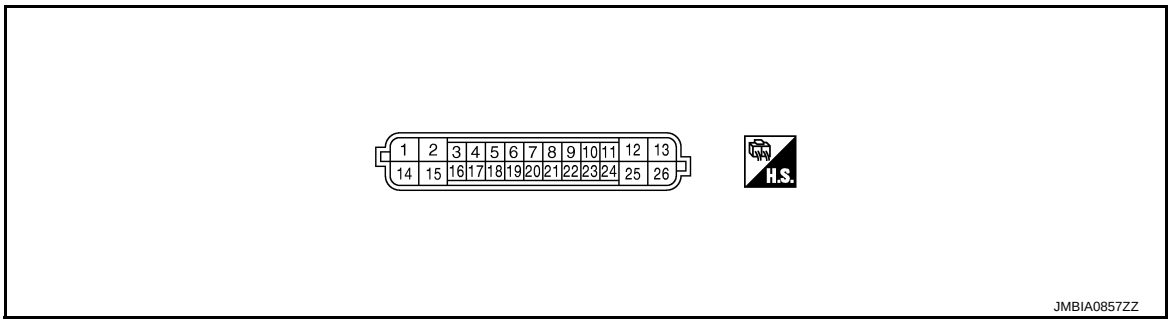
VVEL CONTROL MODULE

Reference Value

INFOID:0000000006352707

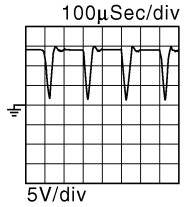
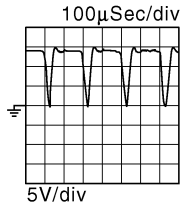
TERMINAL LAYOUT

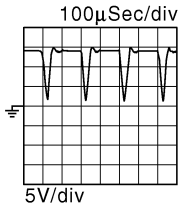
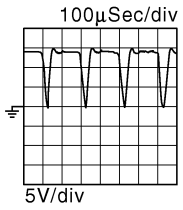


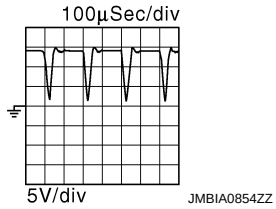
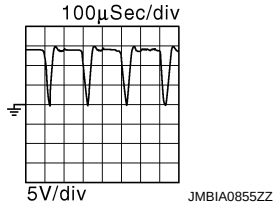
PHYSICAL VALUES

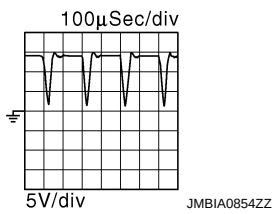
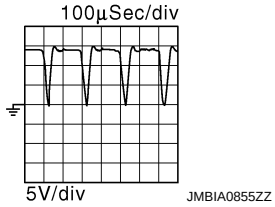
NOTE:

- VVEL control module is located behind the IPDM E/R. For this inspection, remove hoodledge cover (RH).
- Specification data are reference values and are measured between each terminal and ground.
- Pulse signal is measured by CONSULT-III.

Terminal No.		Description		Condition	Value (Approx.)
+	-–	Signal name	Input/ Output		
1 (W)	14 (B/W)	VVEL actuator motor power supply (bank 2)	Input	[Ignition switch: ON]	BATTERY VOLTAGE (11 - 14 V)
2 (L/B)	14 (B/W)	VVEL actuator motor (High lift) (bank 2)	Output	[Engine is running] • Warm-up condition • Idle speed	0 - 14 V★  JMBIA0854ZZ
				[Engine is running] • Warm-up condition • When revving engine up to 2,000 rpm quickly	0 - 14 V★  JMBIA0855ZZ
3 (G)	4 (W)	VVEL control shaft position sensor 1 (bank 1)	Input	[Engine is running] • Warm-up condition • Idle speed	Approx.0.25 - 1.40 V
				[Engine is running] • Warm-up condition • When revving engine up to 2,000 rpm quickly	Approx.0.25 - 4.75 V
4 (W)	—	Sensor ground [VVEL control shaft position sensor 1 (bank 1)]	—	—	—

Terminal No.		Description		Condition	Value (Approx.)
+	–	Signal name	Input/ Output		
5 (R)	6 (B)	VVEL control shaft position sensor 1 (bank 2)	Input	[Engine is running] • Warm-up condition • Idle speed	Approx.0.25 - 1.40 V
				[Engine is running] • Warm-up condition • When revving engine up to 2,000 rpm quickly	Approx.0.25 - 4.75 V
6 (B)	—	Sensor ground [VVEL control shaft position sensor 1 (bank 2)]	—	—	—
7 (SB)	6 (B)	Sensor power supply [VVEL control shaft position sensor 1 (bank 2)]	—	[Ignition switch: ON]	5 V
8 (BG)	14 (B/W)	Power supply for VVEL control module	—	[Ignition switch: ON]	BATTERY VOLTAGE (11 - 14 V)
9 (LG)	4 (W)	Sensor power supply [VVEL control shaft position sensor 1 (bank 1)]	—	[Ignition switch: ON]	5 V
11 (GR)	—	Engine communication line (ECM)	Input/ Output	—	—
12 (G)	14 (B/W)	VVEL actuator motor (High lift) (bank 1)	Output	[Engine is running] • Warm-up condition • Idle speed	0 - 14 V★  JMBIA0854ZZ
				[Engine is running] • Warm-up condition • When revving engine up to 2,000 rpm quickly	0 - 14 V★  JMBIA0855ZZ
13 (W)	14 (B/W)	VVEL actuator motor power supply (bank 1)	Input	[Ignition switch: ON]	BATTERY VOLTAGE (11 - 14 V)
14 (B/W)	—	VVEL control module ground	—	[Engine is running] • Idle speed	—

Terminal No.		Description		Condition	Value (Approx.)
+	-–	Signal name	Input/ Output		
15 (L/Y)	14 (B/W)	VVEL actuator motor (Low lift) (bank 2)	Output	[Engine is running] • Warm-up condition • Idle speed	0 - 14 V★ 
				[Engine is running] • Warm-up condition • When revving engine up to 2,000 rpm quickly	0 - 14 V★ 
16 (R)	17 (L)	VVEL control shaft position sensor 2 (bank 1)	Input	[Engine is running] • Warm-up condition • Idle speed	3.50 - 4.75 V
				[Engine is running] • Warm-up condition • When revving engine up to 2,000 rpm quickly	0.25 - 4.75 V
17 (L)	—	Sensor ground [VVEL control shaft position sensor 2 (bank 1)]	—	—	—
18 (G)	19 (W)	VVEL control shaft position sensor 2 (bank 2)	Input	[Engine is running] • Warm-up condition • Idle speed	3.50 - 4.75 V
				[Engine is running] • Warm-up condition • When revving engine up to 2,000 rpm quickly	0.25 - 4.75 V
19 (W)	—	Sensor ground [VVEL control shaft position sensor 2 (bank 2)]	—	—	—
20 (BR)	19 (W)	Sensor power supply [VVEL control shaft position sensor 2 (bank 2)]	—	[Ignition switch: ON]	5 V
21 (V)	14 (B/W)	VVEL actuator motor relay abort signal	Input	[Engine is running] • Warm-up condition • Idle speed	0 V
22 (P)	17 (L)	Sensor power supply [VVEL position sensor 2 (bank 1)]	—	[Ignition switch: ON]	5 V
23 (Y)	14 (B/W)	VVEL control motor relay	Output	[Ignition switch: OFF]	BATTERY VOLTAGE (11 - 14 V)
				[Ignition switch: ON]	0 - 1.0 V
24 (SB)	—	Engine communication line (ECM)	Input/ Output	—	—

Terminal No.		Description		Condition	Value (Approx.)
+	–	Signal name	Input/ Output		
25 (BR)	14 (B/W)	VVEL control motor (Low lift) (bank 1)	Output	[Engine is running] • Warm-up condition • Idle speed	0 - 14 V★ 
				[Engine is running] • Warm-up condition • When revving engine up to 2,000 rpm quickly	0 - 14 V★ 

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

Wiring Diagram - ENGINE CONTROL SYSTEM -

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