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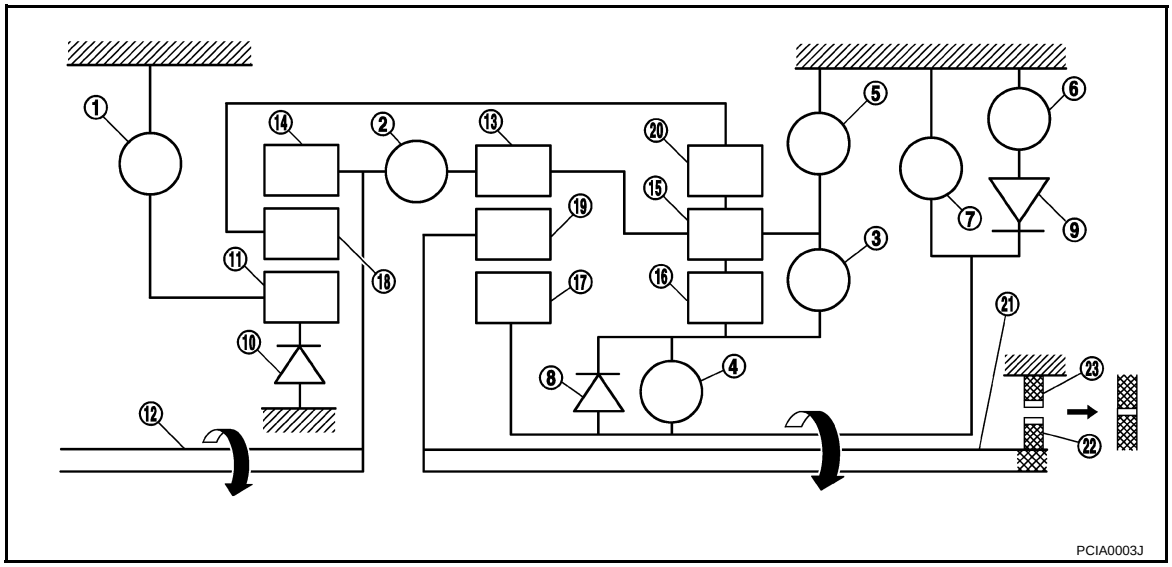
NISSAN
350Z
MODEL Z33 SERIES

QUICK REFERENCE INDEX

A B C D E F G H I J K L

- The same as for the “N” position, both the forward brake and the reverse brake are released, so torque from the input shaft drive is not transmitted to the output shaft.
- The parking pawl linked with the selector lever meshes with the parking gear and fastens the output shaft mechanically.

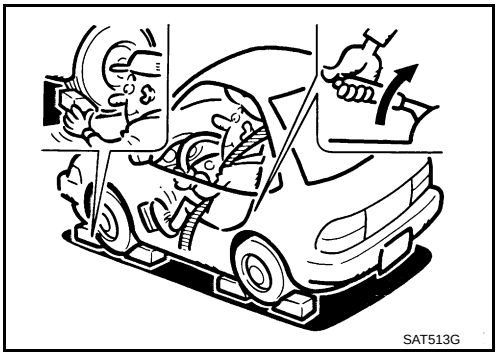


1. Front brake
2. Input clutch
3. Direct clutch
4. High and low reverse clutch
5. Reverse brake
6. Forward brake
7. Low coast brake
8. 1st one-way clutch
9. Forward one-way clutch
10. 3rd one-way clutch
11. Front sun gear
12. Input shaft
13. Mid internal gear
14. Front internal gear
15. Rear carrier
16. Rear sun gear
17. Mid sun gear
18. Front carrier
19. Mid carrier
20. Rear internal gear
21. Output shaft
22. Parking gear
23. Parking pawl

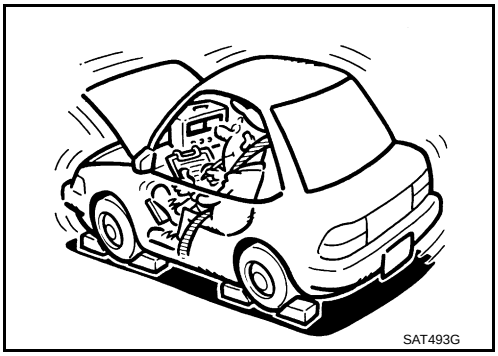
“D_1” Position

- The forward brake and the forward one-way clutch regulate reverse rotation of the mid sun gear.
- The 1st one-way clutch regulates reverse rotation of the rear sun gear.
- The 3rd one-way clutch regulates reverse rotation of the front sun gear.
- During deceleration, the mid sun gear turns forward, so the forward one-way clutch idles and the engine brake is not activated.

4. Securely engage the parking brake so that the tires do not turn.



5. Start the engine, then measure the line pressure at both idle and the stall speed.
   CAUTION:
   - **Keep brake pedal pressed all the way down during measurement.**
   - **When measuring the line pressure at the stall speed, refer to "STALL TEST".**
6. After the measurements are complete, install the oil pressure detection plug and tighten to the specified torque. Refer to AT-232, "Component".
   CAUTION:
   - **Do not reuse O-ring.**
   - **Apply ATF to O-ring.**



Line Pressure

Engine speed	Line pressure kPa (kg/cm^2, psi)	
	"R" position	"D" and "M" positions
At idle speed	425 – 465 (4.3 – 4.7, 62 – 67)	379 – 428 (3.9 – 4.4, 55 – 62)
At stall speed	1,605 – 1,950 (16.4 – 19.9, 233 – 283)	1,310 – 1,500 (13.4 – 15.3, 190 – 218)

Judgment of Line Pressure Test

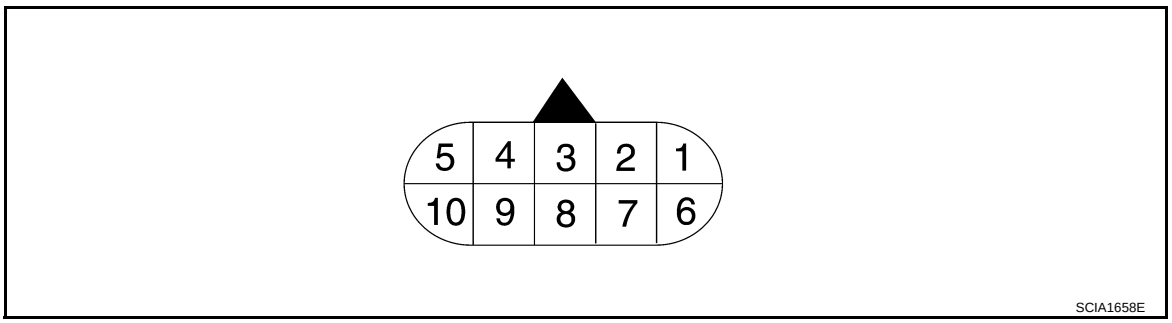
Judgment		Possible cause
Idle speed	Low for all positions ("P", "R", "N", "D", "M")	Possible causes include malfunctions in the pressure supply system and low oil pump output. For example • Oil pump wear • Pressure regulator valve or plug sticking or spring fatigue • Oil strainer ⇒ oil pump ⇒ pressure regulator valve passage oil leak • Engine idle speed too low
	Only low for a specific position	Possible causes include an oil pressure leak in a passage or device related to the position after the pressure is distributed by the manual valve.
	High	Possible causes include a sensor malfunction or malfunction in the line pressure adjustment function. For example • Accelerator pedal position signal malfunction • A/T fluid temperature sensor malfunction • Line pressure solenoid malfunction (sticking in OFF state, filter clog, cut line) • Pressure regulator valve or plug sticking

No.	Items	Symptom	Condition	Diagnostic Item	Reference page
72	Others	Engine speed does not return to idle. Refer to AT-184, "Engine Speed Does Not Return to Idle".	ON vehicle	1. A/T fluid level and state	AT-47
				2. Direct clutch solenoid valve	AT-143
				3. Front brake solenoid valve	AT-141
				4. Accelerator pedal position sensor	AT-126
				5. Output speed sensor and vehicle speed signal	AT-103, AT-133
				6. CAN communication line	AT-90
				7. Control valve with TCM	AT-204
			OFF vehicle	8. Front brake (brake band)	AT-239
				9. Direct clutch	AT-270

TCM Input/Output Signal Reference Value

INFOID:0000000004656811

A/T ASSEMBLY HARNESS CONNECTOR TERMINAL LAYOUT



TCM INSPECTION TABLE

Data are reference value and are measured between each terminal and ground.

Terminal	Wire color	Item	Condition		Data (Approx.)
1	G	Power supply (Memory back-up)	Always		Battery voltage
2	G	Power supply (Memory back-up)	Always		Battery voltage
3	L	CAN-H	—		—
4	PU/W	K-line (CONSULT-III signal)	The terminal is connected to the data link connector for CONSULT-III.		—
5	B	Ground	Always		0 V
6	Y/R	Power supply		—	Battery voltage
				—	0 V
7	Y	Back-up lamp relay		Selector lever in “R” position.	0 V
				Selector lever in other positions.	Battery voltage
8	P	CAN-L	—		—
9	GY/R	Starter relay		Selector lever in “N” and “P” positions.	Battery voltage
				Selector lever in other positions.	0 V
10	B	Ground	Always		0 V

P0731 1GR INCORRECT RATIO

Description

INFOID:0000000004656858

This malfunction is detected when the A/T does not shift into 1GR position as instructed by TCM. This is not only caused by electrical malfunction (circuits open or shorted) but by mechanical malfunction such as control valve sticking, improper solenoid valve operation, etc.

On Board Diagnosis Logic

INFOID:0000000004656859

- This is an OBD-II self-diagnostic item.
- Diagnostic trouble code “P0731” with CONSULT-III or 18th judgment flicker without CONSULT-III is detected when TCM detects any inconsistency in the actual gear ratio.

Possible Cause

INFOID:0000000004656860

- Input clutch solenoid valve
- Front brake solenoid valve
- Direct clutch solenoid valve
- High and low reverse clutch solenoid valve
- Each clutch
- Hydraulic control circuit

DTC Confirmation Procedure

INFOID:0000000004656861

CAUTION:
Always drive vehicle at a safe speed.
NOTE:
If “DTC Confirmation Procedure” has been previously performed, always turn ignition switch OFF and wait at least 10 seconds before performing the next test.
After the repair, perform the following procedure to confirm the malfunction is eliminated.

WITH CONSULT-III

1. Start the engine and select “DATA MONITOR” mode for “TRANSMISSION” with CONSULT-III.
2. Make sure that “ATF TEMP 1” is within the following range.

ATF TEMP 1	: 20°C – 140°C

   If out of range, drive vehicle to warm ATF or stop engine to cool ATF.
3. Select “1ST GR FNCTN P0731” of “DTC WORK SUPPORT” mode for “TRANSMISSION” with CONSULT-III.
4. Drive vehicle and maintain the following conditions.

MANU MODE SW	: ON
GEAR	: “1” position
ACCELE POSI	: 0.6/8 or more
VEHICLE SPEED	: 10 km/h (6 MPH) or more
ENGINE SPEED	: INPUT SPEED – 50 rpm or more
INPUT SPEED	: 300 rpm or more

5. Keep the current driving status for at least 5 consecutive seconds if CONSULT-III screen changes from “OUT OF CONDITION” to “TESTING”.
   CAUTION:
   If “TESTING” does not appear on CONSULT-III for a long time, select “SELF-DIAG RESULTS”. In case a 1st trip DTC other than “P0731” is shown, refer to “AT-81, "CONSULT-III Function (TRANSMISSION)"”.
   If “COMPLETED RESULT NG” is detected, go to AT-111, "Diagnosis Procedure".
   If “STOP VEHICLE” is detected, go to the following step.
6. Stop vehicle.
7. Drive vehicle in “D” position allowing it to shift from 1GR to 5GR and check shift timing and shift shock.

- Touch “OK” to complete the inspection when normally shifted from the 1GR to 5GR.

Item name	Condition	Display value (Approx.)
I/C SOLENOID	Input clutch disengaged. Refer to AT-17.	0.6 – 0.8 A
	Input clutch engaged. Refer to AT-17.	0 – 0.05 A

OK or NG

OK >> GO TO 4.
NG >> GO TO 2.

2.CHECK TCM POWER SUPPLY AND GROUND CIRCUIT

Check TCM power supply and ground circuit. Refer to AT-156.

OK or NG

OK >> GO TO 3.
NG >> Repair or replace damaged parts.

3.DETECT MALFUNCTIONING ITEM

Check A/T assembly harness connector pin terminals for damage or loose connection with harness connector.

OK or NG

OK >> Replace control valve with TCM. Refer to AT-204, "Control Valve with TCM and A/T Fluid Temperature Sensor 2".
NG >> Repair or replace damaged parts.

4.CHECK DTC

Perform AT-139, "DTC Confirmation Procedure".

OK or NG

OK >> **INSPECTION END**
NG >> GO TO 2.

DIAGNOSTIC PROCEDURE

1.CHECK SELF-DIAGNOSTIC RESULTS

With CONSULT-III
• Select “SELF-DIAG RESULTS” mode for “TRANSMISSION” with CONSULT-III.
Without CONSULT-III
• Perform the self-diagnosis. Refer to AT-88, "Diagnosis Procedure without CONSULT-III".

Is any malfunction detected by self-diagnostic results?

YES >> Check the malfunctioning system. Refer to AT-81, "CONSULT-III Function (TRANSMISSION)", AT-88, "Diagnosis Procedure without CONSULT-III".
NO >> GO TO 2.

2.CHECK A/T POSITION

Check A/T position. Refer to AT-195, "Checking of A/T Position".

OK or NG

OK >> GO TO 3.
NG >> Adjust A/T position. Refer to AT-195, "Adjustment of A/T Position".

3.CHECK A/T FLUID LEVEL

Check A/T fluid level. Refer to AT-12, "Checking A/T Fluid".

OK or NG

OK >> GO TO 4.
NG >> Refill ATF.

4.CHECK STALL TEST

Check stall revolution with selector lever in “M” and “R” positions.
Refer to AT-47, "Inspections Before Trouble Diagnosis".

OK or NG

OK >> GO TO 6.
OK in “M” position, NG in “R” position>>GO TO 5.
NG in both “M” and “R” positions>>GO TO 8.

5.DETECT MALFUNCTIONING ITEM

1. Disassemble A/T. Refer to AT-239.
2. Check the following.
- Reverse brake. Refer to AT-239, "Disassembly".

OK or NG

OK >> GO TO 9.
NG >> Repair or replace damaged parts.

6.CHECK LINE PRESSURE

Check line pressure with the engine idling. Refer to AT-47, "Inspections Before Trouble Diagnosis".

OK or NG

OK >> GO TO 9.
NG - 1 >> Line pressure high. GO TO 7.
NG - 2 >> Line pressure low. GO TO 8.

7.DETECT MALFUNCTIONING ITEM

1. Check control valve with TCM. Refer to AT-204, "Control Valve with TCM and A/T Fluid Temperature Sensor 2".
2. Disassemble A/T. Refer to AT-239.
3. Check the following.
- Oil pump assembly. Refer to AT-255, "Oil Pump".

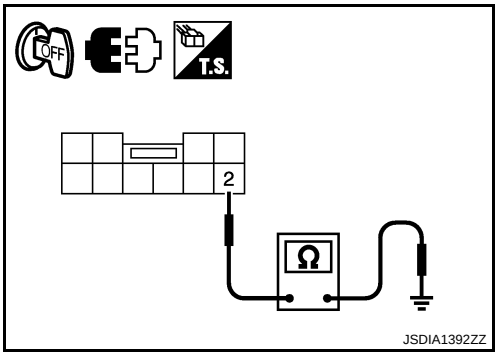
OK or NG

OK >> GO TO 9.
NG >> Repair or replace damaged parts.

1. Turn ignition switch OFF.
2. Disconnect A/T shift selector harness connector.
3. Check continuity between A/T shift selector harness connector M47 terminal 2 and ground.

Continuity should exist.

If OK, check harness for short to ground and short to power.



OK or NG

OK >> GO TO 9.
NG >> Repair open circuit or short to ground or short to power in harness or connectors.

9. CHECK SHIFT LOCK SOLENOID AND PARK POSITION SWITCH

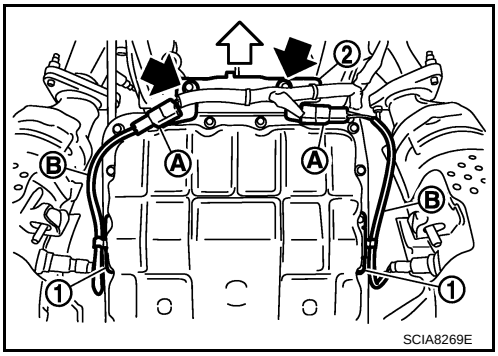
1. Connect A/T shift selector harness connector.
2. Turn ignition switch ON.
3. Selector lever is set in “P” position.
4. Check operation.

Condition	Brake pedal	Operation
When ignition switch is turned to “ON” position and selector lever is set in “P” position.	Depressed	Yes
	Released	No

OK or NG

OK >> **INSPECTION END**.
NG >> Repair or replace damaged parts.

5. Disconnect heated oxygen sensor 2 harness connectors (A).
   - ⇦: Vehicle front
   - ⬅: Bolt
6. Remove heated oxygen sensor 2 harness (B) from clips (1).
7. Remove bracket (2) from transmission assembly.
8. Remove front cross bar with power tool. Refer to FSU-7, "Component".
9. Remove exhaust front tube and center muffler with power tool. Refer to EX-3, "Removal and Installation".
10. Remove three way catalyst (right bank) and three way catalyst (left bank). Refer to EM-23, "Removal and Installation".

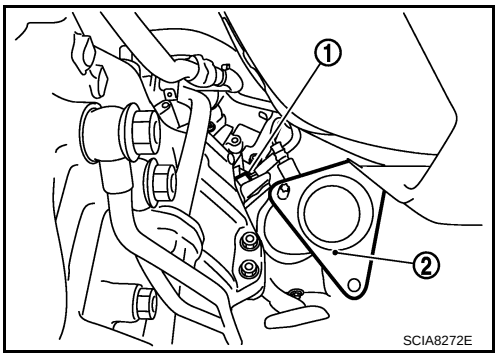


11. Remove crankshaft position sensor (POS) (1). Refer to EM-27, "Removal and Installation".
    - Three way catalyst (right bank) (2)

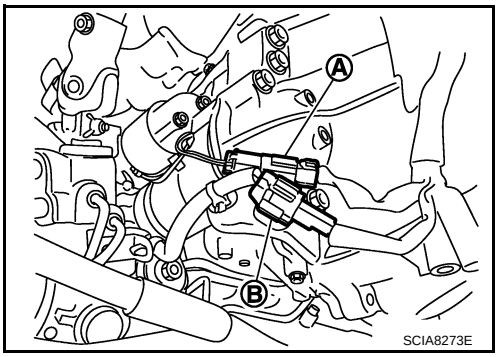
    CAUTION:
    - **Do not subject it to impact by dropping or hitting it.**
    - **Do not disassemble.**
    - **Do not allow metal filings, etc. to get on the sensor's front edge magnetic area.**
    - **Do not place in an area affected by magnetism.**
12. Remove rear propeller shaft. Refer to PR-6, "Removal and Installation".

    CAUTION:

    Do not impact, or damage propeller shaft tube.



13. Remove control rod. Refer to AT-194, "Control Rod Removal and Installation".
14. Disconnect the following:
    - A/T assembly harness connector
    - S terminal connector (A)
    - EPS solenoid valve harness connector (B)
15. Remove starter motor with power tool. Refer to SC-14, "Removal and Installation".
16. Remove A/T fluid level gauge.
17. Remove A/T fluid charging pipe
18. Remove O-ring from A/T fluid charging pipe.
19. Remove fluid cooler tube according to the following procedure.



a. Remove mounting nuts of the engine mounting insulator (LH) and engine mounting insulator (RH) on the undersurface of the vehicle. Refer to EM-101, "Removal and Installation".
b. Push engine assembly upward from the vehicle with transmission jack to create clearance for removing fluid cooler tube.

   CAUTION:

   Be careful with hoses and harness when pushing up the engine assembly.
c. Remove fluid cooler tube.

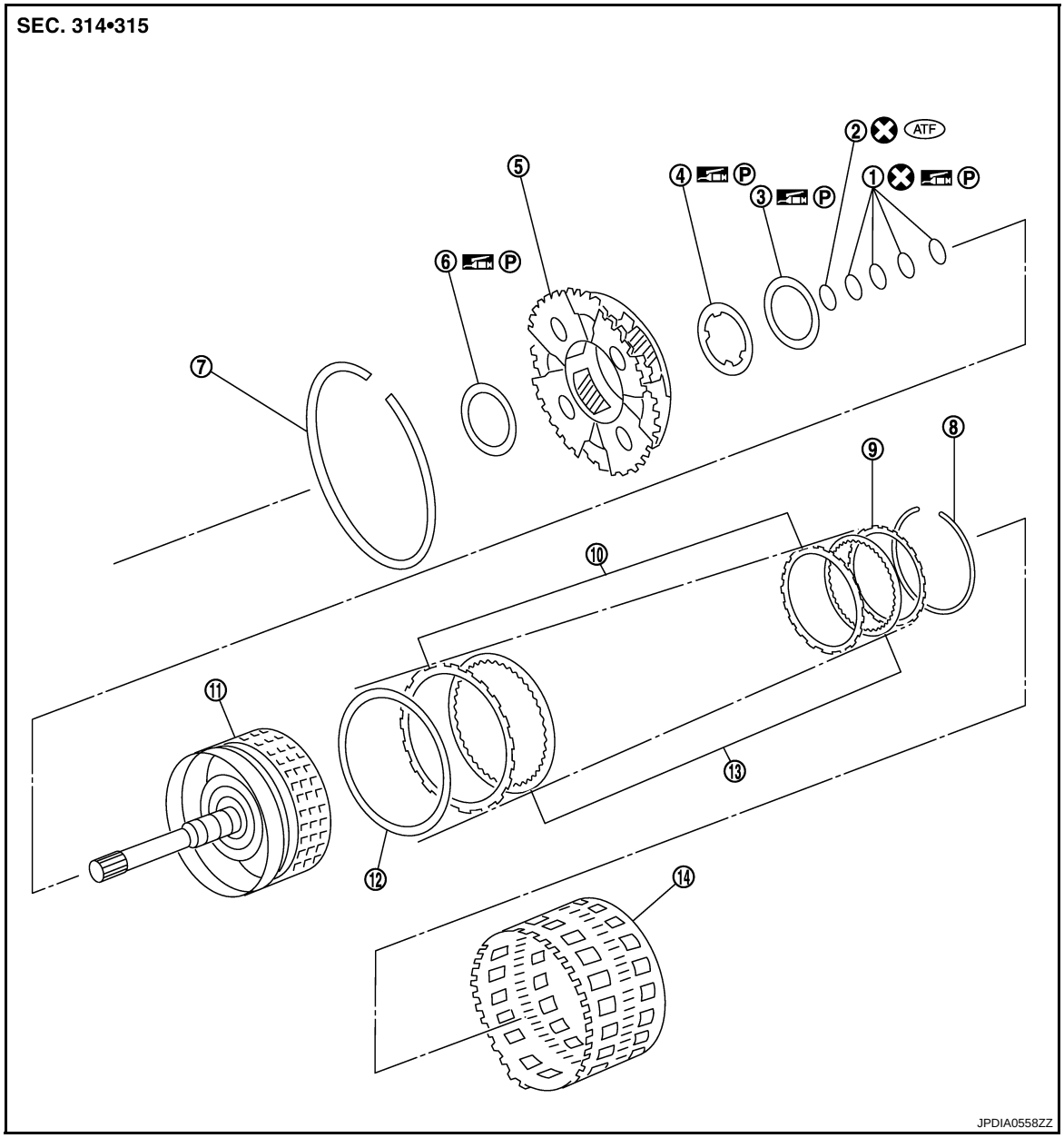
20. Plug up openings such as A/T fluid charging pipe hole, etc.
21. Remove rear plate cover from converter housing. Refer to EM-27, "Removal and Installation".
22. Turn crankshaft, and remove the four tightening bolts for drive plate and torque converter.

    CAUTION:

    When turning crankshaft, turn it clockwise as viewed from the front of the engine.
23. Support A/T assembly with a transmission jack.

    CAUTION:

    When setting the transmission jack, be careful not to allow it to collide against the drain plug.
24. Remove rear engine mounting member with power tool. Refer to "Removal and Installation".
25. Remove engine mounting insulator (rear) with power tool. Refer to "Removal and Installation".
26. Remove bolts fixing A/T assembly to engine assembly with power tool.

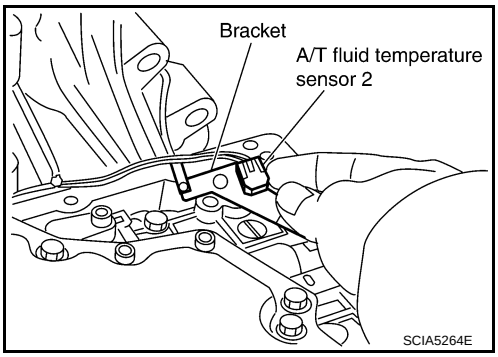


1. Seal ring
2. O-ring
3. Needle bearing
4. Bearing race
5. Front carrier assembly
6. Needle bearing
7. Snap ring
8. Snap ring
9. Retaining plate
10. Driven plate
11. Input clutch drum
12. Dish plate
13. Drive plate
14. Rear internal gear

Refer to GI section to make sure icons (symbol marks) in the figure. Refer to GI-8, "Component".

DISASSEMBLY

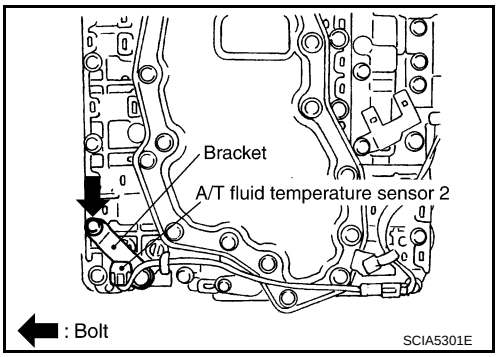
e. Install A/T fluid temperature sensor 2 to bracket.



f. Install A/T fluid temperature sensor 2 (with bracket) in control valve with TCM, and then tighten mounting bolt to the specified torque. Refer to AT-232, "Component".

CAUTION:

Adjust bolt hole of bracket to bolt hole of control valve with TCM.

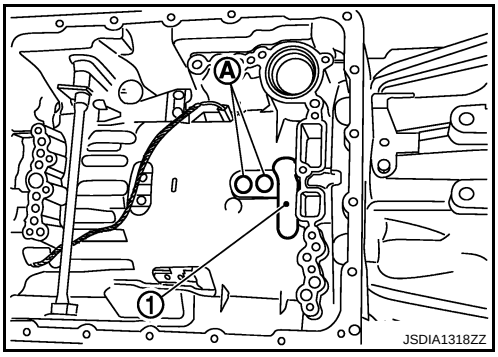


g. Install control valve with TCM in transmission case.

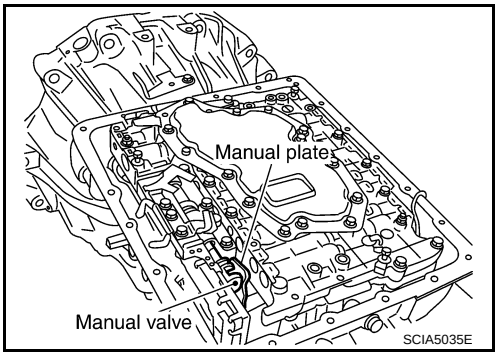
⬅ :Brake band

CAUTION:

- **Make sure that input speed sensor securely installs input speed sensor hole (A).**
- **Hang down output speed sensor harness toward outside so as not to disturb installation of control valve with TCM.**
- **Adjust A/T assembly harness connector of control valve with TCM to terminal hole of transmission case.**



- **Assemble it so that manual valve cutout is engaged with manual plate projection.**



- A/C: OFF

TEMPERATURE CONTROL DIAL (POTENTIO TEMPERATURE CONTROL)

The set temperature is increased or decreased with this dial.

FAN CONTROL DIAL

The blower speed is automatically or manually controlled with this dial. Twenty-five speeds are available for manual control.
Shifting fan control dial to AUTO, compressor is turned ON automatically.

REAR WINDOW DEFOGGER SWITCH

When illumination is ON, rear window is defogged.

INTAKE SWITCH

- When intake switch is ON, REC LED turns ON, and air inlet is fixed to REC.
- When press intake switch again, FRE LED turns ON, and air inlet is fixed to FRE.
- When intake switch is pressed for approximately 1.5 seconds or longer, REC and FRE LEDs blink twice. Then, automatic control mode is entered. Inlet status is displayed even during automatic control.
- When FRE LED is turned ON, shifting mode control dial to D/F, D/F2 or DEF, or when compressor is turned from ON to OFF, intake switch is automatically turned OFF (fixed to FRE mode). REC mode can be re-entered by pressing intake switch again, and then compressor is turned ON. (Except D/F, D/F2 or DEF position)

A/C SWITCH

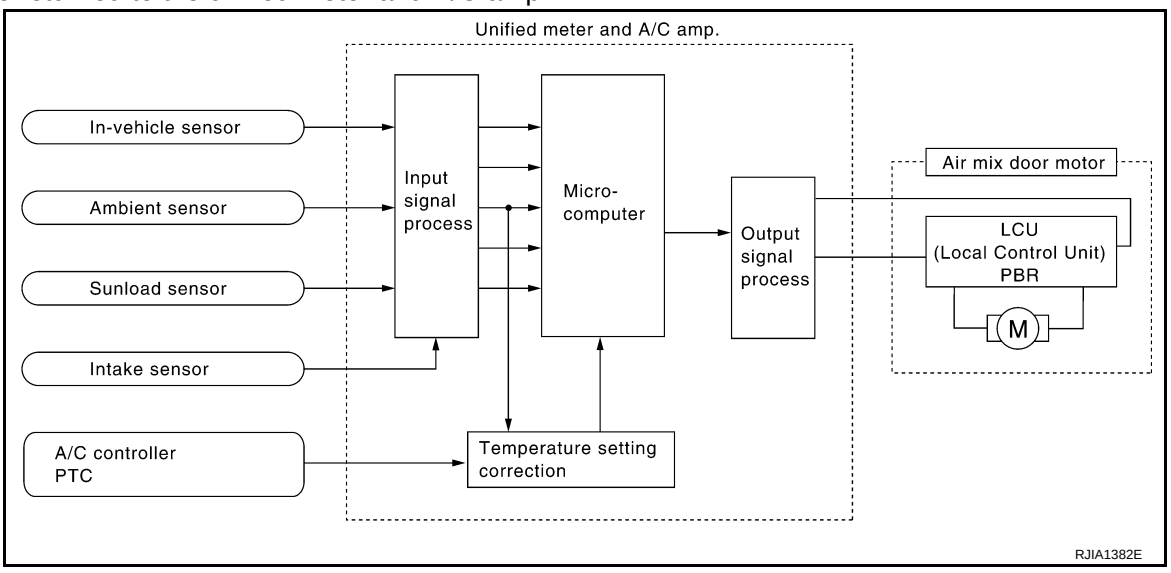
Compressor is ON or OFF with this switch.
(Pressing the A/C switch when the fan control dial is ON, will turn OFF the A/C switch and compressor.)

- Sunload sensor
- Intake sensor

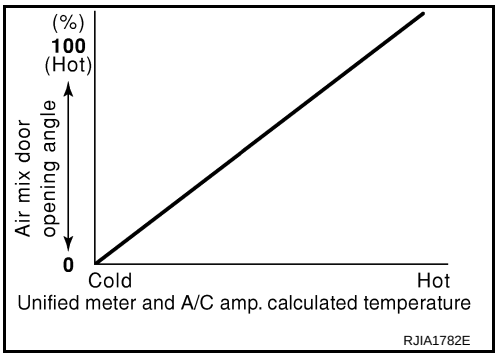
System Operation

The unified meter and A/C amp. receives data from each of the sensors. The unified meter and A/C amp. sends air mix door, mode door and intake door opening angle data to the air mix door motor LCU, mode door motor LCU and intake door motor LCU.

The air mix door motor, mode door motor and intake door motor read their respective signals according to the address signal. Opening angle indication signals received from the unified meter and A/C amp. and each of the motor position sensors are compared by the LCUs in each door motor with the existing decision and opening angles. Subsequently, HOT/COLD, DEF/VENT and FRE/REC operation is selected. The new selection data are returned to the unified meter and A/C amp.



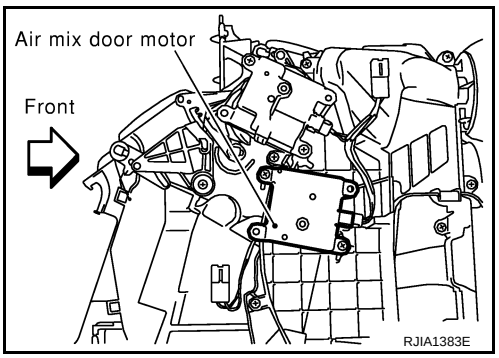
Air Mix Door Control Specification



COMPONENT DESCRIPTION

Air Mix Door Motor

The air mix door motor is attached to the heater & cooling unit assembly. It rotates so that the air mix door is opened or closed to a position set by the unified meter and A/C amp. Motor rotation is then sent conveyed through a shaft and the air mix door position feedback is then sent to the unified meter and A/C amp. by PBR built-in air mix door motor.

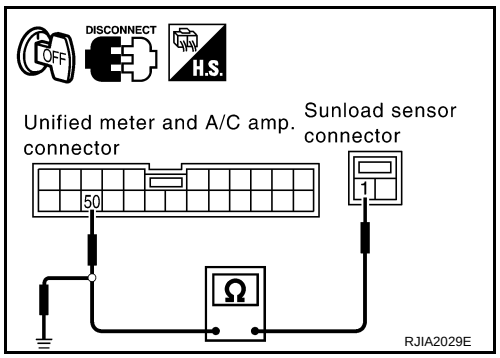


DIAGNOSIS PROCEDURE FOR AIR MIX DOOR

SYMPTOM: Discharge air temperature does not change.

Perform diagnosis procedure. Refer to ATC-48, "LAN System Circuit".

3. Check continuity between sunload sensor harness connector M18 terminal 1 and unified meter and A/C amp. harness connector M50 terminal 50.



1 – 50 : Continuity should exist.

4. Check continuity between sunload sensor harness connector M18 terminal 1 and ground.

1 – Ground : Continuity should not exist.

OK or NG

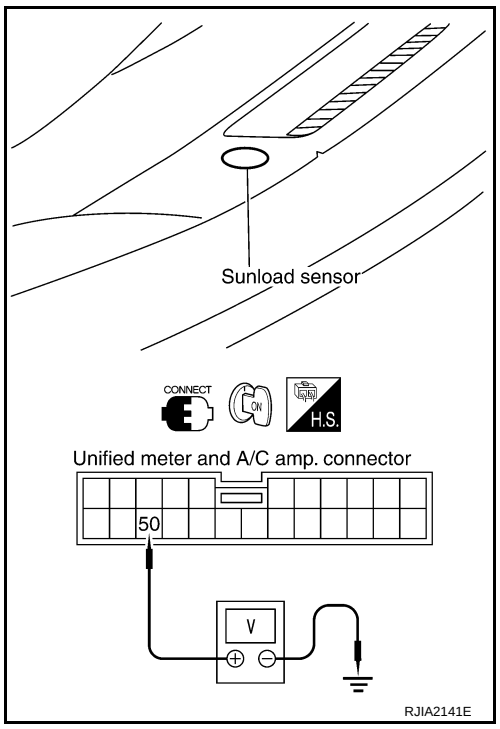
OK >> 1. Replace unified meter and A/C amp.
2. Go to self-diagnosis ATC-39, "Self-Diagnosis Function" and perform self-diagnosis STEP-2.

NG >> Repair harness or connector.

COMPONENT INSPECTION

Sunload Sensor

Measure voltage between unified meter and A/C amp. harness connector M50 terminal 50 and ground.



- **When recharging refrigerant, check for leaks.**

High-pressure flexible hose bracket mounting bolt

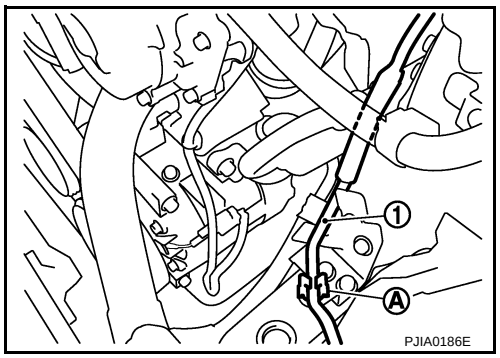
: 4.2 N·m (0.43 kg-m, 37 in-lb)

Removal and Installation of High-pressure Pipe 1 (Engine Compartment)

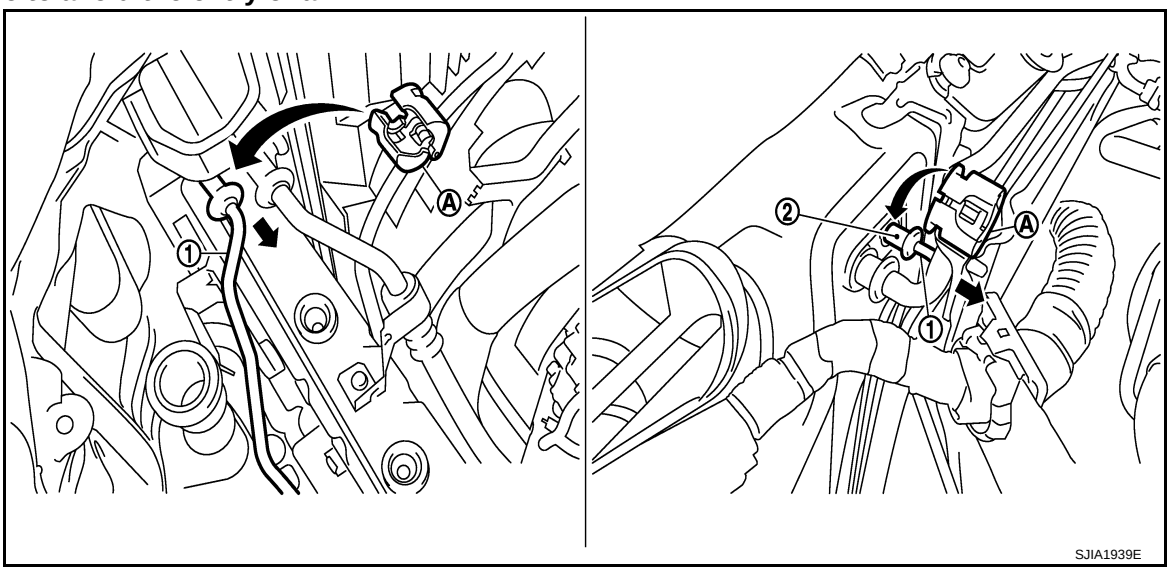
INFOID:0000000004655802

REMOVAL

1. Remove low-pressure flexible hose and pipe 2. Refer to ATC-112, "Removal and Installation of Low-Pressure Flexible Hose and Pipe 2".
2. Remove high-pressure pipe 1 (1) from vehicle clip (A).



3. Disconnect one-touch joint between high-pressure pipe 1 (1) and condenser with disconnector (SST: 9253089908) (A).
   CAUTION:
   Cap or wrap the joint of condenser and high-pressure pipe 1 with suitable material such as vinyl tape to avoid the entry of air.



4. Disconnect one-touch joint between high-pressure pipe 1 (1) and high-pressure pipe 2 (2) with disconnector (SST: 9253089908) (A).
   CAUTION:
   Cap or wrap the joint of high-pressure pipe 1 and 2 with suitable material such as vinyl tape to avoid the entry of air.
5. Remove high-pressure pipe 1.

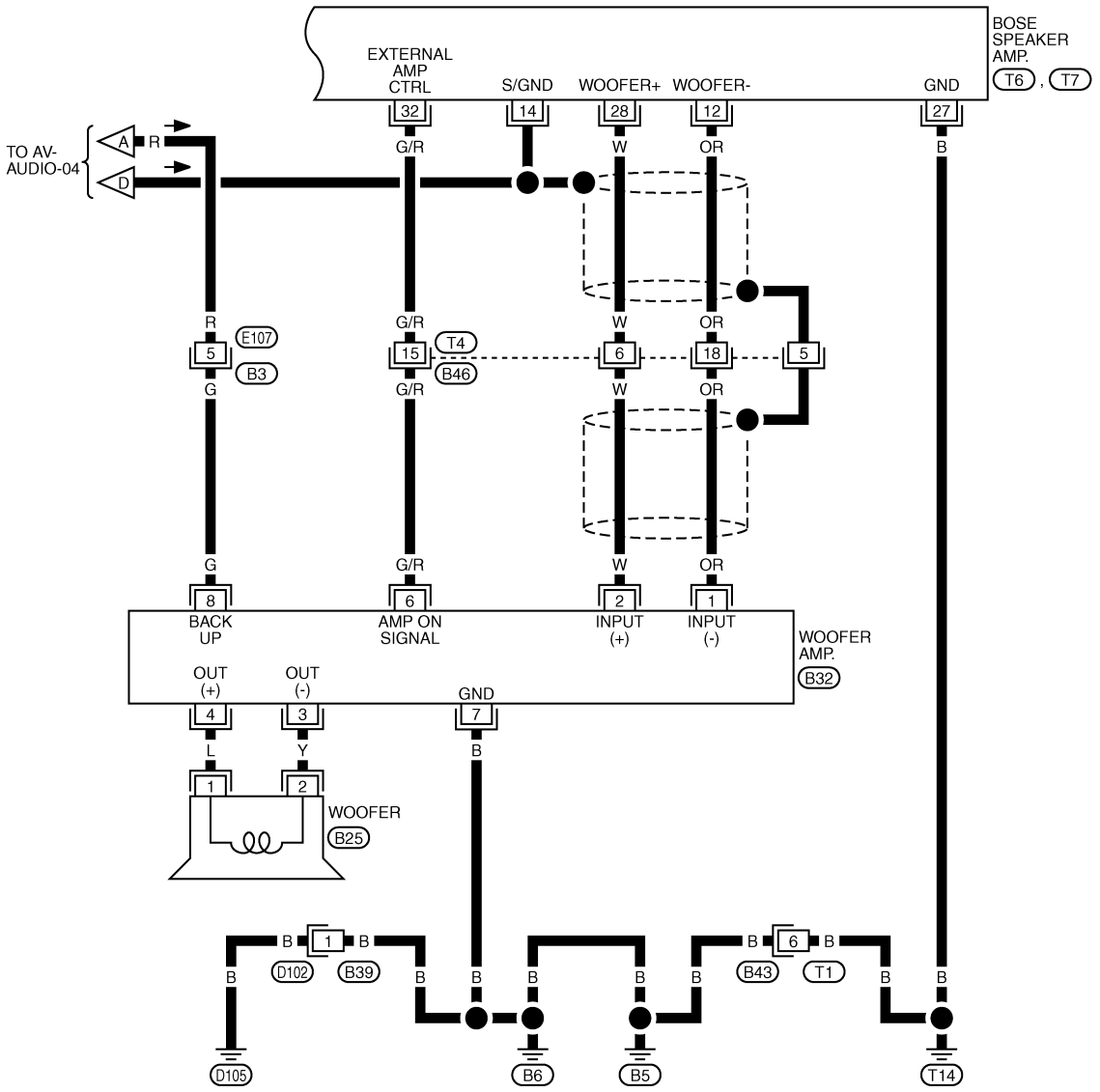
INSTALLATION

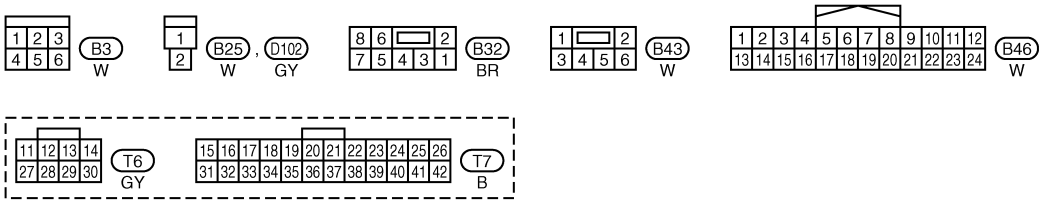
Installation is basically the reverse order of removal.

CAUTION:

- **Replace O-rings of high-pressure pipe 1 with new ones, and then apply compressor oil to it when installing it.**
- **Female-side piping connection is thin and easy to deform. Slowly insert the male-side piping straight in axial direction.**

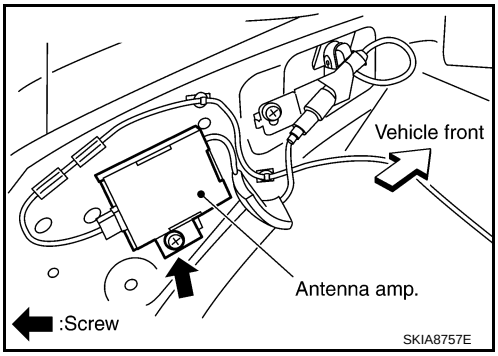
AV-AUDIO-11





TKWT5794E

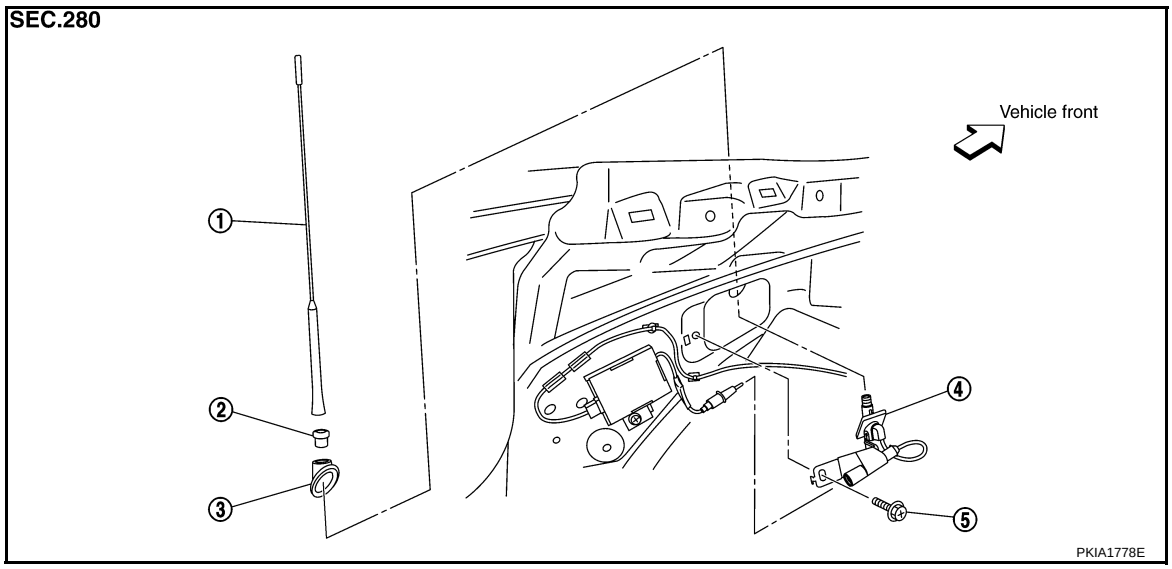
2. Remove luggage floor carpet and spare tire cover (Coupe models), or trunk floor carpet and spare tire cover (Roadster models). Refer to EI-34, "Removal and Installation (for Coupe Models)", or EI-44, "Removal and Installation (for Roadstar Models)".
3. Remove screw (1), and remove antenna amp.



INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of Antenna

INFOID:0000000004657395



1. Antenna rod
2. Antenna nut
3. Antenna base
4. Antenna assembly
5. Screw

REMOVAL

1. Remove luggage side finisher lower (LH) (Coupe models), or trunk front finisher (Roadster models). Refer to EI-34, "Removal and Installation (for Coupe Models)", or EI-44, "Removal and Installation (for Roadstar Models)".
2. Remove antenna rod and remove antenna nut.
3. Disconnect antenna amp. plug.
4. Remove screw and remove antenna assembly.
5. Remove antenna base.

INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of Satellite Radio Antenna

INFOID:0000000004657396

Refer to AV-46, "Removal and Installation of Satellite Radio Antenna".

Turn audio system ON, and check if any sound can be heard from front door speaker.

OK or NG

OK >> GO TO 2.
NG >> Refer to AV-36, "Trouble Diagnosis" and repair malfunctioning part.

2.CHECK CONDITION

Turn audio system ON, and check if front door speaker is muted when pressing “VOICE” button during sounding from front door speaker.

Is front door speaker muted?

YES >> GO TO 3.
NO >> GO TO 5.

3.CHECK HARNESS

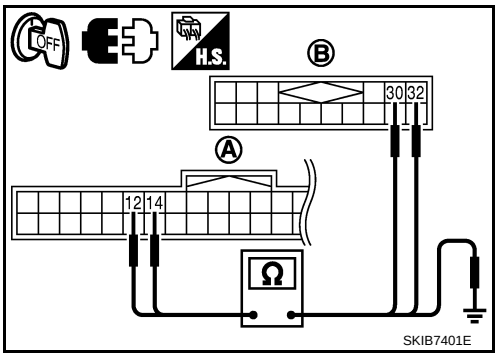
With BOSE system

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and audio unit connectors.
3. Check continuity between NAVI control unit harness connector (A) B104 terminals 12, 14 and audio unit harness connector (B) M39 terminals 32, 30.

12 – 32 : Continuity should exist.
14 – 30 : Continuity should exist.

4. Check continuity between NAVI control unit harness connector (A) B104 terminals 12, 14 and ground.

12, 14 – Ground : Continuity should not exist.



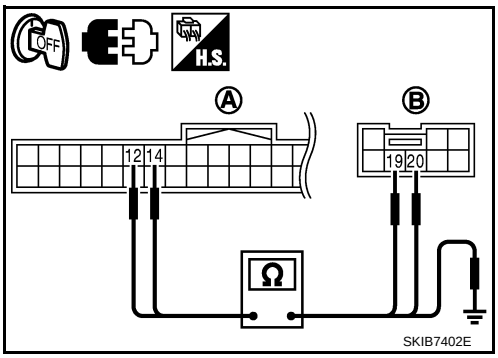
With base system

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and audio unit connectors.
3. Check continuity between NAVI control unit harness connector (A) B104 terminals 12, 14 and audio unit harness connector (B) M46 terminals 20, 19.

12 – 20 : Continuity should exist.
14 – 19 : Continuity should exist.

4. Check continuity between NAVI control unit harness connector (A) B104 terminals 12, 14 and ground.

12, 14 – Ground : Continuity should not exist.



OK or NG

OK >> GO TO 4.
NG >> Repair harness or connector.

4.CHECK VOICE GUIDANCE SIGNAL

1. Connect NAVI control unit and audio unit connectors.
2. Turn ignition switch ON.

- When a state of the following switches changes, it switches to CAN communication state.
  - Key switch (ACC, ON)
  - Hazard switch
  - Door lock/unlock switch
  - Front door switch (driver side, passenger side)
  - Back door opener switch (coupe models)
  - Trunk lid opener switch (roadster models)
  - Combination switch (passing, lighting switch 1ST position)
  - Key fob (lock/unlock signal)
  - Key cylinder switch
- When control performed only by BCM is required by switch, it shifts to CAN communication inactive mode.
- Status of combination switch reading function is changed.

SYSTEMS CONTROLLED BY BCM DIRECTLY

System	Reference
Power door lock system	BL-20
Remote keyless entry system	BL-52
Power window system NOTE 1	GW-19
Power seat NOTE 1	SE-12 or SE-15
Interior room lamp	LT-119
Rear wiper and washer system NOTE 2	WW-34

NOTE:

1. Power supply only. No system control.
2. Coupe models

SYSTEMS CONTROLLED BY BCM AND IPDM E/R

System	Reference
Panic alarm	BL-52
Theft warning	BL-111
NVIS (NATS)	BL-134
Headlamp (For USA)	LT-5
• Headlamp (For Canada) • Daytime light system	LT-31
• Parking, license plate and tail lamps • Battery saver control	LT-96
Front wiper and washer system	WW-4
Rear window defogger	GW-51

SYSTEMS CONTROLLED BY BCM AND COMBINATION METER

System	Reference
Warning chime	DI-68
Turn signal and hazard warning lamps	LT-61
Low tire pressure warning system	WT-9

MAJOR COMPONENTS AND CONTROL SYSTEM

Power window main switch (door lock and unlock switch) operation signal is supplied
- through power window main switch (door lock and unlock switch) terminal 12.
- to BCM terminal 22

When the door is locked or unlocked with power window sub-switch (door lock and unlock switch), ground is supplied
- to power window sub-switch (door lock and unlock switch) terminal 11
- through body grounds M30 and M66.

Power window sub-switch (door lock and unlock switch) operation signal is supplied
- through power window sub-switch (door lock and unlock switch) terminal 16.
- to BCM terminal 22

When the door is locked with door key cylinder switch, ground is supplied
- to power window main switch (door lock and unlock switch) terminal 6
- through door key cylinder switch terminals 3 and 2 and
- through body grounds M30 and M66.

Door key cylinder switch operation signal is supplied
- through power window main switch (door lock and unlock switch) terminal 12
- to BCM terminal 22.

When the door is unlocked with door key cylinder switch, ground is supplied
- to power window main switch (door lock and unlock switch) terminal 7
- through door key cylinder switch terminals 1 and 2 and
- through body grounds M30 and M66.

Door key cylinder switch operation signal is supplied
- through power window main switch (door lock and unlock switch) terminal 12
- to BCM terminal 22.

BCM is connected to power window main switch (door lock and unlock switch) and power window sub-switch (door lock and unlock switch) as serial link.

POWER WINDOW SERIAL LINK

Power window main switch, power window sub-switch and BCM transmit and receive the signal by power window serial link.

The under mentioned signal is transmitted from power window main switch to BCM.
- Door lock and unlock switch signal.

The under mentioned signal is transmitted from power window sub-switch to BCM.
- Door lock and unlock switch signal.

OUTLINE

Functions available by operating the door lock and unlock switches on driver's door and passenger's door
- With the locking operation of door lock and unlock switch, door lock actuators of driver's and passenger's doors are locked.
- With the unlocking operation of door lock and unlock switch, door lock actuators of driver's and passenger's doors are unlocked.

Functions available by operating the key cylinder switch
- With the locking operation of door key cylinder, door lock actuators of all doors are locked.
- When door key cylinder is unlocked, door lock actuator (driver side) is unlocked.
- When door key cylinder is unlocked for the second time within 5 seconds after the first unlock operation, door lock actuators on driver's and passenger's doors are unlocked.

Unlock mode can be changed by using CONSULT-III “WORK SUPPORT” mode in “DOOR LOCK-UNLOCK SET”.

Refer to BL-33, "CONSULT-III Function (BCM)".

Key reminder door system

When door lock and unlock switch is operated to lock doors with ignition key put in key cylinder and driver's and passenger's door open, driver and passenger door lock actuators are locked and then unlocked.

Back door opener operation/For coupe

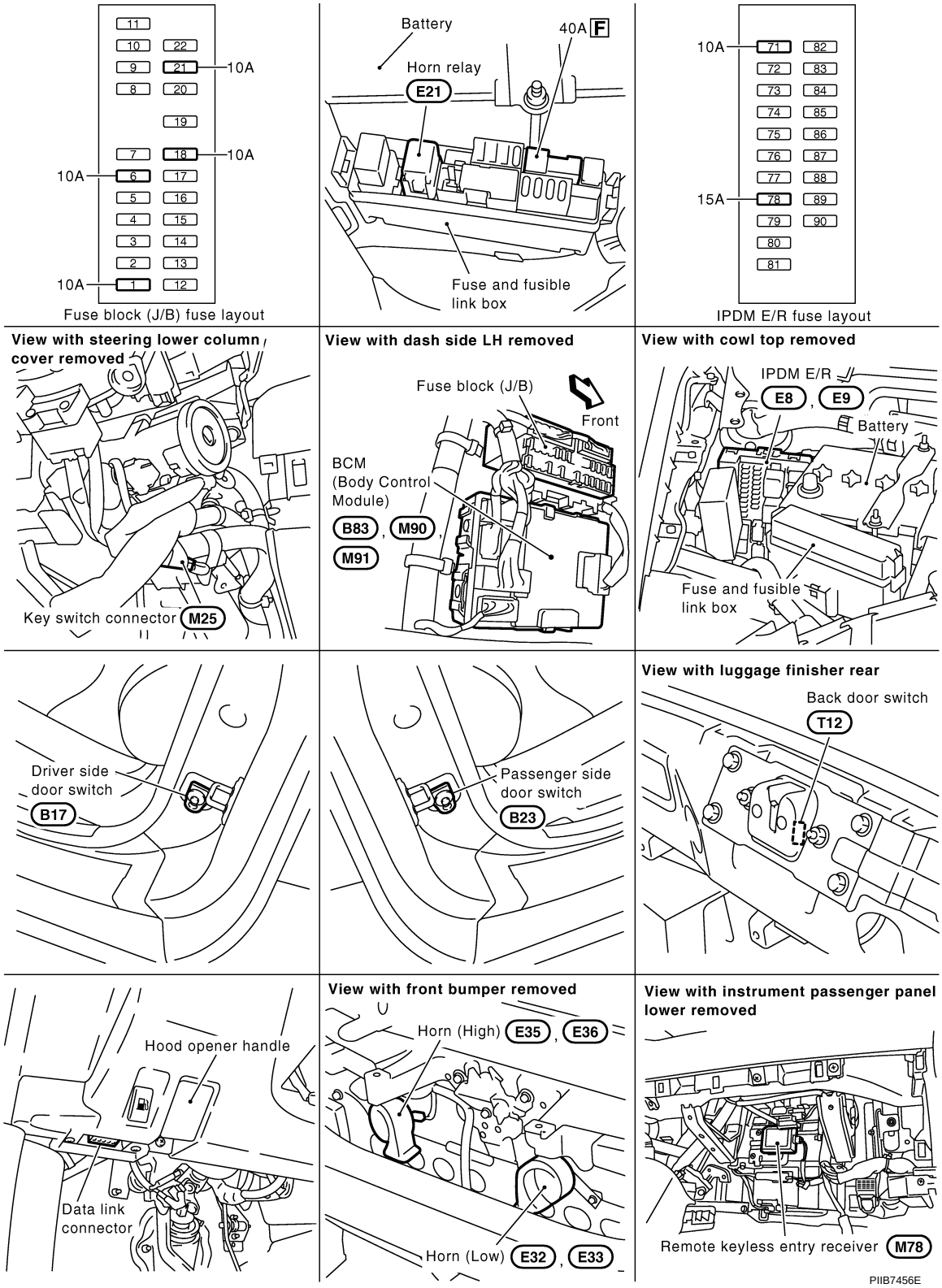
When back door opener switch is ON with driver's door unlocked, ground is supplied
- to BCM terminal 68
- through back door opener actuator terminals 1 and 2 and
- through body grounds B5, B6, D105 and T14

REMOTE KEYLESS ENTRY SYSTEM

Component Parts and Harness Connector Location

INFOID:0000000004657968

FOR COUPE

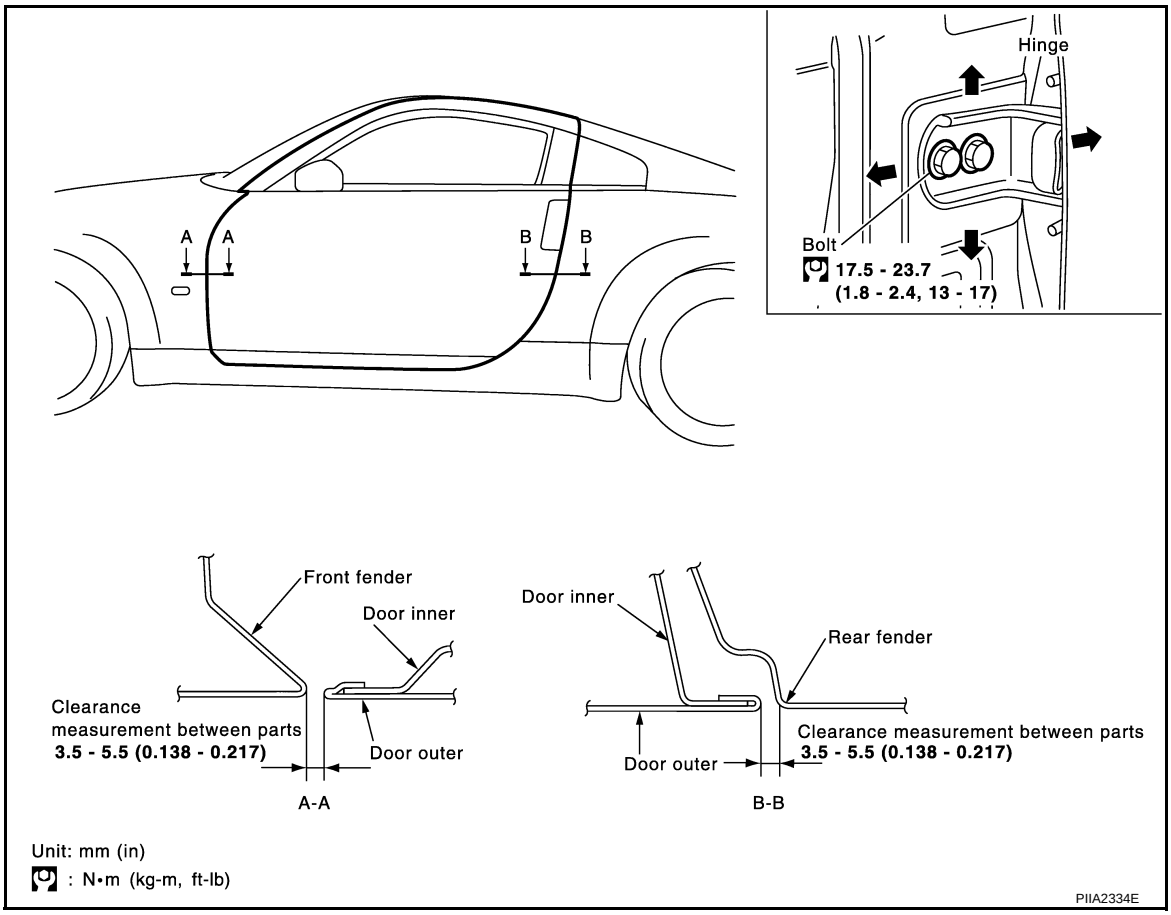


DOOR

Fitting Adjustment

INFOID:0000000004657995

COUPE



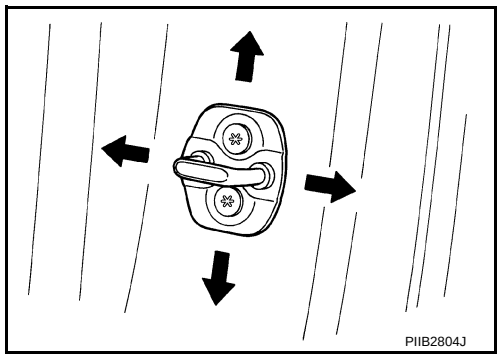
DOOR

Longitudinal clearance and surface height adjustment at front end

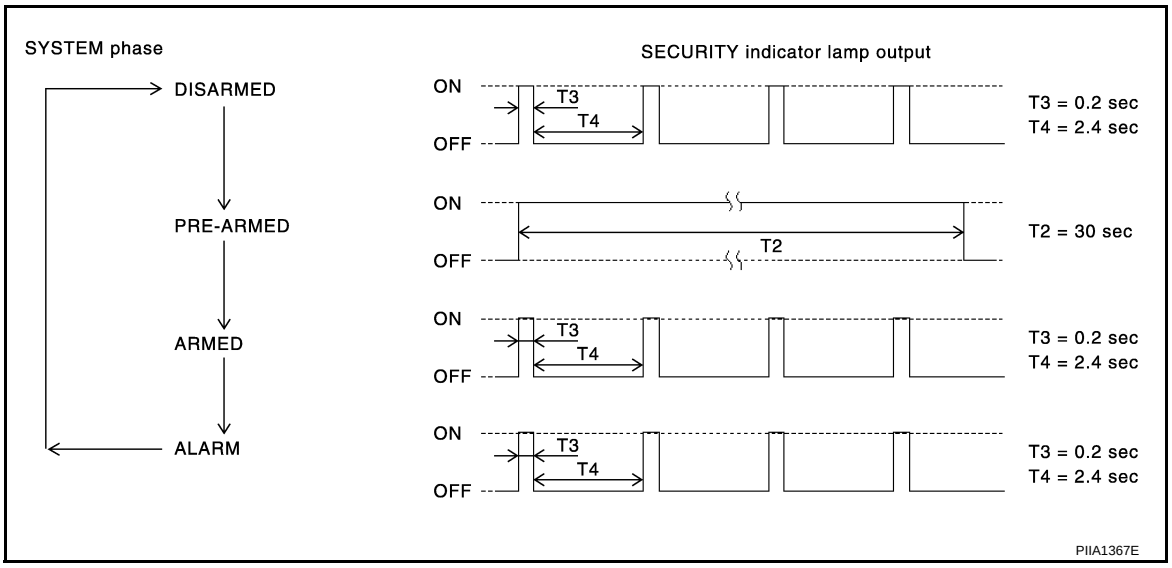
1. Remove the fender protector. Refer to EI-17.
2. Loosen the hinge mounting bolts. Raise the door at rear end to adjust.

STRIKER ADJUSTMENT

Adjust the striker so that it becomes parallel with the lock insertion direction.



Operation Flow



Setting the vehicle security system

Initial condition

- Ignition switch is in OFF position.

Disarmed phase

- When hood, doors, back door (for Coupe) or trunk (for Roadster) is open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.
- When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 seconds.

Pre-armed phase and armed phase

When the following operation 1 or 2 is performed, the vehicle security system turns into the “pre-armed” phase. (The security indicator lamp illuminates.)

1. BCM receives LOCK signal from door key cylinder switch or key fob after all doors and back door (for Coupe) or trunk (for Roadster) are closed.
2. All doors and back door (for Coupe) or trunk (for Roadster) are closed after doors are locked by key or door lock and unlock switch.
   The security indicator lamp illuminates for 30 seconds. Then, the system automatically shifts into the “armed” phase.

Canceling the set vehicle security system

When one of the following operations is performed, the armed phase is canceled.

1. Unlock the doors with the key or the key fob.
2. Open the back door (for Coupe) or trunk (for Roadster) with the key fob.
3. Turn ignition switch to “ON” or “ACC” position.

Canceling the alarm operation of the vehicle security system

When one of the following operations is performed, the alarm operation is canceled.

- Unlock the door with the key or key fob.
- Open the trunk (for Roadster) with the key fob.

Activating the alarm operation of the vehicle security system

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.4 seconds.)
When the following operation 1 or 2 is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

1. Any door or trunk (for Roadster) is opened during armed phase.
2. Disconnecting and connecting the battery connector before canceling armed phase.

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 10A fuse [No.19, located in the fuse block (J/B)]
- to security indicator lamp terminal 1.

For initialization, refer to “CONSULT-III Operation Manual NATS-IVIS/NVIS”.

Does the engine start?

Yes >> BCM is malfunctioning.
- Replace BCM. **Ref. part No. A**
- Perform initialization with CONSULT-III.
- For initialization, refer to “CONSULT-III Operation Manual NATS-IVIS/NVIS”.

No >> ECM is malfunctioning.
- Replace ECM. **Ref. part No. B**
- Perform initialization or re-communicating function.
- For initialization, refer to “CONSULT-III Operation Manual NATS-IVIS/NVIS”.
- For re-communicating function, refer to BL-135, "ECM Re-communicating Function".

Diagnosis Procedure 2

INFOID:0000000004658055

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

1.CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is CONSULT-III screen displayed as above?

Yes >> GO TO 2.
No >> Refer to BL-139, "Trouble Diagnosis".

2.PERFORM INITIALIZATION WITH CONSULT-III

Perform initialization with CONSULT-III. Re-register all NATS ignition key IDs.
For initialization and registration of NATS ignition key IDs, refer to “CONSULT-III Operation Manual NATS-IVIS/NVIS”.

NOTE:
If the initialization is not completed or malfunctions, CONSULT-III shows 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 >> BCM is malfunctioning.
- Replace BCM. **Ref. part No. A**
- Perform initialization with CONSULT-III.
- For initialization, refer to “CONSULT-III Operation Manual NATS-IVIS/NVIS”.

Diagnosis Procedure 3

INFOID:0000000004658056

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

1.CONFIRM SELF-DIAGNOSTIC RESULTS

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

Is CONSULT-III screen displayed as shown in figure?

Yes >> GO TO 2.
No >> Refer to BL-139, "Trouble Diagnosis".

2.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to BL-146, "How to Replace NATS Antenna Amp".

OK or NG

OK >> GO TO 3.
NG >> Reinstall NATS antenna amp. correctly.

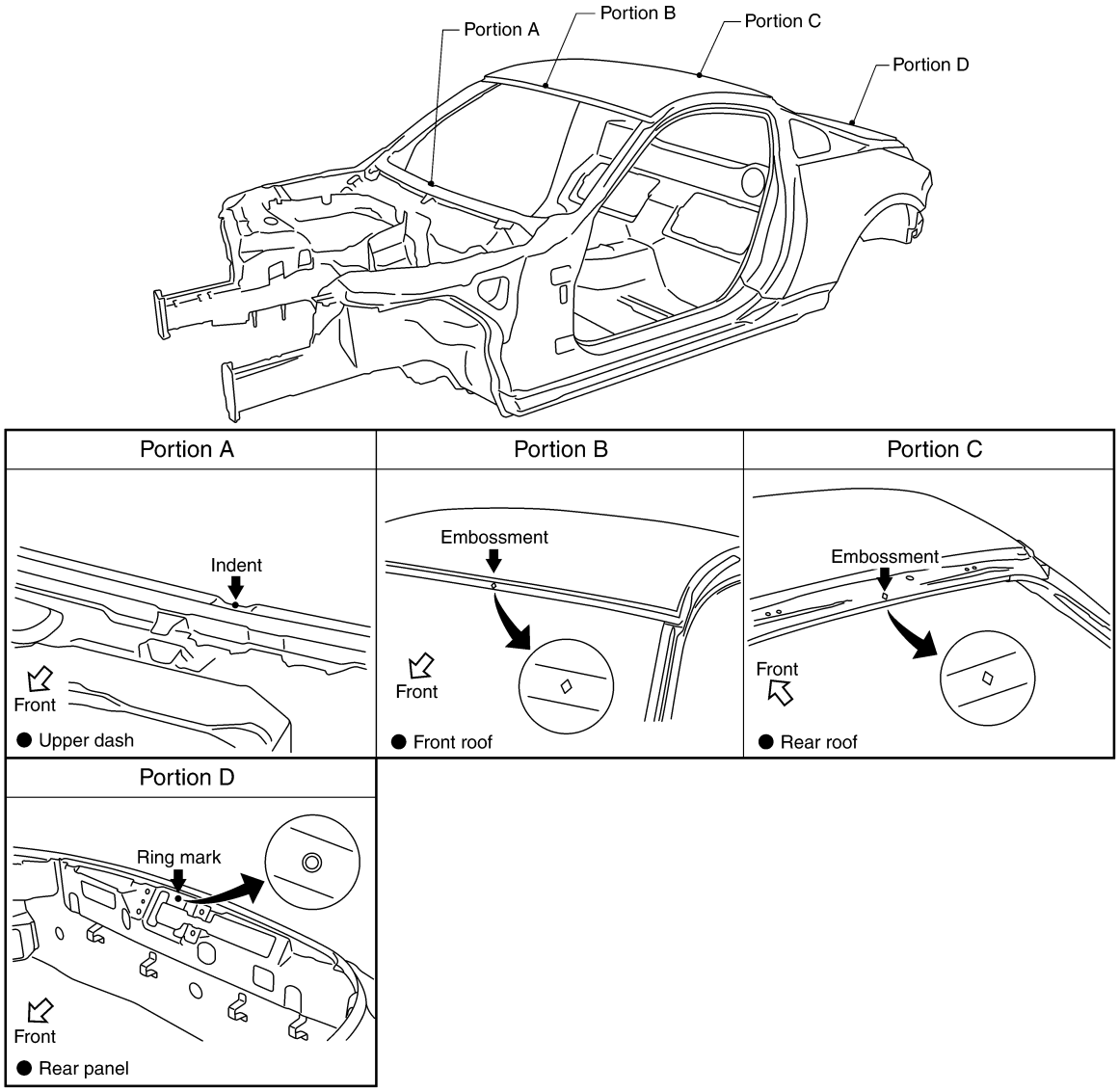
3.CHECK NVIS (NATS) IGNITION KEY ID CHIP

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, E5**
- Perform initialization with CONSULT-III.

A mark has been placed on each part of the body to indicate the vehicle center. When repairing parts damaged by an accident which might affect the vehicle frame (members, pillars, etc.), more accurate and effective repair will be possible by using these marks together with body alignment specifications.



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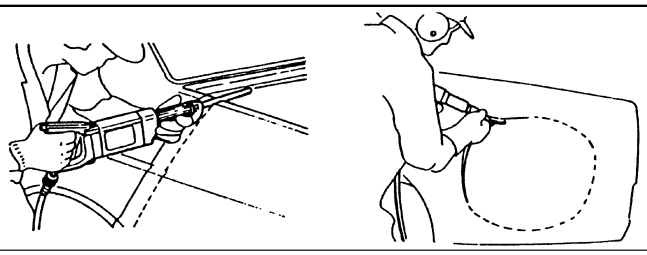
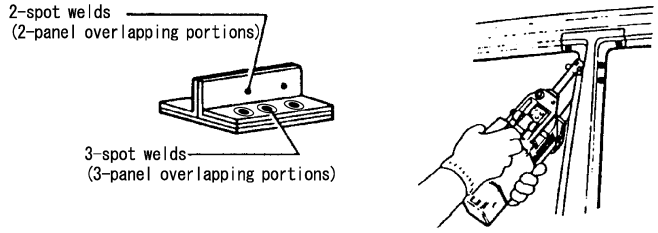
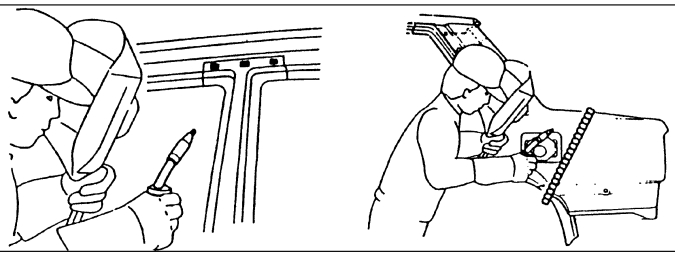
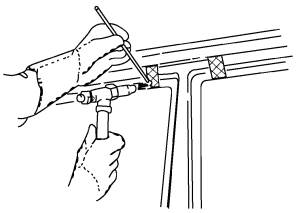
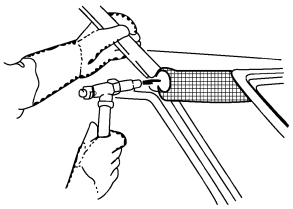
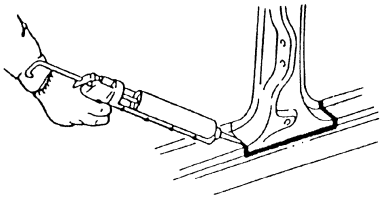
PANEL PARTS MATCHING MARKS (COUPE)

The symbols used in this section for cutting and welding / brazing operations are shown below.

Saw cut or air chisel cut	
Spot weld 2-spot welds	
Spot weld 3-spot welds	
MIG plug weld	
MIG seam weld/ Point weld	
Brazing	
Soldering	
Sealing	

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NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000004657084

Use the chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

Reference page			BR-30, BR-31, BR-43, BR-44	BR-28, BR-41	BR-28, BR-41	—	—	BR-35, BR-37, BR-47, BR-50	—	—	—	BR-35, BR-37, BR-47, BR-50	—	NVH in PR section	NHV in RFD section	NVH in FAX, RAX and FSU, RSU section	NVH in WT section	NVH in WT section	NVH in RAX section	NVH in PS section
Possible cause and SUSPECTED PARTS			Pads - damaged	Pads - uneven wear	Shims damaged	Rotor imbalance	Rotor damage	Rotor runout	Rotor deformation	Rotor deflection	Rotor rust	Rotor thickness variation	Drum out of round	PROPELLER SHAFT	DIFFERENTIAL	AXLE AND SUSPENSION	TIRES	ROAD WHEEL	DRIVE SHAFT	STEERING
Symptom	BRAKE	Noise	×	×	×									×	×	×	×	×	×	×
		Shake				×								×		×	×	×	×	×
		Shimmy, Judder				×	×	×	×	×	×	×	×			×	×	×		×

×: Applicable

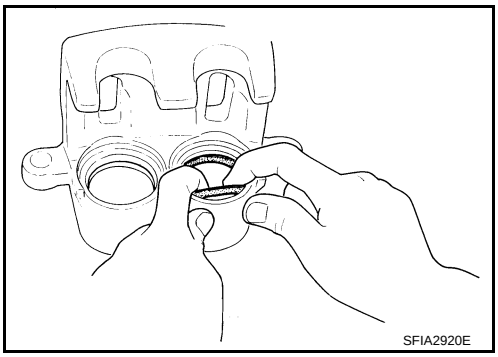
Check piston surface for corrosion, wear, and damage. If a malfunction is detected, replace applicable part.

Sliding Pin, Sliding Pin Bolt, and Sliding Pin Boot

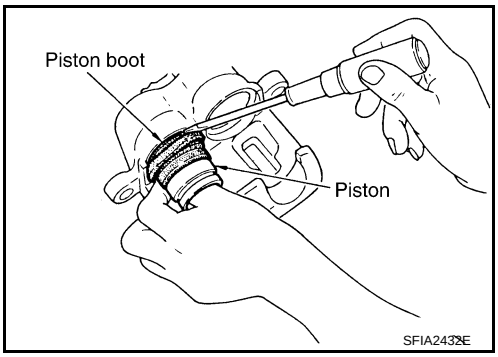
Check sliding pins and sliding pin boots for wear, damage, and cracks. If a malfunction is detected, replace applicable part.

ASSEMBLY

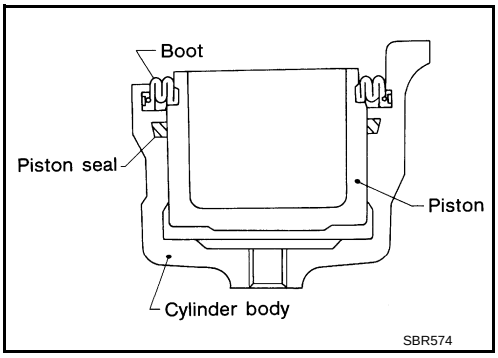
1. Apply polyglycol ether based lubricant to the piston seal, and install them to the cylinder body.
   CAUTION:
   Do not reuse piston seal.



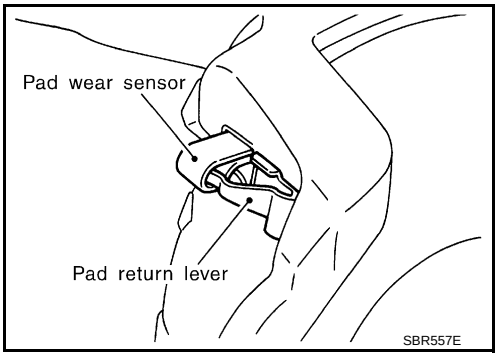
2. Apply rubber grease to piston boots. Cover the piston end with piston boot, and install cylinder-side lip on piston boot properly into groove on cylinder body.
   CAUTION:
   Do not reuse piston boot.



3. Apply brake fluid to piston, and press piston into cylinder body by hand to assemble piston-side lip on piston boot properly into a groove on piston.
   CAUTION:
   Press piston evenly and change pressing point to prevent inner wall of cylinder from being rubbed.
4. Install sliding pins and sliding pin boots to the torque member.

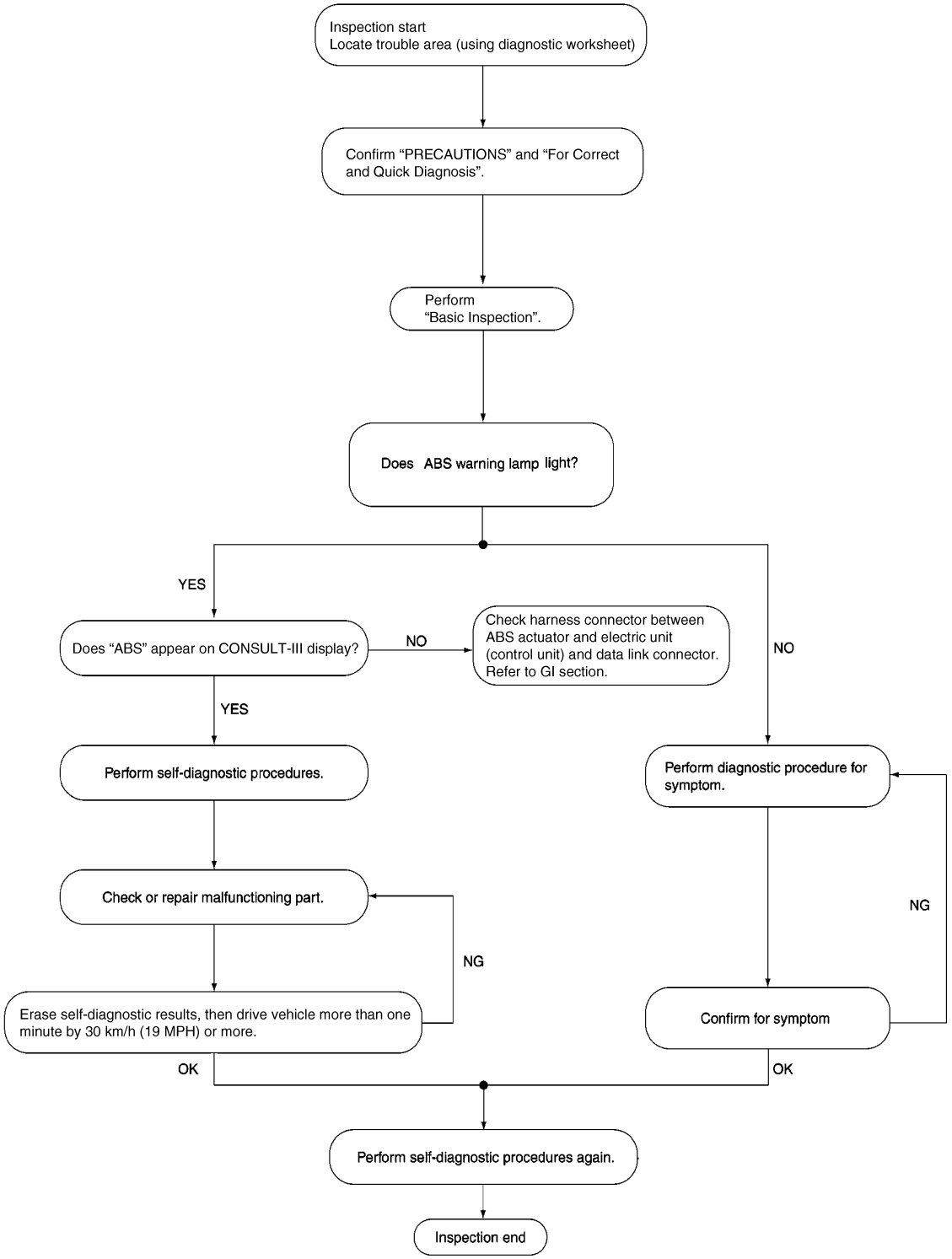


5. Install the torque member to the steering knuckle and tighten the mounting bolts to the specified torque. Refer to BR-28, "Component".
   CAUTION:
   Before installing torque member to vehicle, wipe off oil and grease on the washer seats on steering knuckle and the mounting surface of the torque member.
6. Install pad retainers to torque member.
7. Press in piston until pads can be installed, and then install cylinder body to torque member.
8. Install cylinder body, and tighten sliding pin bolt to the specified torque. Refer to BR-28, "Component".



9. Position a projection of brake hose metal fitting by aligning with protrusions on cylinder body and tighten union bolt to specified torque. Refer to BR-12, "Hydraulic Circuit".
   CAUTION:
   - **Assemble brake hose securely to cylinder body.**

DIAGNOSIS FLOWCHART



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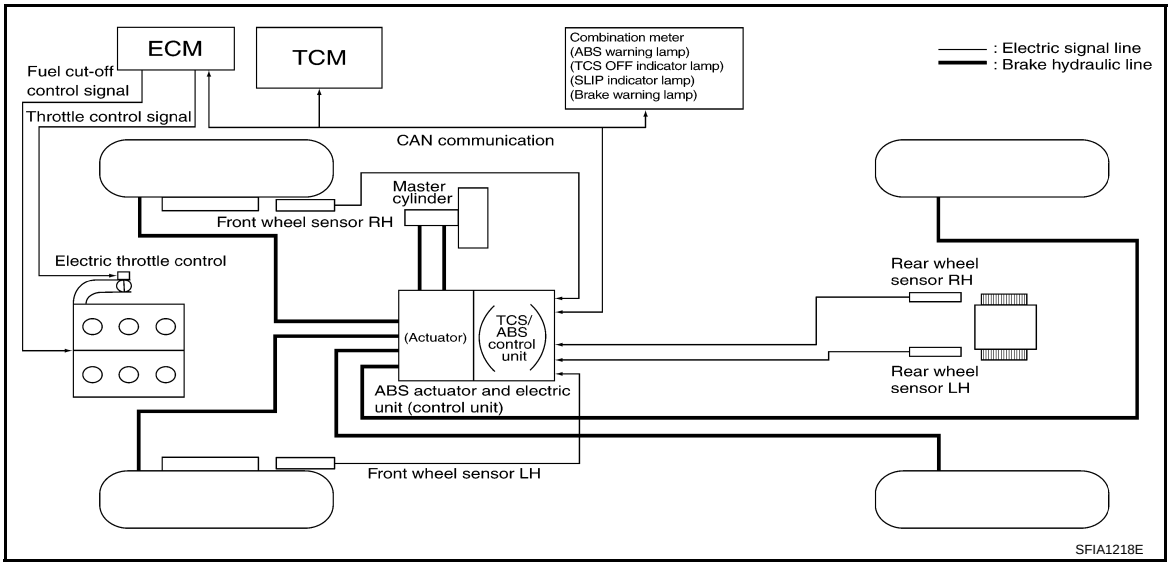
ASKING COMPLAINTS

SYSTEM DESCRIPTION

Schematic

INFOID:0000000004657609



TCS Function

INFOID:0000000004657610

- The wheel spin occurrence of the drive wheels is detected by the ABS actuator and electric unit (control unit) using the wheel speed signals from all four wheels, so when wheel spin occurs, the amount of wheel spin is reduced by cutting the fuel to the engine, and partially closing the throttle valve to reduce the engine torque. The throttle opening is also controlled to obtain the optimum engine torque.
- Depending on road circumstances, the driver may have a sluggish feel. This is normal, because the optimum traction has the highest priority under TCS operation.
- TCS may be activated any time the vehicle suddenly accelerates, suddenly downshifts, or is driven on a road with a varying surface friction coefficient.
- During TCS operation, it informs a driver of system operation by flashing SLIP indicator lamp.

ABS Function

INFOID:0000000004657611

- The Anti-Lock Braking System is a function that detects wheel revolution while braking, and it improves handling stability during sudden braking by electrically preventing 4 wheel lock. Maneuverability is also improved for avoiding obstacles.
- If the electrical system breaks down, then the Fail-Safe function starts, the ABS becomes inoperative, and the ABS warning lamp turns on.
- Electrical system diagnosis by CONSULT-III is available.

EBD Function

INFOID:0000000004657612

- The Electronic Brake Distribution is a function that detects subtle slippages between the front and rear wheels during braking, and it improves handling stability by electronically controlling the Brake Fluid Pressure which results in reduced rear wheel slippage.
- In case of electrical system break down, the Fail-Safe function is activated, the EBD and ABS becomes inoperative, and the ABS warning lamp and brake warning lamp are turned on.
- Electrical system diagnosis by CONSULT-III is available.

SENSOR ROTOR

Removal and Installation

INFOID:0000000004657643

REMOVAL

Front

Sensor rotor cannot be disassembled. To replace sensor rotor, replace hub bearing assembly. Refer to FAX-4, "Removal and Installation" in “Front Axle/Drive Shaft” in “FAX” section.

Rear

- Follow procedure below to remove rear sensor rotor.
- Remove side flange. Refer to RFD-15 in “Rear Final Drive” in “RFD” section.
- Using a bearing replacer (special service tool) and puller (commercial service tool), remove sensor rotor from the side flange.

INSTALLATION

Front

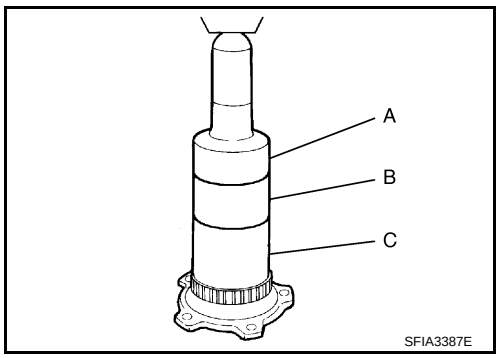
Sensor rotor cannot be disassembled. To replace sensor rotor, replace hub bearing assembly. Refer to FAX-4, "Removal and Installation" in “Front Axle/Drive Shaft” in “FAX” section.

Rear

- Follow procedure below to install rear sensor rotor.
- Using a drift (special service tool), press rear sensor rotor onto the side flange.

Tool number	A: ST30720000 (J-25405)
	B: ST27863000 (—)
	C: KV40104710 (—)

- Install side flange. Refer to RFD-15 in “Rear Final Drive” in “RFD” section.



Symptom	Symptom description	Result
Motor operation noise	The motor operation sound inside VDC/TCS/ABS actuator, and sometimes there is a slight sound when VDC, TCS, or ABS operates.	Normal
	Just after the engine starts, the motor operating noise may be heard. This is a normal status of the system operation check.	
System operation check noise	When the engine is started, you may barely be able to hear a slight thudding sound from the engine room, but this sound is made by the system operation check and is normal.	Normal
TCS operation (SLIP indicator lamp ON)	TCS may be activated any time the vehicle suddenly accelerates, suddenly downshifts, or is driven on a road with a varying surface friction coefficient.	Normal Cancel the VDC/TCS function for the inspection on a chassis dynamometer.
	When inspecting the speedometer, etc., press VDC OFF switch to turn off TCS function before conducting the work.	
	When accelerator pedal is depressed on a chassis dynamometer (front wheel fixing type), the vehicle speed will not increase. This is normal, because TCS is activated by the stationary front wheels. The warning lamp may also turn on to show “sensor system error” in this case. This is not a malfunction either, because the stationary front wheels are detected. Restart engine, and drive the vehicle at 30 km/h (19 MPH) or higher to check that the warning lamp no longer turns on.	
ABS operation (longer stopping distance)	Stopping distance may be longer for vehicles with ABS when the vehicle drives on rough or snow-covered roads. Use lower speeds when driving on these kinds of roads.	Normal
Sluggish feel	Depending on road circumstances, the driver may have a sluggish feel. This is normal, because under TCS operation optimum traction has the highest priority (safety first). Sometimes the driver has a slight sluggish feel in response to substantial accelerator pedal operation.	Normal

ABS WARNING LAMP, VDC OFF INDICATOR LAMP, SLIP INDICATOR LAMP AND BRAKE WARNING LAMP ON/OFF TIMING

×: ON –: OFF

Condition	ABS warning lamp	VDC OFF indicator lamp	SLIP indicator lamp	Brake warning lamp (Note 1)	Remarks
Ignition switch OFF.	—	—	—	—	—
Approx. Within 1 second after ignition switch is turned ON.	×	×	×	× (Note 1)	—
Approx. 1 second after ignition switch ON.	—	—	—	× (Note 1)	Turns OFF 2 seconds after engine starts.
VDC OFF switch is turned ON. (VDC function is OFF.)	—	×	—	—	—
VDC/TCS/ABS error.	×	×	—	—	There is a malfunction in VDC/TCS/ABS control unit, SLIP indicator lamp turns off (when the power supply or ground circuits return an error).
	×	×	×	—	—
When VDC/TCS is not functioning normally.	—	×	×	—	—
EBD error.	×	×	×	×	—

Note 1:Brake warning lamp will turn on in case of operating parking brake (switch turned on) or of actuating brake fluid level switch (brake fluid is insufficient).

Basic Inspection

INFOID:0000000004657674

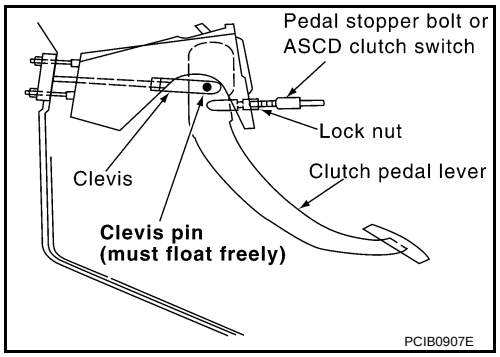
BRAKE FLUID AMOUNT, LEAKS, AND BRAKE PADS INSPECTION

1. Check fluid level in the brake reservoir tank. If fluid level is low, refill the brake fluid.

CLUTCH PEDAL

On-Vehicle Inspection and Adjustment

INFOID:0000000004657842



1. Check to see if the clevis pin floats freely in the bore of the clutch pedal. It should not be bound by the clevis or clutch pedal.

a. If the clevis pin is not free, check that the pedal stopper bolt or ASCD clutch switch is not applying pressure to the clutch pedal causing the clevis pin to bind. To adjust, loosen lock nut and turn pedal stopper bolt or ASCD clutch switch.

b. Tighten the lock nut. Refer to CL-5, "Removal and Installation".

c. Verify that the clevis pin floats in the bore of the clutch pedal. It should not be bound by the clutch pedal.

d. If the clevis pin is still not free, remove the clevis pin and check for deformation or damage. Replace clevis pin if necessary. Leave pin removed for step 2.

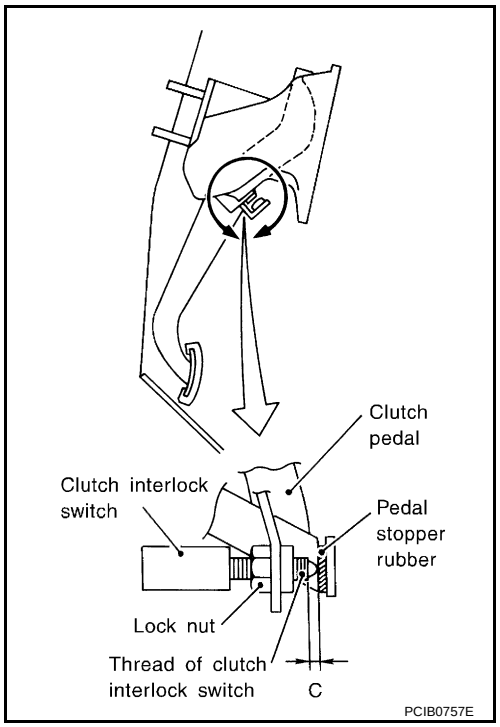
2. Check clutch pedal stroke for free range of movement.

a. With the clevis pin removed, manually move the clutch pedal up and down to determine if it moves freely.

b. If any sticking is noted, replace the related parts (clutch pedal assembly, bushing etc.). Re-assemble the clutch pedal and re-verify that the clevis pin floats freely in the bore of the clutch pedal.

3. Adjust clearance “C” while depressing clutch pedal fully. (With clutch interlock switch)

Clearance C : 0.1 - 1.0 mm (0.004 - 0.039 in)



4. Check clutch hydraulic and system components (clutch master cylinder, CSC, etc.) for sticking or binding.

a. If any sticking or binding noted, repair or replace related parts as necessary.

b. If hydraulic system repair was necessary, bleed the clutch hydraulic system. Refer to CL-7, "Bleeding".
NOTE:
Do not use a vacuum assist or any other type of power bleeder on this system. Use of a vacuum assist or power bleeder will not purge all the air from the system.

Removal and Installation

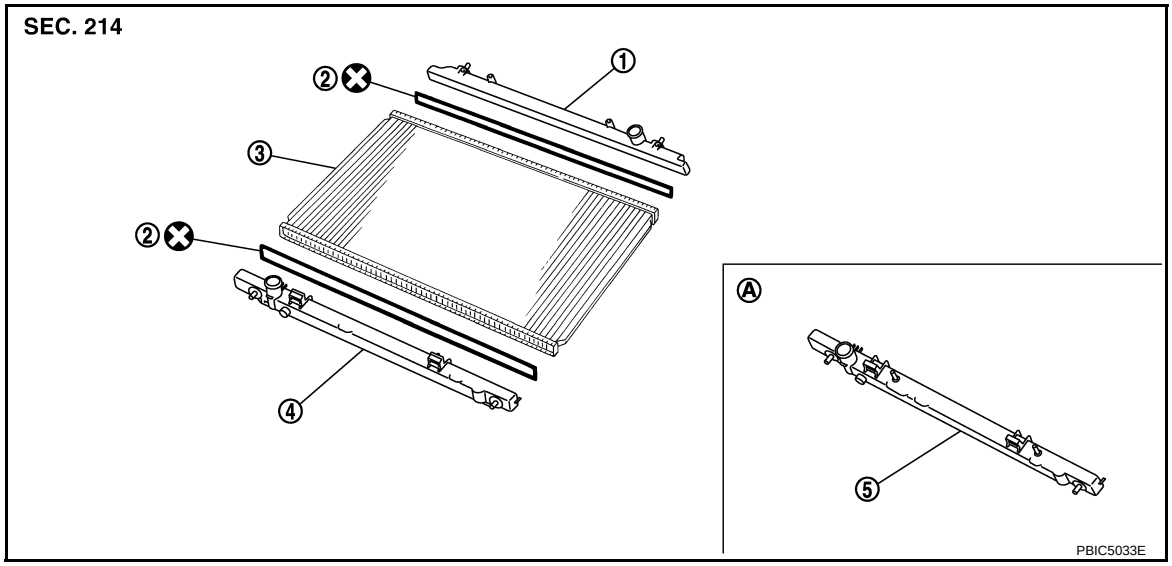
INFOID:0000000004657843

COMPONENTS

RADIATOR (ALUMINUM TYPE)

Disassembly and Assembly

INFOID:0000000004656133



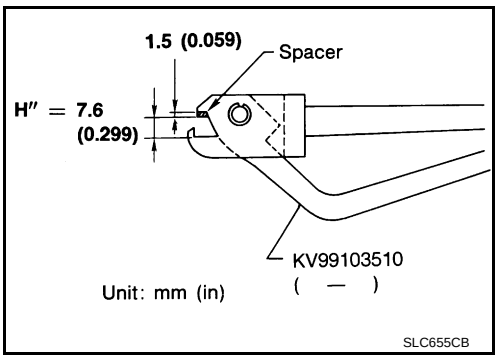
1. Upper tank
2. Sealing rubber
3. Core
4. Lower tank
5. Lower tank (with A/T fluid cooler)

A. A/T models

- Refer to GI-8, "Component" for symbol marks in the figure.

PREPARATION

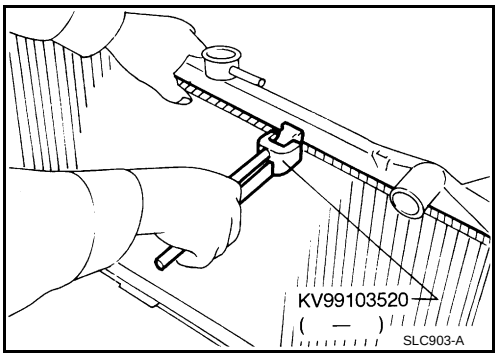
1. Attach spacer to tip of radiator plate pliers A (SST).
   Spacer specification: 18 mm (0.71 in) wide × 8.5 mm (0.335 in) long × 1.5 mm (0.059 in) thick.



2. Check that when radiator plate pliers A [SST: KV99103510 (—)] are closed dimension H″ is approx. 7.6 mm (0.299 in).
3. Adjust dimension H″ with spacer, if necessary.

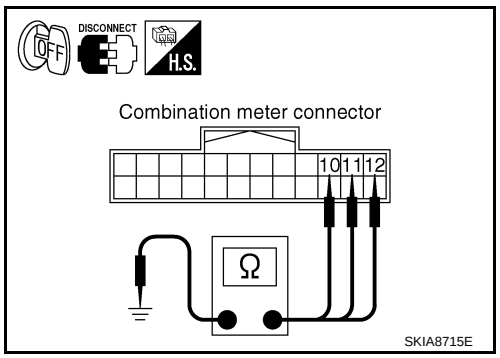
DISASSEMBLY

1. Remove upper and lower tanks with radiator plate pliers B (SST).
   CAUTION:
   Never disassemble lower tank and A/T fluid cooler. (A/T models)
   NOTE:
   Regard lower tank and A/T fluid cooler as an assembly. (A/T models)



3. Check continuity between combination meter harness connector M19 terminals 10, 11, 12 and ground.

10 – Ground
11 – Ground **: Continuity should exist.**
12 – Ground



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Vehicle Speed Signal Inspection

INFOID:0000000004657494

Symptom: Indication is irregular for the Speedometer and odo/trip meter.

1.CHECK VDC/TCS/ABS CONTROL UNIT OR ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Perform the following units self-diagnosis.
- VDC/TCS/ABS control unit [with VDC]. Refer to BRC-95, "CONSULT-III Function".
- ABS actuator and electric unit (control unit) [without VDC (with TCS)]. Refer to BRC-53, "CONSULT-III Function".
- ABS actuator and electric unit (control unit) [without VDC (without TCS)]. Refer to BRC-19, "CONSULT-III Function".

Self-diagnostic results

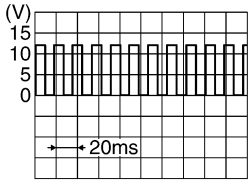
No malfunction detected >> GO TO 2.
Malfunction detected >> Check applicable parts, and repair or replace corresponding parts.

2.CHECK UNIFIED METER AND A/C AMP. OUTPUT SIGNAL

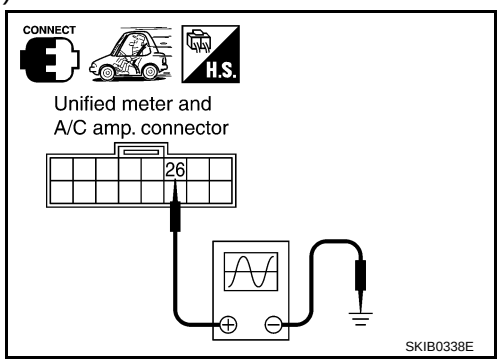
1. Start engine and drive vehicle at approximately 40 km/h (25 MPH).
2. Check voltage signal between unified meter and A/C amp. harness connector M49 terminal 26 and ground.

NOTE:
Maximum voltage may be 5 V due to specifications (connected units).

26 – Ground:



PKIA1935E



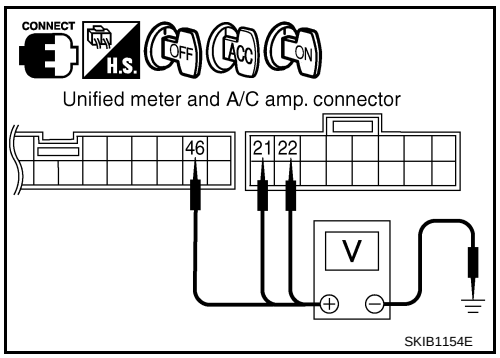
OK or NG

OK >> GO TO 3.
NG >> • If monitor indicates “0 V” constantly, repair or replace malfunctioning parts after checking each unit inputting vehicle speed signal (8 pulse), harness and connector between each unit and unified meter and A/C amp.
• If monitor indicates “5 V” or “12 V” constantly, replace unified meter and A/C amp.

3.CHECK CONTINUITY BETWEEN COMBINATION METER AND UNIFIED METER AND A/C AMP.

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and unified meter and A/C amp. connector.

Check voltage between unified meter and A/C amp. harness connector terminals and ground.



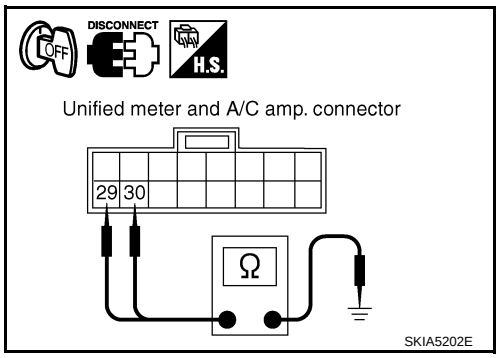
Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal				
M49	21	Ground	Battery voltage	Battery voltage	Battery voltage
M50	46		0 V	Battery voltage	Battery voltage
M49	22		0 V	0 V	Battery voltage

OK or NG

OK >> GO TO 3.
NG >> Check harness between unified meter and A/C amp. and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect unified meter and A/C amp. connector.
3. Check continuity between unified meter and A/C amp. harness connector and ground.



Connector	Terminal		Continuity
M49	29	Ground	Yes
	30		

OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

DTC [U1000] CAN Communication Circuit

INFOID:0000000004657524

Symptom: Display CAN COMM CIRC [U1000] at the result of self-diagnosis for unified meter and A/C amp.

1.CHECK CAN COMMUNICATION

1. Select “Self Diagnostic Result” mode for “METER/M&A” with CONSULT-III.

>> Go to “LAN system”. Refer to LAN-41, "CAN System Specification Chart" .

DTC [B2201] Triple Meter Communication Circuit

INFOID:0000000004657525

Symptom: Display T/METER COMM CIRC [B2201] at the result of self-diagnosis for unified meter and A/C amp.

NOTE:
For the wiring diagram, refer to DI-30, "Wiring Diagram - 3METER -".

1.CHECK CONNECTOR

Check triple meter, unified meter and A/C amp. and terminals (triple meter side, unified meter and A/C amp. side, and harness side) for looseness or bent terminals.

OK or NG

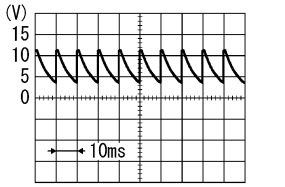
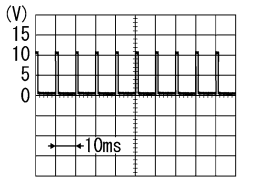
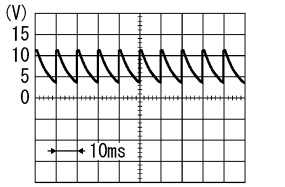
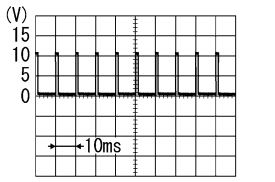
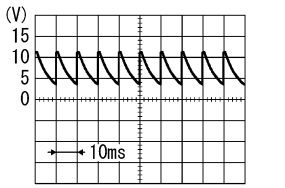
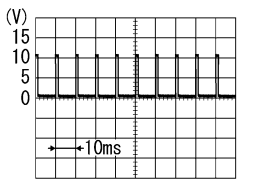
OK >> GO TO 2.
NG >> Repair terminal or connector.

2.CHECK METER/GAUGES VISUALLY

Does the pointer on the meter/gauges fluctuate at the engine start?

Is the fluctuation acceptable?

YES >> GO TO 3.

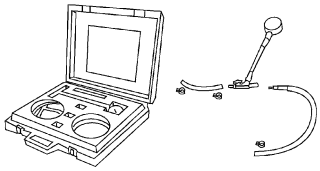
Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
34	W/L	Combination switch output 3	ON	Lighting, turn, wiper switch	OFF (Wiper intermittent dial position 4)	 PKIB4960J 7.2 V
					Any of the conditions below • Lighting switch 2ND • Lighting switch HI beam (Operates only HI beam switch) • Rear washer switch • Wiper intermittent dial position 1 • Wiper intermittent dial position 2 • Wiper intermittent dial position 3	 PKIB4958J 1.2 V
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper switch (Wiper intermittent dial position 4)	OFF	 PKIB4960J 7.2 V
					Any of the conditions below • Lighting switch 2ND • Lighting switch PASSING (Operates only PASSING switch) • Front wiper switch INT • Front wiper switch HI	 PKIB4958J 1.2 V
36	W/R	Combination switch output 1	ON	Lighting, turn, wiper switch (Wiper intermittent dial position 4)	OFF	 PKIB4960J 7.2 V
					Any of the conditions below • Turn signal switch to right • Turn signal switch to left • Front wiper switch MIST • Front wiper switch LO • Front washer switch	 PKIB4958J 1.2 V

PREPARATION

Special Service Tool

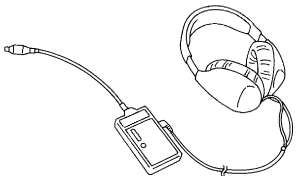
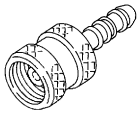
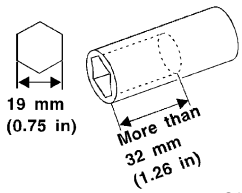
INFOID:0000000004656160

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
(J-44321) Fuel pressure gauge kit  LEC642	Checking fuel pressure

Commercial Service Tool

INFOID:0000000004656161

Tool name (Kent-Moore No.)	Description
Leak detector i.e.: (J-41416)  S-NT703	Locating the EVAP leak
EVAP service port adapter i.e.: (J-41413-OBD)  S-NT704	Applying positive pressure through EVAP service port
Fuel filler cap adapter i.e.: (MLR-8382)  S-NT815	Checking fuel tank vacuum relief valve opening pressure
Socket wrench  S-NT705	Removing and installing engine coolant temperature sensor

Items (CONSULT-III screen terms)	DTC*1		SRT code	Trip	MIL lighting up	Reference page
	CONSULT-III GST*2	ECM*3				
APP SEN 2/CIRC	P2127	2127	—	1	×	EC-593
APP SEN 2/CIRC	P2128	2128	—	1	×	EC-593
TP SENSOR2/CIRC-B2	P2132	2132	—	1	×	EC-345
TP SENSOR2/CIRC-B2	P2133	2133	—	1	×	EC-345
TP SENSOR-B1	P2135	2135	—	1	×	EC-541
APP SENSOR	P2138	2138	—	1	×	EC-601
A/F SENSOR1 (B1)	P2A00	2A00	—	2	×	EC-609
A/F SENSOR1 (B2)	P2A03	2A03	—	2	×	EC-609

*1: 1st trip DTC No. is the same as DTC No.

*2: This number is prescribed by SAE J2012.

*3: In Diagnostic Test Mode II (Self-diagnostic results), this number is controlled by NISSAN.

*4: SRT code will not be set if the self-diagnostic result is NG.

*5: The troubleshooting for this DTC needs CONSULT-III.

*6: When the fail-safe operations for both self-diagnoses occur, the MIL illuminates.

*7: When the ECM is in the mode of displaying SRT status, MIL may flash. For the details, refer to "How to Display SRT Status".

DTC AND 1ST TRIP DTC

The 1st trip DTC (whose number is the same as the DTC number) is displayed for the latest self-diagnostic results obtained. If the ECM memory was cleared previously, and the 1st trip DTC did not reoccur, the 1st trip DTC will not be displayed.

If a malfunction is detected during the 1st trip, the 1st trip DTC is stored in the ECM memory. The MIL will not light up (two trip detection logic). If the same malfunction is not detected in the 2nd trip (meeting the required driving pattern), the 1st trip DTC is cleared from the ECM memory. If the same malfunction is detected in the 2nd trip, both the 1st trip DTC and DTC are stored in the ECM memory and the MIL lights up. In other words, the DTC is stored in the ECM memory and the MIL lights up when the same malfunction occurs in two consecutive trips. If a 1st trip DTC is stored and a non-diagnostic operation is performed between the 1st and 2nd trips, only the 1st trip DTC will continue to be stored. For malfunctions that blink or light up the MIL during the 1st trip, the DTC and 1st trip DTC are stored in the ECM memory.

Procedures for clearing the DTC and the 1st trip DTC from the ECM memory are described in "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION".

For malfunctions in which 1st trip DTCs are displayed, refer to "EMISSION-RELATED DIAGNOSTIC INFORMATION ITEMS". These items are required by legal regulations to continuously monitor the system/component. In addition, the items monitored non-continuously are also displayed on CONSULT-III.

1st trip DTC is specified in Service $07 of SAE J1979. 1st trip DTC detection occurs without lighting up the MIL and therefore does not warn the driver of a malfunction. However, 1st trip DTC detection will not prevent the vehicle from being tested, for example during Inspection/Maintenance (I/M) tests.

When a 1st trip DTC is detected, check, print out or write down and erase (1st trip) DTC and Freeze Frame data as specified in Work Flow procedure Step 2, refer to EC-80, "Trouble Diagnosis Introduction". Then perform DTC Confirmation Procedure or Overall Function Check to try to duplicate the malfunction. If the malfunction is duplicated, the item requires repair.

How to Read DTC and 1st Trip DTC

DTC and 1st trip DTC can be read by the following methods.

With CONSULT-III

With GST

CONSULT-III or GST (Generic Scan Tool) Examples: P0340, P0850, P1148, etc.

These DTCs are prescribed by SAE J2012.

(CONSULT-III also displays the malfunctioning component or system.)

No Tools

The number of blinks of the MIL in the Diagnostic Test Mode II (Self-Diagnostic Results) indicates the DTC. Example: 0340, 0850, 1148, etc.

These DTCs are controlled by NISSAN.

- **1st trip DTC No. is the same as DTC No.**

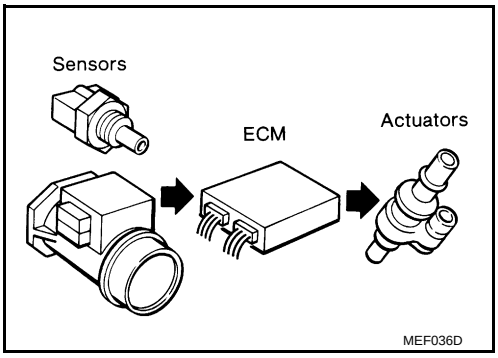
TROUBLE DIAGNOSIS

Trouble Diagnosis Introduction

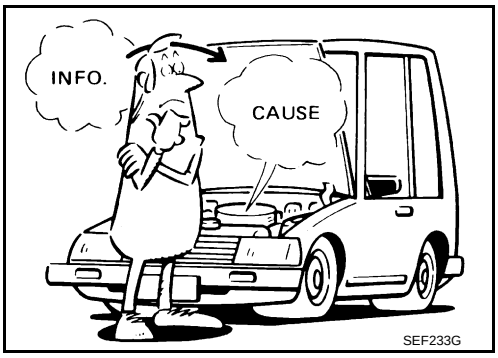
INFOID:0000000004656195

INTRODUCTION

The engine has an ECM to control major systems such as fuel control, ignition control, idle air control system, etc. The ECM accepts input signals from sensors and instantly drives actuators. It is essential that both input and output signals are proper and stable. At the same time, it is important that there are no malfunctions such as vacuum leaks, fouled spark plugs, or other malfunctions with the engine.



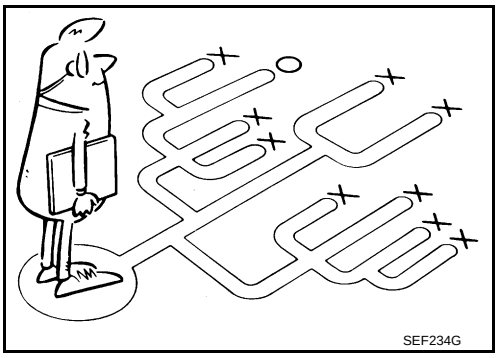
It is much more difficult to diagnose an incident that occurs intermittently rather than continuously. Most intermittent incidents are caused by poor electric connections or improper wiring. In this case, careful checking of suspected circuits may help prevent the replacement of good parts.



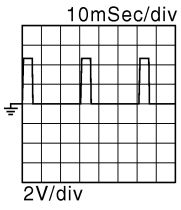
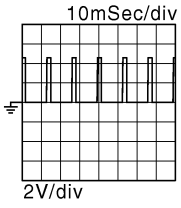
A visual check only may not find the cause of the incidents. A road test with CONSULT-III (or GST) or a circuit tester connected should be performed. Follow the WORK FLOW on "WORK FLOW".

Before undertaking actual checks, take a few minutes to talk with a customer who approaches with a driveability complaint. The customer can supply good information about such incidents, especially intermittent ones. Find out what symptoms are present and under what conditions they occur. A DIAGNOSTIC WORKSHEET like the example on "Worksheet Sample" should be used.

Start your diagnosis by looking for conventional malfunctions first. This will help troubleshoot driveability malfunctions on an electronically controlled engine vehicle.



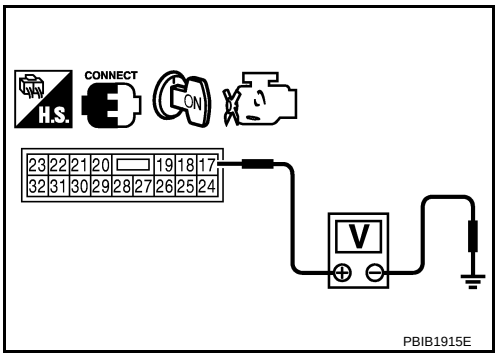
WORK FLOW

TERMINAL NO.	WIRE COLOR	ITEM	CONDITION	DATA (DC Voltage)
102	LG	EVAP control system pressure sensor	**[Ignition switch: ON]**	1.8 - 4.8V
103	G	Sensor power supply (Accelerator pedal position sensor 2)	**[Ignition switch: ON]**	5V
104	GY	Sensor ground (Accelerator pedal position sensor 2)	**[Engine is running]** • **Warm-up condition** • Idle speed	0V
105	L	Refrigerant pressure sensor	**[Engine is running]** • **Warm-up condition** • Both A/C switch and blower switch: ON (Compressor operates.)	1.0 - 4.0V
106	W	Fuel tank temperature sensor	**[Engine is running]**	0 - 4.8V Output voltage varies with fuel tank temperature.
107	BR	Sensor power supply (EVAP control system pressure sensor)	**[Ignition switch: ON]**	5V
108	B/Y	Sensor ground (ASCD steering switch)	**[Engine is running]** • **Warm-up condition** • Idle speed	0V
109	BR	Transmission range switch(A/T) Park/neutral position switch(M/T)	**[Ignition switch: ON]** • Shift lever: P or N (A/T), Neutral (M/T) position	BATTERY VOLTAGE (11 - 14V)
			[Ignition switch: ON] • Shift lever: Except above position	0V
110	Y	Engine speed output signal	**[Engine is running]** • **Warm-up condition** • Idle speed **NOTE:** The pulse cycle changes depending on rpm at idle	1V★  PBIB3557E
			[Engine is running] • Engine speed: 2,000 rpm	1V★  PBIB3558E
111	OR	Sensor power supply (Refrigerant pressure sensor)	**[Ignition switch: ON]**	5V
112	PU	Sensor ground (EVAP control system pressure sensor)	**[Engine is running]** • **Warm-up condition** • Idle speed	0V
113	P	CAN communication line	—	—
114	L	CAN communication line	—	—
116	W	Sensor ground (Refrigerant pressure sensor)	**[Engine is running]** • **Warm-up condition** • Idle speed	0V

7. CHECK ECM POWER SUPPLY CIRCUIT-II

1. Reconnect ECM harness connector disconnected.
2. Turn ignition switch ON.
3. Check voltage between IPDM E/R terminal 17 and ground with CONSULT-III or tester.

Voltage: Battery voltage



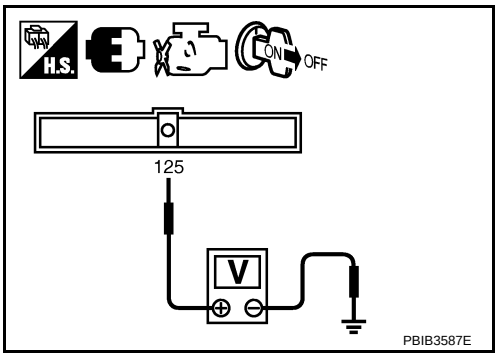
OK or NG

OK >> Go to EC-645.
NG >> GO TO 8.

8. CHECK ECM POWER SUPPLY CIRCUIT-III

1. Turn ignition switch OFF and wait at least 10 seconds.
2. Turn ignition switch ON and then OFF.
3. Check voltage between ECM terminals 125 and ground with CONSULT-III or tester.

Voltage: After turning ignition switch OFF, battery voltage will exist for a few seconds, then drop approximately 0V.



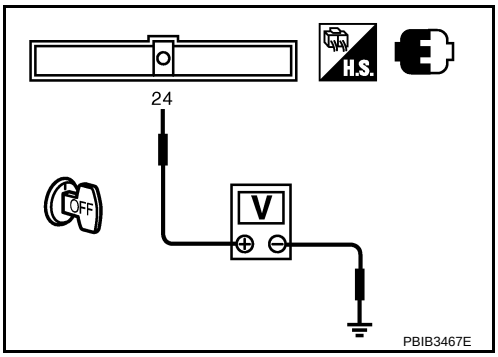
OK or NG

OK >> GO TO 15.
NG (Battery voltage does not exist.)>>GO TO 9.
NG (Battery voltage exists for more than a few seconds.)>>GO TO 12.

9. CHECK ECM POWER SUPPLY CIRCUIT-IV

Check voltage between ECM terminal 24 and ground with CONSULT-III or tester.

Voltage: Battery voltage



OK or NG

OK >> GO TO 10.
NG >> GO TO 12.

10. CHECK ECM POWER SUPPLY CIRCUIT-V

1. Disconnect ECM harness connector.
2. Disconnect IPDM E/R harness connector E7.
3. Check harness continuity between ECM terminals 125 and IPDM E/R terminal 18. Refer to Wiring Diagram.

Continuity should exist.

4. Also check harness for short to ground and short to power.

OK or NG

OK >> GO TO 18.
NG >> GO TO 11.

11. DETECT MALFUNCTIONING PART

Check the following.

>> Repair open circuit or short to ground or short to power in harness or connectors.

4. CHECK HO2S2 HEATER OUTPUT SIGNAL CIRCUIT FOR OPEN AND SHORT

1. Turn ignition switch OFF.
2. Disconnect ECM harness connector.
3. Check harness continuity between ECM terminal and HO2S2 terminal as follows. Refer to Wiring Diagram.

DTC	Terminals		Bank
	ECM	Sensor	
P0037, P0038	17	3	1
P0057, P0058	33	3	2

Continuity should exist.

4. Also check harness for short to ground and short to power.

OK or NG

OK >> GO TO 5.
NG >> Repair open circuit or short to ground or short to power in harness or connectors.

5. CHECK HEATED OXYGEN SENSOR 2 HEATER

Refer to EC-170, "Component Inspection".

OK or NG

OK >> GO TO 6.
NG >> Replace malfunctioning heated oxygen sensor 2.

6. CHECK INTERMITTENT INCIDENT

Refer to EC-134.

>> **INSPECTION END**

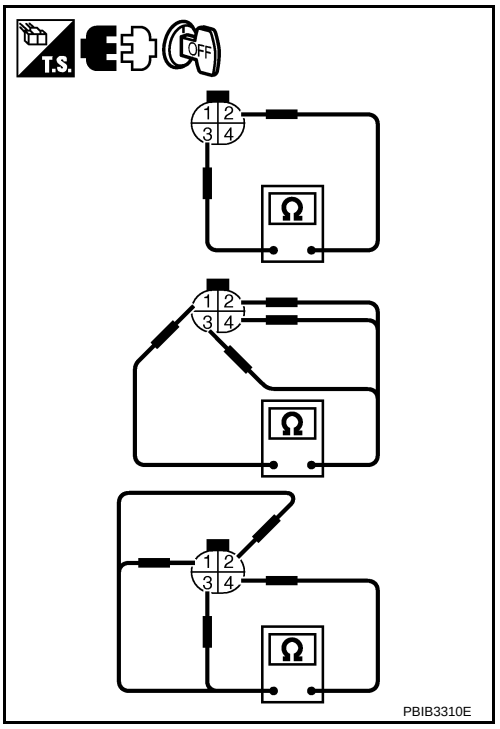
Component Inspection

INFOID:0000000004656253

HEATED OXYGEN SENSOR 2 HEATER

1. Check resistance between HO2S2 terminals as follows.

Terminal No.	Resistance
2 and 3	3.4 - 4.4 Ω [at 25°C (77°F)]
1 and 2, 3, 4	∞ Ω (Continuity should not exist)
4 and 1, 2, 3	



2. If NG, replace heated oxygen sensor 2.

CAUTION:

- **Discard any heated oxygen sensor which has been dropped from a height of more than 0.5 m (19.7 in) onto a hard surface such as a concrete floor; use a new one.**
- **Before installing new oxygen sensor, clean exhaust system threads using Oxygen Sensor Thread Cleaner tool J-43897-18 or J-43897-12 and approved anti-seize lubricant.**

DTC Confirmation Procedure

INFOID:0000000004656283

NOTE:
If DTC Confirmation Procedure has been previously conducted, always turn ignition switch OFF and wait at least 10 seconds before conducting the next test.

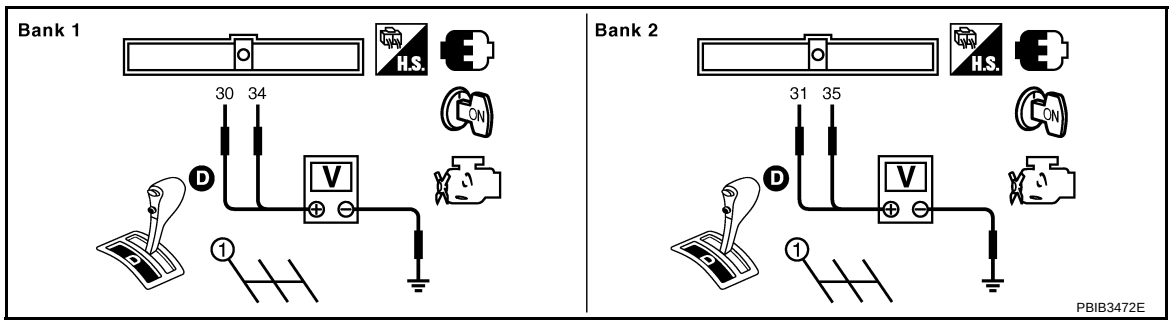
PROCEDURE FOR DTC P0102, P010C

1. Start engine and wait at least 5 seconds.
2. Check DTC.
3. If DTC is detected, go to EC-204, "Diagnosis Procedure".

PROCEDURE FOR DTC P0103, P010D

1. Turn ignition switch ON and wait at least 5 seconds.
2. Check DTC.
3. If DTC is detected, go to EC-204, "Diagnosis Procedure".
   If DTC is not detected, go to next step.
4. Start engine and wait at least 5 seconds.
5. Check DTC.
6. If DTC is detected, go to EC-204, "Diagnosis Procedure".

5. Check voltage between ECM terminals 30 [TP sensor 1 (bank 1) signal], 31 [TP sensor 1 (bank 2) signal], 34 [TP sensor 2 (bank 1) signal], 35 [TP sensor 2 (bank 2) signal] and ground under the following conditions.



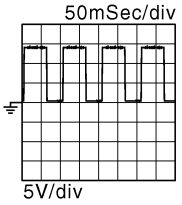
Terminal	Accelerator pedal	Voltage
30 [TP sensor 1 (bank 1)] 31 [TP sensor 1 (bank 2)]	Fully released	More than 0.36V
	Fully depressed	Less than 4.75V
34 [TP sensor 2 (bank 1)] 35 [TP sensor 2 (bank 2)]	Fully released	Less than 4.75V
	Fully depressed	More than 0.36V

6. If NG, replace electric throttle control actuator and go to the next step.
7. Perform EC-76, "Throttle Valve Closed Position Learning".
8. Perform EC-77, "Idle Air Volume Learning".

Removal and Installation

INFOID:0000000004656309

ELECTRIC THROTTLE CONTROL ACTUATOR
Refer to EM-18.

TERMINAL NO.	WIRE COLOR	ITEM	CONDITION	DATA (DC Voltage)
5	GY/L	A/F sensor 1 heater (bank 2)	**[Engine is running]** • **Warm-up condition** • Idle speed (More than 140 seconds after starting engine)	2.9 - 8.8★  PBIB3538E
65	PU	A/F sensor 1 (bank 2)	**[Ignition switch: ON]**	2.2V
66	LG	A/F sensor 1 (bank 2)	**[Ignition switch: ON]** • **Warm-up condition** • Engine speed: 2,000 rpm	1.8V Output voltage varies with air fuel ratio.

★: Average voltage for pulse signal (Actual pulse signal can be confirmed by oscilloscope.)

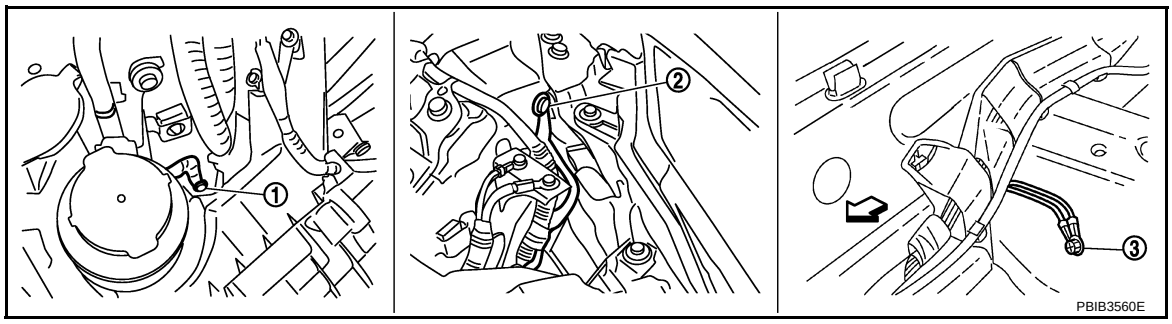
Diagnosis Procedure

INFOID:0000000004656347

1. CHECK GROUND CONNECTIONS

Models with VDC system, navigation system or telephone

1. Turn ignition switch OFF.
2. Loosen and retighten ground screws on the body. Refer to EC-142, "Ground Inspection" .



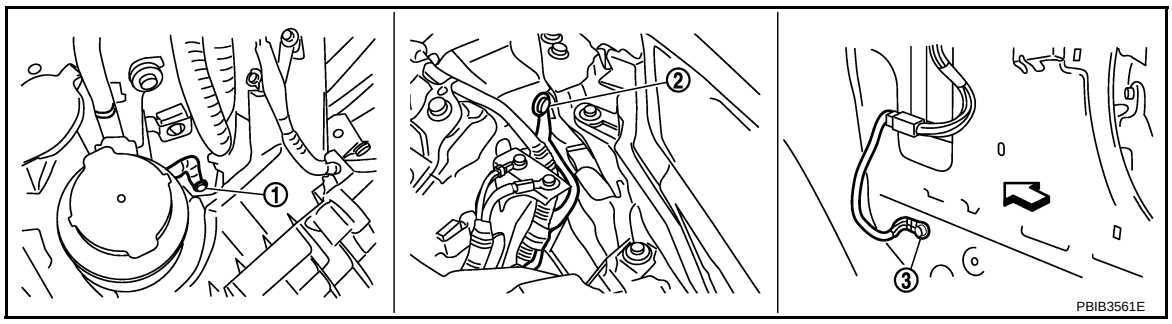
PBIB3560E

1. Body ground E17
2. Body ground E43
3. Body ground B102

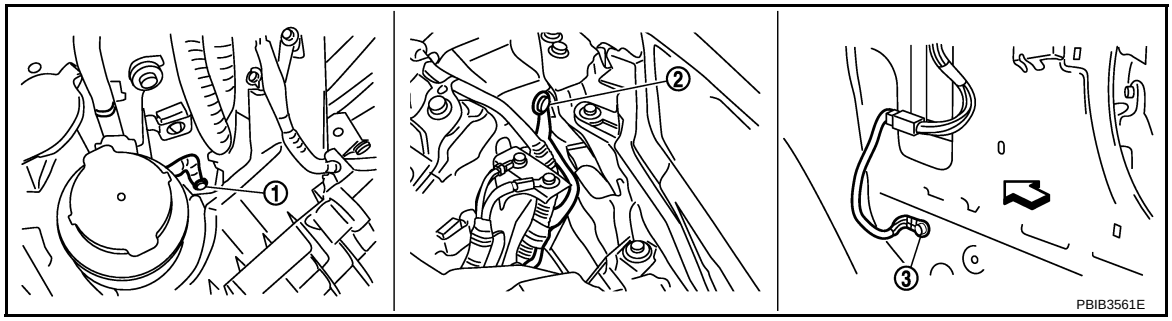
⇦: Vehicle front

Models without VDC system, navigation system and telephone

1. Turn ignition switch OFF.
2. Loosen and retighten ground screws on the body. Refer to EC-142, "Ground Inspection" .



PBIB3561E



1. Body ground E17
2. Body ground E43
3. Body ground F152 (Passenger side view with dash side finisher removed)

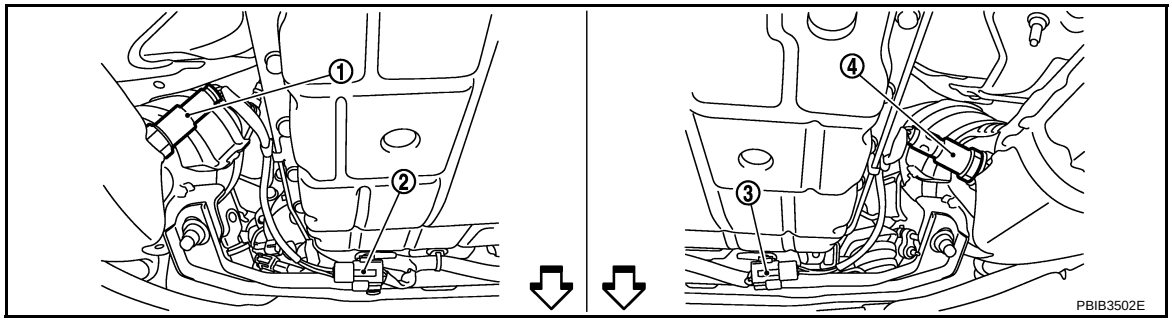
⇦: Vehicle front

OK or NG

OK >> GO TO 2.
NG >> Repair or replace ground connections.

2.CHECK HO2S2 GROUND CIRCUIT FOR OPEN AND SHORT

1. Disconnect heated oxygen sensor 2 harness connector.



1. Heated oxygen sensor 2 (bank 2)
2. Heated oxygen sensor 2 (bank 2) harness connector
3. Heated oxygen sensor 2 (bank 1)
4. Heated oxygen sensor 2 (bank 1) harness connector

⇦: Vehicle front

2. Disconnect ECM harness connector.
3. Check harness continuity between HO2S2 terminal 1 and ECM terminal 84. Refer to Wiring Diagram.

Continuity should exist.

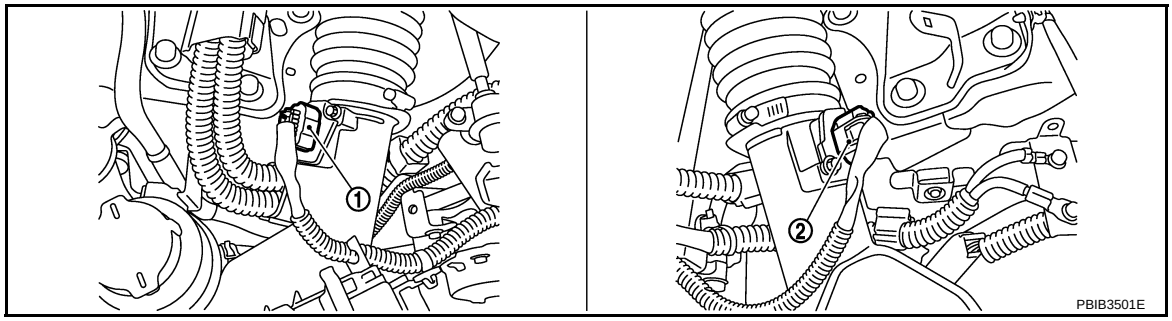
4. Also check harness for short to ground and short to power.

OK or NG

OK >> GO TO 3.
NG >> Repair open circuit or short to ground or short to power in harness or connectors.

3.CHECK HO2S2 INPUT SIGNAL CIRCUIT FOR OPEN AND SHORT

1. Check harness continuity between ECM terminal and HO2S2 terminal as follows. Refer to Wiring Diagram.



1. Mass air flow sensor (with intake air temperature sensor) (bank 1)
2. Mass air flow sensor (with intake air temperature sensor) (bank 2)

4. Stop engine and reconnect mass air flow sensor (bank 1) harness connector.
5. Select Service $03 with GST. Make sure DTC P0102 is detected.
6. Select Service $04 with GST and erase the DTC P0102.
7. Start engine again and let it idle for at least 5 minutes.
8. Select Service $07 with GST. The 1st trip DTC P0172 or P0175 should be detected at this stage, if a malfunction exists. If so, go to EC-324, "Diagnosis Procedure".
   NOTE:
   If 1st trip DTC is not detected during above procedure, performing the following procedure is advised.

a. Turn ignition switch OFF and wait at least 10 seconds.

b. Start engine and drive the vehicle under the similar conditions to (1st trip) Freeze Frame Data for a certain time. Refer to the table below.
   Hold the accelerator pedal as steady as possible.
   The similar conditions to (1st trip) Freeze Frame Data means the vehicle operation that the following conditions should be satisfied at the same time.

Engine speed	Engine speed in the freeze frame data ± 400 rpm
Vehicle speed	Vehicle speed in the freeze frame data ± 10 km/h (6 MPH)
Engine coolant temperature (T) condition	When the freeze frame data shows lower than 70 °C (158 °F), T should be lower than 70 °C (158 °F).
	When the freeze frame data shows higher than or equal to 70 °C (158 °F), T should be higher than or equal to 70 °C (158 °F).

9. If it is difficult to start engine at step 7, the fuel injection system has a malfunction.
10. Crank engine while depressing accelerator pedal.
    If engine starts, go to EC-324, "Diagnosis Procedure". If engine does not start, remove ignition plugs and check for fouling, etc.

TERMINAL NO.	WIRE COLOR	ITEM	CONDITION	DATA (DC Voltage)
31	L/G	Throttle position sensor 1 (bank 2)	**[Ignition switch: ON]** • Engine stopped • Shift lever: D (A/T) or 1st (M/T) • Accelerator pedal: Fully released	More than 0.36V
			[Ignition switch: ON] • Engine stopped • Shift lever: D (A/T) or 1st (M/T) • Accelerator pedal: Fully depressed	Less than 4.75V
35	L/Y	Throttle position sensor 2 (bank 2)	**[Ignition switch: ON]** • Engine stopped • Shift lever: D (A/T) or 1st (M/T) • Accelerator pedal: Fully released	Less than 4.75V
			[Ignition switch: ON] • Engine stopped • Shift lever: D (A/T) or 1st (M/T) • Accelerator pedal: Fully depressed	More than 0.36V
43	OR/L	Sensor power supply [Throttle position sensor (bank 2)]	**[Ignition switch: ON]**	5V
48	W/L	Sensor ground [Throttle position sensor (bank 2)]	**[Engine is running]** • **Warm-up condition** • Idle speed	0V

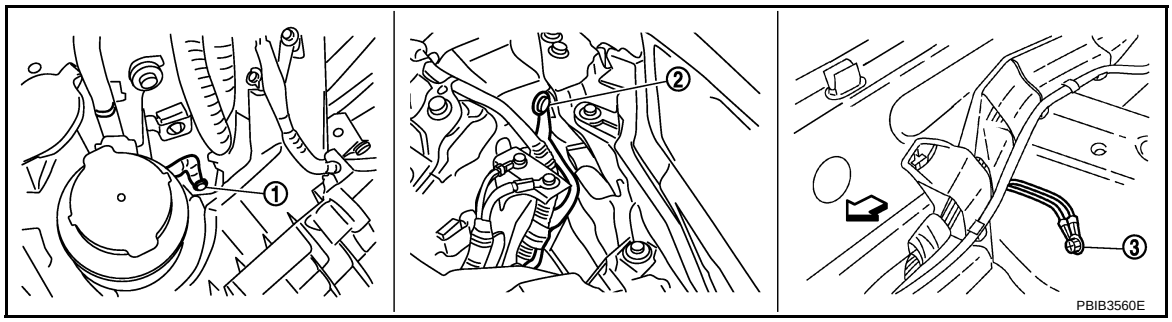
Diagnosis Procedure

INFOID:0000000004656423

1. CHECK GROUND CONNECTIONS

Models with VDC system, navigation system or telephone

1. Turn ignition switch OFF.
2. Loosen and retighten ground screws on the body. Refer to EC-142, "Ground Inspection" .

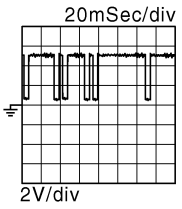
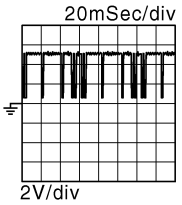


1. Body ground E17
2. Body ground E43
3. Body ground B102

⇦: Vehicle front

Models without VDC system, navigation system and telephone

1. Turn ignition switch OFF.
2. Loosen and retighten ground screws on the body. Refer to EC-142, "Ground Inspection" .

TERMINAL NO.	WIRE COLOR	ITEM	CONDITION	DATA (DC Voltage)
46	R/B	Sensor power supply [Crankshaft position sensor (POS)]	**[Ignition switch: ON]**	5V
63	SB	Camshaft position sensor (PHASE) (bank 2)	**[Engine is running]** • **Warm-up condition** • Idle speed **NOTE:** The pulse cycle changes depending on rpm at idle.	3.0 - 5.0V★  PBIB3553E
			[Engine is running] • Engine speed: 2,000 rpm	1.0 - 4.0V★  PBIB3554E
64	W/G	Sensor power supply [Camshaft position sensor (PHASE) (bank 2), Exhaust valve timing control position sensor (bank 2)]	**[Ignition switch: ON]**	5V
92	B/P	Sensor ground [Camshaft position sensor (PHASE) (bank 2)]	**[Engine is running]** • **Warm-up condition** • Idle speed	0V
103	G	Sensor power supply (Accelerator pedal position sensor 2)	**[Ignition switch: ON]**	5V
107	BR	Sensor power supply (EVAP control system pressure sensor)	**[Ignition switch: ON]**	5V
111	OR	Sensor power supply (Refrigerant pressure sensor)	**[Ignition switch: ON]**	5V

★: Average voltage for pulse signal (Actual pulse signal can be confirmed by oscilloscope.)

Diagnosis Procedure

INFOID:0000000004656449

1.CHECK STARTING SYSTEM

Turn ignition switch to START position.

Does the engine turn over?
Does the starter motor operate?

Yes or No

Yes >> GO TO 2.
No >> Check starting system. (Refer to SC-8.)

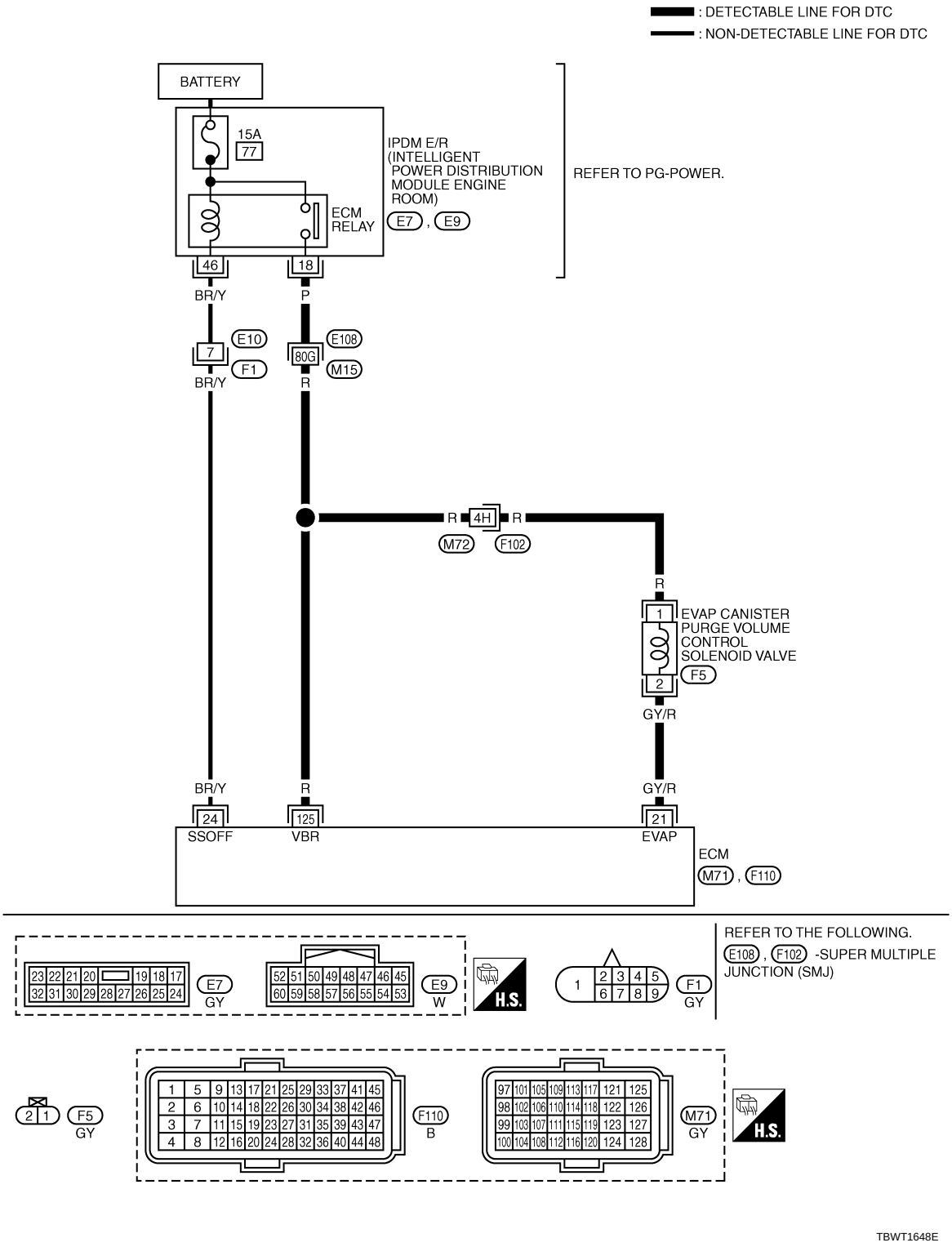
2.CHECK GROUND CONNECTIONS

Models with VDC system, navigation system or telephone
1. Turn ignition switch OFF.

Wiring Diagram

INFOID:0000000004656476

EC-PGC/V-01



TBWT1648E

Specification data are reference values and are measured between each terminal and ground.
Pulse signal is measured by CONSULT-III.

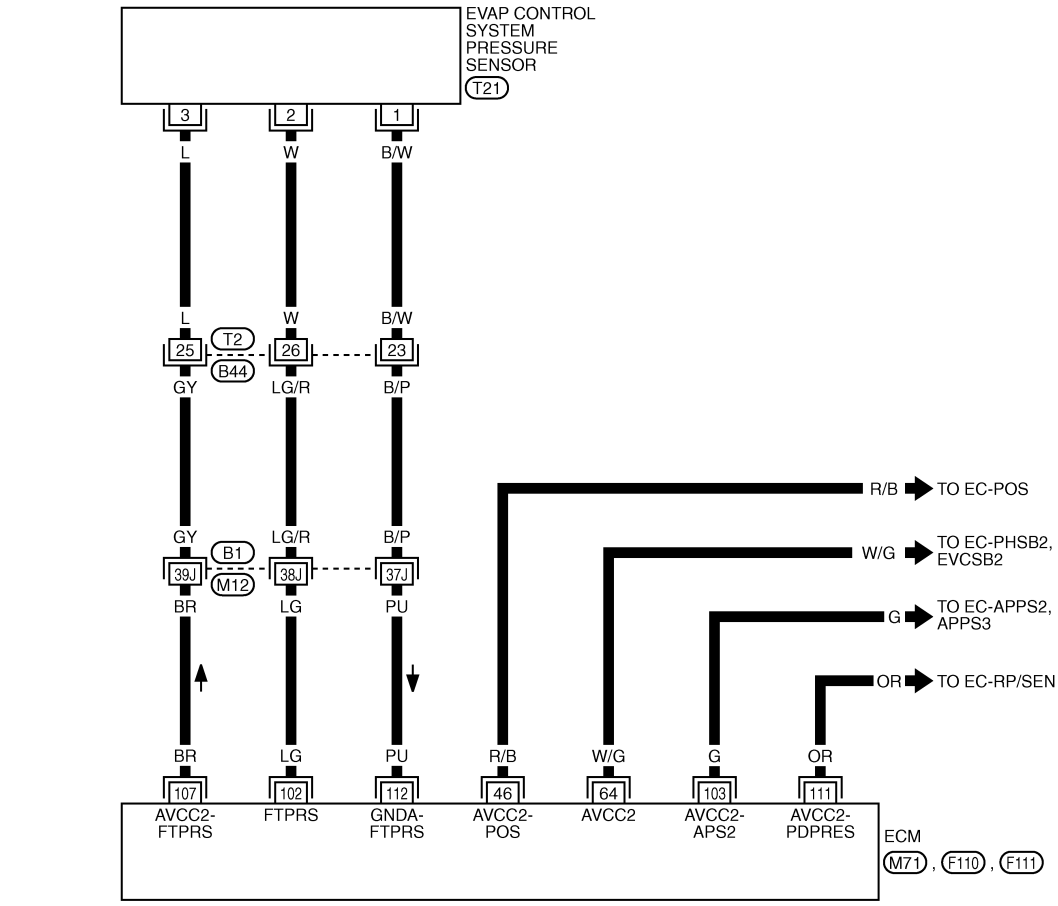
CAUTION:

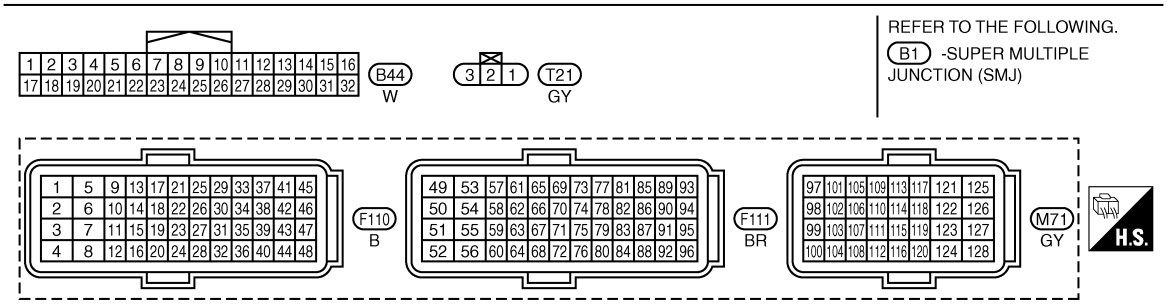
Wiring Diagram

INFOID:0000000004656511

EC-PRE/SE-01

: DETECTABLE LINE FOR DTC
: NON-DETECTABLE LINE FOR DTC





TBWT1650E

Specification data are reference values and are measured between each terminal and ground.

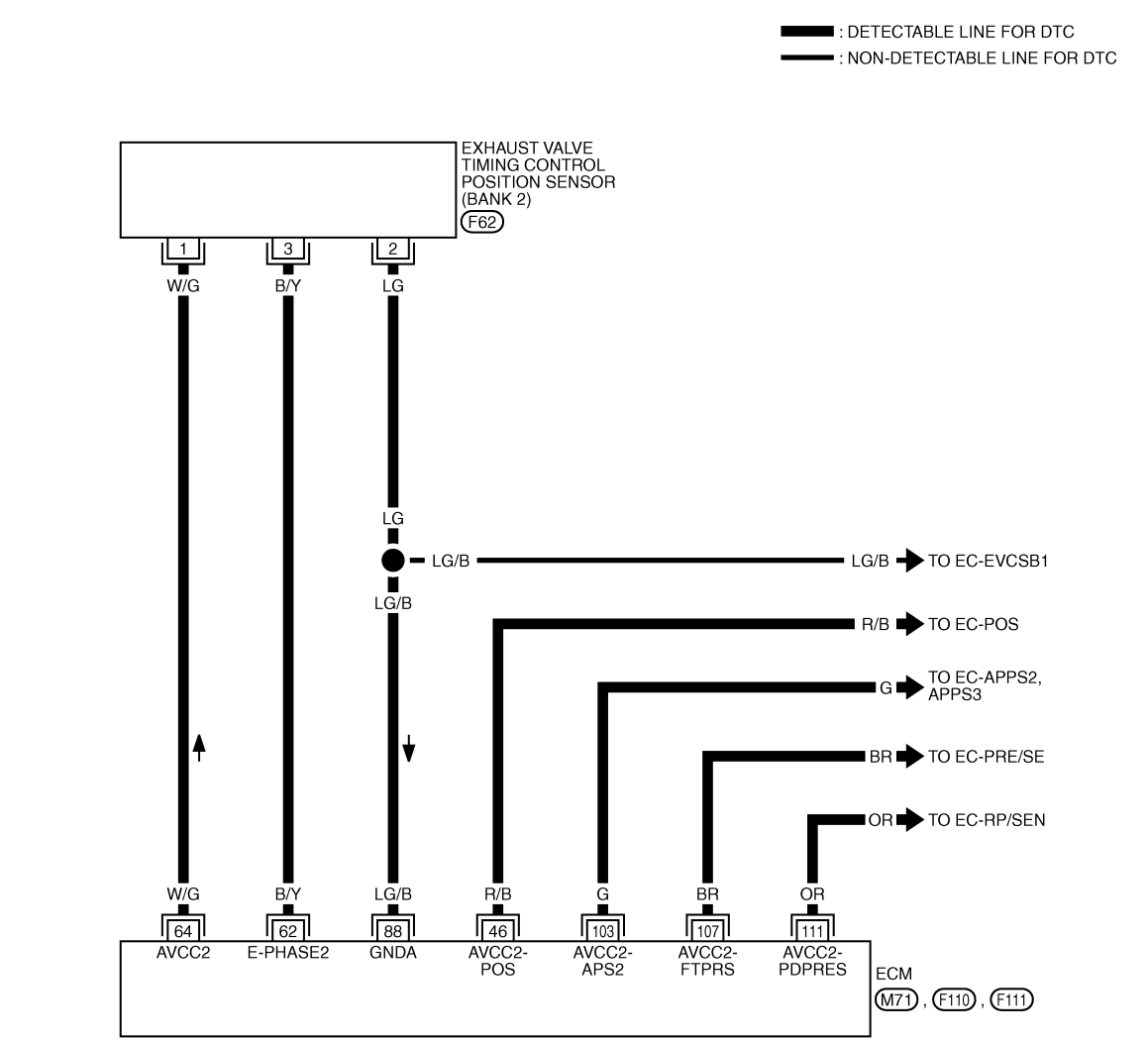
CAUTION:

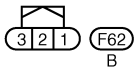
Do not use ECM ground terminals when measuring input/output voltage. Doing so may result in damage to the ECM's transistor. Use a ground other than ECM terminals, such as the ground.

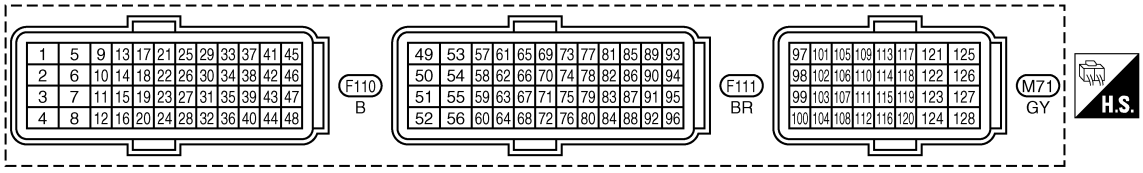
2. Replace ECM.
3. Perform initialization of NVIS (NATS) system and registration of all NVIS (NATS) ignition key IDs. Refer to BL-135, "ECM Re-communicating Function".
4. Perform EC-75, "VIN Registration".
5. Perform EC-76, "Exhaust Valve Timing Control Learning".
6. Perform EC-76, "Accelerator Pedal Released Position Learning".
7. Perform EC-76, "Throttle Valve Closed Position Learning".
8. Perform EC-77, "Idle Air Volume Learning".

>> **INSPECTION END**

EC-EVCSB2-01





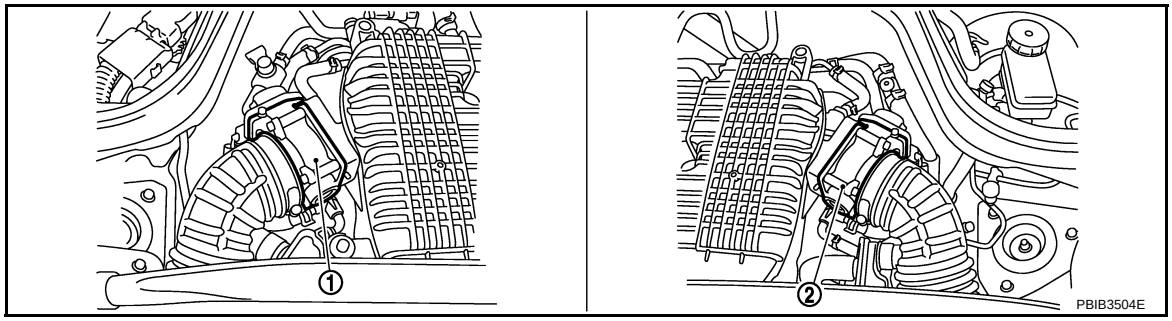


TBWT1657E

Specification data are reference values and are measured between each terminal and ground.
Pulse signal is measured by CONSULT-III.

CAUTION:

Do not use ECM ground terminals when measuring input/output voltage. Doing so may result in damage to the ECM's transistor. Use a ground other than ECM terminals, such as the ground.



1. Electric throttle control acutator (bank 1)
2. Electric throttle control acutator (bank 2)

3. Disconnect ECM harness connector.
4. Check harness continuity between the following terminals. Refer to Wiring Diagram.

Bank	Electric throttle control actuator terminal	ECM terminal	Continuity
1	1	2	Should exist
		4	Should not exist
	2	2	Should not exist
		4	Should exist
2	1	49	Should not exist
		50	Should exist
	2	49	Should exist
		50	Should not exist

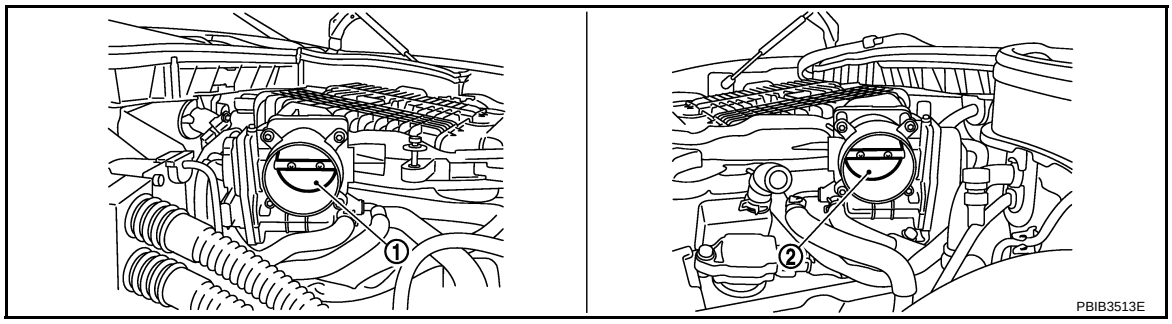
5. Also check harness for short to ground and short to power.

OK or NG

OK >> GO TO 11.
NG >> Repair or replace.

11. CHECK ELECTRIC THROTTLE CONTROL ACTUATOR VISUALLY

1. Remove the intake air duct.
2. Check if foreign matter is caught between the throttle valve and the housing.



1. Throttle valve (bank 1)
2. Throttle valve (bank 2)

OK or NG

OK >> GO TO 12.
NG >> Remove the foreign matter and clean the electric throttle control actuator inside.

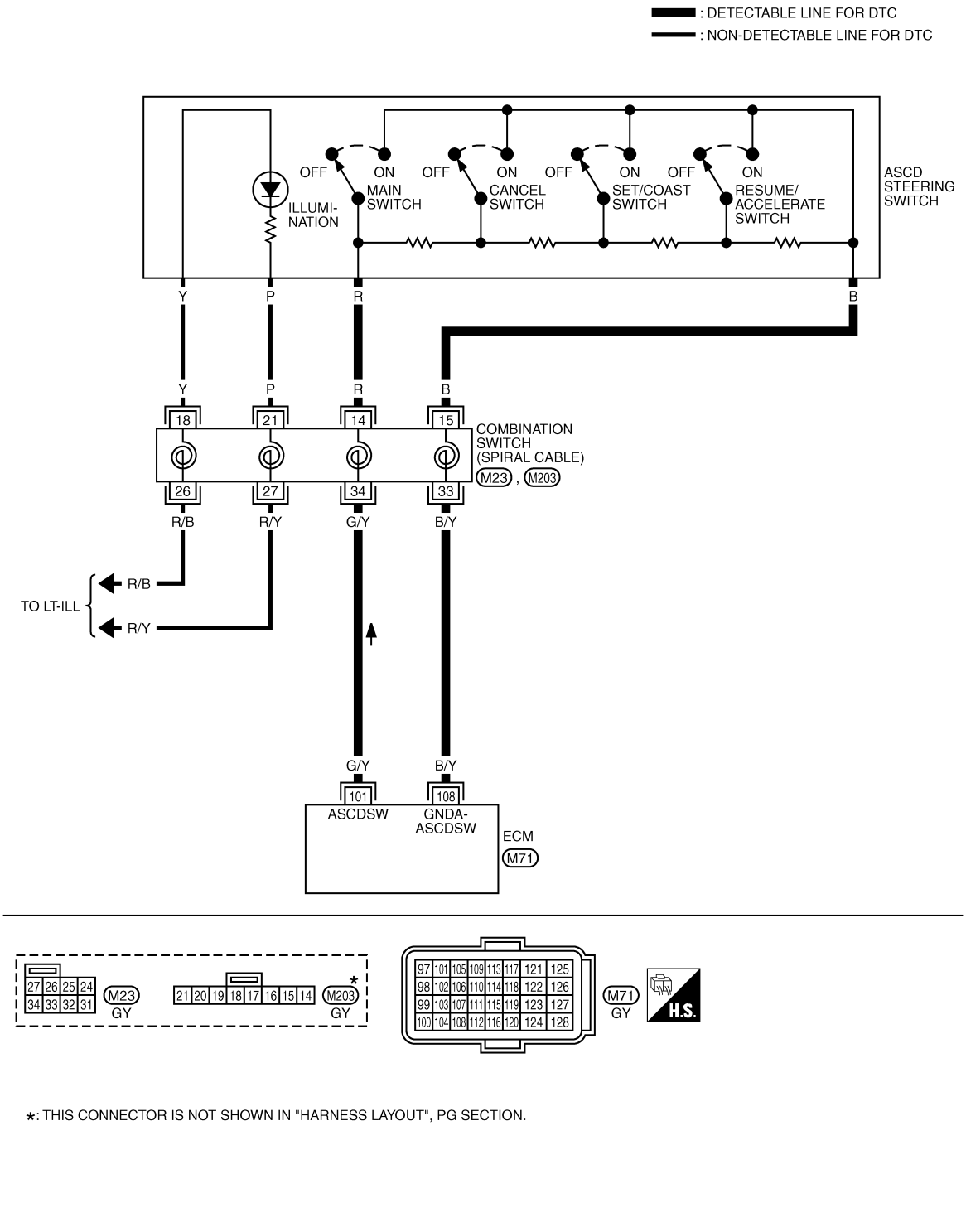
12. CHECK THROTTLE CONTROL MOTOR

Refer to EC-531, "Component Inspection".

Wiring Diagram

INFOID:0000000004656652

EC-ASC/SW-01



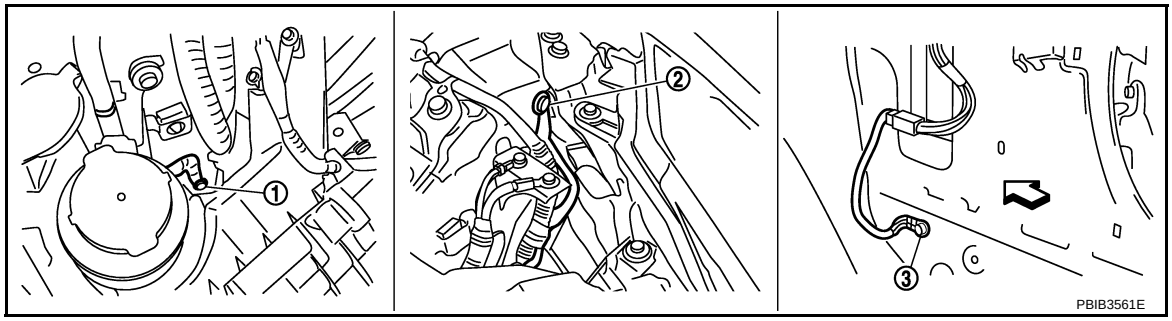
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TBWT1660E

Specification data are reference values and are measured between each terminal and ground.

CAUTION:

Do not use ECM ground terminals when measuring input/output voltage. Doing so may result in damage to the ECM's transistor. Use a ground other than ECM terminals, such as the ground.



1. Body ground E17
2. Body ground E43
3. Body ground F152 (Passenger side view with dash side finisher removed)

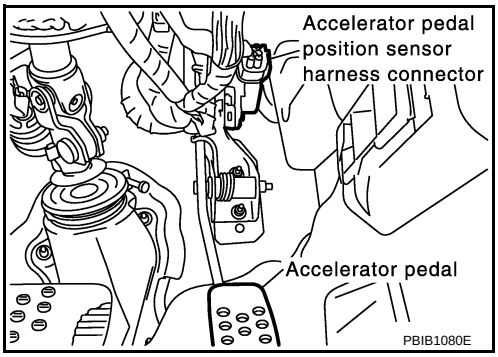
⇦: Vehicle front

OK or NG

OK >> GO TO 2.
NG >> Repair or replace ground connections.

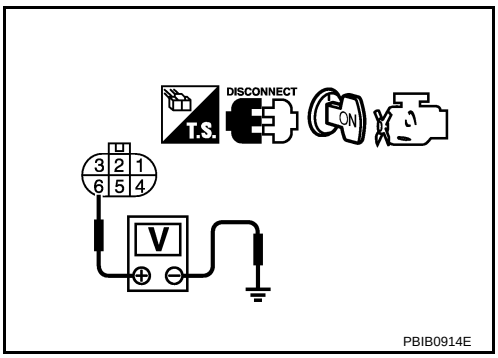
2.CHECK APP SENSOR 1 POWER SUPPLY CIRCUIT

1. Disconnect accelerator pedal position (APP) sensor harness connector.
2. Turn ignition switch ON.



3. Check voltage between APP sensor terminal 6 and ground with CONSULT-III or tester.

Voltage: Approximately 5V



OK or NG

OK >> GO TO 4.
NG >> GO TO 3.

3.DETECT MALFUNCTIONING PART

Check the following.
- Harness connectors E108, M15
- Harness for open or short between ECM and APP sensor

>> Repair open circuit or short to ground or short to power in harness or connectors.

4.CHECK APP SENSOR 1 GROUND CIRCUIT FOR OPEN AND SHORT

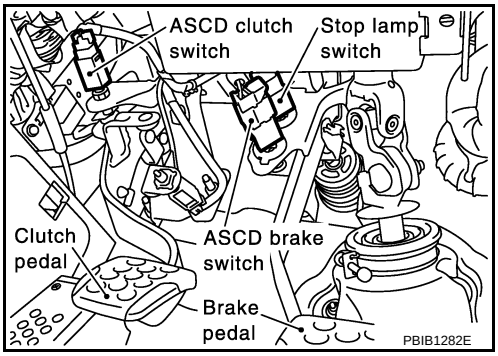
1. Turn ignition switch OFF.
2. Disconnect ECM harness connector.
3. Check harness continuity between APP sensor terminal 3 and ECM terminal 100. Refer to Wiring Diagram.

ASCD BRAKE SWITCH

Component Description

INFOID:0000000004656708

When the brake pedal is depressed, ASCD brake switch is turned OFF and stop lamp switch is turned ON. ECM detects the state of the brake pedal by this input of two kinds (ON/OFF signal).
Refer to EC-28 for the ASCD function.



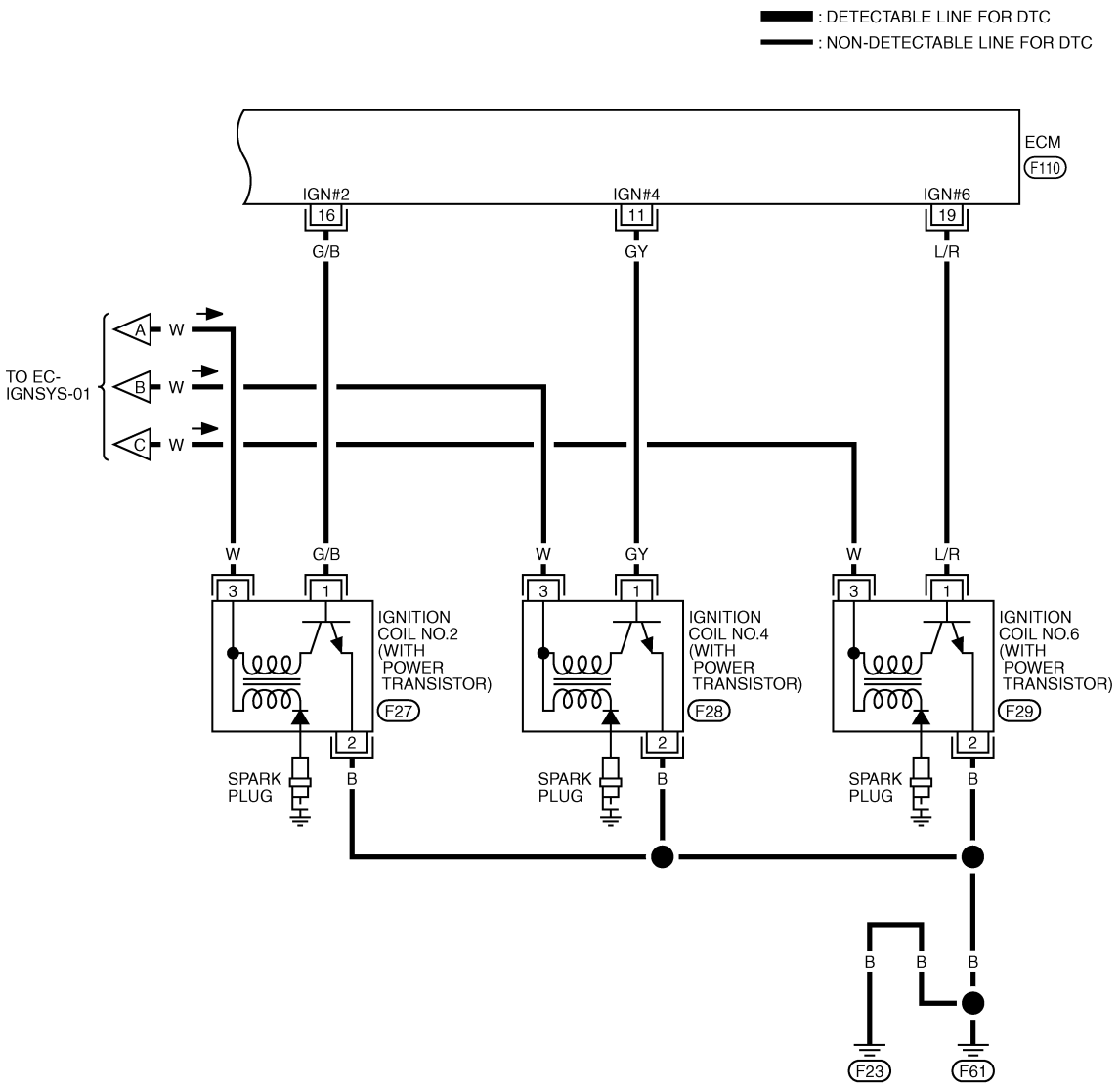
CONSULT-III Reference Value in Data Monitor Mode

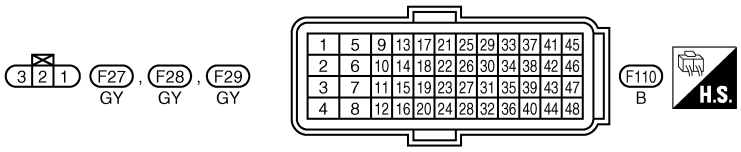
INFOID:0000000004656709

Specification data are reference values.

MONITOR ITEM	CONDITION		SPECIFICATION
BRAKE SW1 (ASCD brake switch)	• Ignition switch: ON	• Brake pedal: Fully released (A/T) • Brake pedal and clutch pedal: Fully released (M/T)	ON
		• Brake pedal: Slightly depressed (A/T) • Brake pedal and/or clutch pedal: Slightly depressed (M/T)	OFF
BRAKE SW2 (Stop lamp switch)	• Ignition switch: ON	Brake pedal: Fully released	OFF
		Brake pedal: Slightly depressed	ON

EC-IGNSYS-03





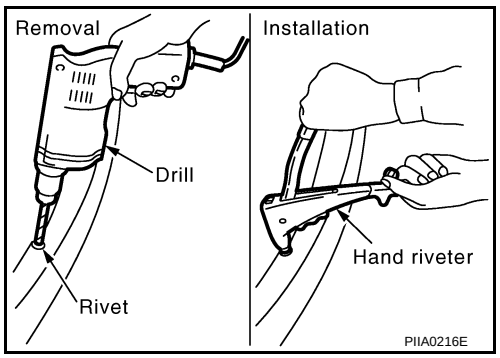
TBWT1682E

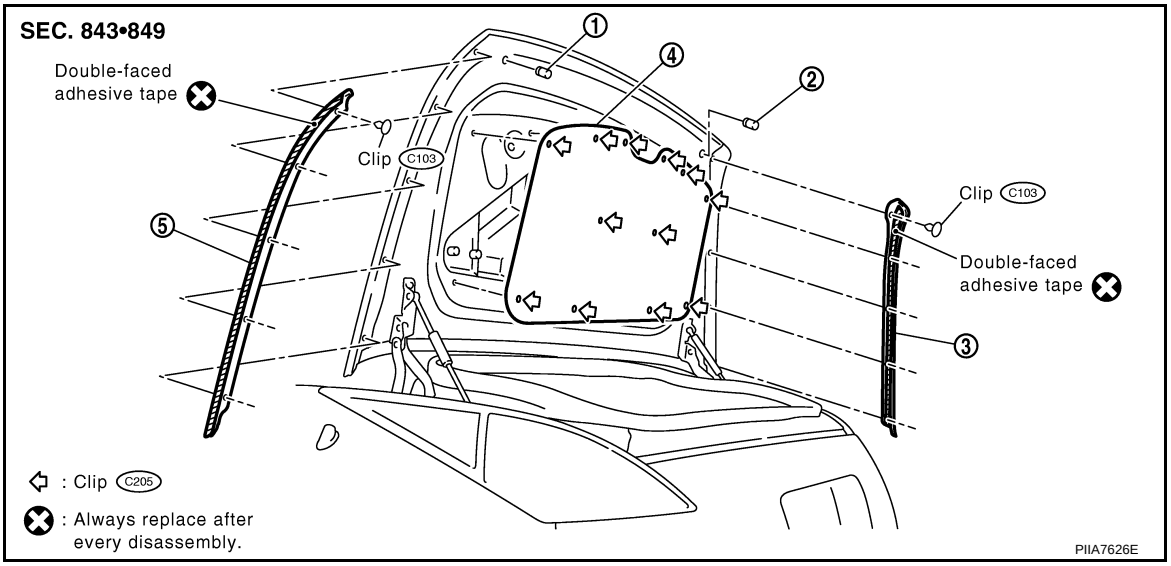
Specification data are reference values and are measured between each terminal and ground.
Pulse signal is measured by CONSULT-III.

CAUTION:

Do not use ECM ground terminals when measuring input/output voltage. Doing so may result in damage to the ECM's transistor. Use a ground other than ECM terminals, such as the ground.

Rivet thickness	**: 1.2 – 6.4 mm (0.047 – 0.252 in)**
Under hole diameter	**: 4.1 – 4.4 mm (0.161 – 0.173 in) dia.**





1. Bumper rubber
2. Bumper rubber
3. Trunk lid molding (RH)
4. Trunk lid finisher
5. Trunk lid molding (LH)

Removal

Remove clips of trunk lid finisher and remove trunk lid finisher.

Installation

Install in the reverse order of removal.

TRUNK LID MOLDING

Removal

1. Remove clips and double-faced adhesive tape of trunk lid molding.
2. Remove trunk lid molding (LH/RH).

Installation

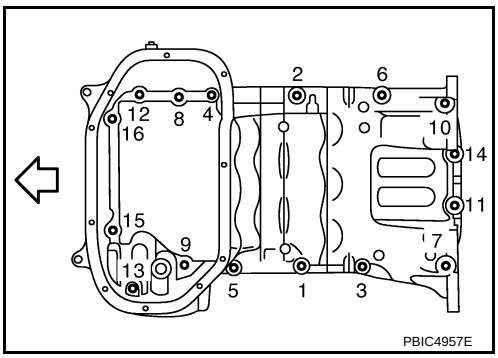
Install in the reverse order of removal.

- Tighten mounting bolts in numerical order as shown in the figure.

⇦ : Engine front

- There are two types of mounting bolts. Refer to the following for locating bolts.

M8 × 92 mm (3.62 in) : 7, 10, 13
M8 × 25 mm (0.98 in) : Except the above



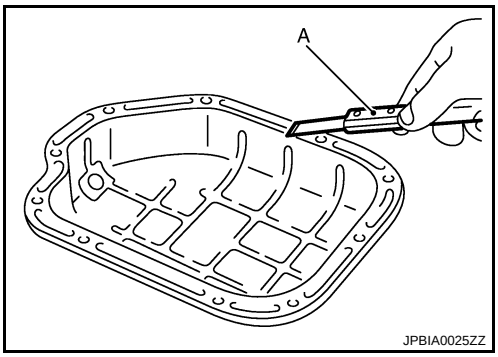
e. Tighten transmission joint bolts. Refer to MT-19 (M/T models) or AT-229 (A/T models).

2. Install oil strainer to oil pump.
   - Apply locking sealant to the thread of mounting bolts.
     Use Genuine High Strength Thread Locking Sealant or equivalent. Refer to GI-42, "Recommended Chemical Product and Sealant".

3. Install oil pan (lower) as follows:

a. Use scraper (A) to remove old liquid gasket from mating surfaces.
   - Also remove old liquid gasket from mating surface of oil pan (upper).
   - Remove old liquid gasket from the bolt holes and thread.

CAUTION:
Never scratch or damage the mating surfaces when cleaning off old liquid gasket.

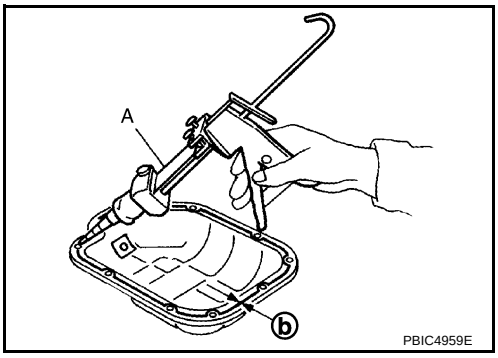


b. Apply a continuous bead of liquid gasket with tube presser (commercial servide tool) (A) to the oil pan (lower) as shown in the figure.

b : 4.0 – 5.0 mm (0.157 – 0.197 in)

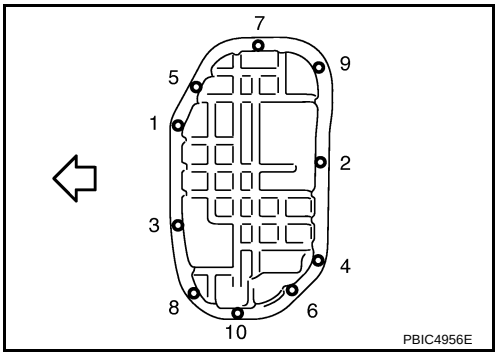
Use Genuine RTV Silicone Sealant or equivalent. Refer to GI-42.

CAUTION:
Attaching should be done within 5 minutes after coating.



c. Install oil pan (lower).
   - Tighten mounting bolts in numerical order as shown in the figure.

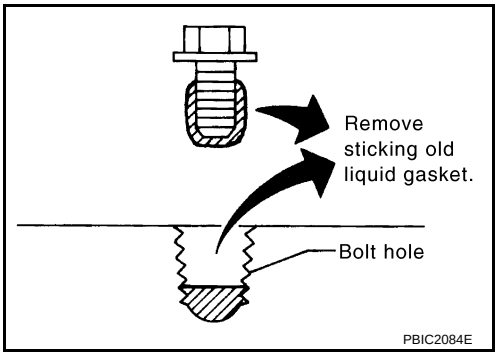
⇦ : Engine front



4. Install oil pan drain plug.
   - Refer to the figure of components of former page for installation direction of drain plug washer. Refer to "Removal and Installation".

5. Install in the reverse order of removal after this step.

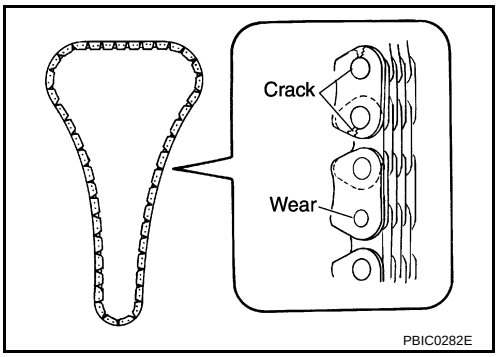
- Remove old liquid gasket from bolt hole and thread.



INSPECTION AFTER REMOVAL

Timing Chain

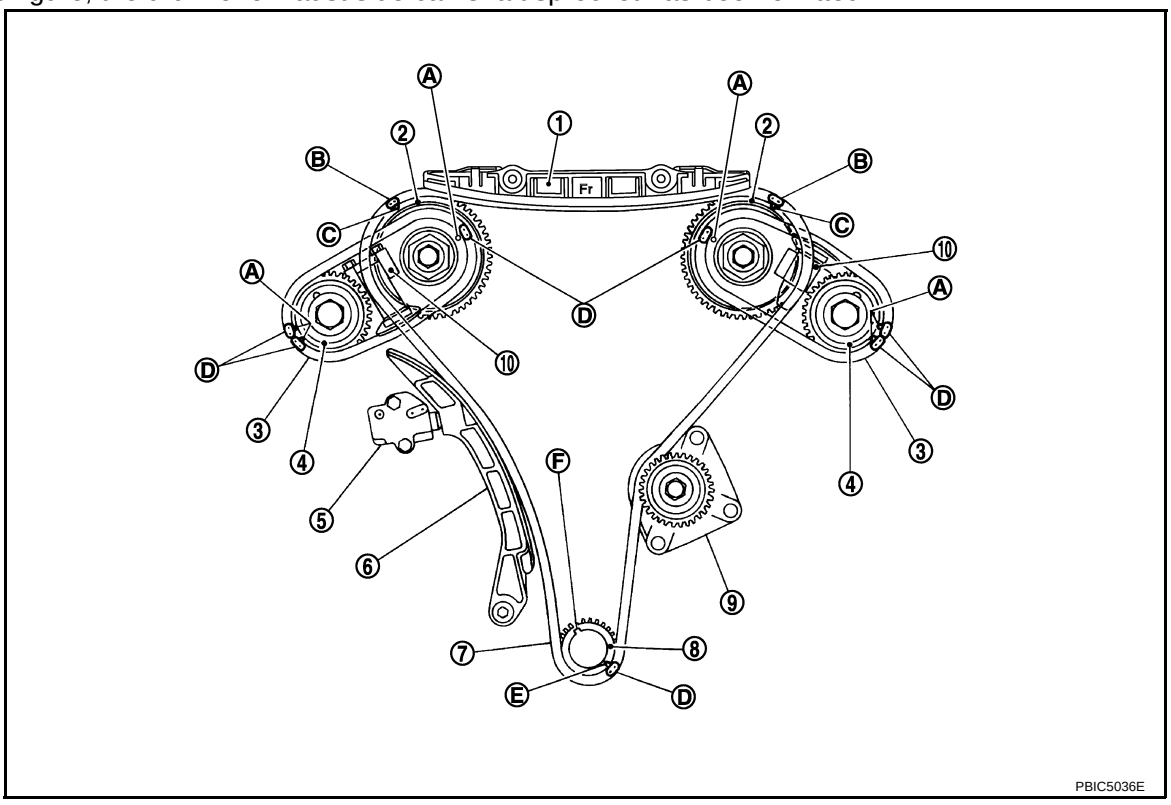
Check for cracks and any excessive wear at link plates and roller links of timing chain. Replace timing chain as necessary.



INSTALLATION

NOTE:

- The below figure shows the relationship between the mating mark on each timing chain and that on the corresponding sprocket, with the components installed.
- In this figure, the drum of exhaust side camshaft sprocket has been omitted.



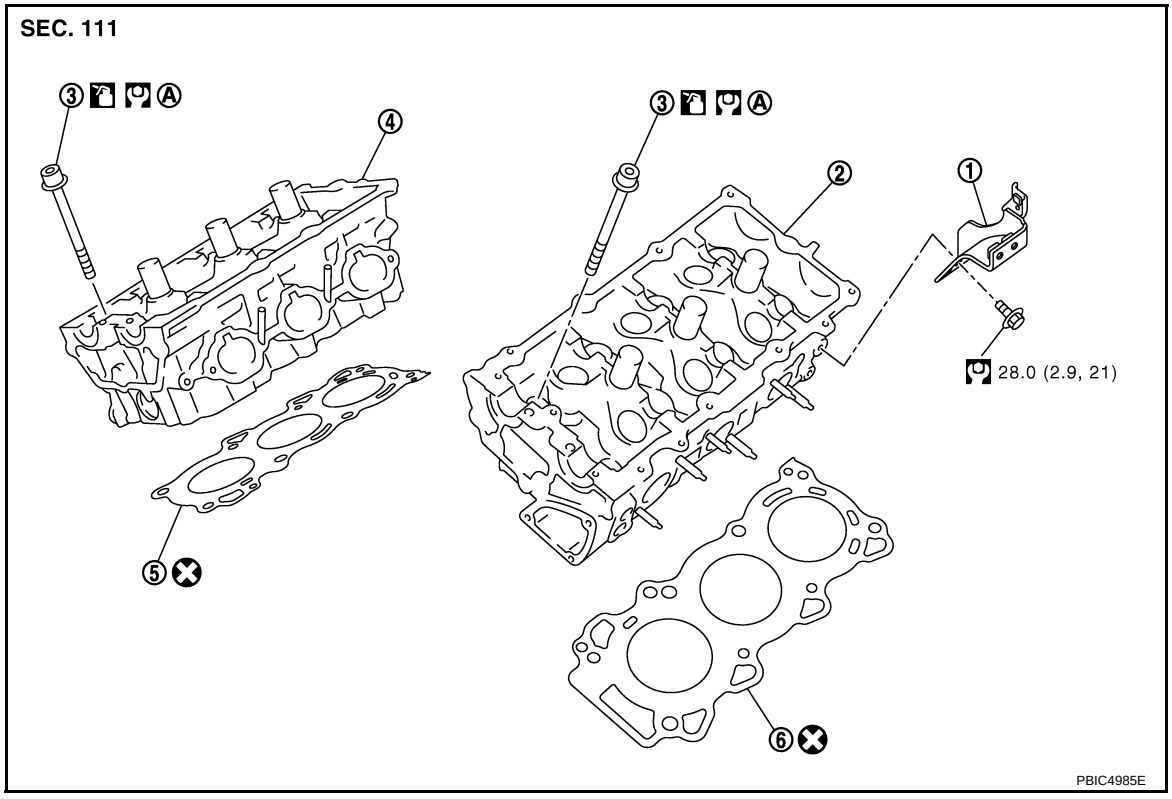
1. Internal chain guide
2. Camshaft sprocket (INT)
3. Timing chain (secondary)
4. Camshaft sprocket (EXH)
5. Timing chain tensioner (primary)
6. Slack guide

- If the engine speed is out of specified range, check battery liquid for proper gravity. Check engine speed again with normal battery gravity.
- If compression pressure is below minimum value, check valve clearances and parts associated with combustion chamber (valve, valve seat, piston, piston ring, cylinder bore, cylinder head, cylinder head gasket). After the checking, measure compression pressure again.
- If some cylinders have low compression pressure, pour small amount of engine oil into the spark plug hole of the cylinder to re-check it for compression.
  - If the added engine oil improves the compression, piston rings may be worn out or damaged. Check the piston rings and replace if necessary.
  - If the compression pressure remains at low level despite the addition of engine oil, valves may be malfunctioning. Check valves for damage. Replace valve or valve seat accordingly.
- If two adjacent cylinders have respectively low compression pressure and their compression remains low even after the addition of engine oil, cylinder head gaskets are leaking. In such a case, replace cylinder head gaskets.

9. After inspection is completed, install removed parts.
10. Start engine, and check that engine runs smoothly.
11. Perform trouble diagnosis. If DTC appears, erase it. Refer to EC-80.

Removal and Installation

INFOID:0000000004657794



1. Engine rear lower slinger	2. Cylinder head (bank 2)	3. Cylinder head bolt
4. Cylinder head (bank 1)	5. Cylinder head gasket (bank 1)	6. Cylinder head gasket (bank 2)
A. Comply with the installation procedure when tightening.		

- Refer to GI-8, "Component" for symbol marks in the figure.

REMOVAL

1. Remove engine assembly from vehicle, and separate front suspension member and transmission from engine. Refer to EM-101.
2. Remove the following parts:
   - Fuel tube and fuel injector assembly: Refer to EM-35.
   - Intake manifold: Refer to EM-21.

3. Select connecting rod bearing grade at the point where selected row and column meet in “Connecting Rod Bearing Selection Table”.

When Crankshaft and Connecting Rod are Reused

1. Measure the connecting rod big end diameter and crankshaft pin journal diameter. Refer to EM-123, "Inspection After Disassembly" and EM-123, "Inspection After Disassembly".
2. Correspond the measured dimension in “Connecting rod big end diameter” row of “Connecting Rod Bearing Selection Table”.
3. Correspond the measured dimension in “Crankshaft pin journal diameter” column of “Connecting Rod Bearing Selection Table”.
4. Select connecting rod bearing grade at the point where selected row and column meet in following selection table.

Connecting Rod Bearing Selection Table

Crankshaft pin journal diameter Unit: mm (in) / Connecting rod big end diameter Unit: mm (in)		Mark	0	1	2	3	4	5	6	7	8	9	W	X	Y
Mark	Axle diameter	Hole diameter	57.000 - 57.001 (2.2441 - 2.2441)	57.001 - 57.002 (2.2441 - 2.2442)	57.002 - 57.003 (2.2442 - 2.2442)	57.003 - 57.004 (2.2442 - 2.2442)	57.004 - 57.005 (2.2442 - 2.2443)	57.005 - 57.006 (2.2443 - 2.2443)	57.006 - 57.007 (2.2443 - 2.2444)	57.007 - 57.008 (2.2444 - 2.2444)	57.008 - 57.009 (2.2444 - 2.2444)	57.009 - 57.010 (2.2444 - 2.2445)	57.010 - 57.011 (2.2445 - 2.2445)	57.011 - 57.012 (2.2445 - 2.2446)	57.012 - 57.013 (2.2446 - 2.2446)
A	53.974 - 53.973 (2.1250 - 2.1249)		0	0	0	0	0	0	1	1	1	1	1	1	2
B	53.973 - 53.972 (2.1249 - 2.1249)		0	0	0	0	0	1	1	1	1	1	1	2	2
C	53.972 - 53.971 (2.1249 - 2.1248)		0	0	0	0	1	1	1	1	1	1	2	2	2
D	53.971 - 53.970 (2.1248 - 2.1248)		0	0	0	1	1	1	1	1	1	2	2	2	2
E	53.970 - 53.969 (2.1248 - 2.1248)		0	0	1	1	1	1	1	1	2	2	2	2	2
F	53.969 - 53.968 (2.1248 - 2.1247)		0	1	1	1	1	1	1	2	2	2	2	2	2
G	53.968 - 53.967 (2.1247 - 2.1247)		1	1	1	1	1	1	2	2	2	2	2	2	3
H	53.967 - 53.966 (2.1247 - 2.1246)		1	1	1	1	1	2	2	2	2	2	2	3	3
J	53.966 - 53.965 (2.1246 - 2.1246)		1	1	1	1	2	2	2	2	2	2	3	3	3
K	53.965 - 53.964 (2.1246 - 2.1246)		1	1	1	2	2	2	2	2	2	3	3	3	3
L	53.964 - 53.963 (2.1246 - 2.1245)		1	1	2	2	2	2	2	2	3	3	3	3	3
M	53.963 - 53.962 (2.1245 - 2.1245)		1	2	2	2	2	2	2	3	3	3	3	3	3
N	53.962 - 53.961 (2.1245 - 2.1244)		2	2	2	2	2	2	3	3	3	3	3	3	4
P	53.961 - 53.960 (2.1244 - 2.1244)		2	2	2	2	2	3	3	3	3	3	3	4	4
R	53.960 - 53.959 (2.1244 - 2.1244)		2	2	2	2	3	3	3	3	3	3	4	4	4
S	53.959 - 53.958 (2.1244 - 2.1243)		2	2	2	3	3	3	3	3	3	4	4	4	4
T	53.958 - 53.957 (2.1243 - 2.1243)		2	2	3	3	3	3	3	3	4	4	4	4	4
U	53.957 - 53.956 (2.1243 - 2.1242)		2	3	3	3	3	3	3	4	4	4	4	4	4

PBIC5023E

Connecting Rod Bearing Grade Table

Unit: mm (in)

Grade number	Thickness	Identification color (mark)
0	1.497 - 1.500 (0.0589 - 0.0591)	Black
1	1.500 - 1.503 (0.0591 - 0.0592)	Brown
2	1.503 - 1.506 (0.0592 - 0.0593)	Green
3	1.506 - 1.509 (0.0593 - 0.0594)	Yellow
4	1.509 - 1.512 (0.0594 - 0.0595)	Blue

- Check that mounting brackets and mounting rubbers are installed properly and free from undue stress. Improper installation could result in excessive noise and vibration.

TRANSVERSE LINK

Removal and Installation

INFOID:0000000004657322

REMOVAL

1. Remove tires from vehicle with power tool.
2. Remove undercover with power tool.
3. Remove mounting nut and washer on lower portion of stabilizer connecting rod with power tool.
4. Remove mounting nut between transverse link and shock absorber on lower position.
5. Remove mounting nut between transverse link and front suspension member with power tool.
6. Remove transverse link from steering knuckle. Refer to FAX-4.
7. Remove transverse link from vehicle.

INSPECTION AFTER REMOVAL

Visual Inspection

Check transverse link and bushing for deformation, cracks, or damage. If any non-standard condition is found, replace it.

INSTALLATION

- Refer to FSU-7, "Component" for tightening torque. Install in the reverse order of removal.
  NOTE:
  Refer to component parts location and do not reuse non-reusable parts.
- Perform final tightening of front suspension member installation position and shock absorber lower side (rubber bushing) under unladen condition with tires on ground. Check wheel alignment. Refer to FSU-5, "Wheel Alignment Inspection".

SERVICE INFORMATION FOR ELECTRICAL INCIDENT

How to Check Terminal

INFOID:0000000004656082

CONNECTOR AND TERMINAL PIN KIT

Use the connector and terminal pin kits listed below when replacing connectors or terminals.
The connector and terminal pin kits contain some of the most commonly used NISSAN/INFINITI connectors and terminals. For detailed connector and terminal pin replacement procedures, refer to the latest NISSAN/INFINITI CONNECTOR AND TERMINAL PIN SERVICE MANUAL.

Tool number (Kent-Moore No.) Tool name	Description
- (J38751-95NI) Connector and terminal pin kit (NISSAN) - (J38751-95INF) Connector and terminal pin kit (INFINITI) - (J42992-98KIT) OBD and terminal repair kit - (J42992-2000UPD) OBD-II Connector Kit Update	J38751-95NI J38751-95INF WAIA0004E J42992-98KIT J42992-2000UPD WAIA0005E

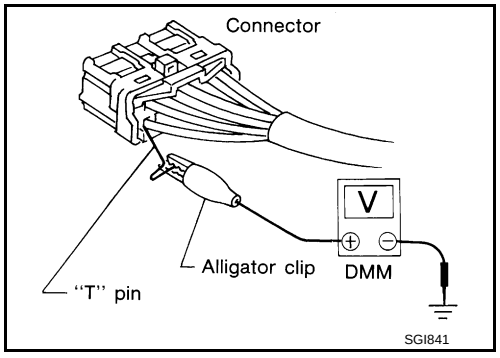
HOW TO PROBE CONNECTORS

Connector damage and an intermittent connection can result from improperly probing of the connector during circuit checks.
The probe of a digital multimeter (DMM) may not correctly fit the connector cavity. To correctly probe the connector, follow the procedures below using a “T” pin. For the best contact grasp the “T” pin using an alligator clip.

Probing from Harness Side

Standard type (not waterproof type) connector should be probed from harness side with “T” pin.

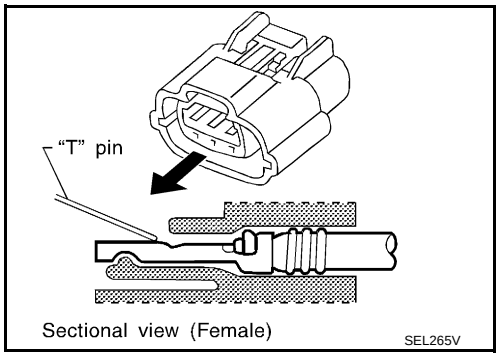
- If the connector has a rear cover such as a ECM connector, remove the rear cover before probing the terminal.
- Do not probe waterproof connector from harness side. Damage to the seal between wire and connector may result.



Probing from Terminal Side

FEMALE TERMINAL

- There is a small notch above each female terminal. Probe each terminal with the “T” pin through the notch.
  Do not insert any object other than the same type male terminal into female terminal.



INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Required Procedure After Battery Disconnection

INFOID:0000000004656100

SYSTEM	ITEM	REFERENCE
Automatic temperature control	Temperature setting trimmer	ATC-39, "Self-Diagnosis Function"
	Foot position setting trimmer	ATC-39, "Self-Diagnosis Function"
	Inlet port memory function	ATC-39, "Self-Diagnosis Function"
Automatic drive positioner	Automatic drive positioner system	—
Power window control	Power window control system	GW-19, "System Description"
Sunroof system	Sunroof system	RF-13, "System Description"
Sunshade system	Sunshade system	RF-13, "System Description"
Rear view monitor	Rear view monitor possible route line center position adjustment	—

Symptom	Diagnoses / service procedure	Reference page
Power window retained power operation does not operate properly.	1. Check the retained power operation mode setting.	GW-28
	2. Check door switch	GW-38
	3. Replace BCM.	BCS-15
Automatic window adjusting function does not operate.	1. Check door switch	GW-38
	2. Limit switch adjusting	GW-47
	3. Check limit switch circuit (driver side)	GW-32
	4. Check limit switch circuit (passenger side)	GW-33
	5. Check power window serial link	GW-40
	6. Replace BCM.	BCS-15
Does not operate by the key cylinder switch.	1. Check door key cylinder switch	GW-44
	2. Replace the power window main switch.	EI-28
Power window lock switch does not function.	1. Check power window serial link	GW-40
	2. Replace the power window main switch.	EI-28
Auto operation does not operate but manual operate normally (driver side)	1. Check encoder circuit (driver side)	GW-35
	2. Replace power window main switch	EI-28
Auto operation does not operate but manual operate normally (passenger side)	1. Check encoder circuit (passenger side)	GW-37
	2. Replace power window sub-switch	EI-28

Check BCM Power Supply and Ground Circuit

INFOID:0000000004658105

1.CHECK FUSE

- Check 10A fuse [No.1, located in fuse block (J/B)]
- Check 10A fuse [No.18, located in fuse block (J/B)]
- Check 40A fusible link (letter **F**, located in the fuse and fusible link box).

NOTE:
Refer to GW-19, "Component Parts and Harness Connector Location".

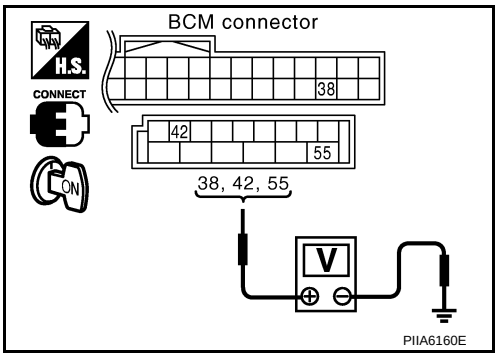
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown out, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-4.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between BCM connector M90, M91 terminal 38, 42, 55 and ground.

38 (W/L) – Ground : Battery voltage
42 (GY) – Ground : Battery voltage
55 (R) – Ground : Battery voltage

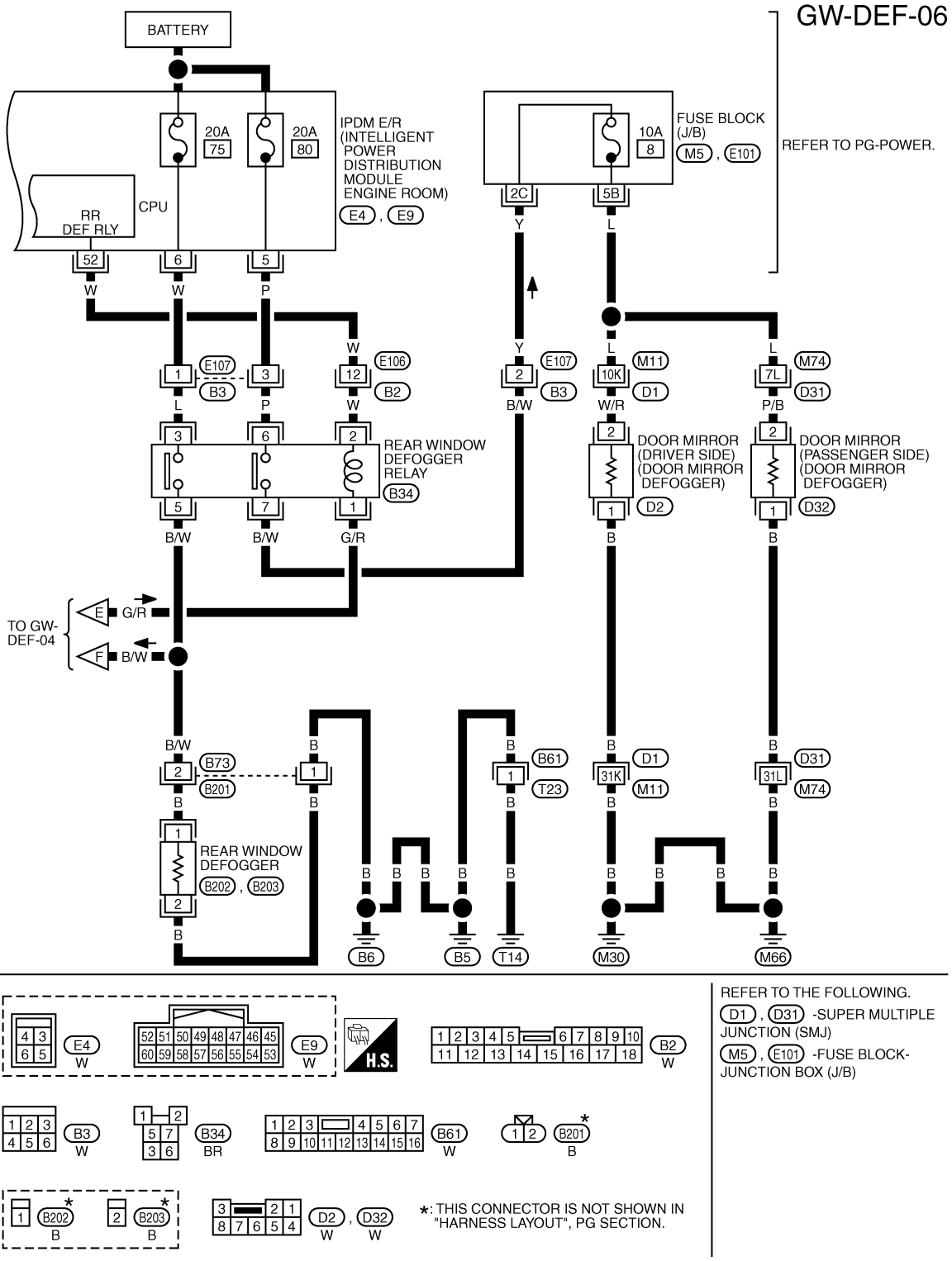


OK or NG

OK >> GO TO 3.
NG >> Check BCM power supply circuit for open or short.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.



TIWT1600E

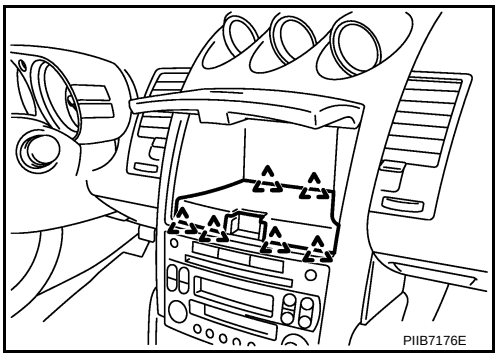
Terminal and Reference Value for BCM

INFOID:0000000004658130

Terminal	Wire Color	Item	Signal input/output	Condition		Voltage (V) (Approx.)
9	L/R	Rear window defogger switch signal	Output	Rear window defogger switch	: Pressed	0
					: OFF	5

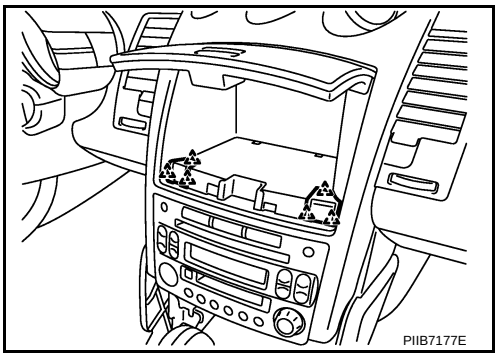
16. Remove NAVI switch. (With NAVI models) Refer to AV-86, "Removal and Installation of NAVI Switch".
17. Remove cluster lid C.
    - Lift upward while disengaging the pawls, and pull backward to remove the pocket mat. (Without NAVI)

    : Pawl



    - Pull backward to remove the instrument finisher (left/right). (Without NAVI)
    - Disengage the metal clip with the upper center pawls.

    : Pawl



    - Remove the harness connector of the triple meter and audio unit by pulling backward, and then remove cluster lid C.
      CAUTION:
      Unit is heavy, so be careful not to pinch your fingers when working.
    - After remove cluster lid C and then remove triple meter, instrument upper box and audio unit. Refer to IP-16, "Disassembly and Assembly".
18. Remove display unit. (With NAVI models) Refer to AV-86, "Removal and Installation of Display Unit".
19. Remove front pillar garnish (RH/LH).
    - Coupe models: Refer to EI-30, "Removal and Installation (for Coupe Models)".
    - Roadster models: Refer to EI-31, "Removal and Installation (for Roadster Models)".
20. Remove instrument driver panel upper.
    - Remove screws.
    - Disconnect metal clips, then remove instrument driver panel upper.
21. Remove instrument passenger panel upper.
    - Remove screws.
    - Disconnect metal clips, then remove instrument passenger panel upper.
22. Remove instrument side finisher (RH).
    - Using a screwdriver wrapped with tape, pry up and remove instrument side finisher.
    - Disconnect from metal clip and pull toward you.
23. Remove instrument panel assembly.
    Remove bolts, nut and screws, and remove instrument panel from passenger door opening portion.
    CAUTION:
    When removing instrument panel, 2 workers are required so as to prevent it from dropping.

INSTALLATION

To install, reverse the removal procedure sequence.
Assemble the following three parts carefully.

Disassembly and Assembly

INFOID:0000000004657263

CAUTION:
When disassembling, always use a remover tool that is made of plastic.

CENTER CONSOLE

1. SELF-DIAG RESULTS: Inspect the control units indicating “U1000” or “U1001” on SELF-DIAG RESULTS.

ALL DTC READING

DTC RESULTS	TIME	DTC RESULTS	TIME
ABS		BCM	
U1000 : CAN COMM CIRCUIT	3	No DTC is detected. Further testing may be required.	
IPDM E/R		TRANSMISSION	
No DTC is detected. Further testing may be required.		U1000 : CAN COMM CIRCUIT	3
MULTI AV		METER	
No DTC is detected. Further testing may be required.		U1000 : CAN COMM CIRCUIT	3

DTC RESULTS	TIME	DTC RESULTS	TIME
EPS		AUTO DRIVE POS.	
U1000 : CAN COMM CIRCUIT	PAST	No DTC is detected. Further testing may be required.	
ENGINE			
U1001 : CAN COMM CIRCUIT	1t		
ADAPTIVE LIGHT			
No DTC is detected. Further testing may be required.			
INTELLIGENT KEY			
No DTC is detected. Further testing may be required.			

PKID1221E

2. CAN DIAG SUPPORT MNTR (with PAST): Check the CAN DIAG SUPPORT MNTR (with PAST) of units indicating “U1000” or “U1001” on SELF-DIAG RESULTS. Draw a line on the diagnosis sheet to indicate the possible error circuit.
NOTE:
For the details of each indication on CAN DIAG SUPPORT MNTR, refer to LAN-39, "CAN Diagnostic Support Monitor".

a. Reception item of “ECM”: “VDC/TCS/ABS”, “3” is indicated in the “PAST”. This means ECM could not receive the signal from ABS in the past. Draw a line between ECM and ABS (line 2-a in the figure below).

b. Reception item of “M&A”: “VDC/TCS/ABS”, “3” is indicated in the “PAST”. This means M&A could not receive the signal from ABS in the past. Draw a line between M&A and ABS (line 2-b in the figure below).

Malfunction Area	Reference
ABS actuator and electric unit (control unit) branch line circuit	LAN-64, "ABS Actuator and Electric Unit (Control Unit) Branch Line Circuit"
IPDM E/R branch line circuit	LAN-64, "IPDM E/R Branch Line Circuit"

SHORT CIRCUIT

Malfunction Area	Reference
CAN communication circuit	LAN-65, "CAN Communication Circuit"

Main Line Between VDC/TCS/ABS Control Unit and Data Link Connector

INFOID:0000000004657742

INSPECTION PROCEDURE

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
- ECM
- Harness connectors B101 and M73
4. Check the continuity between the harness connector M73 and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M73	4M	M8	6	Yes
	5M		14	Yes

OK or NG

OK >> • Present error: Check the following items again.
- Decision of CAN system type.
- Not received CONSULT-III data [SELF-DIAG RESULTS, CAN DIAG SUPPORT MNTR (“ECU list” included)].
- Procedure for detecting root cause.

• Past error: Error was detected in the main line between the VDC/TCS/ABS control unit and the data link connector.

NG >> Repair the main line between the harness connector M73 and the data link connector.

Main Line Between TCM and Data Link Connector

INFOID:0000000004657743

INSPECTION PROCEDURE

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
- ECM
- Harness connectors F102 and M72
4. Check the continuity between the harness connector M72 and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M72	25H	M8	6	Yes
	24H		14	Yes

OK or NG

OK >> • Present error: Check the following items again.
- Decision of CAN system type.

Headlamp low beam should operate.

IPDM E/R AUTO ACTIVE TEST
1. Start auto active test. Refer to PG-19, "Auto Active Test".
2. Check that the headlamp low beam operation.

Headlamp low beam should operate.

OK or NG

OK >> GO TO 3.
NG >> GO TO 4.

3. CHECK IPDM E/R

CONSULT-III DATA MONITOR
1. Select "HL LO REQ" of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

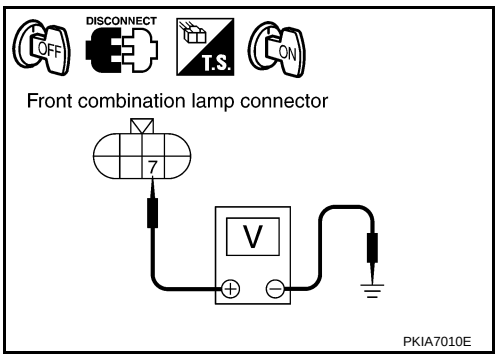
When lighting switch is 2ND position : HL LO REQ ON

OK or NG

OK >> Replace IPDM E/R. Refer to PG-23, "Removal and Installation of IPDM E/R".
NG >> Replace BCM. Refer to BCS-15, "Removal and Installation of BCM".

4. CHECK HEADLAMP INPUT SIGNAL

CONSULT-III ACTIVE TEST
1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Select "LAMPS" of IPDM E/R active test item.
4. With operating the test item, check voltage between front combination lamp (RH and LH) harness connector and ground.



Terminals				Voltage (Approx.)
(+)			(-)	
Front combination lamp connector		Terminal		
RH	E24	7	Ground	Battery voltage
LH	E40	7		

IPDM E/R AUTO ACTIVE TEST
1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Start auto active test. Refer to PG-19, "Auto Active Test".
4. With operating the test item, check voltage between front combination lamp (RH and LH) harness connector and ground.

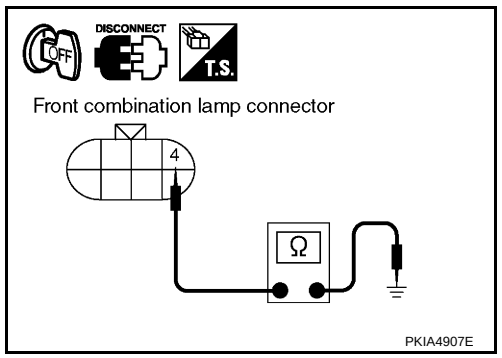
Terminals				Voltage (Approx.)
(+)			(-)	
Front combination lamp connector		Terminal		
RH	E24	7	Ground	Battery voltage
LH	E40	7		

OK or NG

OK >> GO TO 6.
NG >> GO TO 5.

Check continuity between front combination lamp RH or LH harness connector and ground.

Front combination lamp connector		Terminal	Ground	Continuity
RH	E24	4		Yes
LH	E40	4		



OK or NG

OK >> Check headlamp harness and connector.
NG >> Repair harness or connector.

High Beam Indicator Lamp Does Not Illuminate

INFOID:0000000004655862

1.CHECK BULB

Check bulb of high beam indicator lamp.

OK or NG

OK >> Replace combination meter. Refer to DI-22, "Removal and Installation for Combination Meter".
NG >> Replace indicator bulb.

Headlamp Low Beam Does Not Illuminate (Both Sides)

INFOID:0000000004655863

1.CHECK COMBINATION SWITCH INPUT SIGNAL

CONSULT-III DATA MONITOR
1. Select "HEAD LAMP SW1" and "HEAD LAMP SW2" of BCM data monitor item.
2. With operating the lighting switch, check the monitor status.

When lighting switch is 2ND : HEAD LAMP SW 1 ON
: HEAD LAMP SW 2 ON

CHECK COMBINATION SWITCH
Refer to LT-86, "Combination Switch Inspection".

OK or NG

OK >> GO TO 2.
NG >> Check combination switch (lighting switch). Refer to LT-86, "Combination Switch Inspection".

2.HEADLAMP ACTIVE TEST

CONSULT-III ACTIVE TEST
1. Select "LAMPS" of IPDM E/R active test item.
2. With operating the test item, check the headlamp low beam operation.

Headlamp low beam should operate.

IPDM E/R AUTO ACTIVE TEST
1. Start auto active test. Refer to PG-19, "Auto Active Test".
2. Check that the headlamp low beam operation.

Headlamp low beam should operate.

OK or NG

OK >> GO TO 3.
NG >> GO TO 4.

3.CHECK IPDM E/R

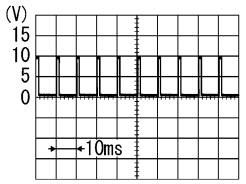
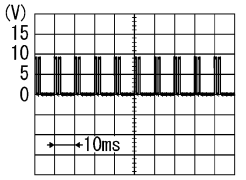
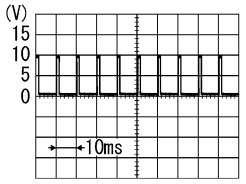
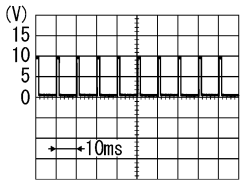
1. Select "HL LO REQ" of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

Terminal and Reference Value for BCM

INFOID:0000000004655895

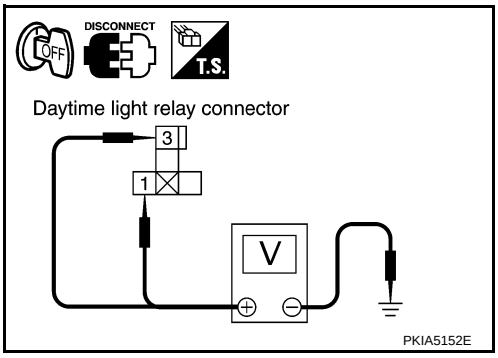
CAUTION:

- **Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF not to be fluctuated by overloaded.**
- **Turn wiper dial position to 4 except when checking waveform or voltage of wiper dial position. Wiper dial position can be confirmed on CONSULT-III. Refer to LT-85, "CONSULT-III Function (BCM)".**

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
2	GY	Combination switch input 5	ON	Lighting, turn, wiper switch (Wiper intermittent dial position 4)	OFF	Approx. 0 V
					Any of the conditions below • Lighting switch 1ST • Lighting switch HIGH beam (Operates only HIGH beam switch) • Turn signal switch to right	 PKIB4959J Approx. 1.0 V
					Lighting switch 2ND	 PKIB4953J Approx. 2.0 V
3	L/W	Combination switch input 4	ON	Lighting, turn, wiper switch (Wiper intermittent dial position 4)	OFF	Approx. 0 V
					Any of the conditions below • Lighting switch 2ND • Lighting switch PASSING (Operates only PASSING switch) • Turn signal switch to left	 PKIB4959J Approx. 1.0 V
4	PU/W	Combination switch input 3	ON	Lighting, turn, wiper switch (Wiper intermittent dial position 4)	OFF	Approx. 0 V
					Any of the conditions below • Front wiper switch MIST • Front wiper switch INT • Front wiper switch LO	 PKIB4959J Approx. 1.0 V

4. CHECK POWER SUPPLY CIRCUIT TO DAYTIME LIGHT RELAY

1. Turn ignition OFF.
2. Disconnect daytime light relay.
3. Check voltage between daytime light relay harness connector and ground.



Terminal			voltage (Approx.)
(+)		(–)	
Daytime light relay connector	Terminal		
E20	1	Ground	Battery voltage
	3		

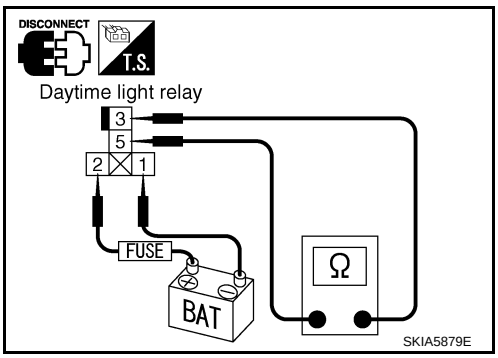
OK or NG

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

5. CHECK DAYTIME LIGHT RELAY

Apply battery voltage to between daytime light relay E20 terminal 1, 2 and check continuity between terminal 3 and 5.

3 – 5 : Continuity should exist.

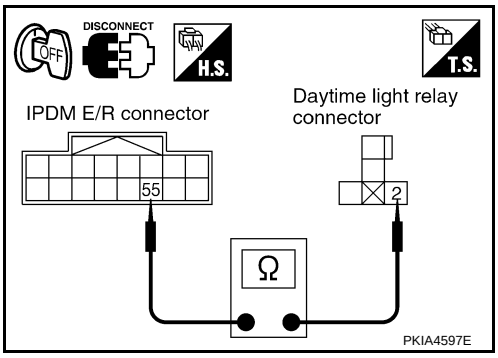


OK or NG

OK >> GO TO 6.
NG >> Replace daytime light relay.

6. CHECK DAYTIME LIGHT RELAY CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and daytime light relay harness connector.



Terminals				Continuity
IPDM E/R		Daytime light relay		
Connector	Terminal	Connector	Terminal	
E9	55	E20	2	Yes

OK or NG

OK >> GO TO 7.
NG >> Repair harness or connector.

7. CHECK IPDM E/R

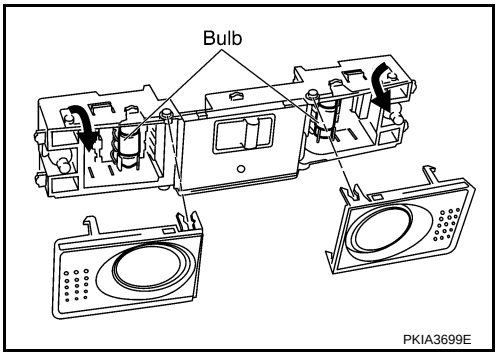
CONSULT-III ACTIVE TEST

1. Connect daytime light relay and IPDM E/R connector.
2. Disconnect front combination lamp, rear combination lamp and license plate lamp connectors.
3. Select "TAIL LAMP" of IPDM E/R active test item.
4. With operating the test item, check voltage between front combination lamp, rear combination lamp and license plate lamp harness connector and ground.

IPDM E/R AUTO ACTIVE TEST

1. Connect daytime light relay and IPDM E/R connector.
2. Disconnect front combination lamp, rear combination lamp and license plate lamp connector.
3. Start auto active test. Refer to PG-19, "Auto Active Test".

1. Open driver and passenger window, and then disconnect battery cable from the negative terminal.
   CAUTION:
   After battery cables are disconnected, never open/close driver and/or passenger door with the window in the full up position. Automatic window adjusting function will not work and side roof panel may be damaged.
2. Remove lens using clip driver or suitable tool.
3. Remove bulb.

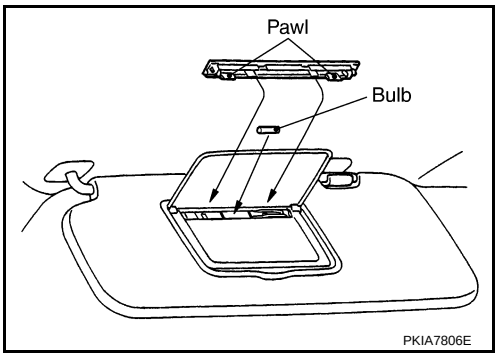


Map lamp : 12V - 8W

4. Installation is the reverse order of removal.

VANITY MIRROR LAMP

1. Insert a thin screwdriver in the lens end and remove lens.
2. Remove bulb.



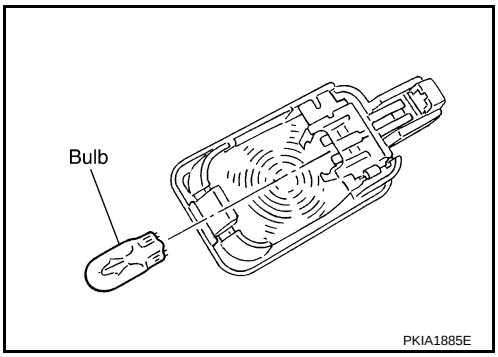
Vanity mirror lamp : 12V - 1.32W

3. Installation is the reverse order of removal.

LUGGAGE ROOM LAMP & TRUNK ROOM LAMP

Luggage Room Lamp (Coupe Models)

1. Remove luggage room lamp. Refer to LT-143, "Removal and Installation".
2. Remove bulb.

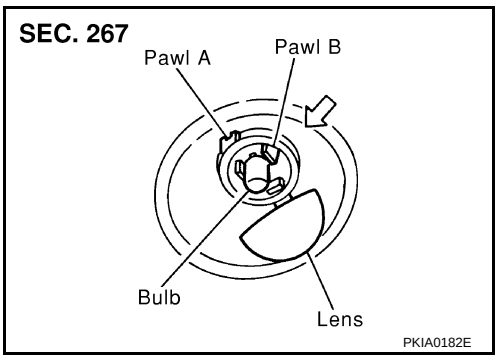


Luggage room lamp : 12V - 5W

3. Installation is the reverse order of removal.

Trunk Room Lamp (Roadster Models)

1. Unfold pawl A and remove lens.
2. Remove trunk room lamp while pressing pawl B in the direction of the arrow.
3. Disconnect trunk room lamp connector.



Trunk room lamp : 12V - 3.4W

4. Installation is the reverse order of removal.

IGNITION KEY HOLE ILLUMINATION

SECTION MA
MAINTENANCE

CONTENTS

SERVICE INFORMATION

PRECAUTIONS

Precaution for Battery Service

INFOID:0000000004657856

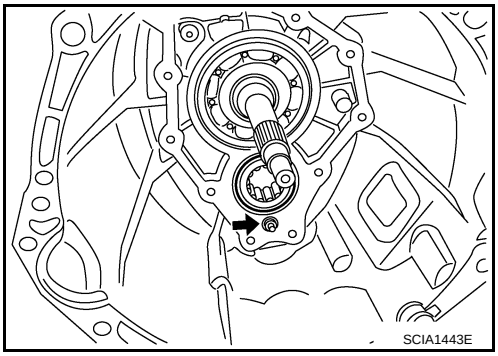
Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

Service Notice or Precaution

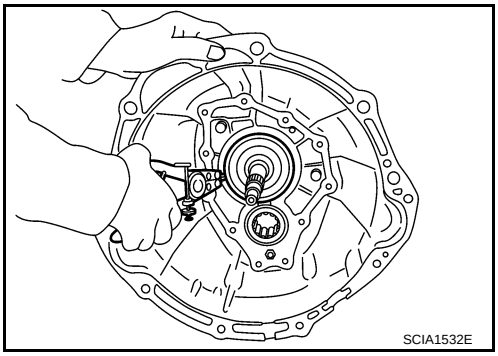
INFOID:0000000004657857

- Never reuse CSC (Concentric Slave Cylinder) body and CSC tube. Because CSC slides back to the original position every time when removing transmission assembly. At this timing, dust on the sliding parts may damage a seal of CSC and may cause clutch fluid leakage. Refer to CL-11, "Removal and Installation".
- Do not reuse transmission oil, once it has been drained.
- Check oil level or replace oil with vehicle on level ground.
- During removal or installation, keep inside of transmission clear of dust or dirt.
- Check for the correct installation status prior to removal or disassembly. If matching marks are required, be certain they do not interfere with the function of the parts they are applied to.
- In principle, tighten bolts or nuts gradually in several steps working diagonally from inside to outside. If tightening sequence is specified, observe it.
- Be careful not to damage sliding surfaces and mating surfaces.
- Do not hold control lever housing to prevent bushing of control lever housing from deformation when moving transmission assembly.

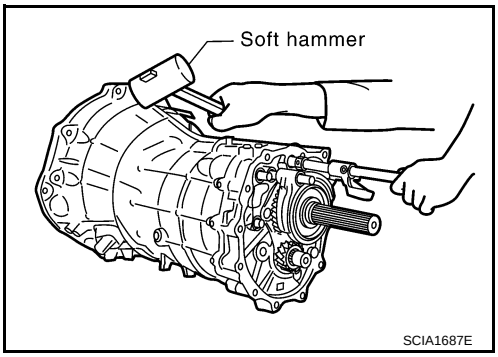
20. Remove baffle plate mounting nut from the transmission case.


SCIA1443E

21. Remove snap ring from the main drive gear bearing, using snap ring pliers.

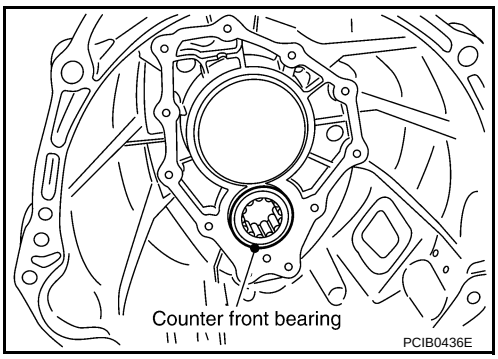

SCIA1532E

22. Using a soft hammer to carefully tap main shaft and counter shaft from the transmission case side, and then separate adapter plate and transmission case.



SCIA1687E

23. Remove counter front bearing from the transmission case.
24. Remove oil gutter and breather tube from the transmission case.
25. Remove bracket mounting bolt and then remove bracket from transmission case.

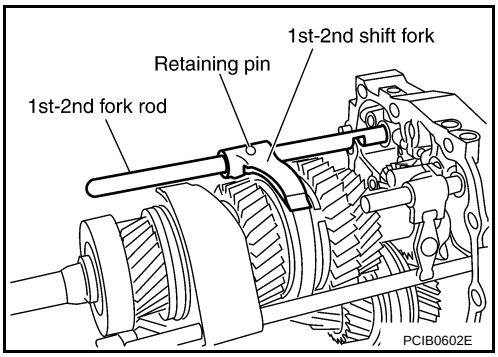


PCIB0436E

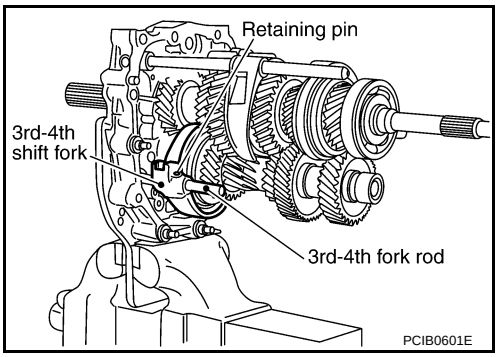
Case Components (VIN: From JN1BZ36A29M550535)

1. Remove filler plug and gasket from transmission case.
2. Remove drain plug and gasket from transmission case and then drain gear oil.

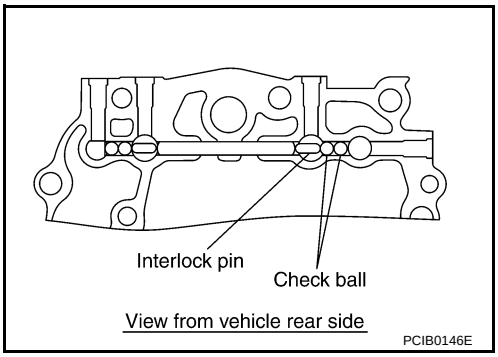
14. Install 1st-2nd shift fork to the 1st-2nd coupling sleeve.
15. Install 1st-2nd fork rod to the 1st-2nd shift fork.
16. Using a pin punch to tap the retaining pin into the 1st-2nd shift fork.
    CAUTION:
    Do not reuse retaining pin.



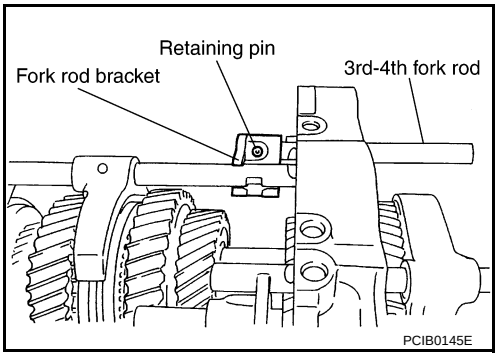
17. Install 3rd-4th shift fork to the 3rd-4th coupling sleeve.
18. Install 3rd-4th fork rod (reversal side) to the 3rd-4th shift fork.
19. Using a pin punch to tap the retaining pin into the 3rd-4th shift fork (reversal side).
    CAUTION:
    Do not reuse retaining pin.



20. Apply recommended grease to interlock pin and check balls.
21. Install interlock pin and check balls to the adapter plate.

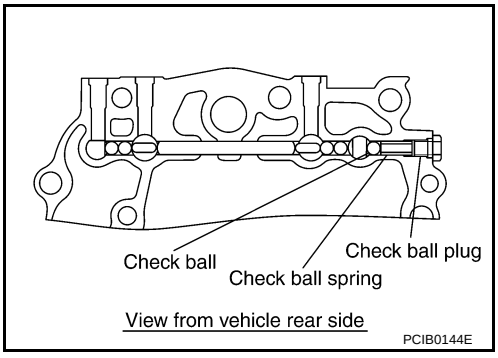


22. Install 3rd-4th fork rod to the adapter plate.
23. Install 3rd-4th fork rod bracket to the 3rd-4th fork rod.
24. Using a pin punch to tap the retaining pin into the 3rd-4th fork rod bracket.
    CAUTION:
    Do not reuse retaining pin.

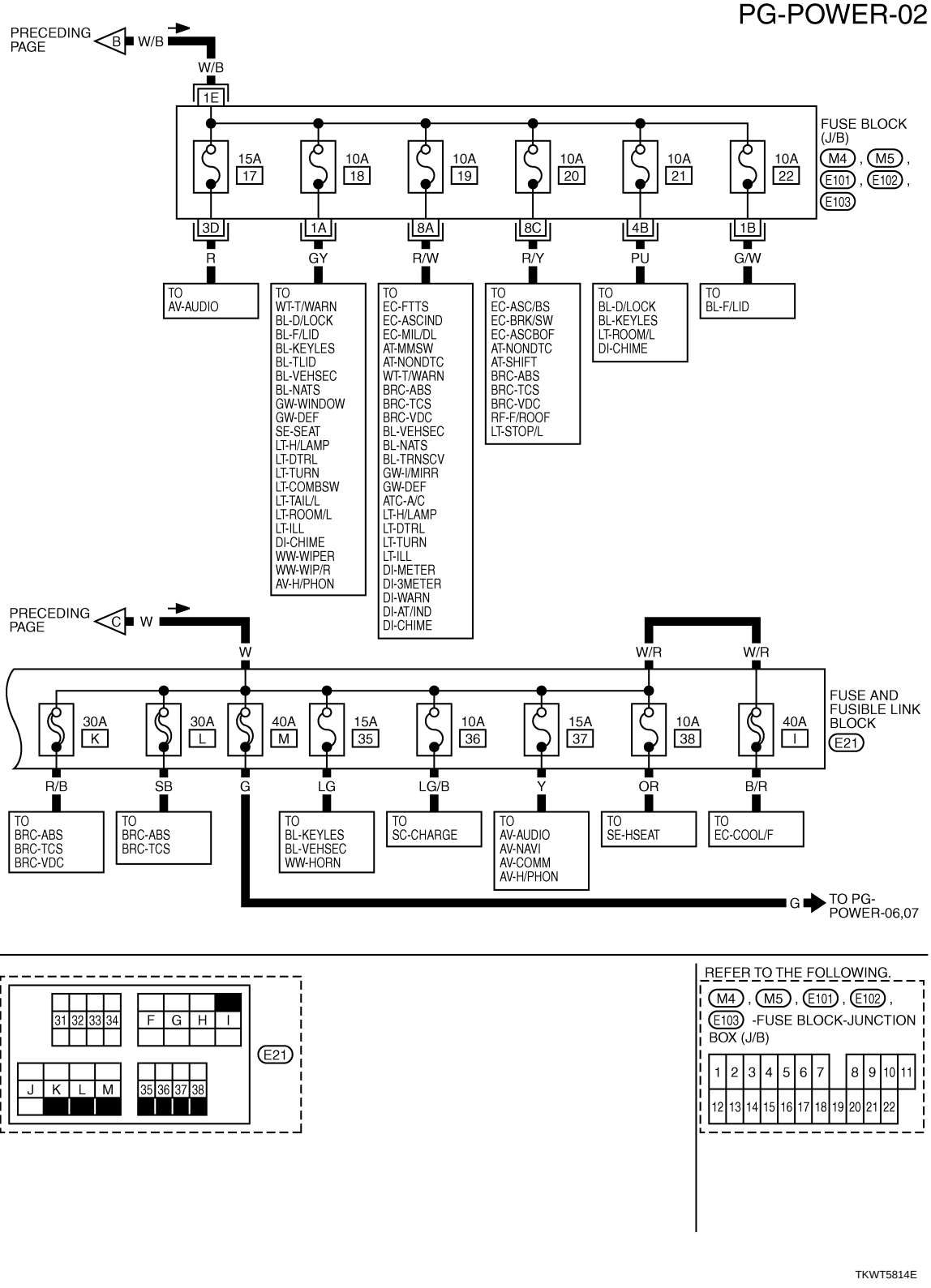


25. Apply recommended grease to check ball and then install check ball and check ball spring into adapter plate.
26. Apply recommended sealant to threads of check ball plugs, and tighten check ball plugs to the specified torque. Refer to "Shift Control Components".
    - **Use Genuine Silicone RTV or an equivalent. Refer to GI-42, "Recommended Chemical Product and Sealant".**

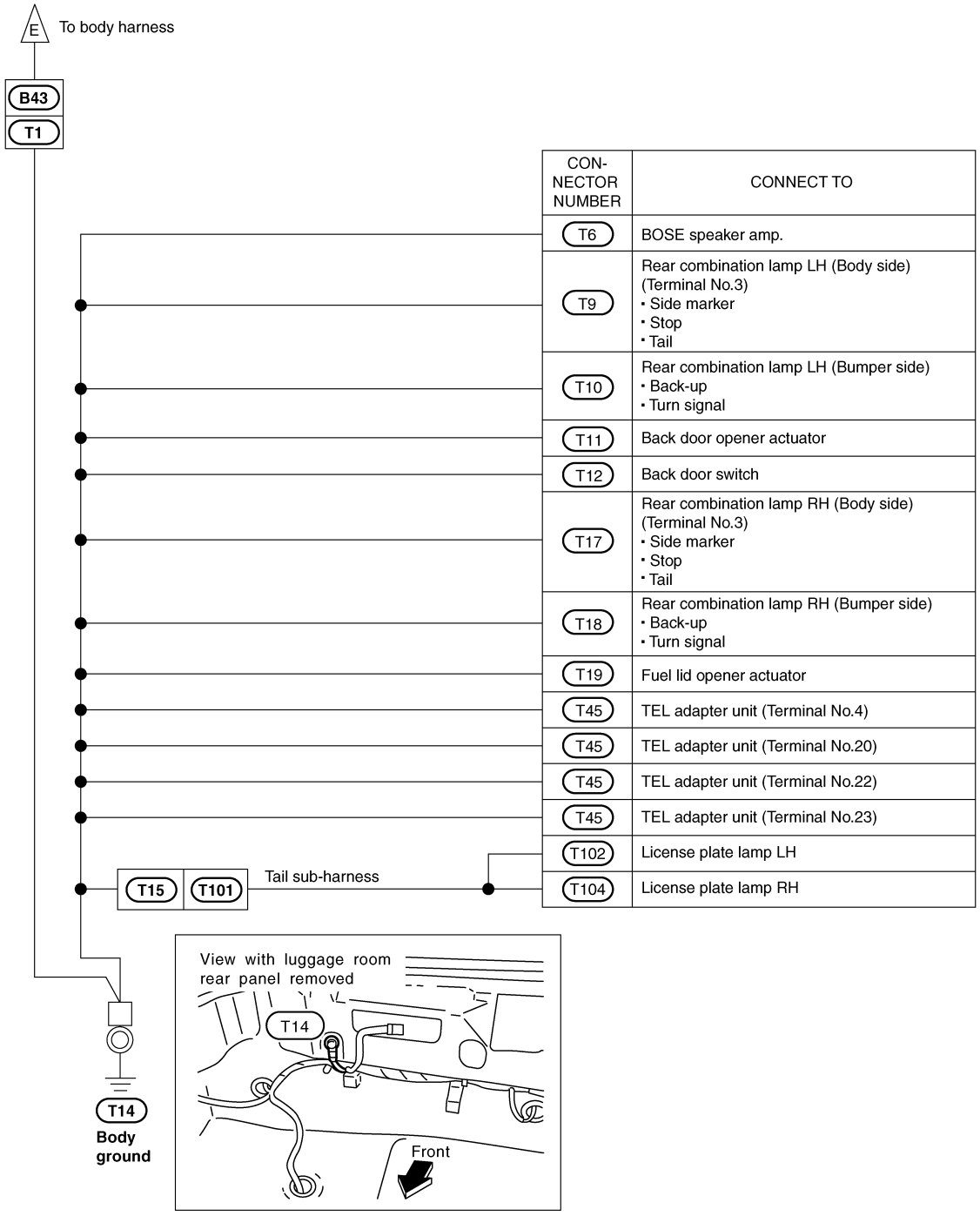
    CAUTION:
    Remove old sealant and oil adhering to threads.



PG-POWER-02



TKWT5814E



CON-NECTOR NUMBER	CONNECT TO
T6	BOSE speaker amp.
T9	Rear combination lamp LH (Body side) (Terminal No.3) ▪ Side marker ▪ Stop ▪ Tail
T10	Rear combination lamp LH (Bumper side) ▪ Back-up ▪ Turn signal
T11	Back door opener actuator
T12	Back door switch
T17	Rear combination lamp RH (Body side) (Terminal No.3) ▪ Side marker ▪ Stop ▪ Tail
T18	Rear combination lamp RH (Bumper side) ▪ Back-up ▪ Turn signal
T19	Fuel lid opener actuator
T45	TEL adapter unit (Terminal No.4)
T45	TEL adapter unit (Terminal No.20)
T45	TEL adapter unit (Terminal No.22)
T45	TEL adapter unit (Terminal No.23)
T102	License plate lamp LH
T104	License plate lamp RH

CKIT0873E

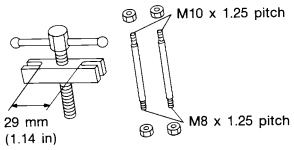
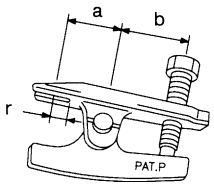
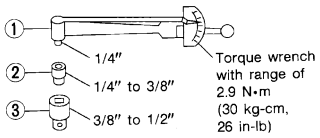
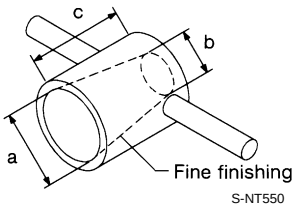
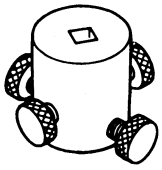
Code	Section	Wiring Diagram Name
F/PUMP	EC	Fuel Pump
F/ROOF	RF	Soft Top
FTS	AT	A/T Fluid Temperature Sensor Circuit
FTTS	EC	Fuel Tank Temperature Sensor
FUELB1	EC	Fuel Injection System Function (Bank 1)
FUELB2	EC	Fuel Injection System Function (Bank 2)
H/LAMP	LT	Headlamp
H/PHON	AV	Handsfree Telephone System
HORN	WW	Horn
HSEAT	SE	Heated Seat
IATSB1	EC	Intake Air Temperature Sensor (Bank 1)
IGNSYS	EC	Ignition System
ILL	LT	Illumination
I/MIRR	GW	Inside Mirror (Auto Anti-Dazzling Mirror)
INJECT	EC	Injector
IVCB1	EC	Intake Valve Timing Control Solenoid Valve (Bank 1)
IVCB2	EC	Intake Valve Timing Control Solenoid Valve (Bank 2)
KEYLES	BL	Remote Keyless Entry System
KSB1	EC	Knock Sensor (Bank 1)
KSB2	EC	Knock Sensor (Bank 2)
MAFSB1	EC	Mass Air Flow Sensor (Bank 1)
MAFSB2	EC	Mass Air Flow Sensor (Bank 2)
MAIN	AT	Main Power Supply and Ground Circuit
MAIN	EC	Main Power Supply and Ground Circuit
M/ANT	AV	Manual Antenna
METER	DI	Speedometer, Tachometer, Temp. and Fuel Gauges
MIL/DL	EC	MIL & Data Link Connector
MIRROR	GW	Power Door Mirror
MMSW	AT	Manual Mode Switch
NATS	BL	Nissan Anti-Theft System
NAVI	AV	Navigation System
NONDTC	AT	Non-Detective Items
O2H2B1	EC	Heated Oxygen Sensor 2 Heater (Bank 1)
O2H2B2	EC	Heated Oxygen Sensor 2 Heater (Bank 2)
O2S2B1	EC	Heated Oxygen Sensor 2 (Bank 1)
O2S2B2	EC	Heated Oxygen Sensor 2 (Bank 2)
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PHSB1	EC	Camshaft Position Sensor (PHASE) (Bank 1)
PHSB2	EC	Camshaft Position Sensor (PHASE) (Bank 2)
PNP/SW	AT	Park/Neutral Position Switch
PNP/SW	EC	Park/Neutral Position Switch
POS	EC	Crankshaft Position Sensor (CKPS) (POS)
POWER	PG	Power Supply Routing
PRE/SE	EC	EVAP Control System Pressure Sensor

PREPARATION

Special Service Tool

INFOID:0000000004655690

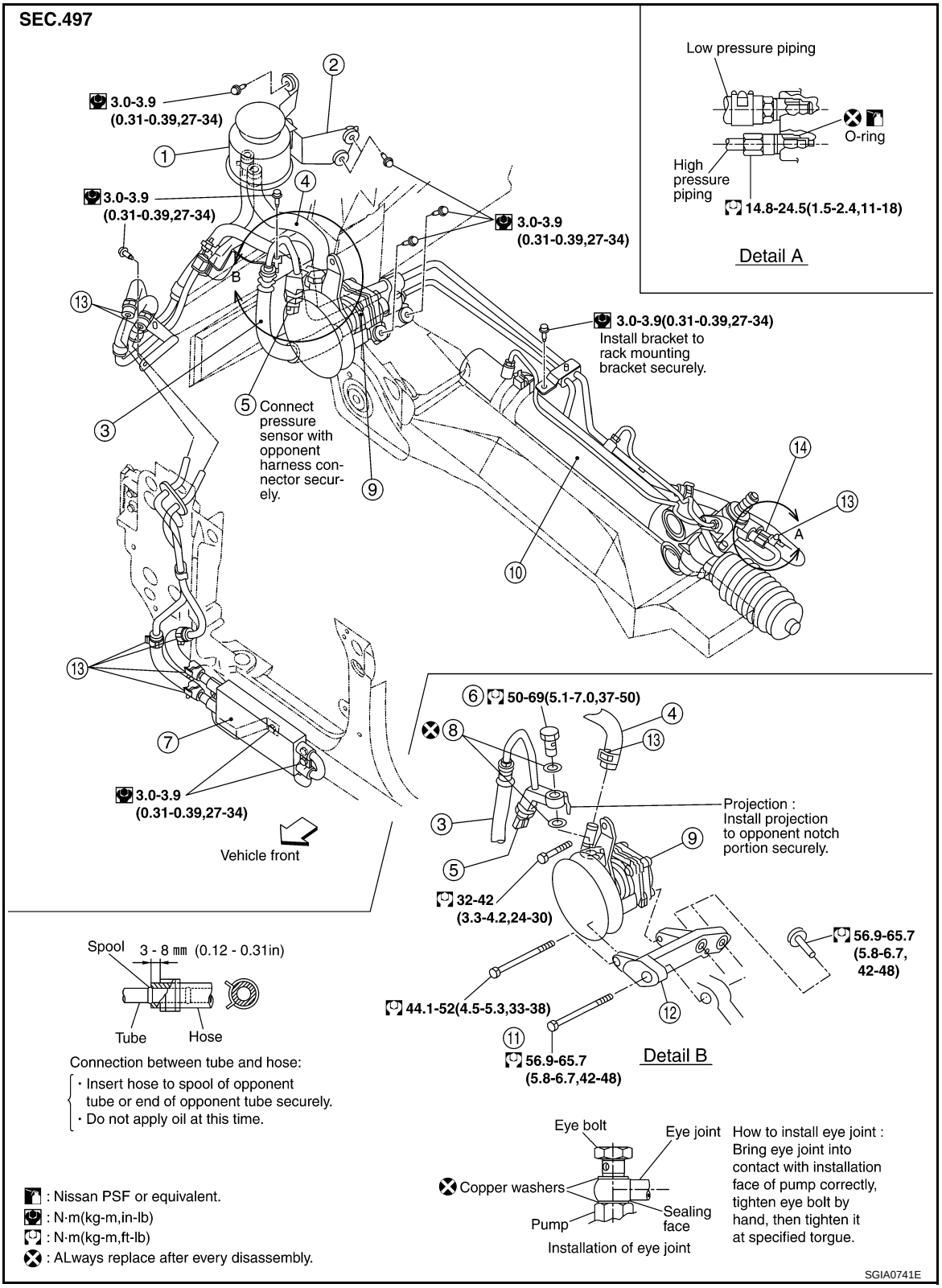
The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description
ST27180001 (J-25726-A) Steering wheel puller	 S-NT544	Removing steering wheel
HT72520000 (J-25730-A) Ball joint remover a: 33 mm (1.30 in) b: 50 mm (1.97 in) r: 11.5 mm (0.453 in)	 NT546	Removing outer socket ball joint
ST3127S000 (See J-25765-A) Preload gauge 1. GG9103000 (J-25765-A) Torque wrench 2. HT62940000 (–) Socket adapter 3. HT62900000 (–) Socket adapter	 S-NT541	Inspecting of rotating torque
KV48104400 (–) Teflon ring installation tool a: 50 mm (1.97 in) dia. b: 36 mm (1.42 in) dia. c: 100 mm (3.94 in)	 S-NT550	Installing of rack Teflon ring
KV48103400 (–) Torque adapter	 ZZA0824D	Inspecting rotating torque

HYDRAULIC LINE

Removal and Installation

INFOID:0000000004655705



1. Reservoir tank
2. Reservoir tank bracket
3. Hose & tube assembly
4. Suction hose
5. Oil pressure sensor
6. Eye bolt
7. Oil cooler
8. Copper washer
9. Power steering oil pump

Most of these incidents can be repaired by adjusting, securing or insulatingthe item(s) or component(s) causing the noise.

SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

1. Sunroof lid, rail, linkage or seals making a rattle or light knockingnoise
2. Sunvisor shaft shaking in the holder
3. Front or rear windshield touching headlining and squeaking

Again, pressing on the components to stop the noise while duplicatingthe conditions can isolate most of these incidents. Repairs usually consistof insulating with felt cloth tape.

SEATS

When isolating seat noise it's important to note the position the seatis in and the load placed on the seat when the noise is present. These conditionsshould be duplicated when verifying and isolating the cause of the noise.
Cause of seat noise include:

1. Headrest rods and holder
2. A squeak between the seat pad cushion and frame
3. The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspectedcomponents while duplicating the conditions under which the noise occurs.Most of these incidents can be repaired by repositioning the component orapplying urethane tape to the contact area.

UNDERHOOD

Some interior noise may be caused by components under the hood or onthe engine wall. The noise is then transmitted into the passenger compartment.
Causes of transmitted underhood noise include:

1. Any component mounted to the engine wall
2. Components that pass through the engine wall
3. Engine wall mounts and connectors
4. Loose radiator mounting pins
5. Hood bumpers out of adjustment
6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

Symptom	Diagnostic procedure and repair order	Roof position	Refer to page
Passenger side seat back does not operate.	1. Check passenger side seat cancel switch	OP1	SE-49
	2. Check passenger side seat operate signal 1	OP1	RF-76
Passenger side seat bock does not return to former state	Check passenger side seat operate signal 2	OP10	RF-77
Power window down does not operate.	Check power window harness	OP1	RF-76
Both power window down and passenger seat are not operated.	Check power window down request signal	OP1	RF-76
Indicator lamp does not light. (soft top operates properly)	Check indicator lamp circuit	—	RF-79
Indicator lamp blinks when IGN SW: OFF → ON is done.	Replace soft top control unit	—	RF-80
Indicator lamp blinks when beginning to run.	Check speed signal	—	RF-78

(OPEN → CLOSE)

The operation chart for roof position. Refer to RF-19, "Operation Chart".

Symptom	Diagnostic procedure and repair order	Roof position	Refer to page
Roof does not operate	1. Check soft top control unit power supply	CL1	RF-40
	2. Check soft top switch (Close)	CL1	RF-42
	3. Check operation permission condition	CL1	RF-73
	4. Check each switch condition (Close operate)	Full open	RF-75
	5. Check seat back position signal	CL1	RF-77
	6. Check storage lid unlock actuator (Close operate)	CL1	RF-57
	7. Check storage lid full close detection switch (LH and RH) (Close operate)	CL1.2	RF-58
	8. Check storage lid actuator (Close operate)	CL2	RF-59
Storage lid operation stops at full open position	1. Check roof actuator (Close operate)	CL2	RF-62
	2. Check body interference prevention switch (Close operate)	CL3	RF-61
Roof stops on the way	1. Check storage lid full open detection switch (Close operate)	CL3	RF-60
	2. Check roof full close detection switch (Close operate)	CL5	RF-63
	3. Check 5th bow actuator (Close operate)	CL5	RF-65
Operation stops after 5th bow operates down	Check 5th bow full close detection switch (Close operate)	CL5	RF-65
Operation stops after 5th bow operates up	Check 5th bow full open detection switch (Close operate)	CL6	RF-66
Auto closure of 5th bow does not operate.	1. Check 5th bow half-latch switch	CL10	RF-67
	2. Check 5th bow full-latch switch	CL10	RF-69
	3. Check 5th bow ending switch	CL10	RF-70
	4. Check 5th bow closure motor	CL10	RF-71
Passenger side seat back does not operate.	1. Check passenger side seat cancel switch	CL1	SE-49
	2. Check passenger side seat operate signal 1	CL1	RF-76
Passenger side seat back does not return to former state	Check passenger side seat operate signal 3	CL10	RF-77

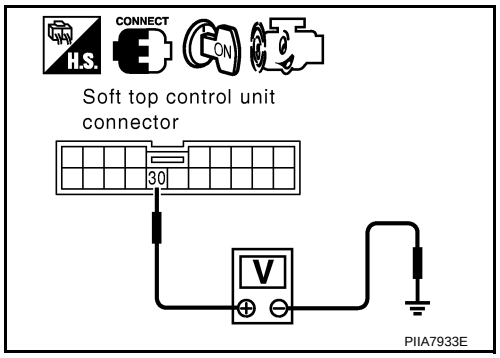
Check 5th Bow Full-Latch Switch

INFOID:0000000004657221

1. CHECK 5TH BOW FULL-LATCH SWITCH SIGNAL

1. Start engine.
2. Operate soft top switch CLOSE, check voltage between soft top control unit connector and ground.

Connector	Terminal (Wire color)		Roof condition	Voltage (V) (Approx.)
	(+)	(-)		
B67	30 (Y/R)	Ground	CL10	0 → 5



OK or NG

OK >> Soft top lock switch (5th bow full-latch switch) is OK.
NG >> GO TO 2.

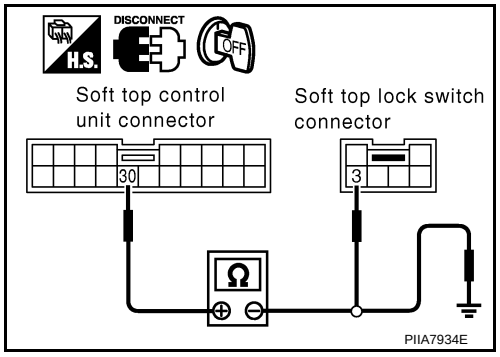
2. CHECK 5TH BOW FULL-LATCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect soft top control unit and soft top lock switch (at 5th bow lock assembly in storage lid) connector.
3. Check continuity between soft top control unit connector B67 terminal 30 and soft top lock switch connector T205 terminal 3.

30 (Y/R) - 3 (Y) : Continuity should exist.

4. Check continuity between soft top control unit connector B67 terminal 30 and ground.

30 (Y/R) - Ground : Continuity should not exist.



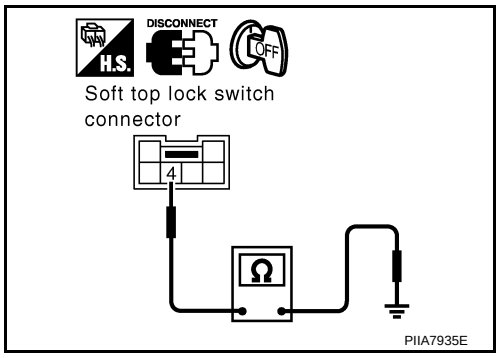
OK or NG

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

3. CHECK 5TH BOW HALF-LATCH SWITCH GROUND CIRCUIT

Check continuity between soft top lock switch connector T205 terminal 4 and ground.

4 (B) - Ground : Continuity should exist.



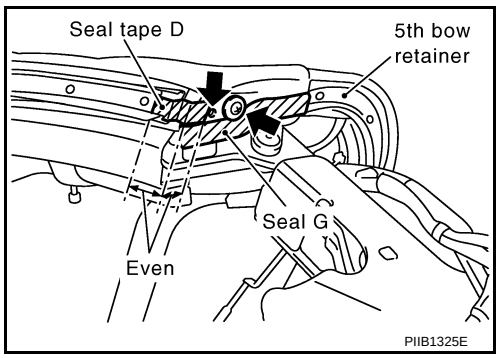
OK or NG

OK >> GO TO 4.
NG >> Repair or replace harness.

4. CHECK SOFT TOP CONTROL UNIT OUTPUT SIGNAL

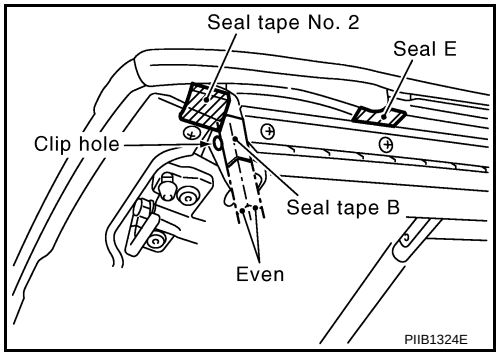
1. Connect soft top control unit connector.
2. Start engine.

22. Apply seal to C link lower installation position.
CAUTION:
Make sure not to cover clip hole and screw head.

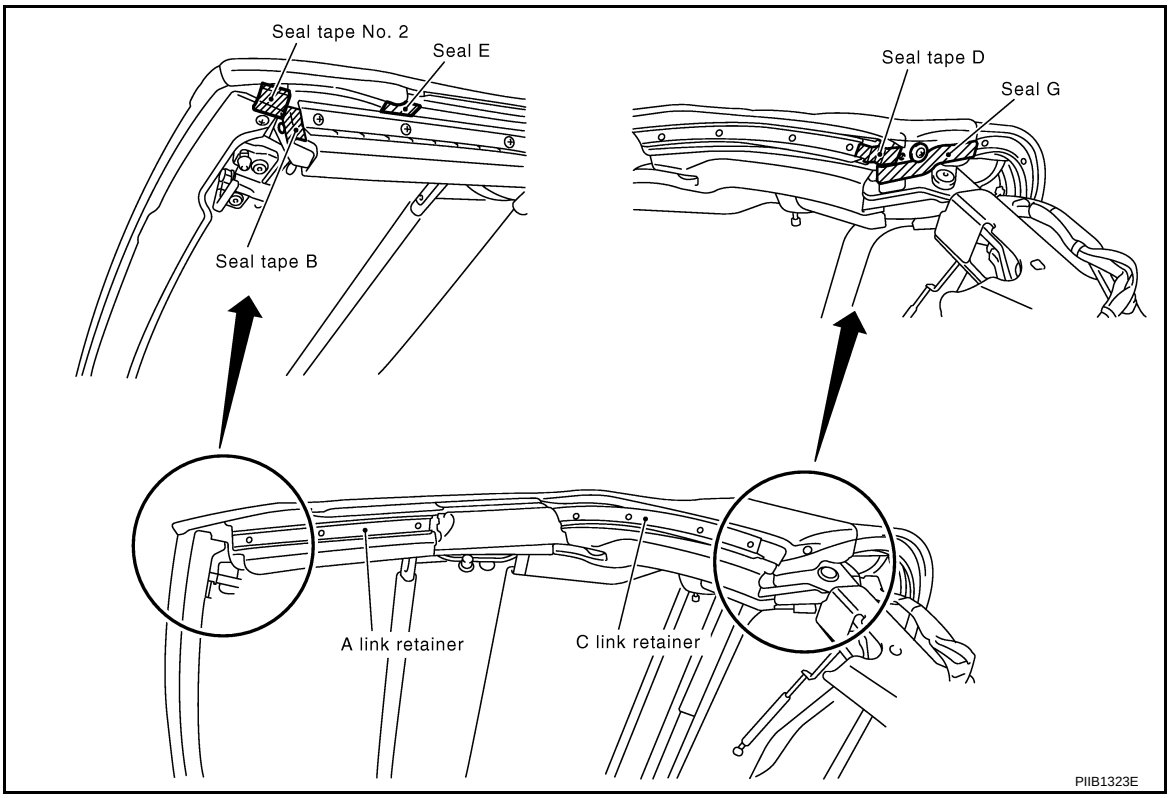


23. Install A link retainer with screws.
NOTE:
Align matching marks on the retainer to screw heads, when installing the retainer.

24. Apply seal E to A link installation position.



25. Recheck seals for A link and C link.



NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

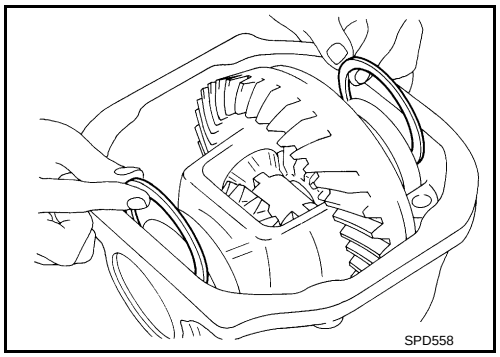
INFOID:0000000004657062

Use the chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

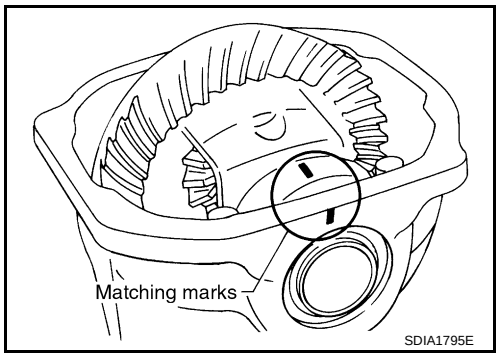
Reference page		Refer to RFD-18 (R200 2-pinion), RFD-38 (R200V LSD)	Refer to RFD-18 (R200 2-pinion), RFD-38 (R200V LSD)	Refer to RFD-18 (R200 2-pinion), RFD-38 (R200V LSD)	Refer to RFD-18 (R200 2-pinion), RFD-38 (R200V LSD)	Refer to RFD-18 (R200 2-pinion), RFD-38 (R200V LSD)	Refer to RFD-9.	NVH in PR section	NVH in FAX, RAX, FSU and RSU sections	NVH in WT section	NVH in WT section	NVH in RAX section	NVH in BR section	NVH in PS section
Possible cause and SUSPECTED PARTS		Gear tooth rough	Gear contact improper	Tooth surfaces worn	Backlash incorrect	Companion flange excessive runout	Gear oil improper	PROPELLER SHAFT	AXLE AND SUSPENSION	TIRE	ROAD WHEEL	DRIVE SHAFT	BRAKE	STEERING
Symptom	Noise	×	×	×	×	×	×	×	×	×	×	×	×	×

×: Applicable

13. Insert selected left and right side bearing adjusting washers in place between side bearings and gear carrier.



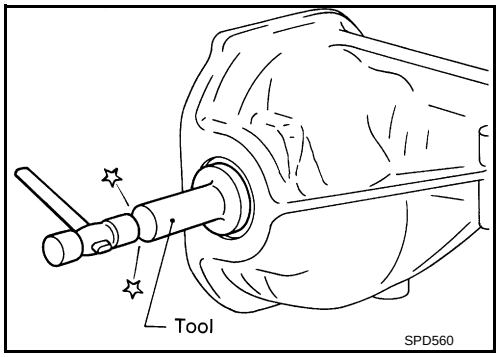
14. Align matching marks on bearing cap with that on gear carrier.
15. Install bearing caps and tighten bearing cap mounting bolts to the specified torque. Refer to "COMPONENTS".



16. Using the drift, drive side oil seals until it becomes flush with the case end.

Tool number : KV38100200 (J-26233)

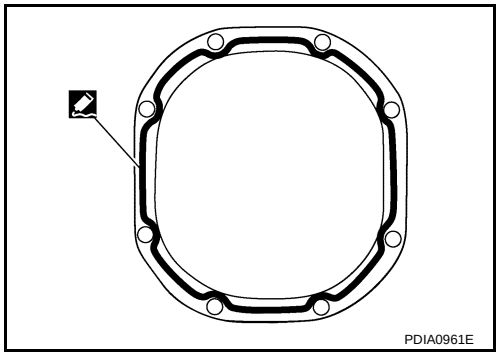
CAUTION:
- **Never reuse oil seal.**
- **When installing, never incline oil seal.**
- **Apply multi-purpose grease onto oil seal lips, and gear oil onto the circumference of oil seal.**



17. Check and adjust drive gear runout, tooth contact, drive gear to drive pinion backlash, and total preload torque. Refer to "Drive Gear Runout", "Tooth Contact", "Backlash" and "Total Preload Torque". Recheck above items. Readjust the above description, if necessary.
18. Apply sealant to mating surface of rear cover.
    - **Use Genuine Silicone RTV or equivalent. Refer to GI-42, "Recommended Chemical Product and Sealant".**

CAUTION:
Remove old sealant adhering to mounting surfaces. Also remove any moisture, oil, or foreign material adhering to application and mounting surfaces.

19. Install rear cover on gear carrier and tighten mounting bolts with the specified torque. Refer to "COMPONENTS".



13. Ball seat
14. Rubber seat
15. Suspension arm
16. Stopper rubber
17. Stabilizer connecting rod mounting bracket
18. Stabilizer connecting rod
19. Rear pin stay
20. Rear suspension member
21. Rear lower link
22. Front lower link
23. Radius rod
24. Stabilizer bar
25. Stabilizer bushing
26. Stabilizer clamp
27. Member stay
28. Tunnel stay

Removal and Installation

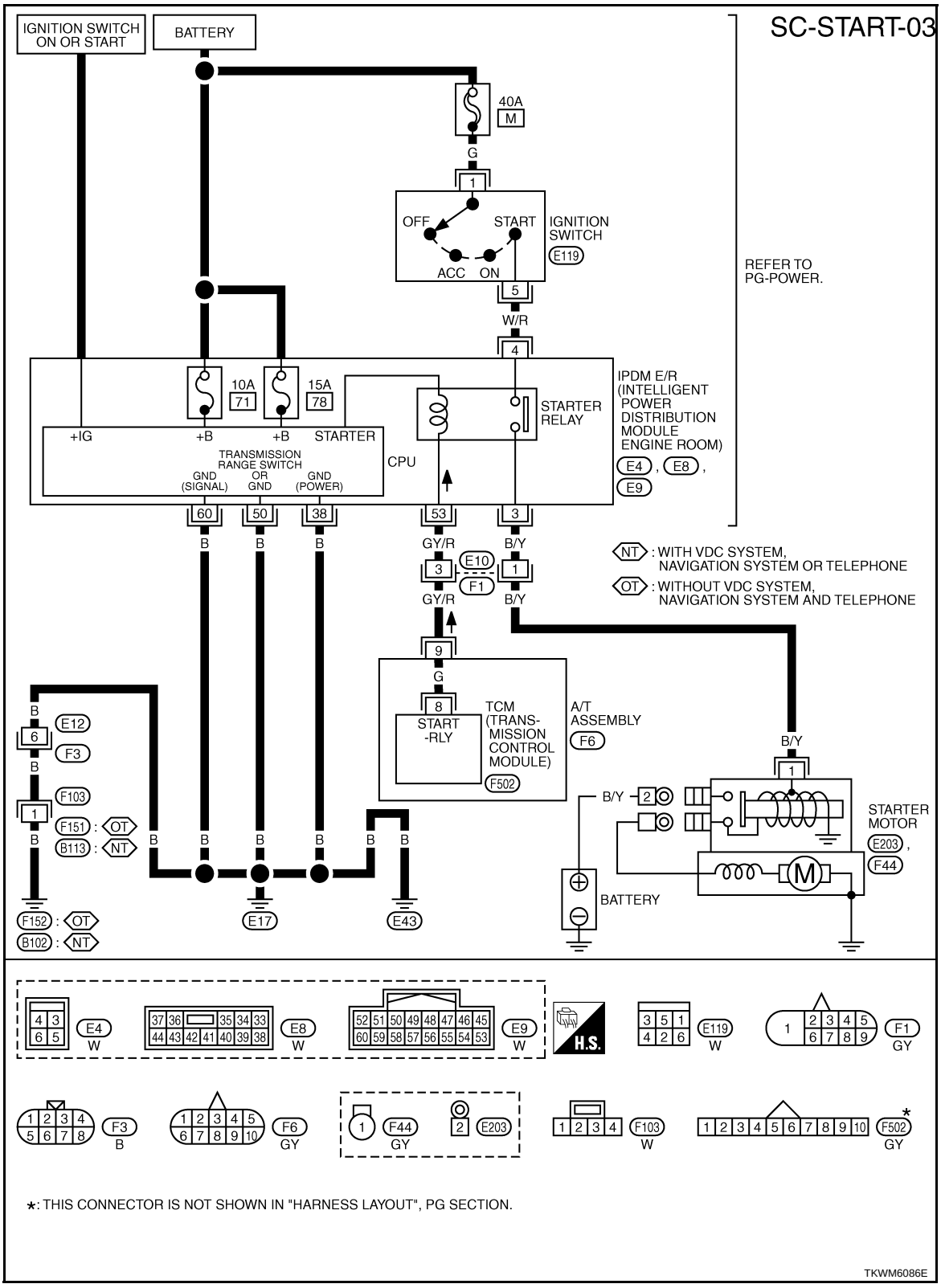
INFOID:0000000004657338

REMOVAL

1. Remove tire with power tool.
2. Remove brake caliper with power tool. Hang it in a place where it will not interfere with work. Refer to BR-41.
   NOTE:
   Avoid depressing brake pedal while brake caliper is removed.
3. Remove stabilizer bar. Refer to RSU-16.
4. Remove rear exhaust tube. Refer to EX-3.
5. Remove rear propeller shaft. Refer to PR-5.
6. Separate attachment bolts between parking brake cable and vehicle and rear suspension member. Refer to PB-4.
7. Remove wheel sensor from rear final drive.
8. Remove rear lower link and coil spring. Refer to RSU-15.
9. Remove fixing bolt in upper side of mounting seal bracket. Refer to RSU-9.
10. Set jack under rear final drive.
11. Remove tunnel stay and member stay from vehicle.
12. Remove fixing bolts and nuts of rear pin stay and then remove rear pin stay from vehicle.
13. Gradually lowering jack, remove rear suspension assembly.

INSTALLATION

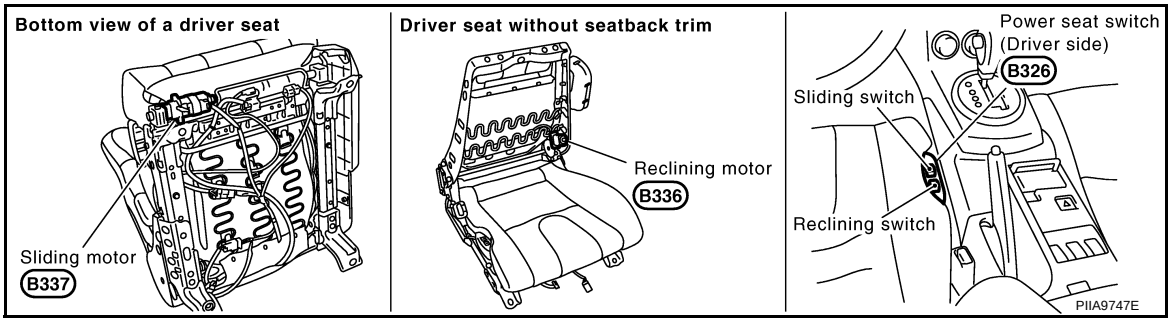
- Refer to RSU-7, "Component" for tightening torque. Install in the reverse order of removal.
  NOTE:
  Refer to component parts location and do not reuse non-reusable parts.
- Perform final tightening of installation position of links (rubber bushing) under unladen condition with tires on level ground. Check wheel alignment. Refer to RSU-5, "Wheel Alignment Inspection".



Trouble Diagnosis with Starting/Charging System Tester (Starting)

INFOID:0000000004657882

For starting system testing, use Starting/Charging System Tester (J-44373). For details and operating instructions, refer to Technical Service Bulletin.



System Description

INFOID:0000000004657276

Power is supplied at all times,
- through 40A fusible link (letter **F**, located in the fusible link)
- to BCM terminal 55,
- through 10A fuse [No.18, located in the fuse block (J/B)]
- to BCM terminal 42,
- through BCM terminal 41,
- to passenger seat control unit terminal 34,
- through BCM terminal 54
- to driver side power seat switch terminal 1 and passenger seat control unit terminal 39.

When ignition switch in ON or START position,
power is supplied
- thought 10A fuse [No. 12, located in the fuse block (J/B)]
- to passenger seat control unit terminal 2.

When ignition switch in START position,
power is supplied
- thought 10A fuse [No. 9, located in the fuse block (J/B)]
- to passenger seat control unit terminal 1.

ground supplied
- to BCM terminal 52
- through body grounds M30 and M66,
- to passenger side seat control unit terminals 40, 48
- through body grounds B5, B6 and T14.

DRIVER SIDE SEAT OPERATION

When a driver side seat sliding switch is operated forward,
power is supplied
- through power seat switch terminal 5
- to sliding motor terminal 5.

Then ground is supplied
- to sliding motor terminal 6
- through power seat switch terminal 6
- through power seat switch terminal 2

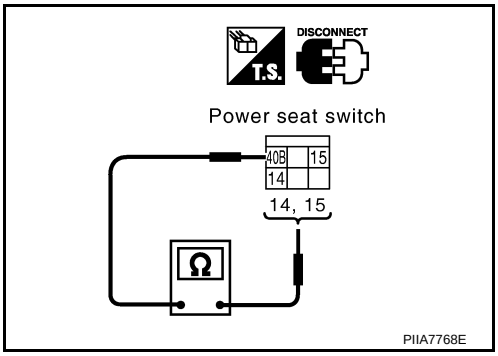
The driver side seat moves forward.
When a driver side seat sliding switch is operated backward,
power is supplied
- through power seat switch terminal 6
- to sliding motor terminal 6.

Then ground is supplied
- to sliding motor terminal 5
- through power seat switch terminal 5
- through power seat switch terminal 2

The driver side seat moves backward.
When a driver side seat reclining switch is operated forward,
power is supplied
- through power seat switch terminal 3
- to reclining motor terminal 3.

Then ground is supplied
- to reclining motor terminal 4

Terminals		Sliding switch condition	Continuity
14	40B	FORWARD	Yes
		Other than above	No
15		BACKWARD	Yes
		Other than above	No



OK or NG

OK >> Check the condition of the harness and connector.
NG >> Replace power seat switch.

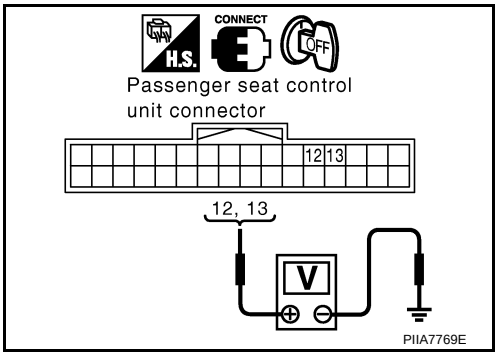
Check Passenger Side Seat Reclining Switch Circuit

INFOID:0000000004657296

1. CHECK RECLINING SWITCH OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Reclining switch operated, check voltage between passenger seat control unit connector and ground.

Connector	Terminal (Wire color)		Reclining switch condition	Voltage (V) (Approx.)
	(+)	(-)		
B353	12 (OR)	Ground	FORWARD	0
			Other than above	Battery voltage
	13 (G)		BACKWARD	0
			Other than above	Battery voltage



OK or NG

OK >> Passenger side seat reclining switch circuit is OK.
NG >> GO TO 2.

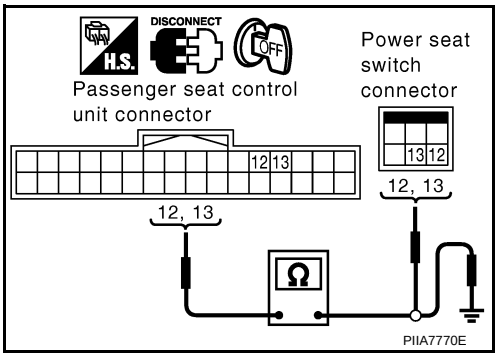
2. CHECK RECLINING SWITCH CIRCUIT HARNESS

1. Disconnect passenger seat control unit connector and power seat switch connector.
2. Check continuity between passenger seat control unit connector B353 terminal 12, 13 and power seat switch connector B357 terminal 12, 13.

12 (OR) - 12 (OR) : Continuity should exist.
13 (G) - 13 (G) : Continuity should exist.

3. Check continuity between passenger seat control unit connector B353 terminal 12, 13 and ground.

12 (OR) - Ground : Continuity should not exist.
13 (G) - Ground : Continuity should not exist.



OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between passenger seat control unit and power seat switch.

3. CHECK POWER SEAT SWITCH

Reclining switch operated, check continuity between power seat switch terminal 12, 13 and 40B.

SERVICE INFORMATION

DTC INDEX

B1001-B1015

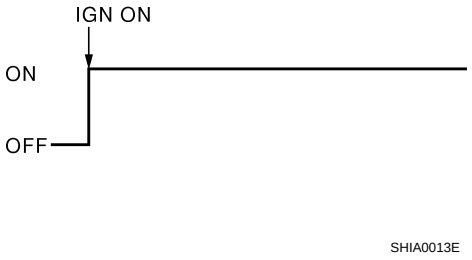
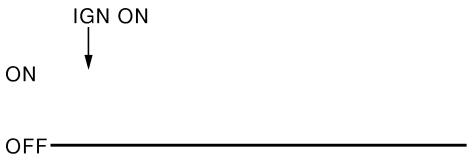
INFOID:0000000004657130

DTC	Items (CONSULT screen terms)	Reference
B1001	DIAGNOSIS SENSOR UNIT	SRS-33, "Trouble Diagnosis with CONSULT-III"
B1002		
B1003		
B1004		
B1005		
B1006		
B1007		
B1008		
B1009		
B1010		
B1011		
B1012		
B1013		
B1014		
B1015		

B1017-B1035

INFOID:0000000004657131

DTC	Items (CONSULT screen terms)	Reference
B1017	OCCUPANT SENSOR C/U	SRS-33, "Trouble Diagnosis with CONSULT-III"
B1018	OCCUPANT SENS	
B1019	BELT TENSION SENS	
B1020	OCCUPANT SENSOR C/U	
B1021		
B1022	OCCUPANT SENS C/U	
B1023	PASS A/B INDCTR CKT	
B1026	DIAGNOSIS SENSOR UNIT	
B1027		
B1028		
B1029		
B1030		
B1031		
B1033	CRASH ZONE SEN	
B1034		
B1035		

"AIR BAG" warning lamp operation-User mode-	SRS condition	Reference item
	• Air bag is deployed. • Seat belt pre-tensioner is deployed.	Go to SRS-57, "FOR FRONTAL COLLISION : When SRS is activated in a collision".
 SHIA0013E	• Diagnosis sensor unit is malfunctioning. • Air bag power supply circuit is malfunctioning. • SRS air bag warning lamp circuit is malfunctioning.	Go to SRS-40, "Trouble Diagnosis: "AIR BAG" Warning Lamp Does Not Turn OFF".
 SHIA0014E	• Diagnosis sensor unit is malfunctioning. • Air bag warning lamp circuit is malfunctioning.	Go to SRS-41, "Trouble Diagnosis: "AIR BAG" Warning Lamp Does Not Turn ON".

Trouble Diagnosis with CONSULT-III

INFOID:0000000004657161

DIAGNOSTIC PROCEDURE

Diagnositic mode	Description
SELF-DIAG RESULT	The self-diagnosis result is displayed. (SELF-DIAG [CURRENT], [PAST], [RECORRD]). Refer to "DTC No. Index ("SELF-DIAG [CURRENT]" "SELF-DIAG [PAST]" or TROUBLE DIAG RECORD)".
ECU DISCRIMINATED No.	The parts number of diagnosis sensor unit is displayed.

DTC No. Index ("SELF-DIAG [CURRENT]" "SELF-DIAG [PAST]" or TROUBLE DIAG RECORD)

Diagnostic item	Explanation		Repair order "Recheck SRS at each replacement"
NO DTC IS DETECTED.	When malfunction is indicated by the "AIR BAG" warning lamp in User mode.	• Low battery voltage (Less than 9V)	—
		• Self-diagnostic results "SELF-DIAG [PAST]" (previously stored in the memory) might not be erased after repair. • Intermittent malfunction has been detected in the past.	Go to SRS-30, "CONSULT-III Function".
	• No malfunction is detected.		—
CONTROL UNIT [B1001-B1015]	• Diagnosis sensor unit is malfunctioning.		Replace diagnosis sensor unit.
OCCUPANT SENS C/U [UNIT FAIL] [B1017] [B1020] [B1021]	• Trouble occurs in Occupant Classification System-CU.		Replace passenger side seat cushion assembly.