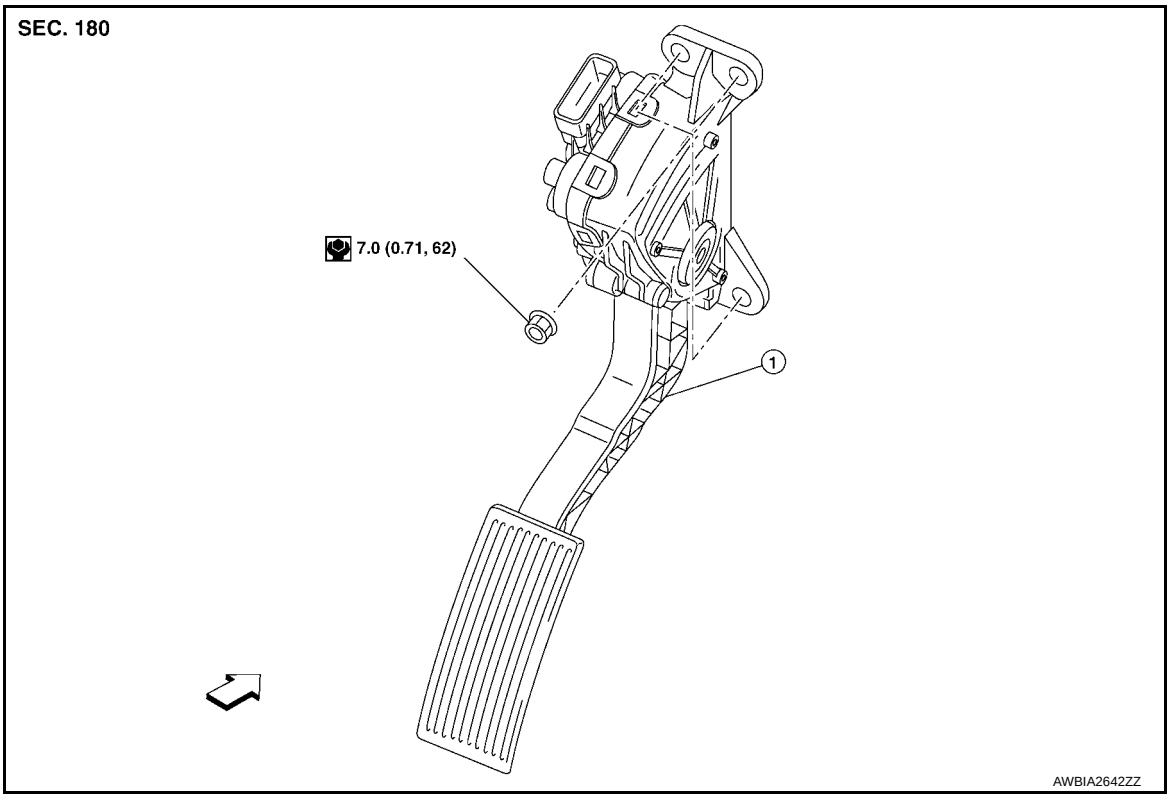
REMOVAL AND INSTALLATION

ACCELERATOR CONTROL SYSTEM

Exploded View

INFOID:0000000014268554



1. Accelerator pedal assembly
⇦ Front

Removal and Installation

INFOID:0000000014268555

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-150, "Exploded View".
2. Remove accelerator pedal assembly nuts.
3. Disconnect harness connector from the accelerator pedal assembly.
4. Remove the accelerator pedal assembly from vehicle.

CAUTION:
- **Do not disassemble accelerator pedal assembly.**
- **Do not drop or impact accelerator pedal assembly.**
- **Do not expose accelerator pedal assembly to water.**

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

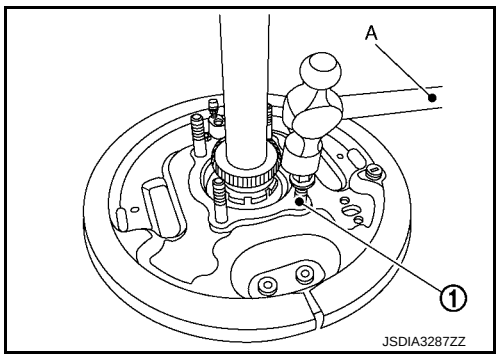
For inspection, refer to ACC-3, "Inspection".

Inspection

INFOID:0000000014268556

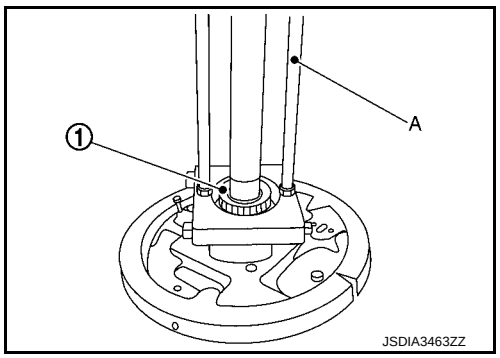
INSPECTION AFTER INSTALLATION

7. Remove bearing cage bolts (1) from bearing cage, using a suitable tool (A).



CAUTION:
- **Position a nut on the bearing cage bolt to avoid damage to the bearing cage bolt.**
- **Pull out the bearing cage bolt in a direction perpendicular to the bearing cage.**

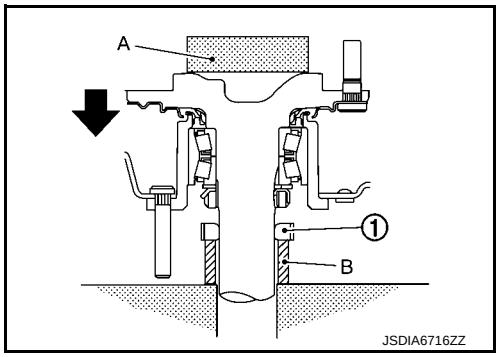
8. Remove rear sensor rotor (1) from axle shaft, using Tool (A).



Tool number : KV40106502 (—)

INSTALLATION

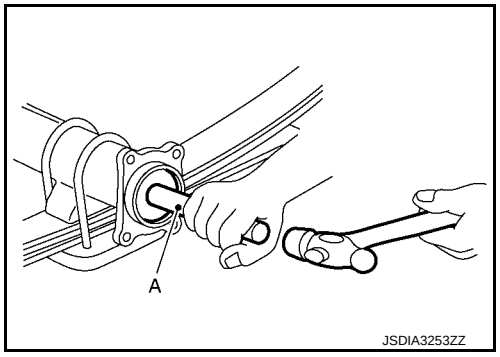
1. For models with ABS or VDC, insert sensor rotor (1) to axle shaft using Tool (A) and suitable tool (B).



Tool number : KV40105220 (—)

Maximum sensor rotor press fit load : 9800 N (999.6 kg, 2203.0 lb)

2. Apply wheel bearing grease to the oil seal lip and sliding surface. Install the oil seal to the axle housing using Tool (A).



Tool number : KV38100200 (—)

Maximum oil seal press fit load : 9800 N (999.6 kg, 2203.0 lb)

CAUTION:
- **Do not reuse oil seal**
- **Do not damage oil seal lip.**
- **Press fit oil seal to mating surface.**
- **To prevent damage to oil seal, vertically insert the oil seal all the way to the axle housing.**

3. Install O-ring to axle housing.

CAUTION:
- **Do not reuse O-ring.**

4. Install axle shaft to axle housing.

CAUTION:
Do not damage oil seal.

DOOR LOCK ACTUATOR
DRIVER SIDE

DRIVER SIDE : Component Function Check

INFOID:0000000014260213

1.CHECK FUNCTION

CONSULT
1. Select “DOOR LOCK” of “BCM”.
2. Select “DOOR LOCK” in “Active Test” mode.
3. Touch “ALL LOCK” or “ALL UNLK” to check that it works normally.

Is the inspection result normal?

YES >> Door lock actuator is OK.
NO >> Refer to DLK-87, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000014260214

Regarding Wiring Diagram information, refer to DLK-58, "Wiring Diagram".

1.CHECK DOOR LOCK ACTUATOR INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH connector.
3. Check voltage between front door lock assembly LH harness connector and ground.

(+)		(–)	Condition		Voltage (Approx.)
Front door lock assembly LH					
Connector	Terminal				
D14	1	Ground	Door lock and unlock switch	Lock	Battery voltage
	2			Unlock	

Is the inspection result normal?

YES >> Replace front door lock assembly LH.
NO >> GO TO 2.

2.CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect BCM and each door lock assembly connector.
2. Check continuity between BCM harness connector and front door lock assembly LH harness connector.

BCM		Front door lock assembly LH		Continuity
Connector	Terminal	Connector	Terminal	
M19	50	D14	1	Yes
	51		2	

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M19	50		No
	51		

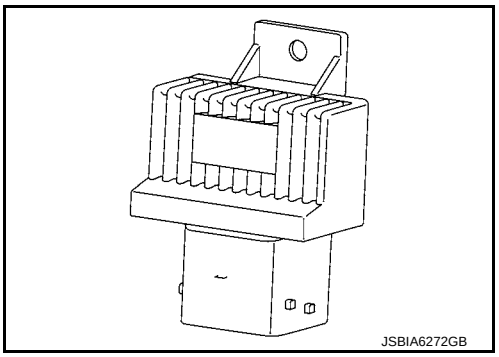
Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness.

Glow Control Unit

INFOID:0000000014267777

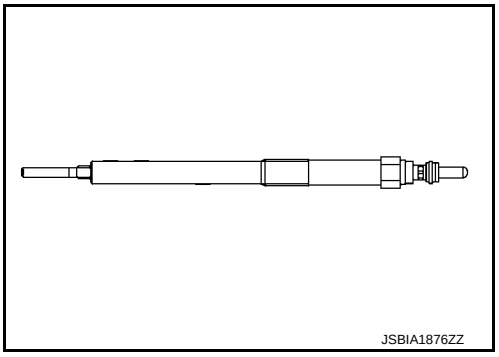
Glow Control Unit performs PWM (Pulse Width Modulation) communication with ECM. It improves engine starting function by performing glow control.


JSBIA6272GB

Glow Plug

INFOID:0000000014267778

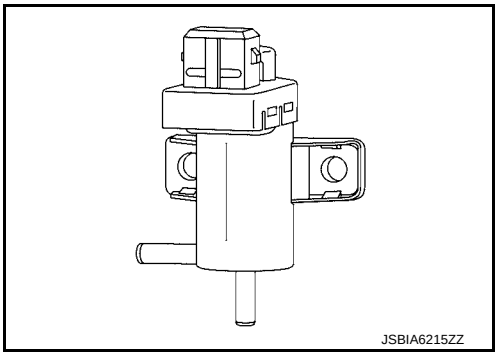
The glow plug is located in the cylinder head, in order to stabilize combustion and keep good cold start performance.
The glow plug glows in response to a signal sent from the ECM, allowing current to flow through the glow plug via the glow control unit.


JSBIA1876ZZ

High Pressure Compressor Bypass Valve Control Solenoid Valve

INFOID:0000000014267779

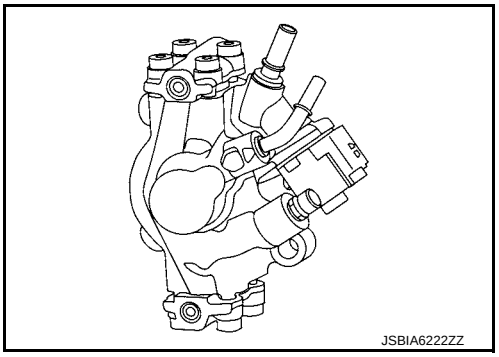
This solenoid valve is placed between the vacuum pump and the HP compressor bypass. The solenoid valve output pressure is between ambient pressure and vacuum pump pressure. The ECM controls the closing rate of the HP compressor bypass valve with an on/off signal. The activation of the HP compressor bypass valve is linked to HP turbocharger activation.


JSBIA6215ZZ

High Pressure Fuel Pump

INFOID:0000000014267780

High Pressure Fuel Pump is operated by high pressure fuel pump drive pinion, installed at camshaft. The high pressure fuel pump inlets fuel transported through fuel filter and performs pressure feed to fuel rail. The pump includes fuel flow actuator which enables adjustment of fuel rail pressure.


JSBIA6222ZZ

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 2.

2.CHECK ASCD STEERING SWITCH GROUND CIRCUIT FOR OPEN AND SHORT

1. Turn ignition switch OFF and wait at least 1 minute.
2. Disconnect ECM harness connector.
3. Check the continuity between combination switch (spiral cable) harness connector and ECM harness connector.

Combination switch (spiral cable)		ECM		Continuity
Connector	Terminal	Connector	Terminal	
M73	7	E12	140	Existed

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

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair open circuit, short to ground or short to power in harness or connectors.

3.CHECK ASCD STEERING SWITCH INPUT SIGNAL CIRCUIT FOR OPEN AND SHORT

1. Check the continuity between combination switch (spiral cable) harness connector and ECM harness connector.

Combination switch (spiral cable)		ECM		Continuity
Connector	Terminal	Connector	Terminal	
M73	10	E12	148	Existed

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

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair open circuit, short to ground or short to power in harness or connectors.

4.CHECK ASCD STEERING SWITCH

Refer to EC-677, "Component Inspection (ASCD Steering Switch)".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace ASCD steering switch. Refer to ST-21, "WITH AIR BAG : Exploded View".

Component Inspection (ASCD Steering Switch)

INFOID:0000000014267993

1.CHECK ASCD STEERING SWITCH

1. Disconnect combination switch (spiral cable) harness connector.
2. Check the continuity between combination switch (spiral cable) harness connector terminals under following conditions.

Combination switch			Condition	Resistance (Approx.)
Connector	Terminals			
M149	15	18	ASCD main switch: Pressed	0 Ω
			CANCEL switch: Pressed	250 Ω
			COAST/SET switch: Pressed	660 Ω
			ACCEL/RES switch: Pressed	1,480 Ω
			All ASCD steering switches: Released	4,000 Ω

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace ASCD steering switch. Refer to ST-21, "WITH AIR BAG : Exploded View".

0		1.488 - 1.485 (0.0586 - 0.0585)	22.9 - 23.1 (0.902 - 0.909)	Green	Grade and color are the same for upper and lower bearings.
1		1.491 - 1.488 (0.0585 - 0.0587)		Yellow	
2		1.494 - 1.491 (0.0588 - 0.0585)		Blue	
3		1.497 - 1.494 (0.0589 - 0.0588)		Pink	
4		1.500 - 1.497 (0.0591 - 0.0589)		Purple	
01	UPR	1.488 - 1.485 (0.0586 - 0.0585)		Green	Grade and color are different between upper and lower bearings.
	LWR	1.491 - 1.488 (0.0585 - 0.0587)		Yellow	
12	UPR	1.491 - 1.488 (0.0585 - 0.0587)		Yellow	
	LWR	1.494 - 1.491 (0.0588 - 0.0585)		Blue	
23	UPR	1.494 - 1.491 (0.0588 - 0.0585)		Blue	
	LWR	1.497 - 1.494 (0.0589 - 0.0588)		Pink	
34	UPR	1.497 - 1.494 (0.0589 - 0.0588)		Pink	
	LWR	1.500 - 1.497 (0.0591 - 0.0589)		Purple	

UNDERSIZE

Unit: mm (in)

Size		Thickness	Crank pin journal diameter “Dp”
0.08 (0.0031)	UPR	1.534 - 1.542 (0.0604 - 0.0607)	Grind so that bearing clearance is the specified value.
	LWR	1.536 - 1.540 (0.0605 - 0.0606)	
0.12 (0.0047)	UPR	1.554 - 1.562 (0.0612 - 0.0615)	
	LWR	1.556 - 1.560 (0.0613 - 0.0614)	
0.25 (0.0098)	UPR	1.619 - 1.627 (0.0637 - 0.0641)	
	LWR	1.621 - 1.625 (0.0638 - 0.0640)	

CONNECTING ROD BEARING OIL CLEARANCE

Unit: mm (in)

Items	Standard	Limit
Connecting rod bearing oil clearance	0.051 - 0.061 (0.002 - 0.0024)*	0.061 (0.0024)

*: Actual clearance

Minimum Running Ground Clearance	Mexico	S	Double cab	184.4 (7.3)
			Single cab	193.7 (7.6)
		SE		184.4 (7.3)
		XE		231.5 (9.1)
		LE	Gasoline	231.5 (9.1)
			Diesel	255.4 (10.1)
	Chile	S	Double cab	222.2 (8.7)
			Single cab	194.1 (7.6)
		SE	2WD	222.2 (8.7)
			4WD	254.5 (10.0)
		XE	2WD (diesel)	259.1 (10.2)
			2WD (gasoline)	259.3 (10.2)
			4WD	254.5 (10.0)
		LE		255.4 (10.1)
	Argentina	S	Double cab	222.2 (8.7)
			Single cab	223 (8.8)
		SE	2WD	259.3 (10.2)
			4WD	254.5 (10.0)
		XE		254.5 (10.0)
		LE	2WD	259.1 (10.2)
			4WD	255.4 (10.1)
	LAC	S	Single cab	194.1 (7.6)
			Double cab 2WD (wide body)	222.2 (8.7)
			Double cab 2WD (narrow body)	259.3 (10.2)
			Double cab 4WD	254.5 (10.0)
		SE	2WD	259.3 (10.2)
			4WD	254.5 (10.0)
		XE	2WD	259.3 (10.2)
			4WD	255.4 (10.1)
		LE	2WD	259.1 (10.2)
			4WD	255.4 (10.1)

Wheels & Tires

INFOID:0000000014268601

Road wheel/offset mm (in)	Tire	Spare tire size
15x5.5J Steel/50 (1.97)	195R15C	Full Size[1]
16x7.0J Steel/45 (1.77)	255/70R16	
16x7.0J Aluminum Alloy/45 (1.77)	255/70R16	
18x7.0J Aluminum Alloy/45 (1.77)	255/60R18	Full Size[2]

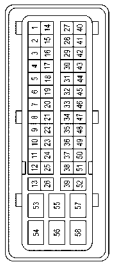
1: With steel wheel

2: With aluminum wheel

AIR CONDITIONER CONTROL CONNECTORS - MANUAL WITH TYPE 1

Connector No.	E8
Connector Name	ECM (WITH YD25DDTi)
Connector Type	ADA52FB-AHZ6
Connector Color	BLACK

H.S.

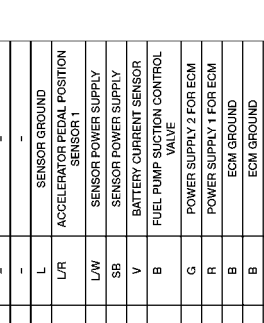


Terminal No.	Color of Wire	Signal Name
1	O	EGR VOLUME CONTROL VALVE (OPEN)
2	–	–
3	–	–
4	G	PARK/NEUTRAL POSITION SIGNAL (WITH M/T)
4	G/Y	PARK/NEUTRAL POSITION SIGNAL (WITH A/T)
5	SB	START SIGNAL
6	–	–
7	P	CAN-L
8	L	CAN-H
9	–	–
10	W/R	INTAKE AIR TEMPERATURE SENSOR 2
11	–	–
12	R	IGNITION SWITCH
13	Y	POWER SUPPLY FOR ECM (BACK-UP)
14	Y	EGR VOLUME CONTROL VALVE (CLOSE)
15	–	–
16	–	–
17	–	–
18	G	GLOW PLUG CONTROL
19	Y	STOP LAMP SWITCH
20	P	ENGINE COMMUNICATION LINE
21	L	ENGINE COMMUNICATION LINE
22	–	–
23	–	–
24	GR	GLOW PLUG CONTROL
25	BR	ECM RELAY (SELF SHUT-OFF)
26	BR	ECM RELAY (SELF SHUT-OFF)
27	–	–
28	SHIELD	SENSOR SHIELD
29	–	–
30	V	MASS AIR FLOW SENSOR
31	–	–
32	–	–
33	–	–

34	B	SENSOR GROUND
35	R	ACCELERATOR PEDAL POSITION SENSOR 2
36	W	SENSOR POWER SUPPLY
37	–	–
38	G/B	BATTERY TEMPERATURE SENSOR
39	GR	FUEL PUMP SUCTION CONTROL VALVE
40	–	–
41	B	ECM GROUND
42	–	–
43	LG	SENSOR GROUND
44	W	SENSOR GROUND
45	–	–
46	–	–
47	L	SENSOR GROUND
48	L/R	ACCELERATOR PEDAL POSITION SENSOR 1
49	L/W	SENSOR POWER SUPPLY
50	SB	SENSOR POWER SUPPLY
51	V	BATTERY CURRENT SENSOR
52	B	FUEL PUMP SUCTION CONTROL VALVE
53	G	POWER SUPPLY 2 FOR ECM
54	R	POWER SUPPLY 1 FOR ECM
55	B	ECM GROUND
56	B	ECM GROUND
57	B	ECM GROUND
58	B	ECM GROUND

Connector No.	E12
Connector Name	ECM (WITH M9T)
Connector Type	RH24FB-RZ8-R-LH
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
129	L	CAN-H
130	–	–
131	G	CLUTCH PEDAL POSITION SWITCH
132	–	–
133	LG	BRAKE PEDAL POSITION SWITCH

134	GR	SENSOR GROUND
135	B	ECM GROUND
136	B	ECM GROUND
137	P	CAN-L
138	–	–
139	–	–
140	B	SENSOR GROUND
141	–	–
142	R	ACCELERATOR PEDAL POSITION SENSOR 2
143	B	ECM GROUND
144	B	SENSOR GROUND
145	–	–
146	–	–
147	–	–
148	SB	ASCD STEERING SWITCH
149	–	–
150	W	SENSOR POWER SUPPLY
151	L	SENSOR POWER SUPPLY
152	P	ACCELERATOR PEDAL POSITION SENSOR 1
153	–	–
154	–	–
155	–	–
156	BG	IGNITION SWITCH
157	–	–
158	BG	WATER IN FUEL SENSOR
159	Y	SENSOR POWER SUPPLY
160	B	ECM GROUND

Connector No.	E23
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	TO ENGINE CONTROL HARNESS - (WITH YD25DDTi)
1	V	TO ENGINE CONTROL HARNESS - (WITH M9T)
2	L	TO ENGINE CONTROL HARNESS - (WITH YD25DDTi)
2	G	TO ENGINE CONTROL HARNESS - (WITH M9T)
3	B	TO ENGINE CONTROL HARNESS - (WITH YD25DDTi)

3	G	TO ENGINE CONTROL HARNESS - (WITH M9T)
4	R	TO ENGINE CONTROL HARNESS
5	G/Y	TO ENGINE CONTROL HARNESS
6	SHIELD	TO ENGINE CONTROL HARNESS
7	O	TO ENGINE CONTROL HARNESS
8	–	TO ENGINE CONTROL HARNESS
9	B	TO ENGINE CONTROL HARNESS
10	LG/R	TO ENGINE CONTROL HARNESS
11	W/R	TO ENGINE CONTROL HARNESS - (WITH YD25DDTi)
11	P	TO ENGINE CONTROL HARNESS - (WITH M9T)
12	Y	TO ENGINE CONTROL HARNESS
13	O	TO ENGINE CONTROL HARNESS - (WITH YD25DDTi)
13	BR	TO ENGINE CONTROL HARNESS - (WITH M9T)
14	G/R	TO ENGINE CONTROL HARNESS
15	Y/R	TO ENGINE CONTROL HARNESS
16	W	TO ENGINE CONTROL HARNESS

ABIIA1898GB

Signal name	ECM	ABS	IPDM-E	DIFF	M&A	4WD	HVAC
High beam request signal			R		T		
Low beam request signal			R		T		
Position light request signal			R		T		
Reverse lamp switch signal			R		T		
Sleep wake up signal			R		T	R	
Start request signal			R		T		
Stop lamp switch signal	R*1				T	R	
ATP warning lamp signal					R	T	
4WD mode signal				R		T	
4WD mode indicator lamp signal					R	T	
4WD operation signal		R				T	
4WD warning lamp signal					R	T	

*1: YS23DDT/YS23DDTT engine

*2: Diesel engine

WITH INTELLIGENT KEY

T: Transmit R: Receive

Signal name	ECM	ABS	IPDM-E	TCM	M&A	STRG	4WD	DIFF	HVAC	SONAR	BCM
A/C compressor request signal	T		R								
Accelerator pedal position signal	T	R		R							
ASCD status signal	T				R						
Closed throttle position signal	T			R							
Condenser fan speed request signal	T		R								
DPF (Diesel particulate filter) warning lamp signal	T				R						
Engine and A/T integrated control signal	T			R							
	R			T							
Engine coolant temperature signal	T			R	R				R		
Engine oil pressure warning signal*2	T				R						
Engine speed signal	T	R		R	R		R	R			
Engine status signal	T	R	R		R						R
Fuel consumption monitor signal	T				R						
Glow indicator lamp signal*4	T				R						
G sensor signal	T			R							
Malfunctioning indicator lamp signal	T				R						
N idle instruction signal*1	T			R							
	R			T							
Power generation command value signal	T		R								
Wide open throttle position signal	T			R							
A/T shift schedule change demand signal*1		T		R							
ABS malfunction signal		T						R			
ABS operation signal		T		R				R			
ABS warning lamp signal		T			R						

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000014633373

1.CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector			Continuity
Connector No.	Terminal No.		
M22	6	14	Not existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M22	6		Not existed
	14		Not existed

Is the inspection result normal?

YES (Without Intelligent Key system)>>GO TO 4.
YES (With Intelligent Key system)>>GO TO 5.
NO >> Check the harness and repair the root cause.

4.CHECK ECM AND COMBINATION METER TERMINATION CIRCUIT

1. Remove the ECM and the combination meter.
2. Check the resistance between the ECM terminals.

- QR engine models

ECM		Resistance (Ω)
Terminal No.		
100	99	Approx. 108 – 132

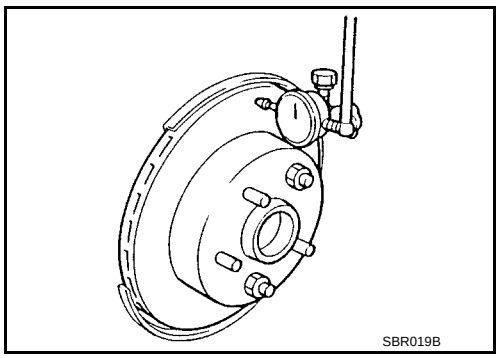
- YD engine models

ECM		Resistance (Ω)
Terminal No.		
8	7	Approx. 108 – 132

- YS engine models

2. Secure the disc brake rotor to the wheel hub and bearing with wheel nuts at two wheel nut locations.
3. Measure the runout using a dial gauge 10 mm (0.39 in) from the disc brake rotor edge.

Runout (with it attached to the vehicle) : **Refer to BR-64, "Front Disc Brake".**


SBR019B

4. Find the installation position with a minimum runout by shifting the disc brake rotor-to-wheel hub and bearing installation position by one hole at a time if the runout exceeds the limit value.
5. Refinish the disc brake rotor if the runout is outside the limit even after performing the above operation. When refinishing, use Tool.

Tool number : 38-PFM92 (—)

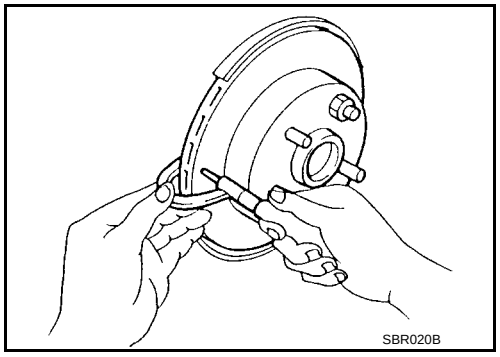
CAUTION:
- **Check in advance that the thickness of the disc brake rotor is wear thickness + 0.3 mm (0.012 in) or more.**
- **If the thickness is less than wear thickness + 0.3 mm (0.012 in), replace the disc brake rotor. Refer to BR-49, "DISC BRAKE ROTOR : Removal and Installation".**

Wear thickness : Refer to BR-64, "Front Disc Brake".

THICKNESS

Check the thickness of the disc brake rotor using a micrometer. Replace the disc brake rotor if the thickness is below the wear limit.

Wear thickness : Refer to BR-64, "Front Disc Brake".


SBR020B

DRUM BRAKE

DRUM BRAKE : Inspection - Brake lining

INFOID:0000000014250058

INSPECTION

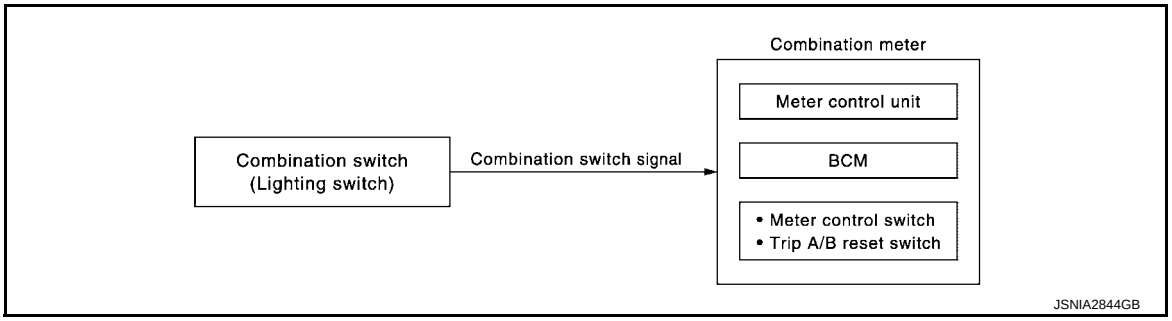
1. Remove plug from back plate. Refer to BR-51, "BRAKE DRUM : Removal and Installation".

METER ILLUMINATION CONTROL

METER ILLUMINATION CONTROL : System Description

INFOID:0000000014250198

SYSTEM DIAGRAM



DESCRIPTION

Back Light Illumination Control Function
The operation of the illumination control switch allows the brightness adjustment of meter illumination.

Meter illumination	The number of adjustable steps
ON	22 step

Meter Illumination Control Function
- Combination meter controls meter illumination, based on the dimmer signal, and position light request signal.
- The combination meter switches mode between Daytime mode and Nighttime mode, according to the following conditions.

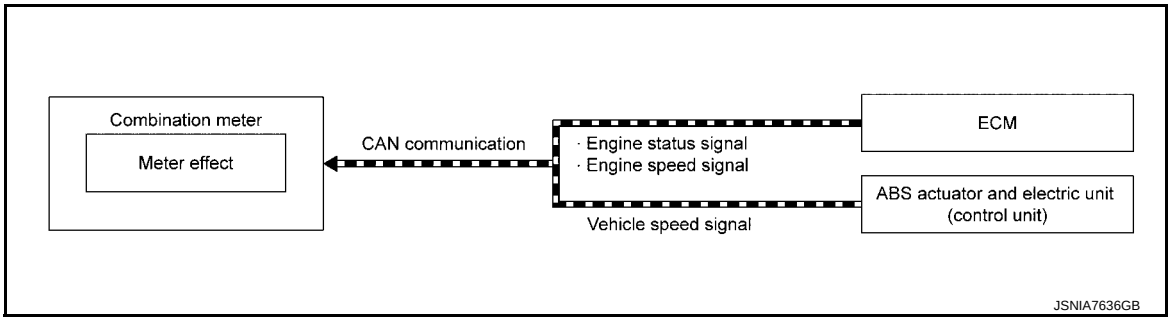
Condition		Meter illumination
Combination switch (lighting switch)	1ST or 2ND position	ON
	Off	OFF

METER EFFECT FUNCTION

METER EFFECT FUNCTION : System Description

INFOID:0000000014250199

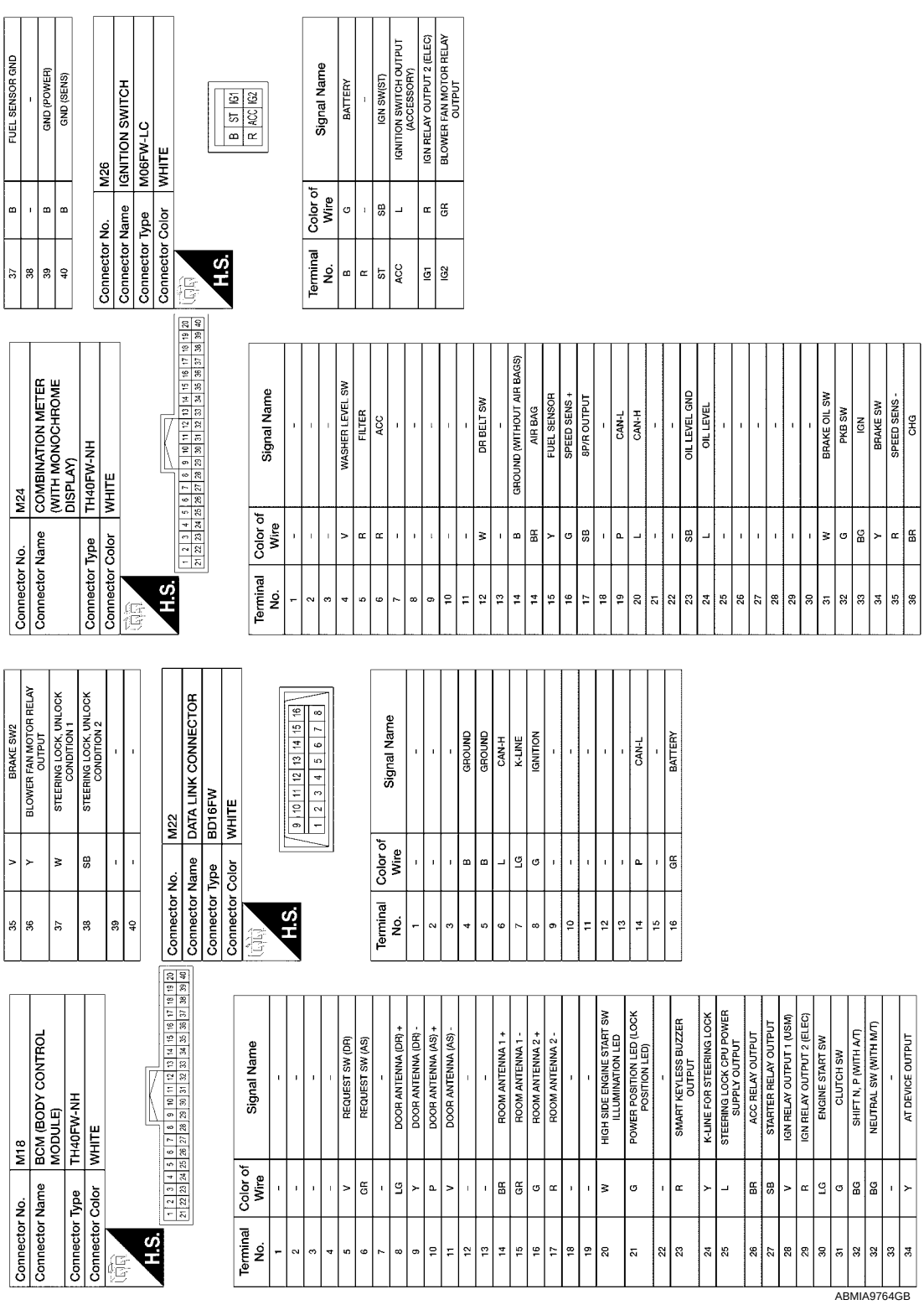
SYSTEM DIAGRAM



DESCRIPTION

Engine-start Effect Function
When recognizing an engine start, the combination meter controls the following items for producing the effect.
- Speedometer
- Tachometer
- Information display
- Meter illumination

IGNITION POWER SUPPLY CONNECTORS



ABMIA9764GB

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) (With Intelligent Key)

INFOID:0000000014634374

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
ECU Identification	The BCM part number is displayed.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION
BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

System	Sub System	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK		×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Automatic A/C	AIR CONDITONER		×	
• Intelligent Key system • Engine start system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NATS	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open	TRUNK		×	
Theft warning alarm	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×

FREEZE FRAME DATA (FFD)
The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

SONAR SYSTEM CONNECTORS

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1A	G	TO ENGINE ROOM HARNESS
2A	Y	TO ENGINE ROOM HARNESS
3A	R	TO ENGINE ROOM HARNESS
4A	G	TO ENGINE ROOM HARNESS
5A	Y	TO ENGINE ROOM HARNESS
6A	O	TO ENGINE ROOM HARNESS
7A	G	TO ENGINE ROOM HARNESS
8A	G	TO ENGINE ROOM HARNESS
9A	L	TO ENGINE ROOM HARNESS
10A	BR	TO ENGINE ROOM HARNESS
11A	SHIELD	TO ENGINE ROOM HARNESS
12A	B	TO ENGINE ROOM HARNESS
13A	BG	TO ENGINE ROOM HARNESS
14A	V	TO ENGINE ROOM HARNESS
15A	W	TO ENGINE ROOM HARNESS
16A	L	TO ENGINE ROOM HARNESS
17A	Y	TO ENGINE ROOM HARNESS
18A	BR	TO ENGINE ROOM HARNESS
19A	LG	TO ENGINE ROOM HARNESS
20A	SB	TO ENGINE ROOM HARNESS
21A	GR	TO ENGINE ROOM HARNESS
22A	W	TO ENGINE ROOM HARNESS
23A	R	TO ENGINE ROOM HARNESS
24A	G	TO ENGINE ROOM HARNESS
25A	GR	TO ENGINE ROOM HARNESS
26A	O	TO ENGINE ROOM HARNESS
27A	GR	TO ENGINE ROOM HARNESS
28A	R	TO ENGINE ROOM HARNESS
29A	BR	TO ENGINE ROOM HARNESS
30A	BG	TO ENGINE ROOM HARNESS
31A	LG	TO ENGINE ROOM HARNESS
32A	GR	TO ENGINE ROOM HARNESS
33A	G	TO ENGINE ROOM HARNESS
34A	BR	TO ENGINE ROOM HARNESS
35A	B	TO ENGINE ROOM HARNESS
36A	LG	TO ENGINE ROOM HARNESS
37A	BR	TO ENGINE ROOM HARNESS
38A	B	TO ENGINE ROOM HARNESS
39A	P	TO ENGINE ROOM HARNESS
40A	G	TO ENGINE ROOM HARNESS
41A	W	TO ENGINE ROOM HARNESS
42A	R	TO ENGINE ROOM HARNESS
43A	W	TO ENGINE ROOM HARNESS
44A	GR	TO ENGINE ROOM HARNESS
45A	SB	TO ENGINE ROOM HARNESS
46A	V	TO ENGINE ROOM HARNESS
47A	G	TO ENGINE ROOM HARNESS
48A	W	TO ENGINE ROOM HARNESS
49A	P	TO ENGINE ROOM HARNESS
50A	W	TO ENGINE ROOM HARNESS
51A	SHIELD	TO ENGINE ROOM HARNESS
52A	BR	TO ENGINE ROOM HARNESS
53A	–	TO ENGINE ROOM HARNESS
54A	–	TO ENGINE ROOM HARNESS
55A	–	TO ENGINE ROOM HARNESS
56A	–	TO ENGINE ROOM HARNESS
57A	–	TO ENGINE ROOM HARNESS
58A	–	TO ENGINE ROOM HARNESS
59A	–	TO ENGINE ROOM HARNESS
60A	–	TO ENGINE ROOM HARNESS
61A	–	TO ENGINE ROOM HARNESS
62A	Y	TO ENGINE ROOM HARNESS
63A	SHIELD	TO ENGINE ROOM HARNESS
64A	–	TO ENGINE ROOM HARNESS
65A	–	TO ENGINE ROOM HARNESS
66A	–	TO ENGINE ROOM HARNESS
67A	–	TO ENGINE ROOM HARNESS
68A	–	TO ENGINE ROOM HARNESS
69A	–	TO ENGINE ROOM HARNESS
70A	–	TO ENGINE ROOM HARNESS
71A	W	TO ENGINE ROOM HARNESS
72A	B	TO ENGINE ROOM HARNESS
73A	–	TO ENGINE ROOM HARNESS
74A	–	TO ENGINE ROOM HARNESS
75A	–	TO ENGINE ROOM HARNESS
76A	–	TO ENGINE ROOM HARNESS
77A	–	TO ENGINE ROOM HARNESS
78A	–	TO ENGINE ROOM HARNESS
79A	–	TO ENGINE ROOM HARNESS
80A	–	TO ENGINE ROOM HARNESS
81A	–	TO ENGINE ROOM HARNESS
82A	SHIELD	TO ENGINE ROOM HARNESS
83A	–	TO ENGINE ROOM HARNESS
84A	–	TO ENGINE ROOM HARNESS
85A	–	TO ENGINE ROOM HARNESS
86A	–	TO ENGINE ROOM HARNESS
87A	–	TO ENGINE ROOM HARNESS
88A	–	TO ENGINE ROOM HARNESS
89A	–	TO ENGINE ROOM HARNESS
90A	–	TO ENGINE ROOM HARNESS
91A	Y	TO ENGINE ROOM HARNESS
92A	L	TO ENGINE ROOM HARNESS
93A	R	TO ENGINE ROOM HARNESS
94A	Y	TO ENGINE ROOM HARNESS
96A	R	TO ENGINE ROOM HARNESS
96A	L	TO ENGINE ROOM HARNESS
97A	BR	TO ENGINE ROOM HARNESS
98A	–	TO ENGINE ROOM HARNESS
99A	Y	TO ENGINE ROOM HARNESS
100A	G	TO ENGINE ROOM HARNESS

Connector No.	M100
Connector Name	JOINT CONNECTOR-M04
Connector Type	NH24FGY-J
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	L	CAN-H
4	P	CAN-L
5	V	IGNITION
6	BR	AIR BAG
7	L	CAN-H
8	P	CAN-L
9	R	IGNITION
10	BR	AIR BAG
11	–	–
12	–	–
13	B	GROUND
14	–	–
15	L	CAN-H
16	P	CAN-L
17	B	GND
18	–	–
19	L	CAN-H
20	P	CAN-L
21	B	GROUND
22	–	–
23	L	CAN-H
24	P	CAN-L

Connector No.	M165
Connector Name	SONAR SYSTEM OFF SWITCH
Connector Type	TH08FG-NH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	CLEARANCE/L RH
2	–	–
3	B	GROUND
4	B	GROUND
5	G	LED DISPLAY
6	Y	SW
7	–	–
8	B	GROUND

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