

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000005914033

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

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

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

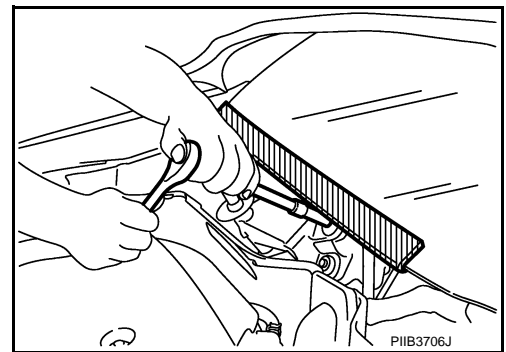
WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Procedure without Cowl Top Cover

INFOID:000000005914035

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc.



Precautions For Xenon Headlamp Service

INFOID:000000006135081

WARNING:

Comply with the following warnings to prevent any serious accident.

- Disconnect the battery cable (negative terminal) or the power supply fuse before installing, removing, or touching the xenon headlamp (bulb included). The xenon headlamp contains high-voltage generated parts.
- Never work with wet hands.
- Check the xenon headlamp ON-OFF status after assembling it to the vehicle. Never turn the xenon headlamp ON in other conditions. Connect the power supply to the vehicle-side connector. (Turning it ON outside the lamp case may cause fire or visual impairments.)
- Never touch the bulb glass immediately after turning it OFF. It is extremely hot.

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PREPARATION

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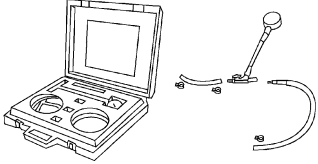
Special Service Tools

INFOID:000000005914039

NOTE:

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	Checks fuel pressure

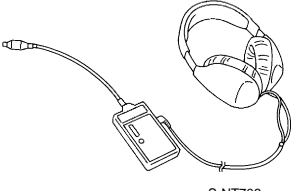


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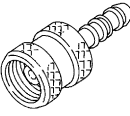
Commercial Service Tools

INFOID:000000005914040


Tool name (Kent-Moore No.)	Description
Leak detector i.e.: (J-41416)	Locates the EVAP leak
EVAP service port adapter i.e.: (J-41413-OB)	Applies positive pressure through EVAP service port
Fuel filler cap adapter i.e.: (MLR-8382)	Checks fuel tank vacuum relief valve opening pressure
Socket wrench	Removes and installs engine coolant temperature sensor



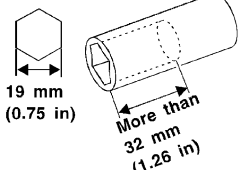
S-NT703



S-NT704



S-NT815



19 mm
(0.75 in)
More than
32 mm
(1.26 in)
S-NT705

DIAGNOSIS SYSTEM (ECM)

DIAGNOSIS DESCRIPTION

DIAGNOSIS DESCRIPTION : 1st Trip Detection Logic and Two Trip Detection Logic

INFOID:000000006062288

When a malfunction is detected for the first time, 1st trip DTC and 1st trip Freeze Frame data are stored in the ECM memory. The MIL will not illuminate at this stage. <1st trip>

If the same malfunction is detected again during the next drive, the DTC and Freeze Frame data are stored in the ECM memory, and the MIL illuminates. The MIL illuminates at the same time when the DTC is stored. <2nd trip> The "trip" in the "Two Trip Detection Logic" means a driving mode in which self-diagnosis is performed during vehicle operation. Specific on board diagnostic items will cause the ECM to illuminate or blink the MIL, and store DTC and Freeze Frame data, even in the 1st trip, as shown below.

×: Applicable —: Not applicable

Items	MIL				DTC		1st trip DTC	
	1st trip		2nd trip		1st trip displaying	2nd trip displaying	1st trip displaying	2nd trip displaying
	Blinking	Illuminate	Blinking	Illuminate				
Misfire (Possible three way catalyst damage) — DTC: P0300 - P0308 is being detected	×	—	—	—	—	—	×	—
Misfire (Possible three way catalyst damage) — DTC: P0300 - P0308 is being detected	—	—	×	—	—	×	—	—
One trip detection diagnoses (Refer to EC-639, "DTC Index" .)	—	×	—	—	×	—	—	—
Except above	—	—	—	×	—	×	×	—

DIAGNOSIS DESCRIPTION : DTC and Freeze Frame Data

INFOID:000000006062289

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 result obtained. If the ECM memory was cleared previously, and the 1st trip DTC did not recur, the 1st trip DTC will not be displayed.

If a malfunction is detected during the 1st trip, the 1st trip DTC is saved 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 saved 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.

For malfunctions in which 1st trip DTCs are displayed, refer to [EC-102, "DTC Index"](#). 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/ISO 15031-5. 1st trip DTC detection occurs without illuminating the MIL and therefore does not warn the driver of a malfunction.

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-142, "Work Flow"](#). Then perform DTC Confirmation Procedure or Component Function Check to try to duplicate the malfunction. If the malfunction is duplicated, the item requires repair.

FREEZE FRAME DATA AND 1ST TRIP FREEZE FRAME DATA

The ECM records the driving conditions such as fuel system status, calculated load value, engine coolant temperature, short term fuel trim, long term fuel trim, engine speed, vehicle speed, absolute throttle position, base fuel schedule and intake air temperature at the moment a malfunction is detected.

Data which are stored in the ECM memory, along with the 1st trip DTC, are called 1st trip freeze frame data. The data, stored together with the DTC data, are called freeze frame data and displayed on CONSULT-III or GST. The 1st trip freeze frame data can only be displayed on the CONSULT-III screen.

HOW TO ERASE PERMANENT DTC

[VQ37VHR]

< BASIC INSPECTION >

10. Turn ignition switch OFF and wait at least 10 seconds.
11. Turn ignition switch ON.
12. Use "PERMANENT DTC WORK SUPPORT" to drive the vehicle according to driving pattern B.
CAUTION:
 - Always drive at a safe speed.
 - Never erase self-diagnosis results.
 - If self-diagnosis results are erased during the trip of driving pattern B or D, the counter of driving pattern B or D is reset.
 - If self-diagnosis results are erased during the trip of driving pattern B or D, an experience of driving pattern B and D during the same trip is not counted up.
13. Turn ignition switch OFF and wait at least 10 seconds.
14. Turn ignition switch ON.
15. Turn ignition switch OFF and wait at least 10 seconds.
16. Turn ignition switch ON.
17. Check permanent DTC. Refer to [EC-61, "Diagnosis Description"](#).
18. Check that the permanent DTCs have been erased.

Driving Pattern

INFOID:000000006115500

DRIVING PATTERN B

Driving pattern B means a trip satisfying the following conditions.

- Engine speed reaches 400 rpm or more.
- Water temperature reaches 70°C (158°F) or more.
- Vehicle speed of 70 – 120 km/h (44 – 75 MPH) is maintained for 60 seconds or more under the control of closed loop.
- Vehicle speed of 30 – 60 km/h (19 – 37 MPH) is maintained for 10 seconds or more under the control of closed loop.
- Under the closed loop control condition, the following state reaches 12 seconds or more in total: Vehicle speed of 4 km/h (2 MPH) or less with idling condition.
- The state of driving at 10 km/h (7 MPH) or more reaches 10 minutes or more in total.
- A lapse of 22 minutes or more after engine start.

CAUTION:

Always drive at a safe speed.

NOTE:

- Drive the vehicle at a constant velocity.
- When the same malfunction is detected regardless of driving conditions, reset the counter of driving pattern B.
- When the above conditions are satisfied without detecting the same malfunction, reset the counter of driving pattern B.

DRIVING PATTERN D

Driving pattern D means operating vehicle as per the following.

- The state of driving at 40 km/h (25 MPH) reaches 300 seconds or more in total.
- Idle speed lasts 30 seconds or more.
- A lapse of 600 seconds or more after engine start.

CAUTION:

Always drive at a safe speed.

NOTE:

- When the same malfunction is detected regardless of driving conditions, reset the counter of driving pattern D.
- When the above conditions are satisfied without detecting the same malfunction, reset the counter of driving pattern D.

P0131, P0151 A/F SENSOR 1

< DTC/CIRCUIT DIAGNOSIS >

[VQ37VHR]

P0131, P0151 A/F SENSOR 1

DTC Logic

INFOID:000000005913686

DTC DETECTION LOGIC

To judge malfunctions, the diagnosis checks that the A/F signal computed by ECM from the A/F sensor 1 signal is not inordinately low.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible Cause
P0131	Air fuel ratio (A/F) sensor 1 (bank 1) circuit low voltage	• The A/F signal computed by ECM from the A/F sensor 1 signal is constantly approx. 0 V.	• Harness or connectors (The A/F sensor 1 circuit is open or shorted.) • A/F sensor 1
P0151	Air fuel ratio (A/F) sensor 1 (bank 2) circuit low voltage		

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

If DTC Confirmation Procedure has been previously conducted, always perform the following procedure before conducting the next test.

1. Turn ignition switch OFF and wait at least 10 seconds.
2. Turn ignition switch ON.
3. Turn ignition switch OFF and wait at least 10 seconds.

TESTING CONDITION:

Before performing the following procedure, confirm that battery voltage is more than 10.5 V at idle.

>> GO TO 2.

2. CHECK A/F SENSOR FUNCTION

1. Start engine and warm it up to normal operating temperature.
2. Select "A/F SEN1 (B1)" or "A/F SEN1 (B2)" in "DATA MONITOR" mode with CONSULT-III.
3. Check "A/F SEN1 (B1)" or "A/F SEN1 (B2)" indication.

Is the indication constantly approx. 0 V?

YES >> Go to [EC-243, "Diagnosis Procedure"](#).

NO >> GO TO 3.

3. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch OFF and wait at least 10 seconds.
2. Turn ignition switch ON.
3. Turn ignition switch OFF and wait at least 10 seconds.
4. Restart engine.
5. Drive and accelerate vehicle to more than 40 km/h (25 MPH) within 20 seconds after restarting engine.

CAUTION:

Always drive vehicle at a safe speed.

6. Maintain the following conditions for about 20 consecutive seconds.

ENG SPEED	1,000 - 3,200 rpm
VHCL SPEED SE	More than 40 km/h (25 mph)
B/FUEL SCHDL	1.5 - 9.0 msec
Selector lever	Suitable position

NOTE:

- Keep the accelerator pedal as steady as possible during cruising.
- If this procedure is not completed within 1 minute after restarting engine at step 4, return to step 1.

7. Check 1st trip DTC.

Is 1st trip DTC detected?

YES >> Go to [EC-243, "Diagnosis Procedure"](#).

NO >> INSPECTION END

P0643 SENSOR POWER SUPPLY

[VQ37VHR]

< DTC/CIRCUIT DIAGNOSIS >

*1: With ICC

*2: Without ICC

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 3.

3. CHECK SENSOR POWER SUPPLY CIRCUITS

Check harness for short to power and short to ground, between the following terminals.

ECM		Sensor		
Connector	Terminal	Name	Connector	Terminal
F101	43	Electric throttle control actuator (bank 2)	F27	1
	44	Electric throttle control actuator (bank 1)	F67	6
F102	60	CMP sensor (PHASE) (bank 1)	F5	1
		Manifold absolute pressure (MAP) sensor	F50	1
		PSP sensor	F35	3
M107	99	APP sensor	M153 ^{*1} M9 ^{*2}	6 ^{*1} 5 ^{*2}

*1: With ICC

*2: Without ICC

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair short to ground or short to power in harness or connectors.

4. CHECK COMPONENTS

Check the following.

- Camshaft position sensor (PHASE) (bank 1) (Refer to [EC-311, "Component Inspection"](#).)
- Manifold absolute pressure (MAP) sensor (Refer to [EC-221, "Component Inspection"](#).)
- Power steering pressure sensor (Refer to [EC-372, "Component Inspection"](#).)

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace malfunctioning component.

5. CHECK TP SENSOR

Refer to [EC-231, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 6.

6. REPLACE ELECTRIC THROTTLE CONTROL ACTUATOR

1. Replace electric throttle control actuator.
2. Go to [EC-231, "Special Repair Requirement"](#).

>> INSPECTION END

7. CHECK APP SENSOR

Refer to [EC-479, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

8. REPLACE ACCELERATOR PEDAL ASSEMBLY

1. Replace accelerator pedal assembly.

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[VQ37VHR]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Idle Speed

INFOID:000000005914046

Condition	Specification
No load* (in P or N position)	650 ± 50 rpm

*: Under the following conditions

- A/C switch: OFF
- Electric load: OFF (Lights, heater fan & rear window defogger)
- Steering wheel: Kept in straight-ahead position

Ignition Timing

INFOID:000000005914047

Condition	Specification
No load* (in P or N position)	10 ± 2° BTDC

*: Under the following conditions

- A/C switch: OFF
- Electric load: OFF (Lights, heater fan & rear window defogger)
- Steering wheel: Kept in straight-ahead position

Calculated Load Value

INFOID:000000005914048

Condition	Specification (Using CONSULT-III or GST)
At idle	5 – 35 %
At 2,500 rpm	5 – 35 %

Mass Air Flow Sensor

INFOID:000000005914049

Supply voltage	Battery voltage (11 – 14 V)
Output voltage at idle	0.7 – 1.2 V*
Mass air flow (Using CONSULT-III or GST)	2.0 – 6.0 g/sec at idle* 7.0 – 20.0 g/sec at 2,500 rpm*

*: Engine is warmed up to normal operating temperature and running under no load.

P0453 EVAP CONTROL SYSTEM PRESSURE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[VK56VD]

ECM		Ground
Connector	+	-
	Terminal	Terminal
M160	134 (Fuel tank temperature sensor signal)	175

3. Check that the voltage is less than 4.2 V.
4. Turn ignition switch OFF and wait at least 10 seconds.
5. Turn ignition switch ON.
6. Turn ignition switch OFF and wait at least 10 seconds.
7. Start engine and wait at least 20 seconds.
8. Check 1st trip DTC.

Is 1st trip DTC detected?

- YES >> Proceed to [EC-901, "Diagnosis Procedure"](#).
 NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005841098

1.CHECK EVAP CONTROL SYSTEM PRESSURE SENSOR CONNECTOR

1. Disconnect EVAP control system pressure sensor harness connector.
2. Check that water is not inside connectors.

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair or replace harness connector.

2.CHECK EVAP CONTROL SYSTEM PRESSURE SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check the voltage between EVAP control system pressure sensor harness connector and ground.

EVAP control system pressure sensor		Ground	Voltage (V)
Connector	Terminal		
B73	3	Ground	Approx. 5

Is the inspection result normal?

- YES >> GO TO 9.
 NO >> GO TO 3.

3.CHECK EVAP CONTROL SYSTEM PRESSURE SENSOR POWER SUPPLY CIRCUIT-II

1. Turn ignition switch OFF.
2. Disconnect ECM harness connector.
3. Check the continuity between EVAP control system pressure sensor harness connector and ECM harness connector.

EVAP control system pressure sensor		ECM		Continuity
Connector	Terminal	Connector	Terminal	
B73	3	M160	133	Existed

Is the inspection result normal?

- YES >> GO TO 5.
 NO >> GO TO 4.

4.DETECT MALFUNCTIONING PART

Check the following.

- Harness for open between ECM and EVAP control system pressure sensor
- Loose or poor connection for each connector and harness

INFINITI DRIVE MODE SELECTOR

< SYMPTOM DIAGNOSIS >

[VK56VD]

INFINITI DRIVE MODE SELECTOR

Symptom Table

INFOID:000000006134708

SYSTEM - DRIVE MODE SELECTOR -

Malfunction	Check item		Probable malfunctioning part/ Action
ECO pedal reaction force is not generated when in ECO mode.	Only ECO pedal reaction force is not generated. [Intelligent pedal (distance control assist) operates normally.]	The central switch of the navigation system operates normally.	Perform self-diagnosis of the engine control system. Refer to EC-102, "DTC Index" .
		The central switch of the navigation system malfunctions.	Perform self-diagnosis of the navigation system. Refer to AV-114, "Symptom Table" (BASE AUDIO WITHOUT NAVIGATION) or AV-288, "Symptom Table" (BOSE AUDIO WITH NAVIGATION)
	Intelligent pedal (distance control assist) reaction force is not generated as well.		Perform self-diagnosis of the ADAS control unit, ICC sensor, and Accelerator pedal actuator. <ul style="list-style-type: none"> • ADAS C/U: Refer to DAS-40, "DTC Index". • ICC SENSOR: Refer to DAS-111, "DTC Index". • ACCELERATOR PEDAL ACTUATOR: Refer to DAS-114, "DTC Index".
When in ECO mode, settings of ECO pedal reaction force cannot be changed or vehicle behavior does not agree to the settings.	Intelligent pedal (distance control assist) reaction force has a malfunction as well.		Perform self-diagnosis of the ADAS control unit, ICC sensor, and Accelerator pedal actuator. <ul style="list-style-type: none"> • ADAS C/U: Refer to DAS-40, "DTC Index". • ICC SENSOR: Refer to DAS-111, "DTC Index". • ACCELERATOR PEDAL ACTUATOR: Refer to DAS-114, "DTC Index".
	Intelligent pedal (distance control assist) reaction force is normal.	The central switch of the navigation system operates normally.	Perform self-diagnosis of the engine control system. Refer to EC-102, "DTC Index" .
		The central switch of the navigation system malfunctions.	Perform self-diagnosis of the navigation system. Refer to AV-114, "Symptom Table" (BASE AUDIO WITHOUT NAVIGATION) or AV-288, "Symptom Table" (BOSE AUDIO WITH NAVIGATION)

CAMSHAFT

< UNIT DISASSEMBLY AND ASSEMBLY >

[VQ37VHR]

NOTE:

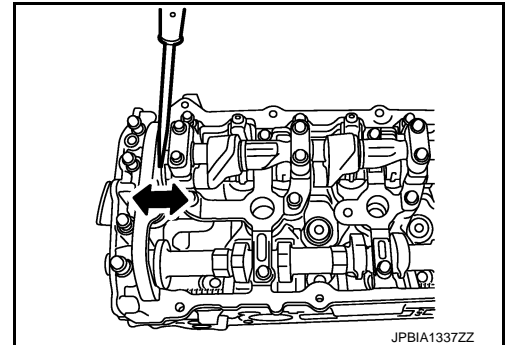
Cylinder head assembly cannot be replaced as a single part, because it is machined together with VVEL ladder assembly.

INSPECTION AFTER REMOVAL (INTAKE SIDE)

Drive Shaft End Play

- Install a dial indicator in thrust direction on front end of drive shaft. Measure the end play of a dial indicator when drive shaft is moved forward/backward (in direction of axis).

Standard and limit : Refer to [EM-149, "Camshaft"](#).



- Measure the following parts if out of the limit.
 - Dimension "A" for drive shaft No. 1 journal

Standard : 27.500 - 27.548 mm (1.0827 - 1.0846 in)

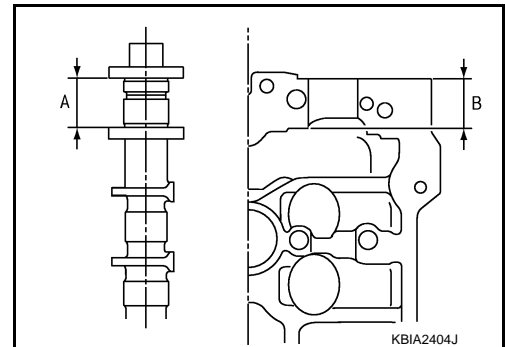
- Dimension "B" for cylinder head No. 1 journal bearing

Standard : 27.360 - 27.385 mm (1.0772 - 1.0781 in)

- If it exceeds the limit, replace VVEL ladder assembly and cylinder head assembly.

NOTE:

Cylinder head assembly cannot be replaced as a single part, because it is machined together with VVEL ladder assembly.



Camshaft Sprocket (INT) Runout

1. Put V-block on precise flat table, and support No. 2 and 4 journals of drive shaft.

CAUTION:

Never support No. 1 journal (on the side of camshaft sprocket) because it has a different diameter from the other three locations.

2. Measure the camshaft sprocket (INT) runout with a dial indicator. (Total indicator reading)

Limit : Refer to [EM-149, "Camshaft"](#).

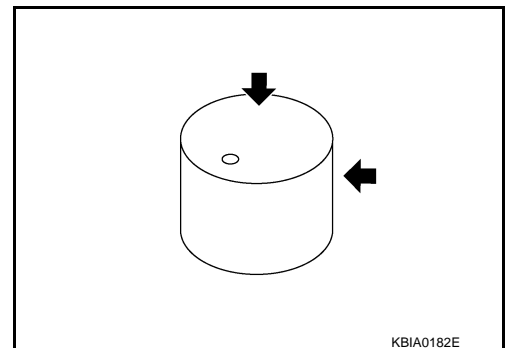
3. If it exceeds the limit, replace camshaft sprocket (INT).

Valve Lifter (INT)

- Check if surface of valve lifter has any wear or crack.
- If wear or crack is found, replace VVEL ladder assembly and cylinder head assembly. Refer to [EM-149, "Camshaft"](#).

NOTE:

Since the valve lifter (INT) cannot be replaced by the piece, VVEL ladder assembly and cylinder head assembly replacement are required.



Valve Lifter Clearance (INT)

VALVE LIFTER OUTER DIAMETER

SPARK PLUG

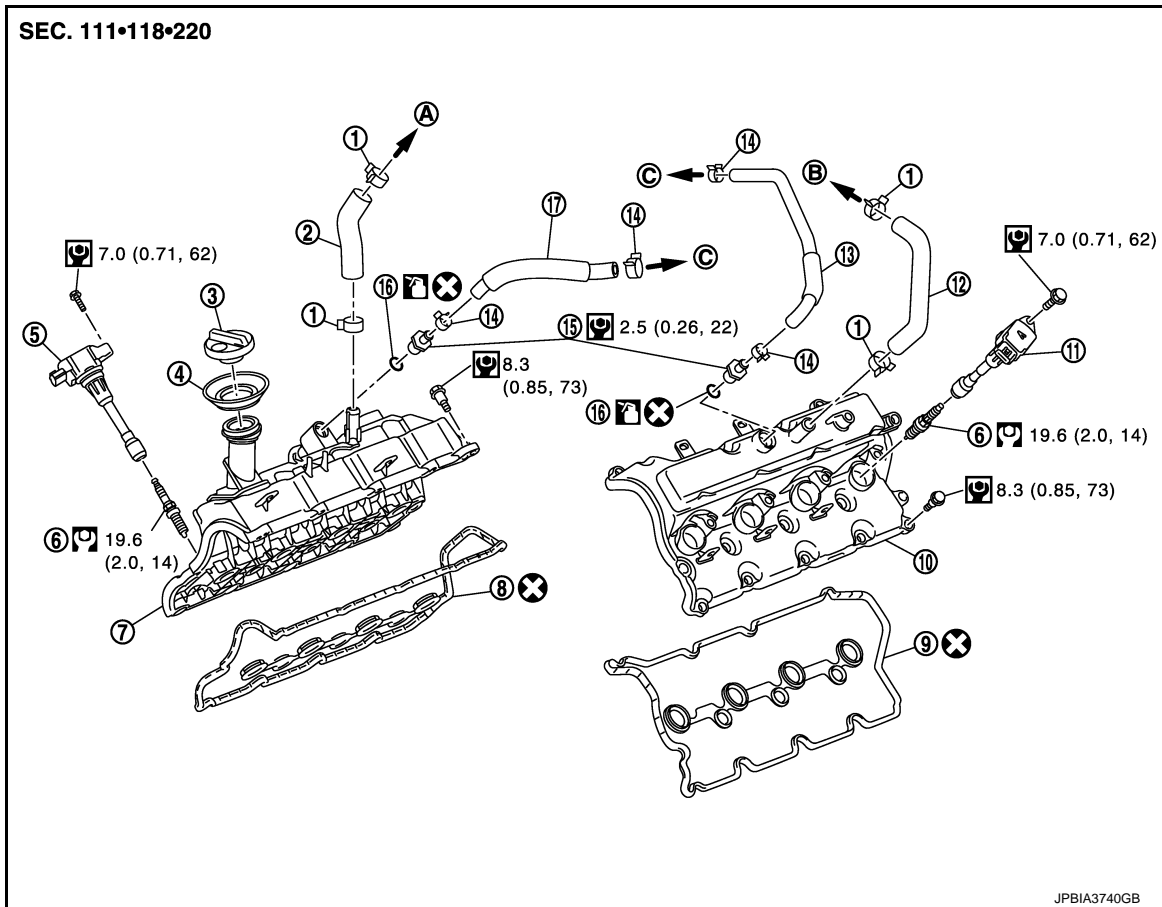
< PERIODIC MAINTENANCE >

[VK56VD]

SPARK PLUG

Exploded View

INFOID:000000005985072



- | | | |
|---------------------------|------------------------------------|---------------------------------|
| 1. Clamp | 2. PCV hose | 3. Oil filler cap |
| 4. Oil catcher | 5. Ignition coil (No. 1 - 6) | 6. Spark plug |
| 7. Rocker cover (bank 2) | 8. Rocker cover gasket (bank 2) | 9. Rocker cover gasket (bank 1) |
| 10. Rocker cover (bank 1) | 11. Ignition coil (No. 7, 8) | 12. PCV hose |
| 13. PCV hose | 14. Clamp | 15. PCV valve |
| 16. O-ring | 17. PCV hose | |
| A. To air duct (bank 2) | B. Refer to EM-186 | C. To air duct (bank 1) |
| D. To intake manifold | | |

Refer to [GI-4, "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:000000005985073

REMOVAL

1. Remove engine cover. Refer to [EM-182, "Exploded View"](#).
2. Remove air duct.
3. Remove the harness bracket. (bank 2 side)
4. Remove ignition coil. Refer to [EM-186, "Exploded View"](#).

HOW TO SELECT PISTON AND BEARING

< UNIT DISASSEMBLY AND ASSEMBLY >

[VK56VD]

MAIN BEARING SELECTION TABLE (No. 1 and 5 Journal)

I.D. mark	Cylinder block main bearing housing inner diameter	Crankshaft main journal diameter	Axle diameter Unit: mm (in)	I.D. mark	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	4	7			
					Hole diameter Unit: mm (in)	68.944 - 68.945 (2.7143 - 2.7144)	68.945 - 68.946 (2.7144 - 2.7144)	68.946 - 68.947 (2.7144 - 2.7144)	68.947 - 68.948 (2.7144 - 2.7145)	68.948 - 68.949 (2.7145 - 2.7145)	68.949 - 68.950 (2.7145 - 2.7146)	68.950 - 68.951 (2.7146 - 2.7146)	68.951 - 68.952 (2.7146 - 2.7146)	68.952 - 68.953 (2.7146 - 2.7147)	68.953 - 68.954 (2.7147 - 2.7147)	68.954 - 68.955 (2.7147 - 2.7148)	68.955 - 68.956 (2.7148 - 2.7148)	68.956 - 68.957 (2.7148 - 2.7148)	68.957 - 68.958 (2.7148 - 2.7149)	68.958 - 68.959 (2.7149 - 2.7149)	68.959 - 68.960 (2.7149 - 2.7150)	68.960 - 68.961 (2.7150 - 2.7150)	68.961 - 68.962 (2.7150 - 2.7150)	68.962 - 68.963 (2.7150 - 2.7151)	68.963 - 68.964 (2.7151 - 2.7151)	68.964 - 68.965 (2.7151 - 2.7152)	68.965 - 68.966 (2.7152 - 2.7152)	68.966 - 68.967 (2.7152 - 2.7152)	68.967 - 68.968 (2.7152 - 2.7153)		
G	63.964 - 63.963 (2.5183 - 2.5182)	1	1	12	12	12	2	2	2	2	23	23	23	3	3	3	3	34	34	34	4	4	4	4	4	45	45	45	5	5	
H	63.963 - 63.962 (2.5182 - 2.5182)	1	12	12	12	2	2	2	2	23	23	23	3	3	3	3	34	34	34	4	4	4	4	4	45	45	45	5	5		
J	63.962 - 63.961 (2.5182 - 2.5181)	12	12	12	2	2	2	2	23	23	23	3	3	3	3	34	34	34	4	4	4	4	4	45	45	45	5	5	5		
K	63.961 - 63.960 (2.5181 - 2.5181)	12	12	2	2	2	23	23	23	3	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	5	56		
L	63.960 - 63.959 (2.5181 - 2.5181)	12	2	2	2	23	23	23	3	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	5	56	56		
M	63.959 - 63.958 (2.5181 - 2.5180)	2	2	2	23	23	23	3	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	5	56	56	56		
N	63.958 - 63.957 (2.5180 - 2.5180)	2	2	23	23	23	3	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	5	56	56	56	6		
P	63.957 - 63.956 (2.5180 - 2.5179)	2	23	23	23	3	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	5	56	56	56	6	6		
R	63.956 - 63.955 (2.5179 - 2.5179)	23	23	23	3	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	5	56	56	56	6	6	6		
S	63.955 - 63.954 (2.5179 - 2.5179)	23	23	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	67		
T	63.954 - 63.953 (2.5179 - 2.5178)	23	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	67	67		
U	63.953 - 63.952 (2.5178 - 2.5178)	3	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	6	67	67		
V	63.952 - 63.951 (2.5178 - 2.5178)	3	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	6	6	67	67	7	
W	63.951 - 63.950 (2.5178 - 2.5177)	3	34	34	34	4	4	4	4	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	67	67	7	
X	63.950 - 63.949 (2.5177 - 2.5177)	34	34	34	4	4	4	4	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	67	67	7	
Y	63.949 - 63.948 (2.5177 - 2.5176)	34	34	4	4	4	4	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	67	67	7	
1	63.948 - 63.947 (2.5176 - 2.5176)	34	4	4	4	4	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	6	67	67	7	
2	63.947 - 63.946 (2.5176 - 2.5176)	4	4	4	4	45	45	45	5	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	6	67	67	7	
3	63.946 - 63.945 (2.5176 - 2.5175)	4	4	45	45	45	5	5	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	6	6	67	67	7	
4	63.945 - 63.944 (2.5175 - 2.5175)	4	45	45	45	5	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	67	67	7
5	63.944 - 63.943 (2.5175 - 2.5174)	45	45	45	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	67	67	7
6	63.943 - 63.942 (2.5174 - 2.5174)	45	45	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	67	67	7
7	63.942 - 63.941 (2.5174 - 2.5174)	45	5	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	67	67	7
9	63.941 - 63.940 (2.5174 - 2.5173)	5	5	5	56	56	56	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	67	67	7

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CALIBRATION OF DECEL G SENSOR

< BASIC INSPECTION >

[WITH VDC]

CALIBRATION OF DECEL G SENSOR

Description

INFOID:000000006044049

CAUTION:

Always perform the decel G sensor calibration before driving when the following operation is performed.

NOTE:

Yaw rate/side/decel G sensor calibration is performed when performing the decel G sensor calibration.

×: Required —: Not required

Procedure	Decel G sensor calibration
Removing/ installing ABS actuator and electric unit (control unit)	—
Replacing ABS actuator and electric unit (control unit)	×
Removing/installing steering components	—
Replacing steering components	—
Removing/installing suspension components	—
Replacing suspension components	—
Removing/installing tire	—
Replacing tire	—
Tire rotation	—
Adjusting wheel alignment.	—
Removing/installing yaw rate/side/decel G sensor	×
Replacing yaw rate/side/decel G sensor	×

Work Procedure

INFOID:000000006044050

Decel G sensor calibration

CAUTION:

Always use CONSULT-III for the decel G sensor calibration. (It cannot be adjusted other than with CONSULT-III.)

NOTE:

Yaw rate/side/decel G sensor calibration is performed when performing the decel G sensor calibration.

1. CHECK THE VEHICLE STATUS

1. Steer the steering wheel to the straight-ahead position. Stop the vehicle on level surface.
2. Stop the engine.
3. Turn the ignition switch OFF.

Is the vehicle stopped in the straight-ahead position on level surface?

YES >> GO TO 2.

NO >> Steer the steering wheel to the straight-ahead position. Stop the vehicle on level surface.

2. PERFORM DECEL G SENSOR CALIBRATION

CAUTION:

- Never allow passenger or load on the vehicle.
- Never apply vibration to the vehicle body when opening or closing door during calibration.

Ⓟ With CONSULT-III.

1. Turn the ignition switch ON.

CAUTION:

Never start engine.

2. Select "ABS", "WORK SUPPORT", "DECEL G SENSOR CALIBRATION" in this order.
3. Select "START".
4. After approx. 10 seconds, select "END".
5. Turn ignition switch OFF and then turn it ON again.

CAUTION:

Be sure to perform the operation above.

PREPARATION

< PREPARATION >

PREPARATION

PREPARATION

Special Service Tools

INFOID:000000006053808

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	Removing steering wheel
ST3127S000 (J-25765-A) Preload gauge	Inspecting sliding torque, steering torque, and rotating torque for ball joint
KV48104400 (—) Teflon ring correcting tool a: 50 mm (1.97 in) dia. b: 36 mm (1.42 in) dia. c: 100 mm (3.94 in)	Installing rack Teflon ring
KV48103400 (—) Preload adapter	Inspecting rotating torque
ST35300000 (—) Drift a: 45.1 mm (1.776 in) dia. b: 59.0 mm (2.323 in) dia.	Installing oil pump oil seal (without 4WAS)

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SYSTEM

< SYSTEM DESCRIPTION >

SYSTEM

POWER SEAT SYSTEM

POWER SEAT SYSTEM : System Description

INFOID:000000006138012

Power seat switch can be operated regardless of the ignition switch position, because power supply is always supplied to power seat switch.

SLIDING OPERATION

While operating the sliding switch located in power seat switch, sliding motor operates and makes possible the seat front and back position adjustment.

RECLINING OPERATION

While operating the reclining switch located in power seat switch, reclining motor operates and makes possible the seat back forward and backward position adjustment.

LIFTING OPERATION

While operating the lifting switch located in power seat switch, lifting motor operates and makes possible the seat cushion up and down position adjustment.

LUMBAR SUPPORT SYSTEM

LUMBAR SUPPORT SYSTEM : System Description

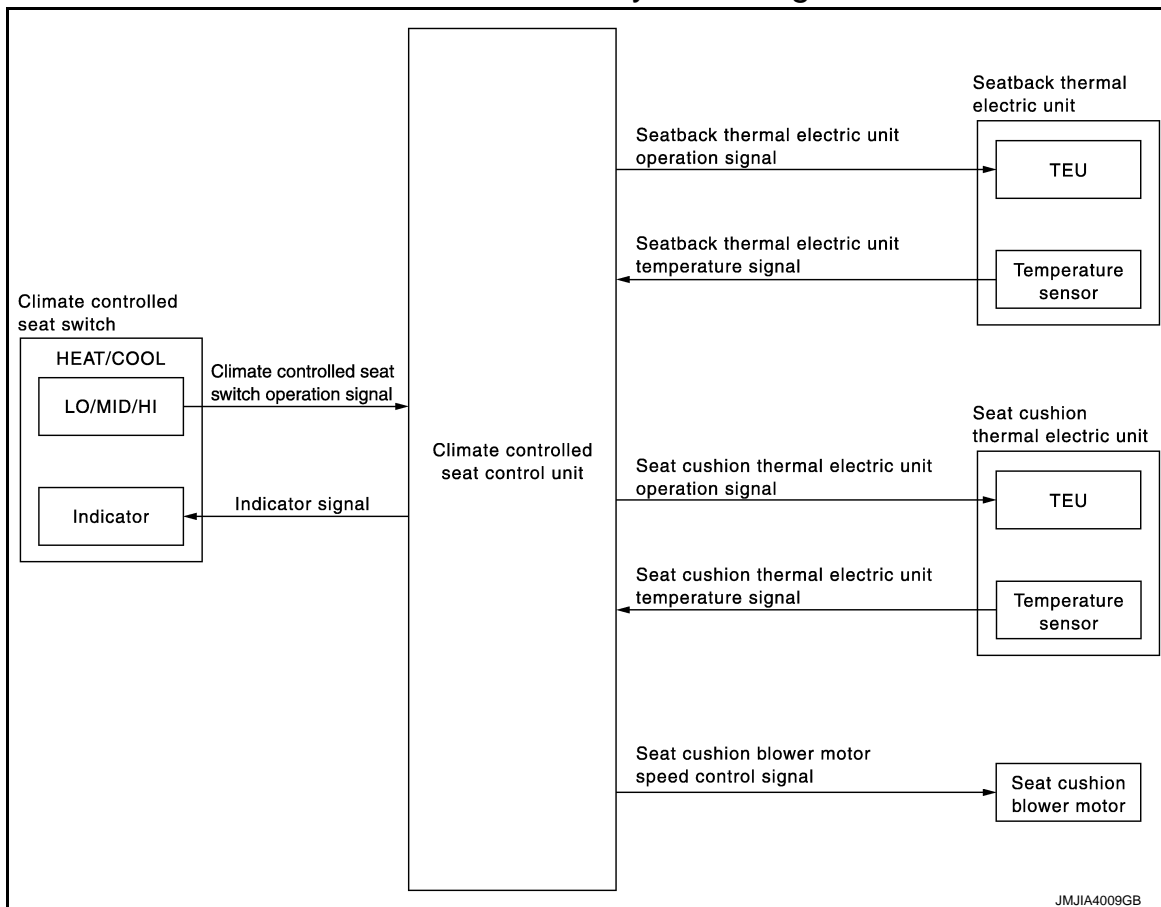
INFOID:0000000005986759

- Lumbar support can operate regardless of the ignition switch position because battery power is supplied to it at all times.
- While operating the lumbar support switch, lumbar support motor operates which allows forward and backward operation of seatback support.

CLIMATE CONTROLLED SEAT SYSTEM

CLIMATE CONTROLLED SEAT SYSTEM : System Diagram

INFOID:0000000005986766



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