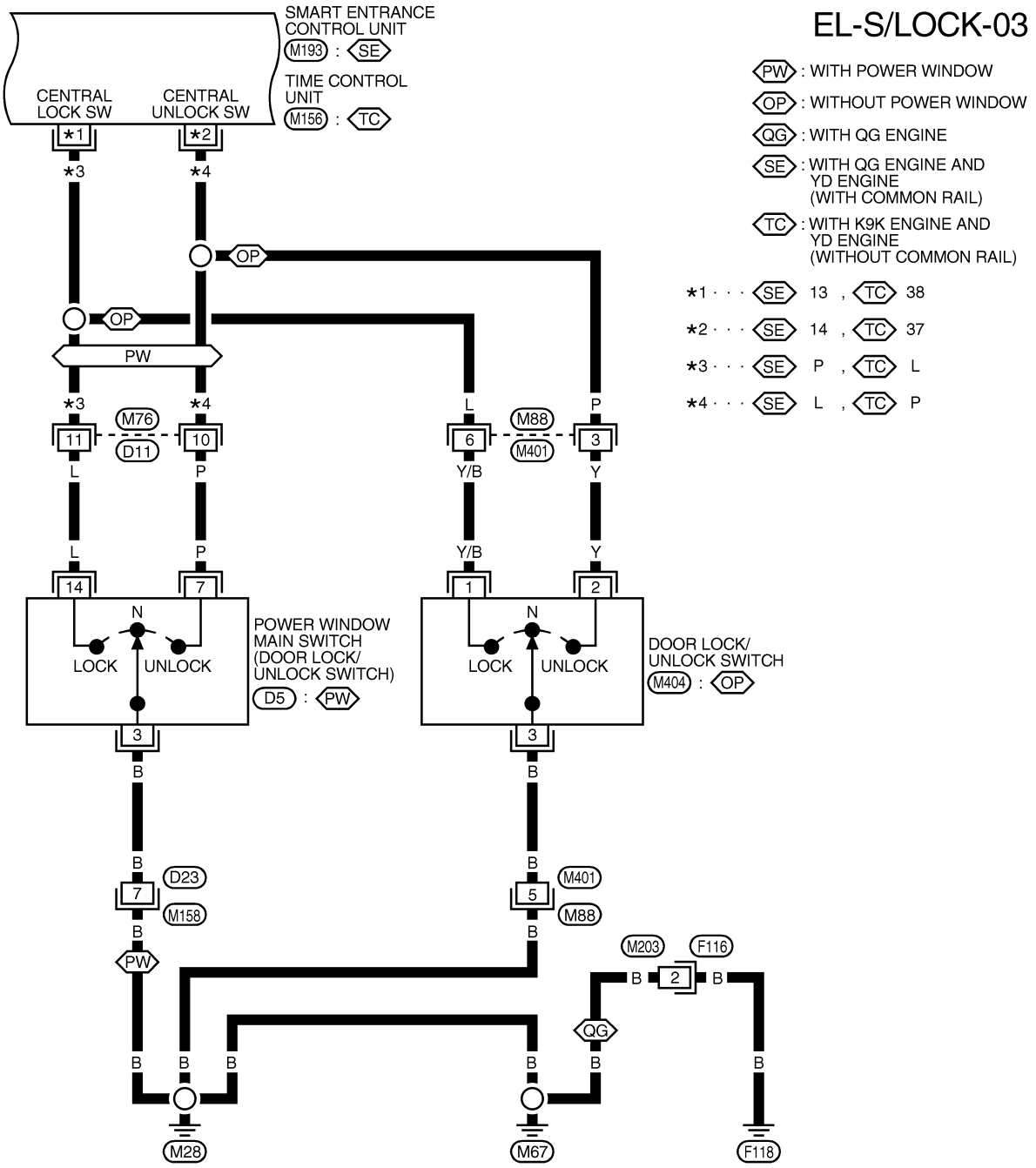



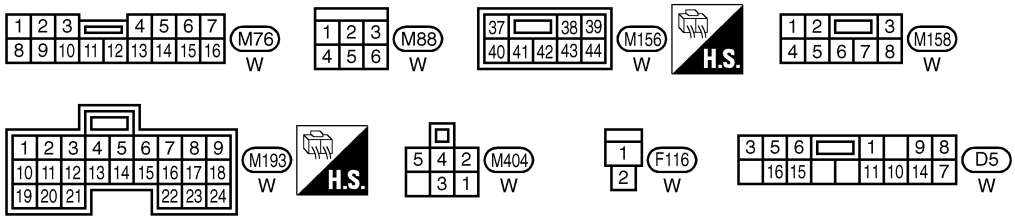

YEL760D

*Wiring Diagram — S/LOCK — (Cont'd)*

**FIG. 4**

NJEL0476S04



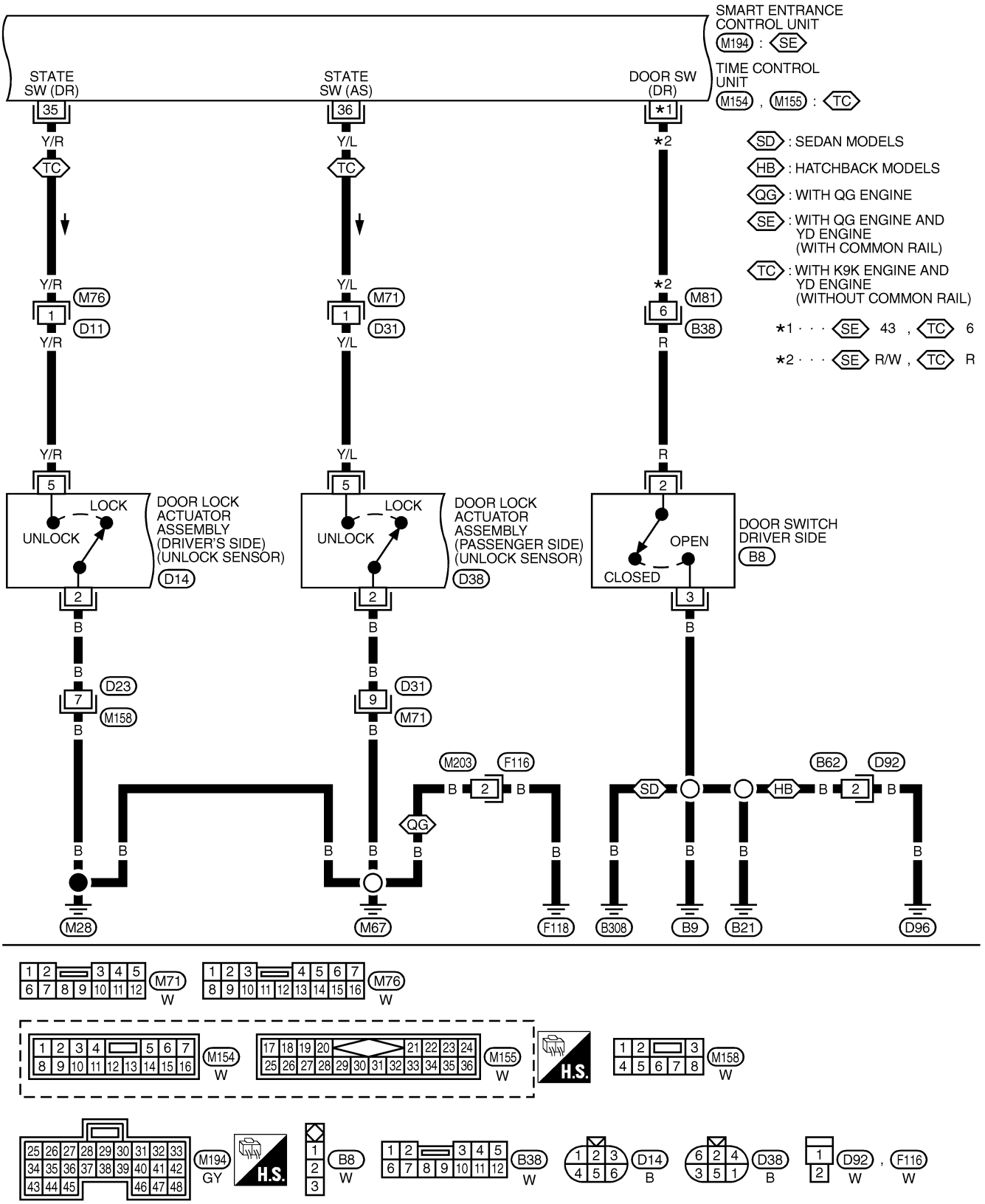




YEL761D

**FIG. 5**

NJEL0476S05

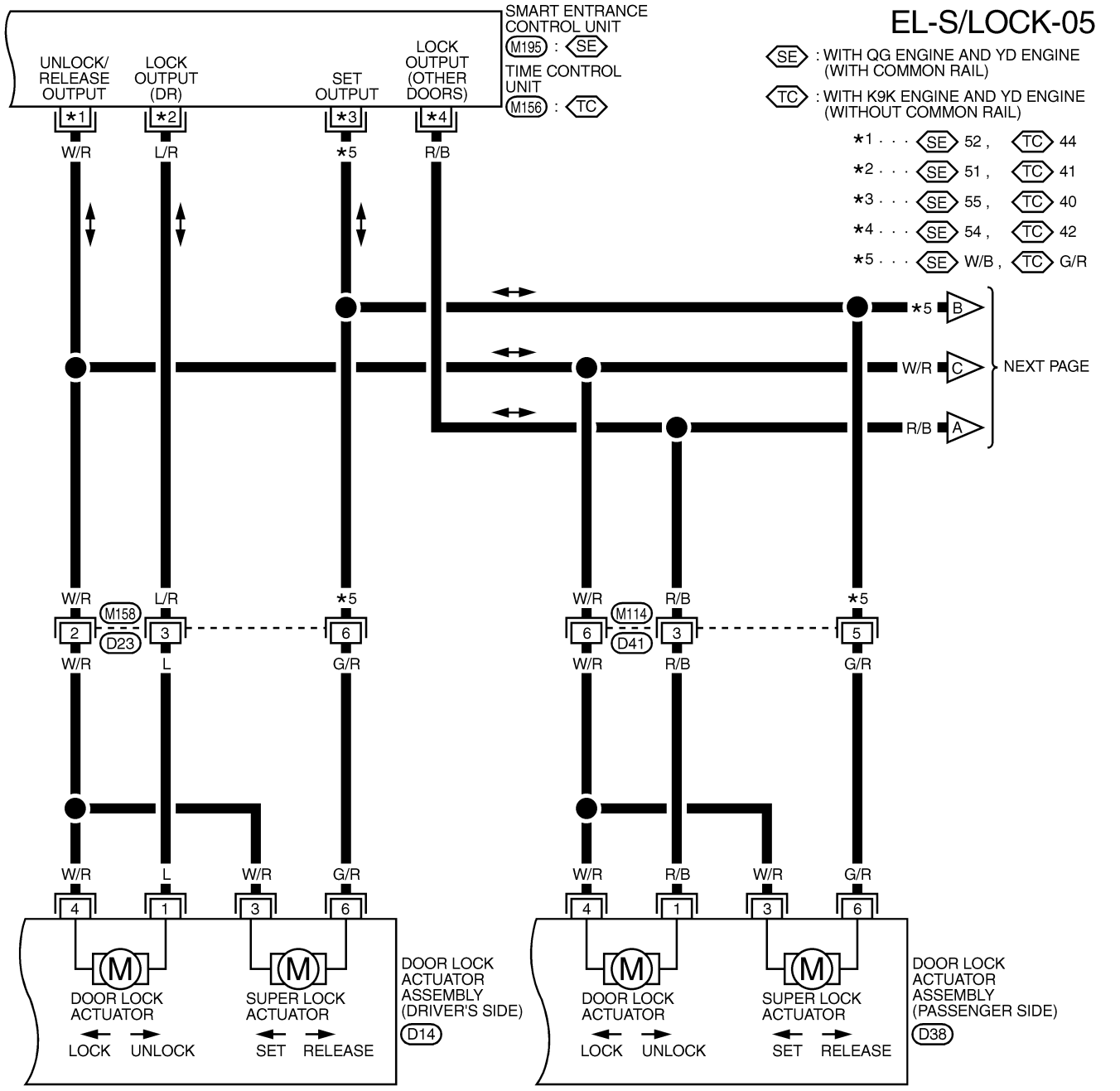
EL-S/LOCK-04

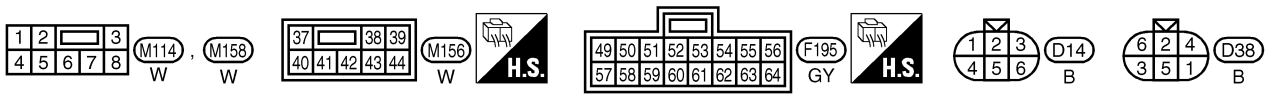


*Wiring Diagram — S/LOCK — (Cont'd)*

**FIG. 6**

NJEL0476S06

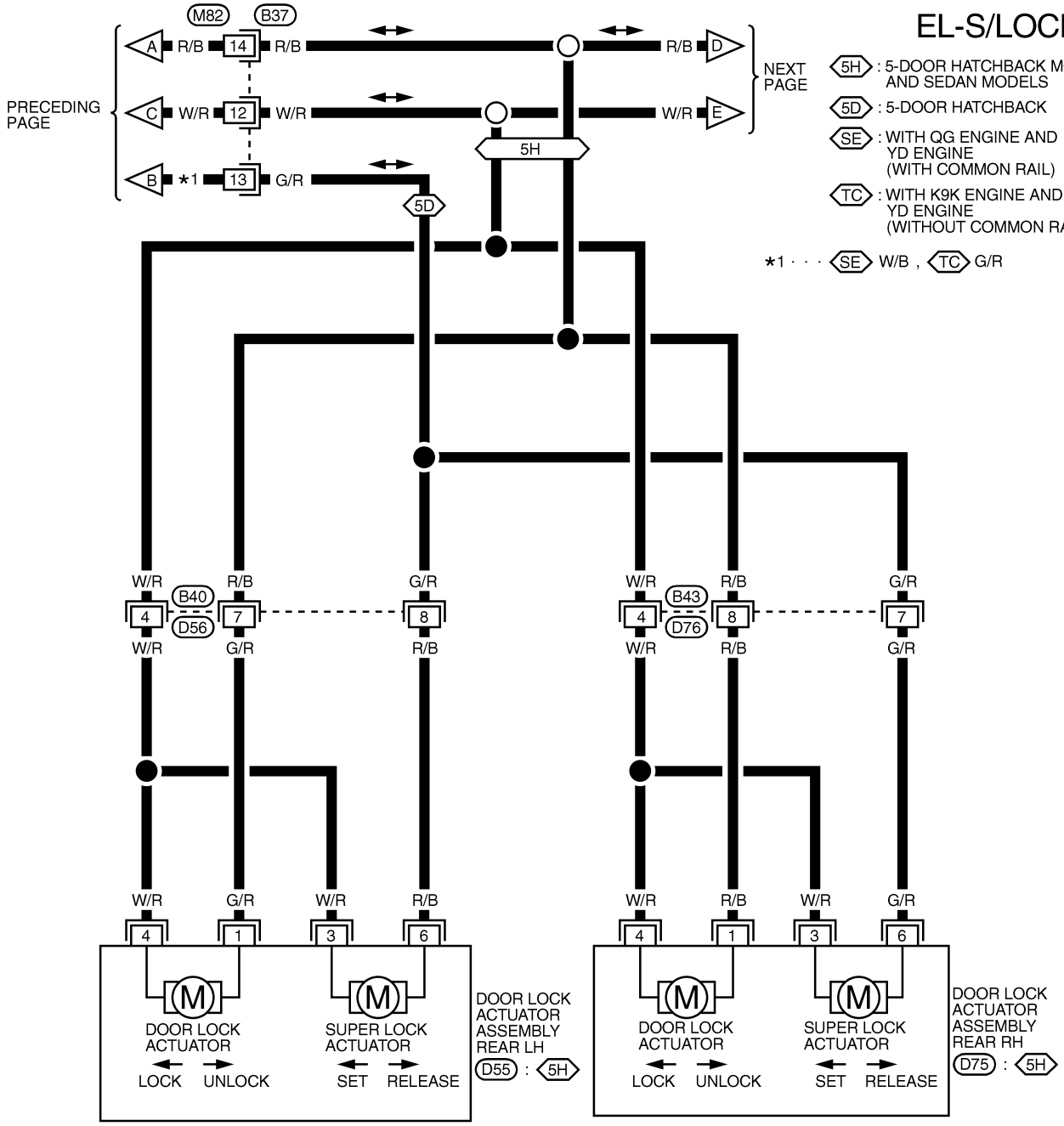


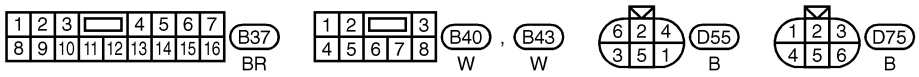




YEL763D

**FIG. 7**

NJEL0476S07



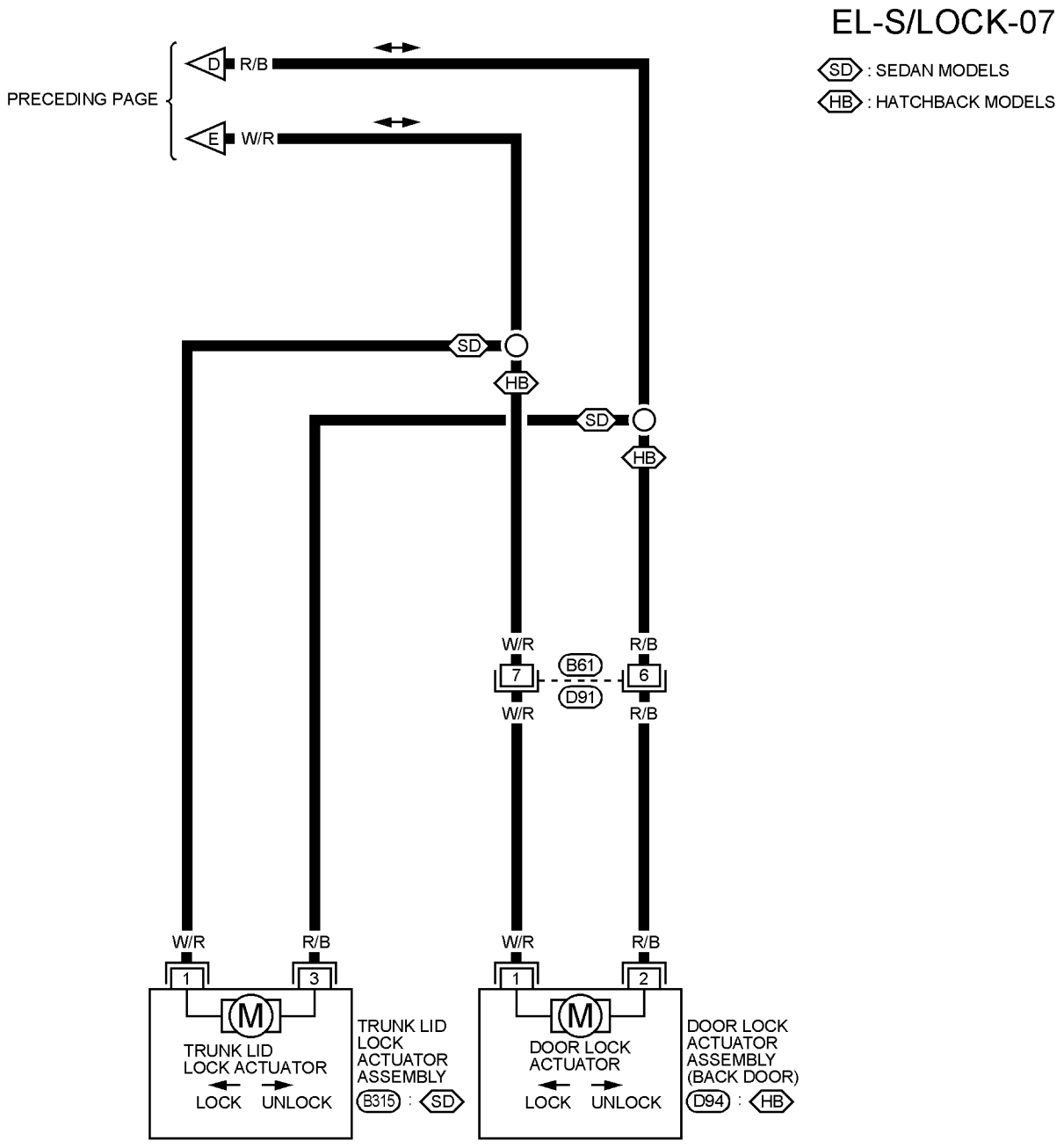



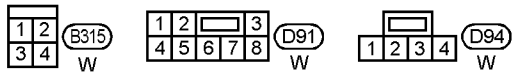

YEL764D

*Wiring Diagram — S/LOCK — (Cont'd)*

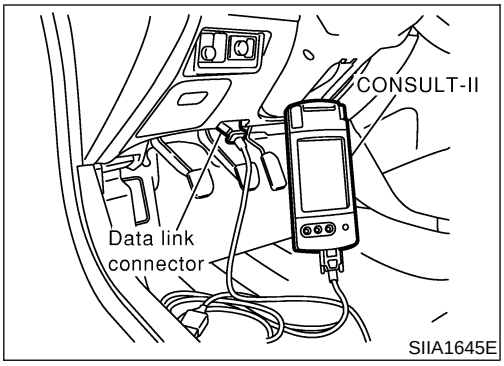
**FIG. 8**

NJEL0476S10




YEL707C



SIIA1645E

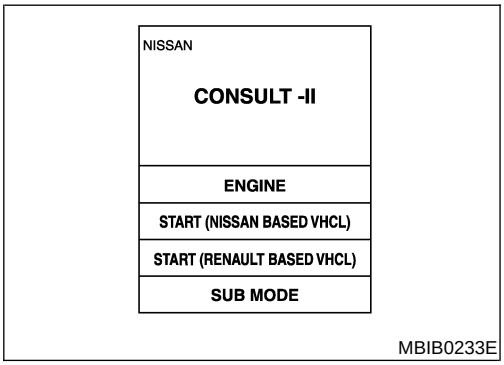
# Trouble Diagnosis/QG and YD Engine Models with Common Rail

NJEL0581

## CONSULT-II INSPECTION PROCEDURE

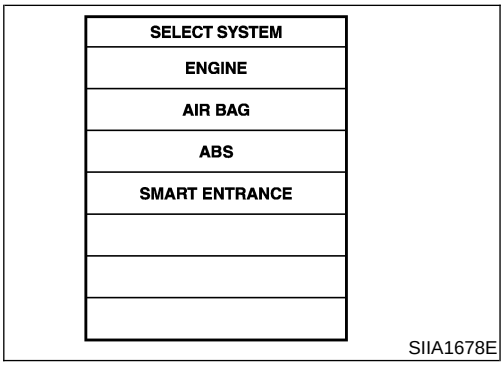
NJEL0581S01

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



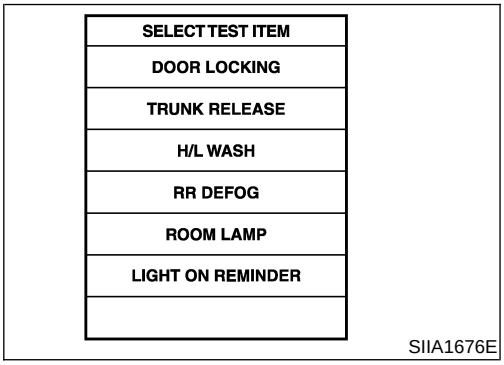
MBIB0233E

3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



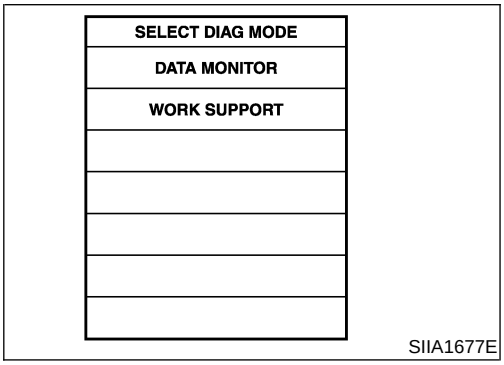
SIIA1678E

5. Touch “SMART ENTRANCE”.



SIIA1676E

6. Touch “DOOR LOCK” or “TRUNK RELEASE”.



SIIA1677E

7. Select diagnosis mode.
   “DATA MONITOR” and “WORK SUPPROT” are available.

## CONSULT-II APPLICATION ITEMS

NJEL0581S02

### Door Locking

NJEL0581S0201

#### DATA MONITOR

| Monitored Item | Description |
|---|---|
| IGNITION SW | Indicates [ON/OFF] condition of ignition switch. |
| KEY IN DETECT | Indicates [ON/OFF] condition of key switch. |
| DOOR SW DR RR | Indicates [ON/OFF] condition of rear door switch (driver side). |
| DOOR SW AS RR | Indicates [ON/OFF] condition of rear door switch (passenger side). |
| AS DOOR SW | Indicates [ON/OFF] condition of front door switch (passenger side). |
| DR DOOR SW | Indicates [ON\OFF] condition of front door switch (driver side). |
| CDL LOCK SW | Indicates [ON/OFF] condition of lock signal from door lock/ unlock switch. |
| CDL UNLOCK SW | Indicates [ON/OFF] condition of unlock signal from door lock/ unlock switch. |
| RKE LOCK | Indicates [ON/OFF] condition of lock signal from remote controller. |
| RKE UNLOCK | Indicates [ON/OFF] condition of unlock signal from remote controller. |
| RKE SEL UNLOCK | Indicates [ON/OFF] condition of select unlock signal from remote controller. |

#### WORK SUPPORT

| Monitored Item | Description |
|---|---|
| AUTO RE-LOCK | Auto re-lock function can be changed in this mode. The re-lock mode will be changed when "CHANGE MODE" on CONSULT-II screen is touched. |
| SELECTIVE UNLOCK | Selective unlock function can be changed in this mode. The unlock mode will be changed when "CHANGE SET" on CONSULT-II screen is touched. |

### Trunk Release

NJEL0581S0202

#### DATA MONITOR

| Monitored Item | Description |
|---|---|
| IGNITION SW | Indicates [ON/OFF] condition of ignition switch. |
| TRUNK OPEN SW | Indicates [ON/OFF] condition of trunk room lamp switch (sedan) or back door switch (wagon). |
| INT TRUNK REL | Indicates [ON/OFF] condition of internal trunk release switch (sedan) or internal back door release switch (wagon). |
| EXT TRUNK REL | Indicates [ON/OFF] condition of external trunk release switch (sedan) or external back door release switch (wagon). |
| RKE TRUNK REL | Indicates [ON/OFF] condition of trunk (sedan) or back door (back door) open signal from trunk or back door release switch. |

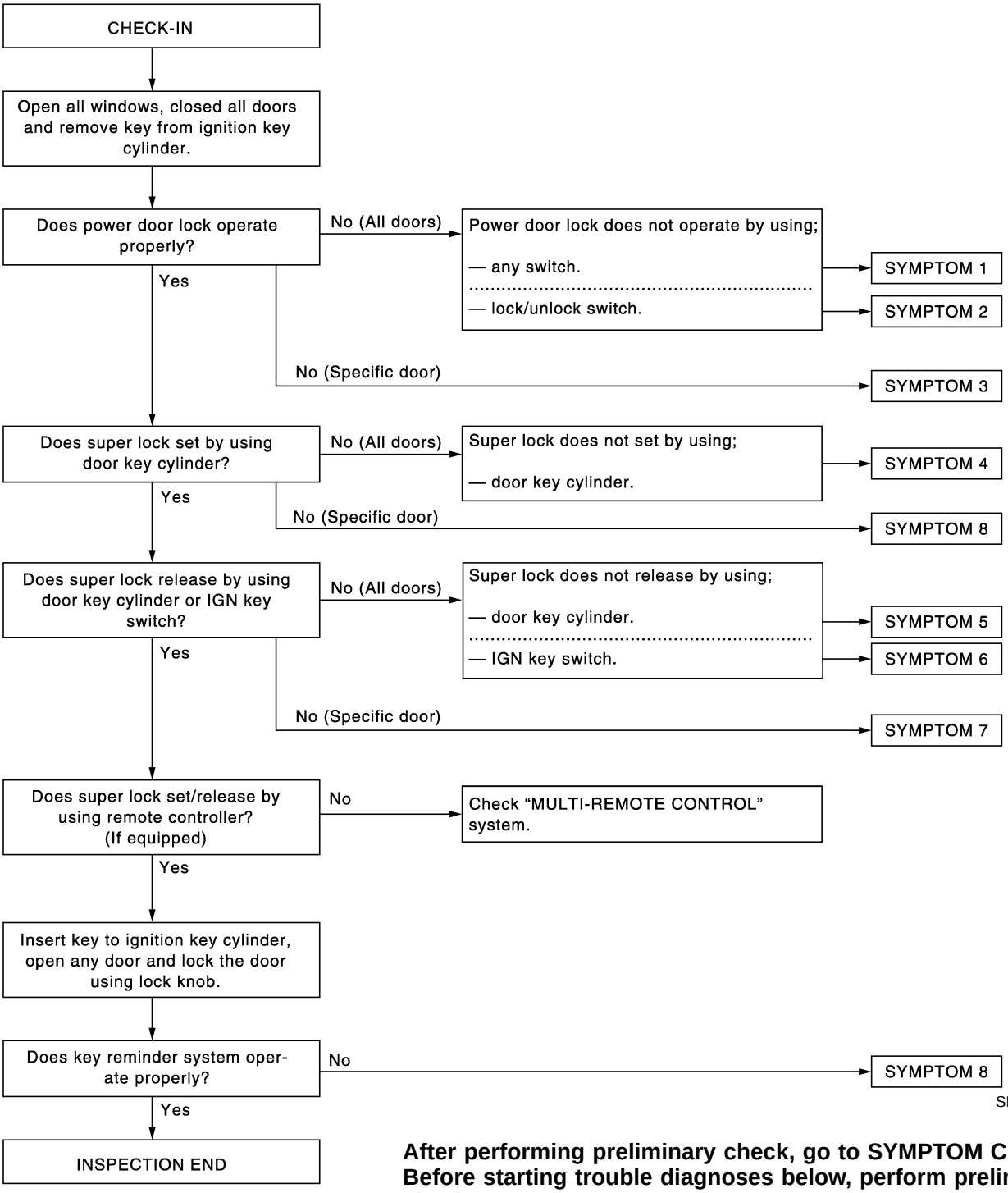
#### WORK SUPPORT

| Monitored Item | Description |
|---|---|
| TRUNK OPEN DELAY | This mode can be changed trunk release switch (sedan) or back door (wagon) release switch operation time. |

## PRELIMINARY CHECK

=NJEL0581S03

First perform the "SELF-DIAG RESULTS" in "SMART ENTRANCE" with CONSULT-II, when perform the each trouble diagnosis. Refer to EL-313, "CONSULT-II INSPECTION PROCEDURE".




SIIA1601E

**After performing preliminary check, go to SYMPTOM CHART. Before starting trouble diagnoses below, perform preliminary check.**

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

## SYMPTOM CHART

NJEL0581S04

| Symptom | Malfunctioning system | Reference page |
|---|---|---|
| **SYMPTOM 1**<br>Power door lock does not operate using any switch | Power supply and ground circuit check | EL-317 |
| | Door lock actuator check | EL-321 |
| | If above systems are OK, replace smart entrance control unit. | — |
| **SYMPTOM 2**<br>Power door lock does not operate with lock/unlock switch. | Door lock/unlock switch check | EL-319 |
| | If above system is OK, replace smart entrance control unit. | — |
| **SYMPTOM 3**<br>Specific door lock actuator does not operate. | Door lock actuator check | EL-321 |
| | If above system is OK, replace smart entrance control unit. | — |
| **SYMPTOM 4**<br>Super lock cannot be set by door key cylinder. | Super lock actuator check | EL-336 |
| | Key switch check | EL-335 |
| | Ignition switch ON circuit check | EL-318 |
| | If above systems are OK, replace smart entrance control unit. | — |
| **SYMPTOM 5**<br>*Super lock cannot be released by door key cylinder. | Super lock actuator check | EL-336 |
| | If above systems are OK, replace smart entrance control unit. | — |
| **SYMPTOM 6**<br>*Super lock cannot be released by ignition key switch. | Super lock actuator check | EL-336 |
| | Ignition switch "ON" circuit check | EL-318 |
| | If above systems are OK, replace smart entrance control unit. | — |
| **SYMPTOM 7**<br>Specific super lock actuator does not operate. | Super lock actuator check | EL-336 |
| | If above system is OK, replace smart entrance control unit. | — |
| **SYMPTOM 8**<br>*Key reminder system does not operate. | Door switch check | EL-327 |
| | Trunk room lamp switch or back door switch check | — |
| | Key switch check | EL-335 |
| | If above system is OK, replace smart entrance control unit. | — |

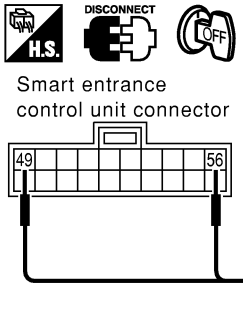
*: Make sure the power door lock system operates properly.

## POWER SUPPLY AND GROUND CIRCUIT CHECK

NJEL0581S05

### 1 CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect smart entrance control unit connector.
3. Check voltage between smart entrance control unit harness connector M195 terminal 49 (W/L), 56 (R/B) and ground.




SIIA1564E

| Terminal | | Voltage |
|---|---|---|
| + | — | |
| 49 (W/L) | Ground | Battery voltage |
| 56 (R/B) | | |

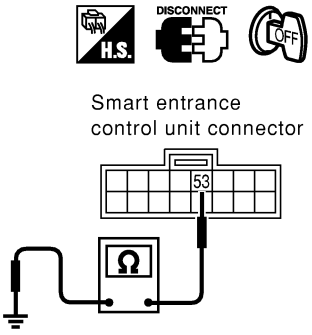
MTBL1480

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Check smart entrance control unit power supply circuit for open or short. |

### 2 CHECK GROUND CIRCUIT

Check continuity between smart entrance control unit harness connector M195 terminal 53 (B) and ground.




SIIA1565E

| Terminal | | Continuity |
|---|---|---|
| + | — | |
| 53 (B) | Ground | Yes |

MTBL1481

**OK or NG**

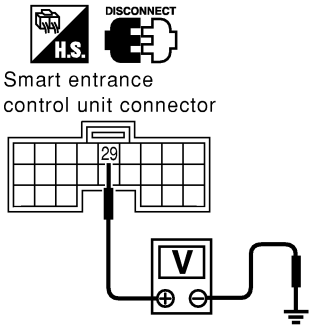
| | | |
|---|---|---|
| OK | ▶ | Power supply and ground circuit is OK. |
| NG | ▶ | Check smart entrance control unit ground circuit for open or short. |

## IGNITION SWITCH "ON" CIRCUIT CHECK

NJEL0581S11

**1 CHECK IGNITION ON SIGNAL**

1. Disconnect smart entrance control unit connector.
2. Check voltage between smart entrance control unit harness connector M194 terminal 29 (Y/G) and ground.




SIIA1602E

| Terminal | | Ignition switch position: ON |
|---|---|---|
| (+) | (—) | |
| 29 (Y/G) | Ground | Battery voltage |

MTBL1553

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Ignition ON signal is OK. |
| NG | ▶ | **Check the following.**<br>● 10A fuse [No. 10, located in fuse block (J/B)]<br>● Harness for open or short between smart entrance control unit and fuse |

## DOOR LOCK/UNLOCK SWITCH CHECK

NJEL0581S06

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

**With CONSULT-II**

- Check door lock/unlock switch input signal ("CDL LOCK SW" "CDL UNLOCK SW") in "DATA MONITOR" mode with CONSULT-II.

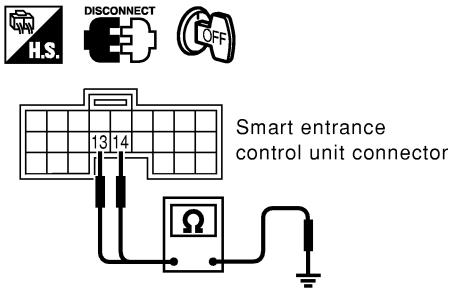
| DATA MONITOR | |
|---|---|
| MONITOR | |
| CDL LOCK SW | ON |
| CDL UNLOCK SW | ON |

SIIA1566E

**When door lock/unlock switch is turned to LOCK:**
**CDL LOCK SW ⇒ ON**
**When door lock/unlock switch is turned to UNLOCK:**
**CDL UNLOCK SW ⇒ ON**

**Without CONSULT-II**

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector M193 terminal 13 (P), 14 (L) and ground.




SIIA1567E

| Terminals | Door lock/unlock switch operation | Continuity |
|---|---|---|
| 13 — Ground | Lock position | Yes |
| | Neutral or Unlock position | No |
| 14 — Ground | Unlock position | Yes |
| | Neutral or Lock position | No |

MTBL1482

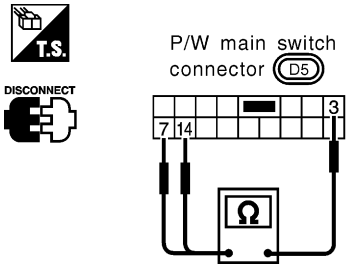
**OK or NG**

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

**2 CHECK DOOR LOCK/UNLOCK SWITCH**

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

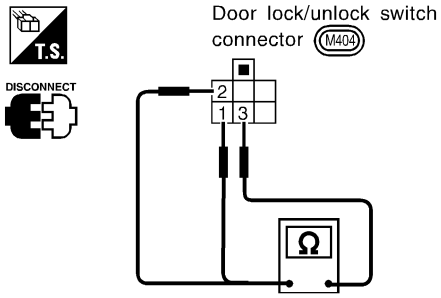
- Power window main switch (Door lock/unlock switch) (With power window system)




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

YEL803C

- Door lock/unlock switch (Without power window system)




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

SEL469X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Ground circuit for door lock/unlock switch<br>• Harness for open or short between door lock/unlock switch and smart entrance control unit connector |
| NG | ▶ | Replace power window main switch (door lock/unlock switch). |

## DOOR LOCK ACTUATOR CHECK

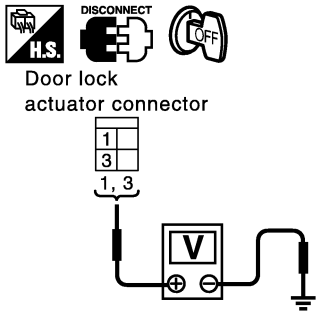
NJEL0581S07

### Driver Side

NJEL0581S0701

**1 CHECK DOOR LOCK SIGNAL**

1. Disconnect door lock actuator (driver side) harness connector.
2. Check voltage between door lock actuator harness connector D27 terminal 1 (L), 3 (W/R) and ground.




YEL834D

| Door lock/unlock switch | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock position | 1 (L) | Ground | Approx. 12 |
| Unlock position | 3 (W/R) | Ground | |

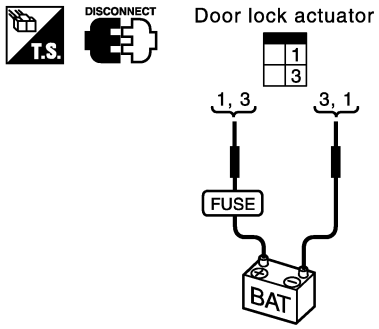
MTBL1484

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | GO TO 3. |

**2 CHECK DOOR LOCK ACTUATOR**

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




YEL835D

| Terminal | | Door lock actuator operation |
|---|---|---|
| + | — | |
| 1 | 3 | Unlock → Lock |
| 3 | 1 | Lock → Unlock |

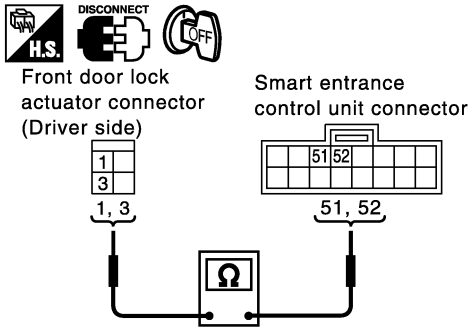
MTBL1485

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace door lock actuator (driver side). |

| 3 | CHECK DOOR LOCK ACTUATOR CIRCUIT |
|---|---|

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between door lock actuator (driver side) harness connector D27 terminal 1 (L), 3 (W/R) and smart entrance control unit harness connector M43 terminal 51 (L/R), 52 (W/R).




YEL836D

| Terminal | | Continuity |
|---|---|---|
| Door lock actuator | Smart entrrance control unit | |
| 1 (L) | 51 (L/R) | Yes |
| 3 (W/R) | 52 (W/R) | Yes |

MTBL1486

**OK or NG**

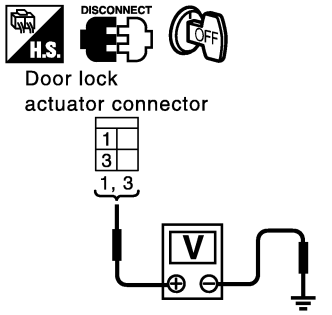
| | | |
|---|---|---|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Check harness for open or short between smart entrance control unit and door lock actuator (driver side). |

## Passenger Side

*NJEL0581S0702*

| 1 | CHECK DOOR LOCK SIGNAL |
|---|---|

1. Disconnect door lock actuator (passenger side) harness connector.
2. Check voltage between door lock actuator harness connector D48 terminal 1 (R/B), 3 (W/R) and ground.




YEL834D

| Door lock/unlock switch | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock position | 1 (R/B) | Ground | Approx. 12 |
| Unlock position | 3 (W/R) | Ground | |

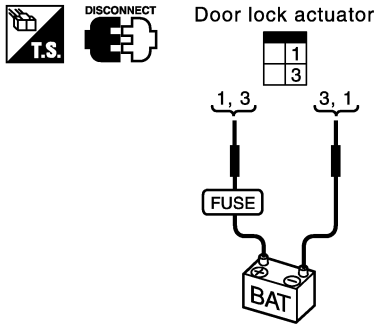
MTBL1487

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | GO TO 3. |

**2 CHECK DOOR LOCK ACTUATOR**

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




YEL835D

| Terminal | | Door lock actuator operation |
|---|---|---|
| + | — | |
| 1 | 3 | Unlock → Lock |
| 3 | 1 | Lock → Unlock |

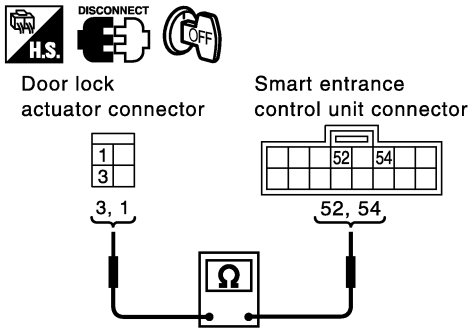
MTBL1488

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace door lock actuator (passenger side). |

**3 CHECK DOOR LOCK ACTUATOR CIRCUIT**

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between door lock actuator (passenger side) harness connector D48 terminal 1 (R/B), 3 (W/R) and smart entrance control unit harness connector M195 terminal 52 (W/R), 54 (R/B).




YEL837D

| Terminal | | Continuity |
|---|---|---|
| Door lock actuator | Smart entrrance control unit | |
| 3 (W/R) | 52 (W/R) | Yes |
| 1 (R/B) | 54 (R/B) | Yes |

MTBL1489

**OK or NG**

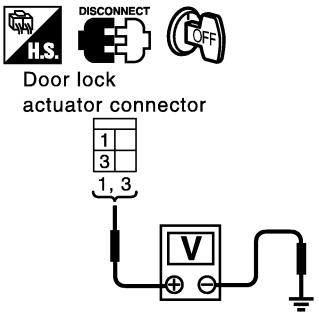
| | | |
|---|---|---|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Check harness for open or short between smart entrance control unit and door lock actuator (passenger side). |

## Rear LH Side

NJEL0581S0703

**1 CHECK DOOR LOCK SIGNAL**

1. Disconnect rear door lock actuator LH harness connector.
2. Check voltage between door lock actuator harness connector D62 terminal 1 (R/B), 3 (W/R) and ground.




YEL834D

| Door lock/unlock switch | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock position | 1 (R/B) | Ground | Approx. 12 |
| Unlock position | 3 (W/R) | Ground | |

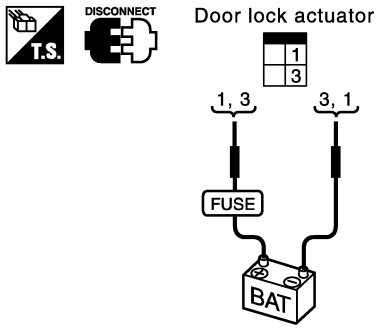
MTBL1490

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | GO TO 3. |

**2 CHECK DOOR LOCK ACTUATOR**

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




YEL835D

| Terminal | | Door lock actuator operation |
|---|---|---|
| + | — | |
| 1 | 3 | Unlock → Lock |
| 3 | 1 | Lock → Unlock |

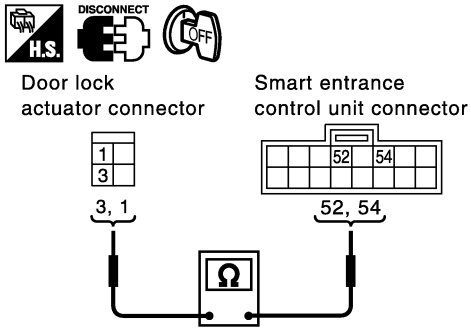
MTBL1491

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace rear door lock actuator LH. |

**3** **CHECK DOOR LOCK ACTUATOR CIRCUIT**

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between rear door lock actuator LH harness connector D62 terminal 1 (R/B), 3 (W/R) and smart entrance control unit harness connector M195 terminal 52 (W/R), 54 (R/B).




YEL837D

| Terminal | | Continuity |
|---|---|---|
| Door lock actuator | Smart entrrance control unit | |
| 1 (R/B) | 54 (R/B) | Yes |
| 3 (W/R) | 52 (W/R) | Yes |

MTBL1492

**OK or NG**

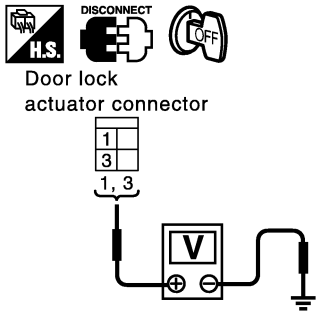
| | | |
|---|---|---|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Check harness for open or short between smart entrance control unit and rear door lock actuator LH. |

## Rear RH Side

NJEL0581S0704

**1** **CHECK DOOR LOCK SIGNAL**

1. Disconnect rear door lock actuator RH harness connector.
2. Check voltage between rear door lock actuator RH harness connector D82 terminal 1 (R/B), 3 (W/R) and ground.




YEL834D

| Door lock/unlock switch | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock position | 1 (R/B) | Ground | Approx. 12 |
| Unlock position | 3 (W/R) | Ground | |

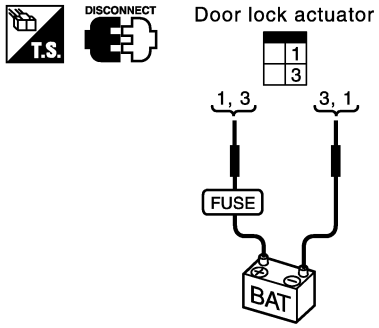
MTBL1493

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | GO TO 3. |

**2 CHECK DOOR LOCK ACTUATOR**

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




YEL835D

| Terminal | | Door lock actuator operation |
|---|---|---|
| + | — | |
| 1 | 3 | Unlock → Lock |
| 3 | 1 | Lock → Unlock |

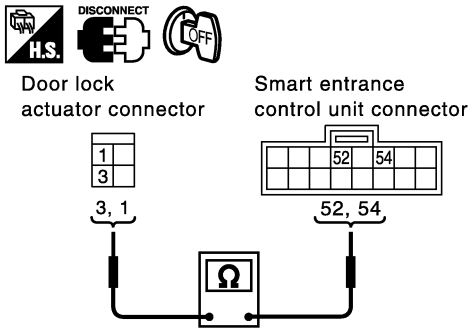
MTBL1494

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace rear door lock actuator RH. |

**3 CHECK DOOR LOCK ACTUATOR CIRCUIT**

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between rear door lock actuator RH harness connector D82 terminal 1 (R/B), 3 (W/R) and smart entrance control unit harness connector M195 terminal 52 (W/R), 54 (R/B).




YEL837D

| Terminal | | Continuity |
|---|---|---|
| Door lock actuator | Smart entrrance control unit | |
| 3 (W/R) | 52 (W/R) | Yes |
| 1 (R/B) | 54 (R/B) | Yes |

MTBL1495

**OK or NG**

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

## DOOR SWITCH CHECK
NJEL0581S08

### Driver Side
NJEL0581S0801

**1** **CHECK DOOR SWITCH INPUT SIGNAL**

**With CONSULT-II**

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

| DATA MONITOR | |
|---|---|
| MONITOR | |
| DR DOOR SW | ON |

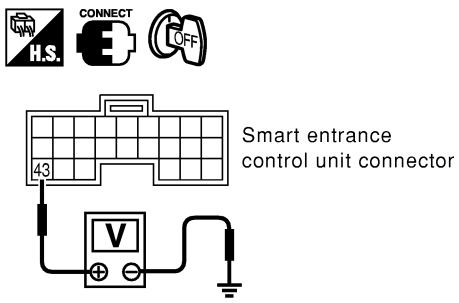
SIIA1590E

| | Monitor item | Condition |
|---|---|---|
| DR DOOR SW | Front door switch LH | Open: ON |
| | | Close: OFF |

MTBL1496

**Without CONSULT-II**

1. Turn ignition switch OFF.
2. Check voltage between smart entrance control unit harness connector M194 terminal 43 (R/W) and ground.




SIIA1588E

| Terminal | | Front door LH | Voltage |
|---|---|---|---|
| (+) | (—) | | |
| 43 (R/W) | Ground | Closed | Approx. 5 |
| | | Open | 0 |

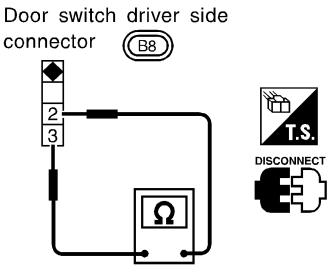
MTBL1497

**OK or NG**

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

| 2 | CHECK DOOR SWITCH |
|---|---|

Check continuity between front door switch LH harness connector B8 terminals 2 and 3.




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

SEL325WA

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Front door switch LH ground condition<br>● Harness for open or short between smart entrance control unit and front door switch LH |
| NG | ▶ | Replace front door switch LH. |

## Passenger Side

NJEL0581S0802

**1 CHECK DOOR SWITCH INPUT SIGNAL**

**With CONSULT-II**

- Check door switch "AS DOOR SW" in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|---|---|
| MONITOR | |
| AS DOOR SW | ON |

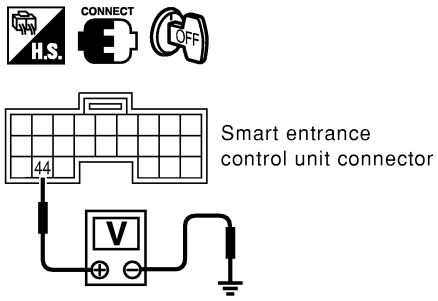
SIIA1591E

| | Monitor item | Condition |
|---|---|---|
| AS DOOR SW | Front door switch RH | Open: ON |
| | | Close: OFF |

MTBL1499

**Without CONSULT-II**

1. Turn ignition switch OFF.
2. Check voltage between smart entrance control unit harness connector M194 terminal 44 (R/W) and ground.




SIIA1592E

| Terminal (+) | Terminal (—) | Front door RH | Voltage |
|---|---|---|---|
| 44 (R/W) | Ground | Closed | Approx. 5 |
| | | Open | 0 |

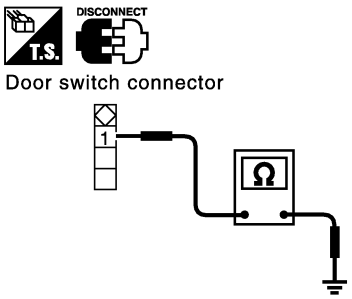
MTBL1500

**OK or NG**

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

**2 CHECK DOOR SWITCH**

Check continuity between front door switch RH harness connector B19 terminal 1 (R/W) and ground.




SIIA1589E

| Terminal | | Front door RH switch | Continuity |
|---|---|---|---|
| (+) | (—) | | |
| 1 (R/W) | Ground | Pushed | No |
| | | Released | Yes |

MTBL1501

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Front door switch RH ground condition<br>● Harness for open or short between smart entrance control unit and front door switch RH |
| NG | ▶ | Replace front door switch RH. |

## Rear LH Side

NJEL0581S0803

**1 CHECK DOOR SWITCH INPUT SIGNAL**

**With CONSULT-II**

- Check door switch "RR LH DOOR SW" in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|---|---|
| MONITOR | |
| RR LH DOOR SW | ON |

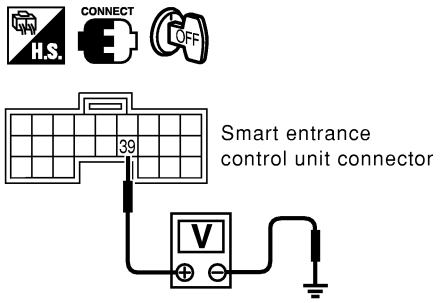
SIIA1593E

| | Monitor item | Condition |
|---|---|---|
| RR LH DOOR SW | Rear door switch LH | Open: ON |
| | | Close: OFF |

MTBL1502

**Without CONSULT-II**

1. Turn ignition switch OFF.
2. Check voltage between smart entrance control unit harness connector M194 terminal 39 (BR/W) and ground.




SIIA1597E

| Terminal (+) | Terminal (—) | Rear door LH | Voltage |
|---|---|---|---|
| 39 (BR/W) | Ground | Closed | Approx. 5 |
| | | Open | 0 |

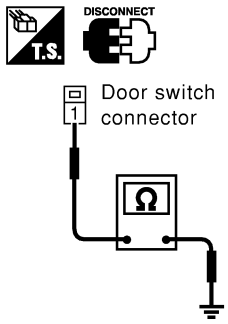
MTBL1503

**OK or NG**

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

| 2 | CHECK DOOR SWITCH |
|---|---|

Check continuity between rear door switch LH harness connector B24 terminal 1 (BR/W) and ground.




SIIA1595E

| Terminal | | Rear door LH switch | Continuity |
|---|---|---|---|
| (+) | (—) | | |
| 1 (BR/W) | Ground | Pushed | No |
| | | Released | Yes |

MTBL1504

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Rear door switch LH ground condition<br>● Harness for open or short between smart entrance control unit and rear door switch LH |
| NG | ▶ | Replace rear door switch LH. |

## Rear RH Side

NJEL0581S0804

**1 CHECK DOOR SWITCH INPUT SIGNAL**

**With CONSULT-II**

- Check door switch "RR RH DOOR SW" in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|---|---|
| MONITOR | |
| RR RH DOOR SW | ON |

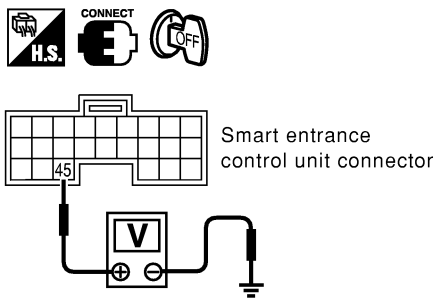
SIIA1596E

| | Monitor item | Condition |
|---|---|---|
| RR RH DOOR SW | Rear door switch RH | Open: ON |
| | | Close: OFF |

MTBL1505

**Without CONSULT-II**

1. Turn ignition switch OFF.
2. Check voltage between smart entrance control unit harness connector M194 terminal 45 (R/Y) and ground.




SIIA1594E

| Terminal (+) | Terminal (—) | Rear door RH | Voltage |
|---|---|---|---|
| 45 (R/Y) | Ground | Closed | Approx. 5 |
| | | Open | 0 |

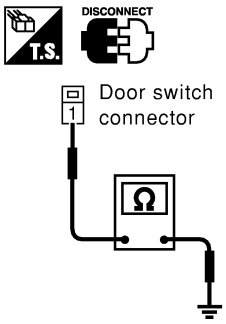
MTBL1506

**OK or NG**

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

**2 CHECK DOOR SWITCH**

Check continuity between rear door switch RH harness connector B35 terminal 1 (R/Y) and ground.




SIIA1595E

| Terminal | | Rear door RH switch | Continuity |
|---|---|---|---|
| (+) | (—) | | |
| 1 (R/Y) | Ground | Pushed | No |
| | | Released | Yes |

MTBL1507

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Rear door switch RH ground condition<br>● Harness for open or short between smart entrance control unit and rear door switch RH |
| NG | ▶ | Replace rear door switch RH. |

## KEY SWITCH CHECK

NJEL0581S09

**1 CHECK KEY SWITCH INPUT SIGNAL**

**With CONSULT-II**

- Check key switch input signal "KEY IN DETECT" in "DATA MONITOR" mode with CONSULT-II.

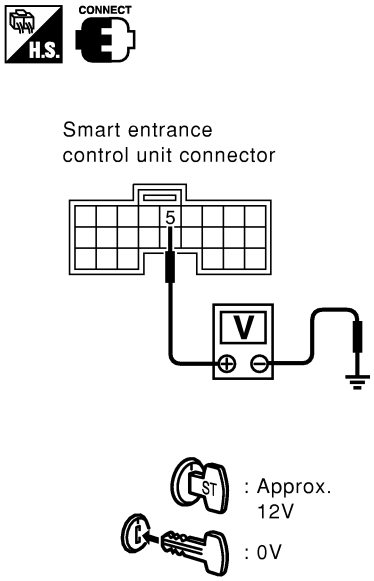
| DATA MONITOR | |
|---|---|
| MONITOR | |
| KEY IN DETECT | ON |

SIIA1598E

**When key is inserted in ignition key cylinder:**
**KEY IN DETECT ⇒ ON**
**When key is removed from ignition key cylinder:**
**KEY IN DETECT ⇒ OFF**

**Without CONSULT-II**

- Check voltage between smart entrance control unit harness connector M193 terminal 5 (L/W) and ground.




SIIA1599E

| Terminals | | Key switch | Voltage |
|---|---|---|---|
| + | — | | |
| 5 (L/W) | Ground | Key is inserted | Approx. 12 |
| | | Key is removed | 0 |

MTBL1508

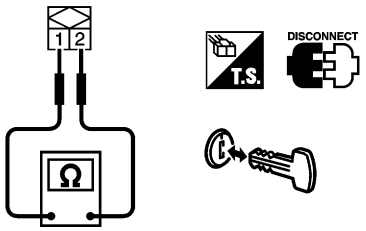
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Key switch is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK KEY SWITCH (INSERT) |
|---|---|

1. Disconnect key switch connector.
2. Check continuity between key switch terminals 1 and 2.

Key switch connector E173




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

YEL791C

**OK or NG**

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

## SUPER LOCK ACTUATOR CHECK

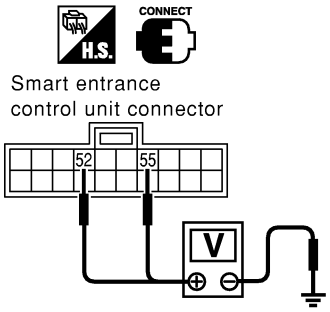
NJEL0581S10

### Front Door

NJEL0581S1001

| 1 | CHECK OUTPUT SIGNAL FOR SUPER LOCK ACTUATOR |
|---|---|

Check voltage between smart entrance control unit harness connector F195 terminal 52 (W/R), 55 (W/B) and ground.




SIIA1609E

| Door key cylinder (Driver side) | Terminals | | Voltage |
|---|---|---|---|
| | + | — | |
| Lock (Set) | 55 (W/B) | Ground | Approx. 12 |
| Unlock (Released) | 52 (W/R) | | |

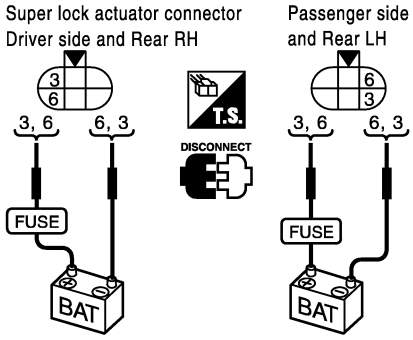
MTBL1510

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace smart entrance control unit. |

| 2 | CHECK SUPER LOCK ACTUATOR |
|---|---|

1. Disconnect door lock actuator assembly connector.
   **Door lock actuator connector (Driver side): D14**
   **Door lock actuator connector (Passenger side): D38**
2. Apply 12V direct current to door lock actuator assembly and check operation.




YEL841D

| Terminals | | Super lock actuator operation |
|---|---|---|
| + | — | |
| 6 | 3 | Release → Set |
| 3 | 6 | Set → Release |

MTBL1511

**OK or NG**

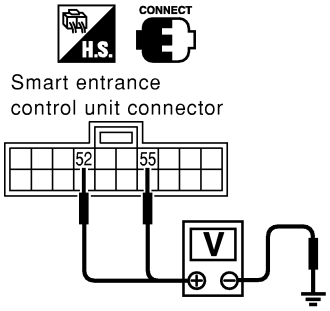
| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and super lock actuator. |
| NG | ▶ | Replace super lock actuator (door lock actuator). |

## Rear Door

*NJEL0581S1002*

| 1 | CHECK OUTPUT SIGNAL FOR SUPER LOCK ACTUATOR |
|---|---|

Check voltage between smart entrance control unit harness connector M195 terminal 55 (W/B), 52 (W/R) and ground.




SIIA1609E

| Door key cylinder (Driver side) | Terminals | | Voltage |
|---|---|---|---|
| | (+) | (—) | |
| Lock (Set) | 55 (W/B) | Ground | Approx. 12 |
| Unlock (Released) | 52 (W/R) | | |

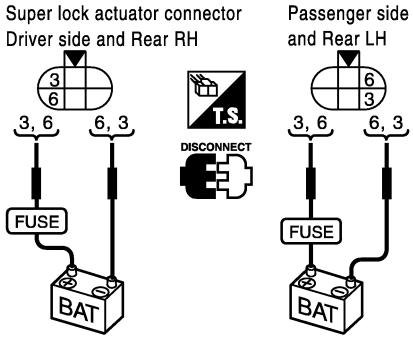
MTBL1554

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace smart entrance control unit. |

**2 CHECK SUPER LOCK ACTUATOR**

1. Disconnect door lock actuator assembly connector.
   **Door lock actuator connector (Rear LH side): D55**
   **Door lock actuator connector (Rear RH side): D75**
2. Apply 12V direct current to door lock actuator assembly and check operation.




YEL841D

| Terminal | | Super lock actuator operation |
|---|---|---|
| (+) | (—) | |
| 6 | 3 | Release → Set |
| 3 | 6 | Set → Release |

MTBL1555

**OK or NG**

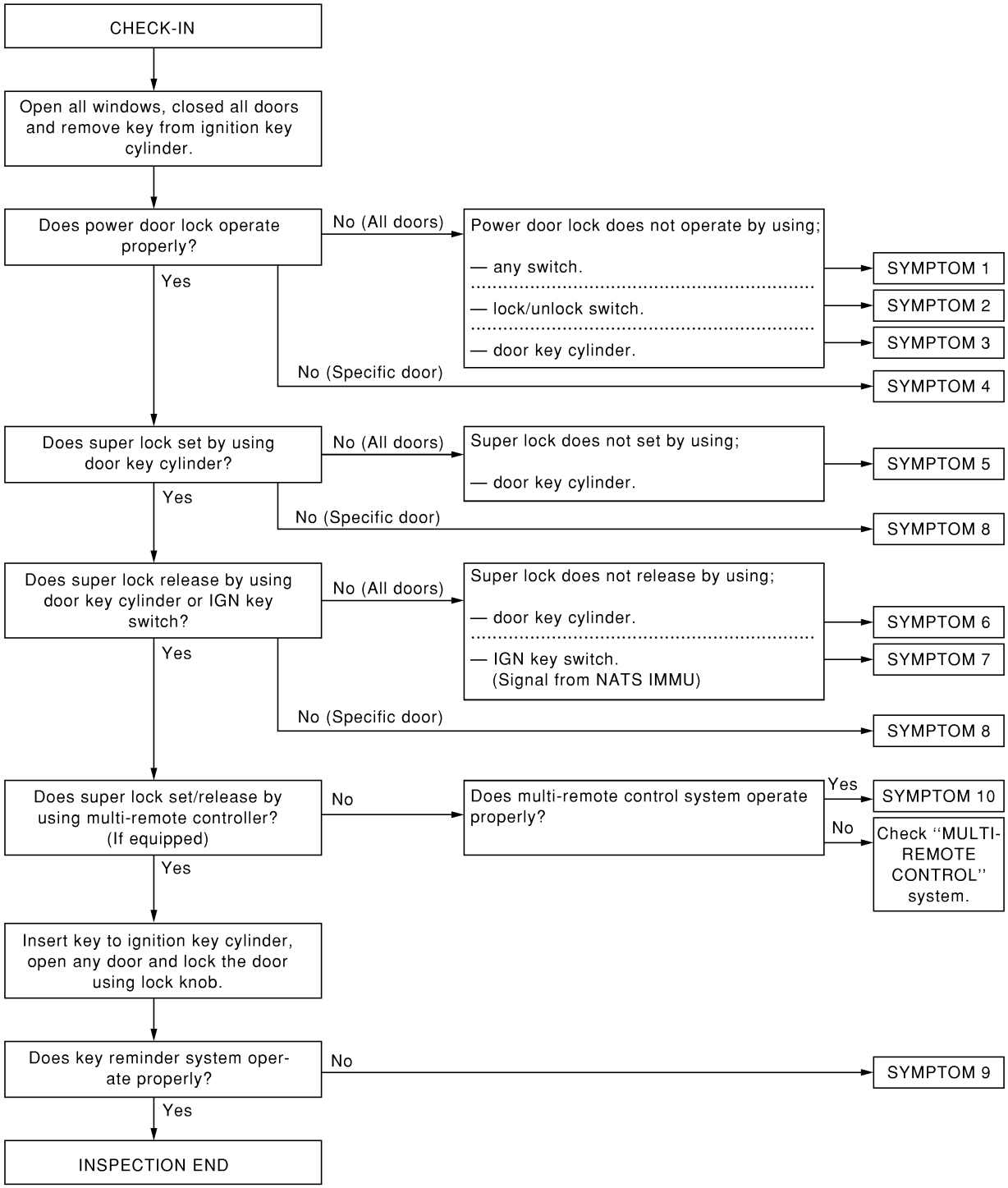
| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and super lock actuator. |
| NG | ▶ | Replace super lock actuator (door lock actuator). |

# Trouble Diagnoses/YD Engine Models without Common Rail and K9K Engine Models

NJEL0477

## PRELIMINARY CHECK

NJEL0477S01




SEL062X

**After performing preliminary check, go to SYMPTOM CHART.**
**Before starting trouble diagnoses below, perform preliminary check, EL-339.**
Symptom numbers in the symptom chart correspond with those of Preliminary check.

## SYMPTOM CHART

NJEL0477S02

| REFERENCE PAGE (EL- ) | | 341 | 342 | 343 | 344 | 346 | 347 | 348 | 349 | 350 | 351 | 351 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYMPTOM | | Main power supply and ground circuit check | Door lock/unlock switch check | Door key cylinder switch check | Door lock actuator check | Super lock actuator check | Door switch check | Door unlock sensor check | NATS release signal check | Key switch check | Ignition switch "ON" circuit check | Remote controller signal check |
| 1 | Power door lock does not operate using any switch. | X | | | X | | | | | | | |
| 2 | Power door lock does not operate with lock/unlock switch. | | X | | | | | | | | | |
| 3 | Power door lock does not operate with door key cylinder switch. | | | X | | | | | | | | |
| 4 | Specific door lock actuator does not operate. | | | | X | | | | | | | |
| 5 | Super lock cannot be set by door key cylinder. | | | X | | X | | | | X | X | |
| 6 | *Super lock cannot be released by door key cylinder. | | | X | | X | | | | | | |
| 7 | *Super lock cannot be released by ignition key switch. (Signal from NATS IMMU) | | | | | X | | | X | | X | |
| 8 | Specific super lock actuator does not operate. | | | | | X | | | | | | |
| 9 | *Key reminder system does not operate. | | | | | | X | X | | X | | |
| 10 | Super lock cannot be set/released by using multi-remote controller. | | | | | | | X | | | | X |

X: Applicable

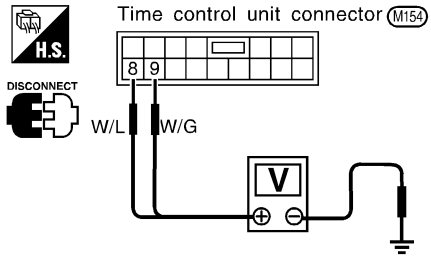
*: Make sure the power door lock system operates properly.

## MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

NJEL0477S03

### Main Power Supply Circuit Check

NJEL0477S0301

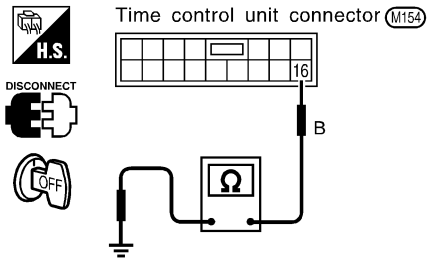



| Terminals | | Ignition switch position | | |
|---|---|---|---|---|
| (+) | (−) | OFF | ACC | ON |
| 8 | Ground | Battery voltage | | |
| 9 | | | | |

SEL467X

### Ground Circuit Check

NJEL0477S0302




**Continuity should exist.**

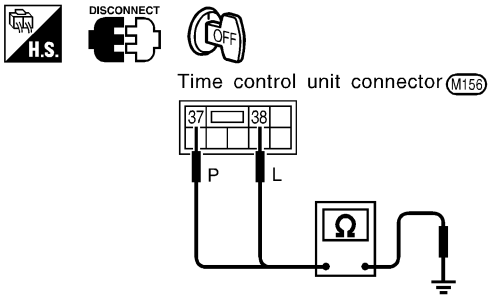
SEL448X

## DOOR LOCK/UNLOCK SWITCH CHECK

=NJEL0477S04

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

1. Disconnect time control unit harness connector.
2. Check continuity between time control unit harness connector terminal 37 or 38 and ground.




| Terminals | Door lock/unlock switch condition | Continuity |
|---|---|---|
| 38 – Ground | Lock | Yes |
| | N and Unlock | No |
| 37 – Ground | Unlock | Yes |
| | N and Lock | No |

SEL468X

Refer to wiring diagram in EL-308.

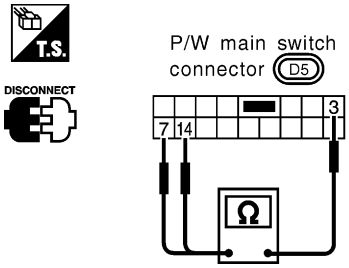
**OK or NG**

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

**2 CHECK DOOR LOCK/UNLOCK SWITCH**

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

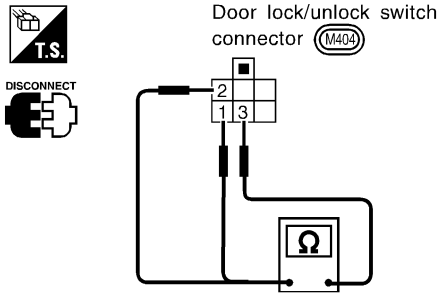
- Power window main switch (Door lock/unlock switch) (With power window)




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

YEL803C

- Door lock/unlock switch (Without power window)




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

SEL469X

**OK or NG**

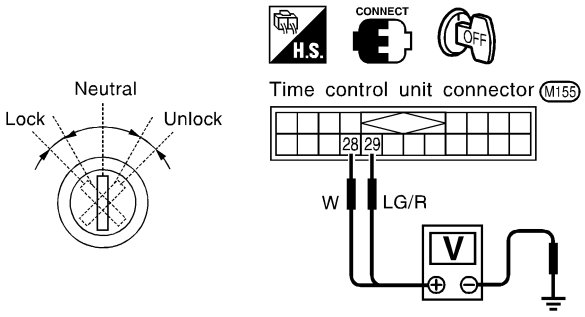
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>• Ground circuit for door lock/unlock switch<br>• Harness for open or short between door lock/unlock switch and time control unit connector |
| NG | ▶ | Replace door lock/unlock switch. |

## DOOR KEY CYLINDER SWITCH CHECK

NJEL0477S05

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

Check voltage between time control unit harness connector terminals 28 or 29 and ground.




| Terminals (+) | Terminals (–) | Key position | Voltage [V] |
|---|---|---|---|
| 29 | Ground | Neutral/Unlock | Approx. 5 |
| | | Lock | 0 |
| 28 | Ground | Neutral/Lock | Approx. 5 |
| | | Unlock | 0 |

SEL470X

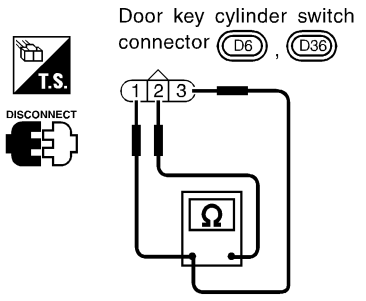
Refer to wiring diagram in EL-307.

**OK or NG**

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

**2** **CHECK DOOR KEY CYLINDER SWITCH**

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




| Terminals | Key position | Continuity |
|---|---|---|
| ① - ② (LH side) | Neutral/Unlock | No |
| ② - ③ (RH side) | Lock | Yes |
| ① - ② (RH side) | Neutral/Lock | No |
| ② - ③ (LH side) | Unlock | Yes |

SEL471X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door key cylinder switch ground circuit<br>● Harness for open or short between time control unit and door key cylinder switch |
| NG | ▶ | Replace door key cylinder switch. |

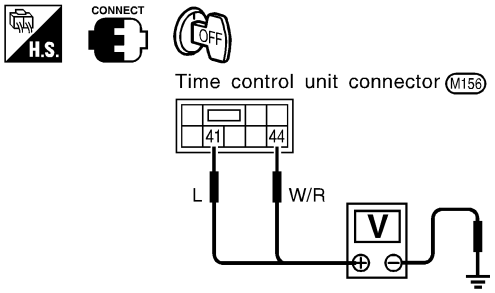
## DOOR LOCK ACTUATOR CHECK

NJEL0477S06

**1 CHECK DOOR LOCK ACTUATOR OUTPUT SIGNAL**

Check voltage for door lock actuator.

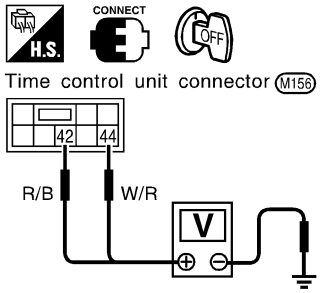
- Door lock actuator driver's side




| Door lock/unlock switch condition | Terminals (+) | Terminals (–) | Voltage [V] |
|---|---|---|---|
| Lock | 41 | Ground | Approx. 12 |
| Unlock | 44 | Ground | |

SEL472X

- Door lock actuator passenger side and rear




| Door lock/unlock switch condition | Terminals (+) | Terminals (–) | Voltage [V] |
|---|---|---|---|
| Lock | 42 | Ground | Approx. 12 |
| Unlock | 44 | Ground | |

SEL473X

Refer to wiring diagram in EL-310.

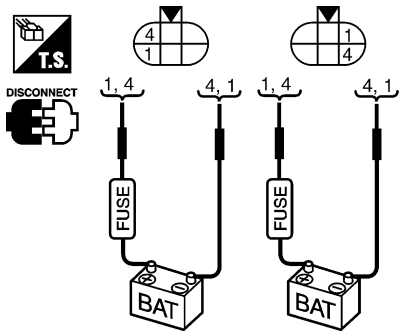
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace time control unit. (Before replacing the control unit, perform "DOOR LOCK/ UNLOCK SWITCH CHECK".) |

**2 CHECK DOOR LOCK ACTUATOR**

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

- Front and rear door



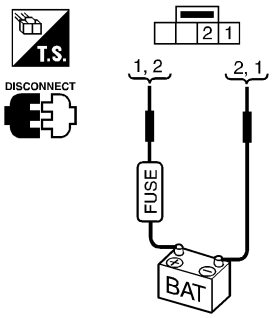

Door lock actuator connector

Passenger side: D38
Rear LH: D55
Driver side: D14
Rear RH: D75

**Door lock actuator operation:**
**Terminals 1 (+) and 4 (–)**
**Unlocked → Locked**
**Terminals 4 (+) and 1 (–)**
**Locked → Unlocked**

YEL804C

- Back door (Hatchback)

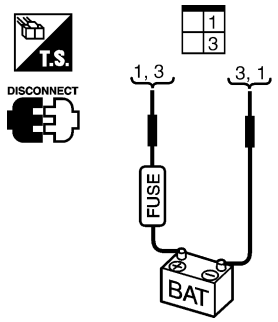



Door lock actuator connector D94

**Door lock actuator operation:**
**Terminals 2 (+) and 1 (–)**
**Unlocked → Locked**
**Terminals 1 (+) and 2 (–)**
**Locked → Unlocked**

SEL491X

- Trunk lid (Sedan)




Trunk lid lock actuator connector B315

**Trunk lid lock actuator operation:**
**Terminals 3 (+) and 1 (–)**
**Unlocked → Locked**
**Terminals 1 (+) and 3 (–)**
**Locked → Unlocked**

YEL805C

**OK or NG**

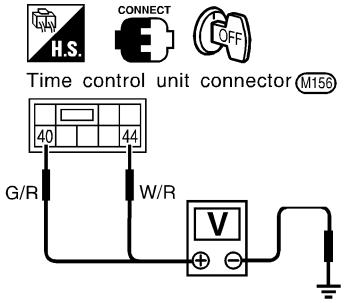
| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between time control unit connector and door lock actuator. |
| NG | ▶ | Replace door lock actuator. |

## SUPER LOCK ACTUATOR CHECK

=NJEL0477S07

**1 CHECK OUTPUT SIGNAL FOR SUPER LOCK ACTUATOR**

Check voltage for super lock actuator.




| Door key cylinder switch condition | Terminals (+) | Terminals (–) | Voltage [V] |
|---|---|---|---|
| Lock (Set) | 40 | Ground | Approx. 12 |
| Unlock (Released) | 44 | Ground | |

SEL474X

Refer to wiring diagram in EL-310.

**OK or NG**

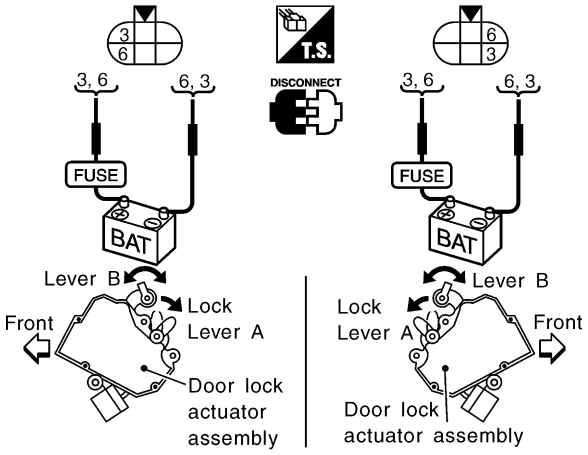
| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace time control unit. (Before replacing the unit, perform "DOOR KEY CYLINDER SWITCH CHECK".) |

**2 CHECK SUPER LOCK ACTUATOR**

1. Disconnect door lock actuator assembly connector.
2. Set lever A in lock position.
3. Apply 12V direct current to door lock actuator assembly and check operation.

Super lock actuator connector
D14: Driver side
D75: Rear RH

Super lock actuator connector
D38: Passenger side
D55: Rear LH




| Super lock actuator operation | Terminals (+) | Terminals (–) | Connection from lever B to lever A |
|---|---|---|---|
| Released→Set | 6 | 3 | Disconnect |
| Set→Release | 3 | 6 | Connect |

YEL806C

**OK or NG**

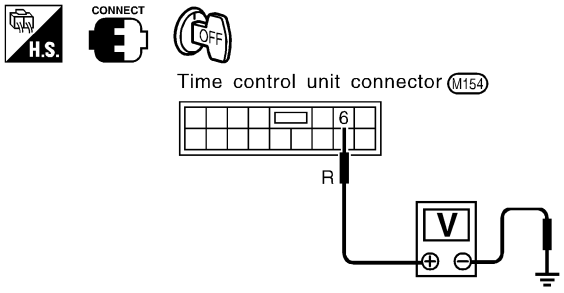
| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between time control unit and super lock actuator. |
| NG | ▶ | Replace super lock actuator. |

## DOOR SWITCH CHECK

=NJEL0477S08

| 1 | CHECK DOOR SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit harness connector terminals 6 or 7 and ground.




| | Terminals (+) | Terminals (−) | Condition | Voltage [V] |
|---|---|---|---|---|
| Driver's door switch | 6 | Ground | Open | 0 |
| | | | Closed | Approx. 5 |

SEL475X

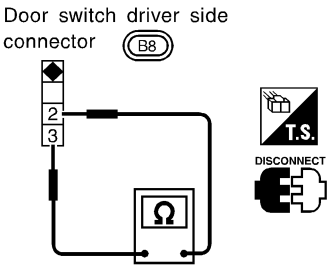
Refer to wiring diagram in EL-309.

**OK or NG**

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

| 2 | CHECK DOOR SWITCH |
|---|---|

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




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

SEL325WA

**OK or NG**

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

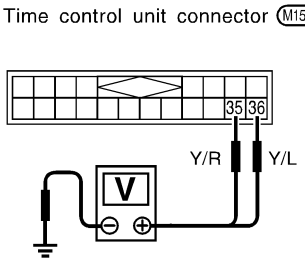
## DOOR UNLOCK SENSOR CHECK

=NJEL0477S13

| 1 | CHECK DOOR UNLOCK SENSOR INPUT SIGNAL |
|---|---|

Check voltage between time control unit terminal 35 or 36 and ground.




| Terminals (+) | Terminals (−) | Condition (Driver's or passenger door) | Voltage [V] |
|---|---|---|---|
| 35 | Ground | Locked | Approx. 5 |
| | | Unlocked | 0 |
| 36 | Ground | Locked | Approx. 5 |
| | | Unlocked | 0 |

SEL476X

Refer to wiring diagram in EL-309.

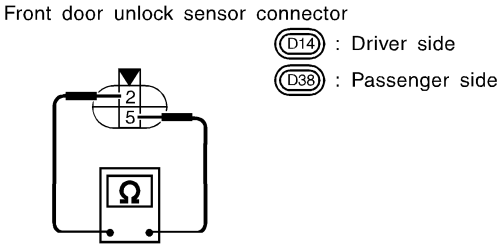
**OK or NG**

| | | |
|---|---|---|
| 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 2 and 5.




**Continuity:**
**Condition: Locked**
**No**
**Condition: Unlocked**
**Yes**

SEL477X

**OK or NG**

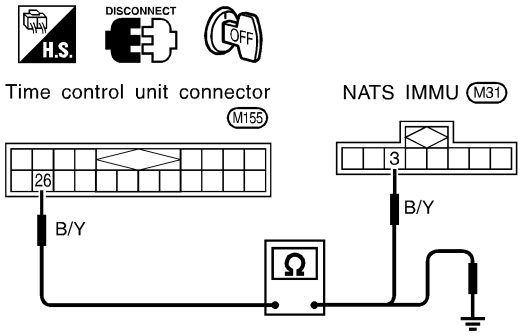
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● Door unlock sensor ground circuit<br>● Harness for open or short between time control unit and door unlock sensor |
| NG | ▶ | Replace door unlock sensor. |

## NATS RELEASE SIGNAL CHECK

=NJEL0477S09

**1 CHECK NATS SIGNAL CIRCUIT**

1. Disconnect battery cable (−) terminal.
2. Disconnect time control unit connector and NATS IMMU connector.




Check continuity between time control unit terminal 26 and NATS IMMU terminal 3.

**Continuity should exist.**

Check continuity between time control unit terminal 26 and ground.

**Continuity should not exist.**

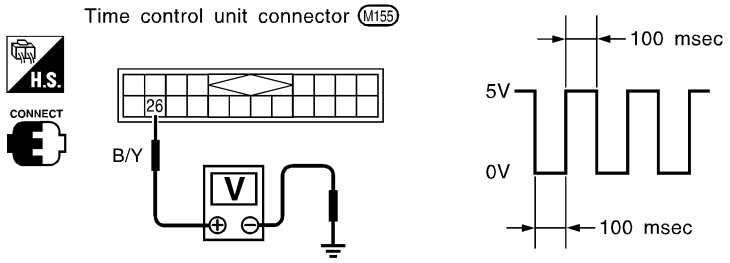
SEL478X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair harness. |

**2 CHECK NATS RELEASE SIGNAL**

1. Connect time control unit connector and NATS IMMU connector.
2. Connect battery cable (−) terminal.
3. Check voltage between time control unit terminal 26 and ground.




| Ignition switch condition | Voltage [V] |
|---|---|
| OFF | 5 |
| More than 17 seconds after ignition switch is turned to ON | |
| For 17 seconds after ignition switch is turned to ON | pulse |

SEL479X

**OK or NG**

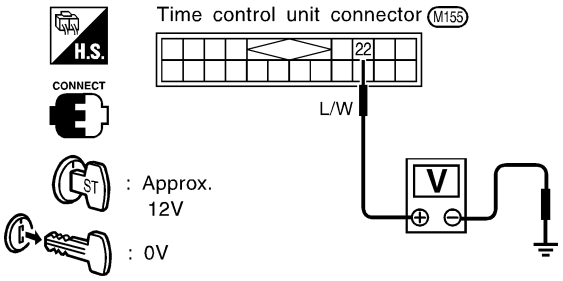
| | | |
|---|---|---|
| OK | ▶ | Replace super lock control unit. |
| NG | ▶ | Check NATS system. |

## KEY SWITCH (INSERT) CHECK

=NJEL0477S10

| 1 | CHECK KEY SWITCH INPUT SIGNAL |
|---|---|

Check voltage between time control unit terminal 22 and ground.




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

SEL433X

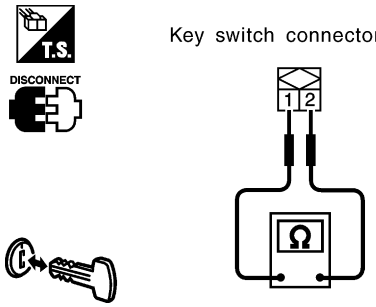
Refer to wiring diagram in EL-306.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Key switch is OK. |
| NG | ▶ | GO TO 2. |

| 2 | CHECK KEY SWITCH (INSERT) |
|---|---|

Check continuity between key switch terminals 1 and 2.




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

YEL802C

**OK or NG**

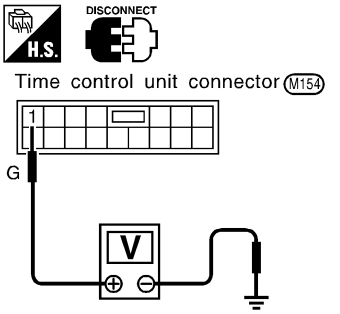
| | | |
|---|---|---|
| OK | ▶ | **Check the following.**<br>● 10A fuse [No. 12, located in fuse block (J/B)]<br>● Harness for open or short between key switch and fuse<br>● Harness for open or short between time control unit and key switch |
| NG | ▶ | Replace key switch. |

## IGNITION SWITCH "ON" CIRCUIT CHECK

=NJEL0477S11

| 1 | CHECK IGNITION ON SIGNAL |
|---|---|

Check voltage between time control unit terminal 1 and ground.




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

SEL429X

**OK or NG**

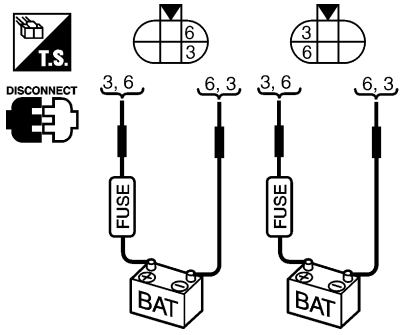
| | | |
|---|---|---|
| OK | ▶ | Ignition switch "ON" circuit is OK. |
| NG | ▶ | **Check the following.**<br>● 10A fuse [No. 10, located in fuse block (J/B)]<br>● Harness for open or short between time control unit and fuse |

## REMOTE CONTROLLER SIGNAL CHECK

NJEL0477S12

| 1 | CHECK OUTPUT SIGNAL FOR SUPER LOCK ACTUATOR BY MULTI-REMOTE CONTROLLER |
|---|---|

1. Withdraw key from ignition key cylinder.
2. Check voltage between time control unit terminal 40 or 44 and ground.




Door lock actuator connector
Passenger side: D38
Rear LH: D55
Driver side: D14
Rear RH: D75

**Super lock actuator operation:**
**Terminals 6 (+) and 3 (–)**
**Released → Set**
**Terminals 3 (+) and 6 (–)**
**Set → Released**

YEL807C

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | System is OK. |
| NG | ▶ | Replace time control unit. (Before replacing the unit, make sure the remote controller ID registration for time control unit and the remote controller battery once again.) |

# System Description

NJEL0480

## FUNCTION

NJEL0480S01

Multi-remote control system has the following function.

- Door lock (and set super lock)
- Door unlock (and release super lock)
- Hazard reminder

## LOCK OPERATION

NJEL0480S02

To lock door by multi-remote controller, the key switch must be at OFF.
When the LOCK signal is input to time control unit (the antenna of the system is combined with time control unit)
Then time control unit controls to lock doors and set super lock (models with super lock).

## UNLOCK OPERATION

NJEL0480S03

When the UNLOCK signal is input to time control unit (the antenna of the system is combined with time control unit)
Time control unit controls to unlock driver's door and release super lock (models with super lock).
Then, if an unlock signal is sent from the remote controller again within 5 seconds, all other doors will be unlocked.

## HAZARD REMINDER

NJEL0480S04

When the doors are locked or unlocked by multi-remote controller, supply power to turn lamps hazard reminder flashes as follows

- Lock operation: Flash once
- Unlock operation: Flash twice

## MULTI-REMOTE CONTROLLER ID CODE ENTRY

NJEL0480S05

A maximum of four remote controllers can be entered.
To enter ID code entry, the following signals must be input to the time control unit.

- Ignition switch (ON)
- Signal from remote controller

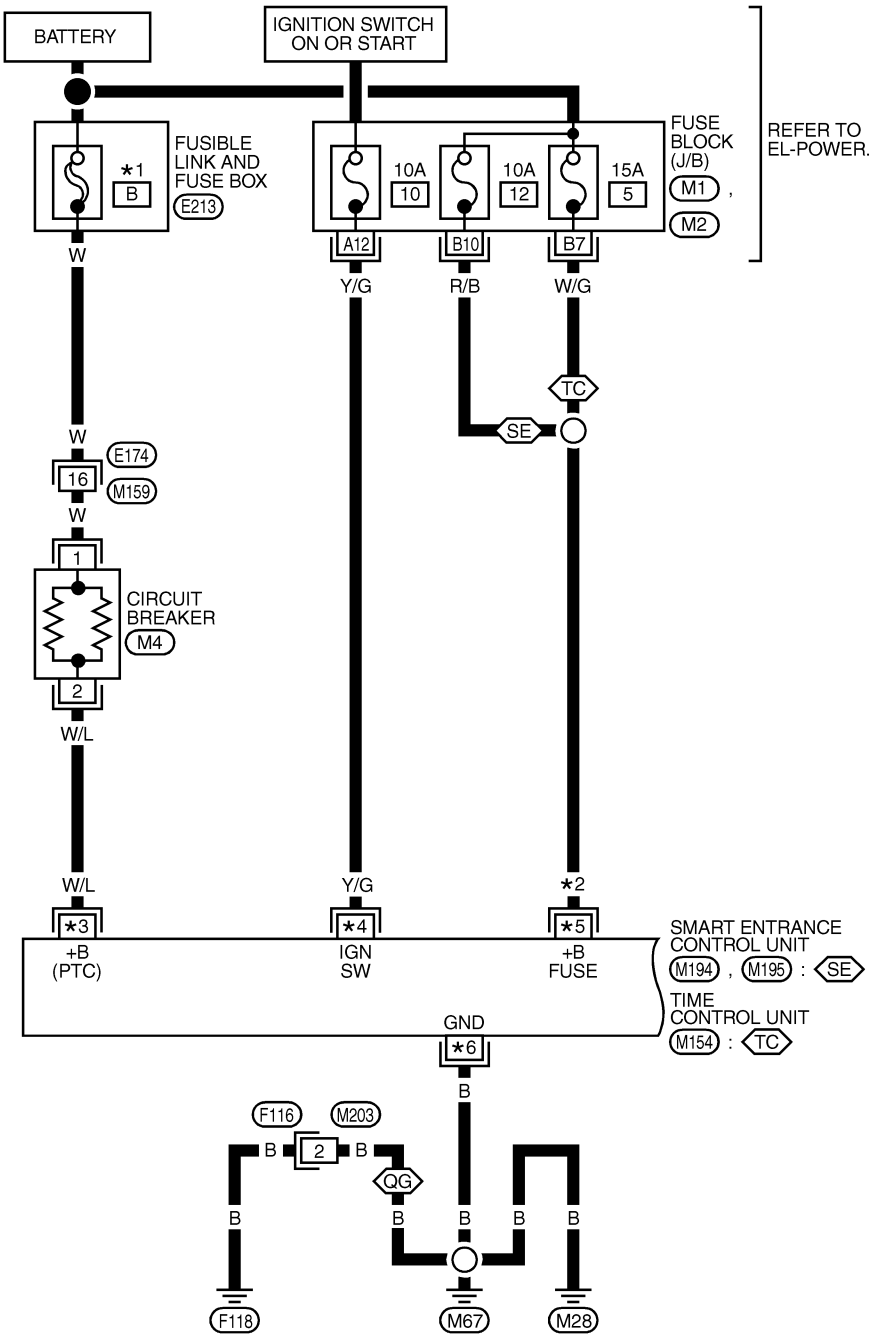
For detailed procedure, refer to "ID Code Entry Procedure" in EL-364.

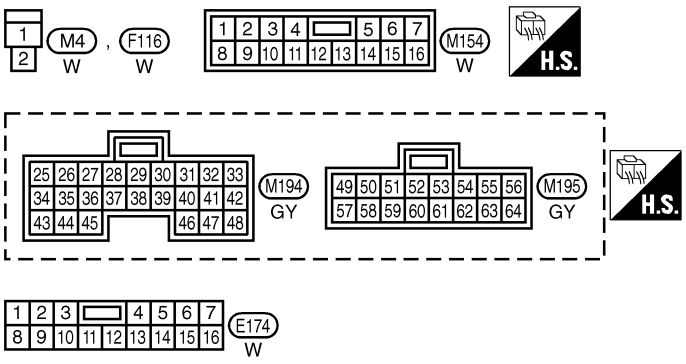
## Wiring Diagram — MULTI —

NJEL0481

**FIG. 1**

NJEL0481S01



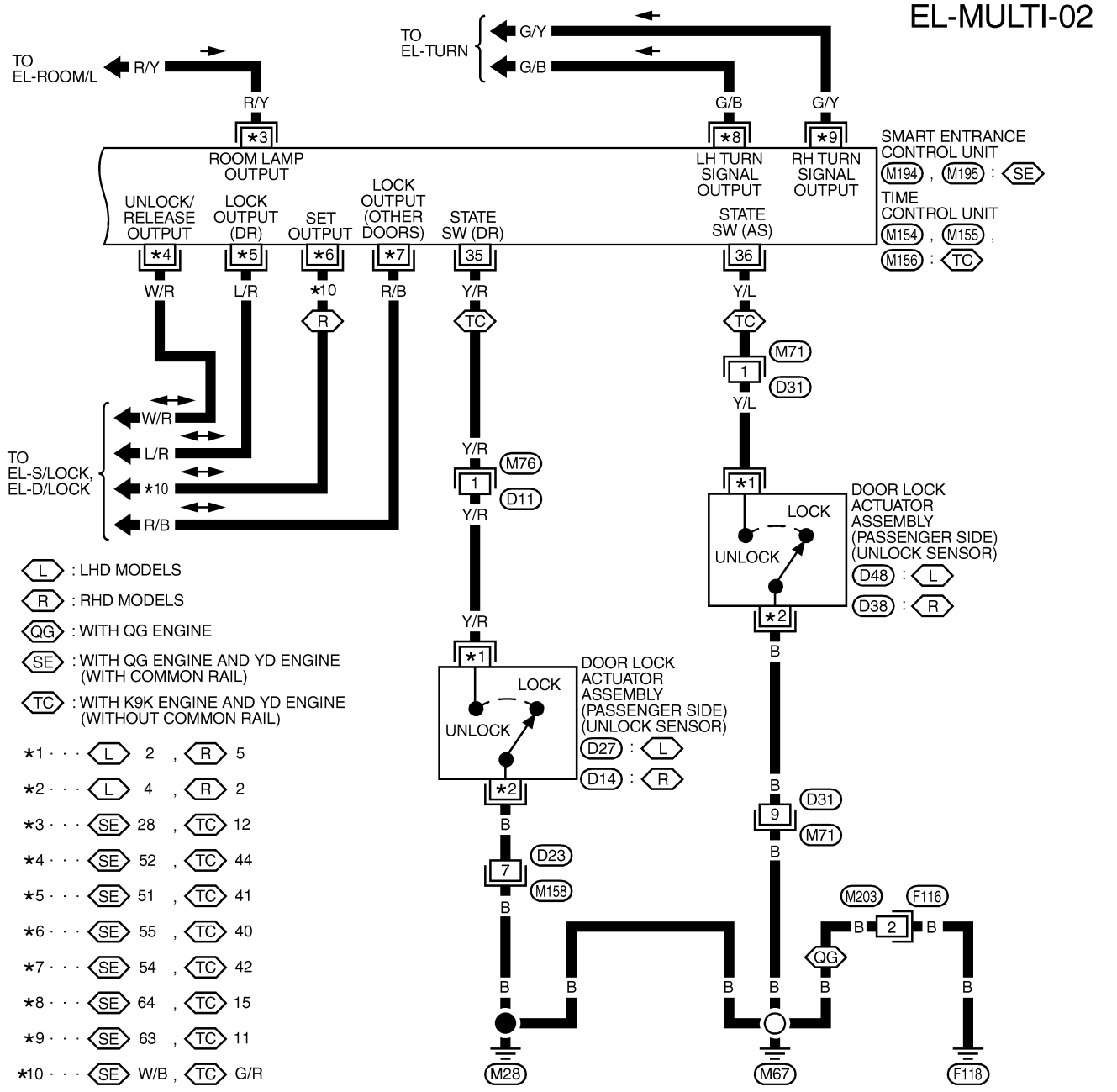

REFER TO THE FOLLOWING.
M1 , M2 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

YEL765D

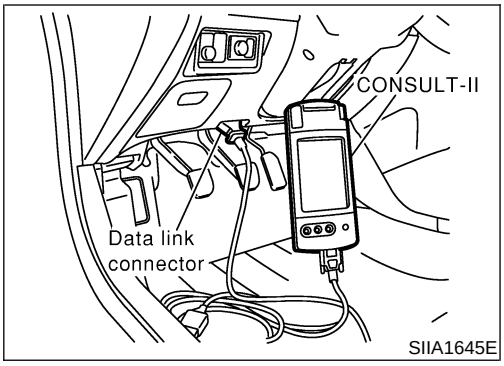
*Wiring Diagram — MULTI — (Cont'd)*

**FIG. 2**

NJEL0481S02




YEL766D



SIIA1645E

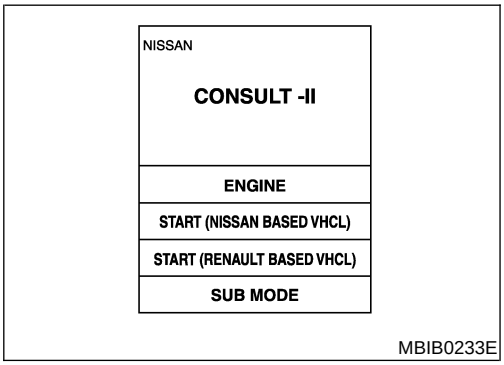
# Trouble Diagnoses/QG and YD Engine Models with Common Rail

NJEL0582

## CONSULT-II INSPECTION PROCEDURE

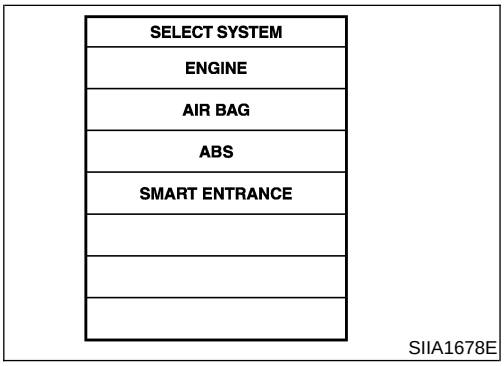
NJEL0582S01

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



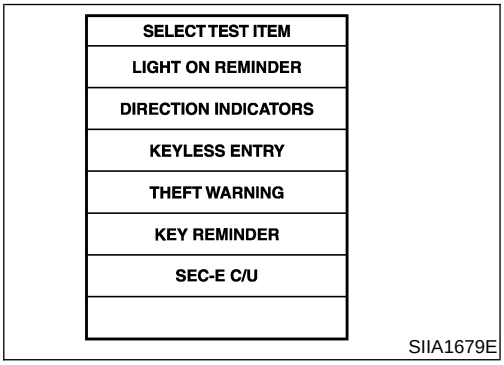
MBIB0233E

3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



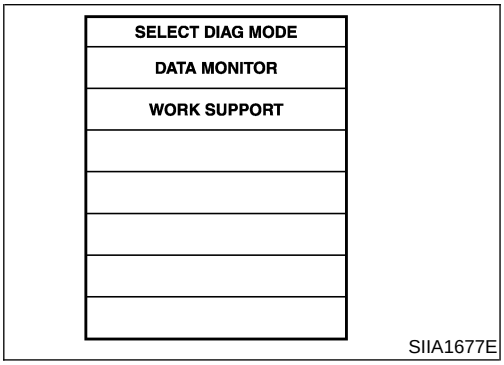
SIIA1678E

5. Touch “SMART ENTRANCE”.



SIIA1679E

6. Touch “KEYLESS ENTRY”.



SIIA1677E

7. Select diagnosis mode.
   “DATA MONITOR” and “WORK SUPPORT” are available.

## CONSULT-II APPLICATION ITEMS

NJEL0582S02

### DATA MONITOR

| Monitored Item | Description |
|---|---|
| IGNITION SW | Indicates [ON/OFF] condition of ignition switch in ON position. |
| TRUNK OPEN SW | Indicates [ON/OFF] condition of trunk room lamp switch (sedan) or back door switch (wagon). |
| RKE LOCK | Indicates [ON/OFF] condition of lock signal from remote controller. |
| RKE UNLOCK | Indicates [ON/OFF] condition of unlock signal from remote controller. |
| RKE SEL UNLOCK | Indicates [ON/OFF] condition of select unlock signal from remote controller. |
| RKE TRUNK REL | Indicates [ON/OFF] condition of trunk (sedan) or back door (wagon) open signal from trunk or back door release switch. |
| BATTERY CHECK | Indicates [OK/NG] condition of remote controller battery. |

### WORK SUPPORT

| Test Item | Description |
|---|---|
| KEYLESS CHECK | It can be checked whether remote controller ID code is registered or not in this mode. |
| KEYLESS REGISTRATION | Remote controller ID code can be registered. |
| KEYLESS DI FLASH | This mode can be setting remote controller function. |

## SYMPTOM CHART

NJEL0582S03

First perform the "SELF-DIAG RESULTS" in "SMART ENTRANCE" with CONSULT-II, when perform the each trounble diagnosis. Refer to EL-355, "CONSULT-II INSPECTION PROCEDURE".

**NOTE:**

- Always check remote controller battery before replacing remote controller.

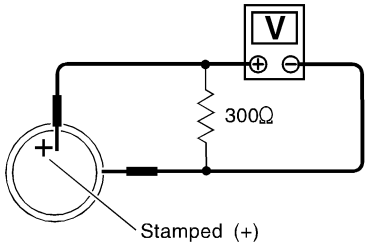
| Symptom | Diagnoses/service procedure | Reference page |
|---|---|---|
| All function of multi-remote control system do not operate. | Remote controller battery check | EL-357 |
| | Power supply and ground circuit for smart entrance control unit check | EL-358 |
| | .If above systems are OK, replace smart entrance control unit. | — |
| The new ID of remote controller cannot be entered. | Remote controller battery check | EL-357 |
| | Key switch check | — |
| | Door switch check | — |
| | Power supply and ground circuit check | EL-358 |
| | If above systems are OK, replace smart entrance control unit. | — |
| Door lock or unlock does not function. | If the power door lock system does not operate manually, check power door lock system. | EL-356 |
| | Remote controller battery check | EL-357 |
| | If above systems are OK, replace smart entrance control unit. | — |
| Hazard reminder does not activate properly when pressing lock or unlock button of remote controller. | Remote controller battery check | EL-357 |
| | Hazard reminder check | EL-359 |
| | If above systems are OK, replace smart entrance control unit. | — |

## REMOTE CONTROLLER BATTERY CHECK

NJEL0582S04

| 1 | CHECK REMOTE CONTROLLER BATTERY |
|---|---|

Remove battery and measure voltage across battery positive and negative terminals, (+) and (−).




SEL237W

**Voltage: 2.5V - 3.0V**

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

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace battery. Refer to EL-365, "Remote Controller Battery Replacement". |

| 2 | CHECK REMOTE CONTROLLER FUNCTION |
|---|---|

**With CONSULT-II**
Check remote controller function ("RKE LOCK", "RKE UNLOCK") in "DATA MONITOR" mode with CONSULT-II.

| DATA MONITOR | |
|---|---|
| MONITOR | |
| RKE LOCK | ON |
| RKE UNLOCK | ON |

SIIA1643E

| Condition | Monitor item |
|---|---|
| Pushing LOCK button | RKE LOCK: ON |
| Pushing UNLOCK button | RKE UNLOCK: ON |

MTBL1512

**Voltage: 2.5V - 3.0V**

**OK or NG**

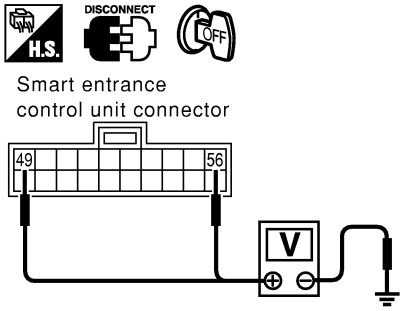
| | | |
|---|---|---|
| OK | ▶ | Remote controller is OK. Further inspection is necessary. Refer to EL-356, "Symptom Chart". |
| NG | ▶ | Replace remote controller. |

## POWER SUPPLY AND GROUND CIRCUIT CHECK

NJEL0582S05

### 1 CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect smart entrance control unit connector.
3. Check voltage between smart entrance control unit harness connector M43 terminal 49 (W/L), 56 (R/B) and ground.




SIIA1564E

| Terminal | | Voltage |
|---|---|---|
| + | — | |
| 49 (W/L) | Ground | Battery voltage |
| 56 (R/B) | | |

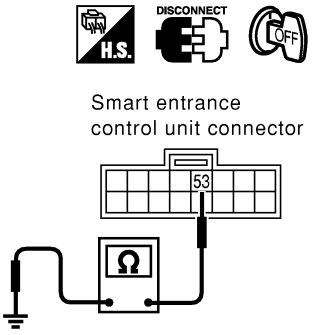
MTBL1513

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Check smart entrance control unit power supply circuit for open or short. |

### 2 CHECK GROUND CIRCUIT

Check continuity between smart entrance control unit harness connector M43 terminal 53 (B) and ground.




SIIA1565E

| Terminal | | Continuity |
|---|---|---|
| + | — | |
| 53 (B) | Ground | Yes |

MTBL1514

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Power supply and ground circuit is OK. |
| NG | ▶ | Check smart entrance control unit ground circuit for open or short. |

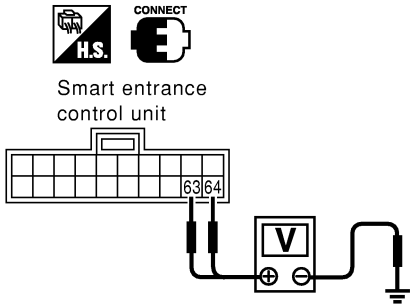
## HAZARD REMINDER CHECK

NJEL0582S06

| 1 | CHECK HAZARD WARNING LAMP | |
|---|---|---|
| Check if hazard warning lamp flashes with hazard switch.<br>**Does hazard warning lamp operate?** | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check hazard warning lamp circuit. |

| 2 | CHECK HAZARD REMINDER OPERATION | |
|---|---|---|

Check the following at when push the remote controller switch.
Check voltage between smart entrance control unit harness connector M43 terminal 63, 64 and ground.




SIIA1644E

| Remote controller | Voltage (Approximate values) |
|---|---|
| Pushing LOCK button | 0V → 12V → 0V |
| Pushing UNLOCK button | 0V → 12V → 0V → 12V → 0V |

MTBL1515

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and hazard switch. |
| NG | ▶ | Replace smart entrance control unit. |

# Trouble Diagnoses/YD Engine Models without Common Rail and K9K Engine Models

=NJEL0482

## SYMPTOM CHART

NJEL0482S01

**NOTE:**
Always check remote controller battery before replacing remote controller.

| Symptom | Diagnoses/service procedure | Reference page (EL- ) |
|---|---|---|
| No doors can be locked or unlocked by remote control operation.<br>(Make sure that power door lock operates properly. If NG, check power door lock.) | 1. Remote controller battery check | 361 |
| | 2. Power supply and ground circuit for time control unit check | 362 |
| | 3. Replace remote controller. Refer to ID Code Entry Procedure. | 364 |
| The new ID of remote controller cannot be entered. | 1. Remote controller battery check | 361 |
| | 2. Power supply and ground circuit for time control unit check | 362 |
| | 3. Ignition “ON” power supply circuit for time control unit | 363 |
| | 4. Replace remote controller. Refer to ID Code Entry Procedure. | 364 |
| Hazard reminder does not activate properly when pressing lock or unlock button of remote controller. | 1. Remote controller battery | 361 |
| | 2. Hazard reminder check | 363 |
| | 3. Replace remote controller. Refer to ID Code Entry Procedure. | 364 |

## REMOTE CONTROLLER BATTERY AND FUNCTION CHECK

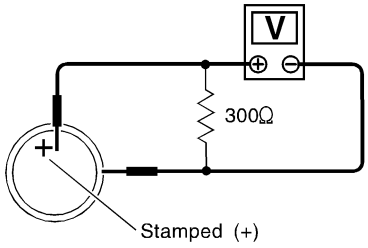
=NJEL0482S02

| 1 | CHECK REMOTE CONTROLLER BATTERY |
|---|---|

Remove battery (refer to EL-365) and measure voltage across battery positive and negative terminals, (+) and (−).

**Voltage [V]:**
**2.5 - 3.0**

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




SEL237W

**OK or NG**

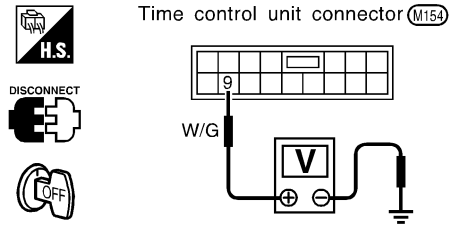
| | | |
|---|---|---|
| OK | ▶ | Check remote controller battery terminals for corrosion or damage. |
| NG | ▶ | Replace battery. |

## POWER SUPPLY AND GROUND CIRCUIT CHECK

=NJEL0482S03

| 1 | CHECK MAIN POWER SUPPLY CIRCUIT FOR TIME CONTROL UNIT |
|---|---|

1. Disconnect time control unit harness connector.
2. Check voltage between time control unit harness connector terminal 9 and ground.




**Continuity should exist.**

SEL487X

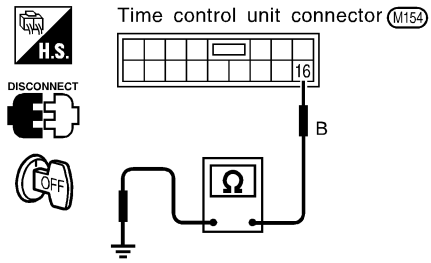
Refer to wiring diagram in EL-353.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | **Check the following.**<br>● 15A fuse [No. 5, located in fuse block (J/B)]<br>● Harness for open or short between time control unit and fuse |

| 2 | CHECK GROUND CIRCUIT FOR TIME CONTROL UNIT |
|---|---|

Check continuity between time control unit harness connector terminal 16 and ground.




**Continuity should exist.**

SEL448X

Refer to wiring diagram in EL-353.

**OK or NG**

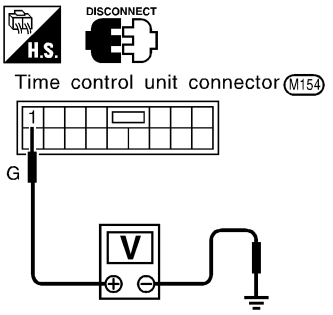
| | | |
|---|---|---|
| OK | ▶ | Power supply and ground circuits are OK. |
| NG | ▶ | Check ground harness. |

## IGNITION "ON" POWER SUPPLY CIRCUIT FOR TIME CONTROL UNIT

=NJEL0482S17

| 1 | CHECK IGNITION "ON" POWER SUPPLY CIRCUIT FOR TIME CONTROL UNIT |
|---|---|

1. Disconnected time control unit harness connector.
2. Check voltage between time control unit terminal 1 and ground.




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

SEL429X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Ignition "ON" power supply circuit is OK. |
| NG | ▶ | **Check the following.**<br>● 10A fuse [No. 10, located in fuse block (J/B)]<br>● Harness for open or short between time control unit and fuse. |

## HAZARD REMINDER CHECK

NJEL0482S18

| 1 | CHECK HAZARD WARNING LAMP |
|---|---|

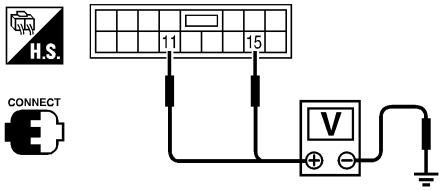
Check if hazard warning lamp flashes with hazard switch.

**Does hazard warning lamp operate?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check hazard warning lamp circuit. |

| 2 | CHECK HAZARD REMINDER OPERATION |
|---|---|

Check the following at when push the multi-remote control switch.
Check voltage between terminal 11 and ground.
Check voltage between terminal 15 and ground.




**Battery voltage should exist.**

SEL499X

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | System is OK. |
| NG | ▶ | Replace time control unit. (Before replacing the unit, make sure the remote controller ID registration for time control unit and the remote controller battery once again.) |

# ID Code Entry Procedure

NJEL0483

**Activation of the registration mode:**

The vehicle must have been unlocked by either the multi-remote controller or a transponder OK signal (TPOK) from the vehicle's immobilizer.
Preparation:
- Make sure all doors unlock.
- Make sure all multi-remote controllers to be registered are available.
- Make sure the batteries of all multi-remote controllers are in a good condition.
- Make sure all transmitting sources are out of the neighbourhood of the vehicle.
- Make sure the battery of the vehicle is in a good condition.

↓

Switch ignition-switch exactly six times from the "LOCK" to the "ON" position within 10 seconds and return the ignition switch to the "LOCK" position (leaving the key in the ignition switch).

↓

After 2 seconds the registration mode is activated. The turn signal lamps will flash twice. — NG → (Switch ignition-switch exactly six times from the "LOCK" to the "ON" position within 10 seconds and return the ignition switch to the "LOCK" position (leaving the key in the ignition switch).)

↓ OK

Proceed with the registration mode.

NOTE
The registration mode is exited when:
- The ignition-switch is turned to the "ON" position.
- A multi-remote controller ID code had registered after 4 ID codes have been registered (then, all of the registered ID codes are erased).
- No multi-remote controller or ignition switch input is received within 120 seconds.

↓

**Registration mode**

Press and hold the "UNLOCK" button of the multi-remote controller.

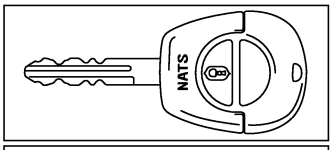
↓

Press the "LOCK" button 3 times.

↓

Release the "UNLOCK" button.
(At this time, the original (previous) ID code(s) are erased.)

→ If the multi-remote controller code is registered correctly, the turn signal lamp will flash once.
(If 4 ID codes have been registered, the turn signal lamp will flash 3 times.) — NG → (Press and hold the "UNLOCK" button of the multi-remote controller.)




Do you want to register another multi-remote controller? (max. 4)
(If 4 controllers have been registered, you should turn the ignition switch to the ON position.)

OK ← (If the multi-remote controller code is registered correctly, the turn signal lamp will flash once. (If 4 ID codes have been registered, the turn signal lamp will flash 3 times.))

No ↓

Yes → (Press and hold the "UNLOCK" button of the multi-remote controller.)

Turn the ignition switch to the ON position.

→ If the multi-remote controller registration is performed correctly, the turn signal lamp will flash twice.
(If 4 ID codes have been registered, the turn signal lamp will not flash.)

OK → Take the ignition key out of the ignition switch and confirm the functioning of all multi-remote controllers by locking and unlocking the vehicle with each of the multi-remote controllers.

NG → (Press and hold the "UNLOCK" button of the multi-remote controller.)

↓

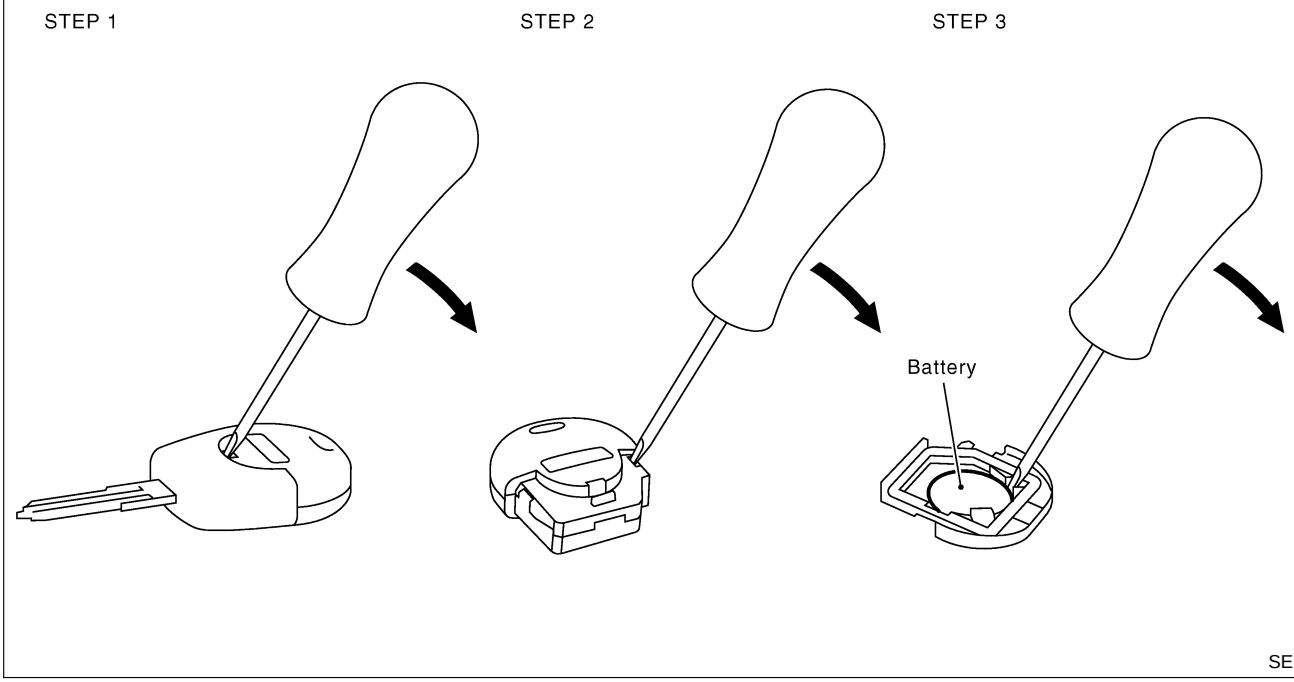
End

SEL497X

## Remote Controller Battery Replacement

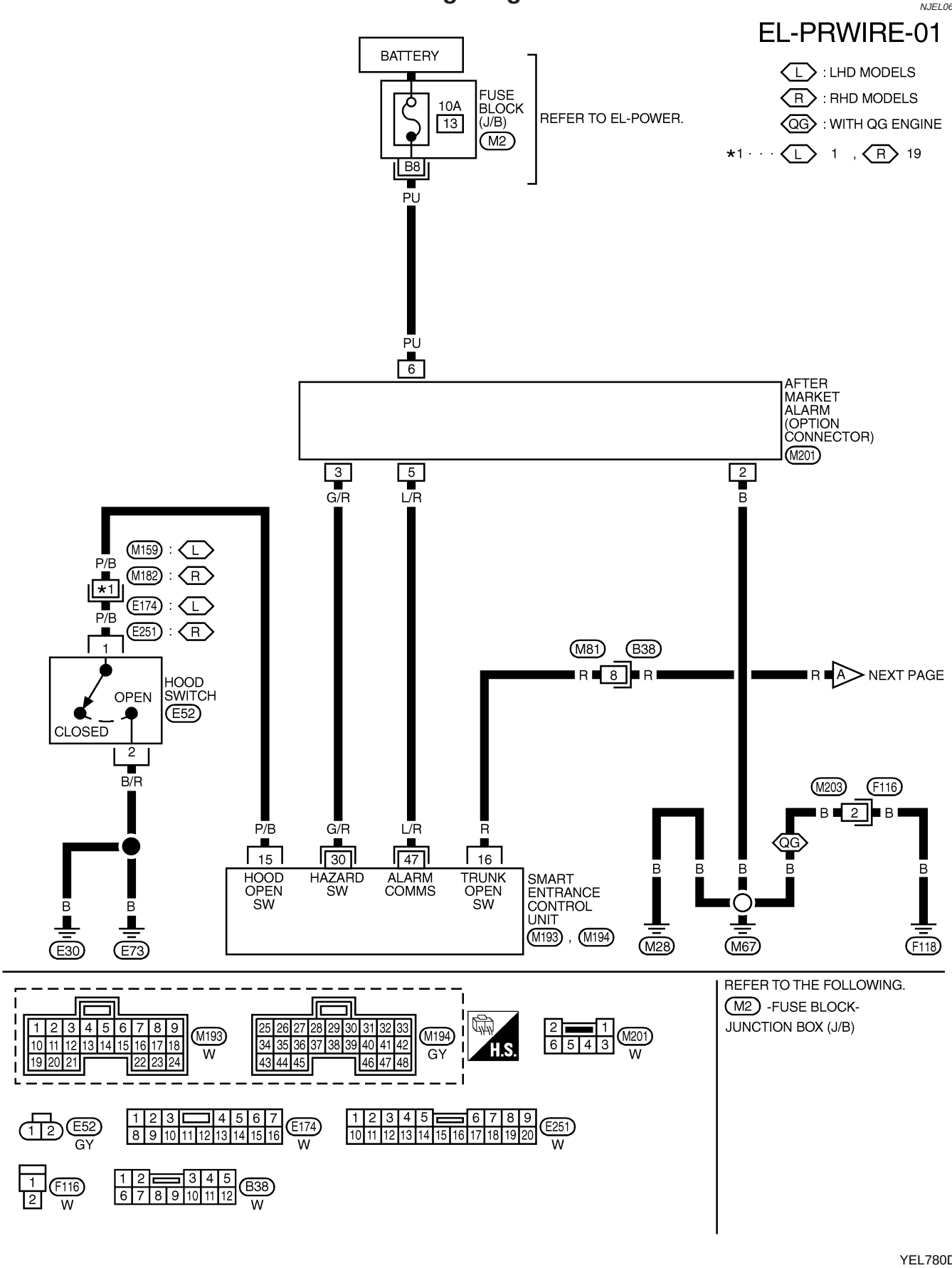
NJEL0484

**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.**
- **Push the remote controller button two or three times to check its operation after replacing battery.**



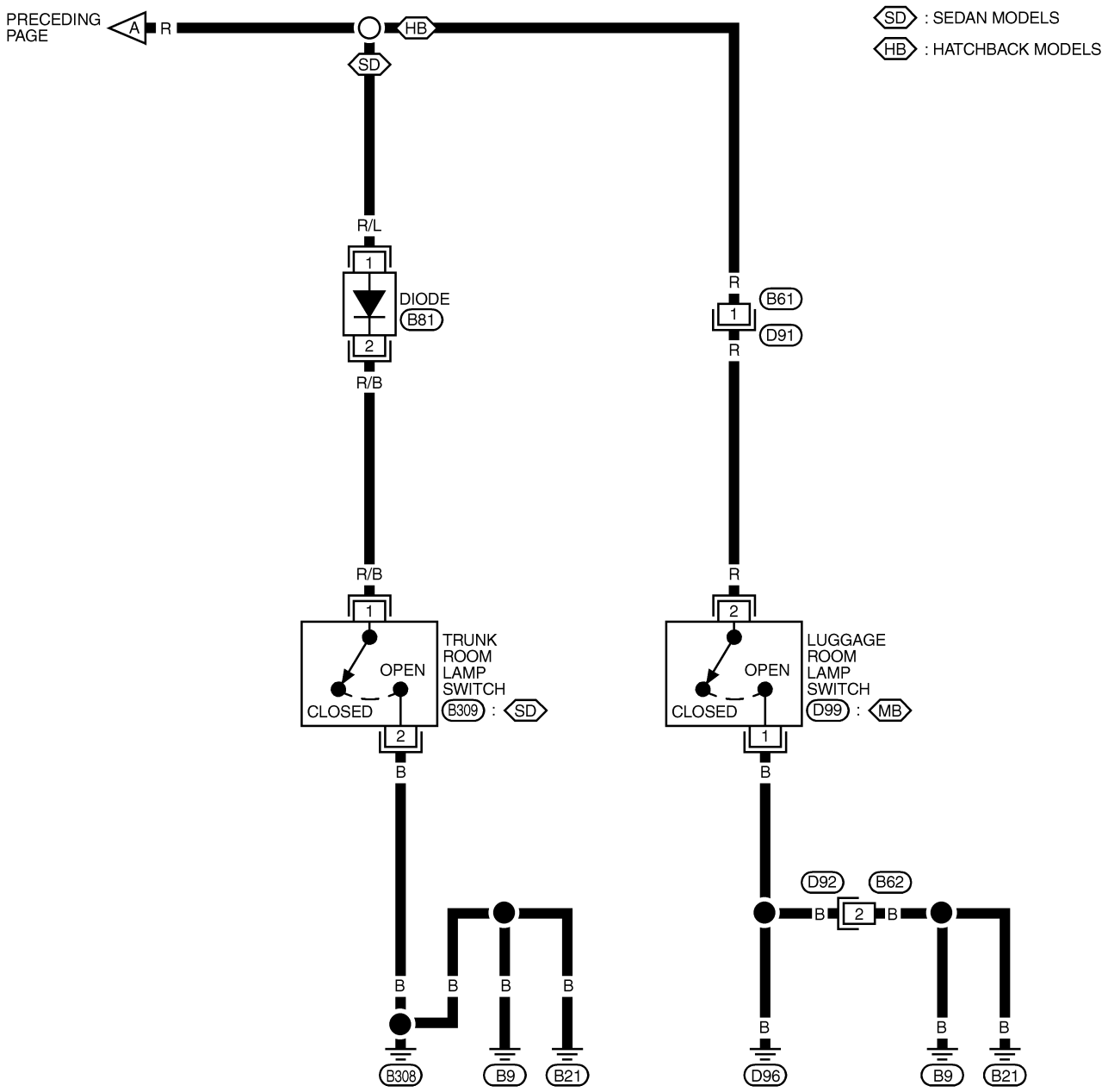
## Wiring Diagram — PRWIRE —

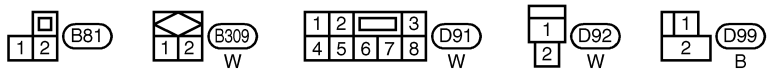
NJEL0638




YEL780D

EL-PRWIRE-02




YEL781D

# Description

NJEL0583

The Smart Entrance Control Unit is applied for QG engine models and YD engine models with common rail.

## OUTLINE

NJEL0583S01

The smart entrance control unit totally controls the following body electrical system operations.

- Warning chime, refer to EL-136, “WARNING CHIME”.
- Rear defogger and door mirror defogger, refer to EL-173, “REAR WINDOW DEFOGGER”.
- Power door lock, refer to EL-261, “POWER DOOR LOCK SYSTEM”.
- Power door lock - Super lock - (RHD models), refer to EL-301, “POWER DOOR LOCK — SUPER LOCK —”.
- Multi-remote control system, refer to EL-352, “MULTI-REMOTE CONTROL SYSTEM”.
- NATS (Nissan Anti-Theft system), refer to EL-386, “NATS (NISSAN ANTI-THEFT SYSTEM)”.
- Interior lamp, refer to EL-80, “INTERIOR ROOM LAMP”.

Also, smart entrance control unit has the “sleep/wake-up control” function. Smart entrance control unit puts itself (the whole smart entrance control unit) to sleep under certain conditions to prevent unnecessary power consumption. Then, when a certain input is detected, the system wakes itself up. For more detailed information, refer to EL-368, “SLEEP/WAKE-UP CONTROL”.

## INTERIOR LAMP/SPOT LAMP/VANITY MIRROR ILLUMINATION

NJEL0583S02

The lamps turn off automatically when the interior lamp, spot lamp or/and vanity mirror illumination are illuminated with the ignition key in the OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in the ON position for more than 30 minutes.
After lamps are turned off by the smart entrance control unit, the lamps illuminate again when:

- Driver’s door is locked or unlocked with remote controller, door lock/unlock switch or door key cylinder.
- Ignition switch is turned to ON.
- Door is opened or closed,
- Key is inserted into ignition key cylinder.

## REAR WINDOW DEFOGGER/DOOR MIRROR DEFOGGER

NJEL0583S03

Rear window defogger is turned off in approximately 15 minutes after the rear window defogger switch is turned on.

## SLEEP/WAKE-UP CONTROL

NJEL0583S04

### Sleep Control

NJEL0583S0401

“Sleep” control prevents unnecessary power consumption. After the following conditions are met, the smart entrance control unit suspends the operation. The whole smart entrance control unit is set in the “sleep” mode.

- Ignition switch “OFF”
- All electrical loads (in the smart entrance control unit) “OFF”
- Timer “OFF”
- Each switch do not input

### Wake-up Control

NJEL0583S0402

When the smart entrance control unit detects a “wake-up” signal, it wakes up the whole system and starts operating again. When any one of the following switches are turned ON, the “sleep” mode is canceled:

- Ignition switch
- Hazard switch
- Headlamp switch
- Hood switch
- Trunk room lamp switch (sedan models)
- Back door switch (hatchback or wagon models)
- Each door switch
- Trunk release switch (sedan models)
- Back door release switch (hatchback or wagon models)
- External trunk release switch (sedan models)
- External back door release switch (hatchback or wagon models)

## INPUT/OUTPUT

NJEL0583S05

| System | Input | Output |
|---|---|---|
| Power door lock | Door lock/unlock switch<br>Key switch (Insert)<br>Door switches<br>Trunk or back door release switch<br>External trunk or back door release switch | Door lock actuators<br>Trunk or back door release actuator |
| Multi-remote control | Key switch (Insert)<br>Ignition switch (ON)<br>Door switches<br>Key fob signal<br>Door lock/unlock switch | Hazard warning lamp<br>Door lock actuator |
| Warning chime | Key switch (Insert)<br>Ignition switch (ON)<br>Lighting switch (1st)<br>Seat belt switch<br>Front door switch LH | Warning chime (located in smart entrance control unit) |
| Rear window defogger and door mirror defogger | Ignition switch (ON)<br>Rear window defogger switch | Rear window defogger relay |
| Theft warning | Ignition switch (ON)<br>Door switches<br>Hood switch<br>Trunk room lamp switch (sedan models)<br>Back door switch (hatchback or wagon models)<br>Door lock/unlock switches<br>Smash sensor | Vehicle security horn relay<br>Siren control unit<br>Security indicator (located in combination meter)<br>Hazard warning lamp |
| Interior room lamp | Door switches<br>Remote controller signal (lock/unlock)<br>Door lock/unlock switches (lock/unlock)<br>Trunk room lamp switch (sedan models)<br>Back door switch (hatchback or wagon models)<br>Ignition switch (ON)<br>Key switch (Insert) | Interior lamp<br>Key hole illumination<br>Step lamp<br>Spot lamp<br>Vanity mirror |

## CONSULT-II

NJEL0584

### DIAGNOSTIC ITEMS APPLICATION

NJEL0584S01

| Item (CONSULT-II screen terms) | Diagnosed system | DATA MONITOR | WORK SUPPORT |
|---|---|---|---|
| DOOR LOCKING | Power door lock | X | X |
| DEFOG | Rear window defogger | X | |
| KEY REMINDER | Warning chime | X | |
| LIGHT ON REMINDER | Warning chime | X | |

*CONSULT-II (Cont'd)*

| Item (CONSULT-II screen terms) | Diagnosed system | DATA MONITOR | WORK SUPPORT |
|---|---|---|---|
| ROOM LAMP | Interior room lamps | X | |
| THEFT WARNING | Theft warning system | X | X |
| RETAINED PWR | Retained power control | X | X |
| KEYLESS ENTRY | Multi-remote control system | X | X |
| H/L WASH | Headlamp washer | X | |
| TRUNK RELEASE | Trunk or back door release | X | X |
| DIRECTION INDICATORS | Direction indicator sound | X | X |
| SEC-E C/U | SEC self-diagnosis | X | |

X: Applicable

For diagnostic item in each control system, refer to the relevant pages for each system.

The description of DATA MONITOR and WORK SUPORT, refer to EL-370, "DATA MONITOR MODE or EL-371, WORK SUPPORT MODE".

## DATA MONITOR MODE

NJEL0584S02

| Item (CONSULT-II screen terms) | Diagnosed system |
|---|---|
| IGNITION SW | Indicates [ON/OFF] condition of ignition switch. |
| KEY IN DETECT | Indicates [ON/OFF] condition of electronic key switch. |
| DOOR SW DR RR | Indicates [ON/OFF] condition of rear door switch (driver side). |
| DOOR SW AS RR | Indicates [ON/OFF] condition of rear door switch (passenger side). |
| AS DOOR SW | Indicates [ON/OFF] condition of front door switch (passenger side). |
| DR DOOR SW | Indicates [ON/OFF] condition of front door switch (driver side). |
| WASH SW | Indicates [ON/OFF] condition of washer switch. |
| CDL LOCK SW | Indicates [ON/OFF] condition of door lock/unlock switch (lock signal). |
| CDL UNLOCK SW | Indicates [ON/OFF] condition of door lock/unlock switch (unlock signal). |
| TRUNK OPEN SW | Indicates [ON/OFF] condition of |
| HOOD OPEN SW | Indicates [ON/OFF] condition of hood switch. |
| INT TRUNK REL· | Indicates [ON/OFF] condition of trunk or back door release switch. |
| EXT TRUNK REL | Indicates [ON/OFF] condition of external trunk back door release switch. |
| HAZARD SW | Indicates [ON/OFF] condition of hazard switch. |
| RH TURN SW | Indicates [ON/OFF] condition of turn signal switch. |
| LH TURN SW | Indicates [ON/OFF] condition of turn signal switch. |
| REAR DEF SW | Indicates [ON/OFF] condition of multifunction switch (defogger switch). |
| RKE LOCK | Indicates [ON/OFF] condition of lock signal from remote controller. |
| RKE UNLOCK | Indicates [ON/OFF] condition of unlock signal from remote controller. |
| RKE SEL UNLOCK | Indicates [ON/OFF] condition of select unlock signal from remote controller. |
| RKE TRUNK REL | Indicates [ON/OFF] condition of trunk open signal from remote controller. |
| BATTERY CHECK | Indicates [ON/OFF] condition of remote controller battery. |
| TAIL LAMP ON | Indicates [ON/OFF] condition of lighting switch. |

*CONSULT-II (Cont'd)*

| Item (CONSULT-II screen terms) | Diagnosed system |
|---|---|
| CAN COMM | Indicates the communication condition of CAN communication line. |
| CAN CIRC 1 | |
| CAN CIRC 2 | |
| CAN CIRC 3 | |

## WORK SUPPORT MODE

NJEL0584S03

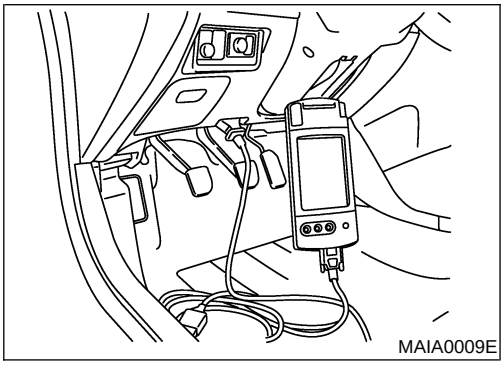
| Mode | Description | Test item |
|---|---|---|
| DOOR LOCKING | AUTO RE-LOCK | This mode can set auto re-lock function. |
| | SELECTIVE UNLOCK | This mode can set select unlock function. |
| TRUNK RELERASE | TRUNK OPEN DELAY | This mode can set trunk or back door open switch operation time. |
| WORK SUPPORT for ROOM | KEYLESS REGISTRATION | This mode can register remote controller ID. |
| | KEYLESS CHECK | This mode can check whether water remote controller ID code is registered or not. |
| | KEYLESS DI FLASH | This mode can set remote controller function. |
| DIRECTION INDICATORS | AUDIBLE TRAILER WARNING | This mode can set audible trailer warning function. |

## SELF-DIAG RESULTS MODE

NJEL0584S04

| Diagnosis item | Description | Repair order |
|---|---|---|
| RH FLASHER (S) BULB BROKEN | RH turn signal lamp system is malfunctioning. | Check turn signal lamp system. Refer to EL-67, "TURN SIGNAL AND HAZARD WARNINGLAMPS". |
| LH FLASHER (S) BULB BROKEN | LH turn signal lamp system is malfunctioning. | Check turn signal lamp system. Refer to EL-67, "TURN SIGNAL AND HAZARD WARNINGLAMPS". |
| RH FLASHER CIRCUIT OVER CURRENT | RH turn signal lamp circuit is open or shorted. | Check turn signal lamp system. Refer to EL-67, "TURN SIGNAL AND HAZARD WARNINGLAMPS". |
| LH FLASHER CIRCUIT OVER CURRENT | LH turn signal lamp circuit is open or shorted. | Check turn signal lamp system. Refer to EL-67, "TURN SIGNAL AND HAZARD WARNINGLAMPS". |
| CAN COMM CIRCUIT* | CAN communication line is open or shorted. | Check CAN communication line. Refer to EL-380, "CAN Communication Line Check". |

*: If this malfunction is displayed, first perform the trouble diagnosis.

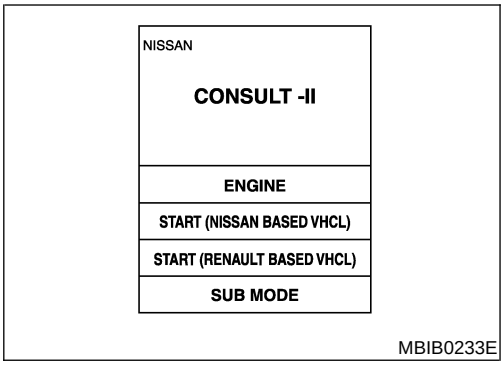

MAIA0009E

## CONSULT-II INSPECTION PROCEDURE

NJEL0584S05

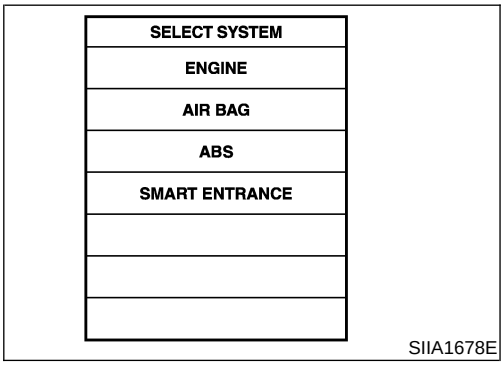
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.

*CONSULT-II (Cont'd)*



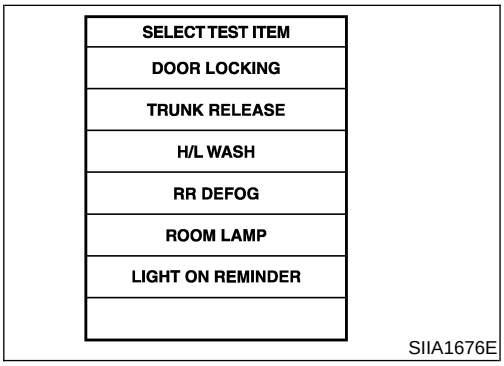
MBIB0233E

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



SIIA1678E

5. Touch "SMART ENTRANCE".



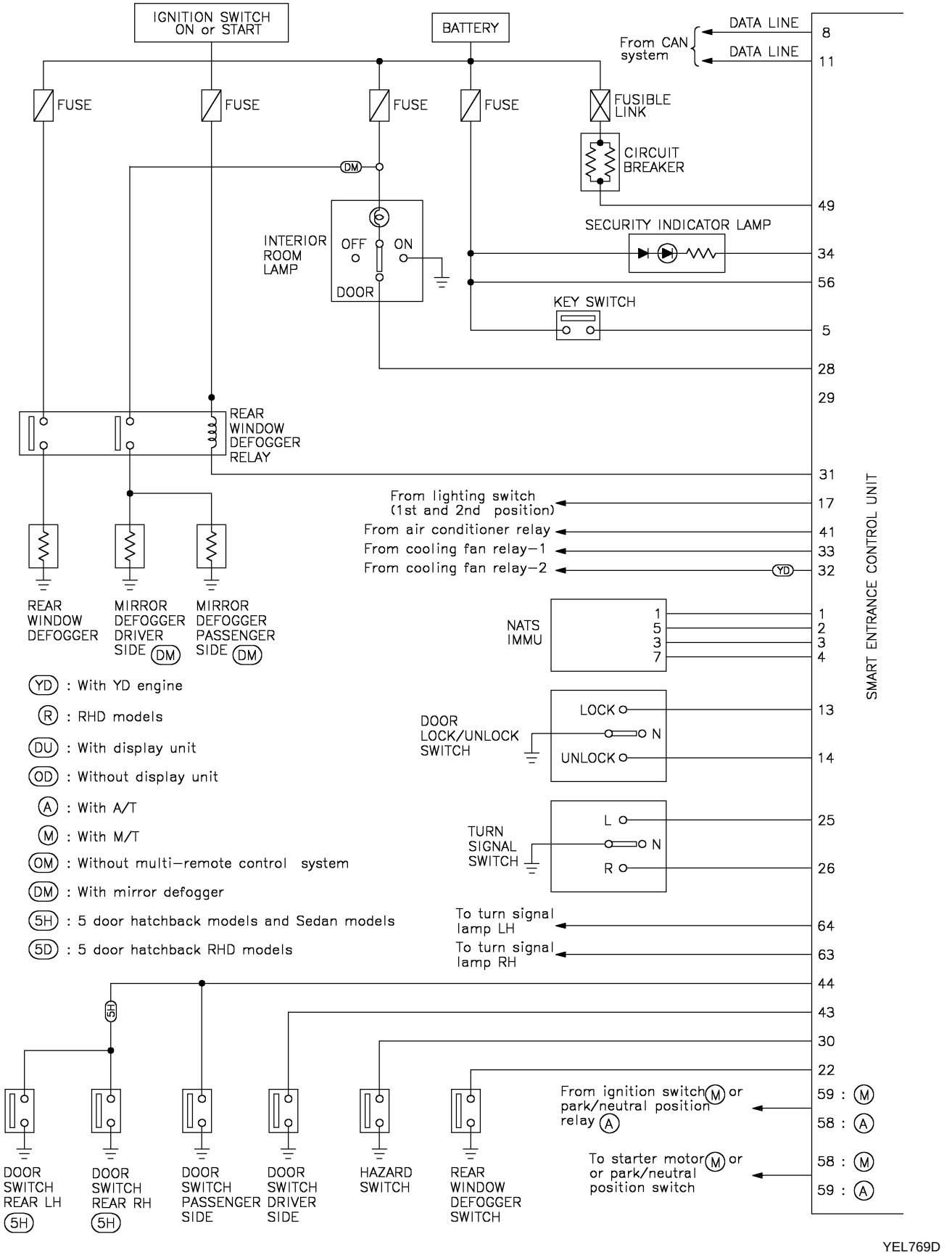
SIIA1676E

6. Perform each diagnostic item according, refer to EL-369, "DIAGNOSTIC ITEMS APPLICATION" or EL-370, "SELF-DIAG RESULTS MODE".

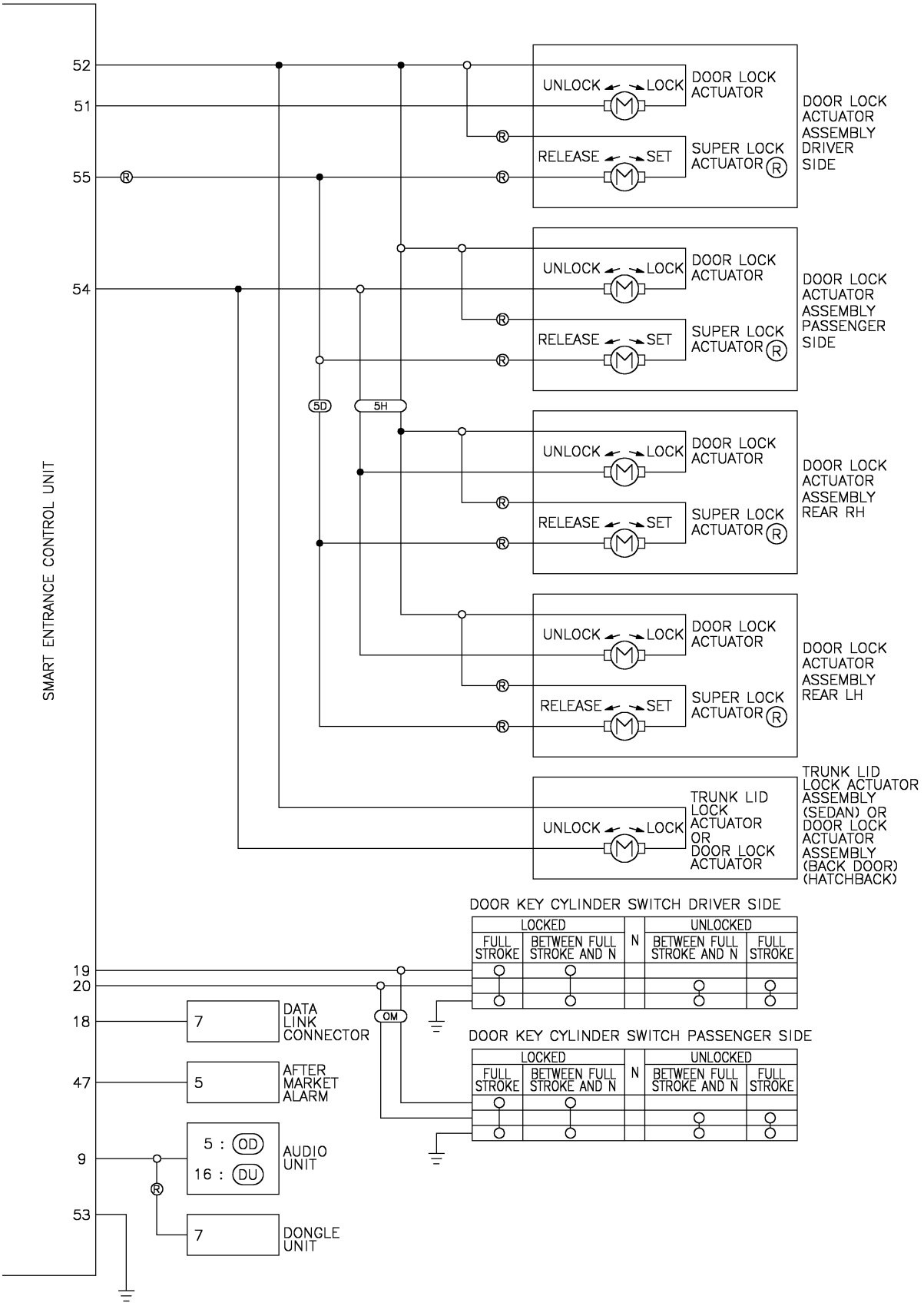
**NOTE:**

## Schematic

NJEL0585



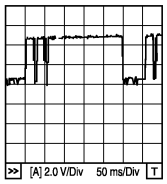

YEL769D


SMART ENTRANCE CONTROL UNIT
52
51
55
54
19
20
18
47
9
53
UNLOCK
LOCK
DOOR LOCK ACTUATOR
RELEASE
SET
SUPER LOCK ACTUATOR
DOOR LOCK ACTUATOR ASSEMBLY DRIVER SIDE
DOOR LOCK ACTUATOR ASSEMBLY PASSENGER SIDE
DOOR LOCK ACTUATOR ASSEMBLY REAR RH
DOOR LOCK ACTUATOR ASSEMBLY REAR LH
TRUNK LID LOCK ACTUATOR OR DOOR LOCK ACTUATOR
TRUNK LID LOCK ACTUATOR ASSEMBLY (SEDAN) OR DOOR LOCK ACTUATOR ASSEMBLY (BACK DOOR) (HATCHBACK)
5D
5H
OM
DOOR KEY CYLINDER SWITCH DRIVER SIDE
DOOR KEY CYLINDER SWITCH PASSENGER SIDE
LOCKED
UNLOCKED
FULL STROKE
BETWEEN FULL STROKE AND N
N
7
DATA LINK CONNECTOR
5
AFTER MARKET ALARM
5 : OD
16 : DU
AUDIO UNIT
7
DONGLE UNIT

YEL770D

## Smart Entrance Control Unit Inspection Table

NJEL0586

| Terminal No. | Wire color | Connections | Operated condition | Voltage (Approximate values) |
|---|---|---|---|---|
| 1 | G | NATS antenna amp. (Power supply) | — | Approx. 5V |
| 2 | G/OR | NATS antenna amp. (Ground) | — | — |
| 3 | G/W | NATS antenna amp. (Signal line) | Moment when key was inserted. | The needle of analog tester swings immediately after inserting key. |
| 4 | G/Y | NATS antenna amp. (Signal line) | Moment when key was inserted | The needle of analog tester swings immediately after inserting key. |
| 5 | L/W | Key switch | Ignition key Removed → Inserted | 0V → 12V |
| 8 | L | CAN communication line | — | — |
| 9 | Y or PU | Audio unit | Ignition key removed or inserted |  MKIB0191E |
| 11 | R | CAN communication line | — | — |
| 12 | PU/W | Flasher sounder | Flasher sound signal : Triggered (0V) .Not triggered (12V) | 12V → 0V (850μs) → 12V |
| 13 | P | Door lock/unlock switches | Neutral → Locks | 12V → 0V |
| 14 | L | Door lock/unlock switches | Neutral → Unlocks | 12V → 0V |
| 15 | LG | Hood switch | Hood switch: ON (Open) → OFF (Closed) | 0V → 12V |
| 16 | G | Trunk room lamp switch (sedan models) Back door switch (hatchback or wagon models) | Trunk or back door release switch: OFF → ON (Only when pressed) | 12V → 0V |
| 17 | R/G | Tail lamp switch | Lighting switch: OFF → 1st or 2nd | 0V → 12V |
| 18 | LG | CONSULT-II SCI interface | — | — |
| 19 | LG/R | Trunk release switch (sedan models) Back door switch (hatchback and wagon models) | Internal trunk release switch: Press → Release (Only when pressed) | 12V → 0V |
| 20 | W | External trunk release switch | External trunk or back door release switch: OFF (Closed) → ON (Only when pressed) | 12V → 0V |
| 22 | L/Y | Multifunction switch (Rear window defogger switch) | [Ignition switch “ON”] Multifunction switch: Press → Release (Only when pressed) | 7V → 0V |
| 23 | R | Lock/unlock switch indicator | Lock/unlock switch: Lock → Unlock | 12V → 0V |

*Smart Entrance Control Unit Inspection Table (Cont'd)*

| Terminal No. | Wire color | Connections | Operated condition | Voltage (Approximate values) |
|---|---|---|---|---|
| 24 | BR | Washer switch (Headlamp washer switch) | [Head lamp switch 1st or 2nd position] Washer switch OFF → ON | 12V → 0V |
| 25 | G/OR | Combination switch (Turn signal switch) | Turn signal switch: Neutral → Left turn position | 12V → 0V |
| 26 | L/B | Combination switch (Turn signal switch) | Turn signal switch: Neutral → Right turn position | 12V → 0V |
| 27 | Y/B | Vehicle security horn relay (RHD models) | When theft warning system: Armed → Disarmed | 0V → 12V |
| 28 | R/Y | Interior room lamp | When interior lamp is operated using remote controller (Lamp switch in "DOOR" position) | 12V → 0V |
| 29 | Y/G | Ignition key switch | Ignition key is in "ON" position | 12V |
| 30 | G/R | Hazard switch | Hazard switch: OFF → ON | 12V → 0V |
| 31 | W | Rear window defogger relay | [Ignition switch "ON"] Rear window defogger switch: OFF → ON | 12V → 0V |
| 32 | LG/B | Cooling fan relay | [Ignition switch" ON"] Cooling fan: Operating → Not operating | 0V → 12V |
| 33 | LG/R | Cooling fan relay | [Ignition switch "ON"] Cooling fan: Operating → Not operating | 0V → 12V |
| 34 | L/Y | Security indicator | Ignition switch ON → OFF | 12V → 0V |
| 39 | BR/W | Rear door switch (Passenger side) | Rear door LH or RH: Open → Closed | 0V → 12V |
| 41 | L | Air conditioner relay | [Engine is running] Air conditioner switch: ON → OFF | 12V → 0V |
| 43 | R/W | Front door switch (Driver side) | Front door (Driver side): Open → Closed | 12V → 0V |
| 44 | R/W | Front door switch (Passenger side) | Front door (Passenger side): Open → Closed | 0V → 12V |
| 45 | R/Y | Rear door switch (Driver side) | Rear door LH or RH: Open → Closed | 0V → 12V |
| 49 | W/L | Power source | — | 12V |
| 50 | G | Power door super lock actuator (Rear) | Remote controller door lock switch: Free → Press | 0V → 12V |
| 51 | L/R | Driver door lock actuator | Door lock & unlock switch: Free → Lock | 0V → 12V |
| 52 | W/R | Door lock actuators | Door lock & unlock switch: Free → Unlock | 0V → 12V |
| 53 | B | Ground | — | 0V |
| 54 | R/B | Door lock actuators | Door lock & unlock switch: Free → Unlock | 0V → 12V |
| 55 | W/B | Power door super lock actuator (Front) | Remote controller door lock switch: Free → Unlock | 0V → 12V |
| 56 | R/B | Power source | — | 12V |

*Smart Entrance Control Unit Inspection Table (Cont'd)*

| Terminal No. | Wire color | Connections | Operated condition | Voltage (Approximate values) |
|---|---|---|---|---|
| 57 | G/B | Trunk release actuator (sedan models)<br>Back door release actuator (hatchback or wagon) | Trunk or back door release switch: OFF → ON (Open) | 12V → 0V |
| 58 | B/W | Starter motor (With A/T or CVT) | Ignition switch: OFF → START position | 0V → 12V |
| 59 | B/Y | Starter motor (With M/T) | Ignition switch: OFF → START position | 0V → 12V |
| 62 | L/R | Headlamp washer motor | [Headlamp switch 1st or 2nd position]<br>Washer switch: OFF → ON | 12V → 0V |
| 63 | G/Y | RH turn signal lamp | [When door lock or unlock is operated using remote controller]<br>Turn signal lamp: OFF → ON → OFF | 0V → 12V → 0V |
| 64 | G/B | LH turn signal lamp | [When door lock or unlock is operated using remote controller]<br>Turn signal lamp: OFF → ON → OFF | 0V → 12V → 0V |

## Trouble Diagnoses

NJEL0587

### PRELIMINARY CHECK

NJEL0587S01

| 1 | CHECK "SELF-DIAG RESULTS" MODE WITH CONSULT-II | |
|---|---|---|
| Check smart entrance system trouble diagnosis (SELF-DIAG RESULTS) in "SEC-E CE" mode with CONSULT-II. Refer to EL-371, "SELF-DIAG RESULTS MODE". | | |
| **Can "SELF-DIAG RESULTS" mode be displayed?** | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO 3. |

| 2 | CHECK DISPLAY ITEM | |
|---|---|---|
| Check display item in "SELF-DIAG RESULTS" mode. | | |
| **Is any malfunction indicated in "SELF-DIAG RESULTS" mode?** | | |
| Yes | ▶ | GO TO EL-371, "SELF-DIAG RESULTS MODE". |
| No | ▶ | Inspection end. |

| 3 | CHECK POWER SUPPLY AND GROUND CIRCUIT | |
|---|---|---|
| Refer to EL-379, "Power Supply and Ground Circuit Check". | | |
| **OK or NG** | | |
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Repair or replace harness. |

## Power Supply and Ground Circuit Check

NJEL0588

**1 CHECK FUSES**

Check that any of the fuse in smart entrance control unit is blown.

| Unit | Power source | Fuse No. |
|---|---|---|
| Smart entrance control unit | Battery | 12 |
| | Ignition switch ON or START | 10 |

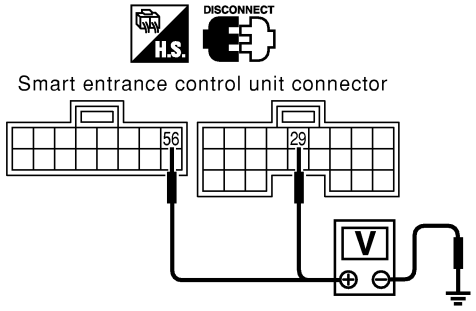
MTBL1459

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace malfunctioning fuse. |

**2 POWER SUPPLY CIRCUIT CHECK**

1. Disconnect smart entrance control unit connector.




MKIB0013E

2. Check the following.

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (—) | OFF | ACC | ON |
| Connector | Terminal (wire color) | | | | |
| M194 | 29 (Y/G) | Ground | 0 V | 0 V | Battery voltage |
| M195 | 56 (R/B) | Ground | Battery voltage | Battery voltage | Battery voltage |

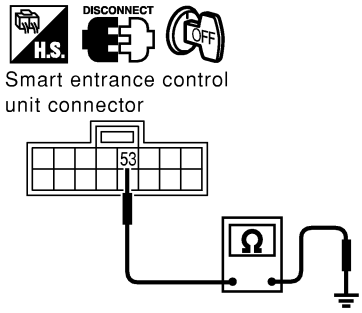
MTBL1460

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| No | ▶ | Check harness for open or short between smart entrance control unit and fuse. |

| 3 | GROUND CIRCUIT CHECK |
|---|---|

Check continuity between smart entrance control unit harness connector M195 terminal 53 (B) and ground.




MKIB0014E

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | INSPECTION END. |
| NG | ▶ | Check ground harness. |

## CAN Communication Line Check

NJEL0589

| 1 | CHECK CAN COMMUNICATION CIRCUIT |
|---|---|

1. Turn ignition switch "ON".
2. Select "SELF-DIAG RESULTS" in "SEC-E CE" mode with CONSULT-II.
3. The "CAN COMM CIRCUIT" is detected.

**Yes or No**

| | | |
|---|---|---|
| Yes | ▶ | Print out CONSULT-II screen, GO TO 2. |
| No | ▶ | INSPECTION END |

| 2 | CHECK CAN COMMUNICATION SIGNALS |
|---|---|

1. Turn ignition switch "ON".
2. Select "CAN DIAG SUPPORT MNTR" in "SEC-E CE" mode with CONSULT-II.
3. Print out the CONSULT-II screen.

OK data

| DATA MONITOR | |
|---|---|
| MONITOR | |
| CAN COMM | OK |
| CAN CIRC 1 | OK |
| CAN CIRC 2 | OK |
| CAN CIRC 3 | OK |

NG data

| DATA MONITOR | |
|---|---|
| MONITOR | |
| CAN COMM | OK |
| CAN CIRC 1 | UNKWN |
| CAN CIRC 2 | UNKWN |
| CAN CIRC 3 | UNKWN |

SEC898C

| | | |
|---|---|---|
| | ▶ | GO TO EL-509, "CAN COMMUNICATION". |

## Description

=NJEL0485

The TCU is applied for YD engine models without common rail and K9K engine models.
The TCU has the following functions.

### INTERIOR LAMP TIMER

NJEL0485S01

The interior lamp timer is controlled by the TCU.
For further information, refer to “INTERIOR ROOM LAMP” (EL-80).

### IGNITION KEY WARNING CHIME AND LIGHT WARNING CHIME

NJEL0485S02

The ignition key and light warning chime are controlled by the TCU.
For further information, refer to “WARNING CHIME” (EL-136).

### REAR WINDOW DEFOGGER TIMER

NJEL0485S03

The rear window defogger and door mirror defogger system are controlled by the TCU.
For further information, refer to “REAR WINDOW DEFOGGER” (EL-174).

### POWER DOOR LOCK (SUPER LOCK)

NJEL0485S04

The power door lock (super lock) is controlled by the TCU.
For further information, refer to “POWER DOOR LOCK — Super Lock —” (EL-301).

### MULTI-REMOTE CONTROL SYSTEM

NJEL0485S05

The multi-remote control system is controlled by the TCU.
For further information, refer to “MULTI-REMOTE CONTROL SYSTEM” (EL-352).

### FUNCTION

NJEL0485S06

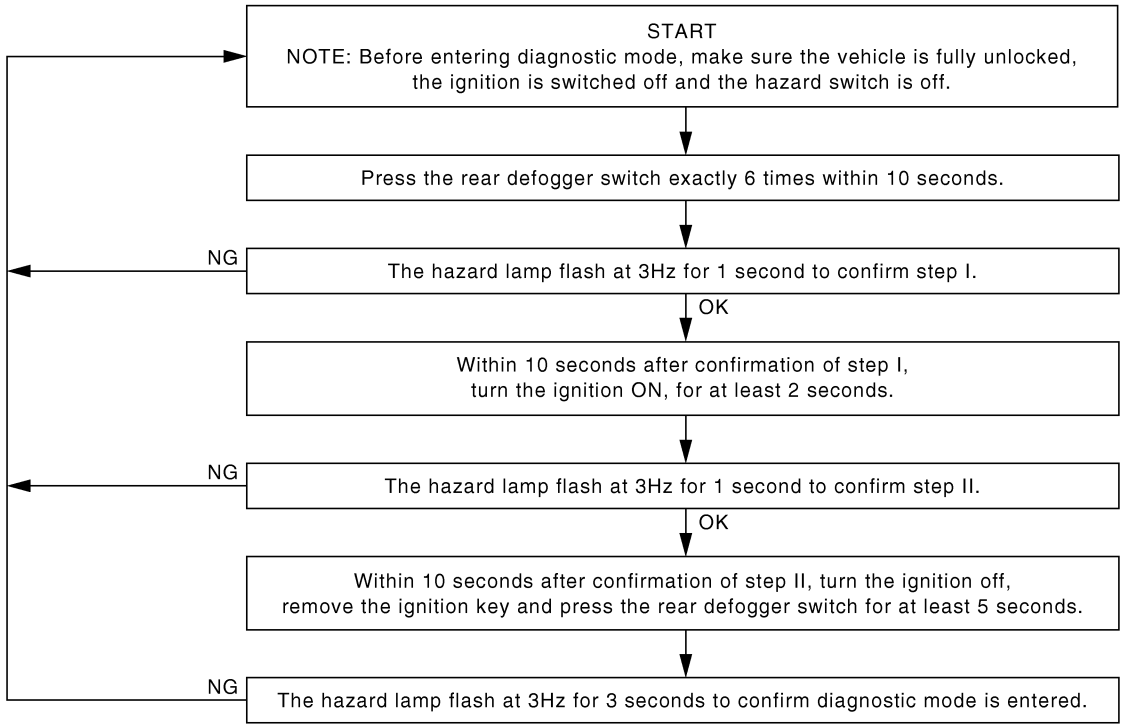
- The TCU has the following control function.

| Item | Details of control |
|---|---|
| Direction indicators | Switches the director indicators (Left, Right or All) when the combination switch or hazard switch is operated. |
| Light warning chime | Sounds warning chime when driver’s door is opened with light switch in the 1st or 2nd position and ignition switch “OFF”. |
| Ignition key warning chine | Sounds warning chime when driver’s door is opened with key in ignition and the driver door lock knob (unlock sensor) is moved from the “unlock” position to the “lock” position. |
| Rear window defogger timer | Turn off rear window defogger and door mirror heater, if equipped, about 15 minutes after the rear window defogger switch is turned “ON”. |
| Battery saver | Shuts off interior lamp in 30 minutes if any door is left open when ignition switch is “OFF”. The battery saver will reset if ignition switch is cycled or any door is opened or closed. |
| Interior lamp timer | Keep interior lamp illuminated for about 30 seconds when:<br>● driver’s door is unlocked,<br>● the ignition is switched off,<br>● driver’s door is opened and then closed.<br>The timer is cancelled, and interior lamp turns off when:<br>● driver’s door is locked, or<br>● ignition switch is turned “ON”. |
| Power door lock | Centrally locks and unlocks the vehicle |
| Super lock | Activates and de-activates the super lock system. |

## Trouble Diagnoses

=NJEL0486

The Timer Control Unit includes software to help during development testing, manufacturing and service. It allows the technician to put it into Diagnostic Mode. In this mode, all switch inputs can be tested for continuity.
When the timer control unit is in Diagnostic Mode, the control unit tests the component and indicate the result by the hazard lamp flashing.




SEL496X

### Checks

Once in Diagnostic Mode, the following inputs can be tested.

| USER ACTION | TCU Reaction | COMPONENT TESTED |
|---|---|---|
| Driver's door opened from closed (all other doors closed) | Hazards flash once | Driver's door open signal |
| Passenger or rear door opened from closed (all other doors closed) | Hazard flash once | Door open signal for opened door |
| Driver's door locked from unlocked | Hazard flash once | Driver's door unlock sensor signal |
| Passenger door locked from unlocked | Hazard flash once | Assist door unlock sensor signal |
| Hazard switch is pressed from off | Hazard flash once | Hazard switch signal |
| Turn signal switch is moved to left from off | Hazard flash once | Left turn signal |
| Turn signal switch is moved to right from off | Hazards flash once | Right turn signal |
| Key turned to lock position is door | Hazard flash once* | Key cylinder lock switch signal |

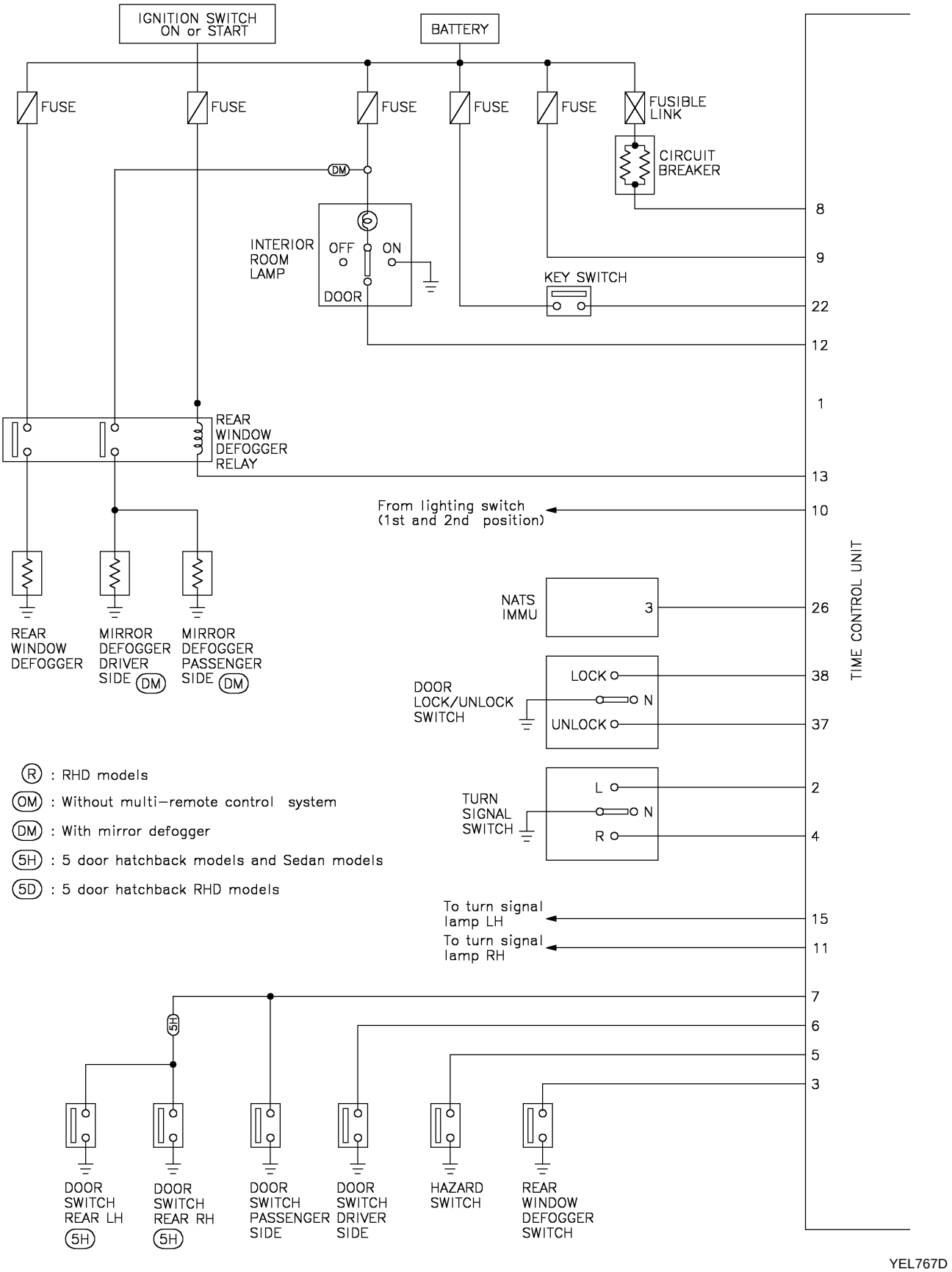
| USER ACTION | TCU Reaction | COMPONENT TESTED |
|---|---|---|
| Lighting switch turned 1st position or 2nd position from off | Hazard flash once | Tail lamp signal |
| Key put in ignition from out | Hazard flash once | Key in detect signal |
| Door lock/unlock switch is pressed | Hazard flash once | Central door lock/unlock signal |

*) Hazard may flash a second time because of Driver's door status signal change. The min. delay time between flash actions is 100 ms.

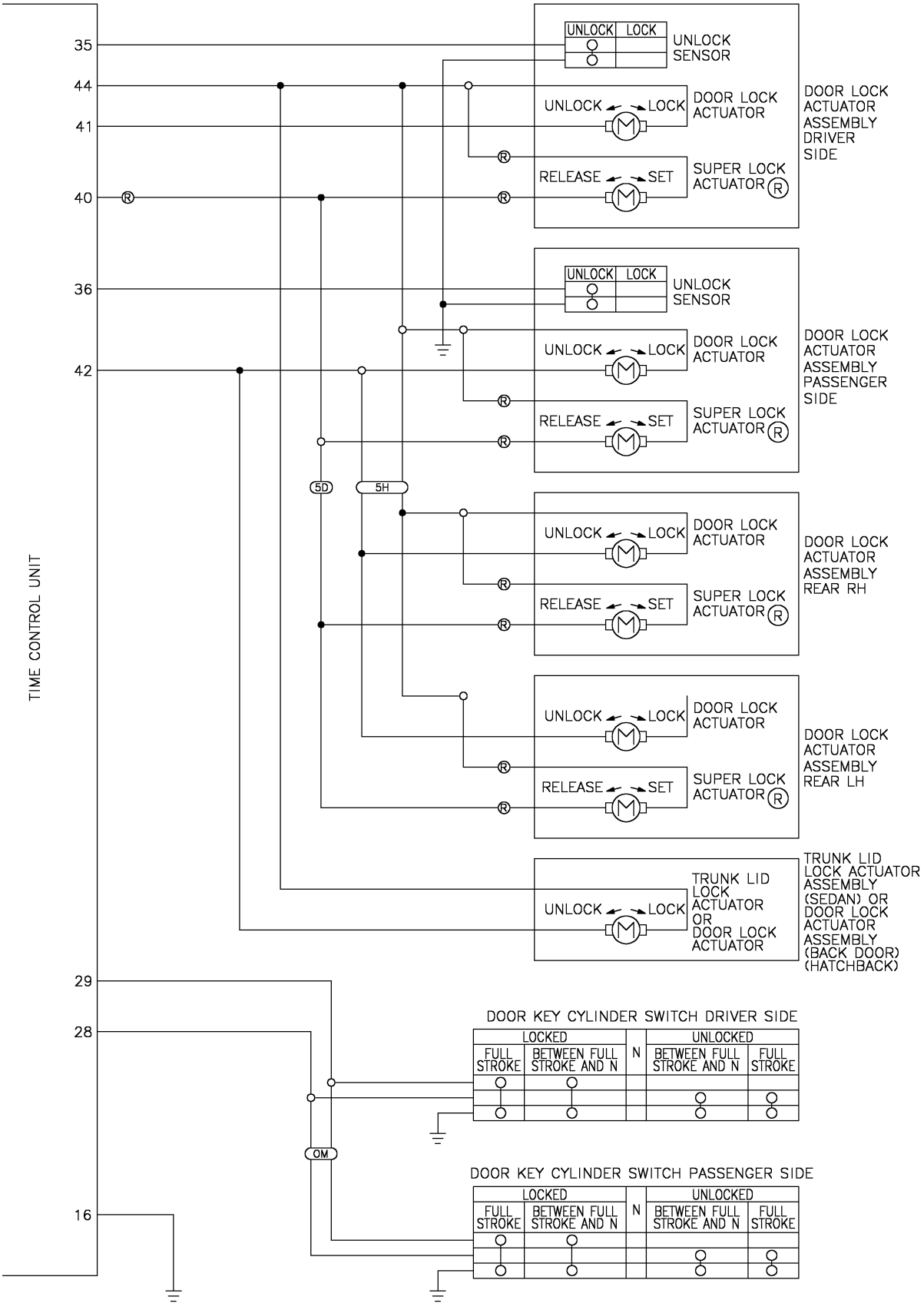
In case the system does not operate as described above, check the concerned circuit for open or short. After completion, the Diagnostic Mode can be switched off by pressing the rear defogger switch or by turning the ignition to "ON". The hazard lamp will flash at 3 Hz for 3 seconds to confirm that Diagnostic Mode has been switched off.

## Schematic

NJEL0506




YEL767D


TIME CONTROL UNIT
35
44
41
40
36
42
29
28
16
5D
5H
OM
UNLOCK
LOCK
UNLOCK SENSOR
DOOR LOCK ACTUATOR
SUPER LOCK ACTUATOR
RELEASE
SET
DOOR LOCK ACTUATOR ASSEMBLY DRIVER SIDE
DOOR LOCK ACTUATOR ASSEMBLY PASSENGER SIDE
DOOR LOCK ACTUATOR ASSEMBLY REAR RH
DOOR LOCK ACTUATOR ASSEMBLY REAR LH
TRUNK LID LOCK ACTUATOR OR DOOR LOCK ACTUATOR
TRUNK LID LOCK ACTUATOR ASSEMBLY (SEDAN) OR DOOR LOCK ACTUATOR ASSEMBLY (BACK DOOR) (HATCHBACK)
DOOR KEY CYLINDER SWITCH DRIVER SIDE
DOOR KEY CYLINDER SWITCH PASSENGER SIDE
LOCKED
UNLOCKED
FULL STROKE
BETWEEN FULL STROKE AND N
N

YEL768D

## Component Parts and Harness Connetor Location

NJEL0406

For details, refer to “ELECTRICAL UNIT LOCATION” (EL-543) and “HARNESS LAYOUT” (EL-550).

## System Description

NJEL0407

NATS (Nissan Anti-Theft System) has the following immobilizer functions:

- Since only NATS ignition keys, whose ID nos. have been registered into the ECM and IMMU of NATS, allow the engine to run, operation of a stolen vehicle without a NATS registered key is prevented by NATS. That is to say, NATS will immobilize the engine if someone tries to start it without the registered key of NATS.
- This version of NATS has dongle unit to improve its anti-theft performance (RHD models for Europe). Dongle unit has its own ID which is registered into NATS IMMU. So if dongle unit is replaced, initialization must be carried out.
- When malfunction of dongle unit is detected:
  The security indicator lamp illuminates for about 15 minutes after ignition switch is turned to ON.
  − When dongle unit has a malfunction and the indicator lamp is illuminated, engine can not be started. However engine can be started only one time when security indicator lamp turns off in about 15 minutes after ignition switch is turned to ON.
- All of the originally supplied ignition key IDs have been NATS registered.
  If requested by the vehicle owner, a maximum of five key IDs can be registered into the NATS components.
- The security indicator blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- When NATS detects trouble, the security indicator lamp lights up as follows.

| Condition IGN ON and | With dongle | | Without dongle | |
|---|---|---|---|---|
| | MIL | Security indicator | MIL | Security indicator |
| NATS malfunction (except dongle unit) is detected | — | 1. 6 times blinking<br>2. Staying ON after ignition switch is turned ON | — | Staying ON |
| Only malfunction of dongle unit is detected. | — | Staying ON for about 15 minutes after ignition switch is turned ON | — | — |
| Malfunction of NATS and engine related parts are detected. | Staying ON | 1. 6 times blinking<br>2. Staying ON after ignition switch is turned ON | Staying ON | Staying ON |
| Only engine related part malfunction is detected. | Staying ON | — | Staying ON | — |
| Just after initialization of NATS | — | 6 times blinking | — | — |

- NATS trouble diagnoses, system initialization and additional registration of other NATS ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NATS software.
  Regarding the procedures of NATS initialization and NATS ignition key ID registration, refer to CONSULT-II operation manual, NATS.
- **When servicing a malfunction of the NATS (indicated by lighting up of Security Indicator Lamp) or**

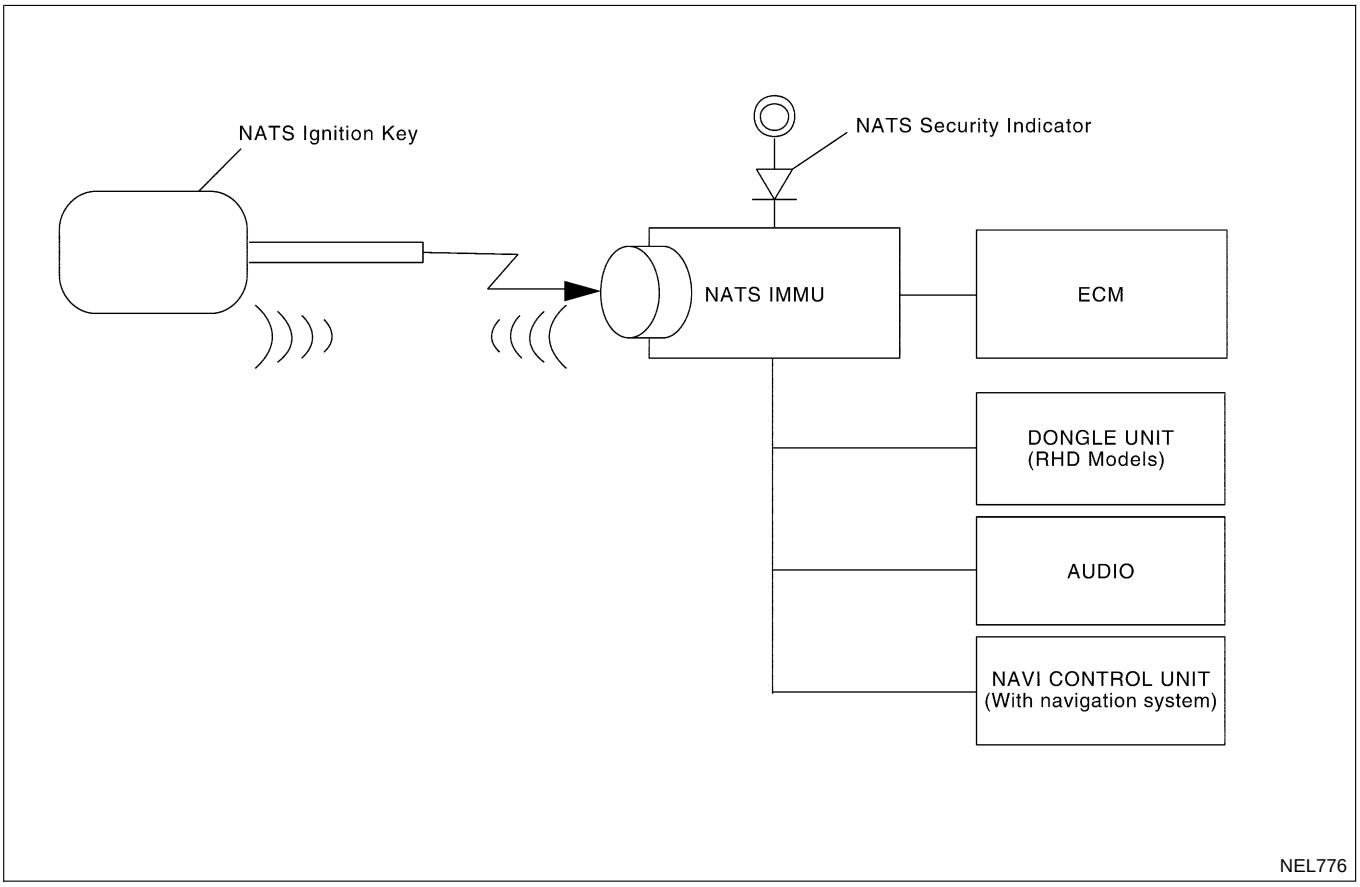
**registering another NATS ignition key ID no., it may be necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**

## System Composition

NJEL0408

The immobilizer function of the NATS consists of the following:

- NATS ignition key
- NATS immobilizer control unit (IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- Dongle unit (RHD models)
- Security indicator
- Navigation control unit (Models with Navigation system)

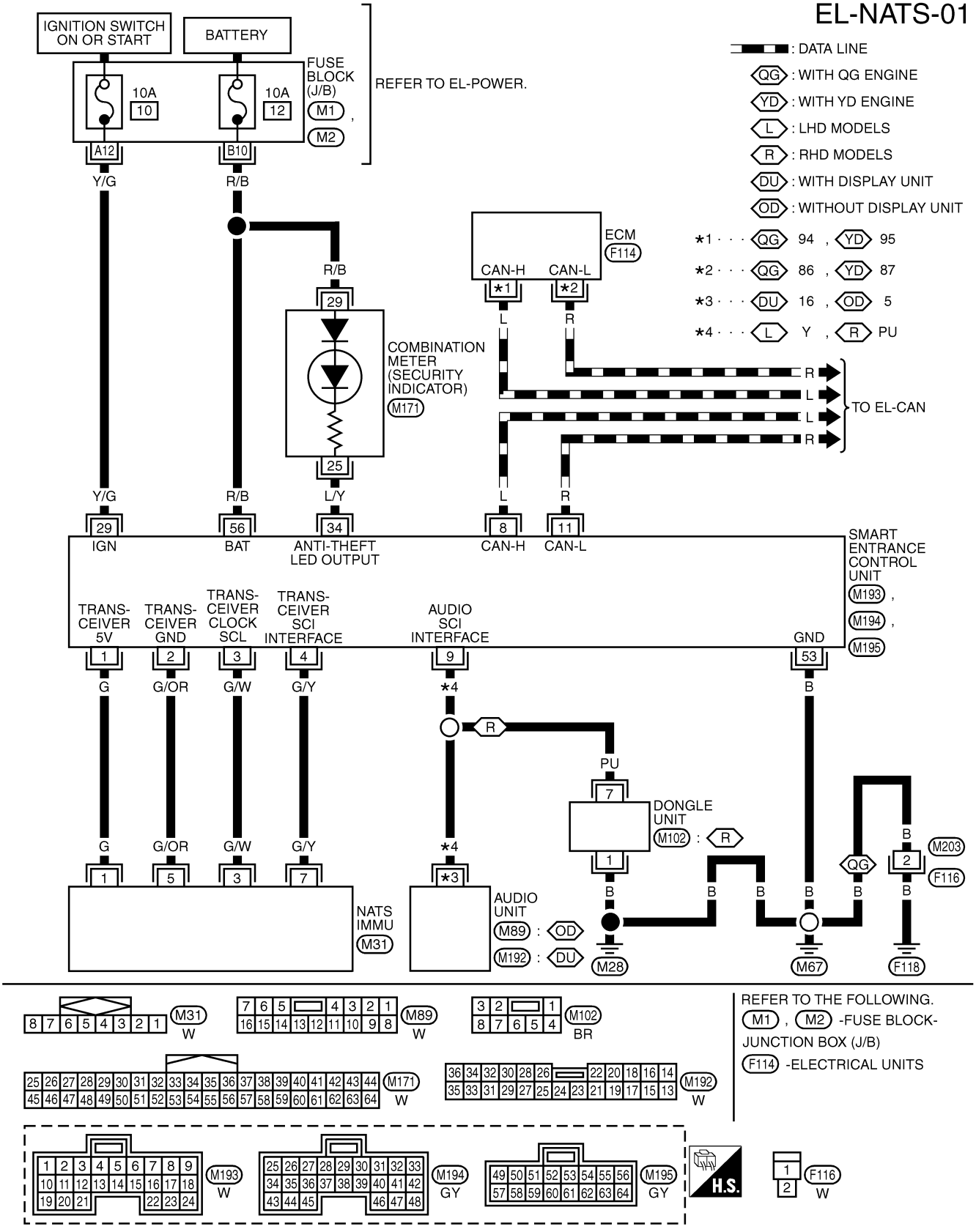


# Wiring Diagram — NATS —

NJEL0487

## QG ENGINE MODELS AND YD ENGINE MODELS WITH COMMON RAIL

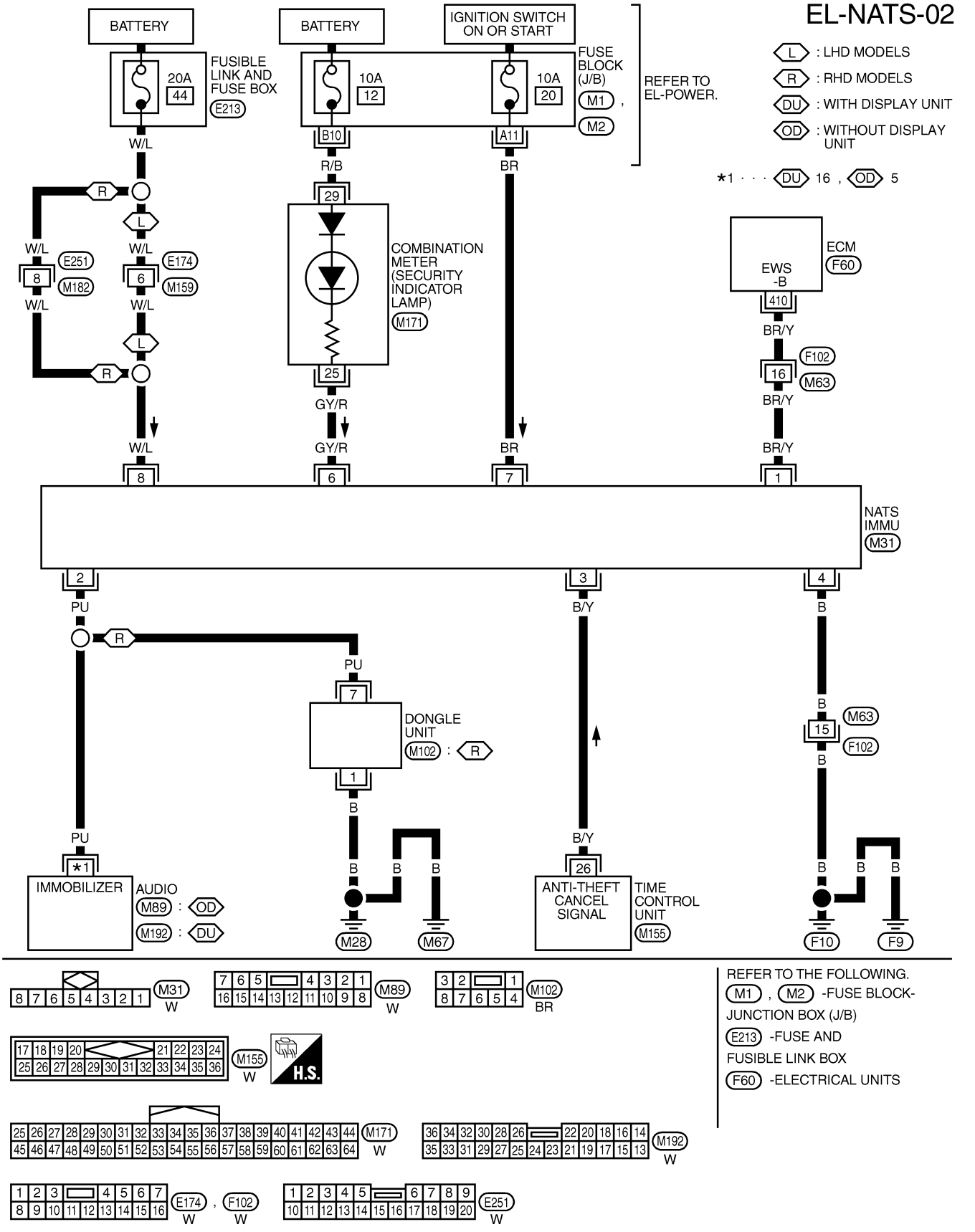
NJEL0487S06



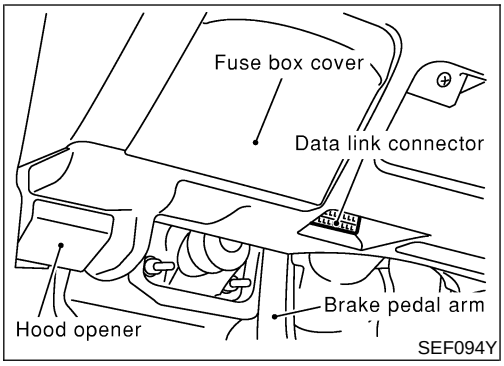

YEL771D

## YD ENGINE MODELS WITHOUT COMMON RAIL

NJEL0487S07




YEL772D



SEF094Y

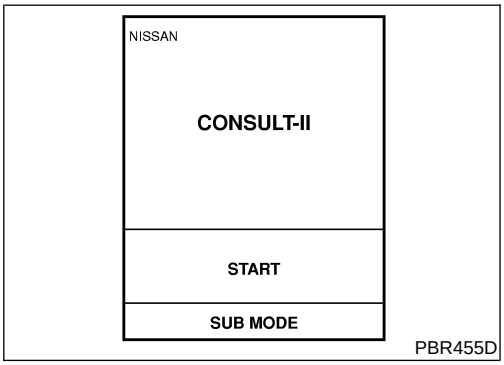
# CONSULT-II

*NJEL0410*

## CONSULT-II INSPECTION PROCEDURE

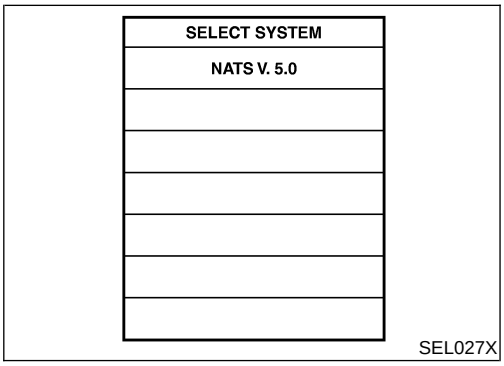
*NJEL0410S01*

1. Turn ignition switch OFF.



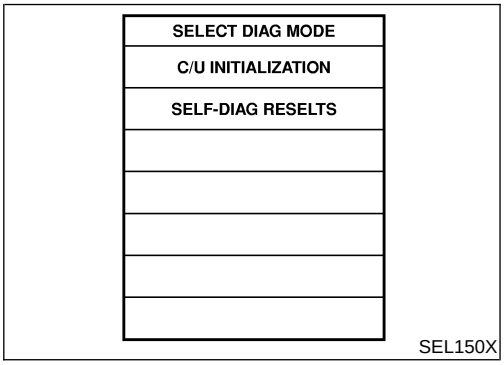
PBR455D

2. Insert NATS program card into CONSULT-II.
   **⬅: Program card**
   **NATS-AEN02B**
3. Connect CONSULT-II to data link connector.
4. Turn ignition switch ON.
5. Touch “START”.



SEL027X

6. Select “NATS V.5.0”.



SEL150X

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

**For further information, see the CONSULT-II Operation Manual, NATS.**

## CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

=NJEL0410S02

| CONSULT-II DIAGNOSTIC TEST MODE | Description |
|---|---|
| C/U INITIALIZATION | When replacing any of the following components, C/U initialization and re-registration of all NATS ignition keys are necessary.<br>[NATS ignition key/IMMU/ECM/Dongle unit] |
| SELF-DIAG RESULTS | Detected items (screen terms) are as shown in the chart EL-391. |

**NOTE:**

- **When any initialization is performed, all ID previously registered will be erased and all NATS ignition keys must be registered again.**
- The engine cannot be started with an unregistered key. In this case, the system may show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT-II screen.
- When initialization is performed for RHD models for Europe, security indicator will flash six times to demonstrate recognition of the dongle unit ID.
- In rare case, "CHAIN OF ECM-IMMU" might be stored as a self-diagnostic result during key registration procedure, even if the system is not malfunctioning.

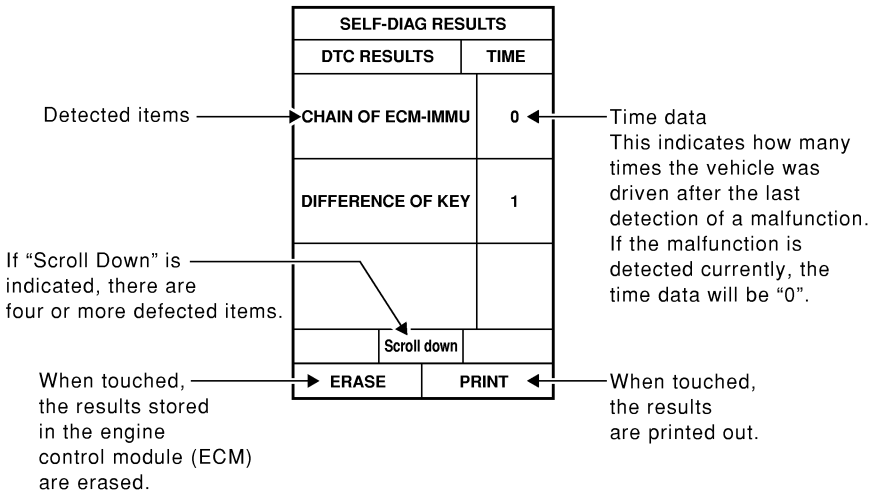
## HOW TO READ SELF-DIAGNOSTIC RESULTS

NJEL0410S03

**Result display screen (When no malfunction is detected)**

| SELF-DIAG RESULTS | |
|---|---|
| DTC RESULTS | TIME |
| NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED. | |
| | |
| | |
| | |
| PRINT | |

**Result display screen (When malfunction is detected)**




SEL151X

*CONSULT-II (Cont'd)*

## NATS SELF-DIAGNOSTIC RESULTS ITEM CHART

=NJEL0410S04

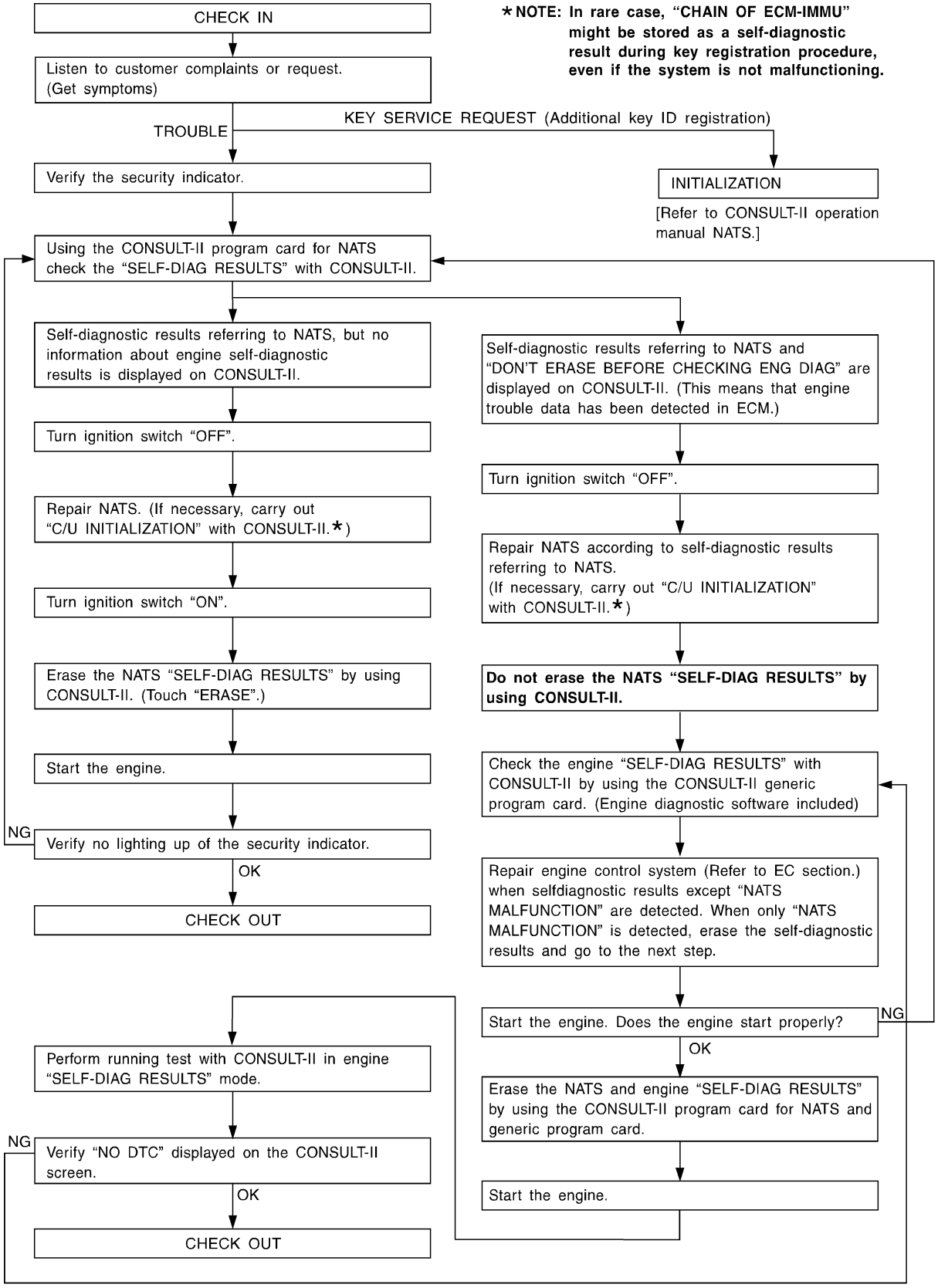
| Detected items (NATS program card screen terms) | P No. Code (Self-diagnostic result of "ENGINE" | Malfunction is detected when ..... | Reference page |
|---|---|---|---|
| ECM INT CIRC-IMMU | NATS MALFUNCTION P1613 | The malfunction of ECM internal circuit of IMMU communication line is detected. | EL-415 |
| CHAIN OF ECM-IMMU | NATS MALFUNCTION P1612 | Communication impossible between ECM and IMMU (In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.) | EL-416 (K9K & YD w c.r.) EL-397 (QG & YD w/o c.r.) |
| DIFFERENCE OF KEY | NATS MALFUNCTION P1615 | IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG. | EL-420 |
| CHAIN OF IMMU-KEY | NATS MALFUNCTION P1614 | IMMU cannot receive the key ID signal. | EL-421 |
| ID DISCORD, IMM-ECM | NATS MALFUNCTION P1611 | The result of ID verification between IMMU and ECM is NG. System initialization is required. | EL-423 |
| LOCK MODE | NATS MALFUNCTION P1610 | When the starting operation is carried out five or more times consecutively under the following conditions, NATS will shift the mode to one which prevents the engine from being started.<br>● Unregistered ignition key is used.<br>● IMMU or ECM's malfunctioning. | EL-426 |
| DON'T ERASE BEFORE CHECKING ENG DIAG | — | All engine trouble codes except NATS trouble code has been detected in ECM. | EL-412 |

# Trouble Diagnoses/QG and YD Engine Models with Common Rail

## WORK FLOW

NJEL0590

NJEL0590S01




SEL729WE

First perform the "SELF-DIAG RESULTS" in "SMART ENTRANCE" with CONSULT-II, when perform the each trouble diagnosis. Refer to EL-390, "CONSULT-II INSPECTION PROCEDURE".

## SYMPTOM MATRIX CHART 1

NJEL0590S02

**Self-diagnosis related item**

| SYMPTOM | Displayed "SELF-DIAG RESULTS" on CONSULT-II screen. | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) | REFERENCE PART NO. OF ILLUSTRATION ON SYSTEM DIAGRAM |
|---|---|---|---|---|
| • Security indicator lighting up*<br>• Engine cannot be started | ECM INT CIRC-IMMU | PROCEDURE 1 (EL-396, "Diagnostic Procedure 1") | ECM | B |
| | CHAIN OF ECM-IMMU | PROCEDURE 2 (EL-397, "Diagnostic Procedure 2") | In rare case, "CHAIN OF ECM-IMMU" might be stored during 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-399, "Diagnostic Procedure 3") | Unregistered key | D |
| | | | IMMU | A |

| SYMPTOM | Displayed "SELF-DIAG RESULTS" on CONSULT-II screen. | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) | REFERENCE PART NO. OF ILLUSTRATION ON SYSTEM DIAGRAM |
|---|---|---|---|---|
| • Security indicator lighting up*<br>• Engine cannot be started | CHAIN OF IMMU-KEY | PROCEDURE 4 (EL-400, "Diagnostic Procedure 4") | Malfunction of key ID chip | E5 |
| | | | Communication line between ANT/ AMP and IMMU:<br>Open circuit or short circuit of battery voltage line or ground line | E1 |
| | | | | E2 |
| | | | Open circuit in power source line of ANT/ AMP circuit | E3 |
| | | | Open circuit in ground line of ANT/ AMP circuit | E4 |
| | | | Antenna amp. | E6 |
| | | | Dongle unit | G |
| | | | IMMU | A |
| | ID DISCORD, IMM-ECM | PROCEDURE 5 (EL-403, "Diagnostic Procedure 5") | System initialization has not yet been completed. | F |
| | | | ECM | B |
| | LOCK MODE | PROCEDURE 7 (EL-406, "Diagnostic Procedure 7") | LOCK MODE | D |
| Security indicator lighting up* | DON'T ERASE BEFORE CHECKING ENG DIAG | WORK FLOW (EL-393, "Work Flow") | Engine trouble data and NATS trouble data have been detected in ECM | — |

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

## SYMPTOM MATRIX CHART 2

NJEL0590S03

### Non self-diagnosis related item

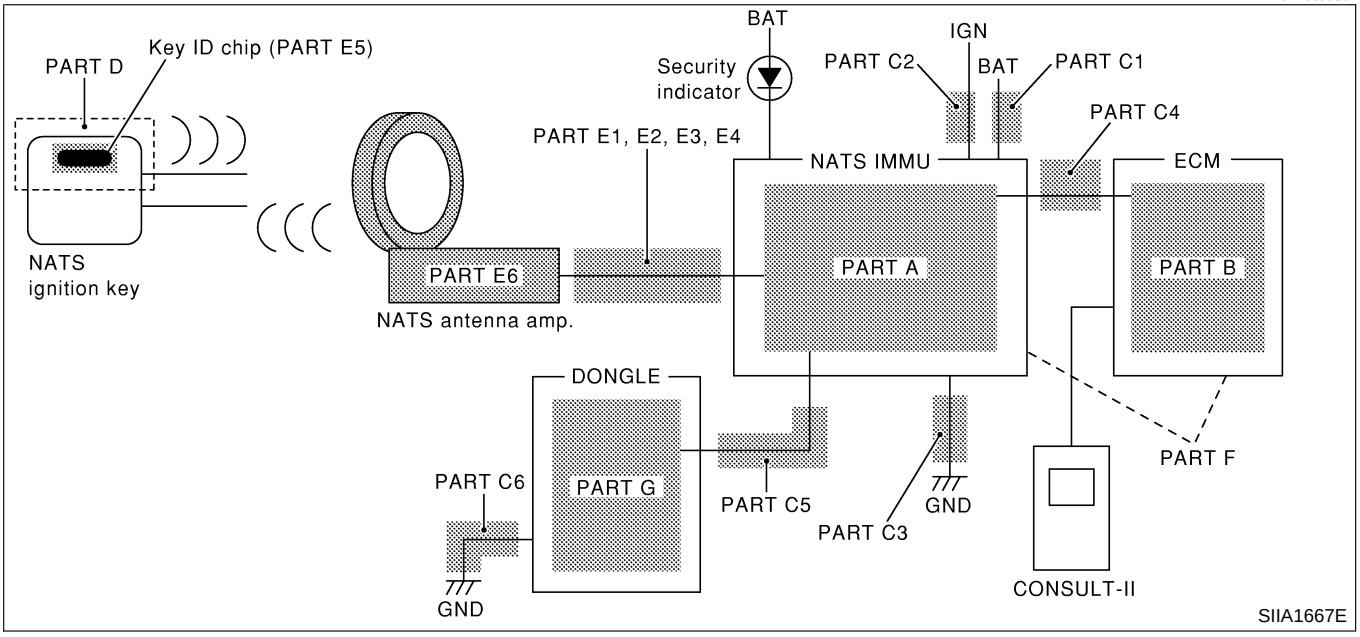
| SYMPTOM | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) | REFERENCE PART NO. OF ILLUSTRATION ON SYSTEM DIAGRAM |
|---|---|---|---|
| Security ind. does not light up. | PROCEDURE 6 (EL-404, "Diagnostic Procedure 6") | Security ind. | — |
| | | Open circuit between Fuse and IMMU | — |
| | | Continuation of initialization mode | — |
| | | IMMU | A |
| Security ind. does not blink just after initialization even if the vehicle is equipped with dongle unit. | PROCEDURE 8 (EL-407, "RHD models only: Diagnostic Procedure 8") | NATS might be initialized without connecting dongle unit properly. | — |
| Security ind. does not blink just after ignition switch is turned to ON when some malfunction related to NATS is detected even if the vehicle is equipped with dongle unit. | | Open circuit in ground line of dongle unit circuit | C6 |
| | | Open or short circuit in communication line between IMMU and dongle unit | C5 |
| | | Dongle unit | G |

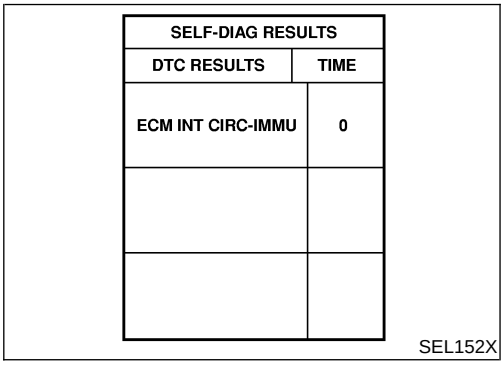
| SYMPTOM | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) | REFERENCE PART NO. OF ILLUSTRATION ON SYSTEM DIAGRAM |
|---|---|---|---|
| Security ind. dose not blink just after ignition switch is turned to ON.<br>Engine can not be started* | PROCEDURE 9 (EL-408, "Diagnostic Procedure 9") | Open or short circuit starter motor between smart entrance control unit | — |

*: CONSULT-II Self-diagnostic results display screen "no malfunction is detected".

## DIAGNOSTIC SYSTEM DIAGRAM

NJEL0590S04




## DIAGNOSTIC PROCEDURE 1

NJEL0590S05

**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.
2. Replace ECM.
   **Ref. part No. B**
3. Perform initialization with CONSULT-II.
   For initialization, refer to "CONSULT-II operation manual NATS".

## DIAGNOSTIC PROCEDURE 2

=NJEL0590S06

**Self-diagnostic results:**
**"CHAIN OF ECM-IMMU" displayed on CONSULT-II screen**

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF ECM-IMMU" displayed on CONSULT-II screen.

**NOTE:**
In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.

| SELF DIAGNOSIS | |
|---|---|
| DTC RESULTS | TIME |
| CHAIN OF ECM-IMMU | 0 |
| | |
| | |

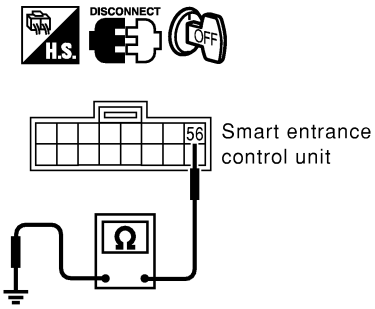
SEL292W

**Is CONSULT-II screen displayed as above?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO EL-394, "SYMPTOM MATRIX CHART 1". |

| 2 | CHECK POWER SUPPLY CIRCUIT FOR IMMU |
|---|---|

1. Disconnect IMMU connector.
2. Check voltage between IMMU (Smart entrance control unit) harness connector M195 terminal 56 (R/B) and ground CONSULT-II or tester.




SIIA1669E

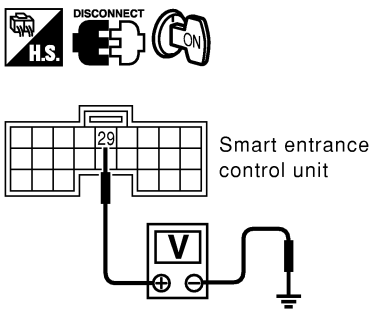
**Battery voltage should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | **Check the following**<br>● 10A fuse [No. 12, located in the fuse block (J/B)]<br>● Harness for open or short between fuse and IMMU connector<br>**Ref. Part No. C1** |

| 3 | CHECK IGN SW. ON SIGNAL |
|---|---|

1. Turn ignition switch ON.
2. Check voltage between IMMU (Smart entrance control unit) harness connector M42 terminal 29 (Y/G) and ground with CONSULT-II or tester.




SIIA1668E

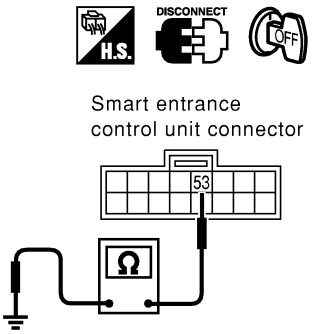
**Battery voltage should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| No | ▶ | **Check the following**<br>● 10A fuse [No. 10, located in the fuse block (J/B)]<br>● Harness for open or short between fuse and IMMU connector<br>**Ref. part No. C2** |

| 4 | CHECK GROUND CIRCUIT FOR IMMU |
|---|---|

1. Turn ignition OFF.
2. Check continuity between IMMU (Smart entrance control unit) harness connector M195 terminal 53 (B) and ground.




SIIA1565E

**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 5. |
| NG | ▶ | Repair harness. **Ref. part No. C3** |

| 5 | REPLACE IMMU (SMART ENTRANCE CONTROL UNIT) |
|---|---|

1. Replace IMMU (Smart entrance control unit) **Ref. part No. A**
2. Perform initialization with CONSULT-II.
   For initialization, refer to "CONSULT-II operation manual NATS".

**Does the engine start?**

| | | |
|---|---|---|
| OK | ▶ | IMMU (Smart entrance control unit) is malfunctioning. |
| No | ▶ | ● ECM is malfunctioning.<br>● Replace ECM. **Ref. part No. B**<br>● Perform initialization with CONSULT-II<br>● For initialization, refer to "CONSULT-II operation manual NATS" |

## DIAGNOSTIC PROCEDURE 3

NJEL0590S07

**Self-diagnostic results:**
**"DIFFERENCE OF KEY" displayed on CONSULT-II screen**

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "DIFFERENCE OF KEY" displayed on CONSULT-II screen.

| SELF DIAG RESULTS | |
|---|---|
| DTC RESULTS | TIME |
| DIFFERENCE OF KEY | 0 |
| | |
| | |

SEL367X

**Is CONSULT-II screen displayed as above?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO EL-394, "SYMPTOM MATRIX CHART 1". |

| 2 | PERFORM INITIALIZATION WITH CONSULT-II |
|---|---|

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.
For initialization and registration of NATS ignition key IDs, refer to "CONSULT-II operation manual NATS".
**NOTE:**
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

| IMMU INITIALIZATION |
|---|
| INITIALIZATION FAIL |
| THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. |

SEL297W

**Can the system be initialized and can the engine be started with re-registered NATS ignition key?**

| | | |
|---|---|---|
| Yes | ▶ | • Ignition key ID was unregistered. **Ref. part No. D** |
| No | ▶ | • IMMU (Smart entrance control unit) is malfunctioning.<br>• Replace IMMU (Smart entrance control unit). **Ref. part No. A**<br>• Perform initialization with CONSULT-II.<br>• For initialization, refer to "CONSULT-II operation manual NATS". |

## DIAGNOSTIC PROCEDURE 4

=NJEL0590S08

**Self-diagnostic results:**
**"CHAIN OF IMMU-KEY" displayed on CONSULT-II screen**

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT-II screen.

| SELF-DIAG RESULTS | |
|---|---|
| DTC RESULTS | TIME |
| CHAIN OF IMMU-KEY | 0 |
| | |
| | |

SEL957W

**Is CONSULT-II screen displayed as above?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO EL-394, "SYMPTOM MATRIX CHART 1". |

| 2 | CHECK NATS ANTENNA AMP. INSTALLATION |
|---|---|

Check NATS antenna amp. installation. Refer to EL-411, "How to Replace NATS Antenna Amp".

**OK or NG**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 3. |
| No | ▶ | Reinstall NATS antenna amp. correctly. |

| 3 | CHECK NATS IGNITION KEY ID CHIP |
|---|---|

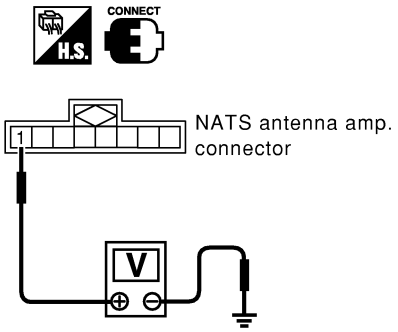
Start engine with another registered NATS ignition key.

**Does the engine start?**

| | | |
|---|---|---|
| Yes | ▶ | • Ignition key ID chip is malfunctioning.<br>• Replace the ignition key.<br>• **Ref. part No. E5**<br>• Perform initialization with CONSULT-II.<br>• For initialization, refer to "CONSULT-II Operation Manual NATS". |
| No | ▶ | GO TO 4. |

| 4 | CHECK POWER SUPPLY FOR NATS ANTENNA AMP. |
|---|---|

Check voltage between NATS antenna amp. harness connector M31 terminal 1 (G) and ground with analogue tester.




SIIA1670E

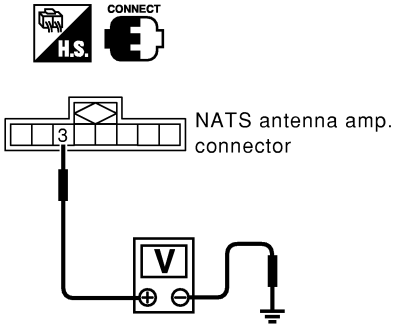
**Before turning ignition switch "ON"**
**Voltage: 0V**
**Just after turning ignition switch "ON":**
**Pointer of tester should move.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 5. |
| NG | ▶ | • Check harness for open or short between NATS antenna amp and IMMU (Smart entrance control unit).<br>**NOTE:**<br>If harness is OK, replace IMMU, perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual NATS". |

| 5 | CHECK NATS ANTENNA AMP. SIGNAL LINE-1 |
|---|---|

Check voltage between NATS antenna amp. harness connector M31 terminal 3 (G/W) and ground with analogue tester.




SIIA1671E

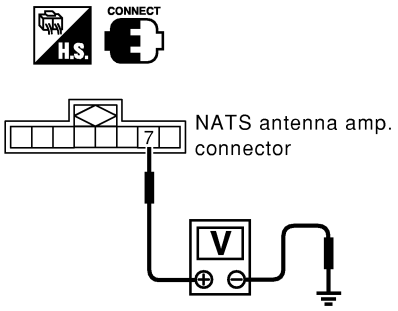
**Before turning ignition switch "ON"**
**Voltage: 0V**
**Just after turning ignition switch "ON":**
**Pointer of tester should move.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 6. |
| NG | ▶ | • Check harness for open or short between NATS antenna amp and IMMU (Smart entrance control unit).<br>**NOTE:**<br>If harness is OK, replace IMMU, perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual NATS". |

| 6 | CHECK NATS ANTENNA AMP. SIGNAL LINE-2 |
|---|---|

Check voltage between NATS antenna amp. harness connector M31 terminal 7 (Y/G) and ground with analogue tester.




SIIA1672E

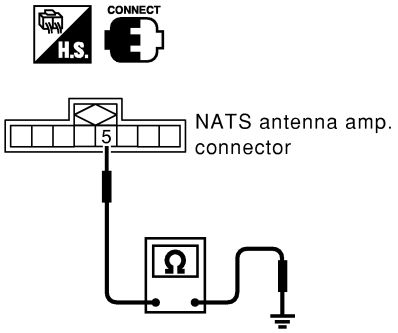
**Before turning ignition switch "ON"**
**Voltage: 0V**
**Just after turning ignition switch "ON":**
**Pointer of tester should move.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 7. |
| NG | ▶ | • Check harness for open or short between NATS antenna amp and IMMU (Smart entrance control unit).<br>**NOTE:**<br>If harness is OK, replace IMMU, perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual NATS". |

| 7 | CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT |
|---|---|

1. Turn ignition switch "OFF"
2. Disconnect NATS antenna amp connector.
3. Check continuity between NATS antenna amp. harness connector M31 terminal 5 (G/OR) and ground.




SIIA1673E

**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | • NATS antenna amp. malfunctioning.<br>**Ref. part No. E6** |
| NG | ▶ | • Check harness for open or short between NATS antenna amp and IMMU (Smart entrance control unit).<br>**NOTE:**<br>If harness is OK, replace IMMU, perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual NATS". |

## DIAGNOSTIC PROCEDURE 5

=NJEL0590S09

**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.
**NOTE:**
"ID DISCORD IMMU-ECM":
Registered ID of IMMU is in discord with that of ECM.

| SELF-DIAG RESULTS | |
|---|---|
| DTC RESULTS | TIME |
| ID DISCORD, IMM-ECM | 0 |
| | |
| | |

SEL958W

**Is CONSULT-II screen displayed as above?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO EL-394, "SYMPTOM MATRIX CHART 1". |

| 2 | PERFORM INITIALIZATION WITH CONSULT-II |
|---|---|

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.
For initialization, refer to "CONSULT-II operation manual NATS".

| IMMU INITIALIZATION |
|---|
| INITIALIZATION FAIL |
| THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. |

SEL297W

**NOTE:**
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

**Can the system be initialized?**

| | | |
|---|---|---|
| Yes | ▶ | • Start engine. (END)<br>• (System initialization had not been completed. **Ref. part No. B**) |
| No | ▶ | • ECM is malfunctioning.<br>• Replace ECM. **Ref. part No. B**<br>• Perform initialization with CONSULT-II.<br>• For initialization, refer to "CONSULT-II operation manual NATS". |

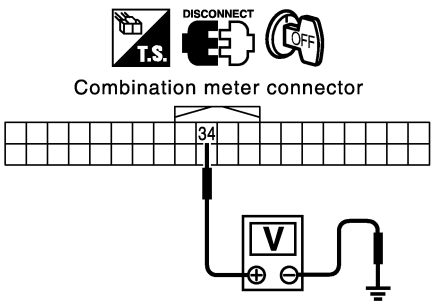
## DIAGNOSTIC PROCEDURE 6

=NJEL0590S10

## "SECURITY INDICATOR LAMP DOES NOT LIGHT UP"

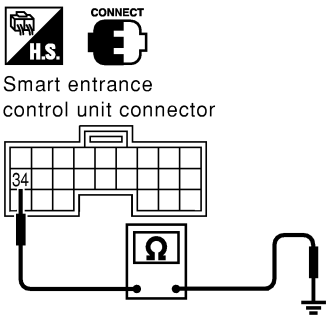
| 1 | CHECK FUSE | |
|---|---|---|
| Check 10A fuse [No. 12 and No. 30, located in the fuse block (J/B)]<br>**10A fuse OK?** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace fuse. |

| 2 | CHECK SECURITY INDICATOR LAMP | |
|---|---|---|
| 1. Install 10A fuse.<br>2. Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II Operation Manual NATS".<br>3. Turn ignition switch OFF.<br>4. Start engine and turn ignition switch OFF.<br>5. Check the security indicator lamp lighting.<br>**Security indicator lamp should be light up.**<br>**OK or NG** | | |
| OK | ▶ | INSPECTION END. |
| NG | ▶ | GO TO 3. |

| 3 | CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT | |
|---|---|---|
| 1. Disconnect combination meter connector.<br>2. Check voltage between combination meter harness connector M171 terminal 34 and ground.<br>  <br><br>YEL842D<br>**Battery voltage should exist.**<br>**OK or NG** | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Check harness for open or short between fuse and security indicator lamp. |

| 4 | CHECK SMART ENTRANCE CONTROL UNIT FUNCTION |
|---|---|

1. Disconnect combination meter connector.
2. Connect smart entrance control unit connector.
3. Check continuity between smart entrance control unit harness connector M194 terminal 34 (L/Y) and ground.




SIIA1654E

**Continuity should exist intermittently.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between smart entrance control unit and combination meter. |
| NG | ▶ | **IMMU (Smart entrance control unit) is malfunctioning.**<br>● Replace smart entrance control unit<br>**Ref. part No. A**<br>● Perform initialization with CONSULT-II<br>● For initialization, refer to "CONSULT-II operation manual NATS" |

## DIAGNOSTIC PROCEDURE 7

=NJEL0590S11

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

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT-II screen.

| SELF-DIAG RESULTS | |
|---|---|
| DTC RESULTS | TIME |
| LOCK MODE | 0 |
| | |
| | |

SEL960W

**Is CONSULT-II screen displayed as above?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO EL-394, "SYMPTOM MATRIX CHART 1". |

| 2 | ESCAPE FROM LOCK MODE |
|---|---|

1. Turn ignition switch OFF.
2. Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds.
3. Return the key to OFF position.
4. Repeat steps 2 and 3 twice (total of three cycles).
5. Start the engine.

**Does engine start?**

| | | |
|---|---|---|
| Yes | ▶ | ● System is OK.<br>● (Now system is escaped from "LOCK MODE".) |
| No | ▶ | GO TO 3. |

| 3 | PERFORM INITIALIZATION WITH CONSULT-II |
|---|---|

Perform initialization with CONSULT-II.
For initialization, refer to "CONSULT-II operation manual NATS".

| IMMU INITIALIZATION |
|---|
| INITIALIZATION FAIL |
| THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. |

SEL297W

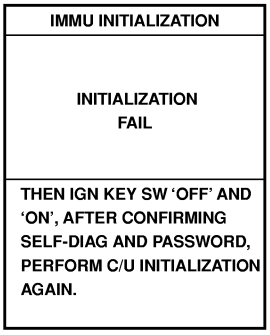
**NOTE:**
If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.

**Can the system be initialized?**

| | | |
|---|---|---|
| Yes | ▶ | System is OK. |
| No | ▶ | GO TO 4. |

| 4 | PERFORM INITIALIZATION WITH CONSULT-II AGAIN |
|---|---|

1. Replace IMMU (Smart entrance control unit).
2. Perform initialization with CONSULT-II.
   For initialization, refer to "CONSULT-II operation manual NATS".




SEL297W

**NOTE:**
**If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.**

**Can the system be initialized?**

| | | |
|---|---|---|
| Yes | ▶ | System is OK. (IMMU is malfunctioning. **Ref. part No. A**) |
| No | ▶ | • ECM is malfunctioning.<br>Replace ECM. **Ref. part No. B**<br>Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II operation manual NATS". |

## DIAGNOSTIC PROCEDURE 8

NJEL0590S12

| 1 | CHECK HARNESS CONNECTOR CONNECTION |
|---|---|

Perform initialization with CONSULT-II
Check harness connector connection between Dongle unit harness connector M102 and IMMU (Smart entrance control unit) harness connector M193.
Then initialize NATS. For the initialization operation, refer to "CONSULT-II operation manual NATS"

**Does the security indicator blink just after initialization?**

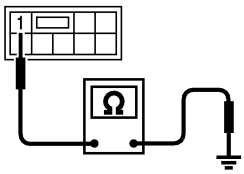
| | | |
|---|---|---|
| Yes | ▶ | System is OK. (The malfunction is caused by improper connector connection.) |
| No | ▶ | GO TO 2. |

| 2 | CHECK GROUND CIRCUIT FOR DONGLE UNIT |
|---|---|

1. Disconnect dongle unit harness connector.
2. Check continuity between dongle unit harness connector M102 terminal 1 (B) and ground.




Dongle unit connector




SIIA1674E

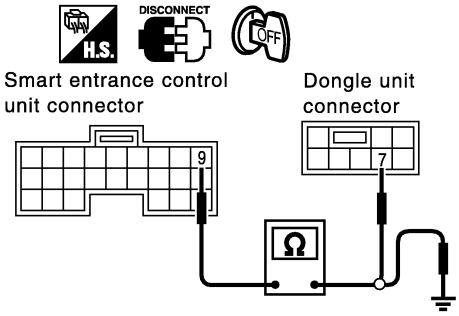
**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Repair harness. |

| 3 | CHECK INTERFACE CIRCUIT |
|---|---|

1. Disconnect dongle unit and IMMU (Smart entrance control unit) harness connector.
2. Check continuity between IMMU (Smart entrance control unit) harness connector M193 terminal 9 (PU) and dongle unit harness connector M102 terminal 7 (PU).




SIIA1675E

**Continuity should exist.**

3. Check continuity between (Smart entrance control unit) harness connector M193 terminal 9 (PU) and ground.
**Continuity should not exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | **Dongle unit is malfunctioning.**<br>1. Replace dongle unit.<br>2. Perform initialization with CONSULT-II.<br>For initialization procedure, refer to "CONSULT-II Operation Manual NATS". |
| NG | ▶ | Repair harness. |

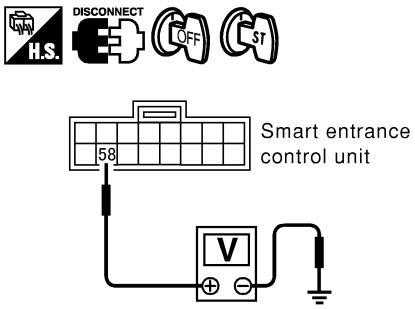
## DIAGNOSTIC PROCEDURE 9
## M/T Models

NJEL0590S13

NJEL0590S1301

| 1 | CHECK POWER SUPPLY CIRCUIT FOR IMMU |
|---|---|

1. Disconnect IMMU (Smart entrance control unit) connector.
2. Check voltage between IMMU (Smart entrance control unit) harness connector M195 terminal 58 (B/W) and ground with CONSULT-II or tester.




SIIA1684E

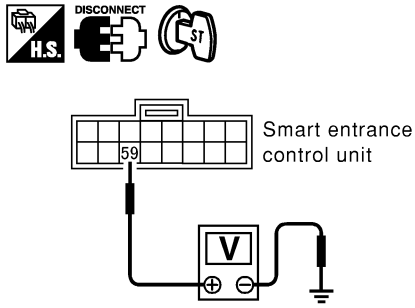
**Ignition switch START position:**
**Battery voltage should exist.**
**Ignition switch OFF position: 0V**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | **Check the following**<br>● Ignition switch<br>● Harness for open or short between ignition switch and IMMU (Smart entrance control unit) |

| 2 | CHECK START SIGNAL |
|---|---|

1. Turn ignition switch START.
2. Check voltage between IMMU (Smart entrance control unit) harness connector M195 terminal 59 (B/Y) and ground with CONSULT-II or tester.




SIIA1685E

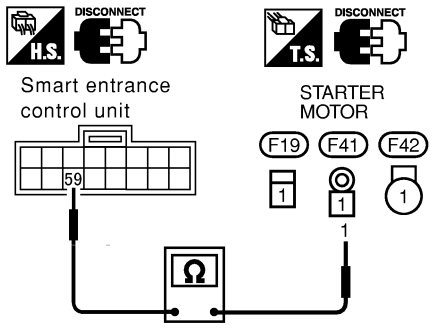
**Battery voltage should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace IMMU (Smart entrance control unit). |

| 3 | CHECK STARTER CIRCUIT FOR IMMU |
|---|---|

1. Turn ignition OFF.
2. Disconnect IMMU (Smart entrance control unit) harness connector and starter motor harness connector.
3. Check continuity between IMMU (Smart entrance control unit) harness connector M195 terminal 59 (B/Y) and starter motor harness connector F19 (TD), F41 (QG) or F42 (GC) terminal 1 (B/Y).




SIIA1686E

**Continuity should exist.**

**OK or NG**

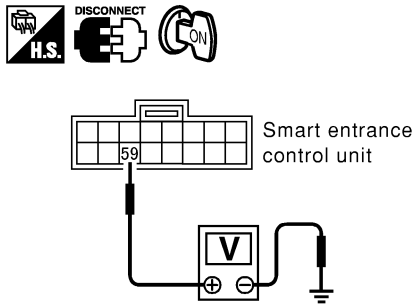
| | | |
|---|---|---|
| OK | ▶ | Check starter motor. Refer to SC-13, "STARTING SYSTEM". |
| NG | ▶ | Harness for open or short between IMMU (Smart entrance control unit) and starter motor. |

## A/T, CVT Models

NJEL0590S1302

| 1 | CHECK POWER SUPPLY CIRCUIT FOR IMMU |
|---|---|

1. Disconnect IMMU (Smart entrance control unit) connector.
2. Check voltage between IMMU (Smart entrance control unit) harness connector M195 terminal 59 (B/W) and ground with CONSULT-II or tester.




SIIA1687E

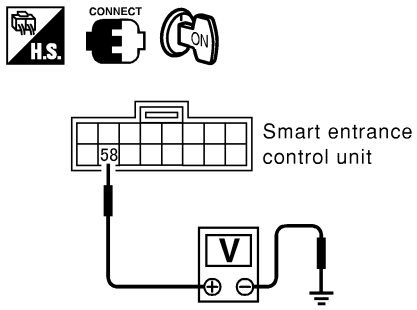
**Battery voltage should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | **Check the following**<br>● Park/neutral position relay<br>● Harness for open or short between park/neutral position relay and IMMU |

| 2 | CHECK START SIGNAL |
|---|---|

1. Connect IMMU (Smart entrance control unit) connector.
2. Check voltage between IMMU (Smart entrance control unit) harness connector M195 terminal 58 (P) and ground with CONSULT-II or tester.




SIIA1688E

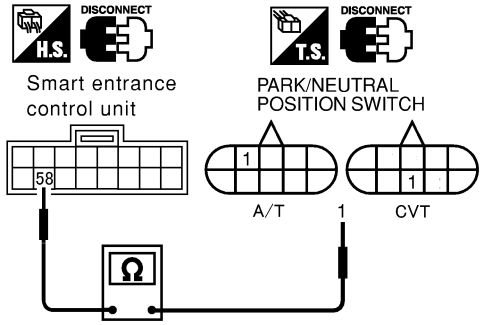
**Battery voltage should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace IMMU (Smart entrance control unit). |

| 3 | CHECK STARTER CIRCUIT FOR IMMU |
|---|---|

1. Disconnect IMMU (Smart entrance control unit) connector and park/neutral position switch connector.
2. Check continuity between IMMU (Smart entrance control unit) harness connector M195 terminal 58 (P) and park/neutral position switch harness connector F17 terminal 1 (P).

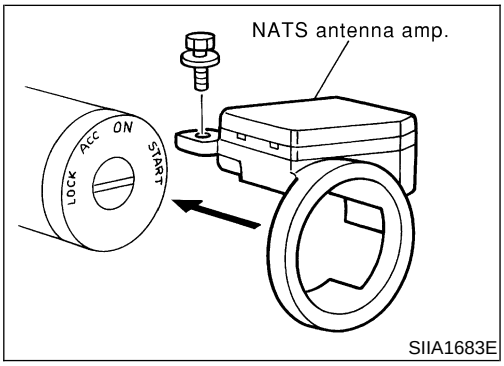



SIIA1689E

**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check starter motor. Refer to SC-13, "STARTING SYSTEM". |
| NG | ▶ | Harness for open or short between IMMU (Smart entrance control unit) and park/neutral position switch. |




SIIA1683E

## How to Replace NATS Antenna Amp

NJEL0591

**NOTE:**

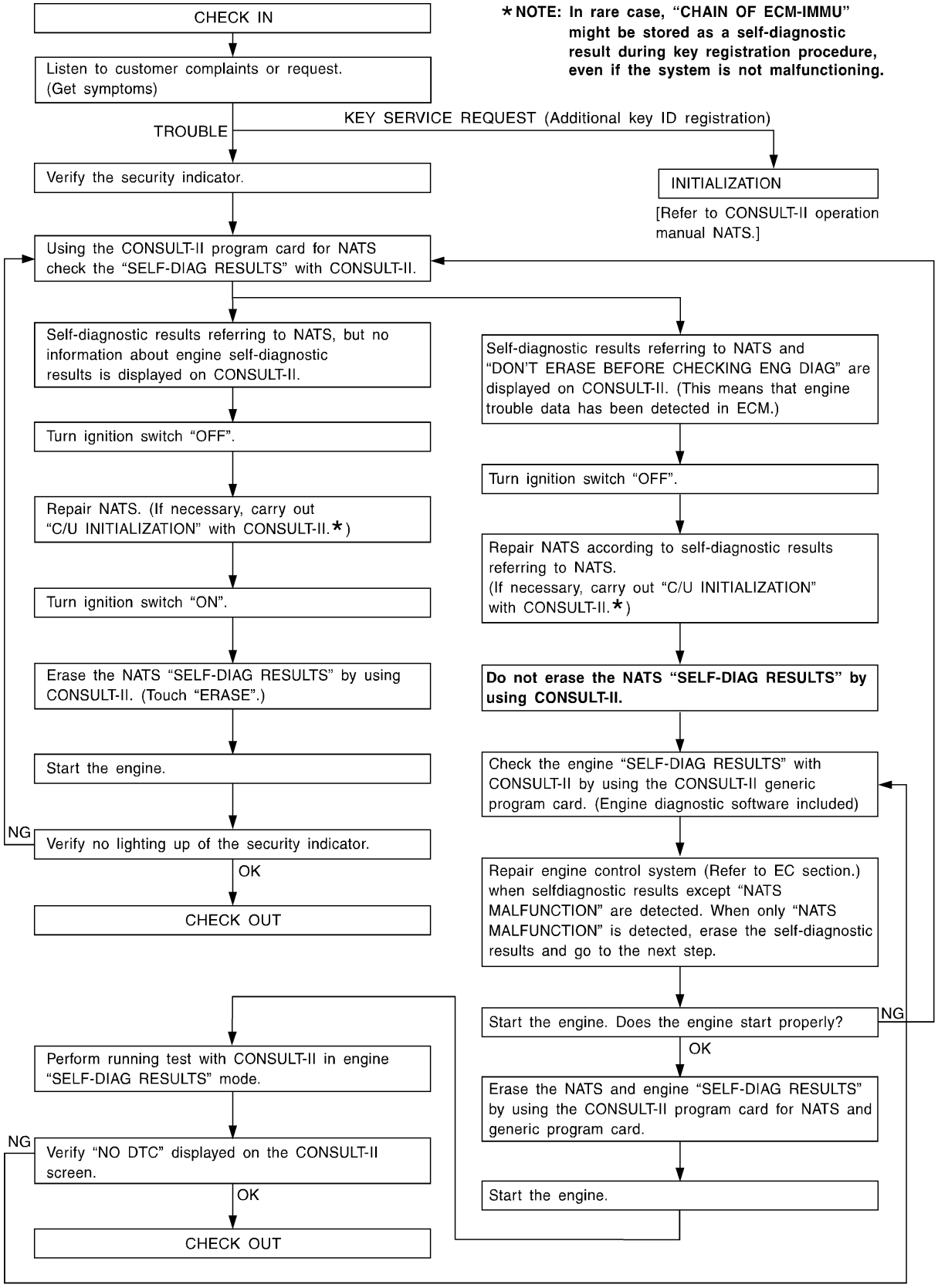
- **If NATS antenna amp. is not installed correctly, NATS system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show "LOCK MODE" or "CHAIN OF IMMU- KEY".**
- **Initialization is not necessary only when NATS antenna amp. is replaced with a new one.**

# Trouble Diagnoses/YD Engine Models without Common Rail and K9K Engine Models

NJEL0411

## WORK FLOW

NJEL0411S01




SEL729WE

## SYMPTOM MATRIX CHART 1
**(Self-diagnosis related item)**

NJEL0411S02

| SYMPTOM | Displayed "SELF-DIAG RESULTS" on CONSULT-II screen. | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) | REFERENCE PART NO. OF ILLUSTRATION ON SYSTEM DIAGRAM |
|---|---|---|---|---|
| • Security indicator lighting up*<br>• Engine cannot be started | ECM INT CIRC-IMMU | PROCEDURE 1 (EL-415) | ECM | B |
| | CHAIN OF ECM-IMMU | PROCEDURE 2 (EL-416) | In rare case, "CHAIN OF ECM-IMMU" might be stored during 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-420) | Unregistered key | D |
| | | | IMMU | A |
| | CHAIN OF IMMU-KEY | PROCEDURE 4 (EL-421) | Malfunction of key ID chip | E |
| | | | IMMU | A |
| | | | Open circuit in ground line of dongle unit circuit | C6 |
| | | | Open or short circuit in line between IMMU and dongle unit | C5 |
| | | | Dongle unit | G |
| | ID DISCORD, IMM-ECM | PROCEDURE 5 (EL-423) | System initialization has not yet been completed. | F |
| | | | ECM | B |
| | LOCK MODE | PROCEDURE 7 (EL-426) | LOCK MODE | D |

| SYMPTOM | Displayed "SELF-DIAG RESULTS" on CONSULT-II screen. | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) | REFERENCE PART NO. OF ILLUSTRATION ON SYSTEM DIAGRAM |
|---|---|---|---|---|
| • MIL staying ON<br>• Security indicator lighting up* | DON'T ERASE BEFORE CHECKING ENG DIAG | WORK FLOW (EL-412) | Engine trouble data and NATS trouble data have been detected in ECM | — |

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

*: When the vehicle is equipped with a dongle unit (RHD models for Europe), the security indicator blinks 6 times just after the ignition switch is turned to ON. Then the security indicator lights up while the ignition key is in the "ON" position.

## SYMPTOM MATRIX CHART 2

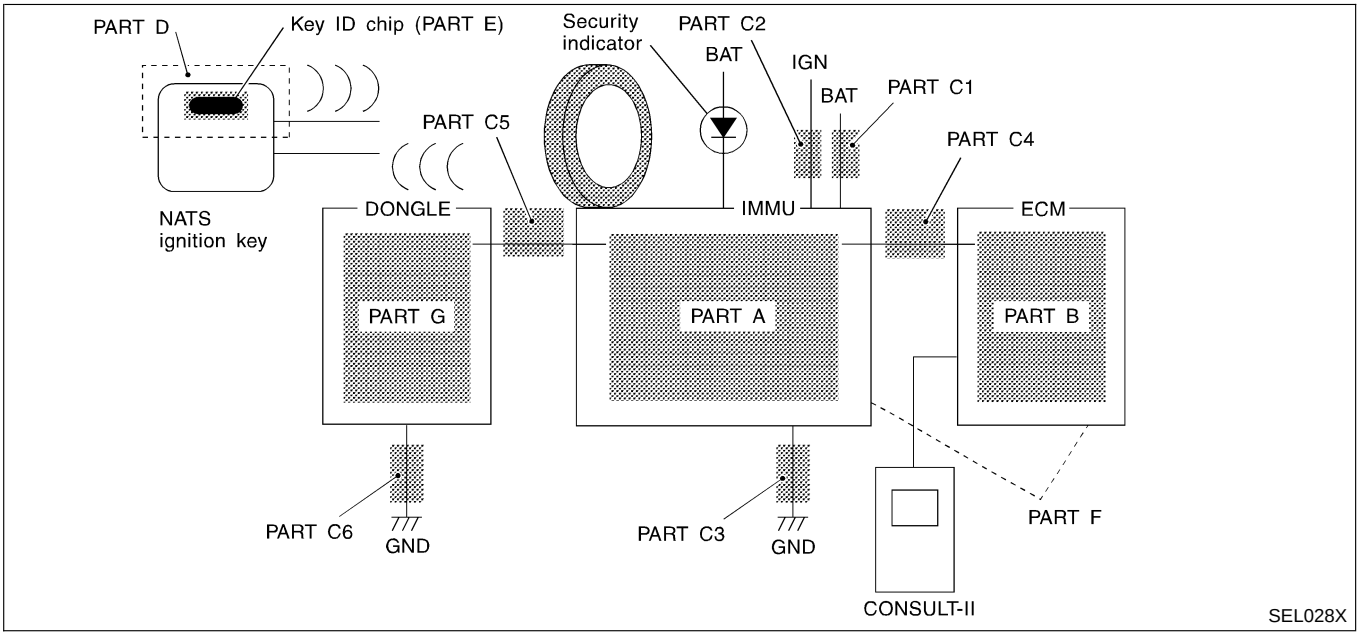
**(Non self-diagnosis related item)**

NJEL0411S03

| SYMPTOM | DIAGNOSTIC PROCEDURE (Reference page) | SYSTEM (Malfunctioning part or mode) | REFERENCE PART NO. OF ILLUSTRATION ON SYSTEM DIAGRAM |
|---|---|---|---|
| Security ind. does not light up. | PROCEDURE 6 (EL-424) | Security ind. | — |
| | | Open circuit between Fuse and IMMU | — |
| | | Continuation of initialization mode | — |
| | | IMMU | A |
| Security ind. does not blink just after initialization even if the vehicle is equipped with dongle unit. | PROCEDURE 8 (EL-428) | NATS might be initialized without connecting dongle unit properly. | — |
| | | Open circuit in ground line of dongle unit circuit | C6 |
| Security ind. does not blink just after ignition switch is turned to ON when some malfunction related to NATS is detected even if the vehicle is equipped with dongle unit. | | Open or short circuit in communication line between IMMU and dongle unit | C5 |
| | | Dongle unit | G |

## DIAGNOSTIC SYSTEM DIAGRAM

NJEL0411S04



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

SEL152X

## DIAGNOSTIC PROCEDURE 1

NJEL0411S05

**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 NATS".

## DIAGNOSTIC PROCEDURE 2

=NJEL0411S06

**Self-diagnostic results:**
**"CHAIN OF ECM-IMMU" displayed on CONSULT-II screen**

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF ECM-IMMU" displayed on CONSULT-II screen.
**NOTE:**
In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.

| SELF DIAG RESULTS | |
|---|---|
| DTC RESULTS | TIME |
| CHAIN OF ECM-IMMU | 0 |
| | |
| | |

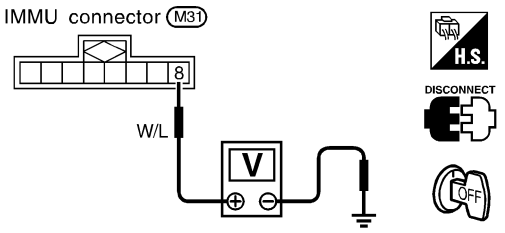
SEL366X

**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 |
|---|---|

1. Disconnect IMMU connector.
2. Check voltage between terminal 8 of IMMU and ground with CONSULT-II or tester.




**Battery voltage should exist.**

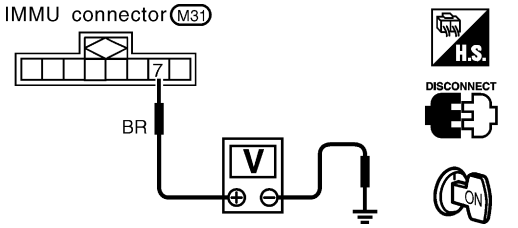
SEL302WB

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | **Check the following**<br>● 10A fuse (No. 36, located in the fusible link and fuse box) — (Gasoline engine)<br>● 20A fuse (No. 34, located in the fusible link and fuse box) — (Diesel engine)<br>● Harness for open or short between fuse and IMMU connector<br>**Ref. Part No. C1** |

| 3 | CHECK IGN SW. ON SIGNAL |
|---|---|

1. Turn ignition switch ON.
2. Check voltage between terminal 7 of IMMU and ground with CONSULT-II or tester.




**Battery voltage should exist.**

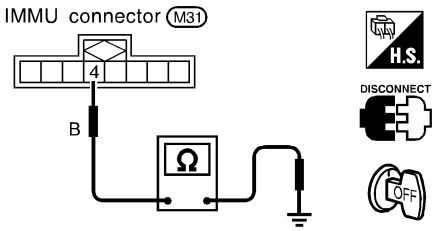
YEL808C

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | **Check the following**<br>● 10A fuse [No. 20, located in the fuse block (J/B)]<br>● Harness for open or short between fuse and IMMU connector<br>**Ref. part No. C2** |

| 4 | CHECK GROUND CIRCUIT FOR IMMU |
|---|---|

1. Turn ignition OFF.
2. Check harness continuity between IMMU terminal 4 and ground.




**Continuity should exist.**

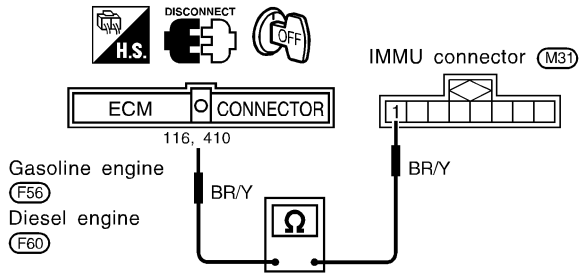
SEL304WB

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 5. |
| NG | ▶ | Repair harness. **Ref. part No. C3** |

| 5 | CHECK COMMUNICATION LINE OPEN CIRCUIT |
|---|---|

1. Disconnect ECM connector.
2. Check harness continuity between ECM terminal 116 (Gasoline engine) or 410 (Diesel engine) and IMMU terminal 1.




**Continuity should exist.**

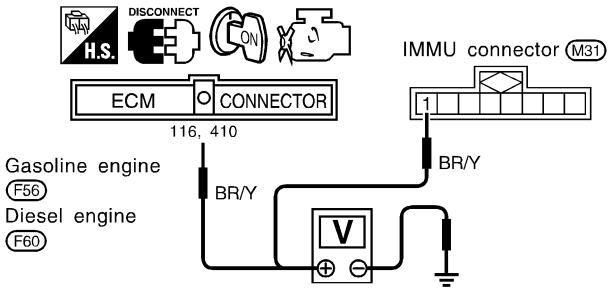
SEL305WB

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 6. |
| NG | ▶ | Repair harness or connector.<br>**Ref. part No. C4** |

| 6 | CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT |
|---|---|

1. Turn ignition ON.
2. Check voltage between ECM terminal 116 (Gasoline engine) or 410 (Diesel engine) or IMMU terminal 1 and ground.




**Voltage: 0V**

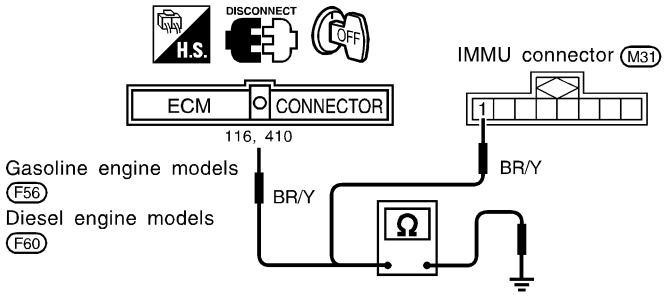
SEL306WB

**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.<br>**Ref. part No. C4** |

| 7 | CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT |
|---|---|

1. Turn ignition switch OFF.
2. Check continuity between ECM terminal 116 (Gasoline engine) or 410 (Diesel engine) or IMMU terminal 1 and ground.




**Continuity should not exist.**

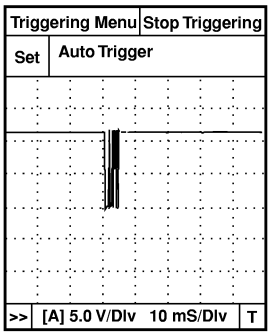
SEL307WB

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 8. |
| NG | ▶ | Communication line is short-circuited with ground line.<br>Repair harness or connectors.<br>**Ref. part No. C4** |

| 8 | SIGNAL FROM ECM TO IMMU CHECK |
|---|---|

1. Check the signal between ECM terminal 116 (Gasoline engine) or 410 (Diesel engine) and ground with CONSULT-II or oscilloscope when ignition switch is turned "ON".
2. Make sure signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned "ON".




SEL730W

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | IMMU is malfunctioning.<br>Replace IMMU. **Ref. part No. A**<br>Perform initialization with CONSULT-II.<br>For the operation of initialization, refer to "CONSULT-II Operation Manual NATS". |
| NG | ▶ | ECM is malfunctioning.<br>Replace ECM. **Ref. part No. B**<br>Perform initialization with CONSULT-II.<br>For the operation of initialization, refer to "CONSULT-II Operation Manual NATS". |

## DIAGNOSTIC PROCEDURE 3

=NJEL0411S07

**Self-diagnostic results:**
**"DIFFERENCE OF KEY" displayed on CONSULT-II screen**

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "DIFFERENCE OF KEY" displayed on CONSULT-II screen.

| SELF 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 NATS ignition key IDs.
For initialization and registration of NATS ignition key IDs, refer to "CONSULT-II operation manual NATS".

| 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 re-registered NATS ignition key?**

| | | |
|---|---|---|
| Yes | ▶ | Ignition key ID was unregistered. **Ref. part No. D** |
| No | ▶ | IMMU is malfunctioning.<br>Replace IMMU. **Ref. part No. A**<br>Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II operation manual NATS". |

## DIAGNOSTIC PROCEDURE 4

=NJEL0411S08

**Self-diagnostic results:**
**"CHAIN OF IMMU-KEY" displayed on CONSULT-II screen**

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT-II screen.

| SELF 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 NATS IGNITION KEY ID CHIP |
|---|---|

Start engine with another registered NATS ignition key.

**Does the engine start?**

| | | |
|---|---|---|
| Yes | ▶ | Ignition key ID chip is malfunctioning.<br>Replace the ignition key.<br>**Ref. part No. E**<br>Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II Operation Manual NATS". |
| No | ▶ | **Models without dongle unit**<br>IMMU is malfunctioning.<br>Replace IMMU. **Ref. part No. A**<br>Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II Operation Manual NATS".<br>**Models with dongle unit**<br>GO TO 3. |

| 3 | CHECK HARNESS CONNECTOR CONNECTION |
|---|---|

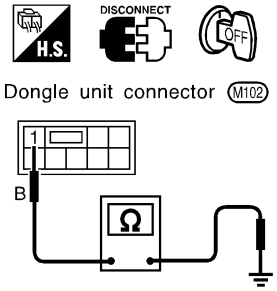
Check harness connector connection between M31 and M102.

**Does the engine start?**

| | | |
|---|---|---|
| Yes | ▶ | System is OK. (The malfunction is caused by improper connector connection.) |
| No | ▶ | GO TO 4. |

| 4 | CHECK GROUND CIRCUIT FOR DONGLE UNIT |
|---|---|

Check continuity between dongle unit terminal 1 and ground.



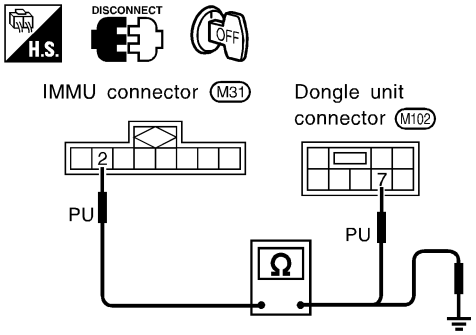

**Continuity should exist.**

SEL029X

**Yes or No**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 5. |
| No | ▶ | Repair harness. |

| 5 | CHECK INTERFACE CIRCUIT |
|---|---|




Check continuity between IMMU terminal 2 and dongle unit terminal 7 (Open circuit check).
**Continuity should exist.**

Check continuity between IMMU terminal 2 and ground (Short circuit check).
**Continuity should not exist.**

SEL030X

**Yes or No**

| | | |
|---|---|---|
| Yes | ▶ | **Dongle unit is malfunctioning.**<br>1. Replace dongle unit.<br>2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS. |
| No | ▶ | Repair harness. |

## DIAGNOSTIC PROCEDURE 5

=NJEL0411S09

**Self-diagnostic results:**
**"ID DISCORD, IMM-ECM" displayed on CONSULT-II screen**

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM" displayed on CONSULT-II screen.

| SELF DIAG RESULTS | |
|---|---|
| DTC RESULTS | TIME |
| ID DISCORD, IMM-ECM | 0 |
| | |
| | |

SEL369X

**NOTE:**
"ID DISCORD IMMU-ECM":
Registered ID of IMMU is in discord with that of ECM.

**Is CONSULT-II screen displayed as above?**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | GO TO SYMPTOM MATRIX CHART 1. |

| 2 | PERFORM INITIALIZATION WITH CONSULT-II |
|---|---|

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.
For initialization, refer to "CONSULT-II operation manual NATS".

| IMMU INITIALIZATION |
|---|
| INITIALIZATION FAIL |
| THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN. |

SEL297W

**NOTE:**
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

**Can the system be initialized?**

| | | |
|---|---|---|
| Yes | ▶ | Start engine. (END)<br>(System initialization had not been completed. **Ref. part No. B**) |
| No | ▶ | ECM is malfunctioning.<br>Replace ECM. **Ref. part No. B**<br>Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II operation manual NATS". |

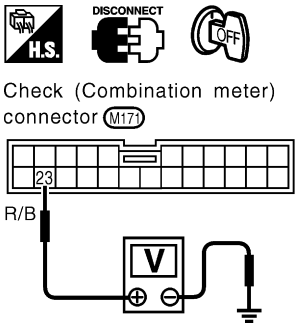
## DIAGNOSTIC PROCEDURE 6

=NJEL0411S10

**"SECURITY INDICATOR LAMP DOES NOT LIGHT UP"**

| 1 | CHECK FUSE | |
|---|---|---|
| Check 10A fuse [No. 12, located in the fuse block (J/B)].<br>**Is 10A fuse OK?** | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Replace fuse. |

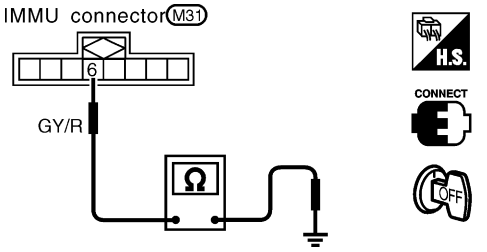
| 2 | CHECK SECURITY INDICATOR LAMP | |
|---|---|---|
| 1. Install 10A fuse.<br>2. Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II Operation Manual NATS".<br>3. Turn ignition switch OFF.<br>4. Start engine and turn ignition switch OFF.<br>5. Check the security indicator lamp lighting.<br>**Security indicator lamp should be light up.**<br>**OK or NG** | | |
| OK | ▶ | INSPECTION END |
| NG | ▶ | GO TO 3. |

| 3 | CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT | |
|---|---|---|
| 1. Disconnect combination meter connector.<br>2. Check voltage between combination meter (security indicator lamp) connector terminal 23 and ground.<br>  <br>**Battery voltage should exist.**<br>YEL809C<br>**OK or NG** | | |
| OK | ▶ | GO TO 4. |
| NG | ▶ | Check harness for open or short between fuse and combination meter. |

| 4 | CHECK SECURITY INDICATOR LAMP | |
|---|---|---|
| Check security Indicator Lamp.<br>**Is security indicator lamp OK?** | | |
| Yes | ▶ | GO TO 5. |
| No | ▶ | Repair or replace combination meter. |

| 5 | CHECK IMMU FUNCTION |
|---|---|

1. Connect IMMU connector.
2. Disconnect combination meter connector.
3. Check continuity between IMMU terminal 6 and ground.




**Continuity should exist intermittently.**

YEL810C

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Check harness for open or short between security indicator lamp and IMMU. |
| NG | ▶ | IMMU is malfunctioning.<br>Replace IMMU. **Ref. part No. A**<br>Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II operation manual NATS". |

## DIAGNOSTIC PROCEDURE 7

=NJEL0411S11

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

| 1 | CONFIRM SELF-DIAGNOSTIC RESULTS |
|---|---|

Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT-II screen.

| SELF 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 |
|---|---|

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.<br>(Now system is escaped from "LOCK MODE".) |
| No | ▶ | GO TO 3. |

| 3 | CHECK IMMU ILLUSTRATION |
|---|---|

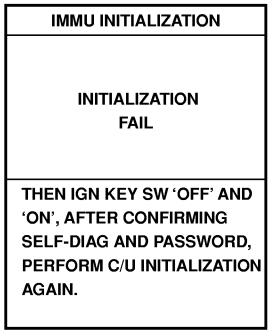
Check IMMU installation. Refer to "How to Replace IMMU" in EL-429.

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Reinstall IMMU correctly. |

| 4 | PERFORM INITIALIZATION WITH CONSULT-II |
|---|---|

Perform initialization with CONSULT-II.
For initialization, refer to "CONSULT-II operation manual NATS".




SEL297W

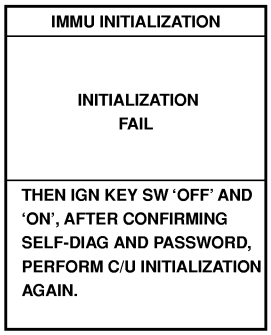
**NOTE:**
If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.

**Can the system be initialized?**

| | | |
|---|---|---|
| Yes | ▶ | System is OK. |
| No | ▶ | GO TO 5. |

| 5 | PERFORM INITIALIZATION WITH CONSULT-II AGAIN |
|---|---|

1. Replace IMMU.
2. Perform initialization with CONSULT-II.
   For initialization, refer to "CONSULT-II operation manual NATS".




SEL297W

**NOTE:**
**If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.**

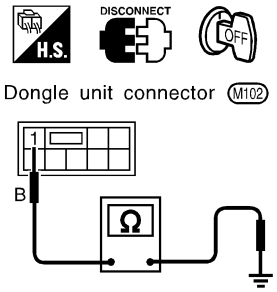
**Can the system be initialized?**

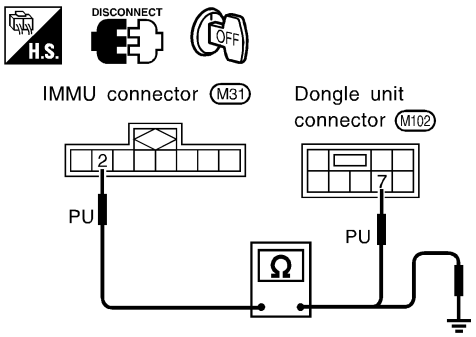
| | | |
|---|---|---|
| Yes | ▶ | System is OK. (IMMU is malfunctioning. **Ref. part No. A**) |
| No | ▶ | ECM is malfunctioning.<br>Replace ECM. **Ref. part No. B**<br>Perform initialization with CONSULT-II.<br>For initialization, refer to "CONSULT-II operation manual NATS". |

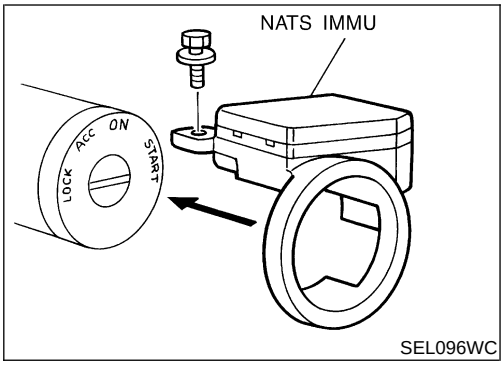
## DIAGNOSTIC PROCEDURE 8

=NJEL0411S14

| 1 | CHECK HARNESS CONNECTOR CONNECTION | |
|---|---|---|
| Perform initialization with CONSULT-II.<br>Check harness connector connection between M31 and M102.<br>Then initialize NATS. For the initialization operation, refer to "CONSULT-II operation NATS".<br>**Does the security indicator blink just after initialization?** | | |
| Yes | ▶ | System is OK. (The malfunction is caused by improper connector connection.) |
| No | ▶ | GO TO 2. |

| 2 | CHECK GROUND CIRCUIT FOR DONGLE UNIT | |
|---|---|---|
| Check continuity between dongle unit terminal 1 and ground.<br>  <br><br>**Continuity should exist.**<br>SEL029X<br>**Yes or No** | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | Repair harness. |

| 3 | CHECK INTERFACE CIRCUIT | |
|---|---|---|
|  <br><br>Check continuity between IMMU terminal 2 and dongle unit terminal 7 (Open circuit check).<br>**Continuity should exist.**<br>Check continuity between IMMU terminal 2 and ground (Short circuit check).<br>**Continuity should not exist.**<br>SEL030X<br>**Yes or No** | | |
| Yes | ▶ | **Dongle unit is malfunctioning.**<br>1. Replace dongle unit.<br>2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II Operation Manual NATS". |
| No | ▶ | Repair harness. |

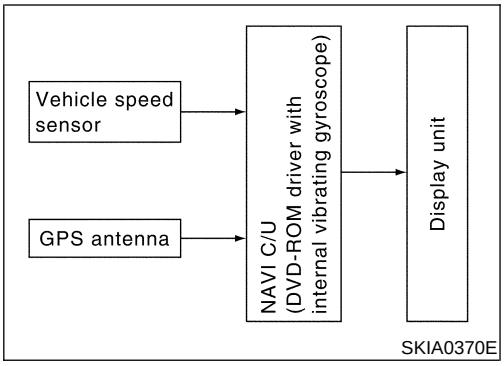



## How to Replace NATS IMMU

NJEL0412

**NOTE:**

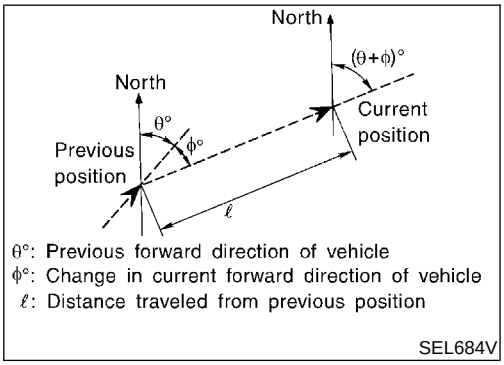
- **If NATS IMMU is not installed correctly, NATS system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show “LOCK MODE”.**




## System Description

NJEL0592

The navigation system periodically calculates the vehicle's current position according to the following three signals: Travel distance of the vehicle as determined by the vehicle speed sensor, turning angle of the vehicle as determined by the gyroscope (angular velocity sensor), and the direction of vehicle travel as determined by the GPS antenna (GPS information).
The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the map DVD-ROM, which is stored in the DVD-ROM drive (map-matching), and indicated on the screen with a current-location mark.




By comparing the vehicle position detection results found by the GPS and by map-matching, more accurate vehicle position data can be used.
The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.

### TRAVEL DISTANCE

NJEL0592S01

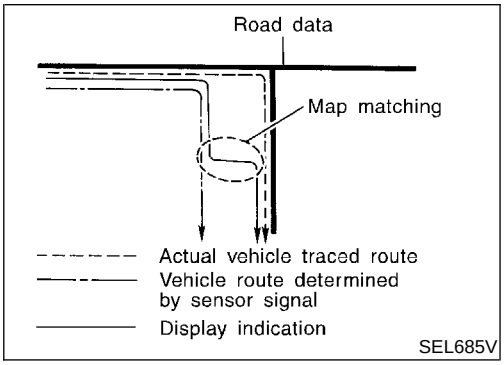
Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance fine adjustment function has been adopted.

### TRAVEL DIRECTION

NJEL0592S02

Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). As the gyroscope and GPS antenna have both merit and demerit, input signals from them are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

| Type | Advantage | Disadvantage |
|---|---|---|
| Gyroscope (angular velocity sensor) | ● Can detect the vehicle's turning angle quite accurately. | ● Direction errors may accumulate when the vehicle is driven for long distances without stopping. |
| GPS antenna (GPS information) | ● Can detect the vehicle's travel direction (North/South/East/West). | ● Correct direction cannot be detected when the vehicle speed is low. |

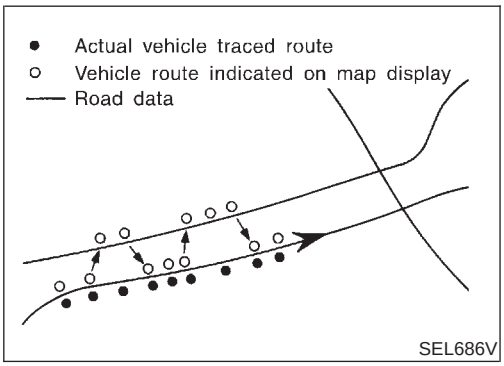



### MAP-MATCHING

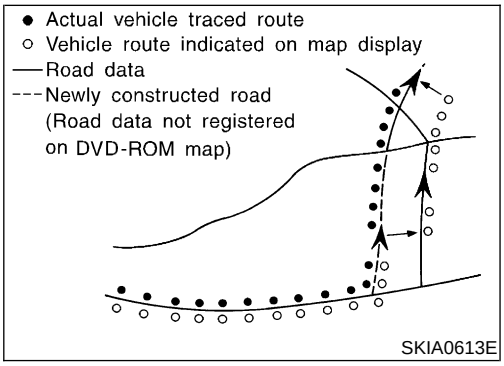
NJEL0592S03

Map-matching is a function that repositions the vehicle on the road map when a new location is judged to be the most accurate. This is done by comparing the current vehicle position, calculated by the method described in the position detection principle, with the road map data around the vehicle, read from the map DVD-ROM stored in the DVD-ROM drive.
Therefore, the vehicle position may not be corrected after the vehicle is driven over a certain distance or time in which GPS information is hard to receive. In this case, the current-location mark on the display must be corrected manually.

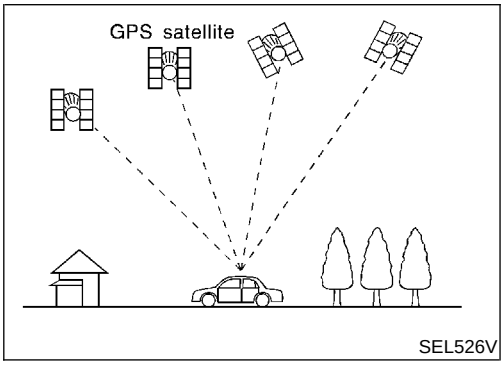
**NOTE:**
The road map data is based on data stored in the map DVD-ROM.




- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the current-location mark has been repositioned.
  If there is an error in distance and/or direction, the alternative routes will be shown in different order of priority, and the wrong road can be avoided.
  If two roads are running in parallel, they are of the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.




- Map-matching does not function correctly when the road on which the vehicle is driving is new and not recorded in the map DVD-ROM, or when the road pattern stored in the map data and the actual road pattern are different due to repair.
  When driving on a road not present in the map, the map-matching function may find another road and position the current-location mark on it. Then, when the correct road is detected, the current-location mark may leap to it.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the map DVD-ROM is limited. Therefore, when there is an excessive gap between the current vehicle position and the position on the map, correction by map-matching is not possible.



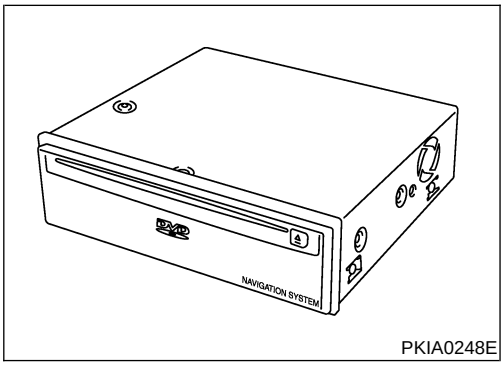

## GPS (GLOBAL POSITIONING SYSTEM)

NJEL0592S04

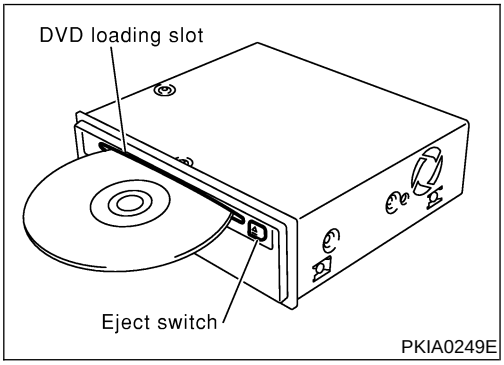
GPS (Global Positioning System) has been developed and controlled by the US Department of Defense. The system utilizes GPS satellite (NAVSTAR), sending out radio waves while flying on an orbit around the earth at the height of approx. 21,000 km (13,000 miles).
The GPS receiver calculates the vehicle's position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves received from four or more GPS satellites (three-dimensional positioning). If radio waves were received only from three GPS satellites, the GPS receiver calculates the vehicle's position in two dimensions (latitude/longitude), utilizing the altitude

data calculated previously by using radio waves from four or more GPS satellites (two-dimensional positioning).
Accuracy of the GPS will deteriorate under the following conditions.

- In two-dimensional positioning, the GPS accuracy will deteriorate when the altitude of the vehicle position changes.
- There may be an error of approximately 10 m (30 ft.) in position detected by three-dimensional positioning, which is more accurate than two-dimensional positioning. The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when the vehicle is in an area where radio waves from the GPS satellite do not reach, such as in a tunnel, parking lot in a building, and under an elevated highway. Radio waves from the GPS satellites may not be received when some object is located over the GPS antenna.
- Position correction by GPS is not available while the vehicle is stopped.



PKIA0248E



PKIA0249E

## COMPONENT DESCRIPTION

NJEL0592S05

### AV and NAVI Control Unit

NJEL0592S0501

- The gyro (angular speed sensor) and the DVD-ROM drive are built-in units that control the navigation functions.
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the DVD-ROM map. Locational information is shown on liquid crystal display panel.

### DVD-ROM Drive

NJEL0592S0502

Maps, traffic control regulations, and other pertinent information can be easily read from the DVD-ROM disc.

### Map DVD-ROM

NJEL0592S0503

- The map DVD-ROM has maps, traffic control regulations, and other pertinent information.
- To improve DVD-ROM map matching and route determination functions, the DVD-ROM uses an exclusive Nissan format. Therefore, the use of a DVD-ROM provided by other manufacturers cannot be used.

### Gyro (Angular Speed Sensor)

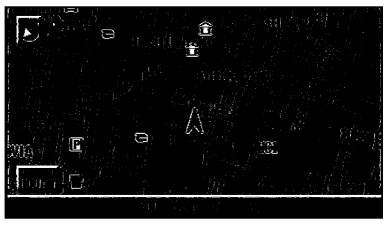
NJEL0592S0504

- The oscillator gyro sensor is used to detect changes in vehicle steering angle.
- The gyro is built into the navigation (AV and NAVI) control unit.

## BIRDVIEW®

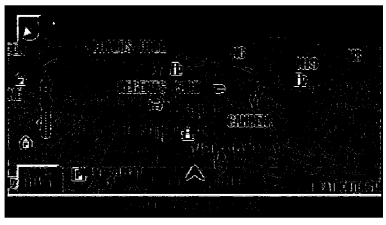
=NJEL0592S06

The BIRDVIEW® provides a detailed and easily seen display of road conditions covering the vehicle's immediate to distant area.



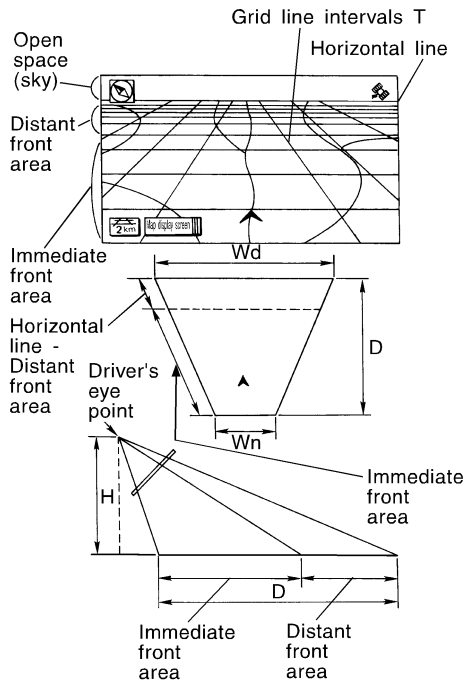
SKIA1377E

- MAP DISPLAY



SKIA1378E

- BIRDVIEW®

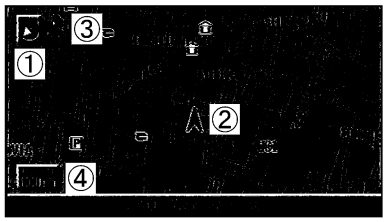



SEL691V

### Description

NJEL0592S0601

- Display area: Trapezoidal representation showing approximate distances (Wn, D, and Wd).
- Ten horizontal grid lines indicate display width while six vertical grid lines indicate display depth and direction.
- Drawing line area shows open space, depth, and immediate front area. Each area is to a scale of approximately 5:6:25.
- Pushing the "ZOOM IN" button during operation displays the scale change and the view point height on the left side of the screen.
  The height of the view point increases or decreases when "ZOOM" or "WIDE" is selected with the joystick.




SKIA1379E

## MAP DISPLAY

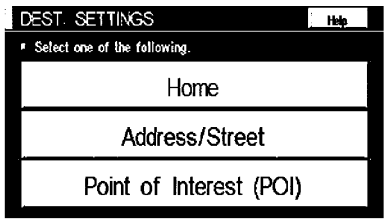
NJEL0592S07

Function of each icon is as follows:

1. Azimuth indication.
2. Position marker.

– The tip of the arrow shows the current position. The shaft of the arrow indicates the direction in which the vehicle is traveling.

3. GPS reception signal (indicates current reception conditions).
4. Distance display (shows the distance in a reduced scale).




SKIA1623E

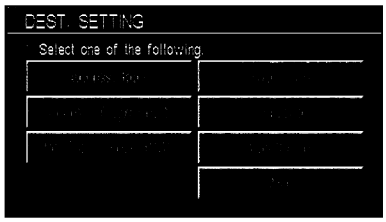
## FUNCTION OF MULTIFUNCTION SWITCH

NJEL0592S08

### Display With Pushed "DEST" Switch

NJEL0592S0801

- Easy Mode

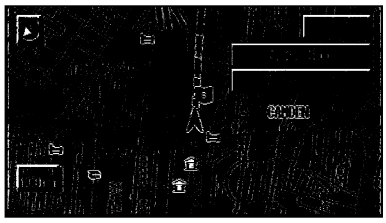



SKIA1381E

- Expert Mode

### The Function of Each Icon Is as Follows:

| Icon | MODE | | Description |
|---|---|---|---|
| | Easy | Expert | |
| Address Book | | × | Favorite place can be saved to memory. |
| Address/Street | × | × | The destination can be searched from the address. |
| Point of Interest (POI) | × | × | The destination of favorite facility can be searched. |
| Previous Dest. | | × | The previous ten destinations stored in memory are displayed. |
| Intersection | | × | The destination can be searched from the intersection. |
| City Center | | × | The destination can be searched from city name. |
| Map | | × | The destination can be searched from the map. |
| Home | × | | Sets the home as a destination. |
| Help | × | | Explanation of Navigational functions appear on the Display. |

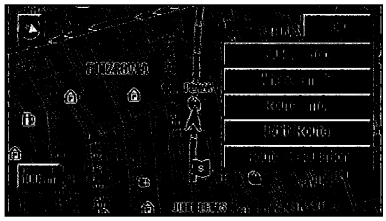


SKIA1382E

## Display With Pushed "ROUTE" Switch

NJEL0592S0802

- Easy Mode



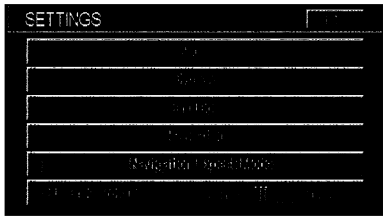
SKIA1383E

- Expert Mode

### The Function of Each Icon Is as Follows:

| Icon | MODE | | Description |
|---|---|---|---|
| | Easy | Expert | |
| Quick Stop | × | × | The selected facility is set as the destination or waypoint.<br>(Route guidance has been turned OFF or the destination has been reached) |
| Where am I? | × | × | Next, current and previous street names can be displayed. |
| Route Info.* | | × | The following items can be set.<br>● Complete Route<br>● Turn List<br>● Route Simulation<br>(Displayed only when the destination area has been set.) |
| Edit Route* | | × | Change the destination or add the transit points of the route set in the route guide.<br>(Displayed only when the automatic reroute function has been turned OFF and the recommended route is not followed.) |
| Route Calculation | | × | This key is used to start the route calculation after all the settings are completed. |
| Help | × | | Explanation of Navigational functions appear on the Display. |

*: When destinations have been entered, route guidance has been turned OFF or destination has been reached, "Route Info." and "Edit Route" are not displayed.




SKIA1384E

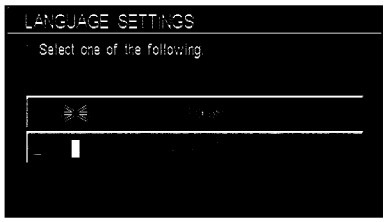
## Display With Pushed "SETTING" Switch

NJEL0592S0803

*System Description (Cont'd)*

### The Function of Each Icon Is as Follows:

| Icon | Description |
|---|---|
| Audio | Sound quality can be adjusted, and also ON/OFF setting of switch beep sound can be performed.<br>Noise Compensation ON/OFF setting can be performed. |
| Display | Settings of display can be performed. |
| Language | Language can be selected for the display and voice guidance.<br>Use the program CD-ROM disc to change the language. |
| Navigation | Settings and adjusting of navigation can be performed. |
| Navigation Expert Mode | Easy Mode and Expert Mode can be switched. |
| Guidance Volume | The volume and/or on/off of voice prompt can be controlled by the joystick. |
| Help | Explanation of Navigational Functions Appear on the Display. |




SKIA1399E

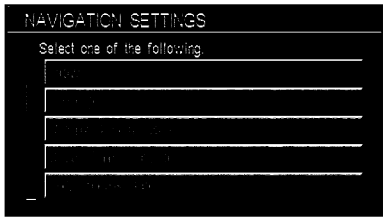
### "LANGUAGE" mode

NJEL0592S0804

Select one of the languages which appear on the screen.

**NOTE:**

Languages that do not appear on the screen must be loaded from program disk.




SKIA1385E

### Navigation Settings

NJEL0592S0805

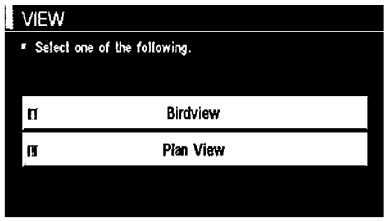
How To Perform Navigation Settings

1. Start the engine.
2. Push "SETTING" switch.
3. Select "NAVIGATION".

### Application Items

| Icon | Description | Reference page |
|---|---|---|
| View | Map display mode can be switched. | EL-437 |
| Heading | Heading of the map display can be customized for either north heading or the actual driving direction of the vehicle. | EL-437 |
| Nearby Display Icons | Icons of facilities can be displayed.<br>Facilities to be displayed can be selected from the variety selections. | EL-437 |
| Save Current Location | Current vehicle location can be registered in Address Book. | EL-438 |

| Icon | Description | Reference page |
|---|---|---|
| Edit Address Book | Address Book can be edited. | EL-438 |
| Clear Memory | Address Book, Previous destination or Avoid area can be deleted. | EL-438 |
| Auto Re-route ON/OFF | ON/OFF of Auto Re-route can be switched. | EL-438 |
| Quick Stop Customer Setting | One facility of your selection can be added to your Quick Stop. | EL-438 |
| Set Average speed for Estimated Journey Time | Average vehicle speed can be set to calibrate estimated journey time for the destination. | EL-439 |
| GPS Information | The GPS data includes longitude, latitude and altitude (distance above sea level) of the present vehicle position, and current date and time for the area in which the vehicle is being driven.<br>Also indicated are the GPS reception conditions and the GPS satellite position. | EL-439 |
| Avoid Area Setting | A particular area can be avoided when routing. | — |
| Tracking on/off | Tracking to the present vehicle position can be displayed. | EL-439 |
| Adjust Current Location | Current location of position marker can be adjusted. Direction of position marker also can be calibrated when heading direction of the vehicle on the display is not matched with the actual direction. | EL-439 |



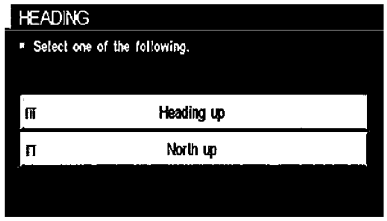
SKIA0554E

## "VIEW" MODE

NJEL0592S09

Select "Bird View®" or "Plan view" icon.

- To open the map screen display with Bird View®, select "Bird View®".
- To open the map screen display with Plan View, select "Plan View".

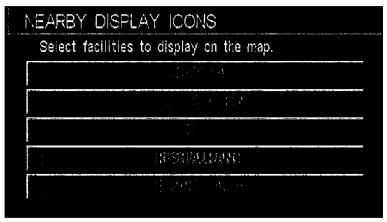


SKIA0561E

## "HEADING" MODE

NJEL0592S10

- To display North up, select "North up".
- To display the car heading up, select "Heading up".

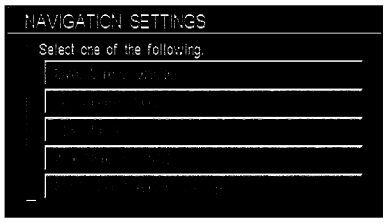


SKIA1394E

## "NEARBY DISPLAY ICONS" MODE

NJEL0592S11

- Select an icon to display on the map screen.



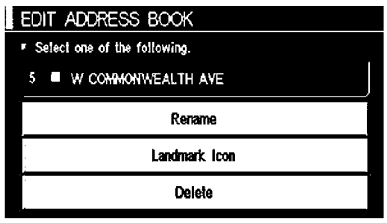

SKIA1388E

## "SAVE CURRENT LOCATION" MODE

NJEL0592S12

- The current vehicle location can be registered in "Address Book".

**NOTE:**
"Address Book" can store 50 items max.

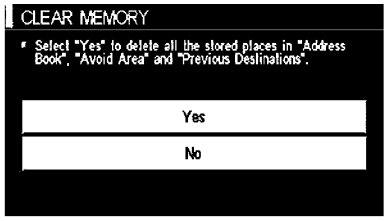



SKIA0560E

## "EDIT ADDRESS BOOK" MODE

NJEL0592S13

- Edit the items registered in Address Book.

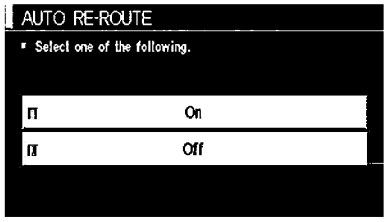



SKIA0566E

## "CLEAR MEMORY" MODE

NJEL0592S14

- To delete all the stored places in "Address Book", "Avoid Area" and "Previous Dest", select "Yes".

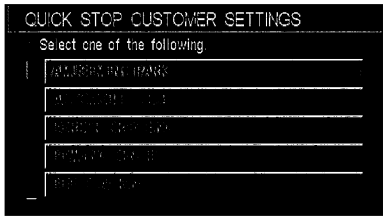



SKIA0558E

## "AUTO RE-ROUTE" MODE

NJEL0592S15

- To Perform the auto re-route of route, select "ON".
- Not to Perform the auto re-route of route, select "OFF".

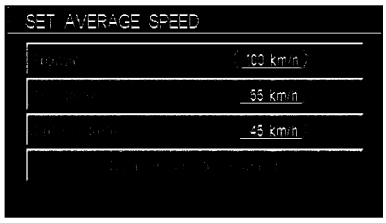



SKIA1389E

## "QUICK STOP CUSTOMER SETTINGS" MODE

NJEL0592S16

- Select a category for the "Quick Stop" menu.

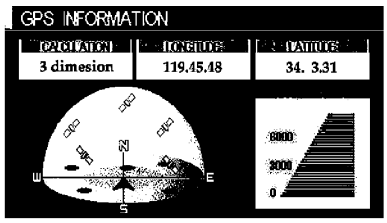



SKIA1397E

## "SET AVERAGE SPEED FOR ESTIMATED JOURNEY TIME" MODE

NJEL0592S17

- Set the average vehicle speed to calibrate the estimated journey time for the destination.
- Set three items; "Freeway", "Main Roads", and "Ordinary Roads".



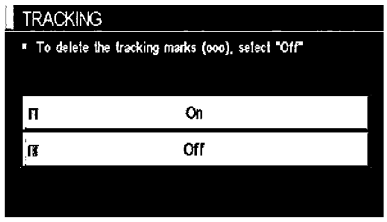

SKIA0555E

## "GPS INFORMATION" MODE

NJEL0592S18

- Latitude, longitude, altitude, astrometric state, and satellite location are displayed as GPS information.

**NOTE:**
Altitude is displayed only in three-dimensional status.



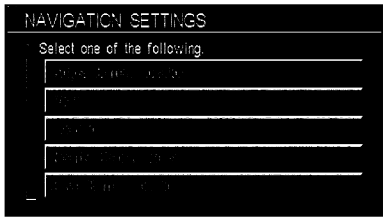

SKIA0559E

## "TRACKING" MODE

NJEL0592S19

- To leave no trail on the map, select "Off".
- To leave a trail in the map, select "On".

**NOTE:**
When a trail display is turned OFF, trail data is erased from the memory.

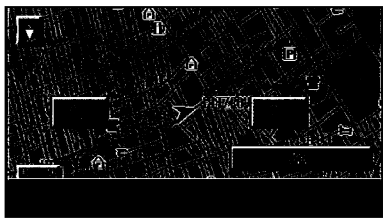



SKIA1395E

## "ADJUST CURRENT LOCATION" MODE

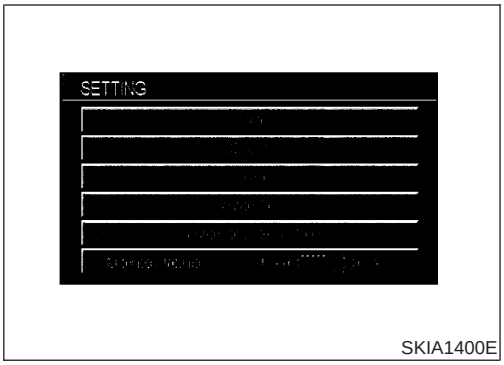
NJEL0592S20

1. Select an icon "right" or "left" to calibrate the heading direction. (Arrow marks will rotate corresponding to the calibration key.)



SKIA1396E

2. Select "Set". Then the vehicle mark will be matched to the arrow mark.




SKIA1400E

## GUIDE VOLUME SETTING

NJEL0592S21

### Description

NJEL0592S2101

Following voice guidance setting can be changed.

### Activation/Deactivation Setting

NJEL0592S2102

- The voice prompt can be turned on/off by pressing the "Guidance Volume" button.

### Voice Volume Setting

NJEL0592S2103

- Volume of the voice can be controlled by bending the joystick to left/right.

## NATS NAVI LINK

NJEL0592S22

### Description

NJEL0592S2201

The link with the NATS IMMU implies that the AV and NAVI control unit can basically only be operated if connected to the matching NATS IMMU to which the AV and NAVI control unit was initially fitted on the production line.
The Navigation system does not operate because it is judged that the code collation with NATS IMMU is illegal when the control unit of other cars is installed.

# Precautions for AV and NAVI Control Unit Replacement

NJEL0593

- When replacing the AV and NAVI control unit, eject the map DVD-ROM before disconnecting the battery.
- The AV and NAVI control unit has the following information stored in its memory. Record the memory contents before replacing the control unit, and input them in the new unit as necessary.

**<RADIO>**

- **Preset frequency**
- **Area for indicating station, selection of overlapped stations**

**<CD>**

- **Program status**

**<Sound quality>**

- **Volume balance memory set values**
- **Equalizer memory set values**

**<Image quality>**

- **Brightness of light when ON/OFF**
- **Dimming switching**
- **Display color switching**

**<Navigation mode>**

- **Latest status (map screen/bird view®, reduced scale, rotation angle of map screen, route guide ON/OFF, track ON/OFF, etc.)**
- **Current position**
- **Destination, passing point 1 - 5**
- **Registered places, their names, etc.**

**NOTE:**
Only removing the battery does not erase the memory.

## Component Parts Location

NJEL0594

For details, refer to "ELECTRICAL UNIT LOCATION" (EL-543) and "HARNESS LAYOUT" (EL-550).

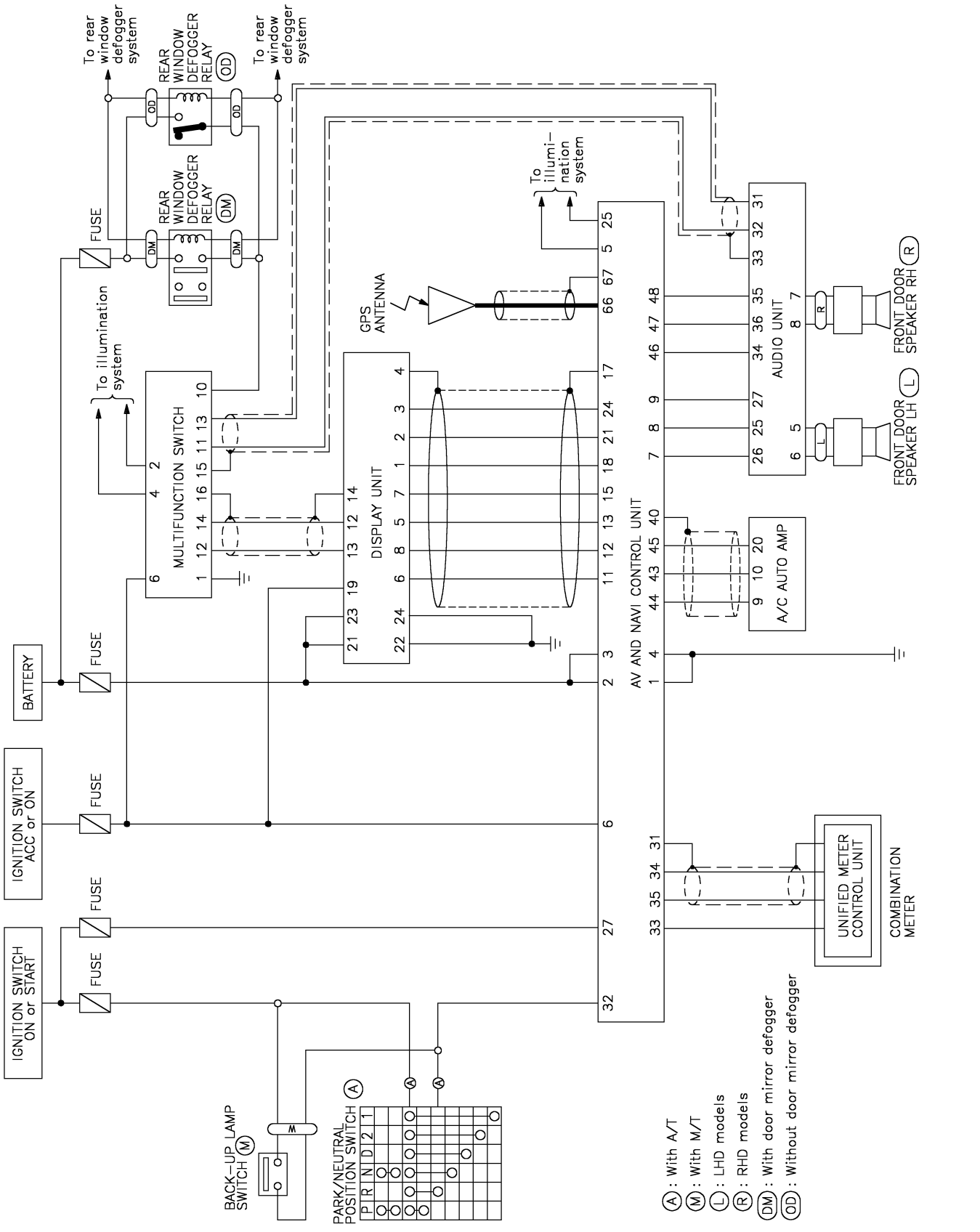
## Location of Antenna

NJEL0595

Refer to EL-214, "Location of Antenna".

## Schematic

NJEL0596

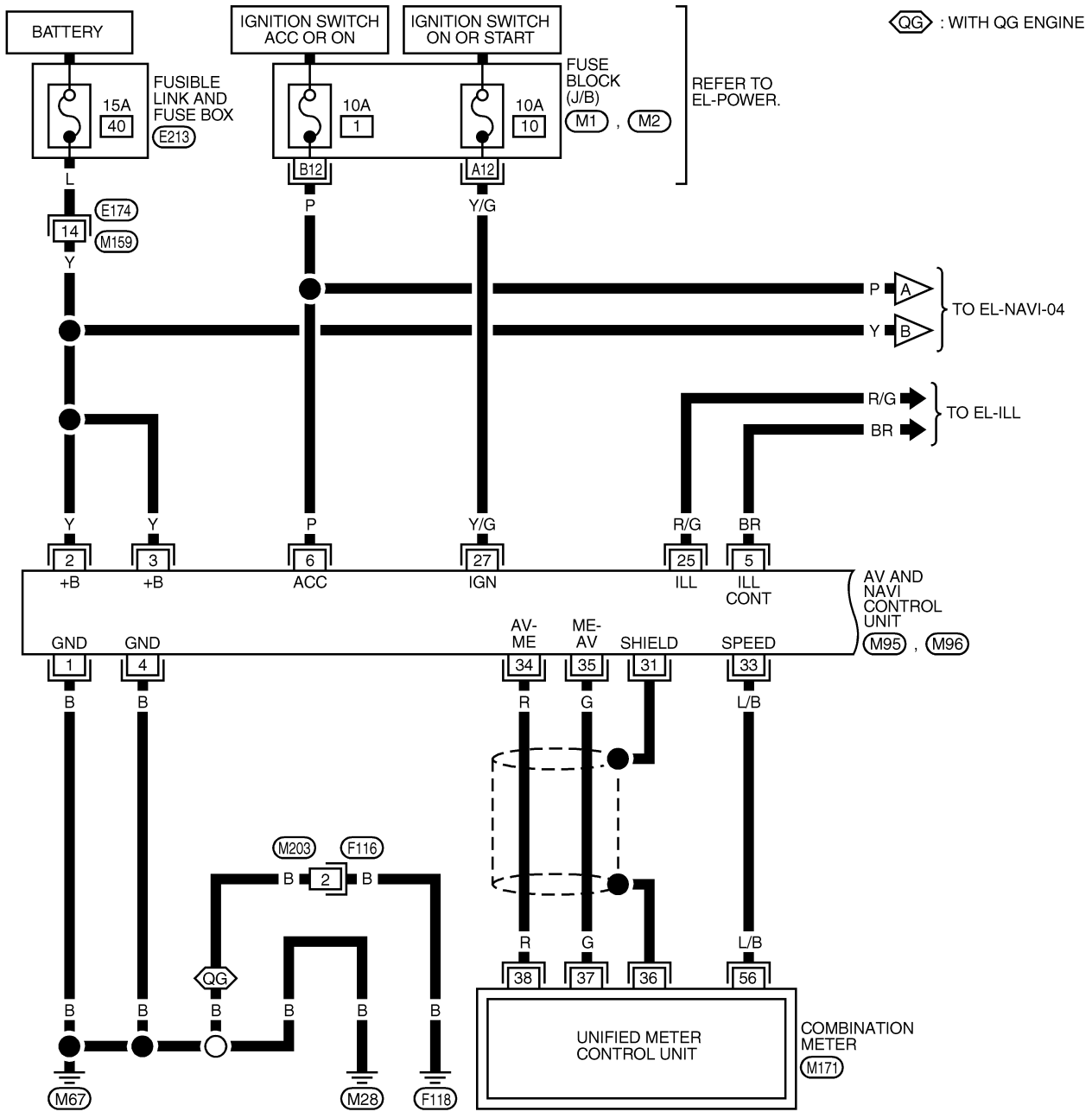


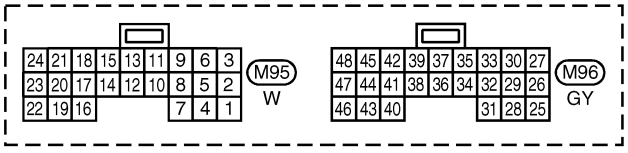

YEL774D

# Wiring Diagram — NAVI —

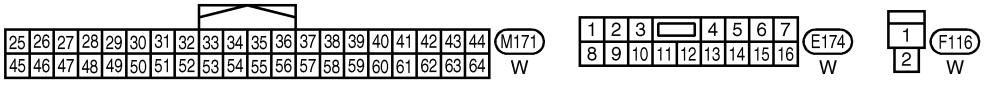
NJEL0597

EL-NAVI-01

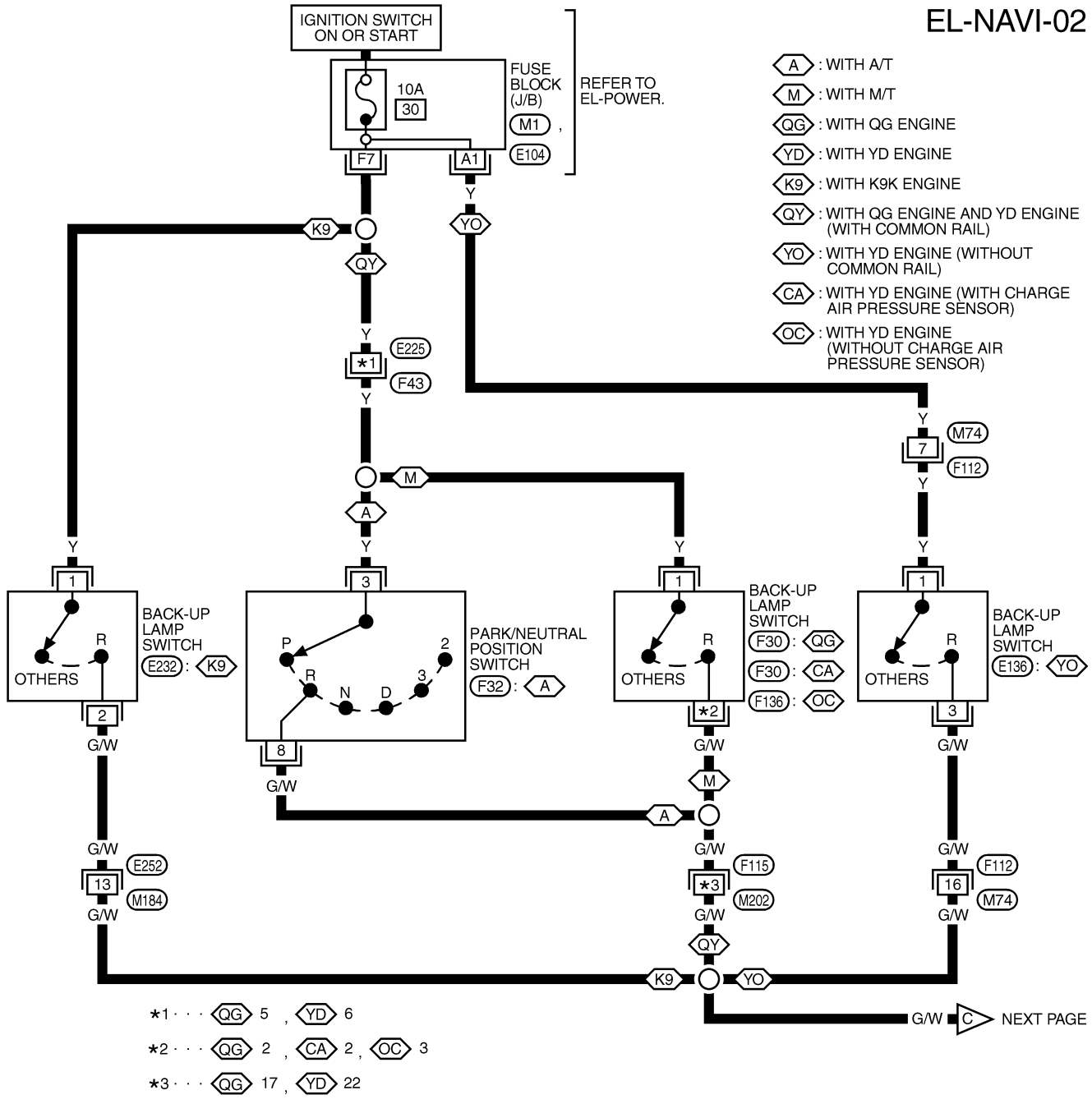


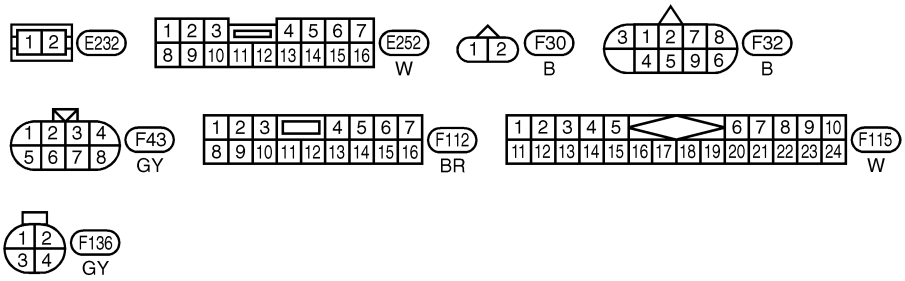




REFER TO THE FOLLOWING.
M1 , M2 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX




YEL775D

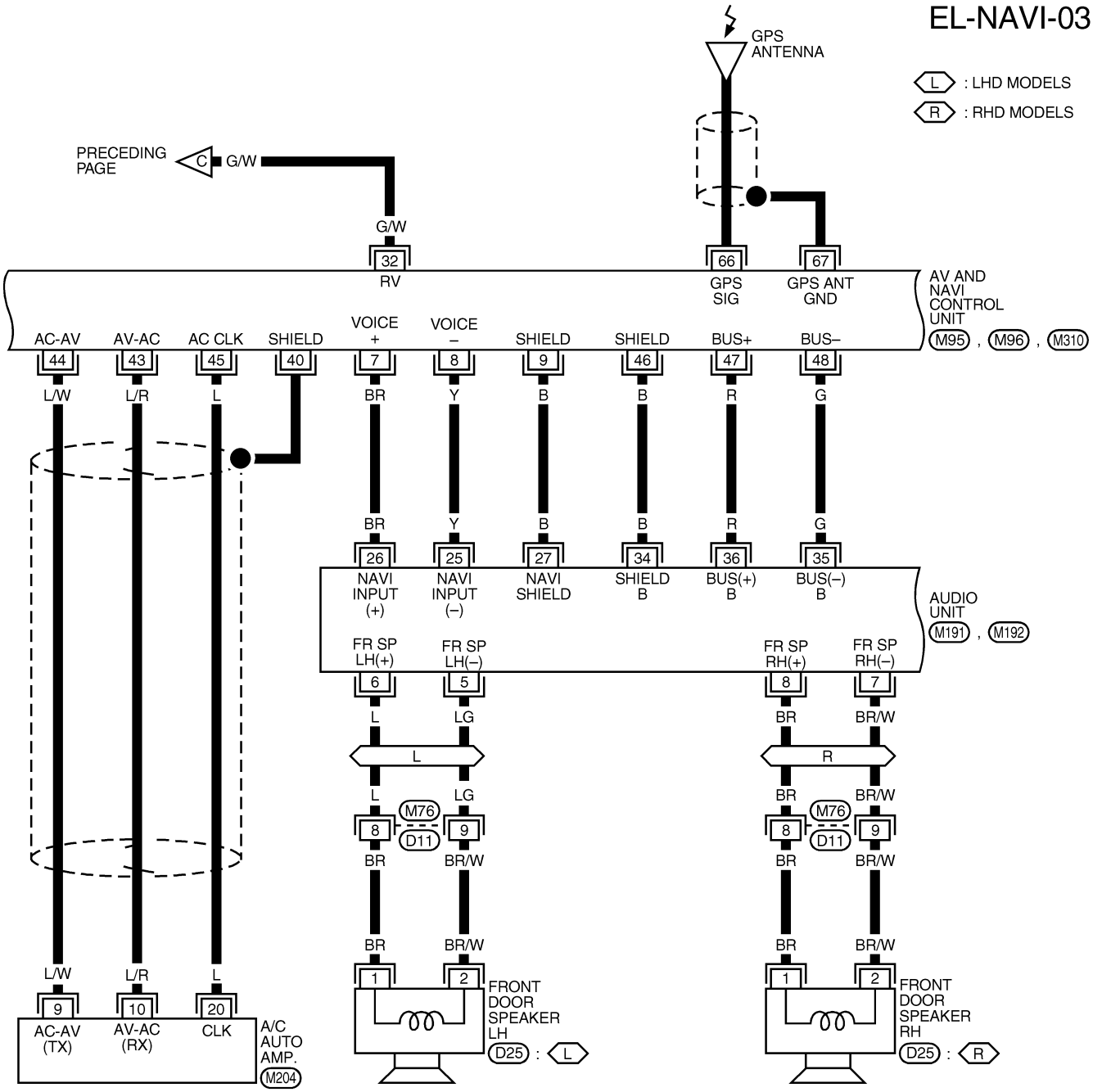



REFER TO THE FOLLOWING.
M1 , E104 -FUSE BLOCK-JUNCTION BOX (J/B)

YEL776D

EL-NAVI-03

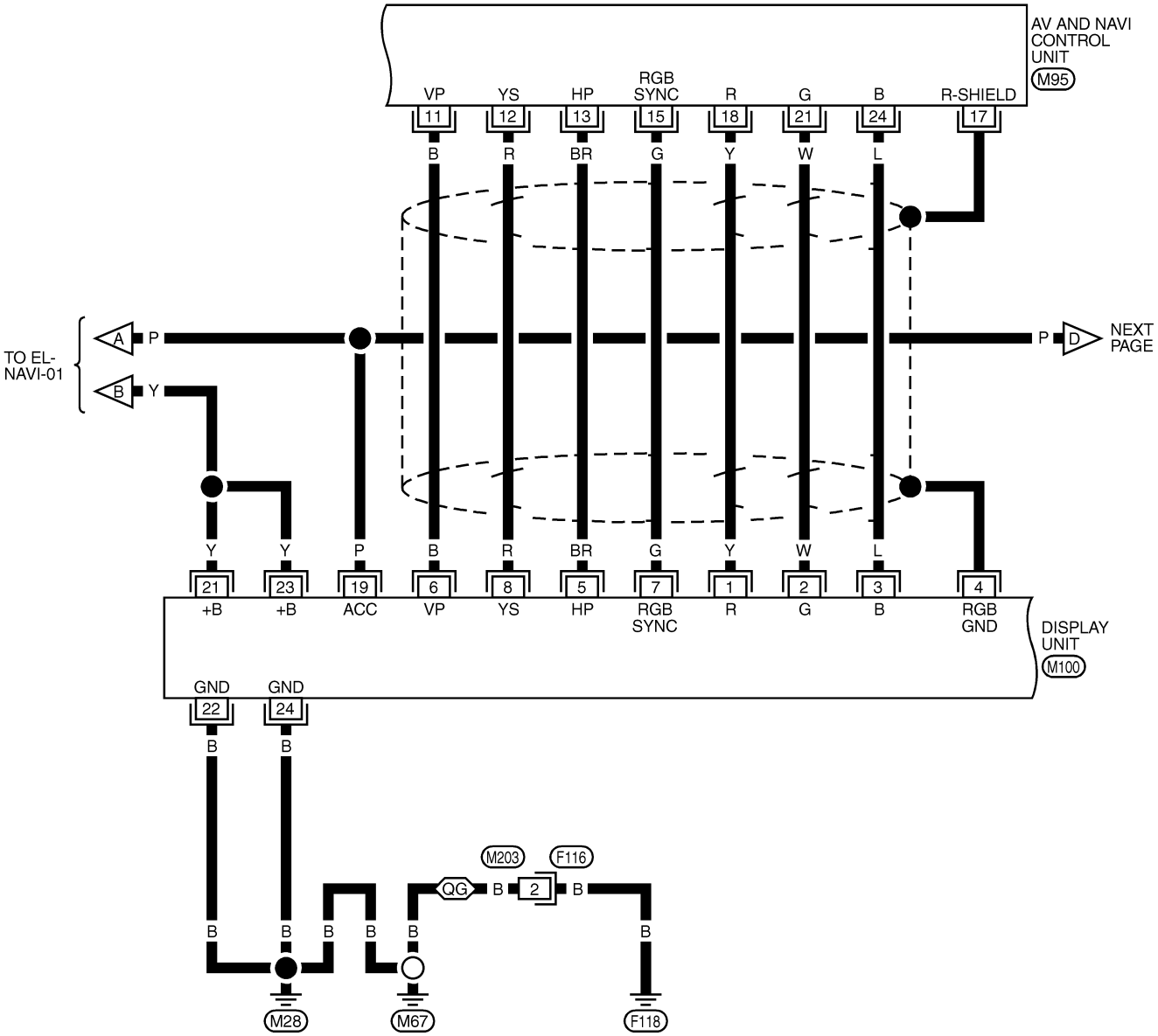


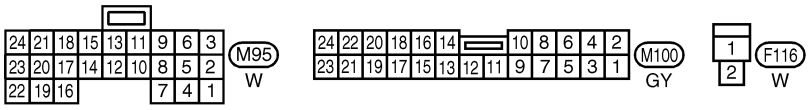

* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" , EL SECTION.

YEL777D

EL-NAVI-04

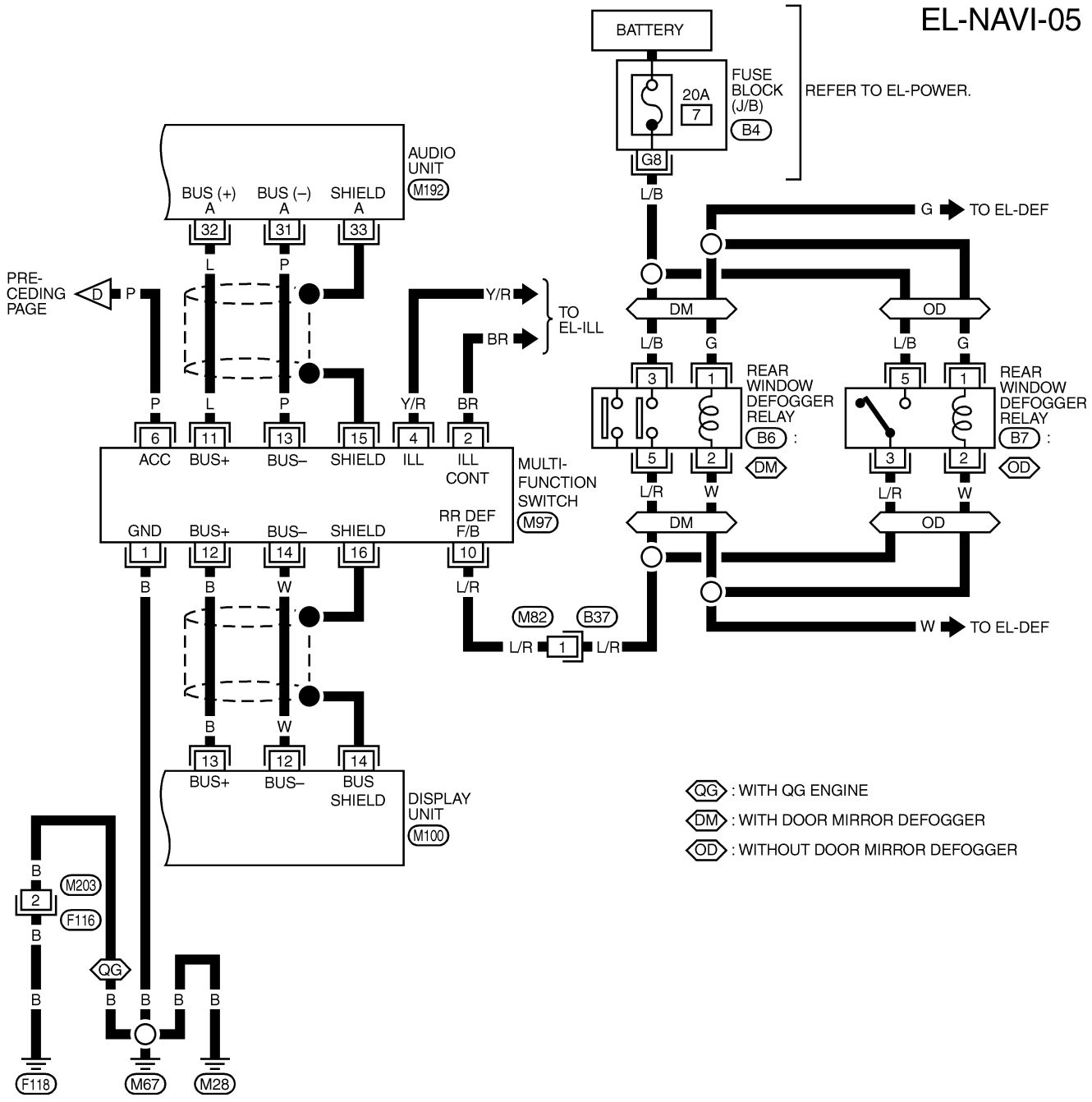
QG : WITH QG ENGINE

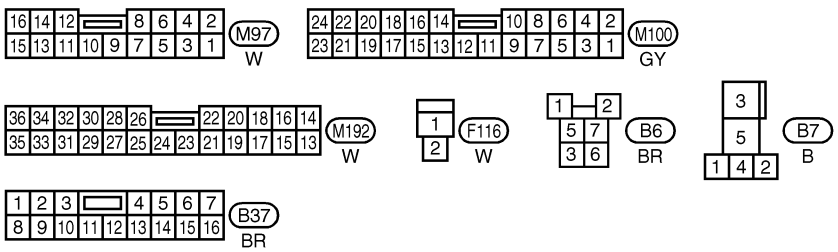



YEL778D

EL-NAVI-05




REFER TO THE FOLLOWING.
B4 -FUSE BLOCK-
JUNCTION BOX (J/B)

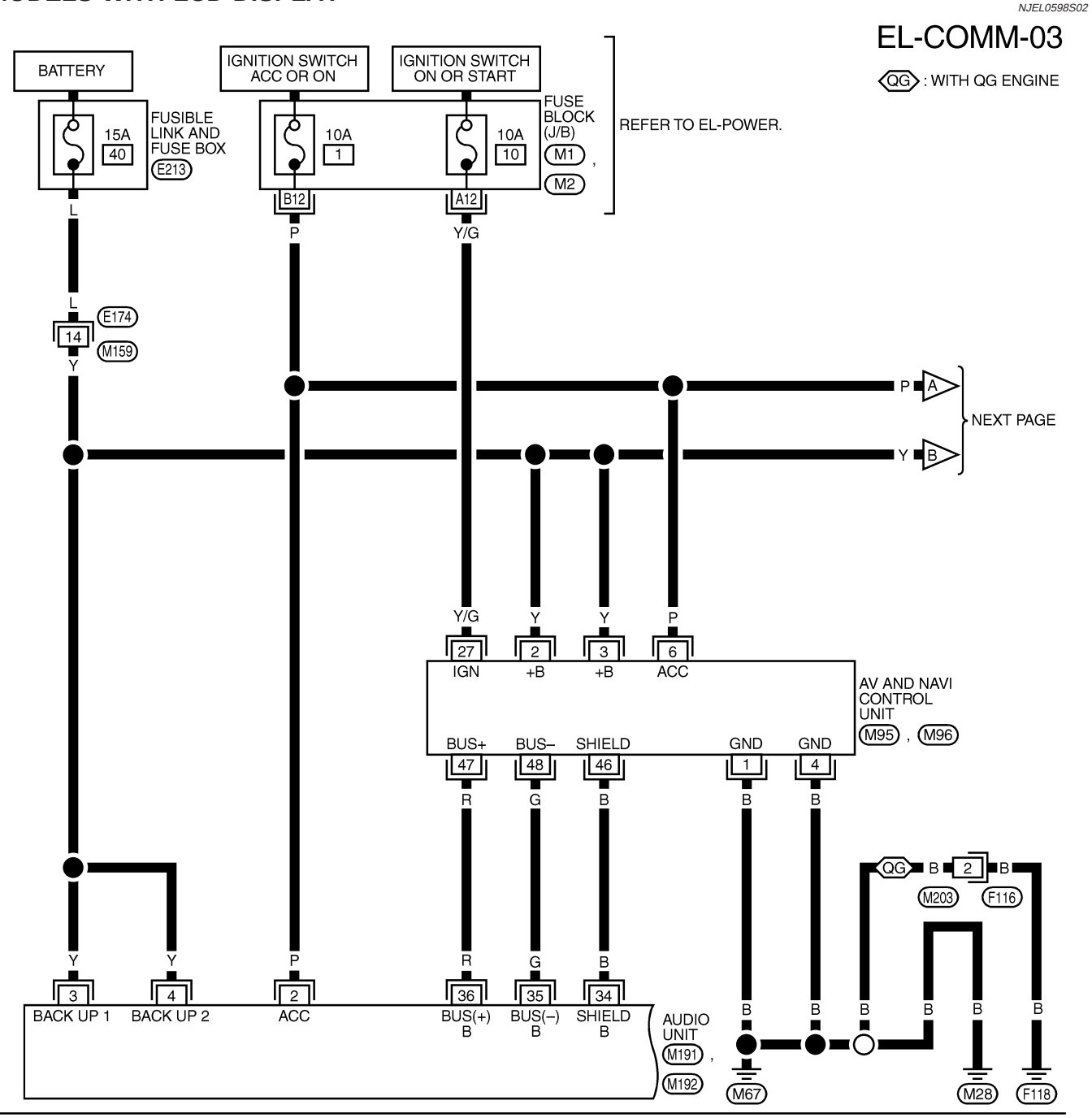
YEL779D

# Wiring Diagram — COMM —

NJEL0598

## MODELS WITH LCD DISPLAY

NJEL0598S02

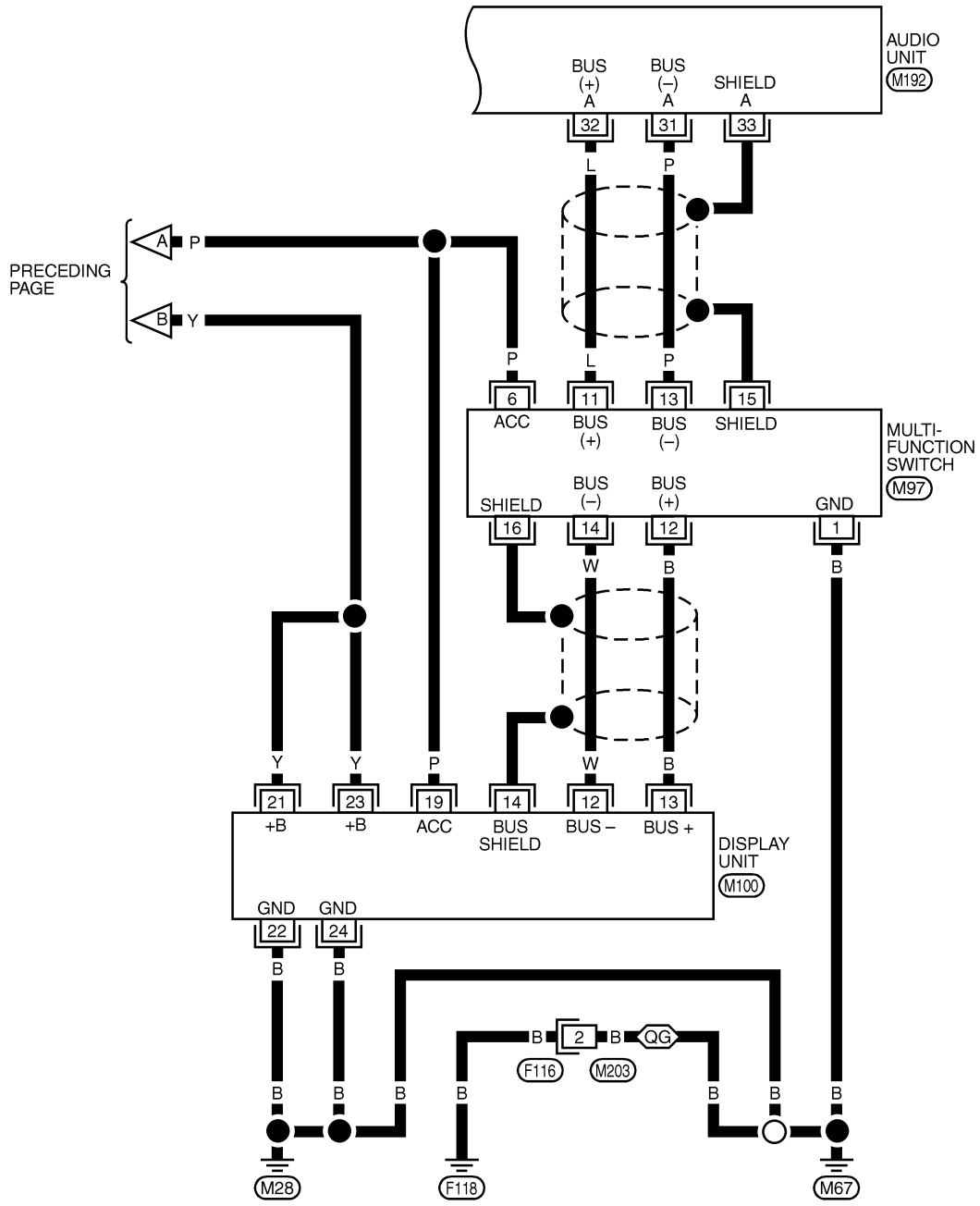


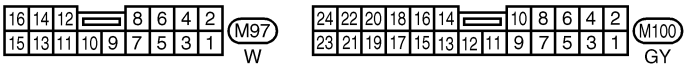

REFER TO THE FOLLOWING.
M1 , M2 -FUSE BLOCK-JUNCTION BOX (J/B)
E213 -FUSE AND FUSIBLE LINK BOX

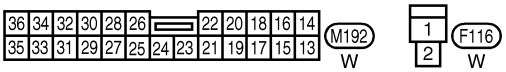
YEL738D

EL-COMM-04

QG : WITH QG ENGINE



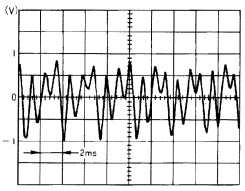
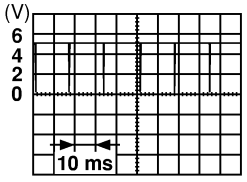
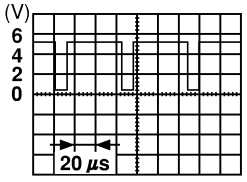
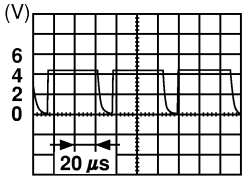



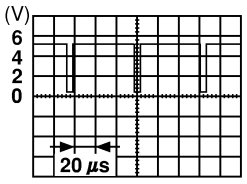
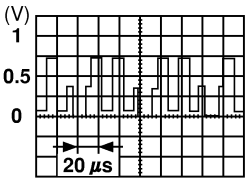
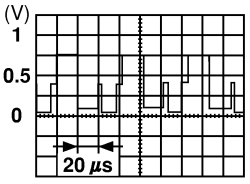
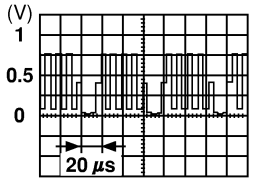

YEL739D

# Terminals and Reference Value for AV and NAVI Control Unit

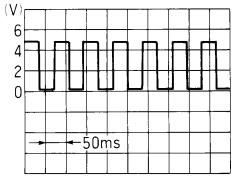
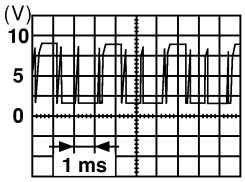
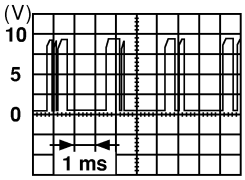
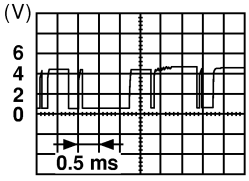
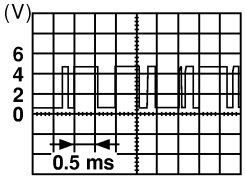
NJEL0599

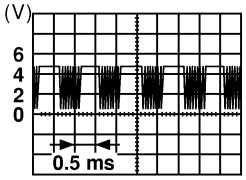
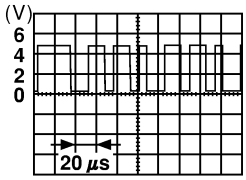
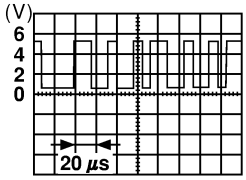
- For measurements made with IGN switch ON, if possible, measure with engine running to prevent battery discharge.
- Use a circuit tester and oscilloscope or CONSULT-ll for measurement.

| Terminal No. (wire color) | | Item | Signal input/ output | Condition | | Voltage | Example of symptom |
|---|---|---|---|---|---|---|---|
| + | – | | | Ignition switch | Operation | | |
| 1 (B) | ground | Ground | — | ON | — | Approx. 0V | — |
| 2 (Y) | ground | Battery power | Input | OFF | — | Battery voltage | System does not work properly. |
| 3 (Y) | | | | | | | |
| 4 (B) | ground | Ground | — | ON | — | Approx. 0V | — |
| 5 (BR) | ground | Illumination ground | — | ON | — | Approx. 0V | — |
| 6 (P) | ground | ACC signal | Input | ACC | — | Battery voltage | System does not work properly. |
| 7 (BR) | 8 (Y) | voice guide signal | Output | ON | Press the “voice” switch. |  SKIA0171J | Only route guide and operation guide are not heard. |
| 9(B) | — | Shield ground | — | — | — | — | — |
| 11 (B) | 17 | Vertical synchronizing signal | Input | ON | — |   SKIA0161E | Superimposed screen is rolling. |
| 12 (R) | 17 | RGB area signal | Output | ON | Press the “info”switch. |   SKIA0162E | RGB screen is not shown. |
| 13 (BR) | 17 | Horizontal synchronizing signal | Input | ON | Select“ Display” in “Setting” mode and display the rear-view picture on the screen. |   SKIA0163E | Superimposed screen is not shown. |

| Terminal No. (wire color) | | Item | Signal input/ output | Condition | | Voltage | Example of symptom |
|---|---|---|---|---|---|---|---|
| + | – | | | Ignition switch | Operation | | |
| 15 (G) | 17 | RGB synchronizing signal | Output | ON | Press the "MAP" switch. |  SKIA0164E | RGB screen is rolling. |
| 17 | ground | RGB Ground | — | ON | — | Approx. 0V | — |
| 18 (Y) | 17 | RGB signal (R: red) | Output | ON | Select "SCREEN ADJUSTMENT" of CONFIRMATION/ ADJUSTMENT function. |  SKIA0165E | RGB screen looks bluish. |
| 21 (W) | 17 | RGB signal (G: green) | Output | ON | Select "SCREEN ADJUSTMENT" of CONFIRMATION/ ADJUSTMENT function. |  SKIA0166E | RGB screen looks reddish. |
| 24 (L) | 17 | RGB signal (B: blue) | Output | ON | Select "SCREEN ADJUSTMENT" of CONFIRMATION/ ADJUSTMENT function. |  SKIA0167E | RGB screen looks yellowish. |
| 25 (R/G) | ground | Illumination control signal | Input | ON | Lighting switch ON (position 1) — Optical sensor is exposed to light. | Approx. 3.5V or more | Screen does not switch between daytime mode and nighttime mode. |
| | | | | | Lighting switch ON (position 1) — Optical sensor is not exposed to light. | Approx. 1.5V or less | |
| 27 (Y/G) | ground | Ignition signal | Input | ON | — | Battery voltage | A/C operation is not possible. Vehicle information setting is not possible. |
| 31 (P) | — | Shield ground | — | — | — | — | — |

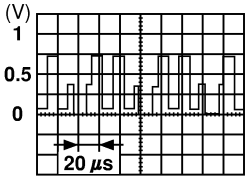
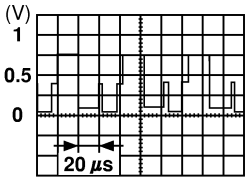
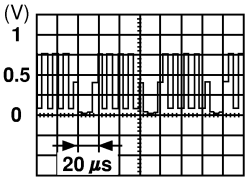
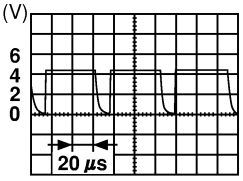
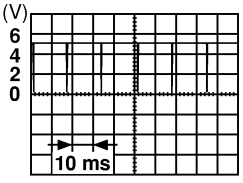
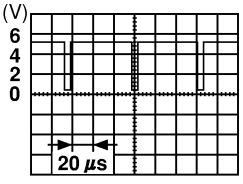
*Terminals and Reference Value for AV and NAVI Control Unit (Cont'd)*

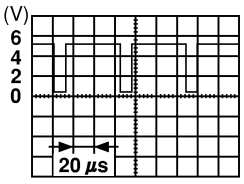
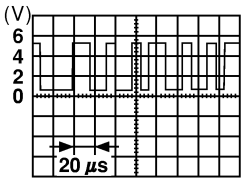
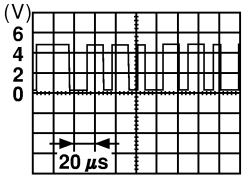
| Terminal No. (wire color) | | Item | Signal input/ output | Condition | | Voltage | Example of symptom |
|---|---|---|---|---|---|---|---|
| + | – | | | Ignition switch | Operation | | |
| 32 (G/W) | ground | Reverse signal | Input | ON | AT selector lever in R-position | Battery voltage | The navigation current-location mark moves strangely when the vehicle is moving backwards. |
| | | | | | AT selector lever not in R-position | Approx. 3.0V or less | |
| 33 | ground | Vehicle speed signal (2-pulse) | Input | ON | When vehicle speed is approx. 40 km/h (25 MPH) |  ELF1080D | Navigation current-location mark does not indicate the correct position. |
| 34 (R) | ground | Communication signal (AV - ME) | Output | ON | Display the vehicle information screen. |  SKIA0169E | Clock cannot be adjusted. Vehicle information screen is not shown. |
| 35 (G) | ground | Communication signal (ME - AV) | Input | ON | Perform various settings on the vehicle information screen. |  SKIA0170E | Clock cannot be adjusted. Vehicle information screen is not shown. |
| 40 | — | Shield ground | — | — | — | — | — |
| 43 (L/R) | ground | A/C communication signal (AV - AC) | Output | ON | — |  SKIA0172E | A/C operation is not possible. |
| 44 (L/W) | ground | A/C communication signal (AV - AC) | Input | ON | — |  SKIA0173E | A/C status is not indicated correctly. |

| Terminal No. (wire color) | | Item | Signal input/ output | Condition | | Voltage | Example of symptom |
|---|---|---|---|---|---|---|---|
| + | – | | | Ignition switch | Operation | | |
| 45 (L) | ground | A/C clock signal | Input | ON | — |  SKIA0174E | A/C status is not indicated correctly. |
| 46 (B) | — | Shield ground | — | — | — | — | — |
| 47 (R) | ground | Communication signal (+) | Input/ output | ON | — |  SKIA0175E | System does not work properly. |
| 48 (G) | ground | Communication signal (-) | Input/ output | ON | — |  SKIA0176E | System does not work properly. |
| 66 | 67 | GPS signal | Input | ON | Connector is not connected. | Approx. 5 V | Navigation system GPS correction is not possible. |

## Terminals and Reference Value for Display Unit

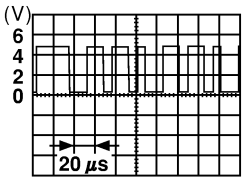
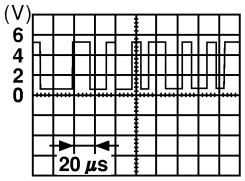
NJEL0600

| Terminal No. (wire color) | | Item | Signal input/ output | Condition | | Voltage | Example of symptom |
|---|---|---|---|---|---|---|---|
| + | – | | | Ignition switch | Operation | | |
| 1 (Y) | 4 | RGB signal (R: red) | Input | ON | Select “SCREEN ADJUSTMENT” of CONFIRMATION/ ADJUSTMENT function. |  SKIA0165E | RGB screen looks bluish. |
| 2 (W) | 4 | RGB signal (G: green) | Input | ON | Select “SCREEN ADJUSTMENT” of CONFIRMATION/ ADJUSTMENT function. |  SKIA0166E | RGB screen looks reddish. |
| 3 (L) | 4 | RGB signal (B: blue) | Input | ON | Select “SCREEN ADJUSTMENT” of CONFIRMATION/ ADJUSTMENT function. |  SKIA0167E | RGB screen looks yellowish. |
| 4 | — | Shield ground | — | — | — | — | — |
| 5 (BR) | 4 | Horizontal synchronizing signal | Output | ON | Select“ Display” in “Setting” mode and display the rear view picture on the screen. |  SKIA0163E | Superimposed screen is not shown. |
| 6 (B) | 4 | Vertical synchronizing signal | Output | ON | — |  SKIA0161E | Superimposed screen is rolling. |
| 7 (G) | 4 | RGB synchronizing signal | Input | ON | Press the “MAP” switch. |  SKIA0164E | RGB screen is rolling. |

| Terminal No. (wire color) | | Item | Signal input/ output | Condition | | Voltage | Example of symptom |
|---|---|---|---|---|---|---|---|
| + | – | | | Ignition switch | Operation | | |
| 8 (R) | 4 | RGB area signal | Input | ON | Press the "info" switch. |  SKIA0162E | RGB screen is not shown. |
| 12 (W) | ground | Communication signal (-) | Input/ output | ON | — |  SKIA0176E | System does not work properly. |
| 13 (B) | ground | Communication signal (+) | Input/ output | ON | — |  SKIA0175E | System does not work properly. |
| 14 | — | Shield ground | — | — | — | — | — |
| 19 (P) | ground | ACC signal | Input | ACC | — | Battery voltage | Screen is not shown. |
| 21 (Y)<br>23 (Y) | ground | Battery power | Input | OFF | — | Battery voltage | Screen is not shown. |
| 22 (B) | ground | Ground | — | ON | — | Approx. 0V | — |
| 24 (B) | ground | Ground | — | ON | — | Approx. 0V | — |

# Terminals and Reference Value for Multifunction Switch

=NJEL0601

| Terminal No. (wire color) | | Item | Signal input/ output | Condition | | | Voltage | Example of symptom |
|---|---|---|---|---|---|---|---|---|
| + | – | | | Ignition switch | Operation | | | |
| 1 (B) | ground | Ground | — | ON | — | | — | All operations do not work. |
| 2 (BR) | ground | Illumination control signal | Input | ON | Illumination control switch is operated by lighting switch in 1st position. | | Changes between approx. 0 and approx. 12V. | Multifunction Switch illumination cannot be controlled. |
| 4 (Y/R) | ground | Illumination control signal | Input | ON | Lighting switch ON (position 1) | Optical sensor is exposed to light. | Approx. 3.5V or more | Screen does not switch between daytime mode and nighttime mode. |
| | | | | | | Optical sensor is not exposed to light. | Approx. 1.5V or less | |
| 6 (P) | ground | ACC | Input | ACC | — | | Battery voltage | All operations do not work. |
| 9 (L/Y) | ground | Rear defogger ON signal | Output | ON | Press rear defogger switch. | | Approx. 5V | Rear defogger does not work. |
| | | | | | — | | Approx. 0V | |
| 10 (L/R) | ground | Rear defogger indicator signal | Input | ON | Turn rear defogger switch ON. | | Battery voltage | Rear defogger indicator does not illuminate. |
| | | | | | OFF | | Approx. 0V | |
| 11 (L) 12 (B) | ground | Communication signal (+) | Input/ output | ON | — | |   SKIA0175E | System does not work properly. |
| 13 (P) 14 (W) | ground | Communication signal (-) | Input/ output | ON | — | |   SKIA0176E | System does not work properly. |
| 15 16 | ground | Shield ground | — | ON | — | | — | — |

# Self-Diagnosis Function

NJEL0602

## DESCRIPTION

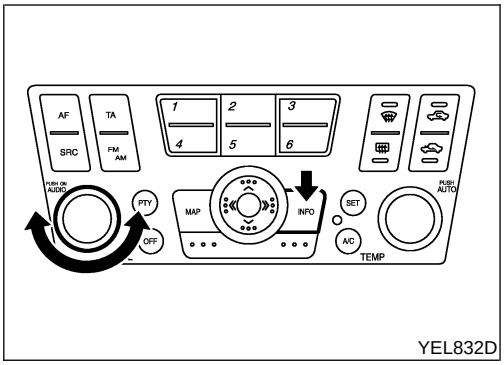
NJEL0602S01

- Diagnosis function consists of the self-diagnosis mode performed automatically and the confirmation/ adjustment mode operated manually.
- Self-diagnosis mode checks connections between all units and performs individual unit diagnosis for all units in system. Results are displayed on LCD display.
- Check/adjustment mode is used to perform trouble diagnosis that require operation and judgment by an operator (trouble that cannot be automatically judged by the system), to check/change the set value, and to display the error record of the navigation system.

## SELF-DIAGNOSIS ITEM

NJEL0602S02

| Mode | | | Diagnosis content |
|---|---|---|---|
| Self-diagnosis | | | • Control unit diagnosis (DVD-ROM drive will not be diagnosed when no map DVD-ROM is in it.)<br>• Performs diagnosis of connections between C/U and GPS antenna and between C/U and all units. |
| Confirmation/ adjustment | Display | | Color tone and shading of the screen can be checked by the display of a color bar and a gray scale. |
| | Vehicle signals | | The following signals can be diagnosed: vehicle speed, parking brake, light, IGN (IGN SW), and reverse. |
| | History of Errors | | Displays the navigation system-related problems that occurred in the past and the number of their occurrence. When a trouble symptom is selected, the time and place of the latest occurrence will be shown. |
| | Auto Climate Control | | All A/C screen displays on LCD monitor and the A/C SW indicator lamp are illuminated. |
| | Navigation | Display Longitude & Latitude | Display the map. Use the joystick to adjust position. Longitude and latitude will be displayed. |
| | | Angle adjustment | Corrects difference between actual turning angle of a vehicle and turning angle of the car mark on the display. |
| | | Distance adjustment | Corrects difference between the current-location mark on the display and actual position of the vehicle. |
| | | Initialize Location | Location memorized by AV and NAVI control unit can be initialized in this mode. |
| | Service | | Service schedule can be changed in this mode. |



YEL832D

# Self-Diagnosis Mode

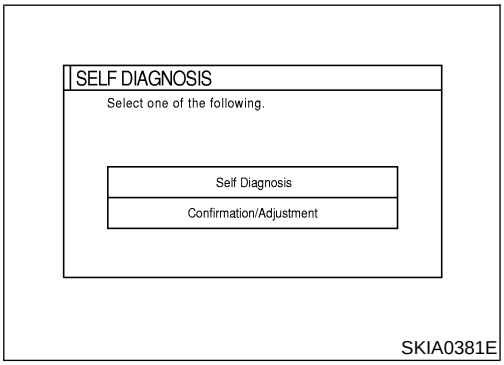
=NJEL0603

## OPERATION PROCEDURE

NJEL0603S01

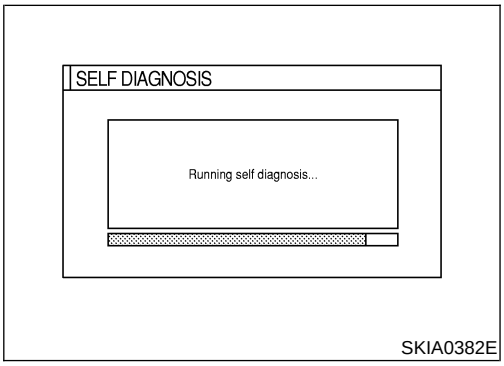
1. Start the engine.
2. Turn the audio system off.
3. While pressing the “INFO” switch, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)

- Shifting from current screen to previous screen is performed by pressing “BACK” switch.



SKIA0381E

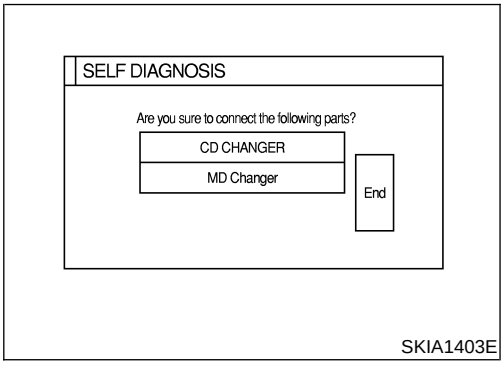
4. The initial trouble diagnosis screen will be shown, and items “SELF-DIAGNOSIS” and “CONFIRMATION/ADJUSTMENT” will become selective.



SKIA0382E

5. Perform self-diagnosis by selecting the “SELF-DIAGNOSIS”.

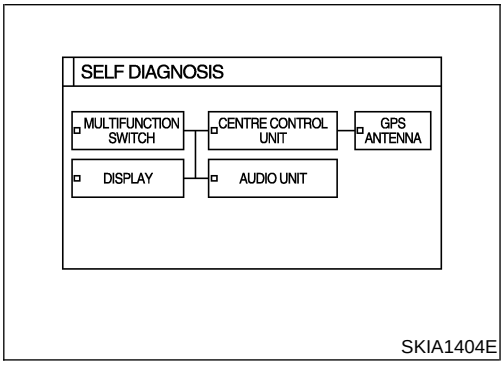
- Self-diagnosis subdivision screen will be shown and the operation enters the self-diagnosis mode.
- A bar graph shown below the self-diagnosis subdivision screen indicates progress of the diagnosis.



SKIA1403E

6. When the self-diagnosis completes, optional part confirmation screen will be shown.

- When connection of an optional part is judged faulty, a screen to check if the optional part is actually fitted on the vehicle or not will be shown. When fitted, select the switch of the part on the screen and press “END”. Then the “Self-diagnosis” screen will be shown.
- When the optional part is connected normally, the switch for the part will not appear on the screen.

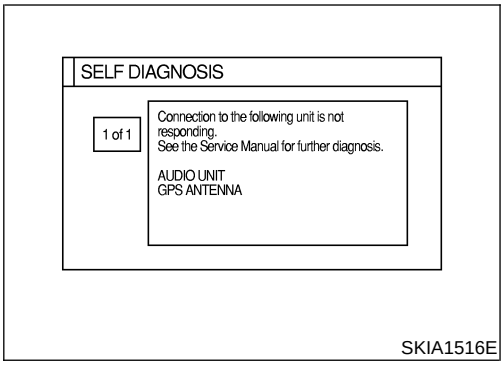


SKIA1404E

7. On the “Self-diagnosis” screen, each unit name will be colored according to the diagnosis result, as follows.

**Green: No malfunctioning.**
**Yellow: Cannot be judged by self-diagnosis results.**
**Red: Unit is malfunctioning.**
**Gray: Diagnosis has not been done.**

- If several malfunctions are present in a unit, color of its switch on the screen will be either red, yellow, or gray, determined by the malfunction of the highest priority.




8. Select a switch on the "Self-diagnosis" screen and comments for the diagnosis results will be shown.

- When the switch is green, the following comment will be shown. "Self-diagnosis was successful. Further diagnosis and adjustments are recommended. Follow the "confirmation and adjustments" menu or refer to the service manual".
- When the switch is yellow, the following comment will be shown. "Connection to the following unit is abnormal. See the service manual for further details".
- When the switch is red, the following comment will be shown. "Center Control Unit is abnormal".
- When the switch is gray, the following comment will be shown. "Self-diagnosis for DVD-ROM DRIVER of NAVI was not conducted because no DVD-ROM was available".

*Self-Diagnosis Mode (Cont'd)*

## DIAGNOSIS CHART

=NJEL0603S02

1. Find applicable diagnosis number from chart.
2. Find possible causes from diagnosis number chart. Perform check with Wiring Diagram — COMM —.
3. Turn ignition switch ON, then perform self-diagnosis again.

| Screen switch | | | | | | Diagnosis No. |
|---|---|---|---|---|---|---|
| Switch color | Control unit | Display | Audio unit | CD auto changer | GPS antenna | |
| Red | × | | | | | Diagnosis 1 |
| Gray | × | | | | | Diagnosis 2 |
| Yellow | × | | | | | Diagnosis 3 |
| | × | | | | | Diagnosis 4 |
| | × | × | | | | Diagnosis 5 |
| | × | | × | × | | Diagnosis 6 |
| | | | | × | | Diagnosis 7 |
| | × | | | | × | Diagnosis 8 |

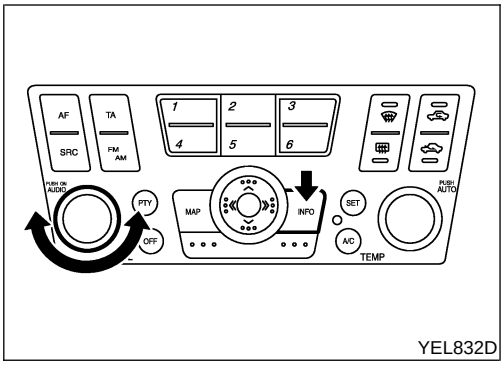
**CAUTION:**

**If multifunction switch is malfunctioning, self-diagnosis mode cannot be started.**

## DIAGNOSIS NUMBER CHART

NJEL0603S03

| Diagnosis No. | Possible causes |
|---|---|
| Diagnosis 1 | Control unit (AV and NAVI C/U) is malfunctioning. |
| Diagnosis 2 | AV and NAVI C/U determines that no map DVD-ROM is inserted. |
| Diagnosis 3 | If "DVD-ROM is malfunctioning. Check disc." is displayed:<br>1. Remove inserted map DVD-ROM and check that it is correct special DVD-ROM.<br>2. Check that there is no dirt, damage, or warping on removed DVD-ROM.<br>3. If above checks reveal nothing unusual, insert another map DVD-ROM with same contents. Then check whether same diagnosis result is obtained when "Self-diagnosis" is performed. If result is same, AV and NAVI C/U is malfunctioning. If not same, map DVD-ROM should be replaced. |
| Diagnosis 4 | "DVD-ROM or DVD-ROM driver in C/U is malfunctioning. Follow maintenance procedures to diagnose." is displayed: Perform check as described in Diagnosis 3. |
| Diagnosis 5 | ● Display power supply or ground line<br>● AV communication line between Display and multifunction switch |
| Diagnosis 6 | Audio unit power supply or ground line |
| Diagnosis 7 | CD auto changer power supply and ground circuit, Communication line between CD auto changer and audio unit |
| Diagnosis 8 | GPS antenna system<br>1. Visually check for open circuit in GPS antenna coaxial cable.<br>2. Disconnect GPS antenna connector and check AV and NAVI C/U outputs approx. 5V. If there is no voltage, AV and NAVI C/U is malfunctioning. If there is, replace GPS antenna. If connection is inoperative after performing self-diagnosis again, AV and NAVI C/U is malfunctioning. |



YEL832D

# Confirmation/Adjustment Mode

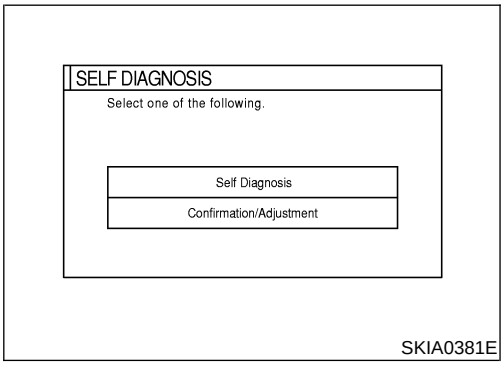
NJEL0604

## OPERATION PROCEDURE

NJEL0604S01

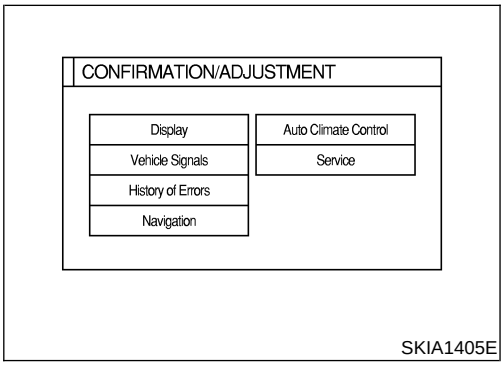
1. Start the engine.
2. Turn the audio system off.
3. While pressing the “INFO” switch, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)

- Shifting from current screen to previous screen is performed by pressing “BACK” switch.



SKIA0381E

4. The initial trouble diagnosis screen will be shown, and items “SELF-DIAGNOSIS” and “CONFIRMATION/ADJUSTMENT” will become selective.

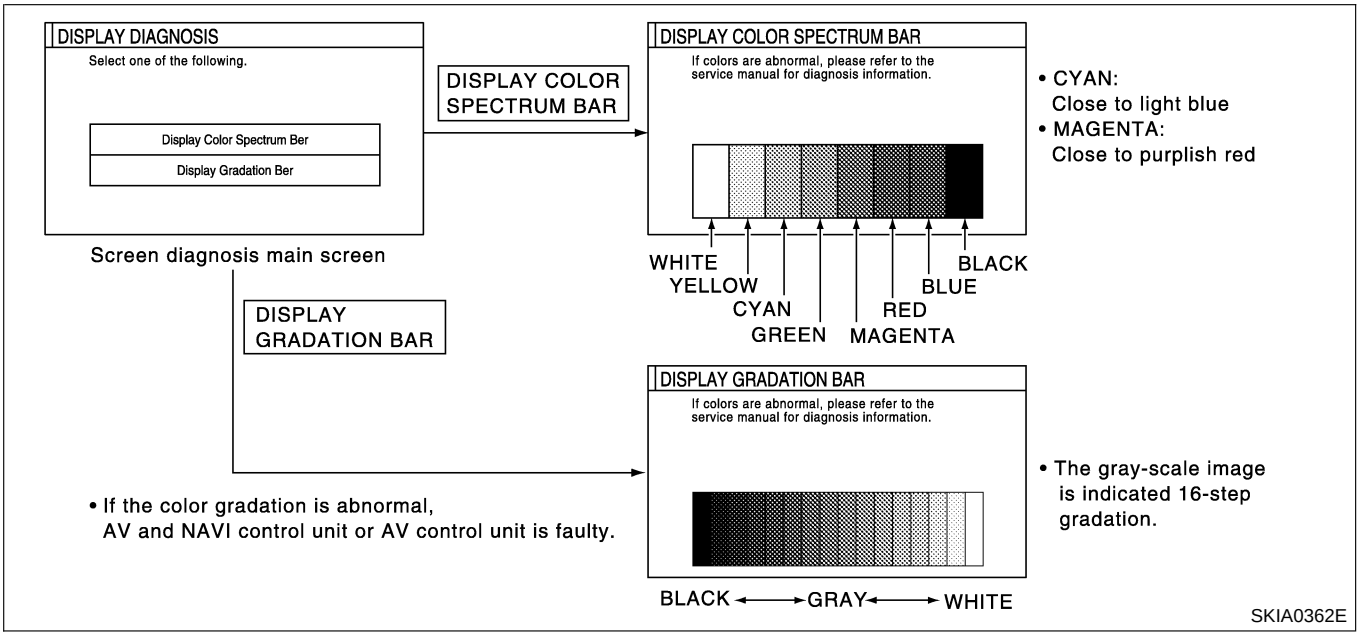


SKIA1405E

5. When “CONFIRMATION/ADJUSTMENT” is selected on the initial trouble diagnosis screen, the operation will enter the CONFIRMATION/ADJUSTMENT mode. In this mode, check and adjustment of each item will become possible.
6. Select each switch on “CONFIRMATION/ADJUSTMENT” screen to display the relevant diagnosis screen.

## DISPLAY

NJEL0604S02



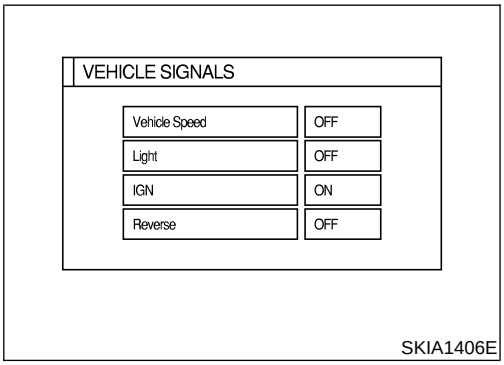
SKIA0362E

- When RGB signal error occurred in the RGB system, tone of

the color bar will change as follows.

**R (red) signal error: Screen looks bluish**
**G (green) signal error: Screen looks yellowish**
**B (blue) signal error: Screen looks reddish**

- When the color of the screen looks unusual, EL-477, Color of RGB Image Is Not Proper.



SKIA1406E

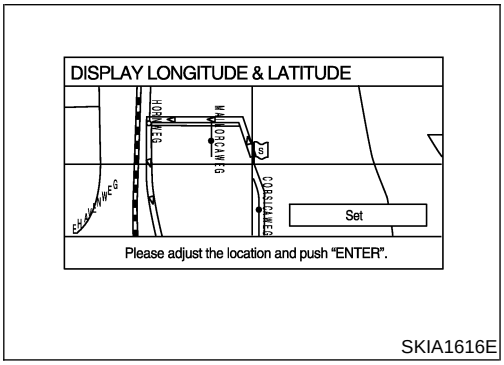
## VEHICLE SIGNALS

NJEL0604S03

- A comparison check can be made of each actual vehicle signal and the signals recognized by the system.

| Diagnosis item | Display | Condition | Remarks |
|---|---|---|---|
| Vehicle speed | ON | Vehicle speed > 0 km/h (0 MPH) | Changes in indication may be delayed by approx. 1.5 seconds. This is normal. |
| | OFF | Vehicle speed = 0 km/h (0 MPH) | |
| | — | Ignition switch in ACC position | |
| Lights | ON | Lighting switch ON | — |
| | OFF | Lighting switch OFF | |
| IGN | ON | Ignition switch ON | — |
| | OFF | Ignition switch ACC or OFF | |
| Reverse | ON | Selector lever in R-position | Changes in indication may be delayed by approx. 1.5 seconds. This is normal. |
| | OFF | Selector lever in other than R-position | |
| | — | Ignition switch in ACC position | |

- If vehicle speed is NG, EL-471, "Vehicle Speed Signal Check".
- If light is NG, EL-472, "Illumination Control Signal Check".
- If IGN is NG, EL-473, "Ignition signal Check".
- If reverse is NG, EL-474, "Reverse Signal Check".



SKIA1616E

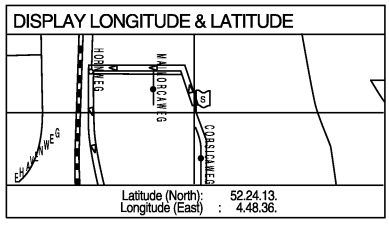
## NAVIGATION

NJEL0604S04

### Display Longitude & Latitude

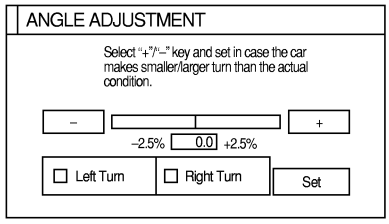
NJEL0604S0401

- Adjust the pointer with using the joystick and touch "Set".




SKIA1617E

- The longitude and latitude are displayed.

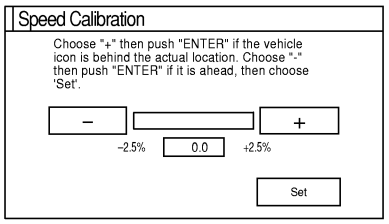



SKIA1517E

## Angle Adjustment

NJEL0604S0402

- Adjusts turning angle output detected by the gyroscope.




SKIA0365E

## Speed Calibration

NJEL0604S0403

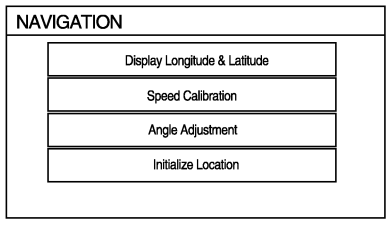
- During normal driving, distance error caused by tire wear and tire pressure change is automatically adjusted for by the automatic distance correction function. This function, on the other hand, is for immediate adjustment, in cases such as driving with tire chain fitted on tires.

## Initialize Location

NJEL0604S0404

Description

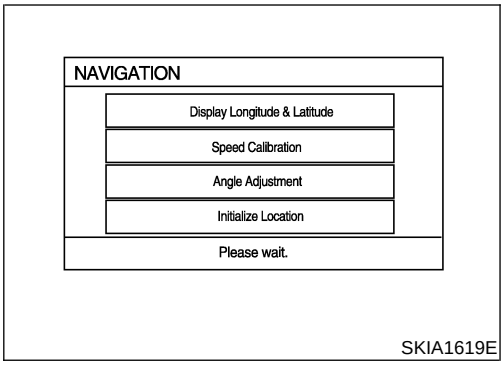
- Location data for GPS in the Center control unit is initialized in Europe by this mode. Then it is possible for Center control unit to receive GPS signals for short time.




SKIA1618E

How to perform "Initialize location" mode

1. Select "Initialize Location", and push "ENTER".



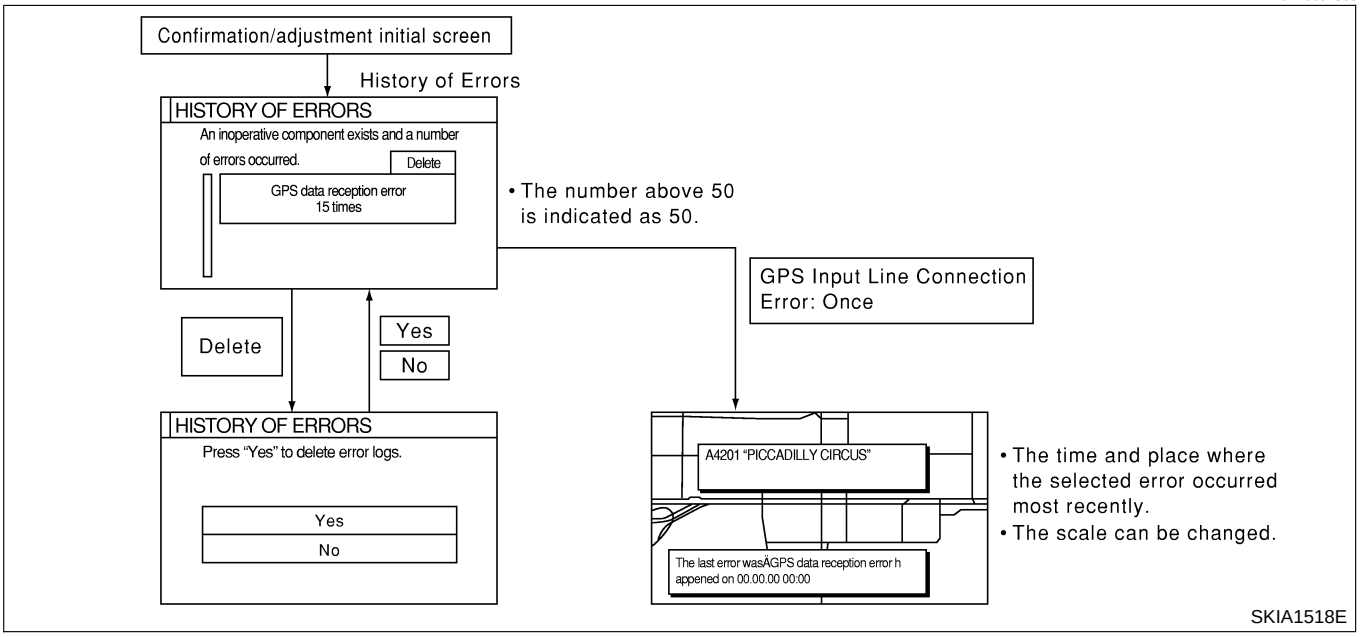

2. A message "Please wait." is displayed and then backs to another display of "Confirmation/Adjustment" mode.

**NOTE:**

- To continue GPS initialized operation, operate as follows back to "Map" screen.
- − Push "BACK" button twice.
- − Push "MAP" button.
- After above operation, GPS indicator changes to green color within half a minute, unless improper GPS located condition.
- This operation should be performed in outside field.

## HISTORY OF ERRORS

NJEL0604S05




## DIAGNOSIS BY HISTORY OF ERRORS

NJEL0604S06

The "Self-diagnosis" results indicate whether an error occurred during the period from when the ignition switch is turned to ON until "Self-diagnosis" is completed.

If an error occurred before the ignition switch was turned to ON and does not occur again until the "Self-diagnosis" is completed, the diagnosis result will be judged normal. Therefore, those errors in the past, which cannot be found by the "Self-diagnosis," must be found by diagnosing the "History of Errors".

The History of Errors displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- Correct time of the error occurrence may not be displayed when the GPS antenna substrate within the AV and NAVI control unit has malfunctioned.
- Place of the error occurrence is represented by the position of the current-location mark at the time when the error occurred. If the current-location mark has deviated from the correct position, then the place of the error occurrence max be located correctly.
- The maximum number of occurrences which can be stored is 50. For the 51st and later occurrences, the displayed number remains 50.

When a reproducible malfunction occurred but its cause cannot be identified because several errors are present, record the item, number and place (longitude/latitude) of error occurrence (or delete the

History of Errors), then turn the ignition switch from OFF to ON to reproduce the malfunction. Check the History of Errors to find the items which show an increased number of occurrences, and diagnose the item.

| Error item | Possible causes<br>Action/symptom | Example of symptom |
|---|---|---|
| Gyro sensor disconnected | Communications malfunction between NAVI control unit and internal gyro<br>● Perform the self-diagnosis.<br>● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. | ● Navigation location detection performance has deteriorated. (Angular velocity cannot be detected.) |
| GPS disconnected | Communication error between AV and NAVI control unit and internal GPS substrate<br>● Perform the self-diagnosis.<br>● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. | ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.)<br>● GPS receiving status remains gray. |
| GPS transmission cable malfunction | Malfunctioning transmission wires to AV and NAVI control unit and internal GPS substrate<br>● Perform the self-diagnosis.<br>● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. | ● During self-diagnosis, GPS diagnosis is not performed. |
| GPS input line connection error | Malfunctioning receiving wires to AV and NAVI control unit and internal GPS substrate<br>● Perform the self-diagnosis.<br>● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. | ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.)<br>● GPS receiving status remains gray. |
| GPS TCX0 over<br>GPS TCX0 under | Oscillating frequency of the GPS substrate frequency synchronizing oscillation circuit exceeded (or below) the specification<br>● Perform the self-diagnosis.<br>● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference, or the control unit may have been subjected to excessively high or low temperatures. | ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.)<br>● GPS receiving status remains gray. |
| GPS ROM malfunction<br>GPS RAM malfunction | Contents of ROM (or RAM) in GPS substrate are malfunctioning.<br>● Perform the self-diagnosis.<br>● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. | ● Location detection accuracy of the navigation system will deteriorate, depending on the failed area in the memory, because GPS cannot make correct positioning. (Location correction using GPS is not performed.) |
| GPS RTC malfunction | Clock IC in GPS substrate is malfunctioning.<br>● Perform the self-diagnosis.<br>● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. | ● Correct time may not be displayed.<br>● After the power is turned on, the system always takes some time until GPS positioning becomes possible. (The GPS receiver starts positioning without re-collecting the whole satellite information when it judged the data stored in the receiver is correct.)<br>● Correct time of error occurrence may not be stored in the "History of Errors". |

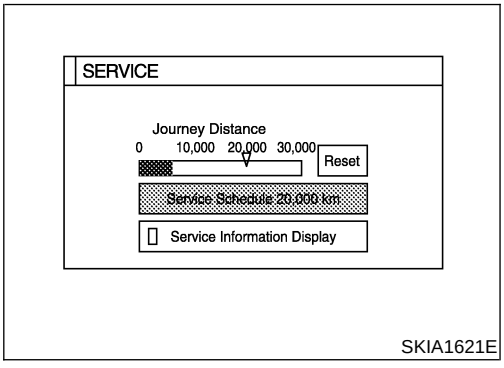
*Confirmation/Adjustment Mode (Cont'd)*

| Error item | Possible causes<br>Action/symptom | Example of symptom |
|---|---|---|
| GPS antenna disconnected | Malfunctioning connection between GPS substrate in AV and NAVI control unit and GPS antenna.<br>● Perform the self-diagnosis.<br>● When connection between AV and NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration. | ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.)<br>● GPS receiving status remains gray. |
| Low voltage of GPS | The power voltage supplied to the GPS circuit board has decreased.<br>● Perform the self-diagnosis.<br>● When connection between AV and NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration. | ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.)<br>● GPS receiving status remains gray. |
| DVD-ROM Malfunction<br>DVD-ROM Read error<br>DVD-ROM Response Error | Malfunctioning AV and NAVI control unit | - |
| | Dedicated map DVD-ROM is in the system, but the data cannot be read.<br>● Is map DVD-ROM damaged, warped, or dirty?<br>– If damaged or warped, the map DVD-ROM is malfunctioning.<br>– If dirty, wipe the DVD-ROM clean with a soft cloth.<br>● Perform the self-diagnosis.<br>● When AV and NAVI control unit is judged normal by self-diagnosis, the symptom is judged intermittent, caused by vibration. | ● The map of a particular location cannot be displayed.<br>● Specific guidance information cannot be displayed.<br>● Map display is slow.<br>● Guidance information display is slow.<br>● System has been affected by vibration. |

## AUTO CLIMATE CONTROL

NJEL0604S07

- "ATC Automatic Air Conditioner" ATC-42, "Self-diagnosis Function" for the details.

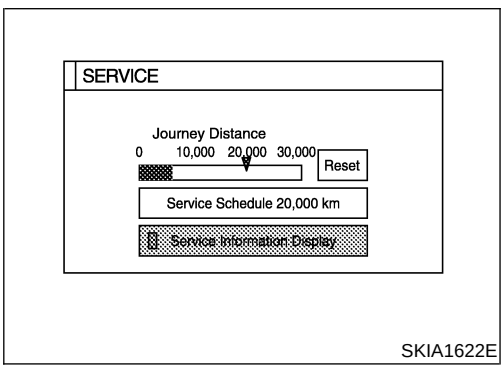



SKIA1621E

## SERVICE

NJEL0604S08

- To set Service schedule, change Journey distance with joystick. At the same time, the marker of journey distance will be moved.




SKIA1622E

- To reset to initial distance, select "Reset" and push "ENTER".
- When the indicator of "Service Information Display" is set green, the color of the journey distance marker will be red. And automatically Service information screen will be displayed when journey distance is reached on service schedule.

# Power Supply and Ground Circuit Check

NJEL0605

**1 CHECK FUSE**

Check that the following fuses of the AV and NAVI control unit are not blown.

| Terminals | | Power source | Fuse No. |
|---|---|---|---|
| Connector | Terminal (wire color) | | |
| M95 | 2 (Y), 3 (Y) | Battery power | 40 |
| M96 | 27 (Y/G) | Ignition power | 10 |
| M95 | 6 (P) | ACC power | 1 |

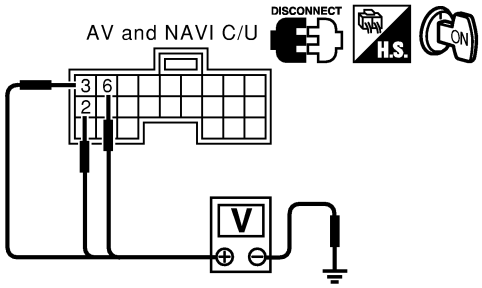
MTBL1516

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | If fuse is blown, be sure to eliminate case of problem before installing new fuse. EL-12, “POWER SUPPLY ROUTING”. |

**2 POWER SUPPLY CIRCUIT CHECK**

1. Disconnect the AV and NAVI control unit connector.
2. Check voltage between AV and NAVI control unit and ground.




SKIA1407E

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (—) | | | |
| Connector | Terminal (wire color) | | OFF | ACC | ON |
| M95 | 2 (Y) | Ground | Battery voltage | Battery voltage | Battery voltage |
| | 3 (Y) | | Battery voltage | Battery voltage | Battery voltage |
| | 6 (P) | | 0 V | Battery voltage | Battery voltage |

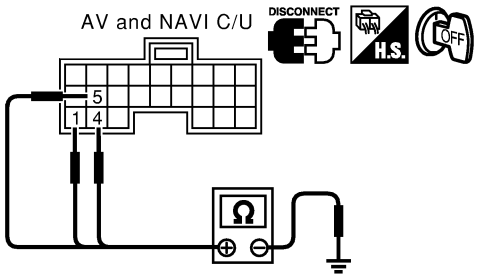
MTBL1517

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Check harness for open or short between AV and NAVI control unit and fuse. |

| 3 | GROUND CIRCUIT CHECK. |
|---|---|

1. Turn the ignition switch OFF.




SKIA1408E

2. Check continuity between the following AV and NAVI control unit harness connector M95 1 (B), 4 (B), 5 (BR) and ground.

**Continuity should exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | INSPECTION END. |
| NG | ▶ | Repair or replace harness. |

# Check Display Unit, Multifunction Switch Power, and Ground Circuit

=NJEL0606

## 1 CHECK FUSE

Check for blown fuses at display unit along with multifunction switch fuses listed below.

| Unit | Terminal No. | Signal designation | Fuse No. |
|---|---|---|---|
| Display | 21 (Y), 23 (Y) | Battery | 40 |
| | 19 (P) | ACC | 1 |
| Multifunction switch | 6 (P) | ACC | 1 |

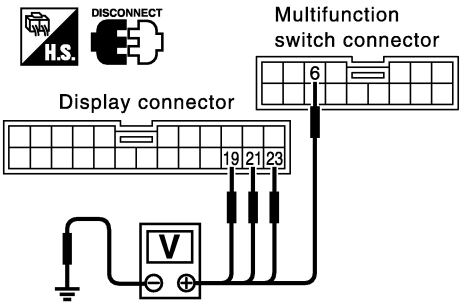
MTBL1518

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Replace the fuse. |

## 2 POWER SUPPLY CIRCUIT INSPECTION

1. Disconnect display unit or multifunction switch connector.
2. Check voltage between as following unit and ground.




MKIB0259E

| Unit | Terminals | | Ignition switch position | | |
|---|---|---|---|---|---|
| | Connector | Terminal (wire color) | OFF | ACC | ON |
| Display | M100 | 21 (Y) | Battery voltage | Battery voltage | Battery voltage |
| | | 23 (Y) | Battery voltage | Battery voltage | Battery voltage |
| | | 19 (P) | 0 V | Battery voltage | Battery voltage |
| Multifunction switch | M97 | 6 (P) | 0 V | Battery voltage | Battery voltage |

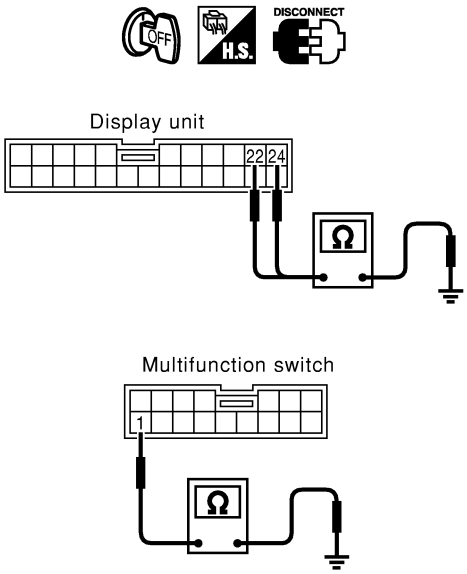
MTBL1519

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace display unit or multifunction switch power circuit harness. |

| 3 | GROUND CIRCUIT INSPECTION |
|---|---|

Check continuity between display unit or multifunction switch and ground.




SKIA1409E

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M100 | 22 (B) | Ground | Yes |
| | 24 (B) | | |
| M97 | 1 (B) | | |

MTBL1520

**OK or NG**

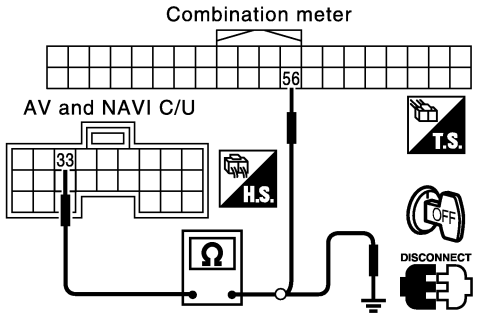
| | | |
|---|---|---|
| OK | ▶ | Normal. |
| NG | ▶ | Replace ground circuit harness of display unit or multifunction switch. |

# Vehicle Speed Signal Check

NJEL0607

## 1 HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and combination meter connector.
3. Check continuity AV and NAVI control unit and combination meter.




YEL843D

| Terminals | | | | Continuity |
|---|---|---|---|---|
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M96 | 33 (L/B) | M171 | 56 (L/B) | Yes |

MTBL1521

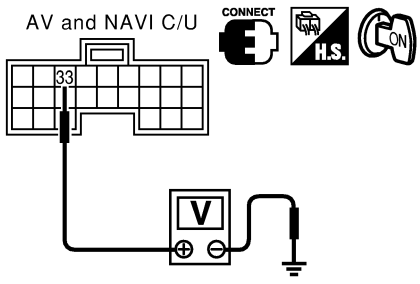
4. Check continuity AV and NAVI control unit harness connector terminal 33 (L/B) and ground.
   **Continuity should not exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | • Repair harness.<br>• Check connector housings for disconnected or loose terminals. |

## 2 VEHICLE SPEED SIGNAL CHECK 1

1. Connect AV and NAVI control unit connector and combination meter connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit harness connector M96 terminal 33 (L/B) and ground.
   **Approx. 3.5 V or more.**



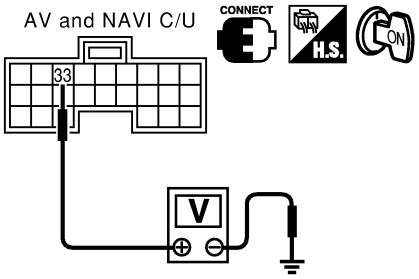

SKIA1411E

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace AV and NAVI control unit. |

| 3 | VEHICLE SPEED SIGNAL CHECK 2 |
|---|---|

1. Connect combination meter connector.
2. While driving vehicle at a constant speed.




SKIA1411E

3. Check voltage signal between AV and NAVI control unit and ground with oscilloscope or CONSULT-II.
   **33 (L/B)-ground:**
   **EL-450, "Terminals and Reference Value for AV and NAVI Control Unit"**

**OK or NG**

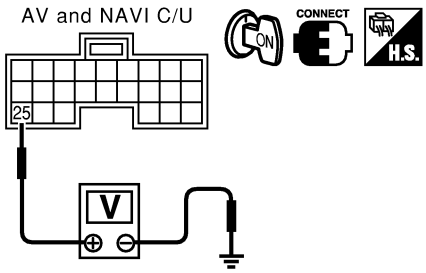
| | | |
|---|---|---|
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | Check combination meter system. EL-117, "Combination Meter Self-Diagnosis". |

## Illumination Control Signal Check

NJEL0608

| 1 | ILLUMINATION CONTROL SIGNAL CHECK |
|---|---|

1. Turn the ignition switch ON.
2. Check voltage between AV and NAVI control unit and ground.




SKIA1412E

| Terminals | | | Lighting switch condition | Voltage [V] |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | | | |
| M96 | 25 (R/G) | Ground | 1st or 2nd position | Approx. 3.5V or more |
| | | | OFF | Approx. 1.5V or more |

MTBL1522

**OK or NG**

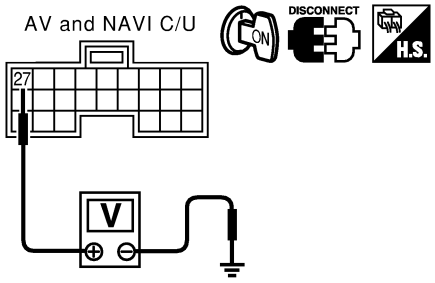
| | | |
|---|---|---|
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | Check harness for open or short between AV and NAVI control unit and combination switch. |

## Ignition Signal Check

NJEL0609

**1** **IGNITION SIGNAL CHECK**

1. Disconnect the AV and NAVI control unit connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit and ground.




SKIA1413E

| Terminals | | | Ignition switch position | | |
|---|---|---|---|---|---|
| (+) | | (—) | | | |
| Connector | Terminal (wire color) | | OFF | ACC | ON |
| M96 | 27 (Y/G) | Ground | 0V | 0V | Battery voltage |

MTBL1523

**OK or NG**

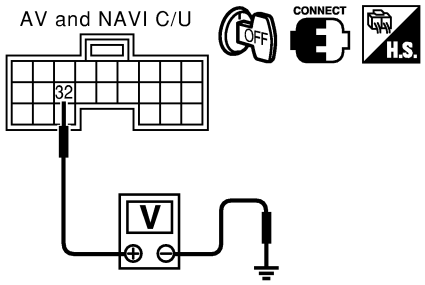
| | | |
|---|---|---|
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | Check harness for open or short between AV and NAVI control unit and fuse. |

# Reverse Signal Check

=NJEL0610

| 1 | REVERSE LAMP CHECK | |
|---|---|---|
| 1. Turn the ignition switch ON.<br>2. A/T Shift selector lever into R-position. Does “R” in the shift position indicator come on? | | |
| **Yes or No** | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Check park/neutral position relay system. AT-408, “Park/Neutral Position (PNP) Switch Adjustment”. |

| 2 | REVERSE SIGNAL CHECK | |
|---|---|---|
| 1. With the selector lever in R-position.<br>2. Check voltage between AV and NAVI control unit and ground. | | |




SKIA1414E

| Terminals | | | A/T selector lever position | Voltage [V] |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | | | |
| M96 | 32 (G/W) | Ground | R-position | Battery voltage |
| | | | Other than R-position | Approx. 3.0V or less |

MTBL1524

**OK or NG**

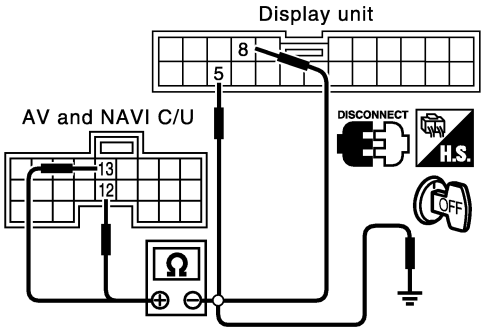
| | | |
|---|---|---|
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | Check harness for open or short between AV and NAVI control unit and park/neutral position relay. |

# RGB Screen Is Not Shown

NJEL0611

**1 HARNESS CHECK**

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and Display connector.
3. Check continuity between AV and NAVI control unit and Display.




SKIA1415E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| AV and NAVI control unit (+) | | Display (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M95 | 12 (R) | M100 | 8 (R) | Yes |
| | 13 (BR) | | 5 (BR) | |

MTBL1525

4. Check continuity between AV and NAVI control unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M95 | 12 (R), 13 (BR) | Ground | No |

MTBL1526

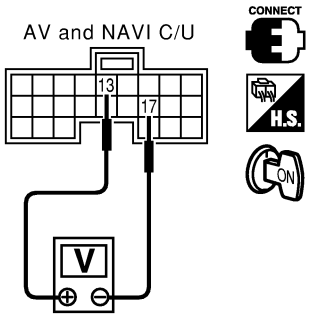
**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | • Repair harness.<br>• Check connector housings for disconnected or loose terminals. |

*RGB Screen Is Not Shown (Cont'd)*

| 2 | HORIZONTAL SYNCHRONIZATION SIGNAL CHECK |
|---|---|

1. Connect AV and NAVI control unit connector and Display connector.
2. Turn the ignition switch ON.
3. Check voltage signal between AV and NAVI control unit connector terminals 13 (BR) and 17 with oscilloscope or CONSULT-II.




SKIA1416E

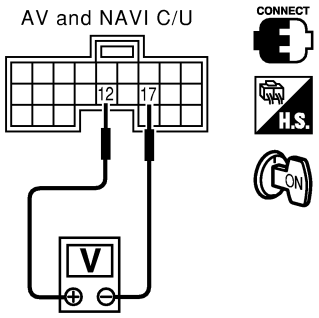
**13 (BR)-17: EL-450, "Terminals and Reference Value for AV and NAVI Control Unit"**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | Replace the display unit. |

| 3 | RGB AREA SIGNAL CHECK |
|---|---|

1. Press "INFO" switch.
2. Check voltage signal between AV and NAVI control unit connector terminals 12 (R) and 17with oscilloscope or CONSULT-II.




SKIA1417E

**12 (R)-17: EL-450, "Terminals and Reference Value for AV and NAVI Control Unit"**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace the display unit. |
| NG | ▶ | Replace AV and NAVI control unit. |

## No Screens Appear

=NJEL0612

| 1 | CHECK SYMPTOM | |
|---|---|---|
| Check possibility to operate air conditioning and audio unit by multifunction switch. | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | EL-497, “System Does Not Start”. |

| 2 | DISPLAY UNIT POWER SYSTEM HARNESS CHECK | |
|---|---|---|
| Check voltage between Display unit and ground. EL-469, “Check Display Unit, Multifunction Switch Power, and Ground Circuit”. | | |
| **OK or NG** | | |
| OK | ▶ | Replace the display unit. |
| NG | ▶ | Open or short in display unit power system harness. |

## Color of RGB Image Is Not Proper

NJEL0613

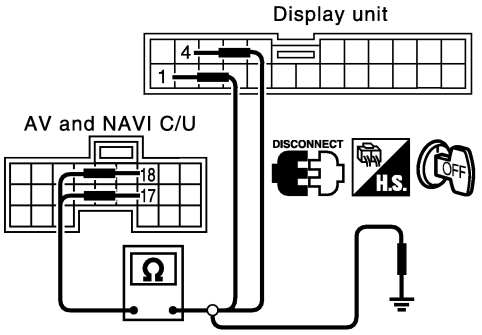
| 1 | COLOR BAR DIAGNOSIS CHECK | |
|---|---|---|
| Check color tone by “SCREEN ADJUSTMENT” of CONFIRMATION/ADJUSTMENT function. | | |
| **OK or NG** | | |
| OK | ▶ | INSPECTION END. |
| NG | ▶ | GO TO 2. |

*Color of RGB Image Is Not Proper (Cont'd)*

**2 HARNESS CHECK-1**

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and Display connector.
3. Check continuity between AV and NAVI control unit and Display.
4. Check continuity between AV and NAVI control unit and ground.

● When the screen looks bluish




SKIA1418E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M95 | 18 (Y) | M100 | 1 (Y) | Yes |
| M95 | 17 | M100 | 4 | Yes |

MTBL1527

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M95 | 17, 18 (Y) | Ground | No |

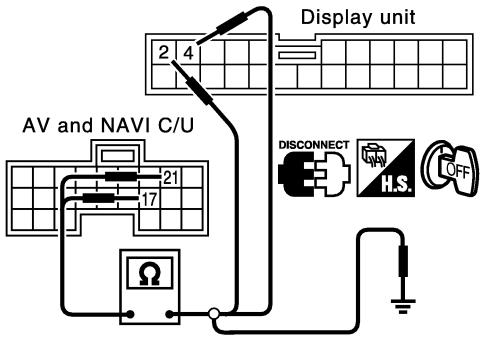
MTBL1528

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | ● Repair harness.<br>● Check connector housings for disconnected or loose terminals. |

**3** **HARNESS CHECK-2**

1. Check continuity between AV and NAVI control unit and ground.
- When the screen looks reddish




SKIA1419E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M95 | 21 (W) | M100 | 2 (W) | Yes |
| M95 | 17 | M100 | 4 | Yes |

MTBL1529

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M95 | 17, 21 (W) | Ground | No |

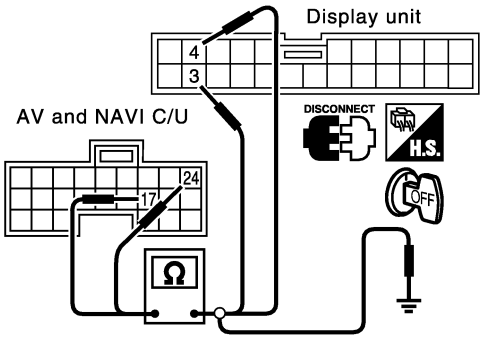
MTBL1530

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | • Repair harness.<br>• Check connector housings for disconnected or loose terminals. |

**4** **HARNESS CHECK-3**

1. Check continuity between AV and NAVI control unit and ground.
- When the screen looks yellowish




SKIA1420E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M95 | 24 (L) | M100 | 3 (L) | Yes |
| M95 | 17 | M100 | 4 | Yes |

MTBL1531

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M95 | 17, 24 (L) | Ground | No |

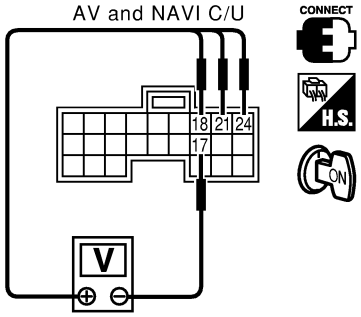
MTBL1532

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 5. |
| NG | ▶ | • Repair harness.<br>• Check connector housings for disconnected or loose terminals. |

**5 RGB SIGNAL CHECK**

1. Connect AV and NAVI control unit connector and Display connector.




SKIA1421E

2. Turn the ignition switch ON.
3. Display "Color bar" by "CONFIRMATION/ADJUSTMENT" mode.
4. Check voltage signal between AV and NAVI control unit terminals 18, 21, 24 and 17 with oscilloscope or CONSULT-II.

- When the screen looks bluish

| Terminals | | | | Voltage [V] |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal | |
| M95 | 18 (Y) | M95 | 17 | Refer to "Terminals and Reference Value for AV and NAVI Control Unit". |

MTBL1533

- When the screen looks reddish

| Terminals | | | | Voltage [V] |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal | |
| M95 | 21 (W) | M95 | 17 | Refer to "Terminals and Reference Value for AV and NAVI Control Unit". |

MTBL1534

- When the screen looks yellowish

| Terminals | | | | Voltage [V] |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal | |
| M95 | 24 (L) | M95 | 17 | Refer to "Terminals and Reference Value for AV and NAVI Control Unit". |

MTBL1535

**OK or NG**

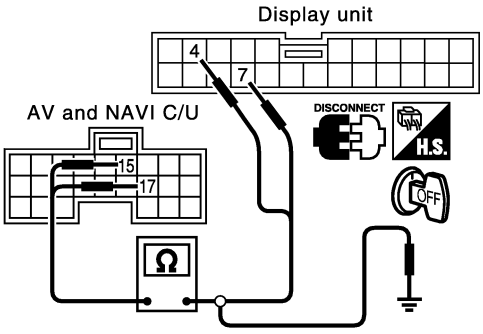
| | | |
|---|---|---|
| OK | ▶ | Replace the display unit. |
| NG | ▶ | Replace AV and NAVI control unit. |

# RGB Screen Is Rolling

NJEL0614

**1 COLOR BAR DIAGNOSIS CHECK**

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and Display connector.
3. Check continuity between AV and NAVI control unit and Display.




SKIA1422E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M95 | 15 (G) | M100 | 7 (G) | Yes |
| M95 | 17 | M100 | 4 | Yes |

MTBL1536

4. Check continuity between AV and NAVI control unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M95 | 17, 15 (G) | Ground | No |

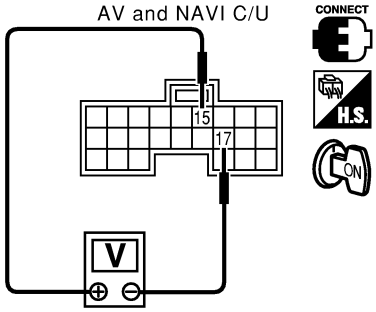
MTBL1537

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | • Check harness for open or short between AV and NAVI control unit and Display for open or short circuit.<br>• Check connector housings for disconnected or loose terminals. |

| 2 | RGB SYNCHRONIZING SIGNAL CHECK |
|---|---|

1. Connect AV and NAVI control unit connector and Display connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit terminals 15 and 17.




SKIA1423E

**15 (G)-17: EL-450 , "Terminals and Reference Value for AV and NAVI Control Unit"**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace the display unit. |
| NG | ▶ | Replace AV and NAVI control unit. |

# Guide Sound Is Not Heard

=NJEL0615

| 1 | CHECK VOICE GUIDE SETTING |
|---|---|

- While driving in the dark pink route, voice guide does not operate. (note)
- Is volume setting not switched ON?

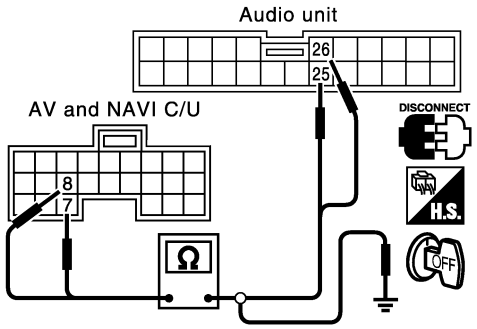
**NOTE:**
Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.

**Yes or No**

| | | |
|---|---|---|
| Yes | ▶ | GO TO 2. |
| No | ▶ | Switch the setting ON and turn the volume up. |

| 2 | HARNESS CHECK |
|---|---|

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and Audio unit connector.
3. Check continuity between AV and NAVI control unit and Audio unit.




YEL844D

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M95 | 7 (BR) | M192 | 26 (BR) | Yes |
| M95 | 8 (Y) | M192 | 25 (Y) | Yes |

MTBL1538

4. Check continuity between AV and NAVI control unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M95 | 7 (BR), 8 (Y) | Ground | No |

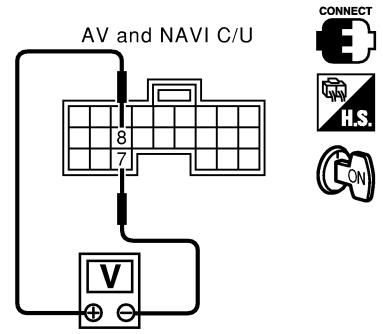
MTBL1539

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | ● Repair harness.<br>● Check connector housings for disconnected or loose terminals. |

| 3 | VOICE GUIDE CHECK |
|---|---|

1. Connect AV and NAVI control unit connector and Audio unit connector.
2. Turn the ignition switch ON.
3. Check voltage signal between AV and NAVI control unit terminals 8 and 7.




SKIA1425E

| Terminals | | | | Reference signal |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M95 | 7 (BR) | M95 | 8 (Y) | Refer to "Terminals and Reference Value for AV and NAVI Control Unit" |

MTBL1540

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace Audio unit. |
| NG | ▶ | Replace AV and NAVI control unit. |

## Multifunction Switch Controls Are Ineffective (Rear Defogger Control Excluded)

NJEL0616

| 1 | CHECK POWER AND GROUND SYSTEMS |
|---|---|

Check voltage between multifunction switch and ground. EL-469, "Check Display Unit, Multifunction Switch Power, and Ground Circuit".

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Malfunction of multifunction switch ACC power or ground harness |

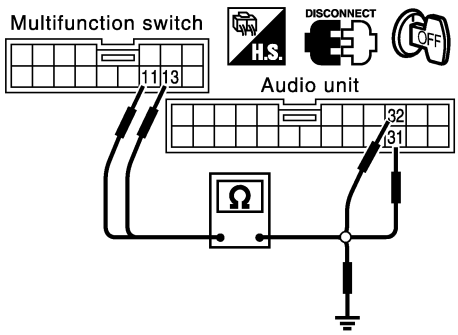
| 2 | CHECK SYMPTOM |
|---|---|

Turn ignition switch to ACC position. Is screen changed to audio control screen when CD is inserted?

| | | |
|---|---|---|
| Switches. | ▶ | GO TO 3. |
| Does not switch. | ▶ | GO TO 5. |

**3** **HARNESS CHECK**

1. Turn the ignition switch OFF.
2. Disconnect multifunction switch connector and Audio unit connector.
3. Check continuity between multifunction switch and Audio unit.




YEL845D

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M97 | 11 (L) | M192 | 32 (L) | Yes |
| | 13 (P) | | 31 (P) | |

MTBL1541

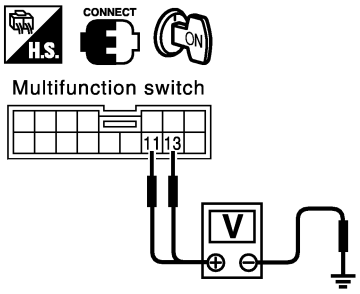
4. Check continuity between multifunction switch harness connector M97 terminals 11 (L), 13 (P) and ground.
   **Continuity should not exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | • Replace harness.<br>• Check connector housings for disconnected or loose terminals. |

**4** **COMMUNICATION SIGNAL INSPECTION**

1. Connect multifunction switch and Audio unit connectors.




SKIA1427E

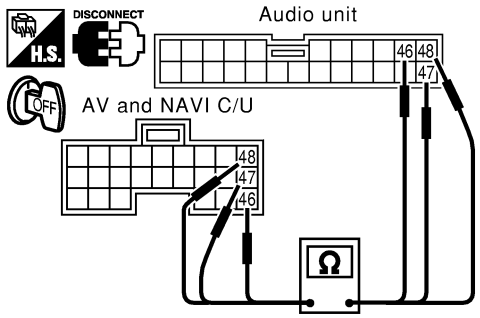
2. Check voltage signal between multifunction switch harness connector M97 terminals 11 (L), 13 (P) and ground.
   **11 (L), 13 (P) - ground:**
   **EL-456, "Terminals and Reference Value for Multifunction Switch"**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace audio unit. |
| NG | ▶ | Replace multifunction switch. |

**5 HARNESS CHECK**

1. Turn the ignition switch OFF.



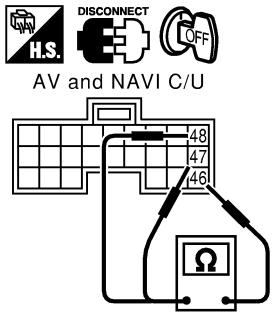

SKIA1428E

2. Disconnect AV and NAVI control unit connector and Audio unit connector.
3. Check continuity between AV and NAVI control unit and Audio unit.

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M96 | 46 (B) | M192 | 34 (B) | Yes |
| | 47 (R) | | 36 (R) | |
| | 48 (G) | | 35 (G) | |

MTBL1542

4. Check continuity between terminals 47, 48 and 46.




SKIA1429E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M96 | 47 (R), 48 (G) | M96 | 46 (B) | No |

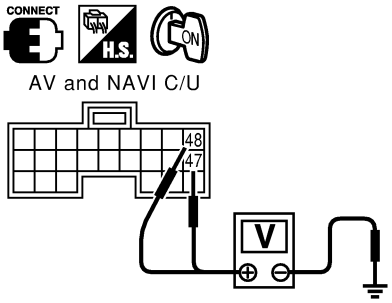
MTBL1543

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 6. |
| NG | ▶ | • Replace harness.<br>• Check connector housings for disconnected or loose terminals. |

| 6 | COMMUNICATION SIGNAL INSPECTION |
|---|---|

1. Connect audio unit to AV and NAVI control unit connector.




SKIA1430E

2. Check voltage signal between AV and NAVI control unit terminals 47 (R), 48 (G) and ground.
   **47 (R), 48 (G)-ground:**
   **EL-450, "Terminals and Reference Value for AV and NAVI Control Unit"**

**OK or NG**

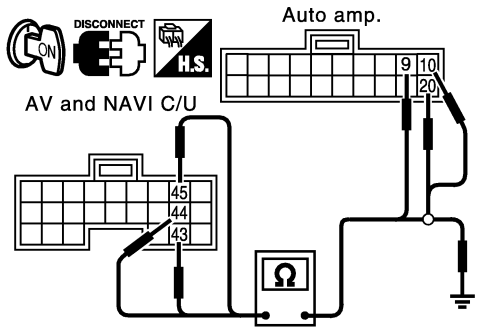
| | | |
|---|---|---|
| OK | ▶ | Replace audio unit. |
| NG | ▶ | Replace AV and NAVI control unit. |

# Air Conditioning Controls (Only) Are Ineffective (Rear Defogger Control Excluded)

NJEL0617

**1 HARNESS CHECK**

1. Turn the ignition switch OFF.
2. Disconnect A/C auto amp. connector and AV and NAVI control unit connector.
3. Check continuity between A/C auto amp. and AV and NAVI control unit.




SKIA1431E

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M96 | 43 (L/R) | M204 | 10 (L/R) | Yes |
| | 44 (L/W) | | 9 (L/W) | |
| | 45 (L) | | 20 (L) | |

MTBL1544

4. Check continuity between AV and NAVI control unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M96 | 43 (L/R), 44 (L/W), 45 (L) | Ground | No |

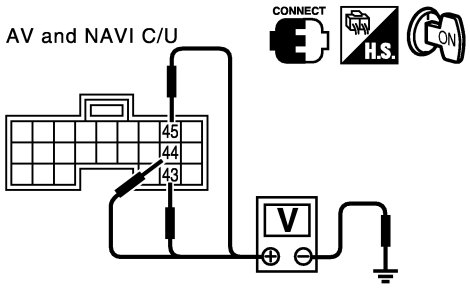
MTBL1545

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | • Check harness between A/C auto amp. and AV and NAVI control unit.<br>• Check connector housings for disconnected or loose terminals. |

**2** **A/C–AV, AV–AC, AC–CLK COMMUNICATION SIGNAL CHECK**

1. Connect A/C AUTO AMP. connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit and ground.




SKIA1432E

| Terminals | | | Voltage [V] |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M96 | 43 (L/R), 44 (L/W), 45 (L) | Ground | Approx. 3.5 or more |

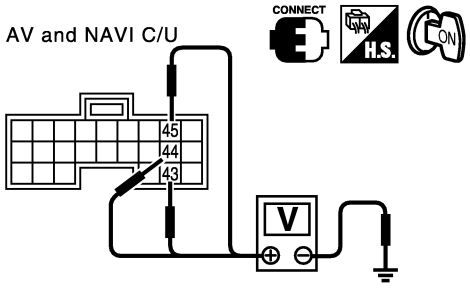
MTBL1546

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | • Replace harness.<br>• Replace A/C AUTO AMP. |

**3** **A/C - AV, AV - AC, AC - CLK COMMUNICATION SIGNAL CHECK**

1. Connect AV and NAVI control unit connector.
2. Turn the ignition switch ON.
3. Check voltage signal between AV and NAVI control unit terminals 43, 44, 45 and ground.




SKIA1432E

| Terminals | | | Reference signal |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M96 | 43 (L/R), 44 (L/W), 45 (L) | Ground | Refer to "Terminals and Reference Value for AV and NAVI Control Unit" |

MTBL1547

**OK or NG**

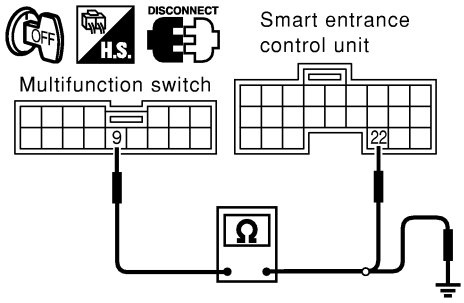
| | | |
|---|---|---|
| OK | ▶ | Replace A/C auto amplifier. |
| NG | ▶ | Replace AV and NAVI control unit. |

# Rear Defogger Does Not Operate

NJEL0618

## 1 HARNESS INSPECTION

1. Turn the ignition switch OFF.




SKIA1434E

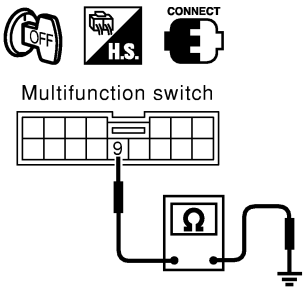
2. Disconnect multifunction switch connector and smart entrance control unit connector.
3. Check continuity between multifunction switch harness connector M97 terminal 9 (G/B) and smart entrance control unit harness connector M193 terminal 22 (G/B).
   **Continuity should exist.**
4. Check continuity between multifunction switch harness connector M97 terminal 9 (G/B) and ground.
   **Continuity should not exist.**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair harness. |

## 2 CHECK REAR DEFOGGER ON SIGNAL

1. Connect multifunction switch connector and smart entrance control unit connector.
2. Turn the ignition switch ON.
3. Check continuity between multifunction switch and ground when rear defogger switch is operated.




SKIA1435E

| Terminals | | | Rear defogger switch condition | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | | | |
| M97 | 9 (G/B) | Ground | Pressed | Yes |
| | | | Released | No |

MTBL1548

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Replace multifunction switch. |

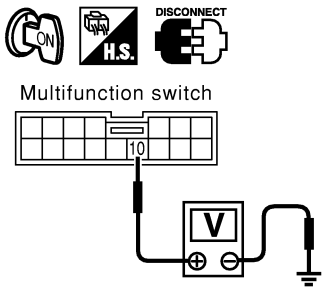
# Rear Defogger Indicator Lamp Does Not Illuminate

NJEL0619

| 1 | CHECK POSITION OF IGNITION SWITCH | |
|---|---|---|
| Is ignition switch ON? | | |
| **Yes or No** | | |
| Yes | ▶ | GO TO 2. |
| No | ▶ | Rear defogger does not operate if ignition switch is not ON. |

| 2 | CHECK OPERATION OF REAR DEFOGGER | |
|---|---|---|
| Does rear defogger operate when rear defogger switch is turned ON? (Does fogging disappear?) | | |
| **Yes or No** | | |
| Yes | ▶ | GO TO 3. |
| No | ▶ | Check rear defogger system. Refer to EL-183, “Rear Defogger Does Not Operate”. |

| 3 | CHECK REAR DEFOGGER INDICATOR LAMP SIGNALS | |
|---|---|---|
| 1. Disconnect multifunction switch connector.<br>2. Check voltage between multifunction switch terminal 10 (L/R) and ground. | | |




SKIA1433E

**Battery voltage should exist.**

| **OK or NG** | | |
|---|---|---|
| OK | ▶ | Replace multifunction switch. |
| NG | ▶ | Check harness for open or short between multifunction switch and rear defogger relay. |

# No Fuel Information Is Displayed/No Warning Message Is Displayed

NJEL0620

**1 CHECK DISPLAY CONDITIONS**

Check display conditions for all warning screens.

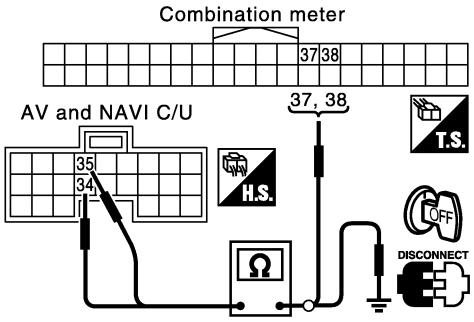
| Display Items | Display condition |
|---|---|
| Parking brake drag, door ajar | PKB switch or any door switch is ON and vehicle speed is approximately 5 km/h (3 MPH) or higher. |
| Remaining fuel | After driving approximately 20 km/h (13 MPH) beyond the point where gauge warning lamp illuminates. |
| Other than above | Gauge warning lamp illuminated. |

MTBL1549

▶ GO TO 2.

**2 HARNESS CHECK**

1. Turn the ignition switch OFF.
2. Disconnect connectors of combination meter and AV and NAVI control unit.
3. Check continuity between AV and NAVI control unit and combination meter.




YEL846D

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (—) | | |
| Connector | Terminal (wire color) | Connector | Terminal (wire color) | |
| M96 | 34 (R) | M171 | 38 (R) | Yes |
| | 35 (G) | | 37 (G) | |

MTBL1550

4. Check continuity between AV and NAVI control unit and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M55 | 34 (R), 35 (G) | Ground | No |

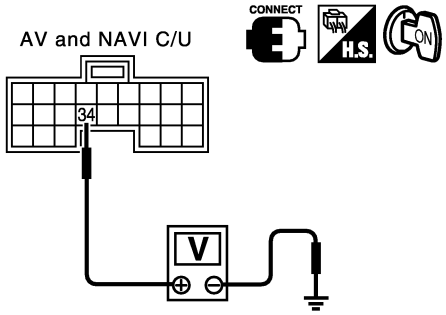
MTBL1551

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | • Repair harness.<br>• Check connector housings for disconnected or loose terminals. |

**3** **COMMUNICATION SIGNAL (AV–ME) CHECK**

1. Connect connectors of combination meter and AV and NAVI control unit.
2. Turn the ignition switch ON.
3. Check voltage signal between AV and NAVI control unit terminal 34 and ground.




SKIA1437E

| Terminals | | | Reference signal |
|---|---|---|---|
| (+) | | (—) | |
| Connector | Terminal (wire color) | | |
| M96 | 34 (R) | Ground | Refer to "Terminals and Reference Value for AV and NAVI Control Unit" |

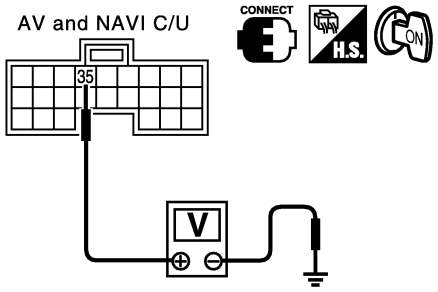
MTBL1552

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Replace AV and NAVI control unit. |

**4** **COMMUNICATION SIGNAL (ME–AV) CHECK**

1. Turn ignition switch to ON and display "VEHICLE ELECTRONIC SYSTEMS" screen.
2. Check voltage signal between AV and NAVI control unit harness connector M96 terminal 35 (G) and ground.




SKIA1438E

**35 (G)- ground:**
**EL-450, "Terminals and Reference Value for AV and NAVI Control Unit"**

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | Check combination meter system. EL-339, "Combination Meter Self-Diagnosis". |

## Previous Conditions Are Not Stored

NJEL0621

| 1 | BATTERY POWER CHECK | |
|---|---|---|
| ● Check AV and NAVI control unit battery power.<br>Refer to EL-467, “Power Supply and Ground Circuit Check”. | | |
| **OK or NG** | | |
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | Check AV and NAVI control unit battery power system harness. |

## The Position of The Current-Location Mark Is Not Correct

NJEL0622

| 1 | SELF-DIAGNOSIS | |
|---|---|---|
| ● “Self-diagnosis mode” of the self-diagnosis function EL-458, “Self-Diagnosis Mode”. | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Check the applicable parts. |

| 2 | HISTORY OF ERRORS DIAGNOSIS | |
|---|---|---|
| ● Was any error stored in EL-464, “HISTORY OF ERRORS” of the CONFIRMATION/ADJUSTMENT mode? | | |
| **Yes or No** | | |
| Yes | ▶ | EL-464, “DIAGNOSIS BY HISTORY OF ERRORS”. |
| No | ▶ | EL-499, “Driving Test”. |

## Radio Wave From The GPS Satellite Is Not Received

NJEL0623

| 1 | ENVIRONMENT CHECK | |
|---|---|---|
| ● Check if any metal object that intercepts radio waves or an object that emits radio waves (such as a portable phone) is located near the GPS antenna. Check if the vehicle is shielded by a building. | | |
| **OK or NG** | | |
| OK | ▶ | ● System is normal.<br>The GPS antenna may not be able to receive radio waves from the GPS satellite if it is shielded by metal object or an object emitting radio waves is placed near it. |
| NG | ▶ | GO TO 2. |

| 2 | SELF-DIAGNOSIS | |
|---|---|---|
| ● Refer to EL-458, “Self-Diagnosis Mode”. | | |
| **OK or NG** | | |
| OK | ▶ | Replace GPS antenna. |
| NG | ▶ | Check the applicable parts. |

## Display Does Not Change When Screen Adjustment Is Performed

NJEL0624

| 1 | CHECK SYMPTOM | |
|---|---|---|
| Do other systems operate properly? | | |
| Do operate. | ▶ | Replace the display unit. |
| Do not operate. | ▶ | Check the problem again. |

## Day/Night Display Switching Is Not Done. Night Illumination for AV and NAVI Control Unit Does Not Illuminate

NJEL0625

| 1 | VEHICLE SIGNAL CHECK | |
|---|---|---|
| 1. Start the engine.<br>2. Diagnose the following items with EL-462, “VEHICLE SIGNALS” in CONFIRMATION/ADJUSTMENT mode.<br>**<Lamp signals>**<br>**Lighting switch position 1: ON**<br>**Lighting switch OFF: OFF**<br>**OK or NG** | | |
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | EL-472, “Illumination Control Signal Check”. |

## On Multifunction Switch, a Specific Switch Does Not Operate in All Conditions

NJEL0626

| 1 | |
|---|---|
| Replace multifunction switch. | |
| ▶ | |

## Driving Information Is Inaccurate. Maintenance Information Is Inaccurate

NJEL0627

| 1 | VEHICLE SPEED SIGNAL INSPECTION | |
|---|---|---|
| Check vehicle speed signal. EL-471, “Vehicle Speed Signal Check”.<br>**OK or NG** | | |
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | Check combination meter system. EL-339, “Combination Meter Self-Diagnosis” |

## System Does Not Start

NJEL0628

| 1 | INSPECT POWER SYSTEM | |
|---|---|---|
| Inspect power system of AV and NAVI control unit. EL-467 , “Power Supply and Ground Circuit Check”. | | |
| **OK or NG** | | |
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | Malfunction in power system of AV and NAVI control unit |

## The Current Position Mark Is in the Wrong Place

NJEL0629

| 1 | INSPECT POWER SYSTEM. | |
|---|---|---|
| • EL-500, “Example of Symptoms Judged Not Abnormal?” | | |
| **Yes or No** | | |
| Yes | ▶ | The limit of the navigation location detection capability has been reached. |
| No | ▶ | GO TO 2. |

| 2 | SELF-DIAGNOSIS | |
|---|---|---|
| • Perform EL-458 , “Self-Diagnosis Mode”. | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 3. |
| NG | ▶ | Check the applicable parts. |

| 3 | ERROR RECORD DIAGNOSIS | |
|---|---|---|
| • Is there an error listed in EL-464, “HISTORY OF ERRORS” in “CONFIRMATION/ADJUSTMENT” mode? | | |
| **Yes or No** | | |
| Yes | ▶ | EL-464, “DIAGNOSIS BY HISTORY OF ERRORS”. |
| No | ▶ | GO TO 4. |

| 4 | VEHICLE SIGNAL DIAGNOSIS | |
|---|---|---|
| • Start the engine.<br>• Diagnose the following items with EL-462, “VEHICLE SIGNALS” in “CONFIRMATION/ADJUSTMENT” mode.<br>**<Vehicle speed signal>**<br>**Vehicle running: ON**<br>**While the vehicle is stopped: OFF**<br>**<Reverse signal>**<br>**Selector lever in R-position: ON**<br>**Selector lever in other than R-position: OFF** | | |
| **OK or NG** | | |
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | • If vehicle speed is NG, proceed to EL-471, “Vehicle Speed Signal Check”.<br>• If reverse is NG, proceed to EL-474, “Reverse Signal Check”. |

## The Current-Location Mark Will Not Move Forward/Backward

NJEL0630

| 1 | VEHICLE SIGNAL DIAGNOSIS | |
|---|---|---|
| • Start the engine.<br>• Diagnose the following items with EL-462, “VEHICLE SIGNALS” in “CONFIRMATION/ADJUSTMENT” mode.<br>**<Vehicle speed signal>**<br>**Vehicle running: ON**<br>**While the vehicle is stopped: OFF**<br>**<Reverse signal>**<br>**Selector lever in R-position: ON**<br>**Selector lever in other than R-position: OFF** | | |
| **OK or NG** | | |
| OK | ▶ | Replace AV and NAVI control unit. |
| NG | ▶ | • If vehicle speed is NG, proceed to EL-471, “Vehicle Speed Signal Check”.<br>• If reverse is NG, proceed to EL-474, “Reverse Signal Check”. |

## The Position of the Current-Location Mark Is Not Correct

NJEL0631

Inspection procedure

| 1 | SELF-DIAGNOSIS | |
|---|---|---|
| • EL-461, “Operation Procedure” in “Self-Diagnosis Mode.” | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Check the applicable parts. |

| 2 | ERROR RECORD DIAGNOSIS | |
|---|---|---|
| • Is there an error listed in EL-464, “HISTORY OF ERRORS” in “CONFIRMATION/ADJUSTMENT” mode? | | |
| **Is there an error history?** | | |
| Yes | ▶ | EL-464, “DIAGNOSIS BY HISTORY OF ERRORS”. |
| No | ▶ | EL-499, “Driving Test” |

# Driving Test

NJEL0632

| 1 | DRIVING TEST 1 |
|---|---|

1. Scroll the map screen to display the area to make correction. Press “ENTER” and select “CURRENT LOCATION CORRECTION”.
2. Correct direction of the vehicle mark.
3. Perform the distance correction of the CONFIRMATION/ADJUSTMENT mode.
   **NOTE:**
   Normally, adjustment is not necessary because this system has automatic distance correction function. However, when a tire chain is fitted, adjustment in accordance with the tire diameter ratio must be made.
4. Are symptoms applicable to the EL-500, “Example of Symptoms Judged Not Abnormal” present after driving the vehicle?

**Yes or No**

| | | |
|---|---|---|
| Yes | ▶ | Limit of the location detection capacity of the navigation system |
| No | ▶ | GO TO 2. |

| 2 | DRIVING TEST 2 |
|---|---|

- Did any problem occur when the proper test in the following test patterns is performed?
- Test pattern
  Driving test finds the difference between the symptoms monitored with and without each sensor.

– Test pattern 1: Test method with no GPS location correction
  Disconnect the GPS antenna connector connected to the AV and NAVI control unit. Accurately adjust the current position and the direction, then drive the vehicle.
– Test pattern 2: Test method with no map-matching
  Accurately adjust the current position and the direction. Eject the map DVD-ROM from the AV and NAVI control unit with the ignition switch turned to OFF, then drive the vehicle. After driving, insert the map DVD-ROM back in the unit, display the track of the vehicle on the map screen and compare it with the actual road configuration.

- Sample tests

– <To determine if the current-location mark skips at the same position, if so, whether it is caused by map-matching or by GPS>
  Perform test pattern 1.
– <To determine if the pattern of streets displayed is correct or not>
  Perform test pattern 1 & 2.
  Compare the track of the vehicle on the map screen and the actual road configuration. For fairly accurate tracking, plotting shall be made every several hundred meters.
– <When the distance is adjusted accurately>
  Perform test pattern 1 & 2.
  Drive on a road of which distance is accurately known (by utilizing distance posts on a highway). Calculate the rate of change (increased/decreased) of the distance by comparing with the actual distance.
  Correction = A/B
  A: Distance shown on the screen
  B: Actual distance

**Yes or No**

| | | |
|---|---|---|
| Yes | ▶ | • If adjustment is insufficient, perform adjustment again.<br>• If any error is found in the map, please let us know.<br>• Replace AV and NAVI control unit |
| No | ▶ | Limit of the location detection capacity of the navigation system |

# Example of Symptoms Judged Not Abnormal

NJEL0633

## BASIC OPERATION

NJEL0633S01

| Symptom | Cause | Remedy |
|---|---|---|
| No image is shown. | Display brightness adjustment is set fully to DARK side. | Adjust the display brightness. |
| No guide sound is heard.<br>Audio guide volume is too low or too high. | Volume control is set to OFF, MIN or MAX. | Adjust the audio guide volume. |
| | Audio guidance is not available while the vehicle is driving on a dark pink route. | System is not malfunction. |
| Screen is too dark.<br>Motion of the image is too slow. | Temperature inside the vehicle is low. | Wait until the temperature inside the vehicle reaches the proper temperature. |
| Small black or bright spots appear on the screen. | Symptom peculiar to a liquid crystal display. | System is not malfunction. |

## VEHICLE MARK

NJEL0633S02

| Symptom | Cause | Remedy |
|---|---|---|
| Map screen and BIRDVIEW® Name of the place vary with the screen. | Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ.<br>The same place name, street name, etc. may not be displayed every time on account of the data processing. | System is not malfunction. |
| Vehicle mark is not positioned correctly. | Vehicle is transferred by ferry or by towing after its ignition switch is turned to OFF. | Drive the vehicle for a while in the GPS satellite signal receiving condition. |
| Screen will not switch to nighttime mode after the lighting switch is turned ON. | The daytime screen is selected by the “SWITCH SCREENS” when the last time the screen dimming setting is done.<br>Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function. | Perform screen dimming and select the nighttime screen by “SWITCH SCREENS”. |
| Map screen will not scroll in accordance with the vehicle travel. | Current location is not displayed. | Press “MAP” switch to display the current location. |
| Vehicle mark will not be shown. | Current location is not displayed. | Press “MAP” switch to display the current location. |
| Accuracy indicator (GPS satellite mark) on the map screen stays gray. | GPS satellite signal is intercepted because the vehicle is in or behind a building. | Move the vehicle out to an open space. |
| | GPS signal cannot be received because something is placed on driver’s side instrument panel. | Do not place anything on driver’s side instrument panel. |
| | GPS satellites are located badly. | Wait until the location becomes better. |
| Vehicle location accuracy is low. | Accuracy indicator (GPS satellite mark) on the map screen stays gray. | Current location is not determined. |
| | Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle. | Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h(19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function. |
| | Map data has error or omission. (Vehicle mark is always deviated to the same position.) | As a rule, an updated map DVD-ROM will be released once a year. |

## DESTINATION, PASSING POINTS, AND MENU ITEMS CANNOT BE SELECTED/SET

NJEL0633S03

| Symptom | Cause | Remedy |
|---|---|---|
| Destination cannot be set. | Destination to be set is on an expressway. | Set the destination on an ordinary road. |
| Passing point is not searched when re-searching the route. | The vehicle has already passed the passing point, or the system judged so. | To include the passing points that have been passed into the route again, set the route again. |
| Route information will not be displayed. | Route searching has not been done. | Set the destination and perform route searching. |
| | Vehicle mark is not on the recommended route. | Drive on the recommended route. |
| | Route guide is turned OFF. | Turn the route guide ON. |
| | Route information is not available on the dark pink route. | System is not malfunction. |
| After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road. | Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.) | Drive on the recommended route. |
| Automatic route searching is not possible. | Vehicle is driving on a highway (gray route), or no recommended route is available. | Drive on a road to be searched. Or re-search the route manually. In this case, however, the whole route will be searched. |
| Performed automatic detour search (or detour search). However, the result is the same as that of the previous search. | Performed search with every conditions considered. However, the result is the same as that of the previous search. | System is not malfunction. |
| Passing points cannot be set. | More than five passing points were set. | Passing points can be set up to five. To stop at more than five points, perform sharing in several steps. |
| When setting the route, the starting point cannot be selected. | The current vehicle location is always set as the starting point of a route. | System is not malfunction. |
| Some menu items cannot be selected. | The vehicle is being driven. | Stop the vehicle at a safe place and then operate the system. |

## VOICE GUIDE

NJEL0633S04

| Symptom | Cause | Remedy |
|---|---|---|
| Voice guide will not operate. | Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction. | System is not malfunction. |
| | The vehicle is not on the recommended route. | Return to the recommended route or re-search the route. |
| | Voice guide is turned OFF. | Turn the voice guide ON. |
| | Route guide is turned OFF. | Turn the route guide ON. |
| Voice guide does not match the actual road pattern. | Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads. | Drive in conformity to the actual traffic rules. |

*Example of Symptoms Judged Not Abnormal (Cont'd)*

## ROUTE SEARCHING

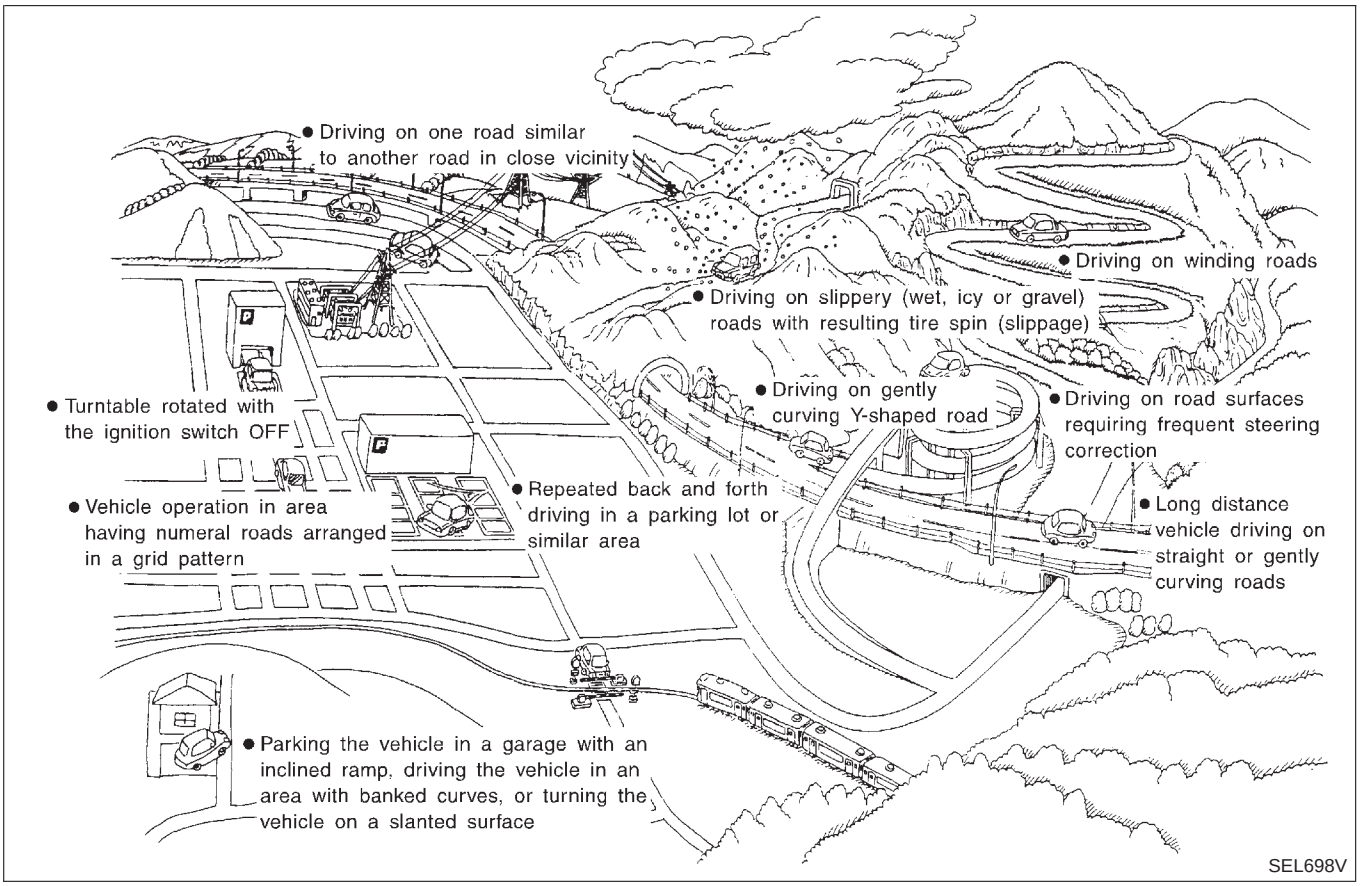
NJEL0633S05

| Symptom | Cause | Remedy |
|---|---|---|
| No route is shown. | No road to be searched is found around the destination. | Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads. |
| | Starting point and the destination are too close. | Set the destination at more distant point. |
| | Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current position or the destination. | Turn the time-regulating search conditions OFF. Turn "Avoid regulation time" in the search conditions OFF. |
| Indicated route is intermittent. | In some areas, highways (gray routes) are not used for the search Therefore, the route to the current position or the passing points may be intermittent. | System is not malfunction. |
| When the vehicle has passed the recommended route, it is deleted from the screen. | A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.) | System is not malfunction. |
| Detouring route is recommended. | In some areas, highways (gray routes) are not used for the search. Therefore, detour route may be recommended. | Set the route closer to the basic route (gray route). |
| | A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination. | Slightly move the starting point or the destination, or set the passing point on the route of your choice. |
| | In the area where highways (gray routes) are used for the search, left turn has priority around the current position and the destination (passing points). For this reason, the recommended route may be detouring. | System is not malfunction. |
| Landmarks on the map do not match the actual ones. | This can happen due to omission or error in the map data. | As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available. |
| Recommended route is far from the starting point, passing points, and destination. | Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored. | Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route. |

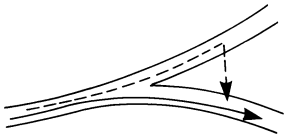
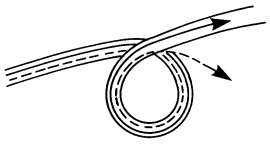
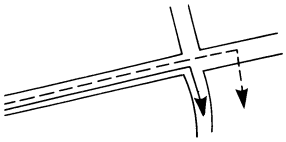
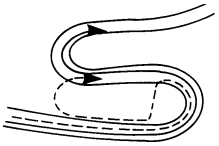
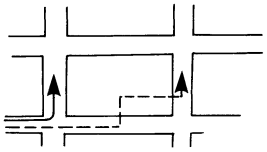
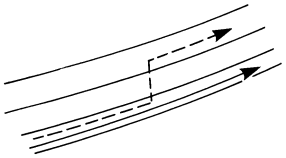
## EXAMPLES OF CURRENT-LOCATION MARK DISPLACEMENT

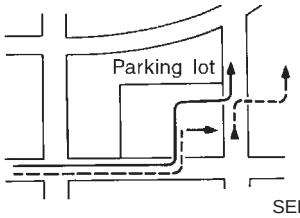
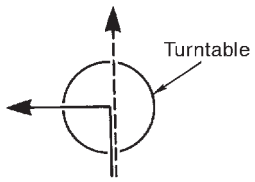
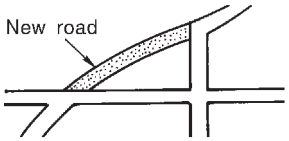
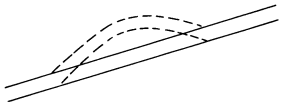
=NJEL0633S06

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.

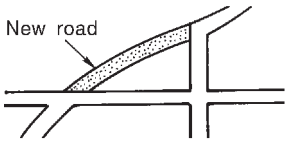
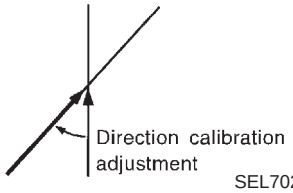


*Example of Symptoms Judged Not Abnormal (Cont'd)*

| Cause (condition) -:While driving ooo:Display | | Driving condition | Remarks (correction, etc.) |
|---|---|---|---|
| Road configuration | Y-intersections<br>  <br>ELK0192D | At a Y intersection or similar gradual division of roads, error the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road. | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction. |
| | Spiral roads<br>  <br>ELK0193D | When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location. | |
| | Straight roads<br>  <br>ELK0194D | When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle turned at a corner. | |
| | Zigzag roads<br>  <br>ELK0195D | When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location. | |
| | Roads laid out in a grid pattern<br>  <br>ELK0196D | When driving at where roads are laid out in a grid pattern, where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location. | |
| | Parallel roads<br>  <br>ELK0197D | When two roads are running in parallel (such as highway and sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location. | |

| Cause (condition) -:While driving ooo:Display | | Driving condition | Remarks (correction, etc.) |
|---|---|---|---|
| Place | In a parking lot<br>  <br>SEL709V | When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location.<br>When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location. | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction. |
| | Turn table<br>  <br>SEL710V | When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turn table with the ignition switch OFF. | |
| | Slippery roads | On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road. | |
| | Slopes | When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road. | |
| Map data | Road not displayed on the map screen<br>  <br>SEL699V | When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road. | |
| | Different road pattern<br>(Changed due to repair)<br>  <br>ELK0201D | If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road. | |
| Vehicle | Use of tire chains | When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road. | Drive the vehicle for a while. If the distance is still deviated, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.) |

*Example of Symptoms Judged Not Abnormal (Cont'd)*

| Cause (condition) -:While driving ooo:Display | | Driving condition | Remarks (correction, etc.) |
|---|---|---|---|
| Precautions for driving | Just after the engine is started | If the vehicle is driven off just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location. | Wait for a short while before driving after starting the engine. |
| | Continuous driving without stopping | When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road. | Stop and adjust the orientation. |
| | Abusive driving | Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable to perform correct detection, and may cause the vehicle mark to deviate from the correct road. | If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction. |
| How to correct location | Position correction accuracy   SEL699V | If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads. | Enter in the road displayed on the screen with an accuracy of approx. 1 MM. **NOTE:** Whenever possible, use detailed map for the correction. |
| | Direction when location is corrected   SEL702V | If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards. | Perform direction correction. |

## THE CURRENT POSITION MARK SHOWS A POSITION WHICH IS COMPLETELY WRONG.

NJEL0633S07

In the following cases, the current-location mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
- − If the receiving conditions of the GPS satellite signal is poor, if the current-location mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed
- − Because calculation of the current location cannot be done when travelling with the ignition OFF, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

## THE CURRENT POSITION MARK JUMPS.

NJEL0633S08

In the following cases, the current-location mark may appear to jump as a result of automatic correction of the current location.

- When map matching has been done
- − If the current location and the current-location mark are different when map matching is done, the current-location mark may seem to jump. At this time, the location may be "corrected" to the wrong road or to a location which is not on a road.
- When GPS location correction has been done
- − If the current location and the current-location mark are different when the location is corrected using GPS

measurements, the current-location mark may seem to jump. At this time, the location may be "corrected" to a location which is not on a road.

### THE CURRENT LOCATION MARK IS IN A RIVER OR THE SEA.

NJEL0633S09

The navigation system moves the current location mark with no distinction between land and rivers or sea. If the location mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

### WHEN DRIVING ON THE SAME ROAD, SOMETIMES THE CURRENT-LOCATION MARK IS IN THE RIGHT PLACE AND SOMETIMES IT IS THE WRONG PLACE.

NJEL0633S10

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

### LOCATION CORRECTION BY MAP MATCHING IS SLOW.

NJEL0633S11

- The map matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

### ALTHOUGH THE GPS RECEIVING DISPLAY IS GREEN, THE VEHICLE MARK DOES NOT RETURN TO THE CORRECT LOCATION.

NJEL0633S12

- The GPS accuracy has an error of about 10 m (30 ft). In some cases the current-location mark may not be on the correct street, even when GPS location-correction is done.
- The navigation system compares the results of GPS location detection with the results from map-matching location detection. The one which is determined to have higher accuracy is used.
- GPS location correction may not be performed when the vehicle is stopped.

### THE NAME OF THE CURRENT PLACE IS NOT DISPLAYED.

NJEL0633S13

The current place name may not be displayed if there are no place names displayed on the map screen.

### CONTENTS OF THE DISPLAY DIFFER FOR THE BIRDVIEW® AND THE (FLAT) MAP SCREEN.

NJEL0633S14

### Difference of the BIRDVIEW® Screen From the Flat Map Screen Are as Follows.

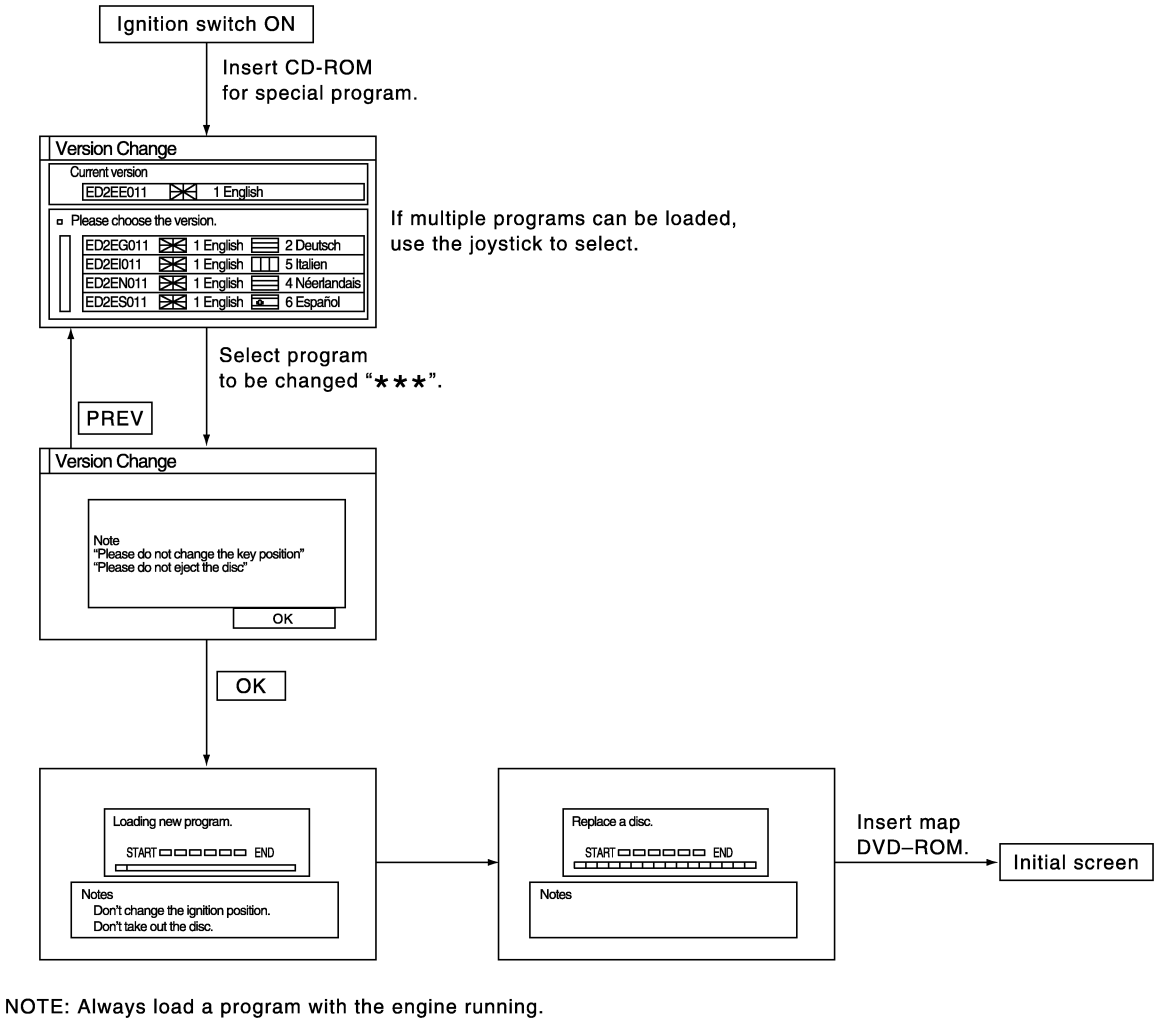
NJEL0633S1401

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

# Program Loading

=NJEL0634

**NOTE:**
Program loading is operated when the version of soft is upgraded to the latest one, or when language is switched.




NOTE: Always load a program with the engine running.

SKIA1439E

## System Description

NJEL0535

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## CAN Communication Unit

NJEL0536

Go to CAN system, when selecting your car model from the following table.

| Body type | Sedan/ 5DH/B/ 3DH/B | |
|---|---|---|
| Axle | 2WD | |
| Engine | QG18DE | QG15DE/QG18DE |
| Transmission | A/T | M/T |
| Brake control | ABS | |
| CAN communication unit | | |
| ECM | x | x |
| TCM | x | |
| Smart entrance control unit | x | x |
| Data link connector | x | x |
| Combination meter | x | x |
| CAN communication type | Type 1 (EL-510) | Type 2 (EL-511) |
| CAN system trouble diagnosis | Type 1 (EL-512) | Type 2 (EL-530) |

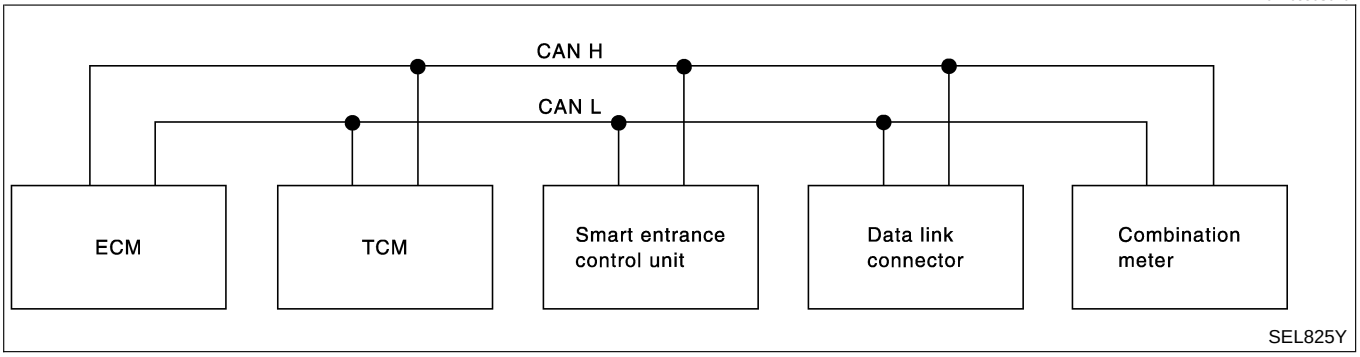
x: Applicable

## TYPE 1

### System Diagram

=NJEL0536S01

NJEL0536S0101




### Input/Output Signal Chart

NJEL0536S0102

T: Transmit R: Receive

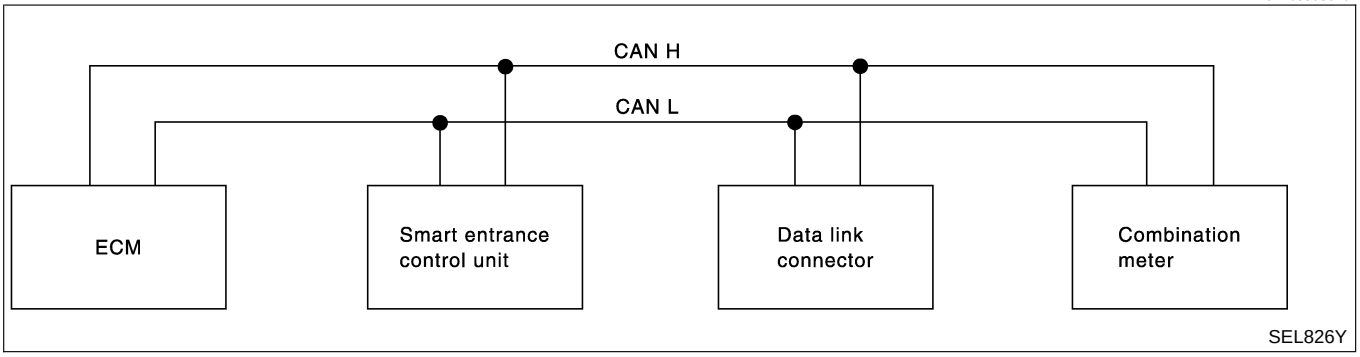
| Signals | ECM | TCM | Smart entrance control unit | Combination meter |
|---|---|---|---|---|
| Engine speed signal | T | | | R |
| Brake switch signal | | R | | T |
| Rear window defogger signal | R | | T | |
| Heater fan switch signal | R | | | T |
| Air conditioner switch signal | R | | | T |
| MI signal | T | | | R |
| Current gear position signal | | T | | R |
| Engine coolant temperature signal | T | | | R |
| Fuel consumption signal | T | | | R |
| Vehicle speed signal | R | | | T |
| Seat belt reminder signal | | | R | T |
| Headlamp switch signal | | | T | R |
| Flashing indicator signal | | | T | R |
| Engine cooling fan speed signal | T | | R | |
| Child lock indicator signal | | | T | R |
| Door switches state signal | | | T | R |
| A/C compressor signal | T | | R | |
| Accelerator pedal position signal | T | R | | |
| Output shaft revolution signal | R | T | | |
| OD OFF switch signal | | R | | T |
| OD OFF indicator signal | | T | | R |
| A/T self-diagnosis signal | R | T | | |

## TYPE 2

### System Diagram

=NJEL0536S02

NJEL0536S0201




### Input/Output Signal Chart

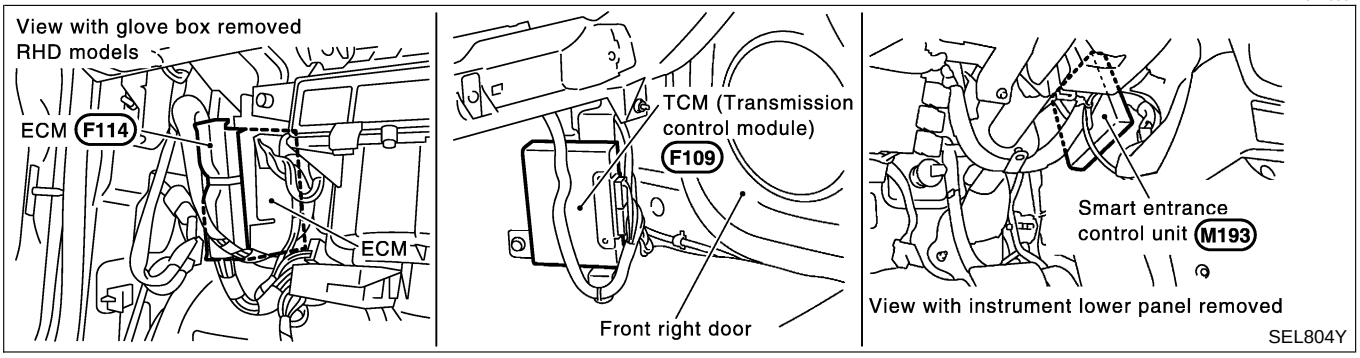
NJEL0536S0202

T: Transmit R: Receive

| Signals | ECM | Smart entrance control unit | Combination meter |
|---|---|---|---|
| Engine speed signal | T | | R |
| Rear window defogger signal | R | T | |
| Heater fan switch signal | R | | T |
| Air conditioner switch signal | R | | T |
| MI signal | T | | R |
| Engine coolant temperature signal | T | | R |
| Fuel consumption signal | T | | R |
| Vehicle speed signal | R | | T |
| Seat belt reminder signal | | R | T |
| Headlamp switch signal | | T | R |
| Flashing indicator signal | | T | R |
| Engine cooling fan speed signal | T | R | |
| Child lock indicator signal | | T | R |
| Door switches state signal | | T | R |
| A/C compressor signal | T | R | |

## Component Parts and Harness Connector Location

NJEL0537




## System Description

NJEL0538

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electonic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

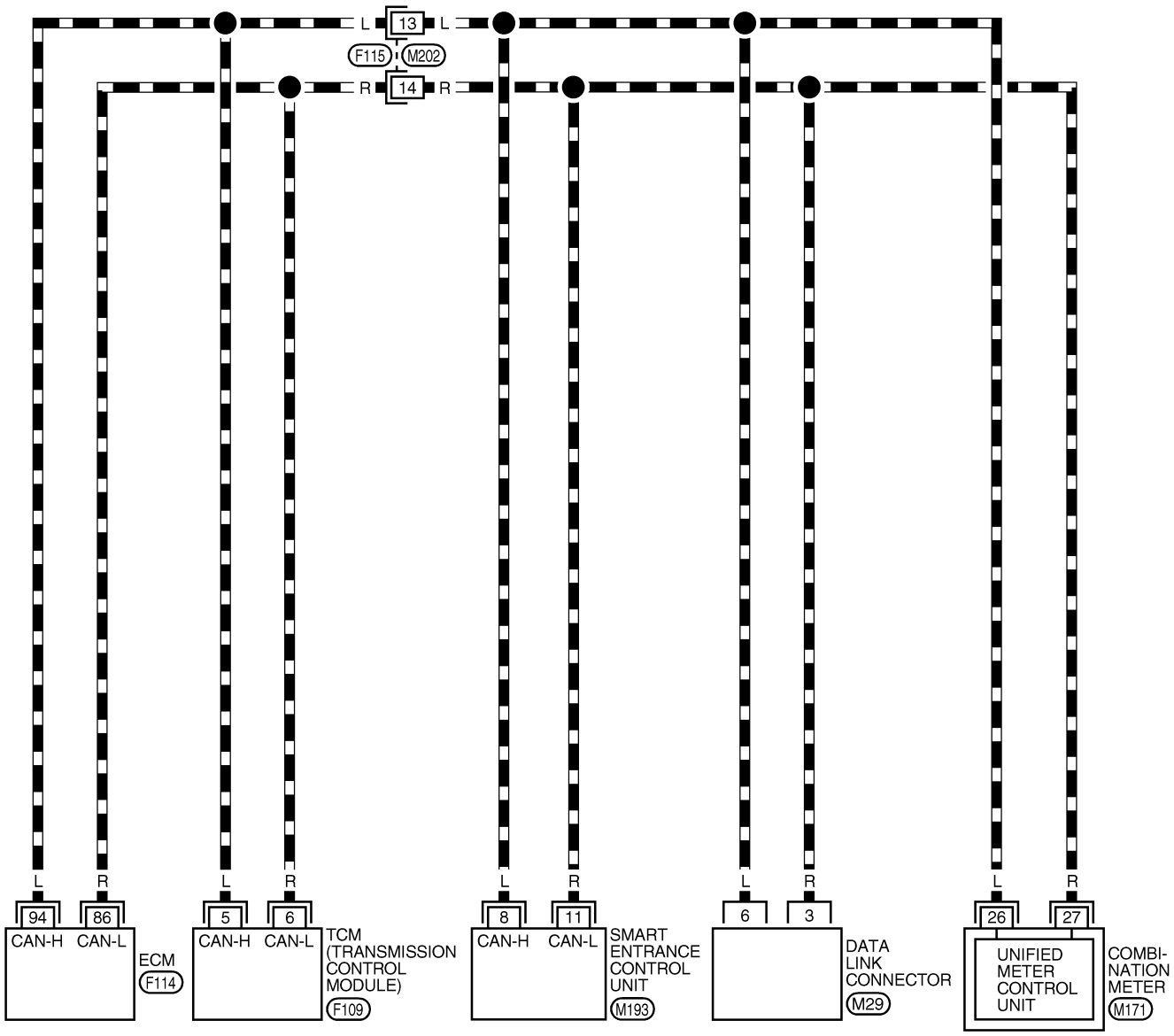
# Wiring Diagram — CAN —

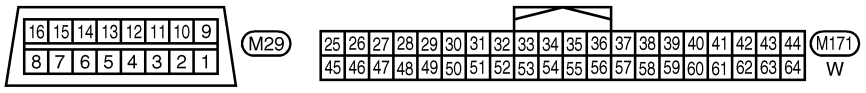
NJEL0539

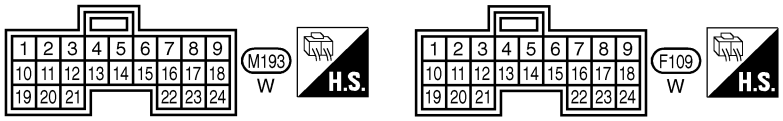
## LHD MODELS

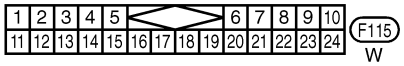
NJEL0539S01

EL-CAN-01




REFER TO THE FOLLOWING.

F114 - ELECTRICAL UNIT

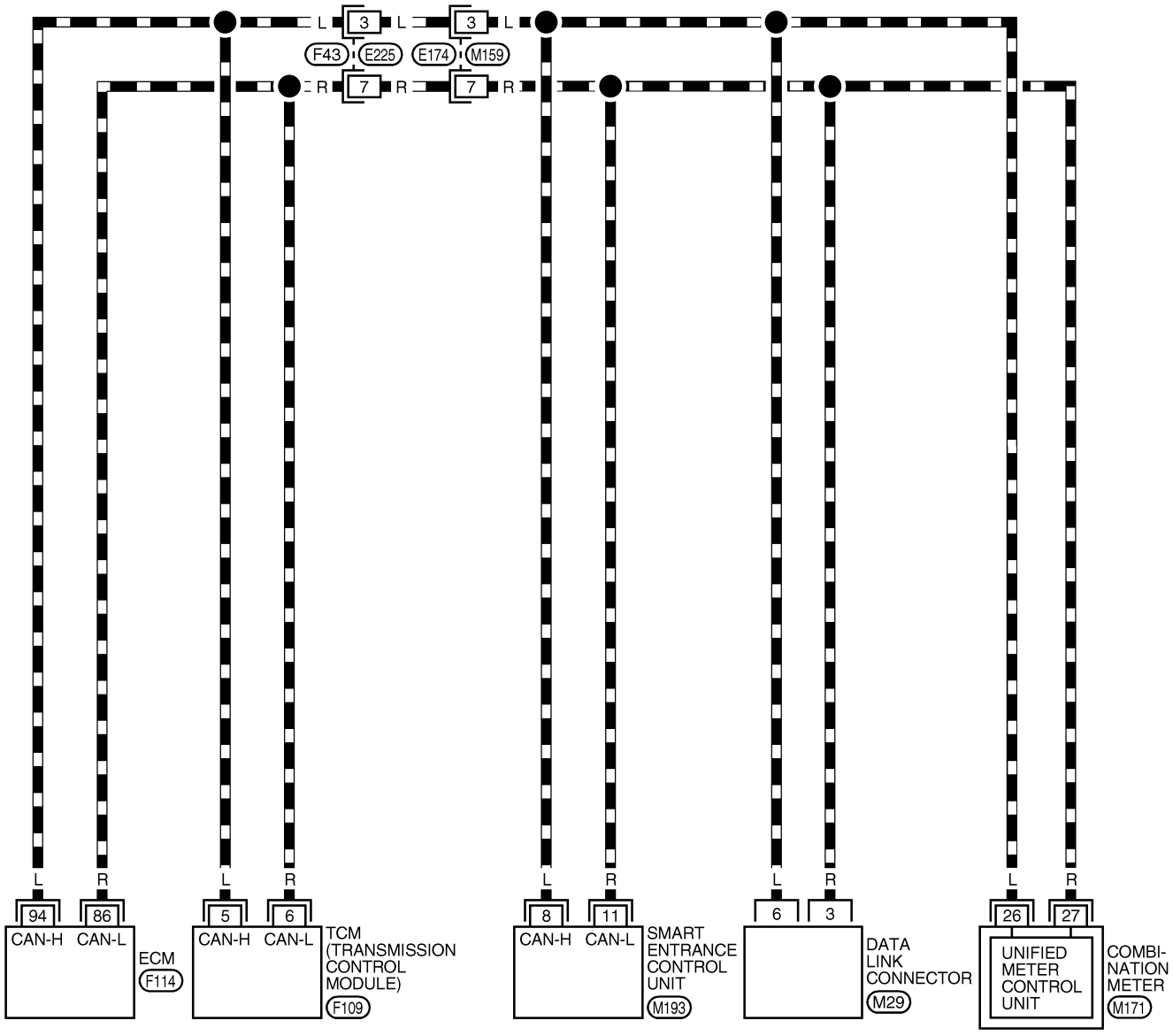
YEL782D

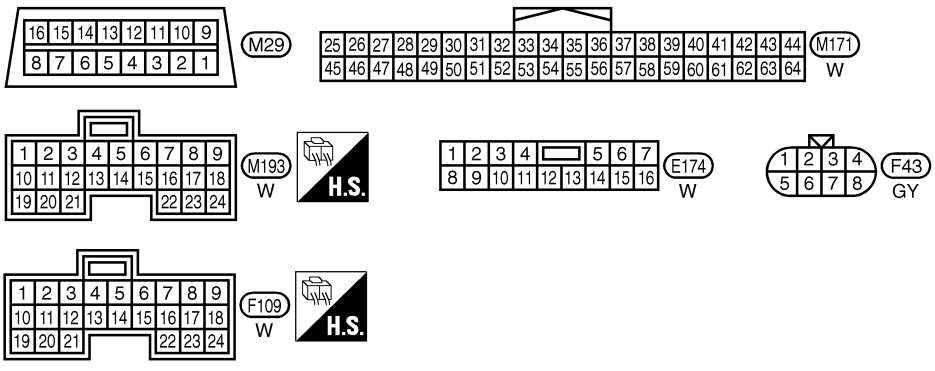
## RHD MODELS

NJEL0539S02

EL-CAN-02

: DATA LINE




REFER TO THE FOLLOWING.
F114 - ELECTRICAL UNIT

YEL783D

# Trouble Diagnoses

NJEL0540

## WORK FLOW

NJEL0540S01

1. Print all the data of “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “A/T” and “SMART ENTRANCE” displayed on CONSULT-II. Refer to the following.

- “DTC U1000, U1001 CAN COMMUNICATION LINE” (WITH EURO-OBD) (EC-116) for “ENGINE”
- “DTC U1000, U1001 CAN COMMUNICATION LINE” (WITHOUT EURO-OBD) (EC-492) for “ENGINE”
- “DTC U1000 CAN COMMUNICATION LINE” (WITH EURO-OBD) (AT-192) for “A/T”
- “CAN COMMUNICATION LINE” (All) (AT-395) for “A/T”
- “CAN Communication Line Check” (EL-380) for “SMART ENTRANCE”

2. Attach the printed sheet of “SELF-DIAG RESULTS” and “DATA MONITOR” onto the check sheet. Refer to “CHECK SHEET” (EL-516).
3. Based on the data monitor results, put “v” marks onto the items with “UNKWN” or “NG” in the check sheet table. Refer to “CHECK SHEET“ (EL-516).

**NOTE:**
If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

4. According to the check sheet results (example), start inspection. Refer to “CHECK SHEET RESULTS (EXAMPLE)” (EL-517).

## CHECK SHEET

NJEL0540S02

Check sheet table

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

| |
|---|
| Symptoms: |

| | | |
|---|---|---|
| Attach copy of<br>ENGINE<br>SELF-DIAG RESULTS | Attach copy of<br>A/T<br>SELF-DIAG RESULTS | Attach copy of<br>SMART ENTRANCE<br>SELF-DIAG RESULTS |
| Attach copy of<br>ENGINE<br>DATA MONITOR | Attach copy of<br>A/T<br>DATA MONITOR | Attach copy of<br>SMART ENTRANCE<br>DATA MONITOR |

SEL805Y

## CHECK SHEET RESULTS (EXAMPLE)

NJEL0540S03

Case 1: Replace ECM

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

Case 2: Replace TCM

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

Case 3: Replace smart entrance control unit

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

Case 4

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

Case 5

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

Case 6

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 |

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Case 7

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 ✓ | CAN CIRC 4 |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | – | – | CAN CIRC 3 ✓ |

Case 8

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 2 | CAN CIRC 6 | CAN CIRC 4 ✓ |
| A/T | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 4 ✓ |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | – | CAN CIRC 3 ✓ |

Case 9

| | | | | | | |
|---|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 ✓ | – | CAN CIRC 2 ✓ | CAN CIRC 6 ✓ | CAN CIRC 4 ✓ |
| A/T | CAN COMM | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | – | – | CAN CIRC 4 ✓ |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 ✓ | CAN CIRC 2 ✓ | – | – | CAN CIRC 3 ✓ |

SEL807Y

## INSPECTION

*NJEL0540S04*

Proceed trouble diagnosis according to the check sheet results (example).
Case 1: Replace ECM.
Case 2: Replace TCM.
Case 3: Replace smart entrance control unit.
Case 4: Check harness between TCM and smart entrance control unit. Refer to "CIRCUIT CHECK BETWEEN TCM AND SMART ENTRANCE CONTROL UNIT" (EL-519).
Case 5: Check ECM circuit. Refer to "ECM CIRCUIT CHECK" (EL-522).
Case 6: Check TCM circuit. Refer to "TCM CIRCUIT CHECK" (EL-523).
Case 7: Check smart entrance control unit circuit. Refer to "SMART ENTRANCE CONTROL UNIT CIRCUIT CHECK" (EL-524).
Case 8: Check combination meter circuit. Refer to "COMBINATION METER CIRCUIT CHECK" (EL-525).
Case 9: Check CAN communication circuit. Refer to "CAN COMMUNICATION CIRCUIT CHECK" (EL-525).

## CIRCUIT CHECK BETWEEN TCM AND SMART ENTRANCE CONTROL UNIT

NJEL0540S05

| 1 | CHECK CONNECTOR |
|---|---|

1. Turn ignition switch OFF.
2. Disconnect the negative battery cable.
3. Check following terminals and connector for damage, bend and loose connection (connector-side and harness-side).

**LHD models**

- Harness connector F115
- Harness connector M202

**RHD models**

- Harness connector F43
- Harness connector E225
- Harness connector E174
- Harness connector M159

**OK or NG**

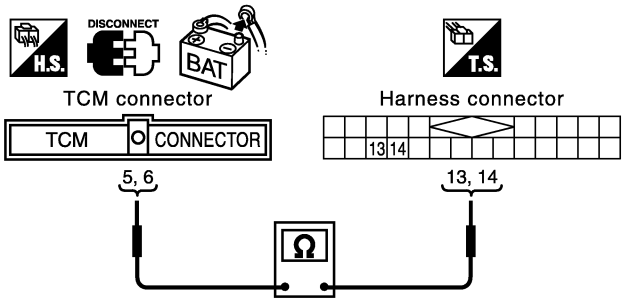
| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR OPEN CIRCUIT |
|---|---|

1. Disconnect TCM connector and harness connector F115 (LHD models) or harness connector F43 (RHD models).
2. Check the following.

- Continuity between TCM harness connector F109 terminals 5 (L), 6 (R) and harness connector F115 terminals 13 (L), 14 (R) (LHD models)

**LHD models**

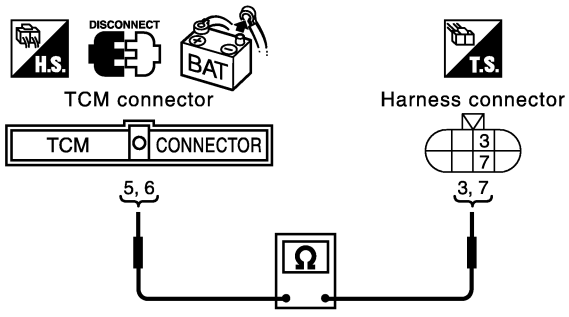



| Terminals | | Continuity |
|---|---|---|
| 5 | 13 | Yes |
| 6 | 14 | |

SEL865Y

- Continuity between TCM harness connector F109 terminals 5 (L), 6 (R) and harness connector F43 terminals 3 (L), 7 (R) (RHD models)

**RHD models**




| Terminals | | Continuity |
|---|---|---|
| 5 | 3 | Yes |
| 6 | 7 | |

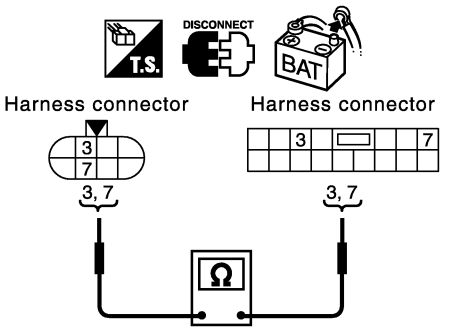
SEL808Y

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | • GO TO 4. (LHD models)<br>• GO TO 3. (RHD models) |
| NG | ▶ | Repair harness. |

| 3 | CHECK HARNESS FOR OPEN CIRCUIT |
|---|---|

1. Disconnect harness connector E174.
2. Check continuity between harness connector E225 terminals 3 (L), 7 (R) and harness connector E174 terminals 3 (L), 7 (R).




| Terminals | | Continuity |
|---|---|---|
| 3 | 3 | Yes |
| 7 | 7 | |

SEL809Y

**OK or NG**

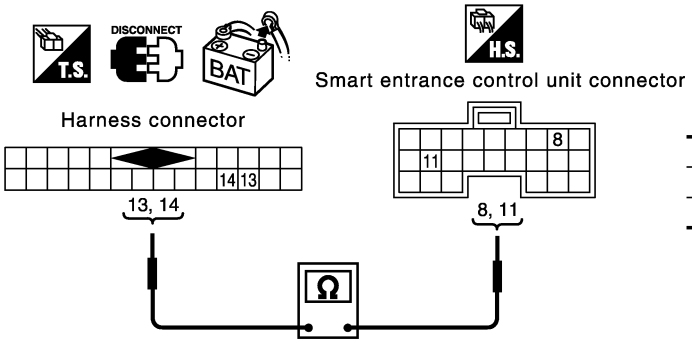
| | | |
|---|---|---|
| OK | ▶ | GO TO 4. |
| NG | ▶ | Repair harness. |

| 4 | CHECK HARNESS FOR OPEN CIRCUIT |
|---|---|

1. Disconnect smart entrance control unit connector.
2. Check the following.

- Continuity between harness connector M202 terminals 13 (L), 14 (R) and smart entrance control unit connector M193 terminals 8 (L), 11 (R) (LHD models)

**LHD models**

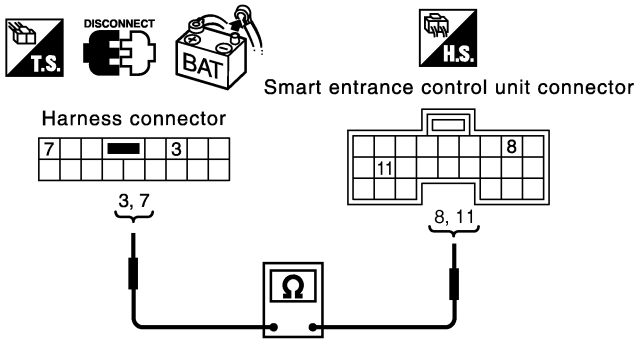



| Terminals | | Continuity |
|---|---|---|
| 13 | 8 | Yes |
| 14 | 11 | |

SEL866Y

- Continuity between harness connector M159 terminals 3 (L), 7 (R) and smart entrance control unit connector M193 terminals 8 (L), 11 (R) (RHD models)

**RHD models**




| Terminals | | Continuity |
|---|---|---|
| 3 | 8 | Yes |
| 7 | 11 | |

SEL810Y

**OK or NG**

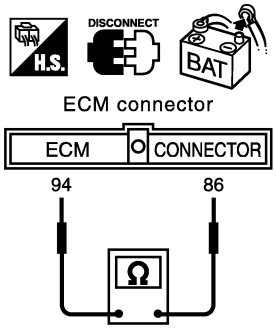
| | | |
|---|---|---|
| OK | ▶ | Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T" and "SMART ENTRANCE" displayed on CONSULT-II. Refer to the following.<br>● "DTC U1000, U1001 CAN COMMUNICATION LINE" (WITH EURO-OBD) (EC-116) for "ENGINE"<br>● "DTC U1000, U1001 CAN COMMUNICATION LINE" (WITHOUT EURO-OBD) (EC-492) for "ENGINE"<br>● "DTC U1000 CAN COMMUNICATION LINE" (WITH EURO-OBD) (AT-192) for "A/T"<br>● "CAN COMMUNICATION LINE" (All) (AT-395) for "A/T"<br>● "CAN Communication Line Check" (EL-380) for "SMART ENTRANCE" |
| NG | ▶ | Repair harness. |

## ECM CIRCUIT CHECK

=NJEL0540S06

| 1 | CHECK CONNECTOR | |
|---|---|---|
| 1. Turn ignition switch OFF.<br>2. Disconnect the negative battery cable.<br>3. Check the terminals and connector of ECM for damage, bend and loose connection (control module-side and harness-side). | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
|---|---|---|
| 1. Disconnect ECM connector.<br>2. Check resistance between ECM harness connector F114 terminals 94 (L) and 86 (R). | | |
| **OK or NG** | | |
| OK | ▶ | Replace ECM. |
| NG | ▶ | Repair harness between ECM and TCM. |




**Approx. 108 - 132 Ω**

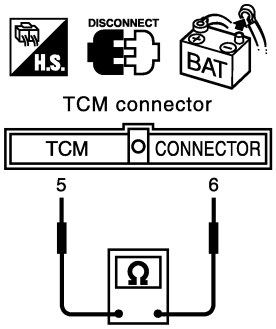
SEL812Y

## TCM CIRCUIT CHECK

=NJEL0540S07

| 1 | CHECK CONNECTOR | |
|---|---|---|
| 1. Turn ignition switch OFF.<br>2. Disconnect the negative battery cable.<br>3. Check the terminals and connector of TCM for damage, bend and loose connection (control module-side and harness-side). | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
|---|---|---|
| 1. Disconnect TCM connector.<br>2. Check resistance between TCM harness connector F109 terminals 5 (L) and 6 (R). | | |
| **OK or NG** | | |
| OK | ▶ | Replace TCM. |
| NG | ▶ | Repair harness between TCM and harness connector F115 (LHD models).<br>Repair harness between TCM and harness connector F43 (RHD models). |




**Approx. 54 - 66Ω**

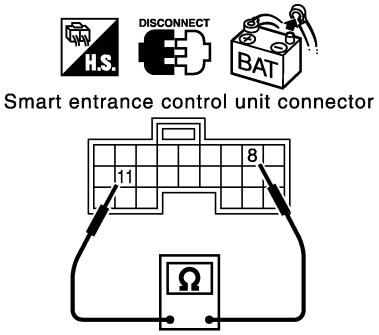
SEL813Y

## SMART ENTRANCE CONTROL UNIT CIRCUIT CHECK

=NJEL0540S08

| 1 | CHECK CONNECTOR | |
|---|---|---|
| 1. Turn ignition switch OFF.<br>2. Disconnect the negative battery cable.<br>3. Check the terminals and connector of smart entrance control unit for damage, bend and loose connection (control unit-side and harness-side). | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
|---|---|---|
| 1. Disconnect smart entrance control unit connector.<br>2. Check resistance between smart entrance control unit harness connector M193 terminals 8 (L) and 11 (R). | | |
| **OK or NG** | | |
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Repair harness between smart entrance control unit and data link connector. |



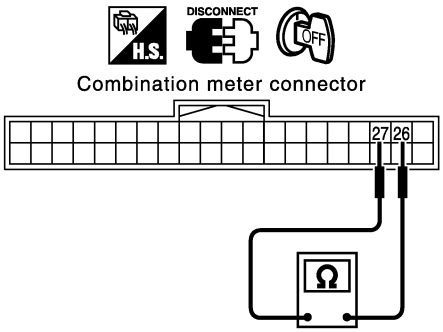

**Approx. 54 - 66 Ω**

SEL814Y

## COMBINATION METER CIRCUIT CHECK

=NJEL0540S09

| 1 | CHECK CONNECTOR | |
|---|---|---|
| 1. Turn ignition switch OFF.<br>2. Disconnect the negative battery cable.<br>3. Check following terminals and connector of combination meter for damage, bend and loose connection (meter-side and harness-side). | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
|---|---|---|
| 1. Disconnect combination meter connector.<br>2. Check resistance between combination meter harness connector M171 terminals 26 (L) and 27 (R).<br>  <br><br>**Approx. 108 - 132 Ω**<br>SEL815Y | | |
| **OK or NG** | | |
| OK | ▶ | Replace combination meter. |
| NG | ▶ | Repair harness between combination meter and smart entrance control unit. |

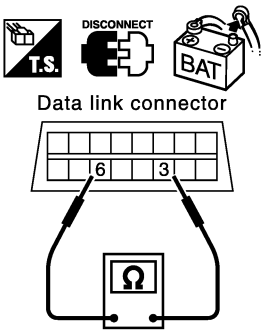
## CAN COMMUNICATION CIRCUIT CHECK

NJEL0540S10

| 1 | CHECK CONNECTOR | |
|---|---|---|
| 1. Turn ignition switch OFF.<br>2. Disconnect the negative battery cable.<br>3. Check following terminals and connector of combination meter for damage, bend and loose connection (meter-side, control unit-side, control module-side and harness-side).<br>● Combination meter<br>● Smart entrance control unit<br>● TCM<br>● ECM<br>● Between ECM and data link connector | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

1. Disconnect combination meter connector, smart entrance control unit connector and harness connector M202 (LHD models) or harness connector M159 (RHD models).
2. Check continuity between data link connector M29 terminals 6 (L) and 3 (R).




**Continuity should not exist.**

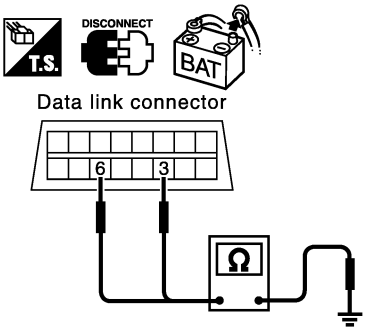
SEL816Y

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | • Repair harness between data link connector and harness connector M202 (LHD models) or M159 (RHD models).<br>• Repair harness between data link connector and smart entrance control unit.<br>• Repair harness between data link connector and combination meter. |

| 3 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

Check continuity between data link connector M29 terminals 6 (L), 3 (R) and ground.

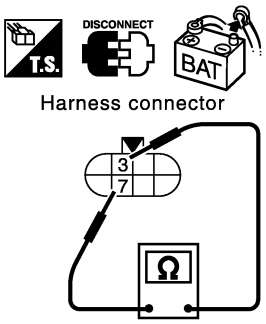


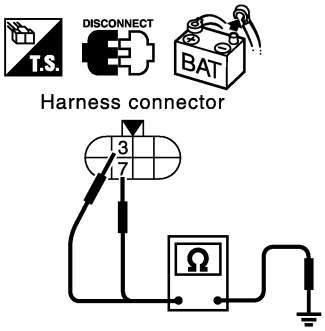

**Continuity should not exist.**

SEL817Y

**OK or NG**

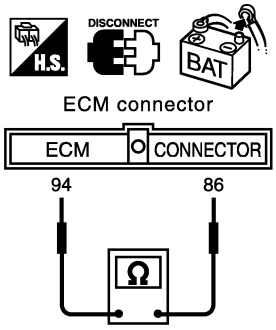
| | | |
|---|---|---|
| OK | ▶ | GO TO 6. (LHD models)<br>GO TO 4. (RHD models) |
| NG | ▶ | • Repair harness between data link connector and harness connector M202 (LHD models) or M159 (RHD models).<br>• Repair harness between data link connector and smart entrance control unit.<br>• Repair harness between data link connector and combination meter. |

| 4 | CHECK HARNESS FOR SHORT CIRCUIT | |
|---|---|---|
| 1. Disconnect harness connector E225.<br>2. Check continuity between harness connector E225 terminals 3 (L) and 7 (R).<br>  <br><br>SEL818Y | **Continuity should not exist.** | |
| **OK or NG** | | |
| OK | ▶ | GO TO 5. |
| NG | ▶ | Repair harness between harness connector E225 and harness connector E174. |

| 5 | CHECK HARNESS FOR SHORT CIRCUIT | |
|---|---|---|
| Check continuity between harness connector E225 terminals 3 (L) , 7 (R) and ground.<br>  <br><br>SEL819Y | **Continuity should not exist.** | |
| **OK or NG** | | |
| OK | ▶ | GO TO 6. |
| NG | ▶ | Repair harness between harness connector E225 and harness connector E174. |

| 6 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F114 terminals 94 (L) and 86 (R).




**Continuity should not exist.**

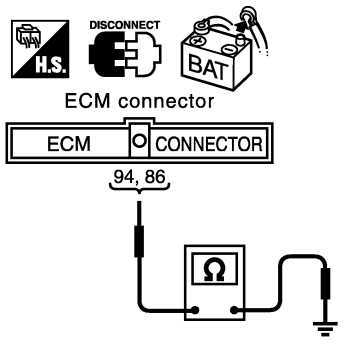
SEL820Y

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 7. |
| NG | ▶ | Repair harness between ECM and harness connector F115 (LHD models) or F43 (RHD models).<br>Repair harness between ECM and TCM. |

| 7 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

Check continuity between ECM harness connector F114 terminals 94 (L), 86 (R) and ground.




**Continuity should not exist.**

SEL821Y

**OK or NG**

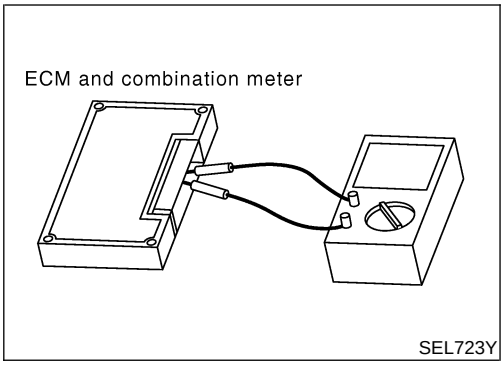
| | | |
|---|---|---|
| OK | ▶ | GO TO 8. |
| NG | ▶ | Repair harness between ECM and harness connector F115 (LHD models) or F43 (RHD models).<br>Repair harness between ECM and TCM. |

| 8 | ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION |
|---|---|

Check components inspection. Refer to "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION" (EL-529).

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T" and "SMART ENTRANCE" displayed on CONSULT-II. Refer to the following.<br>● "DTC U1000, U1001 CAN COMMUNICATION LINE" (WITH EURO-OBD) (EC-116) for "ENGINE"<br>● "DTC U1000, U1001 CAN COMMUNICATION LINE" (WITHOUT EURO-OBD) (EC-492) for "ENGINE"<br>● "DTC U1000 CAN COMMUNICATION LINE" (WITH EURO-OBD) (AT-192) for "A/T"<br>● "CAN COMMUNICATION LINE" (All) (AT-395) for "A/T"<br>● "CAN Communication Line Check" (EL-380) for "SMART ENTRANCE" |
| NG | ▶ | Replace ECM and/or combination meter. |




## Component Inspection

NJEL0541

### ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

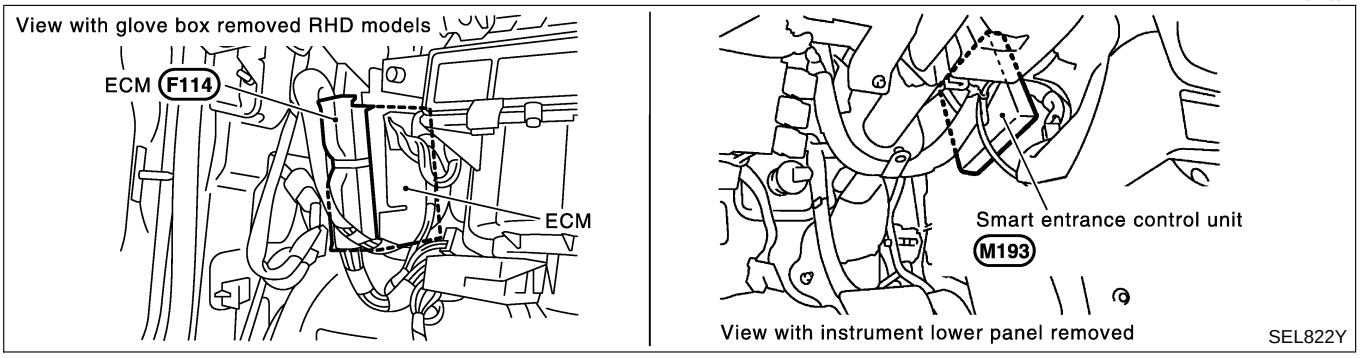
NJEL0541S01

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between combination meter terminals 26 and 27.

| Unit | Terminal | Resistance value (Ω) |
|---|---|---|
| ECM | 94 - 86 | Approx. 108 - 132 |
| Combination meter | 26 - 27 | |

## Component Parts and Harness Connector Location

NJEL0542




## System Description

NJEL0543

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electonic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

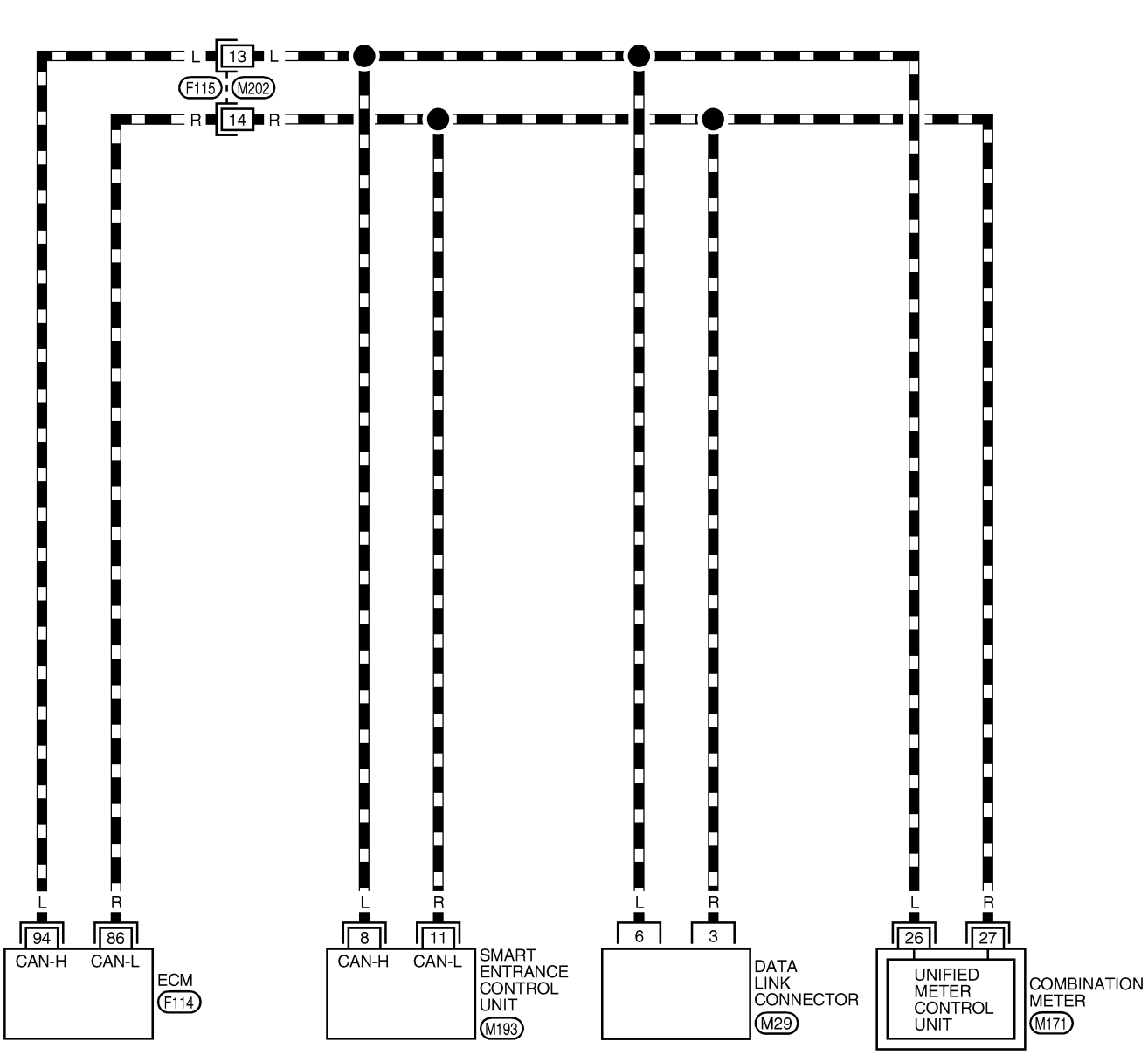
# Wiring Diagram — CAN —

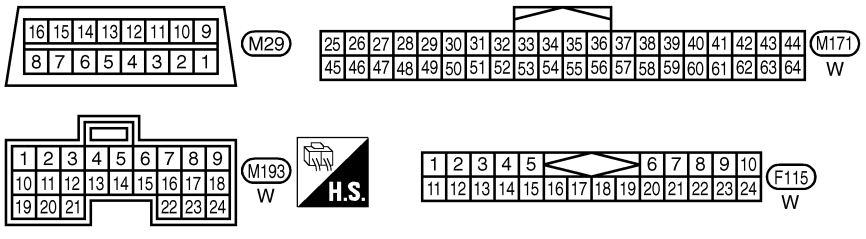
NJEL0544

## LHD MODELS

NJEL0544S01

EL-CAN-03




REFER TO THE FOLLOWING.

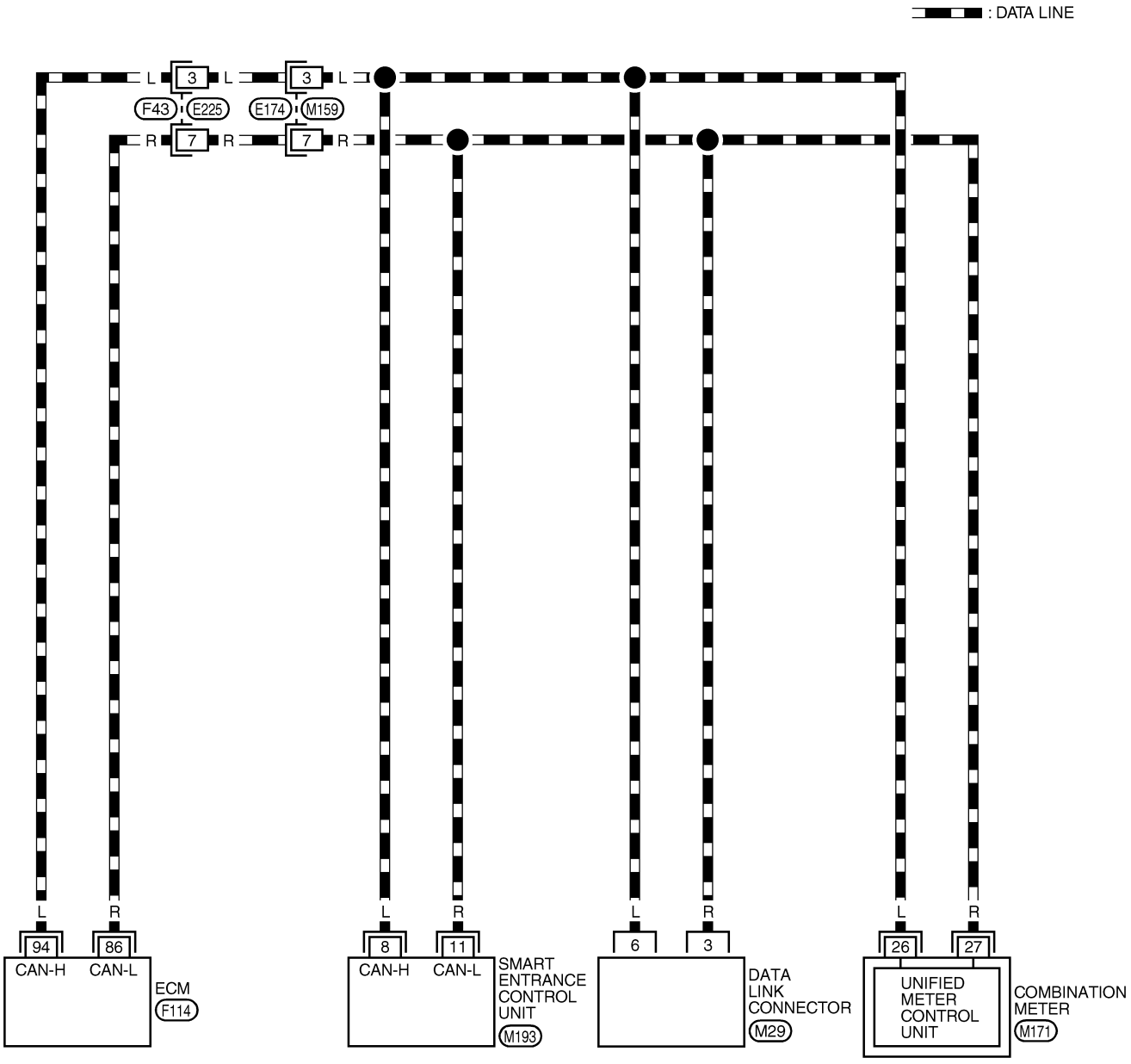
F114 - ELECTRICAL UNIT

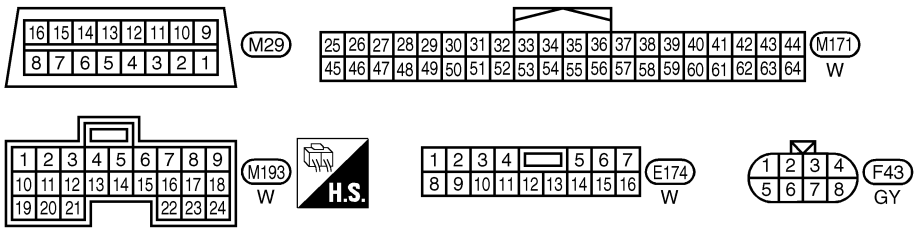
YEL784D

## RHD MODELS

NJEL0544S02

EL-CAN-04




REFER TO THE FOLLOWING.

F114 - ELECTRICAL UNIT

YEL785D

# Trouble Diagnoses

NJEL0545

## WORK FLOW

NJEL0545S01

1. Print all the data of “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE” and “SMART ENTRANCE” displayed on CONSULT-II. Refer to the following.

- “DTC U1000, U1001 CAN COMMUNICATION LINE” (WITH EURO-OBD) (EC-116) for “ENGINE”
- “DTC U1000, U1001 CAN COMMUNICATION LINE” (WITHOUT EURO-OBD) (EC-492) for “ENGINE”
- “CAN Communication Line Check” (EL-380) for “SMART ENTRANCE”.

2. Attach the printed sheet of “SELF-DIAG RESULTS” and “DATA MONITOR” onto the check sheet. Refer to “CHECK SHEET” (EL-534).
3. Based on the data monitor results, put “v” marks onto the items with “UNKWN” or “NG” in the check sheet table. Refer to “CHECK SHEET” (EL-534).

**NOTE:**
If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

4. According to the check sheet results (example), start inspection. Refer to “CHECK SHEET RESULTS (EXAMPLE)” (EL-535).

## CHECK SHEET

NJEL0545S02

Check sheet table

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 6 | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | CAN CIRC 3 |

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

SEL823Y

## CHECK SHEET RESULTS (EXAMPLE)

NJEL0545S03

Case 1: Replace ECM

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM ✔ | CAN CIRC 1 | – | CAN CIRC 6 | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | CAN CIRC 3 |

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 6 ✔ | CAN CIRC 4 ✔ |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | CAN CIRC 3 |

Case 2: Replace smart entrance control unit

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 6 | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM ✔ | CAN CIRC 1 | CAN CIRC 2 | – | CAN CIRC 3 |

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 6 | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 ✔ | – | CAN CIRC 3 ✔ |

Case 3

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 ✔ | – | CAN CIRC 6 ✔ | CAN CIRC 4 ✔ |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 ✔ | – | CAN CIRC 3 |

Case 4

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 6 ✔ | CAN CIRC 4 |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 ✔ | CAN CIRC 2 ✔ | – | CAN CIRC 3 ✔ |

Case 5

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 | – | CAN CIRC 6 | CAN CIRC 4 ✔ |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 | CAN CIRC 2 | – | CAN CIRC 3 ✔ |

Case 6

| | | | | | |
|---|---|---|---|---|---|
| ENGINE | CAN COMM | CAN CIRC 1 ✔ | – | CAN CIRC 6 ✔ | CAN CIRC 4 ✔ |
| SMART ENTRANCE | CAN COMM | CAN CIRC 1 ✔ | CAN CIRC 2 ✔ | – | CAN CIRC 3 ✔ |

SEL824Y

## INSPECTION

NJEL0545S04

Proceed trouble diagnosis according to the check sheet results (example).
Case 1: Replace ECM.
Case 2: Replace smart entrance control unit.
Case 3: Check ECM circuit. Refer to "ECM CIRCUIT CHECK" (EL-536).
Case 4: Check smart entrance control unit circuit. Refer to "SMART ENTRANCE CONTROL UNIT CIRCUIT CHECK" (EL-537).
Case 5: Check combination meter circuit. Refer to "COMBINATION METER CIRCUIT CHECK" (EL-538).
Case 6: Check CAN communication circuit. Refer to "CAN COMMUNICATION CIRCUIT CHECK" (EL-539).

## ECM CIRCUIT CHECK

NJEL0545S05

| 1 | CHECK CONNECTOR |
|---|---|

1. Turn ignition switch OFF.
2. Disconnect the negative battery cable.
3. Check following terminals and connector for damage, bend and loose connection (control module-side and harness-side).

**LHD models**

- ECM
- Harness connector F115
- Harness connector M202

**RHD models**

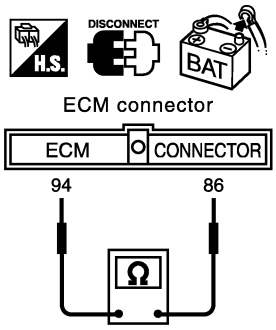
- ECM
- Harness connector F43
- Harness connector E225
- Harness connector E174
- Harness connector M159

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR OPEN CIRCUIT |
|---|---|

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F114 terminals 94 (L) and 86 (R).




**Approx. 108 - 132 Ω**

SEL812Y

**OK or NG**

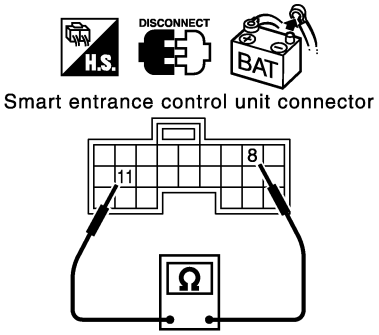
| | | |
|---|---|---|
| OK | ▶ | Replace ECM. |
| NG | ▶ | Repair harness between ECM and smart entrance control unit. |

## SMART ENTRANCE CONTROL UNIT CIRCUIT CHECK

=NJEL0545S06

| 1 | CHECK CONNECTOR | |
|---|---|---|
| 1. Turn ignition switch OFF.<br>2. Disconnect the negative battery cable.<br>3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection (control unit-side and harness-side). | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
|---|---|---|
| 1. Disconnect smart entrance control unit connector.<br>2. Check resistance between smart entrance control unit harness connector M193 terminals 8 (L) and 11 (R). | | |
| **OK or NG** | | |
| OK | ▶ | Replace smart entrance control unit. |
| NG | ▶ | Repair harness between smart entrance control unit and data link connector. |




**Approx. 54 - 66 Ω**

SEL814Y

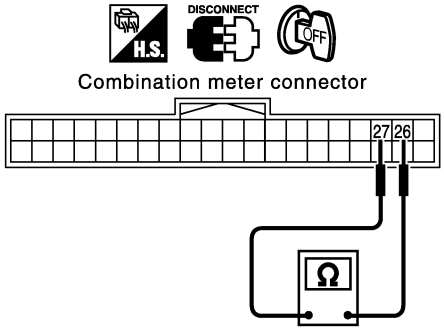
GI MA EM LC EC FE CL MT AT AX SU BR ST RS BT HA SC EL IDX

## COMBINATION METER CIRCUIT CHECK

=NJEL0545S07

| 1 | CHECK CONNECTOR | |
|---|---|---|
| 1. Turn ignition switch OFF.<br>2. Disconnect the negative battery cable.<br>3. Check terminals and connector of combination meter for damage, bend and loose connection (meter-side and harness-side). | | |
| **OK or NG** | | |
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR OPEN CIRCUIT | |
|---|---|---|
| 1. Disconnect combination meter connector.<br>2. Check resistance between combination meter harness connector M171 terminals 26 (L) and 27 (R). | | |
| **OK or NG** | | |
| OK | ▶ | Replace combination meter. |
| NG | ▶ | Repair harness between combination meter and smart entrance control unit. |




**Approx. 108 - 132 Ω**

SEL815Y

## CAN COMMUNICATION CIRCUIT CHECK

=NJEL0545S08

| 1 | CHECK CONNECTOR |
|---|---|

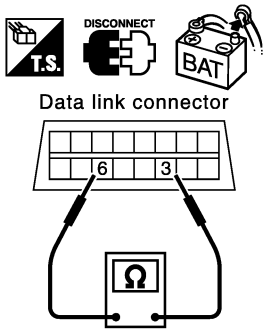
1. Turn ignition switch OFF.
2. Disconnect the negative battery cable.
3. Check following terminals and connector for damage, bend and loose connection (meter-side, control unit-side, control module-side and harness-side).
- Combination meter
- Smart entrance control unit
- ECM
- Between ECM and smart entrance control unit

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 2. |
| NG | ▶ | Repair terminal or connector. |

| 2 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

1. Disconnect combination meter connector, smart entrance control unit connector and harness connector M202 (LHD models) or harness connector M159 (RHD models).
2. Check continuity between data link connector M29 terminals 6 (L) and 3 (R).




**Continuity should not exist.**

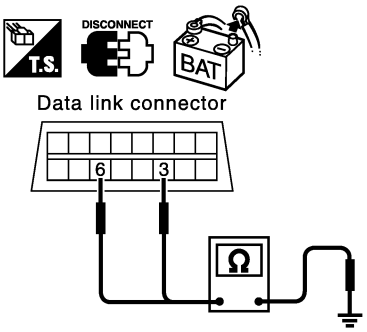
SEL816Y

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 3. |
| NG | ▶ | • Repair harness between data link connector and harness connector M202 (LHD models) or M159 (RHD models).<br>• Repair harness between data link connector and smart entrance control unit.<br>• Repair harness between data link connector and combination meter. |

| 3 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

Check continuity between data link connector M29 terminals 6 (L), 3 (R) and ground.




**Continuity should not exist.**

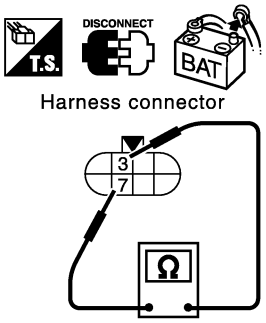
SEL817Y

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 6. (LHD models)<br>GO TO 4. (RHD models) |
| NG | ▶ | • Repair harness between data link connector and harness connector M202 (LHD models) or M159 (RHD models).<br>• Repair harness between data link connector and smart entrance control unit.<br>• Repair harness between data link connector and combination meter. |

| 4 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

1. Disconnect harness connector E225.
2. Check continuity between harness connector E225 terminals 3 (L) and 7 (R).




**Continuity should not exist.**

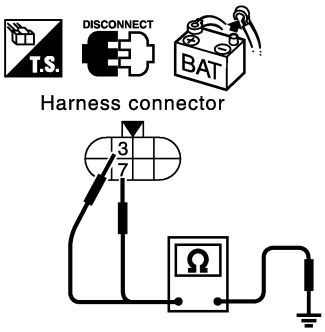
SEL818Y

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 5. |
| NG | ▶ | Repair harness between harness connector E225 and harness connector E174. |

| 5 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

Check continuity between harness connector E225 terminals 3 (L) , 7 (R) and ground.




**Continuity should not exist.**

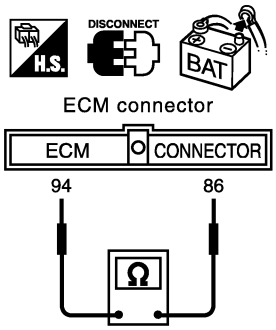
SEL819Y

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 6. |
| NG | ▶ | Repair harness between harness connector E225 and harness connector E174. |

| 6 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

1. Disconnect ECM connector.
2. Check continuity between ECM harness connector F114 terminals 94 (L) and 86 (R).




**Continuity should not exist.**

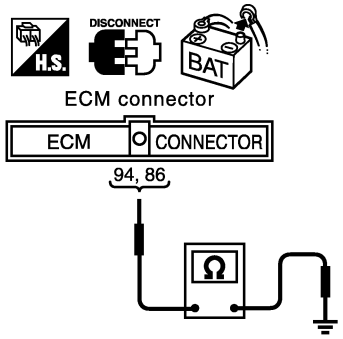
SEL820Y

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | GO TO 7. |
| NG | ▶ | Repair harness between ECM and harness connector F115 (LHD models) or F43 (RHD models). |

| 7 | CHECK HARNESS FOR SHORT CIRCUIT |
|---|---|

Check continuity between ECM harness connector F114 terminals 94 (L), 86 (R) and ground.




**Continuity should not exist.**

SEL821Y

**OK or NG**

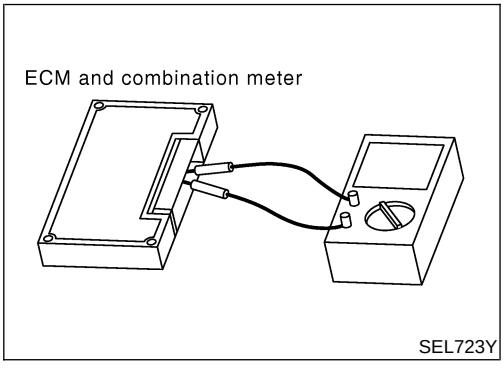
| | | |
|---|---|---|
| OK | ▶ | GO TO 8. |
| NG | ▶ | Repair harness between ECM and harness connector F115 (LHD models) or F43 (RHD models). |

| 8 | ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION |
|---|---|

Check components inspection. Refer to "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION" (EL-542).

**OK or NG**

| | | |
|---|---|---|
| OK | ▶ | Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE" and "SMART ENTRANCE" displayed on CONSULT-II. Refer to the following.<br>● "DTC U1000, U1001 CAN COMMUNICATION LINE" (WITH EURO-OBD) (EC-116) for "ENGINE"<br>● "DTC U1000, U1001 CAN COMMUNICATION LINE" (WITHOUT EURO-OBD) (EC-492) for "ENGINE"<br>● "CAN Communication Line Check" (EL-380) for "SMART ENTRANCE" |
| NG | ▶ | Replace ECM and/or combination meter. |




## Component Inspection

NJEL0546

### ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

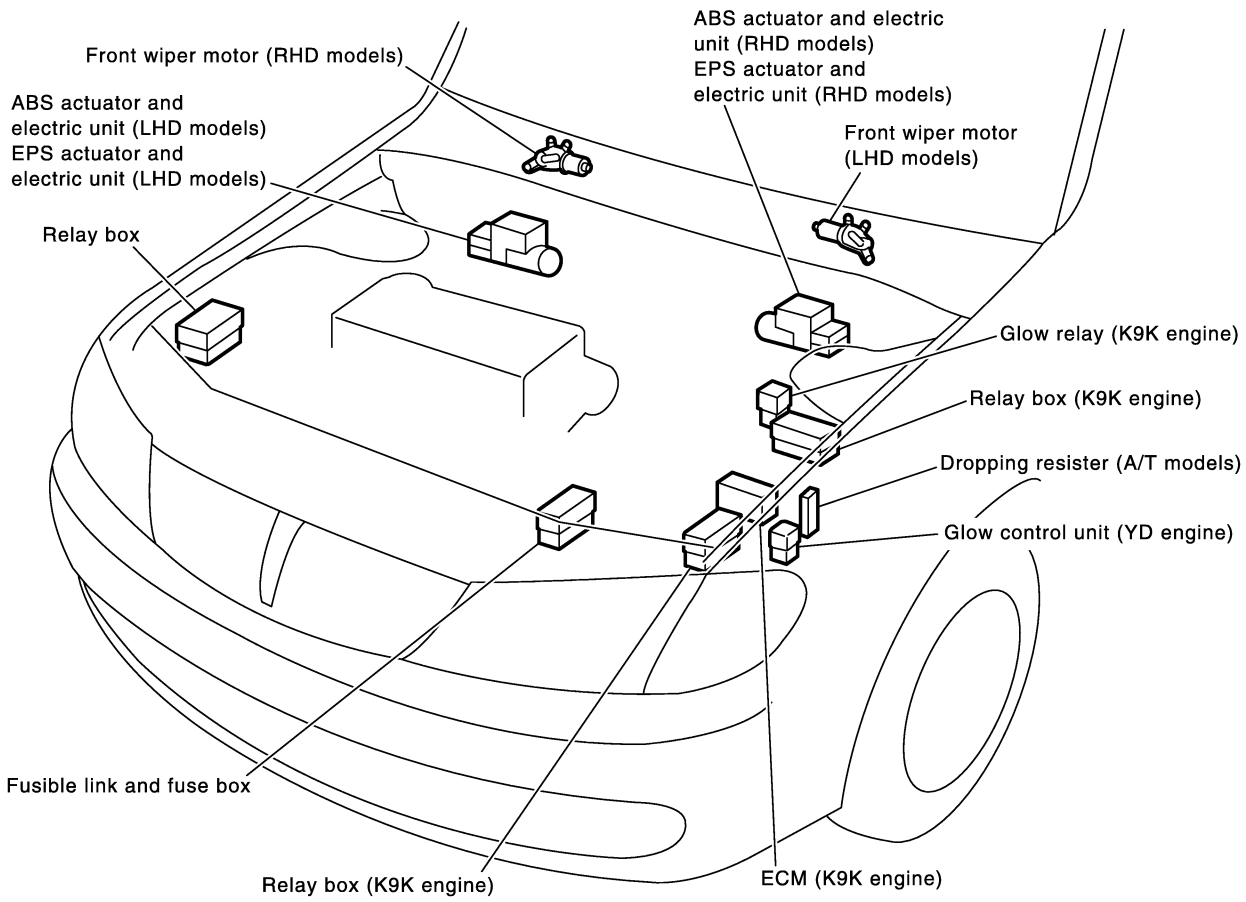
NJEL0546S01

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between combination meter terminals 26 and 27.

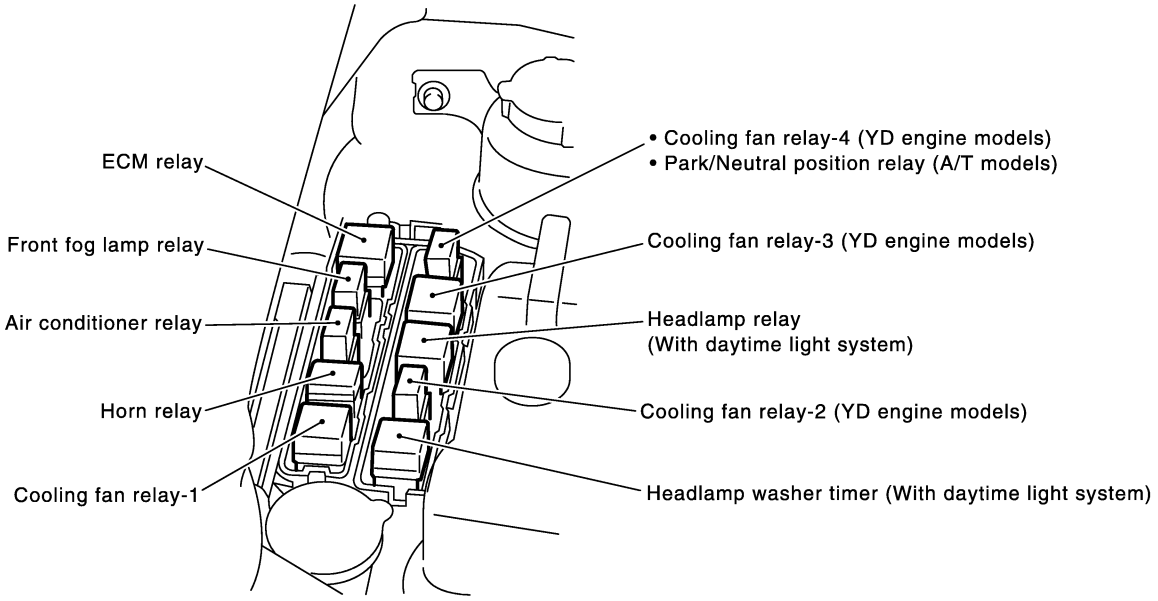
| Unit | Terminal | Resistance value (Ω) |
|---|---|---|
| ECM | 94 - 86 | Approx. 108 - 132 |
| Combination meter | 26 - 27 | |

## Engine Compartment

NJEL0129

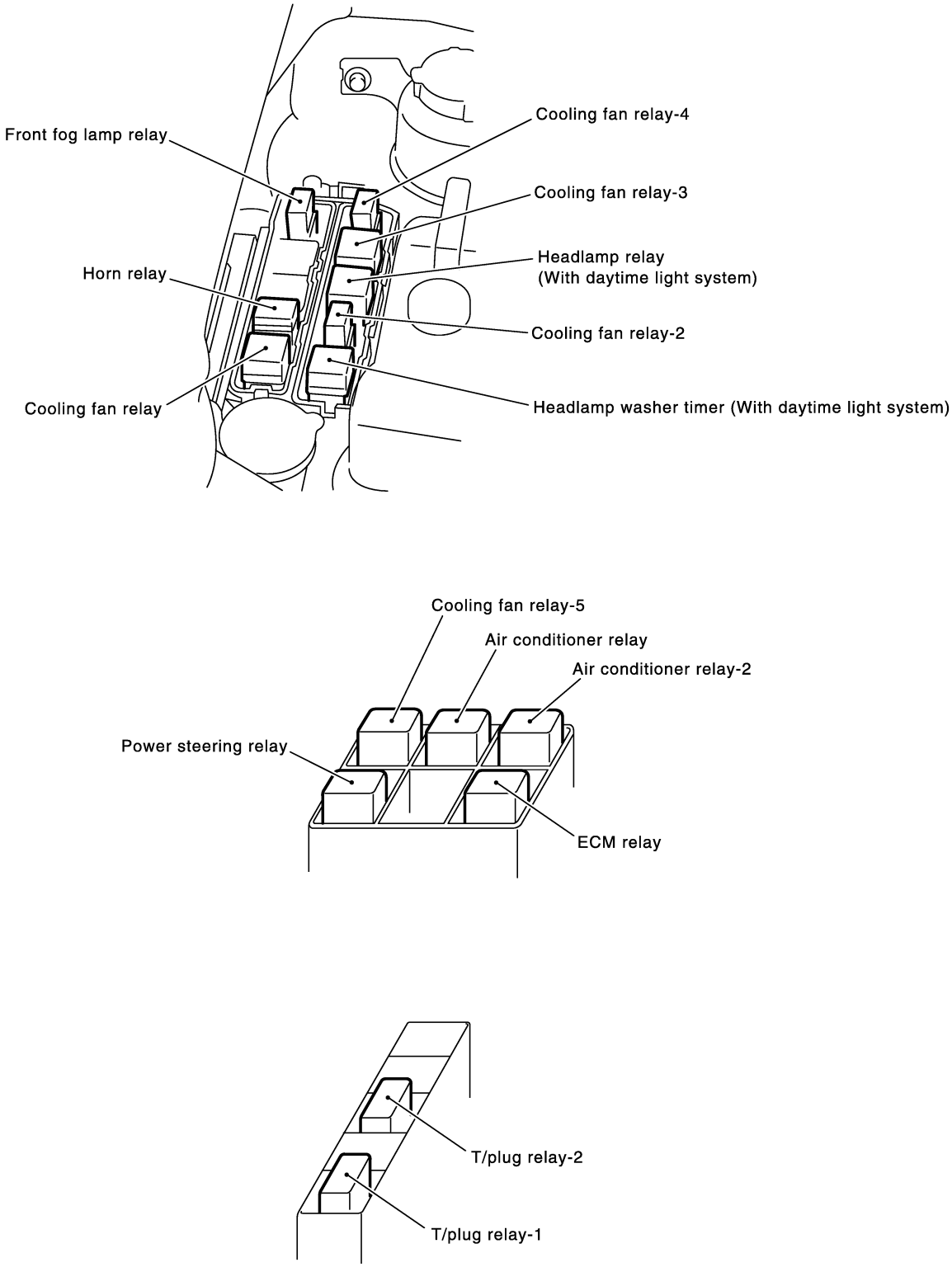



### RELAY BOX (QG ENGINE AND YD ENGINE)




YEL609D

**RELAY BOX (K9K ENGINE)**

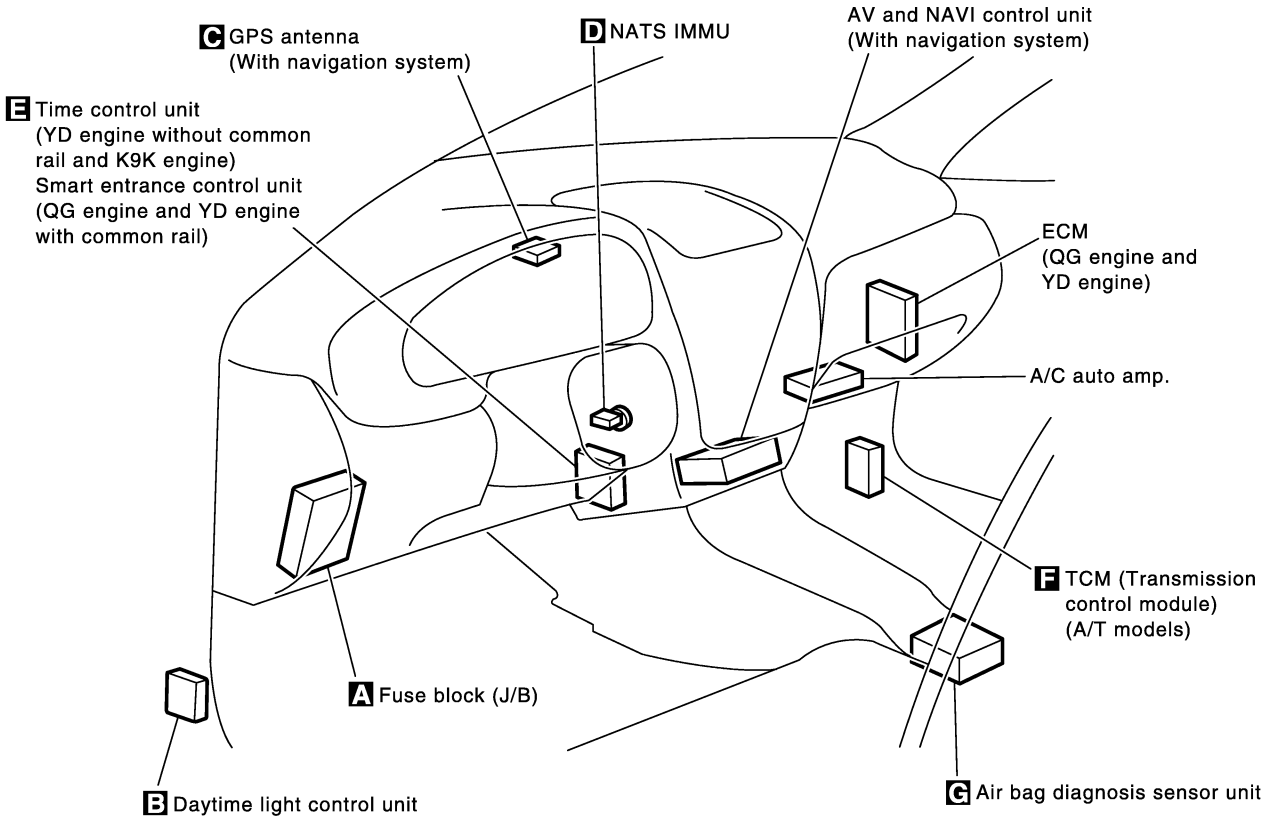



YEL610D

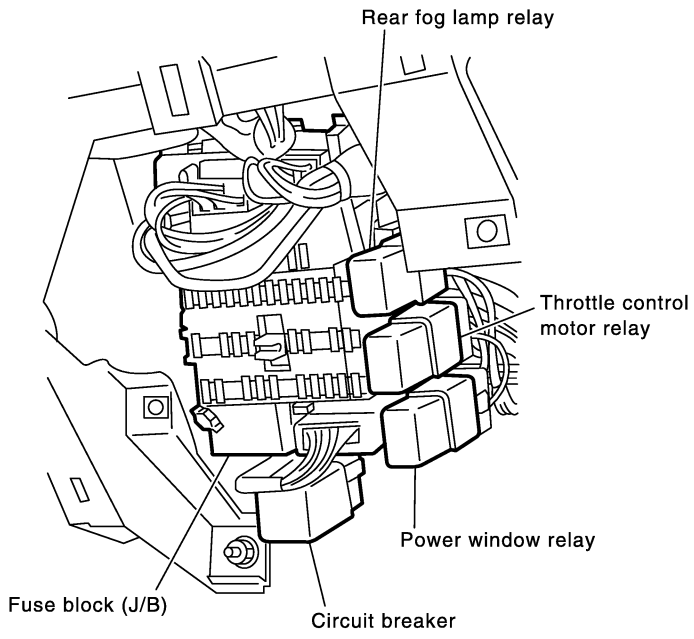
**NOTE:**

## Passenger Compartment/LHD Models

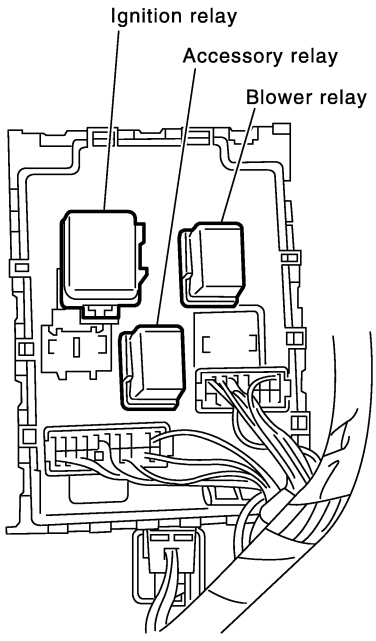
NJEL0130



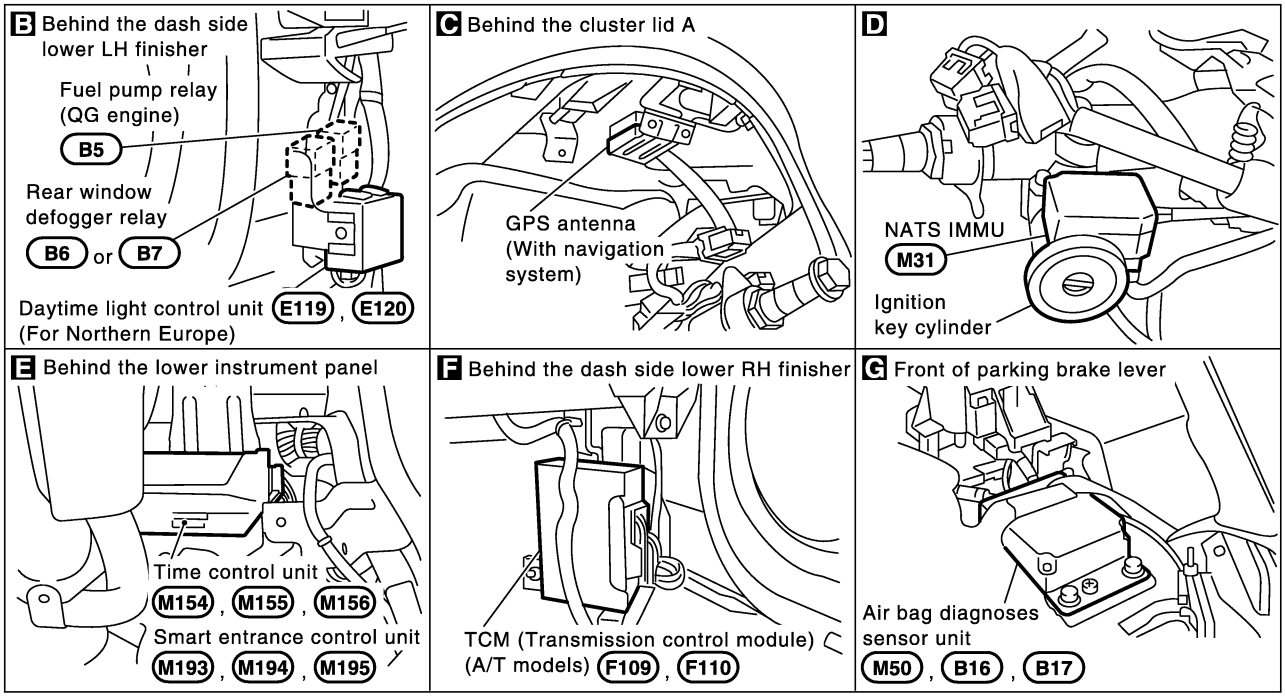

A Instrument panel LH side




The back of the fuse block (J/B)




YEL611D

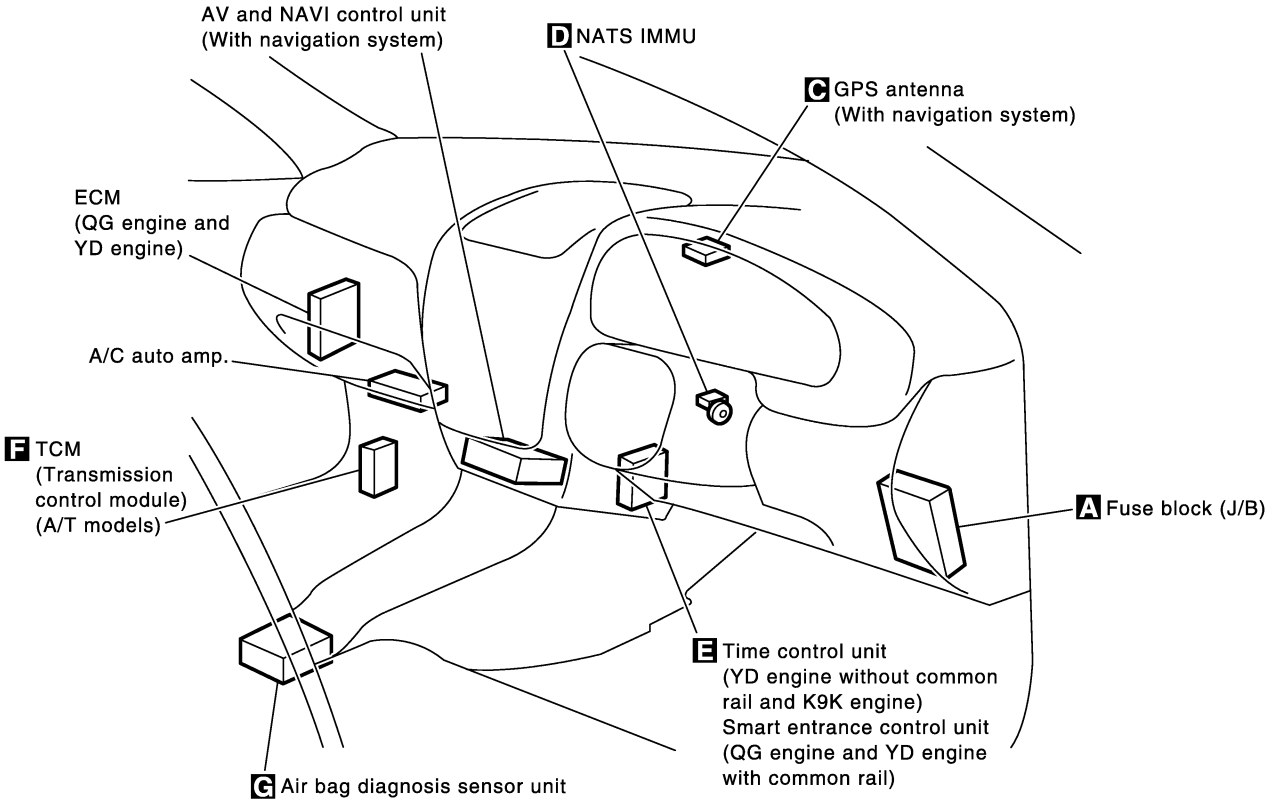

B Behind the dash side lower LH finisher
Fuel pump relay (QG engine)
B5
Rear window defogger relay
B6 or B7
Daytime light control unit E119, E120 (For Northern Europe)
C Behind the cluster lid A
GPS antenna (With navigation system)
D
NATS IMMU
M31
Ignition key cylinder
E Behind the lower instrument panel
Time control unit
M154, M155, M156
Smart entrance control unit
M193, M194, M195
F Behind the dash side lower RH finisher
TCM (Transmission control module) (A/T models) F109, F110
G Front of parking brake lever
Air bag diagnoses sensor unit
M50, B16, B17



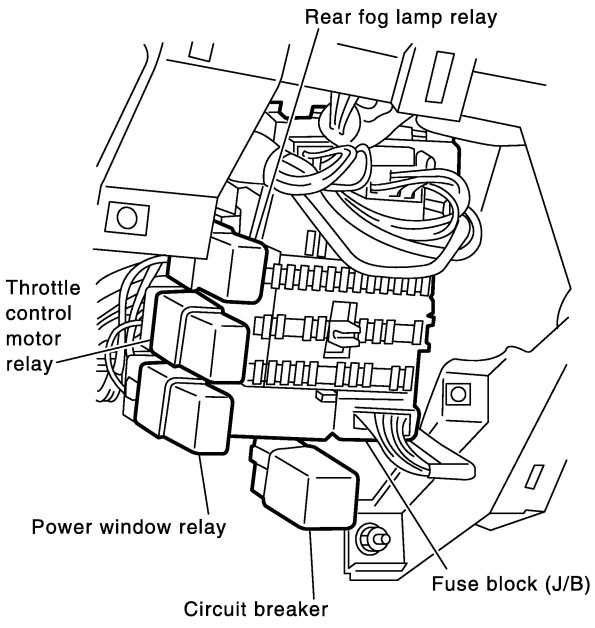
YEL612D

## Passenger Compartment/RHD Models

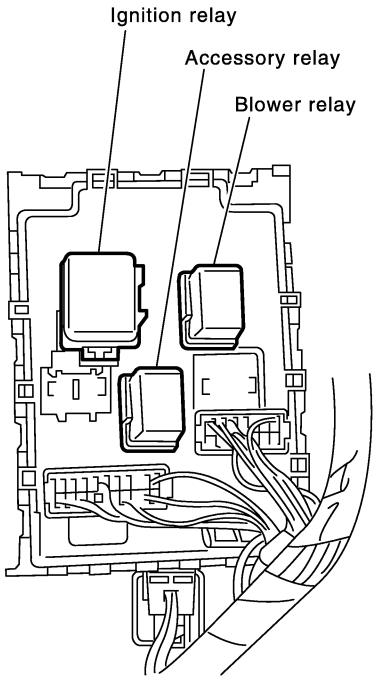
NJEL0345



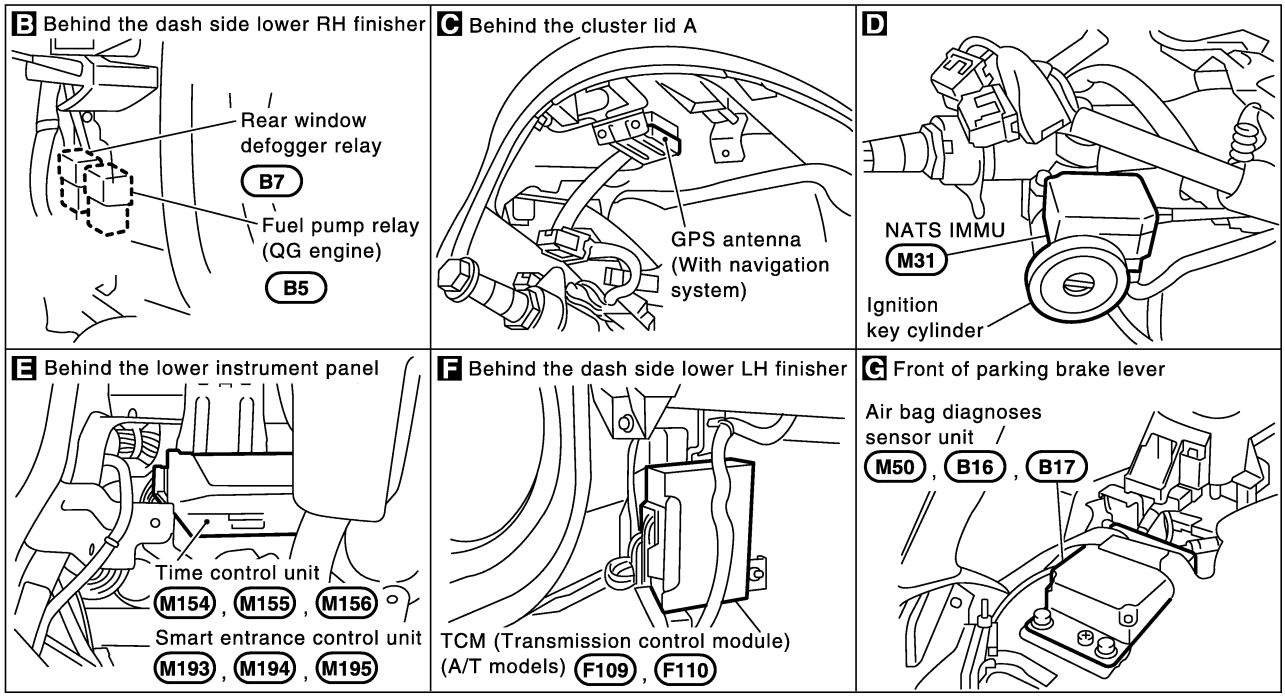

A Instrument panel RH side




The back of the fuse block (J/B)




YEL613D

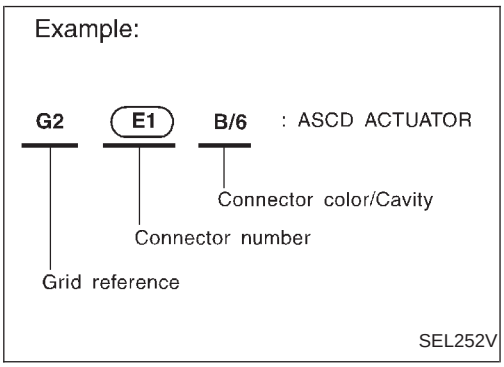

B Behind the dash side lower RH finisher
Rear window defogger relay
B7
Fuel pump relay (QG engine)
B5
C Behind the cluster lid A
GPS antenna (With navigation system)
D
NATS IMMU
M31
Ignition key cylinder
E Behind the lower instrument panel
Time control unit
M154, M155, M156
Smart entrance control unit
M193, M194, M195
F Behind the dash side lower LH finisher
TCM (Transmission control module)
(A/T models) F109, F110
G Front of parking brake lever
Air bag diagnoses sensor unit
M50, B16, B17



YEL614D

## How to Read Harness Layout

NJEL0131




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

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

### TO USE THE GRID REFERENCE

NJEL0131S01

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

NJEL0131S02

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

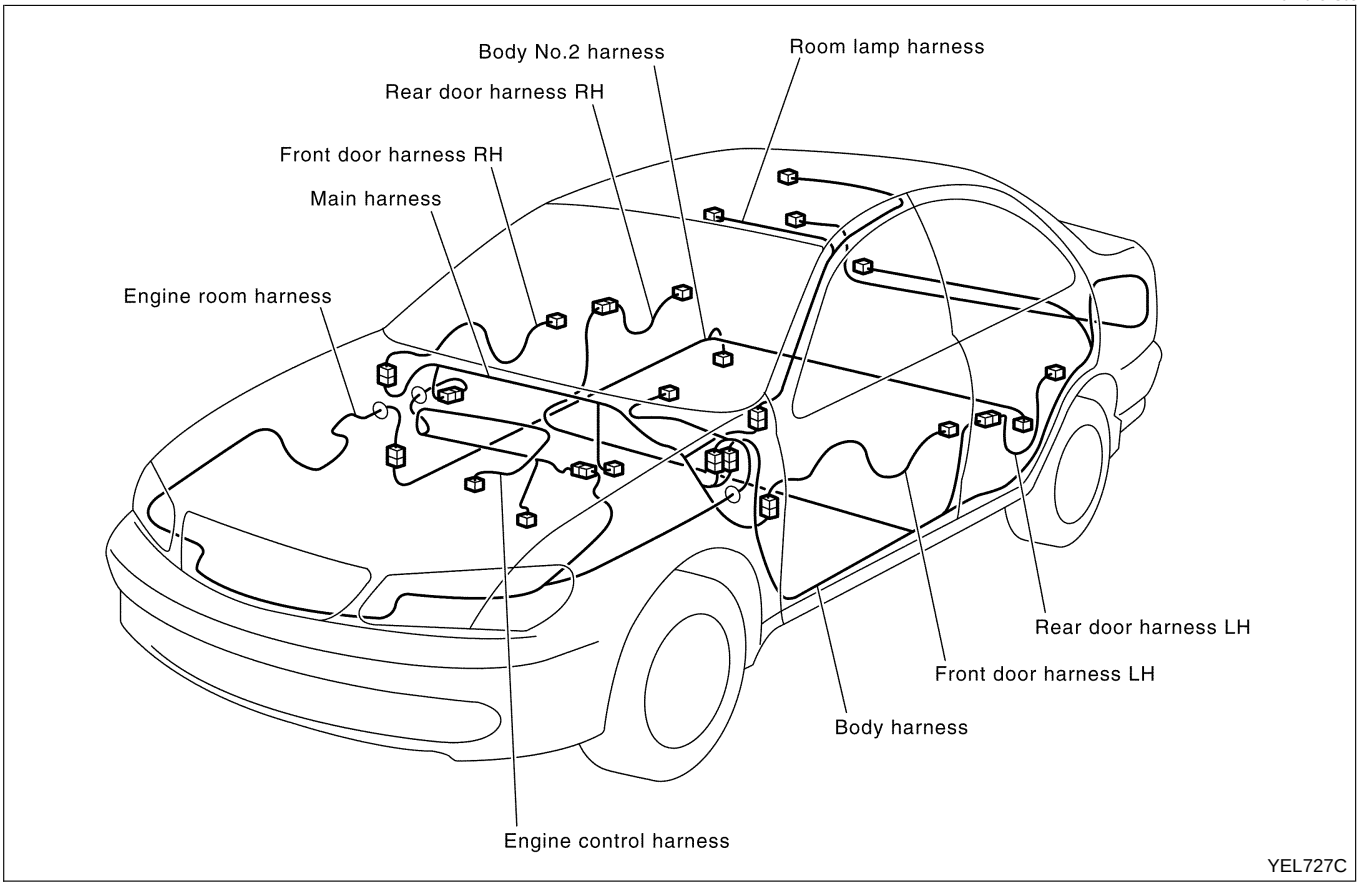
| Connector type | Water proof type | | Standard type | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| • Cavity: Less than 4<br>• Relay connector |  |  |  |  |
| • Cavity: From 5 to 8 |  |  |  |  |
| • Cavity: More than 9 |  |  |  |  |
| • Ground terminal etc. | — | |  | |

# Outline/Sedan

NJEL0132

## LHD MODELS

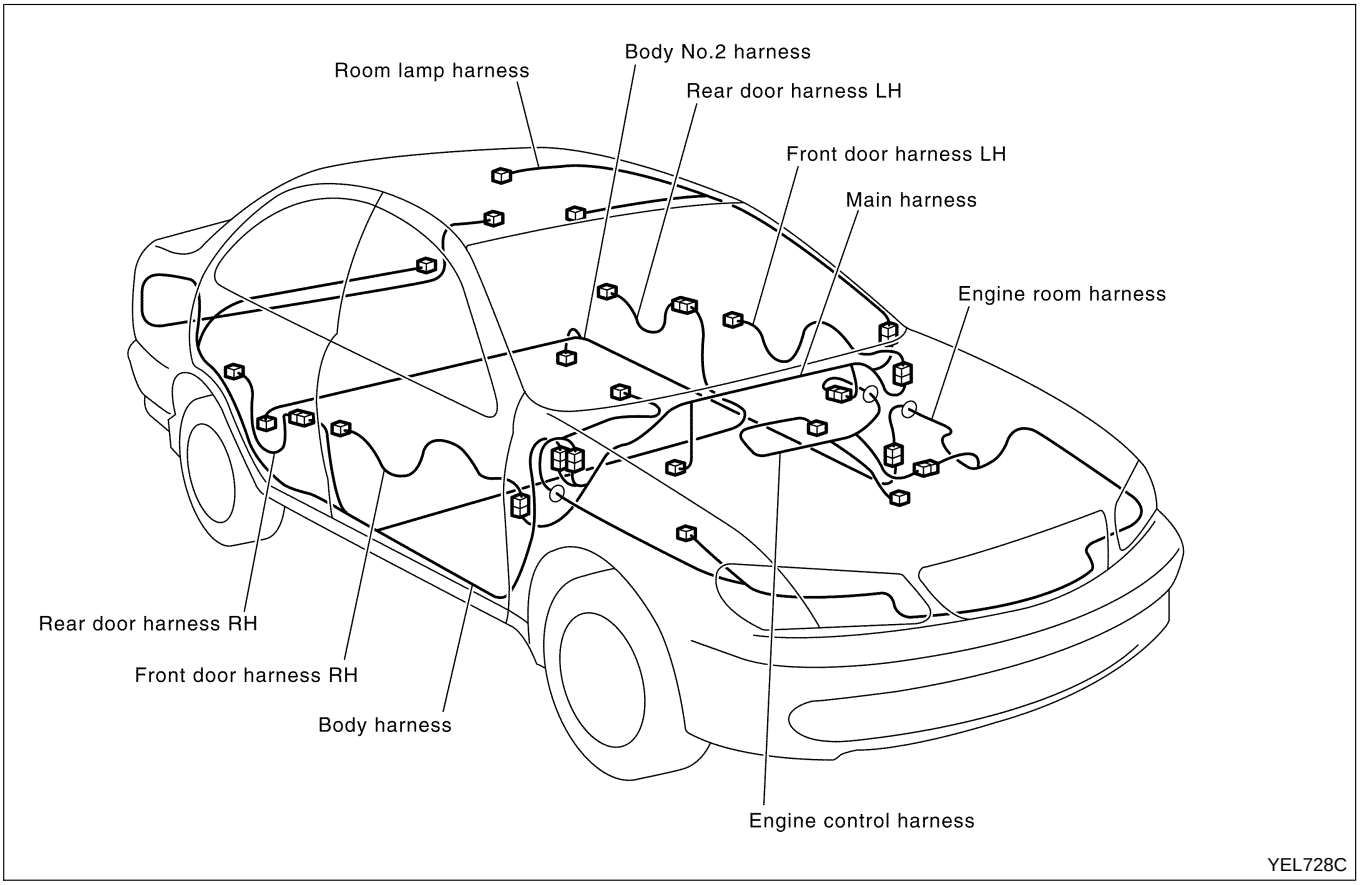
NJEL0132S03




**NOTE:**
For detailed ground distribution information, refer to “Ground Distribution”, “GROUND”, EL-24.

## RHD MODELS

NJEL0132S04



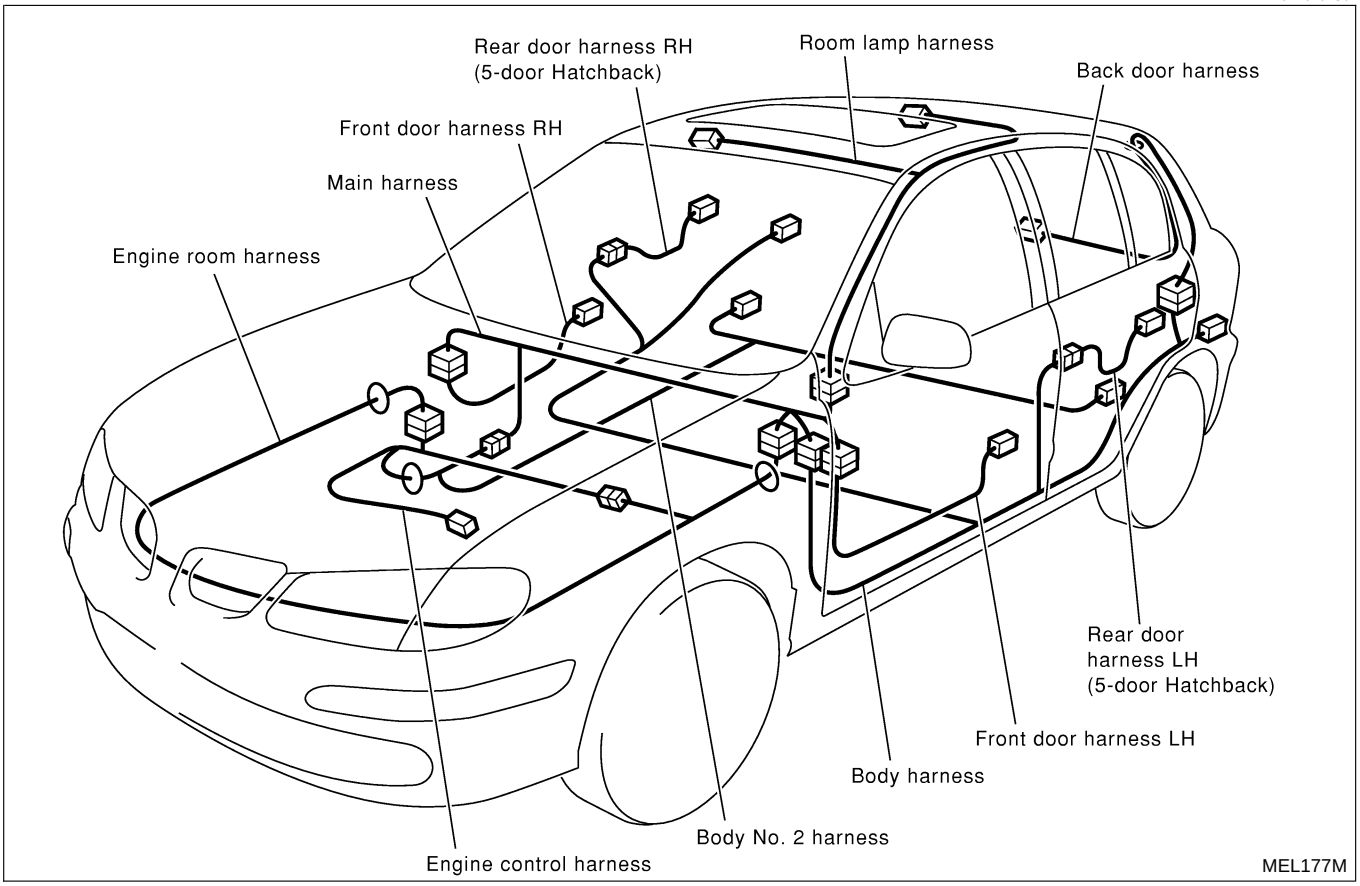

**NOTE:**
For detailed ground distribution information, refer to "Ground Distribution", "GROUND", EL-24.

# Outline/Hatchback

NJEL0491

## LHD MODELS

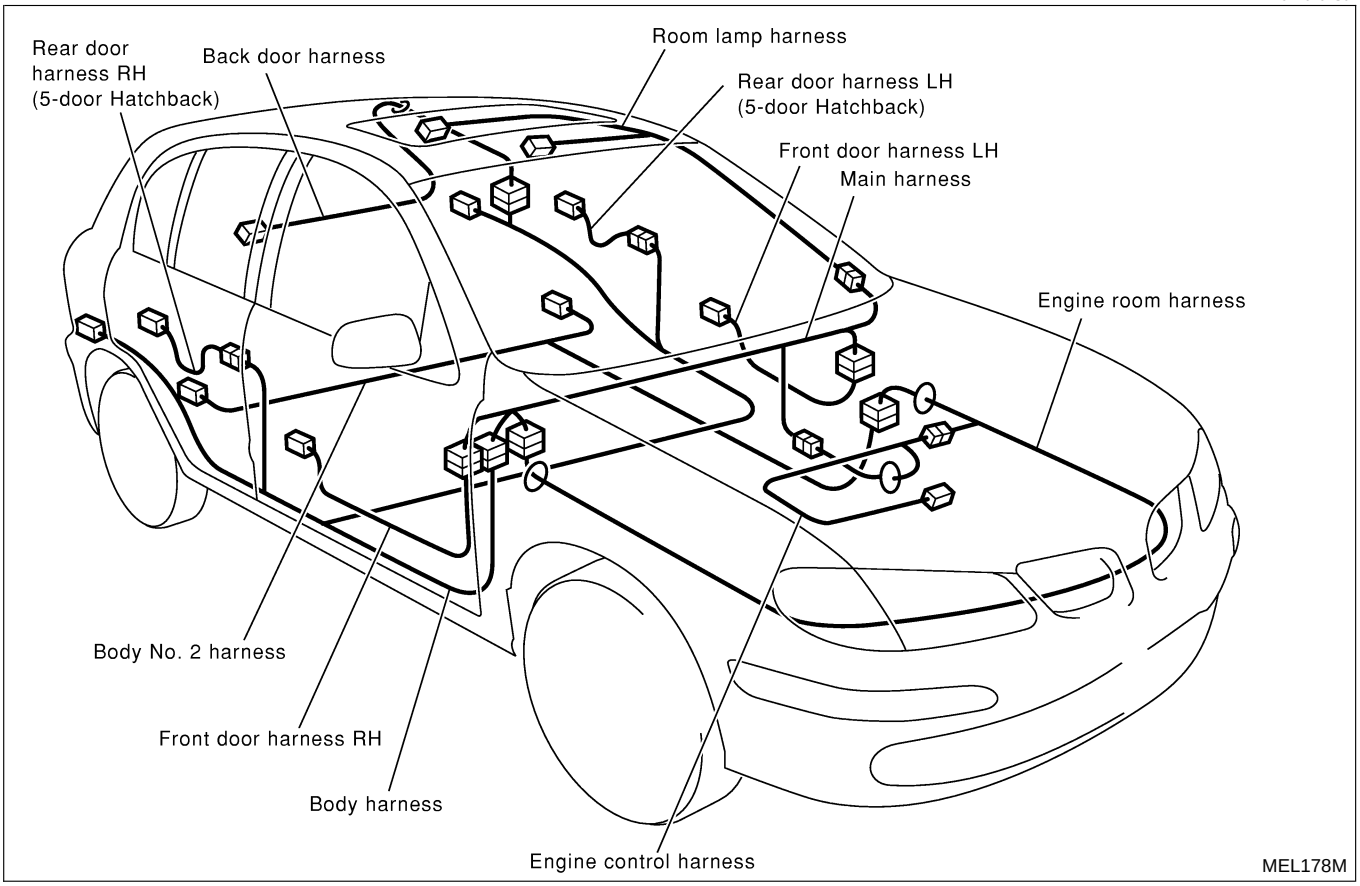
NJEL0491S01




**NOTE:**
For detailed ground distribution information, refer to “Ground Distribution”, “GROUND”, EL-24.

## RHD MODELS

NJEL0491S02




**NOTE:**
For detailed ground distribution information, refer to "Ground Distribution", "GROUND", EL-24.

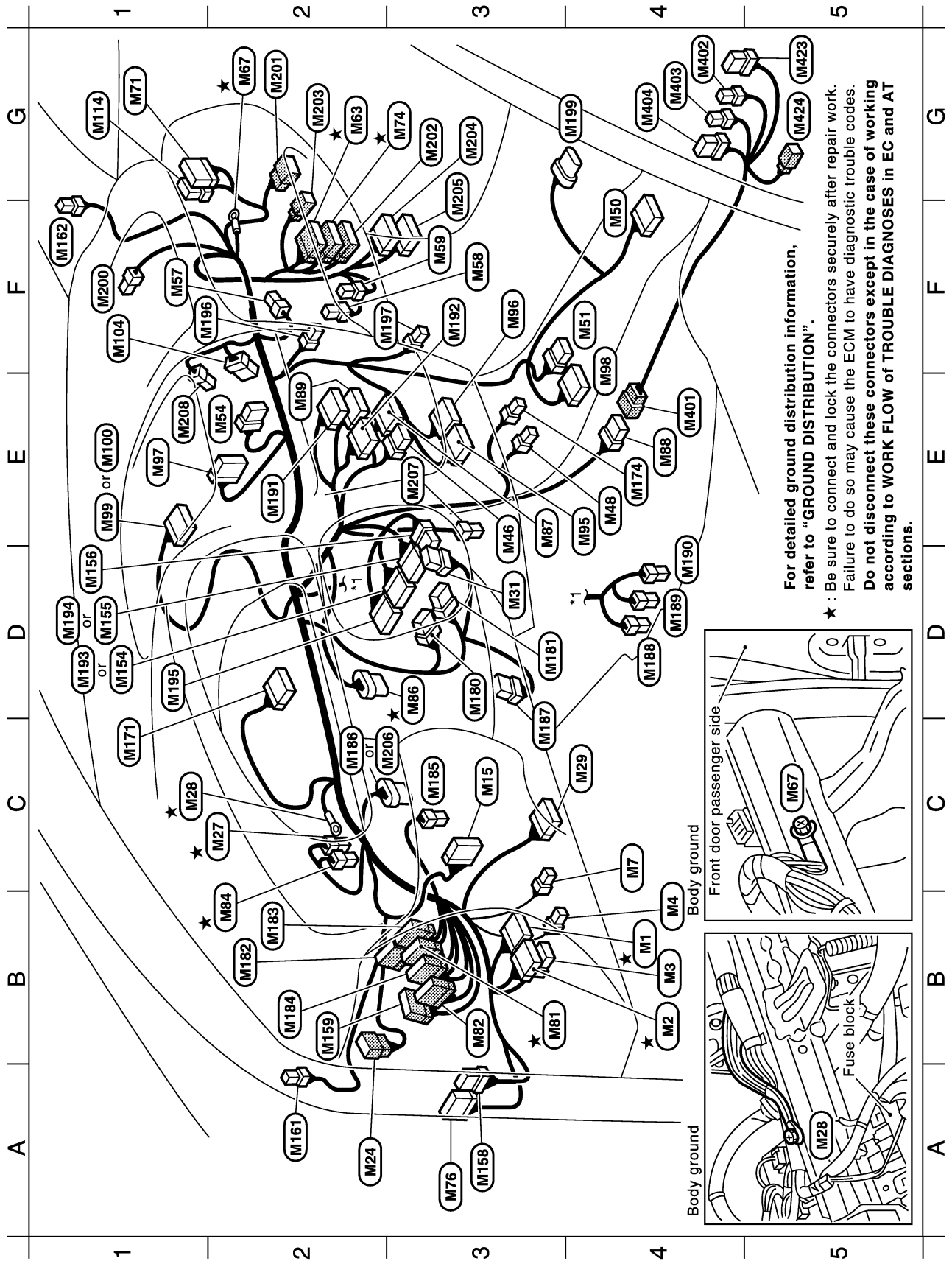
**NOTE:**

## Main Harness

NJEL0347

### LHD MODELS

NJEL0347S01




YEL615D

B4 (M1) W/16 : Fuse block (J/B)
★B4 (M2) W/12 : Fuse block (J/B)
B4 (M3) W/6 : Fuse block (J/B)
B4 (M4) W/2 : Circuit breaker
C4 (M7) L/4 : Power window relay (With power window)
C3 (M15) W/10 : Door mirror remote control switch
A2 (M24) W/6 : To (R1)
★C2 (M27) B/2 : Stop lamp switch
★C1 (M28) – : Body ground
C4 (M29) W/16 : Data link connector
D3 (M31) W/8 : NATS IMMU
E3 (M46) W/6 : Heater control panel (Fan switch) (Manual A/C)
E4 (M48) B/2 : Cigarette lighter socket
F4 (M50) Y/20 : Air bag diagnosis sensor unit
F4 (M51) W/8 : A/T device (A/T models)
E2 (M54) W/8 : Hazard switch
F1 (M57) Y/2 : Front passenger air bag module
F3 (M58) BR/4 : Fan resistor
F3 (M59) W/2 : Blower motor
★G2 (M63) W/16 : To (F102) (YD engine without common rail)
★G2 (M67) – : Body ground
G1 (M71) W/12 : To (D31)
★G3 (M74) BR/16 : To (F112) (YD engine without common rail)
A3 (M76) W/16 : To (D11)
★B3 (M81) W/12 : To (B38)
B3 (M82) BR/16 : To (B37)
★B2 (M84) BR/2 : Brake pedal position switch (YD engine)
★D3 (M86) –/5 : Accelerator work unit (YD engine without common rail)
E3 (M87) W/12 : Heater control panel (A/C switch • DEF switch) (Manual A/C)
E4 (M88) W/6 : To (M401)
E2 (M89) W/16 : Audio unit (Without display unit)
E4 (M95) W/24 : AV and NAVI control unit (With navigation system)
F3 (M96) GY/24 : AV and NAVI control unit (With navigation system)
E1 (M97) W/16 : Multi-function switch
E4 (M98) W/12 : Telephone sub-harness
E1 (M99) BR/24 : Display unit (Without navigation system)
E1 (M100) GY/24 : Display unit (With navigation system)
F1 (M104) B/6 : Intake door motor (Manual A/C)
G1 (M114) W/8 : To (D41)
D1 (M154) W/16 : Time control unit (YD engine without common rail and K9K engine)
D1 (M155) W/20 : Time control unit (YD engine without common rail and K9K engine)
D1 (M156) W/8 : Time control unit (YD engine without common rail and K9K engine)
A3 (M158) W/8 : To (D23)
B2 (M159) W/16 : To (E174)
A2 (M161) BR/2 : Pillar tweeter LH
F1 (M162) BR/2 : Pillar tweeter RH
C1 (M171) W/40 : Combination meter
E4 (M174) W/2 : Ashtray illumination
D3 (M180) Y/6 : Combination switch (Spiral cable)
D3 (M181) GY/8 : Combination switch (Spiral cable)
B2 (M182) W/20 : To (E251) (OG engine or YD engine)
B2 (M182) W/12 : To (E253) (K9K engine)
B2 (M184) W/16 : To (E252) (K9K engine)
C3 (M185) L/2 : Clutch switch (YD engine with common rail)
C2 (M186) –/8 : Accelerator work unit (YD engine with common rail)
C3 (M187) W/8 : Steering angle sensor
D4 (M188) W/3 : Air mix door motor (Auto A/C)
D4 (M189) W/3 : Mode door motor (Auto A/C)
D4 (M190) W/4 : Fan control amp. (Auto A/C)
E2 (M191) W/12 : Audio unit (With display unit)
F3 (M192) W/24 : Audio unit (With display unit)
D1 (M193) W/24 : Smart entrance control unit (QG engine and YD engine with common rail)
D1 (M194) GY/24 : Smart entrance control unit (QG engine and YD engine with common rail)
D1 (M195) GY/16 : Smart entrance control unit (QG engine and YD engine with common rail)
F1 (M196) W/2 : Microphone
F2 (M197) W/2 : Intake sensor (Auto A/C)
G4 (M199) –/6 : Yaw rate/side G sensor (For ESP)
F1 (M200) B/2 : Sunload sensor (Auto A/C)
G2 (M201) W/6 : After market alarm
G3 (M202) W/24 : To (F115) (With CAN system)
G2 (M203) W/2 : To (F116) (With CAN system)
G3 (M204) GY/20 : A/C auto amp. (Auto A/C)
G3 (M205) GY/16 : A/C auto amp. (Auto A/C)
C2 (M206) –/6 : Accerator pedal position sensor (QG engine)
E3 (M207) W/2 : In-vehicle sensor (Auto A/C)
E1 (M208) W/3 : Intake door motor (Auto A/C)

## Console harness

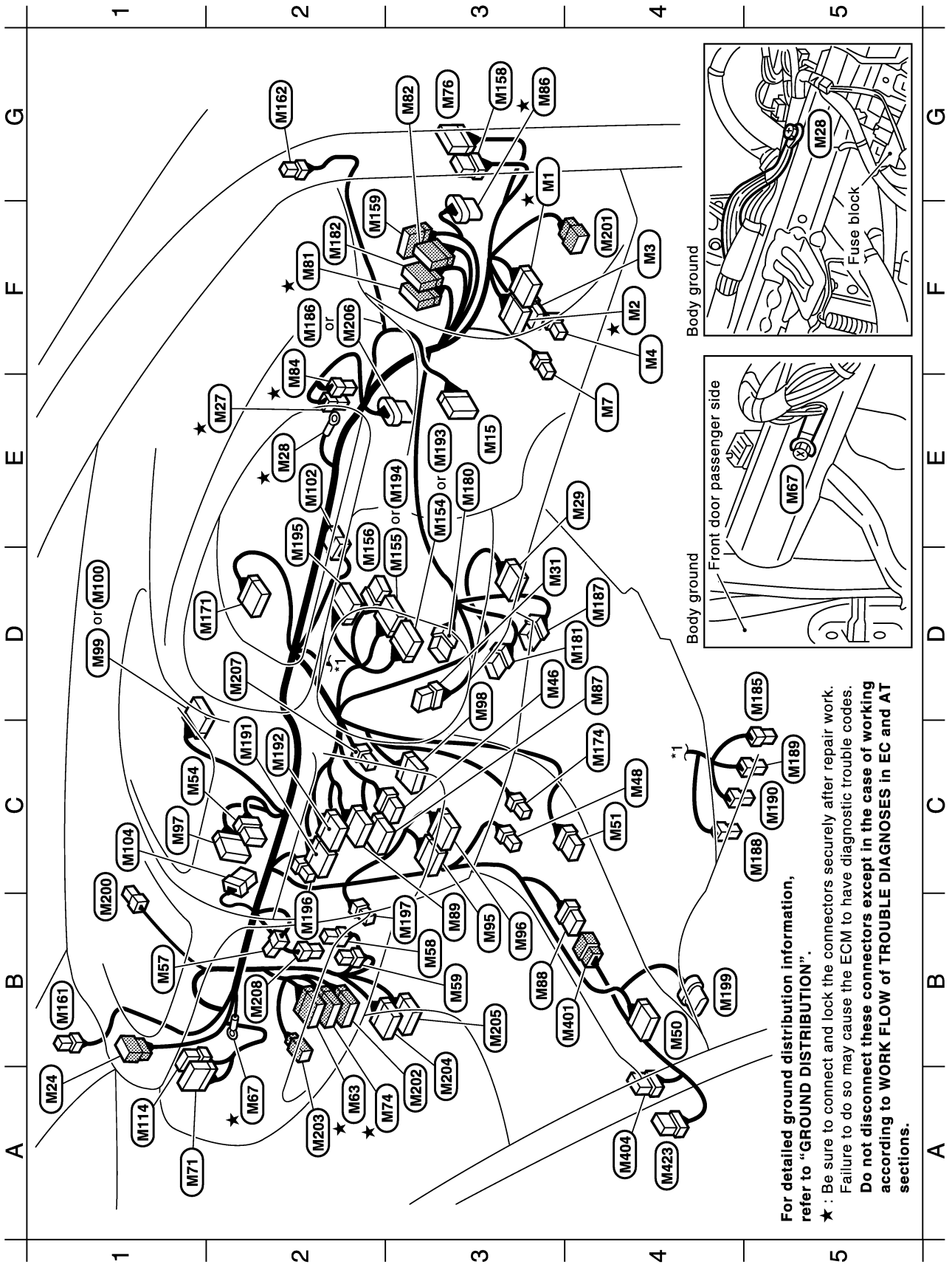
E4 (M401) W/6 : To (M88)
G4 (M402) L/4 : Heated seat switch LH (With heated seat)
G4 (M403) W/4 : Heated seat switch RH (With heated seat)
G4 (M404) W/6 : Door lock/unlock switch (With power door lock without power window)
G5 (M423) GY/6 : ESP off switch
G5 (M424) W/4 : To (M89) (For heated seat)

★: 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.**

YEL616D

## RHD MODELS

NJEL0347S02




YEL617D

★G3 M1 W/16 : Fuse block (J/B)
★F4 M2 W/12 : Fuse block (J/B)
F4 M3 W/6 : Fuse block (J/B)
F4 M4 W/2 : Circuit breaker
E4 M7 L/4 : Power window relay (With power window)
E3 M15 W/10 : Door mirror remote control switch
A1 M24 W/6 : To R1
★E2 M27 B/2 : Stop lamp switch
★E2 M28 – : Body ground
E4 M29 W/16 : Data link connector
D3 M31 W/8 : NATS IMMU
D3 M46 W/6 : Heater control panel (Fan switch) (Manual A/C)
C4 M48 B/2 : Cigarette lighter socket
B4 M50 Y/20 : Air bag diagnosis sensor unit
C4 M51 W/8 : A/T device (A/T models)
C1 M54 W/8 : Hazard switch
B1 M57 Y/2 : Front passenger air bag module
B3 M58 BR/4 : Fan resistor
B3 M59 W/2 : Blower motor
★A2 M63 W/16 : To F102 (YD engine without common rail)
★A2 M67 – : Body ground
A1 M71 W/12 : To D31
★A3 M74 BR/16 : To F112 (YD engine without common rail)
G3 M76 W/16 : To D11
★F2 M81 W/12 : To B38
G3 M82 BR/16 : To B37
★F2 M84 BR/2 : Brake pedal position switch (YD engine)
★G3 M86 –/5 : Accelerator work unit (YD engine without common rail)
D4 M87 W/12 : Heater control panel (A/C switch • DEF switch) (Manual A/C)
B3 M88 W/6 : To M401
B3 M89 W/16 : Audio unit (Without display unit)
B3 M95 W/24 : AV and NAVI control unit (With navigation system)
B3 M96 GY/24 : AV and NAVI control unit (With navigation system)
C1 M97 W/16 : Multi-function switch
D3 M98 W/12 : Telephone sub-harness
D1 M99 BR/24 : Display unit (Without navigation system)
D1 M100 GY/24 : Display unit (With navigation system)
E2 M102 BR/8 : Dongle unit
C1 M104 B/6 : Intake door motor (Manual A/C)
A1 M114 W/8 : To D41
E3 M154 W/16 : Time control unit (YD engine without common rail and K9K engine)
D3 M155 W/20 : Time control unit (YD engine without common rail and K9K engine)
D2 M156 W/8 : Time control unit (YD engine without common rail and K9K engine)
G3 M158 W/8 : To D23
F2 M159 W/16 : To E174
B1 M161 BR/2 : Pillar tweeter LH
G2 M162 BR/2 : Pillar tweeter RH
D1 M171 W/40 : Combination meter
C4 M174 W/2 : Ashtray illumination
E3 M180 Y/6 : Combination switch (Spiral cable)
D4 M181 GY/8 : Combination switch (Spiral cable)
F2 M182 W/20 : To E251
D5 M185 L/2 : Clutch switch (YD engine with common rail)
F2 M186 –/8 : Accelerator work unit (YD engine with common rail)
D4 M187 W/8 : Steering angle sensor (For ESP)
C5 M188 W/3 : Air mix door motor (Auto A/C)
C5 M189 W/3 : Mode door motor (Auto A/C)
C5 M190 W/4 : Fan control amp. (Auto A/C)
C2 M191 W/12 : Audio unit (With display unit)
C2 M192 W/24 : Audio unit (With display unit)
E3 M193 W/24 : Smart entrance control unit (QG engine and YD engine with common rail)
E3 M194 GY/24 : Smart entrance control unit (QG engine and YD engine with common rail)
E2 M195 GY/16 : Smart entrance control unit (QG engine and YD engine with common rail)
B2 M196 W/2 : Microphone
B3 M197 W/2 : Intake sensor (Auto A/C)
B4 M199 –/6 : Yaw rate/side G sensor (For ESP)
B1 M200 B/2 : Sunload sensor (Auto A/C)
F4 M201 W/6 : After market alarm
A3 M202 W/24 : To F115 (With CAN system)
A2 M203 W/2 : To F116 (With CAN system)
A3 M204 GY/20 : A/C auto amp. (Auto A/C)
B3 M205 GY/16 : A/C auto amp. (Auto A/C)
F2 M206 –/6 : Accele rator pedal position sensor (QG engine)
D2 M207 W/2 : In-vehicle sensor (Auto A/C)
B2 M208 W/3 : Intake door motor (Auto A/C)

## Console harness

B4 M401 W/6 : To M88
A4 M404 W/6 : Door lock/unlock switch (With power door lock without power window)
A4 M423 GY/6 : ESP off switch

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

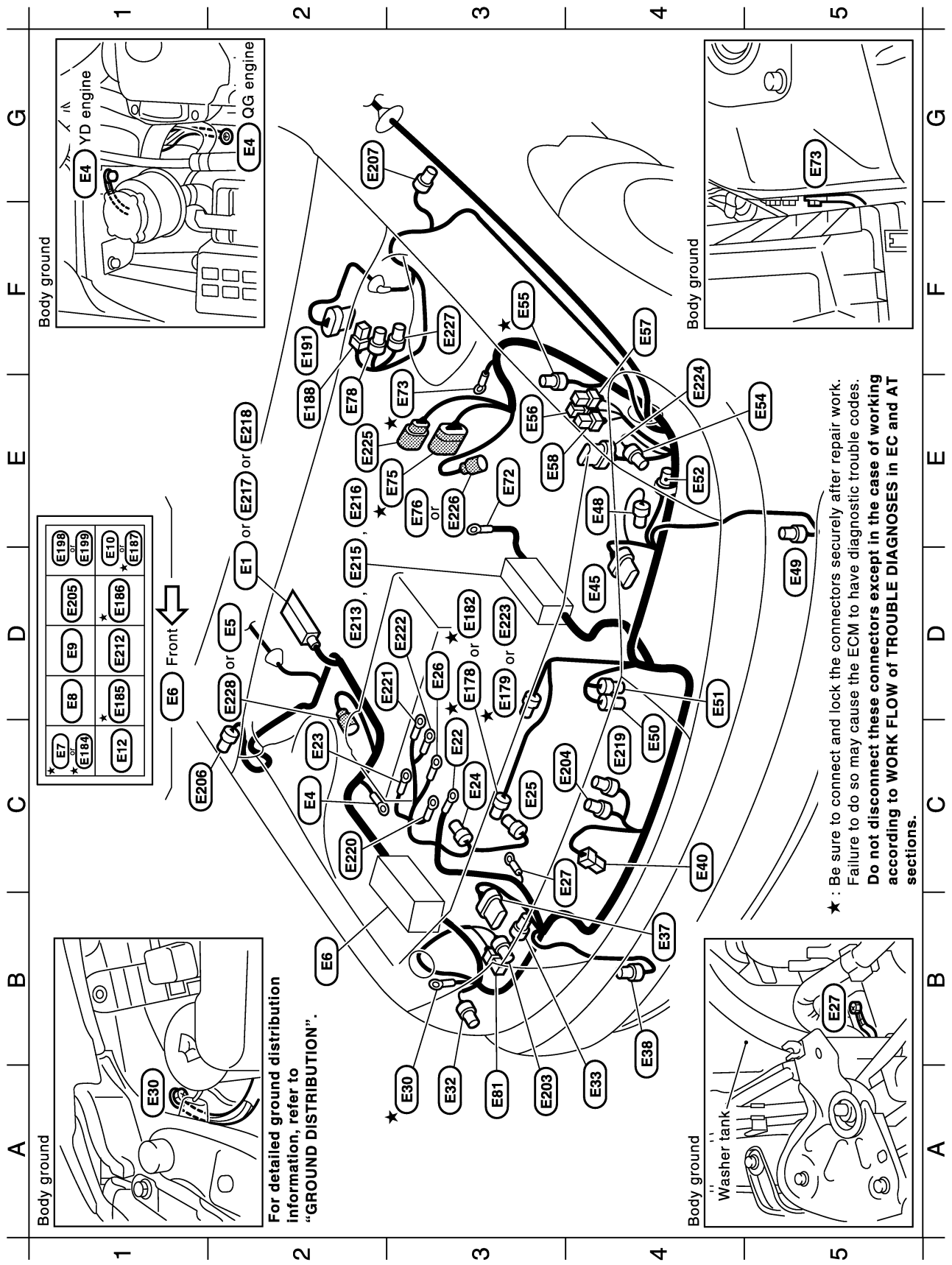
YEL618D

# Engine Room Harness

NJEL0342

## ENGINE COMPARTMENT — LHD MODELS

NJEL0342S01




YEL619D

D2 E1 B/31 : ABS actuator and electric unit (★2)
C2 E4 – : Body ground (For ABS or ESP)
C2 E5 GY/2 : Front wheel sensor RH (★2)
B2 E6 – : Relay box
C1★ E7 BR/6 : Cooling fan relay-1 (QG engine)
D1 E8 W/3 : Horn relay
D1 E9 L/4 : Air conditioner relay
D1 E10 L/4 : Park/neutral position relay (A/T models)
C1 E12 BR/6 : Headlamp washer timer (★1)
C3 E22 – : Alternator (B)
C2 E23 – : Alternator (E)
C3 E24 GY/2 : Alternator (S,L)
C3 E25 B/1 : Compressor
D3 E26 – : Glow plug (★3)
Glow plug No.2 (★4)
C3 E27 – : Body ground
A3★ E30 – : Body ground
A3 E32 –/2 : Front turn signal lamp RH
A4 E33 –/3 : Headlamp aiming motor RH
B4 E37 –/5 : Headlamp RH and parking lamp RH
B4 E38 –/2 : Front fog lamp RH
C4 E40 B/1 : Horn high
D4 E45 –/5 : Headlamp LH and parking lamp LH
E4 E48 –/3 : Headlamp aiming motor LH
D5 E49 –/2 : Front fog lamp LH
C4 E50 B/3 : Refrigerant pressure sensor (QG engine)
D4 E51 B/2 : Dual-pressure switch (YD engine)
E4 E52 GY/2 : Not used
E5 E54 –/2 : Front turn signal lamp LH
F3★ E55 GY/2 : Dropping resistor (A/T models)
E3 E56 W/1 : Glow relay (★3)

F4 E57 W/1 : Glow relay (★3)
E3 E58 G/2 : Glow relay (★3)
E3 E72 – : Battery
E3★ E73 – : Body ground
E3★ E75 GY/9 : To F36
E3 E76 BR/2 : Front wheel sensor LH (★2)
E2 E78 GY/2 : Brake fluid level switch (Without ABS or With ESP)
A3 E81 GY/2 : Headlamp washer motor (★1)
D3★ E178 B/2 : Cooling fan motor-1 (QG engine)
D3★ E179 B/2 : Cooling fan motor-2 (QG engine and ★3)
D3★ E182 B/2 : Cooling fan motor-1 (YD engine)
C1★ E184 B/4 : Cooling fan relay-1 (YD engine)
D1★ E185 B/5 : Cooling fan relay-2 (YD engine)
D1★ E186 L/4 : Cooling fan relay-3 (YD engine)
D1★ E187 B/5 : Cooling fan relay-4 (YD engine)
E2 E188 GY/2 : Brake fluid level switch (With ABS)
F2 E191 –/5 : Wiper motor
D1 E198 BR/6 : ECM relay (QG engine)
D1 E199 BR/6 : ECM relay (YD engine)

A3 E203 B/2 : Washer motor
C3 E204 –/2 : Outside air temperature sensor
D1 E205 L/4 : Front fog lamp relay
C1 E206 –/2 : Side turn signal lamp RH
G2 E207 –/2 : Side turn signal lamp LH
D1 E212 BR/6 : Headlamp relay (With daytime light system)
D2 E213 – : Fusible link and fuse box
D2 E215 – : Fusible link and fuse box
E2 E216 – : Fusible link and fuse box
E2 E217 –/26 : ABS actuator and electric unit (★5)
E2 E218 –/47 : ESP actuator and electric unit (For ESP)
C4 E219 B/2 : Ambient sensor (For auto A/C)
C2 E220 – : Glow plug No.1 (★4)
D2 E221 – : Glow plug No.3 (★4)
D3 E222 – : Glow plug No.4 (★4)
D3 E223 B/2 : Cooling fan motor-2 (★4)
E4 E224 –/8 : Glow control unit (★4)
E2 E225 GY/8 : To F43
E3 E226 L/2 : Front wheel sensor LH (For ESP and ★5)
F3 E227 –/3 : Pressure sensor (For ESP)
C2 E228 GY/2 : Front wheel sensor RH (For ESP and ★5)

★1 : With daytime light system
★2 : For ABS without CAN system
★3 : YD engine without common rail
★4 : YD engine with common rail
★5 : For ABS with CAN system

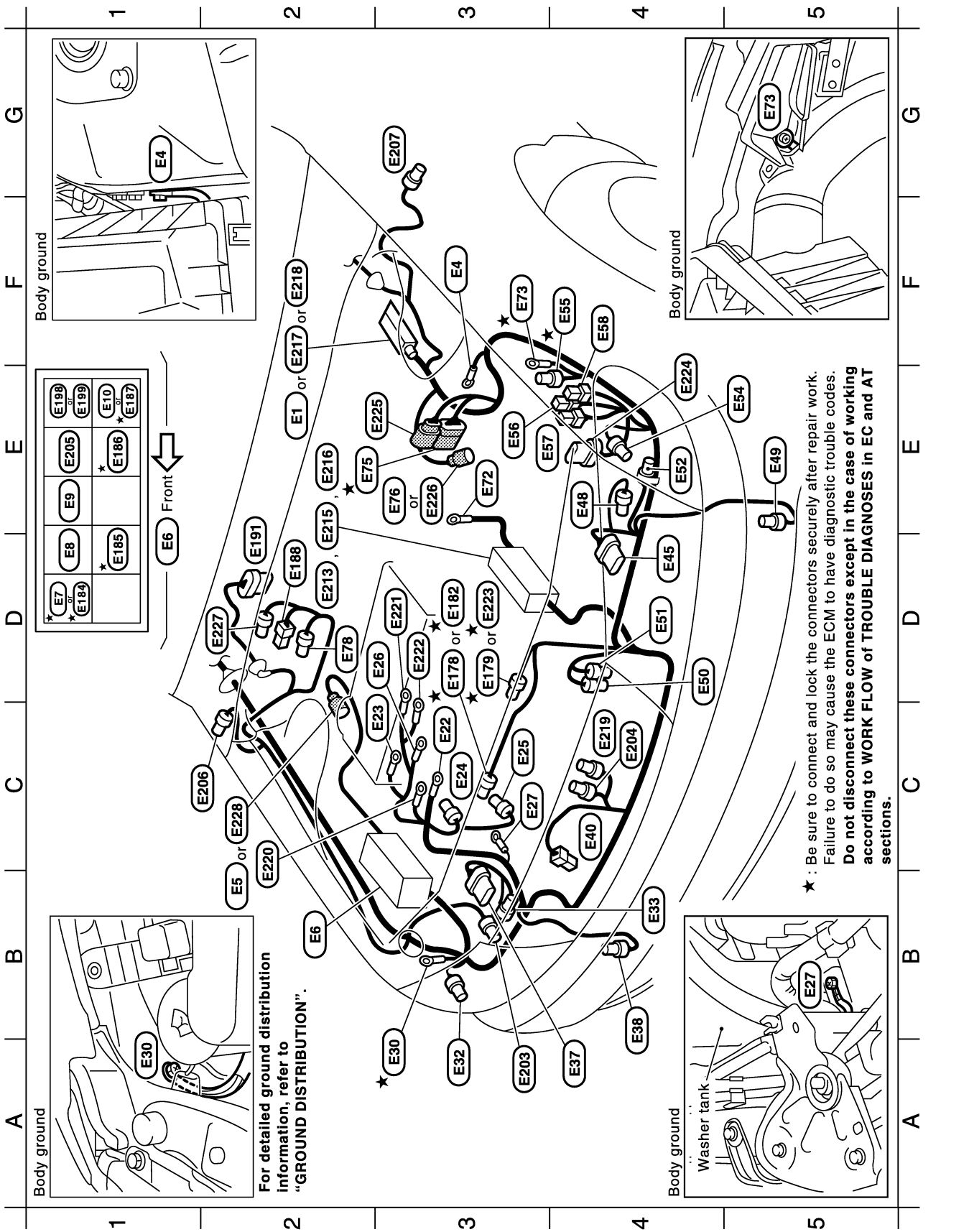
★: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
**Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

YEL620D

*Engine Room Harness (Cont'd)*

## ENGINE COMPARTMENT — RHD MODELS

NJEL0342S03




YEL623D

E2 E1 B/31 : ABS actuator and electric unit (★1)
F3 E4 – : Body ground (For ABS or ESP)
B2 E5 GY/2 : Front wheel sensor RH (★1)
B2 E6 – : Relay box
D1 ★ E7 BR/6 : Cooling fan relay-1 (QG engine)
D1 E8 W/3 : Horn relay
E1 E9 L/4 : Air conditioner relay
E1 E10 L/4 : Park/neutral position relay (A/T models)
C3 E22 – : Alternator (B)
C3 E23 – : Alternator (E)
C3 E24 GY/2 : Alternator (S,L)
C3 E25 B/1 : Compressor
D3 E26 – : Glow plug (★2)
Glow plug No.2 (★3)
C3 E27 – : Body gound
A3 ★ E30 – : Body gound
A3 E32 –/2 : Front turn signal lamp RH
B4 E33 –/3 : Headlamp aiming motor RH
A4 E37 –/5 : Headlamp RH and parking lamp RH
B4 E38 –/2 : Front fog lamp RH
C4 E40 B/1 : Horn high
D4 E45 –/5 : Headlamp LH and parking lamp LH
E4 E48 –/3 : Headlamp aiming motor LH
E5 E49 –/2 : Front fog lamp LH
D4 E50 B/3 : Refrigerant pressure sensor (QG engine)
D4 E51 B/2 : Dual-pressure switch (YD engine)
E4 E52 GY/2 : Not used
E5 E54 –/2 : Front turn signal lamp LH
F4 ★ E55 GY/2 : Dropping resistor (A/T models)
E3 E56 W/1 : Glow relay (★2)
E3 E57 W/1 : Glow relay (★2)

F4 E58 G/2 : Glow relay (★2)
E3 E72 – : Battery
F3 ★ E73 – : Body ground
E2 ★ E75 GY/9 : To F36
E3 E76 –/2 : Front wheel sensor LH (★1)
D2 E78 GY/2 : Brake fluid level switch (Without ABS or with ESP)
D3 ★ E178 B/2 : Cooling fan motor-1 (QG engine)
D3 ★ E179 B/2 : Cooling fan motor-2 (QG engine and ★2)
D3 ★ E182 B/2 : Cooling fan motor-1 (YD engine)
D1 ★ E184 B/4 : Cooling fan relay-1 (YD engine)
D1 ★ E185 B/5 : Cooling fan relay-2 (YD engine)
E1 ★ E186 L/4 : Cooling fan relay-3 (YD engine)
E1 ★ E187 B/5 : Cooling fan relay-4 (YD engine)
D2 E188 GY/2 : Brake fluid level switch (With ABS)
D2 E191 –/5 : Wiper motor
E1 E198 BR/6 : ECM relay (QG engine)
E1 E199 BR/6 : ECM relay (YD engine)
A3 E203 –/2 : Washer motor
C4 E204 –/2 : Outside air temperature sensor
E1 E205 L/4 : Front fog lamp relay
C2 E206 –/2 : Side turn signal lamp RH
G3 E207 –/2 : Side turn signal lamp LH
D2 E213 – : Fusible link and fuse box
E2 E215 – : Fusible link and fuse box
E2 E216 – : Fusible link and fuse box

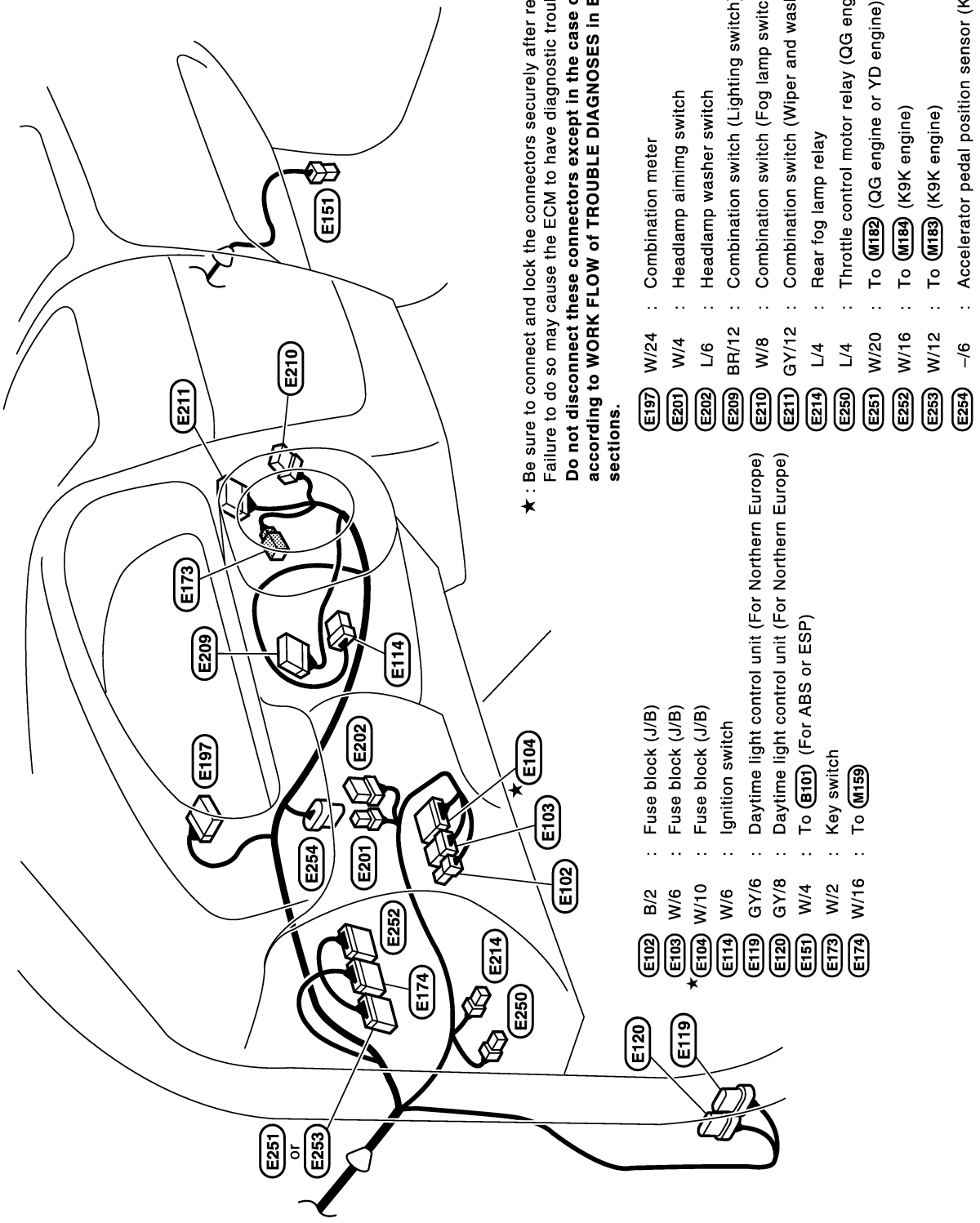
F2 E217 –/26 : ABS actuator and electric unit (★4)
F2 E218 –/47 : EPS actuator and electric unit (For ESP)
C4 E219 B/2 : Ambient sensor (For auto A/C)
C2 E220 – : Glow plug No.1 (★3)
D3 E221 – : Glow plug No.3 (★3)
D3 E222 – : Glow plug No.4 (★3)
D3 E223 B/2 : Cooling fan motor-2 (★3)
E4 E224 –/8 : Glow control unit (★3)
E3 E225 GY/8 : To F43
E3 E226 L/2 : Front wheel sensor LH (For ESP and ★4)
D2 E227 –/3 : Pressure sensor (with ESP)
C2 E228 GY/2 : Front wheel sensor RH (For ESP and ★4)

★1 : For ABS without CAN system
★2 : YD engine without CAN system
★3 : YD engine with CAN system
★4 : For ABS with CAN system
★ : 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.**

YEL624D

## PASSENGER COMPARTMENT — LHD MODELS

NJEL0342S04



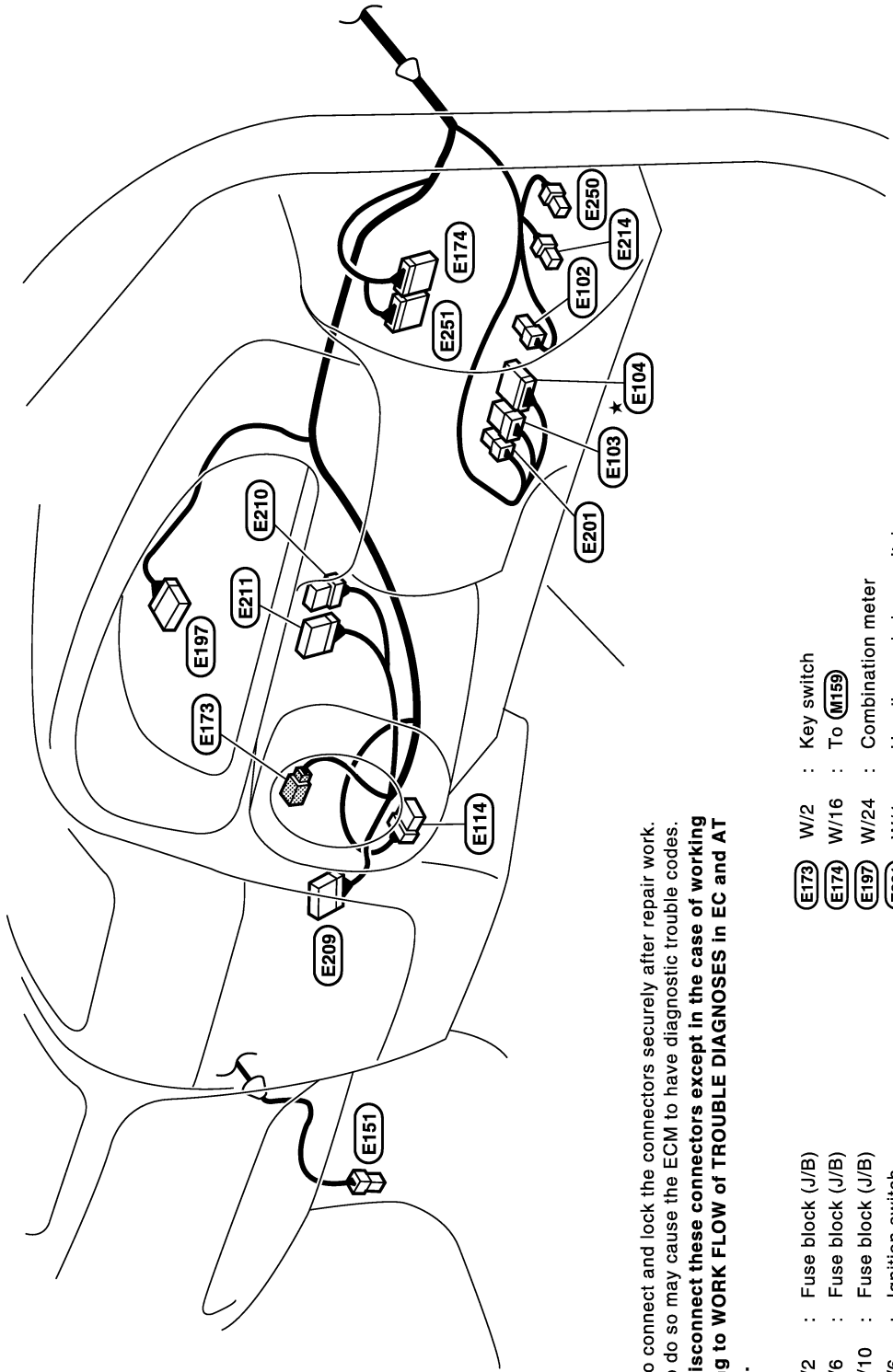

★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

| | | | |
|---|---|---|---|
| E102 | B/2 | : | Fuse block (J/B) |
| E103 | W/6 | : | Fuse block (J/B) |
| ★ E104 | W/10 | : | Fuse block (J/B) |
| E114 | W/6 | : | Ignition switch |
| E119 | GY/6 | : | Daytime light control unit (For Northern Europe) |
| E120 | GY/8 | : | Daytime light control unit (For Northern Europe) |
| E151 | W/4 | : | To B101 (For ABS or ESP) |
| E173 | W/2 | : | Key switch |
| E174 | W/16 | : | To M159 |
| E197 | W/24 | : | Combination meter |
| E201 | W/4 | : | Headlamp aimimg switch |
| E202 | L/6 | : | Headlamp washer switch |
| E209 | BR/12 | : | Combination switch (Lighting switch) |
| E210 | W/8 | : | Combination switch (Fog lamp switch) |
| E211 | GY/12 | : | Combination switch (Wiper and washer switch) |
| E214 | L/4 | : | Rear fog lamp relay |
| E250 | L/4 | : | Throttle control motor relay (QG engine) |
| E251 | W/20 | : | To M182 (QG engine or YD engine) |
| E252 | W/16 | : | To M184 (K9K engine) |
| E253 | W/12 | : | To M183 (K9K engine) |
| E254 | –/6 | : | Accelerator pedal position sensor (K9K engine) |

YEL625D

## PASSENGER COMPARTMENT — RHD MODELS

NJEL0342S05




★ : 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.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| E102 | B/2 | : Fuse block (J/B) | E173 | W/2 | : Key switch |
| E103 | W/6 | : Fuse block (J/B) | E174 | W/16 | : To M159 |
| ★ E104 | W/10 | : Fuse block (J/B) | E197 | W/24 | : Combination meter |
| E114 | W/6 | : Ignition switch | E201 | W/4 | : Headlamp aimimg switch |
| E151 | W/4 | : To B101 (For ABS or ESP) | E209 | BR/12 | : Combination switch (Lighting switch) |
| | | | E210 | W/8 | : Combination switch (Fog lamp switch) |
| | | | E211 | GY/12 | : Combination switch (Wiper and washer switch) |
| | | | E214 | L/4 | : Rear fog lamp relay |
| | | | E250 | L/4 | : Throttle control motor relay (QG engine) |
| | | | E251 | W/20 | : To M182 |

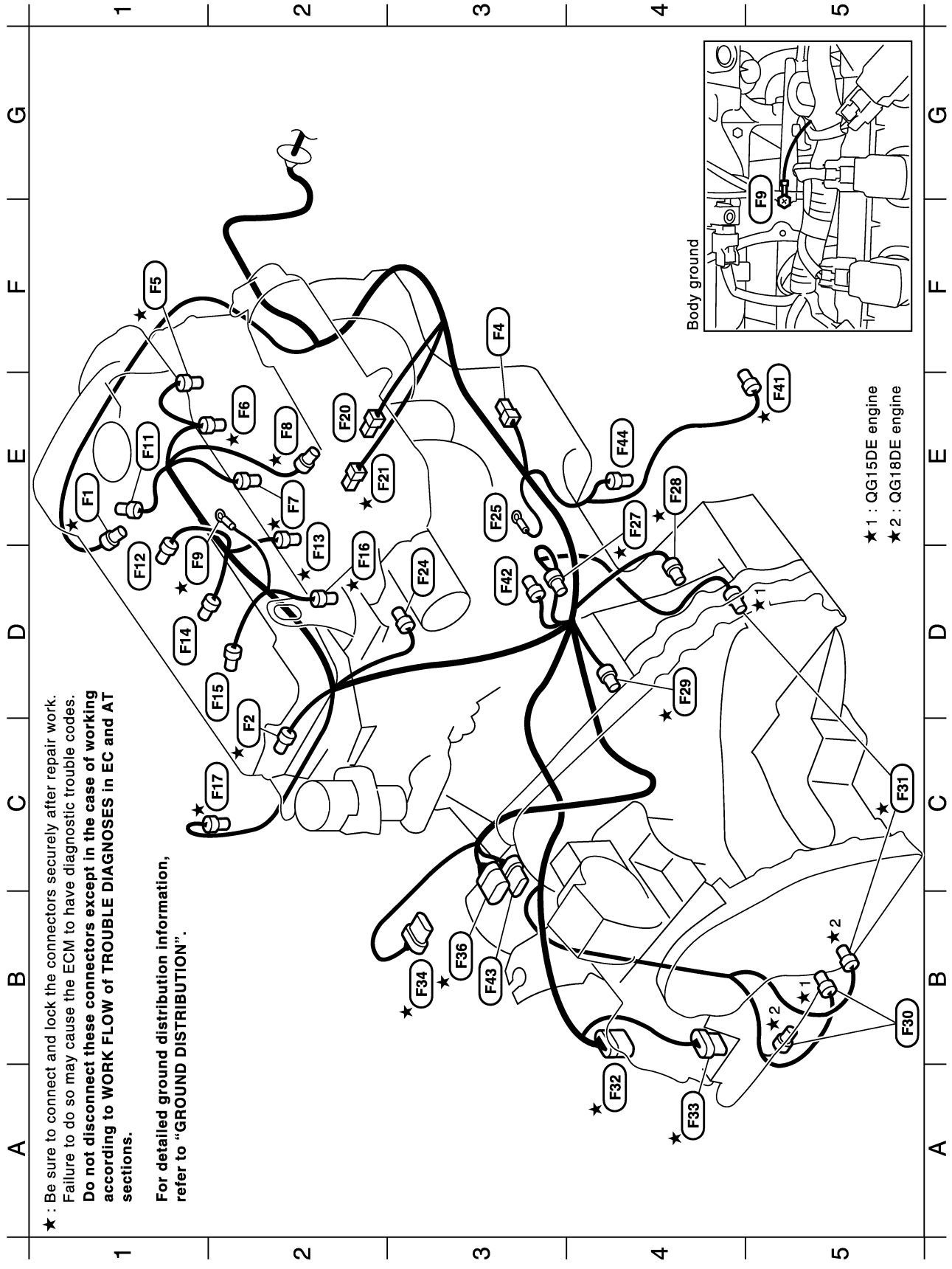
YEL626D

## Engine Control Harness/QG Engine Models

NJEL0135

### LHD MODELS

NJEL0135S01




★ : 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 detailed ground distribution information, refer to "GROUND DISTRIBUTION".**

YEL627D

**PASSENGER COMPARTMENT**




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




| | | | |
|---|---|---|---|
| E1 ★ F1 | GY/2 | : | Engine coolant temperature sensor |
| C2 ★ F2 | B/3 | : | Camshaft position sensor (PHASE) |
| F3 F4 | GY/2 | : | Condenser |
| F1 ★ F5 | G/2 | : | Intake valve timing control solenoid valve |
| E2 ★ F6 | GY/2 | : | Injector No.1 |
| E2 ★ F7 | GY/2 | : | Injector No.2 |
| E2 ★ F8 | L/2 | : | EVAP canister purge volume control solenoid valve |
| D1 ★ F9 | – | : | Engine ground |
| E1 F11 | GY/3 | : | Ignition coil No.1 (With power transistor) |
| D1 F12 | GY/3 | : | Ignition coil No.2 (With power transistor) |
| D2 ★ F13 | GY/2 | : | Injector No.3 |
| D1 F14 | GY/3 | : | Ignition coil No.3 (With power transistor) |
| D2 F15 | GY/3 | : | Ignition coil No.4 (With power transistor) |
| D2 ★ F16 | GY/2 | : | Injector No.4 |
| C2 ★ F17 | G/4 | : | Heated oxygen sensor 1 (Front) |
| E2 F20 | B/1 | : | Oil pressure switch |
| E2 ★ F21 | –/2 | : | Knock sensor |
| D3 F24 | G/6 | : | Electric throttle control actuator |
| E3 F25 | – | : | Starter motor (M/T models without daytime light system) |
| E4 ★ F27 | B/3 | : | Crankshaft position sensor (POS) |
| E4 ★ F28 | GY/2 | : | Not used |
| D4 ★ F29 | BR/3 | : | Revolution sensor (A/T models) |
| B5 F30 | B/2 | : | Back-up lamp switch (M/T models) |
| C5 ★ F31 | B/2 | : | Park/neutral position switch (M/T models) |
| A4 ★ F32 | B/10 | : | Park/neutral position switch (A/T models) |
| A4 ★ F33 | B/8 | : | A/T solenoid valves (A/T models) |
| B3 ★ F34 | GY/5 | : | Mass air flow sensor |
| B3 ★ F36 | GY/9 | : | To E75 |
| E5 ★ F41 | G/4 | : | Heated oxygen sensor 2 (Rear) |
| D3 F42 | GY/1 | : | Starter motor (Except M/T models without daytime light system) |
| B3 F43 | GY/8 | : | To E225 |
| E4 F44 | B/3 | : | Power steering pressure sensor |

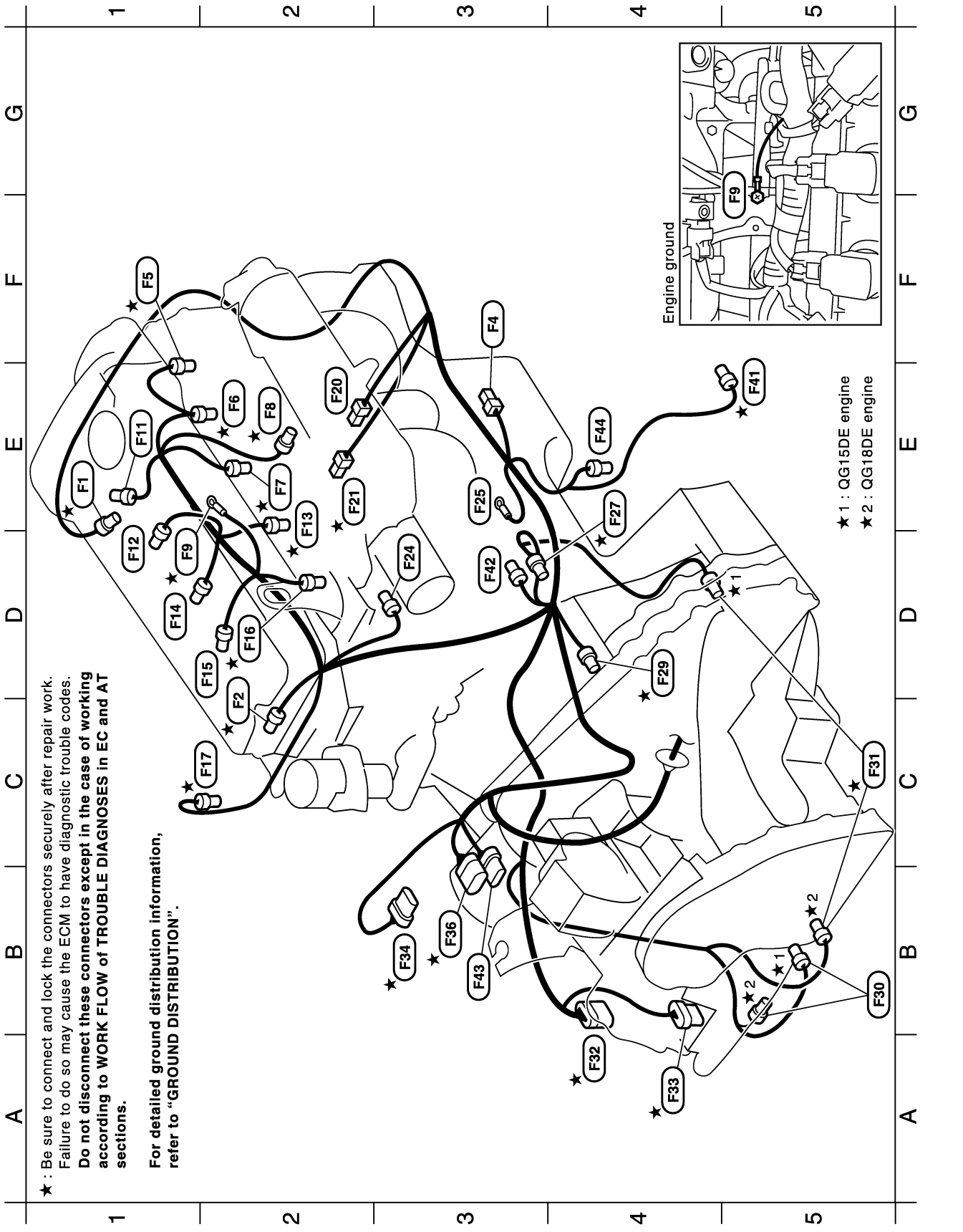
| | | | |
|---|---|---|---|
| ★ F109 | W/24 | : | TCM (Transmission control modure) (A/T models) |
| ★ F110 | GY/24 | : | TCM (Transmission control modure) (A/T models) |
| ★ F113 | –/81 | : | ECM |
| F114 | –/40 | : | ECM |
| F115 | W/24 | : | To M202 |
| F116 | W/2 | : | To M203 |
| F117 | – | : | Body ground |
| F118 | – | : | Body ground |



YEL628D

## RHD MODELS

NJEL0135S02




YEL629D

**PASSENGER COMPARTMENT**




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




| | | | |
|---|---|---|---|
| E1 ★ F1 | GY/2 | : | Engine coolant temperature sensor |
| C2 ★ F2 | B/3 | : | Camshaft position sensor (PHASE) |
| F3 F4 | GY/2 | : | Condenser |
| F1 ★ F5 | G/2 | : | Intake valve timing control solenoid valve |
| E2 ★ F6 | GY/2 | : | Injector No.1 |
| E2 ★ F7 | GY/2 | : | Injector No.2 |
| E2 ★ F8 | L/2 | : | EVAP canister purge volume control solenoid valve |
| D1 ★ F9 | – | : | Engine ground |
| E1 F11 | GY/3 | : | Ignition coil No.1 (With power transistor) |
| D1 F12 | GY/3 | : | Ignition coil No.2 (With power transistor) |
| E2 ★ F13 | GY/2 | : | Injector No.3 |
| D1 F14 | GY/3 | : | Ignition coil No.3 (With power transistor) |
| D2 F15 | GY/3 | : | Ignition coil No.4 (With power transistor) |
| D2 ★ F16 | GY/2 | : | Injector No.4 |
| C2 ★ F17 | G/4 | : | Heated oxygen sensor 1 (Front) |
| E2 F20 | B/1 | : | Oil pressure switch |
| E2 ★ F21 | –/2 | : | Knock sensor |
| D3 F24 | G/6 | : | Electric throttle control actuator |
| E3 F25 | – | : | Starter motor (M/T models) |
| E4 ★ F27 | B/3 | : | Crankshaft position sensor (POS) |
| D4 ★ F29 | BR/3 | : | Revolution sensor (A/T models) |
| B5 F30 | B/2 | : | Back-up lamp switch (M/T models) |
| C5 ★ F31 | B/2 | : | Park/neutral position switch (M/T models) |
| A4 ★ F32 | B/10 | : | Park/neutral position switch (A/T models) |
| A4 ★ F33 | B/8 | : | A/T solenoid valves (A/T models) |
| B3 ★ F34 | GY/5 | : | Mass air flow sensor |
| B3 ★ F36 | GY/9 | : | To E75 |
| E5 ★ F41 | G/4 | : | Heated oxygen sensor 2 (Rear) |
| D3 F42 | GY/1 | : | Starter motor (A/T models) |
| B3 F43 | GY/8 | : | To E225 |
| E4 F44 | B/3 | : | Power steering pressure sensor |
| ★ F109 | W/24 | : | TCM (Transmission control modure) (A/T models) |
| ★ F110 | GY/24 | : | TCM (Transmission control modure) (A/T models) |
| ★ F113 | –/81 | : | ECM |
| F114 | –/40 | : | ECM |
| F115 | W/24 | : | To M202 |
| F116 | W/2 | : | To M203 |
| F117 | – | : | Body ground |
| F118 | – | : | Body ground |



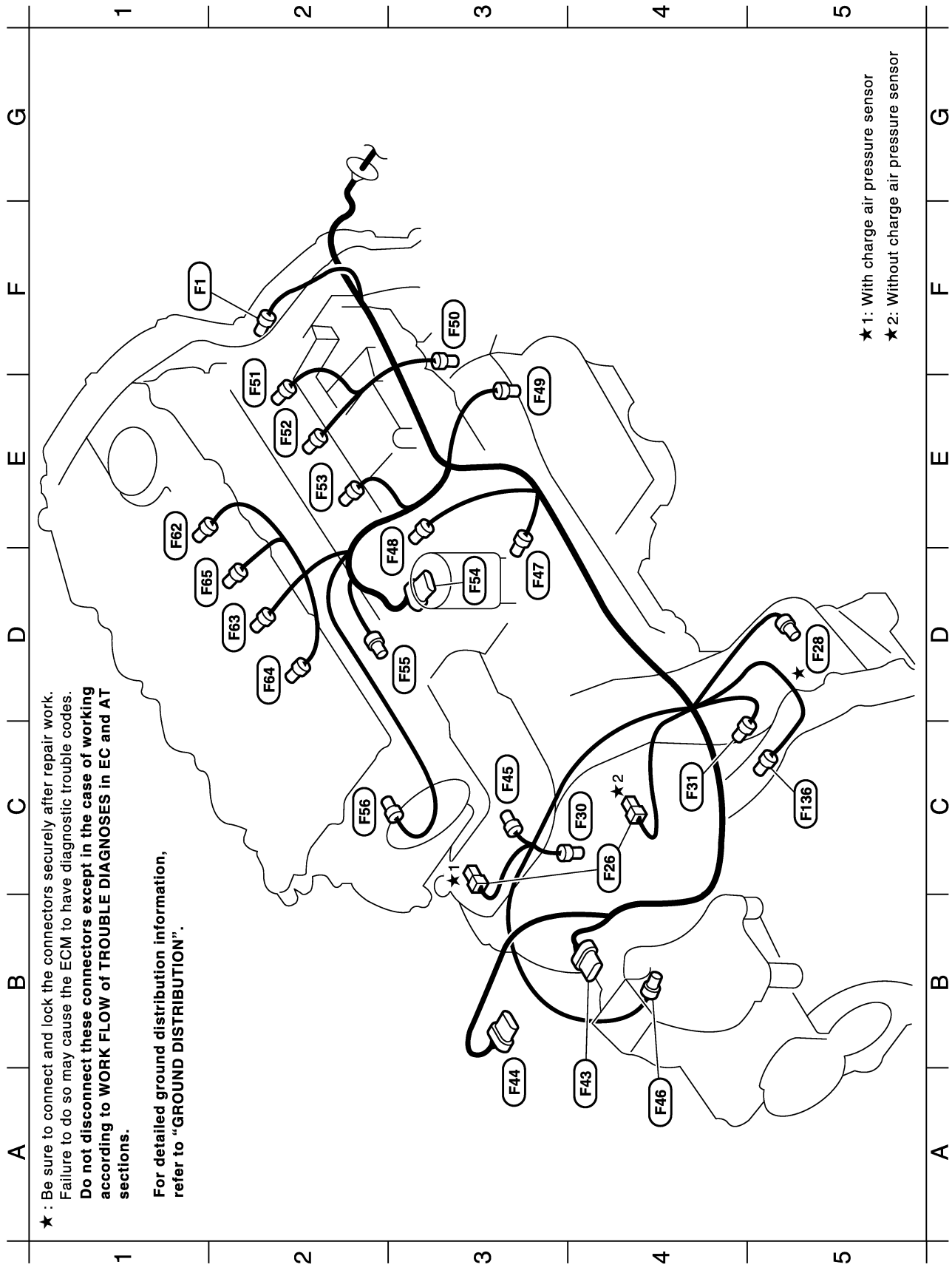
YEL630D

## Engine Control Harness/YD Engine Models

NJEL0343

### LHD MODELS (WITH COMMON RAIL)

NJEL0343S01




YEL631D

**PASSENGER COMPARTMENT**




| | | | |
|---|---|---|---|
| F1 | (F1) | GY/2 | : Engine coolant temperature sensor |
| C4 | (F26) | B/1 | : Starter motor |
| D5 | (F28) | GY/2 | : Vehicle speed sensor (Without ABS and ESP) |
| C4 | (F30) | B/2 | : Back-up lamp switch (With charge air pressure sensor) |
| C4 | (F31) | B/2 | : Park/neutral position switch (With charge air pressure sensor) |
| A4 | (F43) | GY/8 | : To (E225) |
| A3 | (F44) | B/6 | : Mass air flow sensor |
| C3 | (F45) | GY/3 | : Charge air pressure sensor |
| A4 | (F46) | –/3 | : Crankshaft position sensor |
| D3 | (F47) | GY/1 | : Oil pressure switch |
| D3 | (F48) | –/2 | : Swirl control valve control solenoid valve |
| E3 | (F49) | B/2 | : Power steering oil pressure switch |
| F3 | (F50) | –/2 | : Fuel tempreture sensor |
| E2 | (F51) | –/3 | : Common rail fuel pressure sensor |
| E2 | (F52) | –/2 | : Variable nozzle turbocharger control solenoid valve |
| E2 | (F53) | G/2 | : VSW-1 |
| D3 | (F54) | –/6 | : EGR volume control valve |
| D3 | (F55) | –/3 | : Needle lift sensor |
| C2 | (F56) | –/3 | : Camshaft position sensor |
| E1 | (F62) | –/4 | : Fuel injector No.1 |
| D2 | (F63) | –/4 | : Fuel injector No.2 |
| D2 | (F64) | –/4 | : Fuel injector No.3 |
| D1 | (F65) | –/4 | : Fuel injector No.4 |
| C5 | (F136) | GY/4 | : Park/neutral position and back-up lamp switch (Without charge air pressure sensor) |

★ : 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.**



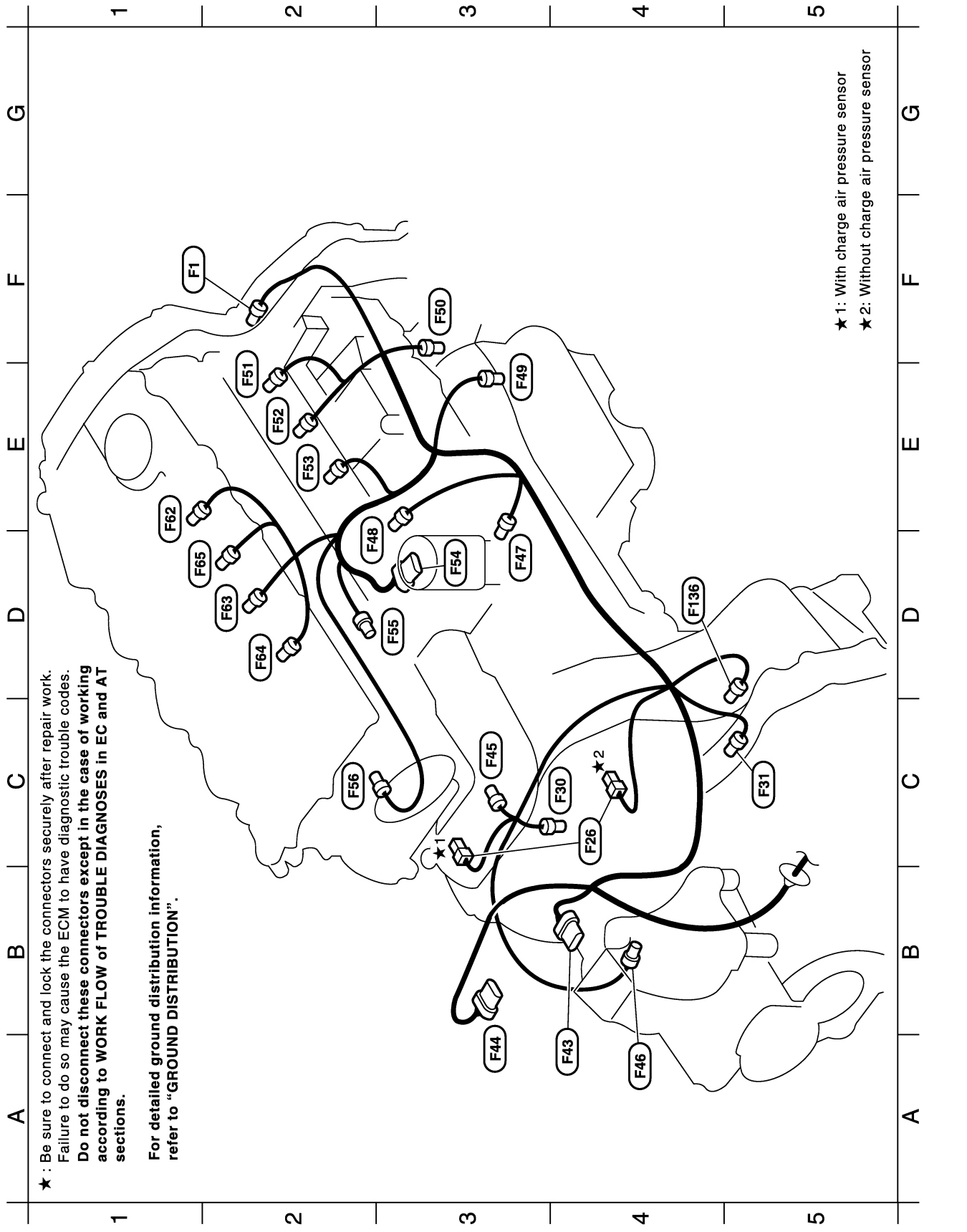

| | | | |
|---|---|---|---|
| (F113) | –/81 | : | ECM |
| (F114) | –/40 | : | ECM |
| (F115) | W/24 | : | To (M202) |
| (F116) | W/2 | : | To (M203) |
| (F117) | – | : | Body ground |



YEL632D

## RHD MODELS (WITH COMMON RAIL)

NJEL0343S02




YEL633D

F1 ★ (F1) GY/2 : Engine coolant temperature sensor
C4 (F26) B/1 : Starter motor
C4 (F30) B/2 : Back-up lamp switch (With charge air pressure sensor)
C5 (F31) B/2 : Park/neutral position switch (With charge air pressure sensor)
A4 (F43) GY/8 : To (E225)
A3 (F44) B/6 : Mass air flow sensor
C3 (F45) GY/3 : Charge air pressure sensor
A4 (F46) –/3 : Crankshaft position sensor
D3 (F47) GY/1 : Oil pressure switch
D2 (F48) –/2 : Swirl control valve control solenoid valve
E3 (F49) B/2 : Power steering oil pressure switch
F3 (F50) –/2 : Fuel temperature sensor
E2 (F51) –/3 : Common rail fuel pressure sensor
E2 (F52) –/2 : Variable nozzle turbocharger control solenoid valve
E2 (F53) G/2 : VSW-1
D3 (F54) –/6 : EGR volume control valve
D3 (F55) –/3 : Needle lift sensor
C2 (F56) –/3 : Camshaft position sensor
E1 (F62) –/4 : Fuel injector No.1
D2 (F63) –/4 : Fuel injector No.2
C2 (F64) –/4 : Fuel injector No.3
D1 (F65) –/4 : Fuel injector No.4
D4 (F136) GY/4 : Park/neutral position and back-up lamp switch (Without charge air pressure sensor)

**PASSENGER COMPARTMENT**




★ : 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.**

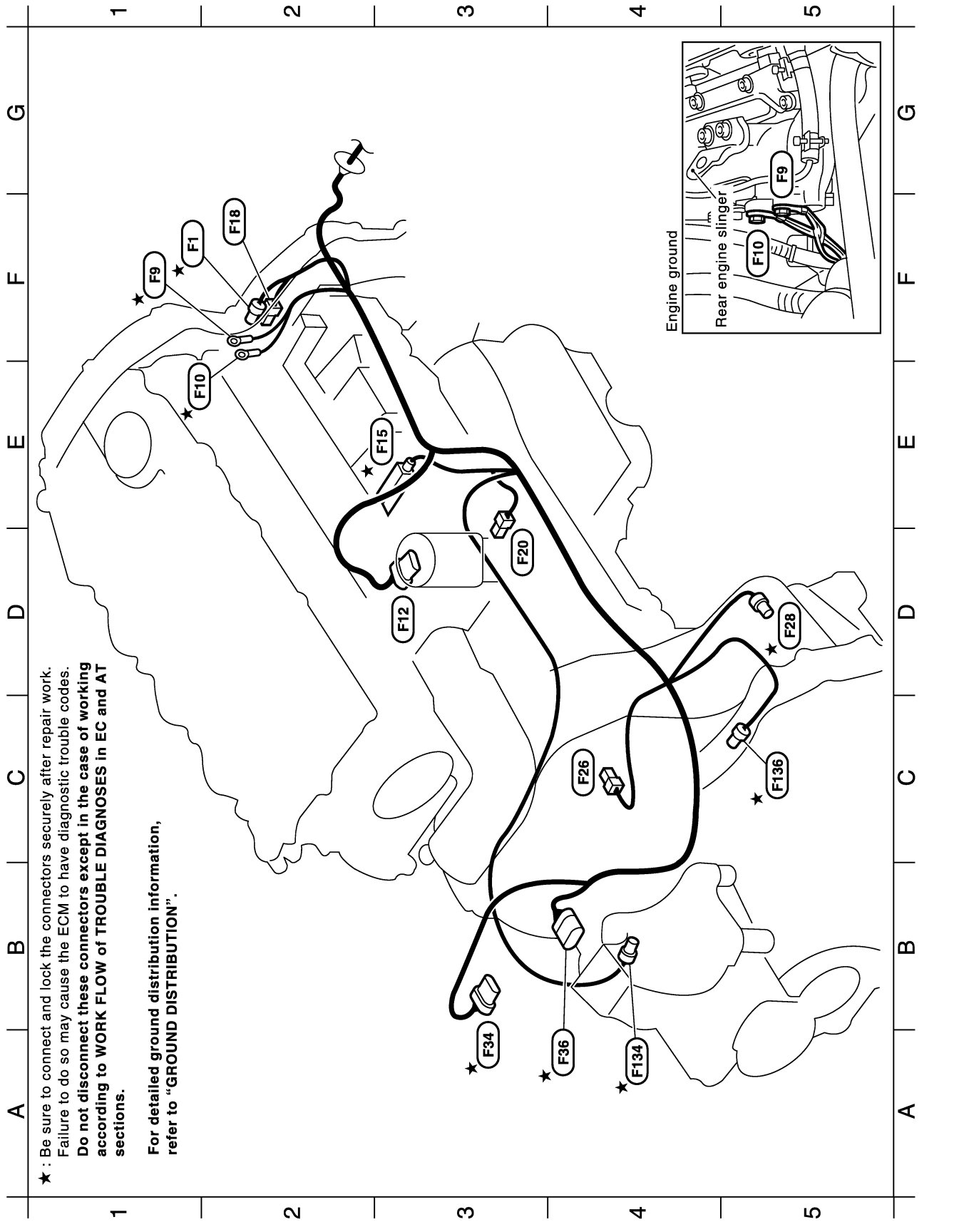
(F113) –/81 : ECM
(F114) –/40 : ECM
(F115) W/24 : To (M202)
(F116) W/2 : To (M203)
(F117) – : Body ground




YEL634D

## LHD MODELS (WITHOUT COMMON RAIL)

NJEL0343S03




YEL635D

**PASSENGER COMPARTMENT**




★: 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.**

★ F57 –/9 : ECM
★ F58 –/24 : ECM
★ F59 –/52 : ECM
★ F60 –/40 : ECM
F61 –/9 : ECM
★ F102 W/16 : To M63
★ F112 BR/16 : To M74

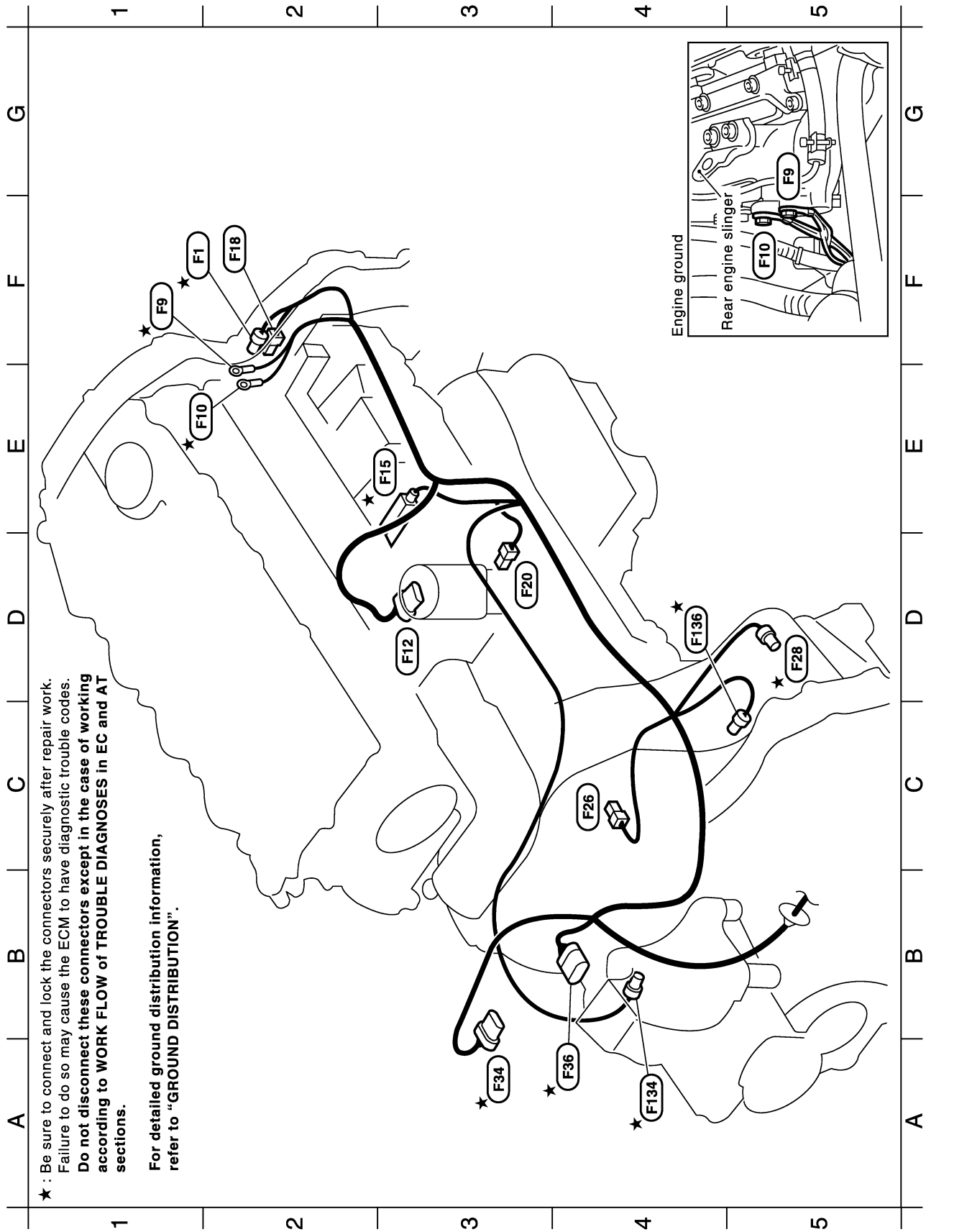
★ F1 GY/2 : Engine coolant temperature sensor
F1 ★ F9 – : Engine ground
E1 ★ F10 – : Engine ground
D3 F12 –/6 : EGR volume control valve
E3 ★ F15 B/8 : Electronic control fuel injection pump
F2 F18 B/1 : Thermal transmitter
D3 F20 B/1 : Oil pressure switch
C4 F26 B/1 : Starter motor
D5 ★ F28 GY/2 : Vehicle speed sensor
A3 ★ F34 GY/5 : Mass air flow sensor
A4 ★ F36 GY/9 : To E75
A4 ★ F134 GY/2 : Crankshaft position sensor (TDC)
C5 ★ F136 GY/4 : Park/neutral position and back-up lamp switch



YEL636D

## RHD MODELS (WITHOUT COMMON RAIL)

NJEL0343S04




YEL637D

**PASSENGER COMPARTMENT**




★: 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.**

★ F57 –/9 : ECM
★ F58 –/24 : ECM
★ F59 –/52 : ECM
★ F60 –/40 : ECM
F61 –/9 : ECM
★ F102 W/16 : To M63
★ F112 BR/16 : To M74

F1 ★ F1 GY/2 : Engine coolant temperature sensor
F1 ★ F9 – : Engine ground
E1 ★ F10 – : Engine ground
D3 F12 –/6 : EGR volume control valve
E3 ★ F15 B/8 : Electronic control fuel injection pump
F2 F18 B/1 : Thermal transmitter
D3 F20 B/1 : Oil pressure switch
C4 F26 B/1 : Starter motor
D5 ★ F28 GY/2 : Vehicle speed sensor
A3 ★ F34 GY/5 : Mass air flow sensor
A4 ★ F36 GY/9 : To E75
A4 ★ F134 GY/2 : Crankshaft position sensor (TDC)
D4 ★ F136 GY/4 : Park/neutral position and back-up lamp switch

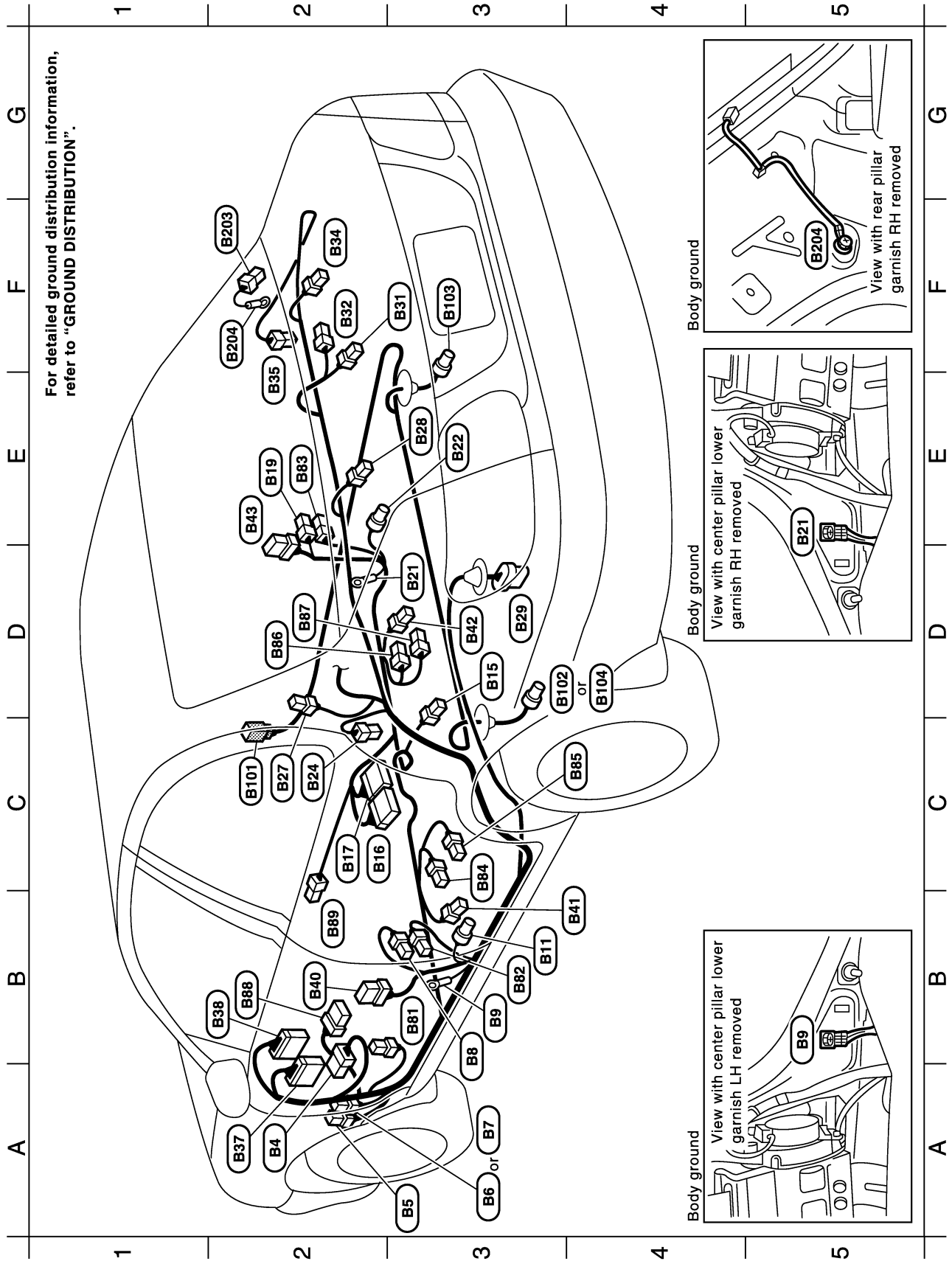
YEL638D

## Body Harness/Sedan

*NJEL0136*

### INTERIOR ROOM SIDE — LHD MODELS

*NJEL0136S01*




YEL641D

A2 B4 W/8 : Fuse block (J/B)
A3 B5 L/4 : Fuel pump relay (QG engine)
A3 B6 BR/6 : Rear window defogger relay
(For rear window defogger and mirror defogger)
A3 B7 B/5 : Rear window defogger relay
(For rear window defogger only)
B3 B8 W/3 : Door switch driver side
B3 B9 – : Body ground
B3 B11 Y/2 : LH side air bag (satellite) sensor (With side air bag)
D3 B15 B/1 : Parking brake switch
C2 B16 Y/12 : Air bag diagnosis sensor unit
C2 B17 Y/12 : Air bag diagnosis sensor unit
E2 B19 W/3 : Door switch passenger side
D3 B21 – : Body ground
E3 B22 Y/2 : RH side air bag (satellite) sensor (With side air bag)
C2 B24 W/1 : Rear door switch LH
C2 B27 B/1 : Rear window defogger (+)
E3 B28 BR/2 : Rear speaker LH
D3 B29 GY/5 : Fuel level sensor unit and fuel pump
F3 B31 W/2 : Trunk room lamp
F2 B32 W/2 : High-mounted stop lamp (On the rear parcel shelf)
F2 B34 BR/2 : Rear speaker RH
E2 B35 W/1 : Rear door switch RH
A2 B37 BR/16 : To M82
B2 B38 W/12 : To M81
B2 B40 W/8 : To D56
B4 B41 W/3 : Heated seat LH (For cold areas)
D3 B42 W/3 : Heated seat RH (For cold areas)
E2 B43 W/8 : To D76
B3 B81 –/2 : Diode
B3 B82 Y/2 : Front LH seat belt pre-tensioner
E2 B83 Y/2 : Front RH seat belt pre-tensioner
C3 B84 –/2 : Front LH side air bag module (With side air bag)
C4 B85 –/1 : Front LH side air bag module (With side air bag)
D2 B86 –/2 : Front RH side air bag module (With side air bag)
D2 B87 –/1 : Front RH side air bag module (With side air bag)
B2 B88 W/6 : To D28 (With power window)
B2 B89 W/4 : To M424 (Front heated seat)

### Body No.2 harness (For ABS or ESP)

C2 B101 W/4 : To E151
D3 B102 BR/2 : Rear wheel sensor LH
(YD engine without common rail and K9K engine)
F3 B103 GY/2 : Rear wheel sensor RH
D4 B104 L/2 : Rear wheel sensor LH
(QG engine and YD engine with common rail)

### Sub-haness

F2 B203 B/1 : Rear window defogger (–)
F2 B204 – : Body ground

Diode B81

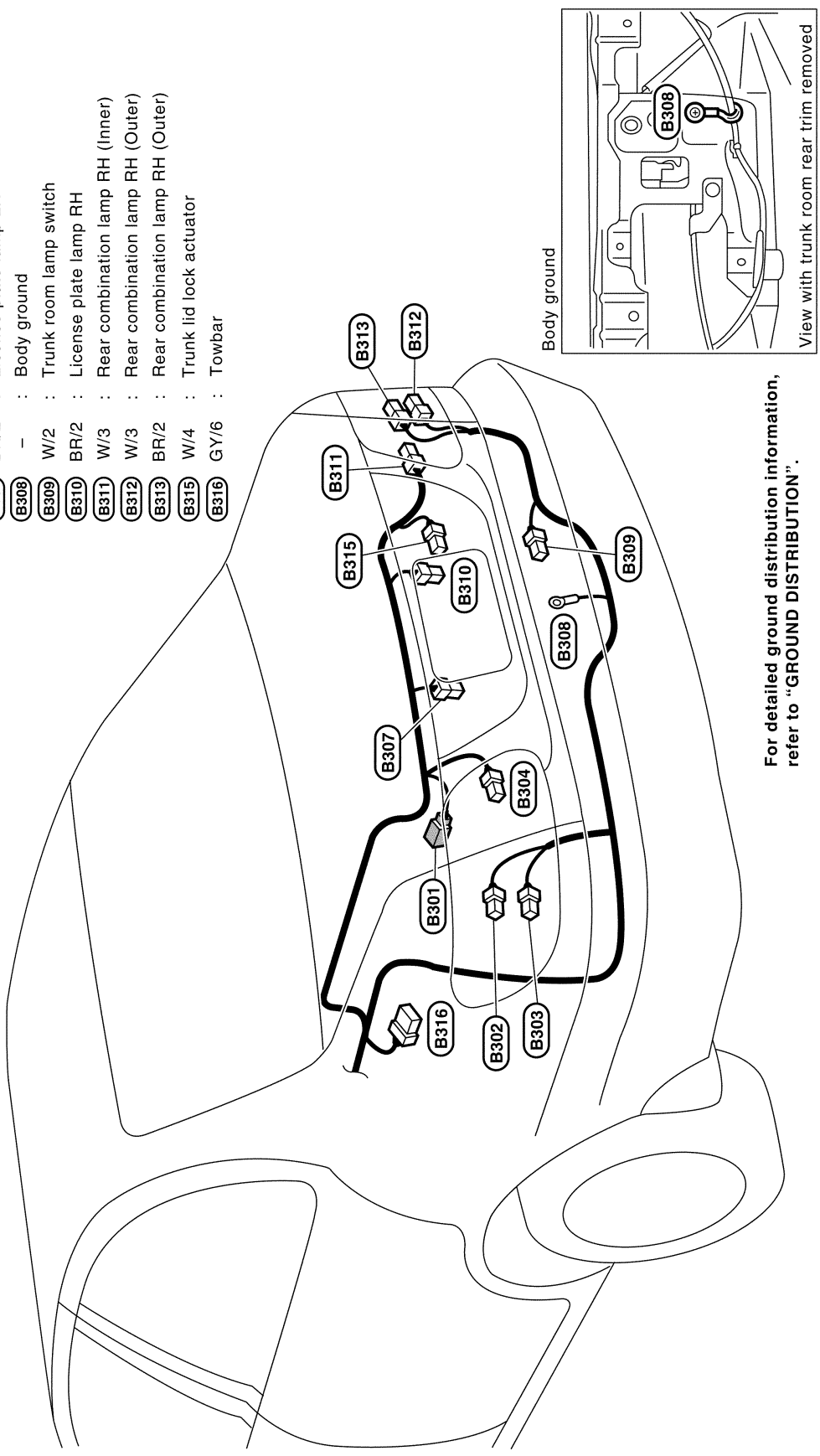



YEL642D

## TRUNK ROOM SIDE — LHD MODELS

NJEL0136S03

| | | | |
|---|---|---|---|
| B301 | BR/2 | : | High-mounted stop lamp (In the rear spoiler) |
| B302 | BR/2 | : | Rear combination lamp LH (Outer) |
| B303 | W/3 | : | Rear combination lamp LH (Outer) |
| B304 | W/3 | : | Rear combination lamp LH (Inner) |
| B307 | BR/2 | : | License plate lamp LH |
| B308 | – | : | Body ground |
| B309 | W/2 | : | Trunk room lamp switch |
| B310 | BR/2 | : | License plate lamp RH |
| B311 | W/3 | : | Rear combination lamp RH (Inner) |
| B312 | W/3 | : | Rear combination lamp RH (Outer) |
| B313 | BR/2 | : | Rear combination lamp RH (Outer) |
| B315 | W/4 | : | Trunk lid lock actuator |
| B316 | GY/6 | : | Towbar |

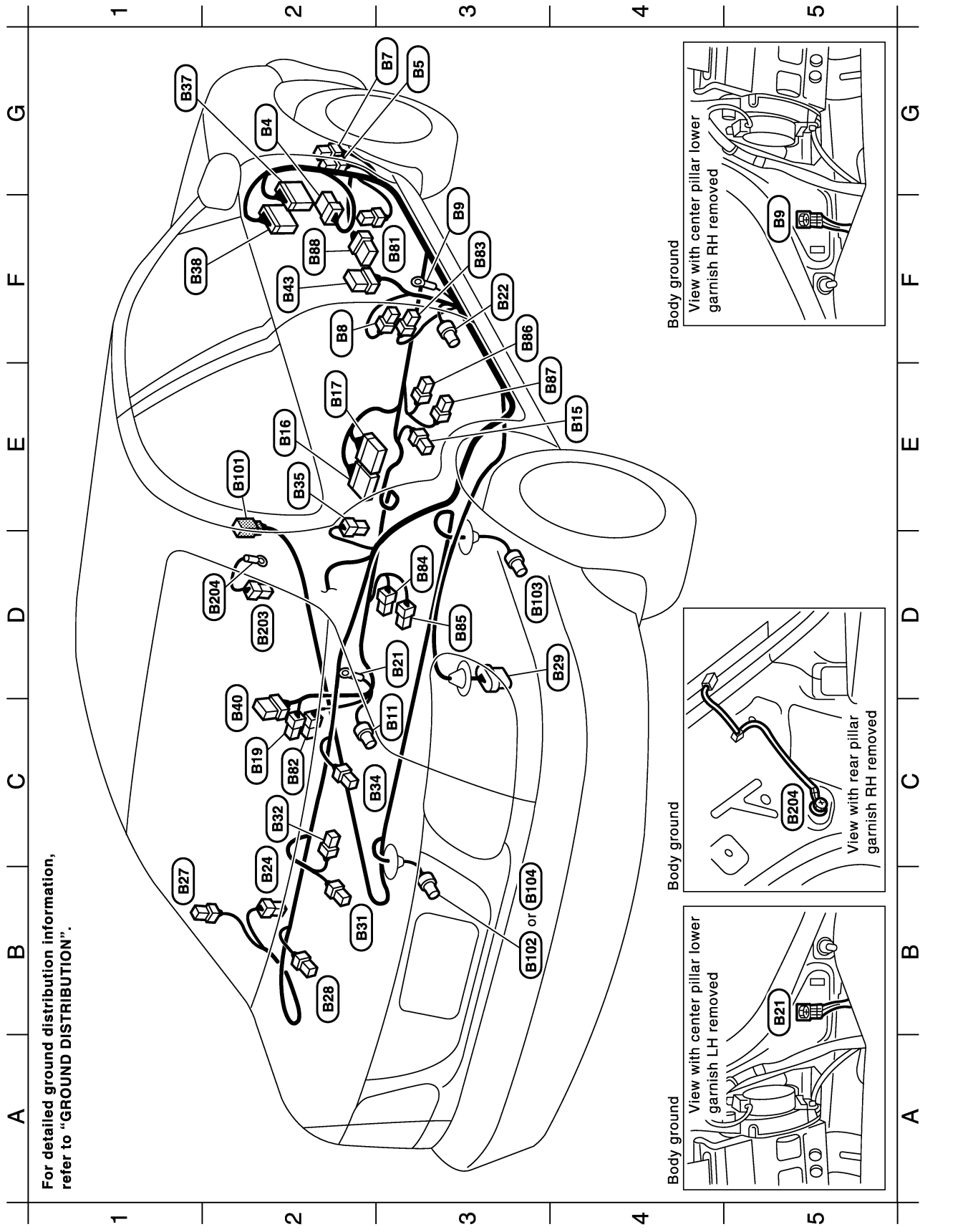



YEL751C

**NOTE:**

## INTERIOR ROOM SIDE — RHD MODELS

NJEL0136S04




YEL643D

G2 B4 W/8 : Fuse block (J/B)
G3 B5 L/4 : Fuel pump relay (QG engine)
G3 B7 B/5 : Rear window defogger relay
F2 B8 W/3 : Door switch driver side
F3 B9 – : Body ground
C3 B11 Y/2 : LH side air bag (satellite) sensor (With side air bag)
E4 B15 B/1 : Parking brake switch
E2 B16 Y/12 : Air bag diagnosis sensor unit
E2 B17 Y/12 : Air bag diagnosis sensor unit
C2 B19 W/3 : Door switch passenger side
D3 B21 – : Body ground
F3 B22 Y/2 : RH side air bag (satellite) sensor (With side air bag)
C2 B24 W/1 : Rear door switch LH
B1 B27 B/1 : Rear window defogger (+)
B2 B28 BR/2 : Rear speaker LH
D4 B29 GY/5 : Fuel level sensor unit and fuel pump
B2 B31 W/2 : Trunk room lamp
C2 B32 W/2 : High-mounted stop lamp (On the rear parcel shelf)
C2 B34 BR/2 : Rear speaker RH
E2 B35 W/1 : Rear door switch RH
G1 B37 BR/16 : To M82
F1 B38 W/12 : To M81
C2 B40 W/8 : To D56
F2 B43 W/8 : To D76
F3 B81 –/2 : Diode
C2 B82 Y/2 : Front LH seat belt pre-tensioner
F3 B83 Y/2 : Front RH seat belt pre-tensioner
D3 B84 –/2 : Front LH side air bag module (With side air bag)
D3 B85 –/1 : Front LH side air bag module (With side air bag)
F3 B86 –/2 : Front RH side air bag module (With side air bag)
E4 B87 –/1 : Front RH side air bag module (With side air bag)
F2 B88 W/6 : To D28 (With power window)

### Body No.2 harness (For ABS or ESP)

E2 B101 W/4 : To E151
B3 B102 BR/2 : Rear wheel sensor LH (YD engine without common rail and K9K engine)
D3 B103 GY/2 : Rear wheel sensor RH
B3 B104 L/2 : Rear wheel sensor LH (QG engine and YD engine with common rail)

### Sub-haness

D2 B203 B/1 : Rear window defogger (–)
D2 B204 – : Body ground

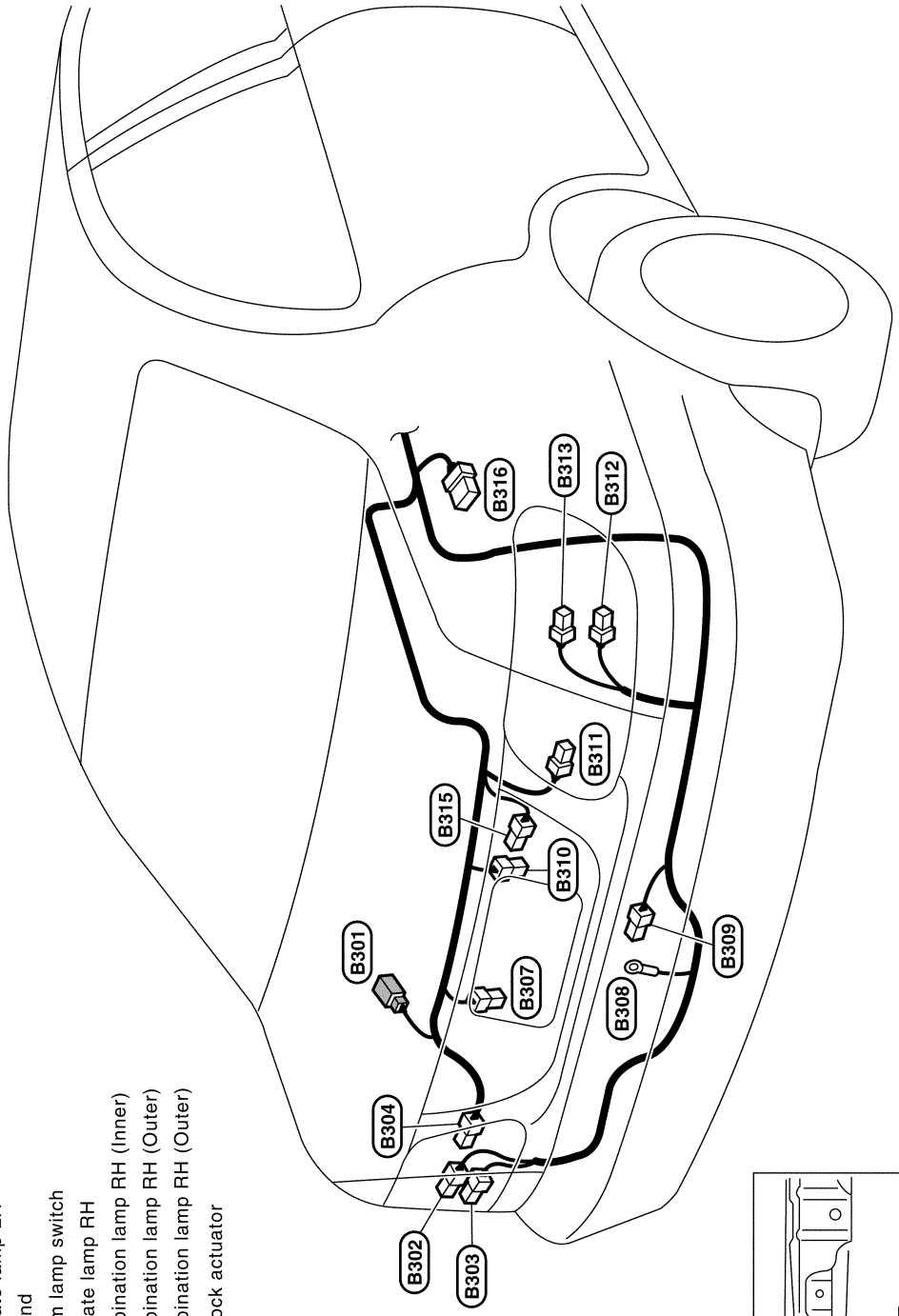
Diode B81



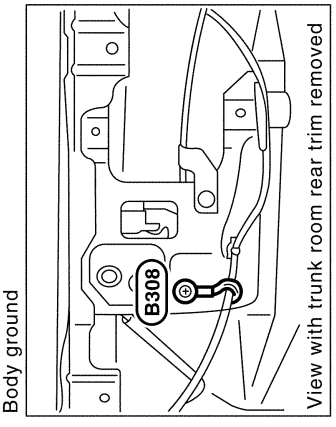

YEL644D

## TRUNK ROOM SIDE — RHD MODELS

NJEL0136S06




| | | |
|---|---|---|
| B301 | BR/2 | High-mounted stop lamp (In the rear spoiler) |
| B302 | BR/2 | Rear combination lamp LH (Outer) |
| B303 | W/3 | Rear combination lamp LH (Outer) |
| B304 | W/3 | Rear combination lamp LH (Inner) |
| B307 | BR/2 | License plate lamp LH |
| B308 | – | Body ground |
| B309 | W/2 | Trunk room lamp switch |
| B310 | BR/2 | License plate lamp RH |
| B311 | W/3 | Rear combination lamp RH (Inner) |
| B312 | W/3 | Rear combination lamp RH (Outer) |
| B313 | BR/2 | Rear combination lamp RH (Outer) |
| B315 | W/4 | Trunk lid lock actuator |
| B316 | GY/6 | Towbar |




**For detailed ground distribution information, refer to "GROUND DISTRIBUTION".**

YEL754C

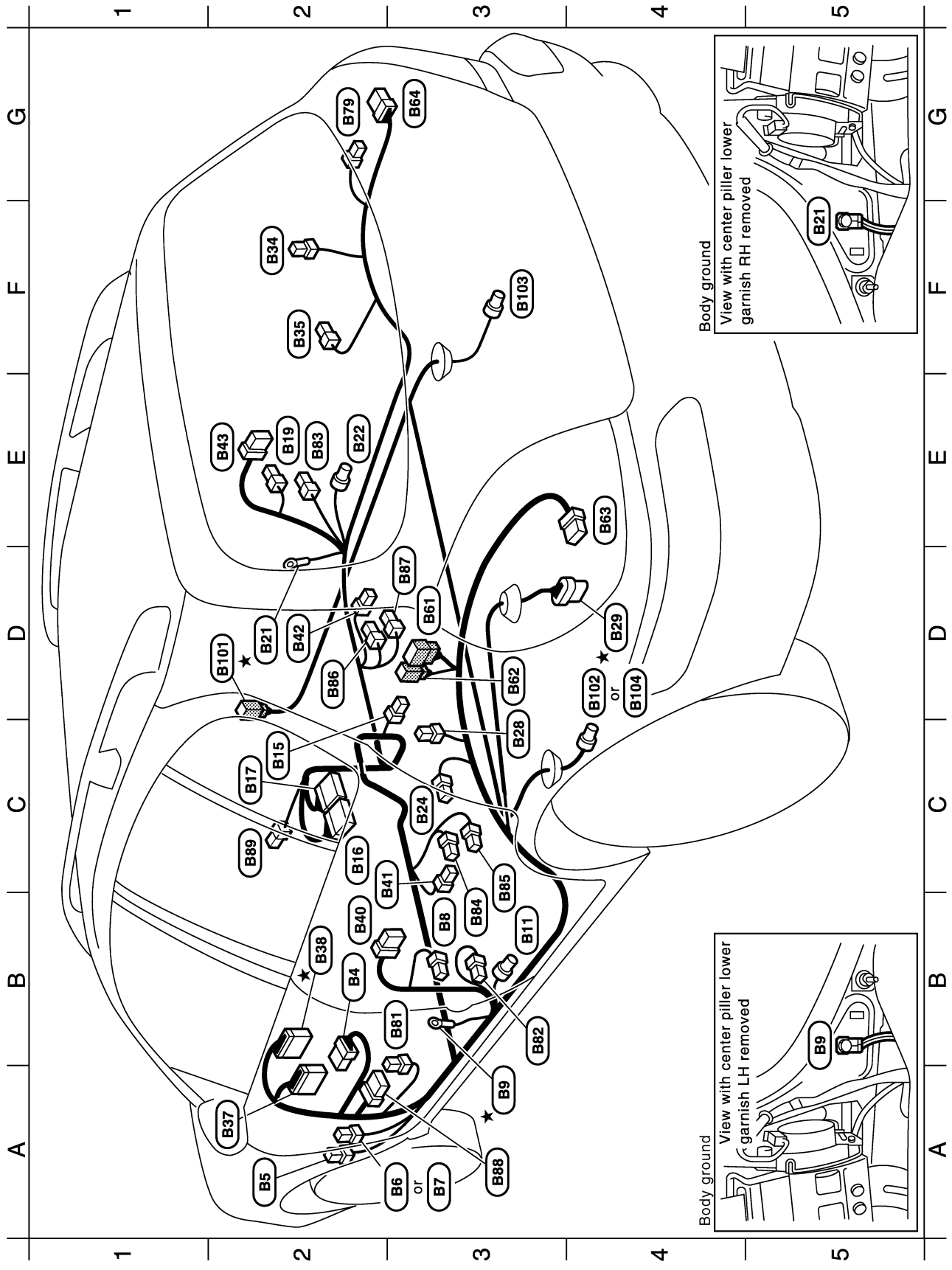
**NOTE:**

## Body Harness/Hatchback

NJEL0348

### LHD MODELS

NJEL0348S01




YEL645D

B2 (B4) W/8 : Fuse block (J/B)
A2 (B5) L/4 : Fuel pump relay (QG engine)
A3 (B6) BR/6 : Rear window defogger relay
(For rear window defogger and mirror defogger)
A3 (B7) B/5 : Rear window defogger relay
(For rear window defogger only)
B3 (B8) W/3 : Door switch driver side
A3 ★(B9) – : Body ground
B3 (B11) Y/2 : LH side air bag (satellite) sensor (With side air bag)
C2 (B15) B/1 : Parking brake switch
C2 (B16) Y/12 : Air bag diagnosis sensor unit
C2 (B17) Y/12 : Air bag diagnosis sensor unit
E2 (B19) W/3 : Door switch passenger side
D2 ★(B21) – : Body ground
E2 (B22) Y/2 : RH side air bag (satellite) sensor (With side air bag)
C3 (B24) W/1 : Door switch rear LH (5-door Hatchback)
C3 (B28) BR/2 : Rear speaker LH
D4 ★(B29) GY/5 : Fuel level sensor unit and fuel pump
F2 (B34) BR/2 : Rear speaker RH
F2 (B35) W/1 : Door switch rear RH (5-door Hatchback)
A2 (B37) BR/16 : To (M82)
B2 ★(B38) W/12 : To (M81)
B2 (B40) W/8 : To (D56) (5-door Hatchback)
C2 (B41) W/3 : Heated seat LH (For cold areas)
D2 (B42) W/3 : Heated seat RH (For cold areas)
E2 (B43) W/8 : To (D76) (5-door Hatchback)
D3 (B61) W/8 : To (D91)
D3 (B62) W/2 : To (D92) (With power door lock)
E4 (B63) W/8 : Rear combination lamp LH
G3 (B64) W/8 : Rear combination lamp RH
G2 (B79) W/2 : Luggage room lamp
B3 (B81) –/2 : Diode
B3 (B82) Y/2 : Front LH seat belt pre-tensioner
E2 (B83) Y/2 : Front RH seat belt pre-tensioner
B3 (B84) –/2 : Front LH side air bag module (With side air bag)
C3 (B85) –/1 : Front LH side air bag module (With side air bag)
D2 (B86) –/2 : Front RH side air bag module (With side air bag)
D3 (B87) –/1 : Front RH side air bag module (With side air bag)
A3 (B88) W/6 : To (D28) (With power window)
C2 (B89) W/4 : To (M424) (For heated seat)

**Body No.2 harness (For ABS or ESP)**

D2 (B101) W/4 : To (E151)
D4 (B102) BR/2 : Rear wheel sensor LH
(YD engine without common rail and K9K engine)
F3 (B103) GY/2 : Rear wheel sensor RH
D4 (B104) L/2 : Rear wheel sensor LH
(QG engine and YD engine with common rail)

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

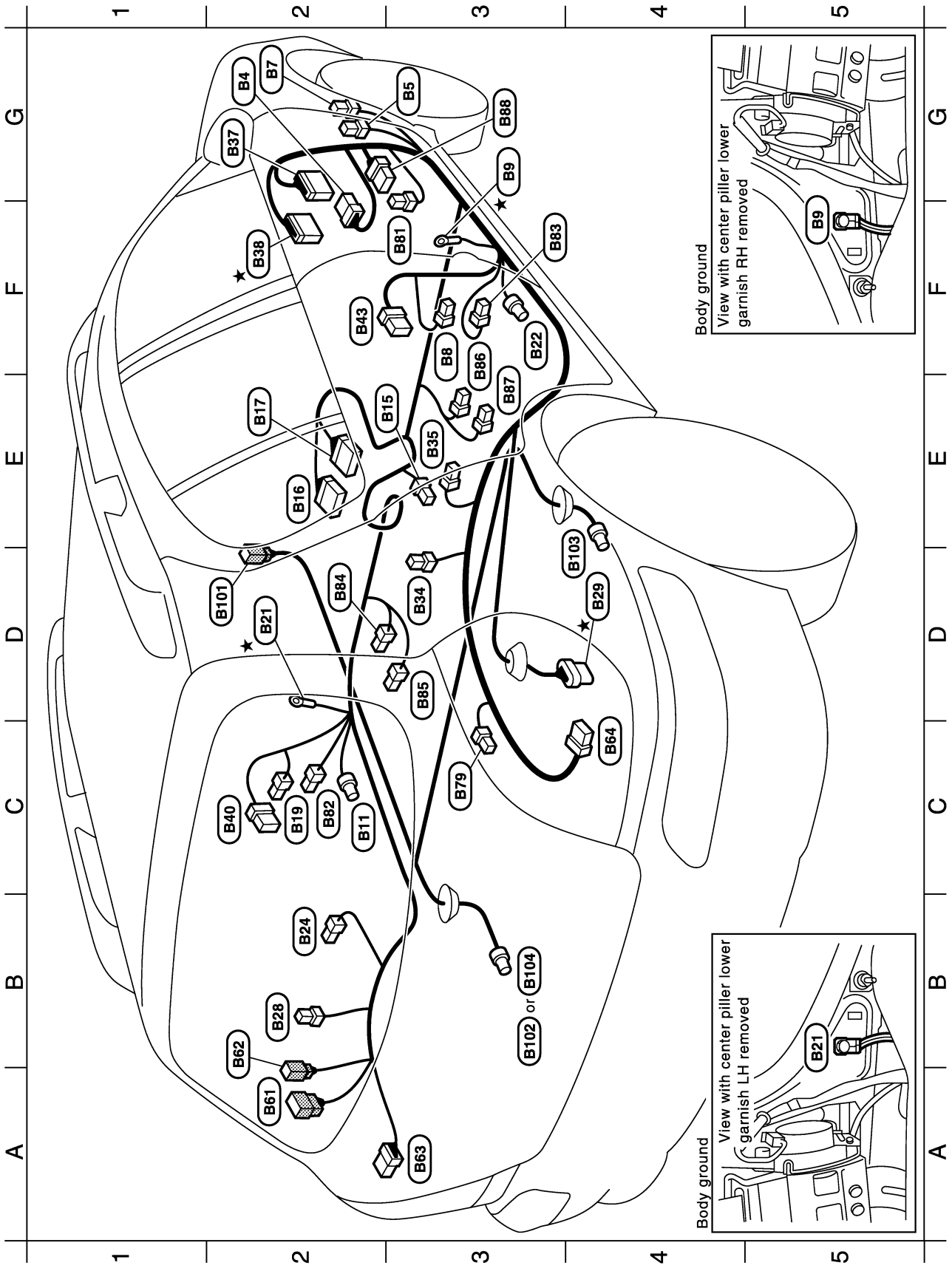
Diode (B81)




YEL646D

## RHD MODELS

NJEL0348S02




YEL647D

G2 B4 W/8 : Fuse block (J/B)
G3 B5 L/4 : Fuel pump relay (QG engine)
G2 B7 B/5 : Rear window defogger relay
F3 B8 W/3 : Door switch driver side
★ G3 B9 – : Body ground
C2 B11 Y/2 : LH side air bag (satellite) sensor (With side air bag)
E3 B15 B/1 : Parking brake switch
E2 B16 Y/12 : Air bag diagnosis sensor unit
E2 B17 Y/12 : Air bag diagnosis sensor unit
C2 B19 W/3 : Door switch passenger side
★ D2 B21 – : Body ground
F3 B22 Y/2 : RH side air bag (satellite) sensor (With side air bag)
B2 B24 W/1 : Door switch rear LH (5-door Hatchback)
B2 B28 BR/2 : Rear speaker LH
★ D4 B29 GY/5 : Fuel level sensor unit and fuel pump
D3 B34 BR/2 : Rear speaker RH
E3 B35 W/1 : Door switch rear RH (5-door Hatchback)
G2 B37 BR/16 : To M82
★ F2 B38 W/12 : To M81

C2 B40 W/8 : To D56 (5-door Hatchback)
F2 B43 W/8 : To D76 (5-door Hatchback)
A2 B61 W/8 : To D91
B2 B62 W/2 : To D92 (With power door lock)
A3 B63 W/8 : Rear combination lamp LH
C4 B64 W/8 : Rear combination lamp RH
C3 B79 W/2 : Luggage room lamp
F3 B81 –/2 : Diode
C2 B82 Y/2 : Front LH seat belt pre-tensioner
F3 B83 Y/2 : Front RH seat belt pre-tensioner
D2 B84 –/2 : Front LH side air bag module (With side air bag)
D3 B85 –/1 : Front LH side air bag module (With side air bag)
F3 B86 –/2 : Front RH side air bag module (With side air bag)
E3 B87 –/1 : Front RH side air bag module (With side air bag)
G3 B88 W/6 : To D28 (With power window)

**Body No.2 harness (For ABS or ESP)**

D2 B101 W/4 : To E151
B3 B102 BR/2 : Rear wheel sensor LH
(YD engine without common rail and K9K engine)
D4 B103 GY/2 : Rear wheel sensor RH
B3 B104 L/2 : Rear wheel sensor LH
(QG engine and YD engine with common rail)

★: 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.**




YEL648D

## Room Lamp Harness

NJEL0140




**For detailed ground distribution information, refer to "GROUND DISTRIBUTION".**




| | | | |
|---|---|---|---|
| R1 | W/6 | : | To M24 |
| R2 | – | : | Body ground (With sunroof) |
| R4 | W/3 | : | Sunroof switch (With sunroof) |
| R5 | B/12 | : | Sunroof motor assembly (With sunroof) |
| R6 | –/6 | : | Interior room lamp and spot lamp |
| R23 | B/2 | : | Vanity mirror lamp RH (With rear seat armrest) |
| R24 | B/2 | : | Vanity mirror lamp LH (With rear seat armrest) |

YEL649D

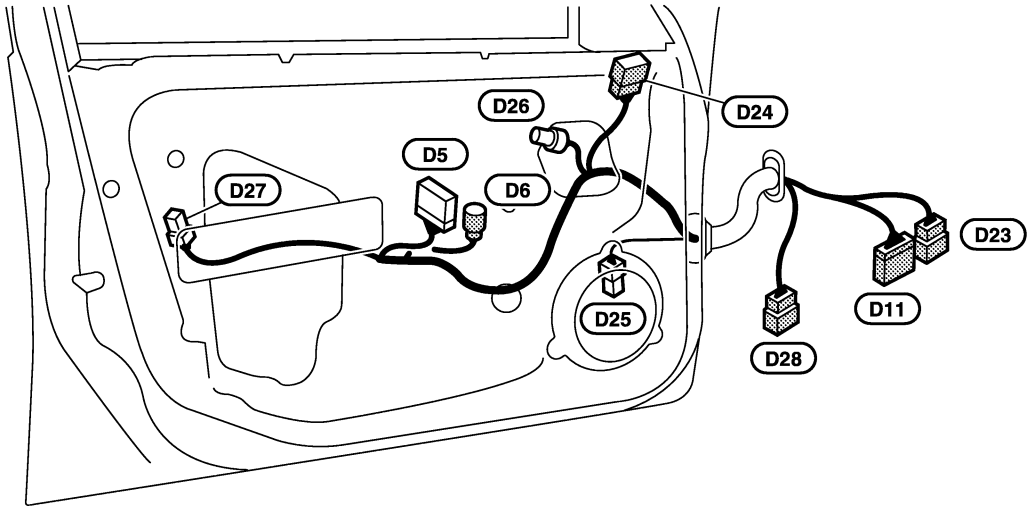
# Front Door Harness/LHD Models

NJEL0142

## LH SIDE

NJEL0142S07

D5 W/16 : Power window main switch (With power window)
D6 BR/3 : Door key cylinder switch (With power door lock)
D11 W/16 : To M76
D23 W/8 : To M158
D24 GY/6 : Door mirror actuator and defogger
D25 BR/2 : Front door speaker
D26 –/2 : Power window regulator (With power window)
D27 W/4 : Door lock actuator assembly
D28 W/6 : To B88

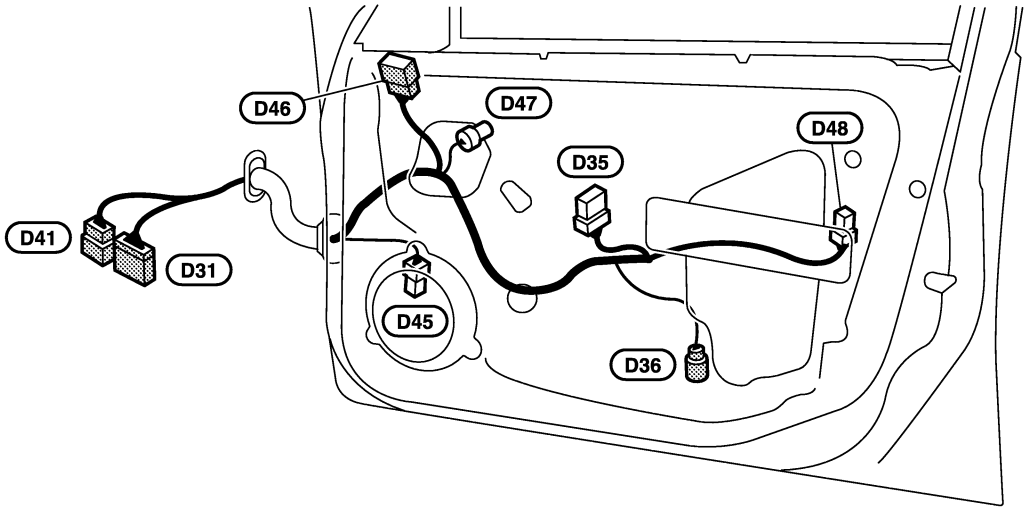



YEL650D

## RH SIDE

NJEL0142S06

| | | | |
|---|---|---|---|
| D31 | W/12 | : | To M71 |
| D35 | W/8 | : | Power window sub-switch (With power window) |
| D36 | BR/3 | : | Door key cylinder switch (With power door lock) |
| D41 | W/8 | : | To M114 |
| D45 | BR/2 | : | Front door speaker |
| D46 | GY/6 | : | Door mirror actuator and defogger |
| D47 | –/2 | : | Power window regulator (With power window) |
| D48 | W/4 | : | Door lock actuator assembly (With power door lock) |




YEL651D

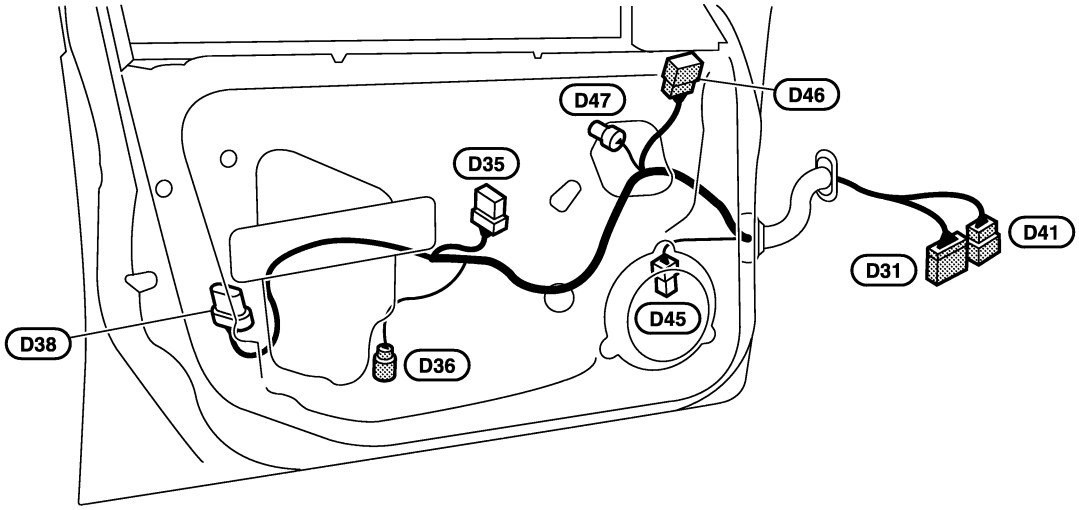
# Front Door Harness/RHD Models

NJEL0349

## LH SIDE

NJEL0349S01

(D31) W/12 : To (M71)
(D35) W/8 : Power window sub-switch (With power window)
(D36) BR/3 : Door key cylinder switch (With power door lock)
(D38) B/6 : Door lock actuator assembly (With super lock)
(D41) W/8 : To (M114)
(D45) BR/2 : Front door speaker
(D46) GY/6 : Door mirror actuator
(D47) –/2 : Power window regulator (With power window)

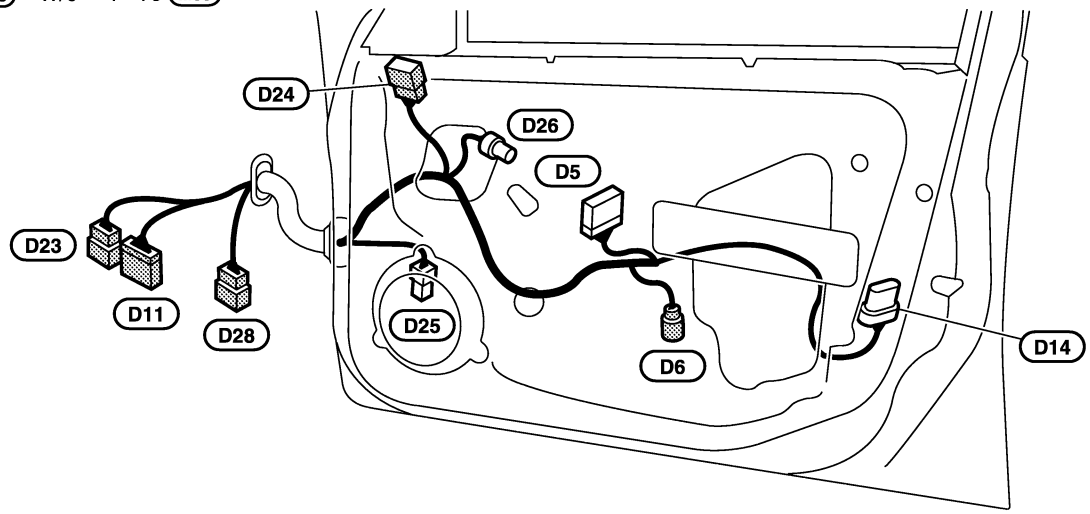



YEL652D

## RH SIDE

NJEL0349S03

(D5) W/16 : Power window main switch (With power window)
(D6) BR/3 : Door key cylinder switch (With power door lock)
(D11) W/16 : To (M76)
(D14) B/6 : Door lock actuator assembly (With super lock)
(D23) W/8 : To (M158)
(D24) GY/6 : Door mirror actuator
(D25) BR/2 : Front door speaker
(D26) –/2 : Power window regulator (With power window)
(D28) W/6 : To (M88)



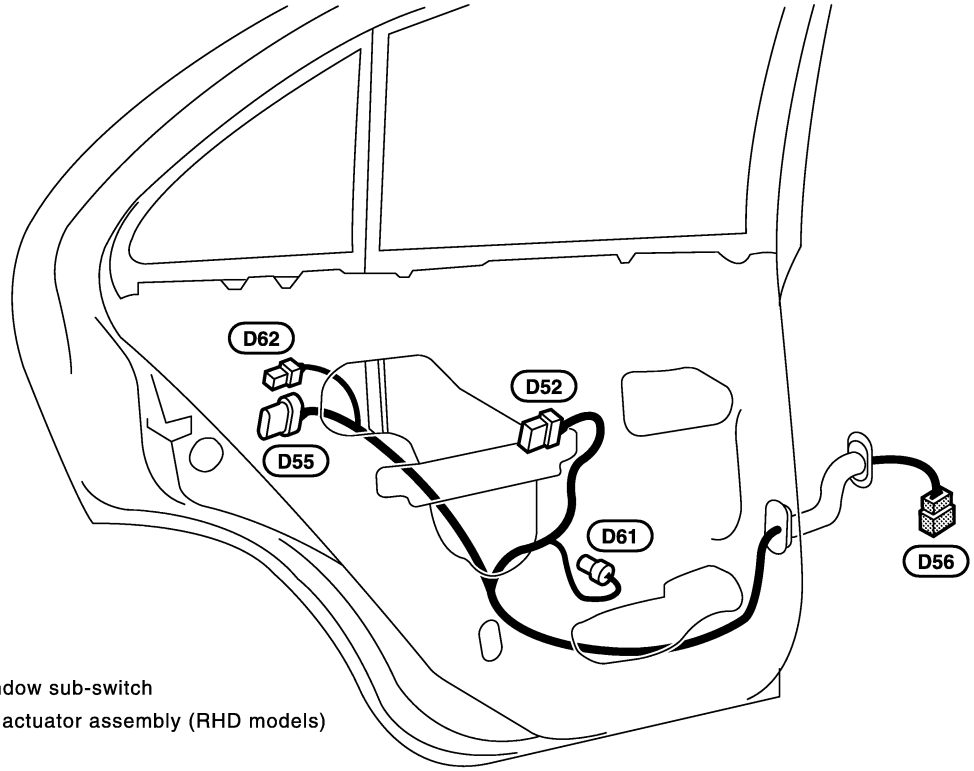

YEL653D

# Rear Door Harness

NJEL0416

## LH SIDE

NJEL0416S01

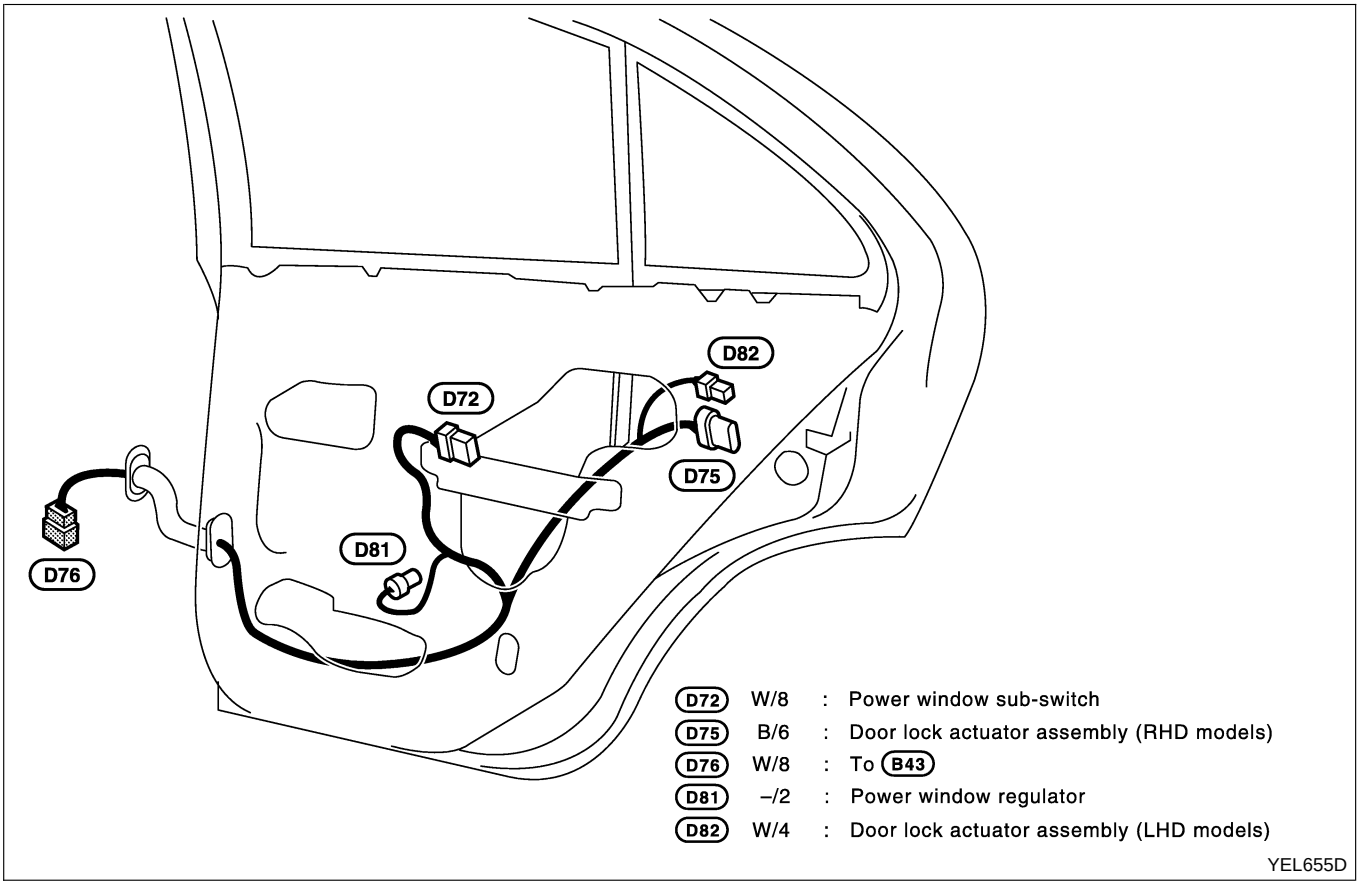



| | | | |
|---|---|---|---|
| D52 | W/8 | : | Power window sub-switch |
| D55 | B/6 | : | Door lock actuator assembly (RHD models) |
| D56 | W/8 | : | To B40 |
| D61 | –/2 | : | Power window regulator |
| D62 | W/4 | : | Door lock actuator assembly (LHD models) |

YEL654D

## RH SIDE

NJEL0416S02



## Back Door Harness

NJEL0492

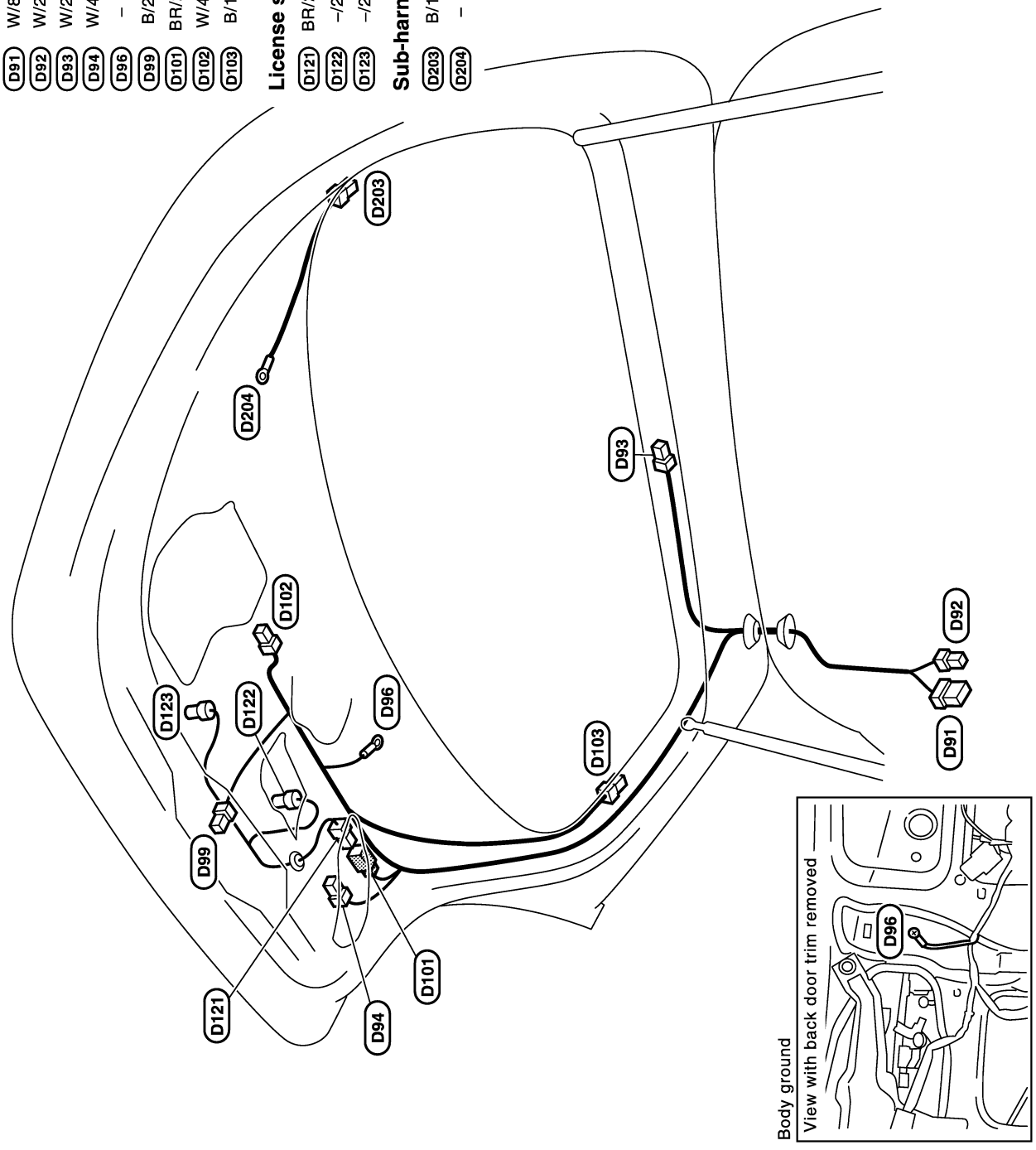
(D91) W/8 : To (B61)
(D92) W/2 : To (B62)
(D93) W/2 : High-mounted stop lamp
(D94) W/4 : Back door lock actuator
(D96) – : Body ground
(D99) B/2 : Luggage room lamp switch
(D101) BR/2 : To (D121)
(D102) W/4 : Rear wiper motor
(D103) B/1 : Rear window defogger (+)

**License sub-harness**

(D121) BR/2 : To (D101)
(D122) –/2 : License plate lamp LH
(D123) –/2 : License plate lamp RH

**Sub-harness**

(D203) B/1 : Rear window defogger (–)
(D204) – : Body ground




YEL656D

# BULB SPECIFICATIONS

*Headlamp*

## Headlamp

NJEL0144S03

| Item | | Wattage (W) |
|---|---|---|
| High/Low (Semi-sealed beam) | 2-bulbs type | 60/55 (H4) |
| | 4-bulbs type | 55 (H1)/55 (*1) |

*1 H1LL ... RHD models except for Europe, H7 ... RHD models for Europe and LHD models

## Exterior Lamp

NJEL0144S01

| Item | | Wattage (W) |
|---|---|---|
| Front fog lamp | | 55 (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 | 18 |
| | Rear fog lamp | 21 |
| Rear side marker lamp | | 3.8 |
| License lamp | | 5 |
| High-mounted stop lamp | On the rear parcel shelf | 18 |
| | In the air spoiler (LED) | 3.2 |

## Interior Lamp

NJEL0144S02

| Item | | Wattage (W) |
|---|---|---|
| Interior room lamp | | 10 |
| Map lamp | With roof console | 3 |
| | Without roof console | 8 |
| Vanity mirror lamp | | 8 |
| Personal lamp | | 5 |
| 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 |
|---|---|---|
| ISTSIG | 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, M | HA | Manual Air Conditioner |
| A/CCUT | EC | Air Conditioner Cut Control |
| AAC/V | EC | IACV-AAC Valve |
| AACVLV | EC | IACV-AAC Valve |
| ABS | BR | Anti-lock Brake System |
| APS | EC | Accelerator Position Sensor |
| AT/C | EC | A/T Control |
| ATCONT | EC | A/T Control |
| 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 |
| BRK/SW | EC | Brake Pedal Position Switch |
| CHARGE | SC | Charging System |
| CHIME | EL | Warning Chime |
| CIGAR | EL | Cigarette Lighter |
| CKPS | EC | Crankshaft Position Sensor (POS) |
| CKPS | EC | Crankshaft Position Sensor (TDC) |
| CLOCK | EL | Clock |
| COOL/F | EC | Cooling Fan Control |
| D/LOCK | EL | Power Door Lock |
| DEF | EL | Rear Window Defogger |
| DTRL | EL | Headlamp — With Daytime Light System |
| ECMRLY | EC | ECM Relay |
| 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 |
| F/PUMP | EC | Fuel Pump |
| FRO2 | EC | Front Heated Oxygen Sensor (Non E-OBD) |
| FRO2/H | EC | Front Heated Oxygen Sensor Heater (Non E-OBD) |
| FTS | AT | A/T Fluid Temperature Sensor |
| FUEL | EC | Fuel Injection System Function |
| GLOW | EC | Glow Control System |
| H/AIM | EL | Headlamp Aiming Control System |
| H/LAMP | EL | Headlamp |
| H/SEAT | EL | Heated Seat |
| HEATER | HA | Heater System |
| HLC | EL | Headlamp Washer |
| HORN | EL | Horn |
| IATS | EC | Intake Air Temperature Sensor |
| IATSEN | EC | Intake Air Temperature Sensor |
| IGN/SG | EC | Ignition Signal |
| ILL | EL | Illumination |
| INJECT | EC | Injector |
| INJPMP | EC | Injection Pump |
| INT/L | EL | Spot, Vanity Mirror, Personal and Trunk Room Lamps |
| IVC | EC | Intake Valve Timing Control Solenoid Valve |
| IVC/V | EC | Intake Valve Timing Control Solenoid Valve |
| KS | EC | Knock Sensor |
| LOAD | EC | Load Signal |
| LPSV | AT | Line Pressure Solenoid Valve |
| MAFS | EC | Mass Air Flow Sensor |
| MAIN | AT | Main Power Supply and Ground Circuit |
| MAIN | EC | Main Power Supply and Ground Circuit |
| METER | EL | Speedometer, Tachometer, Temp. and Fuel Gauges |
| MIL/DL | EC | MIL and Data Link Connectors |
| MIRROR | EL | Door Mirror |
| MULTI | EL | Multi-remote Control System |
| NATS | EL | Nissan Anti-Theft System |

| Code | Section | Wiring Diagram Name |
|---|---|---|
| NAVI | EL | Navigation System |
| NONDTC | AT | Non-detectable Items |
| O2H1B1 | EC | Front Heated Oxygen Sensor Heater (E-OBD) |
| O2H2B1 | EC | Rear Heated Oxygen Sensor Heater (E-OBD) |
| O2S1B1 | EC | Front Heated Oxygen Sensor (E-OBD) |
| O2S2B1 | EC | Rear Heated Oxygen Sensor (E-OBD) |
| OVRCSV | AT | Overrun Clutch Solenoid Valve |
| PGC/V | EC | EVAP Canister Purge Volume Control Solenoid Valve |
| PHASE | EC | Camshaft Position Sensor (PHASE) |
| PNP/SW | EC | Park/Neutral Position Switch |
| PNP/SW | AT | Park/Neutral Position Switch |
| PNPSW1 | EC | Park/Neutral Position Switch |
| POS | EC | Crankshaft Position Sensor (POS) |
| POWER | EL | Power Supply Routing |
| PRGVLV | EC | EVAP Canister Purge Volume Control Solenoid Valve |
| PST/SW | EC | Power Steering Oil Pressure Switch |
| R/FOG | EL | Rear Fog Lamp |
| ROOM/L | EL | Interior Room Lamp |
| RP/SEN | EC | Refrigerant Pressure Sensor |
| RRO2 | EC | Rear Heated Oxygen Sensor (Non E-OBD) |
| RRO2/H | EC | Rear Heated Oxygen Sensor Heater (Non E-OBD) |
| S/SIG | EC | Start Signal |
| SHIFT | AT | A/T Shift Lock System |
| S/LOCK | EL | Power Door Lock — Super Lock — |
| 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 |
| TCV | AT | Torque Converter Clutch Solenoid Valve |
| TPS | AT | Throttle Position Sensor |

| Code | Section | Wiring Diagram Name |
|---|---|---|
| TPS | EC | Throttle Position Sensor |
| TURN | EL | Turn Signal and Hazard Warning Lamps |
| VSS | EC | Vehicle Speed Sensor |
| VSSA/T | AT | Vehicle Speed Sensor A/T (Revolution Sensor) |
| VSSMTR | AT | Vehicle Speed Sensor MTR |
| WARN | EL | Warning Lamps |
| WINDOW | EL | Power Window |
| WIP/R | EL | Rear Wiper and Washer |
| WIPER | EL | Front Wiper and Washer |