

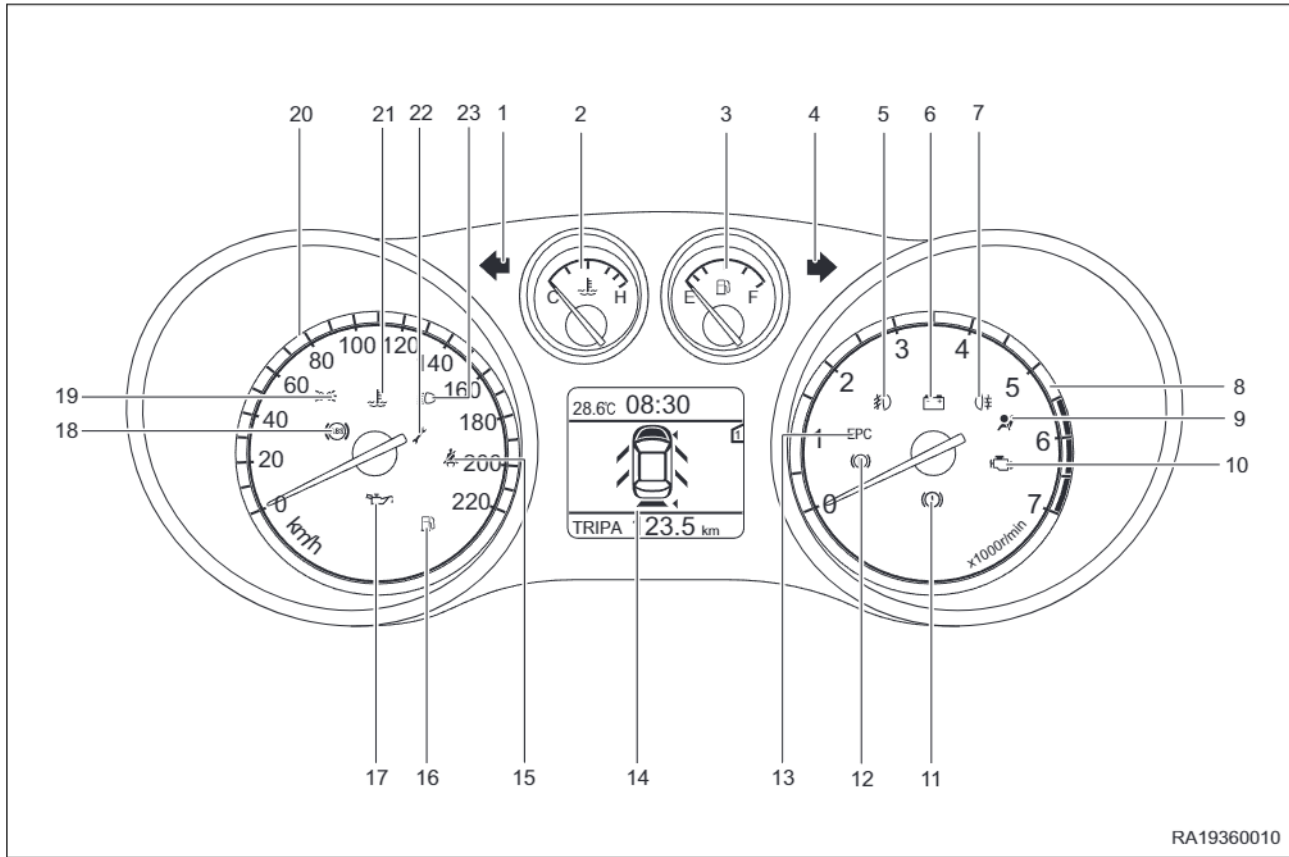
INSTRUMENT CLUSTER

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GENERAL INFORMATION

Description

Instrument Cluster



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RA19360010

1 - Left Turn Signal Indicator	2 - Coolant Temperature Gauge
3 - Fuel Gauge	4 - Right Turn Signal Indicator
5 - Front Fog Indicator	6 - Charging System Warning Light
7 - Rear Fog Indicator	8 - Tachometer
9 - SRS Warning Light	10 - Engine Malfunction Warning Light
11 - Brake System Malfunction Warning Light	12 - Park Brake Warning Light
13 - EPS Warning Light	14 - LCD Display
15 - Driver Seat Belt Reminder Light	16 - Low Fuel Level Warning Light
17 - Low Engine Oil Pressure Warning Light	18 - ABS Warning Light
19 - Position Indicator	20 - Speedometer
21 - High Coolant Temperature Warning Light	22 - Maintenance Indicator
23 - High Beam Indicator	

This vehicle is equipped with the pointer type instrument cluster. The instrument cluster is a highly integrated electronic instrument display system and mainly consists of coolant temperature gauge, tachometer, fuel gauge, speedometer, comprehensive information display center and warning indication symbols. The comprehensive information display center mainly displays the vehicle information, which contains the following: clock, door/luggage compartment door hint information, trip, total mileage, driving range, instantaneous fuel consumption, average fuel consumption and warning information.

Operation

The instrument cluster is located above the upper left of instrument panel assembly, which is used to monitor and display the operation status of each system and component in the vehicle. Instrument cluster receives signals from each sensor and switch, and displays the operation status of each system through the meter, display, indicator and warning lights. It also reminds and informs the driver by flashing the light and sounding the buzzer. As a result, it will be helpful for the driver to eliminate possible troubles in time, thus avoiding the malfunction or accidents efficiently.

Specification

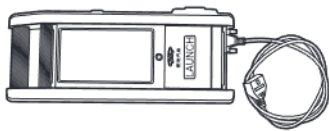
Torque Specification

Description	Torque (N·m)
Instrument Cluster Fixing Screw	2 ± 0.2

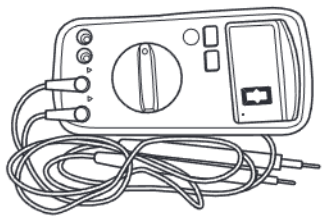
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Tools

Special Tool

X-431 3G Diagnostic Tester	 RCH0000001
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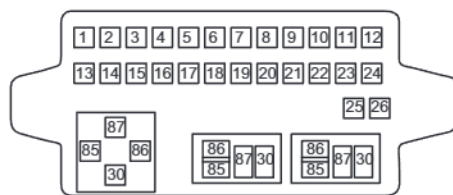
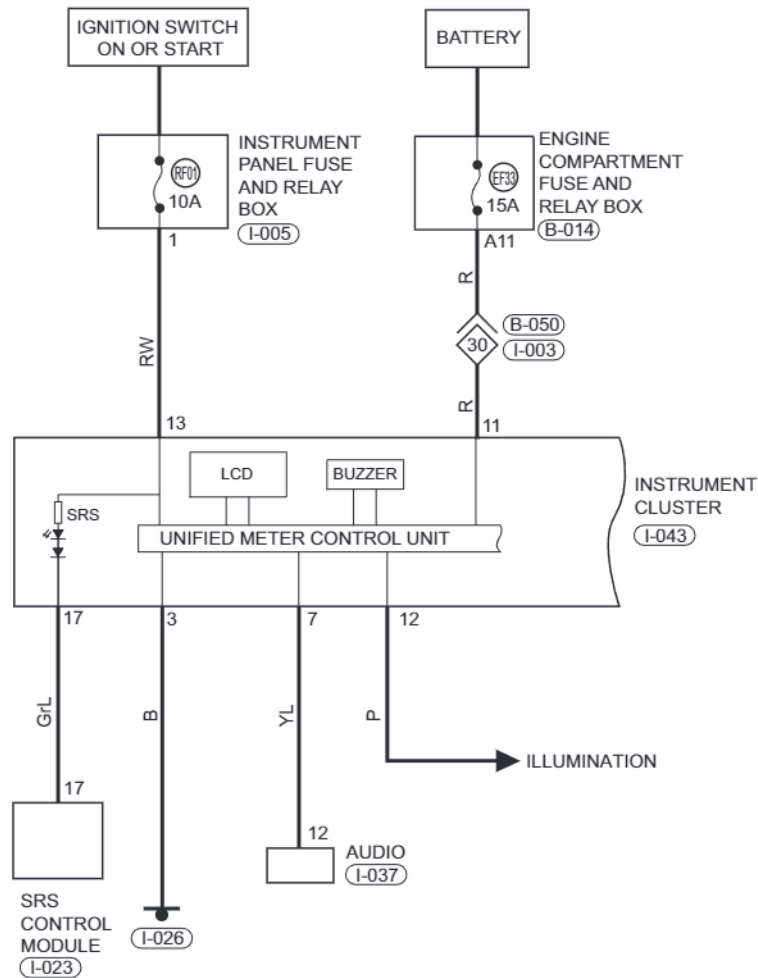
General Tool

Digital Multimeter	 RCH0000002
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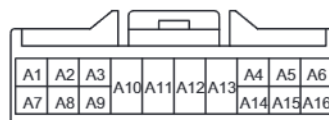
Circuit Diagram

Instrument Cluster (Page 1 of 4)

36



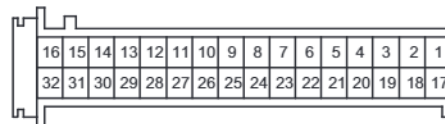
I-005
B



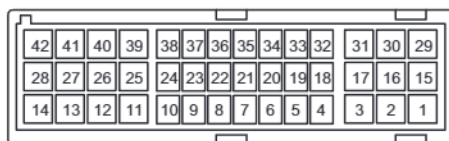
B-014
W



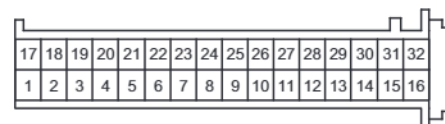
I-037
B



I-043
L



B-050
W

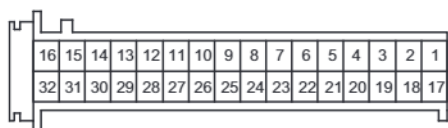
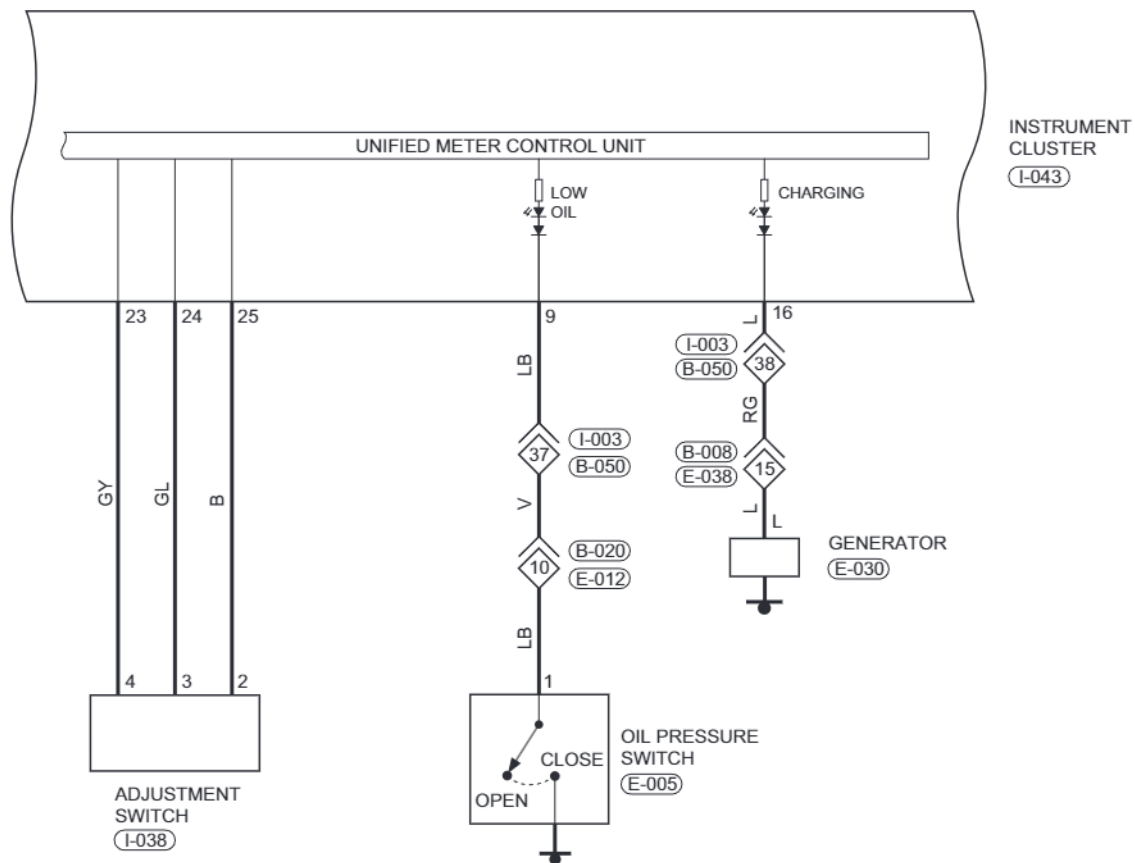
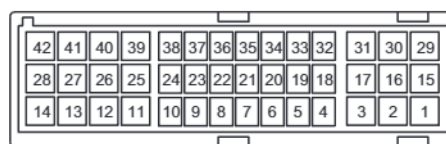


I-023
G

EA19360010

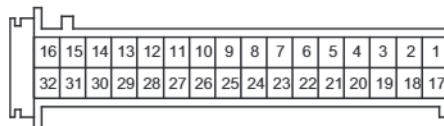
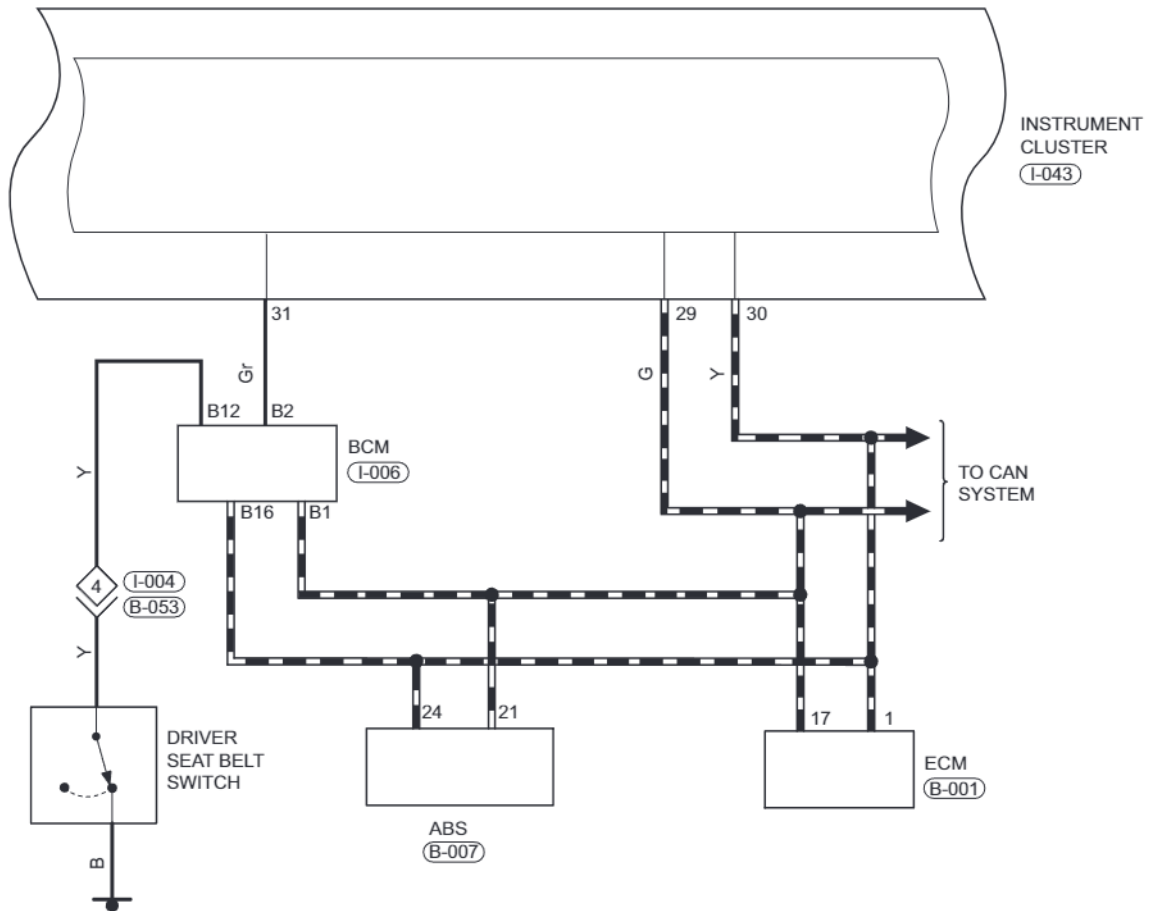
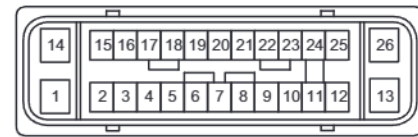
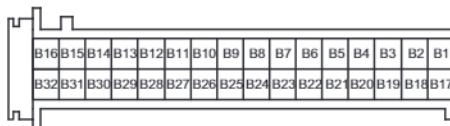
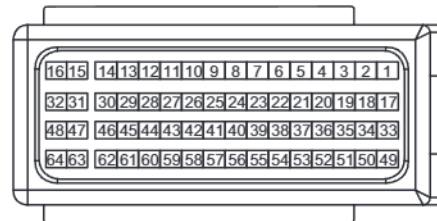


Instrument Cluster (Page 2 of 4)

I-043
LI-038
BB-050
WI-003
WB-020
BE-005
BB-038
G

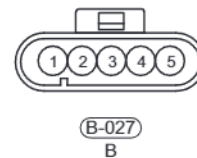
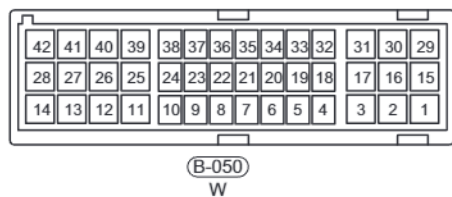
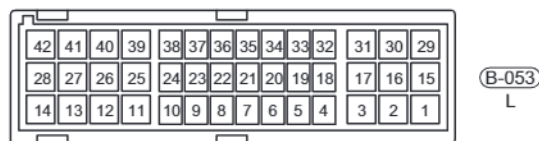
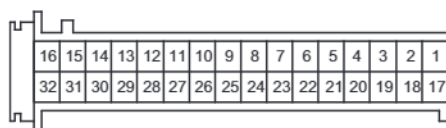
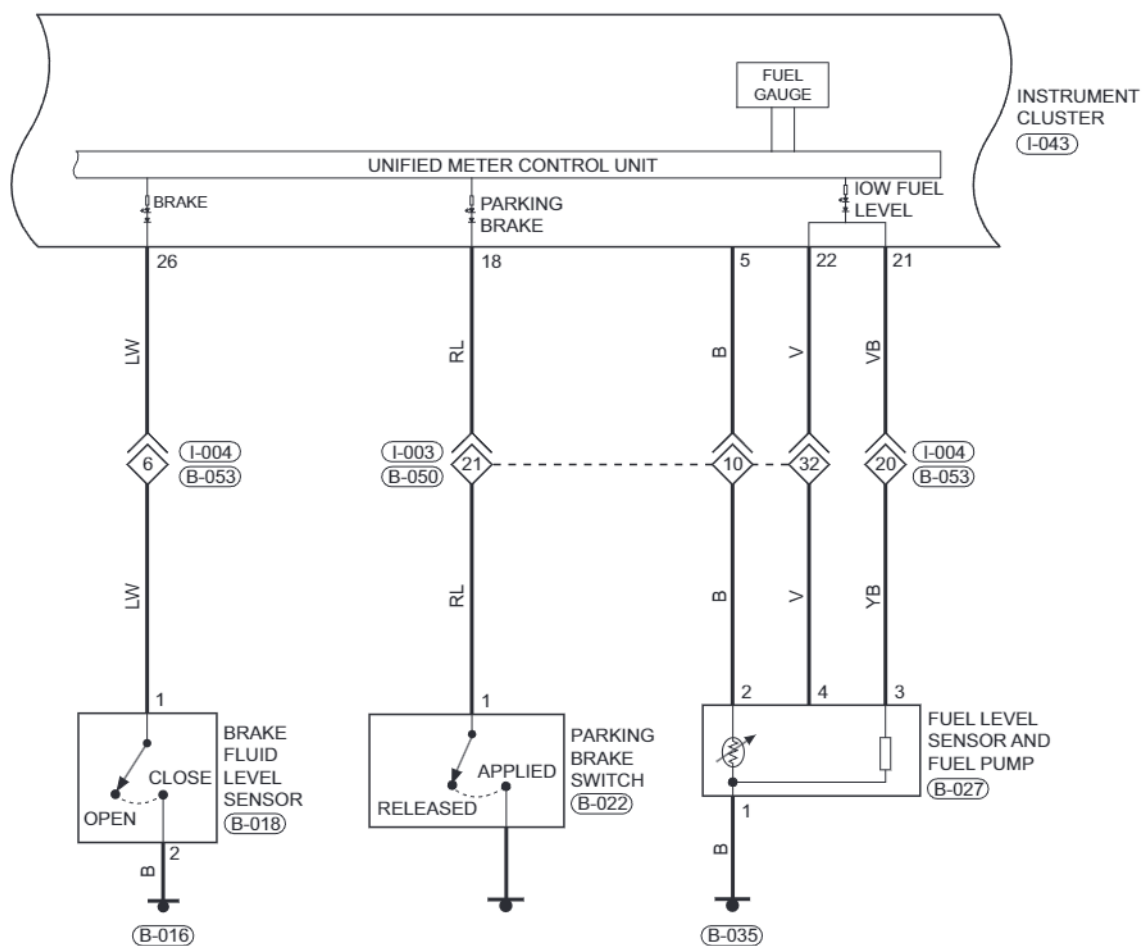
EA19360020

Instrument Cluster (Page 3 of 4)

I-043
LB-007
BI-006
LB-001
B

EA19360030

Instrument Cluster (Page 4 of 4)



EA19360040

Instrument Cluster Terminal List

Terminal No.	Definition	Terminal No.	Definition
1	-	17	Airbag Indication Signal
2	-	18	Parking Brake Switch Signal
3	Power Ground	19	-
4	-	20	-
5	Fuel Sensor Ground	21	Fuel Signal Input
6	-	22	Fuel Assist Signal Input
7	Speed Output	23	Adjustment Switch Input
8	-	24	Adjustment Switch Input
9	Engine Oil Pressure Indication Signal	25	Adjustment Switch Ground
10	-	26	Brake Fluid Level Sensor
11	Battery Power Supply	27	-
12	Illumination Input	28	-
13	Ignition Switch Power Supply	29	CAN-L
14	-	30	CAN-H
15	-	31	BCM
16	Charging System Indication Signal	32	-

DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

Use the table below to help determine the cause of problem symptoms. Check each suspected area in sequence. Repair or replace the faulty components, or adjust them as necessary.

Symptom	Suspected Area	See page
Entire instrument cluster does not operate	Fuse	49-28
	Wire harness or connector	-
	Instrument cluster	36-34
LCD display abnormal	Wire harness or connector	-
	Instrument cluster	36-34
Speedometer display abnormal	Vehicle speed sensor	-
	Wire harness or connector	-
	Instrument cluster	36-34
Tachometer display abnormal	Engine speed sensor	-
	Wire harness and connector	-
	Instrument cluster	36-34
	Engine Control Module (ECM)	06-209
Fuel gauge display abnormal	Fuel level sensor	36-20
	Wire harness or connector	-
	Instrument cluster	36-34
Position indicator abnormal	Position light switch (combination switch)	33-61
	Wire harness or connector	-
	Instrument cluster	36-34
Turn signal indicator abnormal	Turn light switch (combination switch)	33-61
	Wire harness or connector	-
	Instrument cluster	36-34
High beam indicator abnormal	High beam switch (combination switch)	33-61
	Wire harness or connector	-
	Instrument cluster	36-34
Front fog indicator abnormal	Front fog switch (combination switch)	33-61
	Wire harness or connector	-
	Instrument cluster	36-34
Rear fog indicator abnormal	Rear fog switch (combination switch)	33-61
	Wire harness or connector	-
	Instrument cluster	36-34

Symptom	Suspected Area	See page
Charging system warning light abnormal	Generator	16-9
	Wire harness or connector	-
	Instrument cluster	36-34
Low engine oil pressure warning light abnormal	Engine oil level	-
	Oil pressure switch	13-15
	Wire harness or connector	-
	Instrument cluster	36-34
ABS warning light abnormal	Communication line or connector	-
	Instrument cluster	36-34
	ABS control unit assembly	24-58
Low fuel level warning light abnormal	Fuel amount in tank	-
	Fuel level sensor	36-20
	Wire harness or connector	-
	Instrument cluster	36-34
Coolant temperature warning light abnormal	High engine coolant temperature	-
	Coolant temperature sensor	-
	Wire harness or connector	-
	Instrument cluster	36-34
	Engine Control Module (ECM)	06-209
Engine malfunction warning light abnormal	Communication line or connector	-
	Instrument cluster	36-34
	Engine Control Module (ECM)	06-209
SRS warning light abnormal	Communication line or connector	-
	Instrument cluster	36-34
	SRS control unit assembly	30-49
Driver seat belt reminder light abnormal	Driver seat belt buckle switch	31-11
	Wire harness or connector	-
	Instrument cluster	36-34
Low brake fluid level warning light abnormal	Low brake fluid level	-
	Brake system	-
	Wire harness or connector	-
	Instrument cluster	36-34
Parking brake warning light abnormal	Parking brake switch assembly	-
	Wire harness or connector	-
	Instrument cluster	36-34

Diagnosis Tools

X-431 3G Diagnostic Tester

When connecting the X-431 3G diagnostic tester:

- Connect the X-431 3G diagnostic tester (the latest software) to the Data Link Connector (DLC) for communication with the vehicle.
- DLC is Located on the instrument panel crossmember.
- DLC uses trapezium design and can accommodate up to 16 terminals.

Digital Multimeter

When using the digital multimeter:

- Troubleshoot the electrical problems and wiring systems.
- Look for the basic fault.
- Measure the voltage, current and resistance.

DTC Confirmation Procedure

Confirm that the battery voltage is normal before performing the following procedures.

36

- Turn the ignition switch to LOCK.
- Connect the X-431 3G diagnostic tester (the latest software) to the Data Link Connector (DLC), and make it communicate with the vehicle electronic module by the data network.
- Turn the ignition switch to ON.
- Using the X-431 3G diagnostic tester to record and clear the DTCs stored in Body Control Module (BCM).
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON and select "Read Trouble Code "
- If the DTC is detected, the malfunction indicated by the DTC is current. Go to the diagnosis procedure - Step 1.
- If the DTC is not detected, the malfunction indicated by the DTC is intermittent. Please refer to the "Intermittent DTC Troubleshooting".

Intermittent DTC Troubleshooting

If the malfunction is intermittent, perform the followings:

- Check if the connectors are loose.
- Check if the wire harnesses are worn, pierced, pinched or partially broken.
- Wiggle the related wire harnesses and connectors and observe if the signal is interrupted in the related circuit.
- If possible, try to duplicate the conditions under which the DTC was set.
- Look for the data that has changed or the DTCs to be reset during the wiggle test.
- Look for broken, bent, protruded or corroded terminals.
- Inspect the mounting areas of door lock assembly, wire harness or wire harness connector and so on for damage, foreign matter, etc. that will cause incorrect signals.
- Check and clean all the wire harness connectors and grounding parts related to the current DTC.
- Remove the instrument cluster from the malfunctioning vehicle and install it to a new vehicle and perform a test. If the DTC cannot be cleared, the instrument cluster is malfunctioning. If the DTC can be cleared, reinstall the instrument cluster to the original vehicle.
- If multiple trouble codes were set, use the circuit diagrams and look for any common ground circuit or power supply circuit applied to the DTC.
- Refer to the Technical Bulletin that is applied to the malfunction.

Ground Inspection

Ground points are very important to the entire circuit system, and the grounding condition can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) and oxidation can increase load resistance. This situation will seriously affect the normal operation of the circuit. The operations to check the ground points are as follows:

1. Remove the ground bolt or nut.
2. Check all the matching surfaces for tarnish, dirt and rust, etc.
3. Clean as necessary to ensure that the contacting is in a good condition.
4. Reinstall the ground bolt securely.
5. Check if the add-on accessories interfere with the ground circuit.
6. If several wire harnesses are crimped into one ground eyelet terminal, check if they are installed correctly. Make sure all the wire harnesses are clean, securely fastened and providing a good ground path.

Diagnosis Procedure

1	Vehicle brought to workshop
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NEXT

36

2	Check battery voltage
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Standard voltage: 11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding to next step.

NEXT

3	Customer problem analysis
----------	----------------------------------

NEXT

4	Check for DTCs (current DTC and history DTC)
----------	---

DTC occurs

For current DTC, go to step 6

No DTC

For history DTC, go to step 7

5	If no DTC occurs, go to step 8
----------	---------------------------------------

NEXT

6 Troubleshoot according to Diagnostic Trouble Code (DTC) chart, then go to step 8

NEXT

7 Troubleshoot according to Problem Symptoms Table, then go to step 8

NEXT

8 Adjust, repair or replace

NEXT

9 Conduct test and confirm malfunction has repaired

NEXT

10 End

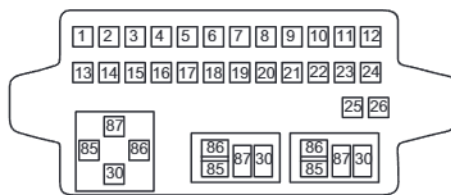
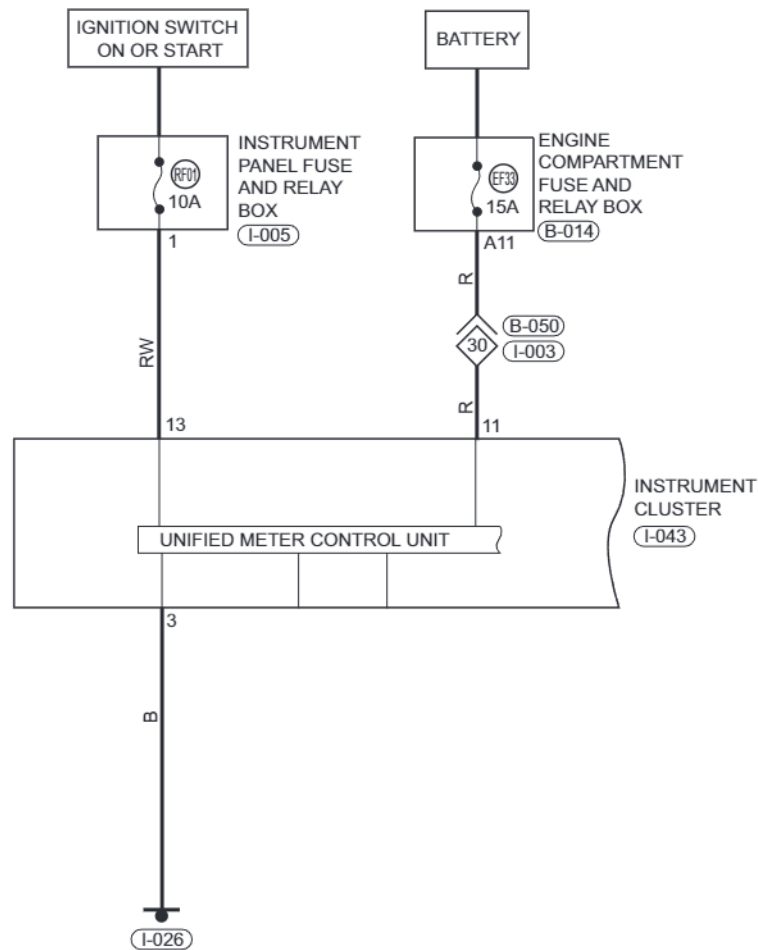
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Diagnostic Trouble Code (DTC) Chart

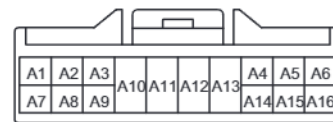
DTC	DTC Definition
B1100-16	Power Supply Under Volt
B1100-17	Power Supply Over Volt
B1101-11	Fuel Sensor Connected to Ground
B1101-15	Fuel Sensor Fault-Circuit Short to Battery or Open
B1103-00	LED Air Bag Fault
B1104-41	EEPROM Checksum Error
U0073-88	CAN Bus OFF
U0100-87	Lost Communication With EMS
U0101-87	Lost Communication With TCM
U0129-87	Lost Communication With BSM
U0140-87	Lost Communication With BCM
U1130-55	Software Configuration Error

DTC	B1100-16	Power Supply Under Volt
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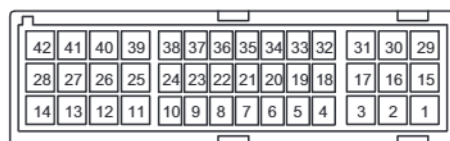
DTC	B1100-17	Power Supply Over Volt
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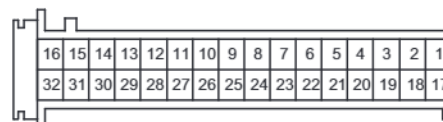
I-005
B



B-014
W



B-050
W



I-043
L

EA19360050

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1100-16	Power Supply Under Volt	Ignition switch ON	- Charging system - Wire harness or connector - Instrument cluster
B1100-17	Power Supply Over Volt		

CAUTION

- When performing the circuit diagnosis and test, always refer to the circuit diagram for the specific circuit and the component information.

Diagnosis Procedure

36

1 Check battery

- Using a digital multimeter, measure the voltage between the positive battery terminal and negative battery terminal.
- The battery voltage should be between 11 and 14 V.

NG

Recharge or replace battery

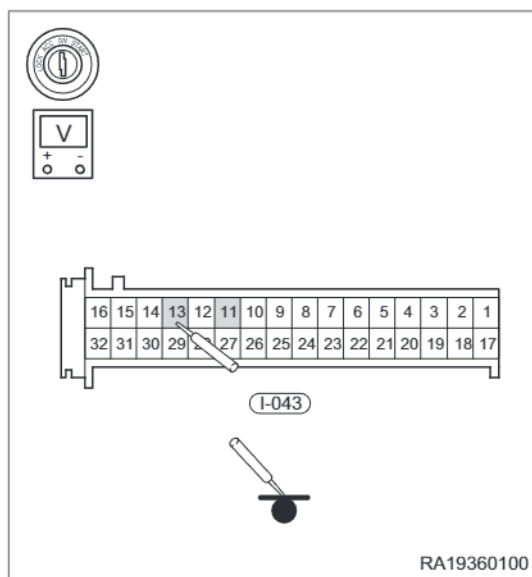
OK

2 Check instrument cluster wire harness and connector

- Turn the ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the instrument cluster wire harness connector I-043.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Using a digital multimeter, measure the supply voltage between the instrument cluster wire harness connector I-043 and the body ground according to the value(s) in the table below to check if the system power source control circuit is normal.

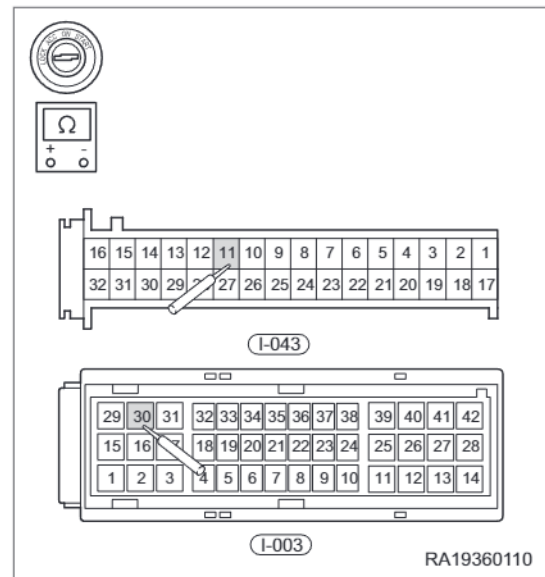
Standard Voltage

Multimeter Connection	Condition	Specified Condition
I-043 (11) - Body ground	Ignition switch ON	11 to 14V
I-043 (13) - Body ground	Ignition switch ON	11 to 14V



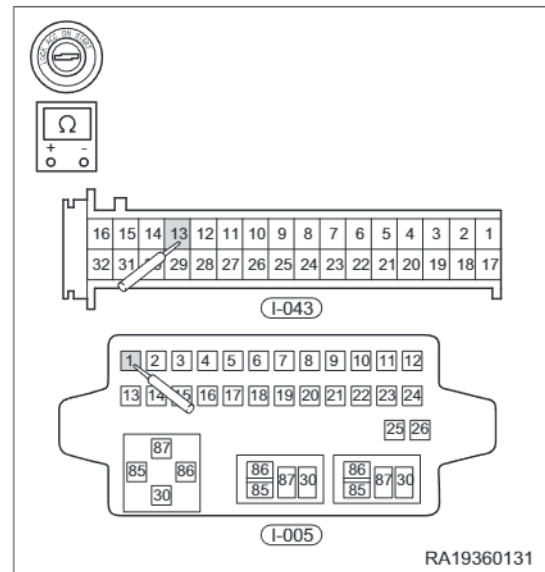
- g. Turn the ignition switch to LOCK.
- h. Disconnect the negative battery cable.
- i. Disconnect the instrument cluster wire harness connectors I-003 and I-043.
- j. Using a digital multimeter, check for continuity between instrument cluster wire harness connectors I-003 and I-043 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-003 (30) - I-043 (11)	Always	Continuity



- k. Disconnect the instrument cluster wire harness connectors I-005 and I-043.
- l. Using a digital multimeter, check for continuity between instrument cluster wire harness connectors I-005 and I-043 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-005 (1) - I-043 (13)	Always	Continuity

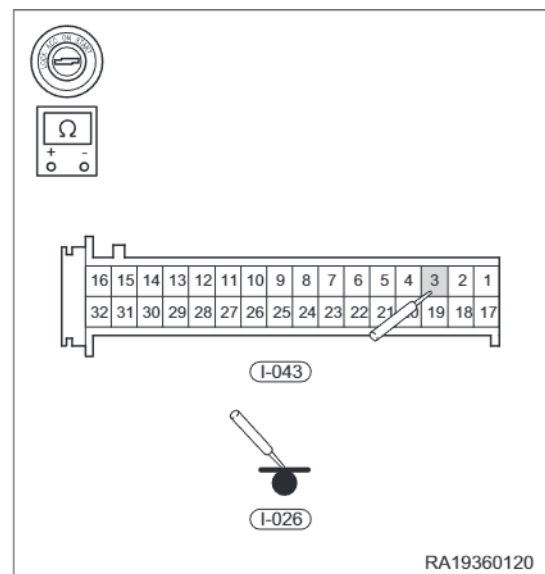


- m. Disconnect the instrument cluster wire harness connector I-043 and ground I-026.
- n. Using a digital multimeter, check for continuity between instrument cluster wire harness connector I-043 and ground I-026 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-043 (3) - I-026	Always	Continuity

NG

Repair or replace instrument cluster wire harness and connector



OK

3 Check body wire harness and connector

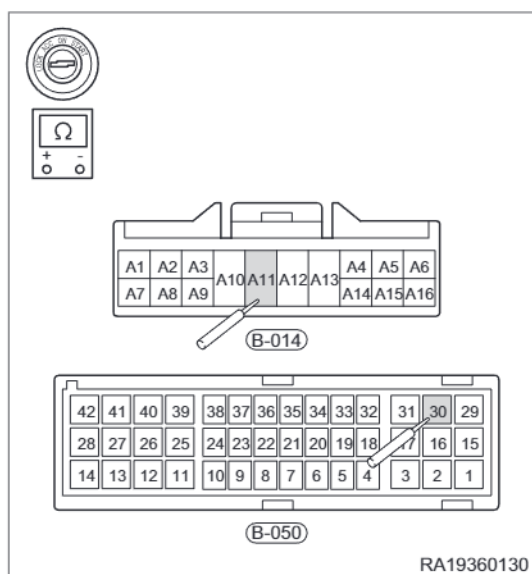
- Turn the ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the body wire harness connectors B-014 and B-050.
- Using a digital multimeter, check for continuity between body wire harness connectors B-014 and B-050 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-014 (A11) - B-050 (30)	Always	Continuity

36

NG

Repair or replace body wire harness and connector



OK

4 Reconfirm DTCs

- Connect all the connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the instrument cluster control system.
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record the DTCs in the instrument cluster control system again.
- Read the DTCs.

Result	Proceed to
DTC B1100-16 and B1100-17 are output	NG
No DTC output	OK

NG

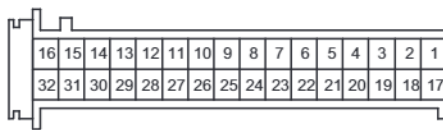
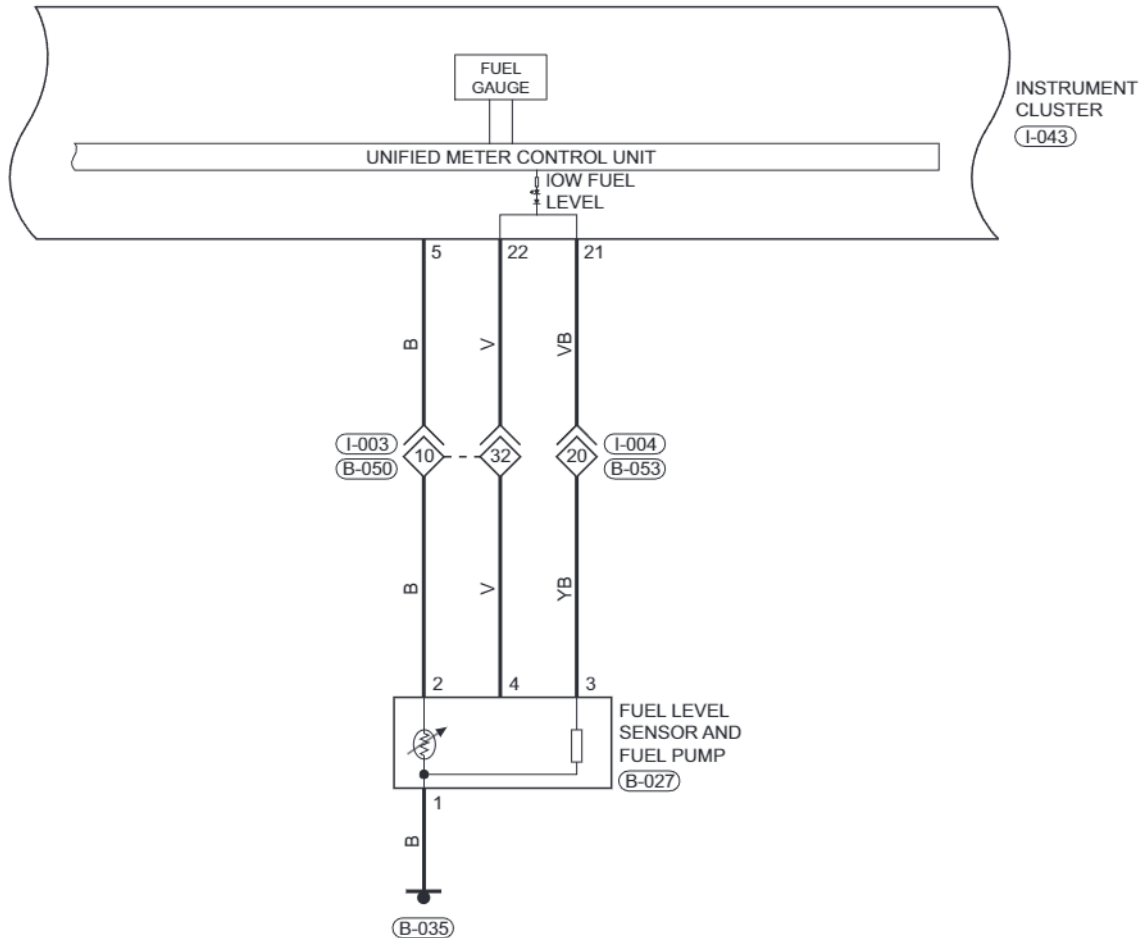
Replace instrument cluster

OK

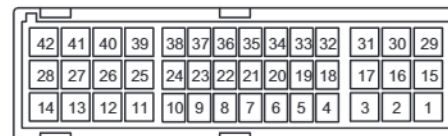
System is normal

DTC	B1101-11	Fuel Sensor Connected to Ground
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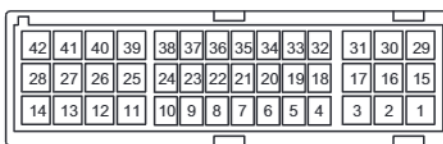
DTC	B1101-15	Fuel Sensor Fault-Circuit Short to Battery or Open
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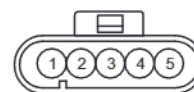
I-043
L



B-053
L



B-050
W



B-027
B

EA19360070

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1101-11	Fuel Sensor Connected to Ground	Ignition switch ON	- Fuel level sensor - Wire harness or connector - Instrument cluster
B1101-15	Fuel Sensor Fault-Circuit Short to Battery or Open		

 CAUTION

- When performing the circuit diagnosis and test, always refer to the circuit diagram for the specific circuit and the component information.

Diagnosis Procedure

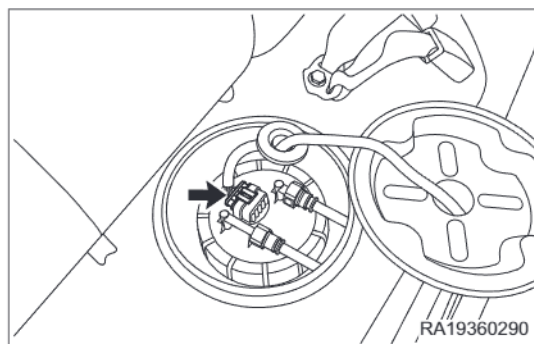
36

1 Check fuel level sensor wire harness and connector

- Turn the ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the fuel level sensor and fuel pump assembly connector B-027.
- Check the wire harness, connector and terminals for deformation, bend or damage.

NG

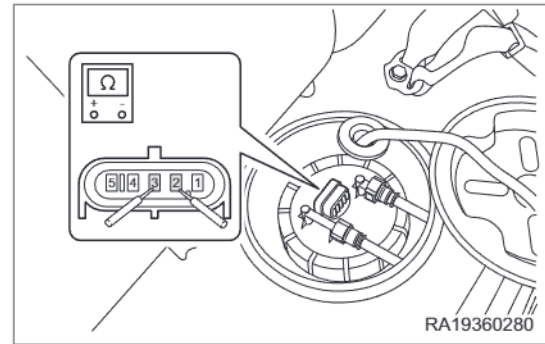
Repair or replace fuel level sensor wire harness and connector



OK

2 Check fuel level sensor

- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Check the remaining oil amount segments from fuel gauge in the instrument cluster .
- Turn the ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the fuel level sensor and fuel pump assembly connector B-027.
- Using a digital multimeter, measure the resistance value between terminal 2 and terminal 3 of fuel level sensor.
- Check if the fuel level sensor is normal according to the correspondence between the oil amount segments and the standard resistance of fuel level sensor shown in the table below.



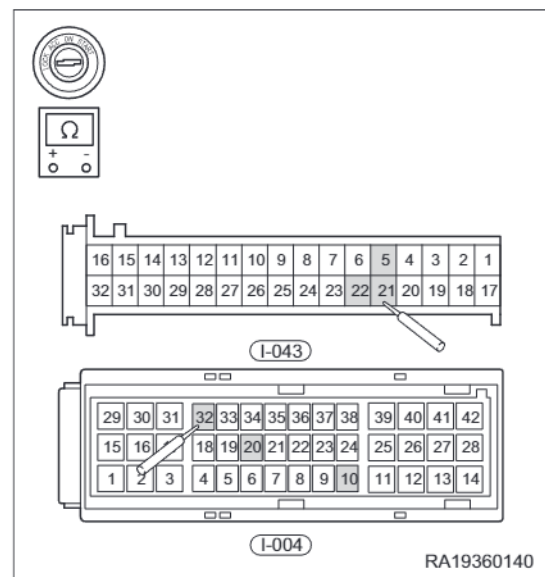
Fuel Gauge Position	Pointer Indicating Angle (°)	Fuel Level Sensor Resistance (Ω)
E (alarm)	0 (normal on)	275 ± 5
1/4	22.5	165 ± 5
1/2	45	97 ± 4
3/4	67.5	79 ± 3
F	90	32 ± 3

36

3 Check instrument cluster wire harness and connector

- Turn the ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the instrument cluster wire harness connectors I-043 and I-004.
- Using a digital multimeter, check for continuity between instrument cluster wire harness connectors I-043 and I-004 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-043 (5) - I-004 (10)	Always	Continuity
I-043 (22) - I-004 (32)	Always	Continuity
I-043 (21) - I-004 (20)	Always	Continuity



NG

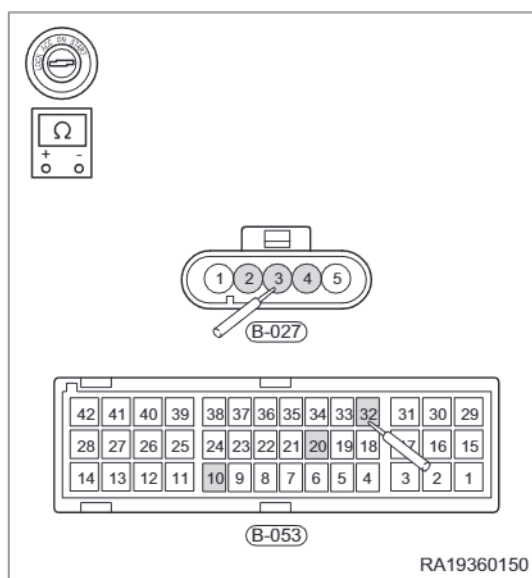
Repair or replace instrument cluster wire harness and connector

OK

4 Check body wire harness and connector

- Turn the ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the body wire harness connectors B-053 and B-027.
- Using a digital multimeter, check for continuity between body wire harness connectors B-053 and B-027 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-053 (10) - B-027 (2)	Always	Continuity
B-053 (32) - B-027 (4)	Always	Continuity
B-053 (20) - B-027 (3)	Always	Continuity

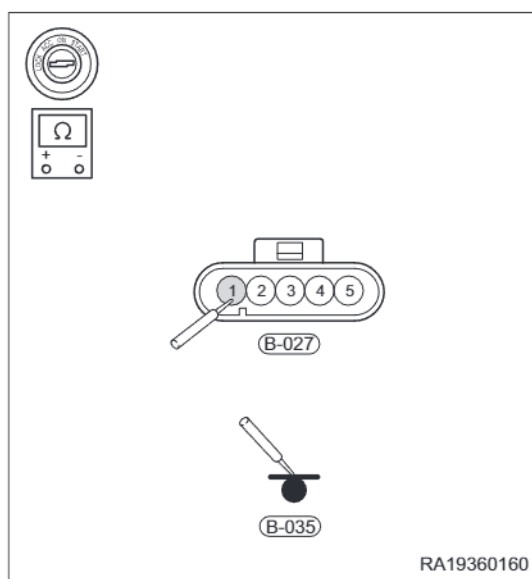


- Disconnect the body wire harness connector B-027 and ground B-035.
- Using a digital multimeter, check for continuity between body wire harness connector B-027 and ground B-035 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-027 (1) - B-035	Always	Continuity

NG

Repair or replace body wire harness and connector



OK

5 Reconfirm DTCs

- Connect all the connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the instrument cluster control system.
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.

- g. Use the X-431 3G diagnostic tester (the latest software) to record the DTCs in the instrument cluster system again.
- h. Read the DTCs.

Result	Proceed to
DTC B1101-11 and B1101-15 are output	NG
No DTC output	OK

NG

Replace instrument cluster

OK

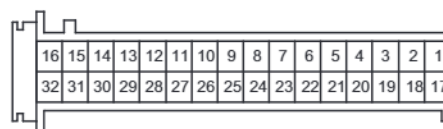
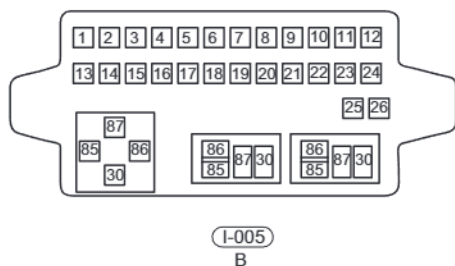
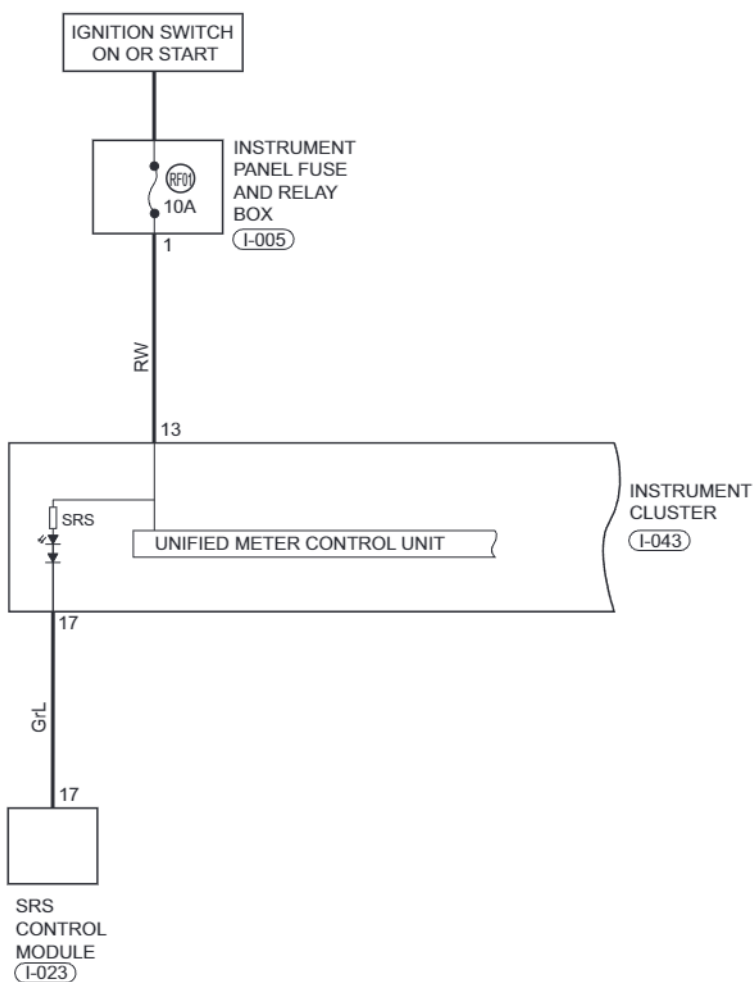
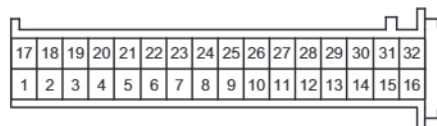
System is normal

DTC

B1103-00

LED Air Bag Fault

36

(I-043)
L(I-023)
G

EA19360060

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1103-00	LED Air Bag Fault	Ignition switch ON	- Airbag system - Wire harness or connector - Instrument cluster

CAUTION

- When performing the circuit diagnosis and test, always refer to the circuit diagram for the specific circuit and the component information.

Diagnosis Procedure

1 Check driver airbag

- a. Check the driver airbag (See page 30-41).

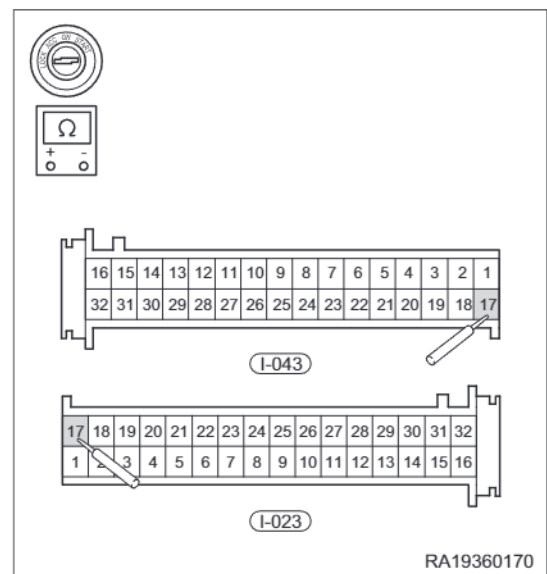
NG

Repair or replace driver airbag

OK**2** Check instrument cluster wire harness and connector

- a. Turn the ignition switch to LOCK.
 b. Disconnect the negative battery cable.
 c. Disconnect the instrument cluster wire harness connectors I-043 and I-023.
 d. Using a digital multimeter, check for continuity between instrument cluster wire harness connectors I-043 and I-023 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-043 (17) - I-023 (17)	Always	Continuity

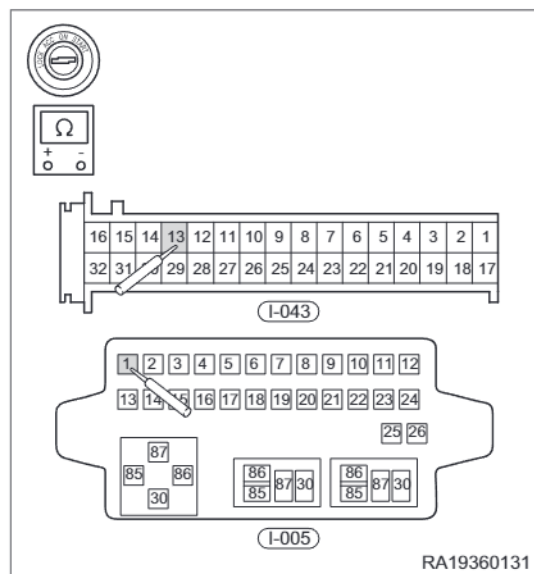


- e. Disconnect the instrument cluster wire harness connectors I-005 and I-043.
- f. Using a digital multimeter, check for continuity between instrument cluster wire harness connectors I-005 and I-043 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-005 (1) - I-043 (13)	Always	Continuity

NG

Repair or replace instrument cluster wire harness and connector



OK

36

3

Reconfirm DTCs

- a. Connect all the connectors.
- b. Connect the negative battery cable.
- c. Turn the ignition switch to ON.
- d. Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the instrument cluster control system.
- e. Turn the ignition switch to LOCK and wait for a few seconds.
- f. Turn the ignition switch to ON.
- g. Use the X-431 3G diagnostic tester (the latest software) to record the DTCs in the instrument cluster control system again.
- h. Read the DTCs.

Result	Proceed to
DTC B1103-00 is output	NG
No DTC output	OK

NG

Replace instrument cluster

OK

System is normal

DTC	B1104-41	EEPROM Checksum Error
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Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1104-41	EEPROM Checksum Error	Ignition switch ON	Instrument cluster

CAUTION

- When performing the circuit diagnosis and test, always refer to the circuit diagram for the specific circuit and the component information.

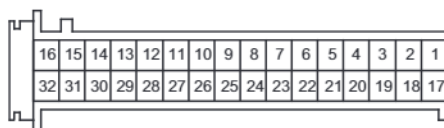
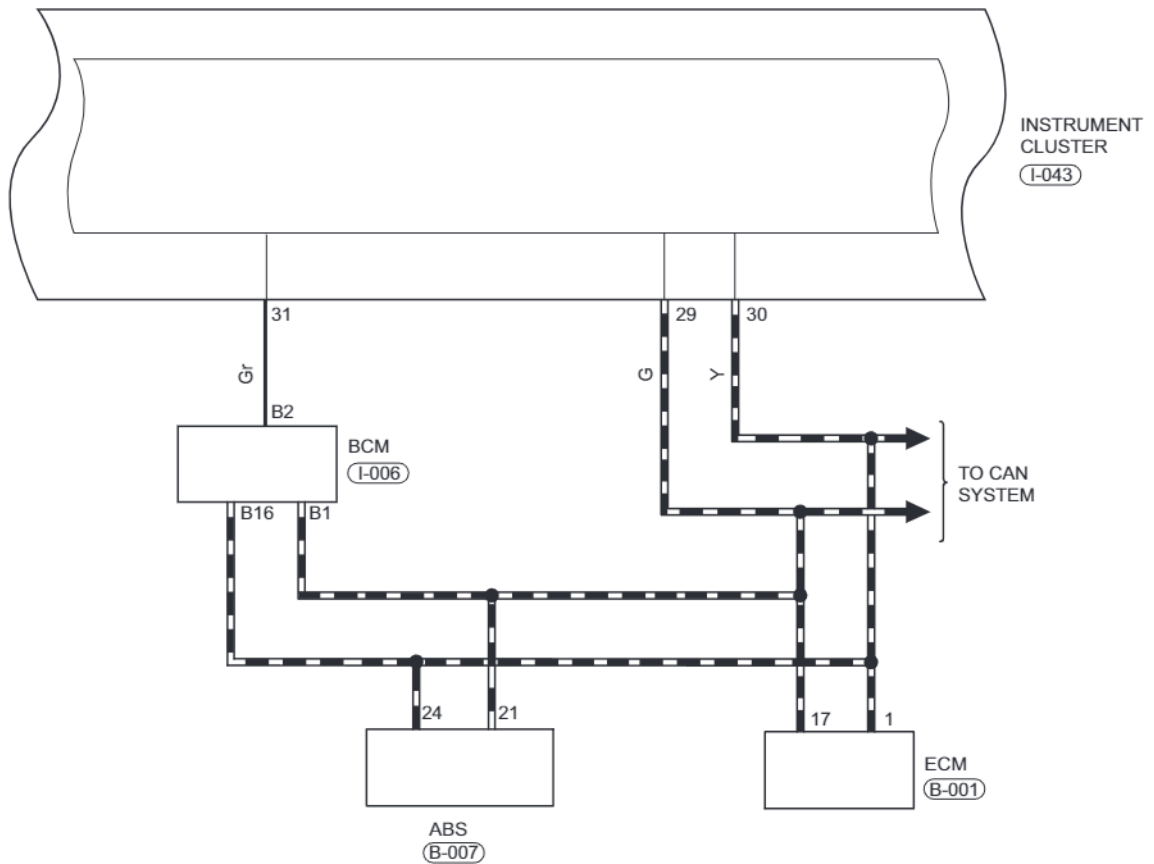
Diagnosis Procedure**1 Reconfirm DTCs****36**

- Use the X-431 3G diagnostic tester (the latest software) to clear the DTCs stored in the instrument cluster control system.
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record the DTCs in the instrument cluster control system again.
- Read the DTCs.

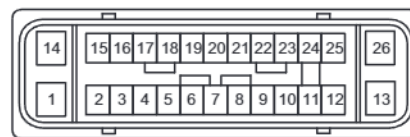
Result	Proceed to
DTC B1104-41 is output	NG
No DTC output	OK

NG**Replace instrument cluster****OK****System is normal**

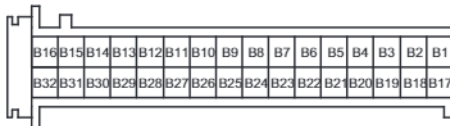
DTC	U0073-88	CAN Bus OFF
DTC	U0100-87	Lost Communication With EMS
DTC	U0101-87	Lost Communication With TCM
DTC	U0129-87	Lost Communication With BSM
DTC	U0140-87	Lost Communication With BCM



I-043
L



B-007
B



I-006
L



B-001
B

EA19360080

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
U0073-88	CAN Bus OFF	Ignition switch ON	- Engine Control Module (ECM) - Body Control Module (BCM) - Control module assembly (ABS) - CAN line communication
U0100-87	Lost Communication With EMS		
U0101-87	Lost Communication With TCM		
U0129-87	Lost Communication With BSM		
U0140-87	Lost Communication With BCM		

 CAUTION

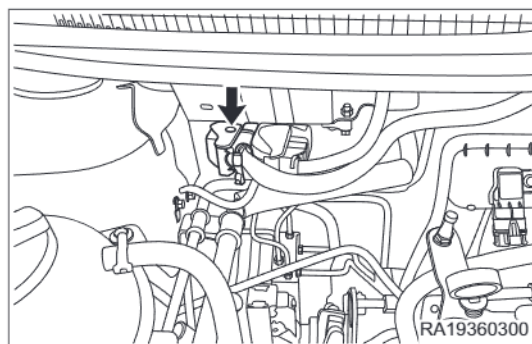
- When performing the circuit diagnosis and test, always refer to the circuit diagram for the specific circuit and the component information.

36

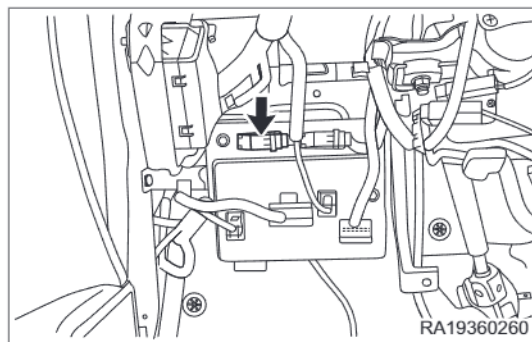
Diagnosis Procedure

1 Check connector and terminal

- Turn the ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the Engine Control Module (ECM) connector (arrow).
- Check the wire harness, connector and terminals for deformation, bend or damage.



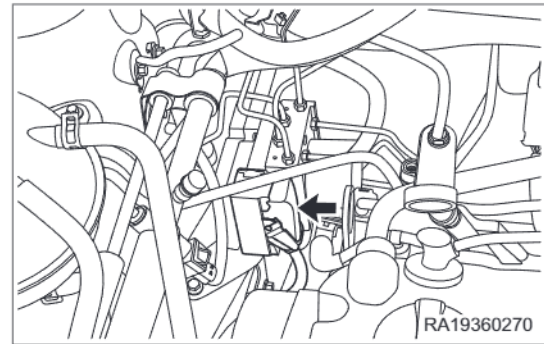
- Disconnect the Body Control Module (BCM) connector (arrow).
- Check the wire harness, connector and terminals for deformation, bend or damage.



- g. Disconnect the control module assembly (ABS) connector (arrow).
- h. Check the wire harness, connector and terminals for deformation, bend or damage.

NG

Repair or replace connector and terminal



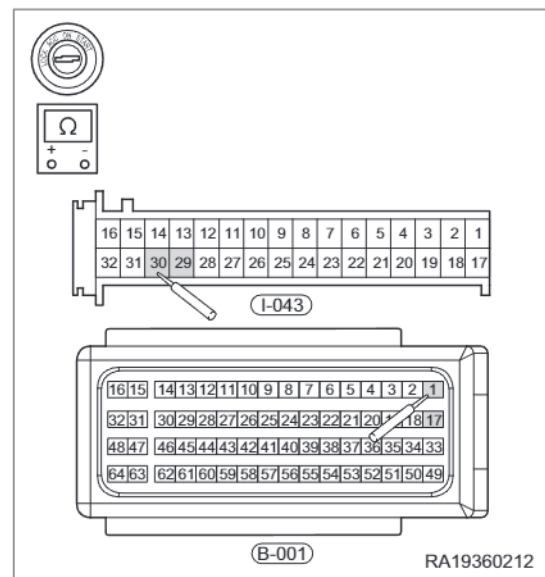
OK

2

Check wire harness and connector

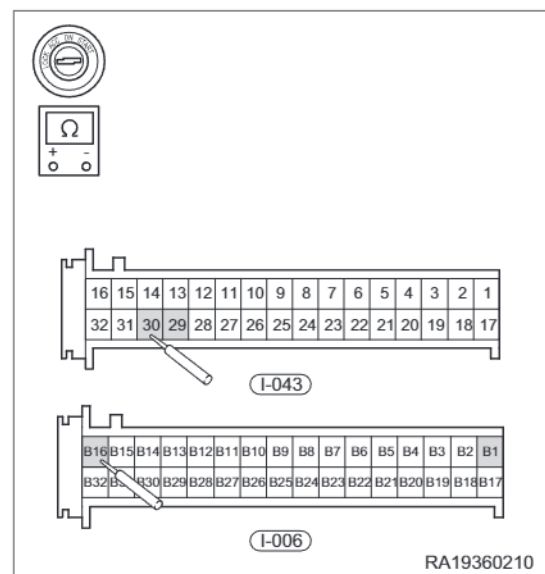
- a. Turn the ignition switch to LOCK.
- b. Disconnect the negative battery cable.
- c. Disconnect the instrument cluster wire harness connectors I-043 and B-001.
- d. Using a digital multimeter, check for continuity between instrument cluster wire harness connectors I-043 and B-001 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-043 (29) - B-001 (17)	Always	Continuity
I-043 (30) - B-001 (1)	Always	Continuity



- e. Disconnect the instrument cluster wire harness connectors I-043 and I-006.
- f. Using a digital multimeter, check for continuity between instrument cluster wire harness connectors I-043 and I-006 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-043 (29) - I-006 (B1)	Always	Continuity
I-043 (30) - I-006 (B16)	Always	Continuity

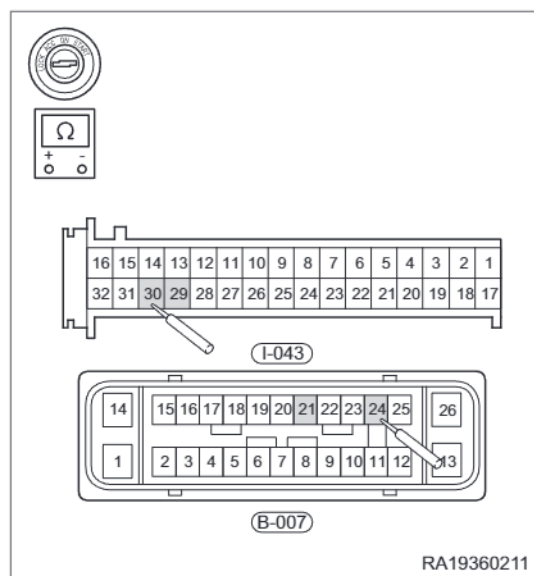


- g. Disconnect the instrument cluster wire harness connectors I-043 and B-007.
- h. Using a digital multimeter, check for continuity between instrument cluster wire harness connectors I-043 and B-007 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-043 (29) - B-007 (21)	Always	Continuity
I-043 (30) - B-007 (24)	Always	Continuity

NG

Repair or replace wire harness and connector



OK

36

3

Reconfirm DTCs

- Connect all the connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the instrument cluster control system.
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record the DTCs in the instrument cluster control system again.
- Read the DTCs.

Result	Proceed to
DTC U0073-88, U0100-87, U0101-87, U0129-87 and U0140-87 are output	NG
No DTC output	OK

NG

Replace instrument cluster

OK

System is normal

DTC	U1130-55	Software Configuration Error
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Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
U1130-55	Software Configuration Error	Ignition switch ON	Instrument cluster

CAUTION

- When performing the circuit diagnosis and test, always refer to the circuit diagram for the specific circuit and the component information.

Diagnosis Procedure**1 Reconfirm DTCs**

- Use the X-431 3G diagnostic tester (the latest software) to clear the DTCs stored in the instrument cluster control system.
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record the DTCs in the instrument cluster control system again.
- Read the DTCs.

Result	Proceed to
DTC U1130-55 is output	NG
No DTC output	OK

NG**Replace instrument cluster****OK****System is normal****36**

ON-VEHICLE SERVICE

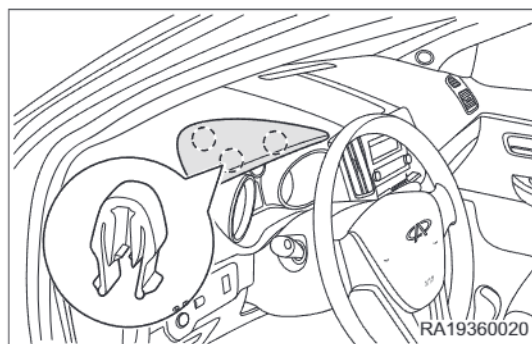
Instrument Cluster

Removal

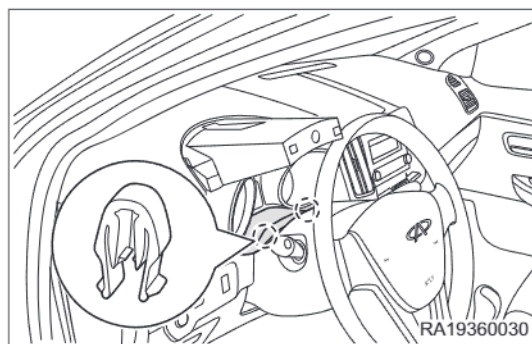
CAUTION

- Be sure to wear the safety equipment to prevent accidents when removing the instrument cluster.
- Try to prevent the instrument panel assembly from being scratched when removing the instrument cluster.
- Operate gently and carefully to prevent damage to the component during removal.

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the instrument cluster cover assembly.
 - a. Using a screwdriver wrapped with protective tape, pry the clips on the instrument cluster cover assembly.

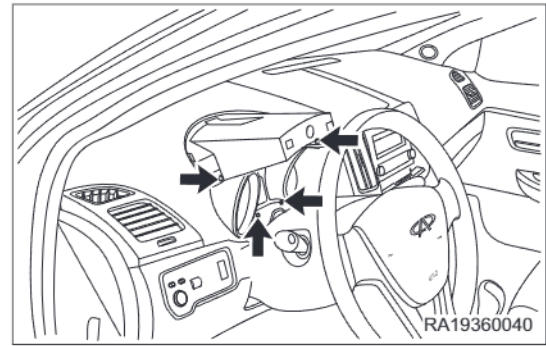


- b. Remove the instrument cluster cover assembly.
4. Remove the instrument cluster lower garnish assembly.
 - a. Using a screwdriver wrapped with protective tape, pry the clips on the instrument cluster lower garnish assembly.

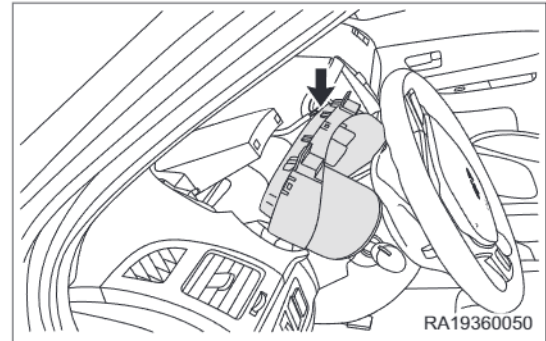


- b. Remove the instrument cluster lower garnish assembly.
5. Remove the instrument cluster.

- a. Remove 4 fixing screws (arrow) from the instrument cluster.
(Tightening torque: 2 ± 0.2 N·m)



- b. Disconnect the instrument cluster wire harness connector (arrow) and remove the instrument cluster.



Installation

Installation is in the reverse order of removal.

CAUTION

- When installing the instrument cluster, be sure to align the instrument cluster positioning hole with the instrument panel assembly dowel pin, and install it in place.
- When installing the instrument cluster, be sure to tighten the fixing screws in place.
- When installing the instrument cluster, be sure to install the connector in place.
- After installing the instrument cluster, check if the instrument cluster operates normally.

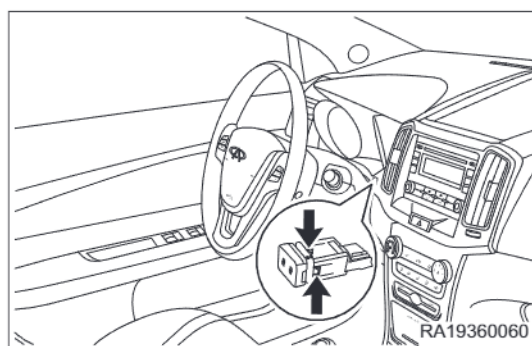
Instrument Cluster Adjustment Button

Removal

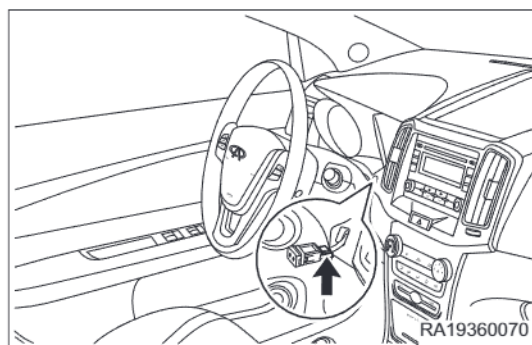
CAUTION

- Be sure to wear the safety equipment to prevent accidents when removing the instrument cluster adjustment button.
- Try to prevent the instrument panel assembly from being scratched when removing the instrument cluster adjustment button.

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the instrument cluster adjustment button.
 - a. Using a screwdriver wrapped with protective tape, pry the clips (arrow) on the instrument cluster adjustment button.



- b. Disconnect the instrument cluster adjustment button connector (arrow) and remove the instrument cluster adjustment button.



Installation

Installation is in the reverse order of removal.

CAUTION

- When installing the instrument cluster adjustment button, be sure to install the connector in place.
- When installing the instrument cluster adjustment button, be careful not to damage other components.
- After installing the instrument cluster adjustment button, check if the instrument cluster adjustment button operate normally.

