SECTION PCS
POWER CONTROL SYSTEM

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PRECAUTION

PRECAUTIONS

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

INFOID:0000000010499148

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. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **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 “SRS AIR BAG”.**
- **Never 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:

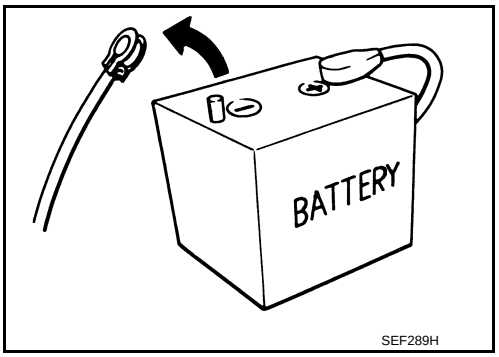
Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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.**

Precautions for Removing Battery Terminal

INFOID:0000000010506098

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.



SEF289H

HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to instruction described below.

1. Open the hood.
2. Turn ignition switch to the ON position.
3. Turn ignition switch to the OFF position with the driver side door opened.
4. Get out of the vehicle and close the driver side door.

5. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

6. Remove 12V battery terminal.

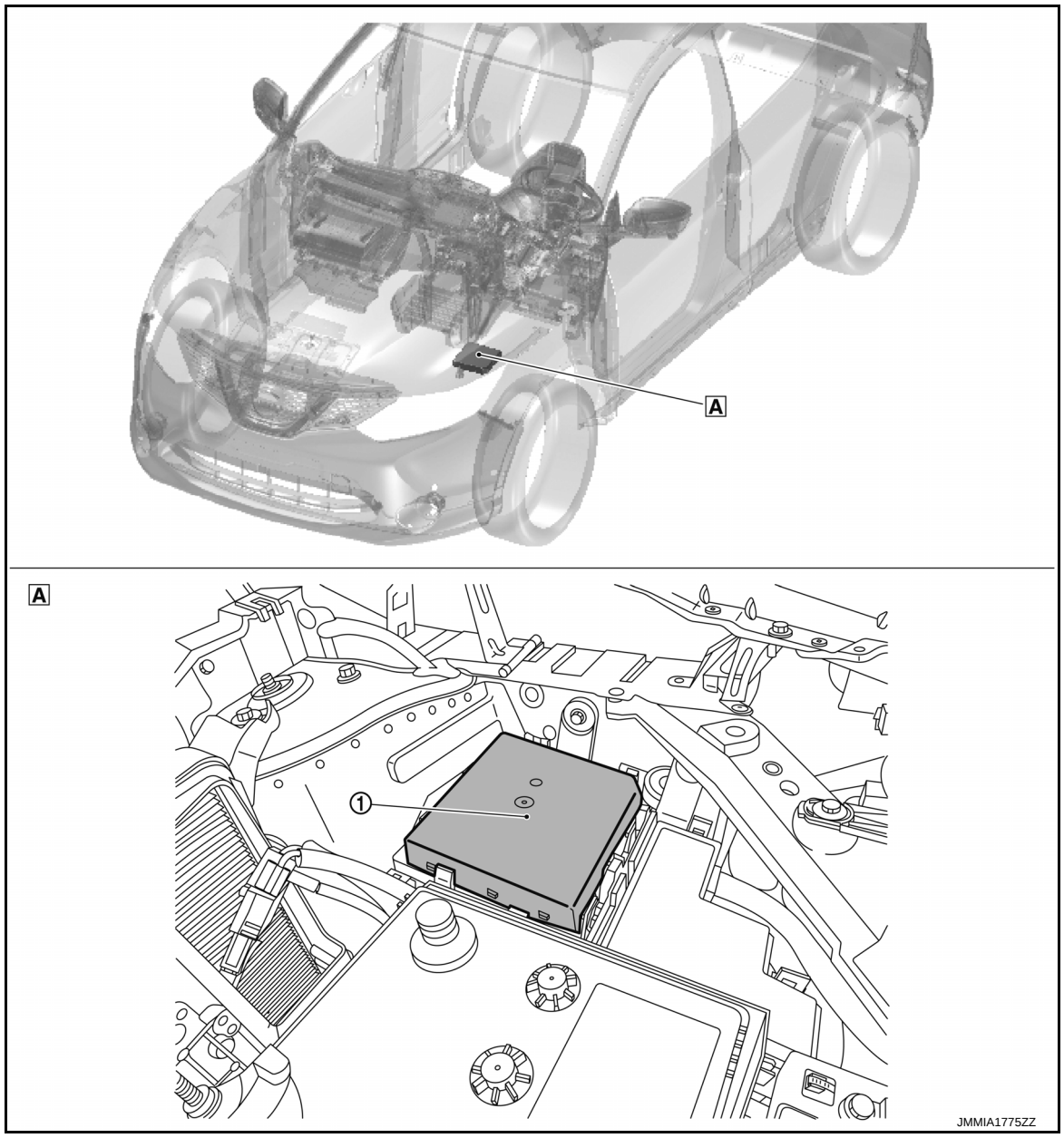
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010434014



A Engine room (LH)

1 IPDM E/R

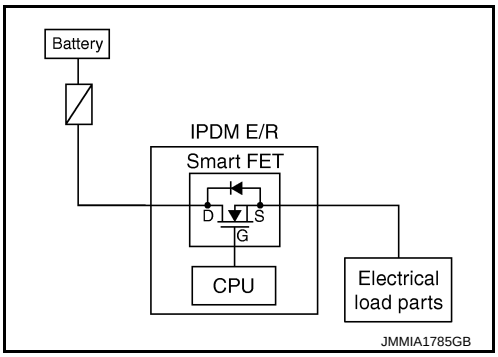
Smart FET

INFOID:0000000010499320

Smart FET, that uses MOS field effect transistor, is adopted for each lamps control.

NOTE:

A MOS field effect transistor is a transistor in which the gate is composed of a metal-oxide-semiconductor (MOS). Field effect transistor is controlled by voltage, while ordinary transistor is controlled by current. Electrode of field effect transistor is called source, drain, or gate, while electrode of ordinary transistor is called emitter, collector, or base.



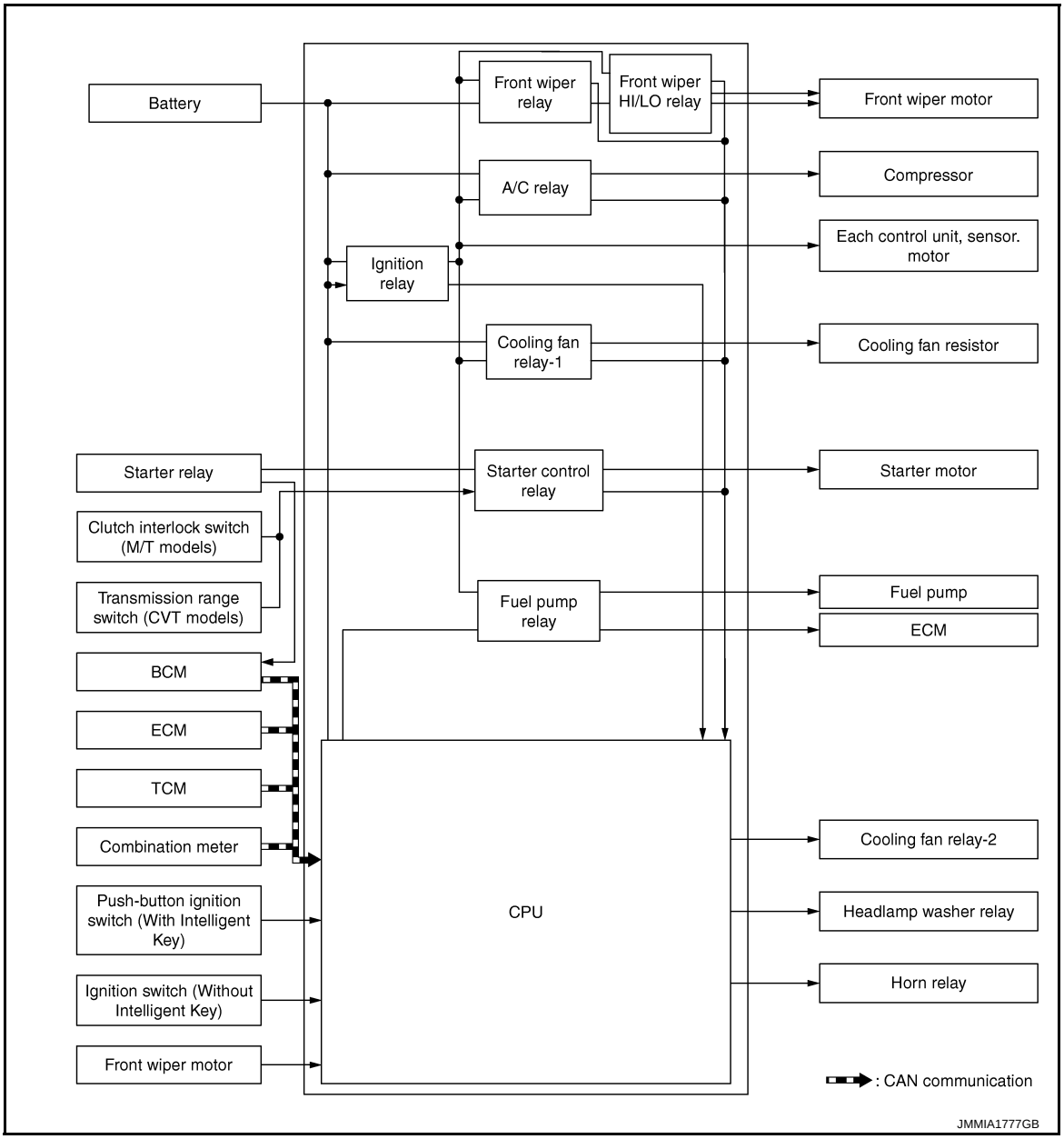
SYSTEM

RELAY CONTROL SYSTEM

RELAY CONTROL SYSTEM : System Description

INFOID:0000000010434015

SYSTEM DIAGRAM



DESCRIPTION

IPDM E/R activates the internal control circuit to perform the relay ON-OFF control according to the input signals from various sensors and the request signals received from control units via CAN communication.

NOTE:

To prevent to the parts, IPDM E/R integrated relays cannot be removed.

Control relay	Input/output	Transmit unit	Control part	Reference page
• Front wiper relay • Front wiper HI/LO relay	Front wiper request signal	BCM (CAN)	Front wiper motor	WW-10
	Front wiper stop position signal	Front wiper motor		
Headlamp washer relay	Headlamp washer request signal	BCM (CAN)	Headlamp washer pump	WW-19

Control relay	Input/output	Transmit unit	Control part	Reference page
Ignition relay	Ignition switch ON signal	BCM (CAN)	Each control unit, sensor, actuator and relay (Ignition power supply)	PCS-63
	Vehicle speed signal (Meter)	Combination meter (CAN)		
	Push-button ignition switch signal	Push-button ignition switch		
Cooling fan relay 1	Cooling fan speed request signal	ECM (CAN)	Cooling fan	ECH-31

RELAY CONTROL SYSTEM : Fail-safe

INFOID:0000000010508371

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

DTC	CONSULT display description		Fail-safe
B121D	S/L LOCK PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply until the vehicle switches to sleep status.
B121A	FR FOG LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the front fog lamp LH power supply circuit until the front fog lamp ON conditions are no longer satisfied.
B1231	DTRL RH PWR SPLY CIRC (Daytime running light right hand power supply circuit)	[CIRC SHORT TO GRND]	Shuts off the power supply to the daytime running light RH power supply circuit until the daytime running light ON conditions are no longer satisfied.
B1256	FR FOG LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the front fog lamp RH power supply circuit until the front fog lamp ON conditions are no longer satisfied.
B1C00	HEIGHT SENSOR PWR SPLY CIRC	[CIRC SHORT TO GRND]	Right and left headlamp aiming motors stop at the position when DTC is detected.
		[CIRC SHORT TO BATTERY]	
B1C02	RR HEIGHT SENSOR SIGNAL	[CIRC SHORT TO BATTERY]	Right and left headlamp aiming motors stop at the position when DTC is detected.
		[CIRC SHORT TO GROUND OR OPEN]	
		[CIRC VOLTAGE OUT OF RANGE]	
B1C07	AIMING MOTOR DRIVE SIGNAL	[CIRC SHORT TO GRND]	Right and left headlamp aiming motors stop at the position when DTC is detected.
		[CIRC SHORT TO BATTERY]	
		[SIGNAL COMPARE FAILURE]	
B1C12	RR HEIGHT SENSOR SIGNAL	[SIG PRTCTN CLCLTN IN-CRCT]	Right and left headlamp aiming motors stop at the position when DTC is detected.

DTC	CONSULT display description		Fail-safe
B20BD	BATTERY CURRENT SENSOR	[CIRC SHORT TO BATTERY]	Inhibit stop/start system operation
		[CIRC SHORT TO GRND]	
		[CIRC OPEN]	
		[CMPNENT INTERNAL MLFNCTN]	
B20CB	DTRL LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the daytime running light LH power supply circuit until the daytime running light ON conditions are no longer satisfied.
B20CE	HL (HI) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (HI) LH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.
B20CF	HL (HI) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (HI) RH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.
B20D0	HL (LO) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (LO) LH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.
B20D1	HL (LO) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (LO) RH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.
B20D2	PARKING LAMP PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the parking lamp (LH/RH) power supply circuit until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.
B20D4	TAIL LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied. • Tail lamp LH (body side) • Tail lamp LH (back door side) • License plate lamp LH • License plate lamp RH
B20D5	TAIL LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied. • Tail lamp RH (body side) • Tail lamp RH (back door side)
B20DB	HEIGHT SENS INITIALIZE NOT DONE	[MISSING CALIBRATION]	Right and left headlamp aiming motors fix at the initial aiming position.
		[NOT CONFIURED]	
B20E2	LED HEADLAMP RH	[CMPNENT INTERNAL MLFNCTN]	Transmits the headlamp warning signal (CAN communication) to the combination meter when the headlamp (LO) ON conditions are satisfied. (When the ignition switch turns ON, the headlamp warning is displayed on the information display of the combination meter.)
B20E3	LED HEADLAMP LH	[CMPNENT INTERNAL MLFNCTN]	Transmits the headlamp warning signal (CAN communication) to the combination meter when the headlamp (LO) ON conditions are satisfied. (When the ignition switch turns ON, the headlamp warning is displayed on the information display of the combination meter.)

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe operation
Cooling fan	• The cooling fan is operated at HI operation when the ignition switch is turned ON. • Turn OFF the cooling fan operation when the ignition switch is turned OFF.
A/C compressor	A/C relay OFF

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	• Turns ON the headlamp (LO) when the ignition switch is turned ON. • Turns OFF the headlamp (LO) when the ignition switch is turned OFF. • Headlamp (HI): OFF
• Parking lamp • License plate lamp • Illumination • Tail lamp	• Turns ON the tail lamp, parking lamp, license plate lamp and each illumination when the ignition switch is turned ON. • Turns OFF the tail lamp, parking lamp, license plate lamp and each illumination when the ignition switch is turned OFF.
Front wiper	• The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. • The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Daytime running light	Daytime running light: OFF
Front fog lamp	Front fog lamp: OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay: OFF

IGNITION RELAY CONTROL

- IPDM E/R monitors the voltage at the contact circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit.

Voltage judgment		IPDM E/R judgment	Operation
Ignition relay contact side	Ignition relay control condition		
ON	ON	Ignition relay ON normal	—
OFF	OFF	Ignition relay OFF normal	—
ON	OFF	Ignition relay ON stuck	Detects DTC [B20DD: IGN RELAY ON CIRC]
OFF	ON	Ignition relay OFF stuck	Detects DTC [B20DE: IGN RELAY OFF CIRC]

FRONT WIPER CONTROL

When a front wiper stop position signal is in the conditions listed below, IPDM E/R performs fail-safe control.

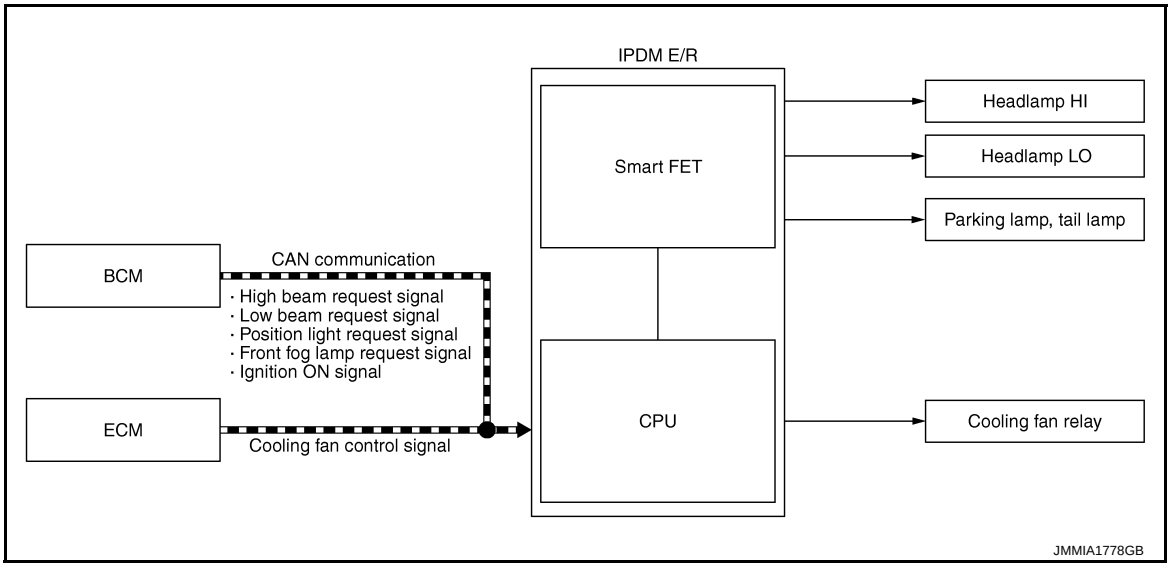
Ignition switch	Front wiper switch	Front wiper stop position signal	Fail-safe operation
ON	Other than OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.	Front wiper: 20 seconds stop
	OFF	The front wiper stop position signal does not change for 10 seconds.	

POWER CONTROL SYSTEM

POWER CONTROL SYSTEM : System Description

INFOID:0000000010499175

SYSTEM DIAGRAM



EACH LAMP CONTROL

IPDM E/R controls the smart FET to control each lamp according to the control signal status of each lamp received via CAN communication. Refer to EXL-17, "HEADLAMP SYSTEM : System Description" (LED headlamp) or EXL-190, "HEADLAMP SYSTEM : System Description" (halogen headlamp).

COOLING FAN CONTROL

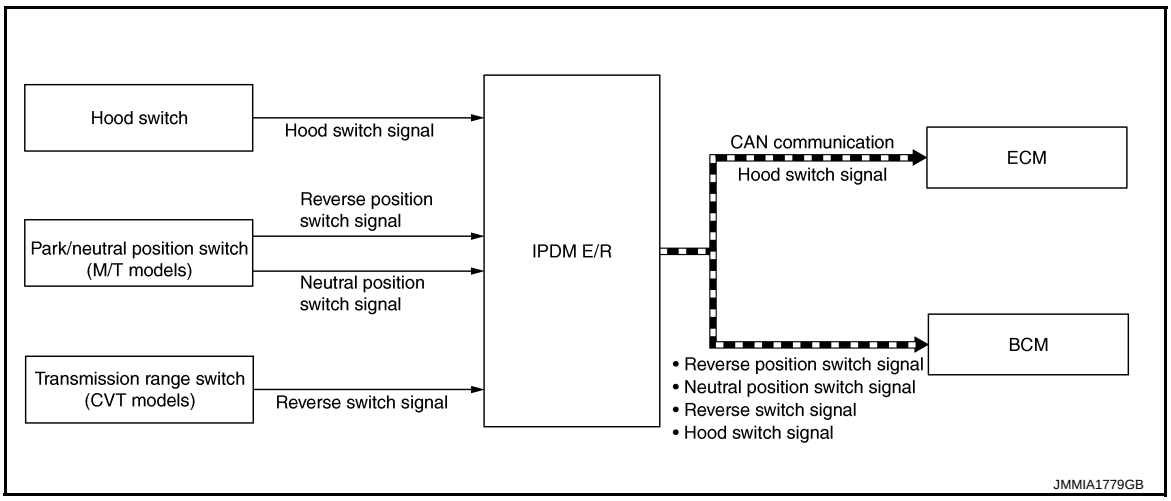
IPDM E/R controls the cooling fan according to the cooling fan control signal received from ECM via CAN communication. Refer toECH-31, "COOLING FAN CONTROL : System Description".

SIGNAL BUFFER SYSTEM

SIGNAL BUFFER SYSTEM : System Description

INFOID:0000000010434017

SYSTEM DIAGRAM



DESCRIPTION

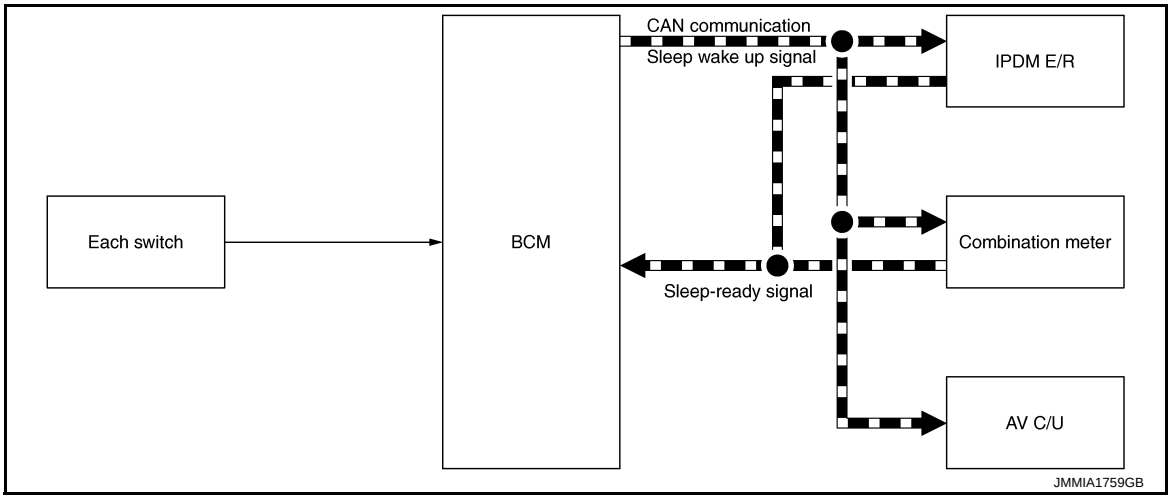
- IPDM E/R reads the status of the hood switch and transmits the hood switch signal to ECM and BCM via CAN communication.
- IPDM E/R receives the reverse switch signal from transmission range switch and transmits the reverse switch signal to BCM via CAN communication.

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : System Description

INFOID:0000000010434018

SYSTEM DIAGRAM



DESCRIPTION

Outline

- IPDM E/R incorporates a power consumption control function that reduces the power consumption according to the vehicle status.
- IPDM E/R changes its status (control mode) with the sleep wake up signal received from BCM via CAN communication.

Normal mode (wake-up)

- CAN communication is normally performed with other control units.
- Individual unit control by IPDM E/R is normally performed.

Low power consumption mode (sleep)

- Low power consumption control is active.
- CAN transmission is stopped.

Sleep Mode Activation

- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
  - Outputting signals to actuators
  - Output requests are being received from control units via CAN communication.
- IPDM E/R stops CAN communication and enters the low power consumption mode when it receives a sleep wake up signal (sleep) from BCM and the sleep-ready conditions are fulfilled.

Wake-Up Operation

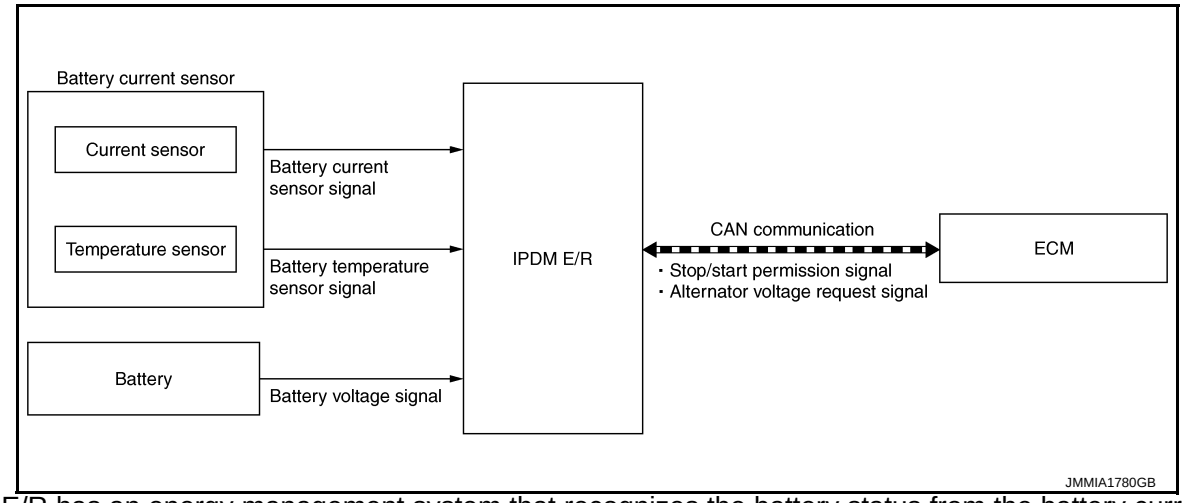
- IPDM E/R changes from the low power consumption mode to the normal mode when it receives a sleep wake-up signal (wake up) from BCM or any of the following conditions is fulfilled. In addition, it transmits a sleep-ready signal (not-ready) to BCM via CAN communication to report the CAN communication start.
  - Ignition switch ON
  - Hood switch status changes.
  - An output request is received from a control unit via CAN communication.

ENERGY MANAGEMENT SYSTEM

ENERGY MANAGEMENT SYSTEM : System Description

INFOID:0000000010499174

SYSTEM DIAGRAM



IPDM E/R has an energy management system that recognizes the battery status from the battery current signal from the battery current sensor, the battery temperature sensor signal, and the battery voltage from the battery and maintains normal battery status. Refer to the following for details.

- Charging system control: CHG-8, "ENERGY MANAGEMENT SYSTEM : System Description"
- Stop/Start system control: ECH-33, "STOP/START SYSTEM : System Description" (HRA2DDT engine), ECK-39, "STOP/START SYSTEM : System Description" (K9K engine), EC9-39, "STOP/START SYSTEM : System Description (M/T models)" (R9M engine M/T models) or EC9-47, "STOP/START SYSTEM : System Description (CVT models)" (R9M engine CVT models).

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:0000000010434020

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Diagnosis mode	Description
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Work Support	Changes the setting for each system function.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
Ecu Identification	Allows confirmation of IPDM E/R part number.
Configuration	• Read and save the vehicle specification. • White the vehicle specification when replacing IPDM E/R.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to PCS-37, "DTC Index".

Freeze Frame Data (FFD)

The IPDM E/R records the vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item [Unit]	Description
REVERSE SIGNAL [Open/Close]	Displays the status of the transmission range switch (CVT) or reverse/neutral position switch (M/T) judged by IPDM E/R.
IGN RELAY [Open/Close]	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Open/Close]	Displays the status of the push-button ignition switch judged by IPDM E/R.
NEUTRAL SW [Open/Close]	Displays the status of the reverse/neutral position switch (M/T) judged by IPDM E/R.
INTERLOCK/PNP SW [Open/Close]	Displays the status of the transmission range switch (CVT) judged by IPDM E/R.
OIL PRESSURE SW [Open/Close]	Displays the status of the oil pressure switch judged by IPDM E/R.
LED H/L RH STATUS [Open/Close]	Displays the LED headlamp (right) ON/OFF status judged by IPDM E/R. **NOTE:** This item is monitored only on the vehicle with LED headlamp.
LED H/L LH STATUS [Open/Close]	Displays the LED headlamp (left) ON/OFF status judged by IPDM E/R. **NOTE:** This item is monitored only on the vehicle with LED headlamp.
HOOD SW [Open/Close]	Displays the status of the hood switch judged by IPDM E/R.
COMPRESSOR [Off/On]	Displays the compressor drive status judged by IPDM E/R.
H/L WASHER PUMP [Off/On]	Displays the status of the headlamp washer pump judged by IPDM E/R.

Monitor Item [Unit]	Description
HORN RELAY [Off/On]	**NOTE:** The item is indicated, but not monitored.
COOLING FAN [Off/On]	**NOTE:** The item is indicated, but not monitored.
FRONT WIPER HI/LO RELAY [Off/On]	Displays the status of the front wiper HI/LO relay judged by IPDM E/R.
FRONT WIPER RELAY [Off/On]	Displays the status of the front wiper relay judged by IPDM E/R.
IGN RELAY OFF STATUS [Off/On]	Displays the status of the ignition relay OFF circuit judged by IPDM E/R.
IGN RELAY ON STATUS [Off/On]	Displays the status of the ignition relay ON circuit judged by IPDM E/R.
STEERING LOCK PWR SPLY [Off/On]	Displays the power supply status from IPDM E/R to the steering lock unit. **NOTE:** This item is monitored only on the vehicle with Intelligent Key system
HEIGHT SENSOR PWR SPLY [Off/On]	Displays the power supply status from IPDM E/R to the height sensor.
COOLING FAN RELAY 1 [Open/Close]	Displays the status of the cooling fan relay-1 judged by IPDM E/R.
STARTER RELAY [Off/On]	Displays the status of the starter control relay judged by IPDM E/R.
COMP ECV DUTY [%]	Displays the compressor control signal (PWM) status of IPDM E/R.
COOLING FAN RELAY 2 [%]	Displays the status of the cooling fan relay-2 judged by IPDM E/R.
FR FOG LAMP LH [%]	Displays the front fog lamp (left) output (PWM) status of IPDM E/R.
FR FOG LAMP RH [%]	Displays the front fog lamp (right) output (PWM) status of IPDM E/R.
LEVELIZER OUTPUT [%]	Displays the aiming motor drive signal (PWM) status of IPDM E/R.
PARKING LAMP [%]	Displays the parking lamp output (PWM) status of IPDM E/R.
TAIL LAMP LH [%]	Displays the tail lamp (left) output (PWM) status of IPDM E/R.
TAIL LAMP RH [%]	Displays the tail lamp (right) output (PWM) status of IPDM E/R.
DAYTIME RUNNING LIGHT LH [%]	Displays the daytime running light (left) output status of IPDM E/R.
DAYTIME RUNNING LIGHT RH [%]	Displays the daytime running light (right) output status of IPDM E/R.
HEADLAMP (HI) LH [%]	Displays the headlamp (HI) (left) output (PWM) status of IPDM E/R.
HEADLAMP (HI) RH [%]	Displays the headlamp (HI) (right) output (PWM) status of IPDM E/R.
HEADLAMP (LO) LH [%]	Displays the headlamp (LO) (left) output (PWM) status of IPDM E/R.
HEADLAMP (LO) RH [%]	Displays the headlamp (LO) (right) output (PWM) status of IPDM E/R.
A/C RELAY STUCK [OK/NG]	Displays the ON stuck status of the A/C relay judged by IPDM E/R.

Monitor Item [Unit]	Description
A/C RELAY [Off/On]	Displays the status of the A/C relay judged by IPDM E/R.
COMP ECV STATUS [OK/NG]	Displays the compressor malfunction diagnosis status judged by IPDM E/R.
VEHICLE SECURITY HORN [Off/On]	**NOTE:** The item is indicated, but not monitored.
BATTERY CURRENT SENSOR [OK/NG]	Displays the battery current sensor malfunction diagnosis status judged by IPDM E/R.
FRONT FOG LAMP [Off/On]	Displays the fog lamp illumination control status of IPDM E/R.
COMP ECV CURRENT [A]	Displays the electric current output to compressor judged by IPDM E/R.
BATTERY VOLTAGE [V]	Displays the status of the battery voltage judged by IPDM E/R.
COOLING FAN DUTY [%]	Displays the cooling fan output signal status of IPDM E/R.
HOOD SW (CAN) [Open/Close]	Displays the status of the hood switch judged by IPDM E/R.
FRONT WIPER [STOP/HI/LO/NG]	Displays the front wiper motor drive control status of IPDM E/R.
FR WIPER STOP POSITION [ACTIVE P/STOP P]	Displays the status of the front wiper position status judged by IPDM E/R.
HEADLAMP (HI) [Off/On]	Displays the headlamp (HI) illumination control status of IPDM E/R.
HEADLAMP (LO) [Off/On]	Displays the headlamp (LO) illumination control status of IPDM E/R.
IGN RELAY MONITOR [Off/On]	Displays the status of the ignition relay judged by IPDM E/R.
IGNITION POWER SUPPLY [Off/On]	Displays the status of the ignition power supply judged by IPDM E/R.
INTERLOCK/PNP SW (CAN) [Off/On]	Displays the status of the transmission range switch signal that IPDM transmits via CAN communication.
NEUTRAL SWITCH (CAN) [Off/On]	Displays the status of the reverse/neutral position switch (M/T) signal that IPDM transmits via CAN communication.
PUSH-BUTTON IGN SW (CAN) [Off/On]	Displays the status of the ignition switch signal that IPDM transmits via CAN communication.
TAIL LAMP [Off/On]	Displays the tail lamp illumination control status of IPDM E/R.
REVERSE SIGNAL (CAN) [Off/On]	Displays the status of the steering lock relay signal received from BCM via CAN communication.
STARTER MOTOR STATUS [Off/On]	Displays the status of the starter motor judged by IPDM E/R.
STARTER RELAY (CAN) [LOW/HIGH]	Displays the status of the IPDM E/R transmits the starter control relay status signal via CAN communication.
IPDM NOT SLEEP [NO RDY/READY]	Displays the status of the IPDM E/R transmits the not sleep signal via CAN communication.
STOP/START STATUS [PRHBT/PERMIT]	Displays the status of the stop/starter system ready judged by IPDM E/R.
AFTER COOLING TIME [No request/0.5min/1.0min/1.5min/ 2.0min/2.5min/3.0min/3.5min/4min/5min/ 6min/8min/10min/12min/14min/16min]	**NOTE:** The item is indicated, but not monitored.

Monitor Item [Unit]	Description
AFTER COOLING SPEED [0%/25%/40%/55%/70%/78%/85%/100%]	**NOTE:** The item is indicated, but not monitored.
COOLING FAN TYPE [RENAULT/NISSAN]	**NOTE:** The item is indicated, but not monitored.
COMPRESSOR REQ 1 [Off/On]	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
VHCL SECRITY HORN REQ [Off/On]	**NOTE:** The item is indicated, but not monitored.
DTRL REQ [Off/On]	Displays the status of the daytime running light request signal received from BCM via CAN communication.
SLEEP/WAKE UP [SLEEP/WAKEUP]	**NOTE:** The item is indicated, but not monitored.
CLUTCH INTERLOCK SW [Off/On]	**NOTE:** The item is indicated, but not monitored.
CRANKING ENABLE-TCM [OK/NG]	Displays the status of the cranking enable signal received from TCM via CAN communication.
CRANKING ENABLE-ECM [OK/NG]	Displays the status of the cranking enable signal received from ECM via CAN communication.
CAN DIAGNOSIS [OK/NG]	Displays the status of the CAN diagnosis signal received from BCM via CAN communication.
FRONT FOG LAMP REQ [Off/On]	Displays the status of the front fog light request signal received from BCM via CAN communication.
H/L WASHER REQ [Off/On]	Displays the status of the headlamp washer request signal received from BCM via CAN communication.
PASSING REQ [Off/On]	**NOTE:** The item is indicated, but not monitored.
HIGH BEAM REQ [Off/On]	Displays the status of the high beam request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]	**NOTE:** The item is indicated, but not monitored.
COOLING FAN REQ [%]	Displays the status of the cooling fan speed request signal received from ECM via CAN communication.
ENGINE STATUS [STOP/IDLING/RUN]	Displays the status of the engine status signal received from ECM via CAN communication.
TURN SIGNAL REQ [Off/On]	Displays the status of the turn indicator signal received from BCM via CAN communication.
FR WIPER REQ [Off/On]	Displays the status of the front wiper request signal received from BCM via CAN communication.
SHIFT POSITION [OFF/P/R/N/D/S/L/B/1/2/3/4/5/6/7]	Displays the status of the shift position signal received from TCM via CAN communication.
LOW BEAM REQ [Off/On]	Displays the status of the low beam request signal received from BCM via CAN communication.
POSITION LIGHT REQ [Off/On]	Displays the status of the position light request signal received from BCM via CAN communication.
COMPRESSOR REQ 2 [Off/On]	Displays the status of the A/C ON signal received from A/C auto amp. via CAN communication.
IGNITION SW [Off/On/START]	Displays the status of the ignition switch ON signal and starter control relay request signal received from BCM via CAN communication.
VEHICLE SPEED (METER) [km/h]	Displays the status of the A/C ON signal received from A/C auto amp. via CAN communication.

Monitor Item [Unit]	Description
BAT DISCHAGE COUNT [—]	Monitor the cumulative discharge value of the battery. **NOTE:** When 65,000 or more is counted, replace the battery. (Only with stop/start system modls)
P LAMP CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the parking lamp circuit. **NOTE:** When the number of parking lamp circuit retries count is 20, this item counts 1.
NMB P LAMP CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the parking lamp circuit. **NOTE:** When the number of short circuits in the parking lamp circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB P LAMP CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the parking lamp circuit.
DTRL LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (left) circuit. **NOTE:** When the number of daytime running light (left) circuit retries count is 20, this item counts 1.
NMB DTRL LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (left) circuit. **NOTE:** When the number of short circuits in the daytime running light (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (left) circuit.
DTRL RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (right) circuit. **NOTE:** When the number of daytime running light (right) circuit retries count is 20, this item counts 1.
NMB DTRL RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (right) circuit. **NOTE:** When the number of short circuits in the daytime running light (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (right) circuit.
F FOG LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (left) circuit. **NOTE:** When the number of front fog lamp (left) circuit retries count is 20, this item counts 1.
NMB F FOG LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (left) circuit. **NOTE:** When the number of short circuits in the front fog lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (left) circuit.
F FOG RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (right) circuit. **NOTE:** When the number of front fog lamp (right) circuit retries count is 20, this item counts 1.

Monitor Item [Unit]	Description
NMB F FOG RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (right) circuit. **NOTE:** When the number of short circuits in the front fog lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (right) circuit.
HL (HI) LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (left) circuit. **NOTE:** When the number of headlamp (HI) (left) circuit retries count is 20, this item counts 1.
NMB HL (HI) LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (left) circuit. **NOTE:** When the number of short circuits in the headlamp (HI) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (left) circuit.
HL (HI) RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (right) circuit. **NOTE:** When the number of headlamp (HI) (right) circuit retries count is 20, this item counts 1.
NMB HL (HI) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (right) circuit. **NOTE:** When the number of short circuits in the headlamp (HI) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (right) circuit.
S/L CIRC MALFUNCTION [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the steering lock circuit. **NOTE:** When the number of steering lock circuit retries count is 20, this item counts 1.
NMB S/L CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the steering lock circuit. **NOTE:** When the number of short circuits in the steering lock circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB S/L CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the steering lock circuit.
HL (LO) LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (left) circuit. **NOTE:** When the number of headlamp (LO) (left) circuit retries count is 20, this item counts 1.
NMB HL (LO) LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (left) circuit. **NOTE:** When the number of short circuits in the headlamp (LO) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (left) circuit.
HL (LO) RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (right) circuit. **NOTE:** When the number of headlamp (LO) (right) circuit retries count is 20, this item counts 1.

Monitor Item [Unit]	Description
NMB HL (LO) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (right) circuit. **NOTE:** When the number of short circuits in the headlamp (LO) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (right) circuit.
T LAMP LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (left) circuit. **NOTE:** When the number of tail lamp (left) circuit retries count is 20, this item counts 1.
NMB T LAMP LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (left) circuit. **NOTE:** When the number of short circuits in the tail lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (left) circuit.
T LAMP RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (right) circuit. **NOTE:** When the number of tail lamp (right) circuit retries count is 20, this item counts 1.
NMB T LAMP RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (right) circuit. **NOTE:** When the number of short circuits in the tail lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (right) circuit.
BATTERY STATUS [OK/NG]	Monitor the battery status from the battery output.

ACTIVE TEST

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
FRONT WIPER	Off	OFF
	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper HI/LO relay.
HEAD LAMP WASHER	On	Operates the headlamp washer relay for 1 second.
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

WORK SUPPORT

Work item	Description
SENSOR INITILALIZE	Adjusts the height sensor signal output value in the unloaded vehicle condition.
CML B/DCHRG CRNT CLEAR	In this mode, cumulative battery discharge current is cleared.

ECU DIAGNOSIS INFORMATION

IPDM E/R

Reference Value

INFOID:0000000010499176

VALUES ON THE DIAGNOSIS TOOL

NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor	Condition		Value/Status
REVERSE SIGNAL	Ignition switch ON	Selector lever in R position	CLOSE
		Selector lever in any position other than R	OPEN
IGN RELAY	Ignition switch OFF		OPEN
	Ignition switch ON		CLOSE
PUSH SW	Release the push-button ignition switch		OPEN
	Press the push-button ignition switch		CLOSE
NEUTRAL SW	Ignition switch ON	Selector lever in N position	CLOSE
		Selector lever in any position other than N	OPEN
INTERLOCK/PNP SW	Ignition switch ON	Selector lever in P or N position	CLOSE
		Selector lever in any position other than P or N	OPEN
OIL PRESSURE SW	Ignition switch OFF or engine running		OPEN
	Ignition switch ON		CLOSE
LED H/L RH STATUS	Lighting switch OFF		CLOSE
	Lighting switch 2ND or AUTO (light is illuminated)		OPEN
LED H/L LH STATUS	Lighting switch OFF		CLOSE
	Lighting switch 2ND or AUTO (light is illuminated)		OPEN
HOOD SW	Close the hood		OPEN
	Open the hood		CLOSE
COMPRESSOR	Engine running	A/C switch OFF	Off
		A/C switch ON	On
H/L WASHER PUMP	Not operating		Off
	Headlamp washer operating		On
HORN RELAY	**NOTE:** This item is indicated, but not used		Off
COOLING FAN	**NOTE:** This item is indicated, but not monitored.		Off
FRONT WIPER HI/LO RELAY	Ignition switch ON	Front wiper HI operated	On
		Other than above	Off
FRONT WIPER RELAY	Ignition switch ON	Front wiper is operating	On
		Other than above	Off
IGN RELAY OFF STATUS	Ignition switch OFF		On
	Ignition switch ON		Off
IGN RELAY ON STATUS	Ignition switch OFF		Off
	Ignition switch ON		On

Monitor	Condition		Value/Status
STEERING LOCK PWR SPLY **NOTE:** Only models with Intelligent Key	Ignition switch OFF		On
	Ignition switch ON		Off
HEIGHT SENSOR PWR SPLY	Ignition switch ON		On
	Ignition switch OFF		Off
COOLING FAN RELAY 1	Cooling fan	Low speed operation	On
		Stop or high speed operation	Off
STARTER RELAY	Engine	Cranking	On
		Other than above	Off
COMP ECV DUTY	Engine running	A/C switch OFF	0 %
		A/C switch ON	0 – 100 %
COOLING FAN RELAY 2	Cooling fan	Stop or low speed operation	0 %
		High speed operation	100 %
FR FOG LAMP LH	Lighting switch 1ST, 2ND or AUTO (light is illuminated)	Front fog lamp switch OFF	0 %
		Front fog lamp switch ON	80 – 100 %
FR FOG LAMP RH	Lighting switch 1ST, 2ND or AUTO (light is illuminated)	Front fog lamp switch OFF	0 %
		Front fog lamp switch ON	80 – 100 %
LEVELIZER OUTPUT	Lighting switch 2ND or AUTO (light is illuminated)	Headlamp aiming: Unloaded vehicle condition	26.25 %
		Headlamp aiming: Low	Value increases from the unladen status.
PARKING LAMP	Lighting switch OFF		0 %
	Lighting switch 1ST, 2ND or AUTO (light is illuminated)		100 %
TAIL LAMP LH	Lighting switch OFF		0 %
	Lighting switch 1ST, 2ND or AUTO (light is illuminated)		100 %
TAIL LAMP RH	Lighting switch OFF		0 %
	Lighting switch 1ST, 2ND or AUTO (light is illuminated)		100 %
DAYTIME RUNNING LIGHT LH	Engine running	Lighting switch 1ST	0 %
		Lighting switch OFF	100 %
DAYTIME RUNNING LIGHT RH	Engine running	Lighting switch 1ST	0 %
		Lighting switch OFF	100 %
HEADLAMP (HI) LH	Lighting switch 2ND or AUTO (light is illuminated)	Lighting switch HI or PASS	80 – 100 %
		Lighting switch other than HI and PASS	0 %
HEADLAMP (HI) RH	Lighting switch 2ND or AUTO (light is illuminated)	Lighting switch HI or PASS	80 – 100 %
		Lighting switch other than HI and PASS	0 %
HEADLAMP (LO) LH	Lighting switch OFF		0 %
	Lighting switch 2ND or AUTO (light is illuminated)		80 – 100 %
HEADLAMP (LO) RH	Lighting switch OFF		0 %
	Lighting switch 2ND or AUTO (light is illuminated)		80 – 100 %
A/C RELAY STUCK	A/C relay	Normal	Off
		On stuck	On

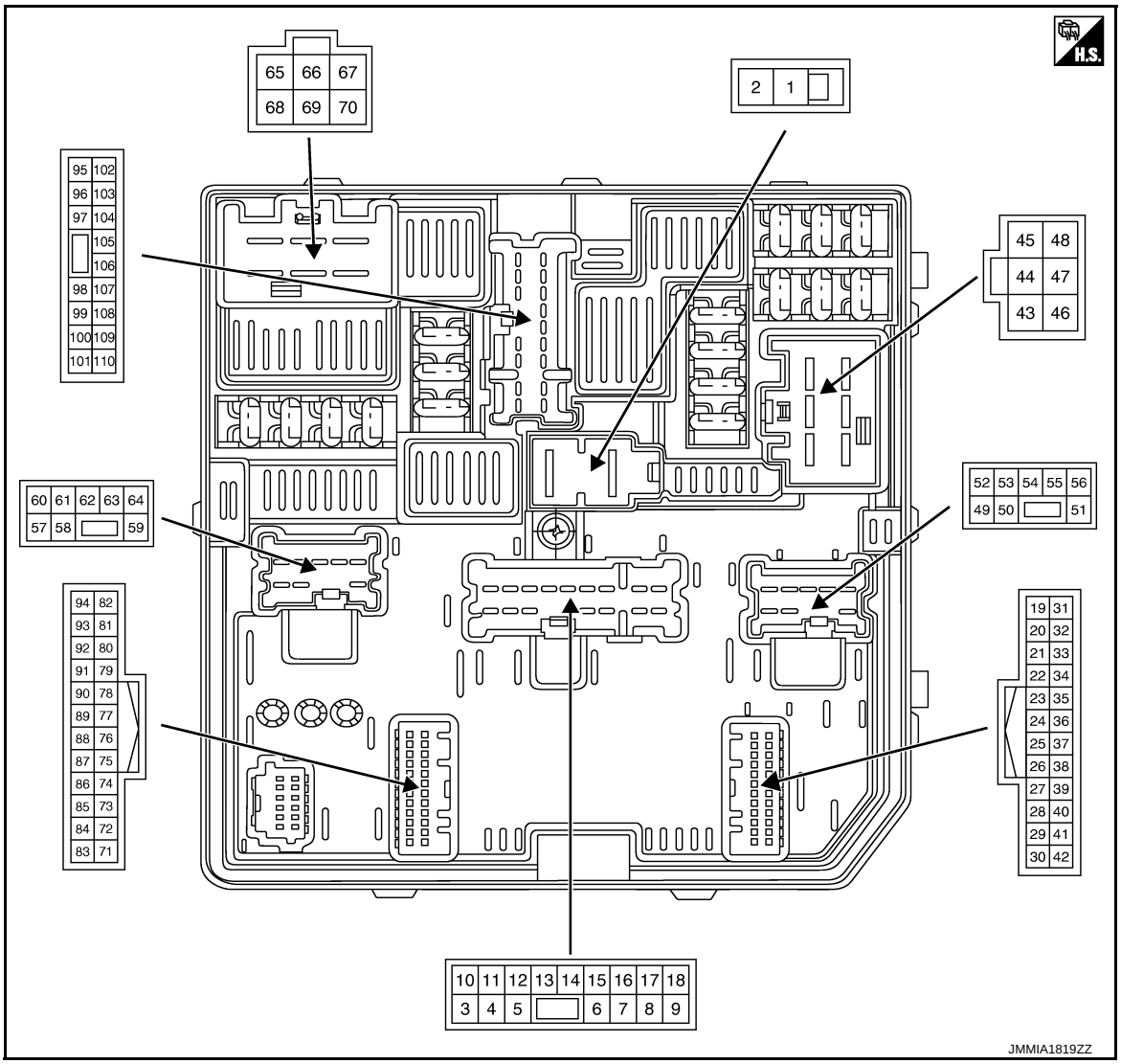
Monitor	Condition		Value/Status
A/C RELAY	Engine running	A/C switch OFF	Off
		A/C switch ON (A/C compressor is operating)	On
COMP ECV STATUS	Compressor	Normal	OK
		Malfunction	NG
VEHICLE SECURITY HORN	**NOTE:** This item is indicated, but not monitored.		Off
BATTERY CURRENT SENSOR	Battery current sensor	Normal	OK
		Malfunction	NG
FRONT FOG LAMP	Lighting switch 1ST, 2ND or AUTO (light is illuminated)	Front fog lamp switch OFF	Off
		Front fog lamp switch ON	On
COMP ECV CURRENT	Compressor	Operating	0.00 A – 1.00 A
		Other than above	0.00 A
BATTERY VOLTAGE	Ignition switch ON		11 V – 14 V
COOLING FAN DUTY	Engine running		0 – 100%
HOOD SW (CAN)	Open the hood		OPEN
	Close the hood		CLOSE
FRONT WIPER	Ignition switch ON	Front wiper stop	STOP
		Front wiper INT or LO operation	LO
		Front wiper other than INT or LO operation	HI
FR WIPER STOP POSITION	Ignition switch ON	Front wiper stop position	STOP P
		Any position other than front wiper stop position	ACTIVE P
HEADLAMP (HI)	Lighting switch 2ND or AUTO (light is illuminated)	Lighting switch HI or PASS	On
		Lighting switch other than HI and PASS	Off
HEADLAMP (LO)	Lighting switch OFF		Off
	Lighting switch 2ND or AUTO (light is illuminated)		On
IGNITION RELAY STATUS	Ignition switch ON		On
	Ignition switch OFF		Off
IGN RELAY MONITOR	Ignition switch ON		On
	Ignition switch OFF		Off
IGNITION POWER SUPPLY	Ignition switch ON		On
	Ignition switch OFF		Off
INTERLOCK/PNP SW (CAN)	Ignition switch ON	Selector lever in P or N position	On
		Other than above	Off
NEUTRAL SWITCH (CAN)	Ignition switch ON	Selector lever in N position	On
		Other than above	Off
PUSH-BUTTON IGN SW (CAN) **NOTE:** Only models with Intelligent Key	Release the push-button ignition switch		Off
	Press the push-button ignition switch		On
TAIL LAMP	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND or AUTO (light is illuminated)		On

Monitor	Condition		Value/Status
REVERSE SIGNAL (CAN)	Ignition switch ON	Selector lever in R position	On
		Other than above	Off
STARTER MOTOR STATUS	Engine	Cranking	On
		Other than above	Off
STARTER RELAY (CAN)	Engine	Cranking	On
		Other than above	Off
IPDM NOT SLEEP	IPDM E/R	Operating	NO RDY
		Other than above	READY
STOP/START STATUS	Stop/start system operation condition	Satisfied	PERMIT
		Other than above	PRHBT
AFTER COOLING TIME	**NOTE:** This item is indicated, but not monitored.		0min
AFTER COOLING SPEED	**NOTE:** This item is indicated, but not monitored.		0 %
COOLING FAN TYPE	**NOTE:** This item is indicated, but not monitored.		NISSAN
COMPRESSOR REQ1	Engine running	A/C switch OFF	Off
		A/C switch ON	On
VHCL SECURITY HORN REQ	**NOTE:** This item is indicated, but not monitored.		Off
DTRL REQ	Engine running	Lighting switch 1ST	Off
		Lighting switch OFF	On
SLEEP/WAKE UP	**NOTE:** This item is indicated, but not monitored.		WAKEUP
CLUTCH INTERLOCK SW	**NOTE:** This item is indicated, but not monitored.		Off
CRANKING ENABLE-TCM	Engine crank condition	Satisfied	OK
		Other than above	NG
CRANKING ENABLE-ECM	Engine crank condition	Satisfied	OK
		Other than above	NG
CAN DIAGNOSIS	Engine started		OK
	Other than above		NG
FRONT FOG LAMP REQ	Lighting switch 1ST, 2ND or AUTO (light is illuminated)	Front fog lamp switch OFF	Off
		Front fog lamp switch ON	On
H/L WASHER REQ	**NOTE:** This item is indicated, but not monitored.		Off
PASSING REQ	**NOTE:** This item is indicated, but not monitored.		Off
HIGH BEAM REQ	Lighting switch 2ND or AUTO (light is illuminated)	Lighting switch HI or PASS	On
		Lighting switch other than HI and PASS	Off
HORN CHIRP	**NOTE:** This item is indicated, but not monitored.		Off
COOLING FAN REQ	Engine running		0 – 100 %
ENGINE STATUS	Engine stopped		STOP
	Engine cranking		CRANK
	Engine running		RUN
	Engine stall		STALL

Monitor	Condition		Value/Status
TURN SIGNAL REQ	Turn signal switch	OFF	Off
		Right	RH
		Left	LH
FR WIPER REQ	Ignition switch ON	Front wiper stopped	RETURN
		Front wiper INT or LO operation	LO
		Front wiper HI operation	HI
		Front wiper forced termination	STOP
SHIFT POSITION	Ignition switch ON	Selector lever in P position	P
		Selector lever in R position	R
		Selector lever in N position	N
		Selector lever in D position	D
		Selector lever in L position	L
LOW BEAM REQ	Lighting switch OFF		Off
	Lighting switch 2ND or AUTO (light is illuminated)		On
POSITION LIGHT REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND or AUTO (light is illuminated)		On
COMPRESSOR REQ2	Engine running	A/C switch OFF	Off
		A/C switch ON	On
IGNITION SW	Ignition switch OFF		Off
	Ignition switch ON		On
	Ignition switch ON		START
VEHICLE SPEED (METER)	While driving		Equivalent to speedometer reading
BAT DISCHARGE COUNT	Ignition switch ON		Discharge value of the battery
P LAMP CIRC MALFUNCTN	Parking lamp circuit reaches the retry upper limit.		0 – 1
NMB P LAMP CIRC RETRY	Retry of parking lamp circuit is permitted.		0 – 20
NMB P LAMP CIRC SHORT	Parking lamp circuit detects over current.		0 – 5
DTRL LH CIRC MALFUNCTN	Daytime running light LH circuit reaches the retry upper limit.		0 – 1
NMB DTRL LH CIRC RETRY	Retry of daytime running light LH circuit is permitted.		0 – 20
NMB DTRL LH CIRC SHORT	Daytime running light LH circuit detects over current.		0 – 5
DTRL RH CIRC MALFUNCTN	Daytime running light RH circuit reaches the retry upper limit.		0 – 1
NMB DTRL RH CIRC RETRY	Retry of daytime running light RH circuit is permitted.		0 – 20
NMB DTRL RH CIRC SHORT	Daytime running light RH circuit detects over current.		0 – 5
F FOG LH CIRC MALFUNCTN	Front fog lamp LH circuit reaches the retry upper limit.		0 – 1
NMB F FOG LH CIRC RETRY	Retry of front fog lamp LH circuit is permitted.		0 – 20
NMB F FOG LH CIRC SHORT	Front fog lamp LH circuit detects over current.		0 – 5
F FOG RH CIRC MALFUNCTN	Front fog lamp RH circuit reaches the retry upper limit.		0 – 1
NMB F FOG RH CIRC RETRY	Retry of front fog lamp RH circuit is permitted.		0 – 20

Monitor	Condition	Value/Status
NMB F FOG RH CIRC SHORT	Front fog lamp RH circuit detects over current.	0 – 5
HL (HI) LH CIRC MALFUNCTN	Headlamp (HI) LH circuit reaches the retry upper limit.	0 – 1
NMB HL (HI) LH CIRC RETRY	Retry of headlamp (HI) LH circuit is permitted.	0 – 20
NMB HL (HI) LH CIRC SHORT	Headlamp (HI) LH circuit detects over current.	0 – 5
HL (HI) RH CIRC MALFUNCTN	Headlamp (HI) RH circuit reaches the retry upper limit.	0 – 1
NMB HL (HI) RH CIRC RETRY	Retry of headlamp (HI) RH circuit is permitted.	0 – 20
NMB HL (HI) RH CIRC SHORT	Headlamp (HI) RH circuit detects over current.	0 – 5
S/L CIRC MALFUNCTN **NOTE:** Only models with Intelligent Key	Steering lock circuit reaches the retry upper limit.	0 – 1
NMB S/L CIRC RETRY **NOTE:** Only models with Intelligent Key	Retry of steering lock circuit is permitted.	0 – 20
NMB S/L CIRC SHORT **NOTE:** Only models with Intelligent Key	Steering lock circuit detects over current.	0 – 5
HL (LO) LH CIRC MALFUNCTN	Headlamp (LO) LH circuit reaches the retry upper limit.	0 – 1
NMB HL (LO) LH CIRC RETRY	Retry of headlamp (LO) LH circuit is permitted.	0 – 5
NMB HL (LO) LH CIRC SHORT	Headlamp (LO) LH circuit detects over current.	0 – 20
HL (LO) RH CIRC MALFUNCTN	Headlamp (LO) RH circuit reaches the retry upper limit.	0 – 1
NMB HL (LO) RH CIRC RETRY	Retry of headlamp (LO) RH circuit is permitted.	0 – 20
NMB HL (LO) RH CIRC SHORT	Headlamp (LO) RH circuit detects over current.	0 – 5
T LAMP LH CIRC MALFUNCTN	Tail lamp LH circuit reaches the retry upper limit.	0 – 1
NMB T LAMP LH CIRC RETRY	Retry of tail lamp LH circuit is permitted.	0 – 20
NMB T LAMP LH CIRC SHORT	Tail lamp LH circuit detects over current.	0 – 5
T LAMP RH CIRC MALFUNCTN	Tail lamp RH circuit reaches the retry upper limit.	0 – 1
NMB T LAMP RH CIRC RETRY	Retry of tail lamp RH circuit is permitted.	0 – 20
NMB T LAMP RH CIRC SHORT	Tail lamp RH circuit detects over current.	0 – 5
BATTERY STATUS	Engine: idling	Displays the battery status judgment results when starting with the ignition switch.

TERMINAL LAYOUT



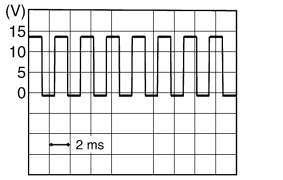
PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value
		Signal name	Input/ Output			
+	–					
1 (G)*1 (R)*2	Ground	Battery power supply	Input	Ignition switch OFF		6 – 16 V
2 (L)	Ground	Battery power supply	Input	Ignition switch OFF		6 – 16 V
3 (P)	Ground	Steering lock unit power supply	Output	Ignition switch OFF		6 – 16 V
				Ignition switch ON		0 – 1 V
4 (GR)	Ground	Tail lamp LH	Output	Lighting switch OFF		0 – 1 V
				Lighting switch 1ST, 2ND or AUTO (light is illuminated)		9 – 16 V
7 (L)	Ground	Headlamp washer relay control	Output	Ignition switch ON	Headlamp washer activated	0 – 1 V
					Headlamp washer deactivated	9 – 16 V

Terminal No. (Wire color)		Description		Condition		Value
		Signal name	Input/ Output			
+	–					
8 (W)*3 (L)*4	Ground	ECM relay	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 – 1 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		6 – 16 V
9 (GR)	Ground	Horn	Output	Horn is deactivated		9 – 16 V
				Horn is activated		0 – 1 V
12 (GR)	Ground	Ground	—	Ignition switch ON		0 – 1 V
16 (G)	Ground	Back up lamp	Output	Ignition switch ON	Selector lever in R	9 – 16 V
					Selector lever in any position other than R	0 – 1 V
17 (W)*5 (G)*6	Ground	Tail lamp RH	Output	Lighting switch OFF		0 – 1 V
				Lighting switch 1ST, 2ND or AUTO (light is illuminated)		9 – 16 V
19 (LG)	Ground	Ignition power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
21 (SB)	Ground	Height sensor	Input	Ignition switch ON	Vehicle rear height: Unloaded vehicle condition	1.5 V (Multi-link rear suspension models) 2.35 V (Torsion beam rear suspension models)
					Vehicle rear height: Low	Voltage increases from the unladen status. (Multi-link rear suspension models) Voltage decreases from the unladen status. (Torsion beam rear suspension models)
22 (P)	Ground	CAN - L	Input/ Output	—		—
24 (L)	Ground	CAN - H	Input/ Output	—		—
25 (G)	Ground	Height sensor power supply	Output	Ignition switch ON		4 – 6 V
26 (B)	Ground	Height sensor ground	—	Ignition switch ON		0 – 1 V
27*7 (BG)	Ground	G sensor power supply	Input	Ignition switch ON		4 – 6 V
28*7 (LG)	Ground	G sensor ground	—	Ignition switch ON		0 – 1 V
29*7 (V)	Ground	G sensor	Input	Ignition switch ON	Vehicle stopped: plain land	4 – 6 V
30*8 (Y)	Ground	Atmospheric pressure sensor power supply	Input	Ignition switch ON		4 – 6 V
31 (GR)	Ground	—	—	Ignition switch ON		0 – 1 V
32 (SB)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0 – 1 V
				Release the push-button ignition switch		6 – 16 V

Terminal No. (Wire color)		Description		Condition		Value
+	–	Signal name	Input/ Output			
33 (BR)	Ground	Front wiper stop position	Input	Ignition switch ON	Front wiper stop position	0 – 1 V
					Other than above	9 – 16 V
39 (L)	—	CAN - H (ECM)	Input/ Output	—		—
40 (P)	—	CAN - L (ECM)	Input/ Output	—		—
41*8 (W)	Ground	Atmospheric pressure sensor signal	Input	Ignition switch ON		0 – 5 V **NOTE:** Change depending to atmospheric pressure
42*8 (R)	Ground	Atmospheric pressure sensor ground	—	Ignition switch ON		0 – 1 V
43 (V)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0 – 1 V
					Front wiper switch HI	9 – 16 V
44*7 (R)	Ground	Engine restart relay	Output	Ignition switch ON	Select lever in P or N	9 – 16 V
					Select lever in any position other than P or N	0 – 1 V
45 (P)	Ground	Ignition power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
46 (Y)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 – 1 V
					Front wiper switch LO	9 – 16 V
47 (GR)	Ground	Ground	—	Ignition switch ON		0 – 1 V
48 (W)	Ground	Fuel pump relay	Output	• Ignition switch OFF • More than a few seconds after turning ignition switch ON		0 – 1 V
				• For a few seconds after turning ignition switch ON • Engine running		6 – 16 V
49 (W)	Ground	Front fog lamp RH	Output	Lighting switch 1ST, 2ND or AUTO	Front fog lamp switch OFF	0 – 1 V
					Front fog lamp switch ON	9 – 16 V
50 (R)	Ground	Daytime running light RH	Output	Engine running	Lighting switch 1ST	0 – 1 V
					Lighting switch OFF	9 – 16 V
51 (G)	Ground	Headlamp (HI) LH	Output	Lighting switch 2ND or AUTO (light is illuminated)	Lighting switch OFF	0 – 1 V
					• Lighting switch HI • Lighting switch PASS	9 – 16 V
52*9 (Y)	Ground	Headlamp warning RH	Output	Lighting switch OFF		9 – 16 V
				Lighting switch 2ND		0 – 1 V
53 (P)	Ground	Parking lamp RH	Output	Lighting switch OFF		0 – 1 V
				Lighting switch 1ST or 2ND		9 – 16 V
54 (BR)	Ground	Headlamp (LO) RH	Output	Lighting switch OFF		0 – 1 V
				Lighting switch 2ND		9 – 16 V

Terminal No. (Wire color)		Description		Condition		Value
		Signal name	Input/ Output			
+	–					
55 (B)	Ground	Headlamp aiming motors ground	—	Ignition switch ON		0 – 1 V
56 (V)	Ground	Aiming motor drive signal	Output	Lighting switch 2ND or AUTO (light is illuminated)	Headlamp aiming: Unloaded vehicle condition	3.54 V
					Headlamp aiming: Low	Voltage increases from the unladen status.
57 (R)	Ground	Daytime running light LH	Output	Engine running	Lighting switch 1ST	0 – 1 V
					Lighting switch OFF	9 – 16 V
58 (L)	Ground	Headlamp (LO) LH	Output	Lighting switch OFF		0 – 1 V
				Lighting switch 2ND		9 – 16 V
59 (V)	Ground	Front fog lamp LH	Output	Lighting switch 1ST, 2ND or AUTO	Front fog lamp switch OFF	0 – 1 V
					Front fog lamp switch ON	9 – 16 V
60 (W)	Ground	Hood switch	Input	Close the hood		9 – 16 V
				Open the hood		0 – 1 V
61 (GR)	Ground	Headlamp warning LH	Output	Lighting switch OFF		9 – 16 V
				Lighting switch 2ND		0 – 1 V
62 (LG)	Ground	Headlamp (HI) RH	Output	Lighting switch 2ND or AUTO (light is illuminated)	Lighting switch OFF	0 – 1 V
					• Lighting switch HI • Lighting switch PASS	9 – 16 V
63 (SB)	Ground	Ignition power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
64 (P)	Ground	Parking lamp LH	Output	Lighting switch OFF		0 – 1 V
				Lighting switch 1ST or 2ND		9 – 16 V
65 (G)	Ground	Start motor	Output	Other than at engine cranking		0 – 1 V
				At engine cranking		6 – 16 V
67 (BR)[*10] (W)[*11]	Ground	Battery power supply	Input	Ignition switch OFF		6 – 16 V
68 (GR)	Ground	Start relay and Engine restart relay power supply	Input	Other than at engine cranking		2 – 4 V
				At engine cranking		6 – 16 V
69 (P)	Ground	Cooling fan relay-1	Output	Cooling fan	OFF	0 – 1 V
					LO operation	4 – 8 V
					MID or HI operation	9 – 16 V
70 (LG)	Ground	Battery power supply	Input	Ignition switch OFF		6 – 16 V
71 (L)	—	CAN - H (TCM)	Input/ Output	—		—
72 (P)	—	CAN - L (TCM)	Input/ Output	—		—

Terminal No. (Wire color)		Description		Condition		Value
+	–	Signal name	Input/ Output			
73*8 (W)	Ground	Barometric pressure sensor signal	Input	Ignition switch ON		0 – 5 V **NOTE:** Change depending to atmospheric pressure
74*8 (R)	Ground	Barometric pressure sensor ground	—	Ignition switch ON		0 – 1 V
76 (GR)	Ground	Transmission range switch	Input	Ignition switch ON	Selector lever in P or N	9 – 16 V
					Selector lever in any position other than P or N	0 – 1 V
77 (G)*1 (P)*2	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		6 – 16 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 – 1 V
78 (SB)	Ground	Reverse/neutral position switch	Output	Ignition switch ON	Select lever in P or N	6 – 16 V
					Select lever in any position other than P or N	0 – 1 V
79 (LG)	Ground	Battery current sensor power supply	Output	Ignition switch ON		5 V
80 (W)	Ground	Battery current sensor ground	—	Ignition switch ON		0 – 1 V
81 (P)	Ground	Battery current sensor	Input	Engine running • Battery: Full charge • Engine: Idling		2.6 – 3.5 V
82 (Y)	Ground	ECV control	Output	Ignition switch ON	Active test (ECV): 50 %	 JMMIA1600GB
					Active test: 100 %	0 – 1 V
83*7 (LG)*1 (O)*2	Ground	G sensor power supply	Input	Ignition switch ON		4 – 6 V
84*7 (W)*1 (LG)*2	Ground	G sensor ground	—	Ignition switch ON		0 – 1 V
85*7 (P)*1 (Y)*2	Ground	G sensor	Input	Ignition switch ON	Vehicle is stop with plain land	4 – 6 V
86*8 (Y)	Ground	Barometric pressure sensor power supply	Input	Ignition switch ON		4 – 6 V
89 (SB)*1 (W)*2	Ground	Oil pressure switch	Input	Ignition switch ON	Engine running	9 – 16 V
					Engine stopped	0 – 1 V

Terminal No. (Wire color)		Description		Condition		Value
		Signal name	Input/ Output			
+	–					
90 (L)	Ground	Cooling fan relay-2	Output	Cooling fan	• Stop • LO operation	9 – 16 V
					HI operation	0 – 1 V
94 (SB)	Ground	Battery current sensor	Input	Engine running • Battery temperature:25°C • Idling		3.3 V
95 (P)	Ground	A/C relay	Output	Engine running	A/C switch OFF	0 – 1 V
					A/C switch ON (A/C compressor is operating)	9 – 16 V
96 (R)*2 (GR)*12 (L)*13	Ground	ECM relay	Output	Ignition switch OFF		0 – 1 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		6 – 16 V
97*8 (V)	Ground	Throttle control motor relay control	Output	Ignition switch ON		0 – 1 V
				• When ignition switch is turned from OFF to ON • For a few seconds after turning ignition switch OFF		9 – 16 V
100 (BG)*14 (BR)*15 (GR)*16	Ground	Ignition power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
101 (W)	Ground	Ignition power supply	Output	Ignition switch OFF		0 – 1 V
				Ignition switch ON		6 – 16 V
102*8 (GR)	Ground	Throttle control motor relay	Output	Ignition switch OFF		0 – 1 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		6 – 16 V
103 (R)*1 (Y)*11 (G)*19	Ground	ECM relay	Output	Ignition switch OFF		0 – 1 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		6 – 16 V
105 (L)*1 (R)*17 (BR)*18	Ground	ECM relay	Output	Ignition switch OFF		0 – 1 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		6 – 16 V
106 (GR)*1 (L)*2	Ground	Fuel pump relay control	Output	• Ignition switch OFF • Approximately 1 second after turning the ignition switch ON		0 – 1 V
				Approximately 1 second or more turning the ignition switch ON		6 – 16 V
108 (R)*1 (L)*2	Ground	ECM relay	Output	Ignition switch OFF		0 – 1 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		6 – 16 V

Terminal No. (Wire color)		Description		Condition		Value
+	–	Signal name	Input/ Output			
109 (G)	Ground	Reverse switch	Input	Ignition switch ON	Select lever in R	9 – 16 V
					Select lever in any position other than R	0 – 1 V

*1: With diesel engine
*2: With gasoline engine
*3: Without grill shutter
*4: With grill shutter
*5: With diesel engine without stop/start system or with gasoline engine with stop/start system
*6: With gasoline engine without stop/start system or with diesel engine with stop/start system
*7: With stop/start system
*8: Without stop/start system
*9: With LED headlamp
*10: Except with gasoline engine without stop/start system
*11: With gasoline engine without stop/start system
*12: With K9K engine
*13: With R9M engine
*14: With diesel engine with CVT
*15: With gasoline engine with CVT
*16: With M/T
*17: With HR engine
*18: With MR engine
*19: With gasoline engine and stop/start system

Fail-safe

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FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

DTC	CONSULT display description		Fail-safe
B121D	S/L LOCK PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply until the vehicle switches to sleep status.
B121A	FR FOG LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the front fog lamp LH power supply circuit until the front fog lamp ON conditions are no longer satisfied.
B1231	DTRL RH PWR SPLY CIRC (Daytime running light right hand power supply circuit)	[CIRC SHORT TO GRND]	Shuts off the power supply to the daytime running light RH power supply circuit until the daytime running light ON conditions are no longer satisfied.
B1256	FR FOG LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the front fog lamp RH power supply circuit until the front fog lamp ON conditions are no longer satisfied.
B1C00	HEIGHT SENSOR PWR SPLY CIRC	[CIRC SHORT TO GRND]	Right and left headlamp aiming motors stop at the position when DTC is detected.
		[CIRC SHORT TO BATTERY]	

DTC	CONSULT display description		Fail-safe
B1C02	RR HEIGHT SENSOR SIGNAL	[CIRC SHORT TO BATTERY]	Right and left headlamp aiming motors stop at the position when DTC is detected.
		[CIRC SHORT TO GROUND OR OPEN]	
		[CIRC VOLTAGE OUT OF RANGE]	
B1C07	AIMING MOTOR DRIVE SIGNAL	[CIRC SHORT TO GRND]	Right and left headlamp aiming motors stop at the position when DTC is detected.
		[CIRC SHORT TO BATTERY]	
		[SIGNAL COMPARE FAILURE]	
B1C12	RR HEIGHT SENSOR SIGNAL	[SIG PRTCTN CLCLTN IN-CRCT]	Right and left headlamp aiming motors stop at the position when DTC is detected.
B20BD	BATTERY CURRENT SENSOR	[CIRC SHORT TO BATTERY]	Inhibit stop/start system operation
		[CIRC SHORT TO GRND]	
		[CIRC OPEN]	
		[CMPNENT INTERNAL MLFNCTN]	
B20CB	DTRL LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the daytime running light LH power supply circuit until the daytime running light ON conditions are no longer satisfied.
B20CE	HL (HI) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (HI) LH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.
B20CF	HL (HI) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (HI) RH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.
B20D0	HL (LO) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (LO) LH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.
B20D1	HL (LO) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (LO) RH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.
B20D2	PARKING LAMP PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the parking lamp (LH/RH) power supply circuit until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.

DTC	CONSULT display description		Fail-safe
B20D4	TAIL LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied. • Tail lamp LH (body side) • Tail lamp LH (back door side) • License plate lamp LH • License plate lamp RH
B20D5	TAIL LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied. • Tail lamp RH (body side) • Tail lamp RH (back door side)
B20DB	HEIGHT SENS INITIALIZE NOT DONE	[MISSING CALIBRA-TION]	Right and left headlamp aiming motors fix at the initial aiming position.
		[NOT CON-FIURED]	
B20E2	LED HEADLAMP RH	[CMPNENT INTERNAL MLFNCTN]	Transmits the headlamp warning signal (CAN communication) to the combination meter when the headlamp (LO) ON conditions are satisfied. (When the ignition switch turns ON, the headlamp warning is displayed on the information display of the combination meter.)
B20E3	LED HEADLAMP LH	[CMPNENT INTERNAL MLFNCTN]	Transmits the headlamp warning signal (CAN communication) to the combination meter when the headlamp (LO) ON conditions are satisfied. (When the ignition switch turns ON, the headlamp warning is displayed on the information display of the combination meter.)

CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe operation
Cooling fan	• The cooling fan is operated at HI operation when the ignition switch is turned ON. • Turn OFF the cooling fan operation when the ignition switch is turned OFF.
A/C compressor	A/C relay OFF

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	• Turns ON the headlamp (LO) when the ignition switch is turned ON. • Turns OFF the headlamp (LO) when the ignition switch is turned OFF. • Headlamp (HI): OFF
• Parking lamp • License plate lamp • Illumination • Tail lamp	• Turns ON the tail lamp, parking lamp, license plate lamp and each illumination when the ignition switch is turned ON. • Turns OFF the tail lamp, parking lamp, license plate lamp and each illumination when the ignition switch is turned OFF.
Front wiper	• The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. • The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Daytime running light	Daytime running light: OFF
Front fog lamp	Front fog lamp: OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay: OFF

IGNITION RELAY CONTROL

- IPDM E/R monitors the voltage at the contact circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit.

Voltage judgment		IPDM E/R judgment	Operation
Ignition relay contact side	Ignition relay control condition		
ON	ON	Ignition relay ON normal	—
OFF	OFF	Ignition relay OFF normal	—
ON	OFF	Ignition relay ON stuck	Detects DTC [B20DD: IGN RELAY ON CIRC]
OFF	ON	Ignition relay OFF stuck	Detects DTC [B20DE: IGN RELAY OFF CIRC]

FRONT WIPER CONTROL

When a front wiper stop position signal is in the conditions listed below, IPDM E/R performs fail-safe control.

Ignition switch	Front wiper switch	Front wiper stop position signal	Fail-safe operation
ON	Other than OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.	Front wiper: 20 seconds stop
	OFF	The front wiper stop position signal does not change for 10 seconds.	

DTC Inspection Priority Chart

INFOID:0000000010499178

Priority	DTC No.	CONSULT display	
1	U1000	CAN COMM CIRCUIT	
2	B120E	IPDM E/R	[SYSTEM INTERNAL FAILURES]
			[NOT CONFIURED]
	B121D	S/L LOCK PWR SPLY CIRC	[CIRC SHORT TO GRND]
3	B20BD	BATTERY CURRENT SENSOR	[CIRC SHORT TO BATTERY]
			[CIRC SHORT TO GRND]
			[CIRC OPEN]
			[CMPNENT INTERNAL MLFNCTN]
	B20DB	HEIGHT SENS INITIALIZE NOT DONE	[MISSING CALIBRATION]
			[NOT CONFIURED]
	B20DD	IGN RELAY ON CIRC	[CIRC SHORT TO BATTERY]
	B20DE	IGN RELAY OFF CIRC	[CIRC SHORT TO GROUND OR OPEN]
	B20DF	STARTER RELAY OFF CIRC	[CIRC SHORT TO GROUND OR OPEN]

Priority	DTC No.	CONSULT display	
4	B121A	FR FOG LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B1231	DTRL RH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B1256	FR FOG LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B1C00	HEIGHT SENSOR PWR SPLY CIRC	[CIRC SHORT TO BATTERY]
			[CIRC SHORT TO GRND]
	B1C02	RR HEIGHT SENSOR SIGNAL	[CIRC SHORT TO BATTERY]
			[CIRC SHORT TO GROUND OR OPEN]
			[CIRC VOLTAGE OUT OF RANGE]
	B1C07	AIMING MOTOR DRIVE SIGNAL	[CIRC SHORT TO BATTERY]
			[CIRC SHORT TO GRND]
			[SIGNAL COMPARE FAILURE]
	B1C12	RR HEIGHT SENSOR SIGNAL	[SIG PRTCTN CLCLTN INCRCT]
	B20BE	BATTERY TEMPERATURE SENSOR	[CIRC SHORT TO BATTERY OR OPEN]
			[CIRC SHORT TO GRND]
	B20CB	DTRL LH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B20CE	HL (HI) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B20CF	HL (HI) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B20D0	HL (LO) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B20D1	HL (LO) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B20D2	PARKING LAMP PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B20D4	TAIL LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]
	B20D5	TAIL LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]
5	B20E2	LED HEADLAMP RH	[CMPNENT INTERNAL MLFNCTN]
	B20E3	LED HEADLAMP LH	[CMPNENT INTERNAL MLFNCTN]

DTC Index

INFOID:0000000010499179

NOTE:
The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PASS: A malfunction was detected in the past.

×: Applicable

DTC No.	CONSULT display		Fail-safe	Reference
B120E	IPDM E/R	[SYSTEM INTERNAL FAILURES]	—	PCS-62
		[NOT CONFIURED]		
B121A	FR FOG LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-75 (LED headlamp) • EXL-245 (halogen headlamp)
B121D	S/L LOCK PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	SEC-159
B1231	DTRL RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-77 (LED headlamp) • EXL-247 (halogen headlamp)
B1256	FR FOG LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-79 (LED headlamp) • EXL-249 (halogen headlamp)

DTC No.	CONSULT display		Fail-safe	Reference
B121A	FR FOG LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-78 (LED headlamp) • EXL-248 (halogen headlamp)
B121D	S/L LOCK PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	SEC-162
B1231	DTRL RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-80 (LED headlamp) • EXL-250 (halogen headlamp)
B1256	FR FOG LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-82 (LED headlamp) • EXL-252 (halogen headlamp)
B1C00	HEIGHT SENSOR PWR SPLY CIRC	[CIRC SHORT TO BATTERY]	×	EXL-84
		[CIRC SHORT TO GRND]		
B1C02	RR HEIGHT SENSOR SIGNAL	[CIRC SHORT TO BATTERY]	×	EXL-86
		[CIRC SHORT TO GROUND OR OPEN]		
		[CIRC VOLTAGE OUT OF RANGE]		
B1C07	AIMING MOTOR DRIVE SIGNAL	[CIRC SHORT TO BATTERY]	×	EXL-89
		[CIRC SHORT TO GRND]		
		[SIGNAL COMPARE FAILURE]		
B1C12	RR HEIGHT SENSOR SIGNAL	[SIG PRTCTN CLCLTN INCRCT]	×	EXL-92
B20BD	BATTERY CURRENT SENSOR	[CIRC SHORT TO BATTERY]	×	CHG-18
		[CIRC SHORT TO GRND]		
		[CIRC OPEN]		
		[CMPNENT INTERNAL MLFNCTN]		
B20BE	BATTERY TEMPERATURE SENSOR	[CIRC SHORT TO BATTERY OR OPEN]	—	CHG-22
		[CIRC SHORT TO GRND]		
B20CB	DTRL LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-94 (LED headlamp) • EXL-254 (halogen headlamp)
B20CE	HL (HI) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-96 (LED headlamp) • EXL-256 (halogen headlamp)
B20CF	HL (HI) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-98 (LED headlamp) • EXL-259 (halogen headlamp)
B20D0	HL (LO) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-100 (LED headlamp) • EXL-262 (halogen headlamp)
B20D1	HL (LO) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-102 (LED headlamp) • EXL-264 (halogen headlamp)

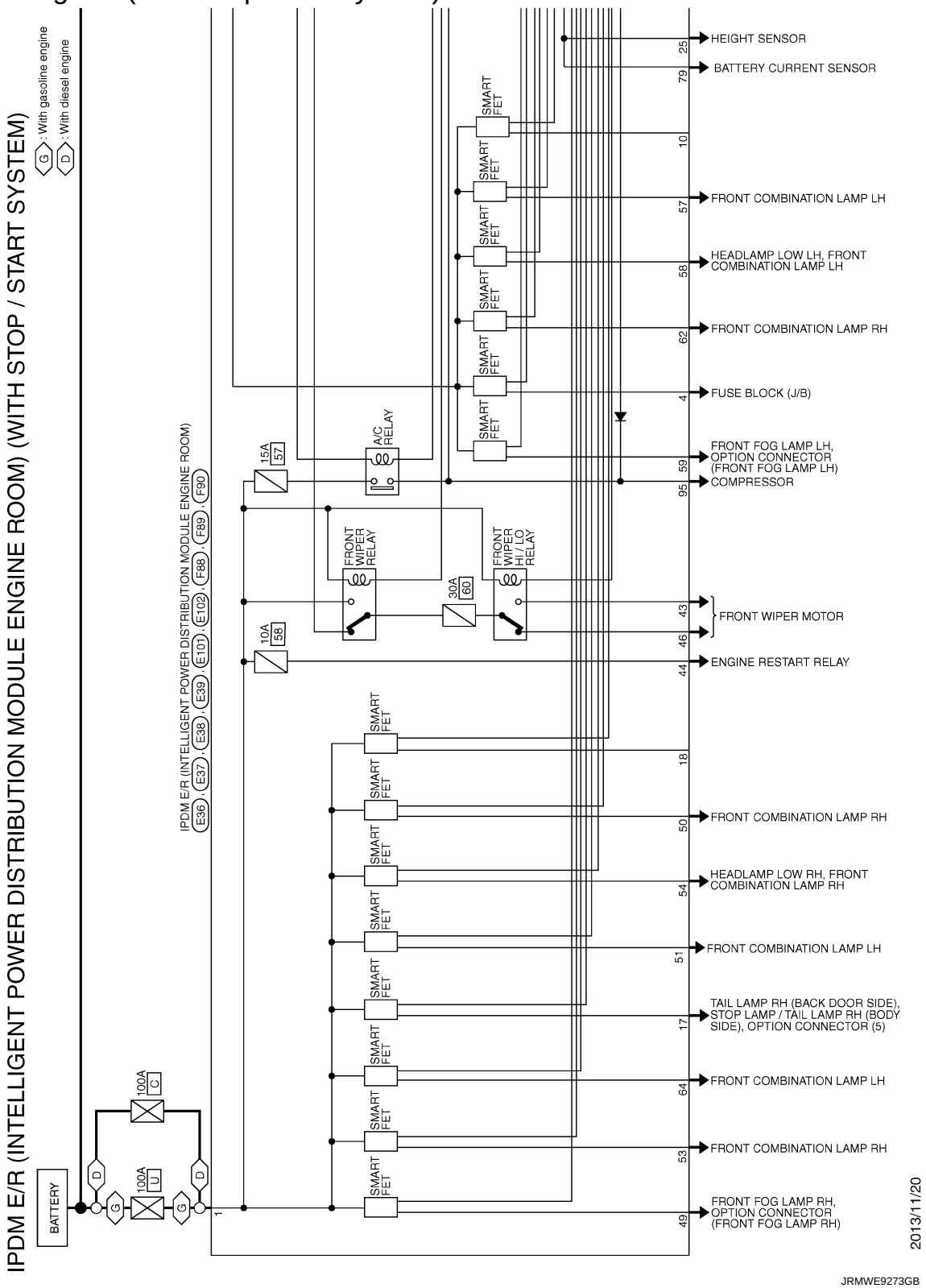
DTC No.	CONSULT display		Fail-safe	Reference
B20D2	PARKING LAMP PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-104 (LED headlamp) • EXL-266 (halogen headlamp)
B20D4	TAIL LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-107 (LED headlamp) • EXL-269 (halogen headlamp)
B20D5	TAIL LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	×	• EXL-111 (LED headlamp) • EXL-273 (halogen headlamp)
B20DB	HEIGHT SENS INITIALIZE NOT DONE	[MISSING CALIBRATION]	×	EXL-114
		[NOT CONFIURED]		
B20DD	IGN RELAY ON CIRC	[CIRC SHORT TO BATTERY]	—	PCS-64
B20DE	IGN RELAY OFF CIRC	[CIRC SHORT TO GROUND OR OPEN]	—	PCS-66
B20DF	STARTER RELAY OFF CIRC	[CIRC SHORT TO GROUND OR OPEN]	—	SEC-164
B20E2	LED HEADLAMP RH	[CMPNENT INTERNAL MLFNCTN]	×	EXL-115
B20E3	LED HEADLAMP LH	[CMPNENT INTERNAL MLFNCTN]	×	EXL-117
U1000	CAN COMM CIRCUIT		×	PCS-61

WIRING DIAGRAM

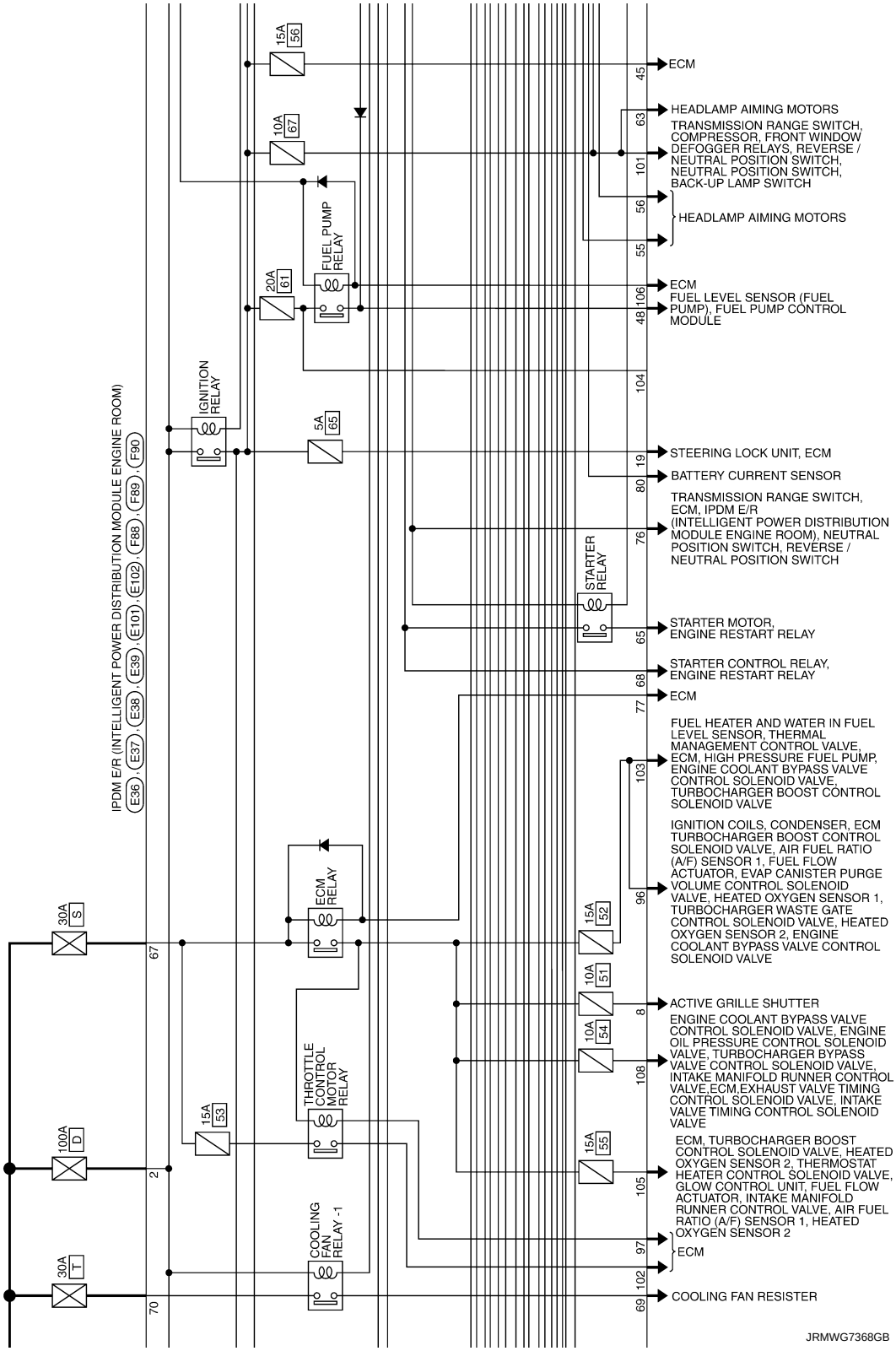
IPDM E/R

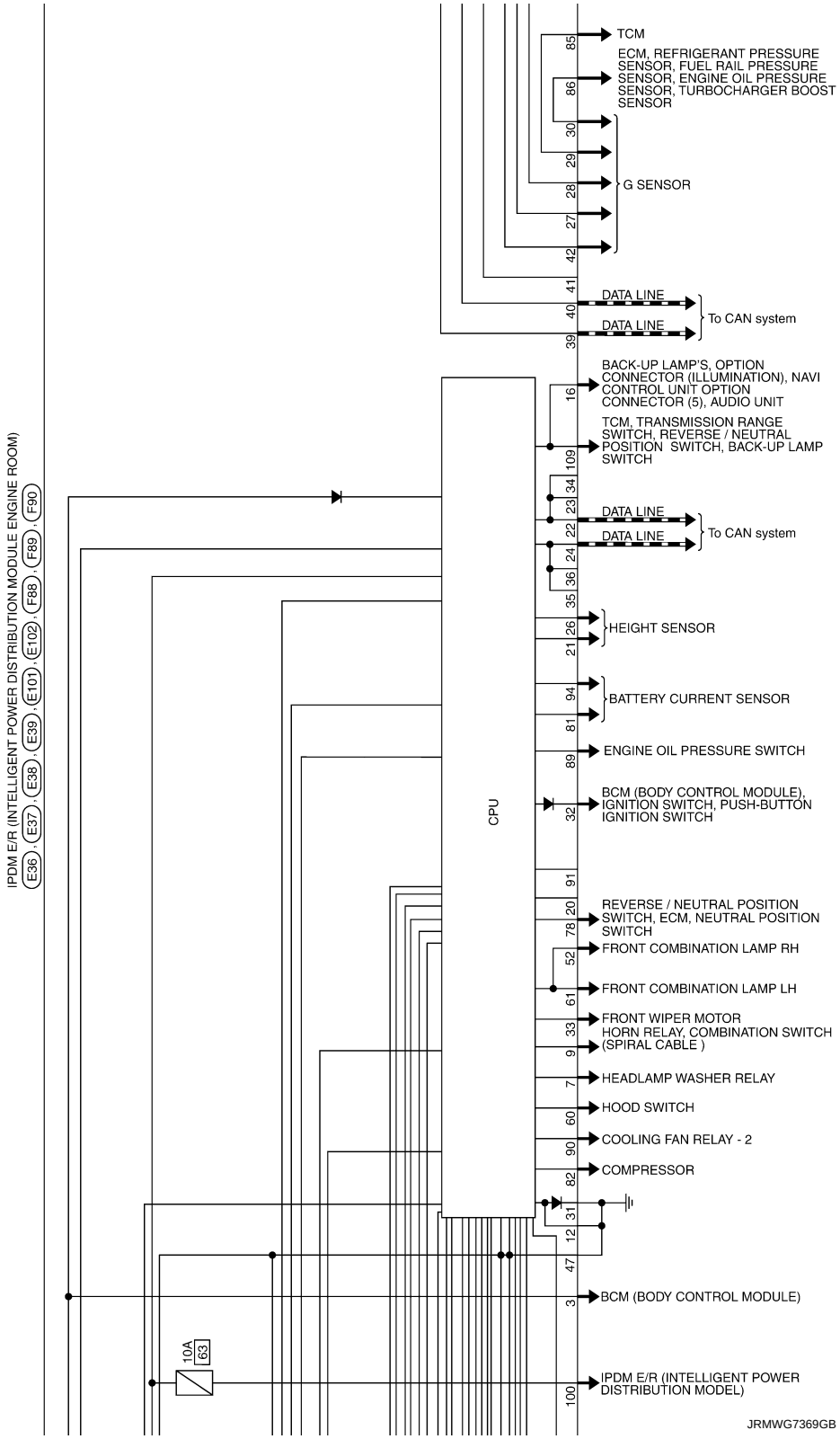
Wiring Diagram (With Stop/Start System)

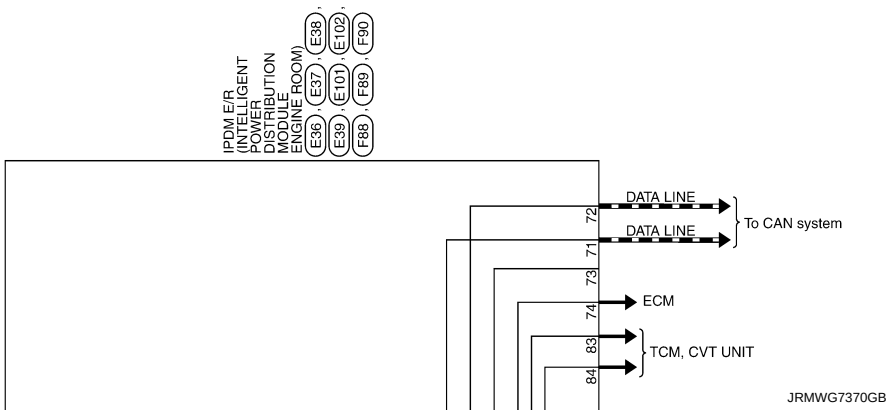
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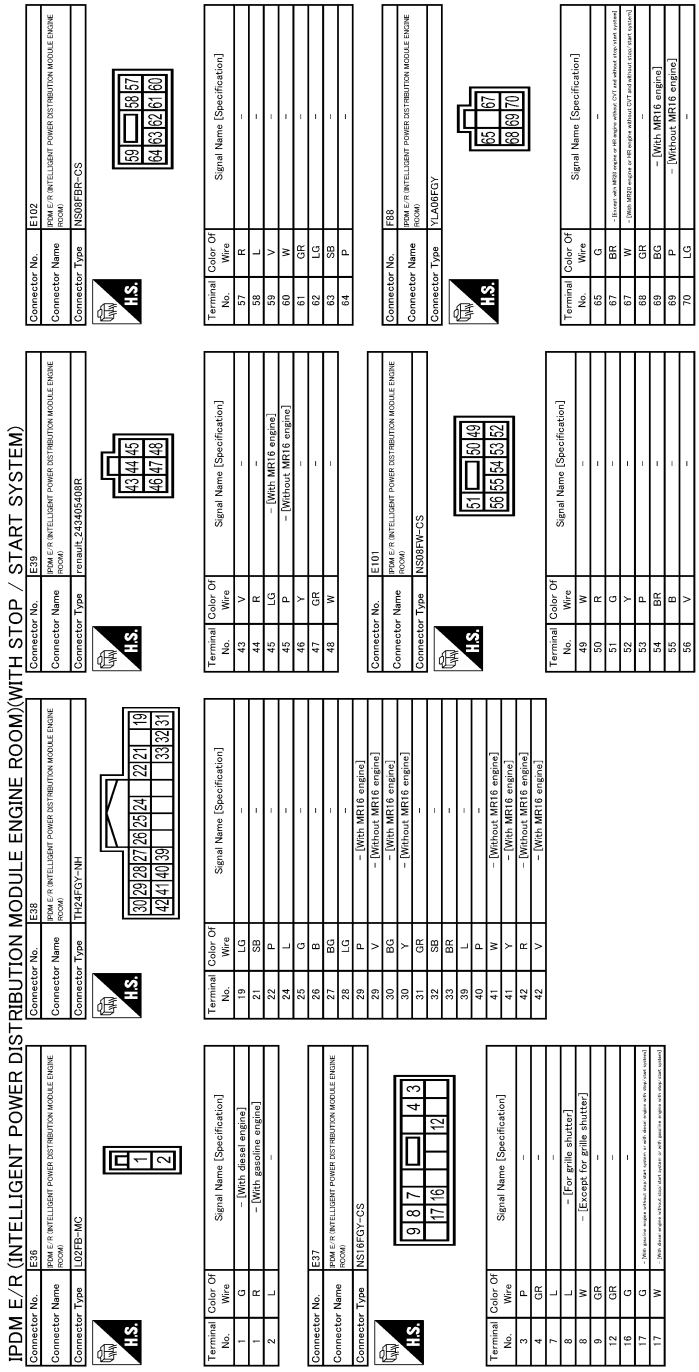
JRMWE9273GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E36, E37, E38, E39, E101, E102, F88, F89, F90
15A 56
10A 67
20A 61
5A 65
15A 52
10A 51
10A 54
15A 55
15A 53
30A S
100A D
30A T
FUEL PUMP RELAY
IGNITION RELAY
ECM RELAY
STARTER RELAY
THROTTLE CONTROL MOTOR RELAY
COOLING FAN RELAY -1
67
2
70
45 ECM
63 HEADLAMP AIMING MOTORS
101 TRANSMISSION RANGE SWITCH, COMPRESSOR, FRONT WINDOW DEFOGGER RELAYS, REVERSE / NEUTRAL POSITION SWITCH, NEUTRAL POSITION SWITCH, BACK-UP LAMP SWITCH
56, 55 HEADLAMP AIMING MOTORS
106 ECM
48 FUEL LEVEL SENSOR (FUEL PUMP), FUEL PUMP CONTROL MODULE
104
19 STEERING LOCK UNIT, ECM
80 BATTERY CURRENT SENSOR
76 TRANSMISSION RANGE SWITCH, ECM, IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM), NEUTRAL POSITION SWITCH, REVERSE / NEUTRAL POSITION SWITCH
65 STARTER MOTOR, ENGINE RESTART RELAY
68 STARTER CONTROL RELAY, ENGINE RESTART RELAY
77 ECM
103 FUEL HEATER AND WATER IN FUEL LEVEL SENSOR, THERMAL MANAGEMENT CONTROL VALVE, ECM, HIGH PRESSURE FUEL PUMP, ENGINE COOLANT BYPASS VALVE CONTROL SOLENOID VALVE, TURBOCHARGER BOOST CONTROL SOLENOID VALVE
96 IGNITION COILS, CONDENSER, ECM TURBOCHARGER BOOST CONTROL SOLENOID VALVE, AIR FUEL RATIO (A/F) SENSOR 1, FUEL FLOW ACTUATOR, EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE, HEATED OXYGEN SENSOR 1, TURBOCHARGER WASTE GATE CONTROL SOLENOID VALVE, HEATED OXYGEN SENSOR 2, ENGINE COOLANT BYPASS VALVE CONTROL SOLENOID VALVE
8 ACTIVE GRILLE SHUTTER
108 ENGINE COOLANT BYPASS VALVE CONTROL SOLENOID VALVE, ENGINE OIL PRESSURE CONTROL SOLENOID VALVE, TURBOCHARGER BYPASS VALVE CONTROL SOLENOID VALVE, INTAKE MANIFOLD RUNNER CONTROL VALVE,ECM,EXHAUST VALVE TIMING CONTROL SOLENOID VALVE, INTAKE VALVE TIMING CONTROL SOLENOID VALVE
105 ECM, TURBOCHARGER BOOST CONTROL SOLENOID VALVE, HEATED OXYGEN SENSOR 2, THERMOSTAT HEATER CONTROL SOLENOID VALVE, GLOW CONTROL UNIT, FUEL FLOW ACTUATOR, INTAKE MANIFOLD RUNNER CONTROL VALVE, AIR FUEL RATIO (A/F) SENSOR 1, HEATED OXYGEN SENSOR 2
97 ECM
102, 69 COOLING FAN RESISTER
JRMWG7368GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E36, E37, E38, E39, E101, E102, F88, F89, F90
CPU
85 TCM
86 ECM, REFRIGERANT PRESSURE SENSOR, FUEL RAIL PRESSURE SENSOR, ENGINE OIL PRESSURE SENSOR, TURBOCHARGER BOOST SENSOR
30
29
28 G SENSOR
27
42
41 DATA LINE
40 DATA LINE
To CAN system
39
16 BACK-UP LAMP'S, OPTION CONNECTOR (ILLUMINATION), NAVI CONTROL UNIT OPTION CONNECTOR (5), AUDIO UNIT
109 TCM, TRANSMISSION RANGE SWITCH, REVERSE / NEUTRAL POSITION SWITCH, BACK-UP LAMP SWITCH
34
23 DATA LINE
22 DATA LINE
To CAN system
24
36
35
26 HEIGHT SENSOR
21
94 BATTERY CURRENT SENSOR
81
89 ENGINE OIL PRESSURE SWITCH
32 BCM (BODY CONTROL MODULE), IGNITION SWITCH, PUSH-BUTTON IGNITION SWITCH
91
20 REVERSE / NEUTRAL POSITION SWITCH, ECM, NEUTRAL POSITION SWITCH
78 FRONT COMBINATION LAMP RH
52
61 FRONT COMBINATION LAMP LH
33 FRONT WIPER MOTOR
9 HORN RELAY, COMBINATION SWITCH (SPIRAL CABLE)
7 HEADLAMP WASHER RELAY
60 HOOD SWITCH
90 COOLING FAN RELAY - 2
82 COMPRESSOR
31
12
47
3 BCM (BODY CONTROL MODULE)
10A
63
100 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODEL)
JRMWG7369GB


IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM)
E38
E37
E102
E101
F90
F89
E36
E39
F88
DATA LINE
72
DATA LINE
71
To CAN system
73
ECM
74
83
TCM, CVT UNIT
84
JRMWG7370GB

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)(WITH STOP / START SYSTEM)



JRMWG7371GB

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)(WITH STOP / START SYSTEM)

Connector No.	F89
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FB-NH

H.S.

82	81	80	79	78	77	76		74	73	72	71
94				90	89			86	85	84	83

Terminal No.	Color Of Wire	Signal Name [Specification]
71	L	–
72	P	–
73	W	– [Without ISS]
73	Y	– [With ISS]
74	G	– [With ISS]
74	R	– [Without ISS]
76	GR	–
77	G	– [With diesel engine]
77	P	– [With gasoline engine]
78	SB	–
79	LG	–
80	W	–
81	P	–
82	Y	–
83	LG	– [With diesel engine]
83	O	– [With gasoline engine]
84	LG	– [Without gasoline engine]
84	W	– [With diesel engine]
85	P	– [With MR16 engine or diesel engine]
85	Y	– [With HR engine or MR20 engine]
86	R	– [With ISS]
86	Y	– [Without ISS]
89	SB	– [With diesel engine]
89	W	– [With gasoline engine]
90	L	–
94	SB	–

Connector No.	F90
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS16FW-CS

H.S.

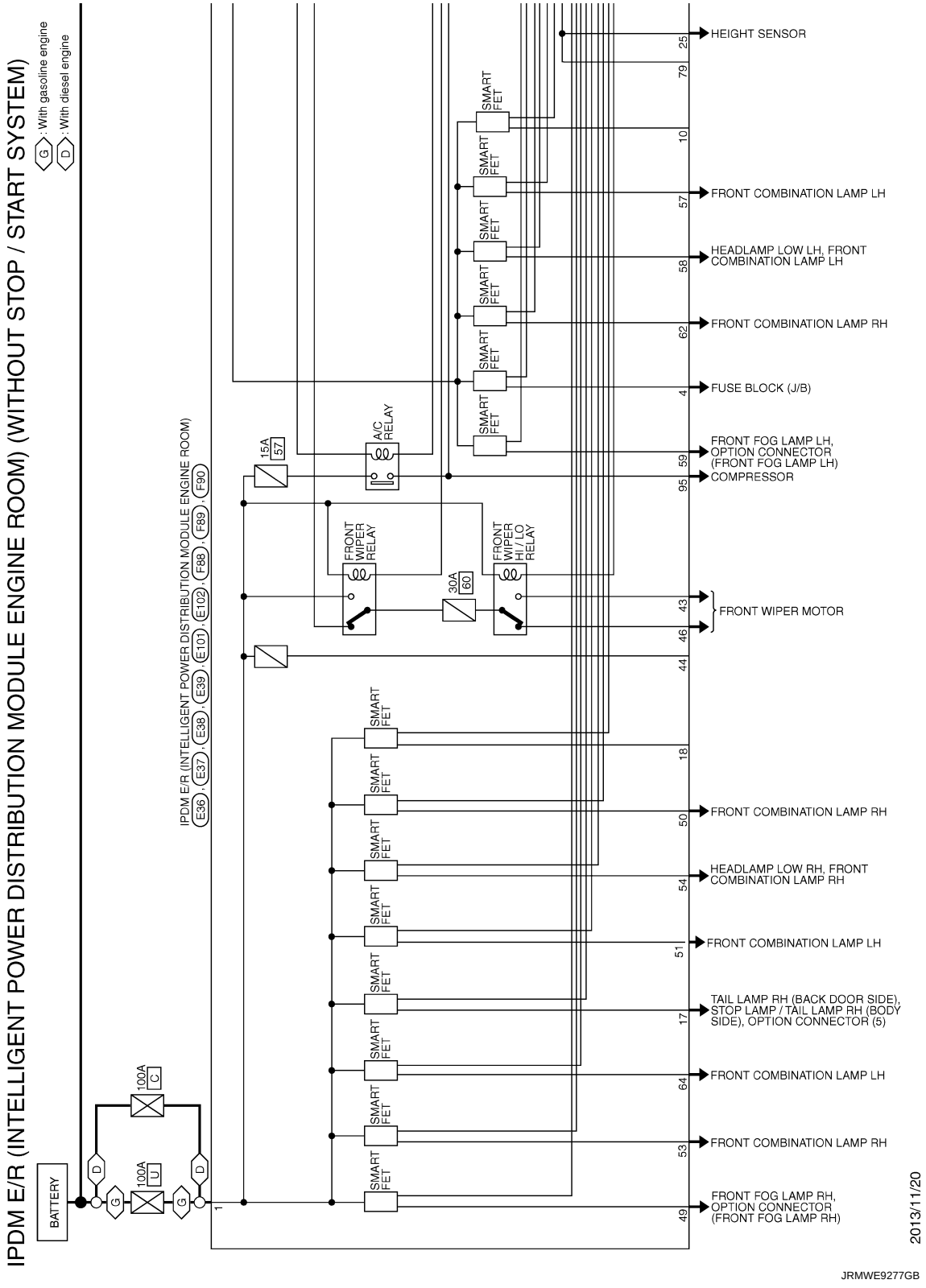
101	100			97	96	95
	109	108	106	105	103	102

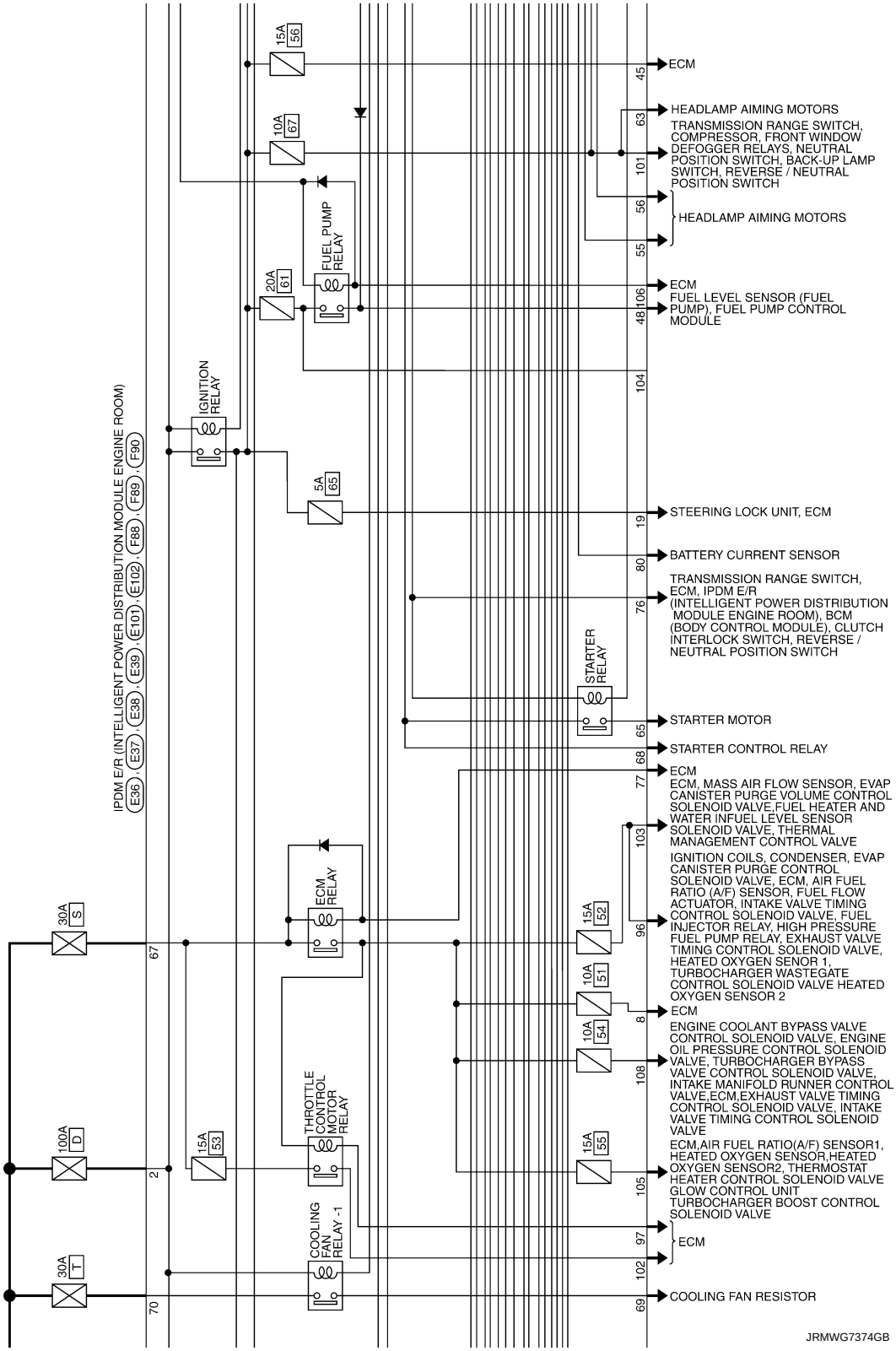
Terminal No.	Color Of Wire	Signal Name [Specification]
95	P	–
96	GR	– [With K9K engine]
96	L	– [With R9M engine] [Except for Korea]
96	R	– [With gasoline engine or For Korea with R9M engine]
97	L	– [With ISS]
97	V	– [Without ISS]
100	BG	– [With CVT] [With diesel engine]
100	BR	– [With CVT] [With gasoline engine]
100	GR	– [With M/T]
101	W	–
102	GR	–
103	G	– [With gasoline engine with ISS]
103	R	– [With diesel engine]
103	Y	– [With gasoline engine without ISS]
105	BR	– [With MR20 engine without ISS]
105	L	– [With diesel engine]
105	R	– [With HR engine without ISS or gasoline engine with ISS]
106	GR	– [With diesel engine]
108	L	– [With gasoline engine]
108	L	– [With gasoline engine]
108	R	– [With diesel engine]
109	G	–

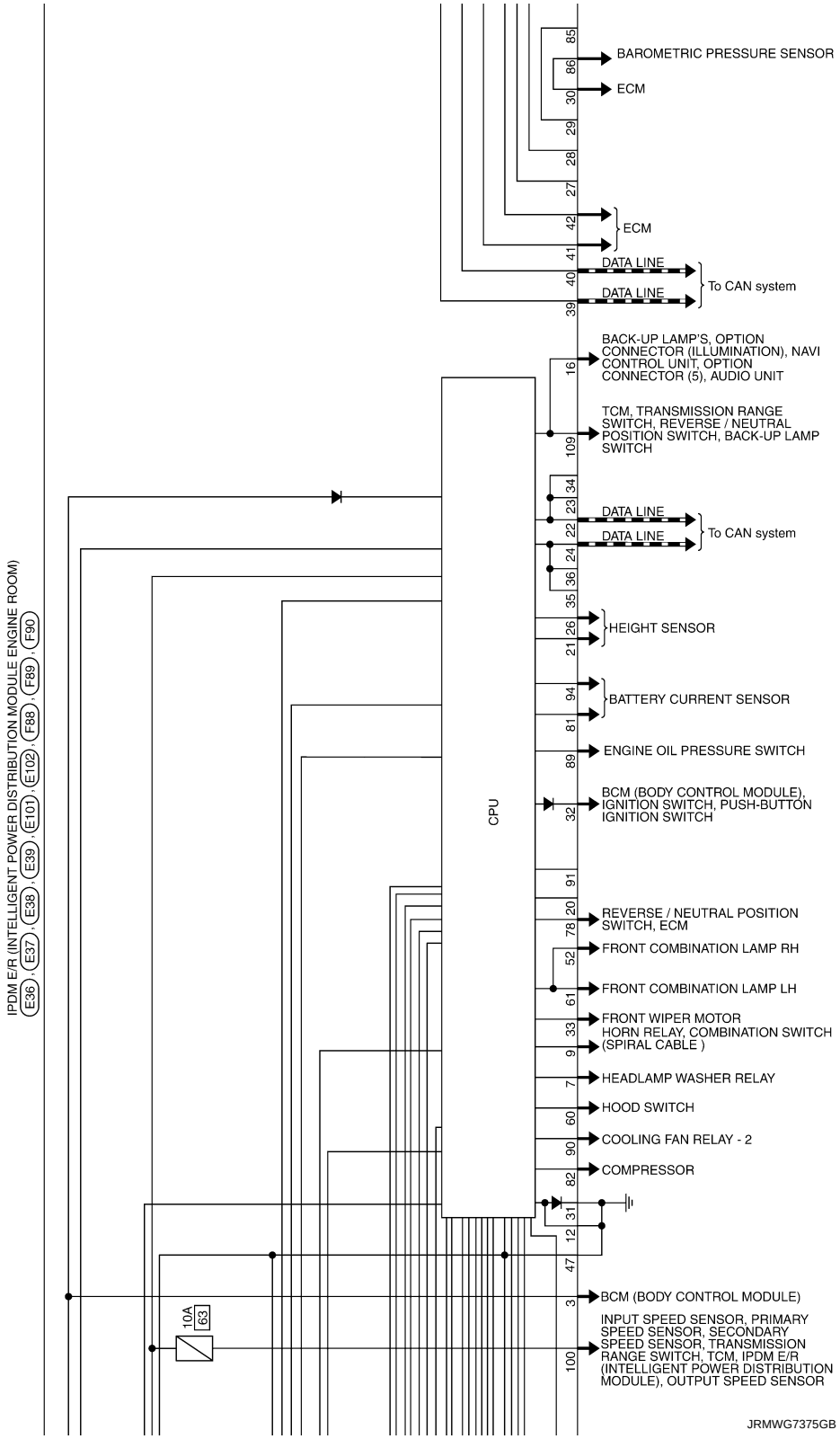
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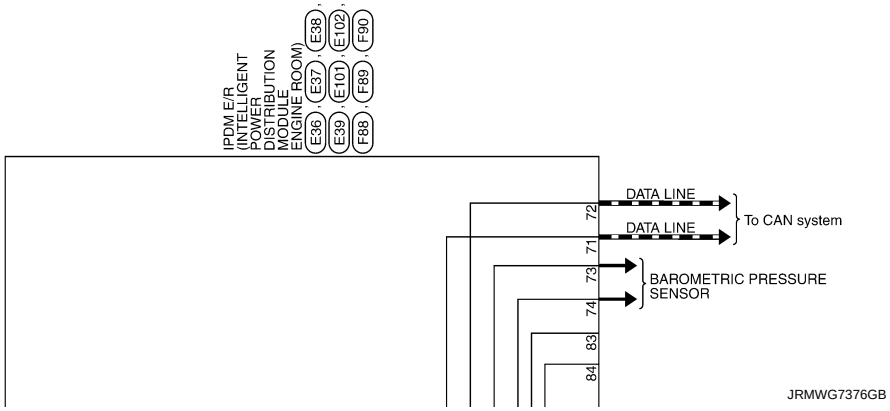
Wiring Diagram (Without Stop/Start System)

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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E36, E37, E38, E39, E101, E102, F88, F89, F90
15A 56
10A 67
20A 61
FUEL PUMP RELAY
IGNITION RELAY
5A 65
ECM RELAY
THROTTLE CONTROL MOTOR RELAY
COOLING FAN RELAY -1
STARTER RELAY
30A S
100A D
30A T
15A 53
15A 52
10A 51
10A 54
15A 55
67
2
70
45 ECM
63 HEADLAMP AIMING MOTORS
101 TRANSMISSION RANGE SWITCH, COMPRESSOR, FRONT WINDOW DEFOGGER RELAYS, NEUTRAL POSITION SWITCH, BACK-UP LAMP SWITCH, REVERSE / NEUTRAL POSITION SWITCH
56
55 HEADLAMP AIMING MOTORS
106 ECM
48 FUEL LEVEL SENSOR (FUEL PUMP), FUEL PUMP CONTROL MODULE
104
19 STEERING LOCK UNIT, ECM
80 BATTERY CURRENT SENSOR
76 TRANSMISSION RANGE SWITCH, ECM, IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM), BCM (BODY CONTROL MODULE), CLUTCH INTERLOCK SWITCH, REVERSE / NEUTRAL POSITION SWITCH
65 STARTER MOTOR
68 STARTER CONTROL RELAY
77 ECM
103 ECM, MASS AIR FLOW SENSOR, EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE,FUEL HEATER AND WATER INFUEL LEVEL SENSOR SOLENOID VALVE, THERMAL MANAGEMENT CONTROL VALVE
96 IGNITION COILS, CONDENSER, EVAP CANISTER PURGE CONTROL SOLENOID VALVE, ECM, AIR FUEL RATIO (A/F) SENSOR, FUEL FLOW ACTUATOR, INTAKE VALVE TIMING CONTROL SOLENOID VALVE, FUEL INJECTOR RELAY, HIGH PRESSURE FUEL PUMP RELAY, EXHAUST VALVE TIMING CONTROL SOLENOID VALVE, HEATED OXYGEN SENOR 1, TURBOCHARGER WASTEGATE CONTROL SOLENOID VALVE HEATED OXYGEN SENSOR 2
8 ECM
108 ENGINE COOLANT BYPASS VALVE CONTROL SOLENOID VALVE, ENGINE OIL PRESSURE CONTROL SOLENOID VALVE, TURBOCHARGER BYPASS VALVE CONTROL SOLENOID VALVE, INTAKE MANIFOLD RUNNER CONTROL VALVE,ECM,EXHAUST VALVE TIMING CONTROL SOLENOID VALVE, INTAKE VALVE TIMING CONTROL SOLENOID VALVE
105 ECM,AIR FUEL RATIO(A/F) SENSOR1, HEATED OXYGEN SENSOR,HEATED OXYGEN SENSOR2, THERMOSTAT HEATER CONTROL SOLENOID VALVE GLOW CONTROL UNIT TURBOCHARGER BOOST CONTROL SOLENOID VALVE
97
102 ECM
69 COOLING FAN RESISTOR
JRMWG7374GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E36, E37, E38, E39, E101, E102, F88, F89, F90
CPU
85
86
30
29
28
27
42
41
40
39
16
109
34
23
22
24
36
35
26
21
94
81
89
32
91
20
78
52
61
33
9
7
60
90
82
31
12
47
3
100
10A
63
BAROMETRIC PRESSURE SENSOR
ECM
ECM
DATA LINE
DATA LINE
To CAN system
BACK-UP LAMP'S, OPTION CONNECTOR (ILLUMINATION), NAVI CONTROL UNIT, OPTION CONNECTOR (5), AUDIO UNIT
TCM, TRANSMISSION RANGE SWITCH, REVERSE / NEUTRAL POSITION SWITCH, BACK-UP LAMP SWITCH
DATA LINE
DATA LINE
To CAN system
HEIGHT SENSOR
BATTERY CURRENT SENSOR
ENGINE OIL PRESSURE SWITCH
BCM (BODY CONTROL MODULE), IGNITION SWITCH, PUSH-BUTTON IGNITION SWITCH
REVERSE / NEUTRAL POSITION SWITCH, ECM
FRONT COMBINATION LAMP RH
FRONT COMBINATION LAMP LH
FRONT WIPER MOTOR
HORN RELAY, COMBINATION SWITCH (SPIRAL CABLE)
HEADLAMP WASHER RELAY
HOOD SWITCH
COOLING FAN RELAY - 2
COMPRESSOR
BCM (BODY CONTROL MODULE)
INPUT SPEED SENSOR, PRIMARY SPEED SENSOR, SECONDARY SPEED SENSOR, TRANSMISSION RANGE SWITCH, TCM, IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE), OUTPUT SPEED SENSOR
JRMWG7375GB


IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM)
E38
E102
F90
E37
E101
F89
E36
E39
F88
DATA LINE
72
DATA LINE
71
To CAN system
73
BAROMETRIC PRESSURE
SENSOR
74
83
84
JRMWG7376GB

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)(WITHOUT STOP / START SYSTEM)

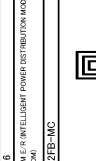
Connector No.	E36
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	L02FB-MC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	– [With diesel engine]
1	R	– [With gasoline engine]
2	L	–

Connector No.	E37
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS16FGY-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	–
4	GR	–
7	L	–
8	L	– [For grille shutter]
8	W	– [Except for grille shutter]
9	GR	–
12	GR	–
16	G	–
17	G	– [With driver side junction box (J/B) (fuse, relay box) and engine room (J/B) (fuse, relay box)]
17	W	– [With driver side junction box (J/B) (fuse, relay box) and engine room (J/B) (fuse, relay box)]

Connector No.	E38
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FGY-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
19	LG	–
21	SB	–
22	P	–
24	L	–
25	G	–
26	B	–
27	BG	–
28	LG	–
29	P	– [With MR16 engine]
29	V	– [Without MR16 engine]
30	BG	– [With MR16 engine]
30	Y	– [Without MR16 engine]
31	GR	–
32	SB	–
33	BR	–
39	L	–
40	P	–
41	W	– [Without MR16 engine]
41	Y	– [With MR16 engine]
42	R	– [Without MR16 engine]
42	V	– [With MR16 engine]

Connector No.	E39
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	renault 243405408R

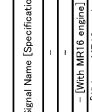
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
43	V	–
44	R	–
45	LG	– [With MR16 engine]
45	P	– [Without MR16 engine]
46	Y	–
47	GR	–
48	W	–

Connector No.	E101
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS08FW-CS

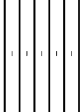
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
49	W	–
50	R	–
51	G	–
52	Y	–
53	P	–
54	BR	–
55	B	–
56	V	–

Connector No.	E102
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS08FBR-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
57	R	–
58	L	–
59	V	–
60	W	–
61	GR	–
62	LG	–
63	SB	–
64	P	–

Connector No.	F98
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	YLAQ6FGY

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
65	G	–
67	BR	– [Except with MR20 engine or HR engine without CVT and without stop start system]
67	W	– [With MR20 engine or HR engine without CVT and without stop start system]
68	GR	–
69	BG	– [With MR16 engine]
69	P	– [Without MR16 engine]
70	LG	–

JRMWG7377GB

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)(WITHOUT STOP / START SYSTEM)

Connector No.	F89
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FB-NH

H.S.

82	81	80	79	78	77	76		74	73	72	71
94				90	89			86	85	84	83

Terminal No.	Color Of Wire	Signal Name [Specification]
71	L	–
72	P	–
73	W	– [Without ISS]
73	Y	– [With ISS]
74	G	– [With ISS]
74	R	– [Without ISS]
76	GR	–
77	G	– [With diesel engine]
77	P	– [With gasoline engine]
78	SB	–
79	LG	–
80	W	–
81	P	–
82	Y	–
83	LG	– [With diesel engine]
83	O	– [With gasoline engine]
84	LG	– [Without gasoline engine]
84	W	– [With diesel engine]
85	P	– [With MR16 engine or diesel engine]
85	Y	– [With HR engine or MR20 engine]
86	R	– [With ISS]
86	Y	– [Without ISS]
89	SB	– [With diesel engine]
89	W	– [With gasoline engine]
90	L	–
94	SB	–

Connector No.	F80
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS16FW-CS

H.S.

101	100				97	96	95
	109	108		106	105	103	102

Terminal No.	Color Of Wire	Signal Name [Specification]
95	P	–
96	GR	– [With K9K engine]
96	L	– [With R9M engine] [Except for Korea]
96	R	– [With gasoline engine or For Korea with R9M engine]
97	L	– [With ISS]
97	V	– [Without ISS]
100	BG	– [With CVT] [With diesel engine]
100	BR	– [With CVT] [With gasoline engine]
100	GR	– [With M/T]
101	W	–
102	GR	–
103	G	– [With gasoline engine with ISS]
103	R	– [With diesel engine]
103	Y	– [With gasoline engine without ISS]
105	BR	– [With MR20 engine without ISS]
105	L	– [With diesel engine]
105	R	– [With HR engine without ISS or gasoline engine with ISS]
106	GR	– [With diesel engine]
108	L	– [With gasoline engine]
108	L	– [With gasoline engine]
108	R	– [With diesel engine]
109	G	–

JRMWG7378GB

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING IPDM E/R

Description

INFOID:0000000010499180

After replaced IPDM E/R, it is necessary to perform control unit configuration and height sensor initialize (For LED headlamp models) with CONSULT.

BEFORE REPLACEMENT

When replacing IPDM E/R, save or print current vehicle specification with CONSULT configuration before replacement.

NOTE:

If “Before Replace ECU” of “Read/Write Configuration” cannot be used, use the “Manual Configuration” after replacing IPDM E/R.

AFTER REPLACEMENT

CAUTION:

- **When replacing IPDM E/R, always perform “Read/Write Configuration” or “Manual Configuration” with CONSULT. Or not doing so, IPDM E/R control function does not operate normally.**
- **Never perform “Read / Write Configuration” or “Manual Configuration” except for new IPDM E/R or the control function may not operate normally.**

Work Procedure

INFOID:0000000010499181

1.SAVING VEHICLE SPECIFICATION (IPDM E/R)

CONSULT Configuration

Perform “Before Replace ECU” of “Read / Write Configuration” to save or print current vehicle specification. Refer to BCS-116, "Description".

NOTE:

If “Before Replace ECU” of “Read/Write Configuration” cannot be used, use the “Manual Configuration” after replacing IPDM E/R.

>> GO TO 2.

2.REPLACE IPDM E/R

Replace IPDM E/R. Refer to PCS-67, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION (IPDM E/R)

CONSULT Configuration

Perform “After Replace ECU” of “Read/Write Configuration” or “Manual Configuration” to write vehicle specification. Refer to BCS-116, "Work Procedure".

>> GO TO 4.

4.CHECK HEADLAMP TYPE

Check headlamp type.

LED headlamp>>GO TO 5.
Halogen headlamp>>WORK END

5.HEIGHT SENSOR INITIALIZE

Perform height sensor initialize. Refer to EXL-74, "Work Procedure".

>> WORK END

CONFIGURATION (IPDM E/R)

Description

INFOID:0000000010499182

There is no vehicle specification in new IPDM E/R, so the vehicle specification needs to be written in IPDM E/R with CONSULT.
Configuration has three functions as follows.

Function		Description
READ/WRITE CONFIGURATION	Before Replace ECU	• Reads the vehicle configuration of current BCM. • Saves the read vehicle configuration.
	After Replace ECU	Writes the vehicle configuration with saved data.
MANUAL CONFIGURATION		Writes the vehicle configuration with manual selection.

CAUTION:
- **When replacing IPDM E/R, always perform “Read/Write Configuration” or “Manual Configuration” with CONSULT. Or not doing so, IPDM E/R control function does not operate normally.**
- **Never perform “Read / Write Configuration” or “Manual Configuration” except for new IPDM E/R or the control function may not operate normally.**

Work Procedure

INFOID:0000000010499183

1.WRITING MODE SELECTION

CONSULT Configuration
Select “CONFIGURATION” of IPDM E/R.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2.PERFORM “WRITE CONFIGURATION”

CONSULT Configuration
1. Select “READ/WRITE CONFIGURATION”.
2. Select “After Replace ECU”.

>> GO TO 4.

3.PERFORM “MANUAL CONFIGURATION”

CONSULT Configuration
1. Select “MANUAL CONFIGURATION”.
2. Identify the correct model and configuration list. Refer to PCS-54, "Configuration List".
   CAUTION:
   - **Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.**
   - **Make sure to select “SETTING” even if the indicated configuration of brand new IPDM E/R is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model cannot be memorized**
3. Sets the displayed item and then select “NEXT”.
   NOTE:
   If item is not displayed, select “NEXT”.
4. Check that the configuration has been successfully written and touch “End”.

>> GO TO 4.

4.OPERATION CHECK

Confirm that each function controlled by IPDM E/R operates normally.

>> WORK END

Configuration List

INFOID:0000000010499184

CAUTION:
Check vehicle specifications before servicing.

MANUAL SETTING ITEM			NOTE
System	Item	Setting value	
IPDM-E	Data part No	284B7-4EA8D	–
IPDM-E	Data part No	284B7-4EA8E	–
IPDM-E	Data part No	284B7-4EA9A	–
IPDM-E	Data part No	284B7-4EA9B	–
IPDM-E	Data part No	284B7-4EA9C	–
IPDM-E	Data part No	284B7-4EA9D	–
IPDM-E	Data part No	284B7-4EA9E	–
IPDM-E	Data part No	284B7-4EB0A	–
IPDM-E	Data part No	284B7-4EB0B	–
IPDM-E	Data part No	284B7-4EB0C	–
IPDM-E	Data part No	284B7-4EB0D	–
IPDM-E	Data part No	284B7-4EB0E	–
IPDM-E	Data part No	284B7-4EB1A	–
IPDM-E	Data part No	284B7-4EB1B	–
IPDM-E	Data part No	284B7-4EB1C	–
IPDM-E	Data part No	284B7-4EB1D	–
IPDM-E	Data part No	284B7-4EB1E	–
IPDM-E	Data part No	284B7-4EB2A	–
IPDM-E	Data part No	284B7-4EB2B	–
IPDM-E	Data part No	284B7-4EB2C	–
IPDM-E	Data part No	284B7-4EB2D	–
IPDM-E	Data part No	284B7-4EB2E	–
IPDM-E	Data part No	284B7-4EB3A	–
IPDM-E	Data part No	284B7-4EB3B	–
IPDM-E	Data part No	284B7-4EB3C	–
IPDM-E	Data part No	284B7-4EB3D	–
IPDM-E	Data part No	284B7-4EB3E	–
IPDM-E	Data part No	284B7-4EB4A	–
IPDM-E	Data part No	284B7-4EB4B	–
IPDM-E	Data part No	284B7-4EB4C	–
IPDM-E	Data part No	284B7-4EB4D	–
IPDM-E	Data part No	284B7-4EB4E	–
IPDM-E	Data part No	284B7-4EB5A	–
IPDM-E	Data part No	284B7-4EB5B	–
IPDM-E	Data part No	284B7-4EB5C	–
IPDM-E	Data part No	284B7-4EB5D	–
IPDM-E	Data part No	284B7-4EB5E	–
IPDM-E	Data part No	284B7-4EB6A	–

MANUAL SETTING ITEM			NOTE
System	Item	Setting value	
IPDM-E	Data part No	284B7-4EB8B	All of the following are satisfied. • R9M engine • MT • Headlamp aiming control system (auto) • LED headlamp • With Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4EB8C	All of the following are satisfied. • R9M engine • CVT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4EB8D	All of the following are satisfied. • R9M engine • CVT • Headlamp aiming control system (auto) • LED headlamp • With Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4EB9B	All of the following are satisfied. • MR16DD engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4EB9C	All of the following are satisfied. • MR16DD engine • MT • Headlamp aiming control system (auto) • LED headlamp • With Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4EB9D	All of the following are satisfied. • HRA2DDT engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4EB9E	All of the following are satisfied. • HRA2DDT engine • CVT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED0A	All of the following are satisfied. • HRA2DDT engine • CVT • Headlamp aiming control system (auto) • LED headlamp • With Intelligent Key system • Without stop/start system

MANUAL SETTING ITEM			NOTE
System	Item	Setting value	
IPDM-E	Data part No	284B7-4ED0B	All of the following are satisfied. • MR20DD engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED0C	All of the following are satisfied. • MR20DD engine • CVT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED0D	All of the following are satisfied. • MR20DD engine • CVT • Headlamp aiming control system (auto) • LED headlamp • With Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED0E	All of the following are satisfied. • MR20DD engine • MT • Headlamp aiming control system (auto) • LED headlamp • With Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED1A	All of the following are satisfied. • MR20DD engine • CVT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED1B	All of the following are satisfied. • R9M engine • CVT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4ED1C	All of the following are satisfied. • R9M engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED1E	All of the following are satisfied. • HRA2DDT engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • With stop/start system

MANUAL SETTING ITEM			NOTE
System	Item	Setting value	
IPDM-E	Data part No	284B7-4ED2A	All of the following are satisfied. • HRA2DDT engine • CVT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4ED2B	All of the following are satisfied. • K9K engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4ED2C	All of the following are satisfied. • R9M engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4ED2D	All of the following are satisfied. • MR16DD engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • With stop/start system
IPDM-E	Data part No	284B7-4ED2E	All of the following are satisfied. • MR20DD engine • MT • Headlamp aiming control system (auto) • LED headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED3A	All of the following are satisfied. • MR20DD engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED3B	All of the following are satisfied. • MR20DD engine • CVT • Headlamp aiming control system (auto) • LED headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED3C	All of the following are satisfied. • R9M engine • MT • Headlamp aiming control system (auto) • LED headlamp • Without Intelligent Key system • Without stop/start system

MANUAL SETTING ITEM			NOTE
System	Item	Setting value	
IPDM-E	Data part No	284B7-4ED3D	All of the following are satisfied. • R9M engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED3E	All of the following are satisfied. • HRA2DDT engine • CVT • Headlamp aiming control system (auto) • LED headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED4A	All of the following are satisfied. • HRA2DDT engine • CVT • Headlamp aiming control system (manual) • Halogen headlamp • With Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED4B	All of the following are satisfied. • R9M engine • MT • Headlamp aiming control system (auto) • LED headlamp • With Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED4C	All of the following are satisfied. • HRA2DDT engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED4D	All of the following are satisfied. • HRA2DDT engine • CVT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED4E	All of the following are satisfied. • HRA2DDT engine • CVT • Headlamp aiming control system (auto) • LED headlamp • With Intelligent Key system • Without stop/start system
IPDM-E	Data part No	284B7-4ED5A	All of the following are satisfied. • MR20DD engine • MT • Headlamp aiming control system (manual) • Halogen headlamp • Without Intelligent Key system • Without stop/start system

CUMULATIVE BATTERY DISCHARGE CURRENT CLEAR

Description

INFOID:0000000010499185

CUMULATIVE BATTERY DISCHARGE CURRENT CLEAR is an operation to clear the cumulative value of battery discharge current which is memorized in IPDM E/R. This operation is necessary after replaced the battery.

Work Procedure

INFOID:0000000010499186

1.CLEAR CUMULATIVE BATTERY DISCHARGE CURRENT VALUE

1. Turn ignition switch ON.
2. Select “CML B/DCHRG CRNT CLEAR” in “Work Support” mode of “IPDM E/R” using CONSULT.
3. Touch “CLEAR” to clear the cumulative value of battery discharge current.

>> WORK END

CUMULATIVE BATTERY DISCHARGE CURRENT CLEAR

Description

INFOID:0000000010499185

CUMULATIVE BATTERY DISCHARGE CURRENT CLEAR is an operation to clear the cumulative value of battery discharge current which is memorized in IPDM E/R. This operation is necessary after replaced the battery.

Work Procedure

INFOID:0000000010499186

1.CLEAR CUMULATIVE BATTERY DISCHARGE CURRENT VALUE

1. Turn ignition switch ON.
2. Select “CML B/DCHRG CRNT CLEAR” in “Work Support” mode of “IPDM E/R” using CONSULT.
3. Touch “CLEAR” to clear the cumulative value of battery discharge current.

>> WORK END

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:0000000010499193

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC Detection Condition
U1000	CAN COMM CIRCUIT (CAN communication circuit)	When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe operation
Cooling fan	• Cooling fan operates at high speed when the ignition switch is turned ON • Cooling fan stops when the ignition switch is turned OFF
A/C compressor	A/C relay OFF

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	• Turns ON the headlamp low when the ignition switch is turned ON • Turns OFF the headlamp low when the ignition switch is turned OFF • Turn OFF the headlamp high
• Parking lamp • License plate lamp • Illumination • Tail lamp	• Turns ON the tail lamp, parking lamp, license plate lamp and illumination when the ignition switch is turned ON • Turns OFF the tail lamp, parking lamp, license plate lamp and illumination when the ignition switch is turned OFF
Front wiper motor	• The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. • The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Front fog lamp	Turns OFF the front fog lamp
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter relay OFF

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON and wait for 2 seconds or more.
3. Check “Self Diagnostic Result” of IPDM E/R.

s DTC “U1000” displayed?

YES >> Refer to PCS-62, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010499194

1. PERFORM SELF DIAGNOSTIC

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON and wait for 2 seconds or more.
3. Check “Self Diagnostic Result” of IPDM E/R.

Is DTC “U1000” displayed?

YES >> Refer to LAN-28, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-44, "Intermittent Incident".

B120E IPDM E/R

DTC Description

INFOID:0000000010499195

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)		DTC Detection Condition
B120E	IPDM E/R	[SYSTEM INTERNAL FAILURES]	EEPROM in IPDM E/R is malfunctioning
		[NOT CONFIURED]	Control unit setting is not performed

POSSIBLE CAUSE

IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait 1 second or more.
3. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-63, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010499196

1.CHECK DTC

Perform each inspection according to the displayed DTC.

Which DTC is detected?

[NOT CONFIURED]>>GO TO 2.
[SYSTEM INTERNAL FAILURES]>>GO TO 3.

2.PERFORM CONFIGURATION (IPDM E/R)

1. Perform Configuration (IPDM E/R). Refer to PCS-53, "Description".
2. Perform DTC confirmation procedure. Refer to PCS-63, "DTC Description"

Is DTC detected?

YES >> GO TO 3.
NO >> INSPECTION END

3.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-68, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-63, "DTC Description"

Is DTC detected?

YES >> Refer to GI-44, "Intermittent Incident".
NO >> INSPECTION END

B20DD IGNITION RELAY ON CIRCUIT

DTC Description

INFOID:0000000010499197

- IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN communication.
- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the combination meter (Emergency OFF)

- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times within 1.5 seconds.

NOTE:
The ignition relay does not turn ON for 3 seconds after emergency OFF even if the push-button ignition switch is pressed.

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)		DTC Detection Condition
B20DD	IGN RELAY ON CIRC	[CIRC SHORT TO BATTERY]	The ignition relay OFF is detected for 1 second at ignition switch ON (CPU monitors the status at the contact circuits of the ignition relay inside it)

POSSIBLE CAUSE

IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch OFF.
2. Turn ignition switch ON and wait 1 second or more.
3. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-64, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010499198

1.CHECK IGNITION RELAY POWER SUPPLY CIRCUIT 1

1. Turn ignition switch ON
2. Display “Self-diagnosis Result” of IPDM E/R with CONSULT.
3. Remove fuse [No. 56 (15 A)] at the downstream of IGN relay in IPDM E/R, and check the change in “Self-diagnosis Result”.

Is it now a past malfunction?

YES >> Perform an inspection of the downstream circuit of fuse [No. 56 (15 A)] at the downstream of IGN relay in IPDM E/R.
NO >> GO TO 2.

2.CHECK IGNITION RELAY POWER SUPPLY CIRCUIT 2

1. Return fuse [No. 56 (15 A)] downstream of IGN relay in IPDM E/R back to the original position.
2. Remove fuse [No. 61 (20 A)] at the downstream of IGN relay in IPDM E/R, and check the change in “Self-diagnosis Result”.

Is it now a past malfunction?

YES >> Perform an inspection of the downstream circuit of fuse [No. 61 (20 A)] at the downstream of IGN relay in IPDM E/R.
NO >> GO TO 3.

3. CHECK IGNITION RELAY POWER SUPPLY CIRCUIT 3

1. Return fuse [No. 61 (20 A)] downstream of IGN relay in IPDM E/R back to the original position
2. Remove fuse [No. 63 (10 A)] at the downstream of IGN relay in IPDM E/R, and check the change in “Self-diagnosis Result”.

Is it now a past malfunction?

YES >> Perform an inspection of the downstream circuit of fuse [No. 63 (10 A)] at the downstream of IGN relay in IPDM E/R.
NO >> GO TO 4.

4. CHECK IGNITION RELAY POWER SUPPLY CIRCUIT 4

1. Return fuse [No. 63 (10 A)] downstream of IGN relay in IPDM E/R back to the original position
2. Remove fuse [No. 67 (10 A)] at the downstream of IGN relay in IPDM E/R, and check the change in “Self-diagnosis Result”.

Is it now a past malfunction?

YES >> Perform an inspection of the downstream circuit of fuse [No. 67 (10 A)] at the downstream of IGN relay in IPDM E/R.
NO >> GO TO 5.

5. REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-68, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-64, "DTC Description".

Is DTC detected?

YES >> Refer to GI-44, "Intermittent Incident".
NO >> INSPECTION END

B20DE IGNITION RELAY OFF CIRCUIT

DTC Description

INFOID:0000000010499199

- IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN communication.
- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the combination meter (Emergency OFF)

- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times within 1.5 seconds.

NOTE:
The ignition relay does not turn ON for 3 seconds after emergency OFF even if the push-button ignition switch is pressed.

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)		DTC Detection Condition
B20DE	IGN RELAY OFF CIRC (Ignition relay OFF circuit)	[CIRC SHORT TO GROUND OR OPEN]	The ignition relay OFF is detected for 1 second at ignition switch ON (CPU monitors the status at the contact circuits of the ignition relay inside it)

POSSIBLE CAUSE

IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch OFF.
2. Turn ignition switch ON and wait 1 second or more.
3. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-66, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010499200

1.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-68, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-66, "DTC Description".

Is DTC detected?

YES >> Refer to GI-44, "Intermittent Incident".
NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000010499201

1.CHECK FUSIBLE LINK

Check that the following IPDM E/R fusible links are not blown.

Signal name	Fusible link No.
Battery power supply	C (100 A)
	D(100 A)
	U(100 A)
	S(30 A)
	T(30 A)

Is the fuse fusing?

YES >> Replace the blown fusible link after repairing the affected circuit if a fusible link is blown.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check voltage between IPDM E/R harness connector and the ground.

(+)		(–)	Voltage
IPDM E/R			
Connector	Terminal		
E36	1	Ground	6 – 16 V
	2		
F88	67		
	70		

Is the measurement value normal?

YES >> GO TO 3.
NO >> Repair the harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between IPDM E/R harness connectors and the ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E37	12	Ground	Existed
E38	31		
E39	47		

Does continuity exist?

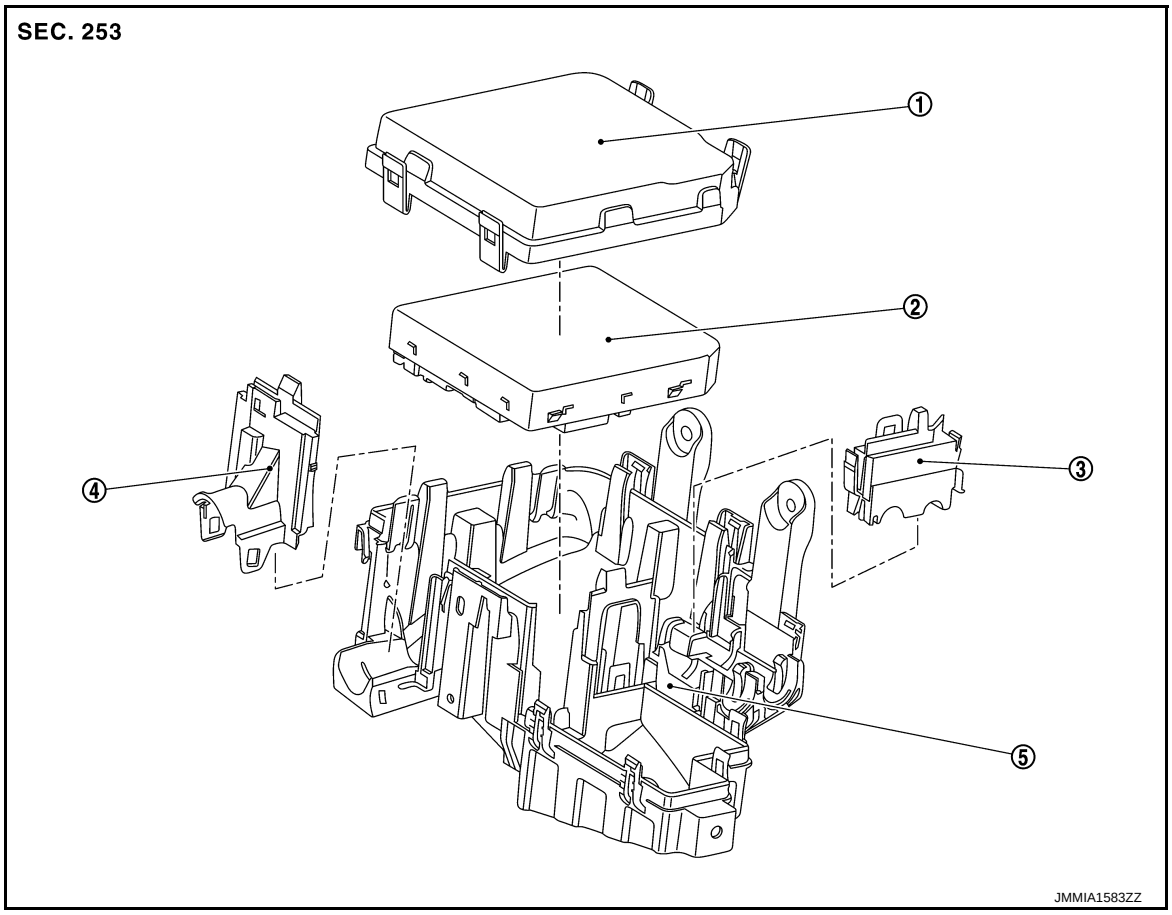
YES >> INSPECTION END
NO >> Repair the harness or connector.

REMOVAL AND INSTALLATION

IPDM E/R

Exploded View

INFOID:0000000010499277



① IPDM E/R cover A
② IPDM E/R
③ IPDM E/R cover B
④ IPDM E/R cover C
⑤ IPDM E/R cover D

Removal and Installation

INFOID:0000000010499278

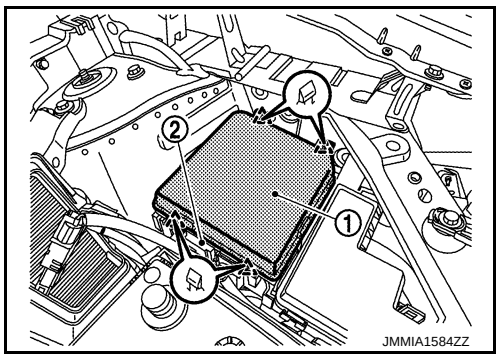
CAUTION:
When replacing IPDM E/R, save or print current vehicle specification with CONSULT configuration before replacement. Refer to PCS-52, "Work Procedure".

REMOVAL

1. Disconnect the battery cable from the negative terminal.
2. Remove air resonator and air duct (for except MR engine models). Refer to EM-24, "Removal and Installation" (For HR engine), EM-426, "Removal and Installation" (For K9K engine) or EM-528, "Removal and Installation" (For R9M engine).

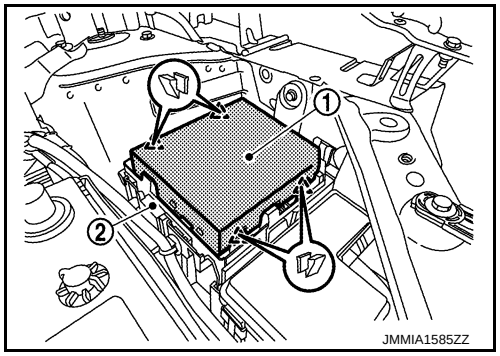
3. Pull up IPDM E/R cover A ① from IPDM E/R cover D ② with pressing the pawls of IPDM E/R cover A ①.

△ : Pawl



4. Pull up IPDM E/R ① with disengaging the pawls of IPDM E/R cover D ②

△ : Pawl



5. Disconnect the connector and remove IPDM E/R from the vehicle.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Be sure to perform “Read/Write Configuration” when replacing IPDM E/R. Or not doing so, IPDM E/R control function does not operate normally. Refer to PCS-52, "Work Procedure".

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010519268

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. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **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 “SRS AIR BAG”.**
- **Never 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:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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 Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000010519267

CAUTION:

Comply with the following cautions to prevent any error and malfunction.

- **Before removing and installing any control units, first turn the ignition power source and accessory power source to the OFF, then disconnect both battery cables.**
- **After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.**
- **Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.**

For vehicle with steering lock unit, if the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the operation procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.
   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Open driver door.
3. Turn the ignition switch to the ON position.
   (At this time, the steering lock will be released.)
4. Turn the ignition switch to OFF position with driver door open.
5. Wait for 3 minutes or longer with driver door open.
   NOTE:
   - Do not close driver door because the steering wheel locks when driver door is closed.

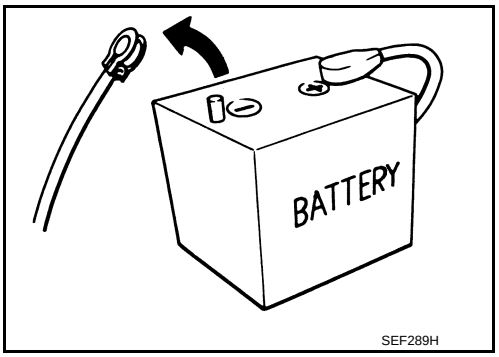
- The auto acc function is adapted to this vehicle. For this reason, even when the ignition switch is turned to OFF position, the accessory power source does not turned OFF and continues to be supplied for a certain amount of time.

6. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
7. Perform the necessary repair operation.
8. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the ignition switch from OFF position to ON position, then to LOCK position. (The steering wheel will lock when the ignition switch is turned to LOCK position.)
9. Perform self-diagnosis check of all control units using CONSULT.

Precautions for Removing Battery Terminal

INFOID:0000000010519266

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.



HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to instruction described below.

1. Open the hood.
2. Turn ignition switch to the ON position.
3. Turn ignition switch to the OFF position with the driver side door opened.
4. Get out of the vehicle and close the driver side door.
5. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

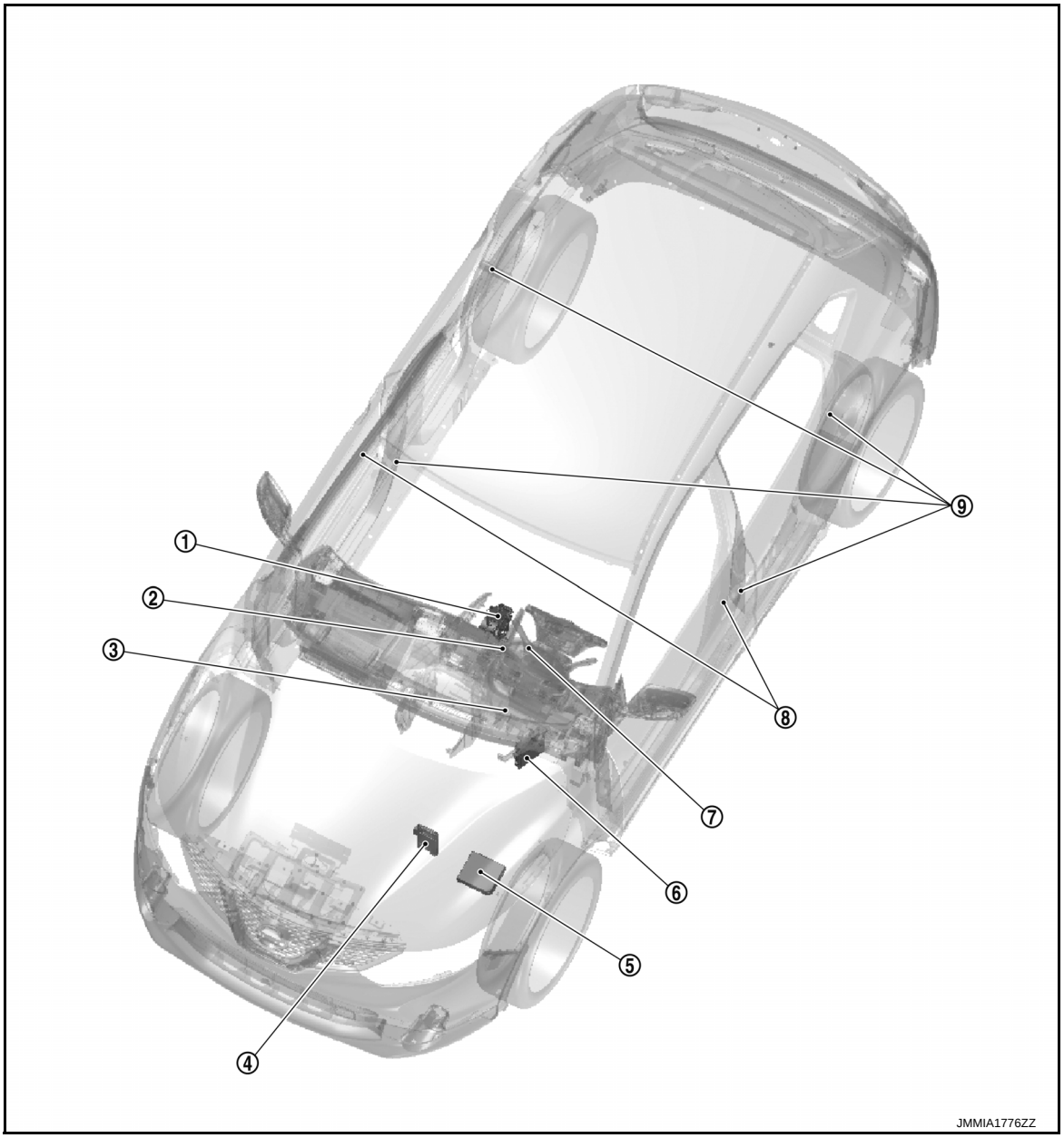
6. Remove 12V battery terminal.
   CAUTION:
   After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010434039



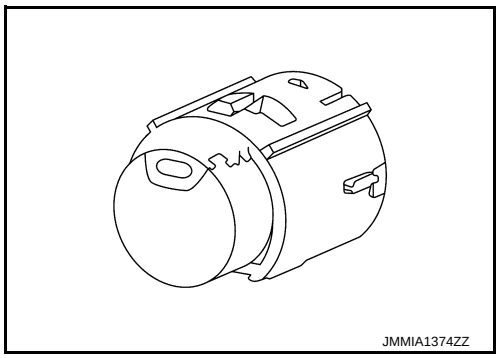
No.	Component	Description
①	CVT shift selector (detention switch) (CVT models)	CVT shift selector (detention switch) detects shift lever status, transmits detention switch signal to BCM. Refer to TM-430, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.
②	Push-button ignition switch	Refer to PCS-73, "Push-button Ignition Switch".
③	Stop lamp switch	Stop lamp switch detects that brake pedal is depressed, and transmits the signal to BCM. Refer to BRC-8, "Component Parts Location".
④	TCM	Transmits shif position signal to BCM via CAN communication line. Refer to TM-430, "CVT CONTROL SYSTEM : Component Parts Location".

No.	Component	Description
⑤	IPDM E/R	IPDM E/R detects push-button ignition switch (push switch) status, and transmits push-button ignition switch status signal (CAN) to BCM. Refer to PCS-5, "Component Parts Location" for detailed installation location.
⑥	BCM	• BCM controls power distribution system. • BCM judges ignition switch position by push-button ignition switch (push switch) and vehicle condition • BCM checks the ignition switch position internally. Refer to BCS-7, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑦	Key switch	Key switch detects that ignition key is inserted into the ignition key cylinder, and then transmits the signal to BCM.
⑧	Door request switch	Door request switch detects door lock/unlock operation and transmits door request switch signal to BCM
⑨	Door switch	Detects door open/close condition.

Push-button Ignition Switch

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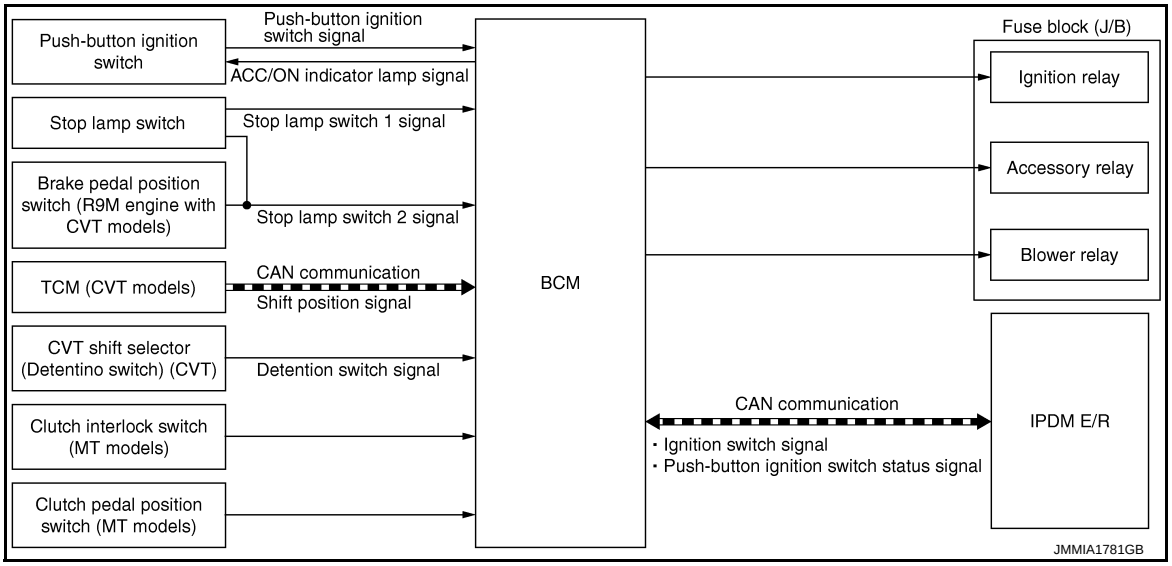
Push-button ignition switch is pressed, and transmits the status signal to BCM and IPDM E/R.



SYSTEM
POWER DISTRIBUTION SYSTEM
POWER DISTRIBUTION SYSTEM : System Description

INFOID:0000000010434041

SYSTEM DIADRAM



SYSTEM DESCRIPTION

- POWER DISTRIBUTION SYSTEM is the system that BCM controls with the operation of push-button ignition switch and performs the power distribution to each power circuit. This system is used instead of the mechanical power supply changing mechanism with the operation of the conventional key cylinder.
- Push-button ignition switch can be operated when Intelligent Key is in the following condition.
  - Intelligent Key is in the detection area of the inside key antenna.
  - Intelligent Key backside is contacted to push-button ignition switch.
- Push-button ignition switch operation is input to BCM as a signal. BCM changes the ignition switch position according to the status and operates the following relays to supply power to each power circuit.
  - Ignition relay (IPDM E/R)
  - Ignition relay [fuse block (J/B)]
  - Accessory relay
  - Blower relay
- The ignition switch position can be confirmed with the lighting of the ACC/ON indicator lamp in push-button ignition switch.

IGNITION BATTERY SAVER SYSTEM

When all the following conditions are met for 10 minutes, the battery saver system will cut off the power supply (ignition switch position ACC/ON → OFF) to prevent battery discharge.

- Ignition switch is in the ACC/ON position
- Turn signal lamp is not in operation
- Selector lever is in the P position (A/T models)

NOTE:

For one minute after thirty minutes have passed or three minutes after twenty-seven minutes are passed, the following display is indicated on information display in combination meter and sounds buzzer in combination meter.

Combination meter		Time
Information display	Buzzer	
Power turned off to save the battery	Pipi-Pipi (two seconds)	For one minute after thirty minutes have passed
		three minutes after twenty-seven minutes are passed

Reset Condition of Ignition Battery Saver System

If any of the following conditions are met the battery saver system is released.

- Ignition switch is not in the ACC/ON position.

- Turn signal lamp is operation.
- Selector lever is not in the P position.

NOTE:
The ignition battery saver system can be temporarily disabled, without using CONSULT, to prevent it from functioning when performing trouble diagnosis. Refer to PCS-107, "Work Procedure".

IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

Refer to PCS-75, "AUTO ACC FUNCTION : System Description".

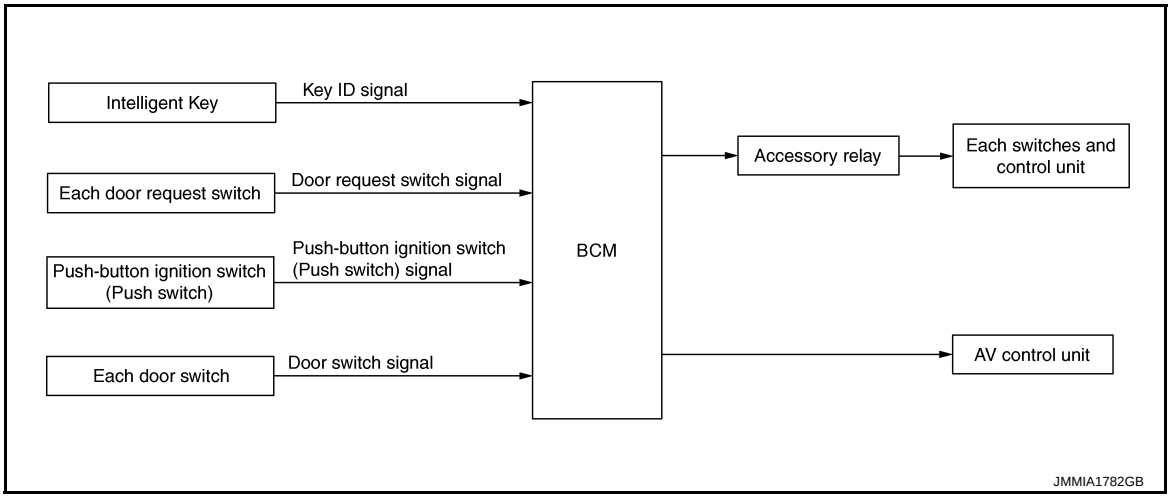
AUTO ACC FUNCTION

AUTO ACC FUNCTION : System Description

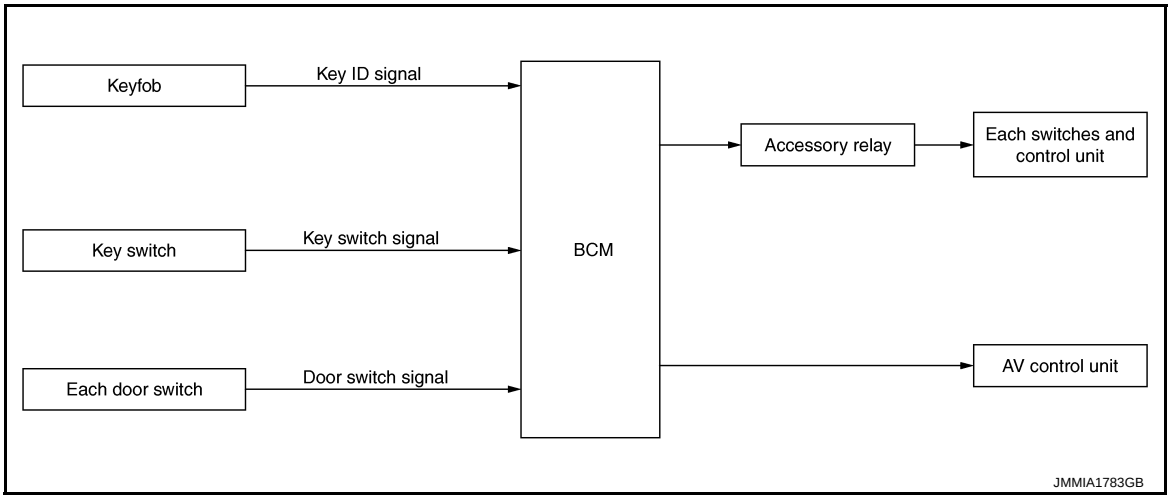
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SYSTEM DIAGRAM

MODELS WITH INTELLIGENT KEY SYSTEM



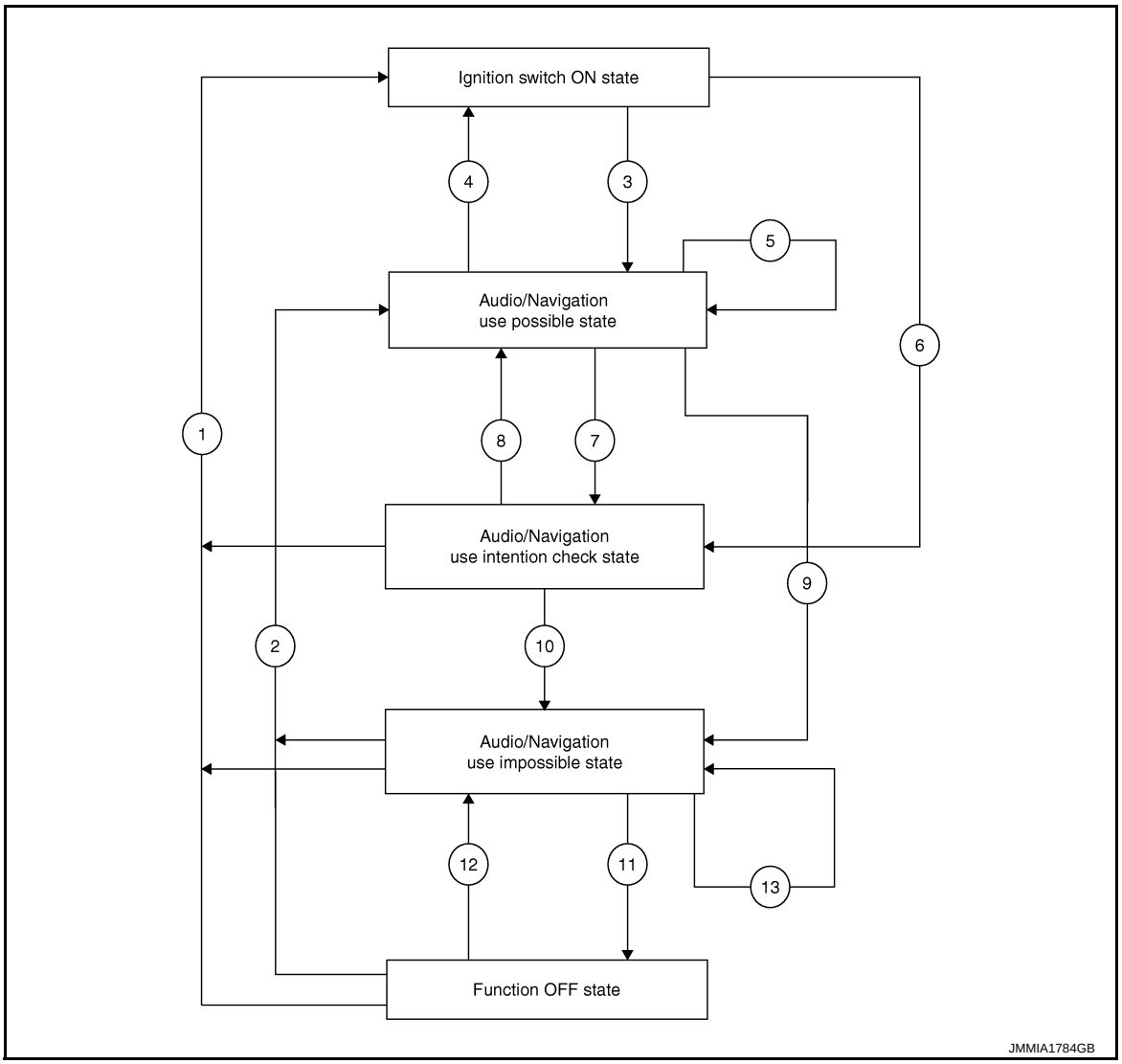
MODELS WITHOUT INTELLIGENT KEY SYSTEM



DESCRIPTION

In conventional vehicles, power is supplied to the accessories of the vehicle after the ignition switch is turned to the ACC position.
The AUTO ACC function is a function that bypasses the ignition switch ACC position and automatically distributes the accessory power supply to each switch and unit by door unlock operation, etc. using the Intelligent Key (models with Intelligent Key) or the remote controller key (models without Intelligent Key).

OPERATION FLOW



Ignition Switch On Status

In this status the ignition switch is operated and turned ON.

Audio / Navigation Available Status

- In this status the audio, navigation, and each switch and unit that is activated by the accessory power source can be operated.
- When 10 minutes pass after conditions are satisfied while and audio and navigation are not operated, audio and navigation turn OFF.
- When audio or navigation is operated within 10 minutes after conditions are satisfied, operation time is extended for 10 minutes. Audio and navigation can be operated for a maximum of 30 minutes after the status is satisfied.

Audio / navigation use intention check status

This is a status for checking the intention of using audio and navigation again after audio and navigation are stopped.

Audio / navigation unavailable status

In this status audio and navigation become unavailable, but the switches and units other than those for audio or navigation that can operate by using the accessory power source are available until the accessory power source turns OFF.

OFF status

In this status the AUTO ACC function stops and power to the accessories is not supplied.

No.	Function status	Shifting condition	Accessory power source
①	• Shifting from "OFF status" to "Ignition switch ON status" • Shifting from "Audio / navigation unavailable status" to "Ignition switch ON status" • Shifting from "Audio / navigation use intention confirmation status" to "Ignition switch ON status"	Turn the ignition switch ON from OFF.	OFF → ON
②	• Shifting from "OFF status" to "Audio / navigation available status" • Shifting from "Audio / navigation unavailable status" to "Audio / navigation available status"	• Models with Intelligent Key: Operate either the door request switch or the unlock button of the Intelligent Key to unlock the door. • Models without Intelligent Key: Operate the unlock button of remote controller button to unlock the door.	OFF → ON
③	Shifting from "Ignition switch ON status" to "Audio / navigation available status"	Turn the ignition switch OFF from ON while driver door is closed.	ON
④	Shifting from "Audio / navigation available status" to "Ignition switch ON status"	Turn the ignition switch ON from OFF.	ON
⑤	"Audio / navigation available status" Time extension (10 minutes)	Operate audio or navigation.	ON
⑥	Shifting from "Ignition switch ON status" to "Audio / navigation use intention confirmation status"	Turn the ignition switch OFF from ON while driver door is open.	ON
⑦	Shifting from "Audio / navigation available status" to "Audio / navigation use intention confirmation status"	• For models with Intelligent Key, any of the following conditions is satisfied. - Close all doors, and lock all doors with the Intelligent Key or door request switch. - Ten minutes pass from "Audio / navigation available status." - When ignition switch has been shifted from ON to OFF, open the driver door. • For models without Intelligent Key, any of the following conditions is satisfied. - Close all doors, and lock all doors with the remote controller button. - Remove the key from the ignition key cylinder. - Ten minutes pass from "Audio / navigation available status." - When ignition switch has been shifted from ON to OFF, open the driver door.	ON
⑧	Shifting from "Audio / navigation use intention confirmation status" to "Audio / navigation available status"	Any of the following conditions is satisfied. • Models with Intelligent Key: Operate either the door request switch or the unlock button of the Intelligent Key to unlock the door. • Models without Intelligent Key: Operate the unlock button of remote controller button to unlock the door. • Operate audio or navigation power switch	ON
⑨	Shifting from "Audio / navigation available status" to "Audio / navigation unavailable status"	Thirty minutes pass from "Audio / navigation available status."	ON
⑩	Shifting from "Audio / navigation use intention confirmation status" to "Audio / navigation unavailable status"	Any of the following conditions is satisfied. • Two minutes pass from "Audio / navigation use intention confirmation status." • In "Audio / navigation use intention confirmation status," 30 minutes pass after "Audio / navigation available status" is satisfied.	ON
⑪	Shifting from "Audio / navigation unavailable status" to "OFF status"	One minute passes from "Audio / navigation unavailable status."	ON → OFF

No.	Function status	Shifting condition	Accessory power source
⑫	Shifting from "OFF status" to "Audio / navigation unavailable status"	Any of the following conditions is satisfied. • Driver door is opened or closed. • The steering lock operates.	OFF → ON
⑬	"Audio / navigation unavailable status" Time extension (1 minute)	Any of the following conditions is satisfied. • Driver door is opened or closed. • The steering lock operates.	ON

Fail-safe

INFOID:0000000010434042

FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B25A0: LIN COMM ERROR PWD MAIN SW	Operation with power window main switch other than driver seat	When any of the following specified malfunctioning parts is replaced. • LIN communication line • Power window main switch
B25A1: LIN COMM ERR DRIVER PWD ACTR	• Retained power function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • LIN communication line • Front power window motor (driver side)
B25A2: LIN COMM ERR ASSIST PWD ACTR	• Operation with power window main switch • Retained power function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • LIN communication line • Front power window motor (passenger side)
B25A3: LIN COMM ERR REAR PWD ACTR	• Operation with power window main switch • Retained power function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • LIN communication line • Rear power window motor
B25A4: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)
B25A5: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)
B25A6: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)

Display contents of CONSULT	Fail-safe	Cancellation
B25A7: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)
B25A8: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)
B25A9: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified operations are performed. • system initialization • Replace front power window motor (driver side)
B25AA: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Harness or connectors • Front power window motor (driver side)
B25B6: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Power window main switch • Front power window motor (driver side)
B25B7: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Power window main switch • Front power window motor (driver side)
B25B8: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Power window main switch • Front power window motor (driver side)
B25B9: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Power window main switch • Front power window motor (driver side)
B25BA: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BB: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BC: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BD: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BE: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BF: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified operations are performed. • system initialization • Replace front power window motor (passenger side)

No.	Function status	Shifting condition	Accessory power source
⑫	Shifting from "OFF status" to "Audio / navigation unavailable status"	Any of the following conditions is satisfied. • Driver door is opened or closed. • The steering lock operates.	OFF → ON
⑬	"Audio / navigation unavailable status" Time extension (1 minute)	Any of the following conditions is satisfied. • Driver door is opened or closed. • The steering lock operates.	ON

Fail-safe

INFOID:0000000010434042

FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B25A0: LIN COMM ERROR PWD MAIN SW	Operation with power window main switch other than driver seat	When any of the following specified malfunctioning parts is replaced. • LIN communication line • Power window main switch
B25A1: LIN COMM ERR DRIVER PWD ACTR	• Retained power function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • LIN communication line • Front power window motor (driver side)
B25A2: LIN COMM ERR ASSIST PWD ACTR	• Operation with power window main switch • Retained power function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • LIN communication line • Front power window motor (passenger side)
B25A3: LIN COMM ERR REAR PWD ACTR	• Operation with power window main switch • Retained power function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • LIN communication line • Rear power window motor
B25A4: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)
B25A5: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)
B25A6: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)

Display contents of CONSULT	Fail-safe	Cancellation
B25A7: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)
B25A8: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (driver side)
B25A9: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified operations are performed. • system initialization • Replace front power window motor (driver side)
B25AA: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Harness or connectors • Front power window motor (driver side)
B25B6: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Power window main switch • Front power window motor (driver side)
B25B7: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Power window main switch • Front power window motor (driver side)
B25B8: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Power window main switch • Front power window motor (driver side)
B25B9: DR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Power window main switch • Front power window motor (driver side)
B25BA: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BB: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BC: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BD: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BE: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace front power window motor (passenger side)
B25BF: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified operations are performed. • system initialization • Replace front power window motor (passenger side)

Display contents of CONSULT	Fail-safe	Cancellation
B25C0: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Harness or connectors • Front power window motor (passenger side)
B25CC: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Front power window switch (passenger side) • Front power window motor (passenger side)
B25CD: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Front power window switch (passenger side) • Front power window motor (passenger side)
B25CE: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Front power window switch (passenger side) • Front power window motor (passenger side)
B25CF: PASS PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Front power window switch (passenger side) • Front power window motor (passenger side)
B25D0: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace rear power window motor RH
B25D1: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace rear power window motor RH
B25D2: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace rear power window motor RH
B25D3: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace rear power window motor RH
B25D4: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	Replace rear power window motor RH
B25D5: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified operations are performed. • system initialization • Replace rear power window motor RH
B25D6: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Harness or connectors • Rear power window motor RH
B25E2: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Rear power window switch RH • Rear power window motor RH
B25E3: RR PWR WNDW ACTR MALFUNC	• Auto-up operation • Anti-pinch function • Keyless power window up/down function	When any of the following specified malfunctioning parts is replaced. • Rear power window switch RH • Rear power window motor RH

Display contents of CONSULT	Fail-safe	Cancellation
B26E8: CLUTCH SW	Inhibit steering lock	When any of the following BCM recognition conditions are fulfilled • Status 1 - Clutch pedal position switch signal: ON (9 – 16 V: Clutch pedal is released) - Clutch interlock switch signal: OFF (0 – 0.5 V: Clutch pedal is released) • Status 2 - Clutch pedal position switch signal: OFF (0 – 1.5 V: Clutch pedal is depressed) - Clutch interlock switch signal: ON (9 – 16 V: Clutch pedal is depressed)
B261F: ASCD CNCL/CLTCH SW	Inhibit steering lock	BCM detects clutch pedal position switch signal (CAN) status [ON (Clutch pedal is released)]
B26EF: STRG LCK RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Steering lock relay signal (CAN): ON • Steering lock unit status signal (CAN): ON
B26F0: STRG LCK RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled • Steering lock relay signal (CAN): OFF • Steering lock unit status signal (CAN): OFF
B26F1: IGN RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Ignition switch ON signal (CAN: Transmitted from BCM): ON • Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled • Ignition switch ON signal (CAN: Transmitted from BCM): OFF • Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F3: START CONT RLY ON	Inhibit engine cranking	When the following conditions are fulfilled • Starter control relay signal (CAN: Transmitted from BCM): OFF • Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF
B26F4: START CONT RLY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Starter control relay signal (CAN: Transmitted from BCM): ON • Starter control relay signal (CAN: Transmitted from IPDM E/R): ON
B26F7: BCM	Inhibit engine cranking by Intelligent Key system	When room antenna and luggage room antenna functions normally
U0415: VEHICLE SPEED	Inhibit steering lock	When vehicle speed signal (Meter) (CAN) is received normally

FAIL-SAFE CONTROL OF COMBINATION SWITCH READING FUNCTION CAUSED BY LOW POWER SUPPLY VOLTAGE

If voltage of battery power supply lower, BCM maintains combination switch reading to the status when input voltage is less than approximately 9 V.

NOTE:

When voltage of battery power supply is approximately 9 V or more, combination switch reading function returns to normal operation.

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010737984

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 selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Exterior lamp	HEAD LAMP	×	×	×
Interior room lamp control	INT LAMP		×	
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	
—	AIR CONDITONER*		×	×
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU		×	
Interior room lamp battery saver	BATTERY SAVER		×	
Back door open	TRUNK		×	
Vehicle security	THEFT ALM	×	×	
RAP	RETAINED PWR		×	
Remote keyless entry system	MULTI REMOTE ENT	×	×	
Signal buffer system	SIGNAL BUFFER		×	×

NOTE:
*: This item is displayed, but not used.

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

CONSULT screen item	Indication/Unit	Description
BATTERY VOLTAGE	V	Battery voltage of the moment a particular DTC is detected.
VEHICLE SPEED	km/h	Vehicle speed of the moment a particular DTC is detected.
EXTERNAL TEMP	°C	External temperature of the moment a particular DTC is detected
VEHICLE COND	—	**NOTE:** This item is displayed, but cannot be use this item.
DOOR LOCK STATUS	—	**NOTE:** This item is displayed, but cannot be use this item.
POWER SUPPLY COUNTER	min	Displays the cumulative time from the time that the battery terminal is connected.

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY) (Type 1)

INFOID:0000000010737983

WORK SUPPORT

Monitor item	Description
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operation in this mode • On: Operate • Off: Non-operation
ENGINE START BY I-KEY	Engine start function mode can be changed to operation with this mode • On: Operate • Off: Non-operation
TRUNK/GLASS HATCH OPEN	**NOTE:** This item is displayed, but cannot be monitored
AUTO LOCK SET	Auto door lock operation time can be changed in this mode • MODE 1: OFF • MODE 2: 30 sec • MODE 3: 1 minute • MODE 4: 2 minutes • MODE 5: 3 minutes • MODE 6: 4 minutes • MODE 7: 5 minutes
SHORT CRANKING OUTPUT	**NOTE:** This item is displayed, but cannot be monitored
IGN/ACC BATTERY SAVER	Ignition battery saver system mode can be changed to operation with this mode • On: Operate • Off: Non-operation
ANSWER BACK	**NOTE:** This item is displayed, but cannot be used
ANSWER BACK I-KEY LOCK UNLOCK	Reminder function (door request switch) mode can be selected from the following with this mode • On: hazard warning lamp operate • Off: hazard warning lamp operate
ANSWER BACK KEYLESS LOCK UNLOCK	Reminder function (Intelligent Key) mode can be selected from the following with this mode • On: hazard warning lamp operate • Off: hazard warning lamp operate
WELCOME LIGHT OP SET	**NOTE:** This item is indicated, but not used

SELF-DIAG RESULT

Refer to BCS-89, "DTC Index".

DATA MONITOR

NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item	Condition
REQ SW -DR	Indicates [On/Off] condition of door request switch (driver side)
REQ SW -AS	Indicates [On/Off] condition of door request switch (passenger side)
REQ SW -BD/TR	Indicates [On/Off] condition of back door request switch
PUSH SW	Indicates [On/Off] condition of push-button ignition switch
CLUTCH SW*1	Indicates [On/Off] condition of clutch interlock switch
BRAKE SW 1	Indicates [On/Off]*2 condition of stop lamp switch power supply
BRAKE SW 2	Indicates [On/Off] condition of stop lamp switch
DETE/CANCL SW	Indicates [On/Off] condition of P position
START CLUTCH SW	Indicates [On/Off] condition of clutch pedal position switch
PUSH SW -IPDM	Indicates [On/Off] condition of push-button ignition switch
IGN RLY1 -F/B	Indicates [On/Off] condition of ignition relay 1
NEUTRAL SW - IPDM	Indicates [On/Off] condition of park/neutral position switch
SFT PN -IPDM	Indicates [On/Off] condition of P or N position
STARTER RELAY - IPDM	Indicates [On/Off] condition of starter relay
ENGINE STATE	Indicates [Stop/Stall/Crank/Run] condition of engine states
ST/INHIRELAY-IPDM	Display the starter relay/starter control relay status signal from IPDM E/R via CAN communication
REVERSE SIGNAL - IPDM	Indicates [On/Off] condition of R position
CRANKING PERMIT - ECM	Display the engine cranking permit signal from ECM via CAN communication
IS STATUS - ECM	Indicates [On/Off] condition of stop/start system
STARTER CUT RELAY - ECM	Indicates [On/Off] condition of starter control relay signal from ECM via CAN communication
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [Km/h]
VEH SPEED 2	Display the vehicle speed signal received from ABS or VDC or TCM by numerical value [Km/h]
IGN REQ - IPDM	Display the ignition request signal from IPDM E/R via CAN communication
STARTER REQ - IPDM	Display the starter request signal from IPDM E/R via CAN communication
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver door status
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] condition of passenger door status
DOOR STAT-RR	Indicates [LOCK/READY/UNLK] condition of rear door RH status
DOOR STAT-RL	Indicates [LOCK/READY/UNLK] condition of rear door LH status
BK DOOR STATE	**NOTE:** This item is displayed, but cannot be monitored
ID OK FLAG	Indicates [Set/Reset] condition of Intelligent Key ID
PRMT ENG STRT	Indicates [Set/Reset] condition of engine start possible
PRMT RKE STRT	**NOTE:** This item is displayed, but cannot be monitored
I-KEY OK FLAG	Indicates [KEY On/NOT On] condition of Intelligent Key ID and Intelligent Key is detected inside vehicle
PRBT ENG STRT	Indicates whether or not the engine is in start prohibited status
ID AUTHENT CANCEL TIMER	Indicates whether or not it is in engine start possible status when Intelligent Key verification is unnecessary
ACC BATTERY SAVER	Indicates [On/Off] whether or not ignition battery saver is in operation

Monitor Item	Condition
CRNK PRBT TMR	Indicates [On/Off] whether or not in cranking prohibited status due to starter motor protection function operation
AUT CRANK TMR	Indicates [On/Off] whether or not in AUTO CRANKING MODE status
CRNK PRBT TME	Indicates the time for changing from cranking prohibited status to cranking possible status
AUT CRANK TMR	Indicates the time that AUTO CRANKING MODE operates
CRANKING TME	Indicates the cranking operation time
SHORT CRANK	**NOTE:** This item is displayed, but not used
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing
RKE OPE COUN2	**NOTE:** This item is displayed, but cannot be monitored
S/L IGN OFF POSITION	Indicates [On/Off] condition of Ignition OFF signal
S/L SENSOR CIRCUIT 1	Indicates [Gnd/Off] condition of steering lock unit sensor circuit
S/L SENSOR CIRCUIT 2	Indicates [On/Off] condition of steering lock unit sensor circuit
S/L POWER OUTPUT	Indicates [On/Off] condition of steering lock unit power supply
S/L POWER CHECK	Indicates [On/Off] condition of steering lock unit power supply
ANTICIPATED POWER	Indicates [On/Off] condition of anticipated power supply
S/L LOCK REQ	Indicates [On/Off] condition of steering lock unit lock request signal
S/L - BCM (CAN)	Indicates [On/Off] condition of CAN communication
S/L POWER ERROR	Indicates [On/Off] condition of steering lock unit power supply error
VEH SPEED ERROR (S/L)	Indicates [On/Off] condition of vehicle speed signal
VEH SPEED NORMAL (S/L)	Indicates [On/Off] condition of vehicle speed signal
ENGINE RUNNING (S/L)	Indicates [On/Off] condition of engine running
S/L ID DISCORD	Indicates [Correct/Incorrect] condition of ID verification
S/L ANTI-SCAN MODE	Indicates [On/Off] condition of antiscan mode
S/L LOCK NOT PERMIT	Indicates [Inhibition/No inhbt] condition of inhibit steering lock
S/L UNLOCK (CAN)	Indicates [Finished/Unfinished] condition of steering lock unit unlock
S/L ID STATUS (CAN)	Indicates [Coded/Blank] condition of registration ID
S/L RESET STATUS (CAN)	Indicates [Exit/No exit] condition of steering lock unit reset signal
S/L LO-LEVEL MALFUNC (CAN)	Indicates [Malf/No malf] condition of lo-level malfunction
S/L LOCK POSITION (CAN)	Indicates [Armed/Malf/Unlocked/Undefined] condition of lock/unlock position signal
S/L ACT MALFUNCTION (CAN)	Indicates [Malf/No malf] condition of steering lock unit malfunction
S/L HI-LEVEL MALFUNC (CAN)	Indicates [Malf/No malf] condition of hi-level malfunction
S/L OPERATION PRHBT (SPD)	Indicates [On/Off] condition of vehicle speed signal
S/L OPERATION PRHBT (PWR)	Indicates [Allowed/Forbid] condition of safety line inhibition
S/L SENSOR POWER (CAN)	Indicates [On/Off] condition of sensor test power supply
S/L SEN TEST PERMIT (CAN)	Indicates [Forbid/Authorize] condition of sensor test
S/L STAT NOT DETECT (CAN)	Indicates [Ok/Undefind] condition of steering lock undefined position signal
S/L LOCKING FINISHED (CAN)	Indicates [Unfinshd/Finished] condition of steering lock unit lock status signal
STOP/START SW	Indicates [On/Off] condition of stop/start off switch
RKE-LOCK	Indicates [On/Off] condition of LOCK signal from Intelligent Key
RKE-UNLOCK	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key
RKE-TR/BD	**NOTE:** This item is displayed, but cannot be monitored

Monitor Item	Condition
RKE-PANIC	**NOTE:** This item is displayed, but cannot be monitored
RKE-MODE CHG	Indicates [On/Off] condition of MODE CHANGE signal from Intelligent Key
RKE PBD	**NOTE:** This item is displayed, but cannot be monitored
KEY SW	**NOTE:** This item is displayed, but cannot be monitored
IGN SW	**NOTE:** This item is displayed, but cannot be monitored
START SW	**NOTE:** This item is displayed, but cannot be monitored

*1: It is displayed but does not operate on CVT models.

*2: OFF is displayed when brake pedal is depressed while brake switch power supply is OFF.

ACTIVE TEST

Test item	Description
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation • On: Operate • Off: Non-operation
INSIDE BUZZER	This test is able to check warning chime in combination meter operation • Buzzer 1: Combination meter buzzer sounds (pipipi...) when CONSULT screen is touched • Buzzer 2: Combination meter buzzer sounds (pipi-pipi-...) when CONSULT screen is touched • Buzzer 3: Combination meter buzzer sounds (pipipipi-pipipipi-...) when CONSULT screen is touched • Off: Non-operation
INDICATOR	This test is able to check warning lamp operation • KEY ON:[Intelligent key system malfunction] displays when CONSULT screen is touched • KEY IND: “KEY” Warning lamp blinks when CONSULT screen is touched • Off: Non-operation
FLASHER	This test is able to check security hazard lamp operation The hazard lamps are activated after “LH/RH/Off” on CONSULT screen is touched
HORN	**NOTE:** This item is displayed, but cannot be used
IGN CONT2	This test is able to operate the blower relay in fuse block (J/B) • On: Operates • Off: Non-operation
MIRROR +5	**NOTE:** This item is displayed, but cannot be used
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation Push-ignition switch illumination illuminates when “ON” on CONSULT screen is touched
PUSH SWITCH INDICATOR	This test is able to check LOCK indicator in push-ignition switch operation LOCK indicator in push-ignition switch illuminates when “ON” on CONSULT screen is touched
ENGINE START REQUEST	This test is able to check BCM sends starter request signal to IPDM E/R via CAN communication • MODE 1: IGN ON, START request OFF • MODE 2: IGN OFF, START request ON • MODE 3: IGN ON, START request ON • Off: Non-operation
IGNITION RELAY	**NOTE:** This item is displayed, but cannot be used
STARTER CUT RELAY	This test is able to operate the starter control relay • On: Operates • Off: Non-operation

Test item	Description
ENGINE START	**NOTE:** This item is displayed, but cannot be used
TRUNK/BACK DOOR	This test is able to check back door opener actuator open operation Back door opener actuator opens when “Open” on CONSULT screen is touched
RETRACTABLE MIRROR	**NOTE:** This item is displayed, but cannot be used
REVERSE LAMP TEST	**NOTE:** This item is displayed, but cannot be used
KEYFOB P/W TEST	**NOTE:** This item is displayed, but cannot be used
AUTO ACC 2	This test is able to check BCM sends power supply to audio unit or NAVI control unit • On: Operate • Off: Non-operation
AUTOMATIC BACK DOOR	**NOTE:** This item is displayed, but cannot be used
AUTO ACC 1	This test is able to check BCM sends power supply to ignition relay • On: Operate • Off: Non-operation
TRUNK/LUGGAGE LAMP TEST	This test is able to check trunk room lamp operation • On: Operates • Off: Non-operation

ECU DIAGNOSIS INFORMATION

BCM

List of ECU Reference

INFOID:0000000010434046

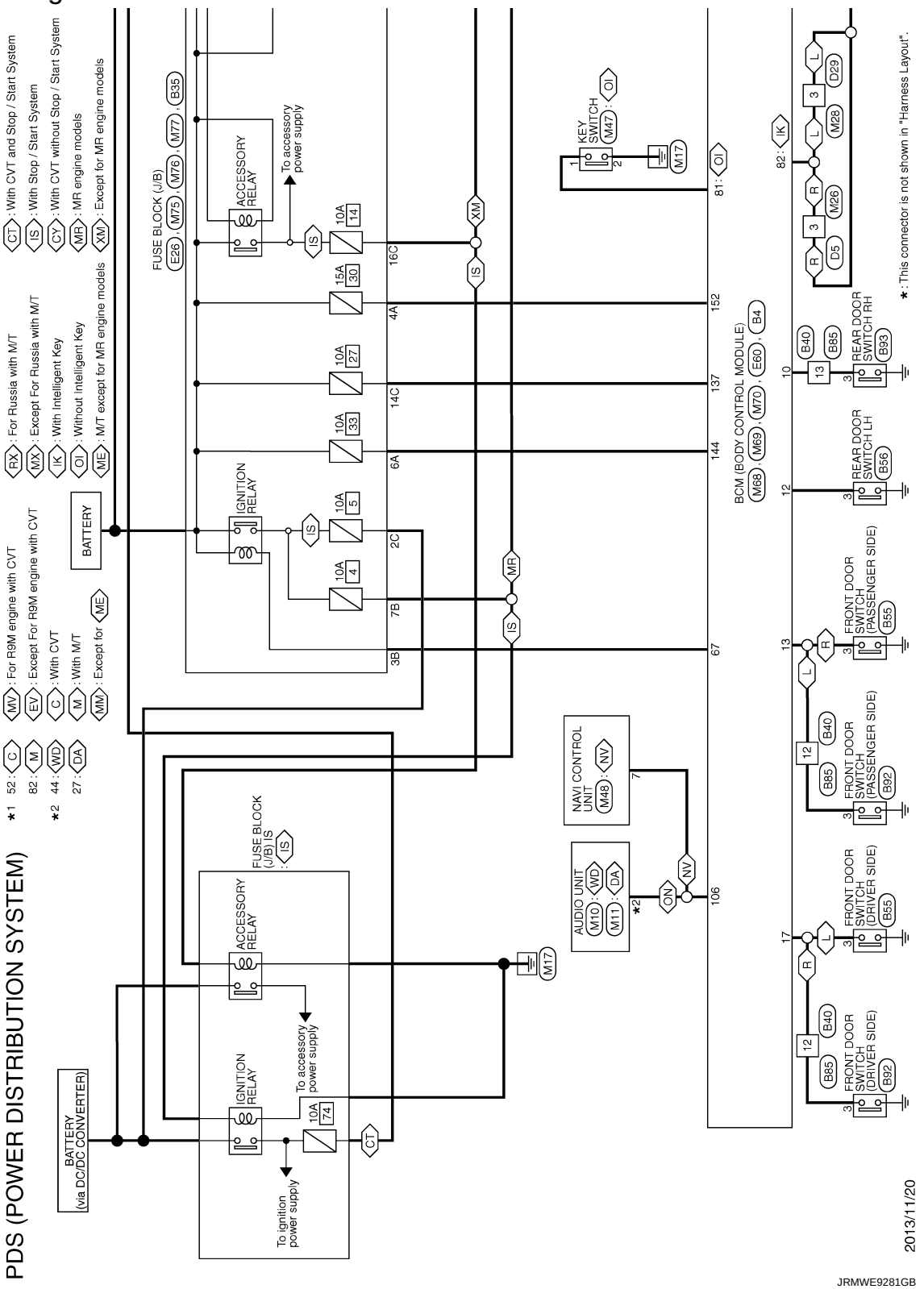
ECU	Reference
BCM	BCS-64, "Reference Value"
	BCS-88, "Fail-safe"
	BCS-89, "DTC Inspection Priority Chart"
	BCS-90, "DTC Index"

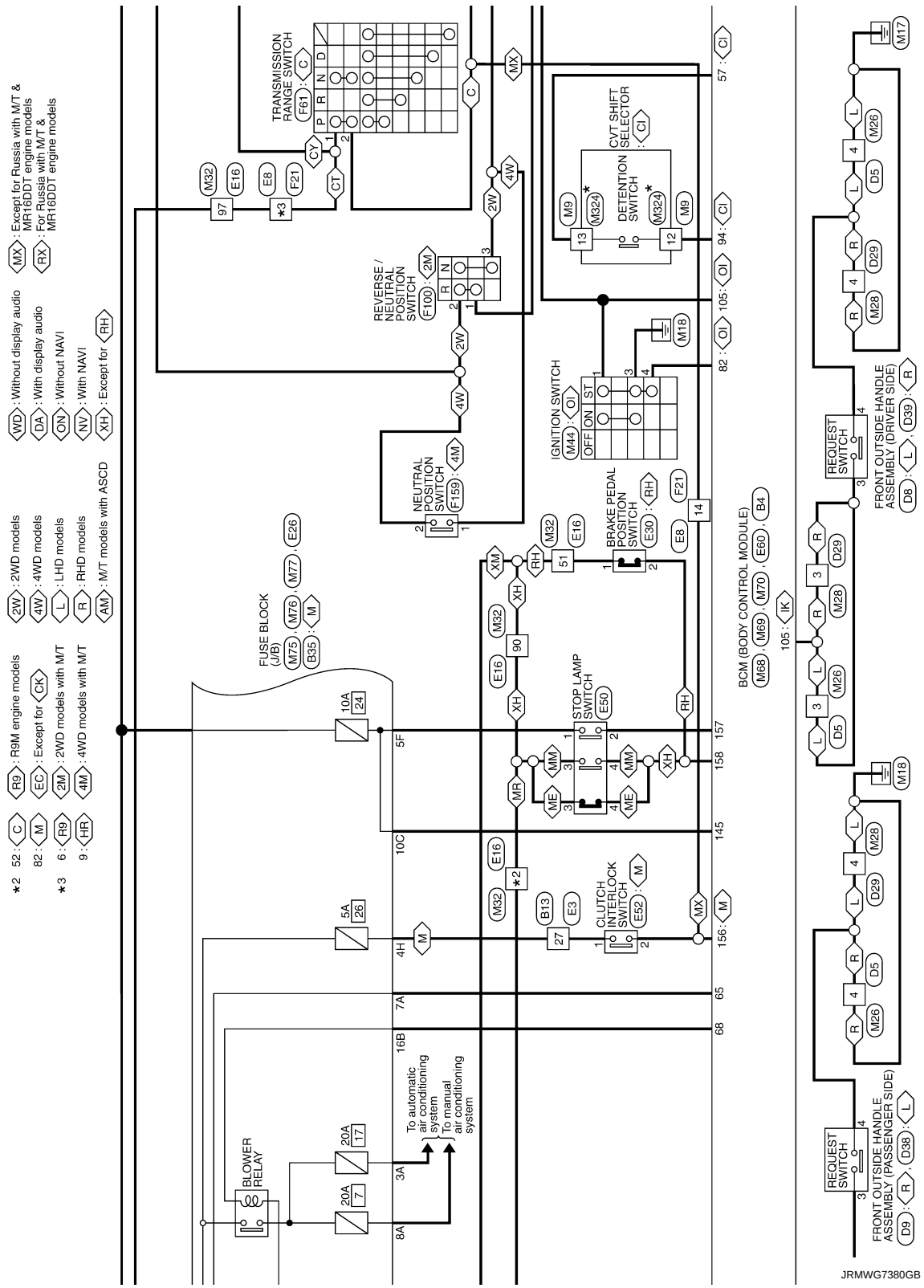
WIRING DIAGRAM

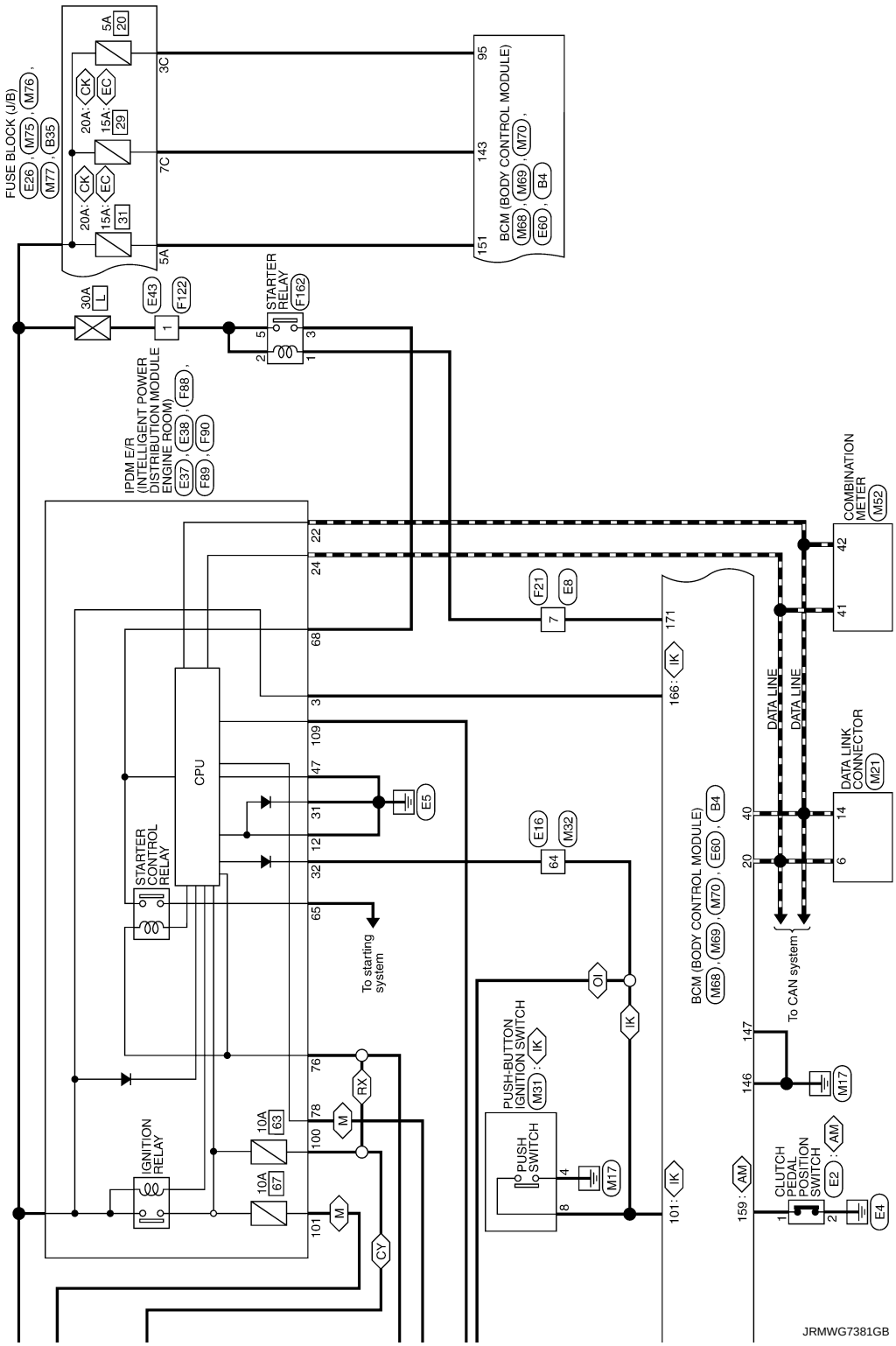
POWER DISTRIBUTION SYSTEM

Wiring Diagram

INFOID:0000000010434047

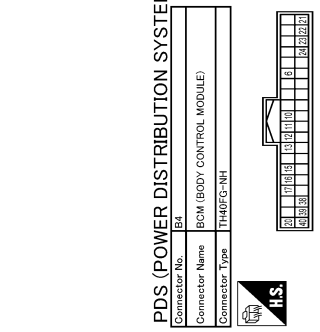



JRMWG7380GB


FUSE BLOCK (J/B)
E26, M75, M76, E35, M77
5A 20
20A: CK 15A: EC 29
20A: CK 15A: EC 31
3C
7C
5A
95
143
151
BCM (BODY CONTROL MODULE)
M68, M69, M70, B4, E60
30A L
E43
F122
1
STARTER RELAY F162
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E37, E38, F88, F89, F90
CPU
STARTER CONTROL RELAY
IGNITION RELAY
10A 63
10A 67
To starting system
E5
F21
E8
7
171
IK
166
E16
M32
64
OI
PUSH-BUTTON IGNITION SWITCH
M31
PUSH SWITCH
M17
101
RX
M
CY
COMBINATION METER
M52
DATA LINE
DATA LINK CONNECTOR
M21
To CAN system
147
146
AM
159
CLUTCH PEDAL POSITION SWITCH
E2
E4
JRMWG7381GB

PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	B4
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	G	–
5	O	–
20	G	–
21	BR	–
22	SB	–
23	BG	– [Except with HR engine with CVT or MR18 engine or RBM engine]
23	W	– [With HR engine with CVT or MR18 engine or RBM engine]
24	SB	–
25	G	–
26	B	–
27	P	–

Terminal No.	Color Of Wire	Signal Name [Specification]
6	B	BACK DOOR OPENER REQUEST SW [RHD models]
6	Y	BACK DOOR OPENER REQUEST SW [LHD models]
10	R	REAR RH DOOR SW
11	B	BACK DOOR SW
12	W	REAR LH DOOR SW
13	R	PASSENGER DOOR SW
15	G/W	REAR WIPER AUTO STOP
16	B	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CAN-H
21	BR	REAR BMPR ANT –
22	Y	ROOM ANT 2 –
23	L	ROOM ANT 2 +
24	G	REAR BMPR ANT +
38	G	SIREN
39	W	HIGH-MOUNTED STOP LAMP
40	P	CAN-L

Connector No.	B13
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Connector No.	B35
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1H	GR	–
2H	P	–
3H	G	–
4H	P	–
5H	G	–
6H	Y	–

Connector No.	B40
Connector Name	WIRE TO WIRE
Connector Type	NS16MBR-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	G	–
5	GR	–
6	Y	–
7	G	–
8	G	– [Except for RHD models without super lock and CVT]
8	G/Y	– [RHD models without super lock and CVT]
9	GR	–
11	L	–
12	R	– [LHD models]
12	SB	– [RHD models]
13	R	–
14	SB	–
15	G	[Except with HR engine with CVT or MR18 engine or RBM engine and RHD models]
15	P	[With HR engine with CVT or MR18 engine or RBM engine and RHD models]

Connector No.	B55
Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)
Connector Type	TH04FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	– [RHD models]
3	SB	– [LHD models]

Connector No.	B56
Connector Name	REAR DOOR SWITCH LH
Connector Type	TH04FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
3	W	–

Connector No.	B85
Connector Name	WIRE TO WIRE
Connector Type	NS16FBR-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	– [RHD models without super lock]
1	V	– [RHD models with super lock or LHD models]
2	G	–
5	GR	–
6	Y	–
7	G	–
8	G	–
9	SB	–
11	L	–
12	R	– [LHD models]
12	SB	– [RHD models]
13	R	–
14	SB	–
15	P	–

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PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	B92
Connector Name	FRONT DOOR SWITCH (PASSENGER SIDE)
Connector Type	TH04FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	– [LHD models]
3	SB	– [RHD models]

Connector No.	B93
Connector Name	REAR DOOR SWITCH RH
Connector Type	TH04FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	–

Connector No.	D5
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	–
2	R	– [RHD models]
2	V	– [LHD models]
3	P	– [RHD models]
3	W	– [LHD models]
4	B	–
5	G	–
6	Y	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
6	Y/R	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
7	R	–
8	V	–
9	L	–
10	W	–
11	P	–
12	W	–
13	LG	–
14	B	–
15	R	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
15	R/W	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
16	B	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
16	B/W	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
17	B	–
18	R	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
18	R/B	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
19	G	–
20	B/R	– [With electric retract mirror]
20	SB	– [Without electric retract mirror]
21	GR	–
22	BR	–
23	SB	–
24	P/L	–
25	B	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
25	B/Y	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
27	B	–
28	Y	–
29	G	– [LHD models]
29	V	– [RHD models]
30	GR	– [LHD models]
31	L	– [RHD models]
31	GR	– [RHD models] [HR engine without CVT]
31	GR/R	– [RHD models] [Except for HR engine without CVT]
31	L	– [LHD models]
32	BR	– [Without electric retract mirror]
32	W/R	– [With electric retract mirror]

Connector No.	D8
Connector Name	FRONT OUTSIDE HANDLE ASSEMBLY (DRIVER SIDE)
Connector Type	RH04FB

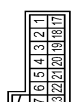


Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	SB	–
3	W	–
4	B	–

Connector No.	D9
Connector Name	FRONT OUTSIDE HANDLE ASSEMBLY (PASSENGER SIDE)
Connector Type	RH04FB

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
2	SB	–
3	P	–
4	B	–

Connector No.	D29
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	–
2	R	– [LHD models]
2	V	– [RHD models]
3	P	– [LHD models]
3	W	– [RHD models]
4	B	–
5	Y	–
6	Y	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
6	Y/R	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
7	R	–
8	V	–
9	L	–
10	W	–
11	R	–
12	G	–
13	GR	–
14	B	–
15	G	–
16	B	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
16	B/W	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
17	B	–
18	R	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
18	R/B	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
19	B	–
19	G	– [Without super lock]
20	B/R	– [With electric retract mirror]
20	SB	– [Without electric retract mirror]
21	GR	–
22	BR	–
23	SB	–
24	P	–
25	B	[Except with HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
25	B/Y	[With HR engine with CVT or MR18 engine or HRA engine with EURO5 or For Korea]
27	B	–
28	Y	–
29	G	– [RHD models]

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PDS (POWER DISTRIBUTION SYSTEM)

29	V	– [LHD models]
30	L	–
31	GR	– [LHD models] [HR engine without CVT]
31	GR/R	– [LHD models] [Except for HR engine without CVT]
31	L	– [RHD models]
32	BR	– [Without electric retract mirror]
32	W/R	– [With electric retract mirror]

Connector No. D38
Connector Name FRONT OUTSIDE HANDLE ASSEMBLY (PASSENGER SIDE)
Connector Type RHD4FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
2	SB	–
3	P	–
4	B	–

Connector No. D39
Connector Name FRONT OUTSIDE HANDLE ASSEMBLY (DRIVER SIDE)
Connector Type RHD4FB

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	SB	–
3	W	–
4	B	–

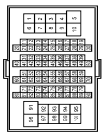
Connector No. E2
Connector Name CLUTCH PEDAL POSITION SWITCH
Connector Type M02FBR-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
2	B	–

Connector No. E3
Connector Name WIRE TO WIRE
Connector Type TH80FW-CS16-TM4

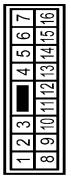
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	W	–
5	BG	–
20	G	–
21	BR	–
22	SB	–
23	BG	–
24	SB	–
25	G	–
26	B	–
27	P	–

Connector No. E8
Connector Name WIRE TO WIRE
Connector Type NS16MW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	– [With gasoline engine]
1	P	– [With diesel engine]
2	B	– [With gasoline engine]
2	Y	– [With diesel engine]
3	GR	–
4	L	–
5	GR	– [Except for HR engine with CVT]
5	W	– [With HR engine with CVT]
6	BG	– [With HR engine with CVT]
6	W	– [Except for HR engine with CVT]
7	G	–
8	LG	–
9	B	– [With MR engine]
9	BG	– [With diesel engine]
9	W	– [With HR engine]
10	B	– [With MR engine]
10	L	– [With diesel engine]
10	V	– [With HR engine]
11	V	–
12	BR	– [With MR16 engine]
12	G	[RBM engine without EURO II or HR engine without CVT]
12	GR	– [HR engine with CVT]
13	BR	–
14	V	–
15	L	–
16	SB	–

Connector No. E16
Connector Name WIRE TO WIRE
Connector Type TH80FW-CS16-TM4

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	–
5	V	–
7	BG	–
8	L	–
9	LG	–
10	W	–
14	BG	–
20	L	–
21	P	–
22	SHIELD	–
24	W	–
31	V	–
32	W	–
33	SB	–
34	LG	–
35	BG	– [Without MR16 engine]
35	LG	– [With MR16 engine]
36	BG	– [With MR16 engine]
36	LG	– [Without MR16 engine]
37	V	–
38	G	– [Without MR16 engine]
38	R	– [With MR16 engine]
39	BR	–
40	L	–
41	P	–
42	G	–
43	R	–
44	Y	–
45	BR	–
46	L	–
47	GR	–
48	Y	–
49	P	–
51	P	–
52	W	–
53	R	–

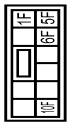
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PDS (POWER DISTRIBUTION SYSTEM)

55	BR	–
56	P	–
57	B	–
58	L	–
59	Y	–
60	G	–
61	SB	–
62	V	–
63	BR	–
64	SB	–
65	LG	–
66	Y	–
87	BG	–
88	R	–
69	W	–
70	G	–
71	Y	–
72	L	–
73	R	–
76	L	–
77	V	–
78	LG	–
79	SHIELD	–
80	GR	–
82	Y	–
83	SB	–
84	L	–
85	G	–
86	Y	–
87	B	–
88	B	–
90	Y	–
91	R	–
93	Y	–
96	GR	–
97	W	–
98	V	–
99	GR	–

Connector No.	E26
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10F	BG	– [With stop/start system]
10F	L	– [Without stop/start system]
1F	W	–
5F	V	–
6F	GR	–

Connector No.	E30
Connector Name	BRAKE PEDAL POSITION SWITCH
Connector Type	M02FBR-LC

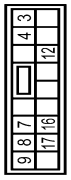
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	–
2	BG	–

Connector No.	E37
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS16FGY-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	–
4	GR	–
7	L	–
8	L	– [For grille shutter]
8	W	– [Except for grille shutter]
9	GR	–
12	GR	–
16	G	–
17	G	[With electric wiper without rain sensor or with electric wiper with rain sensor]
17	W	[With electric wiper without rain sensor or with electric wiper with rain sensor]

Connector No.	E38
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FGY-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
19	LG	–
21	SB	–
22	P	–
24	L	–
25	G	–
26	B	–
27	BG	–
28	LG	–
29	P	– [With MR16 engine]
29	V	– [Without MR16 engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
30	BG	– [With MR16 engine]
30	Y	– [Without MR16 engine]
31	GR	–
32	SB	–
33	BR	–
39	L	–
40	P	–
41	W	– [Without MR16 engine]
41	Y	– [With MR16 engine]
42	R	– [Without MR16 engine]
42	V	– [With MR16 engine]

Connector No.	E43
Connector Name	WIRE TO WIRE
Connector Type	M02MW-LC

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
2	Y	–

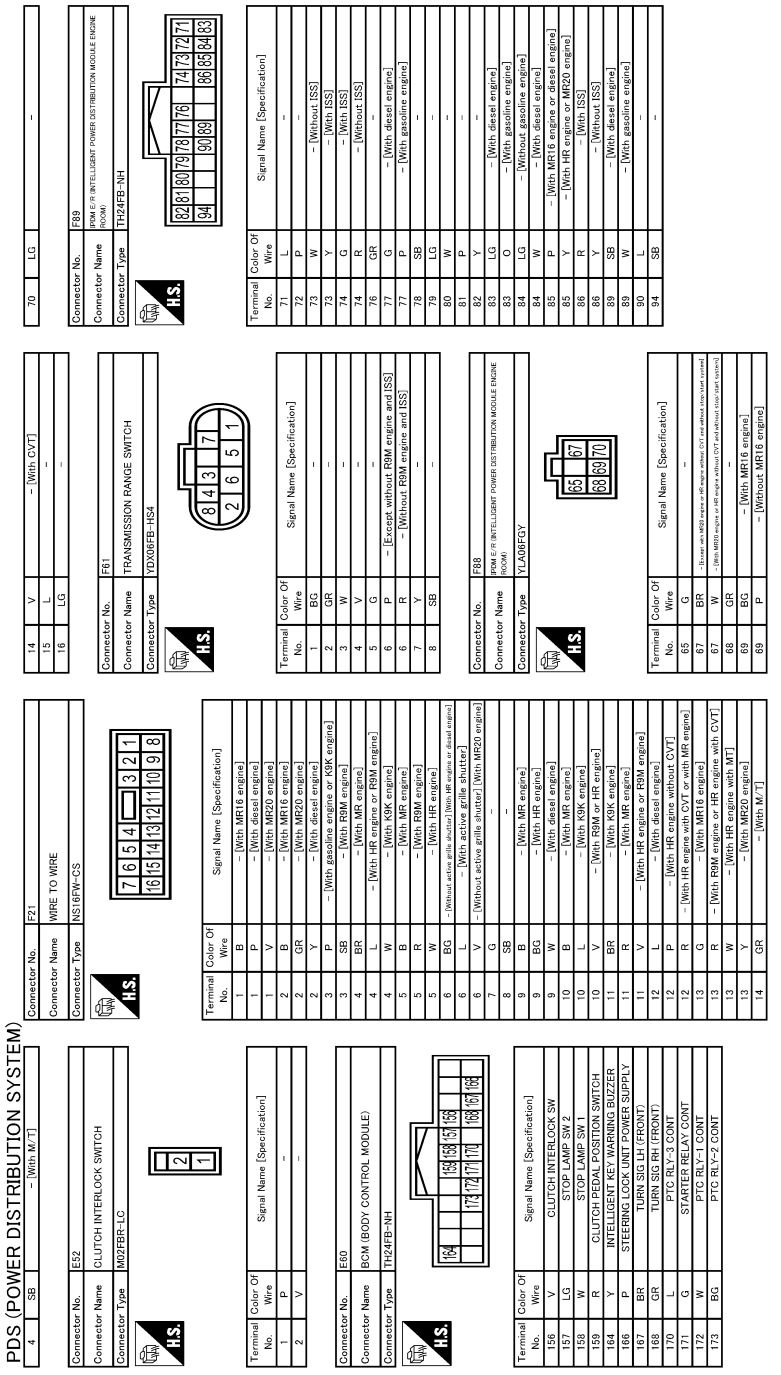
Connector No.	E50
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	LG	– [With CVT]
3	W	– [With M/T]
3	Y	– [With CVT]
4	R	–

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PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	F90
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS16FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
95	P	–
96	GR	– [With K9K engine]
96	L	– [With R9M engine] [Except for Korea]
96	R	– [With gasoline engine or For Korea with R9M engine]
97	L	– [With ISS]
97	V	– [Without ISS]
100	BG	– [With CVT] [With diesel engine]
100	BR	– [With CVT] [With gasoline engine]
100	GR	– [With M/T]
101	W	–
102	GR	–
103	G	– [With gasoline engine with ISS]
103	R	– [With diesel engine]
103	Y	– [With gasoline engine without ISS]
105	BR	– [With MR20 engine without ISS]
105	L	– [With diesel engine]
105	R	– [With HR engine without ISS or gasoline engine with ISS]
106	GR	– [With diesel engine]
106	L	– [With gasoline engine]
108	L	– [With gasoline engine]
108	R	– [With diesel engine]
109	G	–

Connector No.	F100
Connector Name	REVERSE / NEUTRAL POSITION SWITCH
Connector Type	FEA03FG

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	W	–
3	SB	–

Connector No.	F122
Connector Name	WIRE TO WIRE
Connector Type	M02FW-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	F159
Connector Name	NEUTRAL POSITION SWITCH
Connector Type	RK02FB

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	R	–

Connector No.	F162
Connector Name	STARTER RELAY
Connector Type	24381 4BA1A

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	SB	–
3	GR	–
5	L	–

Connector No.	M9
Connector Name	CVT SHIFT SELECTOR
Connector Type	TH16FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	– [With Intelligent Key and HR engine without CVT]
3	W	– [Except with Intelligent Key and HR engine without CVT]
4	B	–
5	V	–
6	B	–
7	Y	–
8	W	–
9	R	–
10	B	–
11	G	–
12	BR	–
13	BG	–

Connector No.	M11
Connector Name	AUDIO UNIT
Connector Type	TH32FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
27	R	ILLUMINATION SIGNAL [Without display audio]
27	W	AUTO-ACC [With display audio]
28	SB	CAN-H
29	LG	CAN-L
31	SB	CAN-H [With display audio]
31	SHIELD	SHIELD [Without display audio]
32	LG	CAN-L [With display audio]
32	W	AUX SOUND SIGNAL GND [Without display audio]

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PDS (POWER DISTRIBUTION SYSTEM)

33	B	CAMERA GND [With rear view camera]
33	R	AUX SOUND SIGNAL RH (+) [Without display audio]
34	B	AUX SOUND SIGNAL LH (+) [Without display audio]
34	R	CAMERA POWER SUPPLY [With rear view camera]
35	W	COMPOSITE IMAGE SIGNAL
36	BG	MICROPHONE VCC [Without display audio]
36	SHIELD	SHIELD [With rear view camera]
37	W	MICROPHONE SIGNAL
38	BG	MICROPHONE VCC
39	SHIELD	MICROPHONE SHIELD
40	LG	CAN-L
41	SB	CAN-H
42	LG	CAN-L
43	SB	CAN-H
44	GR	CAMERA IMAGE SIGNAL [With rear view camera]
44	W	AUTO-ACC [Without display audio]
45	B	EQ1 [With display audio]
45	B	EQ2 [Without display audio]
50	G	REVERSE SIGNAL
51	SHIELD	MICROPHONE SHIELD
52	W	MICROPHONE SIGNAL

Connector No.	M21
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

H.S.

11				14	15	16
	3	4	5	6		8

Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	L	-
8	Y	-
11	SB	-
14	P	-
15	BR	-
16	W	-

Connector No.	M26
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [LHD models]
1	LG	- [RHD models]
2	P	- [LHD models]
2	V	- [RHD models]
3	GR	- [LHD models]
3	W	- [RHD models]
4	B	-
5	G	-
6	Y	-
7	R	-
8	V	-
9	L	-
10	BG	-
11	V	-
12	L	-
13	LG	-
14	B	-
15	R	-
16	B	-
17	B	-
18	P	-
19	G	-
20	GR	- [Without electric retract mirror]
20	R	- [With electric retract mirror]
21	GR	-
22	BR	-
23	SB	-
24	P	-
25	B	-
27	SHIELD	-
28	G	- [LHD models]
28	Y	- [RHD models]
29	L	- [LHD models]
29	Y	- [RHD models]
30	B	- [RHD models]
30	L	- [LHD models]
31	GR	- [Without electric retract mirror]
31	L	- [With electric retract mirror]
32	BR	- [Without electric retract mirror]
32	W	- [With electric retract mirror]

Connector No.	M28
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [RHD models]
1	LG	- [LHD models]
2	P	- [LHD models]
2	V	- [RHD models]
3	GR	- [RHD models]
3	W	- [LHD models]
4	B	-
5	Y	-
6	R	-
7	V	-
8	L	-
9	BG	-
10	R	-
11	G	-
12	LG	-
13	B	-
14	P	-
15	B	-
16	B	-
17	R	-
18	G	-
19	P	- [With electric retract mirror]
20	SB	- [Without electric retract mirror]
21	GR	-
22	BR	-
23	SB	-
24	P	-
25	B	-
27	SHIELD	-

Connector No.	M31
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Type	TH08FW-NH

H.S.

4			8
5	6		

Terminal No.	Color Of Wire	Signal Name [Specification]
4	B	-
5	L	-
6	B	-
8	Y	-

Connector No.	M32
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	-
5	V	-
7	GR	-
8	P	-

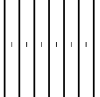
JRMWG7388GB

PDS (POWER DISTRIBUTION SYSTEM)

9	SB	–	
10	R	–	
14	W	–	
20	L	–	
21	P	–	
22	SHIELD	–	
24	BR	–	
31	V	–	
32	GR	–	
33	G	–	
34	LG	–	
35	BG	– [Without MR16 engine]	
35	LG	– [With MR16 engine]	
36	BG	– [With MR16 engine]	
36	LG	– [Without MR16 engine]	
37	V	–	
38	G	– [Without MR16 engine]	
38	R	– [With MR16 engine]	
39	BR	–	
40	L	–	
41	P	–	
42	W	–	
43	R	–	
44	Y	–	
45	LG	–	
46	L	–	
47	BG	–	
48	V	–	
49	P	–	
51	BR	–	
52	SB	–	
53	LG	– [With Intelligent Key and HR engine without CVT]	
53	W	– [Except with Intelligent Key and HR engine without CVT]	
55	BR	–	
56	P	–	
57	B	–	
58	L	–	
59	GR	–	
60	G	–	
61	SB	–	
62	V	–	
63	BR	–	
64	Y	–	
65	GR	–	
66	P	–	
67	L	–	
68	R	–	
69	W	–	
70	G	–	
71	Y	–	
72	BG	–	
73	R	–	
76	L	–	
77	V	–	
78	LG	–	
79	SHIELD	–	
80	GR	–	
82	Y	–	
83	LG	–	
84	SB	–	
85	G	–	
86	G	–	
87	B	–	
88	B	–	
90	Y	–	
91	L	–	
93	W	–	
96	LG	–	
97	BR	–	
98	V	–	
99	R	–	

Connector No. M44
Connector Name IGNITION SWITCH
Connector Type TH04FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	–
3	B	–
4	R	–

Connector No. M47
Connector Name KEY SWITCH
Connector Type TH02FW

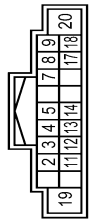
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
2	B	–

Connector No. M48
Connector Name NAVI CONTROL UNIT
Connector Type TH18FW-CS2

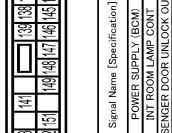
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT SPEAKER LH (+)
3	V	SOUND SIGNAL FRONT SPEAKER LH (–)
4	W	SOUND SIGNAL REAR SPEAKER LH (+)
5	Y	SOUND SIGNAL REAR SPEAKER LH (–)
7	W	AUTO-ACC
8	L	AV COMM (H)
9	BG	ILLUMINATION SIGNAL (+)
11	G	SOUND SIGNAL FRONT SPEAKER RH (+)
12	R	SOUND SIGNAL FRONT SPEAKER RH (–)
13	LG	SOUND SIGNAL REAR SPEAKER RH (+)
14	GR	SOUND SIGNAL REAR SPEAKER RH (–)
17	R	AV COMM (L)
18	P	VEHICLE SPEED SIGNAL (8–PULSE)
19	L	BATTERY
20	B	GROUND

Connector No. M52
Connector Name COMBINATION METER
Connector Type TH12FW-NH

H.S.



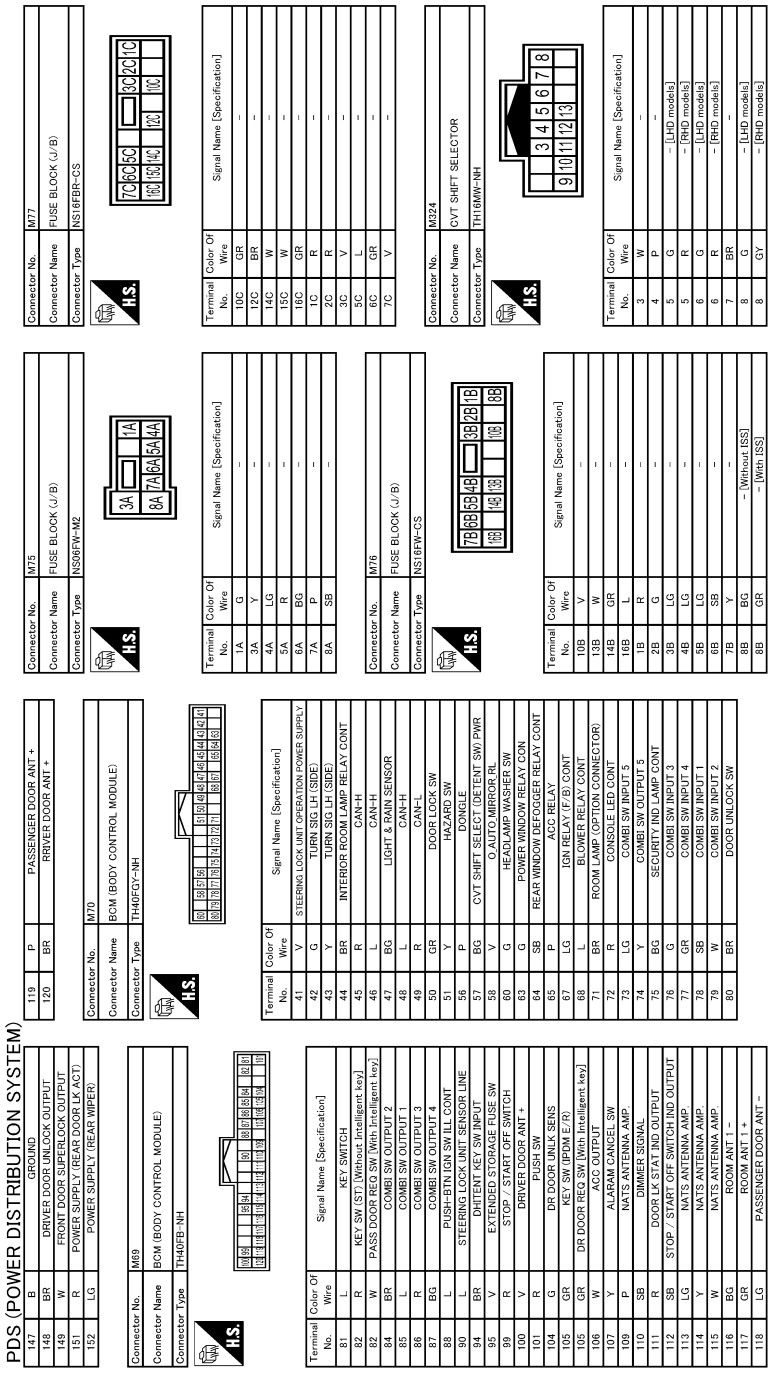
Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	V-CAN H
42	P	V-CAN L
43	R	ILL CONT OUTPUT-SIDE)
44	B	FUEL SENSOR GND
45	W	BAT
46	BG	IGN
47	SB	M-CAN H
48	LG	M-CAN L
49	V	OIL LEVEL
50	P	OIL LEVEL GND
51	G	FUEL SENSOR
52	B	GND2

Connector No. M68
Connector Name BCM (BODY CONTROL MODULE)
Connector Type NS16FBR-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
137	W	POWER SUPPLY (BCM)
138	R	INT ROOM LAMP CONT
139	Y	PASSENGER DOOR UNLOCK OUTPUT
141	GR	FRONT DOOR LOCK OUTPUT
143	V	POWER SUPPLY (FR DOOR I/K ACT)
144	BG	POWER SUPPLY (TURN SIGNAL)
145	GR	POWER SUPPLY (STOP LAMP)
146	B	GROUND

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JRMWG7390GB

PDS (POWER DISTRIBUTION SYSTEM)

9	G	– [RHD models]
9	GY	– [LHD models]
10	Y	–
11	L/W	–
12	OR	–
13	LG	–

JRMWG7391GB

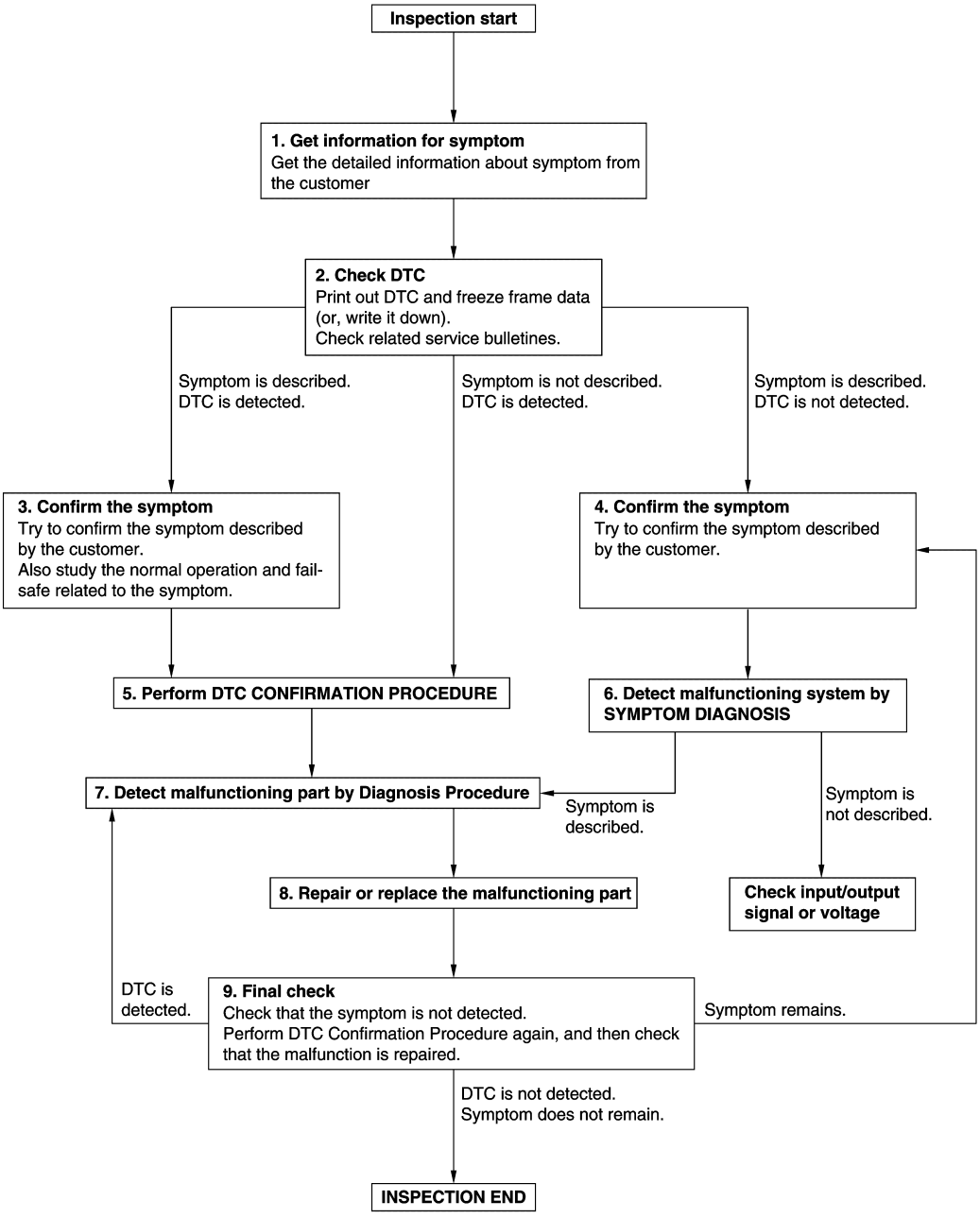
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000010434048

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

1.GET INFORMATION ABOUT SYMPTOM

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).

>> GO TO 2.

2.CHECK DTC

1. Check DTC for BCM and IPDM E/R.
2. Perform the following procedure if DTC is displayed.
- Record DTC and freeze frame data (Print them out with CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3.
Symptom is described, DTC is not displayed>>GO TO 4.
Symptom is not described, DTC is displayed>>GO TO 5.

3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT to the vehicle in the “DATA MONITOR” mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT to the vehicle in the “DATA MONITOR ” mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.
At this time, always connect CONSULT to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-88, "DTC Inspection Priority Chart", and determine trouble diagnosis order.

NOTE:
Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This simplified check procedure is an effective alternative, although DTC cannot be detected during this check.
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

YES >> GO TO 7.
NO >> Refer to GI-44, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

>> GO TO 7.

7.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

NOTE:
The Diagnostic Procedure described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check voltage of related BCM terminals using CONSULT.

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.
3. Check DTC. If DTC is displayed, erase it.

>> GO TO 9.

9. FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction is repaired securely.
When symptom was described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

YES (DTC is detected)>>GO TO 7.
YES (Symptom remains)>>GO TO 6.
NO >> INSPECTION END

PROCEDURE FOR TEMPORARILY DISABLING THE IGNITION BATTERY SAVER SYSTEM

Description

INFOID:0000000010434049

The ignition battery saver system can be temporarily disabled, without using CONSULT, to prevent it from functioning when performing trouble diagnosis.

Work Procedure

INFOID:0000000010434050

1. Enter the vehicle carrying a registered Intelligent Key.
2. Place the ignition switch in the ACC position by operating the push-button ignition switch without depressing the brake pedal.
3. Press and hold the push button ignition switch continuously for ten seconds.
4. Check that the buzzer in the combination meter sounds for two seconds.
5. Operation is completed.
   NOTE:
   When the ignition switch is placed in any position other than ON, the ignition battery saver system is activated again.

DTC/CIRCUIT DIAGNOSIS

B261A PUSH-BUTTON IGNITION SWITCH

DTC Description

INFOID:0000000010434062

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition
B261A-00	PUSH-BTN IGN SW (Push-button ignition switch)	The following signal status that BCM receives are compared, and it do not match for 1 second or more. • Push-button Ignition switch (push switch) signal • Push-button Ignition switch (push switch) status signal (CAN)

POSSIBLE CAUSE

- Harness or connectors
  [Push-button ignition switch (push switch) circuit is open or shorted.]
- BCM
- IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch (push switch) under the following conditions, and wait for 1 second or more.

- Shift position is in the P position
- Do not depress brake pedal

2. Check “Self-diagnosis result” of BCM with CONSULT.

Is DTC detected?

YES >> Refer to PCS-108, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010434063

1.CHECK PUSH-BUTTON IGNITION SWITCH (PUSH SWITCH) OUTPUT SIGNAL

1. Disconnect push-button ignition switch connector and IPDM E/R connector.
2. Check voltage between push-button ignition switch harness connector and ground.

(+)		(–)	Voltage
Push-button Ignition switch			
Connector	Terminal		
M31	8	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (BCM)

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and push-button ignition switch harness connector.

BCM		Push-button Ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M69	101	M31	8	Existed

3. Check continuity between push-button ignition switch harness connector and ground.

Push-button Ignition switch		Ground	Continuity
Connector	Terminal		
M31	8		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-135, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK PUSH-BUTTON IGNITION SWITCH (PUSH SWITCH) OUTPUT SIGNAL (IPDM E/R)

1. Disconnect BCM connector.
2. Connect IPDM E/R connector.
3. Check voltage between IPDM E/R harness connector and ground.

(+)		(–)	Voltage
IPDM E/R			
Connector	Terminal		
E38	32	Ground	6 – 16 V

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-68, "Removal and Installation".
NO >> GO TO 4.

4.CHECK PUSH-BUTTON IGNITION SWITCH (PUSH SWITCH) CIRCUIT (IPDM E/R)

1. Check continuity between IPDM E/R harness connector and push-button ignition switch harness connector.

IPDM E/R		Push-button Ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
E38	32	M31	8	Existed

2. Check continuity between push-button ignition switch harness connector and ground.

Push-button Ignition switch		Ground	Continuity
Connector	Terminal		
M31	8		Not existed

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK INTERMITTENT INCIDENT

Refer to GI-44, "Intermittent Incident".

>> INSPECTION END

B26F1 IGNITION RELAY

DTC Description

INFOID:0000000010434064

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition
B26F1-00	IGN RELAY OFF (Ignition relay off)	BCM transmits the ignition relay control signal (ON: 0 V) or ignition switch ON signal (ON) (CAN), but does not receives ignition switch ON signal (ON) (CAN) from IPDM E/R.

POSSIBLE CAUSE

- Harness or connectors (Ignition relay circuit is open)
- BCM
- IPDM E/R
- Fuse block (J/B)

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON, and wait for 2 seconds or more.
2. Check “Self-diagnosis result” with CONSULT.

Is DTC detected?

YES >> Refer to PCS-110, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010434065

1.CHECK IPDM E/R SELF-DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Erase the DTC of IPDM E/R.
3. Turn ignition switch OFF.
4. Turn ignition switch ON and check the DTC again.

Is DTC detected?

YES >> Repair or replace the malfunctioning part. Refer to PCS-37, "DTC Index".
NO >> GO TO 2.

2.CHECK IGNITION RELAY CONTROL SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM harness connector and ground.

(+)		(–)	Condition		Voltage
BCM					
Connector	Terminal				
M70	67	Ground	Ignition switch	ON	0 – 0.5 V
				OFF	9 - 16 V

Is the inspection result normal?

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

3.CHECK IGNITION RELAY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and fuse block (J/B) connectors.
3. Check continuity between BCM harness connector and fuse block (J/B) harness connector.

BCM		Fuse block (J/B)		Continuity
Connector	Terminal	Connector	Terminal	
M70	67	M76	3B	Existed

4. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M70	67	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK IGNITION RELAY

Check ignition relay. Refer to PCS-111, "Component Inspection".

Is the inspection result normal?

YES >> Replace fuse block (J/B).
NO >> Replace ignition relay.

5.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-68, "Removal and Installation".
2. Turn ignition switch ON and check the DTC again.

Is DTC "B26F1-00" displayed?

YES >> Replace BCM. Refer to BCS-135, "Removal and Installation".
NO >> INSPECTION END.

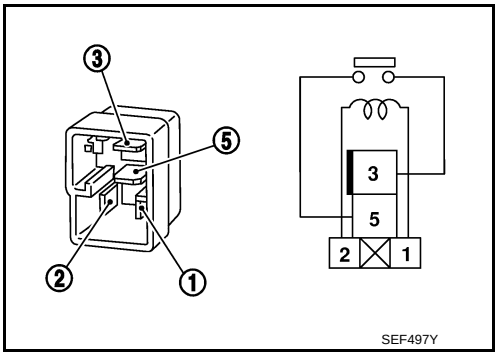
Component Inspection

INFOID:0000000010508614

1.CHECK IGNITION RELAY

1. Turn ignition switch OFF.
2. Remove ignition relay.
3. Check continuity between ignition relay terminals.

Terminal		Condition	Continuity
Ignition relay			
③	⑤	12 V direct current supply between terminals ① and ②.	Existed
		No current supply	Not existed



Is the inspection result normal?

YES >> INSPECTION END.
NO >> Replace ignition relay.

B26F2 IGNITION RELAY

DTC Description

INFOID:0000000010434066

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition
B26F2-00	IGN RELAY ON (Ignition relay on)	BCM transmits the ignition relay control signal (OFF: 12 V) or ignition switch ON signal (OFF) (CAN), but does not receives ignition switch ON signal (OFF) (CAN) from IPDM E/R.

POSSIBLE CAUSE

- Harness or connectors (Ignition relay circuit is short)
- BCM
- IPDM E/R
- Fuse block (J/B)

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON, and wait for 2 seconds or more.
2. Check “Self-diagnosis result” with CONSULT.

Is DTC detected?

YES >> Refer to PCS-112, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010519147

1.CHECK IPDM E/R SELF-DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Erase the DTC of IPDM E/R.
3. Turn ignition switch OFF.
4. Turn ignition switch ON and check the DTC again.

Is DTC detected?

YES >> Repair or replace the malfunctioning part. Refer to PCS-37, "DTC Index".
NO >> GO TO 2.

2.CHECK IGNITION RELAY CONTROL SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM harness connector and ground.

(+)		(–)	Condition		Voltage
BCM					
Connector	Terminal				
M70	67	Ground	Ignition switch	ON	0 – 0.5 V
				OFF	9 - 16 V

Is the inspection result normal?

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

3.CHECK IGNITION RELAY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and fuse block (J/B) connectors.
3. Check continuity between BCM harness connector and fuse block (J/B) harness connector.

BCM		Fuse block (J/B)		Continuity
Connector	Terminal	Connector	Terminal	
M70	67	M76	3B	Existed

4. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M70	67	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK IGNITION RELAY

Check ignition relay. Refer to PCS-111, "Component Inspection".

Is the inspection result normal?

YES >> Replace fuse block (J/B).
NO >> Replace ignition relay.

5.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-68, "Removal and Installation".
2. Turn ignition switch ON and check the DTC again.

Is DTC "B26F2-00" displayed?

YES >> Replace BCM. Refer to BCS-135, "Removal and Installation".
NO >> INSPECTION END.

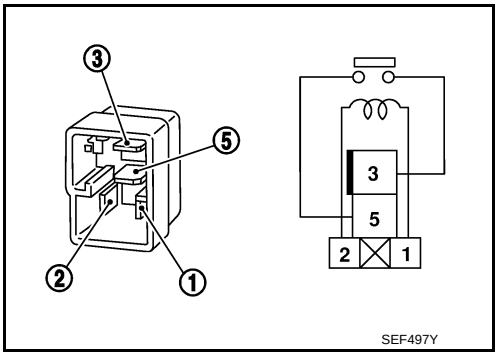
Component Inspection

INFOID:0000000010508617

1.CHECK IGNITION RELAY

1. Turn ignition switch OFF.
2. Remove ignition relay.
3. Check continuity between ignition relay terminals.

Terminal		Condition	Continuity
Ignition relay			
③	⑤	12 V direct current supply between terminals ① and ②.	Existed
		No current supply	Not existed



Is the inspection result normal?

YES >> INSPECTION END.
NO >> Replace ignition relay.

ACCESSORY RELAY

Diagnosis Procedure

INFOID:0000000010500760

1.CHECK ACCESSORY RELAY POWER SUPPLY

1. Turn ignition switch OFF.
2. Remove accessory relay.
3. Check voltage between accessory relay connector and ground.

(+)	(–)	Voltage
Fuse block (J/B)		
Accessory relay (Upstream side of relay excitation coil circuit)	Ground	Battery voltage

Is the inspection normal?

YES >> GO TO 3.
NO >> GO TO2.

2.CHECK ACCESSORY RELAY POWER SUPPLY CIRCUIT 1

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and accessory relay connector.

Fuse block (J/B)	BCM		Continuity
	Connector	Terminal	
Accessory relay (Downstream side of relay excitation coil circuit)	M70	65	Existed

3. Check continuity between accessory relay connector and ground.

Fuse block (J/B)	—	Continuity
Accessory relay (Downstream side of relay excitation coil circuit	Ground	Not existed

Is the inspection normal?

YES >> Replace BCM. Refer to BCS-132, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK ACCESSORY RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between accessory relay connector and ground.

Fuse block (J/B)	—	Continuity
Accessory relay (Downstream side of relay excitation coil circuit)	Ground	Existed

Is the inspection normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK ACCESSORY RELAY POWER SUPPLY CIRCUIT 2

Check voltage between accessory relay connector and ground.

Fuse block (J/B)	—	Voltage
Accessory relay (Upstream side of relay contact circuit)	Ground	Battery voltage

Is the inspection normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK ACCESSORY RELAY

Check accessory relay. Refer to PCS-115, "Component Inspection".

Is the inspection normal?

YES >> INSPECTION END.
NO >> Replace accessory relay.

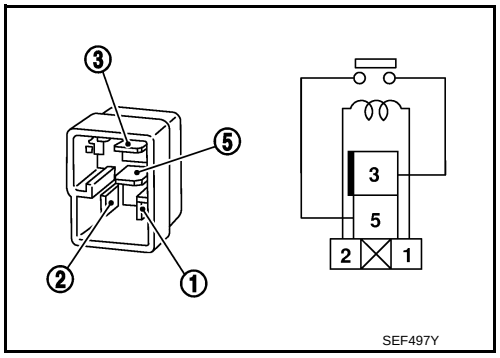
Component Inspection

INFOID:0000000010508618

1.CHECK ACCESSORY RELAY

1. Turn ignition switch OFF.
2. Remove accessory relay.
3. Check continuity between accessory relay terminals.

Terminal		Condition	Continuity
Accessory relay			
③	⑤	12 V direct current supply between terminals ① and ②.	Existed
		No current supply	Not existed



Is the inspection result normal?

YES >> INSPECTION END.
NO >> Replace accessory relay.

AV CONTROL UNIT

Diagnosis Procedure

INFOID:0000000010434075

1.CHECK FUNCTION

1. Turn ignition switch OFF.
2. Disconnect audio unit or NAVI control unit connector.
3. Turn ignition switch ON.
4. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
5. Select "AUTO ACC 2" in "ACTIVE TEST" mode.
6. Check continuity between audio unit or NAVI control unit harness conector and ground.

Without NAVI models

(+)		(–)	Voltage (Approx.)
Audio unit			
Connector	Terminal		
M10: Without display audio	44	Ground	3.15 V
M11: With display audio	27		

With NAVI models

(+)		(–)	Voltage (Approx)
NAVI control unit			
Connector	Terminal		
M48	7	Ground	3.15 V

Is the inspection normal?

YES >> Refer to GI-41, "Intermittent Incident".
NO >> GO TO 2.

2.CHECK BCM OUTPUT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and audio unit or NAVI control unit connector.

Without NAVI models

BCM		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M69	106	M10: Without display audio	44	Existed
		M11: With display audio	27	

With NAVI models

BCM		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M69	106	M48	7	Existed

4. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M69	106	Ground	Not existed

Is the inspection normal?

YES >> Replace BCM. Refer to BCS-132, "Removal and Installation".
NO >> Repair or replace harness.

PUSH-BUTTON IGNITION SWITCH

Component Function Check

INFOID:0000000010434070

1.CHECK FUNCTION

1. Select “PUSH SW” in “Data Monitor” mode with CONSULT.
2. Check the push-button ignition switch signal under the following conditions.

Test item	Condition	Status
PUSH SW	Push-button ignition switch is pressed	ON
	Push-button ignition switch is not pressed	OFF

Is the indication normal?

YES >> INSPECTION END.
NO >> Refer to PCS-117, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010434071

1.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 1

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector and IPDM E/R connector.
3. Check voltage between push-button ignition switch harness connector and ground.

(+)		(–)	Voltage
Push-button ignition switch			
Connector	Terminal		
M31	8	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 1

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and push-button ignition switch harness connector.

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M69	101	M31	8	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M69	8		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-132, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 2

1. Disconnect BCM connector.
2. Connect IPDM E/R connector.
3. Check voltage between IPDM E/R harness connector and ground.

(+)		(–)	Voltage
IPDM E/R			
Connector	Terminal		
E38	32	Ground	6 – 16 V

Is the inspection result normal?

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

4.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 2

1. Check continuity between IPDM E/R harness connector and push-button ignition switch harness connector.

IPDM E/R		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
E38	32	M31	8	Existed

2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E38	32		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-68, "Removal and Installation".
NO >> Repair or replace harness.

5.CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

Check continuity between push-button ignition switch harness connector and ground.

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M31	4		Existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to PCS-118, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace push-button ignition switch. Refer to PCS-123, "Removal and Installation".

7.CHECK INTERMITTENT INCIDENT

Refer to GI-44, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000010434072

1.CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector.
3. Check continuity between push-button ignition switch terminals.

Push-button ignition switch		Condition	Continuity
Terminal			
4	8	Pressed	Existed
		Not pressed	Not existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace push-button ignition switch. Refer to PCS-123, "Removal and Installation".

SYMPTOM DIAGNOSIS

PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010434076

1. PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” on Work Support of “INTELLIGENT KEY”.
Refer to DLK-48, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY) (Type 1)".

>> GO TO 2.

2. PERFORM SELF-DIAGNOSIS RESULT

Perform Self-Diagnosis Result of “BCM”.

Is DTC detected?

YES >> Refer to PCS-37, "DTC Index".
NO >> GO TO 3.

3. CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.
Refer to PCS-117, "Component Function Check".

Is the operation normal?

YES >> GO TO 4.
NO >> Repair or replace malfunctioning parts.

4. REPLACE BCM

Replace BCM. Refer to BCS-132, "Removal and Installation"

Is the inspection result normal?

YES >> INSPECTION END
NO >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

ACCESSORY POWER SUPPLY IS NOT SUPPLIED EVEN IF DOOR IS UNLOCKED BY KEY

ALL SWITCHES AND UNITS

ALL SWITCHES AND UNITS : Diagnosis Procedure

INFOID:0000000010434077

1. CHECK ACCESSORY RELAY

Check accessory relay
Refer to PCS-114, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK BCM–AV CONTROL UNIT CIRCUIT

Check BCM–AV control unit circuit.
Refer to PCS-116, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. REPLACE BCM

Replace BCM. Refer to BCS-132, "Removal and Installation"

Is the inspection result normal?

YES >> INSPECTION END
NO >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

EXCEPT AUDIO/NAVIGATION

EXCEPT AUDIO/NAVIGATION : Diagnosis Procedure

INFOID:0000000010519157

1. CHECK ACCESSORY RELAY

Check accessory relay
Refer to PCS-114, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. REPLACE BCM

Replace BCM. Refer to BCS-132, "Removal and Installation"

Is the inspection result normal?

YES >> INSPECTION END
NO >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

AUDIO/NAVIGATION ONLY

AUDIO/NAVIGATION ONLY : Diagnosis Procedure

INFOID:0000000010519158

1. CHECK BCM–AV CONTROL UNIT CIRCUIT

Check BCM–AV control unit circuit.
Refer to PCS-116, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. REPLACE BCM

Replace BCM. Refer to BCS-132, "Removal and Installation"

Is the inspection result normal?

YES >> INSPECTION END
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

REMOVAL AND INSTALLATION

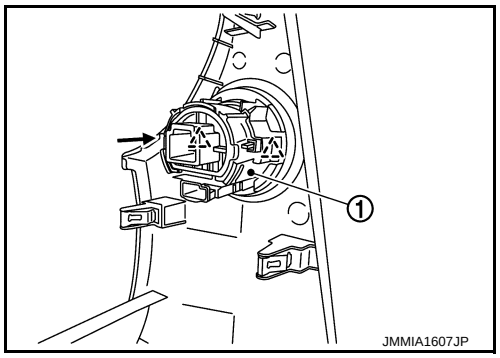
PUSH-BUTTON IGNITION SWITCH

Removal and Installation

INFOID:0000000010434078

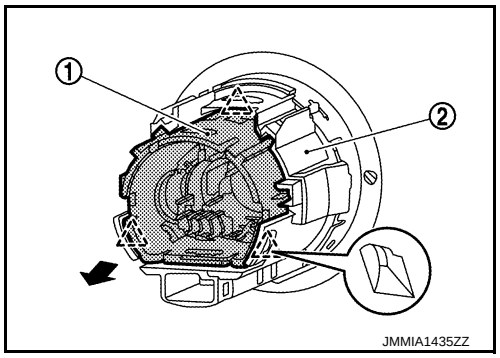
REMOVAL

1. Remove instrument finisher E. Refer to IP-13, "Removal and Installation".
2. Disconnect push-button ignition switch connector and NATS antenna amp. connector.
3. Disengage NATS antenna amp. fixing pawls and then remove NATS antenna amp. and push-button ignition switch ① as a set from instrument finisher E.



: Pawl

4. Disengage push-button ignition switch fixing pawl and then remove push-button ignition switch ① from NATS antenna amp. ②.



: Pawl

INSTALLATION

Install in the reverse order of removal.