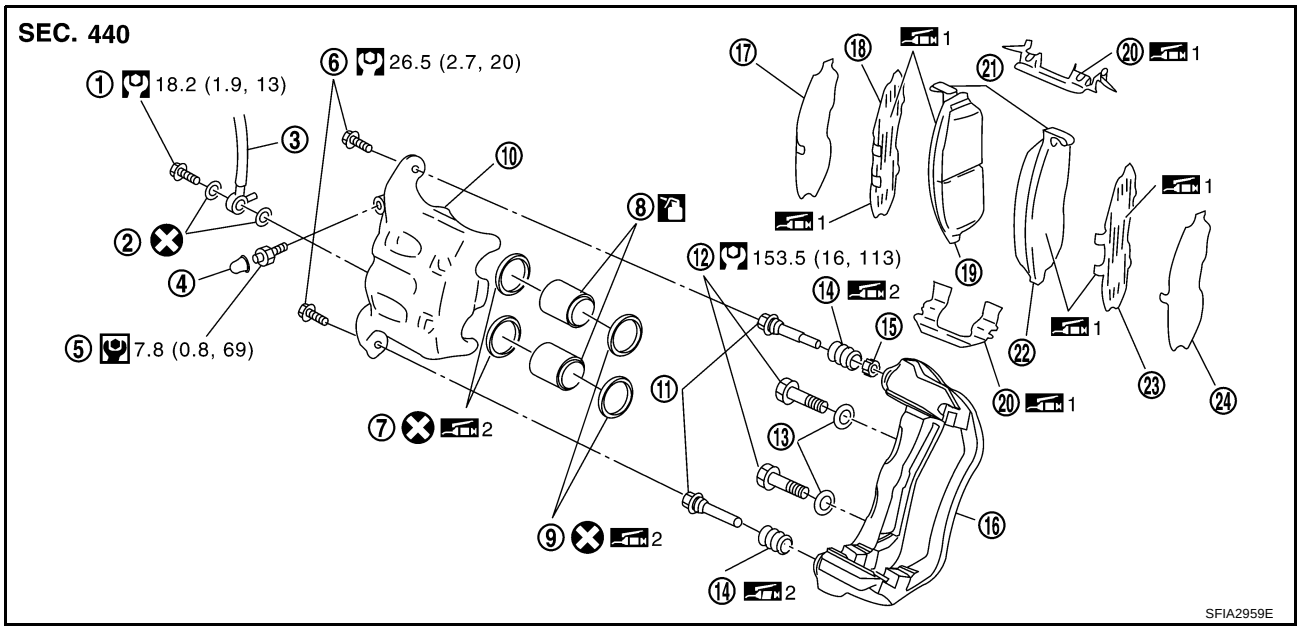
Components

BAS0007E

- **THE LARGE ILLUSTRATIONS** are exploded views (see the following) and contain tightening torques, lubrication points, section number of the **PARTS CATALOG** (e.g. SEC. 440) and other information necessary to perform repairs.
  The illustrations should be used in reference to service matters only. When ordering parts, refer to the appropriate **PARTS CATALOG** .
  Components shown in an illustration may be identified by a circled number. When this style of illustration is used, the text description of the components will follow the illustration.



1. Union bolt
2. Copper washer
3. Brake hose
4. Cap
5. Bleed valve
6. Sliding pin bolt
7. Piston seal
8. Piston
9. Piston boot
10. Cylinder body
11. Sliding pin
12. Torque member mounting bolt
13. Washer
14. Sliding pin boot
15. Bushing
16. Torque member
17. Inner shim cover
18. Inner shim
19. Inner pad
20. Pad retainer
21. Pad wear sensor
22. Outer pad
23. Outer shim
24. Outer shim cover

1: PBC (Poly Butyl Cuprysil) grease or silicone-based grease
2: Rubber grease
: Brake fluid

Refer to GI section for additional symbol definitions.

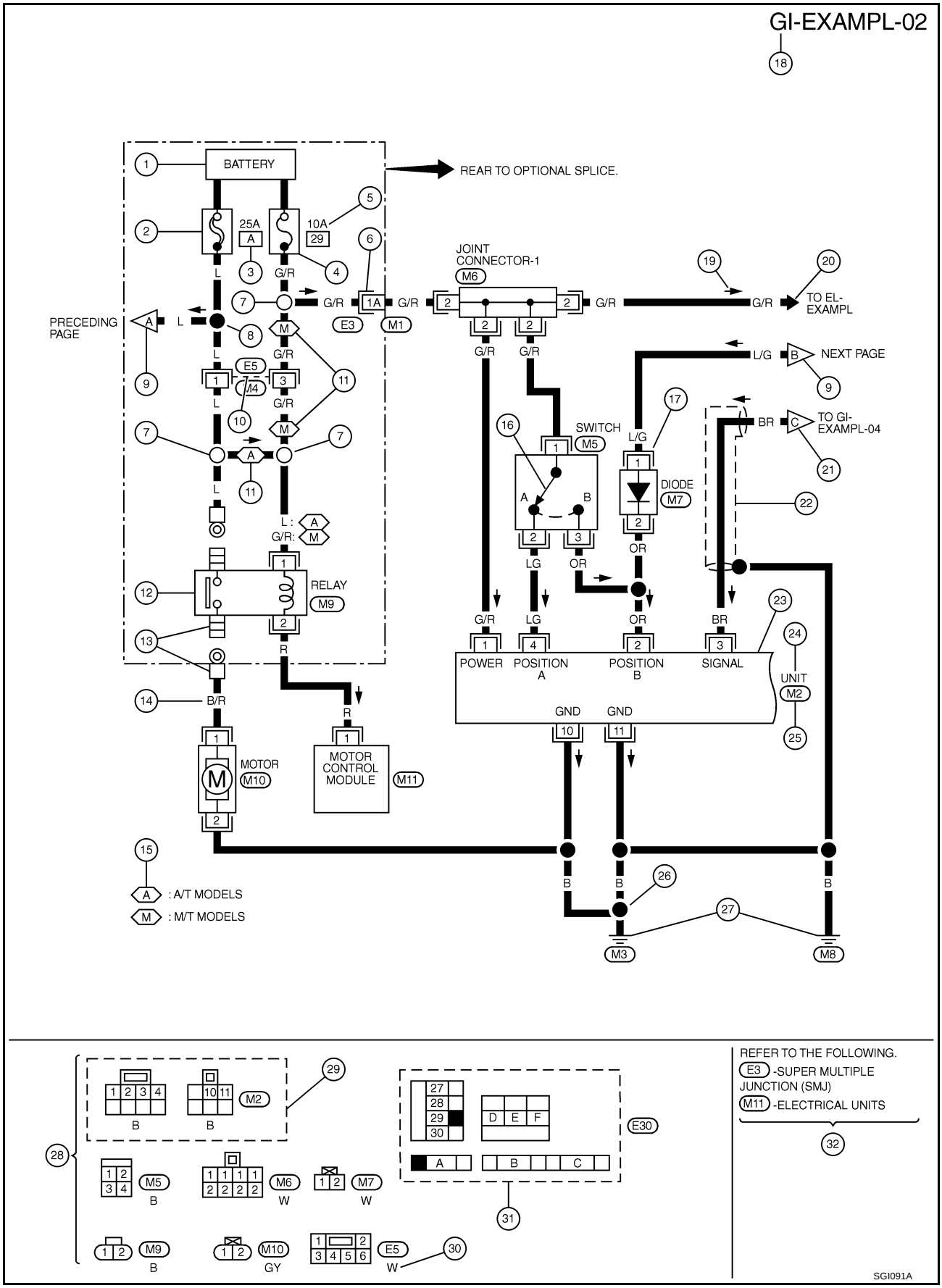
SYMBOLS

SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION
	Tightening torque The tightening torque specifications of bolts and nuts may be presented as either a range or a standard tightening torque.	: N•m (kg-m, ft-lb)		Always replace after every disassembly.
		: N•m (kg-m, in-lb)	Ⓟ	Apply petroleum jelly.
	Should be lubricated with grease. Unless otherwise indicated, use recommended multi-purpose grease.		Ⓜ	Apply molybdenum added petroleum jelly.
	Should be lubricated with oil.		ATF	Apply ATF.
	Sealing point		★	Select with proper thickness.
Ⓛ	Sealing point with locking sealant.		☆	Adjustment is required.
	Checking point			

SAIA0749E

SAMPLE/WIRING DIAGRAM - EXAMPL -

- For detail, refer to following “DESCRIPTION”.

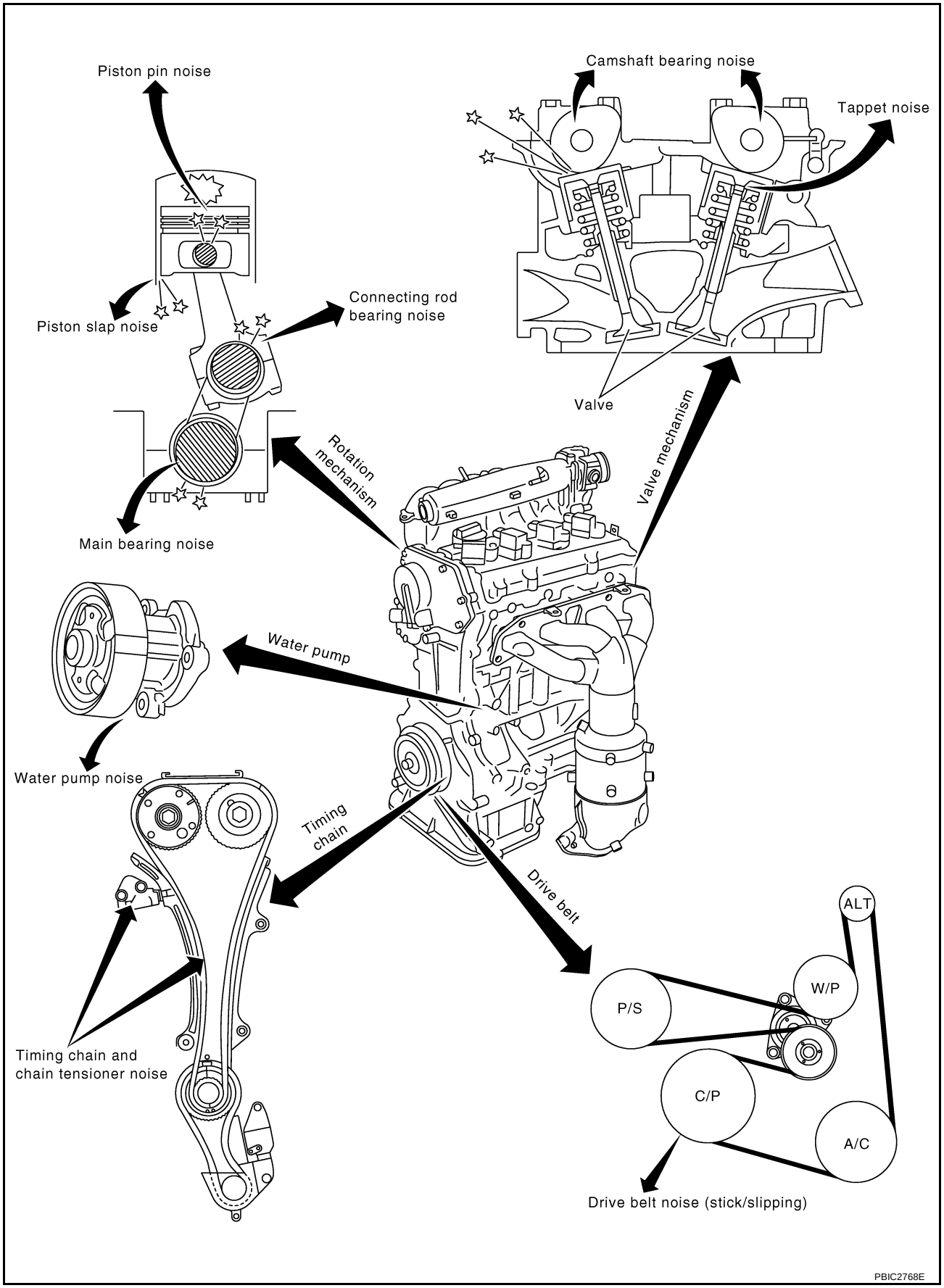


NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

NVH Troubleshooting — Engine Noise

BBS0058Q

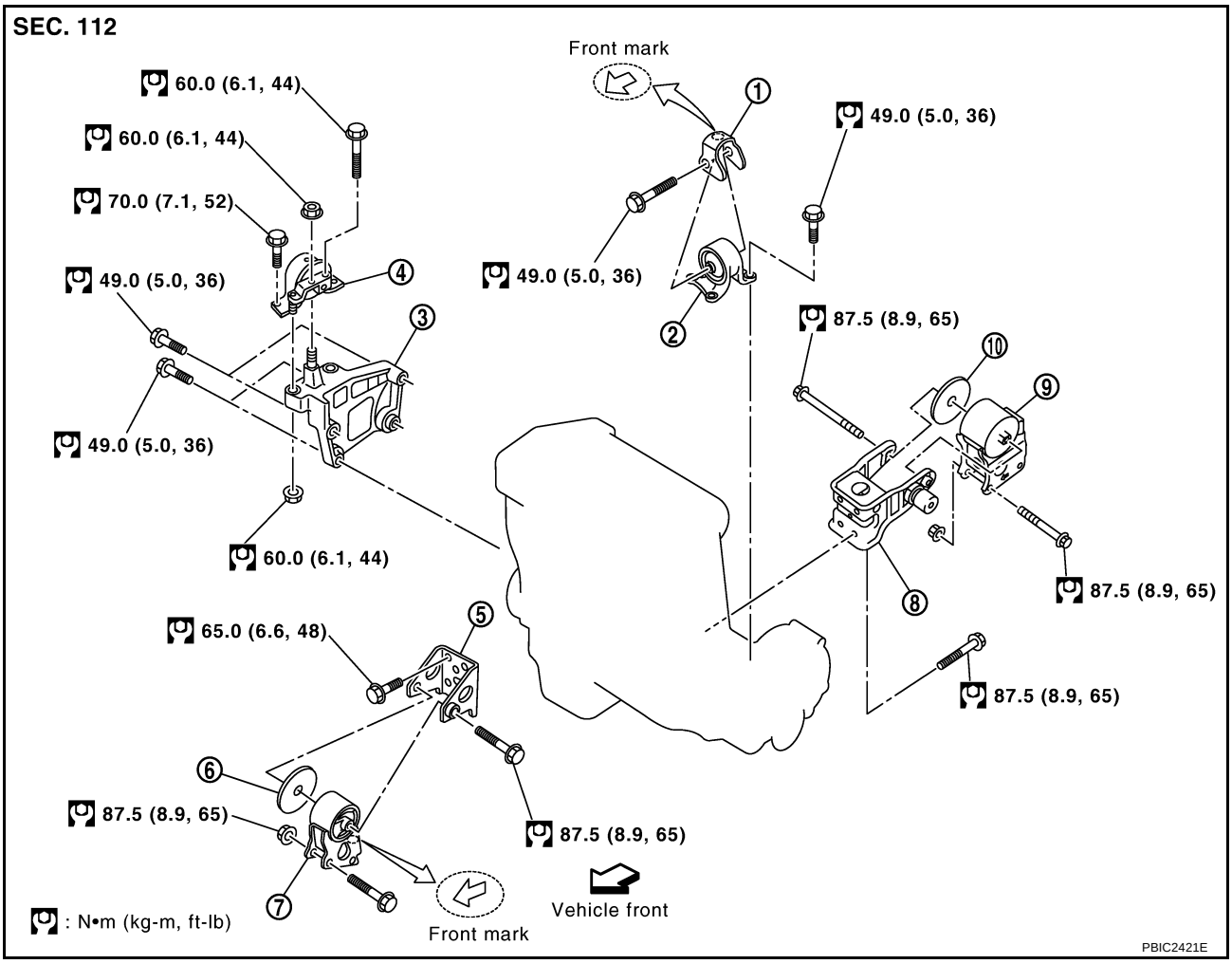


ENGINE ASSEMBLY

PFP:10001

Removal and Installation

BBS0059F



1. Stopper
2. LH engine mounting insulator
3. RH engine mounting bracket
4. RH engine mounting insulator
5. Front engine mounting bracket
6. Stopper
7. Front engine mounting insulator
8. Rear engine mounting bracket
9. Rear engine mounting insulator
10. Stopper

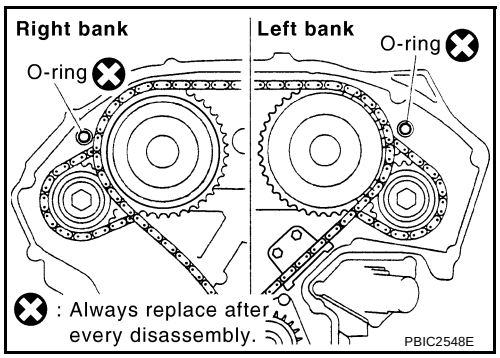
WARNING:

- **Situate vehicle on a flat and solid surface.**
- **Place chocks at front and back of rear wheels.**
- **For engines not equipped with engine slingers, attach proper slingers and bolts described in PARTS CATALOG.**

CAUTION:

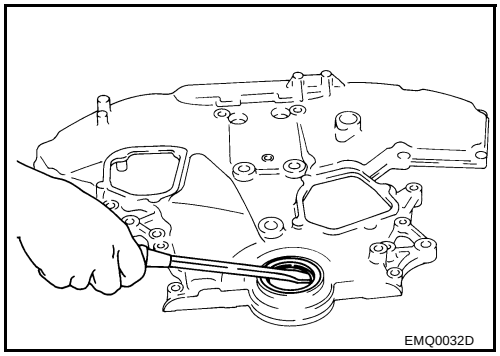
- **Always be careful to work safely, avoid forceful or uninstructed operations.**
- **Do not start working until exhaust system and engine coolant are cool enough.**
- **If items or work required are not covered by the engine section, refer to the applicable sections.**
- **Always use the support point specified for lifting.**
- **Use either 2-pole lift type or separate type lift as best you can. If board-on type is used for unavoidable reasons, support at the rear axle jacking point with transmission jack or similar tool before starting work, in preparation for the backward shift of center of gravity.**
- **For supporting points for lifting and jacking point at rear axle, refer to GI-37, "Garage Jack and Safety Stand and 2-Pole Lift" .**

26. Remove O-rings from rear timing chain case.



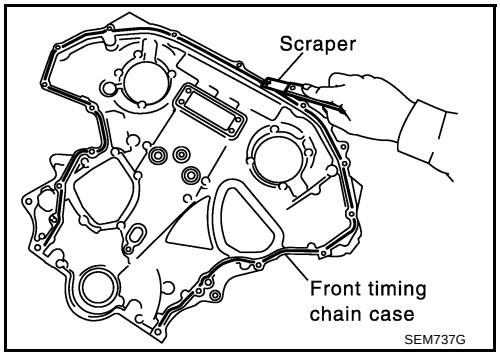
27. Remove water pump cover and chain tensioner cover from front timing chain case.
    - Use seal cutter [SST: KV10111100] to cut liquid gasket for removal.
28. Remove front oil seal from front timing chain case using suitable tool.
    - Use screwdriver for removal.

    CAUTION:
    Be careful not to damage front timing chain case.

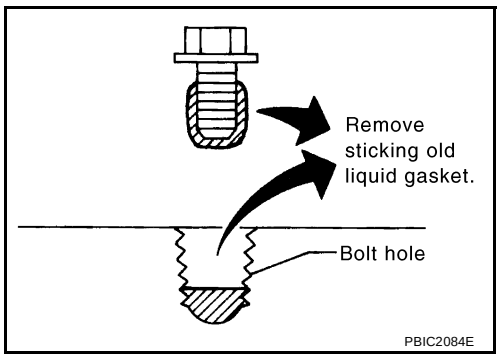


29. Remove timing chain and related parts. Refer to EM-173, "TIMING CHAIN" .
30. Use scraper to remove all traces of old liquid gasket from front and rear timing chain cases and oil pan (upper), and liquid gasket mating surfaces.

    CAUTION:
    Be careful not to allow gasket fragments to enter oil pan.



    - Remove old liquid gasket from bolt hole and thread.

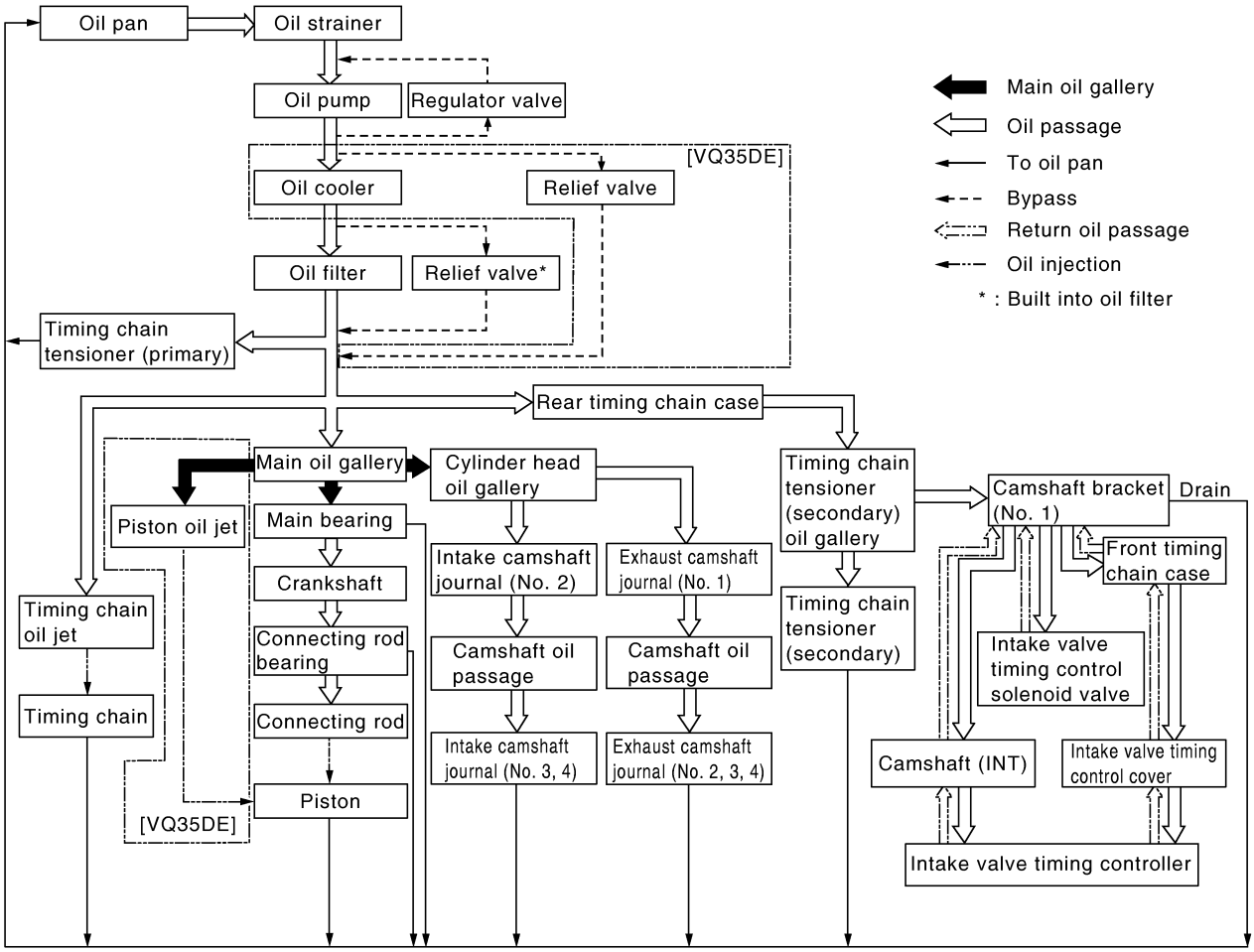


INSTALLATION

1. Install timing chain and related parts. Refer to EM-173, "TIMING CHAIN" .

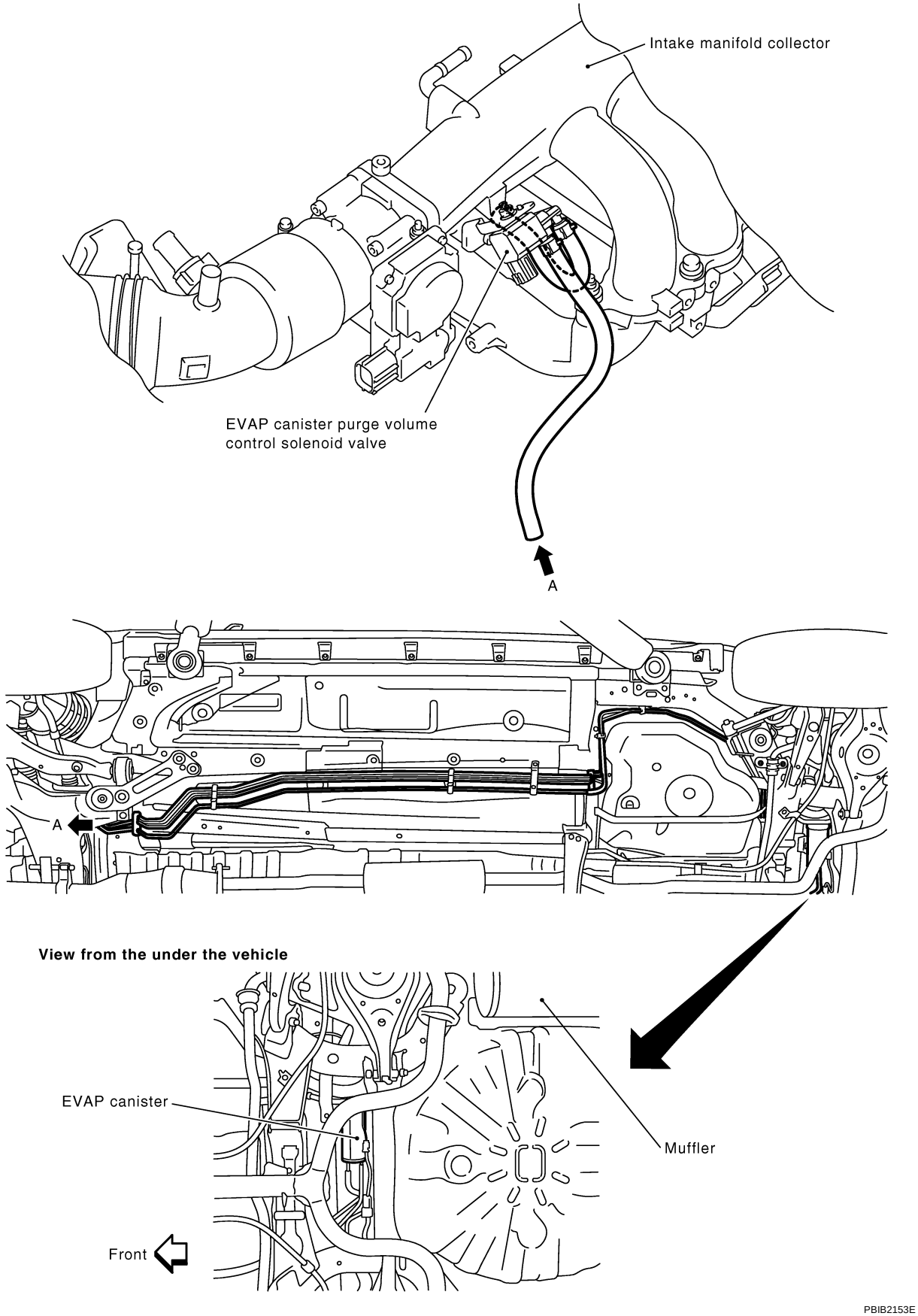
System Chart

BBS004WJ



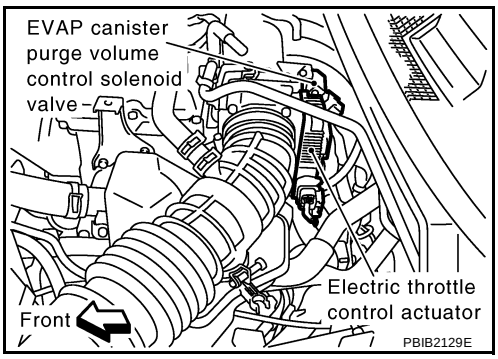
PBIC2505E

EVAPORATIVE EMISSION LINE DRAWING



10. CHECK THROTTLE CONTROL MOTOR OUTPUT SIGNAL CIRCUIT FOR OPEN OR SHORT

1. Turn ignition switch OFF.
2. Disconnect electric throttle control actuator harness connector.
3. Disconnect ECM harness connector.
4. Check harness continuity between the following terminals. Refer to Wiring Diagram.



Electric throttle control actuator terminal	ECM terminal	Continuity
3	4	Should exist
	5	Should not exist
6	4	Should not exist
	5	Should exist

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

OK or NG

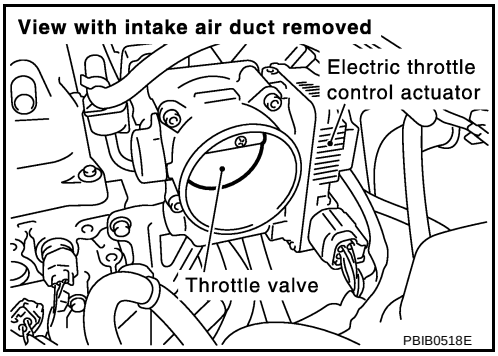
OK >> GO TO 11.
NG >> Repair or replace.

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.

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-216, "Component Inspection" .

OK or NG

OK >> GO TO 13.
NG >> GO TO 14.

13. CHECK INTERMITTENT INCIDENT

Refer to EC-105, "TROUBLE DIAGNOSIS FOR INTERMITTENT INCIDENT" .

OK or NG

OK >> GO TO 14.
NG >> Repair or replace harness or connectors.

14. REPLACE ELECTRIC THROTTLE CONTROL ACTUATOR

1. Replace the electric throttle control actuator.
2. Perform EC-47, "Throttle Valve Closed Position Learning" .
3. Perform EC-47, "Idle Air Volume Learning" .

>> **INSPECTION END**

Check CAN Communication System

BIS000XD

1. CHECK SELF-DIAGNOSTIC RESULTS

CAUTION:
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

With CONSULT-II

- Connect CONSULT-II, and turn ignition switch ON.
- Touch “INTELLIGENT KEY” on “SELECT SYSTEM” screen.
- Touch “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
- Check display content in self-diagnostic results.

Displayed U1000?

Yes >> Inspection END.
No >> GO TO LAN-3, "Precautions When Using CONSULT-II" .

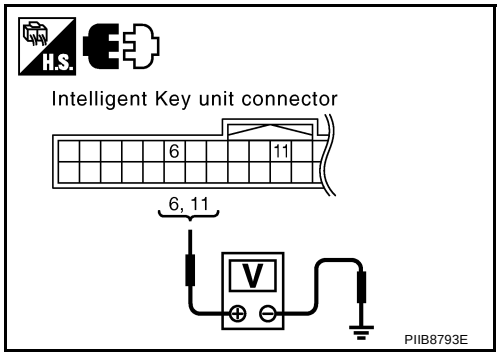
Check Intelligent Key Unit Power Supply and Ground Circuit

BIS000XE

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition knob LOCK position.
2. Disconnect Intelligent Key unit connector.
3. Check voltage between Intelligent Key unit connector and ground.

Connector	Terminal (Wire color)		Ignition knob position		
	(+)	(–)	OFF	ACC	ON
M31	6 (G)	Ground	0V	0V	Battery voltage
	11 (Y/B)		Battery voltage	Battery voltage	Battery voltage



OK or NG

OK >> GO TO 2.
NG >> Repair or replace Intelligent Key power supply circuit.

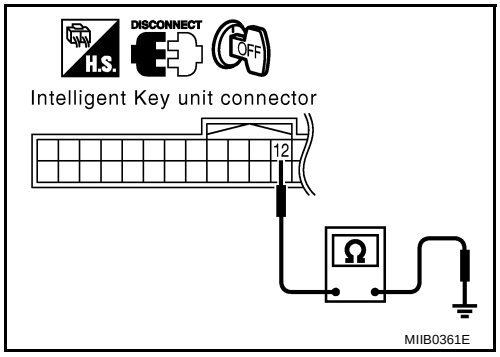
2. CHECK GROUND CIRCUIT

Check continuity between Intelligent Key unit connector M31 terminal 12 (B) and ground.

12 (B) - Ground : Continuity should exist.

OK or NG

OK >> Power supply and ground circuits are normal.
NG >> Repair or replace the Intelligent Key unit ground circuit.

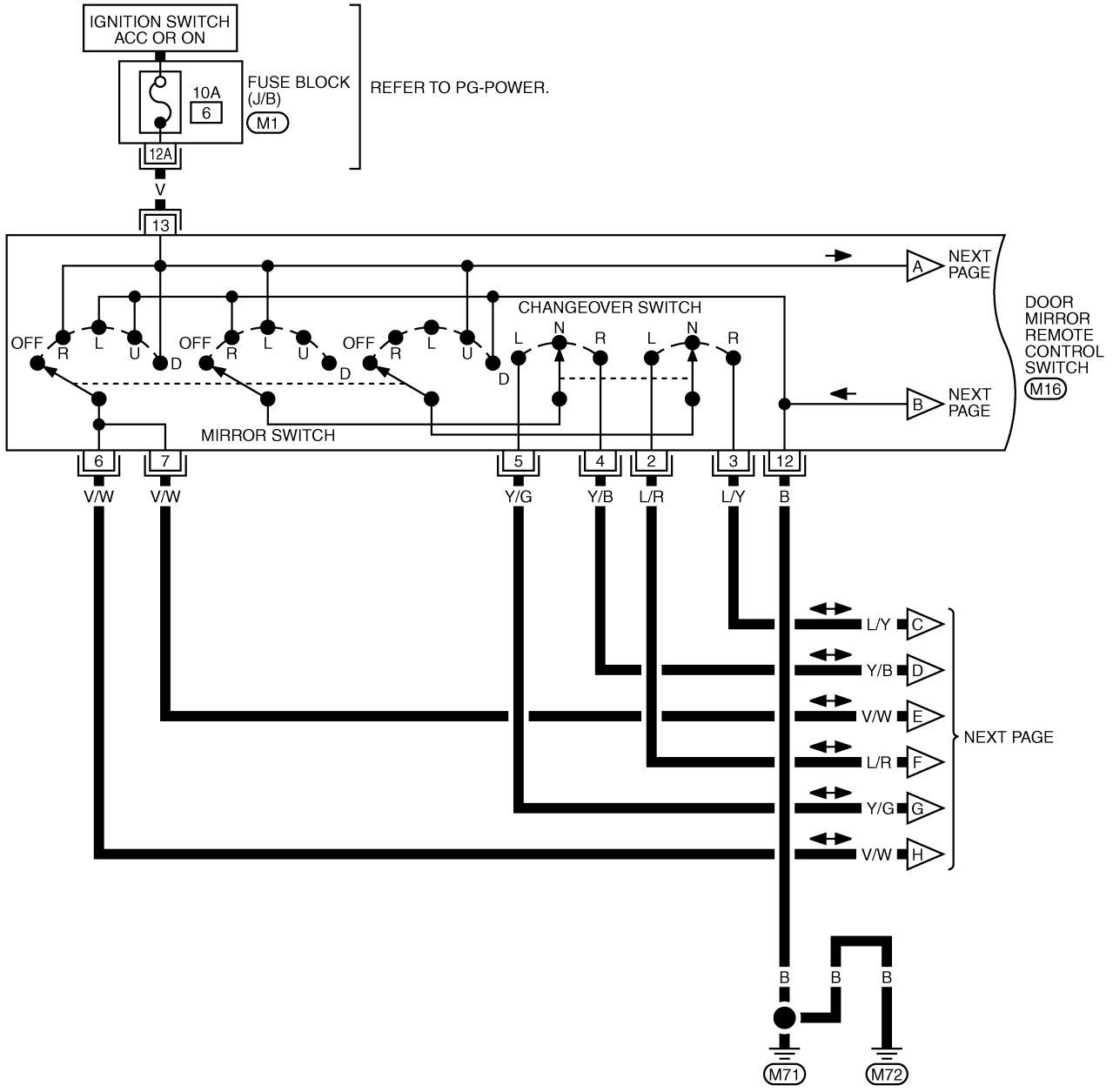


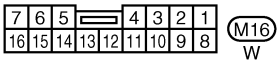
Door Mirror

BIS0010H

WIRING DIAGRAM — MIRROR —

GW-MIRROR-01





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

TIWM1766E

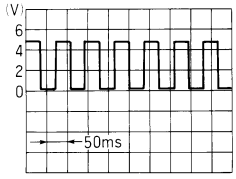
Terminals and Reference Value for BCM

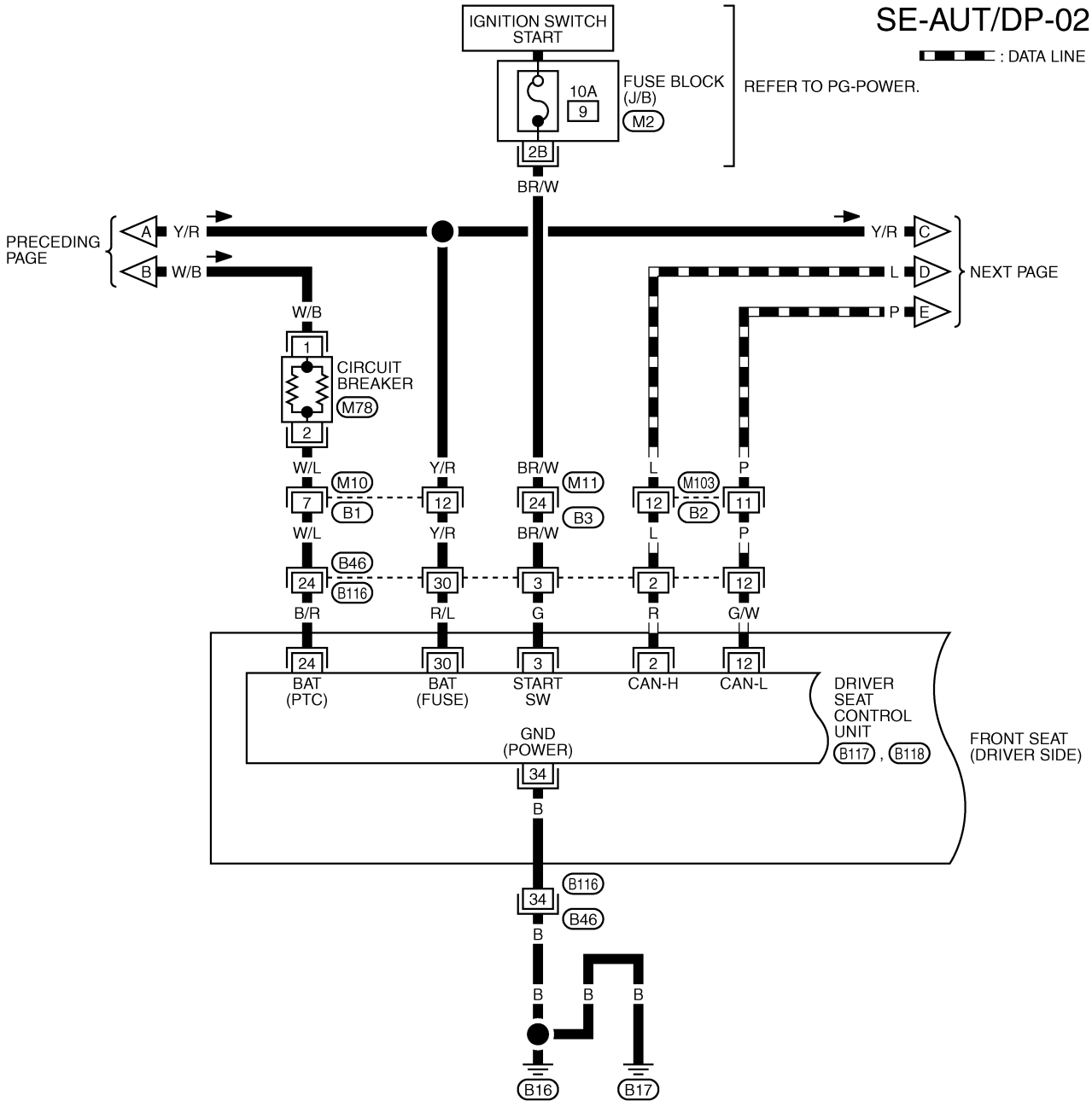
BIS0010U

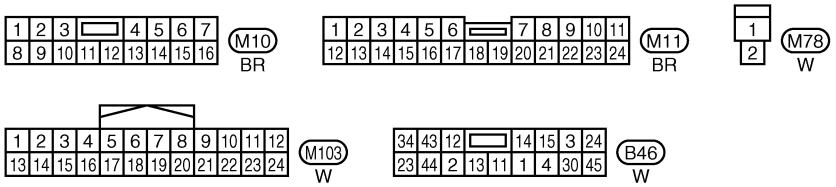
Terminal	Wire color	Item	Signal Input/Output	Condition	Voltage (V) (Approx.)
38	R	Ignition switch ON power supply (ON or START)	Input	Ignition switch (ON or START position)	Battery voltage
42	Y/R	Power source (Fuse)	Input	—	Battery voltage
52	B	Ground	—	—	0
53	L/W	RAP signal	Output	Ignition switch ON	Battery voltage
				Within 15 minutes after ignition switch is turned to OFF position	Battery voltage
				When front door (driver side) is open in retained power is operates.	0
54	R/Y	Power window power supply	Output	—	Battery voltage
55	W/B	Power source (Fusible link)	Input	—	Battery voltage
62	SB	Front door switch driver side signal	Input	OPEN (ON)	0
				CLOSE (OFF)	Battery voltage

Terminals and Reference Value for Sunroof Motor Assembly

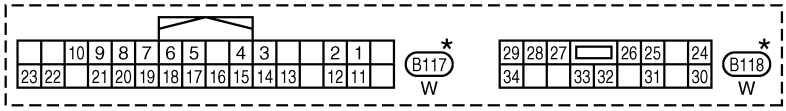
BIS0010V

Termi-nal	Wire color	Item	Signal Input/Output	Condition	Voltage (V) (Approx.)
1	L/B	Sunroof (BIT 3) switch signal	Input	Ignition switch ON and sunroof switch in TILT DOWN / SLIDE OPEN position	0
				Other than above	Battery voltage
2	B	Ground	—	—	0
3	G/R	Timer signal	Input	Ignition switch ON	Battery voltage
				Within 15 minutes after ignition switch is turned to OFF position	Battery voltage
				When front door (driver side) is open in retained power is operates	0
4	G	Vehicle speed signal (2-pulse)	Input	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	 ELF1080D
5	L/R	Sunroof (BIT 4) switch signal	Input	Ignition switch ON and sunroof switch in TILT UP / SLIDE CLOSE position	0
				Other than above	Battery voltage
6	W/B	Power window power supply	Input	—	Battery voltage





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

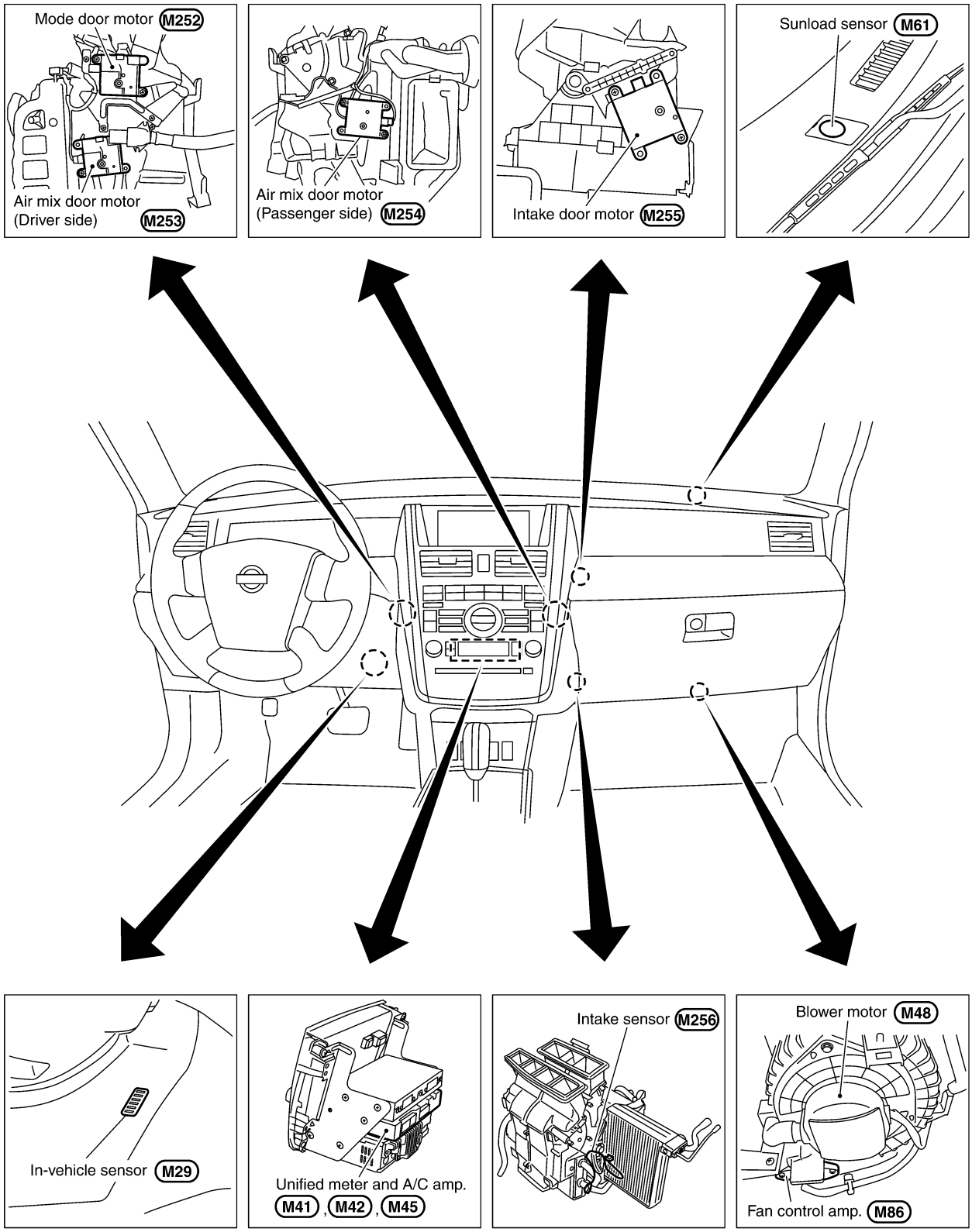


REFER TO THE FOLLOWING.

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

TIWM1778E

PASSENGER COMPARTMENT



RJIA3238E

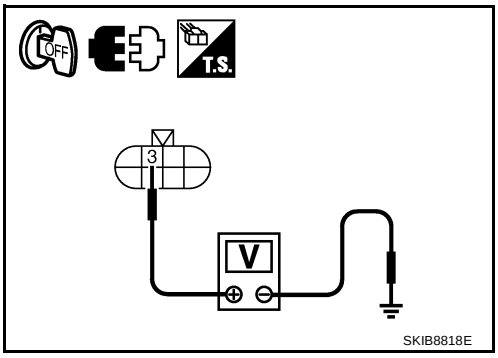
Headlamp Aiming Motor Does Not Operate (One Side)

BKS002CQ

1. CHECK HEADLAMP AIMING MOTOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH or LH connector.
3. Turn ignition switch ON.
4. Lighting switch is turned 1ST position.
5. Check voltage between front combination lamp RH or LH harness connector and ground.

Terminal				Voltage
(+)			(-)	
Front combination lamp connector		Terminal		
RH	E15	3	Ground	Battery voltage
LH	E29	3		



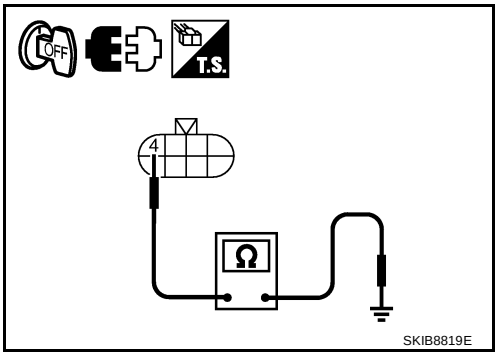
OK or NG

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

2. CHECK HEADLAMP AIMING MOTOR GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between front combination lamp RH or LH harness connector and ground.

Front combination lamp connector		Terminal	Ground	Continuity
RH	E15	4		Yes
LH	E29	4		



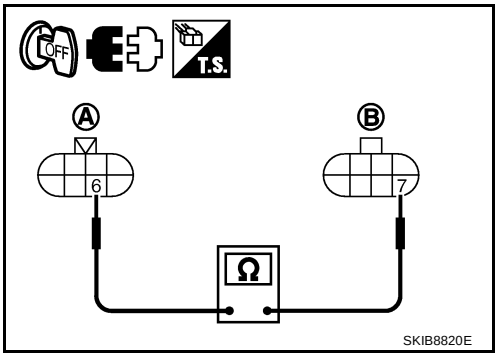
OK or NG

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

3. CHECK HEADLAMP AIMING MOTOR INPUT SIGNAL CIRCUIT

Check voltage between front combination lamp RH or LH harness connector (A) and height sensor harness connector (B).

Circuit	A		B		Continuity
	Connector	Terminal	Connector	Terminal	
RH	E15	6	C4	7	Yes
LH	E29	6			



OK or NG

OK >> Replace front combination lamp. Refer to LT-36, "Removal and Installation" .
NG >> Repair harness or connector.

Trouble Diagnosis Procedure

BKS00410

INTERVIEW WITH CUSTOMER

Interview with the customer is important to detect the root cause of CAN communication system errors and to understand vehicle condition and symptoms for proper trouble diagnosis.

Points in interview

- What: Parts name, system name
- When: Date, Frequency
- Where: Road condition, Place
- In what condition: Driving condition/environment
- Result: Symptom

NOTE:

- Check normal units as well as error symptoms.
  - Example: Circuit between ECM and the combination meter is judged normal if the customer indicates tachometer functions normally.
- When a CAN communication system error is present, multiple control units may malfunction or go into fail-safe mode.
- Indication of the combination meter is important to detect the root cause because it is the most obvious from the customer, and it performs CAN communication with many units.