SECTION BL

BODY, LOCK & SECURITY SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

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

EIS00452

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB 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/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harness connectors.**

Precautions

EIS00453

- When removing or disassembling any part, be careful not to damage or deform it. Protect parts, which may get in the way with cloth.
- When removing parts with a screwdriver or other tool, protect parts by wrapping them with vinyl or tape.
- Keep removed parts protected with cloth.
- If a clip is deformed or damaged, replace it.
- If an unreusable part is removed, replace it with a new one.
- Tighten bolts and nuts firmly to the specified torque.
- After re-assembly has been completed, make sure each part functions correctly.
- Remove stains in the following way.

Water-soluble stains:
Dip a soft cloth in warm water, and then squeeze it tightly. After wiping the stain, wipe with a soft dry cloth.
Oil stain:
Dissolve a synthetic detergent in warm water (density of 2 to 3% or less), dip the cloth, then clean off the stain with the cloth. Next, dip the cloth in fresh water and squeeze it tightly. Then clean off the detergent completely. Then wipe the area with a soft dry cloth.

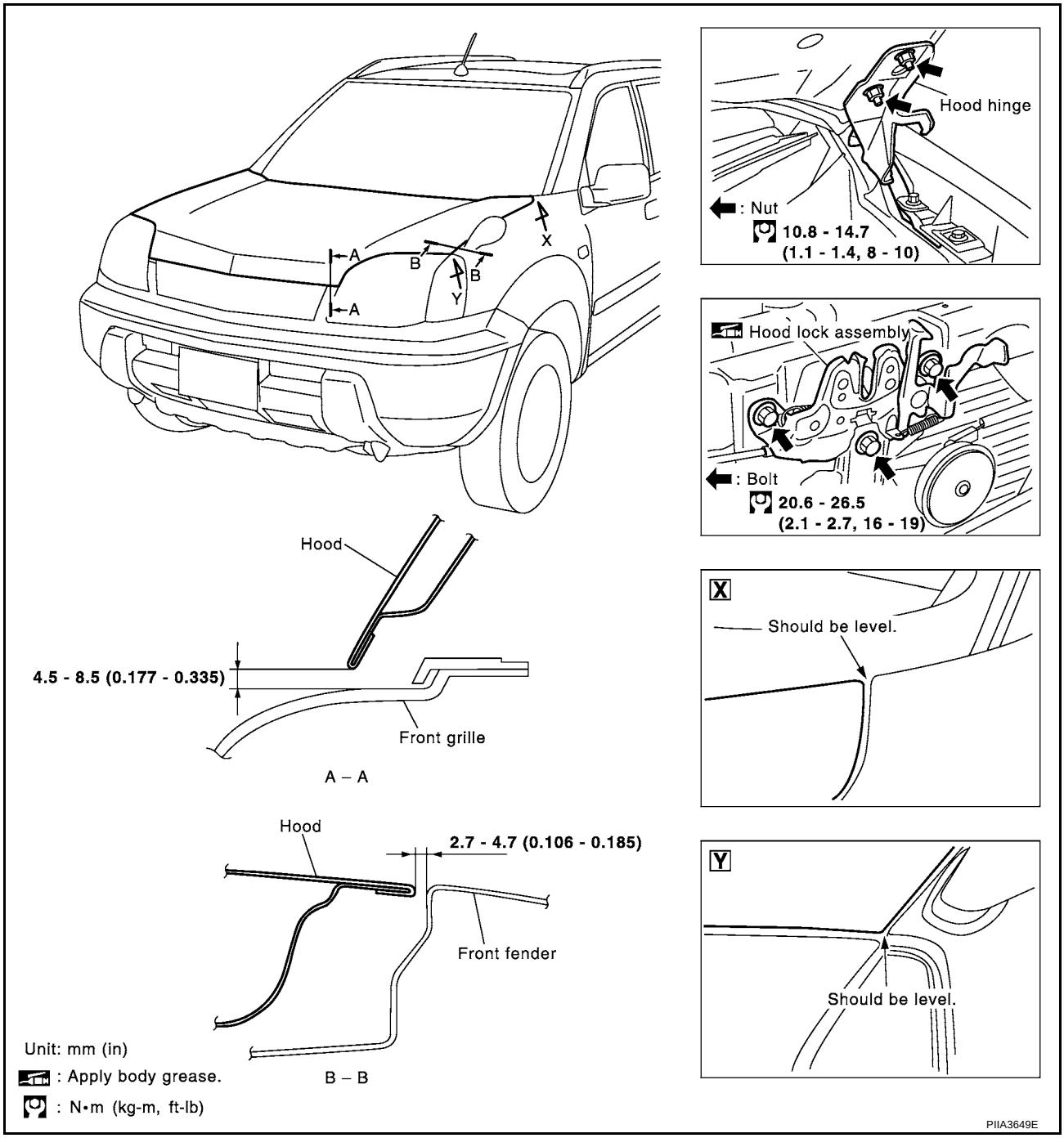
- Do not use any organic solvent, such as thinner or benzine.

HOOD

PFP:65100

Fitting Adjustment

EIS000KF



FRONT END HEIGHT ADJUSTMENT AND LATERAL/LONGITUDINAL CLEARANCE ADJUSTMENT

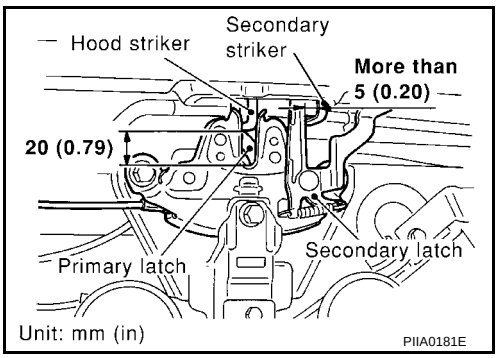
1. Remove hood lock. Rotate bumper rubber to adjust height until hood becomes 1 to 1.5 mm (0.04 to 0.059 in) lower than the fender.
2. Position hood lock and engage striker. Confirm hood lock and striker for looseness. Tighten lock mount bolts to the specified torque.

SURFACE HEIGHT ADJUSTMENT

1. Remove hood lock. Use bumper rubber (RH/LH) to make the hood and fender flush.
2. Position hood lock. Move hood lock to left or right until vertically centered on the striker.

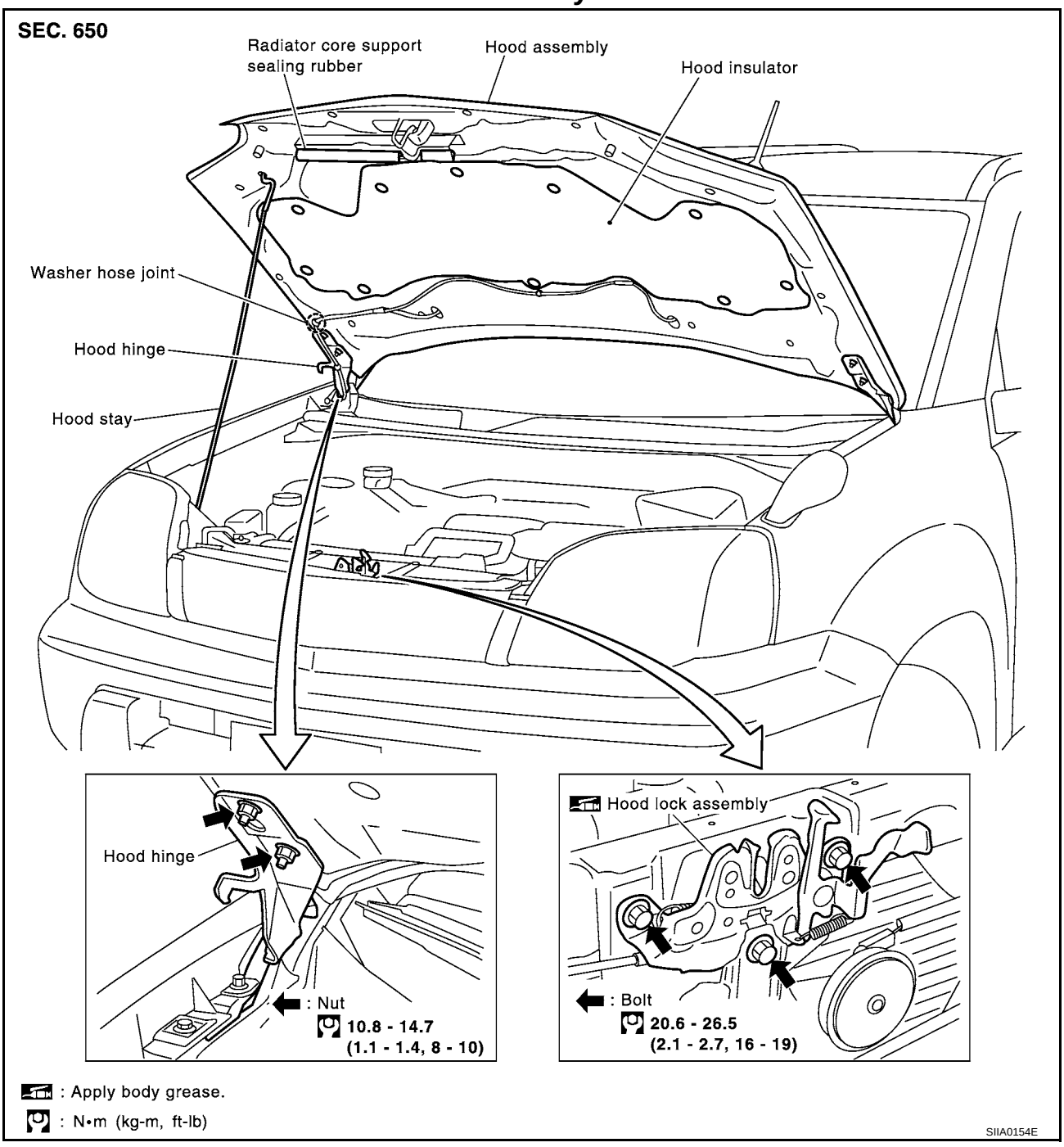
3. Confirm secondary latch is securely engaged with secondary striker by releasing it from a height of approximately 200 mm (7.87 in) or by pressing it lightly approx.3kg (29 N).

   NOTE:
   Do not release hood from a height of 300 mm (11.81 in) or higher.
4. Move hood lock up and down until striker smoothly engages the lock when the hood is closed.
5. After adjustment, tighten lock mount bolts to the specified torque.



Removal and Installation of Hood Assembly

EIS000KG

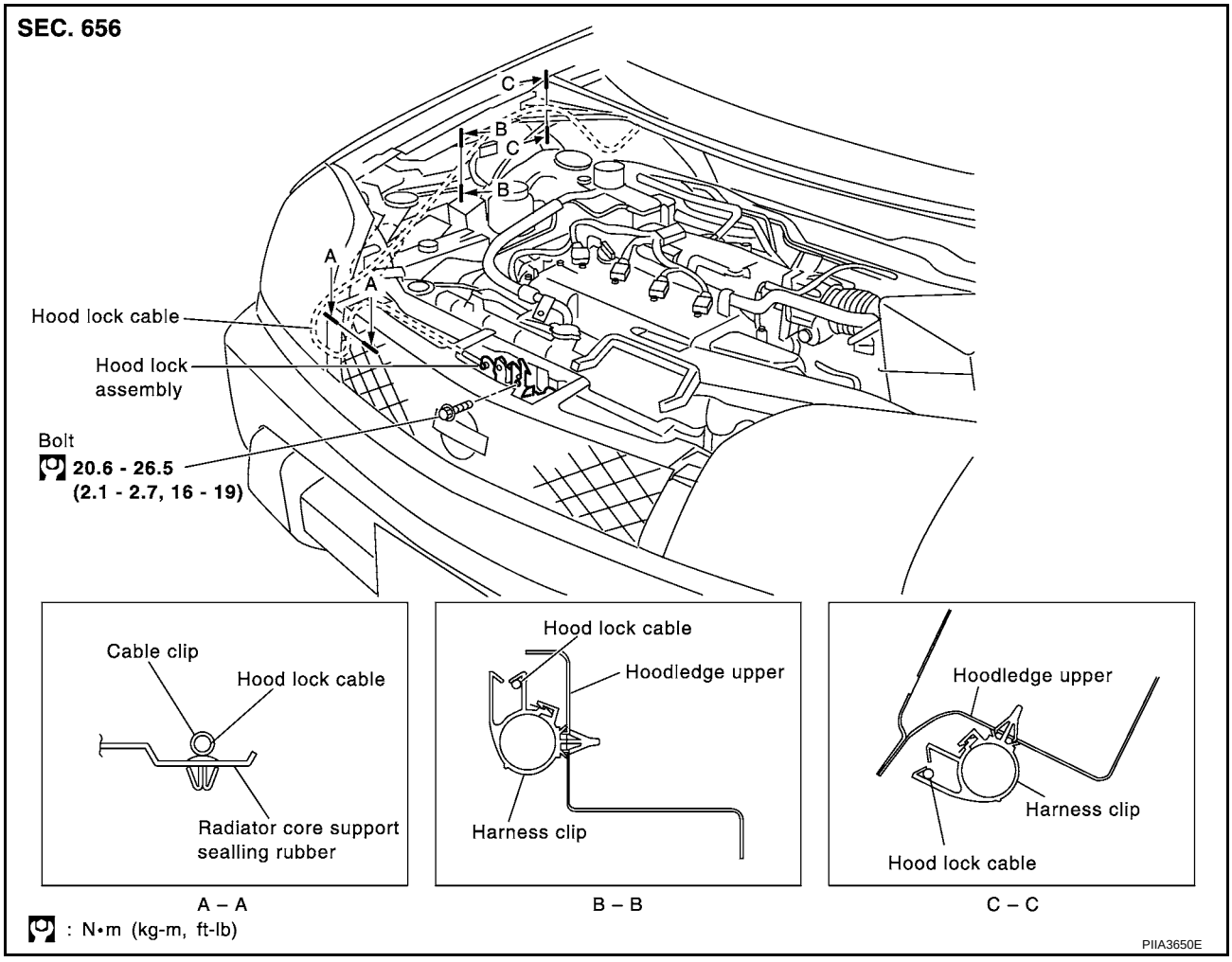


1. Disconnect washer hose at the connection.
2. Remove hinge mount nuts on the hood and then the hood assembly.

Install in the reverse order of removal.

Removal and Installation of Hood Lock Control

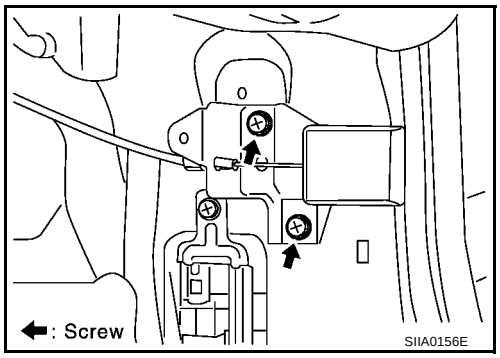
EIS000KH



REMOVAL

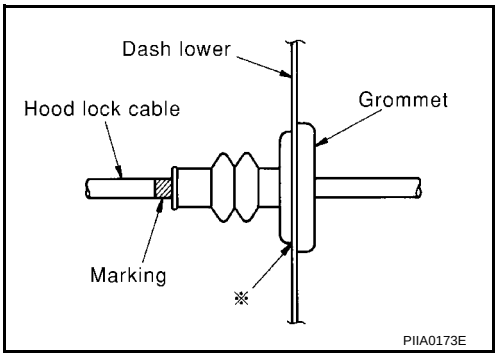
1. Remove hood lock cable from hood lock and clip of upper portion of radiator core support and hood ledge.
2. Remove dash side finisher. Refer to EI-26, "BODY SIDE TRIM" .
3. Remove attaching screw and then the hood opener.
4. Remove dash panel grommet and pull hood lock cable toward the passenger compartment.

   NOTE:
   When pulling the cable, be careful not to strip or scratch the outer surface.

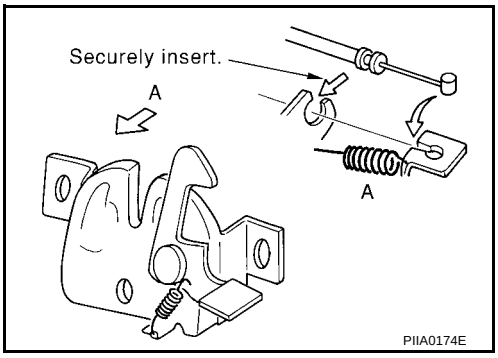


INSTALLATION

1. Pass hood lock cable through the opening while keeping the winding radius 100 mm (3.94 in) or larger.
2. After confirming that the grommet is properly positioned, push the grommet securely into the hole.
3. Apply sealant to the area on the grommet indicated with the * mark.



4. Connect cable securely to the lock.
5. After connection, confirm proper adjustment and operation for both hood lock and hood opener.

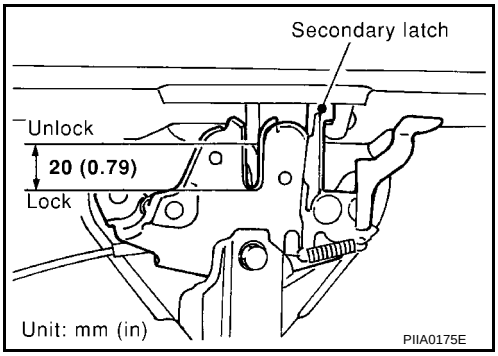


Hood Lock Control Inspection

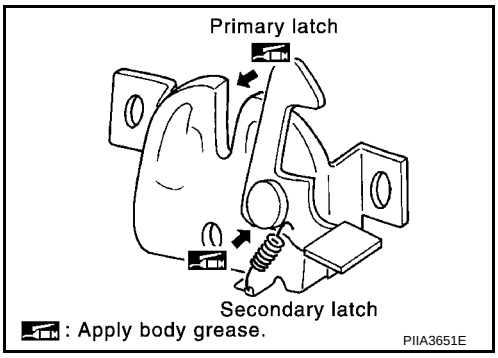
EIS000KI

NOTE:
If the hood lock cable is bent or deformed, replace it.

1. Confirm hood lock secondary latch securely engages secondary striker by releasing it from a height of approximately 200 mm (7.87 in).
2. Confirm front end of the hood rises by approximately 20 mm (0.79 in) when pulling the hood opener. Also confirm hood opener returns to the original position.



3. Confirm hood lock has is properly lubricated. If necessary, apply "Body Grease" at the point shown in the figure.

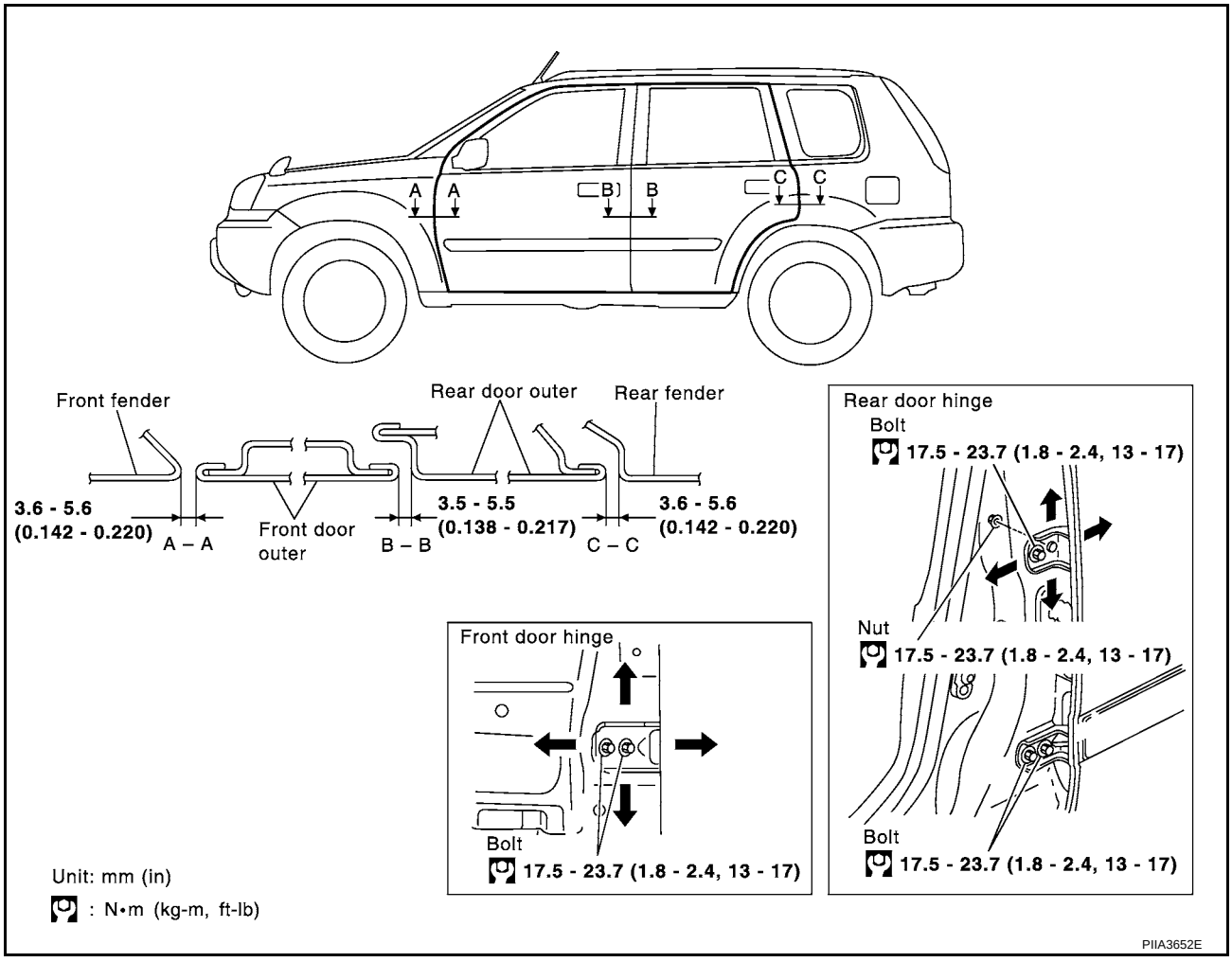


DOOR

PFP:80100

Fitting Adjustment

EIS000KJ



FRONT DOOR

Longitudinal clearance and surface height adjustment at front end

1. Remove fender protector. Refer to EI-13, "FENDER PROTECTOR" .
2. Working from the inside the fender, loosen hinge mount bolts on the body. Lift rear end of the front door to adjust clearance and surface difference properly.

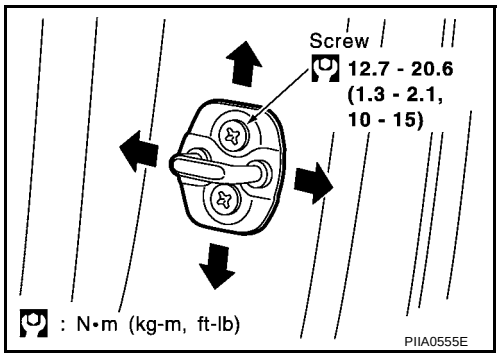
REAR DOOR

Longitudinal clearance and surface height adjustment at front end

1. Remove upper and lower garnishes on the center pillar. Refer to EI-26, "BODY SIDE TRIM" .
2. Loosen mounting bolts from outside of vehicle, mounting nuts from inside of vehicle. Open rear door. Raise rear end of it to adjust.

STRIKER ADJUSTMENT

Adjust striker until it is parallel to the lock engagement direction.



Removal and Installation

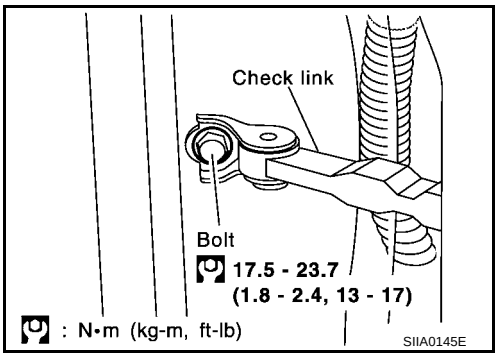
EIS000KK

NOTE:

- During door assembly removal and installation, use a jack to support the door. Place cloths or something similar on the jack plate to protect the door and body from damage.
- After door assembly removal and installation, always adjust it so will open and close smoothly.
- Confirm the rotating part of the hinge has adequate lubrication. If necessary, apply Body Grease.

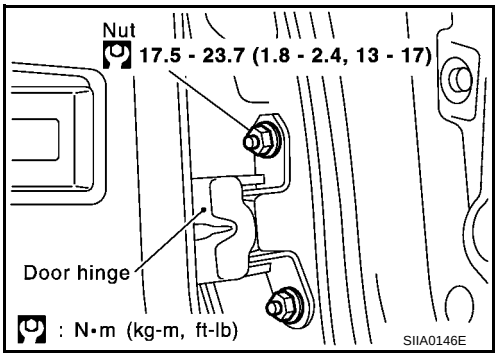
1. Remove door finisher. Refer to EI-23, "DOOR FINISHER" .
2. Remove sealing screen.

   NOTE:
   If sealing screen is reused, cut butyl tape in a way that leaves it on the sealing screen.
3. Remove door harness.
4. Remove check link mount bolts on the body.



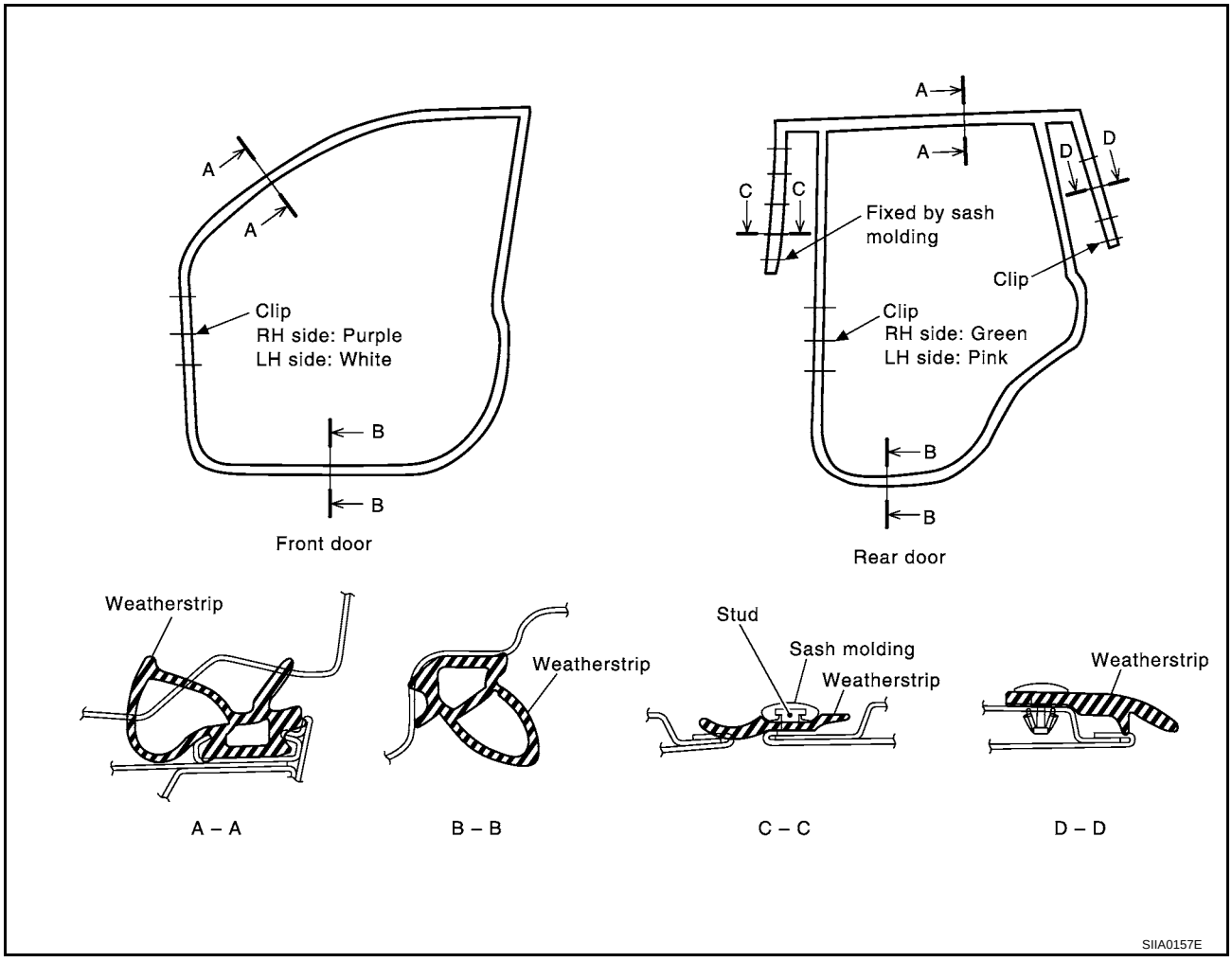
5. Remove hinge mount nuts on the door and then the door assembly.

Install in the reverse order of removal.



Door Weatherstrip

EIS000KL



POWER DOOR LOCK SYSTEM

PFP:24814

System Description

EIS001SE

OPERATION

Power door lock/unlock operation by door key cylinder

- With the key inserted into driver's door key cylinder, turning it to LOCK will lock all doors.
- With the key inserted into driver's door key cylinder, turning it to UNLOCK will unlock all doors.

Power door lock/unlock operation by lock/unlock switch

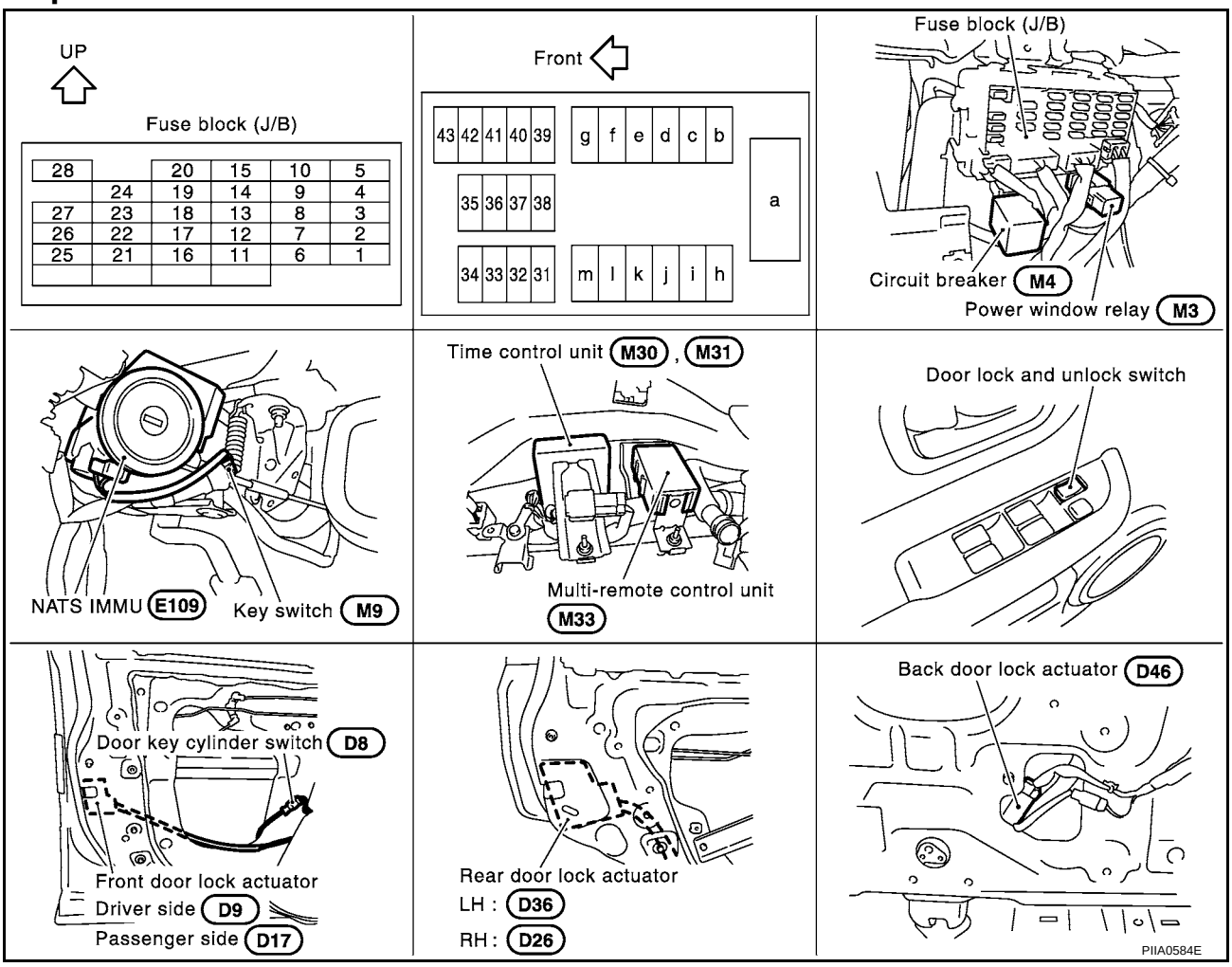
- With lock/unlock switch setting to LOCK will lock all doors.
- With lock/unlock switch setting to UNLOCK will unlock all doors.

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)

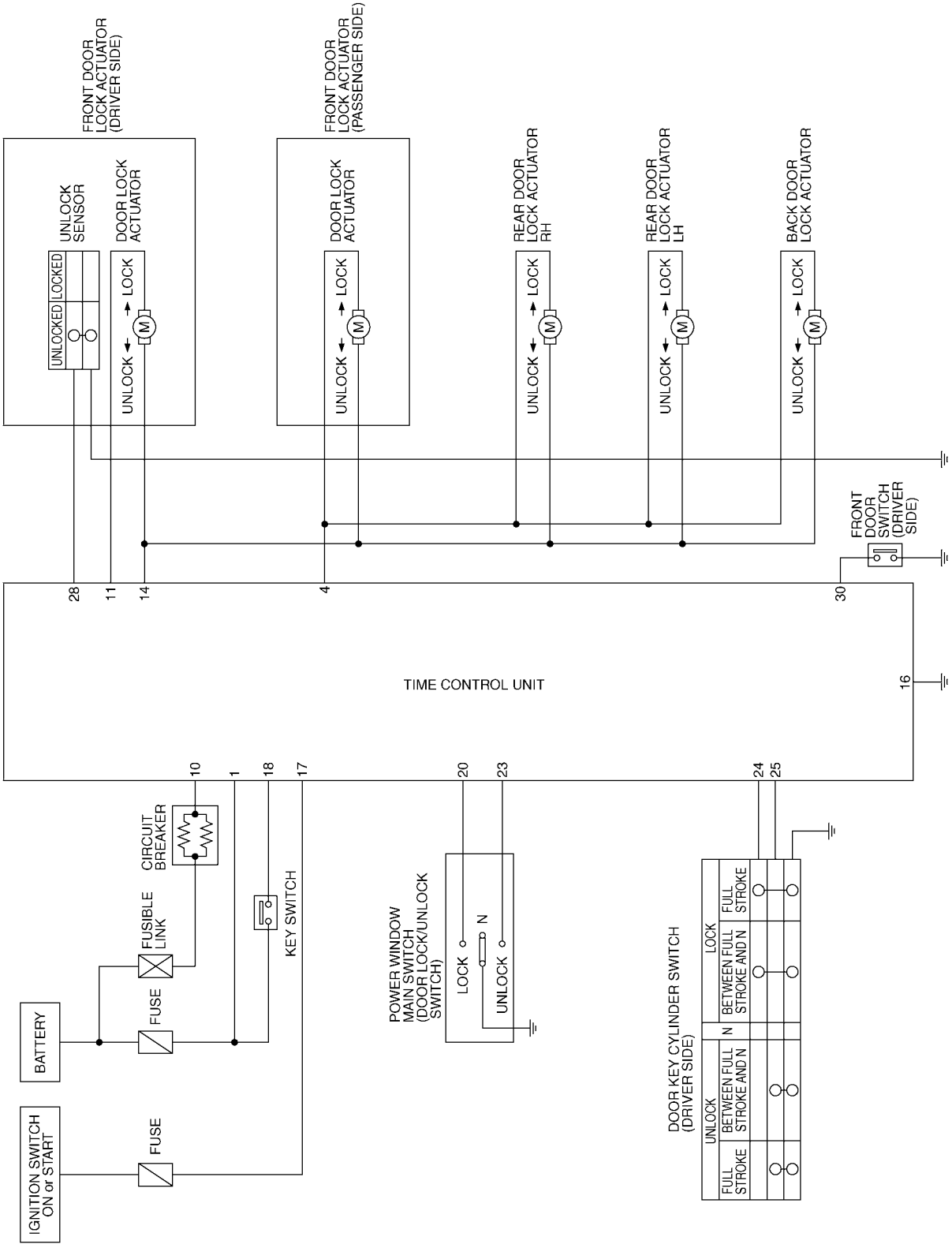
Component Parts and Harness Connector Location

EIS004DC



Schematic

EIS004DD

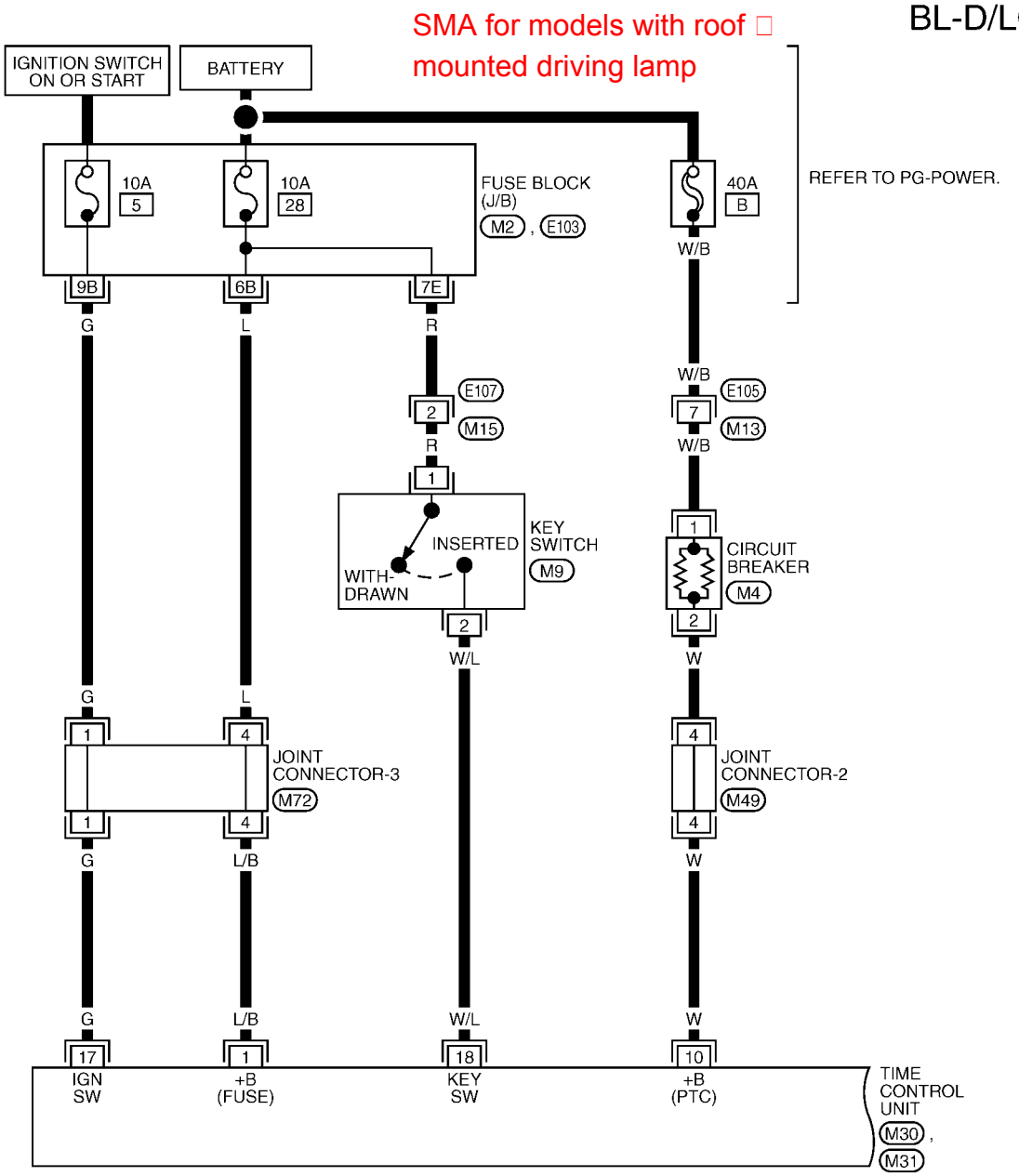


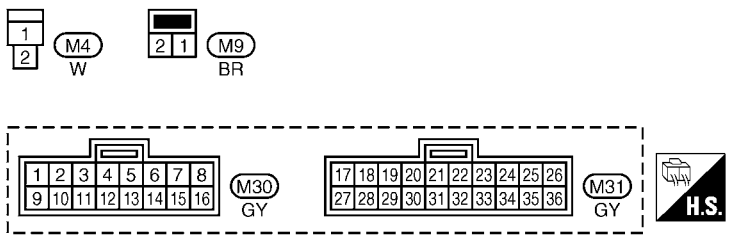
TIWA0003E

Wiring Diagram — D/LOCK —

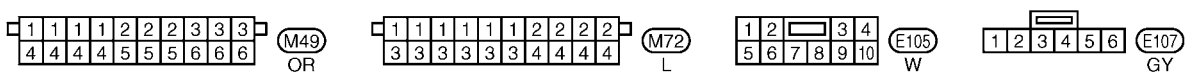
EIS004DE

BL-D/LOCK-01



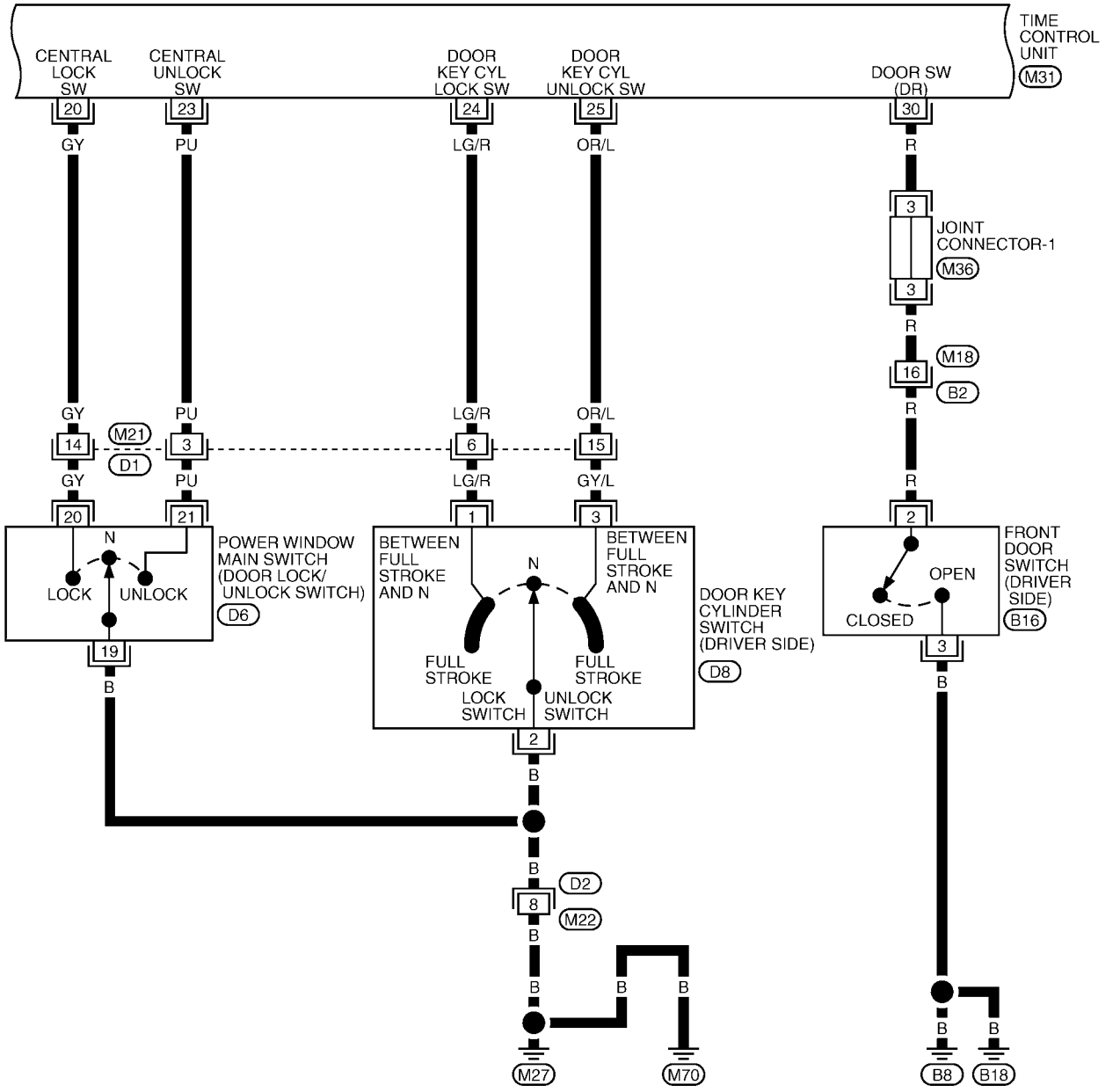


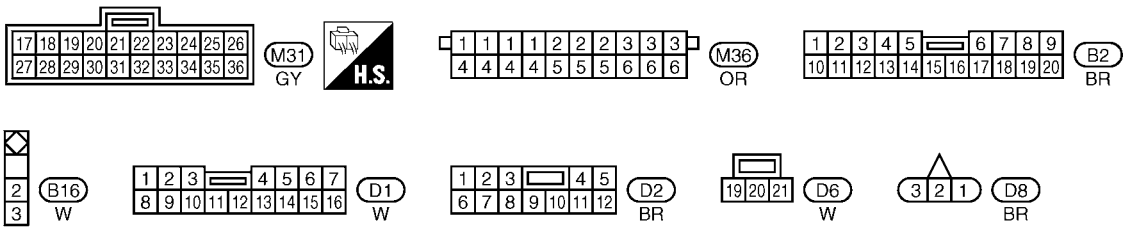
REFER TO THE FOLLOWING.
M2, E103 -FUSE BLOCK-JUNCTION BOX (J/B)



TIWA0004E

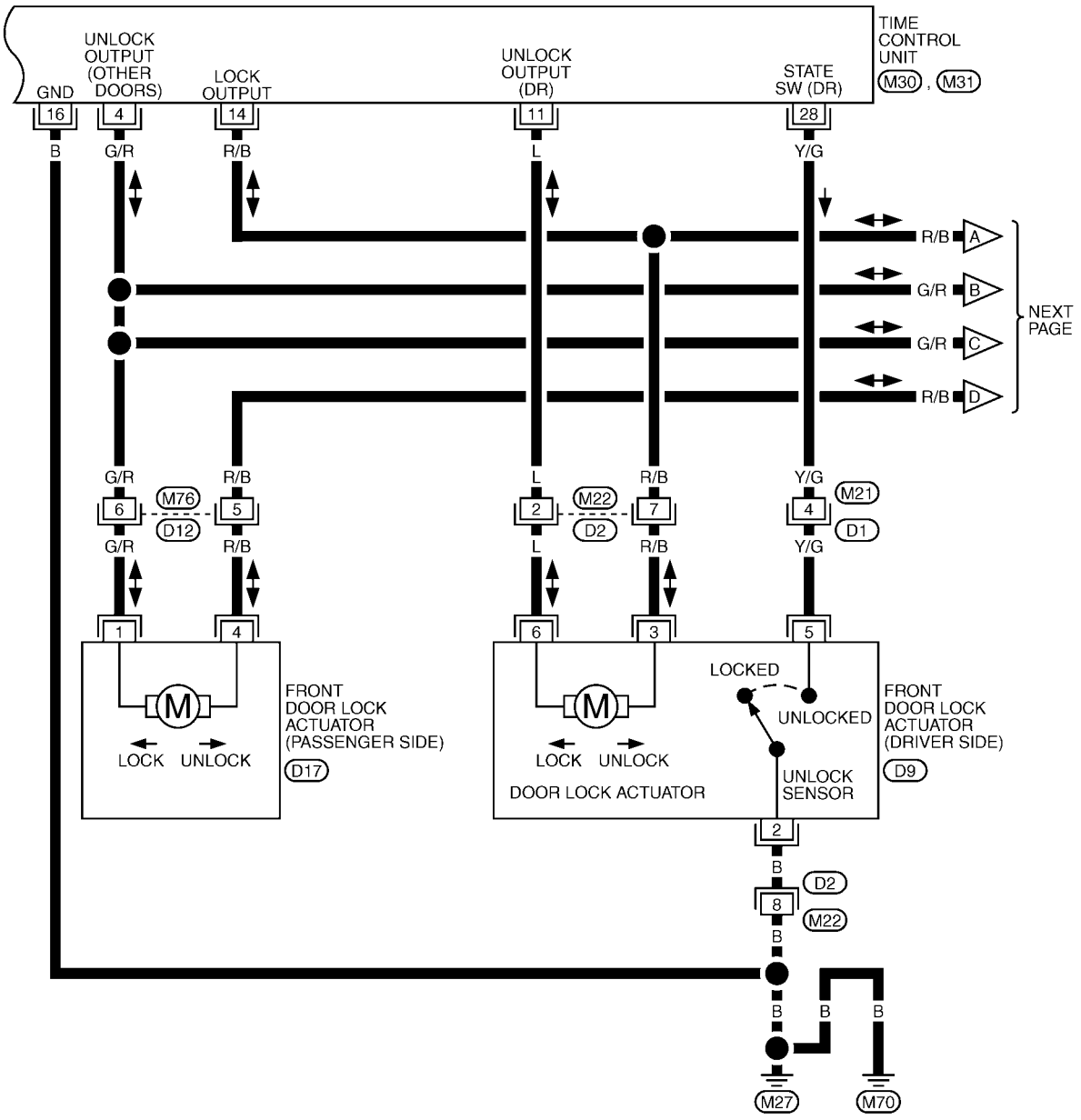
BL-D/LOCK-02

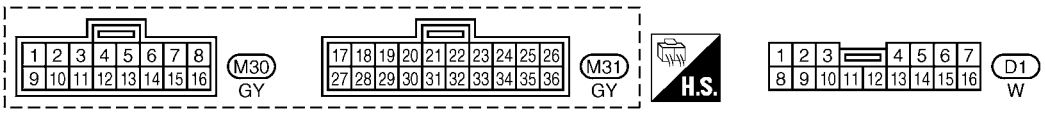


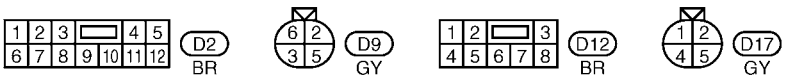


TIWA0005E

BL-D/LOCK-03

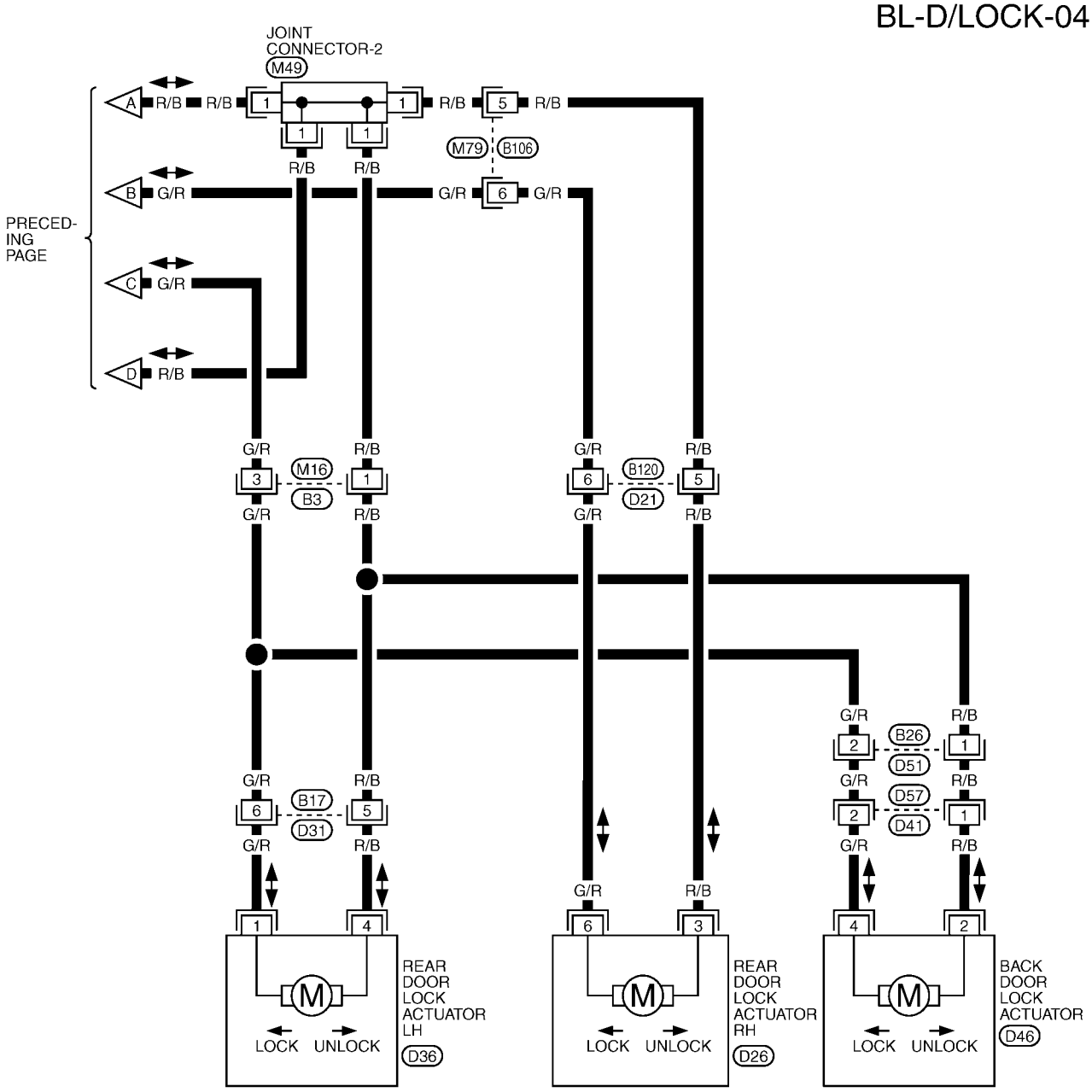


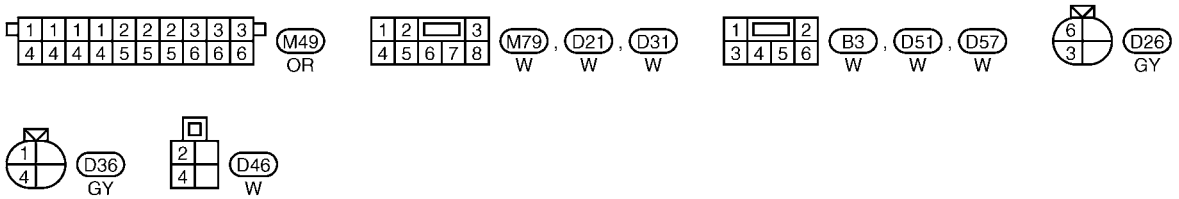




TIWA0006E

BL-D/LOCK-04





TIWA0007E

Terminal and Reference Value for Time Control Unit

EIS000KP

Terminal	Wire Color	Item	Condition	Voltage (Approximate values)
1	L/B	BAT power supply	—	12V
4	G/R	Passenger door and rear door (LH/RH) lock actuator unlock	Door lock/unlock switch (Free → Unlock)	0V → 12V
10	W	Power source (C/B)	—	12V
11	L	Driver door lock actuator unlock	Door lock/unlock switch (Free → lock)	0V → 12V
14	R/B	All door lock actuator lock	Door lock/unlock switch Unlock operation	0V → 12V
16	B	Ground	—	0V
17	G	IGN power supply	—	12V
18	W/L	Key switch	Key inserted (ON) → key removed from IGN key cylinder (OFF)	12V → 0V
20	GY	Door lock/unlock switch lock signal	Lock operation (ON)	0V
			Other than above (OFF)	5V
23	PU	Door lock/unlock switch unlock signal	Unlock operation (ON)	0V
			Other than above (OFF)	5V
24	LG/R	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)	5V → 0V
25	OR/L	Door key cylinder unlock switch	OFF (Neutral) → ON (Unlocked)	5V → 0V
28	Y/G	Driver door lock switch signal	Unlock (ON)	0V
			Lock (OFF)	5V
30	R	Driver door switch	Door open (ON) → close (OFF)	0V →12V

Symptom Chart

EIS001R5

Symptom	Malfunctioning system	Reference page
Power door lock does not operate using any switch	Power supply and ground circuit check	BL-18
	Front door lock actuator check (Driver side)	BL-21
	Front door lock actuator check (Passenger side)	BL-22
	Rear door lock actuator check LH	BL-23
	Rear door lock actuator check RH	BL-24
	Back door lock actuator check	BL-25
	If above systems are OK, replace time control unit.	—
Power door lock does not operate with lock/unlock switch.	Door lock/unlock switch check	BL-19
	If above system is OK, replace time control unit.	—
Power door lock does not operate with door key cylinder switch.	Door key cylinder switch check	BL-20
	If above system is OK, replace time control unit.	—
Specific door lock actuator does not operate.	Front door lock actuator check (Driver side)	BL-21
	Front door lock actuator check (Passenger side)	BL-22
	Rear door lock actuator LH	BL-23
	Rear door lock actuator RH	BL-24
	Back door lock actuator	BL-25
	If above system is OK, replace time control unit.	—
*Key reminder system does not operate.	Door switch check	BL-26
	Door unlock sensor check	BL-26
	Key switch check	BL-27
	If above system is OK, replace time control unit.	—

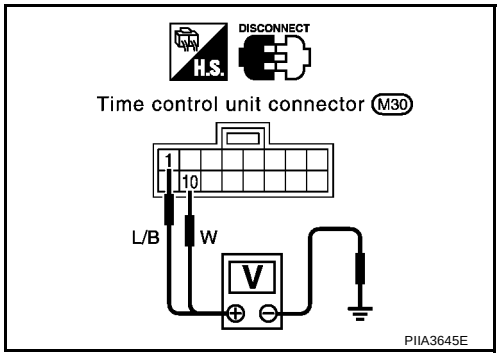
*:Make sure the power door lock system operates properly.

Power Supply and Ground Circuit Check

EIS004DF

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect time control unit connector.
3. Check voltage between time control unit and ground.



Terminal		Ignition switch position		
+	–	OFF	ACC	ON
1	Ground	Battery voltage	Battery voltage	Battery voltage
10		Battery voltage	Battery voltage	Battery voltage

OK or NG

OK >> GO TO 2

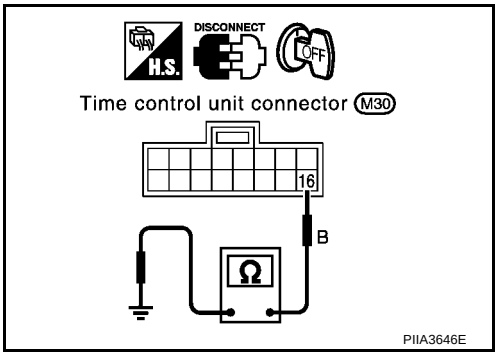
NG >> Check the following.

- Harness for open or short between time control unit and fuse
- Harness for open or short between circuit breaker

2. CHECK GROUND CIRCUIT

Check continuity between time control unit harness connector M30 terminal 16 (B) and ground.

Continuity should exist.



OK or NG

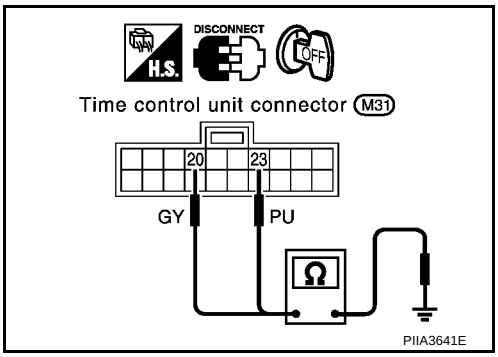
OK >> Power supply and ground circuit is OK.
NG >> Replace harness or connector.

Door Lock/Unlock Switch Check

EIS004DG

1. CHECK DOOR LOCK/UNLOCK SWITCH SIGNAL

1. Disconnect time control unit connector.
2. Check continuity between time control unit harness connector M31 terminal 20 (GY), 23 (PU) and ground.



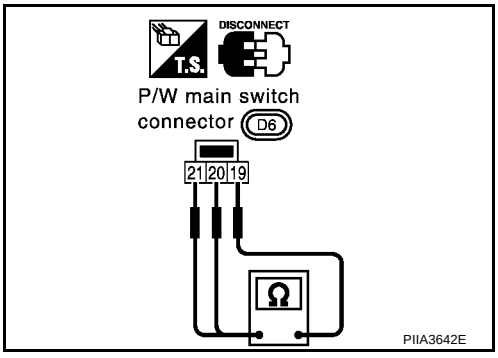
Terminals	Condition of door lock/unlock switch	Continuity
20 – Ground	Lock	Yes
	Neutral or Unlock	No
23 – Ground	Unlock	Yes
	Neutral or Lock	No

OK or NG

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

2. CHECK DOOR LOCK/UNLOCK SWITCH

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch terminals 20, 21 and 19.



Terminals	Condition of door lock/unlock switch	Continuity
20 – 19	Locked	Yes
	Neutral or Unlocked	No
21 – 19	Unlocked	Yes
	Neutral or Locked	No

OK or NG

OK >> Check the following.
- Ground circuit for power window main switch
- Harness for open or short between power window main switch and time control unit

NG >> Replace power window main switch.

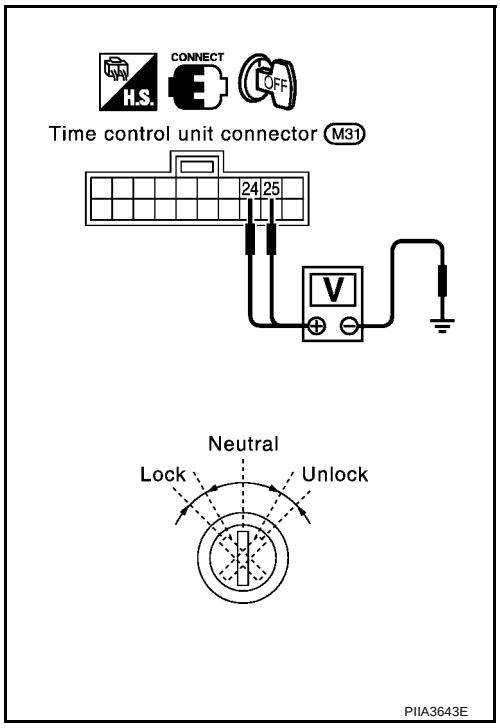
Door Key Cylinder Switch Check

EIS004DH

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

Check voltage between time control unit harness connector M31 terminals 24 (LG/R) or 25 (OR/L) and ground.

Terminals		Condition of door key cylinder switch	Voltage [V]
+	–		
24	Ground	Locked	0
		Neutral or Unlocked	Approx. 5
25	Ground	Unlocked	0
		Neutral or Locked	Approx. 5



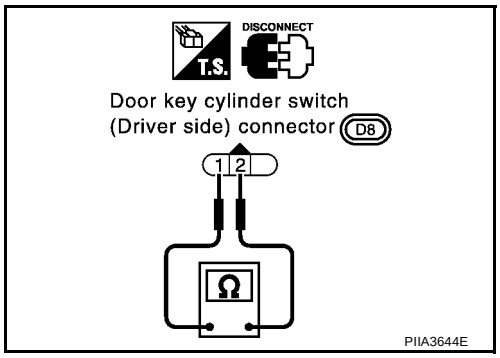
OK or NG

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

2. CHECK DOOR KEY CYLINDER SWITCH

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

Terminals	Condition of door key cylinder switch	Continuity
1 – 2	Neutral	No
	Lock	Yes
2– 3	Neutral	No
	Unlock	Yes



OK or NG

OK >> Check the following.
- Door key cylinder switch ground circuit
- Harness for open or short between time control unit and door key cylinder switch

NG >> Replace door key cylinder switch.

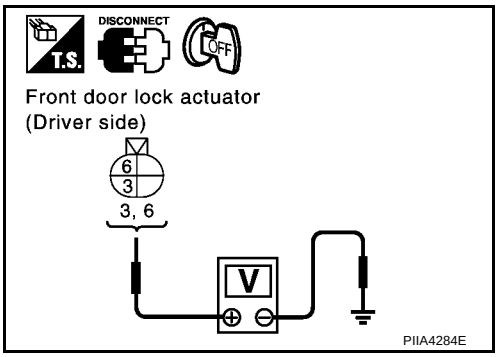
Front Door Lock Actuator (Driver Side) Check

EIS004DI

1. CHECK DOOR LOCK SIGNAL

1. Disconnect door lock actuator (driver side) connector.
2. Check voltage between door lock actuator harness connector D9 terminal 3(R/B), 6(L) and ground.

Terminals		Condition of door lock/unlock switch	Voltage [V]
+	–		
3 (R/B)	Ground	Locked	Approx. 12
6 (L)	Ground	Unlocked	



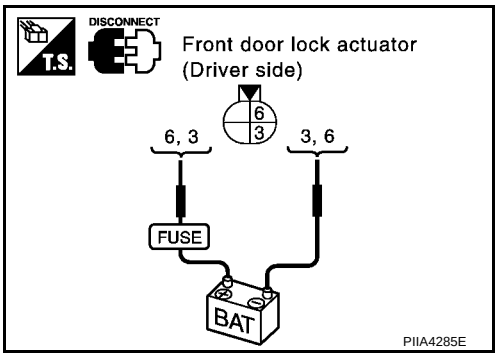
OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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

Terminal		Door lock actuator operation
+	–	
3	6	Unlock → Lock
6	3	Lock → Unlock



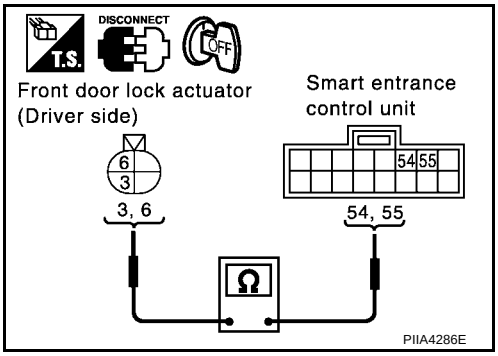
OK or NG

OK >> Check harness connection.
NG >> Replace door lock actuator (driver side).

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between door lock actuator (driver side) harness connector D9 terminal 3(R/B), 6(L) and time control unit harness connector M30 terminal 11(L), 14(R/B).

Terminals		Continuity
Door lock actuator	Time control unit	
3 (R/B)	14 (R/B)	Yes
6 (L)	11 (L)	Yes



OK or NG

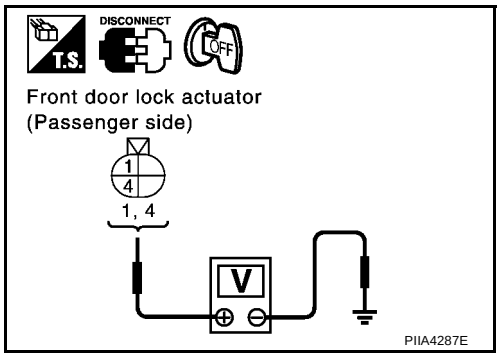
OK >> Replace time control unit.
NG >> Check harness for open or short between time control unit and door lock actuator.

Front Door Lock Actuator (Passenger Side) Check

EIS004DJ

1. CHECK DOOR LOCK SIGNAL

1. Disconnect door lock actuator (passenger side) connector.
2. Check voltage between door lock actuator harness connector D17 terminal 1(G/R), 4(R/B) and ground.



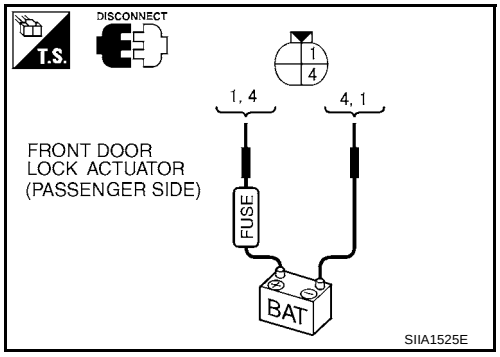
Terminals		Condition of door lock/ unlock switch	Voltage [V]
+	–		
4 (R/B)	Ground	Locked	Approx. 12
1 (G/R)	Ground	Unlocked	

OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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



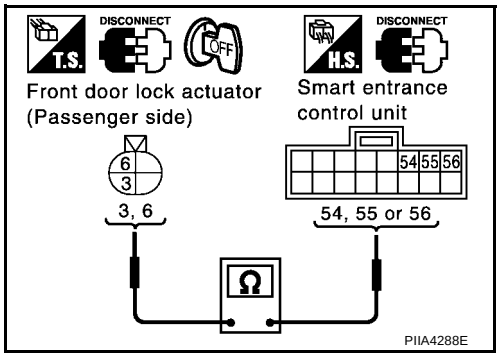
Terminal		Door lock actuator operation
+	–	
4	1	Unlock → Lock
1	4	Lock → Unlock

OK or NG

OK >> Check harness connection.
NG >> Replace door lock actuator (passenger side).

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between door lock actuator (passenger side) harness connector D17 terminal 1(G/R), 4(R/B) and time control unit harness connector M30 terminal 4 (G/R), 14(R/B).



Terminal		Continuity
Door lock actuator	Time control unit	
4 (R/B)	14 (R/B)	Yes
1 (G/R)	4 (G/R)	Yes

OK or NG

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

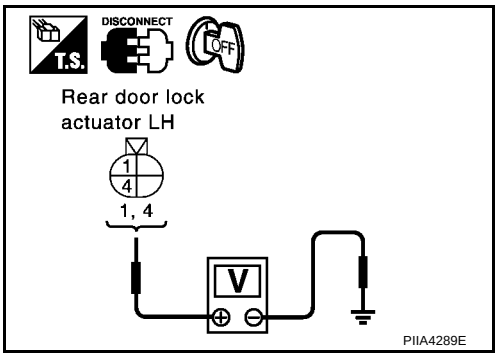
Rear Door Lock Actuator LH Check

EIS004DK

1. CHECK DOOR LOCK SIGNAL

1. Disconnect rear door lock actuator LH connector.
2. Check voltage between door lock actuator harness connector D36 terminal 1(G/R), 4(R/B) and ground.

Terminals		Condition of door lock/unlock switch	Voltage [V]
+	–		
4 (R/B)	Ground	Locked	Approx. 12
1 (G/R)	Ground	Unlocked	



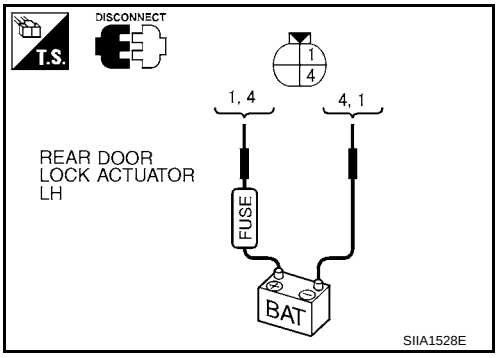
OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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

Terminal		Door lock actuator operation
+	–	
4	1	Unlock → Lock
1	4	Lock → Unlock



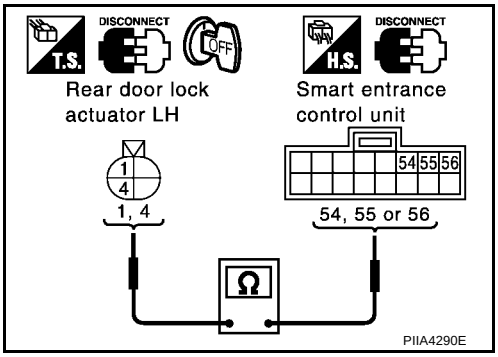
OK or NG

OK >> Check harness connection.
NG >> Replace rear door lock actuator LH.

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between rear door lock actuator LH harness connector D36 terminal 1(G/R), 4(R/B) and time control unit harness connector M30 terminal 4 (G/R), 14(R/B).

Terminals		Continuity
Door lock actuator	Time control unit	
4 (R/B)	14 (R/B)	Yes
1 (G/R)	4 (G/R)	Yes



OK or NG

OK >> Replace time control unit.
NG >> Check harness for open or short between time control unit and rear door lock actuator LH.

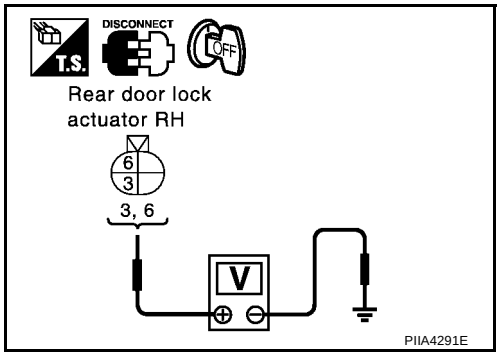
Rear Door Lock Actuator RH Check

EIS004DL

1. CHECK DOOR LOCK SIGNAL

- Disconnect rear door lock actuator RH connector.
- Check voltage between door lock actuator harness connector D26 terminal 3(R/B), 6(G/R) and ground.

Terminals		Condition of door lock/unlock switch	Voltage [V]
+	–		
3 (R/B)	Ground	Locked	Approx. 12
6 (G/R)	Ground	Unlocked	



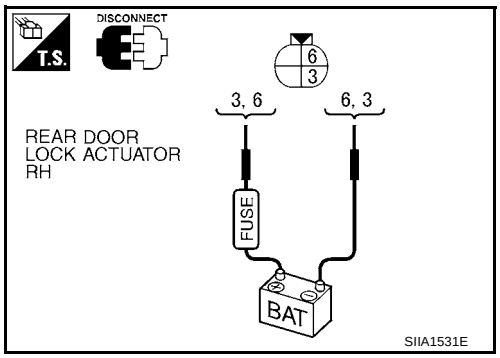
OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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

Terminal		Door lock actuator operation
+	–	
3	6	Unlock → Lock
6	3	Lock → Unlock



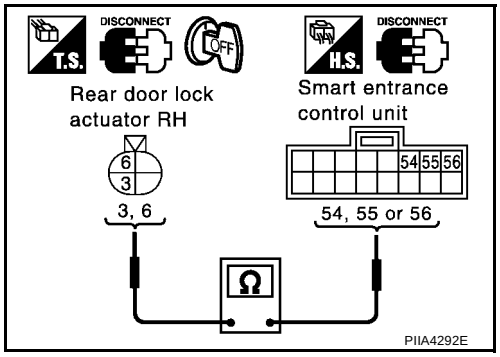
OK or NG

OK >> Check harness connection.
NG >> Replace rear door lock actuator RH.

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between rear door lock actuator RH harness connector D26 terminal 3 (R/B), 6 (G/R) and time control unit harness connector M30 terminal 4 (G/R), 14 (R/B)

Terminals		Continuity
Door lock actuator	Time control unit	
3 (R/B)	14 (R/B)	Yes
6 (G/R)	4 (G/R)	Yes



OK or NG

OK >> Replace time control unit.
NG >> Check harness for open or short between time control unit and rear door lock actuator RH.

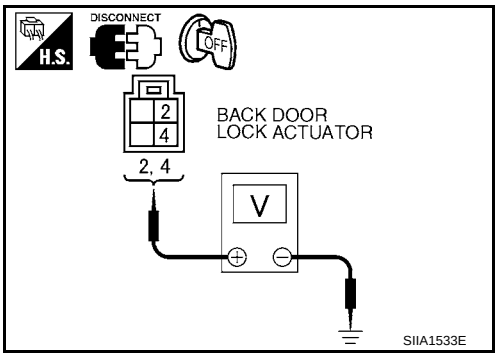
Back Door Lock Actuator Check

EIS004DM

1. CHECK DOOR LOCK SIGNAL

- Disconnect back door lock actuator connector.
- Check voltage between door lock actuator harness connector D46 terminal 2(R/B), 4(G/R) and ground.

Terminals		Condition of door lock/unlock switch	Voltage [V]
+	–		
2 (R/B)	Ground	Locked	Approx. 12
4 (G/R)	Ground	Unlocked	



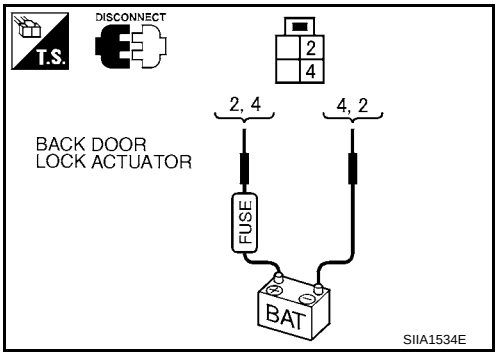
OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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

Terminal		Door lock actuator operation
+	–	
2	4	Unlock → Lock
4	2	Lock → Unlock



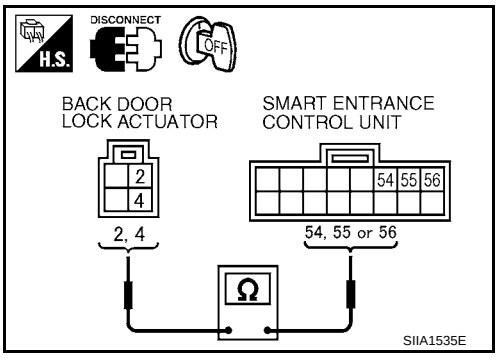
OK or NG

OK >> Check harness connection.
NG >> Replace back door lock actuator.

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between back door lock actuator harness connector D46 terminal 2(R/B), 4(G/R) and time control unit harness connector M30 terminal 4 (G/R), 14(R/B).

Terminal		Continuity
Door lock actuator	Time control unit	
2 (R/B)	14 (R/B)	Yes
4 (G/R)	4 (G/R)	Yes



OK or NG

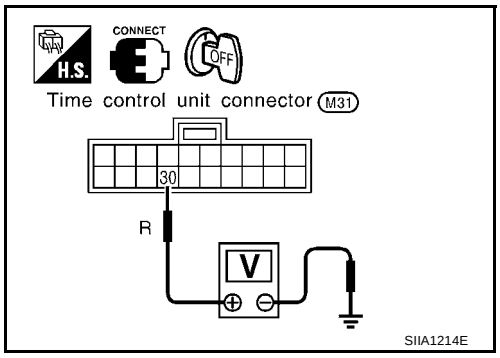
OK >> Replace time control unit.
NG >> Check harness for open or short between time control unit and back door lock actuator.

Door Switch Check

EIS004DN

1. CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between time control unit harness connector M31 terminal 30(R) and ground.



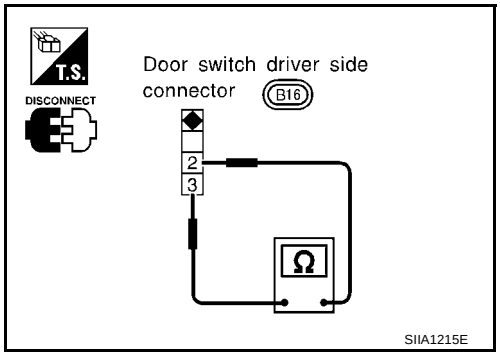
Terminal	Condition of driver's door	Voltage [V]
30 – Ground	Closed	Approx. 5
	Open	0

OK or NG

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

2. CHECK DOOR SWITCH

1. Disconnect door switch (driver side) connector.
2. Check continuity between door switch (driver side) terminals.



Terminal	Condition of door switch (driver side)	Continuity
2 – 3	Pushed	No
	Released	Yes

OK or NG

OK >> Check the following.
- Door switch (driver side) ground circuit or door switch ground condition
- Harness for open or short between time control unit and door switch (driver side)

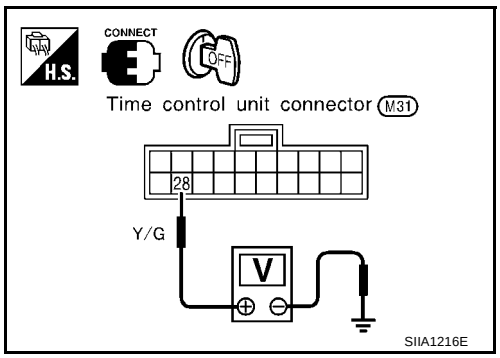
NG >> Replace driver's door switch (driver side).

Door Unlock Sensor Check

EIS004DO

1. CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between time control unit harness connector terminal 28 and ground.



Terminals		Driver's door lock/ unlock switch	Voltage [V]
+	–		
28	Ground	Locked	Approx. 5
		Unlocked	0

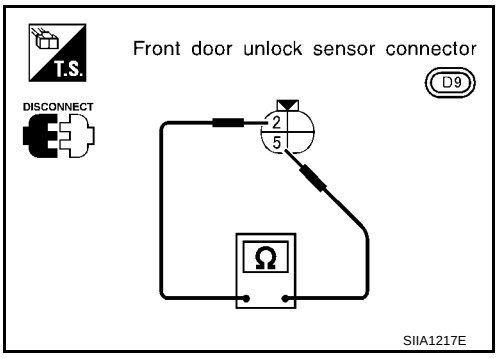
OK or NG

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

2. CHECK FRONT DOOR UNLOCK SENSOR

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

Terminal	Driver door lock actuator	Continuity
2 – 5	Locked	No
	Unlocked	Yes



OK or NG

OK >> Check the following.
- Door unlock sensor ground circuit
- Harness for open or short between time control unit and door unlock sensor

NG >> Replace door unlock sensor.

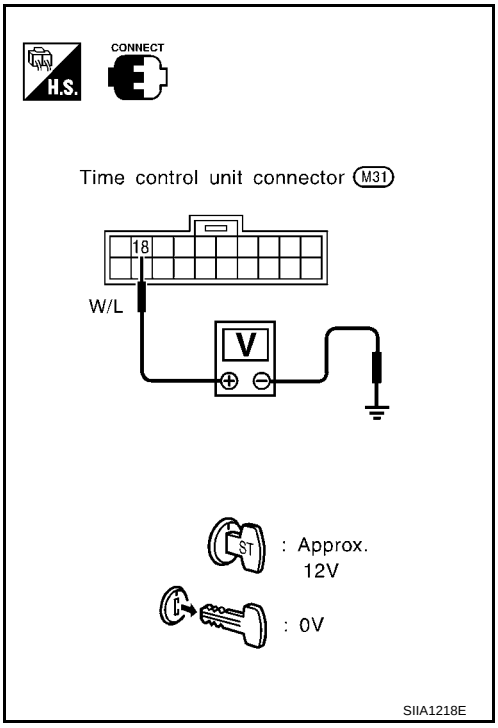
Key Switch Check

EIS004DP

1. CHECK KEY SWITCH INPUT SIGNAL

Check voltage between time control unit terminal 18 and ground.

Terminals		Condition of key switch	Voltage [V]
+	–		
18	Ground	inserted	Approx. 12
		removed	0

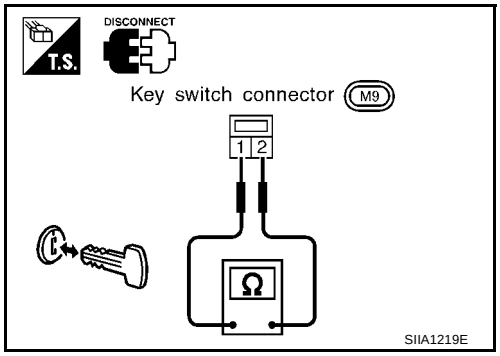


OK or NG

OK >> Key switch is OK.
NG >> GO TO 2.

2. CHECK KEY SWITCH (INSERT)

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



Terminals		Condition of key switch	Continuity
1	2	inserted	Yes
		removed	No

OK or NG

OK >> Check the following.

- 10A fuse [No. 28, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between time control unit and key switch

NG >> Replace key switch.

POWER DOOR LOCK — SUPER LOCK —

PFP:24814

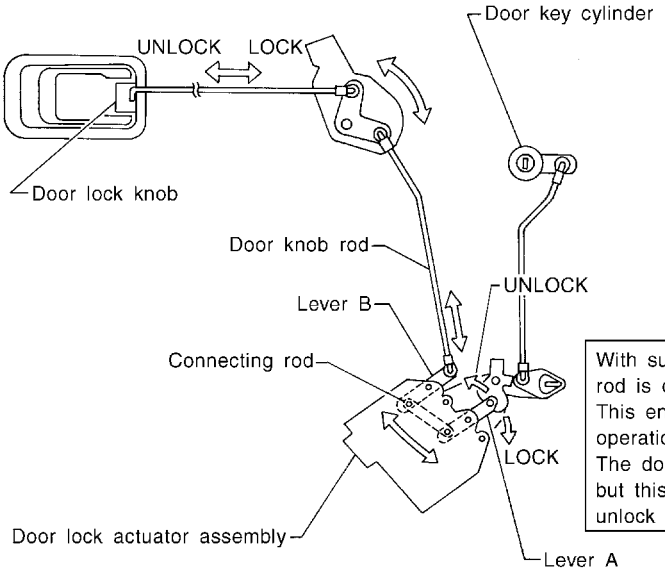
System Description

EIS001R6

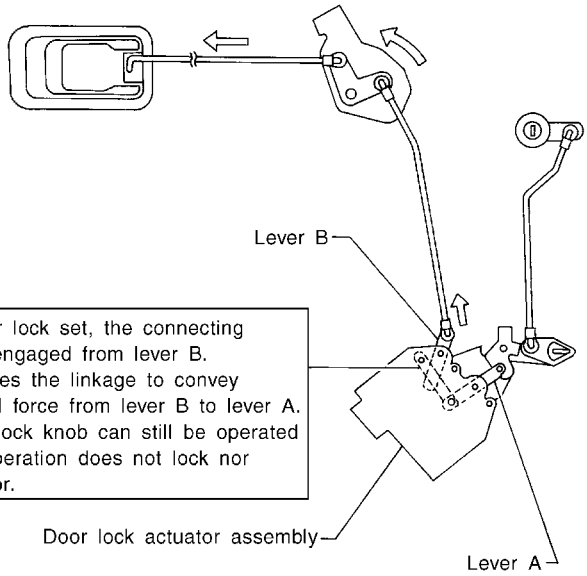
OUTLINE

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.

With super lock released



With super lock set



SEL831U

OPERATION

Power door lock/unlock and super lock set/release operation by door key cylinder

- With the key inserted into driver door key cylinder, turning it to LOCK will lock all doors and set super lock. (Super lock will not be set while key is inserted in the ignition key cylinder.)
- With the key inserted into driver door key cylinder, turning it to UNLOCK will unlock all doors and release super lock.

Power door lock/unlock and super lock set/release operation by multi-remote controller (If equipped)

- Pressing multi-remote controller LOCK button will lock all doors and set super lock. (Super lock will not be set while key is inserted in the ignition key cylinder.)
- Pressing multi-remote controller UNLOCK button once will unlock driver door and release super lock. Then, if an unlock signal is sent from the remote controller again within 5 seconds, all other doors will be unlocked.

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

- When the super lock is set, turning the ignition key switch to ON will release the super lock. All doors will unlock once, but then immediately lock again.

Power door lock/unlock operation by lock/unlock switch

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

Lock/unlock switch operation cannot control super lock

Key reminder system

- If the ignition key is in the ignition key cylinder and driver door is open, setting lock/unlock switch, lock knob, key or multi-remote controller to “LOCK” locks the door once but then immediately unlocks all doors. (signal from door unlock sensor driver side)

System initialization

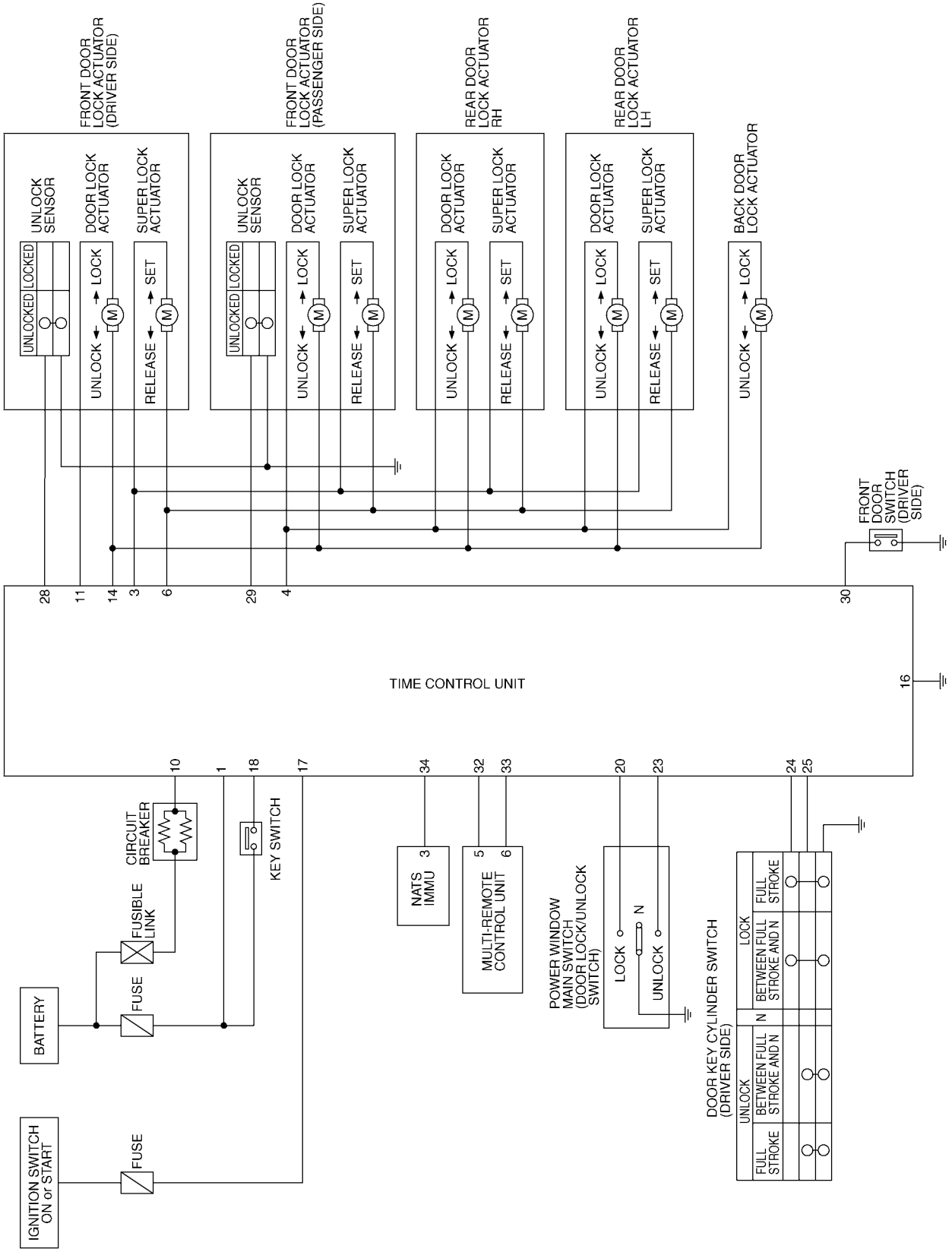
- System initialization is required when battery cables are reconnected. Conduct the following to release super lock once;

– insert the key into the ignition key cylinder and turn it to ON.

– LOCK/UNLOCK operation using door key cylinder or multi-remote controller.

Schematic

EIS001R7

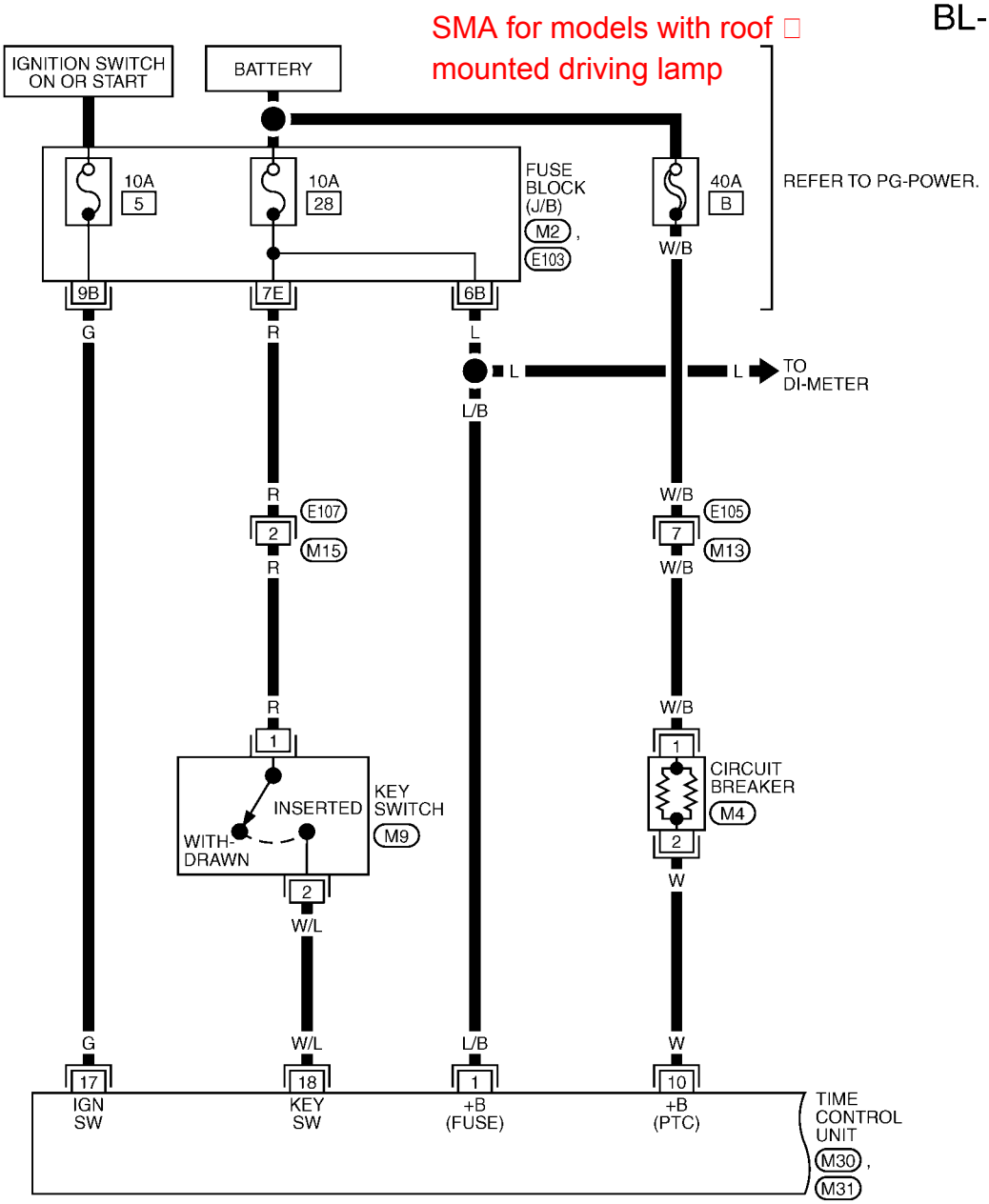


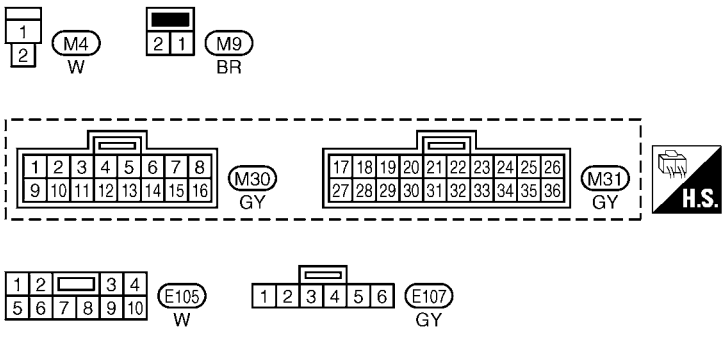
TIWA0012E

Wiring Diagram — S/LOCK —

EIS001R8

BL-S/LOCK-01

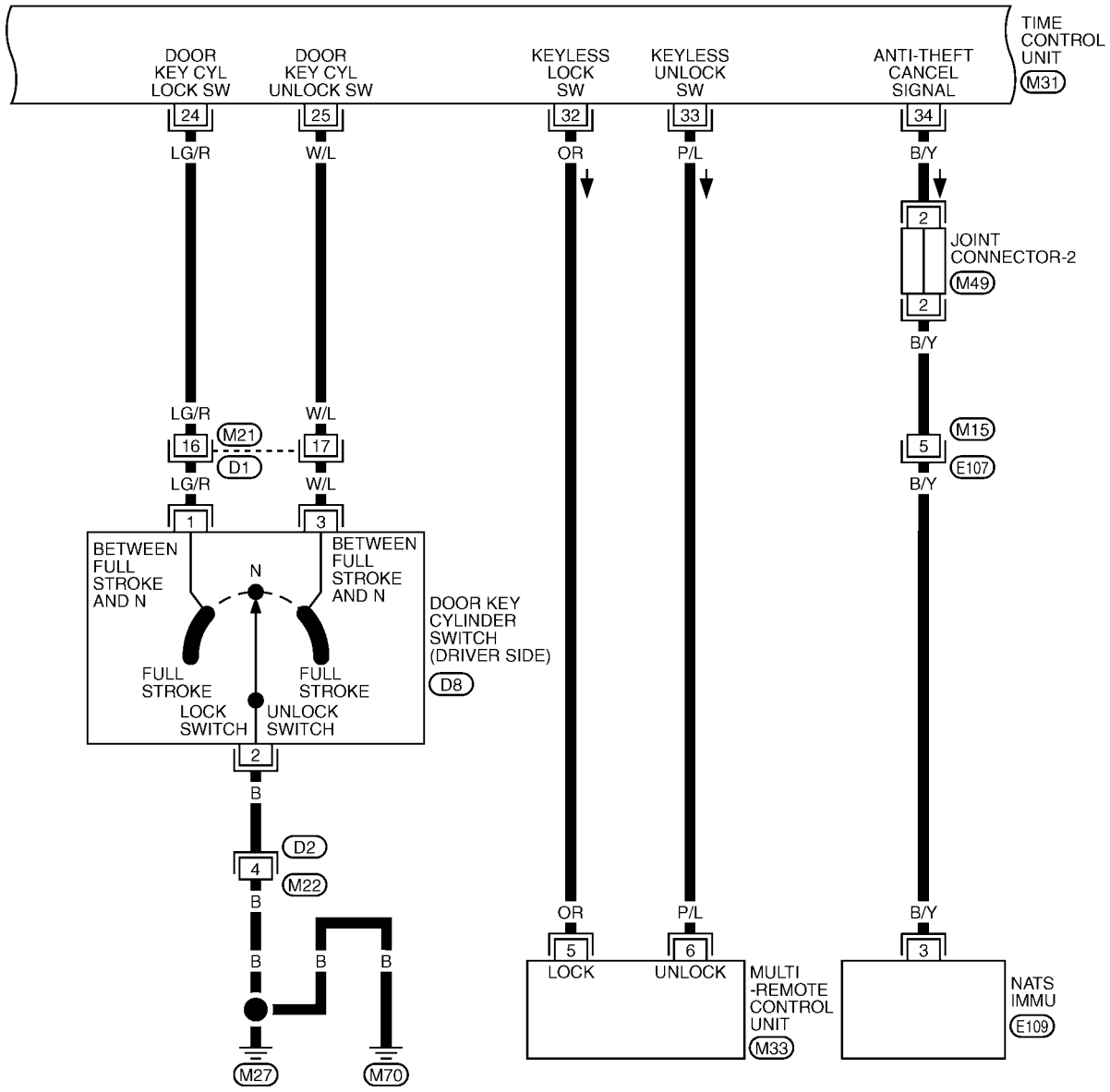


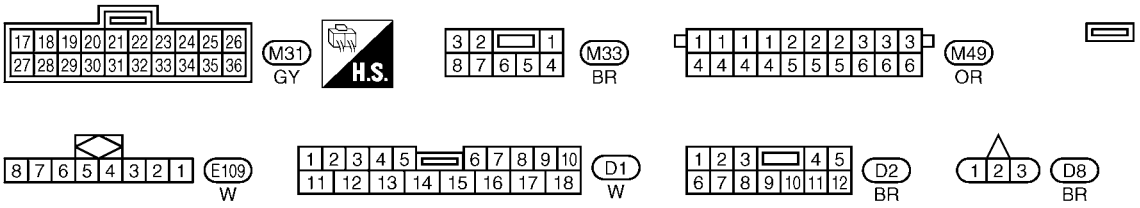


REFER TO THE FOLLOWING.
M2, E103 -FUSE BLOCK-JUNCTION BOX (J/B)

TIWA0013E

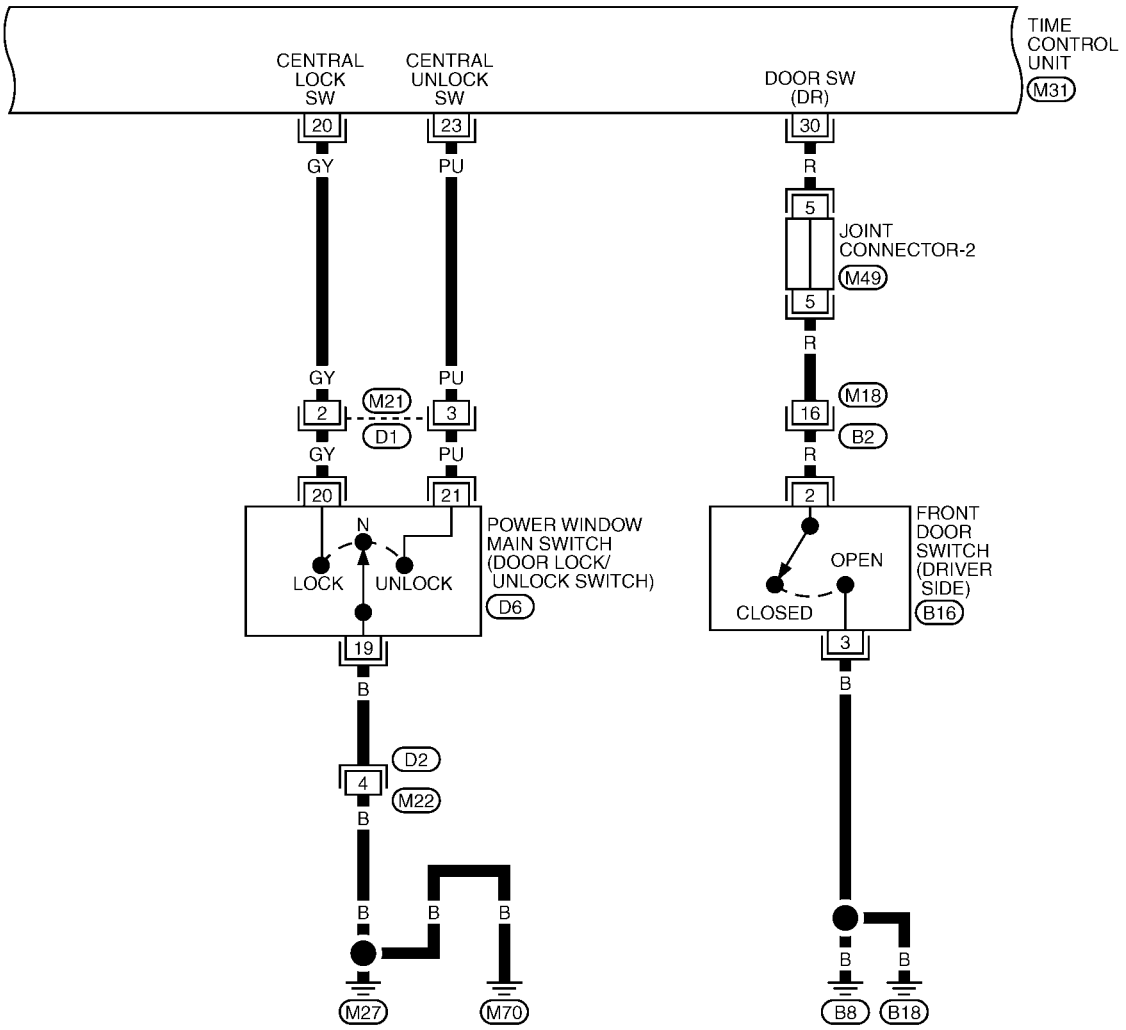
BL-S/LOCK-02

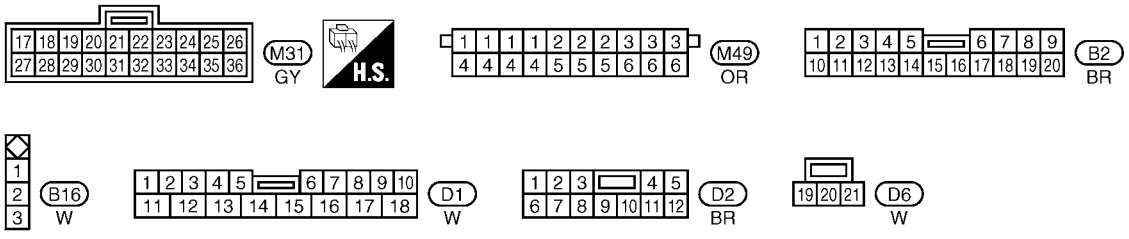




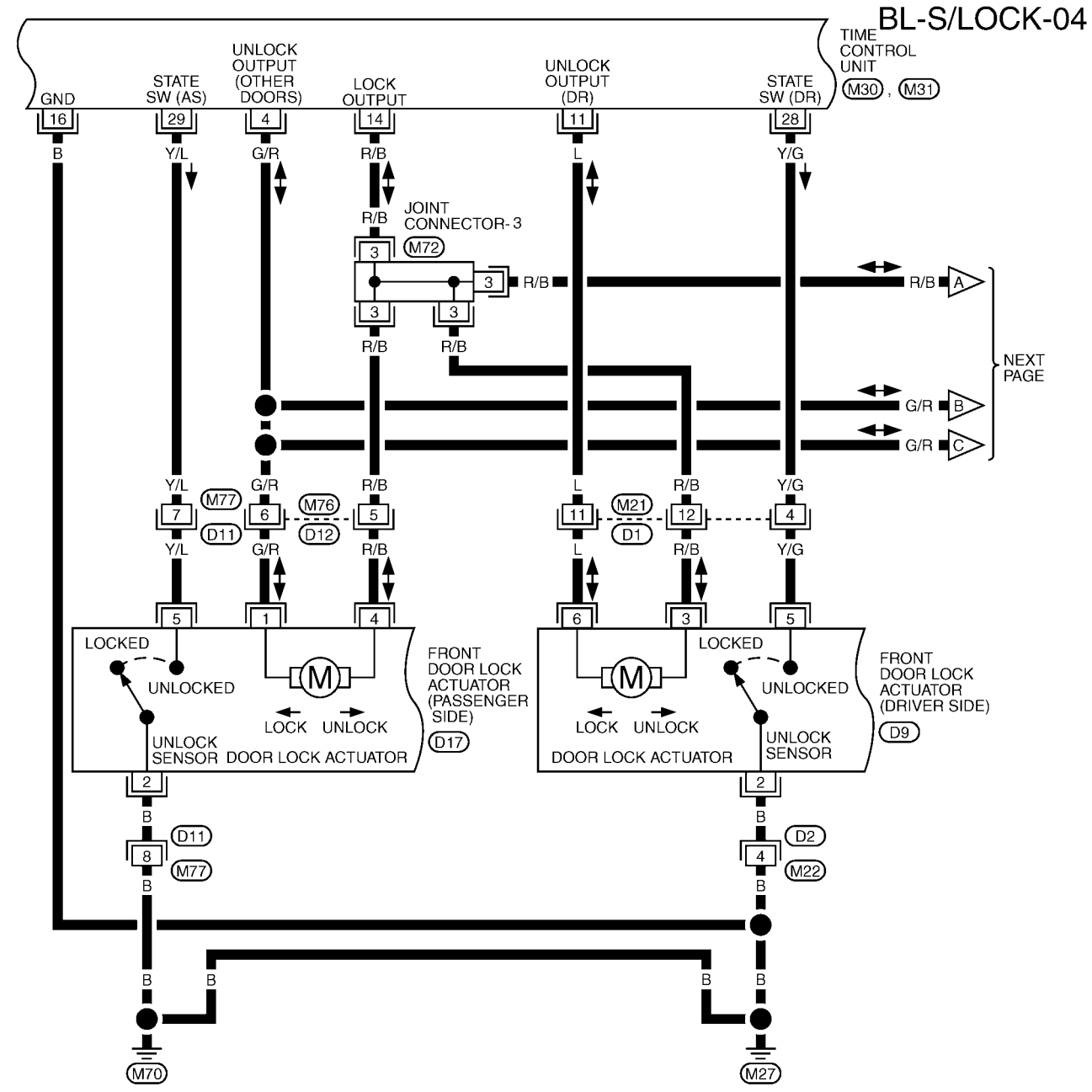
TIWA0014E

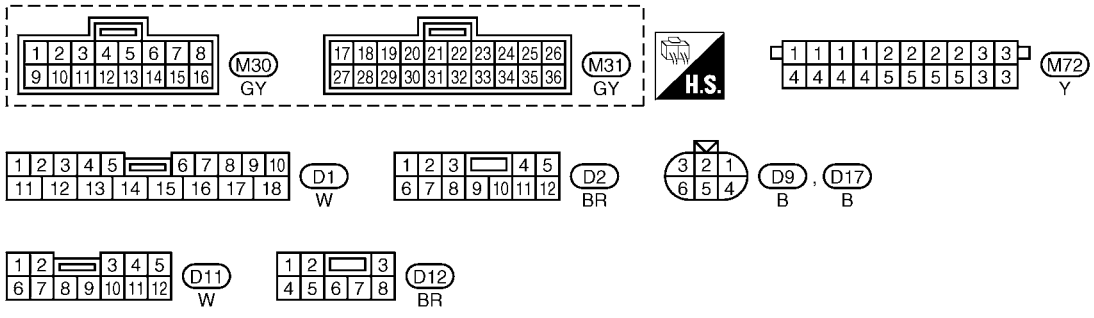
BL-S/LOCK-03





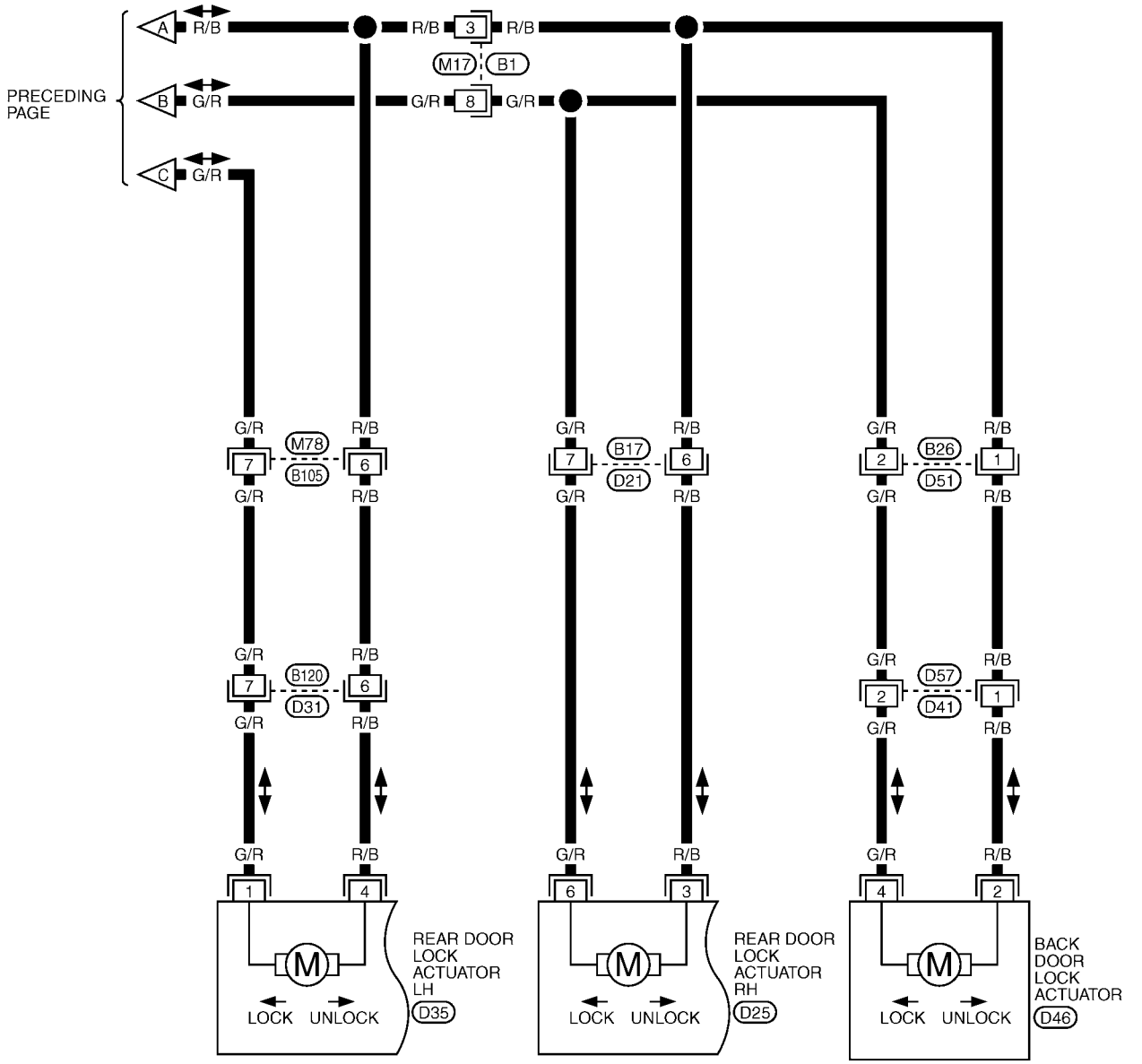
TIWA0015E

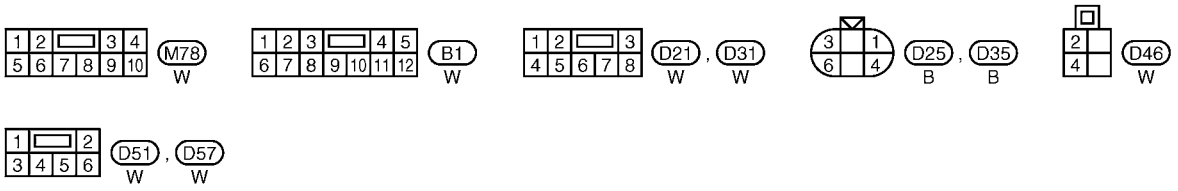

BL-S/LOCK-04
TIME CONTROL UNIT
M30, M31
GND
STATE SW (AS)
UNLOCK OUTPUT (OTHER DOORS)
LOCK OUTPUT
UNLOCK OUTPUT (DR)
STATE SW (DR)
JOINT CONNECTOR-3
M72
NEXT PAGE
M77
M76
M21
D11
D12
D1
LOCKED
UNLOCKED
LOCK
UNLOCK
UNLOCK SENSOR
DOOR LOCK ACTUATOR
FRONT DOOR LOCK ACTUATOR (PASSENGER SIDE)
D17
FRONT DOOR LOCK ACTUATOR (DRIVER SIDE)
D9
D2
M22
M70
M27


M30 GY
M31 GY
H.S.
M72 Y
D1 W
D2 BR
D9, D17 B
D11 W
D12 BR

TIWA0016E

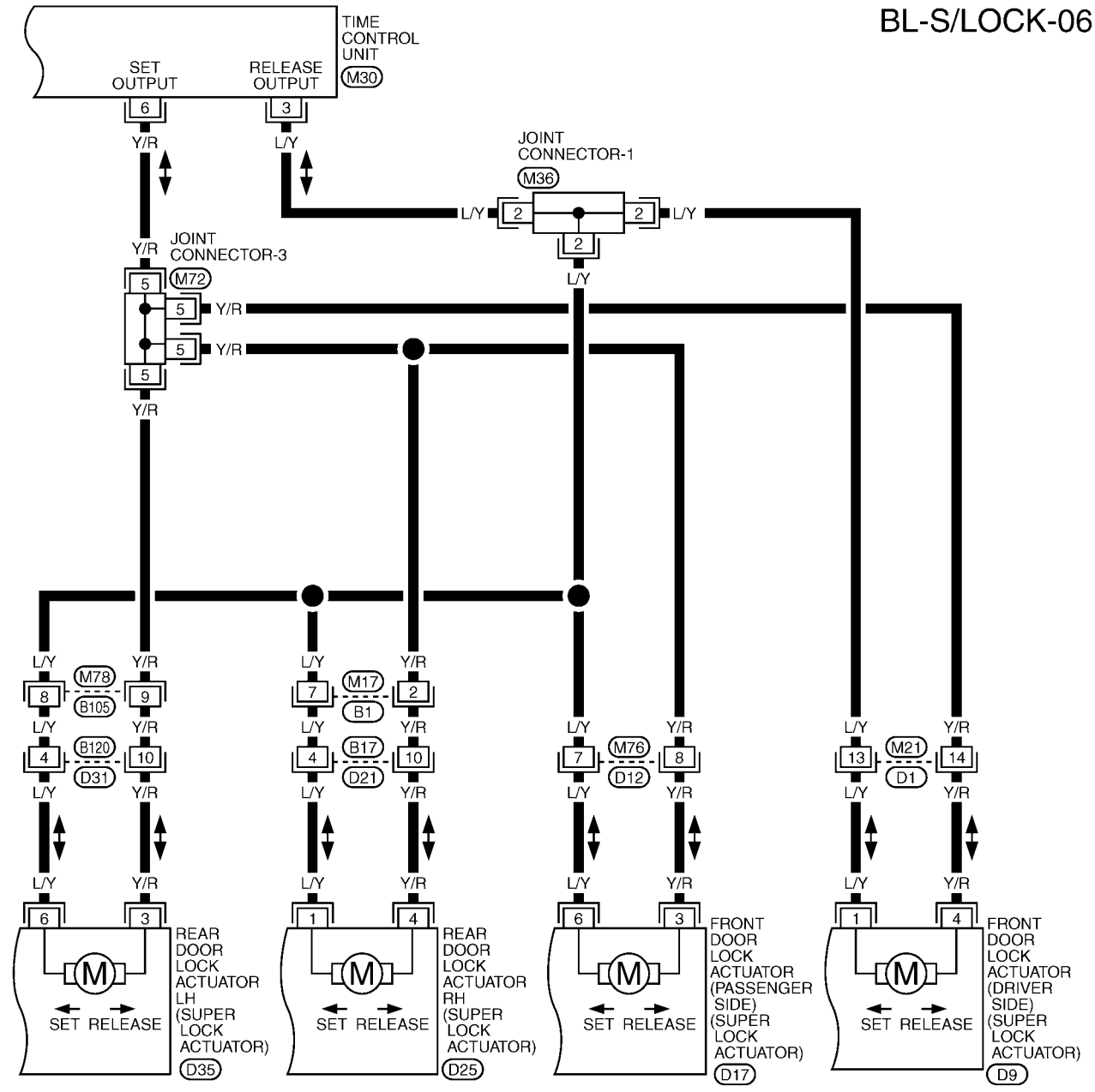
BL-S/LOCK-05

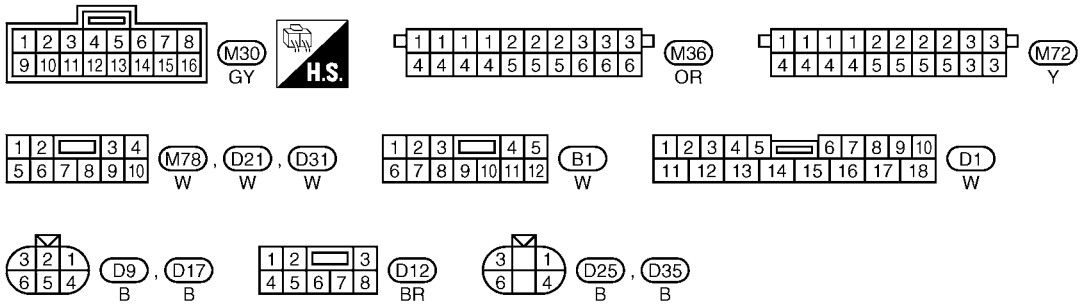




TIWA0017E

BL-S/LOCK-06





TIWA0018E

Terminal and Reference Value for Time Control Unit

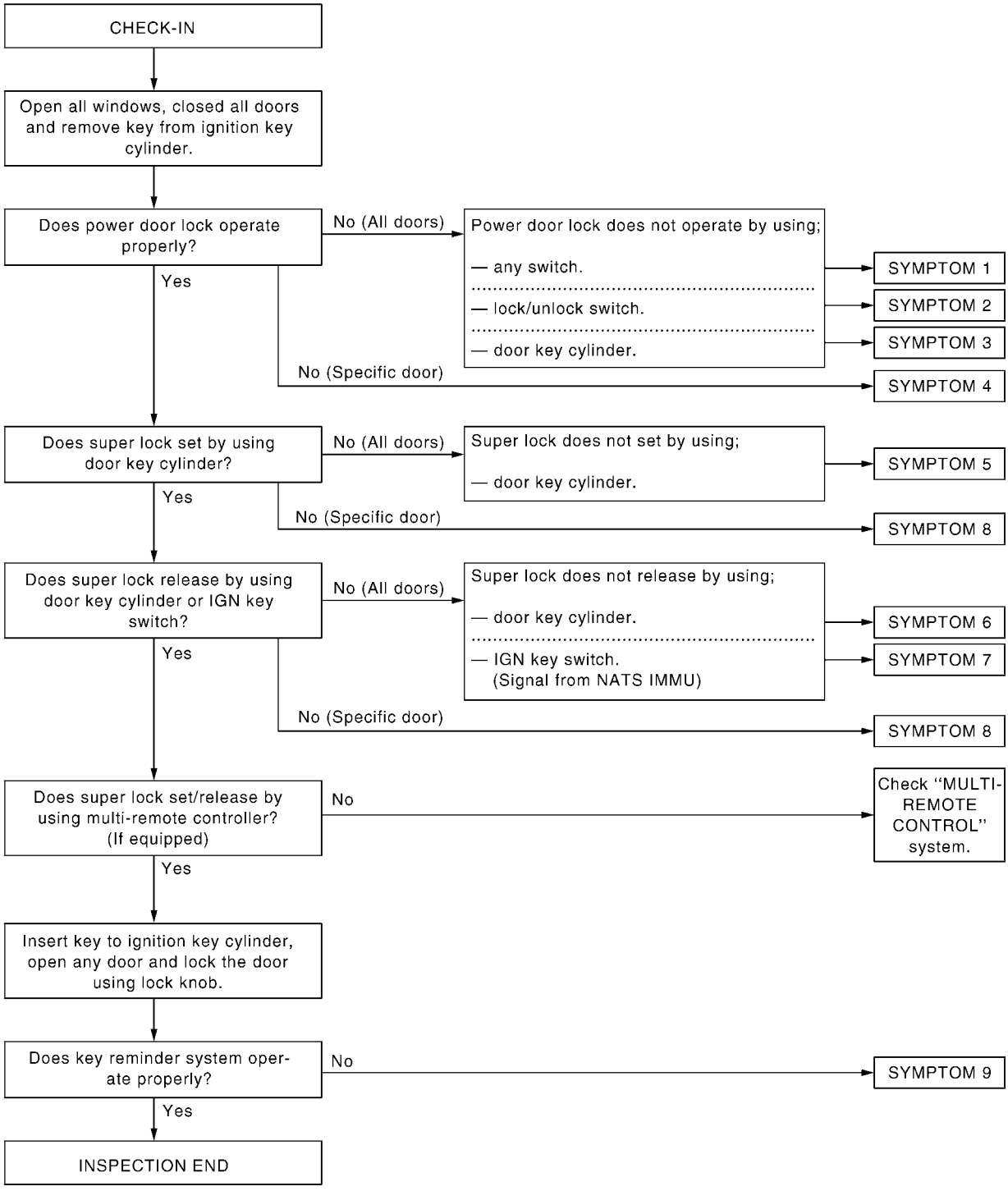
EIS001SR

TER-MINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (Approximate values)
1	L/B	BAT power supply	—	Battery voltage
3	L/Y	Super lock actuator release	Door key cylinder switch Unlock operation (Released)	0V → 12V
4	G/R	Passenger door and rear door (LH/RH) lock actuator unlock	Power door lock switch Unlock operation	0V → 12V
6	Y/R	Super lock actuator set	Door key cylinder switch Lock operation (Set)	0V → 12V
10	W	Power source (C/B)	—	Battery voltage
11	L	Driver door lock actuator unlock	Power door lock switch Unlock operation	0V → 12V
14	R/B	All door lock actuator lock	Power door lock switch Lock operation	0V → 12V
16	B	Ground	—	0V
17	G	IGN power supply	—	Battery voltage
18	W/L	Key switch	Key inserted (ON) → key removed from IGN key cylinder (OFF)	Battery voltage → 0V
20	GY	Power door lock switch lock signal	Lock operation (ON)	0V
			Other than above (OFF)	5V
23	PU	Power door lock switch unlock signal	Unlock operation (ON)	0V
			Other than above (OFF)	5V
24	LG/R	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)	5V → 0V
25	OR/L	Door key cylinder unlock switch	OFF (Neutral) → ON (Unlocked)	5V → 0V
28	Y/G	Driver door lock switch signal	Unlock (ON)	0V
			Lock (OFF)	5V
29	Y/L	Passenger door lock switch signal	Unlock (ON)	0V
			Lock (OFF)	5V
30	R	Driver door switch	Door open (ON) → close (OFF)	0V →Battery voltage
32	OR	Key less lock signal	Remote controller button Lock pressed	5V → 0V (Approx. 0.5 seconds)
33	P/L	Key less unlock signal	Remote controller button Unlock pressed	5V → 0V (Approx. 0.5 seconds)
34	B/Y	NATS release signal	—	5V

Trouble Diagnoses

EIS001R9

PRELIMINARY CHECK



SIIA2239E

After performing preliminary check, go to SYMPTOM CHART.

SYMPTOM CHART

NOTE:
Before starting trouble diagnoses below, perform preliminary check.
Symptom numbers in the symptom chart correspond with those of Preliminary check.

Symptom	Malfunctioning system	Reference page
SYMPTOM 1 Power door lock does not operate using any switch	Power supply and ground circuit check	BL-41
	Front door lock actuator check (Driver side)	BL-44
	Front door lock actuator check (Passenger side)	BL-45
	Rear door lock actuator check LH	BL-46
	Rear door lock actuator check RH	BL-47
	Back door lock actuator check	BL-48
	If above systems are OK, replace time control unit.	—
SYMPTOM 2 Power door lock does not operate with lock/unlock switch.	Door lock/unlock switch check	BL-42
	If above system is OK, replace time control unit.	—
SYMPTOM 3 Power door lock does not operate with door key cylinder switch.	Door key cylinder switch check	BL-43
	If above system is OK, replace time control unit.	—
SYMPTOM 4 Specific door lock actuator does not operate.	Front door lock actuator check (Driver side)	BL-44
	Front door lock actuator check (Passenger side)	BL-45
	Rear door lock actuator check LH	BL-46
	Rear door lock actuator check RH	BL-47
	Back door lock actuator check	BL-48
	If above system is OK, replace time control unit.	—
SYMPTOM 5 Super lock cannot be set by door key cylinder.	Door key cylinder switch check	BL-43
	Super lock actuator check	BL-52
	Key switch check	BL-51
	Ignition switch "ON" circuit check	BL-54
	If above systems are OK, replace time control unit.	—
SYMPTOM 6 *Super lock cannot be released by door key cylinder.	Door key cylinder switch check	BL-43
	Super lock actuator check	BL-52
	If above systems are OK, replace time control unit.	—
SYMPTOM 7 *Super lock cannot be released by ignition key switch. (Signal from NATS IMMU)	Super lock actuator check	BL-52
	NATS release signal check	BL-53
	Ignition switch "ON" circuit check	BL-54
	If above systems are "OK", replace time control unit.	—
SYMPTOM 8 Specific super lock actuator does not operate.	Super lock actuator check	BL-52
	If above system is OK, replace time control unit.	—
SYMPTOM 9 *Key reminder system does not operate.	Door switch check	BL-49
	Door unlock sensor check	BL-50
	Key switch check	BL-51
	If above system is OK, replace time control unit.	—

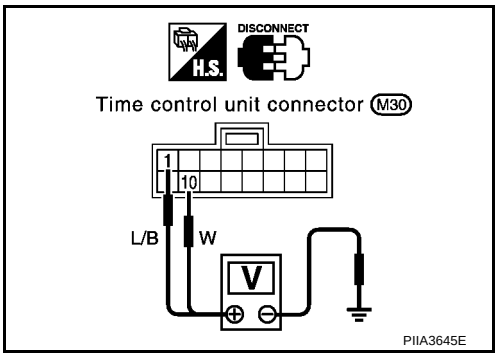
*:Make sure the power door lock system operates properly.

Power Supply and Ground Circuit Check

EIS004DQ

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect time control unit connector.
3. Check voltage between time control unit and ground.



Terminal		Ignition switch position		
+	–	OFF	ACC	ON
1	Ground	Battery voltage	Battery voltage	Battery voltage
10		Battery voltage	Battery voltage	Battery voltage

OK or NG

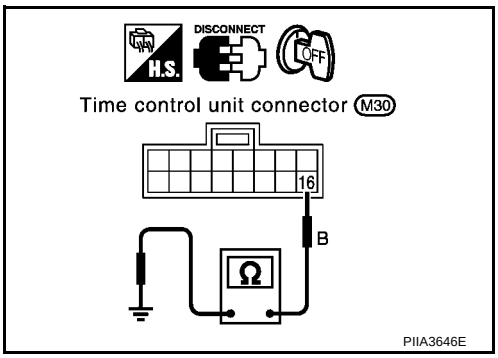
OK >> GO TO 2
NG >> Check the following.

- Harness for open or short between time control unit and fuse
- Harness for open or short between circuit breaker

2. CHECK GROUND CIRCUIT

Check continuity between time control unit harness connector M30 terminal 16 (B) and ground.

Continuity should exist.



OK or NG

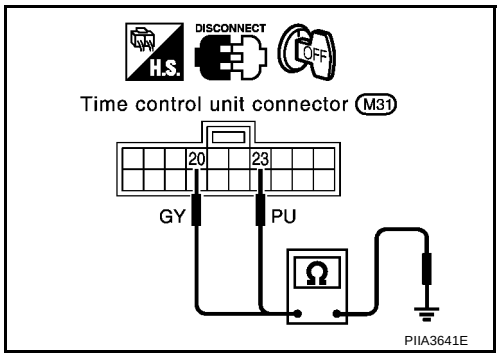
OK >> Power supply and ground circuit is OK.
NG >> Replace harness or connector.

Door Lock/Unlock Switch Check

EIS004DR

1. CHECK DOOR LOCK/UNLOCK SWITCH SIGNAL

1. Disconnect time control unit connector.
2. Check continuity between time control unit harness connector M31 terminal 20 (GY), 23 (PU) and ground.



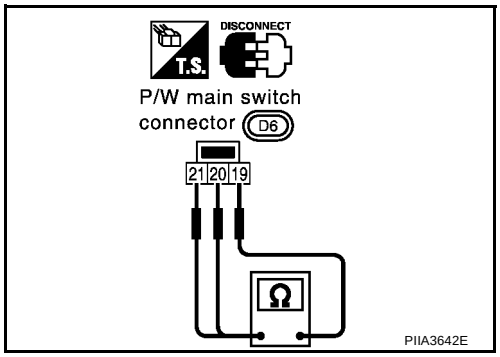
Terminals	Condition of door lock/unlock switch	Continuity
20 – Ground	Lock	Yes
	Neutral or Unlock	No
23 – Ground	Unlock	Yes
	Neutral or Lock	No

OK or NG

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

2. CHECK DOOR LOCK/UNLOCK SWITCH

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch terminals 20, 21 and 19.



Terminals	Condition of door lock/unlock switch	Continuity
20 – 19	Locked	Yes
	Neutral or Unlocked	No
21 – 19	Unlocked	Yes
	Neutral or Locked	No

OK or NG

OK >> Check the following.
- Ground circuit for power window main switch
- Harness for open or short between power window main switch and time control unit

NG >> Replace power window main switch.

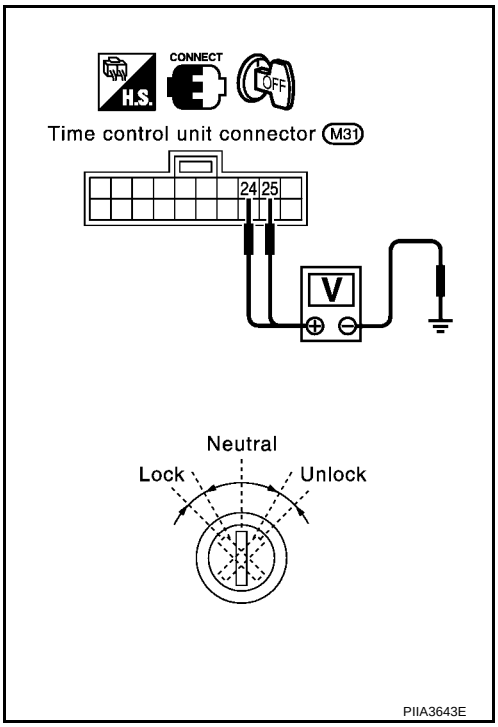
Door Key Cylinder Switch Check

EIS004DS

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

Check voltage between time control unit harness connector M31 terminals 24 (LG/R) or 25 (OR/L) and ground.

Terminals		Condition of door key cylinder switch	Voltage [V]
+	–		
24	Ground	Locked	0
		Neutral or Unlocked	Approx. 5
25	Ground	Unlocked	0
		Neutral or Locked	Approx. 5



OK or NG

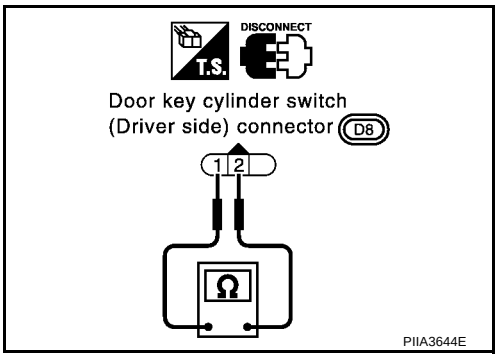
OK >> Door key cylinder switch is OK.

NG >> GO TO 2

2. CHECK DOOR KEY CYLINDER SWITCH

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

Terminals	Condition of door key cylinder switch	Continuity
1 – 2	Neutral	No
	Lock	Yes
2– 3	Neutral	No
	Unlock	Yes



OK or NG

OK >> Check the following.

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

NG >> Replace door key cylinder switch.

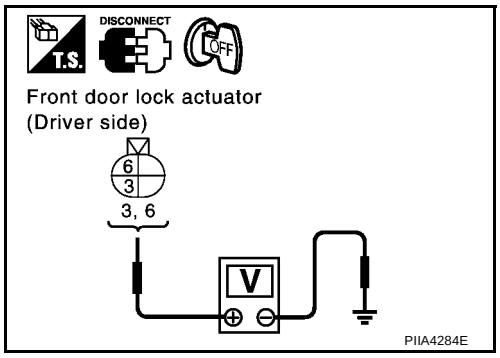
Front Door Lock Actuator (Driver Side) Check

EIS004DT

1. CHECK DOOR LOCK SIGNAL

1. Disconnect door lock actuator (driver side) connector.
2. Check voltage between door lock actuator harness connector D9 terminal 3(R/B), 6(L) and ground.

Terminals		Condition of door lock/unlock switch	Voltage [V]
+	–		
3 (R/B)	Ground	Locked	Approx. 12
6 (L)	Ground	Unlocked	



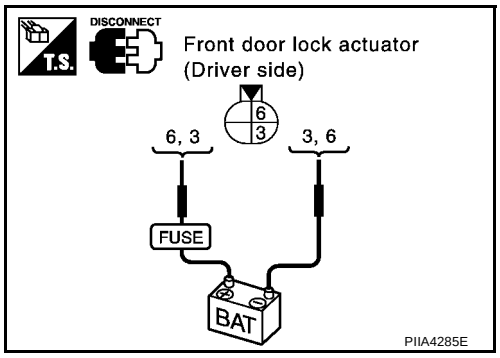
OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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

Terminal		Door lock actuator operation
+	–	
3	6	Unlock → Lock
6	3	Lock → Unlock



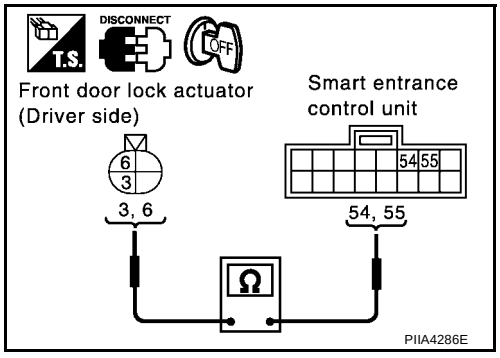
OK or NG

OK >> Check harness connection.
NG >> Replace door lock actuator (driver side).

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between door lock actuator (driver side) harness connector D9 terminal 3(R/B), 6(L) and time control unit harness connector M30 terminal 11(L), 14(R/B).

Terminals		Continuity
Door lock actuator	Time control unit	
3 (R/B)	14 (R/B)	Yes
6 (L)	11 (L)	Yes



OK or NG

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

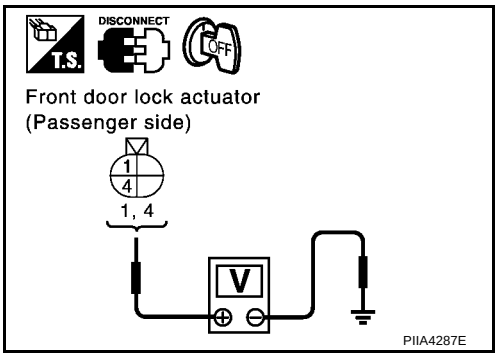
Front Door Lock Actuator (Passenger Side) Check

EIS004DU

1. CHECK DOOR LOCK SIGNAL

1. Disconnect door lock actuator (passenger side) connector.
2. Check voltage between door lock actuator harness connector D17 terminal 1(G/R), 4(R/B) and ground.

Terminals		Condition of door lock/ unlock switch	Voltage [V]
+	–		
4 (R/B)	Ground	Locked	Approx. 12
1 (G/R)	Ground	Unlocked	



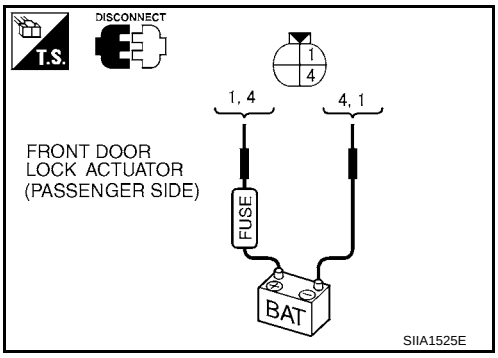
OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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

Terminal		Door lock actuator operation
+	–	
4	1	Unlock → Lock
1	4	Lock → Unlock



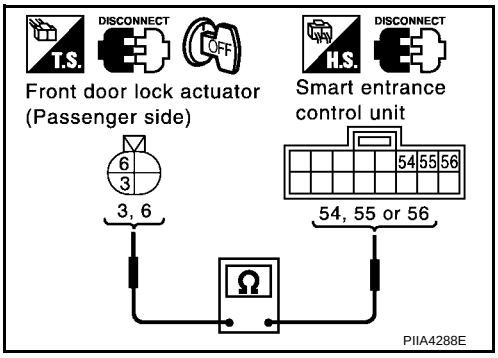
OK or NG

OK >> Check harness connection.
NG >> Replace door lock actuator (passenger side).

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between door lock actuator (passenger side) harness connector D17 terminal 1(G/R), 4(R/B) and time control unit harness connector M30 terminal 4 (G/R), 14(R/B).

Terminal		Continuity
Door lock actuator	Time control unit	
4 (R/B)	14 (R/B)	Yes
1 (G/R)	4 (G/R)	Yes



OK or NG

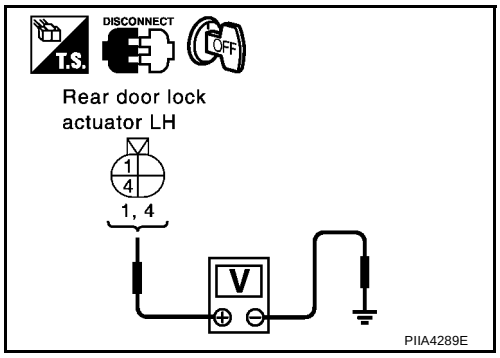
OK >> Replace time control unit.
NG >> Check harness for open or short between time control unit and door lock actuator.

Rear Door Lock Actuator LH Check

EIS004DV

1. CHECK DOOR LOCK SIGNAL

1. Disconnect rear door lock actuator LH connector.
2. Check voltage between door lock actuator harness connector D36 terminal 1(G/R), 4(R/B) and ground.



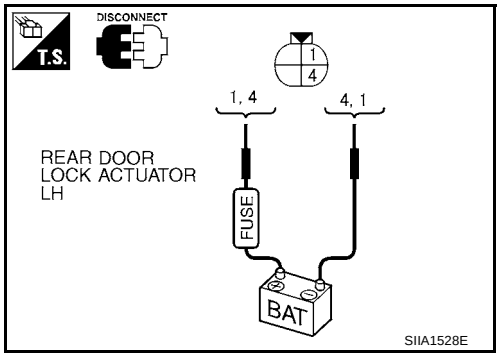
Terminals		Condition of door lock/unlock switch	Voltage [V]
+	–		
4 (R/B)	Ground	Locked	Approx. 12
1 (G/R)	Ground	Unlocked	

OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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



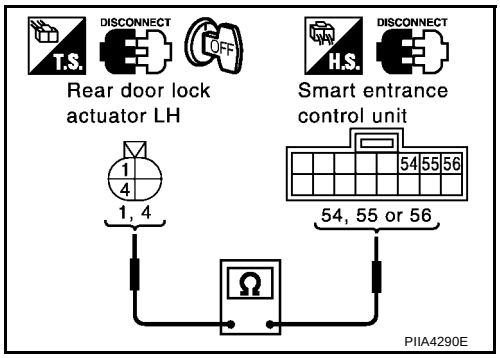
Terminal		Door lock actuator operation
+	–	
4	1	Unlock → Lock
1	4	Lock → Unlock

OK or NG

OK >> Check harness connection.
NG >> Replace rear door lock actuator LH.

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between rear door lock actuator LH harness connector D36 terminal 1(G/R), 4(R/B) and time control unit harness connector M30 terminal 4 (G/R), 14(R/B).



Terminals		Continuity
Door lock actuator	Time control unit	
4 (R/B)	14 (R/B)	Yes
1 (G/R)	4 (G/R)	Yes

OK or NG

OK >> Replace time control unit.
NG >> Check harness for open or short between time control unit and rear door lock actuator LH.

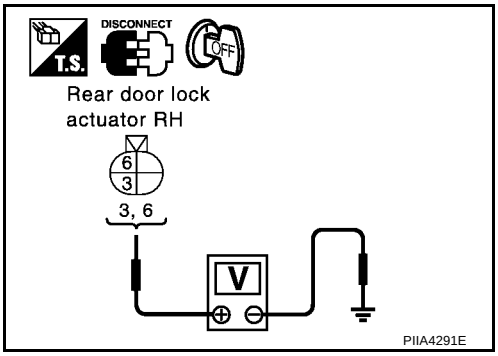
Rear Door Lock Actuator RH Check

EIS004DW

1. CHECK DOOR LOCK SIGNAL

- Disconnect rear door lock actuator RH connector.
- Check voltage between door lock actuator harness connector D26 terminal 3(R/B), 6(G/R) and ground.

Terminals		Condition of door lock/unlock switch	Voltage [V]
+	–		
3 (R/B)	Ground	Locked	Approx. 12
6 (G/R)	Ground	Unlocked	



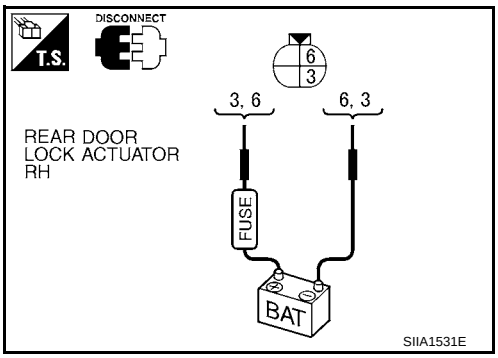
OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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

Terminal		Door lock actuator operation
+	–	
3	6	Unlock → Lock
6	3	Lock → Unlock



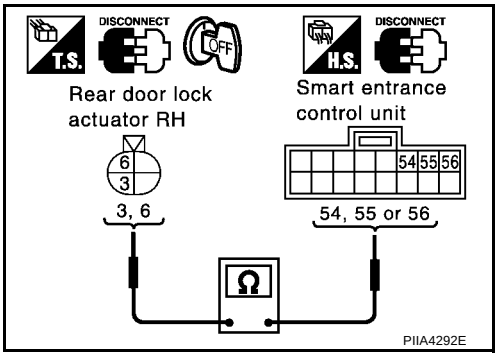
OK or NG

OK >> Check harness connection.
NG >> Replace rear door lock actuator RH.

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between rear door lock actuator RH harness connector D26 terminal 3 (R/B), 6 (G/R) and time control unit harness connector M30 terminal 4 (G/R), 14 (R/B)

Terminals		Continuity
Door lock actuator	Time control unit	
3 (R/B)	14 (R/B)	Yes
6 (G/R)	4 (G/R)	Yes



OK or NG

OK >> Replace time control unit.
NG >> Check harness for open or short between time control unit and rear door lock actuator RH.

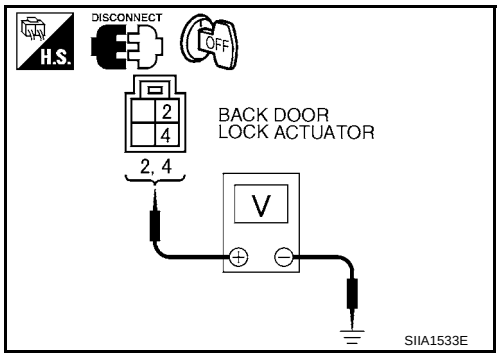
Back Door Lock Actuator Check

EIS004DX

1. CHECK DOOR LOCK SIGNAL

- Disconnect back door lock actuator connector.
- Check voltage between door lock actuator harness connector D46 terminal 2(R/B), 4(G/R) and ground.

Terminals		Condition of door lock/unlock switch	Voltage [V]
+	–		
2 (R/B)	Ground	Locked	Approx. 12
4 (G/R)	Ground	Unlocked	



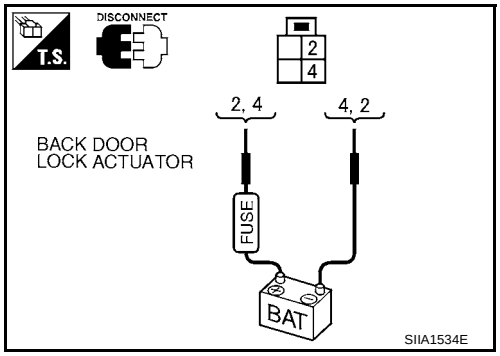
OK or NG

OK >> GO TO 2
NG >> GO TO 3

2. CHECK DOOR LOCK ACTUATOR

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

Terminals		Door lock actuator operation
+	–	
2	4	Unlock → Lock
4	2	Lock → Unlock



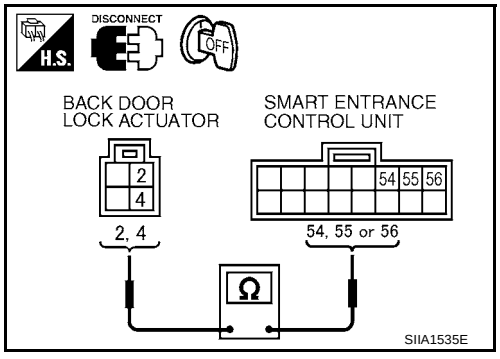
OK or NG

OK >> Check harness connection.
NG >> Replace back door lock actuator.

3. CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect time control unit connector.
2. Check continuity between back door lock actuator harness connector D46 terminal 2(R/B), 4(G/R) and time control unit harness connector M30 terminal 4 (G/R), 14(R/B).

Terminals		Continuity
Door lock actuator	Time control unit	
2 (R/B)	14 (R/B)	Yes
4 (G/R)	4 (G/R)	Yes



OK or NG

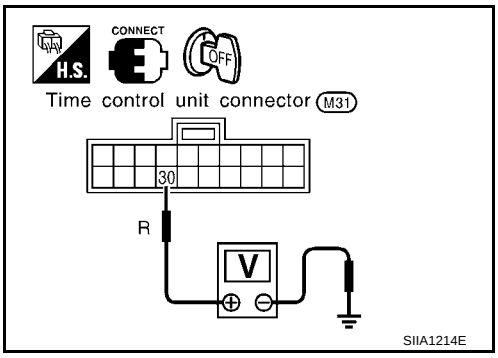
OK >> Replace time control unit.
NG >> Check harness for open or short between time control unit and back door lock actuator.

Door Switch Check

EIS004DY

1. CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between time control unit harness connector M31 terminal 30(R) and ground.



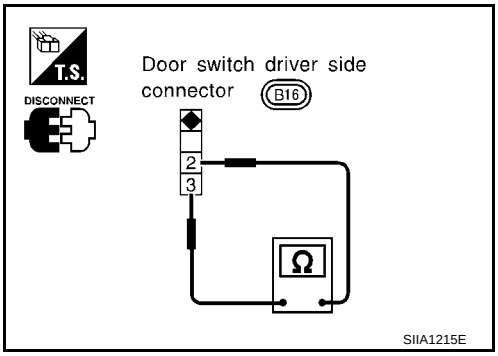
Terminal	Condition of driver's door	Voltage [V]
30 – Ground	Closed	Approx. 5
	Open	0

OK or NG

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

2. CHECK DOOR SWITCH

1. Disconnect door switch (driver side) connector.
2. Check continuity between door switch (driver side) terminals.



Terminal	Condition of door switch (driver side)	Continuity
2 – 3	Pushed	No
	Released	Yes

OK or NG

OK >> Check the following.
- Door switch (driver side) ground circuit or door switch ground condition
- Harness for open or short between time control unit and door switch (driver side)

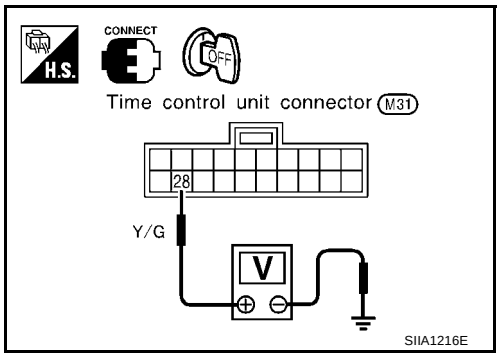
NG >> Replace driver's door switch (driver side).

Door Unlock Sensor Check

EIS004DZ

1. CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL

Check voltage between time control unit harness connector terminal 28 and ground.



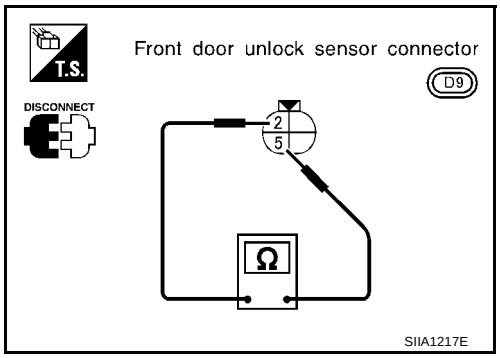
Terminals		Driver's door lock/ unlock switch	Voltage [V]
+	–		
28	Ground	Locked	Approx. 5
		Unlocked	0

OK or NG

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

2. CHECK FRONT DOOR UNLOCK SENSOR

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



Terminal	Driver door lock actuator	Continuity
2 – 5	Locked	No
	Unlocked	Yes

OK or NG

OK >> Check the following.
- Door unlock sensor ground circuit
- Harness for open or short between time control unit and door unlock sensor

NG >> Replace door unlock sensor.

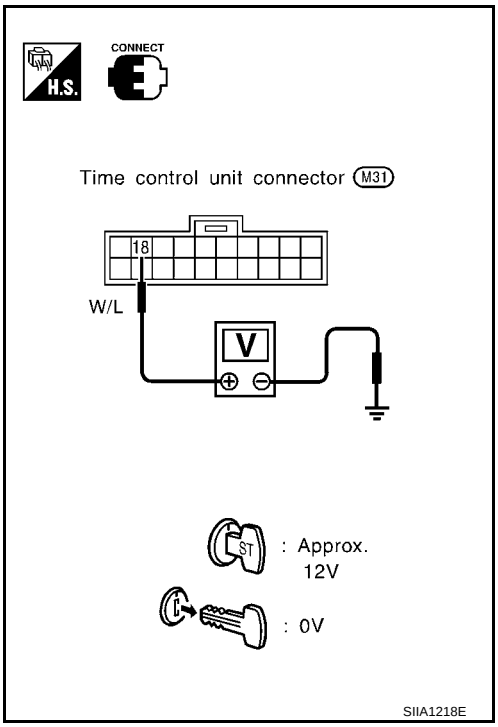
Key Switch Check

EIS004E0

1. CHECK KEY SWITCH INPUT SIGNAL

Check voltage between time control unit terminal 18 and ground.

Terminals		Condition of key switch	Voltage [V]
+	–		
18	Ground	inserted	Approx. 12
		removed	0



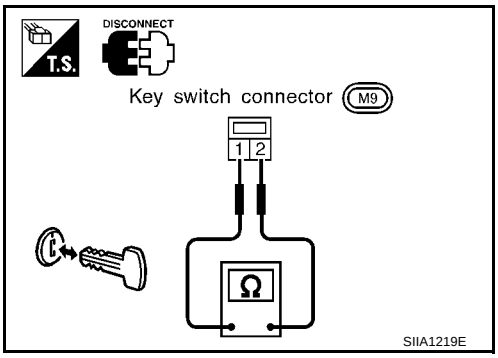
OK or NG

OK >> Key switch is OK.
NG >> GO TO 2.

2. CHECK KEY SWITCH (INSERT)

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

Terminals		Condition of key switch	Continuity
1	2	inserted	Yes
		removed	No



OK or NG

OK >> Check the following.
- 10A fuse [No. 28, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between time control unit and key switch

NG >> Replace key switch.

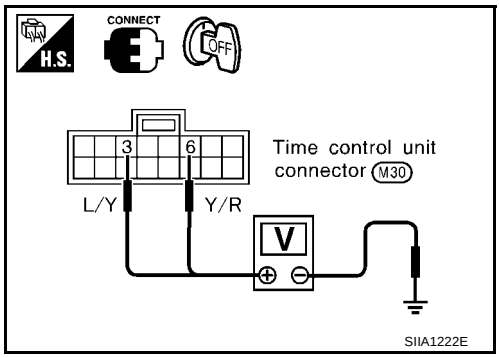
Super Lock Actuator Check

EIS001SK

1. CHECK OUTPUT SIGNAL FOR SUPER LOCK ACTUATOR

Check voltage for super lock actuator.

Terminals		Condition of door key cylinder switch	Voltage [V]
+	–		
6	Ground	Lock (Set)	Approx. 12
3		Unlock (Released)	



OK or NG

OK >> GO TO 2

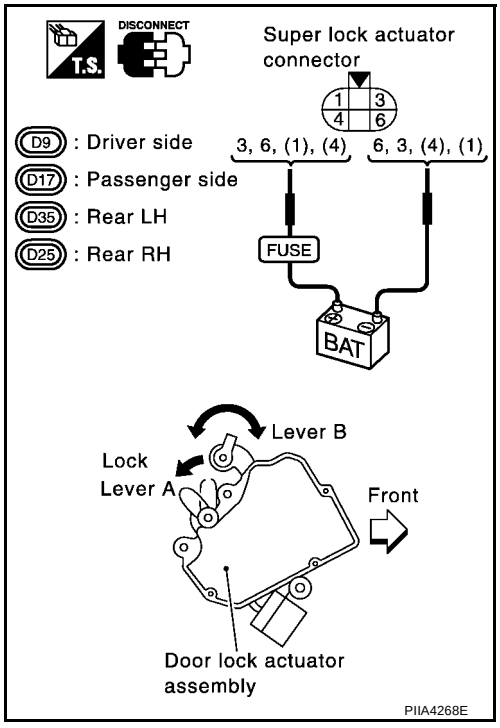
NG >> Check other malfunctioning system, refer to BL-40, "SYMPTOM CHART" .

2. CHECK SUPER LOCK ACTUATOR

1. Disconnect door lock actuator assembly connector.
2. Set lever A in lock position.
3. Apply 12V direct current to door lock actuator assembly and check operation.

Super lock actuator operation	Terminals		Connection from lever B to lever A
	(+)	(–)	
Release → Set	6 (1)	3 (4)	Disconnect
Set → Released	3 (1)	6 (4)	Connect

(): Driver and rear LH door lock actuator.



OK or NG

OK >> Check harness between time control unit and super lock actuator.

NG >> Replace super lock actuator.

NATS Release Signal Check

EIS001SN

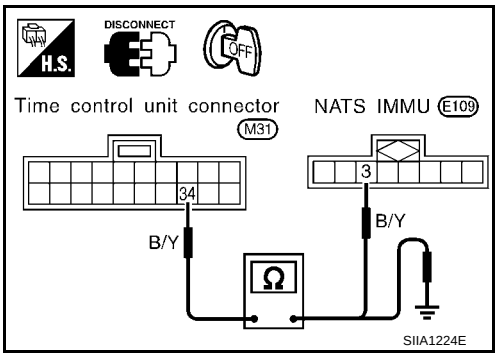
1. CHECK NATS SIGNAL CIRCUIT

1. Disconnect time control unit connector and NATS IMMU connector.
2. Check continuity between time control unit terminal 34 and NATS IMMU terminal 3.

Continuity should exist.

3. Check continuity between time control unit terminal 34 and ground.

Continuity should not exist.



OK or NG

OK >> GO TO 2
NG >> Repair harness.

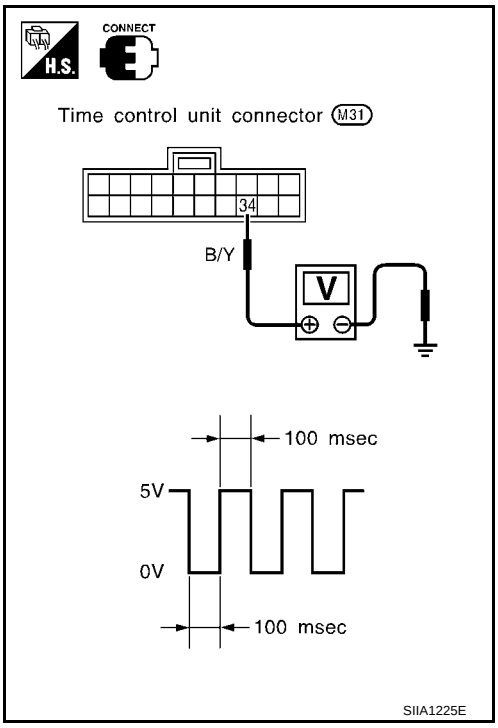
2. CHECK NATS RELEASE SIGNAL

1. Connect time control unit connector and NATS IMMU connector.
2. Check voltage between time control unit terminal 34 and ground.

Terminal		Condition of ignition switch	Voltage [V]
+	–		
34	Ground	OFF	Approx. 5
		More than 17 seconds after ignition switch is turned to ON	
		For 17 seconds after ignition switch is turned to ON	Pulse

OK or NG

OK >> Replace time control unit.
NG >> Check NATS system.

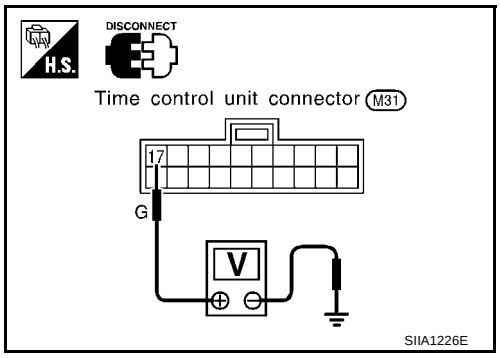


Ignition Switch “ON” Circuit Check

EIS001SP

1. CHECK IGNITION ON SIGNAL

1. Disconnect time control unit connector.
2. Check voltage between time control unit terminal 17 and ground.



Terminal		Ignition switch position		
+	–	OFF	ACC	ON
17	Ground	0V	0V	Battery voltage

OK or NG

OK >> Ignition ON signal is OK.

NG >> Check the following.

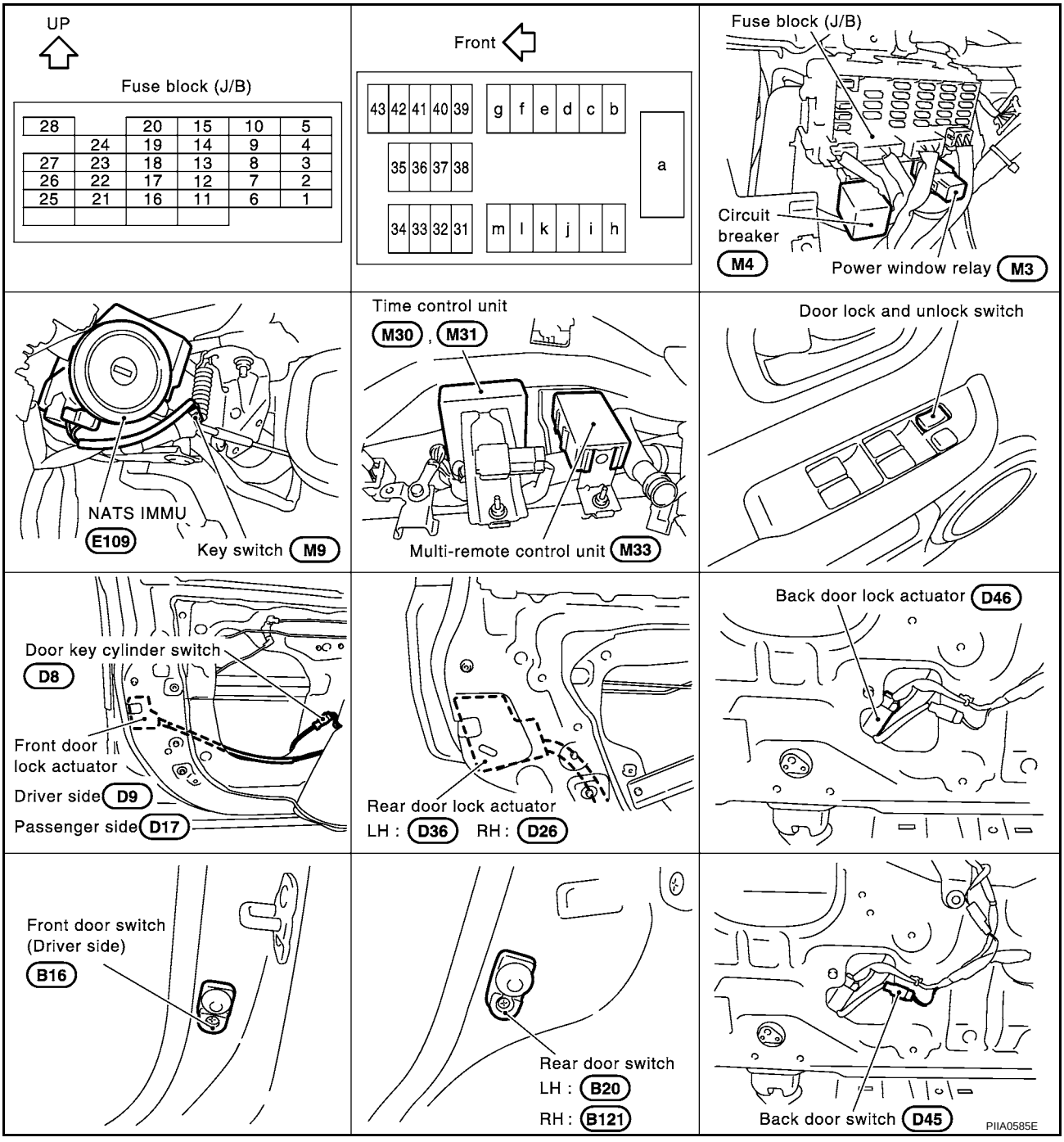
- 10A fuse [No. 5, located in fuse block (J/B)]
- Harness for open or short between time control unit and fuse

MULTI-REMOTE CONTROL SYSTEM

PFP:28596

Component Parts and Harness Connector Location

EIS001RD



System Description

EIS001RE

FUNCTION

Multi-remote control system has the following function.

- Door lock (and set super lock)
- Door unlock (and release super lock)
- Hazard reminder

LOCK OPERATION

To lock door by multi-remote controller, the ignition switch must be at OFF.
When the LOCK signal is input to multi-remote control unit (the antenna of the system is combined with multi-remote control unit), ground is supplied

- through multi-remote control unit terminal 5
- to time control unit terminal 32.

Then time control unit operates to lock doors and set super lock (models with super lock).

UNLOCK OPERATION

When the UNLOCK signal is input to multi-remote control unit (the antenna of the system is combined with multi-remote control unit), ground is supplied

- through multi-remote control unit terminal 6
- to time control unit terminal 33.

Time control unit operates to unlock driver's door and release super lock (models with super lock).
Then, if an unlock signal is sent from the remote controller again within 5 seconds, all other doors will be unlocked.

HAZARD REMINDER

When the doors are locked or unlocked by multi-remote controller (signal from driver side unlock sensor), supply power to hazard warning lamp flashes as follows

- Lock operation: Flash once
- Unlock operation: Flash twice

MULTI-REMOTE CONTROLLER ID CODE ENTRY

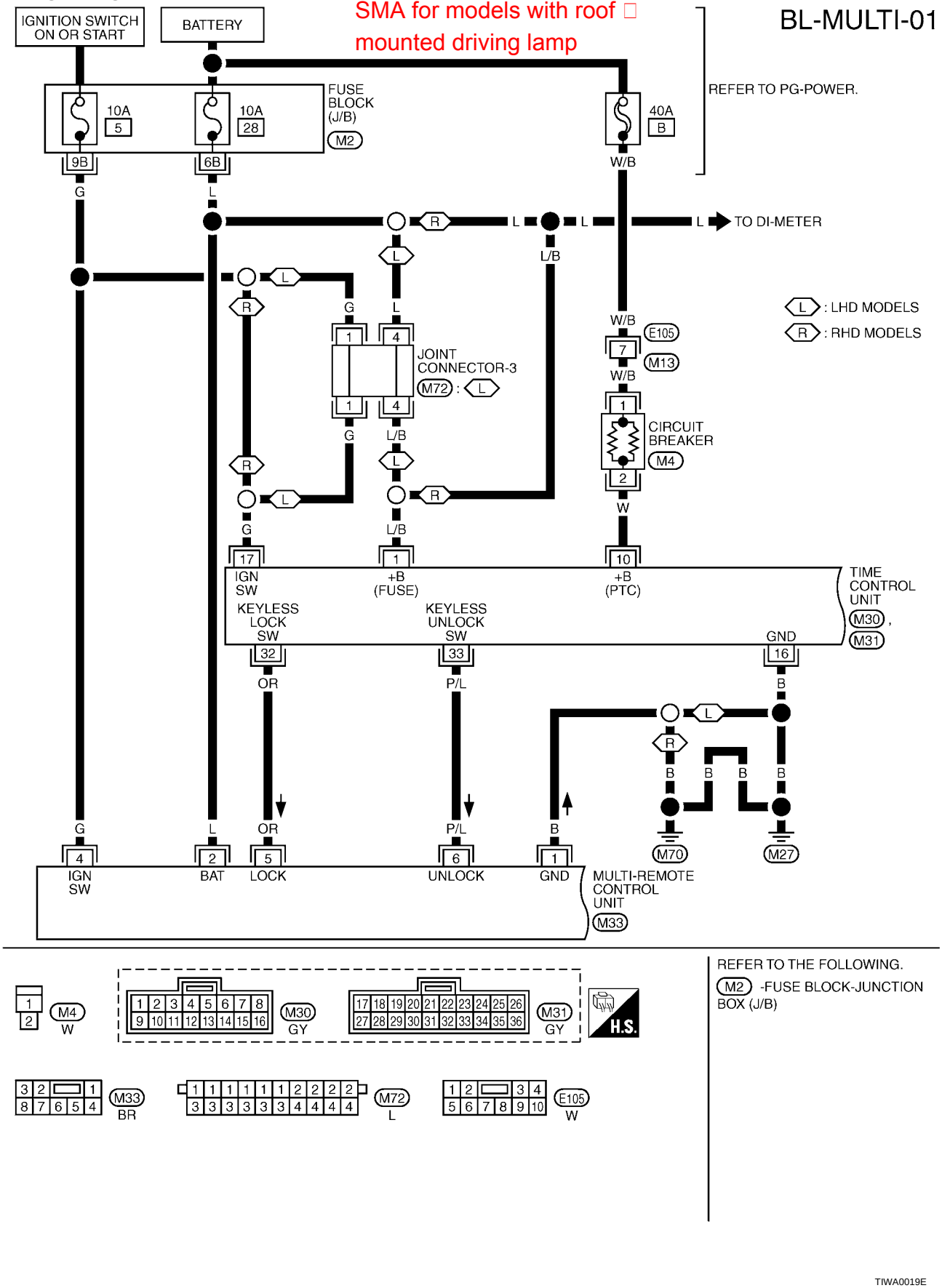
A maximum of four remote controllers can be entered.
To enter ID code entry, the following signals must be input to the multi-remote control unit.

- Ignition switch (ON)
- Signal from remote controller

For detailed procedure, refer to BL-63, "ID Code Entry Procedure" .

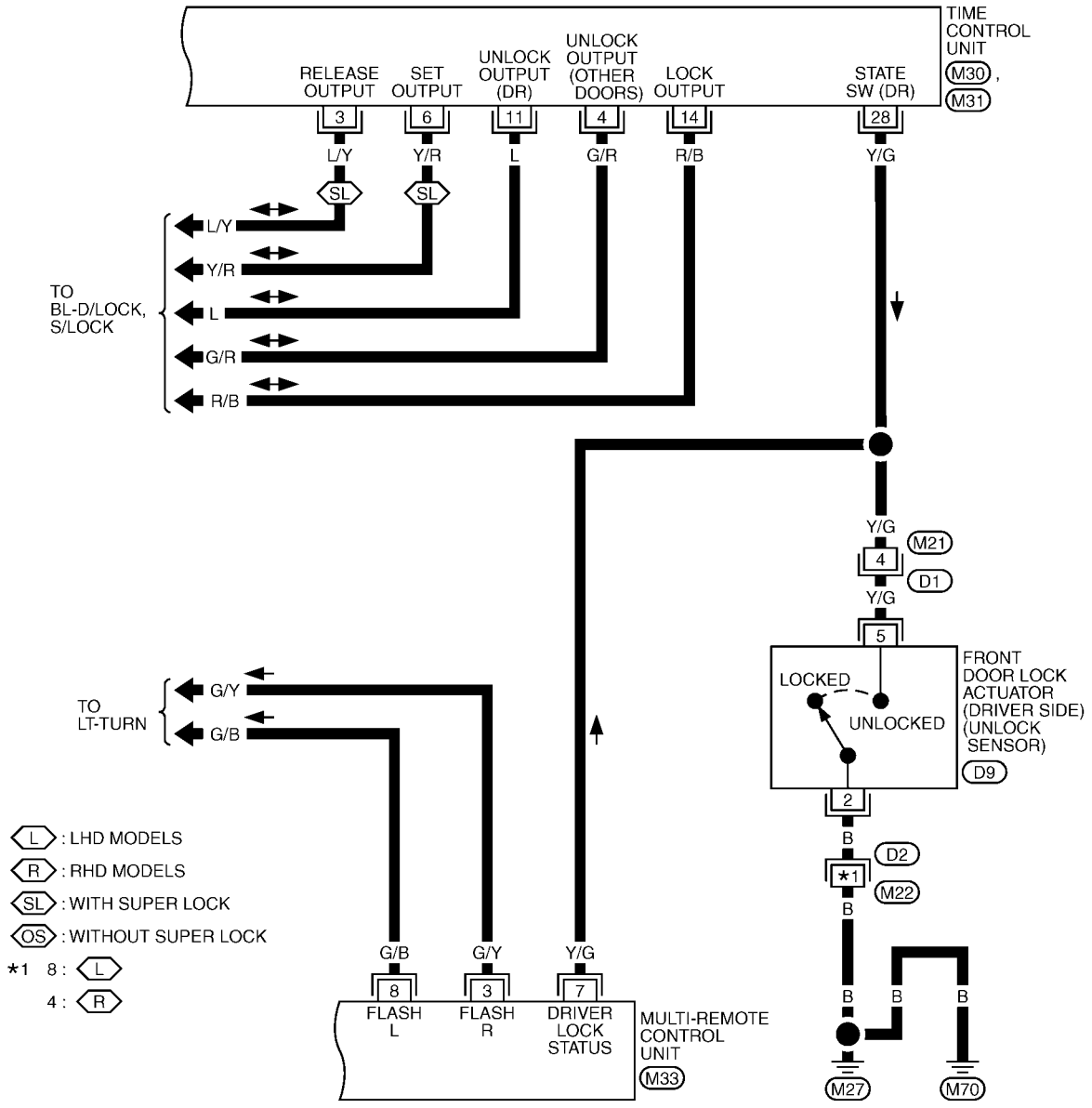
Wiring Diagram — MULTI —

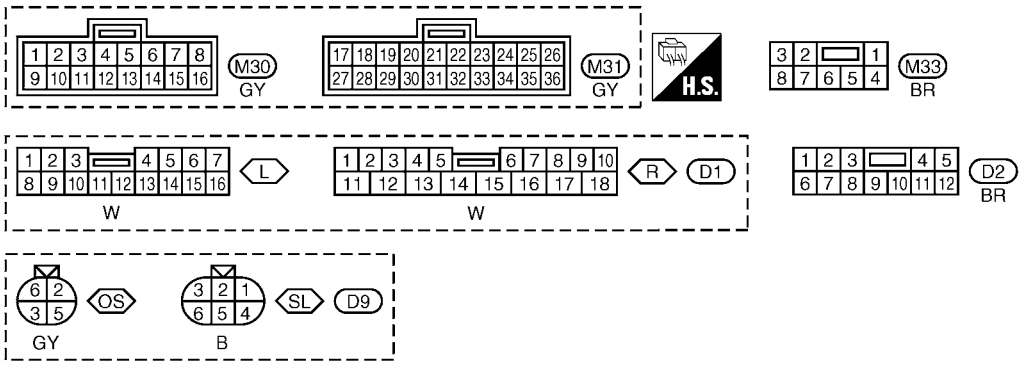
EIS001RF



TIWA0019E

BL-MULTI-02





TIWA0020E

Terminal and Reference Value for Multi-remote Control Unit

EIS001TQ

Terminal	Wire Color	Item	Condition	Voltage (Approximate values)
1	B	Ground	—	0V
2	L	BAT power supply	—	12V
3	G/Y	Hazard reminder (Flasher RH)	Remote controller switch pressed	0V → 12V
4	G	IGN power supply	—	12V
5	OR	Key less lock sw	Remote controller lock switch pressed	0V → 5V
6	P/L	Key less unlock sw	Remote controller unlock switch pressed	0V → 5V
7	Y/G	Driver door lock switch signal	Unlock (ON)	0V
			Lock (OFF)	5V
8	G/B	Hazard reminder (Flasher LH)	Remote controller switch pressed	0V → 12V

Symptom Chart

EIS001RG

NOTE:
Always check remote controller battery before replacing remote controller.

Symptom	Diagnoses/service procedure	Reference page
All function of multi-remote control system do not operate.	1.Remote controller battery check	BL-59
	2.Power supply and ground circuit for control unit check	BL-60
	3.Replace remote controller.	BL-64
The new ID of remote controller cannot be entered.	1.Remote controller battery check	BL-59
	2.Power supply and ground circuit for control unit check	BL-60
	3.Replace remote controller.	BL-64
Door lock and unlock does not function. (If the power door lock system does not operate manually, check power door lock system.)	1.Remote controller battery check	BL-59
	2.Replace remote controller.	BL-64
Door lock function does not operate with remote controller.	Time control unit lock circuit check	BL-61
Door unlock function does not operate with remote controller.	Time control unit unlock circuit check	BL-62
Hazard reminder does not activate properly when pressing lock or unlock button of remote controller.	1.Remote controller battery check	BL-59
	2.Hazard reminder check	BL-62
	3.Replace remote controller.	BL-64

Remote Controller Battery Check

EIS001T3

1. CHECK REMOTE CONTROLLER BATTERY

Remove battery and measure voltage across battery positive and negative terminals, (+) and (–).

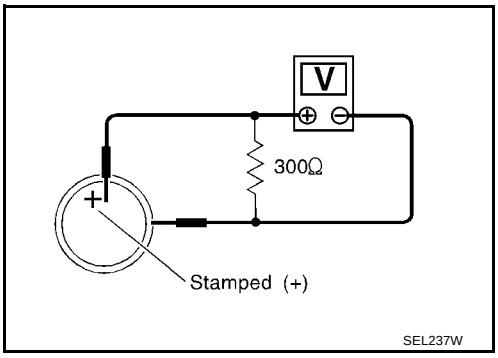
Voltage : 2.5V – 3.0V

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

OK or NG

OK >> Check remote controller battery terminals for corrosion or damage.

NG >> Replace battery.



SEL237W

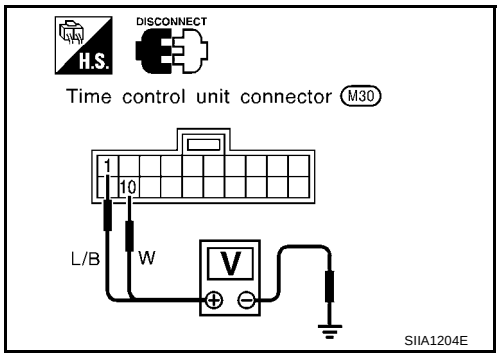
Power Supply and Ground Circuit Check

EIS001T4

1. CHECK POWER SUPPLY CIRCUIT FOR TIME CONTROL UNIT

1. Disconnect time control unit harness connector.
2. Check voltage between time control unit harness connector terminal 1 or 10 and ground.

Battery voltage should exist.



OK or NG

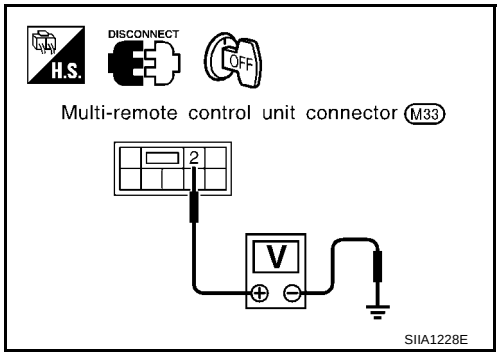
OK >> GO TO 2
NG >> Check the following.

- 40A fusible link (letter **B** , located in fuse and fusible link box)
- 10A fuse [No. 28, located in fuse block (J/B)]
- M4 circuit breaker
- Harness for open or short between time control unit and fuse

2. CHECK POWER SUPPLY CIRCUIT FOR MULTI-REMOTE CONTROL UNIT

1. Disconnect multi-remote control unit harness connector.
2. Check voltage between multi-remote control unit harness connector terminal 2 (L) and ground.

Battery voltage should exist.



OK or NG

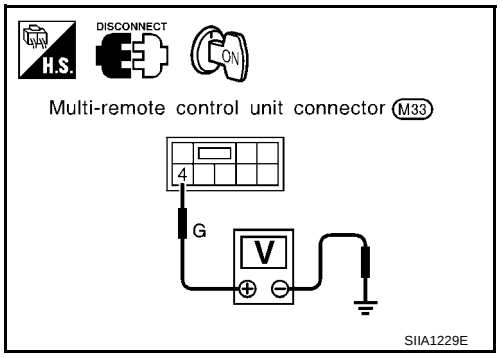
OK >> GO TO 3
NG >> Check the following.

- 10A fuse [No. 28, located in fuse block (J/B)]
- Harness for open or short between multi-remote control unit and fuse

3. CHECK IGNITION SWITCH “ON” CIRCUIT

1. Disconnect multi-remote control unit harness connector.
2. Check voltage between multi-remote control unit terminal 4 and ground while ignition switch is “ON”.

Battery voltage should exist.



OK or NG

OK >> GO TO 4
NG >> Check the following.

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

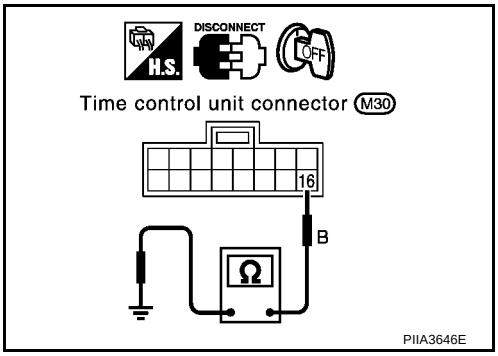
4. CHECK GROUND CIRCUIT FOR TIME CONTROL UNIT

Check continuity between time control unit harness connector terminal 16 and ground.

Continuity should exist.

OK or NG

OK >> GO TO 5
NG >> Check ground harness.



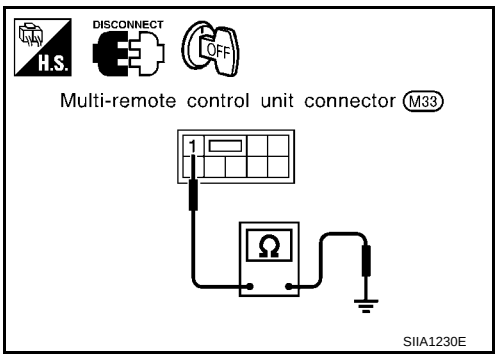
5. CHECK GROUND CIRCUIT FOR MULTI-REMOTE CONTROL UNIT

Check continuity between multi-remote control unit terminal 1 and ground.

Continuity should exist.

OK or NG

OK >> Power supply and ground circuits are OK.
NG >> Check ground harness.



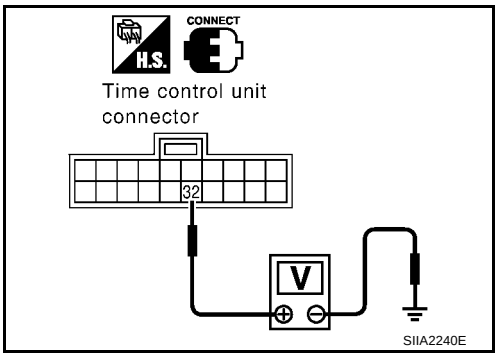
EIS004G8

Time Control Unit Lock Signal Circuit Check

1. CHECK TIME CONTROL UNIT OUTPUT SIGNAL

Check voltage between time control unit and ground.

Terminals			Condition of remote controller	Voltage [V] (Approximate values)
(+)		(-)		
Connector	Terminal (Wire color)			
M31	32 (OR)	Ground	Lock switch pressed	5V → 0V
			Unlock switch pressed	5V



OK or NG

OK >> Replace time control unit.
NG >> GO TO 2.

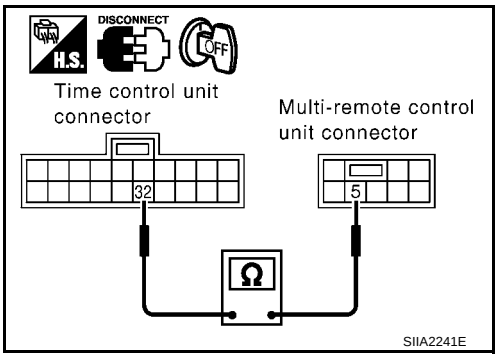
2. CHECK TIME CONTROL UNIT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect time control unit connector and multi-remote control unit connector.
3. Check continuity between time control unit harness connector M31 terminal 32 (OR) and multi-remote control unit harness connector M33 terminal 5 (OR)

Continuity should exist.

OK or NG

OK >> Replace multi-remote control unit.
NG >> Repair harness or connector.



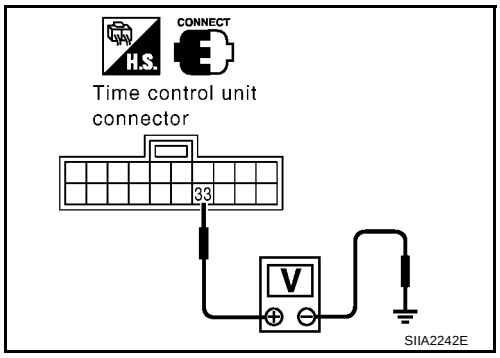
Time Control Unit Unlock Signal Circuit Check

EIS004G9

1. CHECK TIME CONTROL UNIT OUTPUT SIGNAL

Check voltage between time control unit and ground.

Terminals			Condition of remote controller	Voltage [V] (Approximate values)
(+)		(-)		
Connector	Terminal (Wire color)			
M31	33 (P/L)	Ground	Lock switch pressed	5V
			Unlock switch pressed	5V → 0V



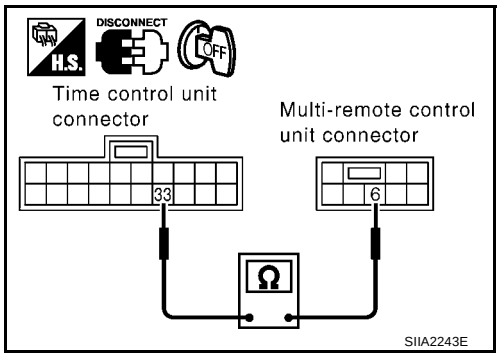
OK or NG

OK >> Replace time control unit.
NG >> GO TO 2.

2. CHECK TIME CONTROL UNIT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect time control unit connector and multi-remote control unit connector.
3. Check continuity between time control unit harness connector M31 terminal 33 (P/L) and multi-remote control unit harness connector M33 terminal 6 (P/L)

Continuity should exist.



OK or NG

OK >> Replace multi-remote control unit.
NG >> Repair harness or connector.

Hazard Reminder Check

EIS001T5

1. CHECK HAZARD WARNING LAMP

Check if hazard warning lamp flashes with hazard switch.

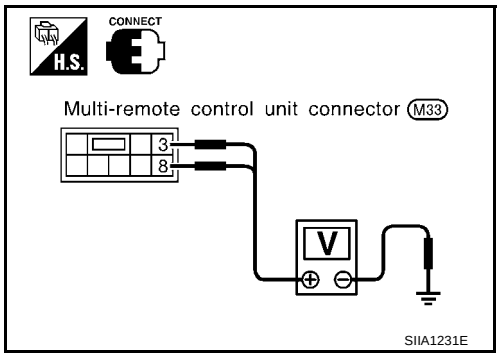
Does hazard warning lamp operate?

Yes >> GO TO 2
No >> Check hazard warning lamp circuit.

2. CHECK HAZARD REMINDER OPERATION

Check the following at when push the multi-remote control switch.
Check voltage between multi-remote control unit terminal 3 (G/Y), 8 (G/B) and ground.

Battery voltage should exist.



OK or NG

OK >> Check harness for open or short between multi remote control unit and hazard switch.
NG >> Replace multi-remote control unit.

ID Code Entry Procedure

EIS001RH

Activation of the registration mode:

The vehicle must have been unlocked by either the multi-remote controller or a transponder OK signal (TPOK) from the vehicle's immobilizer.

Preparation:
- Make sure all doors unlock.
- Make sure all multi-remote controllers to be registered are available.
- Make sure the batteries of all multi-remote controllers are in a good condition.
- Make sure all transmitting sources are out of the neighbourhood of the vehicle.
- Make sure the battery of the vehicle is in a good condition.

↓

Switch ignition-switch exactly six times from the "LOCK" to the "ON" position within 10 seconds and return the ignition switch to the "LOCK" position (leaving the key in the ignition switch).

↓

After 2 seconds the registration mode is activated. The turn signal lamps will flash twice. — NG: return to "Switch ignition-switch exactly six times…"

↓ OK

Proceed with the registration mode.

NOTE

The registration mode is exited when:
- The ignition-switch is turned to the "ON" position.
- A multi-remote controller ID code had registered after 4 ID codes have been registered (then, all of the registered ID codes are erased).
- No multi-remote controller or ignition switch input is received within 120 seconds.

↓

Registration mode

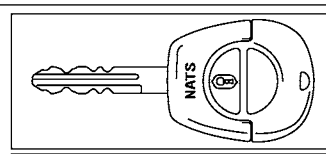
Press and hold the "UNLOCK" button of the multi-remote controller.

↓

Press the "LOCK" button 3 times.

↓

Release the "UNLOCK" button.
(At this time, the original (previous) ID code(s) are erased.)



→ If the multi-remote controller code is registered correctly, the turn signal lamp will flash once.
(If 4 ID codes have been registered, the turn signal lamp will flash 3 times.) — NG: return to "Press and hold the "UNLOCK" button…"

← OK

Do you want to register another multi-remote controller? (max. 4)
(If 4 controllers have been registered, you should turn the ignition switch to the ON position.)

Yes: return to "Press and hold the "UNLOCK" button…"

↓ No

Turn the ignition switch to the ON position.

→ If the multi-remote controller registration is performed correctly, the turn signal lamp will flash twice.
(If 4 ID codes have been registered, the turn signal lamp will not flash.) — NG: return to the start of "Activation of the registration mode"

← OK

Take the ignition key out of the ignition switch and confirm the functioning of all multi-remote controllers by locking and unlocking the vehicle with each of the multi-remote controllers.

↓

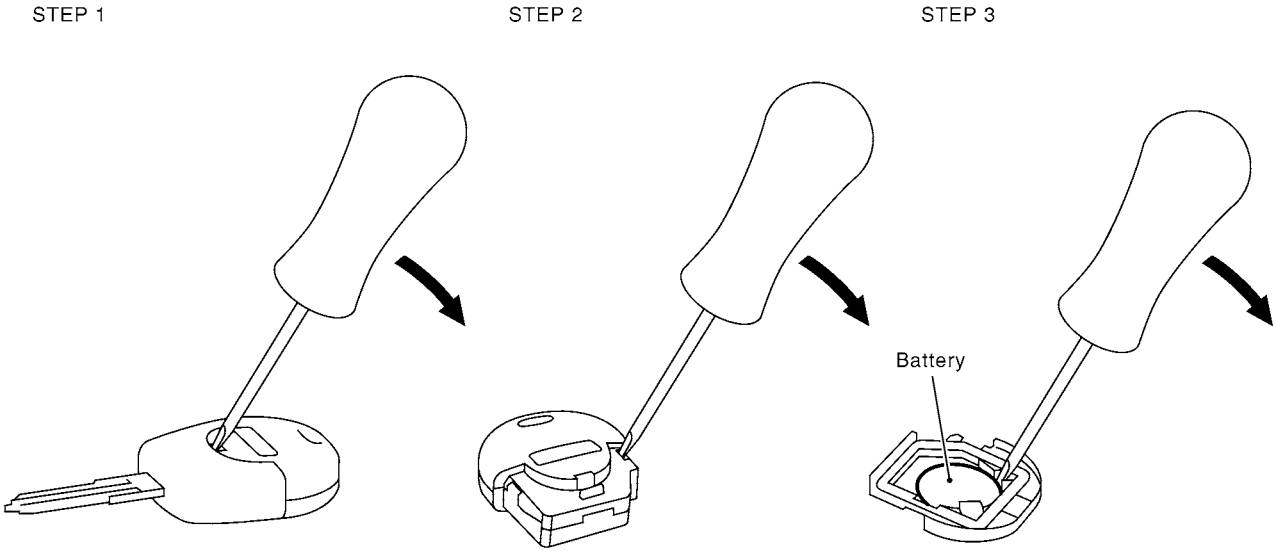
End

SEL497X

Remote Controller Battery Replacement

EIS001RI

NOTE:
- **Be careful not to touch the circuit board or battery terminal.**
- **The remote controller is water-resistant. However, if it does get wet, immediately wipe it dry.**
- **Push the remote controller button two or three times to check its operation after replacing battery.**



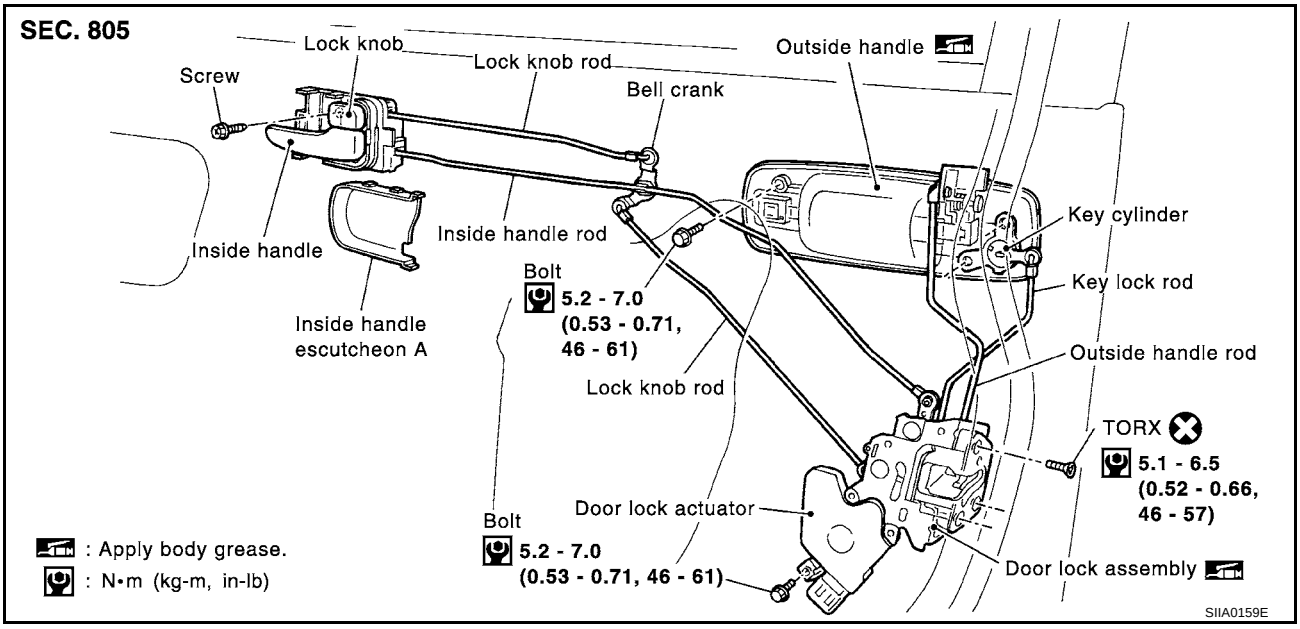
SEL241X

FRONT DOOR LOCK

PFP:80502

Component Parts Location

EIS000KV



Inspection and Adjustment

EIS000KW

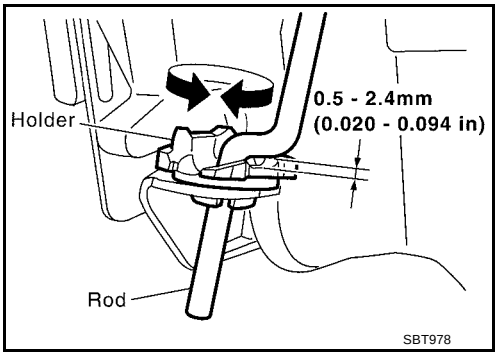
1. Remove door finisher. Refer to EI-23, "DOOR FINISHER" .
2. Remove sealing screen.

NOTE:
If sealing screen is reused, cut butyl tape in a way that leaves it on the sealing screen.

OUT SIDE HANDLE ROD ADJUSTMENT

- Rotate bushing to obtain the gap between bushing and rod (as shown in the figure).

NOTE:
The gap must not be 0 mm (0 in). The rod must not be held pressed against the bushing.



Removal and Installation

EIS000KX

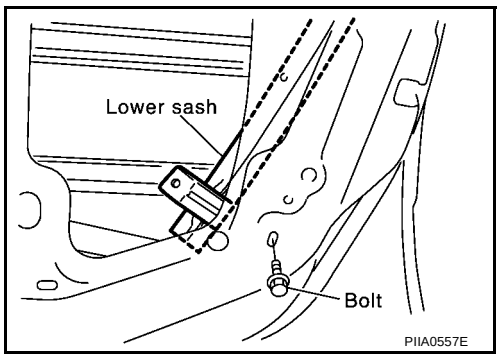
REMOVAL

1. Remove door finisher. Refer to EI-23, "DOOR FINISHER" .
2. Remove sealing screen.

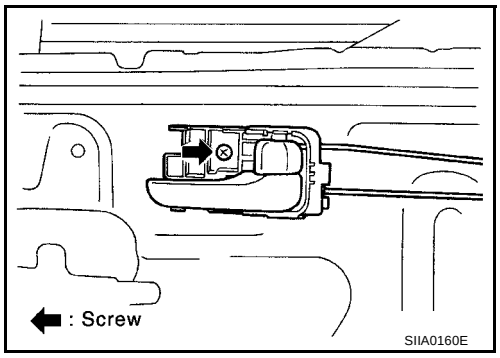
NOTE:
If sealing screen is reused, cut butyl tape in a way that leaves it on the sealing screen.

3. Remove front door glass. Refer toGW-44, "FRONT DOOR GLASS AND REGULATOR" .

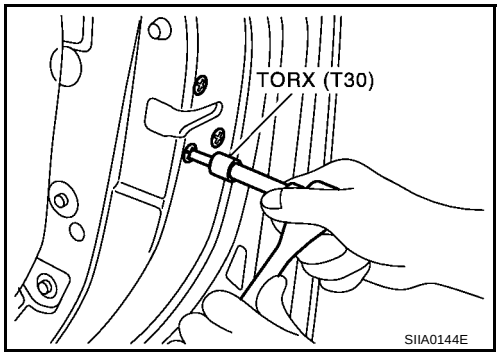
4. Remove mount bolts and pull upper portion of the rear lower sash out of the sash.
5. Remove inside handle escutcheon A.



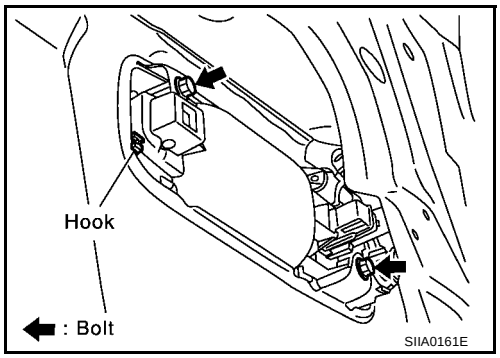
6. Remove inside handle mount screws.
7. Disconnect bell crank lock knob rod at the joints.
8. Disconnect inside handle rod (on the door lock assembly).
9. Slide inside handle rearward and remove it through the hole in the door panel.
10. Remove rod from the inside handle.
11. Working through the access hole, disconnect key cylinder rod and outside handle rod (on the handle) at the joint.



12. Disconnect door lock actuator connector.
13. Remove mount screw (TORX T30) and remove door lock assembly through the access hole.



14. Remove outside handle mount bolts and slide the outside handle rearward to pull the front end of the outside handle escutcheon from the outer panel. Remove outside handle.



INSTALLATION

Install in the reverse order of removal.

NOTE:

- Install the outside handle by pressing it forward and downward while tightening the bolts.
- Install each rod by rotating the rod holder until it engages with a tactile feel.

Disassembly and Assembly

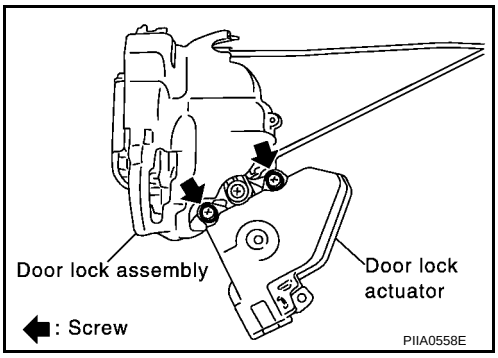
EIS000KY

DISASSEMBLY

NOTE:

The door lock actuator must be removed and installed with the door lock assembly off the vehicle.

1. Remove mount screws and door lock actuator from door lock assembly.
2. Pull the door lock actuator straight down to separate it from door lock assembly.



ASSEMBLY

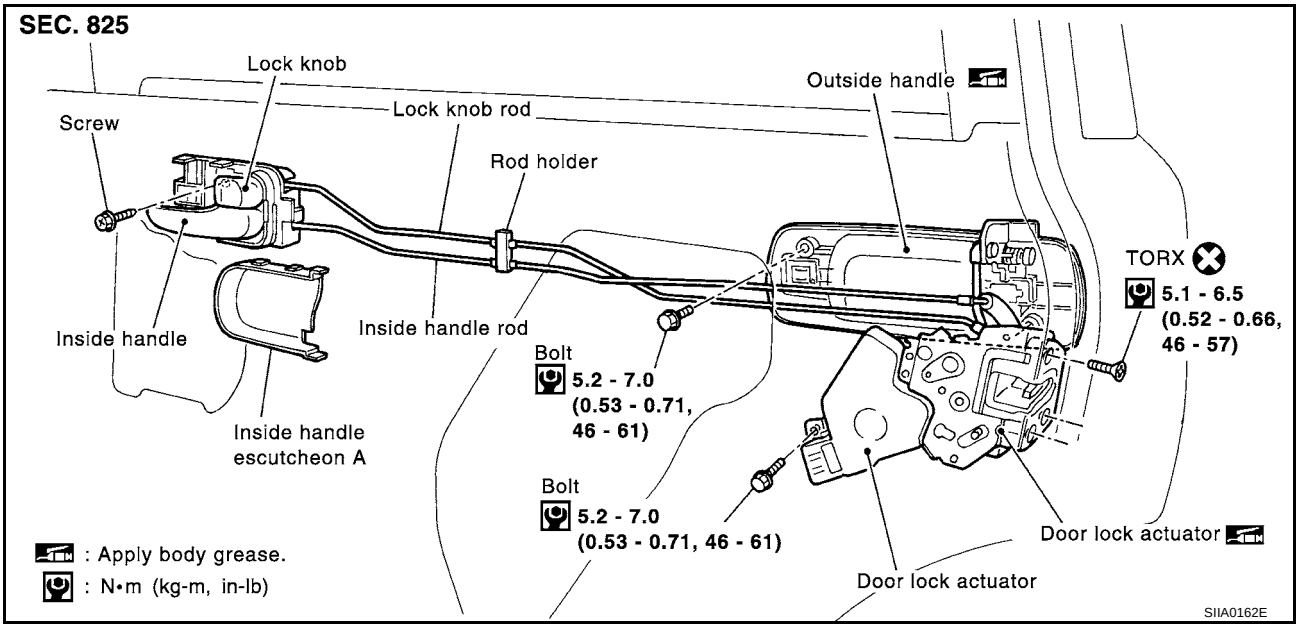
1. Align door lock actuator pivot with the door lock assembly knob lever cutout.
2. Move the knob lever and door lock actuator pivot toward the LOCK position to ensure that they are securely engaged.

REAR DOOR LOCK

PFP:82502

Component Parts Location

EIS000KZ



Inspection and Adjustment

EIS000L0

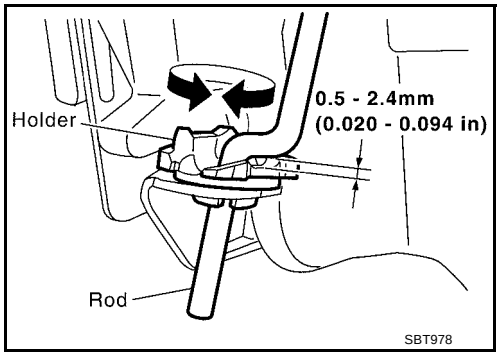
1. Remove rear door finisher. Refer to EI-23, "DOOR FINISHER" .
2. Remove sealing screen.

NOTE:
If sealing screen is reused, cut butyl tape in a way that leaves it on the sealing screen.

OUT SIDE HANDLE ROD ADJUSTMENT

Rotate bushing to obtain the gap between bushing and rod (as shown in the figure).

NOTE:
The gap must not be 0 mm (0 in). The rod must not be held pressed against the bushing.



Removal and Installation

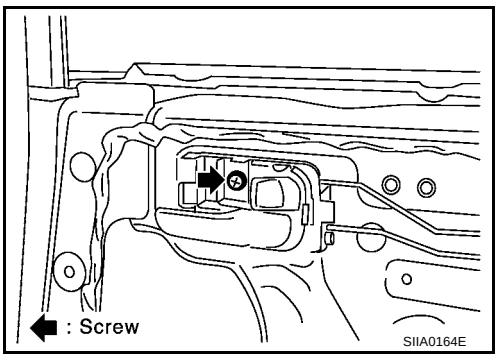
EIS000L1

REMOVAL

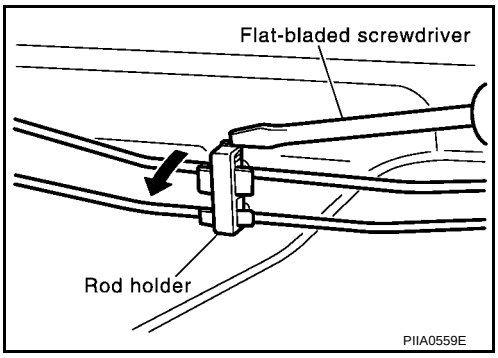
1. Remove rear door finisher. Refer to EI-23, "DOOR FINISHER" .
2. Remove sealing screen.

   NOTE:
   If sealing screen is reused, cut butyl tape in a way that leaves it on the sealing screen.
3. Remove rear lower sash. Refer to GW-46, "REAR DOOR GLASS AND REGULATOR" .
4. Remove rear door glass. Refer to GW-46, "REAR DOOR GLASS AND REGULATOR" .
5. Remove inside handle escutcheon A.

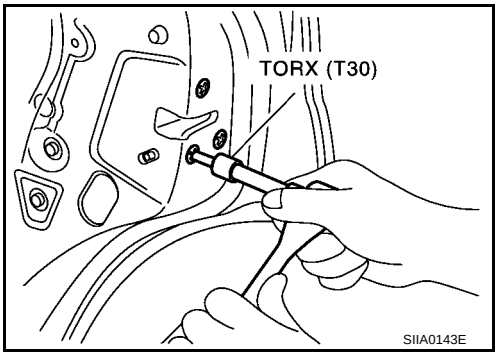
6. Remove inside handle mount screws.
7. Disconnect inside handle rod (on the door lock assembly).
8. Disconnect lock knob rod (on the door lock assembly).



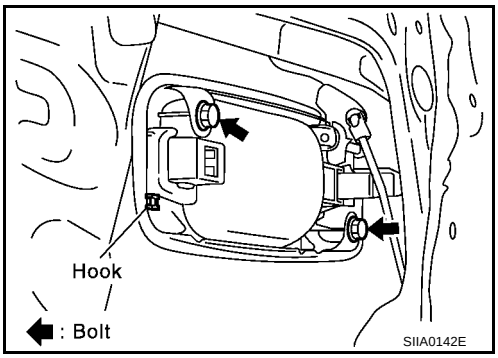
9. Pry rod holder off with a slotted screwdriver to remove rod.
10. Slide inside handle rearward and remove it through the hole in the door panel.
11. Remove rod from the inside handle.
12. Disconnect door lock actuator connector.



13. Remove mount screw (TORX T30) and remove door lock assembly through the access hole.



14. Remove outside handle mount bolts. Slide outside handle rearward to pull front end of the outside handle escutcheon from the outer panel. Remove outside handle.



INSTALLATION

Install in the reverse order of removal.

NOTE:

- Install the outside handle by pressing it forward and downward while tightening the bolts.
- Install each rod by rotating the rod holder until it engages with a tactile feel.

Disassembly and Assembly

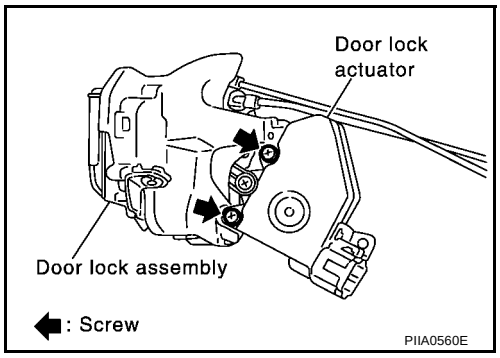
EIS000L2

DISASSEMBLY

NOTE:

The door lock actuator must be removed and installed with the door lock assembly off the vehicle.

1. Remove mount screws and door lock actuator from door lock assembly.
2. Pull the door lock actuator straight down to separate it from door lock assembly.



ASSEMBLY

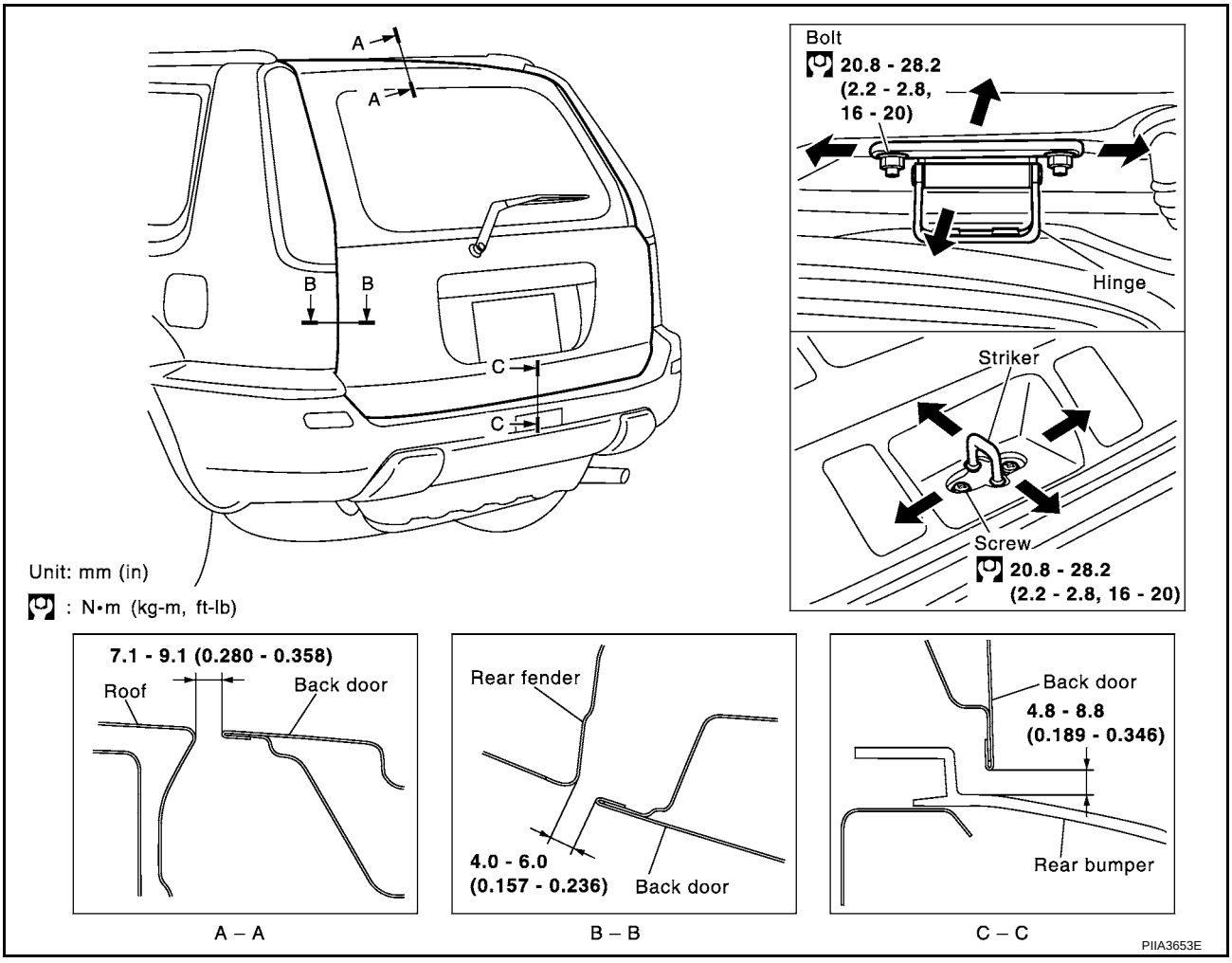
1. Align door lock actuator pivot with the door lock assembly knob lever cutout.
2. Move the knob lever and door lock actuator pivot toward the LOCK position to ensure that they are securely engaged.

BACK DOOR

PFP:90100

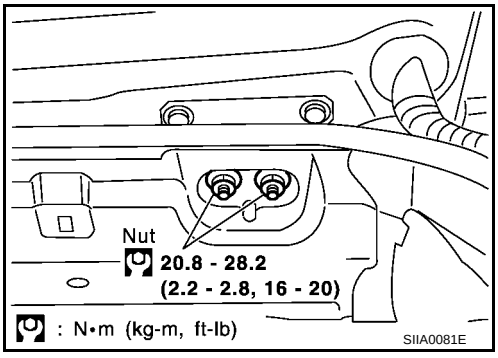
Fitting Adjustment

EIS000LF



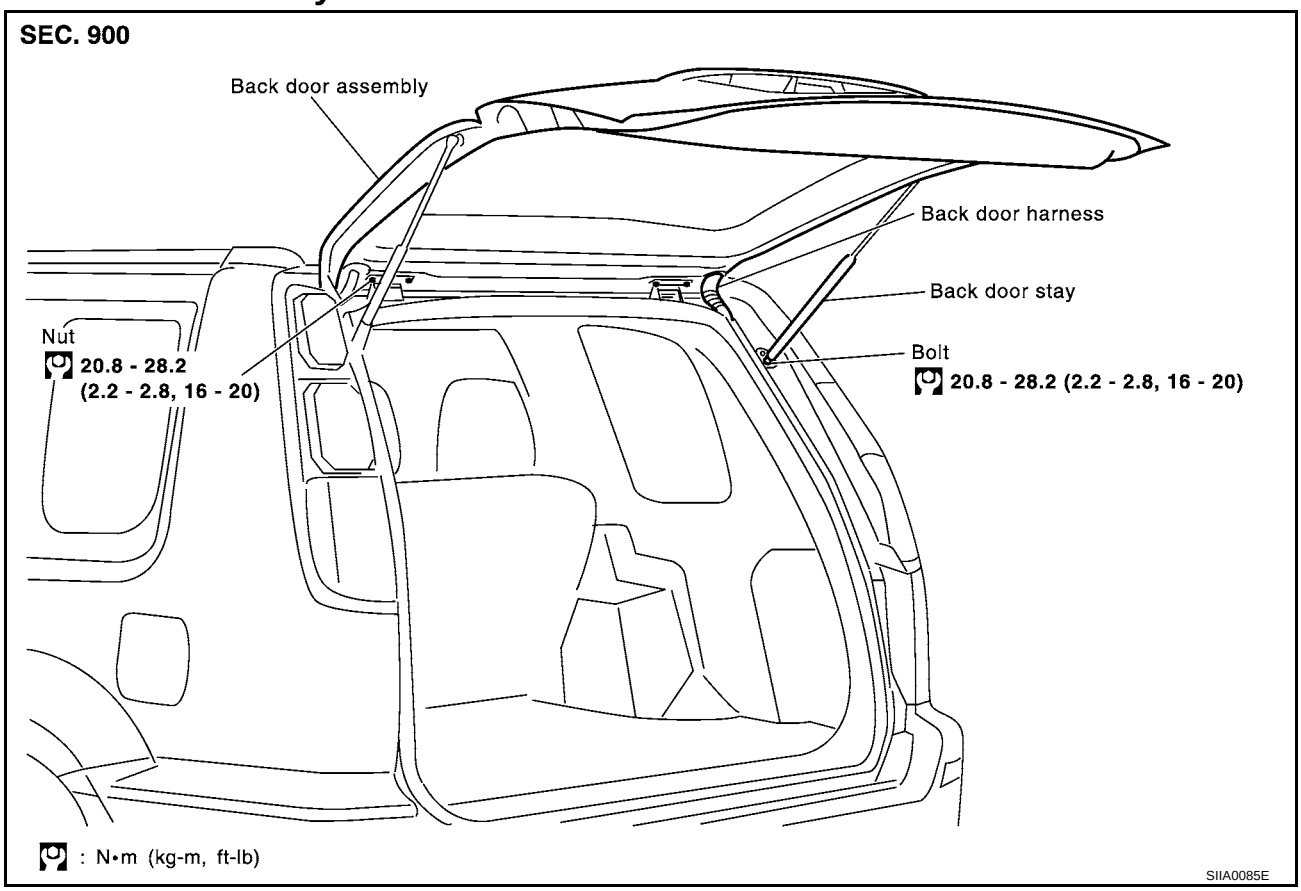
VERTICAL/LATERAL CLEARANCE ADJUSTMENT

1. With striker removed, loosen hinge mount nuts on the back door and close it.
2. Make lateral clearance and clearance to rear window glass equal. Open back door to tighten mounting bolts to specified torque.
3. If taking the steps above does not result in fine adjustment, remove headliner and loosen the hinge mount nuts on the vehicle for further adjustment.



Back Door Assembly

EIS000LG

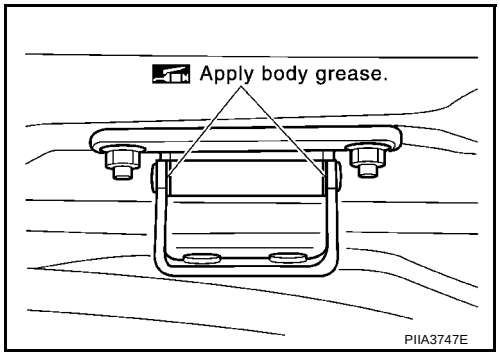


REMOVAL AND INSTALLATION

1. Disconnect connectors in the back door and encamp the harness. Pull the harness out of the back door.
2. Support the back door lock with a proper material to prevent it from falling and remove back door stay (gas stay).
3. Remove hinge mount nuts on the back door and remove back door assembly.

INSPECTION

1. Check hinges for the following items
   - Abnormal noise or door closing and opening effort
   - Component wear or damage
2. Apply Body Grease to the rotating part of the hinge.



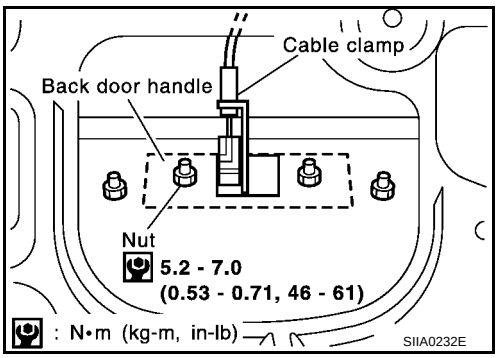
Removal and Installation of Back Door Handle

EIS0015D

1. Remove back door trim. Refer to EI-25, "BACK DOOR TRIM" .

2. Remove license lamp finisher. Refer to EI-22, "LICENSE LAMP FINISHER" .
3. Remove cable clamp and remove cable from the back door handle.
4. Remove mount nuts and back door handle.

Install in the reverse order of removal.

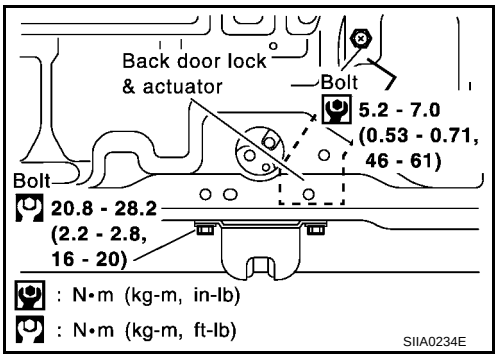


Removal and Installation of Back Door Lock and Actuator

EIS000LI

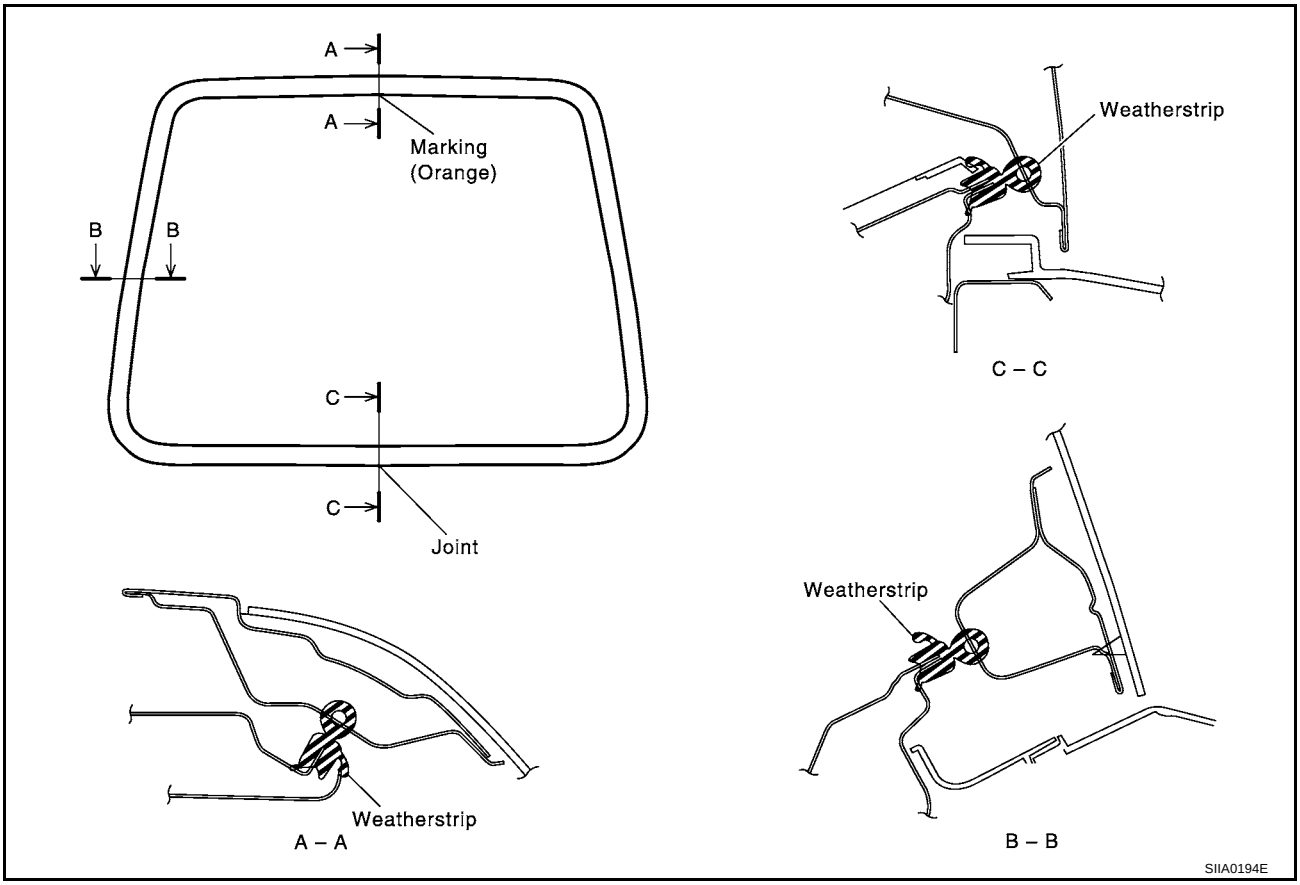
1. Remove back door trim. Refer to EI-25, "BACK DOOR TRIM" .
2. Disconnect back door lock & actuator connector.
3. Remove bolts from the back door lock and actuator and remove back door lock & actuator.

Install in the reverse order of removal.



Removal and Installation of Back Door Weatherstrip

EIS000LJ



1. Working from the upper section, align weatherstrip mark with vehicle center position mark and install weatherstrip onto the back door.
2. For the lower section, align the weatherstrip seam with center of the striker.
3. After installation, pull the weatherstrip gently to ensure that there is no loose section.

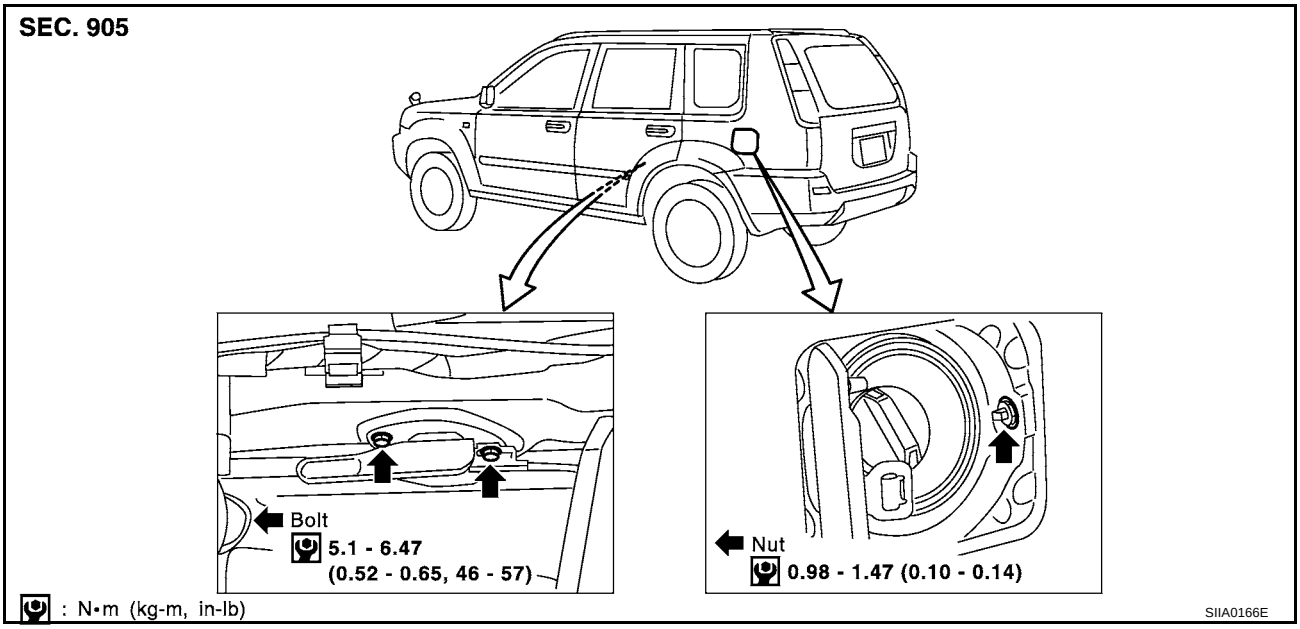
NOTE:
Make sure the weatherstrip is fit tightly at each corner and back door rear plate.

FUEL FILLER LID OPENER

PFP:78820

Component Parts Location

EIS000LK



THEFT WARNING SYSTEM

PFP:25362

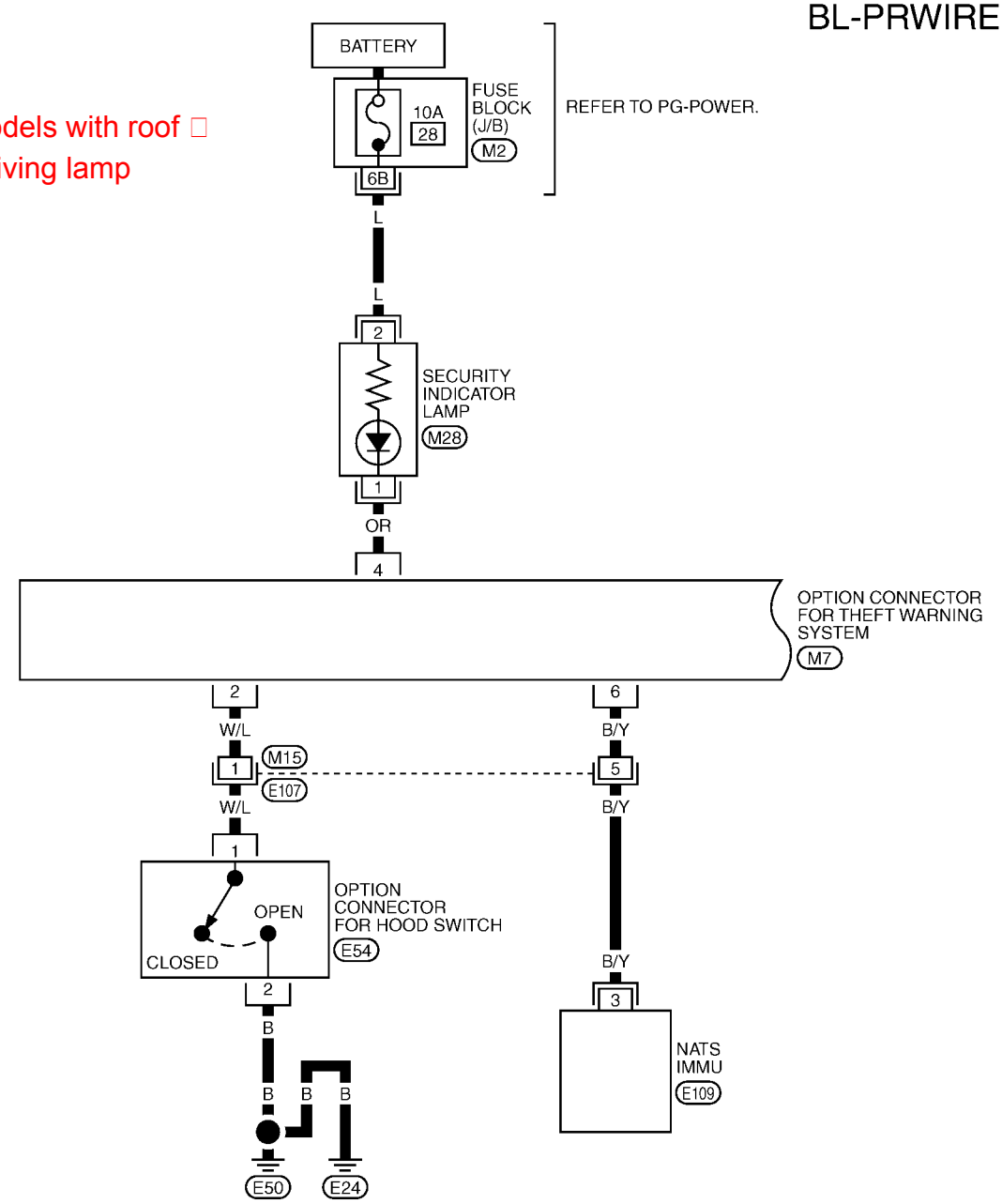
Wiring Diagram — THEFT —/PRI-WIRE

EIS001RM

LHD MODELS

BL-PRWIRE-01

SMA for models with roof □ mounted driving lamp

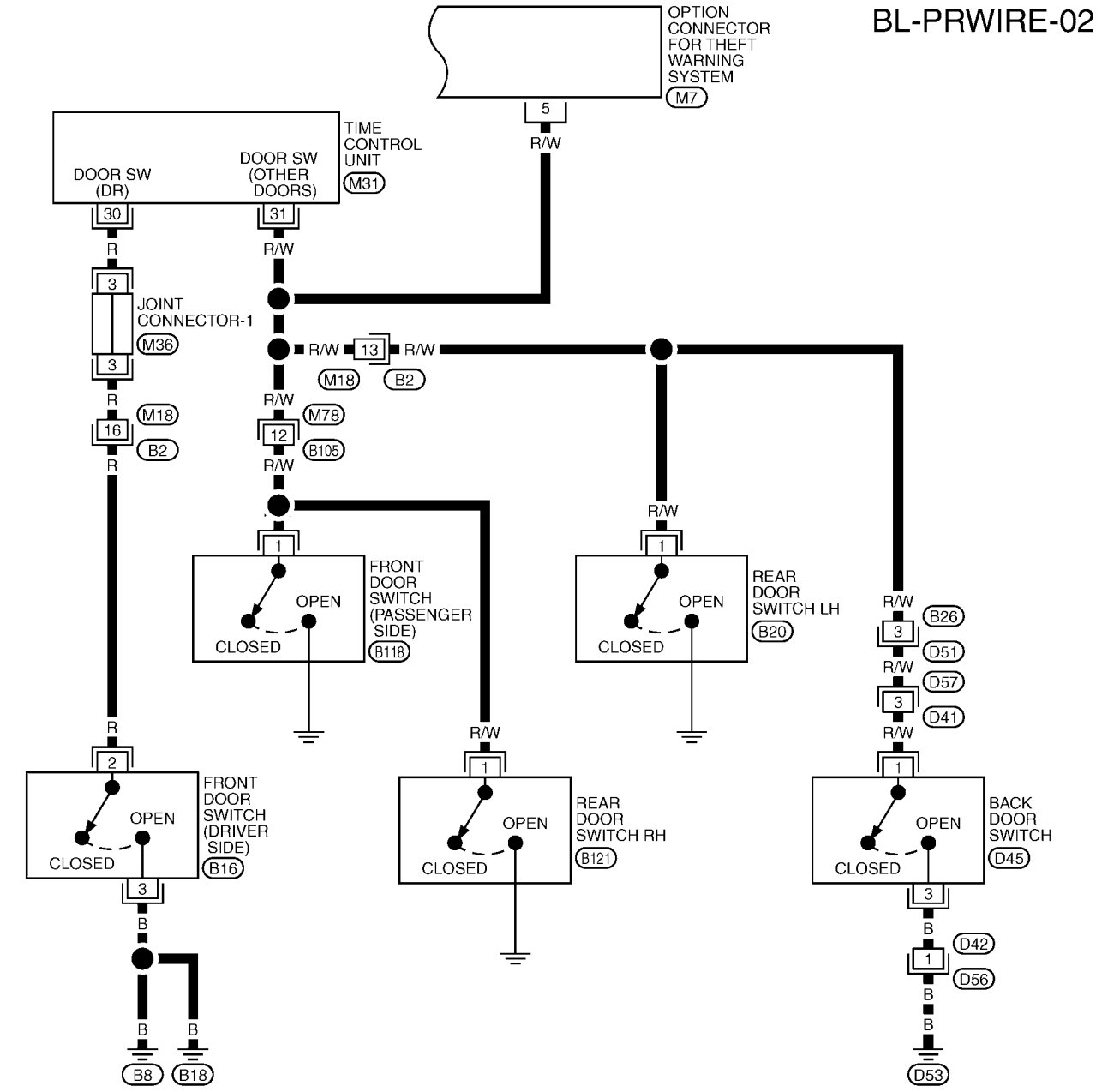


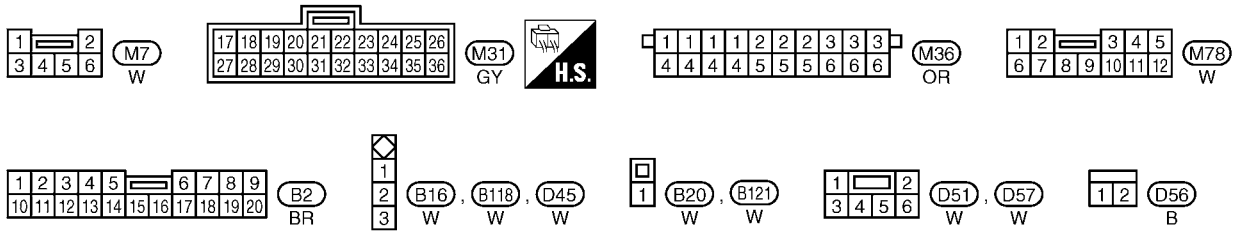
REFER TO THE FOLLOWING.

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

TIWA0021E

BL-PRWIRE-02

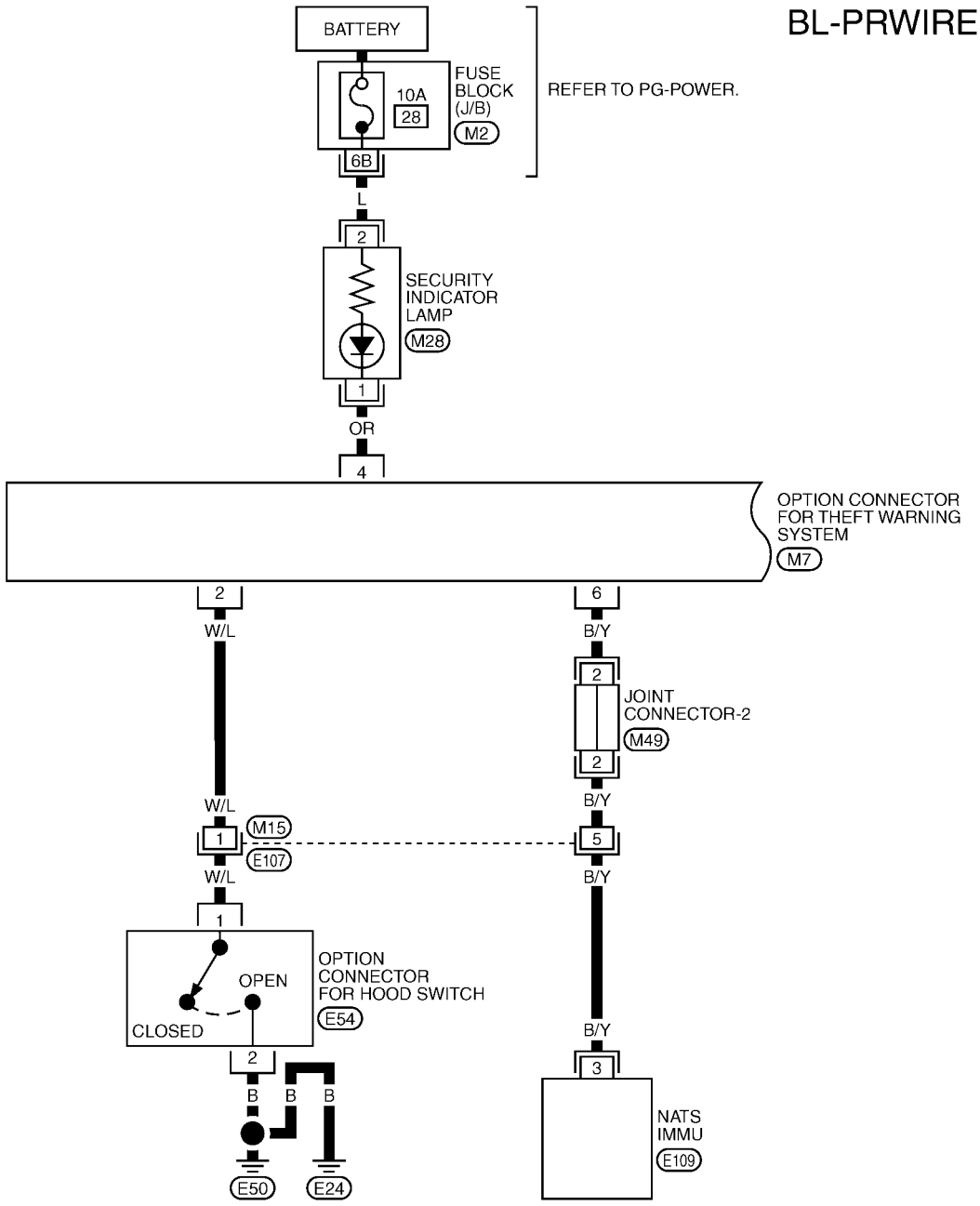


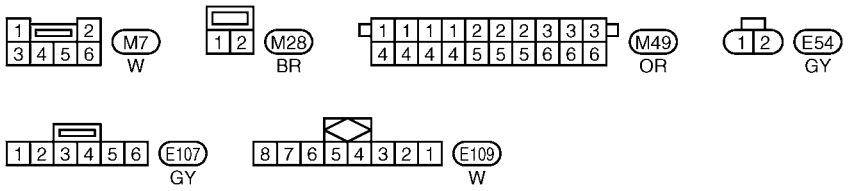


TIWA0022E

RHD MODELS

BL-PRWIRE-03

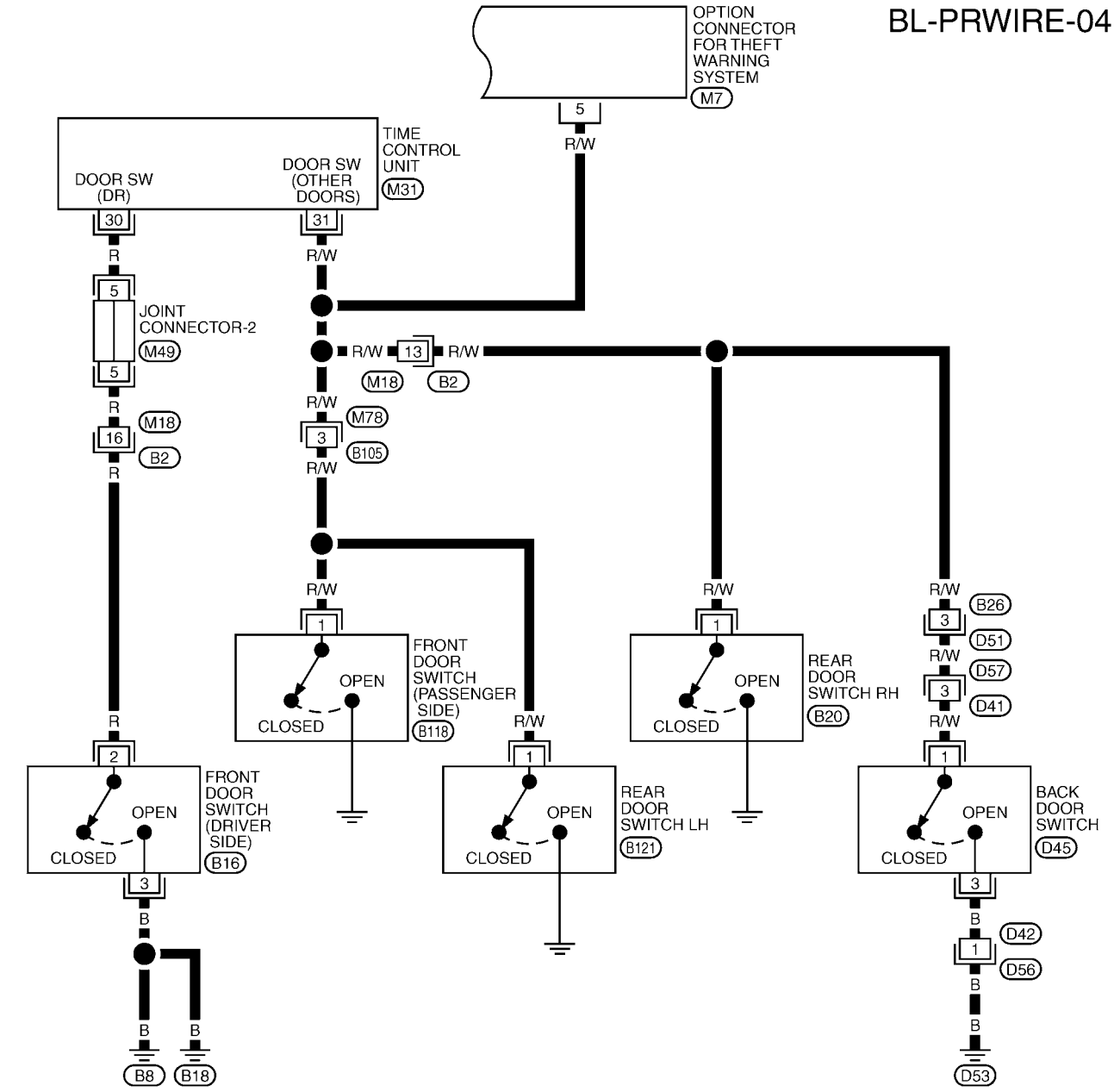




REFER TO THE FOLLOWING.

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

TIWA0023E


BL-PRWIRE-04
OPTION CONNECTOR FOR THEFT WARNING SYSTEM
M7
5
R/W
TIME CONTROL UNIT
M31
DOOR SW (DR)
DOOR SW (OTHER DOORS)
30
31
R
R/W
5
JOINT CONNECTOR-2
M49
5
R
16
M18
B2
R
R/W
13
M18
B2
R/W
M78
3
B105
R/W
R/W
1
FRONT DOOR SWITCH (PASSENGER SIDE)
B118
OPEN
CLOSED
R/W
1
REAR DOOR SWITCH RH
B20
OPEN
CLOSED
R/W
3
B26
D51
R/W
D57
3
D41
R/W
1
BACK DOOR SWITCH
D45
OPEN
CLOSED
R
2
FRONT DOOR SWITCH (DRIVER SIDE)
B16
OPEN
CLOSED
3
B
B
B8
B
B18
R/W
1
REAR DOOR SWITCH LH
B121
OPEN
CLOSED
3
B
D42
1
D56
B
B
D53
M7
W
M31
GY
H.S.
M49
OR
M78
W
B2
BR
B16
W
B118
W
D45
W
B20
W
B121
W
D51
W
D57
W
D56
B

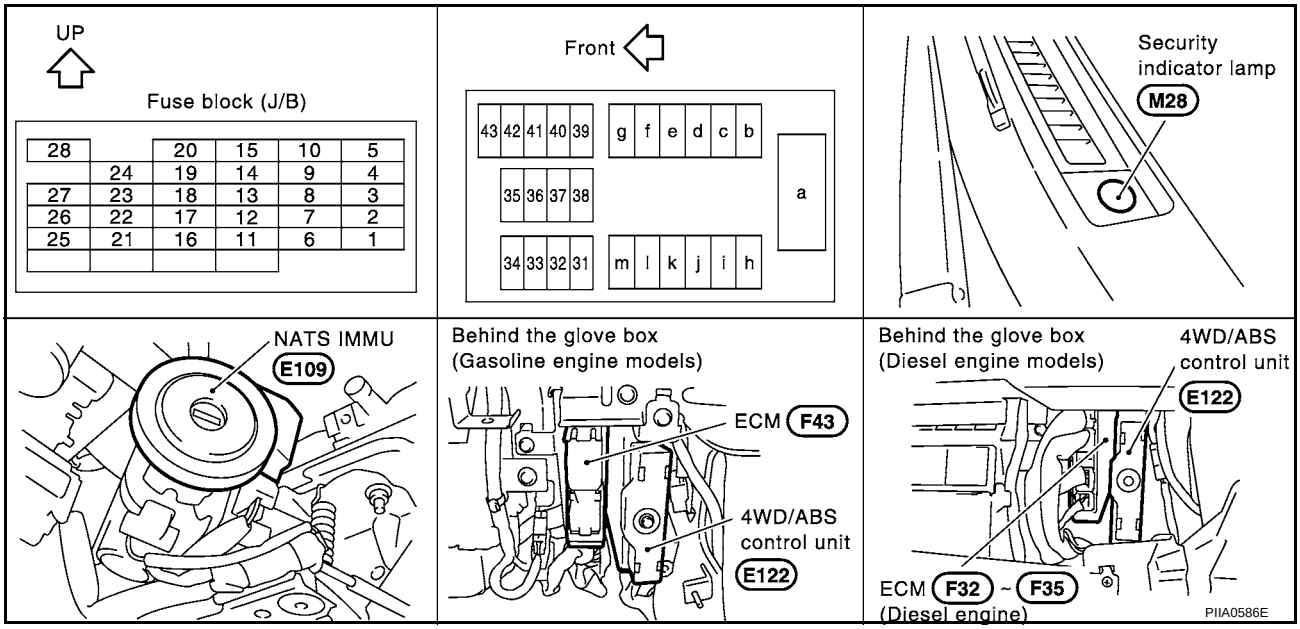
TIWA0024E

NATS (NISSAN ANTI-THEFT SYSTEM)

PFP:25386

Component Parts and Harness Connector Location

EIS001RQ



System Description

EIS001RR

NATS (Nissan Anti-Theft System) has the following immobilizer functions:

- Since only NATS ignition keys, whose ID nos. have been registered into the ECM and IMMU of NATS, allow the engine to run, operation of a stolen vehicle without a NATS registered key is prevented by NATS.
  That is to say, NATS will immobilize the engine if someone tries to start it without the registered key of NATS.
- This version of NATS has dongle unit to improve its anti-theft performance (RHD models). Dongle unit has its own ID which is registered into NATS IMMU. So if dongle unit is replaced, initialization must be carried out.
- When malfunction of dongle unit is detected:
  The security indicator lamp illuminates for about 15 minutes after ignition switch is turned to ON.
  - When dongle unit has a malfunction and the indicator lamp is illuminated, engine can not be started. However engine can be started only one time when security indicator lamp turns off in about 15 minutes after ignition switch is turned to ON.
- All of the originally supplied ignition key IDs have been NATS registered.
  If requested by the vehicle owner, a maximum of five key IDs can be registered into the NATS components.
- The security indicator blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- When NATS detects trouble, the security indicator lamp lights up as follows.

Condition IGN ON and	With dongle		Without dongle	
	MIL	Security indicator	MIL	Security indicator
NATS malfunction (except dongle unit) is detected	—	1. 6 times blinking 2. Staying ON after ignition switch is turned ON	—	Staying ON
Only malfunction of dongle unit is detected.	—	Staying ON for about 15 minutes after ignition switch is turned ON	—	—
Malfunction of NATS and engine related parts are detected.	Staying ON	1. 6 times blinking 2. Staying ON after ignition switch is turned ON	Staying ON	Staying ON
Only engine related part malfunction is detected.	Staying ON	—	Staying ON	—
Just after initialization of NATS	—	6 times blinking	—	—

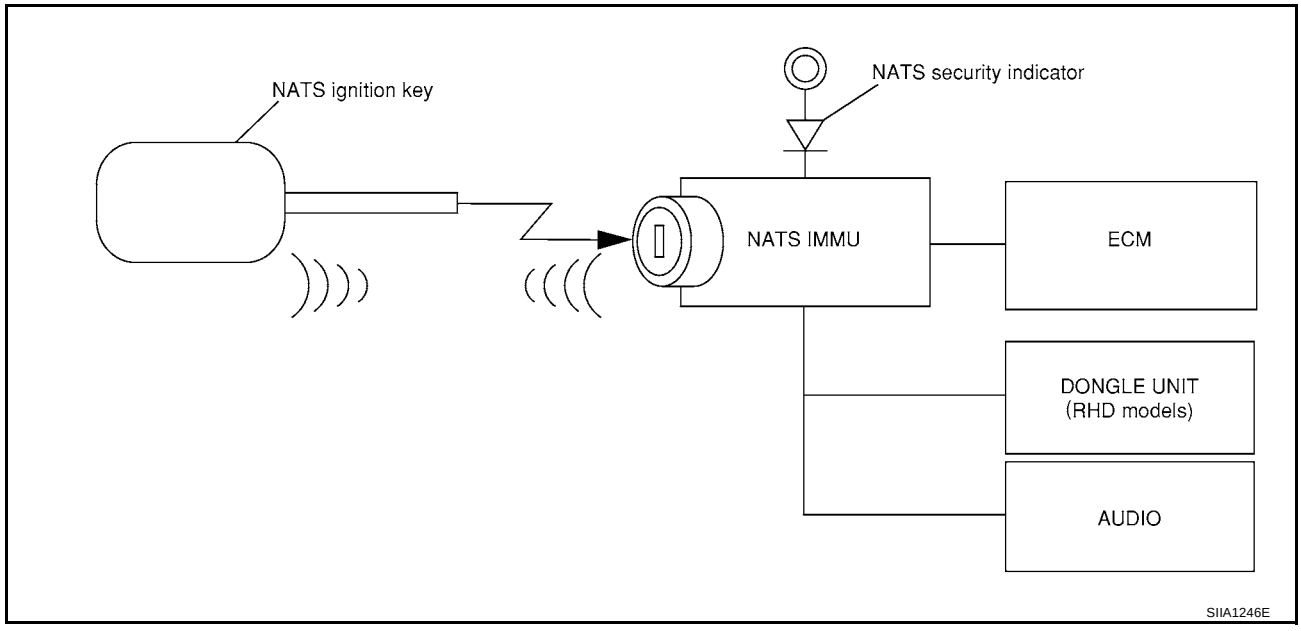
- NATS trouble diagnoses, system initialization and additional registration of other NATS ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NATS software.
  Regarding the procedures of NATS initialization and NATS ignition key ID registration, refer to CONSULT-II operation manual, NATS.
- **When servicing a malfunction of the NATS (indicated by lighting up of Security Indicator Lamp) or registering another NATS ignition key ID no., it may be necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**

System Composition

EIS001RS

The immobilizer function of the NATS consists of the following:

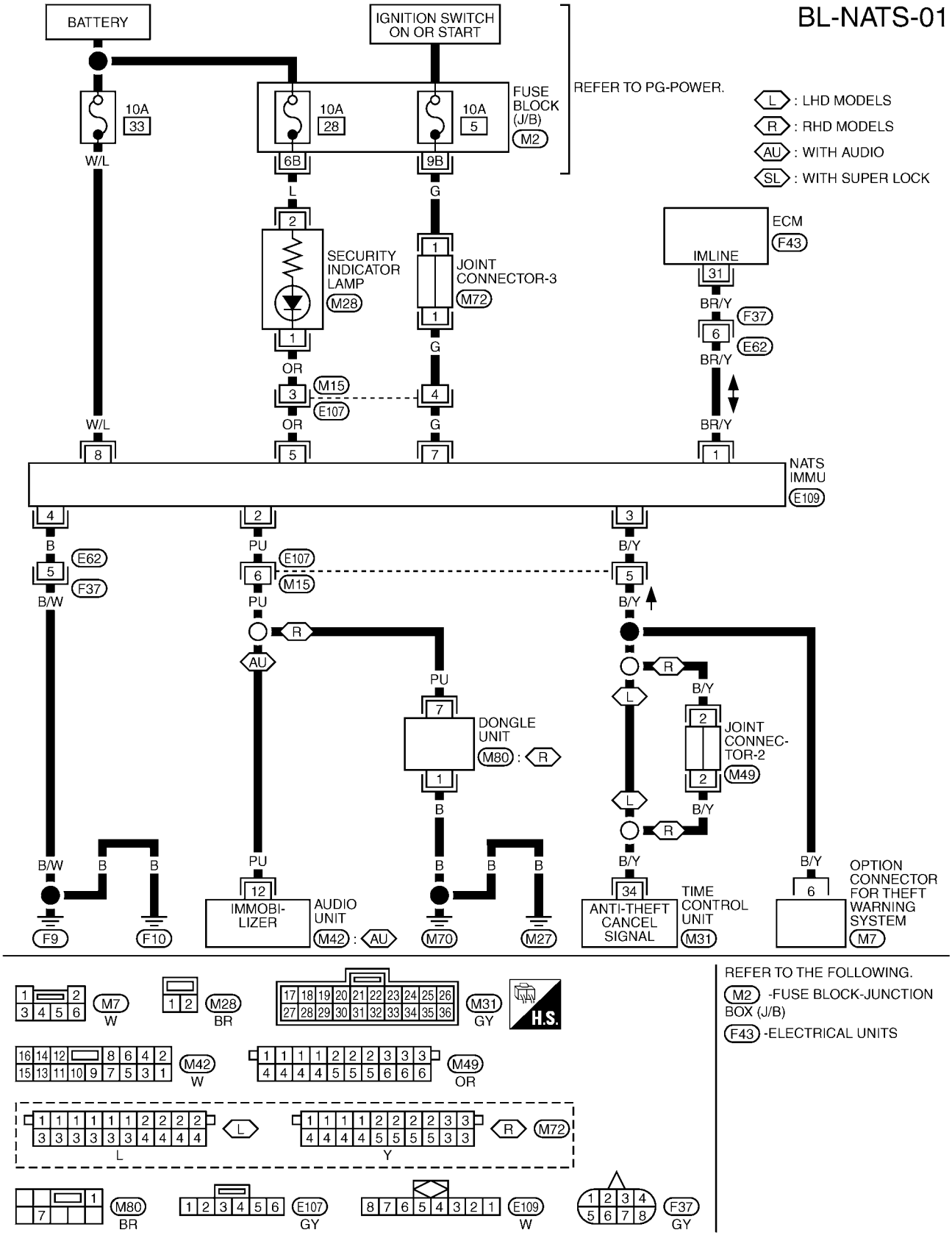
- NATS ignition key
- NATS immobilizer control unit (IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- Dongle unit (RHD models)
- Security indicator



Wiring Diagram — NATS —
GASOLINE ENGINE MODELS

SMA for models with roof mounted driving lamp

EIS001RT

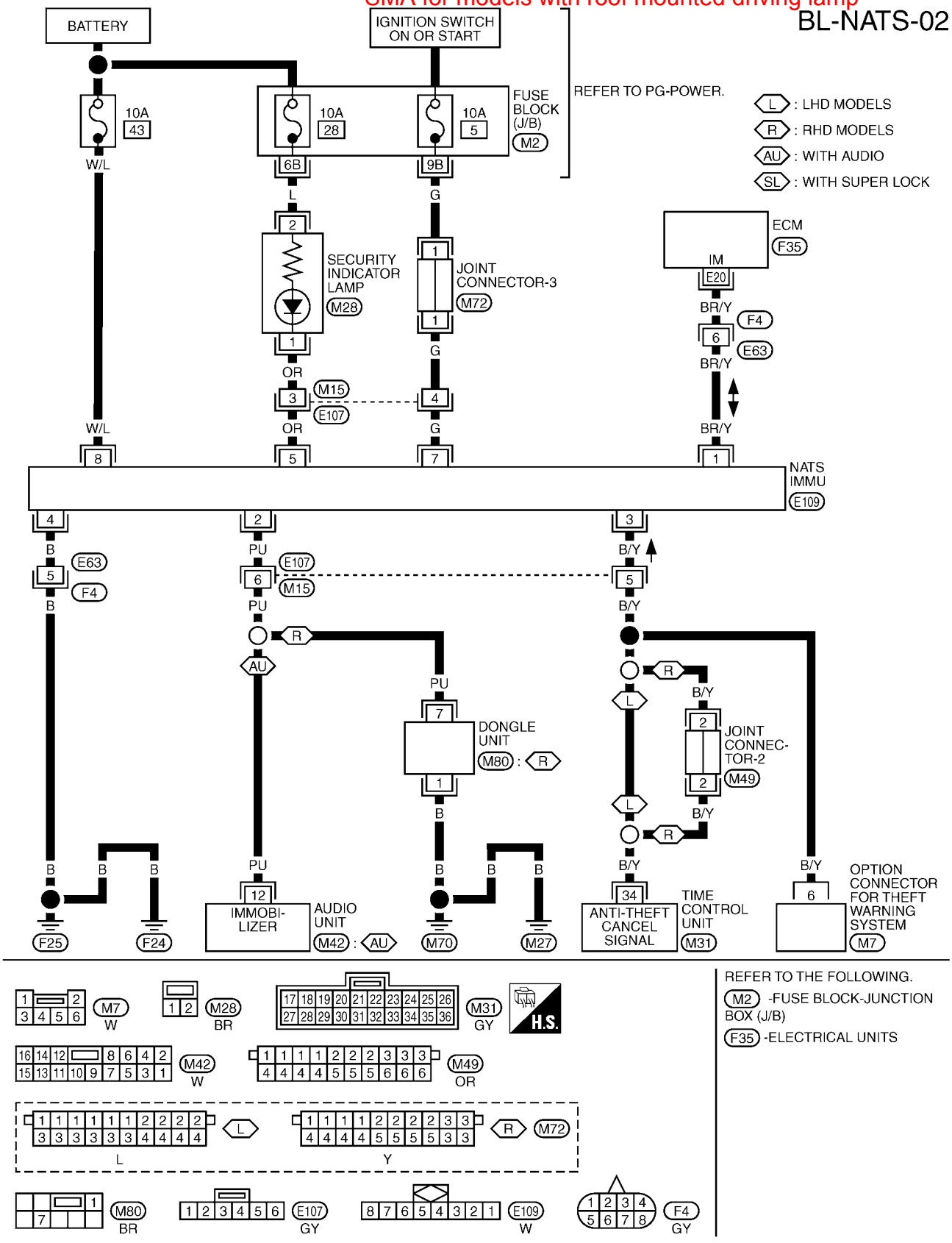


TIWA0025E

DIESEL ENGINE MODELS

SMA for models with roof mounted driving lamp

BL-NATS-02



TIWA0026E

CONSULT-II

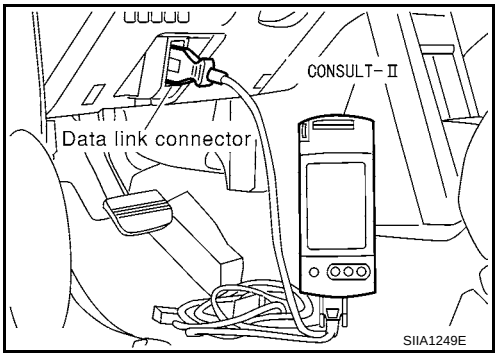
EIS001RW

CONSULT-II INSPECTION PROCEDURE

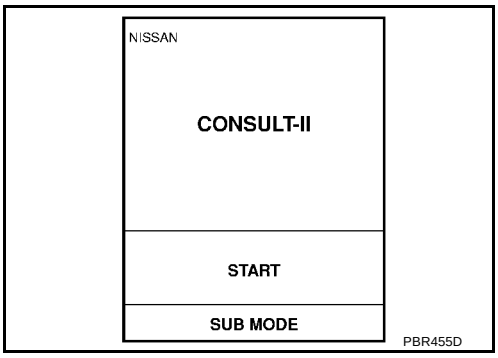
1. Turn ignition switch OFF.
2. Insert NATS program card into CONSULT-II.

   Program card : NATS (AEN00B)

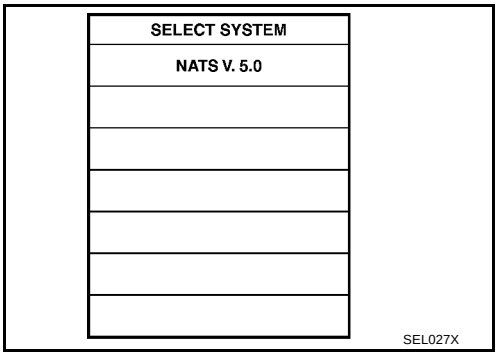
3. Connect CONSULT-II to data link connector.



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

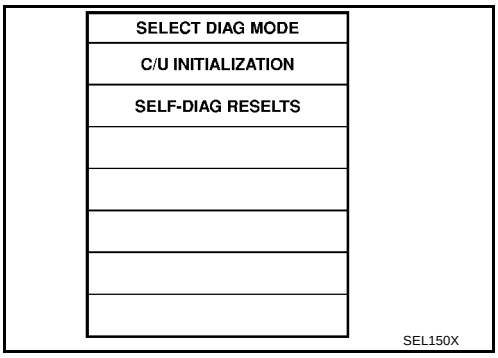


6. Select “NATS V.5.0”.
   If "NATS V5.0" is not indicated go to GI-34, "CONSULT-II Data Link Connector (DLC) Circuit" .



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

For further information, see the CONSULT-II Operation Manual, NATS.



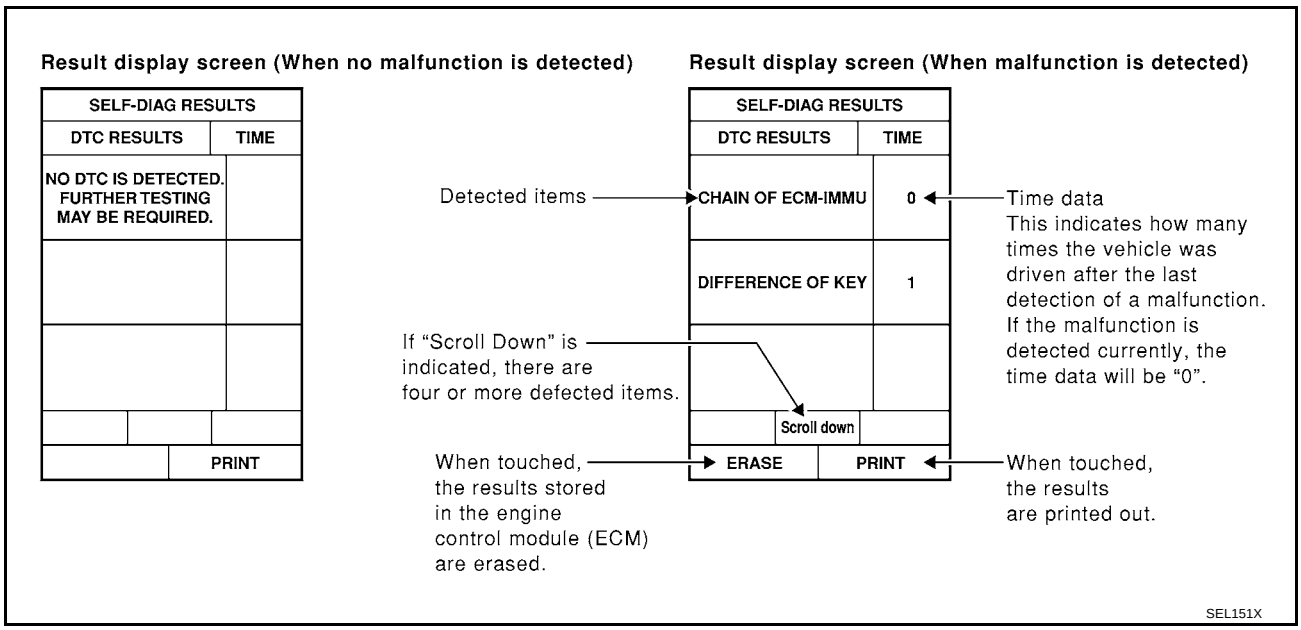
CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following components, C/U initialization and re-registration of all NATS ignition keys are necessary. [NATS ignition key/IMMU/ECM/Dongle unit]
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart. BL-86, "NATS SELF-DIAGNOSTIC RESULTS ITEM CHART"

NOTE:

- **When any initialization is performed, all ID previously registered will be erased and all NATS ignition keys must be registered again.**
- The engine cannot be started with an unregistered key. In this case, the system may show “DIFFERENCE OF KEY” or “LOCK MODE” as a self-diagnostic result on the CONSULT-II screen.
- When initialization is performed for RHD models, security indicator will flash six times to demonstrate recognition of the dongle unit ID.
- In rare case, “CHAIN OF ECM-IMMU” might be stored as a self-diagnostic result during key registration procedure, even if the system is not malfunctioning.

HOW TO READ SELF-DIAGNOSTIC RESULTS



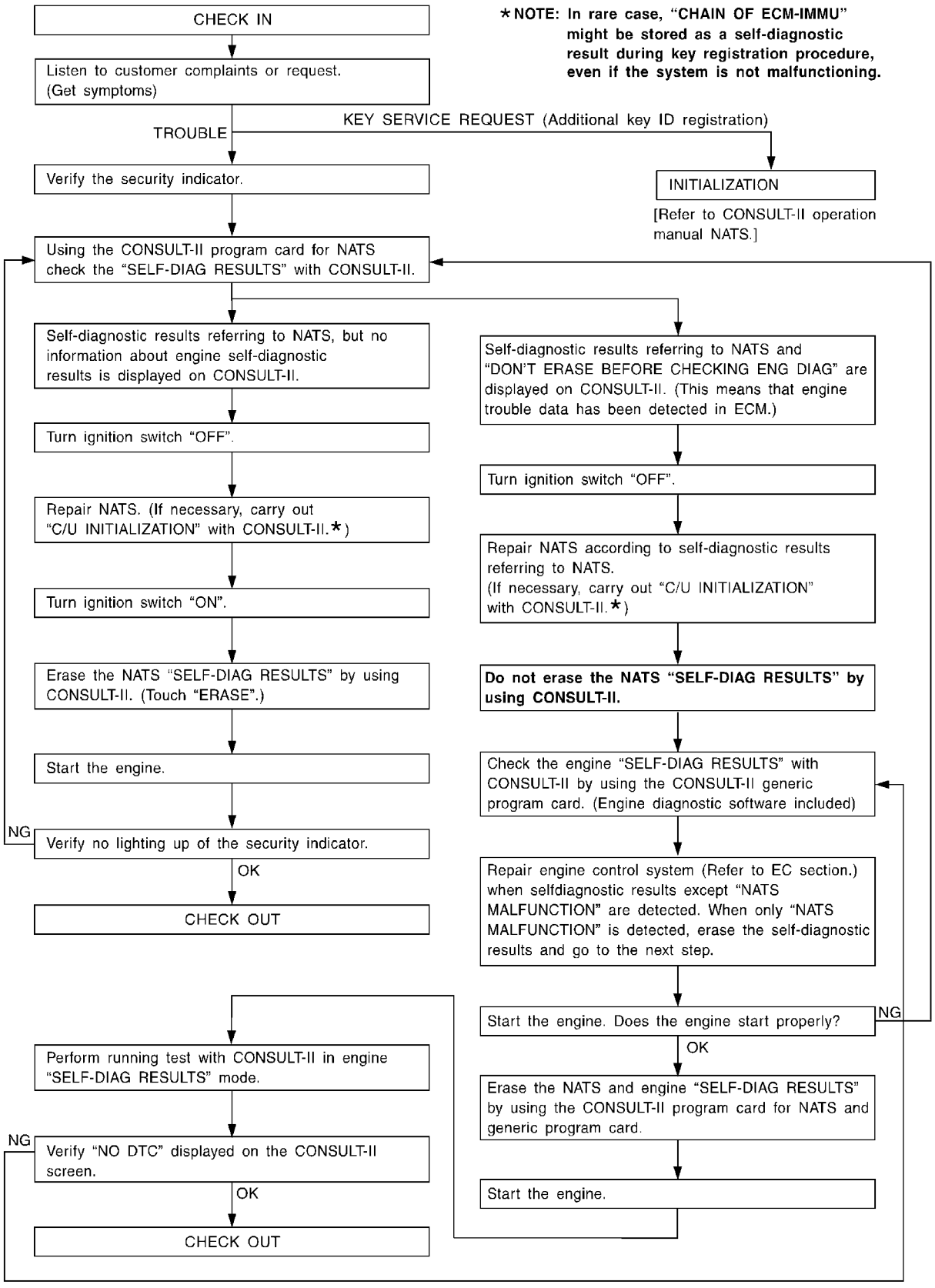
NATS SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of “ENGINE”	Malfunction is detected when.....	Reference page
ECM INT CIRC-IMMU	NATS MALFUNCTION P1613	The malfunction of ECM internal circuit of IMMU communication line is detected.	BL-91
CHAIN OF ECM-IMMU	NATS MALFUNCTION P1612	Communication impossible between ECM and IMMU (In rare case, “CHAIN OF ECM-IMMU” might be stored during key registration procedure, even if the system is not malfunctioning.)	BL-91
DIFFERENCE OF KEY	NATS MALFUNCTION P1615	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	BL-94
CHAIN OF IMMU-KEY	NATS MALFUNCTION P1614	IMMU cannot receive the key ID signal.	BL-95
ID DISCORD, IMM-ECM	NATS MALFUNCTION P1611	The result of ID verification between IMMU and ECM is NG. System initialization is required.	BL-96

Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of “ENGINE”	Malfunction is detected when.....	Reference page
LOCK MODE	NATS MAL-FUNCTION P1610	When the starting operation is carried out five or more times consecutively under the following conditions, NATS will shift the mode to one which prevents the engine from being started. ● Unregistered ignition key is used. ● IMMU or ECM's malfunctioning.	BL-98
DON'T ERASE BEFORE CHECK-ING ENG DIAG	—	All engine trouble codes except NATS trouble code has been detected in ECM.	BL-88

Work Flow

EIS001T6



SEL729WE

Trouble Diagnoses

EIS001RX

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 SYSTEM DIAGRAM
● Security indicator lighting up* ● Engine cannot be started	ECM INT CIRC-IMMU	PROCEDURE 1 (BL-91)	ECM	B
	CHAIN OF ECM-IMMU	PROCEDURE 2 (BL-91)	In rare case, “CHAIN OF ECM-IMMU” might be stored during key registration procedure, even if the system is not malfunctioning.	—
			Open circuit in battery voltage line of IMMU circuit	C1
			Open circuit in ignition line of IMMU circuit	C2
			Open circuit in ground line of IMMU circuit	C3
			Open circuit in communication line between IMMU and ECM	C4
			Short circuit between IMMU and ECM communication line and battery voltage line	C4
			Short circuit between IMMU and ECM communication line and ground line	C4
			ECM	B
			IMMU	A
	DIFFERENCE OF KEY	PROCEDURE 3 (BL-94)	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 4 (BL-95)	Malfunction of key ID chip	E
			IMMU	A
			Open circuit in ground line of dongle unit circuit	C6
			Open or short circuit in line between IMMU and dongle unit	C5
			Dongle unit	G
	ID DISCORD, IMM-ECM	PROCEDURE 5 (BL-96)	System initialization has not yet been completed.	F
			ECM	B
	LOCK MODE	PROCEDURE 7 (BL-98)	LOCK MODE	D
● MIL staying ON ● Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (BL-88)	Engine trouble data and NATS trouble data have been detected in ECM	—

*: When NATS detects trouble, the security indicator lights up while ignition key is in the “ON” position.

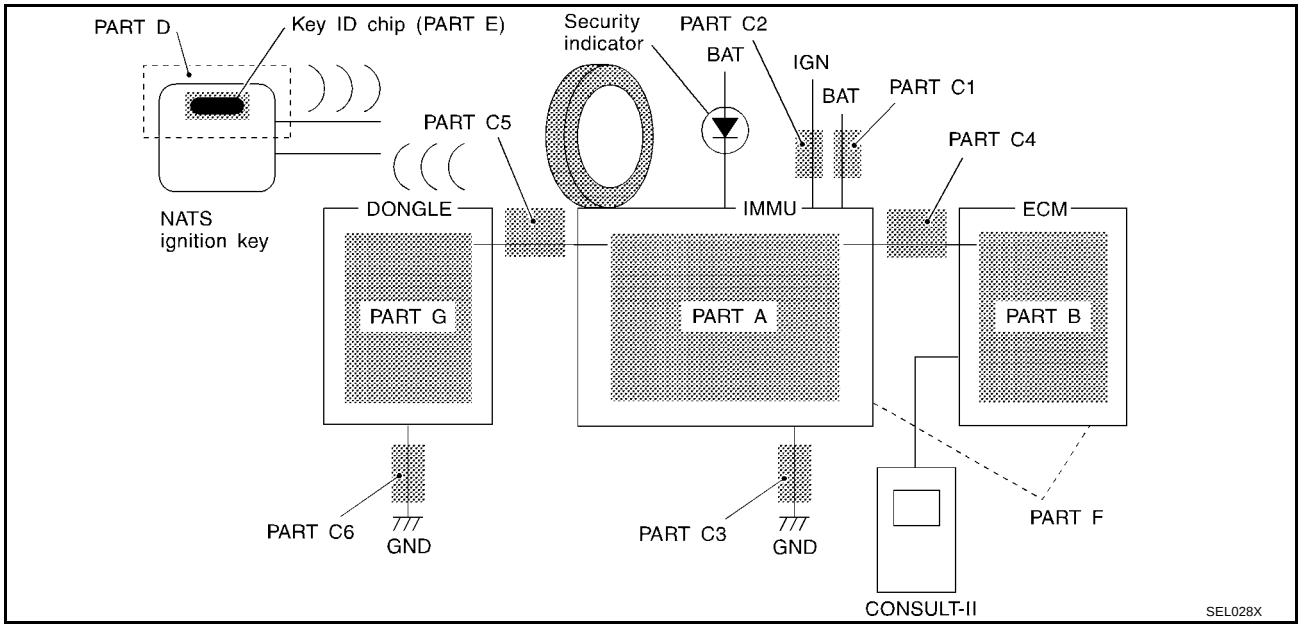
*: When the vehicle is equipped with a dongle unit (RHD models), the security indicator blinks 6 times just after the ignition switch is turned to ON. Then the security indicator lights up while the ignition key is in the “ON” position.

SYMPTOM MATRIX CHART 2

Non self-diagnosis related item

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON SYSTEM DIAGRAM
Security Ind. does not light up.	PROCEDURE 6 (BL-97)	Security Ind.	—
		Open circuit between Fuse and IMMU	—
		Continuation of initialization mode	—
		IMMU	A
Security Ind. does not blink just after initialization even if the vehicle is equipped with dongle unit.	PROCEDURE 8 (BL-99)	NATS might be initialized without connecting dongle unit properly.	—
		Open circuit in ground line of dongle unit circuit	C6
Security Ind. does not blink just after ignition switch is turned to ON when some malfunction related to NATS is detected even if the vehicle is equipped with dongle unit.		Open or short circuit in communication line between IMMU and dongle unit	C5
		Dongle unit	G

DIAGNOSTIC SYSTEM DIAGRAM



Diagnostic Procedure 1

EIS001T7

Self-diagnostic results:
“ECM INT CIRC-IMMU” displayed on CONSULT-II screen

1. Confirm SELF-DIAGNOSTIC RESULTS “ECM INT CIRC-IMMU” displayed on CONSULT-II screen. Ref. part No. B.
2. Replace ECM.
3. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II operation manual NATS”.

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

SEL152X

Diagnostic Procedure 2

EIS001T8

Self-diagnostic results:
“CHAIN OF ECM-IMMU” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF ECM-IMMU” displayed on CONSULT-II screen.

NOTE:
In rare case, “CHAIN OF ECM-IMMU” might be stored during key registration procedure, even if the system is not malfunctioning.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .

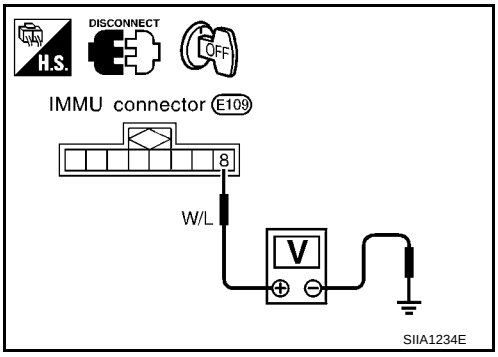
SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF ECM-IMMU	0

SEL292W

2. CHECK POWER SUPPLY CIRCUIT FOR IMMU

1. Disconnect IMMU connector.
2. Check voltage between terminal 8 of IMMU and ground with CONSULT-II or tester.

Battery voltage should exist.



SIIA1234E

OK or NG

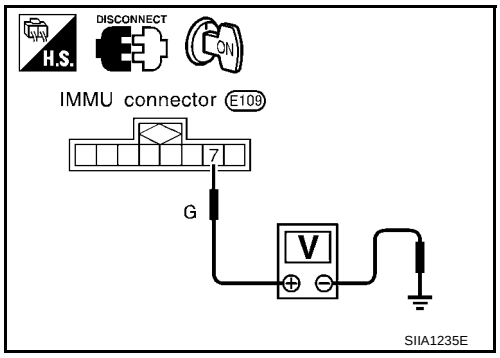
OK >> GO TO 3
NG >> Check the following.

- 10A fuse (No. 33, located in the fusible link and fuse box) – (Gasoline engine)
- 10A fuse (No. 43, located in the fusible link and fuse box) – (Diesel engine)
- Harness for open or short between fuse and IMMU connector
  Ref. Part No. C1

3. CHECK IGN SW. ON SIGNAL

1. Turn ignition switch ON.
2. Check voltage between terminal 7 of IMMU and ground with CONSULT-II or tester.

Battery voltage should exist.



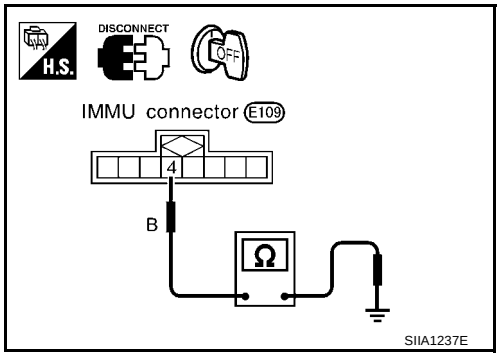
OK or NG

OK >> GO TO 4
NG >> Check the following
- 10A fuse [No. 5, located in the fuse block (J/B)]
- Harness for open or short between fuse and IMMU connector
  Ref. part No. C2

4. CHECK GROUND CIRCUIT FOR IMMU

1. Turn ignition OFF.
2. Check harness continuity between IMMU terminal 4 and ground.

Continuity should exist.



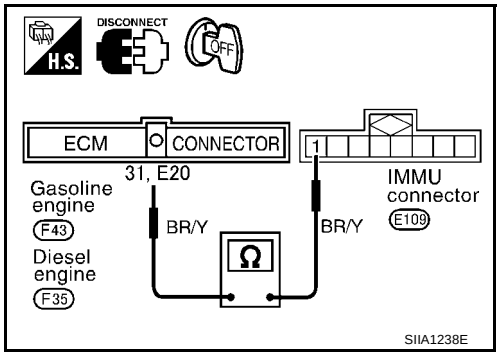
OK or NG

OK >> GO TO 5
NG >> Repair harness. **Ref. part No. C3**

5. CHECK COMMUNICATION LINE OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check harness continuity between ECM terminal 31 (Gasoline engine) or E20 (Diesel engine) and IMMU terminal 1.

Continuity should exist.



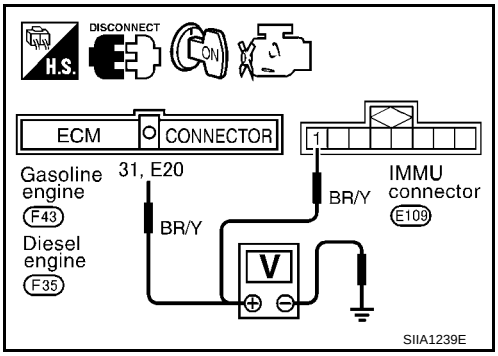
OK or NG

OK >> GO TO 6
NG >>
- Repair harness or connector.
- **Ref. part No. C4**

6. CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT

1. Turn ignition ON.
2. Check voltage between ECM terminal 31 (Gasoline engine) or E20 (Diesel engine) or IMMU terminal 1 and ground.

Voltage: Approx. 0V



OK or NG

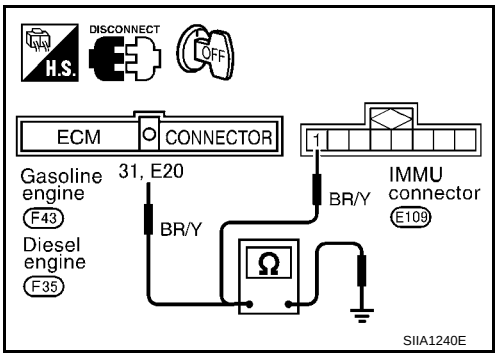
OK >> GO TO 7

NG >>
- Communication line is short-circuited with battery voltage line or ignition switch ON line.
- Repair harness or connectors.
- **Ref. part No. C4**

7. CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between ECM terminal 31 (Gasoline engine) or E20 (Diesel engine) or IMMU terminal 1 and ground.

Continuity should exist.



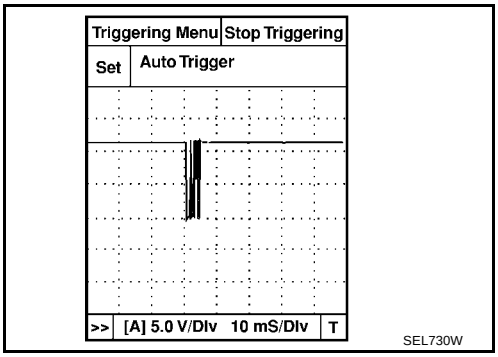
OK or NG

OK >> GO TO 8

NG >>
- Communication line is short-circuited with ground line.
- Repair harness or connectors.
- **Ref. part No. C4**

8. SIGNAL FROM ECM TO IMMU CHECK

1. Check the signal between ECM terminal 31 (Gasoline engine) or E20 (Diesel engine) and ground with CONSULT-II or oscilloscope when ignition switch is turned “ON”.
2. Make sure signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned “ON”.



OK or NG

OK >>
- IMMU is malfunctioning.
- Replace IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For the operation of initialization, refer to “CONSULT-II Operation Manual NATS”.

NG >>
- ECM is malfunctioning.
- Replace ECM. **Ref. part No. B**
- Perform initialization with CONSULT-II.
- For the operation of initialization, refer to “CONSULT-II Operation Manual NATS”.

Diagnostic Procedure 3

EIS001T9

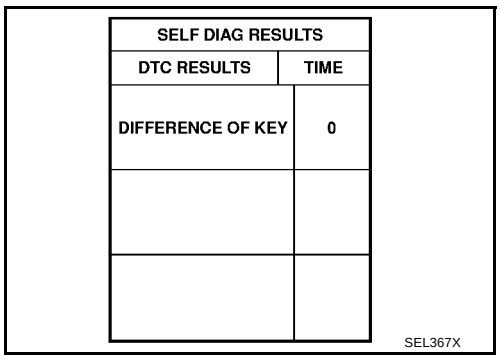
Self-diagnostic results:
“DIFFERENCE OF KEY” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “DIFFERENCE OF KEY” displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .



2. PERFORM INITIALIZATION WITH CONSULT-II

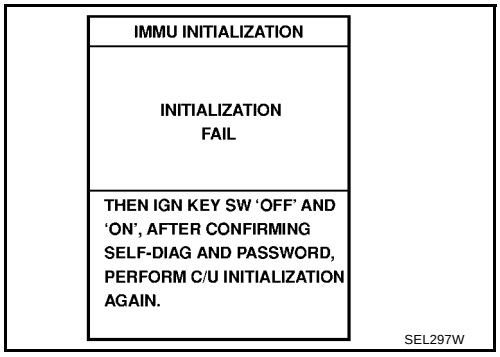
Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.
For initialization and registration of NATS ignition key IDs, refer to “CONSULT-II operation manual NATS”.

NOTE:
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

Can the system be initialized and can the engine be started with re-registered NATS ignition key?

Yes >>
- Ignition key ID was unregistered. **Ref. part No. D**

No >>
- IMMU is malfunctioning.
- Replace IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II operation manual NATS”.



Diagnostic Procedure 4

EIS001TA

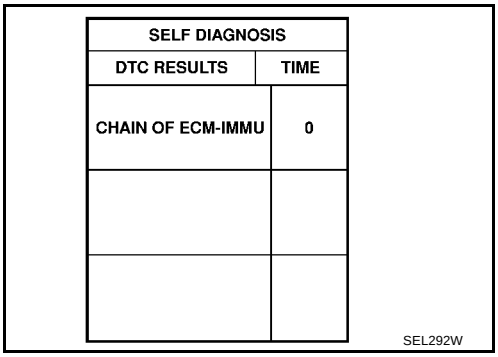
Self-diagnostic results:
“CHAIN OF IMMU-KEY” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF IMMU-KEY” displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .



2. CHECK NATS IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

Yes >>
- Ignition key ID chip is malfunctioning.
- Replace the ignition key.
- **Ref. part No. E**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II Operation Manual NATS”.

No >>
- **Models without dongle unit**
  - IMMU is malfunctioning.
  - Replace IMMU. **Ref. part No. A**
  - For initialization, refer to “CONSULT-II Operation Manual NATS”.
  - Perform initialization with CONSULT-II.
- **Models with dongle unit**
  - GO TO 3

3. CHECK HARNESS CONNECTOR CONNECTION

Check harness connector connection between E109 and M80.

Does the engine start?

Yes >> System is OK. (The malfunction is caused by improper connector connection.)
No >> GO TO 4

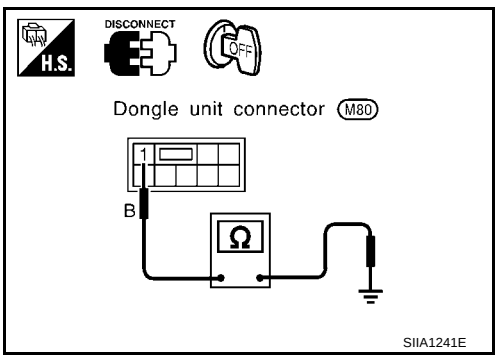
4. CHECK GROUND CIRCUIT FOR DONGLE UNIT

Check continuity between dongle unit terminal 1 and ground.

Continuity should exist.

OK or NG

OK >> GO TO 5
NG >> Repair harness.



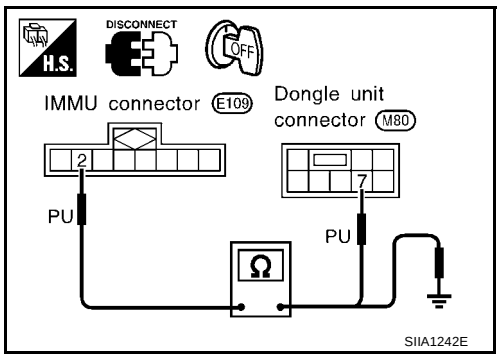
5. CHECK INTERFACE CIRCUIT

1. Check continuity between IMMU terminal 2and dongle unit terminal 7.

   Continuity should exist.

2. Check continuity between IMMU terminal 2 and ground.

   Continuity should not exist.



OK or NG

OK >> Dongle unit is malfunctioning.
1. Replace dongle unit.
2. Perform initialization with CONSULT-II. For the initialization procedure, refer to “CONSULT-II operation manual NATS.

NG >> Repair harness.

Diagnostic Procedure 5

EIS001TB

Self-diagnostic results:
“ID DISCORD, IMM-ECM” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “ID DISCORD, IMM-ECM” displayed on CONSULT-II screen.

NOTE:
“ID DISCORD IMMU-ECM”:
Registered ID of IMMU is in discord with that of ECM.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2
No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .

SELF-DIAG RESULTS	
DTC RESULTS	TIME
ID DISCORD, IMM-ECM	0

SEL958W

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.
For initialization, refer to “CONSULT-II operation manual NATS”.

NOTE:
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

Can the system be initialized?

Yes >>
- Start engine. (END)
- (System initialization had not been completed. **Ref. part No. B**)

No >>
- ECM is malfunctioning.
- Replace ECM. **Ref. part No. B**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II operation manual NATS”.

IMMU INITIALIZATION
INITIALIZATION FAIL
THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.

SEL297W

Diagnostic Procedure 6

EIS001TC

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

1. CHECK FUSE

Check 10A fuse [No. 28, located in the fuse block (J/B)].

Is 10A fuse OK?

Yes >> GO TO 2
No >> Replace fuse.

2. CHECK SECURITY INDICATOR LAMP

1. Install 10A fuse.
2. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II Operation Manual NATS”.
3. Turn ignition switch OFF.
4. Start engine and turn ignition switch OFF.
5. Check the security indicator lamp lighting.

Security indicator lamp should be light up.

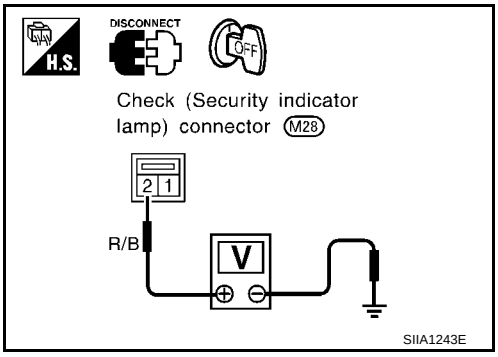
OK or NG

OK >> INSPECTION END
NG >> GO TO 3

3. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

Battery voltage should exist.



OK or NG

OK >> GO TO 4
NG >> Check harness for open or short between fuse and security indicator lamp.

4. CHECK SECURITY INDICATOR LAMP

Check security Indicator Lamp.

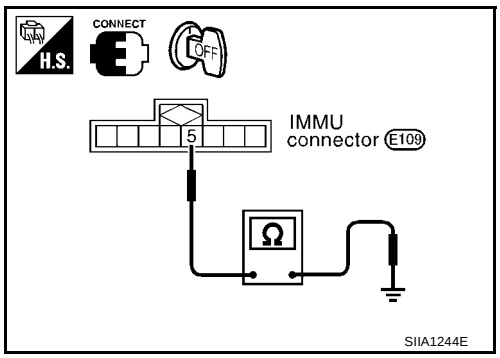
Is security indicator lamp OK?

Yes >> GO TO 5
No >> Replace security indicator lamp.

5. CHECK IMMU FUNCTION

1. Connect IMMU connector.
2. Disconnect security indicator lamp connector.
3. Check continuity between IMMU terminal 5 and ground.

Continuity should exist intermittently.



OK or NG

OK >> Check harness for open or short between security indicator lamp and IMMU.

NG >>
- IMMU is malfunctioning.
- Replace IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II operation manual NATS”.

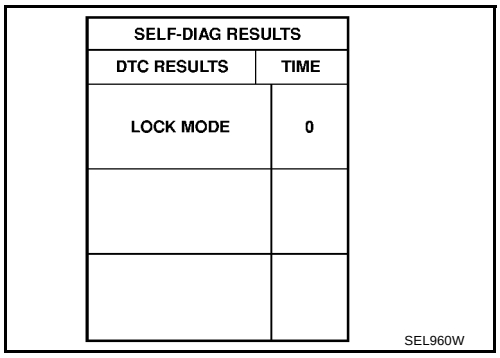
Diagnostic Procedure 7

EIS001TD

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

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “LOCK MODE” is displayed on CONSULT-II screen.



Is CONSULT-II screen displayed as above?

Yes >> GO TO 2

No >> GO TO BL-89, "SYMPTOM MATRIX CHART 1" .

2. ESCAPE FROM LOCK MODE

1. Turn ignition switch OFF.
2. Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds.
3. Return the key to OFF position.
4. Repeat steps 2 and 3 twice (total of three cycles).
5. Start the engine.

Does engine start?

Yes >>
- System is OK.
- (Now system is escaped from “LOCK MODE”.)

No >> GO TO 3

3. CHECK IMMU ILLUSTRATION

Check IMMU installation. Refer to BL-100, "How to Replace NATS IMMU" .

OK or NG

OK >> GO TO 4

NG >> Reinstall IMMU correctly.

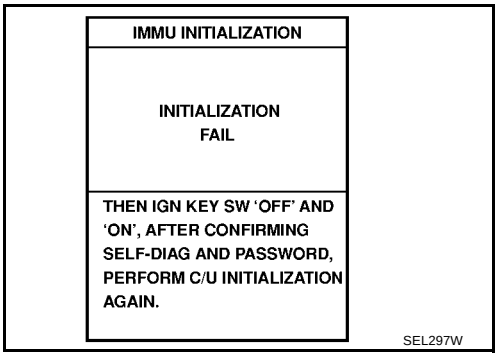
4. PERFORM INITIALIZATION WITH CONSULT-II

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

NOTE:
If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.

Can the system be initialized?

Yes >> System is OK.
No >> GO TO 5



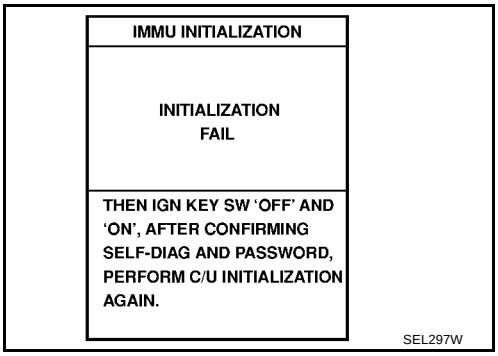
5. PERFORM INITIALIZATION WITH CONSULT-II AGAIN

1. Replace IMMU.
2. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II operation manual NATS”.

NOTE:
If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.

Can the system be initialized?

Yes >> System is OK. (IMMU is malfunctioning. **Ref. part No. A**)
No >> ● ECM is malfunctioning.
Replace ECM. **Ref. part No. B**
Perform initialization with CONSULT-II.
For initialization, refer to “CONSULT-II operation manual NATS”.



Diagnostic Procedure 8

EIS001TE

1. CHECK HARNESS CONNECTOR CONNECTION

Perform initialization with CONSULT-II.
Check harness connector connection between E109 and M80.
Then initialize NATS. For the initialization operation, refer to “CONSULT-II operation NATS”.

Does the security indicator blink just after initialization?

Yes >> System is OK. (The malfunction is caused by improper connector connection.)
No >> GO TO 2

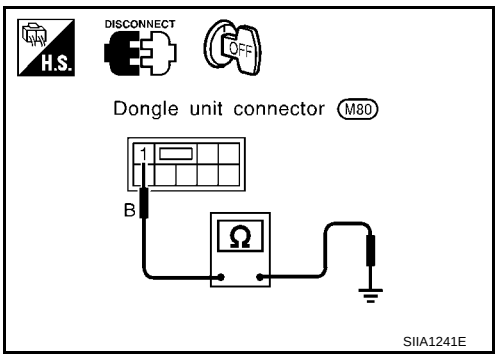
2. CHECK GROUND CIRCUIT FOR DONGLE UNIT

Check continuity between dongle unit terminal 1 and ground.

Continuity should exist.

OK or NG

OK >> GO TO 3
NG >> Repair harness.



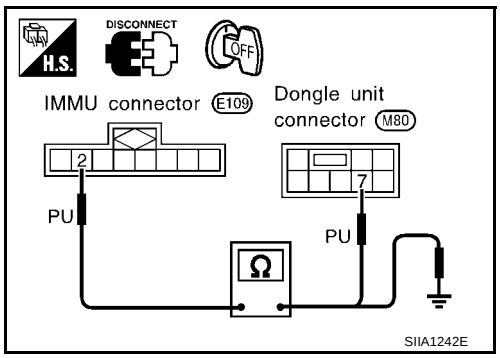
3. CHECK INTERFACE CIRCUIT

1. Check continuity between IMMU terminal 2 and dongle unit terminal 7.

   Continuity should exist.

2. Check continuity between IMMU terminal 2 and ground.

   Continuity should not exist.



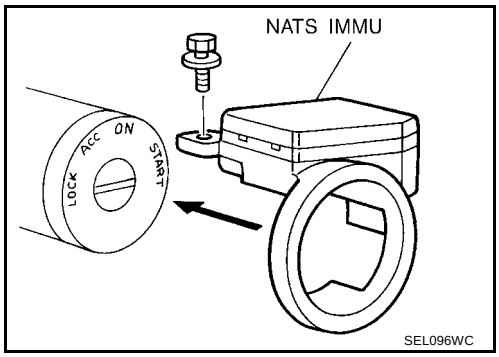
OK or NG

OK >> Dongle unit is malfunctioning.
1. Replace dongle unit.
2. Perform initialization with CONSULT-II. For the initialization procedure, refer to “CONSULT-II Operation Manual NATS”.

NG >> Repair harness.

How to Replace NATS IMMU

EIS001RY



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”.**