SECTION BCS
BODY CONTROL SYSTEM

CONTENTS

PRECAUTION 5

PRECAUTIONS 5
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 5
Precautions for Removing Battery Terminal 5
Information o Preventing Damage to Electronic Components Due to Electrostatic Discharge 6

SYSTEM DESCRIPTION 8

COMPONENT PARTS 8

BODY CONTROL SYSTEM 8
BODY CONTROL SYSTEM : Component Parts Location 8

STEERING COLUMN CONTROL SYSTEM 8
STEERING COLUMN CONTROL SYSTEM : Component Parts Location 9

ENERGY MANAGEMENT SYSTEM 9
ENERGY MANAGEMENT SYSTEM : Component Parts Location 10

SYSTEM 12

BODY CONTROL SYSTEM 12
BODY CONTROL SYSTEM : System Description 12
BODY CONTROL SYSTEM : Fail-safe 13

STEERING COLUMN CONTROL SYSTEM 14
STEERING COLUMN CONTROL SYSTEM : System Description 14

ENERGY MANAGEMENT SYSTEM 14
ENERGY MANAGEMENT SYSTEM : System Description 15

ENGINE ON ENERGY MANAGEMENT FUNCTION 15
ENGINE ON ENERGY MANAGEMENT FUNCTION : System Description 16

ENGINE OFF ENERGY MANAGEMENT FUNCTION 20
ENGINE OFF ENERGY MANAGEMENT FUNCTION : System Description 20

INFORMATION DISPLAY (COMBINATION METER) 22
INFORMATION DISPLAY (COMBINATION METER) : Sub Battery Warning 22

DIAGNOSIS SYSTEM (BCM) 24
CONSULT Function (BCM) 24

DIAGNOSIS SYSTEM (STEERING COLUMN CONTROL MODULE) 30
CONSULT Function (Steering Column Control Module) 30

DIAGNOSIS SYSTEM (UPPER CONTROL PANEL CONTROL UNIT) 31
CONSULT Function (Upper Control Panel Control Unit) 31

ECU DIAGNOSIS INFORMATION 32

BCM 32
Reference Value 32
Fail-safe 50
DTC Index 51

STEERING COLUMN CONTROL MODULE 59
Reference Value 59
DTC Index 61

UPPER CONTROL PANEL CONTROL UNIT 62
Reference Value 62

WIRING DIAGRAM 63

BCM 63

Wiring Diagram 63

STEERING COLUMN CONTROL MODULE 85
Wiring Diagram 85

BASIC INSPECTION 88

ADDITIONAL SERVICE WHEN REPLACING BCM 88
Description 88
Work Procedure 88

CONFIGURATION (BCM) 89
Description 89
Work Procedure 89

DTC/CIRCUIT DIAGNOSIS 90

B11C1 SUB BATTERY 90
DTC Description 90
Diagnosis Procedure 91

B129F ELECTRONIC STABILITY PROGRAM CONTROL UNIT 96
DTC Description 96
Diagnosis Procedure 96

B210C BATTERY 99
DTC Description 99
Diagnosis Procedure 99

B2121 INJECTION RELAY 103
DTC Description 103
Diagnosis Procedure 103

B214B LATCHING TERMINAL RELAY 30G . 106
DTC Description 106
Diagnosis Procedure 106

B214F LATCHING TERMINAL RELAY 30G . 110
DTC Description 110
Diagnosis Procedure 110

B2159 NO-LOAD CURRENT 114
DTC Description 114
Diagnosis Procedure 114

B215F TERMINAL RELAY 15R1 116
DTC Description 116
Diagnosis Procedure 116

B2163 TERMINAL RELAY 15R2 119
DTC Description 119
Diagnosis Procedure 119

B2194 POWER SUPPLY 122
DTC Description 122
Diagnosis Procedure 122

B2195 POWER SUPPLY 125
DTC Description 125
Diagnosis Procedure 125

B21DE SUB BATTERY RELAY 128
DTC Description 128
Diagnosis Procedure 129

B21DF DECOUPLING RELAY 132
DTC Description 132
Diagnosis Procedure 133

B21E6 INJECTION RELAY 137
DTC Description 137
Diagnosis Procedure 137

B21E7 IGNITION POWER SUPPLY 140
DTC Description 140
Diagnosis Procedure 140

B21F5 POWER SUPPLY 141
DTC Description 141
Diagnosis Procedure 141

B21F6 POWER SUPPLY 144
DTC Description 144
Diagnosis Procedure 144

B21F7 POWER SUPPLY 147
DTC Description 147
Diagnosis Procedure 147

B21F8 POWER SUPPLY 150
DTC Description 150
Diagnosis Procedure 150

B21F9 POWER SUPPLY 153
DTC Description 153
Diagnosis Procedure 153

B2206 VEHICLE IDENTIFICATION NUMBER. 156
DTC Description 156
Diagnosis Procedure 156

B2215 BCM 158
DTC Description 158
Diagnosis Procedure 158

B223B BCM 160
DTC Description 160
Diagnosis Procedure 160

B226C UPPER CONTROL PANEL CONTROL UNIT 161
DTC Description 161
Diagnosis Procedure 161

B235A BCM 162
DTC Description 162
Diagnosis Procedure 162

B25A6 SIGNAL ERROR 163
DTC Description 163
Diagnosis Procedure 163

C107D ELECTRONIC STABILITY PROGRAM CONTROL UNIT 165
DTC Description 165
Diagnosis Procedure 165

P126F STOP/START SYSTEM 167
DTC Description 167
Diagnosis Procedure 167

U0019 COMMUNICATION ERROR 169
DTC Description 169
Diagnosis Procedure 169

U0100 COMMUNICATION ERROR 170
DTC Description 170
Diagnosis Procedure 170

U0121 COMMUNICATION ERROR 171
DTC Description 171
Diagnosis Procedure 171

U0126 COMMUNICATION ERROR 172
DTC Description 172
Diagnosis Procedure 172

U0143 COMMUNICATION ERROR 173
DTC Description 173
Diagnosis Procedure 173

U0151 COMMUNICATION ERROR 174
DTC Description 174
Diagnosis Procedure 174

U0155 COMMUNICATION ERROR 175
DTC Description 175
Diagnosis Procedure 175

U0159 COMMUNICATION ERROR 176
DTC Description 176
Diagnosis Procedure 176

U0164 COMMUNICATION ERROR 177
DTC Description 177
Diagnosis Procedure 177

U0167 COMMUNICATION ERROR 178
DTC Description 178
Diagnosis Procedure 178

U0168 COMMUNICATION ERROR 179
DTC Description 179
Diagnosis Procedure 179

U0169 COMMUNICATION ERROR 180
DTC Description 180
Diagnosis Procedure 180

U0203 COMMUNICATION ERROR 181
DTC Description 181
Diagnosis Procedure 181

U0204 COMMUNICATION ERROR 182
DTC Description 182
Diagnosis Procedure 182

U0213 COMMUNICATION ERROR 183
DTC Description 183
Diagnosis Procedure 183

U0231 COMMUNICATION ERROR 185
DTC Description 185
Diagnosis Procedure 185

U0401 COMMUNICATION ERROR 187
DTC Description 187
Diagnosis Procedure 187

U0416 COMMUNICATION ERROR 188
DTC Description 188
Diagnosis Procedure 188

U0427 COMMUNICATION ERROR 189
DTC Description 189
Diagnosis Procedure 189

U0452 COMMUNICATION ERROR 190
DTC Description 190
Diagnosis Procedure 190

U0504 COMMUNICATION ERROR 191
DTC Description 191
Diagnosis Procedure 191

U0505 COMMUNICATION ERROR 192
DTC Description 192
Diagnosis Procedure 192

U1008 COMMUNICATION ERROR 193
DTC Description 193
Diagnosis Procedure 193

U1009 COMMUNICATION ERROR 196
DTC Description 196
Diagnosis Procedure 196

U1093 COMMUNICATION ERROR 198
DTC Description 198
Diagnosis Procedure 198

U113E COMMUNICATION ERROR 200
DTC Description 200
Diagnosis Procedure 200

U1154 COMMUNICATION ERROR 202
DTC Description 202
Diagnosis Procedure 202

U118A COMMUNICATION ERROR 204
DTC Description 204
Diagnosis Procedure 204

U118B COMMUNICATION ERROR 205
DTC Description 205
Diagnosis Procedure 205

U11A3 COMMUNICATION ERROR 206
DTC Description 206
Diagnosis Procedure 206

U11BF COMMUNICATION ERROR 207
DTC Description 207
Diagnosis Procedure 207

U120B COMMUNICATION ERROR 209
DTC Description 209
Diagnosis Procedure 209

P0579 CRUISE CONTROL LEVER 210
DTC Description 210
Diagnosis Procedure 210

C1241 STEERING ANGLE SENSOR 212
DTC Description 212
Diagnosis Procedure 212

C1245 STEERING ANGLE SENSOR 213
DTC Description 213
Diagnosis Procedure 213

C2205 STEERING ANGLE SENSOR 214
DTC Description 214
Diagnosis Procedure 214

B178F COMBINATION SWITCH 215
DTC Description 215
Diagnosis Procedure 215

B210A STEERING COLUMN CONTROL MODULE 217
DTC Description 217
Diagnosis Procedure 217

B210B STEERING COLUMN CONTROL MODULE 219
DTC Description 219
Diagnosis Procedure 219

B210D STEERING COLUMN CONTROL MODULE 221
DTC Description 221
Diagnosis Procedure 221

B210E STEERING COLUMN CONTROL MODULE 223
DTC Description 223
Diagnosis Procedure 223

B2225 STEERING COLUMN CONTROL MODULE 225
DTC Description 225
Diagnosis Procedure 225

B2300 COMBINATION SWITCH 226
DTC Description 226
Diagnosis Procedure 226

B2306 COMBINATION SWITCH 228
DTC Description 228
Diagnosis Procedure 228

B2309 COMBINATION SWITCH 230
DTC Description 230
Diagnosis Procedure 230

B2330 COMBINATION SWITCH 232
DTC Description 232
Diagnosis Procedure 232

U0141 COMMUNICATION ERROR 234
DTC Description 234
Diagnosis Procedure 234

U0146 COMMUNICATION ERROR 236
DTC Description 236
Diagnosis Procedure 236

U0155 COMMUNICATION ERROR 238
DTC Description 238
Diagnosis Procedure 238

U0168 COMMUNICATION ERROR 240
DTC Description 240
Diagnosis Procedure 240

U1008 COMMUNICATION ERROR 242
DTC Description 242
Diagnosis Procedure 242

U1032 COMMUNICATION ERROR 243
DTC Description 243
Diagnosis Procedure 243

U11A3 COMMUNICATION ERROR 244
DTC Description 244
Diagnosis Procedure 244

U1442 COMMUNICATION ERROR 246
DTC Description 246
Diagnosis Procedure 246

REMOVAL AND INSTALLATION 248

BCM 248
Removal and Installation 248

STEERING COLUMN CONTROL MODULE ...250
Removal and Installation 250

UPPER CONTROL PANEL CONTROL UNIT..252
Removal and Installation 252

PRECAUTION

PRECAUTIONS

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

INFOID:0000000013683243

Risk of injury

There is a risk of injury caused by parts becoming projectiles if uncontrolled deployment of air bag or seat belt pre-tensioner occurs, or by storing air bag with the deployment side facing downwards. When scrapping air bag or seat belt pre-tensioner by means of controlled deployment, there is also a danger present if a sufficiently safe distance is not maintained, or if opening using cutting torches or other cutting tools, or due to smelting or if parts that are not yet triggered are exposed to a blaze or a smoldering fire at landfills.

Safety instructions/precautions

- Removed air bag must always be stored with deployment side facing up.
- Acquisition, transportation, storage, testing and assembly work should only be performed or supervised by properly trained personnel.
- Install air bag or seat belt pre-tensioner immediately following retrieval from storage.
- Air bag and seat belt pre-tensioner must be protected from flying sparks, open fires and temperature exceeding 100°C (212°F).
- Never transport air bag and seat belt pre-tensioner in the passenger compartment. Store them securely in the luggage room of the vehicle in their original replacement part packaging and secure them so that they cannot slip around.
- Never allow air bag and seat belt pre-tensioner to come into contact with grease, oil, or cleaning agents.
- Perform system tests using approved testing equipment only, and only when the units are properly installed and the vehicle is unoccupied.
- Before the initial hookup of the battery or an external power supply, the ignition must be switched on and the vehicle unoccupied.
- Air bag and seat belt pre-tensioner that fall from a height of more than 0.5 m must be replaced.
- When scrapping by means of controlled deployment of air bag and seat belt pre-tensioner, a safe distance of at least 10 m must be maintained.
- Before starting work on air bag and seat belt pre-tensioner and work on components that are connected to air bag and seat belt pre-tensioner or require and intervention in their electric circuit (e.g. when removing the steering wheel):
- Disconnect any external power sources (e.g. charger).
- Disconnect and insulate ground line of battery
- Before starting bodywork in combination with welding or retrofitting, during which work is performed on uninsulated, current-carrying lines or require an intervention in their electric circuit (e.g. when removing the steering wheel):
- Disconnect any external power sources (e.g. charger).
- Disconnect and insulate ground line of battery.
- During welding, disconnect plug connection and from control unit of air bag.
- When the air bag deploys, the pyrofuse activates and the power source from the battery is disconnected. This prevents possible fires caused by electric leakage after an accident occurs.

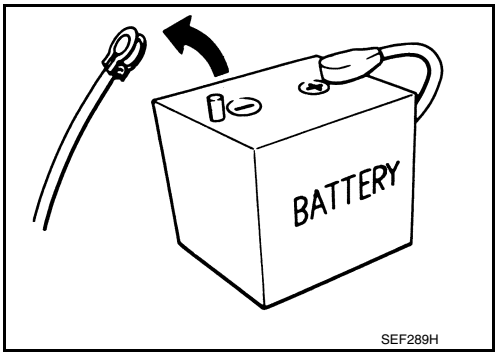
Precautions for Removing Battery Terminal

INFOID:0000000013683244

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:



BR08DE	: 4 minutes	YD25DDTi	: 2 minutes
D4D engine	: 20 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		
V9X engine	: 4 minutes		

NOTE:
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.

- 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.

Information o Preventing Damage to Electronic Components Due to Electrostatic Discharge

INFOID:0000000013683245

Electrostatic charge
Every contact and every physical separation of materials or every movement of solids, liquids or charged particle-containing gases can generate electrostatic charge. Plastics generally produce the highest electrostatic charge.
We come across electrostatic charge or discharge in lots of everyday situations, e.g. with:

- Combs
- Walking on carpets or plastic floors
- Putting on and taking off textiles with synthetic fiber content
- Disembarking from the vehicle
- Contact between various electrostatically chargeable packaging materials in shelves or in the transport container

The resulting electrostatic discharge [Electrostatic Discharge (ESD)] can be so strong that a small electric shock is detected. Even the smallest discharges which people cannot detect can cause lasting damage to electronic components and control units.

Effects and consequences of ESD
Electronic components and control units are very sensitive to ESD.
The damage is often not immediately obvious, but becomes apparent some time later. In order to avoid failures and damage due to ESD in vehicle electronics, various procedures and safety precautions must be taken into account and followed.
Risk of damage arises during the transportation, handling, testing, removal and installation of electronic components during production and repair work.

The following electronic components listed as an example can be damaged by ESD:

- Airbag components

- Control units, in particular their bus connections
- [Controller Area Network (data bus/CAN bus) (CAN), Local Interconnect Network (LIN) etc.]
- Sensors
- Mechatronic components (actuators etc.)
- Antenna amplifier
- Receivers and displays (Radio, TV, GPS, telephone etc.)

Modes of behavior and safety precautions]
- Electrostatic discharge from the fitter (e.g. due to brief contact with the vehicle body).
- Suitable clothing, e.g. made of cotton.
- Wear ESD safety shoes with conductive soles.
- Keep workplace clean and clear away unnecessary objects such as conventional plastics.
- Special antistatic seat cushion protectors should be used when performing repair work inside a vehicle.
- Leave replacement parts in the original packing for as long as possible, do not tear open seals but cut them open carefully.
- The ESD workplace must conform to the ESD guidelines.

Commercially available devices/tools
- Before unpacking, discharge ESD protective packaging at the ESD workplace.
- Avoidance of contact with electrostatic chargeable materials such as PE, PVC, styrofoam.
- Use only original packaging or specially labeled and defined packaging and transport materials.
- Electronic components which have been removed must be put down on an ESD workplace.
- Touch connections on electronic components and in the wiring harness on housing only. Do not touch pins or contacts!
- Electronic components must be installed before they are connected so that potential equalization with the body can take place.
- Shelves and worktables must stand directly on the floor, there must not be any insulating materials between the base of the shelves/feet and the floor. If the above mentioned insulators cannot be removed, the shelves and work tables must be grounded (e.g. low-resistance electrical connection/line from metal shelf to a coolant pipe).
- Do not park conductive shipping containers/crates when insulated (e.g. on a wooden pallet), as otherwise potential equalization will not take place.
- Do not place control units and electronic components removed from the vehicle on electrostatically chargeable materials, such as PE, PVC, styrofoam. The electrostatic charge is transferred to the control unit or electronic component. An ESD service kit or a connected ESD table mat must be used.

Training
It is strongly recommended that every company has an ESD officer trained in accordance with DIN EN 61340-5-1.
The ESD officer can carry out staff training courses.
The aim of the training measures is to communicate the main problems and effects of ESD to staff:
- Discharge generation
- Reasoning for safety precautions
- Effects and consequences of ESD
- ESD rules of conduct and safety precautions

Return of electronic components in warranty and goodwill cases
When returning electronic components it is absolutely essential to observe the procedure and safety precautions listed. The original fault may be falsified or hidden by electrostatic charge/discharge.
This can lead to distorted fault symptoms in the case of the fault analysis of the component concerned.

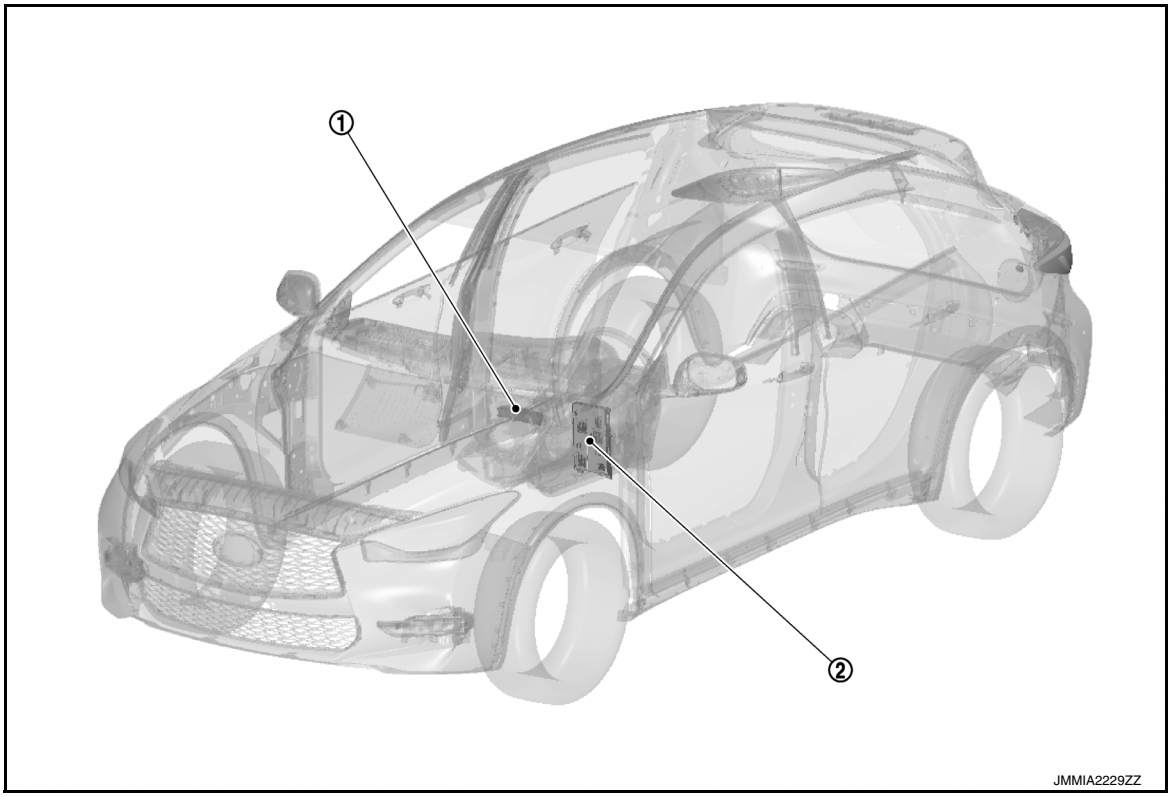
SYSTEM DESCRIPTION

COMPONENT PARTS

BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : Component Parts Location

INFOID:0000000013683246

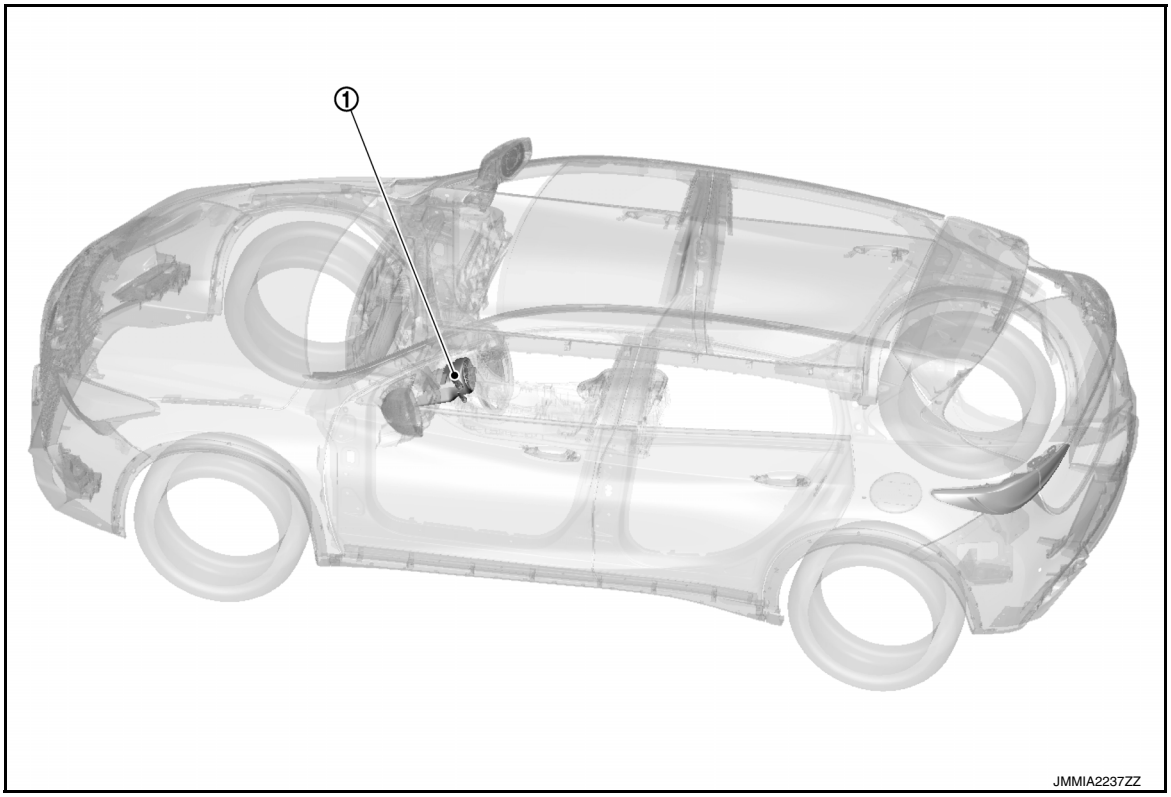


No.	Component	Function
①	Upper control panel control unit	Upper control panel control unit transmits integrated switch status to BCM via LIN communication.
②	BCM	Refer to BCS-12, "BODY CONTROL SYSTEM : System Description".

STEERING COLUMN CONTROL SYSTEM

STEERING COLUMN CONTROL SYSTEM : Component Parts Location

INFOID:0000000013683247

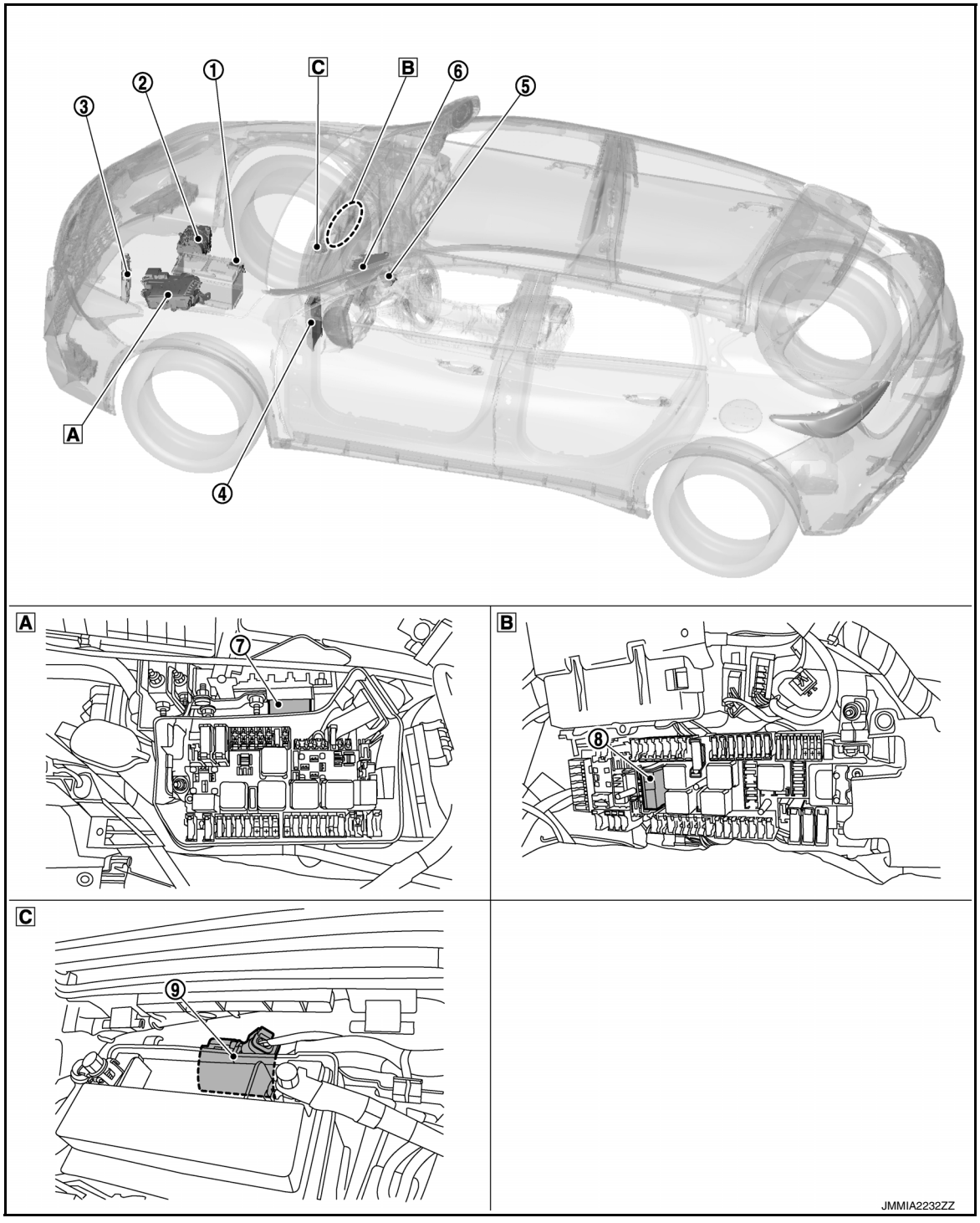


No.	Component	Function
①	Steering column control module	Refer to BCS-14, "STEERING COLUMN CONTROL SYSTEM : System Description".

ENERGY MANAGEMENT SYSTEM

ENERGY MANAGEMENT SYSTEM : Component Parts Location

INFOID:0000000013683248



A Left side of engine room

B Front side of sub battery

C Behind sub battery

No.	Component	Function
①	Battery sensor	Refer to CHG-5, "Battery Sensor".
②	Alternator	Refer to CHG-4, "Alternator".
③	ECM	• ECM controls alternator via LIN communication. • ECM transmits engine status and alternator status to BCM via CAN communication. • Refer to EC-27, "Component Parts Location" for detailed installation location.

No.	Component	Function
④	BCM	• BCM receives battery status from battery sensor via LIN communication. • BCM receives engine status and alternator status from ECM via CAN communication. • BCM performs energy management system.
⑤	Electronic ignition switch control unit	• Electronic ignition switch transmits signal between BCM and ECM via CAN communication. • Refer to PCS-5, "Component Parts Location" for detailed installation location.
⑥	Combination meter	Combination meter receives signal from BCM via CAN communication and displays the message.
⑦	Latching terminal relay 30g	Latching terminal relay 30g opens when the consumers is shut off by energy management system.
⑧	Decoupling relay	Decoupling relay opens when engine is restarted by stop/start system.
⑨	Sub battery relay	Sub battery relay closes when engine is restarted by stop/start system.

SYSTEM
BODY CONTROL SYSTEM
BODY CONTROL SYSTEM : System Description

INFOID:0000000013683249

OUTLINE

- BCM (Body Control Module) controls the various electrical components. It inputs the information required to the control from CAN communication and the signal received from each switch and sensor.
- BCM is equipped with the diagnosis function that performs the diagnosis with CONSULT.

BCM CONTROL FUNCTION LIST

System	Reference
Central locking system	DLK-16, "CENTRAL LOCKING SYSTEM : System Description"
Intelligent Key system	DLK-22, "INTELLIGENT KEY SYSTEM : System Description"
Garage door opener system	DLK-27, "GARAGE DOOR OPENER SYSTEM : System Description"
Power window control system	PWC-9, "System Description"
Headlamp system	• EXL-22, "HEADLAMP SYSTEM : System Description" (LED headlamp) • EXL-320, "HEADLAMP SYSTEM : System Description" (Halogen headlamp)
Auto light system	• EXL-24, "AUTO LIGHT SYSTEM : System Description" (LED headlamp) • EXL-323, "AUTO LIGHT SYSTEM : System Description" (Halogen headlamp)
High beam assist system	EXL-26, "HIGH BEAM ASSIST SYSTEM : System Description"
Daytime running light system	• EXL-29, "DAYTIME RUNNING LIGHT SYSTEM : System Description" (LED headlamp) • EXL-325, "DAYTIME RUNNING LIGHT SYSTEM : System Description" (Halogen headlamp)
Active adaptive front-lighting system	EXL-31, "ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM : System Description"
Turn signal and hazard warning lamp system	• EXL-34, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description" (LED headlamp) • EXL-327, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description" (Halogen headlamp)
Parking, position, license plate, side marker and tail lamp system	• EXL-36, "PARKING, POSITION, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description" (LED headlamp) • EXL-329, "PARKING, POSITION, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description" (Halogen headlamp)
Back-up lamp system	• EXL-40, "BACK-UP LAMP SYSTEM : System Description" (LED headlamp) • EXL-333, "BACK-UP LAMP SYSTEM : System Description" (Halogen headlamp)
Stop lamp system	• EXL-42, "STOP LAMP SYSTEM : System Description" (LED headlamp) • EXL-335, "STOP LAMP SYSTEM : System Description" (Halogen headlamp)
Front fog lamp system	• EXL-44, "FRONT FOG LAMP SYSTEM : System Description" (LED headlamp) • EXL-337, "FRONT FOG LAMP SYSTEM : System Description" (Halogen headlamp)
Interior room lamp control system	INL-9, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"

System	Reference
Interior room lamp battery saver	INL-15, "INTERIOR ROOM LAMP BATTERY SAVER SYSTEM : System Description"
Illumination control unit	INL-20, "ILLUMINATION CONTROL SYSTEM : System Description"
Front wiper and washer system	WW-10, "FRONT WIPER AND WASHER SYSTEM : System Description"
Rear wiper and washer system	WW-14, "REAR WIPER AND WASHER SYSTEM : System Description"
Spray nozzle hose heater system	WW-17, "SPRAY NOZZLE HOSE HEATER SYSTEM : System Description"
Energy management system	BCS-15, "ENERGY MANAGEMENT SYSTEM : System Description"

BODY CONTROL SYSTEM : Fail-safe

INFOID:0000000013683250

FAIL-SAFE CONTROL BY DTC

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

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Fail-safe
B11C1	13	Additional battery	[CIRC OPEN]	Inhibit stop/start function
	16		[CIRC VOLT BELOW THRESHOLD]	
	18		[CIRC CURRENT BELOW THRESHOLD]	
	1B		[CIRC RESISTANCE ABOVE THRESHOLD]	
B1692	11	Circuit 58d	[CIRC SHORT TO GRND]	Inhibit light switch indicator operation
B170F	15	Trunk room/luggage room lamp 1	[CIRC SHORT TO BATTERY OR OPEN]	Inhibit back door lamp operation
B1739	11	Door handle illumination output signal	[CIRC SHORT TO GRND]	Inhibit malfunction ambient lamp (rear inside handle) operation
B1F24	11	Ambiance illumi (red) output signal	[CIRC SHORT TO GRND]	Inhibit ambient lamp (rear door grip LH/RH), ambient lamp (front seat driver/passenger side) and ambient lamp (rear seat LH/RH) operation
B1F4E	11	Foot lamp output signal	[CIRC SHORT TO GRND]	Inhibit malfunction foot lamp operation
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B21DE	11	ADDITIONAL BATTERY RELAY	[CIRC SHORT TO GRND]	Inhibit stop/start function
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	66		[SIGNAL HAS TOO MANY TRANSITIONS/ EVENTS]	
	71		[ACTUATOR STUCK]	

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Fail-safe
B21DF	04	Starter battery	[SYSTEM INTERNAL FAILURES]	Inhibit stop/start function
	11		[CIRC SHORT TO GRND]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	66		[SIGNAL HAS TOO MANY TRANSITIONS/ EVENTS]	
	71		[ACTUATOR STUCK]	
B2364	11	Ambiance illumi (green) output signal	[CIRC SHORT TO GRND]	Inhibit malfunction ambient lamp operation
B2844	11	Ambiance illumi 2 output signal	[CIRC SHORT TO GRND]	Inhibit ambient lamp (rear inside handle LH/RH) operation
C107D	86	Circuit 54	[SIGNAL INVALID]	Brake lamps turn ON
P126F	11	STOP/START: HOT START SIGNAL	[CIRC SHORT TO GRND]	Inhibit stop/start function
	62		[SIGNAL COMPARE FAILURE]	
	64		[SIGNAL PLAUSIBILITY FAILURE]	

STEERING COLUMN CONTROL SYSTEM

STEERING COLUMN CONTROL SYSTEM : System Description

INFOID:0000000013683251

OUTLINE

- Steering column control module controls the various electrical components. It inputs the information required to the control from CAN communication and the signal received from each switch and sensor.
- Steering column control module is equipped with the diagnosis function that performs the diagnosis with CONSULT.

STEERING COLUMN CONTROL MODULE CONTROL FUNCTION

Switch and Sensor Reading Function

- Steering column control module receives signal from steering angle sensor, combination switch and cruise control lever via hard wire.
- Steering column control module receives signal from steering switch and paddle shifter via LIN communication.
- Steering column control module transmits these signal to corresponding control units via CAN communication.

Vibration Motor Control Function

- Steering column control module receives signal from front camera unit via CAN communication and controls vibration motor. For details of LDW system, refer to DAS-13, "LDW : System Description".

Steering Switch Illumination Control Function

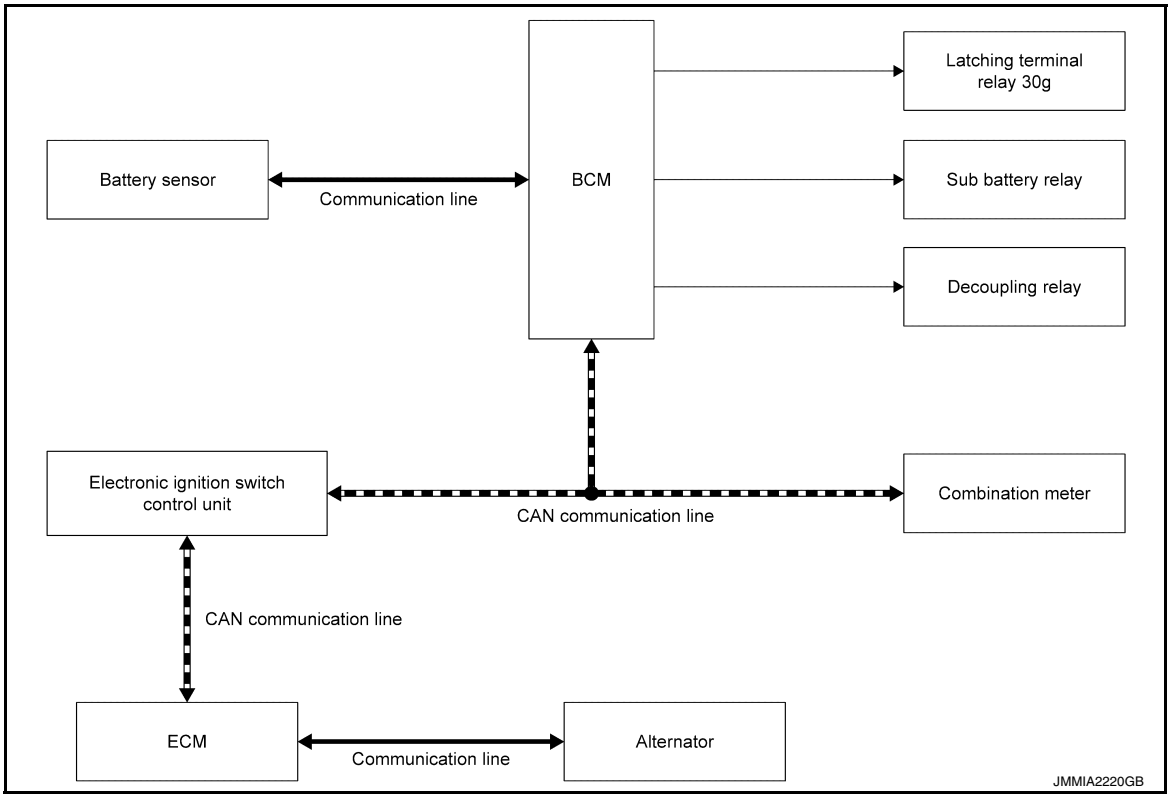
- Steering column control module controls the illumination of steering switch.

ENERGY MANAGEMENT SYSTEM

ENERGY MANAGEMENT SYSTEM : System Description

INFOID:0000000013683252

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

- Energy management system manages the provision (supply) and consumption (management) of electrical energy with the aim of ensuring mobility and a stable supply of all electrical consumers.
- The energy management function monitors on-board power supply utilization and actively intervenes in the energy management.

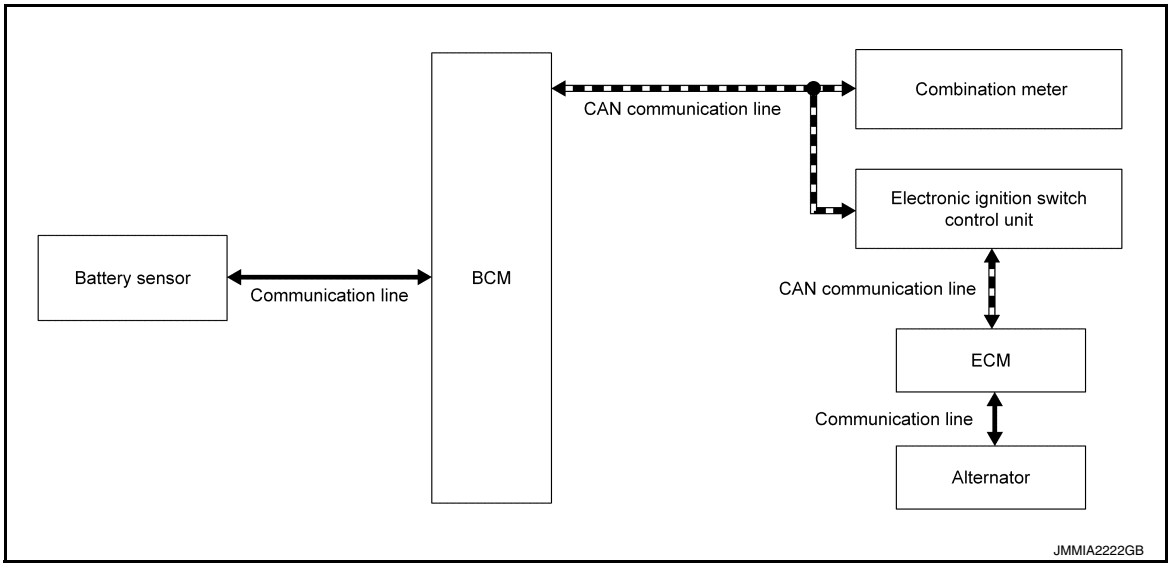
Function	Reference
Engine ON energy management function	BCS-16, "ENGINE ON ENERGY MANAGEMENT FUNCTION : System Description"
Engine OFF energy management function	BCS-20, "ENGINE OFF ENERGY MANAGEMENT FUNCTION : System Description"
Start/stop energy management function	EC-85, "STOP/START SYSTEM : System Description"

ENGINE ON ENERGY MANAGEMENT FUNCTION

ENGINE ON ENERGY MANAGEMENT FUNCTION : System Description

INFOID:0000000013683253

SYSTEM DIAGRAM



DESCRIPTION

The engine on energy management function ensures the stability of the on-board electrical system as well as an even charge balance in battery.
Given that the power output of the alternator is dependent on engine speed and temperature, plus the fact that many consumers are used simultaneously, overload situations arise that need to be buffered by the battery. When such an overload situation lasts for an extended period or when the charging capacity of the battery is low, a negative charge/discharge ratio may result that may impair the engine's starting capability.
In situations where the on-board electrical system is overloaded for prolonged periods, engine ON energy management works to increase the power output of the alternator and also reduces the consumers for balancing the charge/discharge ratio of the battery.

Energy management for driving includes the following sub functions:
- Function sequence for voltage provision
- Function sequence for dynamic idle speed control
- Function sequence for consumer reduction
- Function sequence for power supply over sub battery

FUNCTION SEQUENCE FOR VOLTAGE PROVISION

The voltage provision function sequence includes the following:
- Function sequence for determining charge status of battery
- Charge battery function sequence
- Function sequence for alternator regulation

Function Sequence for Determining Charge State of Battery

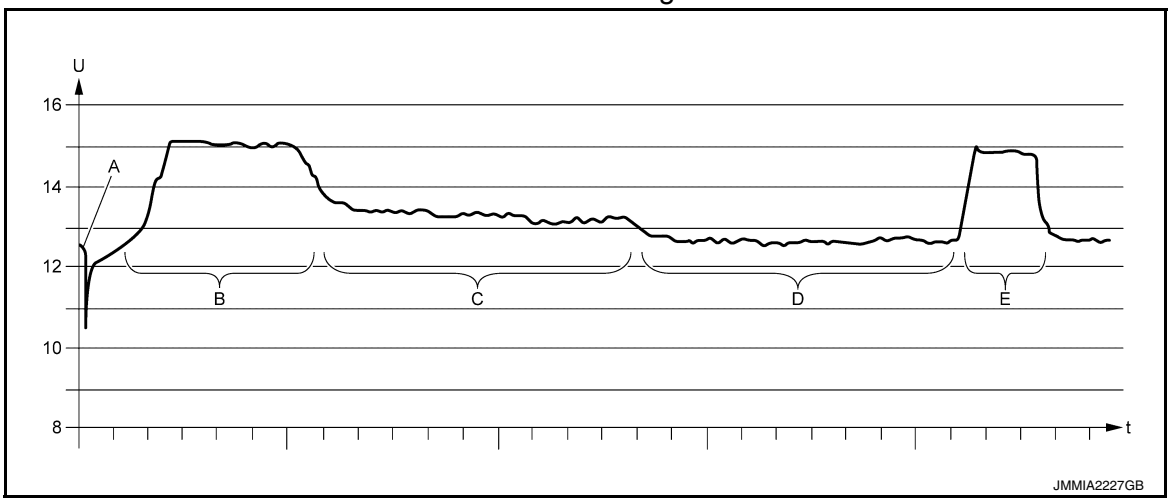
The state of the battery is detected by battery sensor. This calculates corresponding parameters on the voltage, current, and temperature measurements on the battery.
The charge level of the battery is the ratio of the current charge to the maximum storable charge. This is based on the calculation of the internal resistance of the battery. This value can be used to determine the acid density of the battery. This, along with the battery capacity, is then used to compute the charge stored in the battery. BCM reads the computed data from battery sensor, additionally measures the voltages at the upstream and the downstream of the latching terminal relay 30g, and then computes the alternator voltage required to provide the energy requested by consumers.

Charge Battery Function Sequence

Charging of the battery requires that the specified voltage be determined. The specified voltage is the voltage that must be present at the terminals of the battery.
Depending on various factors, the specified voltage is determined using the alternator management or using the temperature-dependent charging characteristic including the fast charging function.
After the engine is started, the fast charging function is performed first at high voltage until the system judges that the charge level of the battery is sufficient.

NOTE:
Fast charging function occurs with a charging voltage of 15 V and can be maintained for 20 seconds to 1 hour. Alternator management includes lowering of the charging voltage to approximately 12 V and a regenerative braking (energy recovery) function when the engine is in deceleration mode.
A safety cutout is activated when driving down long hills for avoiding overcharging of the battery resulting from long periods of deceleration fuel shutoff. This protective cutout deactivates regenerative braking (energy recovery) in cases of high voltage combined with low power consumption.
When the battery becomes fully charged (for example after driving in the cold or long downhill travel), the voltage is lowered further to return the battery to its optimum charge level.
When alternator management is achieved with one of the doors open and the vehicle speed is 0 km/h, alternator management changes to the jump start mode or the workshop mode. At the same time, the alternator voltage is increased constantly to 14.3 V. This external starting aid or workshop mode is not canceled until the vehicle speed is more than 0 km/h.

Various Phases of Voltage Provision



A: Engine start
B: Fast charging
C: Temperature-based charging
D: Alternator management
E: Charging in deceleration mode
U: Voltage
T: Time

Function	Outline
Fast charging	• Voltage range: up to 15 V • Once after engine start • Optimized charging of battery (including during short trips) • Duration time: 20 seconds to 1 hour. • Fast charging ends when charge of battery is sufficient • No fast charging with trailer operation • No fast charging when the battery is too warm
Temperature-based charging	• Fast charging ended. Alternator management not possible • Voltage range: between 13.5 V – 15 V • Linear charging characteristic • Battery temperature: less than 10°C (50°F) • Ambient temperature: less than 0°C (32°F)
Transition to alternator management	• Fast charging ended • Stable engine operation • Battery temperature: more than 10°C (50°F) • Ambient temperature: more than 0°C (32°F) • Charge level of the battery is sufficient. • No trailer operation

Function	Outline
Alternator management	• Voltage range: Approx 12 V • Voltage range: Approx 13.5 V (For some light functions ON) • Voltage range: Approx 14.3 V (Air conditioning ON) • Charge level of the battery is sufficient. • Reduced consumer power consumption
Charging in deceleration mode	• Voltage range: up to 15 V • Activated by ECM • The battery is charged if the energy is available

Function Sequence for Alternator Regulation

Alternator regulation (alternator management)

- Takes place in ECM
- Sets the specified voltage of the energy management
- Switches to regenerative braking voltage in deceleration mode
- Sets a lower voltage in exceptional cases (e.g. stall prevention, cold start at high altitude, catalytic converter heating)

The alternator control actuates the alternator′s power output. BCM reads the battery parameters as provided by the battery sensor and calculates the required alternator specified voltage.

BCM transmits this value to ECM via CAN communication. ECM evaluates this, taking additional input factors (e.g. A/C ON) into consideration, and calculates the ideal specified voltage for the alternator.

Then, ECM transmits an alternator specified voltage to alternator via LIN communication and applies the settings. In addition, ECM checks the input factors in order to rule out any overcharging or faulty charging of the battery.

ECM compares the alternator′s specified voltage values with the alternator′s output values for recognizing the energy stage of the electrical system. This comparison is called energy management.

ECM transmits signal regarding this via CAN communication to BCM.

As soon as it becomes apparent that the electrical system voltage is not high enough, the energy management is gradually reduced. This allows the full output of the alternator to become available.

The energy management in ECM adopts the alternator specified voltage values for BCM as a guideline value only, because certain vehicle conditions, (e.g. engine comfort, idle stability, engine start, irregular engine operation) have to be taken into consideration. The actual specified voltage of the alternator is therefore obtained by receiving the specified voltages transmitted from BCM, and in this way, the energy is managed.

NOTE:

If a malfunction is found in the battery sensor, the on-board power supply management switches to a fixed voltage of 14.3 V.

FUNCTION SEQUENCE FOR DYNAMIC IDLE SPEED CONTROL

Dynamic idle speed control sets the engine′s idle speed such that no current needs to be drawn from the battery when the vehicle is idling. The idle speed is increased for a higher consumer load. Idle speed increase is done in a preventive manner. The system adopts the required idle speed based on the present load.

The following factors are used for dynamic idle speed control computations:

- Alternator excitation current
- Alternator operating rate
- Battery voltage
- Battery current
- Engine speed
- Consumer reduction shutoff step
- State of battery
- Engine start

ECM transmits the “Engine running” signal and information on alternator utilization via CAN communication to BCM. Information regarding the condition, voltage, and current of the battery is recorded by the battery sensor which transmits this via LIN communication to BCM. BCM receives and evaluates all relevant information and calculates the required alternator current.

The maximum possible excitation current is calculated from the current excitation current and the alternator utilization. Corresponding information is received by ECM via LIN communicaiton.The maximum possible excitation current is used to calculate the maximum possible alternator current at different idle speeds.

BCM transmits corresponding requests via CAN communication to ECM, which then raises the idle speed accordingly.

The idle speed is reversed under the following circumstances:

- Alternator malfunction

- Simultaneous occurrence of the following conditions:
- Consumer reduction not active
- Consumer load no longer high

CONSUMER SHUT OFF FUNCTION SEQUENCE

- If the alternator can no longer provide the required electrical power, the load on the on-board electrical system is reduced by cutting back comfort functions. This serves to avoid any significantly negative charge balance for the battery. The mobility of the vehicle is maintained. The comfort functions are reactivated when the required electrical power to stabilize the on-board electrical system voltage is available again.
- The function for cutting back comfort functions is activated when the on-board electrical system voltage drops below 12.2 V. The first consumer's power consumption is reduced at 20 seconds after engine start. If the cutback conditions remain unchanged, the power consumption of one further consumer is reduced every second afterward.

  NOTE:

  The front seat belt pre-tensioner LH and front seat belt pre-tensioner RH have very high starting and operating currents. The power consumption of some high power consumers is therefore reduced or the consumers shut off altogether for approximately 2 seconds when the front seat belt pre-tensioner are triggered for reducing the load on the on-board electrical system.
- BCM transmits the request for power reduction or shut off over the interior CAN to the corresponding control units.
- The shut off sequence is shown in the following table.

Shut off step	Consumers with reduced or no power	Responsible control unit	Maximum current
1	PTC heater heating level 6 (Passenger side)	A/C auto amp.	18.5 A
2	PTC heater heating level 5 (Driver side)	A/C auto amp.	18.5 A
3	PTC heater heating level 4 (Passenger side)	A/C auto amp.	18.5 A
4	PTC heater heating level 3 (Driver side)	A/C auto amp.	18.5 A
5	PTC heater heating level 2 (Passenger side)	A/C auto amp.	18.5 A
6	PTC heater heating level 1 (Driver side)	A/C auto amp.	18.5 A
7	Heated seat level 3	• Driver seat control unit • Passenger seat control unit	13.2 A
8	Heated seat level 2	• Driver seat control unit • Passenger seat control unit	13.2 A
9	Door mirror defogger	• Left front door control unit • Right front door control unit	3.5 A
10	Rear window defogger	A/C auto amp.	30.0 A
11	Front blower P=50%	A/C auto amp.	16.0 A
12	Radiator fan P=50%	A/C auto amp.	31.0 A
13	Power sockets	BCM	6.0 – 8.0 A
14	Heated seat level 1	• Driver seat control unit • Passenger seat control unit	3.3 A

- When the on-board electrical system voltage is stabilized to a value above 12.2 V, the comfort functions are switched on again in reverse order with a delay time of 1 second each.

FUNCTION SEQUENCE for POWER SUPPLY OVER SUB BATTERY

To allow selector lever position “P” to be engaged even when the on-board electrical system is overloaded, the electronic ignition switch control unit is also supplied with power from the sub battery.

The power supply function over sub battery includes the following sub functions:

- Determine function sequence of status of sub battery
- Function sequence of charge sub battery

Determine Function Sequence of Status of Sub Battery

A simple battery state recognition function is integrated in BCM for providing information about the availability of electrical power from sub battery. This is carried out immediately after the engine is started. If the engine is switched off while battery state recognition is in progress, BCM aborts battery state recognition and rejects the measurement results up to that time.

In addition to the battery state recognition, the voltage of the sub battery is also constantly checked. To perform this check, charging must be stopped for 20 ms. The check is performed every 5 seconds.

Function Sequence of Charge Sub Battery

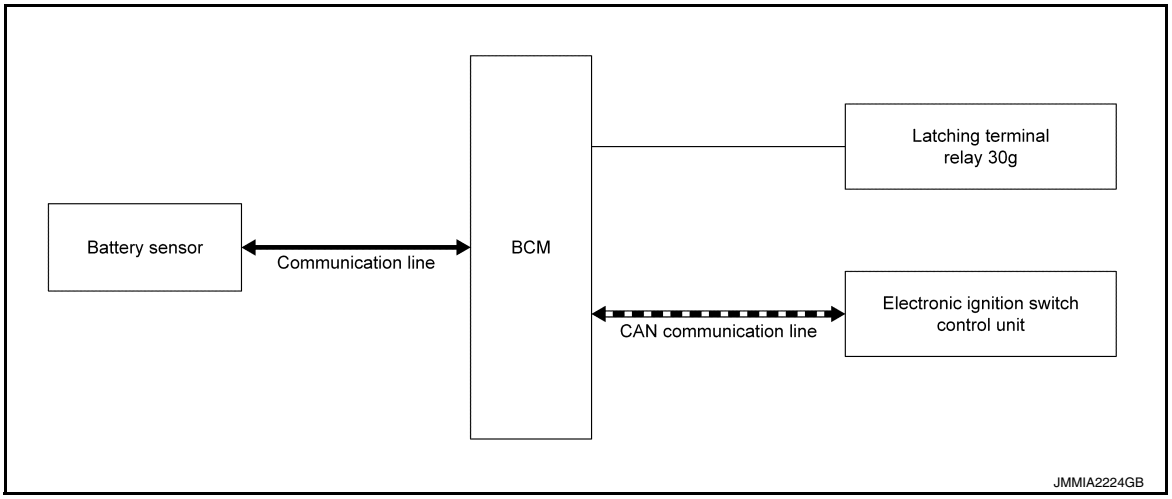
Sub battery is charged as required after battery state recognition when the engine is running. Charging of Sub battery is controlled by the BCM.

ENGINE OFF ENERGY MANAGEMENT FUNCTION

ENGINE OFF ENERGY MANAGEMENT FUNCTION : System Description

INFOID:0000000013683254

SYSTEM DIAGRAM



OUTLINE

The engine OFF energy management safeguards the stability of the on-board electrical system with engine OFF. This functionality is integrated into the BCM and serves to extend the service life of the battery. To this end, active electrical consumers may be switched off.

Engine OFF energy management includes the following sub functions:

- Consumer shut off function sequence
- Function sequence for no-load current management

CONSUMER SHUT OFF FUNCTION SEQUENCE

- BCM activates the consumer shut off function when the on-board electrical system voltage drops below 11.8 V in 5 seconds while ignition switch is ACC or ON.
- BCM shuts off one consumer every 5 seconds if the condition does not change.
- The shut off sequence is shown in the following table.

Shut off step	Consumers with reduced or no power	Responsible control unit	Maximum current
1	PTC heater heating level 6 (Passenger side)	A/C auto amp.	18.5 A
2	PTC heater heating level 5 (Driver side)	A/C auto amp.	18.5 A
3	PTC heater heating level 4 (Passenger side)	A/C auto amp.	18.5 A
4	PTC heater heating level 3 (Driver side)	A/C auto amp.	18.5 A
5	PTC heater heating level 2 (Passenger side)	A/C auto amp.	18.5 A
6	PTC heater heating level 1 (Driver side)	A/C auto amp.	18.5 A
7	Heated seat level 3	• Driver seat control unit • Passenger seat control unit	13.2 A
8	Heated seat level 2	• Driver seat control unit • Passenger seat control unit	13.2 A
9	Door mirror defogger	• Left front door control unit • Right front door control unit	3.5 A
10	Rear window defogger	A/C auto amp.	30.0 A

Shut off step	Consumers with reduced or no power	Responsible control unit	Maximum current
11	Front blower P=50%	A/C auto amp.	16.0 A
12	Radiator fan P=50%	A/C auto amp.	31.0 A
13	Power sockets	BCM	6.0 – 8.0 A
14	Heated seat level 1	• Driver seat control unit • Passenger seat control unit	3.3 A
15	Residual heat utilization function	A/C auto amp.	8.0 A
16	Radio	AV control unit	3.0 A

- The consumer shut off is not canceled even if the on-board electrical system voltage stabilizes at a value above 11.8 V. The shut off consumers are switched on again only after ignition switch is turned OFF once.

FUNCTION SEQUENCE FOR NO-LOAD CURRENT MANAGEMENT

- No-load current management ensures the vehicle's starting capability even after extended idle times by actuating the latching terminal relay 30g to switch off consumers that are supplied with voltage via latching terminal relay 30g.
- When ignition switch is OFF, BCM cyclically measures the voltage and power consumption every 6 minutes.
- When no-load electrical system voltage drops below 11.8 V, BCM actuates the latching terminal relay 30g to switch off consumers.
- BCM accommodates to increase power consumption within a maximum of 75 minutes after ignition switch is turned OFF.
- After 75 minutes, if an excessively high no-load current is determined, BCM actuates the latching terminal relay 30g to switch off consumers.
- After 6 hours, BCM actuates the latching terminal relay 30g to switch off consumers.
- BCM transmits the activation of no-load current management via CAN communication before actuating the latching terminal relay 30g.

The no-load current management system comprises the following sub functions:
- Function sequence for no-load current shutoff
- Function sequence for no-load current diagnosis

Function Sequence for No-load Current Shutoff

Function sequence for requesting consumer shutoff (no-load current switch)
- When ignition switch OFF, BCM starts the 6-hour timer and continuously monitors no-load current by battery sensor via LIN communication. BCM allow to increase power consumption within 75 minutes. After 75 minutes, BCM actuates the latching terminal relay 30g to open If the no-load current is too high. If no-load electrical system voltage drops below 11.8 V, BCM actuates the latching terminal relay 30g prematurely. After 6 hours, BCM actuates the latching terminal relay 30g to open and switch off consumers.
  5 minutes before BCM actuates the latching terminal relay 30g, BCM transmits the shut off signal via CAN communication to all control units receiving power via the latching terminal relay 30g.

Function sequence for shut off consumers
- 5 minutes after shut off signal is transmitted, if there is no reason to stop the operation, BCM actuates the latching terminal relay 30g to open and transmits the status of the latching terminal relay 30g via CAN communication to electronic ignition switch control unit. Then electronic ignition switch control unit transmits the status of the latching terminal relay 30g via CAN communication to the corresponding control units.

Function sequence for energize consumers
- If BCM receives a wake-up signal, BCM closes the latching terminal relay 30g and transmits a signal via CAN communication that the wake-up conditions for the control units are active again. Electronic ignition switch control unit receives this status and transmits it via CAN communication to the corresponding control units. Closing the latching terminal relay 30g causes power to again be supplied via latching terminal relay 30g.
  The following conditions authorize a closing of the circuit 30g relay:
- Unlocking or opening of door or inserting the key in the key switch
- Ignition switch ACC
- Switching on the hazard warning system, position lamps, or parking lamps
- Activating anti-theft alarm system
- Triggering panic alarm

Function Sequence for No-load Current Diagnosis

No-load current diagnosis records data to help troubleshoot possible fault profiles.

Function sequence for activating no-load current diagnosis

- When ignition switch is OFF, battery sensor starts the no-load current diagnosis if one of the following events occurs:
  - On-board electrical system voltage values fall below limits and there is a change in the kilometer reading since the last current fault roll entry caused by under voltage.
  - No-load current increases after ignition switch is OFF and 75 minutes are passed.
- When the first no-load current diagnosis start is an entry in the no-load current fault roll occurs. Following this, the no-load current is cyclically checked. These values are updated if there are significant changes or if the no-load current diagnosis is canceled.
- The following data are stored in nonvolatile memory in the no-load current fault roll:
  - Maximum no-load current during no-load current fault phase
  - Minimum no-load current during no-load current fault phase
  - Voltage of the battery upon occurrence of no-load current fault phase
  - Voltage of on-board electrical system battery at end of no-load current fault phase
  - Duration of no-load current fault phase
  - Kilometer reading
  - Consumer status

Function sequence for terminating/ending no-load current

- The no-load current diagnosis ends when ignition switch is ACC.
- The no-load current diagnosis is canceled when the limit value (11.8 V) for the on-board electrical system voltage is undershot. Battery sensor stops no-load current monitoring for minimizing electricity consumption and then the update of current fault roll is stopped.

INFORMATION DISPLAY (COMBINATION METER)

INFORMATION DISPLAY (COMBINATION METER) : Sub Battery Warning

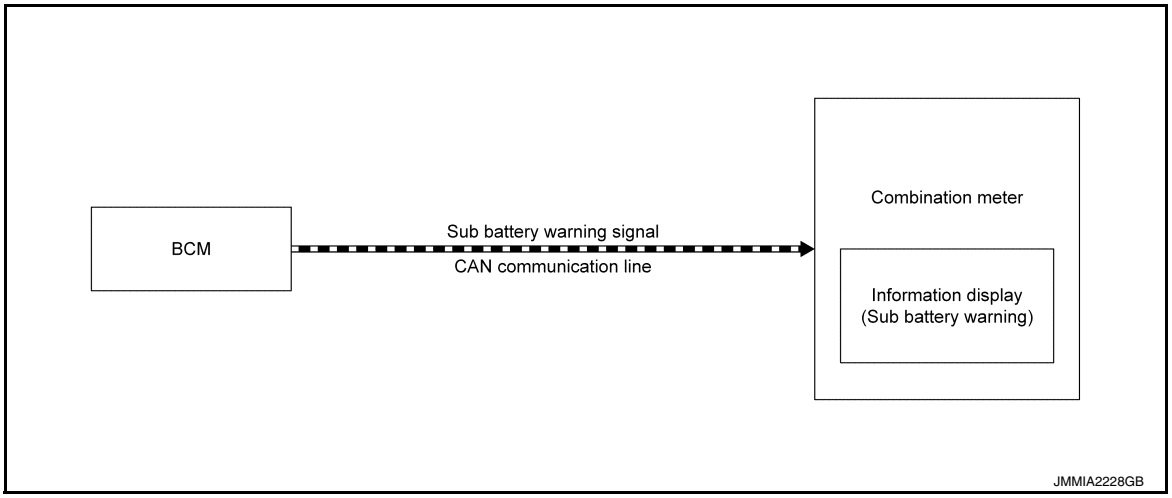
INFOID:0000000013683255

DESIGN/PURPOSE

Sub battery warning warns the driver that there is a malfunction in sub battery.

Symbol	Message
—	Auxiliary Battery Malfunction

SYSTEM DIAGRAM



SIGNAL PATH

- When BCM detects a malfunction in sub battery, BCM transmits sub battery warning signal to combination meter via CAN communication.
- When combination meter receives sub battery warning signal, combination meter displays “Auxiliary Battery Malfunction” on the information display.

WARNING/INDICATOR OPERATING CONDITION

When all of the following conditions are satisfied.
- Engine is started
- BCM detects any following condition
- The voltage on sub battery is not applied
- Sub battery is discharged
- Sub battery is malfunction

WARNING/INDICATOR CANCEL CONDITION

When any of the following conditions are satisfied.
- Engine is stopped
- The voltage of sub battery is normal.

DIAGNOSIS SYSTEM (BCM)

CONSULT Function (BCM)

INFOID:0000000013683256

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each function
Self Diagnostic Result	Displays the diagnosis results judged by BCM
Data Monitor	The BCM input/output signals are displayed
Ecu Identification	The BCM part number is displayed
Active Test	The signals used to activate each device are forcibly supplied from BCM
Configuration	Writes the vehicle specification when replacing BCM

SELF DIAGNOSTIC RESULT

Refer to BCS-51, "DTC Index".

WORK SUPPORT

Monitor Item	Description
Replace decoupling relay	Reset the counter of decoupling relay
Replace eco start stop function add battery	Reset the counter of sub battery relay
Deactivate production run	—

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	Description
Rear map lamp switch	—
Map lamp switch (FL)	—
FR PERSONAL LAMP	—
Lamp state 1.SR left	—
Lamp state 1.SR right	—
Vehicle tilt cancel switch	—
Intruder cancel switch	—
Breakdown button	—
Info button	—
Telematics switch	—
AUTO LIGHT SW	—
Sunroof/sunshade switch	—
REAR LEFT	—
REAR RIGHT	—
WIND LIFT RLY CONT HIGH	—
WIND LIFT RLY CONT DEEP	—
SUPPLY BATTERY 1	Display the status of power supply
SUPPLY BATTERY 2	Display the status of power supply
SUPPLY BATTERY 3	Display the status of power supply

Monitor Item	Description
SUPPLY BATTERY 4	Display the status of power supply
SUPPLY BATTERY 5	Display the status of power supply
FUEL LEVEL SEN 1 REF	Display the status of fuel level sensor
FUEL LEVEL SEN 2 REF	Display the status of fuel level sensor
HIGH BEAM RIGHT	Display the status of high beam right
HIGH BEAM LEFT	Display the status of high beam left
TURN SIGNAL FRONT RIGHT	Display the status of turn signal front right
TURN SIGNAL FRONT LEFT	Display the status of turn signal front right
PARKING LAMP FRONT RIGHT	Display the status of parking lamp front right
PARKING LAMP FRONT LEFT	Display the status of parking lamp front left
SIDEMARKER FRONT RIGHT	—
SIDEMARKER FRONT LEFT	—
DTRL RIGHT	Display the status of daytime running lamp right
DTRL LEFT	Display the status of daytime running lamp left
PARKING LAMP 2 FR RIGHT	—
PARKING LAMP 2 FR LEFT	—
FOG LAMP RIGHT	Display the status of front fog lamp right
FOG LAMP LEFT	Display the status of front fog lamp left
STOP TAIL LAMP 2 RIGHT	—
STOP TAIL LAMP 2 LEFT	—
STOP TAIL LAMP 1 RIGHT	—
STOP TAIL LAMP 1 LEFT	—
TURN SIGNAL REAR RIGHT	—
TURN SIGNAL REAR LEFT	—
LICENSE PLATE LAMP RIGHT	Display the status of license plate lamp right
LICENSE PLATE LAMP LEFT	Display the status of license plate lamp left
BACK-UP LAMP LEFT	Display the status of back-up lamp left
BACK-UP LAMP RIGHT	Display the status of back-up lamp left
FOG LAMP	Display the status of rear fog lamp
TAIL LAMP RIGHT	Display the status of tail lamp right
TAIL LAMP LEFT	Display the status of tail lamp left
Ambient lamp (blue)	—
START / STOP FUNC ADD BAT	Display the status of sub battery
STAGE OF WIND WIPER	Display the status of front wiper
WIND WIPER IN REST POS	Display the status of front wiper position
STATUS OF CIRCUIT 15X	—
CIRCUIT 15	Display the status of ignition switch power supply
CIRCUIT 15R1 RELAY	Display the status of terminal relay (15R1)
CIRC 15R2 POW OUTLET RLY	Display the status of terminal relay (15R2)
SYMBOL ILLUMINATION	—
OUTSIDE TEMP READING	Display outside temperature
COOLANT LEVEL	Display the status of coolant level
WASHER FLUID LEVEL	Display the status of washer fluid level
BRAKE FLUID LEVEL	Display the status of brake fluid level

Monitor Item	Description
FRONT BRAKE LININGS	—
LH ENG HOOD CONTACT SW	—
RH ENG HOOD CONTACT SW	—
LH RR DR ROTARY TUMB SW	—
RH RR DR ROTARY TUMB SW	—
FUEL FILLER FLAP	Display the status of fuel filler lid
TK LID EMERGENCY OP SW	—
LEFT PARKING LAMP	—
RIGHT PARKING LAMP	—
FRONT FOG LAMP BUTTON	Display the status of front fog lamp switch
REAR FOG LAMP BUTTON	Display the status of rear fog lamp switch
AUTO ON/OFF DRIVING LIGHT	—
EXT LT SW IN POS MNL DR LT	—
NIGHT VIEW ASSIST BUTTON	—
STANDING LIGHTS	—
VOLTAGE AT CIRCUIT 30G	Display the status of power supply via latching terminal relay 30g
START / STOP FUNC ADD BAT	—
START / STOP FUNC ADD BAT	—
BATTERY	Display the voltage of battery
BATTERY	Display the current of battery
BATTERY	Display the temperature of battery
INT RESIST	—
ENG STP INHIBI: OBD EL SYS	—
ENG STP INHIBI: LIN ERROR	—
ENG STP INHIBI: DIAGNOSIS	—
ENG STP INHIBI: AMBIENT	—
ENG STP INHIBI: BATTERY	—
RH FUEL LEVEL IND SENSOR	—
LH FUEL LEVEL IND SENSOR	—
REAR WINDOW WIPER RELAY	Display the status of rear wiper relay
TRUNK LAMP	Display the status of luggage room lamp
DOOR HANDLE ILL (RR DOOR)	—
AMBI ILL (IP AND RR DOOR)	—
FOOT LAMP	Display the status of foot lamp
LH FR ILL DOOR SILL MOLD	—
RH FR ILL DOOR SILL MOLD	—
TRUNK LAMP	Display the status of back door lamp
DOOR HANDLE ILL (RR DOOR)	—
AMBI ILL (IP AND RR DOOR)	—
FOOT LAMP	Display the status of foot lamp
LH FR ILL DOOR SILL MOLD	—
RH FR ILL DOOR SILL MOLD	—
SPRAY NOZZ HOSE HEATER	Display the status of spray nozzle hose heater
WIND WASHER SYSTEM PUMP	Display the status of front washer pump

Monitor Item	Description
WIND WASH PUMP: RR WIND	Display the status of rear washer pump
Headlamp washer pump	—
HEADLAMP CLEAN SYS PUMP	—
HORN RELAY	Display the status of horn relay
LICENSE PLATE LAMP	Display the status of license plate lamp
BRAKE / TAILLIGHT 1 LEFT	—
BRAKE / TAILLIGHT 1 RIGHT	—
BRAKE / TAILLIGHT 2 LEFT	—
BRAKE / TAILLIGHT 2 RIGHT	—
CENTER BRAKE LAMP	Display the status of high mounted stop lamp
RUN BOARD COURTE LT LH	—
RUN BOARD COURTE LT RH	—
SIDEMARKER FL	—
SIDEMARKER FR	—
TAIL LAMP LEFT	Display the status of tail lamp left
TAIL LAMP RIGHT	Display the status of tail lamp right
BACK-UP LAMP LEFT	—
BACK-UP LAMP RIGHT	—
FOG LAMP	—
FRONT FOG LAMP LEFT	—
FRONT FOG LAMP RIGHT	—
TURN SIGNAL RL	—
TURN SIGNAL RR	—
TURN SIGNAL FL	—
TURN SIGNAL FR	—
DTRL LEFT	—
DTRL RIGHT	—
LOW BEAM LEFT	—
LOW BEAM RIGHT	—
HIGH BEAMS / IR-RAD LEFT	—
HIGH BEAMS / IR-RAD RIGHT	—
STANDING LIGHT 1 LEFT	—
STANDING LIGHT 1 RIGHT	—
STAND LT 2 / TURN SIG 2 LH	—
STAND LT 2 / TURN SIG 2 RH	—
STOP LAMP	—
CIRCUIT 30G RELAY	Display the status of latching terminal relay 30g
DECOUPLING RELAY	Display the status of decoupling relay
IOD RELAY EARLY COUNTER	—
CIRCUIT 30G RELAY	Display the counter of latching terminal relay 30g
IOD LOW VOLT COUNTER	—
DECOUPLING RELAY	Display the counter of decoupling relay
START/STOP FUNC BAT RLY	Display the counter of sub battery relay
Light sensor present	—

Monitor Item	Description
TUNNEL SENSOR	—
INTERIOR ILLUMINATION	—
LOW BEAM SW	—
RAIN SENSOR	—
LIGHT SENSOR	—
Electrical charge throughput	—
LIFTGATE CENT LCK MOTOR	—
LIFTGATE EXTERNAL OP SW	—
LIFTGATE ROTARY TUMB SW	—

ACTIVE TEST

Monitor Item	Description
Check left front turn signal lamp	—
Check eco start stop function additional battery relay	This function able to check sub battery relay
Check right front turn signal lamp	—
Check right rear turn signal lamp	—
Check left rear turn signal lamp	—
Check right daytime running light headlamp	—
Check left daytime running light headlamp	—
Left front lamp unit	—
Centre brake lamp	This function able to check high mounted stop lamp
LICENSE PLATE LAMPS	This function able to check license plate lamps
Left rear fog lamp	This function able to check left rear fog lamp
Windshield washer system pump	This function able to check front wiper washer
Headlamp clean system pump	—
Resetting reading of frequency counter	This function able to reset the counter of latching terminal relay 30g, decoupling relay and sub battery relay
Tank cap central locking actuator	This function able to check fuel filler flap
Side marker lamp	—
Inner left rear lamp unit	This function able to check left rear combination lamp (back door side)
Left rear power window	This function able to check left rear power window
Right rear lamp unit	This function able to check right rear combination lamp (body side)
Front turn signal lamp	This function able to check front turn signal lamp
ERASE ALARM SOURCES	—
Circuit 30G relay	This function able to check latching terminal relay 30g
Rear fuse box	This function able to check injection relay, terminal relay (15R1), terminal relay (15R2) and rear wiper relay
Engine compartment fuse and relay module	This function able to check injection relay, fanfare relay, front wiper HI/LO relay and front wiper relay
Symbol illumination	—
Activate demo mode of exterior lamp	—
REAR DOORS	This function able to check rear door
Liftgate central locking motor	—
Right rear power window	This function able to check right rear power window
Running board courtesy light	—

Monitor Item	Description
Trunk lid emergency opening switch	—
Illuminated door sill moldings	—
Right front lamp unit	—
Left rear lamp unit	This function able to check left rear combination lamp (body side)
Footwell lamp	This function able to check foot lamp
Backup Lamp	This function able to check back-up lamp
Trunk lamp	—
Spray nozzle hose heater	This function able to check spray nozzle hose heater
Inner right rear lamp unit	This function able to check right rear combination lamp (back door side)
Daytime running light	This function able to check daytime running lamp
WINDSCREEN WIPER	This function able to check front wiper and rear wiper
Eighth to last data record	—
Fifth from last data record	—
Fourth from last data record	—
Last data record	—
Ninth to last data record	—
Second from last data record	—
Seventh to last data record	—
Sixth to last data record	—
Tenth to last data record	—
Third from last data record	—
Front fog lamp	This function able to check front fog lamp
Door handle illumination rear doors	—
Ambiance illumination of rear door	—
Interior Lamp	—
Mirror lamps of sun visors	—
Reading lamp actuation	—
Rear lamp actuation	—
Check component M10 5 RL door power window motor	—
Check component M10 6 RR door power window motor	—
Left rear power window actual value	—
Right rear power window actual value	—
CONFIRMATION OF BATTERY CHANGE	—
OUTPUT FOR THE WIPER ARM HOSE HEATER RELAY HAS A MALFUNCTION	—

DIAGNOSIS SYSTEM (STEERING COLUMN CONTROL MODULE)

CONSULT Function (Steering Column Control Module)

INFOID:0000000013683257

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with steering column control module.

Diagnosis mode	Description
ECU Identification	Allows confirmation of steering column control module part number.
Self Diagnostic Result	Displays the diagnosis results judged by steering column control module.
Data Monitor	Displays the real-time input/output data from steering column control module input/output data.
Active Test	Steering column control module can provide a drive signal to electronic components to check their operations.

SELF DIAGNOSTIC RESULT

Refer to BCS-61, "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 Contents
STRG SW CRRNT	—
Current Limitation	—
STEERING SENSOR	—
STEERING ANGLE	—
STEERING ANGLE SENSOR STATUS	—
HIGH BEAM STATUS	Display the status of combination switch (High beam)
FRONT WIPER	Display the status of combination switch (Front wiper)
FR WASHER SW	Display the status of combination switch (Front washer)
RR WIPER	Display the status of combination switch (Rear wiper)
IND SIG	—
HEATED STEERING WHEEL	—
CRUISE CONTROL FUNCTION	Display the status of cruise control lever
UP SW	Display the status of steering switch
DOWN SW	Display the status of steering switch
VOLUME “+” BUTTON	Display the status of steering switch
VOLUME “-” BUTTON	Display the status of steering switch
REPEAT KEY	—
MUTE BUTTON	—
GEAR POSITION	Display the status of paddle shifter
SUPPLY VOLTAGE	—

ACTIVE TEST

Monitor	Item Contents
Speedtronic light emitting diode	—
Steering wheel heater	—

DIAGNOSIS SYSTEM (UPPER CONTROL PANEL CONTROL UNIT)

CONSULT Function (Upper Control Panel Control Unit)

INFOID:0000000013683258

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with upper control panel control unit.

Diagnosis mode	Description
ECU Identification	Allows confirmation of upper control panel control unit part number.

ECU DIAGNOSIS INFORMATION

BCM

Reference Value

INFOID:0000000013683259

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.

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
Rear map lamp switch	—	Not app.
		APPLIED
Map lamp switch (FL)	—	Not app.
		APPLIED
FR PERSONAL LAMP	—	Not app.
		APPLIED
Lamp state 1.SR left	—	NOT ACTIVE
		ACTIVE
Lamp state 1.SR right	—	NOT ACTIVE
		ACTIVE
Vehicle tilt cancel switch	—	Not app.
		APPLIED
		Not defined
		SNA
Intruder cancel switch	—	Not app.
		APPLIED
		Not defined
		SNA
Breakdown button	—	Not app.
		APPLIED
		Not defined
		SNA
Info button	—	Not app.
		APPLIED
		Not defined
		SNA
Telematics switch	—	Not app.
		APPLIED
		Not defined
		SNA
AUTO LIGHT SW	—	OFF
		AUTOMATIC
		MANUAL
		SNA

Monitor Item	Condition	Value/Status
Sunroof/sunshade switch	—	Not app.
		TS op mn
		TS op at
		TS cl mn
		LR op at
		TS cl at
		LR op mn
		LR cl at
		LR cl mn
		SNA
REAR LEFT	—	NOT READY
		Auto high
		High
		Not app.
		Deep
		Auto low
REAR RIGHT	—	NOT READY
		Auto high
		High
		Not app.
		Deep
		Auto low
WIND LIFT RLY CONT HIGH	—	No
		Yes
WIND LIFT RLY CONT DEEP	—	No
		Yes
SUPPLY BATTERY 1	Display the status of power supply	V
SUPPLY BATTERY 2	Display the status of power supply	V
SUPPLY BATTERY 3	Display the status of power supply	V
SUPPLY BATTERY 4	Display the status of power supply	V
SUPPLY BATTERY 5	Display the status of power supply	V
FUEL LEVEL SEN 1 REF	Display the status of fuel level sensor	V
FUEL LEVEL SEN 2 REF	Display the status of fuel level sensor	V
HIGH BEAM RIGHT	Display the status of high beam right	A
HIGH BEAM LEFT	Display the status of high beam left	A
TURN SIGNAL FRONT RIGHT	Display the status of turn signal front right	A
TURN SIGNAL FRONT LEFT	Display the status of turn signal front right	A
PARKING LAMP FRONT RIGHT	Display the status of parking lamp front right	A
PARKING LAMP FRONT LEFT	Display the status of parking lamp front left	A
SIDEMARKER FRONT RIGHT	—	A
SIDEMARKER FRONT LEFT	—	A
DTRL RIGHT	Display the status of daytime running lamp right	A
DTRL LEFT	Display the status of daytime running lamp left	A
PARKING LAMP 2 FR RIGHT	—	A

Monitor Item	Condition	Value/Status
PARKING LAMP 2 FR LEFT	—	A
FOG LAMP RIGHT	Display the status of front fog lamp right	A
FOG LAMP LEFT	Display the status of front fog lamp left	A
STOP TAIL LAMP 2 RIGHT	—	A
STOP TAIL LAMP 2 LEFT	—	A
STOP TAIL LAMP 1 RIGHT	—	A
STOP TAIL LAMP 1 LEFT	—	A
TURN SIGNAL REAR RIGHT	—	A
TURN SIGNAL REAR LEFT	—	A
LICENSE PLATE LAMP RIGHT	Display the status of license plate lamp right	A
LICENSE PLATE LAMP LEFT	Display the status of license plate lamp left	A
BACK-UP LAMP LEFT	Display the status of back-up lamp left	A
BACK-UP LAMP RIGHT	Display the status of back-up lamp left	A
FOG LAMP	Display the status of rear fog lamp	A
TAIL LAMP RIGHT	Display the status of tail lamp right	A
TAIL LAMP LEFT	Display the status of tail lamp left	A
Ambient lamp (blue)	—	A
START / STOP FUNC ADD BAT	Display the status of sub battery	V
STAGE OF WIND WIPER	Display the status of front wiper	OFF
		LEVEL 1
		LEVEL 2
WIND WIPER IN REST POS	Display the status of front wiper position	NOT ACT
		ACTIVE
STATUS OF CIRCUIT 15X	—	Deactivated
		Activated
CIRCUIT 15	Display the status of ignition switch power supply	Deactivated
		Activated
CIRCUIT 15R1 RELAY	Display the status of terminal relay (15R1)	Deactivated
		Activated
CIRC 15R2 POW OUTLET RLY	Display the status of terminal relay (15R2)	Deactivated
		Activated
SYMBOL ILLUMINATION	—	A
OUTSIDE TEMP READING	Display outside temperature	°C
COOLANT LEVEL	Display the status of coolant level	Level OK
		Low
WASHER FLUID LEVEL	Display the status of washer fluid level	Level OK
		Low
BRAKE FLUID LEVEL	Display the status of brake fluid level	Level OK
		Low
FRONT BRAKE LININGS	—	Not detected
		DETECTED
LH ENG HOOD CONTACT SW	—	OPEN
		Closed

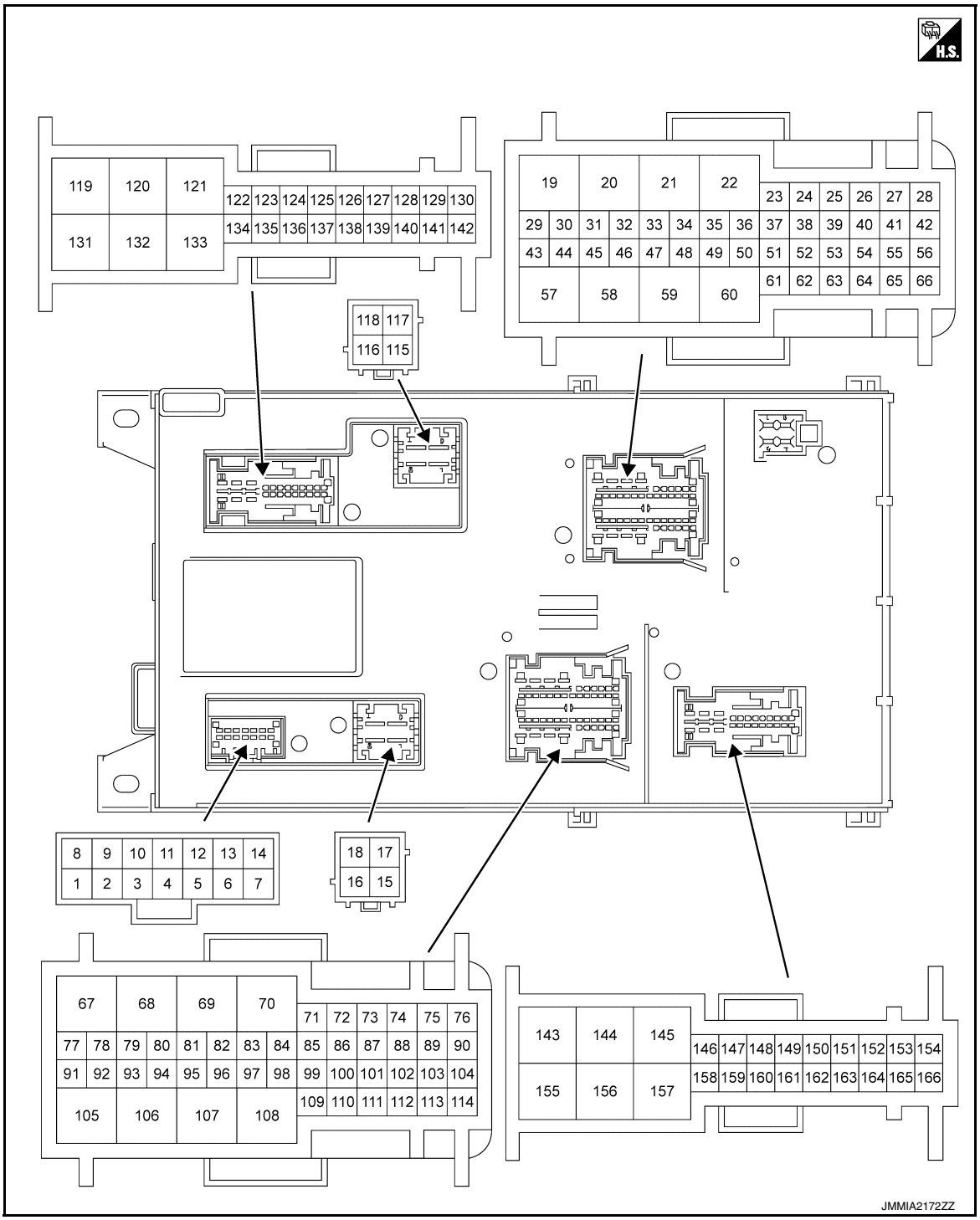
Monitor Item	Condition	Value/Status
RH ENG HOOD CONTACT SW	—	OPEN
		Closed
LH RR DR ROTARY TUMB SW	—	OPEN
		Closed
RH RR DR ROTARY TUMB SW	—	OPEN
		Closed
FUEL FILLER FLAP	Display the status of fuel filler lid	OPEN
		Closed
TK LID EMERGENCY OP SW	—	Not app.
		APPLIED
LEFT PARKING LAMP	—	Not detected
		DETECTED
RIGHT PARKING LAMP	—	Not detected
		DETECTED
FRONT FOG LAMP BUTTON	Display the status of front fog lamp switch	Not detected
		DETECTED
REAR FOG LAMP BUTTON	Display the status of rear fog lamp switch	Not detected
		DETECTED
AUTO ON/OFF DRIVING LIGHT	—	Not detected
		DETECTED
EXT LT SW IN POS MNL DR LT	—	Not detected
		DETECTED
NIGHT VIEW ASSIST BUTTON	—	Not detected
		DETECTED
STANDING LIGHTS	—	Not detected
		DETECTED
VOLTAGE AT CIRCUIT 30G	Display the status of power supply via latching terminal relay 30g	V
START / STOP FUNC ADD BAT	—	mOhm
START / STOP FUNC ADD BAT	—	A
BATTERY	Display the voltage of battery	V
BATTERY	Display the current of battery	mA
BATTERY	Display the temperature of battery	°C
INT RESIST	—	mOhm
ENG STP INHIBI: OBD EL SYS	—	0
		1
ENG STP INHIBI: LIN ERROR	—	0
		1
ENG STP INHIBI: DIAGNOSIS	—	0
		1
ENG STP INHIBI: AMBIENT	—	0
		1
ENG STP INHIBI: BATTERY	—	0
		1
RH FUEL LEVEL IND SENSOR	—	Ohm

Monitor Item	Condition	Value/Status
LH FUEL LEVEL IND SENSOR	—	Ohm
REAR WINDOW WIPER RELAY	Display the status of rear wiper relay	OFF
		ON
TRUNK LAMP	Display the status of luggage room lamp	OFF
		ON
DOOR HANDLE ILL (RR DOOR)	—	OFF
		ON
AMBI ILL (IP AND RR DOOR)	—	OFF
		ON
FOOT LAMP	Display the status of foot lamp	OFF
		ON
LH FR ILL DOOR SILL MOLD	—	OFF
		ON
RH FR ILL DOOR SILL MOLD	—	OFF
		ON
TRUNK LAMP	Display the status of back door lamp	A
DOOR HANDLE ILL (RR DOOR)	—	A
AMBI ILL (IP AND RR DOOR)	—	A
FOOT LAMP	Display the status of foot lamp	A
LH FR ILL DOOR SILL MOLD	—	A
RH FR ILL DOOR SILL MOLD	—	A
SPRAY NOZZ HOSE HEATER	Display the status of spray nozzle hose heater	A
WIND WASHER SYSTEM PUMP	Display the status of front washer pump	A
WIND WASH PUMP: RR WIND	Display the status of rear washer pump	OFF
		ON
Headlamp washer pump	—	A
HEADLAMP CLEAN SYS PUMP	—	OFF
		ON
HORN RELAY	Display the status of horn relay	Deactivated
		Activated
LICENSE PLATE LAMP	Display the status of license plate lamp	OFF
		ON
BRAKE / TAILLIGHT 1 LEFT	—	OFF
		ON
BRAKE / TAILLIGHT 1 RIGHT	—	OFF
		ON
BRAKE / TAILLIGHT 2 LEFT	—	OFF
		ON
BRAKE / TAILLIGHT 2 RIGHT	—	OFF
		ON
CENTER BRAKE LAMP	Display the status of high mounted stop lamp	OFF
		ON
RUN BOARD COURTE LT LH	—	OFF
		ON

Monitor Item	Condition	Value/Status
RUN BOARD COURTE LT RH	—	OFF
		ON
SIDEMARKER FL	—	OFF
		ON
SIDEMARKER FR	—	OFF
		ON
TAIL LAMP LEFT	Display the status of tail lamp left	OFF
		ON
TAIL LAMP RIGHT	Display the status of tail lamp right	OFF
		ON
BACK-UP LAMP LEFT	—	OFF
		ON
BACK-UP LAMP RIGHT	—	OFF
		ON
FOG LAMP	—	OFF
		ON
FRONT FOG LAMP LEFT	—	OFF
		ON
FRONT FOG LAMP RIGHT	—	OFF
		ON
TURN SIGNAL RL	—	OFF
		ON
TURN SIGNAL RR	—	OFF
		ON
TURN SIGNAL FL	—	OFF
		ON
TURN SIGNAL FR	—	OFF
		ON
DTRL LEFT	—	OFF
		ON
DTRL RIGHT	—	OFF
		ON
LOW BEAM LEFT	—	OFF
		ON
LOW BEAM RIGHT	—	OFF
		ON
HIGH BEAMS / IR-RAD LEFT	—	OFF
		ON
HIGH BEAMS / IR-RAD RIGHT	—	OFF
		ON
STANDING LIGHT 1 LEFT	—	OFF
		ON
STANDING LIGHT 1 RIGHT	—	OFF
		ON

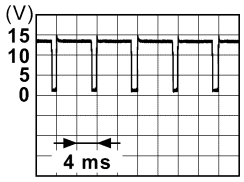
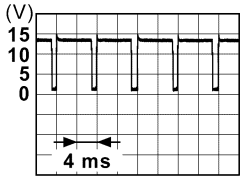
Monitor Item	Condition	Value/Status
STAND LT 2 / TURN SIG 2 LH	—	OFF
		ON
STAND LT 2 / TURN SIG 2 RH	—	OFF
		ON
STOP LAMP	—	NOT ACT
		ACTIVE
CIRCUIT 30G RELAY	Display the status of latching terminal relay 30g	Closed
		No cls
DECOUPLING RELAY	Display the status of decoupling relay	No act
		Relay cls
		Relay op
IOD RELAY EARLY COUNTER	—	—
CIRCUIT 30G RELAY	—	—
IOD LOW VOLT COUNTER	—	—
DECOUPLING RELAY	—	—
START/STOP FUNC BAT RLY	—	—
Light sensor present	—	NOT ACTIVE
		ACTIVE
TUNNEL SENSOR	—	NOT ACTIVE
		ACTIVE
INTERIOR ILLUMINATION	—	Dav
		NIGHT
LOW BEAM SW	—	NOT ACTIVE
		ON
		OFF
		SNA
RAIN SENSOR	—	NOT ACTIVE
		ACTIVE
LIGHT SENSOR	—	Goded
		NOT CONFIG
Electrical charge throughput	—	Ah
LIFTGATE CENT LCK MOTOR	—	Activated
		Deactivated
LIFTGATE EXTERNAL OP SW	—	Activated
		Deactivated
LIFTGATE ROTARY TUMB SW	—	Not defined
		Closed
		Open
		Data type

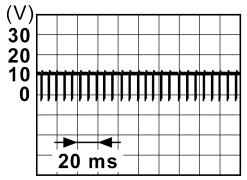
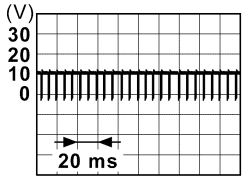
TERMINAL LAYOUT

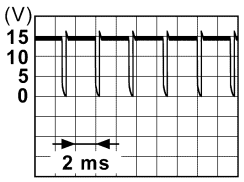
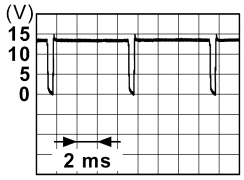
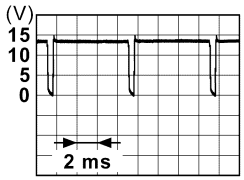
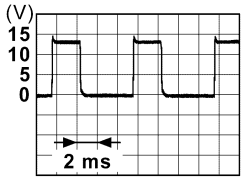
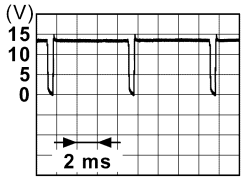


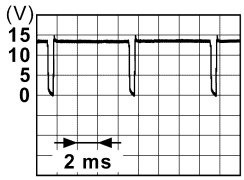
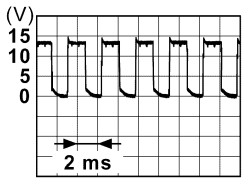
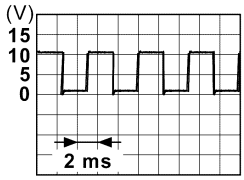
PHYSICAL VALUES

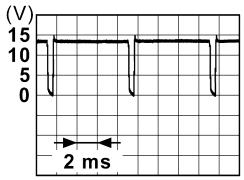
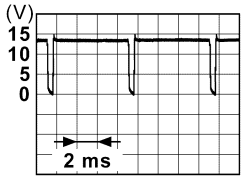
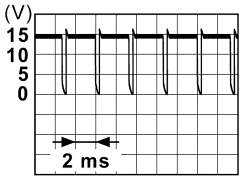
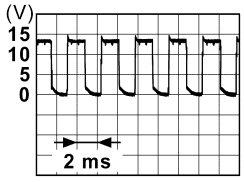
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	–	Signal name	Input/ Output		
1 (W)	Ground	Rotary light switch ground	—	—	0 V

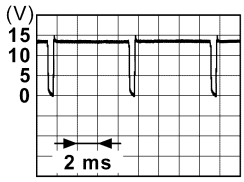
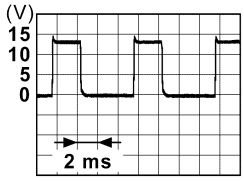
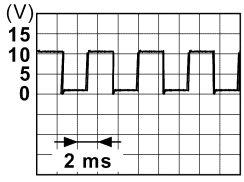
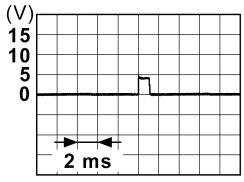
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
2 (O)	Ground	Rotary light switch (Parking lamp LH/ Parking lamp RH/ Position lamp)	Input	Rotary light switch	Parking lamp LH	8.0 V
					Parking lamp RH	4.4 V
					Position lamp	1.6 V
					Other than above	12 V
3 (R)	Ground	Rotary light switch (Auto light/Low beam)	Input	Rotary light switch	Auto light	4.4 V
					Low beam	1.3 V
					Other than above	12 V
4 (G)	Ground	Rotary light switch (Front fog lamp)	Input	Rotary light switch	When pressing front fog lamp switch	1.2 V
					Other than above	12 V
5*1 (Y)	—	—	—	—	—	—
7 (GR)	Ground	Switch indicator	Output	Switch indicator	OFF	0 V
					ON	 JMMIA2192GB
8 (R)	Ground	CAN-H (BODY 2)	Input/ Output	—		—
9 (BR)	Ground	CAN-L (BODY 2)	Input/ Output	—		—
12 (O)	Ground	LIN (IBS)	Input/ Output	—		—
14 (G)	Ground	Rear foot lamp	Output	Rear foot lamp	OFF	0 V
					ON	 JMMIA2192GB
15 (W)	Ground	Battery power supply	Input	Ignition switch OFF, ACC or ON		9 – 16 V
16 (BR)	Ground	Battery power supply	Input	Ignition switch OFF, ACC or ON		9 – 16 V
17 (R)	Ground	Battery power supply	Input	Ignition switch OFF, ACC or ON		9 – 16 V
18 (B)	Ground	Ground	—	—		0 V
19 (Y)	Ground	Rear power window motor RH control (UP)	Output	Rear power window RH	UP	12 V
					Other than above	0 V

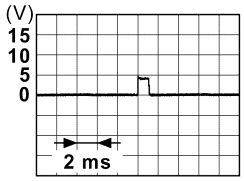
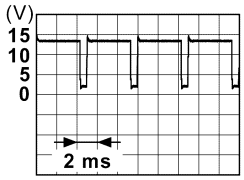
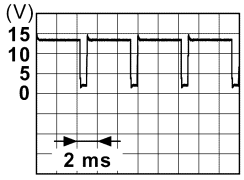
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
20 (G)	Ground	Rear power window motor RH control (DOWN)	Output	Rear power window RH	DOWN	12 V
					Other than above	0 V
21 (B)	Ground	Rear power window motor LH control (UP)	Output	Rear power window LH	UP	12 V
					Other than above	0 V
22 (GR)	Ground	Rear power window motor LH control (DOWN)	Output	Rear power window LH	DOWN	12 V
					Other than above	0 V
23 (P)	Ground	Air bag signal	Input	—		—
27 (GR)	Ground	Back door opener switch	Input	Back door opener switch	While pressing	12 V
					Other than above	0 V
33 (O)	Ground	Rear power window switch LH ground	—	—		0 V
34 (BR)	Ground	Rear power window switch LH (DOWN)	Input	Rear power window switch LH	When pressing DOWN	5 V
					Other than above	12 V
36 (O)	Ground	Rear power window switch LH (UP)	Input	Rear power window switch LH	When pressing UP	5 V
					Other than above	12 V
37 (W)	Ground	Rear door RH status	Input	Rear door RH	Open	12 V
					Close	0 V
39 (Y)	Ground	Back door status	Input	Back door	Open	12 V
					Close	0 V
40 (V)	Ground	Back door lamp	Output	Back door lamp	OFF	0 V
					ON	 JMMIA2178GB
41 (W)	Ground	Rear door LH status	Input	Rear door LH	Open	12 V
					Close	0 V
42 (V)	Ground	Luggage room lamp	Output	Luggage room lamp	OFF	0 V
					ON	 JMMIA2178GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
43 (GR)	Ground	Back-up lamp LH	Output	Back-up lamp LH	OFF	0 V
					ON	 JMMIA2179GB
44 (W)	Ground	High-mounted stop lamp	Output	High-mounted stop lamp	OFF	0 V
					ON	 JMMIA2180GB
45 (O)	Ground	Tail lamp (body side) RH	Output	Tail lamp (body side) RH	OFF	0 V
					ON	 JMMIA2180GB
48 (GR)	Ground	Tail lamp (back door side) RH	Output	Tail lamp (back door) RH	OFF	0 V
					ON	 JMMIA2181GB
50*1 (GR)	—	—	—	—	—	—
57 (Y)	Ground	Stop lamp (body side) LH	Output	Stop lamp (body side) LH	OFF	0 V
					ON	 JMMIA2180GB

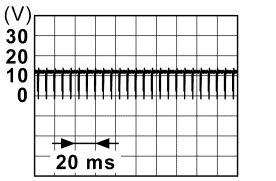
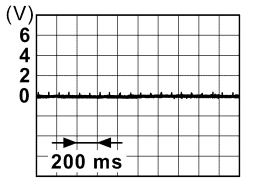
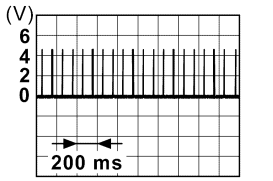
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
58 (B)	Ground	Rear turn signal lamp RH	Output	Rear turn signal lamp RH	OFF	0 V
					ON	 JMMIA2180GB
59 (P)	Ground	Rear door RH UNLOCK	Output	Door lock actuator	UNLOCK (When actuator is activated)	12 V
					Other than above	0 V
60 (G)	Ground	Rear door RH LOCK	Output	Door lock actuator	LOCK (When actuator is activated)	12 V
					Other than above	0 V
62 (GR)	Ground	License plate lamp LH	Output	License plate lamp LH	OFF	0 V
					ON	 JMMIA2182GB
63 (W)	Ground	Rear power window hall sensor LH signal	Input	Power window motor	When motor is activated	 JMMIA2183GB
					Other than above	0 V
64 (GR)	Ground	Rear power window hall sensor LH ground	—	—		0 V
65 (R)	Ground	Rear power window hall sensor LH power supply	Output	Ignition switch OFF, ACC or ON		12 V
67 (V)	Ground	Back door UNLOCK	Output	Back door opener actuator	UNLOCK (When actuator is activated)	12 V
					Other than above	0 V

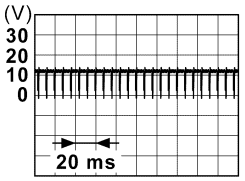
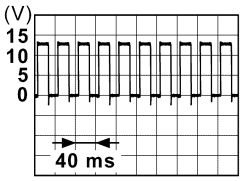
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
69 (GR)	Ground	Stop lamp (body side) RH	Output	Stop lamp (body side) RH	OFF	0 V
					ON	 JMMIA2180GB
70 (B)	Ground	Rear turn signal lamp LH	Output	Rear turn signal lamp LH	OFF	0 V
					ON	 JMMIA2180GB
71 (GR)	Ground	Back-up lamp RH	Output	Back-up lamp RH	OFF	0 V
					ON	 JMMIA2179GB
72 (Y)	Ground	License plate lamp RH	Output	License plate lamp RH	OFF	0 V
					ON	 JMMIA2182GB
73 (L)	Ground	Rear power window switch RH (UP)	Input	Rear power window switch RH	When pressing UP	5 V
					Other than above	12 V
74 (B)	Ground	Rear power window switch RH (DOWN)	Input	Rear power window switch RH	When pressing DOWN	5 V
					Other than above	12 V
75 (L)	Ground	Rear power window switch RH ground	—	—		0 V
76 (GR)	Ground	Rear power window hall sensor RH power supply	Output	Ignition switch OFF, ACC or ON		12 V
77 (R)	Ground	Sub battery power supply	Input	Ignition switch OFF, ACC or ON		9 – 16 V
78 (B)	Ground	Terminal relay 15R1 control	Output	Ignition switch	ON or ACC	12 V
					OFF	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
80 (B)	Ground	Rear wiper relay control	Output	Rear wiper	ON	12 V
					OFF	0 V
82 (GR)	Ground	Tail lamp (body side) LH	Output	Tail lamp (body side) LH	OFF	0 V
					ON	 JMMIA2180GB
83 (P)	Ground	Terminal relay 15R2 control	Output	Ignition switch	ON or ACC	12 V
					OFF	0 V
85 (B)	Ground	Tail lamp (back door side) LH	Output	Tail lamp (back door) LH	OFF	0 V
					ON	 JMMIA2181GB
87 (R)	Ground	Battery power supply (via latching terminal relay 30G)	Input	No-load current	When no-load current is shutoff by no-load current management	0 V
					Other than above	12 V
89 (O)	Ground	Rear power window hall sensor RH ground	—	—		0 V
90 (V)	Ground	Rear power window hall sensor RH signal	Input	Power window motor	When motor is activated	 JMMIA2183GB
					Other than above	0 V
91 (P)	Ground	Fuel level sensor ground	—	—		0 V
92 (L)	Ground	Fuel level sensor	Input	Fuel level	When fuel is empty	 JMMIA2184GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
93 (GR)	Ground	Fuel level sensor (For 4WD models)	Input	Fuel level	When fuel is empty	 JMMIA2184GB
94 (Y)	Ground	Fuel filler lid status	Input	Fuel filler lid	Open	0 V
					Close	12 V
97 (G)	Ground	Latching terminal relay 30G control 1	Output	Latching terminal relay 30G	Open by no-load current management	12 V
					Other than above	0 V
98 (B)	Ground	Latching terminal relay 30G ground 1	—	—		0 V
99 (W)	Ground	Latching terminal relay 30G ground 2	—	—		0 V
100 (V)	Ground	Latching terminal relay 30G control 2	Output	Latching terminal relay 30G	Close by no-load current management	12 V
					Other than above	0 V
101 (Y)	Ground	Ambient lamp (rear inside handle)	Output	Ambient lamp (rear inside handle)	OFF	0 V
					ON	 JMMIA2185GB
102 (GR)	Ground	Ambient lamp (rear door grip)	Output	Ambient lamp (rear door grip)	OFF	0 V
					ON	 JMMIA2185GB
103 (V)	Ground	Sub battery relay control	Output	When engine is restarted by stop/start system		12 V
				Other than above		0 V
105 (G)	Ground	Rear door LH UNLOCK	Output	Door lock actuator	UNLOCK (When actuator is activated)	12 V
					Other than above	0 V
106 (W)	Ground	Fuel filler lid UNLOCK	Output	Fuel filler lid lock actuator	UNLOCK (When actuator is activated)	12 V
					Other than above	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
107 (L)	Ground	Rear door LH LOCK	Output	Door lock actuator	LOCK (When actuator is activated)	12 V
					Other than above	0 V
108 (R)	Ground	Sub battery power supply	Input	Ignition switch OFF, ACC or ON		9 – 16 V
109 (O)	Ground	LIN (Roof)	Input/ Output	—		—
112 (BR)	Ground	CAN-L (BODY 1)	Input/ Output	—		—
113 (R)	Ground	CAN-H (BODY 1)	Input/ Output	—		—
114 (B)	Ground	Injection relay control	Output	Ignition switch	ON	12 V
					ACC or OFF	0 V
115 (R)	Ground	Battery power supply (via decoupling relay)	Input	When engine is restarted by stop/start system		0 V
				Other than above		9 – 16 V
117 (R)	Ground	Battery power supply (via decoupling relay)	Input	When engine is restarted by stop/start system		0 V
				Other than above		9 – 16 V
118 (BR)	Ground	Ground	—	—		0 V
119 (V)	Ground	Rear washer control	Output	Rear washer	ON	12 V
					OFF	0 V
120 (GR)	Ground	Front washer control	Output	Front washer	ON	12 V
					OFF	0 V
121 (W)	Ground	Brake pedal status	Input	Brake pedal	While pressing	10 V
					Other than above	0 V
122 (Y)	Ground	Spray nozzle hose heater power supply	Output	Spray nozzle hose heater	Activate	Voltage should change when Spray nozzle hose heater is activated
123 (G)	Ground	Injection relay control	Output	Ignition switch	ON	12 V
					ACC or OFF	0 V
124 (BR)	Ground	Hood switch status 1	Input	Hood	Open	12 V
					Close	0 V
125 (B)	Ground	Ignition power supply	Output	Ignition switch	ON	12 V
					ACC or OFF	0 V
126 (GR)	Ground	Parking lamp LH	Output	Parking lamp LH	OFF	0 V
					ON	Voltage should change when the lamp is turned ON
129 (G)	Ground	Front wiper stop position	Output	Front wiper	In stop position	0 V
					Other than above	12 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
131 (Y)	Ground	Front fog lamp LH	Output	Front fog lamp LH	OFF	0 V
					ON	 JMMIA2186GB
132 (O)	Ground	High beam LH	Output	High beam LH	OFF	0 V
					ON	Voltage should change when the lamp is turned ON
133 (L)*2 (Y)*3	Ground	Low beam RH	Output	Ignition switch OFF, ACC or ON		13.2 V
134 (BR)	Ground	Washer level switch ground	—	—		0 V
135 (P)	Ground	Horn control	Output	Horn	When pressing	12 V
					Other than above	0 V
136 (R)	Ground	Front wiper relay control	Output	Front wiper	Activate	12 V
					Other than above	0 V
137 (V)	Ground	Front wiper HI/LO relay control	Output	Front wiper	Front wiper (High) is activated	12 V
					Other than above	0 V
138 (G)	Ground	Brake fluid level switch	Input	—		—
139 (L)	Ground	Washer level switch signal	Input	Washer fluid	Full	 JMMIA2190GB
					Empty	 JMMIA2189GB
140 (Y)	Ground	Hood switch status 2	Input	Hood	Open	0 V
					Close	12 V
141 (R)	Ground	Warm start	Input	Ignition switch	ON	12 V
					ACC or OFF	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
142 (V)	Ground	Front turn signal lamp LH	Output	Front turn signal lamp LH	OFF	0 V
					ON	Voltage should change when the lamp is turned ON
143 (Y)	Ground	Front fog lamp RH	Output	Front fog lamp RH	OFF	0 V
					ON	 JMMIA2186GB
144 (W)	Ground	High beam RH	Output	High beam RH	OFF	0 V
					ON	Voltage should change when the lamp is turned ON
145 (GR)	Ground	Low beam LH	Output	Ignition switch OFF, ACC or ON		13.2 V
146 (P)	Ground	Front turn signal lamp RH	Output	Front turn signal lamp RH	OFF	0 V
					ON	Voltage should change when the lamp is turned ON
148 (V)	Ground	Front brake wear sensor RH	Input	Front brake wear sensor	When brake wear is changed	Voltage should change when brake wear is changed
150 (GR)	Ground	Parking lamp RH	Output	Parking lamp RH	OFF	0 V
					ON	Voltage should change when the lamp is turned ON
152 (L)	Ground	LIN (Battery sensor)	Input/ Output	—		—
154*1 (Y)	—	—	—	—		—
157 (O)	Ground	SSK status	Input	Ignition switch	OFF	12.5 V
					ACC or ON	 JMMIA2188GB
158 (R)	Ground	Coolant level switch signal	Input	Coolant level switch	When coolant level is changed	Voltage should change when coolant level is changed
159 (BR)	Ground	Coolant level switch ground	—	—		0 V
161 (P)	Ground	Ambient sensor ground	—	—		0 V
162 (G)	Ground	Ambient sensor signal	Input	Ambient sensor	When temperature is changed	Voltage should change when temperature is changed
164 (O)	Ground	Brake fluid level switch ground	—	—		0 V

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	–				
165*1 (V)	—	—	—	—	—
166 (R)	Ground	Decoupling relay control	Output	When engine is restarted by stop/start system	12 V
				Other than above	0 V

*1: This harness is connected but not used.
*2: Halogen headlamp models
*3: LED headlamp models

Fail-safe

INFOID:0000000013683260

FAIL-SAFE CONTROL BY DTC

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

CONSULT display		CONSULT screen items		Fail-safe
		(Trouble diagnosis content)	[Malfunction type]	
B11C1	13	Additional battery	[CIRC OPEN]	Inhibit stop/start function
	16		[CIRC VOLT BELOW THRESHOLD]	
	18		[CIRC CURRENT BELOW THRESHOLD]	
	1B		[CIRC RESISTANCE ABOVE THRESHOLD]	
B1692	11	Circuit 58d	[CIRC SHORT TO GRND]	Inhibit light switch indicator operation
B170F	15	Trunk room/luggage room lamp 1	[CIRC SHORT TO BATTERY OR OPEN]	Inhibit back door lamp operation
B1739	11	Door handle illumination output signal	[CIRC SHORT TO GRND]	Inhibit malfunction ambient lamp (rear inside handle) operation
B1F24	11	Ambiance illumi (red) output signal	[CIRC SHORT TO GRND]	Inhibit ambient lamp (rear door grip LH/RH), ambient lamp (front seat driver/passenger side) and ambient lamp (rear seat LH/RH) operation
B1F4E	11	Foot lamp output signal	[CIRC SHORT TO GRND]	Inhibit malfunction foot lamp operation
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B21DE	11	ADDITIONAL BATTERY RELAY	[CIRC SHORT TO GRND]	Inhibit stop/start function
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	66		[SIGNAL HAS TOO MANY TRANSITIONS/ EVENTS]	
	71		[ACTUATOR STUCK]	

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Fail-safe
B21DF	04	Starter battery	[SYSTEM INTERNAL FAILURES]	Inhibit stop/start function
	11		[CIRC SHORT TO GRND]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	66		[SIGNAL HAS TOO MANY TRANSITIONS/ EVENTS]	
	71		[ACTUATOR STUCK]	
B2364	11	Ambiance illumi (green) output signal	[CIRC SHORT TO GRND]	Inhibit malfunction ambient lamp operation
B2844	11	Ambiance illumi 2 output signal	[CIRC SHORT TO GRND]	Inhibit ambient lamp (rear inside handle LH/RH) operation
C107D	86	Circuit 54	[SIGNAL INVALID]	Brake lamps turn ON
P126F	11	STOP/START: HOT START SIGNAL	[CIRC SHORT TO GRND]	Inhibit stop/start function
	62		[SIGNAL COMPARE FAILURE]	
	64		[SIGNAL PLAUSIBILITY FAILURE]	

DTC Index

INFOID:0000000013683261

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

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Reference
B108A	16	Seat heater	[CIRC VOLT BELOW THRESHOLD]	SE-34
	17		[CIRC VOLT ABOVE THRESHOLD]	
	97		[CMPNENT OR SYSTEM OPERATION OBSTRUCTED OR BLOCKED]	
	9A		[OPERATING CONDITIONS]	
B1091	18	Heat mat (fl seat)	[CIRC CURRENT BELOW THRESHOLD]	SE-39
	19		[CIRC CURRENT ABOVE THRESHOLD]	
	63		[CIRC/COMPNT PROTECTION TIMEOUT]	
B1095	18	Heat mat (fr seat)	[CIRC CURRENT BELOW THRESHOLD]	SE-43
	19		[CIRC CURRENT ABOVE THRESHOLD]	
	63		[CIRC/COMPNT PROTECTION TIMEOUT]	
B11C1	13	Additional battery	[CIRC OPEN]	BCS-90
	16		[CIRC VOLT BELOW THRESHOLD]	
	18		[CIRC CURRENT BELOW THRESHOLD]	
	1B		[CIRC RESISTANCE ABOVE THRESHOLD]	
B11F6	01	In-vehicle sensor fan	[ELECTRICAL MALFUNCTION]	HAC-91
B129F	03	SSK STAT signal circuit (TCS)	[FM/PWM FAILURES]	BCS-96
	11		[CIRC SHORT TO GRND]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B161E	01	Reading lamp/exit lamp output signal	[ELECTRICAL MALFUNCTION]	INL-83

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Reference
B162A	01	Low beam lh	[ELECTRICAL MALFUNCTION]	EXL-388
	11		[CIRC SHORT TO GRND]	
	12		[CIRC SHORT TO BATTERY]	
	13		[CIRC OPEN]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B162E	01	Low beam rh	[ELECTRICAL MALFUNCTION]	EXL-391
	11		[CIRC SHORT TO GRND]	
	12		[CIRC SHORT TO BATTERY]	
	13		[CIRC OPEN]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B1632	01	High beam lh	[ELECTRICAL MALFUNCTION]	EXL-394
	11		[CIRC SHORT TO GRND]	
	12		[CIRC SHORT TO BATTERY]	
	13		[CIRC OPEN]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B1636	01	High beam rh	[ELECTRICAL MALFUNCTION]	EXL-397
	11		[CIRC SHORT TO GRND]	
	12		[CIRC SHORT TO BATTERY]	
	13		[CIRC OPEN]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B163A	01	Turn signal lamp fl output signal	[ELECTRICAL MALFUNCTION]	EXL-400
	11		[CIRC SHORT TO GRND]	
	12		[CIRC SHORT TO BATTERY]	
	13		[CIRC OPEN]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B163E	01	Turn signal lamp fr output signal	[ELECTRICAL MALFUNCTION]	EXL-403
	11		[CIRC SHORT TO GRND]	
	12		[CIRC SHORT TO BATTERY]	
	13		[CIRC OPEN]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B1642	11	Turn signal lamp rl output signal	[CIRC SHORT TO GRND]	•EXL-118 (LED headlamp) •EXL-406 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B1646	11	Turn signal lamp rr output signal	[CIRC SHORT TO GRND]	•EXL-120 (LED headlamp) •EXL-408 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B164A	49	Turn signal lamp rl	[INTERNAL ELECTRONIC FAILURE]	•EXL-122 (LED headlamp) •EXL-410 (Halogen headlamp)

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Reference
B164B	49	Turn signal lamp rr	[INTERNAL ELECTRONIC FAILURE]	•EXL-125 (LED headlamp) •EXL-413 (Halogen headlamp)
B164C	11	Turn signal lamp rl diagnostic circuit	[CIRC SHORT TO GRND]	•EXL-128 (LED headlamp) •EXL-416 (Halogen headlamp)
B164D	11	Turn signal lamp rr diagnostic circuit	[CIRC SHORT TO GRND]	•EXL-130 (LED headlamp) •EXL-418 (Halogen headlamp)
B1692	11	Circuit 58d	[CIRC SHORT TO GRND]	INL-85
B16AF	11	Left brake lamp output signal	[CIRC SHORT TO GRND]	•EXL-132 (LED headlamp) •EXL-420 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B16B3	11	Right brake lamp output signal	[CIRC SHORT TO GRND]	•EXL-134 (LED headlamp) •EXL-422 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B16B7	11	Hi-mount stop lamp center output sig	[CIRC SHORT TO GRND]	•EXL-136 (LED headlamp) •EXL-424 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B16F7	11	Fog lamp lh	[CIRC SHORT TO GRND]	•EXL-139 (LED headlamp) •EXL-427 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B16FB	11	Fog lamp rh	[CIRC SHORT TO GRND]	•EXL-141 (LED headlamp) •EXL-429 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B1707	11	Back-up lamp lh output signal	[CIRC SHORT TO GRND]	•EXL-143 (LED headlamp) •EXL-431 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B170B	11	Back-up lamp rh output signal	[CIRC SHORT TO GRND]	•EXL-145 (LED headlamp) •EXL-433 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B170F	15	Trunk room/luggage room lamp 1	[CIRC SHORT TO BATTERY OR OPEN]	INL-87
B1727	01	Vanity mirror lamp	[ELECTRICAL MALFUNCTION]	INL-89
B1734	2A	Reading light fl button	[SIGNAL STUCK IN RANGE]	INL-92
B1735	2A	Reading light fr button	[SIGNAL STUCK IN RANGE]	INL-94
B1738	2A	Room lamp button	[SIGNAL STUCK IN RANGE]	INL-96

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Reference
B1739	11	Door handle illumination output signal	[CIRC SHORT TO GRND]	INL-98
B1749	01	Rear interior illumination	[ELECTRICAL MALFUNCTION]	INL-100
B1797	11	Standing light lh 2	[CIRC SHORT TO GRND]	EXL-439
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B179B	11	Standing light rh 2	[CIRC SHORT TO GRND]	EXL-441
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B17F7	11	License plate lamp output signal	[CIRC SHORT TO GRND]	•EXL-164 (LED headlamp) •EXL-443 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B17FC	16	Standing light/parking light switch	[CIRC VOLT BELOW THRESHOLD]	•EXL-166 (LED headlamp) •EXL-445 (Halogen headlamp)
B1828	11	Remote trunk opening output signal	[CIRC SHORT TO GRND]	DLK-203
	13		[CIRC OPEN]	
B186D	2A	Trunk lid button (outside)	[SIGNAL STUCK IN RANGE]	DLK-206
B18B7	2A	Power window switch rl	[SIGNAL STUCK IN RANGE]	PWC-57
B18B8	2A	Power window switch rr	[SIGNAL STUCK IN RANGE]	PWC-59
B18C9	11	Power window motor	[CIRC SHORT TO GRND]	PWC-61
B18CC	11	Fuel filler lid actuator output signal	[CIRC SHORT TO GRND]	DLK-208
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B18EB	11	Door lock actuator rl output signal	[CIRC SHORT TO GRND]	DLK-211
	13		[CIRC OPEN]	
B18F3	11	Door lock actuator rr output signal	[CIRC SHORT TO GRND]	DLK-214
	13		[CIRC OPEN]	
B1A7B	00	Power window initialization	—	PWC-55
B1F10	2A	Hazard switch	[SIGNAL STUCK IN RANGE]	•EXL-168 (LED headlamp) •EXL-447 (Halogen headlamp)
B1F24	11	Ambiance illumi (red) output signal	[CIRC SHORT TO GRND]	INL-102
B1F45	00	Starter battery	[NO SUBTYPE INFO]	CHG-30
B1F4B	11	Door lock actuator rr output signal	[CIRC SHORT TO GRND]	DLK-217
B1F4C	11	Front wiper relay	[CIRC SHORT TO GRND]	WW-34
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B1F4D	11	Front wiper relay	[CIRC SHORT TO GRND]	WW-37
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B1F4E	11	Foot lamp output signal	[CIRC SHORT TO GRND]	INL-104
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B210C	13	Power supply is outside valid range	[CIRC OPEN]	BCS-99
	16		[CIRC VOLT BELOW THRESHOLD]	
	17		[CIRC VOLT ABOVE THRESHOLD]	

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Reference
B2121	11	Circuit 15 relay 1	[CIRC SHORT TO GRND]	BCS-103
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B214B	11	No-load current ON.	[CIRC SHORT TO GRND]	BCS-106
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	72		[ACTUATOR STUCK OPEN]	
B214F	11	No-load current OFF	[CIRC SHORT TO GRND]	BCS-110
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	73		[ACTUATOR STUCK CLOSED]	
B2159	14	Circuit 30g	[CIRC SHORT TO GROUND OR OPEN]	BCS-114
B215F	11	Circuit 15R relay 1	[CIRC SHORT TO GRND]	BCS-116
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B2163	11	Circuit 15R relay 2	[CIRC SHORT TO GRND]	BCS-119
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B2194	00	Circuit 30	—	BCS-122
B2195	00	Circuit 30	—	BCS-125
B21DE	11	ADDITIONAL BATTERY RELAY	[CIRC SHORT TO GRND]	BCS-128
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	66		[SIGNAL HAS TOO MANY TRANSITIONS/ EVENTS]	
	71		[ACTUATOR STUCK]	
B21DF	04	Starter battery	[SYSTEM INTERNAL FAILURES]	BCS-132
	11		[CIRC SHORT TO GRND]	
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	66		[SIGNAL HAS TOO MANY TRANSITIONS/ EVENTS]	
	71		[ACTUATOR STUCK]	
B21E6	11	Circuit 15 relay 2	[CIRC SHORT TO GRND]	BCS-137
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B21E7	11	Circuit 15 output signal	[CIRC SHORT TO GRND]	BCS-140
B21F5	16	Circuit 30.1	[CIRC VOLT BELOW THRESHOLD]	BCS-141
B21F6	16	Circuit 30.2	[CIRC VOLT BELOW THRESHOLD]	BCS-144
B21F7	16	Circuit 30.3	[CIRC VOLT BELOW THRESHOLD]	BCS-147
B21F8	16	Circuit 30.4	[CIRC VOLT BELOW THRESHOLD]	BCS-150
B21F9	16	Circuit 30.5	[CIRC VOLT BELOW THRESHOLD]	BCS-153
B2206	00	Vehicle identification number	—	BCS-156
B2215	41	Calibration	[GENERAL CHECKSUM FAILURE]	BCS-158
	46		[CALIBRATION/PARAMETER MEMORY FAILURE]	
	49		[INTERNAL ELECTRONIC FAILURE]	
B221D	17	Rain sensor	[CIRC VOLT ABOVE THRESHOLD]	WW-40
	49		[INTERNAL ELECTRONIC FAILURE]	
	4B		[OVER TEMPERATURE]	
	54		[MISSING CALIBRATION]	
B223B	00	Configuration	[NO SUBTYPE INFO]	BCS-160

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Reference
B226C	2A	Upper cont panel control unit	[SIGNAL STUCK IN RANGE]	BCS-161
B2267	08	Inside mirror	[BUS SIGNAL/MESSAGE FAILURES]	MIR-63
B2269	01	Garage door opener	[ELECTRICAL MALFUNCTION]	DLK-219
	09		[COMPONENT FAILURES]	
	29		[SIGNAL INVALID]	
	2A		[SIGNAL STUCK IN RANGE]	
	86		[SIGNAL INVALID]	
B229F	12	Seat heater control unit fl	[CIRC SHORT TO BATTERY]	SE-47
	4B		[OVER TEMPERATURE]	
B22A0	12	Seat heater control unit fr	[CIRC SHORT TO BATTERY]	SE-49
	4B		[OVER TEMPERATURE]	
B22A3	1C	Overhead cont panel control unit	[CIRC VOLTAGE OUT OF RANGE]	INL-107
	49		[INTERNAL ELECTRONIC FAILURE]	
	4B		[OVER TEMPERATURE]	
B22A8	16	Driver seat control unit	[CIRC VOLT BELOW THRESHOLD]	SE-51
	17		[CIRC VOLT ABOVE THRESHOLD]	
B22E3	4A	Light and rain sensor	[INCRRCT COMPNT INSTALLED]	WW-44
B231A	11	Rear wiper relay	[CIRC SHORT TO GRND]	WW-45
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B231E	11	Wash pump output signal	[CIRC SHORT TO GRND]	WW-48
	13		[CIRC OPEN]	
B2326	7B	Washer level sensor	[LOW FLUID LEVEL]	WW-51
B2335	11	Horn relay	[CIRC SHORT TO GRND]	HRN-13
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B235A	00	The production run is active	[NO SUBTYPE INFO]	BCS-162
B235B	11	Washer tube heater	[CIRC SHORT TO GRND]	WW-53
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B2361	11	Rear washer pump	[CIRC SHORT TO GRND]	WW-56
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B2364	11	Ambiance illumi (green) output signal	[CIRC SHORT TO GRND]	INL-110
B2379	71	Wiper motor	[ACTUATOR STUCK]	WW-59
B23A2	11	Washer pump output signal 2	[CIRC SHORT TO GRND]	WW-61
	13		[CIRC OPEN]	
B23AF	13	Heater pad fl	[CIRC OPEN]	SE-53
B23B0	13	Heater pad fr	[CIRC OPEN]	SE-55
B23B3	13	Front brake pad wear sensor	[CIRC OPEN]	BRC-88
B2517	16	Power window motor rl	[CIRC VOLT BELOW THRESHOLD]	PWC-63
B2519	16	Power window motor rr	[CIRC VOLT BELOW THRESHOLD]	PWC-66
B25A6	64	Driver door contact	[SIGNAL PLAUSIBILITY FAILURE]	BCS-163
B2800	11	Stop lamp and tail lamp lh (outer)	[CIRC SHORT TO GRND]	•EXL-204 (LED headlamp) •EXL-458 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	

CONSULT display		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	Reference
B2801	11	Stop lamp and tail lamp lh (inner)	[CIRC SHORT TO GRND]	•EXL-206 (LED headlamp) •EXL-460 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B2802	11	Stop lamp and tail lamp rh (outer)	[CIRC SHORT TO GRND]	•EXL-208 (LED headlamp) •EXL-462 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B2803	11	Stop lamp and tail lamp rh (inner)	[CIRC SHORT TO GRND]	•EXL-210 (LED headlamp) •EXL-464 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B2844	11	Ambiance illumi 2 output signal	[CIRC SHORT TO GRND]	INL-112
B2853	11	Tail lamp lh output signal	[CIRC SHORT TO GRND]	•EXL-226 (LED headlamp) •EXL-466 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
B2854	11	Tail lamp rh output signal	[CIRC SHORT TO GRND]	•EXL-228 (LED headlamp) •EXL-468 (Halogen headlamp)
	15		[CIRC SHORT TO BATTERY OR OPEN]	
C0049	15	Brake fluid level switch	[CIRC SHORT TO BATTERY OR OPEN]	MWI-127
	7B		[LOW FLUID LEVEL]	
C107D	86	Circuit 54	[SIGNAL INVALID]	BCS-165
P0070	11	AMBIENT AIR TEMP SENSOR	[CIRC SHORT TO GRND]	HAC-110
	15		[CIRC SHORT TO BATTERY OR OPEN]	
	84		[SIGNAL BELOW ALLOWABLE RANGE]	
	85		[SIGNAL ABOVE ALLOWABLE RANGE]	
P0460	1A	Fuel level sensor lh	[CIRC RESISTANCE BELOW THRESHOLD]	MWI-129
	1B		[CIRC RESISTANCE ABOVE THRESHOLD]	
P065B	13	Alternator	[CIRC OPEN]	CHG-28
P126F	11	STOP/START: HOT START SIGNAL	[CIRC SHORT TO GRND]	BCS-167
	62		[SIGNAL COMPARE FAILURE]	
	64		[SIGNAL PLAUSIBILITY FAILURE]	
P2556	7B	Coolant level sensor	[LOW FLUID LEVEL]	MWI-122
U0019	88	Interior CAN communication	[BUS OFF]	BCS-169
U0100	87	Communication error	[MISSING MESSAGE]	BCS-170
U0121	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	BCS-171
U0126	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	BCS-172
U0143	87	Communication error	[MISSING MESSAGE]	BCS-173
U0151	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	BCS-174
U0155	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	BCS-175
U0159	87	Communication error	[MISSING MESSAGE]	BCS-176
U0164	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	BCS-177
U0167	87	Communication error	[MISSING MESSAGE]	BCS-178

CONSULT display		CONSULT screen items		Reference
		(Trouble diagnosis content)	[Malfunction type]	
U0168	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	BCS-179
U0169	87	Communication error	[MISSING MESSAGE]	BCS-180
U0203	87	Communication error	[MISSING MESSAGE]	BCS-181
U0204	87	Communication error	[MISSING MESSAGE]	BCS-182
U0213	87	Communication error	[MISSING MESSAGE]	BCS-183
U0231	87	Communication error	[MISSING MESSAGE]	BCS-185
U0401	00	Communication error	—	BCS-187
U0416	00	COMMUNICATION ERROR (INVALID)	—	BCS-188
U0427	00	COMMUNICATION ERROR (INVALID)	—	BCS-189
U0452	00	Communication error	—	BCS-190
U0504	00	Communication error	—	BCS-191
U0505	00	Communication error	—	BCS-192
U1008	00	Communication error (LIN bus 1)	—	BCS-193
U1009	00	Communication error (LIN bus 2)	—	BCS-196
U1093	00	Communication error (LIN bus 4)	—	BCS-198
U113E	87	Communication error	[MISSING MESSAGE]	BCS-200
U1152	87	Communication error	[MISSING MESSAGE]	DLK-219
U1154	87	Communication error	[MISSING MESSAGE]	BCS-202
U118A	02	Communication error	[GENERAL SIGNAL FAILURE]	BCS-204
	87		[MISSING MESSAGE]	
U118B	87	Communication error	[MISSING MESSAGE]	BCS-205
U11A3	02	Communication error	[GENERAL SIGNAL FAILURE]	BCS-206
	87		[MISSING MESSAGE]	
U11BF	87	Communication error	[MISSING MESSAGE]	BCS-207
U120B	87	Communication error	[MISSING MESSAGE]	BCS-209
U141E	00	Communication error	—	•EXL-282 (LED headlamp) •EXL-506 (Halogen headlamp)

STEERING COLUMN CONTROL MODULE

Reference Value

INFOID:0000000013683262

VALUES ON THE DIAGNOSIS TOOL

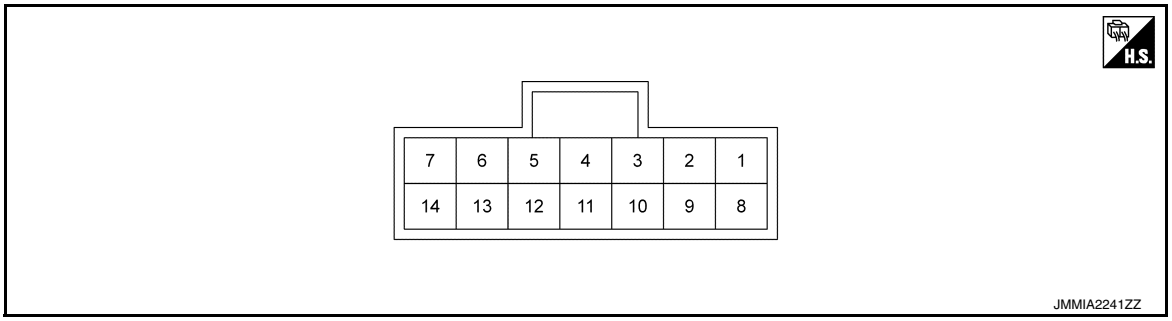
NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT MONITOR ITEM

Monitor	Item Contents	Value/Status
STRG SW CRRNT	—	A
Current Limitation	—	A
STEERING SENSOR	—	°C
STEERING ANGLE	—	°
STEERING ANGLE SENSOR STATUS	—	No
		Yes
HIGH BEAM STATUS	Display the status of combination switch (High beam)	NOT ACT
		IMPOSSIBLE
FRONT WIPER	Display the status of combination switch (Front wiper)	NOT ACT
		stage 1
		stage 2
		IMPOSSIBLE
		INVALID
FR WASHER SW	Display the status of combination switch (Front washer)	NOT ACT
		IMPOSSIBLE
RR WIPER	Display the status of combination switch (Rear wiper)	NOT ACT
		WASHER On
		INVALID
IND SIG	—	NOT ACT
HEATED STEERING WHEEL	—	NOT ACT
		On
		Off
		IMPOSSIBLE
CRUISE CONTROL FUNCTION	Display the status of cruise control lever	Off
		RESUME/ACC SW
		IMPOSSIBLE
		Cruise control S minus 10
		Cruise control S minus 1
		DEFECT
UP SW	Display the status of steering switch	NOT ACT
		ACTUAT
DOWN SW	Display the status of steering switch	NOT ACT
		ACTUAT
VOLUME “+” BUTTON	Display the status of steering switch	NOT ACT
		ACTUAT

Monitor	Item Contents	Value/Status
VOLUME “-” BUTTON	Display the status of steering switch	NOT ACT
		ACTUAT
REPEAT KEY	—	NOT ACT
		ACTUAT
MUTE BUTTON	—	NOT ACT
		ACTUAT
GEAR POSITION	Display the status of paddle shifter	NOT ACT
		R
		HIGH
		LOW
		Not installed
		D
		P
SUPPLY VOLTAGE	—	V

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	–				
1 (G)	Ground	CAN-L (CHASIS)	Input/ Output	—	—
2 (W)	Ground	CAN-H (CHASIS)	Input/ Output	—	—
3 (BR)	Ground	Ground	—	—	0 V
4 (R)	Ground	Battery power supply	Input	Ignition switch OFF, ACC or ON	9 – 16 V
6 (R)	Ground	Battery power supply	Input	Ignition switch OFF, ACC or ON	9 – 16 V
7 (BR)	Ground	Ground	—	—	0 V
8 (L)	Ground	Air bag control 1 (+)	Input	—	—
9 (Y)	Ground	Air bag control 1 (-)	Input	—	—
10 (V)	Ground	Air bag control 2 (+)	Input	—	—
11 (G)	Ground	Air bag control 2 (-)	Input	—	—

DTC Index

INFOID:0000000013683263

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

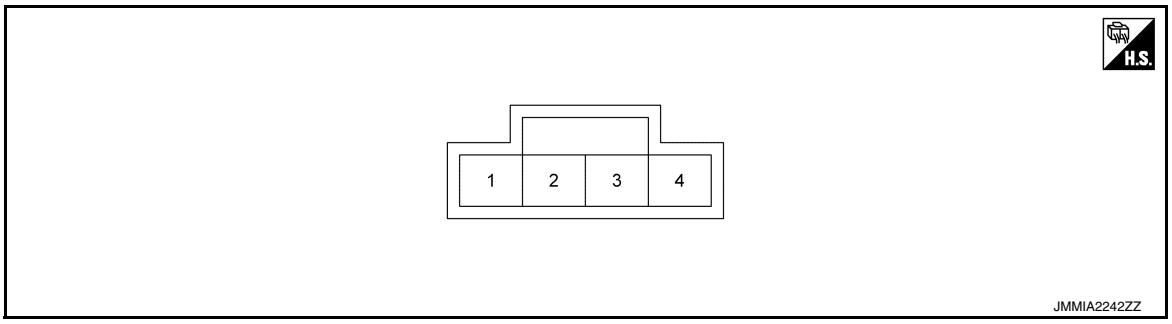
CONSULT display		CONSULT screen items		Reference
		(Trouble diagnosis content)	[Malfunction type]	
B1504	00	Steering switch left	—	MWI-109
B1505	00	Steering switch right	—	AV-150
B178F	00	Turn signal switch	—	BCS-215
B1EB0	00	Lane keeping assist has a malfunction	—	DAS-69
B210A	00	Power Supply circuit	—	BCS-217
B210B	00	Power Supply circuit	—	BCS-219
B210D	00	Power supply	—	BCS-221
B210E	00	Power supply	—	BCS-223
B2225	00	Steering column module	—	BCS-225
B2300	00	Wiper and washer switch	—	BCS-226
B2306	00	Wiper and washer switch	—	BCS-228
B2309	00	Rear wiper switch	—	BCS-230
B2330	00	High beam switch	—	BCS-232
C1241	00	Steering angle sensor	—	BCS-212
C1245	00	Steering wheel turn counter	—	BCS-213
C2205	00	Steering angle sensor	—	BCS-214
P0579	00	Cruise control switch	—	BCS-210
P2775	00	Steering wheel shift button (+)	—	TM-148
P2779	00	Steering wheel shift button (-)	—	TM-149
U0141	00	Communication error	—	BCS-234
U0146	00	COMMUNICATION ERROR (LOST)	—	BCS-236
U0155	00	COMMUNICATION ERROR (LOST)	—	BCS-238
U0168	00	COMMUNICATION ERROR (LOST)	—	BCS-240
	87		[MISSING MESSAGE]	
U1008	00	Communication error (LIN bus 1)	—	BCS-242
U1032	00	Chassis CAN malf	—	BCS-243
U11A3	00	Communication error	—	BCS-244
U1442	00	Communication error	—	BCS-246

UPPER CONTROL PANEL CONTROL UNIT

Reference Value

INFOID:0000000013683264

TERMINAL LAYOUT



PHYSICAL VALUES

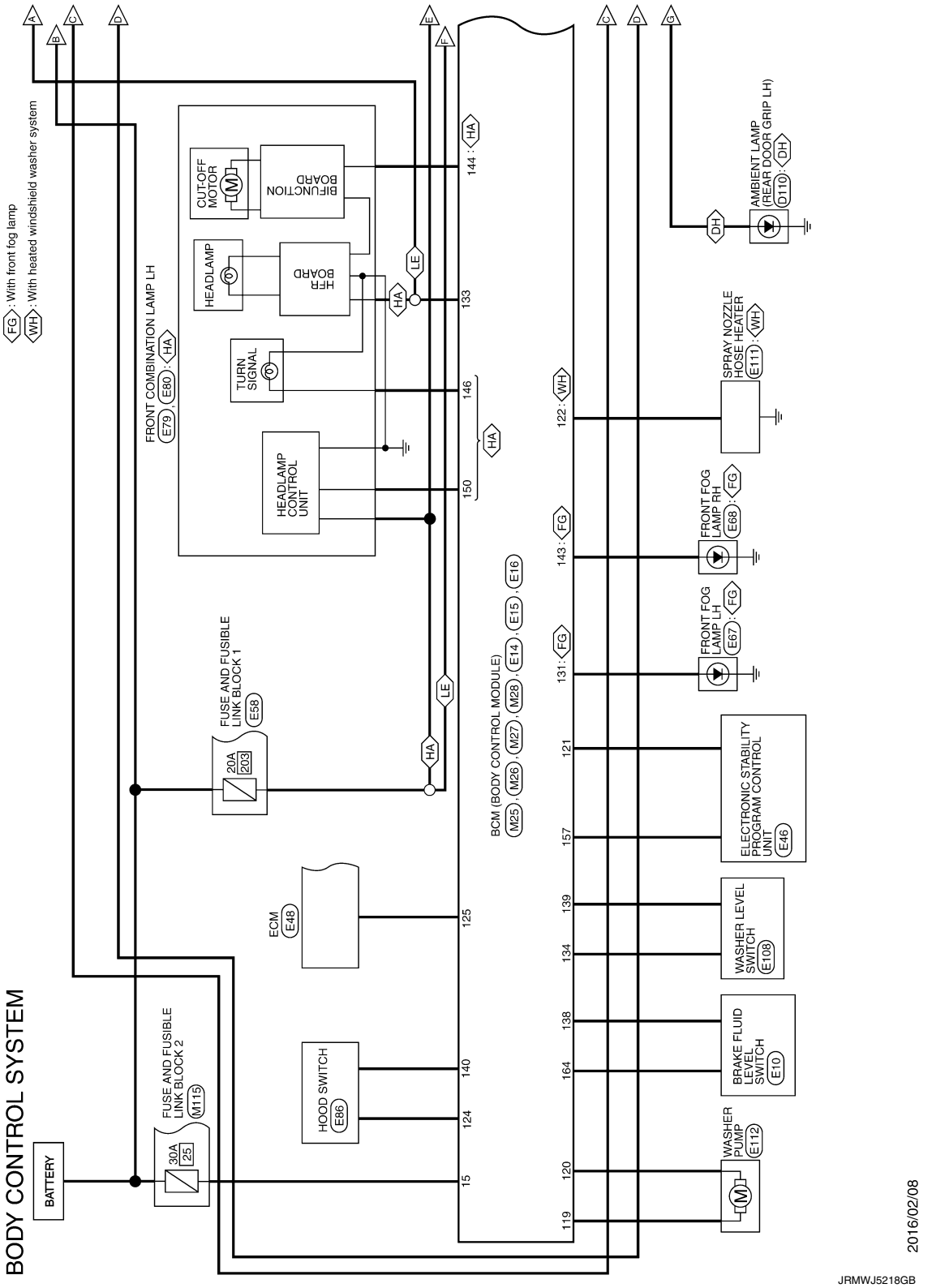
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	–				
1 (GR)	Ground	Battery power supply	Input	Ignition switch OFF, ACC or ON	9 – 16 V
2 (BR)	Ground	Ground	—	—	0 V
3 (O)	Ground	LIN	Input/ Output	—	—

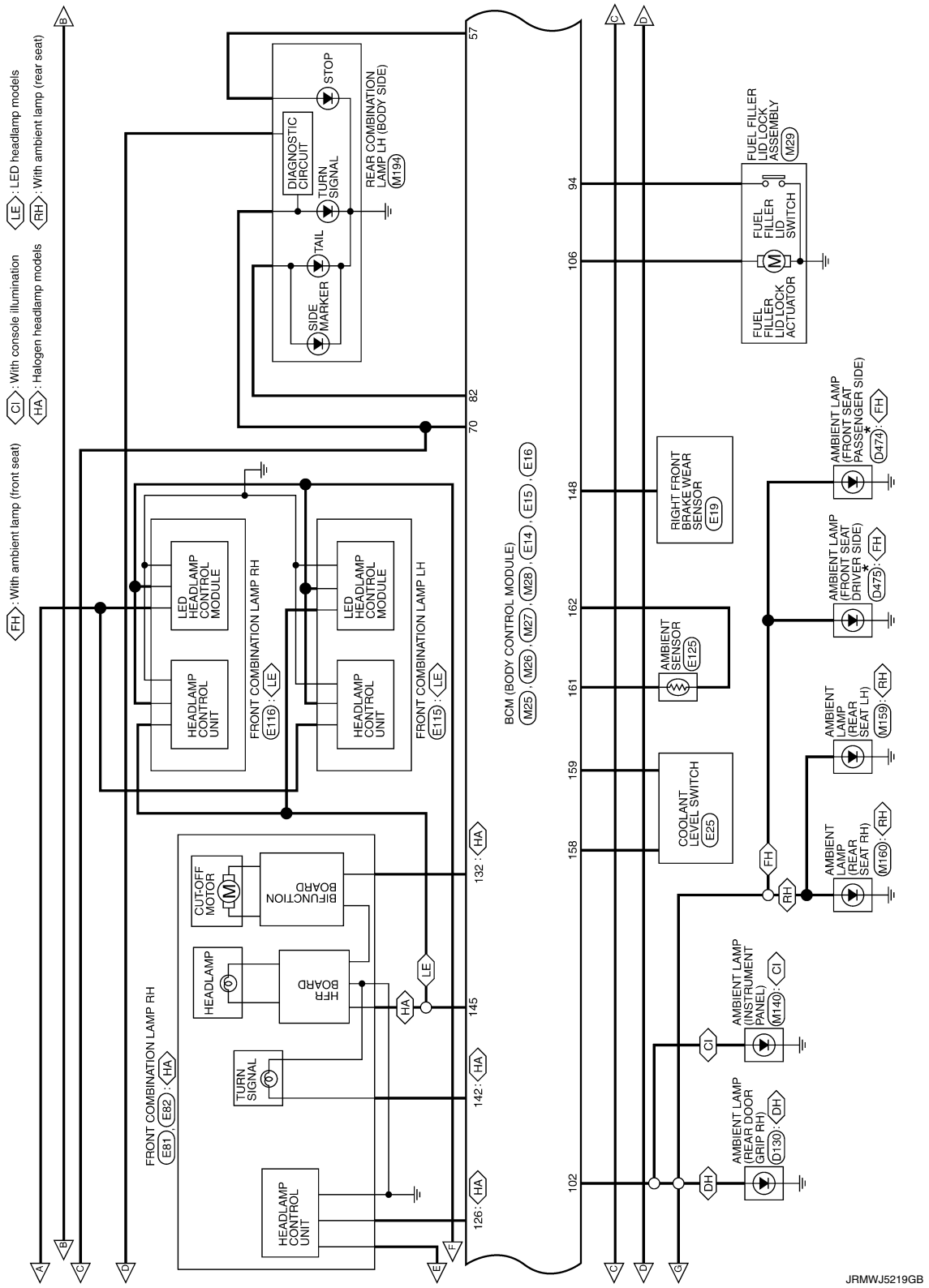
WIRING DIAGRAM

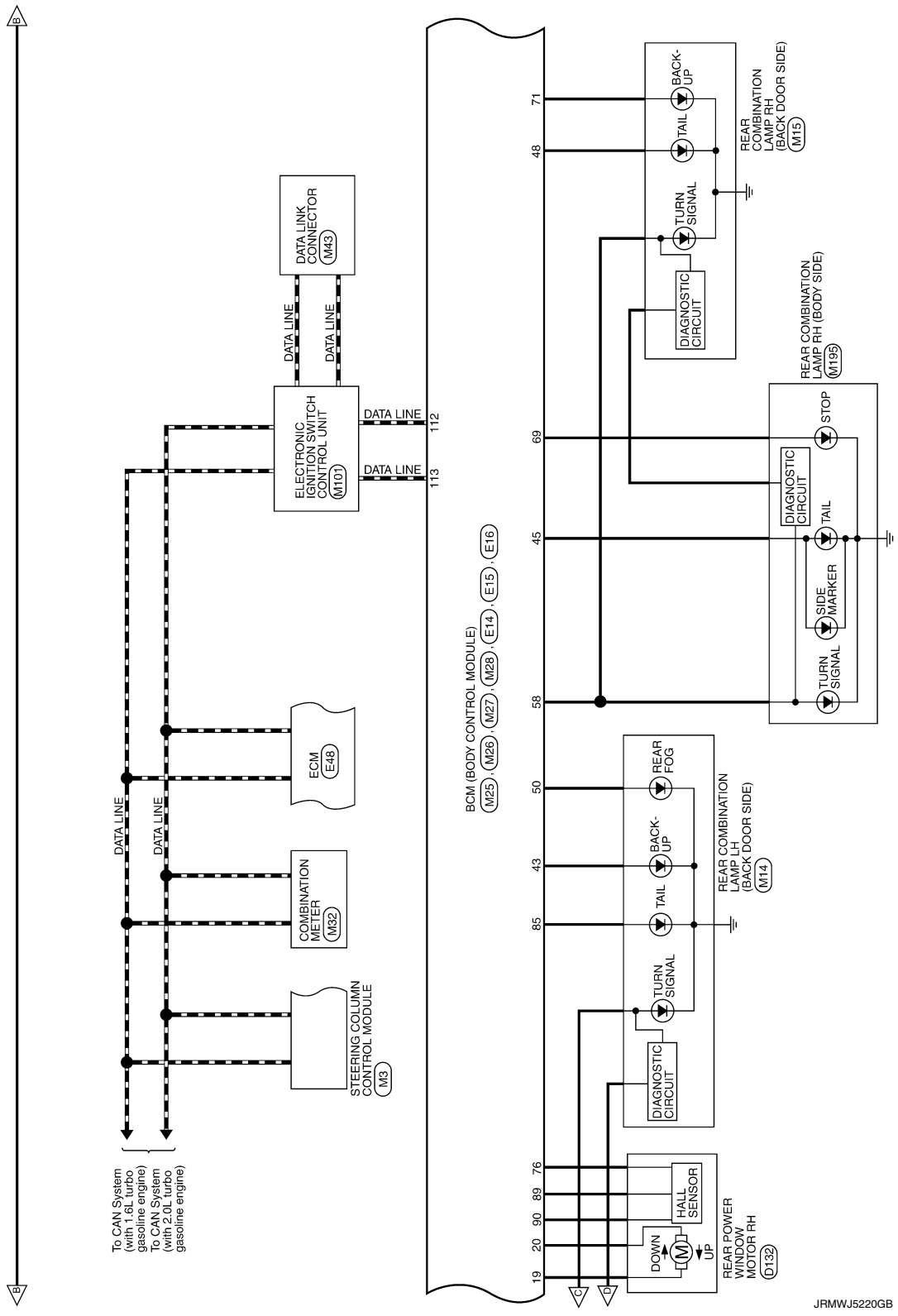
BCM

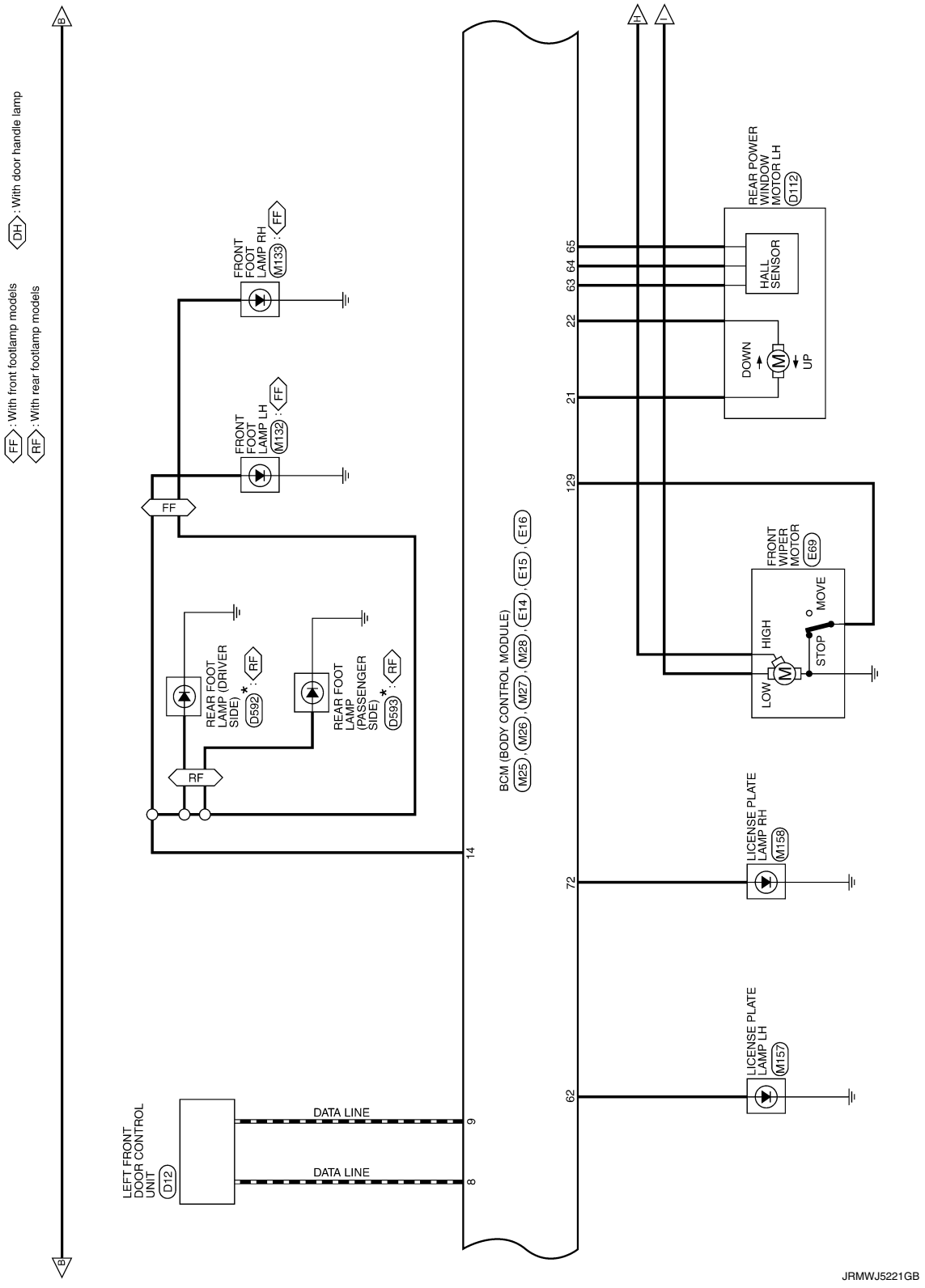
Wiring Diagram

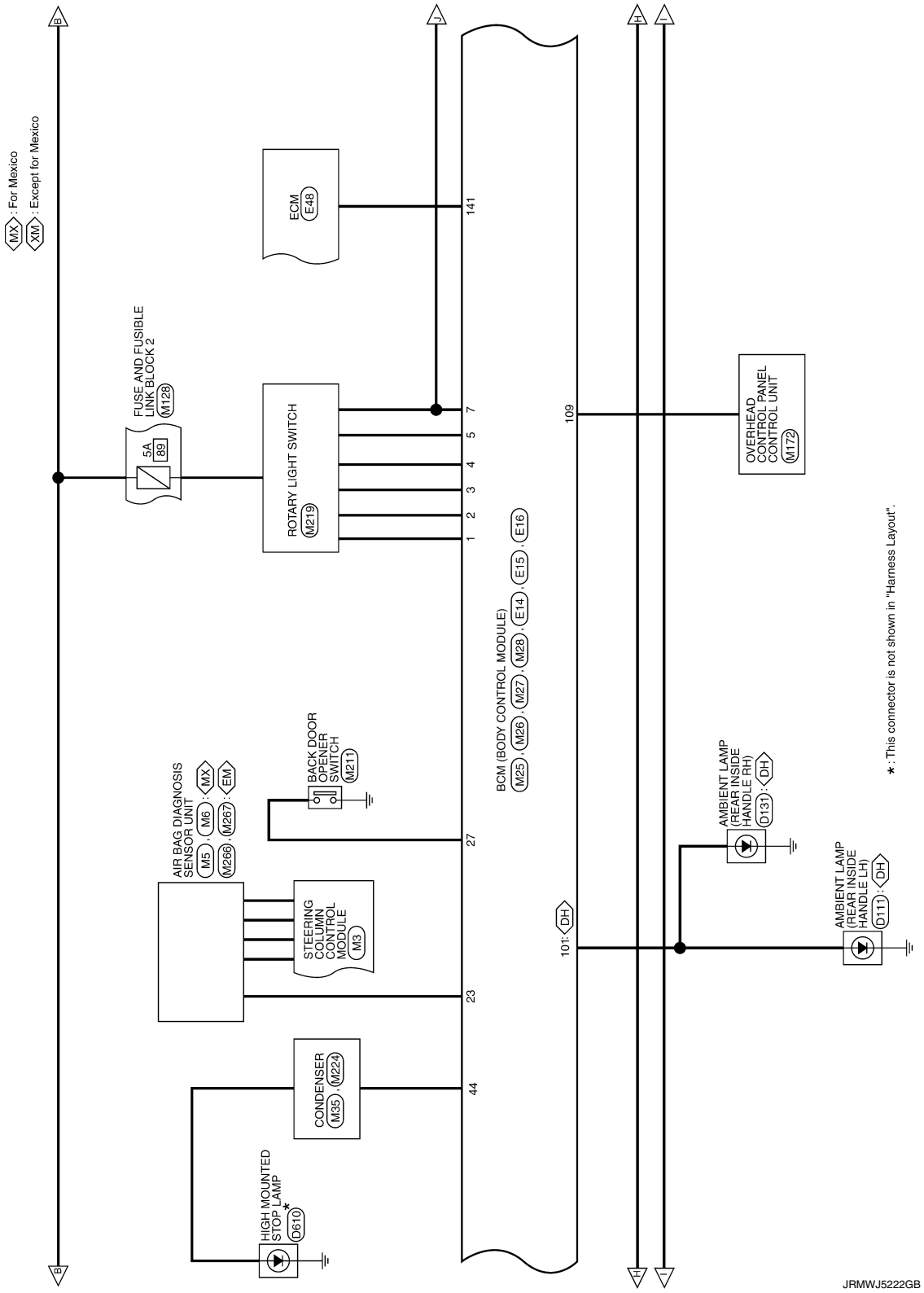
INFOID:0000000013683265

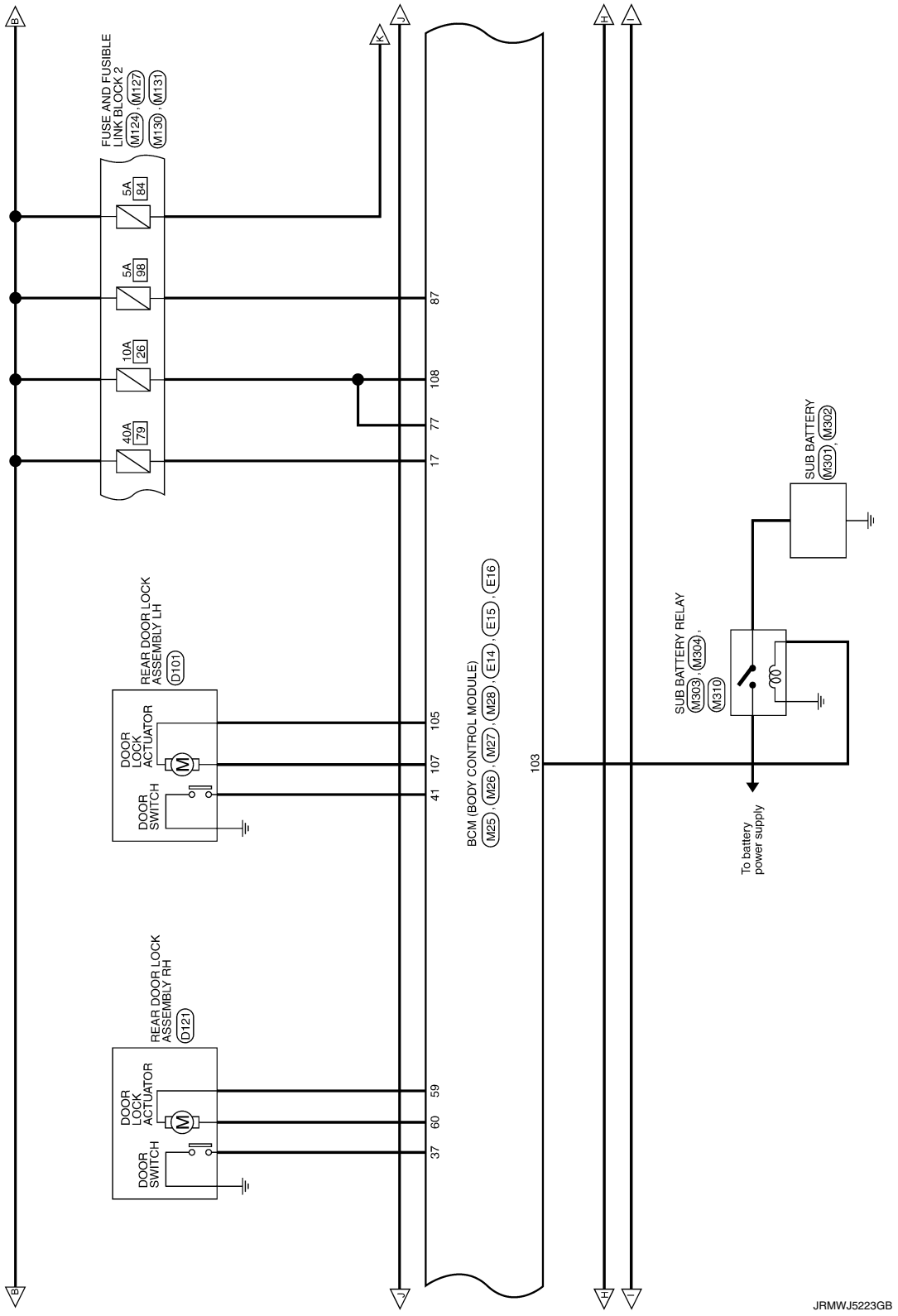


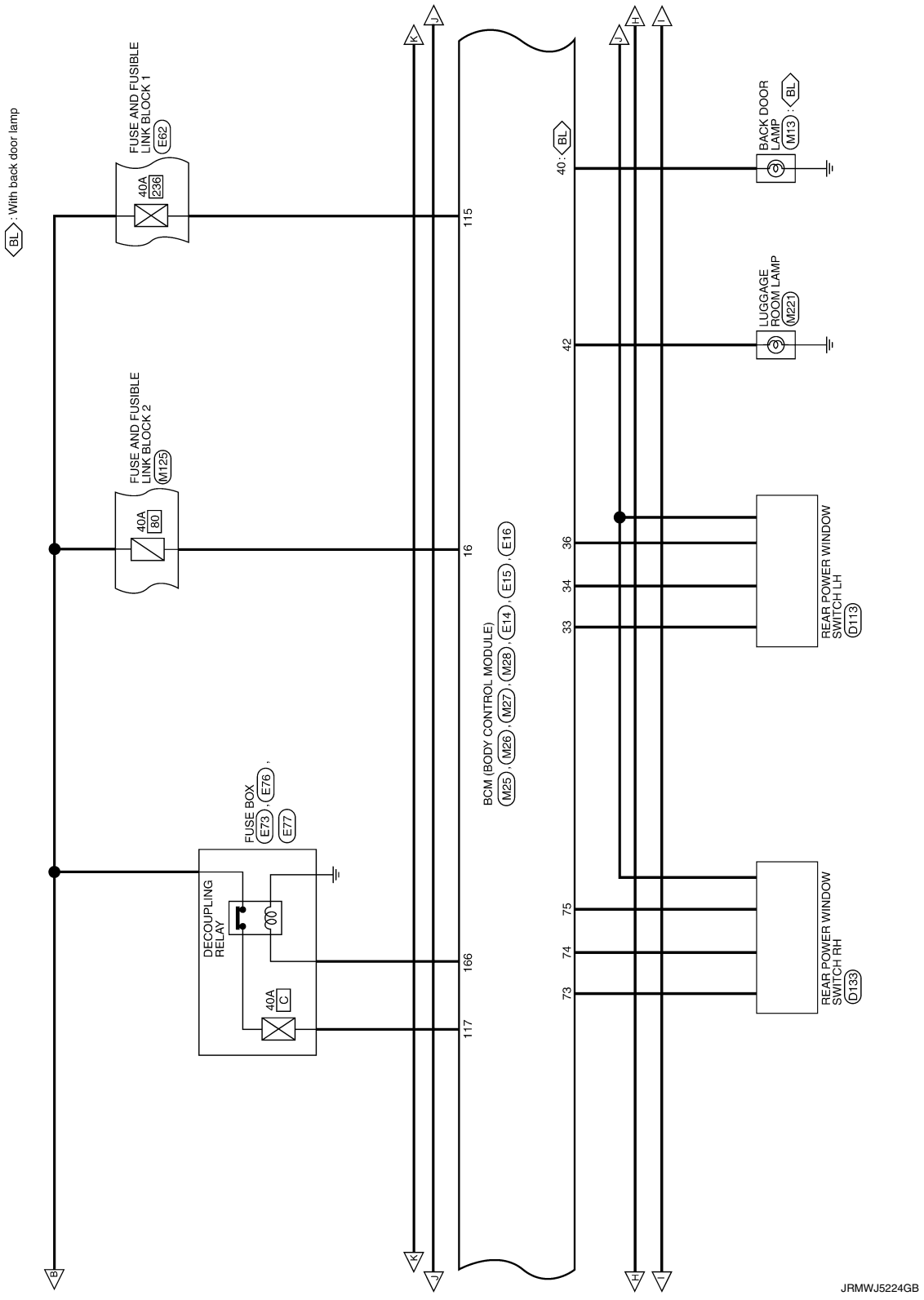

LE : LED headlamp models
RH : With ambient lamp (rear seat)
CI : With console illumination
HA : Halogen headlamp models
FH : With ambient lamp (front seat)
REAR COMBINATION LAMP LH (BODY SIDE) M194
STOP
TURN SIGNAL
TAIL
SIDE MARKER
DIAGNOSTIC CIRCUIT
FRONT COMBINATION LAMP RH E116
FRONT COMBINATION LAMP LH E115
LED HEADLAMP CONTROL MODULE
HEADLAMP CONTROL UNIT
BCM (BODY CONTROL MODULE) M25, M26, M27, M28, E14, E15, E16
FUEL FILLER LID LOCK ASSEMBLY M29
FUEL FILLER LID SWITCH
FUEL FILLER LID LOCK ACTUATOR
RIGHT FRONT BRAKE WEAR SENSOR E19
AMBIENT SENSOR E125
COOLANT LEVEL SWITCH E25
AMBIENT LAMP (FRONT SEAT PASSENGER SIDE)* D474
AMBIENT LAMP (FRONT SEAT DRIVER SIDE)* D475
AMBIENT LAMP (REAR SEAT LH) M159
AMBIENT LAMP (REAR SEAT RH) M160
AMBIENT LAMP (INSTRUMENT PANEL) M140
AMBIENT LAMP (REAR DOOR GRIP RH) D130
FRONT COMBINATION LAMP RH E81, E82
HEADLAMP
TURN SIGNAL
CUT-OFF MOTOR
BIFUNCTION BOARD
HFR BOARD
HEADLAMP CONTROL UNIT
JRMWJ5219GB

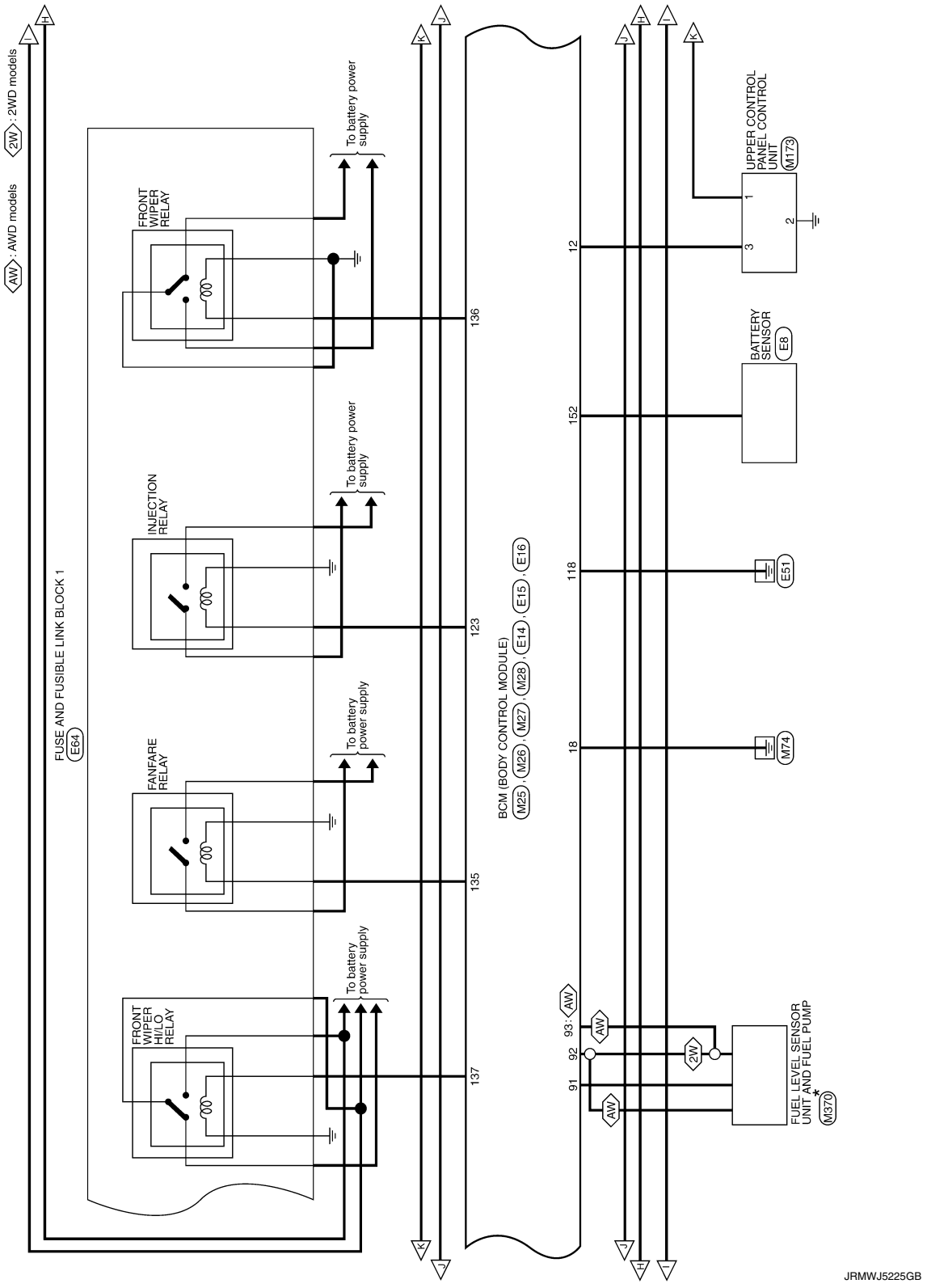

B
B
DATA LINK CONNECTOR
M43
DATA LINE
DATA LINE
ELECTRONIC IGNITION SWITCH CONTROL UNIT
M101
DATA LINE
112
DATA LINE
113
ECM
E48
COMBINATION METER
M32
STEERING COLUMN CONTROL MODULE
M3
DATA LINE
DATA LINE
To CAN System (with 1.6L turbo gasoline engine)
To CAN System (with 2.0L turbo gasoline engine)
BCM (BODY CONTROL MODULE)
M25, M26, M27, M28, E14, E15, E16
71
48
69
45
58
50
43
85
76
89
90
20
19
C
D
BACK-UP
TAIL
TURN SIGNAL
DIAGNOSTIC CIRCUIT
REAR COMBINATION LAMP RH (BACK DOOR SIDE)
M15
REAR COMBINATION LAMP RH (BODY SIDE)
M195
STOP
DIAGNOSTIC CIRCUIT
TAIL
SIDE MARKER
TURN SIGNAL
REAR FOG
BACK-UP
TAIL
TURN SIGNAL
DIAGNOSTIC CIRCUIT
REAR COMBINATION LAMP LH (BACK DOOR SIDE)
M14
HALL SENSOR
DOWN
M
UP
REAR POWER WINDOW MOTOR RH
D132
JRMWJ5220GB

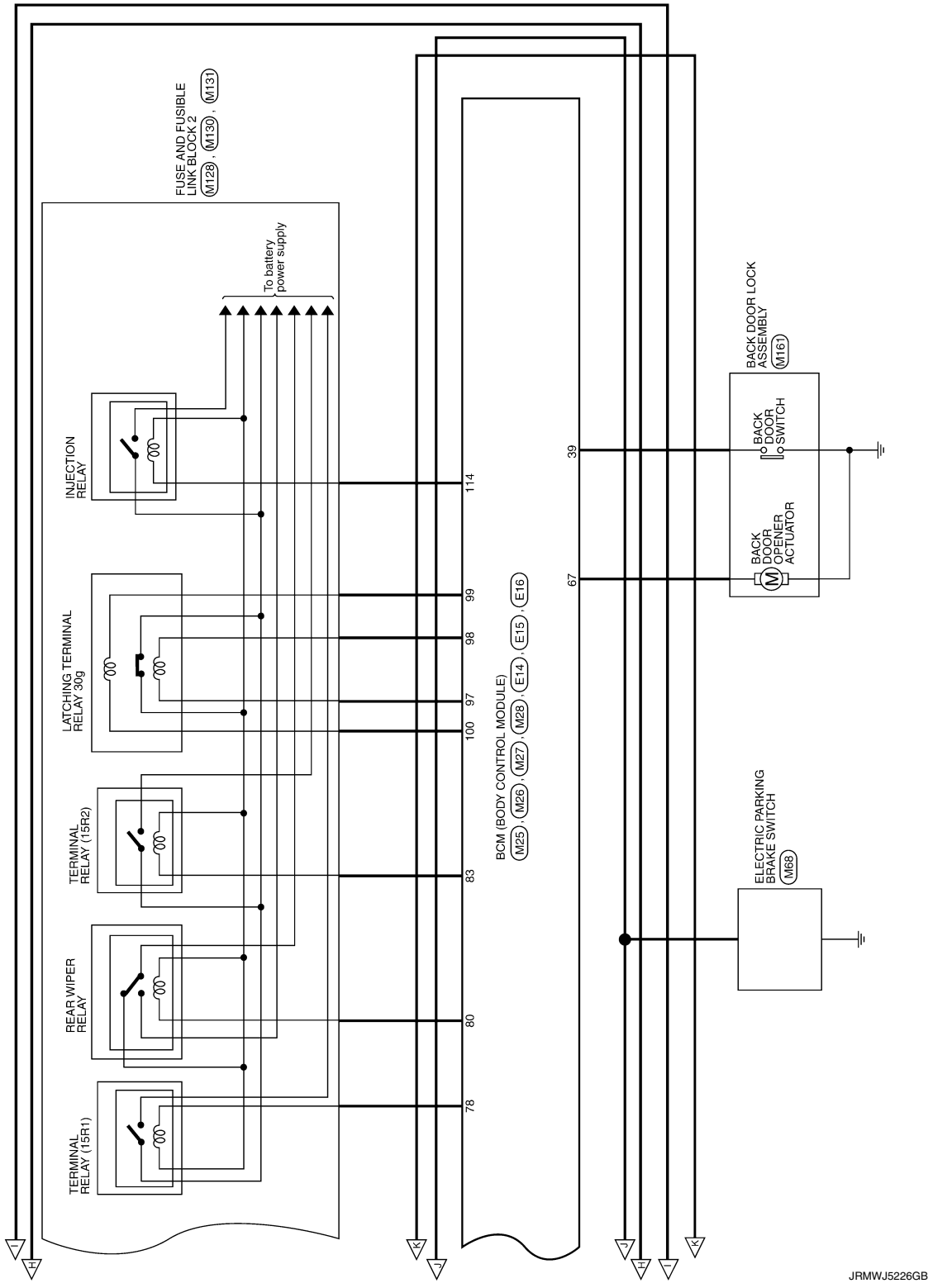

DH : With door handle lamp
FF : With front footlamp models
RF : With rear footlamp models
FRONT FOOT LAMP RH (M133) : FF
FRONT FOOT LAMP LH (M132) : FF
FF
REAR FOOT LAMP (DRIVER SIDE) * (D592) : RF
REAR FOOT LAMP (PASSENGER SIDE) * (D593) : RF
RF
LEFT FRONT DOOR CONTROL UNIT (D12)
DATA LINE
DATA LINE
BCM (BODY CONTROL MODULE) (M25), (M26), (M27), (M28), (E14), (E15), (E16)
14
9
8
62
72
129
21
22
63 64 65
REAR POWER WINDOW MOTOR LH (D112)
HALL SENSOR
DOWN
UP
FRONT WIPER MOTOR (E69)
HIGH
LOW
STOP
MOVE
LICENSE PLATE LAMP RH (M158)
LICENSE PLATE LAMP LH (M157)
JRMWJ5221GB


MX : For Mexico
XM : Except for Mexico
B
ECM E48
141
FUSE AND FUSIBLE LINK BLOCK 2 M128
5A 89
ROTARY LIGHT SWITCH M219
7 5 4 3 2 1
109
OVERHEAD CONTROL PANEL CONTROL UNIT M172
BCM (BODY CONTROL MODULE) M25 M26 M27 M28 E14 E15 E16
BACK DOOR OPENER SWITCH M211
27
AIR BAG DIAGNOSIS SENSOR UNIT M5 M6 MX M266 M267 EM
STEERING COLUMN CONTROL MODULE M3
23
101 DH
AMBIENT LAMP (REAR INSIDE HANDLE RH) D131 DH
AMBIENT LAMP (REAR INSIDE HANDLE LH) D111 DH
CONDENSER M35 M224
44
HIGH MOUNTED STOP LAMP ★ D610
★ : This connector is not shown in "Harness Layout".
JRMWJ5222GB


FUSE AND FUSIBLE LINK BLOCK 2
(M124), (M127), (M130), (M131)
5A 84
5A 98
10A 26
40A 79
87
108
77
17
REAR DOOR LOCK ASSEMBLY LH
(D101)
DOOR LOCK ACTUATOR
DOOR SWITCH
105
107
41
REAR DOOR LOCK ASSEMBLY RH
(D121)
59
60
37
BCM (BODY CONTROL MODULE)
(M25), (M26), (M27), (M28), (E14), (E15), (E16)
103
SUB BATTERY RELAY
(M303), (M304), (M310)
SUB BATTERY
(M301), (M302)
To battery power supply
JRMWJ5223GB


BL : With back door lamp
FUSE AND FUSIBLE LINK BLOCK 1
E62
40A
236
FUSE AND FUSIBLE LINK BLOCK 2
M125
40A
80
FUSE BOX
E73
E76
E77
DECOUPLING RELAY
40A
C
BCM (BODY CONTROL MODULE)
M25
M26
M27
M28
E14
E15
E16
115
16
166
117
40
42
36
34
33
75
74
73
BACK DOOR LAMP
M13
LUGGAGE ROOM LAMP
M221
REAR POWER WINDOW SWITCH LH
D113
REAR POWER WINDOW SWITCH RH
D133
JRMWJ5224GB


2W : 2WD models
AW : AWD models
FUSE AND FUSIBLE LINK BLOCK 1
E64
FRONT WIPER RELAY
INJECTION RELAY
FANFARE RELAY
FRONT WIPER HI/LO RELAY
To battery power supply
BCM (BODY CONTROL MODULE)
M25, M26, M27, M28, E14, E15, E16
136
123
135
137
12
152
118
18
91
92
93
UPPER CONTROL PANEL CONTROL UNIT
M173
BATTERY SENSOR
E8
E51
M74
FUEL LEVEL SENSOR UNIT AND FUEL PUMP *
M370
JRMWJ5225GB


FUSE AND FUSIBLE LINK BLOCK 2
(M128), (M130), (M131)
To battery power supply
INJECTION RELAY
LATCHING TERMINAL RELAY 30g
TERMINAL RELAY (15R2)
REAR WIPER RELAY
TERMINAL RELAY (15R1)
BCM (BODY CONTROL MODULE)
(M25), (M26), (M27), (M28), (E14), (E15), (E16)
114
99
98
97
100
83
80
78
39
67
BACK DOOR LOCK ASSEMBLY
(M161)
BACK DOOR SWITCH
BACK DOOR OPENER ACTUATOR
M
ELECTRIC PARKING BRAKE SWITCH
(M68)
JRMWJ5226GB

BODY CONTROL SYSTEM

Connector No.	D12
Connector Name	LEFT FRONT DOOR CONTROL UNIT
Connector Type	MB_A0025406281

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
21	BR	BODY CAN 2-L
22	R	BODY CAN 2-H
23	L	ROTARY CATCH SIGNAL
24	BR	GROUND
25	R	BATTERY POWER SUPPLY

Connector No.	D101
Connector Name	REAR DOOR LOCK ASSEMBLY LH
Connector Type	MB_A0225452726

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	RR DOOR LH UNLOCK
2	L	RR DOOR LH LOCK
3	W	RR DOOR LH STATUS
4	BR	GND

Connector No.	D110
Connector Name	AMBIENT LAMP (REAR DOOR GRIP LH)
Connector Type	MB_A0375456328

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	W	-

Connector No.	D111
Connector Name	AMBIENT LAMP (REAR INSIDE HANDLE LH)
Connector Type	MB_A0375456328

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	Y	-

Connector No.	D112
Connector Name	REAR POWER WINDOW MOTOR LH
Connector Type	MB_A2205455228

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	G	-
4	W	-
5	O	-
6	R	-

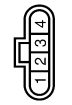
Connector No.	D113
Connector Name	REAR POWER WINDOW SWITCH LH
Connector Type	MB_A0385451228

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	P	-
3	GR	-
4	L	-

Connector No.	D121
Connector Name	REAR DOOR LOCK ASSEMBLY RH
Connector Type	MB_A0225452726

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	RR DOOR RH UNLOCK
2	L	RR DOOR RH LOCK
3	W	RR DOOR RH STATUS
4	BR	GND

Connector No.	D130
Connector Name	AMBIENT LAMP (REAR DOOR GRIP RH)
Connector Type	MB_A0375456328

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	W	-

JRMWJ5227GB

BODY CONTROL SYSTEM

Connector No.	D131
Connector Name	AMBIENT LAMP (REAR INSIDE HANDLE RH)
Connector Type	MB_A0375456328

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	Y	-

Connector No.	D132
Connector Name	REAR POWER WINDOW MOTOR RH
Connector Type	MB_A2205455228

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	G	-
4	W	-
5	O	-
6	R	-

Connector No.	D133
Connector Name	REAR POWER WINDOW SWITCH RH
Connector Type	MB_A0385451228

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	P	-
3	GR	-
4	L	-

Connector No.	D474
Connector Name	AMBIENT LAMP (FRONT SEAT PASSENGER SIDE)
Connector Type	TB02FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-

Connector No.	D475
Connector Name	AMBIENT LAMP (FRONT SEAT DRIVER SIDE)
Connector Type	TB02FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-

Connector No.	D592
Connector Name	REAR FOOT LAMP (DRIVER SIDE)
Connector Type	TB02FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-

Connector No.	D593
Connector Name	REAR FOOT LAMP (PASSENGER SIDE)
Connector Type	TB02FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-

Connector No.	D610
Connector Name	HIGH MOUNTED STOP LAMP
Connector Type	TK02FW

H.S.

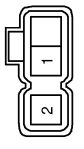
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-

JRMWJ5228GB

BODY CONTROL SYSTEM

Connector No.	E8
Connector Name	BATTERY SENSOR
Connector Type	MB_A0065400281

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	R	-

Connector No.	E10
Connector Name	BRAKE FLUID LEVEL SWITCH
Connector Type	MB_A2105402081

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	-
2	G	-

Connector No.	E14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A0235458926

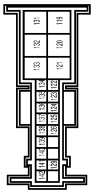
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
115	R	BAT (VIA DECOUPLING RELAY)
117	R	BAT (VIA DECOUPLING RELAY)
118	BR	GND

Connector No.	E15
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A1665400081

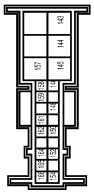
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
119	V	RR WASHER CONT
120	GR	FR WASHER CONT
121	W	BRAKE PEDAL
122	Y	SPARY NOZZLE HOSE HEATER POWER SUPPLY
123	G	INJECTION RELAY CONT
124	BR	HOOD SWITCH STATUS 1
125	B	K\.15 MOTORST
126	GR	PARKING LAMP LH
129	G	FRONT WIPER STOP POSITION
131	Y	FRONT FOG LAMP LH
132	O	HIGH BEAM LH
133	L	LOW BEAM RH [With halogen lamp]
133	Y	LOW BEAM RH [With LED lamp]
134	BR	WASHER LEVEL SW GND
135	P	HORN CONT
136	R	FR WIPER RELAY CONT
137	V	FR WIPER HI/LO RELAY CONT

Connector No.	E16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A1665400181

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
138	G	BRAKE FLUID LEVEL SW SIG
139	L	WASHER LEVEL SW SIG
140	Y	HOOD SWITCH STATUS 2
141	R	WARM START
142	V	FRONT TURN SIGNAL LH
143	Y	FRONT FOG LAMP RH
144	W	HIGH BEAM RH
145	GR	LOW BEAM LH
146	P	FRONT TURN SIGNAL RH
148	V	FR BRAKE WEAR SENSOR RH
150	GR	PARKING LAMP RH
152	L	LIN (BAT SENSOR)
154	Y	HEADLAMP AIMING RH
157	O	SSK STAT
158	R	COOLANT LEVEL SW SIG
159	BR	COOLANT LEVEL SW GND
161	P	AMBIENT SENSOR GND
162	G	AMBIENT SENSOR SIG
164	O	BRAKE FLUID LEVEL SW GND
165	V	HEADLAMP AIMING LH
166	R	DECOUPLING RELAY CONT

Connector No.	E19
Connector Name	RIGHT FRONT BRAKE WEAR SENSOR
Connector Type	MB_A1685400181

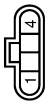
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	BR	-

Connector No.	E25
Connector Name	COOLANT LEVEL SWITCH
Connector Type	MB_A0285452726

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
4	R	-

JRMWJ5229GB

BODY CONTROL SYSTEM

Connector No.	E46
Connector Name	ELECTRONIC STABILITY PROGRAM CONTROL UNIT
Connector Type	MB_A2465400581

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	MOTOR POWER SUPPLY
2	W	BRAKE PEDAL
4	P	RIGHT FRONT AXLE RPM SENSOR SIGNAL
5	GR	BRAKE VACUUM SENSOR POWER SUPPLY
6	B	BRAKE LIGHT SWITCH-L
7	R	BATTERY POWER SUPPLY
8	Y	LFET FRONT AXLE RPM SENSOR SIGNAL
10	O	STANDSTILL CONTROL (SSC) STATUS
12	P	BRAKE VACUUM SENSOR SIGNAL
13	BR	GROUND (MOTOR)
14	G	CAN-L
16	B	RIGHT FRONT AXLE RPM SENSOR POWER SUPPLY
17	Y	RIGHT REAR AXLE RPM SENSOR POWER SUPPLY
18	BR	LFET REAR AXLE RPM SENSOR SIGNAL
19	W	LFET FRONT AXLE RPM SENSOR POWER SUPPLY
23	B	BRAKE VACUUM SENSOR GROUND
25	P	VALVE RELAY POWER SUPPLY
26	W	CAN-H
28	R	BATTERY POWER SUPPLY
29	P	RIGHT REAR AXLE RPM SENSOR SIGNAL
30	V	BRAKE LIGHT SWITCH-H
31	GR	LFET REAR AXLE RPM SENSOR POWER SUPPLY
32	L	BRAKE LIGHT SWITCH GROUND
35	R	BRAKE LIGHT SWITCH POWER SUPPLY
38	B	GROUND (VALVE)

Connector No.	E48
Connector Name	ECM
Connector Type	MB_A0075406981

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
97	R	POWER SUPPLY (ECM)
98	BR	ECM GROUND
99	V	POWER SUPPLY (ECM)
100	BR	ECM GROUND
101	R	POWER SUPPLY (ECM)
102	B	ECM GROUND
103	L	COOLING FAN CONTROL SIGNAL
104	R	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
105	G	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
106	BR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR1)
111	B	IGNITION SIGNAL
112	Y	POWER SUPPLY (BATTERY)
116	W	STARTER RELAY-L
119	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
120	O	SENSOR GROUND
122	R	HOT START SIGNAL
123	GR	MOTOR RELAY CONTROL SIGNAL
127	O	FUEL PUMP ON SIGNAL
132	G	ACCELERATOR PEDAL POSITION SENSOR 1
136	Y	POWERTRAIN SENSOR CAN-H
137	W	CAN-H
138	GR	POWERTRAIN CAN-H
141	B	WATER PUMP RELAY CONTROL SIGNAL
145	W	ACCELERATOR PEDAL POSITION SENSOR 2
146	G	FUEL TANK PRESSURE SENSOR
147	L	CRASH SIGNAL
148	W	STARTER RELAY-H
149	B	POWERTRAIN SENSOR CAN-L
150	G	CAN-L
151	L	POWERTRAIN CAN-L
152	V	EVAP CANISTER VENT CONTROL VALVE
153	BR	EVAP PURGE CONTROL VALVE

Connector No.	E58
Connector Name	FUSE AND FUSIBLE LINK BLOCK 1
Connector Type	MB_A0065450901

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
23	B	-

Connector No.	E62
Connector Name	FUSE AND FUSIBLE LINK BLOCK 1
Connector Type	MB_A0065452901

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
27	R	-

Connector No.	E64
Connector Name	FUSE AND FUSIBLE LINK BLOCK 1
Connector Type	MB_A0315459626

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
33	BR	-
34	G	-
35	V	-
36	P	-
37	R	-
38	V	-
39	P	-
41	W	-
42	R	-

Connector No.	E67
Connector Name	FRONT FOG LAMP LH
Connector Type	MB_A0405456328

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	Y	-

Connector No.	E68
Connector Name	FRONT FOG LAMP RH
Connector Type	MB_A0405456328

H.S.

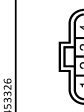
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	Y	-

JRMWJ5230GB

BODY CONTROL SYSTEM

Connector No.	E69
Connector Name	FRONT WIPER MOTOR
Connector Type	MB_A0525453326

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	R	-
3	G	-
4	BR	-

Connector No.	E73
Connector Name	FUSE BOX
Connector Type	MB_A0035462340

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	-

Connector No.	E76
Connector Name	FUSE BOX
Connector Type	MB_A0045460440

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
5	B	-

Connector No.	E77
Connector Name	FUSE BOX
Connector Type	MB_A0225452026

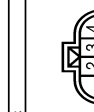
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	BR	-
7	R	-

Connector No.	E79
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FGY-PR

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-
3	B	-
4	L	-
5	P	-
6	V	-
7	B	-
8	G	-

Connector No.	E80
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS06FGY-PR

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10	BR	GROUND
11	R	BATTERY POWER SUPPLY
12	GR	PARKING LAMP SIGNAL
13	L	CAN-H
14	W	CAN-L

Connector No.	E81
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FGY-PR

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	O	-
3	B	-
4	GR	-
5	V	-

6	Y	-
7	B	-
8	P	-

Connector No.	E82
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS06FGY-PR

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10	BR	GROUND
11	R	BATTERY POWER SUPPLY
12	GR	PARKING LAMP SIGNAL
13	L	CAN-H
14	W	CAN-L

Connector No.	E86
Connector Name	HOOD SWITCH
Connector Type	MB_A2125450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	BR	-
3	B	-
4	Y	-

JRMWJ5231GB

BODY CONTROL SYSTEM

Connector No.	E108
Connector Name	WASHER LEVEL SWITCH
Connector Type	MB_A0523453826

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	L	-

Connector No.	E111
Connector Name	SPRAY NOZZLE HOSE HEATER
Connector Type	MB_A0225451926

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	Y	-

Connector No.	E112
Connector Name	WASHER PUMP
Connector Type	MB_A0165454626

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	GR	-

Connector No.	E115
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FGY-PR

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	L	CAN-L
3	Y	HEADLAMP POWER SUPPLY
4	V	BATTERY POWER SUPPLY
5	B	GROUND
11	GR	HEADLAMP POWER SUPPLY
12	BR	BATTERY POWER SUPPLY
13	B	GROUND

Connector No.	E116
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FGY-PR

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	L	CAN-L
3	GR	HEADLAMP POWER SUPPLY
4	BR	BATTERY POWER SUPPLY
5	B	GROUND
11	Y	HEADLAMP POWER SUPPLY
12	BR	BATTERY POWER SUPPLY
13	B	GROUND

Connector No.	E125
Connector Name	AMBIENT SENSOR
Connector Type	MB_A2105402081

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-

Connector No.	M3
Connector Name	STEERING COLUMN CONTROL MODULE
Connector Type	MB_A2045401281

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	CAN-L (CHASIS)
2	W	CAN-H (CHASIS)
3	BR	GND
4	R	KL30G
6	R	KL30
7	BR	GND
8	L	AB1+
9	Y	AB1-
10	V	AB2+
11	G	AB2-

Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A0095405681

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BUMPER SENSOR RH GROUND
2	W	BUMPER SENSOR RH SIGNAL
3	B	BUMPER SENSOR LH SIGNAL
4	W	BUMPER SENSOR LH GROUND
9	L/G	POP-UP ENGINE HOOD ACTUATOR RH (-)
10	BR/B	POP-UP ENGINE HOOD ACTUATOR RH (+)
11	O	POP-UP ENGINE HOOD ACTUATOR LH (+)
12	BR/W	POP-UP ENGINE HOOD ACTUATOR LH (-)
37	V	FUSE(-)
38	W	FUSE(+)

JRMWJ5232GB

BODY CONTROL SYSTEM

40	Y	OCCUPANT LIN SIGNAL
41	V/G	RPRH(+)
42	BR/Y	RPRH(-)
43	BR/Y	RPLH(-)
44	V/G	RPLH(+)
45	B	REAR BUCKLE SWITCH RH(-)
46	G	REAR BUCKLE SWITCH RH(+)
47	B	REAR BUCKLE SWITCH CENTER(-)
48	G	REAR BUCKLE SWITCH CENTER(+)
49	B	REAR BUCKLE SWITCH RH(-)
50	G	REAR BUCKLE SWITCH RH(+)
51	Y	AIR BAG SIGNAL
52	P	AIR BAG SIGNAL
53	G	CAN-L
54	W	CAN-H
57	R	B-SATELITE LH(+)
58	B	B-SATELITE LH(-)
59	BR	B-SATELITE RH(-)
60	L	B-SATELITE RH(+)
61	BR	FRONT DOOR SATELLITE RH(-)
62	G	FRONT DOOR SATELLITE RH(+)
63	B	FRONT DOOR SATELLITE LH(+)
64	BR	FRONT DOOR SATELLITE LH(-)
67	W	REAR DOOR SATELLITE RH(-)
68	B	REAR DOOR SATELLITE RH(+)
69	R	REAR DOOR SATELLITE LH(+)
70	W	REAR DOOR SATELLITE LH(-)
71	Y	BUCKLE SWITCH AS(+)
72	O	BUCKLE SWITCH AS(-)
73	Y	BUCKLE SWITCH DR(+)
74	O	BUCKLE SWITCH DR(-)
75	V/G	CLH(+)
76	BR/Y	CLH(-)
77	W/BR	CRH(+)
78	R/V	CRH(-)
85	P	CZS RH(-)
86	W	CZS RH(+)
87	BR	CZS LH(-)
88	L	CZS LH(+)
89	O	SAB AS(-)
90	Y	SAB AS(+)
93	Y	SAB DR(+)
94	O	SAB DR(-)
95	BR	FPRH(-)
96	L/W	FPRH(+)
97	G	FPLH(+)
98	V	FPLH(-)
100	BR	GND
101	BR	GND
103	Y	KI.15R

104	G	KI.30

Connector No.	M6
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A1665401481

Terminal No.	Color Of Wire	Signal Name [Specification]
110	R	KAB DR(+)
111	W	KAB DR(-)
115	V	DR2(+)
116	G	DR2(-)
117	R/Y	AS2(-)
118	B	AS2(+)
119	O	STEERING LOCK UNIT POWER SUPPLY
120	V/Y	AS1(+)
121	W/B	AS1(-)
122	Y	DR1(-)
123	L	DR1(+)

Connector No.	M13
Connector Name	BACK DOOR LAMP
Connector Type	MB_A0375455928

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	V	-

Connector No.	M14
Connector Name	RE-M COMBINATION LAMP LH (BACK DOOR SIDE)
Connector Type	TH08FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	GR	-
3	B	-
4	L	-
5	BR	-
6	GR	-

Connector No.	M15
Connector Name	RE-M COMBINATION LAMP RH (BACK DOOR SIDE)
Connector Type	TH08FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	GR	-
3	GR	-
4	L	-
5	B	-

Connector No.	M25
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A0075405081

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	ROTARY LIGHT SW GND
2	O	ROTARY LIGHT SW (PU,PR/TAIL)
3	R	ROTARY LIGHT SW (AUTO/LOW)
4	G	ROTARY LIGHT SW (FR FOG)
5	Y	-
7	GR	SWITCH INDICATOR
8	R	CAN-H (BODY 2)
9	BR	CAN-L (BODY 2)
12	O	LIN (IBS)
14	G	FOOT LAMP

Connector No.	M26
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A0235459826

Terminal No.	Color Of Wire	Signal Name [Specification]
15	W	BAT (FUSE)
16	BR	BAT (FUSE)
17	R	BAT (FUSE)
18	B	GND

JRMWJ5233GB

BODY CONTROL SYSTEM

Connector No.	M27
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A1665400381

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
19	Y	RR POWER WINDOW MOTOR RH CONT (UP)
20	G	RR POWER WINDOW MOTOR RH CONT (DOWN)
21	B	RR POWER WINDOW MOTOR LH CONT (UP)
22	GR	RR POWER WINDOW MOTOR LH CONT (DOWN)
23	P	AIR BAG SIGNAL
27	GR	BACK DOOR OPENER SW
33	O	RR POWER WINDOW SW LH GND
34	BR	RR POWER WINDOW SW LH (DOWN)
36	O	RR POWER WINDOW SW LH (UP)
37	W	RR DOOR RH STATUS
39	Y	BACK DOOR STATUS
40	V	BACK DOOR LAMP
41	W	RR DOOR LH STATUS
42	V	LUGGAGE ROOM LAMP
43	GR	BACK-UP LAMP LH
44	W	HIGH-MOUNTED STOP LAMP
45	O	TAIL LAMP (BODY RH)
48	GR	TAIL LAMP (BK RH)
50	GR	-
57	Y	STOP LAMP (BODY LH)
58	B	REAR TURN SIGNAL RH
59	P	RR DOOR RH UNLOCK
60	G	RR DOOR RH LOCK
62	GR	LICENSE PLATE LAMP LH
63	W	HALL SENSOR LH SIGNAL
64	GR	HALL SENSOR LH GND
65	R	HALL SENSOR LH POWER SUPPLY

Connector No.	M28
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A1665400481

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
67	V	BACK DOOR UNLOCK
69	GR	STOP LAMP (BODY RH)
70	B	REAR TURN SIGNAL LH
71	GR	BACK-UP LAMP RH
72	Y	LICENSE PLATE LAMP RH
73	L	RR POWER WINDOW SW RH UP
74	B	RR POWER WINDOW SW RH DOWN
75	L	RR POWER WINDOW SW RH GND
76	GR	HALL SENSOR RH POWER SUPPLY
77	R	SUB BAT-
78	B	TERMINAL RELAY 15R1 CONT
80	B	REAR WIPER RELAY CONT
82	GR	TAIL LAMP (BODY LH)
83	P	TERMINAL RELAY 15R2 CONT
85	B	TAIL LAMP (BK LH)
87	R	BAT (VIA LATCHING TERMINAL RELAY 30G)
89	O	HALL SENSOR RH GND
90	V	HALL SENSOR RH SIGNAL
91	P	FUEL LEVEL SENSOR GND
92	L	FUEL LEVEL SENSOR
93	GR	FUEL LEVEL SENSOR
94	Y	FUEL FILLER LID STATUS
97	G	LATCHING TERMINAL RELAY 30G CONT 1
98	B	LATCHING TERMINAL RELAY 30G GND 1
99	W	LATCHING TERMINAL RELAY 30G GND 2
100	V	LATCHING TERMINAL RELAY 30G CONT 2
101	Y	REAR DOOR INSIDE HANDLE LAMP CONT
102	GR	AMBIENT LAMP CONT
103	V	SUB BAT RELAY CONT
105	G	RR DOOR LH UNLOCK
106	W	FUEL FILLER LID UNLOCK
107	L	RR DOOR LH LOCK
108	R	SUB BAT+
109	O	LIN (ROOF)
112	BR	CAN-L (BODY 1)
113	R	CAN-H (BODY 1)

114	B	INJECTION RELAY CONT

Connector No.	M29
Connector Name	FUEL FILLER LID LOCK ASSEMBLY
Connector Type	MB_A2115451728

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	Y	-
3	W	-

Connector No.	M32
Connector Name	COMBINATION METER
Connector Type	MB_A0525452726

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	GROUND
4	R	BATTERY POWER SUPPLY
12	GR	CAN-L
13	W	CAN-H
17	BR	CAN-L
18	R	CAN-H

Connector No.	M35
Connector Name	CONDENSER
Connector Type	P01FB-A

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-

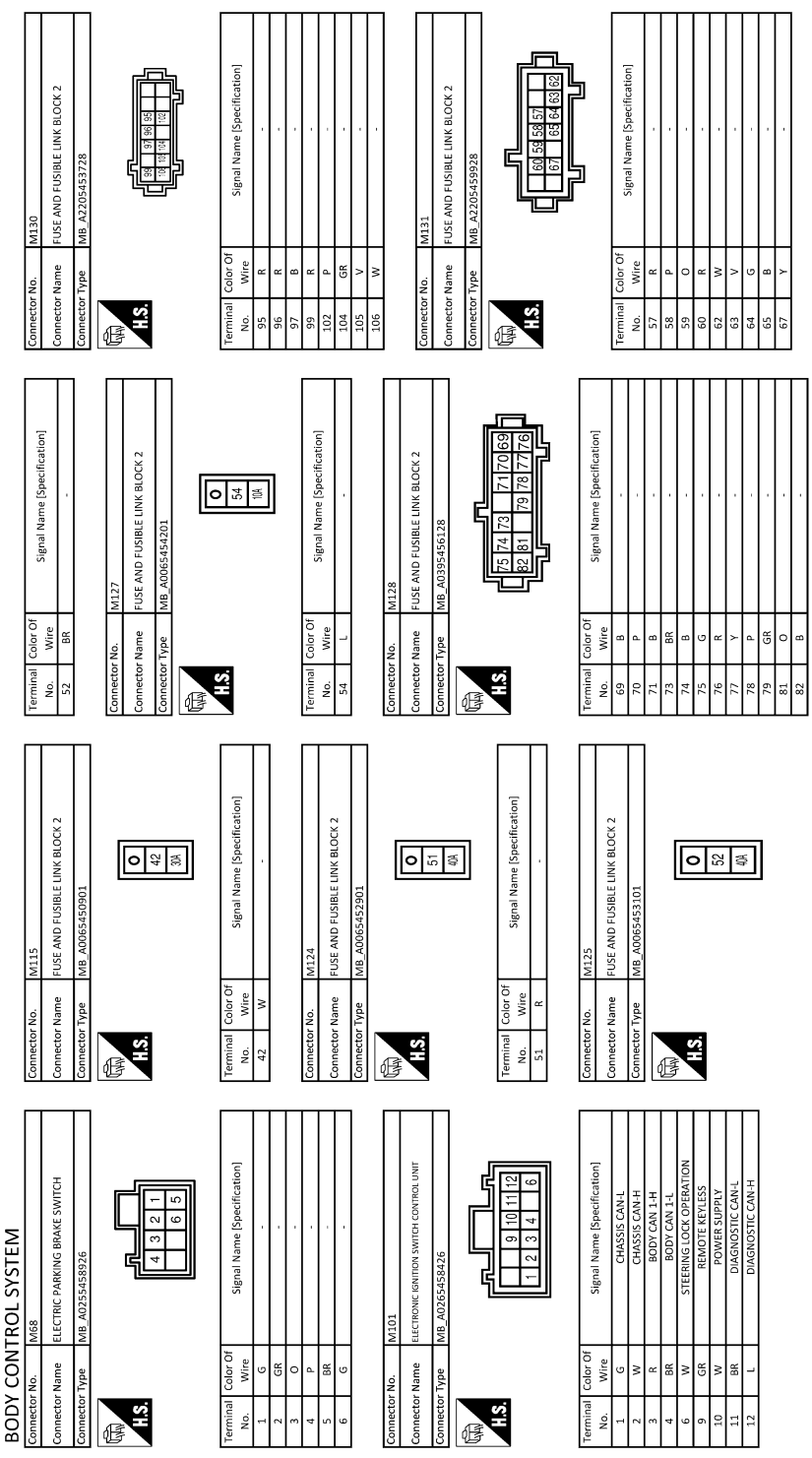
Connector No.	M43
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
4	B	CHASSIS_GND
5	B	ELECTRONICS_GND
6	GR	DIAGNOSTICS-CAN_H_DAI
8	W	IGN_SW
12	L	DIAGNOSTIC-CAN+L_NIS
13	V	DIAGNOSTIC-CAN_H_NIS
14	GR	DIAGNOSTICS-CAN_L_DAI
16	R	BATTERY

JRMWJ5234GB

BODY CONTROL SYSTEM



JRMWJ5235GB

BODY CONTROL SYSTEM

Connector No.	M132
Connector Name	FRONT FOOT LAMP LH
Connector Type	JST_02CPT-B-2A

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	GR	-

Connector No.	M133
Connector Name	FRONT FOOT LAMP RH
Connector Type	JST_02CPT-B-2A

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	GR	-

Connector No.	M140
Connector Name	AMBIENT LAMP (INSTRUMENT PANEL)
Connector Type	TH04FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	G	-
3	BR	-

Connector No.	M157
Connector Name	LICENSE PLATE LAMP LH
Connector Type	RH02FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	B	-

Connector No.	M158
Connector Name	LICENSE PLATE LAMP RH
Connector Type	RH02FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	B	-

Connector No.	M159
Connector Name	AMBIENT LAMP (REAR SEAT LH)
Connector Type	MB_A0525458528

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	GR	-

Connector No.	M160
Connector Name	AMBIENT LAMP (REAR SEAT RH)
Connector Type	MB_A0525458528

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	L	-

Connector No.	M161
Connector Name	BACK DOOR LOCK ASSEMBLY
Connector Type	TB04FW-LC

H.S.

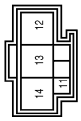
Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	B	-
3	BR	-
4	V	-

JRMWJ5236GB

BODY CONTROL SYSTEM

Connector No.	M172
Connector Name	OVERHEAD CONTROL PANEL CONTROL UNIT
Connector Type	MB_A0025406781

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
11	O	LIN (ROOF)
12	B	GND
13	G	BATTERY POWER SUPPLY
14	O	BATTERY POWER SUPPLY

Connector No.	M173
Connector Name	UPPER CONTROL PANEL CONTROL UNIT
Connector Type	MB_A0385451228

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	PWR SPLY
2	BR	GND
3	O	LIN

Connector No.	M194
Connector Name	REAR COMBINATION LAMP LH (BODY SIDE)
Connector Type	NS06MW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	Y	-
3	GR	-
4	B	-
5	BR	-
6	V	-

Connector No.	M195
Connector Name	REAR COMBINATION LAMP RH (BODY SIDE)
Connector Type	NS06MW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	O	-
4	B	-
5	BR	-
6	V	-

Connector No.	M211
Connector Name	BACK DOOR OPENER SWITCH
Connector Type	MB_A2105402081

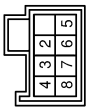
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	GR	-

Connector No.	M219
Connector Name	ROTARY LIGHT SWITCH
Connector Type	MB_A0255458826

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	Y	-
4	B	-
5	G	-
6	R	-
7	O	-
8	W	-

Connector No.	M221
Connector Name	LUGGAGE ROOM LAMP
Connector Type	MB_A0375455928

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	V	-

Connector No.	M224
Connector Name	CONDENSER
Connector Type	P01FB-A

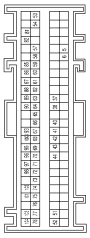
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	-

Connector No.	M266
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A0105404681

H.S.



JRMWJ5237GB

BODY CONTROL SYSTEM

Terminal No.	Color Of Wire	Signal Name [Specification]
5	B	ACTIVE VENT PS(-)
6	Y	ACTIVE VENT PS(+)
37	V	FUSE-
38	W	FUSE+
40	Y	OCCUPANT LIN SIGNAL
41	V/G	RPRH(+)
42	BR/Y	RPRH(-)
43	BR/Y	RPLH(-)
44	V/G	RPLH(+)
51	Y	AIR BAG SIGNAL
52	P	AIR BAG SIGNAL
53	G	CAN-L
54	W	CAN-H
57	R	B-SATELITE LH(+)
58	B	B-SATELITE LH(-)
59	BR	B-SATELITE RH(-)
60	L	B-SATELITE RH(+)
61	BR	FRONT DOOR SATELLITE RH(-)
62	G	FRONT DOOR SATELLITE RH(+)
63	B	FRONT DOOR SATELLITE LH(+)
64	BR	FRONT DOOR SATELLITE LH(-)
65	G	SEAT POS PS(+)
66	BR	SEAT POS PS(-)
67	W	REAR DOOR SATELLITE RH(-)
68	B	REAR DOOR SATELLITE RH(+)
69	R	REAR DOOR SATELLITE LH(+)
70	W	REAR DOOR SATELLITE LH(-)
71	Y	BUCKLE_SWITCH_PS+
72	O	BUCKLE_SWITCH_PS-
73	Y	BUCKLE_SWITCH_DR+
74	O	BUCKLE_SWITCH_DR-
75	V/G	CLH(+)
76	BR/Y	CLH(-)
77	W/BR	CRH(+)
78	R/V	CRH(-)
81	R	FORCE LIMITER PS(-)
82	B	FORCE LIMITER PS(+)
85	P	CZS RH(-)
86	W	CZS RH(+)
87	BR	CZS LH(-)
88	L	CZS LH(+)
89	O	SAB AS(-)
90	Y	SAB AS(+)
93	Y	SAB DR(+)
94	O	SAB DR(-)
95	BR	FPRH(-)
96	L/W	FPRH(+)
97	G	FPLH(+)

98	V	FPLH(-)
100	BR	GND
101	BR	GND
103	Y	KL15R
104	G	KL30

Connector No.	M267
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A1665401481

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
110	R	KAB DR(+)
111	W	KAB DR(-)
112	B/Y	KAB PS(+)
113	GR	KAB PS(-)
115	V	DR2(+)
116	G	DR2(-)
117	R/Y	AS2(-)
118	B	AS2(+)
120	V/Y	AS1(+)
121	W/B	AS1(-)
122	Y	DR1(-)
123	L	DR1(+)

Connector No.	M301
Connector Name	SUB BATTERY
Connector Type	MB_A2049821402

H.S.

1

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-

Connector No.	M302
Connector Name	SUB BATTERY
Connector Type	MB_A2049821502

H.S.

2

Terminal No.	Color Of Wire	Signal Name [Specification]
2	BR	-

Connector No.	M303
Connector Name	SUB BATTERY RELAY
Connector Type	MB_A0035466440

H.S.

4

Terminal No.	Color Of Wire	Signal Name [Specification]
4	R	-

Connector No.	M304
Connector Name	SUB BATTERY RELAY
Connector Type	MB_A0225451926

H.S.

1 2

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	Y	-

Connector No.	M310
Connector Name	SUB BATTERY RELAY
Connector Type	MB_A0035466440

H.S.

3

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

Connector No.	M370
Connector Name	FUEL LEVEL SENSOR UNIT AND FUEL PUMP
Connector Type	Tyco_1-969474-1-1

H.S.

1 2 3 4 5 6

JRMWJ5238GB

BODY CONTROL SYSTEM

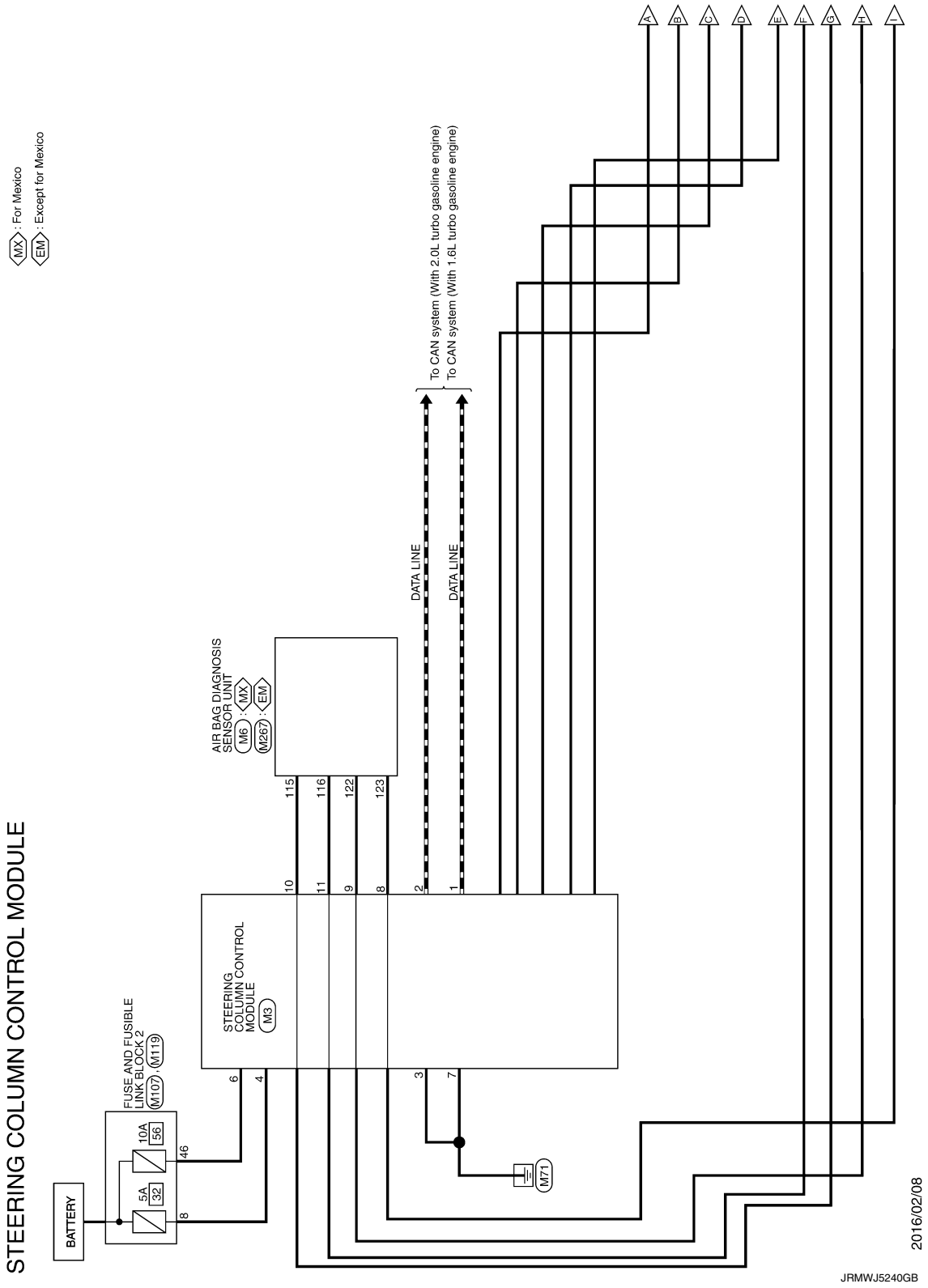
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-

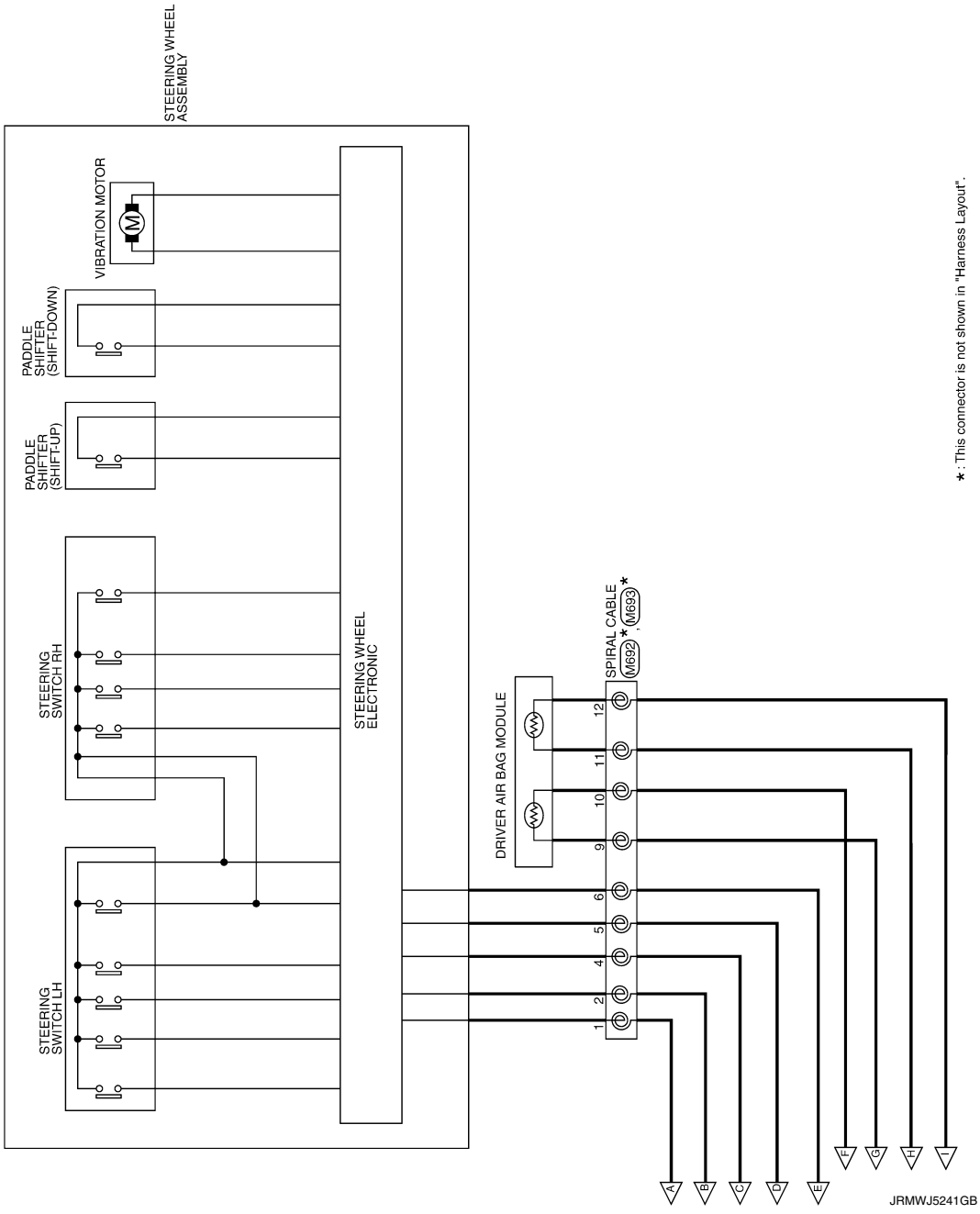
JRMWJ5239GB

STEERING COLUMN CONTROL MODULE

Wiring Diagram

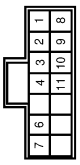
INFOID:0000000013683266




STEERING WHEEL ASSEMBLY
VIBRATION MOTOR
PADDLE SHIFTER (SHIFT-DOWN)
PADDLE SHIFTER (SHIFT-UP)
STEERING SWITCH RH
STEERING SWITCH LH
STEERING WHEEL ELECTRONIC
DRIVER AIR BAG MODULE
SPIRAL CABLE
(M692)
(M693)
★
★ : This connector is not shown in "Harness Layout".
JRMWJ5241GB

STEERING COLUMN CONTROL MODULE

Connector No.	M3
Connector Name	STEERING COLUMN CONTROL MODULE
Connector Type	MB_A2045401281



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	CAN-L (CHASIS)
2	W	CAN-H (CHASIS)
3	BR	GND
4	R	KL30G
6	R	KL30
7	BR	GND
8	L	AB1+
9	Y	AB1-
10	V	AB2+
11	G	AB2-

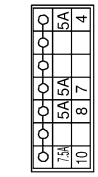
Connector No.	M6
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A1665401481



Terminal No.	Color Of Wire	Signal Name [Specification]
110	R	KAB DR(+)
111	W	KAB DR(-)
115	V	DR2(+)
116	G	DR2(-)
117	R/Y	AS2(-)
118	B	AS2(+)
119	O	STEERING LOCK UNIT POWER SUPPLY
120	V/Y	AS1(+)
121	W/B	AS1(-)

122	Y	DR1(-)
123	L	DR1(+)

Connector No.	M107
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0055459701



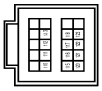
Terminal No.	Color Of Wire	Signal Name [Specification]
4	O	-
7	L	-
8	R	-
10	O	-

Connector No.	M119
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0065451301



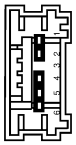
Terminal No.	Color Of Wire	Signal Name [Specification]
46	R	-

Connector No.	M267
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A1665401481



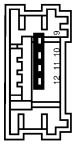
Terminal No.	Color Of Wire	Signal Name [Specification]
110	R	KAB DR(+)
111	W	KAB DR(-)
112	B/Y	KAB PS(+)
113	GR	KAB PS(-)
115	V	DR2(+)
116	G	DR2(-)
117	R/Y	AS2(-)
118	B	AS2(+)
120	V/Y	AS1(+)
121	W/B	AS1(-)
122	Y	DR1(-)
123	L	DR1(+)

Connector No.	M692
Connector Name	SPIRAL CABLE
Connector Type	A2040041699BLATT2



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-

Connector No.	M693
Connector Name	SPIRAL CABLE
Connector Type	A2040041699BLATT1



Terminal No.	Color Of Wire	Signal Name [Specification]
9	-	-
10	-	-
11	-	-
12	-	-

JRMWJ5242GB

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING BCM

Description

INFOID:0000000013683267

When replacing BCM, the procedures of AFTER REPLACEMENT must be performed. For work procedure, refer to BCS-88, "Work Procedure".

AFTER REPLACEMENT

After replacing BCM, the following items must be performed:

- Configuration

Work Procedure

INFOID:0000000013683268

1.PERFORM CONFIGURATION (WRITING VEHICLE SPECIFICATION)

With CONSULT

Perform configuration. Refer to BCS-89, "Description".

NOTE:

Log in to the network, according to the CONSULT screen.

>> GO TO 2.

2.INITIALIZE POWER WINDOW CONTROL SYSTEM

Perform power window control system initialization. Refer to PWC-26, "Description".

>> END

CONFIGURATION (BCM)

Description

INFOID:0000000013683269

Vehicle specification needs to be written with CONSULT because it is not written after replacing the BCM.
The configuration requires network connection. CONSULT connects to network and then it downloads the configuration data from the server. Then CONSULT writes the vehicle specification to the BCM.
Refer to BCS-89, "Work Procedure".

NOTE:
For details the network connection and operation, refer to “CONSULT Operation Manual”.
The configuration no need to “save” configuration data from the BCM. The configuration data is always generated freshly at the server and then downloaded to the CONSULT.

CAUTION:
- **Complete the procedure of “Read / Write Configuration” in order.**
- **If incorrect “Read / Write Configuration”, incidents might occur.**
- **Never perform “Read / Write Configuration” except for new BCM.**

Work Procedure

INFOID:0000000013683270

1.WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “WRITE CONFIGURATION” for CONTROL UNIT according to “CONSULT Operation Manual”.

NOTE:
- Log in the network according to CONSULT guidance.
- For details the network connection and operation, refer to “CONSULT Operation Manual”.

>> WORK END

DTC/CIRCUIT DIAGNOSIS

B11C1 SUB BATTERY

DTC Description

INFOID:0000000013683271

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
B11C1	13	Additional battery (Additional battery)	[CIRC OPEN]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	Sub battery voltage is less than 3 V
				Diagnosis delay time	25 sec.
	16		[CIRC VOLT BELOW THRESHOLD]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	The limit value for electrical voltage has not been attained
				Diagnosis delay time	–
	18		[CIRC CURRENT BELOW THRESHOLD]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	The limit value for current has not been attained
				Diagnosis delay time	–
	1B		[CIRC RESISTANCE ABOVE THRESHOLD]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	The limit value for resistance has been exceeded
				Diagnosis delay time	–

POSSIBLE CAUSE

- Sub battery
- BCM
- Harness between sub battery and BCM

FAIL-SAFE

Inhibit stop/start function

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn engine ON and wait for 25 seconds or more.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-91, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683272

DTC “B11C1-13”

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B11C1-13”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-90, "DTC Description".

Is DTC “B11C1-13” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SUB BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check sub battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform sub battery inspection. Refer to PG-104, "SUB BATTERY : Work Procedure".

4.CHECK SUB BATTERY CIRCUIT 1

1. Disconnect sub battery connector and fuse and fusible link block 2 connector.
2. Check continuity between sub battery harness connector and fuse and fusible link block 2 harness connector.

Sub battery		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M301	1	M127	54	Existed

Is the inspection result normal?

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

5.CHECK SUB BATTERY CIRCUIT 2

Check continuity between sub battery harness connector and ground.

Sub battery		—	Continuity
Connector	Terminal		
M302	2	Ground	Existed

Is the inspection result normal?

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

6.CHECK FUSE

Check that the following fuse is not blown (open).

Signal name	Fuse No.
Sub battery power supply	26 (10 A)

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).

NO >> GO TO 7.

7.CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	77	M130	99	Existed
	108			

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness.

8.CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair or replace harness.

9.REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Connect sub battery connector and BCM connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-90, "DTC Description".

Is DTC “B11C1-13” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B11C1-16”

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B11C1-16”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-90, "DTC Description".

Is DTC “B11C1-16” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SUB BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check sub battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform sub battery inspection. Refer to PG-104, "SUB BATTERY : Work Procedure".

4.CHECK FUSE AND FUSIBLE LINK BLOCK 2 CIRCUIT

1. Disconnect following connector
- Sub battery
- Fuse and fusible link block 2
- Electronic ignition switch control unit
- BCM
2. Check continuity between fuse and fusible link block 2 harness connector and ground.

Fuse and fusible link block 2		—	Continuity
Connector	Terminal		
M127	54	Ground	Not existed
M130	99		

Is the inspection result normal?

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

5.REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Connect sub battery connector, BCM connector and electronic ignition switch control unit connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-90, "DTC Description".

Is DTC “B11C1-16” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B11C1-18”

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B11C1-18”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-90, "DTC Description".

Is DTC “B11C1-18” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SUB BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check sub battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform sub battery inspection. Refer to PG-104, "SUB BATTERY : Work Procedure".

4.CHECK SUB BATTERY CIRCUIT

1. Disconnect sub battery connector and fuse and fusible link block 2 connector.

2. Check voltage between sub battery harness connector and fuse and fusible link block 2 harness connector.

(+)		(-)		Voltage (Approx.)
Sub battery		Fuse and fusible link block 2		
Connector	Terminal	Connector	Terminal	
M301	1	M127	54	0 V

Is the inspection result normal?

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

5.CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between fuse and fusible link block 2 harness connector and BCM harness connector.

(+)		(-)		Voltage (Approx.)
Fuse and fusible link block 2		BCM		
Connector	Terminal	Connector	Terminal	
M130	99	M28	77	0 V
			108	

Is the inspection result normal?

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

6.REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Connect sub battery connector and BCM connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-90, "DTC Description".

Is DTC “B11C1-18” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B11C1-1B”

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B11C1-1B”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-90, "DTC Description".

Is DTC “B11C1-1B” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SUB BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check sub battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform sub battery inspection. Refer to PG-104, "SUB BATTERY : Work Procedure".

4. CHECK SUB BATTERY CIRCUIT

1. Disconnect sub battery connector and fuse and fusible link block 2 connector.
2. Check voltage between sub battery harness connector and fuse and fusible link block 2 harness connector.

(+)		(-)		Voltage (Approx.)
Sub battery		Fuse and fusible link block 2		
Connector	Terminal	Connector	Terminal	
M301	1	M127	54	0 V

Is the inspection result normal?

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

5. CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between fuse and fusible link block 2 harness connector and BCM harness connector.

(+)		(-)		Voltage (Approx.)
Fuse and fusible link block 2		BCM		
Connector	Terminal	Connector	Terminal	
M130	99	M28	77	0 V
			108	

Is the inspection result normal?

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

6. REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Connect sub battery connector and BCM connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-90, "DTC Description".

Is DTC “B11C1-1B” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B129F ELECTRONIC STABILITY PROGRAM CONTROL UNIT

DTC Description

INFOID:0000000013683273

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B129F	03	SSK STAT signal circuit (TCS) [SSK status signal circuit (TCS)]	[FM/PWM FAILURES]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	SSK status signal
				Threshold	Signal from electronic stability program control unit is not correct
				Diagnosis delay time	–
	11		[CIRC SHORT TO GRND]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	SSK status signal
				Threshold	There is a short circuit to ground between BCM and electronic stability program control unit.
				Diagnosis delay time	300 ms
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	SSK status signal
				Threshold	There is a short circuit to power or a open circuit between BCM and electronic stability program control unit.
				Diagnosis delay time	300 ms

POSSIBLE CAUSE

- Electronic stability program control unit
- BCM
- Harness between electronic stability program control unit and BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-96, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683274

DTC “B129F-03”

1.CHECK DTC WITH ELECTRONIC STABILITY PROGRAM CONTROL UNIT

Check that DTC is not detected with electronic stability program control unit.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to BRC-59, "DTC Index".

2.CHECK ELECTRONIC STABILITY PROGRAM CONTROL UNIT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and electronic stability program control unit connector.
3. Check continuity between BCM harness connector and electronic stability program control unit harness connector.

BCM		Electronic stability program control unit		Continuity
Connector	Terminal	Connector	Terminal	
E16	157	E46	10	Existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

DTC “B129F-11”

1.CHECK ELECTRONIC STABILITY PROGRAM CONTROL UNIT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and electronic stability program control unit connector.
3. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E16	157	Ground	Not existed

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> Repair or replace harness.

DTC “B129F-15”

1.CHECK ELECTRONIC STABILITY PROGRAM CONTROL UNIT SIGNAL CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and electronic stability program control unit connector.
3. Check continuity between BCM harness connector and electronic stability program control unit harness connector.

BCM		Electronic stability program control unit		Continuity
Connector	Terminal	Connector	Terminal	
E16	157	E46	10	Existed

Is the inspection result normal?

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

2.CHECK ELECTRONIC STABILITY PROGRAM CONTROL UNIT SIGNAL CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(−)	Voltage (Approx.)
BCM			
Connector	Terminal		
E16	157	Ground	0 V

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

NO >> Repair or replace harness.

B210C BATTERY

DTC Description

INFOID:0000000013683275

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210C	13	Power supply is outside valid range (Power supply is outside valid range)	[CIRC OPEN]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	High interior resistance at the battery sensor and no current flow.
				Diagnosis delay time	–
	16		[CIRC VOLT BELOW THRESHOLD]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	The voltage of ignition power supply is less than 9.5 V
				Diagnosis delay time	1 min.
	17		[CIRC VOLT ABOVE THRESHOLD]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	The voltage of ignition power supply is more than 17 V
				Diagnosis delay time	1 min.

POSSIBLE CAUSE

- Fuse
- Battery
- Alternator
- Battery sensor
- BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn engine ON and wait for 1 minute or more.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-99, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683276

DTC “B210C-13”

1.CHECK BATTERY POSITIVE TERMINAL CONNECTION

1. Turn ignition switch OFF.

2. Check if battery positive terminal is clean and tight.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair battery positive terminal connection.

2.CHECK BATTERY NEGATIVE TERMINAL CONNECTION

Check if battery negative terminal is clean and tight.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair battery negative terminal connection.

3.CHECK BATTERY SENSOR CIRCUIT 1

1. Disconnect battery connector and battery sensor connector.
2. Check continuity between battery harness connector and battery sensor harness connector.

Battery		Battery sensor		Continuity
Connector	Terminal	Connector	Terminal	
E5	3	E8	2	Existed

Is the inspection result normal?

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

4.CHECK BATTERY SENSOR CIRCUIT 2

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and battery sensor harness connector.

BCM		Battery sensor		Continuity
Connector	Terminal	Connector	Terminal	
E16	152	E8	1	Existed

Is the inspection result normal?

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

5.REPLACE BATTERY SENSOR AND ERASE DTC

1. Replace battery sensor. Refer to PG-125, "Removal and Installation".
2. Connect battery connector, battery sensor connector and BCM connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-99, "DTC Description".

Is DTC “B210C-13” detected?

YES >> Replace BCM. Refer to GI-56, "Intermittent Incident".
NO >> INSPECTION END

DTC “B210C-16”

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B210C-16”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-99, "DTC Description".

Is DTC “B210C-16” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4.CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5.CHECK FUSE

Check that the following fuses are not blown (open).

Signal name	Fuse No.
Battery power supply	79 (40 A)
	236 (40 A)

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 6.

6.CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect BCM connector and fuse and fusible link block 1 connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E14	115	E62	27	Existed

3. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M26	17	M124	51	Existed

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".

NO >> Repair or replace harness.

DTC “B210C-17”

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B210C-17”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-99, "DTC Description".

Is DTC “B210C-17” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4.CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair as needed.

B2121 INJECTION RELAY

DTC Description

INFOID:0000000013683277

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2121	11	Circuit 15 relay 1 (Circuit 15 relay 1)	[CIRC SHORT TO GRND]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the injection relay has a short circuit to ground
				Diagnosis delay time	1.25 sec.
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the injection relay has a open circuit or shorted to battery
				Diagnosis delay time	3 sec.

POSSIBLE CAUSE

- Injection relay
- Fuse and fusible link block 1
- BCM
- Harness between Injection relay and BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-103, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683278

DTC “B2121-11”

1.CHECK INJECTION RELAY

1. Turn ignition switch OFF.
2. Remove injection relay.
3. Check injection relay.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace injection relay.

2.CHECK INJECTION RELAY CIRCUIT

1. Disconnect BCM connector and fuse and fusible link block 1 connector.
2. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E15	123	Ground	Not existed

Is the inspection result normal?

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

3.REPLACE FUSE AND FUSIBLE LINK BLOCK 1 AND ERASE DTC

1. Replace fuse and fusible link block 1.
2. Install injection relay.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-103, "DTC Description".

Is DTC “B2121-11” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B2121-15”

1.CHECK INJECTION RELAY

1. Turn ignition switch OFF.
2. Remove injection relay.
3. Check injection relay.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace injection relay.

2.CHECK INJECTION RELAY CIRCUIT 1

1. Disconnect BCM connector and fuse and fusible link block 1 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E15	123	E64	34	Existed

Is the inspection result normal?

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

3.CHECK INJECTION RELAY CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
E15	123	Ground	0 V

Is the inspection result normal?

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

4.CHECK INJECTION RELAY CIRCUIT 3

Check continuity between fuse and fusible link block 1 harness connector and ground.

Fuse and fusible link block 1		—	Continuity
Connector	Terminal		
E64	33	Ground	Existed

Is the inspection result normal?

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

5. REPLACE FUSE AND FUSIBLE LINK BLOCK 1 AND ERASE DTC

1. Replace fuse and fusible link block 1.
2. Install injection relay.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-103, "DTC Description".

Is DTC “B2121-15” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B214B LATCHING TERMINAL RELAY 30G

DTC Description

INFOID:0000000013683279

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B214B	11	No-load current ON (No-load current ON)	[CIRC SHORT TO GRND]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Harness to the latching terminal relay 30g has a short circuit
				Diagnosis delay time	–
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Harness to the latching terminal relay 30g has a open circuit or shorted to battery
				Diagnosis delay time	–
	72		[ACTUATOR STUCK OPEN]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	The latching terminal relay 30g does not close
				Diagnosis delay time	–

POSSIBLE CAUSE

- Latching terminal relay 30g
- BCM
- Fuse and fusible link block 2
- Harness between BCM and fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-106, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683280

DTC “B214B-11”

1.CHECK LATCHING TERMINAL RELAY 30G

1. Turn ignition switch OFF.
2. Remove latching terminal relay 30g.

3. Check latching terminal relay 30g.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace latching terminal relay 30g.

2.CHECK LATCHING TERMINAL RELAY 30G CIRCUIT

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	97	Ground	Not existed
	98		

Is the inspection result normal?

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

3.REPLACE FUSE AND FUSIBLE LINK BLOCK 1 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install latching terminal relay 30g.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-106, "DTC Description".

Is DTC “B214B-11” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B214B-15”

1.CHECK LATCHING TERMINAL RELAY 30G

1. Turn ignition switch OFF.
2. Remove latching terminal relay 30g.
3. Check latching terminal relay 30g.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace latching terminal relay 30g.

2.CHECK LATCHING TERMINAL RELAY 30G CIRCUIT 2

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	97	M131	64	Existed
	98		65	

Is the inspection result normal?

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

3.CHECK LATCHING TERMINAL RELAY 30G CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	97	Ground	0 V
	98		

Is the inspection result normal?

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

4.REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install latching terminal relay 30g.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-106, "DTC Description".

Is DTC “B214B-15” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B214B-72”

1.CHECK LATCHING TERMINAL RELAY 30G

1. Turn ignition switch OFF.
2. Remove latching terminal relay 30g.
3. Check latching terminal relay 30g.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace latching terminal relay 30g.

2.CHECK LATCHING TERMINAL RELAY 30G CIRCUIT 2

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	97	M131	64	Existed
	98		65	

Is the inspection result normal?

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

3.CHECK LATCHING TERMINAL RELAY 30G CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	97	Ground	0 V
	98		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harnesses.

4. CHECK FUSE

Check that the following fuses are not blown (open).

Signal name	Fuse No.
Battery power supply via latching terminal relay 30g	98 (5 A)

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 5.

5. CHECK BCM CIRCUIT

1. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	87	M131	60	Existed

2. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	87	Ground	Not existed

Is the inspection result normal?

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

6. REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install latching terminal relay 30g.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-106, "DTC Description".

Is DTC “B214B-72” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B214F LATCHING TERMINAL RELAY 30G

DTC Description

INFOID:0000000013683281

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B214F	11	No-load current OFF (No-load current OFF)	[CIRC SHORT TO GRND]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Harness to the latching terminal relay 30g has a short circuit
				Diagnosis delay time	–
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Harness to the latching terminal relay 30g has a open circuit or shorted to battery
				Diagnosis delay time	–
	73		[ACTUATOR STUCK CLOSED]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	The latching terminal relay 30g does not open
				Diagnosis delay time	–

POSSIBLE CAUSE

- Latching terminal relay 30g
- BCM
- Fuse and fusible link block 2
- Harness between BCM and fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-110, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683282

DTC “B214F-11”

1.CHECK LATCHING TERMINAL RELAY 30G

1. Turn ignition switch OFF.
2. Remove latching terminal relay 30g.

3. Check latching terminal relay 30g.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace latching terminal relay 30g.

2.CHECK LATCHING TERMINAL RELAY 30G CIRCUIT

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	99	Ground	Not existed
	100		

Is the inspection result normal?

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

3.REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install latching terminal relay 30g.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-110, "DTC Description".

Is DTC “B214F-11” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B214F-15”

1.CHECK LATCHING TERMINAL RELAY 30G

1. Turn ignition switch OFF.
2. Remove latching terminal relay 30g.
3. Check latching terminal relay 30g.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace latching terminal relay 30g.

2.CHECK LATCHING TERMINAL RELAY 30G CIRCUIT 2

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	99	M131	62	Existed
	100		63	

Is the inspection result normal?

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

3.CHECK LATCHING TERMINAL RELAY 30G CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	99	Ground	0 V
	100		

Is the inspection result normal?

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

4. REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install latching terminal relay 30g.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-110, "DTC Description".

Is DTC “B214F-15” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B214F-73”

1. CHECK LATCHING TERMINAL RELAY 30G

1. Turn ignition switch OFF.
2. Remove latching terminal relay 30g.
3. Check latching terminal relay 30g.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace latching terminal relay 30g.

2. CHECK LATCHING TERMINAL RELAY 30G CIRCUIT 2

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	99	M131	62	Existed
	100		63	

Is the inspection result normal?

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

3. CHECK LATCHING TERMINAL RELAY 30G CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	99	Ground	0 V
	100		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harnesses.

4. CHECK BCM CIRCUIT

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	87	Ground	0 V

Is the inspection result normal?

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

5. REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install latching terminal relay 30g.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-110, "DTC Description".

Is DTC “B214F-73” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B2159 NO-LOAD CURRENT

DTC Description

INFOID:0000000013683283

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2159	14	Circuit 30g (Circuit 30g)	[CIRC SHORT TO GROUND OR OPEN]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Harness to the fuse and fusible link block 2 has a short circuit
				Diagnosis delay time	–

POSSIBLE CAUSE

- Latching terminal relay 30g
- BCM
- Fuse and fusible link block 2
- Harness between BCM and fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-114, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683284

1.CHECK FUSE

Check that the following fuses are not blown (open).

Signal name	Fuse No.
Battery power supply via latching terminal relay 30g	98 (5 A)

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 2.

2.CHECK LATCHING TERMINAL RELAY 30G

1. Turn ignition switch OFF.
2. Remove latching terminal relay 30g.
3. Check latching terminal relay 30g.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace latching terminal relay 30g.

3.CHECK BCM CIRCUIT

1. Disconnect BCM connector and fuse and fusible link block 2 connector.

2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	87	M131	60	Existed

3. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	87	Ground	Not existed

Is the inspection result normal?

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

4. REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install latching terminal relay 30g.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-114, "DTC Description".

Is DTC “B2159-14” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B215F TERMINAL RELAY 15R1

DTC Description

INFOID:0000000013683285

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B215F	11	Circuit 15R relay 1 (Circuit 15R relay 1)	[CIRC SHORT TO GRND]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the terminal relay (15R1) has a short circuit to ground
				Diagnosis delay time	–
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the terminal relay (15R1) has a open circuit or shorted to battery
				Diagnosis delay time	–

POSSIBLE CAUSE

- Terminal relay (15R1)
- Fuse and fusible link block 2
- BCM
- Harness between terminal relay (15R1) and BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-116, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683286

DTC “B215F-11”

1.CHECK TERMINAL RELAY (15R1)

1. Turn ignition switch OFF.
2. Remove terminal relay (15R1).
3. Check terminal relay (15R1).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace terminal relay (15R1).

2.CHECK TERMINAL RELAY (15R1) CIRCUIT

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	78	Ground	Not existed

Is the inspection result normal?

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

3.REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install terminal relay (15R1).
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-116, "DTC Description".

Is DTC “B215F-11” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B215F-15”

1.CHECK TERMINAL RELAY (15R1)

1. Turn ignition switch OFF.
2. Remove terminal relay (15R1).
3. Check terminal relay (15R1).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace terminal relay (15R1).

2.CHECK TERMINAL RELAY (15R1) CIRCUIT 1

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	78	M128	69	Existed

Is the inspection result normal?

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

3.CHECK TERMINAL RELAY (15R1) CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	78	Ground	0 V

Is the inspection result normal?

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

4.CHECK TERMINAL RELAY (15R1) CIRCUIT 3

Check continuity between fuse and fusible link block 2 harness connector and ground.

Fuse and fusible link block 2		—	Continuity
Connector	Terminal		
M128	73	Ground	Existed

Is the inspection result normal?

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

5. REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install terminal relay (15R1).
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-116, "DTC Description".

Is DTC “B215F-15” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B2163 TERMINAL RELAY 15R2

DTC Description

INFOID:0000000013683287

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2163	11	Circuit 15R relay 2 (Circuit 15R relay 2)	[CIRC SHORT TO GRND]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the terminal relay (15R2) has a short circuit to ground
				Diagnosis delay time	–
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the terminal relay (15R2) has a open circuit or shorted to battery
				Diagnosis delay time	–

POSSIBLE CAUSE

- Terminal relay (15R2)
- Fuse and fusible link block 2
- BCM
- Harness between terminal relay (15R2) and BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-119, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683288

DTC “B2163-11”

1.CHECK TERMINAL RELAY (15R2)

1. Turn ignition switch OFF.
2. Remove terminal relay (15R2).
3. Check terminal relay (15R2).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace terminal relay (15R2).

2.CHECK TERMINAL RELAY (15R2) CIRCUIT

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	83	Ground	Not existed

Is the inspection result normal?

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

3.REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install terminal relay (15R2).
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-119, "DTC Description".

Is DTC “B2163-11” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B2163-15”

1.CHECK TERMINAL RELAY (15R2)

1. Turn ignition switch OFF.
2. Remove terminal relay (15R2).
3. Check terminal relay (15R2).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace terminal relay (15R2).

2.CHECK TERMINAL RELAY (15R2) CIRCUIT 1

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	83	M128	70	Existed

Is the inspection result normal?

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

3.CHECK TERMINAL RELAY (15R2) CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	83	Ground	0 V

Is the inspection result normal?

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

4.CHECK TERMINAL RELAY (15R2) CIRCUIT 3

Check continuity between fuse and fusible link block 2 harness connector and ground.

Fuse and fusible link block 2		—	Continuity
Connector	Terminal		
M128	73	Ground	Existed

Is the inspection result normal?

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

5. REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install terminal relay (15R2).
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-119, "DTC Description".

Is DTC “B2163-15” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B2194 POWER SUPPLY

DTC Description

INFOID:0000000013683289

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2194	00	Circuit 30 (Circuit 30)	–	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Ignition power supply is less than 7.5 V
				Diagnosis delay time	–

POSSIBLE CAUSE

- Battery
- Alternator
- BCM
- Fuse
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-122, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683290

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B2194-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-122, "DTC Description".

Is DTC “B2194-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4. CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5. CHECK FUSE

Check that the following fuse and fusible link are not blown (open).

Signal name	Fuse No.
Ignition ON power supply	25 (30 A)
	80 (40 A)
	79 (40 A)
	236 (40 A)
	C (40 A)

Is the fuse or fusible link blown (open)?

YES >> Replace the blown (open) fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 6.

6. CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect following connectors
- BCM
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

2. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E14	117	E73	2	Existed

3. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E14	115	E62	27	Existed

4. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M26	15	M115	42	Existed
	16	M125	52	
	17	M124	51	

5. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E14	117	Ground	Not existed
	115		
M26	15		
	16		
	17		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

B2195 POWER SUPPLY

DTC Description

INFOID:0000000013683291

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2195	00	Circuit 30 (Circuit 30)	–	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Ignition power supply is less than 8.5 V
				Diagnosis delay time	–

POSSIBLE CAUSE

- Battery
- Alternator
- BCM
- Fuse
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-125, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683292

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B2195-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-125, "DTC Description".

Is DTC “B2195-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4. CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5. CHECK FUSE

Check that the following fuse and fusible link are not blown (open).

Signal name	Fuse No.
Ignition ON power supply	25 (30 A)
	80 (40 A)
	79 (40 A)
	236 (40 A)
	C (40 A)

Is the fuse or fusible link blown (open)?

YES >> Replace the blown (open) fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 6.

6. CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect following connectors
- BCM
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2
2. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E14	117	E73	2	Existed

3. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E14	115	E62	27	Existed

4. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M26	15	M115	42	Existed
	16	M125	52	
	17	M124	51	

5. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E14	117	Ground	Not existed
	115		
M26	15		
	16		
	17		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7. CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

B21DE SUB BATTERY RELAY

DTC Description

INFOID:0000000013683293

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21DE	11	ADDITIONAL BATTERY RELAY (Additional battery relay)	[CIRC SHORT TO GRND]	Diagnosis condition	Active sub battery relay
				Signal (terminal)	–
				Threshold	Harness to the sub battery relay has a short circuit to ground
				Diagnosis delay time	–
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	Active sub battery relay
				Signal (terminal)	–
				Threshold	Harness to the sub battery relay has a open circuit or shorted to battery
				Diagnosis delay time	–
	66		[SIGNAL HAS TOO MANY TRANSITIONS/ EVENTS]	Diagnosis condition	Active sub battery relay
				Signal (terminal)	–
				Threshold	Sub battery relay cycle counter has exceeded the limit
				Diagnosis delay time	–
	71		[ACTUATOR STUCK]	Diagnosis condition	Active sub battery relay
				Signal (terminal)	–
				Threshold	Sub battery voltage is less than ignition power supply voltage for 0.3 V
				Diagnosis delay time	–

POSSIBLE CAUSE

- Sub battery
- Sub battery relay
- BCM
- Harness between BCM and sub battery relay

FAIL-SAFE

Inhibit stop/start function

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Active Test” of “BCM” using CONSULT.
3. Operate “Check eco start stop function additional battery relay” active test item.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-129, "Diagnosis Procedure".

NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683294

DTC “B21DE-11”

1.CHECK SUB BATTERY RELAY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and sub battery relay connector.
3. Check continuity between BCM harness connector and sub battery relay harness connector.

BCM		Sub battery relay		Continuity
Connector	Terminal	Connector	Terminal	
M28	103	M304	2	Existed

4. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	103	Ground	Not existed

Is the inspection result normal?

YES >> Check intermittent incident. Refer toGI-56, "Intermittent Incident".
NO >> Repair or replace harnesses.

DTC “B21DE-15”

1.CHECK SUB BATTERY RELAY CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and sub battery relay connector.
3. Check continuity between BCM harness connector and sub battery relay harness connector.

BCM		Sub battery relay		Continuity
Connector	Terminal	Connector	Terminal	
M28	103	M304	2	Existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harnesses.

2.CHECK SUB BATTERY RELAY CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(−)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	103	Ground	0 V

Is the inspection result normal?

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

3.CHECK SUB BATTERY RELAY CIRCUIT 3

Check continuity between sub battery relay harness connector and ground.

Sub battery relay		—	Continuity
Connector	Terminal		
M304	1	Ground	Existed

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> Repair or replace harnesses.

DTC “B21DE-66”

1.REPLACE SUB BATTERY RELAY

1. Turn ignition switch OFF.
2. Replace sub battery relay.

>> GO TO 2.

2.PERFORM BCM WORK SUPPORT

1. Turn ignition switch ON.
2. Select “Work Support” of “BCM” using CONSULT.
3. Operate “Replace eco start stop function add battery” work support item.

>> GO TO 3.

3.PERFORM BCM SELF DIAGNOSTIC

Perform “DTC CONFIRMATION PROCEDURE”. Refer to BCS-128, "DTC Description".

Is DTC “B21DE-66” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B21DE-71”

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B21DE-71”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-128, "DTC Description".

Is DTC “B21DE-71” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SUB BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check sub battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform sub battery inspection. Refer to PG-104, "SUB BATTERY : Work Procedure".

4.CHECK FUSE

Check that the following fuse is not blown (open).

Signal name	Fuse No.
Sub battery power supply	26 (10 A)

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 5.

5. CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	77	Ground	9 -16 V
	108		

Is the inspection result normal?

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

6. CHECK SUB BATTERY RELAY

1. Remove sub battery relay.
2. Check sub battery relay.

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Replace sub battery relay.

B21DF DECOUPLING RELAY

DTC Description

INFOID:0000000013683295

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21DF	04	Starter battery (Starter battery)	[SYSTEM INTERNAL FAILURES]	Diagnosis condition	Active decoupling relay
				Signal (terminal)	–
				Threshold	Decoupling relay internal fault
				Diagnosis delay time	–
	11		[CIRC SHORT TO GRND]	Diagnosis condition	Active decoupling relay
				Signal (terminal)	–
				Threshold	Harness to the decoupling relay has a short circuit to ground
				Diagnosis delay time	–
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	Active decoupling relay
				Signal (terminal)	–
				Threshold	Harness to the decoupling relay has a open circuit or shorted to battery
				Diagnosis delay time	–
	66		[SIGNAL HAS TOO MANY TRANSITIONS/ EVENTS]	Diagnosis condition	Active decoupling relay
				Signal (terminal)	–
				Threshold	Decoupling relay cycle counter has exceeded the limit
				Diagnosis delay time	–
	71		[ACTUATOR STUCK]	Diagnosis condition	Active decoupling relay
				Signal (terminal)	–
				Threshold	The actuator of decoupling relay is blocked
				Diagnosis delay time	–

POSSIBLE CAUSE

- Decoupling relay
- BCM
- Harness between BCM and decoupling relay

FAIL-SAFE

Inhibit stop/start function

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

2. Select “Active Test” of “BCM” using CONSULT.
3. Operate “Check eco start stop function additional battery relay” active test item.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-133, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683296

DTC “B21DF-04”

1.CHECK DECOUPLING RELAY

1. Turn ignition switch OFF.
2. Remove decoupling relay.
3. Check decoupling relay.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace decoupling relay.

2.CHECK DECOUPLING RELAY CIRCUIT

1. Disconnect BCM connector and fuse box connector.
2. Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
E16	166	Ground	0 V

Is the inspection result normal?

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

3.REPLACE FUSE BOX AND ERASE DTC

1. Replace fuse box.
2. Install decoupling relay.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-132, "DTC Description".

Is DTC “B21DF-04” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B21DF-11”

1.CHECK DECOUPLING RELAY CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and fuse box connector.
3. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E16	166	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harnesses.

2.CHECK DECOUPLING RELAY CIRCUIT 2

Check continuity between decoupling relay harness connector and ground.

Fuse box		—	Continuity
Connector	Terminal		
E77	6	Ground	Existed

Is the inspection result normal?

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

3.REPLACE FUSE BOX AND ERASE DTC

1. Replace fuse box.
2. Connect BCM connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-132, "DTC Description".

Is DTC “B21DF-11” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B21DF-15”

1.CHECK DECOUPLING RELAY CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and fuse box connector.
3. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E16	166	E77	7	Existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harnesses.

2.CHECK DECOUPLING RELAY CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
E16	166	Ground	0 V

Is the inspection result normal?

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

3.REPLACE FUSE BOX AND ERASE DTC

1. Replace fuse box.
2. Connect BCM connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-132, "DTC Description".

Is DTC “B21DF-15” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".

NO >> INSPECTION END

DTC “B21DF-66”

1.REPLACE DECOUPLING RELAY

1. Turn ignition switch OFF.
2. Replace decoupling relay.

>> GO TO 2.

2.PERFORM BCM WORK SUPPORT

1. Turn ignition switch ON.
2. Select “Work Support” of “BCM” using CONSULT.
3. Operate “Replace decoupling relay” work support item.

>> GO TO 3.

3.PERFORM BCM SELF DIAGNOSTIC

Perform “DTC CONFIRMATION PROCEDURE”. Refer to BCS-132, "DTC Description".

Is DTC “B21DF-66” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B21DF-71”

1.CHECK DECOUPLING RELAY

1. Turn ignition switch OFF.
2. Remove decoupling relay.
3. Check decoupling relay.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace decoupling relay.

2.CHECK DECOUPLING RELAY CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and fuse box connector.
3. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E16	166	E77	7	Existed

4. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E16	166	Ground	Not existed

Is the inspection result normal?

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

3.CHECK DECOUPLING RELAY CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
E16	166	Ground	0 V

Is the inspection result normal?

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

4. CHECK DECOUPLING RELAY CIRCUIT 3

Check continuity between decoupling relay harness connector and ground.

Fuse box		—	Continuity
Connector	Terminal		
E77	6	Ground	Existed

Is the inspection result normal?

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

5. REPLACE FUSE BOX AND ERASE DTC

1. Replace fuse box.
2. Install decoupling relay.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-132, "DTC Description".

Is DTC “B21DF-71” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B21E6 INJECTION RELAY

DTC Description

INFOID:0000000013683297

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21E6	11	Circuit 15 relay 2 (Circuit 15 relay 2)	[CIRC SHORT TO GRND]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the injection relay has a short circuit to ground
				Diagnosis delay time	1.25 sec.
	15		[CIRC SHORT TO BATTERY OR OPEN]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the injection relay has a open circuit or shorted to battery
				Diagnosis delay time	3 sec.

POSSIBLE CAUSE

- Injection relay
- Fuse and fusible link block 2
- BCM
- Harness between Injection relay and BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-137, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683298

DTC “B21E6-11”

1.CHECK INJECTION RELAY

1. Turn ignition switch OFF.
2. Remove injection relay.
3. Check injection relay.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace injection relay.

2.CHECK INJECTION RELAY CIRCUIT

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	114	Ground	Not existed

Is the inspection result normal?

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

3.REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install injection relay.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-137, "DTC Description".

Is DTC “B21E6-11” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B21E6-15”

1.CHECK INJECTION RELAY

1. Turn ignition switch OFF.
2. Remove injection relay.
3. Check injection relay.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace injection relay.

2.CHECK INJECTION RELAY CIRCUIT 1

1. Disconnect BCM connector and fuse and fusible link block 2 connector.
2. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M28	114	M130	97	Existed

Is the inspection result normal?

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

3.CHECK INJECTION RELAY CIRCUIT 2

Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M28	114	Ground	0 V

Is the inspection result normal?

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

4.CHECK INJECTION RELAY CIRCUIT 3

Check continuity between fuse and fusible link block 2 harness connector and ground.

Fuse and fusible link block 2		—	Continuity
Connector	Terminal		
M128	73	Ground	Existed

Is the inspection result normal?

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

5. REPLACE FUSE AND FUSIBLE LINK BLOCK 2 AND ERASE DTC

1. Replace fuse and fusible link block 2.
2. Install injection relay.
3. Connect BCM connector.
4. Turn ignition switch ON.
5. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
6. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-137, "DTC Description".

Is DTC “B21E6-15” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B21E7 IGNITION POWER SUPPLY

DTC Description

INFOID:0000000013683299

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21E7	11	Circuit 15 output signal (Circuit 15 output signal)	[CIRC SHORT TO GRND]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Harness to the ECM has a short circuit to ground
				Diagnosis delay time	–

POSSIBLE CAUSE

- BCM
- ECM
- Harness between BCM and ECM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-140, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683300

1.CHECK BCM CIRCUIT

1. Turn ignition switch OFF
2. Disconnect BCM connector and ECM connector.
3. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E15	141	Ground	Not existed

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> Repair or replace harnesses.

B21F5 POWER SUPPLY

DTC Description

INFOID:0000000013683301

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21F5	16	Circuit 30.1 (Circuit 30.1)	[CIRC VOLT BELOW THRESHOLD]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Ignition power supply is not available
				Diagnosis delay time	–

POSSIBLE CAUSE

- Battery
- Alternator
- BCM
- Fuse
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-141, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683302

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B21F5-16”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-141, "DTC Description".

Is DTC “B21F5-16” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4. CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5. CHECK FUSE

Check that the following fuse and fusible link are not blown (open).

Signal name	Fuse No.
Ignition ON power supply	25 (30 A)
	80 (40 A)
	79 (40 A)
	236 (40 A)
	C (40 A)

Is the fuse or fusible link blown (open)?

YES >> Replace the blown (open) fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 6.

6. CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect following connectors
- BCM
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2
2. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E14	117	E73	2	Existed

3. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E14	115	E62	27	Existed

4. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M26	15	M115	42	Existed
	16	M125	52	
	17	M124	51	

5. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E14	117	Ground	Not existed
	115		
M26	15		
	16		
	17		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7. CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

B21F6 POWER SUPPLY

DTC Description

INFOID:0000000013683303

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21F6	16	Circuit 30.2 (Circuit 30.2)	[CIRC VOLT BELOW THRESHOLD]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	The limit value for electrical voltage has not been attained
				Diagnosis delay time	–

POSSIBLE CAUSE

- Battery
- Alternator
- BCM
- Fuse
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-144, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683304

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B21F6-16”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-144, "DTC Description".

Is DTC “B21F6-16” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.

2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4. CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5. CHECK FUSE

Check that the following fuse and fusible link are not blown (open).

Signal name	Fuse No.
Ignition ON power supply	25 (30 A)
	80 (40 A)
	79 (40 A)
	236 (40 A)
	C (40 A)

Is the fuse or fusible link blown (open)?

YES >> Replace the blown (open) fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 6.

6. CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect following connectors
- BCM
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

2. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E14	117	E73	2	Existed

3. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E14	115	E62	27	Existed

4. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M26	15	M115	42	Existed
	16	M125	52	
	17	M124	51	

5. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E14	117	Ground	Not existed
	115		
M26	15		
	16		
	17		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

B21F7 POWER SUPPLY

DTC Description

INFOID:0000000013683305

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21F7	16	Circuit 30.3 (Circuit 30.3)	[CIRC VOLT BELOW THRESHOLD]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	The limit value for electrical voltage has not been attained
				Diagnosis delay time	–

POSSIBLE CAUSE

- Battery
- Alternator
- BCM
- Fuse
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-147, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683306

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B21F7-16”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-147, "DTC Description".

Is DTC “B21F7-16” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.

2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4.CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5.CHECK FUSE

Check that the following fuse and fusible link are not blown (open).

Signal name	Fuse No.
Ignition ON power supply	25 (30 A)
	80 (40 A)
	79 (40 A)
	236 (40 A)
	C (40 A)

Is the fuse or fusible link blown (open)?

YES >> Replace the blown (open) fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 6.

6.CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect following connectors
- BCM
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

2. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E14	117	E73	2	Existed

3. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E14	115	E62	27	Existed

4. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M26	15	M115	42	Existed
	16	M125	52	
	17	M124	51	

5. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E14	117	Ground	Not existed
	115		
M26	15		
	16		
	17		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7. CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

B21F8 POWER SUPPLY

DTC Description

INFOID:0000000013683307

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21F8	16	Circuit 30.4 (Circuit 30.4)	[CIRC VOLT BELOW THRESHOLD]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	The limit value for electrical voltage has not been attained
				Diagnosis delay time	–

POSSIBLE CAUSE

- Battery
- Alternator
- BCM
- Fuse
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-150, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683308

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B21F8-16”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-150, "DTC Description".

Is DTC “B21F8-16” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.

2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4.CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5.CHECK FUSE

Check that the following fuse and fusible link are not blown (open).

Signal name	Fuse No.
Ignition ON power supply	25 (30 A)
	80 (40 A)
	79 (40 A)
	236 (40 A)
	C (40 A)

Is the fuse or fusible link blown (open)?

YES >> Replace the blown (open) fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 6.

6.CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect following connectors
- BCM
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

2. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E14	117	E73	2	Existed

3. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E14	115	E62	27	Existed

4. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M26	15	M115	42	Existed
	16	M125	52	
	17	M124	51	

5. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E14	117	Ground	Not existed
	115		
M26	15		
	16		
	17		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

B21F9 POWER SUPPLY

DTC Description

INFOID:0000000013683309

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21F9	16	Circuit 30.5 (Circuit 30.5)	[CIRC VOLT BELOW THRESHOLD]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	The limit value for electrical voltage has not been attained
				Diagnosis delay time	–

POSSIBLE CAUSE

- Battery
- Alternator
- BCM
- Fuse
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-153, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683310

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B21F9-16”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-153, "DTC Description".

Is DTC “B21F9-16” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.

2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4.CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5.CHECK FUSE

Check that the following fuse and fusible link are not blown (open).

Signal name	Fuse No.
Ignition ON power supply	25 (30 A)
	80 (40 A)
	79 (40 A)
	236 (40 A)
	C (40 A)

Is the fuse or fusible link blown (open)?

YES >> Replace the blown (open) fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 6.

6.CHECK BCM POWER SUPPLY CIRCUIT

1. Disconnect following connectors
- BCM
- Fuse box
- Fuse and fusible link block 1
- Fuse and fusible link block 2

2. Check continuity between BCM harness connector and fuse box harness connector.

BCM		Fuse box		Continuity
Connector	Terminal	Connector	Terminal	
E14	117	E73	2	Existed

3. Check continuity between BCM harness connector and fuse and fusible link block 1 harness connector.

BCM		Fuse and fusible link block 1		Continuity
Connector	Terminal	Connector	Terminal	
E14	115	E62	27	Existed

4. Check continuity between BCM harness connector and fuse and fusible link block 2 harness connector.

BCM		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M26	15	M115	42	Existed
	16	M125	52	
	17	M124	51	

5. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E14	117	Ground	Not existed
	115		
M26	15		
	16		
	17		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7. CHECK BCM GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M26	18	Ground	Existed
E14	118		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

B2206 VEHICLE IDENTIFICATION NUMBER

DTC Description

INFOID:0000000013683311

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2206	00	Vehicle identification number (Vehicle identification number)	—	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Current vehicle identification number is incorrect or not present
				Diagnosis delay time	–

POSSIBLE CAUSE

- Electronic ignition switch control unit
- BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-156, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683312

1.CHECK DTC WITH ELECTRONIC IGNITION SWITCH CONTROL UNIT

Check that DTC is not detected with electronic ignition switch control unit.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to PCS-12, "DTC Index".

2.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

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

3.INPUT THE VIN OF THE VEHICLE

1. Turn ignition switch ON.
2. Select “Work Support” mode of “Electronic ign switch cont unit” using CONSULT.
3. Select and start the “VIN REGISTRATION”.

Is input the VIN completed?

YES >> GO TO 4.
NO >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".

4.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”.

Is DTC detected?

YES >> GO TO 5.
NO >> INSPECTION END

5.REPLACE ELECTRONIC IGNITION SWITCH CONTROL UNIT AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”.

Is DTC detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B2215 BCM

DTC Description

INFOID:0000000013683313

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2215	41	Calibration (Calibration)	[GENERAL CHECKSUM FAILURE]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Checksum failure
				Diagnosis delay time	–
	46		[CALIBRATION/ PARAMETER MEMORY FAILURE]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Calibration or parameterization memory failure
				Diagnosis delay time	–
	49		[INTERNAL ELECTRONIC FAILURE]	Diagnosis condition	Ignition switch ON and power window is activated
				Signal (terminal)	–
				Threshold	Internal electrical failure
				Diagnosis delay time	–

POSSIBLE CAUSE

BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Active power window.
3. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-158, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683314

DTC “B2215-41”

1.REPLACE BCM

When DTC “B2215-41” is detected, replace BCM.

>> Replace BCM. Refer to BCS-248, "Removal and Installation".

DTC “B2215-46”

1.CONFIGURATION WORK OF BCM

1. Perform configuration work of BCM. Refer to BCS-89, "Description".
2. Turn ignition switch ON.
3. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
4. Erase DTC, and then repeat “PERFORM DTC CONFIRMATION PROCEDURE”. Refer to BCS-158, "DTC Description".

Is DTC “B2215-46” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

DTC “B2215-49”

1.REPLACE BCM

When DTC “B2215-49” is detected, replace BCM.

>> Replace BCM. Refer to BCS-248, "Removal and Installation".

B223B BCM

DTC Description

INFOID:0000000013683315

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B223B	00	Configuration (Configuration)	[NO SUBTYPE INFO]	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	There is a error in the vehicle configuration work
				Diagnosis delay time	5 sec.

POSSIBLE CAUSE

BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-160, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683316

1.CONFIGURATION WORK OF BCM

1. Perform configuration work of BCM. Refer to BCS-89, "Description".
2. Turn ignition switch ON.
3. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
4. Erase DTC, and then repeat “PERFORM DTC CONFIRMATION PROCEDURE”. Refer to BCS-160, "DTC Description".

Is DTC “B223B-00” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B226C UPPER CONTROL PANEL CONTROL UNIT

DTC Description

INFOID:0000000013683317

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B226C	2A	Upper cont panel control unit (Upper cont panel control unit)	[SIGNAL STUCK IN RANGE]	Diagnosis condition	Ignition switch ON
				Signal (terminal)	—
				Threshold	Upper control panel control unit malfunction. There is no signal change (switch stuck)
				Diagnosis delay time	30 sec.

POSSIBLE CAUSE

- Upper control panel control unit
- BCM

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-161, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683318

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B226C-2A”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-161, "DTC Description".

Is DTC “B226C-2A” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SWITCH OPERATION

Check the operation of each switch on upper control panel control unit is normal.

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Replace upper control panel control unit. Refer to BCS-252, "Removal and Installation".

B235A BCM

DTC Description

INFOID:0000000013683319

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
B235A	00	The production run is active (The production run is active)	[NO SUBTYPE INFO]	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	The production cycle is active
				Diagnosis delay time	–

POSSIBLE CAUSE

BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-162, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683320

1.CONFIGURATION WORK OF BCM

1. Perform configuration work of BCM. Refer to BCS-89, "Description".
2. Turn ignition switch ON.
3. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
4. Erase DTC, and then repeat “PERFORM DTC CONFIRMATION PROCEDURE”. Refer to BCS-162, "DTC Description".

Is DTC “B235A-00” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

B25A6 SIGNAL ERROR

DTC Description

INFOID:0000000013683321

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B25A6	64	Driver door contact (Driver door contact)	[SIGNAL PLAUSIBILITY FAILURE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	Signal from driver side front door control unit is failure
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- BCM
- Left front door control unit

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-163, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683322

1.CHECK DTC WITH FRONT DOOR CONTROL UNIT

Check that DTC is not detected with left front door control unit.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to DLK-60, "DTC Index".

2.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

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

3.REPLACE FRONT DOOR CONTROL UNIT AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace left front door control unit. Refer to DLK-286, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-163, "DTC Description".

Is DTC “B25A6-64” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

C107D ELECTRONIC STABILITY PROGRAM CONTROL UNIT

DTC Description

INFOID:0000000013683323

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
C107D	86	Circuit 54 (Circuit 54)	[SIGNAL INVALID]	Diagnosis condition	Ignition switch ON and brake pedal is pressed
				Signal (terminal)	–
				Threshold	Signals from electronic stability program control unit are not match
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Harness between BCM and electronic stability program control unit
- BCM
- Electronic stability program control unit

FAIL-SAFE

Brake lamps turn ON

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Press brake pedal.
3. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-165, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683324

1.CHECK DTC WITH ELECTRONIC STABILITY PROGRAM CONTROL UNIT

Check that DTC is not detected with electronic stability program control unit.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to BRC-59, "DTC Index".

2.CHECK ELECTRONIC STABILITY PROGRAM CONTROL UNIT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and electronic stability program control unit connector.
3. Check continuity between BCM harness connector and electronic stability program control unit harness connector.

BCM		Electronic stability program control unit		Continuity
Connector	Terminal	Connector	Terminal	
E15	121	E46	2	Existed

4. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E15	121	Ground	Not existed

Is the inspection result normal?

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

3.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

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

4.REPLACE ELECTRONIC STABILITY PROGRAM CONTROL UNIT AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace electronic stability program control unit. Refer to BRC-975, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-165, "DTC Description".

Is DTC “C107D-86” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

P126F STOP/START SYSTEM

DTC Description

INFOID:0000000013841210

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
P126F	11	STOP/START: HOT START SIGNAL (Stop/start hot start signal)	[CIRC SHORT TO GRND]	Diagnosis condition	Ignition ON
				Signal (terminal)	–
				Threshold	No signal from ECM but the circuit is connect to ground.
				Diagnosis delay time	1 sec.
	62		[SIGNAL COMPARE FAILURE]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	Signal comparison is failure
				Diagnosis delay time	1 sec.
	64		[SIGNAL PLAUSIBILITY FAILURE]	Diagnosis condition	Engine is started
				Signal (terminal)	–
				Threshold	The circuit still connect to ground after the signal is end.
				Diagnosis delay time	5 sec.

POSSIBLE CAUSE

- BCM
- ECM
- Harness between BCM and ECM

FAIL-SAFE

Inhibit stop/start function

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn engine ON and wait for 5 second or more.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-167, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013841211

DTC “P126F-11”

1.CHECK DTC WITH ECM

Check that DTC is not detected with ECM.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to EC-142, "DTC Index".

2.CHECK ECM SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and ECM connector.
3. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E15	141	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

DTC “P126F-62”

1.CHECK DTC WITH ECM

Check that DTC is not detected with ECM.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to EC-142, "DTC Index".

2.CHECK ECM SIGNAL CIRCUIT

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

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
E15	141	Ground	0 V

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

DTC “P126F-64”

1.CHECK DTC WITH ECM

Check that DTC is not detected with ECM.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to EC-142, "DTC Index".

2.CHECK ECM SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and ECM connector.
3. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
E15	141	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace harness.

U0019 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683327

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0019	88	Interior CAN communication (Interior CAN communication)	[BUS OFF]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication signal
				Threshold	At least one of messages is missing in the bus
				Diagnosis delay time	—

POSSIBLE CAUSE

- CAN communication
- BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-169, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683328

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0019-88” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

U0100 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683329

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0100	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication signal
				Threshold	ECM does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- ECM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-170, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683330

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0100-87” detected?

YES >> Replace ECM. Refer to EC-963, "Removal and Installation".
NO >> INSPECTION END

U0121 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683331

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0121	87	COMMUNICATION ERROR (LOST) [Communication error (lost)]	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication signal
				Threshold	Electronic stability program control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Electronic stability program control unit

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-171, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683332

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0121-87” detected?

YES >> Replace electronic stability program control unit. Refer to BRC-975, "Removal and Installation".
NO >> INSPECTION END

U0126 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683333

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0126	87	COMMUNICATION ERROR (LOST) [Communication error (lost)]	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication signal
				Threshold	Steering column control module does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Steering column control module
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-172, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683334

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0126-87” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> INSPECTION END

U0143 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683335

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0143	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication signal
				Threshold	Electronic ignition switch control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Electronic ignition switch control unit

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-173, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683336

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0143-87” detected?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> INSPECTION END

U0151 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683337

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
U0151	87	COMMUNICATION ERROR (LOST) [Communication error (lost)]	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Air bag diagnosis sensor unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Air bag diagnosis sensor unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-174, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683338

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0151-87” detected?

YES >> Replace air bag diagnosis sensor unit. Refer to SR-41, "Removal and Installation".
NO >> INSPECTION END

U0155 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683339

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
U0155	87	COMMUNICATION ERROR (LOST) [Communication error (lost)]	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Combination meter does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Combination meter

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-175, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683340

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0155-87” detected?

YES >> Replace combination meter. Refer to MWI-155, "Removal and Installation".
NO >> INSPECTION END

U0159 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683341

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0159	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Sonar control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Sonar control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-176, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683342

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0159-87” detected?

YES >> Replace sonar control unit. Refer to SN-200, "Removal and Installation".
NO >> INSPECTION END

U0164 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683343

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0164	87	COMMUNICATION ERROR (LOST) [Communication error (lost)]	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication signal
				Threshold	A/C auto amp. or A/C amp does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- A/C auto amp. (automatic air conditioning models) or A/C amp. (manual air conditioning models)

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-177, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683344

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0164-87” detected?

YES >> Replace A/C auto amp. Refer to HAC-121, "Removal and Installation".
NO >> INSPECTION END

U0167 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683345

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0167	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Siren control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Siren control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-178, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683346

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0167-87” detected?

YES >> Replace siren control unit. Refer to INL-114, "Removal and Installation".
NO >> INSPECTION END

U0168 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683347

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0168	87	COMMUNICATION ERROR (LOST) [Communication error (lost)]	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Electronic ignition switch control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Electronic ignition switch control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-179, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683348

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0168-87” detected?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> INSPECTION END

U0169 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683349

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
U0169	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Overhead control panel control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Overhead control panel control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-180, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683350

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0169-87” detected?

YES >> Replace overhead control panel control unit. Refer to INL-114, "Removal and Installation".
NO >> INSPECTION END

U0203 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683351

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0203	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Left front door control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Left front door control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-181, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683352

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0203-87” detected?

YES >> Replace left front door control unit. Refer to DLK-286, "Removal and Installation".
NO >> INSPECTION END

U0204 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683353

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0204	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Right front door control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Right front door control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-182, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683354

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0204-87” detected?

YES >> Replace right front door control unit. Refer to DLK-286, "Removal and Installation".
NO >> INSPECTION END

U0213 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683355

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0213	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	Turn ignition switch ON
				Signal (terminal)	LIN communication
				Threshold	Inside rear view mirror has a malfunction. BCM cannot detect Inside rear view mirror signal via LIN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Inside rear view mirror
- LIN communication
- Overhead control panel control unit

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-183, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683356

1.CHECK LIN COMMUNICATION CIRCUIT-1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and overhead control panel control unit connector.
3. Check continuity between BCM harness connector and overhead control panel control unit harness connector.

BCM		Overhead control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
M28	109	M172	11	Existed

4. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	109	Ground	Not existed

Is the inspection result normal?

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

2.CHECK LIN COMMUNICATION CIRCUIT-2

1. Disconnect inside rear view mirror connector.
2. Check continuity between inside rear view mirror harness connector and overhead control panel control unit harness connector.

Inside rear view mirror		Overhead control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
M146	7	M171	1	Existed

3. Check continuity between inside rear view mirror harness connector and ground.

Inside rear view mirror		—	Continuity
Connector	Terminal		
M146	7	Ground	Not existed

Is the inspection result normal?

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

3.REPLACE INSIDE REAR VIEW MIRROR

Replace inside rear view mirror. Refer to MIR-66, "Removal and Installation".

Is the DTC detected?

YES >> GO TO 4.
NO >> INSPECTION END

4.REPLACE OVERHEAD CONTROL PANEL CONTROL UNIT

Replace overhead control panel control unit. Refer to INL-114, "Removal and Installation".

Is the DTC detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation"
NO >> INSPECTION END

U0231 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683357

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0231	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	Turn ignition switch ON
				Signal (terminal)	LIN communication
				Threshold	Light & rain sensor has a malfunction. BCM cannot detect light & rain sensor signal via LIN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Light & rain sensor
- LIN communication
- Overhead control panel control unit

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-185, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683358

1.CHECK LIN COMMUNICATION CIRCUIT-1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and overhead control panel control unit connector.
3. Check continuity between BCM harness connector and overhead control panel control unit harness connector.

BCM		Overhead control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
M28	109	M172	11	Existed

4. Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M28	109	Ground	Not existed

Is the inspection result normal?

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

2.CHECK LIN COMMUNICATION CIRCUIT-2

1. Disconnect light & rain sensor connector.
2. Check continuity between light & rain sensor harness connector and overhead control panel control unit harness connector.

Light & rain sensor		Overhead control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
R17	3	M596	21	Existed

3. Check continuity between light & rain sensor harness connector and ground.

Light & rain sensor		—	Continuity
Connector	Terminal		
R17	3	Ground	Not existed

Is the inspection result normal?

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

3.REPLACE LIGHT & RAIN SENSOR

Replace light & rain sensor. Refer to WW-81, "Removal and Installation".

Is the DTC detected?

YES >> GO TO 4.
NO >> INSPECTION END

4.REPLACE OVERHEAD CONTROL PANEL CONTROL UNIT

Replace overhead control panel control unit. Refer to INL-114, "Removal and Installation".

Is the DTC detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation"
NO >> INSPECTION END

U0401 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683361

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0401	00	Communication error (Communication error)	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	ECM does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- ECM
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-187, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683362

1.CHECK DTC OF ECM

Check “Self Diagnostic Result” mode of “ECM” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to EC-142, "DTC Index".
NO >> GO TO 2.

2.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0401-00” detected?

YES >> Replace ECM. Refer to EC-963, "Removal and Installation".
NO >> INSPECTION END

U0416 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683363

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
U0416	00	COMMUNICATION ERROR (INVALID) [Communication error (Invalid)]	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Electronic stability program control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Electronic stability program control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-188, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683364

1.CHECK DTC OF ELECTRONIC STABILITY PROGRAM CONTROL UNIT

Check “Self Diagnostic Result” mode of “ESP/DAST3” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BRC-59, "DTC Index"
NO >> GO TO 2.

2.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0416-00” detected?

YES >> Replace electronic stability program control unit. Refer to BRC-975, "Removal and Installation".
NO >> INSPECTION END

U0427 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683365

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0427	00	COMMUNICATION ERROR (INVALID) [Communication error (Invalid)]	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Electronic ignition switch control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Electronic ignition switch control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-189, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683366

1.CHECK DTC OF ELECTRONIC IGNITION SWITCH CONTROL UNIT

Check “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to PCS-12, "DTC Index".
NO >> GO TO 2.

2.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0427-00” detected?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> INSPECTION END

U0452 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683367

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0452	00	Communication error (Communication error)	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Air bag diagnosis sensor unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Air bag diagnosis sensor unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-190, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683368

1.CHECK DTC OF AIR BAG DIAGNOSIS SENSOR UNIT

Check “Self Diagnostic Result” mode of “AIR BAG” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to SRC-20, "DTC Index".
NO >> GO TO 2.

2.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0452-00” detected?

YES >> Replace airbag diagnosis sensor unit.
NO >> INSPECTION END

U0504 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683369

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0504	00	Communication error (Communication error)	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Left front door control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Left front door control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-191, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683370

1.CHECK DTC OF LEFT FRONT DOOR CONTROL UNIT

Check “Self Diagnostic Result” mode of “DOOR MODULE FRONT LEFT” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to DLK-60, "DTC Index".
NO >> GO TO 2.

2.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0504-00” detected?

YES >> Replace left front door control unit. Refer to DLK-286, "Removal and Installation".
NO >> INSPECTION END

U0505 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683371

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0505	00	Communication error (Communication error)	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Right front door control unit does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Right front door control unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-192, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683372

1.CHECK DTC OF RIGHT FRONT DOOR CONTROL UNIT

Check “Self Diagnostic Result” mode of “DOOR MODULE FRONT RIGHT” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to DLK-70, "DTC Index".
NO >> GO TO 2.

2.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U0505-00” detected?

YES >> Replace right front door control unit. Refer to DLK-286, "Removal and Installation".
NO >> INSPECTION END

U1008 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683373

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U1008	00	Communication error (LIN bus 1) [Communication error (LIN bus 1)]	—	Diagnosis condition	Turn ignition switch ON
				Signal (terminal)	LIN communication
				Threshold	• Light & rain sensor has a malfunction. • Inside rear view mirror has a malfunction. • BCM cannot received LIN communication signal from light & rain sensor. • BCM cannot received LIN communication signal from Inside rear view mirror.
				Diagnosis delay time	5 seconds

POSSIBLE CAUSE

- Light & rain sensor
- Inside rear view mirror
- LIN communication
- Overhead control panel control unit

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait for 5 seconds or more.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-193, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683374

1.CHECK LIN COMMUNICATION CIRCUIT-1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and overhead control panel control unit connector.
3. Check continuity between BCM harness connector and overhead control panel control unit harness connector.

BCM		Overhead control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
M28	109	M172	11	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M28	109		Not existed

Is the inspection result normal?

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

2.CHECK LIN COMMUNICATION CIRCUIT-2

1. Disconnect inside rear view mirror connector.
2. Check continuity between inside rear view mirror harness connector and overhead control panel control unit harness connector.

Inside rear view mirror		Overhead control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
M146	7	M171	1	Existed

3. Check continuity between inside rear view mirror harness connector and ground.

Inside rear view mirror		Ground	Continuity
Connector	Terminal		
M146	7		Not existed

4. Check voltage between inside rear view mirror harness connector and ground.

Inside rear view mirror		Ground	Voltage
Connector	Terminal		
M146	7		0 V

Is the inspection result normal?

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

3.CHECK LIN COMMUNICATION CIRCUIT-3

1. Disconnect light & rain sensor connector.
2. Check continuity between light & rain sensor harness connector and overhead control panel control unit harness connector.

Light & rain sensor		Overhead control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
R17	3	M596	21	Existed

3. Check continuity between light & rain sensor harness connector and ground.

Light & rain sensor		Ground	Continuity
Connector	Terminal		
R17	3		Not existed

4. Check voltage between light & rain sensor harness connector and ground.

Light & rain sensor		Ground	Voltage
Connector	Terminal		
R17	3		0 V

Is the inspection result normal?

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

4.REPLACE INSIDE REAR VIEW MIRROR

Replace inside rear view mirror. Refer to MIR-66, "Removal and Installation".

Is the DTC detected?

YES >> GO TO 5.
NO >> INSPECTION END

5.REPLACE LIGHT & RAIN SENSOR

Replace light & rain sensor. Refer to WW-81, "Removal and Installation".

Is the DTC detected?

YES >> GO TO 6.
NO >> INSPECTION END

6.REPLACE OVERHEAD CONTROL PANEL CONTROL UNIT

Replace overhead control panel control unit. Refer to INL-114, "Removal and Installation".

Is the DTC detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation"
NO >> INSPECTION END

U1009 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683375

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
U1009	00	Communication error (LIN bus 2) [Communication error (LIN bus 2)]	—	Diagnosis condition	Turn ignition switch ON
				Signal (terminal)	LIN communication
				Threshold	• Battery sensor has a malfunction. • Upper control panel control unit has a malfunction. • BCM cannot received LIN communication signal from battery sensor. • BCM cannot received LIN communication signal from upper control panel control unit.
				Diagnosis delay time	5 seconds

POSSIBLE CAUSE

- Battery sensor
- Upper control panel control unit
- LIN communication
- Overhead control panel control unit

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait for 5 seconds or more.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-196, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683376

1.CHECK LIN COMMUNICATION CIRCUIT-1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and battery sensor connector.
3. Check continuity between BCM harness connector and battery sensor harness connector.

BCM		Battery sensor		Continuity
Connector	Terminal	Connector	Terminal	
E16	152	E8	1	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
E16	152		Not existed

5. Check voltage between BCM harness connector and ground.

BCM		Ground	Voltage
Connector	Terminal		
E16	152		0 V

Is the inspection result normal?

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

2.CHECK LIN COMMUNICATION CIRCUIT-2

1. Disconnect upper control panel control unit connector.
2. Check continuity between upper control panel control unit harness connector and BCM harness connector.

BCM		Upper control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
M25	12	M173	3	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M25	12		Not existed

4. Check voltage between BCM harness connector and ground.

BCM		Ground	Voltage
Connector	Terminal		
M25	12		0 V

Is the inspection result normal?

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

3.REPLACE BATTERY SENSOR AND ERASE DTC

1. Replace battery sensor. Refer to PG-125, "Removal and Installation".
2. Connect upper control panel control unit connector and BCM connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-196, "DTC Description".

Is DTC “U1009-00” detected?

YES >> GO TO 4.
NO >> INSPECTION END

4.REPLACE UPPER CONTROL PANEL CONTROL UNIT AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace upper control panel control unit. Refer to BCS-252, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-196, "DTC Description".

Is DTC “U1009-00” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

U1093 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683379

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
U1093	00	Communication error (LIN bus 4) [Communication error (LIN bus 4)]	—	Diagnosis condition	Turn ignition switch ON
				Signal (terminal)	LIN communication
				Threshold	• Battery sensor has a malfunction. • BCM cannot received LIN communication signal from battery sensor.
				Diagnosis delay time	5 seconds

POSSIBLE CAUSE

- Battery sensor
- LIN communication
- BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait for 5 seconds or more.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-198, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683380

1.CHECK LIN COMMUNICATION CIRCUIT-1

1. Turn ignition switch OFF.
2. Disconnect BCM connector and battery sensor connector.
3. Check continuity between BCM harness connector and battery sensor harness connector.

BCM		Battery sensor		Continuity
Connector	Terminal	Connector	Terminal	
E16	152	E8	1	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
E16	152		Not existed

5. Check voltage between BCM harness connector and ground.

BCM		Ground	Voltage
Connector	Terminal		
E16	152		0 V

Is the inspection result normal?

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

2.REPLACE BATTERY SENSOR

Replace battery sensor. Refer to PG-125, "Removal and Installation".

Is the DTC detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation"
NO >> INSPECTION END

U113E COMMUNICATION ERROR

DTC Description

INFOID:0000000013683381

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U113E	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	Turn ignition switch ON
				Signal (terminal)	LIN communication
				Threshold	Battery sensor has a malfunction. BCM cannot detect battery sensor signal via LIN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Battery sensor
- LIN communication
- BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U113E-87” is displayed with DTC “U1009-00”, first perform the trouble diagnosis for DTC “U1009-00”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1009-00: Refer to BCS-196, "DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-200, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683382

1.CHECK DTC PRIORITY

If DTC “U113E-87” is displayed with DTC “U1009-00”, first perform the trouble diagnosis for DTC “U1009-00”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1009-00: Refer to BCS-196, "DTC Description".
NO >> GO TO 2.

2.CHECK BATTERY POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect battery sensor connector.
3. Check voltage between battery sensor harness connector and ground.

Battery sensor		Ground	Voltage
Connector	Terminal		
E8	2		Battery voltage

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 3.

3. CHECK BATTERY POWER SUPPLY CIRCUIT

1. Disconnect battery connector.
2. Check continuity between battery sensor harness connector and battery harness connector.

Battery sensor		Battery		Continuity
Connector	Terminal	Connector	Terminal	
E8	2	E5	3	Existed

3. Check continuity between battery sensor harness connector and ground.

Battery sensor		Ground	Continuity
Connector	Terminal		
E8	2		Not existed

Is the inspection result normal?

YES >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : How to Handle Battery".
NO >> Repair or replace harness or connector.

4. REPLACE BATTERY SENSOR AND ERASE DTC

1. Replace battery sensor. Refer to PG-125, "Removal and Installation".
2. Turn ignition switch ON.
3. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
4. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-200, "DTC Description".

Is DTC “U113E-87” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

U1154 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683383

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
U1154	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	Turn ignition switch ON
				Signal (terminal)	LIN communication
				Threshold	• Upper control panel control unit has a malfunction. • BCM cannot received LIN communication signal from upper control panel control unit.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Upper control panel control unit
- LIN communication
- BCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-202, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683384

1.CHECK LIN COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and upper control panel control unit connector.
3. Check continuity between BCM harness connector and upper control panel control unit harness connector.

BCM		Upper control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
M25	12	M173	3	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M25	12		Not existed

Is the inspection result normal?

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

2.REPLACE UPPER CONTROL PANEL CONTROL UNIT

Replace upper control panel control unit. Refer to BCS-252, "Removal and Installation".

Is the DTC detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation"
NO >> INSPECTION END

U118A COMMUNICATION ERROR

DTC Description

INFOID:0000000013683385

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U118A	02	Communication error (Communication error)	[GENERAL SIGNAL FAILURE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Headlamp control unit LH does not transmit signal on the CAN communication.
				Diagnosis delay time	1 second
	87		[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Headlamp control unit LH does not transmit signal on the CAN communication.
				Diagnosis delay time	—

POSSIBLE CAUSE

- CAN communication
- Headlamp control unit LH

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait for 1 second or more.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-204, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683386

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U118A-02” or “U118A-87”detected?

YES >> Replace headlamp control unit LH. Refer to EXL-290, "Removal and Installation" (LED headlamp models) or EXL-514, "Removal and Installation" (halogen headlamp models).
NO >> INSPECTION END

U118B COMMUNICATION ERROR

DTC Description

INFOID:0000000013683387

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U118B	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Headlamp control unit RH does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- Headlamp control unit RH
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-205, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683388

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U118B-87” detected?

YES >> Replace headlamp control unit RH. Refer to EXL-290, "Removal and Installation" (LED headlamp models) or EXL-514, "Removal and Installation" (halogen headlamp models).
NO >> INSPECTION END

U11A3 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683389

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U11A3	02	Communication error (Communication error)	[GENERAL SIGNAL FAILURE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Front camera unit does not transmit signal on the CAN communication.
				Diagnosis delay time	1 second
	87		[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Front camera unit does not transmit signal on the CAN communication.
				Diagnosis delay time	—

POSSIBLE CAUSE

- Front camera unit
- CAN communication

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait for 1 second or more.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-206, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683390

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U11A3-02” or “U11A3-87” detected?

YES >> Replace front camera unit. Refer to DAS-176, "Removal and Installation".
NO >> INSPECTION END

U11BF COMMUNICATION ERROR

DTC Description

INFOID:0000000013683395

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U11BF	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	Turn ignition switch ON
				Signal (terminal)	LIN communication
				Threshold	BCM cannot detect LIN communication signal from overhead control unit.
				Diagnosis delay time	–

POSSIBLE CAUSE

- BCM
- LIN communication
- Overhead control panel control unit

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-207, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683396

1.CHECK LIN COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and overhead control panel control unit connector.
3. Check continuity between BCM harness connector and overhead control panel control unit harness connector.

BCM		Overhead control panel control unit		Continuity
Connector	Terminal	Connector	Terminal	
M28	109	M172	11	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M28	109		Not existed

Is the inspection result normal?

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

2.REPLACE OVERHEAD CONTROL PANEL CONTROL UNIT AND ERASE DTC

1. Replace overhead control panel control unit. Refer to INL-114, "Removal and Installation".
2. Connect BCM connector.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-207, "DTC Description".

Is DTC “U11BF-87” detected?

YES >> Replace BCM. Refer to BCS-248, "Removal and Installation".
NO >> INSPECTION END

U120B COMMUNICATION ERROR

DTC Description

INFOID:0000000013683397

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U120B	87	Communication error (Communication error)	[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	CAN communication
				Threshold	Headlamp control unit LH does not transmit signal on the CAN communication.
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Headlamp control unit LH

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-209, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683398

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is DTC “U120B-87” detected?

YES >> Replace headlamp control unit LH. Refer to EXL-290, "Removal and Installation" (LED headlamp models) or EXL-514, "Removal and Installation" (halogen headlamp models).
NO >> INSPECTION END

P0579 CRUISE CONTROL LEVER

DTC Description

INFOID:0000000013683399

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
P0579	00	Cruise control switch (Cruise control switch)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Cruise control lever malfunction
				Diagnosis delay time	45 sec.

POSSIBLE CAUSE

- Cruise control lever
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 45 seconds or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-210, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683400

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “P0579-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-210, "DTC Description".

Is DTC “P0579-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SWITCH OPERATION

Check the operation of cruise control lever is normal.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

4.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-210, "DTC Description".

Is DTC “P0579-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

C1241 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000013683401

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
C1241	00	Steering angle sensor (Steering angle sensor)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Steering angle sensor malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- Steering angle sensor
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-212, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683402

1.REPLACE STEERING COLUMN CONTROL MODULE

When DTC “C1241-00” is detected, replace steering column control module.

>> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

C1245 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000013683403

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
C1245	00	Steering wheel turn counter (Steering wheel turn counter)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Steering angle sensor malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- Steering angle sensor
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-213, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683404

1.REPLACE STEERING COLUMN CONTROL MODULE

When DTC “C1245-00” is detected, replace steering column control module.

>> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

C2205 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000013683405

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
C2205	00	Steering angle sensor (Steering angle sensor)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Steering angle sensor malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- Steering angle sensor
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-214, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683406

1.REPLACE STEERING COLUMN CONTROL MODULE

When DTC “C2205-00” is detected, replace steering column control module.

>> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

B178F COMBINATION SWITCH

DTC Description

INFOID:0000000013683407

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B178F	00	Turn signal switch (Turn signal switch)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Combination switch malfunction
				Diagnosis delay time	1 sec.

POSSIBLE CAUSE

- Combination switch
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 1 second or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-215, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683408

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B178F-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-215, "DTC Description".

Is DTC “B178F-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SWITCH OPERATION

Check the operation of combination switch is normal.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

4.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-215, "DTC Description".

Is DTC “B178F-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

B210A STEERING COLUMN CONTROL MODULE

DTC Description

INFOID:0000000013683409

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210A	00	Power Supply circuit (Power Supply circuit)	—	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Voltage is less than 10 V
				Diagnosis delay time	5 sec.

POSSIBLE CAUSE

- Fuse
- Fuse and fusible link block 2
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 5 seconds or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-217, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683410

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B210A-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-217, "DTC Description".

Is DTC “B210A-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4.CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5.CHECK FUSE

Check that the following fuse is not blown (open).

Signal name	Fuse No.
Battery power supply	32 (5 A)
	56 (10 A)

Is the fuse (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown.
NO >> GO TO 6.

6.CHECK STEERING COLUMN CONTROL MODULE POWER SUPPLY CIRCUIT

1. Disconnect steering column control module connector and fuse and fusible link block 2 connector.
2. Check continuity between steering column control module harness connector and fuse and fusible link block 2 harness connector.

Steering column control module		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M3	4	M107	8	Existed
	6	M119	46	

3. Check continuity between steering column control module harness connector and ground.

Steering column control module		—	Continuity
Connector	Terminal		
M3	4	Ground	Not existed
	6		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK STEERING COLUMN CONTROL MODULE GROUND CIRCUIT

Check continuity between steering column control module harness connector and ground.

Steering column control module		—	Continuity
Connector	Terminal		
M3	3	Ground	Existed
	7		

Is the inspection result normal?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Repair or replace harness.

B210B STEERING COLUMN CONTROL MODULE

DTC Description

INFOID:0000000013683411

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210B	00	Power Supply circuit (Power Supply circuit)	—	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Voltage is more than 16 V
				Diagnosis delay time	15 sec.

POSSIBLE CAUSE

- Fuse
- Fuse and fusible link block 2
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 15 seconds or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-219, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683412

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B210B-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-219, "DTC Description".

Is DTC “B210B-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4.CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Repair as needed.

B210D STEERING COLUMN CONTROL MODULE

DTC Description

INFOID:0000000013683413

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210D	00	Power supply (Power supply)	—	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Voltage is less than 7 V
				Diagnosis delay time	5 sec.

POSSIBLE CAUSE

- Fuse
- Fuse and fusible link block 2
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 5 seconds or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-221, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683414

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B210D-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-221, "DTC Description".

Is DTC “B210D-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4.CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair as needed.

5.CHECK FUSE

Check that the following fuse is not blown (open).

Signal name	Fuse No.
Battery power supply	32 (5 A)
	56 (10 A)

Is the fuse (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown.
NO >> GO TO 6.

6.CHECK STEERING COLUMN CONTROL MODULE POWER SUPPLY CIRCUIT

1. Disconnect steering column control module connector and fuse and fusible link block 2 connector.
2. Check continuity between steering column control module harness connector and fuse and fusible link block 2 harness connector.

Steering column control module		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M3	4	M107	8	Existed
	6	M119	46	

3. Check continuity between steering column control module harness connector and ground.

Steering column control module		—	Continuity
Connector	Terminal		
M3	4	Ground	Not existed
	6		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK STEERING COLUMN CONTROL MODULE GROUND CIRCUIT

Check continuity between steering column control module harness connector and ground.

Steering column control module		—	Continuity
Connector	Terminal		
M3	3	Ground	Existed
	7		

Is the inspection result normal?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Repair or replace harness.

B210E STEERING COLUMN CONTROL MODULE

DTC Description

INFOID:0000000013683415

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210E	00	Power supply (Power supply)	—	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Voltage is more than 17 V
				Diagnosis delay time	5 sec.

POSSIBLE CAUSE

- Fuse
- Fuse and fusible link block 2
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 5 seconds or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-223, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683416

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Check DTC using CONSULT.

What is the display history of DTC “B210E-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-223, "DTC Description".

Is DTC “B210E-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK BATTERY VOLTAGE

1. Turn ignition switch OFF.
2. Check battery voltage is more than 9 V and less than 16 V.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Perform battery inspection. Refer to PG-102, "MAIN BATTERY : Work Procedure".

4. CHECK ALTERNATOR

Perform alternator diagnosis and repair work flow. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Repair as needed.

B2225 STEERING COLUMN CONTROL MODULE

DTC Description

INFOID:0000000013683417

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2225	00	Steering column module (Steering column module)	—	Diagnosis condition	Ignition switch ON
				Signal (terminal)	–
				Threshold	Steering column control module malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- Steering angle sensor
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-225, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683418

1.REPLACE STEERING COLUMN CONTROL MODULE

When DTC “B2225-00” is detected, replace steering column control module.

>> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

B2300 COMBINATION SWITCH

DTC Description

INFOID:0000000013683419

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2300	00	Wiper and washer switch (Wiper and washer switch)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Combination switch malfunction
				Diagnosis delay time	1 sec.

POSSIBLE CAUSE

- Combination switch
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 1 second or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-226, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683420

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B2300-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-226, "DTC Description".

Is DTC “B2300-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SWITCH OPERATION

Check the operation of combination switch is normal.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

4.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-226, "DTC Description".

Is DTC “B2300-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

B2306 COMBINATION SWITCH

DTC Description

INFOID:0000000013683421

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2306	00	Wiper and washer switch (Wiper and washer switch)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Combination switch malfunction
				Diagnosis delay time	50 sec.

POSSIBLE CAUSE

- Combination switch
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 50 seconds or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-228, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683422

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B2306-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-228, "DTC Description".

Is DTC “B2306-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SWITCH OPERATION

Check the operation of combination switch is normal.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

4.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-228, "DTC Description".

Is DTC “B2306-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

B2309 COMBINATION SWITCH

DTC Description

INFOID:0000000013683423

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2309	00	Rear wiper switch (Rear wiper switch)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Combination switch malfunction
				Diagnosis delay time	15 sec.

POSSIBLE CAUSE

- Combination switch
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 15 seconds or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-230, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683424

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B2309-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-230, "DTC Description".

Is DTC “B2309-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SWITCH OPERATION

Check the operation of combination switch is normal.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

4.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-230, "DTC Description".

Is DTC “B2309-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

B2330 COMBINATION SWITCH

DTC Description

INFOID:0000000013683425

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2330	00	High beam switch (High beam switch)	—	Diagnosis condition	All times
				Signal (terminal)	–
				Threshold	Combination switch malfunction
				Diagnosis delay time	50 sec.

POSSIBLE CAUSE

- Combination switch
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 50 seconds or more.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-232, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683426

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B2330-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-232, "DTC Description".

Is DTC “B2330-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK SWITCH OPERATION

Check the operation of combination switch is normal.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".

4.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-232, "DTC Description".

Is DTC “B2330-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

U0141 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683427

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0141	00	Communication error (Communication error)	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	CAN communication with BCM has a malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- BCM
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-234, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683428

1.CHECK DTC WITH BCM

Check that DTC is not detected with BCM.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to BCS-51, "DTC Index".

2.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

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

3.REPLACE BCM AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace BCM. Refer to BCS-248, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-234, "DTC Description".

Is DTC “U0141-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> INSPECTION END

U0146 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683429

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0146	00	COMMUNICATION ERROR (LOST) [Communication error (lost)]	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	CAN communication with electronic ignition switch control unit has a malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Electronic ignition switch control unit
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-236, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683430

1.CHECK DTC WITH ELECTRONIC IGNITION SWITCH CONTROL UNIT

Check that DTC is not detected with electronic ignition switch control unit.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to PCS-12, "DTC Index".

2.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

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

3.REPLACE ELECTRONIC IGNITION SWITCH CONTROL UNIT AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-236, "DTC Description".

Is DTC “U0146-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> INSPECTION END

U0155 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683431

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0155	00	COMMUNICATION ERROR (LOST) [Communication error (lost)]	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	CAN communication with combination meter has a malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Combination meter
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-238, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683432

1.CHECK DTC WITH COMBINATION METER

Check that DTC is not detected with combination meter.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to MWI-85, "DTC Index".

2.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

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

3.REPLACE COMBINATION METER AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace combination meter. Refer to MWI-155, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-238, "DTC Description".

Is DTC “U0155-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> INSPECTION END

U0168 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683433

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0168	00	COMMUNICATION ERROR (LOST) [Communication error (lost)]	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	CAN communication with combination meter has a malfunction
				Diagnosis delay time	–
	87		[MISSING MESSAGE]	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	CAN communication with combination meter has a malfunction, signal is missing
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Electronic ignition switch control unit
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-240, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683434

DTC “U0168-00”

1.CHECK DTC WITH ELECTRONIC IGNITION SWITCH CONTROL UNIT

Check that DTC is not detected with electronic ignition switch control unit.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to PCS-12, "DTC Index".

2.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. REPLACE ELECTRONIC IGNITION SWITCH CONTROL UNIT AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-240, "DTC Description".

Is DTC “U0168-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> INSPECTION END

DTC “U0168-87”

1. CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Repair or replace harness.

U1008 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683435

DTC DETECTION LOGIC

DTC		CONSULT screen items		DTC detecting condition	
		(Trouble diagnosis content)	[Malfunction type]		
U1008	00	Communication error (LIN bus 1) [Communication error (LIN bus 1)]	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	LIN communication with steering wheel assembly has a malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- Steering wheel assembly
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-242, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683436

1.REPLACE STEERING WHEEL ASSEMBLY AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace steering wheel assembly. Refer to ST-8, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-242, "DTC Description".

Is DTC “U1008-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> INSPECTION END

U1032 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683437

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U1032	00	Chassis CAN malf [Chassis CAN communication malfunction]	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	Chassis CAN communication malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-243, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683438

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “U0132-00”?

“PAST” >> GO TO 2.
“CRNT”>> GO TO 3.

2.ERASE DTC

1. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
2. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-243, "DTC Description".

Is DTC “U0132-00” detected?

YES >> GO TO 3.
NO >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".

3.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Repair or replace harness.

U11A3 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683439

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U11A3	00	Communication error (Communication error)	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	CAN communication with front camera unit has a malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Front camera unit
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-244, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683440

1.CHECK DTC WITH FRONT CAMERA UNIT

Check that DTC is not detected with front camera unit.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to DAS-44, "DTC Index".

2.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

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

3.REPLACE FRONT CAMERA UNIT AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace front camera unit. Refer to DAS-176, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-244, "DTC Description".

Is DTC “U11A3-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> INSPECTION END

U1442 COMMUNICATION ERROR

DTC Description

INFOID:0000000013683441

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U1442	00	Communication error (Communication error)	—	Diagnosis condition	CAN communication: active
				Signal (terminal)	–
				Threshold	CAN communication with front camera unit has a malfunction
				Diagnosis delay time	–

POSSIBLE CAUSE

- CAN communication
- Front camera unit
- Steering column control module

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.

Is DTC detected?

YES >> Refer to BCS-246, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013683442

1.CHECK DTC WITH FRONT CAMERA UNIT

Check that DTC is not detected with front camera unit.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to DAS-44, "DTC Index".

2.CHECK CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

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

3.REPLACE FRONT CAMERA UNIT AND ERASE DTC

1. Turn ignition switch OFF.
2. Replace front camera unit. Refer to DAS-176, "Removal and Installation".
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “Steering column cont module” using CONSULT.
5. Erase DTC, and then repeat “DTC CONFIRMATION PROCEDURE”. Refer to BCS-246, "DTC Description".

Is DTC “U1442-00” detected?

YES >> Replace steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> INSPECTION END

REMOVAL AND INSTALLATION

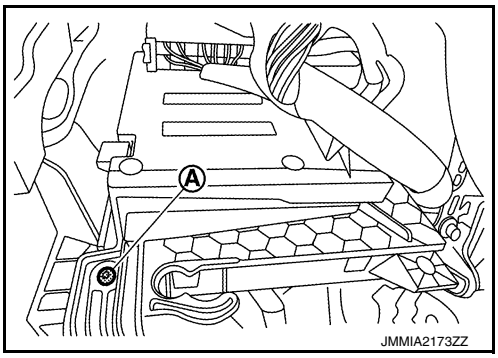
BCM

Removal and Installation

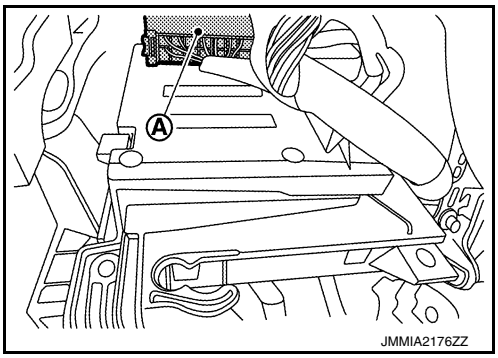
INFOID:0000000013683443

REMOVAL

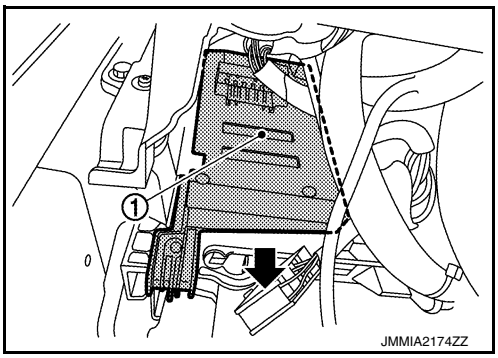
1. Disconnect the battery cable from the negative terminal.
2. Remove instrument mask. Refer to IP-13, "Removal and Installation".
3. Remove instrument lower cover. Refer to IP-13, "Removal and Installation".
4. Remove knee air bag module. Refer to SR-27, "Removal and Installation".
5. Remove front kicking plate inner. Refer to INT-25, "KICKING PLATE INNER : Removal and Installation".
6. Remove the BCM mounting screws Ⓐ.



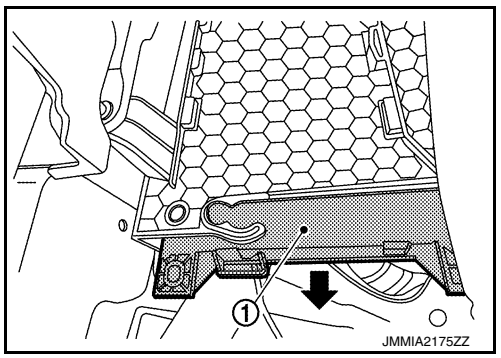
7. Disconnect the harness connector Ⓐ.



8. Remove the bracket ①.



9. Pull down BCM ① and disconnect the harness connectors from BCM ①.



10. Remove BCM.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Be sure to perform “WRITE CONFIGURATION” when replacing BCM. Refer to BCS-88, "Description".

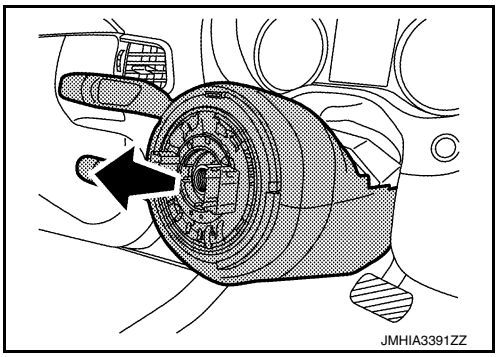
STEERING COLUMN CONTROL MODULE

Removal and Installation

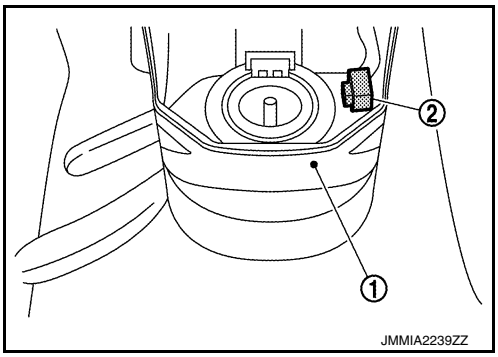
INFOID:0000000013683444

REMOVAL

1. Remove steering wheel. Refer to ST-8, "Removal and Installation".
2. Remove steering column cover. Refer to IP-13, "Removal and Installation".
3. Pull out steering column control module.



4. Disconnect harness connector ② from steering column control module ①.



5. Remove steering column control module.

INSTALLATION

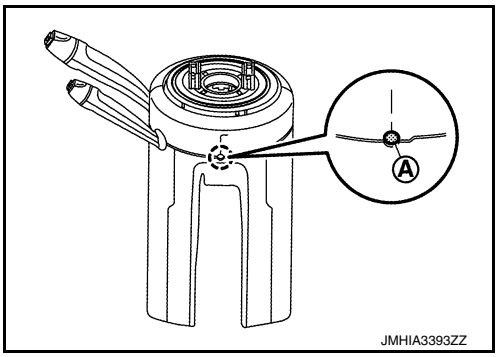
Install in the reverse order of removal.

CAUTION:

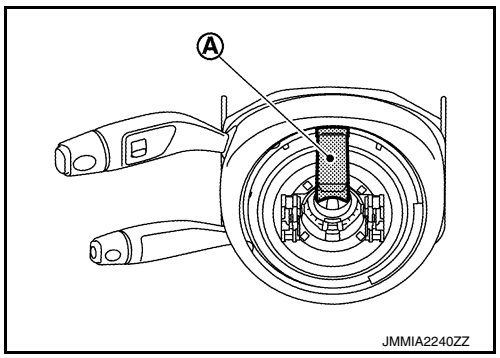
Do not operate the red safety catches in steering column control module. Irreparable damage might be caused to the horn and air bag spiral cable contact.

NOTE:

- When steering column control module is in the correct installation position, the assembly indicator Ⓐ is retracted.



- When installing a new steering column control module the transportation lock Ⓐ must be broken off once mounted.



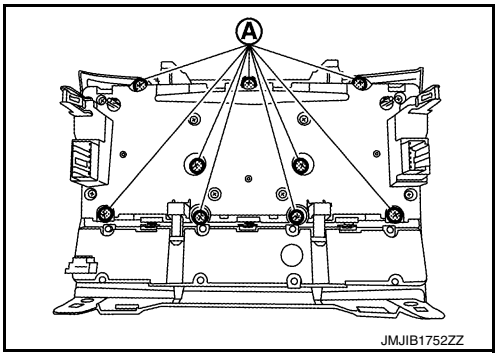
UPPER CONTROL PANEL CONTROL UNIT

Removal and Installation

INFOID:0000000013683445

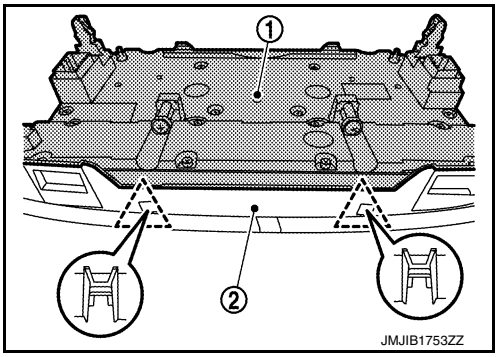
REMOVAL

1. Remove cluster lid C. Refer to IP-13, "Removal and Installation".
2. Remove screws Ⓐ.

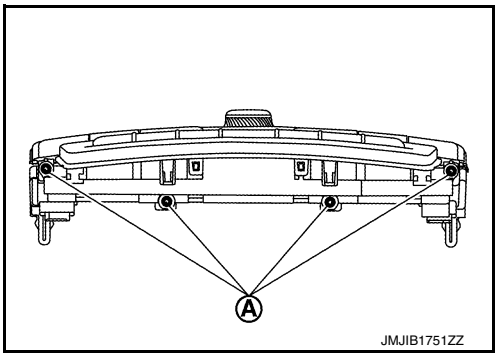


3. Disengage the fixing pawls, and then remove multifunction switch and upper control panel control unit ① from cluster lid C.

△ : Pawl



4. Remove screws Ⓐ and then remove upper control panel control unit.



INSTALLATION

Install in the reverse order of removal.