

ELECTRICAL SYSTEM

SECTION **EL**

When you read wiring diagrams:

- Read GI section, “HOW TO READ WIRING DIAGRAMS”.

When you perform trouble diagnoses, read GI section, “HOW TO FOLLOW FLOW CHART IN TROUBLE DIAGNOSES” and “HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT”.

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WIRING DIAGRAM REFERENCE CHART

ECCS (Ignition system)	EC SECTION
AUTOMATIC TRANSAXLE CONTROL SYSTEM	AT SECTION
ANTI-LOCK BRAKE SYSTEM	BR SECTION
SRS "AIR BAG" and "SEAT BELT PRE-TENSIONER"	RS SECTION
HEATER AND AIR CONDITIONER	HA SECTION

NOTE

Precautions

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

The Supplemental Restraint System “Air Bag” and “Seat Belt Pre-tensioner”, used along with a seat belt, help to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The Supplemental Restraint System consists of an air bag module (located in the center of the steering wheel and on the instrument panel on the passenger side, where fitted), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.

In addition to the supplemental air bag modules for a frontal collision, the supplemental side air bag used along with the seat belt help to reduce the risk or severity of injury to the driver and front passenger in a side collision. The supplemental side air bag consists of air bag modules (located in the outer side of front seats), satellite sensor, diagnosis sensor unit (one of components of supplemental air bags for a frontal collision), wiring harness, warning lamp (one of components of supplemental air bags for a frontal collision). Information necessary to service the system safely is included in the **RS section** of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative (which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation), all maintenance must be performed by an authorized NISSAN dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses (except “SEAT BELT-TENSIONER” connector) can be identified with yellow harness connector (and with yellow harness protector or yellow insulation tape before the harness connectors). Not use electrical test equipment on any circuit related to the SRS.

HARNESS CONNECTOR

Description

HARNESS CONNECTOR (TAB-LOCKING TYPE)

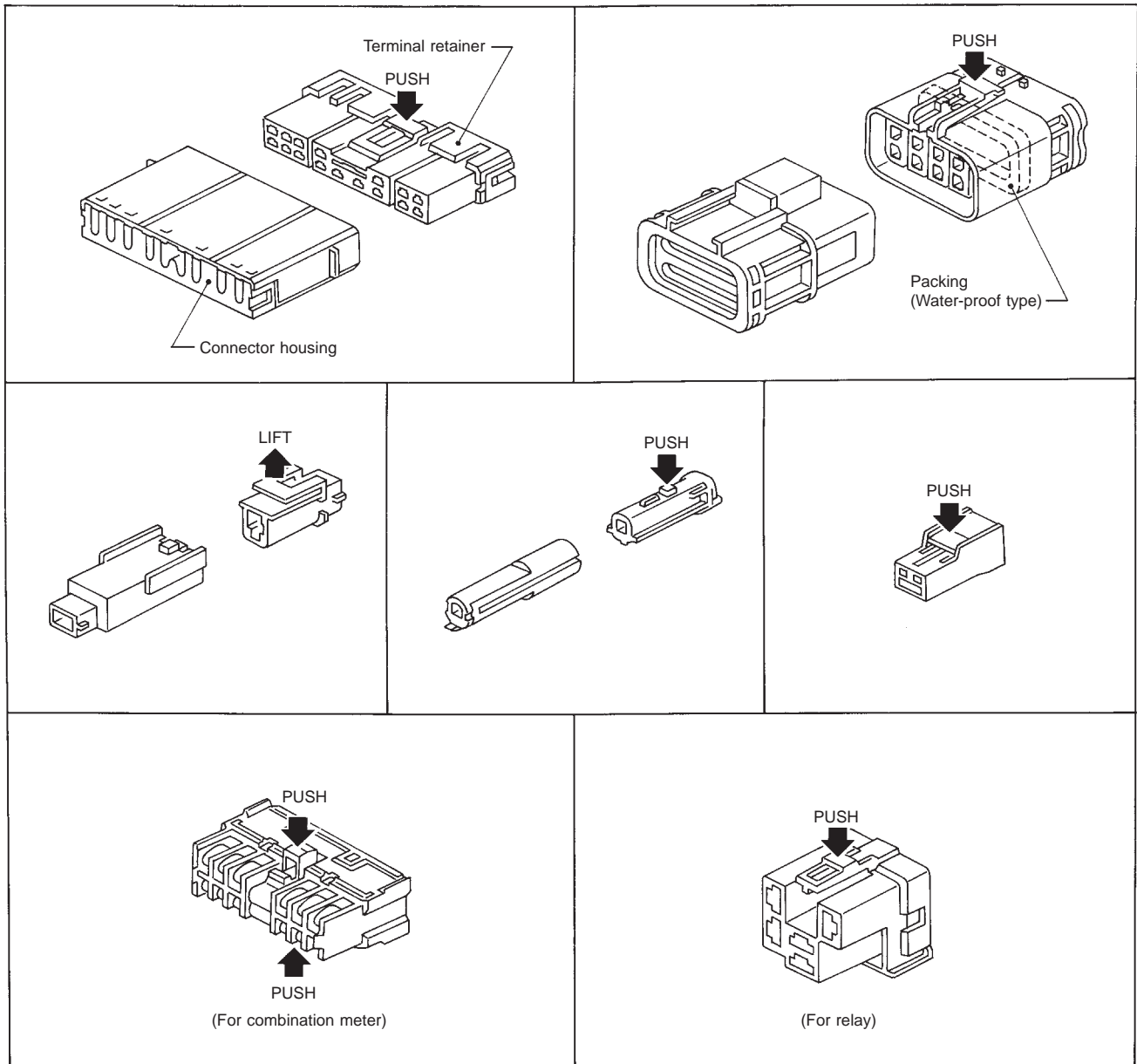
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

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

CAUTION:

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

[Example]



SEL769D

HARNESS CONNECTOR

Description (Cont'd)

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

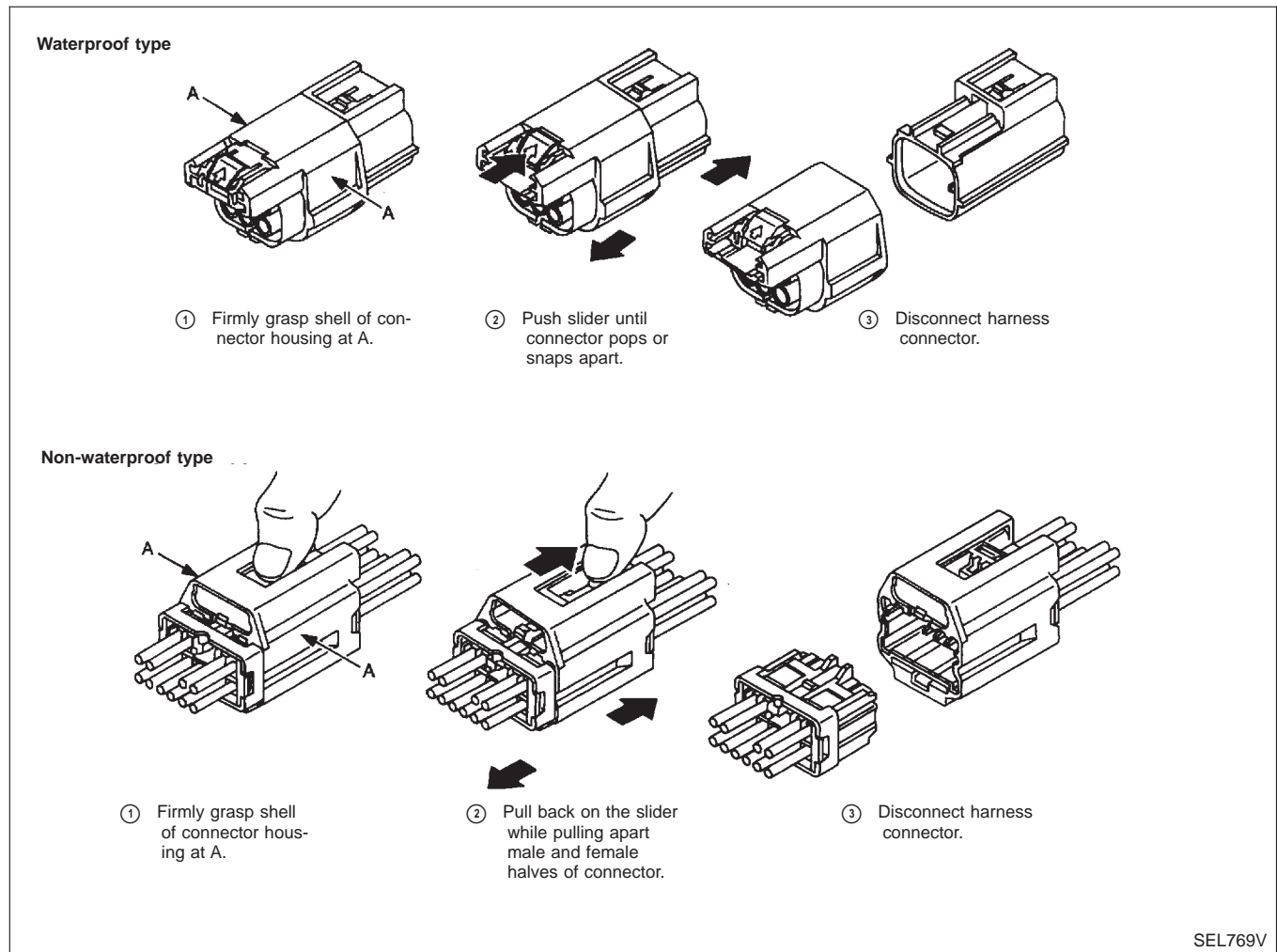
- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.
- The slide-locking type connectors are disconnected by pushing or lifting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

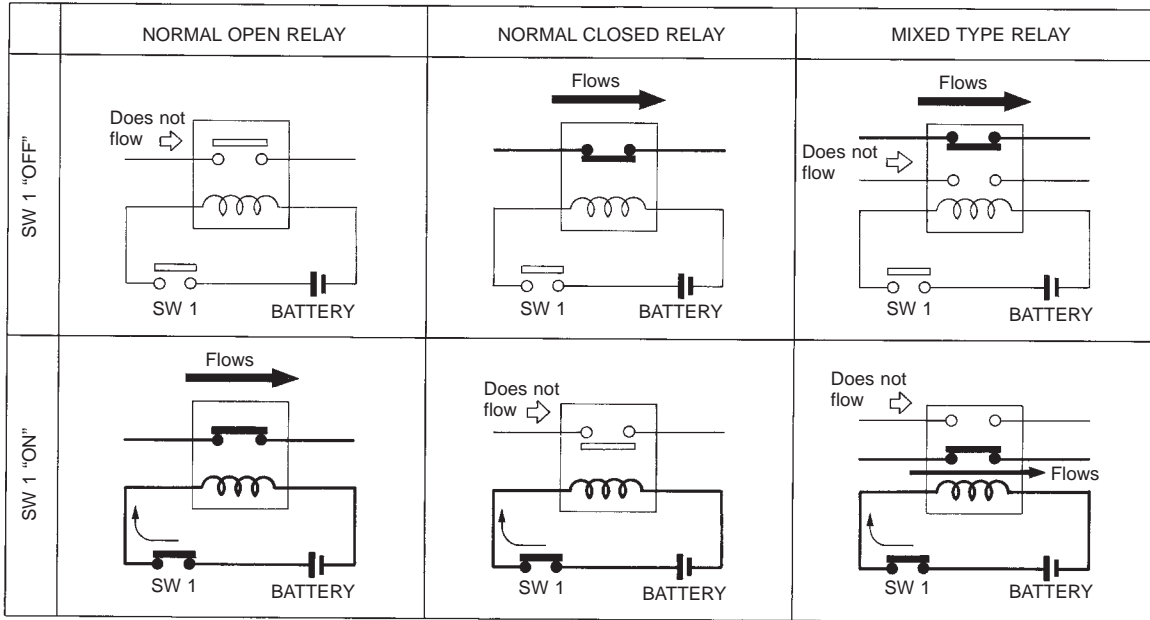


STANDARDIZED RELAY

Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

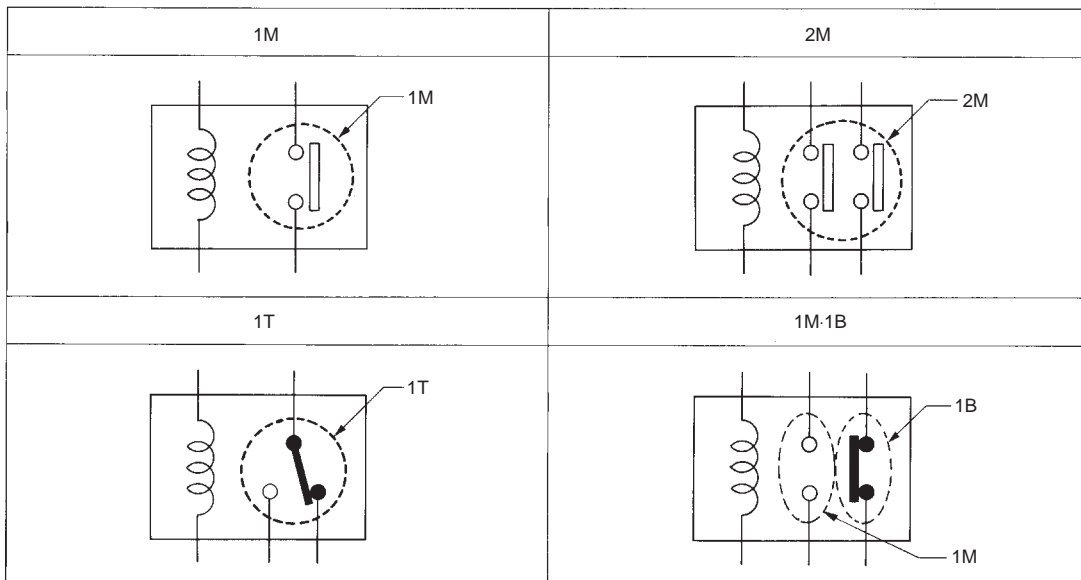
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



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TYPE OF STANDARDIZED RELAYS

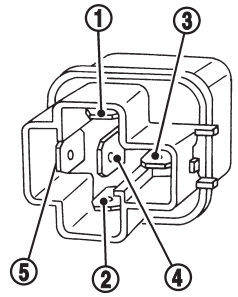
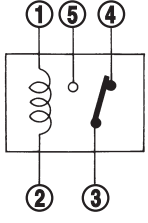
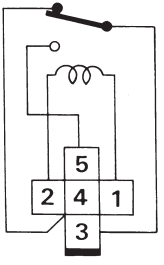
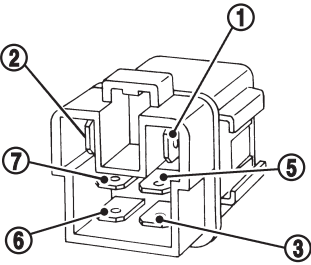
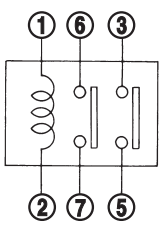
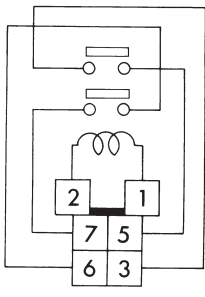
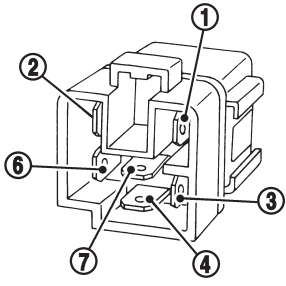
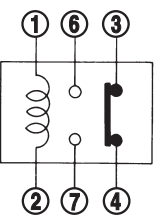
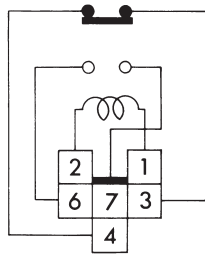
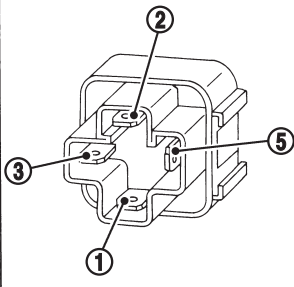
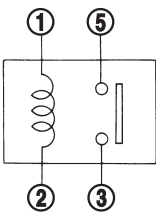
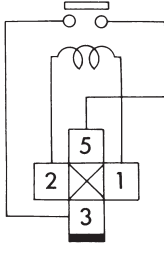
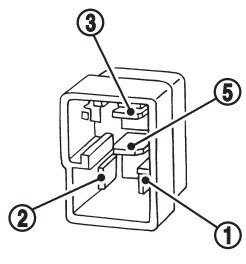
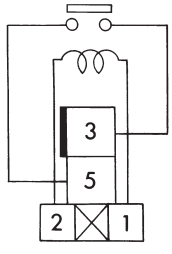
- | | |
|---------------------|----------------------------|
| 1M 1 Make | 2M 2 Make |
| 1T 1 Transfer | 1M-1B 1 Make 1 Break |



SEL882H

STANDARDIZED RELAY

Description (Cont'd)

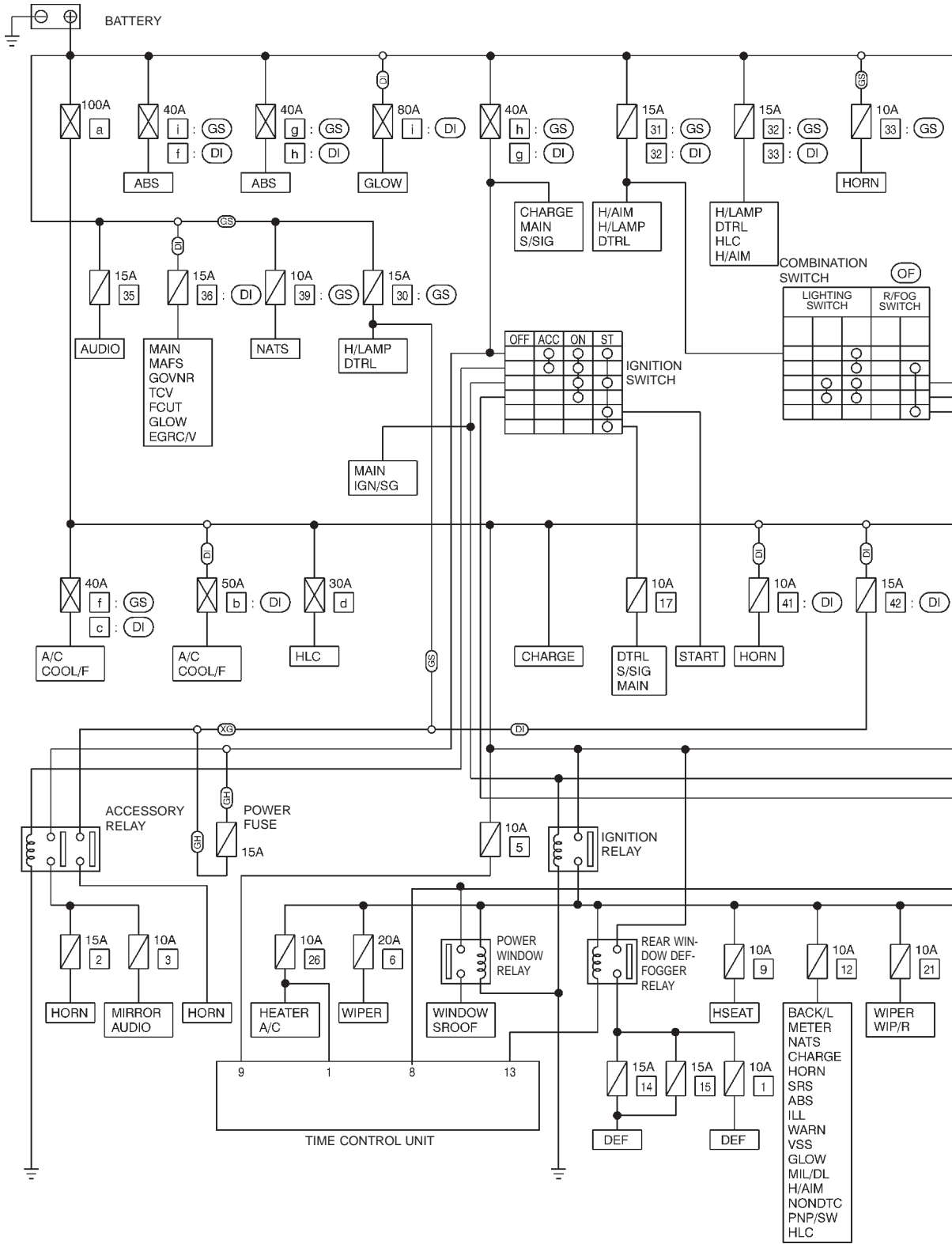
Type	Outer view	Circuit	Connector symbol and connection	Case color
1T				BLACK
2M				BROWN
1M•1B				GRAY
1M				BLUE
				

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

SEL188W

POWER SUPPLY ROUTING

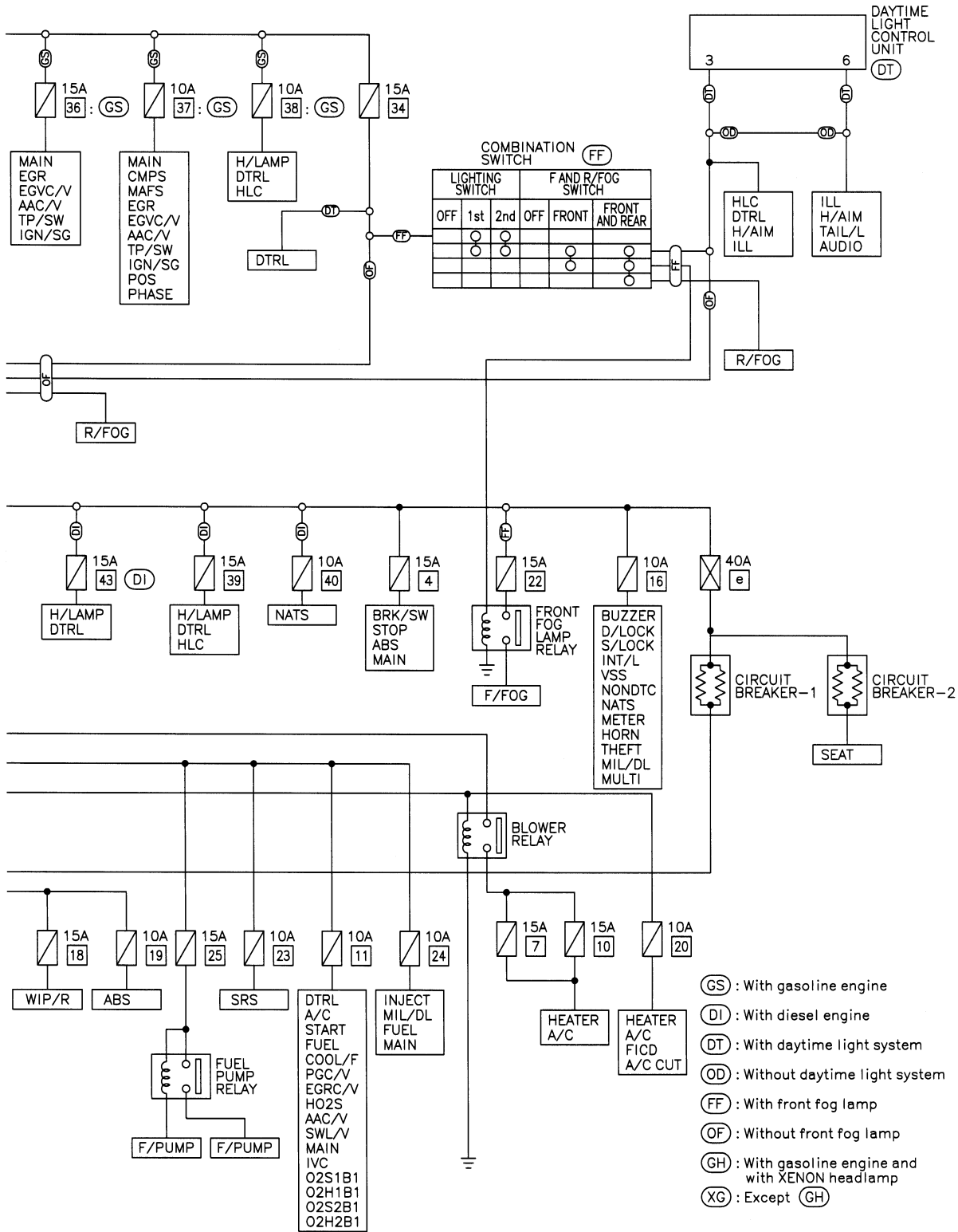
Schematic



YEL218C

POWER SUPPLY ROUTING

Schematic (Cont'd)

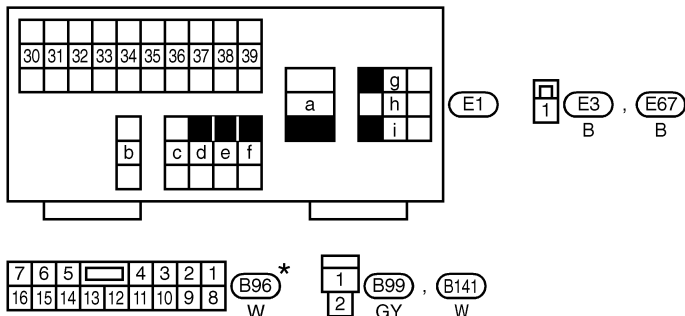
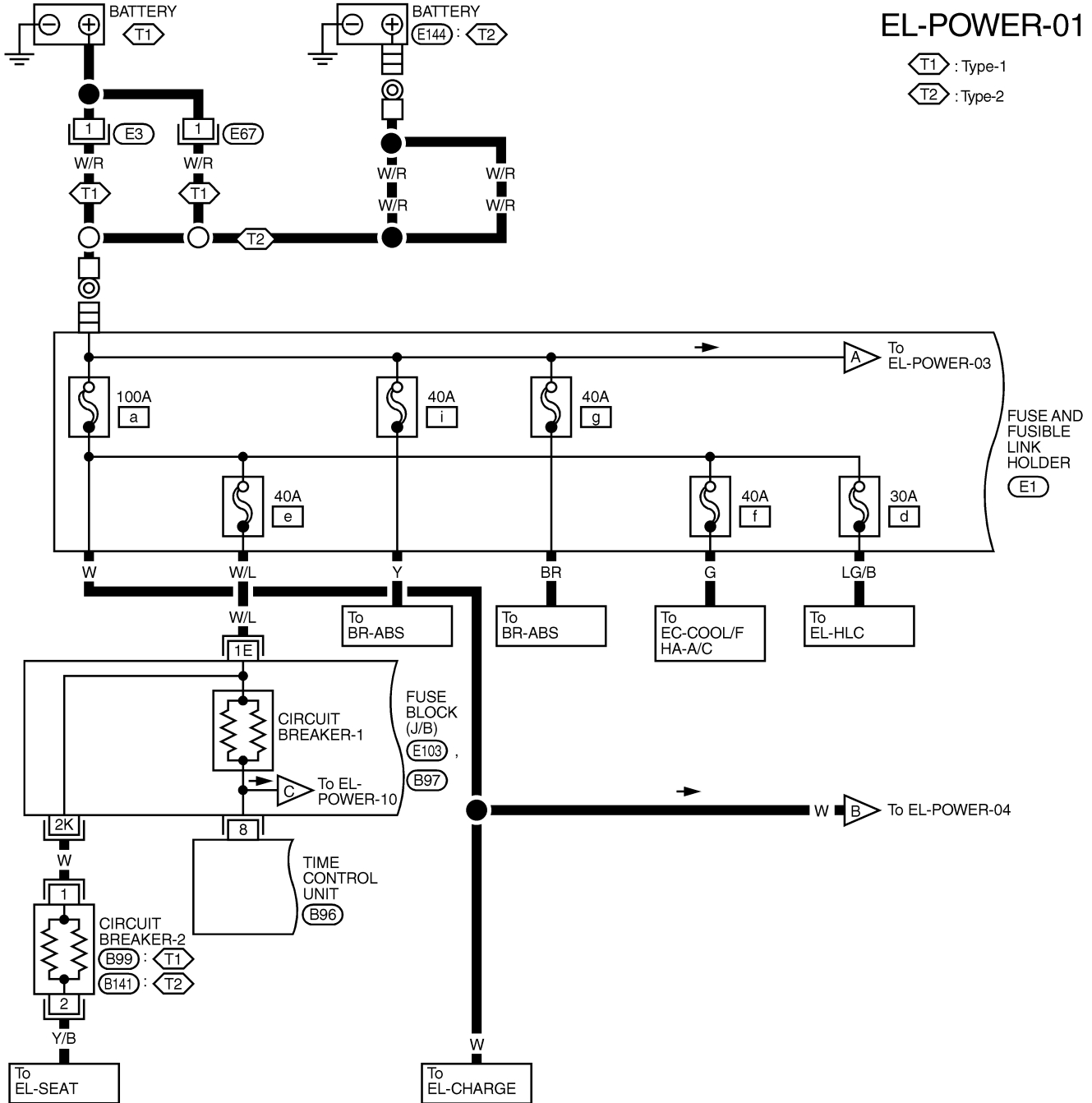


POWER SUPPLY ROUTING

Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SWITCH IN ANY POSITION

Gasoline engine models



REFER TO THE FOLLOWING.

- E103 FUSE BLOCK-JUNCTION BOX (J/B)
- B97 FUSE BLOCK-JUNCTION BOX (J/B)

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

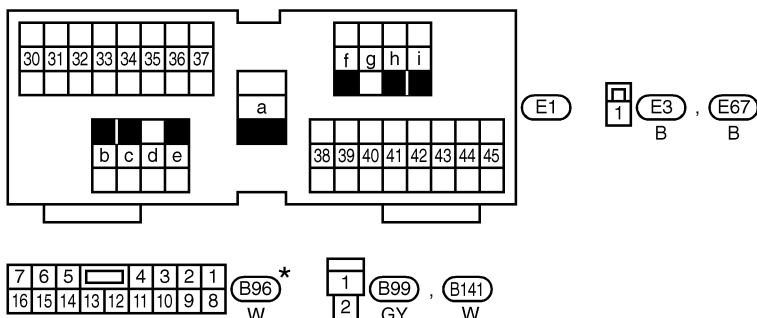
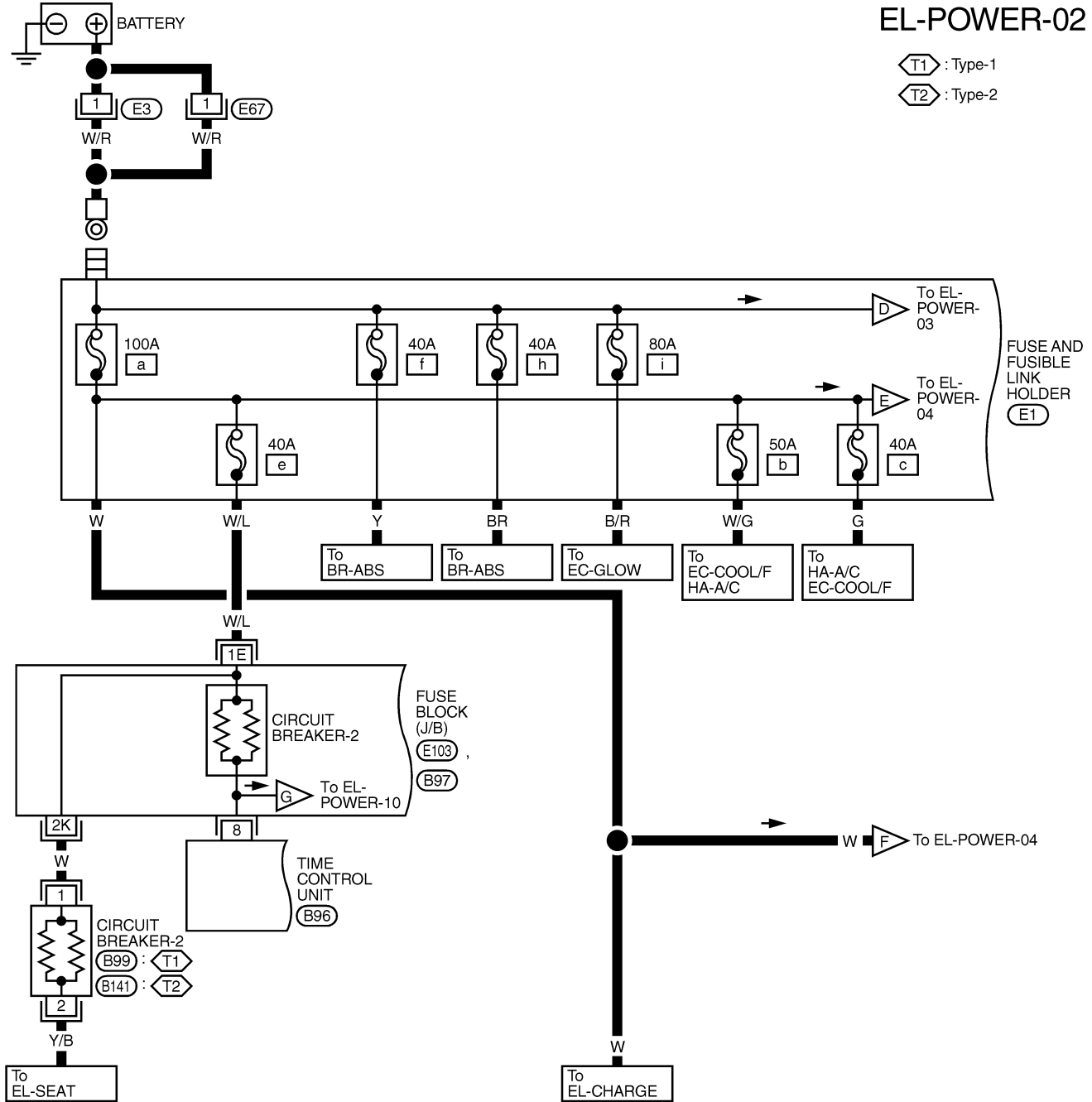
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

Diesel engine models

EL-POWER-02

T1 : Type-1
T2 : Type-2



REFER TO THE FOLLOWING.

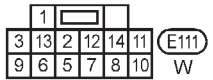
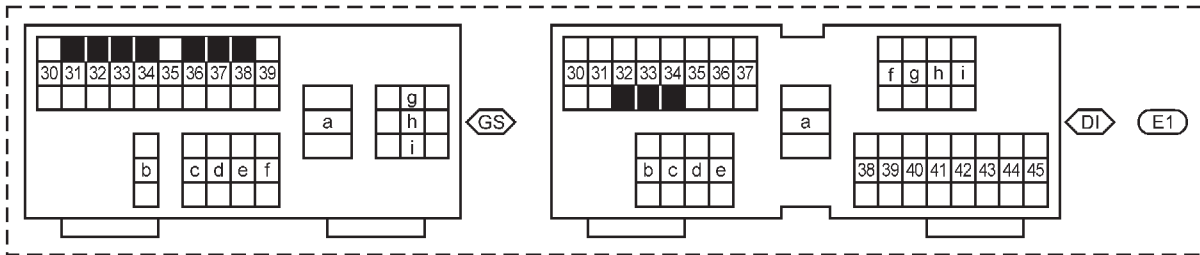
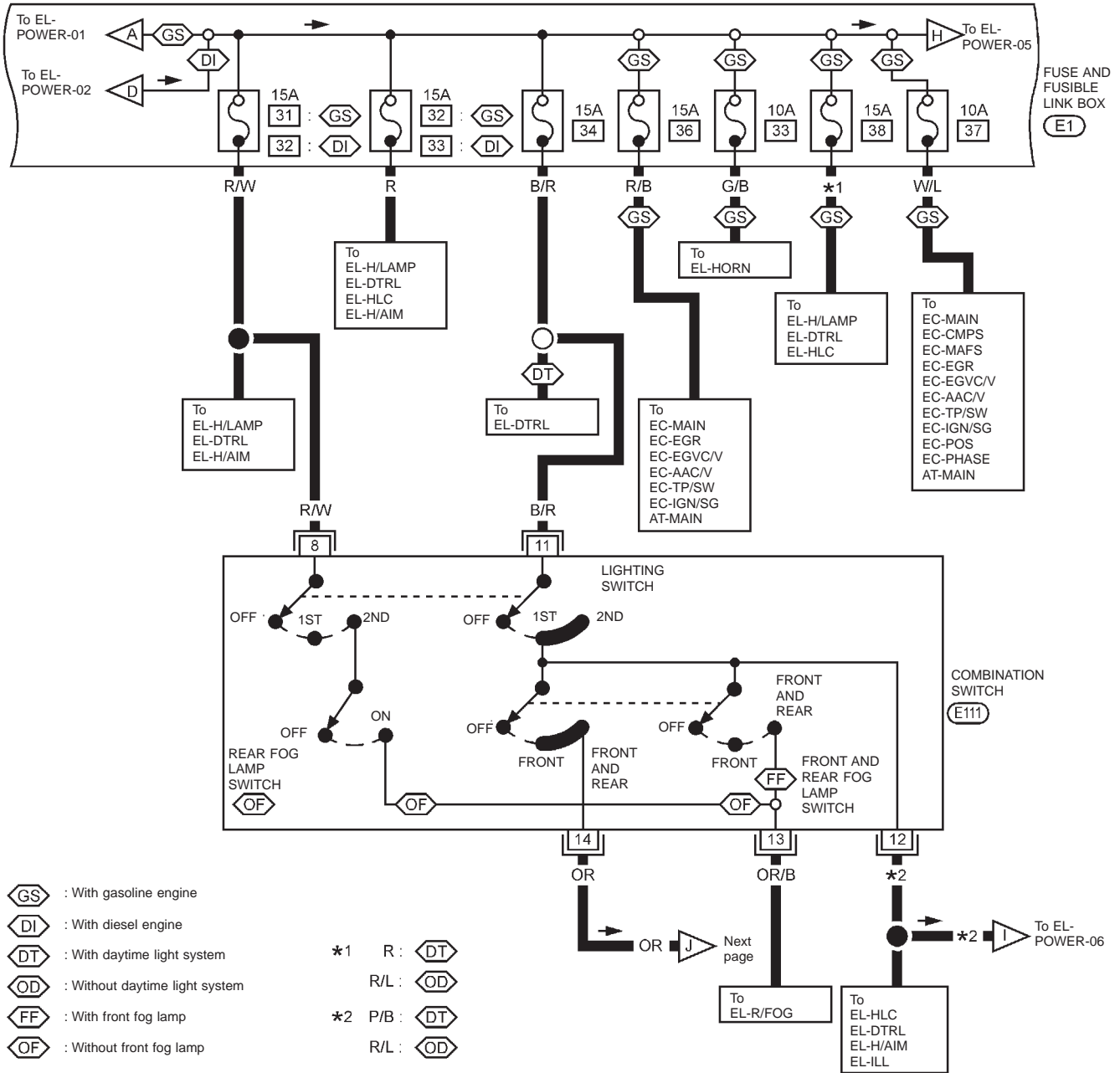
- E103 FUSE BLOCK-JUNCTION BOX (J/B)
- B97 FUSE BLOCK-JUNCTION BOX (J/B)

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

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-03

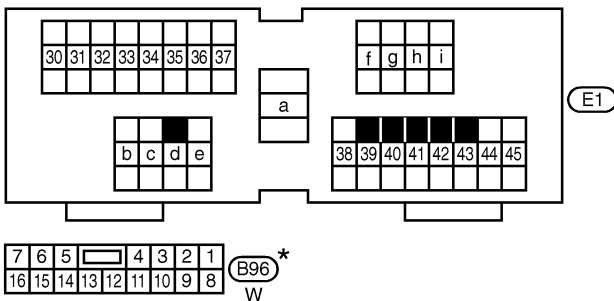
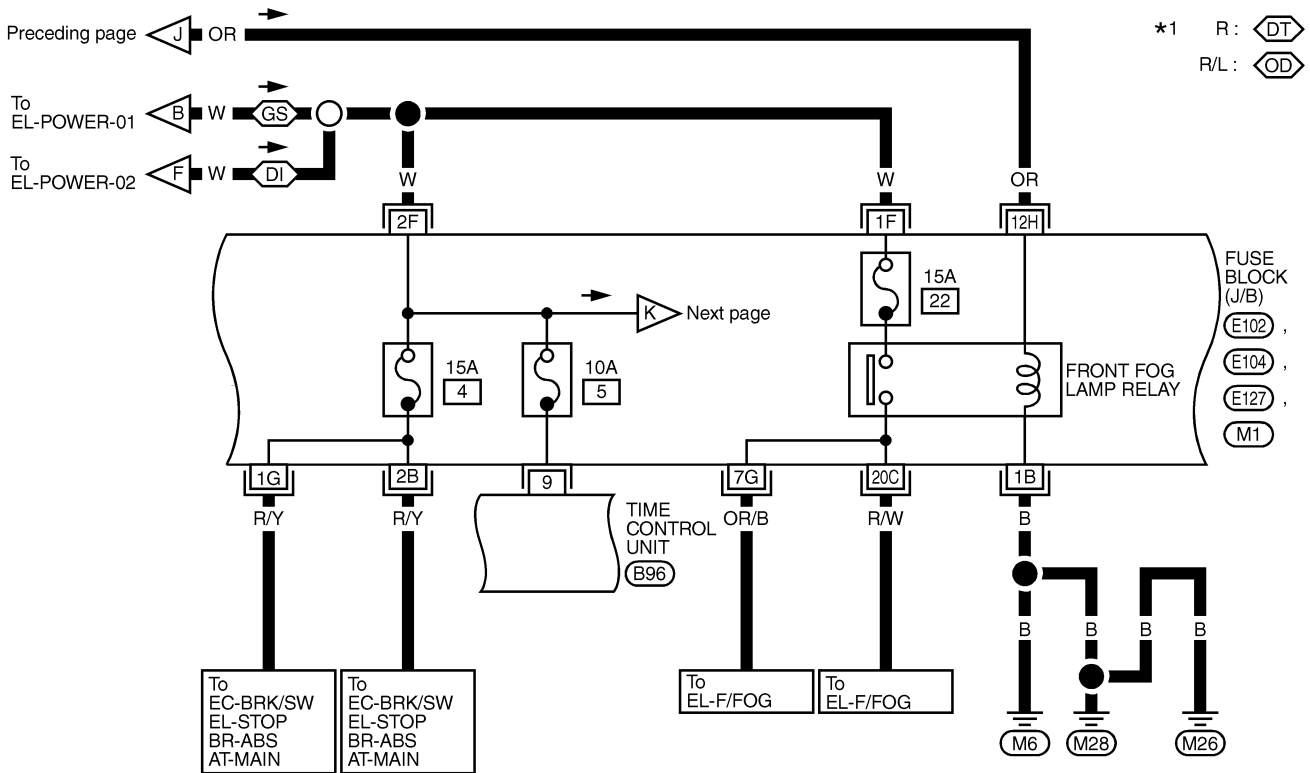
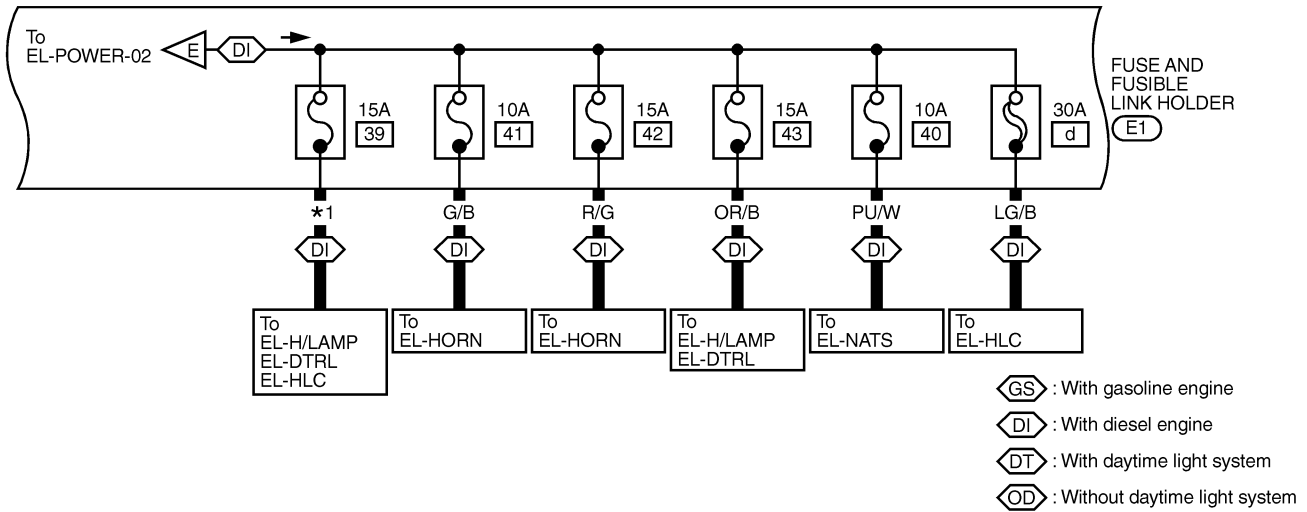


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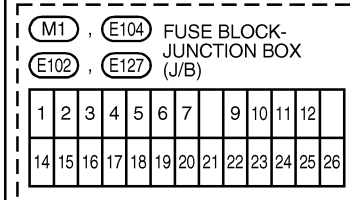
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-04



REFER TO THE FOLLOWING.

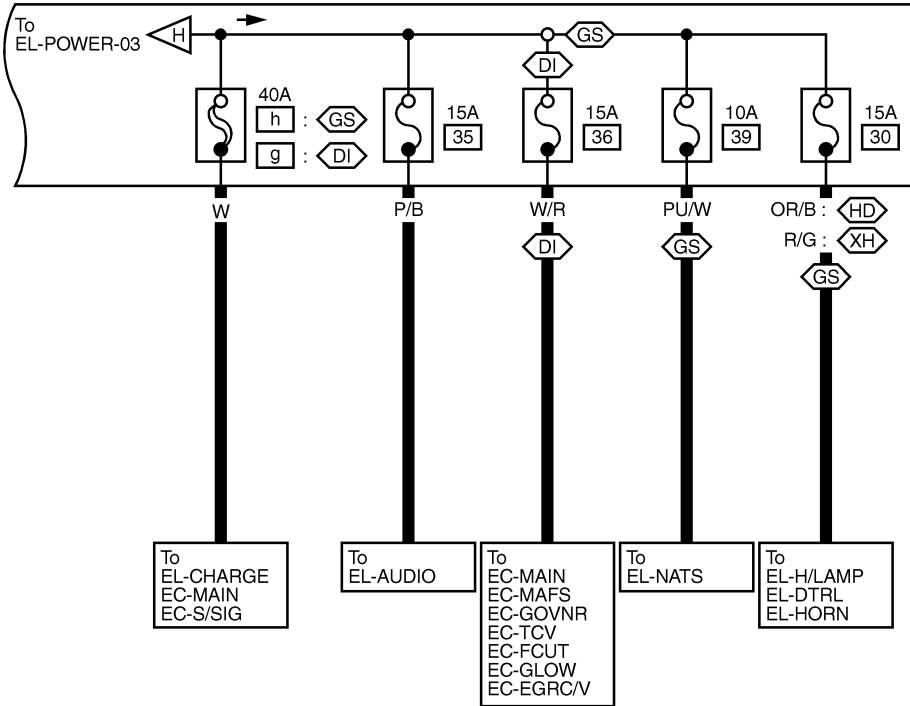


*: This connector is not shown in "HARNESS LAYOUT", EL section.

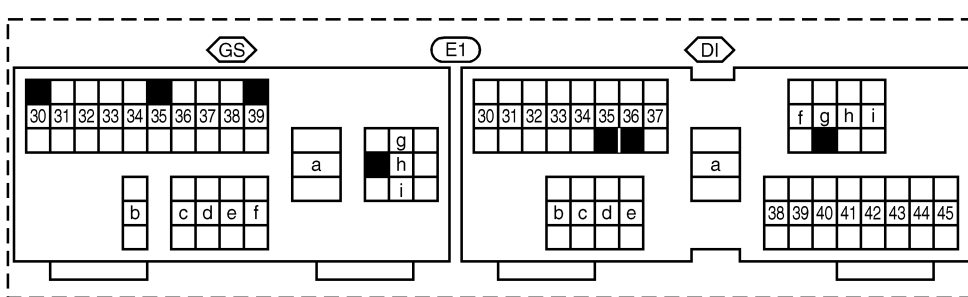
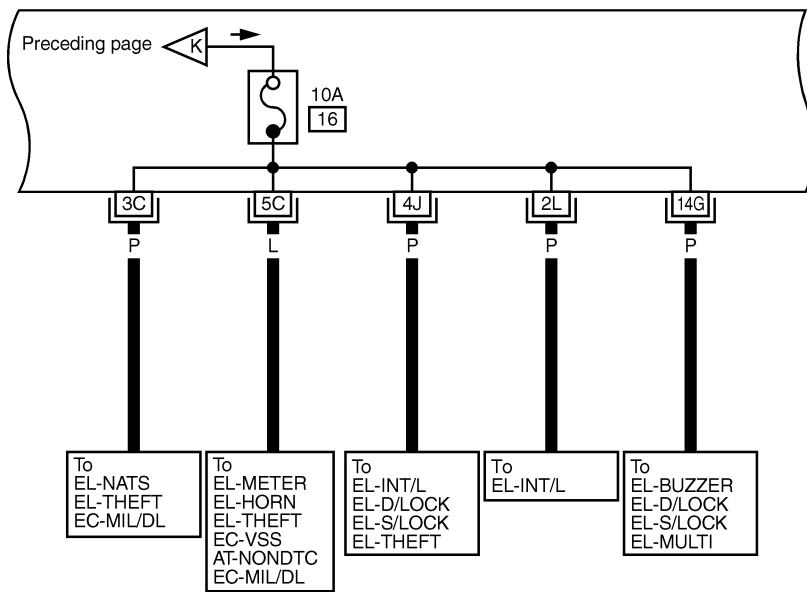
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

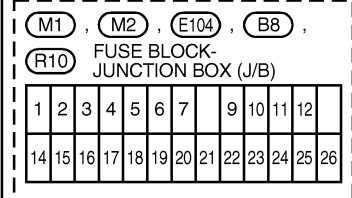
EL-POWER-05



- GS : With gasoline engine
- DI : With diesel engine
- HD : With XENON headlamp
- XH : Except HD



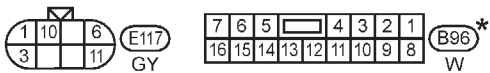
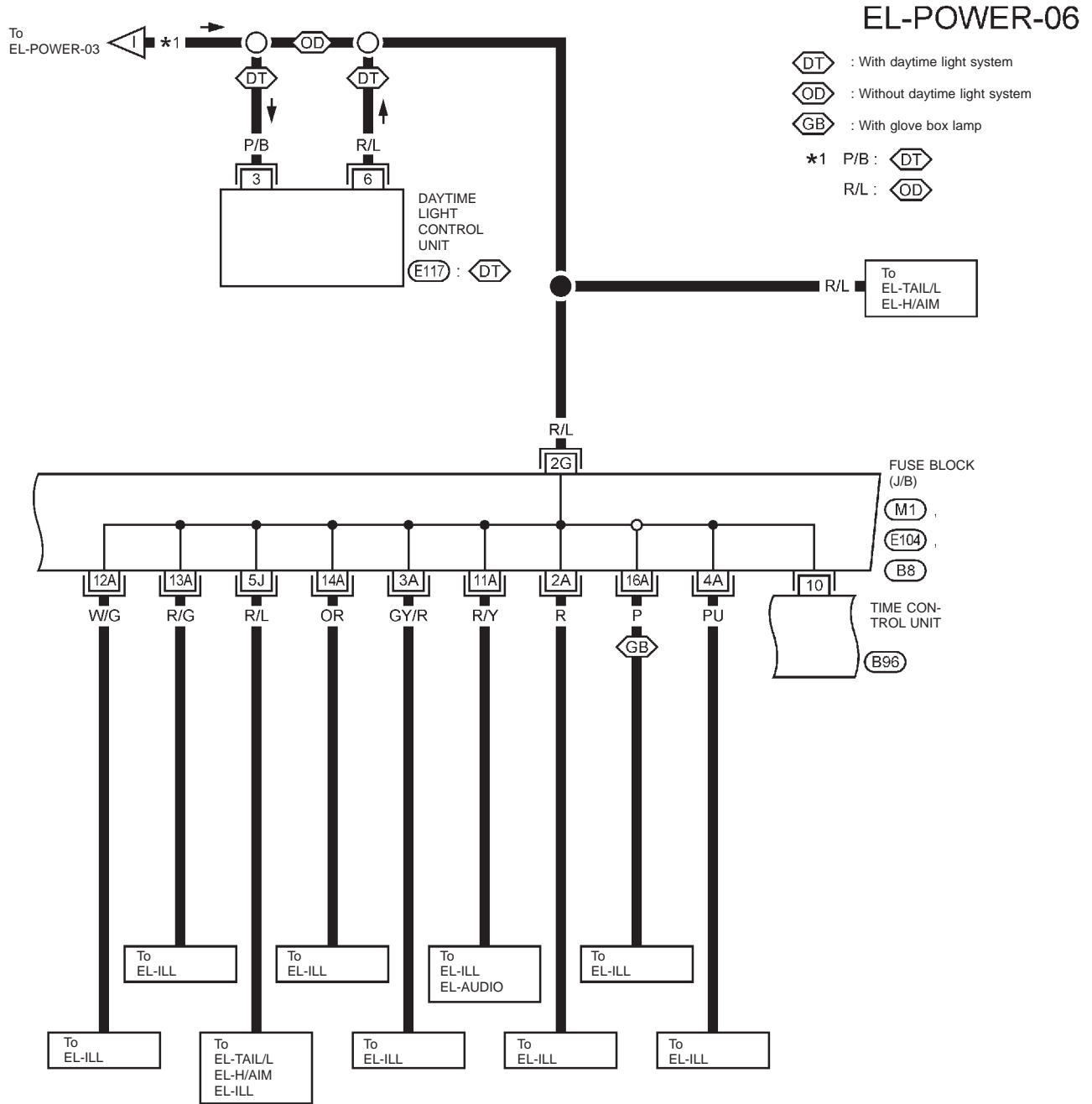
REFER TO THE FOLLOWING.



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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)



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

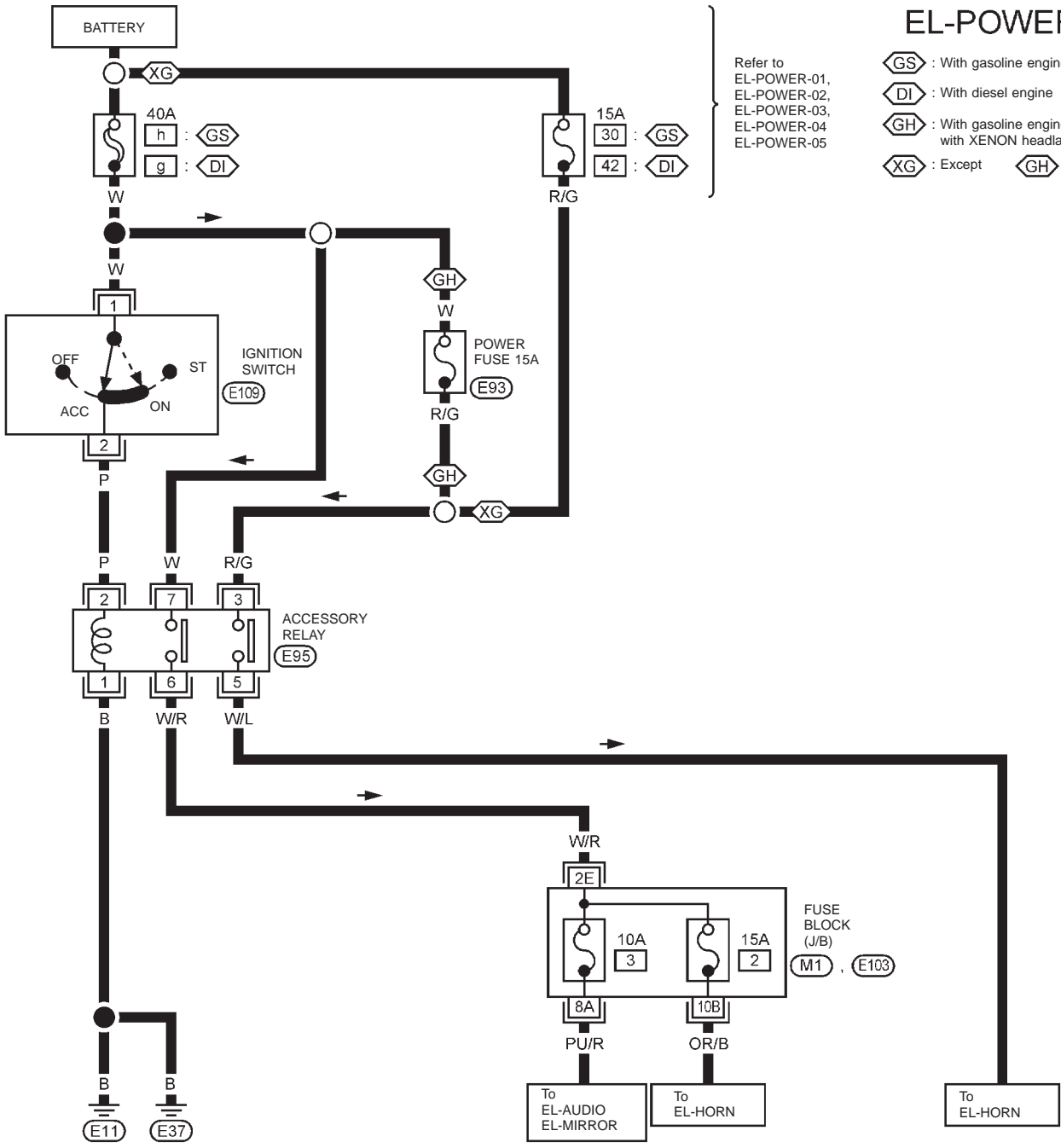
- REFER TO THE FOLLOWING
- (M1) FUSE BLOCK - Junction Box (J/B)
 - (E104) FUSE BLOCK - Junction Box (J/B)
 - (B8) FUSE BLOCK - Junction Box (J/B)

YEL225C

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

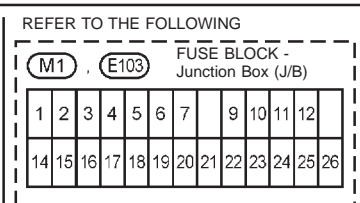
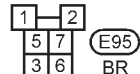
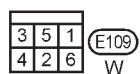
ACCESSORY POWER SUPPLY — IGNITION SWITCH IN “ACC” OR “ON”



EL-POWER-07

Refer to
EL-POWER-01,
EL-POWER-02,
EL-POWER-03,
EL-POWER-04
EL-POWER-05

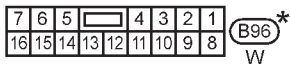
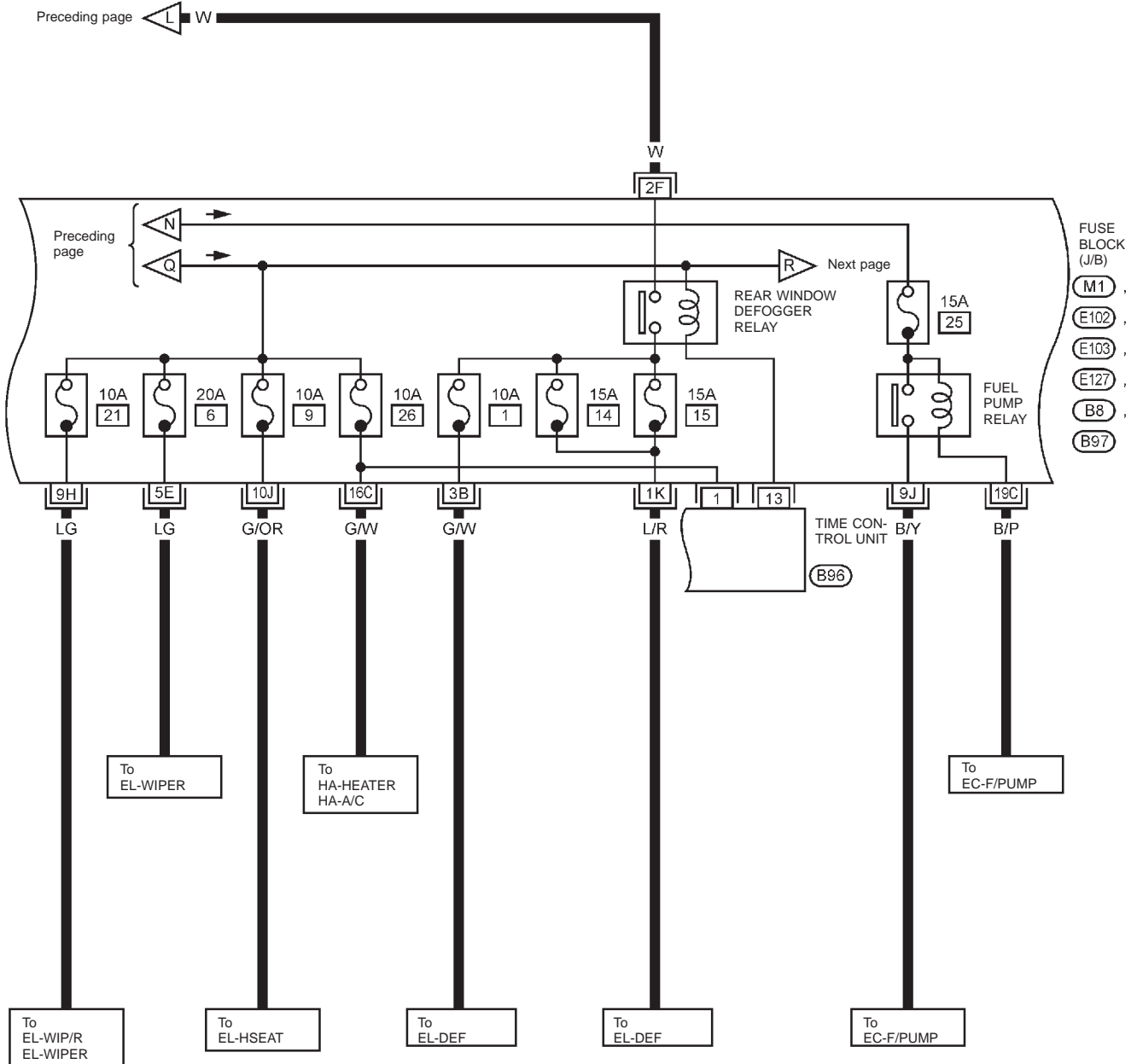
- GS : With gasoline engine
- DI : With diesel engine
- GH : With gasoline engine and with XENON headlamp
- XG : Except GH



POWER SUPPLY ROUTING

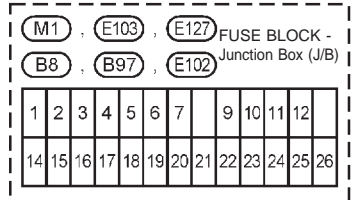
Wiring Diagram — POWER — (Cont'd)

EL-POWER-09



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

REFER TO THE FOLLOWING

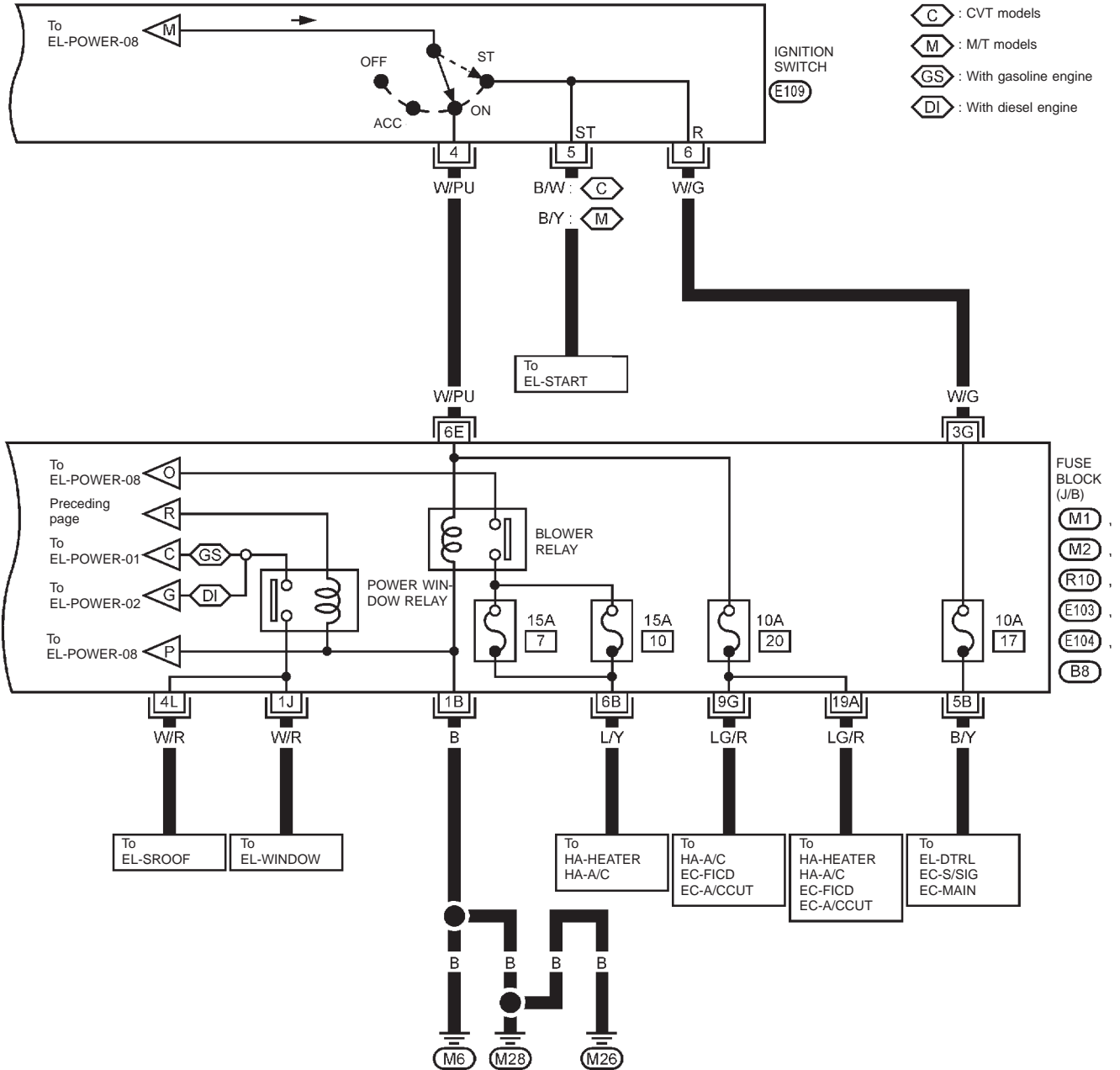


YEL228C

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-10



- C : CVT models
- M : M/T models
- GS : With gasoline engine
- DI : With diesel engine

- FUSE BLOCK (J/B)
- M1
 - M2
 - R10
 - E103
 - E104
 - B8

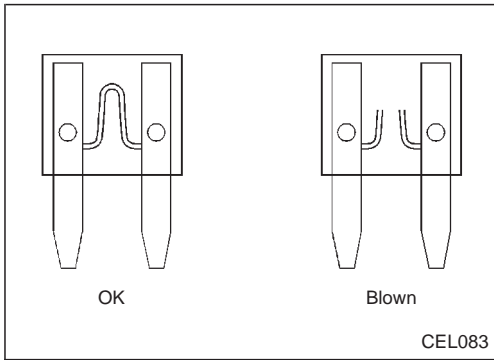
3	5	1	E109 W
4	2	6	

REFER TO THE FOLLOWING

M1	M2	E103	FUSE BLOCK - Junction Box (J/B)									
E104	B8	R10										
1	2	3	4	5	6	7	9	10	11	12		
14	15	16	17	18	19	20	21	22	23	24	25	26

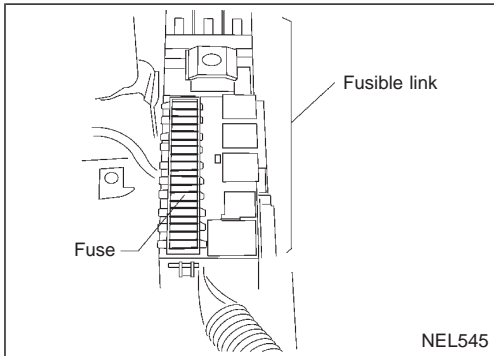
YEL250B

POWER SUPPLY ROUTING



Fuse

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

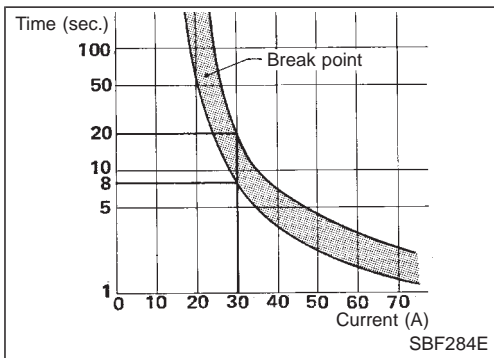


Fusible Link

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

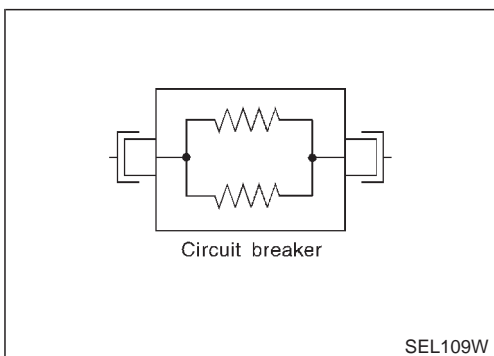
CAUTION:

- If fusible link should melt, it is possible that 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 or vinyl or rubber parts.



Circuit Breaker Inspection

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



Circuit Breaker (PTC Thermistor Type)

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

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

GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN.	CELL CODE
M6/M26/M28	A/C AUTO AMP.	M115	HA-A/C
	A/C CONTROL PANEL	M44, M47	HA-A/C
	A/C HIGH RELAY	M119	HA-A/C
	A/C LOW RELAY (Type-1)	M120	HA-A/C
	A/C LOW RELAY (Type-2)	M123	HA-A/C
	A/C MH RELAY (Type-1)	M118	HA-A/C
	A/C MED-HIGH RELAY (Type-2)	M122	HA-A/C
	A/C MED-LOW RELAY	M121	HA-A/C
	AUDIO	M42	EL-ILL, EL-AUDIO
	CIGARETTE LIGHTER SOCKET	M39	EL-HORN
	COMBINATION METER (ILLUMINATION) (Without illumination control switch) (Models before VIN - P11U0548750)	E124	EL-ILL
	COMBINATION METER (ABS WARNING LAMP) (Models before VIN - P11U0548750)	M38	BR-ABS
	COMBINATION METER (AIR BAG WARNING LAMP) (Models before VIN - P11U0548750)	M38	RS-SRS
	COMBINATION METER (AIR BAG WARNING LAMP) (Models after VIN - P11U0548750)	M89	RS-SRS
	COMBINATION METER (HIGH BEAM INDICATOR) (Models before VIN - P11U0548750)	E124	EL-H/LAMP, EL-DTRL
	COMBINATION METER (Hyper CVT M6 models) (Models before VIN - P11U0548750)	M38	AT-NONDTC
	COMBINATION METER (Hyper CVT M6 models) (Models after VIN - P11U0548750)	M89	AT-NONDTC
	COMBINATION METER (SPEEDOMETER) (Models before VIN - P11U0548750)	M38	EC-VSS
	COMBINATION METER (SPEEDOMETER) (Models after VIN - P11U0548750)	M89	EC-VSS
	COMBINATION METER (Models before VIN - P11U0548750)	M38	EL-METER, EL-WARN, EL-HORN
	COMBINATION METER (Models after VIN - P11U0548750)	M89	EL-METER, EL-WARN, EL-HORN
	COMBINATION METER (Models after VIN - P11U0548750)	E131	AT-NONDTC, EL-ILL
	CONTROL DEVICE (Hyper CVT M6 models)	M79	AT-NONDTC, EL-ILL
	CONTROL DEVICE (Hyper CVT models)	M49	AT-NONDTC, EL-ILL
	DATA LINK CONNECTOR	M59	EC-MIL/DL
	DATA LINK CONNECTOR (TERMINAL NO. 13)	M59	RS-SRS
	AIRBAG DIAGNOSIS SENSOR UNIT	M87	RS-SRS
	DONGLE CONTROL UNIT (RHD)	M85	EL-NATS, EL-AUDIO
	DOOR MIRROR REMOTE CONTROL SWITCH	M5	EL-MIRROR
	FAN SWITCH	M46	HA-HEATER
	FAN SWITCH (Gasoline engine) (without A/C)	M46	EC-LOAD
	FUSE BLOCK (J/B) (IGNITION RELAY, BLOWER RELAY)	M1	EL-POWER
	FUSE BLOCK (J/B) (FRONT FOG LAMP RELAY)	M1	EL-F/FOG, EL-POWER
	FUSE BLOCK (J/B) (POWER WINDOW RELAY)	M1	EL-WINDOW, EL-SROOF, EL-POWER
	GLOVE BOX LAMP (ILLUMINATION)	M24	EL-ILL
	HAZARD SWITCH	M58	EL-TURN, EL-ILL
	HEATER (ILLUMINATION)	M45	EL-ILL
	INDICATOR CONTROL UNIT (Hyper CVT M6 models)	M72	AT-NONDTC
	RDNT BRAKE SWITCH (RHD) (CD20 engine)	M64	EC-BRK/SW
	A/C CONTROL PANEL (REAR WINDOW DEFOGGER SWITCH)	M44	EL-ILL, EL-DEF
	A/C CONTROL PANEL (RECIRCULATION SWITCH)	M47	HA-HEATER, EL-ILL
	SUNROOF SWITCH	R4	EL-SLOOF
	SPOT LAMP	R5	EL-ILL
TIME CONTROL UNIT	B96	EL-BUZZER, EL-S/LOCK, EL-D/LOCK, EL-THEFT, EL-DEF, EL-MULTI, EL-INT/L, EL-TURN	
VANITY MIRROR LAMP (LHD)	R9	EL-INT/L	
VANITY MIRROR LAMP (RHD)	R2	EL-INT/L	
VEHICLE SPEED SENSOR	F25	EL-METER, EC-VSS	
E10	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)	E78	BR-ABS

GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN.	CELL CODE
E11/E37	ACCESSORY RELAY	E95	EL-POWER, EL-HORN
	BRAKE FLUID LEVEL SWITCH	E14	EL-WARN
	CLEARANCE LAMP LH	E85	EL-TAIL/L
	CLEARANCE LAMP RH	E87	EL-TAIL/L
	COMBINATION METER (FRONT FOG LAMP INDICATOR) (Models before VIN - P11U0548750)	E124	EL-F/FOG
	COMBINATION METER (FRONT FOG LAMP INDICATOR) (Models after VIN - P11U0548750)	E131	EL-F/FOG
	COMBINATION METER (REAR FOG LAMP INDICATOR) (Models before VIN - P11U0548750)	E124	EL-R/FOG
	COMBINATION METER (REAR FOG LAMP INDICATOR) (Models after VIN - P11U0548750)	E131	EL-R/FOG
	COMBINATION METER (HIGH BEAM INDICATOR) (Models after VIN - P11U0548750)	E131	EL-H/LAMP, EL-DTRL
	COMBINATION METER (ILLUMINATION) (Models after VIN - P11U0548750)	E131	EL-ILL
	COMBINATION METER (TURN) (Models before VIN - P11U0548750)	E124	EL-TURN
	COMBINATION METER (TURN) (Models after VIN - P11U0548750)	E131	EL-TURN
	COMBINATION SWITCH (FRONT WIPER SWITCH)	E114	EL-WIPER, EL-WIP/R
	COMBINATION SWITCH (TRIP COMPUTER SWITCH)	E114	EL-METER
	COMBINATION SWITCH (TURN SIGNAL SWITCH)	E111	EL-TURN
	COOLING FAN MOTOR-1 (Gasoline engine)	E19	HA-A/C, EC-COOL/F
	COOLING FAN MOTOR-2 (CD20 engine)	E18	HA-A/C, EC-COOL/F
	COOLING FAN MOTOR-2 (QG18, SR20 engine)	E28	HA-A/C, EC-COOL/F
	COOLING FAN MOTOR-2 (With A/C) (GA16 engine)	E94	HA-A/C, EC-COOL/F
	COOLING FAN RELAY-2 (CD engine)	E54	HA-A/C, EL-COOL/F
	DAYTIME LIGHT CONTROL UNIT	E117	EL-DTRL
	FRONT FOG LAMP LH (Type-1)	E6	EL-F/FOG
	FRONT FOG LAMP LH (Type-2)	E146	EL-F/FOG
	FRONT FOG LAMP RH (Type-1)	E34	EL-F/FOG
	FRONT FOG LAMP RH (Type-2)	E147	EL-F/FOG
	FRONT TURN SIGNAL LAMP LH	E8	EL-TURN, EL-THEFT
	FRONT TURN SIGNAL LAMP RH	E36	EL-TURN, EL-THEFT
	FRONT WIPER MOTOR	E62	EL-WIPER
	FRONT WIPER RELAY	E70	EL-WIPER
	HEAD LAMP RELAY LH	E74	EL-H/LAMP, EL-DTRL
	HEAD LAMP RELAY RH	E75	EL-HLC, EL-H/LAMP, EL-DTRL
	HEAD LAMP WASHER MOTOR	E38	EL-HLC
	HEAD LAMP WASHER SWITCH	E128	EL-HLC, EL-ILL
	HEADLAMP AIMING MOTOR LH	E4	EL-H/AIM
	HEADLAMP AIMING MOTOR RH	E33	EL-H/AIM
	HEADLAMP LH	E5	EL-H/LAMP, EL-DTRL
	HEADLAMP RH	E32	EL-H/LAMP, EL-DTRL
	HOOD SWITCH	E12	EL-THEFT
	NATS IMMU	E121	EL-NATS
	POWER STEERING OIL PRESSURE SWITCH (Gasoline)	E60	EC-PST/SW
	RDNT BRAKE SWITCH (LHD) (CD20 engine)	E122	EC-BRK/SW
	REAR WIPER RELAY	E52	EL-WIP/R
	SEDIMENTER SENSOR	E13	EL-WARN
	SIDE TURN SIGNAL LAMP LH (Type-1)	E9	EL-TURN, EL-THEFT
	SIDE TURN SIGNAL LAMP LH (Type-2)	E148	EL-TURN, EL-THEFT
	SIDE TURN SIGNAL LAMP RH (Type-1)	E59	EL-TURN, EL-THEFT
	SIDE TURN SIGNAL LAMP RH (Type-2)	E149	EL-TURN, EL-THEFT
TRIPLE-PRESSURE SWITCH (CD engine)	E20	HA-A/C, EC-COOL/F	
WASHER LEVEL SWITCH	E39	EL-WARN	
E68	ALTERNATOR (GA engine)	E71	EL-CHARGE
E88	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)	E78	BR-ABS
F9	ALTERNATOR (QG16, QG18, SR20, CD engine)	F10	EL-CHARGE

GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN.	CELL CODE
F15/F18	CAMSHAFT POSITION SENSOR (QG16, QG18 engine)	F95	EC-PHASE
	CONDENSER (QG16, QG18 engine)	F94	EC-IGN/SG
	CRANKSHAFT POSITION SENSOR (QG16, QG18 engine)	F88	EC-POS
	DATA LINK CONNECTOR	M59	EC-MIL/DL
	DISTRIBUTOR (CAMSHAFT POSITION SENSOR) (GA16, SR20 engine)	F33	EC-CMPS
	DISTRIBUTOR (GA16, SR20 engine)	F33	EC-IGN/SG
	ECM (CD20 engine)	F116	EC-MAIN
	ECM (Gasoline engine)	F101	EC-MAIN
	HEATED OXYGEN SENSOR 2 (REAR) (QG18, SR20 engine) (Type-1)	F76	EC-O2S2B1, EC-02HSB1
	HEATED OXYGEN SENSOR 2 (REAR) (QG16, QG18 engine) (Type-2)	F123	EC-O2S2B1, EC-02HSB1
	HEATED OXYGEN SENSOR 2 (REAR) (SR20 engine) (Type-2)	F117	EC-O2S2B1, EC-02HSB1
	IACV-FICD SOLENOID VALVE (GA16 engine)	F40	EC-FICD, HA-A/C
	IGNITION COIL NO. 1 (QG16, QG18 engine)	F89	EC-IGN/SG
	IGNITION COIL NO. 2 (QG16, QG18 engine)	F90	EC-IGN/SG
	IGNITION COIL NO. 3 (QG16, QG18 engine)	F91	EC-IGN/SG
	IGNITION COIL NO. 4 (QG16, QG18 engine)	F92	EC-IGN/SG
	PARK/NEUTRAL POSITION (PNP) SWITCH (M/T models)	F28	EC-PNP/SW
	PARK/NEUTRAL POSITION (PNP) SWITCH (CVT models)	F72	EC-PNP/SW, EL-START
	SHIELD WIRE (CAMSHAFT POSITION SENSOR) (QG18 engine) (If so equipped)	F95	EC-PHASE
	SHIELD WIRE (CRANKSHAFT POSITION SENSOR) (QG18 engine) (If so equipped)	F88	EC-POS
	SHIELD WIRE (CRANKSHAFT POSITION SENSOR) (SR20 engine)	F83	EC-CKPS
	SHIELD WIRE (DISTRIBUTOR) (GA16, SR20 engine) (If so equipped)	F33	EC-CMPS
	SHIELD WIRE (HEATED OXYGEN SENSOR) (GA16 engine)	F34	EC-HO2S
	SHIELD WIRE (HEATED OXYGEN SENSOR 1 (FRONT)) (QG18, SR20 engine) (If so equipped)	F34	EC-O2S1B1, EC-02H1B1, EC-FUEL
	SHIELD WIRE (HEATED OXYGEN SENSOR 2 (REAR) (QG18, SR20 engine) (If so equipped)	F76	EC-O2S2B1, EC-02H2B1
	SHIELD WIRE (MASS AIR FLOW SENSOR) (Gasoline engine) (If so equipped)	F38	EC-MAFS
	SHIELD WIRE (THROTTLE POSITION SENSOR) (Gasoline engine) (If so equipped)	F16	EC-TPS, AT-TPS
	TCM (TRANSMISSION CONTROL MODULE)	M78	AT-MAIN, AT-TPS

GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN.	CELL CODE
B18/B27	AUTO LEVEL CONTROL UNIT	B123	EL-H/AIM
	BACK-UP LAMP (Sedan) (LHD)	T13	EL-BACK/L
	BACK-UP LAMP (Sedan) (RHD)	T8	EL-BACK/L
	CD AUTO CHANGER	B47	EL-AUDIO
	CENTRAL UNLOCK/TRUNK OR BACK DOOR RELEASE SWITCH	B121	EL-S/LOCK, EL-D/LOCK
	DOOR LOCK ACTUATOR ASSEMBLY (DRIVER'S SIDE) (UNLOCK SENSOR) (With super lock)	D7	EL-S/LOCK, EL-MULTI, EL-THEFT
	DOOR LOCK ACTUATOR ASSEMBLY (DRIVER'S SIDE) (UNLOCK SENSOR) (With power door lock)	D26	EL-D/LOCK, EL-MULTI, EL-THEFT
	DOOR LOCK ACTUATOR ASSEMBLY (PASSENGER SIDE) (UNLOCK SENSOR) (With super lock)	D16	EL-S/LOCK, EL-MULTI, EL-THEFT
	DOOR LOCK ACTUATOR ASSEMBLY (PASSENGER SIDE) (UNLOCK SENSOR) (With power door lock)	D27	EL-D/LOCK, EL-MULTI, EL-THEFT
	DOOR LOCK ACTUATOR ASSEMBLY REAR LH (UNLOCK SENSOR) (With super lock)	D21	EL-THEFT, EL-MULTI
	DOOR LOCK ACTUATOR ASSEMBLY REAR LH (UNLOCK SENSOR) (With power door lock)	D28	EL-MULTI, EL-THEFT
	DOOR LOCK ACTUATOR ASSEMBLY REAR RH (UNLOCK SENSOR) (With super lock)	D25	EL-THEFT, EL-MULTI
	DOOR LOCK ACTUATOR ASSEMBLY REAR RH (UNLOCK SENSOR) (With power door lock)	D29	EL-MULTI, EL-THEFT
	DOOR MIRROR HEATER (DRIVER'S SIDE) (Type-1)	D4	EL-DEF
	DOOR MIRROR HEATER (DRIVER'S SIDE) (Type-2)	D31	EL-DEF
	DOOR MIRROR HEATER (PASSENGER SIDE) (Type-1)	D13	EL-DEF
	DOOR MIRROR HEATER (PASSENGER SIDE) (Type-2)	D30	EL-DEF
	EXTERNAL TRUNK RELEASE SWITCH (Sedan)	T20	EL-S/LOCK, EL-D/LOCK
	FUEL PUMP (GA16, QG18, SR20 engine)	B30	EC-F/PUMP
	FUEL LEVEL SENSOR UNIT	B31	EL-METER, EL-WARN
	HEADLAMP AIMING SWITCH (Type-1)	B106	EL-H/AIM, EL-ILL
	HEADLAMP AIMING SWITCH (Type-2)	E129	EL-H/AIM, EL-ILL
	HEATED SEAT LH	B21	EL-HSEAT
	HEATED SEAT RH	B61	EL-HSEAT
	HEATED SEAT SWITCH LH	B104	EL-HSEAT
	HEATED SEAT SWITCH RH	B105	EL-HSEAT
	KEY CYLINDER SWITCH (DRIVER'S SIDE)	D9	EL-S/LOCK, EL-THEFT, EL-D/LOCK
	KEY CYLINDER SWITCH (PASSENGER SIDE)	D17	EL-S/LOCK, EL-D/LOCK
	POWER SEAT	B22	EL-SEAT
	POWER SOCKET (Wagon)	B86	EL-HORN
	POWER WINDOW MAIN SWITCH	D5	EL-WINDOW
	REAR FOG LAMP (LHD) (Sedan with type-1)	T8	EL-R/FOG
	REAR FOG LAMP (RHD) (Sedan with type-1)	T13	EL-R/FOG
	REAR WIPER MOTOR (Sedan)	B52	EL-WIP/R
	SIDE AIR BAG MODULE LH	B142	RS-SRS
	SIDE AIR BAG MODULE RH	B143	RS-SRS
	TRUNK ROOM LAMP SWITCH (Sedan)	T10	EL-INT/L, EL-WARN, EL-THEFT, EL-MULTI
	ULTRA SONIC CANCEL SWITCH	B102	EL-THEFT

GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN.	CELL CODE
B48/D110	BACK-UP LAMP (Hatchback) (LHD)	D108	EL-BACK/L
	BACK-UP LAMP (Hatchback) (RHD)	B134	EL-BACK/L
	EXTERNAL BACK DOOR RELEASE SWITCH (Hatchback)	D117	EL-S/LOCK, EL-D/LOCK
	HIGH-MOUNTED STOP LAMP (Hatchback)	D114	EL-STOP
	HIGH-MOUNTED STOP LAMP (Wagon)	B85	EL-STOP
	LICENSE PLATE LAMP LH (Hatchback with type-1)	B127	EL-TAIL/L
	LICENSE PLATE LAMP LH (Hatchback with type-2)	B149	EL-TAIL/L
	LICENSE PLATE LAMP LH (Wagon)	D106	EL-TAIL/L
	LICENSE PLATE LAMP RH (Hatchback with type-1)	B128	EL-TAIL/L
	LICENSE PLATE LAMP RH (Hatchback with type-2)	B148	EL-TAIL/L
	LICENSE PLATE LAMP RH (Wagon)	D116	EL-TAIL/L
	LUGGAGE ROOM LAMP SWITCH (Hatchback) (Wagon)	D105	EL-INT/L, EL-WARN, EL-THEFT, EL-MULTI
	REAR COMBINATION LAMP LH (BACK-UP LAMP) (Wagon for LHD)	D104	EL-BACK
	REAR COMBINATION LAMP LH (REAR FOG LAMP LH) (with type-1)	D104	EL-R/FOG
	REAR COMBINATION LAMP LH (STOP LAMP) (Hatchback) (Wagon)	B46	EL-STOP
	REAR COMBINATION LAMP LH (TAIL LAMP) (Hatchback) (Wagon)	B46	EL-TAIL/L
	REAR COMBINATION LAMP LH (TURN SIGNAL) (Hatchback) (Wagon)	B46	EL-TURN, EL-THEFT
	REAR COMBINATION LAMP RH (BACK-UP LAMP) (Wagon for RHD)	D108	EL-BACK/L
	REAR COMBINATION LAMP RH (REAR FOG LAMP RH) (with type-1)	D108	EL-R/FOG
	REAR COMBINATION LAMP RH (STOP LAMP) (Hatchback) (Wagon)	B49	EL-STOP
	REAR COMBINATION LAMP RH (TAIL LAMP) (Hatchback) (Wagon)	B49	EL-TAIL/L
	REAR COMBINATION LAMP RH (TURN SIGNAL) (Hatchback) (Wagon)	B49	EL-TURN, EL-THEFT
	REAR FOG LAMP (LHD) (Hatchback)	B135	EL-R/FOG
	REAR FOG LAMP (RHD) (Hatchback)	D119	EL-R/FOG
	REAR WINDOW DEFOGGER (Hatchback)	B41	EL-DEF
	REAR WINDOW DEFOGGER (Wagon)	D113	EL-DEF
	REAR WIPER MOTOR (Hatchback) (Wagon)	D107	EL-WIP/R
B65	SHIELD WIRE (SATELLITE SENSOR LH) (with type-1)	B70	RS-SRS
	SHIELD WIRE (SATELLITE SENSOR LH) (with type-2)	B137	RS-SRS
B72	SHIELD WIRE (SATELLITE SENSOR RH)	B71	RS-SRS
B119	REAR WINDOW DEFOGGER (Sedan)	B120	EL-DEF
B150/B151	LICENSE PLATE LAMP LH (Sedan with type-2)	B149	EL-TAIL/L
	LICENSE PLATE LAMP RH (Sedan with type-2)	B148	EL-TAIL/L
	REAR COMBINATION LAMP LH (STOP LAMP) (Sedan with type-2)	B145	EL-STOP
	REAR COMBINATION LAMP LH (TAIL LAMP) (Sedan with type-2)	B145	EL-TAIL/L
	REAR COMBINATION LAMP LH (TURN SIGNAL) (Sedan with type-2)	B145	EL-TURN, EL-THEFT
	REAR COMBINATION LAMP RH (STOP LAMP) (Sedan with type-2)	B152	EL-STOP
	REAR COMBINATION LAMP RH (TAIL LAMP) (Sedan with type-2)	B152	EL-TAIL/L
	REAR COMBINATION LAMP RH (TURN SIGNAL) (Sedan with type-2)	B152	EL-TURN, EL-THEFT

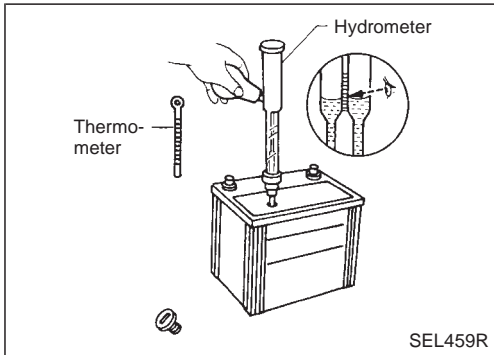
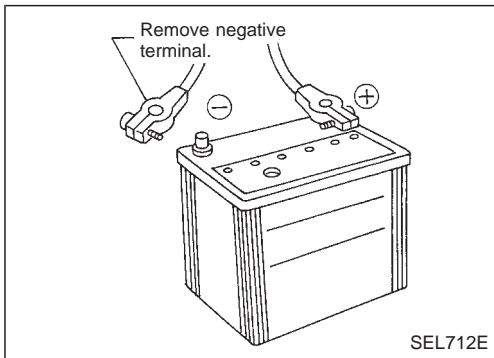
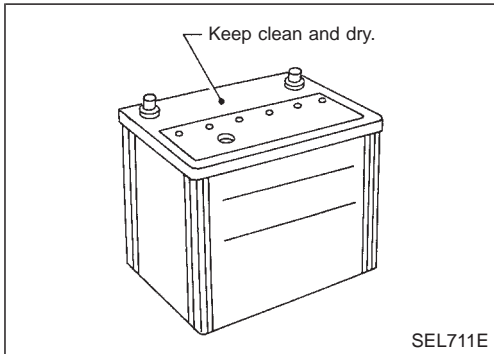
GROUND DISTRIBUTION

GROUND	CONNECT TO	CONN.	CELL CODE
T3/T4	LICENSE PLATE LAMP LH (Sedan with type-1)	T9	EL-TAIL/L
	LICENSE PLATE LAMP RH (Sedan with type-1)	T19	EL-TAIL/L
	REAR COMBINATION LAMP LH (STOP LAMP) (Sedan with type-1)	T2	EL-STOP
	REAR COMBINATION LAMP LH (TAIL LAMP) (Sedan with type-1)	T2	EL-TAIL/L
	REAR COMBINATION LAMP LH (TURN SIGNAL) (Sedan with type-1)	T2	EL-TURN, EL-THEFT
	REAR COMBINATION LAMP RH (STOP LAMP) (Sedan with type-1)	T5	EL-STOP
	REAR COMBINATION LAMP RH (TAIL LAMP) (Sedan with type-1)	T5	EL-TAIL/L
	REAR COMBINATION LAMP RH (TURN SIGNAL) (Sedan with type-1)	T5	EL-TURN, EL-THEFT

BATTERY

CAUTION:

- If it becomes necessary to start the engine with a booster battery and jumper cables, use a 12-volt booster battery.
- After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.
- Never add distilled water through the hole used to check specific gravity.



How to Handle Battery

METHODS OF PREVENTING OVER-DISCHARGE

The following precautions must be taken to prevent over-discharging a battery.

- The battery surface (particularly its top) should always be kept clean and dry.
 - The terminal connections should be clean and tight.
 - At every routine maintenance, check the electrolyte level.
-
- When the vehicle is not going to be used over a long period of time, disconnect the negative battery terminal. (If the vehicle has an extended storage switch, turn it off.)

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

CHECKING ELECTROLYTE LEVEL

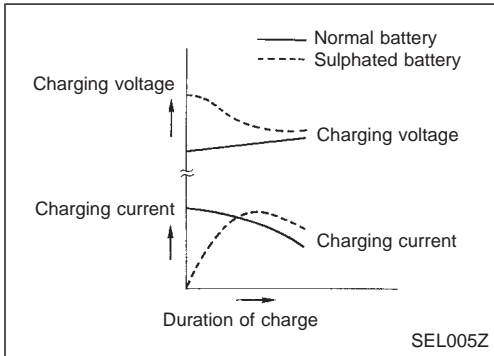
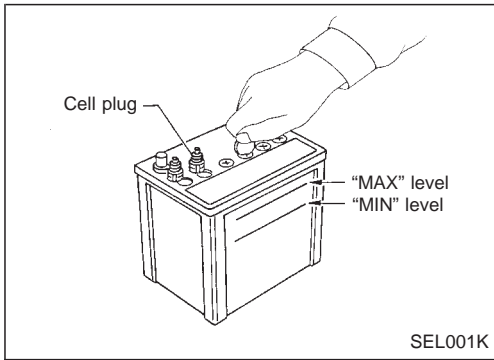
WARNING:

Do not allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. After touching a battery, do not touch or rub your eyes until you have thoroughly washed your hands. If the acid contacts the eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention.

BATTERY

How to Handle Battery (Cont'd)

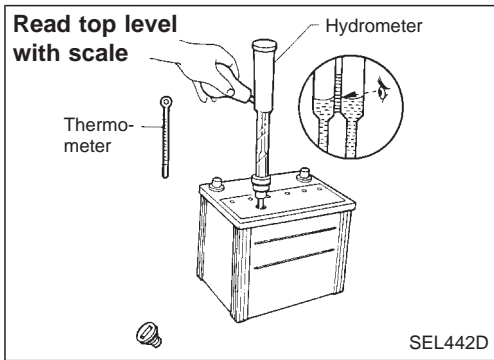
- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



SULPHATION

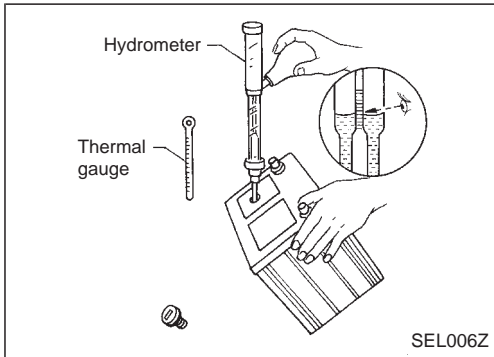
A battery will be completely discharged if it is left unattended for a long time and the specific gravity becomes less than 1.100. This may result in sulphation on the cell plates.

To find if a discharged battery has been "sulphated", pay attention to its voltage and current when charging it. As shown in the figure at left, if the battery has been "sulphated", less current and higher voltage may be observed in the initial stage of charging.



SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.



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

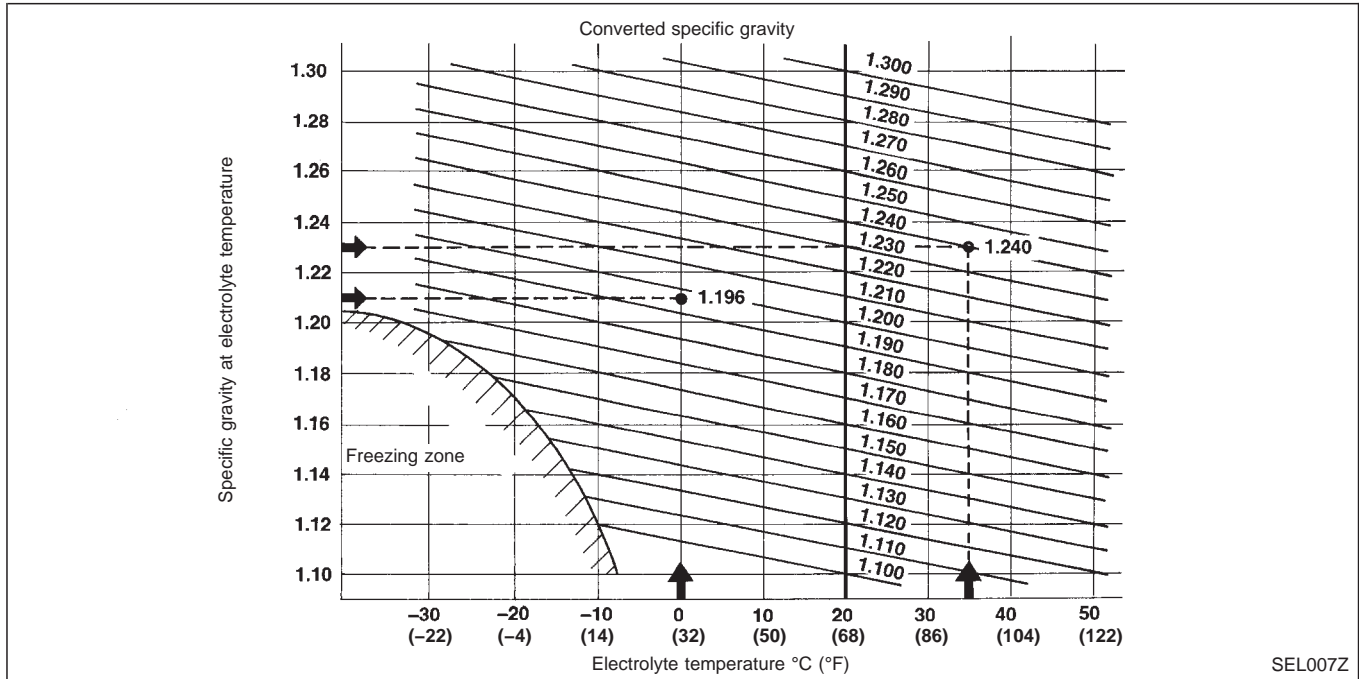
BATTERY

How to Handle Battery (Cont'd)

2. Convert into specific gravity at 20°C (68°F).

Example:

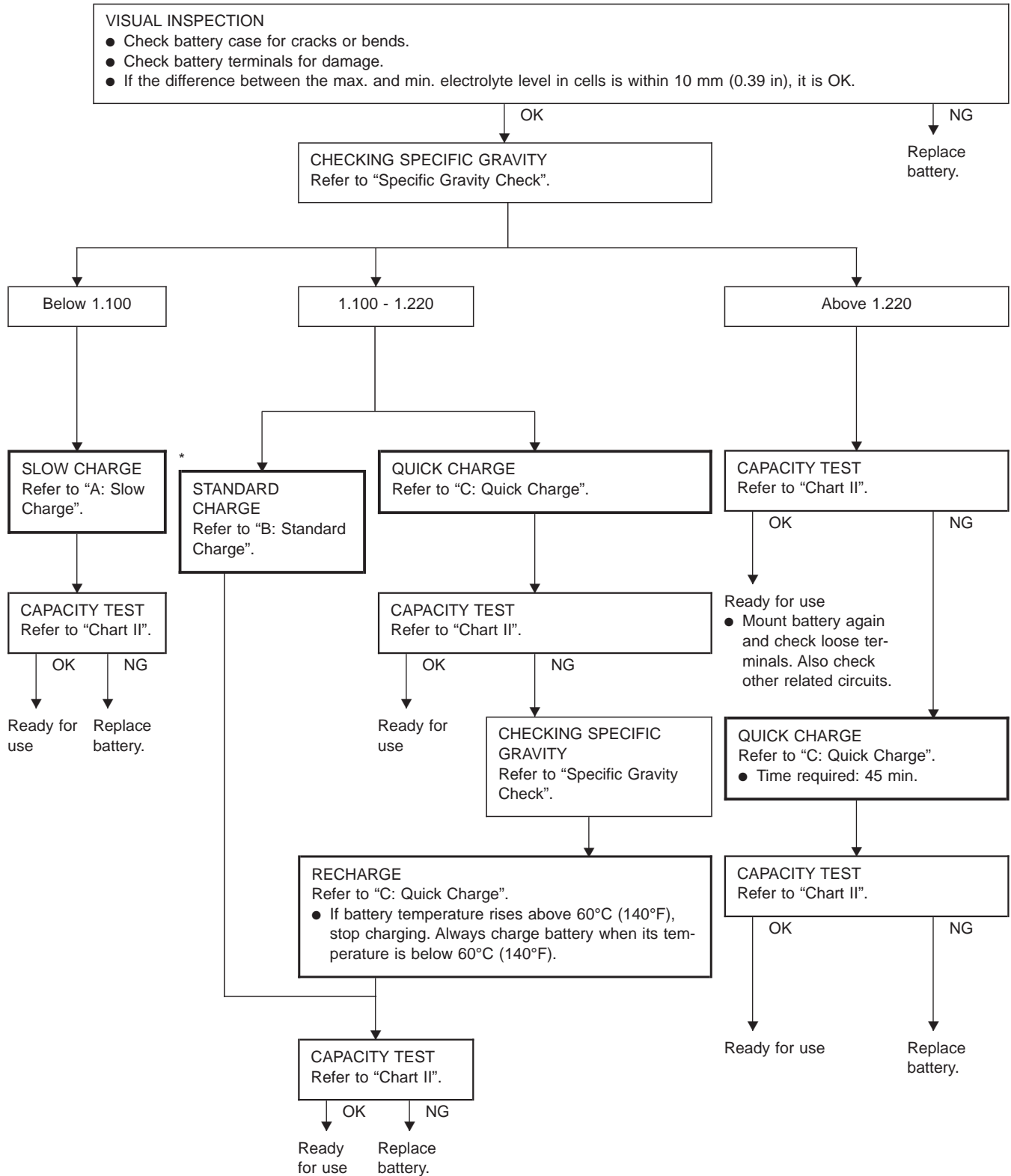
- When electrolyte temperature is 35°C (95°F) and specific gravity of electrolyte is 1.230, converted specific gravity at 20°C (68°F) is 1.240.
- When electrolyte temperature is 0°C (32°F) and specific gravity of electrolyte is 1.210, converted specific gravity at 20°C (68°F) is 1.196.



BATTERY

Battery Test and Charging Chart

Chart I

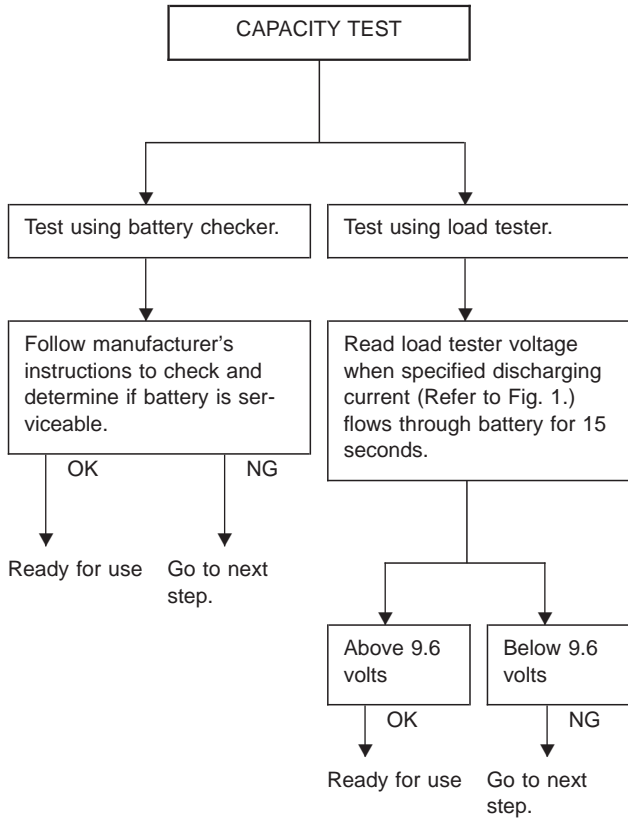


* "STANDARD CHARGE" is recommended if the vehicle is in storage after charging.

BATTERY

Battery Test and Charging Chart (Cont'd)

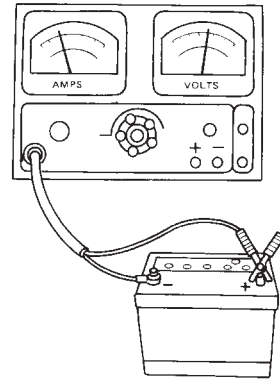
Chart II



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

Fig. 1 DISCHARGING CURRENT
(Load Tester)

Type (YUASA type code)	Current (A)
025	240
027	285
096	375
063	210
065	255
075	300



SEL008Z

BATTERY

Battery Test and Charging Chart (Cont'd)

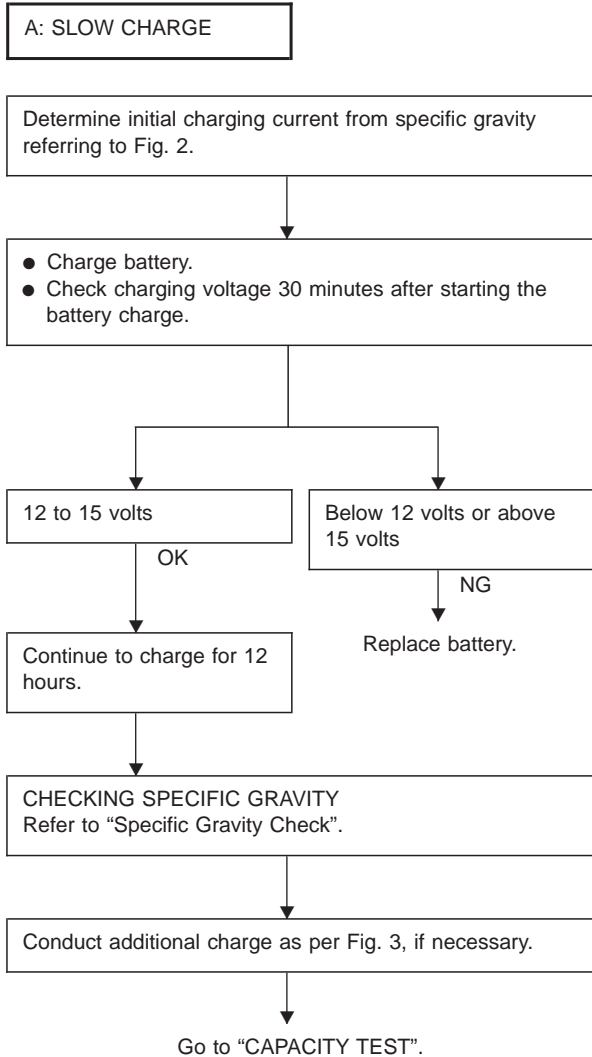
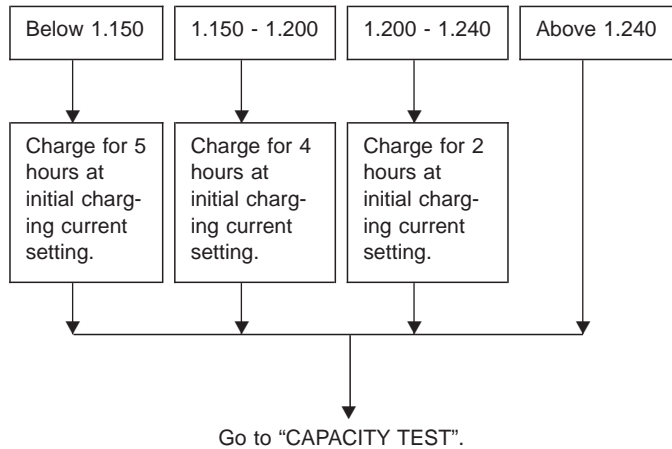


Fig. 2 INITIAL CHARGING CURRENT SETTING (Slow charge)

CONVERTED SPECIFIC GRAVITY	BATTERY TYPE (YUASA type code)					
	025	027	096	063	065	075
Below 1.100	7.0 (A)	7.0 (A)	8.5 (A)	8.0 (A)	10.0 (A)	10.0 (A)

- Check battery type and determine the specified current using the table shown above.
- After starting charging, adjustment of charging current is not necessary.

Fig. 3 ADDITIONAL CHARGE (Slow charge)



CAUTION:

- Set charging current to value specified in Fig. 2. If charger is not capable of producing specified current value, set its charging current as close to that value as possible.
- Keep battery away from open flame while it is being charged.
- When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.
- If battery temperature rises above 60°C (140°F), stop charging. Always charge battery when its temperature is below 60°C (140°F).
- Remove cell caps during charging.

BATTERY

Battery Test and Charging Chart (Cont'd)

B: STANDARD CHARGE

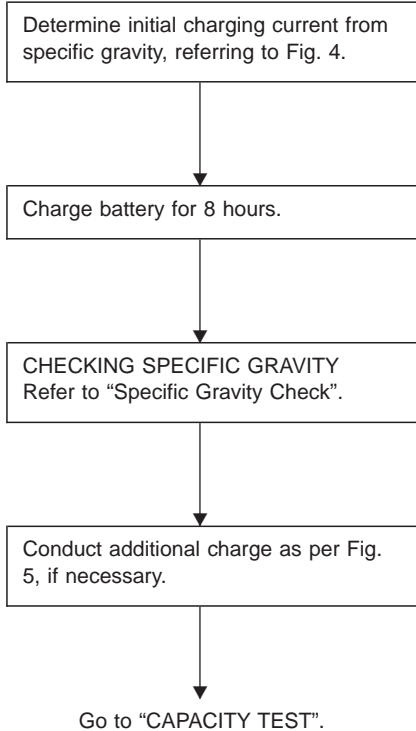
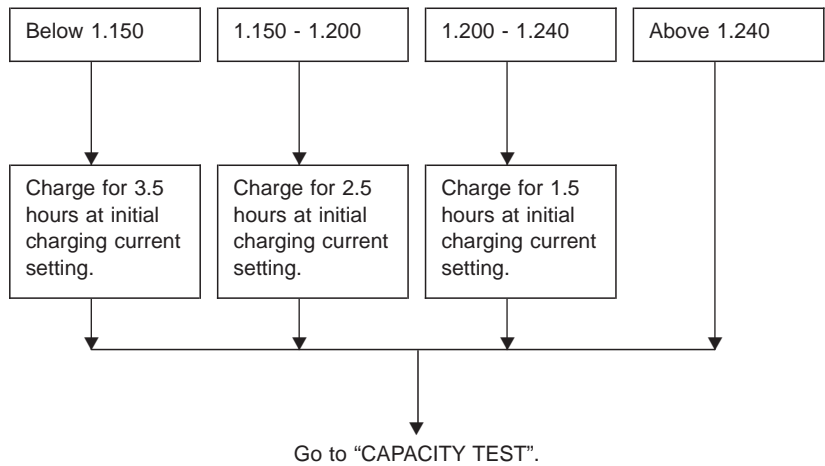


Fig. 4 INITIAL CHARGING CURRENT SETTING
(Standard charge)

CONVERTED SPECIFIC GRAVITY	BATTERY TYPE (YUASA type code)				
	025	027	096	063	065, 075
1.100 - 1.130	6.0 (A)	6.0 (A)	7.5 (A)	7.0 (A)	9.0 (A)
1.130 - 1.160	5.0 (A)	5.0 (A)	6.0 (A)	6.0 (A)	8.0 (A)
1.160 - 1.190	4.0 (A)	4.0 (A)	5.0 (A)	5.0 (A)	7.0 (A)
1.190 - 1.220	3.0 (A)	3.0 (A)	4.0 (A)	4.5 (A)	5.0 (A)

- Check battery type and determine the specified current using the table shown above.
- After starting charging, adjustment of charging current is not necessary.

Fig. 5 ADDITIONAL CHARGE (Standard charge)



CAUTION:

- Do not use standard charge method on a battery whose specific gravity is less than 1.100.
- Set charging current to value specified in Fig. 4. If charger is not capable of producing specified current value, set its charging current as close to that value as possible.
- Keep battery away from open flame while it is being charged.
- When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.
- If battery temperature rises above 60°C (140°F), stop charging. Always charge battery when its temperature is below 60°C (140°F).
- Remove cell caps during charging.

BATTERY

Battery Test and Charging Chart (Cont'd)

C: QUICK CHARGE

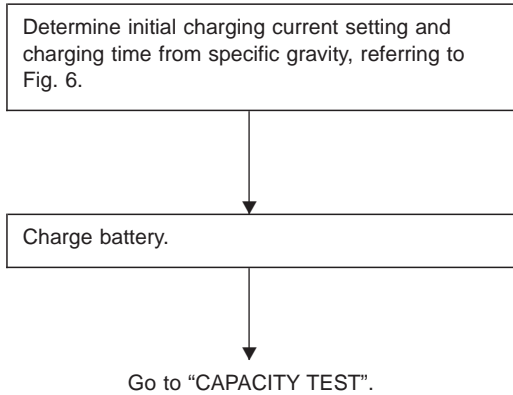


Fig. 6 INITIAL CHARGING CURRENT SETTING AND CHARGING TIME (Quick charge)

BATTERY TYPE (YUASA type code)		025, 027, 063	096, 065, 075
CURRENT [A]		20 (A)	25 (A)
CONVERTED SPECIFIC GRAVITY	1.100 - 1.130	2.5 hours	
	1.130 - 1.160	2.0 hours	
	1.160 - 1.190	1.5 hours	
	1.190 - 1.220	1.0 hours	
	Above 1.220	0.75 hours (45 min.)	

- Check battery type and determine the specified current using the table shown above.
- After starting charging, adjustment of charging current is not necessary.

CAUTION:

- Do not use quick charge method on a battery whose specific gravity is less than 1.100.
- Set initial charging current to value specified in Fig. 6. If charger is not capable of producing specified current value, set its charging current as close to that value as possible.
- Keep battery away from open flame while it is being charged.
- When connecting charger, connect leads first, then turn on charger. Do not turn on charger first, as this may cause a spark.
- Be careful of a rise in battery temperature because a large current flow is required during quick-charge operation.
If battery temperature rises above 60°C (140°F), stop charging. Always charge battery when its temperature is below 60°C (140°F).
- Do not exceed the charging time specified in Fig. 6, because charging battery over the charging time can cause deterioration of the battery.

Service Data and Specifications (SDS)

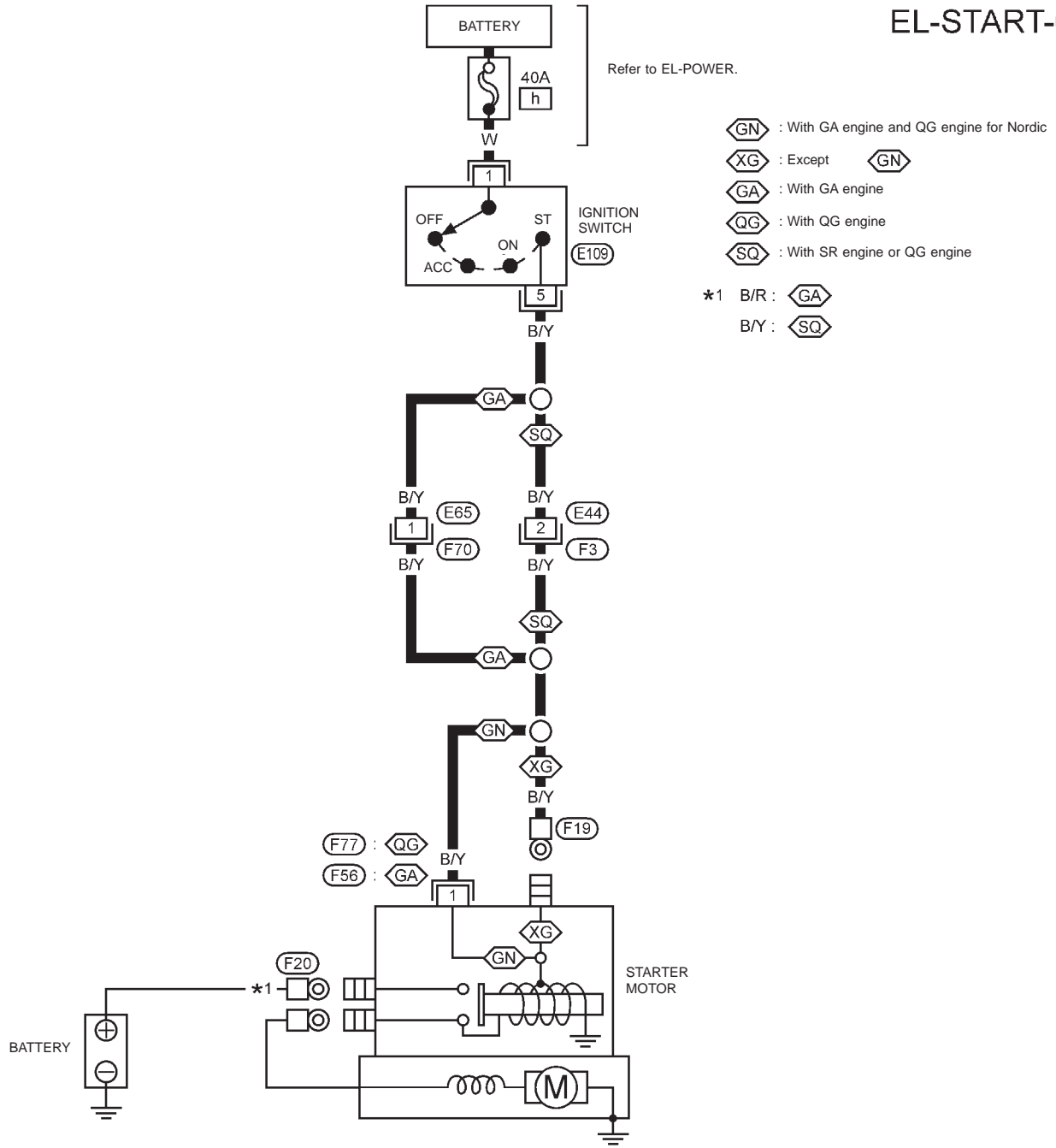
Applied model		SR engine with CVT (standard)	SR engine with CVT (cold area) CD engine (standard)	QG engine (standard)	QG engine (cold area) SR engine with MT (standard)	SR engine with MT (cold area)	CD engine (cold area)
Type (YUASA type code)		025	027	063	065	075	096
Capacity	V-AH	12 - 61	12 - 61	12 - 47	12 - 55	12 - 50	12 - 75
CCA		480	570	420	510	600	750

STARTING SYSTEM

Wiring Diagram — START —

GASOLINE ENGINE MODELS WITH M/T

EL-START-01



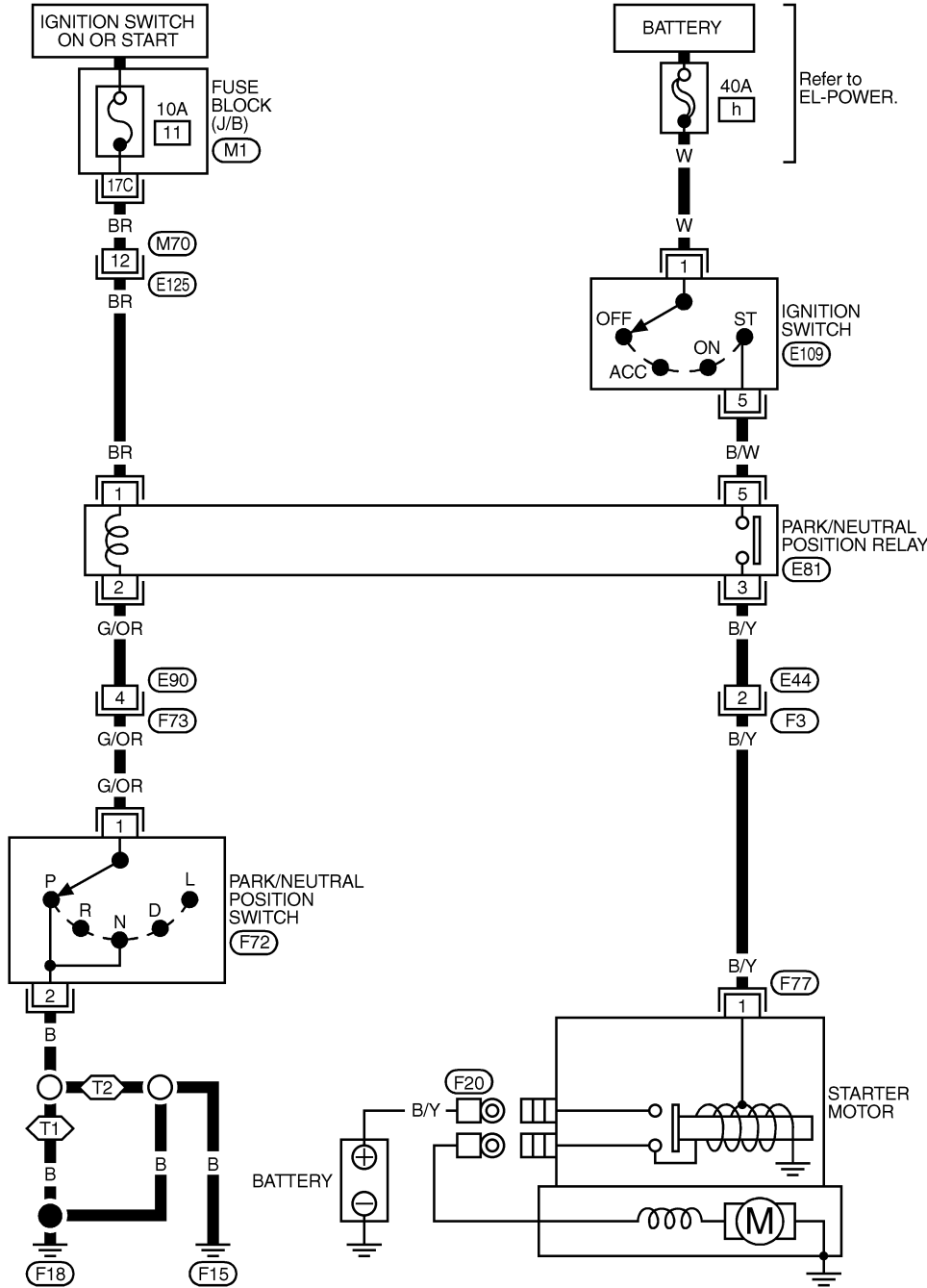
STARTING SYSTEM

Wiring Diagram — START — (Cont'd)

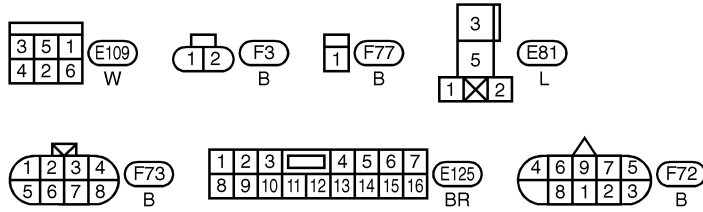
GASOLINE ENGINE MODELS WITH CVT

EL-START-02

⬡T1 : Type-1
⬡T2 : Type-2



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

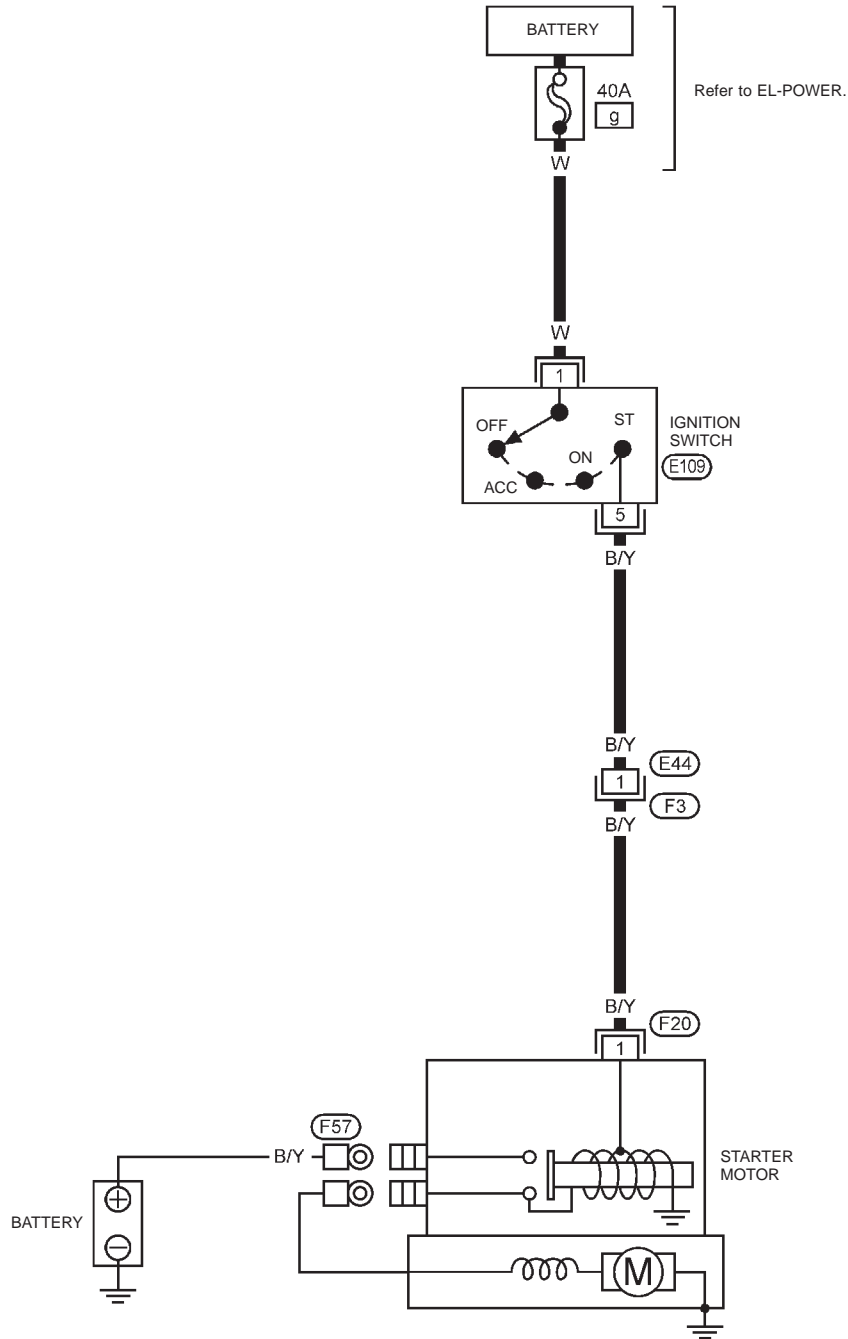


STARTING SYSTEM

Wiring Diagram — START — (Cont'd)

DIESEL ENGINE MODELS

EL-START-03

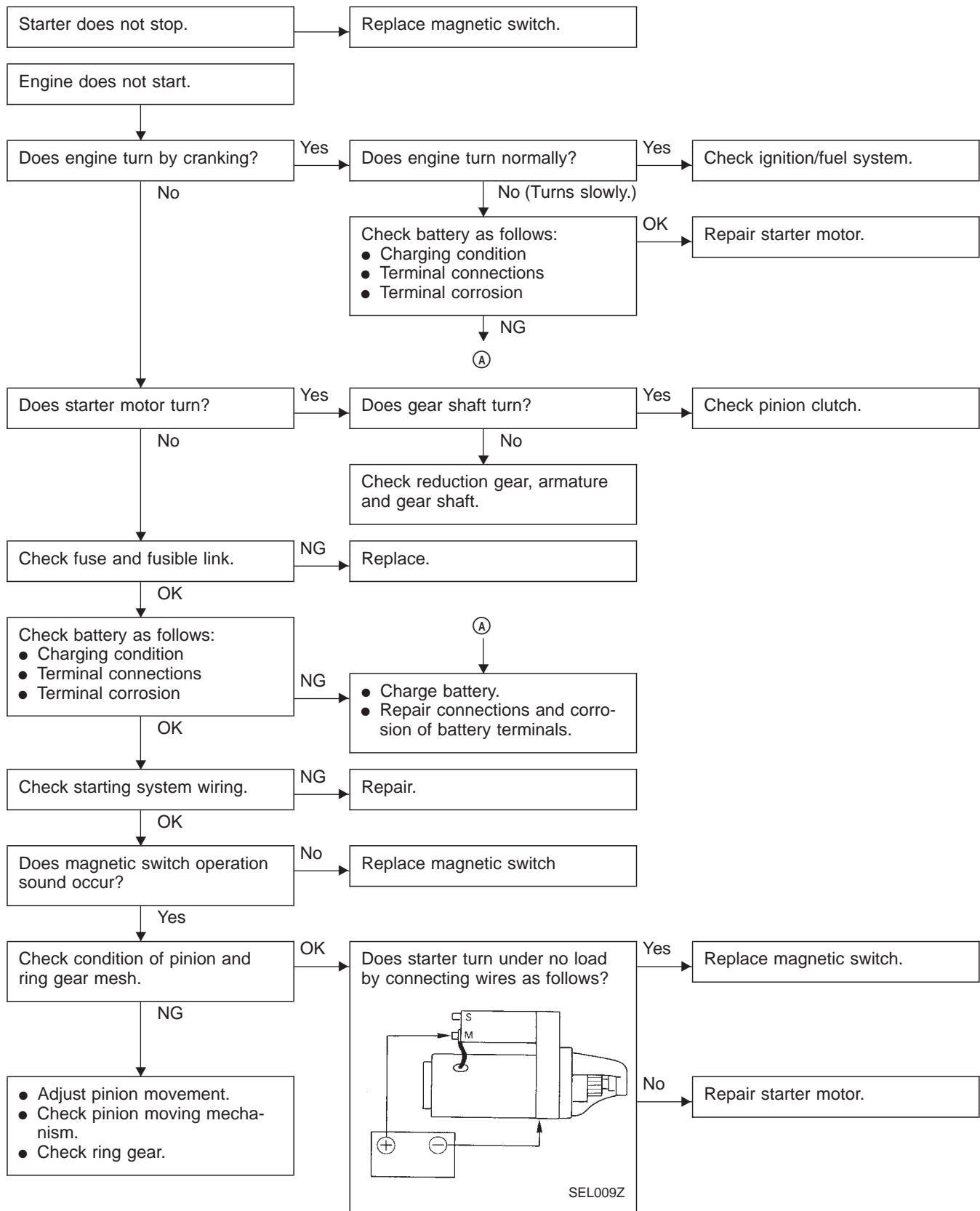


YEL130C

STARTING SYSTEM

Trouble Diagnoses

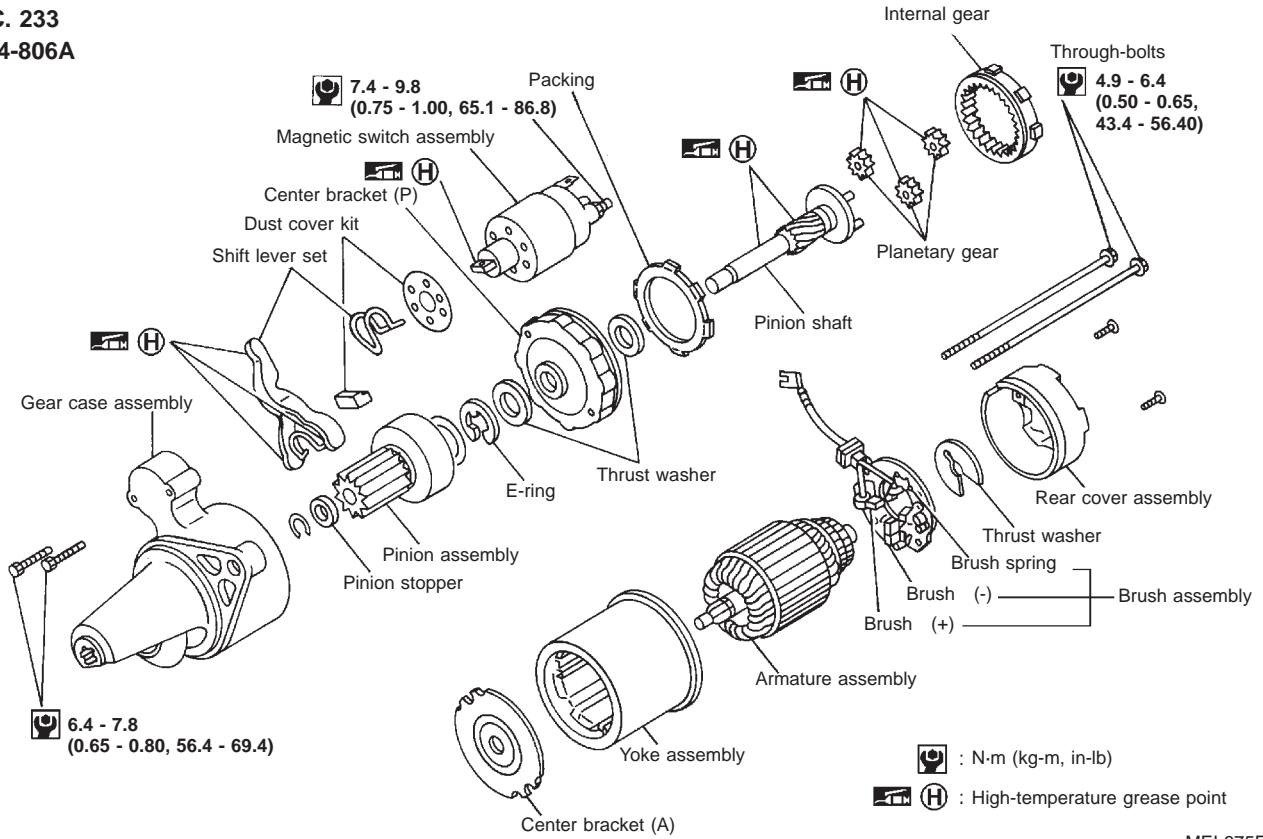
If any abnormality is found, immediately disconnect battery negative terminal.



STARTING SYSTEM

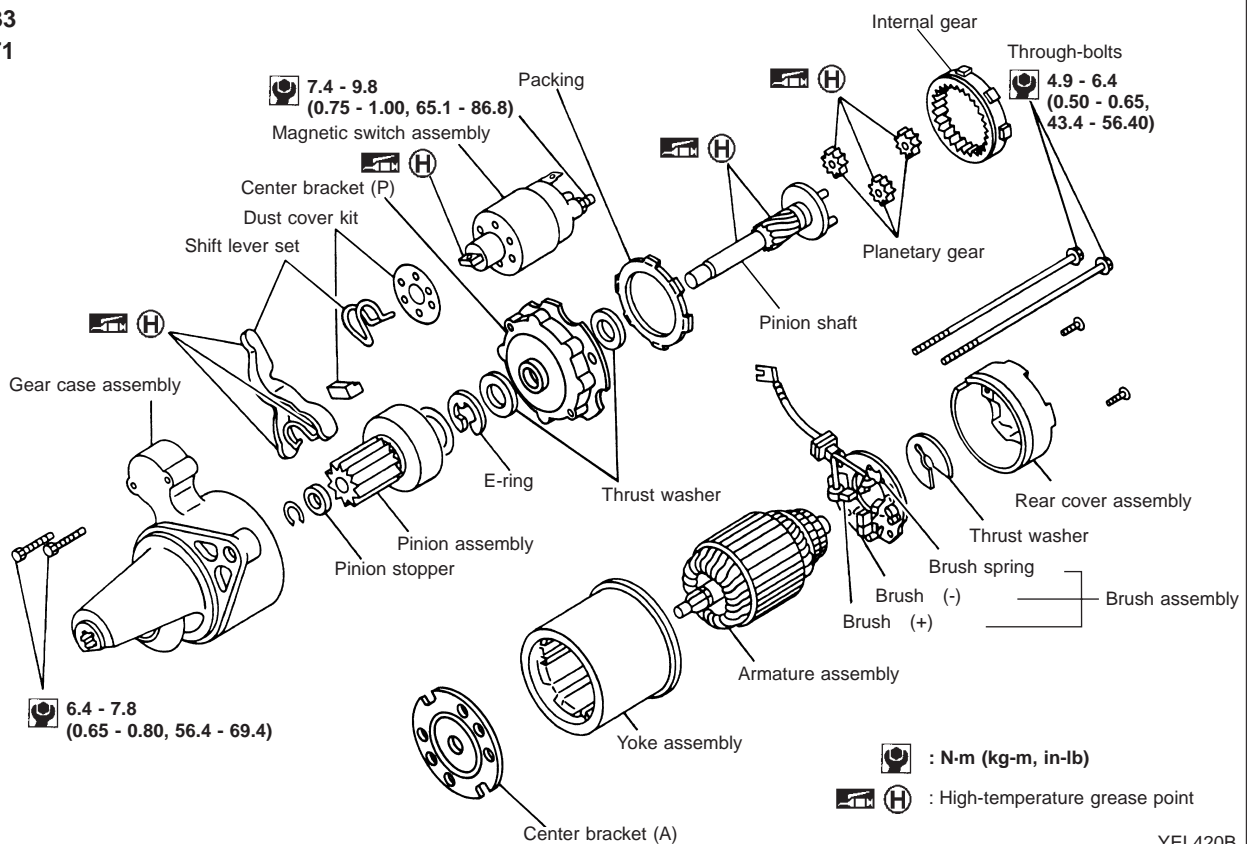
Construction

SEC. 233
S114-806A



MEL675EB

SEC. 233
S114-871

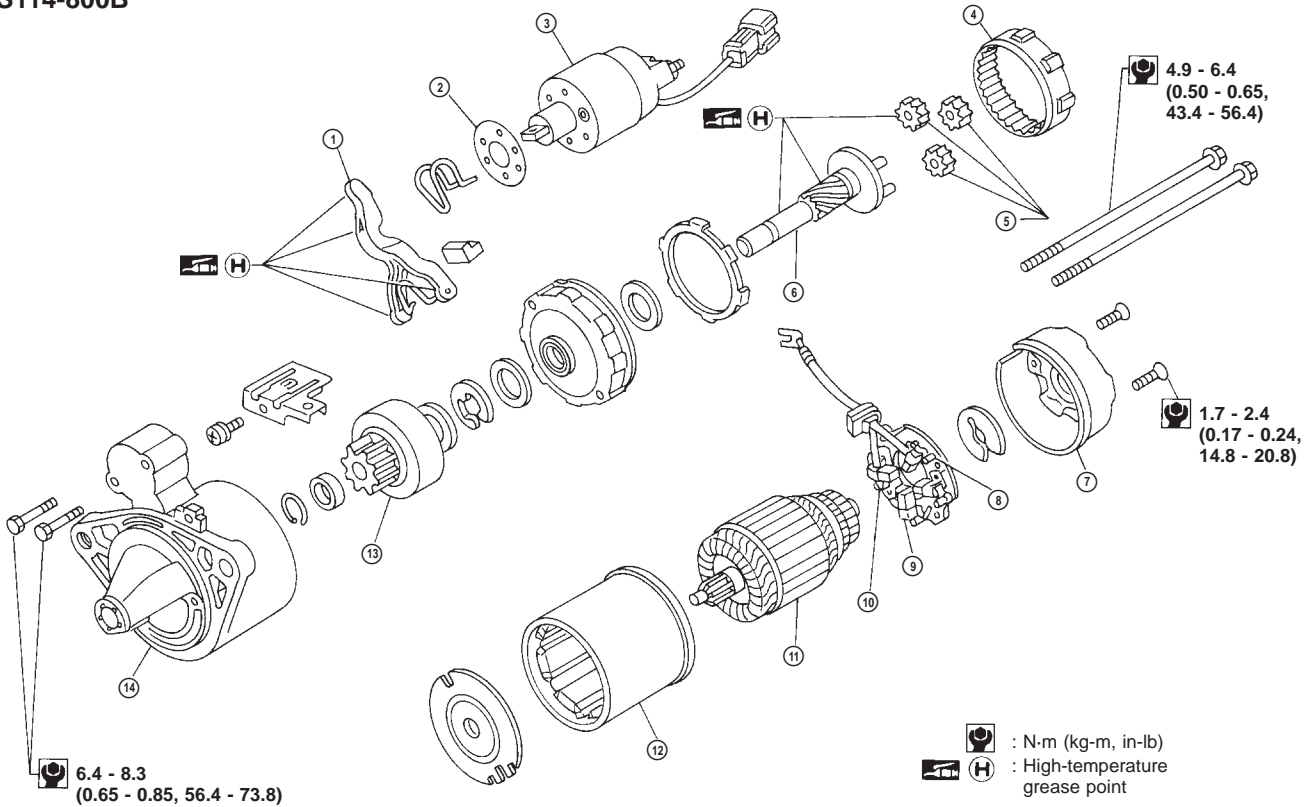


YEL420B

STARTING SYSTEM

Construction (Cont'd)

SEC. 233
S114-800B



YEL421B

- ① Shift lever
- ② Adjusting plate
- ③ Magnetic switch assembly
- ④ Internal gear
- ⑤ Planetary gear

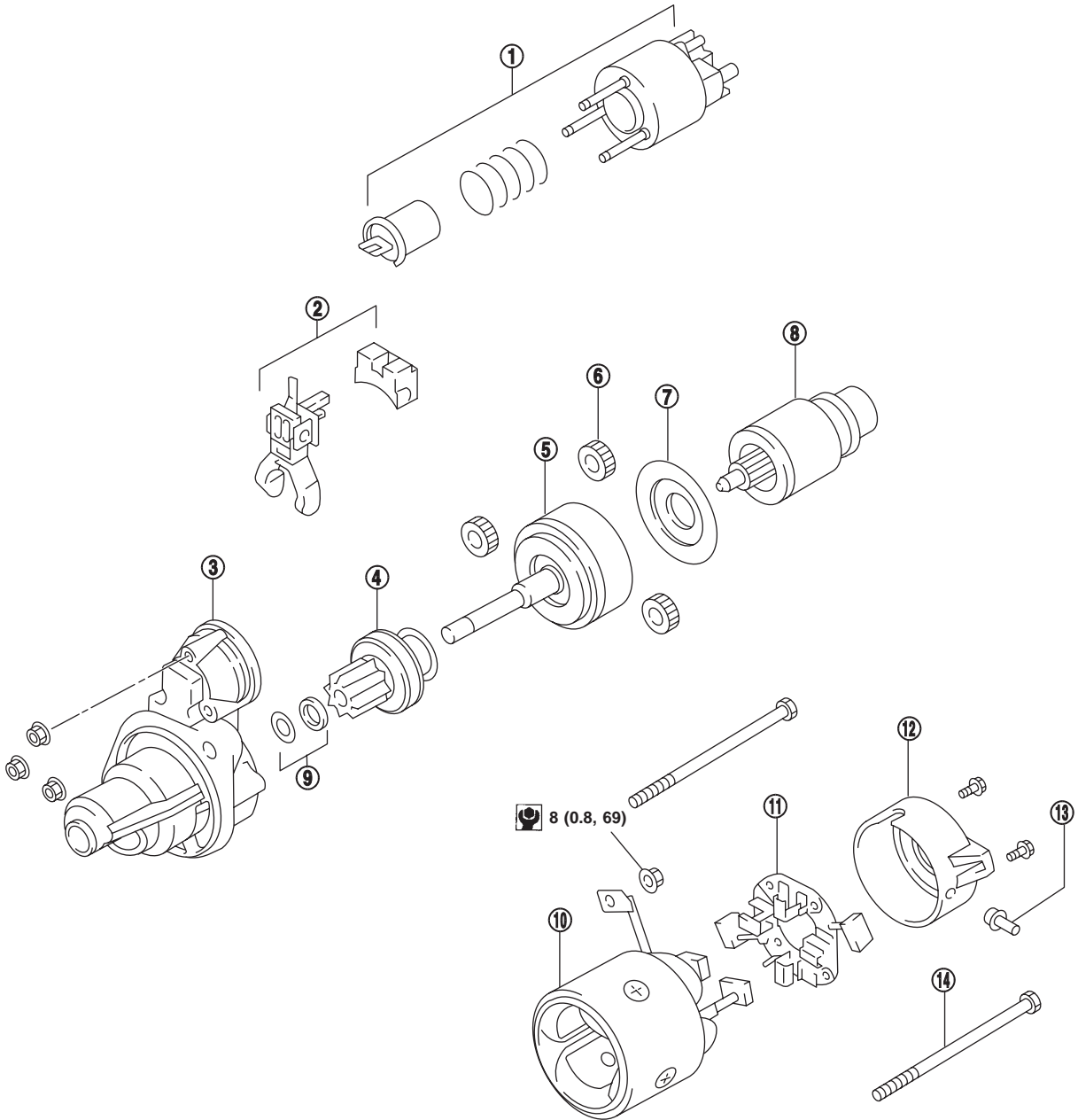
- ⑥ Pinion shaft
- ⑦ Rear cover
- ⑧ Brush spring
- ⑨ Brush (-)
- ⑩ Brush (+)


- ⑪ Armature
- ⑫ Yoke
- ⑬ Pinion assembly
- ⑭ Gear case

STARTING SYSTEM

Construction (Cont'd)

SEC. 233
M70R



 : N-m (kg-m, in-lb)

YEL422B

- ① Magnetic switch assembly
- ② Shift lever assembly
- ③ Gear case
- ④ Pinion assembly
- ⑤ Pinion shaft assembly

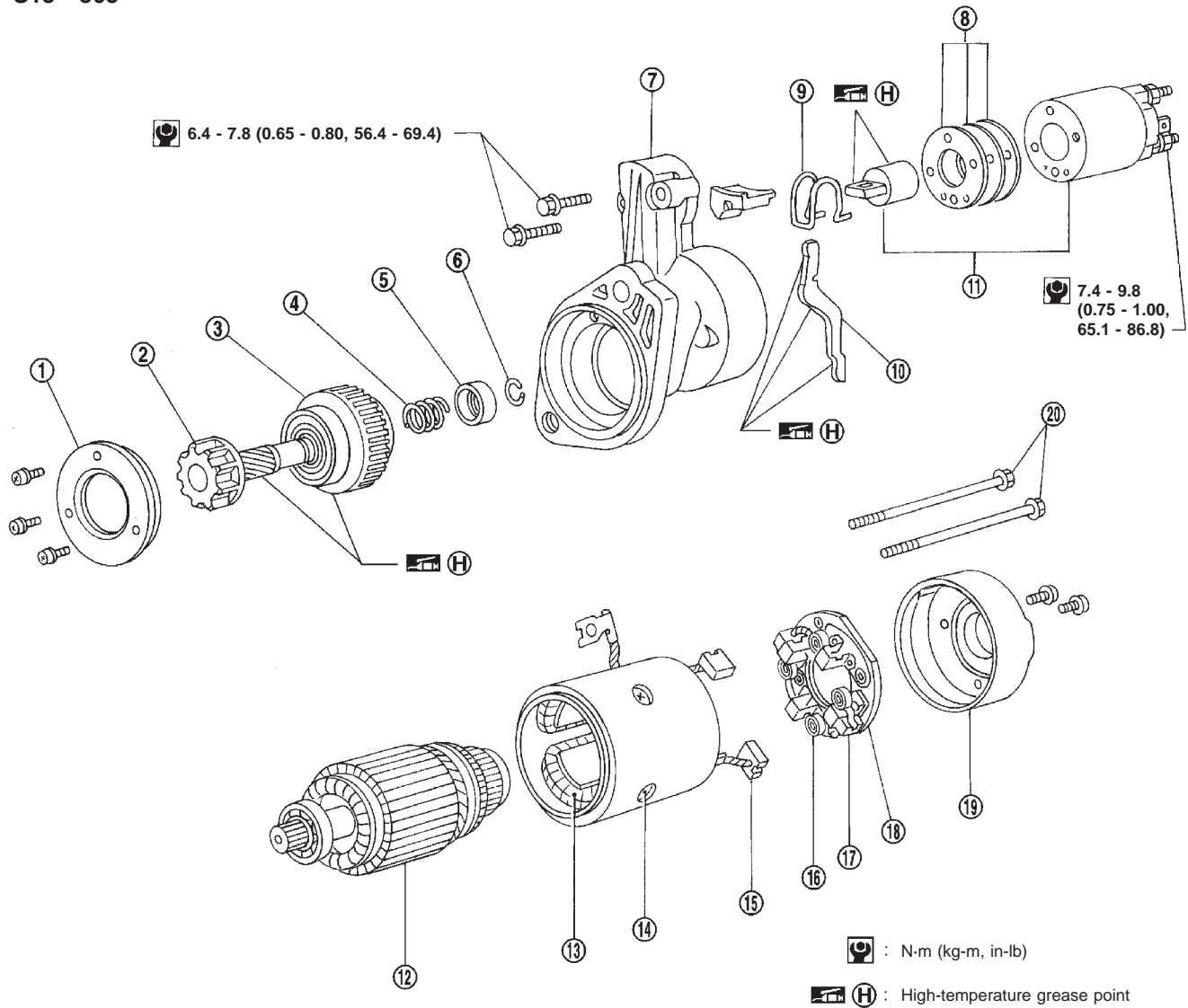
- ⑥ Planetary gear assembly
- ⑦ Centre bracket
- ⑧ Armature
- ⑨ Pinion stopper
- ⑩ Yoke assembly

- ⑪ Brush holder
- ⑫ Rear cover
- ⑬ Drain hose
- ⑭ Through-bolts

STARTING SYSTEM

Construction (Cont'd)

SEC. 233
S13 - 305



NEL299

- ① Bearing retainer
- ② Pinion shaft
- ③ Clutch assembly
- ④ Return spring
- ⑤ Pinion stopper
- ⑥ Stopper clip
- ⑦ Gear case

- ⑧ Adjusting plates
- ⑨ Torsion spring
- ⑩ Shift lever
- ⑪ Magnetic switch assembly
- ⑫ Armature assembly
- ⑬ Field coil
- ⑭ Yoke

- ⑮ Brush (+)
- ⑯ Brush spring
- ⑰ Brush (-)
- ⑱ Brush holder
- ⑲ Rear cover
- ⑳ Through-bolt

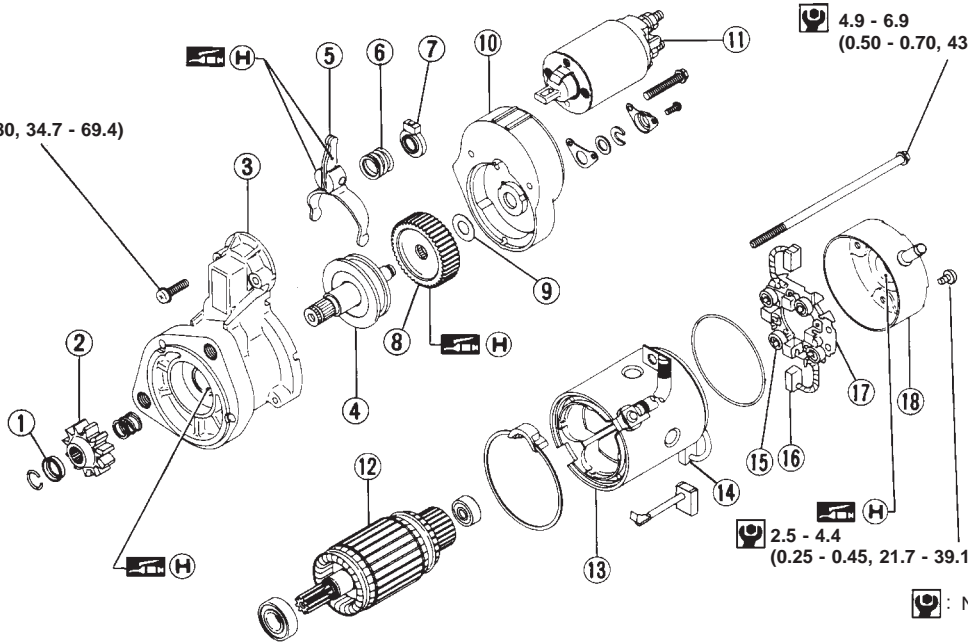
STARTING SYSTEM

Construction (Cont'd)

SEC. 233
M2M62071

3.9 - 7.8
(0.40 - 0.80, 34.7 - 69.4)

4.9 - 6.9
(0.50 - 0.70, 43.4 - 60.8)



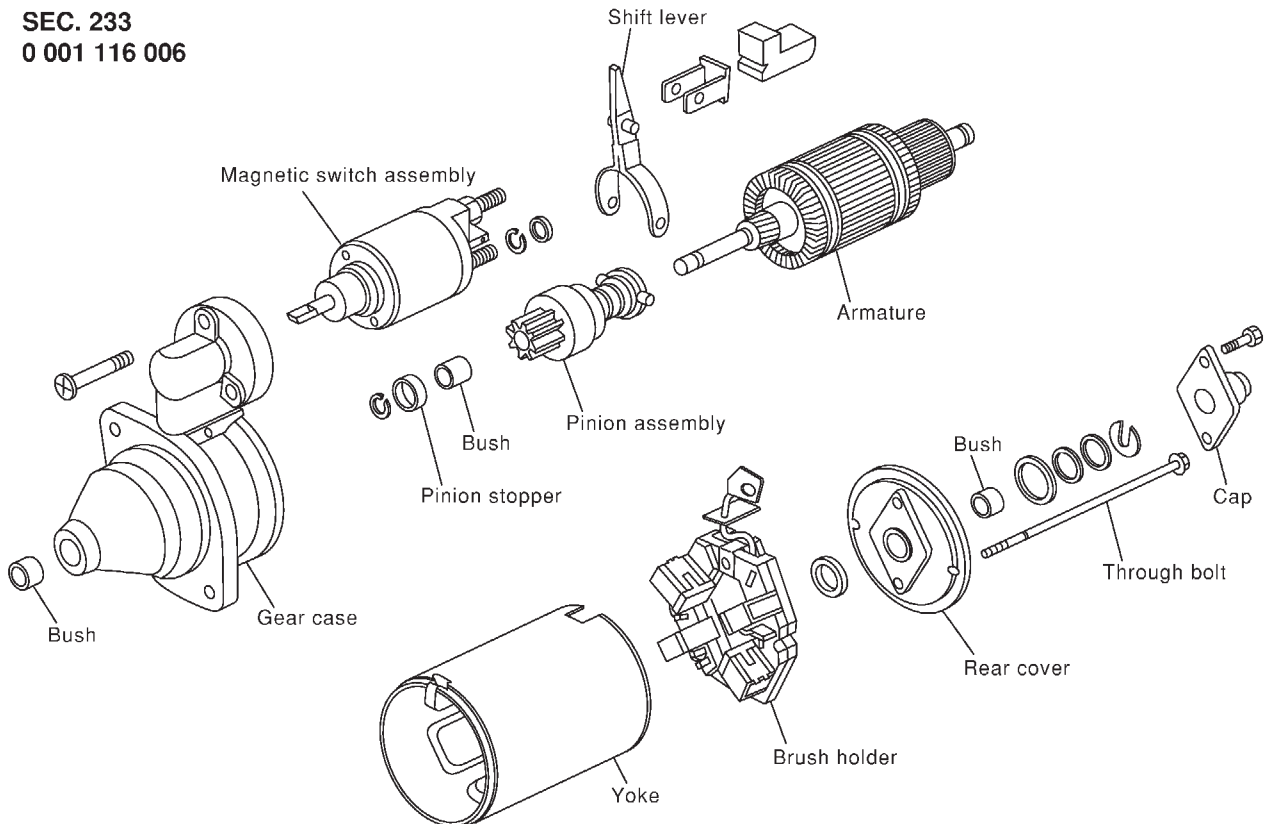
MEL780DB

- ① Pinion stopper
- ② Pinion assembly
- ③ Gear case
- ④ Pinion shaft assembly
- ⑤ Shift lever
- ⑥ Spring

- ⑦ Holder
- ⑧ Reduction gear
- ⑨ Washer
- ⑩ Center bracket
- ⑪ Magnetic switch assembly
- ⑫ Armature

- ⑬ Yoke
- ⑭ Brush (+)
- ⑮ Brush spring
- ⑯ Brush (-)
- ⑰ Brush holder
- ⑱ Rear cover

SEC. 233
0 001 116 006

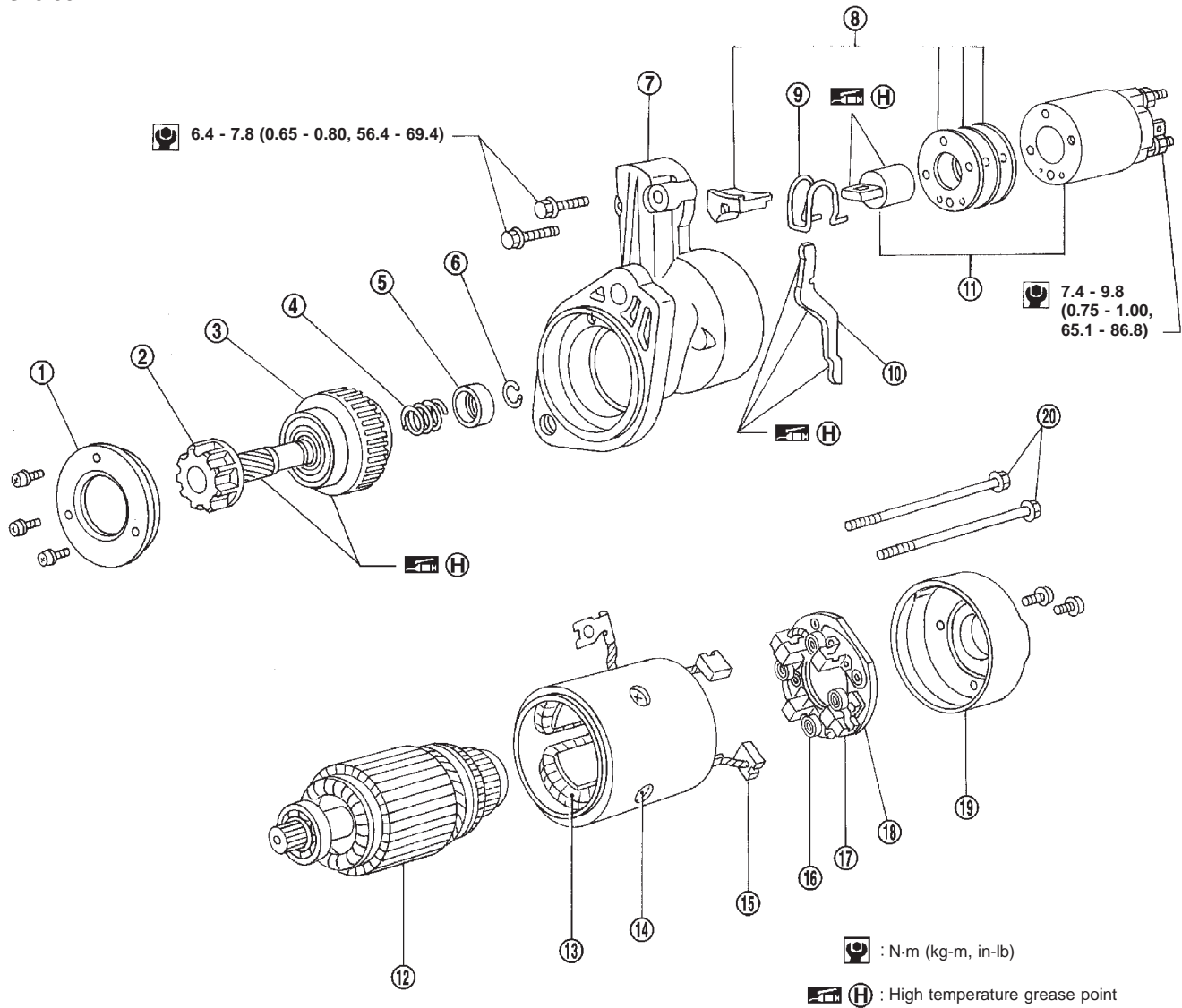


MEL232M

STARTING SYSTEM

Construction (Cont'd)

SEC. 233
S13-531

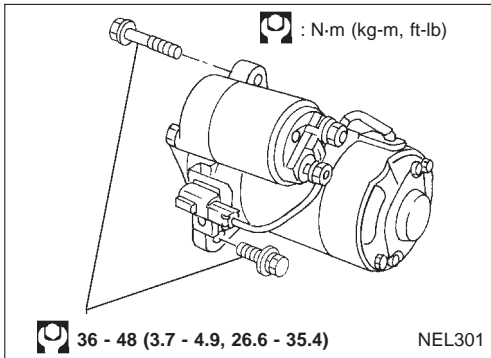


MEL233FB

- ① Bearing retainer
- ② Pinion shaft
- ③ Clutch assembly
- ④ Return spring
- ⑤ Pinion stopper
- ⑥ Stopper clip
- ⑦ Gear case

- ⑧ Dust cover
- ⑨ Torsion spring
- ⑩ Shift lever
- ⑪ Magnetic switch assembly
- ⑫ Armature assembly
- ⑬ Field coil
- ⑭ Yoke

- ⑮ Brush (+)
- ⑯ Brush spring
- ⑰ Brush (-)
- ⑱ Brush holder
- ⑲ Rear cover
- ⑳ Through-bolt



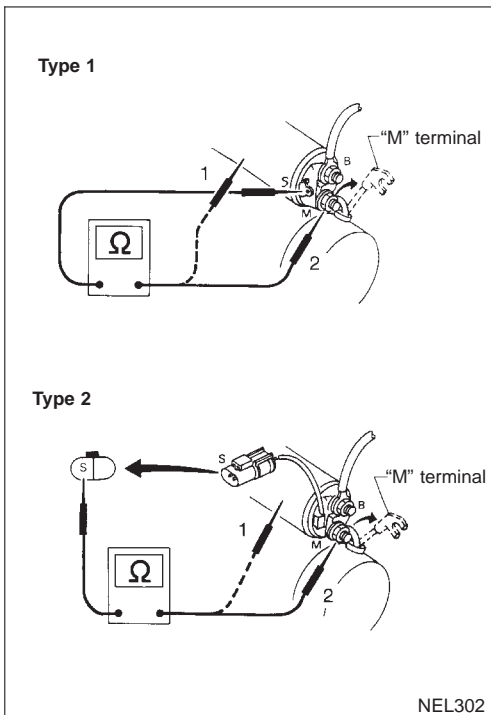
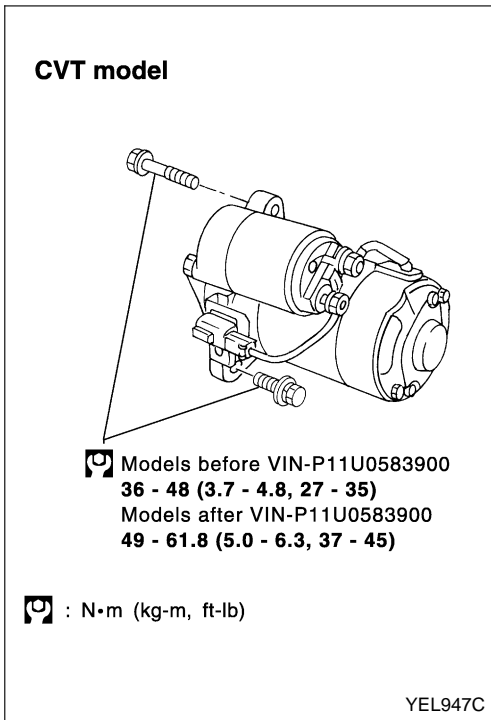
Removal and Installation

Removal

1. Remove battery negative cable from battery.
2. Remove intake air duct.
3. Remove starter motor mounting bolts.
4. Remove battery cable from starter motor.
5. Disconnect harness connector from starter motor harness.
6. Remove intake manifold support bracket.
7. Remove starter motor from under the vehicle.

Installation

- Installation is reverse order of removal.



Inspection

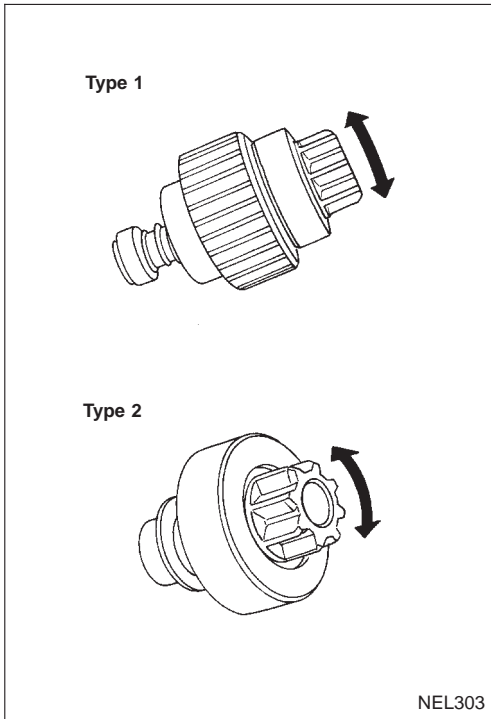
MAGNETIC SWITCH CHECK

- Before starting to check, disconnect battery ground cable.
- Disconnect "M" terminal of starter motor.

 1. Continuity test (between "S" terminal and switch body).
 - No continuity ... Replace.
 2. Continuity test (between "S" terminal and "M" terminal).
 - No continuity ... Replace.

STARTING SYSTEM

Inspection (Cont'd) PINION/CLUTCH CHECK



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

NEL303

BRUSH CHECK

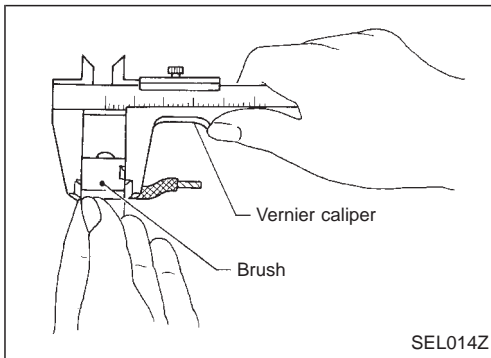
Brush cap and lever

Check wear of brush.

Wear limit length:

Refer to SDS (EL-52).

- Excessive wear ... Replace.



SEL014Z

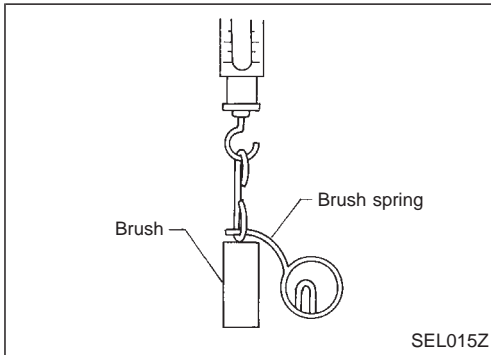
Brush Spring Pressure

Check brush spring pressure with brush spring detached from brush.

Spring pressure (with new brush):

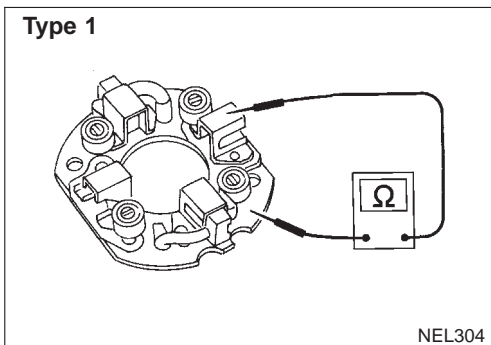
Refer to SDS (EL-52).

- Not within the specified values ... Replace.



SEL015Z

Type 1



NEL304

Brush Holder

1. Perform insulation test between brush holder (positive side) and its base (negative side).
 - Continuity exists. ... Replace.
2. Check brush to see if it moves smoothly.
 - If brush holder is damaged or deformed, replace it; clear sliding surface if dirty.

STARTING SYSTEM

Inspection (Cont'd)

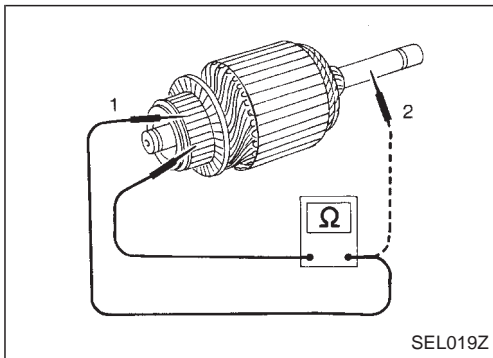
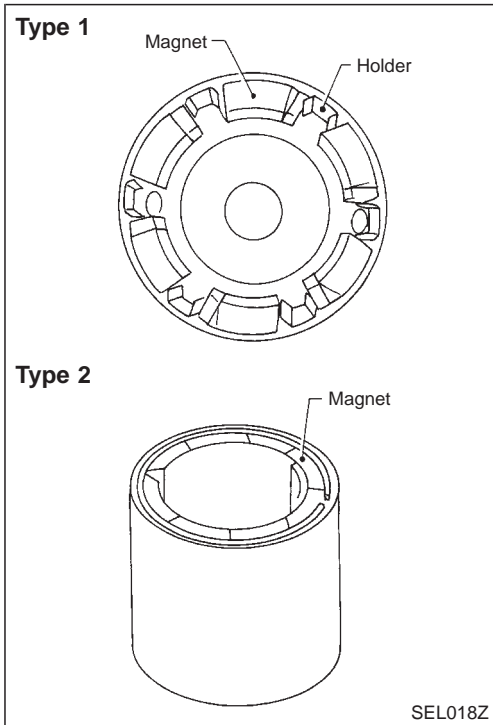
YOKE CHECK

Magnet is secured to yoke by bonding agent. Check magnet to see that it is secured to yoke and for any cracks. Replace malfunctioning parts as an assembly.

Holder may move slightly as it is only inserted and not bonded.

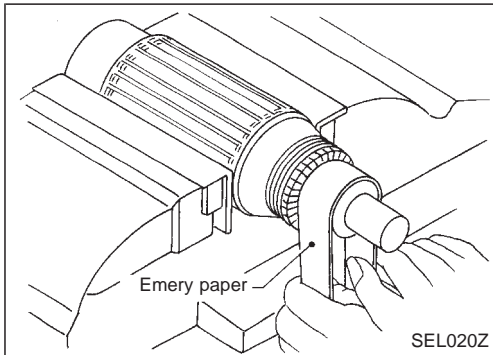
CAUTION:

Do not clamp yoke in a vice or strike it with a hammer.

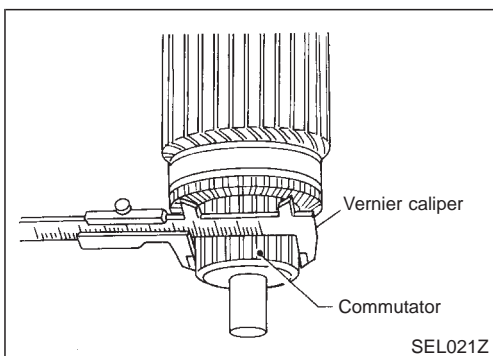


ARMATURE CHECK

1. Continuity test (between two segments side by side).
 - No continuity ... Replace.
2. Insulation test (between each commutator bar and shaft).
 - Continuity exists. ... Replace.



3. Check commutator surface.
 - Rough ... Sand lightly with No. 500 - 600 emery paper.



4. Check diameter of commutator.

**Commutator minimum diameter:
Refer to SDS (EL-52).**

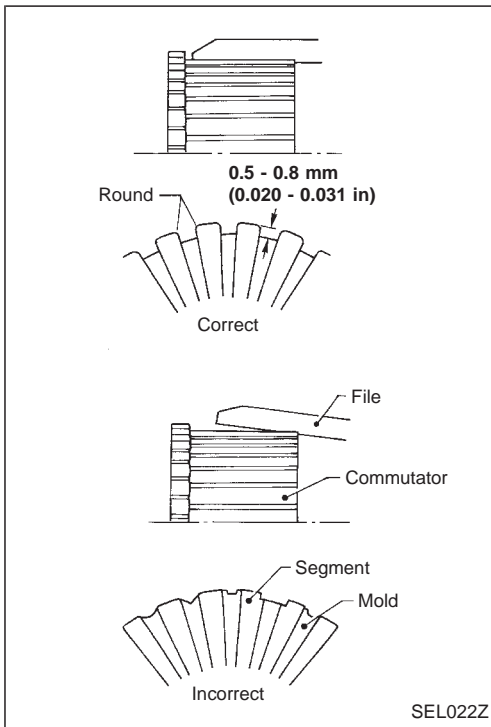
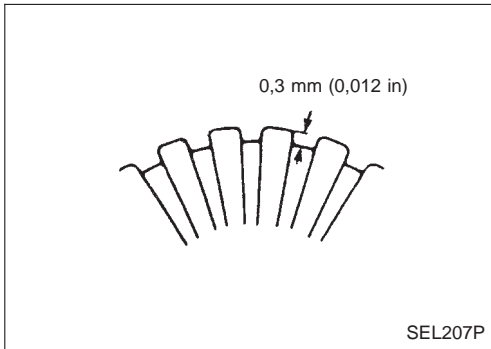
 - Less than specified value ... Replace.

STARTING SYSTEM

Inspection (Cont'd)

M70R

5. Check depth of insulating mica from commutator surface.
 - Less than 0.3 mm (0.012 in) ... Replace.

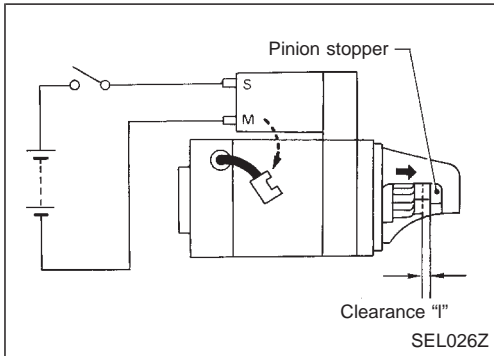


S13-305, S13-531, S114-800B, S114-806A, S114-871, M2M62071, 0 001 116 006

6. Check depth of insulating mold from commutator surface.
 - Less than 0.2 mm (0.008 in) ... Undercut to 0.5 to 0.8 mm (0.020 to 0.031 in)

Assembly

Apply high-temperature grease to lubricate the bearing, gears and frictional surface when assembling the starter. Carefully observe the following instructions.

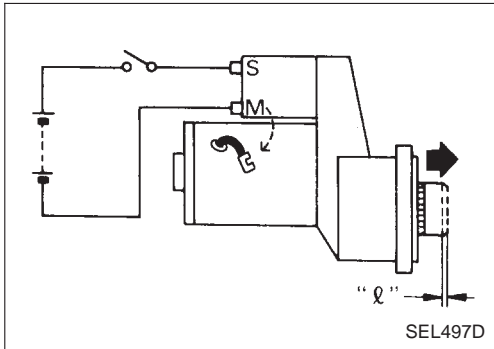


PINION PROTRUSION LENGTH ADJUSTMENT

Clearance "l"

With pinion driven out by magnetic switch, push pinion back to remove slack and measure clearance "l" between the front edge of the pinion and the pinion stopper.

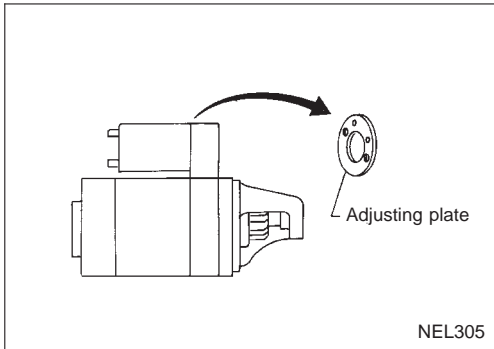
Clearance "l":
Refer to SDS (EL-52).



Movement "l"

Compare movement "l" in height of pinion when it is pushed out with magnetic switch energized and when it is pulled out by hand until it touches stopper.

Movement "l":
Refer to SDS (EL-52).



- Not in the specified value ... Adjust by selecting the correct adjusting plate.

STARTING SYSTEM

Service Data and Specifications (SDS) STARTER

Type	M70R		M2T62071		0 001 116 006	
	MAGNETI MARELLI		MITSUBISHI		BOSCH	
	Reduction gear type		Reduction gear type		Non-Reduction	
Applied model	SR20		CD20T		QG18 QG16	
System voltage	V	12				
No load						
Terminal voltage	V	11.5	11.0		11.5	
Current	A	115	Less than 105		Less than 48	
Revolution	rev/min	More than 4500	More than 4,030		More than 5,800	
Min. commutator dia.	mm (in)	28.8 (1.134)	31.4 (1.236)		33.5 (1.319)	
Min. brush of length	mm (in)	5.0 (0.197)	11.5 (0.453)		3.5 (0.138)	
Brush spring tension	N (kg, lb)	14.3 - 25.2 (1.46 - 2.57, 3.22 - 5.69)	13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7)		5.2 (0.53, 1.17) at 7.5 mm (0.295 in) brush length	
Movement "ℓ" in height of pinion assembly	mm (in)	—				
Clearance "l" between pinion front edge & pinion stopper	mm (in)	0 - 3.0 (0 - 0.118)	—		0.0 - 3.9 (0 - 0.154)	

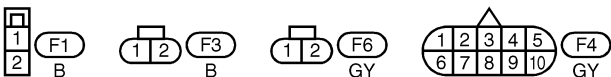
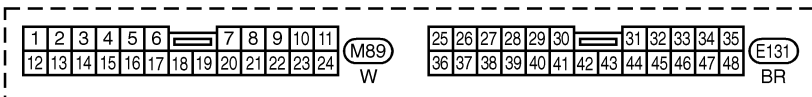
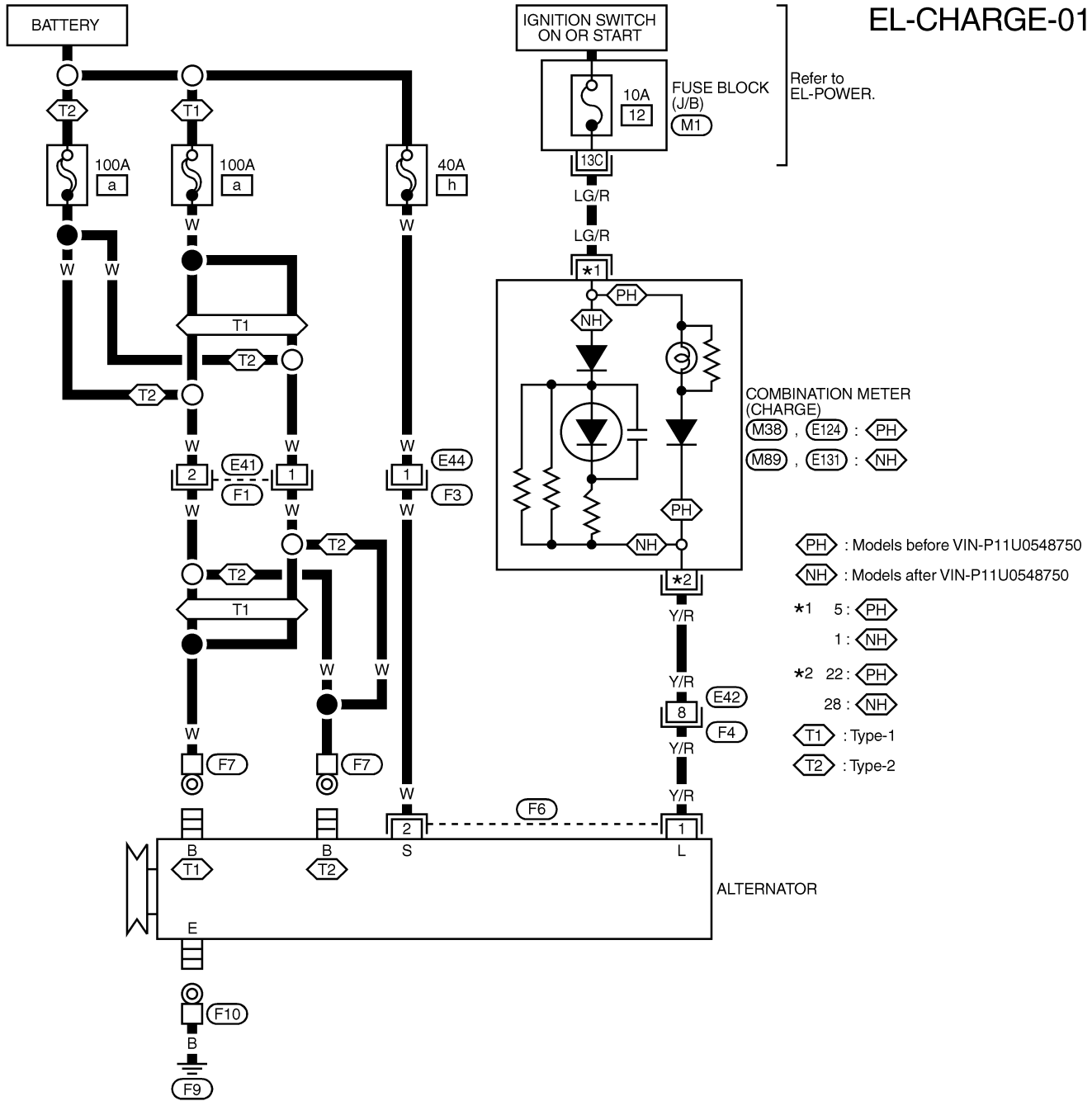
Type	S114-806A		S114-871		S13-305		S13-531		S114-800B	
	HITACHI									
	Reduction gear type									
Applied model	SR20		SR20 with CVT models		CD20T		CD20T cold area		QG18-QG16 cold area	
System voltage	V	12								
No load										
Terminal voltage	V	11.0								
Current	A	Less than 90			Less than 140			Less than 90		
Revolution	rev/min	More than 2,700		More than 2,300		More than 3900			More than 2750	
Min. commutator dia.	mm (in)	28.0 (1.102)			35.5 (1.398)			28.0 (1.102)		
Min. brush length	mm (in)	10.5 (0.413)			11.0 (0.433)			10.5 (0.413)		
Brush spring tension	N (kg, lb)	16.2 (1.65, 3.64)		12.7 - 17.7 (1.29 - 1.80, 2.84, 3.97)		28.4 - 34.3 (2.90 - 3.50, 6.39 - 7.72)			12.7 - 17.7 (1.29 - 1.80, 2.84 - 3.97)	
Clearance between bearing & armature shaft	mm (in)	Less than 0.2 (0.008)								
Clearance "l" between pinion front edge & pinion stopper	mm (in)	0.3 - 2.5 (0.012 - 0.098)			0.3 - 2.0 (0.012 - 0.079)		0.3 - 0.8 (0.012 - 0.031)		0.3 - 2.5 (0.012 - 0.098)	

CHARGING SYSTEM

Wiring Diagram — CHARGE —

GASOLINE ENGINE MODELS

EL-CHARGE-01



REFER TO THE FOLLOWING

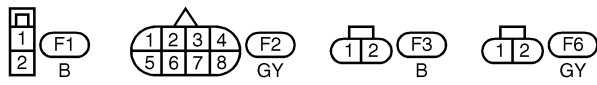
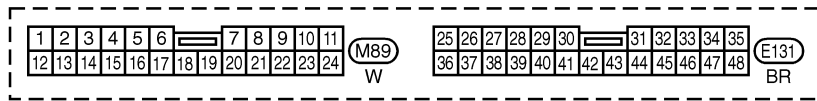
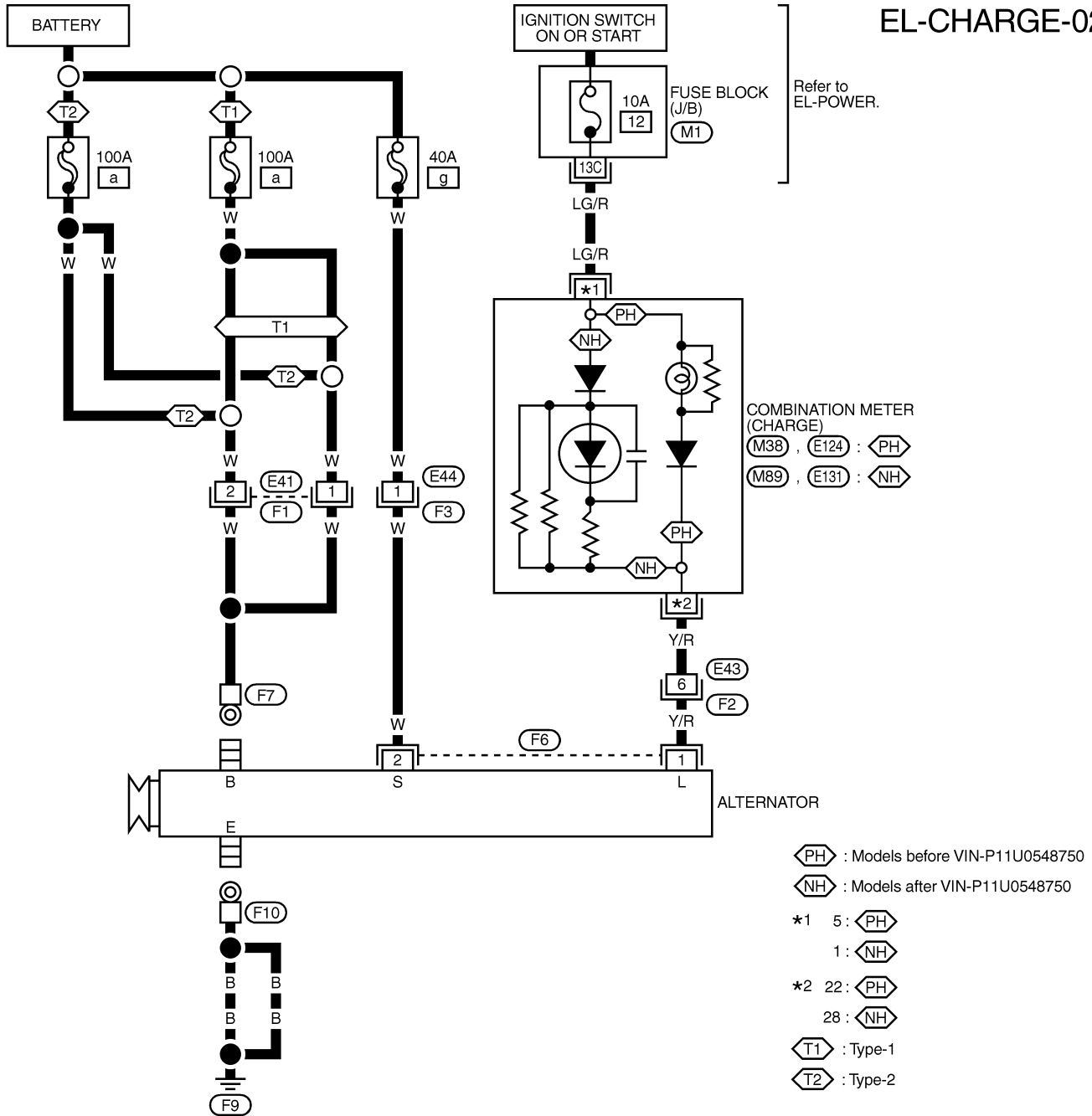
(M1) FUSE BLOCK-
 JUNCTION BOX (J/B)

CHARGING SYSTEM

Wiring Diagram — CHARGE — (Cont'd)

DIESEL ENGINE MODELS

EL-CHARGE-02



REFER TO THE FOLLOWING

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

YEL002D

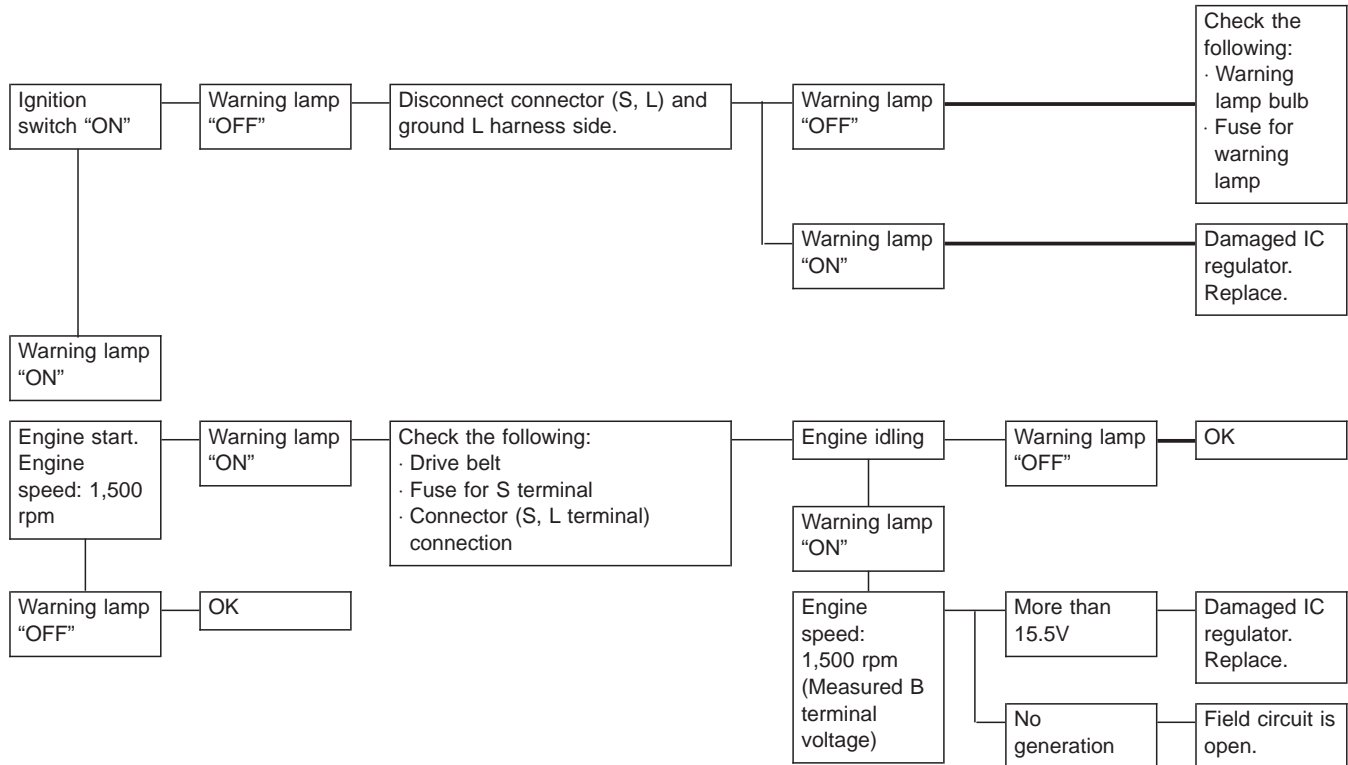
CHARGING SYSTEM

Trouble Diagnoses

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

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

WITH IC REGULATOR



Warning lamp: "CHARGE" warning lamp in combination meter

Note:

- If the inspection result is OK even though the charging system is malfunctioning, check the B terminal connection. (Check the tightening torque.)
- When field circuit is open, check condition of rotor coil, rotor slip ring and brush. If necessary, replace faulty parts with new ones.

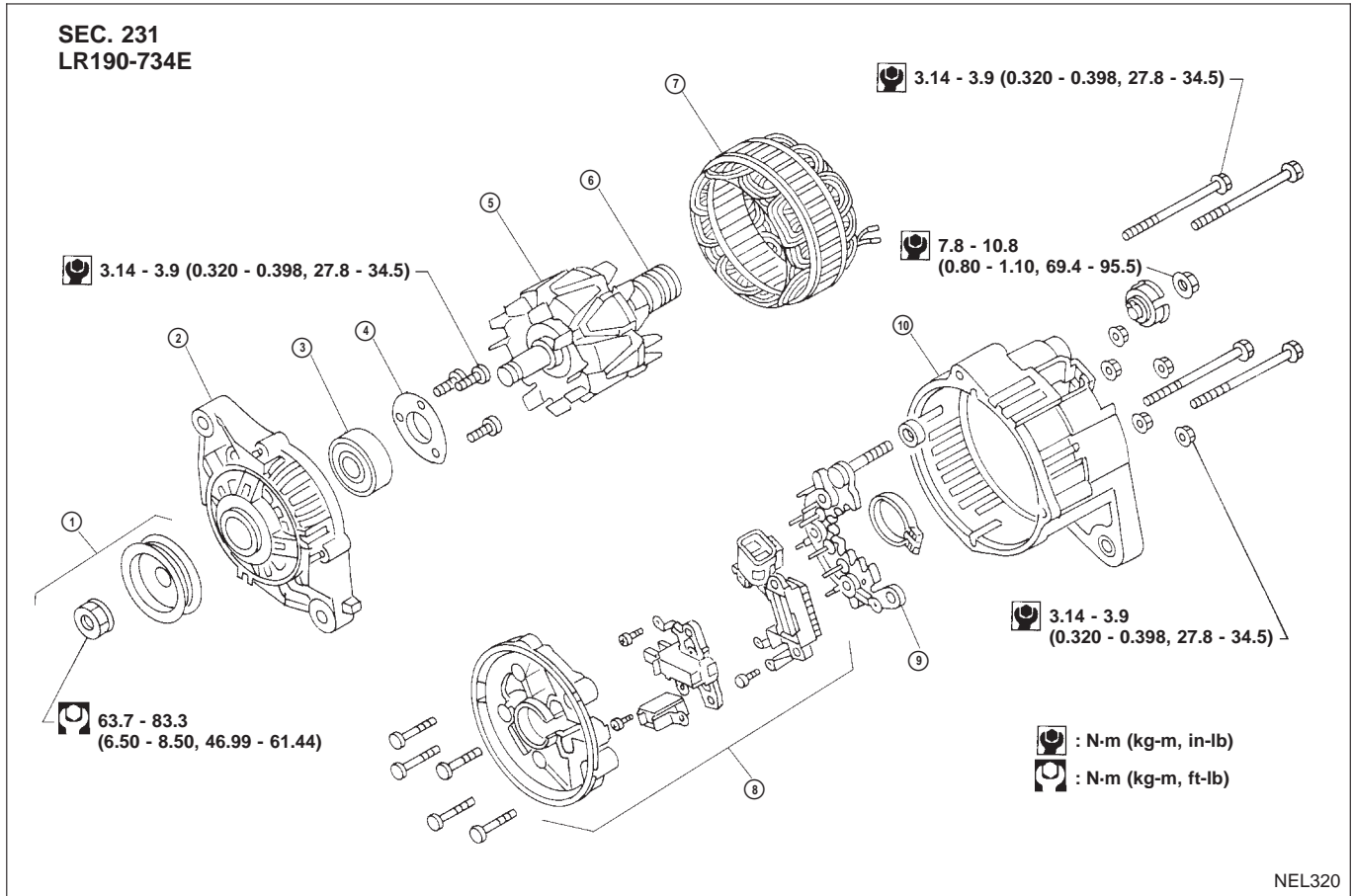
MALFUNCTION INDICATOR

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

- Excessive voltage is produced.
- No voltage is produced.

CHARGING SYSTEM

Construction



- ① Pulley assembly
- ② Front cover
- ③ Front bearing
- ④ Retainer

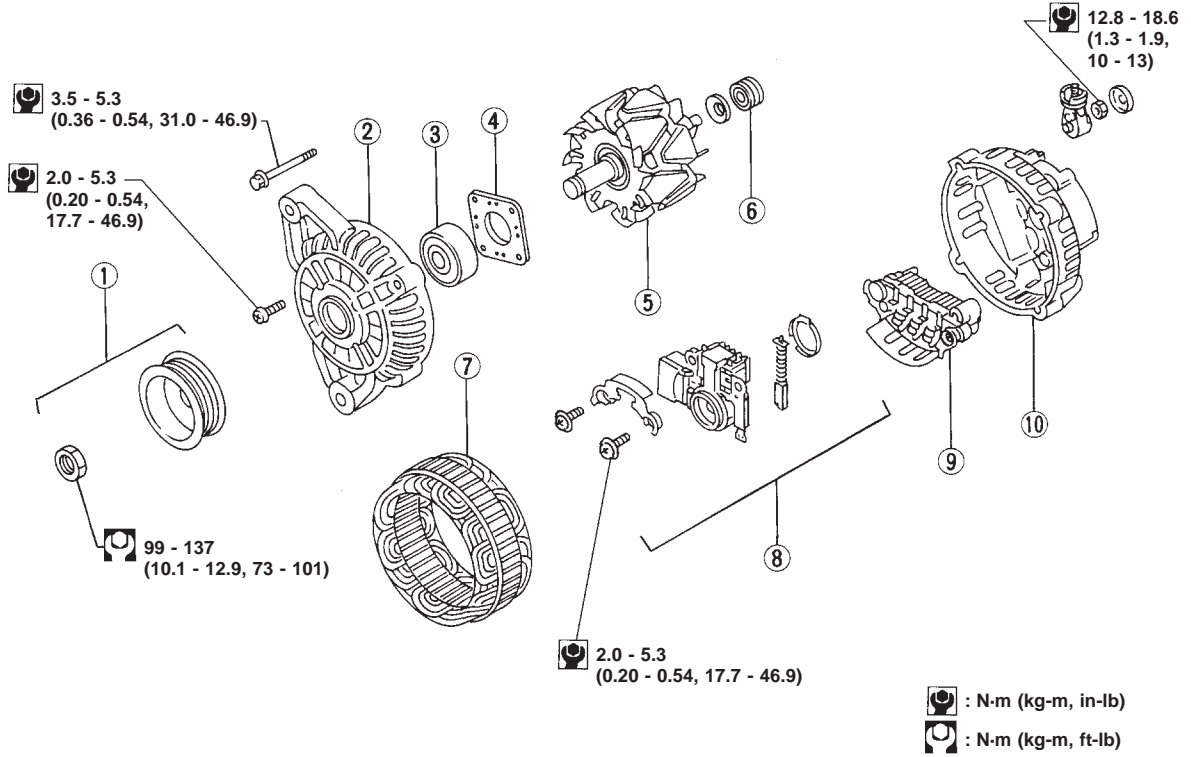
- ⑤ Rotor
- ⑥ Slip ring
- ⑦ Stator

- ⑧ IC voltage regulator assembly
- ⑨ Diode assembly
- ⑩ Rear cover

CHARGING SYSTEM

Construction (Cont'd)

SEC. 231
A2TB3691
A2TB3891



YEL427B

- ① Pulley assembly
- ② Front cover
- ③ Front bearing
- ④ Bearing retainer

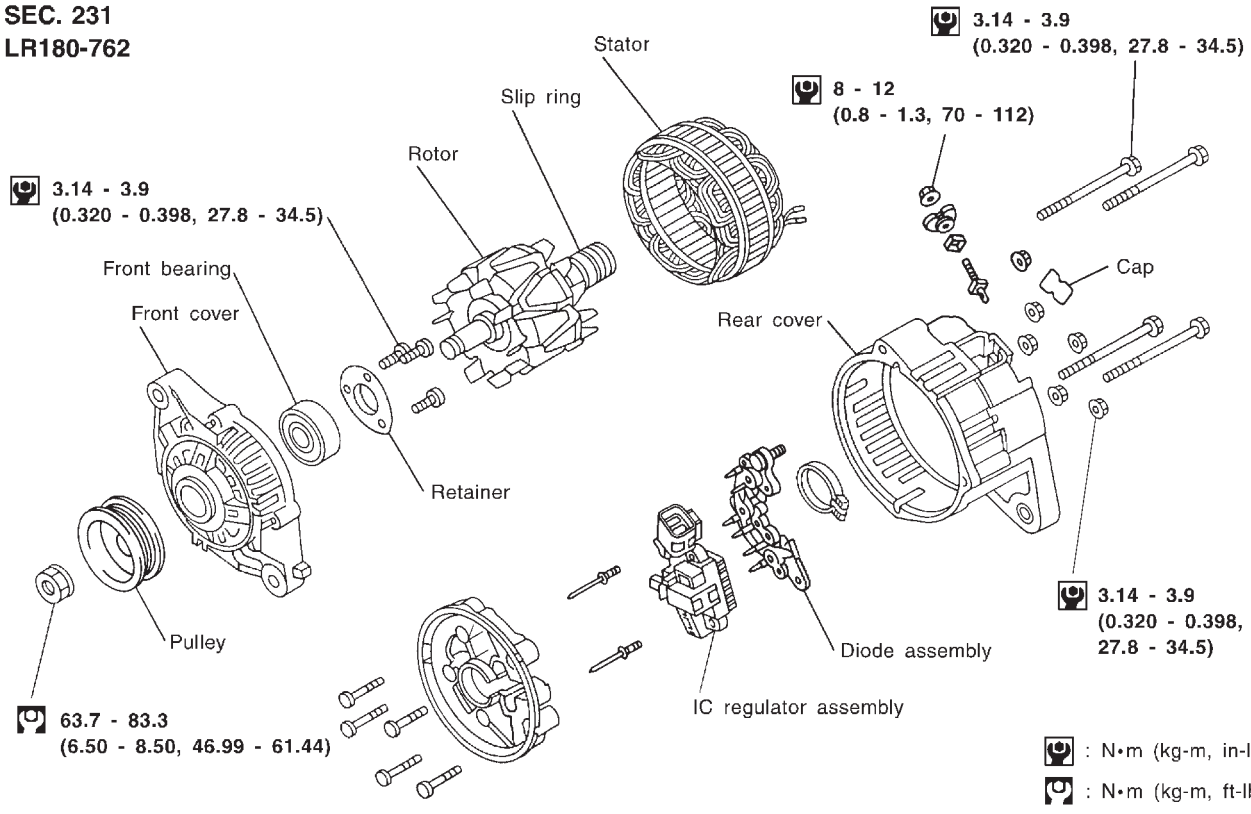
- ⑤ Rotor
- ⑥ Rear bearing
- ⑦ Stator

- ⑧ IC voltage regulator assembly
- ⑨ Diode assembly
- ⑩ Rear cover

CHARGING SYSTEM

Construction (Cont'd)

SEC. 231
LR180-762

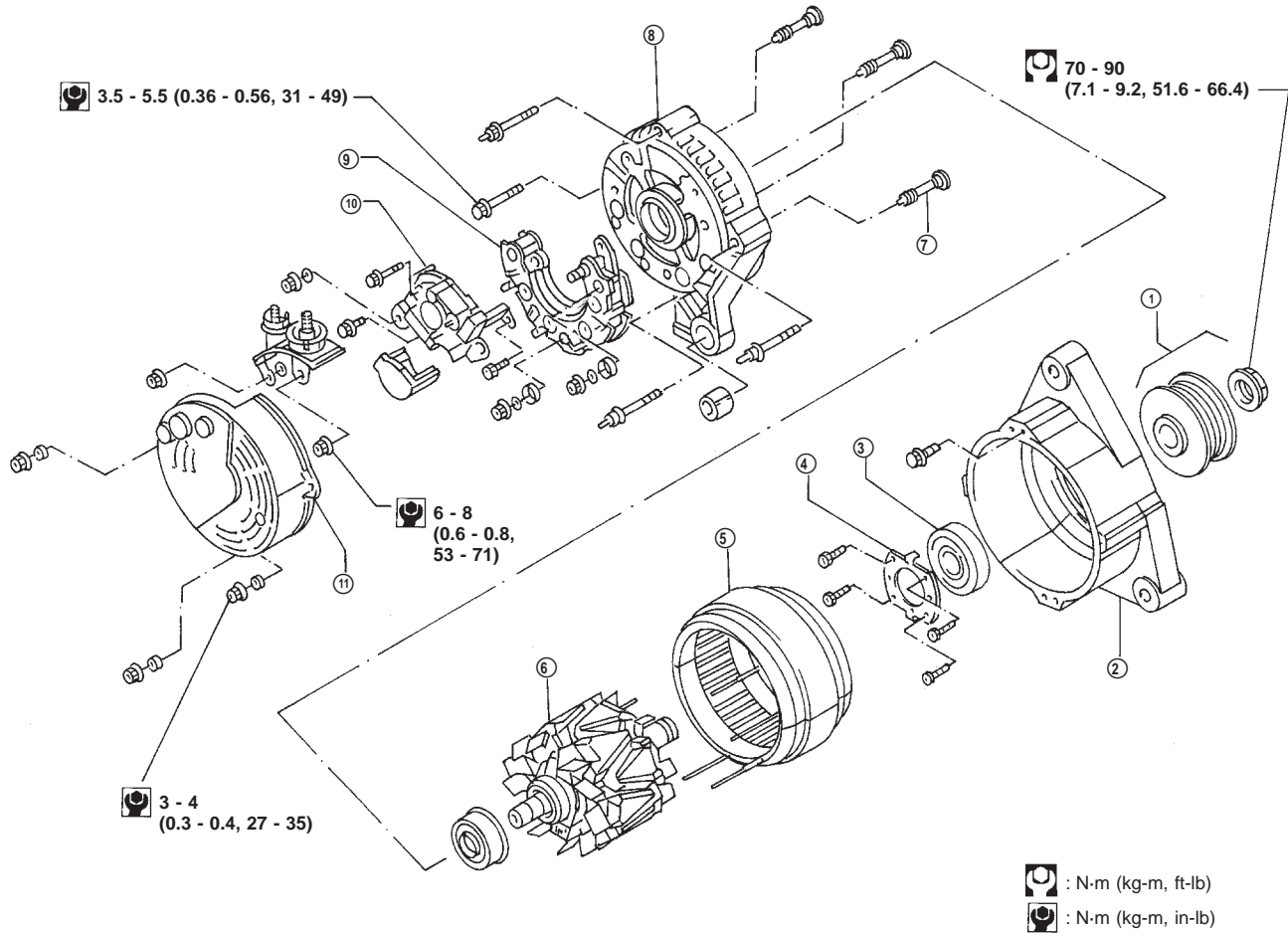


MEL141LA

CHARGING SYSTEM

Construction (Cont'd)

SEC. 231
A115I-80A



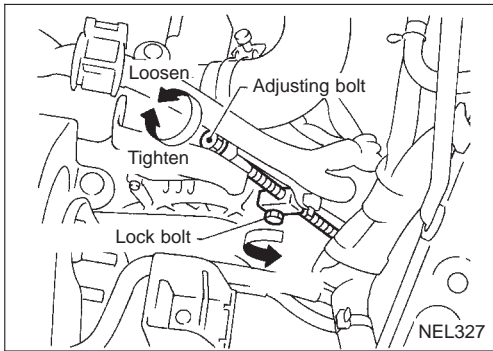
YEL429B

- ① Pulley assembly
- ② Front cover
- ③ Front bearing
- ④ Bearing retainer

- ⑤ Stator
- ⑥ Rotor
- ⑦ Special bolt
- ⑧ Rear cover

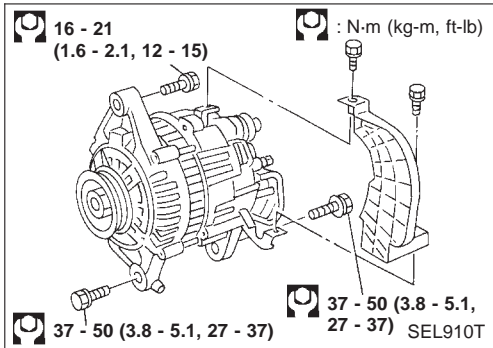
- ⑨ Diode assembly
- ⑩ Brush holder
- ⑪ Dust cover

CHARGING SYSTEM



Removal and Installation

1. Loosen lock bolt.
2. Remove RH undertray.
3. Loosen alternator mounting bolt and remove drive belt.
4. Remove lock bolt and adjust.
5. Remove harness connectors.
6. Remove alternator mounting bolt.
7. Support engine with jack, and remove front engine mounting bolt.
8. Remove alternator.



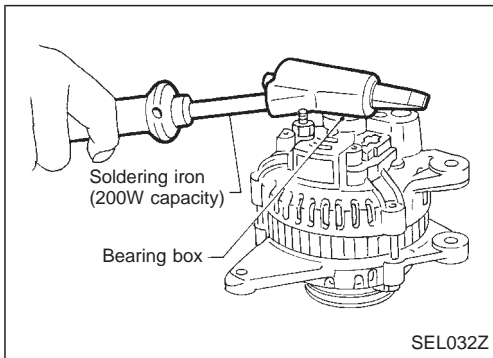
Disassembly

REAR COVER

CAUTION:

Rear cover may be hard to remove because a ring is used to lock outer race of rear bearing. To facilitate removal of rear cover, heat bearing box section with a 200W soldering iron.

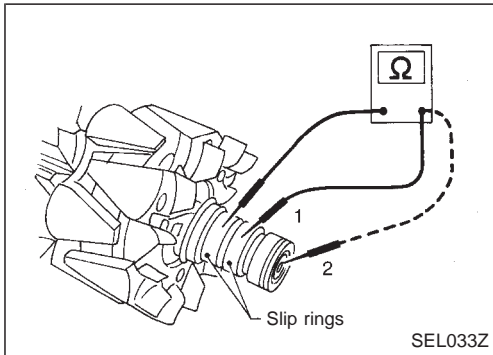
Do not use a heat gun, as it can damage diode assembly.



REAR BEARING

CAUTION:

- Do not reuse rear bearing after removal. Replace with a new one.
- Do not lubricate rear bearing outer race.



Inspection

ROTOR CHECK

1. Resistance test
Resistance: Refer to SDS (EL-63).
 - Not within the specified values ... Replace rotor.
2. Insulator test
 - Continuity exists ... Replace rotor.
3. Check slip ring for wear.
Slip ring minimum outer diameter: Refer to SDS (EL-63).
 - Not within the specified values ... Replace rotor.

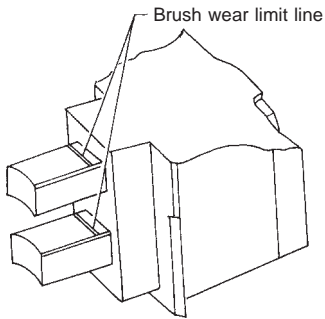
CHARGING SYSTEM

Inspection (Cont'd)

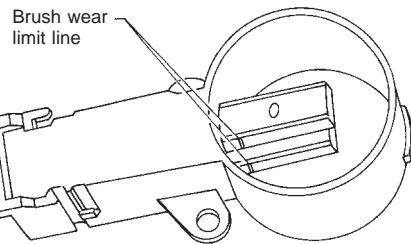
BRUSH CHECK

1. Check smooth movement of brush.
 - Not smooth ... Check brush holder and clean.
2. Check brush for wear.
 - Replace brush if it is worn down to the limit line.

Type 1



Type 2

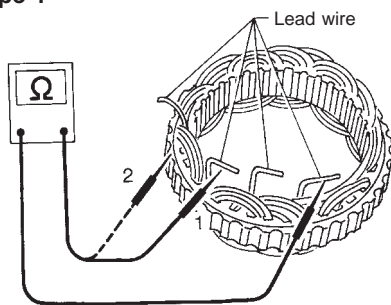


SEL034Z

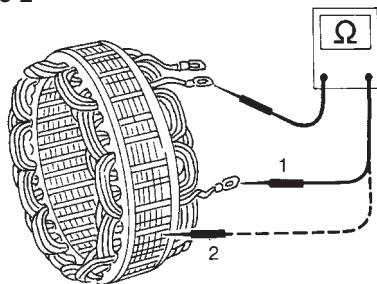
STATOR CHECK

1. Continuity test
 - No continuity ... Replace stator.
2. Ground test
 - Continuity exists ... Replace stator.

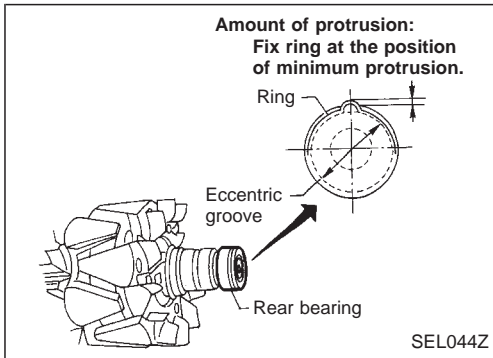
Type 1



Type 2



SEL037Z



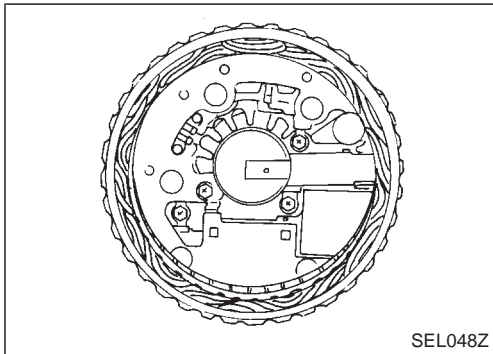
Assembly

RING FITTING IN REAR BEARING

- Fix ring into groove in rear bearing so that it is as close to the adjacent area as possible.

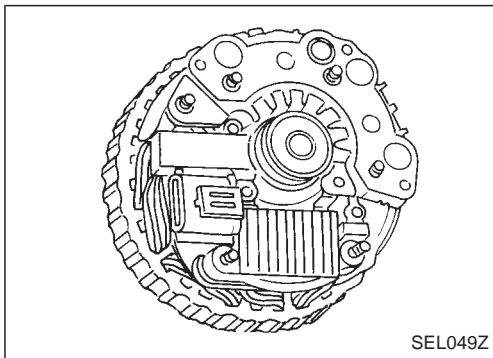
CAUTION:

Do not reuse rear bearing after removal.



REAR COVER INSTALLATION

- (1) Fit brush assembly, diode assembly, regulator assembly and stator.
 - (2) Push brushes up with fingers and install them to rotor.
- Take care not to damage slip ring sliding surface.**



CHARGING SYSTEM

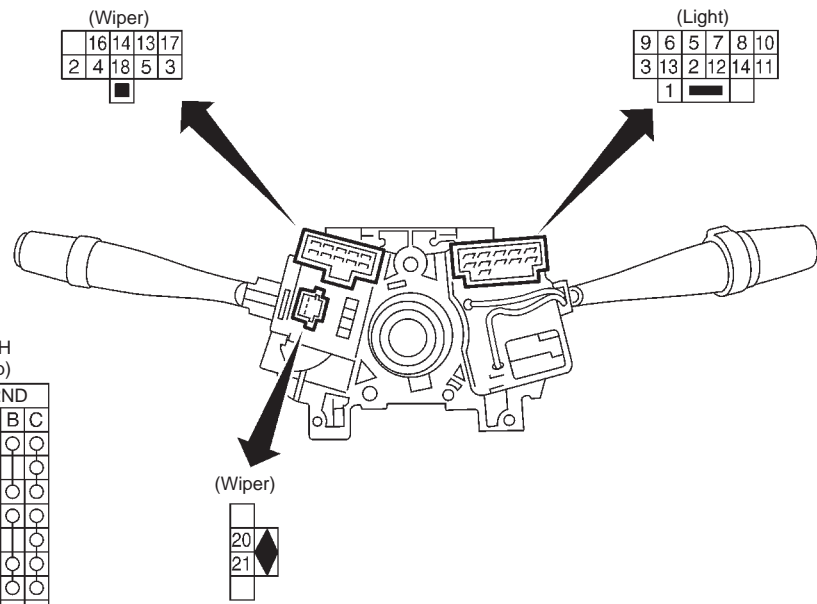
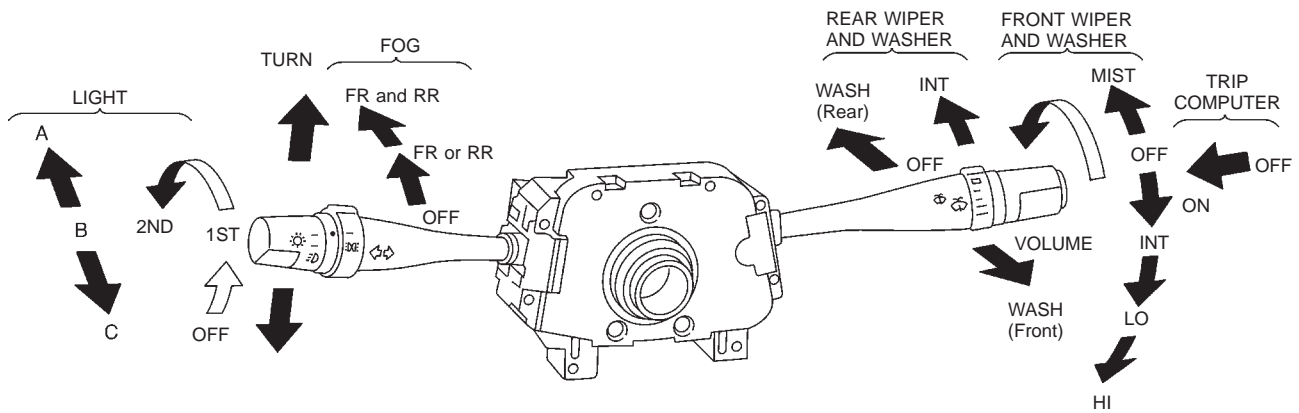
Service Data and Specifications (SDS)

ALTERNATOR

Type	A2TB3691	A2TB3891	LR180-762	LR190-734E
	MITSUBISHI		HITACHI	
Applied model	SR20, MT	SR20, CVT	QG18, QG16	CD20T
Nominal rating V-A	12-80	12-90	12-80	12-90
Ground polarity	Negative			
Minimum revs under no-load (When 13.5V is applied) rev/min	Less than 1,300		Less than 1,000	
Hot output current (when 13.5V is applied) A/rev/min	More than 23/1,300 More than 64/2,500 More than 82/5,000	More than 22/1,300 More than 64/2,500 More than 85/5,000	More than 23/1,300 More than 65/2,500 More than 87/5,000	More than 32/1,300 More than 54/2,500 More than 87/5,000
Regulated output voltage V	14.1 - 14.7			
Brush minimum length mm (in)	5.0 (0.197)		6.0 (0.236)	
Brush spring pressure N (g, oz)	4.8 - 6.0 (490 - 610, 17.28 - 21.51)		1.0 - 3.43 (102 - 350, 3.60 - 12.34)	
Slip ring minimum diameter mm (in)	22.1 (0.870)		26.0 (1.024)	
Rotor coil resistance at 20°C (68°F)	2.2 - 2.6	1.8 - 2.1	2.67	2.60

COMBINATION SWITCH

Combination Switch/Check



LIGHTING SWITCH
(With rear fog lamp)

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

FOG LAMP SWITCH

	OFF	REAR
13		

LIGHTING SWITCH
(With front and rear fog lamp)

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

FOG LAMP SWITCH

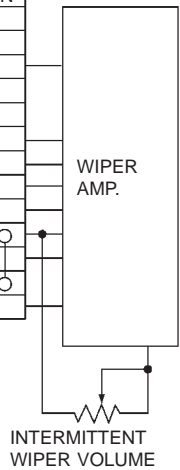
	OFF	FR	FR AND RR
14			
13			

WIPER AND WASHER SWITCH

	FRONT				WASH			REAR			TRIP		
	MIST	OFF	INT	LO	HI	FR/WASH	OFF	RR/WASH	OFF	INT	ON	INT	ON
13													
14													
16													
17													
18													
2													
3													
4													
5													
21													
20													

TURN
SIGNAL
SWITCH

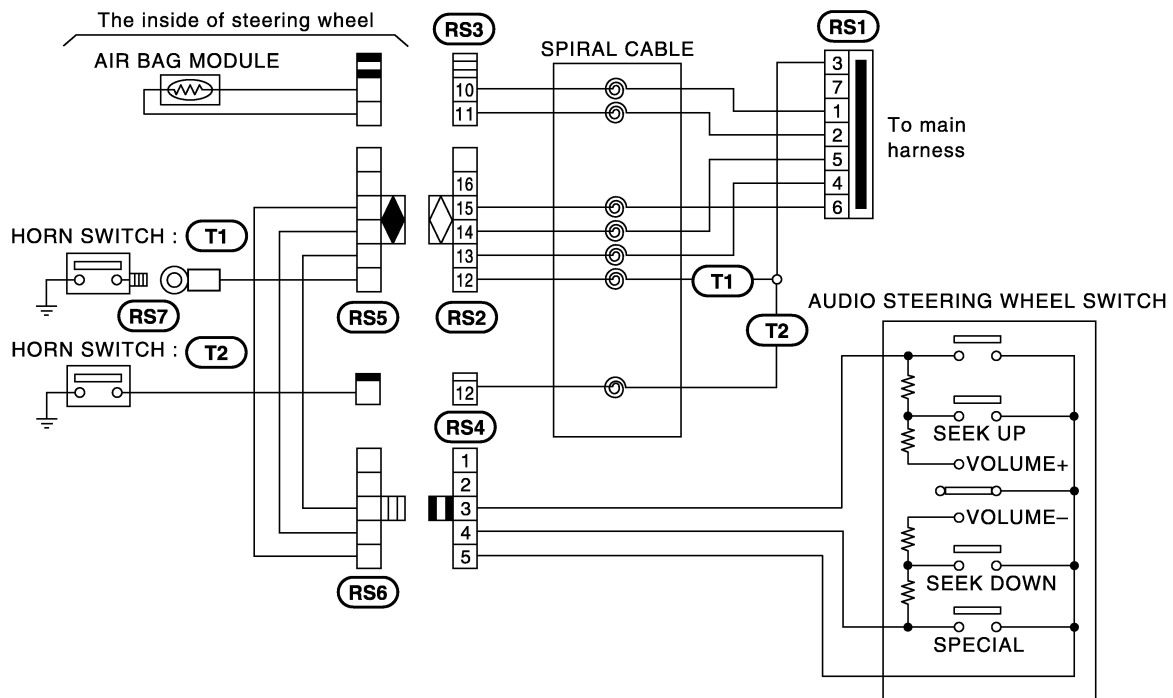
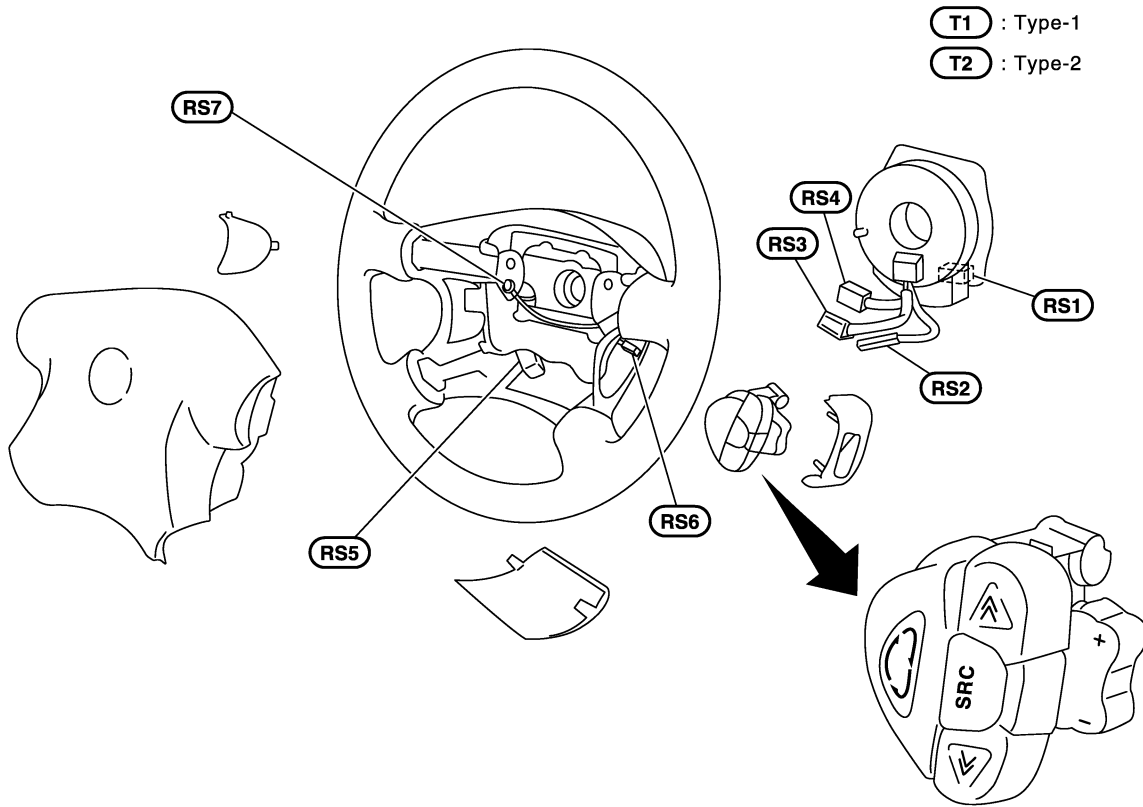
	L	N	R
1			
2			
3			



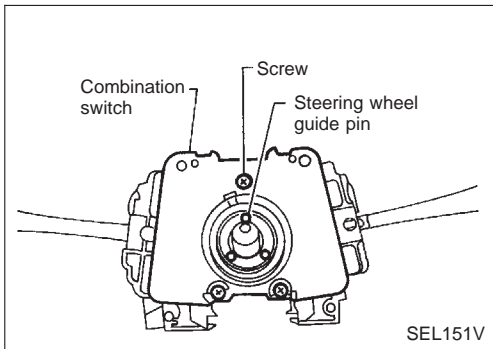
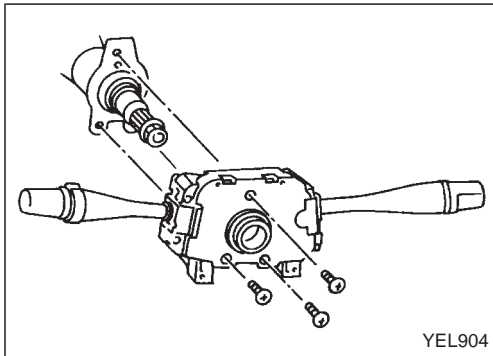
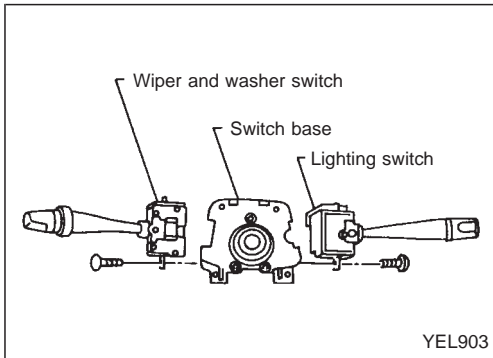
YEL230C

STEERING SWITCH

Check



STEERING SWITCH



Replacement

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

- Each switch can be replaced without removing combination switch base.
- To remove combination switch base, remove base attaching screw.
- Before installing the steering wheel, align the steering wheel guide pins with the screws which secure the combination switch as shown in the left figure.

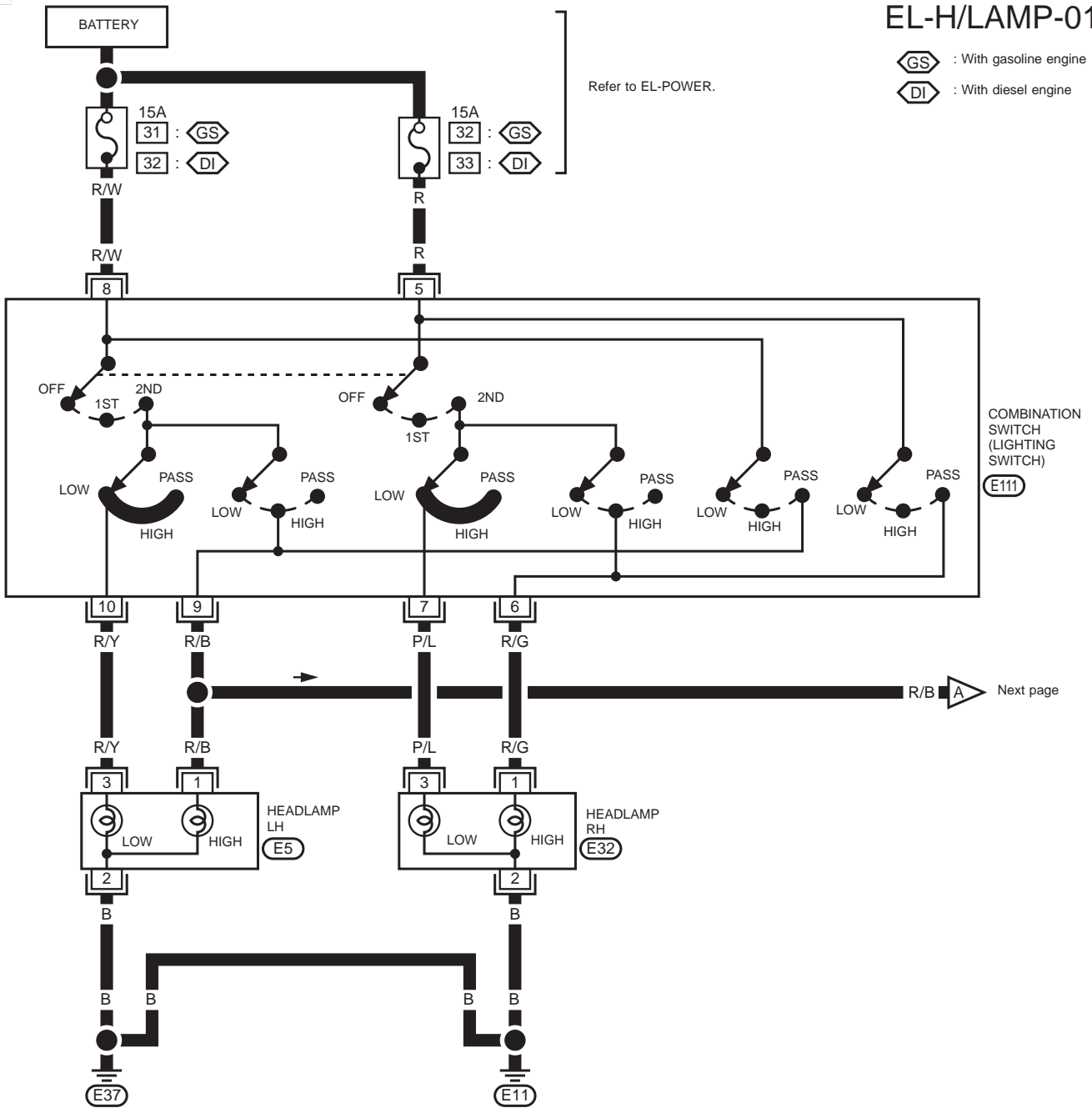
HEADLAMP (without Daytime Light System) — Conventional Type —

Wiring Diagram — H/LAMP —

EL-H/LAMP-01

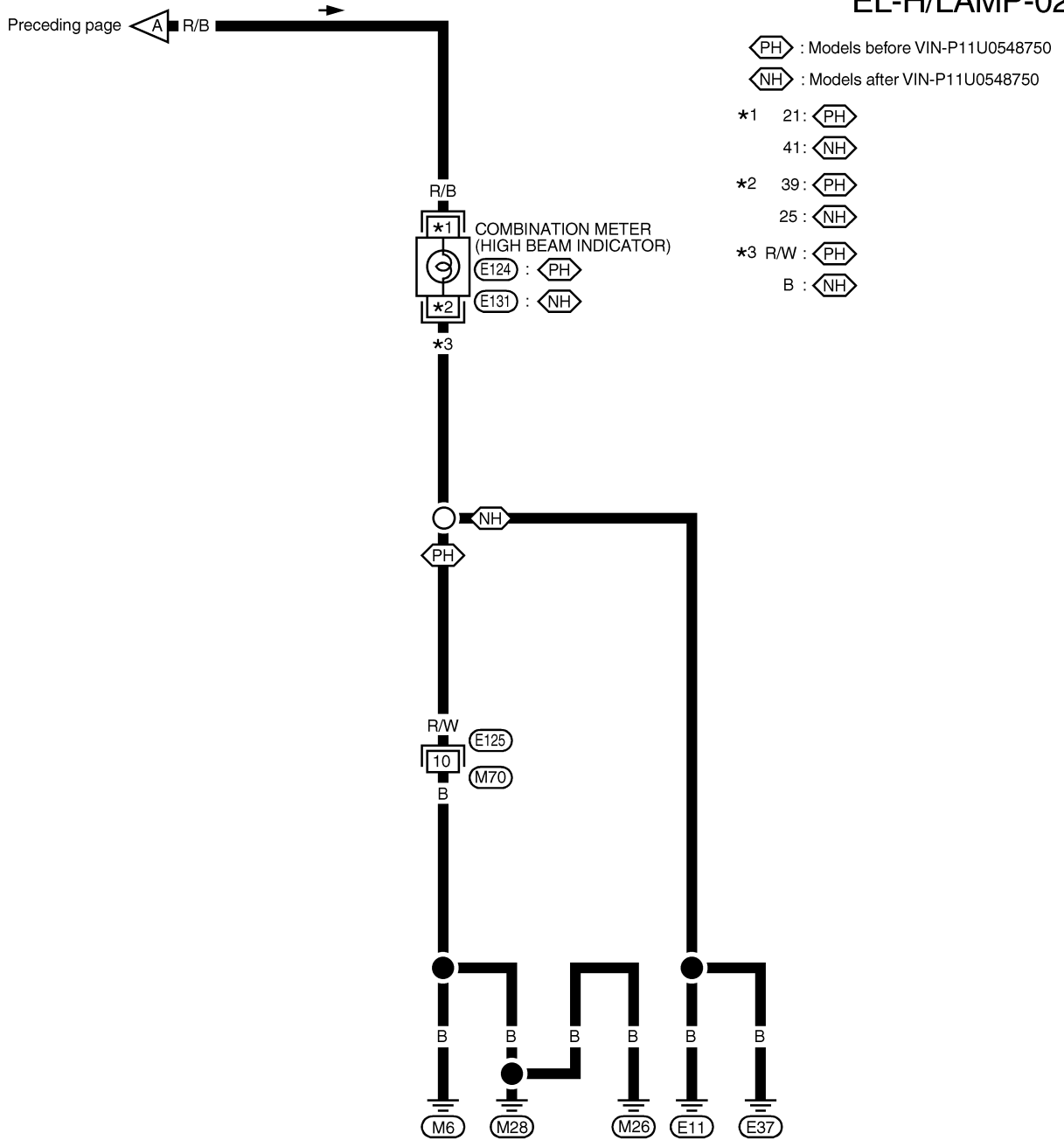
- GS : With gasoline engine
- DI : With diesel engine

Refer to EL-POWER.



HEADLAMP (without Daytime Light System) — Conventional Type — Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-02



◻ PH : Models before VIN-P11U0548750

◻ NH : Models after VIN-P11U0548750

*1 21: PH

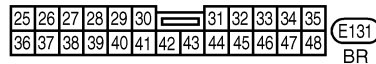
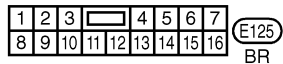
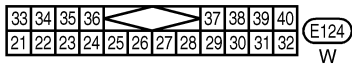
41: NH

*2 39: PH

25: NH

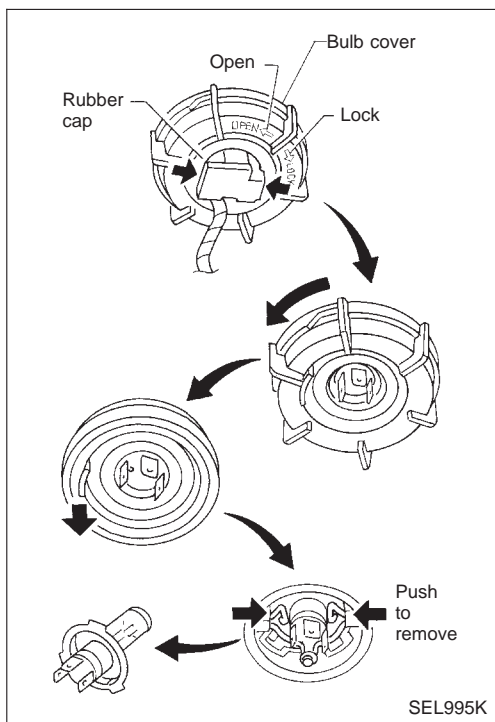
*3 R/W: PH

B: NH



Trouble Diagnoses

Symptom	Possible cause	Repair order
LH headlamps do not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E11) and (E37) 3. 15A fuse 4. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E11) and (E37) 3. Check 15A fuse [No. 31 (gasoline engine), 32 (diesel engine) located in fuse and fusible link box]. Verify battery positive voltage is present at terminal ⑧ of lighting switch. 4. Check lighting switch.
RH headlamps do not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (E11) and (E37) 3. 15A fuse 4. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E11) and (E37) 3. Check 15A fuse [No. 32 (gasoline engine), 33 (diesel engine) located in fuse and fusible link box]. Verify battery positive voltage is present at terminal ⑤ of lighting switch. 4. Check lighting switch.
LH high beams do not operate, but LH low beam operates.	<ol style="list-style-type: none"> 1. Bulbs 2. Open in LH high beams circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulbs. 2. Check R/B wire between lighting switch and LH headlamps for an open circuit. 3. Check lighting switch.
LH low beam does not operate, but LH high beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in LH low beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check R/Y wire between lighting switch and LH headlamp for an open circuit. 3. Check lighting switch.
RH high beams do not operate, but RH low beam operates.	<ol style="list-style-type: none"> 1. Bulbs 2. Open in RH high beams circuit 3. Lighting switch. 	<ol style="list-style-type: none"> 1. Check bulbs. 2. Check R/G wire between lighting switch and RH headlamps for an open circuit. 3. Check lighting switch.
RH low beam does not operate, but RH high beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. Open in RH low beam circuit 3. Lighting switch 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check P/L wire between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
High beam indicator does not work.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds (M6), (M26) and (M28) or (E11) and (E39) 3. Open in high beam circuit 	<ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check grounds (M6), (M26) and (M28) or (E11) and (E39). 3. Check R/B wire between lighting switch and combination meter for an open circuit.



Bulb Replacement

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

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

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

CAUTION:

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

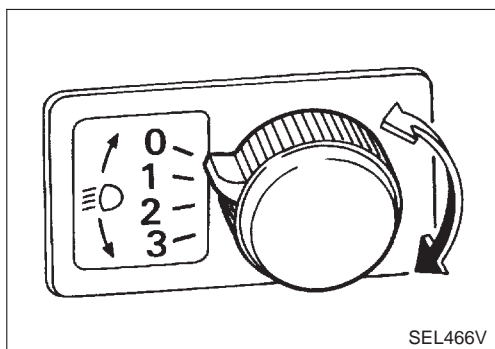
Aiming Adjustment

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

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

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

- a. Keep all tires inflated to correct pressures.
- b. Place vehicle and tester on one and same flat surface.
- c. 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:

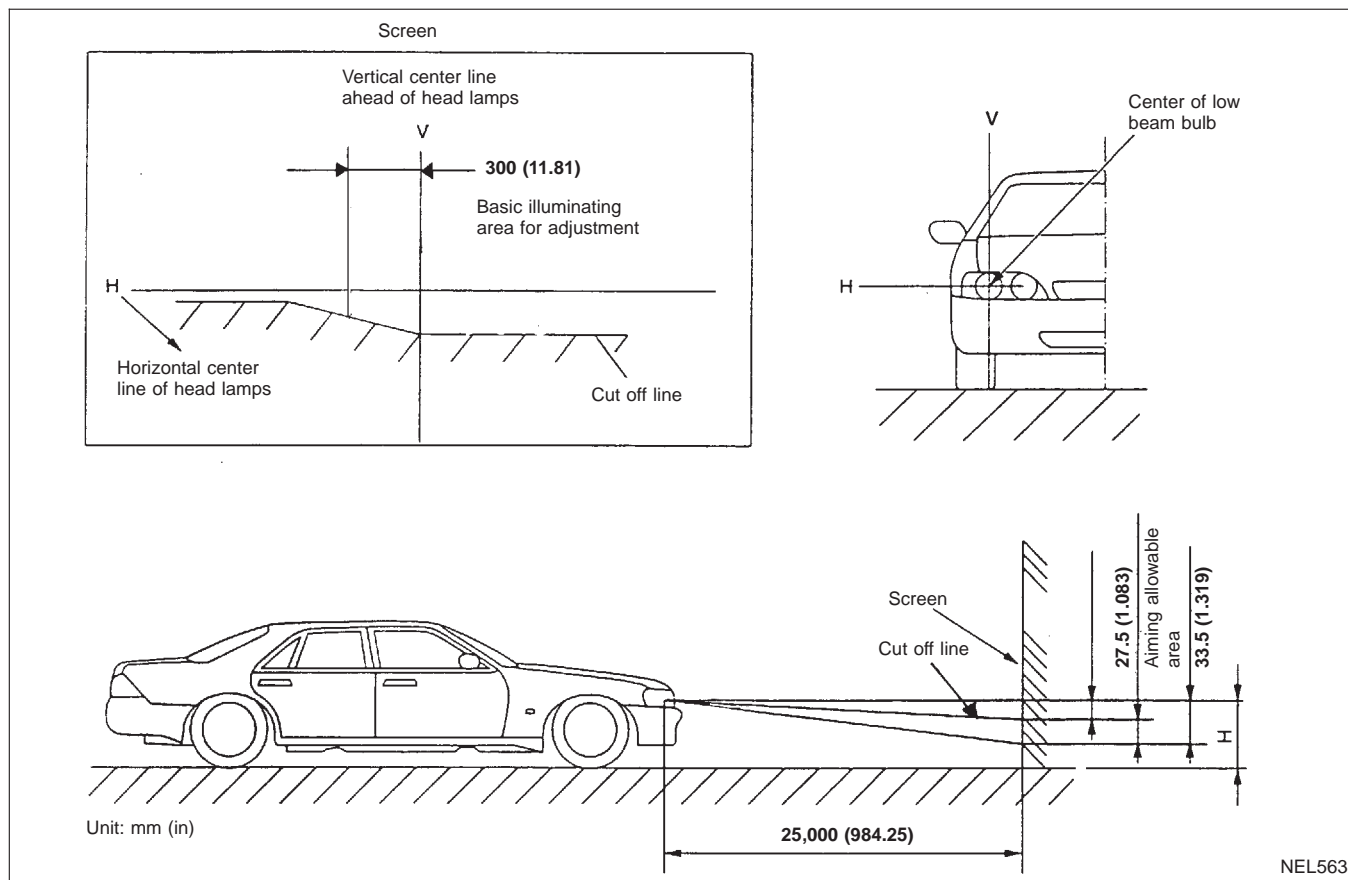
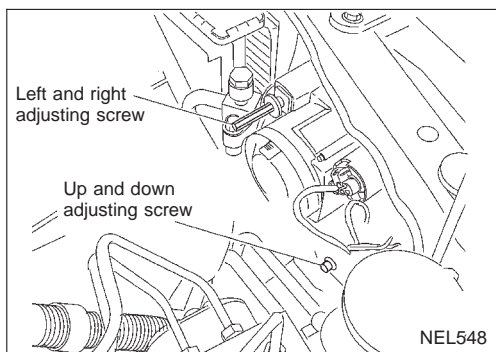
Be sure aiming switch is set to "0" when performing aiming adjustment on vehicles equipped with headlamp aiming control.

HEADLAMP (without Daytime Light System) — Conventional Type —

Aiming Adjustment (Cont'd)

LOW BEAM

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



- 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 above shows headlamp aiming pattern for driving on left side of road; for driving on right side of road, aiming pattern is reversed.

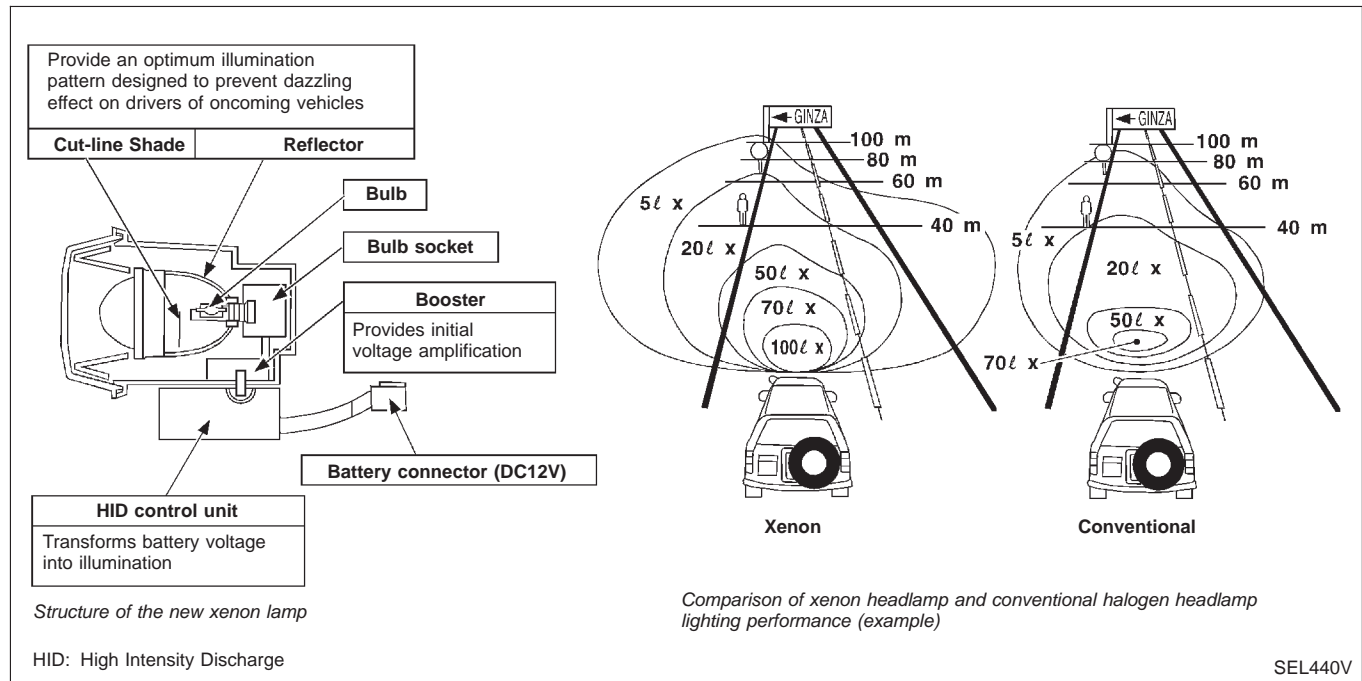
HEADLAMP (without Daytime Light System) — Xenon Type —

System Description

Xenon type headlamp is adopted to the low beam headlamps. Xenon bulbs do not use a filament. Instead, they produce light when a high voltage current is passed between two tungsten electrodes through a mixture of xenon (an insert gas) and certain other metal halides. In addition to added lighting power, electronic control of the power supply gives the headlamps stable quality and tone color.

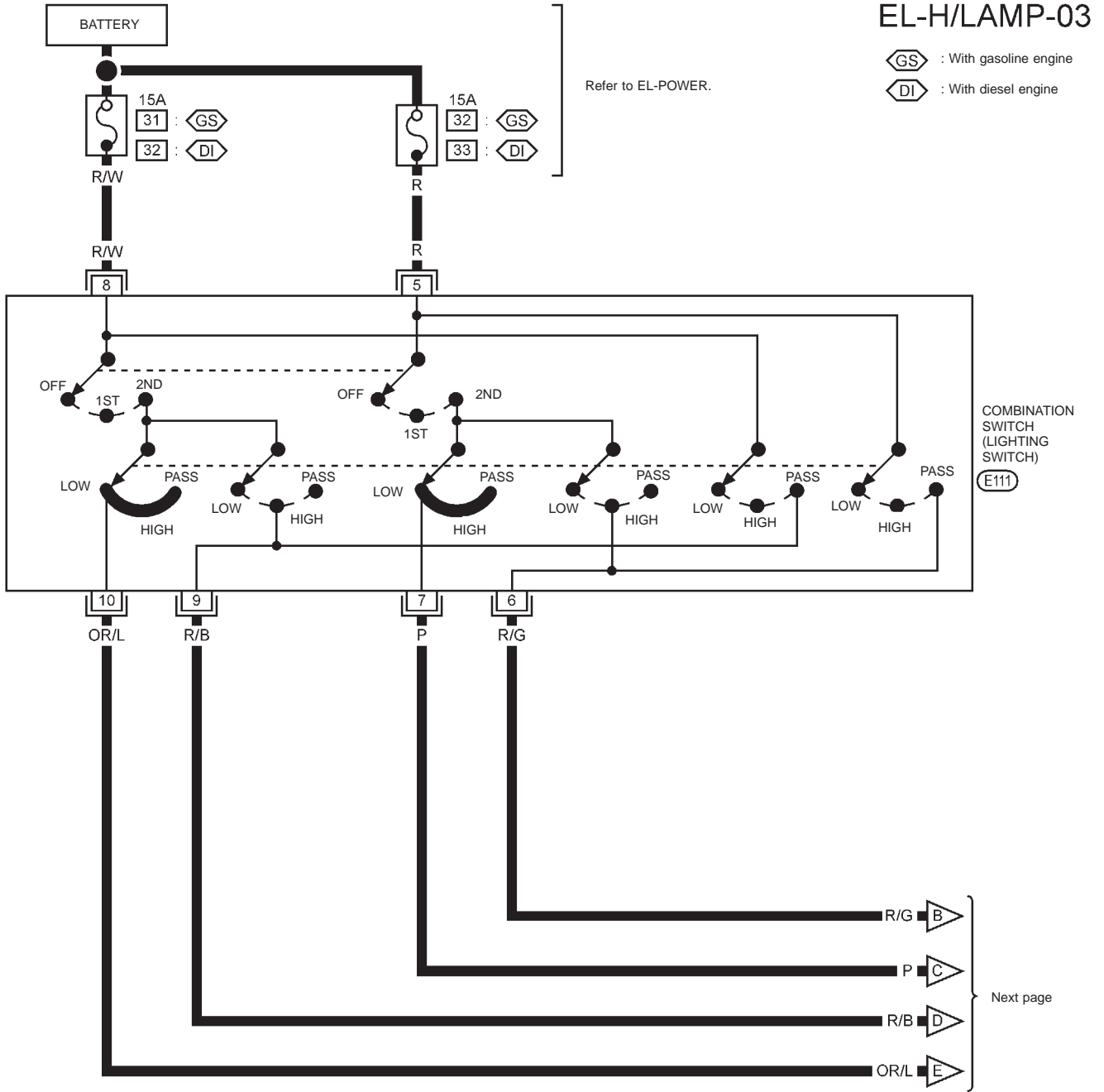
Following are some of the many advantage of the xenon type headlamp.

- The light produced by the headlamps is white color approximating sunlight that is easy on the eyes.
- Light output is nearly double that of halogen headlamps, affording increased area of illumination.
- The light features a high relative spectral distribution at wavelengths to the human eye is most sensitive, which means that even in the rain, more light is reflected back from the road surface toward the vehicle, for added visibility.
- Power consumption is approximately 25 percent less than halogen headlamps, reducing battery load.



HEADLAMP (without Daytime Light System) — Xenon Type —

Wiring Diagram — H/LAMP —



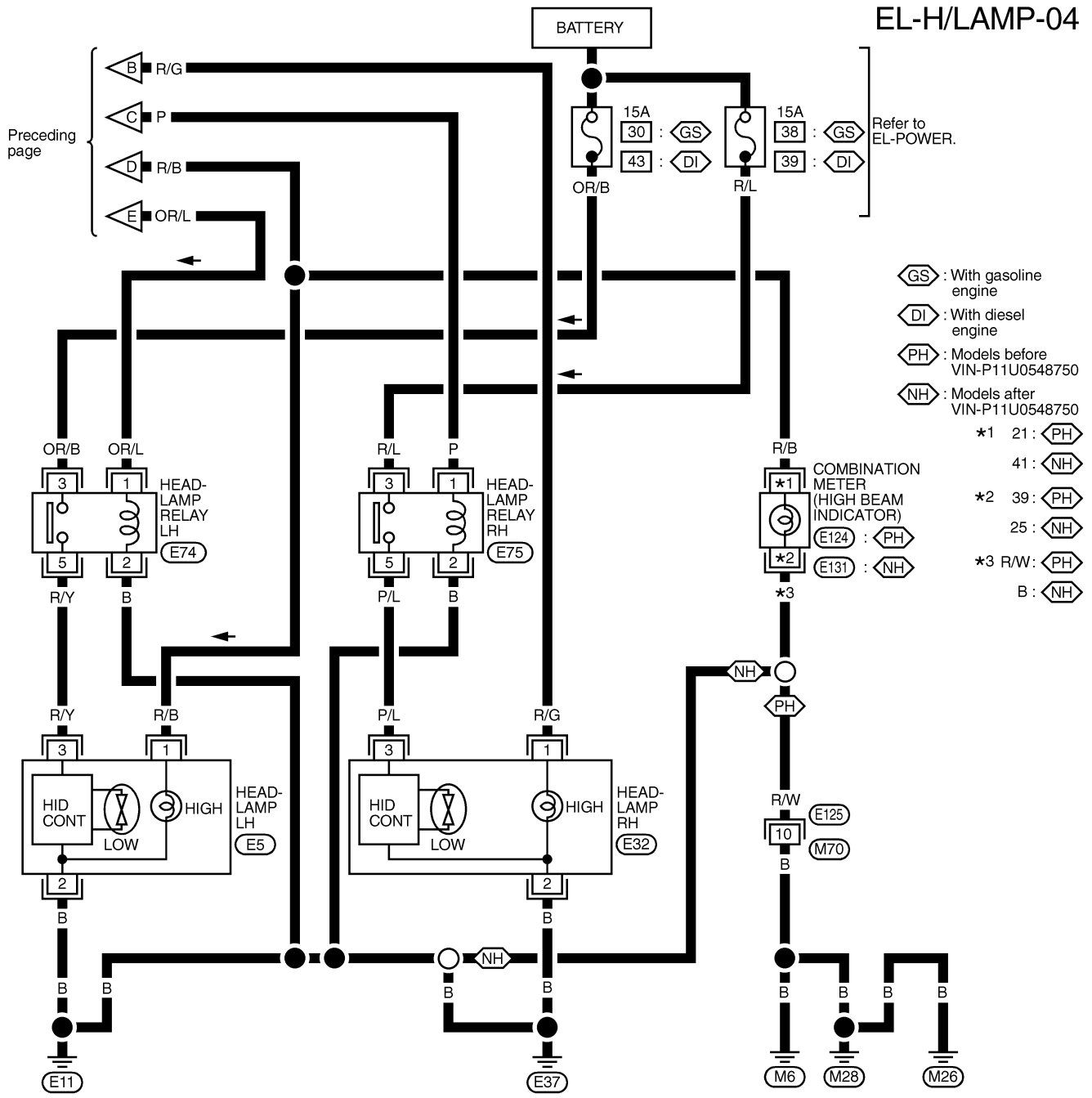
1				
3	13	2	12	14
9	6	5	7	8

(E111)
W

HEADLAMP (without Daytime Light System) — Xenon Type —

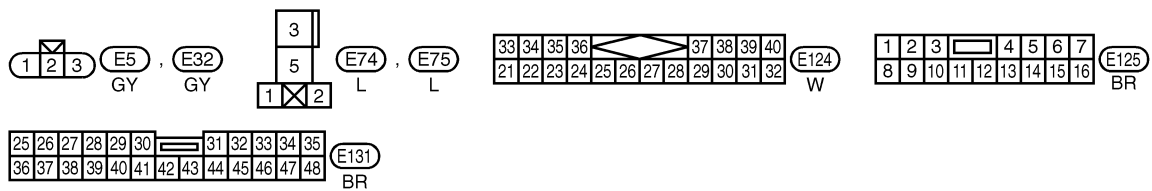
Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-04



Refer to EL-POWER.

- ⬡ GS : With gasoline engine
 - ⬡ DI : With diesel engine
 - ⬡ PH : Models before VIN-P11U0548750
 - ⬡ NH : Models after VIN-P11U0548750
- *1 21 : ⬡ PH
 41 : ⬡ NH
- *2 39 : ⬡ PH
 25 : ⬡ NH
- *3 RW : ⬡ PH
 B : ⬡ NH



YEL004D

HEADLAMP (without Daytime Light System) — Xenon Type —

WARNING:

- The xenon headlamp has a high-tension current generating area. Be extremely careful when removing and installing. Be certain to disconnect the battery negative cable prior to removing or installing.
- When the xenon headlamp is lit, do not touch the harness (covered with red or amber insulation), bulb itself or the bulb socket with your bare hands.
- Never service a xenon headlamp with wet hands.
- When checking body side harness with a circuit tester, be certain to disconnect the harness connector from the xenon headlamp.
- When the xenon headlamp is lit, the xenon bulb must be installed in the headlamp housing. (Never turn on xenon headlamp, if the bulb is out of the headlamp housing.)

CAUTION:

Make sure to install the bulb securely; if the xenon bulb is improperly installed in its socket, high-tension current leaks occur. This may lead to a melted bulb and/or bulb socket.

Trouble Diagnoses

Symptom	Possible cause	Repair order
LH or RH xenon headlamp (low beam) blinks, lacks brightness or does not illuminate.	<ol style="list-style-type: none"> 1. 15A fuse 2. Relay 3. Power supply circuit to headlamp low beam 4. Xenon bulb 5. HID control unit and booster 	<ol style="list-style-type: none"> 1. Check 20A fuse [No. 30 (gasoline engine), 43 (diesel engine) : LH, No. 38 (gasoline engine), 39 (diesel engine), : RH, located in fuse and fusible link box]. 2. Check Headlamp relay. 3. Verify battery positive voltage is present at terminal ③ of headlamp harness with lighting switch in "2nd" and "Low" positions. (Before inspecting headlamp terminal, disconnect headlamp connector with lighting switch in "OFF" position.) 4. Replace the xenon bulb with the other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 5. Replace the HID control unit and booster as a headlamp assembly.
LH or RH [both headlamp high and xenon (low) beam] do not illuminate.	<ol style="list-style-type: none"> 1. 15A fuse 2. Ground circuit 	<ol style="list-style-type: none"> 1. Check 15A fuse [No. 30 (Gasoline engine), No. 43 (diesel engine), : LH, No. 38 (gasoline engine), No. 39 (diesel engine) located in fuse and fusible link box]. 2. Check continuity between headlamp harness terminal ② and body ground. (Before inspecting headlamp terminal, disconnect headlamp connector with lighting switch in "OFF" position.)
LH or RH headlamp high beam does not illuminate.	<ol style="list-style-type: none"> 1. Bulb 2. Power supply circuit to headlamp high beam 	<ol style="list-style-type: none"> 1. Check bulb. 2. Verify battery positive voltage is present at terminal ① of headlamp harness with lighting switch in "2nd" and "HIGH" position. (Before inspecting headlamp terminal, disconnect headlamp connector with lighting switch in "OFF" position.)

HID: High Intensity Discharge

Bulb Replacement

CAUTION:

- After replacing a new xenon bulb, be sure to make aiming adjustments.
- Hold only the plastic base when handling the bulb. Never touch the glass envelope.
- 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.

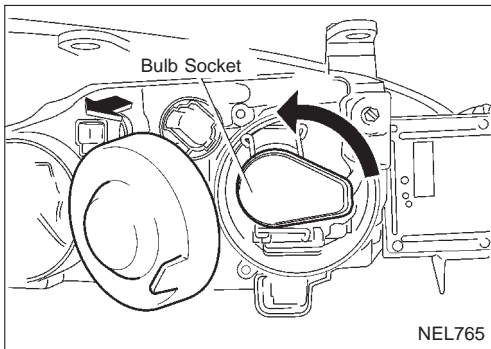
1. Disconnect negative battery cable.
2. Remove side combination lamp and radiator grille.
3. Disconnect headlamp connector.
4. Remove headlamp assembly.

WARNING:

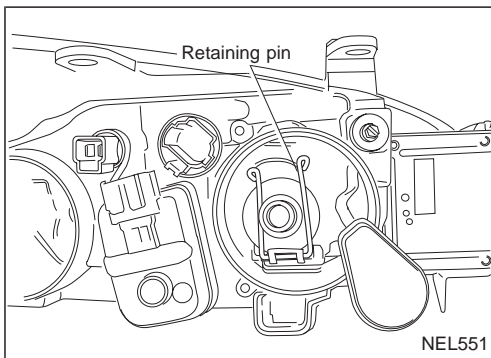
Never service a xenon headlamp with wet hands.

XENON BULB (LOW BEAM)

1. Remove headlamp seal cover.



2. Turn bulb socket counterclockwise with keep pushing, then remove it.



3. Release retaining pin.
4. Remove the xenon bulb.
5. Install in the reverse order of removal.

CAUTION:

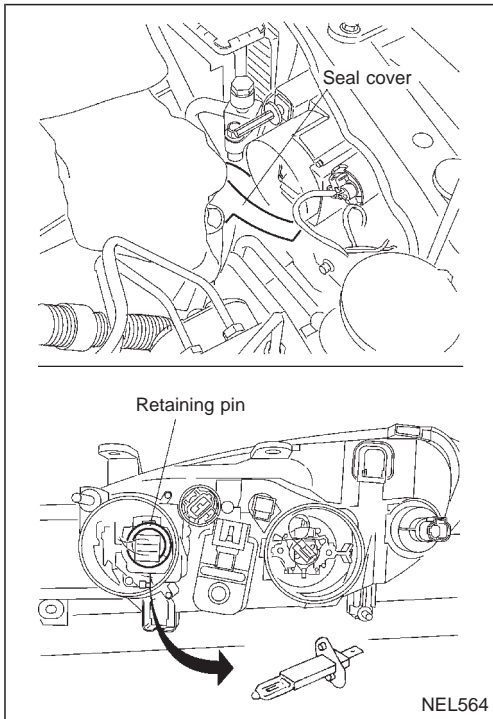
- When disposing of the xenon bulb, do not break it; always dispose of it as is.
- Make sure to install the bulb securely; if the xenon bulb is improperly installed in its socket, high-tension current leaks occur. This may lead to a melted bulb and/or bulb socket.

HEADLAMP (without Daytime Light System) — Xenon Type —

Bulb Replacement (Cont'd)

HIGH BEAM

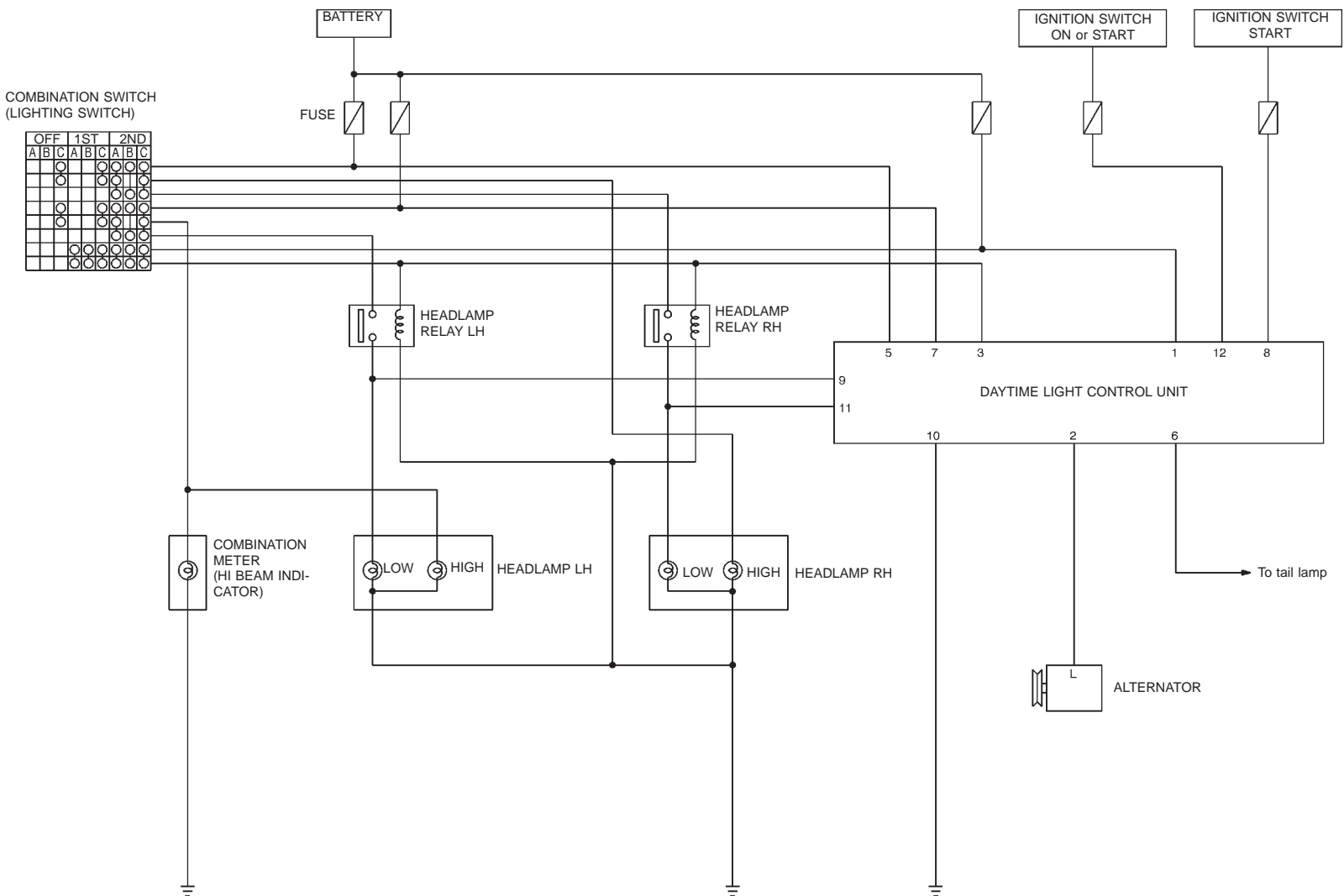
1. Pull off headlamp seal cover.
2. Disconnect bulb connector.
3. Release retaining pin.
4. Remove the bulb.
5. Install in the reverse order of removal.



HEADLAMP — Daytime Light System —

CONVENTIONAL TYPE

Schematic



EL-78

YEL273C

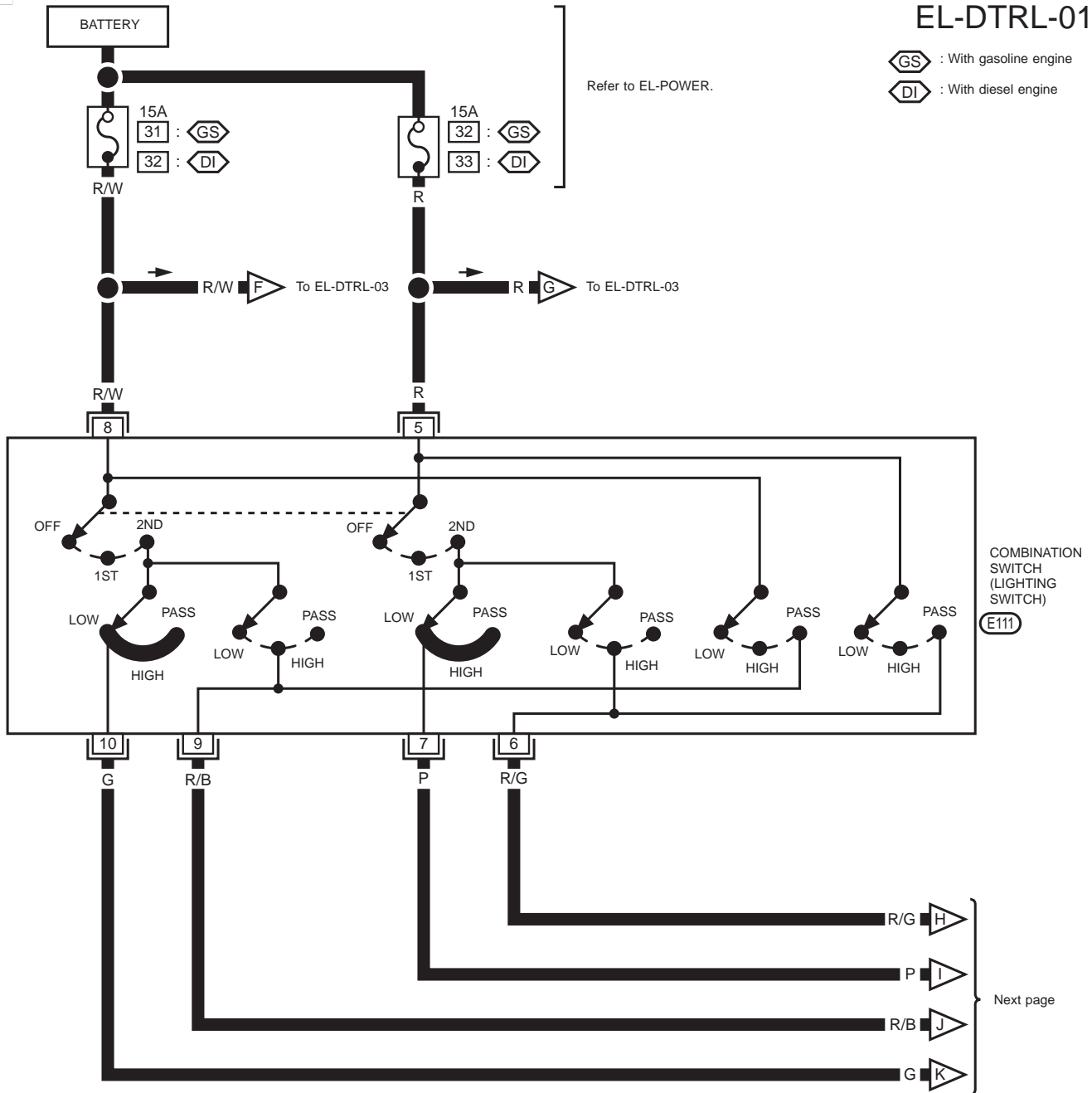
HEADLAMP — Daytime Light System —

Wiring Diagram — DTRL —

CONVENTIONAL TYPE

EL-DTRL-01

GS : With gasoline engine
DI : With diesel engine



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

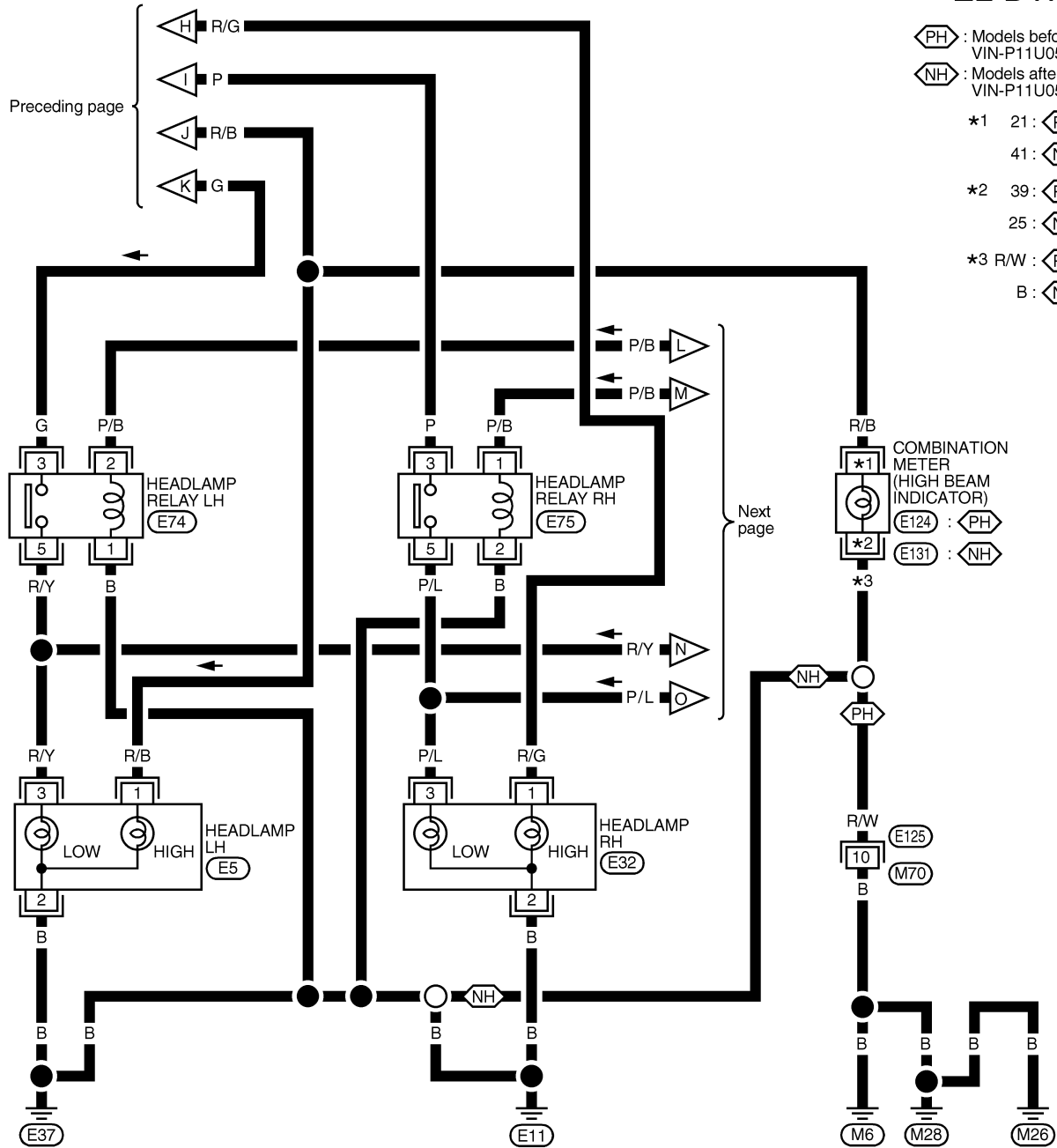
E111
W

HEADLAMP — Daytime Light System —

Wiring Diagram — DTRL — (Cont'd)

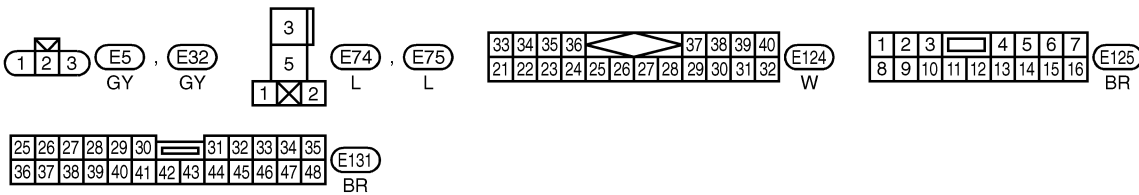
CONVENTIONAL TYPE

EL-DTRL-02



(PH) : Models before
 VIN-P11U0548750
 (NH) : Models after
 VIN-P11U0548750

- *1 21 : (PH)
- 41 : (NH)
- *2 39 : (PH)
- 25 : (NH)
- *3 R/W : (PH)
- B : (NH)

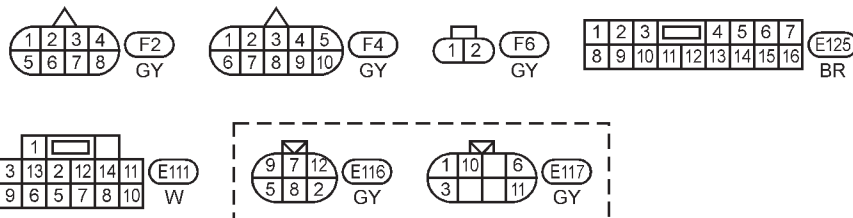
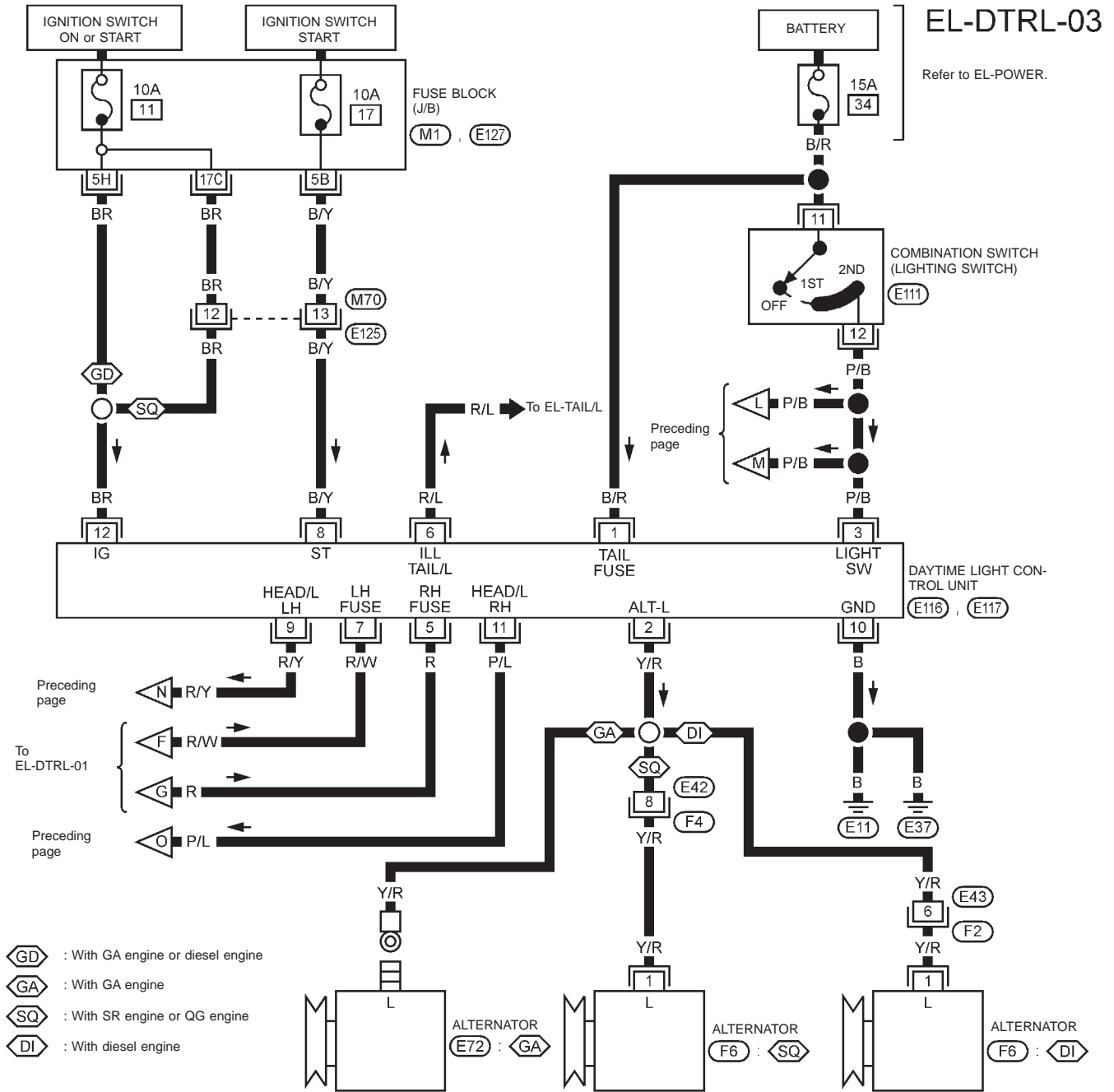


YEL005D

HEADLAMP — Daytime Light System —

Wiring Diagram — DTRL — (Cont'd)

CONVENTIONAL TYPE

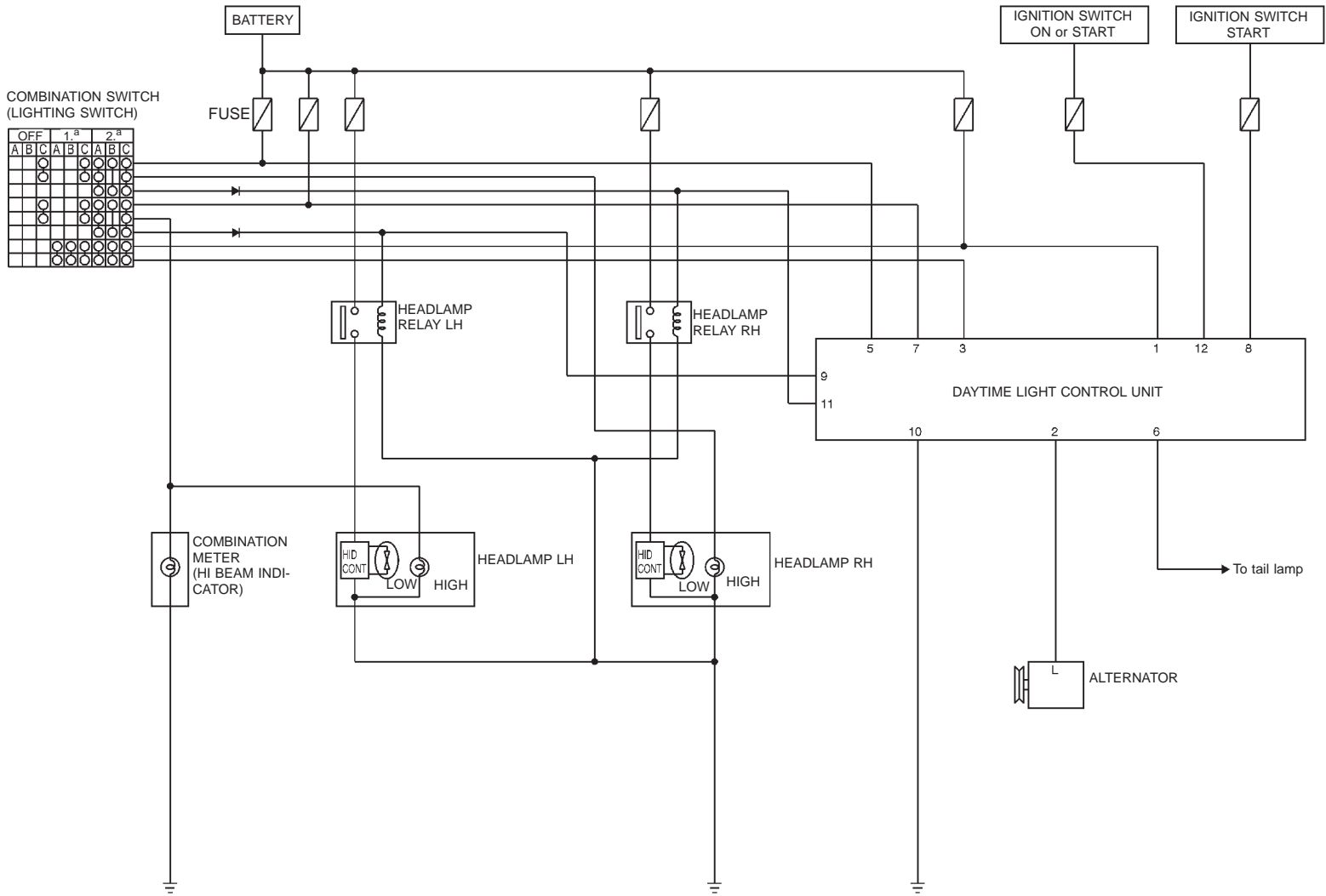


REFER TO THE FOLLOWING
 (M1) FUSE BLOCK - Junction Box (J/B)
 (E127) FUSE BLOCK - Junction Box (J/B)

HEADLAMP — Daytime Light System With Xenon Type —

Schematic

XENON TYPE



YEL274C

EL-82

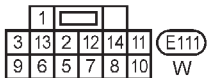
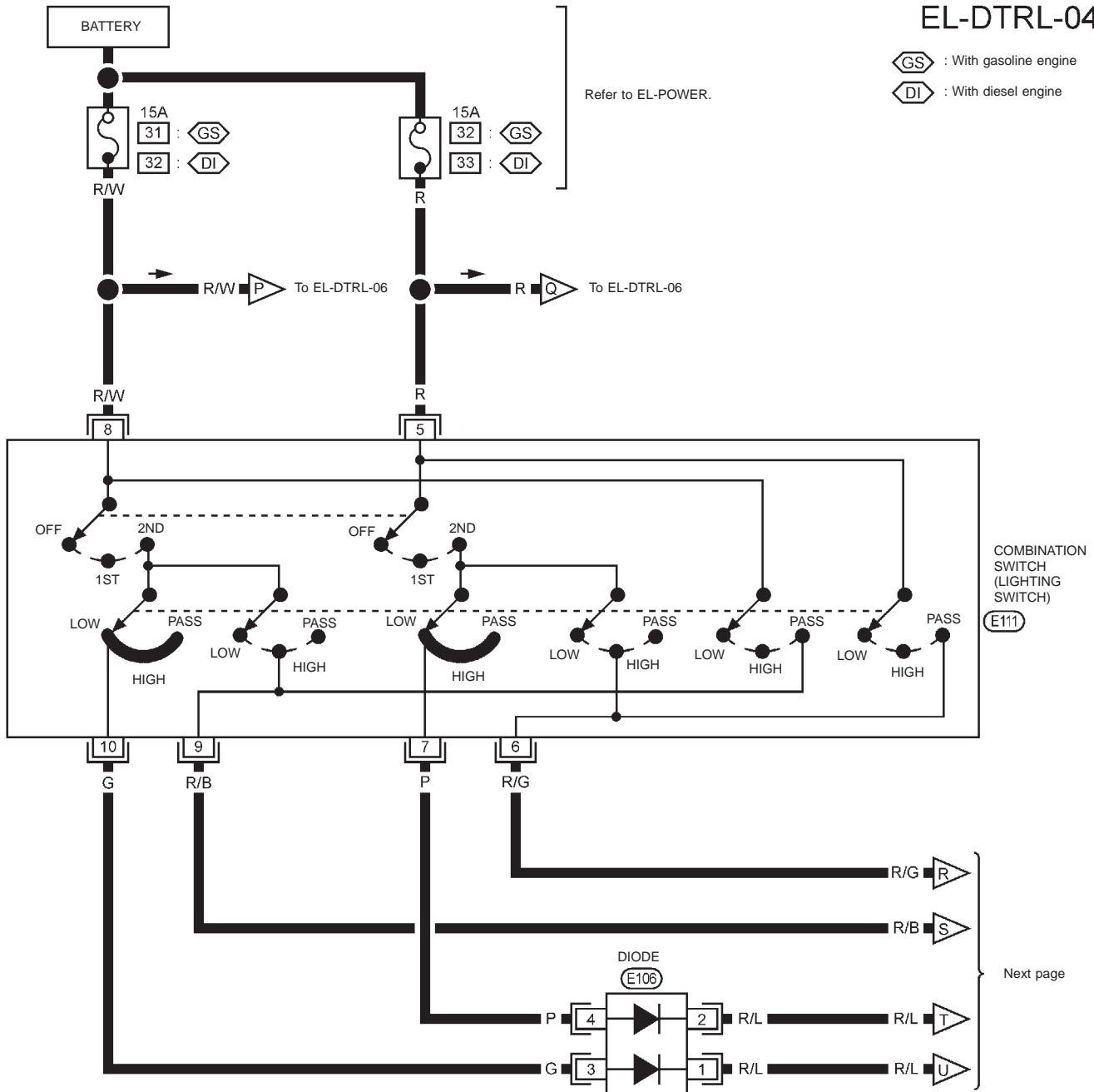
HEADLAMP — Daytime Light System With Xenon Type —

Wiring Diagram — DTRL —

XENON TYPE

EL-DTRL-04

GS : With gasoline engine
DI : With diesel engine

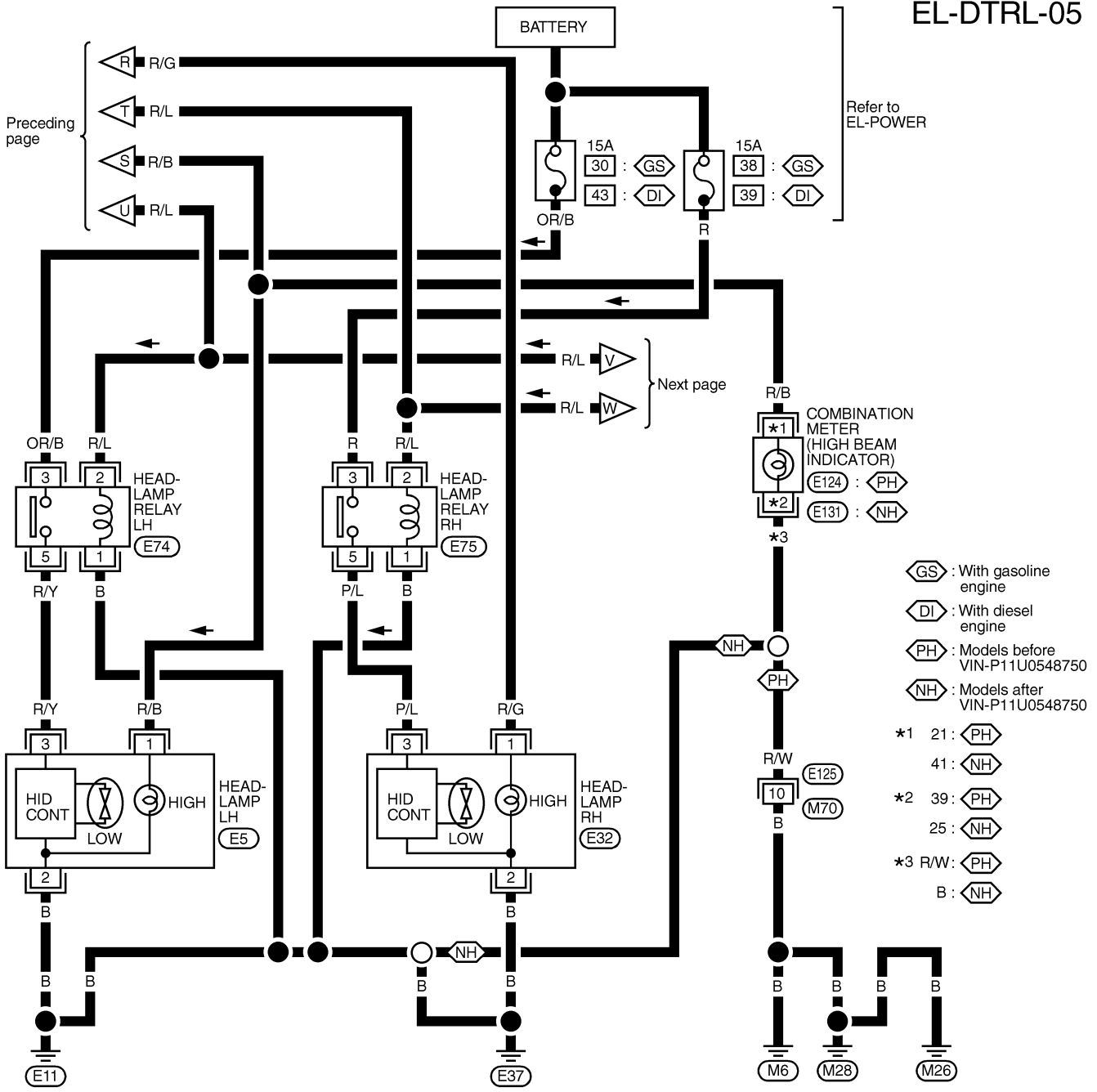


HEADLAMP — Daytime Light System With Xenon Type —

Wiring Diagram — DTRL — (Cont'd)

XENON TYPE

EL-DTRL-05

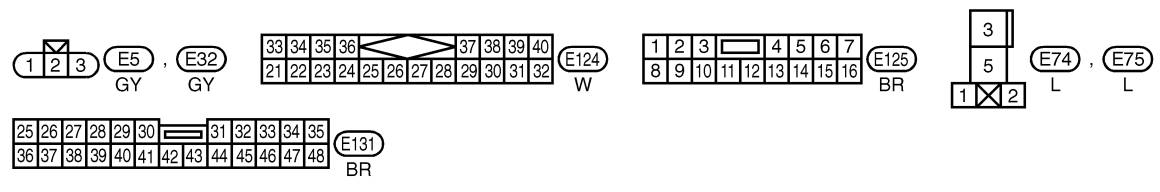


Refer to EL-POWER

Preceding page

Next page

- GS : With gasoline engine
- DI : With diesel engine
- PH : Models before VIN-P11U0548750
- NH : Models after VIN-P11U0548750
- *1 21: PH
- 41: NH
- *2 39: PH
- 25: NH
- *3 R/W: PH
- B: NH

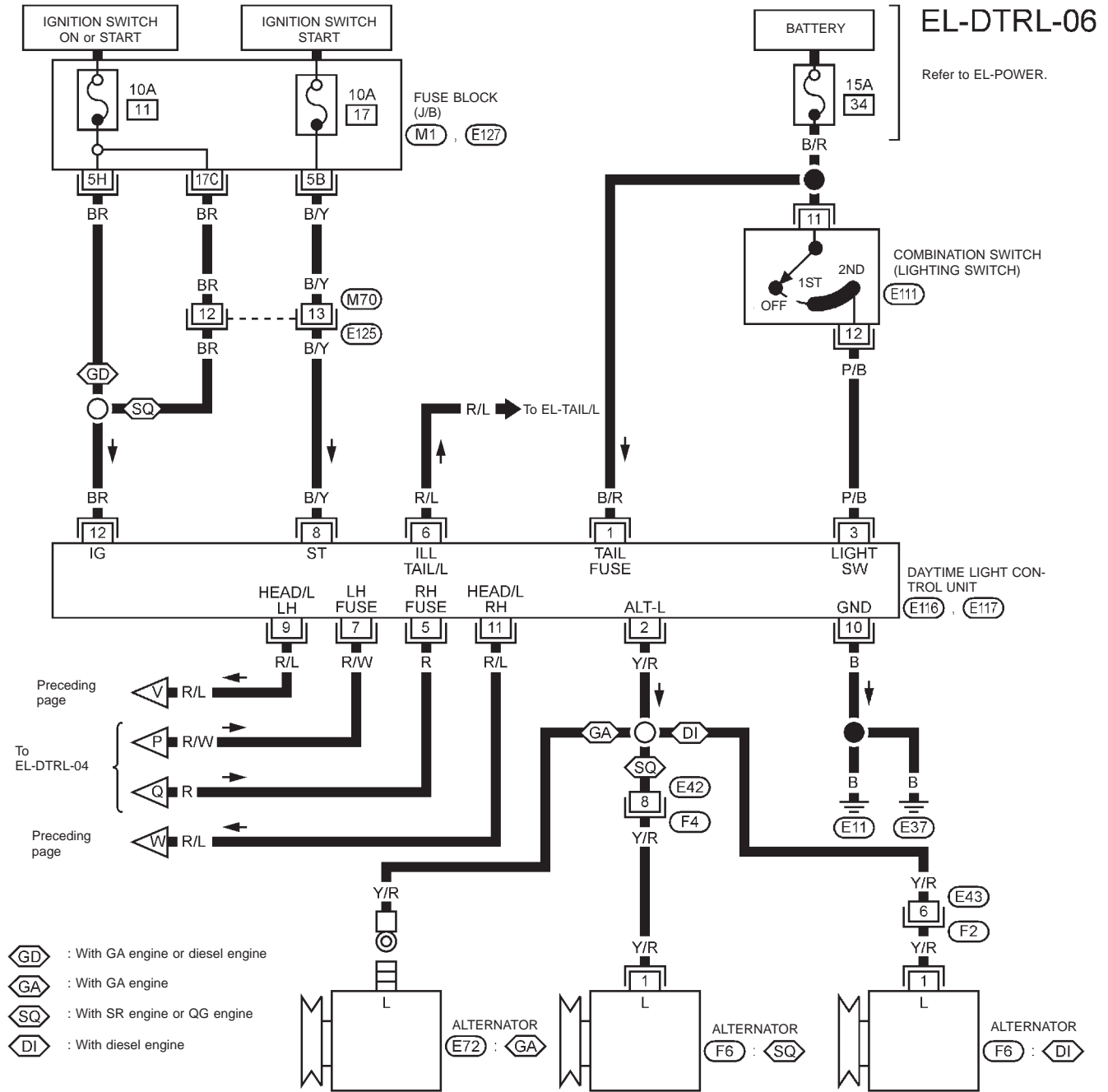


YEL006D

HEADLAMP — Daytime Light System With Xenon Type —

Wiring Diagram — DTRL — (Cont'd)

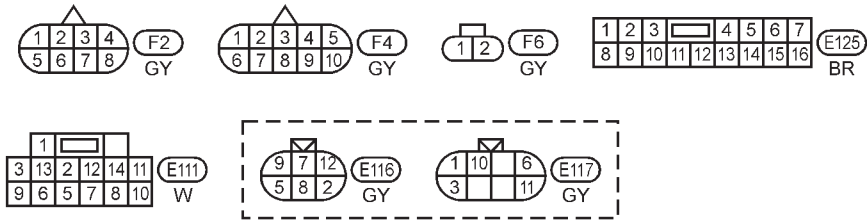
XENON TYPE



EL-DTRL-06

Refer to EL-POWER.

REFER TO THE FOLLOWING
 (M1) FUSE BLOCK - Junction Box (J/B)
 (E127) FUSE BLOCK - Junction Box (J/B)



HEADLAMP — Daytime Light System —

Trouble Diagnoses

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

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

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

Bulb Replacement/Conventional Type

For bulb replacement refer to EL-70.

Bulb specifications/Conventional Type

For bulb specifications, refer to EL-137.

Aiming Adjustment/Conventional Type

For aiming adjustment, refer to EL-70.

Bulb replacement/Xenon Type

For bulb replacement, refer to EL-76.

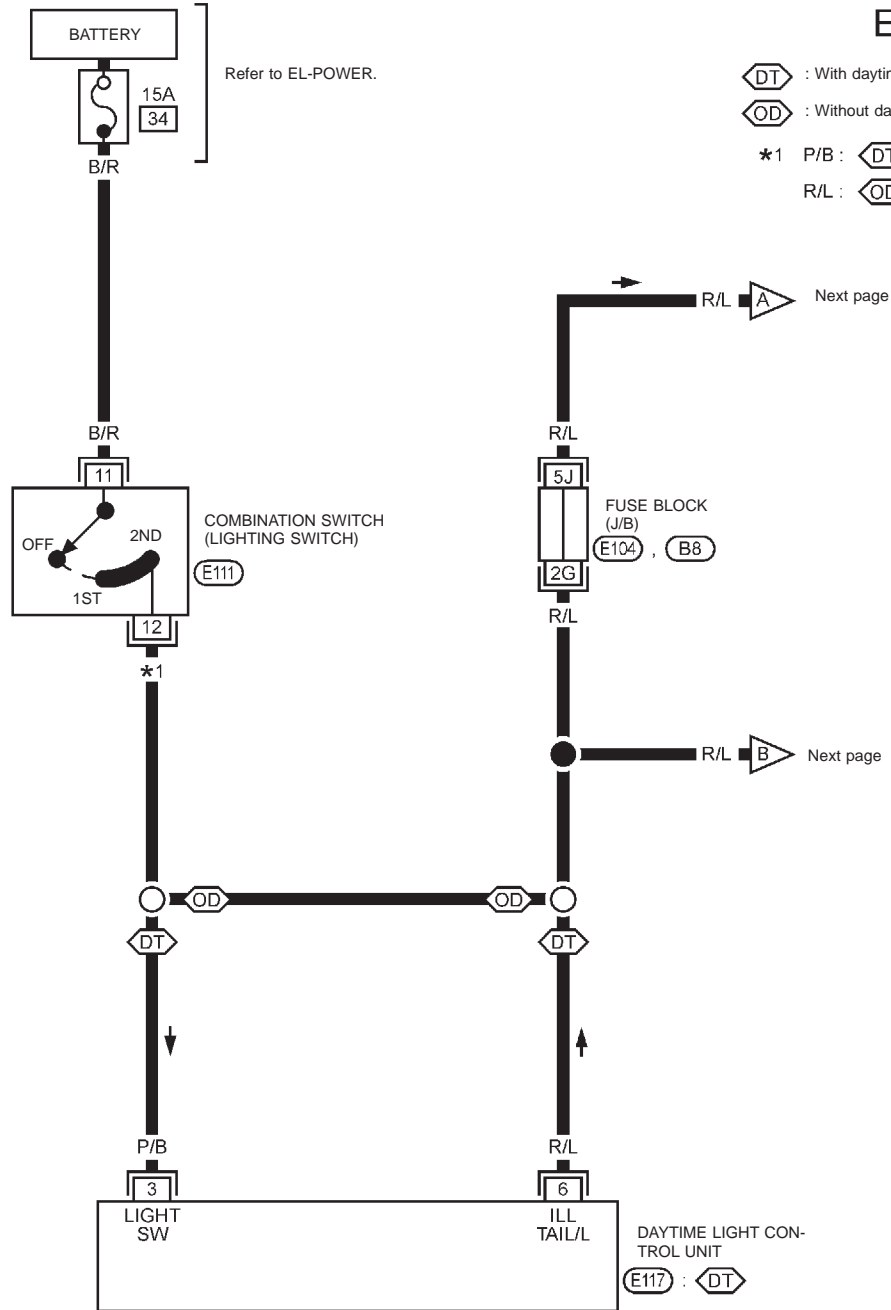
Aiming Adjustment/Xenon Type

For aiming adjustment, refer to EL-91.

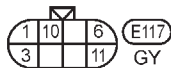
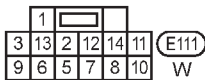
Wiring Diagram — H/AIM —

MODELS BEFORE VIN - P11U0548750

EL-H/AIM-01



(DT) : With daytime light system
 (OD) : Without daytime light system
 *1 P/B : (DT)
 R/L : (OD)



REFER TO THE FOLLOWING

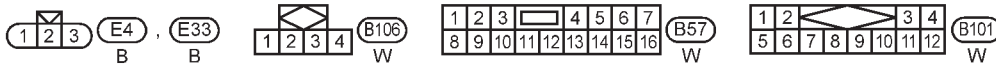
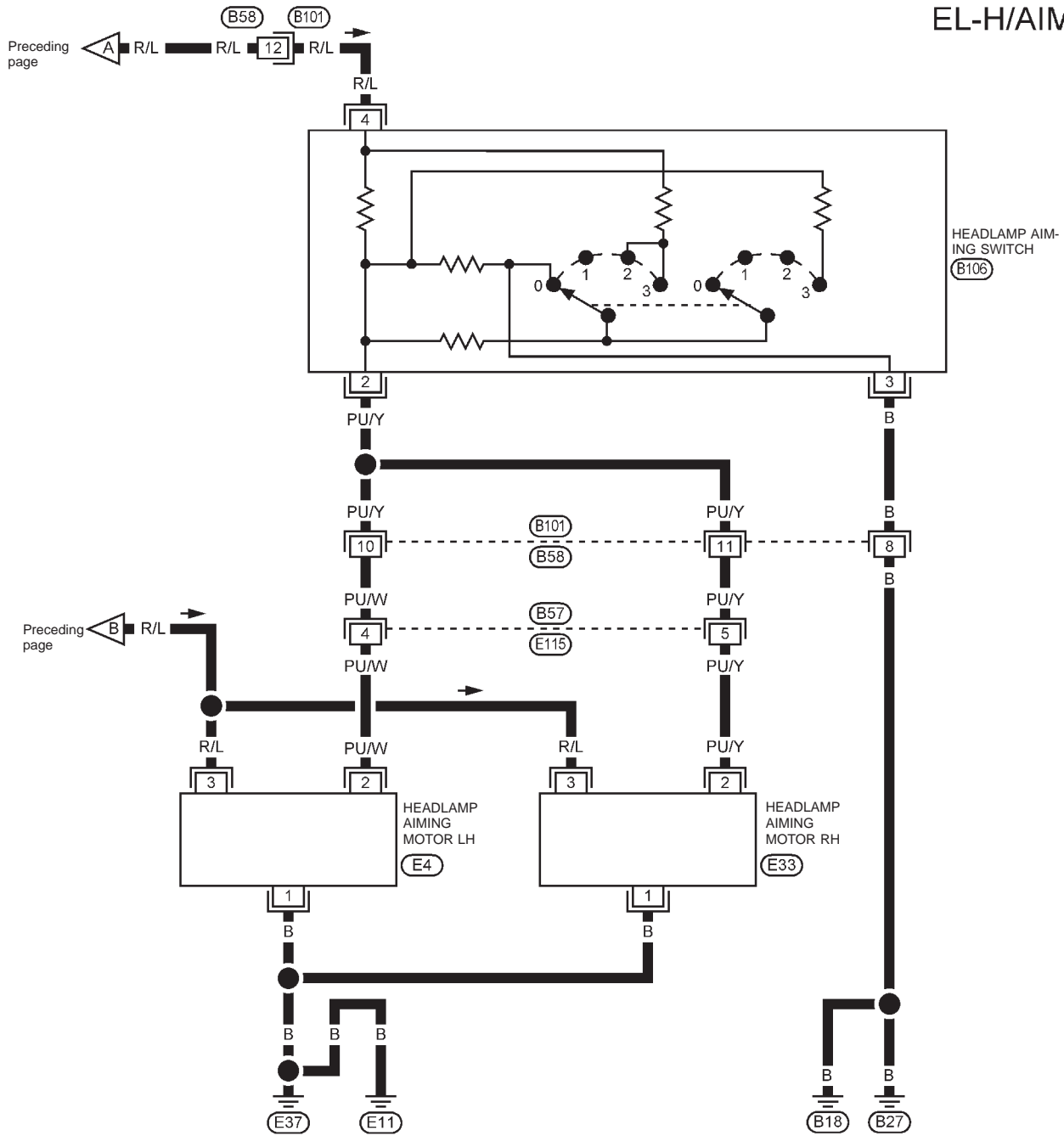
(E104) FUSE BLOCK - Junction Box (J/B)

(B8) FUSE BLOCK - Junction Box (J/B)

HEADLAMP — Headlamp Aiming Control (Manual) —

Wiring Diagram — H/AIM — (Cont'd)

EL-H/AIM-02



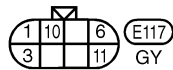
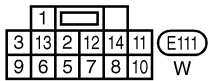
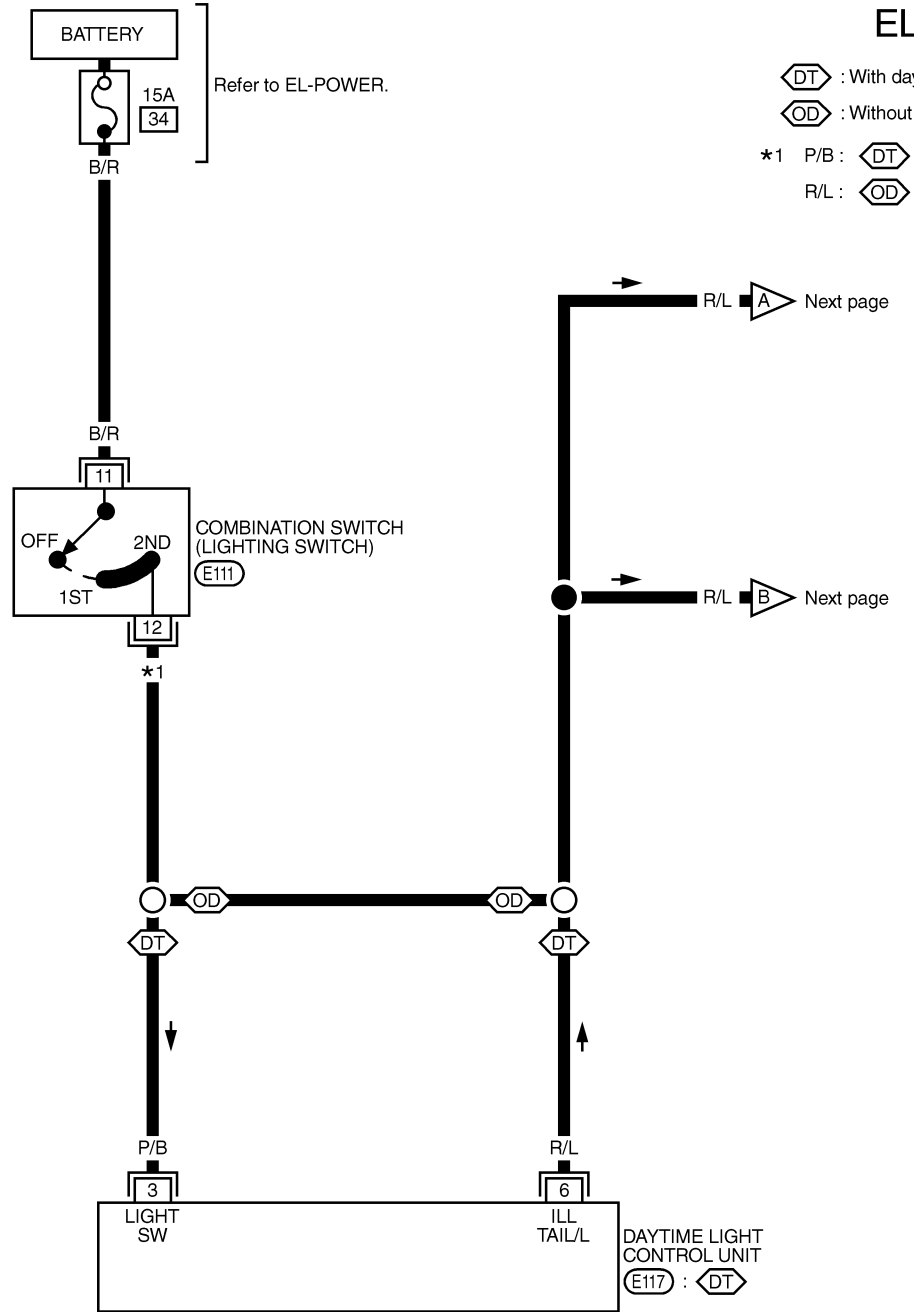
YEL142C

HEADLAMP — Headlamp Aiming Control (Manual) —

Wiring Diagram — H/AIM — (Cont'd)

MODELS AFTER VIN - P11U0548750

EL-H/AIM-03

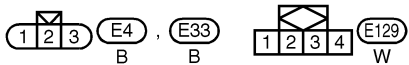
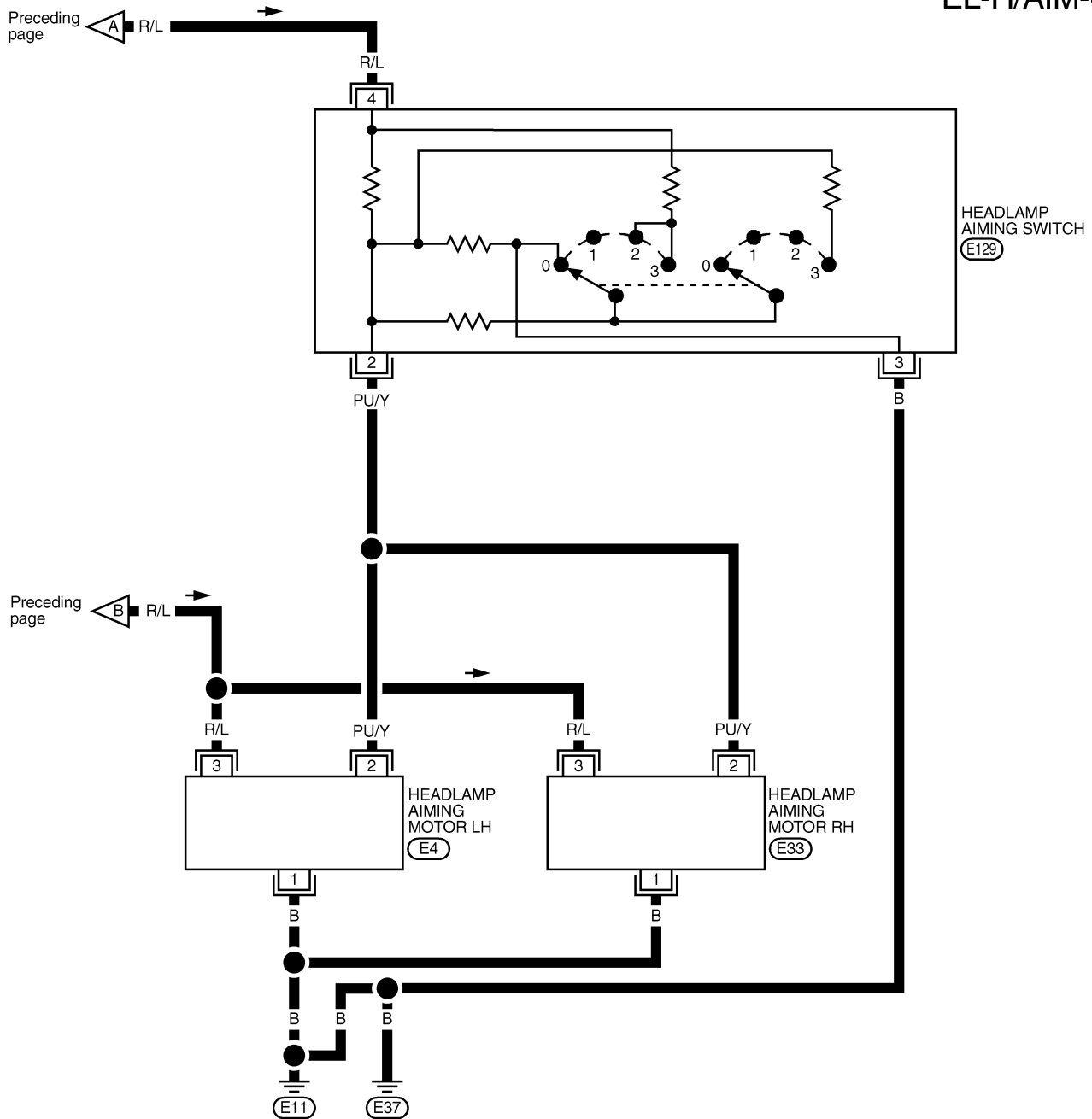


YEL834C

HEADLAMP — Headlamp Aiming Control (Manual) —

Wiring Diagram — H/AIM — (Cont'd)

EL-H/AIM-04



YEL835C

System Description

The auto level control unit is designed to adjust the beam angle of the headlamp in response to the loading conditions of the vehicle. It is not designed to compensate for the dynamic handling of the vehicle. The vehicle's front and rear height is measured by sensors attached to the front stabilizer bar and the rear suspension lateral link arm. The sensors provide a signal to the auto level control unit, which calculates the correct headlamp aiming position and sends a signal to the aiming motors.

Initialisation

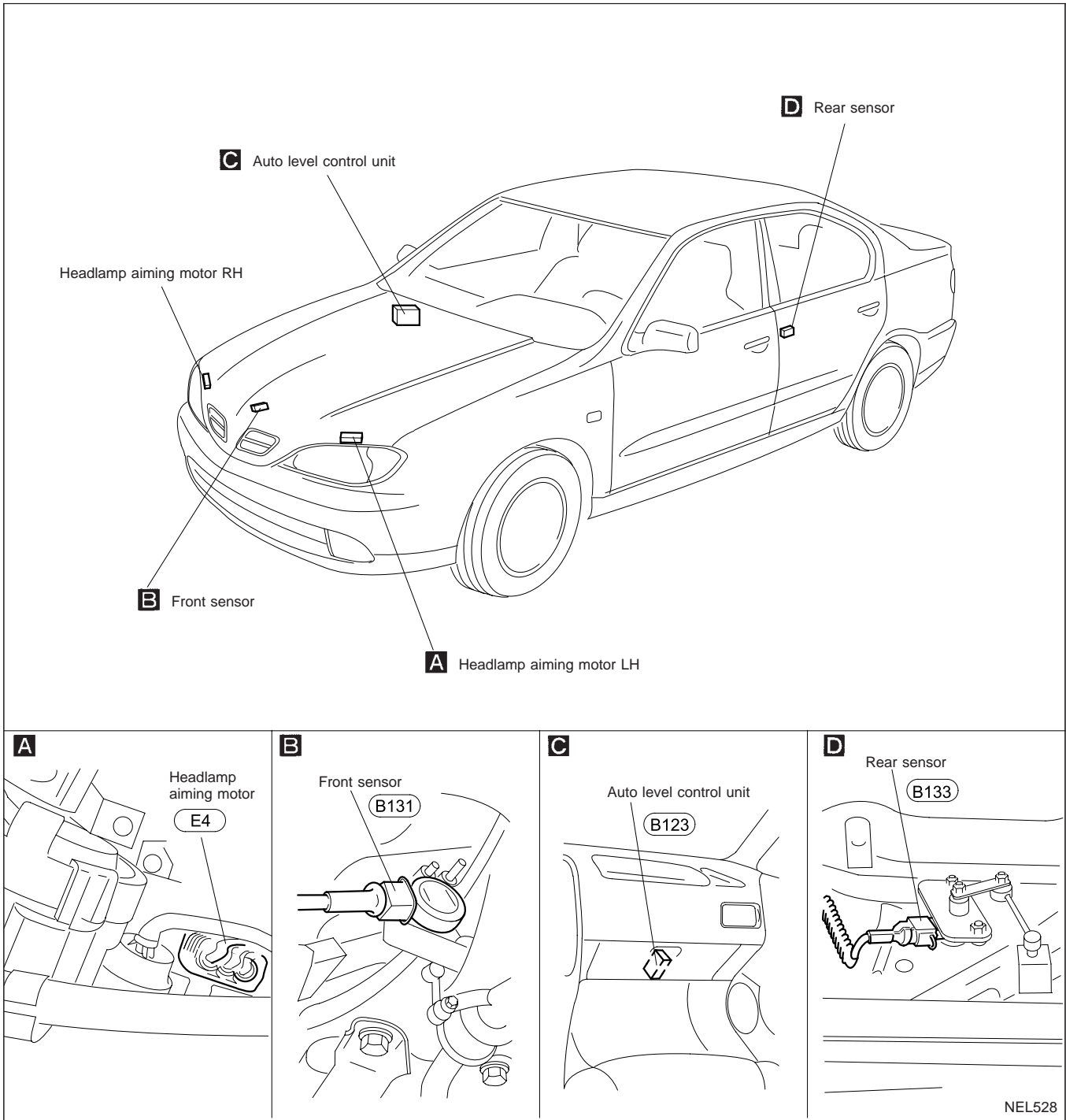
After the replacement or adjustment of any suspension sensor, the system must be self calibrated. This is achieved as follows.

The vehicle must be empty, since any load will result in an invalid calibration. From outside of the vehicle turn ignition on and then within 7 seconds the light switch must be turned from off to side lights on position, 5 times, finishing with the lamps in the on position.

The headlamps will then move to the highest, then the lowest then the normal position to indicate that the calibration is successful, as can be seen by the moving beam pattern.

After successful calibration the headlamps must then be aimed in the conventional manner. Refer to EL-70.

**Component Parts and Harness
Connector Location**

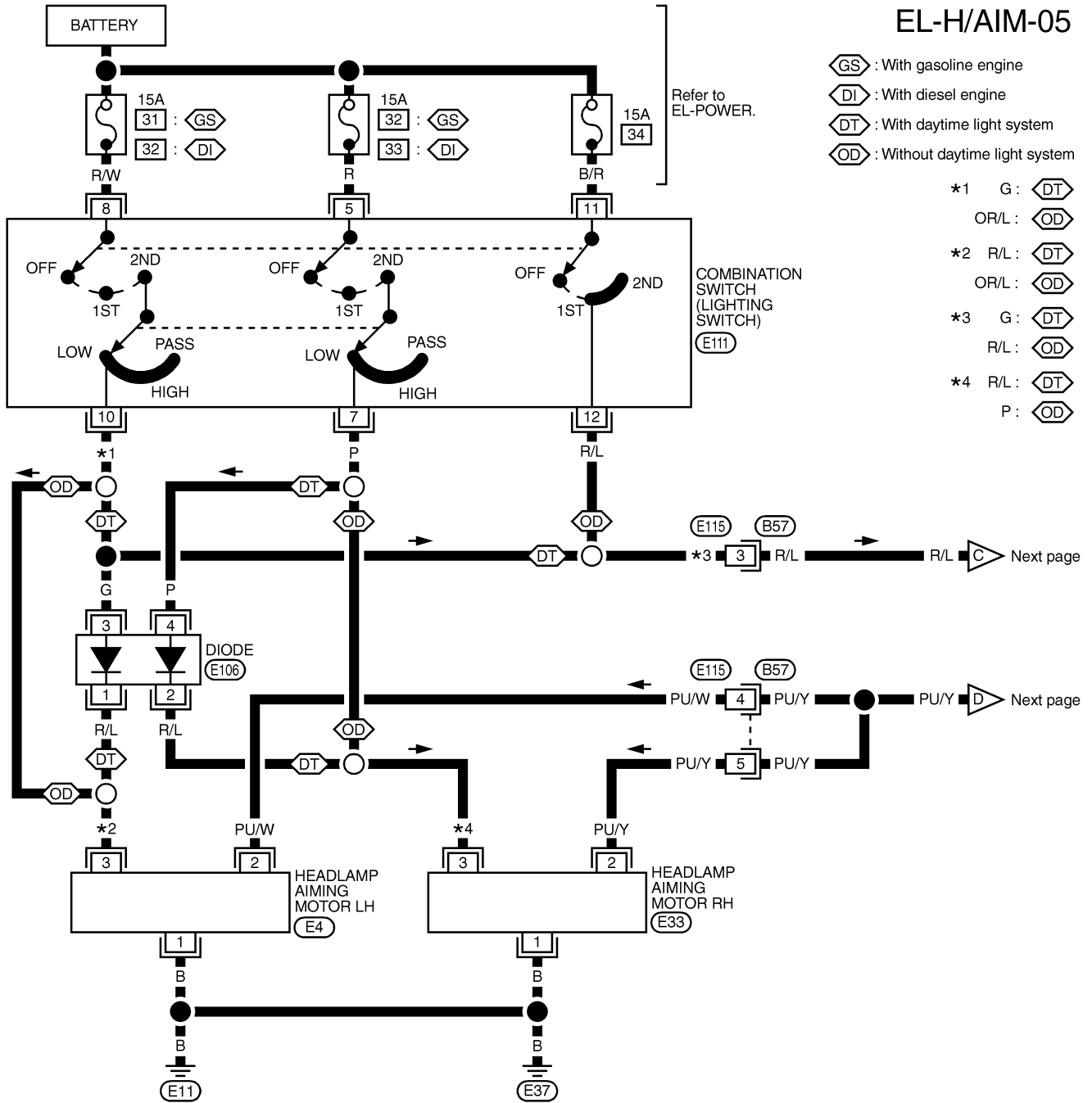


HEADLAMP — Headlamp Aiming Control (Auto) —

Wiring Diagram — H/AIM —

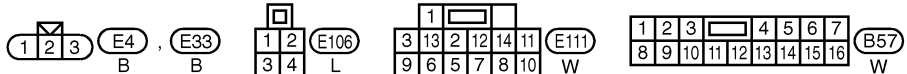
AUTO

EL-H/AIM-05



- ⬡ GS : With gasoline engine
- ⬡ DI : With diesel engine
- ⬡ DT : With daytime light system
- ⬡ OD : Without daytime light system

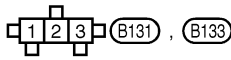
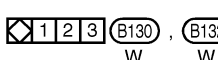
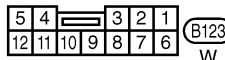
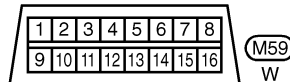
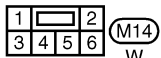
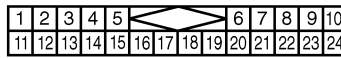
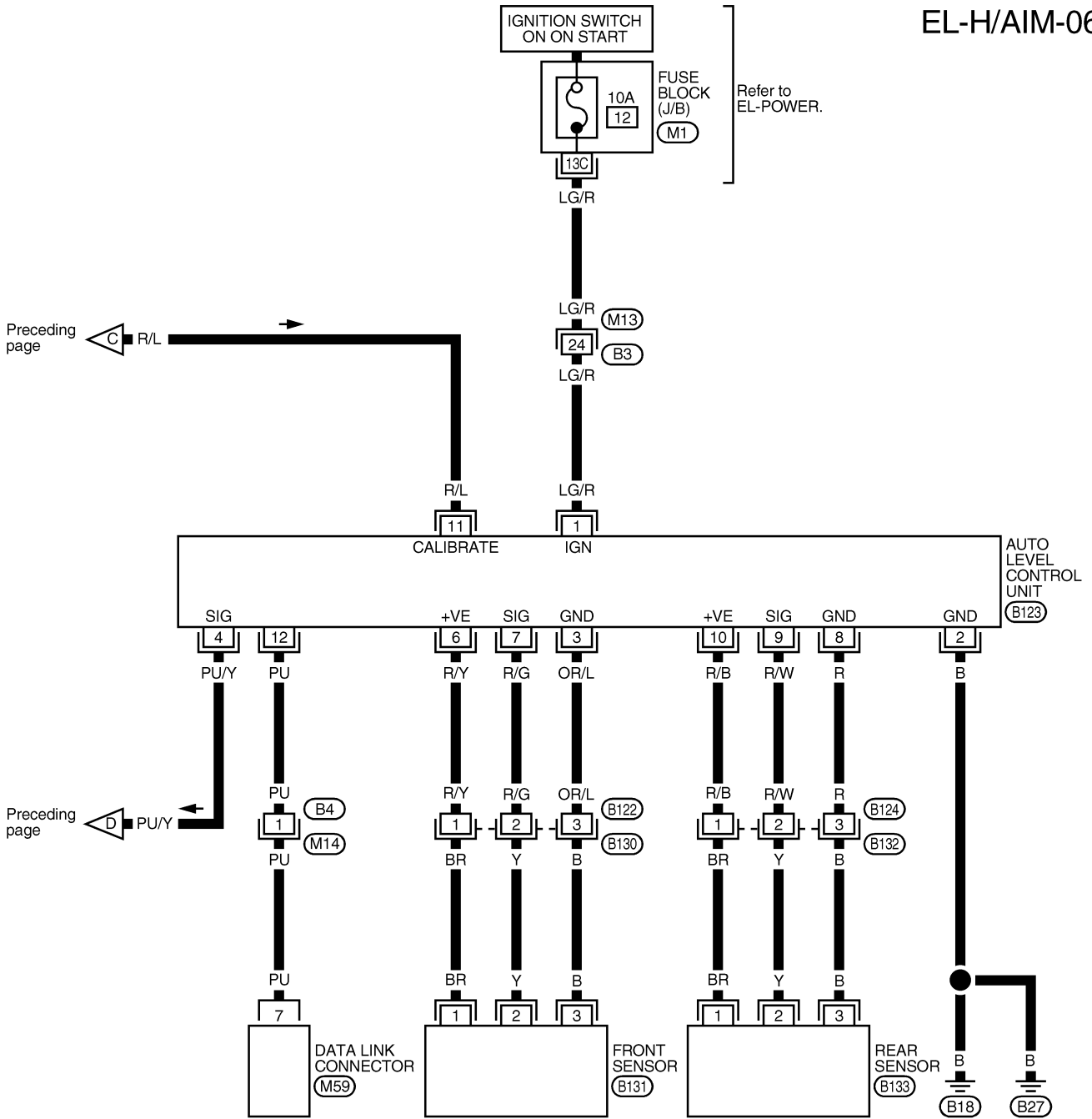
- *1 G : ⬡ DT
- OR/L : ⬡ OD
- *2 R/L : ⬡ DT
- OR/L : ⬡ OD
- *3 G : ⬡ DT
- R/L : ⬡ OD
- *4 R/L : ⬡ DT
- P : ⬡ OD



HEADLAMP — Headlamp Aiming Control (Auto) —

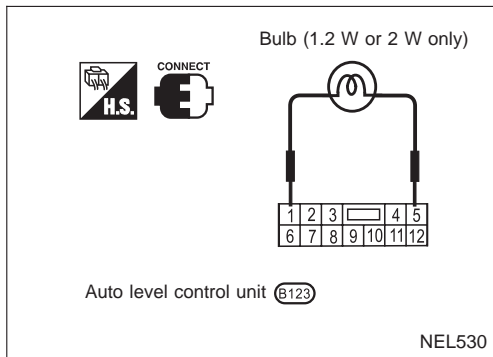
Wiring Diagram — H/AIM — (Cont'd)

EL-H/AIM-06



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

YEL837C



Trouble Diagnosis

PERFORMING SELF-DIAGNOSIS

Check headlamp aiming control (auto) system using a bulb as follows:

1. Connect a bulb 1.2W or 2W between auto level control unit connector terminal ① and ⑤ .


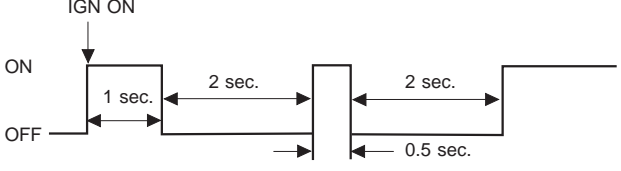
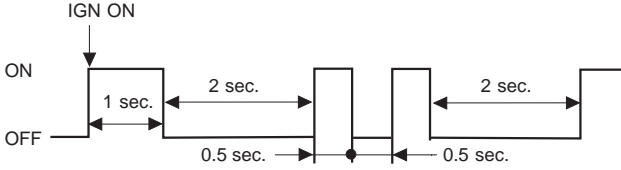
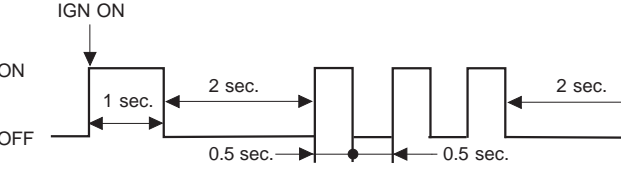
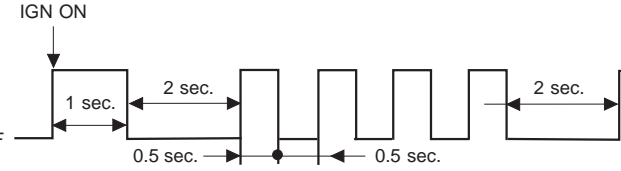
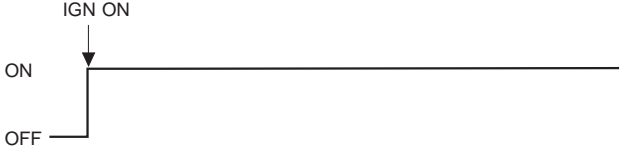
NOTE:

Do not use another bulb. This will damage the auto level control unit. Use a 1.2W or 2W bulb only.

2. After turning the ignition switch from "OFF" to "ON", the bulb operates.
3. Compare the bulb operation to the chart below.

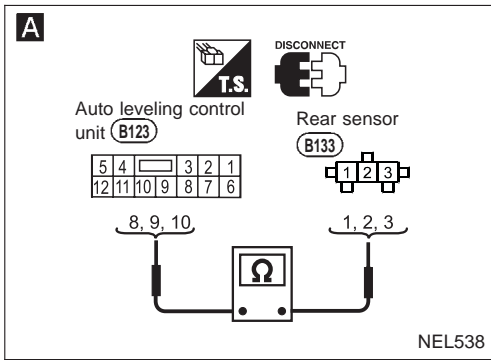
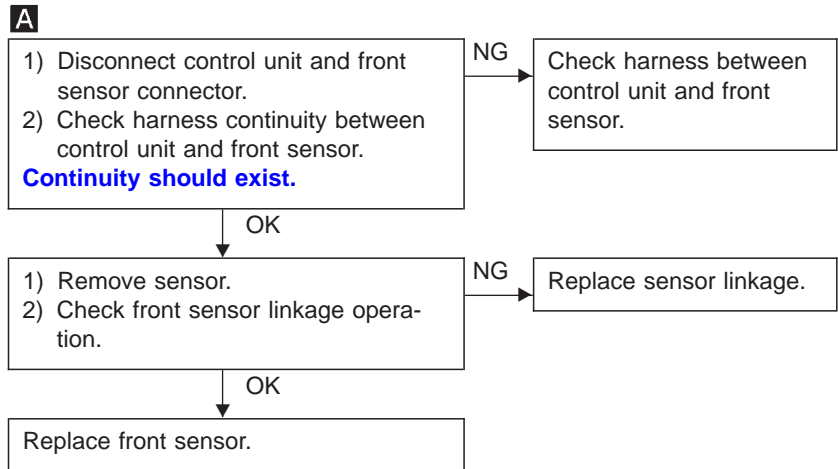
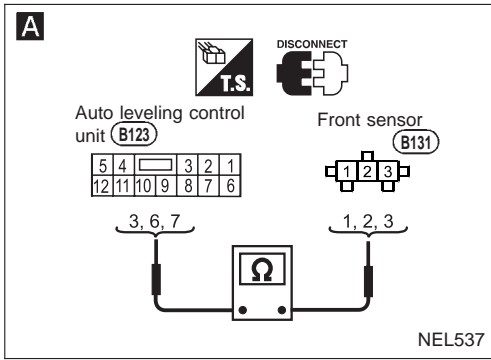
HEADLAMP — Headlamp Aiming Control (Auto) —

Trouble Diagnosis (Cont'd)

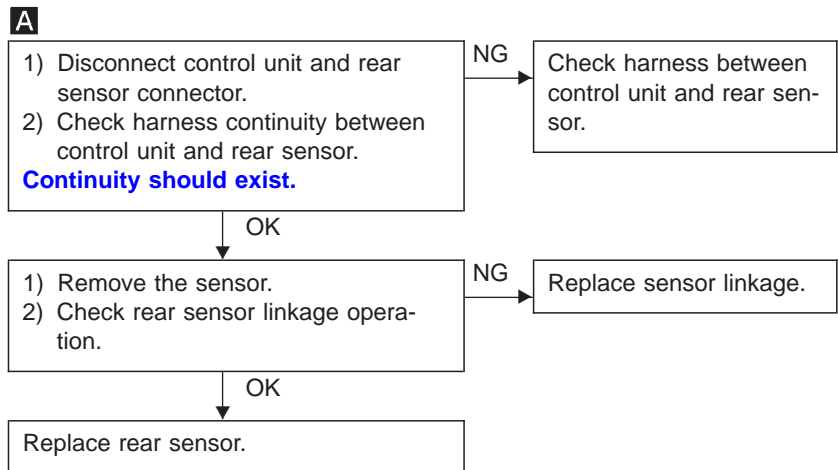
Lighting condition of the bulb	System condition	Reference item
 <p style="text-align: right;">NEL531</p>	No malfunction is detected. No further action is necessary.	—
 <p style="text-align: right;">NEL532</p>	Front sensor or front sensor circuit is malfunctioning. (When rear sensor OK)	Go to DIAGNOSTIC PROCEDURE 1 (EL-97).
 <p style="text-align: right;">NEL533</p>	Rear sensor or rear sensor circuit is malfunctioning. (Whatever the state of front sensor)	Go to DIAGNOSTIC PROCEDURE 2 (EL-97).
 <p style="text-align: right;">NEL534</p>	Sensor supply is malfunctioning.	Go to DIAGNOSTIC PROCEDURE 1 and 2 (EL-97).
 <p style="text-align: right;">NEL535</p>	Aiming motor or aiming motor circuit is malfunctioning.	Go to DIAGNOSTIC PROCEDURE 3 (EL-98).
 <p style="text-align: right;">NEL536</p>	Auto level control unit is malfunctioning.	Replace auto level control unit.

HEADLAMP — Headlamp Aiming Control (Auto) —

Trouble Diagnosis (Cont'd) DIAGNOSTIC PROCEDURE 1 (Front sensor check)

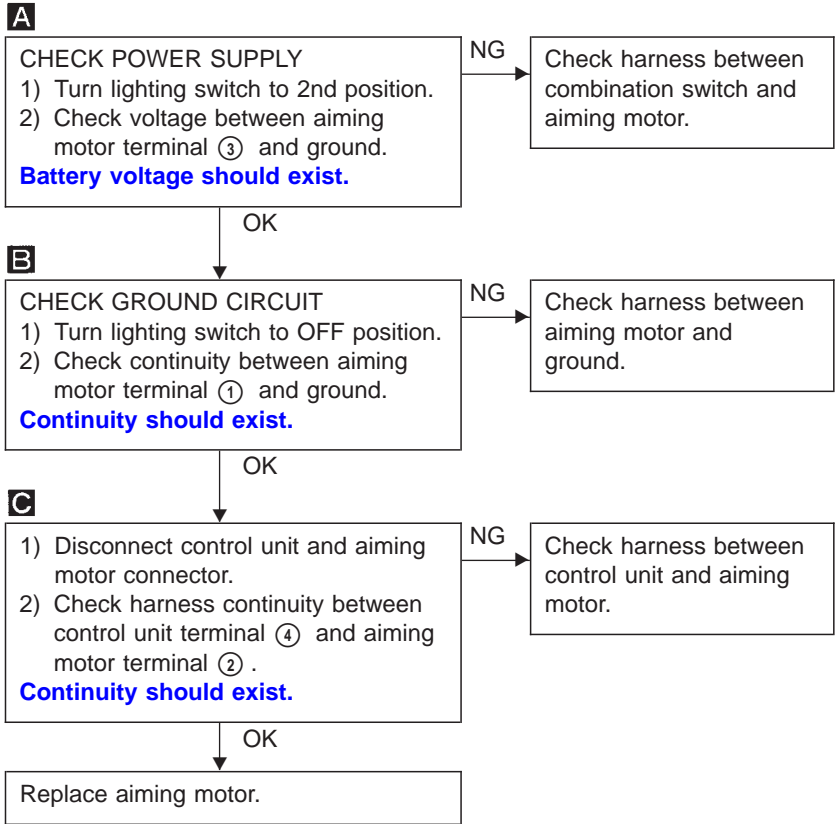
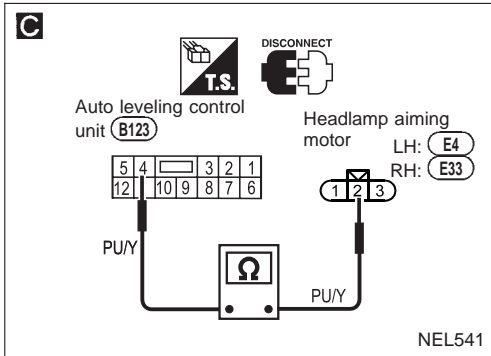
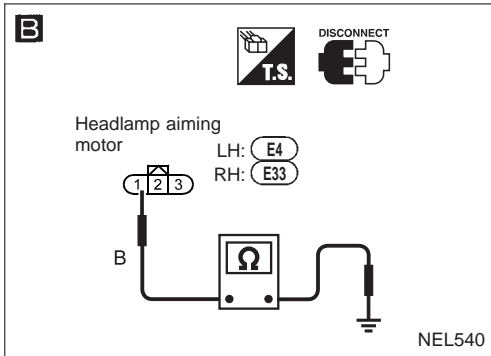
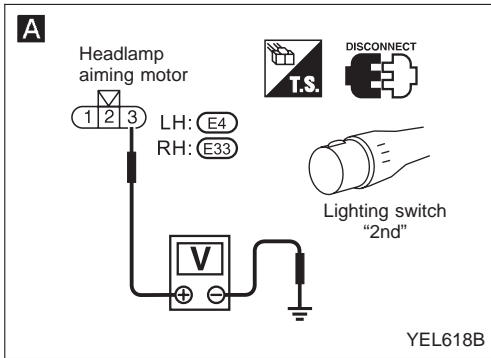


DIAGNOSTIC PROCEDURE 2 (Rear sensor check)

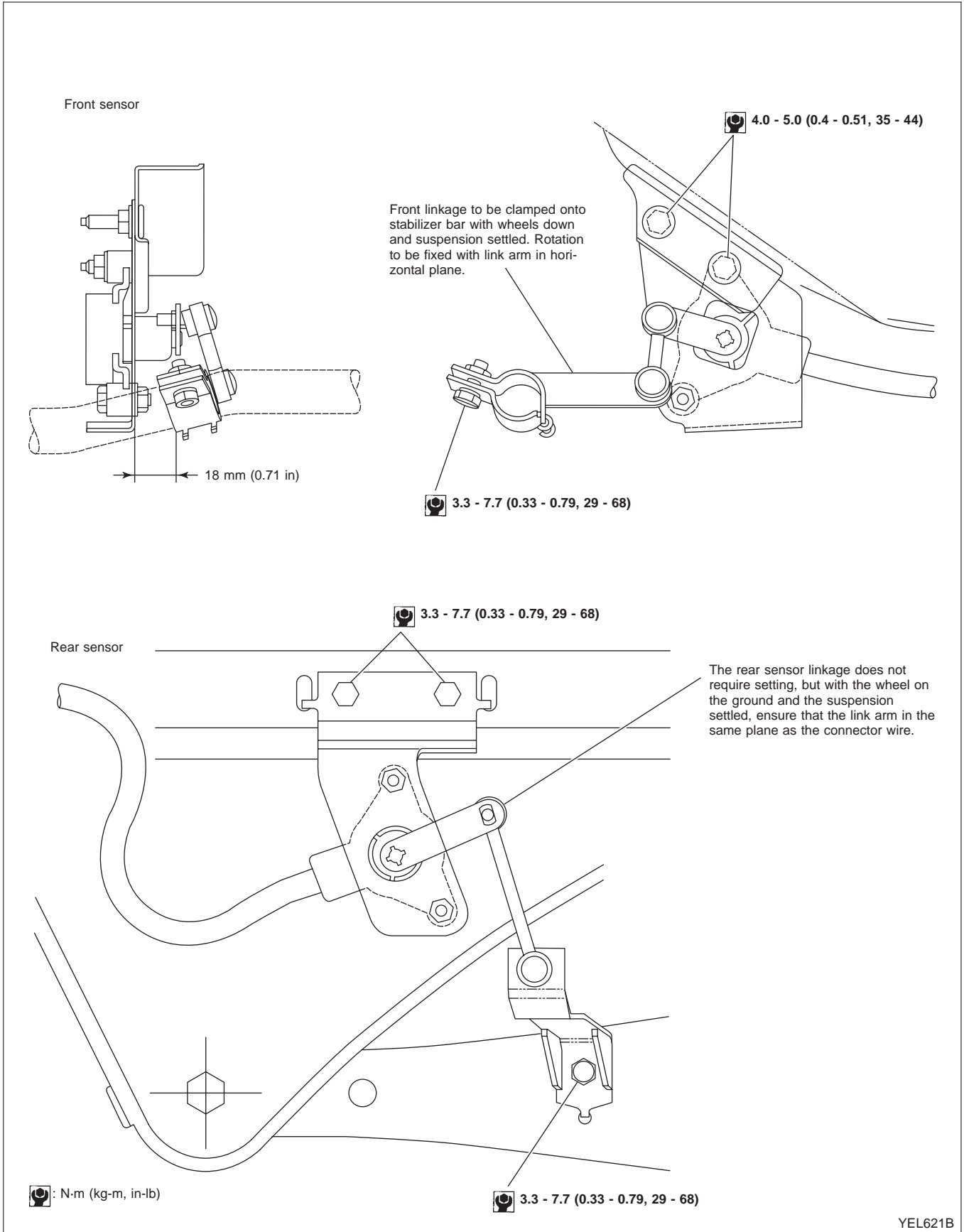


HEADLAMP — Headlamp Aiming Control (Auto) —

Trouble Diagnosis (Cont'd) DIAGNOSTIC PROCEDURE 3 (Aiming motor check)



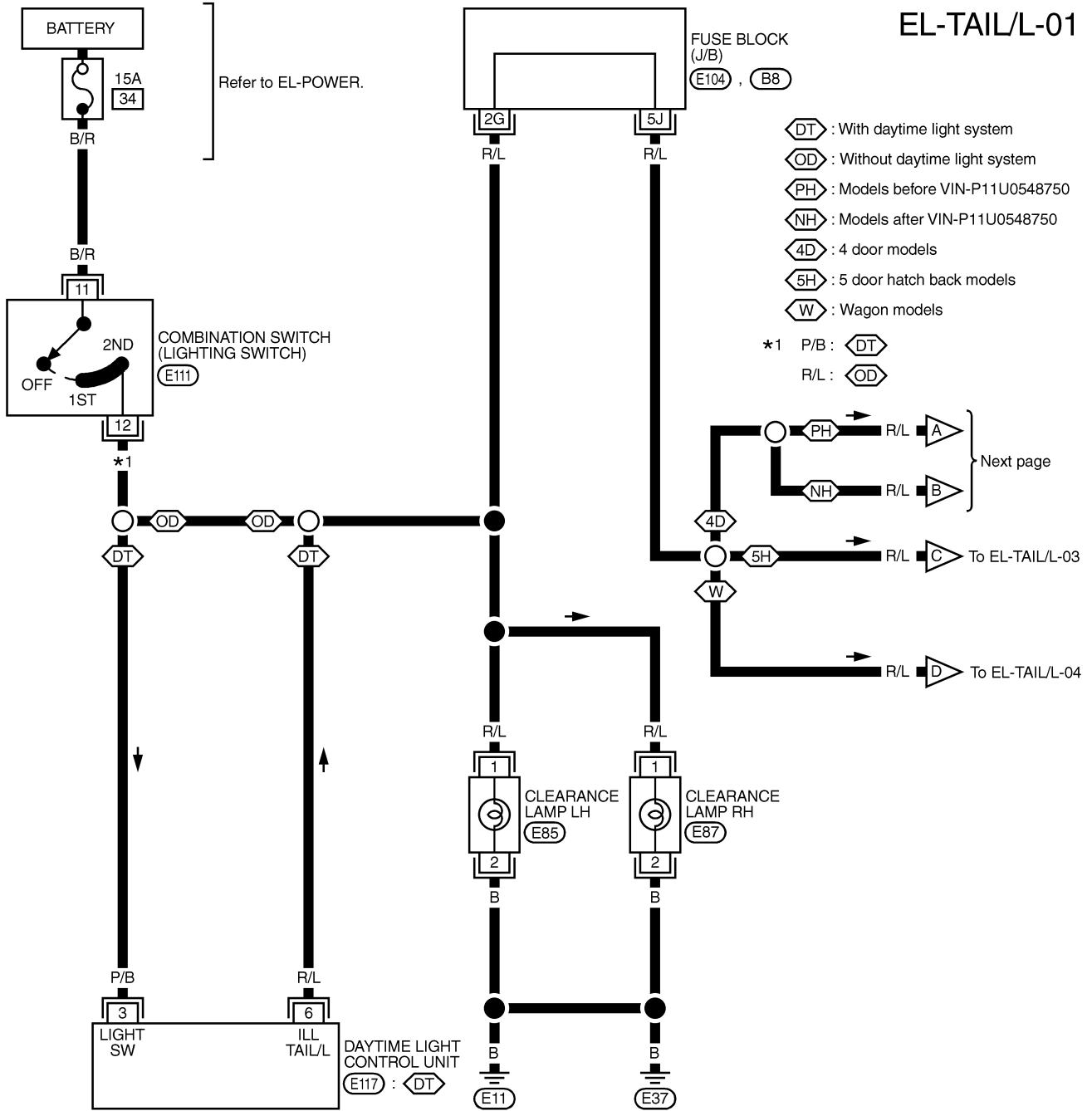
Removal and Installation



PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —

EL-TAIL/L-01



REFER TO THE FOLLOWING
(E104), (B8) FUSE BLOCK-
JUNCTION BOX (J/B)

YEL838C

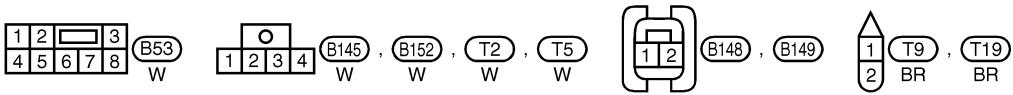
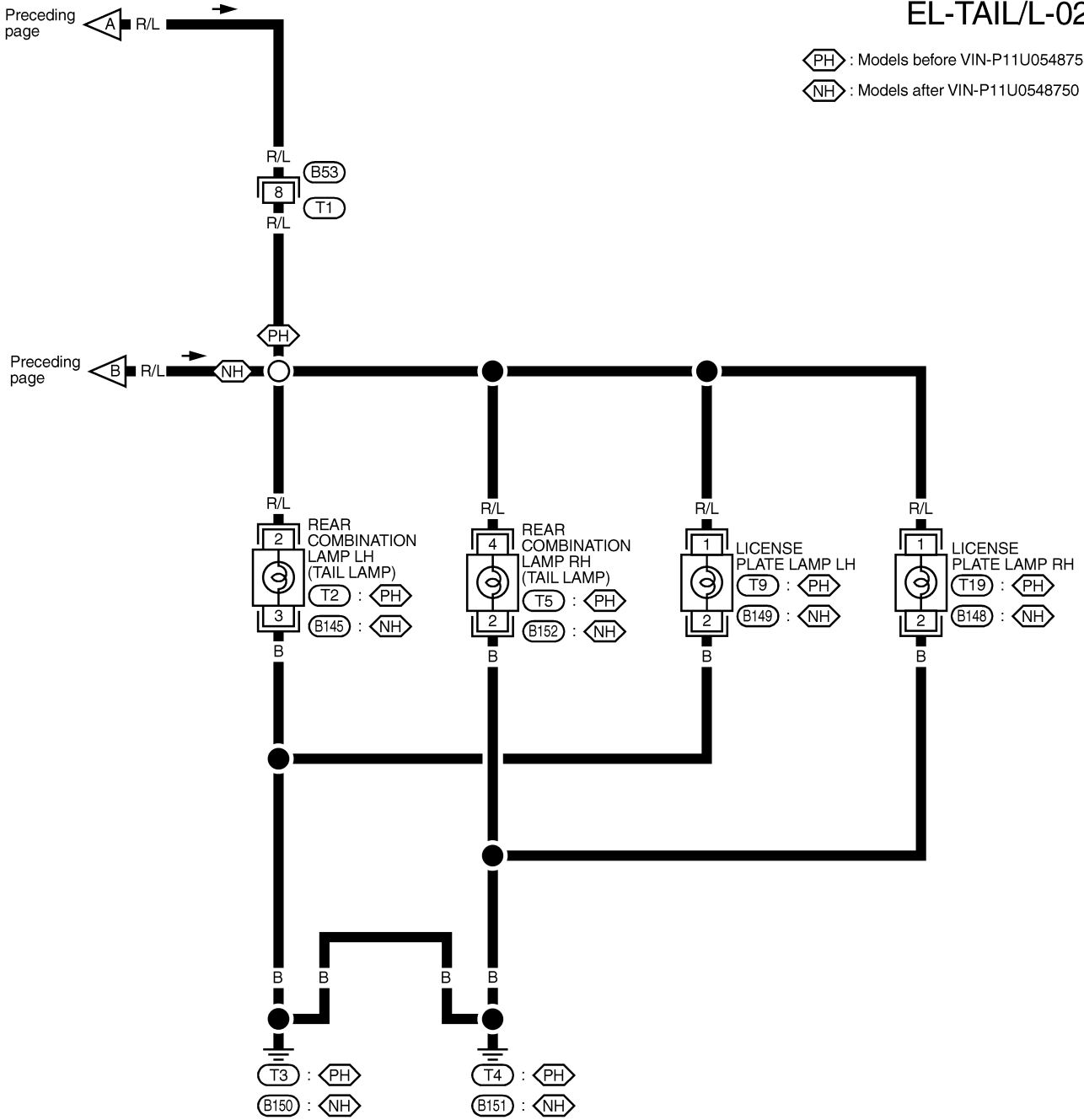
PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

4-DOOR MODELS

EL-TAIL/L-02

PH : Models before VIN-P11U0548750
NH : Models after VIN-P11U0548750



PARKING, LICENSE AND TAIL LAMPS

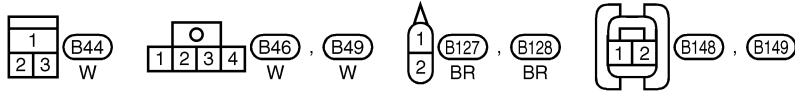
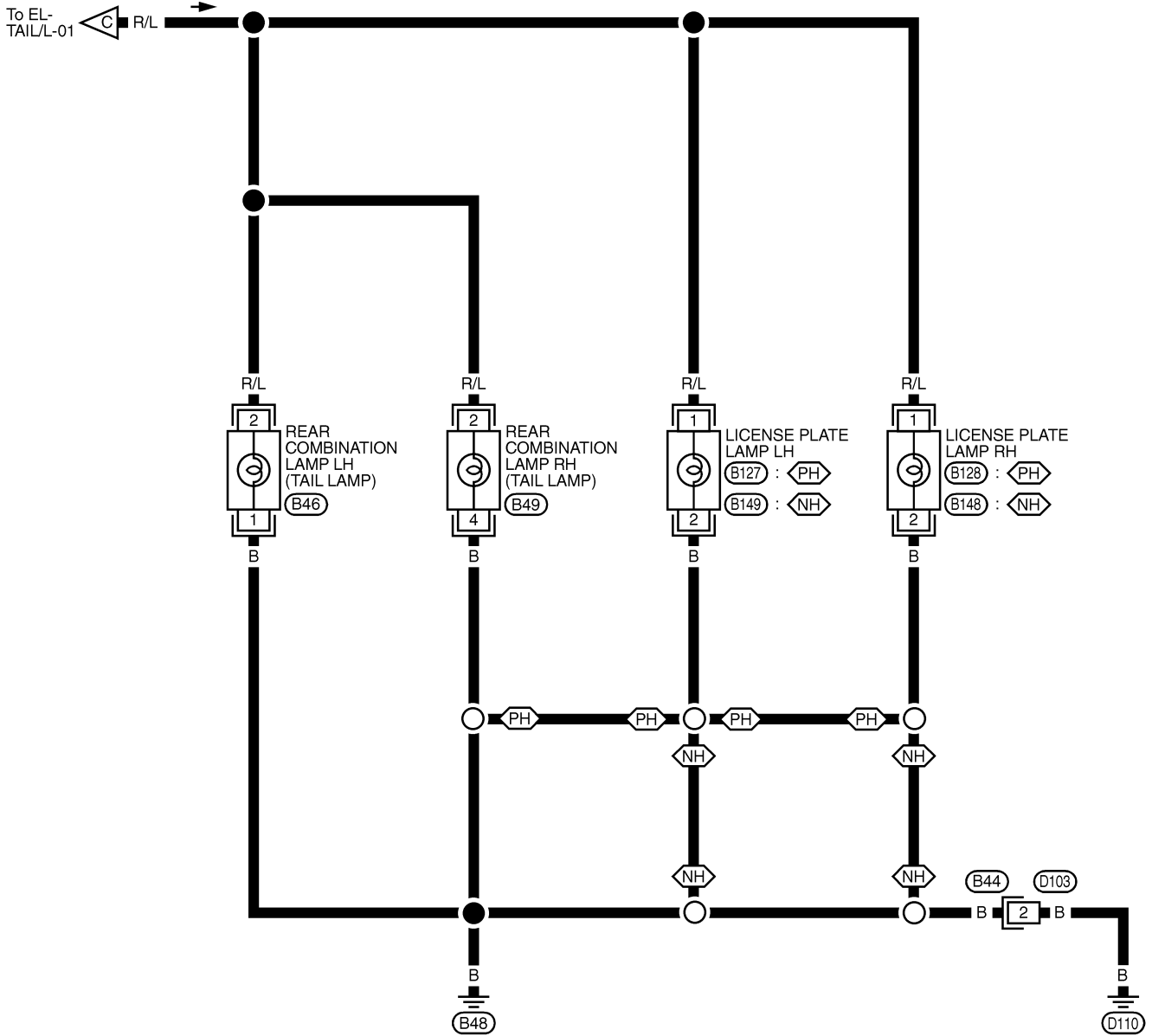
Wiring Diagram — TAIL/L — (Cont'd)

5-DOOR HATCH-BACK MODELS

EL-TAIL/L-03

⬡PH⬡ : Models before VIN-P11U0548750

⬡NH⬡ : Models after VIN-P11U0548750



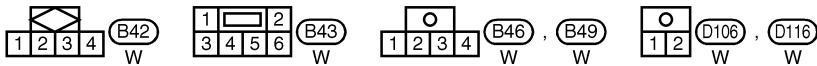
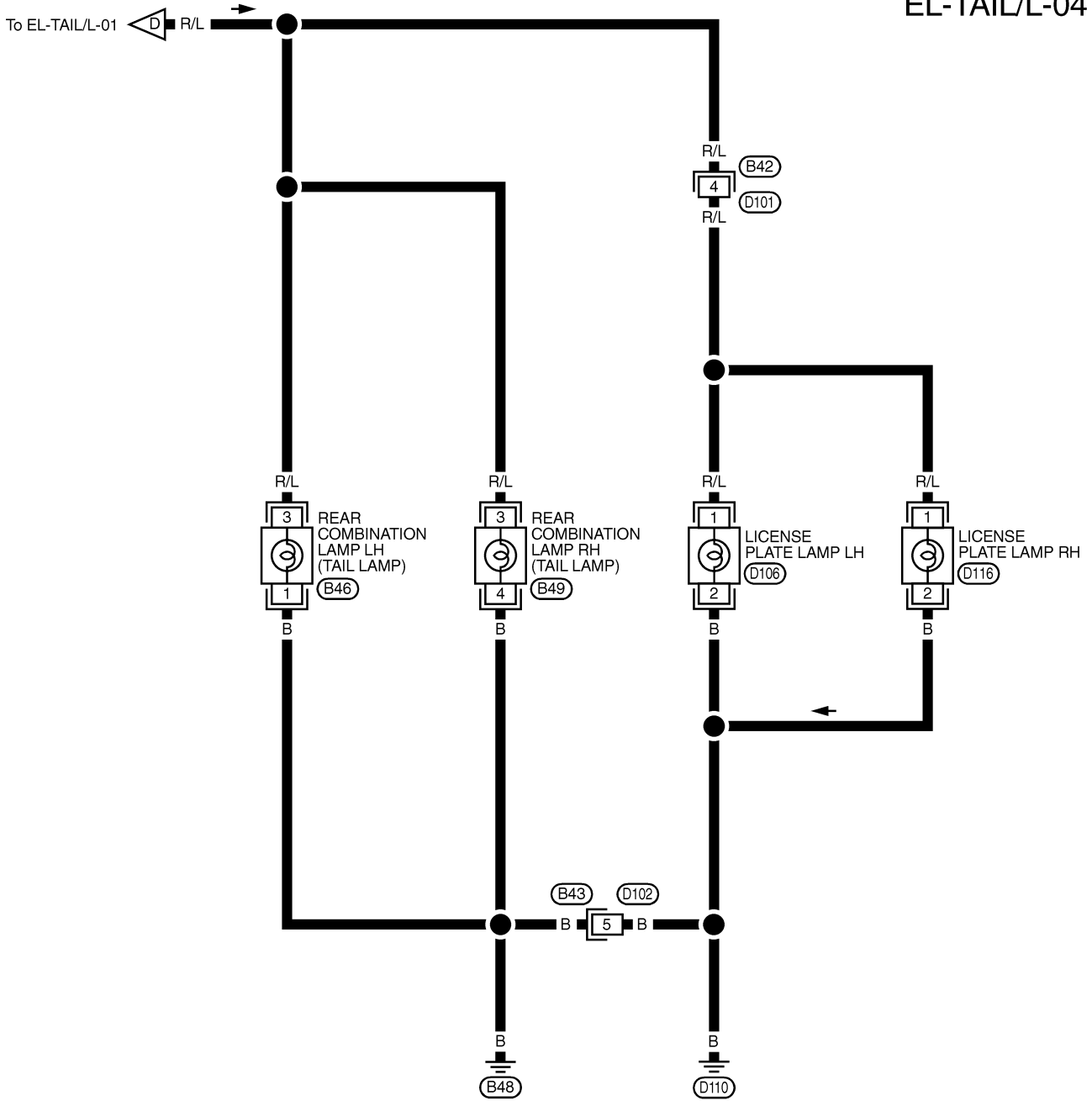
YEL840C

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

WAGON MODELS

EL-TAIL/L-04

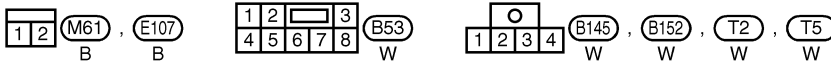
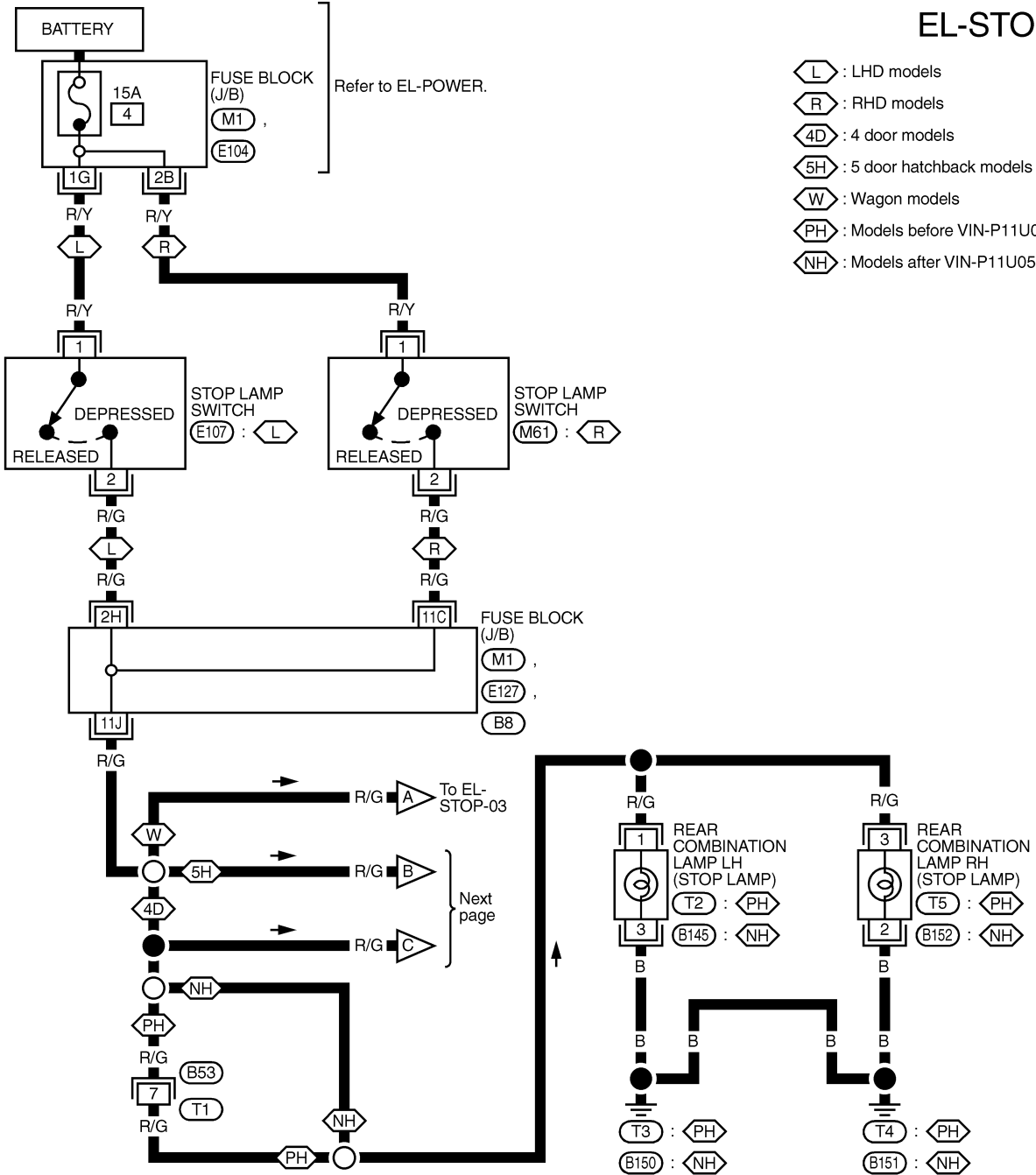


YEL841C

STOP LAMP

Wiring Diagram — STOP —

EL-STOP-01



REFER TO THE FOLLOWING
 (M1), (E104), (E127), (B8)
 FUSE BLOCK-
 JUNCTION BOX (J/B)

STOP LAMP

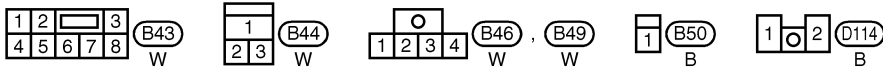
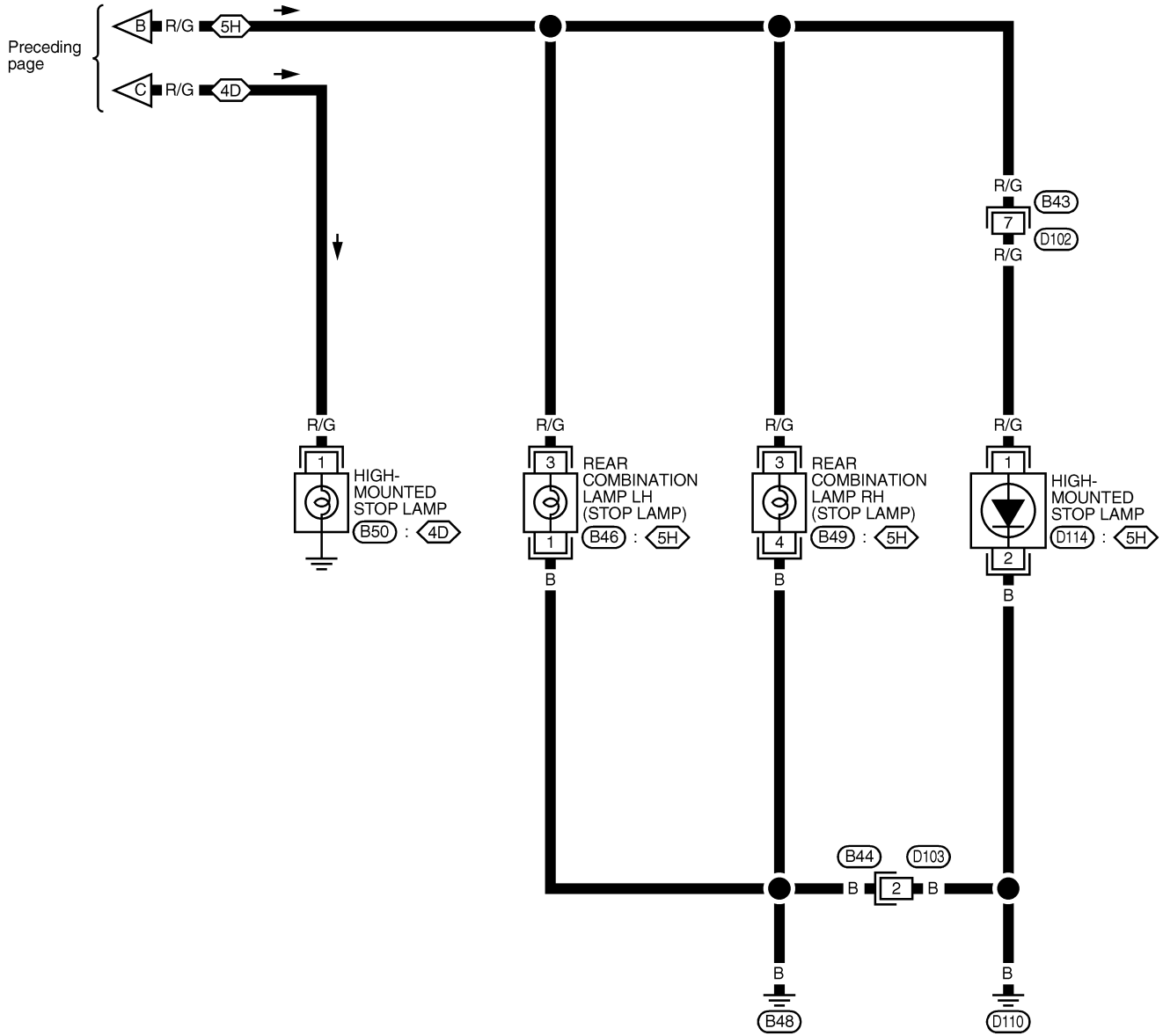
Wiring Diagram — STOP — (Cont'd)

4-DOOR MODELS AND 5-DOOR HATCH-BACK MODELS

EL-STOP-02

◻4D : 4 door models

◻5H : 5 door hatch back models



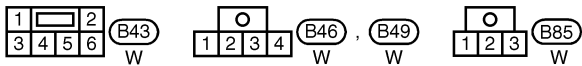
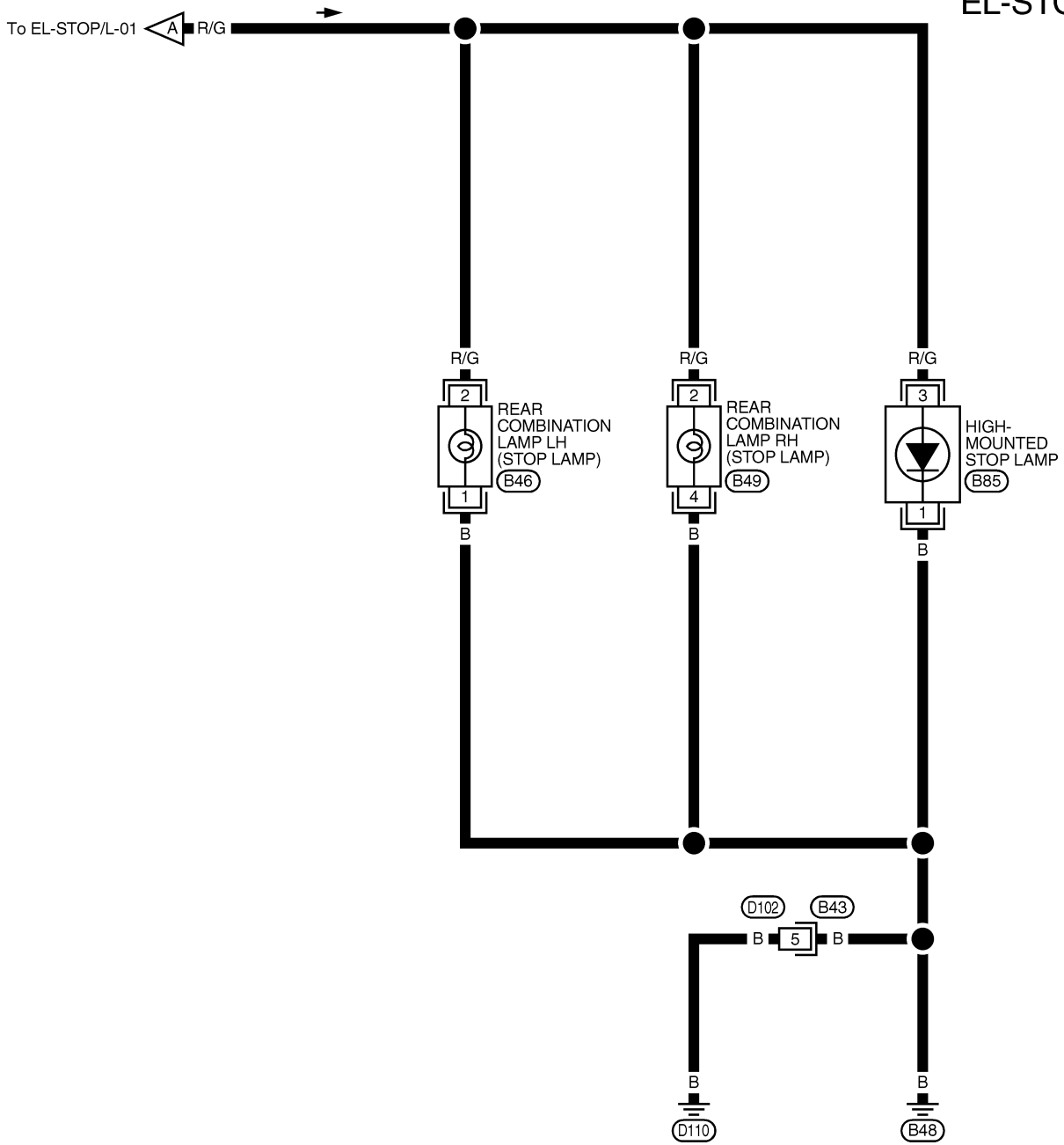
YEL843C

STOP LAMP

Wiring Diagram — STOP — (Cont'd)

WAGON MODELS

EL-STOP-03

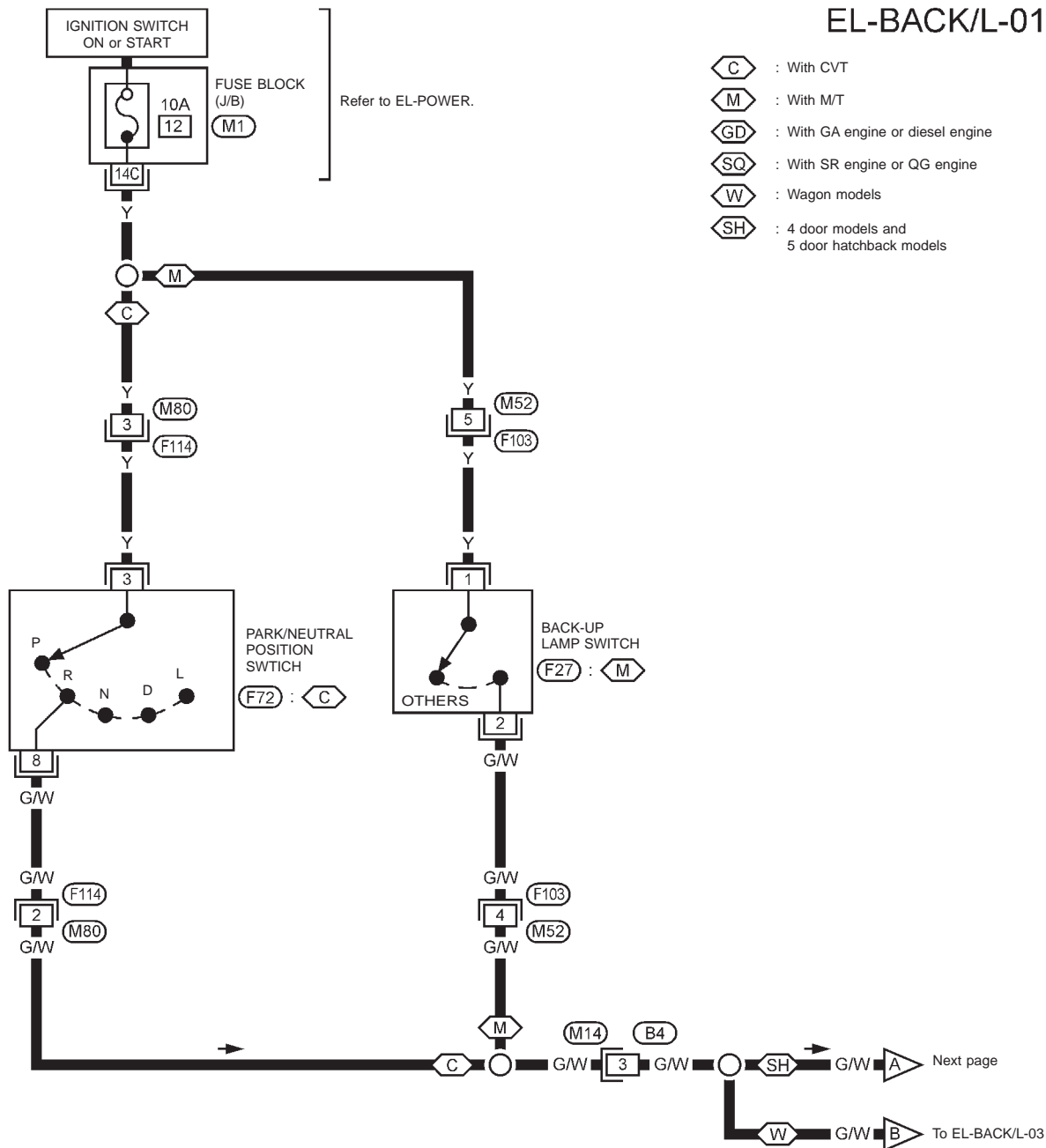


YEL844C

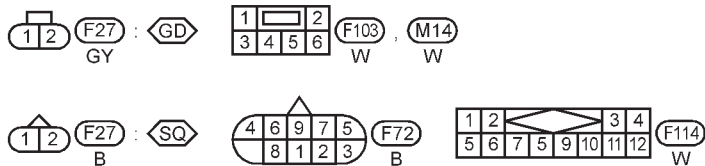
BACK-UP LAMP

Wiring Diagram — BACK/L —

EL-BACK/L-01



- C : With CVT
- M : With M/T
- GD : With GA engine or diesel engine
- SQ : With SR engine or QG engine
- W : Wagon models
- SH : 4 door models and 5 door hatchback models

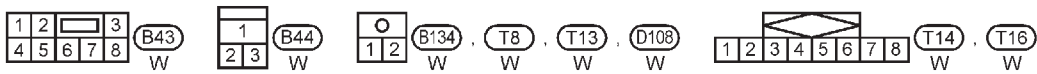
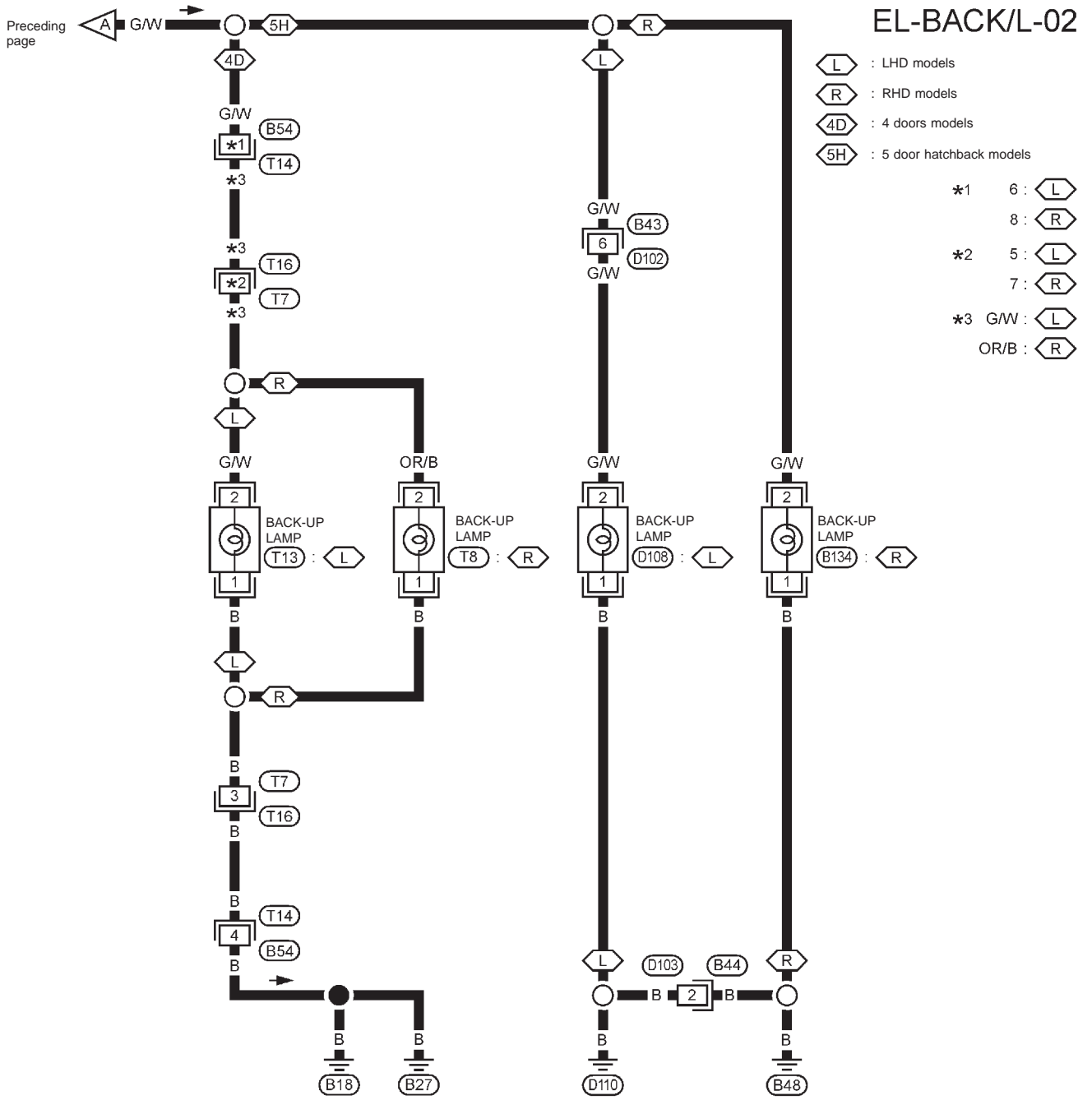


REFER TO THE FOLLOWING
(M1) FUSE BLOCK - Junction Box (J/B)

BACK-UP LAMP

Wiring Diagram — BACK/L — (Cont'd)

4-DOOR MODELS AND 5-DOOR HATCH-BACK MODELS

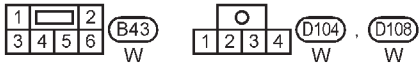
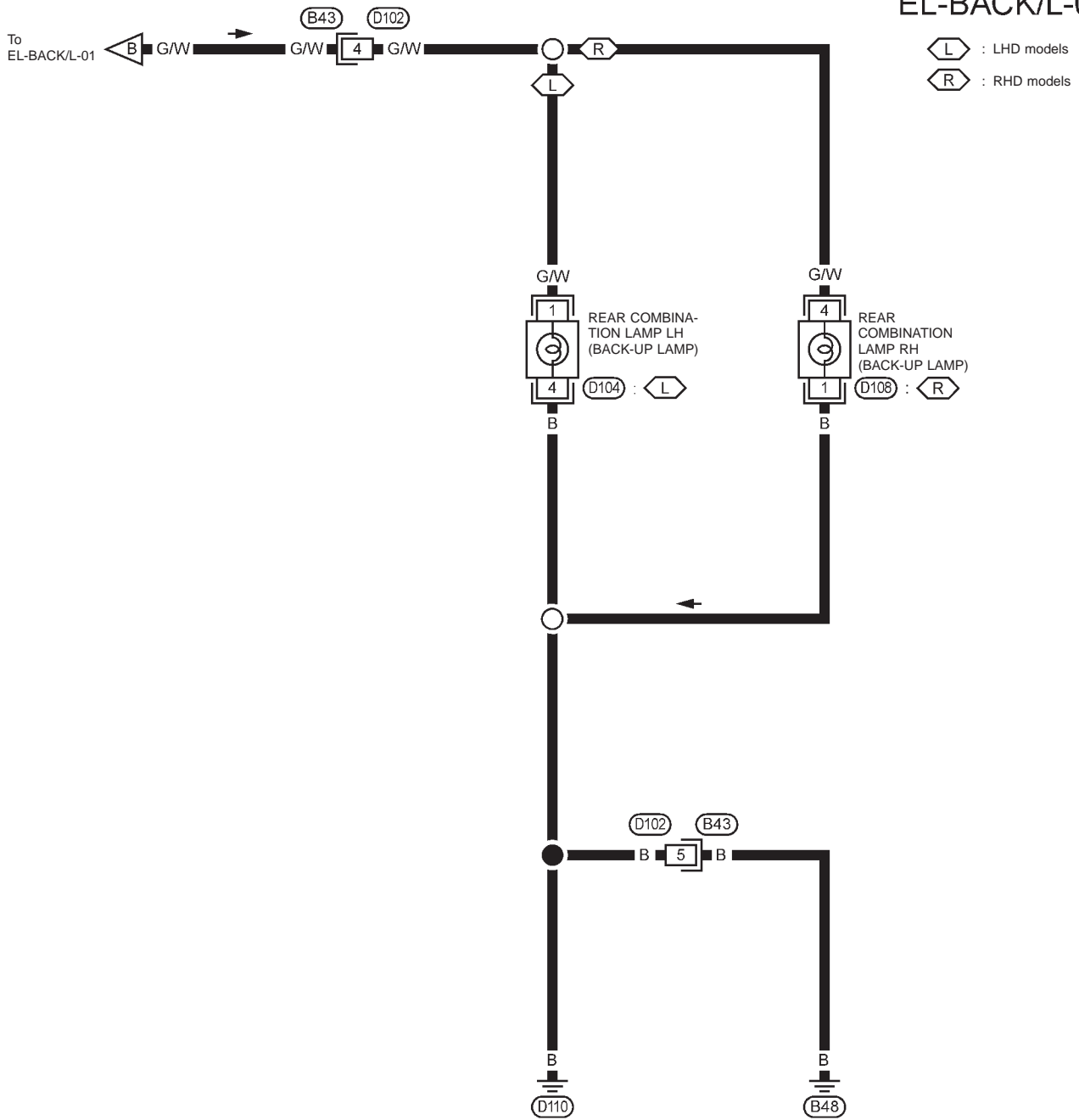


BACK-UP LAMP

Wiring Diagram — BACK/L — (Cont'd)

WAGON MODELS

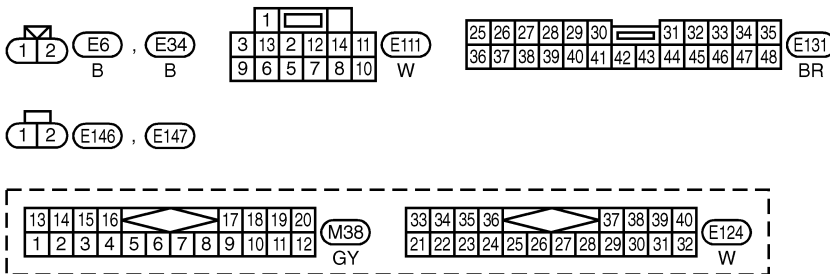
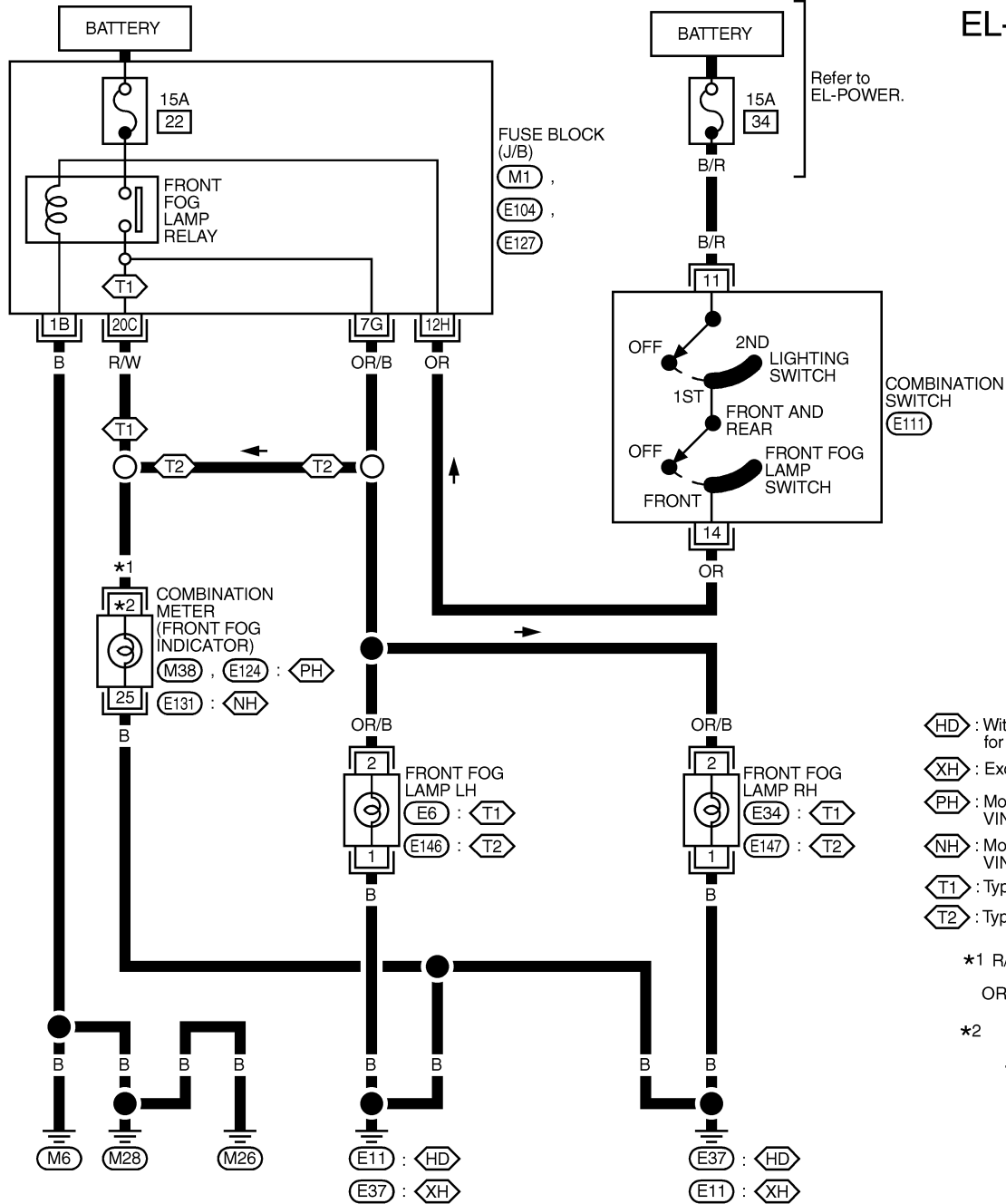
EL-BACK/L-03



FRONT FOG LAMP

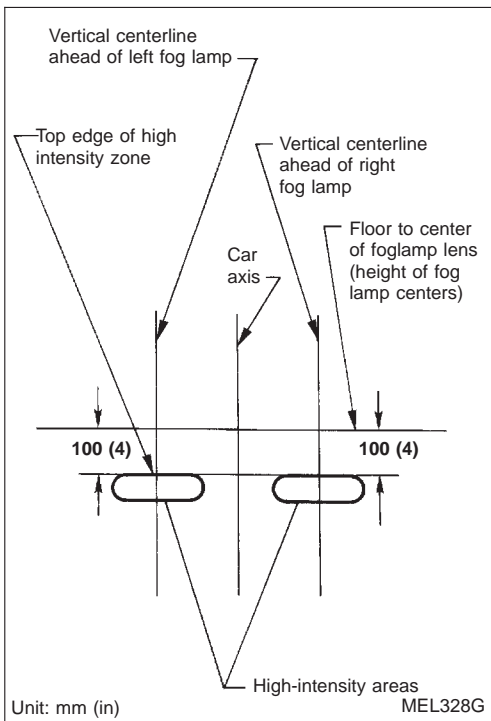
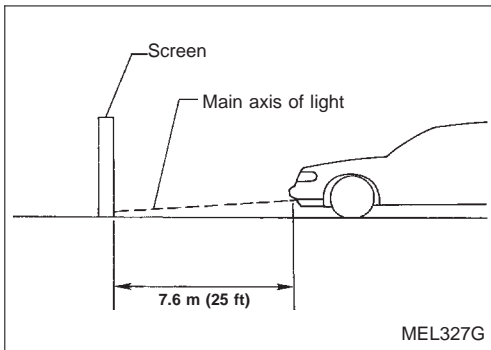
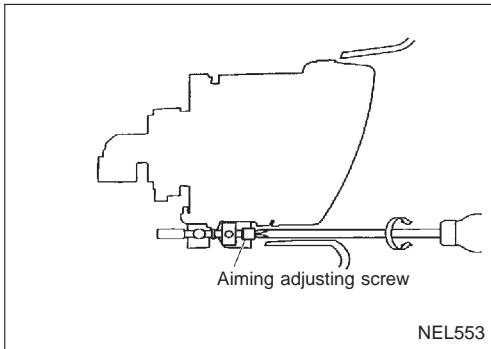
Wiring Diagram — F/FOG —

EL-F/FOG-01



YEL845C

FRONT FOG LAMP



Aiming Adjustment

Before performing aiming adjustment, make sure of the following.

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

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

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

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

Bulb Specifications

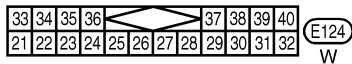
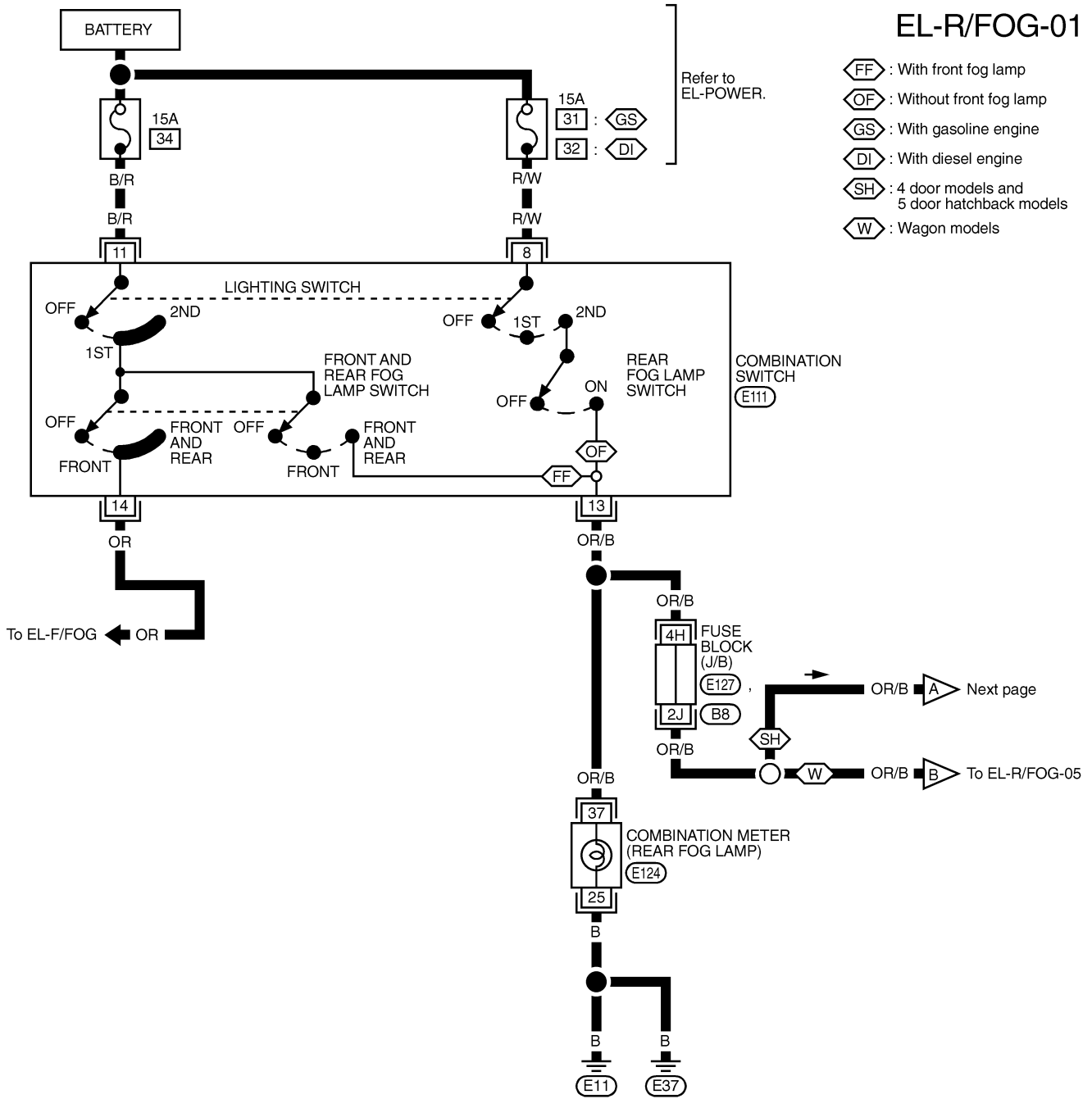
Item	Wattage (W)
Front fog lamp	55

REAR FOG LAMP

Wiring Diagram — R/FOG —

MODELS BEFORE VIN - P11U0548750

EL-R/FOG-01



REFER TO THE FOLLOWING
 (E127) , (B8) FUSE BLOCK-
 JUNCTION BOX (J/B)

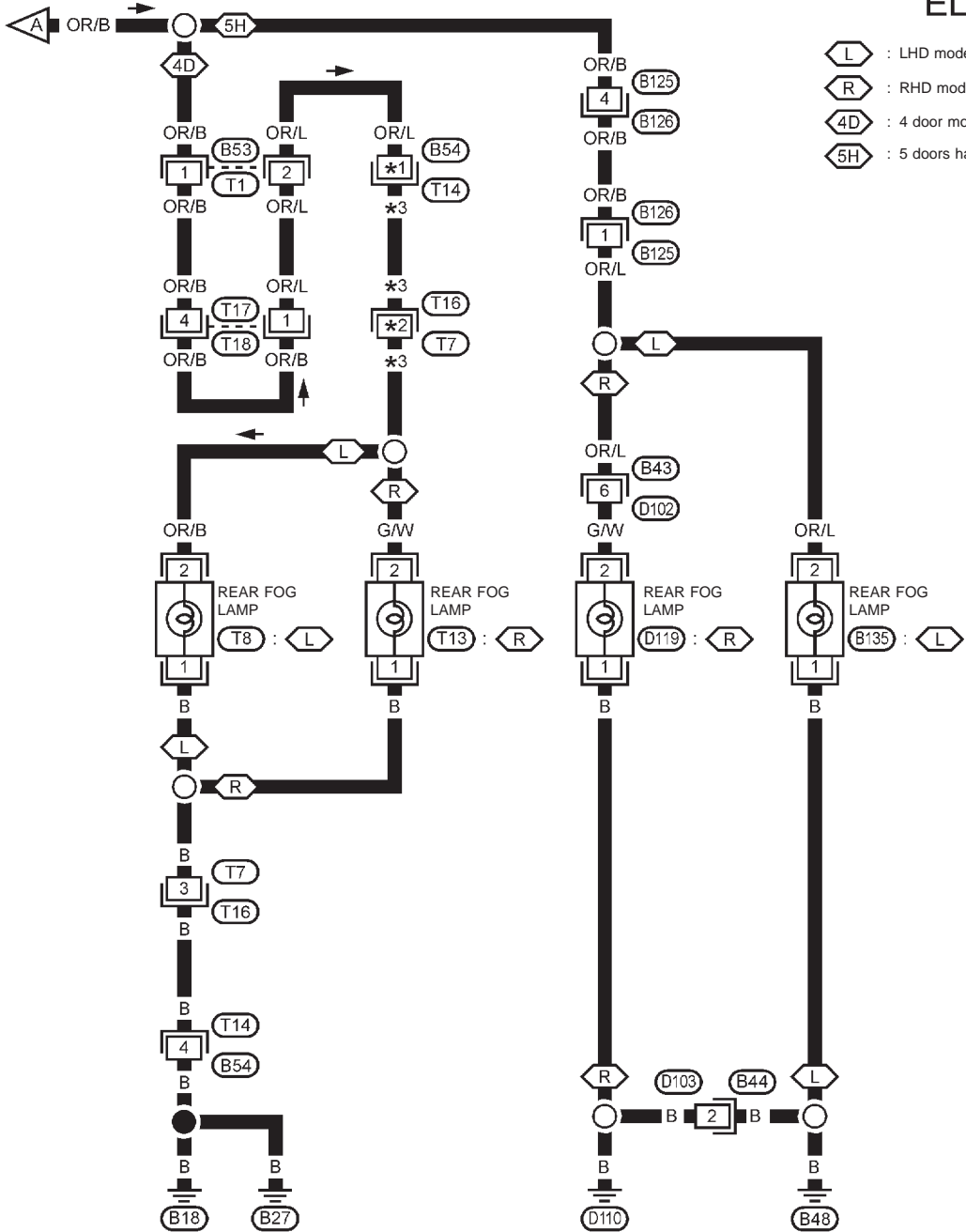
REAR FOG LAMP

Wiring Diagram — R/FOG — (Cont'd)

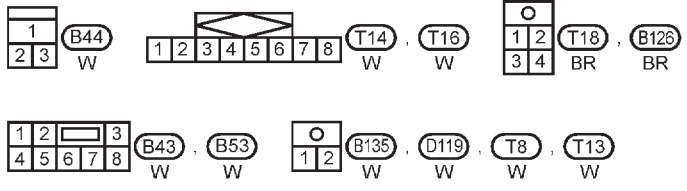
4-door models and 5-door Hatch-back models

EL-R/FOG-02

Preceding page



- : LHD models
- : RHD models
- : 4 door models
- : 5 doors hatchback models
- *1 8 :
- 6 :
- *2 7 :
- 5 :
- *3 OR/B :
- G/W :

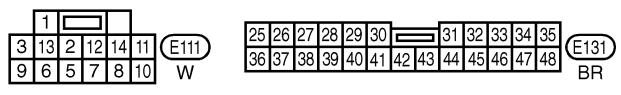
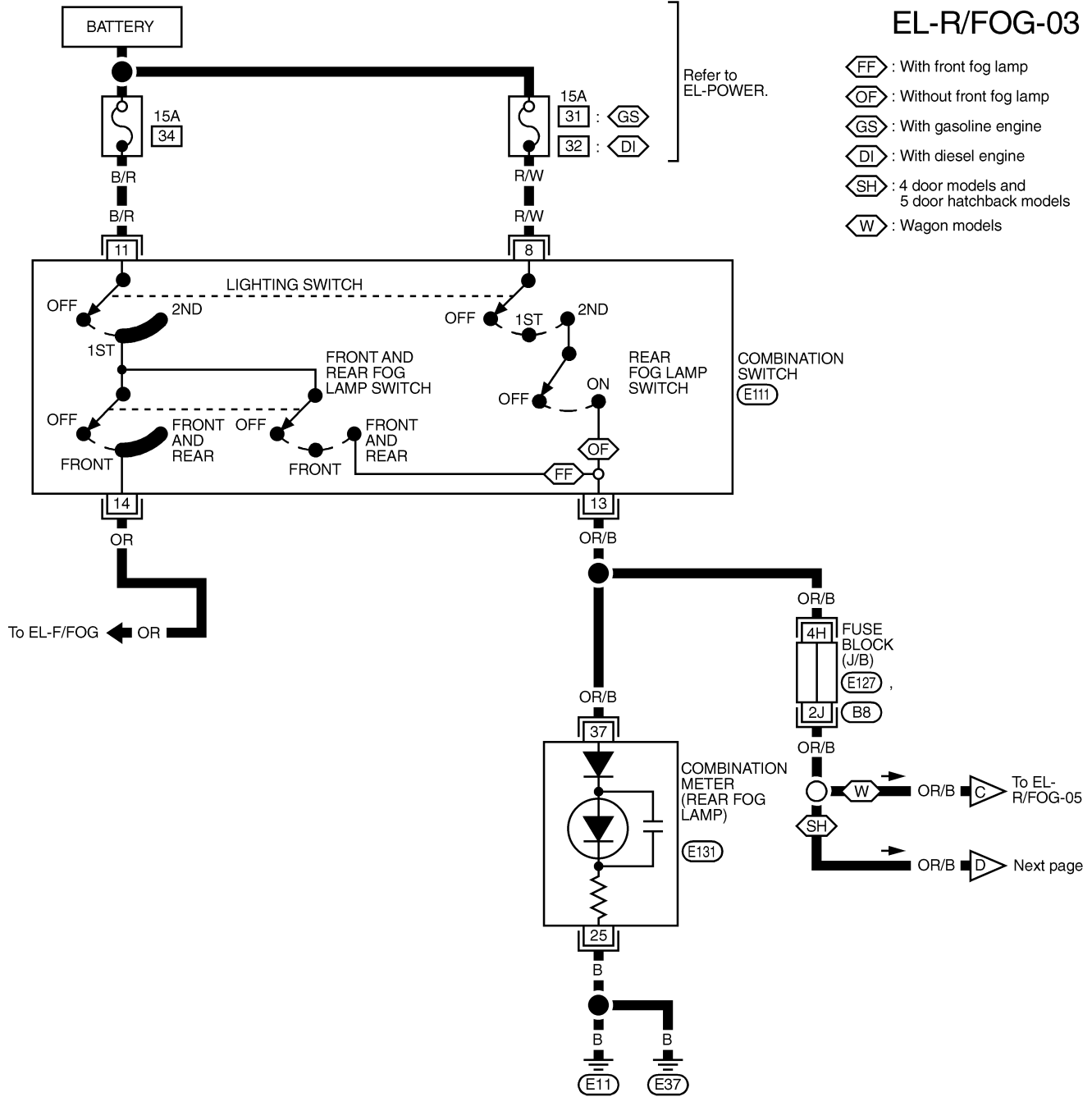


YEL153C

REAR FOG LAMP

Wiring Diagram — R/FOG — (Cont'd)

MODELS AFTER VIN - P11U0548750



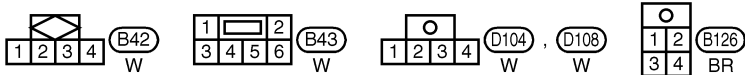
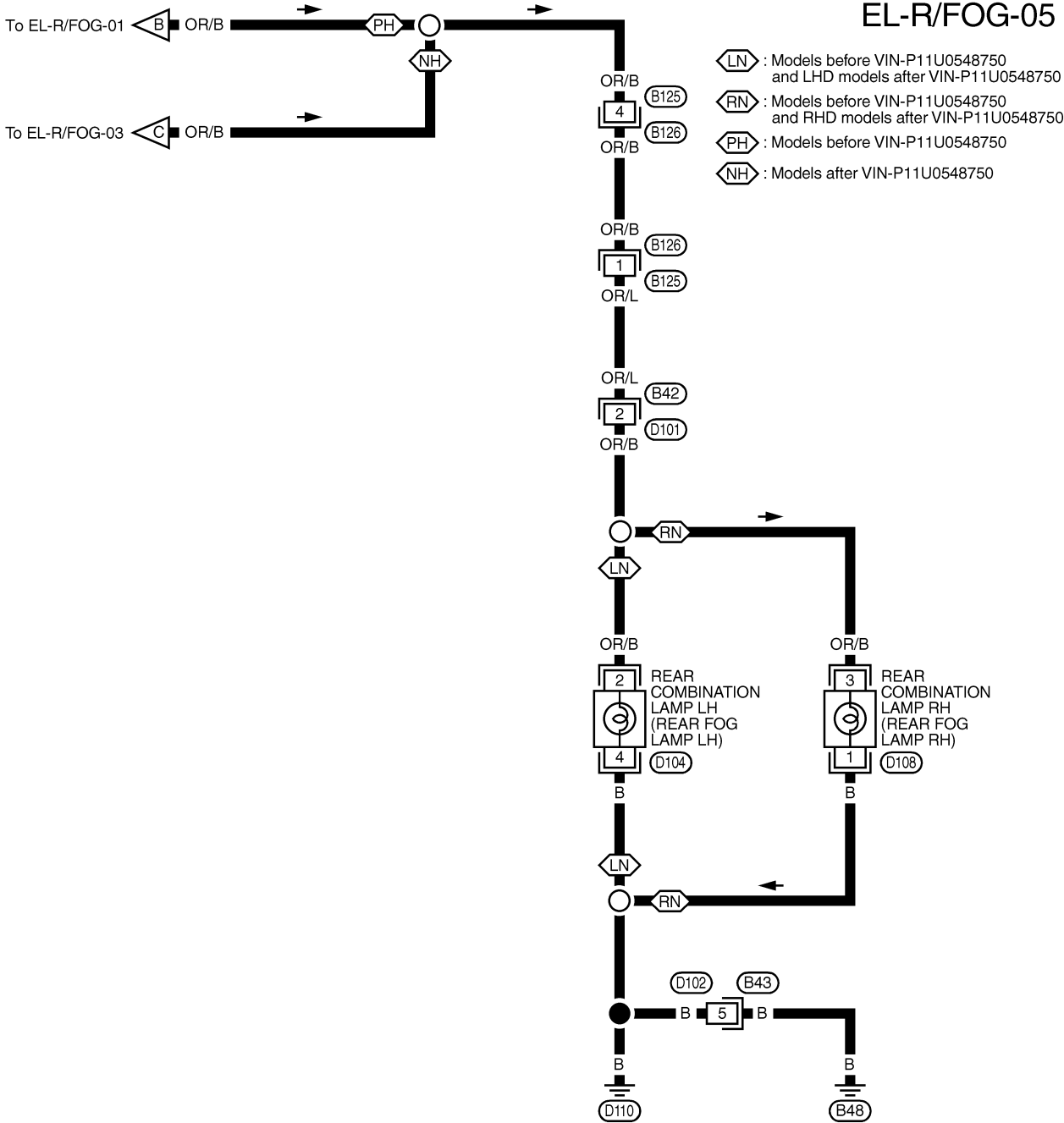
REFER TO THE FOLLOWING
 (E127), (B8) FUSE BLOCK-
 JUNCTION BOX (J/B)

YEL847C

REAR FOG LAMP

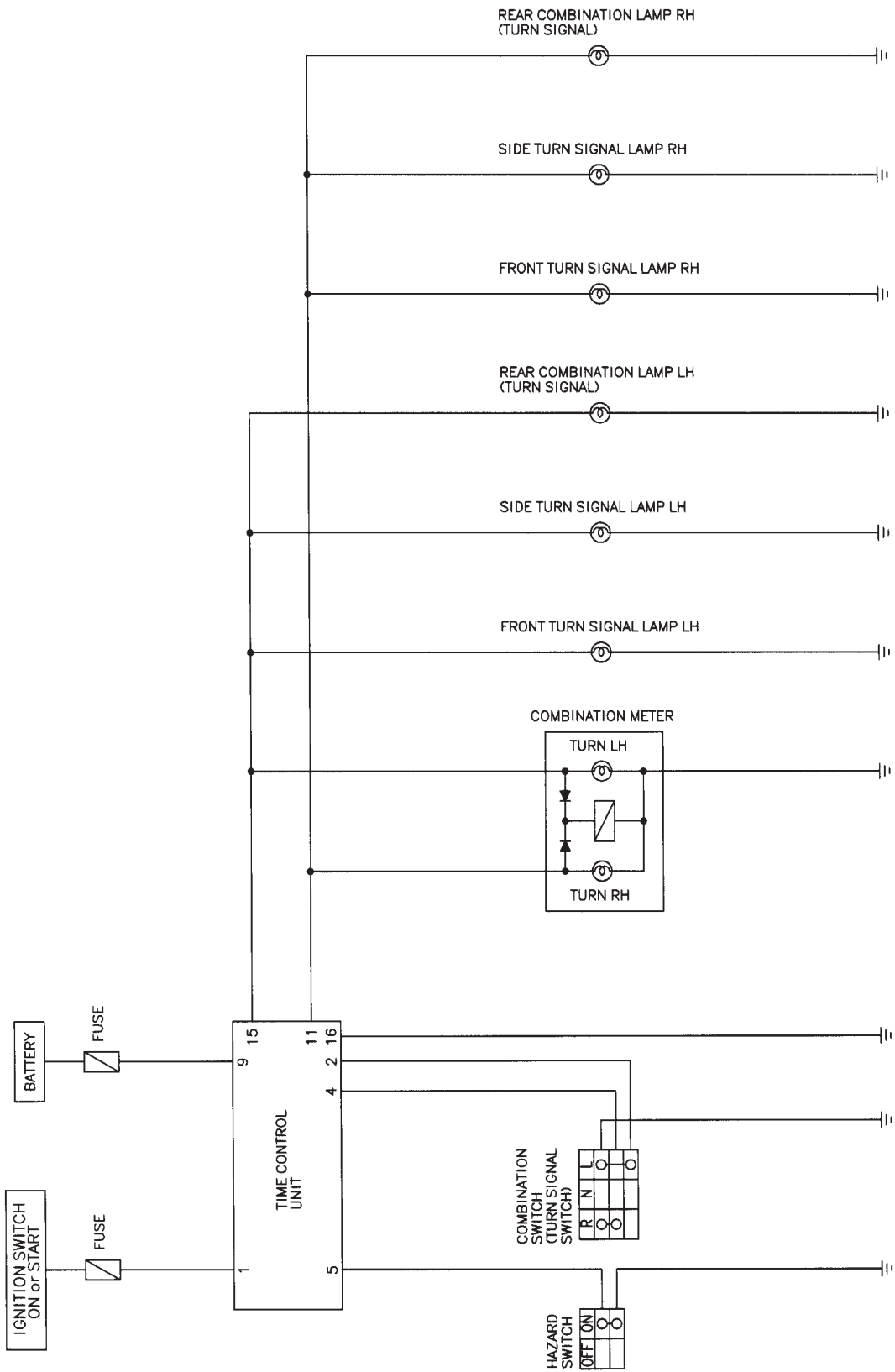
Wiring Diagram — R/FOG — (Cont'd)

WAGON MODELS



TURN SIGNAL AND HAZARD WARNING LAMPS

Schematic

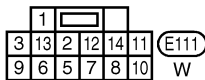
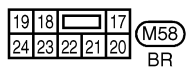
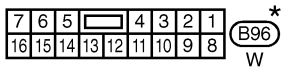
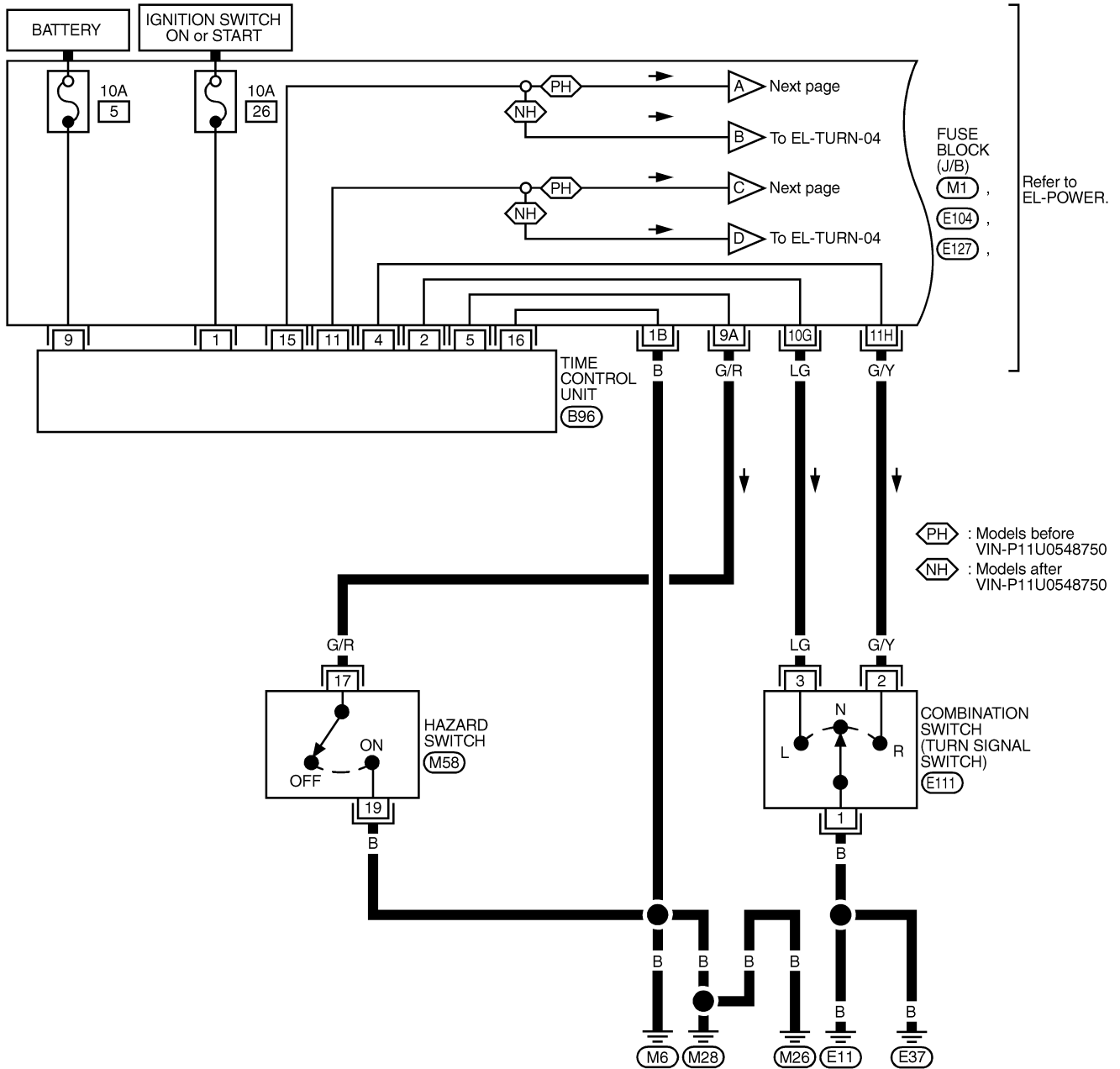


YEL289B

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —

EL-TURN-01



REFER TO THE FOLLOWING
 (M1), (E104), (E127)
 FUSE BLOCK-
 JUNCTION BOX (J/B)

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

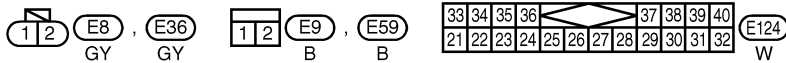
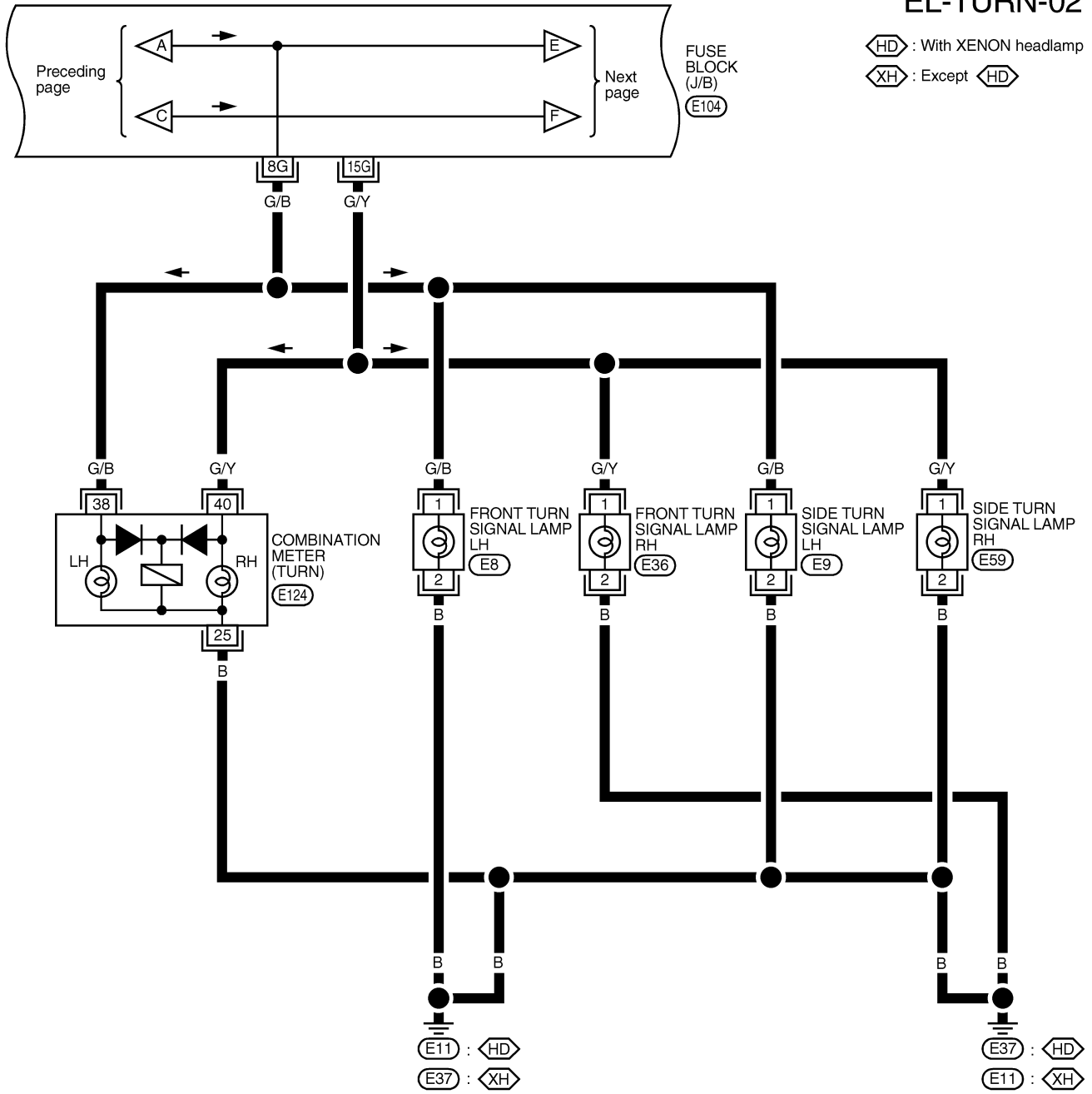
YEL850C

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

MODELS BEFORE VIN - P11U0548750

EL-TURN-02



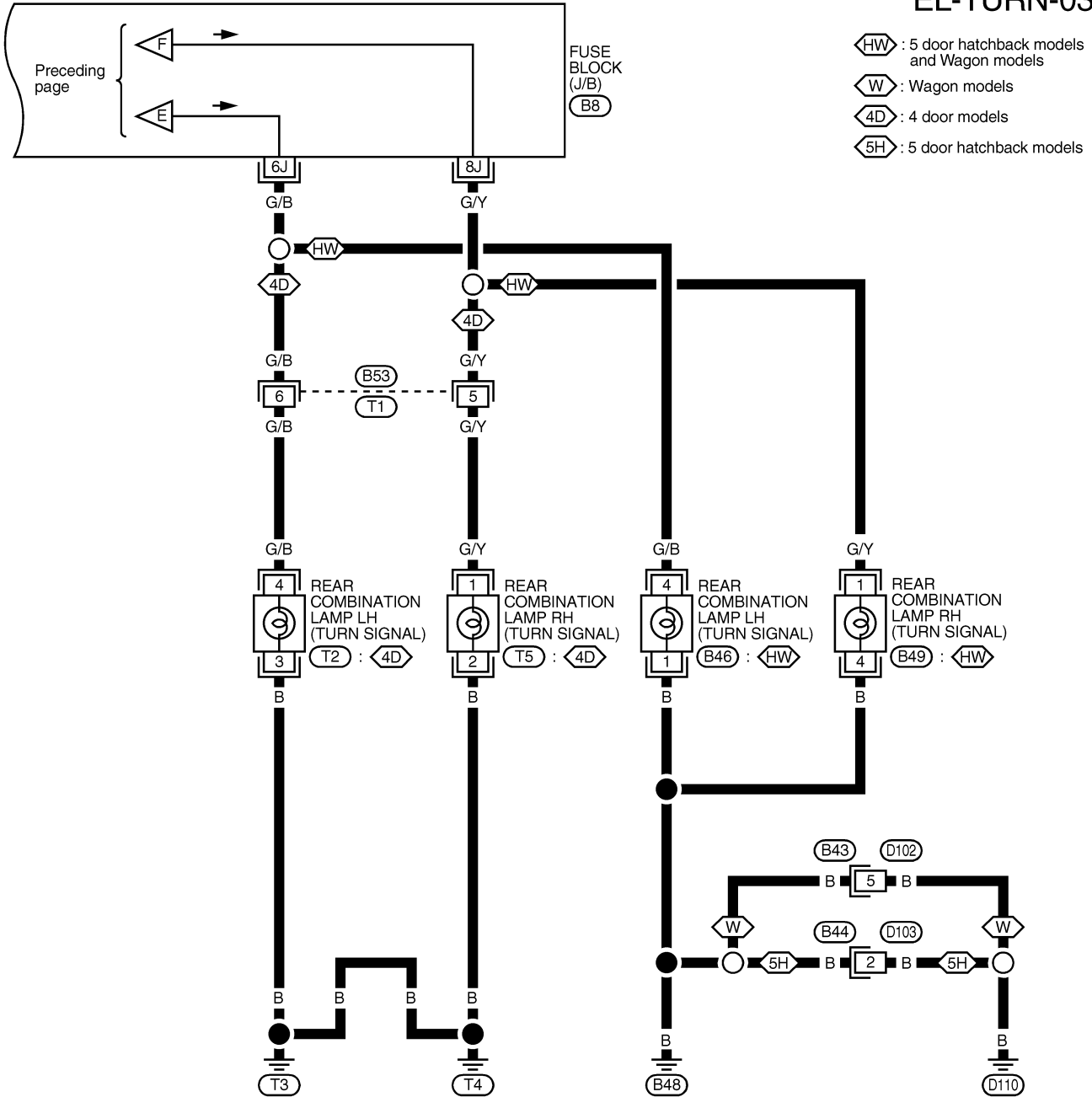
REFER TO THE FOLLOWING
 (E104) FUSE BLOCK-
 JUNCTION BOX (J/B)

YEL851C

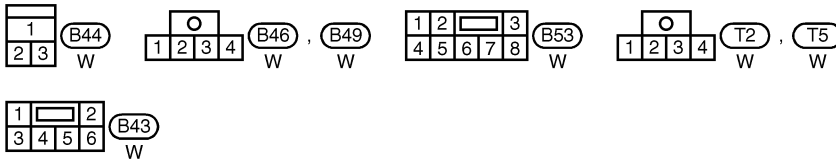
TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-03



- : 5 door hatchback models and Wagon models
- : Wagon models
- : 4 door models
- : 5 door hatchback models



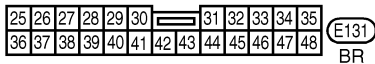
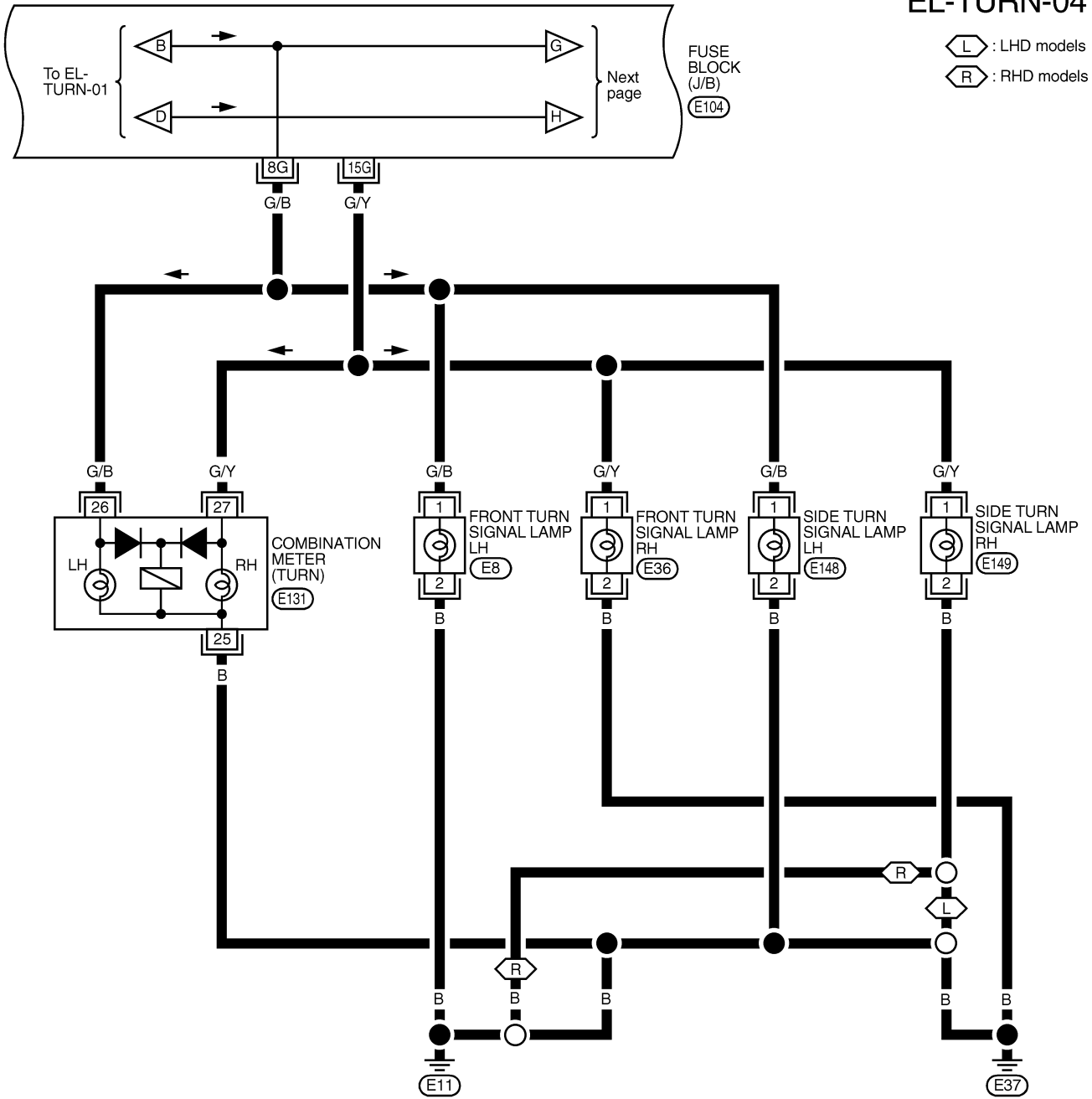
REFER TO THE FOLLOWING
 FUSE BLOCK-
 JUNCTION BOX (J/B)

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

MODELS AFTER VIN - P11U0548750

EL-TURN-04

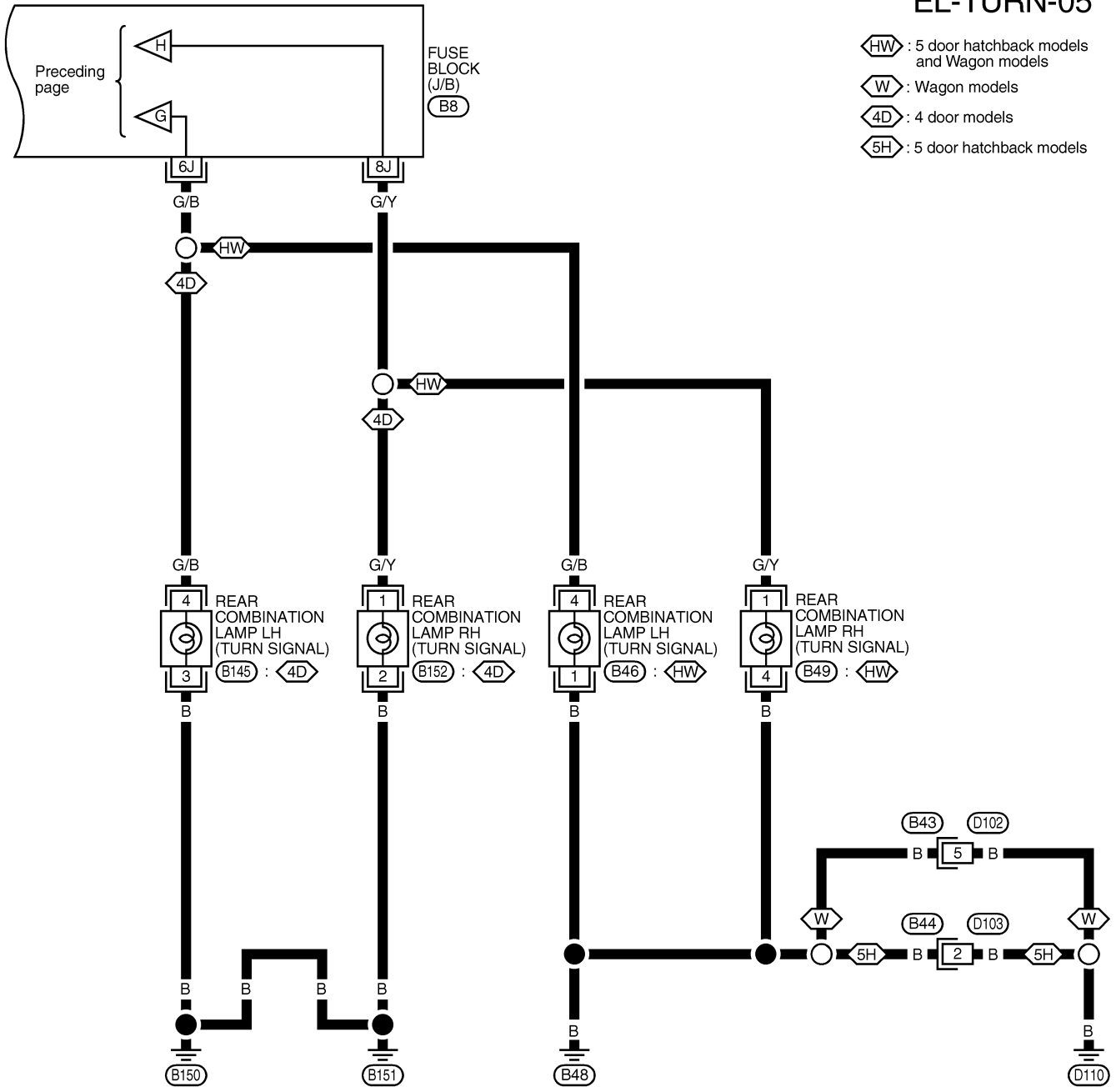


REFER TO THE FOLLOWING
(E104) FUSE BLOCK-JUNCTION BOX (J/B)

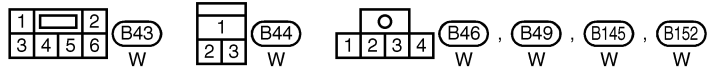
TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-05



- : 5 door hatchback models and Wagon models
- : Wagon models
- : 4 door models
- : 5 door hatchback models



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

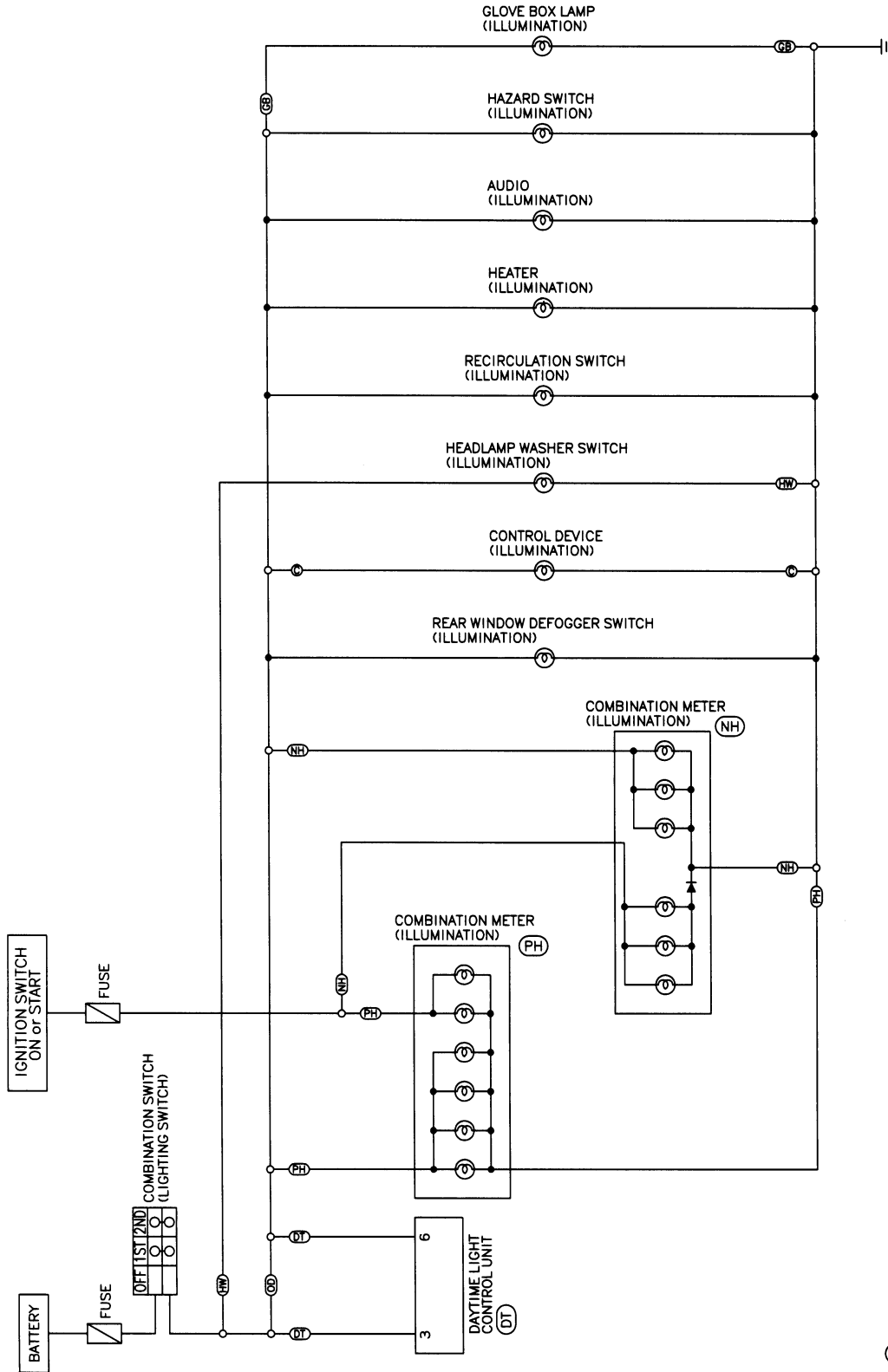
TURN SIGNAL AND HAZARD WARNING LAMPS

Trouble Diagnoses

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> 1. Hazard switch 2. Turn signal switch 3. Harness connector (E104) 	<ol style="list-style-type: none"> 1. Check hazard switch. 2. Check turn signal switch. 3. Check harness connector (E104).
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> 1. Turn signal switch 2. Open in turn signal switch circuit 	<ol style="list-style-type: none"> 1. Check turn signal switch. 2. Check L/G and G/Y wires between time control unit and turn signal switch for open circuit. 3. Check B wire between turn signal switch and ground for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	<ol style="list-style-type: none"> 1. Hazard switch 2. Open in hazard switch circuit 	<ol style="list-style-type: none"> 1. Check hazard switch. 2. Check G/R wire between time control unit and hazard switch for open circuit. Check B wire between hazard switch unit and ground for open circuit.
Front turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (E11) and (E37).
Rear turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds (T3) and (T4) or (B48) and (D110) or (B150) and (B151).
LH and RH turn indicators do not operate.	<ol style="list-style-type: none"> 1. Grounds 	<ol style="list-style-type: none"> 1. Check grounds (E11) and (E37).
LH or RH turn indicator does not operate.	<ol style="list-style-type: none"> 1. Bulb 	<ol style="list-style-type: none"> 1. Check bulb in combination meter.

ILLUMINATION

Schematic

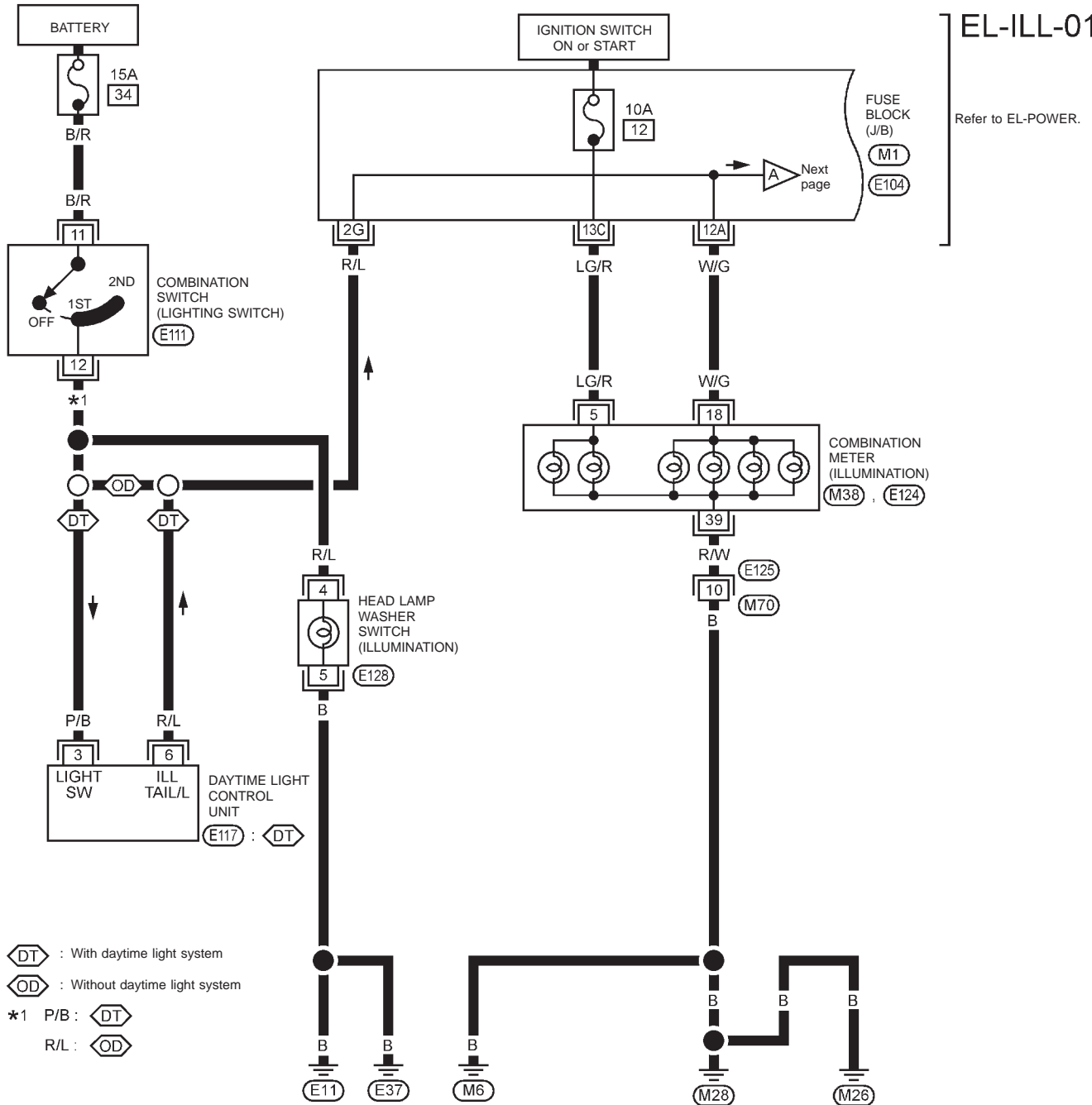


- (C) : With daytime light system
- (DT) : Without daytime light system
- (OD) : With CVT
- (GB) : With glove box lamp
- (PH) : Models before VIN-P11U0548750
- (NH) : Models after VIN-P11U0548750
- (HW) : With headlamp washer

ILLUMINATION

Wiring Diagram — ILL —

MODELS BEFORE VIN - P11U0548750



EL-ILL-01

Refer to EL-POWER.

- ⬡ (DT) : With daytime light system
- ⬡ (OD) : Without daytime light system
- *1 P/B: ⬡ (DT)
- R/L: ⬡ (OD)

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

E125
BR

1	10	6
3	13	11

E111
W

1	6	4
3	2	5

E117
GY

1	6	4
3	2	5

E128
L

13	14	15	16	17	18	19	20				
1	2	3	4	5	6	7	8	9	10	11	12

E124
GY

33	34	35	36	37	38	39	40				
21	22	23	24	25	26	27	28	29	30	31	32

E124
W

REFER TO THE FOLLOWING

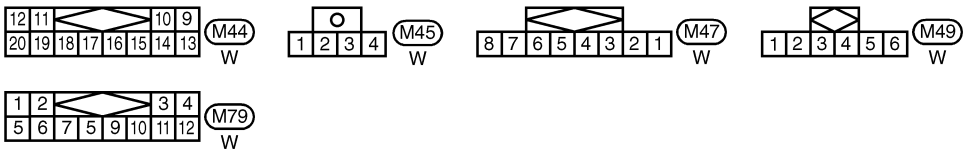
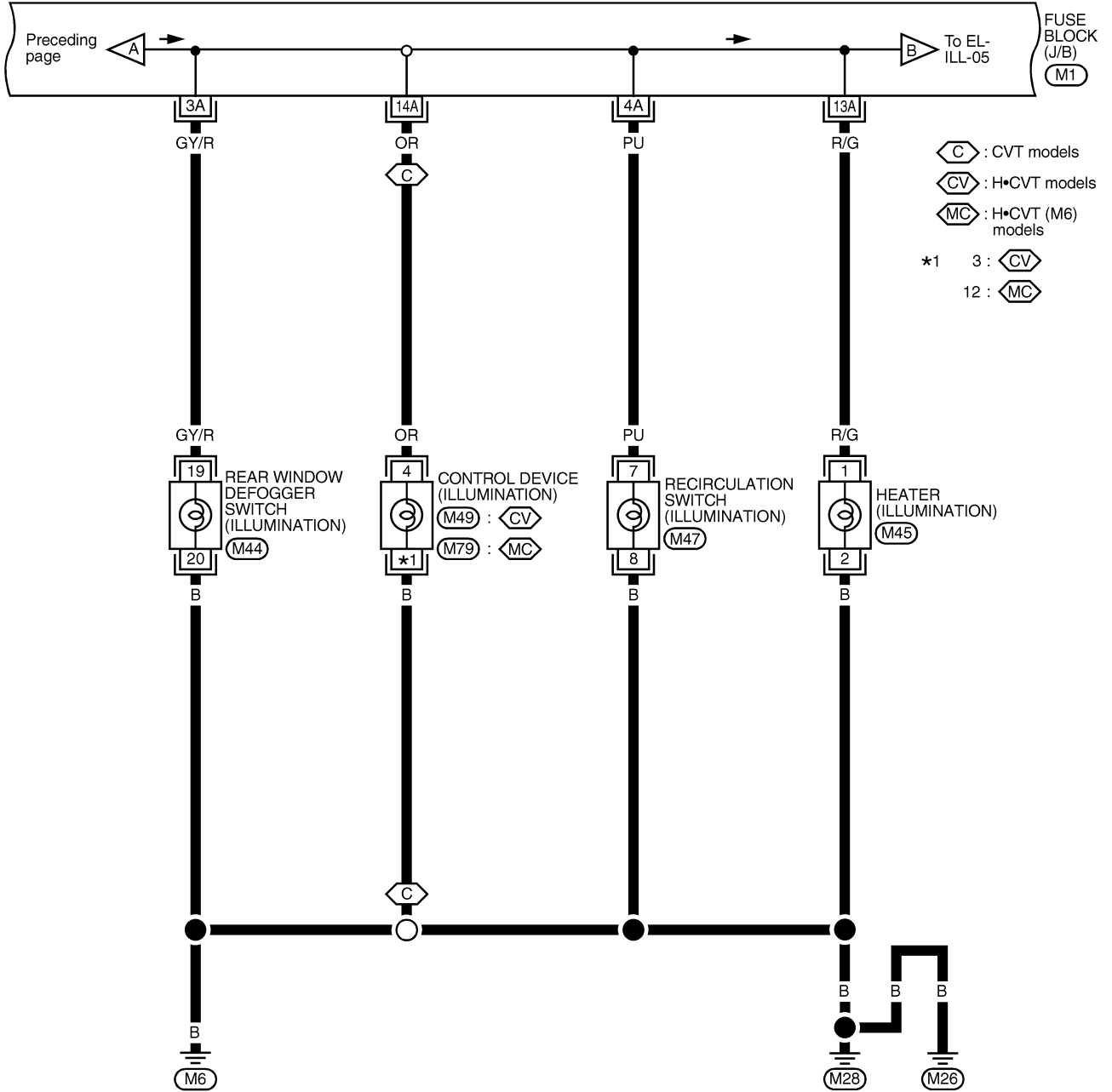
(M1) FUSE BLOCK - Junction Box (J/B)

(E104) FUSE BLOCK - Junction Box (J/B)

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02



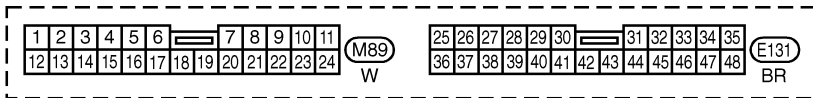
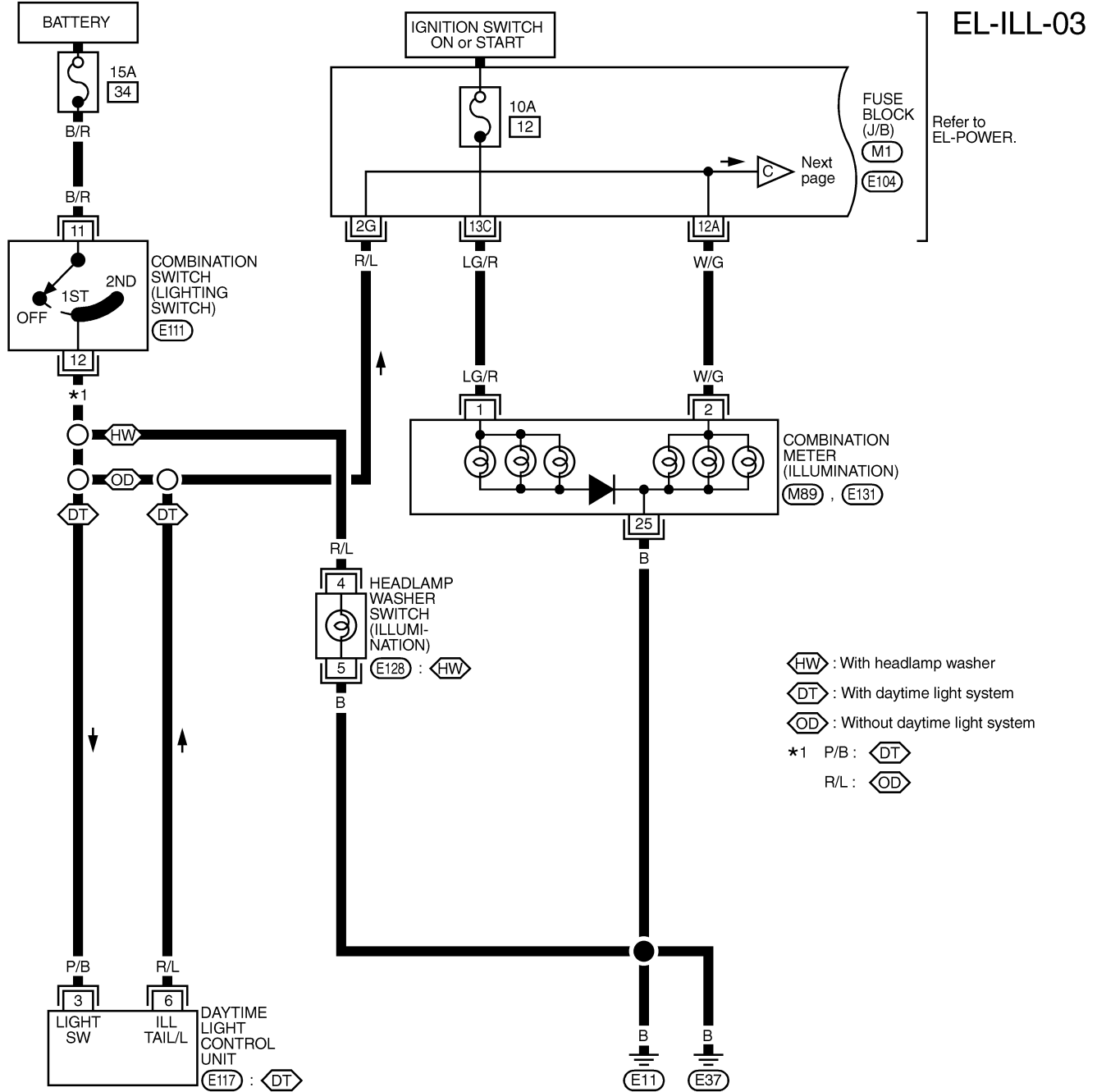
REFER TO THE FOLLOWING
 (M1) FUSE BLOCK-
 JUNCTION BOX (J/B)

YEL857C

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

MODELS AFTER VIN - P11U0548750



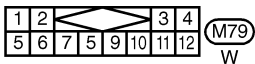
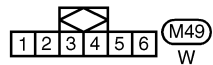
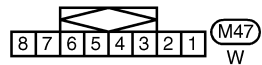
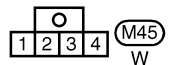
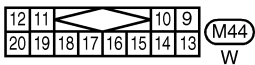
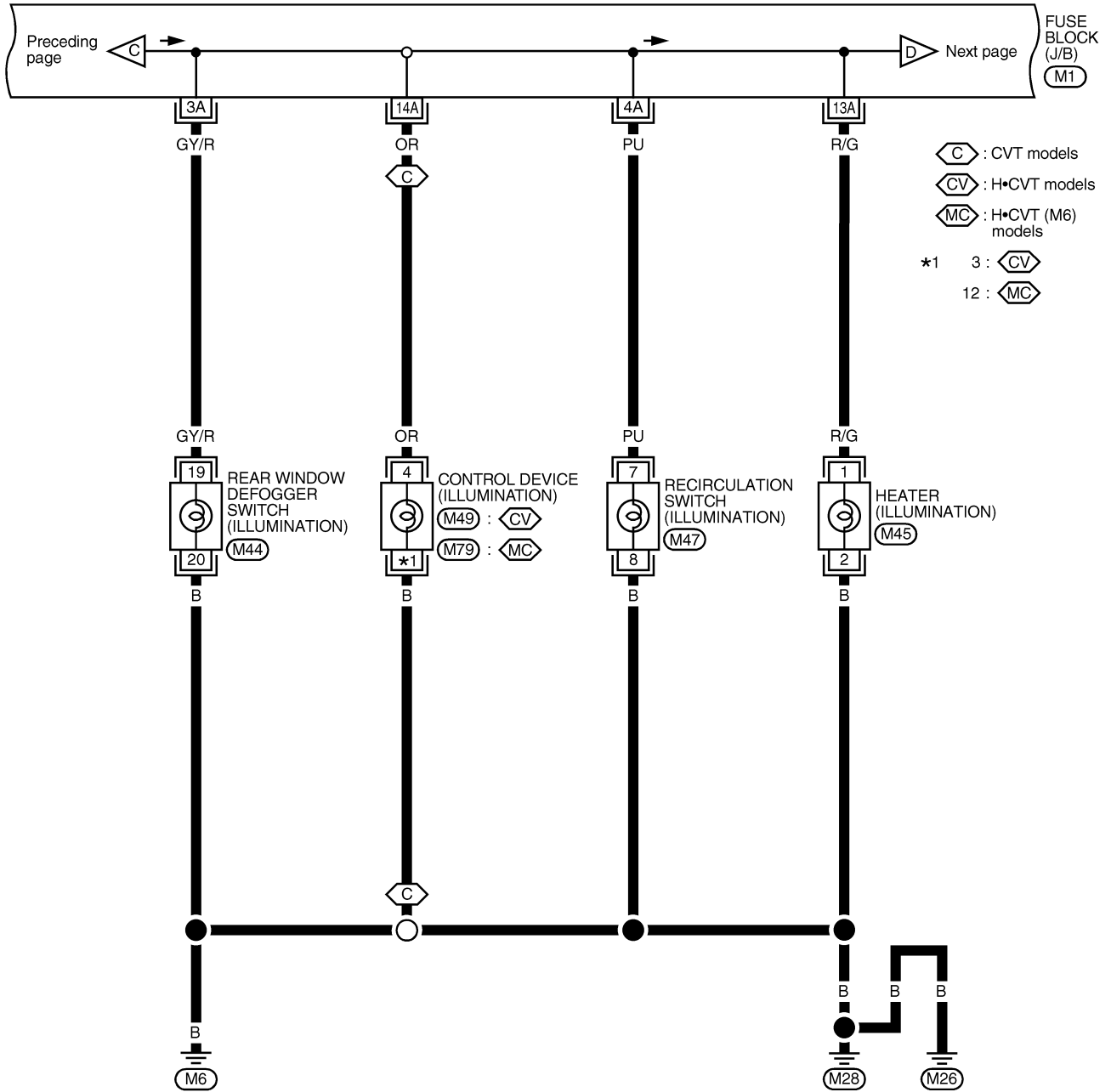
REFER TO THE FOLLOWING
 (M1), (E104) FUSE BLOCK-
 JUNCTION BOX (J/B)

YEL858C

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-04



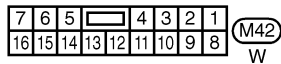
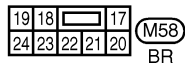
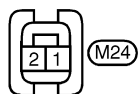
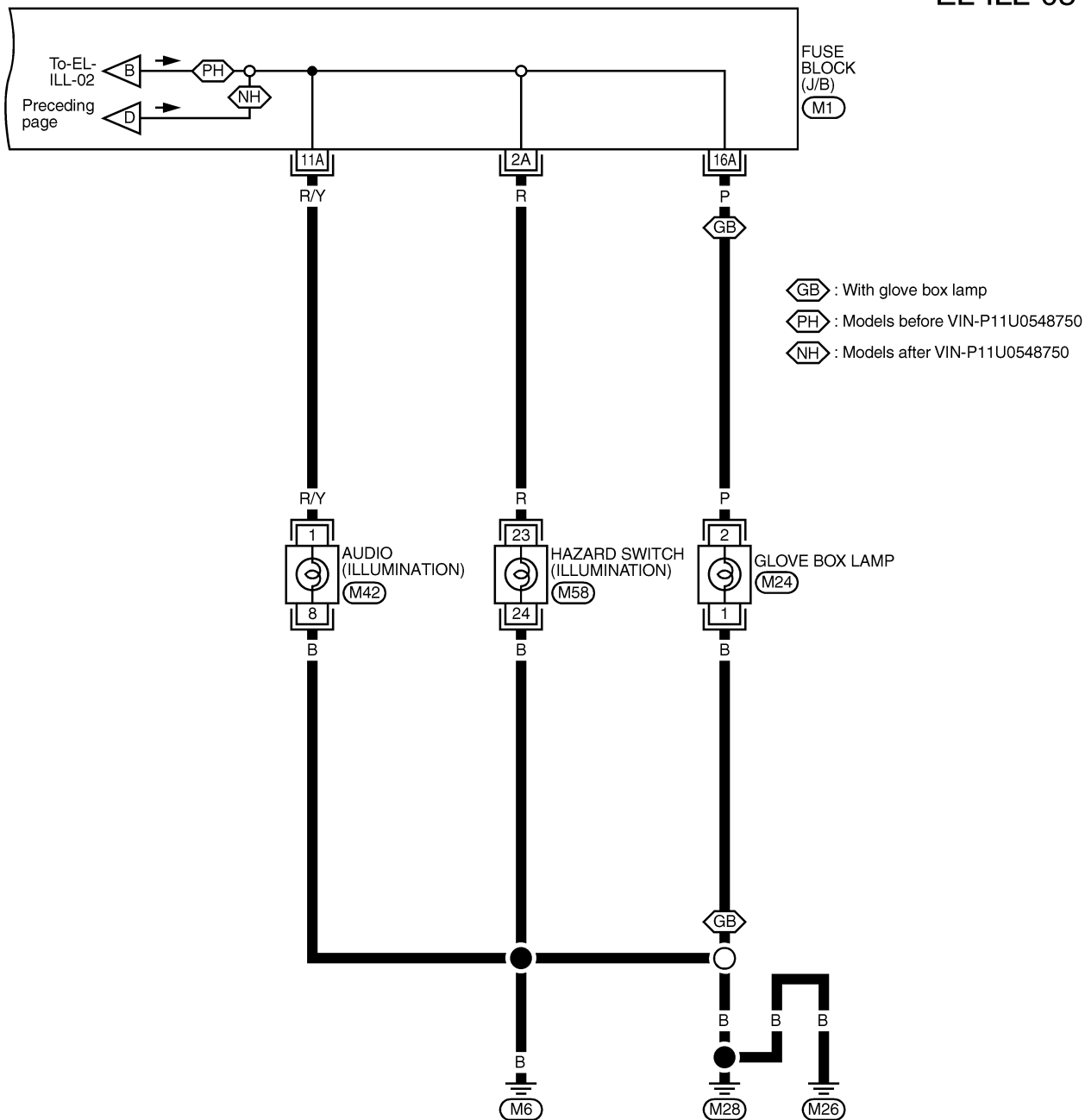
REFER TO THE FOLLOWING
 (M1) FUSE BLOCK-
 JUNCTION BOX (J/B)

YEL859C

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-05



REFER TO THE FOLLOWING

M1 FUSE BLOCK-
JUNCTION BOX (J/B)

YEL860C

System Description

INTERIOR LAMP TIMER OPERATION

The time control unit keeps the interior lamp illuminated for about 30 seconds when:

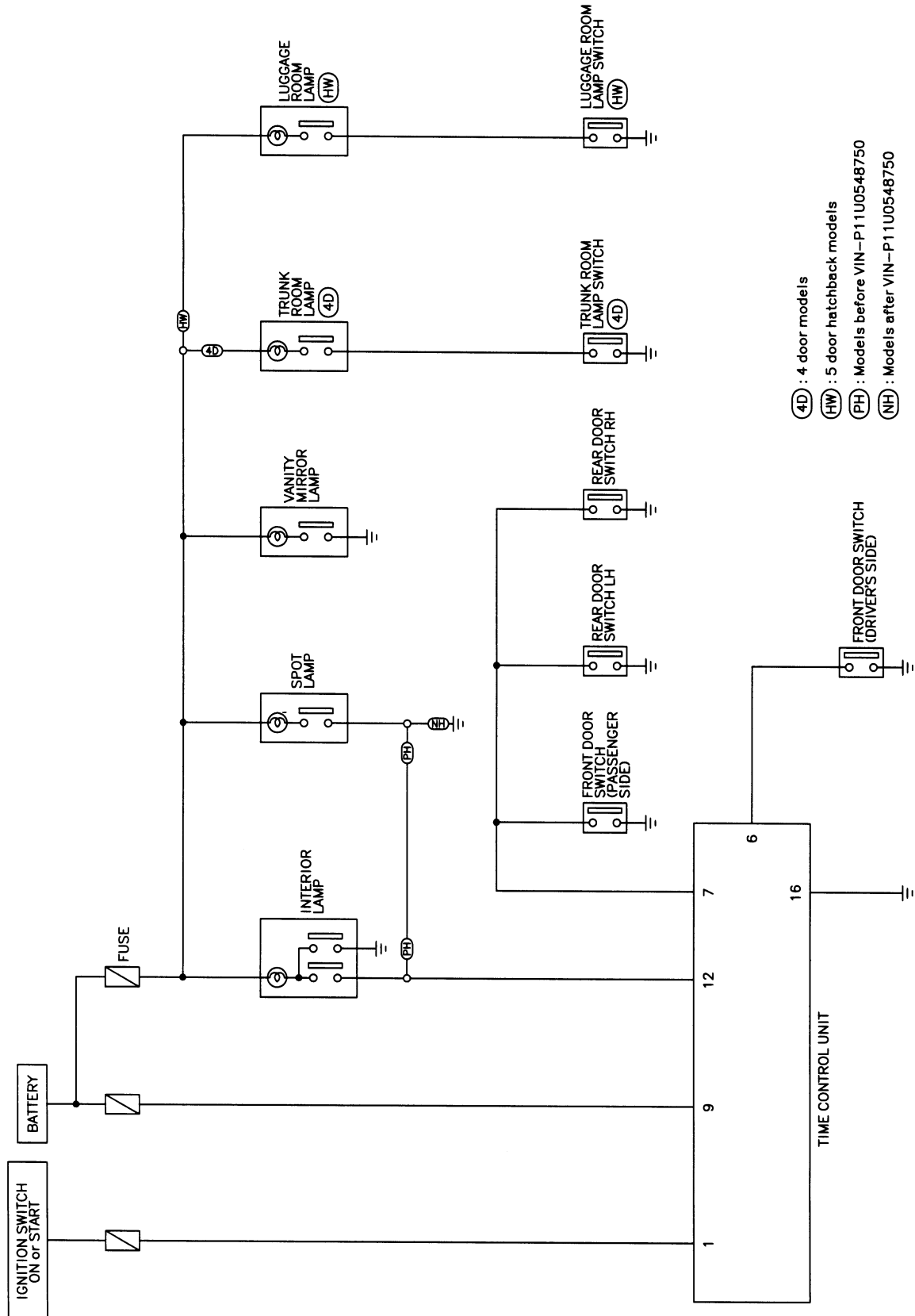
- the ignition key is turned from "ON" to "Acc" to "LOCK"
- the driver's door is unlocked
- a door is opened and then closed while the ignition switch is in the "OFF" position. (Interior lamp switch in the "DOOR" position).

The timer is canceled when:

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

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

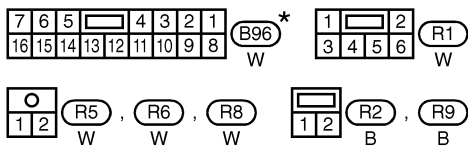
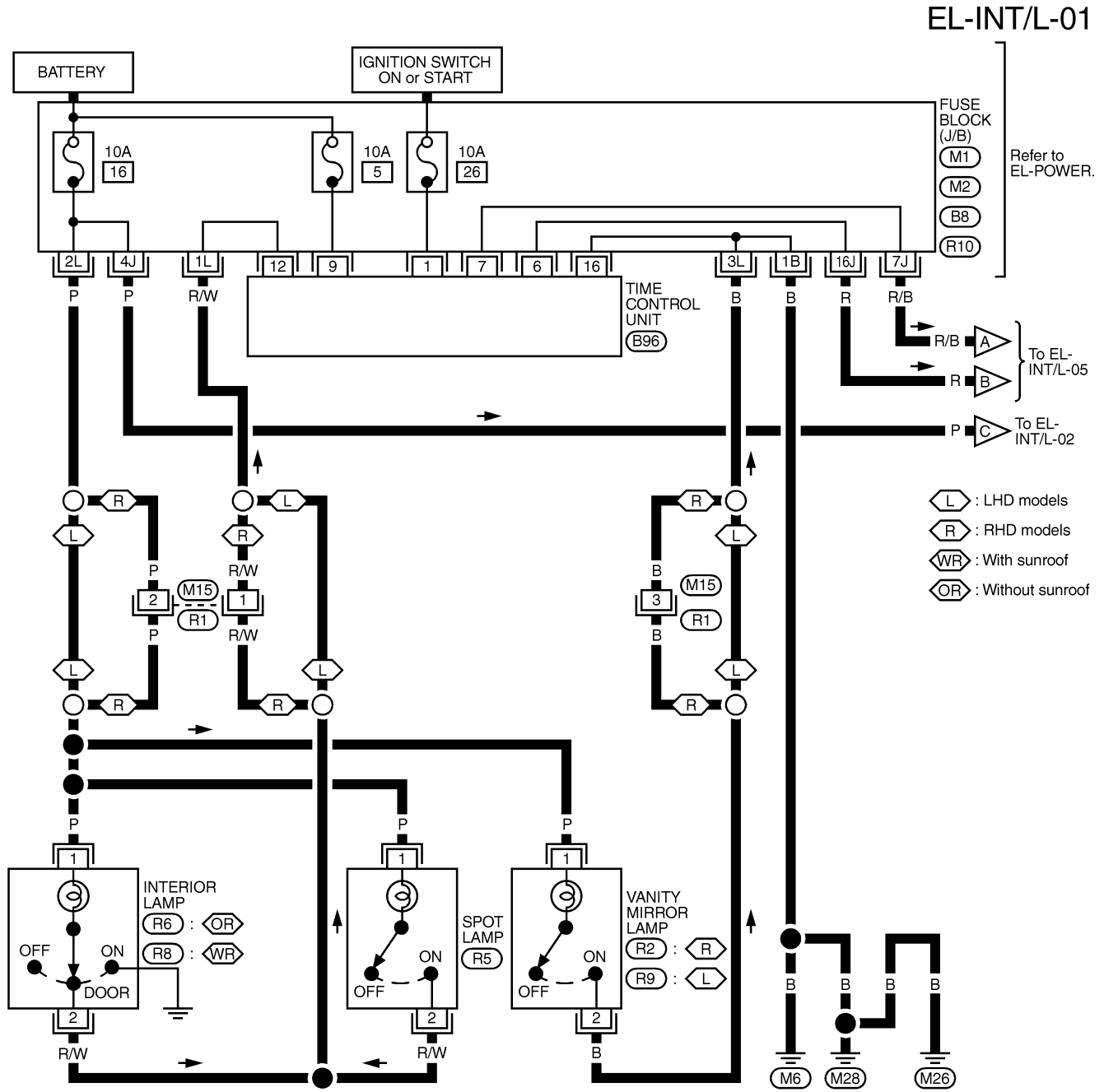
Schematic



INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L —

MODELS BEFORE VIN - P11U0548750



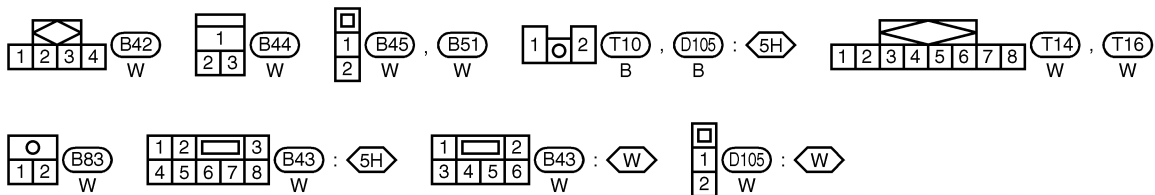
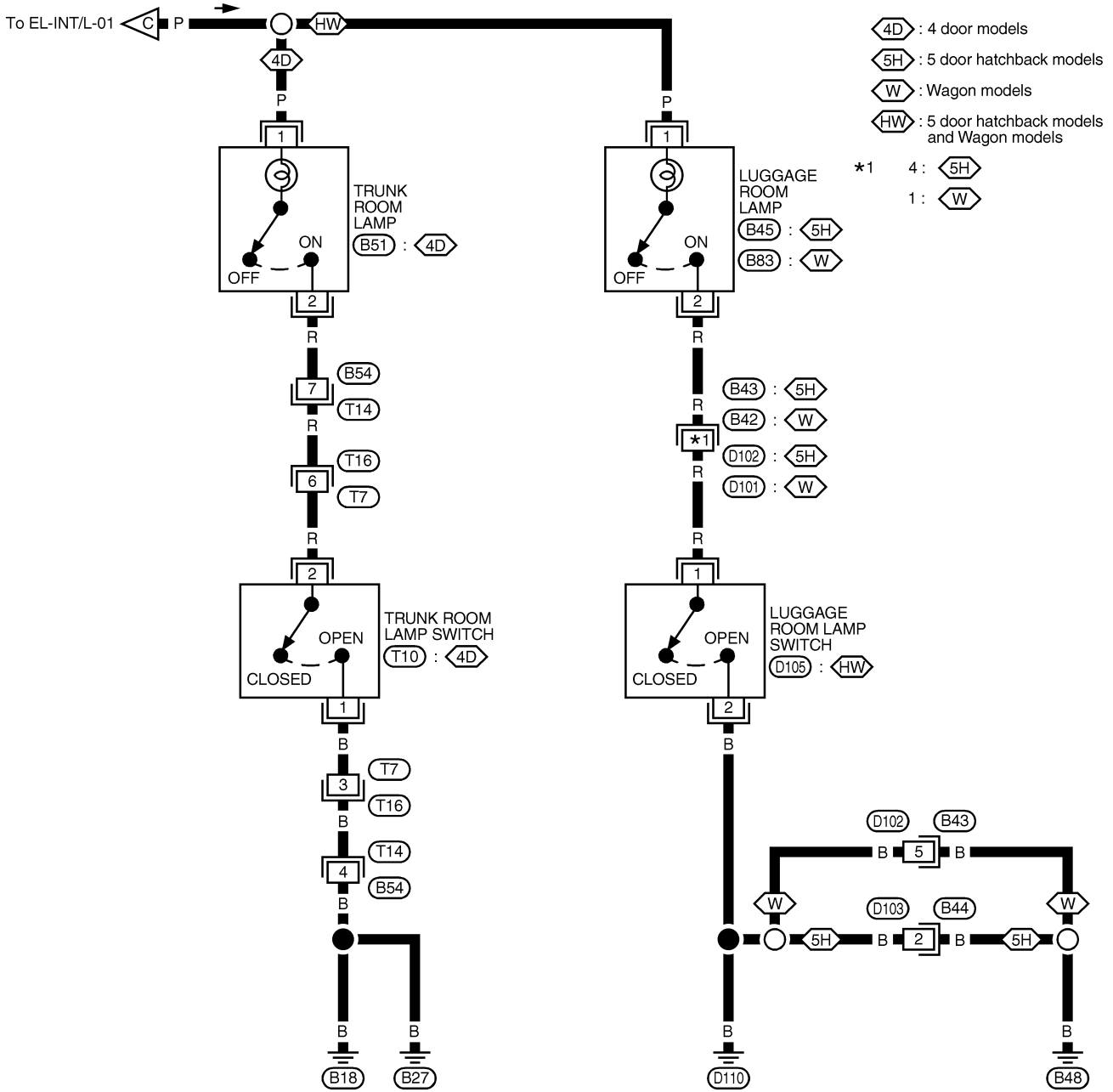
REFER TO THE FOLLOWING
 (M1), (M2), (B8), (R10)
 FUSE BLOCK-
 JUNCTION BOX (J/B)

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

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-02



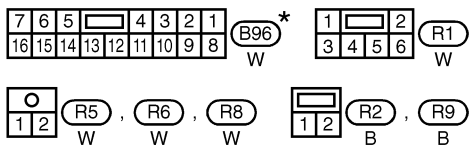
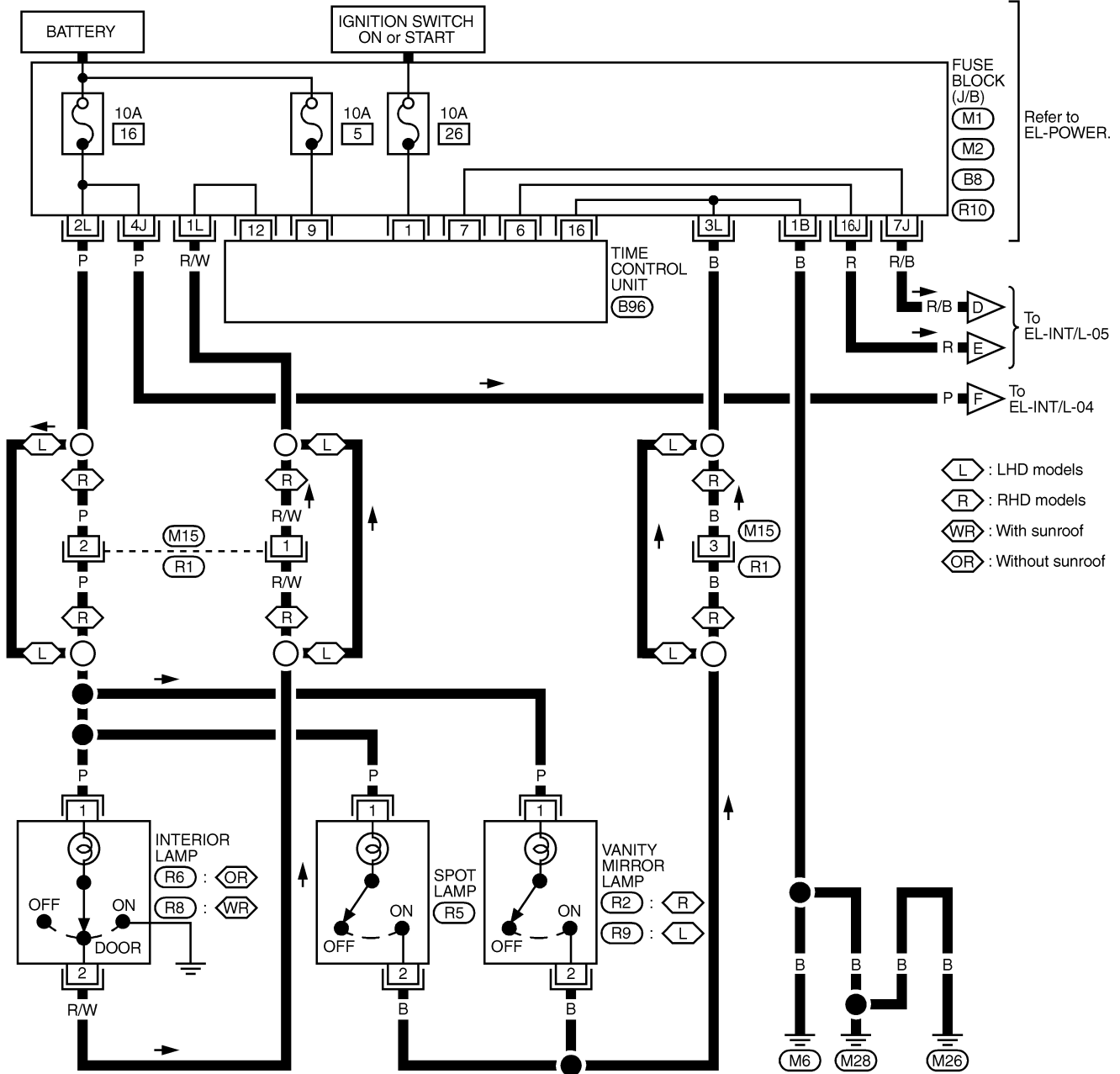
YEL865C

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

MODELS AFTER VIN - P11U0548750

EL-INT/L-03



REFER TO THE FOLLOWING
 (M1), (M2), (B8), (R10)
 FUSE BLOCK-
 JUNCTION BOX (J/B)

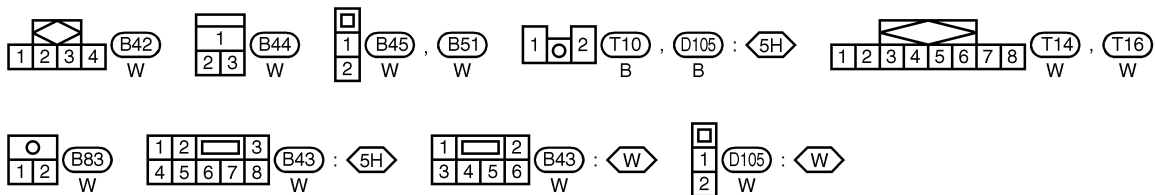
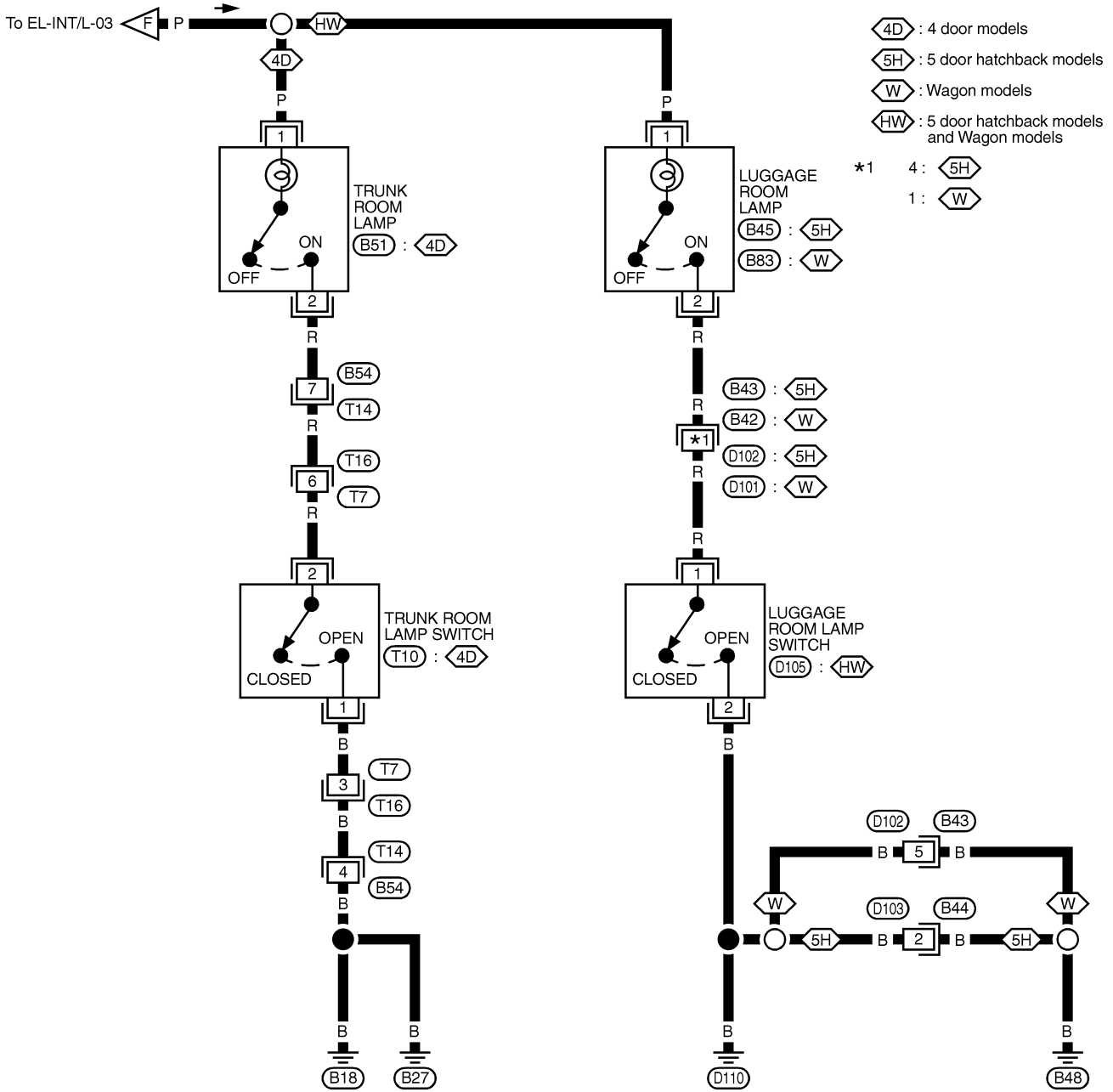
*: This connector is not shown in "HARNESS LAYOUT" of EL section.

YEL863C

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

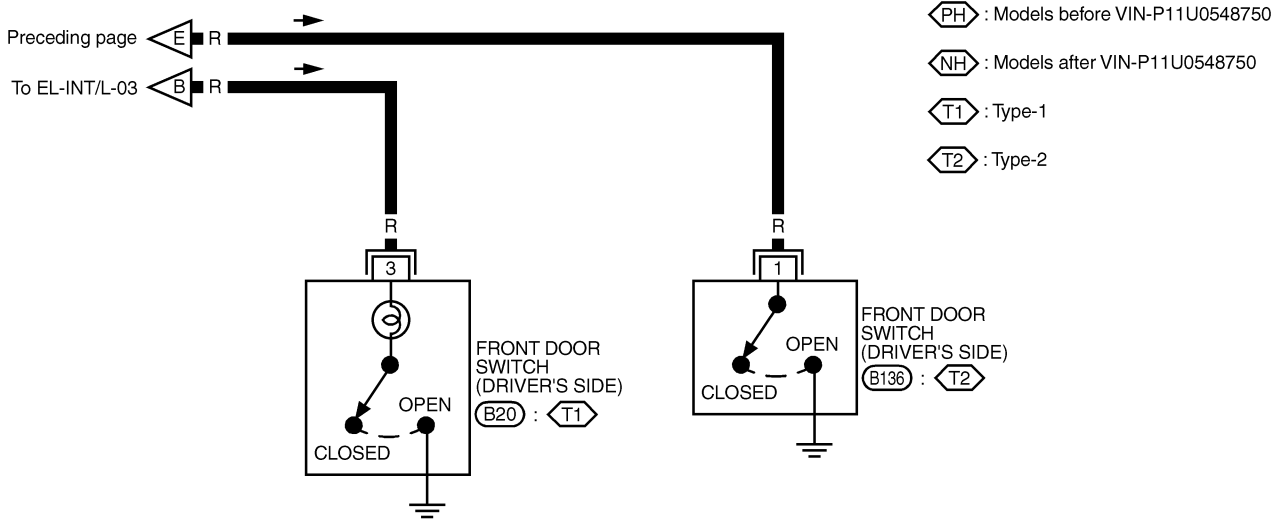
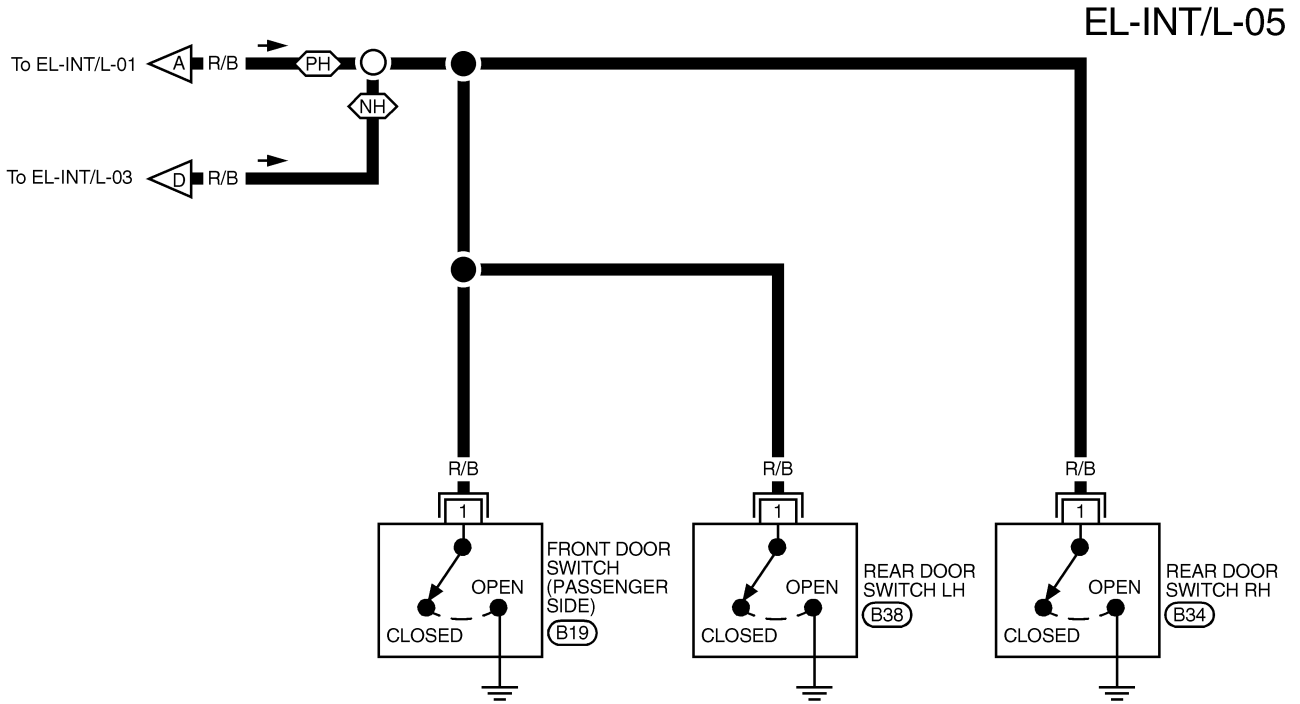
EL-INT/L-04



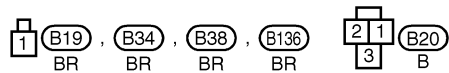
YEL866C

INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)



- PH : Models before VIN-P11U0548750
- NH : Models after VIN-P11U0548750
- T1 : Type-1
- T2 : Type-2



BULB SPECIFICATIONS

Headlamp

	Wattage (12 volt)
High/low (without xenon headlamp)	55/55
High/low (with xenon headlamp)	55/Discharge D2S type

Exterior Lamp

	Wattage (12 volt)	
Front combination lamp	Parking	5
	Turn signal	21
Front fog lamp		55 (H1)
Rear combination lamp	Turn signal	21
	Stop/Tail	21/5
	Back-up	21
Side turn signal lamp		5
License plate lamp		5
High-mounted stop lamp		21

Interior Lamp

	Wattage (12 volt)
Interior lamp	10
Map lamp	3
Step lamp	3.4
Trunk room lamp	3.4
Luggage room lamp	5

System Description

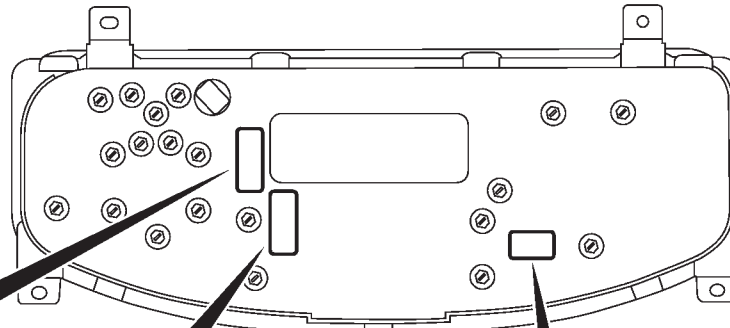
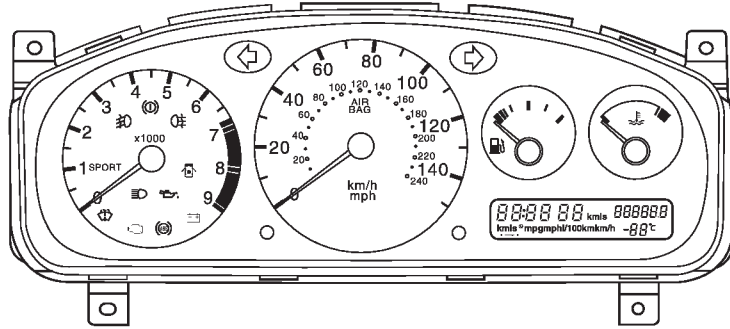
UNIFIED CONTROL METER

- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by control unit combined with speedometer.
- Digital meter is adopted for odo/trip meter.*
*The record of the odometer 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.

METER AND GAUGES

Combination Meter

MODELS BEFORE VIN - P11U0548750

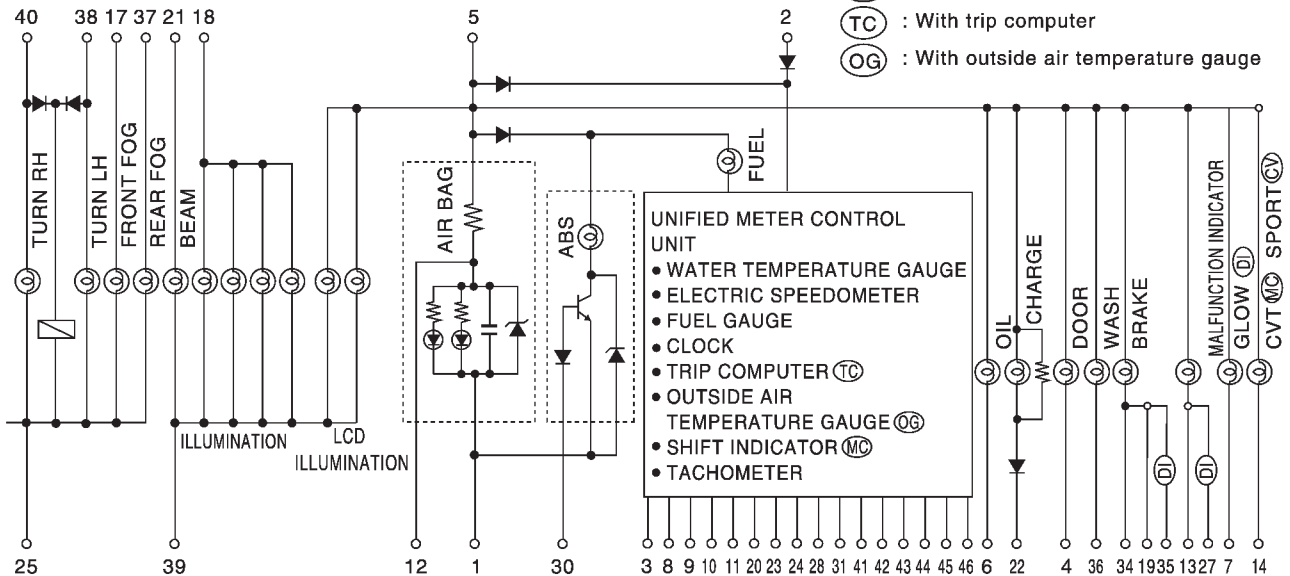


13	1
14	2
15	3
16	4
5	5
6	6
7	7
8	8
17	9
18	10
19	11
20	12

33	21
34	22
35	23
36	24
25	25
26	26
27	27
28	28
37	29
38	30
39	31
40	32

52	51	50	49
48	47	46	45
44	43	42	41

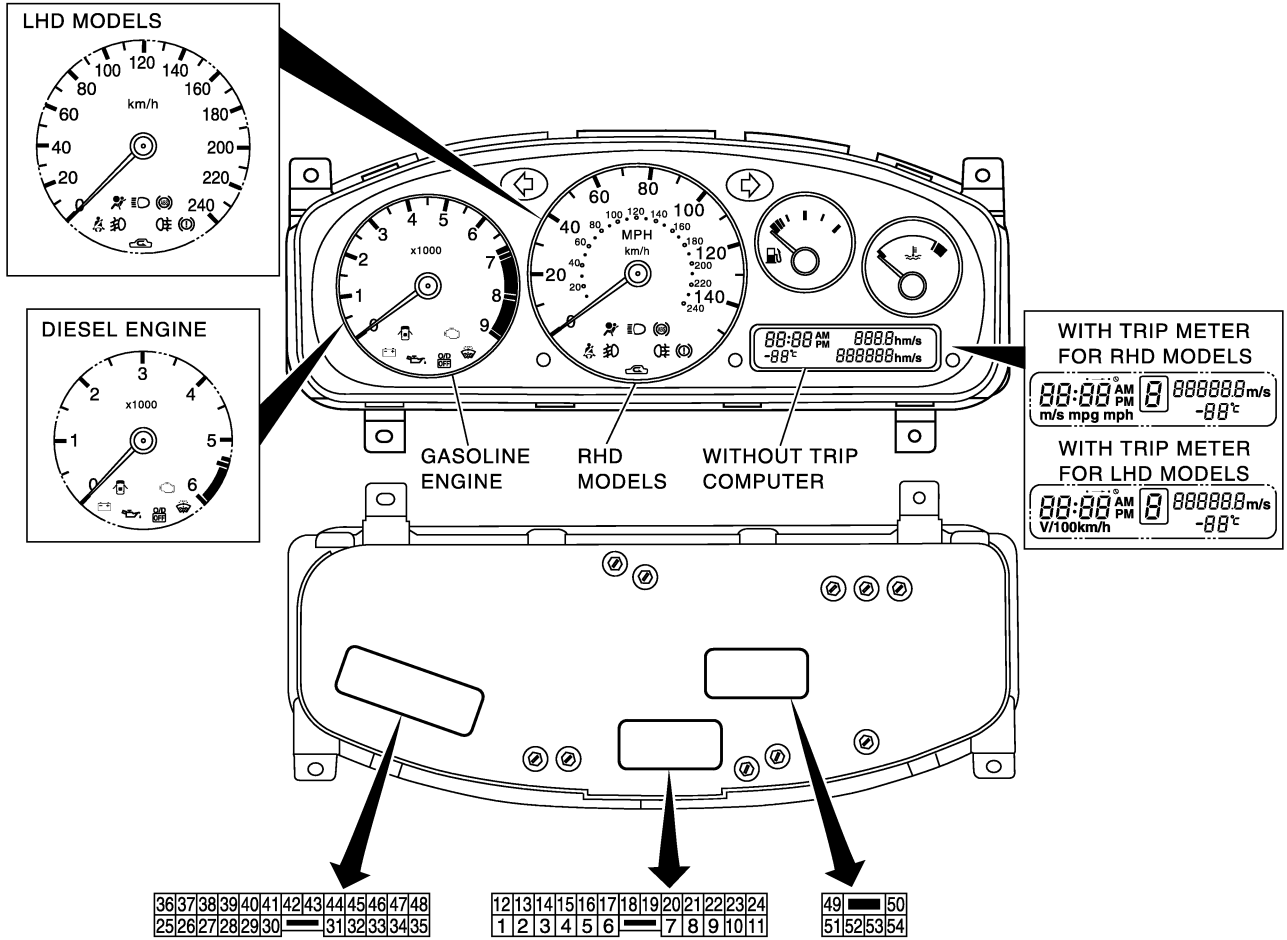
- (DI) : With diesel engine
- (CV) : H•CVT models
- (MC) : H•CVT (M6) models
- (TC) : With trip computer
- (OG) : With outside air temperature gauge



METER AND GAUGES

Combination Meter (Cont'd)

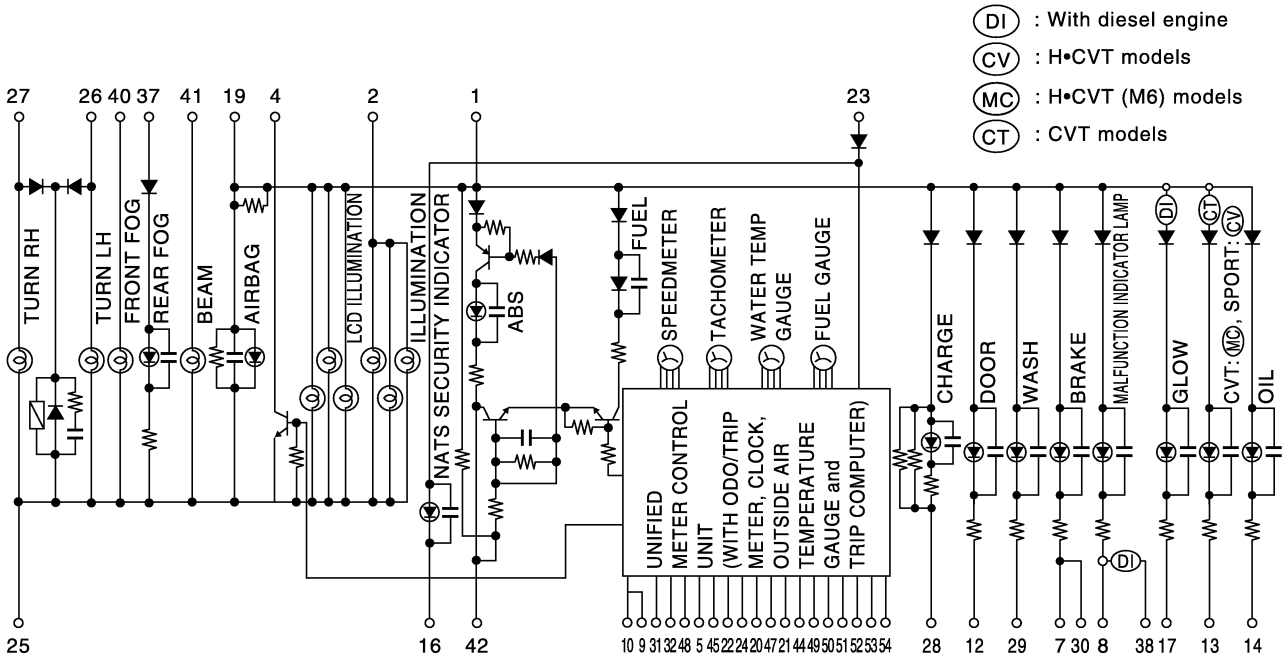
MODELS AFTER VIN - P11U0548750



36 37 38 39 40 41 42 43 44 45 46 47 48
25 26 27 28 29 30 31 32 33 34 35

12 13 14 15 16 17 18 19 20 21 22 23 24
1 2 3 4 5 6 7 8 9 10 11

49 50
51 52 53 54

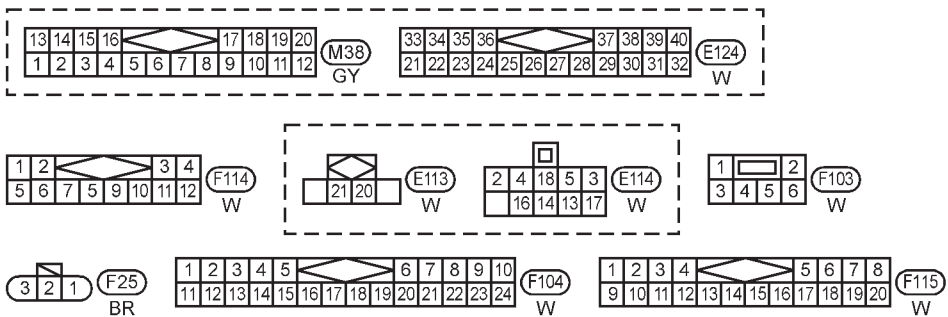
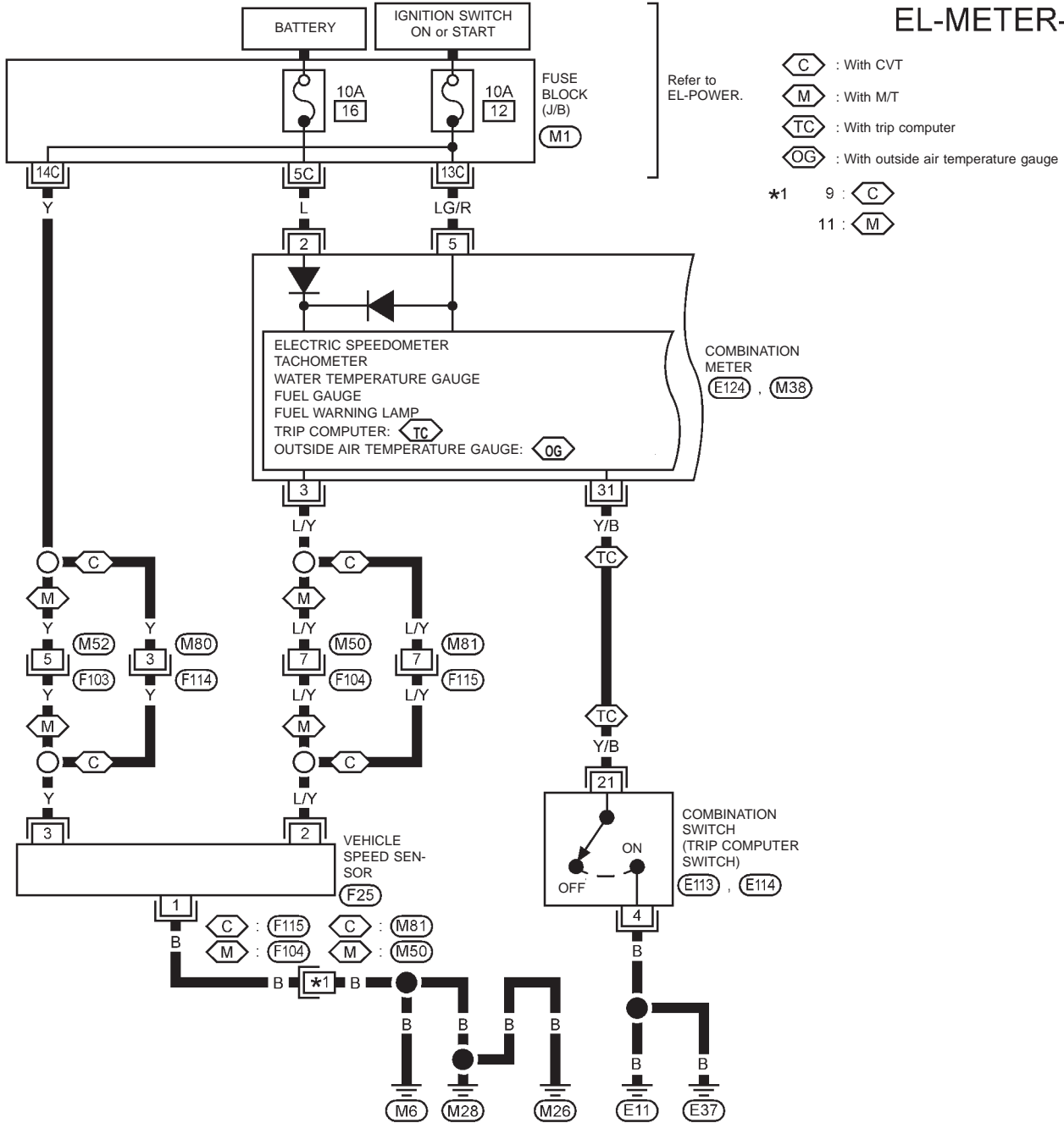


YEL956C

METER AND GAUGES

Wiring Diagram — METER —/MODELS BEFORE VIN - P11U0548750

EL-METER-01

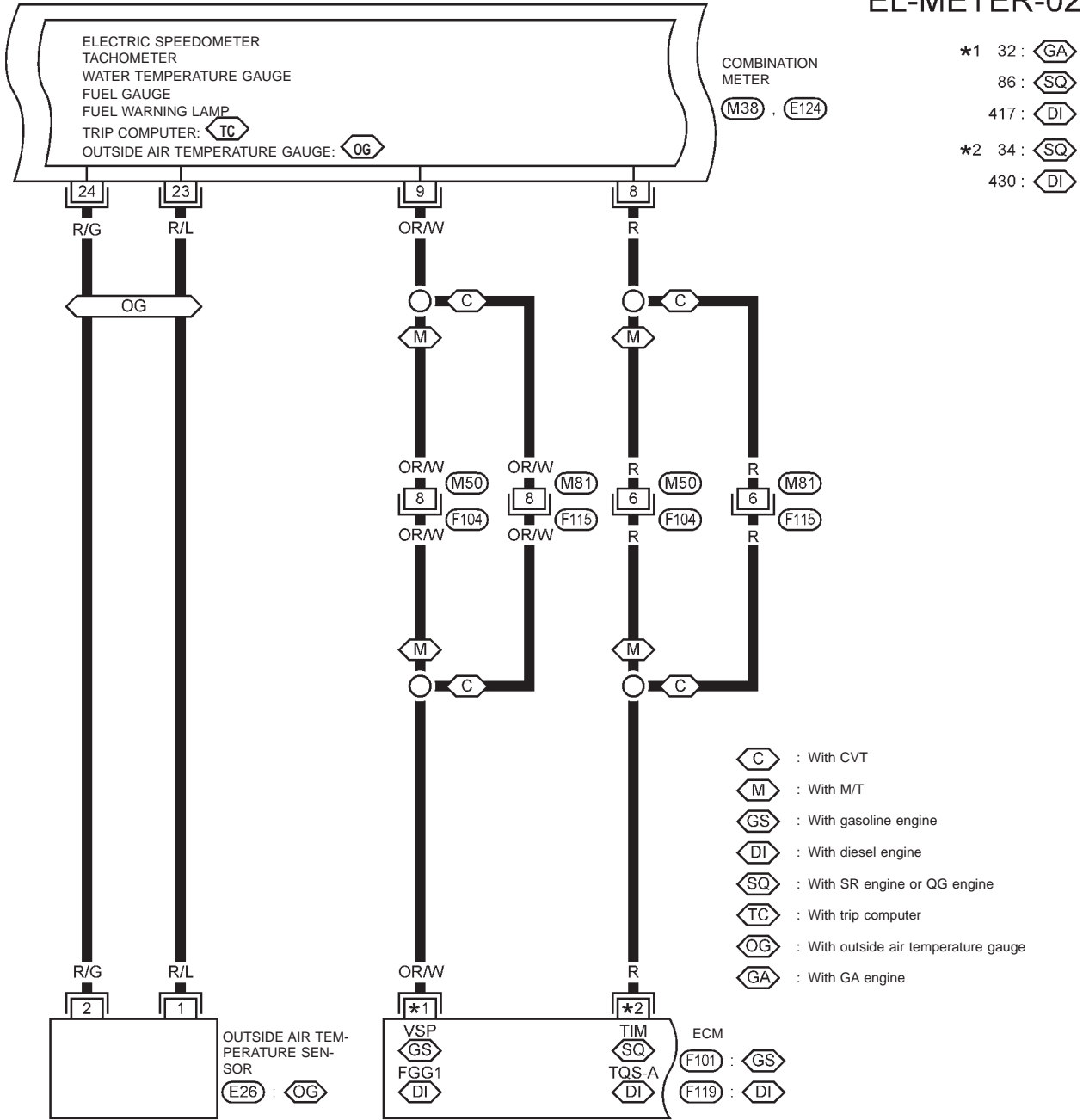


REFER TO THE FOLLOWING
(M1) FUSE BLOCK - Junction Box (J/B)

METER AND GAUGES

Wiring Diagram — METER —/MODELS BEFORE VIN - P11U0548750 (Cont'd)

EL-METER-02



REFER TO THE FOLLOWING

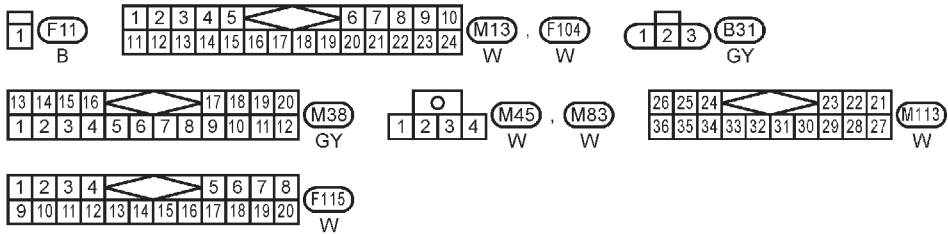
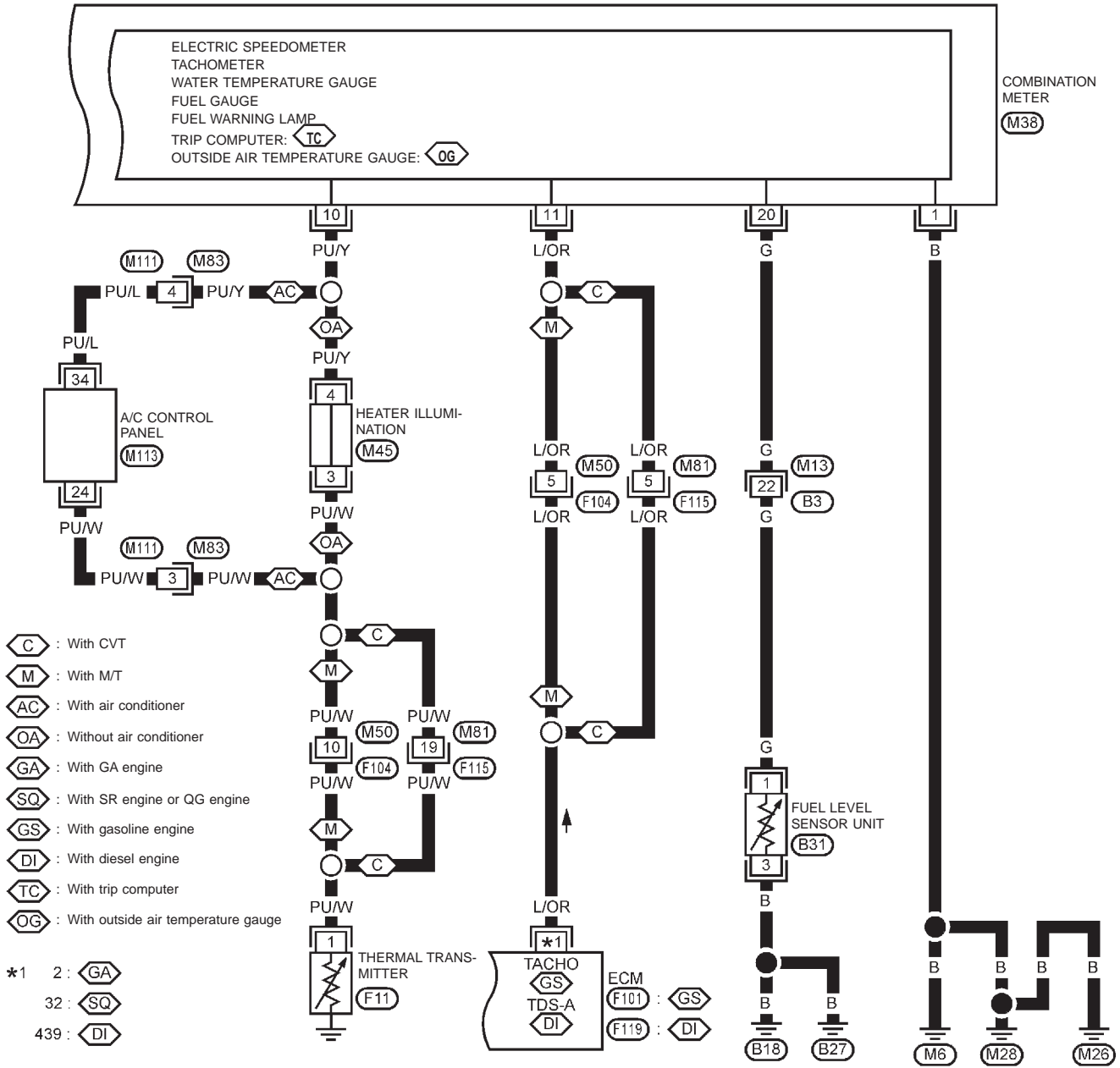
- F101 ELECTRICAL UNITS
- F119 ELECTRICAL UNITS

YEL165C

METER AND GAUGES

Wiring Diagram — METER —/MODELS BEFORE VIN - P11U0548750 (Cont'd)

EL-METER-03



REFER TO THE FOLLOWING
F101 ELECTRICAL UNITS
F119 ELECTRICAL UNITS

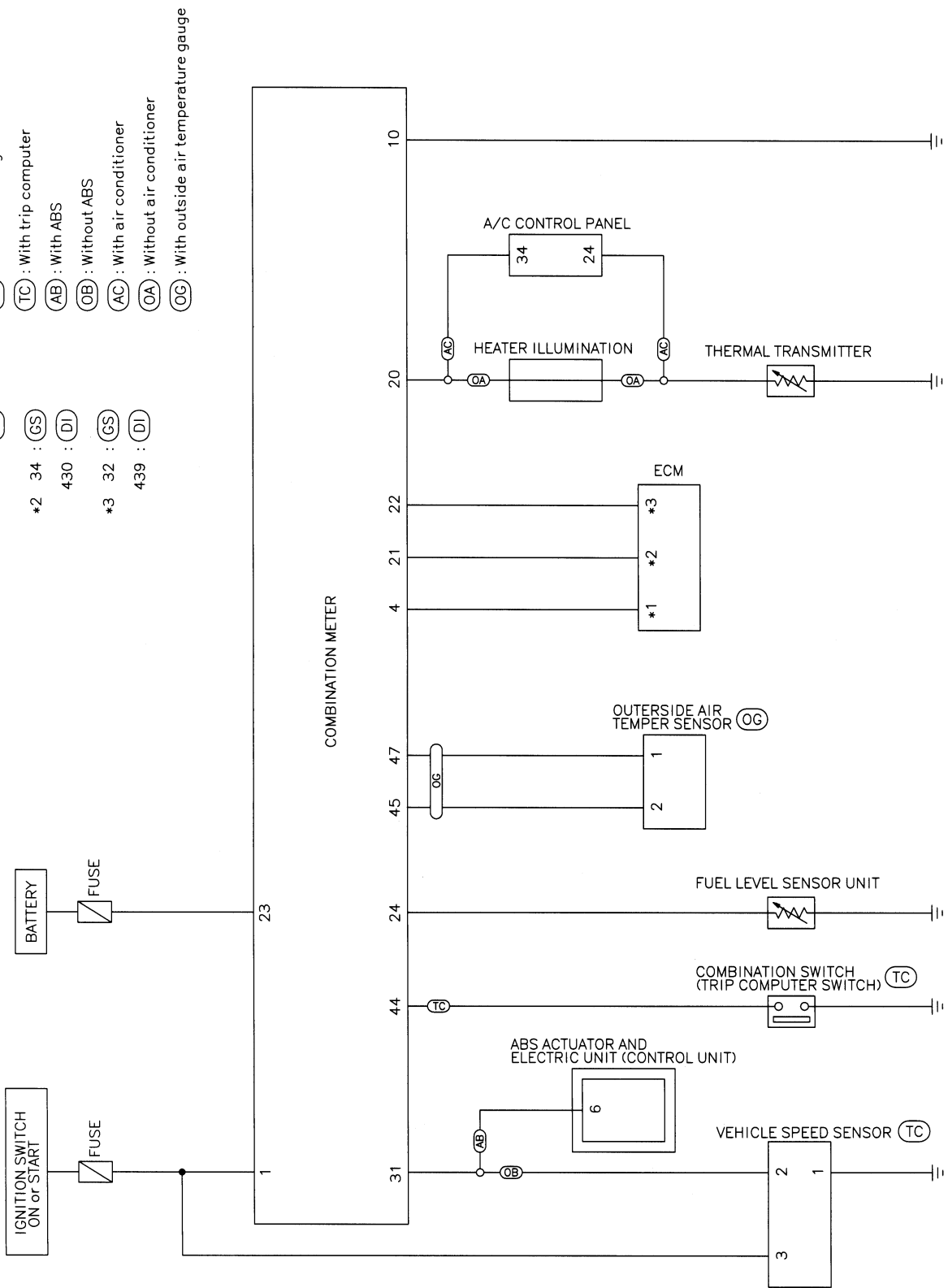
METER AND GAUGES

Schematic

M/T MODELS AFTER VIN - P11U0548750

- (GS) : With gasoline engine
- (DI) : With diesel engine
- (TC) : With trip computer
- (AB) : With ABS
- (OB) : Without ABS
- (AC) : With air conditioner
- (OA) : Without air conditioner
- (OG) : With outside air temperature gauge

- *1 86 : (GS)
- 417 : (DI)
- *2 34 : (GS)
- 430 : (DI)
- *3 32 : (GS)
- 439 : (DI)



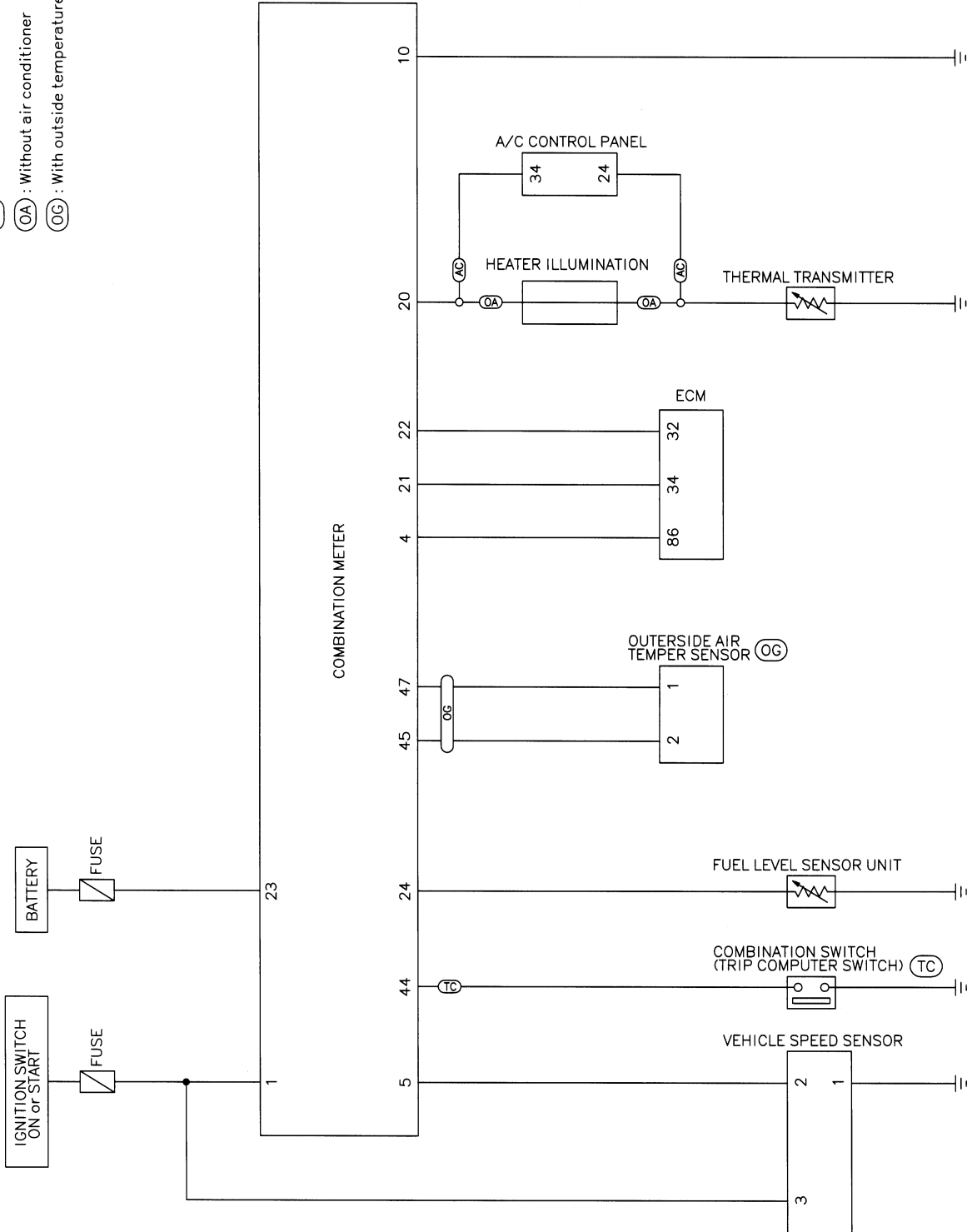
YEL867C

METER AND GAUGES

Schematic (Cont'd)

CVT MODELS AFTER VIN - P11U0548750

- (TC) : With trip computer
- (AC) : With air conditioner
- (OA) : Without air conditioner
- (OG) : With outside temperature gauge

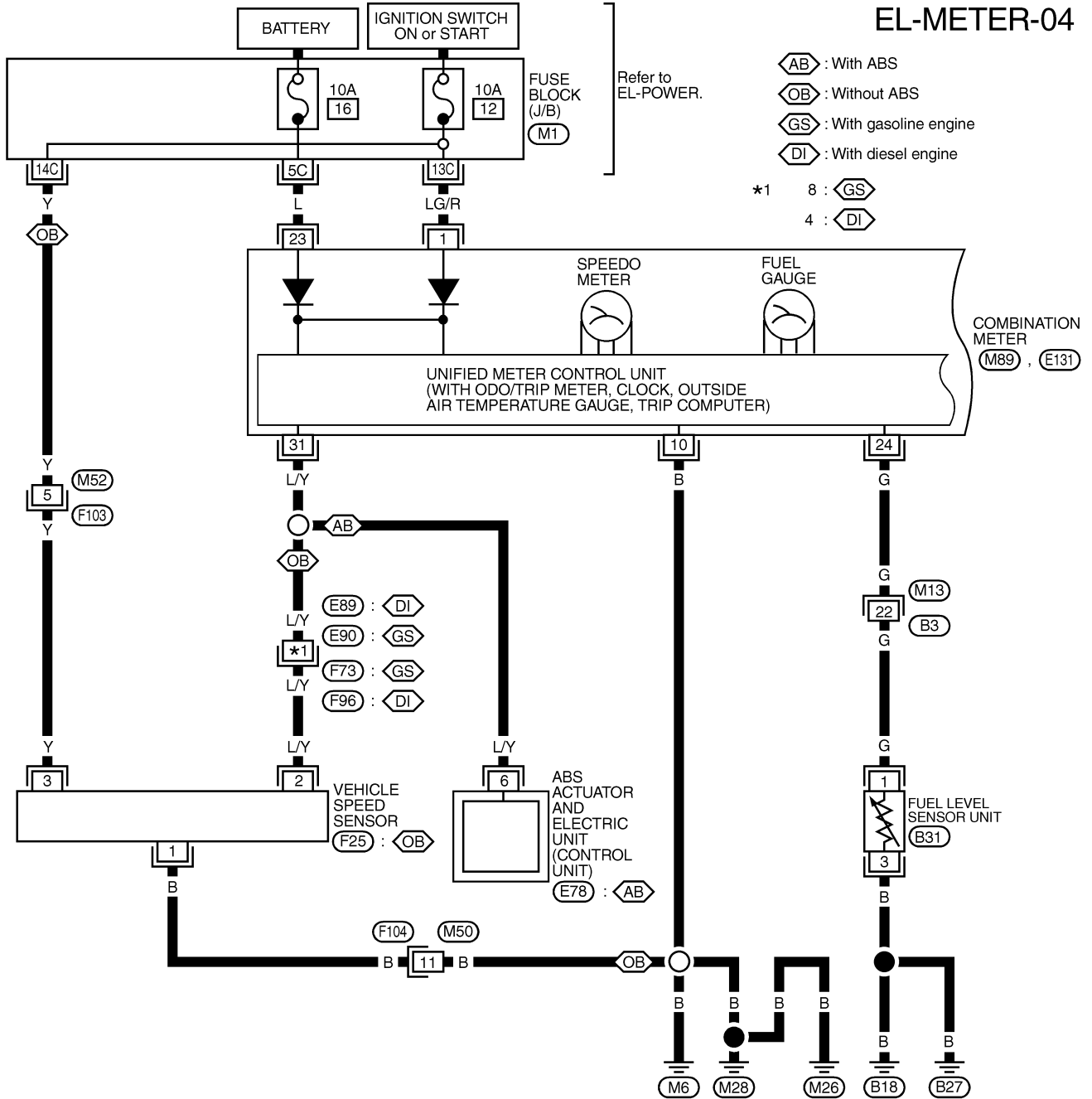


YEL937C

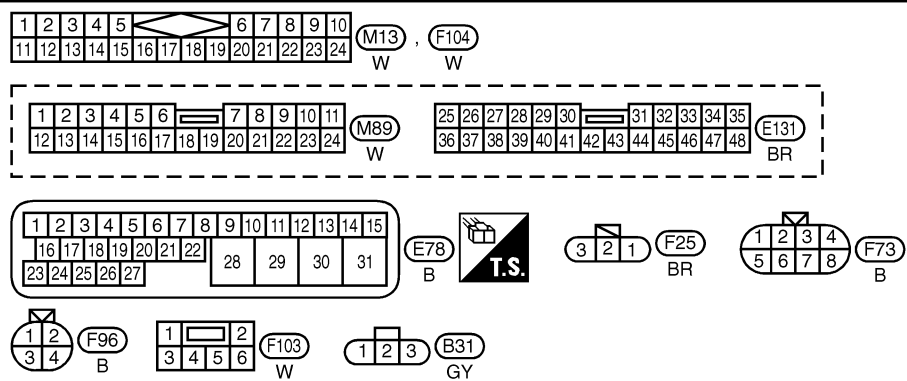
METER AND GAUGES

Wiring Diagram — METER —/M/T MODELS AFTER VIN - P11U0548750

EL-METER-04



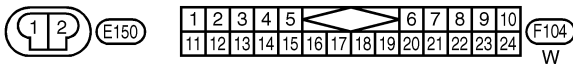
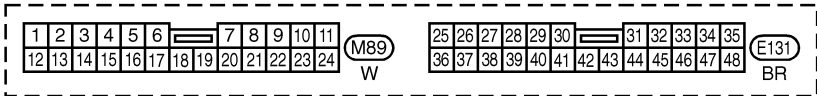
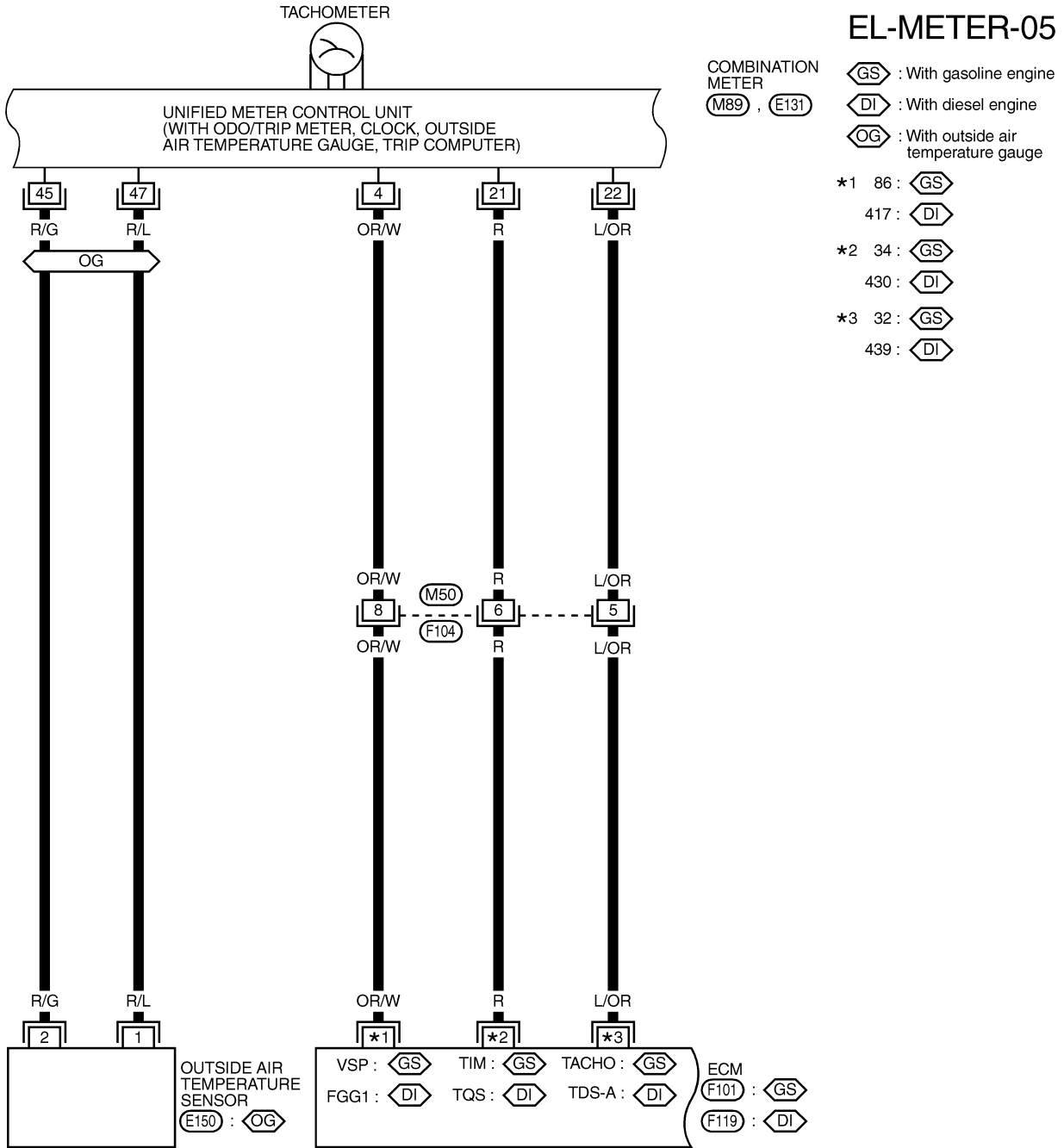
- ⬡AB : With ABS
 - ⬡OB : Without ABS
 - ⬡GS : With gasoline engine
 - ⬡DI : With diesel engine
- *1 8 : ⬡GS
 4 : ⬡DI



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

METER AND GAUGES

Wiring Diagram — METER —/M/T MODELS AFTER VIN - P11U0548750 (Cont'd)

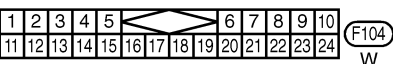
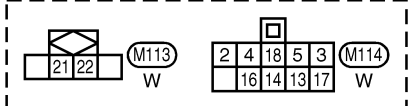
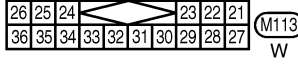
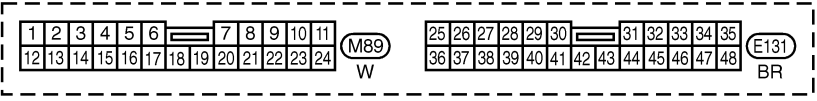
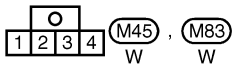
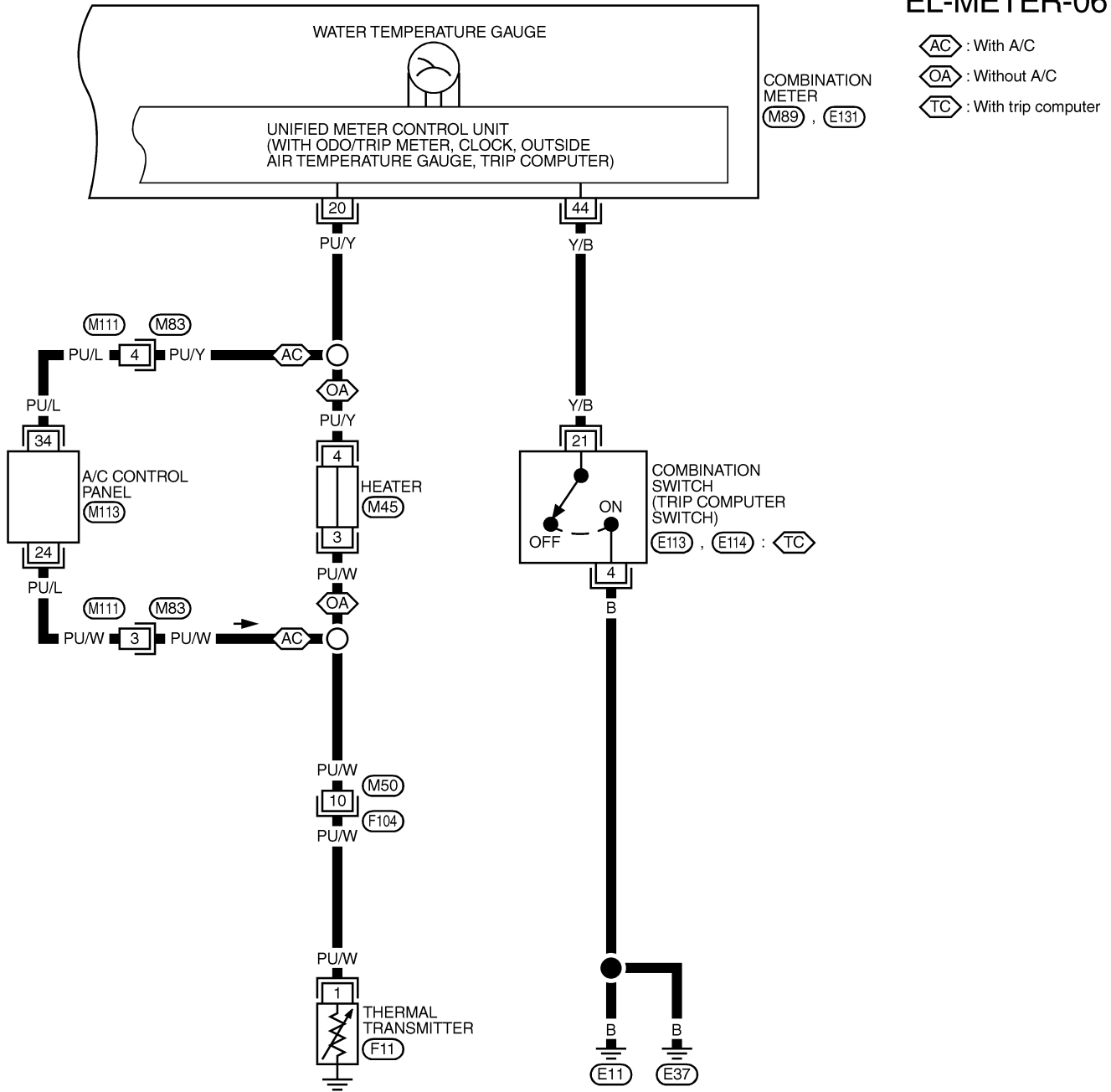


REFER TO THE FOLLOWING
(F101), (F119) ELECTRICAL UNITS

METER AND GAUGES

Wiring Diagram — METER —/M/T MODELS AFTER VIN - P11U0548750 (Cont'd)

EL-METER-06

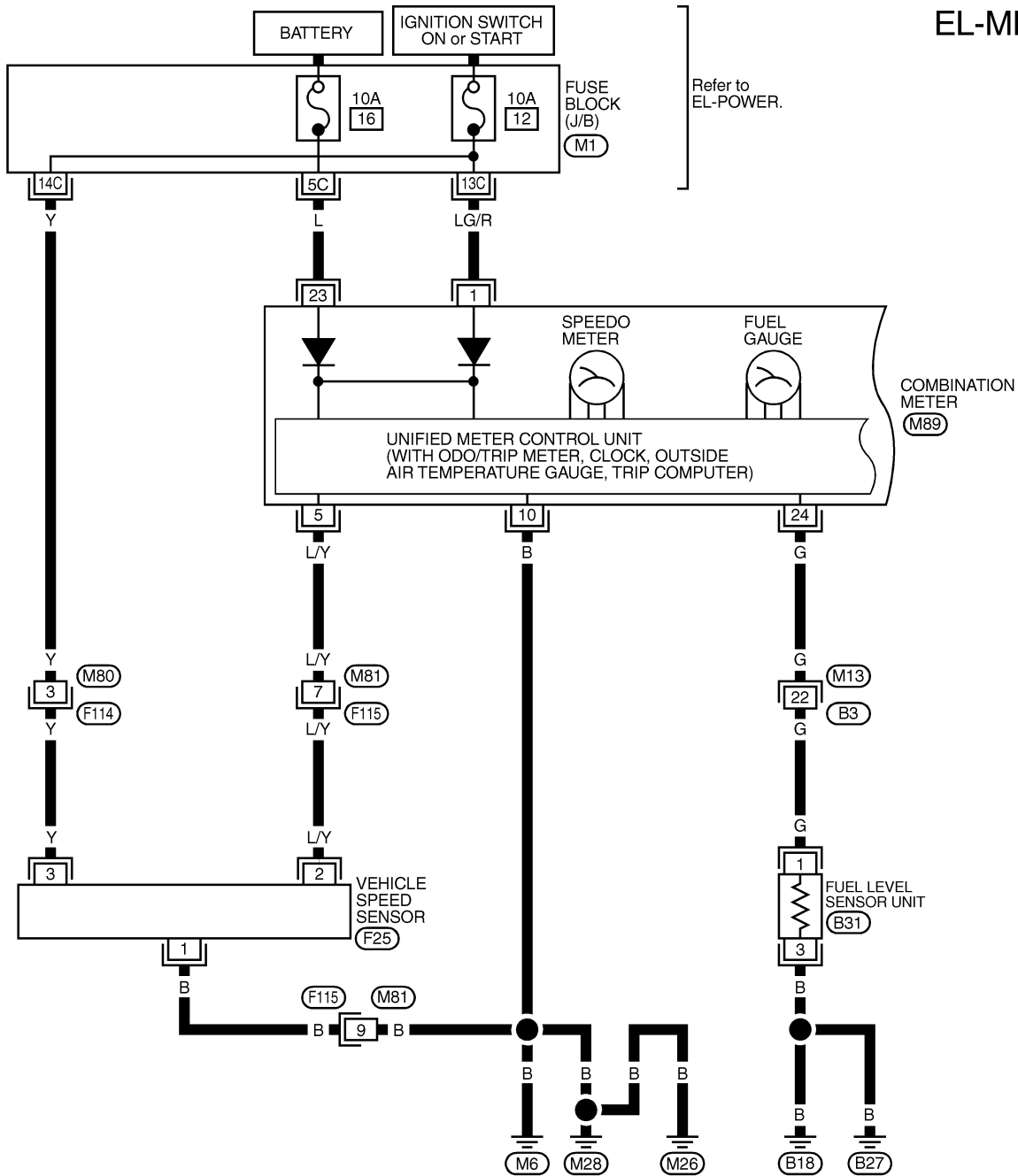


YEL870C

METER AND GAUGES

Wiring Diagram — METER —/CVT MODELS AFTER VIN - P11U0548750

EL-METER-07

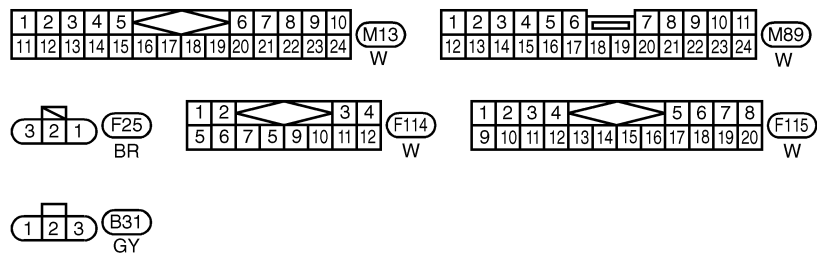


Refer to EL-POWER.

COMBINATION METER (M89)

VEHICLE SPEED SENSOR (F25)

FUEL LEVEL SENSOR UNIT (B31)




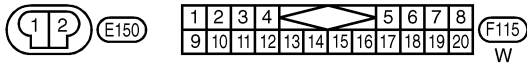
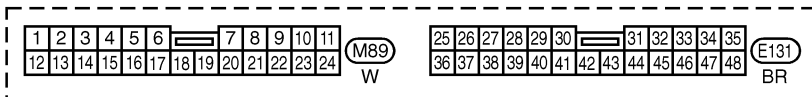
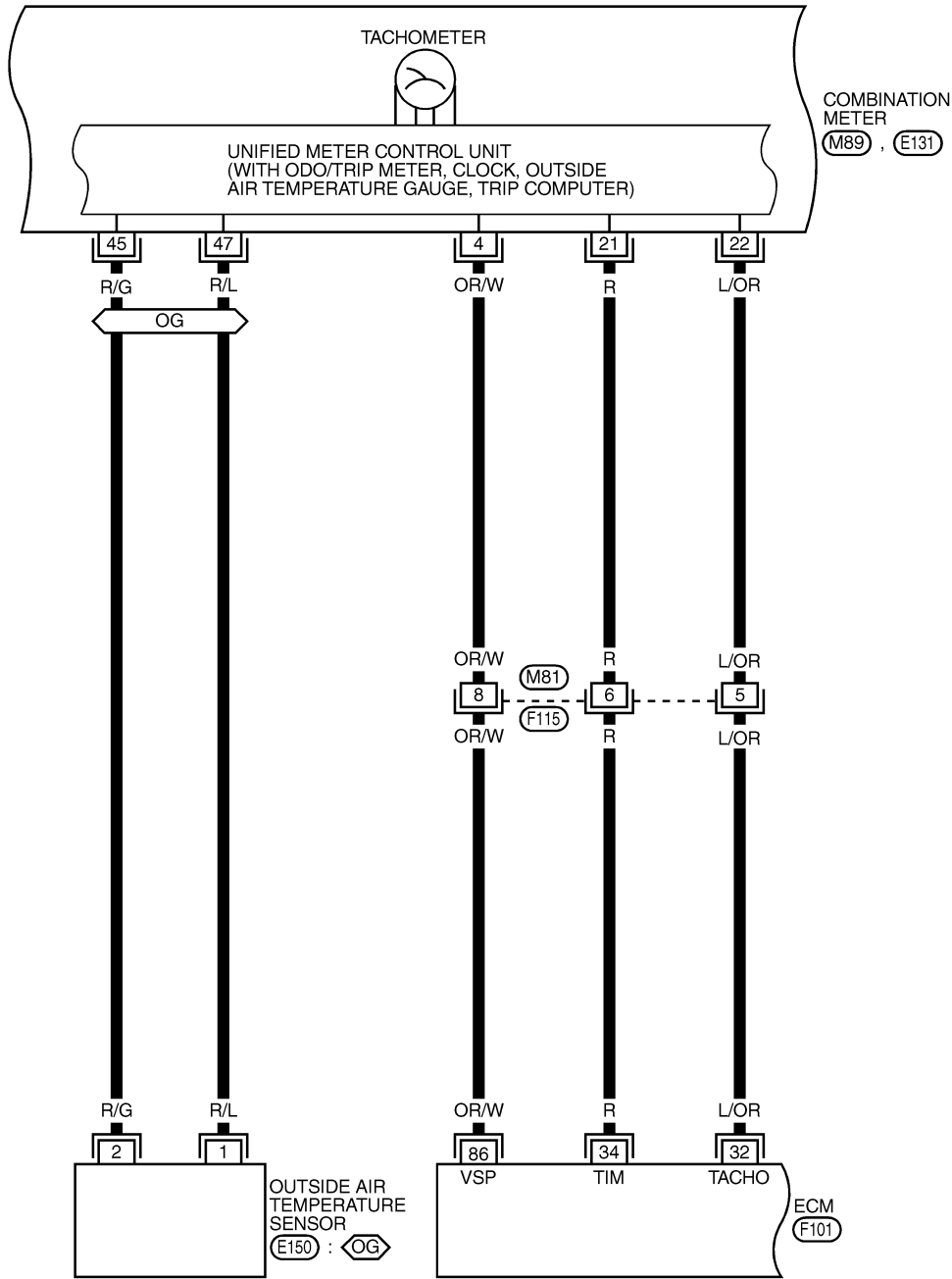
REFER TO THE FOLLOWING
(M1) FUSE BLOCK-
JUNCTION BOX (J/B)

METER AND GAUGES

Wiring Diagram — METER —/CVT MODELS AFTER VIN - P11U0548750 (Cont'd)

EL-METER-08

 : With outside temperature gauge



REFER TO THE FOLLOWING
(F101) : (F119) ELECTRICAL UNITS

YEL872C

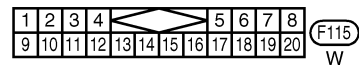
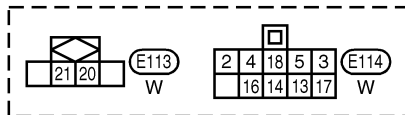
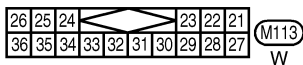
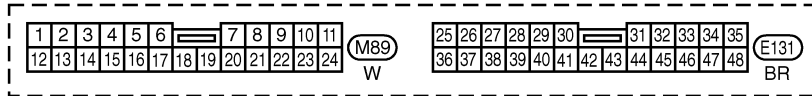
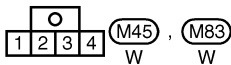
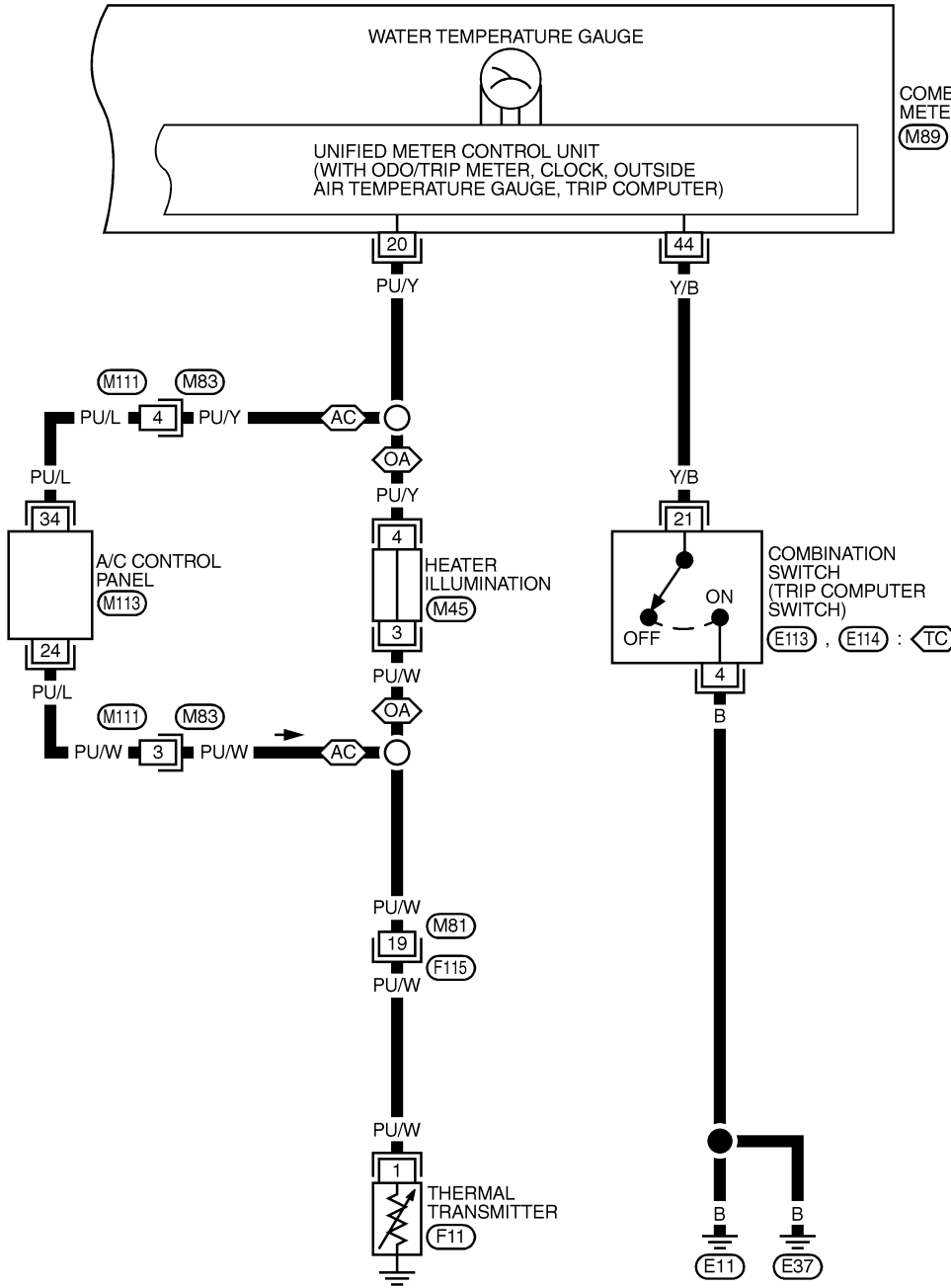
METER AND GAUGES

Wiring Diagram — METER —/CVT MODELS AFTER VIN - P11U0548750 (Cont'd)

EL-METER-09

- : With A/C
- : Without A/C
- : With trip computer

COMBINATION
METER
(M89) , (E131)



YEL873C

METER AND GAUGES

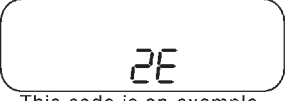
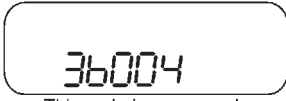
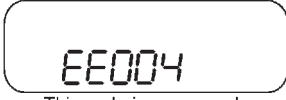
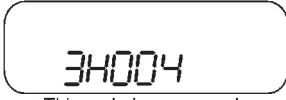


Combination Meter Self-Diagnosis

PERFORMING SELF-DIAGNOSIS MODE

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 L) is activated by press the either reset buttons.

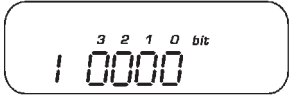
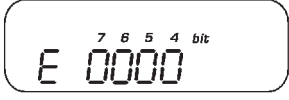

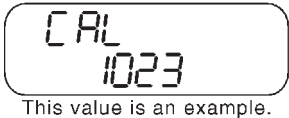
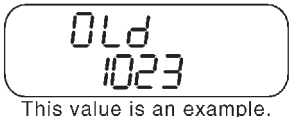
NOTE:

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		All odo trip meter segments are ON.
B)	Work instruction code	 <p style="text-align: center;">This code is an example.</p> <p style="text-align: right;">SEL435X</p>	This information is not used for service. Please skip this step.
C)	Software code	 <p style="text-align: center;">This code is an example.</p> <p style="text-align: right;">NEL735</p>	This information is not used for service. Please skip this step.
D)	EEPROM code	 <p style="text-align: center;">This code is an example.</p> <p style="text-align: right;">NEL736</p>	This information is not used for service. Please skip this step.
E)	Hardware code	 <p style="text-align: center;">This code is an example.</p> <p style="text-align: right;">NEL737</p>	This information is not used for service. Please skip this step.
F)	PCB code	 <p style="text-align: center;">This code is an example.</p> <p style="text-align: right;">NEL738</p>	This information is not used for service. Please skip this step.
G)	Meter/gauge test (Sweeping movement)	 <p style="text-align: center;">Flashing</p> <p style="text-align: right;">SEL440X</p>	Tachometer, speedometer, fuel level gauge and water temperature gauge have sweeping movement test. (The meter/gauges operate MIN. → MAX., MAX. → MIN. for 2 times) The odo trip meter segment flashes during the sweep movement.

METER AND GAUGES

Combination Meter Self-Diagnosis (Cont'd)

	Check items	Display	Remarks
H)	Error 1 (Bit 0 - Bit 3)	 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.
I)	Error E (Bit 4 - Bit 7)	 SEL442X	For details, refer to "Failure chart for Error 1 and Error E" below.
J)	Fuel warning lamp test	 SEL443X	Fuel warning lamp is on and odo trip meter segment "FUEL" flashes.
K)	Fuel gauge calibration (CAL)	 SEL444X	This information is not used for service. Please skip this step.
L)	Fuel gauge calibration (OLD)	 SEL445X	This information is not used for service. Please skip this step.

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

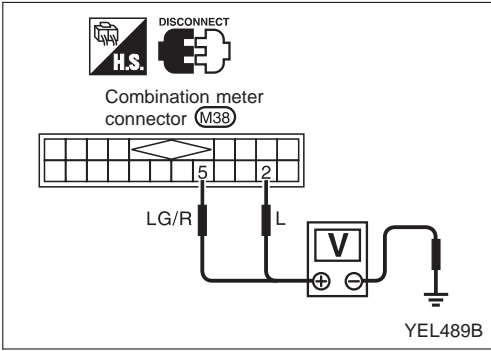
Bit	Detectable items	Description of the failure	Displayed figure on the bit	
			Failure	No failure
0	Speedometer input signal	No input signal When no signal is detected for 30 minutes continuously with the ignition ON, it should be judged as signal failure. (If input signal is detected later, then the judgement will be canceled immediately.)	1	0
		Abnormal input signal 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 When no signal is detected for 30 minutes 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 When any signal of frequency which would not exist in normal conditions is detected, it should be judged as signal failure.	2	

METER AND GAUGES

Combination Meter Self-Diagnosis (Cont'd)

Bit	Detectable items	Description of the failure		Displayed figure on the bit	
				Failure	No failure
2	Fuel level input signal	Short circuit 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 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 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 When open circuit of the signal line is detected for 5 seconds or more, it should be judged as open-circuit failure.	2		
4	Outside air temperature input signal	Short circuit 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 When open circuit of the signal line is detected for 5 seconds or more, it should be judged as open-circuit failure.	2		
5	Reset buttons	Short circuit for reset buttons 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	0	
7	CPU	EEPROM failure	1	0	
		CPU RAM failure	2		

METER AND GAUGES



Trouble Diagnoses (Models before VIN - P11U0548750)

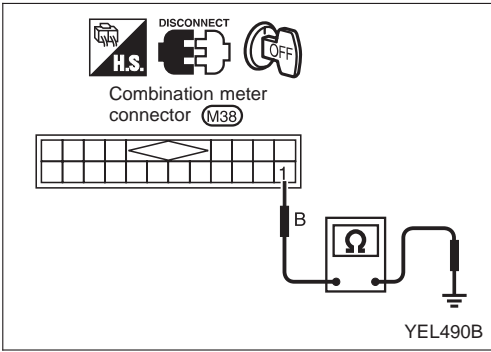
POWER SUPPLY AND GROUND CIRCUIT CHECK

Power supply circuit check

Terminals		Ignition switch position		
+	-	OFF	ACC	ON
②	Ground	Battery voltage	Battery voltage	Battery voltage
⑤	Ground	0V	0V	Battery voltage

If NG, check the following,

- 10A fuse [No. 16], located in fuse block (J/B)
- 10A fuse [No. 12], located in fuse block (J/B)
- Harness for open or short between fuse and combination meter



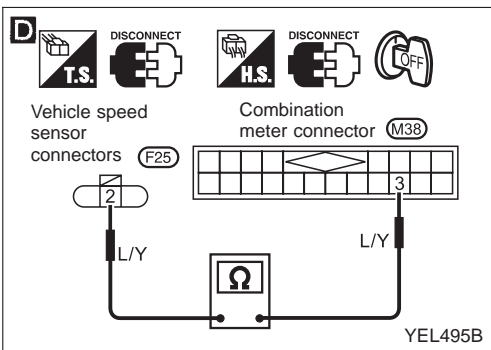
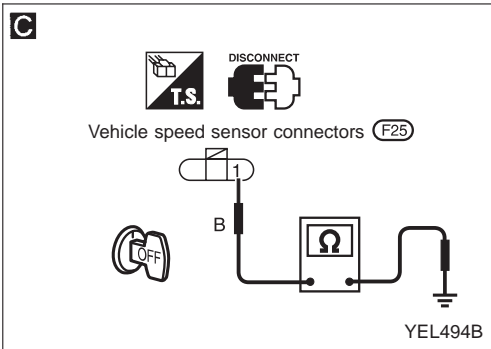
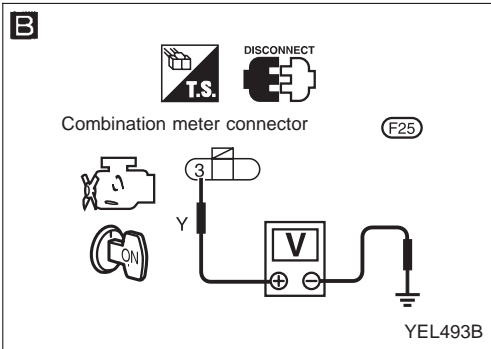
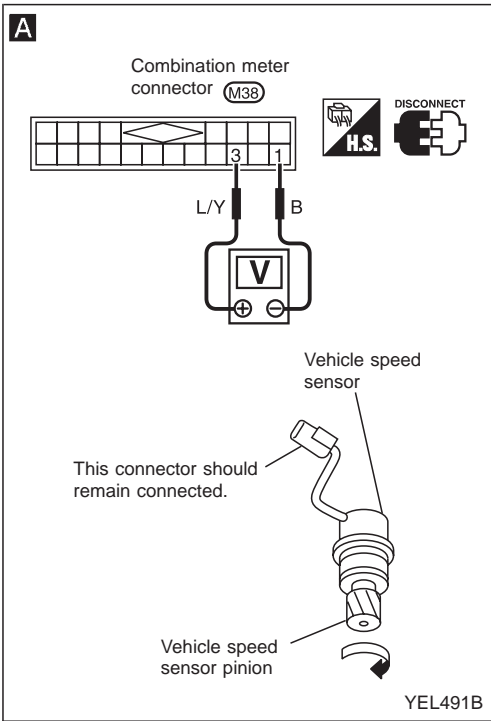
Ground circuit check

Terminals	Continuity
① - Ground	Yes

METER AND GAUGES

Trouble Diagnoses (Models before VIN - P11U0548750) (Cont'd)

INSPECTION/VEHICLE SPEED SENSOR



A

CHECK VEHICLE SPEED SENSOR OUTPUT.

- 1) Remove vehicle speed sensor from transmission.
- 2) Check voltage between combination meter terminals ③ and ① while quickly turning speed sensor pinion.

NG → Vehicle speed sensor is OK.

OK ↓

B

CHECK POWER SOURCE.

- Re-install vehicle speed sensor.
- Turn ignition switch to "ON" position.

Check voltage between vehicle speed sensor connector terminal ③ and ground.

Battery voltage should exist.

NG → Check harness for open or short between speedometer and vehicle speed sensor.

OK ↓

C

CHECK GROUND CIRCUIT OF VEHICLE SPEED SENSOR

- Turn ignition switch to the "LOCK" position.

Disconnect vehicle speed sensor connector. Check continuity between vehicle speed sensor harness connector terminal ① and body ground.

Continuity should exist.

NG → Repair harness or connector

OK ↓

D

Check continuity between speedometer harness connector terminal ③ and vehicle speed sensor connector terminal ② .

Continuity should exist.

NG → Repair harness and connector.

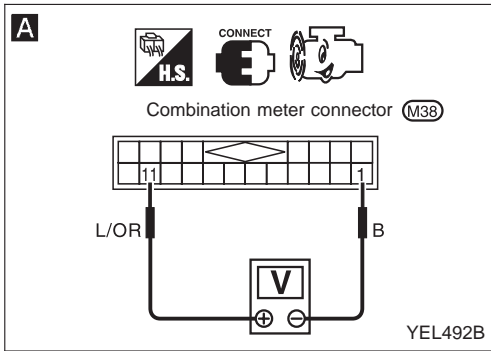
OK ↓

Replace vehicle speed sensor.

METER AND GAUGES

Trouble Diagnoses (Models before VIN - P11U0548750) (Cont'd)

INSPECTION/ENGINE REVOLUTION SIGNAL



A

CHECK ECM OUTPUT.

1. Start engine.
2. Check voltage between combination meter terminals ① and ⑾ at idle and 2,000 rpm.

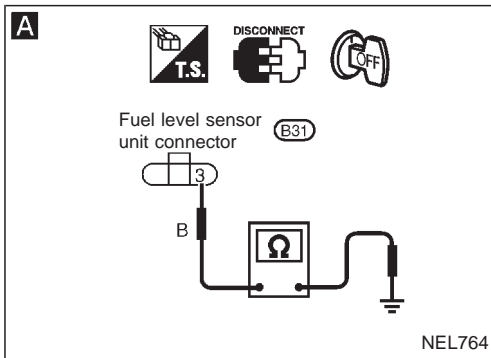
Higher rpm = Higher voltage
Lower rpm = Lower voltage
Voltage should change with rpm.

OK → Engine revolution signal is OK.

NG

Check the following

- Combination meter terminal ① ground circuit
- Harness for open or short between ECM and combination meter



INSPECTION/FUEL LEVEL SENSOR

A

CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT.

Check harness continuity between fuel level sensor unit terminal ③ and ground.

Continuity should exist.

NG → Repair harness or connector.

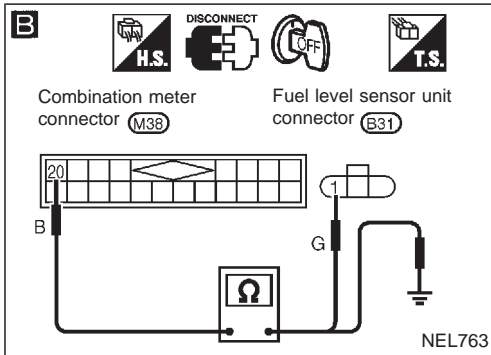
OK

CHECK GAUGE UNITS.

Refer to "FUEL LEVEL SENSOR UNIT CHECK" (EL-164).

NG → Repair or replace. Refer to FE section in Service Manual.

OK



B

CHECK HARNESS FOR OPEN OR SHORT

1. Disconnect combination unit connector and fuel level sensor unit connector.
2. Check continuity between combination meter terminal ⑳ and fuel level sensor unit terminal ①.

Continuity should exist.

3. Check continuity between combination meter ⑳ and ground.

Continuity should exist.

NG → Repair harness or connector.

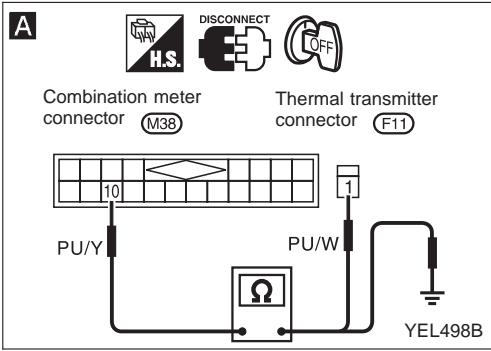
OK

Fuel level sensor is OK.

METER AND GAUGES

Trouble Diagnoses (Models before VIN - P11U0548750) (Cont'd)

INSPECTION/THERMAL TRANSMITTER



CHECK THERMAL TRANSMITTER. Refer to "THERMAL TRANSMITTER CHECK" (EL-164).

NG → Repair or replace.

A

CHECK HARNESS FOR OPEN OR SHORT

1. Disconnect combination connector and thermal transmitter connector.

2. Check continuity between combination meter terminal ⑩ and thermal transmitter terminal ①.

Continuity should exist.

3. Check continuity between combination meter terminal ⑩ and ground.

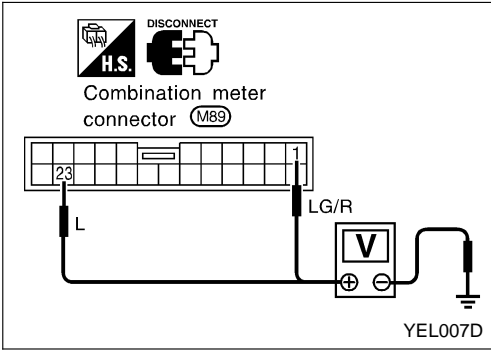
Continuity should exist.

NG → Repair harness or connector.

OK

Thermal transmitter is OK.

METER AND GAUGES



Trouble Diagnoses (Models after VIN - P11U0548750)

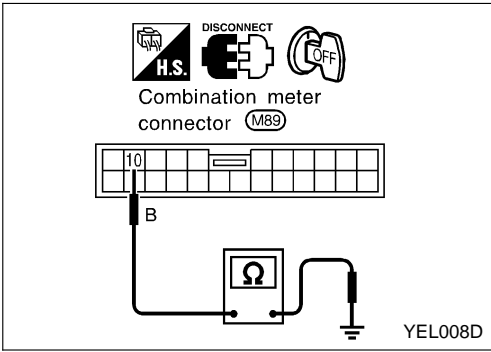
POWER SUPPLY AND GROUND CIRCUIT CHECK

Power supply circuit check

Terminals		Ignition switch position		
+	-	OFF	ACC	ON
②③	Ground	Battery voltage	Battery voltage	Battery voltage
①	Ground	0V	0V	Battery voltage

If NG, check the following,

- 10A fuse [No. 16], located in fuse block (J/B)
- 10A fuse [No. 12], located in fuse block (J/B)
- Harness for open or short between fuse and combination meter



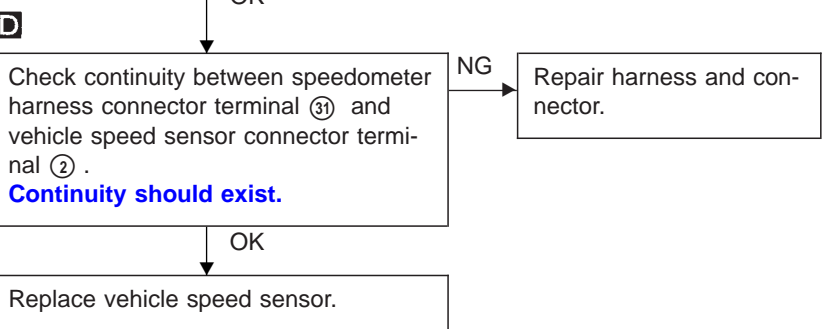
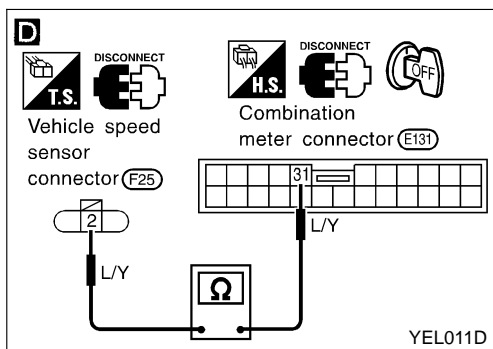
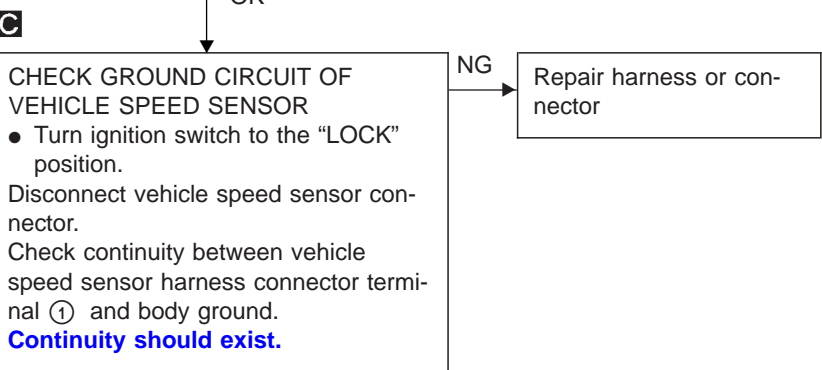
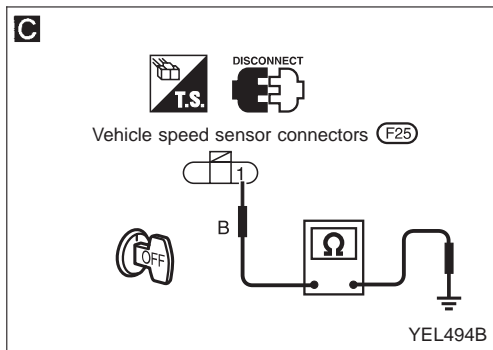
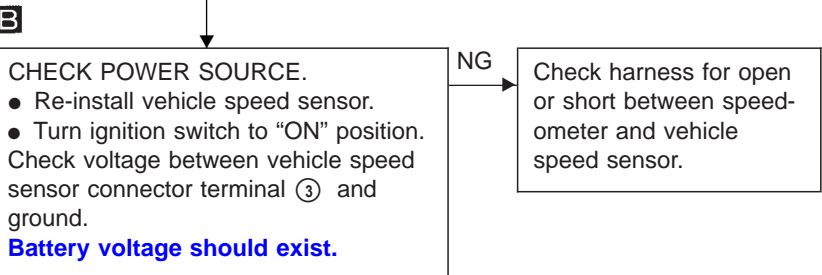
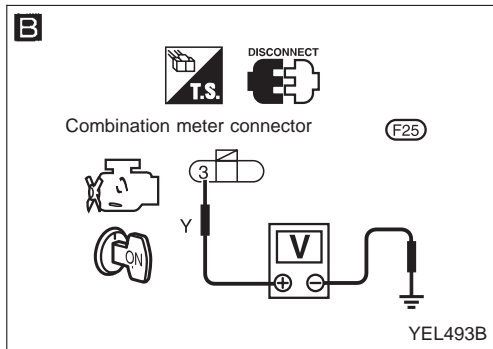
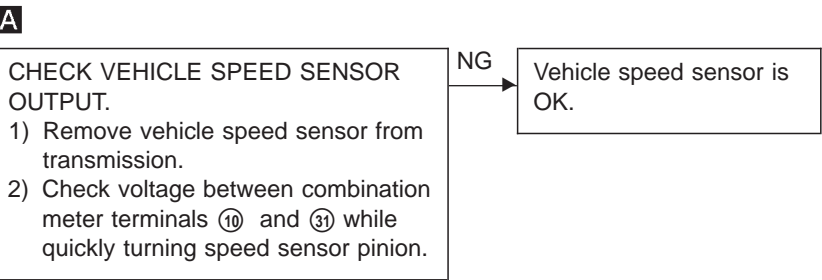
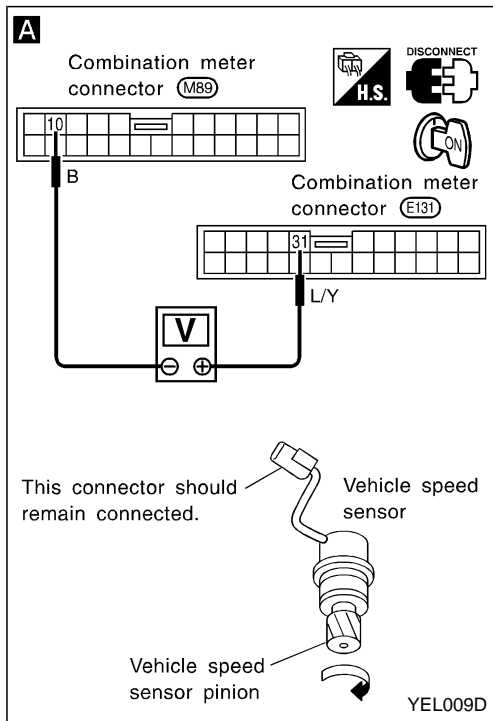
Ground circuit check

Terminals	Continuity
⑩ - Ground	Yes

METER AND GAUGES

Trouble Diagnoses (Models after VIN - P11U0548750) (Cont'd)

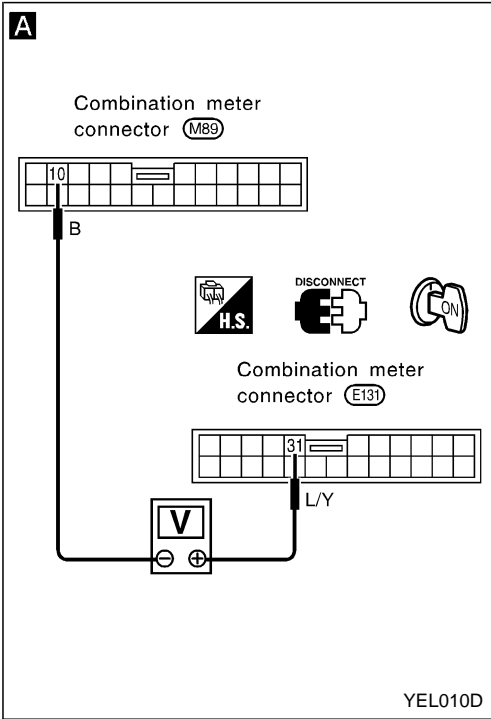
INSPECTION/VEHICLE SPEED SENSOR (MT models without ABS, and CVT models)



METER AND GAUGES

Trouble Diagnoses (Models after VIN - P11U0548750) (Cont'd)

INSPECTION/VEHICLE SPEED SENSOR (MT models with ABS)



A

CHECK VEHICLE SPEED SENSOR OUTPUT.

- 1) Jack up the front wheels.
- 2) Turn ignition switch "ON".
- 3) Check voltage between combination meter terminals ③ and ① while turning front wheels.

NG → Vehicle speed sensor is OK.

OK ↓

B

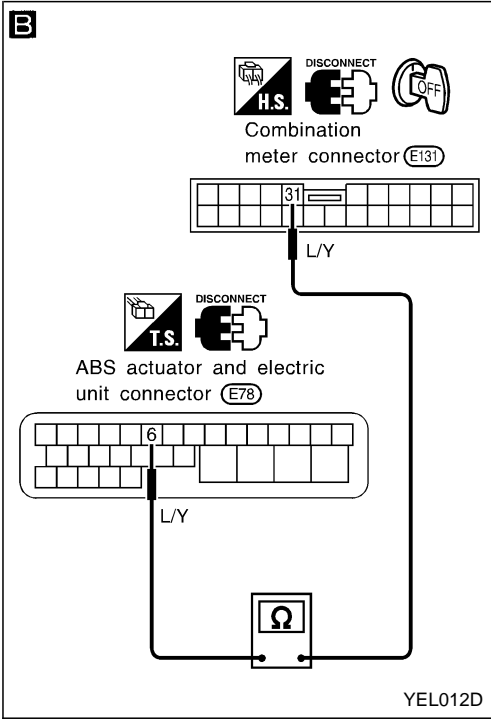
Check continuity between speedometer harness connector terminal ③ and ABS actuator and electric unit connector terminal ⑥ .

Continuity should exist.

NG → Repair harness and connector.

OK ↓

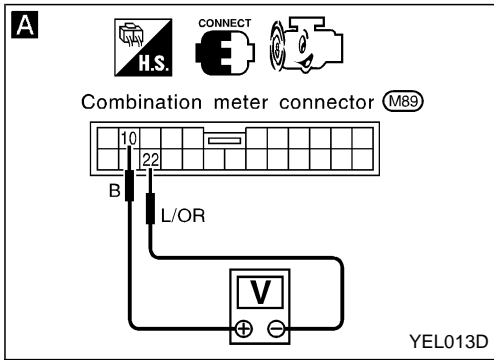
Replace vehicle speed sensor.



METER AND GAUGES

Trouble Diagnoses (Models after VIN - P11U0548750) (Cont'd)

INSPECTION/ENGINE REVOLUTION SIGNAL



A

CHECK ECM OUTPUT.

1. Start engine.
2. Check voltage between combination meter terminals ⑩ and ⑫ at idle and 2,000 rpm.

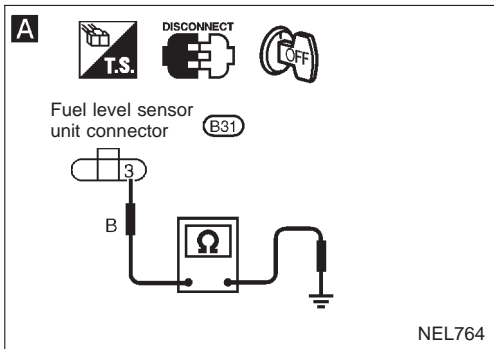
Higher rpm = Higher voltage
Lower rpm = Lower voltage
Voltage should change with rpm.

OK → Engine revolution signal is OK.

NG

Check the following

- Combination meter terminal ① ground circuit
- Harness for open or short between ECM and combination meter



INSPECTION/FUEL LEVEL SENSOR

A

CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT.

Check harness continuity between fuel level sensor unit terminal ③ and ground.

Continuity should exist.

NG → Repair harness or connector.

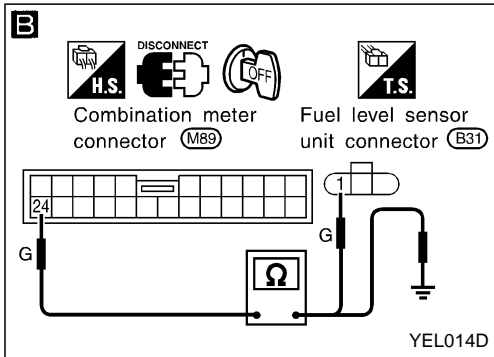
OK

CHECK GAUGE UNITS.

Refer to "FUEL LEVEL SENSOR UNIT CHECK".

NG → Repair or replace. Refer to FE section in Service Manual.

OK



B

CHECK HARNESS FOR OPEN OR SHORT

1. Disconnect combination connector and fuel level sensor unit connector.
2. Check continuity between combination meter terminal ⑭ and fuel level sensor unit terminal ①.

Continuity should exist.

3. Check continuity between combination meter ⑭ and ground.

Continuity should exist.

NG → Repair harness or connector.

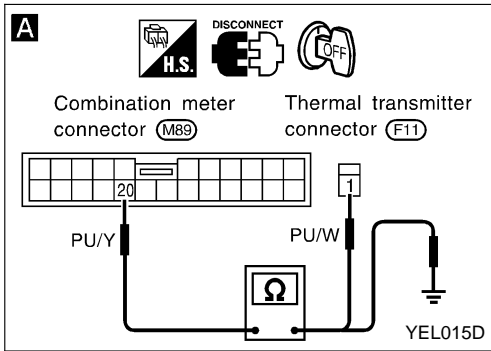
OK

Fuel level sensor is OK.

METER AND GAUGES

Trouble Diagnoses (Models after VIN - P11U0548750) (Cont'd)

INSPECTION/THERMAL TRANSMITTER



CHECK THERMAL TRANSMITTER. Refer to "THERMAL TRANSMITTER CHECK".

NG

Repair or replace.

OK

A

CHECK HARNESS FOR OPEN OR SHORT

1. Disconnect combination connector and thermal transmitter connector.
2. Check continuity between combination meter terminal ② and thermal transmitter terminal ①.

Continuity should exist.

3. Check continuity between combination meter terminal ② and ground.

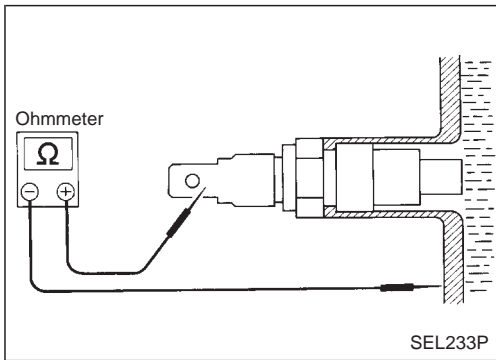
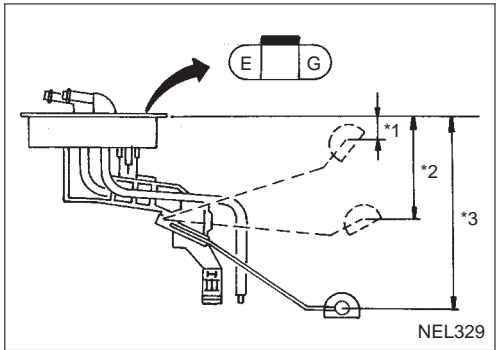
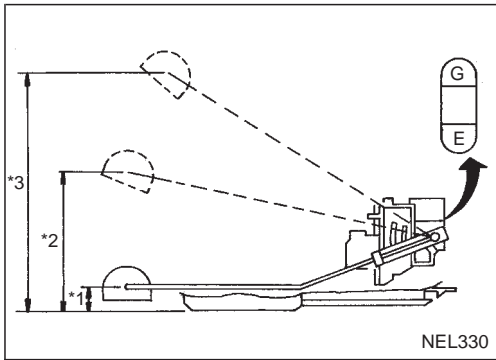
Continuity should exist.

NG

Repair harness or connector.

OK

Thermal transmitter is OK.



Fuel Level Sensor Unit Check

- For removal, refer to FE section ("FUEL SYSTEM"). Check the resistance between terminals (G) and (E).

QG & SR Engine Models

Ohmmeter		Float position mm (in)		Resistance value (Ω)	
(+)	(-)				
G	E	*3	Full	151 (5.945)	7.5 - 9.5
		*2	1/2	88 (3.465)	88.5 - 93.5
		*1	Empty	15 (0.591)	180.0 - 186.8

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

CD20T Engine Models

Ohmmeter		Float position mm (in)		Resistance value (Ω)	
(+)	(-)				
G	E	*3	Full	18 (0.709)	7.5 - 9.5
		*2	1/2	84 (3.307)	88.5 - 93.5
		*1	Empty	158 (6.220)	180.0 - 186.8

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

Thermal Transmitter Check

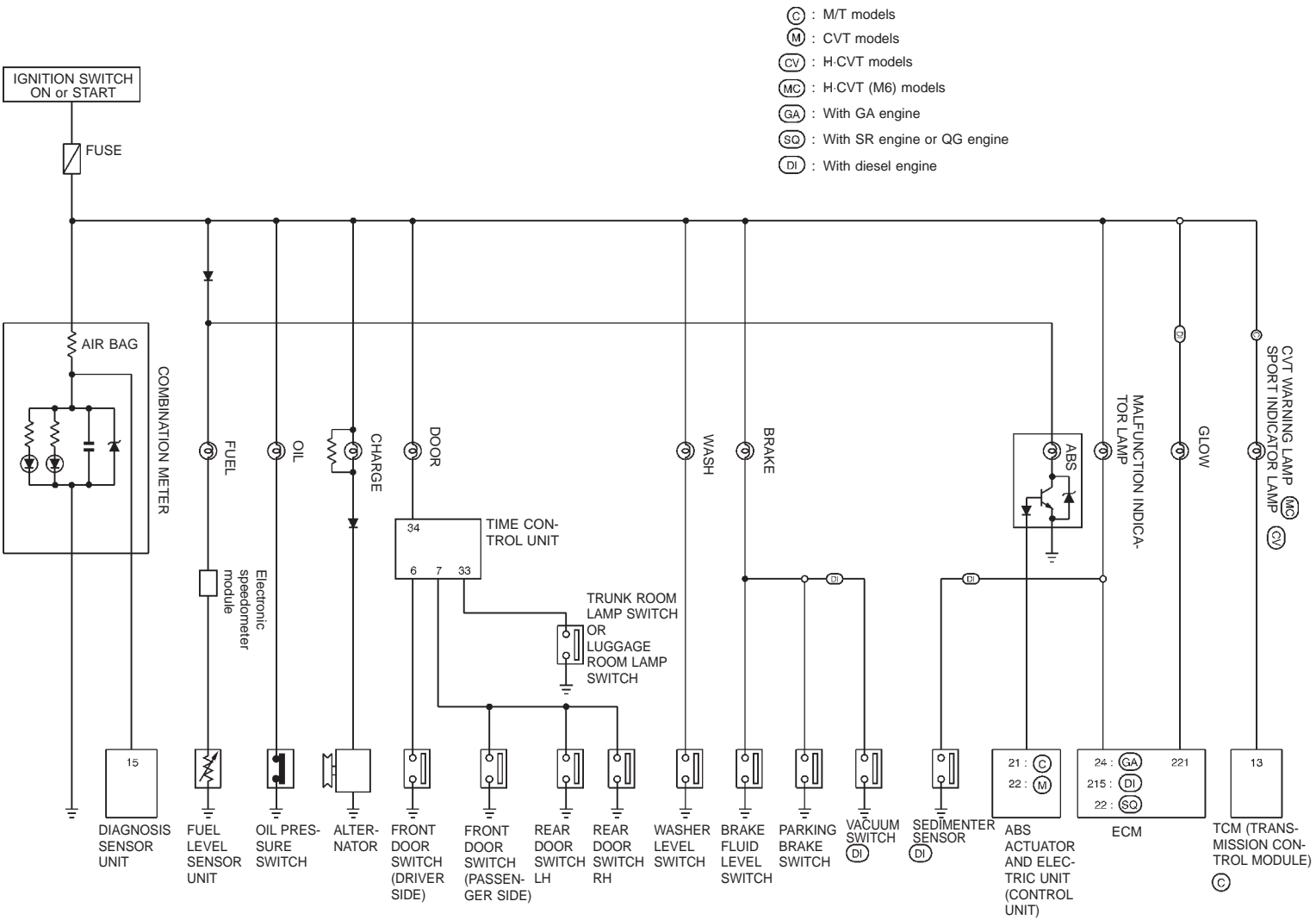
Check the resistance between the terminals of thermal transmitter and body ground.

Water temperature °C (°F)	Resistance (Ω)
65 (149)	Approx. 951 - 1109
91 (196)	Approx. 433 - 510

WARNING LAMPS

Warning Lamps/Schematic

MODELS BEFORE VIN - P11U0548750



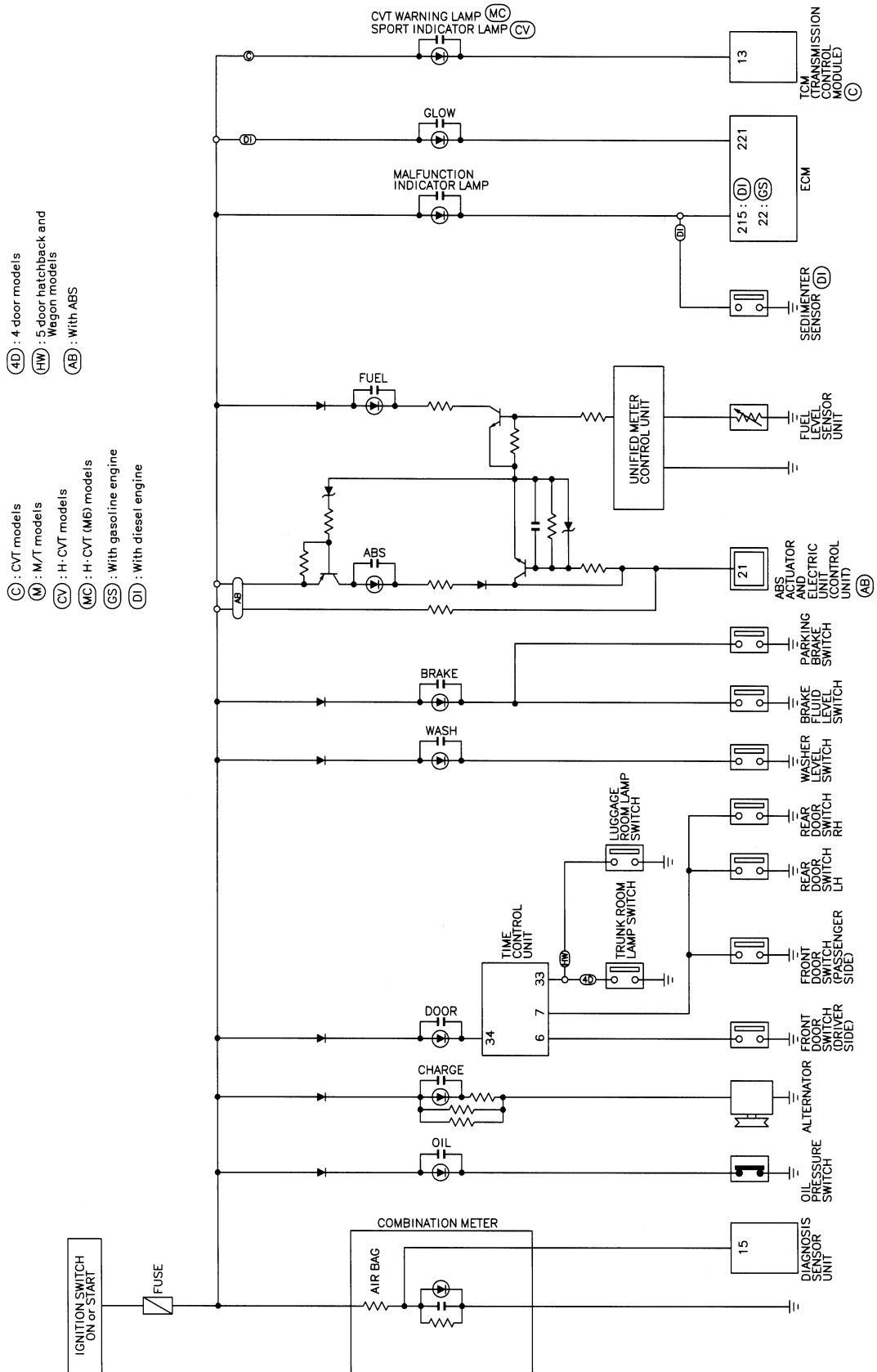
EL-165

YEL167C

WARNING LAMPS

Warning Lamps/Schematic (Cont'd)

MODELS AFTER VIN - P11U0548750



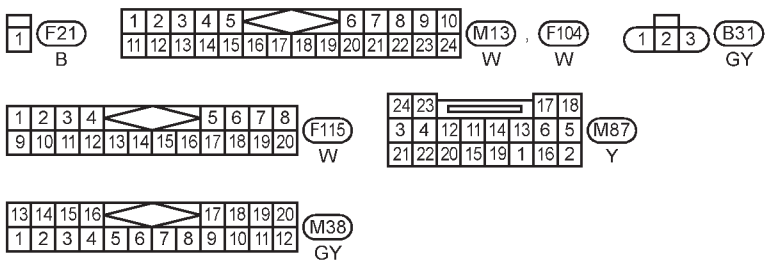
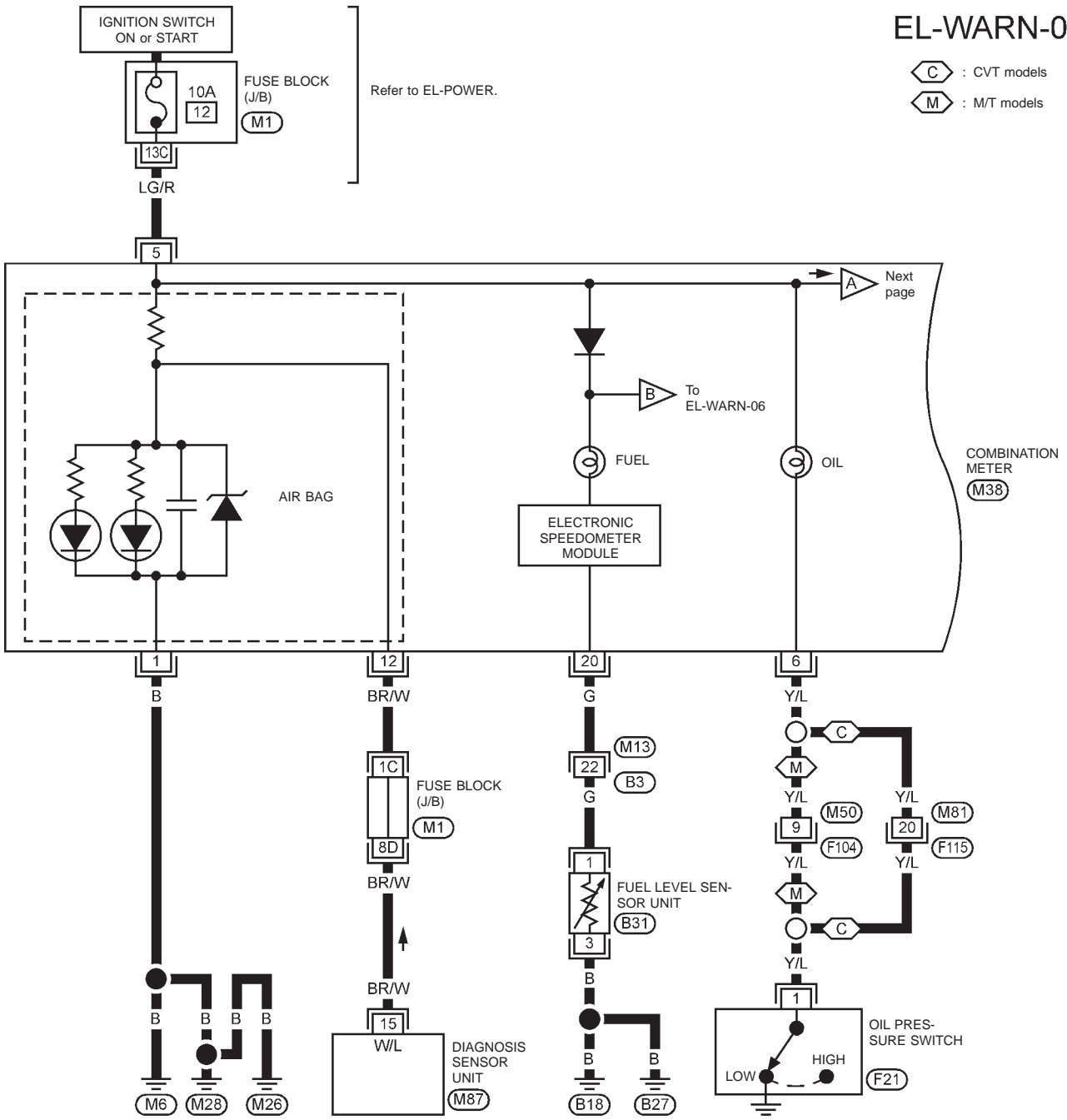
WARNING LAMPS

Wiring Diagram — WARN —

MODELS BEFORE VIN - P11U0548750

EL-WARN-01

C : CVT models
M : M/T models

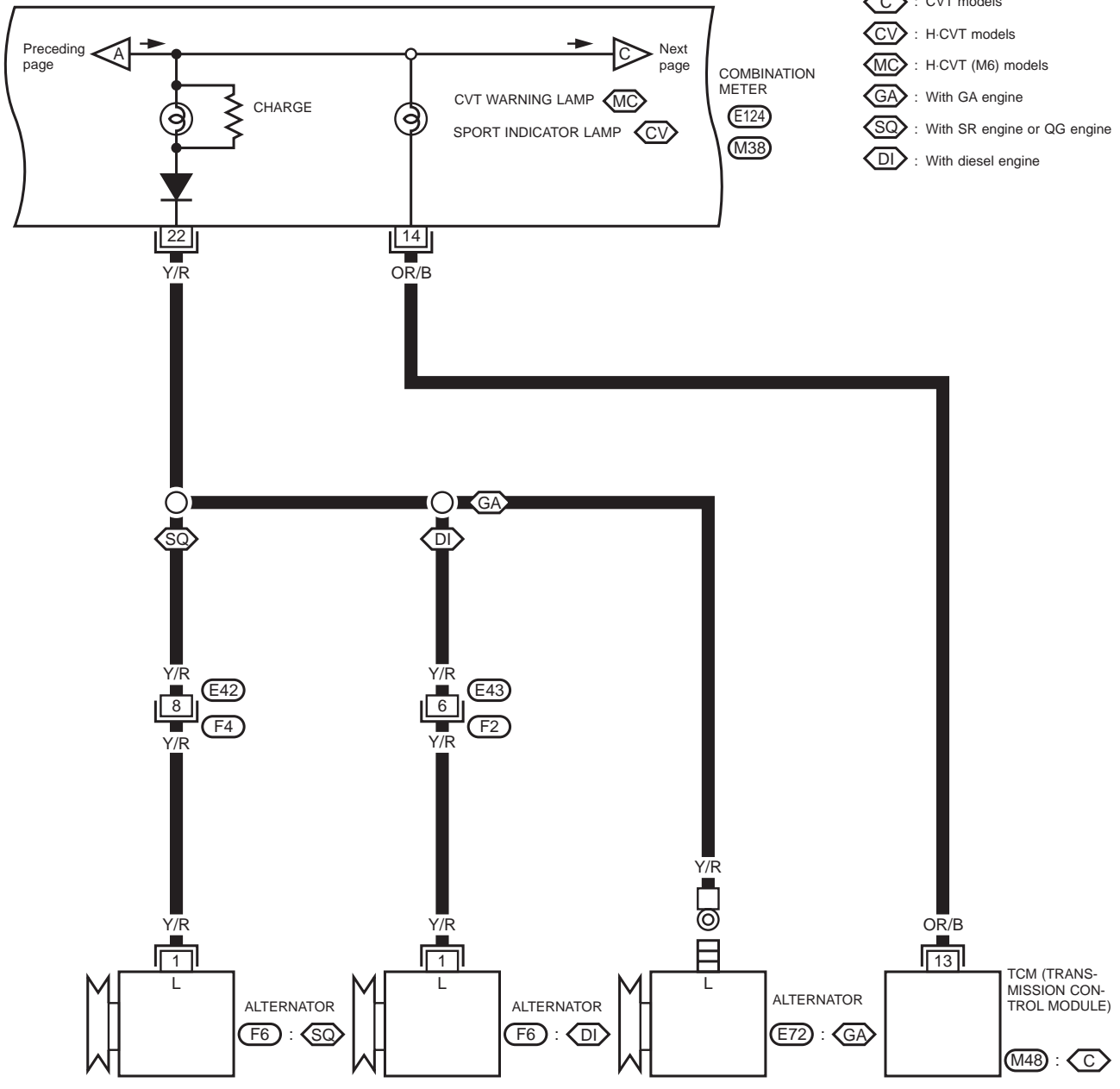


REFER TO THE FOLLOWING
M1 FUSE BLOCK - Junction Box (J/B)

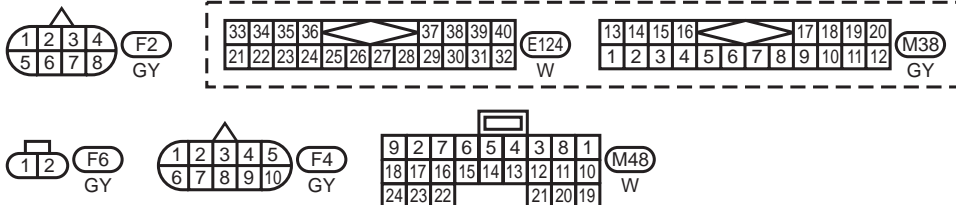
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-02



- : CVT models
 - : H-CVT models
 - : H-CVT (M6) models
 - : With GA engine
 - : With SR engine or QG engine
 - : With diesel engine
- COMBINATION METER
- (E124)
 - (M38)

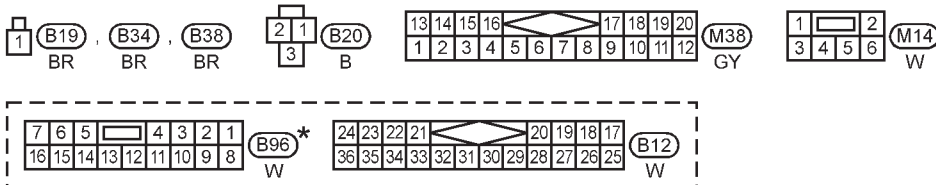
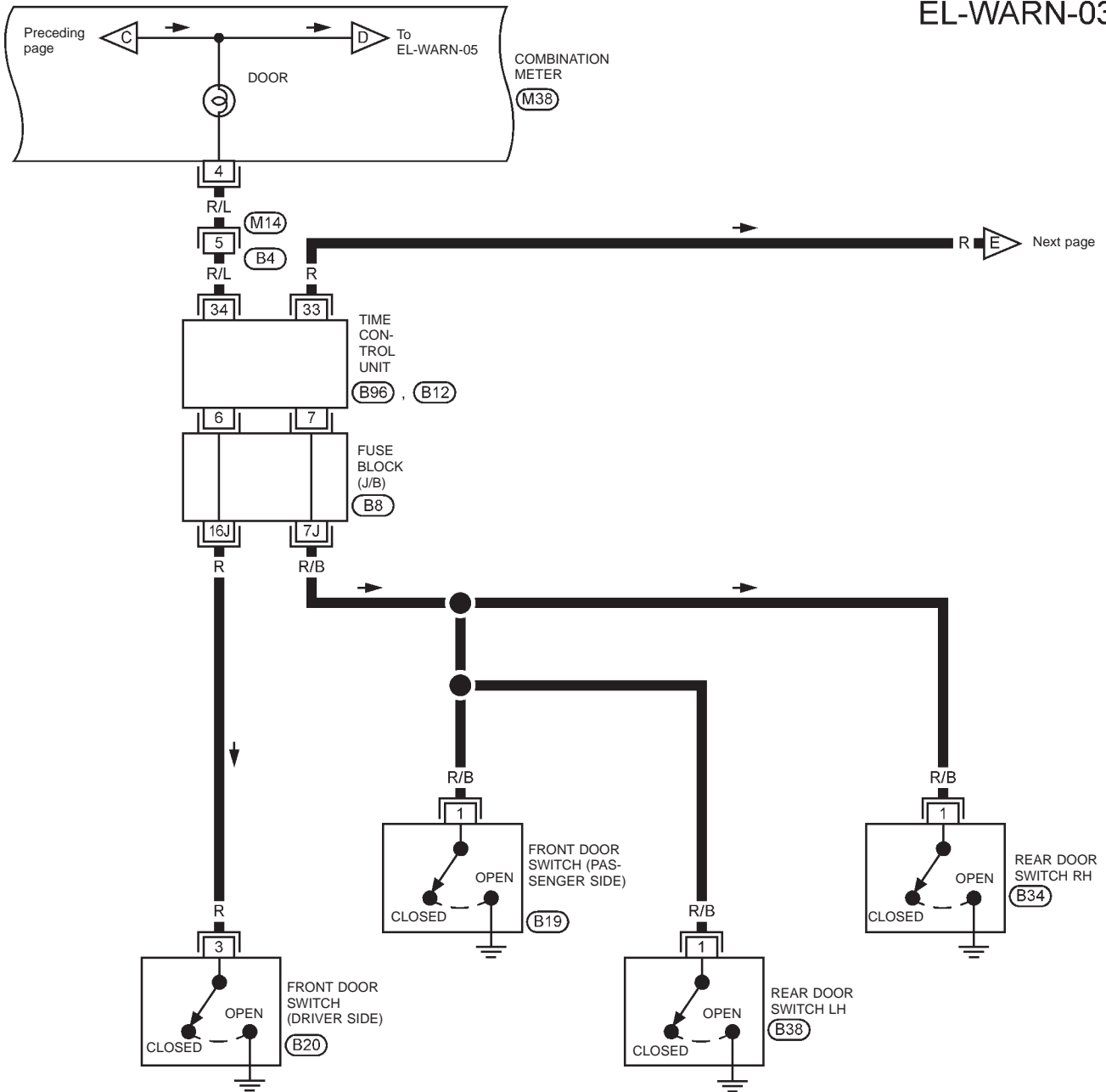


YEL307B

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



REFER TO THE FOLLOWING
 (B8) FUSE BLOCK - Junction Box (J/B)

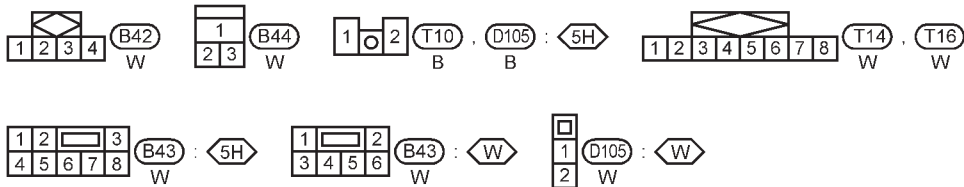
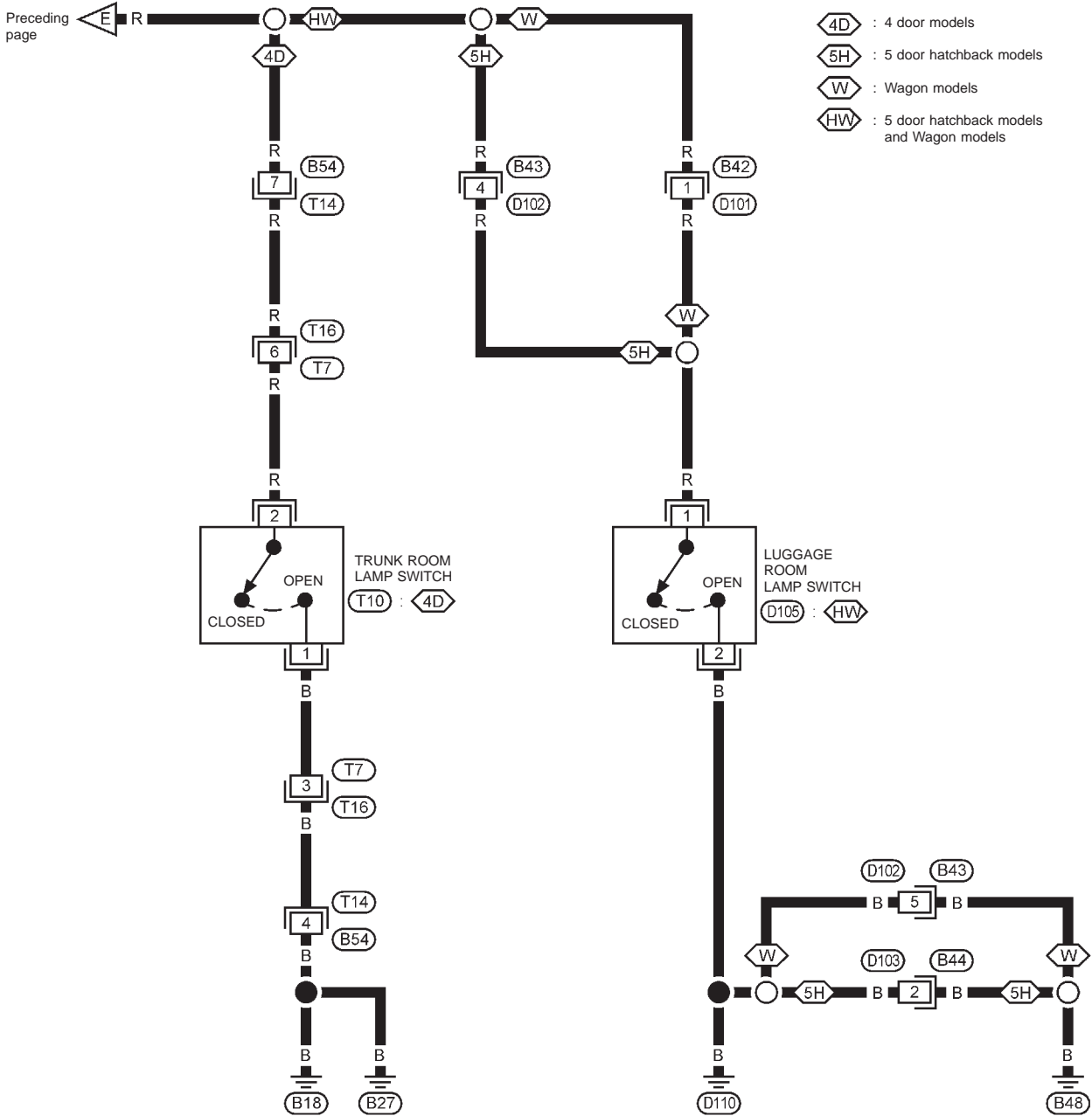
* : This connector is not shown in "HARNESS LAYOUT" of el section.

YEL169C

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-04

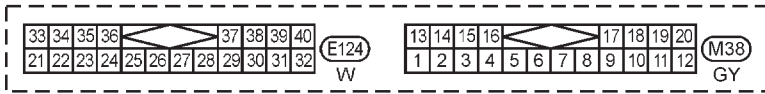
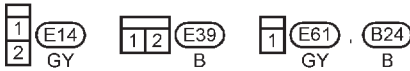
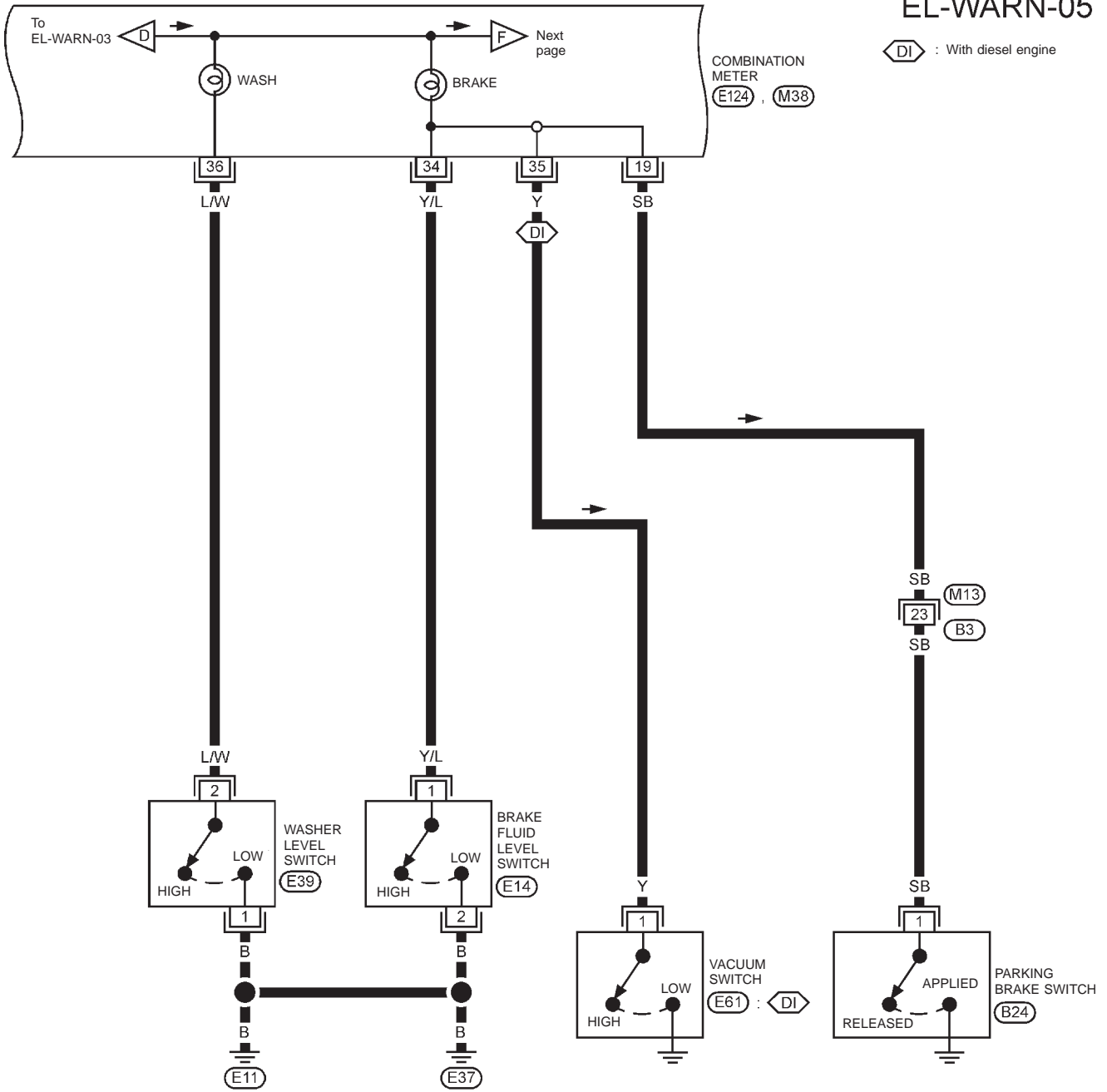


YEL170C

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-05



YEL171C

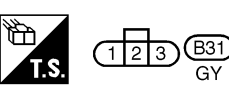
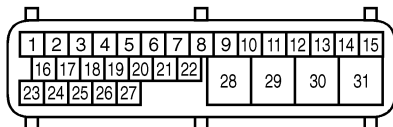
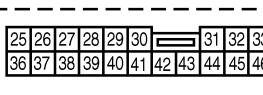
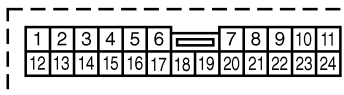
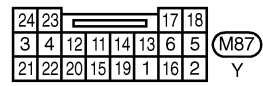
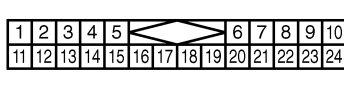
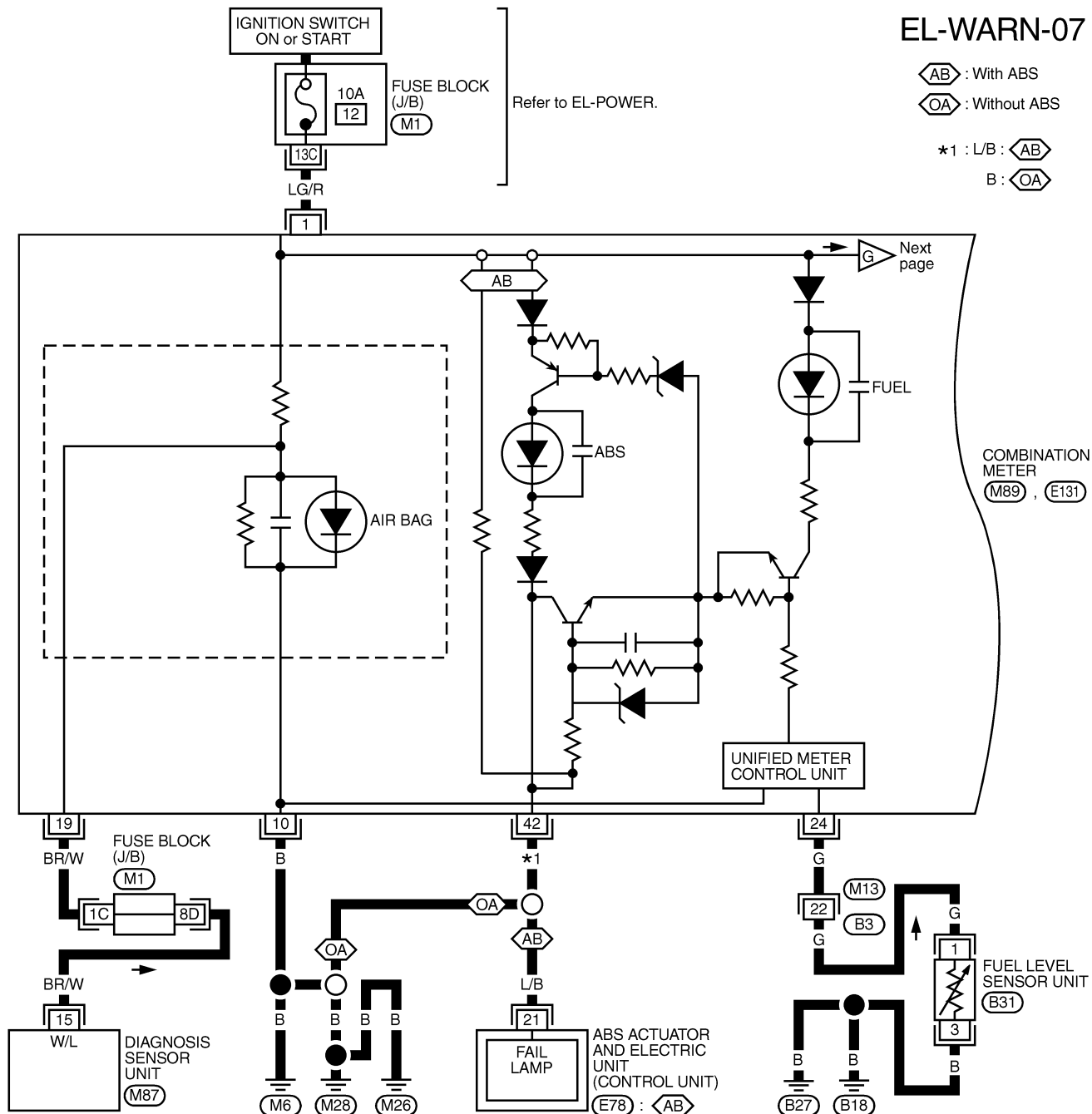
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

MODELS AFTER VIN - P11U0548750

EL-WARN-07

AB : With ABS
OA : Without ABS
 *1 : L/B : AB
 : OA
 : B

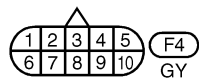
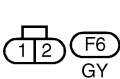
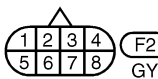
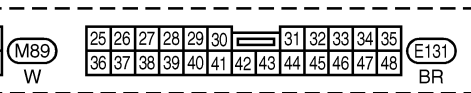
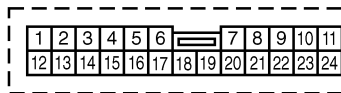
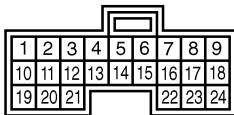
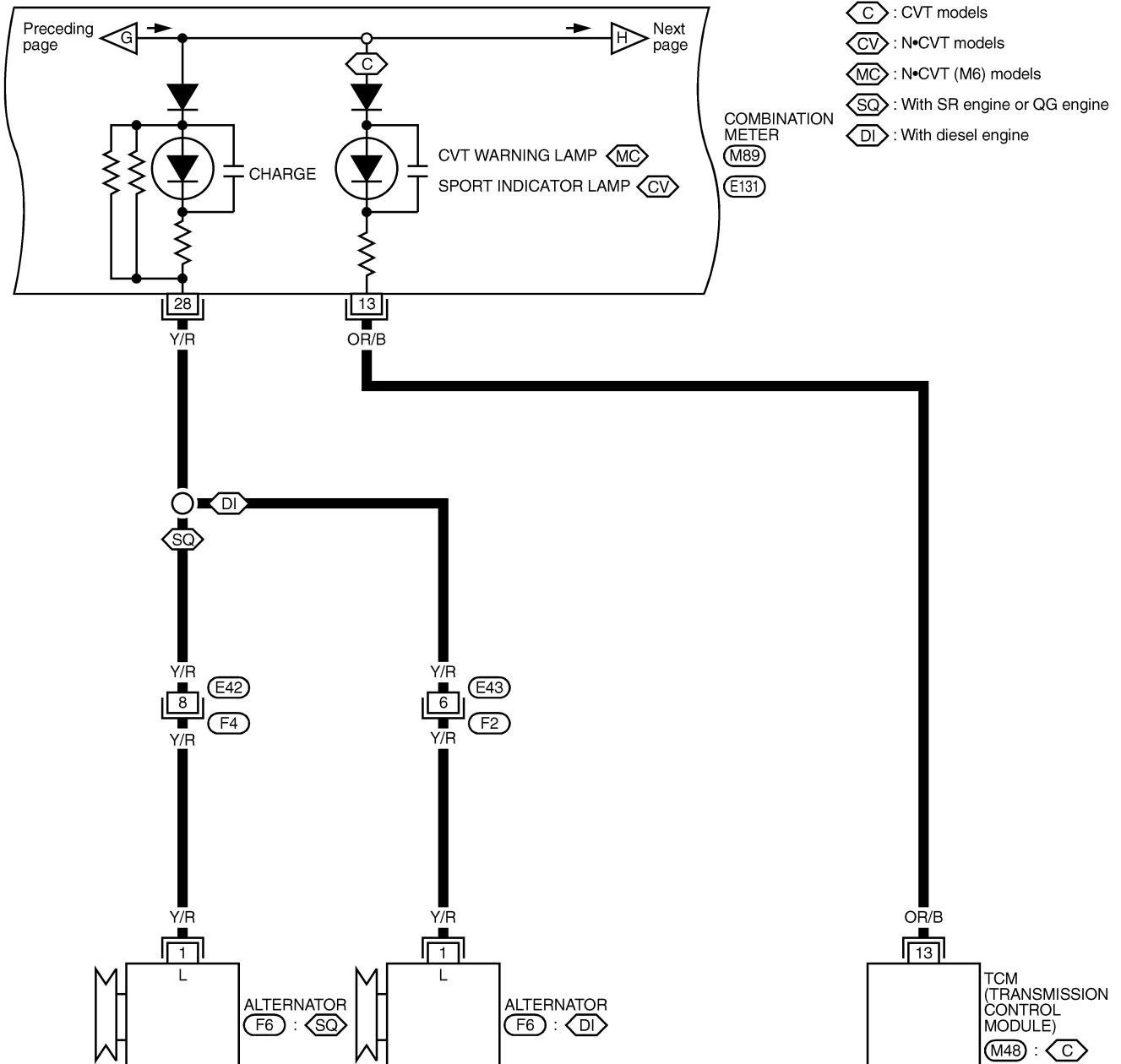


REFER TO THE FOLLOWING
M1 FUSE BLOCK-JUNCTION BOX (J/B)

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-08



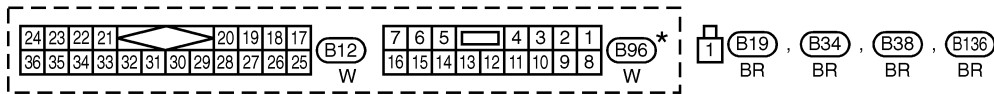
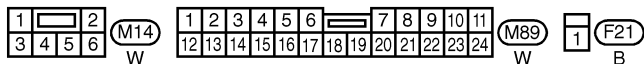
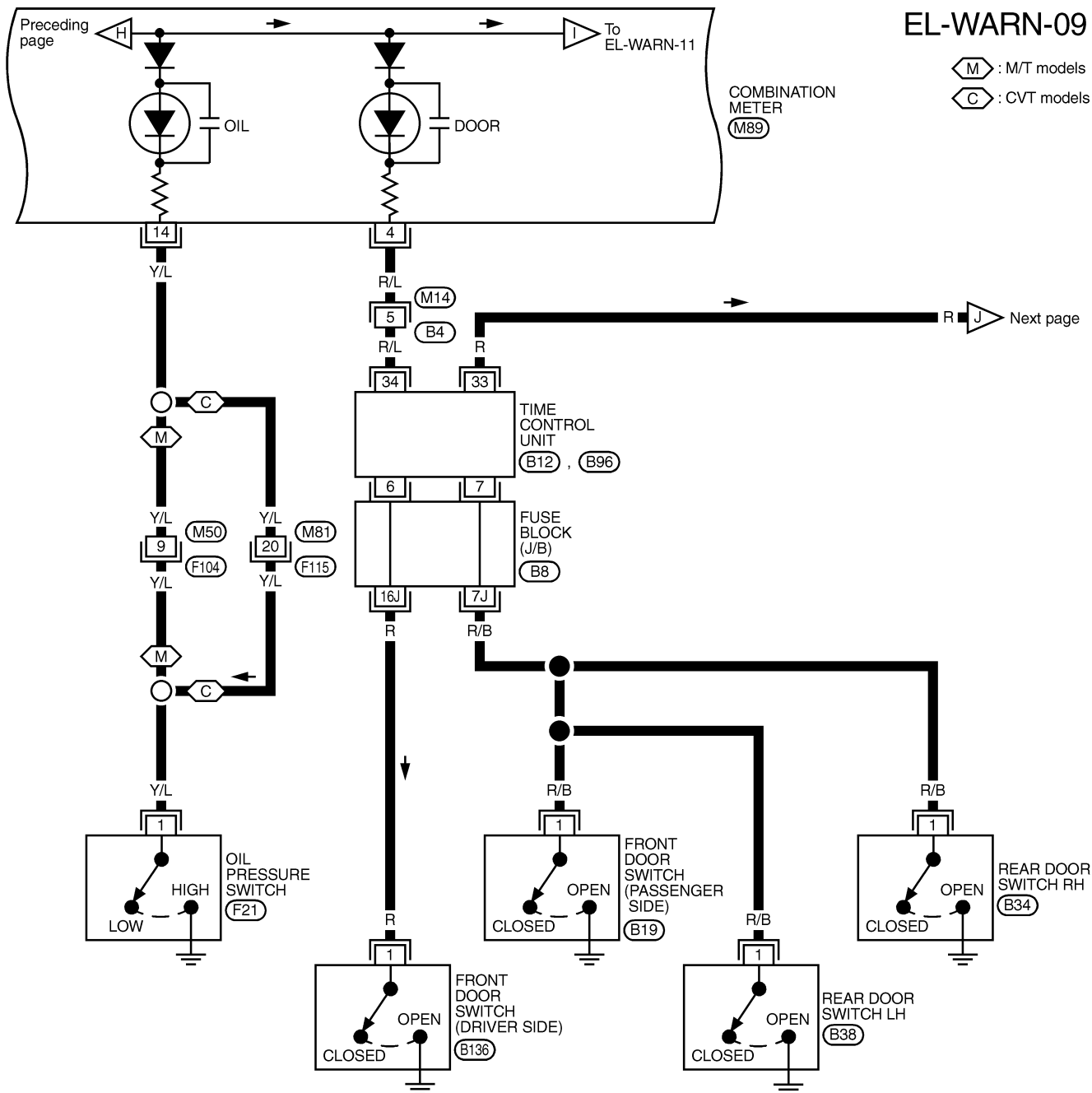
YEL876C

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-09

M : M/T models
C : CVT models



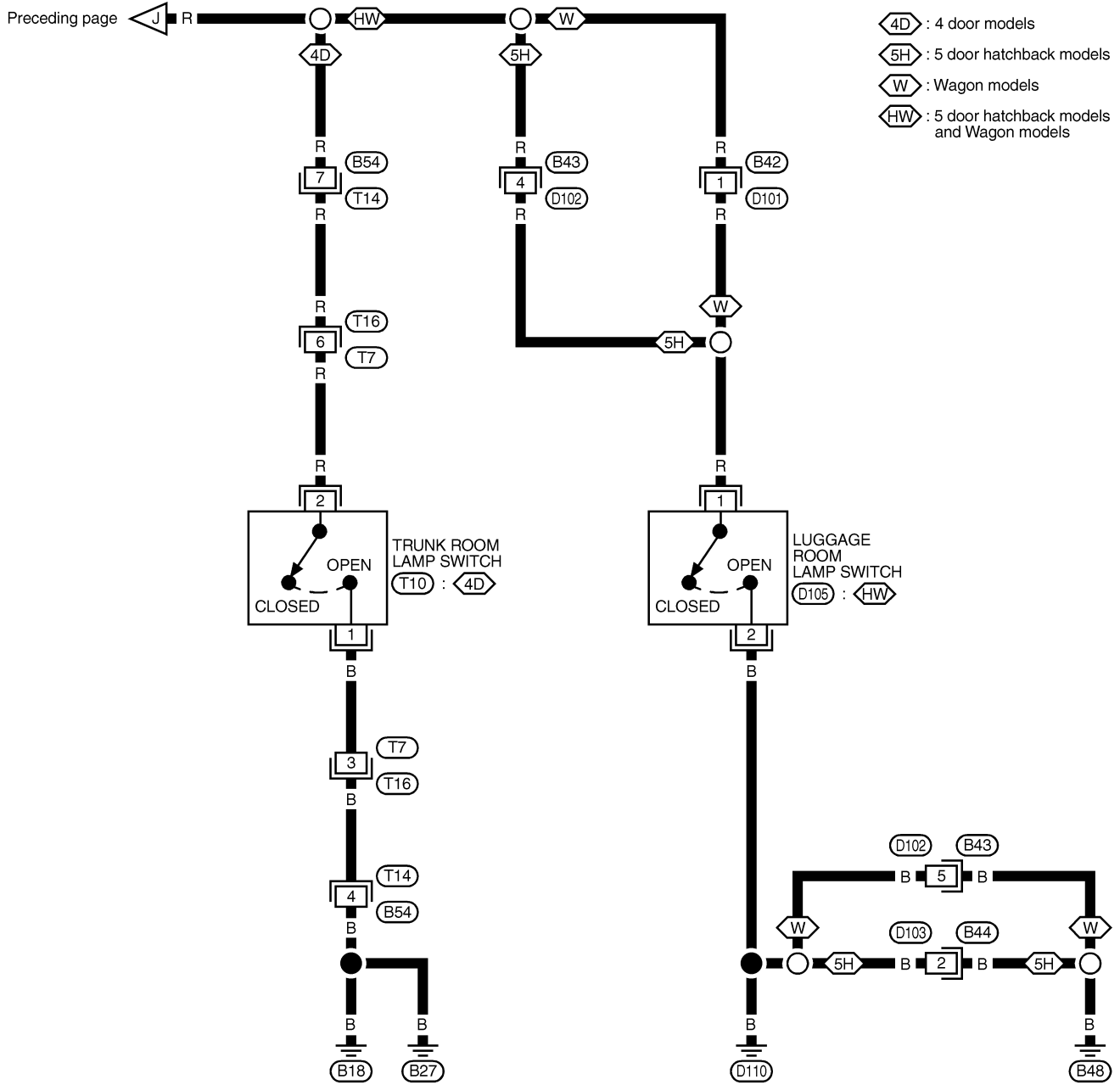
REFER TO THE FOLLOWING
B8 FUSE BLOCK-
 JUNCTION BOX (J/B)

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

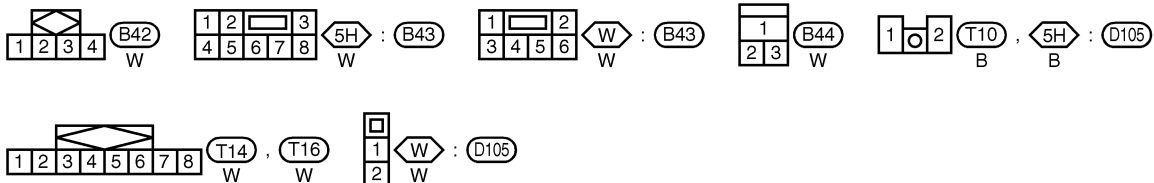
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-10



- 4D : 4 door models
- 5H : 5 door hatchback models
- W : Wagon models
- HW : 5 door hatchback models and Wagon models

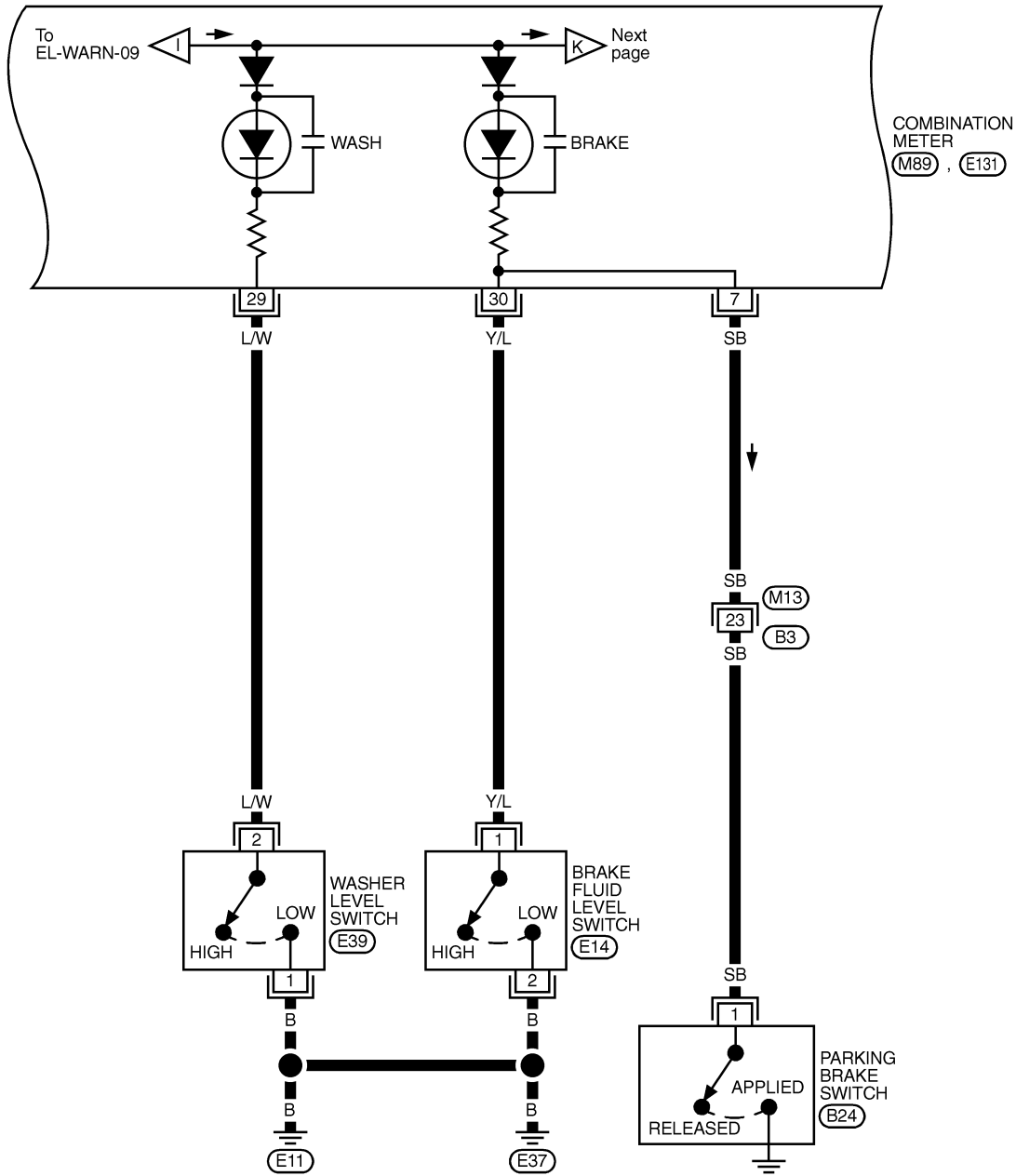


YEL878C

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-11



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	(M13) W					

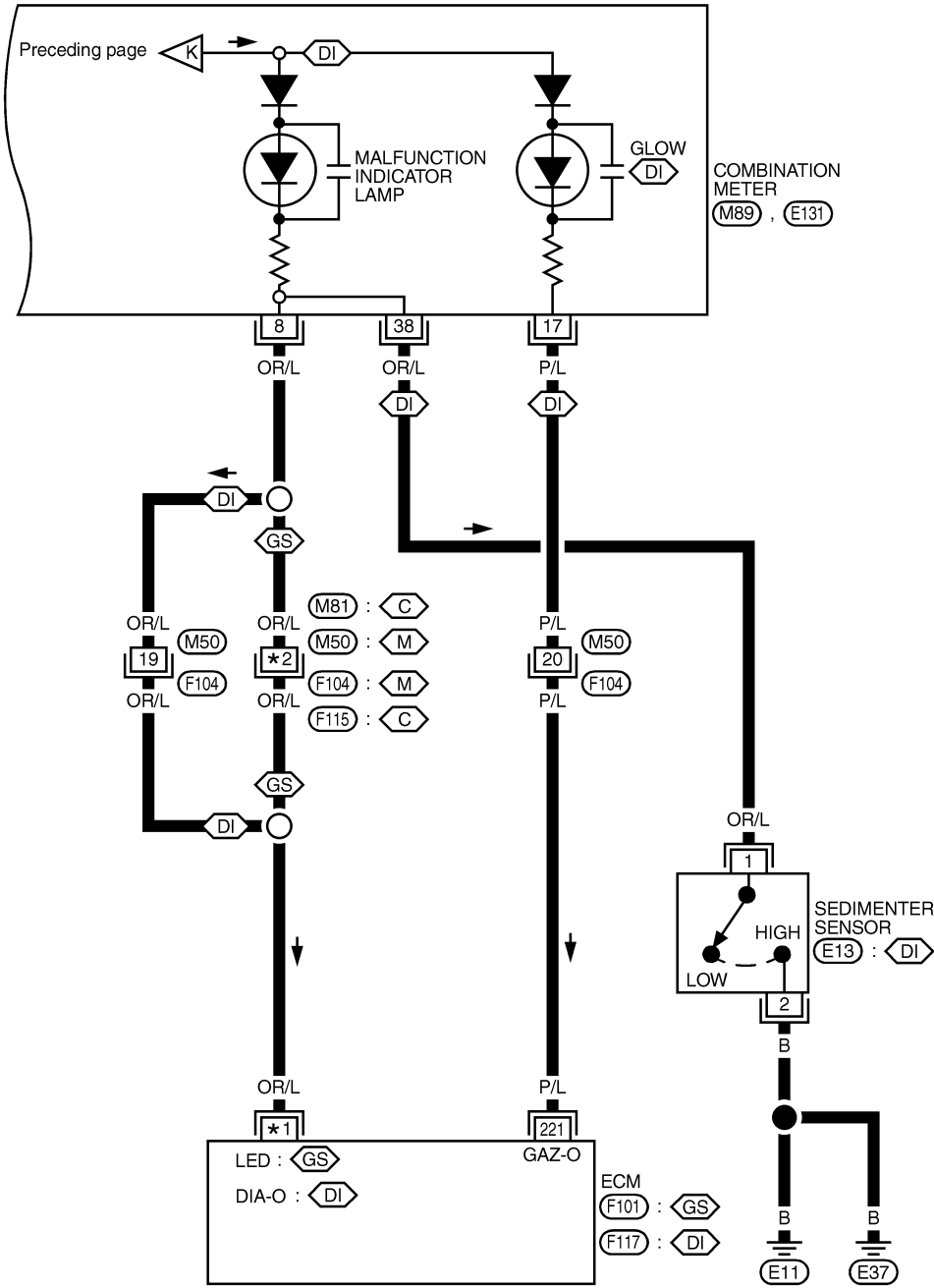
1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22
23	24	(M89) W		25	26	27	28	29	30	
				31	32	33	34	35	(E131) BR	
				36	37	38	39	40	41	
				42	43	44	45	46	47	
				48						

1	(E14)	1	2	(E39)	1	(B24)
2	GY			B	B	

YEL879C

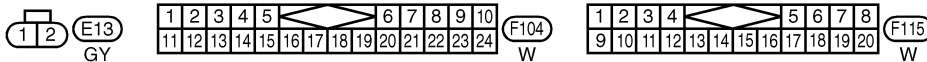
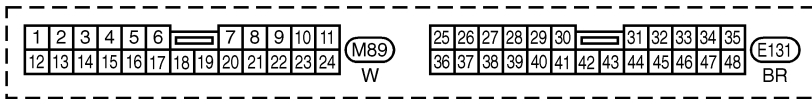
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)



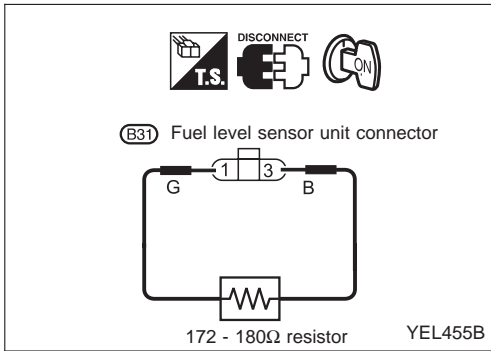
EL-WARN-12

- C : CVT models
- M : M/T models
- GS : With gasoline engine
- DI : With diesel engine
- *1 22 : GS
- 215 : DI
- *2 14 : C
- 20 : M
- *3 21 : C
- 22 : M



REFER TO THE FOLLOWING
F101 , F117 ELECTRICAL UNITS

WARNING LAMPS

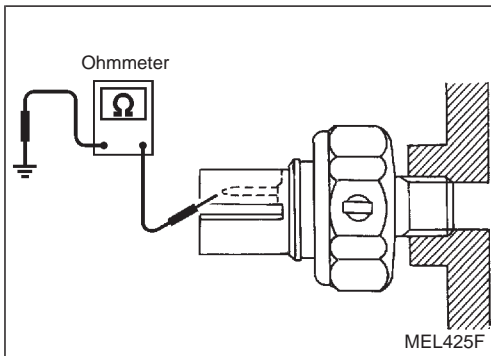


Electrical Components Inspection

FUEL WARNING LAMP OPERATION CHECK

1. Turn ignition switch "OFF".
2. Disconnect fuel level sensor unit harness connector (B31).
3. Connect a resistor (172 - 180Ω) between fuel tank gauge unit harness connector terminals ① and ③ .
4. Turn ignition switch "ON".

The fuel warning lamp should come on.



OIL PRESSURE SWITCH CHECK

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

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

WARNING CHIME

System Description

The warning chime is combined with the time control unit.

The light warning chime will not sound, when ignition switch in the ON or START position. (When power supply exists at time control unit terminal ①.)

LIGHT WARNING CHIME

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

- from lighting switch terminal ⑫ or daytime light control unit terminal ⑥
- to time control unit terminal ⑩.

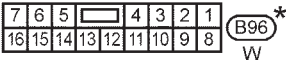
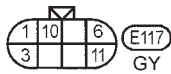
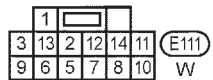
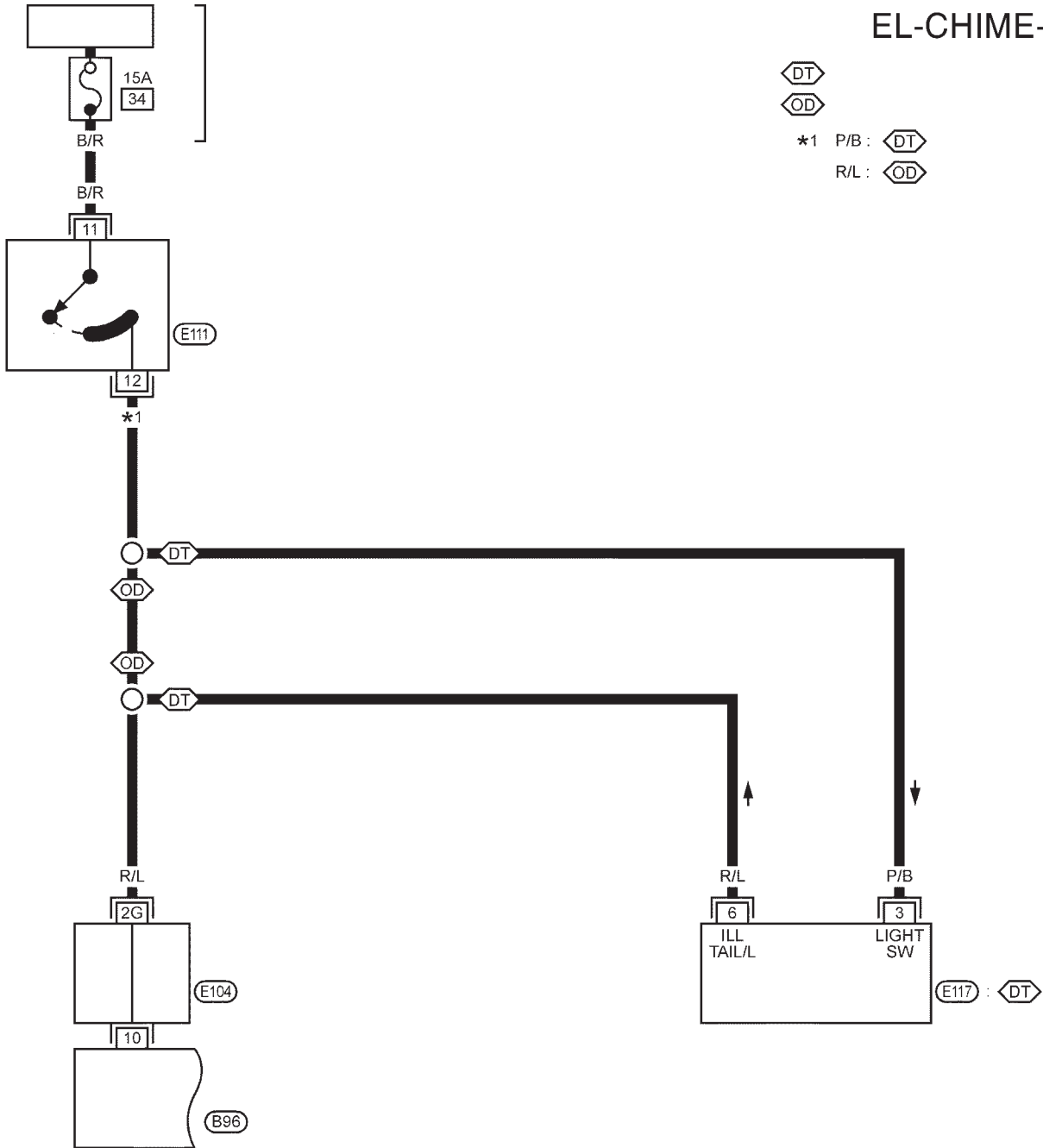
Ground is supplied

- through driver side door switch
- to time control unit terminal ⑥.

WARNING CHIME

Wiring Diagram — CHIME —

EL-CHIME-01

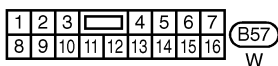
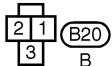
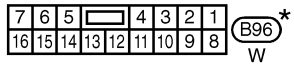
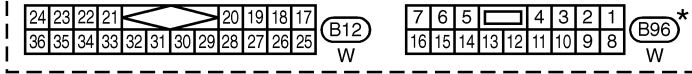
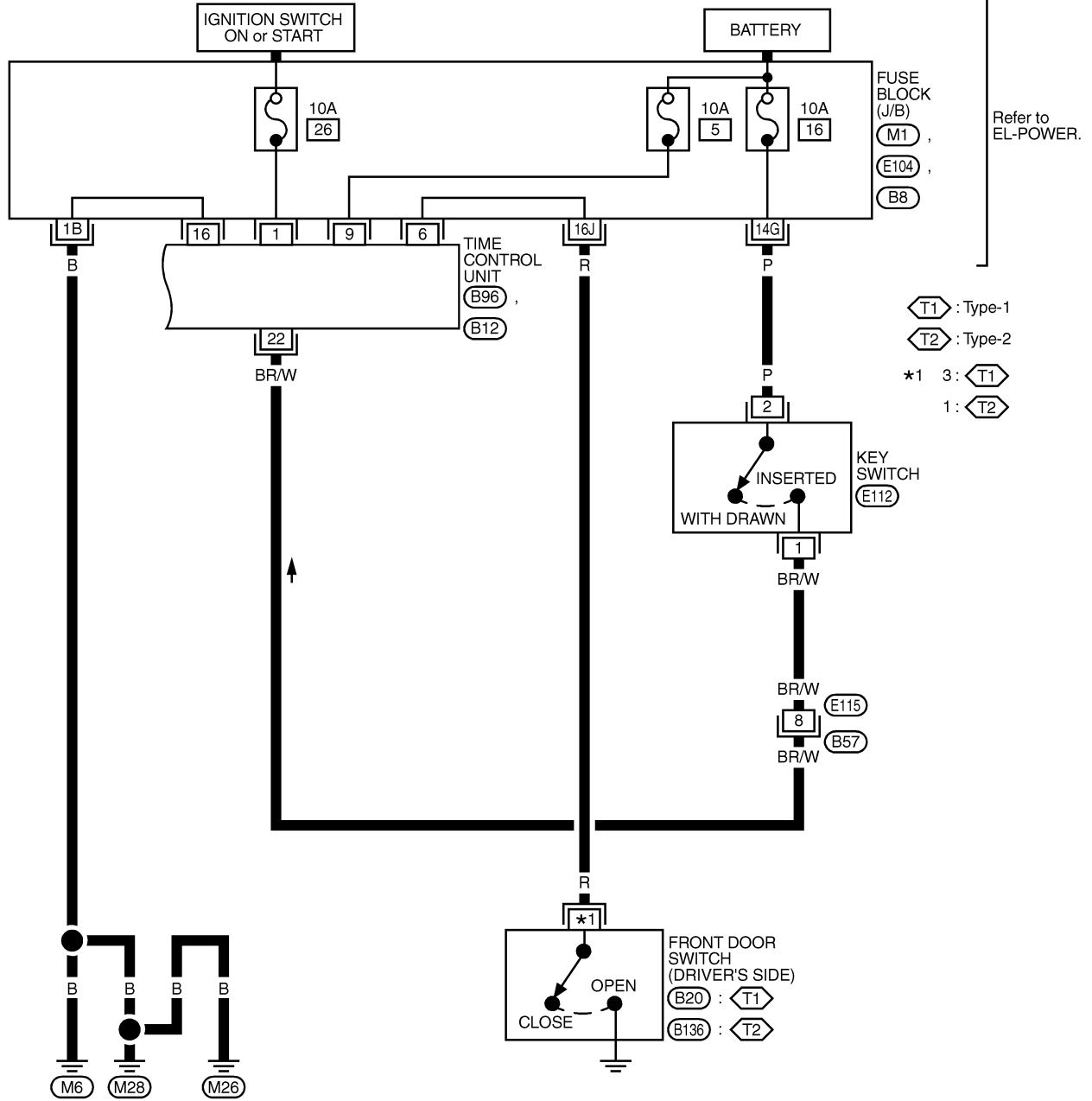


(E104)

WARNING CHIME

Wiring Diagram — CHIME — (Cont'd)

EL-CHIME-02



REFER TO THE FOLLOWING
 (M1), (E104), (B8)
 FUSE BLOCK-
 JUNCTION BOX (J/B)

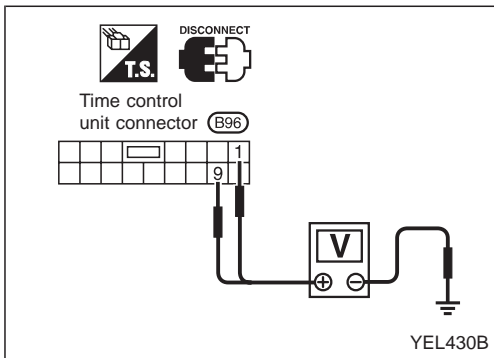
* : This connector is not shown in "HARNES LAYOUT" of EL section.

WARNING CHIME

Trouble Diagnoses

SYMPTOM CHART

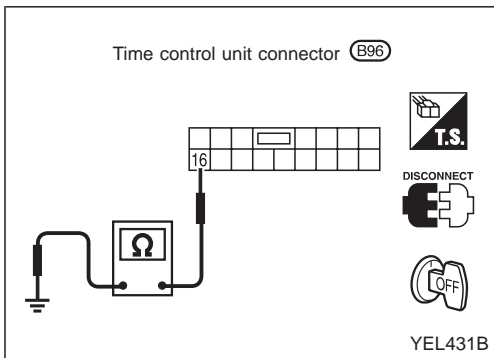
REFERENCE PAGE	EL-183	EL-184	EL-184	EL-185
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	DIAGNOSTIC PROCEDURE 1 (Lighting switch input signal check)	DIAGNOSTIC PROCEDURE 2 (Key switch input signal check)	DIAGNOSTIC PROCEDURE 3
Light warning chime does not activate.	X	X		X
Ignition key warning chime does not activate.	X		X	X
All warning chimes do not activate.	X			X



POWER SUPPLY AND GROUND CIRCUIT CHECK

Power Supply Circuit Check

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



Ground Circuit Check

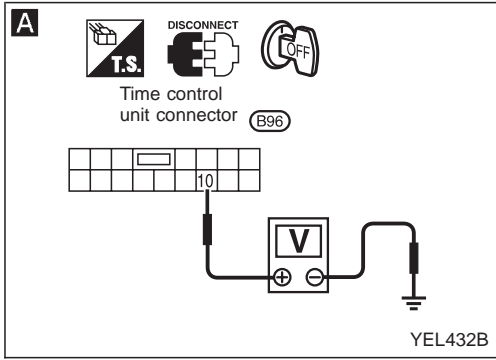
Terminals	Continuity
⑩ - Ground	Yes

WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

(Lighting switch input signal check)



A

CHECK LIGHTING SWITCH INPUT SIGNAL.

Check voltage between control unit terminal ⑩ and ground.

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

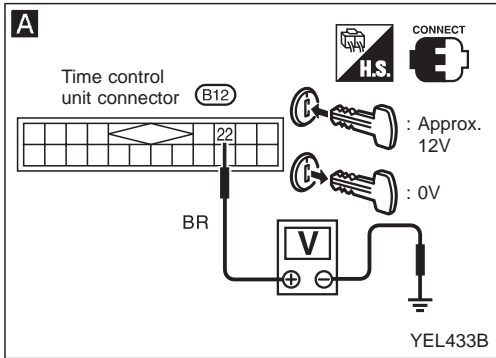
NG

Check the following.

- 15A fuse (No. ③④, located in the fuse and fusible link box)
- Harness for open or short between control unit and lighting switch

OK

Go to Procedure 3.



DIAGNOSTIC PROCEDURE 2

(Key switch input signal check)

A

CHECK KEY SWITCH INPUT SIGNAL.

Check voltage between control unit terminal ⑳ and ground.

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

NG

Check the following.

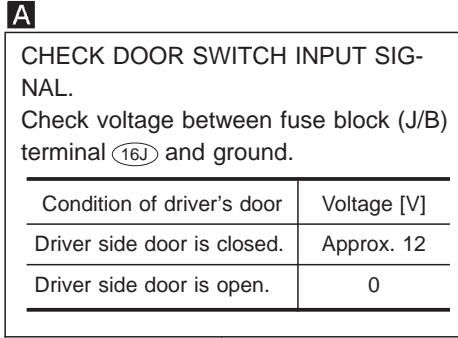
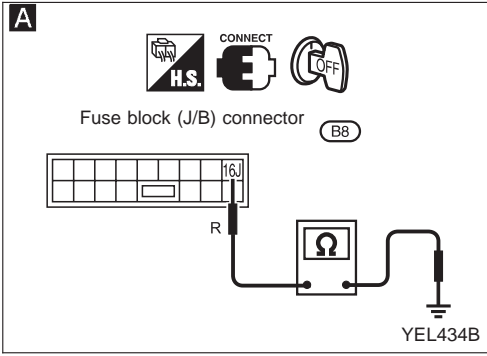
- Key switch
Refer to "Electrical Components Inspection" (EL-185).
- 10A fuse [No. ⑩⑥, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between control unit and key switch

OK

Go to Procedure 3.

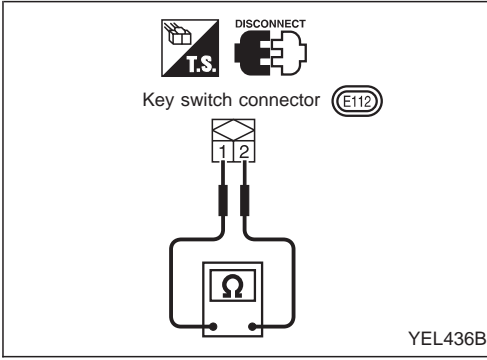
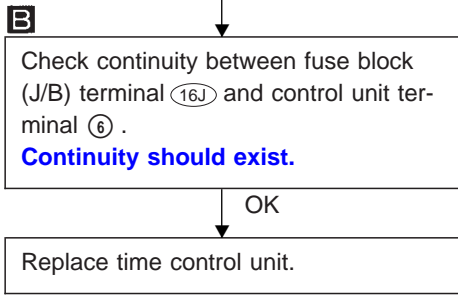
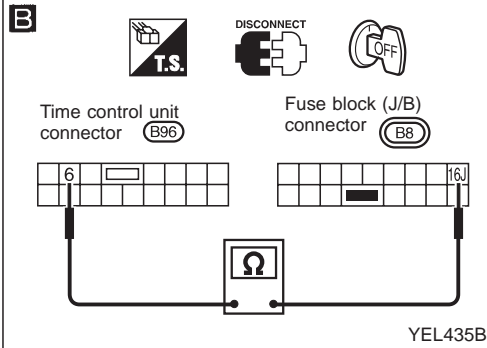
WARNING CHIME

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 3



NG → Check the following.

- Driver side door switch
Refer to “Electrical Components Inspection” (EL-185).
- Door switch ground circuit
- Harness for open or short between control unit and door switch

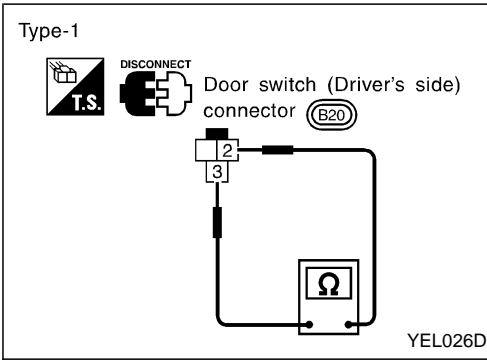


Electrical Components Inspection

KEY SWITCH (insert)

Check continuity between terminals when key is inserted in ignition key cylinder and key is removed from ignition key cylinder.

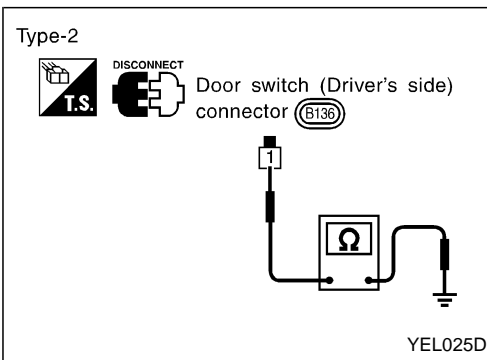
Terminal No.	Condition	Continuity
① - ②	Key is inserted.	Yes
	Key is removed.	No



DRIVER SIDE DOOR SWITCH

Check continuity between terminals when door switch is pushed and released.

Terminal No.	Condition	Continuity
② - ③ (Type-1) or ① - Ground (Type-2)	Door switch is pushed.	No
	Door switch is released.	Yes



System Description

WIPER OPERATION

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

There are three wiper switch positions:

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

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

- through 20A fuse (No. 6) located in the fuse block)
- to wiper motor terminal 6 and 3.

Low and high speed wiper operation

Ground is supplied to wiper switch terminal 17 through body grounds E11 and E37.

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

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

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

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

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

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

Auto stop operation

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

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

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

Ground is also supplied

- through terminal 13 of the wiper switch
- to front wiper relay terminal 3
- through terminal 4 of the front wiper relay
- to wiper motor terminal 5
- through terminal 4 of the wiper motor, and
- through body grounds E11 and E37.

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

Intermittent operation

With variable intermittent

The wiper motor operates the wiper arms at a set interval of approximately 2 to 20 seconds. This feature is controlled by the combination switch wiper amplifier.

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

- to front wiper relay terminal 5
- from wiper switch terminal 13
- through body grounds E37 and E11.
- to wiper motor terminal 2
- through the wiper switch terminal 14
- to wiper switch terminal 13
- through front wiper relay terminal 3

The desired interval time is input

- to front wiper relay terminal 1
- from wiper switch terminal 20.

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

FRONT WIPER AND WASHER

System Description (Cont'd)

WIPER OPERATION

Without variable intermittent

The wiper motor operates the wiper arms at an interval of approximately 7 seconds. This feature is controlled by the combination switch wiper amplifier.

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

- to front wiper relay terminal ⑤
- from wiper switch terminal ⑬
- to wiper motor terminal ②
- through the wiper switch terminal ⑭
- to wiper switch terminal ⑬
- through front wiper relay terminal ③

WASHER OPERATION

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

- through 10A fuse (No. ⑳, located in the fuse block)
- to washer switch terminal ⑤.

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

- to washer motor terminal ②
- from terminal ⑱ of the wiper switch
- through terminal ④ of the wiper switch, and
- through body grounds ⑳ and ㉑.

Power is supplied

- from terminal ③ of the washer switch
- to washer motor terminal ①.

With power and ground supplied, the washer motor operates.

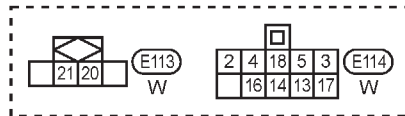
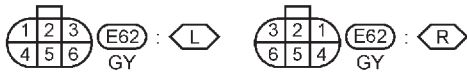
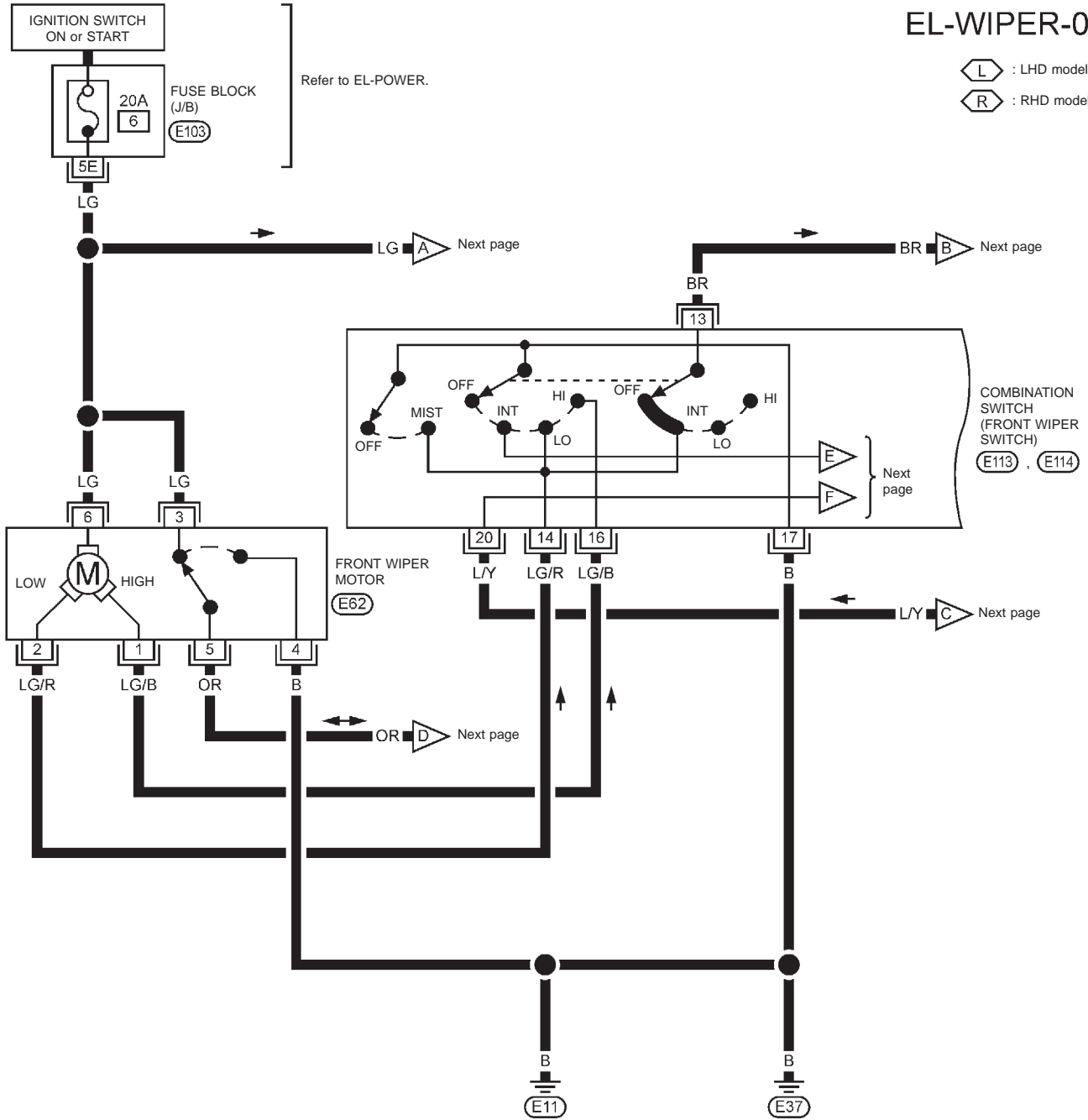
When the lever is pulled to the WASH position for one second or more, the wiper motor operates at low speed for approximately 3 seconds to clean windshield. This feature is controlled by the combination switch (wiper amplifier) in the same manner as the intermittent operation.

FRONT WIPER AND WASHER

Wiring Diagram — WIPER —

EL-WIPER-01

L : LHD models
R : RHD models



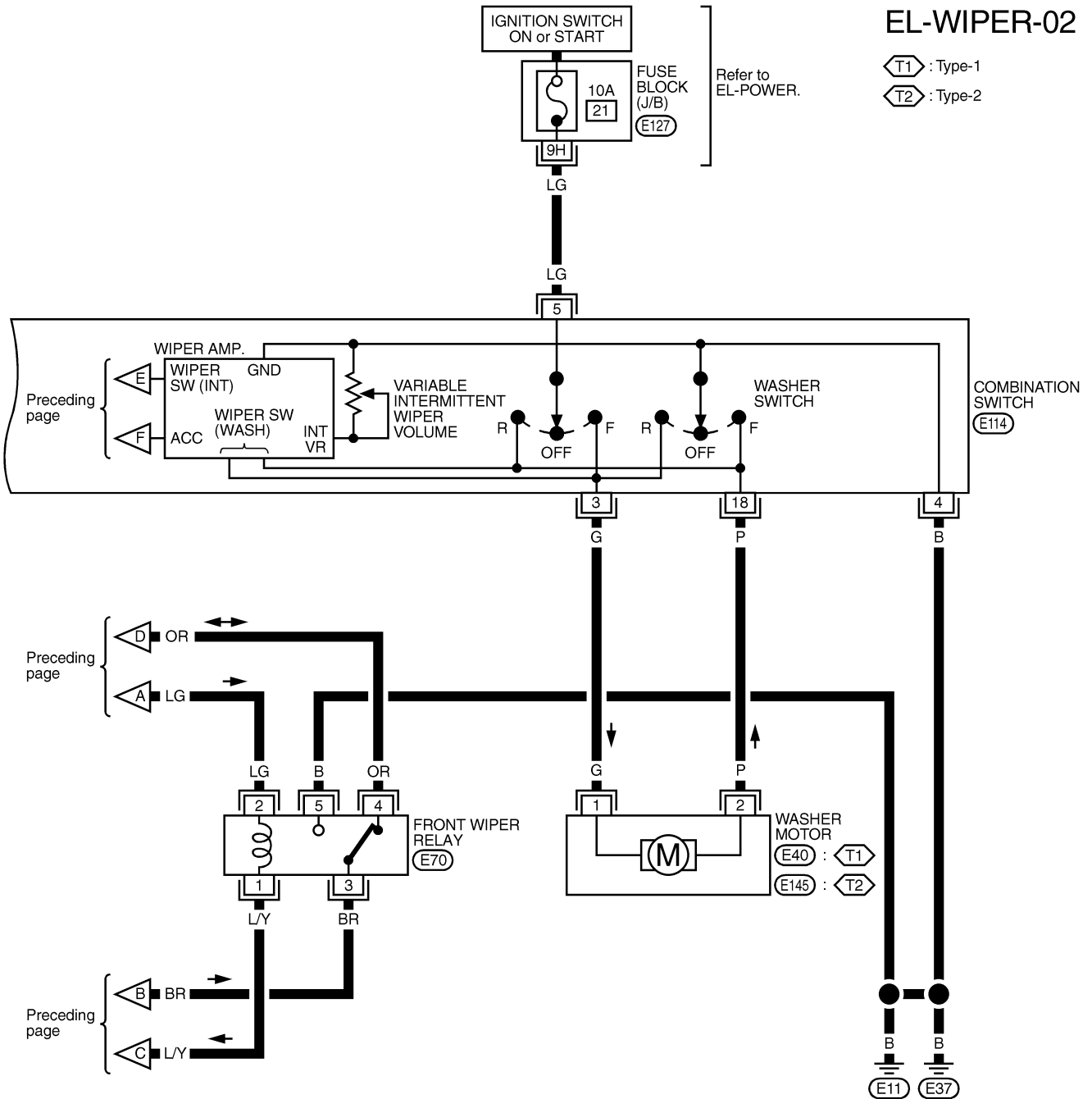
REFER TO THE FOLLOWING
E103 FUSE BLOCK - Junction Box (J/B)

FRONT WIPER AND WASHER

Wiring Diagram — WIPER — (Cont'd)

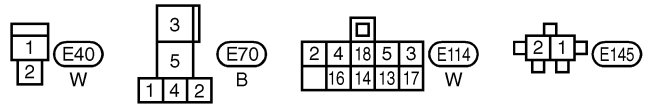
EL-WIPER-02

T1 : Type-1
T2 : Type-2



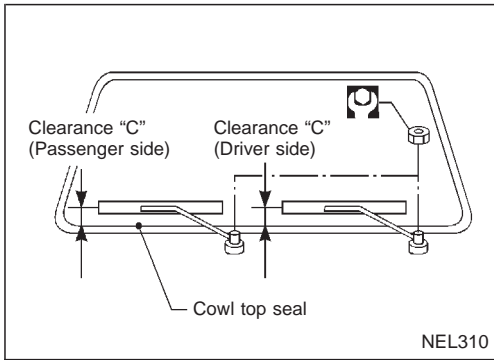
Preceding page

Preceding page



REFER TO THE FOLLOWING
E127 FUSE BLOCK-JUNCTION BOX (J/B)

FRONT WIPER AND WASHER



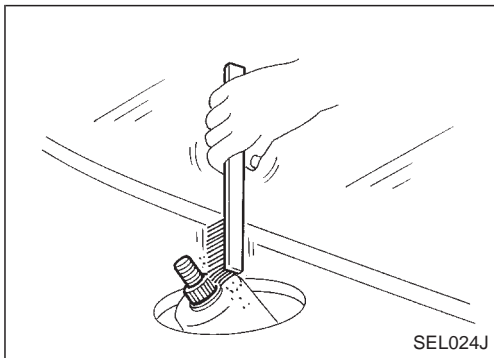
Removal and Installation

WIPER ARMS

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 blade center to clearance "C" 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 "C".

Clearance "C": 19 - 33 mm (0.75 - 1.30 in)

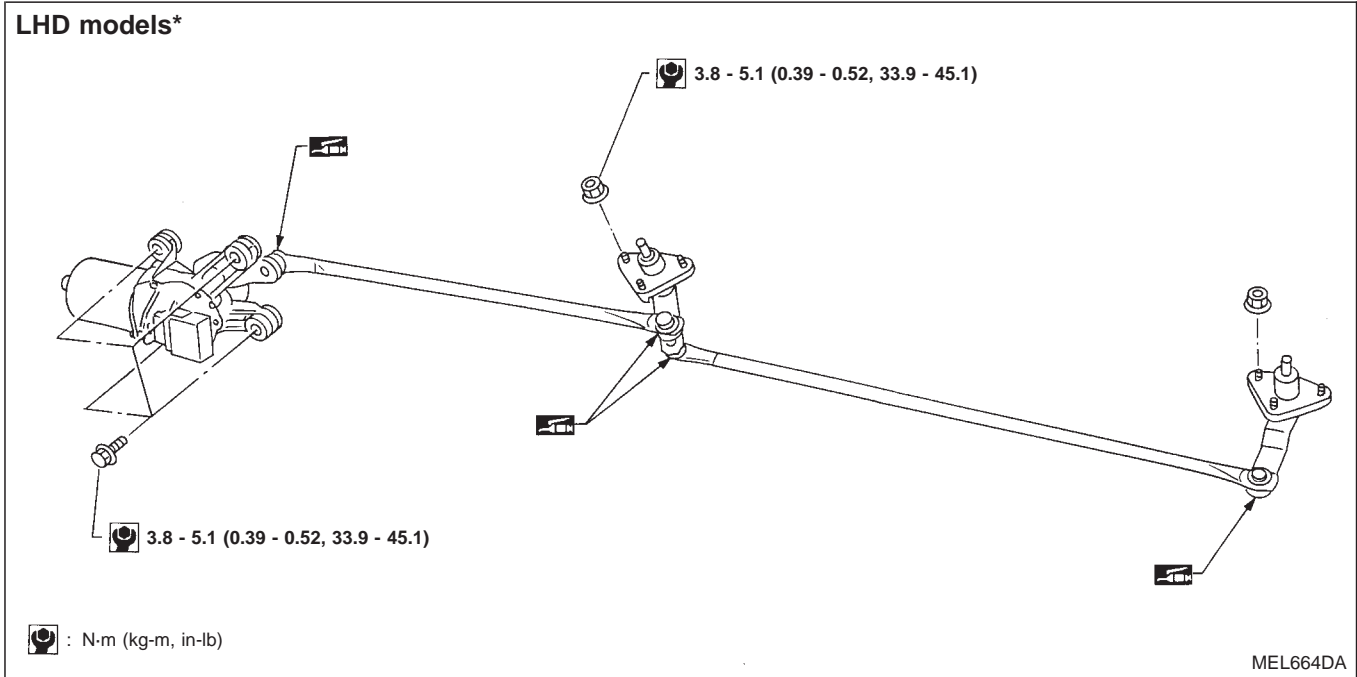
- Tighten windshield wiper arm nuts to specified torque.
🔧: 21 - 26 N·m (2.1 - 2.7 kg·m, 15 - 20 ft·lb)



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

FRONT WIPER AND WASHER

Removal and Installation (Cont'd) WIPER LINKAGE



* Structure is basically the opposite for RHD models.

Removal

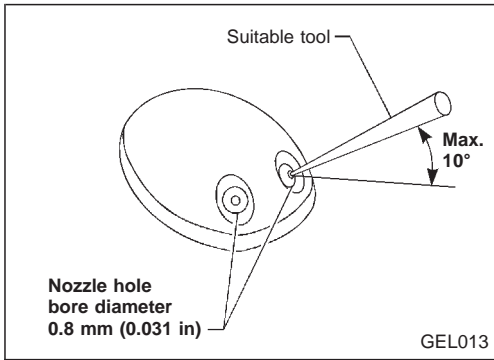
1. Remove 4 bolts that secure wiper motor.
2. Detach wiper motor from wiper linkage at ball joint.
3. Remove wiper linkage.

Be careful not to break ball joint rubber boot.

Installation

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

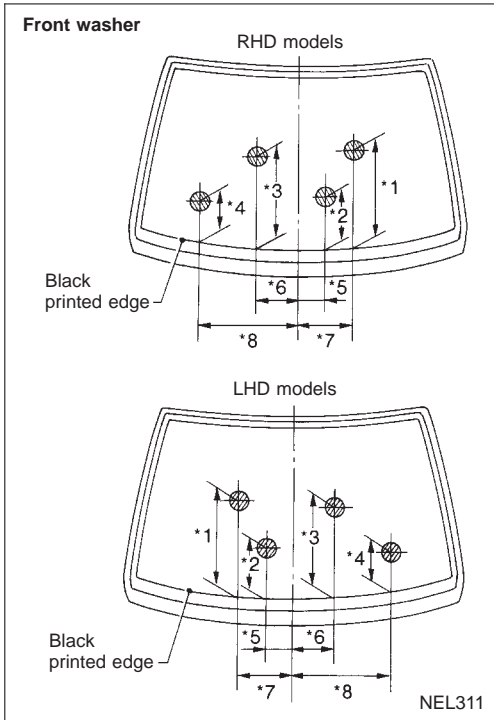
FRONT WIPER AND WASHER



Front Washer Nozzle Adjustment

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

Adjustable range: ±10° (In any direction)

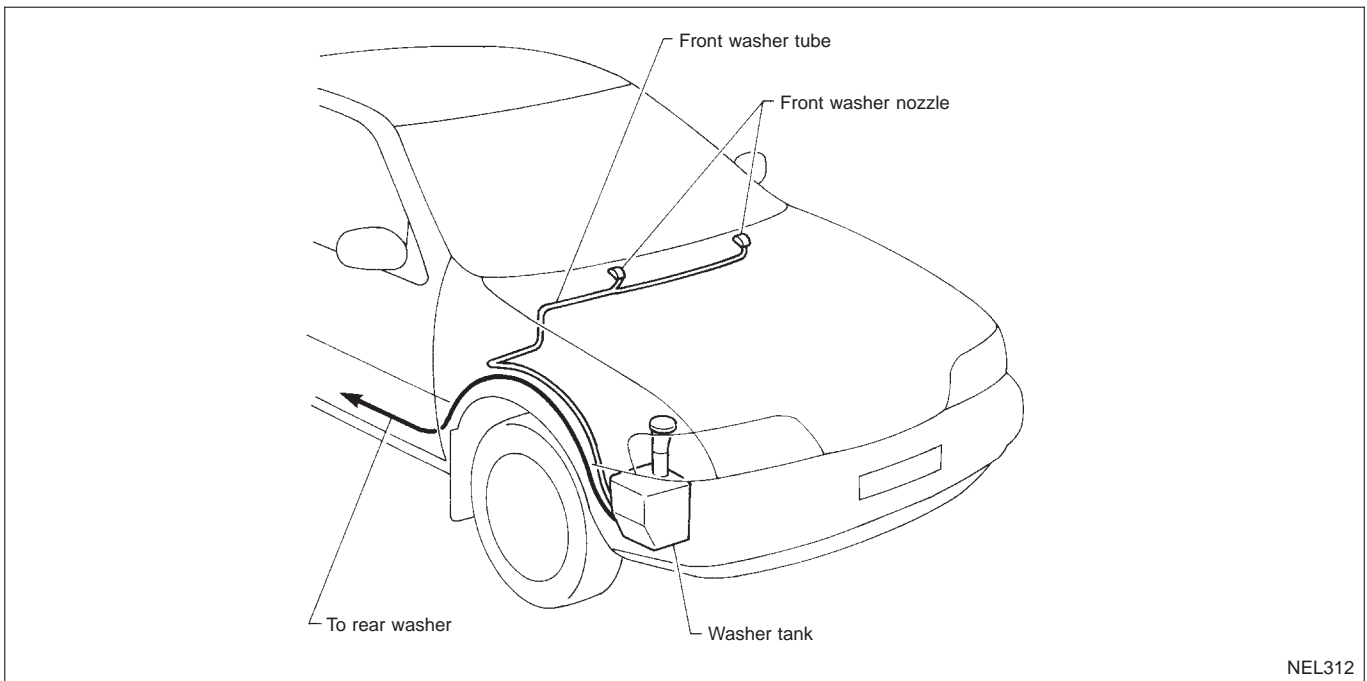


Unit: mm (in)

*1	375 (14.76)	*5	115 (4.53)
*2	160 (6.30)	*6	190 (7.48)
*3	440 (17.32)	*7	320 (12.60)
*4	100 (3.94)	*8	450 (17.72)

Circle diameters are approx. 80 mm (3.15 in).

Front Washer Tube Layout



System Description

WIPER OPERATION

The rear wiper switch and rear intermittent wiper control is built into the combination switch. There are two rear wiper switch positions:

- ON (LO speed)
- INT (Intermittent).

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

- through 15A fuse (No. 18, located in the fuse block)
- to rear wiper motor terminal ③ (Sedan and H/B); ④ (Wagon), and
- to rear wiper relay terminal ②.

Low speed wiper operation

Ground is supplied to rear wiper switch terminal ④ through body grounds E37 and E11.

When the rear wiper is placed in the ON position, ground is supplied

- through rear wiper switch terminal ②
- to rear wiper relay terminal ①.

The rear wiper relay is energized and power is supplied

- through 15A fuse (No. 18, located in the fuse block)
- to rear wiper relay terminal ⑤
- through rear wiper relay terminal ③
- to rear wiper motor terminal ②.

Ground is supplied

- to rear wiper motor terminal ① (sedan and H/B); ③ (Wagon)
- through body grounds B18 and B27 (Sedan); D110 and B48 (H/B and Wagon).

Auto stop operation

With the rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arm reaches rear window base.

When wiper arm is not located at base of rear window with rear wiper switch OFF, rear wiper relay is not energized.

Power is supplied

- through 15A fuse (No. 18, located in the fuse block)
- to rear wiper motor terminal ③ (Sedan and H/B); ④ (Wagon).

Ground is also supplied

- to rear wiper motor terminal ① (Sedan and H/B); ③ (Wagon)
- through body grounds B18 and B27 (Sedan); D110 and B48 (H/B and Wagon).

When wiper arm reaches base of rear window, rear wiper motor will then stop wiper arm at the PARK position.

Intermittent operation

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

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

- through 15A fuse (No. 18, located in the fuse block)
- to rear wiper relay terminal ②.

When the rear wiper is placed in the INT position, ground is supplied

- to rear wiper relay terminal ①
- through rear wiper switch terminal ②
- to rear wiper amplifier
- from rear wiper switch terminal ④
- through body grounds E37 and E11.

When the rear wiper relay is energized, power is supplied

- through 15A fuse (No. 18, located in the fuse block)
- to rear wiper relay terminal ⑤
- through rear wiper relay terminal ③
- to rear wiper motor terminal ②.

REAR WIPER AND WASHER

System Description (Cont'd)

Ground is also supplied

- to rear wiper motor terminal ① (Sedan and H/B); ③ (Wagon)
- through body grounds B18 and B27 (Sedan); D110 and B48 (H/B and Wagon).

With power and ground supplied, the rear wiper motor operates intermittently.

WASHER OPERATION

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

- through 10A fuse (No. 21), located in the fuse block)
- to rear washer switch connector terminal ⑤.

When the rear washer switch is pushed to the WASH/R position, ground is supplied

- to rear washer motor terminal ①
- from terminal ③ of rear wiper switch
- through terminal ④ of rear wiper switch, and
- through body grounds E37 and E11.

Power is supplied

- from terminal ⑩ of the washer switch
- to washer motor terminal ②.

With power and ground is supplied, the rear washer motor operates.

The rear wiper motor operates when the control switch is pushed to WASH position for one second or more and for approximately 3 seconds after the switch is released. This feature is controlled by the rear wiper amplifier in the same manner as the intermittent operation.

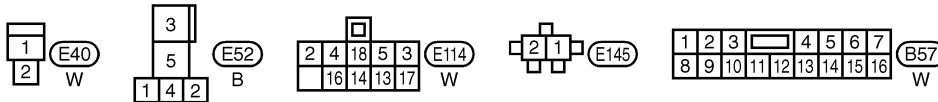
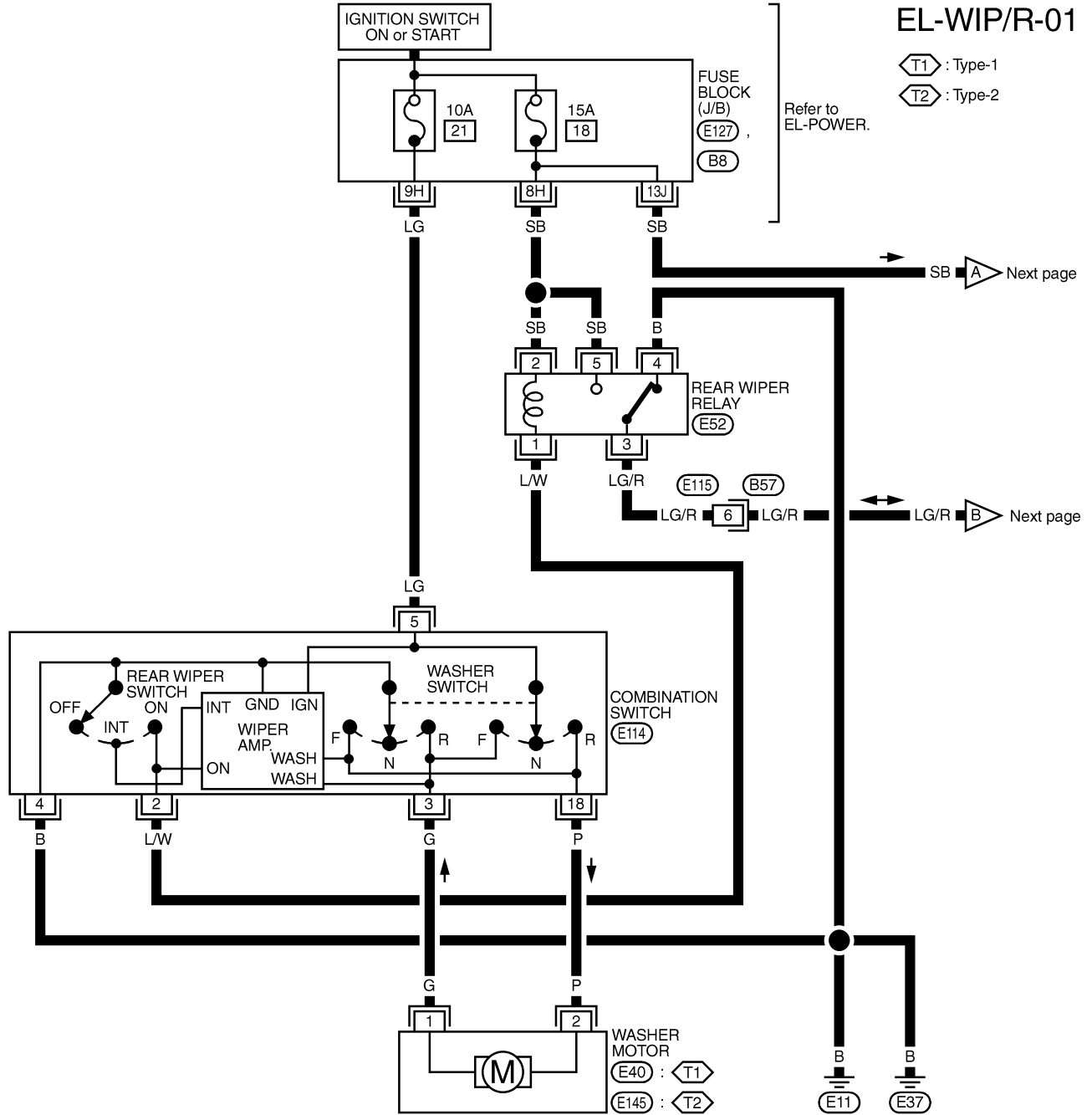
REAR WIPER AND WASHER

Wiring Diagram — WIP/R —

EL-WIP/R-01

◻ T1 : Type-1
◻ T2 : Type-2

Refer to EL-POWER.

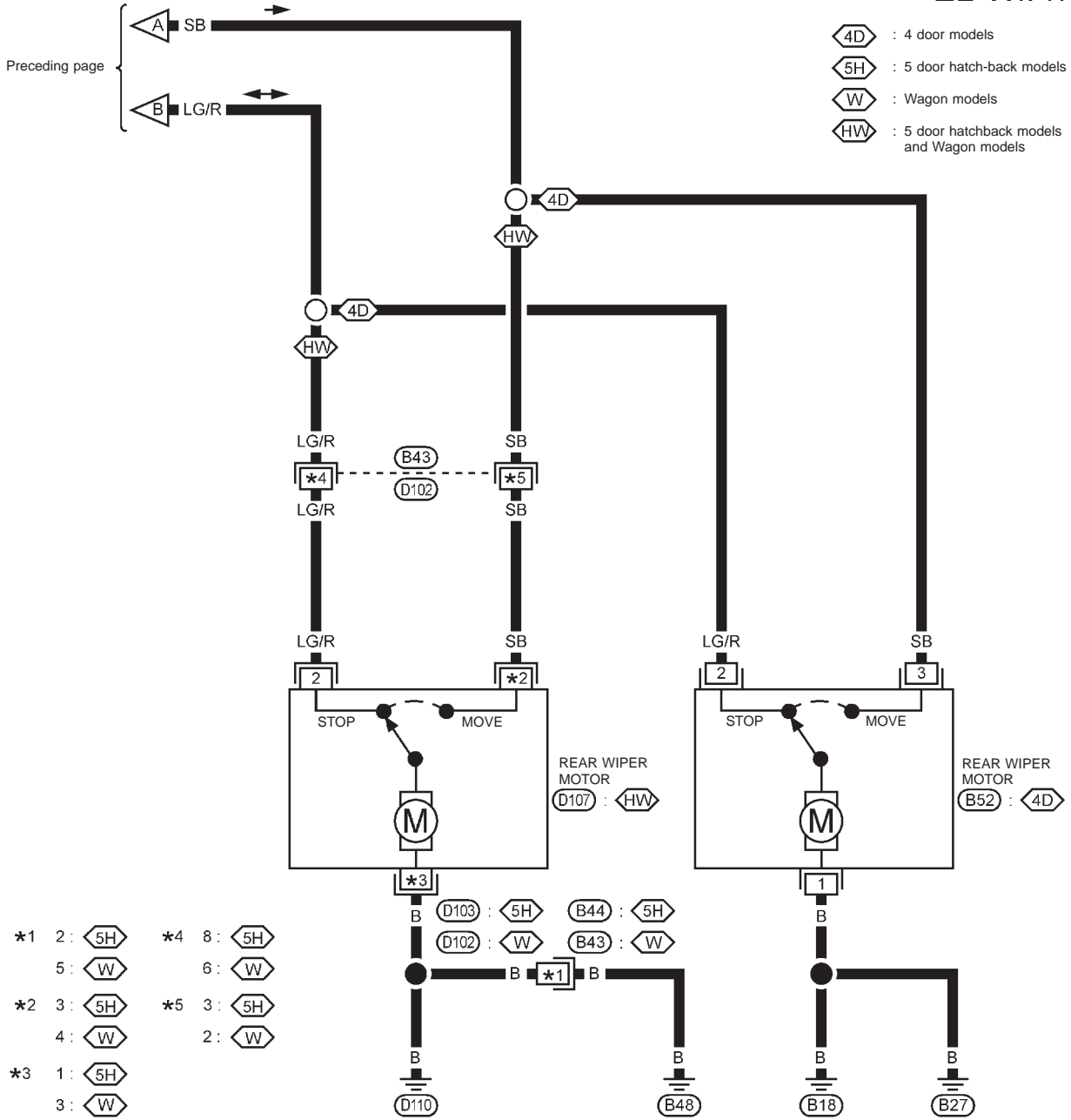


REFER TO THE FOLLOWING
◻ E127, ◻ B8 FUSE BLOCK-
JUNCTION BOX (J/B)

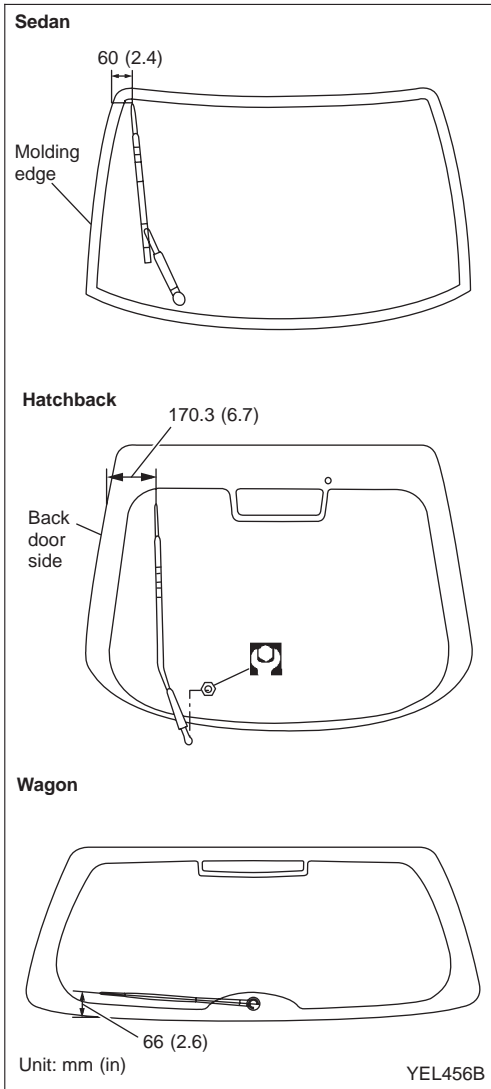
REAR WIPER AND WASHER

Wiring Diagram — WIP/R — (Cont'd)

EL-WIP/R-02



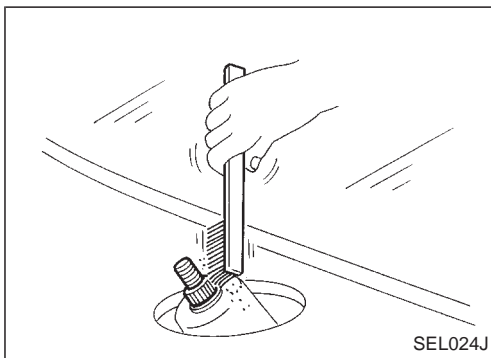
REAR WIPER AND WASHER



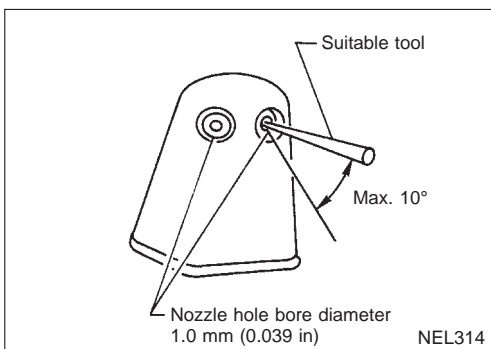
Removal and Installation

WIPER ARM

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 blade center before tightening nut.
 3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it off.
 4. Ensure that wiper blade stops in the correct position.
- Tighten windshield wiper arm nut to specified torque.
🔧: 13 - 18 N·m (1.4 - 1.8 kg·m, 10 - 13 ft·lb)



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



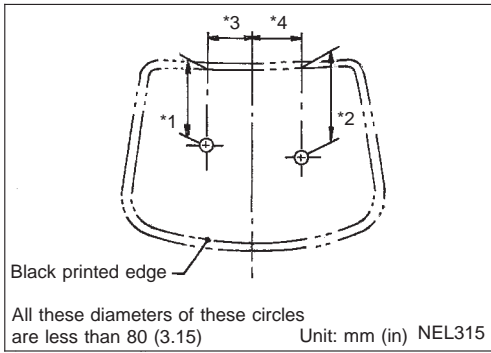
Washer Nozzle Adjustment

- Adjust washer nozzle with suitable tool as shown in the figure at left.
Adjustable range: ±10° (In any direction)

REAR WIPER AND WASHER

Washer Nozzle Adjustment (Cont'd)

Unit: mm (in)

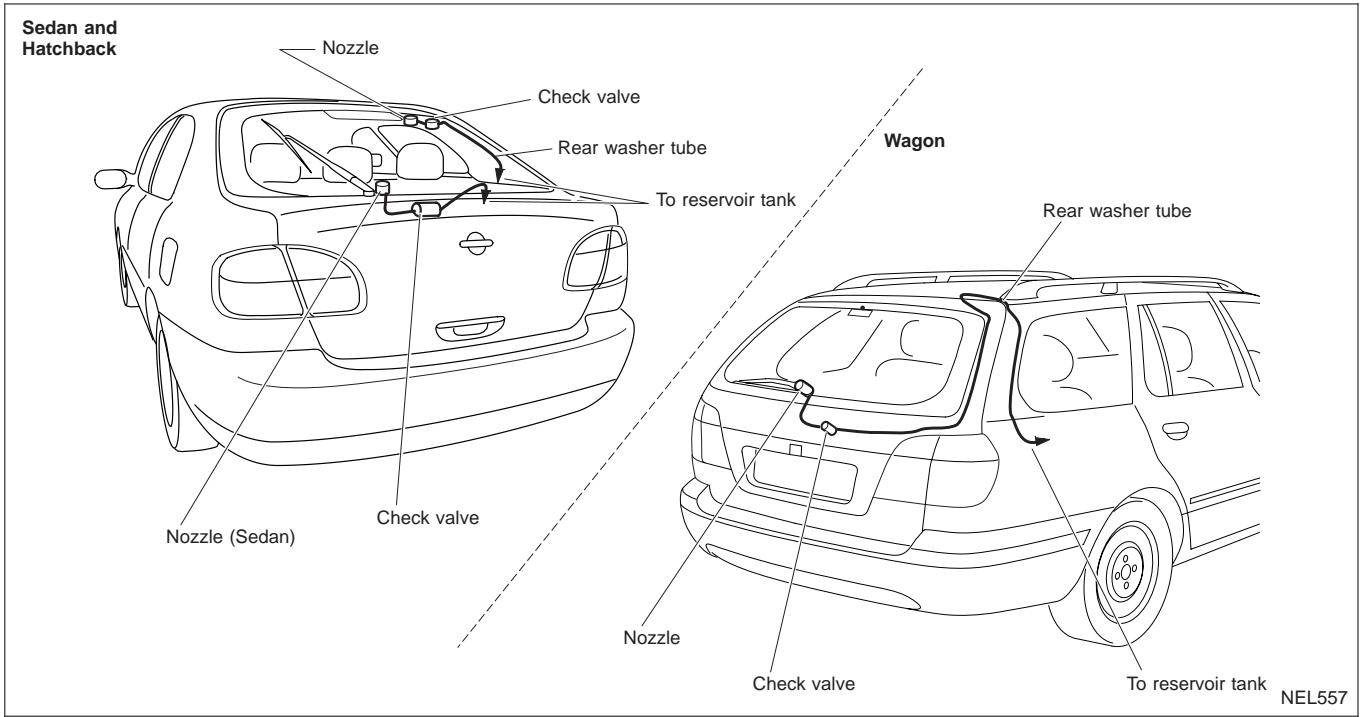


*1	150 (5.91)	*3	135 (5.31)
*2	290 (11.42)	*4	170 (6.69)

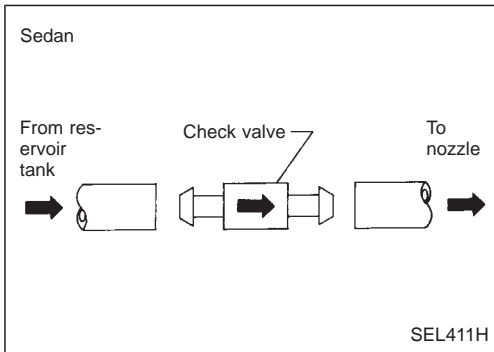
Circle diameters are approx. 80 mm (3.15 in)

REAR WIPER AND WASHER

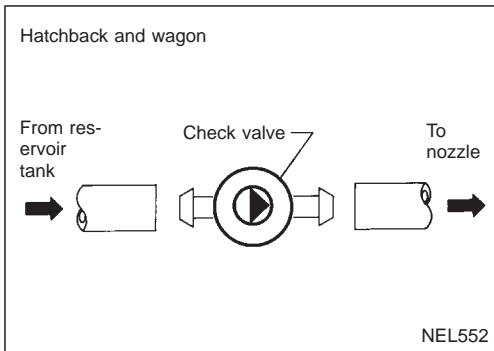
Washer Tube Layout



NEL557



SEL411H



NEL552

Check Valve

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

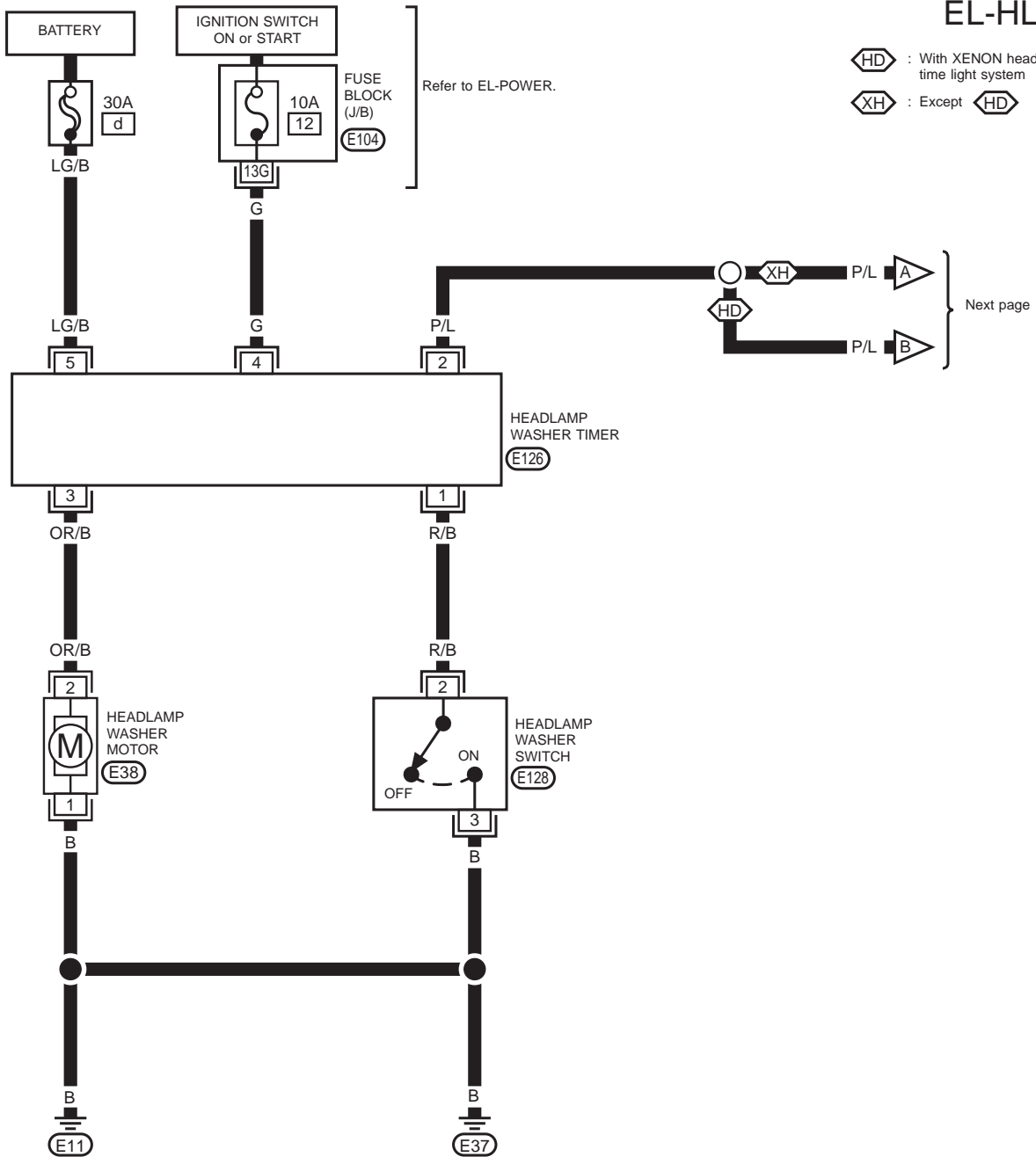
HEADLAMP WASHER

Wiring Diagram — HLC —

EL-HLC-01

: With XENON headlamp or day-time light system

: Except



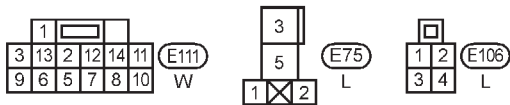
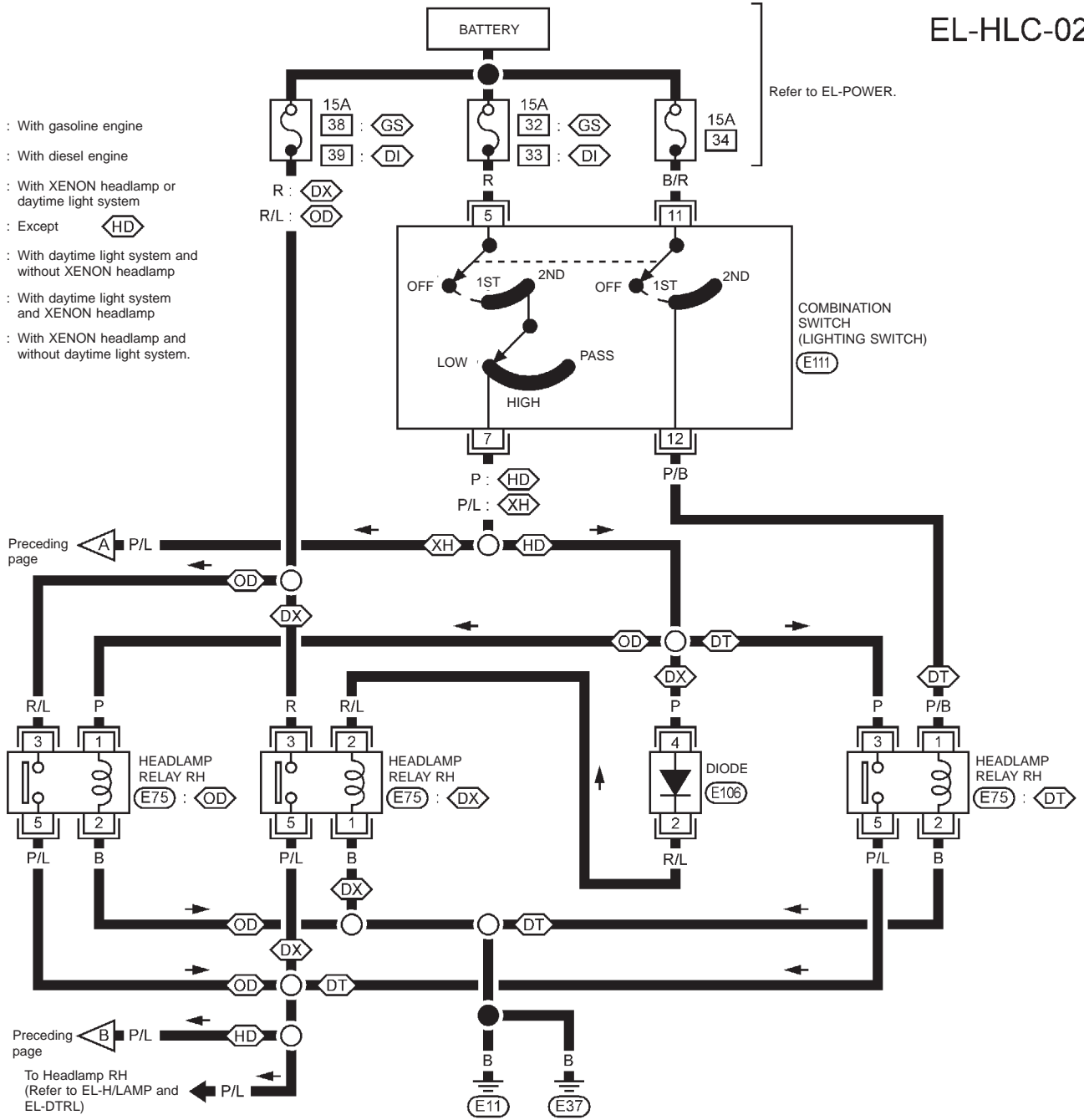
REFER TO THE FOLLOWING
 FUSE BLOCK - Junction Box (J/B)

HEADLAMP WASHER

Wiring Diagram — HLC — (Cont'd)

EL-HLC-02

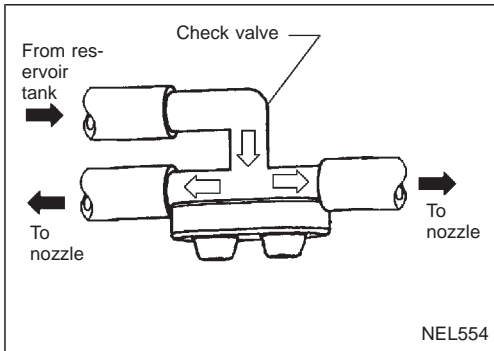
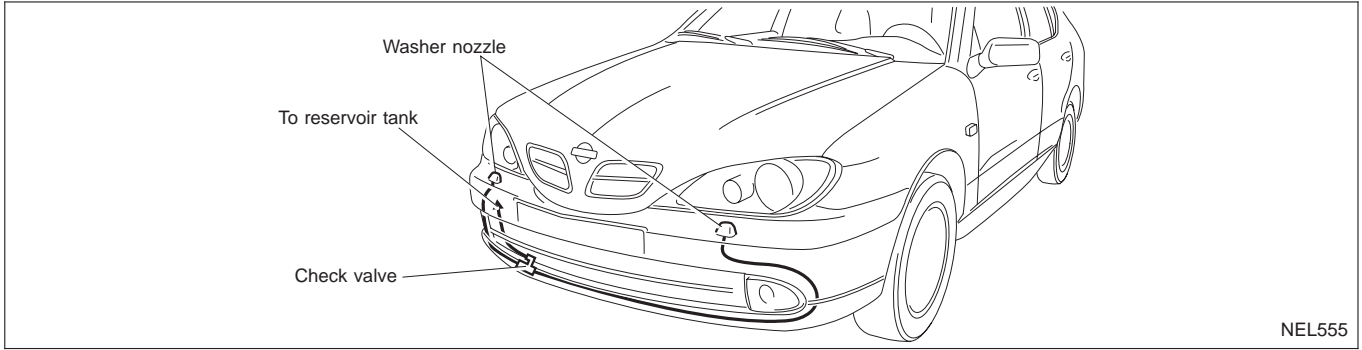
- GS : With gasoline engine
- DI : With diesel engine
- HD : With XENON headlamp or daytime light system
- XH : Except HD
- DT : With daytime light system and without XENON headlamp
- DX : With daytime light system and XENON headlamp
- OD : With XENON headlamp and without daytime light system.



YEL179C

HEADLAMP WASHER

Washer Tube Layout



Check Valve

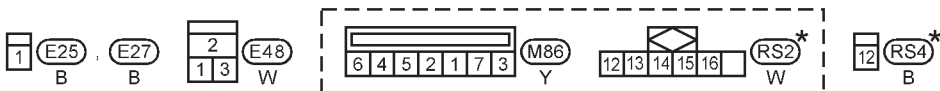
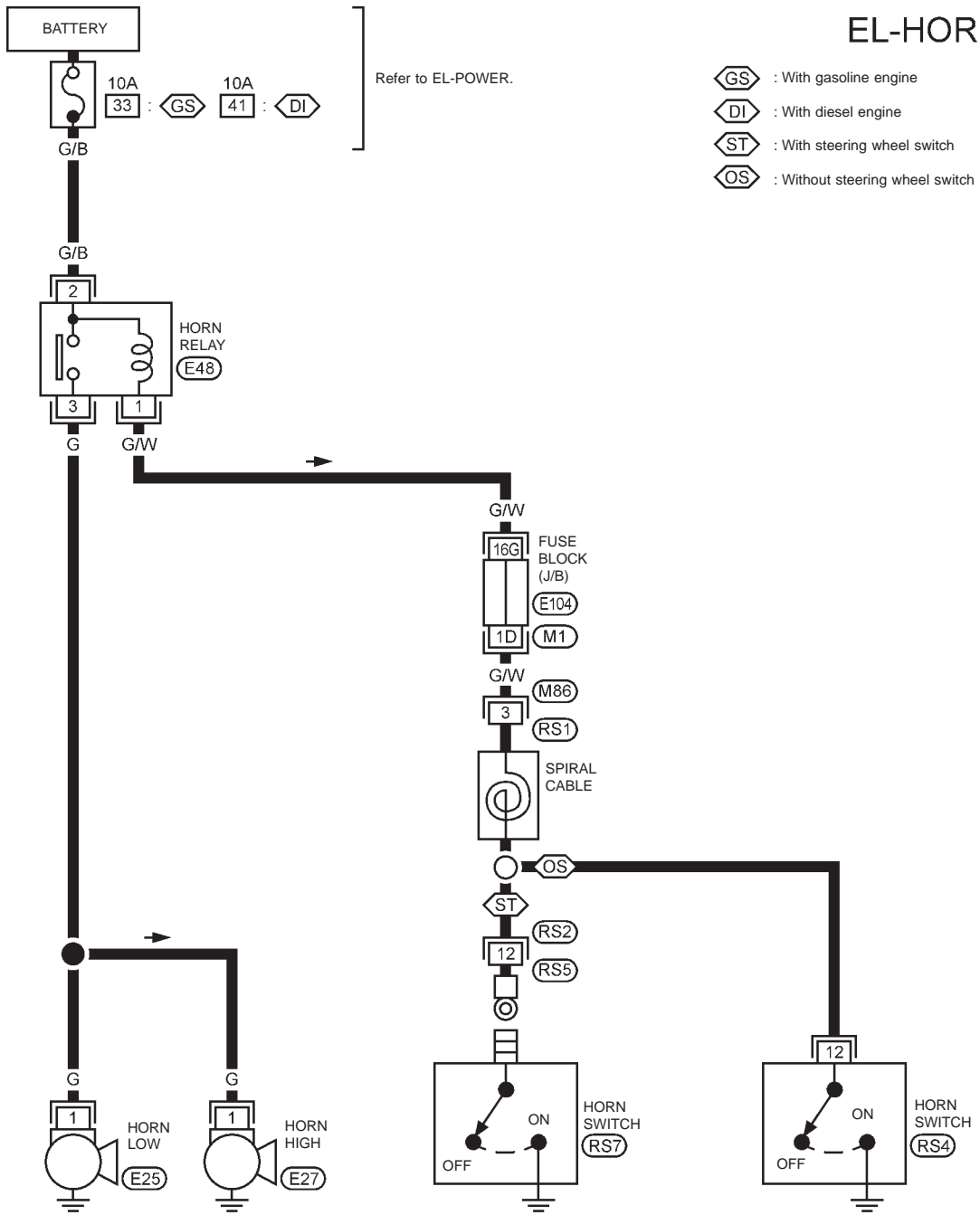
- A check valve is provided in the washer fluid line. Be careful not to connect check valve to washer tube in the wrong direction.

HORN, CIGARETTE LIGHTER AND CLOCK

Wiring Diagram — HORN —

Type-1

EL-HORN-01



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

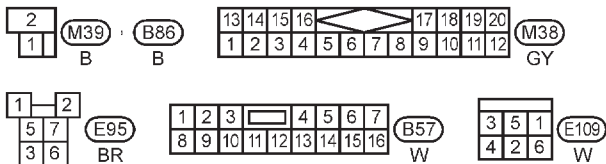
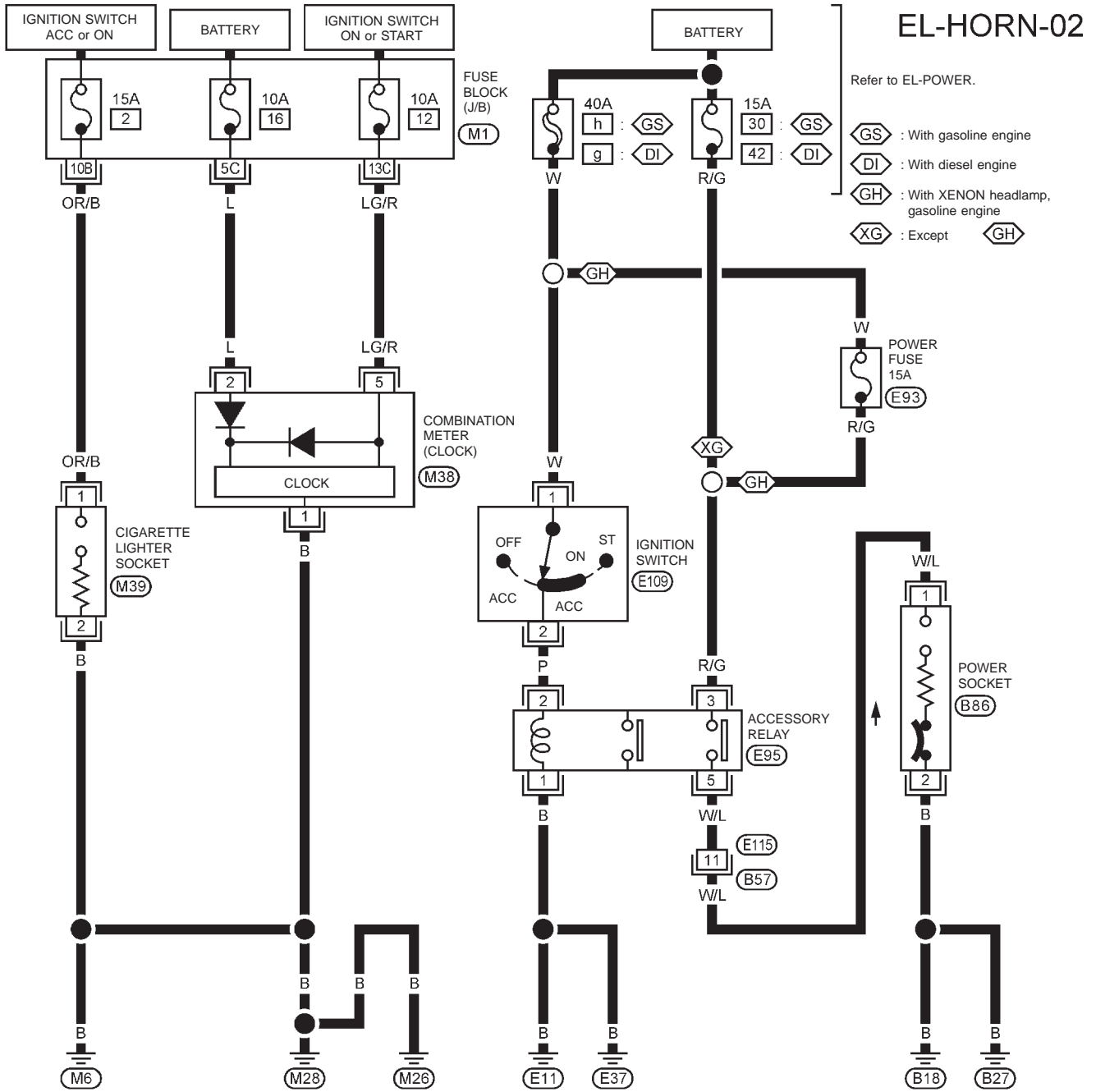
REFER TO THE FOLLOWING

⬡ E104 FUSE BLOCK - Junction Box (J/B)

⬡ M1 FUSE BLOCK - Junction Box (J/B)

HORN, CIGARETTE LIGHTER AND CLOCK

Wiring Diagram — HORN — (Cont'd)



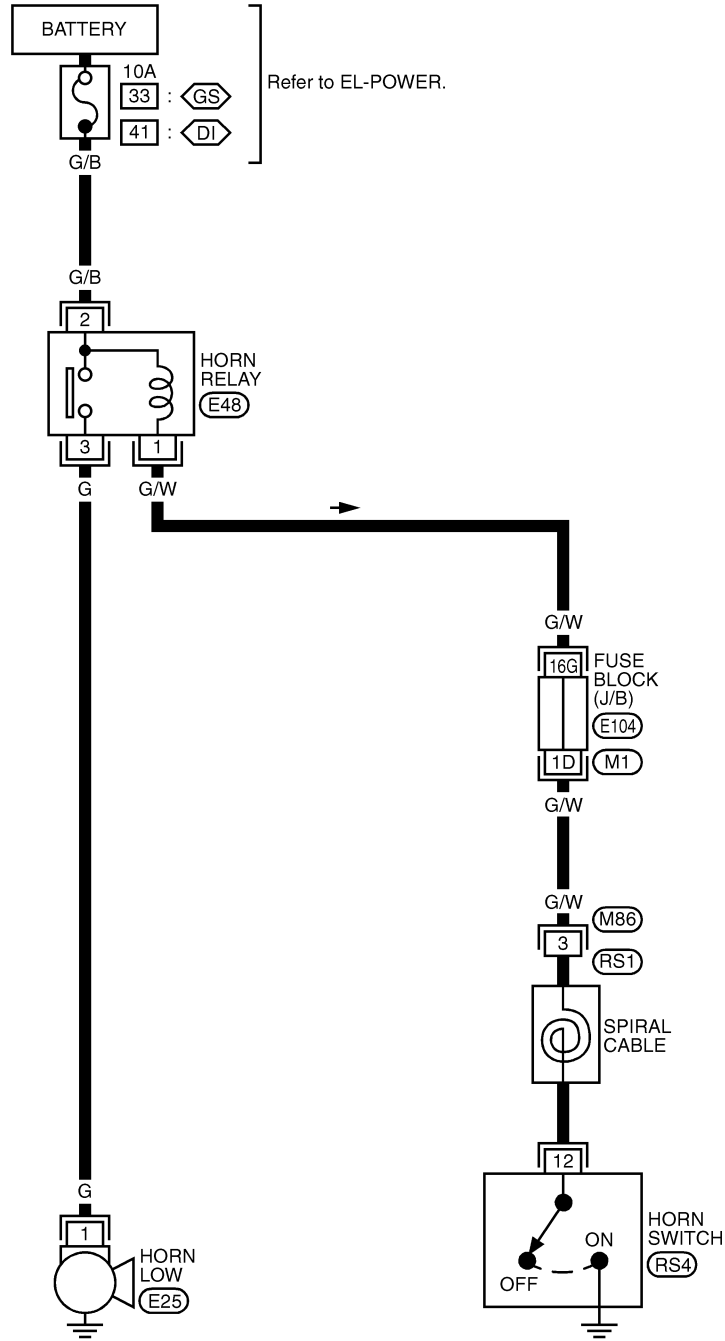
REFER TO THE FOLLOWING
M1 FUSE BLOCK - Junction Box (J/B)

YEL181C

HORN, CIGARETTE LIGHTER AND CLOCK

Wiring Diagram — HORN — (Cont'd)

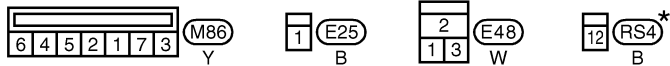
Type-2



EL-HORN-03

⬡GS : With gasoline engine
 ⬡DI : With diesel engine

Refer to EL-POWER.



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

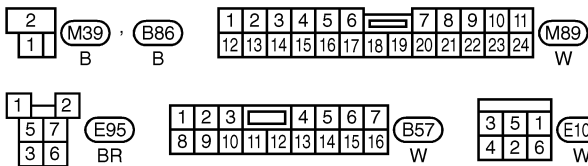
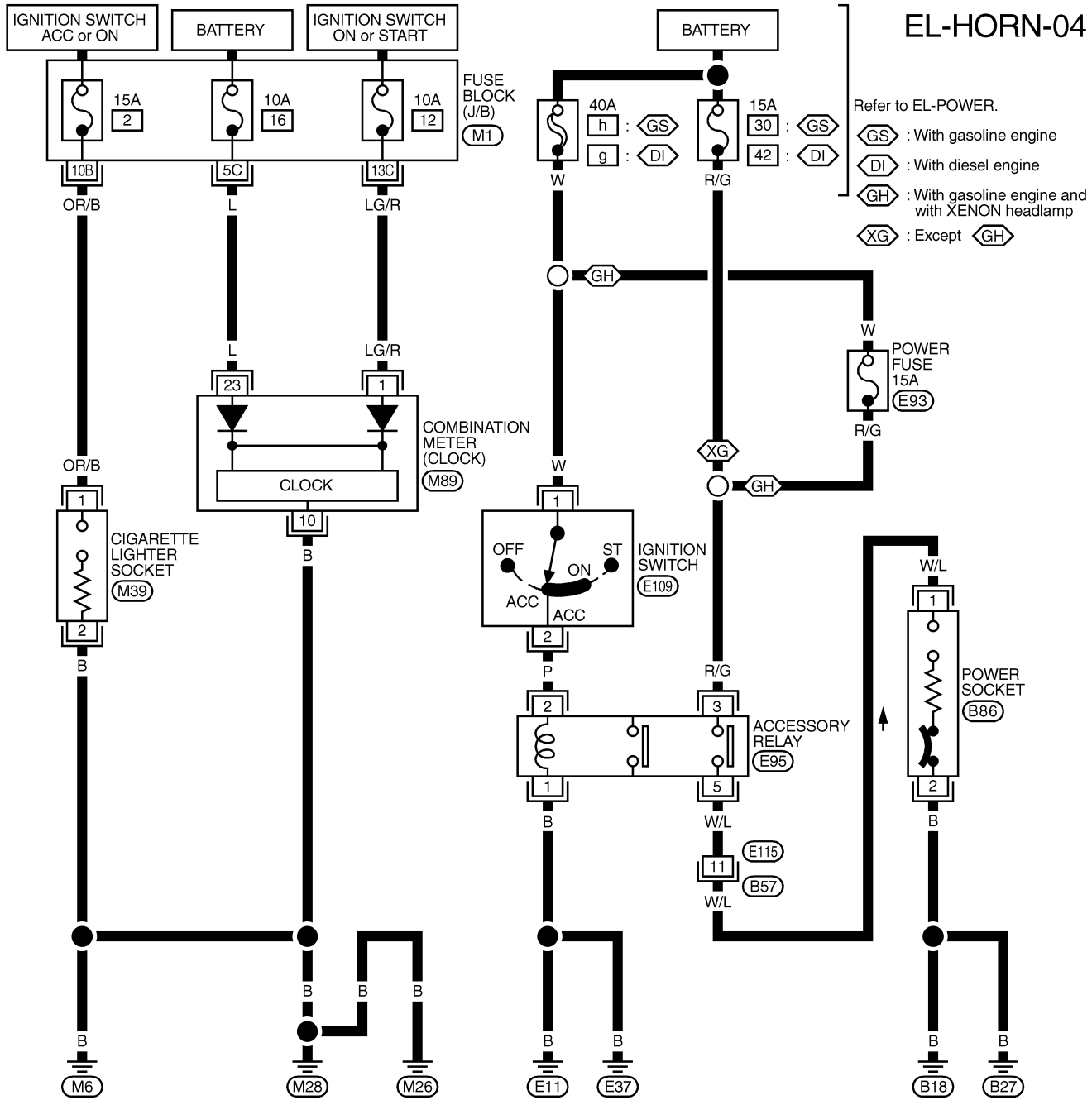
REFER TO THE FOLLOWING
 (M1), (E104) FUSE BLOCK-
 JUNCTION BOX (J/B)

YEL885C

HORN, CIGARETTE LIGHTER AND CLOCK

Wiring Diagram — HORN — (Cont'd)

EL-HORN-04



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

YEL886C

System Description

The rear window and door mirror defogger system is controlled by the time control unit. The rear window and door mirror defogger operates only for approximately 15 minutes.

Power is supplied at all times

- to rear window defogger relay

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

- to rear window defogger relay
- to time control unit terminal ①
- through 10A fuse [No. 26], located in the fuse block (J/B)].

Ground is supplied to terminal ⑭ of the rear window defogger switch through body grounds M6, M28 and M26.

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

- through terminal ⑯ rear window defogger switch
- to fuse block (J/B) terminal 9C.
- through time control unit terminal ③.

Terminal ⑬ of the time control unit then supplies ground to the rear window defogger relay.

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

For rear window defogger system, power is supplied

- through 15A fuse [No. 14 and 15], located in the fuse block (J/B)].
- to rear window defogger.

For door mirror defogger system, power is supplied

- through 10A fuse [No. 1], located in the fuse block (J/B)].
- to door mirror defogger.

The rear window and door mirror defogger have an independent ground.

With power and ground supplied, the rear window and door mirror filaments heat and defog the rear window and door mirrors.

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

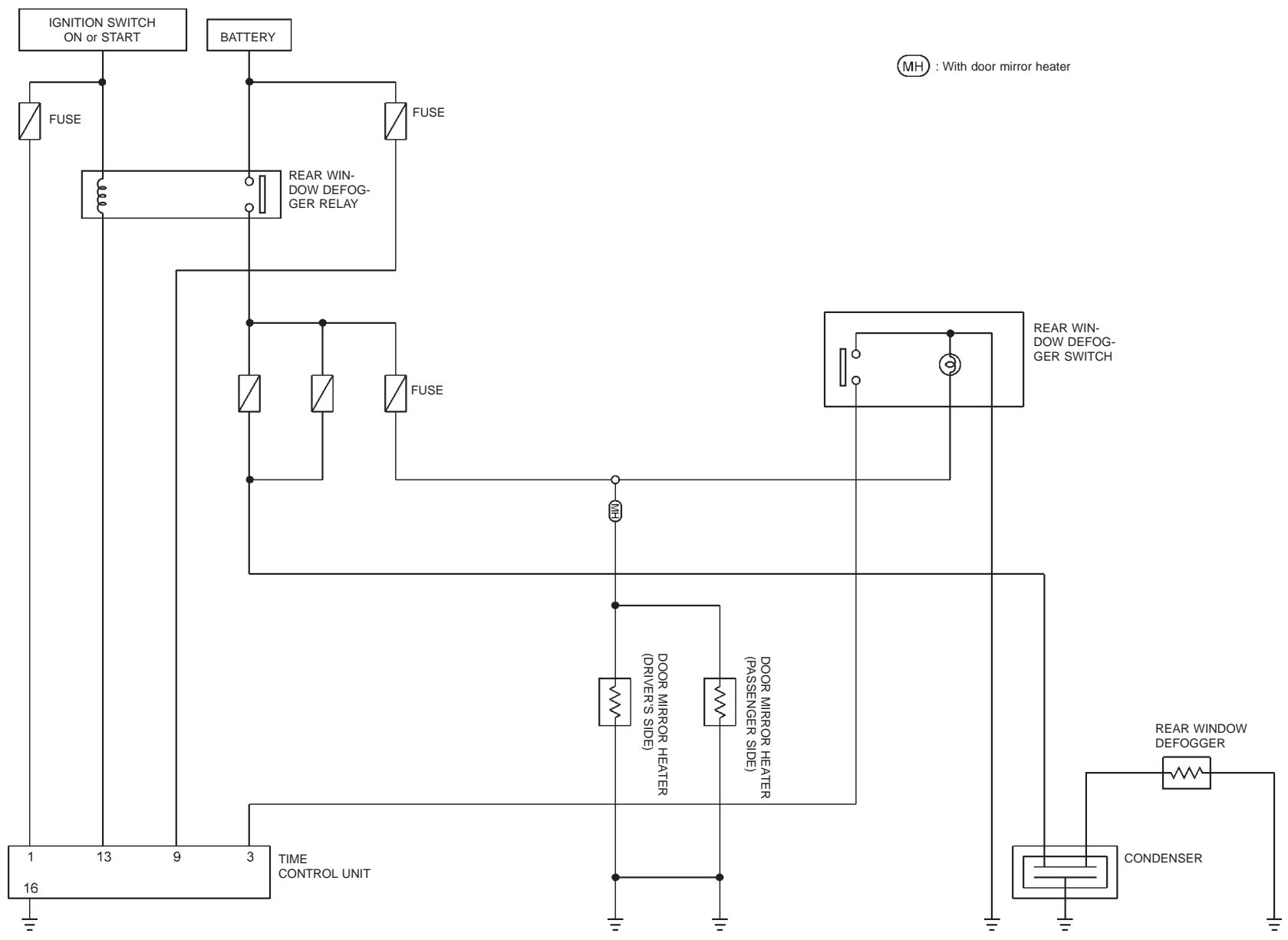
Power is supplied

- to terminal ⑬ of the rear window defogger switch
- from 10A fuse [No. 1], located in the fuse block (J/B)].

Terminal ⑭ of the rear window defogger switch is grounded through body grounds M6, M28 and M26.

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER

Schematic



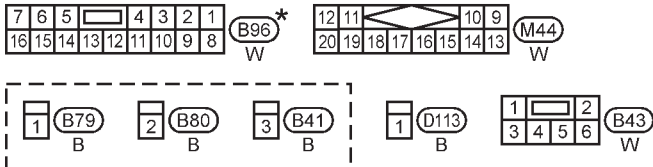
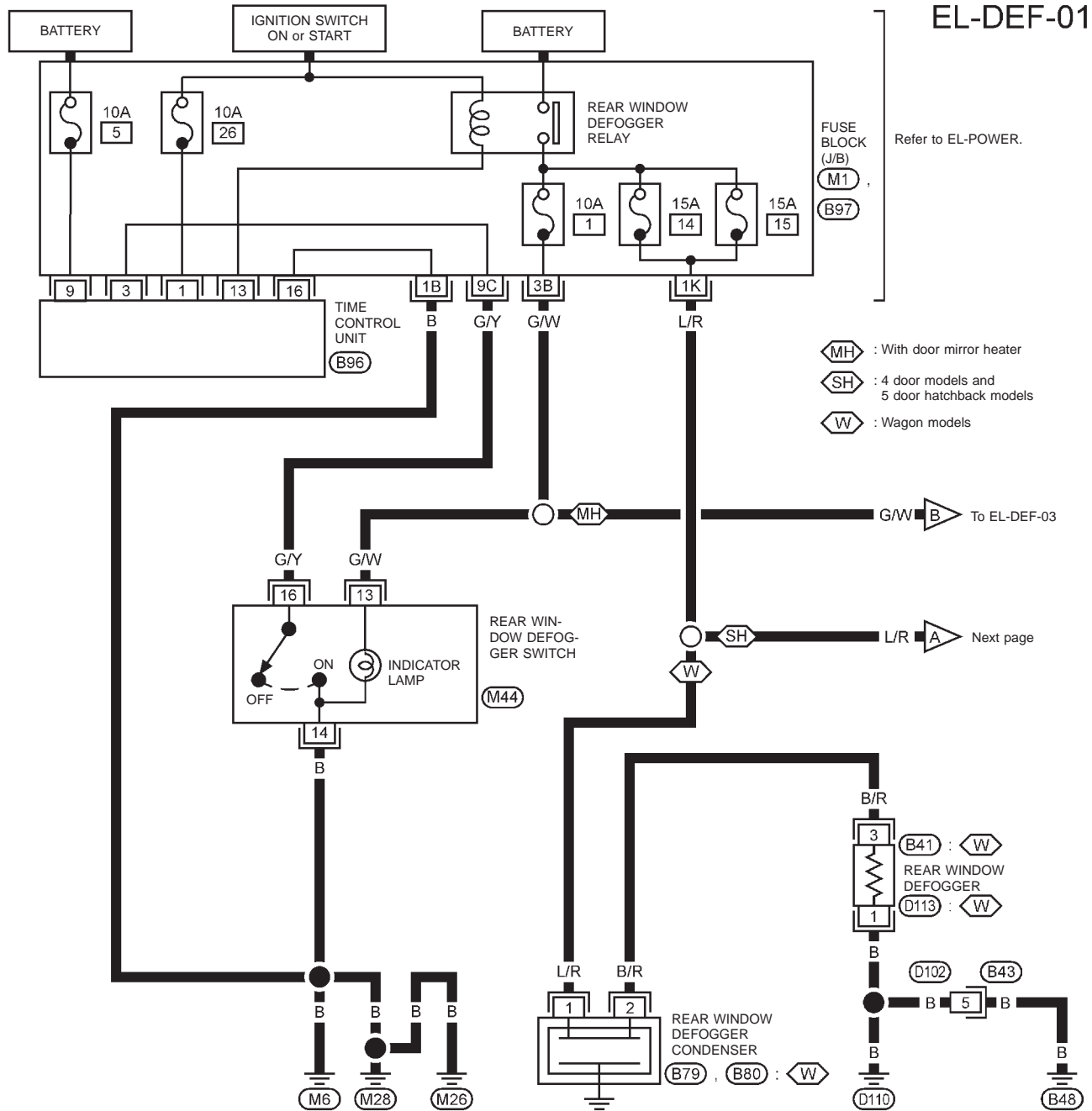
EL-208

YEL182C

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER

Wiring Diagram — DEF —

EL-DEF-01



REFER TO THE FOLLOWING

- (M1) FUSE BLOCK - Junction Box (J/B)
- (B97) FUSE BLOCK - Junction Box (J/B)

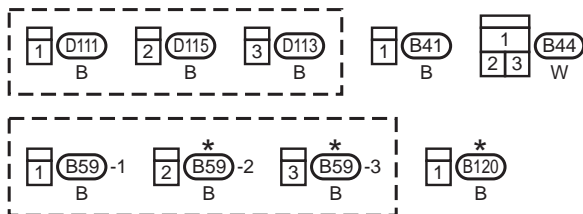
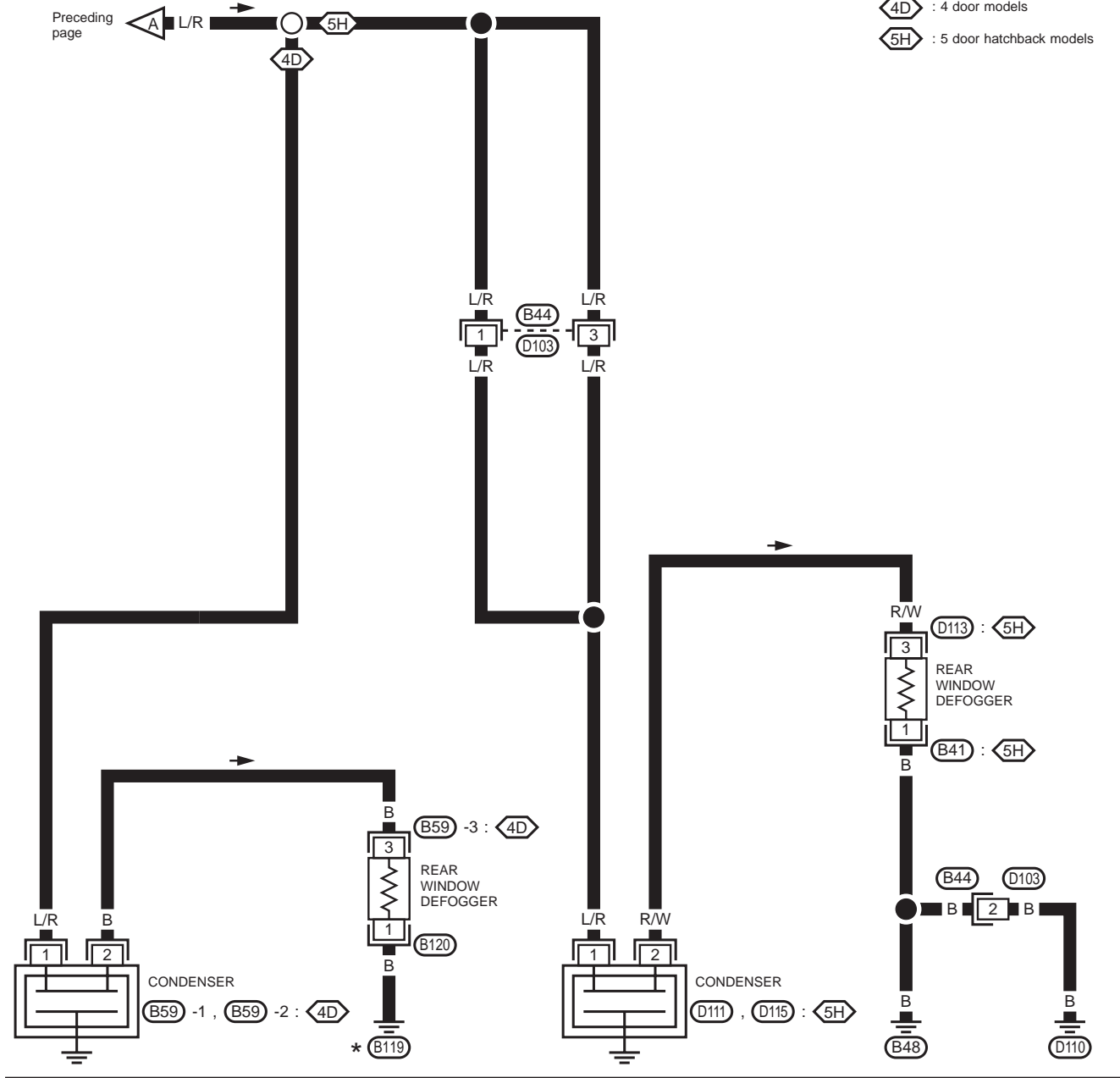
* : This connector is not shown in "HARNESS LAYOUT" of EL section.

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER

Wiring Diagram — DEF — (Cont'd)

EL-DEF-02

4D : 4 door models
5H : 5 door hatchback models

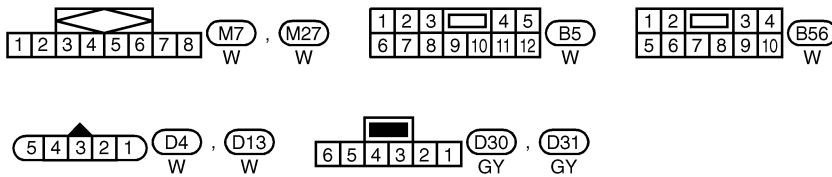
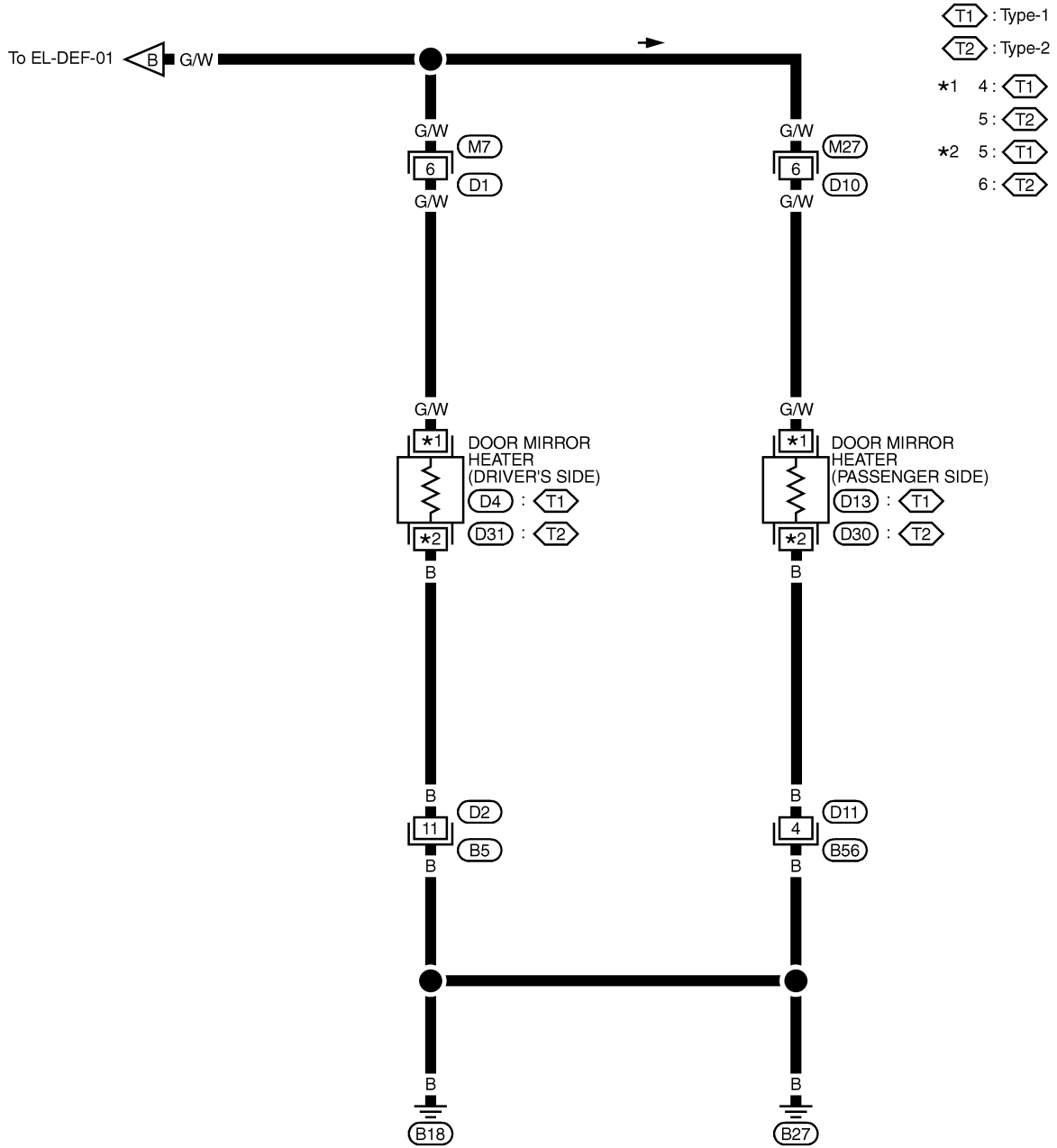


* : These connectors are not shown in "HARNESS LAYOUT" of EL section.

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER

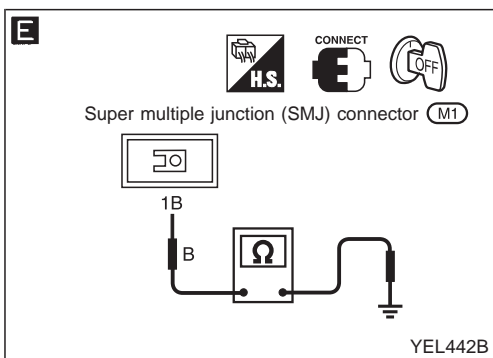
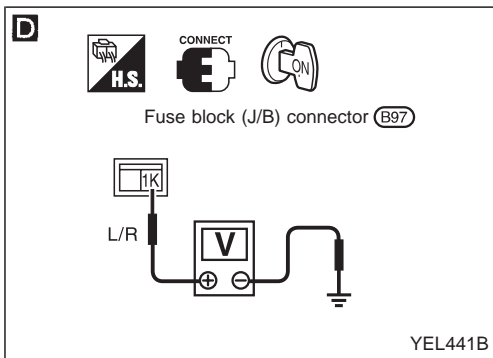
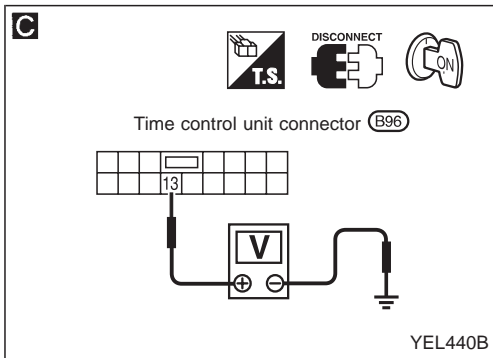
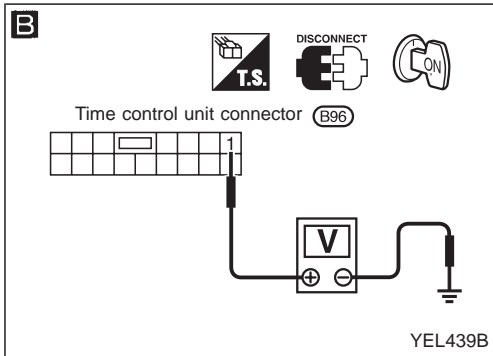
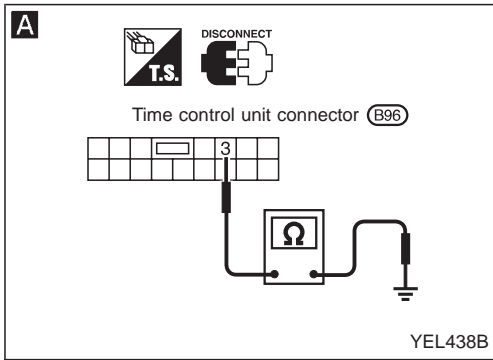
Wiring Diagram — DEF — (Cont'd)

EL-DEF-03



Trouble Diagnoses DIAGNOSTIC PROCEDURE

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



A

CHECK REAR WINDOW DEFOGGER INPUT SIGNAL.

1. Remove control unit from fuse block (J/B).
2. Check continuity between control unit harness terminal ③ and ground.

Condition	Continuity
Rear window defogger switch is "OFF".	No
Rear window defogger switch is "ON".	Yes

NG

Check the following.

- Rear window defogger switch
- Harness for open or short between control unit and rear window defogger switch
- Rear window defogger switch ground circuit

OK

B

1. Turn ignition switch to ON position.
2. Check voltage between control unit terminal ① and ground.
Battery voltage should exist.

NG

Check the following.

- 10A fuse [No. 26], located in the fuse block (J/B)]

OK

C

1. Turn ignition switch to ON position.
2. Check voltage between control unit terminal ⑬ and ground.
Battery voltage should exist.

NG

Check the following.

- Rear window defogger relay

OK

D

CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL.

1. Install control unit to fuse block (J/B).
2. Turn ignition switch to ON POSITION.
3. Check voltage between fuse block (J/B) harness terminal ①K and ground.

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

OK

Check the following.

- Rear window defogger filament (Refer to EL-213.)

NG

E

CHECK CONTROL UNIT GROUND CIRCUIT.

Check continuity between fuse block (J/B) terminal ①B and ground.
Continuity should exist.

NG

Check the following.

- 15A fuse [No. 14, 15], located in the fuse block (J/B)]
- Rear window defogger relay

OK

Repair harness or connectors.

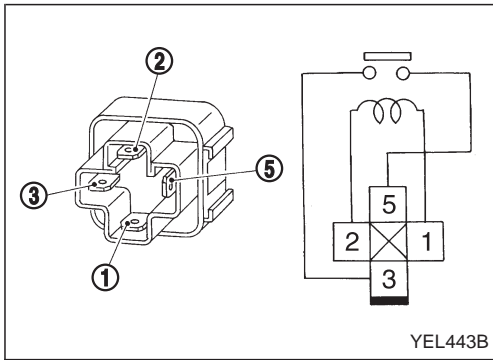
NG

Replace relay or fuse.

OK

Replace control unit.

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER

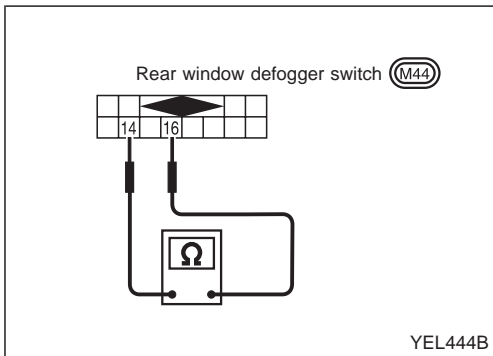


Electrical Components Inspection

REAR WINDOW DEFOGGER RELAY

Check continuity between terminals ③ and ⑤ .

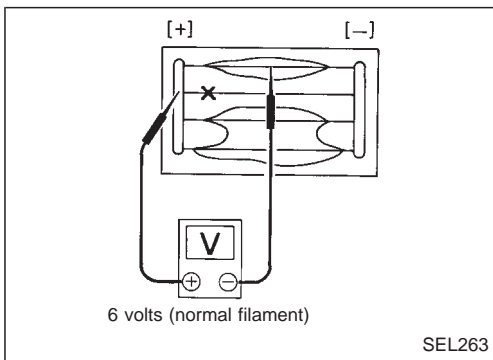
Condition	Continuity
12V direct current supply between terminals ① and ②	Yes
No current supply	No



REAR WINDOW DEFOGGER SWITCH

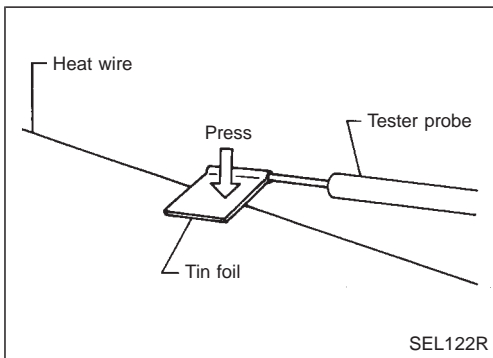
Check continuity between terminals when rear window defogger switch is pushed and released.

Terminals	Condition	Continuity
⑩ - ⑭	Rear window defogger switch is pushed	Yes
	Rear window defogger switch is released	No



Filament Check

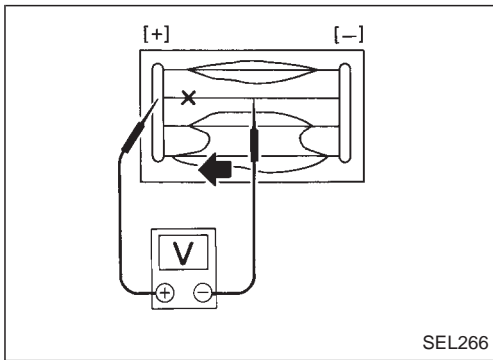
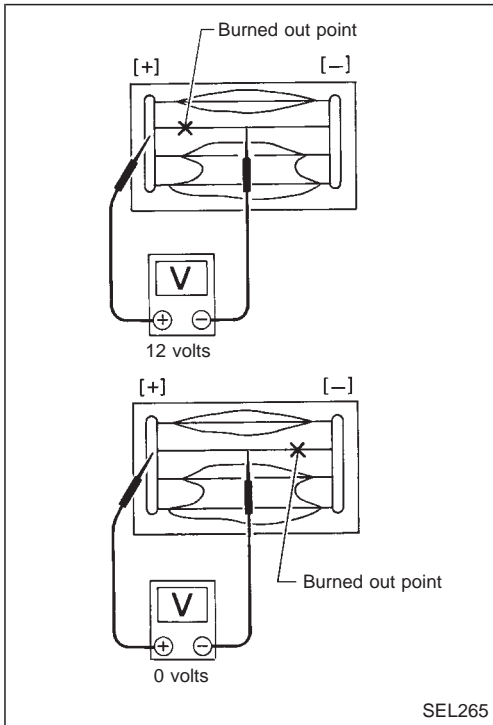
1. Attach probe circuit tester (in volt range) to middle portion of each filament.



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

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER

Filament Check (Cont'd)



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

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

Filament Repair

REPAIR EQUIPMENT

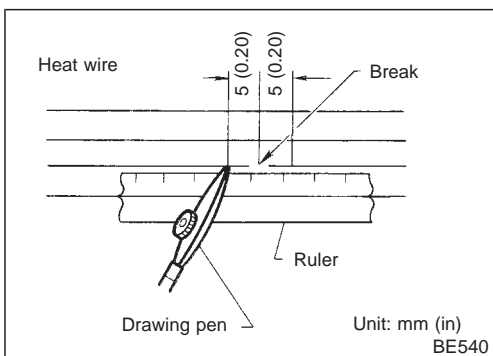
1. Conductive silver composition (Dupont No. 4817 or equivalent)
2. Ruler 30 cm (11.8 in) long
3. Drawing pen
4. Heat gun
5. Alcohol
6. Cloth

REPAIRING PROCEDURE

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

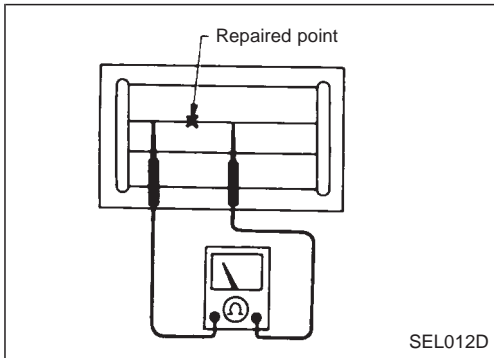
Shake silver composition container before use.

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



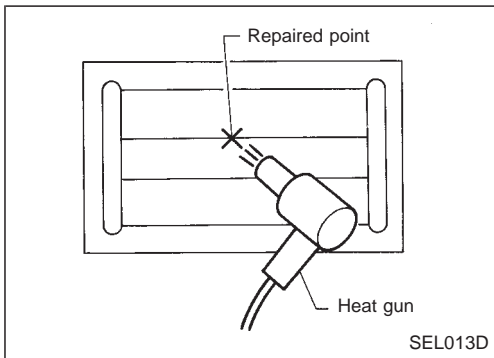
REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER

Filament Repair (Cont'd)



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

Do not touch repaired area while test is being conducted.



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

Anti-theft System

NATS Audio Link

Description

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

New audio units will be delivered to the factories in the “NEW” state, i.e. ready to be linked with the vehicle’s NATS. When the audio unit in “NEW” state is first switched on at the factory, it will start up communication with the vehicle’s immobiliser control unit (IMMU) and send a code (the “audio unit Code”) to the IMMU. The IMMU will then store this code, which is unique to each audio unit, in its (permanent) memory. Upon receipt of the code by the IMMU, the NATS will confirm correct receipt of the audio unit code to the audio unit. Hereafter, the audio unit will operate as normal.

During the initialisation process, “NEW” is displayed on the audio unit display. Normally though, communication between audio unit and IMMU takes such a short time (300 ms) that the audio unit seems to switch on directly without showing “NEW” on its display.

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. During the code verification process, “WAIT” is shown on the audio unit display. Again, the communication takes such a short time (300 ms) that the audio unit seems to switch on directly without showing “WAIT” on its display.

When the radio is locked

In case of a audio unit being linked with the vehicle’s NATS (immobilizer system), disconnection of the link between the audio unit and the IMMU will cause the audio unit to switch into the lock (“SECURE”) mode in which the audio unit is fully inoperative. Hence, repair of the audio unit is basically impossible, unless the audio unit is reset to the “NEW” state for which special decoding equipment is required.

The radio manufacturer has provided their authorized service representatives with so called “decoder boxes” which can bring the audio unit back to the “NEW” state, enabling the audio unit to be switched on after which repair can be carried out. Subsequently, when the repaired audio unit is delivered to the final user again, it will be in the “NEW” state as to enable re-linking the audio unit to the vehicle’s immobiliser system. As a result of the above, repair of the audio unit can only be done by an authorized representative of the radio manufacturer.


Service instruction

Item	Radio linked with IMMU and/or SECU
Battery disconnection	No additional action required
Radio needs repair	Repair needs to be done by authorised 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	Radio is delivered in NEW state. If possible, the radio will automatically link up with the immobiliser system. If this appears not possible, the audio unit code needs to be manually input
Transferring radio to another vehicle / replacement of radio by an “old”part	Radio needs to be reset to NEW state by authorised representative of radio manufacturer
Replacement of IMMU by new part	Radio will request for the audio unit code input prior to establishing the link with the IMMU
Replacement of IMMU by old part	If a radio code has already been stored in memory of the IMMU, the radio cannot be linked to it. After switching on the radio, it will display “SECURE” after 1 minute. Operation can only be established after resetting the ratio by an authorised representative of radio manufacturer
No communication from IMMU to radio	Radio will display “SECURE” after 180 attempts to communicate with IMMU. Further use of radio impossible until communication is established again, or after radio is reset by authorised representative of (radio) manufacturer

AUDIO

Anti-theft System (Cont'd)

Audio unit code input procedure

1. Radio displays "CODE IN" after the power is switched ON.
2. Enter the audio unit code (4-digits) by pressing the preset buttons (using 1 to 4).
Press the preset buttons for the necessary amount of times for the number of each digits.
e.g. the audio unit code is "5432"
Press No. 1 preset button for 5 times
Press No. 2 preset button for 4 times
Press No. 3 preset button for 3 times
Press No. 4 preset button for 2 times
3. Press the  button.
4. If the code is OK, the radio will power ON.
If the code is NG, the radio will be locked up as below. After the lock up, the radio will display "CODE IN" again.
1st to 3rd attempt: The radio will be locked for 10 seconds after each attempt
4th to 20th attempt: The radio will be locked for 60 minutes after each attempt
Over 20th attempt: The radio will be locked completely

Speed Dependent Volume Control

Description

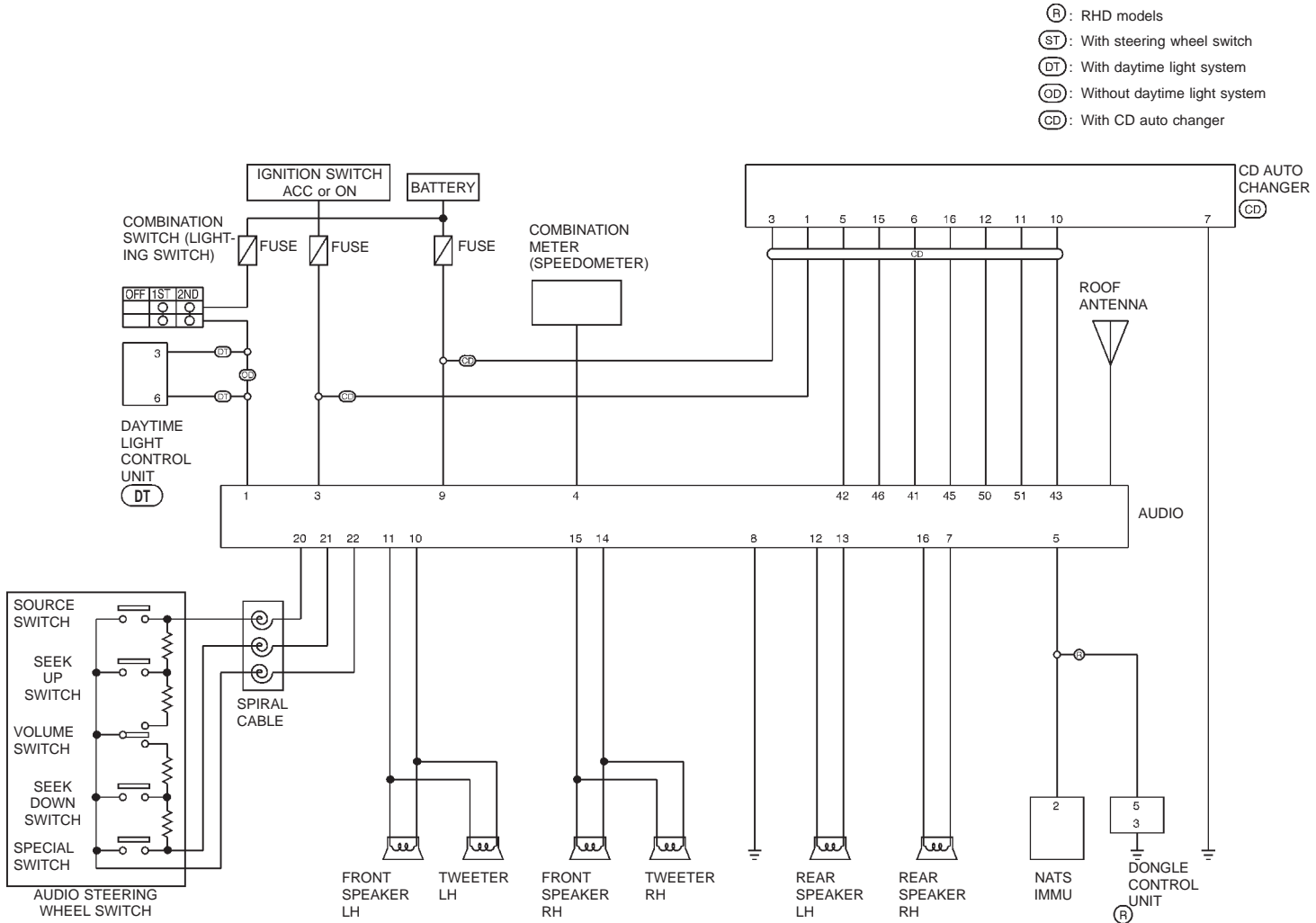
If activated, the radio output volume will be automatically adjusted to compensate for increasing driving noises at higher driving speeds.

The radio receives a speed signal from the vehicle speed sensor (VSS) and selects the output volume.

Personal Audio Settings

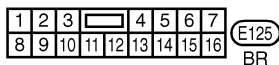
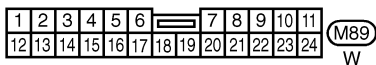
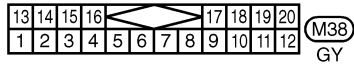
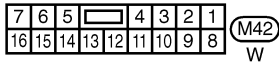
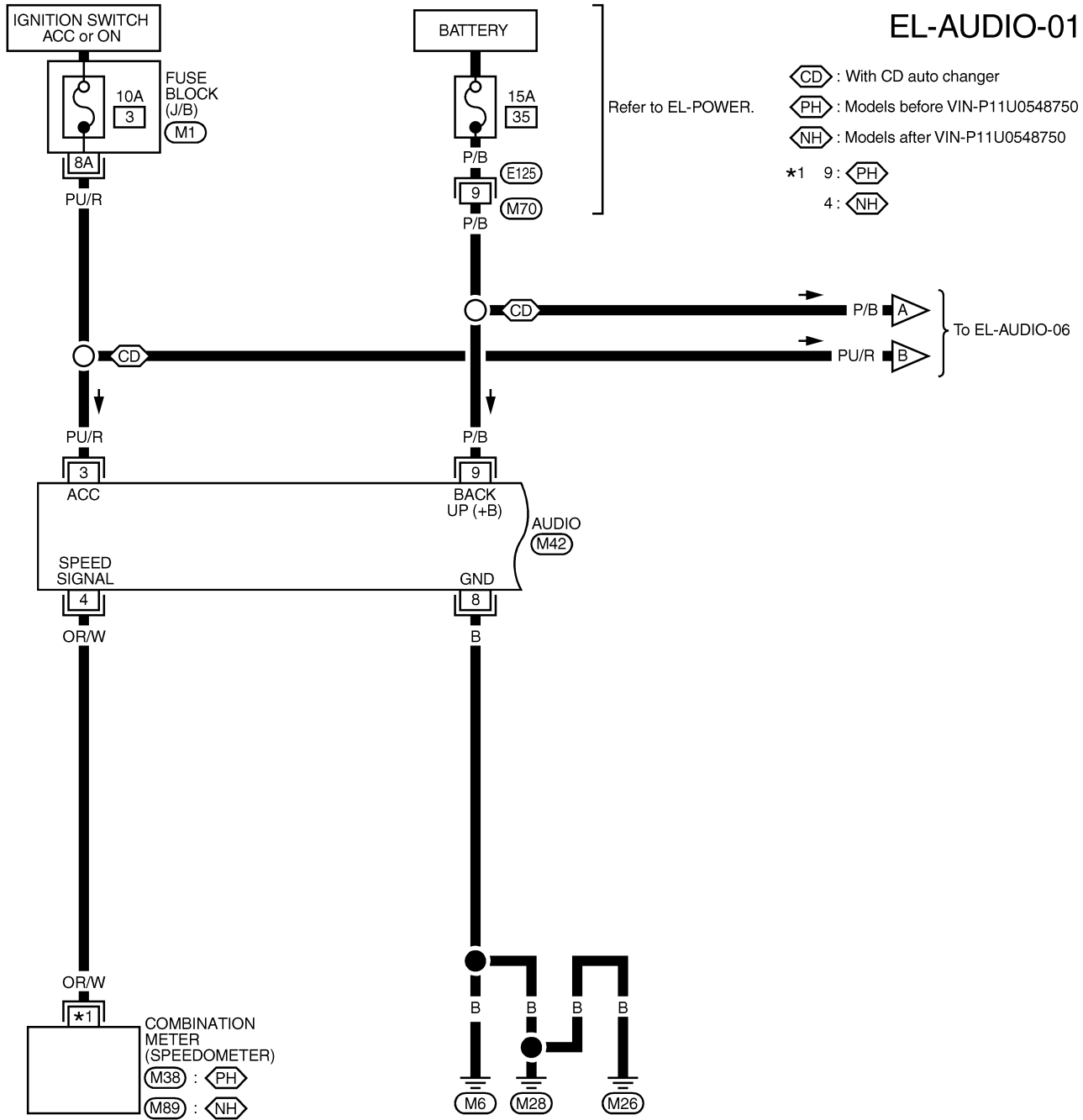
Description

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 as mentioned under "Anti-theft System", the radio will recognize the used ignition key and select the accompanying settings.



Wiring Diagram — AUDIO —

EL-AUDIO-01



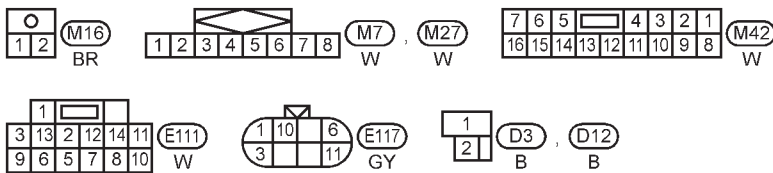
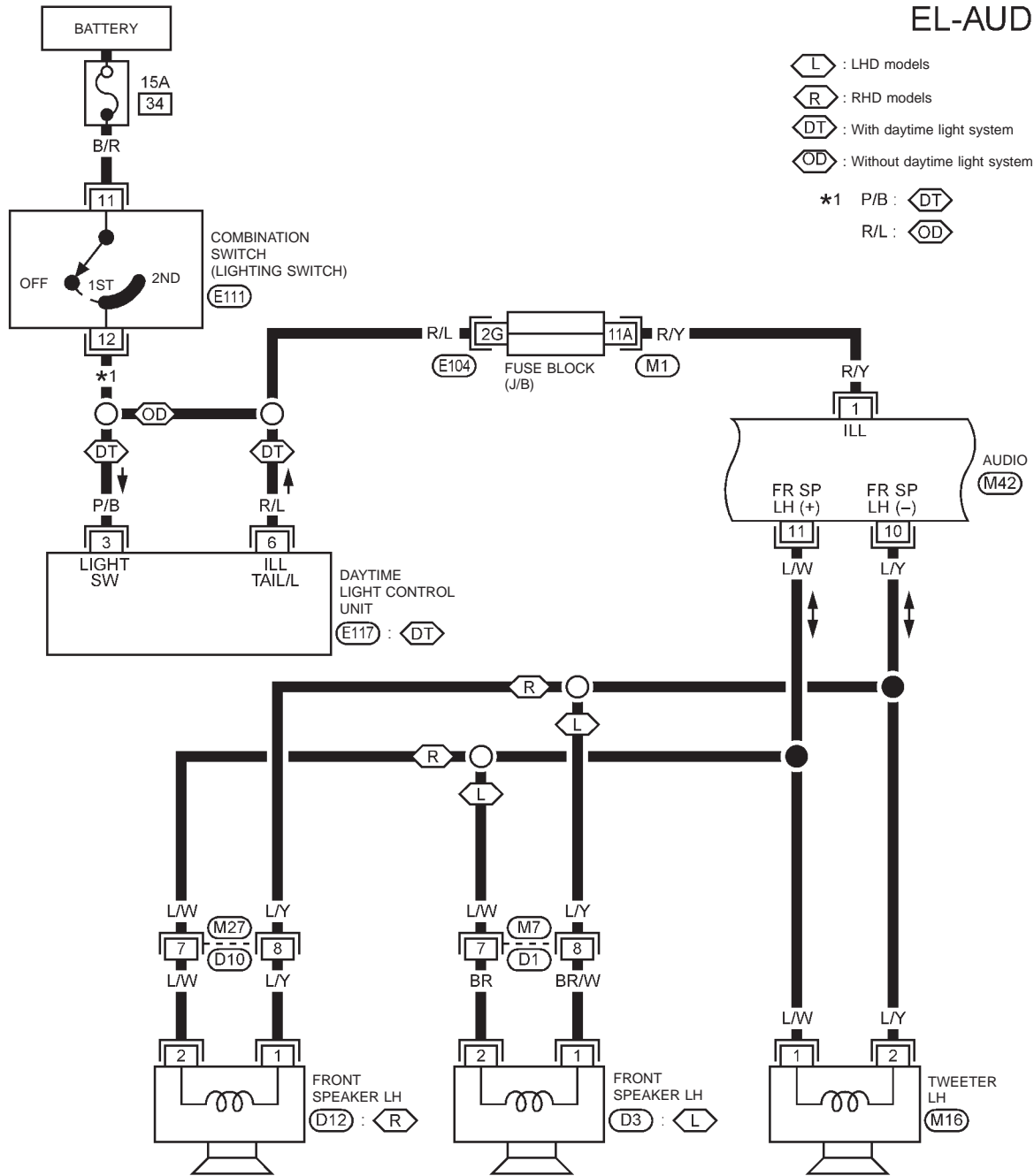
REFER TO THE FOLLOWING

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

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-02



REFER TO THE FOLLOWING

- M1 FUSE BLOCK - Junction Box (J/B)
- E104 FUSE BLOCK - Junction Box (J/B)

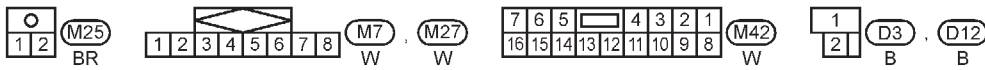
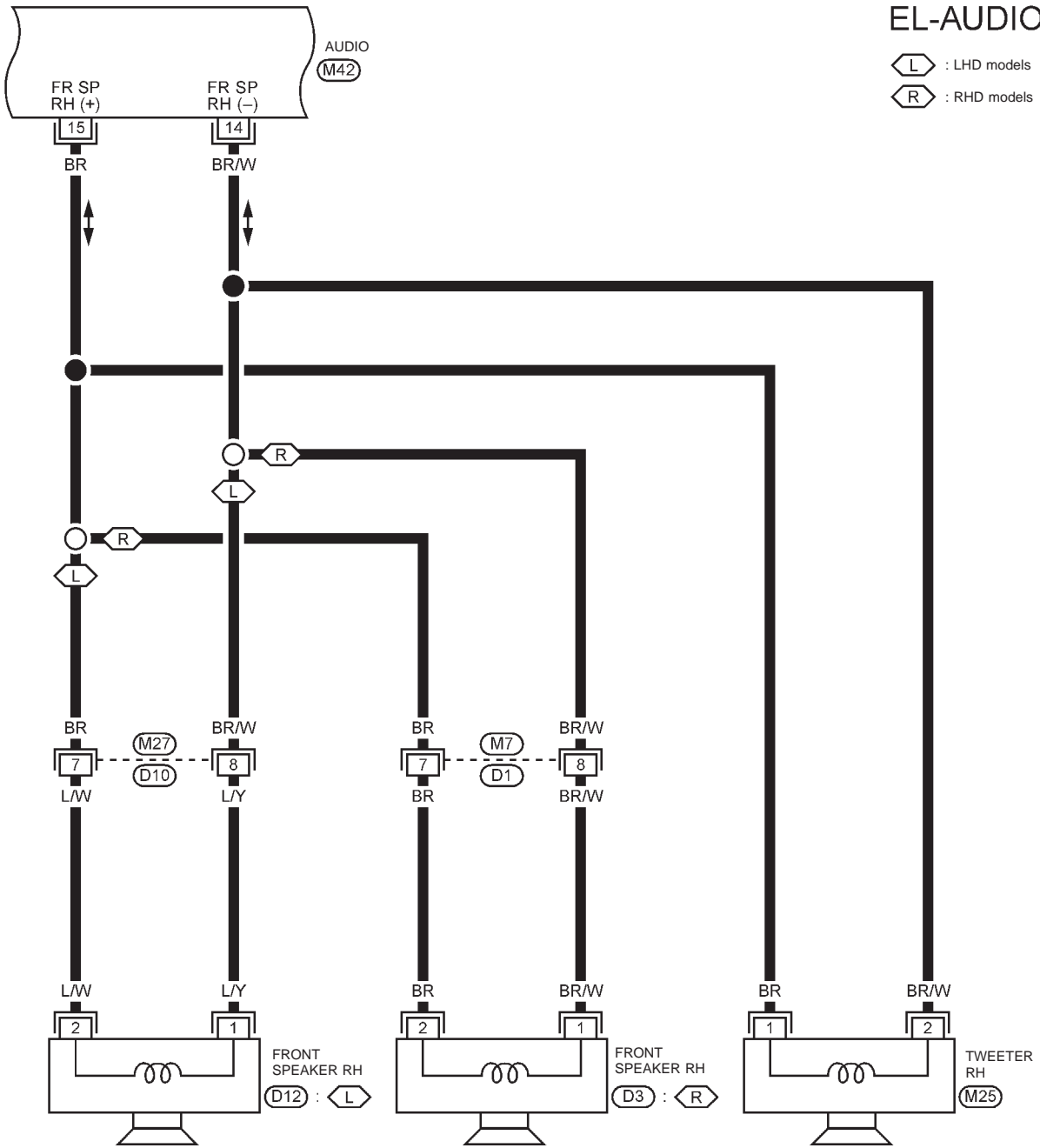
YEL186C

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-03

⬡ : LHD models
 ⬢ : RHD models

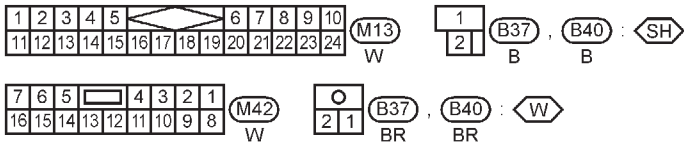
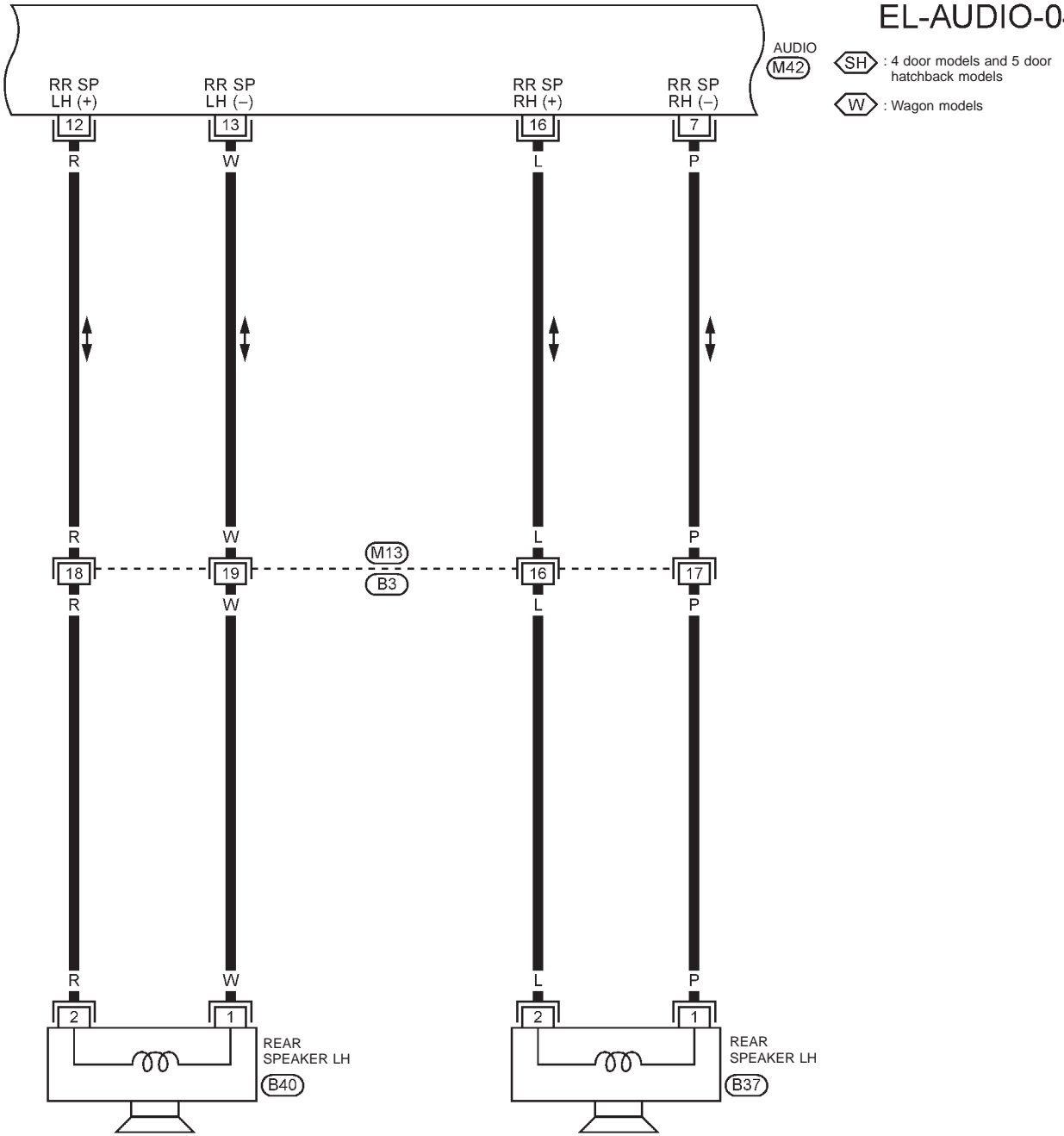


YEL187C

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-04

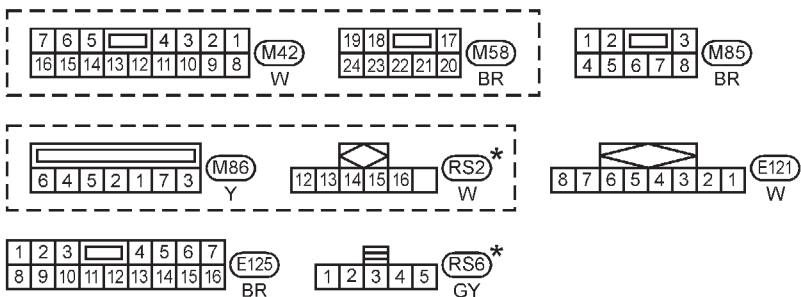
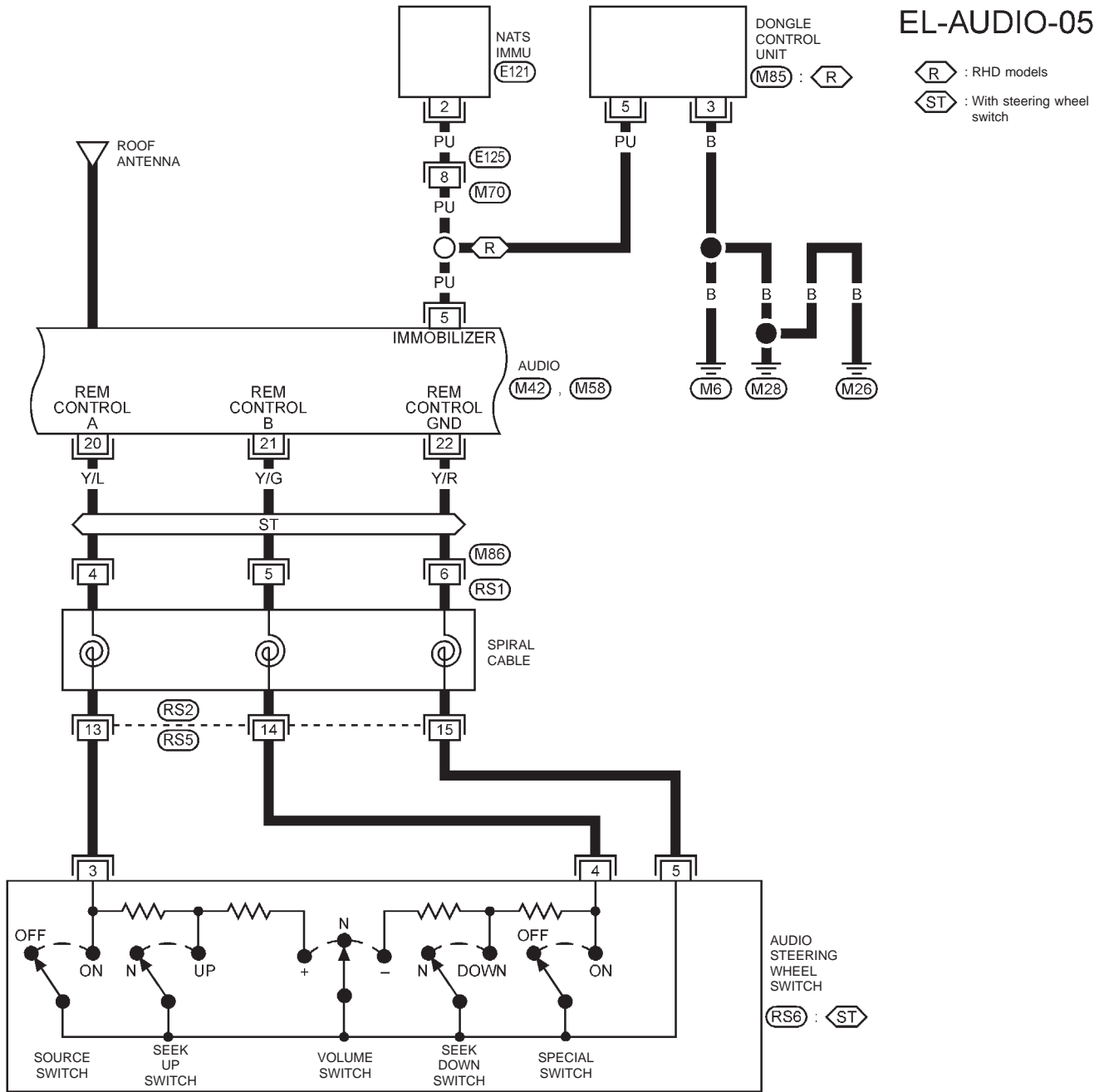


YEL188C

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-05

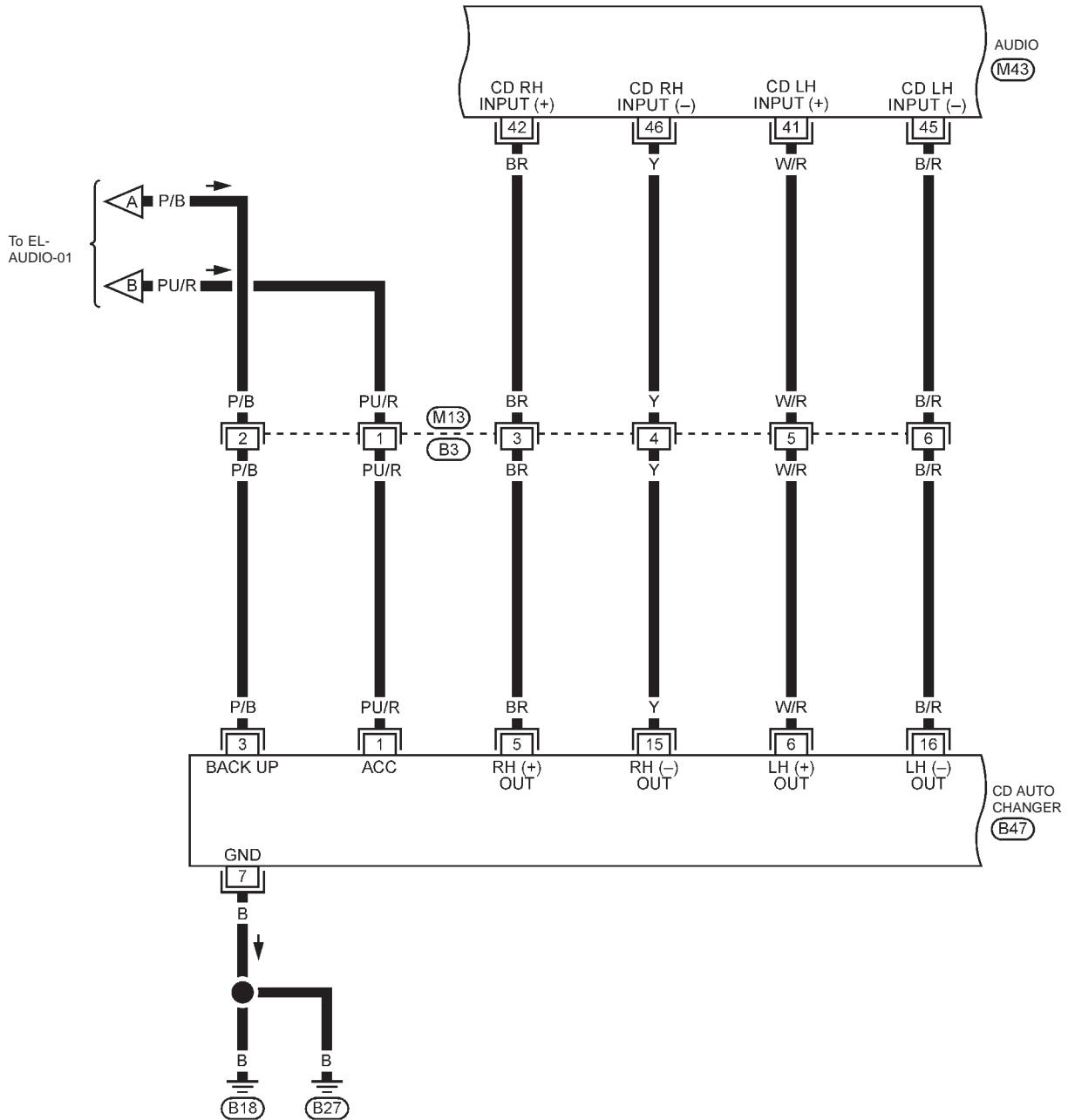


* : This connector is not shown in "HARNESS LAYOUT" of EL section.

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-06



44	43	42	41				
52	51	50	49	48	47	46	45

(M43)
W

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

(B47)
W

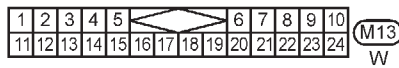
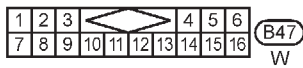
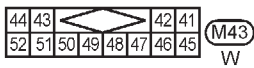
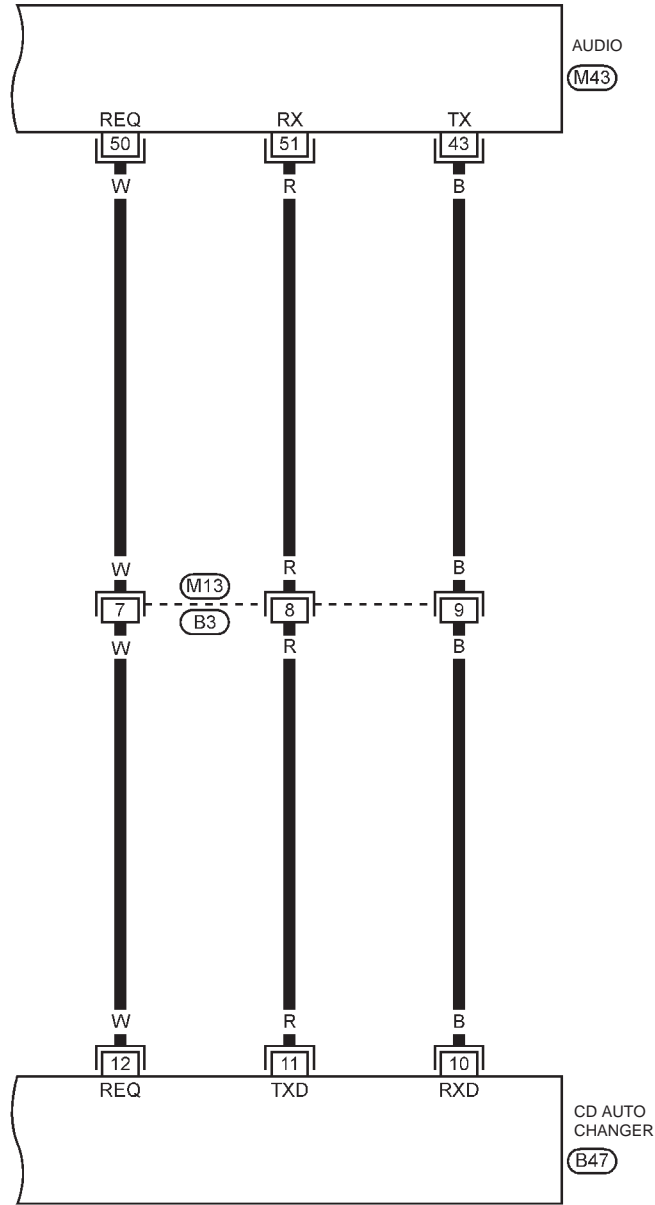
1	2	3	4	5	6	7	8	9	10				
11	12	13	14	15	16	17	18	19	20	21	22	23	24

(M13)
W

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-07



YEL190C

AUDIO

Trouble Diagnoses

Symptom	Possible cause	Repair order
Radio inoperative (no digital display and no sound from speakers).	1. 10A Fuse 2. Poor radio case ground 3. Radio	1. Check 10A fuse [No. 3], located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal ③ of radio 2. Check radio case ground. 3. Remove radio for repair.
Radio controls are operational, but no sound is heard from any speaker.	1. Radio output 2. Radio	1. Check radio output voltages. 2. Remove radio for repair.
Radio presets are lost when ignition switch is turned OFF.	1. 15A fuse 2. Radio	1. Check 15A fuse [No. 35], located in fuse and fusible box and verify battery positive voltage is present at terminal ⑨ of radio. 2. Remove radio for repair.
Individual speaker is noisy or inoperative.	1. Speaker 2. Radio output 3. Speaker circuit 4. Radio	1. Check speaker 2. Check radio output voltages. 3. Check wires for open or short between radio and speaker. 4. Remove radio for repair.
Radio stations are weak or noisy.	1. Antenna 2. Poor radio ground 3. Radio	1. Check antenna. 2. Check radio ground. 3. Remove radio for repair.
Radio generates noise in AM and FM modes with engine running.	1. Poor radio ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Alternator 5. Ignition coil or secondary wiring 6. Radio	1. Check radio ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check alternator 5. Check ignition coil and secondary wiring. 6. Remove radio for repair.
Radio generates noise in AM and FM modes with accessories on (switch pops and motor noise).	1. Poor radio ground 2. Antenna 3. Accessory ground 4. Faulty accessory	1. Check radio ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.

AUDIO

Trouble Diagnoses (Cont'd)

CD AUTOCHANGER

Symptom	Possible cause	Repair order
No play of the CD after CD play button is pushed.	1. Radio (The radio is not working.) 2. Harness connection (Magazine does not eject.) 3. Discs 4. Magazine does not eject or a disc remains in CD player. 5. Changer	1. Remove the radio for repair. 2. Check harness connection. 3. Inspect disc. (Refer to testing magazines and discs.) 4. Reset the changer. (Disconnect harness connector at the changer and reconnect after 30 sec.) 5. Remove the changer for repair.
CD skipping.	1. Rough road driving 2. Discs 3. Bracket 4. Changer	1. System is not malfunctioning. 2. Inspect discs. (Refer to testing magazines and discs.) 3. Check and repair bracket and installation of changer. 4. Remove the changer for repair.
Error code [NO DISC] is shown on the radio after CD play button is pressed.	1. Magazine setting 2. Magazine 3. Changer	1. Confirm the magazine is pushed completely. 2. Inspect magazine. (Refer to testing magazines and discs.) 3. Remove the changer for repair.

Testing magazines and discs

1. Confirm discs are installed correctly into the magazine (not upside down).
2. Visually inspect/compare the customer's discs with each other and other discs.
Identify any of the following conditions:
 - Discs with a large outside diameter. [Normal size is 120 mm (4.72 in).]
 - Discs with rough or lipped edges.
 - Discs with excessive thickness [Normal size is 1.2 mm (0.047 in).]
 - Discs with scratches, abrasions, or pits on the surface.
 - Discs with grease/oil, fingerprints, foreign material.
 - Discs are warped due to excessive heat exposure.
3. Slide/place the discs in and out of the various magazine positions.
Identify any discs and/or positions that require additional force for placement/ejection. If interference (sticking, excessive tensions) is found, replace the magazine or the discs.

Note:

- Discs which are marginally out of specification (ex. dirty, scratched and so on) may play correctly on a home stereo.
However, when used in the automotive environment skipping may occur due to the added vehicle movement and/or vibration due to road conditions. Autochangers should not be replaced when discs are at fault.
- Use a soft damp cloth to wipe the discs starting from the center outward in radial direction. Never use chemical cleaning solutions to clean the discs.

Inspection

SPEAKER

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

ANTENNA

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

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

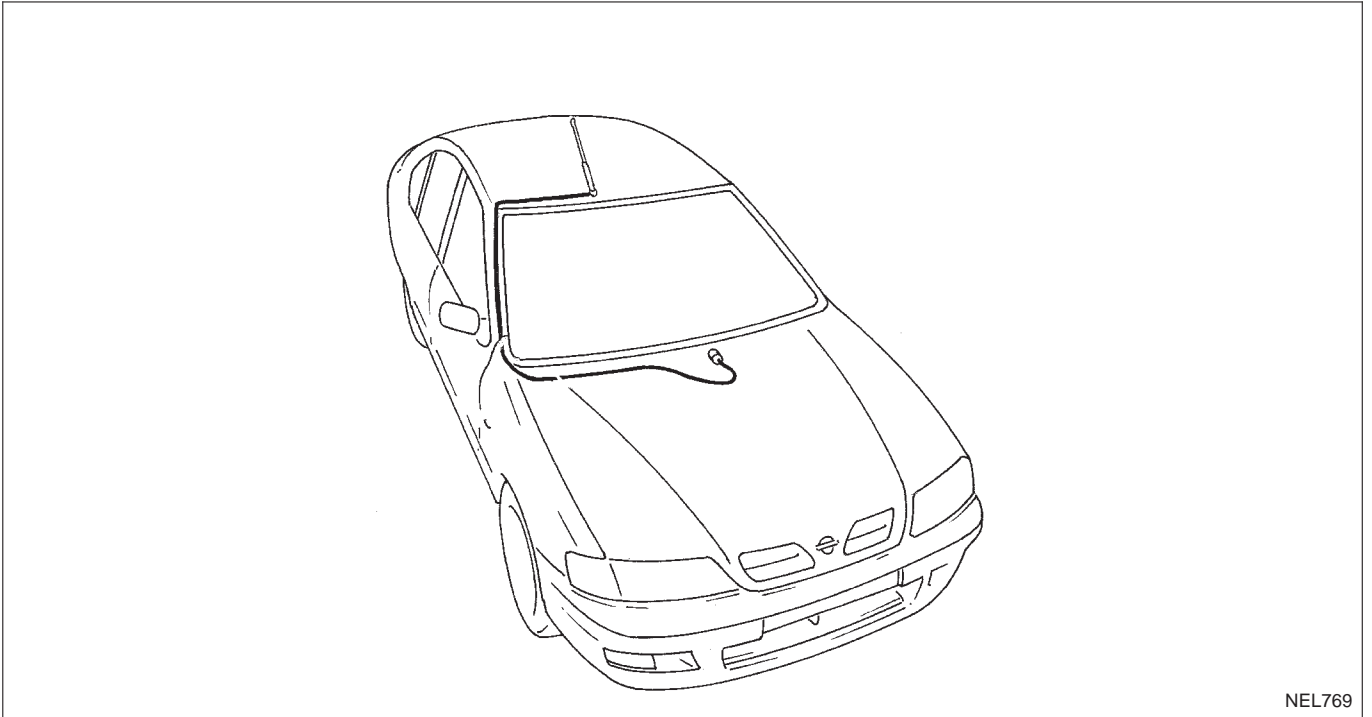
RADIO

All voltage inspections are made with:

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

AUDIO ANTENNA

Location of Antenna

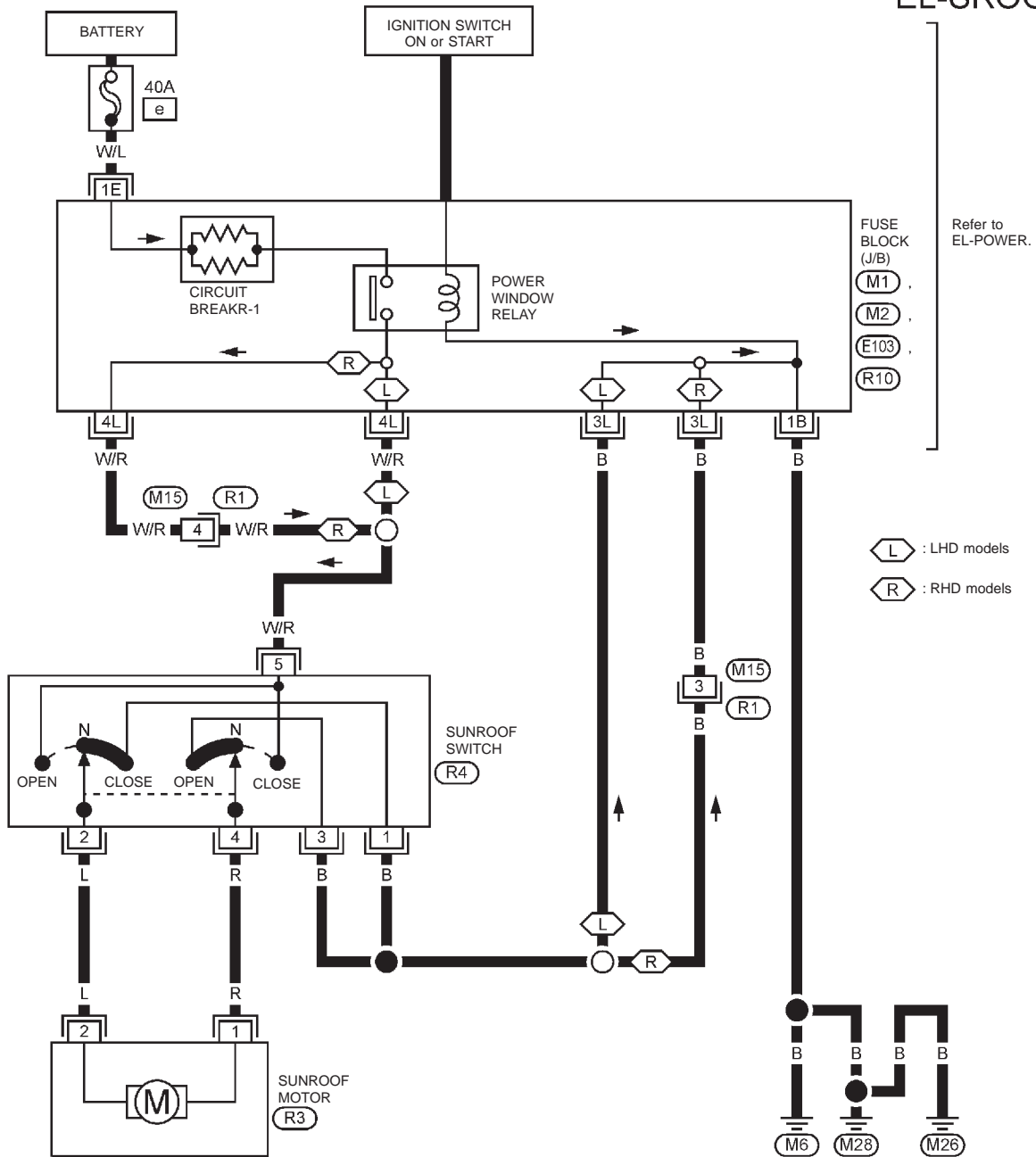


NEL769

ELECTRIC SUNROOF

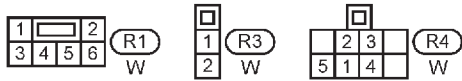
Wiring Diagram — SROOF —

EL-SROOF-01



Refer to
EL-POWER.

⬭ : LHD models
⬮ : RHD models



REFER TO THE FOLLOWING

- (M1) FUSE BLOCK - Junction Box (J/B)
- (M2) FUSE BLOCK - Junction Box (J/B)
- (E103) FUSE BLOCK - Junction Box (J/B)
- (R10) FUSE BLOCK - Junction Box (J/B)

POWER DOOR MIRROR

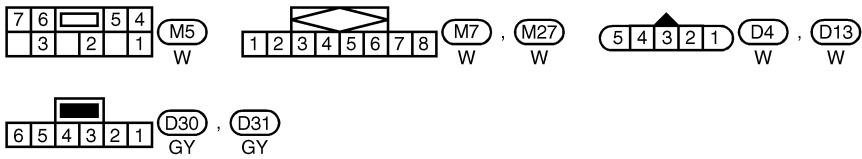
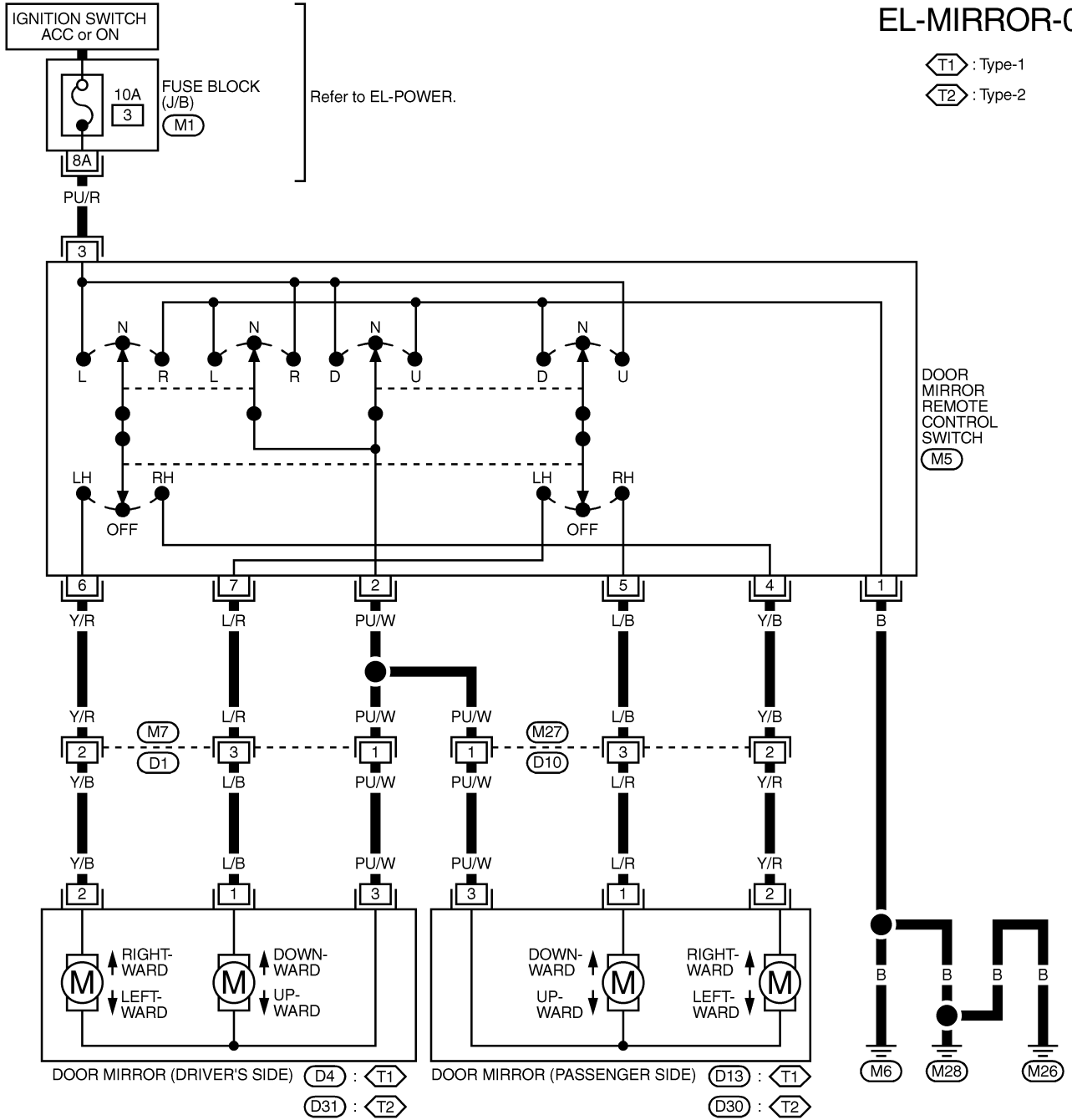
Wiring Diagram — MIRROR —

LHD models

★ For removal of door mirror, refer to "DOOR MIRROR" in BT section.

EL-MIRROR-01

⬡T1 : Type-1
⬡T2 : Type-2



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

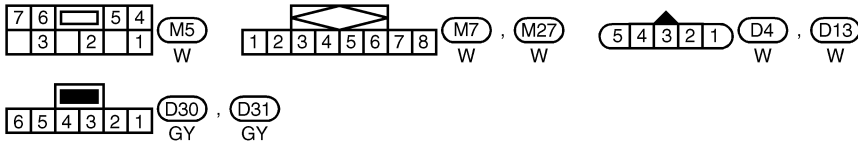
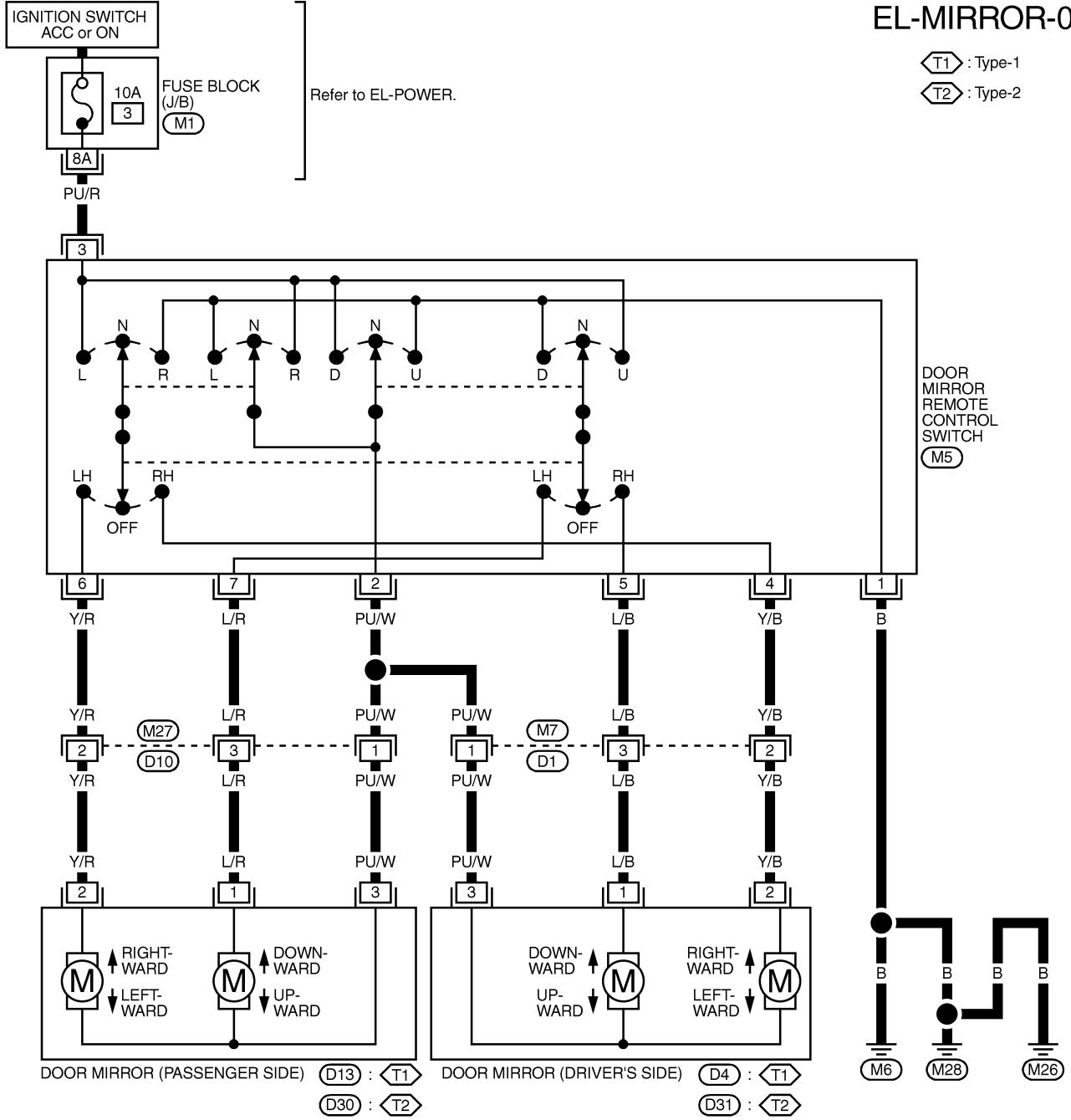
POWER DOOR MIRROR

Wiring Diagram — MIRROR — (Cont'd)

RHD models

EL-MIRROR-02

⬡T1 : Type-1
⬡T2 : Type-2



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

YEL891C

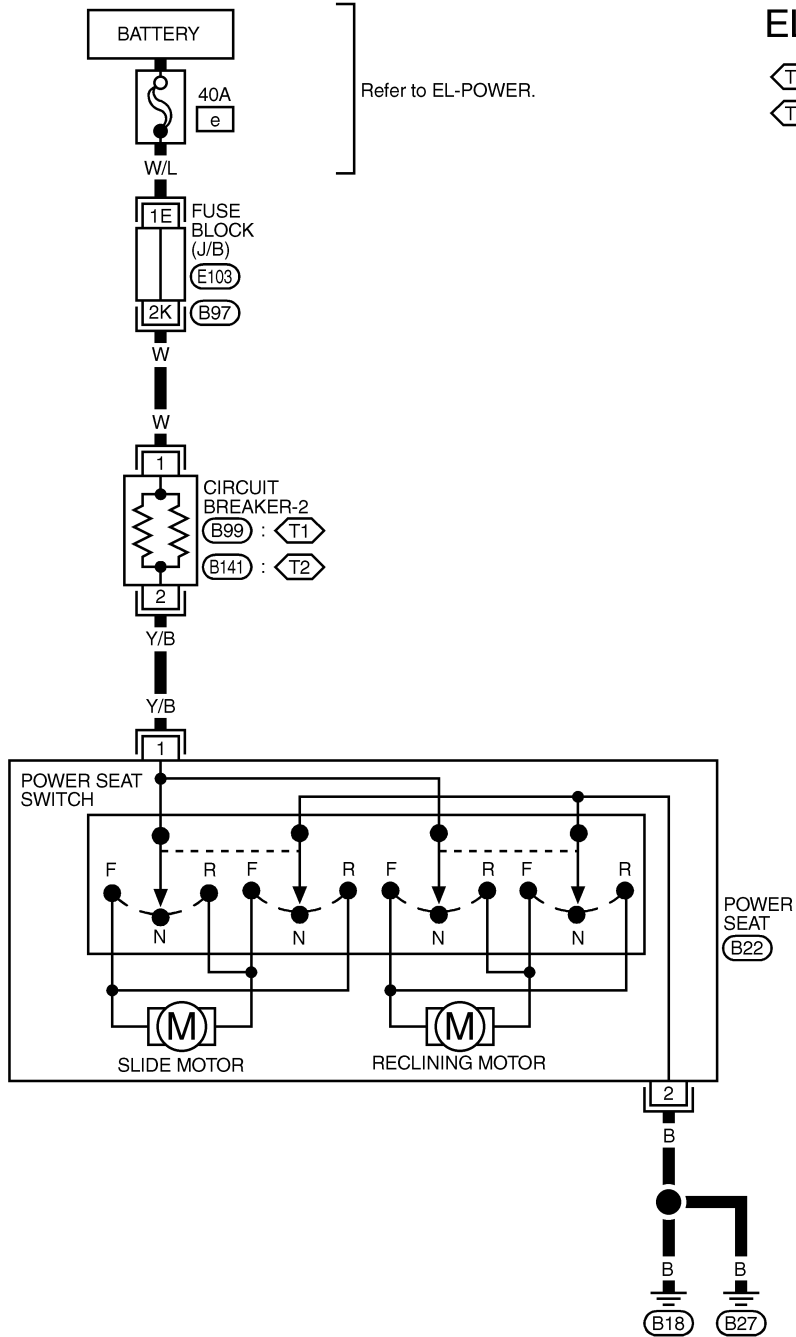
POWER SEAT

Power Seat/Wiring Diagram — SEAT —

EL-SEAT-01

⬡T1 : Type-1

⬡T2 : Type-2



Refer to EL-POWER.

POWER SEAT SWITCH

POWER SEAT
B22

SLIDE MOTOR

RECLINING MOTOR

B18 B27



REFER TO THE FOLLOWING

E103 FUSE BLOCK-Junction Box (J/B)

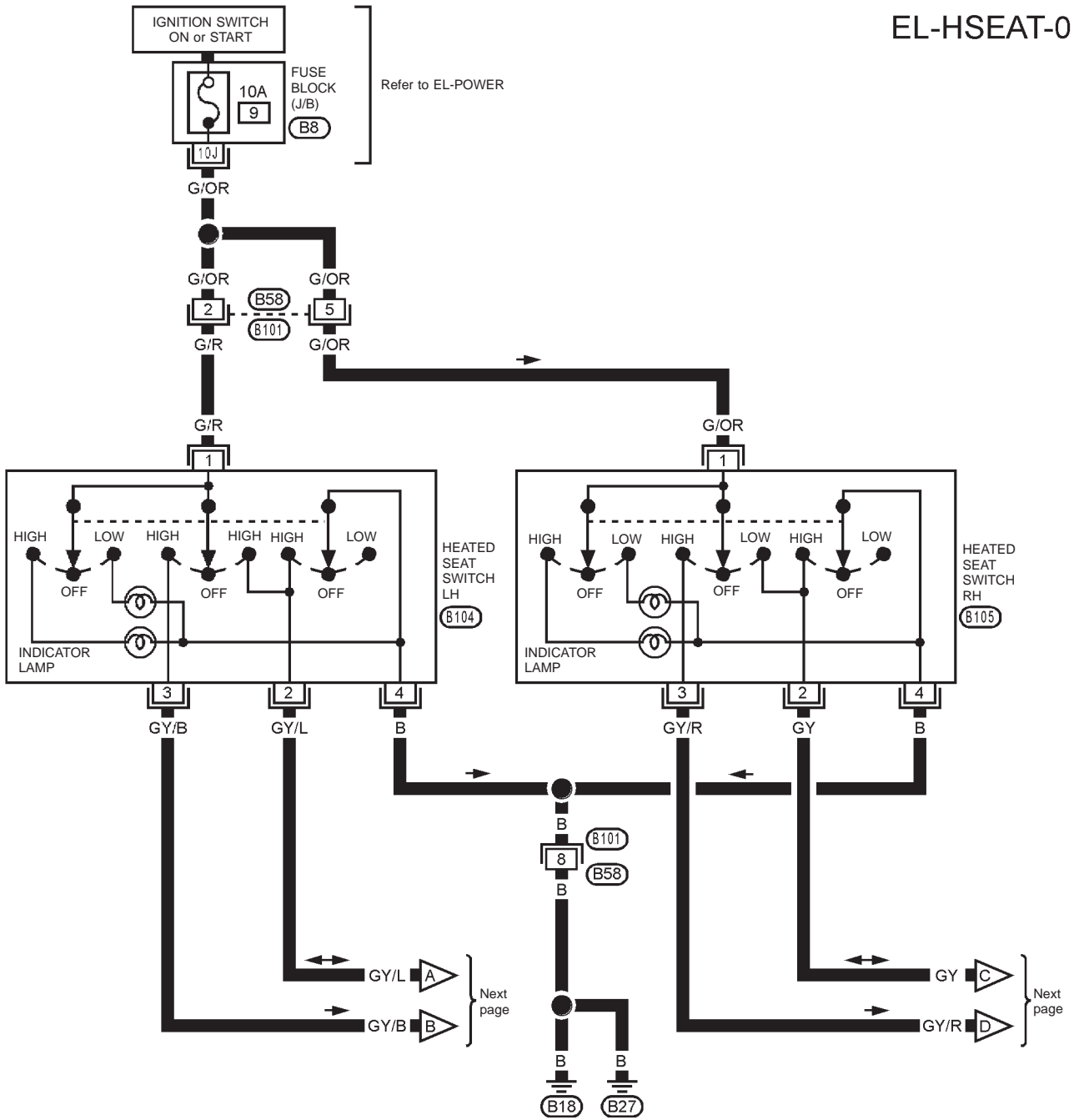
B97 FUSE BLOCK-Junction Box (J/B)

HEATED SEAT

Heated Seat/Wiring Diagram — HSEAT —

★ For location of heating unit, refer to "SEAT" in BT section.

EL-HSEAT-01



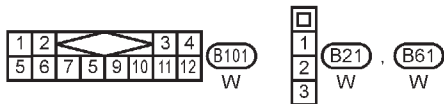
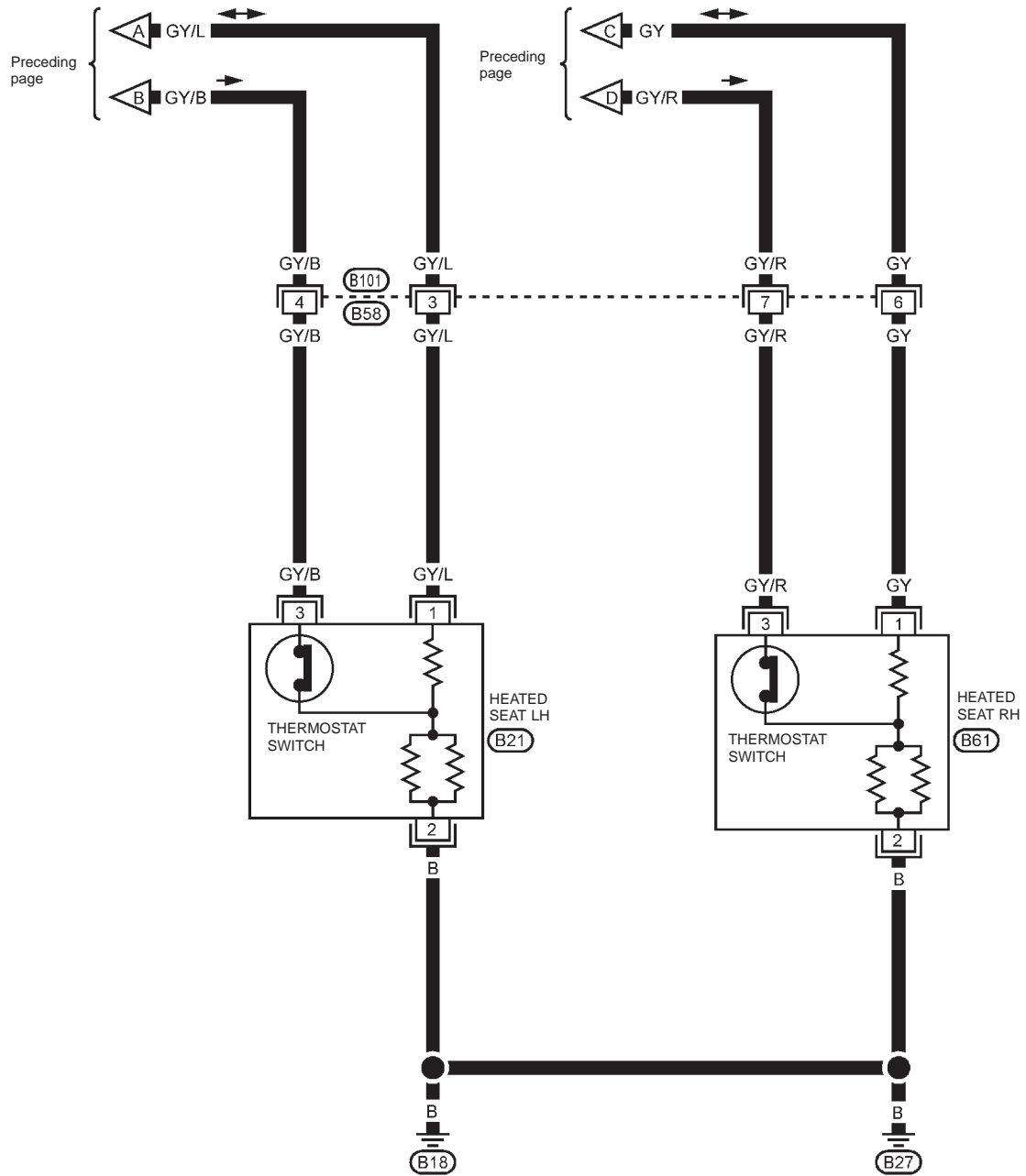
REFER TO THE FOLLOWING
(B8) FUSE BLOCK - Junction Box (J/B)

YEL195C

HEATED SEAT

Heated Seat/Wiring Diagram — HSEAT — (Cont'd)

EL-HSEAT-02



System Description

Power is supplied at all times

- from 40A fusible link (Letter **e**), located in the fusible link and fuse box)
- through circuit breaker-1
- to power window relay.

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

- to power window relay.

Ground is supplied to power window relay

- through body grounds **M6**, **M28** and **M26**.

The power window relay is energized and power is supplied

- through power window relay.
- to power window main switch terminal **12**,
- to passenger side power window sub-switch terminal **5**,
- to rear power window sub-switch LH terminal **5**,
- to rear power window sub-switch RH terminal **5**.

MANUAL OPERATION

Driver's door

Ground is supplied

- to front power window main switch terminals **2**
- through body grounds **B18** and **B27**.

WINDOW UP

When a driver side switch in the power window main switch is pressed in the up position, power is supplied

- to driver side power window regulator terminal **1**
- through power window main switch terminal **3**.

Ground is supplied

- to driver side power window regulator terminal **2**
- through power window main switch terminal **4**.

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

WINDOW DOWN

When a driver side switch in the power window main switch is pressed in the down position, power is supplied

- to driver side power window regulator terminal **2**
- through power window main switch terminal **4**.

Ground is supplied

- to driver side power window regulator terminal **1**
- through power window main switch terminal **3**.

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

Except driver's door

Ground is supplied

- to power window main switch terminal **2**
- through body grounds **B18** and **B27**.

PASSENGER'S DOOR

NOTE:

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

Operation by main switch.

Power is supplied

- through power window main switch (⑥, ⑩)
- to passenger side power window sub-switch (③, ①).

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

Operation by sub-switches

Power is supplied

- through passenger side power window sub-switch (②, ④)
- to passenger side power window regulator (①, ②).

Ground is supplied

- to passenger side power window regulator (②, ①)
- through passenger side power window sub-switch (②, ④)
- to passenger side power window sub-switch (①, ③)
- through power window main switch (⑥, ⑩).

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

REAR DOOR LH

NOTE:

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

Operation by main switch

Power is supplied

- through power window main switch (⑬, ⑭)
- to rear power window sub-switch LH (③, ①).

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

Operation by sub-switches

Power is supplied

- through rear power window sub-switch LH (②, ④)
- to rear power window regulator LH (①, ②).

Ground is supplied

- to rear power window regulator LH (②, ①)
- through rear power window sub-switch LH (④, ②)
- to rear power window sub-switch LH (①, ③)
- through power window main switch LH (⑭, ⑬).

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

POWER WINDOW

System Description (Cont'd)

REAR DOOR RH

NOTE:

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

Operation by main switch

Power is supplied

- through power window main switch (15, 16)
- to rear power window sub-switch RH (3, 1).

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

Operation by sub-switches

Power is supplied

- through rear power window sub-switch RH (2, 4)
- to rear power window regulator RH (1, 2).

Ground is supplied

- to rear power window regulator RH (2, 1)
- through rear power window sub-switch RH (4, 2)
- to rear power window sub-switch RH (1, 3)
- through power window main switch (16, 15)

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

AUTO OPERATION

The power window AUTO feature enables the driver to open or close the driver's window without holding the window switch in the respective position.

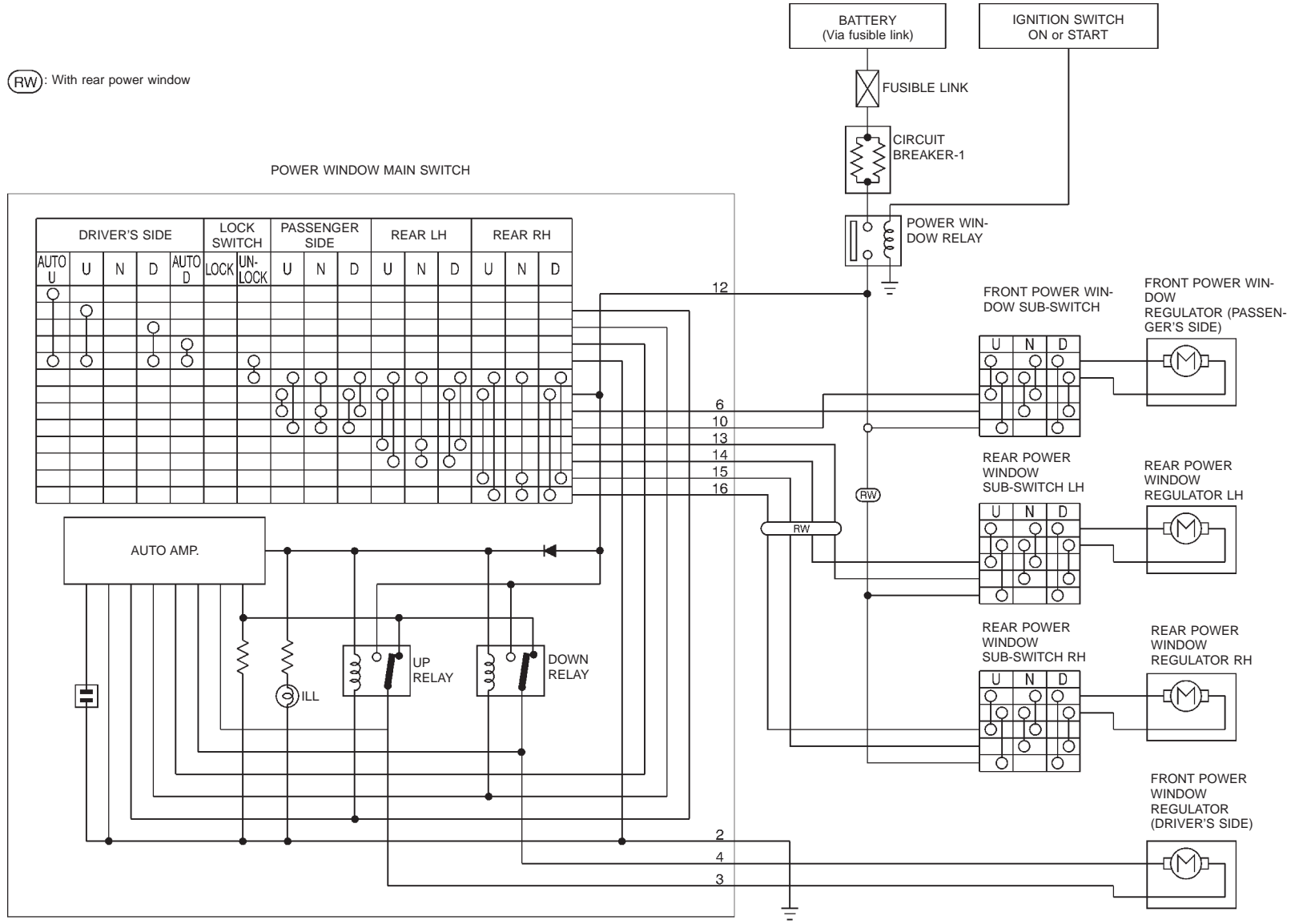
When the AUTO switch in the main switch is pressed and released, the driver's window will travel to the fully open or closed position.

POWER WINDOW LOCK

The power window lock is designed to lock-out window operation to all windows except the driver's door window.

When the lock switch is pressed to lock position, ground of the passenger side switch, rear RH switch and rear LH switch in the power window main switch is disconnected. This prevents the power window motors from operating.

(RW) : With rear power window

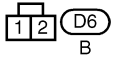
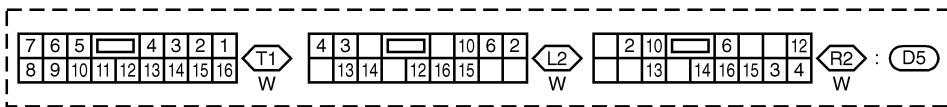
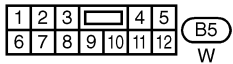
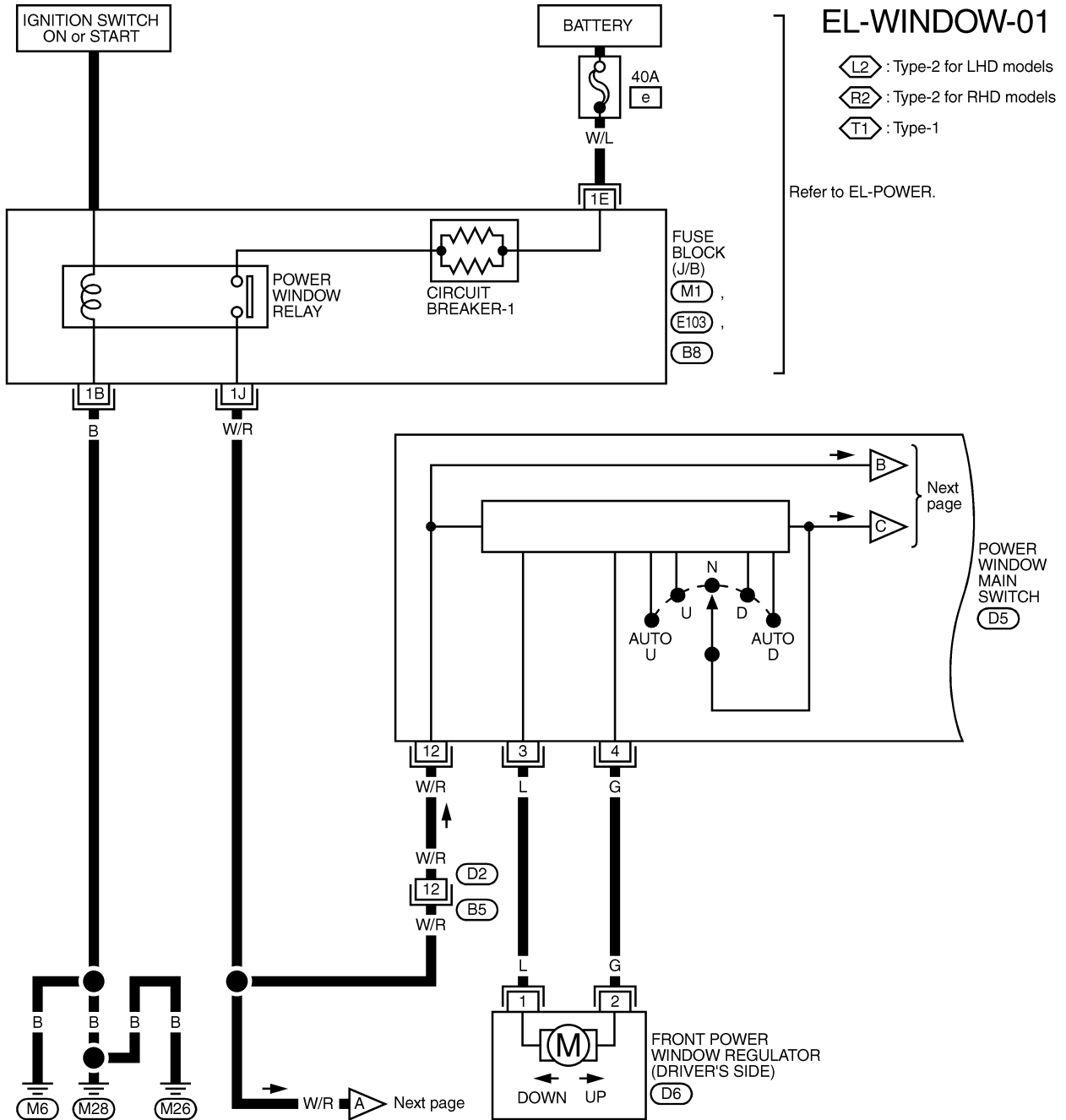


Schematic

POWER WINDOW

POWER WINDOW

Wiring Diagram — WINDOW —



REFER TO THE FOLLOWING

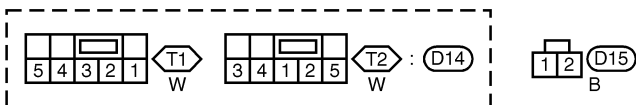
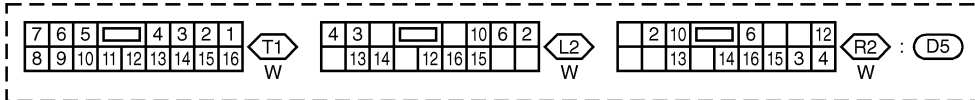
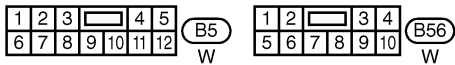
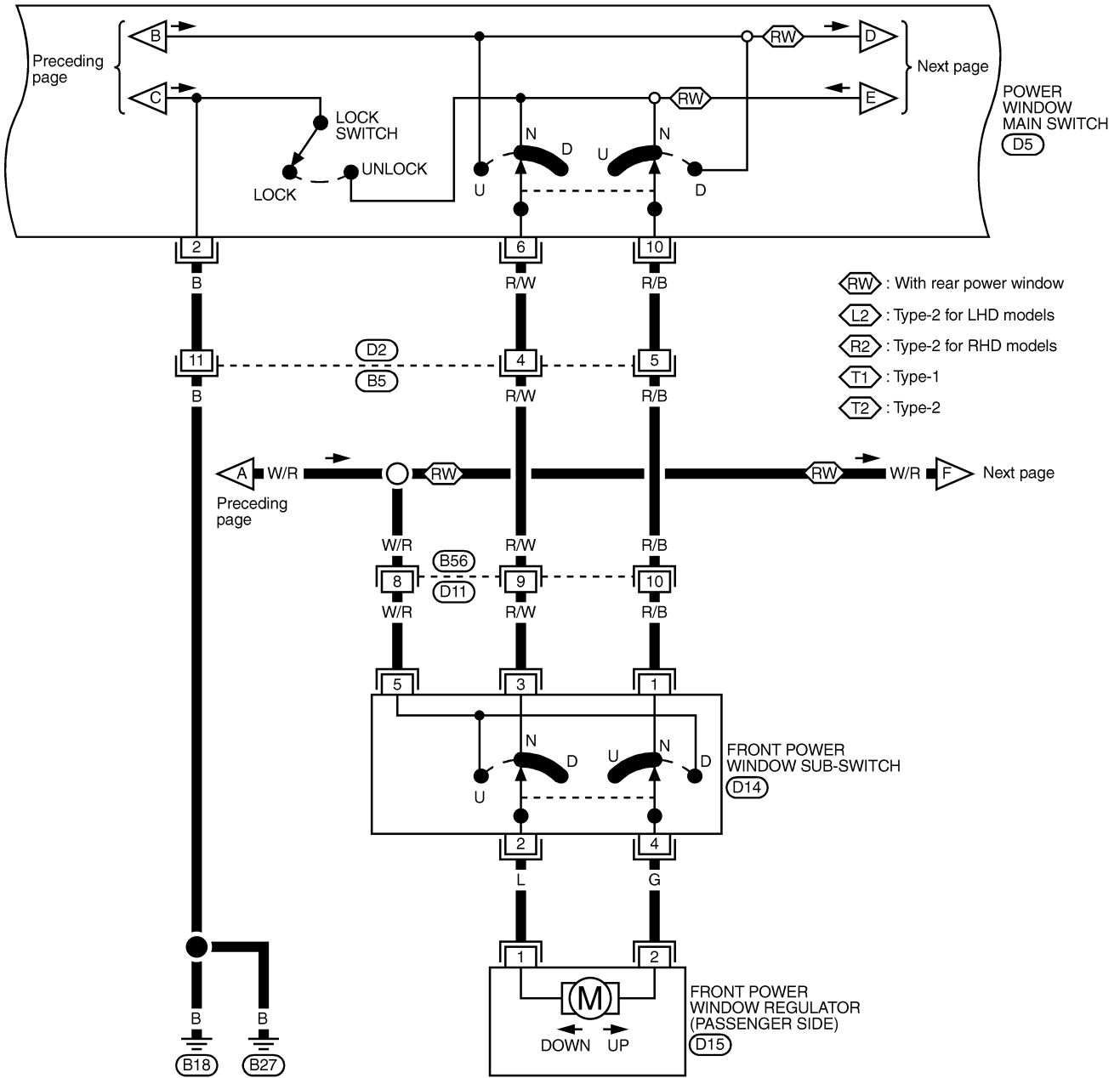
M1 , E103 , B8

FUSE BLOCK-
JUNCTION BOX (J/B)

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

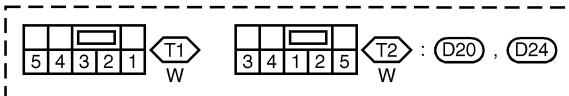
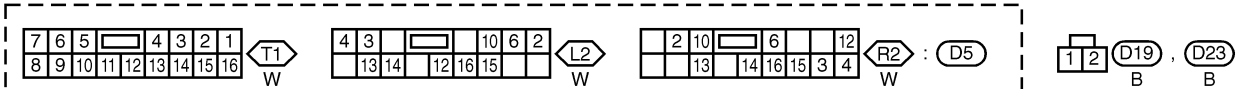
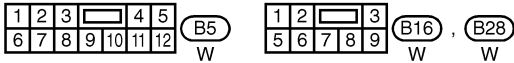
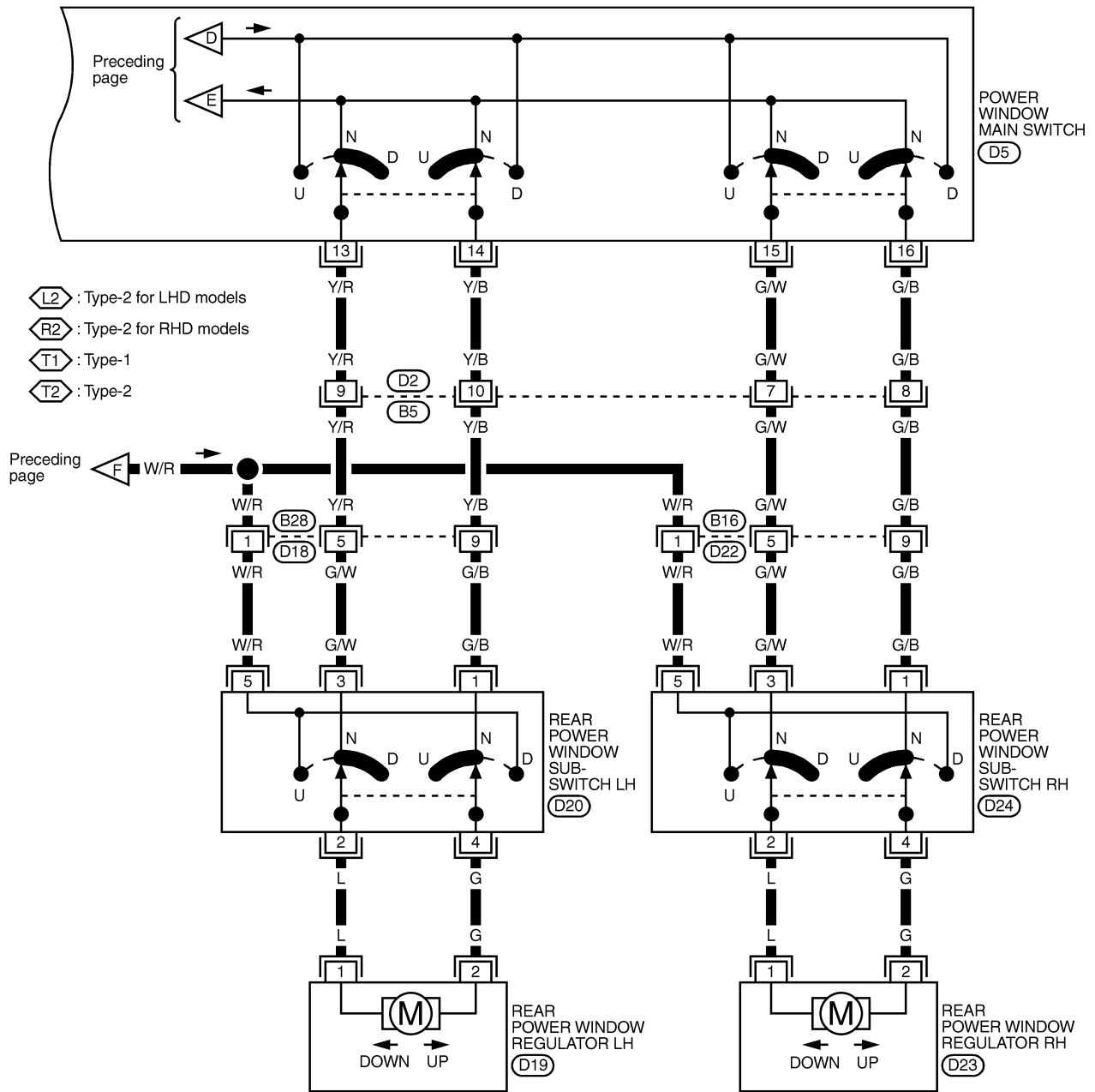
EL-WINDOW-02



POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03



POWER WINDOW

Trouble Diagnoses

Symptom	Possible cause	Repair order						
None of the power windows can be operated using any switch.	1. 40A fusible link and circuit breaker-1. 2. Grounds (B18) and (B27). 3. Power window relay. 4. Open/short in power window main switch circuit.	1. Check 40A fusible link (letter e , located in fuse and fusible link box) and circuit breaker-1. Turn ignition switch to "ON" position and verify battery positive voltage is present at terminal (12) of power window main switch, and other switches as follows.						
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Location of sub-switch</th> <th style="text-align: center;">Terminals</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Passenger</td> <td style="text-align: center;">(5)</td> </tr> <tr> <td style="text-align: center;">Rear RH</td> <td style="text-align: center;">(5)</td> </tr> <tr> <td style="text-align: center;">Rear LH</td> <td style="text-align: center;">(5)</td> </tr> </tbody> </table>	Location of sub-switch	Terminals	Passenger	(5)	Rear RH	(5)
Location of sub-switch	Terminals							
Passenger	(5)							
Rear RH	(5)							
Rear LH	(5)							
Driver's side power window cannot be operated but other windows can be operated.	1. Driver's side power window regulator circuit. 2. Driver's side power window regulator.	1. Check driver's side power window regulator circuit 2. Check driver's side power window regulator						
One or more passenger power windows cannot be operated.	1. Power window switches (front sub-switch, rear sub-switch RH, rear sub-switch LH). 2. Power window regulators. (Passenger side, rear LH, rear LH.) 3. Power window main switch. 4. Power window circuit.	1. Check power window switches (front sub-switch, rear sub-switch RH, rear sub-switch LH) 2. Check power window regulators (front sub-switch, rear sub-switch RH, rear sub-switch LH) 3. Check power window main switch 4-1. Check harnesses between power window main switch and power window sub-switches for open/short circuit. 4-2. Check harnesses between power window sub-switches and power window regulators for open/short circuit.						
One or more passenger power windows cannot be operated using power window main switch but can be operated by power window sub-switches.	1. Power window main switch.	1. Check power window main switch.						
Driver's side power window auto function cannot be operated using power window main switch.	1. Power window main switch.	1. Check power window main switch.						

NOTE

System Description/Door Lock for LHD Models

OPERATION

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

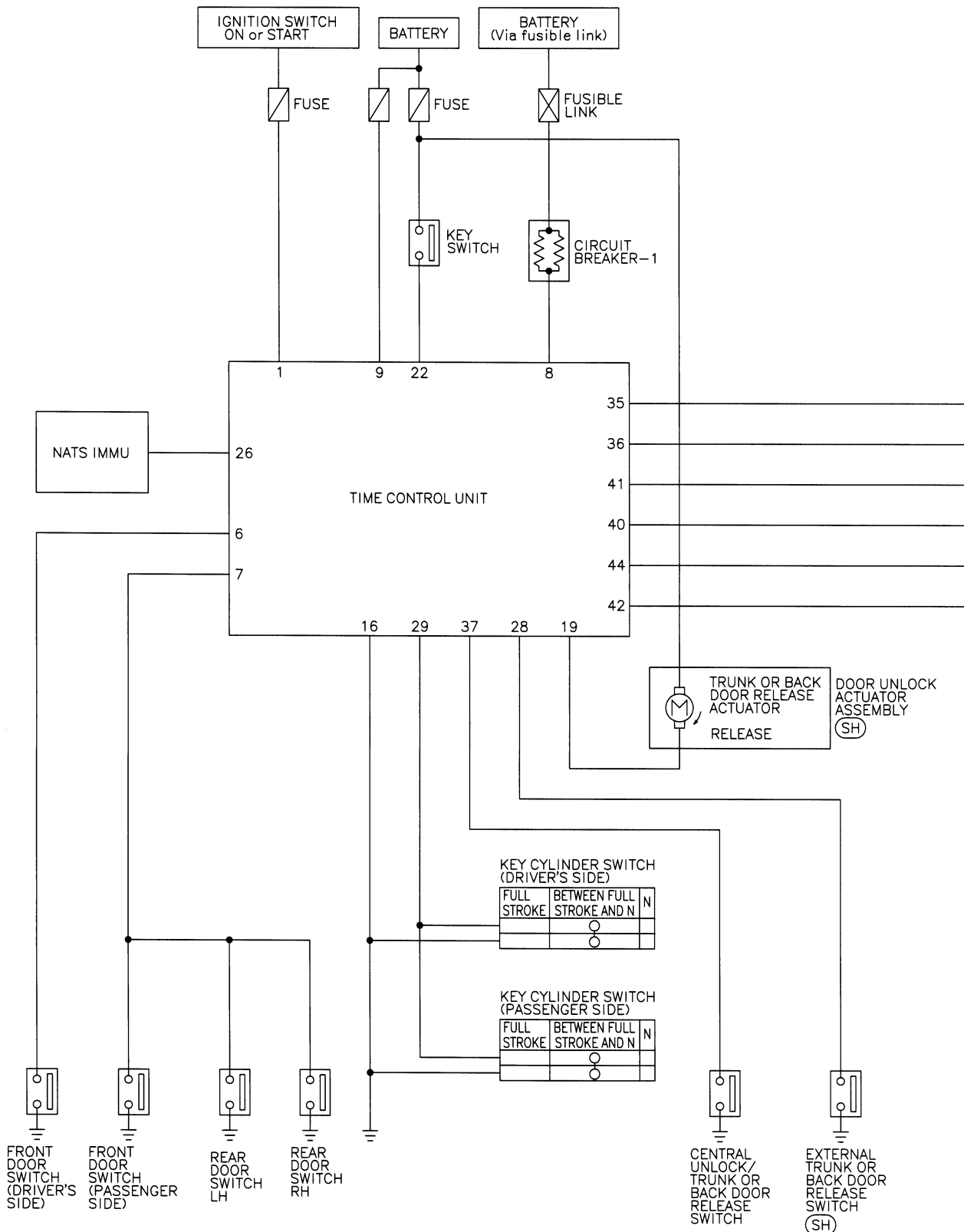
- With lock/unlock switch on driver door trim setting to LOCK will lock all doors.
- With lock/unlock switch on driver door trim setting to UNLOCK will unlock all doors.

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)

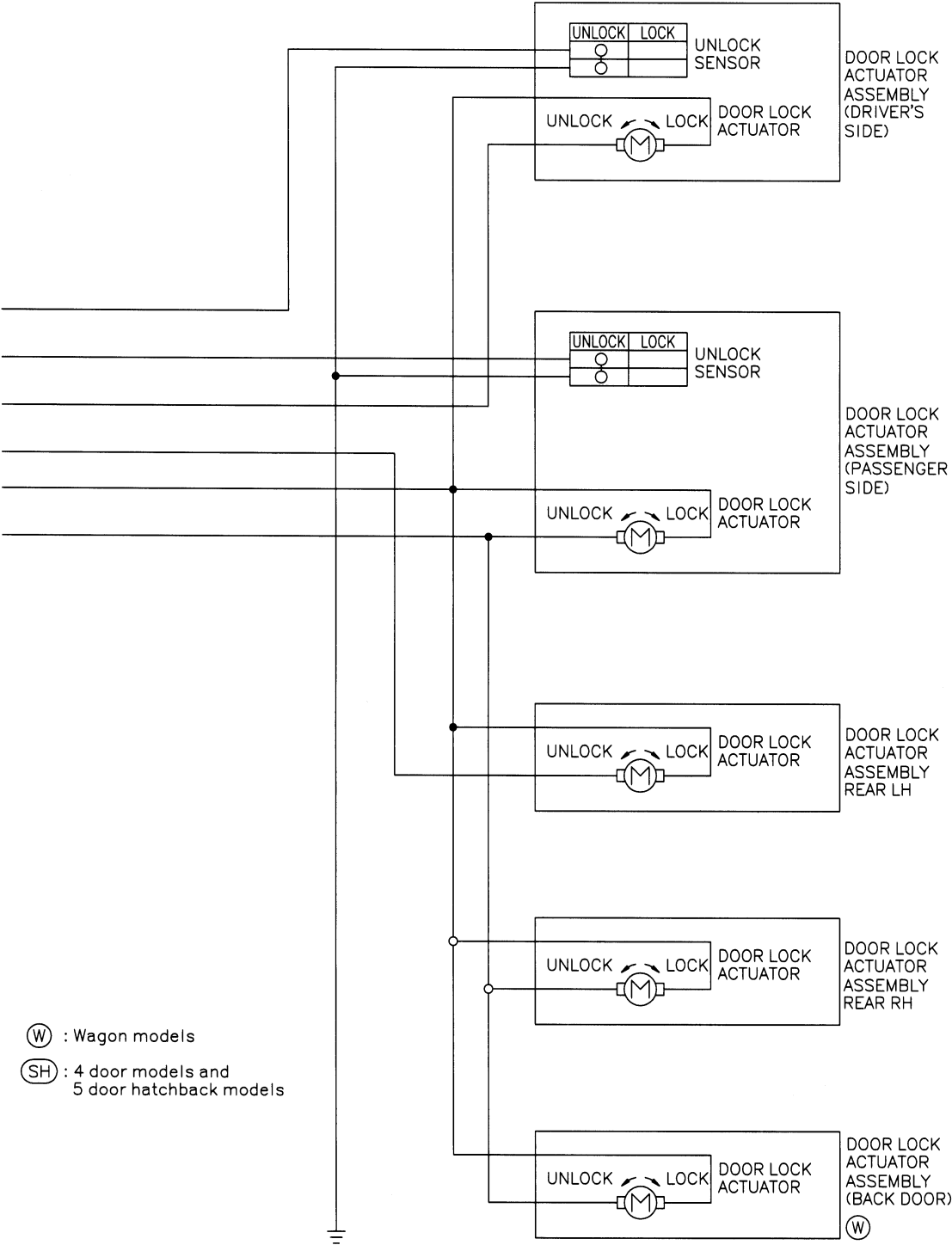
POWER DOOR LOCK

Schematic



POWER DOOR LOCK

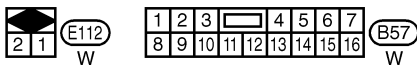
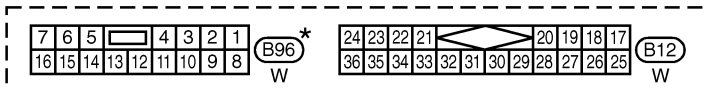
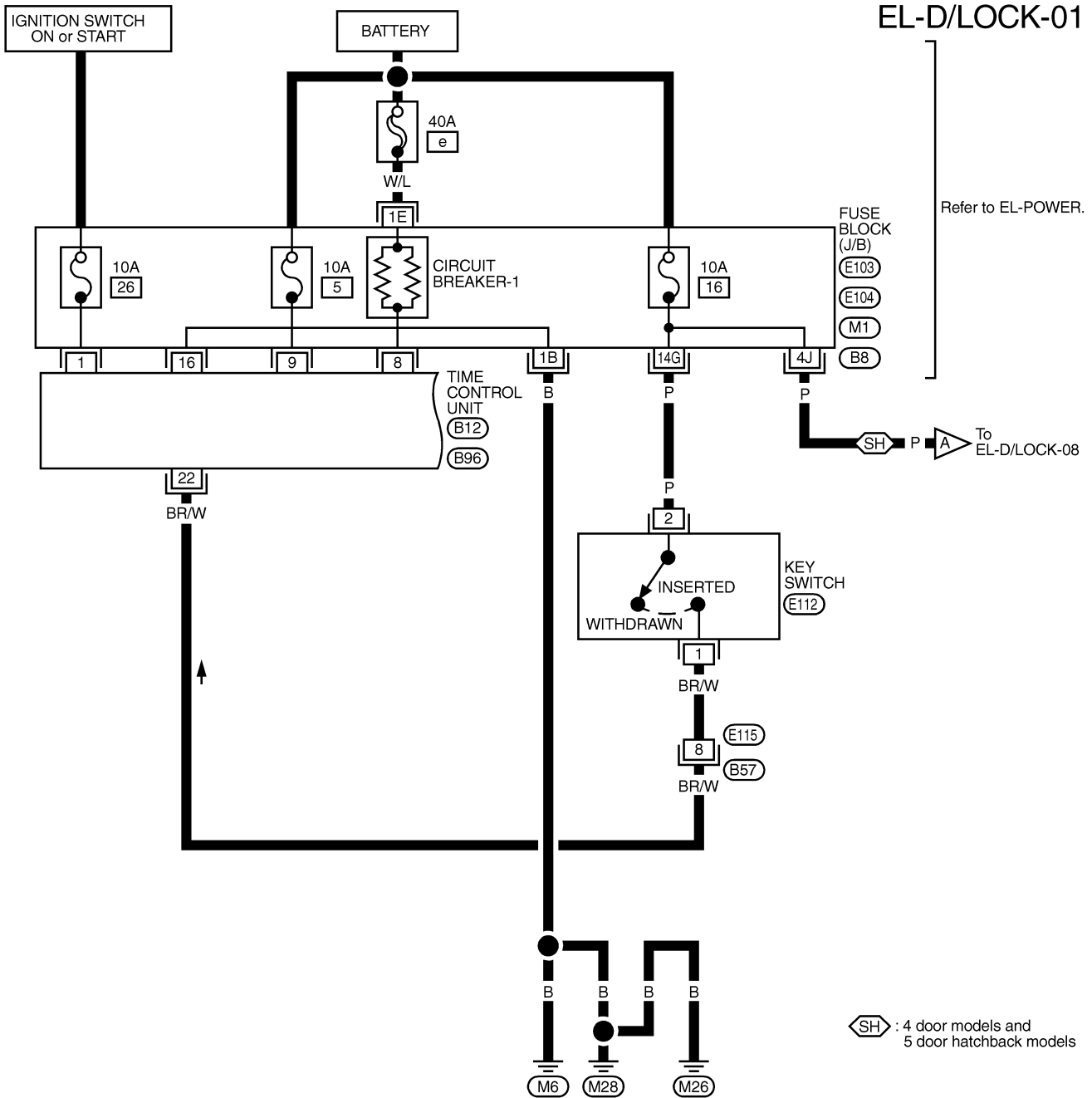
Schematic (Cont'd)



(W) : Wagon models
(SH) : 4 door models and 5 door hatchback models

POWER DOOR LOCK

Wiring Diagram — D/LOCK —



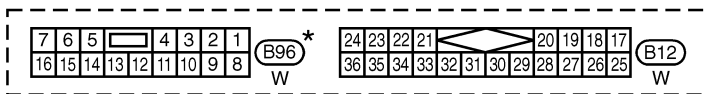
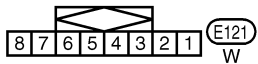
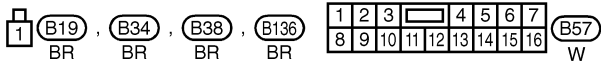
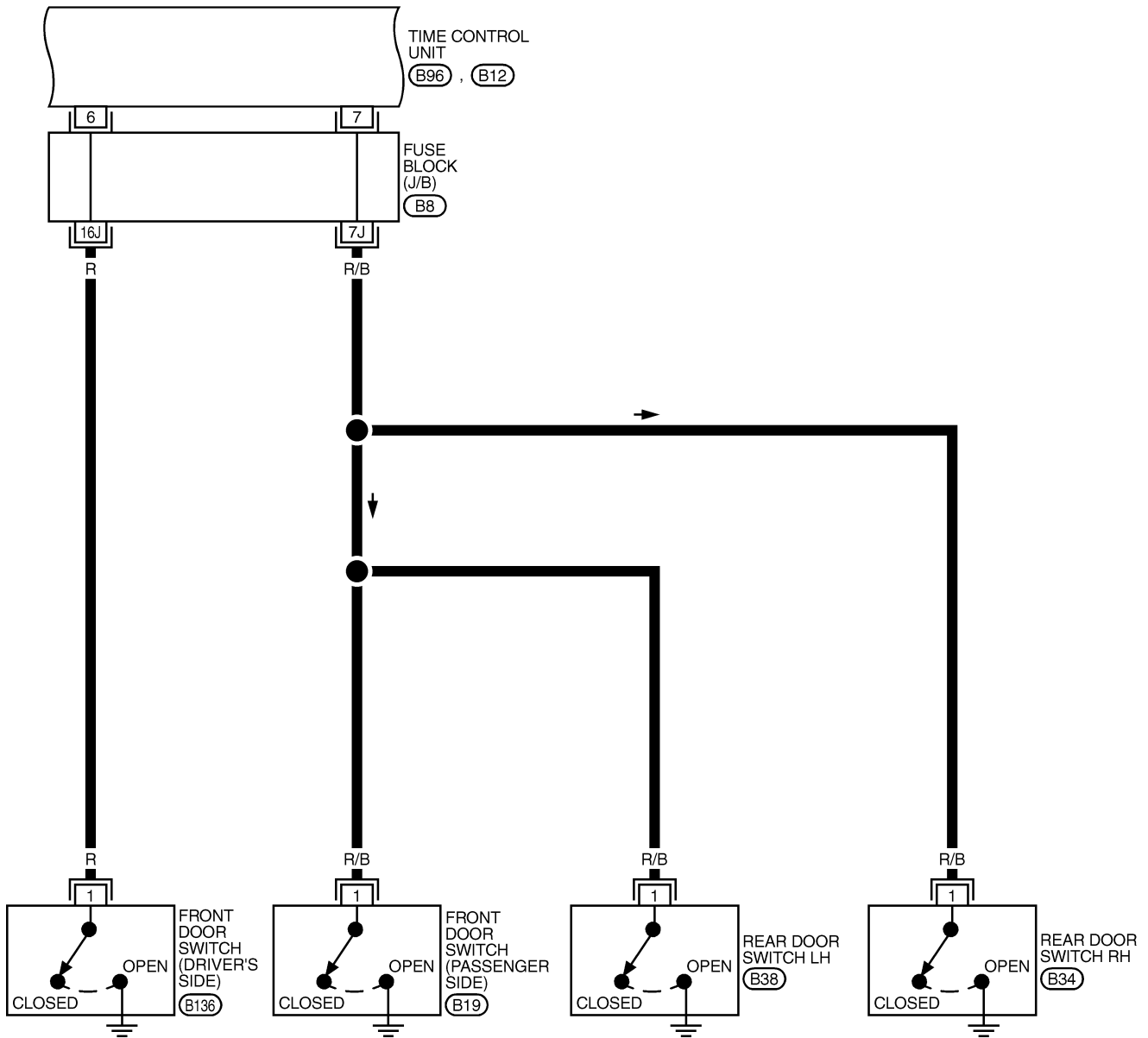
* : This connector is not shown in "HARNES LAYOUT" of EL section.

REFER TO THE FOLLOWING
 (M1) , (E103) , (E104) , (B8)
 FUSE BLOCK-
 JUNCTION BOX (J/B)

POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-02



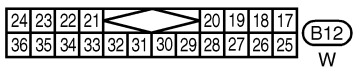
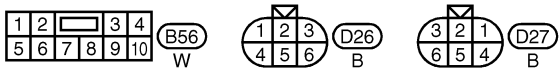
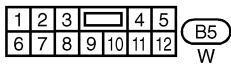
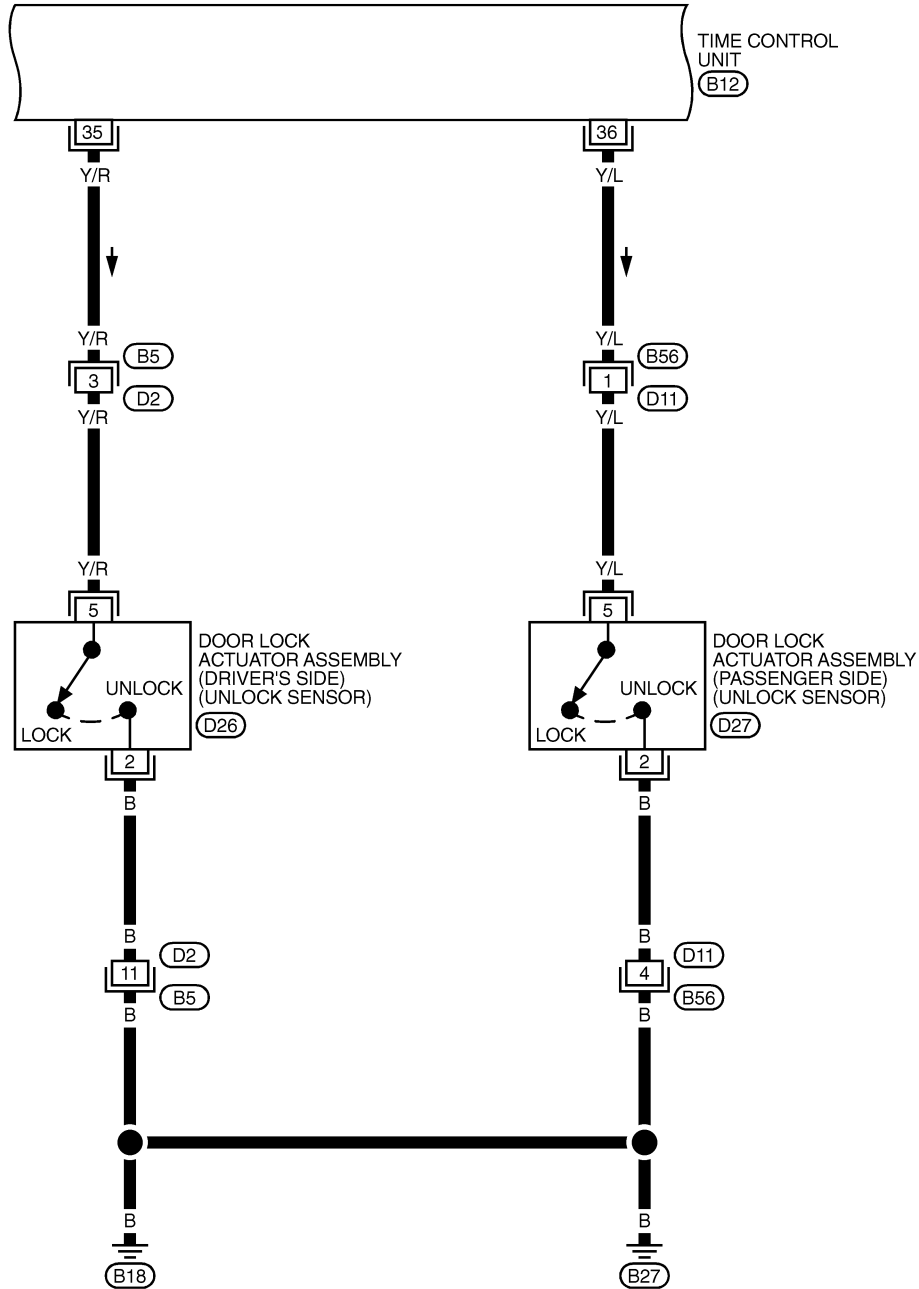
REFER TO THE FOLLOWING
(B8) FUSE BLOCK-
 JUNCTION BOX (J/B)

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

POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-04

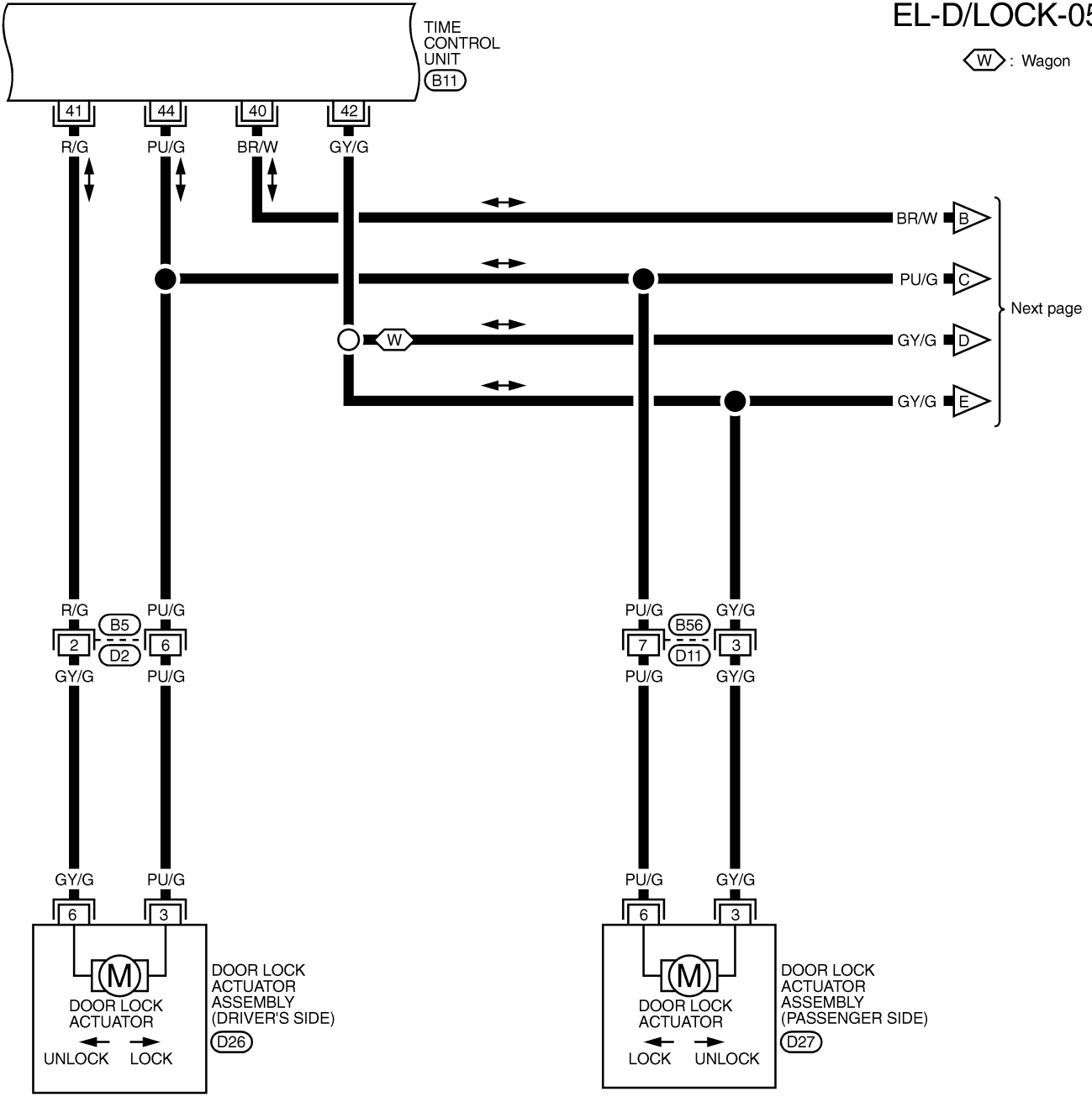


POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-05

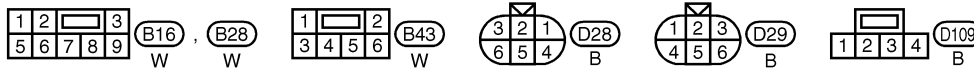
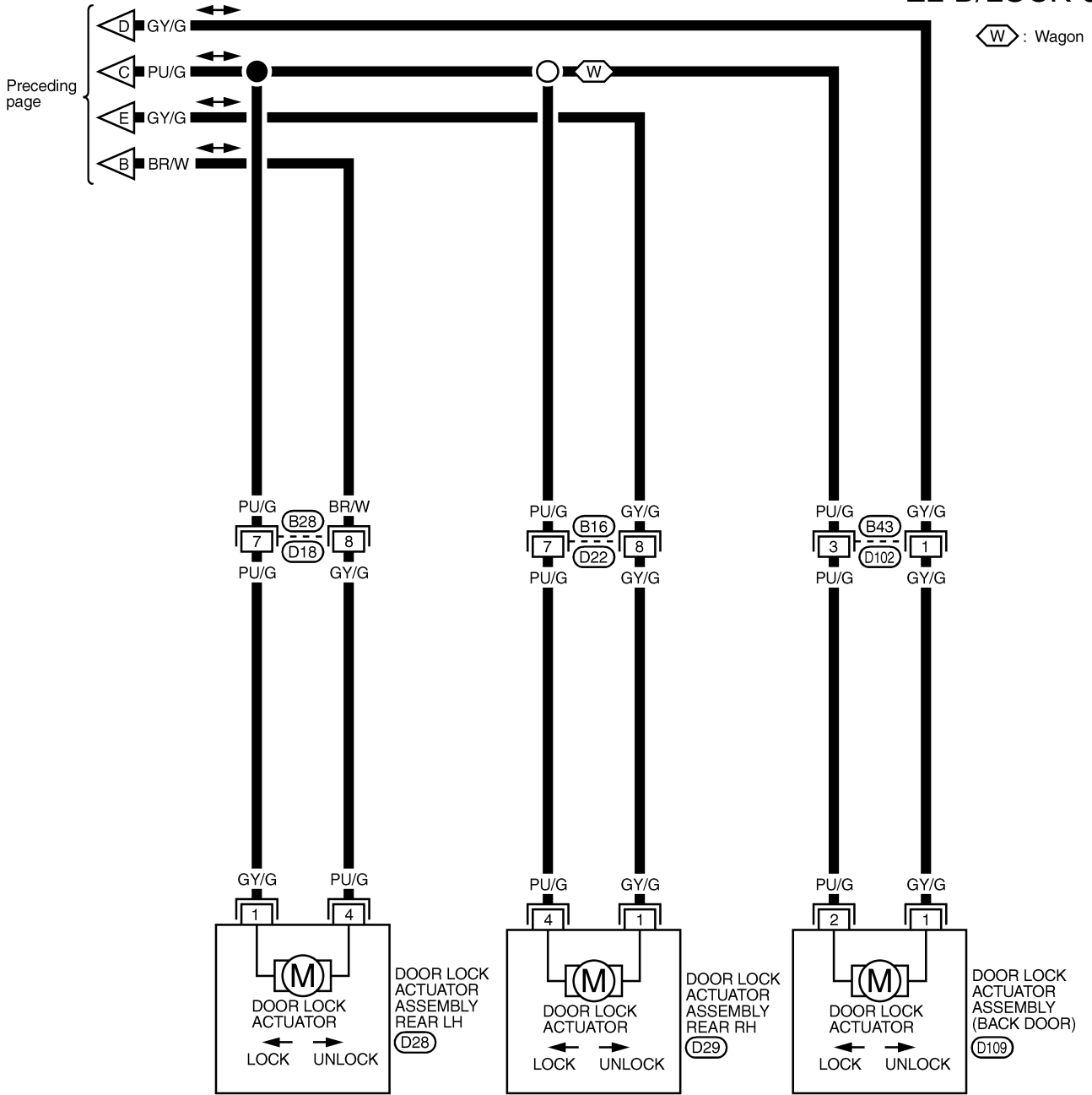
◻W◻ : Wagon



POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

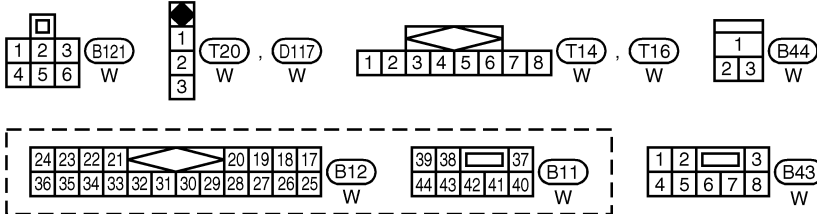
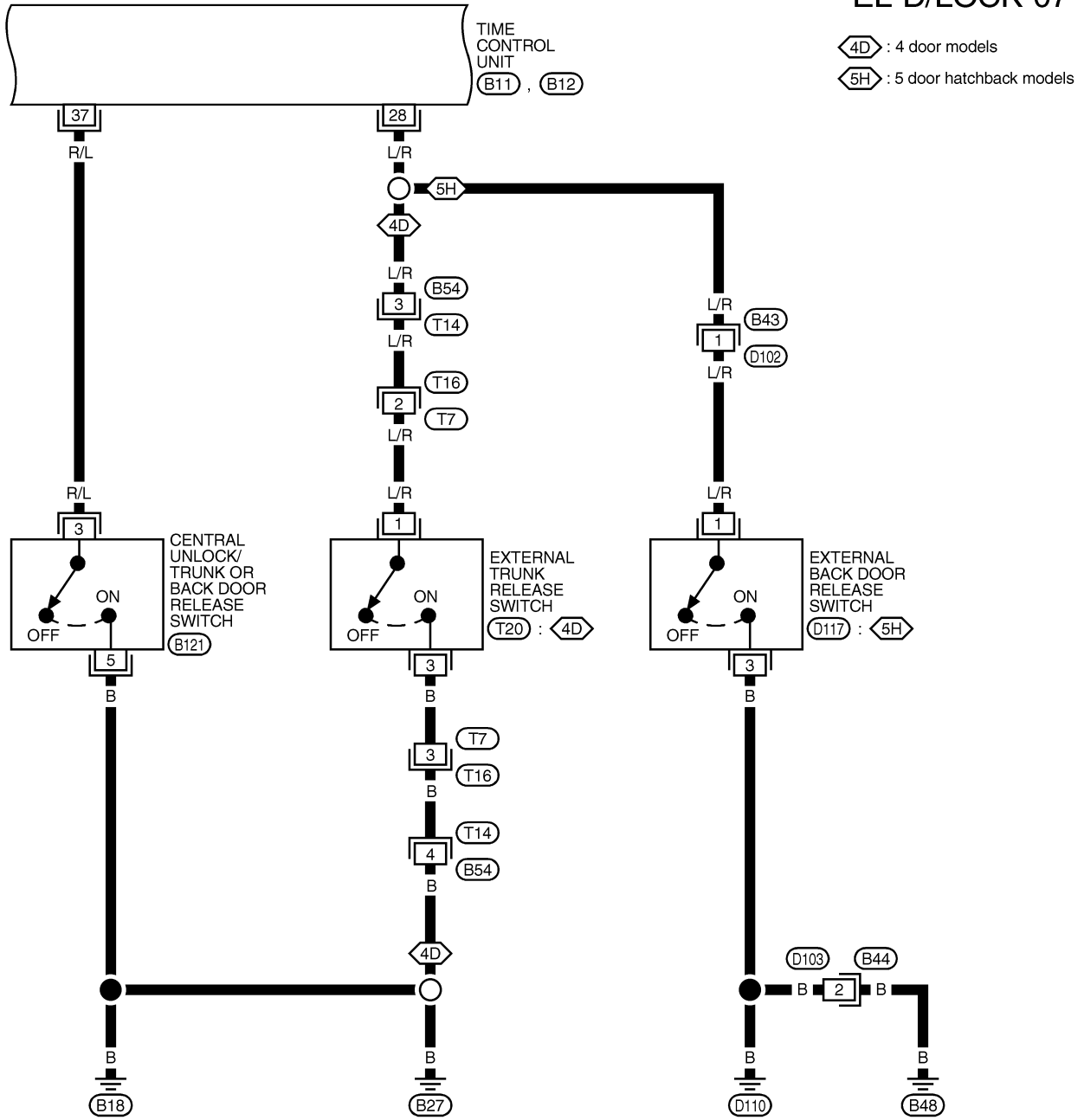
EL-D/LOCK-06



POWER DOOR LOCK

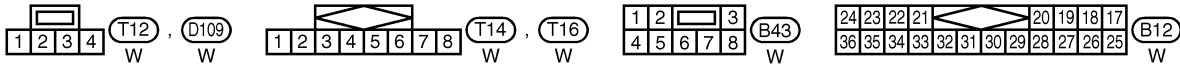
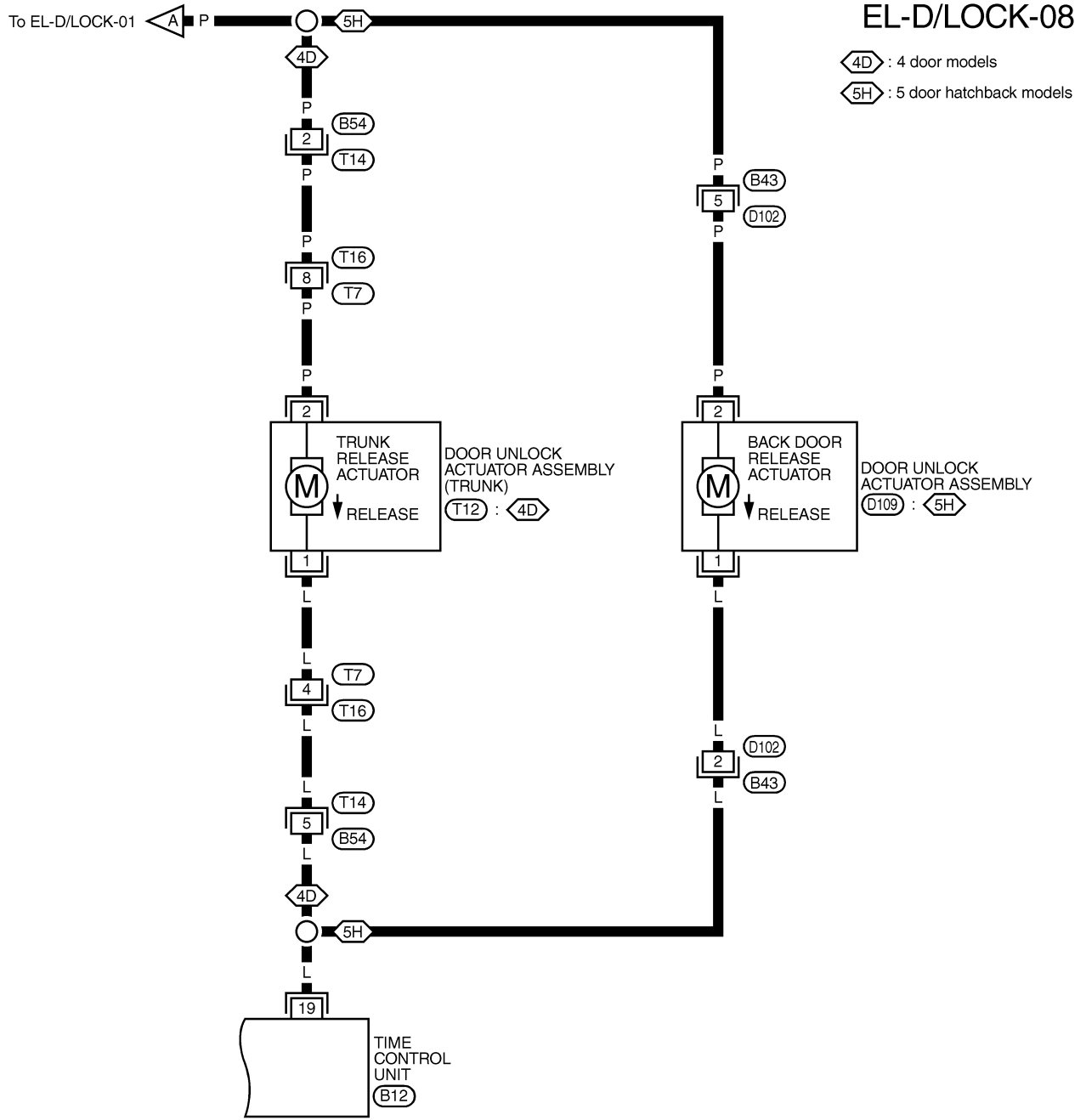
Wiring Diagram — D/LOCK — (Cont'd)

EL-D/LOCK-07



POWER DOOR LOCK

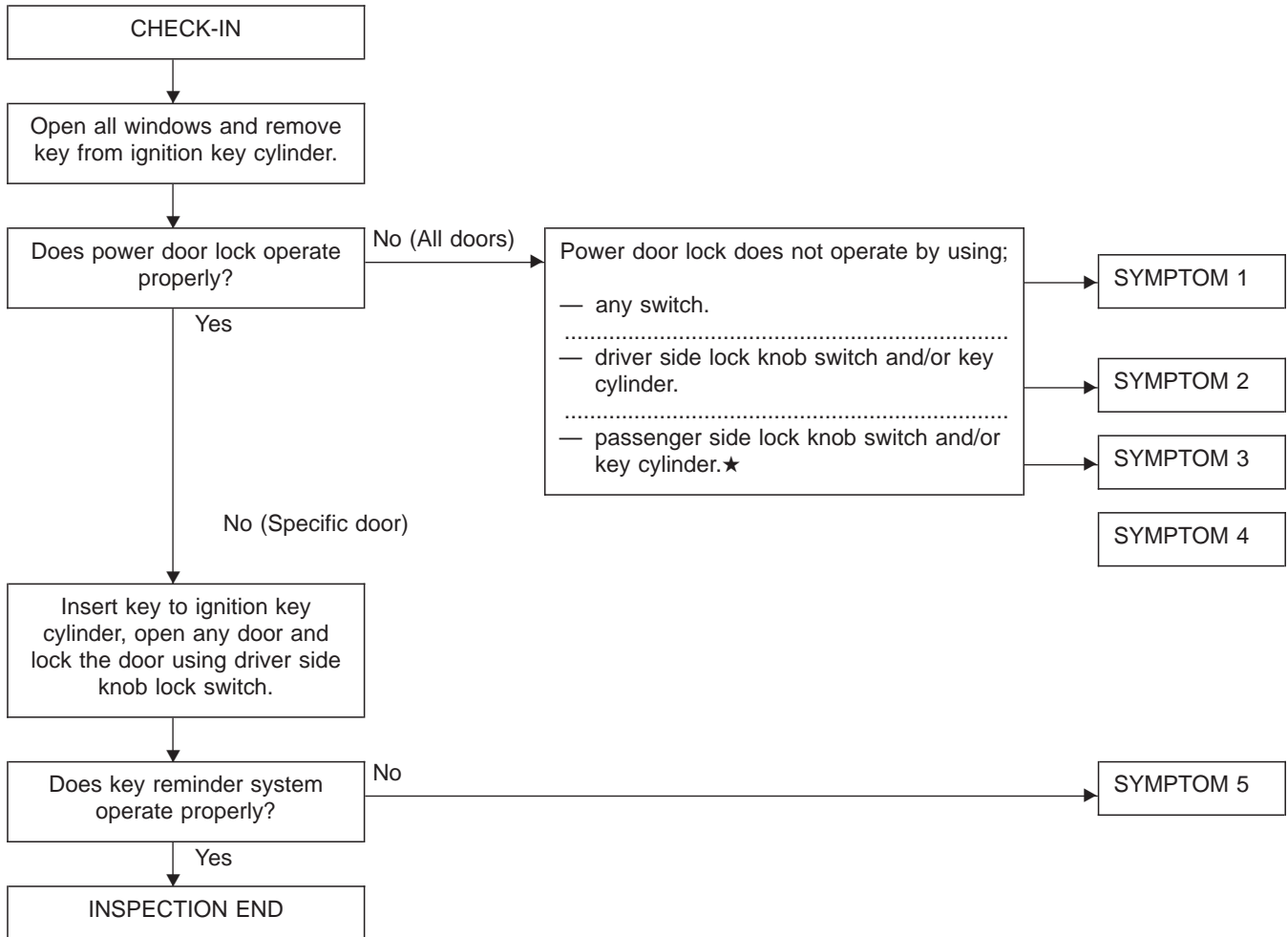
Wiring Diagram — D/LOCK — (Cont'd)



POWER DOOR LOCK

Trouble Diagnoses

PRELIMINARY CHECK



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

★ When one or more doors are opened, with lock knob on passenger door setting to LOCK, will lock passenger door only. (Power door lock system will not operate.)

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

Before starting trouble diagnoses below, perform preliminary check, EL-256.

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

SYMPTOM CHART

REFERENCE PAGE	EL-258	EL-259	EL-260	EL-261	EL-262	EL-263
SYMPTOM	Power supply and ground circuit check	Procedure 1 (Door unlock sensor check)	Procedure 2 (Door key cylinder switch check)	Procedure 3 (Door lock actuator check)	Procedure 4 (Door switch check)	Procedure 5 (Key switch check)
1	X			X		
2		X				
3			X			
4				X		
5					X	X

X: Applicable

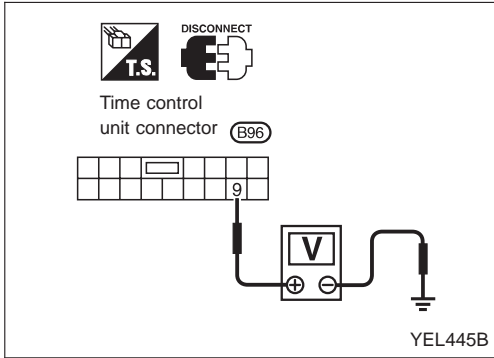
*: Make sure the power door lock and key reminder system operate properly.

POWER DOOR LOCK

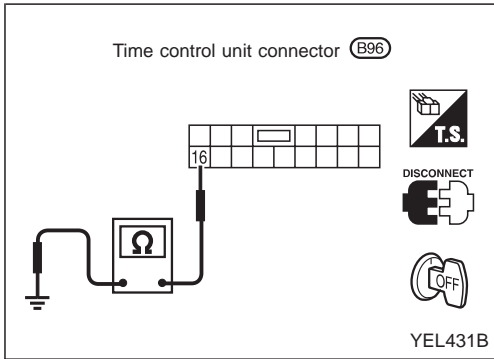
Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

Main power supply circuit check



Terminals		Ignition switch position		
⊕	⊖	LOCK	ACC	ON
⑨	Ground	Battery voltage	Battery voltage	Battery voltage



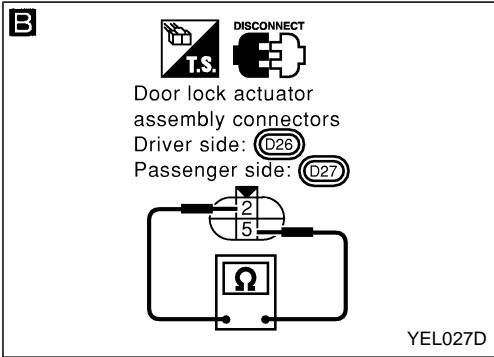
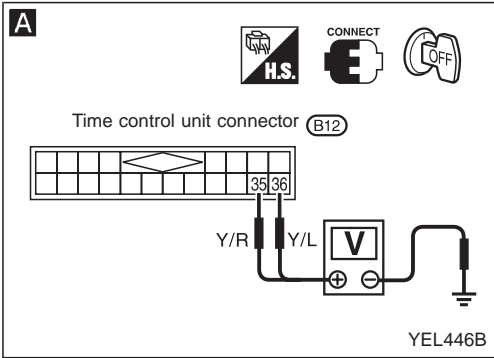
Ground circuit check

Terminals	Continuity
⑩ - Ground	Yes

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1 (Door unlock sensor check)



A

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.
Check voltage between time control unit connector terminals (35) or (36) and ground.

	Terminals		Condition	Voltage [V]
	⊕	⊖		
Driver side	(35)	Ground	Locked	Approx. 2 (Approx. 20 sec.)
			Unlocked	0
Passenger side	(36)	Ground	Locked	Approx. 12 (Approx. 20 sec.)
			Unlocked	0

OK → Door unlock sensor is OK.

NG

B

CHECK DOOR UNLOCK SENSOR.
1) Disconnect door unlock sensor connector.
2) Check continuity between door unlock sensor terminals.

Terminals	Condition	Continuity
(2) - (5)	Locked	No
	Unlocked	Yes

NG → Replace door lock actuator assembly.

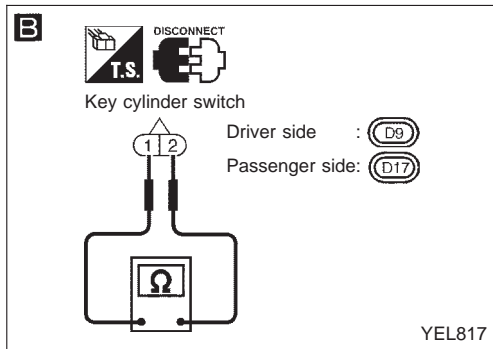
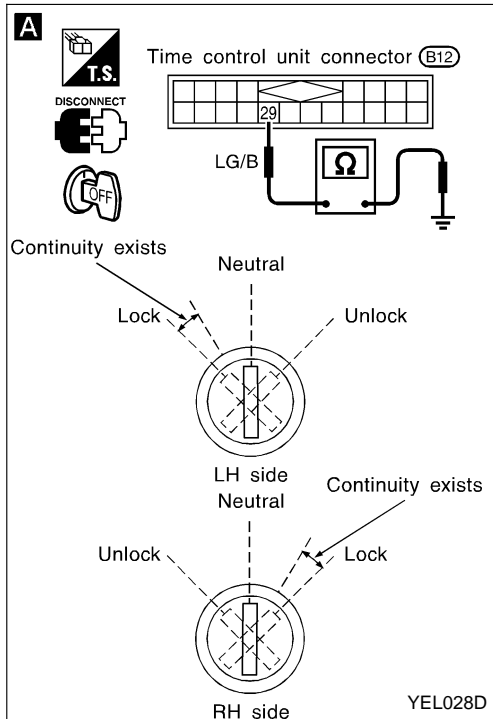
OK

Check the following:

- Door unlock sensor ground circuit.
- Harness for open or short-circuit between control unit and door unlock sensor

POWER DOOR LOCK

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 2 (Door key cylinder switch check)



A

CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK SIGNAL).

Check voltage between time control unit connector terminal (29) and ground.

OK → Door key cylinder switch is OK.

Key cylinder switch operation	Voltage [V]
Between neutral and lock	0
Unlock/neutral	Approx. 5

NG

B

CHECK DOOR KEY CYLINDER SWITCH.

NG → Replace key cylinder switch.

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

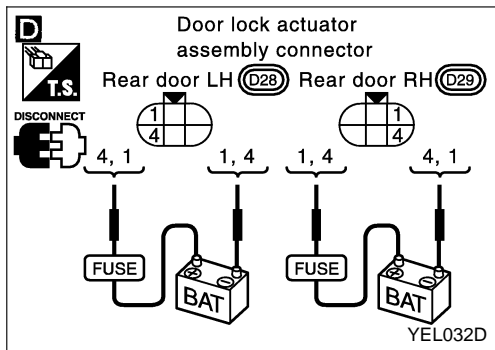
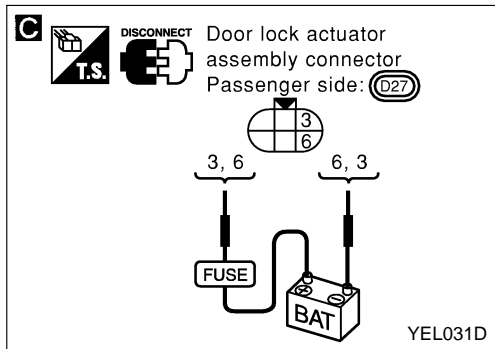
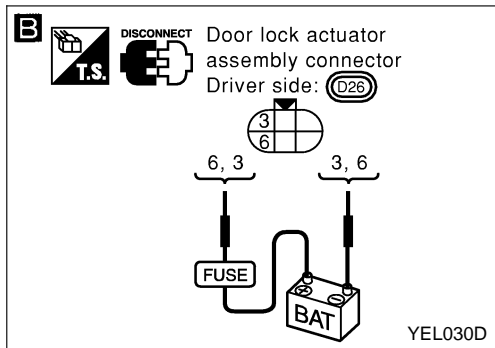
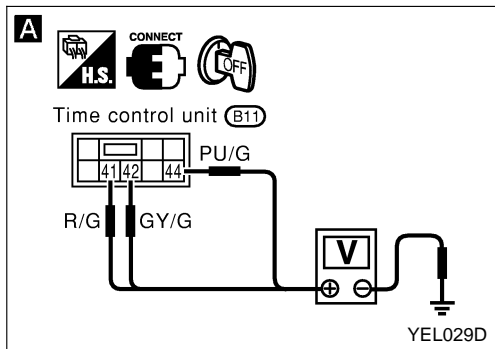
Terminals	Key position	Continuity
① - ②	Neutral	No
	Between neutral and lock	Yes
	Unlock/neutral	No
	Full stroke (Lock)	No

- OK
- Check the following:
- Harness connectors (B3), (M13)
 - Harness connectors (M7), (D1)
 - Harness connectors (B5), (D2)
 - Harness connectors (B56), (D11)
 - Door key cylinder switch ground circuit
 - Harness for open or short-circuit between super lock control unit and door key cylinder.

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3 (Door lock actuator check)



A

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

Knob lock switch condition	Terminals		Voltage (V)
	+	-	
Unlock → Lock	(41)	Ground	Approx. 12 (Approx. 5 seconds)
	(42)	Ground	
Lock → Unlock	(44)	Ground	

Before operating passenger side knob lock switch, close all doors.

NG → Door lock actuator is OK.

B C D

CHECK DOOR LOCK ACTUATOR.

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

OK → Check harness between control unit and door lock actuator.

Driver side

Door lock actuator operation	Terminals	
	+	-
Unlocked → Locked	(6)	(3)
Locked → Unlocked	(3)	(6)

Passenger side

Door lock actuator operation	Terminals	
	+	-
Unlocked → Locked	(3)	(6)
Locked → Unlocked	(6)	(3)

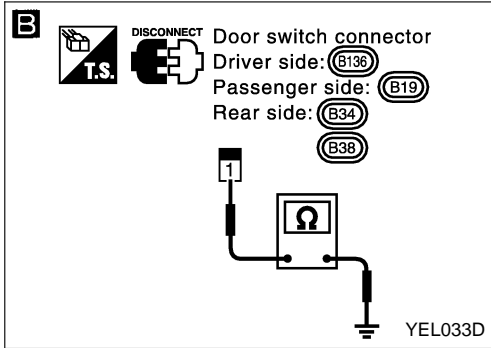
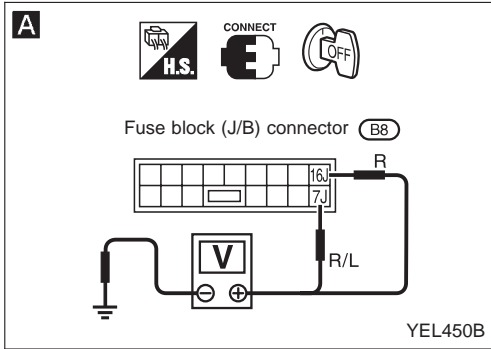
Rear door LH and RH

Door lock actuator operation	Terminals	
	+	-
Unlocked → Locked	(4) : (LH) (1) : (RH)	(1) : (LH) (4) : (RH)
	Locked → Unlocked	(1) : (LH) (4) : (RH)

NG → Replace door lock actuator assembly.

POWER DOOR LOCK

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 4 (Door switch check)



A

OK → Door switch is OK.

CHECK DOOR SWITCH INPUT SIGNAL.
Check voltage between fuse block (J/B) and ground.

	Terminals	Condition	Voltage [V]
Driver side door	(16J)	Opened	0
		Closed	Approx. 12
Other door	(7J)	Opened	0
		Closed	Approx. 12

NG

B

NG → Replace door switch.

CHECK DOOR SWITCH.
1) Disconnect door switch connector.
2) Check continuity between door switch terminals.

Terminals	Condition	Continuity
① - ground	Closed	No
	Open	Yes

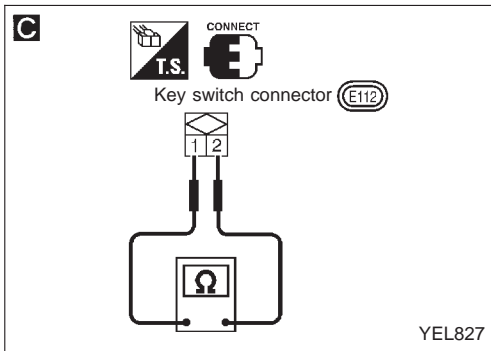
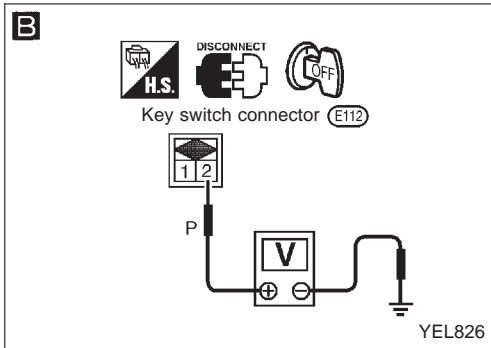
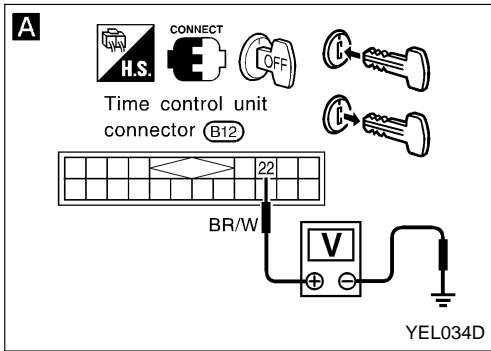
OK

Check the following.

- Door switch ground condition
- Harness for open or short between control unit and door switch

POWER DOOR LOCK

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 5 (Key switch check)



A

CHECK IGNITION KEY SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ② and ground.

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

OK → Key switch is OK.

B

CHECK KEY SWITCH POWER SUPPLY.
Check voltage between key switch harness terminal ② and ground.
Battery voltage should exist.

NG → Check the following.

- 10A fuse [No. 16], located in fuse block (J/B)]
- Harness for open or short between key switch and fuse

OK →

C

CHECK KEY SWITCH.

- 1) Disconnect key switch connector.
- 2) Check continuity between key switch terminals.

Terminals	Condition	Continuity
① - ②	Key is inserted.	Yes
	Key is withdrawn.	No

NG → Replace key switch.

OK →

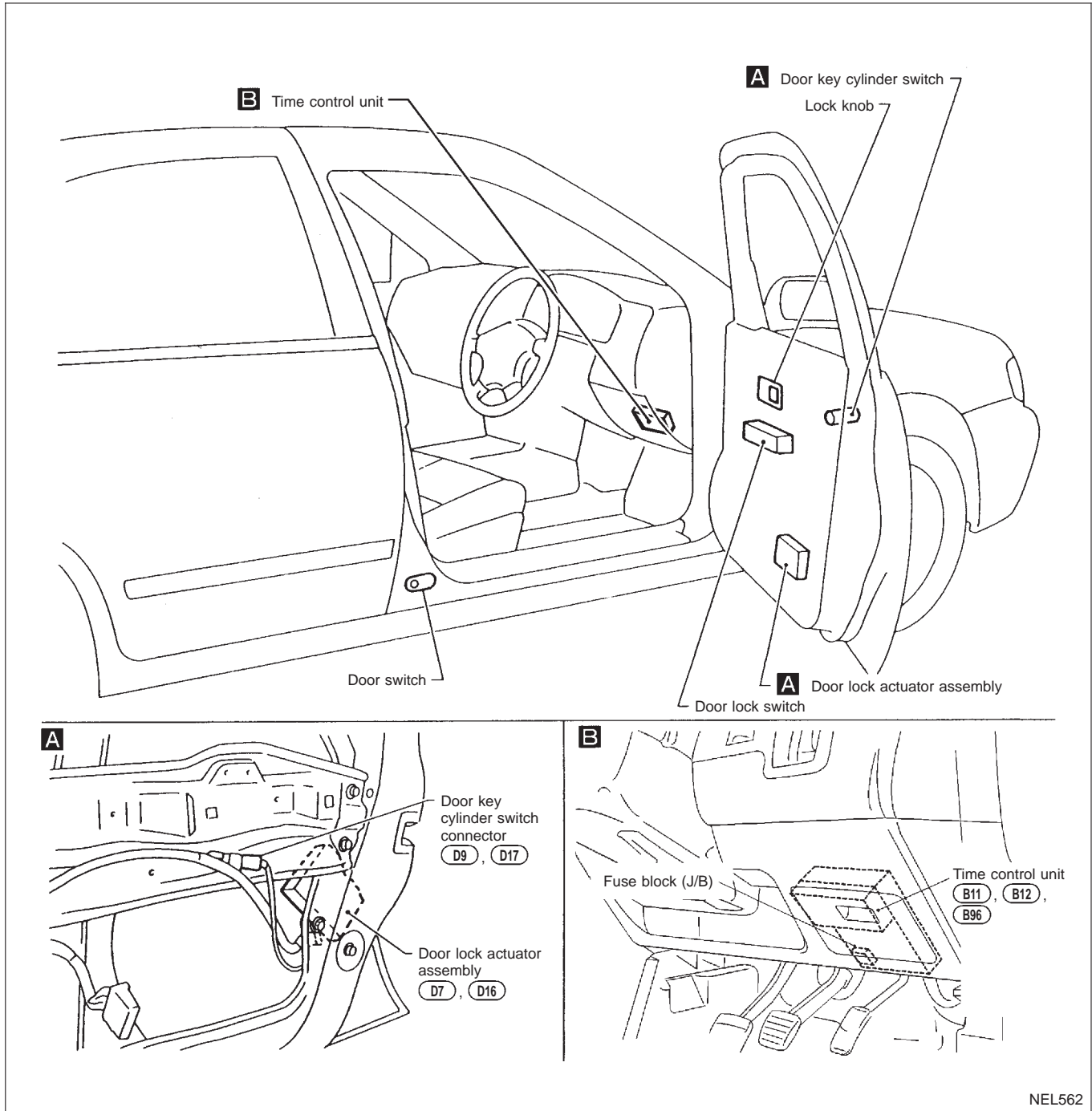
Check harness for open or short between control unit and key switch.

POWER DOOR LOCK

NOTE

POWER DOOR LOCK — Super Lock —

Component Parts Location



NEL562

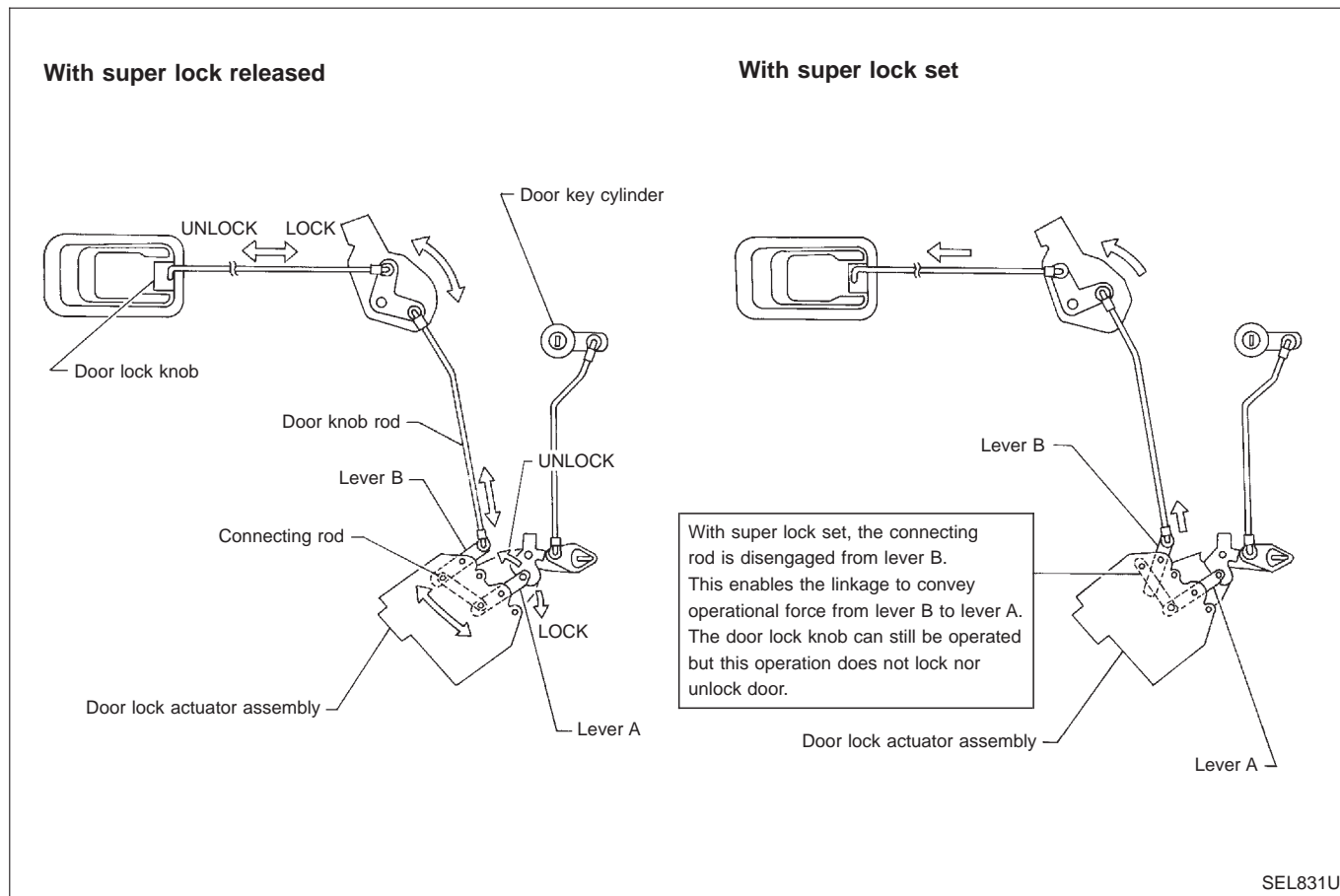
System Description/Super Lock for RHD Models

OUTLINE

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

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 while all doors are closed or any door is open. (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 while all doors are closed and key is not inserted in the ignition key cylinder.
- Pressing once will release super lock and unlock driver's door.
- Pressing twice will release super lock and unlock all doors.

Power door lock and super lock release operation (by NATS IMMU signal)

- When the super lock is set, turning ignition key switch to ON will release super lock and unlock all doors.

POWER DOOR LOCK — Super Lock —

System Description/Super Lock for RHD Models (Cont'd)

Power door lock/unlock operation by lock knob

- With lock knob on driver or passenger door setting to LOCK while all doors are closed will lock all doors. **When one or more door is opened, with lock knob on passenger door setting to LOCK will lock passenger door only. (Power door lock system will not operate.)**
- With lock knob on driver or passenger door setting to UNLOCK while all doors are closed will unlock all doors.

Lock knob operation cannot control super lock.

Key reminder system

- If the ignition key is in the ignition key cylinder and any door is open, setting the lock/unlock switch or lock knob on driver or passenger door to "LOCK" locks the door once but then immediately unlocks all doors.

Central unlock/trunk or back door release switch

Signal input								Status
Short press		Long press		DR	AS	RL	RR	
Without ultra sonic	With ultra sonic	Without ultra sonic	With ultra sonic					
No action	No action	Trunk release	Trunk release	U	U	U	U	Fully unlocked
No action	No action	Trunk release	Trunk release	U	U	U	L	
No action	No action	Trunk release	Trunk release	U	U	L	U	
No action	Central unlock (not DR door)	Trunk release	Central unlock (not DR door) + Trunk release	U	U	L	L	DR and AS doors unlocked
Central unlock (not DR door)	Central unlock (not DR door)	Central unlock (not DR door) + Trunk release	Central unlock (not DR door) + Trunk release	U	L	X	X	DR door unlocked, AS door locked
Central unlock	Central unlock	Central unlock + Trunk release	Central unlock + Trunk release	L	L	X	X	Both front doors locked
No action	No action	No action	No action	L	L	L	L	Super locked

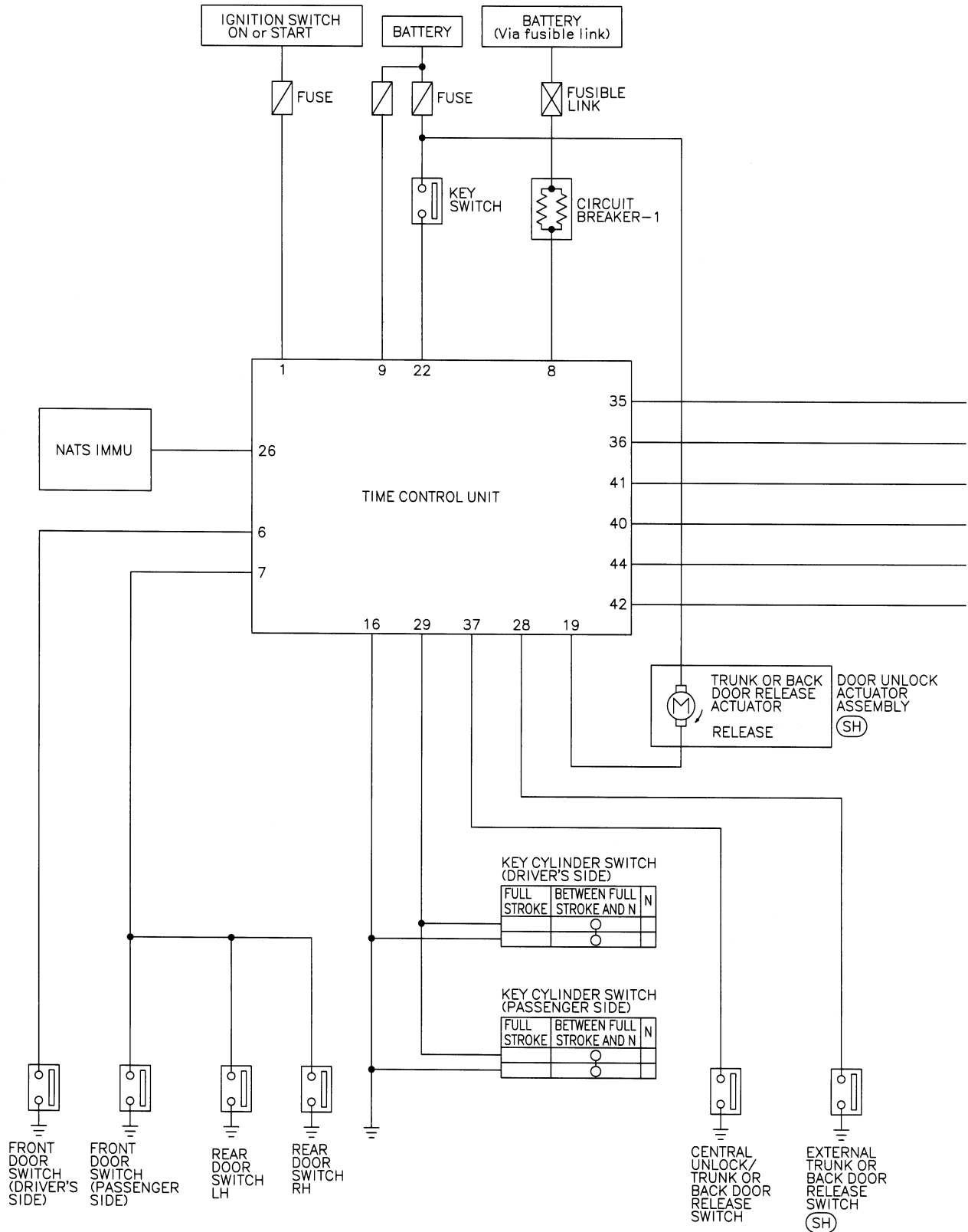
U: Unlocked; L: locked; X: Don't care

System initialisation

- System initialisation is required when battery cables are reconnected. Conduct one of the followings to release super lock once;
 - insert the key into ignition key cylinder and turn it to ON.
 - LOCK/UNLOCK operation using door key cylinder.

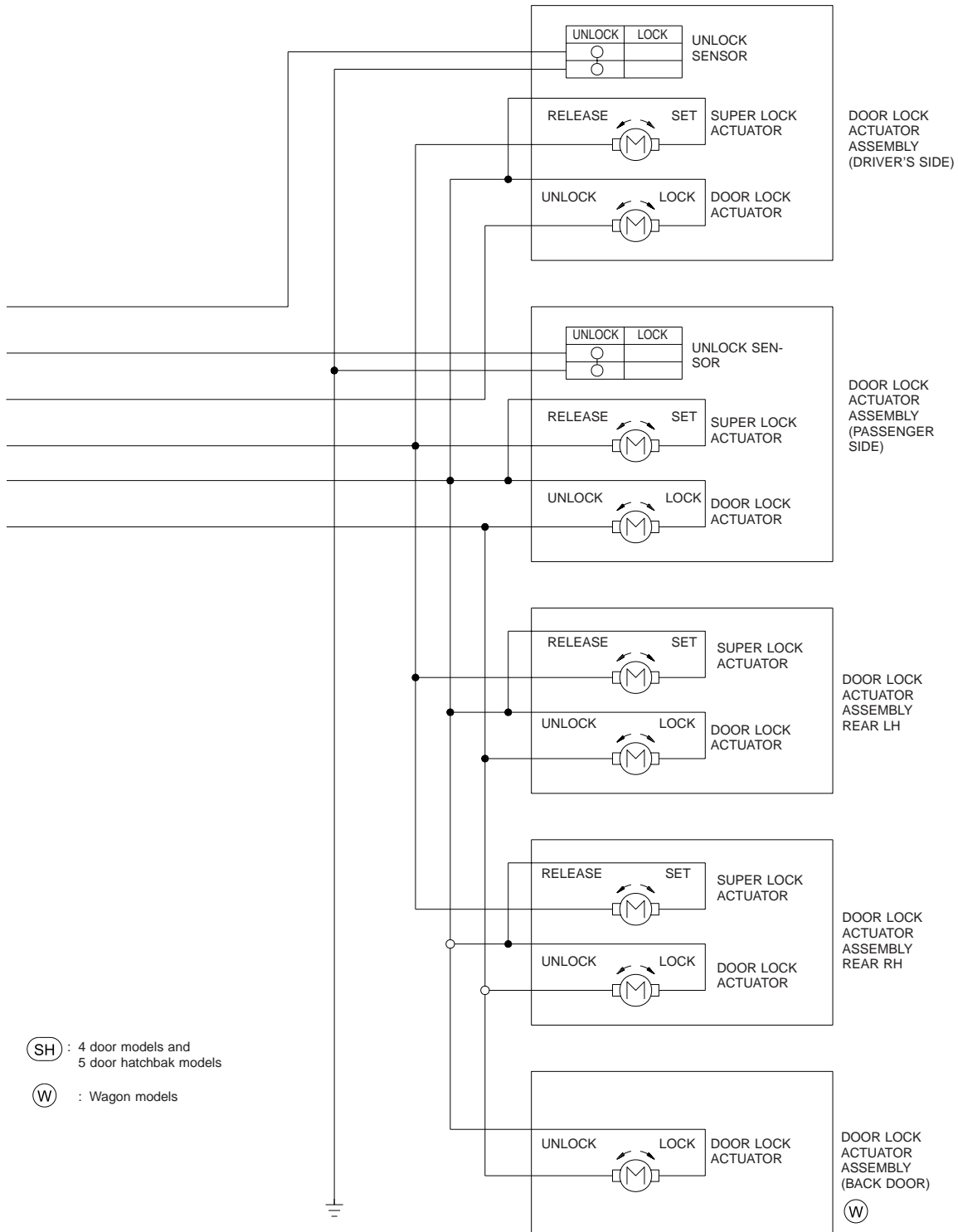
POWER DOOR LOCK — Super Lock —

Schematic



YEL907C

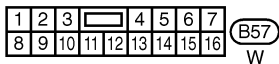
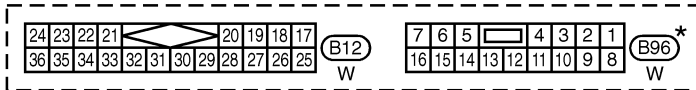
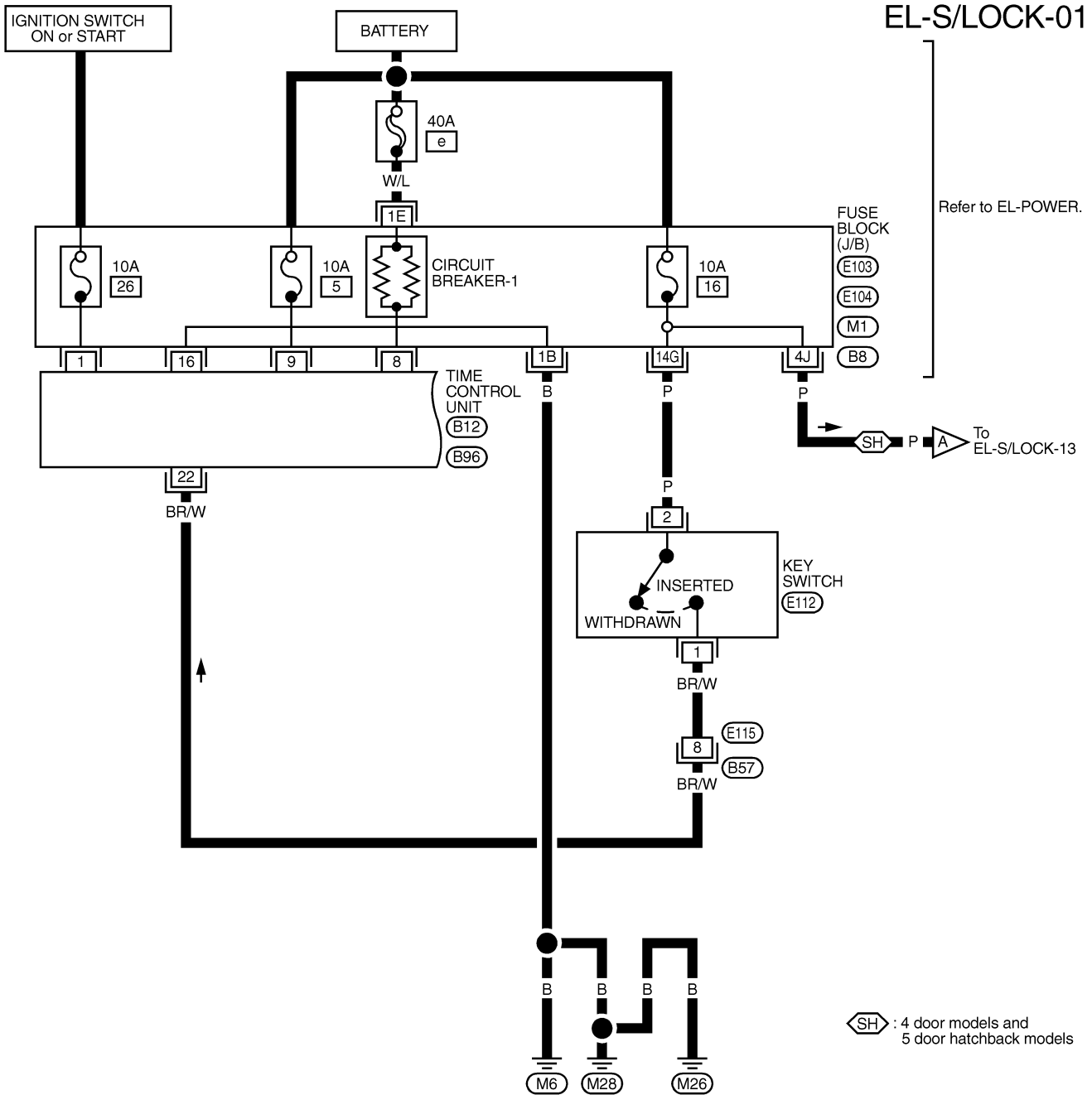
POWER DOOR LOCK — Super Lock — Schematic (Cont'd)



YEL325B

POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK —



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

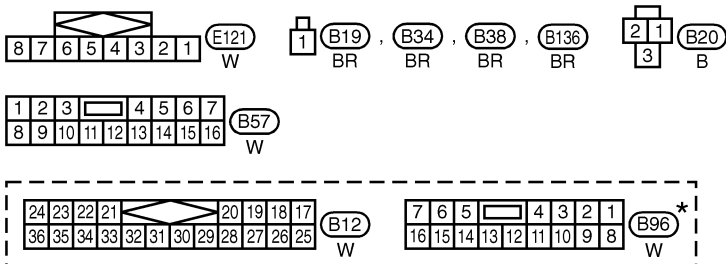
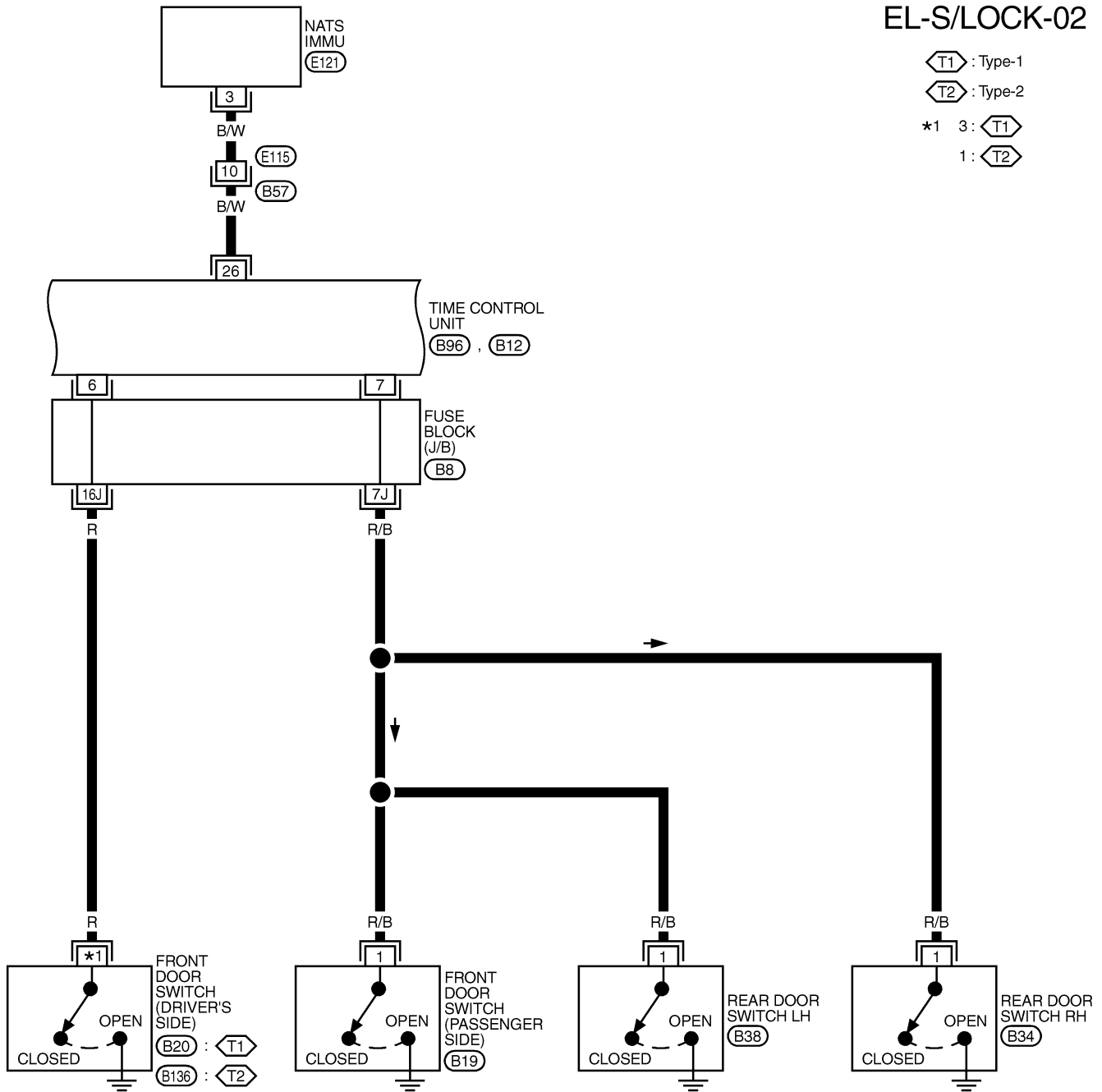
REFER TO THE FOLLOWING
M1 , E103 , E104 , B8
FUSE BLOCK-
JUNCTION BOX (J/B)

POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

EL-S/LOCK-02

- ⬡T1 : Type-1
- ⬡T2 : Type-2
- *1 3: ⬡T1
- 1: ⬡T2



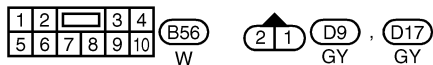
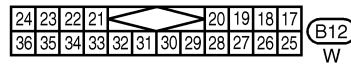
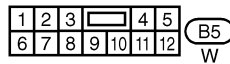
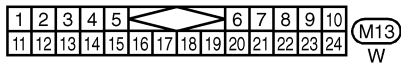
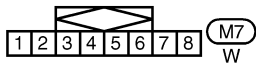
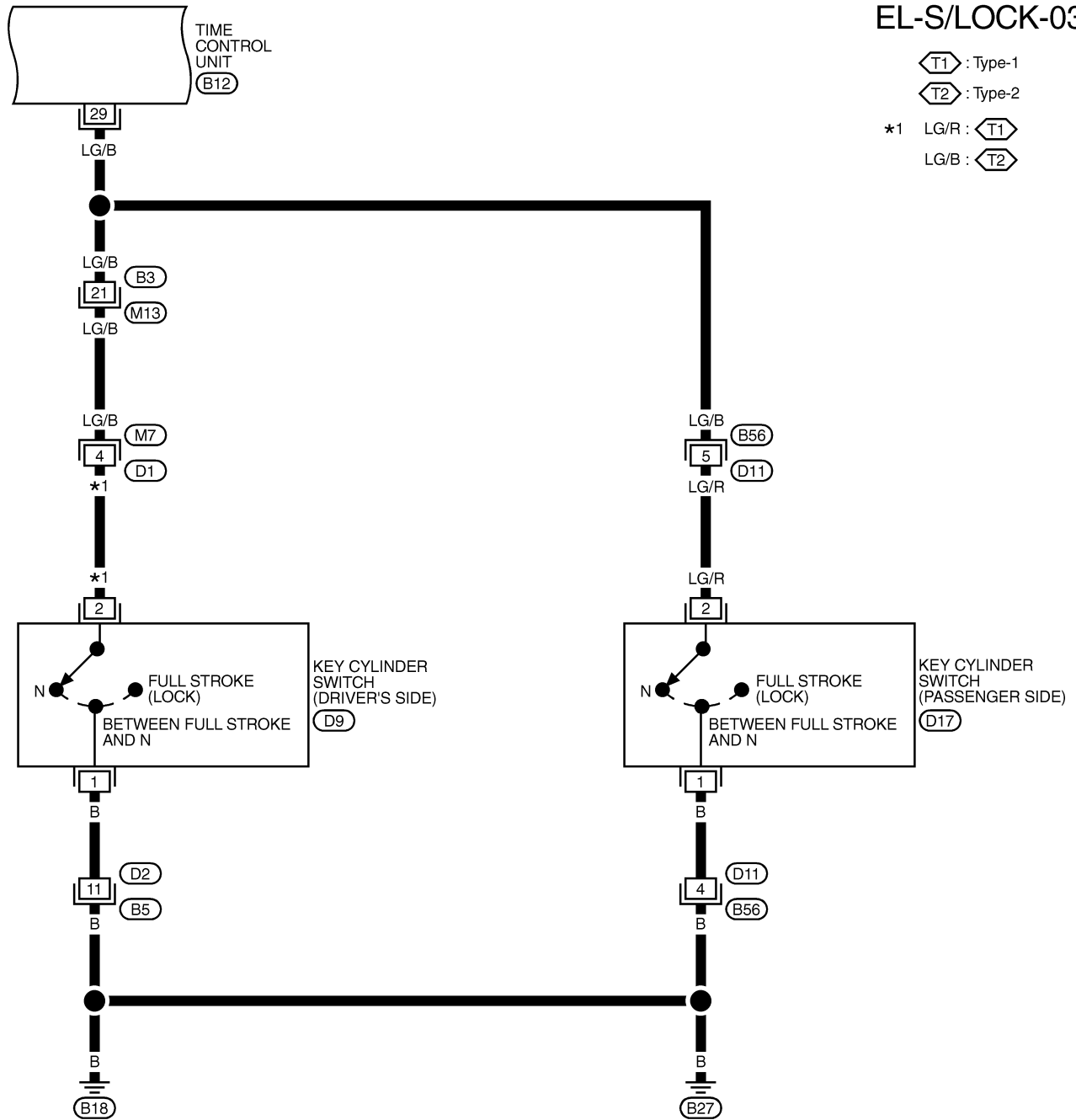
REFER TO THE FOLLOWING
 (B8) FUSE BLOCK-
 JUNCTION BOX (J/B)

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

POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

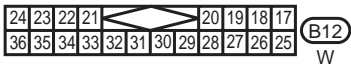
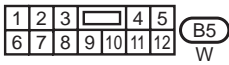
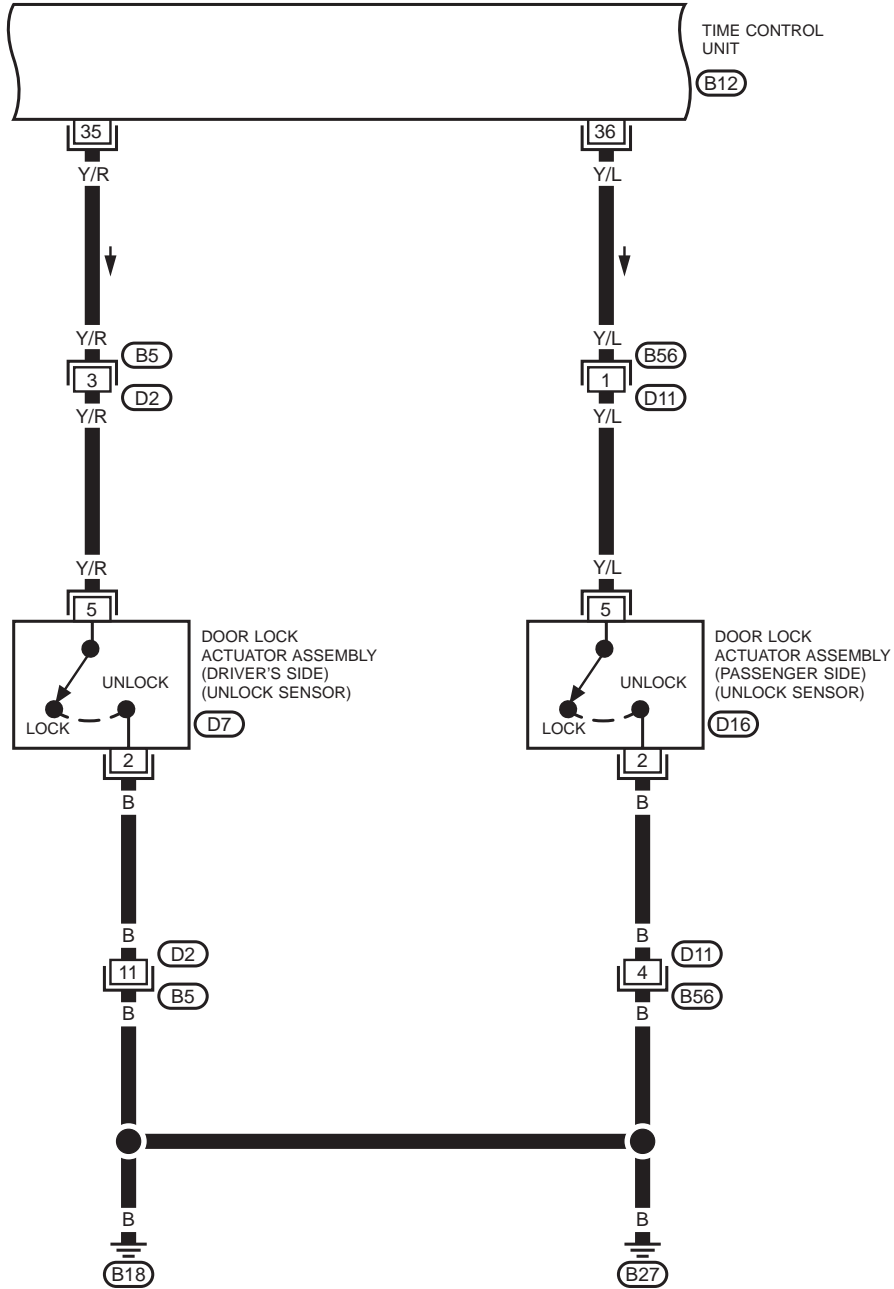
EL-S/LOCK-03



POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

EL-S/LOCK-04



YEL329B

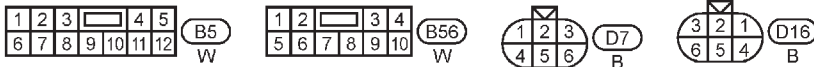
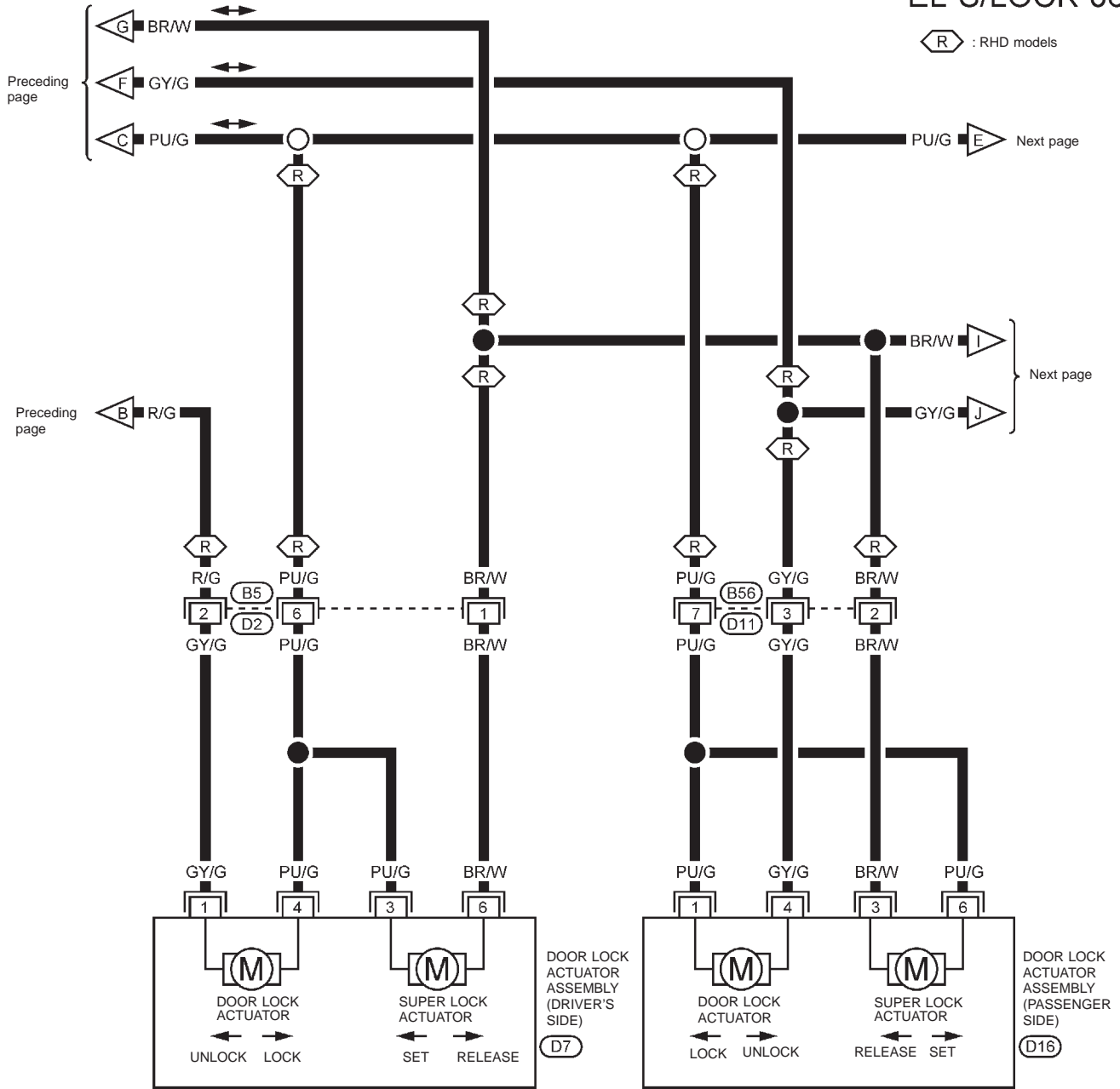
POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

Type-1 for Super Lock Actuator

EL-S/LOCK-06

: RHD models

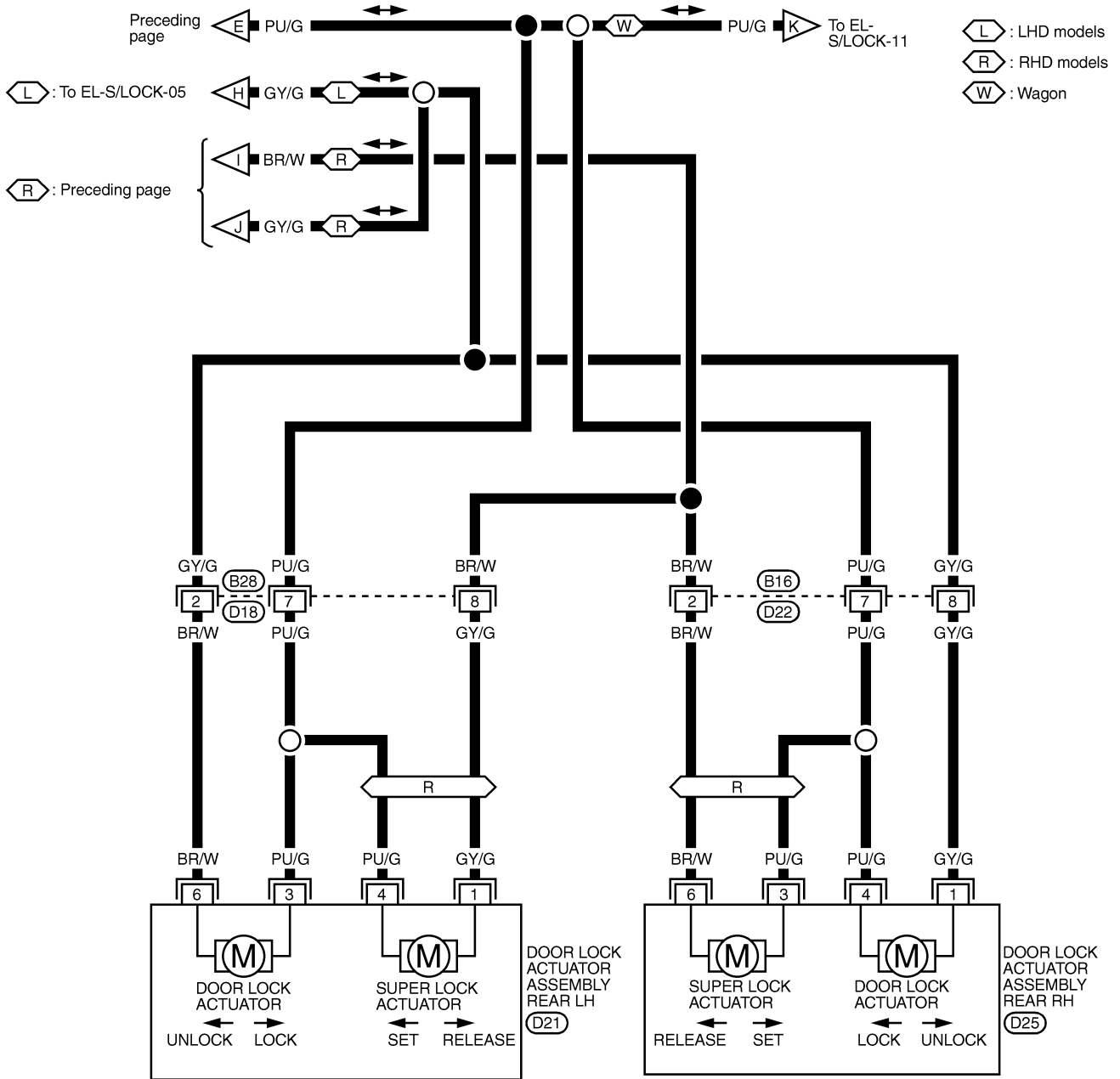


POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

Type-1 for Super Lock Actuator

EL-S/LOCK-07



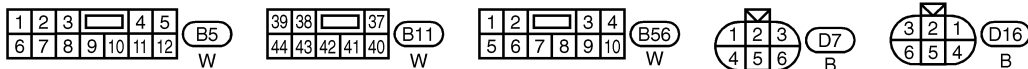
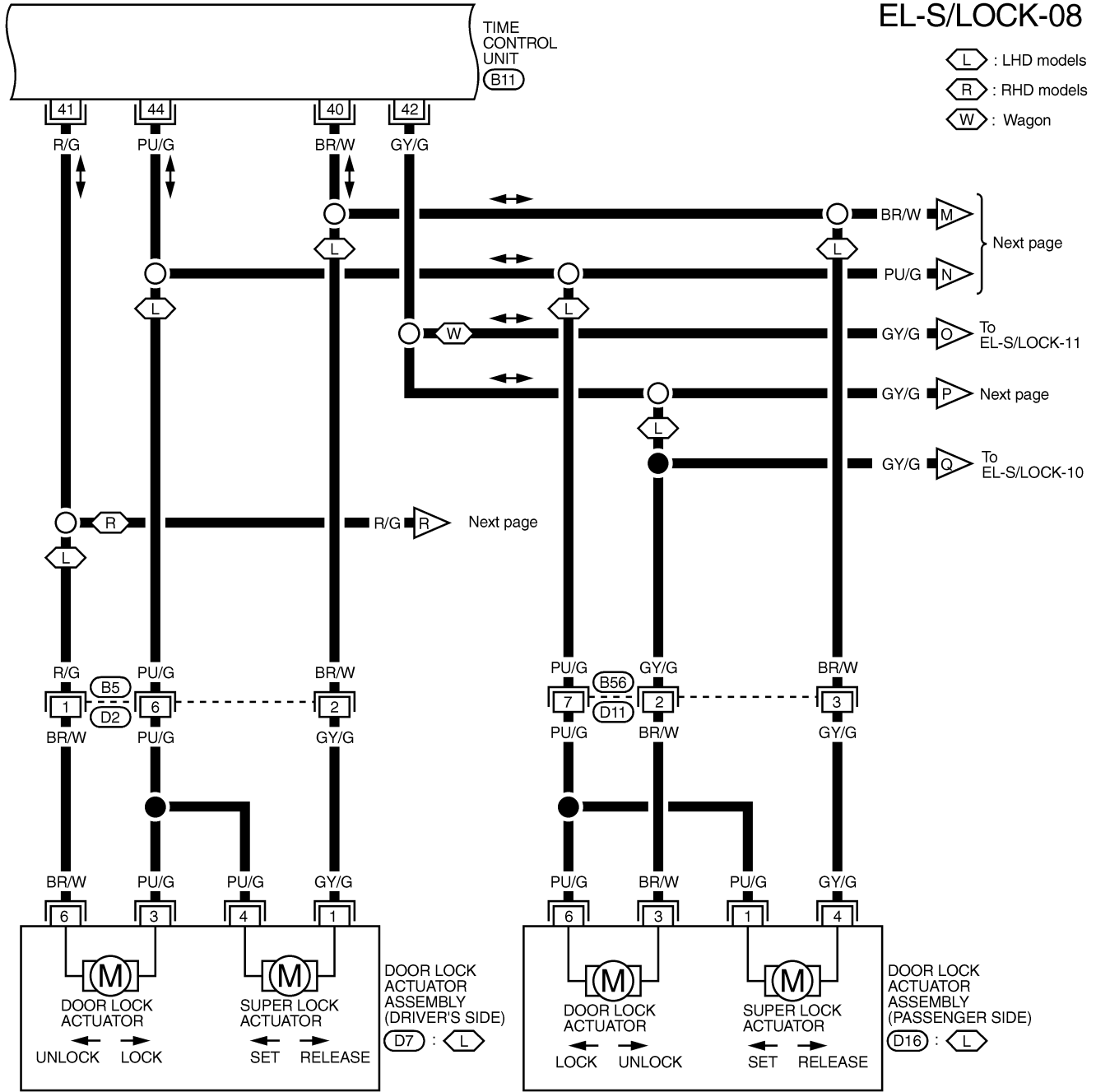
POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

Type-2 for Super Lock Actuator

EL-S/LOCK-08

- L : LHD models
- R : RHD models
- W : Wagon



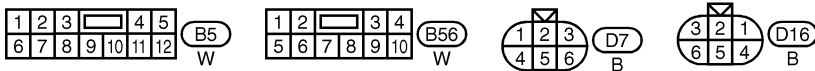
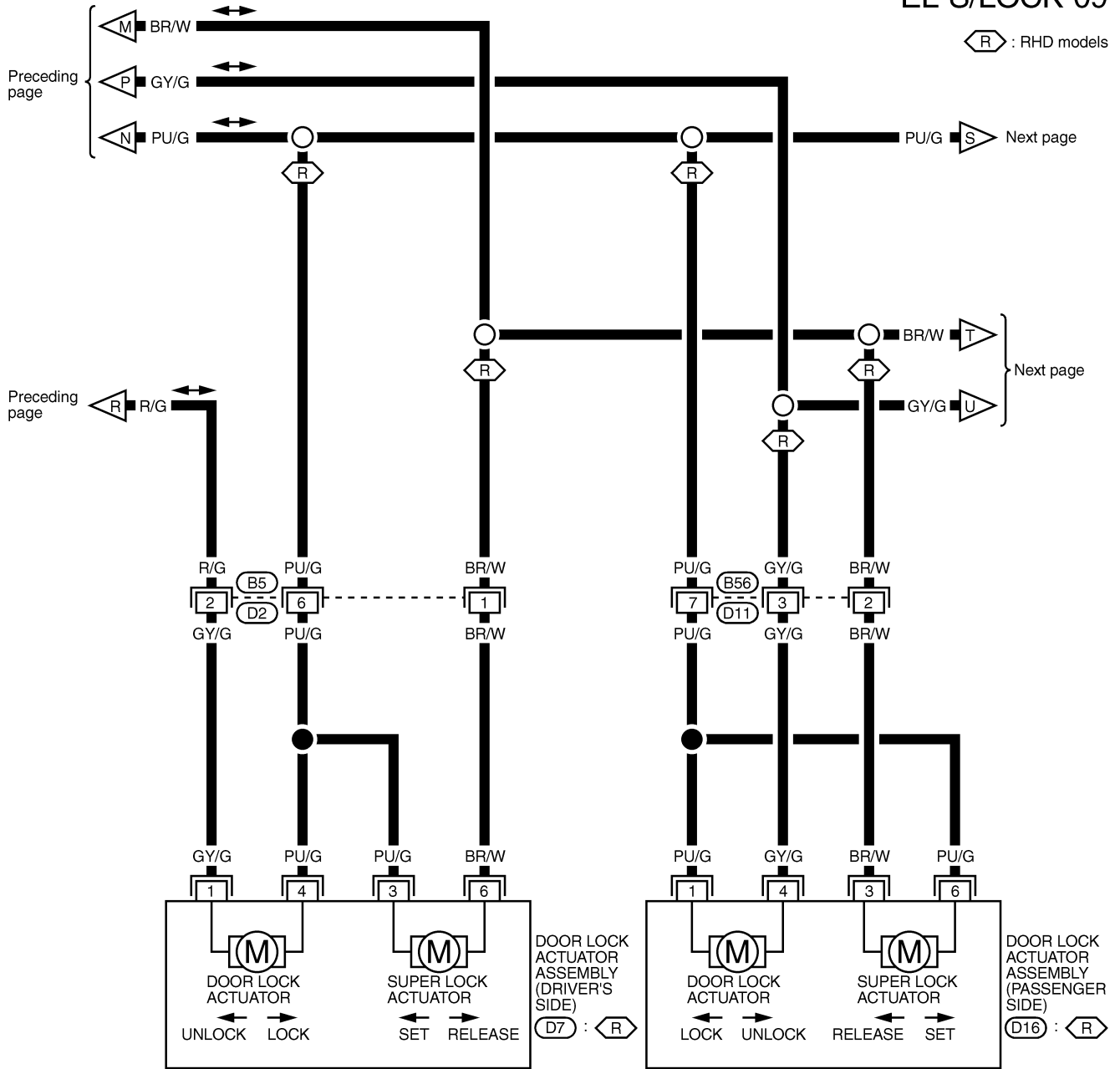
POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

Type-2 for Super Lock Actuator

EL-S/LOCK-09

R : RHD models

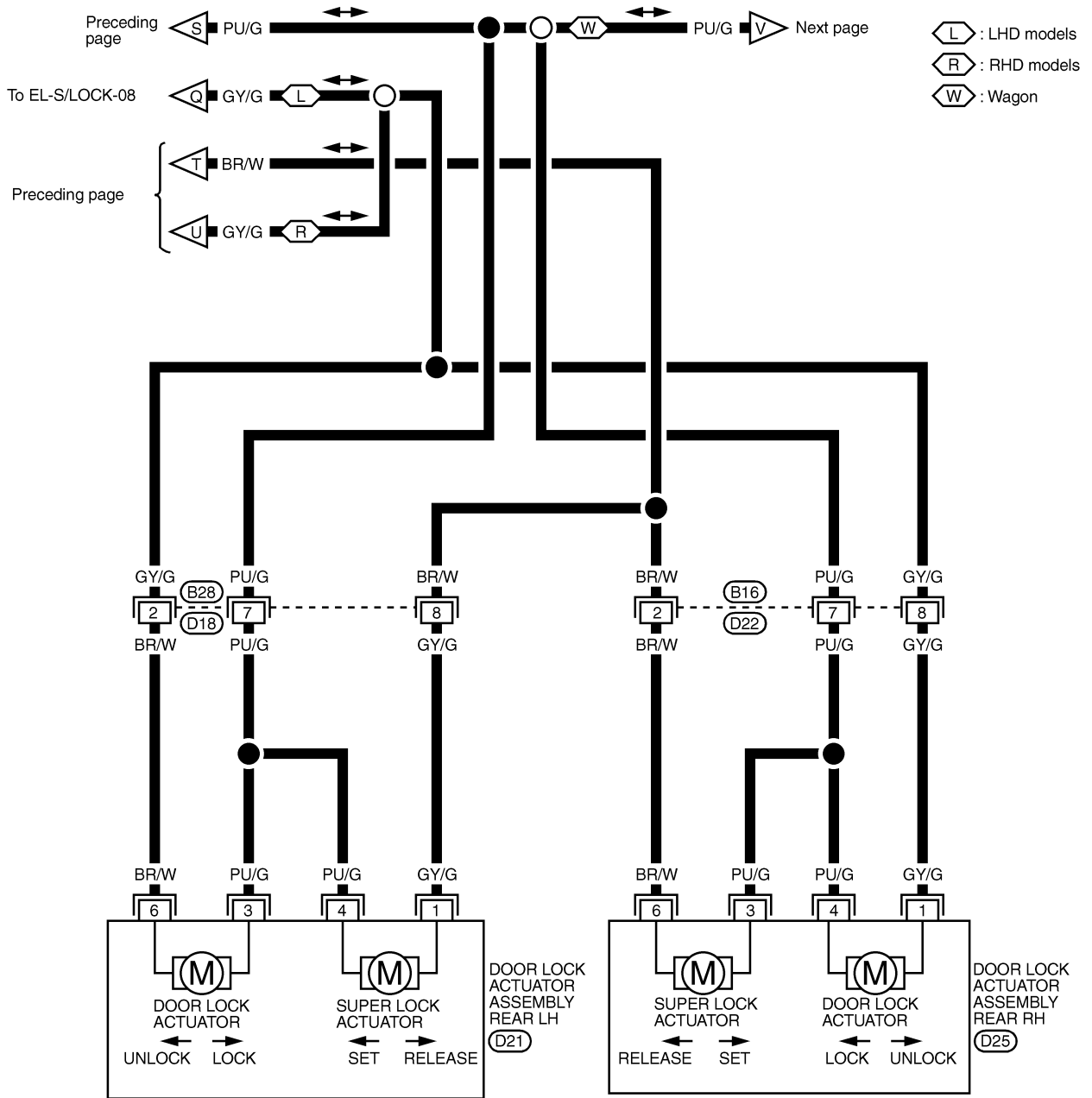


POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

Type-2 for Super Lock Actuator

EL-S/LOCK-10

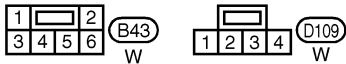
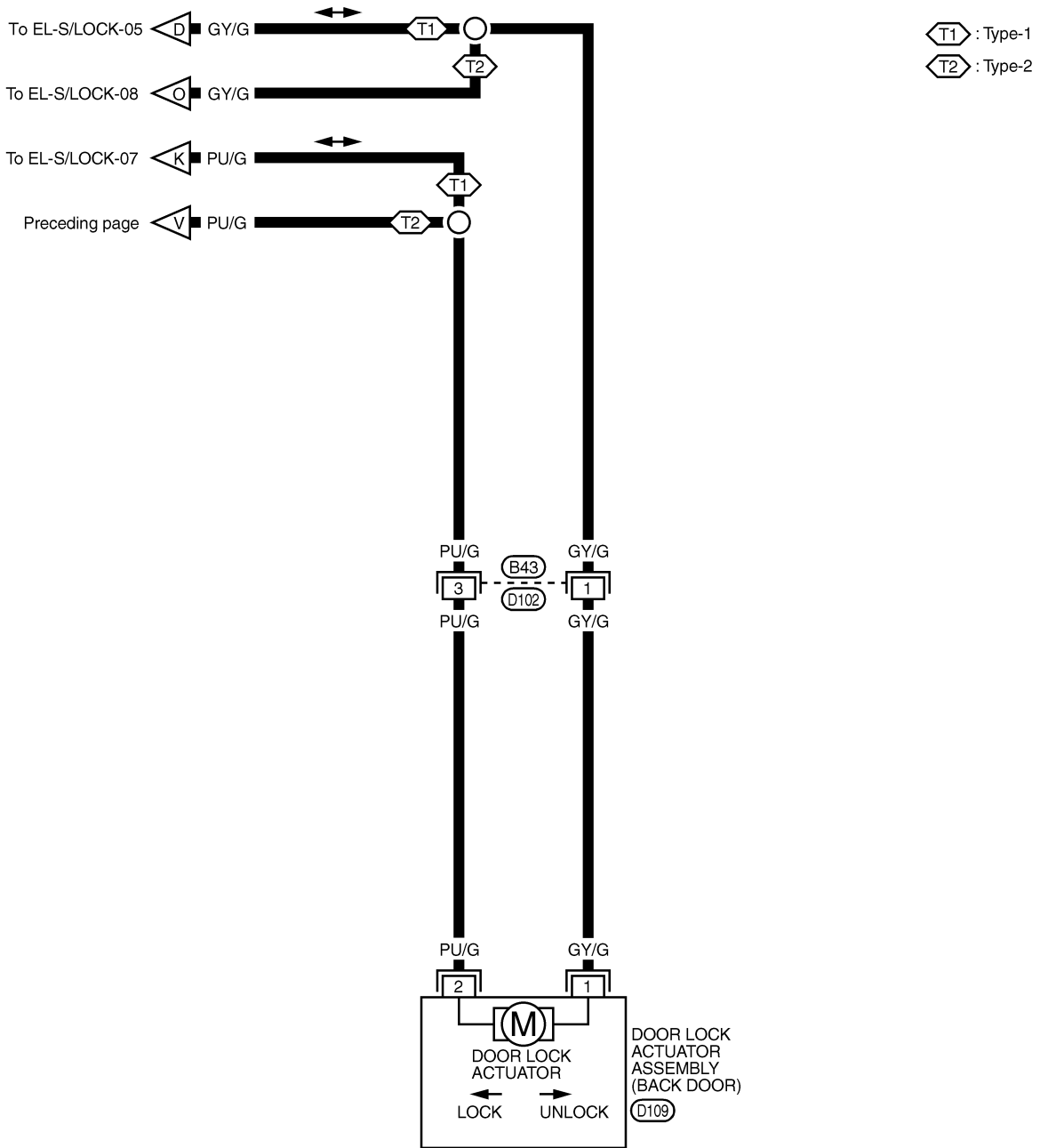


POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)

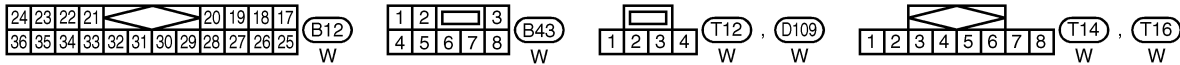
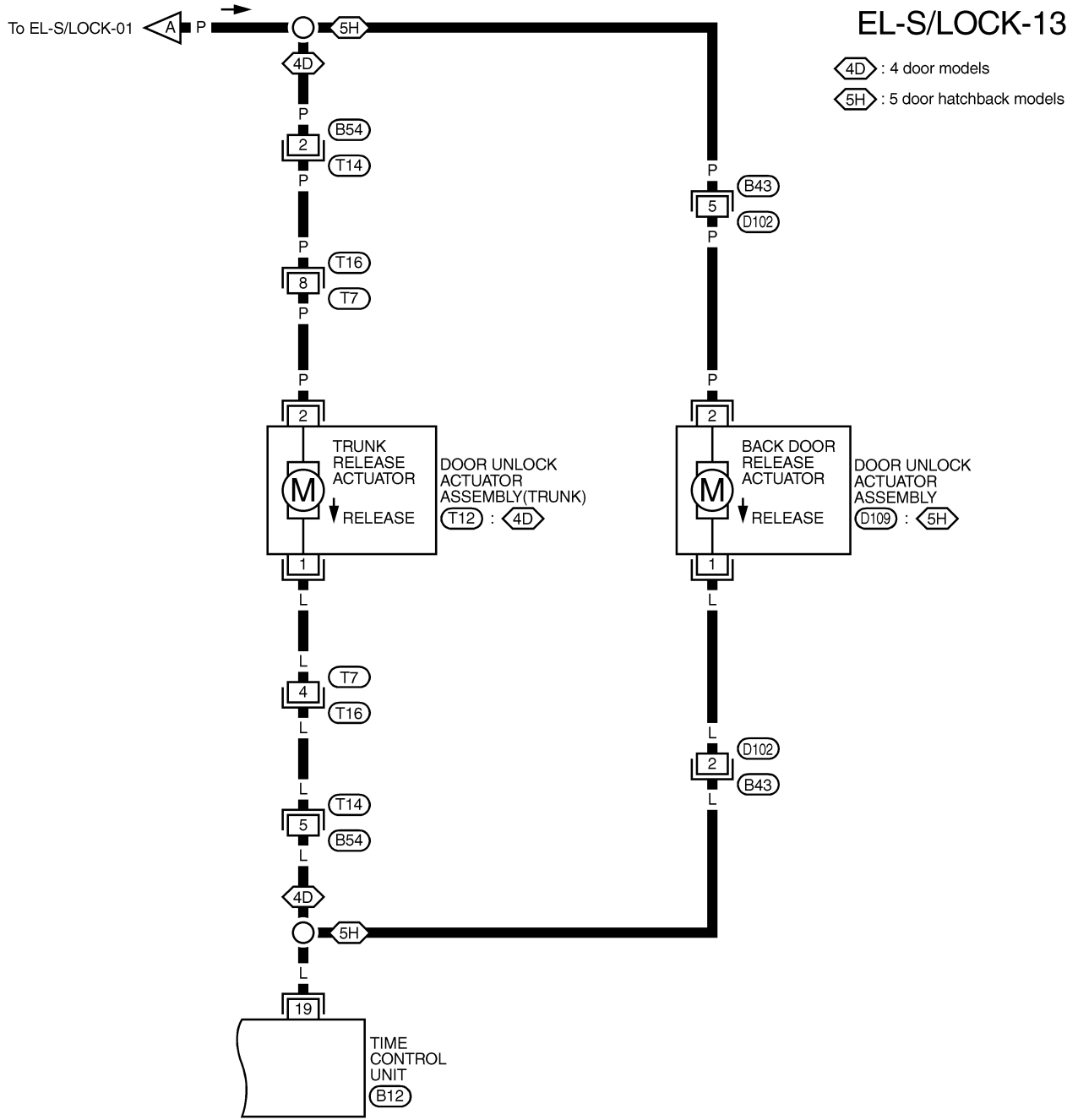
WAGON MODELS

EL-S/LOCK-11



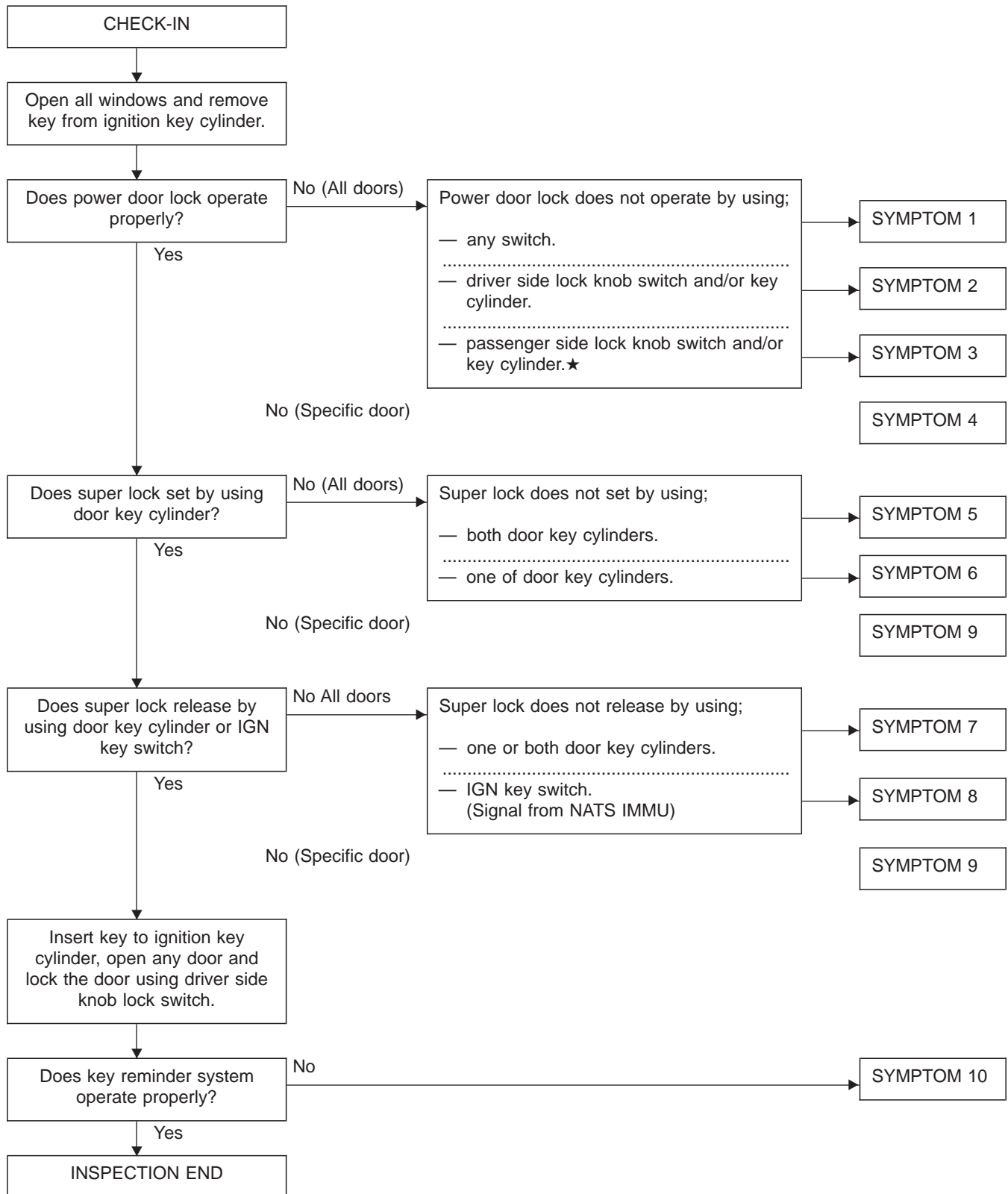
POWER DOOR LOCK — Super Lock —

Wiring Diagram — S/LOCK — (Cont'd)



Trouble Diagnoses

PRELIMINARY CHECK



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

★ When one or more doors are opened, with lock knob on passenger door setting to LOCK, will lock passenger door only. (Power door lock system will not operate.)

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

Before starting trouble diagnoses below, perform preliminary check, EL-283.

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

SYMPTOM CHART

REFERENCE PAGE	EL-285	EL-286	EL-287	EL-288, 289	EL-290, 291	EL-292, 293	EL-294	EL-295	EL-295
SYMPTOM	Power supply and ground circuit check	Procedure 1 (Door unlock sensor check)	Procedure 2 (Door key cylinder switch check)	Procedure 3 (Door lock actuator check)	Procedure 4 (Super lock actuator check)	Procedure 5 (Door switch check)	Procedure 6 (NATS release signal check)	Procedure 7 (Key switch check)	Procedure 8 (Ignition switch "ON" circuit check)
1	Power door lock does not operate using any switch.	X	X	X					
2	Power door lock does not operate with any switch of driver side.		X						
3	Power door lock does not operate with any switch of passenger side.		X			X			
4	Specific door lock acutator does not operate.			X					
5	Super lock cannot be set by both door key cylinders.	X		X	X			X	X
6	Super lock cannot be set by one of door key cylinders.			X					
7	*Super lock cannot be released by one or both door key cylinders.		X						
8	*Super lock cannot be released by ignition key switch. (Signal from NATS IMMU)						X		
9	Specific super lock actuator does not operate.				X				
10	*Key reminder system does not operate.					X		X	

X: Applicable

*: Make sure the power door lock and key reminder system operate properly.

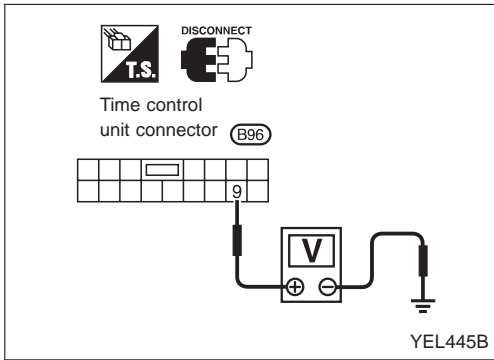
POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

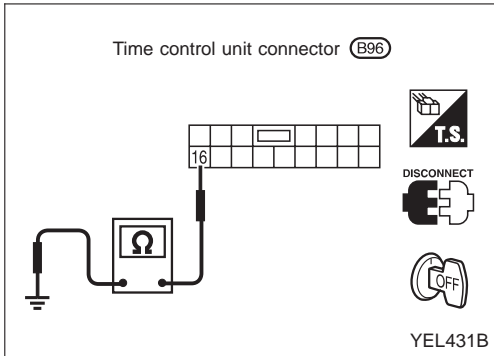
Main power supply circuit check

Terminals		Ignition switch position		
⊕	⊖	LOCK	ACC	ON
⑨	Ground	Battery voltage	Battery voltage	Battery voltage



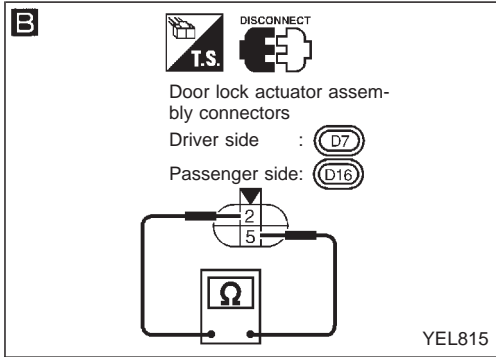
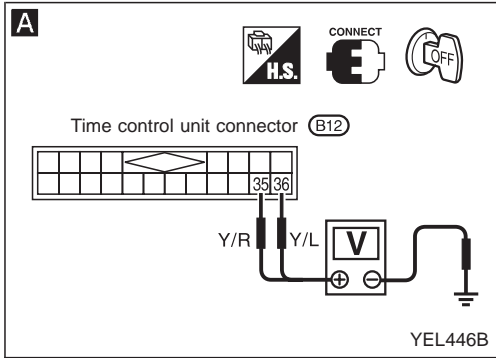
Ground circuit check

Terminals	Continuity
⑩ - Ground	Yes



POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 1 (Door unlock sensor check)



A

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.
Check voltage between time control unit connector terminals (35) or (36) and ground.

	Terminals		Condition	Voltage [V]
	⊕	⊖		
Driver side	(35)	Ground	Locked	Approx. 2 (Approx. 20 sec.)
			Unlocked	0
Passenger side	(36)	Ground	Locked	Approx. 12 (Approx. 20 sec.)
			Unlocked	0

OK → Door unlock sensor is OK.

NG

B

CHECK DOOR UNLOCK SENSOR.
1) Disconnect door unlock sensor connector.
2) Check continuity between door unlock sensor terminals.

Terminals	Condition	Continuity
② - ⑤	Locked	No
	Unlocked	Yes

NG → Replace door lock actuator assembly.

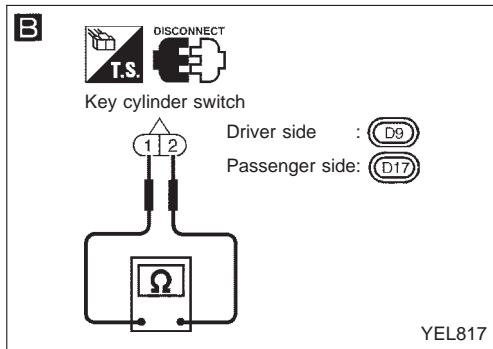
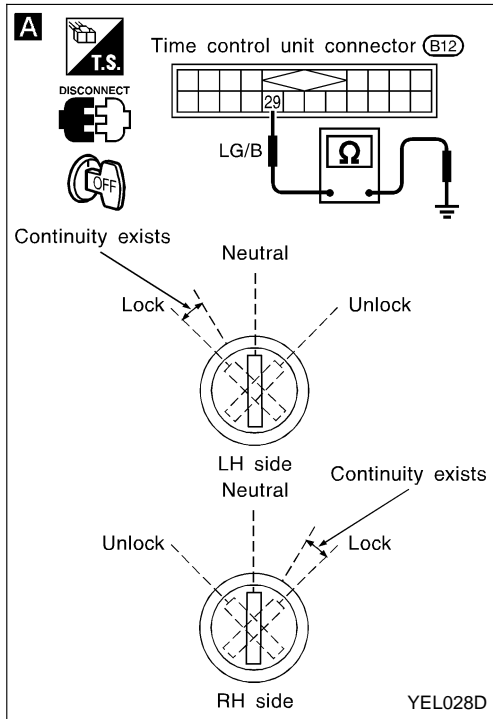
OK

Check the following:

- Door unlock sensor ground circuit.
- Harness for open or short-circuit between control unit and door unlock sensor

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 2 (Door key cylinder switch check)



A

CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK SIGNAL).

Check voltage between time control unit connector terminal (29) and ground.

Key cylinder switch operation	Voltage [V]
Between neutral and lock	0
Unlock/neutral	Approx. 5

OK → Door key cylinder switch is OK.

NG

B

CHECK DOOR KEY CYLINDER SWITCH.

1) Disconnect door key cylinder switch connector.

2) Check continuity between door key cylinder switch terminals.

Terminals	Key position	Continuity
① - ②	Neutral	No
	Between neutral and lock	Yes
	Unlock/neutral	No
	Full stroke (Lock)	No

NG → Replace key cylinder switch.

OK

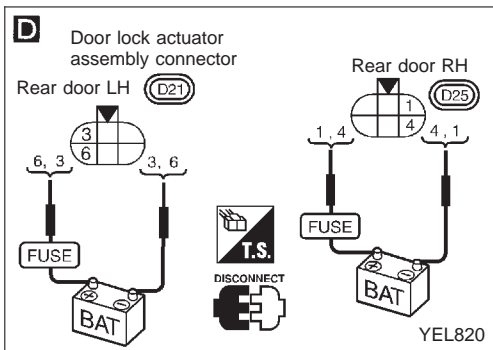
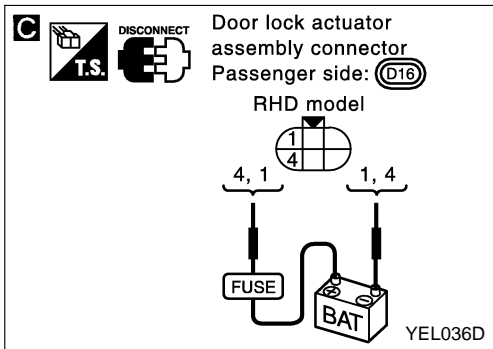
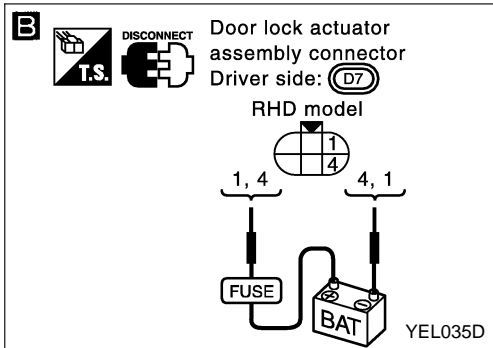
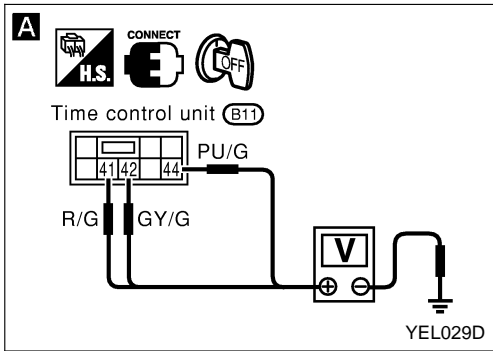
- Check the following:
- Harness connectors (B3), (M13)
 - Harness connectors (M7), (D1)
 - Harness connectors (B5), (D2)
 - Harness connectors (B56), (D11)
 - Door key cylinder switch ground circuit
 - Harness for open or short-circuit between super lock control unit and door key cylinder.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

— Type-1 for Super Lock Actuator — (Door lock actuator check)



A

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

Knob lock switch condition	Terminals		Voltage (V)
	+	-	
Unlock → Lock	④①	Ground	Approx. 12 (Approx. 5 seconds)
	④②	Ground	
Lock → Unlock	④④	Ground	

Before operating passenger side knob lock switch, close all doors.

NG → Door lock actuator is OK.

OK

B C D

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

OK → Check harness between control unit and door lock actuator.

Driver side

Door lock actuator operation	Terminals	
	+	-
Unlocked → Locked	①: (RHD)	④: (RHD)
Locked → Unlocked	④: (RHD)	①: (RHD)

Passenger side

Door lock actuator operation	Terminals	
	+	-
Unlocked → Locked	④: (RHD)	①: (RHD)
Locked → Unlocked	①: (RHD)	④: (RHD)

Rear door

Door lock actuator operation	Terminals	
	+	-
Unlocked → Locked	⑥: (LHD) ①: (RHD)	③: (LHD) ④: (RHD)
Locked → Unlocked	③: (LHD) ④: (RHD)	⑥: (LHD) ①: (RHD)

NG

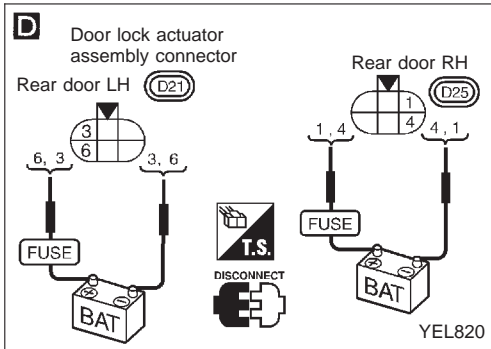
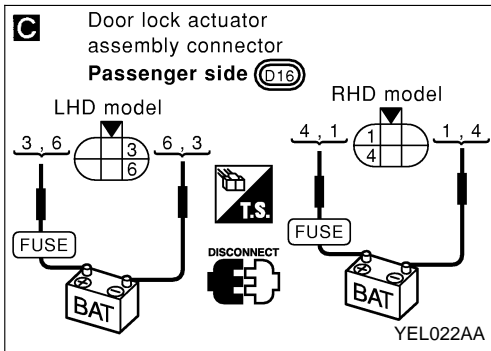
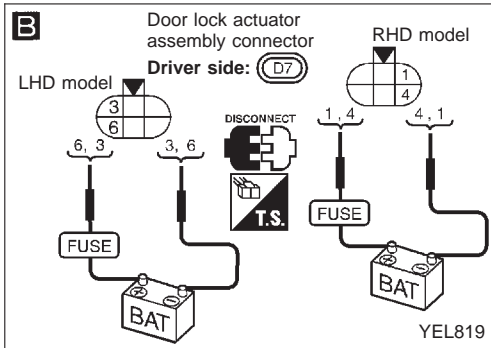
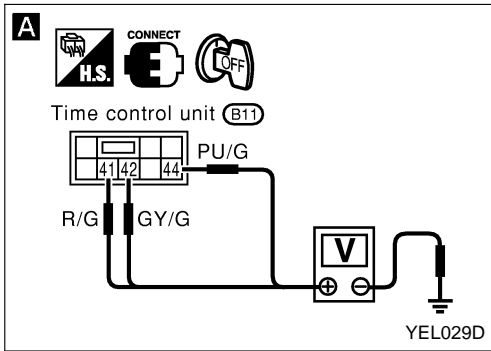
Replace door lock actuator assembly.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

— Type-2 for Super Lock Actuator — (Door lock actuator check)



A

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

NG → Door lock actuator is OK.

Knob lock switch condition	Terminals		Voltage (V)
	⊕	⊖	
Unlock → Lock	④①	Ground	Approx. 12 (Approx. 5 seconds)
	④②	Ground	
Lock → Unlock	④④	Ground	

Before operating passenger side knob lock switch, close all doors.

OK

B C D

CHECK DOOR LOCK ACTUATOR.

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

OK → Check harness between control unit and door lock actuator.

Driver side

Door lock actuator operation	Terminals	
	⊕	⊖
Unlocked → Locked	⑥ : (LHD) ① : (RHD)	③ : (LHD) ④ : (RHD)
	③ : (LHD) ④ : (RHD)	⑥ : (LHD) ① : (RHD)

Passenger side

Door lock actuator operation	Terminals	
	⊕	⊖
Unlocked → Locked	③ : (LHD) ④ : (RHD)	⑥ : (LHD) ① : (RHD)
	⑥ : (LHD) ① : (RHD)	③ : (LHD) ④ : (RHD)

Rear door

Door lock actuator operation	Terminals	
	⊕	⊖
Unlocked → Locked	⑥ : (LHD) ① : (RHD)	③ : (LHD) ④ : (RHD)
	③ : (LHD) ④ : (RHD)	⑥ : (LHD) ① : (RHD)

NG

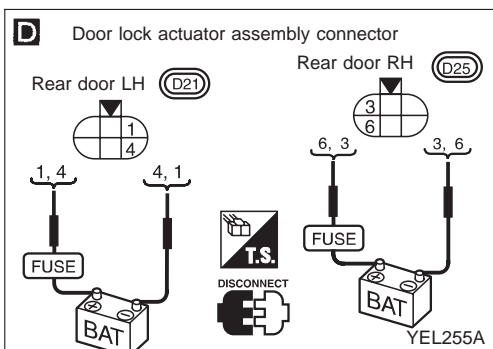
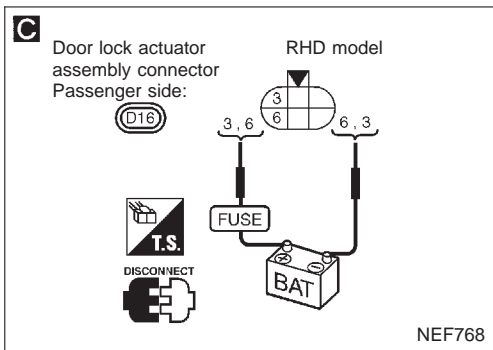
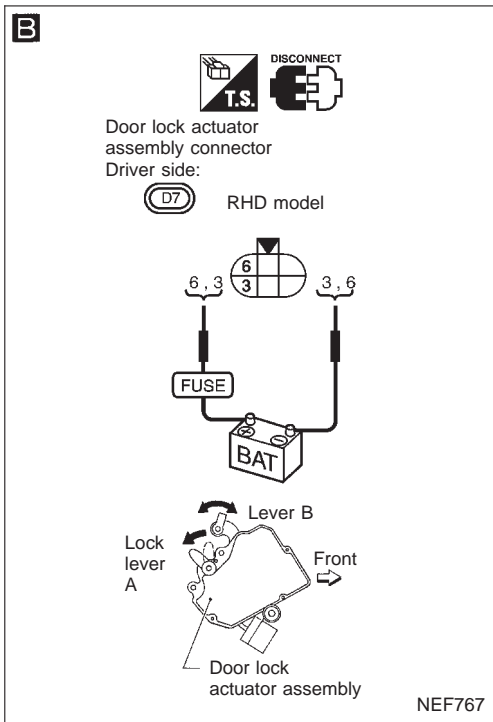
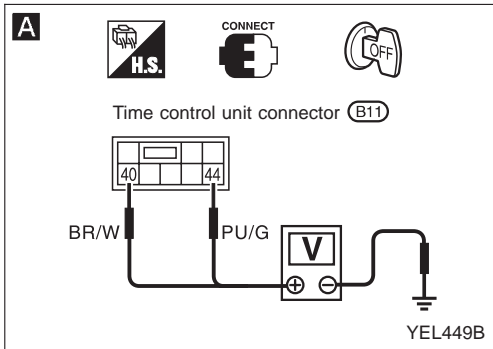
Replace door lock actuator assembly.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

— Type-1 for Super Lock Actuator — (Super lock actuator check)



A

CHECK SUPER LOCK ACTUATOR CIRCUIT.
Check voltage for super lock actuator.

NG → Super lock actuator is OK.

Door key cylinder switch condition	Terminals		Voltage (V)
	⊕	⊖	
Lock (Set)	⓪	Ground	Approx. 12
Unlock (Released)	⓫	Ground	

Note:
Put the system in set condition before checking release signal.

OK

B C D

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.

OK → Check harness between control unit and door lock actuator assembly.

Driver side

Super lock actuator operation	Terminals		Connection from lever A to lever B
	⊕	⊖	
Released → Set	⓪ : (RHD)	⓫ : (RHD)	Disconnect
Set → Released	⓫ : (RHD)	⓪ : (RHD)	Connect

Passenger side

Super lock actuator operation	Terminals		Connection from lever A to lever B
	⊕	⊖	
Released → Set	⓫ : (RHD)	⓪ : (RHD)	Disconnect
Set → Released	⓪ : (RHD)	⓫ : (RHD)	Connect

Rear door

Super lock actuator operation	Terminals		Connection from lever A to lever B
	⊕	⊖	
Released → Set	⓫ : (RH) ⓪ : (LH)	⓪ : (RH) ⓫ : (LH)	Disconnect
Set → Released	⓪ : (RH) ⓫ : (LH)	⓫ : (RH) ⓪ : (LH)	Connect

NG

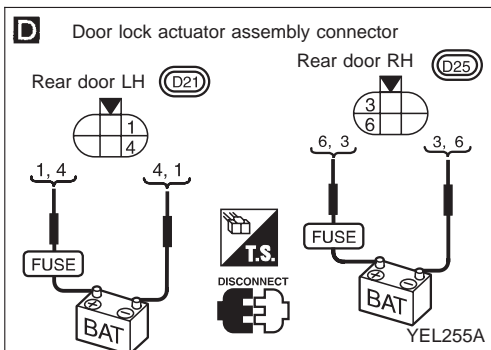
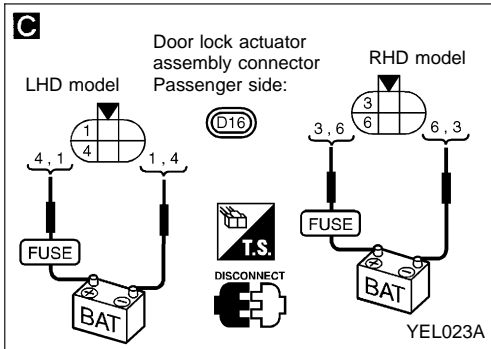
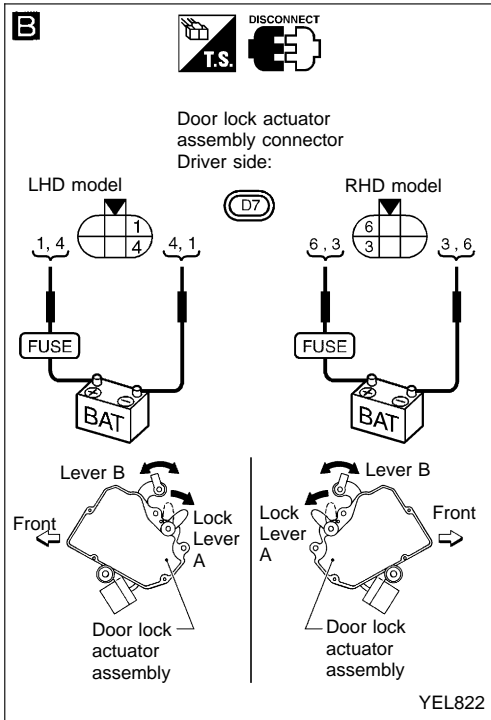
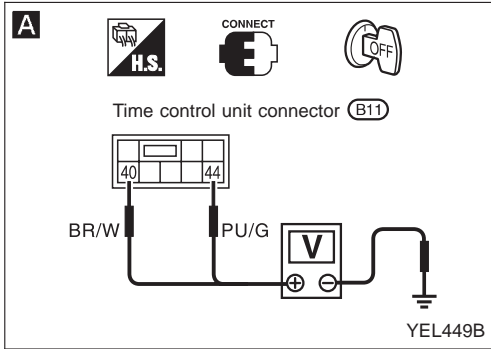
Replace door lock actuator assembly.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

— Type-2 for Super Lock Actuator — (Super lock actuator check)



A

CHECK SUPER LOCK ACTUATOR CIRCUIT.
Check voltage for super lock actuator.

NG → Super lock actuator is OK.

Door key cylinder switch condition	Terminals		Voltage (V)
	+	-	
Lock (Set)	④⑩	Ground	Approx. 12
Unlock (Released)	④④	Ground	

Note:
Put the system in set condition before checking release signal.

B C D

OK

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.

OK → Check harness between control unit and door lock actuator assembly.

Driver side

Super lock actuator operation	Terminals		Connection from lever A to lever B
	+	-	
Released → Set	① : (LHD) ⑥ : (RHD)	④ : (LHD) ③ : (RHD)	Disconnect
Set → Released	④ : (LHD) ③ : (RHD)	① : (LHD) ⑥ : (RHD)	Connect

Passenger side

Super lock actuator operation	Terminals		Connection from lever A to lever B
	+	-	
Released → Set	④ : (LHD) ③ : (RHD)	① : (LHD) ⑥ : (RHD)	Disconnect
Set → Released	① : (LHD) ⑥ : (RHD)	④ : (LHD) ③ : (RHD)	Connect

Rear door

Super lock actuator operation	Terminals		Connection from lever A to lever B
	+	-	
Released → Set	① : (LH) ⑥ : (RH)	④ : (LH) ③ : (RH)	Disconnect
Set → Released	④ : (LH) ③ : (RH)	① : (LH) ⑥ : (RH)	Connect

NG

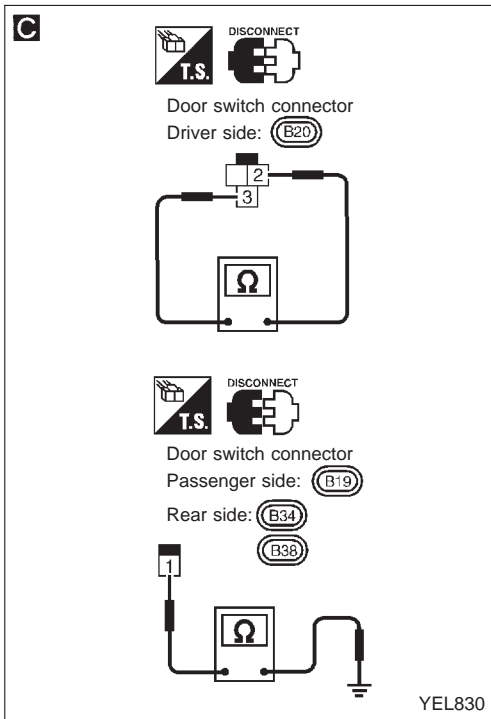
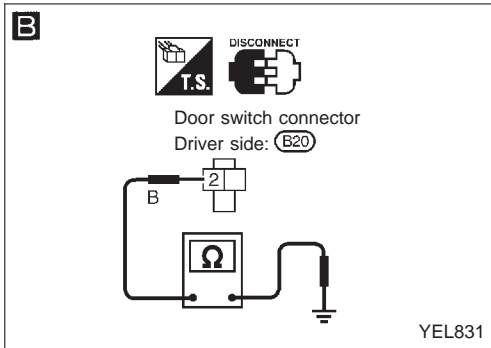
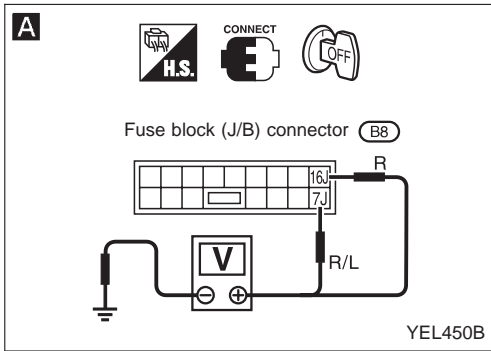
Replace door lock actuator assembly.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

— With driver door switch type-1 — (Door switch check)



A

OK → Door switch is OK.

A

CHECK DOOR SWITCH INPUT SIGNAL.
Check voltage between fuse block (J/B) and ground.

	Terminals	Condition	Voltage [V]
Driver side door	(16J)	Opened	0
		Closed	Approx. 12
Other door	(7J)	Opened	0
		Closed	Approx. 12

NG

B

NG → Repair harness or connector.

B

CHECK GROUND CIRCUIT.
1) Disconnect driver side door switch connector.
2) Check harness continuity between terminal ② and ground.
Continuity should exist.

OK

C

NG → Replace door switch.

C

CHECK DOOR SWITCH.
1) Disconnect door switch connector.
2) Check continuity between door switch terminals.

	Terminals	Condition	Continuity
Driver side door switch	② - ③	Closed	No
		Open	Yes
Other door switches	① - ground	Closed	No
		Open	Yes

OK

Check the following.

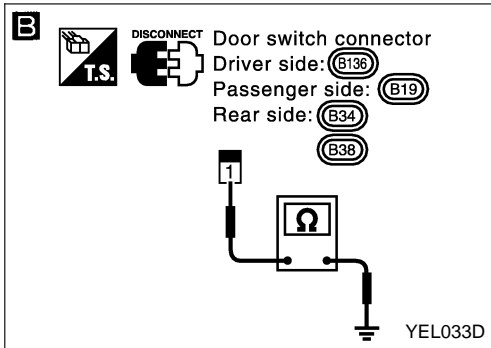
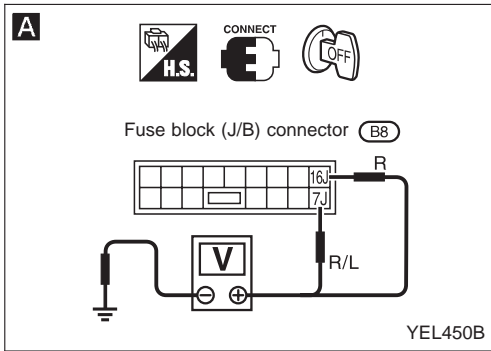
- Door switch ground condition (Except driver side)
- Harness for open or short between control unit and door switch

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

— With driver door switch type-2 — (Door switch check)



A

CHECK DOOR SWITCH INPUT SIGNAL.

Check voltage between fuse block (J/B) and ground.

OK → Door switch is OK.

	Terminals	Condition	Voltage [V]
Driver side door	(16J)	Opened	0
		Closed	Approx. 12
Other door	(7J)	Opened	0
		Closed	Approx. 12

NG

B

CHECK DOOR SWITCH.

1) Disconnect door switch connector.

2) Check continuity between door switch terminals.

NG → Replace door switch.

Terminals	Condition	Continuity
① - ground	Closed	No
	Open	Yes

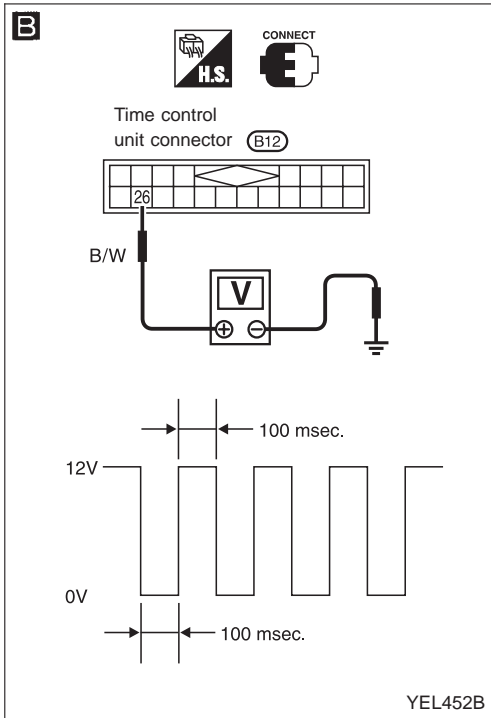
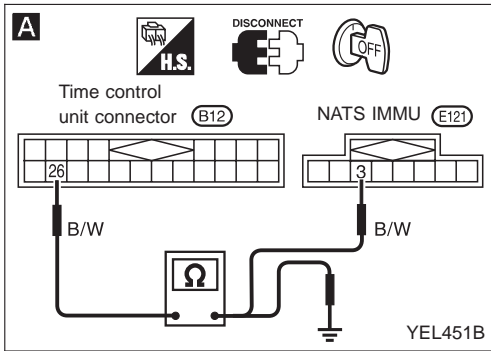
OK

Check the following.

- Door switch ground condition
- Harness for open or short between control unit and door switch

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 6 (NATS release signal check)



Does engine start properly? No → Check NATS system.

Yes ↓

A CHECK NATS SIGNAL CIRCUIT. NG → Repair harness.

- 1) Disconnect control unit connector and NATS IMMU connector.
- 2) Check continuity between control unit terminal ②⑥ and NATS IMMU terminal ③. **Continuity should exist.**
- 3) Check continuity between control unit terminal ②⑥ and ground. **Continuity should not exist.**

OK ↓

B CHECK NATS RELEASE SIGNAL. NG → Check NATS system.

- 1) Connect control unit connector and NATS IMMU connector.
- 2) Check voltage between control unit terminal ②⑥ and ground.

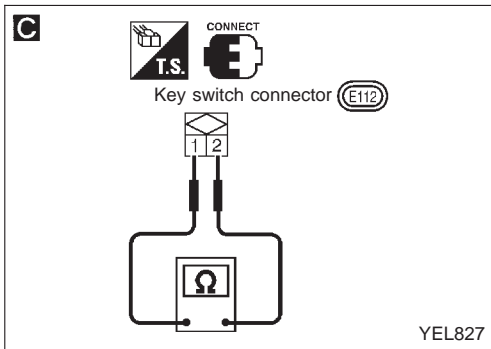
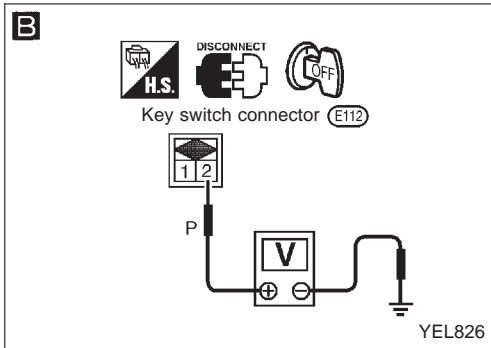
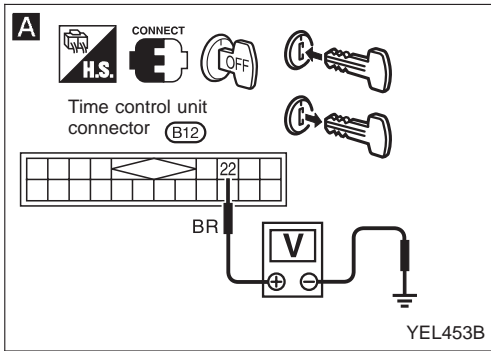
Ignition switch condition	Voltage [V]
LOCK	12
More than 10 seconds after ignition switch turned to "ON" position	
For 10 seconds after ignition switch turned to "ON" position	Pulse

OK ↓

Replace super lock control unit.

POWER DOOR LOCK — Super Lock —

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 7 (Key switch check)



A

CHECK IGNITION KEY SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ② and ground.

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

OK → Key switch is OK.

B

CHECK KEY SWITCH POWER SUPPLY.
Check voltage between key switch harness terminal ② and ground.
Battery voltage should exist.

NG → Check the following.

- 10A fuse [No. 16], located in fuse block (J/B)]
- Harness for open or short between key switch and fuse

OK →

C

CHECK KEY SWITCH.

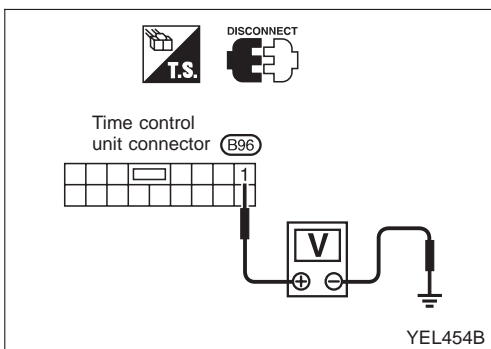
- 1) Disconnect key switch connector.
- 2) Check continuity between key switch terminals.

Terminals	Condition	Continuity
① - ②	Key is inserted.	Yes
	Key is withdrawn.	No

NG → Replace key switch.

OK →

Check harness for open or short between control unit and key switch.



DIAGNOSTIC PROCEDURE 8 (Ignition switch “ON” circuit check)

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
①	Ground	0V	0V	Battery voltage

If NG, check the following.

- 10A fuse [No. 26], located in the fuse block (J/B)]
- Harness for open or short

System Description

The multi-remote control system controls operation of the

- power door lock (and super lock)

OPERATED PROCEDURE

Power door lock operation

When the following input signals are both supplied:

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

The two above signals are already input into time control unit. At this point, time control unit receives a LOCK signal from remote controller. Time control unit locks all doors and set super lock with input of LOCK signal from remote controller.

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

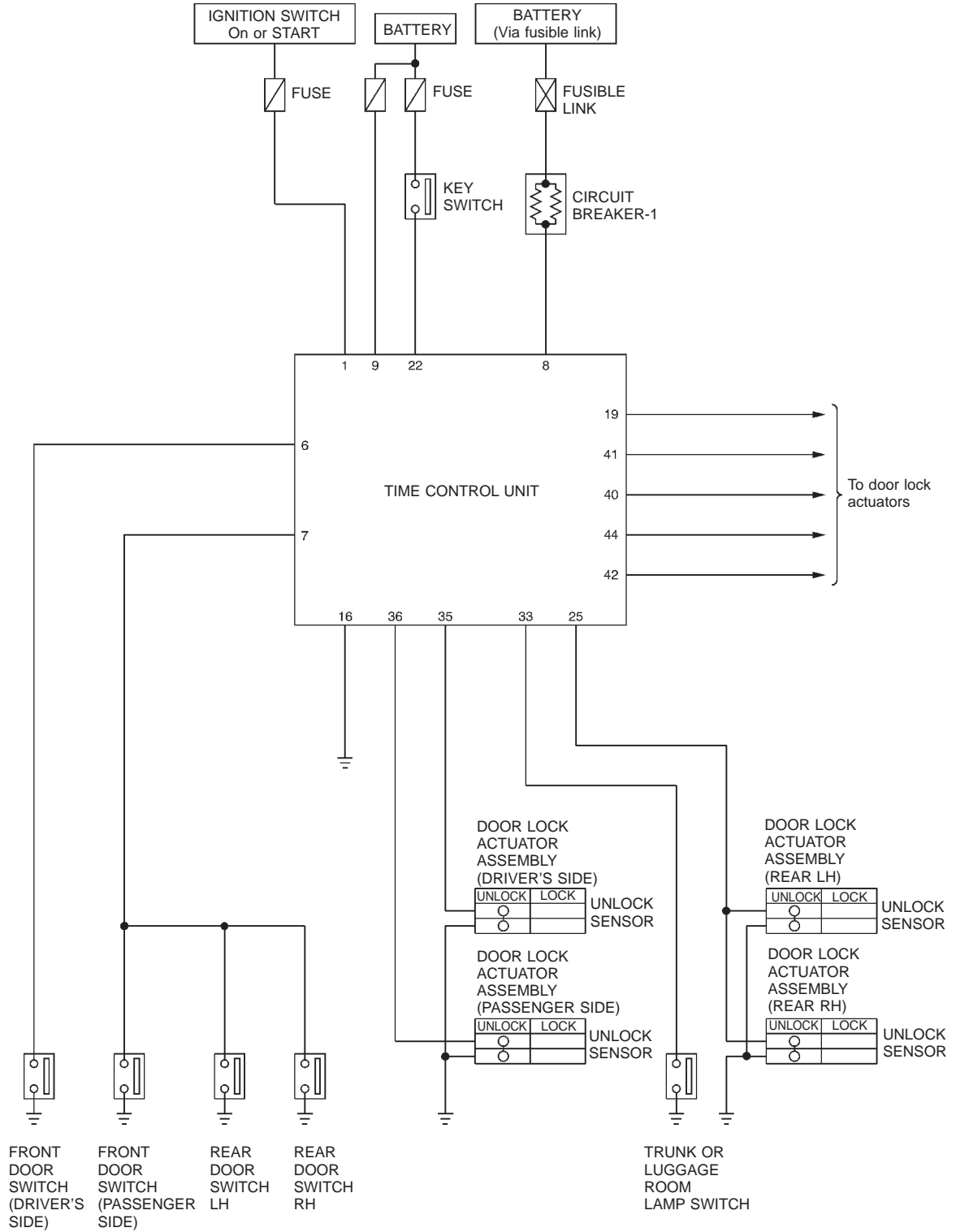
Then, if an UNLOCK signal is sent from remote controller again, all other door will be unlocked.

Multi-remote controller ID code entry

For detailed procedure, refer to "ID Code Entry Procedure" in EL-305.

MULTI-REMOTE CONTROL SYSTEM

Schematic

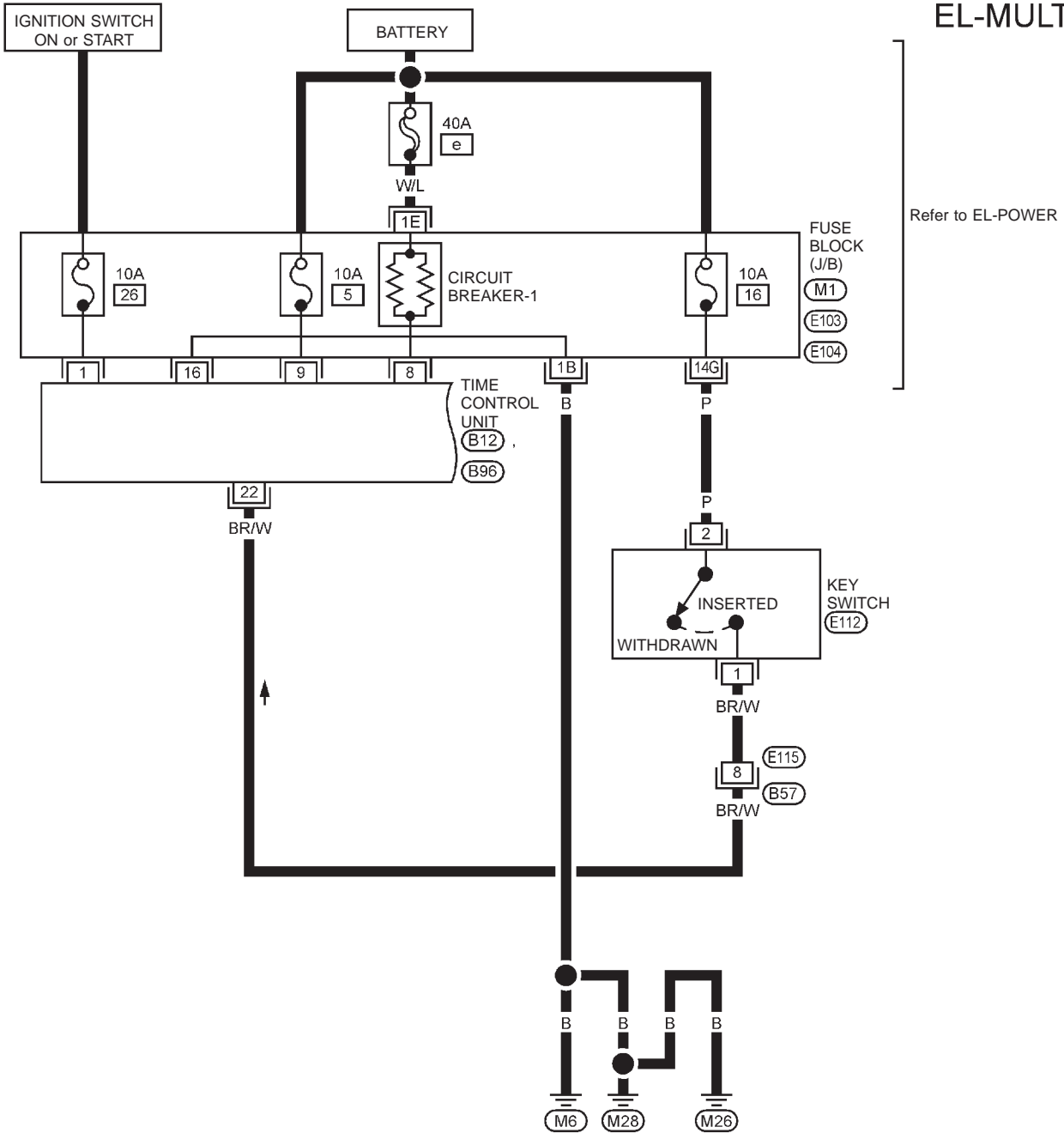


YEL206C

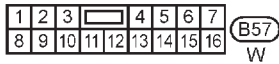
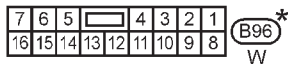
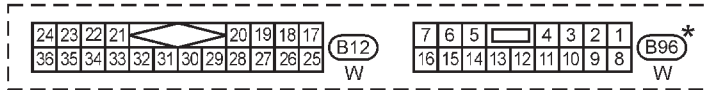
MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI —

EL-MULTI-01



Refer to EL-POWER



REFER TO THE FOLLOWING

(M1) FUSE BLOCK - Junction Box (J/B)

(E103) FUSE BLOCK - Junction Box (J/B)

(E104) FUSE BLOCK - Junction Box (J/B)





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

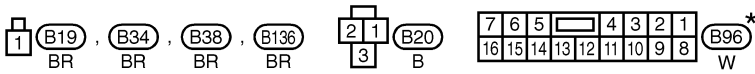
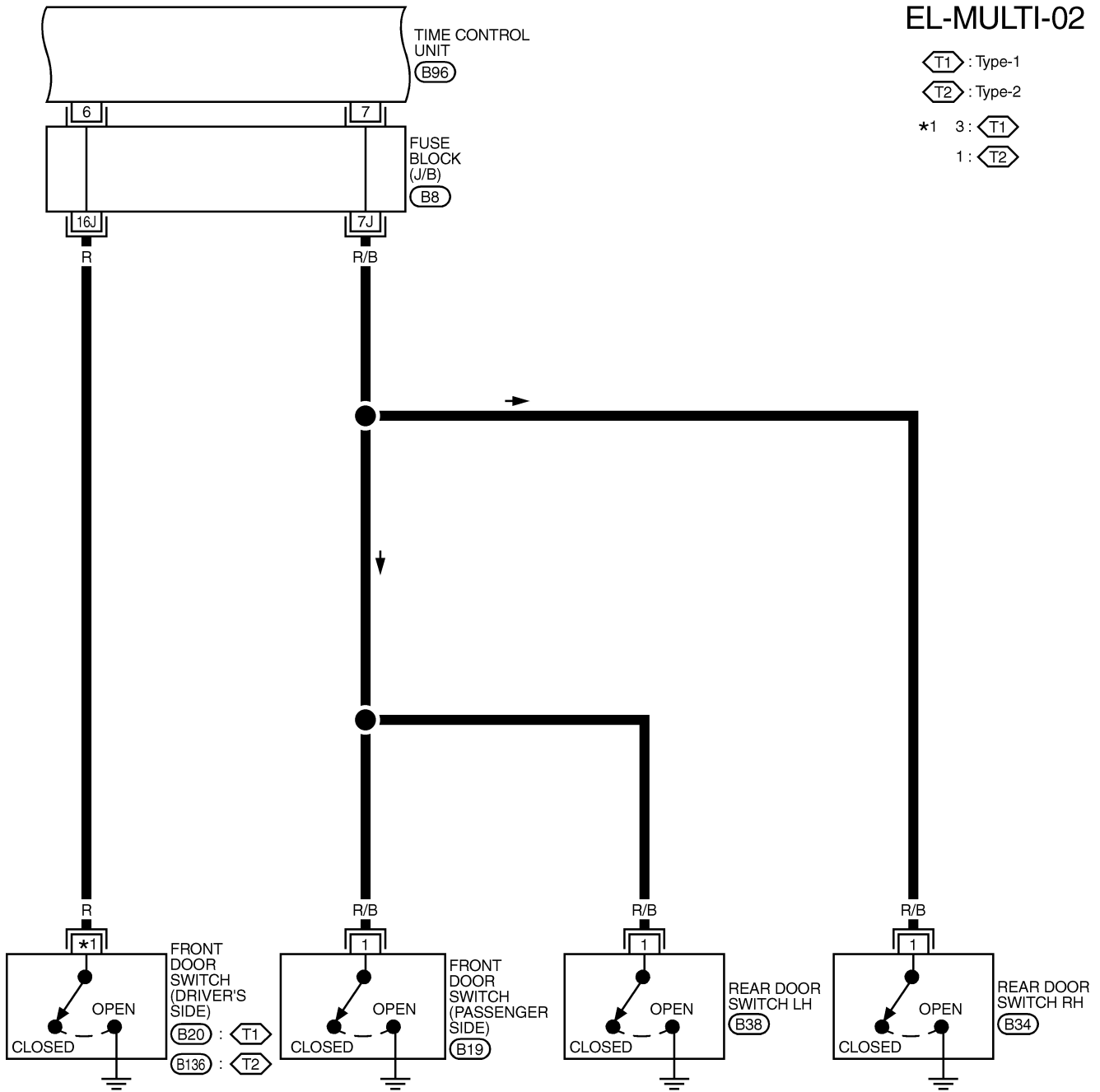
YEL207C


MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

EL-MULTI-02

-  : Type-1
-  : Type-2
- *1 3: 
- 1: 



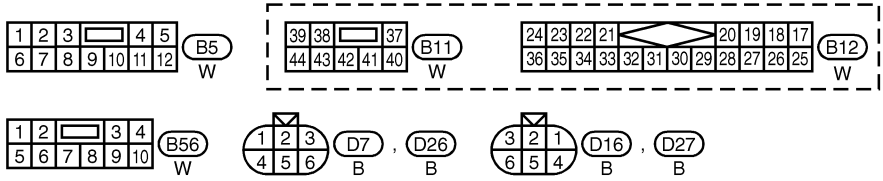
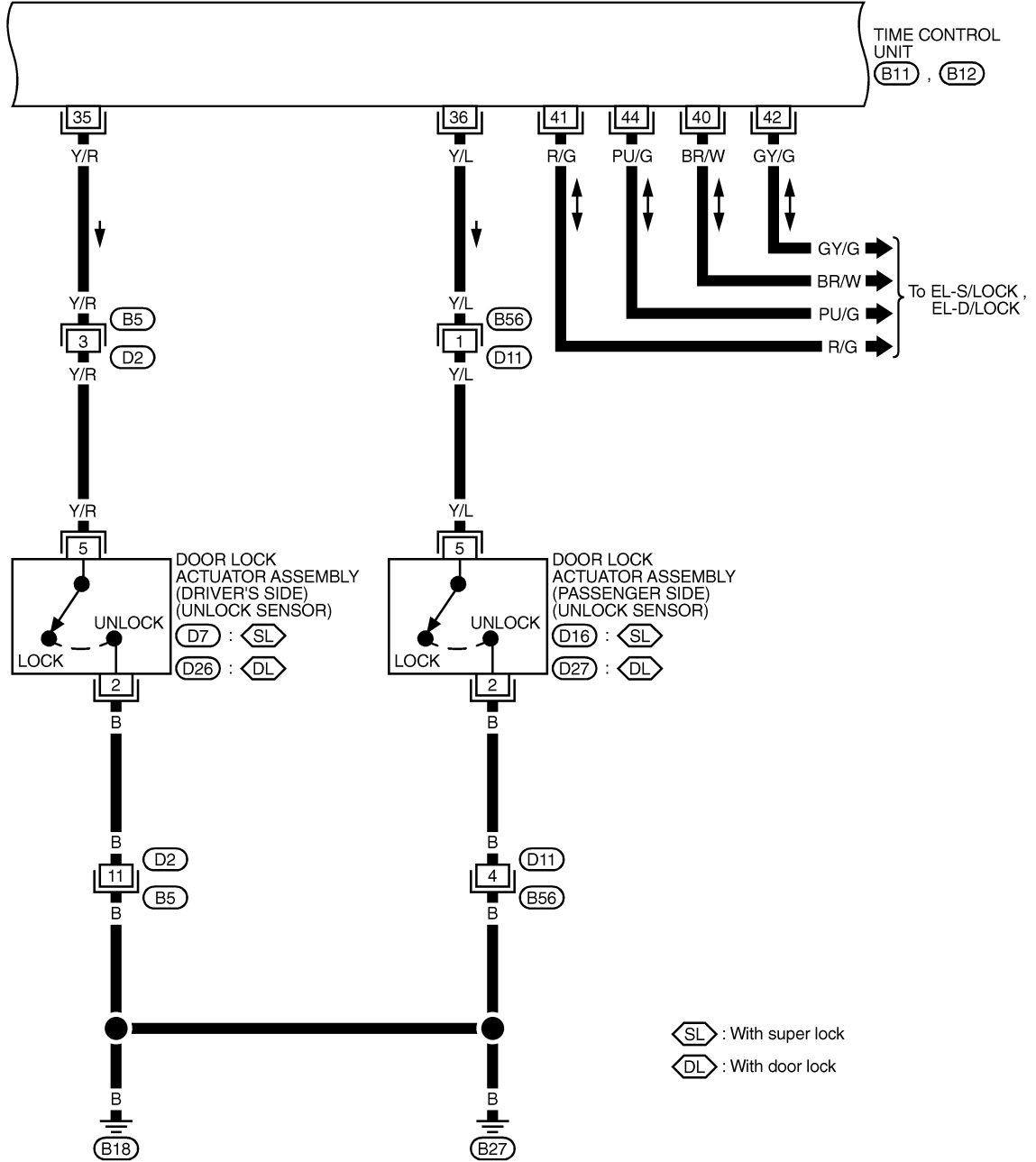
REFER TO THE FOLLOWING
 FUSE BLOCK-JUNCTION BOX (J/B)

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

MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

EL-MULTI-03



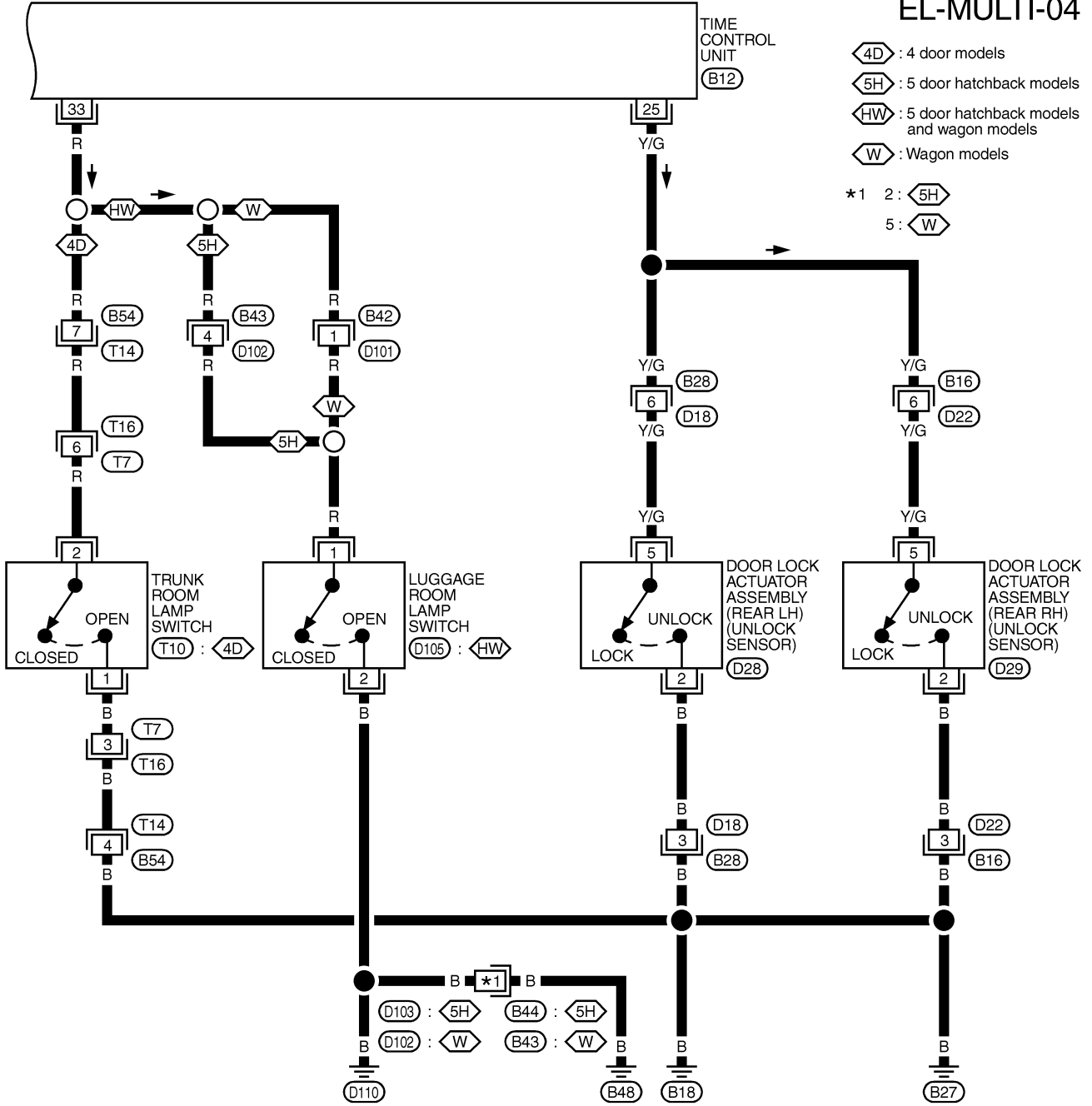
YEL921C

MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

MODELS WITHOUT SUPER LOCK

EL-MULTI-04



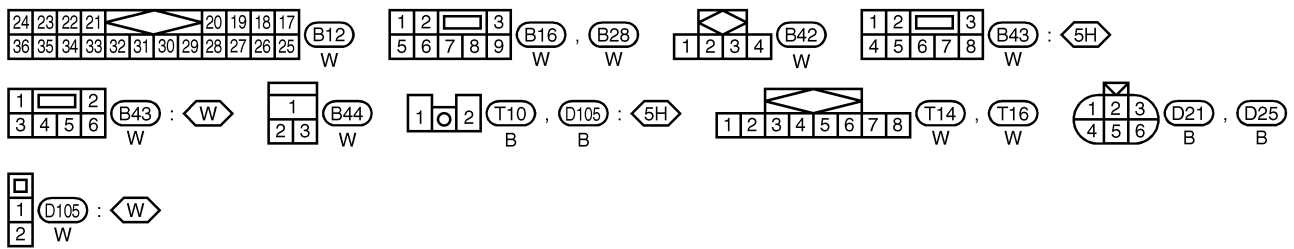
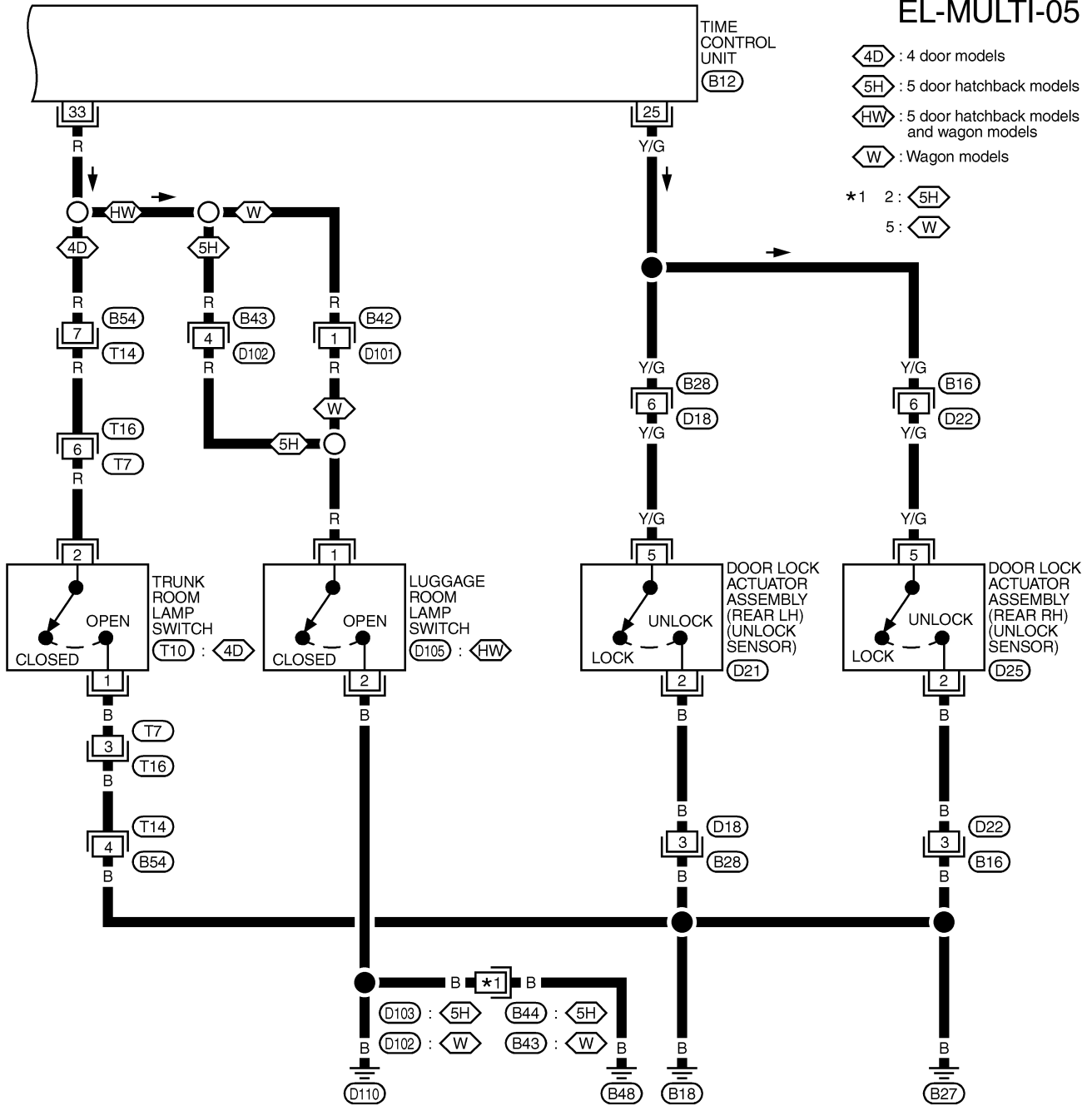
YEL922C

MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

MODELS WITH SUPER LOCK

EL-MULTI-05



MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses

If no doors can not be unlocked by remote controller operation then the following procedure is required.

- A) Unlock the vehicle by a mechanical key in the drivers door key cylinder.
Note: this may cause the alarm to sound.
- B) Put the key in ignition, turn to ON position for at least five seconds. Assuming the ignition key contains a valid transponder then a signal will be generated by the immobilizer which will disarm the alarm and allow key learn mode to be entered.
- C) Turn ignition OFF and wait for ten seconds.

SYMPTOM CHART

Symptom	Possible cause	Diagnoses/service order
No doors can be locked or unlocked by remote control operation.	<ol style="list-style-type: none"> 1. Remote controller battery 2. Power door lock system 3. Key switch (insert) 4. Door switch 5. Power supply circuit for time control unit 6. Ground circuit for time control unit 7. Remote controller 	<ol style="list-style-type: none"> 1. Check remote controller battery. Refer to EL-304. 2. Check that power door lock operates properly. If NG, check power door lock. 3. Check key switch (insert) signal at terminal ②② of time control unit. 4. Check door switch signal at terminals ⑥ and ⑦ of time control unit. 5. Make sure battery voltage is present at terminal ⑨ of time control unit. 6. Check continuity between terminal ①⑥ of time control unit and ground. 7. Replace remote controller. Refer to EL-305.
The new ID of remote controller cannot be entered.	<ol style="list-style-type: none"> 1. Remote controller battery 2. Key switch (insert) 3. Door switch 4. Driver's door unlock sensor 5. Ignition ON power supply circuit for time control unit 6. Remote controller 	<ol style="list-style-type: none"> 1. Check remote controller battery. Refer to EL-304. 2. Check key switch (insert) signal at terminal ②⑨ of time control unit. 3. Check door switch signal at terminals ⑥ and ⑦ of time control unit. 4. Check driver's door unlock sensor signal at terminal ③⑤ of time control unit. 5. Make sure battery voltage is present at terminal ① of time control unit while ignition switch is in ON position. 6. Replace remote controller. Refer to EL-305.

Refer to "TIME CONTROL UNIT INSPECTION TABLE" on next page to check the control unit signals.

NOTE:

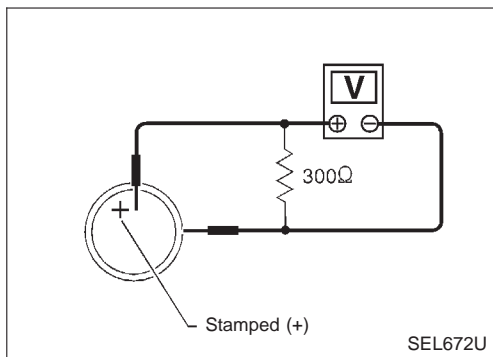
- The unlock operation of multi-remote control system does not activate with key inserted in the ignition key cylinder.
- The lock operation of multi-remote controller does not activate with the key inserted ignition key cylinder or if one of the door is opened.

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

TIME CONTROL UNIT INSPECTION TABLE

Terminal No.	Wire color	Connections	Operated condition	Voltage (V) (approximate values)
1	—	Ignition switch (ON)	Ignition key "ON" position	12V
5	—	Driver door switch	OFF (Closed) → ON (Open)	12V → 0V
7	—	All door switches	OFF (Closed) → ON (Open)	12V → 0V
8	—	Power source (C/B)	—	12V
9	—	Power source (Fuse)	—	12V
16	—	Ground	—	12V
22	BR/W	Ignition key switch (Insert)	Key inserted → key removed from IGNB key cylinder	0V → 12V
25	Y/G	Rear door unlock sensors	Rear doors: Locked → Unlocked	12V → 0V
33	R	Trunk or luggage room lamp switches	OFF (Closed) → ON (Open)	12V → 0V
35	Y/R	Driver door unlock sensor	Driver door: Locked → Unlocked	12V → 0V
36	Y/L	Passenger door unlock sensor	Passenger door: Locked → Unlocked	12V → 0V



REMOTE CONTROLLER BATTERY CHECK

Remove battery and measure voltage across battery positive and negative terminals, ⊕ and ⊖.

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

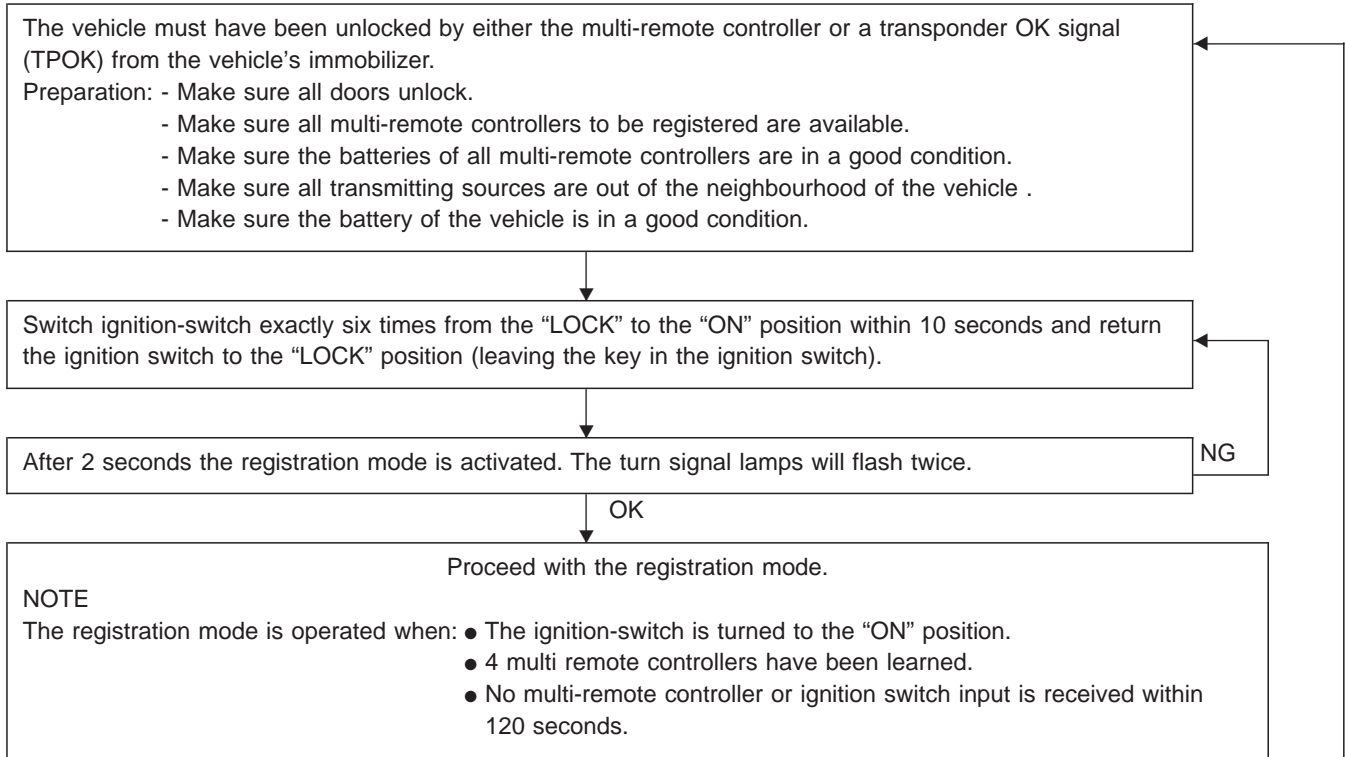
Note:

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

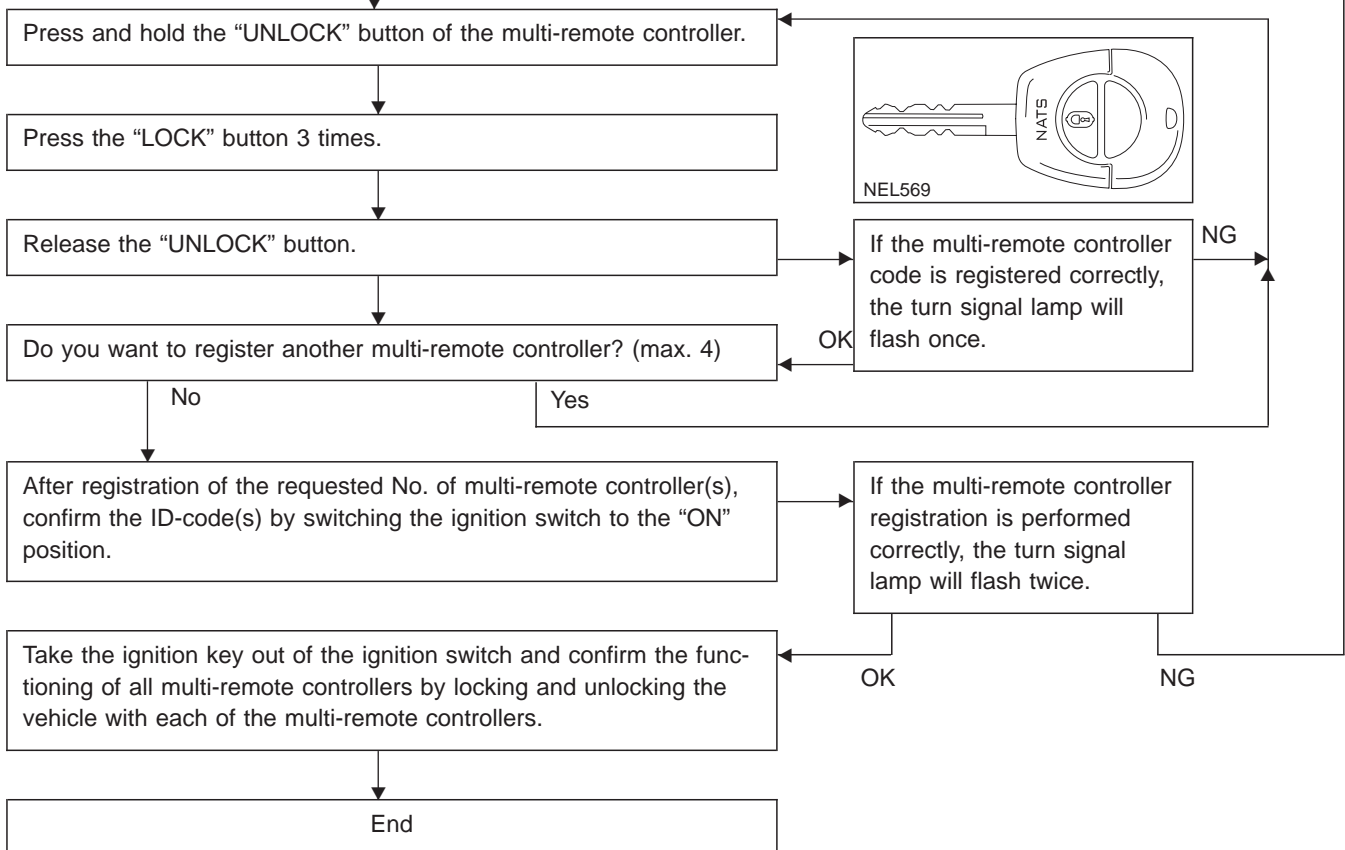
MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure

Activation of the registration mode:



Registration mode



System Description

The TCU has the following functions.

INTERIOR LAMP TIMER

The interior lamp timer is controlled by the TCU.

For further information, refer to “INTERIOR, SPOT, VANITY MIRROR AND LUGGAGE ROOM LAMPS” (EL-130).

IGNITION KEY WARNING CHIME AND LIGHT WARNING CHIME

The ignition key and light warning chime are controlled by the TCU.

For further information, refer to “WARNING CHIME” (EL-180).

REAR WINDOW DEFOGGER TIMER

The rear window defogger and door mirror defogger system are controlled by the TCU.

For further information, refer to “REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER” (EL-207).

POWER DOOR LOCK (Super Lock)

The power door lock (super lock) is controlled by the TCU.

For further information, refer to “POWER DOOR LOCK — Super Lock” (EL-265).

MULTI-REMOTE CONTROL SYSTEM

The multi-remote control system is controlled by the TCU.

For further information, refer to “MULTI-REMOTE CONTROL SYSTEM” (EL-296).

THEFT WARNING SYSTEM

The theft warning system is controlled by the TCU.

For further information, refer to “THEFT WARNING SYSTEM” (EL-311).

TIME CONTROL UNIT (TCU)

System Description (Cont'd)

FUNCTION

- The TCU has the following control functions.

Item	Details of control	
Direction indicators	Switches the direction indicators (Left, Right or All) when the combination switch or hazard switch is operated.	
Trailer direction indicator buzzer	Sounds a buzzer during direction indicator operation when towing a trailer.	
Light warning buzzer	Sounds warning buzzer when driver's door is opened with light switch in the 1st or 2nd position and ignition switch "OFF".	
Ignition key warning buzzer	Sounds warning buzzer when driver's door is opened with key in ignition and the driver door lock knob 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: <ul style="list-style-type: none"> ● driver's door is unlocked, ● the ignition is switched off, ● driver's door is opened and then closed. The timer is cancelled, and interior lamp turns off when: <ul style="list-style-type: none"> ● driver's door is locked, or ● ignition switch is turned "ON". 	
Theft warning system	Normal operation	Monitors doors, hood, boot lid, door locks, volumetric sensors (if not excluded), ignition and glass break sensors (wagon) when armed. Flashes the direction indicators and sounds the horn for 30 seconds in case one of the monitored sensors is triggered.
	Diagnostic mode	Indicates the last three alarm triggers by flashing the direction indicators.
Central door lock	Centrally locks and unlocks the vehicle	
Super lock	Activates and de-activates the super lock system.	

TIME CONTROL UNIT (TCU)

System Description (Cont'd)

REAR WINDOW DEFOGGER TIMER

The rear window defogger and door mirror defogger system are controlled by the TCU. With the ignition switch in the ON or START position, power is supplied

- to the rear window defogger relay
- to TCU terminal ①
- through 10A fuses [No. ⑤], located in the fuse block (J/B)].

Ground is supplied to terminal ⑭ of the rear window defogger switch through body grounds ⑥⑥, ⑥②⑥ and ⑥②⑧.

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

- through terminal ⑥⑥ of the rear window defogger switch
- to TCU terminal ③.

Terminal ⑬ of the TCU then supplies ground to the rear window defogger relay.

With power and ground supplied, the rear window defogger relay is energized to operate rear window defogger and door mirror defogger for about 15 minutes.

For further information, refer to REAR WINDOW DEFOGGER DOOR and MIRROR DEFOGGER (EL-207).

IGNITION KEY WARNING BUZZER

Ground is supplied to TCU terminal ⑥ through front driver's side door switch when switch is in OPEN position from body ground.

With the key in the ignition switch in the ACC or OFF position, and locking the driver's door from the inside, the warning buzzer will sound.

LIGHT WARNING BUZZER

Power is supplied at all times

- through 30A fusible link (letter ⑨), located in the fuse and fusible link box) (LHD models)
- through 15A fuse (No. ⑥⑥, located in the fuse and fusible link box) (RHD models)
- to lighting switch terminal ⑪.

Power is supplied at all times

- through 7.5A fuse [No. ④①], located in the fuse block (J/B)]
- to warning buzzer terminal ①.

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

- through 7.5A fuse [No. ①②], located in the fuse block (J/B)]
- to BCM terminal ②⑨.

Ground is supplied to TCU terminal ⑥ through front driver's side door switch when switch is in OPEN position from body ground.

With the ignition switch in the ACC or OFF position, the driver's door OPEN, and the lighting switch in the 1st or 2nd position, the warning buzzer will sound.

INTERIOR LAMP TIMER

Power is supplied at all times

- through 10A fuse [No. ⑤], located in the fuse block (J/B)]
- to interior lamp terminal ①

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

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

When the driver's door is unlocked, a door is opened and then closed, or the ignition is turned from "ON" to "Acc" or "LOCK", ground is supplied to the interior lamp terminal ② for approximately 30 seconds.

The 30 seconds timer will be cancelled if the ignition switch is turned to "ON", or the driver's door is locked.

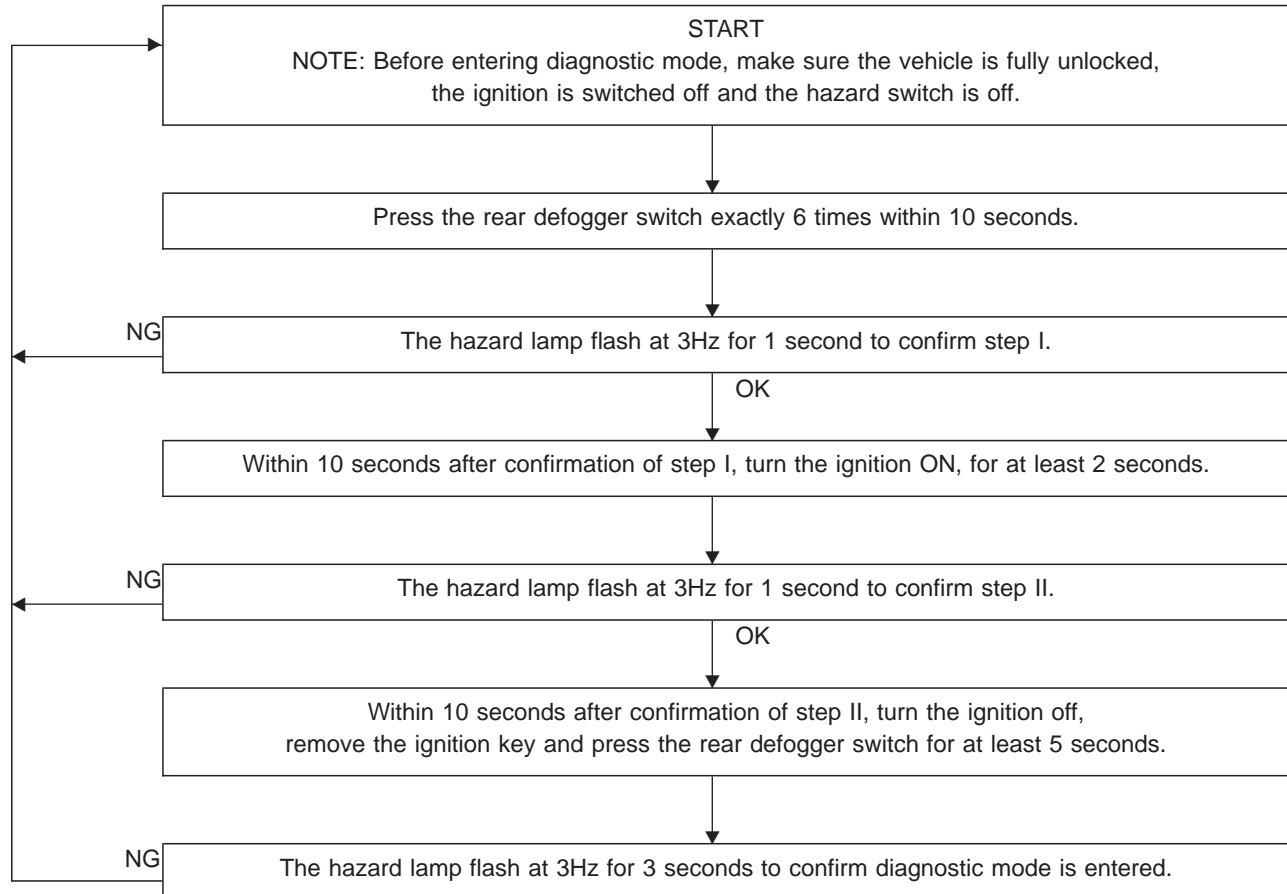
TIME CONTROL UNIT (TCU)

Trouble Diagnosis

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 and if so equipped, alarm triggers identified.

When the time control unit is in Diagnostic Mode, the control unit tests the component and indicate the result by the hazard lamp flashing.

On vehicles with a theft warning system, the TCU will first indicate the source of the last three alarm triggers by flashing the hazard lamp. (Refer to "THEFT WARNING SYSTEM", EL-311.)



TIME CONTROL UNIT (TCU)

Trouble Diagnosis (Cont'd)

Checks

Once in Diagnostic Mode (and after identifying the last three alarm triggers in case a theft warning system is equipped on the vehicle), the following inputs can be tested.

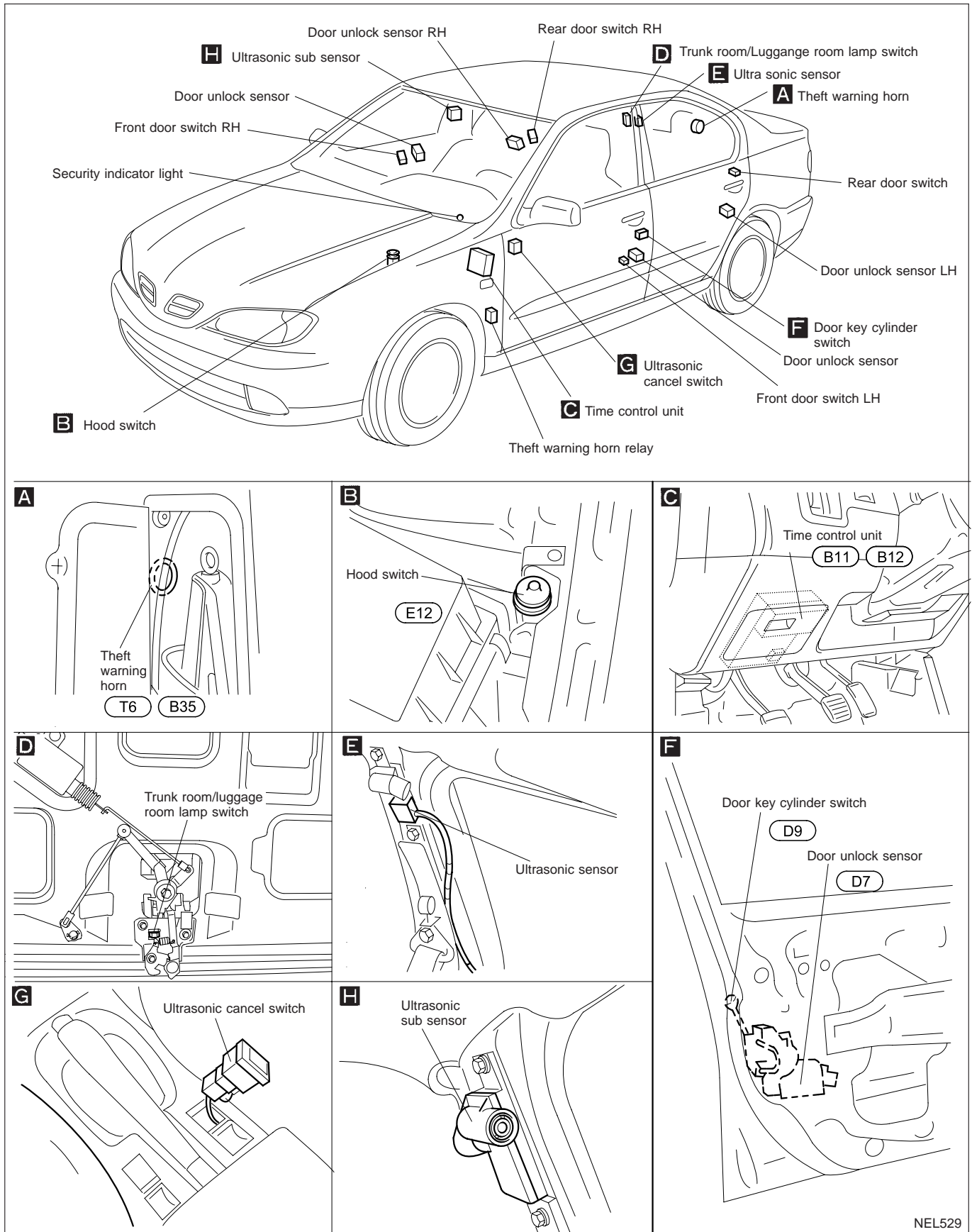
USER ACTION	TCU Reaction	COMPONENT TESTED
Driver's door opened from closed (all other doors closed)	Hazards flash once	Driver's door open signal
Passenger or rear door opened from closed (all other doors closed)	Hazards flash once	Door open signal for opened door
Driver's door locked from unlocked	Hazards flash once	Driver's door status signal
Passenger door locked from unlocked	Hazards flash once	Assist door status signal
Rear doors locked from unlocked (with ultrasonic model)	Hazards flash once	Rear doors status signal
Ultrasonics cancel switch is pressed (with ultrasonic model)	Hazards flash once	U/S cancel signal
Trunk or back door is opened from closed	Hazards flash once	Trunk open signal
Hood is opened from closed (with ultrasonic model)	Hazards flash once	Hood open signal
Hazard switch is pressed from off	Hazards flash once	Hazard switch signal
Turn signal switch is moved to left from off	Hazards 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 in door	Hazards flash once *	Key cylinder lock switch signal
Lighting switch turned 1st position or 2nd position from off	Hazards flash once	Tail lamp signal
Key put in ignition from out	Hazards flash once	Key in detect signal
Central unlock/Trunk release switch is pressed	Hazards flash once	Central unlock/Trunk release signal
External trunk release switch pressed from off	Hazards flash once	External trunk release switch signal

*) Hazards may flash a second time because of Driver's door status signal change. The min. delay time between flash actions is 100ms.

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 3Hz for 3 seconds to confirm that Diagnostic Mode has been switched off.

THEFT WARNING SYSTEM

Components Parts and Harness Connector Location



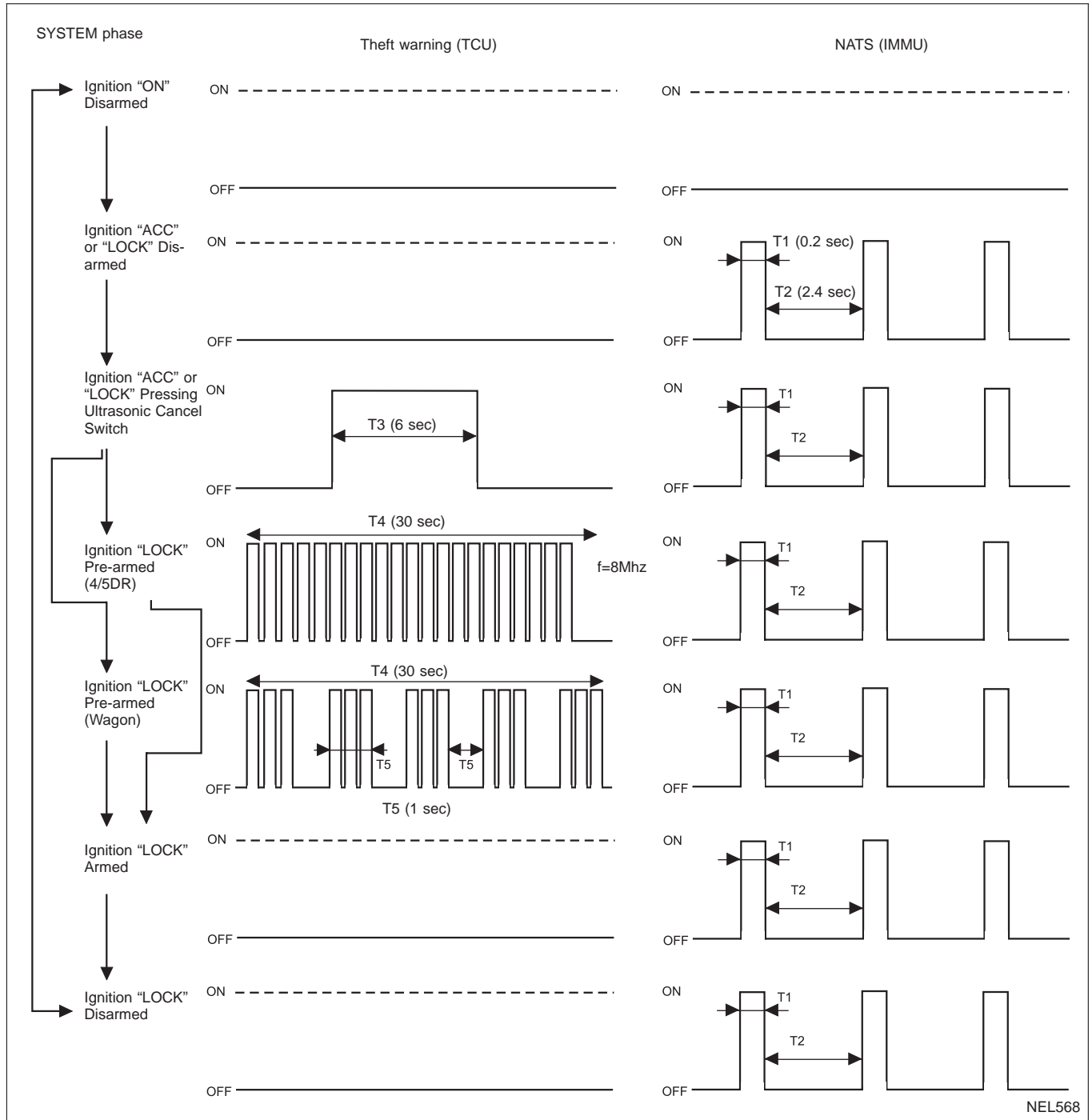
NEL529

THEFT WARNING SYSTEM

System Description

OPERATION FLOW

The SECURITY indicator can be operated by both the IMMU (for NATS) and the TCU (for Theft Warning). The flow chart shows both operations.



THEFT WARNING SYSTEM

System Description (Cont'd)

SETTING THE THEFT WARNING SYSTEM

Initial condition

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

Pre-armed phase and armed phase

The theft warning system turns into the “pre-armed” phase when hood, trunk lid and all doors are closed and locked by key or multi-remote controller. (The security indicator lamp blinks intermittently for 30 seconds.)

After about 30 seconds, the system automatically shifts into the “armed” phase (the system is set).

CANCELING THE SET THEFT WARNING SYSTEM

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

- (a) Unlock the doors with the multi-remote controller.
- (b) Insert key in ignition key cylinder and turn it to ON. Then NATS IMMU will send a disarm signal to the time control unit.

ACTIVATING THE ALARM OPERATION OF THE THEFT WARNING SYSTEM

Make sure the system is in the armed phase. When the following operation (a) (b) (c) (d) or (e) is performed, the system sounds the horns and flashes the hazard lamp for about 30 seconds.

- (a) Engine hood, trunk lid or any doors is opened before unlocking door with the multi-remote controller.
- (b) A door is unlocked without using the multi-remote controller.
- (c) The ignition is switched ON without using a NATS registered key.
- (d) The ultra sonic sensing is triggered.
- (e) A rear side or rear screen breakage is detected (Wagon).

POWER SUPPLY AND GROUND CIRCUIT

Power is supplied at all times.

- Through 10A fuse [No. 16], located in the fuse block (J/B)]
- to security indicator lamp terminal ② .

Power is supplied at all times

- through 10A 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. 26], located in the fuse block (J/B)]
- to time control unit terminal ① .

Ground is supplied

- to time control unit terminal ⑩ .
- through body grounds M6, M28 and M26 .

INITIAL CONDITION TO ARM THE SYSTEM

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

To activate the theft warning system, the time control unit must receive signals indicating all the doors, hood and trunk lid are closed and the doors are locked.

When a door is open, time control unit terminal ⑥ or ⑦ receives a ground signal from each door switch.

When a door is unlocked, time control unit terminal ⑫ , ⑬ or ⑭ receives a ground signal from terminal ⑤ of each door unlock sensor.

When the hood is open, time control unit terminal ⑳ receives a ground signal

- from terminal ① of the hood switch
- through body grounds E11 and E37 .

When the trunk lid is open, time control unit terminal ㉓ receives a ground signal

- from terminal ① of the trunk room lamp switch
- through body grounds B18 and B27 .

When the back door, trunk or tail gate is open, time control unit terminal ㉓ receives a ground signal

- from terminal ① of the luggage room lamp switch
- through body grounds B48 and D110 .

THEFT WARNING SYSTEM

System Description (Cont'd)

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

If the key is used to lock doors, time control unit terminal ⑳ receives a ground signal

- from terminal ② of the key cylinder switch
- through body grounds ㉑ and ㉒.

If this signal or lock signal from remote controller is received by the time control unit, the theft warning system will arm automatically.

When arming the theft warning system, time control unit terminal ⑱ supplies ground intermittently to terminal ① of the security indicator lamp. The security lamp will blink intermittently for approximately 30 seconds (and then blink every 2.6 seconds, due to NATS).

Now the theft warning system is in armed phase.

THEFT WARNING SYSTEM ALARM OPERATION

The theft warning system is triggered by

- opening a door
- opening the trunk lid or back door
- opening the hood
- unlocking door without using the multi-remote controller
- switching the ignition ON without a NATS registered key
- triggering the ultra sonic sensors
- smashing the back door or rear side quarter window (wagon model only).

Once the theft warning system is in armed phase, if the time control unit receives a signal at terminal ㉓, ㉔, ㉕ (door unlock sensor), ⑥, ⑦ (door switch), ㉖ (trunk room lamp switch or luggage room lamp switch), ㉗ (hood switch), ㉘ (smash sensor) or ⑰ (ultra sonic sensor) the theft warning system will be triggered. The hazard lamps flash and the horn sounds intermittently.

Power is supplied at all times

- through 10A fuse [No. 16], located in the fuse block (J/B).
- to theft warning relay terminal ②.

If the theft warning system is triggered, ground is supplied

- from terminal ㉙ of the time control unit
- to theft warning relay terminal ①.

The hazard lamps flash and the horn sounds intermittently.

The alarm automatically turns off after 30 seconds but will reactivate if the vehicle is tampered with again, or if the initial cause remains present.

THEFT WARNING SYSTEM ALARM DISARMING

The theft warning system alarm operation can be deactivated by either unlocking the vehicle with the remote controller, or turning the ignition to the "ON" position with a registered NATS key.

SMASH SENSOR

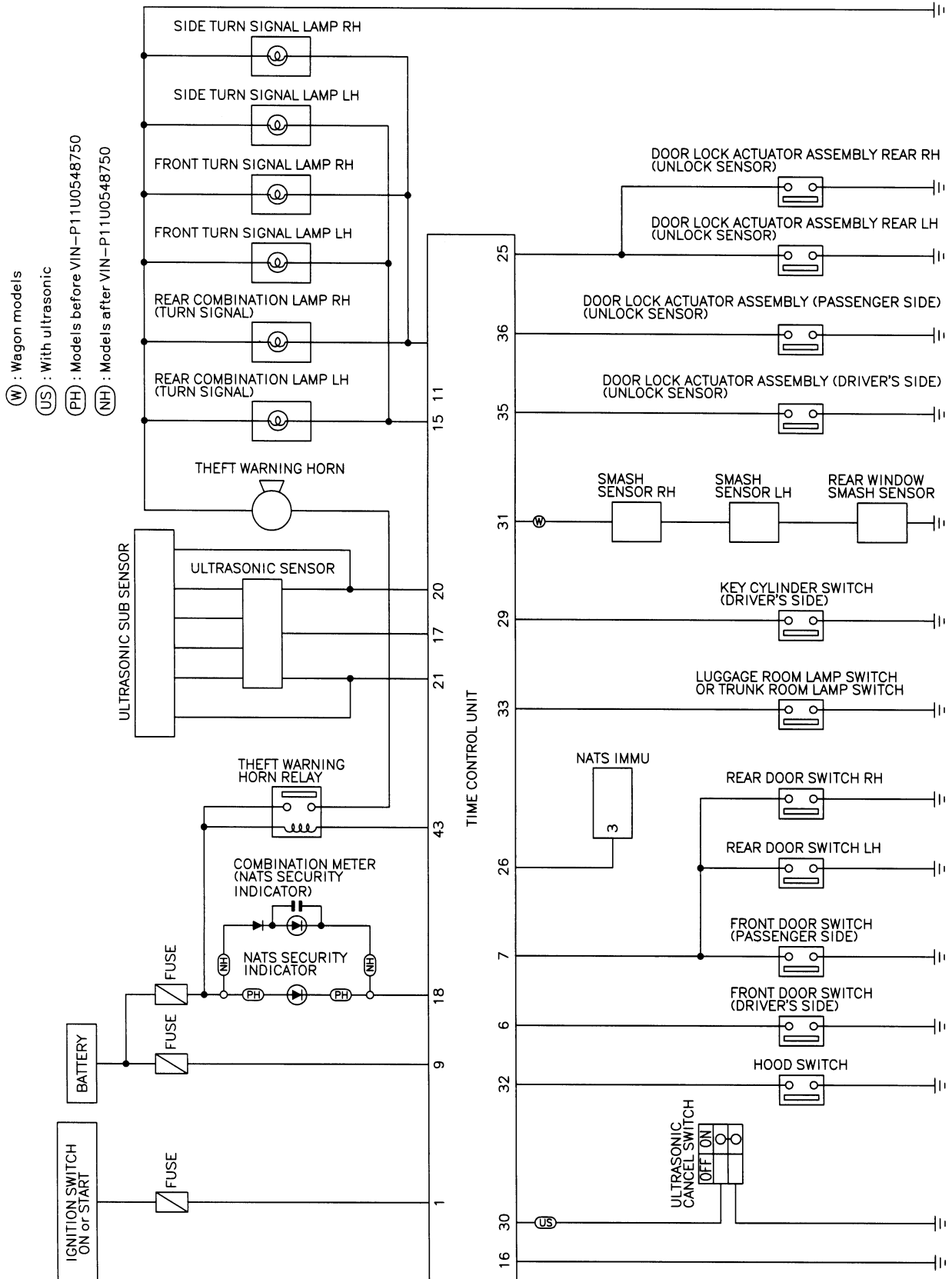
The smash sensor will trigger the alarm when the rear side or rear screen is broken. There are three windshield protected:

1. Back door window. Sensor circuit is bonded to the glass.
2. Rear side quarter windows (one each side). Sensor circuit is bonded to the glass.

All three sensor are wired in series. By breaking any of the three windshields (sensor circuit open), the alarm will sound.

THEFT WARNING SYSTEM

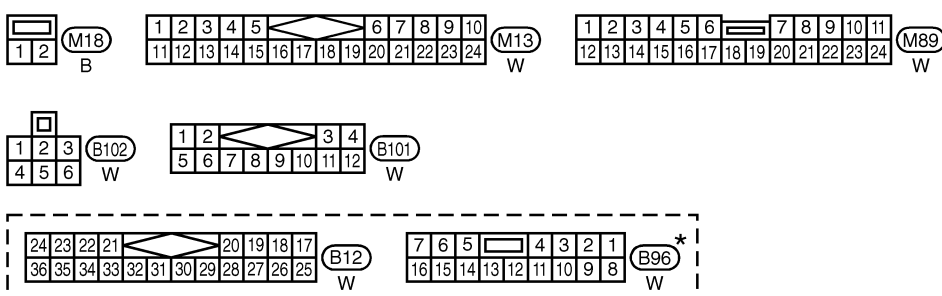
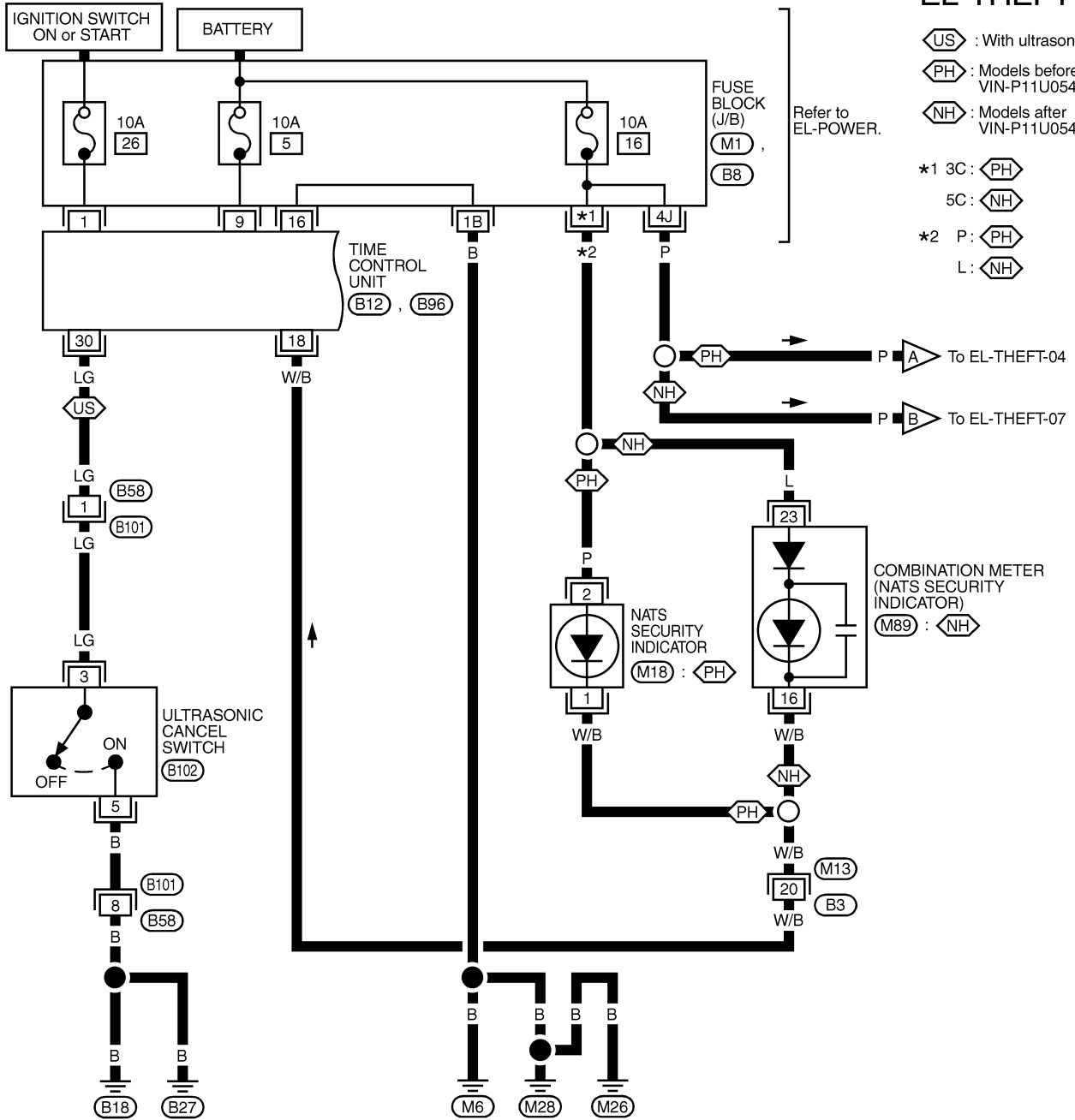
Schematic



THEFT WARNING SYSTEM

Wiring Diagram — THEFT —

EL-THEFT-01



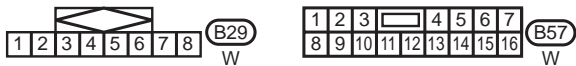
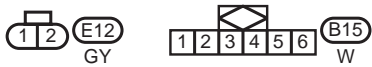
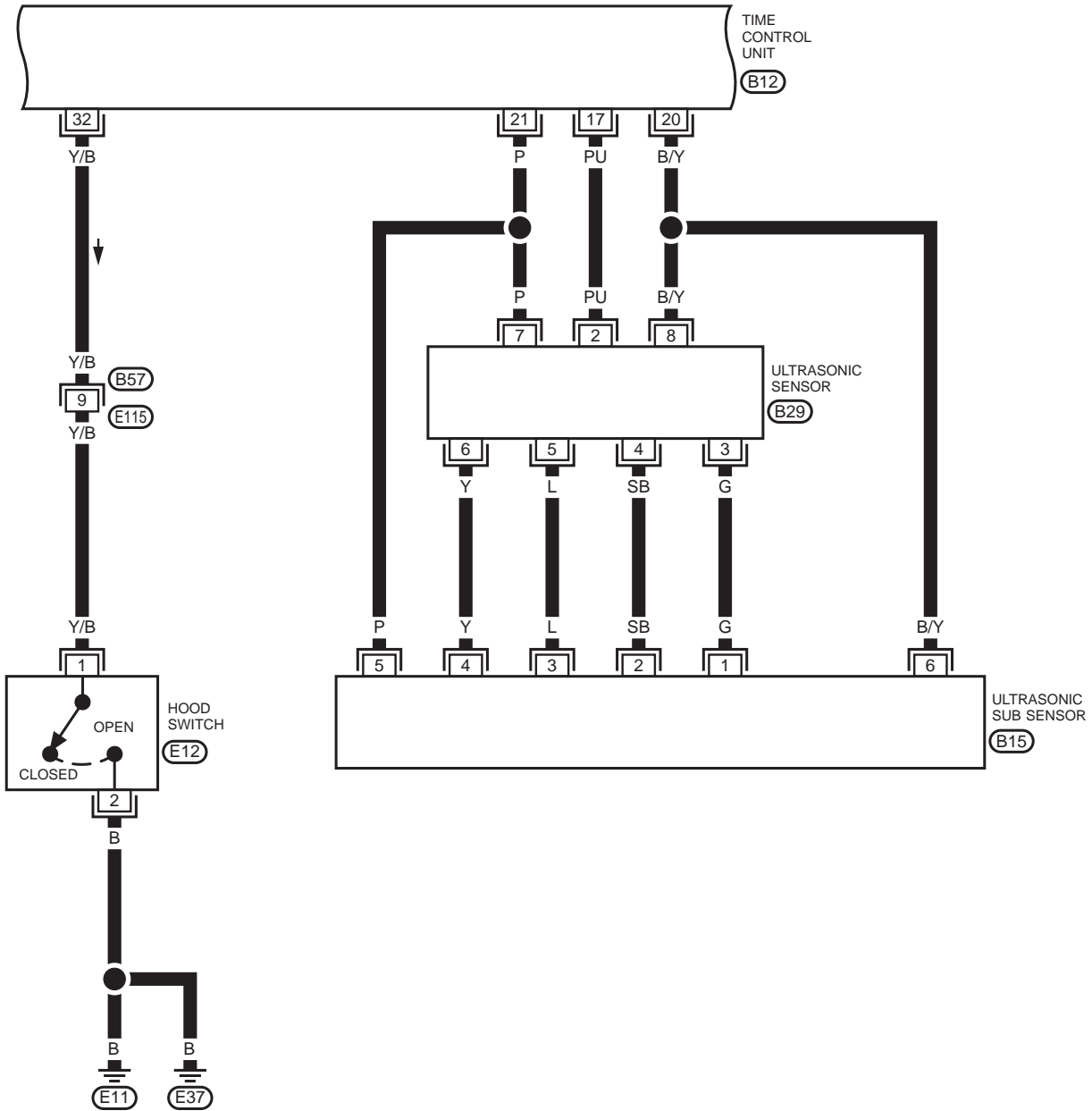
REFER TO THE FOLLOWING
 (M1), (B8) FUSE BLOCK-
 JUNCTION BOX (J/B)

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

THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-02

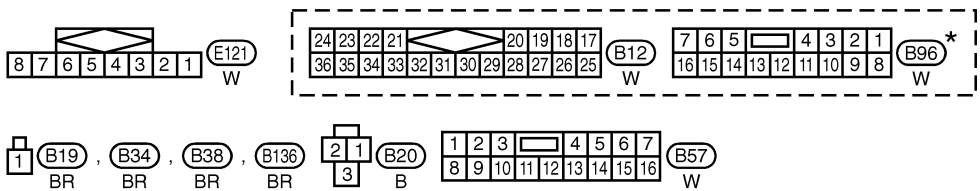
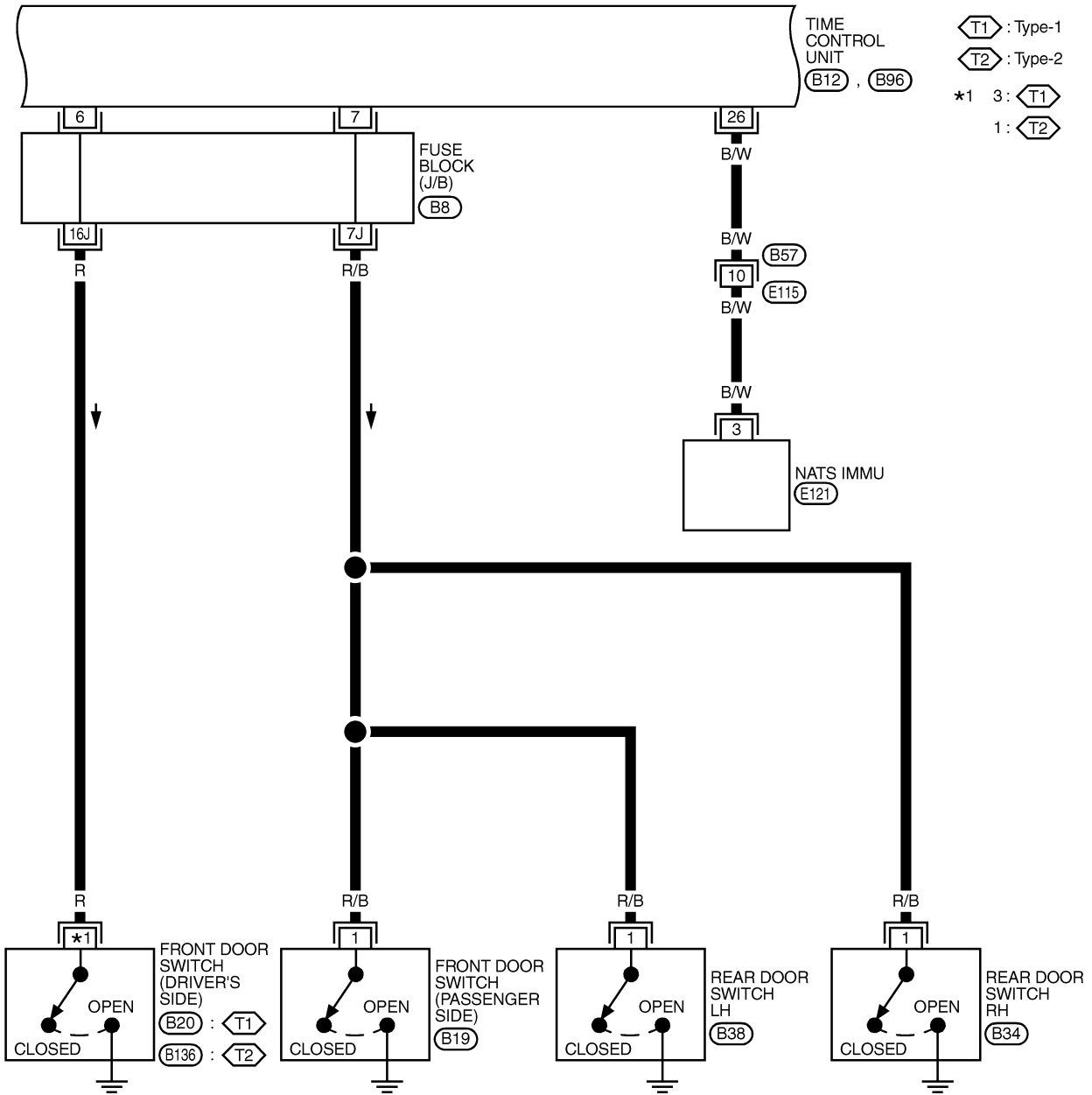


YEL358B

THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-03



REFER TO THE FOLLOWING
(B8) FUSE BLOCK-JUNCTION BOX (J/B)

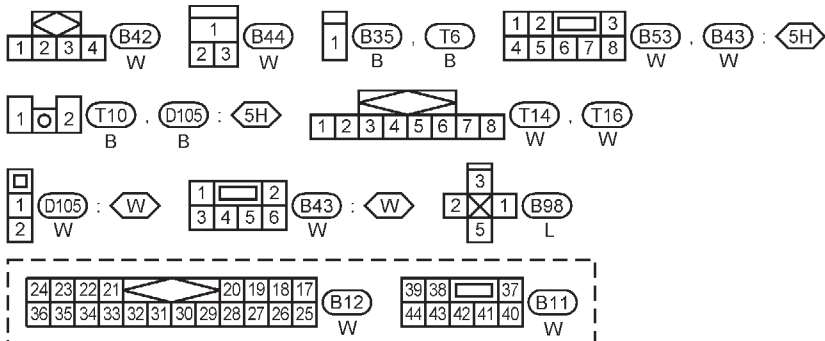
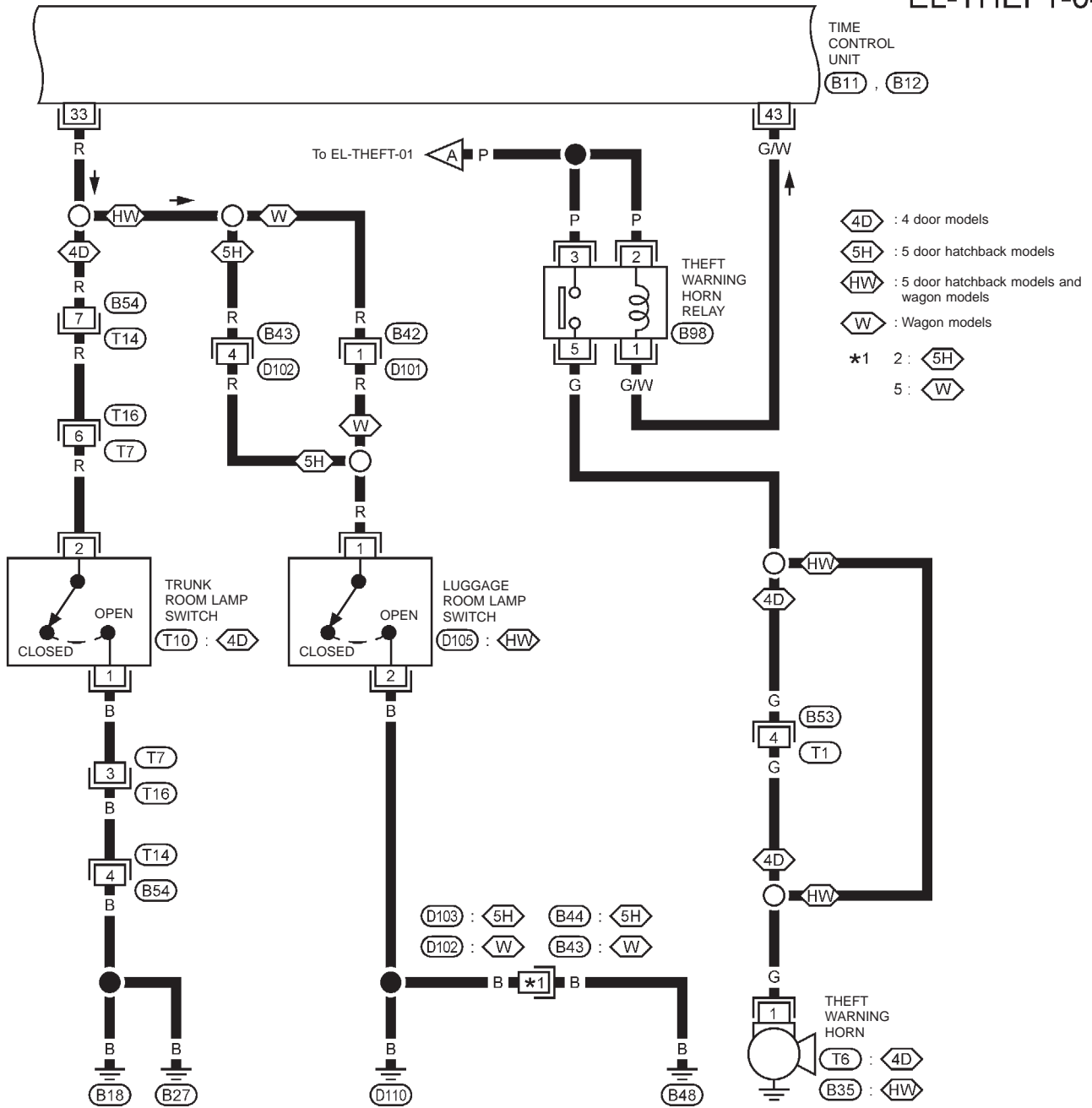
* : This connector is not shown in "HARNESS LAYOUT" of EL section.

THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

Models before VIN - P11U0548750

EL-THEFT-04



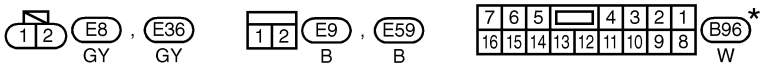
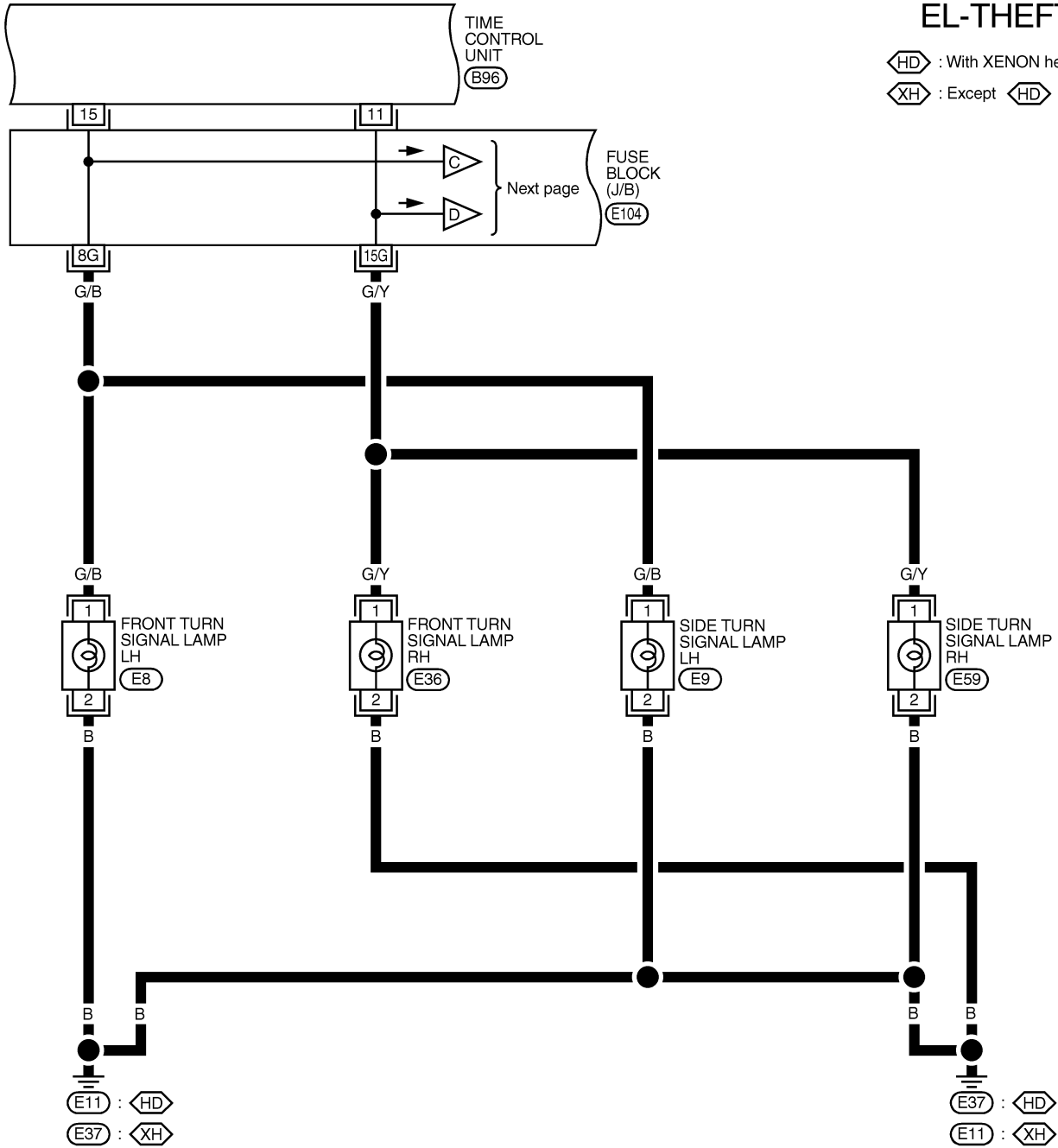
THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

Models before VIN - P11U0548750

EL-THEFT-05

HD : With XENON headlamp
XH : Except HD



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

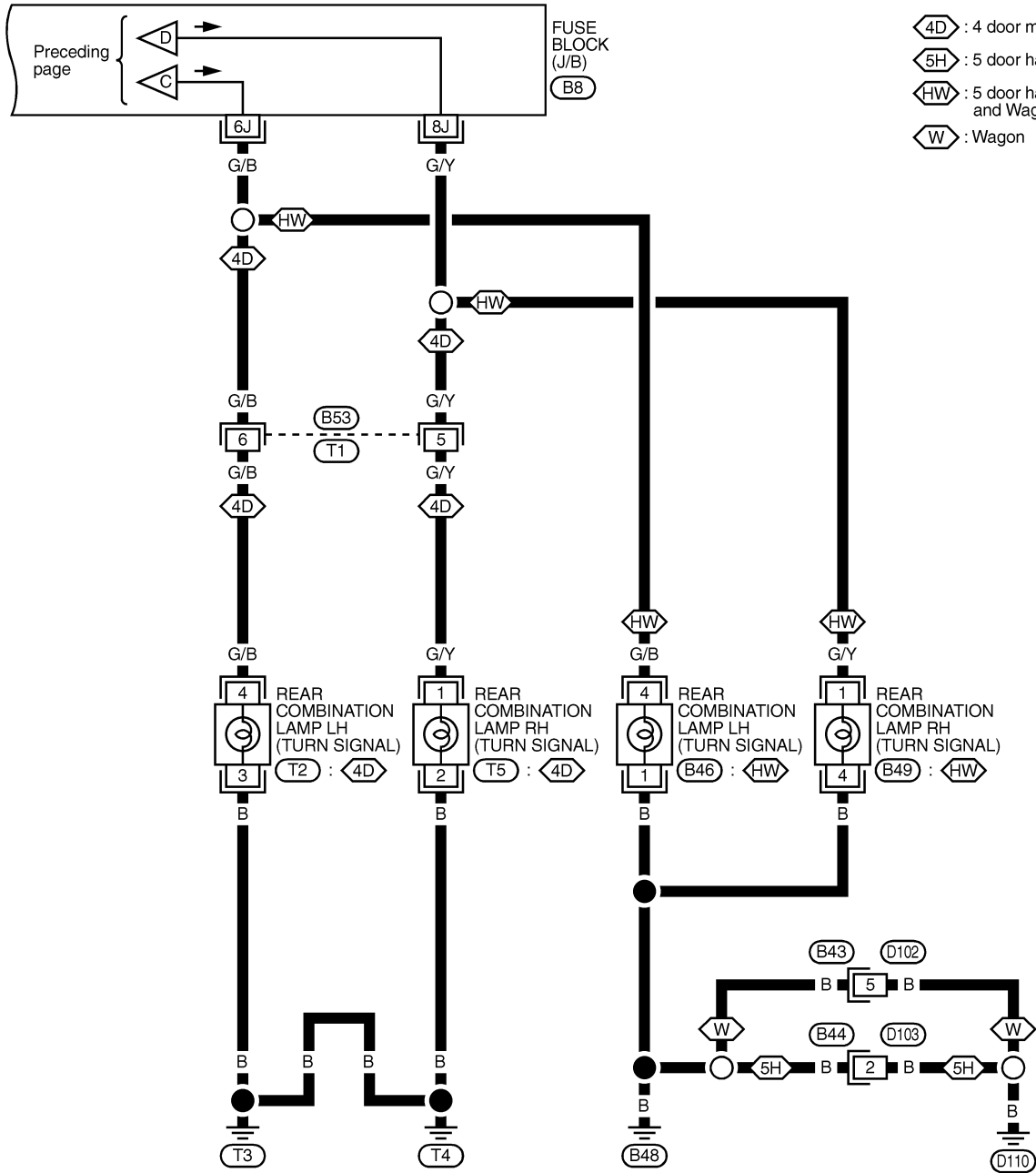
* : This connector is not shown in "HARNESS LAYOUT" of EL section.

THEFT WARNING SYSTEM

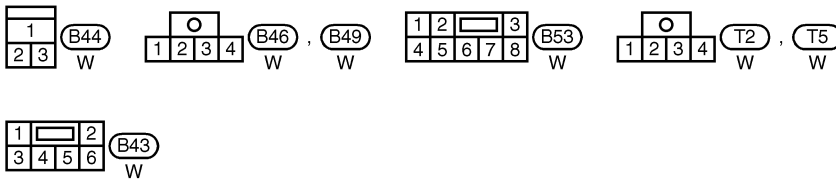
Wiring Diagram — THEFT — (Cont'd)

Models before VIN - P11U0548750

EL-THEFT-06



- ◊4D : 4 door models
- ◊5H : 5 door hatchback models
- ◊HW : 5 door hatchback models and Wagon models
- ◊W : Wagon



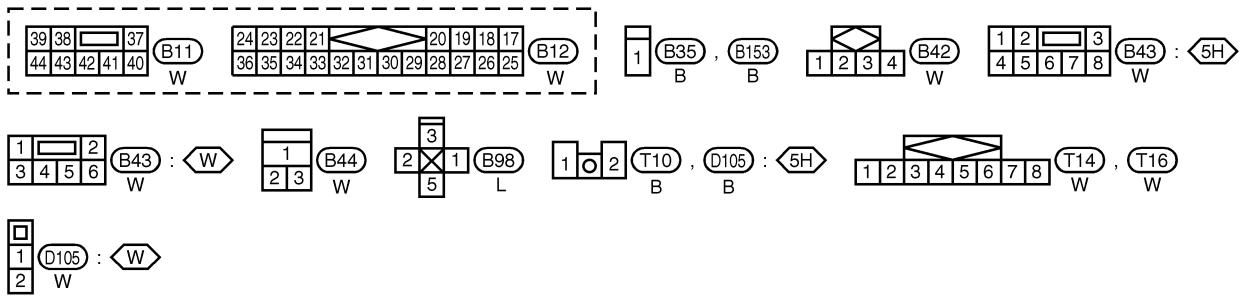
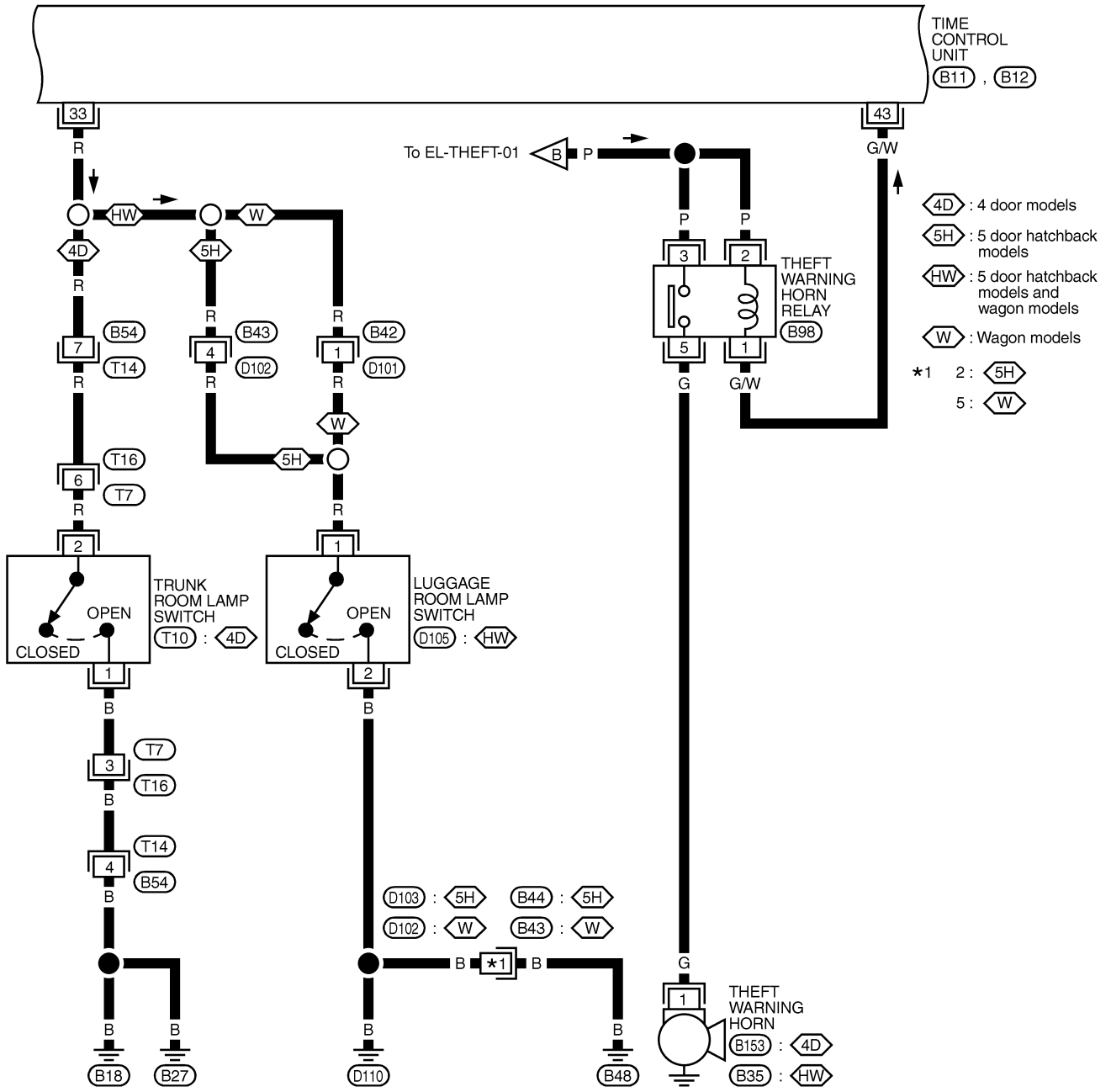
REFER TO THE FOLLOWING
 (B8) FUSE BLOCK-
 JUNCTION BOX (J/B)

THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

Models after VIN - P11U0548750

EL-THEFT-07



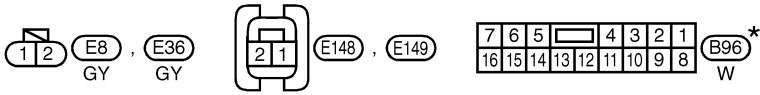
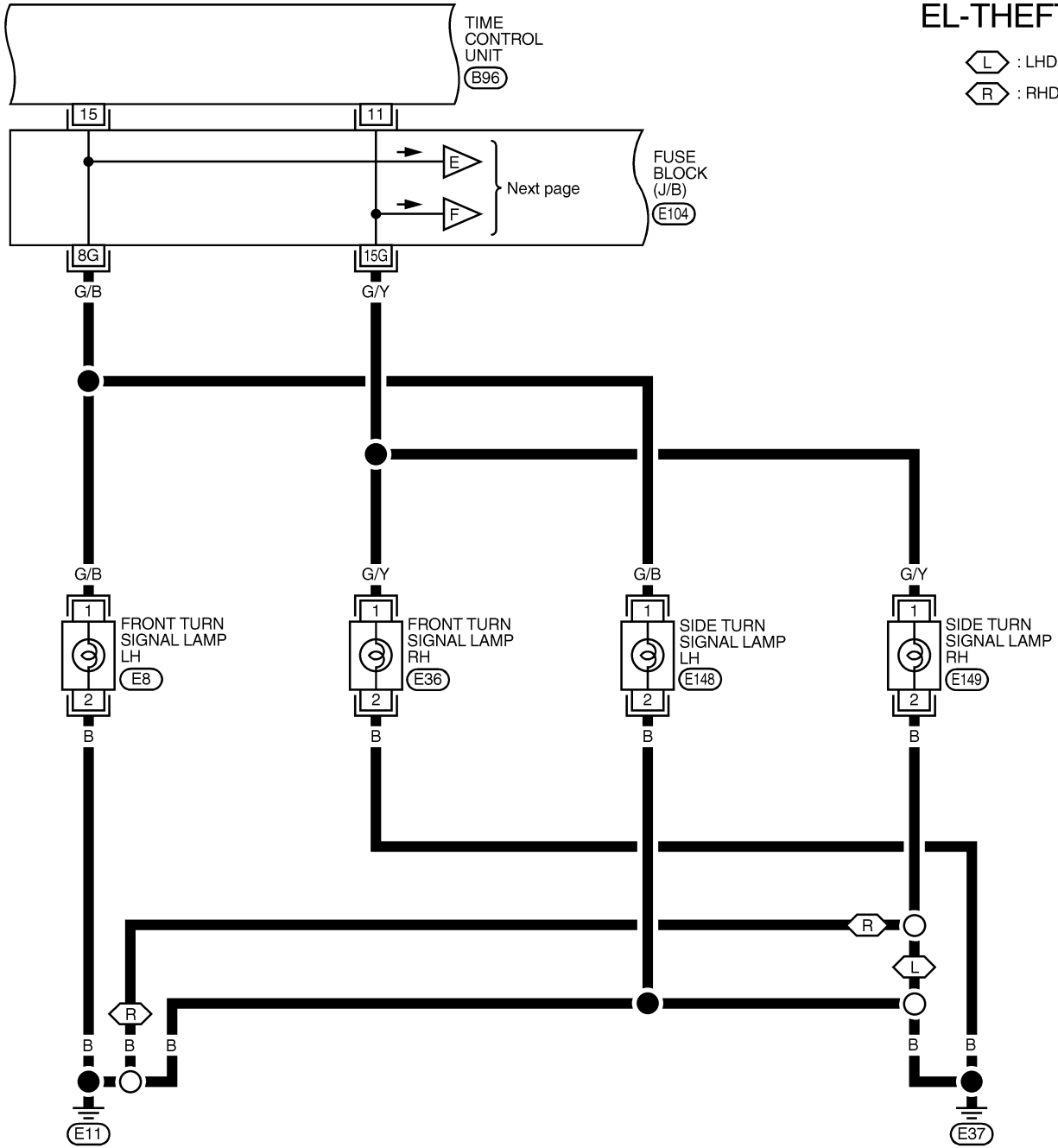
THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

Models after VIN - P11U0548750

EL-THEFT-08

⬡ : LHD models
 ⬢ : RHD models



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

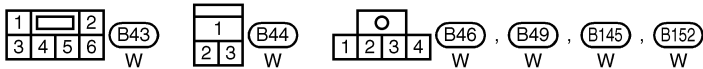
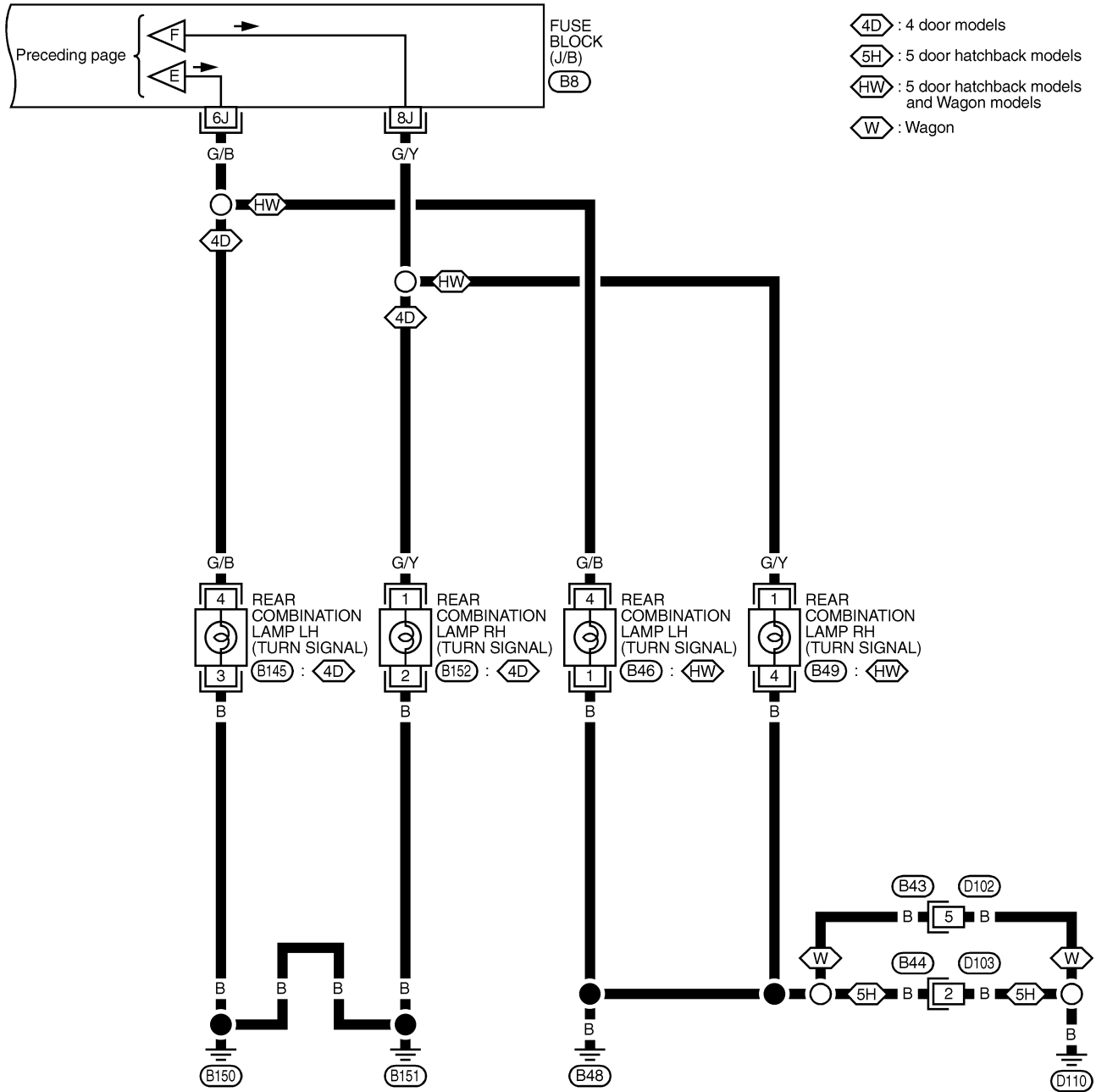
* : This connector is not shown in "HARNESS LAYOUT" of EL section.

THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

Models after VIN - P11U0548750

EL-THEFT-09



REFER TO THE FOLLOWING
 (B8) FUSE BLOCK-
 JUNCTION BOX (J/B)

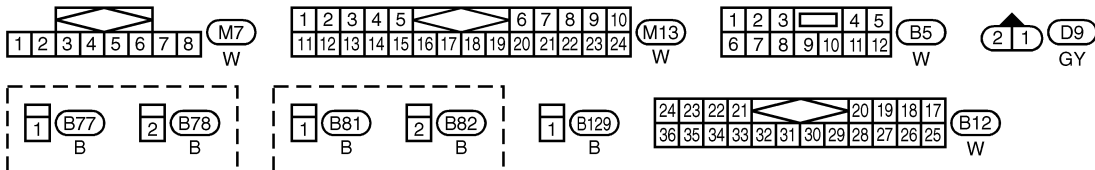
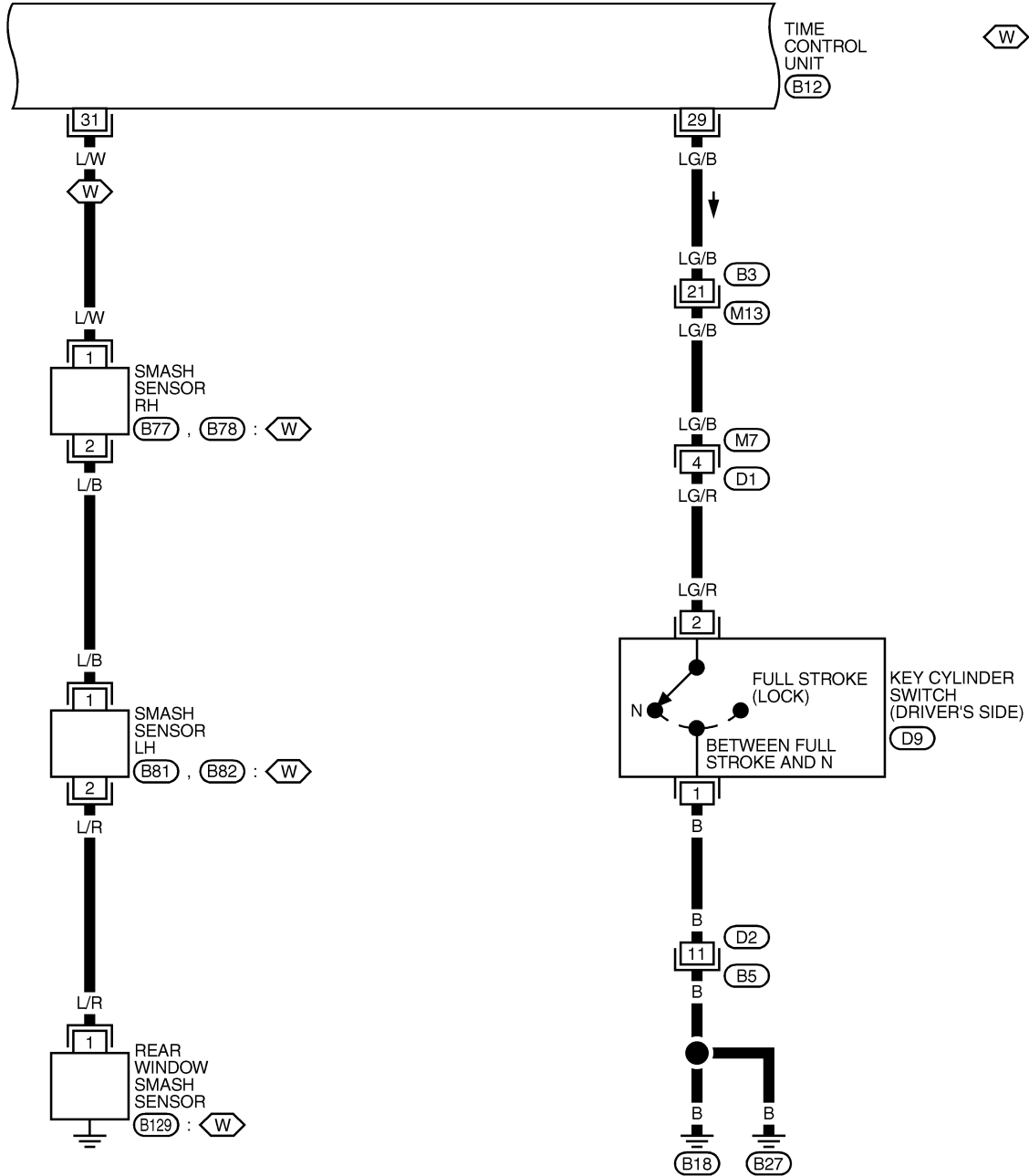
YEL932C

THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-10

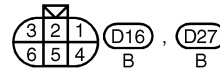
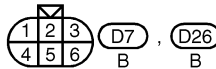
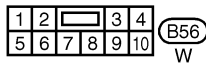
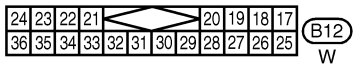
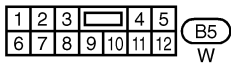
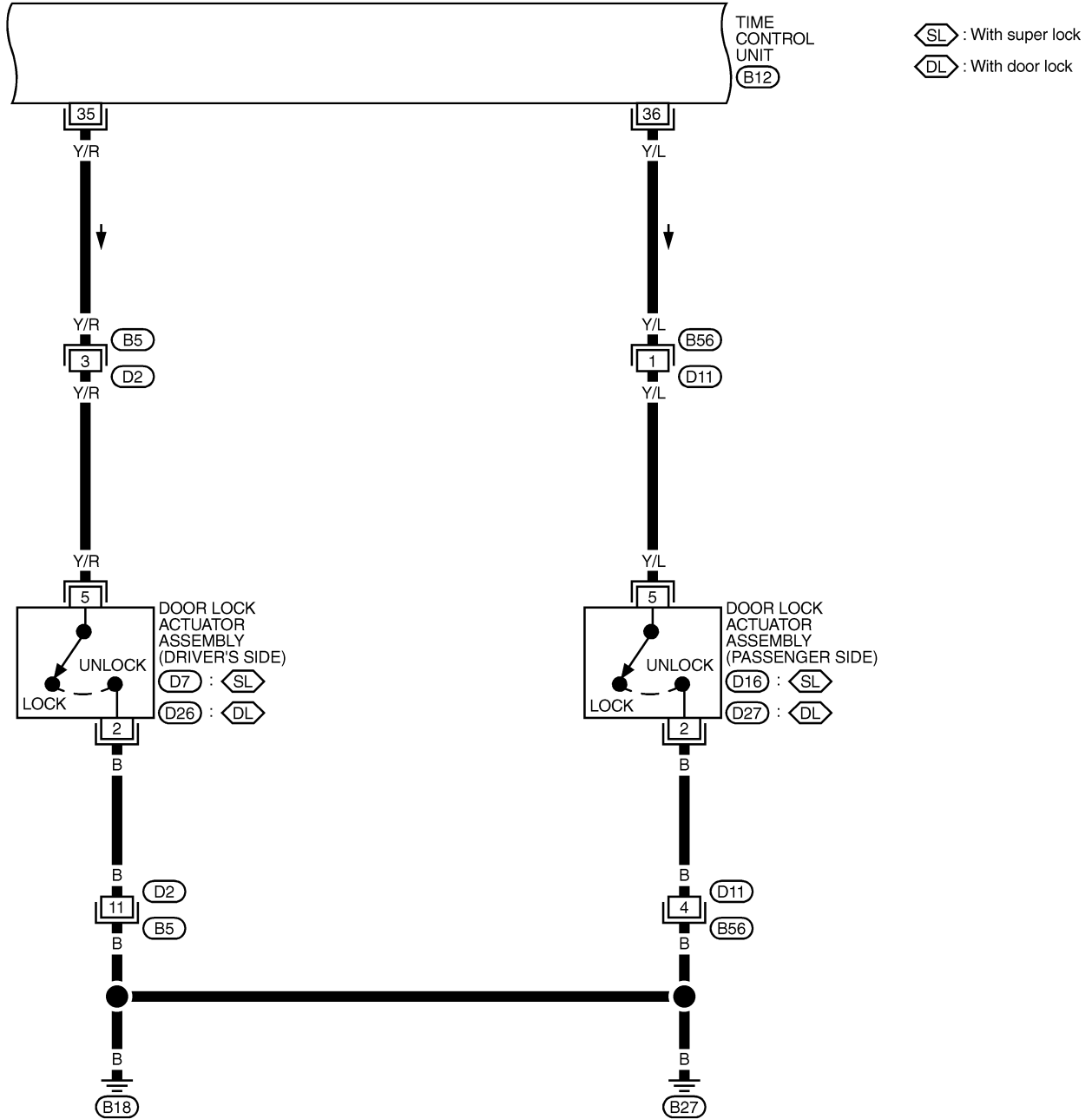
(W) : Wagon models



THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

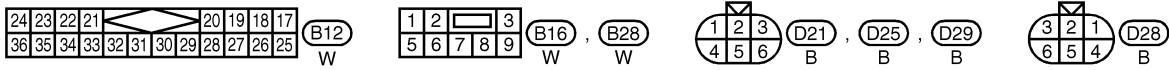
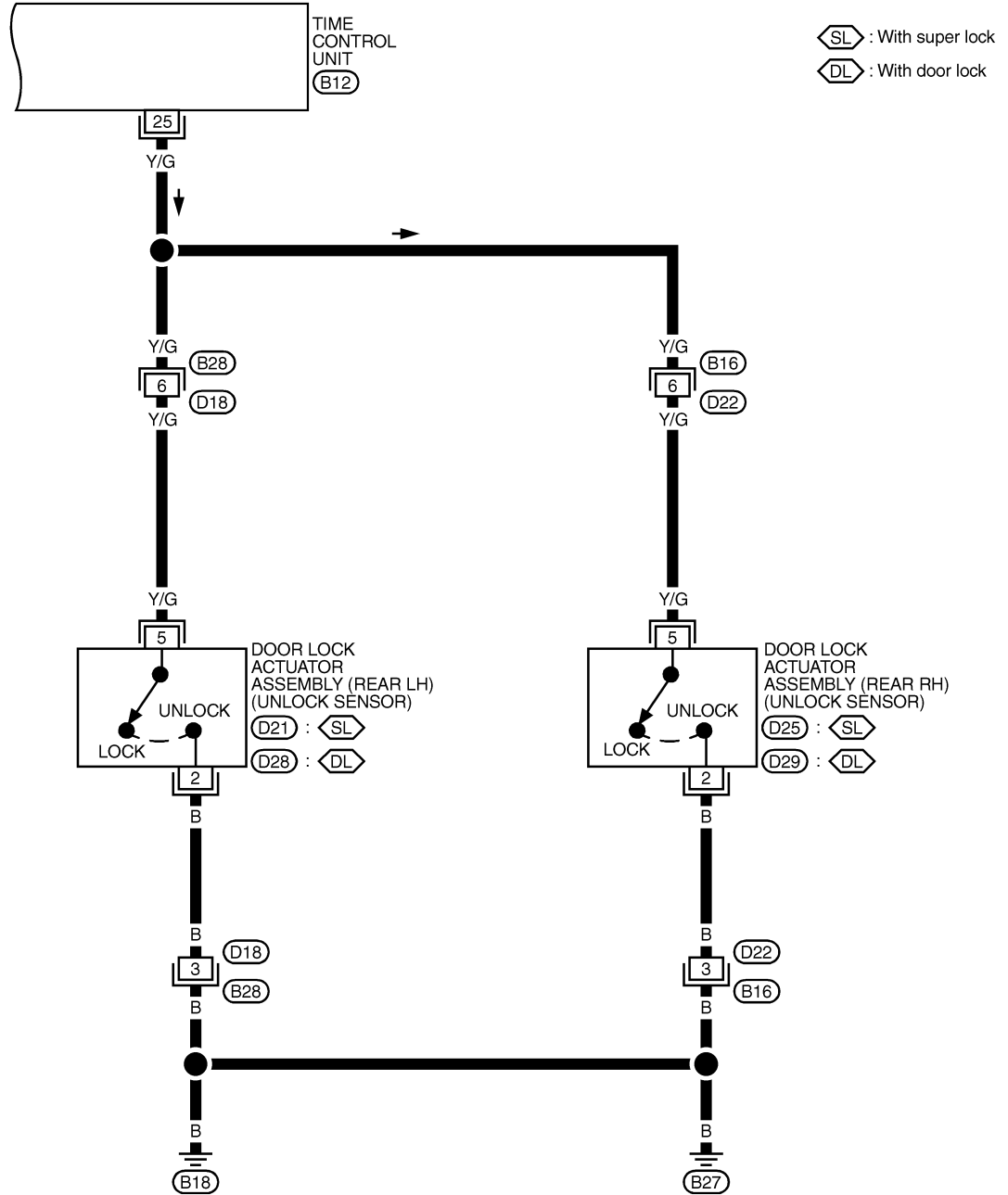
EL-THEFT-11



THEFT WARNING SYSTEM

Wiring Diagram — THEFT — (Cont'd)

EL-THEFT-12



Trouble Diagnoses

Alarm Trigger Feedback

To verify the last three triggers that activated the theft warning system, the Time Control Unit (TCU) can be switched into Diagnostic Mode (see page EL-309 how to enter Diagnostic Mode).

Approximately 2 seconds after the TCU has finished flashing the hazard lamp to confirm that the Diagnostic Mode has been successfully entered, the TCU will generate a short beep indicating the trigger that will be displayed. A single beep means the most recent trigger, three beeps means the oldest trigger. Following each beep or group of beeps, the hazard lamp will flash to indicate the alarm trigger.

Source of Alarm Trigger	Number (of flashes)
Driver's door lock status switch	1
Passenger door lock status switch	2
Rear door lock status switch	3
Ignition line	4
Driver's door open switch	5
Other door open switch	6
Trunk or back door open switch	8
Hood switch	9
Ultra sonic sensors	10
Smash sensor (Wagon vehicles)	11

In case there have been no alarm triggers, there will be no indicator flashes between the audible signals. After completing the alarm trigger feedback, the TCU will enter Diagnostic Mode as described on page EL-309.

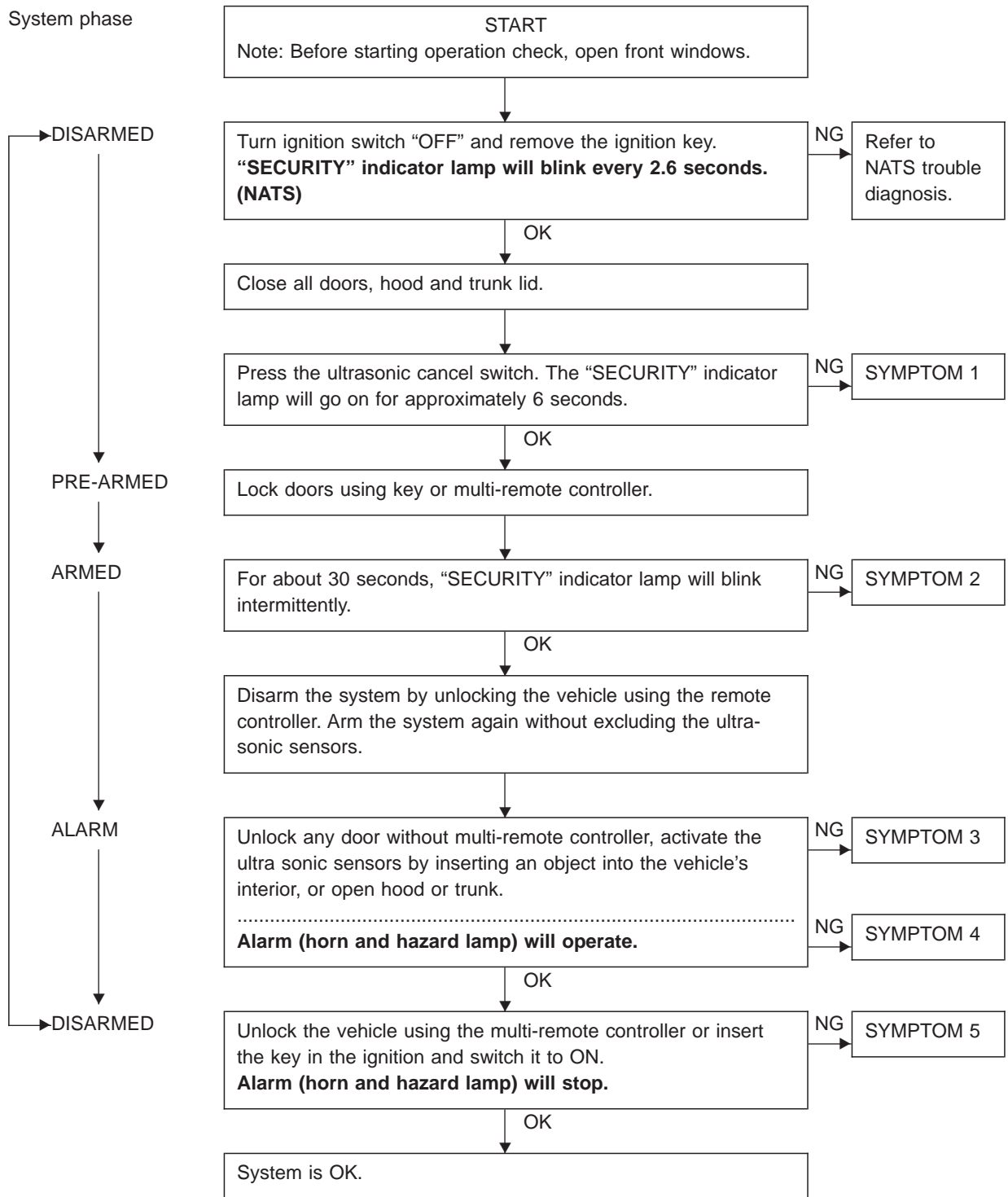
Before continuing trouble diagnoses on the next page, perform the checks as mentioned in the table on page EL-310.

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

PRELIMINARY CHECK

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



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

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

Before starting trouble diagnoses below, perform preliminary check, EL-329.

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

SYMPTOM CHART

Procedure		—	Power supply and ground circuit check		Diagnostic procedure							—	—	
			EL-329	EL-331	EL-331	EL-332	EL-336	EL-337	EL-338	EL-339	EL-340			EL-341
REFERENCE PAGE														
SYMPTOM		Preliminary check	Power supply circuit check	Ground circuit check	Diagnostic Procedure 1 (Door, hood and trunk room lamp switch check)	Diagnostic Procedure 2 (Security indicator lamp check)	Diagnostic Procedure 3 (Door unlock sensor check)	Diagnostic Procedure 4 (Door key cylinder switch check)	Diagnostic Procedures 5 (Smash sensor check)	Diagnostic Procedure 6 (Theft warning horn alarm check)	Diagnostic procedure 7 (Hazard lamp alarm check)	Check "MULTI-REMOTE CONTROL" system.	Check "NATS (Nissan Anti-Theft system)".	
1	Security indicator does not turn "ON" or blinking.	X	X	X		X								
2	Theft warning system cannot be set by...	All items	X	X	X	X		X						
		Door out side key	X	X	X				X					
		Multi-remote control	X	X	X							X		
3	*1 Theft warning system does not alarm when...	Any door is opened.	X	X	X	X								
		Any door is unlocked without using key or multi-remote controller	X	X	X			X						
		Glass breakage is detected (Wagon)	X	X	X				X					
4	Theft warning alarm does not activate.	All function	X	X	X	X		X						
		Horn alarm	X	X	X					X				
		Hazard lamp	X	X	X						X			
5	Theft warning system cannot be canceled by...	Turning the ignition ON *2	X	X	X								X	
		Multi-remote controller	X	X	X							X		

X: Applicable

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

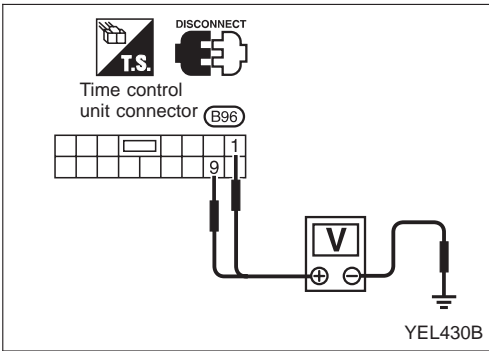
*2: Make sure the key is NATS registered.

THEFT WARNING SYSTEM

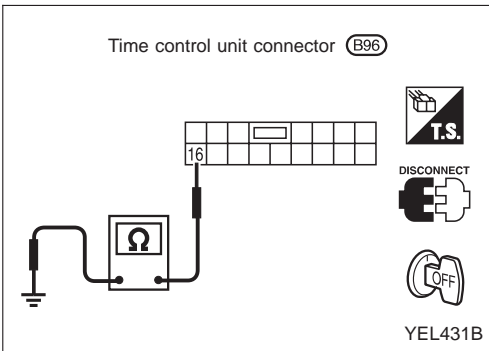
Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

Main power supply circuit check



Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
⑨	Ground	Battery voltage	Battery voltage	Battery voltage
①	Ground	0V	0V	Battery voltage



Ground circuit check

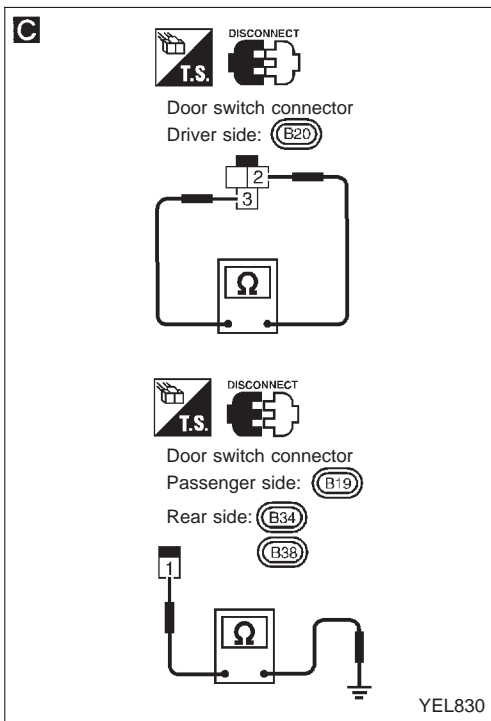
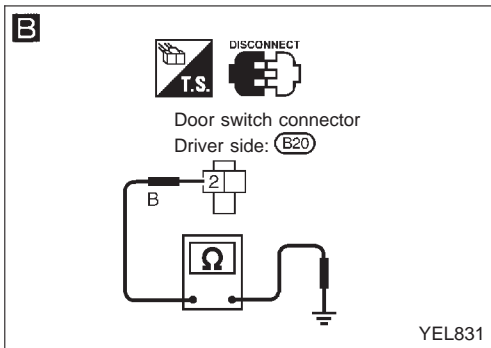
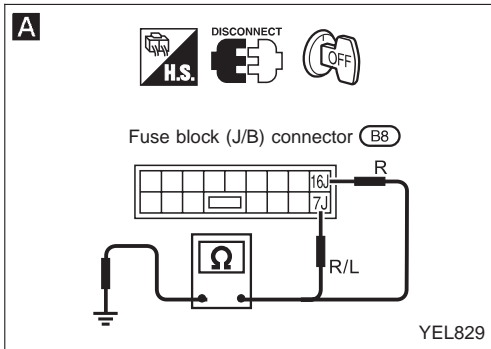
Terminals	Continuity
⑩ - Ground	Yes

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1-(1)

— With driver door switch type-1 — (Door switch check)



A

CHECK DOOR SWITCH INPUT SIGNAL.

Remove time control unit from fuse block.

Note: Fuse block (J/B) is very fragile. TCU should be removed carefully to avoid breaking the locking bars.

Check continuity between fuse block (J/B) and ground.

OK → Door switch is OK.

	Terminals	Condition	Continuity
Driver side door	(16J)	Opened	Yes
		Closed	No
Other door	(7J)	Opened	Yes
		Closed	No

NG

B

CHECK GROUND CIRCUIT.

1) Disconnect driver side door switch connector.

2) Check harness continuity between terminal ② and ground.

Continuity should exist.

NG → Repair harness or connector.

OK

C

CHECK DOOR SWITCH.

1) Disconnect door switch connector.

2) Check continuity between door switch terminals.

	Terminals	Condition	Continuity
Driver side door switch	② - ③	Closed	No
		Open	Yes
Other door switches	① - ground	Closed	No
		Open	Yes

NG → Replace door switch.

OK

Check the following.

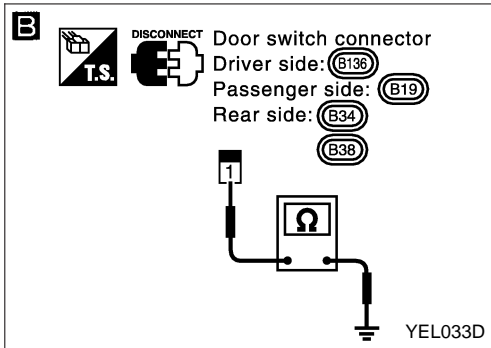
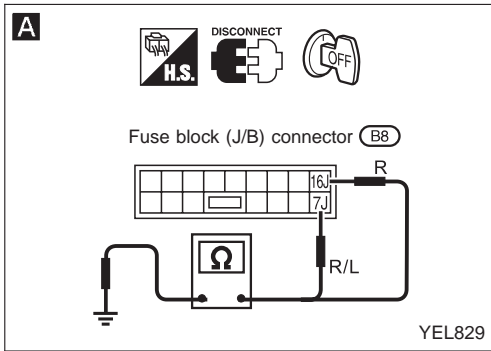
- Door switch ground condition (Except driver side)
- Harness for open or short between control unit and door switch

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1-(1)

— With driver door switch type-2 — (Door switch check)



A

CHECK DOOR SWITCH INPUT SIGNAL.

Remove time control unit from fuse block.

Note: Fuse block (J/B) is very fragile. TCU should be removed carefully to avoid breaking the locking bars.

Check continuity between fuse block (J/B) and ground.

	Terminals	Condition	Continuity
Driver side door	(16J)	Opened	Yes
		Closed	No
Other door	(7J)	Opened	Yes
		Closed	No

OK → Door switch is OK.

NG

B

CHECK DOOR SWITCH.

1) Disconnect door switch connector.

2) Check continuity between door switch terminals.

Terminals	Condition	Continuity
① - ground	Closed	No
	Open	Yes

NG → Replace door switch.

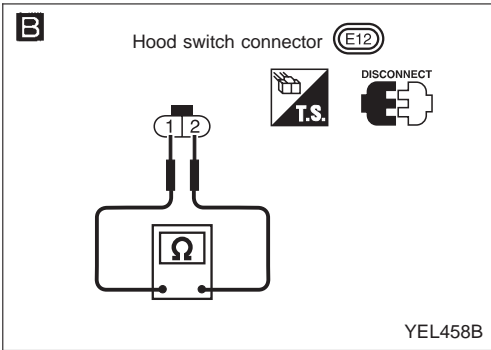
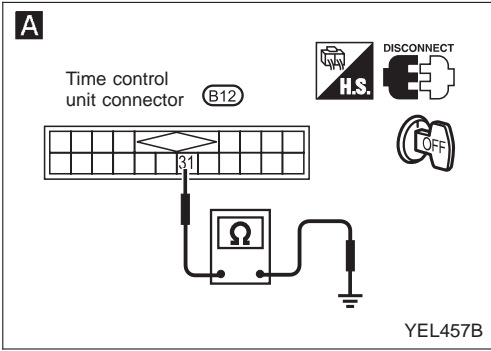
OK

Check the following.

- Door switch ground condition
- Harness for open or short between control unit and door switch

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 1-(2) (Hood switch check)



A

OK → Hood switch is OK.

CHECK HOOD SWITCH INPUT SIGNAL.
Remove time control unit from fuse block.
Note: Fuse block (J/B) is very fragile. TCU should be removed carefully to avoid breaking the locking bars.
Check continuity between control unit terminal ③② and ground.

Condition	Continuity
Hood is open.	Yes
Hood is closed.	No

Refer to wiring diagram in EL-317.

OK

B

NG → Replace hood switch.

CHECK HOOD SWITCH.
1. Disconnect hood switch connector.
2. Check continuity between hood switch terminals.

Terminals	Condition	Continuity
① - ②	Pushed	No
	Released	Yes

OK

Check the following.

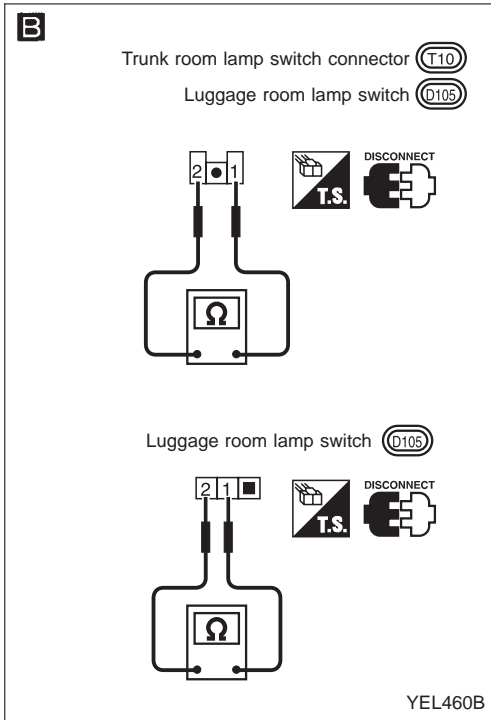
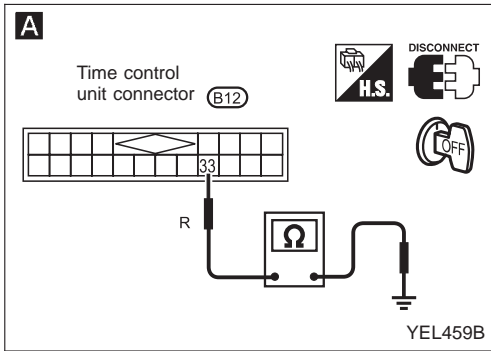
- Hood switch ground circuit
- Harness for open or short between control unit and hood switch

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1-(3)

(Trunk room or luggage room lamp switch check)



A

CHECK TRUNK ROOM OR LUGGAGE ROOM LAMP SWITCH INPUT SIGNAL.
Remove time control unit from fuse block.

Note: Fuse block (J/B) is very fragile. TCU should be removed carefully to avoid breaking the locking bars.

Check continuity between control unit terminal ③③ and ground.

Condition	Continuity
Trunk lid or back door is open.	Yes
Trunk lid or back door is closed.	No

Refer to wiring diagram in EL-319.

OK → Trunk room or luggage room lamp switch is OK.

NG

B

CHECK TRUNK ROOM OR LUGGAGE ROOM LAMP SWITCH.

1. Disconnect trunk room or luggage room lamp switch connector.
2. Check continuity between trunk room lamp switch terminals.

Terminals	Condition	Continuity
① - ②	Closed	No
	Open	Yes

NG → Replace trunk room or luggage room lamp switch.

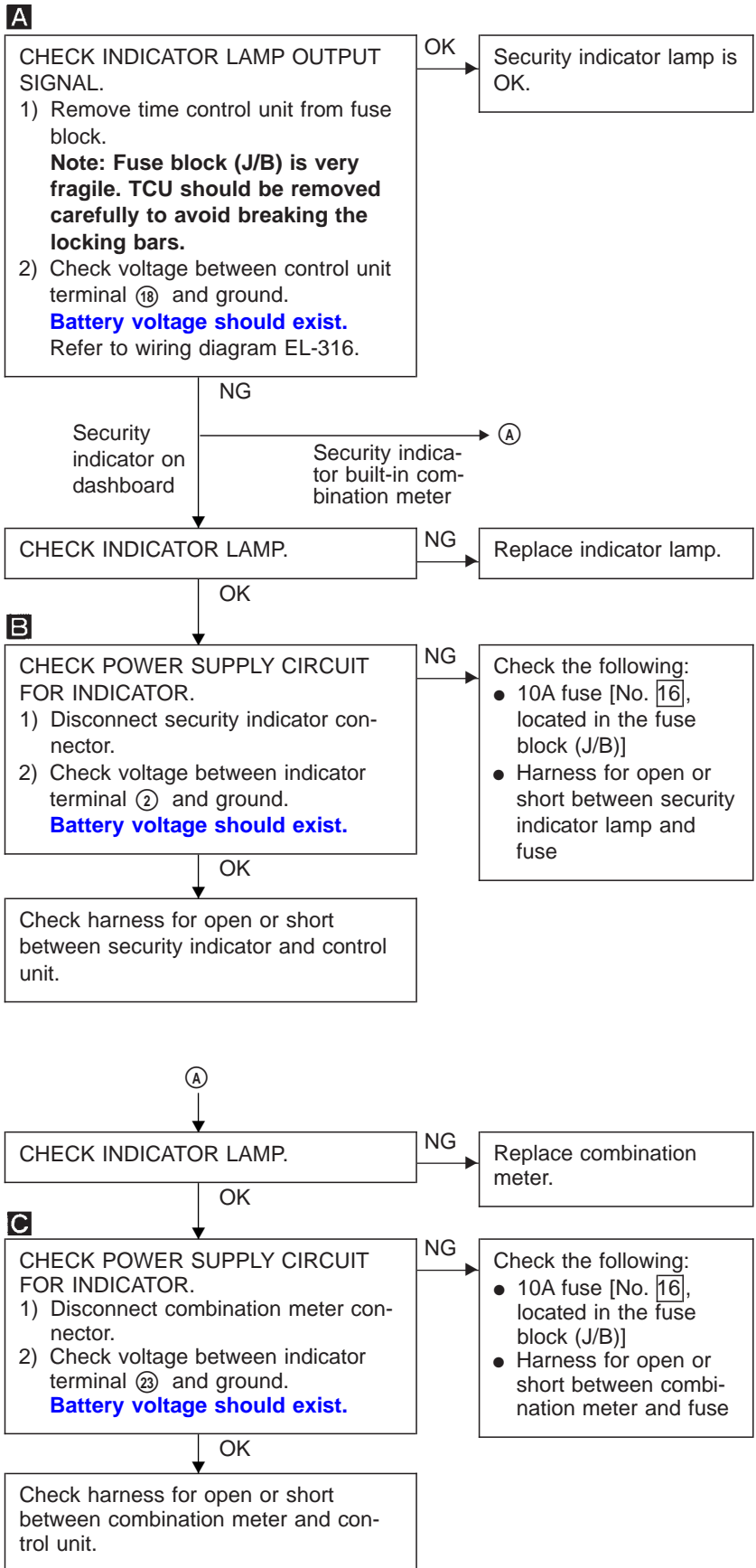
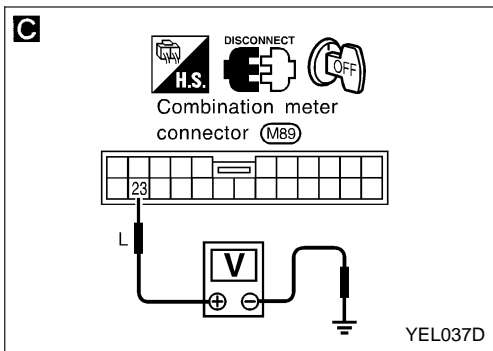
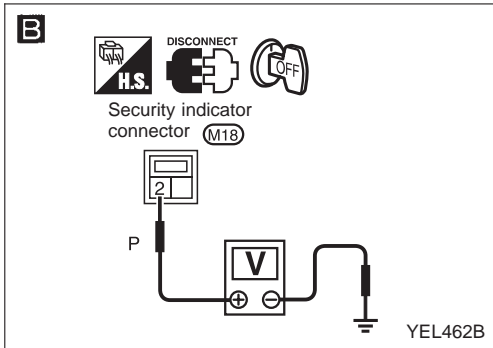
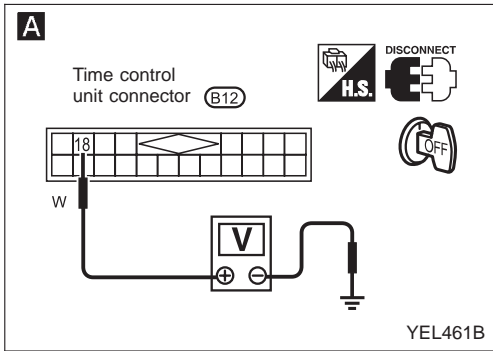
OK

Check the following.

- Trunk room or luggage room lamp switch ground circuit
- Harness for open or short between control unit and trunk room or luggage room lamp switch

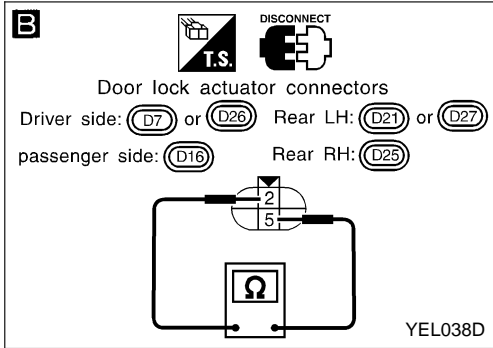
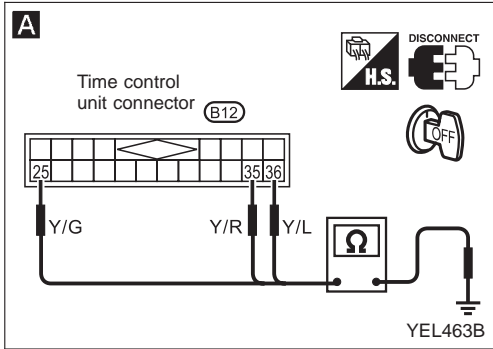
THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 2 (Security indicator check)



THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 3 (Door unlock sensor check)



A

CHECK DOOR UNLOCK SENSOR INPUT SIGNAL.

Remove time control unit from fuse block.

Note: Fuse block (J/B) is very fragile. TCU should be removed carefully to avoid breaking the locking bars.

Check continuity between control unit terminals (25), (35), (36) and ground.

OK → Door unlock sensor is OK.

	Terminals		Condition	Continuity
	+	-		
Driver side door	(35)	Ground	Locked	No
			Unlocked	Yes
Passenger side door	(36)	Ground	Locked	No
			Unlocked	Yes
Rear door	(25)	Ground	Locked	No
			Unlocked	Yes

Refer to wiring diagram in EL-327.

NG

B

CHECK DOOR UNLOCK SENSOR.

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

NG → Replace door unlock sensor.

Terminals	Condition	Continuity
(2) - (5)	Locked	No
	Unlocked	Yes

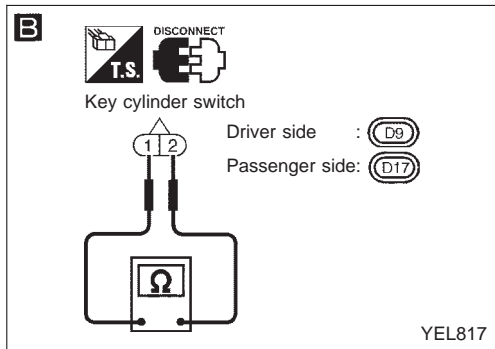
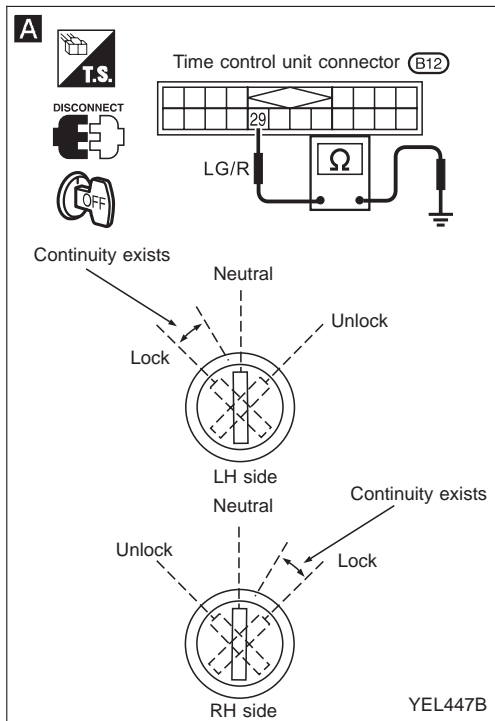
OK

Check the following:

- Door unlock sensor ground circuit
- Harness for open or short between control unit and door unlock sensor

THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 4 (Door key cylinder switch check)



A

CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK SIGNAL).

Remove time control unit from fuse block.

Note: Fuse block (J/B) is very fragile. TCU should be removed carefully to avoid breaking the locking bars.

Check continuity between time control unit connector terminal (29) and ground.

Key cylinder switch operation	Continuity
Between neutral and lock	Yes
Unlock/neutral	No

OK → Door key cylinder switch is OK.

NG

B

CHECK DOOR KEY CYLINDER SWITCH.

1) Disconnect door key cylinder switch connector.

2) Check continuity between door key cylinder switch terminals.

Terminals	Key position	Continuity
① - ②	Neutral	No
	Between neutral and lock	Yes
	Unlock/neutral	No
	Full stroke (Lock)	No

NG → Replace key cylinder switch.

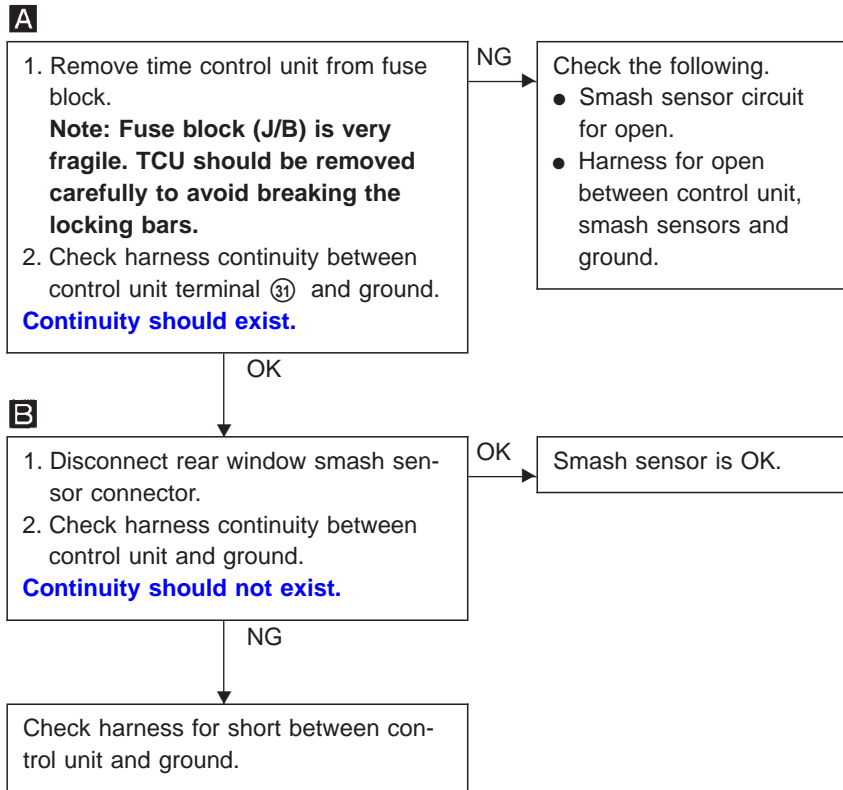
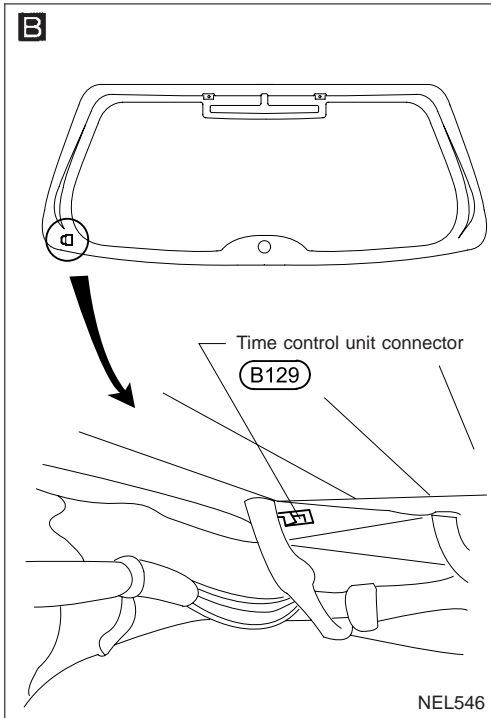
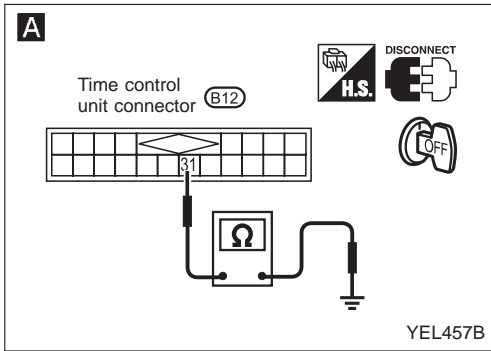
OK

Check the following:

- Harness connectors (B3), (M13)
- Harness connectors (M7), (D1)
- Harness connectors (B5), (D2)
- Harness connectors (B56), (D11)
- Door key cylinder switch ground circuit
- Harness for open or short-circuit between super lock control unit and door key cylinder.

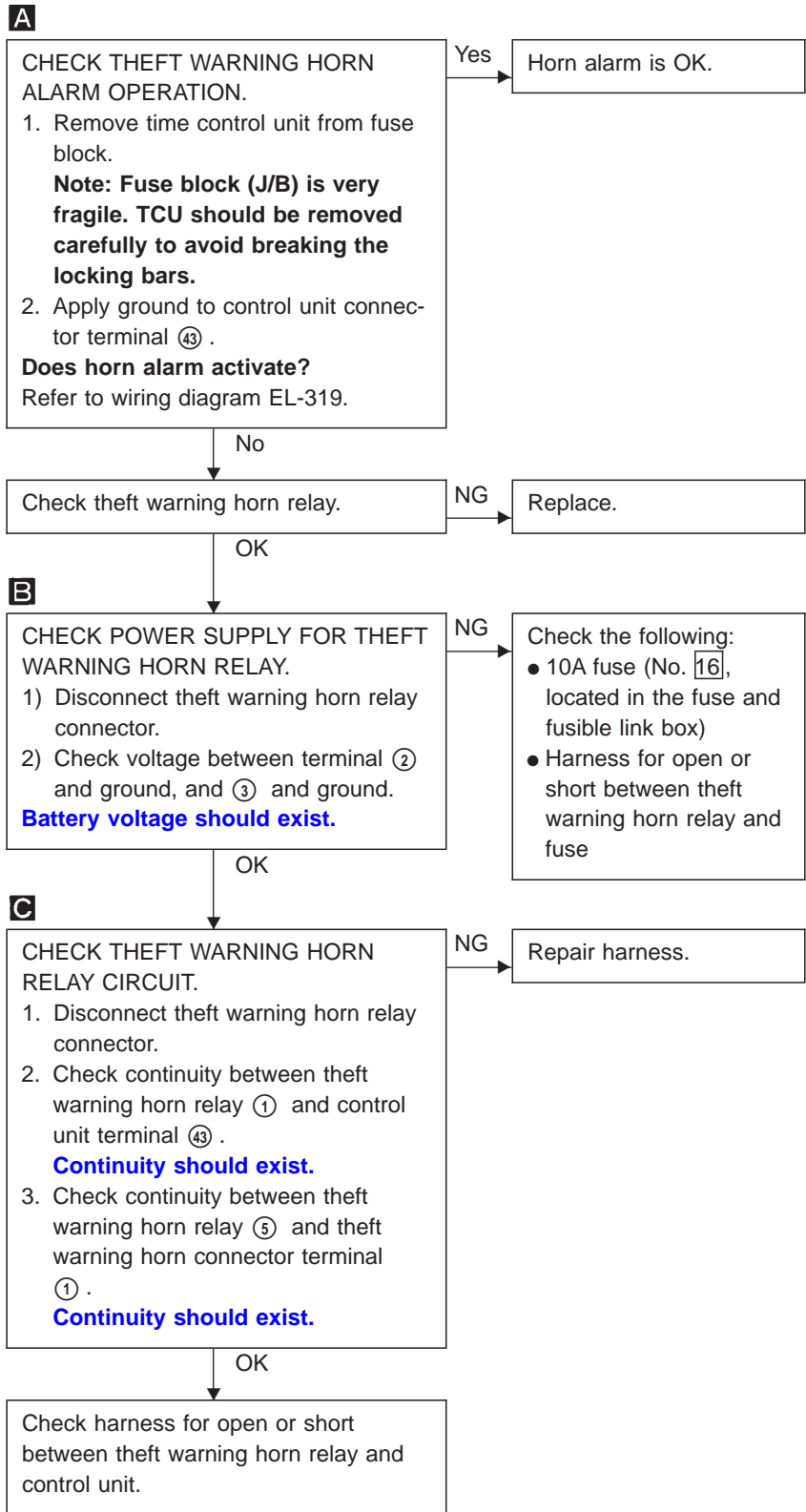
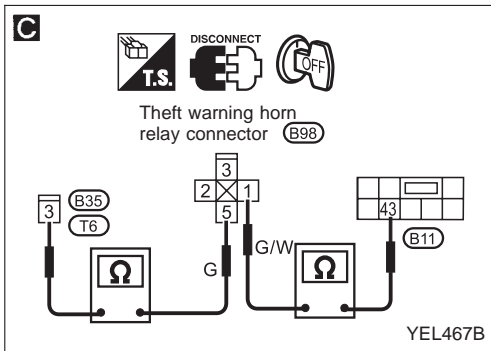
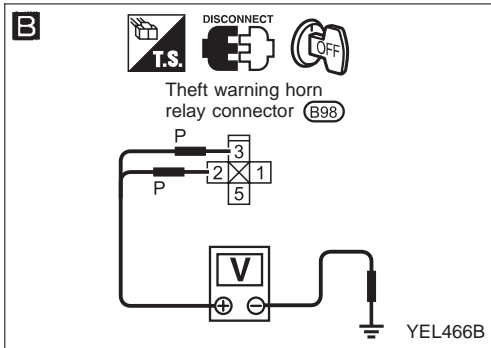
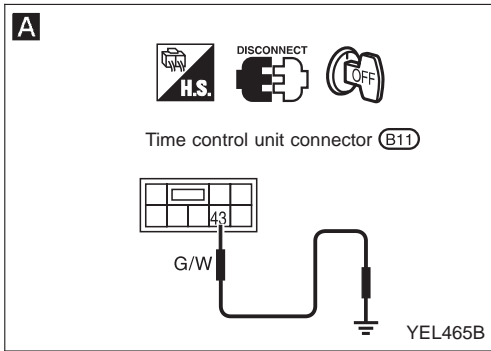
THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 5 (Smash sensor check)



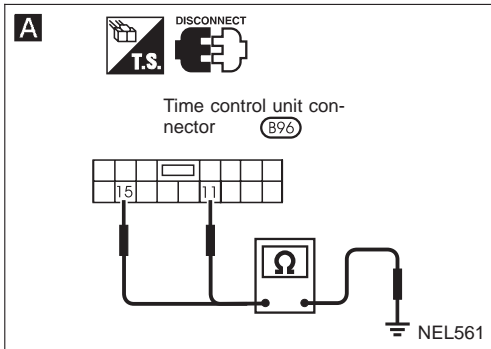
THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 6 (Theft warning horn alarm check)



THEFT WARNING SYSTEM

Trouble Diagnoses (Cont'd) DIAGNOSTIC PROCEDURE 7 (Hazard lamp alarm check)



Push hazard switch to ON.
Check hazard lamp operation.

OK

Replace time control unit.

NG

A

1. Remove time control unit from fuse block (J/B).
Remove time control unit from fuse block.

Note: Fuse block (J/B) is very fragile. TCU should be removed carefully to avoid breaking the locking bars.

2. Check harness continuity between control unit terminals ⑪ and ⑮ and ground.

Continuity should exist.

NG

Check the following.

- Harness connectors (E104, B96)
- Fuse block (J/B)
- Turn signal lamps

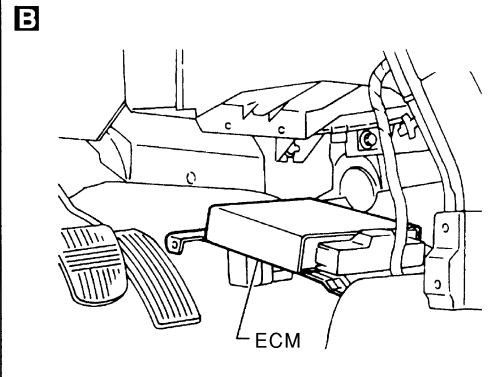
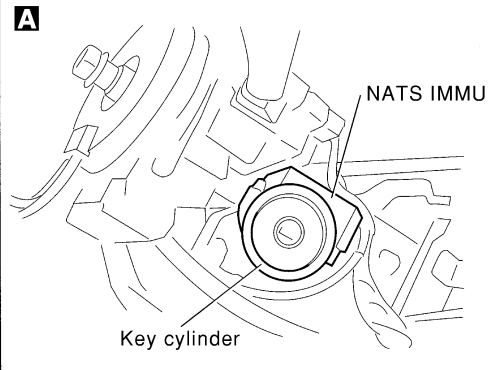
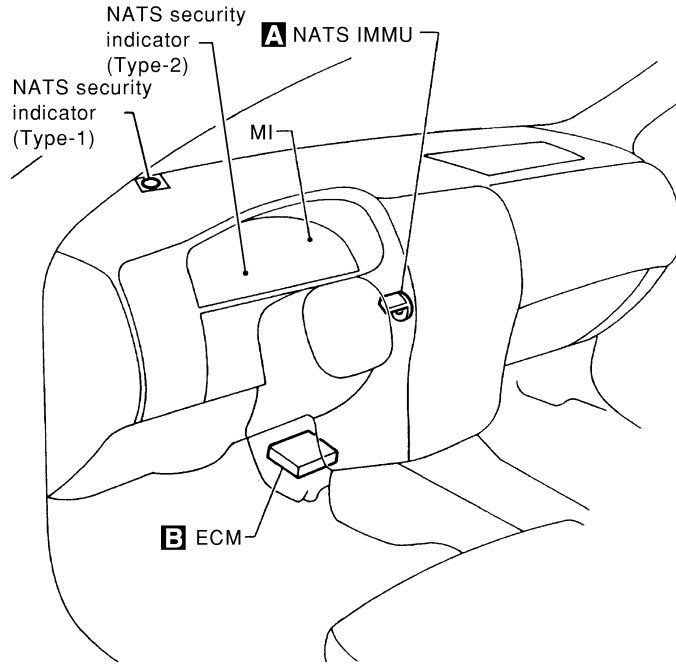
OK

Replace time control unit.

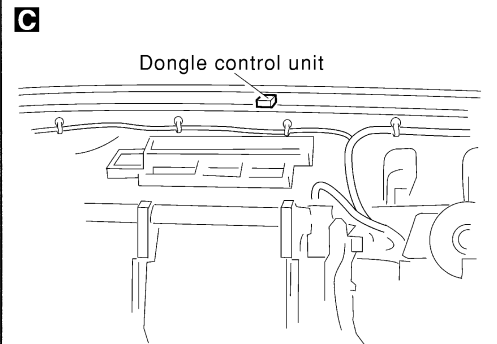
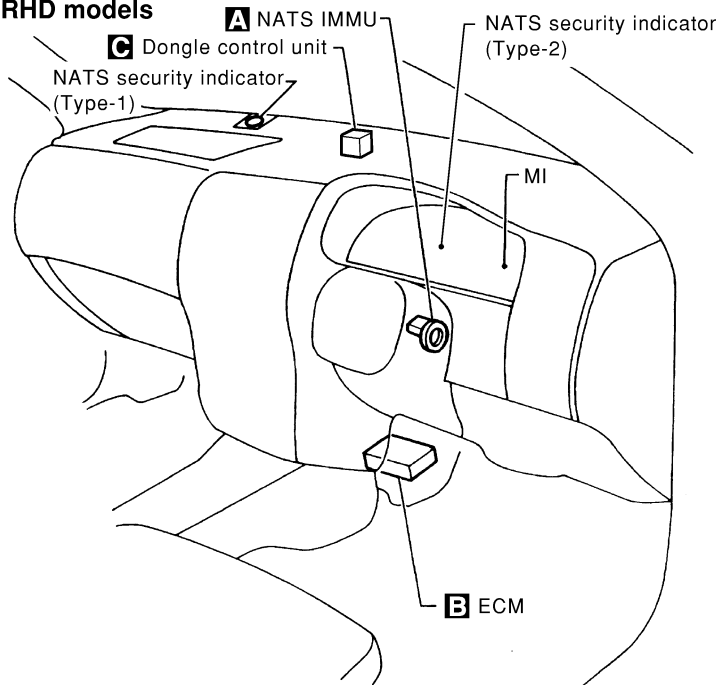
NATS (Nissan Anti-Theft System)

Component Parts Location

LHD models



RHD models



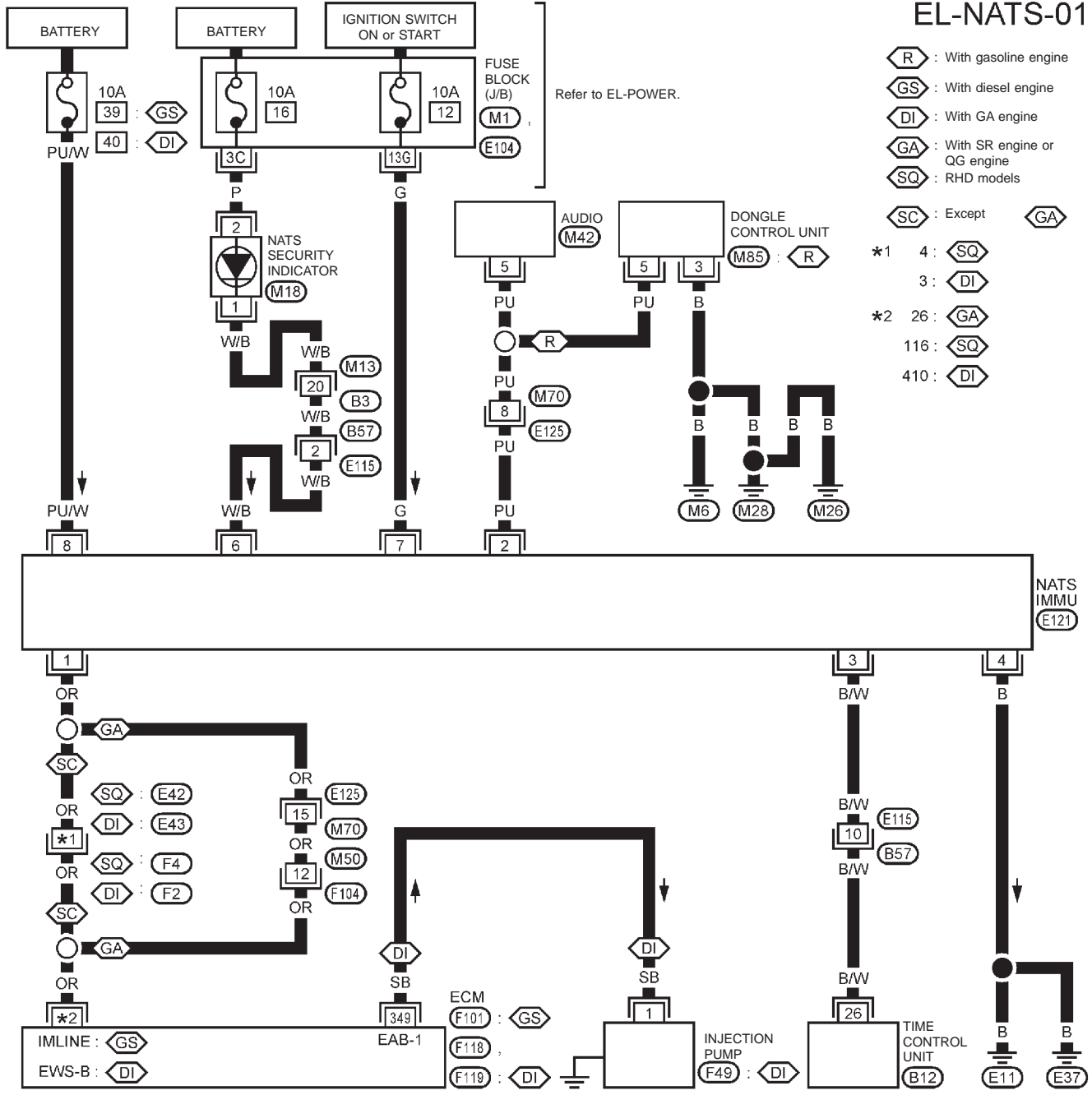
YEL039D

NATS (Nissan Anti-Theft System)

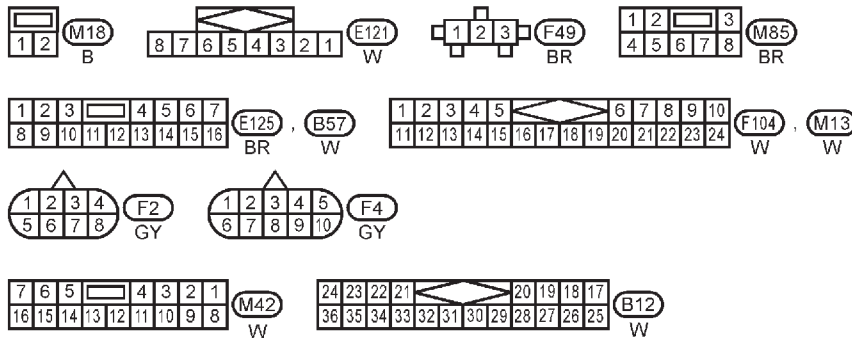
Wiring Diagram — NATS —

MODELS BEFORE VIN - P11U0548750 (Type-1)

EL-NATS-01



- R : With gasoline engine
- GS : With diesel engine
- DI : With GA engine
- GA : With SR engine or QG engine
- SQ : RHD models
- SC : Except GA
- *1 4: SQ
- 3: DI
- *2 26: GA
- 116: SQ
- 410: DI



- REFER TO THE FOLLOWING
- M1 FUSE BLOCK - Junction Box (J/B)
 - E104 FUSE BLOCK - Junction Box (J/B)
 - F101 FUSE BLOCK - Junction Box (J/B)
 - F118 FUSE BLOCK - Junction Box (J/B)
 - F119 FUSE BLOCK - Junction Box (J/B)

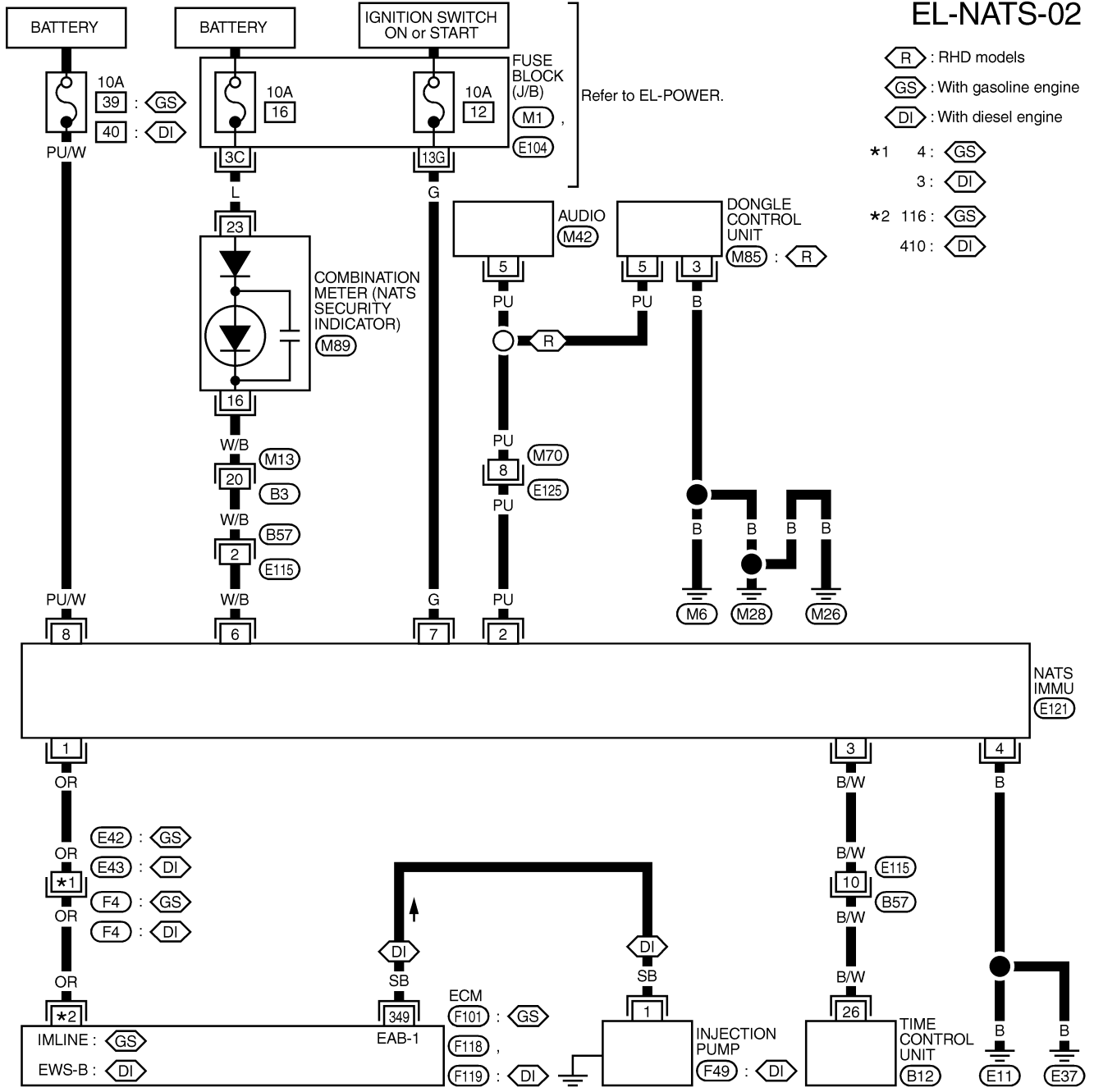
YEL216C

NATS (Nissan Anti-Theft System)

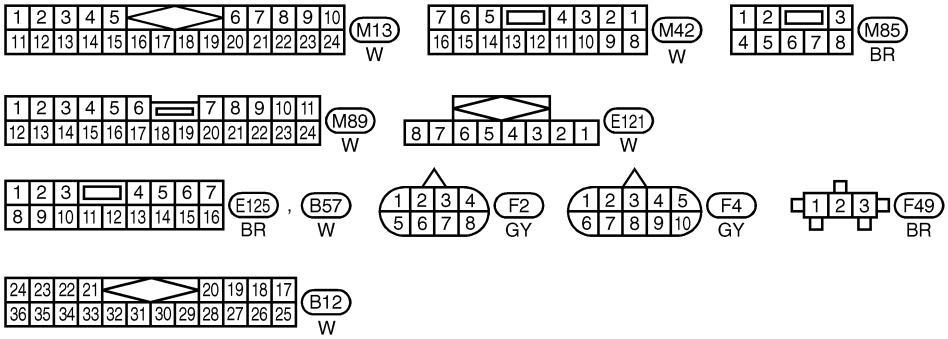
Wiring Diagram — NATS — (Cont'd)

MODELS AFTER VIN - P11U0548750 (Type-2)

EL-NATS-02



- (R) : RHD models
- (GS) : With gasoline engine
- (DI) : With diesel engine
- *1 4 : (GS)
- 3 : (DI)
- *2 116 : (GS)
- 410 : (DI)



REFER TO THE FOLLOWING
 (M1), (E104) FUSE BLOCK-
 JUNCTION BOX (J/B)
 (F101), (F118), (F119)
 ELECTRICAL UNITS

YEL936C

NATS (Nissan Anti-Theft System)

System Description

NATS has the following immobiliser functions:

- 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.
- 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.
- 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 NATS security indicator (NATS security ind.) 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	—	6 times blinking 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	6 times blinking 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	—	—

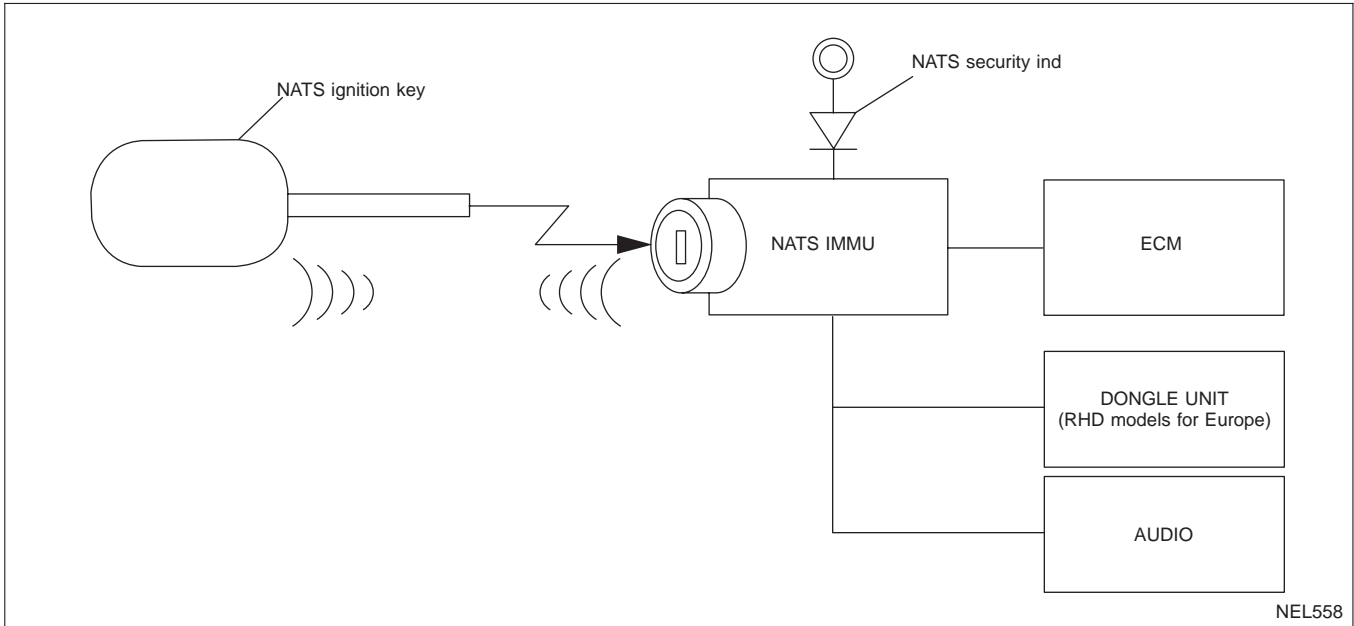
- NATS trouble diagnoses, system initialisation and additional registration of other NATS ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NATS software.
Regarding the procedures of NATS initialisation and NATS ignition key ID registration, refer to CONSULT-II operation manual, 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 and the PIN code from vehicle owner.**

NATS (Nissan Anti-Theft System)

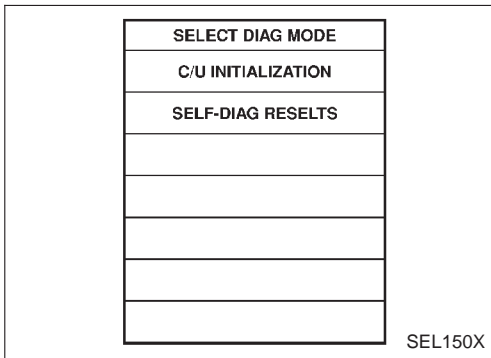
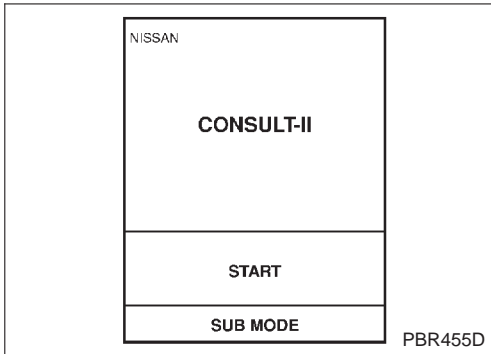
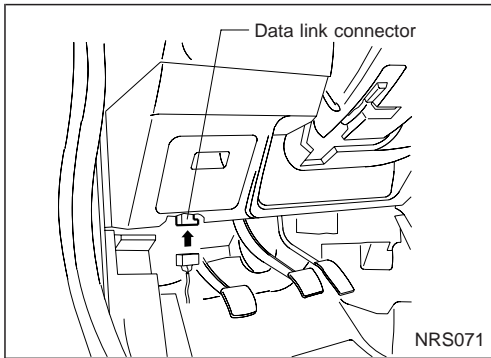
System Composition

The immobiliser function of the NATS for Nissan model P11 consists of the following:

- NATS ignition key
- NATS immobiliser control unit (NATS IMMU), located in the ignition key cylinder
- Engine control module (ECM)
- Dongle unit (RHD models for Europe)
- NATS security indicator
- NATS audio link



NATS (Nissan Anti-Theft System)



CONSULT-II

CONSULT-II INSPECTION PROCEDURE

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

3. Insert NATS program card into CONSULT-II.

: Program card
NATS (AEN00B)

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

6. 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

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

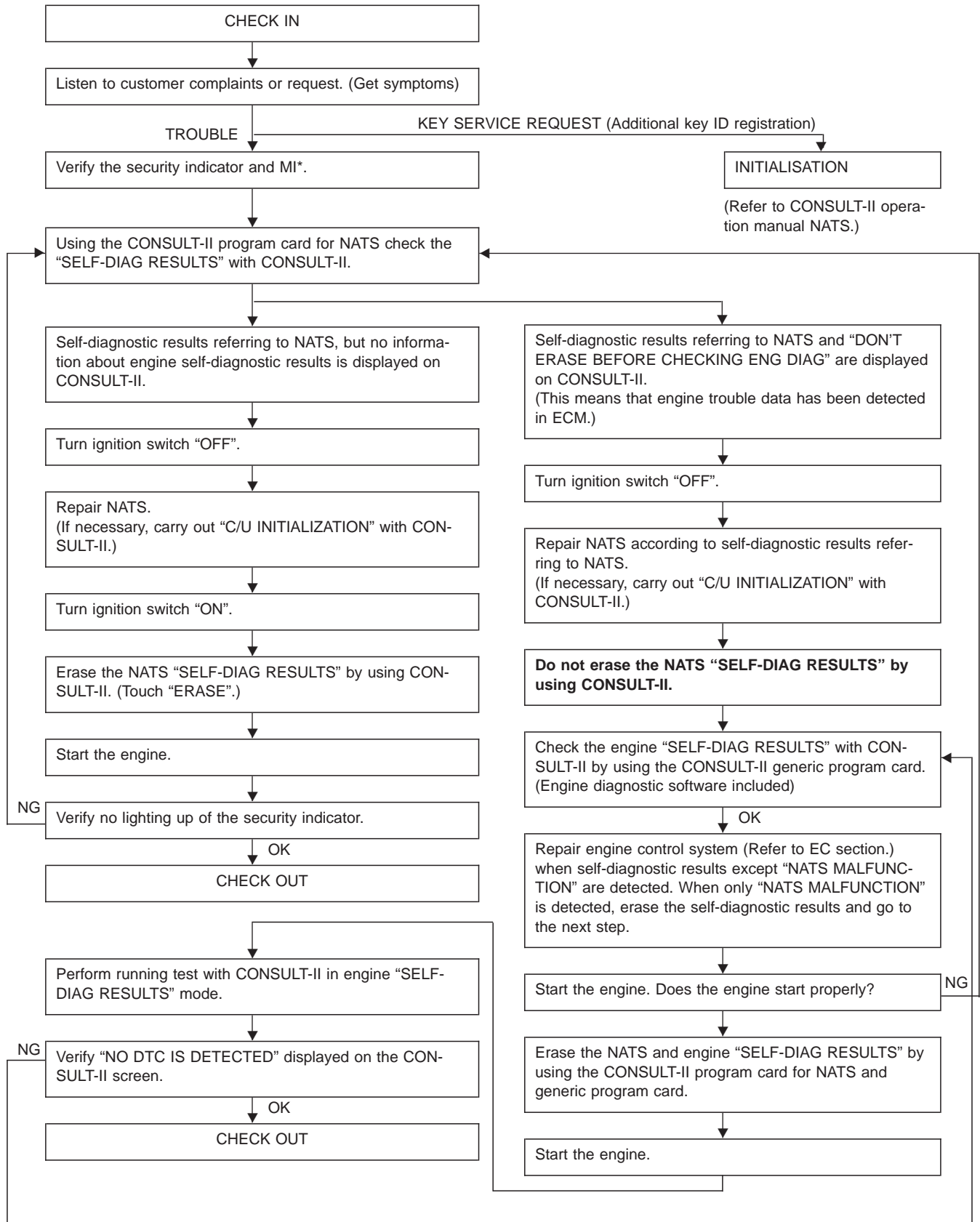
NOTE:

When any initialisation 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 initialisation is performed for RHD models for Europe, security indicator will flash six times to demonstrate recognition of dongle ID.

Trouble Diagnoses WORK FLOW



NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

SYMPTOM MATRIX CHART 1

(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 NEXT PAGE			
<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine does not start 	ECM INT CIRC-IMMU	PROCEDURE 1 (EL-352)	ECM	B			
			<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine does not start 	CHAIN OF ECM-IMMU	PROCEDURE 2 (EL-353)	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					
<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine does not start 	DIFFERENCE OF KEY	PROCEDURE 3 (EL-355)	Unregistered key			D	
						IMMU	A
<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine does not start 	CHAIN OF IMMU-KEY	PROCEDURE 4 (EL-356)	Malfunction of key ID chip			E	
						IMMU	A
						Open circuit in ground line of dongle circuit	C6
						Open or short circuit in communication line between IMMU and dongle unit	C5
				Dongle control unit	G		
<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine does not start 	ID DISCORD, IMM-ECM	PROCEDURE 5 (EL-358)	System initialisation has not yet been completed.	F			
				ECM	B		
<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine does not start 	LOCK MODE	PROCEDURE 7 (EL-361)	LOCK MODE	D			
<ul style="list-style-type: none"> ● MI staying ON ● Security indicator lighting up* 	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-349)	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 dongle unit (RHD models for Europe), the security indicator blinks 6 times just after ignition switch is turned to ON. Then the security indicator lights up while ignition key is in the "ON" position.

NATS (Nissan Anti-Theft System)

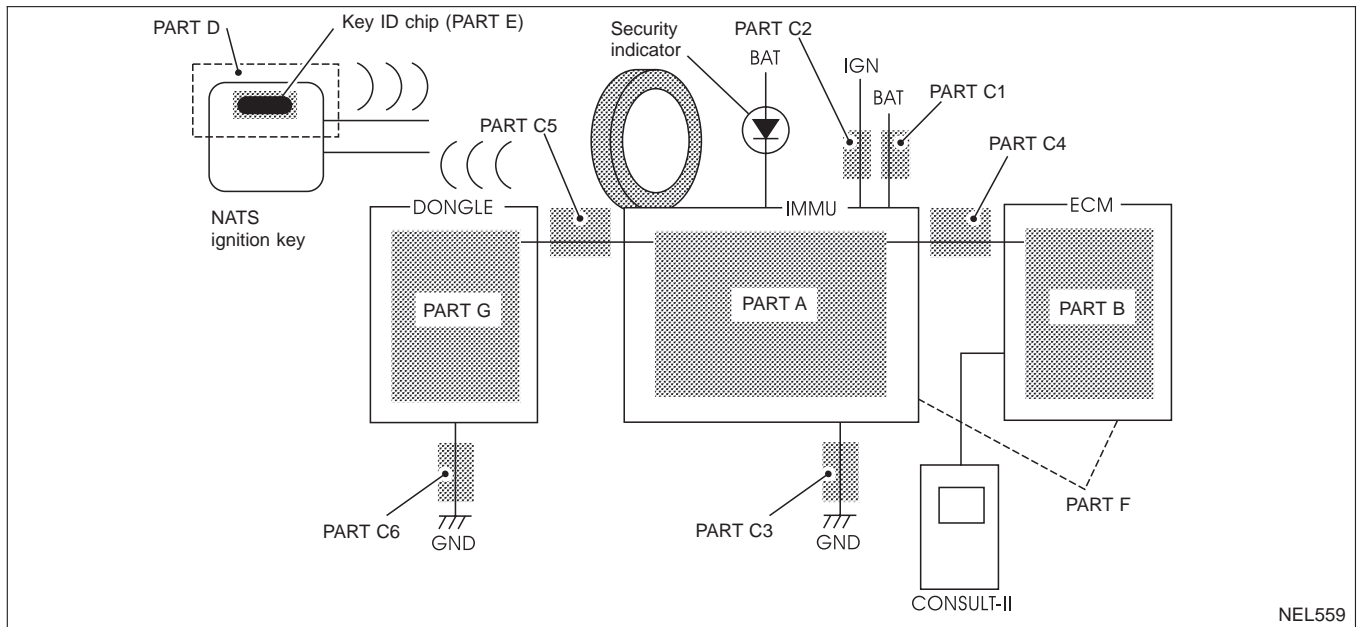
Trouble Diagnoses (Cont'd)

SYMPTOM MATRIX CHART 2

(Non self-diagnosis related item)

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON NEXT PAGE
● Security ind. does not light up.	PROCEDURE 6 (EL-360)	Security ind.	
		Open circuit between Fuse and NATS IMMU	
		Continuation of initialization mode	
		NATS IMMU	
Security ind. does not blink just after initialization even if the vehicle is equipped with dongle unit.	PROCEDURE 8 (EL-362)	NATS might be initialized without connecting dongle unit properly.	
Open circuit in ground line of dongle circuit		C6	
Open or short circuit in communication line between IMMU and dongle unit		C5	
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.		Dongle control unit	G

DIAGNOSTIC SYSTEM DIAGRAM



NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1

Self-diagnostic results:

“ECM INT CIRC-IMMU” displayed on CONSULT-II screen

SELF DIAGNOSIS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

SEL314W

A



Confirm SELF-DIAGNOSTIC RESULTS “ECM INT CIRC-IMMU” displayed on CONSULT-II screen.
Ref. part No. B.

Replace ECM.



Perform initialisation with CONSULT-II.
For the operation of initialisation, refer to “CONSULT-II operation manual NATS”.

NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

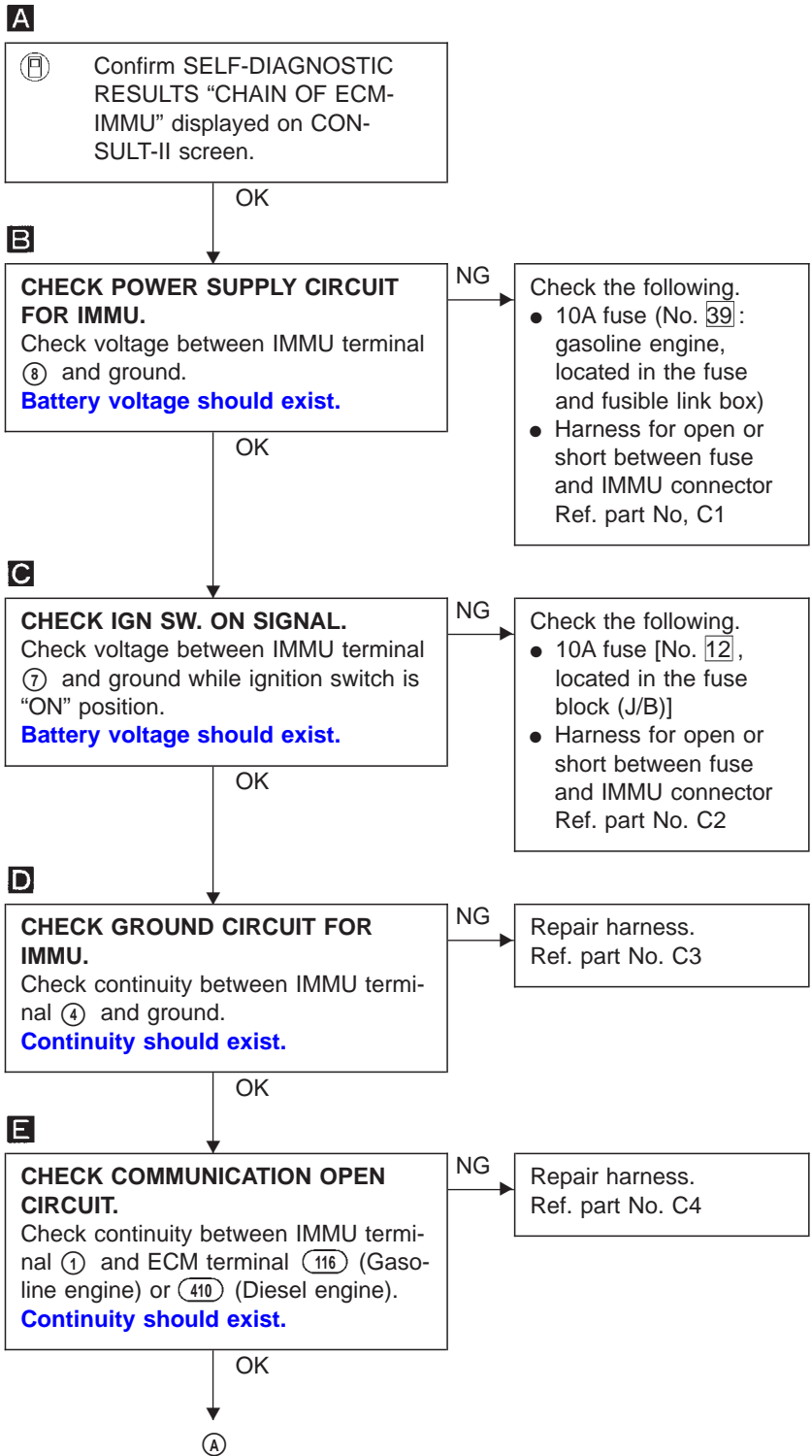
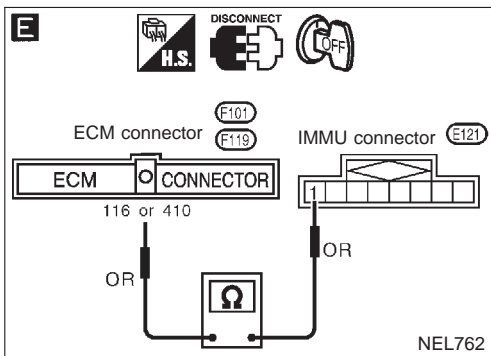
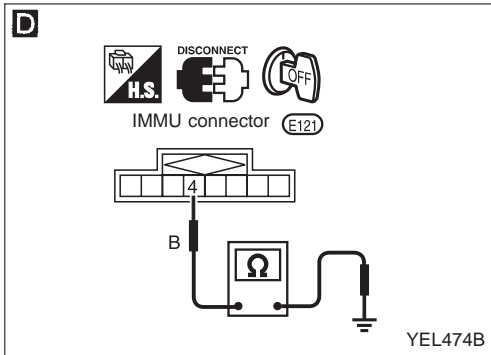
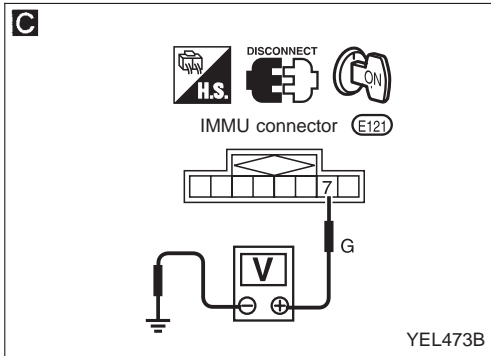
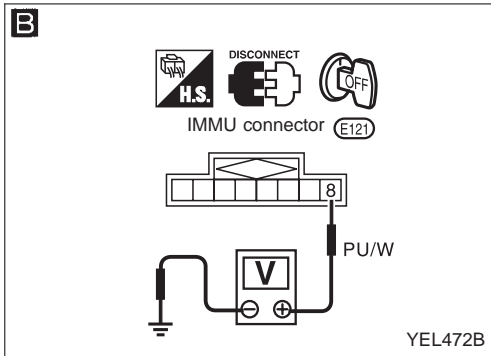
Self-diagnostic results:

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

A

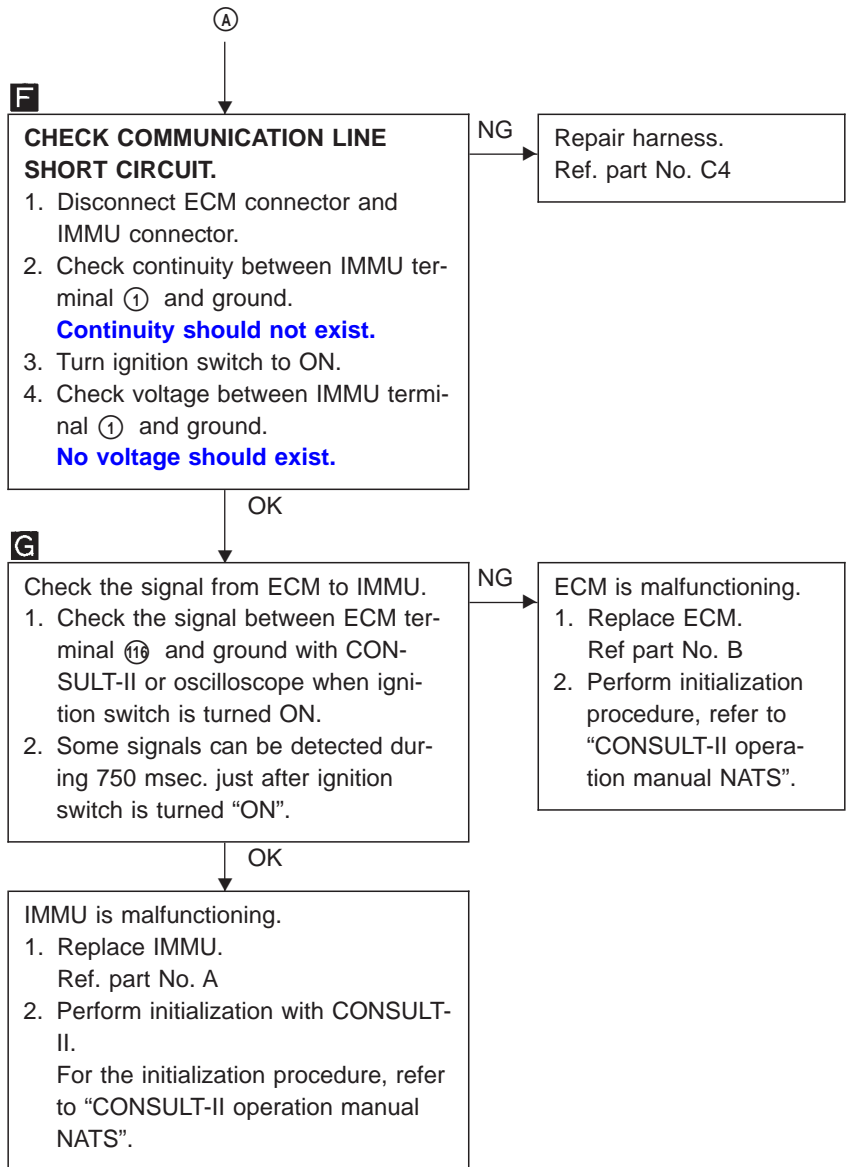
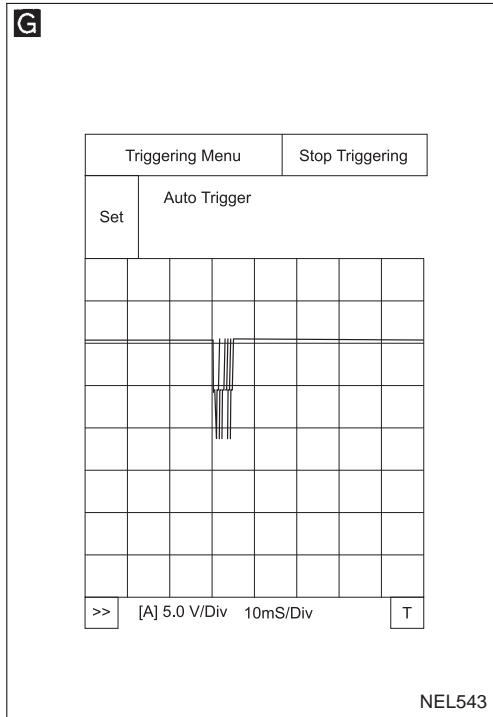
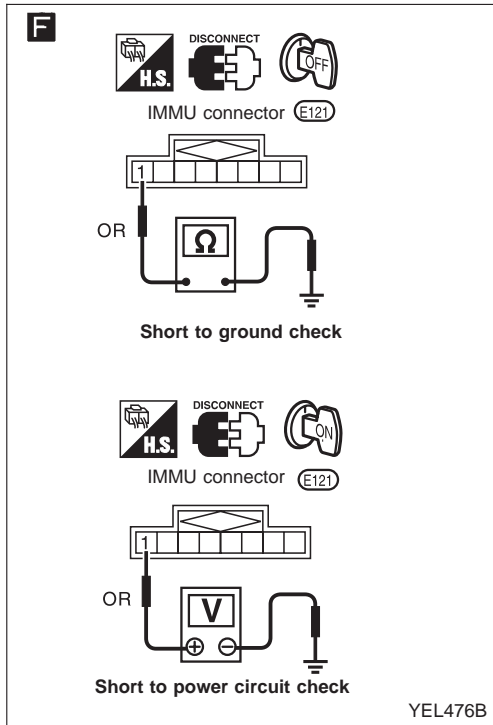
SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF ECM-IMMU	0

YEL471B



NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)



NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

Self-diagnostic results:

"DIFFERENCE OF KEY" displayed on CONSULT-II screen

A

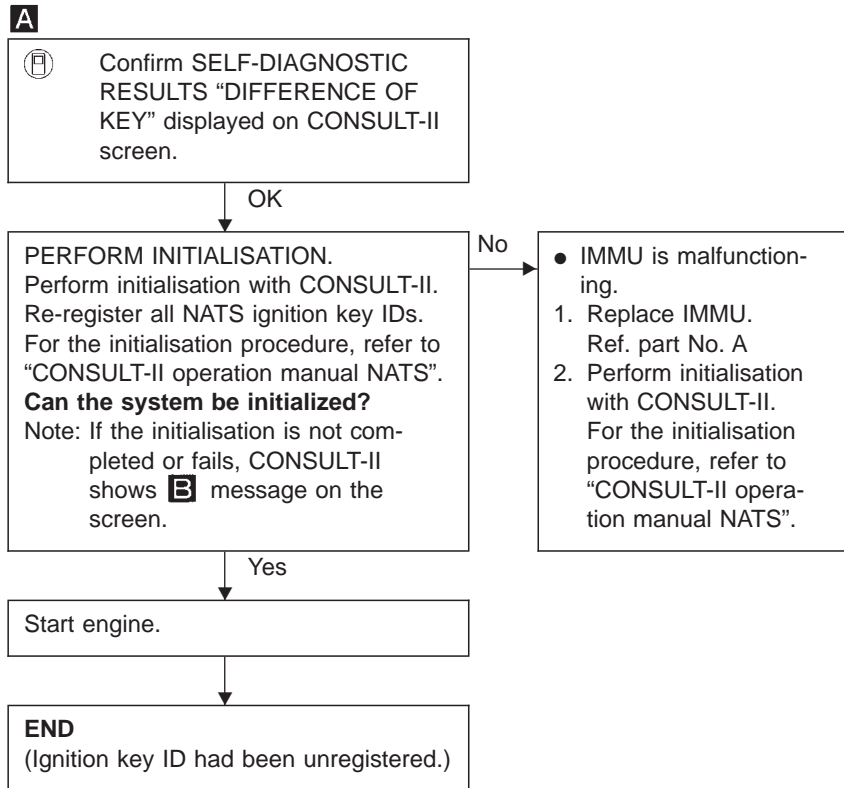
SELF DIAGNOSIS	
DTC RESULTS	TIME
DIFFERENCE OF KEY	0

YEL478B

B

IMMU INITIALIZATION
<p>INITIALIZATION FAIL</p>
<p>THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</p>

YEL479B



NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

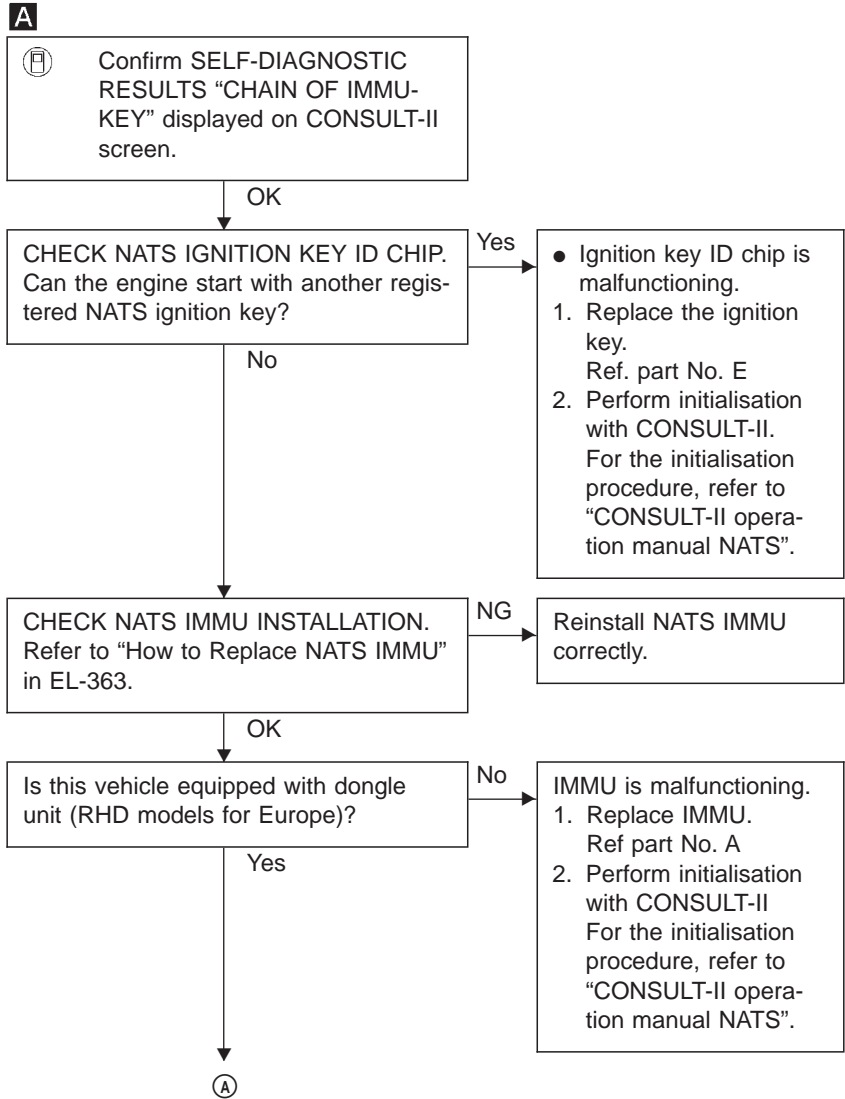
Self-diagnostic results:

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

A

SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF IMMU-KEY	0

YEL480B



NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

Self-diagnostic results:

"ID DISCORD, IMM-ECM" displayed on CONSULT-II screen

A

SELF DIAG RESULTS	
DTC RESULTS	TIME
ID DISCORD, IMM-ECM	0

C2SDD01

B

IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

YEL479B

A

ⓘ Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM*" displayed on CONSULT-II screen.

* "ID DISCORD, IMM-ECM": Registered ID of IMMU is in discord with that of ECM.

PERFORM INITIALISATION.
Perform initialisation with CONSULT-II. Re-register all NATS ignition key IDs. For the initialisation procedure, refer to "CONSULT-II operation manual NATS".
Can the system be initialized?
Note: If the initialisation is not completed or fails, CONSULT-II shows **B** message on the screen.

No

- ECM is malfunctioning.
- 1. Replace ECM. Ref. part No. B
- 2. Perform initialisation with CONSULT-II. For the initialisation procedure, refer to "CONSULT-II operation manual NATS".

Yes

Start engine. (END)
(System initialisation was not completed. Ref. part No. F)

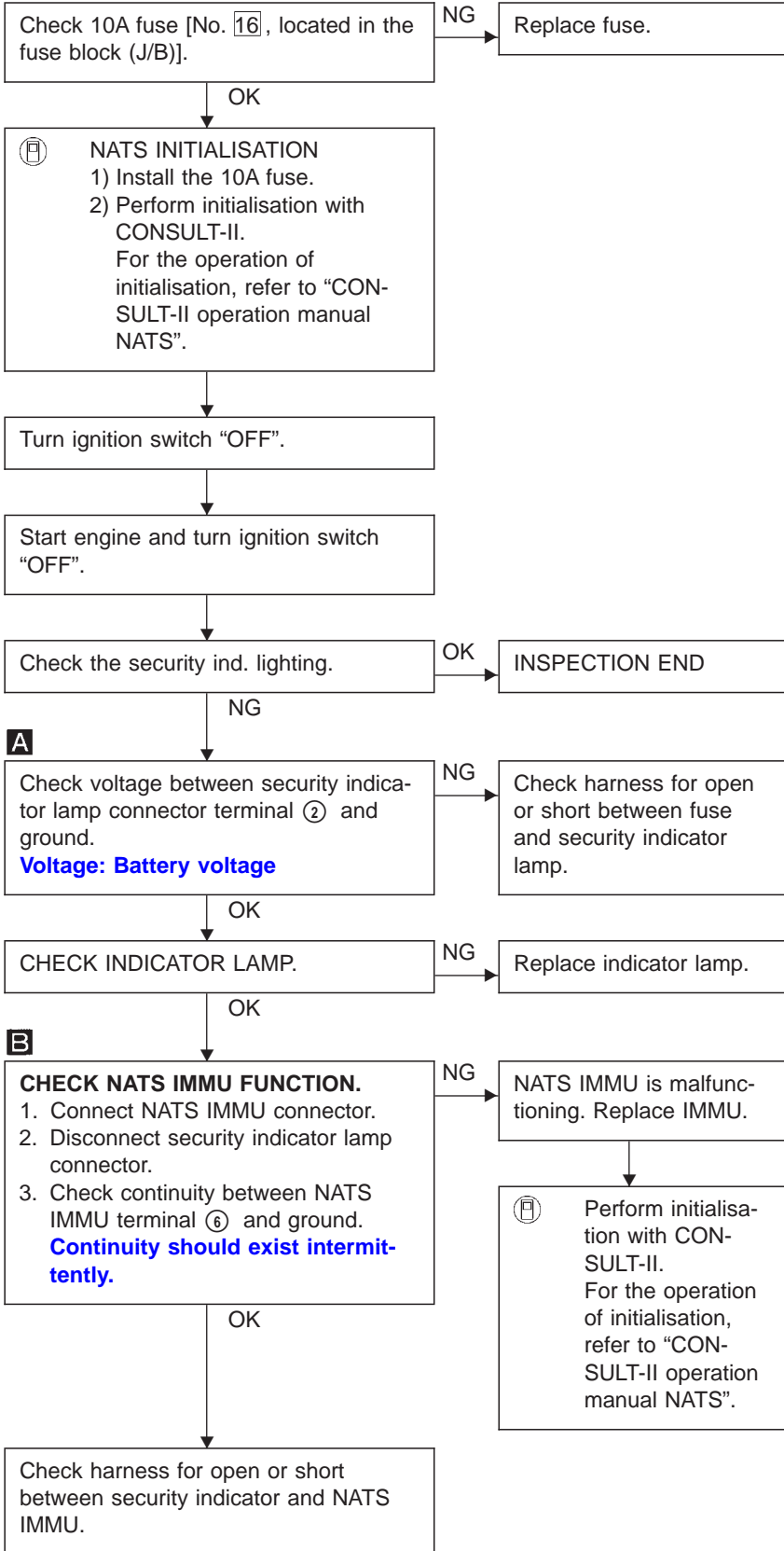
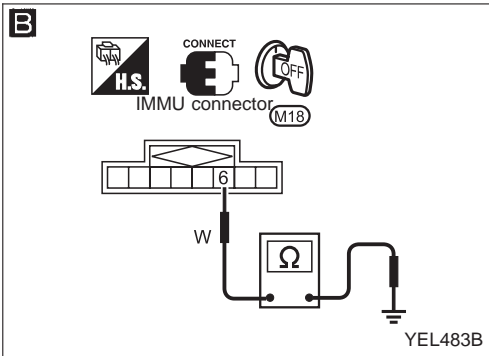
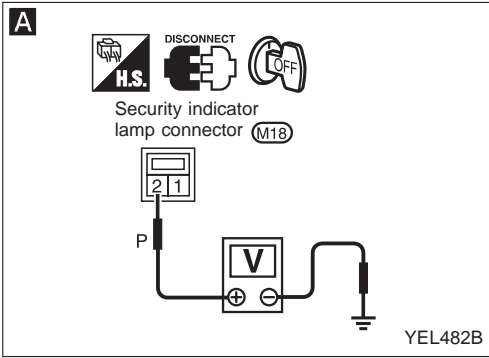
NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

— With security indicator on dashboard —

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”



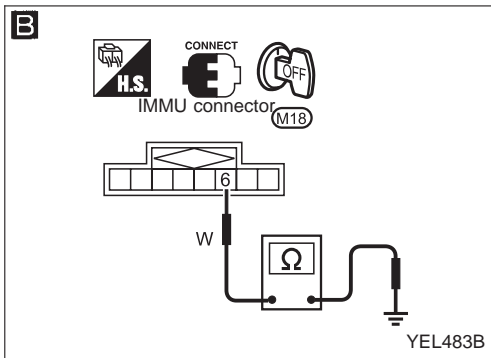
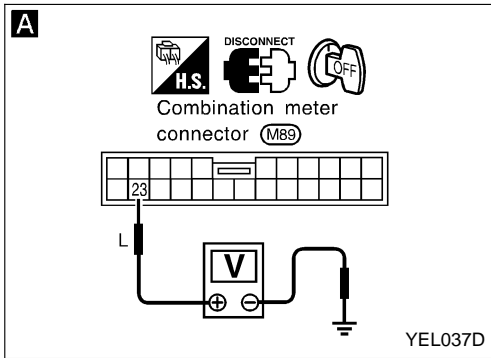
NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

— With security indicator built-in combination meter —

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”



Check 10A fuse [No. 16], located in the fuse block (J/B). NG → Replace fuse.

OK

① NATS INITIALISATION
1) Install the 10A fuse.
2) Perform initialisation with CONSULT-II.
For the operation of initialisation, refer to “CONSULT-II operation manual NATS”.

Turn ignition switch “OFF”.

Start engine and turn ignition switch “OFF”.

Check the security ind. lighting.

OK

INSPECTION END

NG

A

Check voltage between combination meter connector terminal ② and ground.
Voltage: Battery voltage

NG

Check harness for open or short between fuse and combination meter.

OK

CHECK INDICATOR LAMP.

NG

Replace combination meter.

OK

B

CHECK NATS IMMU FUNCTION.
1. Connect NATS IMMU connector.
2. Disconnect combination meter connector.
3. Check continuity between NATS IMMU terminal ⑥ and ground.
Continuity should exist intermittently.

NG

NATS IMMU is malfunctioning. Replace IMMU.

① Perform initialisation with CONSULT-II.
For the operation of initialisation, refer to “CONSULT-II operation manual NATS”.

OK

Check harness for open or short between combination meter and NATS IMMU.

NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

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

A

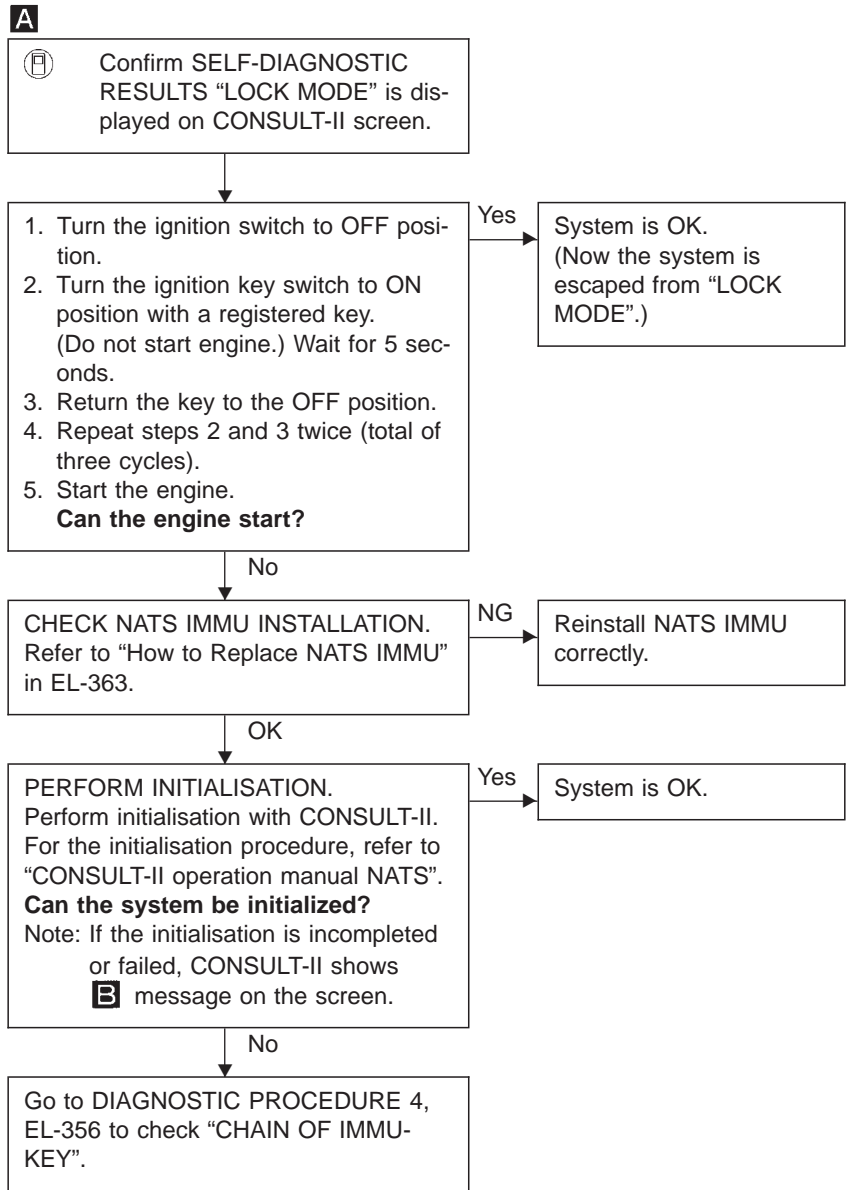
SELF DIAGNOSIS	
DTC RESULTS	TIME
LOCK MODE	0

YEL484B

B

IMMU INITIALIZATION
<p>INITIALIZATION FAIL</p>
<p>THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</p>

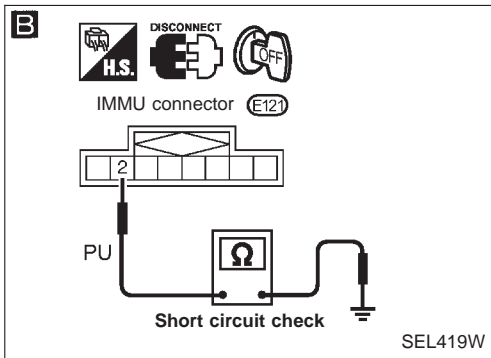
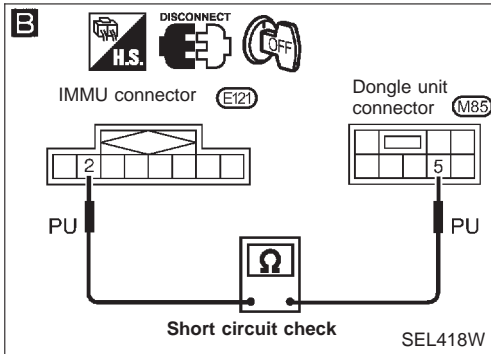
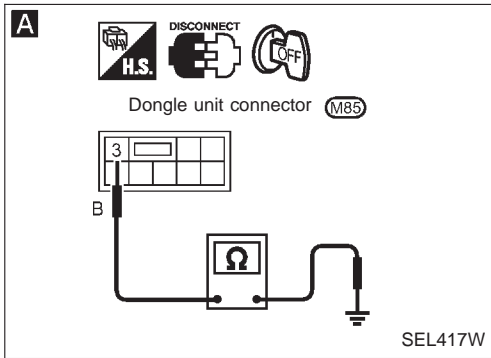
YEL479B



NATS (Nissan Anti-Theft System)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8



Perform initialization with CONSULT-II
 Check the following harness connector connection.
 (E125)/(M70)
 (M85)
 Then initialize NATS. For the operation of initialization, refer to "CONSULT-II operation manual NATS".
Does the security indicator blink just after the initialization?

Yes → System is OK.
 (The malfunction is caused by improper connector connection.)

No

A

CHECK GROUND CIRCUIT FOR DONGLE UNIT.
 Check continuity between dangle unit terminal ③ and ground.
Continuity should exist.

No → Repair harness.

Yes

B

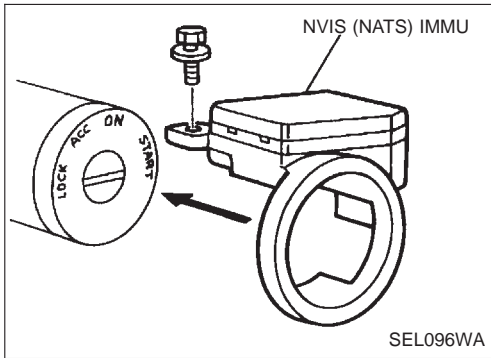
CHECK INTERFACE CIRCUIT.
 1. Check continuity between IMMU terminal ② and dangle unit terminal ⑤ (Open circuit check)
Continuity should exist.
 2. Check continuity between IMMU terminal ② and ground. (Short circuit check)
Continuity should not exist.

No → Repair harness.

Yes

Dongle unit is malfunctioning.
 1. Replace dongle unit.
 2. Perform initialisation with CONSULT-II.
 For the initialisation procedure, refer to "CONSULT-II operation manual NATS".

NATS (Nissan Anti-Theft System)



How to Replace NATS IMMU

NOTE:

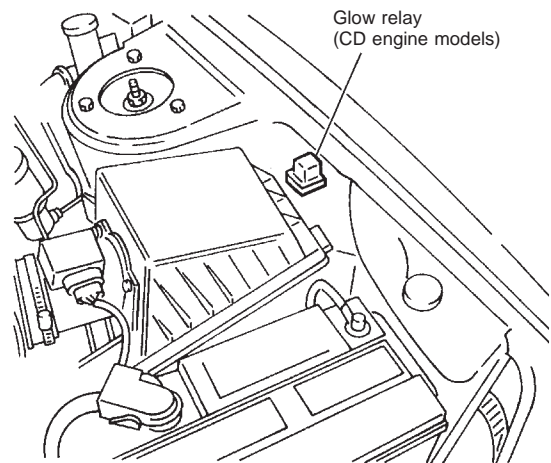
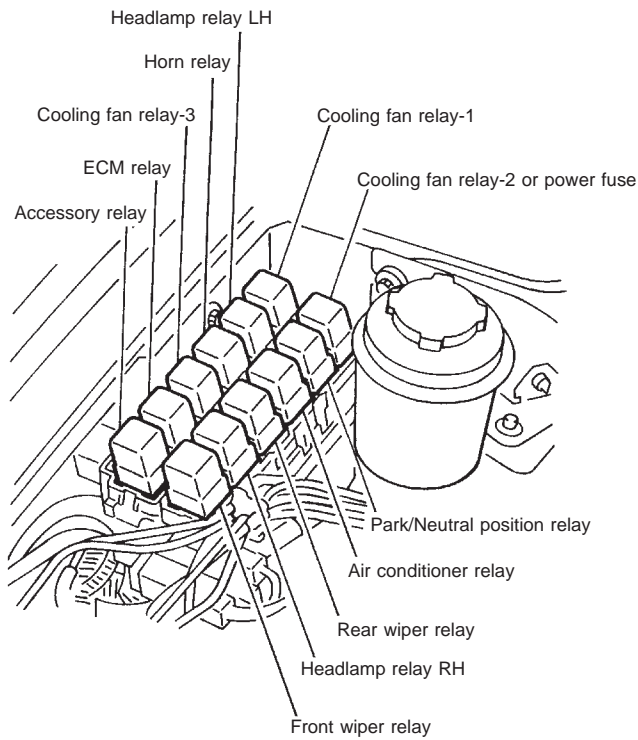
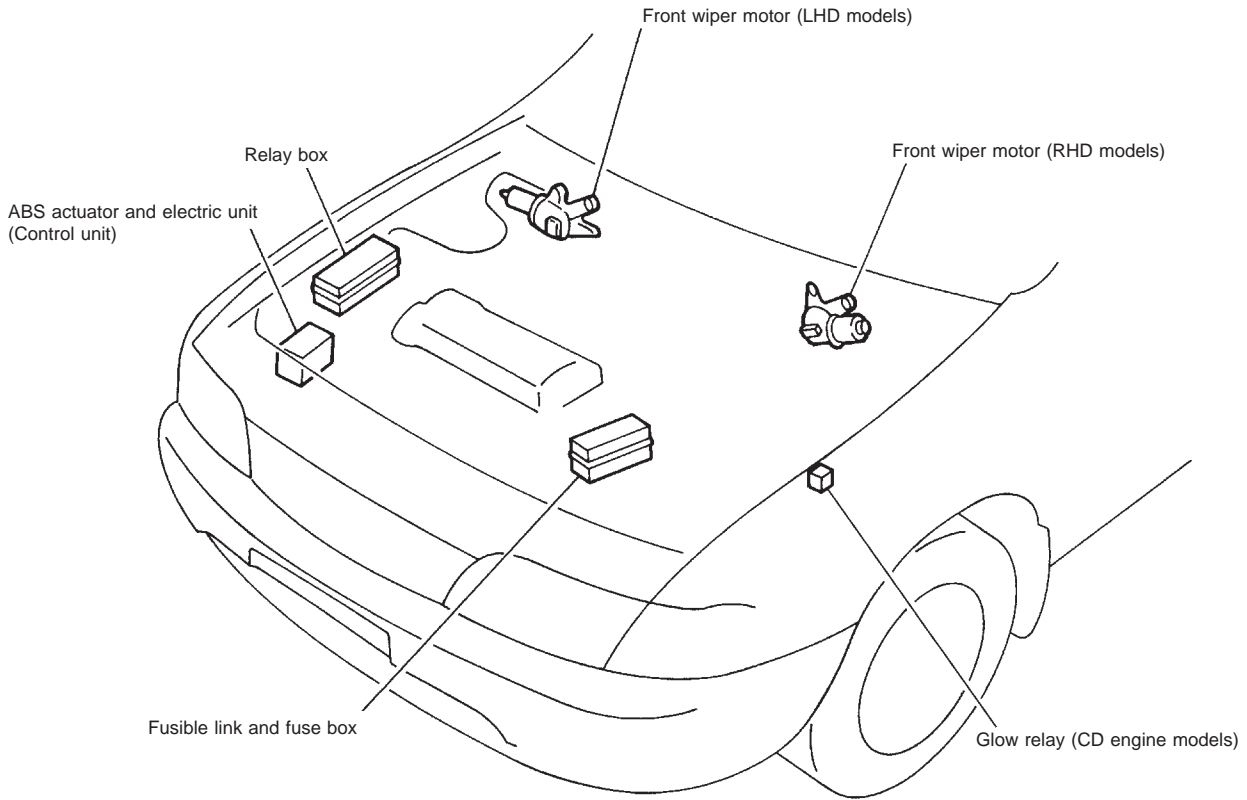
- If NATS IMMU is not installed correctly, NATS system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show "LOCK MODE" or "CHAIN OF IMMU-KEY".

NATS (Nissan Anti-Theft System)

NOTE

LOCATION OF ELECTRICAL UNITS

Engine Compartment

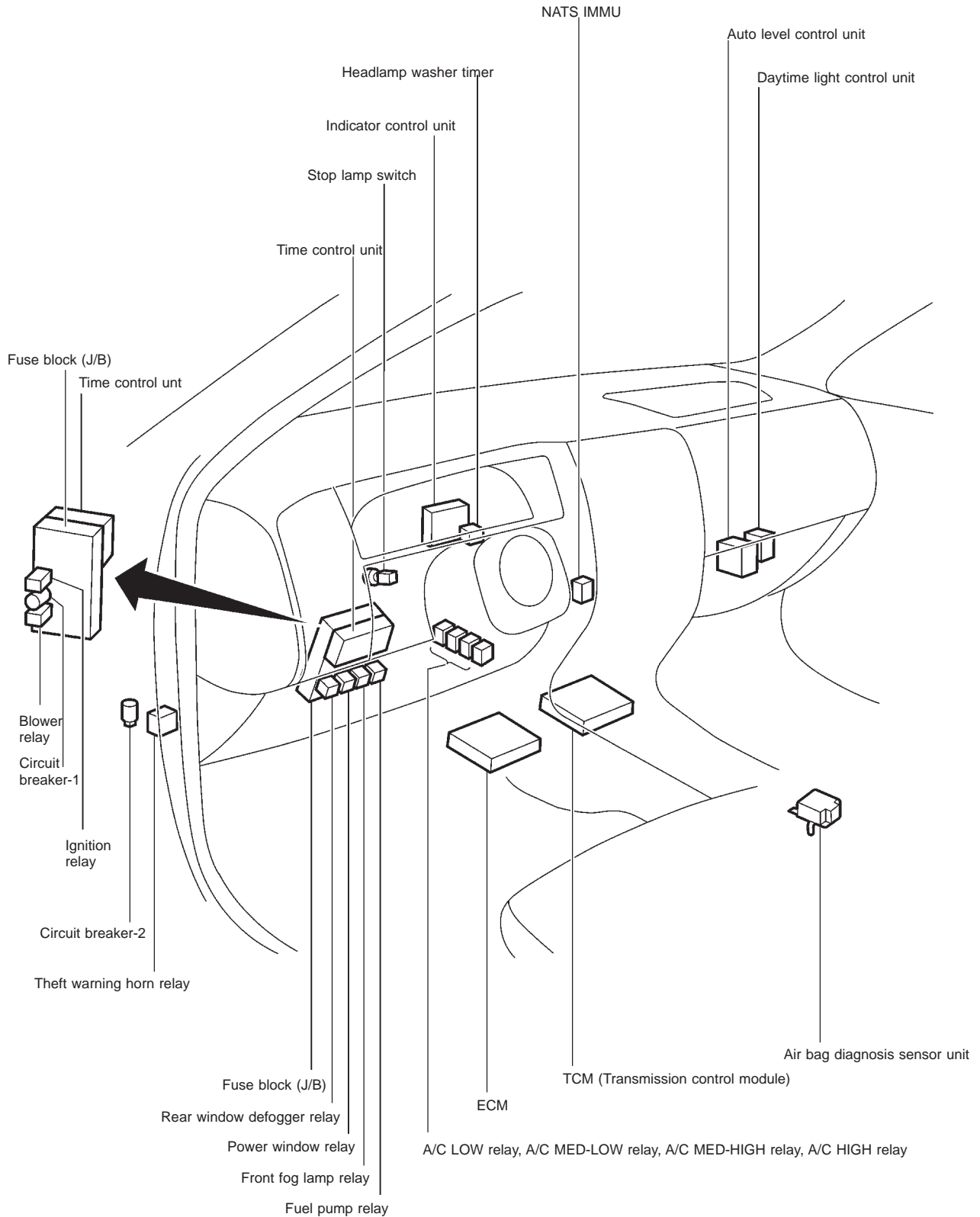


YEL234C

LOCATION OF ELECTRICAL UNITS

Passenger Compartment

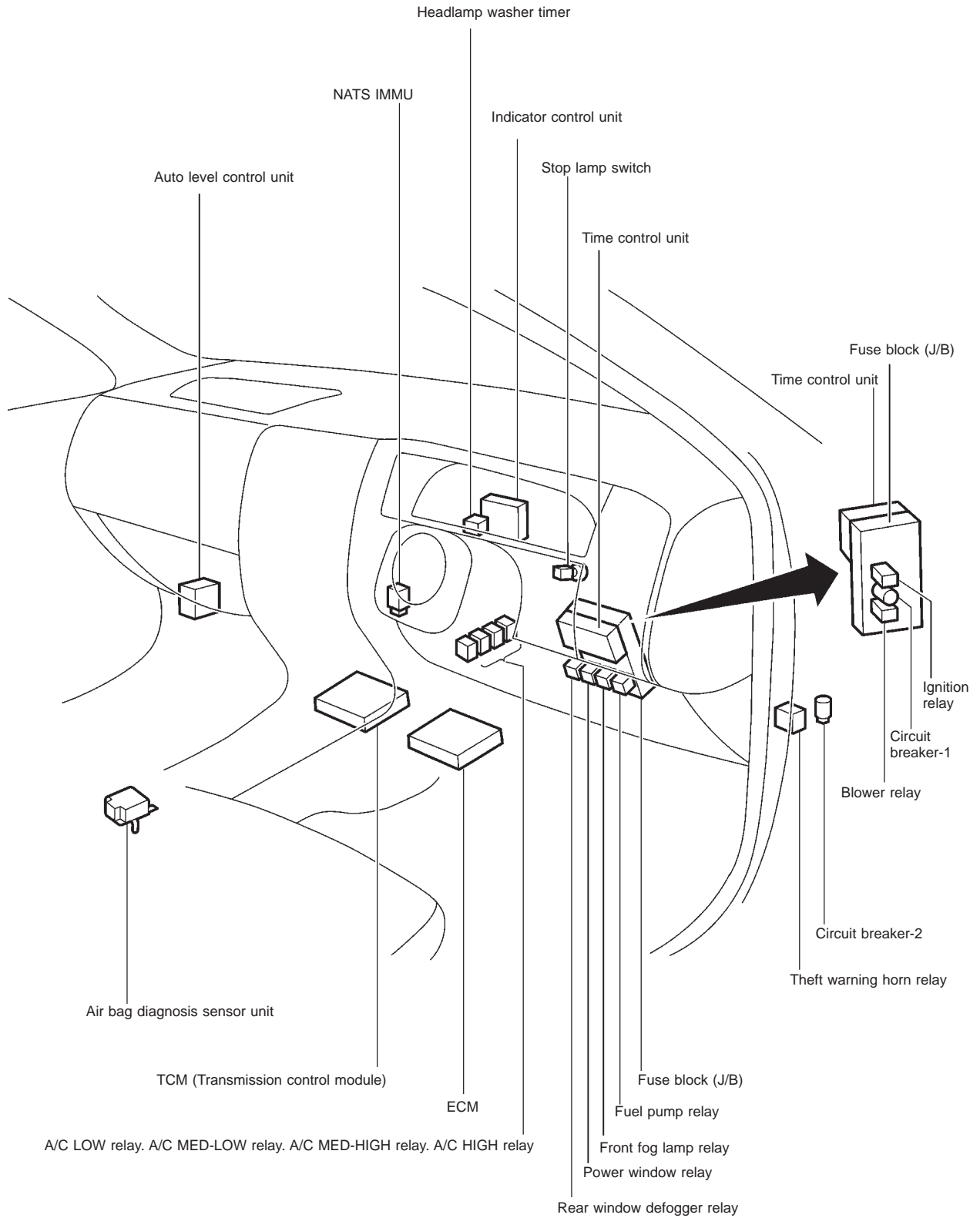
LHD MODELS



LOCATION OF ELECTRICAL UNITS

Passenger Compartment (Cont'd)

RHD MODELS

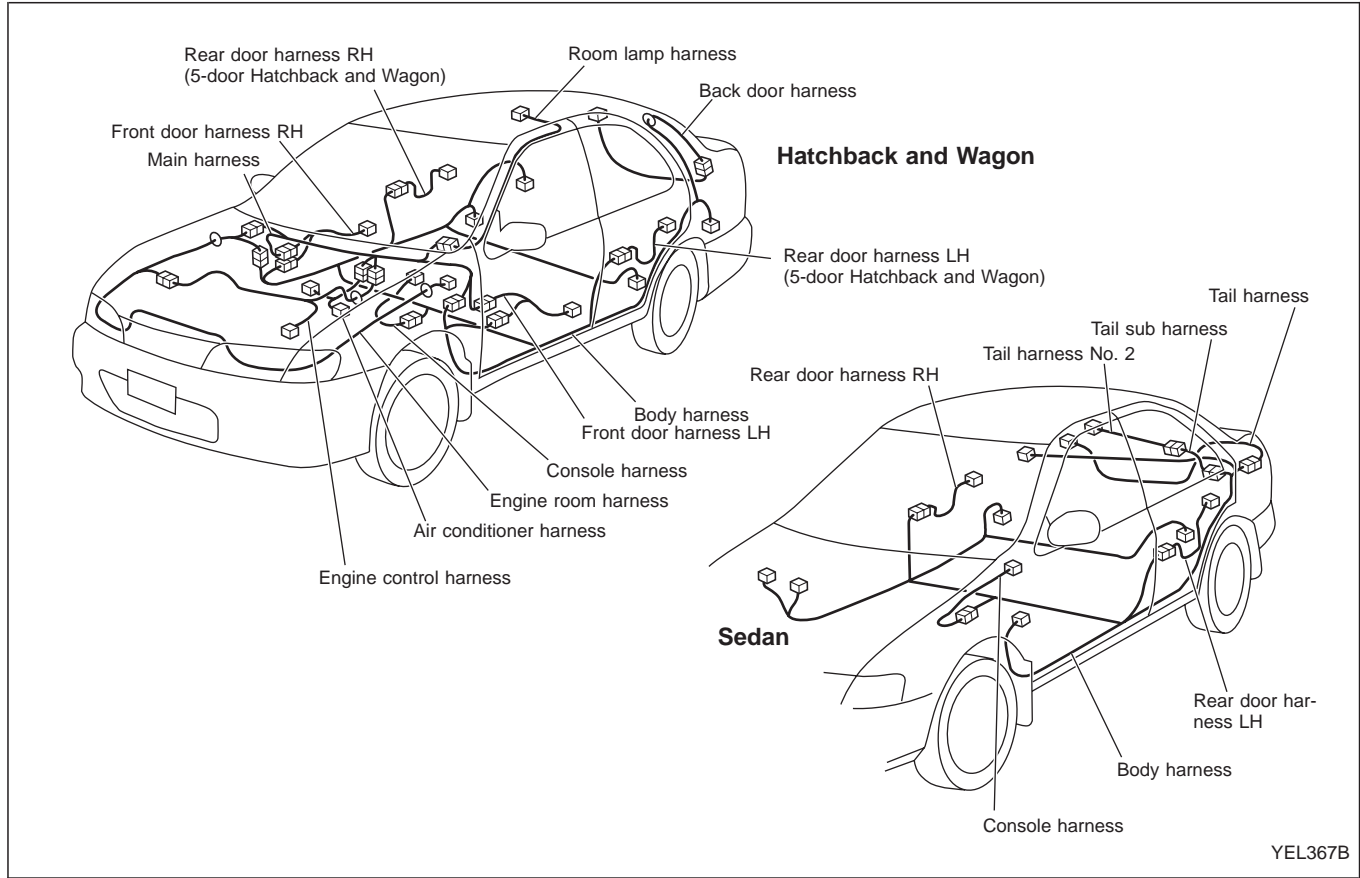


YEL236C

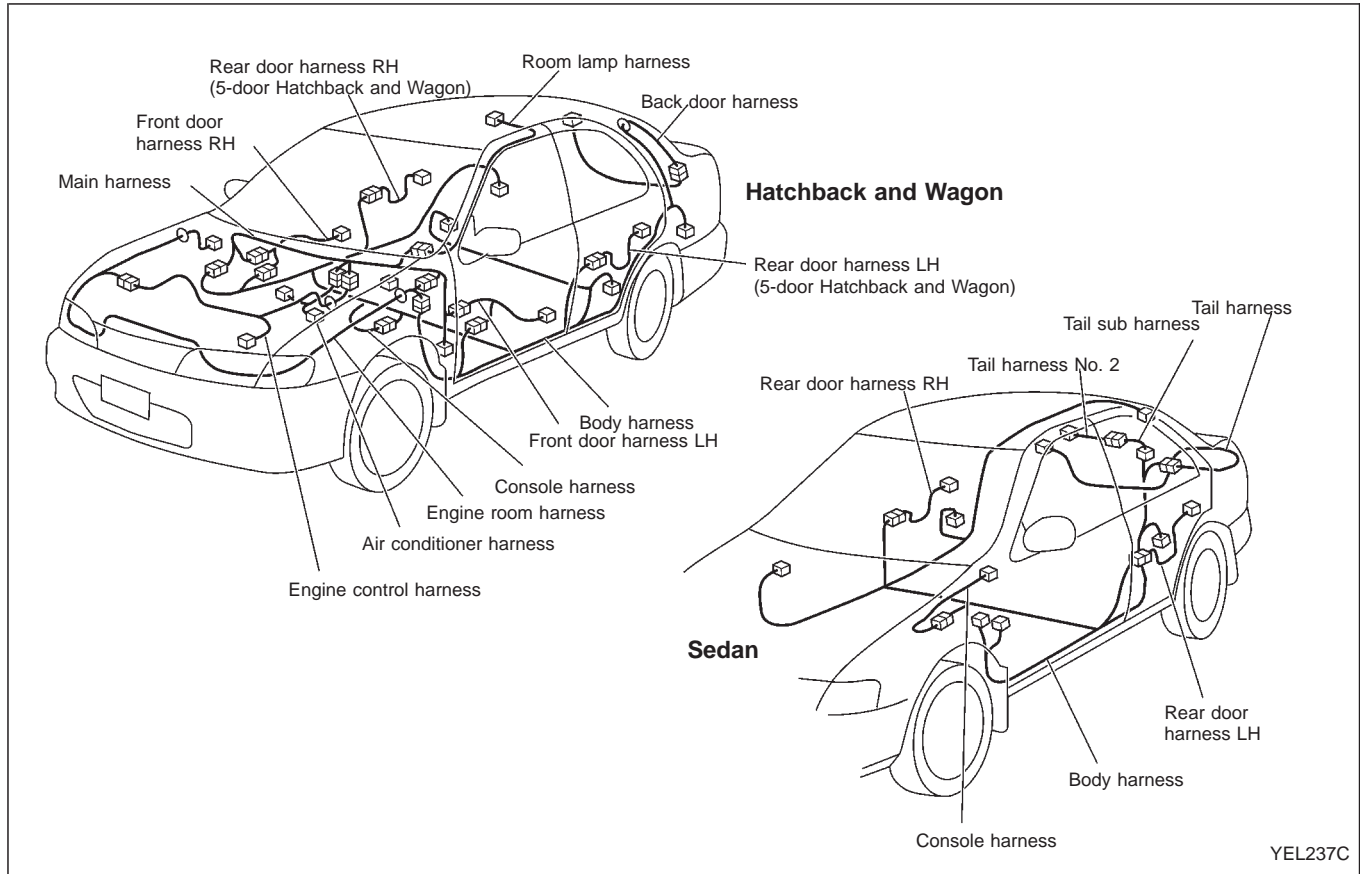
HARNESSES LAYOUT

LHD MODELS

Outline



RHD MODELS

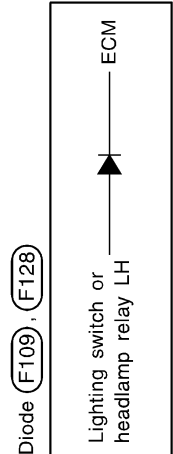
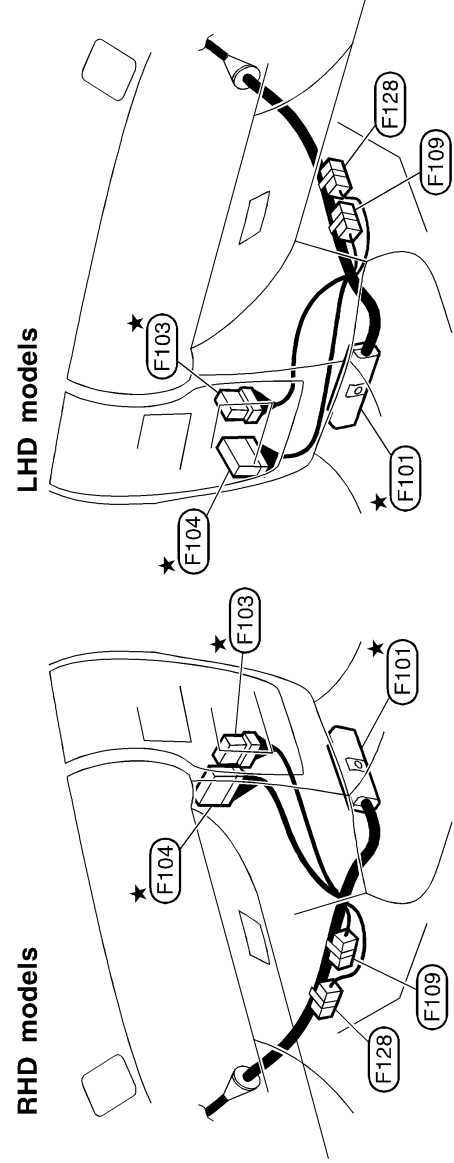
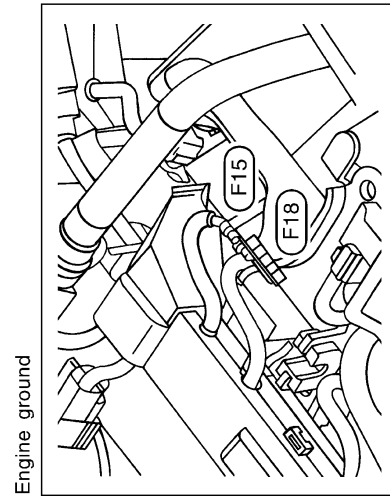
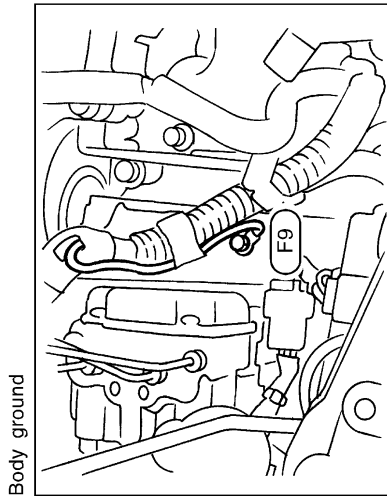
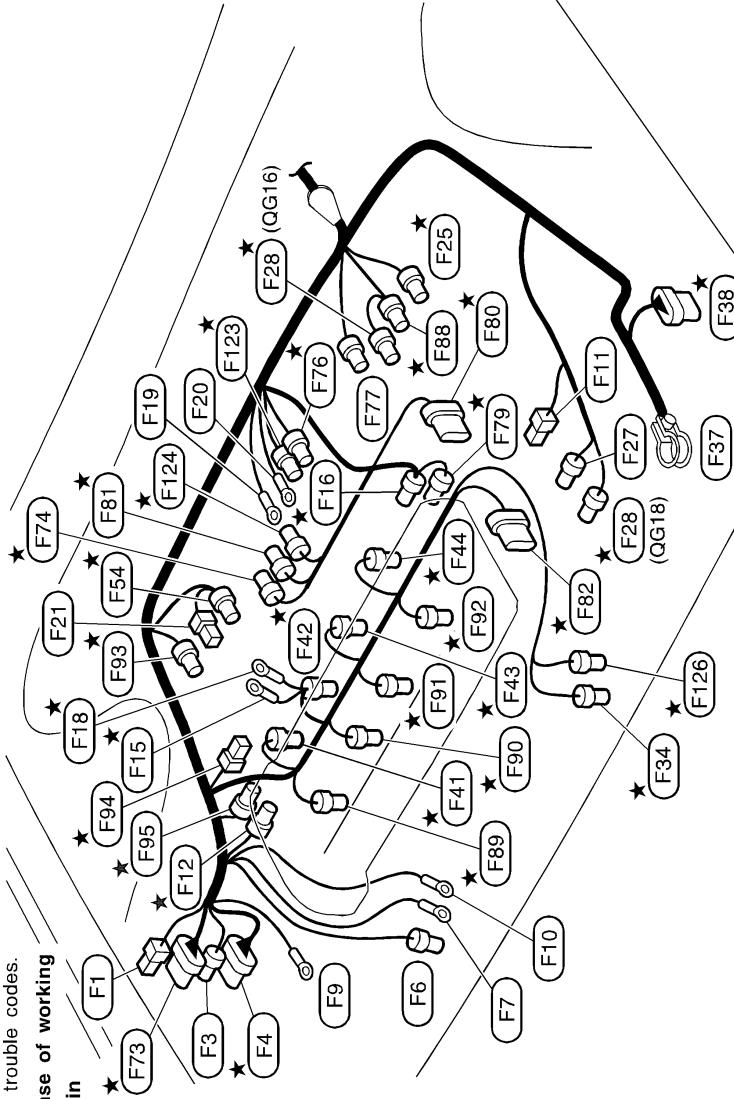


HARNES LAYOUT

Engine Control Harness

QG ENGINE

- ★ 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.



HARNES LAYOUT

Engine Control Harness (Cont'd)

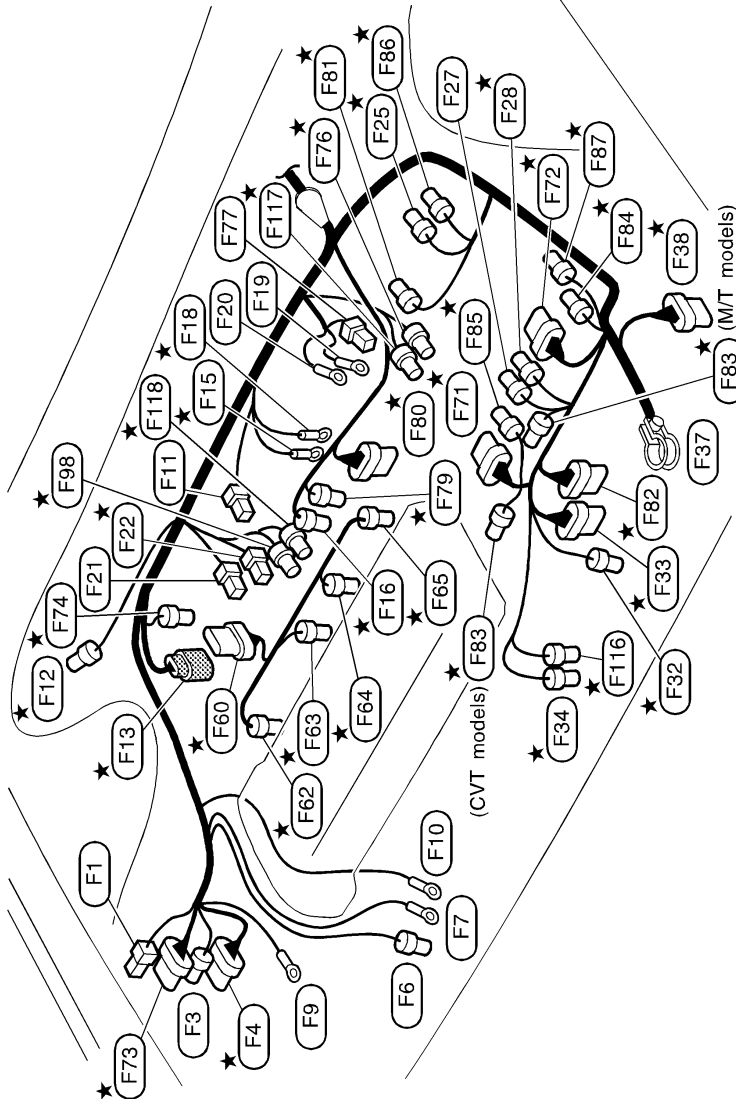
★ (F1) B/2 : To (E41)	★ (F73) B/8 : To (E90)
★ (F3) B/2 : To (E44)	★ (F74) L/2 : EVAP canister purge volume control solenoid valve
★ (F4) GY/10 : To (E42)	★ (F76) GY/4 : Heated oxygen sensor 2 (Rear) (Type-2)
(F6) GY/2 : Alternator	★ (F77) GY/1 : Starter motor
(F7) - : Alternator	★ (F79) GY/3 : Throttle position switch (If so equipped)
(F9) - : Body ground	★ (F80) GY/6 : IACV-AAC valve
(F10) - : Alternator	★ (F81) L/2 : EGR temperature sensor (Type-1)
(F11) B/1 : Thermal transmitter	★ (F82) GY/6 : EGR volume control valve (With EGR)
★ (F12) GY/2 : Engine coolant temperature sensor	★ (F88) B/3 : Crankshaft position sensor (POS)
★ (F15) - : Engine ground	★ (F89) GY/3 : Ignition coil No. 1
★ (F16) BR/3 : Throttle position sensor	★ (F90) GY/3 : Ignition coil No. 2
★ (F18) - : Engine ground	★ (F91) GY/3 : Ignition coil No. 3
(F19) - : Starter motor	★ (F92) GY/3 : Ignition coil No. 4
(F20) - : Starter motor	★ (F93) G/2 : Intake valve timing control solenoid valve
(F21) B/1 : Oil pressure switch	★ (F94) GY/2 : Condenser
★ (F25) BR/3 : Vehicle speed sensor (Without ABS)	★ (F95) B/3 : Camshaft position sensor (PHASE)
(F27) B/2 : Back-up lamp switch	★ (F101) GY/111: ECM
★ (F28) B/2 : Park/neutral position switch	★ (F103) W/6 : To (M52)
★ (F34) GY/3 : Heated oxygen sensor 1 (Front) (Type-1)	★ (F104) W/24 : To (M50)
(F37) - : Battery	(F109) -/2 : Diode (Type-1)
★ (F38) GY/5 : Mass air flow sensor and intake air temperature sensor	★ (F123) G/4 : Heated oxygen sensor 2 (Rear) (Type-2)
★ (F41) GY/2 : Injector No. 1	★ (F124) GY/2 : EGR temperature sensor (With EGR) (Type-2)
★ (F42) GY/2 : Injector No. 2	★ (F126) SB/3 : Heated oxygen sensor 1 (Front) (Type-2)
★ (F43) GY/2 : Injector No. 3	(F128) B/2 : Diode (Type-2)
★ (F44) GY/2 : Injector No. 4	
★ (F54) GY/2 : Knock 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.

HARNESS LAYOUT

Engine Control Harness (Cont'd)

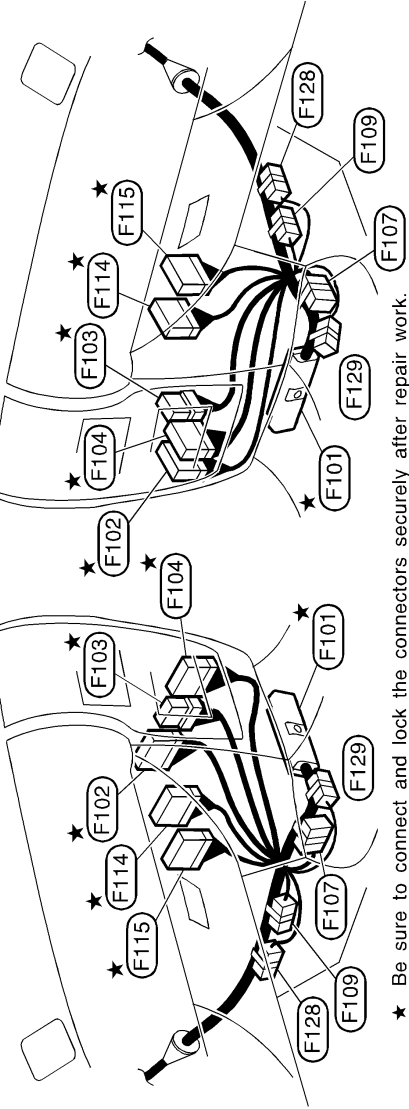
SR20DE ENGINE



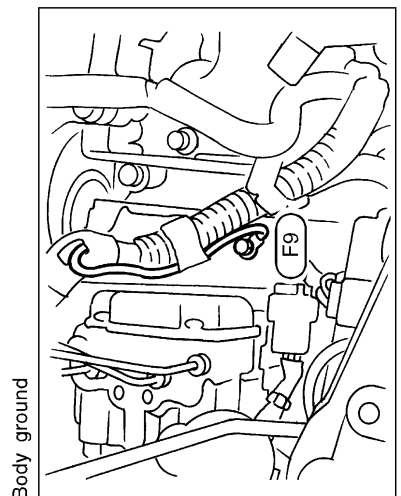
(CVT models)

(M/T models)

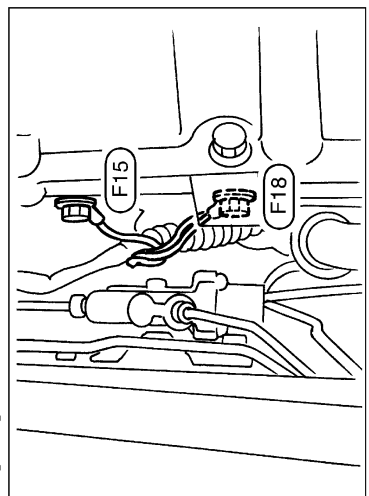
RHD models



LHD models

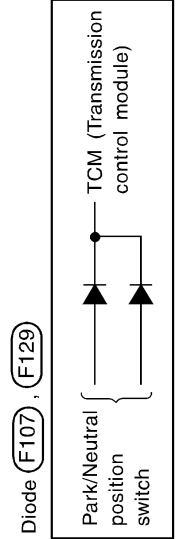
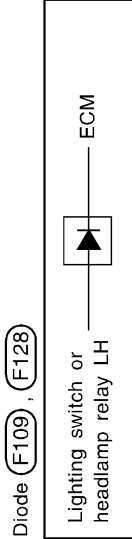
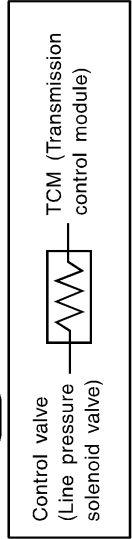


Body ground



Engine ground

Resistor (F86)



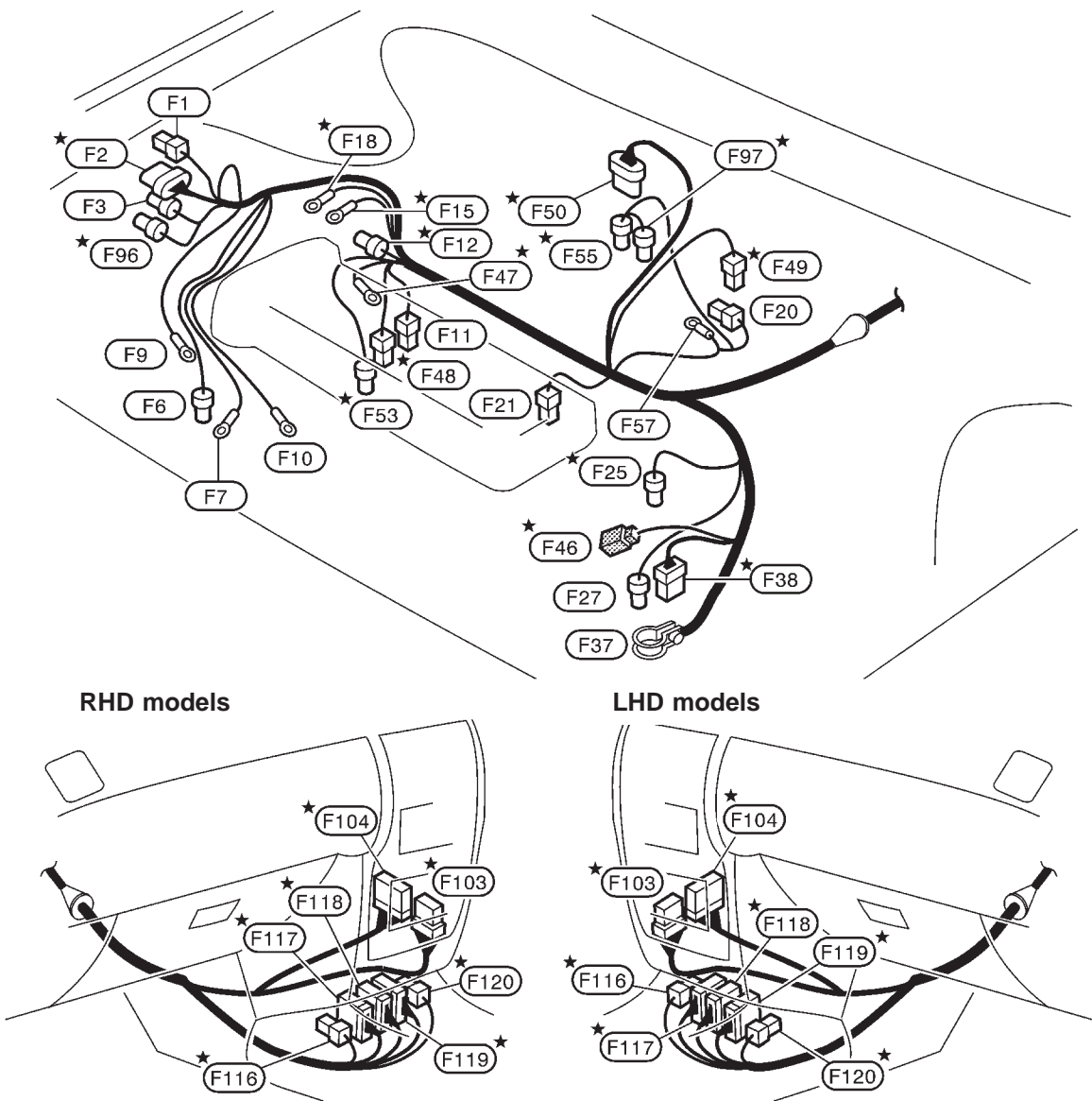
* Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNES LAYOUT

Engine Control Harness (Cont'd)

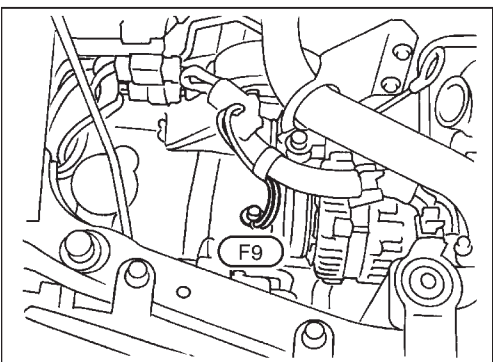
(F1)	B/2	: To (E41)	(F71)	G/10	: Control valve (CVT models)
(F3)	B/2	: To (E44)	(F72)	B/10	: Park/Neutral position switch (CVT models)
(F4)	GY/10	: To (E42)	(F73)	B/8	: To (E90)
(F6)	GY/2	: Alternator	(F74)	L/2	: EVAP cannister purge volume control solenoid valve
(F7)	-	: Alternator	(F76)	GY/4	: Heated oxygen sensor 2 (Rear) (Type-1)
(F9)	-	: Body ground	(F77)	B/1	: Starter motor (CVT models)
(F10)	-	: Alternator	(F79)	GY/3	: Throttle position switch (CVT models)
(F11)	B/1	: Thermal transmitter	(F80)	L/6	: IACV-AAC valve
(F12)	GY/2	: Engine coolant temperature sensor	(F83)	GY/2	: Crankshaft position sensor
(F13)	G/6	: To (F60)	(F85)	B/3	: Primary speed sensor (CVT models)
(F15)	-	: Engine ground	(F86)	GY/2	: Dropping resistor (CVT models)
(F16)	BR/3	: Throttle position sensor	(F87)	B/3	: Secondary speed sensor (CVT models)
(F18)	-	: Engine ground	(F98)	L/2	: Knock sensor (CVT models) (Type-1)
(F19)	-	: Starter motor (M/T models)	(F101)	GY/111	: ECM
(F20)	-	: Starter motor	(F102)	W/24	: To (M53) (CVT models)
(F21)	B/1	: Oil pressure switch	(F103)	W/6	: To (M52) (M/T models)
(F22)	B/2	: Knock sensor (M/T models)	(F104)	W/24	: To (M50) (M/T models)
(F25)	BR/3	: Vehicle speed sensor	(F107)	GY/6	: Diode (Type-1)
(F27)	B/2	: Back-up lamp switch (M/T models)	(F109)	-	: Diode (Type-1)
(F28)	B/2	: Park/neutral position switch (M/Tmodels)	(F114)	W/12	: To (M80) (CVT models)
(F32)	GY/2	: Distributor	(F115)	W/20	: To (M81) (CVT models)
(F33)	GY/6	: Distributor	(F116)	SB/3	: Heated oxygen sensor 1 (Front) (Type-2)
(F34)	GY/3	: Heated oxygen sensor 1 (Front) (Type-1)	(F117)	G/4	: Heated oxygen sensor 2 (Rear) (Type-2)
(F37)	-	: Battery	(F118)	GY/2	: Knock sensor (CVT models) (Type-2)
(F38)	GY/5	: Mass air flow sensor and intake air temperature sensor	(F128)	B/2	: Diode (Type-2)
(F60)	GY/2	: To (F13)	(F129)	LG/3	: Diode (Type-2)
(F62)	GY/2	: Injector No. 1			
(F63)	GY/2	: Injector No. 2			
(F64)	GY/2	: Injector No. 3			
(F65)	GY/2	: Injector No. 4			

★ : 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.

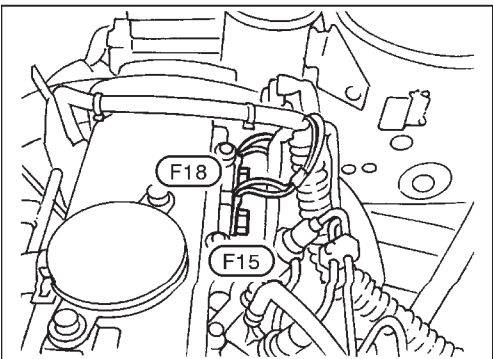


★ Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

Body ground



Engine ground



HARNES LAYOUT

Engine Control Harness (Cont'd)

★ (F116) -/9 : ECM
 ★ (F117) -/24 : ECM
 ★ (F118) -/52 : ECM
 ★ (F119) -/40 : ECM
 ★ (F120) -/9 : ECM

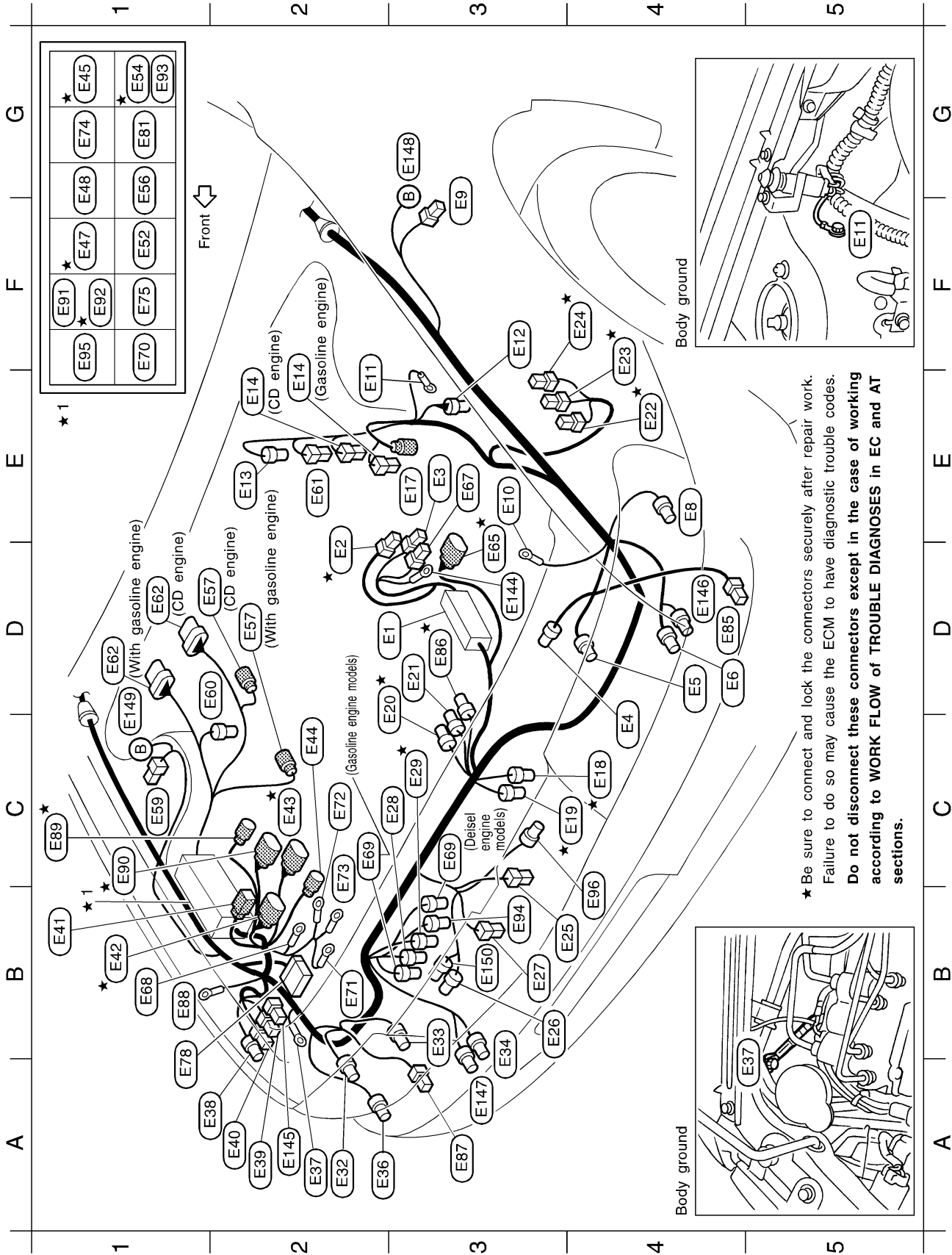
★ (F1) B/2 : To (E41)
 ★ (F2) GY/8 : To (E43)
 (F3) B/2 : To (E44)
 (F6) GY/2 : Alternator
 (F7) - : Alternator
 (F9) - : Body ground
 (F10) - : Alternator
 (F11) B/1 : Thermal transmitter
 ★ (F12) GY/2 : Engine coolant temperature sensor
 ★ (F15) - : Engine ground
 ★ (F18) - : Engine ground
 (F20) B/1 : Starter motor
 (F21) B/1 : Oil pressure switch
 ★ (F25) BR/3 : Vehicle speed sensor (Models before VIN-P11U0583350 and models without ABS after VIN-P11U0583350)
 (F27) B/2 : Back-up lamp switch
 (F37) - : Battery
 ★ (F38) B/5 : Mass air flow sensor
 ★ (F46) B/1 : To (E2)
 ★ (F47) - : Glow plug
 ★ (F48) BR/2 : Needle lift sensor
 ★ (F49) BR/3 : Injection pump
 ★ (F50) B/7 : Injection pump
 ★ (F53) B/3 : Crankshaft position sensor (TDC)
 ★ (F55) B/2 : EGRC-solenoid valve A
 (F57) - : Starter motor
 ★ (F96) B/4 : To (E89)
 ★ (F97) BR/2 : EGRC-solenoid valve B
 ★ (F103) W/6 : To (M52)
 ★ (F104) W/24 : To (M50)

★ : 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.

HARNES LAYOUT

Engine Room Harness

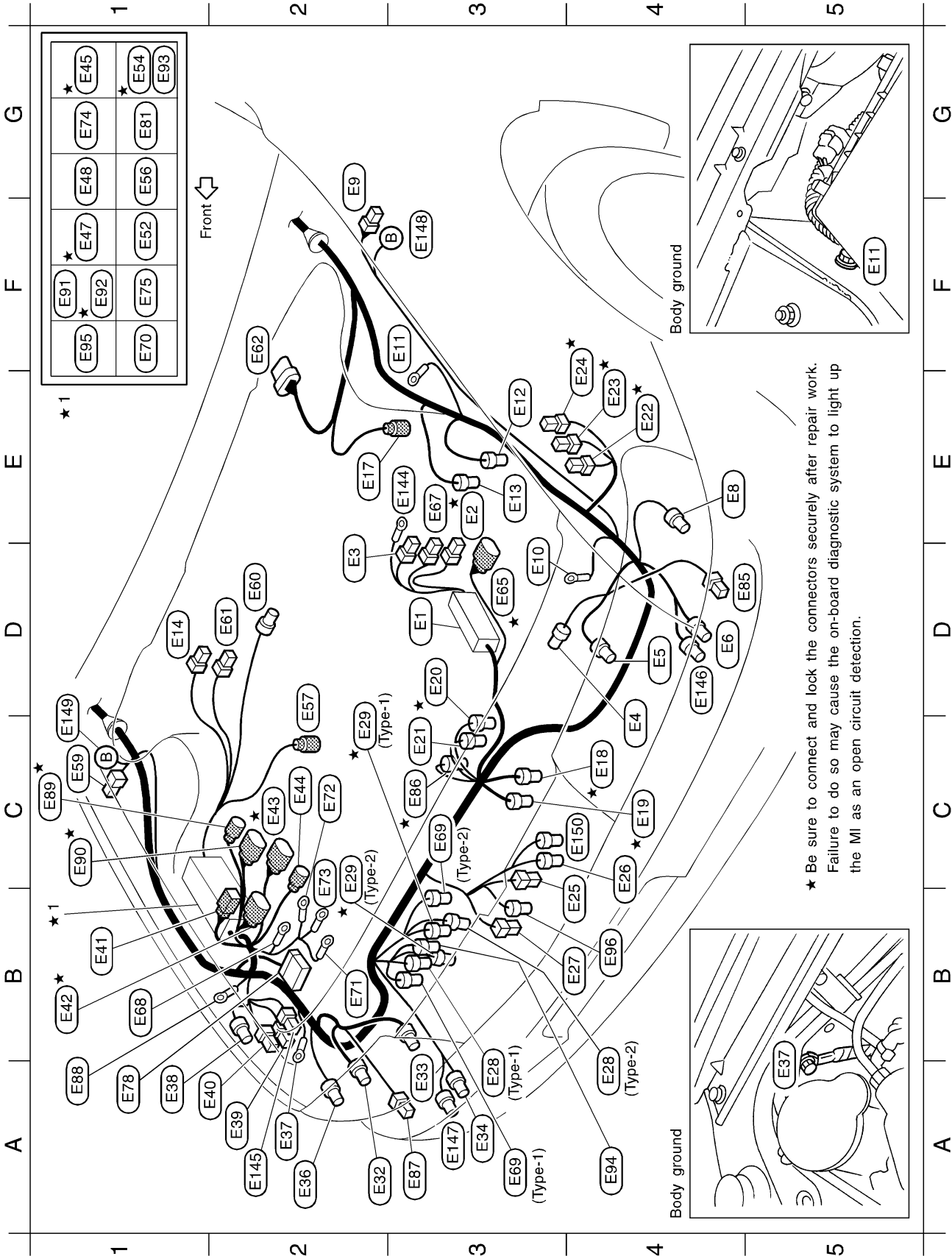
ENGINE COMPARTMENT — LHD models



HARNES LAYOUT

Engine Room Harness (Cont'd)

ENGINE COMPARTMENT — RHD models



★ Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the on-board diagnostic system to light up the MI as an open circuit detection.

HARNES LAYOUT

Engine Room Harness (Cont'd)

D3	E1 : Fuse and fusible link holder		
E3	★ E2 : To F46 (CD engine)	B/5	★ E52 : Rear wiper relay
D2	E3 : Battery (Type-1)	B/5	E54 : Cooling fan relay-2 (CD engine)
C4	E4 : Headlamp aiming motor LH	L/4	E56 : Air conditioner relay (With A/C)
D4	E5 : Headlamp LH	GY/2	E57 : Front wheel sensor RH
D4	E6 : Front fog lamp LH (Type-1)	B/2	E59 : Side turn signal lamp RH (Type-1)
E4	E8 : Front turn signal lamp LH	GY/2	E60 : Power steering oil pressure switch (Except CD engine)
G2	E9 : Side turn signal lamp LH (Type-1)	W/1	E61 : Vacuum switch (If so equipped)
D3	E10 : ABS ground	GY/6	E62 : Front wiper motor
F3	E11 : Body ground	★ GY/9	★ E65 : To F70 (GA engine)
E3	E12 : Hood switch	E67	B/1 : Battery (Type-1)
E3	E13 : Sediment sensor (CD engine)	E68	- : Body ground (GA engine)
D1	E14 : Brake fluid level switch	E69	B/1 : Compressor (With A/C) (Type-1)
E2	E17 : Front wheel sensor LH	E69	B/1 : Compressor (With A/C) (Type-2)
C4	★ E18 : Cooling fan motor-2 (With diesel engine)	E70	B/5 : Front wiper relay
C4	★ E19 : Cooling fan motor-1 (With gasoline engine)	E71	- : Alternator (GA engine)
D3	★ E20 : Triple-pressure switch (CD engine)	E72	- : Alternator (GA engine)
C3	E21 : Dual-pressure switch	E73	- : Alternator (GA engine)
E4	★ E22 : Glow relay (CD engine)	E74	L/4 : Headlamp relay LH (With XENON headlamp)
E4	★ E23 : Glow relay (CD engine)	E75	L/4 : Headlamp relay RH (With XENON headlamp)
E4	★ E24 : Glow relay (CD engine)	E78	B/31 : ABS actuator and electric unit (Control unit)
B4	E25 : Horn (low)	E81	L/4 : Park/Neutral position relay (CVT models)
C4	E26 : Outside air temperature sensor (Type-1)	E85	B/2 : Clearance lamp RH
B4	E27 : Horn (high) (If so equipped)	★ E86	B/3 : Refrigerant pressure sensor (SR engine and QG engine)
A3	E28 : Cooling fan motor-2 (Type-1)	E87	B/2 : Clearance lamp RH
A4	E28 : Cooling fan motor-2 (Type-2)	E88	- : ABS ground
C2	★ E29 : Cooling fan motor-1 (CD engine: With A/C)	★ E89	B/4 : To F96 (CD engine)
A2	E32 : Headlamp RH	★ E90	B/8 : To F73 (SR engine and QG engine)
A3	E33 : Headlamp aiming motor RH	★ E91	L/4 : ECM relay (GA engine and CD engine)
A3	E34 : Front fog lamp RH (Type-1)	★ E92	BR/6 : ECM relay (SR engine and QG engine)
A2	E36 : Front turn signal lamp RH	E93	- : Power fuse
A2	E37 : Body ground	E94	B/2 : Cooling fan motor-2 (GA engine)
A1	E38 : Headlamp washer motor	E95	BR/6 : Accessory relay
A2	E39 : Washer level switch	E96	BR/2 : Ambient sensor (With A/C)
A2	E40 : Washer motor (Type-1)	E144	- : Battery (Type-2)
B1	E41 : To F1	E145	-/2 : Washer motor (Type-2)
B1	★ E42 : To F4 (SR engine and QG engine)	E146	-/2 : Front fog lamp LH (Type-2)
C2	★ E43 : To F2 (CD engine)	E147	-/2 : Front fog lamp RH (Type-2)
C2	E44 : To F3	E148	Bulb : Side turn signal lamp LH (Type-2)
G1	★ E45 : Cooling fan relay-1	E149	Bulb : Side turn signal lamp RH (Type-2)
F1	★ E47 : Cooling fan relay-3 (CD engine)	E150	-/2 : Outside air temperature sensor (Type-2)
G1	E48 : Horn relay		

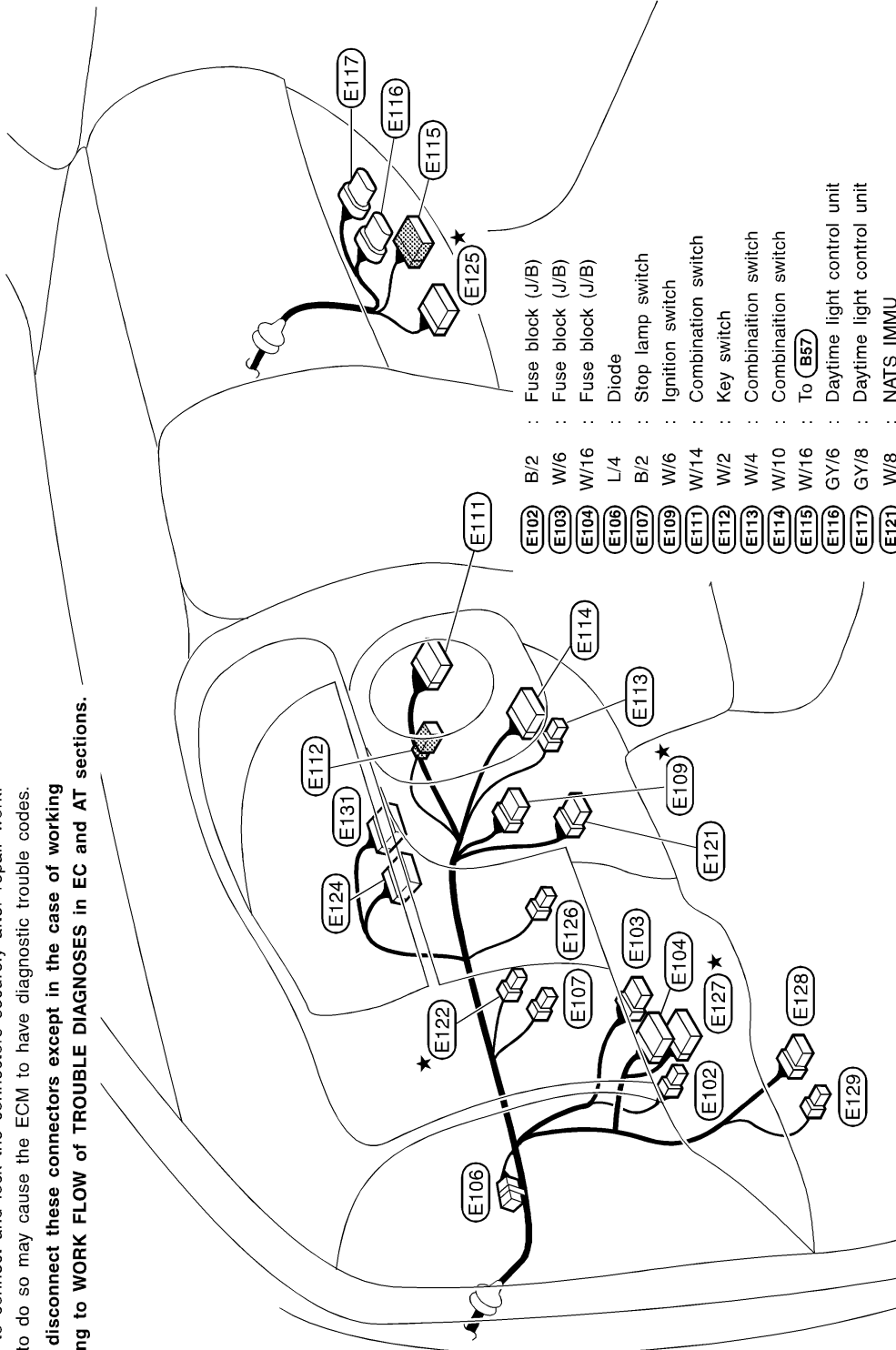
★ : Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working
 according to **WORK FLOW of TROUBLE DIAGNOSES** in EC and AT sections.

HARNES LAYOUT

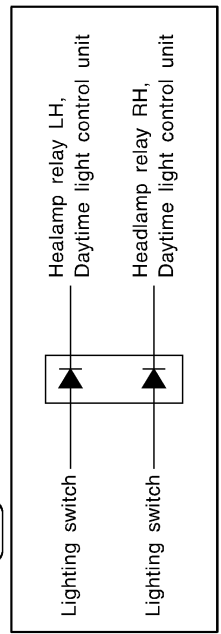
Engine Room Harness (Cont'd)

PASSENGER COMPARTMENT — LHD models

★ 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.



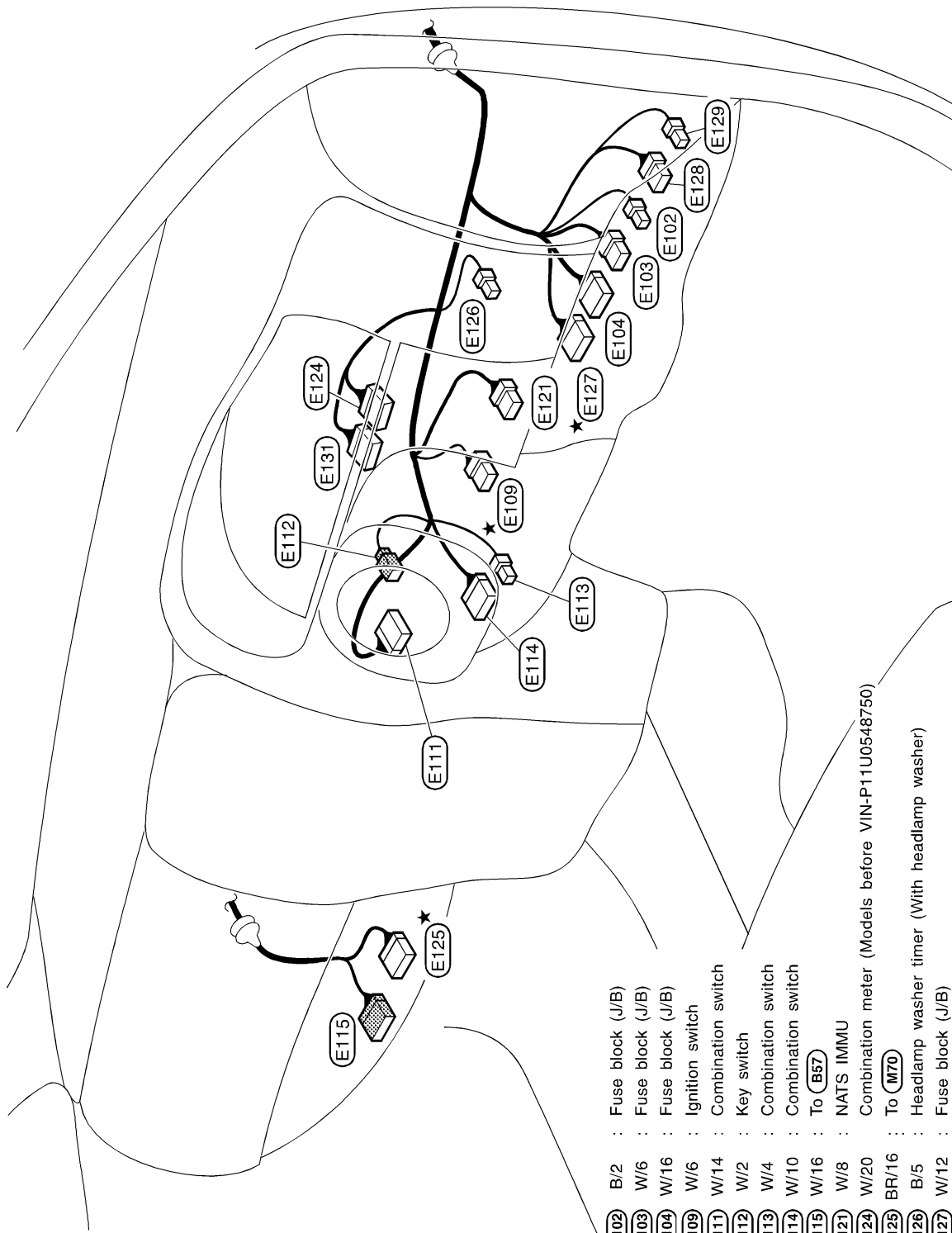
Diode (E106)



HARNES LAYOUT

Engine Room Harness (Cont'd)

PASSENGER COMPARTMENT — RHD models



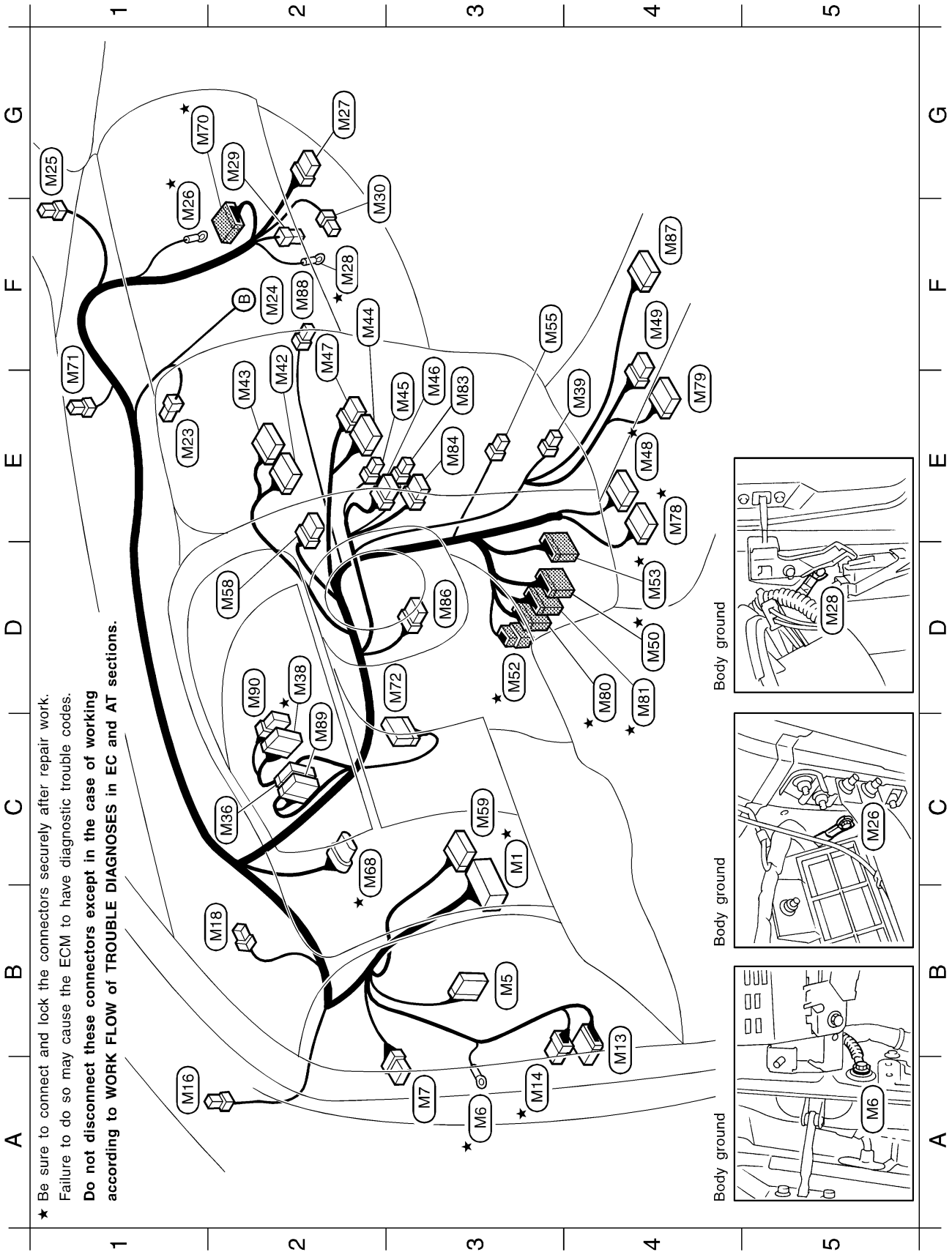
- E102 : B/2 : Fuse block (J/B)
- E103 : W/6 : Fuse block (J/B)
- E104 : W/16 : Fuse block (J/B)
- * E109 : W/6 : Ignition switch
- E111 : W/14 : Combination switch
- E112 : W/2 : Key switch
- E113 : W/4 : Combination switch
- E114 : W/10 : Combination switch
- E115 : W/16 : To (B57)
- E121 : W/8 : NATS IMMU
- E124 : W/20 : Combination meter (Models before VIN-P11U0548750)
- * E125 : BR/16 : To (M70)
- E126 : B/5 : Headlamp washer timer (With headlamp washer)
- * E127 : W/12 : Fuse block (J/B)
- E128 : L/6 : Headlamp washer switch (With headlamp washer)
- E129 : W/4 : Headlamp aiming switch (With aiming control (manual)) (Models after VIN-P11U0548750)
- E131 : BR/24 : Combination meter (Models after VIN-P11U0548750)

★ 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.

HARNESS LAYOUT

Main Harness

LHD MODELS

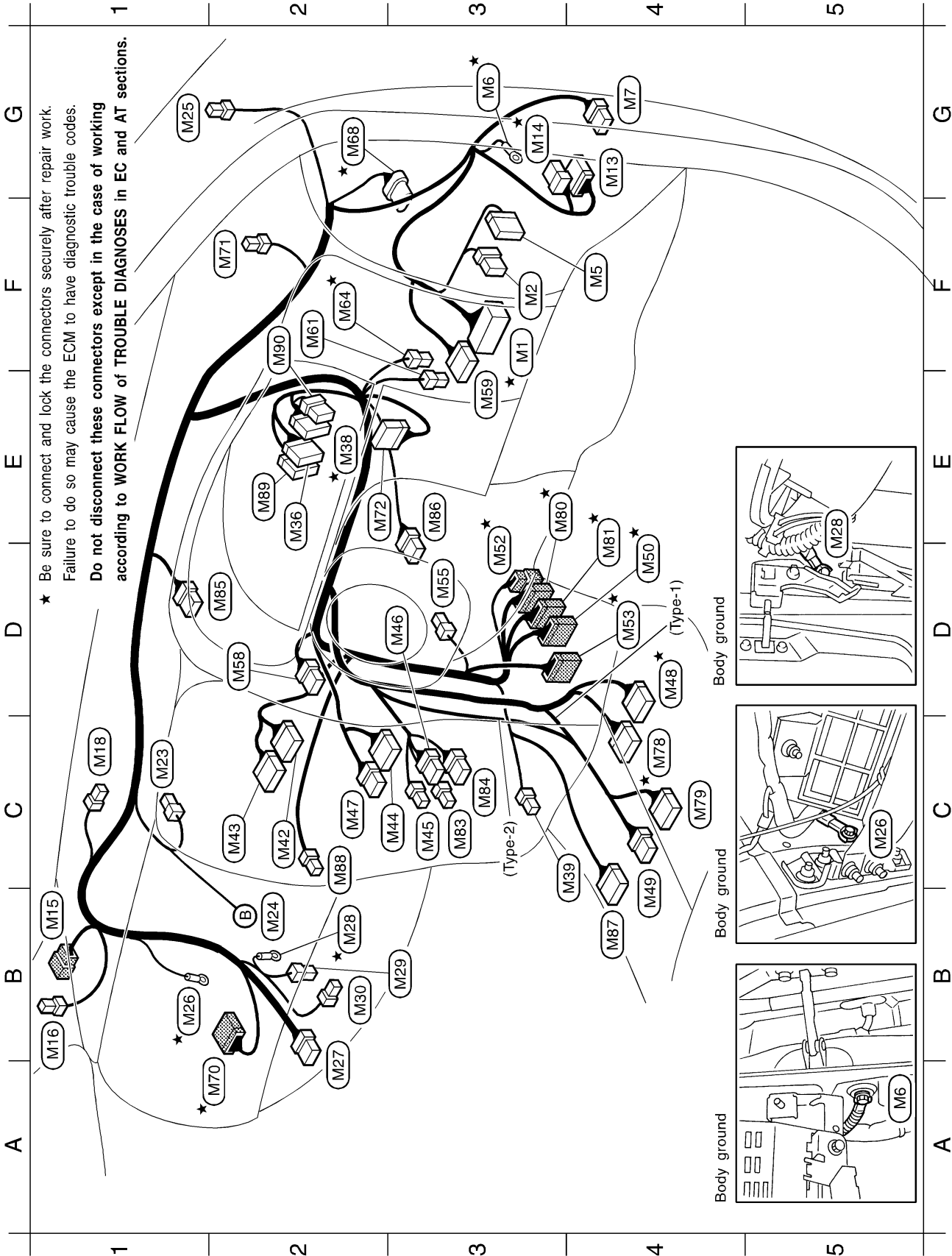


★ Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNESS LAYOUT

Main Harness (Cont'd)

RHD MODELS



YEL971C

HARNES LAYOUT

Main Harness (Cont'd)

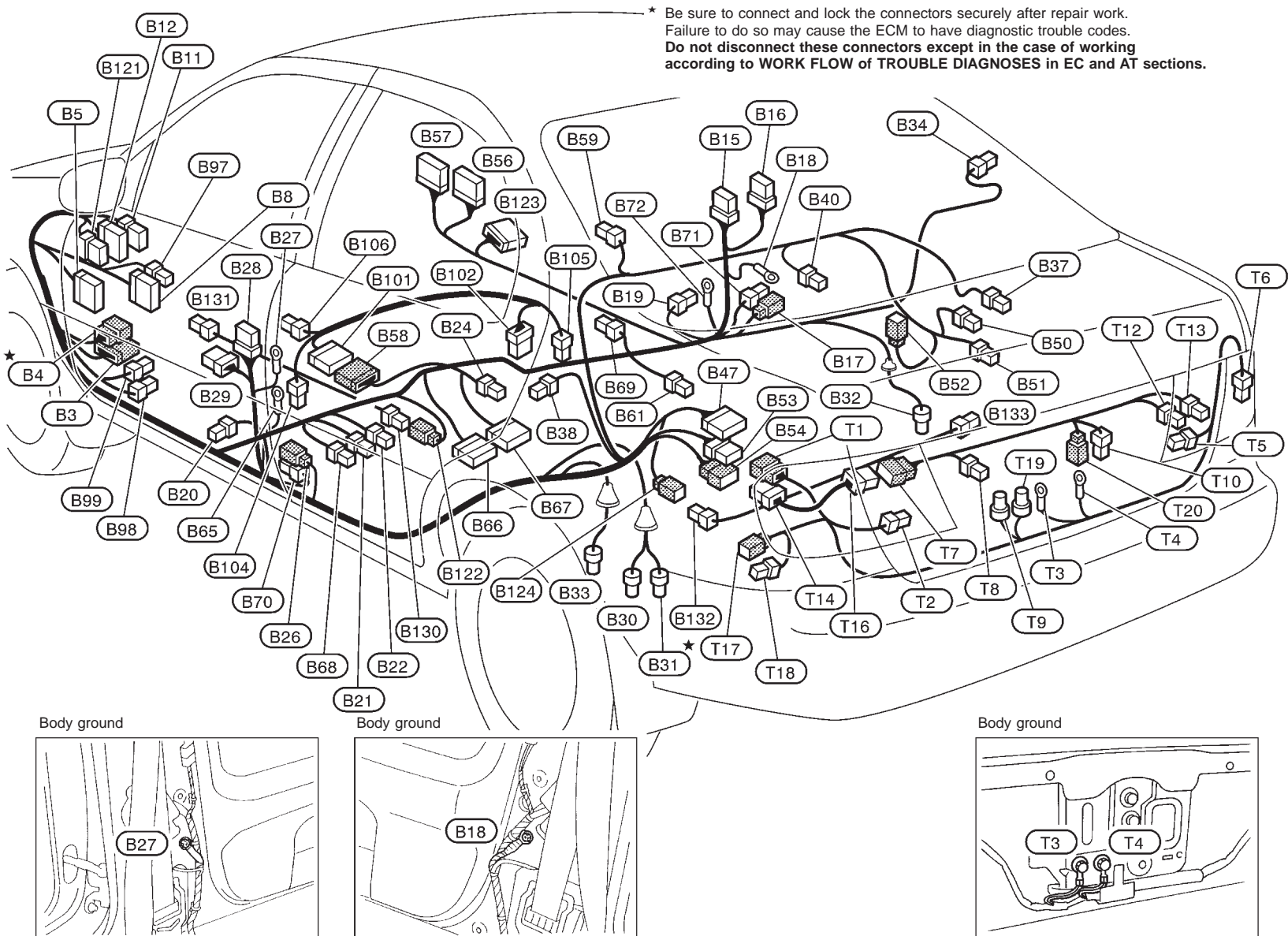
F3	★ (M1)	-	: Fuse block (J/B)	D3	(M46)	W/6	: Fan switch
F3	(M2)	W/6	: Fuse block (J/B)	C2	(M47)	W/8	: A/C control panel (Recirculation switch)
F4	(M5)	W/10	: Door mirror remote control switch (With door mirror remote control switch)	D4	★ (M48)	W/24	: TCM (Transmission control module) (CVT models)
G3	★ (M6)	-	: Body ground	C4	(M49)	W/6	: Control device (H•CVT models)
G4	(M7)	W/8	: To (D1)	D4	★ (M50)	W/24	: To (F104) (M/T models)
G4	(M13)	W/24	: To (B3)	D3	★ (M52)	W/6	: To (F103) (M/T models)
G3	★ (M14)	W/6	: To (B4)	D4	★ (M53)	W/24	: To (F102) (CVT models)
B1	(M15)	W/6	: To (R1)	D3	(M55)	W/3	: Thermo control amplifier (GA engine and CD engine)
B1	(M16)	BR/2	: Tweeter LH	D2	(M58)	BR/8	: Hazard switch
C1	(M18)	B/2	: NATS security indicator (Models before VIN-P11U0548750)	E3	(M59)	W/16	: Data link connector
C1	(M23)	W/4	: Intake door motor	F2	(M61)	B/2	: Stop lamp switch
B2	(M24)	Bulb	: Glove box lamp (With glove box lamp)	F2	★ (M64)	BR/2	: RDNT brake switch (CD engine)
G1	(M25)	BR/2	: Tweeter RH	G2	★ (M68)	B/5	: Accelerator work unit (CD engine)
B1	★ (M26)	-	: Body ground	A2	★ (M70)	BR/16	: To (E125)
A2	(M27)	W/8	: To (D10)	F2	(M71)	B/2	: Sunload sensor
B2	★ (M28)	-	: Body ground	E2	(M72)	GY/20	: Indicator control unit [H•CVT (M6) models]
B3	(M29)	BR/4	: Fan resistor	C4	★ (M78)	GY/24	: TCM (Transmission control module) (CVT models)
B2	(M30)	W/2	: Blower motor	C4	(M79)	W/12	: Control device [H•CVT (M6) models]
E2	★ (M38)	GY/20	: Combination meter (Models before VIN-P11U0548750)	E3	★ (M80)	W/12	: To (F114) (CVT models)
C3	(M39)	B/2	: Cigarette lighter socket	E4	★ (M81)	W/20	: To (F115) (CVT models)
C2	(M42)	W/16	: Audio	C3	(M83)	W/4	: To (M111) (With A/C)
C2	(M43)	W/12	: Audio (With CD auto changer)	C3	(M84)	W/6	: To (M112) (With A/C)
C2	(M44)	W/12	: A/C control panel (Rear window defogger switch)	D2	(M85)	BR/8	: Dongle control unit
C3	(M45)	W/4	: Heater	E3	(M86)	Y/7	: Air bag module (Driver's side)
				B4	(M87)	Y/20	: Air bag diagnosis sensor unit
				C2	(M88)	Y/2	: Air bag module (Passenger side)
				E2	(M89)	W/24	: Combination meter (Models after VIN-P11U0548750)

YEL972C

HARNES LAYOUT

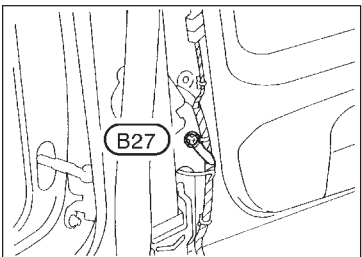
Body Harness

SEDAN — LHD models before VIN - P11U0548750

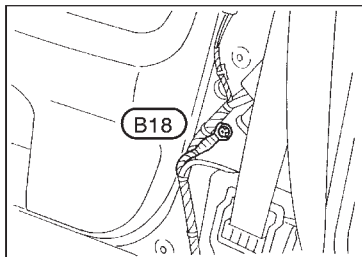


* Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

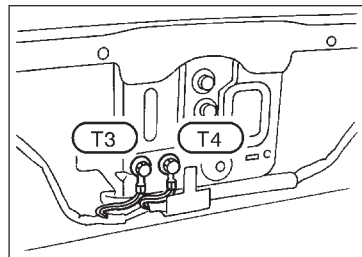
Body ground



Body ground



Body ground



EL-386

YEL253C

Body harness

A3	(B3)	W/24	: To (M13)
A2*	(B4)	W/6	: To (M14)
A1	(B5)	W/12	: To (D2)
B2	(B8)	BR/16	: Fuse block (J/B)
A1	(B11)	W/8	: Time control unit
A1	(B12)	W/20	: Time control unit
D1	(B15)	W/6	: Ultra sonic sub-sensor
E1	(B16)	W/8	: To (D22)
E2	(B17)	W/4	: Seat belt pre-tensioner (Passenger side)
E1	(B18)	—	: Body ground
D2	(B19)	BR/1	: Front door switch (Passenger side)
B3	(B20)	B/3	: Front door switch (Driver's side)
B4	(B21)	W/3	: Heated seat LH
C4	(B22)	W/2	: Power seat
C2	(B24)	B/1	: Parking brake switch
B4	(B26)	W/4	: Seat belt pre-tensioner (Driver's side)
B2	(B27)	—	: Body ground
B2	(B28)	W/8	: To (D18)
B3	(B29)	W/8	: Ultra sonic sensor
D4	(B30)	GY/2	: Fuel pump
D4*	(B31)	GY/3	: Fuel level sensor unit
E3	(B32)	GY/2	: Rear wheel sensor RH
D4	(B33)	BR/2	: Rear wheel sensor LH
E1	(B34)	BR/1	: Rear door switch RH
F2	(B37)	B/2	: Rear speaker RH
D3	(B38)	BR/1	: Rear door switch LH
E2	(B40)	B/2	: Rear speaker LH
D2	(B47)	W/16	: CD auto changer
F2	(B50)	B/1	: High mounted stop lamp
F3	(B51)	W/2	: Trunk room lamp
F3	(B52)	W/4	: Rear wiper motor
E3	(B53)	W/8	: To (T1)
E3	(B54)	W/8	: To (T14)
C1	(B56)	W/10	: To (D11)
C1	(B57)	W/16	: To (E115)
C2	(B58)	W/12	: To (B101)
D1	(B59)	B/1	: Rear window defogger
D3	(B61)	W/3	: Heated seat RH
B3	(B65)	—	: Body ground
C3	(B66)	Y/12	: Diagnosis sensor unit
C3	(B67)	Y/12	: Diagnosis sensor unit
B4	(B68)	Y/2	: Side air bag module LH
D3	(B69)	Y/2	: Side air bag module RH
B4	(B70)	OR/2	: Satellite sensor LH

D2	(B71)	Y/2	: Satellite sensor RH
D2	(B72)	—	: Body ground
B1	(B97)	B/2	: Fuse block (J/B)
A3	(B98)	L/4	: Theft warning horn relay
A3	(B99)	GY/2	: Circuit breaker-2
A1	(B121)	W/6	: Central unlock/trunk release switch
C3	(B122)	W/3	: To (B130)
C2	(B123)	W/12	: Auto level control unit
C4	(B124)	W/3	: To (B132)
C4	(B130)	W/3	: To (B122)
B2	(B131)	-/3	: Front sensor
D4	(B132)	W/3	: To (B124)
F3	(B133)	-/3	: Rear sensor

Console harness

C2	(B101)	W/12	: To (B58)
C2	(B102)	W/6	: Ultrasonic cancel switch
B3	(B104)	L/4	: Heated seat switch LH
C2	(B105)	W/4	: Heated seat switch RH
C2	(B106)	W/4	: Headlamp aiming switch

Tail harness

E3	(T1)	W/8	: To (B53)
F4	(T2)	W/4	: Rear combination lamp LH
F3	(T3)	—	: Body ground
G3	(T4)	—	: Body ground
G3	(T5)	W/4	: Rear combination lamp RH
G2	(T6)	B/1	: Theft warning horn
F4	(T9)	BR/2	: License plate lamp LH
D4	(T17)	BR/4	: Not used (To trailer tow connection)
E4	(T18)	BR/4	: Link
F3	(T19)	BR/2	: License plate lamp RH

Tail harness No. 2

F3	(T7)	W/8	: To (T16)
F4	(T8)	W/2	: Rear fog lamp
G3	(T10)	B/2	: Trunk room lamp switch
G2	(T12)	W/4	: Door unlock actuator assembly (Trunk)
G2	(T13)	W/2	: Back-up lamp
G3	(T20)	W/3	: External trunk release switch

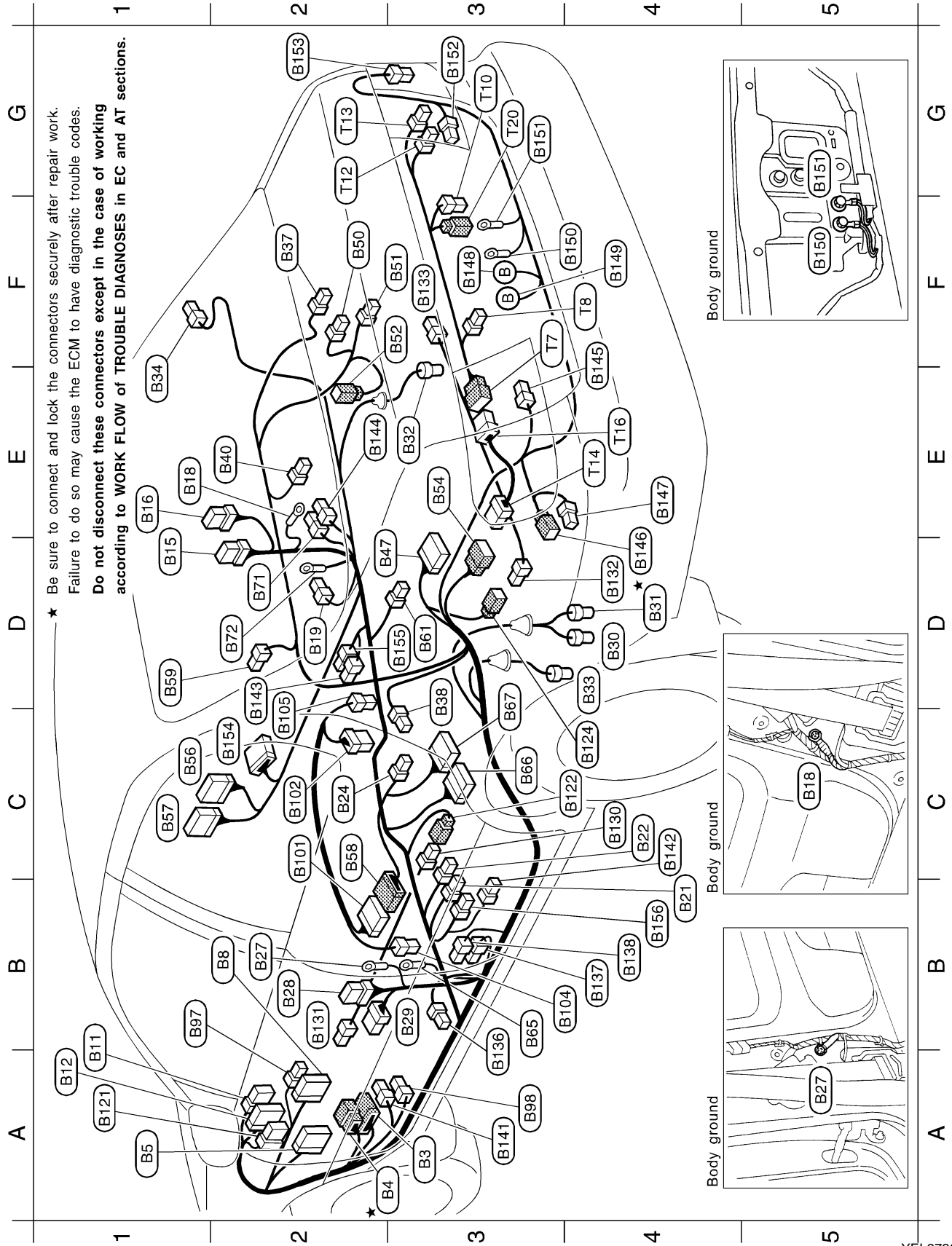
Tail sub-harness

E4	(T14)	W/8	: To (B54)
E4	(T16)	W/8	: To (T7)

HARNESS LAYOUT

Body Harness (Cont'd)

SEDAN — LHD models after VIN - P11U0548750



YEL973C

HARNESSES LAYOUT

Body Harness (Cont'd)

Body harness

A3	(B3)	W/24 : To (M13)	
A2	★ (B4)	W/6 : To (M14)	
A1	(B5)	W/12 : To (D2)	
B2	(B8)	BR/16 : Fuse block (J/B)	
A1	(B11)	W/8 : Time control unit	
A1	(B12)	W/20 : Time control unit	
D1	(B15)	W/6 : Ultra sonic sub-sensor (With theft warning system)	
E1	(B16)	W/8 : To (D22)	
E1	(B18)	- : Body ground	
D2	(B19)	BR/1 : Front door switch (Passenger side)	
B4	(B21)	W/3 : Heated seat LH (With heated seat)	
C4	(B22)	W/2 : Power seat (With power seat)	
C2	(B24)	B/1 : Parking brake switch	
B2	(B27)	- : Body ground	
B2	(B28)	W/8 : To (D18)	
B3	(B29)	W/8 : Ultra sonic sensor (With theft warning system)	
D4	(B30)	GY/2 : Fuel pump	
D4	★ (B31)	GY/3 : Fuel level sensor unit	
E3	(B32)	GY/2 : Rear wheel sensor RH	
D4	(B33)	BR/2 : Rear wheel sensor LH	
E1	(B34)	BR/1 : Rear door switch RH	
F2	(B37)	B/2 : Rear speaker RH	
D3	(B38)	BR/1 : Rear door switch LH	
E2	(B40)	B/2 : Rear speaker LH	
D2	(B47)	W/16 : CD auto changer (With CD auto changer)	
F2	(B50)	B/1 : High mounted stop lamp	
F3	(B51)	W/2 : Trunk room lamp	
F3	(B52)	W/4 : Rear wiper motor	
E3	(B54)	W/8 : To (T14)	
C1	(B56)	W/10 : To (D11)	
C1	(B57)	W/16 : To (E115)	
C2	(B58)	W/12 : To (B101)	
D1	(B59)	B/1 : Rear window defogger	
D3	(B61)	W/3 : Heated seat RH (With heated seat)	
B3	(B65)	- : Body ground	
C3	(B66)	Y/12 : Air bag diagnosis sensor unit	
C3	(B67)	Y/12 : Air bag diagnosis sensor unit	
D2	(B71)	Y/2 : Satellite sensor RH	
D2	(B72)	- : Body ground	
B1	(B97)	B/2 : Fuse block (J/B)	
A3	(B98)	L/4 : Theft warning horn relay (With theft warning system)	

A1	(B121)	W/6 : Central unlock/trunk release switch
C4	(B122)	W/3 : To (B130)
C4	(B124)	W/3 : To (B132)
C4	(B130)	W/3 : To (B122)
B2	(B131)	-/3 : Front sensor
D4	(B132)	W/3 : To (B124)
F3	(B133)	-/3 : Rear sensor
B3	(B136)	BR/1 : Front door switch (Driver's side)
B4	(B137)	Y/2 : Satellite sensor LH
B4	(B138)	Y/2 : Seat belt pre-tensioner LH
A3	(B141)	W/2 : Circuit breaker-2 (With power seat)
C4	(B142)	-/1 : Side air bag module LH (With side air bag)
D2	(B143)	-/1 : Side air bag module RH (With side air bag)
E2	(B144)	Y/2 : Seat belt pre-tensioner RH
E4	(B145)	W/4 : Rear combination lamp LH
D4	(B146)	BR/4 : To trailer tow connector
E4	(B147)	BR/4 : Link
F3	(B148)	Bulb : Licence plate lamp RH
F4	(B149)	Bulb : Licence plate lamp LH
F4	(B150)	- : Body ground
G3	(B151)	- : Body ground
G3	(B152)	W/4 : Rear combination lamp RH
G2	(B153)	B/1 : Theft warning horn (With theft warning system)
C2	(B154)	W/12 : Auto level control unit (With headlamp aiming control (Auto))
D3	(B155)	-/2 : Side air bag module RH (With side air bag)
B4	(B156)	-/2 : Side air bag module LH (With side air bag)

Console harness

C2	(B101)	W/12 : To (B58)
C2	(B102)	W/6 : Ultrasonic cancel switch (With theft warning system)
B4	(B104)	L/4 : Heated seat switch LH (With heated seat)
C2	(B105)	W/4 : Heated seat switch RH (With heated seat)

Tail harness No. 2

F3	(T7)	W/8 : To (T16)
F4	(T8)	W/2 : Rear fog lamp
G3	(T10)	B/2 : Trunk room lamp switch
G2	(T12)	W/4 : Door unlock actuator assembly (Trunk)
G2	(T13)	W/2 : Back-up lamp
G3	(T20)	W/3 : External trunk release switch

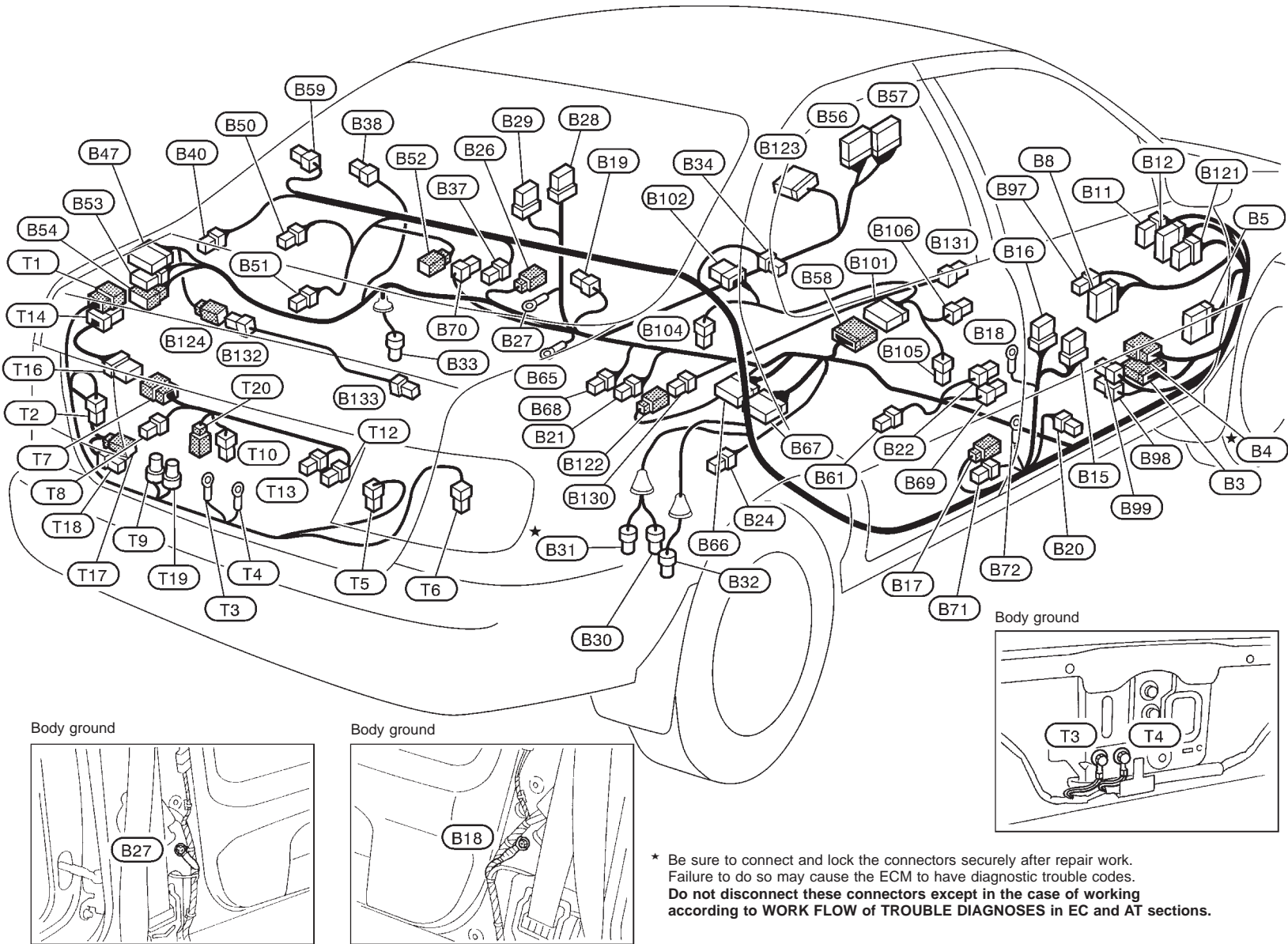
Tail sub-harness

E4	(T14)	W/8 : To (B54)
E4	(T16)	W/8 : To (T7)

HARNES LAYOUT

Body Harness (Cont'd)

SEDAN — RHD models before VIN - P11U0548750



* 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.

EL-390

YEL255C

Body harness

G3	(B3)	W/24	: To (M13)
G3*	(B4)	W/6	: To (M14)
G2	(B5)	W/12	: To (D2)
F1	(B8)	BR/16	: Fuse block (J/B)
F1	(B11)	W/8	: Time control unit
G1	(B12)	W/20	: Time control unit
F3	(B15)	W/6	: Ultra sonic sub-sensor
F2	(B16)	W/8	: To (D22)
E4	(B17)	W/4	: Seat belt pre-tensioner (Driver's side)
F2	(B18)	—	: Body ground
D1	(B19)	BR/1	: Front door switch (Passenger side)
F3	(B20)	B/3	: Front door switch (Driver's side)
C3	(B21)	W/3	: Heated seat LH
E3	(B22)	W/2	: Power seat
E3	(B24)	B/1	: Parking brake switch
C1	(B26)	W/4	: Seat belt pre-tensioner (Passenger side)
C2	(B27)	—	: Body ground
D1	(B28)	W/8	: To (D18)
C1	(B29)	W/8	: Ultra sonic sensor
D4	(B30)	GY/2	: Fuel pump
D3*	(B31)	GY/3	: Fuel level sensor unit
E4	(B32)	GY/2	: Rear wheel sensor RH
C2	(B33)	BR/2	: Rear wheel sensor LH
D1	(B34)	BR/1	: Rear door switch RH
C1	(B37)	B/2	: Rear speaker RH
C1	(B38)	BR/1	: Rear door switch LH
B1	(B40)	B/2	: Rear speaker LH
A1	(B47)	W/16	: CD auto changer
B1	(B50)	B/1	: High mounted stop lamp
B2	(B51)	W/2	: Trunk room lamp
C1	(B52)	W/4	: Rear wiper motor
A2	(B53)	W/8	: To (T1)
A2	(B54)	W/8	: To (T14)
E1	(B56)	W/10	: To (D11)
E1	(B57)	W/16	: To (E115)
E2	(B58)	W/12	: To (B101)
B1	(B59)	B/1	: Rear window defogger
E3	(B61)	W/3	: Heated seat RH
C2	(B65)	—	: Body ground
D3	(B66)	Y/12	: Diagnosis sensor unit
E3	(B67)	Y/12	: Diagnosis sensor unit
C3	(B68)	Y/2	: Side air bag module LH
E3	(B69)	Y/2	: Side air bag module RH
C2	(B70)	OR/2	: Satellite sensor LH

F4	(B71)	Y/2	: Satellite sensor RH
F3	(B72)	—	: Body ground
F1	(B97)	B/2	: Fuse block (J/B)
G3	(B98)	L/4	: Theft warning horn relay
G3	(B99)	GY/2	: Circuit breaker-2
G1	(B121)	W/6	: Central unlock/trunk release switch
D3	(B122)	W/3	: To (B130)
E1	(B123)	W/12	: Auto level control unit
B2	(B124)	W/3	: To (B132)
D3	(B130)	W/3	: To (B122)
F2	(B131)	—/3	: Front sensor
B2	(B132)	W/3	: To (B124)
B3	(B133)	—/3	: Rear sensor

Console harness

E2	(B101)	W/12	: To (B58)
D2	(B102)	W/6	: Ultrasonic cancel switch
D2	(B104)	L/4	: Heated seat switch LH
E2	(B105)	W/4	: Heated seat switch RH
E2	(B106)	W/4	: Headlamp aiming switch

Tail harness

A2	(T1)	W/8	: To (B53)
A3	(T2)	W/4	: Rear combination lamp LH
B4	(T3)	—	: Body ground
B4	(T4)	—	: Body ground
B4	(T5)	W/4	: Rear combination lamp RH
C4	(T6)	B/1	: Theft warning horn
A3	(T9)	BR/2	: License plate lamp LH
A3	(T17)	BR/4	: Not used (To trailer tow connection)
A3	(T18)	BR/4	: Link
A3	(T19)	BR/2	: License plate lamp RH

Tail harness No. 2

A3	(T7)	W/8	: To (T16)
A3	(T8)	W/2	: Back-up lamp
B3	(T10)	B/2	: Trunk room lamp switch
C3	(T12)	W/4	: Door unlock actuator assembly (Trunk)
B3	(T13)	W/2	: Rear fog lamp
B3	(T20)	W/3	: External trunk release switch

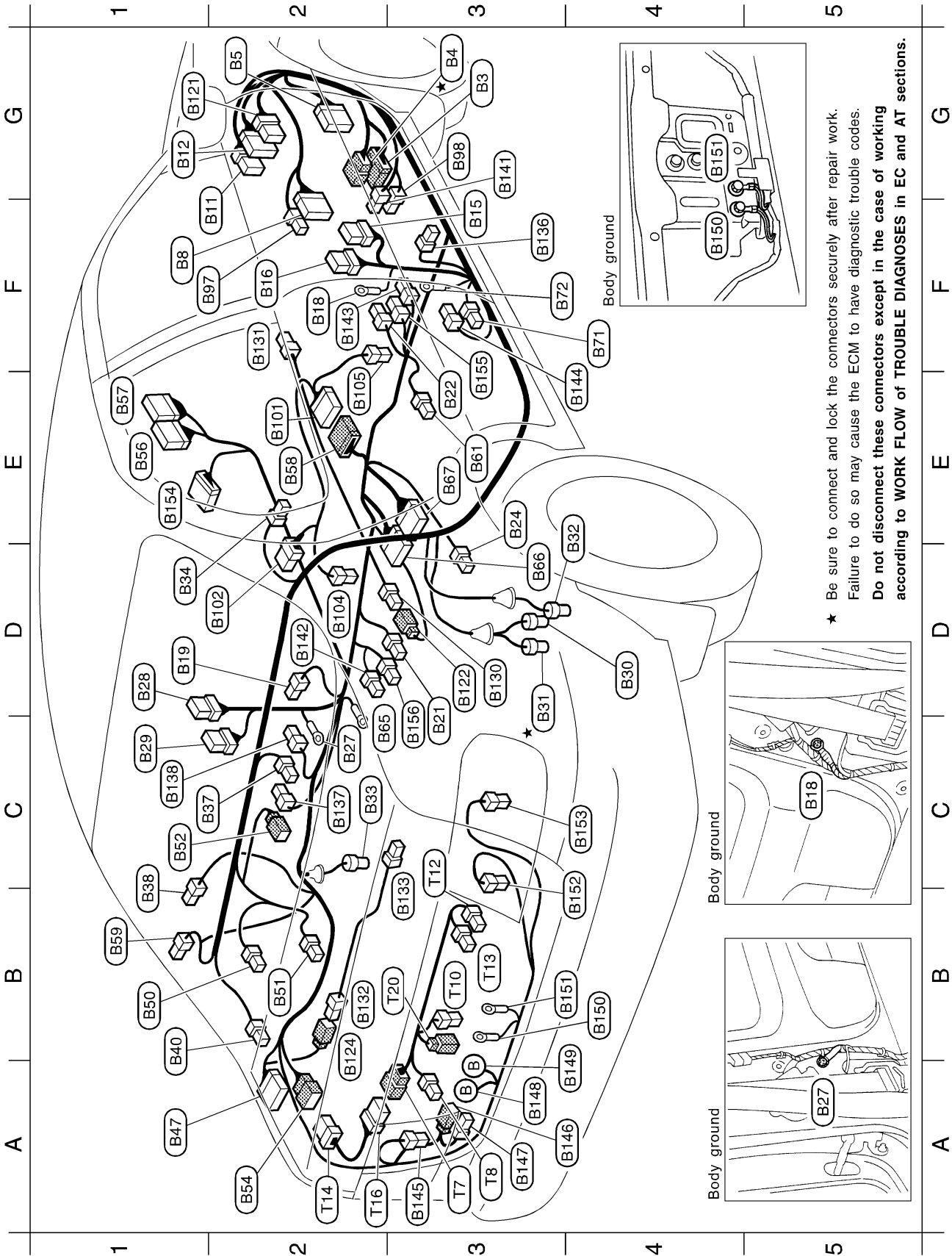
Tail sub-harness

A2	(T14)	W/8	: To (B54)
A2	(T16)	W/8	: To (T7)

HARNES LAYOUT

Body Harness (Cont'd)

SEDAN — RHD models after VIN - P11U0548750



★ 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.

HARNES LAYOUT

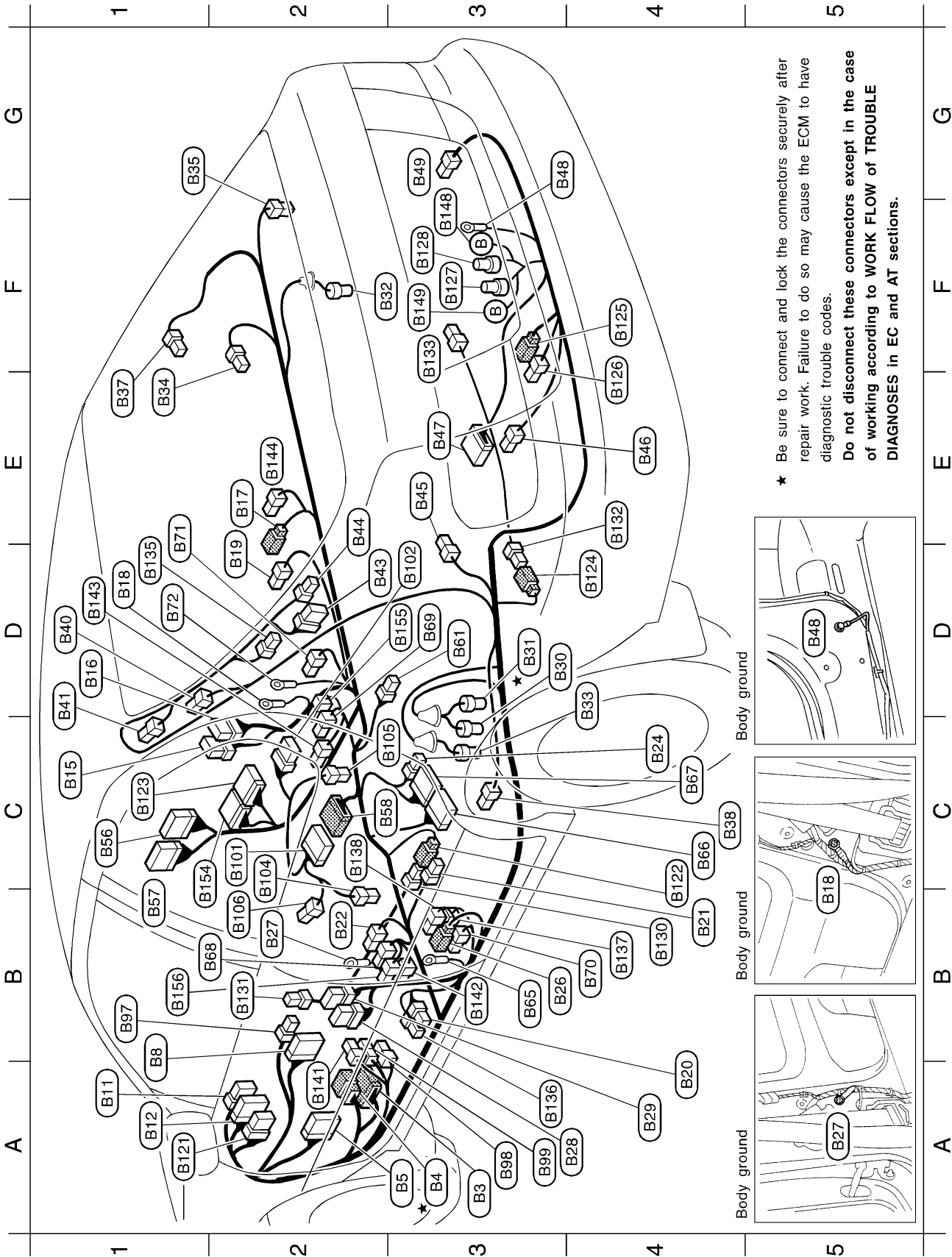
Body Harness (Cont'd)

Body harness G3 G3 G2 F1 F2 G1 F3 F2 F2 D1 C1 D4 D3 E4 C2 D1 C1 C1 B1 A1 B1 C1 A2 E1 E1 E2 B1 E3 C2 D3 F4 F3 F2 G3 G1 D3	: To (M13) W/6 : To (M14) W/12 : To (D2) BR/16 : Fuse block (J/B) W/8 : Time control unit W/20 : Time control unit W/6 : Ultra sonic sub-sensor (With theft warning system) W/8 : To (D22) - : Body ground BR/1 : Front door switch (Passenger side) W/3 : Heated seat LH (With heated seat) W/2 : Power seat (With power seat) B/1 : Parking brake switch - : Body ground W/8 : To (D18) W/8 : Ultra sonic sensor (With theft warning system) GY/2 : Fuel pump GY/3 : Fuel level sensor unit GY/2 : Rear wheel sensor RH BR/2 : Rear wheel sensor LH BR/1 : Rear door switch RH B/2 : Rear speaker RH BR/1 : Rear door switch LH B/2 : Rear speaker LH W/16 : CD auto changer (With CD auto changer) B/1 : High mounted stop lamp W/2 : Trunk room lamp W/4 : Rear wiper motor W/8 : To (T14) W/10 : To (D11) W/16 : To (E115) W/12 : To (B101) B/1 : Rear window defogger W/3 : Heated seat RH (With heated seat) - : Body ground Y/12 : Air bag diagnosis sensor unit Y/12 : Air bag diagnosis sensor unit Y/2 : Satellite sensor RH (With side air bag) - : Body ground B/2 : Fuse block (J/B) L/4 : Theft warning horn relay (With theft warning system) W/6 : Central unlock/trunk release switch W/3 : To (B130)	B2 D3 F2 B2 B3 F3 C2 C1 G3 D2 F2 E4 A3 A4 A3 A3 A4 B4 B4 B4 C4 E1 E3 C3	W/3 : To (B132) W/3 : To (B122) -/3 : Front sensor W/3 : To (B124) -/3 : Rear sensor BR/1 : Front door switch (Driver's side) Y/2 : Satellite sensor LH Y/2 : Seat belt pre-tensioner LH W/2 : Circuit breaker-2 (With power seat) -/1 : Side air bag module LH (With side air bag) -/1 : Side air bag module RH (With side air bag) Y/2 : Seat belt pre-tensioner RH W/4 : Rear combination lamp LH BR/4 : To trailer tow connector BR/4 : Link Bulb : Licence plate lamp RH Bulb : Licence plate lamp LH - : Body ground - : Body ground W/4 : Rear combination lamp RH B/1 : Theft warning horn (With theft warning system) W/12 : Auto level control unit (With headlamp aiming control (Auto)) -/2 : Side air bag module RH (With side air bag) -/2 : Side air bag module LH (With side air bag)
Console harness			
E2 D2 D2 E2	W/12 : To (B58) W/6 : Ultrasonic cancel switch (With theft warning system) L/4 : Heated seat switch LH (With heated seat) W/4 : Heated seat switch RH (With heated seat)	E2 D2 D2 E2	W/12 : To (B58) W/6 : Ultrasonic cancel switch (With theft warning system) L/4 : Heated seat switch LH (With heated seat) W/4 : Heated seat switch RH (With heated seat)
Tail harness No. 2			
A3 A3 B3 C3 B3 B3	W/8 : To (T16) W/2 : Back-up lamp B/2 : Trunk room lamp switch W/4 : Door unlock actuator assembly (Trunk) W/2 : Rear fog lamp W/3 : External trunk release switch	A3 A3 B3 C3 B3 B3	W/8 : To (T16) W/2 : Back-up lamp B/2 : Trunk room lamp switch W/4 : Door unlock actuator assembly (Trunk) W/2 : Rear fog lamp W/3 : External trunk release switch
Tail sub-harness			
A2 A2	W/8 : To (B54) W/8 : To (T7)	A2 A2	W/8 : To (B54) W/8 : To (T7)

HARNES LAYOUT

Body Harness (Cont'd)

5-DOOR HATCHBACK — LHD models

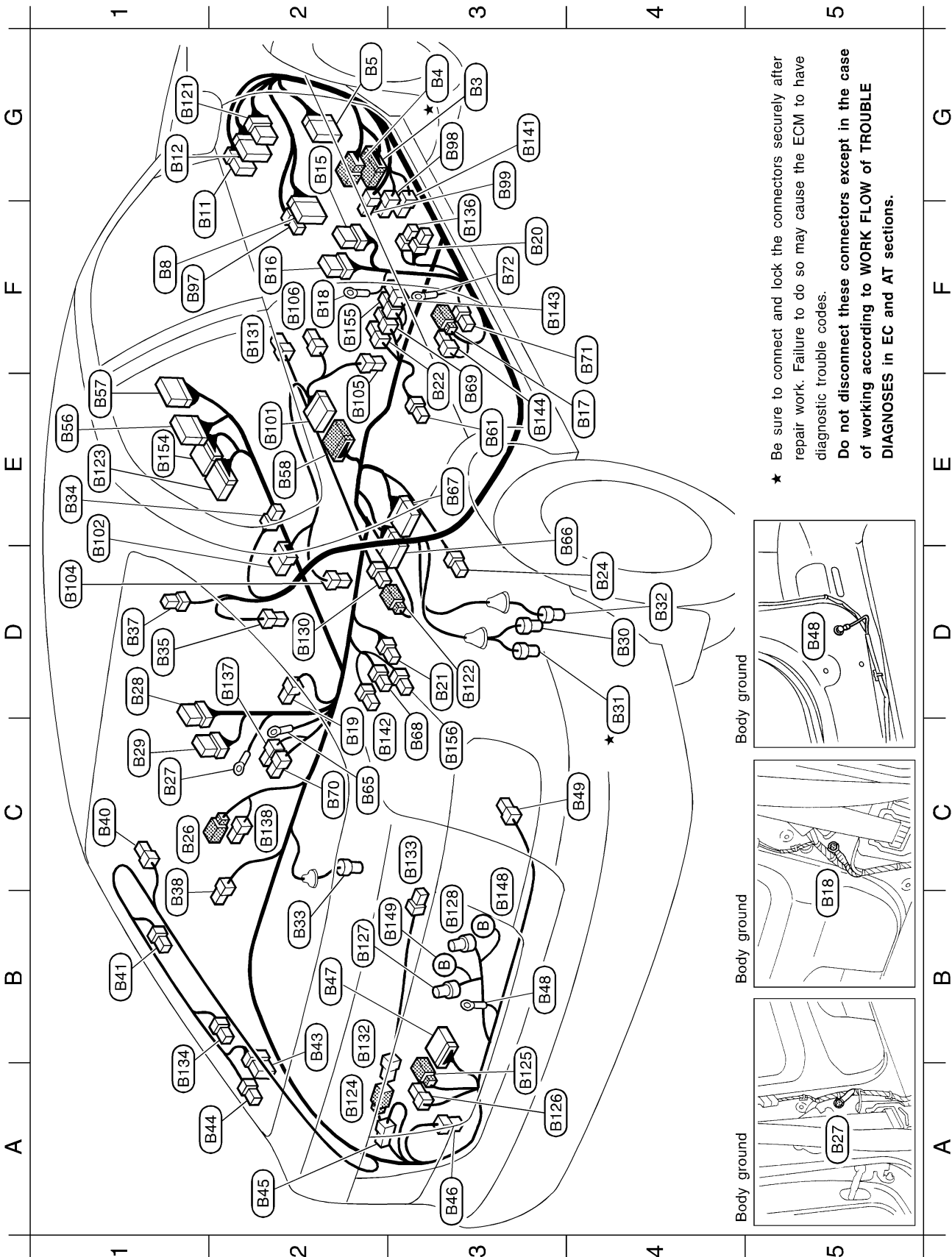


★ Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNES LAYOUT

Body Harness (Cont'd)

5-DOOR HATCHBACK — RHD models

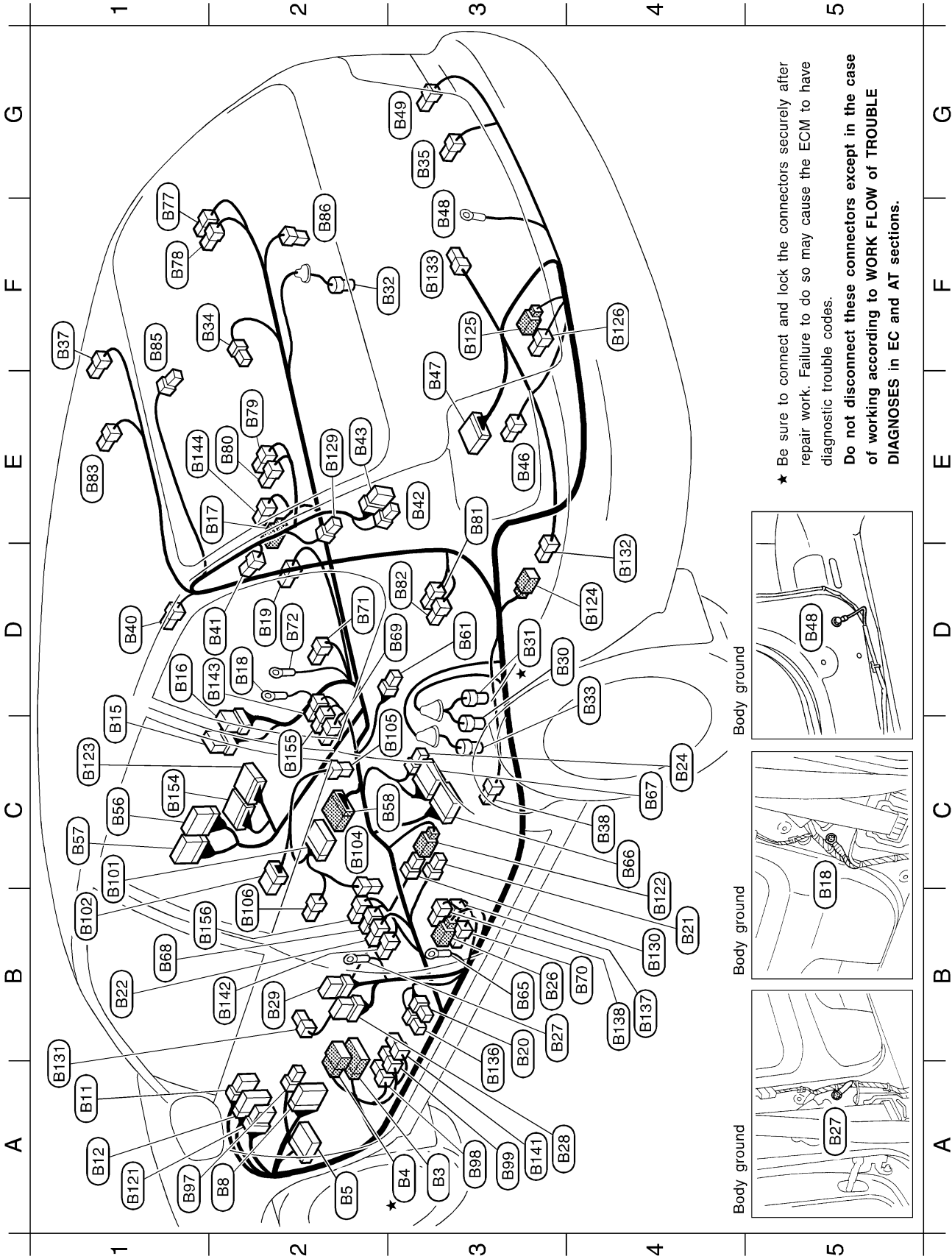


★ Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to **WORK FLOW of TROUBLE DIAGNOSES** in EC and AT sections.

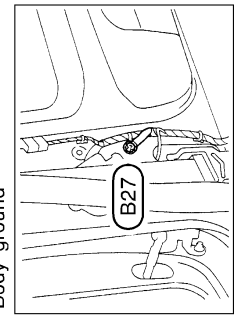
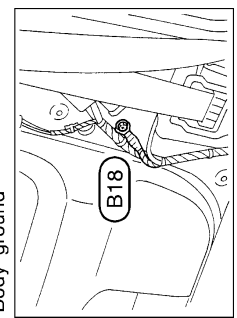
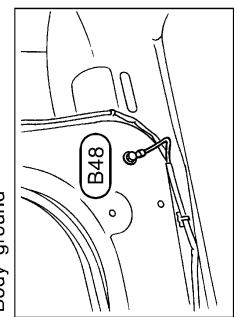
HARNES LAYOUT

Body Harness (Cont'd)

WAGON — LHD MODELS



★ 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.



YEL981C

HARNES LAYOUT

Body Harness (Cont'd)

★ : 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.**

Body harness

A3	B3	W/24	: To (M13)
A3	B4	W/6	: To (M14)
A2	B5	W/12	: To (D2)
A2	B8	BR/16	: Fuse block (J/B)
A1	B11	W/8	: Time control unit
A1	B12	W/20	: Time control unit
C1	B15	W/6	: Ultra sonic sub-sensor (With theft warning system)
D1	B16	W/8	: To (D22)
E2	B17	W/4	: Seat belt pre-tensioner (Passenger side) (Type-1)
D2	B18	-	: Body ground
D2	B19	BR/1	: Front door switch (Passenger side)
B3	B20	B/3	: Front door switch (Driver's side) (Type-1)
B4	B21	W/3	: Heated seat LH (With heated seat)
B1	B22	W/2	: Power seat (With power seat)
C4	B24	B/1	: Parking brake switch
B3	B26	W/4	: Seat belt pre-tensioner (Driver's side) (Type-1)
B3	B27	-	: Body ground
A3	B28	W/8	: To (D1B)
B2	B29	W/8	: Ultra sonic sensor (With theft warning system)
D3	B30	GY/2	: Fuel pump
D3	B31	GY/3	: Fuel level sensor unit
F3	B32	GY/2	: Rear wheel sensor RH
D4	B33	BR/2	: Rear wheel sensor LH
F1	B34	BR/1	: Rear door switch RH
G3	B35	B/1	: Theft warning horn (With theft warning system)
F1	B37	BR/2	: Rear speaker RH
C4	B38	BR/1	: Rear door switch LH
D1	B40	BR/2	: Rear speaker LH
D2	B41	B/1	: Rear window defogger
E3	B42	W/4	: To (Q101)
E2	B43	W/6	: To (Q102)
E3	B46	W/4	: Rear combination lamp LH
E3	B47	W/16	: CD auto changer (With CD auto changer)
F3	B48	-	: Body ground
G3	B49	W/4	: Rear combination lamp RH
C1	B56	W/10	: To (D11)
C1	B57	W/16	: To (E115)
C3	B58	W/12	: To (B101)
D3	B61	W/3	: Heated seat RH
B3	B65	-	: Body ground
C4	B66	Y/12	: Air bag diagnosis sensor unit
C4	B67	Y/12	: Air bag diagnosis sensor unit
B1	B68	Y/2	: Side air bag module LH (Type-1)

D3	B69	Y/2	: Side air bag module RH (Type-1)
B4	B70	OR/2	: Satellite sensor LH (Type-1)
D2	B71	Y/2	: Satellite sensor RH
D2	B72	-	: Body ground
F1	B77	B/1	: Smash sensor RH (With theft warning system)
F1	B78	B/1	: Smash sensor RH (With theft warning system)
E2	B79	B/1	: Rear window defogger condenser
E2	B80	B/1	: Rear window defogger condenser
E3	B81	B/1	: Smash sensor LH (With theft warning system)
D3	B82	B/1	: Smash sensor LH (With theft warning system)
E1	B83	W/2	: Luggage room lamp
F1	B85	W/3	: High mounted stop lamp
F2	B86	B/2	: Power socket
A1	B97	B/2	: Fuse block (J/B)
A3	B98	L/4	: Theft warning horn relay (With theft warning system)
A3	B99	GY/2	: Circuit breaker-2 (Type-1)
A1	B121	W/6	: Central unlock switch
B4	B122	W/3	: To (B130)
D4	B124	W/3	: To (B132)
F3	B125	BR/4	: To trailer tow connector
F4	B126	BR/4	: Link
E2	B129	B/1	: Rear window smash sensor (With theft warning system)
B4	B130	W/3	: To (B122)
A1	B131	-/3	: Front sensor
D4	B132	W/3	: To (B124)
F3	B133	-/3	: Rear sensor
A3	B136	BR/1	: Front door switch (Driver's side) (Type-2)
B4	B137	Y/2	: Satellite sensor LH (Type-2)
B4	B138	Y/2	: Seat belt pre-tensioner LH (Type-2)
A3	B141	W/2	: Circuit breaker-2 (Type-2)
B2	B142	-/1	: Side air bag module LH (Type-2)
D2	B143	-/1	: Side air bag module RH (Type-2)
E1	B144	Y/2	: Seat belt pre-tensioner RH (Type-2)
C2	B155	-/2	: Side air bag module RH (Type-2)
B1	B156	-/2	: Side air bag module LH (Type-2)

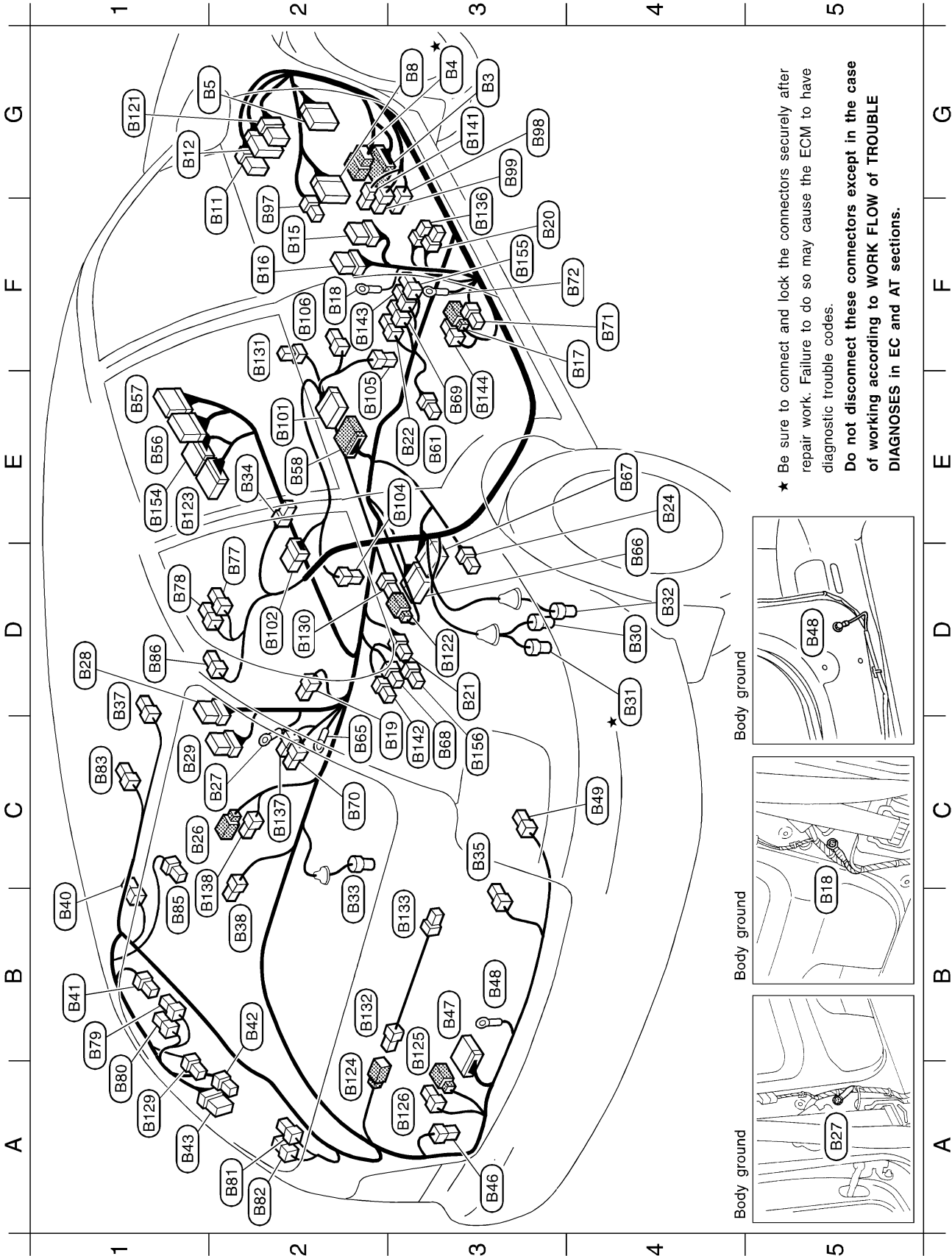
Console harness

C1	B101	W/12	: To (B58)
B1	B102	W/6	: Ultra sonic cancel switch (With theft warning system)
C2	B104	L/4	: Heated seat switch LH (With heated seat)
C3	B105	W/4	: Heated seat switch RH (With heated seat)
B2	B106	W/4	: Headlamp aiming switch (Models before VIN-P11U0548750)

HARNES LAYOUT

Body Harness (Cont'd)

WAGON — RHD models



★ 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.

YEL983C

HARNES LAYOUT

Body Harness (Cont'd)

★ : 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.

Body harness

G3	B3	W/24	: To (M13)	E3	B69	Y/2	: Side air bag module RH (Type-1)
G3	B4	W/6	: To (M14)	C2	B70	OR/2	: Satellite sensor LH (Type-1)
G1	B5	W/12	: To (D2)	F4	B71	Y/2	: Satellite sensor RH
G3	B8	BR/16	: Fuse block (J/B)	F4	B72	-	: Body ground
F2	B11	W/8	: Time control unit	D2	B77	B/1	: Smash sensor RH (With theft warning system)
G1	B12	W/20	: Time control unit	D1	B78	B/1	: Smash sensor RH (With theft warning system)
F2	B15	W/6	: Ultra sonic sub-sensor (With theft warning system)	B1	B79	B/1	: Rear window defogger condenser
F2	B16	W/8	: To (D22)	A1	B80	B/1	: Rear window defogger condenser
F4	B17	W/4	: Seat belt pre-tensioner (Driver's side) (Type-1)	A2	B81	B/1	: Smash sensor LH
F2	B18	-	: Body ground	A2	B82	B/1	: Smash sensor LH
C3	B19	BR/1	: Front door switch (Passenger side)	C1	B83	W/2	: Luggage room lamp
F3	B20	B/3	: Front door switch (Driver's side) (Type-1)	B1	B85	W/3	: High mounted stop lamp
D3	B21	W/3	: Heated seat LH (With heated seat)	D1	B86	B/2	: Power socket
E3	B22	W/2	: Power seat (With power seat)	F2	B97	B/2	: Fuse block (J/B)
E4	B24	B/1	: Parking brake switch	G3	B98	L/4	: Theft warning horn relay (With theft warning system)
C1	B26	W/4	: Seat belt pre-tensioner (Passenger side) (Type-1)	G3	B99	GY/2	: Circuit breaker-2 (Type-1)
C2	B27	-	: Body ground	G1	B121	W/6	: Central unlock switch
D1	B28	W/8	: To (D1B)	D3	B122	W/3	: To (B130)
C1	B29	W/8	: Ultra sonic sensor (With theft warning system)	E1	B123	W/12	: Auto level control unit
D4	B30	GY/2	: Fuel pump	A2	B124	W/3	: To (B132)
D4	B31	GY/3	: Fuel level sensor unit	B3	B125	BR/4	: To trailer tow connector
D4	B32	GY/2	: Rear wheel sensor RH	A3	B126	BR/4	: Link
B2	B33	BR/2	: Rear wheel sensor LH	A1	B129	B/1	: Rear window smash sensor
E2	B34	BR/1	: Rear door switch RH	D2	B130	W/3	: To (B122)
C3	B35	B/1	: Theft warning horn (With theft warning system)	F2	B131	-/3	: Front sensor
D1	B37	BR/2	: Rear speaker RH	B2	B132	W/3	: To (B124)
B2	B38	BR/1	: Rear door switch LH	B3	B133	-/3	: Rear sensor
B1	B40	BR/2	: Rear speaker LH	F3	B136	BR/1	: Front door switch (Driver's side) (Type-2)
B1	B41	B/1	: Rear window defogger	C2	B137	Y/2	: Satellite sensor LH (Type-2)
B2	B42	W/4	: To (Q101)	B1	B138	Y/2	: Seat belt pre-tensioner LH (Type-2)
A1	B43	W/6	: To (Q102)	G3	B141	W/2	: Circuit breaker-2 (Type-2)
A3	B46	W/4	: Rear combination lamp LH	C3	B142	-/1	: Side air bag module LH (Type-2)
B3	B47	W/16	: CD auto changer (With CD auto changer)	F2	B143	-/1	: Side air bag module RH (Type-2)
B3	B48	-	: Body ground	E3	B144	Y/2	: Seat belt pre-tensioner RH (Type-2)
C4	B49	W/4	: Rear combination lamp RH	F3	B155	-/2	: Side air bag module RH (Type-2)
E1	B56	W/10	: To (D11)	C3	B156	-/2	: Side air bag module LH (Type-2)
E1	B57	W/16	: To (E115)				
E2	B58	W/12	: To (B101)				
E3	B61	W/3	: Heated seat RH (With heated seat)				
C2	B65	-	: Body ground				
D4	B66	Y/12	: Air bag diagnosis sensor unit				
E4	B67	Y/12	: Air bag diagnosis sensor unit				
C3	B68	Y/2	: Side air bag module LH (Type-1)				

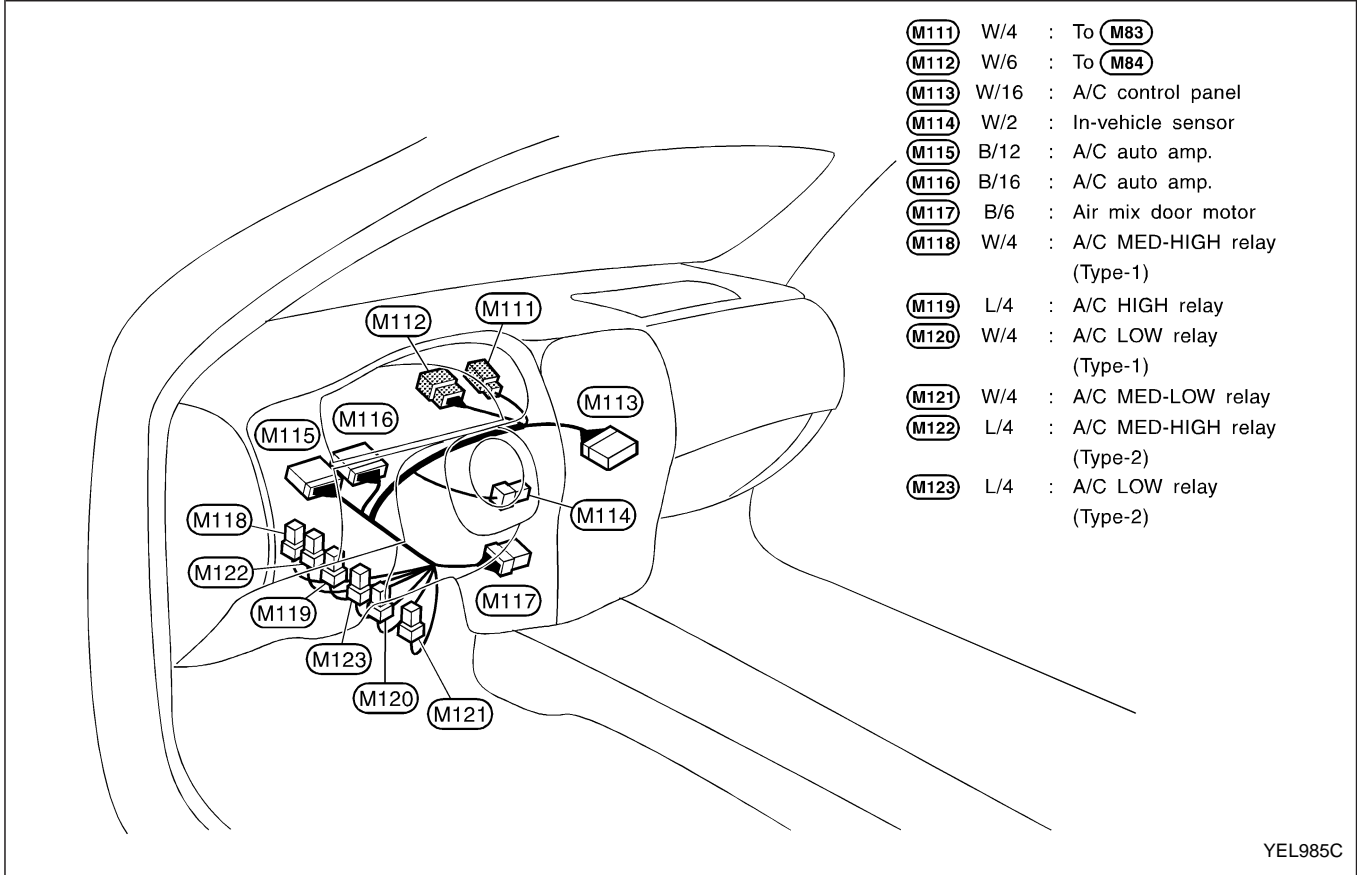
Console harness

E2	B101	W/12	: To (B58)
D2	B102	W/6	: Ultra sonic cancel switch (With theft warning system)
E3	B104	L/4	: Heated seat switch LH (With heated seat)
E2	B105	W/4	: Heated seat switch RH (With heated seat)
F2	B106	W/4	: Headlamp aiming switch (Models before VIN-P11U0548750)

HARNES LAYOUT

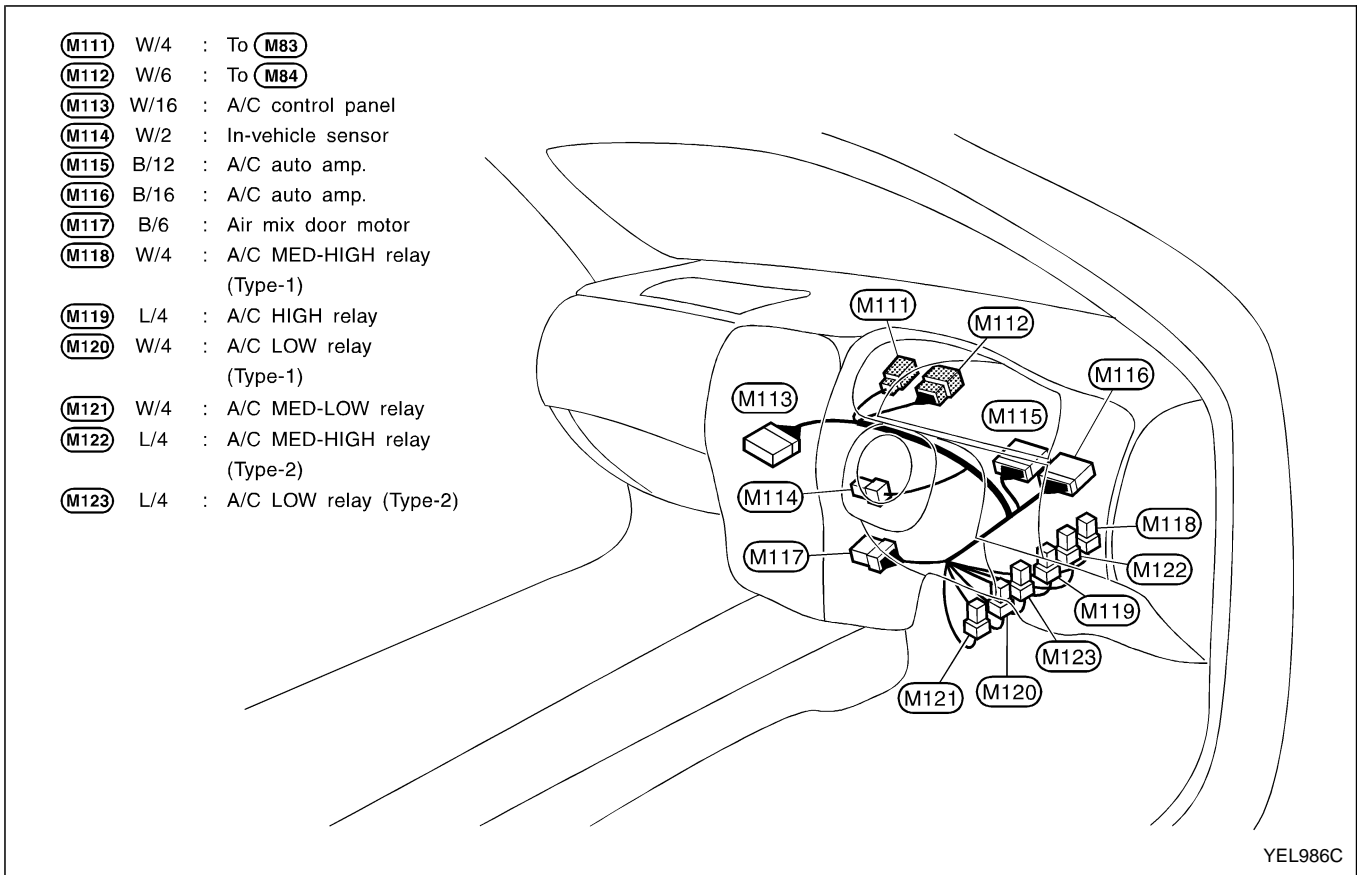
LHD MODELS

Air Conditioner Harness



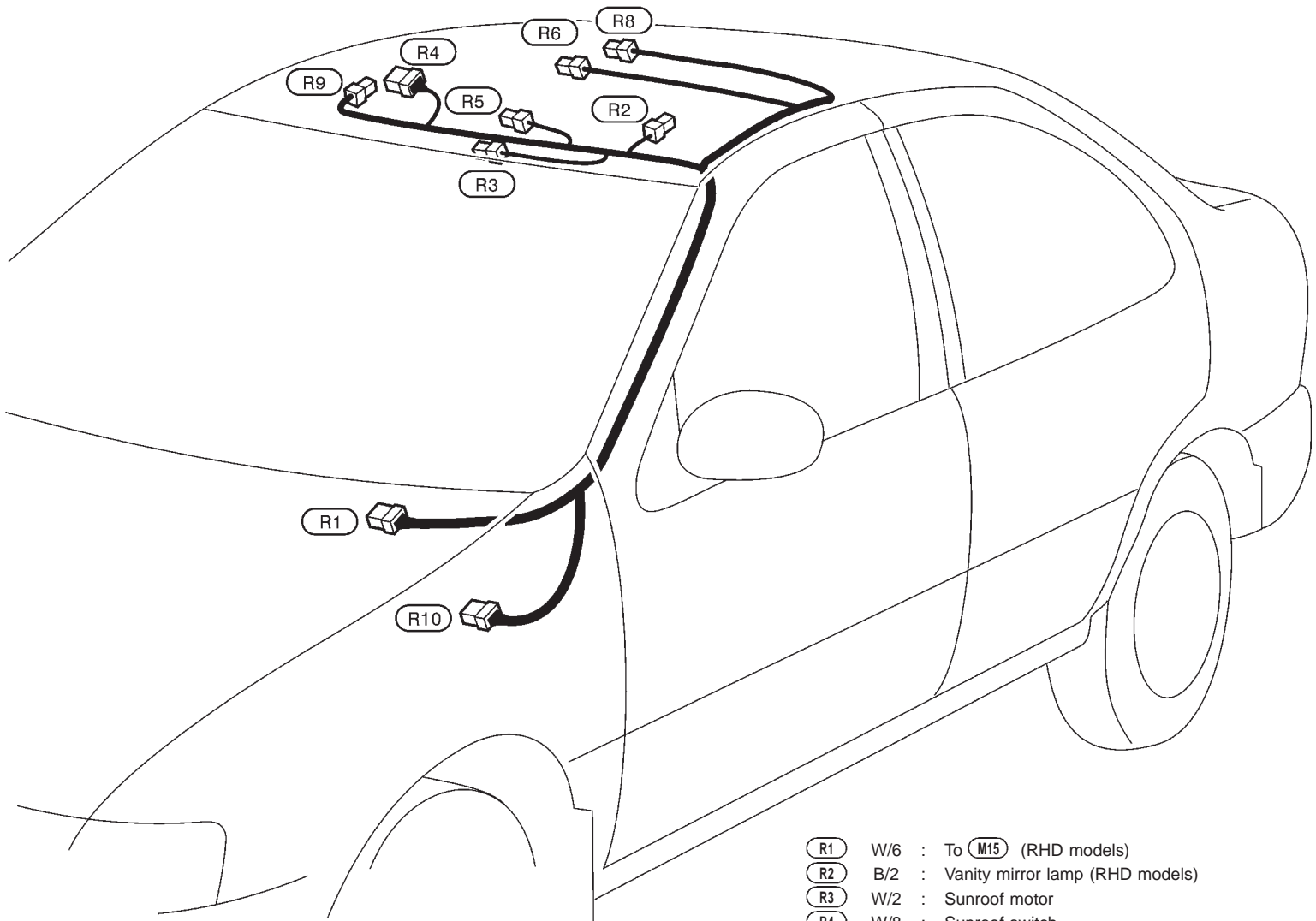
YEL985C

RHD MODELS



YEL986C

Room Lamp Harness

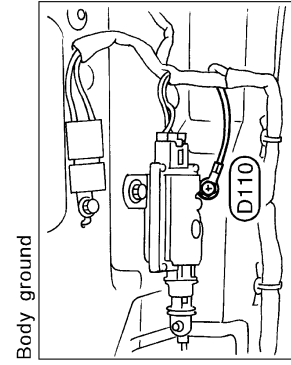
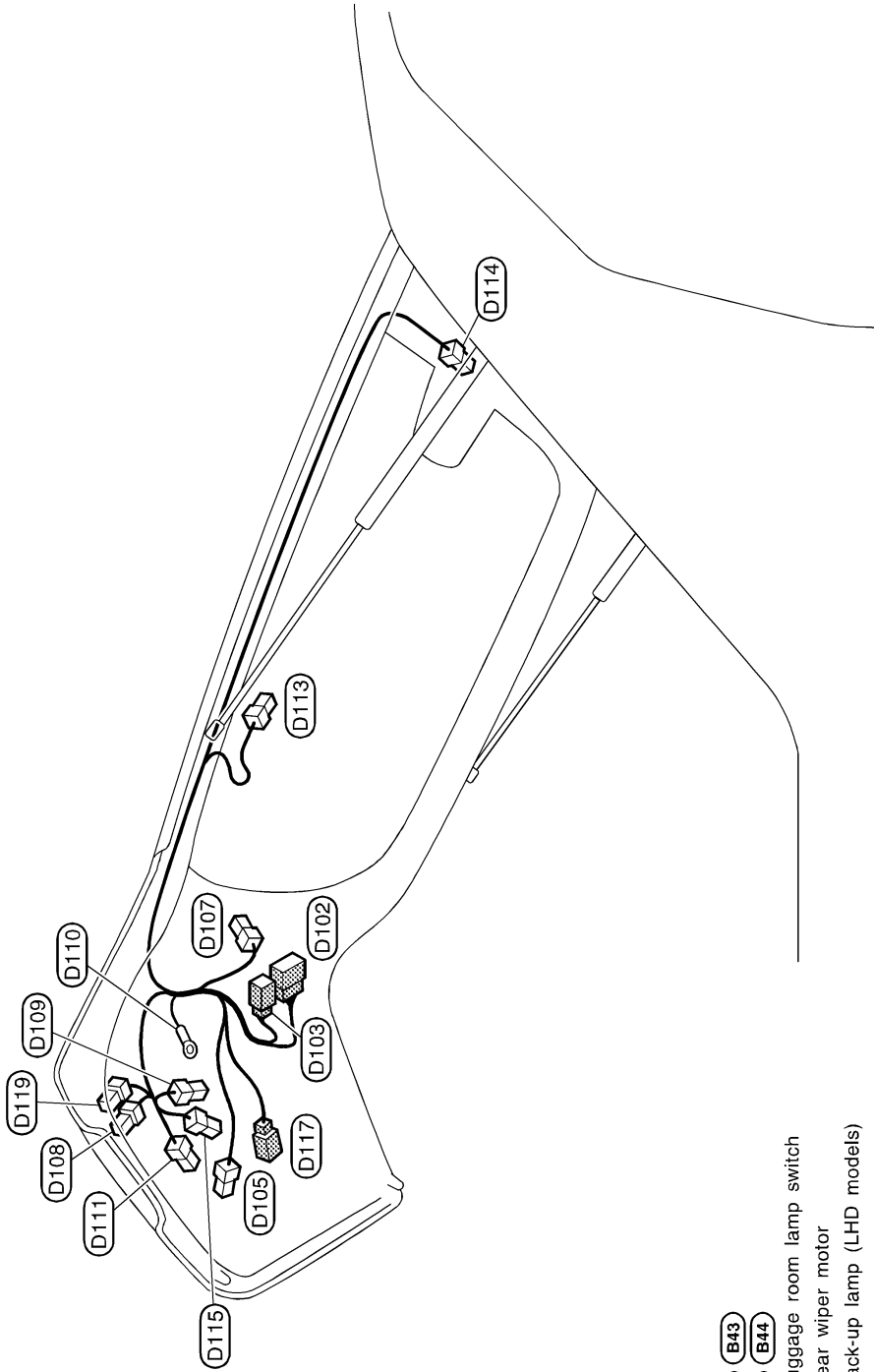


- R1** W/6 : To **M15** (RHD models)
- R2** B/2 : Vanity mirror lamp (RHD models)
- R3** W/2 : Sunroof motor
- R4** W/8 : Sunroof switch
- R5** W/2 : Spot lamp
- R6** W/2 : Interior lamp (Without sunroof)
- R8** W/2 : Interior lamp (With sunroof)
- R9** B/2 : Vanity mirror lamp (LHD models)
- R10** W/6 : Fuse block (J/B) (LHD models)

HARNES LAYOUT

Back Door Harness

5-DOOR HATCHBACK



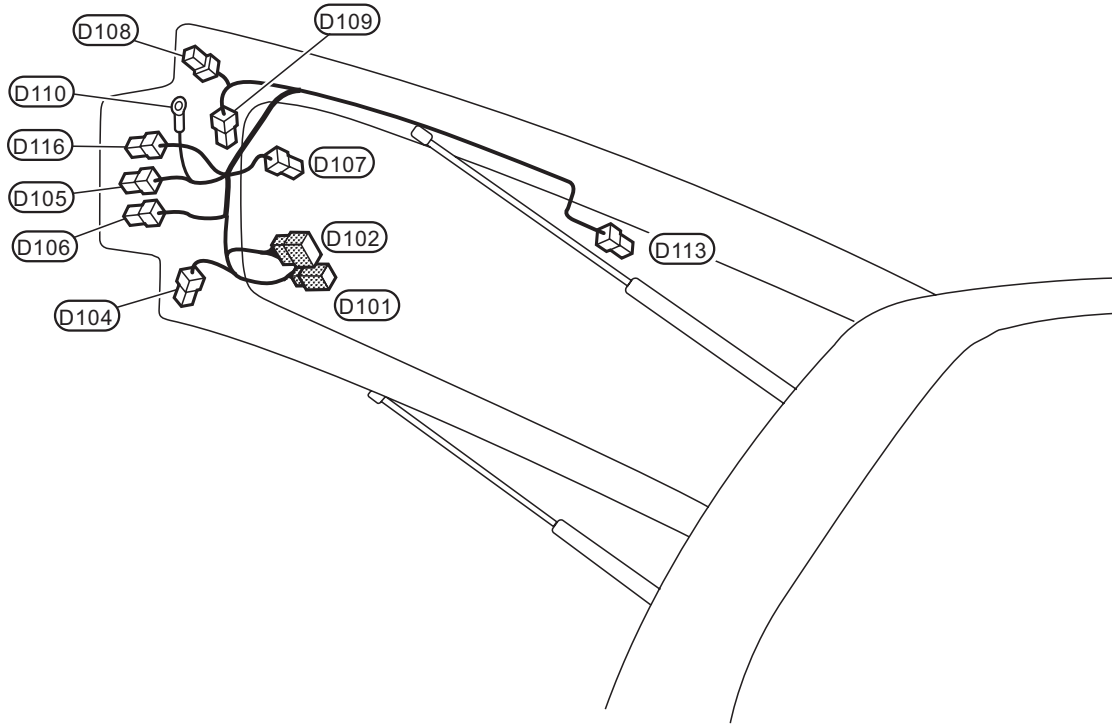
- D102 : W/8 : To B43
- D103 : W/3 : To B44
- D109 : B/2 : Luggage room lamp switch
- D107 : W/4 : Rear wiper motor
- D108 : W/2 : Back-up lamp (LHD models)
- D109 : W/4 : Door unlock actuator assembly
- D110 : - : Body ground
- D111 : B/1 : Rear window defogger condenser
- D113 : B/1 : Rear window defogger
- D114 : B/2 : High mounted stop lamp
- D115 : B/1 : Rear window defogger condenser
- D117 : W/3 : External back door release switch
- D119 : W/2 : Rear fog lamp (RHD models)

YEL988C

HARNES LAYOUT

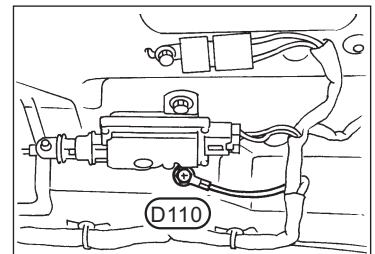
Back Door Harness (Cont'd)

WAGON



- (D101) W/4 : To (B42)
- (D102) W/6 : To (B43)
- (D104) W/4 : Rear combination lamp LH
- (D105) W/2 : Luggage room lamp switch
- (D106) W/2 : Licence plate lamp LH
- (D107) W/4 : Rear wiper motor
- (D108) W/4 : Rear combination lamp RH
- (D109) W/4 : Door lock actuator assembly
- (D110) — : Body ground
- (D113) B/1 : Rear window defogger
- (D116) W/2 : Licence plate lamp RH

Body ground



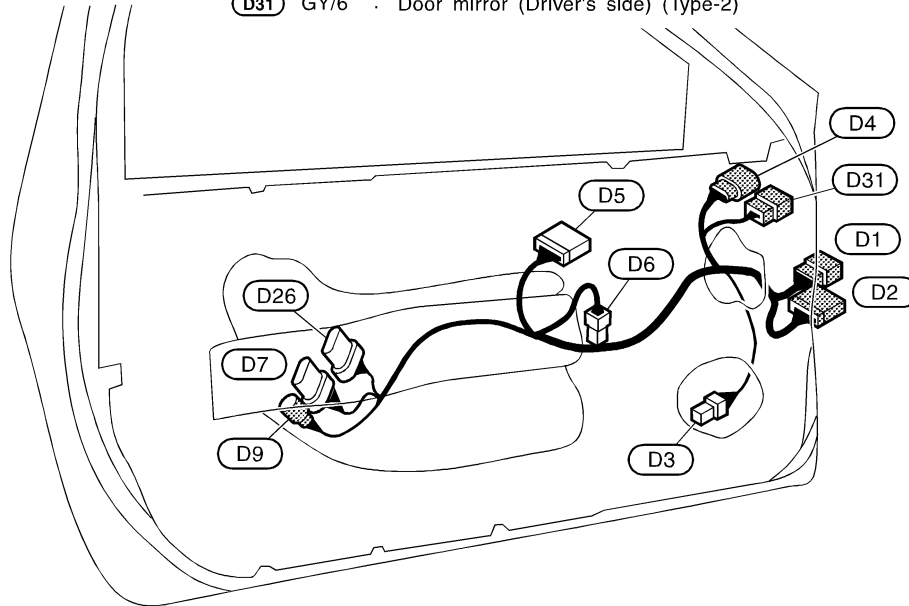
YEL405B

HARNES LAYOUT

LHD MODELS

Front Door Harness (LH side)

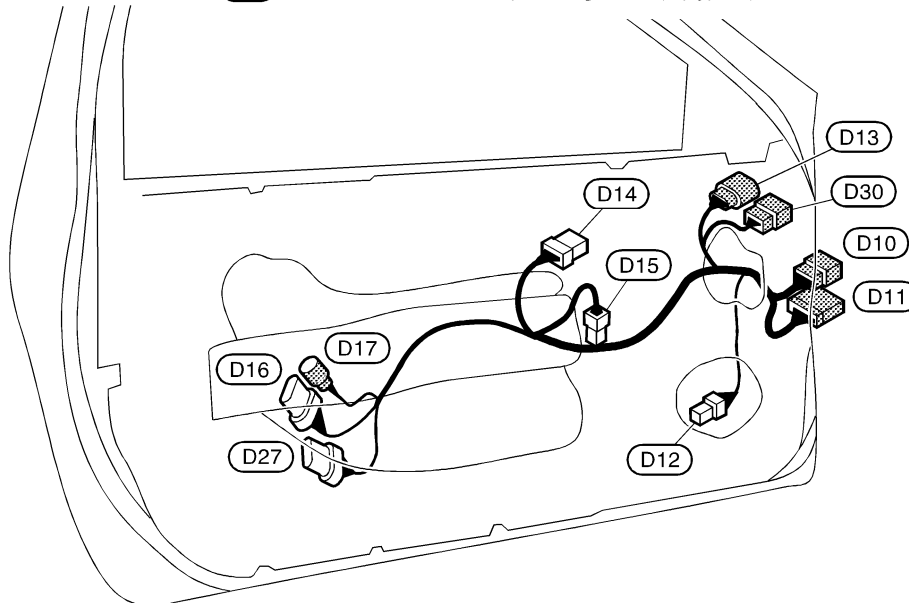
- | | | |
|--|--|--|
| <p>D1 W/8 : To M7</p> <p>D2 W/12 : To B5</p> <p>D3 B/2 : Front speaker LH</p> | <p>D4 W/5 : Door mirror (Driver's side) (Type-1)</p> <p>D5 W/16 : Power window main switch (With power window)</p> <p>D6 B/2 : Front power window regulator (Driver's side) (With power window)</p> <p>D7 B/6 : Door lock actuator assembly (Driver's side) (With super lock)</p> <p>D9 GY/2 : Key cylinder switch (Driver's side)</p> <p>D26 B/6 : Door lock actuator assembly (Driver's side) (With power door lock)</p> <p>D31 GY/6 : Door mirror (Driver's side) (Type-2)</p> | |
|--|--|--|



YEL989C

RHD MODELS

- | | | |
|---|---|--|
| <p>D10 W/8 : To M27</p> <p>D11 W/10 : To B56</p> <p>D12 B/2 : Front speaker LH</p> | <p>D13 W/5 : Door mirror (Passenger side) (Type-1)</p> <p>D14 W/8 : Front power window sub-switch (With power window)</p> <p>D15 B/2 : Front power window regulator (Passenger side) (With power window)</p> <p>D16 B/6 : Door lock actuator assembly (Passenger side) (With super lock)</p> <p>D17 GY/2 : Key cylinder switch (Passenger side)</p> <p>D27 B/6 : Door lock actuator assembly (Passenger side) (With power door lock)</p> <p>D30 GY/6 : Door mirror (Passenger side) (Type-2)</p> | |
|---|---|--|



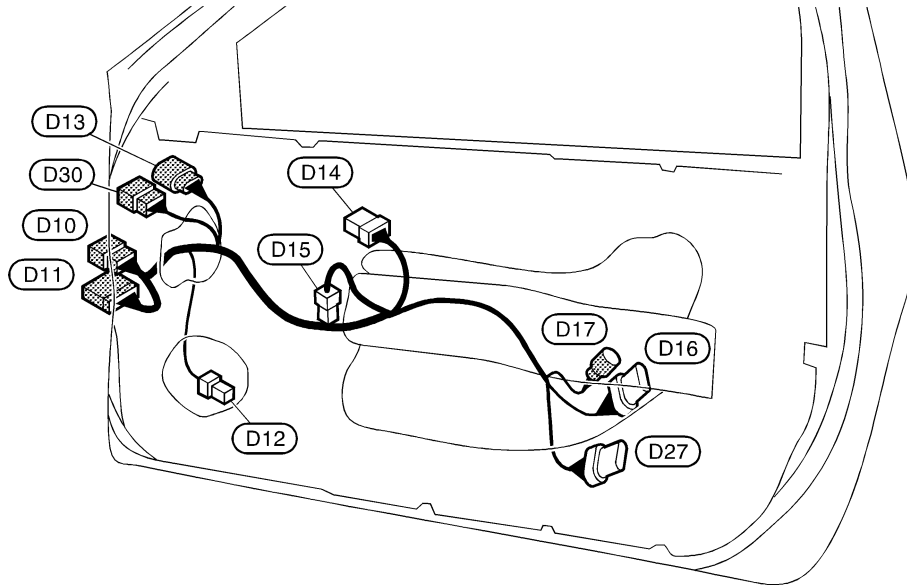
YEL990C

HARNES LAYOUT

LHD MODELS

Front Door Harness (RH side)

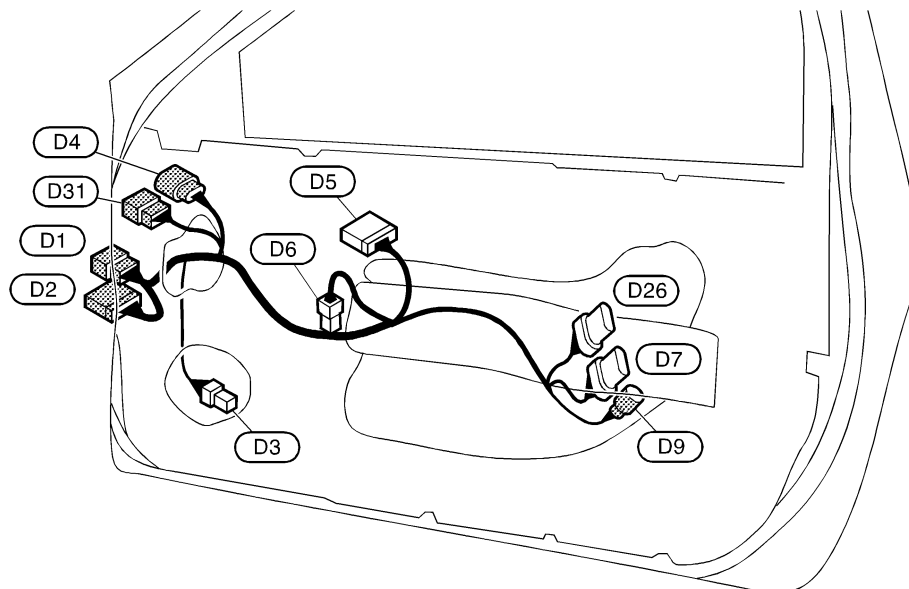
- | | |
|---|---|
| <p>(D10) W/8 : To (M27)</p> <p>(D11) W/10 : To (B56)</p> <p>(D12) B/2 : Front speaker RH</p> | <p>(D13) W/5 : Door mirror (Passenger side) (Type-1)</p> <p>(D14) W/8 : Front power window sub-switch (With power window)</p> <p>(D15) B/2 : Front power window regulator (Passenger side) (With power window)</p> <p>(D16) B/6 : Door lock actuator assembly (Passenger side) (With super lock)</p> <p>(D17) GY/2 : Key cylinder switch (Passenger side)</p> <p>(D27) B/6 : Door lock actuator assembly (passenger side) (With power door lock)</p> <p>(D30) GY/6 : Door mirror (passenger side) (Type-2)</p> |
|---|---|



YEL991C

RHD MODELS

- | | |
|--|--|
| <p>(D1) W/8 : To (M7)</p> <p>(D2) W/12 : To (B5)</p> <p>(D3) B/2 : Front speaker RH</p> | <p>(D4) W/5 : Door mirror (Driver's side) (Type-1)</p> <p>(D5) W/16 : Power window main switch (With power window)</p> <p>(D6) B/2 : Front power window regulator (Driver's side) (With power window)</p> <p>(D7) B/6 : Door lock actuator assembly (Driver's side) (With super lock)</p> <p>(D9) GY/2 : Key cylinder switch (Driver's side)</p> <p>(D26) B/6 : Door lock actuator assembly (Driver's side) (With power door lock)</p> <p>(D31) GY/6 : Door mirror (Driver's side) (Type-2)</p> |
|--|--|

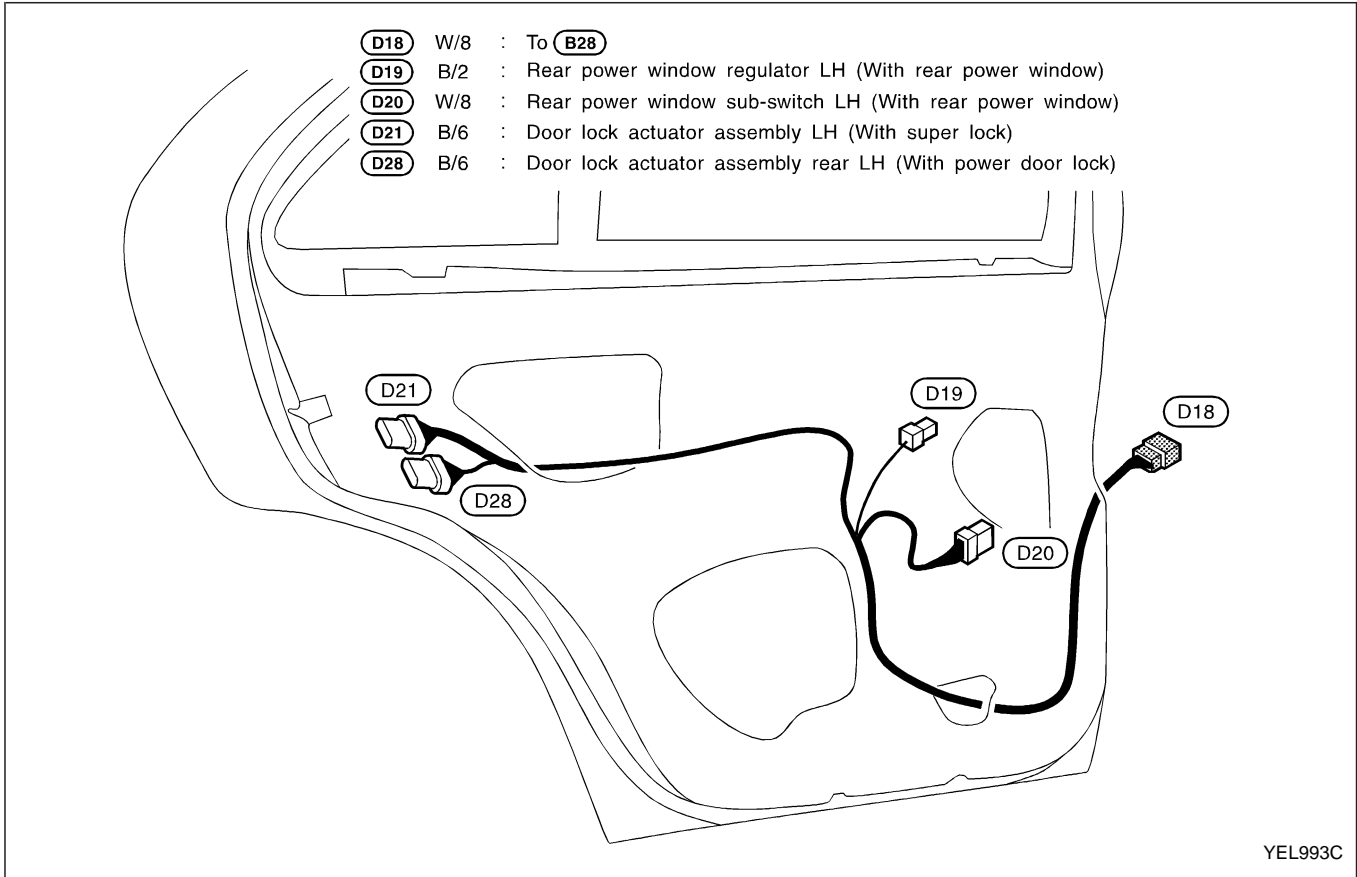


YEL992C

HARNES LAYOUT

Rear Door Harness

LH SIDE



RH SIDE

